

MAGNETICAL OBSERVATIONS

MADE AT

THE HONORABLE EAST INDIA COMPANY'S

MAGNETICAL OBSERVATORY

AT

SINGAPORE.

BY

CAPTAIN C. M. ELLIOT,

OF THE MADRAS ENGINEERS.

IN THE YEARS 1841—1845.

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MDCCCLI.

INTRODUCTION.

SINGAPORE DECLINATION MAGNETOMETER AND OBSERVATIONS.

THE Declination Bar employed at Singapore measured 15 inches in length, 0·875 inch in breadth, and 0·25 inch in thickness, it was suspended by 16 fibres unspun silk of 30 inches in length, which had been prepared in England for this purpose, and was supplied with a Copper ring or damper for checking its vibrations, which however it was not found necessary to employ.

The observing Telescope was attached to a solid pillar of sand-stone erected at a distance of four feet three inches from the Declination Magnetometer; this pillar was imbedded in Masonry in the most substantial manner possible and was insulated as respects the building and other instruments; with a view to determine the extent of its permanency, another pillar of similar construction was erected to the North of the Magnetometer, which was furnished with a detorsion bar and scale; this last was so disposed, that by removing the Declination Bar to the right or left of its ordinary position, the vertical wire of the reading telescope could be referred to some division of the scale of the detorsion bar, whereby its alterations, if any, could be readily detected. On the adjustment of the reading telescope in the month of December 1840, previously to commencing the regular series of observations, the fixed wire of the reading telescope intersected the 149th division of the scale, and at subsequent examinations throughout the whole period of five years, which these observations cover, Mr. Elliot states *that the fixed wire never on any occasion failed to bisect this same division.*

Following out the recommendation of the Committee of Physics and Meteorology of the Royal Society (vide 29th page of their report), the original observations are given as read off in scale divisions in preference to furnishing the reduced angular values; for the absolute values of Declination, the value of each division of the scale has been assumed to be 40''·72 as given at page 23. Table I. of the Royal Society's Report, in addition to which it must here be noted that, *increasing readings denote a movement of the North Pole of the Magnet to the East.* Under the head of extraordinary observations are given as the title implies, only the observations, which have been made at times additional to the ordinary hourly observations; on looking over the daily observations, however, some cases occur in which comparatively large changes have taken place in the Declination, without any extra observations having been made; for instance on the 14th, 15th and 16th of May 1841, the Declination underwent considerable changes but no extra observations were made or any explanation afforded as to the cause. In the volumes of Miscellaneous Registries, Mr. Elliot has been at some pains to note for each month the number of occasions on which either of the Magnetometers have exhibited a more than ordinary fluctuation, but as these are readily seen and their extent better appreciated by an inspection of the actual observations, it has been thought unnecessary here to do more than advert to the subject.

To ascertain the effect of the Horizontal and Vertical Force Magnets on the Declination readings, the Horizontal and Vertical Force Needles were both removed from the building when

	Sc. Div.
The Declination reading was.....	146·2
The Horizontal Force still away but the Vertical Force in its place } with the North end deflecting	146·4
The Horizontal Force still away but the Vertical Force in its place } with the South end deflecting	146·0
Magnets in position.....	146·2

Mr. Elliot states however, that he had made subsequent observations to this end which did not confirm the result here arrived at. In addition to the above the following comparison is given.

	Declination Reag. Sc. Div.
All three Magnets in position	146·6
The Bifilar and V. F. Magnets away	146·8
The V. F. Magnet only away	146·8
As at first.....	146·97

From the above it seems plain that no appreciable correction is required for the mutual action of the Magnets on the Declination readings.

Memoranda and Observations for the determination of the Zero point of the Scale of the Declination Magnetometer.

1840. December 14. Zero division of the scale corresponding to the Magnetic axis of the Bar was 143·42. The detail is not given.

1841. January 9th. The magnet was employed for the purposes of Deflection, after which no observation was made for zero,—but Mr. Elliot states his belief that no change from the above had taken place.

January 30th. The Declination Bar was again removed to be used as a deflecting bar, after which the following observations were made to determine the *Position of the Zero on the Scale.*

1841. January 31st. *The Position of the Zero on the Scale.*

No.	Position of Bar.	Reading.	Alternate Means.	Means.	Adopted Zero.
		Scale Div.	Scale Div.	Scale Div.	Scale Div.
1	Direct	139·40			
2	Reversed	135·97	139·45	137·71	
3	Direct	139·50	135·19	137·34	137·32
4	Reversed	134·40	139·55	136·97	
5	Direct	139·60			

1841. February. The needle does not appear to have been touched during this month.—Adopted Zero = 135·33.
The detail of this zero is not given.

March 6th. The Declination bar was taken out and used as deflecting bar, to determine the Horizontal Intensity ; Reading, before removal 138·35 ; when replaced 132·30, but there is no evidence to shew if the Declination remained unchanged during this interval.

March 18th. Position of Zero on the Scale found as follows:—

No.	Position of Bar.	Reading.	Alternate Means.	Means.	Adopted Zero.
		Scale Div.	Scale Div.	Scale Div.	Scale Div.
1	Direct	136·30			
2	Reversed	132·75	135·02	133·89	
3	Direct	133·75	132·57	133·16	133·33
4	Reversed	132·40	133·49	132·95	
5	Direct	133·24			

The Azimuth of the line of Collimation of the reading telescope was tested and found correct, after this Mr. Elliot says, during the month of April the needle was not touched.

Zero 132·13''

N. B. The detail of this Zero and the date at which it applies are not given.

May 1st. A break in the lines apparently takes place, but how occasioned is not stated.

May 23d. The Azimuth of the line of Collimation of the reading telescope was tested and found correct. After which the

Position of Zero on the Scale was determined as follows:—

No.	Position of Bar.	Reading.	Alternate Means.	Means.	Adopted Zero.
		Scale Div.	Scale Div.	Scale Div.	Scale Div.
1	Direct	129·54			
2	Reversed	134·15	128·97	131·56	
3	Direct	128·40	133·51	130·96	130·93
4	Reversed	132·87	127·70	130·23	
5	Direct	127·00			

June 5th. The bar was again taken out to be used as deflector in the determination of the Absolute Horizontal Intensity. The reading previous to the removal of the needle was at 10 A. M. 127·7 and after its replacement, viz. on June 7th at 8 A. M., 135·55. On the occasion Mr. Elliot states, Zero of Scale 132·46, but the detail of the observation is not given.

July. The needle was not touched during this month. Mr. Elliot assigns the zero reading to be 133·22, but the details are not given.

August 30th. The bar was removed for Deflection. Reading before removal 130·15, after replacement 133·47, but no evidence that the Declination had not altered in the interval. Mr. Elliot assigns the zero reading to be 133·98, but no details were given.

August 31st. The thread broken—a new thread was applied September 1st, and the instrument readjusted.

The observations were not resumed until September 3d at 2 P. M. The zero division of the Scale corresponding to the Magnetic axis was determined, but after the reversal of the needle the thread again broke. A new thread was applied, and on September 5th the instrument was again readjusted when the

Position of the Zero on the Scale was determined as follows:—

No.	Position of Bar.	Reading.	Alternate Means.	Means.	Adopted Zero.
		Scale Div.	Scale Div.	Scale Div.	Scale Div.
1	Direct	131·10			
2	Reversed	140·90	130·25	135·57	
3	Direct	129·10	141·70	135·55	
4	Reversed	142·50	128·90	135·57	135·50
5	Direct	128·40	142·53	135·46	
6	Reversed	142·57	127·90	135·23	
7	Direct	127·47			

September 12th. The box of the instrument was opened and a cobweb was found interfering with the free motion of the needle. The observations from 1st to 12th of this month are therefore cancelled.

October 2d. At 4 A. M. a break occurs in the series and at 4 P. M. the needle was removed for the purposes of deflection. A new needle marked N. S. was now substituted for the old one.

October 14th. The fixity of the line of Collimation of the telescope was examined and found correct, but no zero reading appears to have been determined.

October 31st. Needle removed to be used as on former occasions to determine the absolute Horizontal Intensity.

Position of the Zero on the Scale.

No.	Position of Bar.	Reading.	Alternate Means.	Means.	Adopted Scale.
		Scale Div.	Scale Div.	Scale Div.	Scale Div.
1	Direct	126·61			
2	Reversed	147·70	126·68	137·19	
3	Direct	126·75	147·08	136·92	
4	Reversed	146·46	127·11	136·79	136·81
5	Direct	127·48	145·73	136·60	
6	Reversed	145·00	128·18	136·57	
7	Direct	128·80			

November 17th. Mr. Elliot observes, "The observations from 17th to 22d of November ought to be rejected, on account of their having been taken while the instrument was out of adjustment, they have consequently been omitted in taking the means. The zero reading was now determined to be 136·81, but no details are given.

December (date not given). Position of the Zero on the Scale.

No.	Position of Bar.	Reading.	Alternate Means.	Means.	Adopted Zero.
		Scale Div.	Scale Div.	Scale Div.	Scale Div.
1	Direct	132·45			
2	Reversed	144·95	130·64	137·79	
3	Direct	128·83	145·71	137·27	
4	Reversed	146·48	128·88	137·67	137·45
5	Direct	128·92	146·09	137·51	
6	Reversed	145·70	128·30	137·00	
7	Direct	127·68			

With reference to the above (the zero determination for 1841), Mr. Elliot says, "From the foregoing irregularities in the series it was but too evident that the instructions of the Royal Society, requiring a monthly removal of the Magnet and the temporary substitution of another bar, could not be adhered to without incurring the risk of a displacement of the line of detorsion on every such occasion and of injury to the thread itself;—causing the necessity of frequent new threads. It was therefore determined that after the 8th January of the following year (1842), the magnet would only be touched to find the zero of the Scale; and the total intensity would be determined with some other deflecting bar."

1842. January 8th. The connection of the series broken in consequence of the needle having again been removed for experiments of Horizontal Intensity.

January 9th. The Position of the Zero on the Scale was now determined as follows:—

No.	Position of Bar.	Reading.	Alternate Means.	Means.	Adopted Zero.
		Scale Div.	Scale Div.	Scale Div.	Scale Div.
1	Direct	125·43			
2	Reversed	140·60	126·88	133·74	
3	Direct	128·33	141·50	134·91	134·62
4	Reversed	142·40	128·01	135·21	
5	Direct	127·70			

Mr. Elliot gives as follows:—

February, Zero of Scale	Sc. Div. 134·62	} But no details are supplied.
March, "	135·06	
April, "	135·51	

May 1st. Position of the Zero on the Scale.

No.	Position of Bar.	Reading.	Alternate Means.	Means.	Adopted Zero.
		Scale Div.	Scale Div.	Scale Div.	Scale Div.
1	Direct	131·70			
2	Reversed	137·54	132·35	134·94	
3	Direct	133·00	138·02	135·51	
4	Reversed	138·50	134·14	136·32	135·52
5	Direct	135·27	136·29	135·78	
6	Reversed	134·07	135·94	135·01	
7	Direct	136·60			

1842. June. Zero of Scale 135·47. (No details given.)

July 31st. Position of the Zero on the Scale.

No.	Position of Bar.	Reading.	Alternate Means.	Means.	Adopted Zero.
1	Direct	Scale Div. 133·97	Scale Div.	Scale Div.	Scale Div.
2	Reversed	140·65	131·92	136·29	
3	Direct	129·87	140·15	135·01	135·44
4	Reversed	139·65	130·37	135·01	
5	Direct	130·87			

August, Zero of Scale	Sc. Div. 135·44	} No details are furnished during this period.
September, ,,	do.	
October, ,,	do.	
November, ,,	136·71	
December, ,,	136·71	

1843. January, Needle not touched, zero	Sc. Div. 136·71
February, do. zero	136·71

March 28th. The thread broke. Instrument readjusted.

The thread appears to have given way after 11 P. M. on the 28th March. The observations are not resumed until 1st April. The mean daily reading for that month is 134·80 Sc. Div. There would appear to be a difference of 8·2 scale divisions between the mean readings of the two months, yet Mr. Elliot assumes the same zero of the scale for both months, viz. 136·71 Sc. Div.

May 22d. Zero of Scale from 1st to 22d 136·71 Sc. Div. On the 23d May, the thread broke and the instrument was readjusted.

May 31st. Determination of the Magnetic axis.

No.	Position of Bar.	Reading.	Alternate Means.	Means.	Adopted Zero.
1	Direct	Scale Div. 140·30	Scale Div.	Scale Div.	Scale Div.
2	Reversed	146·75	139·86	143·30	
3	Direct	139·42	147·17	143·30	143·34
4	Reversed	147·60	139·24	143·42	
5	Direct	139·05			

1843. June. The Needle was not touched. Zero 143·34 Sc. Div.

July 13th. Thread broken, after which the zero reading was found to be 145·50 Sc. Div.

August. The needle was not touched. Zero 145·50.

September 2d. On reference to the observations it would appear that the needle had been disturbed on the 3d. The zero division of the Scale was then found to be 143·35 Sc. Div.

October, No interruption of the series zero =	Sc. Div. 143·35
November, do. zero =	143·35
December, do. zero =	143·35

1844 and 1845. No interruption of the observations took place from the 3d September 1843 to the 29th November 1845, when the thread broke. The instrument was not readjusted until the 11th of December, and as no dates are given for the reduction of the observations from that date to the end of the month, they have been cancelled.

Recapitulation of the Zero Division of the Scale corresponding to the Magnetic axis of the Bar.

Dates of Observation.	Adopted Zero.	No. of Observations.
1841. From January 1st to January 9th	Scale Div. *143·42	. . . . .
,, January 10th ,, January 30th	137·32	5
,, February 1st ,, March 6th	135·33	. . . . .
,, March 7th ,, March 31st	133·33	5
,, April 1st ,, May 1st	132·13	. . . . .
,, May 2nd ,, June 5th	130·93	5
,, June 6th ,, June 30th	132·46	. . . . .
,, July 1st ,, July 31st	133·22	. . . . .
,, August 1st ,, August 30th	133·98	. . . . .
,, September 5th ,, October 30th	135·50	7
,, October 31st ,, November 30th	136·81	7
,, December 1st ,, January 9th 1842	137·45	7

* In the body of the work, to save room, the first figure has been omitted throughout.

Recapitulation of the Zero Division of the Scale corresponding to the Magnetic axis of the Bar.

Date of Observation.					Adopted Zero.	No. of Observations.
1842.	From January	10th	to February	29th	Scale Div. 134·62	5
	"	March 1st	"	March 31st	135·07	. . . . .
	"	April 1st	"	May 31st	135·51	7
	"	June 1st	"	June 30th	135·47	. . . . .
	"	July 1st	"	October 31st	135·44	5
	"	November 1st	"	March 28th 1843 ..	136·71	. . . . .
1843.	From March	29th	to May	21st	some error	. . . . .
	"	May 22d	"	July 12th	143·34	5
	"	July 13th	"	September 2d	145·50	. . . . .
	"	September 3d	"	November 29th 1845 ..	143·35	. . . . .

Coefficient of Torsion Force.

Observations made on the 9th January 1841 to determine the value of H or the ratio of the Torsion Force to the Magnetic Directive Force for the Declination Instrument.			
No.	Position.	Reading of Torsion Circle.	Reading of Declination Instrument.
1	In the Meridian	191·39	Scale Divisions. 141·0 } 151·0 = 146·00 141·0 }
2	90° East	101·39	167·5 } 120·2 = 143·82 167·4 }
3	In the Meridian	191·39	148·0 } 144·1 = 146·05 148·0 }
4	90° West	281·39	158·5 } 139·7 = 149·10 158·5 }
5	In the Meridian	191·39	155·8 } 137·5 = 146·60 155·6 }

Taking the Mean of the three Meridional Observations Nos. 1, 3, and 5 = 146·22 Sc. Div. it appears that

A Torsion Force of 90° East, produces an effect $\frac{Sc. Div.}{2·40}$
 A do. of 90° West, do. $2·88$ the Mean of these $2·64 = 107''·45 = u$
 and $v = 90^\circ = 324000''$.
 $\frac{H}{F} = \frac{u}{v - u} = \cdot 000332$.

The same on the 31st January comes out ·000290.

The smallness of the range of the Declination Readings at Singapore, however, renders it unnecessary in practice to employ the $\frac{H}{F}$.

Azimuth of the line of Collimation of the fixed Telescope of the Declinometer.

The following are the results furnished of observations made with the Transit Instrument and Theodolite to determine the azimuth of the reading telescope.

			°	'	''
1840.	December	14th	1	36	20
1841.	January	31st	1	36	55
	March	18th	1	36	20
	May	23d	1	35	55
	October	14th	1	36	46·6

Mr. Elliot here remarks:—"The last observations were repeated several times and always gave the same result; thus

	°	'	''
1	36	46·6	

was adopted as the azimuth of the line of Collimation of the reading telescope."

With reference to the above remark, in the determination of Declination which now follows, I have, in deference to Mr. Elliot's opinion, adopted 1° 36' 46''·6 as the constant azimuth of the reading telescope during the whole period. If however a general mean of these values should be preferred (omitting the result of May 23, 1841 which is no doubt too small and giving an equal weight to each of the other four results) it would appear proper that 1° 36' 35''·4 should be adopted, or the declinations which now follow in that case should each be reduced by 11''·2.

If we now refer to the Declination observations,—recollecting that each scale division is equal to 40''·7 and that increasing numbers denote an increase of Eastern Declination—we get as follows:

Computation of the Magnetic Declination at Singapore.

1841.

Month.	Date.	Declinometer.		No. obs. Days.	Resulting Declination.			Mean Monthly Declination.			Mean Monthly Variations.		
		Mean Reading.	Zero Mag. Axis.		°	'	"	°	'	"	'	"	
		Sc. Div.	Sc. Div.										
January	1 to 8		43·4	17	1	38	33	1	38	33	1	46	
	9 to 29	39·9	37·3										
February	1 to 28	39·0	35·3	24		39	19		39	19		31	
March	1 to 5	39·2	35·3	4		39	25	}	37	41	1	11	
	6 to 31	34·2	33·3										
April	1 to 30	33·1	32·3	26		37	18		37	18		40	
May	2 to 31	30·1	30·9	25		36	15		36	15		58	
June	1 to 4	29·4	30·9	3		35	46	}	37	10	0	44	
	7 to 30	33·4	32·5										
July	1 to 30	33·1	33·2	26		36	43		36	43		41	
August	1 to 29	32·5	34·0	25		35	47		35	7		54	
September	3 to 30	32·3	35·5	24		34	38		34	38		39	
October	3 to 31	28·5	36·8	25		31	09		31	09		29	
November	1 to 30	31·7	36·8	24		33	20		33	20		39	
December	1 to 31	34·2	37·5	26		34	31		34	31		36	

1842.

Month.	Date.	Declinometer.		No. obs. Days.	Resulting Declination.			Mean Monthly Declination.			Mean Monthly Variations.		
		Mean Reading.	Zero Mag. Axis.		°	'	"	°	'	"	'	"	
		Sc. Div.	Sc. Div.										
January	1 to 6	33·9	37·5	5	1	34	28	}	1	32	58	1	20
	9 to 31	27·9	34·6										
February	1 to 28	30·0	34·6	24		33	41		33	41		56	
March	1 to 31	31·3	35·1	25		34	14		34	14		07	
April	1 to 29	32·7	35·5	25		34	51		34	51		39	
May	3 to 31	32·0	35·5	26		34	23		34	23		56	
June	1 to 30	33·7	35·5	26		35	33		35	33		36	
July	1 to 31	33·8	35·4	26		35	42		35	42		41	
August	1 to 31	32·4	35·4	27		34	46		34	46		07	
September	1 to 30	32·4	35·4	26		34	44		34	44		21	
October	1 to 31	33·0	35·4	26		35	10		35	10		23	
November	1 to 30	32·4	36·7	26		33	50		33	50		32	
December	1 to 31	31·6	36·7	26		33	17		33	17		36	

1843.

Month.	Date.	Declinometer.		No. obs. Days.	Resulting Declination.			Mean Monthly Declination.			Mean Monthly Variations.		
		Mean Reading.	Zero Mag. Axis.		°	'	"	°	'	"	'	"	
		Sc. Div.	Sc. Div.										
January	1 to 31	29·9	36·7	27	1	32	12		1	32	12		31
February	1 to 28	29·3	36·7	24		31	44		31	44		52	
March	1 to 27	26·8	36·7	24		30	03		30	03		08	
April	1 to 30	34·8	36·7	24		35	30		35	30		50	
May	1 to 21	34·4	36·7	18		35	13	}	34	54	0	58	
	25 to 31	39·3	43·3										
June	1 to 29	40·0	43·3	26		34	31		34	31		27	
July	1 to 10	39·8	43·3	8		34	24	}	35	03	0	51	
	16 to 31	43·5	45·5										
August	1 to 31	43·9	45·5	27		35	42		35	42		26	
September	3 to 29	40·6	43·3	23		34	57		34	57		01	
October	1 to 31	41·5	43·3	27		35	33		35	33		29	
November	1 to 30	42·2	43·3	25		36	01		36	01		29	
December	1 to 31	42·3	43·3	26		36	08		36	08		32	

Computation of the Magnetic Declination at Singapore. (Continued.)

1844.

Month.	Date.	Declinometer.		No. obs.	Resulting Declination.	Mean Monthly Declination.	Mean Monthly Variations.
		Mean Reading.	Zero Mag. Axis.				
		Sc. Div.	Sc. Div.	Days.	° ' "	° ' "	' "
January	1 to 31	42·2	43·3	27	1 36 01	1 36 01	1 33
February	1 to 29	42·6	43·3	25	36 17	36 17	2 09
March	1 to 31	42·7	43·3	26	36 22	36 22	1 09
April	1 to 30	42·9	43·3	25	36 30	36 30	0 40
May	1 to 31	43·0	43·3	27	36 33	36 33	0 52
June	1 to 30	42·6	43·3	25	36 19	36 19	0 50
July	1 to 31	42·6	43·3	27	36 20	36 20	0 39
August	1 to 31	42·7	43·3	26	36 22	36 22	1 29
September	1 to 30	42·9	43·3	26	36 30	36 30	1 01
October	1 to 31	42·9	43·3	27	36 30	36 30	1 37
November	1 to 30	43·3	43·3	25	36 46	36 46	1 25
December	1 to 31	42·8	43·3	26	36 25	36 25	1 28

1845.

Month.	Date.	Declinometer.		No. obs.	Resulting Declination.	Mean Monthly Declination.	Mean Monthly Variations.
		Mean Reading.	Zero Mag. Axis.				
		Sc. Div.	Sc. Div.	Days.	° ' "	° ' "	' "
January	1 to 31	42·6	43·3	27	1 36 16	1 36 16	1 56
February	1 to 29	42·5	43·3	24	36 15	36 15	1 55
March	1 to 31	43·4	43·3	25	36 50	36 50	0 36
April	1 to 30	43·1	43·3	26	36 37	36 37	0 51
May	1 to 31	42·8	43·3	26	36 26	36 26	1 09
June	1 to 30	42·8	43·3	26	36 25	36 25	0 39
July	1 to 31	43·1	43·3	27	36 37	36 37	0 39
August	1 to 31	42·7	43·3	26	36 24	36 24	0 55
September	1 to 30	41·2	43·3	26	35 20	35 20	1 24
October	1 to 31	41·5	43·3	27	35 31	35 31	0 55
November	1 to 29	41·3	43·3	25	35 26	35 26	1 43
December	10 to 31	39·4	43·3	18	34 09	34 09	2 15

Recapitulating, we have altogether as follows :

Mean monthly determinations of the Magnetic Declination at Singapore.

Month.	1841.			1842.			1843.			1844.			1845.			Mean.				
	°	'	"	°	'	"	°	'	"	°	'	"	°	'	"	°	'	"		
January	1	38	33	1	32	58	1	32	12	1	36	01	1	36	16	1	35	12		
February		39	19		33	41		31	44		36	17		36	15		35	27		
March		37	41		34	14		30	03		36	22		36	50		35	02		
April		37	18		34	51		35	30		36	30		36	37		36	09		
May		36	15		34	23		34	54		36	33		36	26		35	42		
June		37	10		35	33		34	31		36	19		36	25		36	00		
July		36	43		35	42		35	03		36	20		36	37		36	05		
August		35	47		34	46		35	42		36	22		36	24		35	48		
September		34	38		34	44		34	57		36	30		35	20		35	14		
October		31	09		35	10		35	33		36	30		35	31		34	47		
November		33	20		33	50		36	01		36	46		35	26		35	05		
December		34	31		33	17		36	08		36	25		34	09		34	54		
Mean		1	36	02		1	34	26		1	34	21		1	36	01		1	35	27

The above table exhibits such extraordinary discordances, as to render it rather doubtful if the mean of the whole, 1°35'27" East, can be depended upon even to one or two minutes; the maximum value it will be seen, was attained in the month of February 1841;—after a period of nine or ten months during which the decrease was pretty uniform, it had in October arrived at 1°31'9" or 8'10" less than in February;—after this, another period of ten months occurs in which it was on the increase, and after this again

another similar period occurs during which it was again on the decrease; but here the law of change appears to be broken, and the determinations during the next thirty months down to the end of 1845 are as accordant as could be expected or desired. Since the absolute determinations with this Instrument do not exhibit that amount of consistency which could be hoped for, it will lead to results of interest if we now arrange the differences of each hour from the Mean for the month in a tabular form—Table I. and II. on inspecting these the curves for the months of March, April, May and June exhibit two distinct maxima and minima, but during the remaining months of the year the minor curve is nearly, if not quite, obliterated, shewing that only one maximum and minimum is then attained. With the view to trace the connexion of the times in the several months, I have drawn out the following table.

Singapore Mean Time of the Magnetic Declination arriving at the Maxima and Minima of its range for each month of the year.

Table IV.

	1st Maximum. East.		1st Minimum. West.		2d Maximum. East.		2d Minimum. West.	
	H.	M.	H.	M.	H.	M.	H.	M.
January .....	.....	.....	7	30	14	20	.....	.....
February .....	.....	.....	8	45	14	30	.....	.....
March	2	0	8	15	14	45	23	0
April	6	0	9	0	6	30	21	0
May	7	0	10	30	16	0	21	30
June	7	0	11	0	15	0	20	0
July	7	0	11	0	16	0	20	30
August	7	0	11	0	16	30	22	0
September	6	15	10	0	16	0	22	0
October .....	.....	.....	9	0	14	0	.....	.....
November .....	.....	.....	7	30	14	0	.....	.....
December .....	.....	.....	7	30	14	0	.....	.....

In addition to the above, the observations for Magnetic Declination at Singapore offer no results on which dependance can be placed; the annual change for instance—viz. whether the Declination is on the increase or decrease still remains a matter of doubt;—the observations tend to shew a small decrease* but their evidence to this effect is by no means strong.

OBSERVATIONS MADE AT SINGAPORE FOR THE DETERMINATION OF THE MAGNETIC INCLINATION.

The Instrument employed for the determination of the Inclination was one of the ordinary 6½ Inch Dipping Circles by Robinson; the needles are designated as A¹, A², A¹ Lloyd, A² Lloyd, Nos. 1 and 2 Lloyd, and Nos. 1 and 2 Lloyd New. The observations are stated to have been made in a detached building at some distance from the Observatory, but the time is not mentioned at which they were made, except in the interval between March 1843 and February 1844 when they appear to have been made twice during the day about nine A. M. and three P. M. After August 1844 they were discontinued altogether.

The following table exhibits the mean dip for each month from March 1841, to August 1844 with but two exceptions; the first in October and November 1843, when in consequence of rust having settled on the arms of the needles whereby a small portion of the metal was abraded on each reversal of the poles, the results could not be depended on; the second in April 1844, when however no cause is assigned for the omission.

A monthly mean with the general mean for each year has been taken, but as the details for the years 1841 and 1842 are not entered in Mr. Elliot's records, it is impossible to say what weight is to be attached to them. The observations during the succeeding years 1843 and 1844 are however furnished at greater length, and rejecting a few of the results whose discordance at once shews that they should not be admitted into the general means, we have altogether as follows:—

Mean Monthly determinations of the Magnetic Inclination at Singapore, as determined by the several needles employed during 1841—44.

	Lloyd No. 1.	Lloyd No. 2.	Lloyd No. 1. New.	Lloyd No. 2. New.	Lloyd A ¹	Lloyd A ²	A ¹	A ²	General Mean.
1841.	o /	o /							o /
March	—	12 25·20	—	—	—	—	—	—	12 25·20†
May	—	32·30	—	—	—	—	—	—	32·30†
June	—	29·50	—	—	—	—	—	—	29·50†
July	No single results given.				—	—	—	—	42·10
August	—	—	—	—	—	—	—	—	42·70
September	—	—	—	—	—	—	—	—	42·10
October	—	—	—	—	—	—	—	—	44·30
November	—	—	—	—	—	—	—	—	43·50
December	—	—	—	—	—	—	—	—	44·80

* Captain Elliot states the Declination in the end of 1848 at 1° 36' 15·5 shewing little or no change in the space of 7 years.—W. S. J.

† These results from No. 2 Lloyd require (according to Mr. Elliot) a correction, but he has not stated the amount; they are consequently rejected in taking the mean.

Mean Monthly determinations of the Magnetic Inclination at Singapore, as determined by the several needles employed during 1841—44. (Continued.)

	Lloyd No. 1.	Lloyd No. 2.	Lloyd No. 1. New.	Lloyd No. 2. New.	Lloyd A1	Lloyd A2	A1	A2	General Means.
1842.									
January	12 42'60	12 41'97	—	—	—	—	—	—	12 42'28
February	—	43'71	12 34'30*	12 41'79	—	—	—	—	42'75
March	—	44'35	37'67*	41'46	—	—	—	—	42'90
April	—	44'80	—	43'20	—	—	—	—	44'00
May	—	44'90	—	45'80	—	—	—	—	45'35
June	—	45'00	—	47'30	—	—	—	—	46'15
July	—	No single results given.		—	—	—	—	—	41'80
August	—	44'30	—	46'50	—	—	—	—	45'40
September	—	43'70	—	45'50	—	—	—	—	44'60
October	—	No single results given.		—	—	—	—	—	45'30
November	—	—	—	—	—	—	—	—	45'30
December	—	43'90	—	45'20	—	—	—	—	44'55
1843.									
January	—	—	—	47'18	—	—	—	—	47'18
February	—	—	—	46'70	—	—	—	—	46'70
March	—	—	—	43'40	12 36'07	12 38'04	12 42'07	12 38'00	39'52
April	—	—	—	—	37'70	36'50	36'10	39'60	37'50
May	—	39'50	—	—	38'60	37'30	39'65	38'20	38'65
June	—	40'10	—	—	38'50	39'20	37'00	33'40	37'64
July	—	45'60	—	—	35'20	40'00	37'90	41'30	40'00
August	—	46'70	—	—	36'70	38'40	39'40	37'50	39'74
September	—	40'60	—	—	36'10	37'70	39'40	37'50	38'26
October	}	Needles rusty.	—	—	—	—	—	—	—
November			—	—	—	—	—	—	—
December			—	—	—	—	—	42'50	41'80	42'15
1844.									
January	—	—	—	—	24'20*	36'70	42'30	40'10	39'70
February	—	51'30*	—	—	22'20*	36'10	43'80	41'30	40'40
March	—	42'40	—	—	—	35'40	—	41'80	39'87
April	—	—	—	—	—	—	—	—	—
May	—	—	—	—	—	35'90	—	40'70	38'30
June	—	—	—	—	—	35'50	—	42'60	39'05
July	—	—	—	—	—	35'30	—	41'75	38'52
August	—	—	—	—	—	38'30	—	41'00	39'65

The mean Dip at Singapore for

	o /	
1841	=	12 43'3 6 months.
1842	=	12 42'1 12 "
1843	=	12 40'7 10 "
1844	=	12 39'3 7 "

†1845 No determination.

‡General Mean 12 41'32 for 1843'00.

The tendency of these numbers is to exhibit a yearly decrease in the Inclination of about one minute, but no dependence can be placed upon observations liable to so much uncertainty and covering so short a period of time.

OBSERVATIONS MADE WITH THE BIFILAR MAGNETOMETER AT SINGAPORE.

The Bifilar Magnet employed at Singapore for the determination of the Horizontal component of the Force was 15 inches in length, by 0.875 inch in breadth, and 0.25 inch in thickness, weight 6705 grains, it was suspended during the whole period embraced by these observations by a silver wire of the description referred to in page 30 of the Royal Society's report before alluded to, and by the wheel marked No. 11., whose diameter is there stated to be 0.747 inch.

Agreeable to the plan observed with the Declination instrument, the observations are here given in scale divisions—as immediately read off from the instruments.

The remarks made with regard to extraordinary observations taken with the declination instrument apply equally on the present occasion, that is, that in many cases disturbances have occurred without additional observations having been made.

The value of one division of the scale of the Bifilar Magnet = 1'.078, and in terms of the radius is = .0003136 = *a*. Inceas-

* Rejected in taking the Mean.

† Captain Elliot has subsequently furnished the result of a few observations in November 1844, giving the dip = 12°39'19; and in February 1845, 12°42'14. The introduction of these would not sensibly affect the above results.—W. S. J.

‡ The Mean dip for 1848 is stated by Captain Elliot at 12°58'2 shewing an increase of 17' in 5.5 years—or at the rate of + 3.1 per annum.—W. S. J.

ing readings denote decrease of force. The Zero of the scale as determined on 1st February 1841 was 117·0, on 7th June 144·9, and on 31st August 101·4, which last is employed up to the end of 1845, there being no further determinations.

To ascertain the effect produced on the Horizontal Force readings by the action of the Vertical Force Magnet, the following observations were made —

<i>V. F. Needle in its place with N. end to the West.</i>	<i>V. F. Needle in its place with N. end to the East.</i>
BIFILAR READING. Sc. Div.	BIFILAR READING. Sc. Div.
84·15	
84·64	84·32
84·95	84·92
84·82	85·00
84·50	84·60
84·66	84·57
85·51	85·07
Mean 84·75	Mean 84·75

agreeing to identity; as regards the Declination Instrument, being situated at a distance of about 30 feet from the Horizontal Force Instrument no disturbing effect need be anticipated.

Determination of the value of v.

The value of v is stated after the adjustment made in February 1841 (without any details)—to be $57^{\circ}50'30''$; its value was again ascertained apparently with great care on the 7th June 1841 when it came out $58^{\circ}18'30''$; a third value is found on the 31st August 1841, which likewise appears to have been very carefully observed—it now came out $58^{\circ}10'30''$. In the computations made by Mr. Elliot he has adopted the latter value, and, since it differs but little from the mean of the three determinations it has been considered advisable to abide by Mr. Elliot's opinion in this matter, consequently it has been assumed that

$$v = 58^{\circ}10'30''.$$

From whence we immediately derive
 $k = a. \cotan. v = \cdot 0001946.$

Determination of the Coefficient for Temperature for the Horizontal Force Magnet. June 6th 1841; by the method of deflection.

h. m. }
Commenced at 0 30 P. M. } Singapore Mean Time.
Finished 2 30 P. M. }

No. 00 being the deflected Bar, and the deflecting apparatus to the West of the Magnet.

North end deflecting.	South end deflecting.
Therm. ° Sc. Div.	Therm. ° Sc. Div.
85 — 177·75	121 — 107·65
114 — 177·60	115 — 107·87
120 — 177·52	110 — 107·97
Reading without the Bar.	105 — 108·00
At the commencement,	100 — 107·92
thermometer, 142·45	95 — 107·71
143·32	89 — 107·95
Increase of reading du- } ring the experiment. } 0·87	81 — 108·07

The whole experiment took about two hours, of which only a quarter of an hour or $\frac{1}{4}$ th of the whole time elapsed in raising the temperature from 85° to 120° whilst it took $1\frac{3}{4}$ hours or $\frac{7}{8}$ ths of the whole time to reduce the temperature to 81° . The readings on the scale increased $+ 0\cdot87$ during the time of the experiment hence this must be distributed in the proportion of $\frac{1}{8}$ th and $\frac{7}{8}$ ths or $0\cdot11$ and $0\cdot76$.

(1.) Therm. ° Sc. Div.	(2.) Therm. ° Sc. Div.
85 — 177·75	81 — 108·07
120 — 177·52	121 — 107·65
0·22	— 0·42
+ 0·11	+ 0·76
0·33	0·34

In the first instance the North end of the deflecting bar is opposed, and as the numbers on the scale read from right to left, increasing temperature should cause decreasing numbers, and as the variation was increasing the correction of $0\cdot11$ is to be added.

In the second instance the South end of the deflecting bar is opposed, and decreasing temperature should cause an increase of strengths, or less numbers whereas as is seen above the reverse is the case, it is attended by increasing numbers. I have therefore called it —, and as the numbers on the scale are increasing, the correction to be applied is $+ 0\cdot76$ the difference of which therefore

will give the true angle of deflection. And this again must be decreased one-eighth to give the angle of deflection for 35° of temperature instead of 40°.

Sc. Div. Sc. Div.

Viz. $0.34 \times \frac{3}{4} = 0.30$; corresponding to an increase of 35° of temperature. The mean of these two values viz. $\frac{0.33 + 0.30}{2} = 0.315$ scale divisions, being converted into arc, (where 1 Sc. Div. = 40''·7) gives the value of

$$w' - w = 12.8$$

With the North end deflecting the reading was	Sc. Div. 177.75
,, South ,, ,, ,,	108.07

The half difference of these $\frac{69.68}{2}$ being converted into arc. gives

$$\begin{aligned} w' &= 23.378 \\ \text{Sine } w' - w &= 12.8 \\ w &= 23.250 \end{aligned}$$

Now $q = \frac{\tan w' - \tan w}{\tan w (t - t')}$	log. tan $w' = -3.8372580$ nat. num. .00687578	log. tan $w = -3.8332579$00681173
	<u>tan $w' - \tan w = .00006405$</u>	

log. tan $w = 3.8332579$	log. of .00006405 = - 5.8065190	
log. $(t - t') = 1.5440680$	log. tan $w (t - t) = - 1.3773259$	
log. tan $w. (t - t') = -1.3773259$	log. $q = - 4.4291931$	
<u>$q = .0002686$</u>		

1841. October 31. *Determination of the coefficient of temperature q for the Horizontal Force Magnet, by the method of deflection.*

The Declination bar being deflected.

Without the Magnet.		With the Magnet.	
h. m.	Reading.	h. m.	Therm. Reading Sc. Div.
at 5 0 P. M.	127.0	at 5 3 P. M.	84°·3 174.09
,, 5 9 P. M.	127.0	,, 5 6 P. M.	112.5 173.87
		Diff. of temperature 28.2	log. 1.4502490
	Sc. Div. 174.09 <u>127.00</u>		Sc. Div. 173.87 <u>127.00</u>
	$w' = 47.09 = 31'.56''.6$		$w = 46.87 = 31'.47''.8$
Nat. tan. $w' = .0092940$			
Nat. tan. $w = .0092505$	- - - - -		log. - 3.9661656
tan $w' - \tan w = .0000435$		log. = - 5.6384890	
tan $w' (t - t) = - - - - -$		log. = - 1.4164146	
$q = .0001667$		log. $q = - 4.2220744$	

May 1843. Value of the coefficient q for 1° Fahrenheit = 1.1 Sc. Div. or = .00021384 in parts of the Horizontal Force. N. B. This appears as a mere statement.

Determination of the coefficient of temperature q for the Horizontal force Magnet by the application of hot sand under the Bifilar Magnet.

Bifilar Readings.	Diff.	Temp.	Diff.
Sc. Div.	Sc. Div.	°	°
59.80		89.0	
59.12	0.68	88.0	1.0
58.00	1.12	87.3	0.7
56.92	1.08	86.4	0.9
56.42	0.50	85.7	0.7
56.15	0.27	85.5	0.2
55.85	0.30	85.0	0.5
55.52	0.33	84.5	0.5
54.57	0.95	83.8	0.7
53.20	1.37	83.4	0.4
52.92	0.28	82.9	0.5
52.72	0.20	82.3	0.6
52.60	0.12	82.1	0.2

Diff. 7.20 Div. correspond to $6^{\circ}.9$ change of temperature, or 1° produces a change of reading amounting to 1.04 Sc. Div.

whence q comes out = .0002072

Or, resuming the former determination we have found

From the experiment of June 6 1841 $q = .0002686$

" " " " October 31 1841 $q = .0001667$

" (a) Statement May 1843 $q = .0002072$

And the Mean of the three determinations gives $q = .0002142$

This result however differs slightly from that which Mr. Elliot has employed in the reduction of his observations, and with reference to the above Statement (a) which expresses the value *he has adopted* it would appear that other observations than those here given have been employed by Mr. Elliot in the determination. In the employment of this number Mr. Elliot has reduced his observations to the temperature of 80° instead of 32° as recommended by the Royal Society or he has furnished $\frac{\Delta x}{x} = kn + q(t - 80)$. Considering that this arrangement leads to fewer figures in the multiplications necessary to the reductions, and otherwise can lead to no inconvenience in practice, I have not hesitated here too to follow the same plan. If we now subtract each hourly mean for the month from the General Monthly mean and arrange the differences in a Tabular form as has been done for the Declination, we shall (Tables III. and IV.) arrive at a knowledge of the hourly changes of the Horizontal force for each month in the year. On examining them carefully, there appears to be so small a change between the results of one month and another throughout, as to justify the taking a mean of the whole as given at the foot of the tables;—here the law of variation is unmistakably marked—it appears that the force begins to increase at about 10 P. M., increases more rapidly after sunrise, and reaches its maximum with considerable regularity at about one hour before Noon, from which time the force decreases and eventually arrives at its minimum at about 10 P. M. During the night the changes of force are much smaller and more irregular than during the day. The times of Maximum Force for each month are as follows:—

Month.	Singapore Mean Time.	
	H.	M.
January	10	50 A. M.
February	11	15 "
March	11	10 "
April	10	50 "
May	10	45 "
June	10	50 "
July	11	5 "
August	10	50 "
September	10	40 "
October	10	40 "
November	10	36 "
December	10	45 "

SINGAPORE VERTICAL FORCE MAGNETOMETER AND OBSERVATIONS.

The Vertical Force Needle at Singapore was of a construction and size similar to those employed at the other observations—its length being 13.5 inches. It was placed on a sand stone pillar with its *North* end towards the West in a plane at right angles to the Magnetic meridian.

Each division of the scale of the Micrometer head = $0'.10$ or in terms of the radius = .00002909. Increasing negative readings or decreasing positive readings denote an increase of force.

On the 1st of November 1841, in the Miscellaneous Register, page 86, it is stated that a new needle was employed and the time of vibration in the horizontal plane is given, no observations however were made of its vibration in the *vertical* plane, and the observations in both planes of the needle employed after this remark occurs, appear to be nearly identical with those previously registered.

On the 15th of March 1842, at 16h., 18h. and during the following month of April, considerable and sudden variations took place in the readings, without any apparent Magnetic disturbance having occurred, as far as can be judged by the readings of the other Instruments; but these large disturbances occur so frequently, that were the observations to be rejected, we might with equal propriety reject a large portion,—probably more than half of the observations, they have therefore been allowed to remain and have been taken in the general mean. During the year 1841 the fluctuations appear to have been considerably greater than during the succeeding years, and this is particularly conspicuous at the hours 16 and 20 of Gottingen Mean Time this may perhaps be ascribable to the axis being at that time in a better condition and less worn than it probably became in the latter years of observation.

In the determination of the values of T and T' (the times of vibration in the vertical and horizontal planes respectively) it appears to have been Mr. Elliotts' practice to vibrate the needle for the former purpose on every third or fourth day, down to the end of September 1844, since which time no observations are given. In the value of T' (the times of vibration in the horizontal plane) observations appear to have been made about once a month at the beginning of the series, but less frequently afterwards, as will be seen by the following table—

Mean Time of Vibrations of the Vertical Force Magnet in the Vertical and Horizontal Planes.

Date.	Vertical Plane.		Horizontal Plane.		(Remarks.)
	No. of days of observation.	T	No. of days of observation.	T'	
1841.		s.		s.	
January	3	18.35	1	7.487	The separate determination of T in the months of June and August exhibit such enormous discrepancies that no one can be made of the means. Taking the means, and neglecting the values of T for June and August when some disturbing cause must have been in operation, we get the values adopted for 1841. $T = 18.06$, $T' = 7.379$
March . . . . .	.....	.....	"	7.145
May . . . . .	.....	17.81	"	7.481
June . . . . .	.....	19.37	"	7.411
August . . . . .	.....	14.53	"	7.265
September . . . . .	.....	.....	"	7.411
October	3	19.79	"	7.402	
November . . . . .	.....	18.16	"	7.402
December . . . . .	.....	18.21	"	7.406

Mean Time of Vibrations of the Vertical Force Magnet in the Vertical and Horizontal Planes. (Continued.)

Date.	Vertical Plane.		Horizontal Plane.		(Remarks.)	
	No. of days of observation.	T	No. of days of observation.	T'		
1842.						
January	7.402	The values of T do not appear to have undergone much change during the year, hence it will be as well to adopt the general means, viz. $T = 17.22$ and $T' = 7.444$	
June	5	17.48	"	7.535		
July	6	17.84	"	"		
August	11	17.40	"	"		
September	No date.	17.12	"	"		
October	8	16.62	"	"		
November	8	17.21	"	"		
December	6	16.85	1	7.406		
1843.						
January	7	16.05	"	7.406		The best that can be done here for T is perhaps to take the mean; the value of T' does not appear to have been determined during this year. $T = 15.12$ $T' = 7.406$
February	5	15.09	"	"		
March	7	14.90	"	"		
April	8	14.79	"	"		
June	6	14.90	"	"		
July	9	15.30	"	"		
August	8	15.20	"	"		
September	9	14.93	"	"		
October	8	14.60	"	"		
November	7	15.60	"	"		
December	8	15.00	"	"		
1844.						
January	7	15.00	1	7.406	Taking the Means we get $T = 14.84$ $T' = 7.479$	
February	7	14.96	"	"		
March	9	15.40	1	7.552		
April	7	15.30	"	"		
May	7	14.80	"	"		
June	7	14.30	"	"		
July	6	14.30	"	"		
August	6	14.55	"	"		
September	4	14.90	"	"		

It does not appear that any further observations of vibrations of this needle were made since September 1844 down to the closing of the series in December 1845.

If we now employ the value of a (the value of one division of the micrometer in terms of radius), as stated above = .0000 2909, with reference to the formula $\frac{\Delta F}{F} = k n$, we obtain the following values of each division of the micrometer in terms of the whole force, viz., $k = a \cotan. \frac{\theta T^2}{T^2}$. Assuming θ at $12^\circ 40'$ (see observations for dip), we get

- For the year 1841 $k^1 = .00001507$ $q = 0004363$, or $28.6834 = 1^\circ$
- 1842 $k^2 = .00001687$ $q = 0004363$, or $25.8625 = 1^\circ$
- 1843 $k^3 = .00002166$ $q = 0003200$, or $14.77375 = 1^\circ$
- 1844 $k^4 = .00002293$ $q = 0002595$, or $11.317 = 1^\circ$
- *1845 $k^5 = .00002293$ $q = 0002595$, or $11.317 = 1^\circ$

In the reduction of the observations in each year, the above values are employed, and the reductions made to a standard temperature of 80° , as in the case of the Horizontal Force Observations.

Determination of the Coefficient of Temperature (q) of the Vertical Force Magnet. February 1841.

Without the Magnet the suspended bar read	Sc. Div.	139.9
When the deflecting bar was placed at a certain distance		92.0
at 82°	Sc. Div.	92.00
at 125°		91.55
		47.9 = 0.32.29
$0.45 = 18.315 = w' - w$		
$w' = 32.29''$		
$w = 32.11$		
		and $q = .0002161$

* The values are assumed to be the same as for 1844.

Determination of the coefficient of Temperature of the Vertical Force. June 6th, 1841.

Commencing at 3 P. M. and ending at 4 P. M.

Temp. °	Sc. Div.	Temp. °	Sc. Div.
84	4·85	117	5·24
117	5·24	83	4·97
Diff. — 33		34	
	0·39		0·27
	34		0·27
Means. 33·5		$t - t' = 33·5$	
	0·33		
	$\times 40·7 = 13·4$		
	143·46		
	134·85		
	" " " " " "		
	$40·7 \times 8·61 = 350·4 = 5 \frac{50·4}{13·4} = w'$		
		$5 \frac{37·0}{13·4} = w$	
			$\frac{\tan. w' - \tan. w}{\tan. w (t - t')} = q$
			$q =$
	log.	nat. num.	
	tan. w'	7·230140	·00169879
	tan. w	7·213205	·00163382
	tan w' — tan. w	5·81291	·00006497
		8·73825	8·738250
	log. q	7·07446	·001187 = q.

For the Vertical Force there is no correction as the temperature was raised from 84° to 117° and lowered from 117° to 83°, and as the times were nearly equal, the changes of the Magnet were eliminated.

Determination of the Coefficient of Temperature of the Vertical Force, October 18, 1841, a declination bar being suspended in an adjoining shed.

The declination bar was read every 5 minutes.

Time.	Declination Bar in Shed.	Deflected Bar.	Thermometer Centigrade.	(Remarks.)
P. M. h. m.	Sc. Div.	Sc. Div.	°	
3·55	157·12	107·0	23·5	
4·00	157·05	107·0	27·2	
4·05	156·25	107·0	33·2	
4·10	156·45	107·0	37·0	
4·15	156·65	.....	.....
4·20	156·30	107·0	40·2	°
4·25	156·17	107·0	45·0	$t - t' = 29·5$ Centigrade
4·30	156·40	106·7	49·2	or = 53·1 Fahrenheit.
4·35	156·22	107·0	53·0	

The Vertical Force bar was to the West with its South Pole opposed to the deflected bar, consequently a movement of the North Pole Eastward would with respect to temperature be— and Westward +. Now in the shed the telescope was to the North; the scale reads from right to left: if the South Pole moves Eastward and the North Pole Westward, the numbers will decrease; the correction is therefore +. At the commencement the Declination bar as deflected, read 107·0 Sc. Div. and at the end the same; corrected = 107·0 Sc. Div. + 1·4 Sc. Div.* = 108·4 Sc. Div.

Before experiments, Declination read	Sc. Div. 129·2	Sc. Div. 129·2
During experiments - - - - -	107·0	108·4
	$w' = 22·2 \quad w = 20·8$	
Sc. Div. " " "		
$22·2 \times 40·7 = 15 \frac{3·5}{13·4}$		
$20·8 \times 40·7 = 14 \frac{6·6}{13·4}$		
$q = \frac{\tan. w' - \tan. w}{\tan. w (t - t')}$		

log. Tan. w' = — 3·6415057	nat. num. ·00438012	
log. Tan. w = — 3·6132555	nat. num. ·00423827	
log. Tan. w = — 3·6132555	diff. ·00014185	log. 4·151830
log. (t — t') = 1·7250940	log. Tan. w (t — t')	1·33835
— 1·3383495	$q = *·0006508$..	log. q ... — 4·81348

* N. B. With reference to the above value—it appears that the magnet in the Shed varied from 157·12 Sc. Div. to 156·22 Sc. Div. or 0·90 Sc. Div. and not 1·4 Sc. Div. as here stated by Mr. Elliot—if this latter value be employed we find $q = \cdot 0004183$.

Determination of the Coefficient, of temperature q for the Vertical Force Instrument, on the 24th October, 1841.

This experiment appears to have been performed between 4h. 31m. P. M. and 4h. 46m. P. M. The needle at these times reading off 129·125 Sc. Div. and 129·20 Sc. Div. respectively:—the Mean reading being 129·1625 Sc. Div. and the changes during the interval = 0·075 Sc. Div.

Reading of deflected bar.			
	At temperature	83	Sc. Div. 153·35
	" "	141	152·75
	1st Reading - - -	Sc. Div. 153·35	2nd Reading - - - Sc. Div. 152·75
	Corr. = $\frac{1}{3}$ of change	0·025	Corr. = $\frac{1}{3}$ change 0·05
	Corrected Reading	153·325	Corrected Reading 152·70
	Reading at comment.	129·1625	129·1625
	w'	24·1625	w = 23·5375
	in arc. =	16'·23"	in arc. 15'58"
	$q = \frac{\tan 16'23'' - \tan 15'58''}{58 \times \tan 15'58''} = \cdot 00046$		

Vertical Force Magnetometer and Observations.

1843, May. Value of q for 1° Fahrenheit = 11·0 divisions of the Micrometer head or = 0·0003565 of the Force.

N. B. This statement on the part of Mr. Elliot tends to shew that other observations than those here recorded must have been made for the determination of q .

1845. December.

Readings of the Micro- meter head.	Differences.	Temperature.	Differences.
Sc. Div. + 395·7	Sc. Div. · · · ·	° 92·4	° · · · ·
400·0	4·3	88·3	4·1
406·3	6·3	87·4	·9
412·0	5·7	86·7	·7
420·0	8·0	86·4	·3
433·4	13·4	85·4	1·0
455·3	21·9	84·2	1·2
478·7	23·4	83·1	1·1
Diff. 83·0	· · · ·	9·3	· · ·

Now $\frac{83·0}{9·3} = 8·92$ Scale Divisions, corresponding to 1° of temperature.

$\therefore q = \cdot 0002595.$

Recapitulation—we have found altogether as follows:—

No.	Determined in	q.	Method employed.
1	1841 February.	·0002161	By deflection.
2	" 6th June.	*·0011870	
3	" 18th October.	·0006508	
"	" " " more probably.	·0004183	
4	" 24th "	·0004600	"
	1843 May.	†·0003565	"
5	1845 December.	·0002595	By heating the Magnet <i>in situ</i> .

The above values exhibit so much irregularity, that it is difficult to decide how to deal with them.

Observations made with the Vertical Force Instrument.

On looking over the observations of the Vertical Force Instrument as made from hour to hour, the irregularities will be found so far to overstep the probability of change from actual variations of the Vertical Force, that in many cases no choice seems left but to reject the observations altogether:—this accordingly has been done in many instances before a mean could be taken, and from the fact of the needle being taken out once a week to be cleaned,—it seldom happens that the means of six days consecutive observations can be employed usefully in combination with those of the succeeding week. When every sort of allowance is made, and several ob-

* Omitted.

† According to Mr. Elliot's statement, otherwise the value would appear to be $q = \cdot 0003200.$

servations *ad libitum* have been rejected, still the resulting means exhibit numbers which have apparently little or no connection one with another, and which no allowance for changes of Force, however extended, can render comparable.

With this view of the case the observations have been turned to account in the following pages in the only way which seems to be fair or legitimate, namely in the tracing of the connection from hour to hour of the changes of Force with reference to the average force which must have effect during the day—for this purpose the means of all the hourly observations for the month, have been compared with the mean hourly constituent values (as corrected for temperature, Table VI.). On consulting these—it appears that a diminution of force begins to take place at some time between 6 and 7 A. M. which continues till 11h. 30m. A. M., when it again begins to increase, and at about 6 P. M., has reached the point it had previously occupied in the morning. This is nearly the reverse of what takes place with the Horizontal force.—The times of Minimum Vertical Force appear to be as follows:—

Mean Time of the Vertical Force arriving at its Minimum at Singapore, for each month.

<i>Month.</i>	<i>Singapore Mean Time.</i>	
	H.	M.
January	11	45 A. M.
February	11	35 ”
March	11	15 ”
April	11	10 ”
May	11	30 ”
June	11	30 ”
July	11	45 ”
August	11	25 ”
September	11	15 ”
October	11	15 ”
November	11	45 ”
December	11	45 ”

These estimations are necessarily mere rude approximations, the irregularities met with preventing any legitimate mode of interpolation being applied.

The foregoing remarks were drawn up and left by the late T. G. TAYLOR, Esquire, as the result of a careful and protracted examination of the Singapore Observations. It has therefore been thought inexpedient to alter or add to them beyond a few slight corrections furnished by Captain Elliot himself to whom all the papers were submitted at the time of commencing the publication in 1849.

The following Tables exhibit the mean results derived from all the observations.

MADRAS, }
5th March, 1851. }

W. S. JACOB,
H. C. Astronomer.

MEAN HOURLY VARIATIONS FROM THE GENERAL MONTHLY MEANS ARRANGED BY THE YEARS.

Table with columns for Year (1841-1845), Month, and Hour (Noon to 23). It contains numerical data for declination variations, with a 'Mean of 5 years' row at the bottom.

MEAN HOURLY VARIATIONS FROM THE GENERAL MONTHLY MEANS ARRANGED BY THE MONTHS.

Gott. Mean Time.	Noon.	Hours																							Mean Absolute Declination to the East of North.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
Singapore Mean Time.	h. m. 6. 16	h. m. 7. 16	h. m. 8. 16	h. m. 9. 16	h. m. 10. 16	h. m. 11. 16	h. m. 12. 16	h. m. 13. 16	h. m. 14. 16	h. m. 15. 16	h. m. 16. 16	h. m. 17. 16	h. m. 18. 16	h. m. 19. 16	h. m. 20. 16	h. m. 21. 16	h. m. 22. 16	h. m. 23. 16	h. m. 0. 16	h. m. 1. 16	h. m. 2. 16	h. m. 3. 16	h. m. 4. 16	h. m. 5. 16		
January,	1841	28	20	-1	4	4	-5	-62	-106	-54	36	61	77	1:38.33												
	2	36	28	13	-4	-5	-14	-67	-80	-39	19	63	45													
	3	26	22	18	2	-2	-6	-14	-27	-51	-71	-91	-93	32.12												
	4	33	37	25	21	17	9	1	-3	-7	-20	-24	-56	-93	36.01											
	5	39	39	26	22	10	6	2	-2	-6	-14	-22	-47	-100	36.16											
Mean of 5 years.	32		24		11		3		-2		-16		-61		-95		-47		27		67		58		1:35.12	
Mean of 3 years.	33	34	24	20	14	6	4	0	-4	-9	-20	-32	-58	-95	-96	-70	-21	26	56	64	67	56	38		1:34.50	
February,	1841	27	15	-2	-2	-2	-14	-18	-91	-87	19	64	35													
	2	27	15	6	2	2	-2	-14	-55	-116	-30	47	22													
	3	22	18	14	10	10	5	5	1	-3	-23	-51	-100	-112	-24	-55	-7	50	75	71	58	46	34			
	4	34	25	17	9	1	-3	5	5	9	-3	-3	-19	-68	-109	-129	-105	-44	25	74	95	82	54	38		
	5	36	36	27	15	7	3	7	3	3	7	3	-5	-21	-66	-99	-115	-107	-62	3	48	72	76	68	52	
Mean of 5 years.	29		18		4		3		1		-7		-47		-105		-56		38		73		50		1:35.27	
Mean of 3 years.	31	28	21	13	4	3	6	4	1	4	6	-1	-10	-30	-78	-107	-89	-38	26	66	79	72	56	41	1:34.45	
March,	1841	15	3	-2	3	-2	-2	7	-18	-71	-46	35	23													
	2	10	2	-2	2	2	6	6	-18	-67	-31	39	14													
	3	21	5	5	1	1	1	1	-3	-3	-60	-68	-44	-7	17	21	30	38	38	25	30	25	30			
	4	20	8	-4	-16	-12	-12	-4	-8	-8	-16	-16	-20	-41	-69	-61	-24	8	33	45	57	65	49	37		
	5	17	5	-3	-8	-12	-12	-16	-12	-8	-8	-8	-3	-12	-36	-32	-12	13	13	17	37	41	29	21		
Mean of 5 years.	17		1		-4		-4		0		-5		-6		-5		-9		-12		42		41		1:35.02	
Mean of 3 years.	19	9	-1	-6	-8	-8	-6	-6	-5	-6	-9	-10	-9	-28	-55	-54	-27	5	21	28	42	41	48	39	28	1:34.25
April,	1841	17	-11	-11	9	17	13	30	-23	-40	-17	34	1:37.15													
	2	6	-15	-19	6	18	10	26	-39	-19	14	10	34.51													
	3	11	-9	-9	-1	11	20	24	7	-33	-37	-25	-37	35.30												
	4	12	0	-8	-16	-12	-8	8	12	17	8	25	17	36.30												
	5	22	5	-3	-7	-7	1	5	10	12	14	14	27	36.37												
Mean of 5 years.	14		-9		-10		6		16		11		25		-28		-32		-22		-2		25		1:36.09	
Mean of 3 years.	15	1	-7	-11	-7	-3	5	13	15	15	10	5	24	13	-25	-46	-33	-20	-23	-8	0	17	26	25	1:36.12	
May,	1841	3	-17	-25	-9	11	11	68	32	-46	-58	36	1:36.15													
	2	-3	-11	-27	-26	-22	-3	11	13	-56	-40	30	34.23													
	3	-8	-22	-22	-19	-7	5	14	19	31	-42	-58	34.54													
	4	-15	-19	-23	-23	-19	-7	5	14	22	26	30	54	36.33												
	5	12	0	-8	-16	-12	-4	0	4	12	12	16	21	36.26												
Mean of 5 years.	-2		-16		-21		-1		17		21		63		25		-46		-53		-8		24		1:35.42	
Mean of 3 years.	-3	-9	-18	-22	-18	-12	3	10	18	20	24	25	51	76	26	-18	-42	-58	-56	-31	-11	5	18	10	1:35.58	
June,	1841	-19	-36	-15	-3	21	29	70	46	-28	-44	-23	1:37.10													
	2	-20	-16	-24	-16	-4	8	17	17	21	33	53	33	35.33												
	3	-23	-27	-27	-19	-15	-3	5	14	14	18	22	50	34.31												
	4	-17	-21	-25	-21	-9	7	11	15	23	23	32	56	36.25												
	5	-11	-19	-23	-27	-19	-15	-3	5	5	13	13	22	62	36.25											
Mean of 5 years.	-18		-25		-18		-1		14		21		58		40		-23		-39		-12		4		1:36.00	
Mean of 3 years.	-17	-22	-25	-26	-20	-13	0	7	11	17	18	25	56	70	40	2	-22	-35	-39	-22	-12	2	7	-4	1:35.45	
July,	1841	-9	-33	-29	-13	-13	16	24	69	-41	-33	-5	1:36.43													
	2	-33	-41	-33	-13	-5	-1	16	24	24	16	52	89	48	12	-17	-29	-25	-5	4	12	4	-17	35.42		
	3	-10	-27	-18	-6	-6	6	14	6	14	22	51	67	26	-18	-47	-51	-43	-14	6	14	18	18	35.03		
	4	-14	-26	-26	-22	-10	2	10	18	18	27	59	67	31	-14	-39	-39	-34	-10	6	18	22	6	36.20		
	5	-7	-19	-31	-27	-23	-15	-7	1	5	18	30	67	91	46	5	-19	-31	-39	-31	-27	-3	18	14	36.37	
Mean of 5 years.	-15		-31		-27		-10		11		20		60		59		38		-33		-35		-3		15	1:36.05
Mean of 3 years.	-10	-20	-23	-23	-24	-13	-10	0	8	10	17	26	60	85	34	-9	-33	-40	-39	-18	-5	10	19	13	1:36.00	
August,	1841	15	-18	-18	-10	-10	7	23	51	-54	-54	7	23	1:35.47												
	2	3	-14	-18	-10	-6	11	15	23	27	19	30	19	-30	-63	-67	-67	-46	-18	3	31	23	34.46			
	3	16	8	-9	-5	-5	4	12	8	16	16	24	60	73	20	-37	-78	-86	-70	-33	-13	12	32	28	35.42	
	4	8	0	-8	-12	-16	-4	0	12	16	12	20	29	77	86	20	-45	-81	-89	-69	-36	-12	25	41	33	36.22
	5	10	-6	-18	-26	-26	-26	-14	-6	-2	10	27	80	108	51	-10	-47	-55	-51	-43	-30	6	31	31	36.24	
Mean of 5 years.	10		-14		-17		-4		9		19		69		27		-65		-62		-13		32		32	1:35.48
Mean of 3 years.	11	1	-12	-14	-16	-9	2	6	7	10	15	27	72	89	30	-31	-69	-77	-63	-37	-18	14	35	31	1:36.09	
Sept.	1841	19	2	-2	1	7	11	47	-55	-99	-18	27	39	1:34.38												
	2	29	17	1	-4	-8	1	5	17	9	5	17	37	62	41	-24	-73	-81	-65	-40	-20	-8	21	33	34.44	
	3	12	4	-4	0	-4	-4	4	8	12	8	4	8	24	16	-37	-61	-57	-41	-17	12	28	36	32	20	34.57
	4	17	4	-4	-4	-4	0	4	4	4	12	12	17	57	45	-12	-49	-61	-53	-40	-24	0	21	25	29	36.30
	5	30	21	5	1	-7	-7	1	9	5	13	17	26	66	50	-15	-60	-84	-76	-60	-27	9	34	30	26	35.20
Mean of 5 years.	21		0		-5		3		8		14		51		17		49		-29		-35		11		32	1:35.14
Mean of 3 years.	20	10	-1	-1	0	-5	2	7	7	11	11	17	49	37	-21	-57	-67	-57	-39	-13	12	30	29	25	1:35.36	
October,	1841	32	20	8	4	4	4	-17	-89	-89	16	57	57	1:31.09												
	2	23	15	7	-5	-5	-1	-1	3	0	-21	-54	-74	-83	-70	-21	31	56	68	60	36	23	36	23	35.16	
	3	21	13	4	4	0	-4	8	4	0	-4	-4	-4	-77	-89	-61	-16	33	57	57	45	37	21	35.33		
	4	33	21	12	4	0	4	12	8	8	0	-16	-8	-53	-89	-97	-85	-36	21	57	65	61	49	33	36.30	
	5	23	19	10	2	-6	-10	-6	-2	0	-14	-22	-18	-42	-55	-55	-42	-6	43	59	55	43	23	33	35.31	
Mean of 5 years.	26		11		-3		3		3		-3		-14		-77		-69		29		60		40		40	1:34.47
Mean of 3 years.	26	18	9	3	-2	-3	5	2	3	3	-3	-9	-14	-10	-46	-74	-80	-63	-19	32	58	50	36	26	1:35.51	
Nov.	1841	19	7	-17	-11	-5	-21	-13	-82	-99	-58	60	68	1:33.20												
	2	12	6	-11	-11	-	-15	-19	-27	-	-40	-92	-84	-72	-35	30	71	87	91	67	46	30	33	35.50		
	3	17	13	5	-3	-7	-7	-7	-11	-24	-2	-60	-89	-85	-68	-40	9	66	94	80	74	50	25	36.01		
	4	33	25	13	1	-8	-12	-8	-4	-																

MEAN HOURLY VARIATIONS FROM THE GENERAL MONTHLY MEANS ARRANGED BY THE YEARS.

Table with columns for 'Gott. Mean Time.', 'Noon.', and hourly variations (1-23) for years 1841, 1842, 1843, 1844, 1845, and a 'Mean of 5 years 1843-5.' The final column is 'Mean Horizontal Force or Δ X / X'.

MEAN HOURLY VARIATIONS FROM THE GENERAL MONTHLY MEANS ARRANGED BY THE MONTHS.

Gott. Mean Time.	MEAN HOURLY VARIATIONS FROM THE GENERAL MONTHLY MEANS ARRANGED BY THE MONTHS.																								Mean Horizontal Force of X		
	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.			
Singapore Mean Time.	h. m. 6. 16	h. m. 7. 16	h. m. 8. 16	h. m. 9. 16	h. m. 10. 16	h. m. 11. 16	h. m. 12. 16	h. m. 13. 16	h. m. 14. 16	h. m. 15. 16	h. m. 16. 16	h. m. 17. 16	h. m. 18. 16	h. m. 19. 16	h. m. 20. 16	h. m. 21. 16	h. m. 22. 16	h. m. 23. 16	h. m. 0. 16	h. m. 1. 16	h. m. 2. 16	h. m. 3. 16	h. m. 4. 16	h. m. 5. 16	1 + Δ X / X		
	1841	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000	-000		1.000501	
	2	-326	-443	-482	-501	-501	-482	-365	-311	-302	-311	-287	-151	-204	238	1134	1017	1017	0769	0769	556	322	108	031		-047	399
	3	-222	-281	-359	-359	-359	-417	-339	-359	-300	-300	-311	-300	-164	-047	206	440	0751	0849	0751	556	322	108	031		-047	417
	4	-154	-251	-193	-271	-310	-329	-290	-329	-290	-310	-212	-251	-173	002	255	508	0762	0800	0684	391	196	-018	-076		-134	329
5	-186	-225	-264	-361	-322	-322	-264	-322	-205	-244	-264	-147	-089	-011	203	496	0788	0768	0593	359	184	009	-050	-127	361		
Mean of 5 years.	-218	-308	-374	-374	-374	-339	-292	-292	-277	-277	-277	-156	-019	217	481	0860	0763	0763	435	268	033	-032	-103	401			
3 years.	-187	-252	-246	-317	-330	-356	-298	-337	-265	-285	-252	-233	-142	221	217	481	0767	0806	0676	435	234	033	-032	-103	369		
February,	1841	-024	-316	-414	-459	-472	-381	-336	-277	-277	-206	-258	-050	053	0521	0788	0632	0755	0755	501	267	160	044	005	472		
	2	-225	-420	-459	-459	-459	-428	-343	-284	-277	-277	-206	-050	053	0521	0788	0632	0755	0755	501	267	160	044	005	459		
	3	-151	-268	-326	-365	-404	-385	-365	-307	-287	-287	-307	-170	-093	141	550	0804	0843	0687	530	335	160	044	005	404		
	4	-233	-292	-311	-331	-350	-272	-331	-311	-311	-311	-233	-253	-233	-078	234	565	0799	0877	0799	507	253	059	-097	-116	350	
	5	-246	-304	-363	-402	-421	-402	-421	-363	-343	-382	-285	-246	-285	-168	104	552	0845	1020	0941	708	455	182	-051	-129	421	
Mean of 5 years.	-176	-347	-402	-402	-398	-316	-262	-262	-262	-262	-199	-019	178	287	594	0751	0763	0763	582	357	034	-035	-080	421			
3 years.	-210	-288	-333	-366	-379	-359	-379	-359	-320	-327	-275	-269	-113	160	556	0816	0913	0809	582	348	034	-035	-080	392			
March,	1841	-392	-451	-509	-509	-509	-472	-373	-353	-256	-217	-217	-217	-090	348	572	1009	1009	1609	309	309	122	066	008	509		
	2	-248	-346	-443	-443	-443	-414	-385	-346	-346	-278	-278	-083	404	414	603	0930	0930	0826	445	248	048	-003	-180	443		
	3	-187	-226	-284	-401	-323	-362	-362	-343	-304	-284	-284	-245	-070	124	631	0728	0854	0748	0670	495	319	085	-090	-187	401	
	4	-229	-346	-424	-346	-366	-307	-268	-288	-288	-268	-268	-190	-054	277	647	0881	0938	0842	549	218	-054	-113	-171	424		
	5	-295	-373	-412	-470	-451	-373	-314	-353	-295	-295	-295	-295	-159	172	562	0951	1165	1068	679	406	094	-100	-178	470		
Mean of 5 years.	-270	-376	-430	-430	-360	-337	-290	-290	-290	-290	-255	-101	287	594	0880	0983	0912	0912	594	259	035	-068	-140	449			
3 years.	-237	-315	-360	-386	-399	-380	-347	-315	-328	-296	-282	-282	-263	224	594	0880	0983	0912	594	282	035	-068	-140	432			
April,	1841	-402	-480	-480	-461	-422	-344	-344	-324	-324	-324	-324	-168	474	1195	0981	0980	0980	0980	377	240	-227	-129	-251	480		
	2	-363	-480	-480	-461	-422	-344	-344	-324	-324	-324	-324	-168	474	1195	0981	0980	0980	0980	377	240	-227	-129	-251	363		
	3	-349	-368	-407	-446	-407	-427	-446	-407	-349	-310	-310	-271	-002	391	742	1072	1111	0878	547	235	-057	-193	-446	486		
	4	-273	-331	-487	-468	-448	-448	-409	-312	-292	-312	-273	-156	-001	311	681	0993	1051	0895	642	331	077	-098	-234	447		
	5	-260	-318	-377	-435	-474	-513	-552	-474	-435	-416	-377	-357	-338	-066	363	850	1219	1025	695	305	032	-104	-221	552		
Mean of 5 years.	-329	-423	-431	-431	-446	-384	-310	-333	-313	-333	-313	-255	-022	387	758	1092	0933	0893	628	298	017	-150	-132	-235	466		
3 years.	-294	-339	-424	-450	-437	-480	-476	-443	-385	-352	-333	-313	-255	355	758	1092	0933	0893	628	290	017	-150	-132	-235	495		
May,	1841	-481	-481	-500	-500	-500	-481	-383	-305	-208	-072	-072	-072	415	1018	0854	0854	0854	0854	396	248	-286	-180	-295	500		
	2	-278	-336	-336	-336	-336	-414	-395	-395	-278	-278	-083	404	404	603	0930	0930	0715	0715	428	248	-286	-180	-295	414		
	3	-237	-217	-315	-256	-304	-304	-323	-304	-304	-304	-265	-245	-070	124	631	0728	0748	0670	495	319	085	-090	-187	401		
	4	-284	-323	-343	-382	-401	-362	-401	-323	-304	-304	-265	-245	-070	124	631	0728	0748	0670	495	319	085	-090	-187	401		
	5	-314	-353	-392	-372	-392	-411	-411	-392	-372	-392	-372	-333	-236	-002	446	757	1049	1127	0951	660	348	017	-197	-314	411	
Mean of 5 years.	-319	-354	-377	-377	-385	-358	-303	-303	-303	-303	-132	394	394	669	0871	0912	0783	0783	533	347	033	-182	-149	-265	428		
3 years.	-278	-304	-317	-356	-350	-386	-376	-363	-363	-363	-304	-168	053	383	669	0871	0910	0773	533	364	033	-149	-265	408			
June,	1841	-365	-256	-423	-462	-384	-373	-365	-373	-423	-334	-092	316	316	601	0959	0920	0920	0920	453	207	-201	-234	-293	396		
	2	-295	-217	-197	-217	-236	-334	-373	-373	-334	-334	-197	056	309	601	0718	0718	0679	542	347	075	-081	-158	-343	392		
	3	-265	-245	-304	-343	-304	-284	-284	-284	-284	-284	-228	086	339	651	0865	0865	0767	514	163	-070	-187	-343	362			
	4	-307	-346	-365	-365	-326	-346	-326	-268	-268	-268	-209	-093	102	374	589	0745	0764	0706	531	355	063	-170	-248	365		
	5	-324	-285	-285	-305	-344	-344	-324	-324	-324	-324	-305	-188	026	299	610	0825	0903	0786	591	357	046	-149	-266	363		
Mean of 5 years.	-311	-319	-334	-334	-338	-327	-338	-327	-338	-338	-266	-140	071	327	617	0822	0772	0772	545	335	013	-144	-169	-286	389		
3 years.	-299	-292	-318	-331	-325	-325	-324	-299	-292	-292	-266	-136	071	337	617	0812	0844	0753	545	292	013	-169	-286	363			
July,	1841	-396	-429	-338	-396	-338	-254	-221	-215	-221	-157	-098	019	213	441	603	0720	0720	0700	447	233	-020	-234	-293	396		
	2	-332	-332	-390	-351	-332	-346	-327	-288	-366	-268	-210	-151	063	277	530	0803	0901	0803	608	233	-015	-190	-210	429		
	3	-346	-346	-385	-385	-385	-346	-327	-288	-366	-268	-210	-151	063	277	530	0803	0901	0803	608	233	-015	-190	-210	385		
	4	-326	-306	-345	-345	-384	-365	-345	-306	-287	-267	-228	-267	122	434	668	0804	0863	0745	531	317	025	-131	-267	384		
	5	-244	-244	-283	-302	-322	-361	-380	-341	-341	-361	-322	-283	-127	087	398	672	0730	0788	0691	516	301	048	-127	-185	380	
Mean of 5 years.	-329	-348	-348	-368	-333	-282	-247	-247																			

MEAN HOURLY VARIATIONS FROM THE GENERAL MONTHLY MEANS ARRANGED BY THE YEARS.

Table with columns for Year, Month, and Hourly Variations (1-23), and Mean Vertical Force. Rows include years 1841, 1842, 1843, 1844, 1845, and a Mean of 1843-5.

MEAN HOURLY VARIATIONS FROM THE GENERAL MONTHLY MEANS ARRANGED BY THE MONTHS.																										
Gen. Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Mean Vertical Force.	
Singapore Mean Time.	h. m. 6. 16	h. m. 7. 16	h. m. 8. 16	h. m. 9. 16	h. m. 10. 16	h. m. 11. 16	h. m. 12. 16	h. m. 13. 16	h. m. 14. 16	h. m. 15. 16	h. m. 16. 16	h. m. 17. 16	h. m. 18. 16	h. m. 19. 16	h. m. 20. 16	h. m. 21. 16	h. m. 22. 16	h. m. 23. 16	h. m. 0. 16	h. m. 1. 16	h. m. 2. 16	h. m. 3. 16	h. m. 4. 16	h. m. 5. 16		
January	1841	00	000	000	000	000	00	000	000	000	000	000	00	000	000	00	00	00	00	00	00	000	000	000		
	2																									
	3	0437	624	589	546	611	546	0581	437	502	502	589	567	0654	437	221	-0472	-0971	-1339	-1577	-1447	-1165	-624	-191	134	1001577
	4	0219	403	449	540	632	655	0449	563	632	609	563	655	0724	655	195	-0698	-1340	-1638	-1638	-1202	-0835	-446	-148	082	1638
	5	0206	320	366	389	389	389	0412	343	343	320	343	297	0389	343	-001	-0551	-0964	-1124	-1193	-0941	-0276	-115	183	137	1193
Mean of 3 years.	0287	449	468	492	544	530	0481	448	492	477	498	506	0589	478	108	-0574	-1092	-1367	-1469	-1197	-0759	-395	-052	718	1001469	
February	1841	1022		212		819		1005		583				431		0769					-2133		-0547		381	1002133
	2																									
	3	0262	544	674	717	782	782	0717	695	652	587	544	544	0587	457	-067	-0778	-1319	-1774	-1579	-1341	-0778	-388	-431	-214	1774
	4	0223	360	429	452	567	406	0429	360	383	383	429	475	0498	498	200	-0626	-1153	-1497	-1451	-0947	-0442	-144	039	131	1427
	5	0156	363	432	454	500	546	0546	500	454	454	477	454	0638	592	340	-0440	-1174	-1311	-1678	-1013	-0738	-463	-119	019	1678
Mean of 3 years.	0214	422	512	541	616	578	0504	518	496	475	483	491	0574	516	158	-0615	-1215	-1527	-1569	-1100	-0653	-332	-170	-021	1001650	
March	1841	0799		883		883		0698		377				647		0411					-2575		-0078		681	1002575
	2																									
	3	0265	525	655	676	655	633	0698	676	720	676	611	655	0546	438	-039	-0818	-1511	-1793	-1533	-1122	-0775	-472	-212	-147	1793
	4	0353	720	766	743	766	812	0789	697	743	812	904	995	0995	926	307	-1068	-2123	-2536	-2330	-1688	-1091	-449	-060	009	2536
	5	0166	372	372	418	487	487	0464	510	487	487	510	510	0555	510	280	-0476	-1325	-1577	-1354	-1095	-0591	-224	097	120	1577
Mean of 3 years.	0261	539	598	612	636	644	0650	628	650	658	675	720	0699	625	183	-0787	-1653	-1969	-1806	-1302	-0819	-382	-058	-006	1001569	
April	1841	0594		473		383		0428		021				413		0262					-0672		-0356		-341	1001079
	2																									
	3	0406	514	579	666	709	—	0601	557	557	471	536	471	0362	276	-157	-0851	-1349	-1522	-1240	-0937	-0569	-266	081	103	2432
	4	0540	677	815	723	815	746	0746	723	700	723	732	815	0723	632	012	-0790	-1661	-2143	-1674	-1684	-1042	-698	-286	196	2143
	5	0247	316	385	408	408	454	0454	431	454	431	454	399	0362	339	018	-0647	-1128	-1266	-1151	-0872	-074	-072	018	110	1266
Mean of 3 years.	0398	502	593	599	644	600	0600	570	570	542	556	542	0482	416	-042	-0763	-1379	-1644	-1488	-1166	-0661	-374	-062	136	1001644	
May	1841	0724		724		513		0407		437				362		0091					-1145		-0653		-030	1001145
	2																									
	3	0889		703		723		0436		248				197		0163					-1389		-0393		518	1008
	4	0698	589	589	633	589	—	0568	503	524	546	654	633	0330	221	-190	-0797	-1122	-1252	-1295	-1165	-0818	-537	-104	200	1295
	5	0313	382	473	450	427	404	0152	404	450	519	542	634	0427	175	-123	-0627	-0880	-0925	-1086	-0880	-0673	-444	-215	166	1086
Mean of 3 years.	0429	454	507	491	469	385	0324	425	447	485	544	552	0398	201	-166	-0727	-1011	-0986	-1077	-0934	-0619	-457	-122	117	1001138	
June	1841	1008		947		782		0676		540				661		0164					-1720		-0982		480	1001916
	2																									
	3	0719	280	263	145	078		0365	365	263	179	230	400	0108	095	-076	-0631	-0833	-0985	-0850	-0580	-0344	145	398	719	0985
	4	0487	444	444	314	314	205	0292	314	357	400	400	487	0249	140	-055	-0444	-0704	-0921	-0986	-0899	-0661	-423	010	227	6986
	5	0278	278	255	255	141	163	0485	324	324	324	232	347	0232	186	-089	-0065	-0524	-0662	-0616	-0662	-0616	-524	-158	095	0662
Mean of 3 years.	0381	458	390	362	293	272	0385	385	361	390	406	610	0355	151	-098	-0388	-0727	-0921	-0920	-0906	-0728	-511	-153	149	1000943	
July	1841	0847		878		847		0697		531				486		0094					-1398		-1112		-373	1001398
	2																									
	3	0863	205	171	-014	104	-031	0340	407	121	390	323	272	0154	104	-284	-0639	-0976	-0942	-0976	-0571	-0386	002	542	812	6976
	4	0443	486	551	508	443	—	0291	335	356	378	573	0421	356	248	-0229	-0662	-0770	-1030	-1160	-1030	-705	-294	118	1100	
	5	0296	321	275	275	298	298	0321	298	298	206	275	298	0183	092	-115	-0298	-0550	-0619	-0711	-0619	-0550	-074	-092	137	0711
Mean of 3 years.	0353	413	420	436	414	400	0394	401	408	408	454	526	0376	233	-002	-0391	-0756	-0831	-0971	-0945	-0833	-595	-267	092	1001014	
August	1841	0732		377		462		0394		361				175		0230					-124		-0466		108	1001124
	2																									
	3	0314	377	226	357	335	428	0379	335	292	292	292	335	0162	119	-033	-0401	-0661	-0791	-0769	-0791	-0444	-314	-098	054	0791
	4	0220	381	289	335	335	312	0335	335	335	358	381	358	0128	083	-124	-0445	-0605	-0720	-0582	-0468	-0651	-399	-261	060	0720
	5	0173	539	631	539	585	654	0562	562	539	631	677	700	0677	264	035	-0538	-1043	-1203	-1272	-1111	-0859	-836	-607	-309	1272
Mean of 3 years.	0236	440	404	410	418	434	0425	411	389	427	450	464	0322	155	-041	-0611	-0770	-0905	-0874	-0790	-0651	-516	-322	-065	1000928	
Sept.	1841	0446		581		446		0310		054				069		0024					-1071		-0172		144	1001031
	2																									
	3	0924	198	215	029	029	-021	-0122	-122	-038	-055	-342	-156	-0201	367	-055	-0696	-0915	-0949	-0612	-0274	-0181	738	822	873	6549
	4	0401	336	357	357	401	465	0379	379	357	401	444	401	0271	162	-271	-0726	-1202	-1224	-0986	-0618	-0271	-033	076	141	

		Magnet No. 1 (Declination bar.)		a.	b.	w.	log. k.	Arc. value of 1 division of scale = 40". its log. tan. = 6.2951416. a = length of the Magnet in feet. b = breadth of do. do. w = weight of do. in grains troy. k = 32.0897 = log. 1.5063657. π = 9.8096044 = log. 0.9942998. $\frac{(\pi^2 + 12^2)w}{12} = k.$					Remarks.												
		do. 0 (Hor. Force bar.)		1.25000	0.07300	6452.0	1.419446																		
				1.25000	0.07300	6705.0	1.436151																		
Magnet number marked on.	Rate of Chronometer or r.	Correction of Torsion.		Time of 1 vibration or T.	$\log \frac{T}{T_0} \left(\sqrt{1 + \frac{H}{F}} \frac{\pi}{86400} \right) - T.$	$\frac{\pi^2 k}{T_0^2} = B.$	Corrected log. tan of 1 division.	Distances in feet or R.	Angles of deflection in scale divisions. or u.	$\log \tan u R^2 = \tan. u R^2.$	$\log (R^2 - R_0^2).$	$\frac{\tan. u R^2 - \tan. u R_0^2}{2(R^2 - R_0^2)} = A.$	$\frac{R}{A} = X.$	Results. X.											
		for deflection. $1 + \frac{H}{F}$ for u.	for vibration. $\sqrt{1 + \frac{H}{F}}$ for T.																						
1841																									
March 8th.	1	22.90	1.000323	1.000158	9.7880	1.981296	0.432461	6.295282	5 107.400	1.472301	1.342423	0.129879	1.41673	No change had taken place in the Magnetic moment of the bar during the times of Vibration and Deflection.											
									6 62.403	1.811222	1.681241	0.129981	1.41656												
									7 107.400	1.811222	1.681241	0.129981	1.41656												
									8 39.488	1.545040	1.414973	0.130067	1.41642												
									9 62.493	1.342166	1.342423	0.999743	1.41434												
									10 39.488	1.680353	1.681241	0.999112	1.41536												
June 5th.	0	22.90	1.000323	1.000315	11.6080	2.129602	0.300849	6.295282	5 79.773	1.413549	1.414973	0.998576	1.41624		The deflections were from the West side only.										
									6 46.385	1.345893	1.342423	0.003470	1.41102												
									7 79.773	1.688013	1.681241	0.006772	1.40566												
									8 29.273	1.898535	1.892095	0.006441	1.40620												
									9 46.385	1.424521	1.414973	0.009547	1.40118												
									10 29.273	1.757579	1.748188	0.007603	1.40432												
August 30th.	0	24.06	1.000407	1.000191	11.5750	2.126966	0.303484	6.295318	5 47.100	1.483032	1.477121	0.005911	1.40706			The experiments were made at the time of the change of Force being least, but a magnet should have been vibrated during the experiments of deflection, which was omitted in this instance in consequence of the small change of force, and from so many vibrations having been taken with the declination bar.									
									6 19.988	1.820951	1.820951	0.000000	1.40706												
									7 47.100	1.424521	1.414973	0.009547	1.40118												
									8 29.803	1.820951	1.820951	0.000000	1.40706												
									9 47.100	1.424521	1.414973	0.009547	1.40118												
									10 29.803	1.820951	1.820951	0.000000	1.40706												
									October 2nd.	1	22.40	1.000221	1.000133	9.7923			1.981660	0.432065	6.295236	5 109.918	1.471438	1.342423	0.129016	1.42532	
																				6 63.465	1.812653	1.681241	0.131412	1.42140	
																				7 109.918	1.812653	1.681241	0.131412	1.42140	
																				8 40.019	1.548402	1.414973	0.133428	1.41808	
																				9 109.918	1.820951	1.820951	0.000000	1.40706	
																				10 26.806	1.608722	1.477121	0.131600	1.42109	
October 31st.	1	20.00	1.000399	1.000185	9.7771	1.950380	0.450070	6.295315	5 80.650	1.349104	1.342423	0.006682	1.40735												
									6 46.967	1.687220	1.681241	0.005979	1.40849												
									7 80.650	1.895509	1.892095	0.003415	1.41265												
									8 29.665	2.053474	2.049218	0.004256	1.41128												
									9 80.650	1.420357	1.414973	0.005383	1.40945												
									10 13.972	1.750312	1.748188	0.002124	1.41475												
									October 31st.	1	24.06	1.000405	1.000186		9.7780	1.980419	0.433226	6.295317	5 46.967	1.957903	1.954242	0.003661	1.41225		
																			6 29.665	1.476401	1.477121	0.999280	1.41939		
																			7 46.967	1.809139	1.806180	0.002959	1.41339		
																			8 19.846	1.537658	1.531479	0.006179	1.40816		
																			9 13.972	1.475766	1.342423	0.133343	1.41251		
																			10 108.895	1.813122	1.681241	0.131881	1.41490		

Date.	Magnet number marked on.	Rate of Chronometer or	Correction of Torsion.		Time of 1 vibration.	a	b	w.	log. k.	Arc. value of 1 division of scale = 40". its log. tan. = 6.2951416. a. = length of the Magnet in feet. b. = breadth of do. do. w. = weight of do. in grains troy. g. = 32.0897 = log. 1.5063657. $\pi^2 = 9.8696044 = \log. 0.9942998.$ $\left(\frac{a^2 + b^2}{12}\right) \frac{w}{k} = k.$					Remarks.					
			for deflection.	for vibration.						log. tan of	Distances in feet or	Angles of deflection in scale divisions.	log. tan. u R ⁵ - tan. u R ⁵ .	log. 2 (R ² - R ²).		log. tan. u R ⁵ - tan. u R ⁵ .	log. A.	Results.		
			$1 + \frac{H}{F}$	$\left(1 + \frac{H}{F}\right)^{\frac{1}{2}}$															log. T ²	log. B.
1842						1.25000	0.07300	6697.0	1.435632											
February 6th.	00	22.50	1.000414	1.000301	11.5500	2.125199	0.304733	6.295321		6	46.681	1.750309	1.748188	0.002121	1.41679					
										8	19.778									
										6	46.681	1.953909	1.954213	9.999667	1.42080					
										9	13.863									
March 19th.	00	do.	do.	do.	11.6156	2.130118	0.299814	do.		5	80.104	1.888383	1.892095	9.996288	1.41828					
										8	19.596									
										5	80.104	2.046479	2.049218	9.997261	1.41833					
										9	13.788									
										6	46.531	1.742939	1.748188	9.994751	1.42079					
										8	19.596									
										6	46.531	1.950788	1.954243	9.996546	1.41786					
										9	13.788									
21st.	00	do.	do.	do.	11.5757	2.127130	0.302802	do.		5	79.969	1.892355	1.892095	0.000261	1.41668					
										8	19.693									
										5	79.969	2.050876	2.049218	0.001658	1.41440					
										9	13.878									
										6	46.131	1.749023	1.748188	0.000835	1.41574					
										8	19.693									
										6	46.131	1.956597	1.954243	0.002355	1.41327					
										9	13.878									
April 20th.	00	23.00	do.	do.	11.5877	2.128024	0.301908	do.		5	80.641	1.894460	1.892095	0.002366	1.41179					
										8	19.816									
										5	80.641	2.050302	2.049218	0.001084	1.41388					
										9	13.901									
										6	46.781	1.751044	1.748188	0.002856	1.41100					
										8	19.816									
										6	46.781	1.955304	1.954243	0.001062	1.41391					
										9	13.901									
30th.	00	do.	do.	do.	11.5937	2.128444	0.301498	do.		5	80.719	1.895742	1.892095	0.003647	1.40903					
										8	19.859									
										5	80.719	2.050483	2.049218	0.001265	1.41290					
										9	13.909									
										6	46.920	1.751513	1.748188	0.003325	1.40955					
										8	19.859									
										6	46.920	1.954726	1.954243	0.000484	1.41427					
										9	13.909									
May 2nd.	00	23.60	1.000186	1.000200	11.5825	2.127541	0.302391	6.295222		5	80.170	1.891926	1.892095	9.999831	1.41671					
										8	19.703									
										5	80.170	2.050656	2.049218	0.001438	1.41409					
										9	13.886									
										6	46.539	1.748159	1.748188	9.999971	1.41648					
										8	19.703									
										6	46.539	1.956145	1.954243	0.001902	1.41333					
										9	13.886									
28th.	00	do.	do.	do.	11.5928	2.128313	0.301619	do.		5	80.225	1.895218	1.892095	0.003124	1.41009					
										8	19.800									
										5	80.225	2.051292	2.049218	0.002074	1.41180					
										9	13.903									
										6	46.737	1.750645	1.748188	0.002457	1.41118					
										8	19.800									
										6	46.737	1.955643	1.954243	0.001401	1.41289					
										9	13.903									
										5	79.800	1.892620	1.892095	0.000525	1.41590					
										8	19.687									
										5	79.800	2.050458	2.049218	0.001240	1.41473					
										9	13.862									
										6	46.331	1.749778	1.748188	0.001590	1.41416					
										8	19.687									
										6	46.331	1.956319	1.954243	0.002076	1.41337					
										9	13.862									
30th.	00	do.	do.	do.	11.5908	2.128163	0.301769	do.		5	78.988	1.338865	1.342423	9.996442	1.42123					
										6	43.963									
										5	78.988	1.890690	1.892095	9.998595	1.41771					
										8	19.556									
										6	43.963	1.747626	1.748188	9.999438	1.41633					
										8	19.556									
										5	79.044	1.340067	1.342423	9.997645	1.41930					
										6	46.025									
										5	79.044	1.888456	1.892095	9.996362	1.42140					
										8	19.500									
										6	46.025	1.745045	1.748188	9.996857	1.42058					
										8	19.500									
										5	79.150	1.340111	1.342423	9.997688	1.42036					
										6	46.069									
										5	79.150	1.888090	1.892095	9.995995	1.42314					
										8	19.500									
										6	46.069	1.743516	1.748188	9.995328	1.42423					
										8	19.500									

SINGAPORE, 1841.

MAGNETICAL OBSERVATIONS.

SINGAPORE 1841. MAGNETICAL OBSERVATIONS.

$$a. \left(1 + \frac{H}{F}\right) = 40.7 \times 1.000311 = 40.7127$$

Zero.. January. { from 1st to 8th = 43.4
 " 9th to 29th = 37.3

Zero.. February. 35.3

a. = 1°36'47 East of North.

DECLINATION MAGNETOMETER.

Göttingen Mean Time.		DECLINATION MAGNETOMETER.												Daily and Monthly Means.	Declination ° / ' 1°30' +		
Singapore Mean Time.		Noon.	2	4	6	8	10	12	14	16	18	20	22				
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.			
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. JANUARY 1841.		sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	
		1	46.0	47.0	46.5	46.5	46.2	46.4	45.8	44.3	45.2	44.2	47.5	47.7	46.2	8.41	
		2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		3	—	—	—	46.2	46.0	46.1	46.6	46.1	45.6	45.3	46.2	46.4	46.1	8.37	
		4	46.7	47.0	46.8	46.1	45.7	45.7	44.2	44.3	45.4	46.3	48.9	47.4	46.2	8.41	
		5	46.9	47.1	46.5	46.2	45.9	45.3	44.7	44.8	45.7	44.8	46.5	46.5	45.9	8.28	
		6	46.9	47.0	46.6	46.5	46.0	44.9	42.6	43.1	47.2	47.2	46.6	47.6	46.0	8.32	
		7	47.3	47.8	47.2	46.9	46.9	45.0	41.1	40.7	46.4	48.3	49.1	48.5	46.2	8.41	
		8	45.8	45.7	45.3	45.1	44.7	43.6	42.3	38.8	41.9	44.6	46.5	46.1	44.2	7.19	
		9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		10	—	—	—	39.9	40.2	40.3	38.3	36.1	38.5	40.1	42.3	41.5	39.7	8.24	
		11	41.4	41.1	39.9	39.9	40.9	40.9	38.9	36.7	38.8	43.5	45.6	45.4	41.0	9.17	
		12	41.9	41.3	40.6	40.5	40.3	39.4	38.5	37.0	37.1	39.3	45.1	41.8	40.2	8.45	
		13	41.9	42.0	38.6	40.7	41.2	40.1	36.5	35.5	34.4	37.3	38.8	43.0	39.1	8.00	
		14	38.3	38.9	38.1	38.7	38.7	38.9	37.6	39.9	39.6	40.8	40.0	40.9	39.2	8.04	
		15	35.9	35.8	35.0	32.3	33.3	32.2	32.0	32.9	36.2	36.9	35.1	35.6	34.4	4.49	
		16	36.7	35.9	35.1	—	—	—	—	—	—	—	—	—	—	—	
		17	—	—	—	36.5	36.8	36.3	35.8	31.5	32.5	36.6	34.2	24.8	35.3	5.25	
		18	26.0	25.9	24.6	25.1	25.0	25.0	24.3	25.2	26.0	27.5	28.3	27.2	—	—	
		19	28.4	26.0	27.6	28.0	26.9	25.6	25.2	26.0	27.5	23.6	33.9	33.3	—	—	
		20	33.0	20.0	20.9	21.6	22.0	40.2	37.3	36.8	38.4	39.6	40.6	41.0	—	—	
		21	40.1	40.2	39.8	38.3	39.6	39.4	38.3	36.7	36.8	38.7	41.4	40.1	39.1	8.00	
		22	40.0	39.6	39.7	39.8	40.0	39.4	38.6	39.1	42.0	42.0	40.0	41.8	40.2	8.45	
		23	41.2	40.9	40.5	—	—	—	—	—	—	—	—	—	—	—	
		24	—	—	—	40.4	39.8	39.7	37.1	37.0	41.1	43.9	41.8	40.4	40.3	8.49	
		25	40.6	40.6	40.1	40.4	40.1	39.6	37.1	39.5	41.4	41.7	39.7	39.9	40.1	8.41	
		26	40.9	41.0	40.7	42.6	40.9	41.7	41.0	41.6	42.3	45.0	44.9	45.6	42.3	10.10	
		27	42.5	41.9	42.9	42.7	41.8	42.0	39.9	39.0	41.1	43.9	45.4	43.1	42.2	10.06	
		28	42.0	42.3	43.2	43.0	43.4	42.7	42.1	39.5	40.7	44.0	45.2	45.2	42.7	10.27	
		29	44.7	44.8	44.5	44.5	43.6	44.0	44.0	37.5	37.1	38.2	—	—	42.3	10.10	
		30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
31	—	—	—	37.8	38.5	39.4	38.9	37.4	36.2	36.3	38.5	39.3	38.0	—			
Hourly Means.....		40.6	40.4	39.9	40.0	40.0	39.8	38.4	37.3	38.6	40.8	41.4	41.8	—	8.30		
Declination=1°30'+		9 01	8 53	8 32	8 37	8 37	8 28	7 31	6 47	7 39	9 09	9 34	9 50	8 33	—		
Diurnal Oscillation..		2 14	2 06	1 45	1 50	1 50	1 41	0 44	0	0 52	2 22	2 47	3 03	1 46	—		
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. FEBRUARY 1841.		sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.		
		1	38.7	39.1	38.5	38.4	38.1	38.1	36.0	37.9	39.6	40.5	40.4	40.0	38.7	9.05	
		2	39.0	39.0	38.7	38.7	38.1	37.4	36.2	39.3	39.5	39.1	40.1	41.3	38.8	9.09	
		3	39.7	39.1	38.6	38.0	37.6	37.5	36.0	36.8	40.2	41.0	38.9	37.0	38.4	8.53	
		4	38.5	39.1	38.6	37.9	38.1	37.8	35.6	37.9	41.8	42.1	39.3	38.1	38.7	9.05	
		5	38.9	39.0	38.9	38.2	37.4	37.4	35.5	35.0	39.2	37.8	37.9	38.6	37.8	8.28	
		6	39.5	39.4	38.9	—	—	—	—	—	—	—	—	—	—	—	
		7	—	—	—	38.9	37.9	38.3	31.7	35.3	39.6	40.4	41.1	40.6	38.5	8.57	
		8	40.5	39.2	39.0	39.5	38.9	38.7	36.9	36.8	38.2	39.0	41.4	43.4	39.3	9.29	
		9	42.9	40.2	39.9	39.8	39.3	39.1	38.2	38.3	40.7	41.8	42.9	41.5	40.4	10.14	
		10	39.8	39.8	39.3	39.0	38.7	38.7	38.6	38.0	40.6	47.5	43.3	42.5	40.5	10.19	
		11	39.3	40.6	39.4	38.5	38.2	37.6	36.0	37.7	41.9	43.3	42.1	42.1	39.7	9.46	
		12	40.2	40.6	40.2	39.4	38.9	38.3	36.7	36.5	39.0	39.2	40.4	40.3	39.1	9.21	
		13	39.6	39.8	39.3	—	—	—	—	—	—	—	—	—	—	—	
		14	—	—	—	38.8	38.8	38.5	37.7	38.4	41.3	42.1	39.6	39.4	39.4	9.34	
		15	40.8	39.0	38.9	39.8	39.0	39.4	37.5	37.5	41.6	42.8	41.7	41.3	39.9	9.54	
		16	39.9	39.8	39.0	40.0	39.2	38.7	37.4	37.4	40.1	41.3	38.9	37.2	39.0	9.17	
		17	40.0	38.9	39.7	39.4	39.4	39.2	36.0	36.9	41.9	41.9	41.1	40.2	39.5	9.38	
		18	40.3	39.7	39.7	39.6	39.1	39.0	37.8	36.1	39.3	39.0	—	—	38.9	9.13	
		19	39.7	39.6	39.3	39.3	39.1	38.4	37.2	37.5	39.2	38.6	39.3	39.2	38.8	9.09	
		20	38.9	39.0	39.0	—	—	—	—	—	—	—	—	—	—	—	
		21	—	—	—	38.6	39.0	38.3	36.1	35.9	40.2	41.3	39.1	38.0	38.6	9.01	
		22	39.7	39.0	39.1	39.0	38.6	38.5	36.4	35.0	40.4	42.0	40.9	39.1	39.0	9.17	
		23	39.9	39.8	38.3	39.6	38.4	38.8	38.3	37.7	39.1	39.1	39.2	38.6	38.9	9.13	
		24	40.1	39.3	38.9	39.2	39.1	39.3	36.4	34.9	37.1	39.5	41.0	40.0	38.7	9.05	
		25	39.4	39.0	38.9	39.1	38.8	38.8	37.2	37.8	35.8	39.5	40.9	39.5	38.7	9.05	
		26	39.1	38.4	38.1	38.8	40.6	39.4	38.7	35.0	35.1	38.7	39.7	40.1	38.5	8.57	
		27	38.3	38.9	38.7	—	—	—	—	—	—	—	—	—	—	—	
28	—	—	—	38.8	39.9	41.2	39.5	36.2	36.9	38.2	40.8	40.0	38.9	9.13			
Hourly Means.....		39.7	39.4	39.0	39.0	38.7	38.6	36.8	36.9	39.5	40.6	40.4	39.9	39.0	9.18		
Declination=1°30'+		9 46	9 34	9 17	9 17	9 05	9 01	7 48	7 52	9 38	10 23	10 14	9 54	9 19	—		
Diurnal Oscillations..		1 53	1 46	1 29	1 29	1 17	1 13	0	0 04	1 50	2 35	2 26	2 06	1 31	—		

Observations of January 1st to 8th and 31st are rejected in the Hourly Means and 18th, 19th, and 20th are omitted in the hourly and daily means.
N. B.—Increasing Numbers denote a movement of the North end of the Magnet towards the East.

SINGAPORE 1841. MAGNETICAL OBSERVATIONS.

$a \cdot (1 + \frac{H}{F}) = 40.7 \times 1.000311 = 40.7127$

Zero... March... } from 1st to 5th = 35.3
 ,, 6th to 31st = 33.3 Zero... April... 32.3.

a. = 1° 36' 47" East of North.

DECLINATION MAGNETOMETER.

Gottingen Mean Time.	Noon.	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Declination ° ' "	
Singapore Mean Time.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	sc. d.	1° 30' +	
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. MARCH 1841.	1	39.9	39.7	39.4	39.1	39.0	38.7	38.6	36.8	37.7	40.1	40.0	39.1	9.21	
	2	39.8	39.8	39.0	39.6	39.4	39.5	38.8	36.5	37.8	40.1	41.1	39.3	9.29	
	3	39.2	39.2	39.1	39.1	39.7	39.4	37.6	36.2	37.5	41.0	41.8	39.2	9.25	
	4	39.7	39.3	39.1	39.2	39.1	38.7	37.5	36.0	37.2	40.6	41.0	39.8	9.13	
	*5	39.0	38.8	39.1	39.0	38.7	38.8	37.5	36.0	38.4	a	a	32.4	—	
	6	32.9	33.2	32.7	—	—	—	—	—	—	—	—	—	—	—
	7	—	—	—	33.5	32.8	31.4	31.3	30.8	31.6	34.3	36.2	34.2	32.9	6.30
	8	33.0	33.4	33.0	32.8	32.7	32.9	31.0	27.8	28.9	34.2	37.1	35.1	32.6	6.18
	9	33.7	33.7	33.0	33.0	32.9	32.9	31.8	28.3	29.1	33.6	35.4	34.3	32.6	6.18
	10	34.0	33.3	32.8	33.0	32.9	31.8	32.9	31.9	31.3	34.5	34.6	34.4	33.1	6.38
	11	34.4	34.0	33.8	33.4	32.9	32.5	32.4	32.5	34.0	34.9	35.3	34.1	34.1	7.19
	12	34.3	34.3	33.9	33.8	33.3	33.1	32.4	31.8	33.1	34.9	34.4	33.3	33.5	6.55
	13	34.1	34.1	34.0	—	—	—	—	—	—	—	—	—	—	—
	14	—	—	—	32.3	32.3	32.4	32.6	32.3	33.3	36.1	35.2	35.4	33.7	7.03
	15	33.4	32.0	33.3	33.1	33.3	33.6	32.2	30.2	31.0	32.1	33.7	34.6	32.7	6.22
	16	33.2	32.6	33.2	33.0	33.7	33.8	32.7	30.3	30.4	32.5	33.4	34.0	32.7	6.22
	17	33.2	32.9	32.8	33.1	33.2	32.9	32.5	33.9	34.8	35.8	34.2	33.8	33.6	6.59
	18	33.7	33.2	33.8	33.3	33.9	32.8	32.5	31.8	33.9	34.1	32.7	32.8	33.2	6.42
	19	32.8	33.0	33.3	34.0	33.4	33.2	32.8	31.7	32.2	34.3	34.5	33.4	33.2	6.42
	20	34.6	34.1	33.0	—	—	—	—	—	—	—	—	—	—	—
	21	—	—	—	35.8	36.0	36.0	35.4	34.2	34.1	35.7	35.0	35.5	35.0	7.56
	22	36.4	36.0	35.9	35.3	37.3	36.6	37.6	35.3	37.0	38.0	38.2	36.2	36.6	9.01
	23	35.9	36.1	35.0	36.0	36.3	36.8	36.5	34.6	34.6	36.7	35.8	35.9	35.8	8.28
	24	35.5	36.0	35.5	36.0	36.8	37.1	36.6	34.5	35.7	37.1	36.8	37.1	36.2	8.45
	25	36.7	36.0	36.3	36.4	37.0	36.9	36.9	34.5	35.8	37.0	36.7	36.9	36.4	8.53
	26	36.6	36.7	37.0	36.9	37.7	37.8	37.1	35.3	36.4	38.0	39.0	38.5	37.2	9.25
	27	37.5	36.4	36.3	—	—	—	—	—	—	—	—	—	—	—
	28	—	—	—	34.1	34.4	33.9	34.0	31.9	32.0	32.9	34.4	34.9	34.4	7.31
	29	34.5	33.8	33.7	33.8	33.9	33.6	34.0	35.0	34.1	34.0	35.2	34.8	34.2	7.23
	30	34.0	34.1	33.5	34.2	34.0	33.8	34.2	34.2	32.1	31.9	33.0	34.5	33.6	6.50
	31	34.8	33.9	34.0	34.0	33.8	33.5	34.1	34.1	34.0	34.7	33.7	33.3	34.0	7.15
Hourly Means	39.7	39.5	39.2	39.3	39.3	39.1	38.1	36.4	37.6	40.5	41.0	40.1	39.2	7.40	
Declination = 1° 30' +	7.56	7.44	7.44	7.39	7.48	7.30	7.23	6.30	6.55	8.16	8.28	8.04	7.41		
Diurnal Oscillation . . .	1.26	1.14	1.14	1.09	1.18	1.09	0.53	0	0.25	1.46	1.58	1.34	1.11		
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. APRIL 1841.	1	34.0	33.8	33.6	33.8	33.9	33.2	33.7	32.6	32.2	32.0	35.0	31.6	33.3	7.27
	2	33.0	33.3	36.0	34.5	34.5	33.9	33.9	35.0	35.8	36.5	33.5	32.8	31.4	8.12
	3	35.5	34.1	32.6	—	—	—	—	—	—	—	—	—	—	—
	4	—	—	—	33.6	33.9	33.4	33.4	33.3	34.6	35.4	34.5	33.3	34.0	7.56
	5	33.4	33.1	33.5	33.6	33.6	33.5	33.0	32.5	34.4	35.7	35.0	34.4	33.8	7.48
	6	33.8	33.7	33.7	33.8	33.8	33.3	32.8	30.9	32.3	32.7	32.7	33.1	33.0	7.15
	7	34.2	34.0	34.0	34.0	33.1	32.9	32.9	32.9	32.6	32.9	33.0	35.1	33.5	7.35
	8	35.0	33.9	32.3	32.4	32.2	32.5	32.8	31.3	31.0	32.0	33.0	33.6	32.6	6.59
	9	33.6	32.8	33.1	31.1	30.9	30.5	30.1	28.1	27.9	29.0	30.1	31.1	30.7	5.41
	10	31.0	29.8	29.9	—	—	—	—	—	—	—	—	—	—	—
	11	—	—	—	33.9	34.1	33.3	33.0	30.9	32.5	33.4	33.1	33.7	32.4	6.51
	12	31.8	32.0	31.7	31.3	32.6	32.0	31.3	30.4	30.1	31.1	32.8	32.5	31.6	6.18
	13	32.4	31.5	31.0	31.8	31.5	31.1	31.3	31.1	29.6	29.3	30.0	32.0	31.0	5.54
	14	32.1	31.1	31.4	31.5	31.5	31.9	32.3	32.3	31.8	30.1	28.9	31.6	31.4	6.10
	15	31.8	31.3	31.2	31.3	31.4	31.0	31.4	30.0	28.5	29.8	30.3	32.3	30.9	5.50
	16	31.5	30.8	31.0	31.4	31.9	31.4	31.6	29.8	31.1	31.1	30.9	32.5	31.2	6.02
	17	31.9	30.8	30.3	—	—	—	—	—	—	—	—	—	—	—
	18	—	—	—	34.0	34.7	34.7	36.1	33.9	33.1	33.6	33.7	35.0	33.5	7.35
	19	33.8	33.0	32.3	34.1	34.6	35.1	36.0	33.8	32.7	31.8	31.0	35.6	33.7	7.44
	20	34.0	32.2	33.0	33.0	34.2	34.4	35.0	33.5	31.6	30.4	29.6	32.7	32.8	7.07
	21	34.6	33.1	33.0	33.8	34.5	34.8	35.6	32.9	32.2	32.0	32.0	34.0	33.5	7.35
	22	33.9	32.9	33.0	34.0	34.0	34.8	34.2	31.9	31.8	33.9	33.9	34.9	33.6	7.39
	23	34.0	34.0	34.1	34.6	34.6	34.6	34.5	33.0	33.2	33.7	33.1	34.2	33.9	7.52
	24	34.1	34.6	33.9	—	—	—	—	—	—	—	—	—	—	—
	25	—	—	—	34.2	35.2	34.8	35.0	33.9	31.9	31.4	31.9	35.7	33.9	7.52
	26	34.8	33.8	34.0	34.1	34.9	34.4	36.2	34.8	31.6	31.6	33.9	35.5	34.1	8.00
	27	34.8	33.4	33.9	34.2	34.7	34.0	35.4	35.7	34.9	34.8	36.7	37.5	35.0	8.37
	28	34.1	33.3	33.2	33.9	33.3	34.0	35.1	32.9	31.9	33.0	34.7	36.1	33.8	7.48
	29	34.2	33.5	33.6	33.9	34.2	34.3	35.9	33.5	32.7	32.8	35.0	36.7	34.2	8.04
	30	35.3	34.0	34.8	34.8	35.1	35.0	35.8	34.5	33.3	33.3	34.7	—	34.6	8.20
Hourly Means	33.5	32.8	32.8	33.3	33.5	33.4	33.8	32.5	32.1	32.4	32.8	33.9	33.1	7.19	
Declination = 1° 30' +	7.35	7.07	7.07	7.27	7.35	7.31	7.48	6.55	6.38	6.51	7.07	7.52	7.18		
Diurnal Oscillation . . .	0.57	0.29	0.29	0.49	0.57	0.53	1.10	0.17	0	0.13	0.29	1.14	0.40		

* The observations of the 5th are omitted in the hourly and daily means in March.
 a Instrument employed in observations of horizontal intensity.

$a. (1 + \frac{H}{F}) = 40.7 \times 1.000311 = 40.7127$ Zero.. May 30.9 Zero.. June..... } from 1st to 4th = 30.9
 ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, } ,, 7th to 30th = 32.5

$a. = 1.36.47$ East of North.

DECLINATION MAGNETOMETER.

Gottingen Mean Time.		Noon.	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Declination ° ' 1.30 +	
Singapore Mean Time.		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.			sc. d.	sc. d.
		6.16	8.16	10.16	12.16	14.16	16.16	18.16	20.16	22.16	0.16	2.16	4.16	sc. d.	sc. d.	
		sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. MAY 1841.		1	—	—	—	—	—	—	—	—	—	—	—	—	—	
		2	—	—	—	30.4	30.6	30.1	30.8	29.1	27.6	26.6	29.1	30.6	29.4	5.46
		3	30.7	29.1	30.0	30.0	30.5	30.5	31.3	31.0	29.0	32.4	30.1	32.8	30.6	6.34
		4	31.7	31.3	30.2	30.8	30.8	30.4	32.0	29.8	29.5	28.8	29.0	31.3	30.4	6.26
		5	30.8	29.7	29.8	30.4	30.5	30.8	31.8	31.1	29.6	29.8	31.1	31.9	30.6	6.34
		6	30.6	29.4	29.6	29.8	31.3	31.3	33.6	31.3	31.6	30.4	29.1	31.3	30.8	6.42
		7	30.4	30.0	29.8	29.9	31.0	31.0	32.0	29.9	29.1	29.1	32.2	32.1	30.5	6.30
		8	30.8	30.0	30.0	—	—	—	—	—	—	—	—	—	—	—
		9	—	—	—	30.6	30.5	30.5	31.2	33.3	29.7	30.5	31.7	32.4	—	—
		10	30.5	31.8	28.0	30.6	32.0	32.9	35.1	31.0	28.2	28.5	31.0	32.9	30.9	6.47
		11	32.0	30.1	30.3	30.7	31.5	31.7	32.4	31.7	30.3	30.3	30.3	31.4	31.0	6.51
		12	32.1	30.6	30.1	30.3	31.3	30.5	31.6	30.5	29.0	28.6	29.7	32.6	31.1	6.55
		13	31.0	30.1	30.3	30.7	30.6	30.7	31.9	31.6	29.1	29.1	28.5	31.5	30.6	6.34
		14	31.1	32.9	34.9	34.7	34.4	34.6	35.8	36.0	32.3	33.8	34.8	37.0	30.4	6.26
		15	36.6	37.0	37.0	—	—	—	—	—	—	—	—	—	—	—
		16	—	—	—	37.5	38.1	37.7	38.3	37.6	35.5	35.5	29.7	32.6	—	—
		17	32.6	32.0	30.6	31.0	30.2	31.8	32.3	31.2	27.5	26.7	29.1	30.2	30.4	6.26
		18	30.5	30.2	30.1	31.0	31.2	32.4	34.3	31.5	29.6	28.7	29.3	31.1	30.8	6.42
		19	30.2	30.2	30.6	30.3	30.8	31.2	32.9	32.4	31.2	30.1	30.5	31.0	30.9	6.47
		20	30.3	30.0	30.1	30.6	31.0	31.5	32.6	32.7	31.1	29.1	31.7	31.8	31.0	6.51
		21	30.0	29.6	29.5	30.6	31.2	32.9	33.6	32.0	29.2	28.0	29.8	31.6	30.7	6.38
		22	30.2	29.3	29.9	—	—	—	—	—	—	—	—	—	—	—
		23	—	—	—	29.2	29.4	29.5	30.7	31.7	30.3	29.9	29.2	28.8	29.8	6.02
		24	28.3	27.9	28.7	28.9	29.6	30.0	30.3	30.0	27.4	27.9	29.6	29.6	29.0	5.29
		25	28.6	28.6	28.8	29.2	29.8	29.8	30.3	29.8	27.6	27.6	28.8	28.4	28.9	5.25
		26	28.4	28.0	27.7	28.0	28.3	29.0	30.4	29.9	27.8	27.6	29.6	29.9	28.7	5.17
		27	29.0	28.6	28.1	28.2	28.5	28.3	30.7	30.4	27.2	26.1	28.5	31.0	28.7	5.17
		28	28.8	28.4	28.0	28.0	28.7	29.1	29.3	28.6	28.5	28.9	30.5	31.2	29.0	5.29
		29	29.1	28.9	29.1	—	—	—	—	—	—	—	—	—	—	—
		30	—	—	—	29.0	29.7	29.5	30.6	30.1	28.4	27.2	29.5	29.8	29.2	5.37
		31	29.2	28.9	29.1	29.3	29.9	29.6	31.6	30.4	28.6	28.1	29.0	29.0	29.4	5.46
Hourly Means		30.2	29.7	29.5	29.9	30.4	30.6	31.8	30.9	29.0	28.7	29.9	31.0	30.1	6.15	
Declination = 1° 30' +		6 18	5 58	5 50	6 06	6 26	6 34	7 23	6 47	5 29	5 17	6 06	6 51	6 15		
Diurnal Oscillation..		1 01	0 41	0 33	0 49	1 09	1 17	2 06	1 30	0 12	0	0 49	1 34	0 58		
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. JUNE 1841.		1	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	
		2	29.1	28.9	29.2	29.3	30.2	29.9	31.7	31.4	29.5	27.1	27.3	29.0	29.4	5.46
		3	29.1	28.9	29.1	29.7	29.7	30.6	31.2	30.1	28.5	27.6	30.4	29.9	29.6	5.54
		4	29.0	29.0	29.6	29.8	30.6	30.1	31.0	28.5	26.8	27.1	29.9	30.4	29.3	5.41
		5	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		6	—	—	—	—	—	—	—	—	35.6	31.7	32.0	33.9	33.6	—
		7	33.4	32.4	32.6	33.2	33.6	34.2	35.0	35.6	33.6	31.3	31.5	32.1	33.2	7.15
		8	32.2	31.8	32.2	32.8	33.1	33.6	34.1	34.6	33.2	32.5	33.6	33.0	33.0	7.07
		9	33.5	32.9	33.7	33.9	34.5	34.0	35.4	34.5	32.3	32.4	32.7	32.8	33.5	7.27
		10	33.2	33.0	33.0	33.2	32.8	33.2	34.7	34.4	33.1	33.5	33.4	34.1	33.5	7.27
		11	33.0	32.3	32.5	33.4	33.2	33.6	34.5	33.9	33.4	34.5	33.2	34.6	33.5	7.27
		12	32.3	32.5	32.8	—	—	—	—	—	—	—	—	—	—	—
		13	—	—	—	33.8	34.0	34.3	35.5	34.7	31.9	32.2	32.4	33.3	33.3	7.19
		14	33.0	33.0	33.2	34.0	34.2	34.1	35.1	34.8	33.4	33.0	33.2	33.0	33.6	7.31
		15	32.3	32.5	33.0	33.7	34.6	34.5	36.7	35.9	34.0	31.0	31.6	31.0	33.4	7.23
		16	32.4	32.4	33.1	32.8	34.1	34.4	35.0	35.1	33.7	32.1	32.7	34.5	33.5	7.27
		17	33.0	32.3	33.6	33.4	35.7	36.0	36.3	34.0	32.0	32.0	32.1	33.2	33.6	7.31
		18	33.8	34.2	33.5	33.3	34.2	34.5	35.9	34.8	31.8	33.2	33.1	34.6	33.9	7.44
		19	34.5	33.6	33.9	—	—	—	—	—	—	—	—	—	—	—
		20	—	—	—	34.3	34.6	34.7	35.6	35.0	33.1	33.8	33.0	33.6	34.1	7.52
		21	32.6	32.1	33.0	33.3	34.4	34.4	35.8	38.7	31.8	30.5	31.3	32.5	33.3	7.19
		22	32.9	32.6	32.7	33.0	33.1	33.8	34.5	34.4	32.5	32.3	32.5	33.0	33.1	7.11
		23	33.3	32.1	32.8	33.4	33.3	33.8	34.6	33.1	31.5	31.3	31.9	33.1	32.8	6.59
		24	33.5	32.6	33.0	33.8	33.9	33.8	35.1	34.1	32.9	32.5	35.4	32.3	33.6	7.31
		25	31.3	31.8	32.2	32.7	34.1	33.5	34.3	33.4	31.4	31.4	32.7	34.3	32.8	6.59
		26	32.4	32.1	32.8	—	—	—	—	—	—	—	—	—	—	—
		27	—	—	—	32.8	33.6	33.4	34.9	35.8	33.6	32.1	32.0	32.3	33.1	7.11
		28	31.9	32.1	32.5	32.8	33.2	33.6	34.0	34.3	32.2	31.4	31.7	32.1	32.6	6.51
		29	32.5	32.3	32.8	33.4	34.1	34.7	36.4	35.9	33.5	33.0	33.3	33.8	33.8	7.39
		30	33.5	32.8	32.7	33.2	34.0	34.5	34.9	35.2	34.1	34.0	32.6	33.1	33.7	7.35
Hourly Means ..		29.0	28.9	29.3	29.6	30.2	30.3	31.0	29.4	28.1	27.3	29.2	29.8	29.4	7.10	
Declination = 1° 30' +		6 51	6 34	6 55	7 07	7 31	7 39	8 20	7 56	6 42	6 26	6 47	7 07	7 10		
Diurnal Oscillations..		0 25	0 08	0 29	0 41	1 05	1 13	1 54	1 30	0 16	0	0 21	0 41	0 44		

The observations of May 14th, 15th and 16th, are omitted in the hourly and daily means on account of disturbance.
 The observations from 4th to 6th June; are omitted in the hourly and daily means.

$$a. \left(1 + \frac{H}{F}\right) = \frac{40 \cdot 7}{1000} \times 1 \cdot 000311 = 40 \cdot 7127$$

Zero... July 33·2

Zero... August 34·0

a. = 1·36·47 East of North.

DECLINATION MAGNETOMETER.

Gottingen Mean Time.	Noon.	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Declination 1° 30' +	
Singapore Mean Time.	H. M. 6·16	H. M. 8·16	H. M. 10·16	H. M. 12·16	H. M. 14·16	H. M. 16·16	H. M. 18·16	H. M. 20·16	H. M. 22·16	H. M. 0·16	H. M. 2·16	H. M. 4·16	sc. d.	' "	
	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	' "	
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. JULY 1841.	1	32·8	32·3	32·7	33·1	34·1	34·3	35·6	36·8	34·8	31·9	32·6	31·4	33·5	6·59
	2	32·5	32·1	33·1	33·3	34·1	34·8	34·6	34·4	32·9	33·0	34·4	34·8	33·6	7·03
	3	33·0	32·4	32·4	—	—	—	—	—	—	—	—	—	—	—
	4	—	—	—	33·2	34·4	34·8	34·8	34·1	33·3	33·9	34·1	33·7	—	7·07
	5	32·8	33·3	32·4	33·0	34·1	34·0	35·0	33·8	31·2	29·8	33·1	33·1	33·0	6·38
	6	33·1	31·9	31·6	32·3	33·4	33·9	35·5	34·0	30·4	29·1	30·4	32·2	32·3	6·10
	7	33·5	33·0	32·5	32·7	33·0	33·4	34·9	35·0	33·2	33·4	33·6	33·2	33·4	6·55
	8	32·9	32·9	33·0	33·0	34·1	33·1	35·0	35·0	33·5	32·5	33·1	33·0	33·4	6·55
	9	32·9	32·6	32·1	33·1	33·5	33·9	34·4	33·4	32·7	32·6	33·7	33·9	33·2	6·47
	10	32·5	31·7	32·0	—	—	—	—	—	—	—	—	—	—	—
	11	—	—	—	33·0	33·2	33·9	35·1	34·5	33·1	32·4	34·5	34·6	33·4	6·55
	12	32·5	32·1	32·1	33·5	33·7	33·7	34·8	33·7	31·5	31·2	33·4	34·0	33·0	6·38
	13	33·4	33·0	32·9	33·0	33·3	33·0	34·0	33·9	31·8	31·5	33·0	34·3	33·2	6·47
	14	32·5	32·5	33·0	33·7	34·1	34·1	35·0	33·0	31·1	33·3	34·0	34·1	33·3	6·51
	15	32·7	32·9	33·2	33·5	34·5	34·3	35·1	34·2	31·0	37·2	33·1	34·1	33·8	7·11
	16	32·2	32·3	32·9	33·0	33·7	33·3	34·8	35·1	31·9	30·4	29·9	34·5	32·8	6·30
	17	32·9	32·5	33·2	—	—	—	—	—	—	—	—	—	—	—
	18	—	—	—	33·1	33·5	33·5	35·2	34·6	30·6	32·0	35·1	35·2	33·4	6·55
	19	34·8	32·6	32·3	32·0	33·8	33·1	35·1	33·8	31·9	34·6	32·5	33·2	33·3	6·51
	20	35·7	32·6	32·8	32·3	a	33·7	35·9	35·0	32·7	32·1	32·5	33·1	33·5	6·59
	21	33·1	32·1	32·5	33·3	33·0	33·2	34·1	33·4	33·7	33·0	33·3	33·5	33·2	6·47
	22	32·0	31·8	31·9	32·9	33·2	33·0	34·0	33·4	31·5	32·2	32·5	32·3	32·5	6·18
	23	32·6	31·7	31·8	31·8	32·4	33·3	34·0	35·3	34·0	33·9	33·4	33·2	33·1	6·42
	24	32·7	32·3	32·1	—	—	—	—	—	—	—	—	—	—	—
	25	—	—	—	32·6	33·5	32·7	33·3	32·2	30·4	31·3	32·7	32·4	32·4	6·14
	26	32·0	31·7	32·0	32·3	33·1	33·2	35·0	33·4	31·2	31·8	32·2	33·1	32·6	6·22
	27	32·4	32·0	31·6	32·2	33·0	33·8	34·6	33·8	31·8	32·0	33·6	33·6	32·9	6·34
	28	32·6	32·0	32·0	32·4	32·8	33·3	33·9	32·4	31·3	32·1	32·7	32·4	32·5	6·18
	29	32·3	31·9	32·2	32·9	33·2	a	35·9	34·1	30·4	30·3	31·1	32·9	32·4	6·14
	30	32·9	33·4	33·8	—	—	—	—	—	31·0	31·1	32·5	32·2	—	—
	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hourly Means.....	32·9	32·3	32·4	32·8	33·5	33·7	34·8	34·1	32·1	32·3	33·0	33·4	33·1	6·42	
Declination = 1° 30' +	6 34	6 10	6 14	6 30	6 50	7 07	7 52	7 23	6 02	6 10	6 38	6 55	6 43		
Diurnal Oscillation..	0 32	0 08	0 12	0 28	0 67	1 05	1 50	1 21	0	0 08	0 36	0 53	0 41		
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. AUGUST 1841.	JULY 31	32·7	32·1	31·7	—	—	—	—	—	—	—	—	—	—	—
	1	—	—	—	32·6	32·8	33·0	33·6	31·8	30·1	32·2	33·0	34·2	32·5	5·46
	2	33·9	33·0	32·0	32·0	33·0	33·1	33·0	33·7	31·4	32·4	33·0	33·2	32·8	5·58
	3	33·5	33·0	31·5	31·0	30·9	32·1	33·4	35·5	32·8	32·6	32·9	34·0	32·7	5·54
	4	32·9	31·8	32·5	31·3	30·7	32·6	33·0	33·5	31·6	30·1	29·6	32·0	31·8	5·17
	5	33·1	32·1	31·2	31·4	31·3	32·9	35·1	34·5	32·3	33·0	32·8	34·3	32·8	5·58
	6	31·8	31·0	31·9	32·3	32·7	34·4	35·4	34·0	30·1	30·9	31·3	33·1	32·4	5·41
	7	32·3	32·1	31·8	—	—	—	—	—	—	—	—	—	—	—
	8	—	—	—	32·8	32·9	33·2	33·3	32·3	30·4	30·7	34·0	33·7	32·4	5·41
	9	33·2	32·4	32·7	a	a	33·1	33·4	32·9	30·1	29·8	31·1	32·0	32·0	5·25
	10	32·1	32·4	32·8	33·1	33·1	33·2	34·1	34·3	30·9	31·0	32·2	33·7	32·7	5·54
	11	32·8	32·1	32·3	33·1	33·0	33·4	34·3	33·1	31·0	29·7	32·3	32·0	32·4	5·41
	12	31·9	30·8	a	34·5	34·5	34·8	35·0	33·7	29·4	30·8	34·7	33·1	33·0	6·06
	13	31·8	32·0	31·9	31·3	31·9	31·9	33·1	33·2	31·8	30·0	31·3	32·2	31·8	5·17
	14	32·4	32·0	31·8	—	—	—	—	—	—	—	—	—	—	—
	15	—	—	—	32·7	33·0	33·1	32·1	32·3	31·8	30·0	29·8	32·5	31·9	5·21
	16	33·1	32·3	32·0	31·8	33·4	33·5	33·5	32·7	31·1	30·5	32·7	32·9	32·4	5·41
	17	33·2	32·1	a	32·1	32·8	33·1	33·8	34·0	32·9	32·0	34·1	33·2	33·0	6·06
	18	34·1	32·9	32·4	32·4	32·7	32·8	33·1	33·3	30·6	31·2	31·8	32·4	32·5	5·46
	19	33·1	32·8	32·4	32·4	a	33·3	33·4	32·6	32·2	33·3	33·0	32·8	32·8	5·58
	20	32·8	31·0	32·1	32·4	32·8	32·6	33·7	33·6	32·2	32·1	34·0	33·9	32·8	5·58
	21	32·9	32·4	32·1	—	—	—	—	—	—	—	—	—	—	—
	22	—	—	—	32·6	33·0	33·1	34·2	34·4	32·0	32·0	32·9	32·5	32·8	5·58
	23	33·3	31·9	32·3	32·2	32·6	32·8	33·8	34·4	30·6	31·3	33·5	33·0	32·6	5·50
	24	34·0	31·6	32·3	32·6	33·1	32·9	34·9	32·1	29·3	30·3	34·9	33·6	32·6	5·50
	25	32·2	32·0	32·3	33·0	33·6	34·0	34·7	32·3	29·8	29·3	31·5	33·6	32·3	5·37
	26	32·6	32·5	32·2	32·3	32·8	32·3	35·0	35·3	32·6	32·9	34·5	34·2	33·3	6·18
	27	33·5	32·5	32·1	32·0	32·7	32·6	33·6	31·1	31·2	33·3	33·8	33·6	32·7	5·54
	28	34·2	32·0	32·0	—	—	—	—	—	—	—	—	—	—	—
	29	—	—	—	32·1	33·0	33·1	34·0	31·0	33·7	30·2	b	b	32·5	5·46
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—
31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hourly Means.....	32·9	32·1	32·1	32·3	32·7	33·1	33·8	33·2	31·2	31·2	32·7	33·1	32·5	5·47	
Declination = 1° 30' +	6 02	5 29	5 29	5 37	5 54	6 10	6 38	6 14	4 53	4 53	5 54	6 10	5 47		
Diurnal Oscillation..	1 09	0 36	0 36	0 44	1 01	1 17	1 45	1 21	0	0	1 01	1 17	0 54		

The observations of July 30th, are omitted in the hourly and daily means.

a Omitted, because too late.

b Thread of the declination needle broken.

$$a. \left(1 + \frac{H}{F}\right) = 40.7 \times 1.000311 = 40.7127$$

Zero.. September. 35.5

Zero.. October.. { from 1st to 2d = 35.5
" 3d to 31st = 36.8

a. = 1.36.47 East of North.

DECLINATION MAGNETOMETER.

Gottingen Mean Time.		Noon.	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Declination ° ' "		
Singapore Mean Time.		H. M. 6:16	H. M. 8:16	H. M. 10:16	H. M. 12:16	H. M. 14:16	H. M. 16:16	H. M. 18:16	H. M. 20:16	H. M. 22:16	H. M. 0:16	H. M. 2:16	H. M. 4:16				
		sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	' "		
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. SEPTEMBER 1841.		1	a	—	—	—	—	—	—	—	—	a	30.3	32.1	—		
		2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		3	32.6	32.0	32.1	32.2	32.0	33.0	33.5	30.9	28.7	32.2	33.5	34.1	32.2	4.32	
		4	32.8	32.0	32.0	—	—	—	—	—	—	—	—	—	—	—	—
		5	—	—	—	32.5	32.7	b	34.3	31.6	30.1	30.7	32.4	32.3	32.1	4.28	
		6	32.2	32.2	32.4	32.6	32.8	32.8	33.5	31.1	31.1	32.1	32.9	32.9	32.4	4.40	
		7	32.5	32.1	32.3	32.2	33.1	32.9	33.6	30.9	31.8	33.2	32.9	33.2	32.5	4.45	
		8	32.5	32.3	32.3	32.7	33.0	33.2	33.5	31.5	30.2	32.3	33.2	34.0	32.5	4.45	
		9	32.6	32.2	32.2	32.5	33.2	33.2	34.2	31.3	29.6	31.1	32.4	32.4	32.2	4.32	
		10	32.3	32.2	32.6	32.9	33.0	33.0	33.4	30.6	29.5	32.0	33.0	33.3	32.3	4.36	
		11	32.8	32.9	32.4	—	—	—	—	—	—	—	—	—	—	—	
		12	—	—	—	32.5	32.4	32.5	32.6	30.6	29.2	32.0	32.6	32.5	32.1	4.28	
		13	34.4	32.6	31.0	32.1	31.6	32.4	34.0	32.5	31.6	31.6	34.0	33.9	32.6	4.49	
		14	33.8	32.1	32.2	32.6	32.8	33.1	33.2	31.6	30.4	30.8	32.9	33.2	32.4	4.40	
		15	33.0	32.8	32.6	32.9	32.4	32.6	33.2	31.5	30.6	32.7	34.5	35.0	32.8	4.57	
		16	33.5	32.6	32.4	32.2	32.0	32.0	32.9	29.8	28.6	30.9	33.0	34.0	32.0	4.24	
		17	32.8	32.5	32.3	32.1	32.1	33.2	34.2	30.3	27.9	30.0	34.0	33.2	32.0	4.24	
		18	32.3	32.0	32.5	—	—	—	—	—	—	—	—	—	—	—	
		19	—	—	—	b	b	b	34.6	30.5	27.0	30.8	32.9	33.0	31.7	4.12	
		20	32.1	32.1	32.3	32.7	32.7	32.7	33.0	29.2	28.1	31.2	34.0	34.1	32.0	4.24	
		21	32.5	32.5	32.1	32.1	32.8	32.8	33.7	29.6	28.2	30.4	31.8	32.3	31.7	4.12	
		22	32.9	32.7	33.0	32.5	32.0	31.9	33.4	30.2	29.4	31.2	31.6	32.1	31.9	4.20	
		23	32.3	32.1	32.3	32.2	32.0	31.9	32.5	30.4	28.8	30.2	31.9	31.6	31.5	4.04	
		24	32.0	32.4	33.8	32.0	33.7	33.7	35.8	33.7	31.5	32.7	33.0	34.4	33.2	5.13	
		25	31.8	31.1	30.8	—	—	—	—	—	—	—	—	—	—	—	
		26	—	—	—	32.0	32.3	32.8	32.5	30.7	30.1	31.0	33.5	35.5	32.0	4.24	
		27	34.0	33.6	32.2	b	33.0	33.8	34.3	32.1	31.0	34.0	33.2	33.0	33.1	5.09	
		28	32.7	32.6	32.1	33.2	33.3	32.4	32.6	31.9	31.3	33.0	34.2	35.0	32.8	4.57	
		29	33.0	32.8	32.7	33.0	33.4	33.0	33.0	30.0	31.5	34.5	32.6	33.1	32.7	4.53	
		30	33.1	33.0	32.3	32.7	32.9	32.9	32.4	31.3	32.9	34.8	34.0	33.1	32.9	5.01	
Hourly Means.....		32.8	32.4	32.3	32.5	32.6	32.8	33.5	31.0	29.9	31.9	33.0	33.3	32.3	4.37		
Declination = 1°30' +		4 57	4 40	4 36	4 45	4 49	4 57	5 25	3 43	2 59	4 20	5 05	5 17	4 38			
Diurnal Oscillation..		1 58	1 41	1 37	1 46	1 50	1 58	2 26	0 44	0	1 21	2 06	2 18	1 39			
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. OCTOBER 1841.		1	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	' "		
		2	32.3	33.4	32.5	32.2	32.3	32.4	—	—	32.6	34.0	34.2	—	—	—	
		3	—	—	—	28.0	28.0	27.7	26.5	24.8	26.5	27.1	29.9	29.3	27.5	0.28	
		4	28.5	28.7	28.2	28.6	29.1	28.9	27.4	26.3	25.6	26.6	29.0	28.4	27.9	0.44	
		5	28.3	28.7	28.3	28.4	28.5	28.3	27.6	26.1	25.0	27.0	29.1	31.7	28.1	0.52	
		6	29.1	28.8	28.0	28.1	27.6	27.7	27.9	25.6	24.9	27.5	28.9	29.9	27.8	0.40	
		7	29.1	28.8	28.4	28.4	28.5	28.3	30.5	26.6	24.3	26.6	28.5	29.9	28.1	0.52	
		8	29.4	28.9	28.7	28.5	26.8	27.2	29.5	27.7	26.5	27.9	29.1	29.5	28.3	1.01	
		9	29.5	28.8	29.0	—	—	—	—	—	—	—	—	—	—	—	
		10	—	—	—	28.8	28.8	29.1	28.6	27.4	27.3	29.0	31.8	30.4	29.0	1.29	
		11	29.2	28.8	28.6	28.9	28.9	28.8	28.9	26.5	25.6	28.5	29.0	27.9	28.3	1.01	
		12	29.0	28.9	29.1	29.5	29.3	28.6	27.0	26.3	25.9	29.0	29.0	28.7	28.4	1.05	
		13	29.0	28.8	29.0	28.9	29.0	28.7	27.2	24.1	25.9	29.7	32.6	29.8	28.5	1.09	
		14	29.0	28.9	28.4	28.7	28.9	28.9	28.6	25.7	27.1	29.8	30.7	30.2	28.7	1.17	
		15	29.4	29.1	27.9	28.8	29.0	28.5	28.5	25.2	24.6	30.5	31.0	29.4	28.5	1.09	
		16	29.5	28.9	29.0	—	—	—	—	—	—	—	—	—	—	—	
		17	—	—	—	29.0	28.7	28.6	25.4	25.9	25.7	28.1	29.6	—	28.0	0.48	
		18	28.8	28.2	29.5	27.8	28.6	29.4	28.5	25.6	25.8	29.5	30.3	30.1	28.5	1.09	
		19	29.3	29.0	28.3	28.4	28.5	29.0	28.7	26.0	24.8	29.5	29.5	29.9	28.4	1.05	
		20	29.1	29.0	29.4	28.3	28.5	28.1	29.0	26.9	25.5	29.1	29.1	30.9	28.6	1.13	
		21	29.9	28.5	28.9	29.2	29.0	29.0	29.1	27.2	25.8	27.9	29.1	28.5	28.5	1.09	
		22	28.5	28.7	28.5	28.5	28.6	28.3	28.4	28.4	28.6	29.7	29.4	28.8	28.7	1.17	
		23	29.2	29.2	29.0	—	—	—	—	—	—	—	—	—	—	—	
		24	—	—	—	28.6	28.3	28.4	27.8	25.9	26.5	30.0	31.8	33.6	29.0	1.29	
		25	31.7	30.5	28.6	27.8	26.8	27.9	25.5	25.4	26.7	29.0	30.5	31.2	28.5	1.09	
		26	30.3	29.6	29.2	28.3	28.9	28.9	28.5	27.6	28.2	30.5	30.2	30.1	29.2	1.37	
		27	29.8	29.4	29.0	29.0	28.8	28.4	27.2	26.4	27.5	31.3	29.2	28.9	28.7	1.17	
		28	28.8	28.5	28.8	29.0	29.5	29.2	29.4	25.4	26.4	29.5	—	—	28.4	1.05	
		29	29.6	29.5	29.1	29.1	28.6	29.2	28.4	27.1	28.3	—	—	—	28.8	1.21	
		30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		31	—	—	—	29.5	29.1	28.7	27.8	26.9	28.7	32.0	31.3	30.8	29.4	1.45	
Hourly Means.....		29.3	29.0	28.7	28.6	28.6	28.5	28.1	26.3	26.3	28.9	29.9	29.9	28.5	1.08		
Declination = 1°30' +		1 41	1 29	1 17	1 13	1 13	1 09	0 52	-0 20	-0 20	1 25	2 06	2 06	1 09			
Diurnal Oscillations..		2 01	1 49	1 37	1 33	1 33	1 29	1 12	0	0	1 45	2 26	2 26	1 29			

a Thread of the declination needle broken.
b Omitted, because too late.

The observations of 1st October are omitted in the hourly and daily Means.

SINGAPORE 1841. MAGNETICAL OBSERVATIONS.

$$a. \left(1 + \frac{H}{F}\right) = 40.7 \times 1.000311 = 40.7127$$

Zero.. November... 36.8

Zero.. December.. 37.5

a. = 1.36.47 East of North.

DECLINATION MAGNETOMETER.

Gottingen Mean Time.		Noon.	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Declination 1.30 +		
Singapore Mean Time.		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	sc. d.	' "		
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. NOVEMBER 1841.		6.16	8.16	10.16	12.16	14.16	16.16	18.16	20.16	22.16	0.16	2.16	4.16	29.7	1.58		
		sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	' "	
		29.9	29.7	29.1	29.6	29.6	28.8	28.3	28.1	26.9	34.2	32.3	29.6	29.7	1.58		
		29.8	29.9	29.9	33.0	30.0	30.6	30.1	27.5	28.0	30.2	32.7	31.8	30.3	30.3	2.22	
		31.0	30.4	30.2	30.2	30.5	30.3	29.0	26.0	26.8	30.1	30.6	32.9	29.8	29.8	2.02	
		33.7	32.0	30.2	30.6	30.3	30.3	28.7	28.0	28.0	31.0	33.0	34.8	30.9	30.9	2.46	
		32.9	31.8	30.3	33.8	30.0	30.0	30.4	27.5	28.5	31.0	32.3	33.3	31.0	31.0	2.50	
		31.3	31.6	30.8	—	—	—	—	—	—	—	—	—	—	—	—	
		—	—	—	30.7	29.7	31.1	30.4	29.8	30.5	32.8	32.5	32.2	31.1	31.1	2.55	
		31.9	31.1	30.1	30.3	30.0	30.2	30.8	30.1	30.8	32.9	33.4	32.6	31.2	31.2	2.59	
		31.2	30.9	30.0	29.8	30.0	30.0	30.1	29.9	29.0	28.9	29.6	28.9	29.8	29.8	2.02	
		28.1	28.0	27.8	27.0	27.6	28.0	27.3	24.8	24.9	27.8	31.0	31.2	27.8	27.8	0.40	
		30.2	29.9	29.3	29.5	29.6	30.1	28.5	26.5	27.0	31.1	32.0	31.3	29.6	29.6	1.54	
		30.4	30.4	29.4	30.0	30.0	30.0	30.0	28.1	29.1	32.2	32.8	31.1	30.3	30.3	2.22	
		30.6	30.1	30.4	—	—	—	—	—	—	—	—	—	—	—	—	
		—	—	—	30.0	30.0	30.0	30.2	27.8	29.7	31.6	33.6	33.6	30.6	30.6	2.34	
		32.3	32.7	32.6	32.6	33.8	33.6	32.9	30.9	31.4	34.3	36.8	36.0	33.3	33.3	4.24	
		36.0	35.4	35.5	35.4	37.3	—	—	—	—	—	—	—	—	—	—	
		—	—	—	—	—	—	—	—	—	40.4	40.0	38.5	—	—	—	
		38.2	37.6	37.4	38.7	40.1	39.3	41.2	35.6	35.5	38.8	41.2	40.5	—	—	—	
		41.3	38.7	38.0	37.1	36.0	36.1	35.2	33.6	36.6	43.4	43.4	44.1	—	—	—	
		39.1	37.8	38.2	—	—	—	—	—	—	—	—	—	—	—	—	
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		—	—	—	—	—	—	32.0	32.1	33.1	35.5	36.9	35.0	—	—	—	
		34.3	34.0	32.9	32.8	32.8	33.8	33.5	32.5	33.9	36.0	36.3	36.0	34.1	34.1	4.57	
		35.1	34.1	34.0	32.9	33.4	33.5	32.4	33.5	35.5	35.7	35.0	34.7	34.1	34.1	4.57	
		34.0	34.2	34.2	34.0	34.1	33.5	32.1	30.3	32.2	34.9	35.6	34.7	33.6	33.6	4.36	
		34.4	34.2	34.1	33.7	33.7	33.3	32.1	30.3	32.2	35.8	36.1	34.1	33.7	33.7	4.40	
		34.7	34.1	34.0	—	—	—	—	—	—	—	—	—	—	—	—	
		—	—	—	33.4	31.9	33.1	31.3	30.1	33.6	37.4	38.5	35.1	33.9	33.9	4.49	
34.5	34.2	33.7	34.4	33.6	33.4	32.5	30.6	32.5	37.6	37.9	36.0	34.2	34.2	5.01			
34.6	34.2	34.0	34.1	33.8	33.9	32.0	31.2	33.3	37.5	38.0	35.9	34.4	34.4	5.09			
Hourly Means.....		32.2	31.9	31.3	31.6	31.2	31.4	30.7	29.3	30.3	33.2	34.1	33.4	31.7	3.18		
Declination=1° 30'+		3.39	3.27	3.03	3.15	2.59	3.07	2.38	1.41	2.22	4.20	4.57	4.28	3.20			
Diurnal Oscillation..		1.58	1.46	1.22	1.34	1.18	1.26	0.57	0	0.41	2.39	3.16	2.47	1.39			
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. DECEMBER 1841.		sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	' "		
		35.2	34.6	34.0	34.0	34.2	33.7	31.6	32.0	32.4	36.3	38.0	36.3	34.4	4.40		
		35.4	35.2	33.8	35.8	33.7	34.2	31.0	29.3	30.5	34.0	37.0	39.5	34.1	4.28		
		36.4	35.5	33.5	32.2	33.0	33.1	30.8	29.9	32.1	35.2	38.2	37.6	34.0	4.24		
		35.5	34.6	34.0	—	—	—	—	—	—	—	—	—	—	—	—	
		—	—	—	34.3	34.0	32.8	33.1	32.8	33.4	34.5	34.8	34.5	34.0	34.0	4.24	
		36.7	34.4	33.9	33.9	33.4	32.5	32.4	34.5	34.3	36.9	38.6	36.1	34.8	34.8	4.57	
		34.9	34.5	33.9	34.1	33.5	32.9	31.6	31.9	33.2	35.4	35.0	34.7	33.8	33.8	4.16	
		34.5	33.9	33.3	33.0	33.2	32.5	29.8	29.6	34.0	36.1	35.7	35.1	33.4	33.4	4.00	
		35.0	35.0	33.3	33.5	34.1	34.3	31.8	32.8	34.6	35.4	35.2	34.3	34.1	34.1	4.28	
		34.1	33.6	37.3	34.2	34.1	34.3	31.9	31.1	35.0	36.8	37.6	35.4	34.6	34.6	4.49	
		34.9	34.4	34.3	—	—	—	—	—	—	—	—	—	—	—	—	
		—	—	—	34.0	34.3	34.1	31.5	30.2	32.0	35.5	35.5	35.2	33.8	33.8	4.16	
		34.8	34.5	34.4	34.0	34.3	34.2	32.8	29.5	31.5	35.6	36.0	36.2	34.0	34.0	4.24	
		35.2	34.6	33.8	33.7	34.4	33.0	33.9	33.7	34.3	34.2	35.1	35.5	34.3	34.3	4.36	
		34.7	34.2	34.1	34.4	33.7	34.1	33.2	34.3	33.7	34.1	36.3	35.7	34.4	34.4	4.40	
		34.7	35.0	33.8	34.2	34.0	33.7	33.4	31.5	32.7	35.0	36.5	35.7	34.2	34.2	4.32	
		34.7	33.9	33.8	34.2	33.1	32.3	33.3	32.8	32.5	36.5	35.5	35.1	34.0	34.0	4.24	
		34.9	34.4	34.2	—	—	—	—	—	—	—	—	—	—	—	—	
		—	—	—	32.5	32.2	32.7	33.2	32.2	32.5	34.4	36.5	36.4	33.8	33.8	4.16	
		35.1	35.3	34.2	34.1	33.3	33.4	33.7	32.8	33.2	35.5	36.3	36.6	34.5	34.5	4.45	
		35.0	34.7	33.8	34.1	34.0	33.5	33.3	32.7	33.4	36.3	37.0	35.9	34.5	34.5	4.45	
		35.0	35.0	34.3	34.2	35.3	33.7	33.9	32.8	31.7	33.6	36.4	35.1	34.2	34.2	4.32	
		35.2	35.0	34.2	34.0	34.1	34.0	32.5	33.2	33.4	35.9	34.9	36.7	34.4	34.4	4.40	
		35.9	34.9	34.4	—	—	—	—	—	—	—	—	—	—	—	—	
		Christmas day.															
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	34.2	33.8	34.1	32.8	31.6	32.3	36.0	35.9	35.6	34.3	34.3	4.36	
		34.9	34.9	34.6	34.4	—	34.3	34.0	31.0	32.2	33.2	35.0	35.2	34.0	34.0	4.24	
		34.7	35.0	34.6	34.0	34.3	29.5	33.4	31.4	31.2	36.4	38.0	35.8	34.0	34.0	4.24	
		34.9	34.8	34.3	34.0	34.2	33.9	33.6	30.5	30.3	34.3	38.0	36.9	34.1	34.1	4.28	
35.5	35.3	33.8	33.0	32.0	32.3	33.0	32.3	33.9	36.5	37.3	36.8	34.3	34.3	4.36			
35.7	35.1	34.5	33.1	33.9	34.1	34.2	30.7	32.0	34.7	38.0	39.1	34.6	34.6	4.49			
Hourly Means.....		35.1	34.7	34.1	33.9	33.7	33.3	32.7	31.8	32.8	35.3	36.5	36.0	34.2	4.31		
Declination=1° 30'+		5.09	4.53	4.28	4.20	4.12	3.56	3.31	2.55	3.35	5.17	6.06	5.46	4.31			
Diurnal Oscillation..		2.14	1.58	1.33	1.25	1.17	1.01	0.36	0	0.40	2.22	3.11	2.51	1.36			

The observations from 16th to 22d November are omitted in the hourly and daily means.

k = a. cot v = .0003136 X cot 58° 10' 30" = .0001946

g. = .0002142

sc. div. ther. Zero.... 117.0 80.0

HORIZONTAL FORCE MAGNETOMETER. (uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, hours (Noon to 22), Daily and Monthly Means, Temp. Corr., Corrected Means, and 1 + ΔX/X. It contains two main sections: TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER for JANUARY 1841 (top) and TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER for JANUARY 1841 (bottom). Summary rows include Hourly Means, Temp. Correction, Corrected Means, Difference, and Diurnal Oscillations.

Decreasing numbers denote Increasing Horizontal Force.

a Instruments employed in observations of the Horizontal Intensity; —the series broken; Instruments re-adjusted. The observations from 1st to 8th are omitted in the hourly means and those of the 31st in the hourly and daily means.

SINGAPORE, 1841. MAGNETICAL OBSERVATIONS.

$k = a \cdot \cot v = \cdot 0003136 \times \cot 58^\circ 10' 30'' = \cdot 0001946$

$\frac{q}{k} = \frac{\cdot 0002142}{\cdot 0001946} = 1\cdot 1007$

sc. div. ther.

$q = \cdot 0002142$

Zero.... 117.0 80.0

HORIZONTAL FORCE MAGNETOMETER. (uncorrected.)

Gottingen Mean Time.	Noon.	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$1 + \frac{\Delta X}{X}$
Singapore Mean Time.	H. M. 6.16	H. M. 8.16	H. M. 10.16	H. M. 12.16	H. M. 14.16	H. M. 16.16	H. M. 18.16	H. M. 20.16	H. M. 22.16	H. M. 0.16	H. M. 2.16	H. M. 4.16	sc. d.	sc. d.	sc. d.	1.00
	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	
1	116.7	112.5	112.6	111.7	111.1	110.9	109.0	108.7	107.2	106.5	108.9	111.9	110.6	-0.7	109.9	1382
2	110.0	109.3	111.9	110.2	109.5	108.5	108.0	107.7	106.2	106.6	106.7	106.1	108.4	-0.3	108.1	1733
3	110.0	108.8	108.1	108.3	107.5	107.0	106.9	104.9	103.2	105.6	107.3	107.9	107.1	-0.9	106.2	2102
4	107.2	107.3	107.6	108.1	107.7	107.0	106.1	104.0	102.7	104.3	106.7	108.0	106.4	-1.1	105.3	2278
5	108.0	107.3	107.7	105.7	106.1	105.6	105.2	103.3	100.4	102.3	105.1	106.1	105.2	-0.1	105.1	2317
6	105.8	105.9	106.1	—	—	—	—	—	—	—	—	—	—	—	—	—
7	—	—	—	116.1	114.9	113.3	112.2	110.9	111.7	111.4	114.3	114.6	111.4	0.1	111.5	1071
8	114.6	112.4	113.5	113.0	111.9	111.1	110.2	106.9	104.8	104.8	101.2	102.5	108.9	-0.4	108.5	1655
9	111.3	121.1	114.6	113.5	109.6	111.0	109.6	106.9	103.4	102.8	104.1	106.0	109.5	1.2	110.7	1227
10	105.4	106.0	106.1	106.2	105.4	105.0	104.4	102.5	100.0	99.2	101.1	104.0	103.8	1.2	105.0	2335
11	105.4	107.1	107.3	106.6	105.9	104.9	105.4	105.1	104.1	103.3	105.9	108.4	105.8	1.0	106.8	1986
12	108.5	108.1	107.3	108.6	108.8	109.0	106.9	102.9	104.4	103.2	104.5	106.7	106.6	1.1	107.7	1810
13	107.6	106.9	106.4	—	—	—	—	—	—	—	—	—	—	—	—	—
14	—	—	—	103.7	103.6	102.5	102.4	101.3	100.1	97.4	99.6	99.5	102.6	2.1	104.7	2394
15	101.4	104.7	111.3	106.5	105.2	104.7	102.0	100.8	99.9	103.7	104.4	110.5	104.6	3.2	107.8	1791
16	107.0	105.0	104.2	106.1	106.9	103.6	104.4	102.3	101.5	105.0	106.5	106.8	104.9	2.2	107.1	1927
17	107.3	105.5	106.2	105.7	105.3	105.1	104.3	100.9	99.5	100.6	102.1	104.5	103.9	1.3	105.2	2297
18	105.1	105.2	105.0	104.9	104.5	103.0	103.4	101.2	100.1	99.6	101.7	103.7	103.1	1.1	104.2	2491
19	105.0	104.3	104.7	104.8	104.7	104.1	103.8	101.0	99.1	99.5	102.2	103.8	103.1	0.6	103.7	2589
20	105.7	106.0	106.4	—	—	—	—	—	—	—	—	—	—	—	—	—
21	—	—	—	105.1	105.0	104.5	104.5	103.4	102.8	102.9	104.7	105.3	104.7	0.1	104.8	2375
22	106.0	105.2	106.8	106.8	106.1	103.9	108.0	106.7	110.1	108.1	107.3	109.8	107.1	0.1	107.2	1907
23	111.5	116.3	117.9	118.7	116.1	114.9	111.3	108.9	108.1	119.0	112.0	111.4	113.1	-0.3	112.8	0818
24	112.3	111.4	110.1	112.2	111.3	110.8	111.3	109.3	109.1	110.0	113.4	113.5	111.2	-0.3	110.9	1188
25	114.1	113.5	112.8	112.0	111.0	110.1	109.7	107.1	105.0	107.0	110.9	111.5	110.4	-0.2	110.2	1324
26	114.1	117.6	112.5	112.3	110.1	111.0	110.9	109.2	108.5	109.3	111.1	112.3	111.6	-0.1	111.5	1071
27	111.4	112.9	112.9	—	—	—	—	—	—	—	—	—	—	—	—	—
28	—	—	—	111.1	111.6	109.1	110.6	118.2	116.6	108.1	110.2	109.7	111.8	-0.1	111.7	1032

Hourly Means.....	108.8	109.2	109.2	109.1	108.3	107.5	107.1	105.6	104.5	104.6	106.3	107.7	107.3	0.5	107.8	1796
Temp. Correction.....	-0.9	0.2	0.7	1.1	1.2	1.7	2.0	1.9	0.6	-0.7	-1.1	-1.3	0.5			
Corrected Means.....	107.9	109.4	109.9	110.2	109.5	109.2	109.1	107.5	105.1	103.9	105.2	106.4	107.8			
Differences.....	2.3	0.8	0.3	0	0.7	1.0	1.1	2.7	5.1	6.3	5.0	3.8	2.4			
Diurnal Oscillation = 00	0448	0156	0058	0	0136	0195	0214	0525	0993	1227	0973	0739	0472	$\frac{\Delta X}{X}$		

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Means.
81.4	80.9	80.6	79.8	79.4	79.3	79.2	79.8	80.3	81.5	82.2	82.4	80.6																	
80.4	80.1	80.0	79.9	79.9	79.7	79.5	79.8	80.8	81.9	—	81.0	80.3																	
80.4	80.6	80.2	79.9	80.0	79.8	80.0	80.0	80.8	82.5	83.1	82.7	80.8																	
81.9	81.4	80.6	80.2	80.4	80.0	79.9	79.9	81.0	82.0	82.0	82.1	81.0																	
81.1	80.5	80.0	79.0	79.4	79.3	79.3	79.0	79.9	81.2	81.6	80.4	80.1																	
80.3	80.0	80.0	—	—	—	—	—	—	—	—	—	—																	
—	—	—	79.4	79.5	78.8	78.3	78.2	79.9	82.0	—	82.1	79.9																	
81.2	80.9	80.2	79.6	80.2	80.0	79.3	79.0	80.5	81.3	81.8	81.0	80.4																	
80.3	80.0	79.5	79.4	79.0	78.8	78.5	77.5	78.0	78.8	78.7	78.7	78.9																	
78.5	78.3	78.3	78.1	78.0	78.0	77.8	77.9	79.5	80.8	80.7	80.5	78.9																	
80.0	79.0	79.0	78.6	78.0	78.0	77.9	77.8	79.2	80.0	80.9	81.0	79.1																	
81.9	79.2	78.8	78.7	78.2	77.7	77.0	77.1	79.5	79.8	80.0	80.3	79.0																	
79.4	78.8	78.3	—	—	—	—	—	—	—	—	—	—																	
—	—	—	77.1	77.2	76.5	76.8	76.7	78.1	78.0	79.8	80.2	78.1																	
78.7	77.3	76.6	76.5	75.9	75.8	75.3	75.7	76.6	77.8	79.3	79.8	77.1																	
81.0	78.3	78.0	77.5	77.0	76.2	75.8	76.0	77.8	79.0	79.7	80.2	78.0																	
81.0	79.0	78.8	78.3	78.3	77.8	77.8	77.7	78.2	79.2	79.0	80.0	78.8																	
79.9	78.9	78.8	78.3	78.3	78.0	77.5	77.6	79.0	80.0	80.8	80.9	79.0																	
80.3	79.8	79.3	78.9	78.9	78.7	78.3	78.0	79.0	80.1	80.7	81.1	79.5																	
82.0	79.9	79.6	—	—	—	—	—	—	—	—	—	—																	
—	—	—	79.7	79.0	78.5	78.5	78.8	79.8	80.6	80.4	81.7	79.9																	
81.5	80.2	79.8	79.2	79.2	78.5	78.0	78.5	79.9	80.9	81.3	81.7	79.9																	
81.6	80.6	80.0	79.8	79.5	79.4	78.7	78.5	80.0	81.2	81.8	82.0	80.3																	
81.4	80.2	79.4	79.0	79.4	79.8	79.0	79.1	80.5	81.1	82.2	82.7	80.3																	
82.3	80.8	80.2	79.5	79.1	78.7	78.0	78.2	79.8	81.4	82.6	82.3	80.2																	
81.8	80.2	79.9	79.4	79.4	78.9	78.5	78.7	80.0	81.0	81.7	81.7	80.1																	
81.0	80.4	79.8	—	—	—	—	—	—	—	—	—	—																	
—	—	—	79.5	79.3	78.7	78.4	78.8	80.0	81.2	82.1	82.3	80.1																	

SINGAPORE 1841. MAGNETICAL OBSERVATIONS.

k = a. cot v = .0003136 X cot 58° 10' 30" = .0001946

g/k = .0002142 / .0001946 = 1.1007

sc. div. ther.

g = .0002142

Zero.... 117.0 80.0

HORIZONTAL FORCE MAGNETOMETER. (uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, H.M. (6-16 to 4-16), Daily and Monthly Means, Temp. Corr., Corrected Means, and 1 + ΔX/X. Rows include HORIZONTAL FORCE MAGNETOMETER (MARCH 1841) and TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER (MARCH 1841).

a Instrument employed in experiments of Vibration and Horizontal Intensity ;—connection of the series broken. The observations from 1st to 5th March are omitted in the hourly and daily means.

k = a. cot v = .0003136 X cot 58° 10' 30" = .0001946

q/k = .0002142 / .0001946 = 1.1007

sc. div. ther.

q. = .0002142

Zero.... 144.9 80.0

HORIZONTAL FORCE MAGNETOMETER. (uncorrected.)

Table with columns: Gottingen Mean Time., Singapore Mean Time., Noon., 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, Daily and Monthly Means., Temp. Corr., Corrected Means., 1 + ΔX/X. Rows include dates from 1 to 31 July 1841.

Summary table with rows: Hourly Means, Temp. Correction, Corrected Means, Differences, Diurnal Oscillation. Columns correspond to the data columns in the previous table.

Table with columns: TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER., 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Means. Rows include dates from 1 to 31 July 1841.

a Omitted. The observations on the 30th are omitted in the daily means.

$k = a \cdot \cot v = \cdot 0003136 \times \cot 58^\circ 10' 30'' = \cdot 0001946$

$\frac{q}{k} = \frac{\cdot 0002142}{\cdot 0001946} = 1 \cdot 1007$

$g = \cdot 0002142$

sc. div. ther.

Zero... 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER. (uncorrected.)

Göttingen Mean Time.		Noon.	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	1 + $\frac{\Delta X}{X}$		
Singapore Mean Time.		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.					sc. d.	sc. d.	sc. d.	1.00
HORIZONTAL FORCE MAGNETOMETER. NOVEMBER 1841.		6.16	8.16	10.16	12.16	14.16	16.16	18.16	20.16	22.16	0.16	2.16	4.16	81.8	-1.0	80.8	4009		
		sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	4009	
		85.2	85.0	84.0	83.3	82.4	82.2	81.4	78.0	74.9	78.5	83.0	84.3	81.8	-1.0	80.8	4009	4009	
		85.0	84.2	84.5	84.4	84.1	82.4	82.2	80.3	79.0	80.5	84.7	85.9	83.1	-1.4	81.7	3833	3833	
		84.8	84.4	84.1	82.8	87.0	82.0	81.1	73.7	69.0	79.2	82.0	84.5	81.2	-1.4	79.8	4204	4204	
		98.3	96.3	90.3	88.6	86.1	84.6	83.2	83.4	81.9	84.4	87.6	93.0	88.1	-1.1	87.0	2802	2802	
		93.7	92.1	85.1	86.6	83.3	90.2	87.8	86.4	85.5	89.5	94.5	93.0	89.0	-2.1	86.9	2822	2822	
		91.7	93.1	89.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	91.0	84.4	86.0	84.9	82.8	80.7	82.6	85.0	85.0	86.4	-1.8	84.6	3270	3270	
		87.2	86.4	81.8	85.1	83.7	83.3	83.5	82.5	81.3	82.1	82.0	86.9	84.0	-0.9	83.1	3561	3561	
		86.1	86.4	87.5	83.0	84.7	83.1	82.1	81.4	79.9	81.8	83.1	84.8	83.6	-1.4	82.2	3736	3736	
		88.3	87.1	85.9	85.5	84.9	83.7	82.9	80.1	79.1	79.9	81.7	83.7	83.5	-1.7	81.8	3814	3814	
		83.1	86.0	84.6	86.1	84.2	82.7	80.9	79.0	77.5	81.5	85.3	87.7	83.2	-0.9	82.3	3716	3716	
		86.0	87.0	83.6	84.9	82.8	82.8	82.9	81.5	80.0	84.2	85.2	85.5	83.9	-2.0	81.9	3794	3794	
		85.0	84.8	85.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	85.6	83.3	83.5	83.5	81.5	80.6	81.9	85.1	86.0	83.9	-1.9	82.0	3775	3775	
		86.4	85.3	85.1	84.8	83.5	83.2	82.4	80.6	79.4	81.9	84.9	84.3	83.5	-1.5	82.0	3775	3775	
		83.8	83.9	83.4	83.0	82.6	82.1	81.8	80.1	78.1	80.8	86.0	85.9	82.6	-1.4	81.2	3950	3950	
		89.3	87.4	87.2	87.7	86.0	85.2	83.2	80.5	77.0	82.0	85.2	86.4	84.7	-2.0	82.7	3639	3639	
		86.3	87.4	89.5	88.5	84.7	87.8	88.4	93.1	95.2	100.9	104.2	101.0	92.3	-1.8	90.5	2122	2122	
		102.9	96.0	94.4	88.5	86.1	86.1	88.0	83.6	84.9	91.5	91.5	96.0	90.8	-2.3	88.5	2511	2511	
		95.6	94.4	94.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	91.3	90.5	85.1	82.8	80.0	78.9	81.3	83.0	85.5	86.9	-1.5	85.4	3114	3114	
		87.1	86.8	88.3	85.0	85.7	86.0	84.3	82.1	81.1	85.5	87.1	86.0	85.4	-1.4	84.0	3386	3386	
		85.5	86.1	85.3	84.8	83.9	83.3	83.2	80.6	79.6	79.3	81.7	83.7	83.1	-0.7	82.4	3697	3697	
		83.9	85.5	85.3	82.5	82.6	82.3	81.9	80.4	77.7	80.3	82.2	81.2	82.2	0.6	82.8	3620	3620	
		82.2	81.5	82.6	82.0	81.5	80.3	80.4	77.4	75.6	78.4	82.3	81.5	80.5	0.6	81.1	3950	3950	
		81.9	82.7	84.1	82.4	83.2	81.9	81.4	78.0	76.0	79.6	82.8	83.0	81.4	-0.3	81.1	3950	3950	
		83.2	83.6	84.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	85.1	84.0	81.4	80.1	78.4	76.2	79.1	83.7	85.4	82.0	-0.9	81.1	3950	3950	
85.4	84.0	83.5	82.2	81.9	81.4	80.5	78.0	75.7	78.2	81.0	82.0	81.2	-1.2	80.0	4165	4165			
82.0	82.2	82.1	81.8	80.7	81.0	79.5	77.4	74.7	77.8	80.4	81.8	80.1	-0.9	79.2	4320	4320			
Hourly Means.....	87.3	86.9	86.1	85.2	84.1	83.6	82.9	80.8	79.2	82.4	85.2	86.3	84.2	-1.2	82.9	3596	3596		
Temp. Correction.....	-2.2	-1.5	-1.0	-0.6	-0.2	0.2	0.4	-0.3	-1.4	-2.5	-3.0	-2.9	-1.3	—	—	—	—		
Corrected Means.....	85.1	85.4	85.1	84.6	83.9	83.8	83.3	80.5	77.8	79.9	82.2	83.4	82.9	—	—	—	—		
Differences.....	0.3	0	0.3	0.8	1.5	1.6	2.1	4.9	7.6	5.5	3.2	2.0	2.5	—	—	—	—		
Diurnal Oscillation = .00	0058	0	0058	0156	0292	0311	0409	0954	1480	1071	0623	0389	0483	$\frac{\Delta X}{X}$	—	—	—		
TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. NOVEMBER 1841.		81.2	81.2	80.3	79.9	79.6	79.0	78.7	80.3	81.5	82.5	83.0	83.1	80.9	—	—	—		
		82.1	81.4	81.0	80.6	80.1	79.8	79.5	80.6	82.0	82.2	82.8	83.4	81.3	—	—	—	—	
		82.1	81.4	81.2	81.0	80.4	80.2	80.0	80.3	82.0	83.1	82.0	81.5	81.3	—	—	—	—	
		81.2	81.0	80.8	80.4	79.8	80.0	80.0	80.1	80.5	82.1	82.3	83.2	81.0	—	—	—	—	
		83.1	81.9	81.2	81.0	82.8	80.6	79.7	80.6	81.5	82.7	83.7	84.0	81.9	—	—	—	—	
		83.5	82.8	82.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	81.2	81.1	81.1	80.8	81.0	81.1	81.2	81.6	81.2	81.6	81.6	—	—	—	—
		81.0	80.1	80.7	80.2	81.3	79.7	79.6	80.0	80.1	81.5	82.9	82.5	80.8	—	—	—	—	
		82.0	81.4	81.0	80.5	79.8	79.8	79.8	80.3	81.6	82.7	83.5	83.7	81.3	—	—	—	—	
		83.0	82.7	82.1	81.7	81.5	81.1	81.0	80.8	80.1	80.9	81.5	81.3	81.5	—	—	—	—	
		81.1	80.6	80.0	79.4	79.1	79.1	78.8	79.8	81.3	82.8	83.3	83.7	80.8	—	—	—	—	
		82.6	82.0	81.5	81.3	80.6	79.9	79.5	80.8	81.2	83.6	84.3	84.6	81.8	—	—	—	—	
		83.0	82.1	81.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	80.6	80.2	79.7	79.3	80.5	82.4	83.3	84.2	83.4	81.7	—	—	—	—	
		83.5	82.4	81.8	81.6	80.4	80.5	80.0	79.8	80.8	81.4	82.1	82.0	81.4	—	—	—	—	
		81.4	80.8	80.7	80.2	80.1	80.0	79.8	80.3	81.7	82.8	84.1	84.2	81.3	—	—	—	—	
		83.1	82.3	81.9	81.3	81.2	80.8	80.3	81.1	82.3	82.2	82.8	82.8	81.8	—	—	—	—	
		81.8	81.5	81.1	81.2	80.7	80.3	80.0	81.0	81.9	83.0	83.6	83.4	81.6	—	—	—	—	
		82.5	82.0	81.8	81.3	80.8	80.6	80.3	80.9	82.1	83.6	84.4	84.3	82.1	—	—	—	—	
		84.3	82.3	80.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	80.6	80.0	79.8	79.5	80.3	81.0	82.5	83.3	83.0	81.4	—	—	—	—	
		82.3	81.6	81.0	80.8	80.3	80.1	79.5	80.3	82.0	83.8	82.6	81.8	81.3	—	—	—	—	
		81.4	81.0	80.6	80.3	80.0	79.4	79.5	80.4	81.4	82.1	80.9	80.2	80.6	—	—	—	—	
		80.1	79.6	79.2	78.8	78.5	78.2	78.0	78.8	80.1	81.7	81.3	80.0	79.5	—	—	—	—	
		79.3	79.1	79.0	78.5	78.5	78.0	78.1	79.0	80.1	81.4	81.6	81.5	79.5	—	—	—	—	
		81.3	80.4	80.0	79.4	79.5	79.6	79.5	79.8	81.2	80.7	81.1	81.5	80.3	—	—	—	—	
		81.1	80.6	80.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		—	—	—	80.3	79.1	78.2	78.6	79.8	81.6	82.7	83.4	83.7	80.8	—	—	—	—	
		83.6	82.1	81.3	80.8	80.5	80.0	79.6	80.6	81.0	80.8	81.2	81.3	81.1	—	—	—	—	
		81.0	80.7	80.5	80.1	80.0	79.5	79.4	80.2	81.5	82.4	82.2	82.4	80.8	—	—	—	—	
Means.	82.0	81.4	80.9	80.5	80.2	79.8	79.6	80.3	81.3	82.3	82.7	82.6	81.1	—	—	—	—		

$$k = a. \cot \theta \frac{T^2}{T^2} = 0.00002909 \times \cot 12.40 \times \left(\frac{7.379}{18.06}\right)^2 = 0.0001507$$

$$q = 0.0004363$$

$$\frac{q}{k} = \frac{0.0004363}{0.0001507} = 28.6834$$

ther. Zero.. 80°0

VERTICAL FORCE MAGNETOMETER. (uncorrected.)

Gottingen Mean Time.	Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.
Singapore Mean Time.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	sc. d.		
	6:16	8:16	10:16	12:16	14:16	16:16	18:16	20:16	22:16	0:16	2:16	4:16			
	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.			
1	-27	-65	-63	-71	-59	-63	-103	-54	-189	-228	-247	-222	-116		
2	-125	-135	-136												
3					-71	-68	-56	-36	-71	-112	-74	-37	-84		
4	-26	-27	-38	-51	-52	-70	-81	-78	-61	-86	-67	-62	-58		
5	-49	-30	-24		-233	-45	-32	-22	-82	-78	-101	-53	-68		
6	-116	-143	-110	-69	-37	-21	-21	-21	-21	-22	-26	-25	-53		
7	-25	-23	-24	-24	-24	-23	-21	-23	-23	-24	-24	-24	-24		
8	-48	-41	-43	-59	-53	-44	-34	-31	-33	-58	-32	-36	-43		
9	-37	-45	-45	a											
10			b	-150	-191	-194	-163	-223	-445	-467	-385	-261			
11	-280	-298	-297	-249	-350	-323	-300	-282	-531	-611	-492	-293	-359		
12	-267	-324	-292	-255	-294	-213	-270	-264	-429	-482	-298	-117	-292		
13	-191	-288	-281	-298	-241	-218	-295	-214	-358	-46	-361	-284	-291		
14	-453	-302	-294	-256	-327	-302	-353	-319	-371	-421	-311	-223	-328		
15	-149	-309	-273	-330	-306	-341	-314	-286	-403	-335	-288	-257	-299		
16	-280	-216	-409												
17				-339		-349	-341	-286	-435	-497	-295	-292	-340		
18	-338	-449	-437	c193	66	181	240	354	194	66	114	251			
19	191	209	268	256	99	248	129	229	39	33	93	409	183		
20	210	175	99	182	129		356	202	137	139	159		179		
21	189	95	211	175	201	181	142	284	157	147	47	130	163		
22	139	231	173	123	31	96	135	209	32	33	150	144	125		
23	228	214	169	*											
24				153	302	331	297	253	67	31	339	315			
25	222	182	*	557	443	468	46	476	408	383	573	546			
26	480	416	368	427	454	496	424	467	371	363	421	459	429		
27	565	583	473	404	49	505	486	493	306	245	302	459	442		
28	474	535	517	613	49	487	487	499	414	348	413	462	478		
29	505	561	533	525	446		432	487	361	283	377	436	450		
30			468	*											
31				23	68	125	58	185	78	-45	-237	-117			

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.		
1	78.8	80.9	80.3	80.0	80.5	79.8	79.5	72.5	79.9	80.3	80.8	80.8	79.5																					
2	80.0	81.8	80.4																															
3					80.0	78.5	78.3	78.2	78.5	79.3	79.8	81.3	79.7																					
4	79.8	82.0	81.4	80.8	81.3	80.0	78.7	78.5	79.6	80.4	80.8	80.8	80.3																					
5	81.3	82.7	82.3		80.5	80.8	79.7	78.0	77.8	77.0	76.8	77.0	79.5																					
6	78.2	79.5	80.8	79.5	79.0	78.3	78.2	77.3	78.8	79.4	82.3	81.3	79.4																					
7	81.2	82.4	82.6	79.8	80.5	79.5	79.7	78.5	79.3	80.2	81.0	79.8	80.4																					
8	79.6	81.3	80.4	81.6	82.3	80.5	80.4	79.0	78.8	79.8	79.8	80.3	80.3																					
9		79.1	77.6																															
10				80.6	80.3	79.5	77.7	78.0	80.5	81.1	81.7	80.7																						
11	81.6	81.8	81.0	80.8	80.3	81.0	81.3	80.5	80.8	81.3	81.3	79.7	81.0																					
12	79.2	81.7	80.2	78.8	79.3	78.5	79.4	77.7	79.3	79.8	79.6	79.3	79.4																					
13	79.8	79.8	80.5	80.0	80.0	79.2	78.7	77.1	79.5	80.8	80.7	79.8	79.7																					
14	81.4	81.8	80.8	80.8	81.3	80.5	81.5	78.8	80.8	81.5	81.2	79.5	80.8																					
15	80.6	81.8	81.0	81.8	80.1	80.5	80.6	78.5	81.0	80.5	81.2	80.7	80.7																					
16	80.7	80.2	81.5																															
17				82.1		80.7	80.0	78.5	80.8	82.0	81.8	81.3	80.9																					
18	81.5	82.0	82.5	83.5	83.1	81.8	82.5	79.0	80.8	82.3	82.0	82.0																						
19	82.3	83.0	82.0	82.1	82.5	80.8	82.5	79.3	80.9	81.0	81.1	81.0	81.5																					
20	81.5	82.0	83.5	82.3	81.5		79.5	79.5	81.4	82.8	82.9		81.7																					
21	81.5	83.5	82.5	81.9	82.0	81.8	82.0	78.8	80.6	83.1	83.8	83.3	82.1																					
22	82.5	82.5	82.5	83.2	84.4	82.5	80.5	79.5	82.0	81.8	80.5	80.0	81.8																					
23	79.5	80.3	82.0																															
24				81.5	78.5	77.8	79.3	78.0	80.5	81.4	79.5	80.0																						
25	80.8	82.0		80.8	81.0	80.0	80.2	78.0	79.0	79.7	77.6	77.8																						
26	79.3	81.4	80.2	81.3	81.3	80.0	80.5	78.9	79.4	80.1	80.5	80.3	80.3																					
27	79.7	80.7	81.4	80.3	80.0	78.3	79.9	76.8	78.7	79.5	80.5	79.3	79.6																					
28	78.7	79.1	78.8	79.8	80.1	79.5	81.2	78.3	79.1	80.0	80.8	81.0	79.7																					
29	79.8	80.3	78.6	80.0	81.5		79.8	78.7	80.4	81.8	81.0	81.0	80.3																					
30			79.3																															
31				82.0	81.7	80.6	81.3	79.1	80.5	81.5	83.0	83.0																						

a Observations for co-efficient of Temperature on the 9th.
 b The Magnet was taken out, cleaned and re-adjusted.

c On the 18th between 5 and 6 hours Magnet was taken out and cleaned.
 * Denotes a break.

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = 0.00002909 \times \cot 12 \text{ } 40 \times \left(\frac{7.379}{18.06}\right)^2 = 0.0001507$$

$$\frac{q}{k} = \frac{0.0004363}{0.0001507} = 28.6834$$

$$g = 0.0004363$$

ther. °
Zero.. 80.0

VERTICAL FORCE MAGNETOMETER. (uncorrected.)

Göttingen Mean Time.	Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	
Singapore Mean Time.	H. M. 6.16	H. M. 8.16	H. M. 10.16	H. M. 12.16	H. M. 14.16	H. M. 16.16	H. M. 18.16	H. M. 20.16	H. M. 22.16	H. M. 0.16	H. M. 2.16	H. M. 4.16	sc. d.			
VERTICAL FORCE MAGNETOMETER. FEBRUARY 1841.	1	77	—	35	50	— 39	— 11	— 55	— 11	— 108	— 196	— 114	— 40	— 37		
	2	97	66	72	115	36	45	67	— 12	— 67	— 128	— 22	29	25		
	3	136	—	24	—	123	124	37	85	— 116	— 175	— 28	34	24		
	4	76	49	17	46	—	— 52	19	37	— 84	— 129	34	121	12		
	5	— 14	114	125	95	165	199	206	111	—	— 80	20	121	96		
	6	150	49	80	*	—	—	—	—	—	—	—	—	—		
	7	—	—	—	98	264	125	321	218	27	—	— 23	169	—		
	8	170	205	398	154	—	343	256	147	—	— 129	— 51	174	167		
	9	266	329	408	—	—	292	296	216	37	— 18	193	278	230		
	10	264	338	301	—	357	384	224	218	—	— 119	117	248	233		
	11	256	276	291	291	315	266	319	226	84	65	154	224	231		
	12	252	301	290	—	326	—	308	185	86	45	60	—	206		
	13	266	286	*	*	—	—	—	—	—	—	—	—	—		
	14	—	—	—	—	85	114	—	103	48	39	— 16	—	—		
	15	99	128	231	127	180	144	170	65	— 15	— 16	— 18	87	98		
	16	67	66	68	136	—	122	152	103	— 17	— 19	107	47	76		
	17	17	69	111	110	124	132	150	— 20	—	—	— 94	—	68		
	18	57	92	119	112	120	131	130	—	—	— 15	— 11	— 10	73		
	19	47	49	86	30	107	119	89	85	— 17	— 34	—	— 18	49		
	20	51	90	88	*	—	—	—	—	—	—	—	—	—		
	21	—	—	—	187	212	194	206	129	— 14	60	90	45	—		
	22	126	119	174	197	145	132	294	145	—	— 16	— 16	— 15	117		
	23	149	240	194	195	172	225	217	212	41	96	150	79	164		
	24	130	183	—	—	—	182	191	— 65	—	— 83	35	40	93		
	25	122	146	147	171	159	168	233	143	— 27	—	— 76	— 17	106		
	26	120	206	144	—	113	136	170	154	— 40	— 119	— 147	— 49	63		
	27	68	98	99	*	—	—	—	—	—	—	—	—	—		
	28	—	—	—	— 114	— 186	—	— 130	— 119	—	66	38	16	—		

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Means.			
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER FEBRUARY 1841.	81.8	—	82.5	81.0	82.5	81.8	82.0	80.0	80.8	82.1	82.5	82.3	81.8																			
	80.5	81.7	80.5	80.0	81.6	81.2	81.2	80.0	81.0	82.3	82.5	80.8	81.1																			
	80.5	—	82.0	—	82.3	80.5	82.8	80.4	81.5	83.2	83.5	82.8	82.0																			
	80.6	83.6	83.0	82.8	—	81.7	82.5	80.6	81.6	82.5	82.6	81.5	82.1																			
	81.4	80.5	80.8	79.5	79.2	79.0	78.8	79.0	—	81.5	81.8	79.8	80.1																			
	79.7	81.8	81.5	—	—	—	—	—	—	—	—	—	—																			
	—	—	—	81.3	80.6	79.9	78.8	78.8	80.0	—	82.3	82.0	—																			
	82.8	81.5	81.0	81.5	—	80.8	79.5	79.4	—	81.6	82.0	81.0	81.1																			
	80.8	80.2	79.8	—	—	79.2	79.3	77.5	78.4	78.9	78.8	79.0	79.2																			
	79.0	78.5	78.5	—	78.8	79.3	78.5	78.3	—	80.8	80.8	80.3	79.3																			
	80.0	79.5	79.0	78.8	78.5	78.2	78.4	77.6	79.3	79.7	80.6	80.5	79.2																			
	79.8	79.0	79.3	—	78.0	—	—	77.0	77.2	79.6	79.6	79.8	78.8																			
	79.0	78.5	—	—	—	—	—	—	—	—	—	—	—																			
	—	—	—	—	78.0	77.0	—	77.0	78.2	78.0	79.8	—	—																			
	78.3	77.7	77.0	77.5	76.5	76.0	75.5	76.3	76.3	77.4	78.8	79.0	77.2																			
	78.4	78.4	78.3	77.3	—	76.8	76.3	76.0	77.2	78.0	78.7	79.2	77.7																			
	79.5	79.0	78.6	78.2	78.4	78.2	78.0	77.6	—	—	79.2	—	78.5																			
	78.6	79.0	78.6	78.4	78.3	78.3	77.5	—	—	79.4	80.0	80.2	78.8																			
	79.8	80.0	79.7	79.6	78.7	78.3	78.5	78.0	78.8	79.3	—	80.3	79.2																			
	80.2	79.5	79.2	—	—	—	—	—	—	—	—	—	—																			
	—	—	—	79.4	79.5	78.5	79.2	78.6	79.3	80.0	80.8	81.0	—																			
	80.5	80.6	79.5	79.0	79.3	79.0	77.7	78.5	—	80.5	80.9	81.0	79.7																			
	80.5	80.1	80.5	80.0	80.3	79.5	78.7	78.8	79.6	81.0	81.2	81.2	80.1																			
	80.7	80.0	—	—	—	79.5	79.4	79.0	—	81.0	81.5	81.7	80.4																			
	80.3	80.9	80.5	80.0	80.0	79.5	78.6	79.5	79.4	—	81.8	81.7	80.2																			
	80.8	80.3	80.0	—	79.9	79.3	79.1	78.8	80.0	81.0	81.5	81.3	80.2																			
	80.8	80.2	80.5	—	—	—	—	—	—	—	—	—	—																			
	—	—	—	80.1	79.6	—	79.3	78.8	—	80.8	81.4	81.6	—																			

The co-efficient of Temperature was taken during this month. The mean value of $\frac{\Delta y}{y}$ for each day in the month of February cannot be found since the magnet has been so often taken out and re-adjusted. Extract from Register. * Denotes a break.

Increasing negative numbers, or decreasing positive numbers, shew an increase of the Vertical Force.

$$k = a \cdot \cot \theta \frac{T_2}{T_1} = 0.00002909 \times \cot 12.40 \times \left(\frac{7.379}{18.06}\right)^2 = 0.00001507$$

$$q = 0.0004363$$

$$\frac{q}{k} = \frac{0.0004363}{0.00001507} = 28.6834$$

ther. Zero... 80.0

VERTICAL FORCE MAGNETOMETER. (uncorrected.)

Gottingen Mean Time.	Noon.	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.
Singapore Mean Time.	H. M. 6:16	H. M. 8:16	H. M. 10:16	H. M. 12:16	H. M. 14:16	H. M. 16:16	H. M. 18:16	H. M. 20:16	H. M. 22:16	H. M. 0:16	H. M. 2:16	H. M. 4:16			
	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.		
1	97	144	95		210	184	201	98	56	71	70	23	78		
2	87	104	150		96	120	142	106	95	113	100	14	44		
3	57	74	98	109	109	99	148	38	97	122	108	77	27		
4	18	54	40		106	106	26	54		239	142	27	15		
5	30	48	109	76	70	84		21	142				37		
6	69	51	103												
7				146	144	111	157	106	146		96	71	65		
8	107	104	104	155	117		153	70	287	344	194	16	3		
9	91	99		101	95	105	189	114	282	348	67	67	15		
10	96	123	95	703	85	155	111	123	136	83	43	129	70		
11		201	256	*297	292	258	325	253	53	15	80	207			
12	235	227	220	249	239	285	284	254	130	80	142	228	215		
13	229	253	350	*											
14				479	492	491	516	529	471	411	419	454			
15	466	460	450	490	457	453	484	460	420	389	429	426	449		
16	426	737	747	*760		648	634	622	548	515	493	557			
17	606	603	594	594	595	589	590	567	524	518	542	591	577		
18	598	592	612	*											
19															
20															
21				209	135	148			537		388	280			
22	276		188		218	236		296	376	366	169	203	259		
23	248	178		225	202	190		227	477	457	321	276	280		
24	241	212	212	199	262	197	184		403		346	295	255		
25	258	246	268	254	137	223	188	262	448	464	364	299	284		
26	232	212	251	229	237	150	198	253	462	518	423	230	283		
27	205	198	193												
28					214	227	170	216	417	497	384	259	271		
29	245	247	210	204	210	192	164	214	362	468	383	275	264		
30	217	268	255	207	198	228	191	231	385	399	421	347	279		
31	256	245	199	222	208			292	434	438	361	307	296		

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.	
1	81.2	80.5	80.4			79.4	79.0	78.5	78.8	79.8	80.7	81.6	81.7	80.2																			
2	81.0	80.5	79.8			79.6	79.4	77.8	77.8	79.7	80.8	82.2	82.0	80.1																			
3	81.5	81.0	80.8	80.7		79.5	79.1	77.8	78.4	80.0	80.8	82.6	82.7	80.4																			
4	81.8	81.0	80.8			79.6	78.5	78.0	78.5		81.7	82.5	82.3	80.5																			
5	81.8	81.0	80.7	80.5		79.7	79.5		79.6	81.5				80.5																			
6	82.4	82.0	81.5																														
7				79.5		79.0	79.0	78.5	78.7	81.0		82.2	82.0	80.5																			
8	81.2	81.0	80.5	80.5		79.5		79.0	79.2	80.8	81.7	82.9	82.6	80.8																			
9	81.5	81.3		81.4		80.4	80.0	79.7	80.2	82.3	82.8	81.4	81.5	81.1																			
10	80.3	80.1	79.8	80.0		80.0	79.0	79.1	79.7	81.3	80.5	80.3	79.5	80.0																			
11		78.5	77.4	78.0		78.0	77.6	77.5	77.8	80.2	82.8	81.8	80.8																				
12	80.5	80.5	80.0	80.5		79.0	78.2	78.1	78.5	79.8	80.9	81.7	80.7	79.9																			
13	80.2	80.3	80.1																														
14				80.5		80.0	80.3	79.5	79.0	80.0	81.0	81.2	80.5																				
15	79.8	80.0	81.0	80.0		79.9	79.5	79.0	79.4	80.4	81.4	80.2	80.1																				
16	80.0	80.1	80.5	80.0			78.7	78.9	78.5	79.5	81.2	82.0	81.0																				
17	80.2	80.3	80.0	79.0		79.0	79.2	79.0	79.4	80.5	81.5	82.0	80.0																				
18	79.6	80.4	79.0																														
19																																	
20																																	
21						80.6	80.7	80.4			82.5		83.9	82.9																			
22	82.7		81.5			80.8	80.5		80.5	83.2	82.8	81.2	81.0	81.6																			
23	81.0			80.3		79.8	79.3		79.5	81.2	82.5	83.0	82.6	81.0																			
24	81.5	80.5	80.5	80.5		80.5	79.9	80.5		79.7		80.2	81.0	80.5																			
25	81.0	81.0	81.5	81.0		80.8	79.9	79.5	79.5	80.9	82.8	83.3	82.8	81.2																			
26	80.5	80.0	80.5	80.3		79.8	79.4	79.4	80.0	82.0	82.7	83.8	82.4	80.9																			
27	80.2	80.0	80.3																														
28						81.0	80.5	79.5	80.6	81.7	83.5	83.3	83.5	81.3																			
29	81.7	81.8	80.1	80.7		80.0	79.5	79.7	80.5	82.4	83.5	82.9	82.3	81.3																			
30	81.2	81.5	81.5	80.4		79.4	79.0	78.5	79.7	81.2	82.3	83.0	82.8	80.9																			
31	81.5	81.5	81.6	81.4		79.4			80.0	82.4	82.8	83.8	83.5	81.8																			

For the reason why the hourly means were not found, vide absolute determinations for March 1841.

* Denotes a break.

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = 0.00002909 \times \cot 12.40 \times \left(\frac{7.379}{18.06}\right)^2 = 0.0001507$$

$$g = 0.0004363$$

$$\frac{q}{k} = \frac{0.0004363}{0.0001507} = 28.6834$$

ther. Zero.. 80°0

VERTICAL FORCE MAGNETOMETER. (uncorrected.)

Gottingen Mean Time.	Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	
Singapore Mean Time.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	sc. d.	sc. d.	sc. d.	
	6.16	8.16	10.16	12.16	14.16	16.16	18.16	20.16	22.16	0.16	2.16	4.16				
	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.				
VERTICAL FORCE MAGNETOMETER.	MAY 1841.	1														
	2				-231	-246	-247	-262	-110	-86	-155	-48	-146	-170	-60	-230
	3	-214	-243	-230	-225	-230		-196	-97	79	99	-114	-126	-136	-69	-205
	4	-204	-249	-247	-249	-216	-245		-243	-168	-120	-88	-172	-200	-32	-232
	5	-244	-262	-254	-259	-264	-284	-262	-234	-119	-46	-180	-264	-223	-20	-243
	6	-281	-283	-266		-273	-280	-271	-143	-68	-208	-216	-160	-223	-34	-257
	7	-252	-267	-278	-265	-265	-250	-262	-174	-33	-39	-26	-42	-179	-63	-242
	8	-218	-226	-249												
	9					-277	-275	-256	-345		-197	-150	-247	-244	-43	-287
	10		-302	-291	-274	-274	-272	-310	-280	-149	29	-46	-81	-204	-40	-244
	11	-216	-234	-234	-243	-260	-262		-137	-45	29	-42	-80	-157	-63	-220
	12	-208	-220	-235	-238	-220	-188	-237	-182	-38	15	43	-61	-147	-83	-230
	13	-164	-235	-170	-183	-218	-214	-198	-120		77	-19	-23	-133	-95	-228
	14	-156	-163	-158	-164	-157	-163	-154	-92	30	53	83	-69	-93	-129	-222
	15	-137	-107	-121												
	16				-111	-145	-159	-160	-104	26	-11	-53	-64	-95	-120	-215
	17	-137	-141	-106		-91	-94	-72	-16	69	91	18	-37	-47	-106	-153
	18	-83	-44	-86	-84	-89	-112	-115		62	84	14		-45	-95	-140
	19		-75	-109	-148	-148	-131	-114	-81	-10	59	69		-69	-52	-121
	20	-119	-105	-122	-121	-143	-145	-135	26	75	58	35		-63	-72	-135
	21	-91	-76	-101	-101	-126	-136		-52	-41	8	52	24	-58	-89	-147
	22	-79	-97	-106												
	23				-136	-137	-157	-163	-30	29	-76	-32	-78	-89	-77	-166
	24	-122	-134	-127	-132	-161	-151	-161	-86	36	84	-148	-133	-103	-77	-180
	25	-145	-147	-146	-150	-154	-159	-178	-90	-111	-42	-39	-44	-117	-57	-174
	26	-153	-145	-122	-158	-149	-167	-146	-135	-62	-106	-89	-134	-130	-57	-187
	27		-143	-129	-157	-179	-168	-174	-166	-98	27	41	-98	-113	-60	-173
	28	-154	-134	-145	-142	-162	-177	-177	-156	6	43	-26	-114	-112	-69	-181
	29	-140	-110	-98												
	30				-169	-166	-179	-179	-125	-50	-22	7	-18	-104	-60	-164
	31	-95	-109	-118	-135	-146	-157	-148	-107	-71	-31	-41	-63	-102	-86	-188
Hourly Means	-164	-170	-170	-177	-188	-191	-188	-131	-31	-11	-38	-97	-130	-70	-199	
Temp. Correction	-83	-77	-63	-49	-40	-32	-17	-49	-92	-115	-115	-100	-69			
Corrected Means	-247	-247	-233	-226	-228	-223	-205	-180	-123	-126	-153	-197	-199			
Differences	-124	-124	-110	-103	-105	-100	-82	-57	0	3	-30	-74	-76			
Diurnal Oscillation = 1.00	1869	1869	1658	1552	1582	1507	1236	0859	0	0045	0452	1115	1145	$\frac{\Delta Y}{Y}$		

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.	MAY 1841.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.				
		°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°		
					81.6	80.6	80.4	79.5	81.6	83.7	84.8	83.8	83.0	82.1																							
		82.5	82.0	81.3	81.8	81.7		80.0	81.5	84.0	85.0	83.5	82.5	82.4																							
		82.0	81.5	81.2	81.0	81.4	80.7		80.5	80.8	80.8	81.5	80.5	81.1																							
		80.0	80.5	80.0	80.0	80.2	79.7	79.5	80.5	82.0	83.2	82.0	81.2	80.7																							
		81.0	81.5	81.1		80.5	80.6	80.0	81.0	82.0	81.5	81.8	81.6	81.2																							
		81.3	81.3	80.7	80.7	81.0	81.3	80.6	82.0	84.0	84.0	84.8	84.8	82.2																							
		83.5	82.0	81.7																																	
						82.0	80.8	80.5	80.0		81.8	81.5	81.5	81.5																							
			81.4	80.7	80.8	80.5	79.5	79.3	80.5	82.0	83.8	83.5	83.2	81.4																							
		82.0	81.7	80.6	80.3	80.0	79.8		81.3	83.4	84.8	85.0	84.8	82.2																							
		83.5	83.5	83.3	82.0	82.0	81.0	81.0	81.7	83.2	84.5	84.8	84.5	82.9																							
		83.2	83.5	83.4	83.0	82.0	81.6	81.5	82.5		85.8	85.5	84.5	83.3																							
		83.8	83.7	83.7	84.0	83.5	83.0	83.2	84.6	86.0	86.4	86.5	85.5	84.5																							
		84.7	85.0	84.8																																	
					83.2	83.0	82.3	81.7	83.6	85.0	85.5	86.0	85.7	84.2																							
		84.6	84.3	83.5		82.1	82.1	81.6	82.7	84.5	85.6	85.2	84.6	83.7																							
		83.7	83.3	83.3	82.5	82.6	82.3	81.7		84.5	85.0	84.5		83.3																							
			82.0	81.6	80.5	80.0	80.7	80.4	81.8	83.0	83.8	84.1		81.8																							
		82.7	82.2	81.5	81.5	81.6	81.0	80.6	82.2	84.0	85.0	85.2		82.5																							
		84.1	84.0	83.0	82.5	81.0	81.5		81.7	82.5	84.0	84.7	84.6	83.1																							
		84.1	83.5	82.0																																	
					82.0	81.9	81.7	80.5	82.0	83.7	83.0	84.0	83.8	82.7																							
		83.0	82.5	82.0	81.9	81.7	82.0	81.0	82.5	84.5	85.3	83.2	83.0	82.7																							
		82.0	82.0	81.6	81.5	81.9	81.8	80.5	82.0	81.6	82.6	83.4	83.4	82.0																							
		82.5	82.0	82.3	81.8	81.5	80.6																														

$$k = a \cdot \cot \theta \frac{T_1}{T_2} = 0.00002909 \times \cot 12^\circ 40' \times \left(\frac{1.379}{18.06}\right)^2 = 0.0001507$$

$$q = 0.0004363$$

$$\frac{q}{k} = \frac{0.0004363}{0.0001507} = 28.6834$$

ther. 0
Zero.. 80.0

VERTICAL FORCE MAGNETOMETER. (uncorrected.)

Gottingen Mean Time.	Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	
Singapore Mean Time.	H. M. 6:16	H. M. 8:16	H. M. 10:16	H. M. 12:16	H. M. 14:16	H. M. 16:16	H. M. 18:16	H. M. 20:16	H. M. 22:16	H. M. 0:16	H. M. 2:16	H. M. 4:16	sc. d.	sc. d.	sc. d.	
VERTICAL FORCE MAGNETOMETER. JUNE 1841.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	
	1	-110	-115	-116	-120	-129	-135	-137	-97	24	-20	-100	-85	-95	—	—
	2	-121	-117	-127	-133	-144	-160	-156	-56	8	106	56	16	-73	—	—
	3	-93	-90	-78	-102	-123	-123	-140	-157	-53	-43	-24	-70	-91	—	—
	4	-129	-112	-134	-129	-145	-157	-154	—	—	—	—	—	—	—	—
	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	7	—	—	-14	—	—	-98	—	-37	90	260	178	98	—	—	—
	8	-20	-43	-58	-52	-60	—	-55	60	178	255	191	83	44	-98	-54
	9	-89	-62	-9	-107	-110	-145	-80	-63	—	79	70	32	-42	-63	-105
	10	-49	-71	-92	-82	-88	-116	-117	13	76	-7	-68	-67	-56	-46	-102
	11	-94	-	-79	-84	-97	-105	-97	86	121	79	83	46	-13	-66	-79
	12	-63	-66	—	—	—	—	—	—	—	—	—	—	—	—	—
	13	—	—	—	-53	-56	-93	-98	-81	168	271	233	—	16	-89	-73
	14	-56	-74	-53	-67	-76	-76	-83	-33	134	98	7	-14	-24	-63	-87
	15	-77	-97	-100	-100	—	-165	-169	-26	54	67	79	-35	-52	-77	-129
	16	-98	-66	-52	-75	-149	—	-112	14	171	238	116	—	-1	-80	-81
	17	-75	-52	-83	—	-104	-118	-84	63	192	108	-73	-80	-28	-66	-94
	18	-132	-131	-188	—	-149	-165	-141	-43	147	182	276	-75	-38	-32	-70
	19	-169	-195	-172	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	-155	-181	-181	-144	-130	46	76	92	—	-101	-32	-133
	21	-122	-139	-138	-139	-157	-178	-164	-140	-46	69	33	-130	-104	-60	-164
	22	-151	-200	-183	—	-183	-187	-158	-41	210	211	189	-88	-53	-52	-105
	23	-140	-147	-169	—	-161	-157	-127	16	126	124	10	-56	-62	-75	-137
	24	-140	-149	-149	-166	-62	-52	-163	-88	145	105	8	-149	-72	-98	-170
	25	-76	-91	-126	-98	-109	-115	-100	-29	50	53	121	48	-39	-100	-139
	26	-75	-80	-97	—	—	—	—	—	—	—	—	—	—	—	—
	27	—	—	—	-73	-121	-152	-105	—	173	213	117	42	-15	-118	-133
	28	-87	-79	-83	-99	-111	-129	7	7	44	90	87	-10	-30	-115	-145
	29	-98	-69	-78	-107	—	—	-117	48	171	113	64	-20	-9	-112	-121
30	-121	-109	-132	-142	-140	—	-72	-31	84	145	59	-21	-44	-89	-133	
Hourly Means.....	-96	-101	-107	-100	-117	-133	-109	-21	118	128	85	-29	-40	-76	-113	
Temp. Correction.....	-86	-77	-60	-60	-34	-26	-17	-52	-106	-129	-135	-118	-75	—	—	
Corrected Means.....	-182	-178	-167	-160	-151	-159	-126	-73	-12	-1	-50	-147	-115	—	—	
Differences.....	-194	-190	-179	-172	-163	-171	-138	-85	0	-13	-62	-159	-127	—	—	
Diurnal Oscillation = .00	2924	2863	2698	2592	2456	2577	2080	1281	0	0196	0934	2396	1916	$\frac{\Delta Y}{Y}$	—	

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. JUNE 1841.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Means.		
	83.5	83.6	82.8	82.8	82.4	81.5	81.3	82.2	84.5	85.2	84.0	84.0	83.2	83.6	84.0	82.7	83.4	82.5	80.7	79.8	80.6	82.5	82.5	82.4	81.6	82.3	80.8	83.0	83.0	82.5	82.5	83.0	82.7
	83.6	84.0	82.7	82.5	82.0	81.5	81.0	83.1	84.2	85.6	85.0	84.5	83.3	83.5	83.7	83.3	82.8	82.5	81.5	80.6	80.6	82.5	82.5	82.4	81.6	82.3	80.8	83.0	83.0	82.5	82.5	83.0	82.7
	84.1	84.5	84.2	83.6	82.0	81.6	81.2	81.7	83.4	82.8	82.5	83.0	82.9	83.4	82.8	82.5	82.8	82.5	81.5	80.6	80.6	82.5	82.5	82.4	81.6	82.3	80.8	83.0	83.0	82.5	82.5	83.0	82.7
	82.5	82.7	81.7	82.2	81.5	81.0	81.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	83.0	—	—	—	—	81.9	—	82.4	83.0	84.0	84.6	84.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	83.8	83.4	82.5	82.0	81.8	—	81.3	82.5	84.2	85.4	85.4	85.2	83.4	83.4	82.5	82.5	82.5	82.5	80.7	79.8	80.6	82.5	82.5	82.4	81.6	82.3	80.8	83.0	83.0	82.5	82.5	83.0	82.7
	83.5	83.0	82.0	81.5	81.6	81.0	80.5	81.0	—	83.5	83.7	83.3	82.2	82.2	82.5	82.5	82.5	82.5	80.7	79.8	80.6	82.5	82.5	82.4	81.6	82.3	80.8	83.0	83.0	82.5	82.5	83.0	82.7
	82.5	82.5	81.5	82.5	80.7	80.6	79.8	80.6	82.5	82.5	82.5	82.4	81.6	82.3	82.3	82.5	82.5	82.5	80.7	79.8	80.6	82.5	82.5	82.4	81.6	82.3	80.8	83.0	83.0	82.5	82.5	83.0	82.7
	80.8	—	82.0	81.4	80.6	80.6	80.5	82.0	83.5	84.4	84.8	84.3	82.3	82.3	82.5	82.5	82.5	82.5	80.7	79.8	80.6	82.5	82.5	82.4	81.6	82.3	80.8	83.0	83.0	82.5	82.5	83.0	82.7
	83.3	83.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	82.5	82.0	81.5	80.6	82.6	84.3	85.3	85.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	83.0	82.1	82.8	81.8	81.5	81.5	80.7	80.8	83.0	83.2	83.0	82.5	82.5	82.2	82.2	82.5	82.5	82.5	80.7	79.8	80.6	82.5	82.5	82.4	81.6	82.3	80.8	83.0	83.0	82.5	82.5	83.0	82.7
	82.4	81.5	81.8	81.8	—	80.5	80.5	82.2	83.6	85.0	85.5	84.5	82.8	82.8	82.5	82.5	82.5	82.5	80.7	79.8	80.6	82.5	82.5	82.4	81.6	82.3	80.8	83.0	83.0	82.5	82.5	83.0	82.7
	83.2	83.6	83.4	82.3	81.0	—	80.2	81.4	83.8	84.9	84.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	83.3	83.0	81.9	—	80.5	79.8	80.3	82.0	83.9	84.7	83.3	82.3	82.3	82.3	82.5	82.5	82.5	82.5	80.7	79.8	80.6	82.5	82.5	82.4	81.6	82.3	80.8	83.0	83.0	82.5	82.5	83.0	82.7
	81.7	80.7	80.3	—	79.0	79.0	78.7	79.8	82.2	82.6	84.0	84.0	81.1	81.1	82.5	82.5	82.5	82.5	80.7	79.8	80.6	82.5	82.5	82.4	81.6	82.3	80.8	83.0	83.0	82.5	82.5	83.0	82.7
	80.4	79.7	79.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	81.2	80.2	80.2	80.7	80.4	82.0	83.5	84.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	83.0	82.6	82.0	81.5	80.5	79.7	79.3	81.3	83.3	84.0	85.0	83.3	82.1	82.1	82.5	82.5	82.5	82.5	80.7	79.8	80.6	82.5	82.5	82.4	81.6	82.3	80.8	83.0	83.0	82.5	82.5	83.0	82.7
	82.8	81.8	80.5	—	80.1	79.5	79.2	81.1	83.5	84.0	84.7	82.8	82.8	82.8	82.5	82.5	82.5	82.5	80.7	79.													

$$k = a \cdot \cot \theta \frac{T_1}{T_2} = 0.00002909 \times \cot 12.40 \times \left(\frac{7.379}{18.06}\right)^2 = 0.0001507$$

$$q = 0.0004363$$

$$\frac{q}{k} = \frac{0.0004363}{0.0001507} = 28.6834$$

ther. Zero... 80.0

VERTICAL FORCE MAGNETOMETER. (uncorrected.)

Göttingen Mean Time.		12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.								
Singapore Mean Time.		10	12	14	16	18	20											
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	sc. d.	sc. d.	sc. d.								
VERTICAL FORCE MAGNETOMETER.	JULY 1841.	6:16	8:16	10:16	12:16	14:16	16:16	18:16	20:16	22:16	0:16	2:16	4:16	sc. d.	sc. d.	sc. d.		
		1	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	
		2	90	112	106	119	103	136	178	136	95	55	14	26	86	83	169	
		3	107	125	130	v	151	151	96	48	131	184	137	13	31	75	106	
		4	78	114	75													
		5				94	128	63	106	59	214	213	27	68	18	115	133	
		6	78	84	93	94	102	100	109	43	130	100	106	74	17	120	137	
		7	53	45	100	63	67	v	v	27	186	166	164	115	33	152	119	
		8	12	70	46	46	69	v	63	103	218	218	177	v	41	141	100	
		9	69	64	56	77	79	v	69	37	121	266	227	v	24	123	99	
		10	11	57	82	84	172	222	304	246	194	139	124	177	151	95	246	
		11	234	241	259													
		12								79	129	112	215	192				
		13	37	55	52	18	37	10	42	130	193	302	246	150	106	89	17	
		14	36	74	65	65	24	24	80	135	226	232	247	229	120	103	17	
		15	90	108	86	65	60	51	81	79	139	175	169	213	110	132	22	
		16	81	82	95	91	81	67	9	14	72	163	192	117	88	80	8	
		17	36	30	42	v	12	17	13	39	v	97	244	150	68	14	54	
		18	67	56	22													
		19				32	16	112	44	v	95	223	229	v	49	37	12	
		20	9	26	12	12	12	12	14	14	37	v	122	185	30	77	47	
		21	184	38	20	12		36	13	54	29	127	128	44	49	72	23	
		22	v	12	v	12	13	24	15	113	248	259	243	143	108	89	19	
		23	75	60	55	15	40	51	10	149	285	339	246	249	131	135	4	
		24	79	79	49	28	36	48	54	155	281	221	202	148	115	118	3	
		25	32	59	25													
		26				70	v	v	13	227	331	310	342	197	161	109	52	
		27	48	43	49	37	353	v	354	v	355	v	356	326	213	86	127	
		28	252	253	178	243	232	202	180	330	371	306	360	335	270	46	224	
		29	254	247	240	223	208	201	214	254	307	401	381	338	272	95	177	
		30	204	194	190	178	173		164	239	303	382	395	323	240	115	134	
31	225	204	132						250	292	197	216						
Hourly Means	43	29	20	21	18	12	12	76	170	209	201	147	79	96	15			
Temp. Correction	-115	-103	-92	-83	-69	-46	-34	-69	-109	-132	-143	-138	-94					
Corrected Means	-72	-74	-72	-62	-51	-48	-22	7	61	77	58	9	-16					
Differences	-149	-151	-149	-139	-128	-125	-99	-70	-16	0	-19	-68	-93					
Diurnal Oscillation	2245	2276	2245	2095	1929	1884	1492	1055	9241	0	0286	1025	1398	$\frac{\Delta Y}{Y}$				
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.	JULY 1841.	1	83.5	83.0	82.7	82.3	81.5	81.5	81.2	81.3	83.2	84.5	85.0	85.0	82.9			
		2	83.5	82.6	81.9		80.5	80.0	80.5	81.5	83.2	84.1	85.0	85.5	82.6			
		3	84.0	83.7	83.3													
		4				83.7	82.2	83.3	82.0	83.5	85.5	86.0	86.0	85.0	84.0			
		5	84.3	84.0	84.0	84.0	82.5	82.8	81.0	83.3	85.0	86.3	87.0	86.5	84.2			
		6	85.5	85.0	84.0	84.0	84.1			84.0	85.6	86.6	87.3	87.2	85.3			
		7	86.0	84.3	84.5	84.5	83.7		82.5	84.0	85.7	86.7	87.4		84.9			
		8	85.0	84.5	84.5	83.5	82.6		82.0	83.5	85.2	86.0	86.5		84.3			
		9	85.4	84.0	83.0	82.0	81.7	80.0	80.2	82.4	83.6	85.4	86.2	85.7	83.3			
		10	85.0	84.5	83.5													
		11																
		12	83.0	83.1	82.5	81.3	82.0	81.0	81.5	83.0	84.2	85.3	85.5	84.4	83.1			
		13	83.5	83.2	83.7	83.5	82.5	81.5	82.0	83.5	84.6	84.4	85.0	85.5	83.6			
		14	85.0	84.5	84.2	84.0	83.5	83.0	83.3	84.3	85.3	86.0	85.5	86.0	84.6			
		15	85.0	84.7	84.8	84.5	84.0	83.5	83.0	80.7	80.2	80.5	81.3	81.0	82.8			
		16	80.8	80.5	80.5		79.5	79.3	78.5	79.3		81.5	82.5	82.5	80.5			
		17	81.8	81.9	81.0													
		18				81.7	81.8	79.0	78.0		81.0	83.3	83.7		81.3			
		19	82.5	82.5	82.0	81.0	82.2	82.1	81.7	82.5	83.6		85.0	85.0	82.7			
		20	84.0	84.0	82.5	82.0		82.0	81.0	79.5	82.0	83.4	83.5	83.2	82.5			
		21		82.5		81.0	82.0	82.0	81.5	82.0	84.0	85.0	85.5	85.6	83.1			
		22	84.8	85.5	85.5	84.5	85.1	84.5	81.0	83.2	85.0	86.2	85.5	86.0	84.7			
		23	85.0	84.0	82.0	82.0	83.1	83.2	82.3	83.5	85.2	86.5	86.5	86.3	84.1			
		24	85.2	84.5	83.5													
		25				83.5			80.0	82.9	84.7	83.8	85.0	85.0	83.8			
		26	83.5	83.9	83.3	83.6	83.0		82.8		81.0		83.0	82.5	83.0			
		27	82.0	82.4	81.2	81.6	81.0	79.0	78.3	80.7	83.0	82.6	83.5	83.5	81.6			
		28	83.1	83.5	83.3	81.7	81.5	81.5	81.8	82.8	84.0	85.1	85.5	85.5	83.3			
		29	84.3	84.0	83.5	82.7	82.4		82.0	83.2	84.5	85.5	86.0	85.6	84.0			
		30	84.5	84.2	84.0						82.8	84.6	84.3	83.8				
		31																
Means.	84.0	83.6	83.2	82.9	82.4	81.6	81.2	82.4	83.8	84.6	85.0	84.8	83.4					

v Vibrating.

$$k = a \cdot \cot \theta \frac{T^2}{T_1} = 0.00002909 \times \cot 12.40^\circ \times \left(\frac{7.379}{18.00}\right)^2 = 0.0001507$$

$$\frac{q}{k} = \frac{0.0004363}{0.0001507} = 28.6834$$

ther.

Zero.. 80.0

$$q = 0.0004363$$

VERTICAL FORCE MAGNETOMETER. (uncorrected.)

Gottingen Mean Time.	Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.
Singapore Mean Time.	H. M. 6.16	H. M. 8.16	H. M. 10.16	H. M. 12.16	H. M. 14.16	H. M. 16.16	H. M. 18.16	H. M. 20.16	H. M. 22.16	H. M. 0.16	H. M. 2.16	H. M. 4.16			
	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.		
JULY 31	213	169	168	—	—	—	—	—	—	—	—	—	—		
1	—	—	—	191	191	173	140	252	289	409	357	225	231		
2	145	133	134	129	139	133	117	185	270	342	287	187	183		
3	168	—	125	135	114	95	113	119	216	305	194	150	158		
4	120	120	116	119	128	155	163	164	149	165	167	162	144		
5	141	85	98	121	134	112	86	63	124	119	150	100	111		
6	88	58	60	55	42	59	56	43	72	136	185	152	84		
7	143	128	117	a	—	—	—	—	—	—	—	—	—		
8	—	—	—	—	—	—	—	—	—	106	-308	-301	—		
9	-353	-365	—	—	—	—	-338	-340	-195	—	74	-173	-242		
10	-335	—	—	—	-182	-196	-190	—	-109	-115	-106	-92	-166		
11	-130	-138	-50	-38	-31	—	15	-25	8	32	66	50	-26		
12	31	-185	—	-251	-256	-274	-281	-251	-224	-176	—	-243	-211		
13	-264	-215	-224	-164	-169	-174	-174	-185	-177	-183	-179	—	-191		
14	-144	—	-67	a	—	—	—	—	—	—	—	—	—		
15	—	—	—	230	255	307	—	342	—	274	-265	-232	—		
16	-244	-248	-248	—	-249	-249	-249	-228	-106	-171	-169	-151	-218		
17	-146	-350	—	-319	-304	-296	-292	-277	-248	-224	-253	-239	-268		
18	-249	-252	-253	-251	-247	-247	-247	-243	-214	-194	-198	-203	-233		
19	-214	-217	-217	-222	—	-222	-225	-226	-201	-198	-203	-207	-214		
20	-207	—	—	—	—	—	—	—	206	247	202	180	—		
21	129	108	99	a	—	—	—	—	—	—	—	—	—		
22	—	—	—	193	136	123	126	173	295	154	87	92	—		
23	—	88	104	88	77	67	99	78	213	118	125	120	107		
24	87	—	61	66	45	61	42	52	289	330	295	110	131		
25	70	80	80	54	61	52	62	132	264	227	279	178	128		
26	119	68	57	38	31	18	84	69	284	322	168	217	123		
27	123	—	83	67	90	72	85	166	222	204	99	36	113		
28	75	87	79	—	—	—	—	—	—	—	—	—	—		
29	—	—	—	118	51	42	a 37	91	209	230	185	—	109		
30	—	—	—	90	81	69	71	187	—	383	275	209	171		
31	145	136	—	221	139	127	121	125	236	380	—	219	185		

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.

JULY 31	84.1	83.2	83.1	—	—	—	—	—	—	—	—	—	—	—	—
1	—	—	—	83.2	83.0	82.3	81.5	82.3	83.3	84.8	85.8	84.2	83.4		
2	83.5	83.1	83.0	82.3	81.3	80.3	79.6	81.0	83.6	84.7	83.0	82.7	82.3		
3	82.4	—	81.3	80.7	80.4	79.2	79.0	79.3	80.8	82.4	81.7	81.6	80.8		
4	81.2	80.7	80.6	81.5	81.0	80.2	80.0	80.3	80.6	81.1	81.4	81.6	80.9		
5	81.5	80.5	80.0	80.2	79.5	79.3	79.0	78.7	80.0	79.6	80.9	80.7	80.8		
6	80.5	80.0	79.5	79.1	79.2	78.8	78.5	79.5	79.6	80.5	81.9	82.0	79.9		
7	81.5	81.0	80.2	—	—	—	—	—	—	—	—	—	—		
8	—	—	—	—	—	—	—	—	—	80.7	81.0	80.0	—		
9	80.3	79.6	—	—	—	79.7	79.8	81.1	83.7	84.0	83.7	—	—		
10	82.5	—	—	—	80.7	79.7	79.4	—	82.8	81.7	82.4	83.1	81.5		
11	82.3	82.4	82.1	82.0	81.9	—	82.3	81.6	81.9	83.5	84.5	84.5	82.6		
12	83.6	83.3	—	80.0	80.1	79.8	80.2	82.3	84.0	85.0	—	84.3	82.3		
13	83.6	83.0	82.7	83.8	83.5	83.0	82.6	82.6	83.3	83.6	84.5	—	83.3		
14	83.9	—	81.9	—	—	—	—	—	—	—	—	—	—		
15	—	—	—	82.0	82.1	81.9	—	81.1	—	81.2	81.6	82.0	—		
16	81.1	80.9	80.1	—	80.0	80.1	80.0	81.1	82.0	83.1	82.9	82.4	81.3		
17	82.0	81.3	—	81.2	80.6	80.8	80.2	80.9	82.0	83.2	81.5	82.5	81.5		
18	81.4	80.7	79.4	80.4	79.8	79.4	80.3	80.2	81.8	83.0	83.0	83.2	81.1		
19	82.0	81.7	82.0	81.2	—	81.0	81.4	81.2	81.4	82.2	82.3	82.5	81.7		
20	81.5	—	—	—	—	—	—	—	80.1	80.2	80.7	81.4	—		
21	81.0	80.7	80.2	—	—	—	—	—	—	—	—	—	—		
22	—	—	—	81.6	81.0	80.7	80.6	80.8	82.0	81.5	80.7	80.0	—		
23	—	79.2	80.1	79.2	78.9	79.7	78.5	78.7	79.0	79.1	79.8	79.7	79.3		
24	79.4	—	78.5	77.7	77.2	77.7	77.2	77.7	79.7	80.5	80.7	80.5	78.8		
25	80.0	80.2	80.0	79.2	78.4	78.7	78.7	79.4	81.3	81.5	81.7	81.4	80.0		
26	81.0	80.5	79.8	79.2	79.2	78.5	78.8	79.0	81.0	82.4	81.3	81.9	80.2		
27	81.2	—	80.5	80.0	80.2	79.7	79.7	79.7	79.6	79.8	79.9	79.4	80.0		
28	79.9	80.2	80.2	—	—	—	—	—	—	—	—	—	—		
29	—	—	—	80.5	79.5	79.1	79.5	79.5	81.3	82.1	83.0	—	80.4		
30	—	—	—	81.4	80.0	80.3	79.8	80.4	—	83.4	83.8	84.0	81.6		
31	83.2	82.8	—	82.8	82.0	81.3	80.7	81.5	82.8	84.2	—	84.3	82.6		

Means.

a Taken two Minutes late.

The hourly Means are not taken, for it would appear on reference to the abstract book that the Needle had been interfered with on the three first Sundays of the month vide abstract book 1841.

$$k = a \cdot \cot \theta \frac{r^2}{r^2} = 0.00002909 \times \cot 12.40 \times \left(\frac{7.379}{18.06}\right)^2 = 0.0001507$$

$$g = 0.0004363$$

$$\frac{g}{k} = \frac{0.0004363}{0.0001507} = 28.6834$$

ther. Zero... 80°0

VERTICAL FORCE MAGNETOMETER. (uncorrected.)

Gottingen Mean Time.	Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	
Singapore Mean Time.	H. M. 6:16	H. M. 8:16	H. M. 10:16	H. M. 12:16	H. M. 14:16	H. M. 16:16	H. M. 18:16	H. M. 20:16	H. M. 22:16	H. M. 0:16	H. M. 2:16	H. M. 4:16	sc. d.	sc. d.	sc. d.	
VERTICAL FORCE MAGNETOMETER. SEPTEMBER 1841.	1	206	191	115	153	134	124	128	151	314	245	277	244	190	54	136
	2	155	190	126	143	140	114	153	155	228	276	307	245	186	40	146
	3	219	175	194	177	177	136	150	195	347	339	299	261	222	52	170
	4	237	233	240	—	—	—	—	—	—	—	—	—	—	—	—
	5	—	—	—	238	230	—	217	204	287	305	274	255	247	66	181
	6	263	245	214	176	187	161	152	172	197	198	244	167	198	20	178
	7	158	175	145	164	146	174	170	184	315	378	324	268	217	6	211
	8	298	296	300	142	181	193	*142	129	224	236	239	231	217	3	214
	9	229	239	254	261	251	255	254	255	258	256	252	249	251	57	194
	10	243	244	243	242	242	242	241	242	250	250	250	250	245	86	159
	11	244	243	242	—	—	—	—	—	—	—	—	—	—	—	—
	12	—	—	—	256	256	257	257	280	296	298	287	283	266	72	194
	13	266	274	284	270	274	274	274	285	292	275	272	272	276	63	213
	14	276	281	281	281	279	273	273	289	295	297	294	297	285	80	205
	15	287	287	277	277	276	278	283	307	325	323	315	305	295	92	203
	16	305	292	285	289	a	—	7	7	60	89	106	115	—	—	—
	17	104	101	98	98	101	100	105	112	137	161	159	160	—	—	—
	18	159	154	168	—	—	—	—	—	—	—	—	—	—	—	—
	19	—	—	—	c	—	—	209	208	215	225	230	235	—	—	—
	20	241	244	245	246	251	253	251	253	259	b 264	333	259	—	—	—
	21	242	233	228	—	286	252	241	266	318	313	288	269	267	52	215
	22	269	257	247	301	271	—	301	390	625	626	530	462	339	46	343
	23	425	—	362	353	372	317	316	367	581	644	404	254	399	66	333
	24	—	319	285	—	271	225	279	307	552	574	446	393	365	17	348
	25	243	205	226	—	—	—	—	—	—	—	—	—	—	—	—
	26	—	—	—	257	260	280	285	361	532	346	410	371	315	40	275
	27	349	296	317	—	301	277	252	287	302	302	357	421	315	54	261
	28	359	307	339	344	322	292	297	369	486	509	491	434	379	80	299
	29	367	362	300	338	330	331	298	348	483	474	460	480	381	66	315
	30	423	356	381	361	355	339	310	427	611	607	—	430	418	86	332

Hourly Means... { A	237	236	224	214	213	207	207	219	279	283	280	256	238	—	—
{ B	335	292	298	326	307	289	287	347	499	488	423	390	358	—	—
Means of A & B.....	277	259	254	260	251	241	239	271	369	368	338	311	287	54	233
Temp. Correction.....	75	66	52	49	23	14	9	29	69	89	95	89	55	—	—
Corrected Means.....	202	193	202	211	228	227	230	242	300	279	243	222	232	—	—
Differences.....	98	107	98	89	72	73	70	58	0	21	57	78	68	ΔY	Y
Diurnal Oscillation = .00	1477	1612	1477	1341	1085	1100	1055	0874	0	0316	0859	1175	1031	—	—

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.		SEPTEMBER 1841.														
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. SEPTEMBER 1841.	A	1	83°8	83°7	82°5	82°1	81°0	80°7	80°4	80°8	81°4	82°0	82°5	82°0	81°9	
		2	81°5	81°8	80°7	80°8	80°2	79°2	79°3	80°5	82°3	83°3	83°8	83°0	81°4	
		3	82°6	82°3	82°1	81°6	81°2	79°8	79°6	80°2	82°0	83°3	83°3	84°0	83°4	81°8
		4	82°6	82°0	82°7	—	—	—	—	—	—	—	—	—	—	—
		5	—	—	—	82°6	81°0	—	80°7	80°8	82°7	83°7	83°5	83°2	82°3	—
		6	83°3	81°7	81°5	79°5	80°2	79°6	78°8	80°0	80°5	81°7	81°5	80°1	80°7	—
		7	79°7	80°3	79°0	79°1	79°2	79°7	79°5	80°1	81°0	82°2	81°8	80°7	80°2	—
		8	80°6	80°0	80°0	79°0	79°2	78°7	77°5	78°7	80°5	81°7	82°7	82°6	80°1	—
		9	82°2	82°4	82°1	80°5	79°9	79°2	81°1	82°6	82°6	83°6	84°5	83°7	82°0	—
		10	83°0	83°7	83°2	82°9	81°7	82°0	81°7	83°2	84°2	83°4	83°4	83°5	83°0	—
		11	83°0	82°7	82°5	—	—	—	—	—	—	—	—	—	—	—
		12	—	—	—	82°0	81°8	81°5	80°8	82°0	83°0	83°8	83°8	83°1	82°5	—
		13	83°2	83°2	83°2	81°4	80°5	80°5	80°2	81°2	82°3	83°0	83°5	83°8	82°2	—
		14	83°2	83°0	83°0	82°6	81°7	81°0	80°6	81°8	83°1	84°4	84°7	84°5	82°8	—
		15	84°0	84°1	83°2	83°6	81°7	81°2	80°6	82°1	83°6	84°7	84°8	84°7	83°2	—
	16	84°0	84°5	82°9	82°0	—	—	80°0	81°3	83°2	83°8	84°8	84°8	—	—	
	17	83°9	83°4	82°6	82°6	82°1	82°3	81°5	82°5	83°8	84°8	85°1	84°7	83°3	—	
	18	83°8	84°2	83°5	—	—	—	—	—	—	—	—	—	—	—	
	19	—	—	—	—	—	—	80°5	81°4	83°0	83°3	85°0	85°0	—	—	
	20	84°0	83°6	83°0	82°2	81°7	79°8	80°3	82°0	82°7	84°0	84°0	83°4	—	—	
	21	83°2	83°2	82°1	—	82°2	80°8	80°0	81°7	82°0	81°5	81°2	81°6	81°8	—	
	22	81°2	80°6	80°3	80°5	79°1	—	84°7	79°6	82°0	83°0	83°3	83°2	81°6	—	
	23	83°3	—	83°2	82°6	82°2	81°3	80°0	81°2	82°7	84°0	83°4	81°6	82°3	—	
	24	—	80°6	79°0	—	79°0	78°6	78°3	79°9	81°7	82°8	82°8	82°8	80°6	—	
	25	82°0	81°7	80°3	—	—	—	—	—	—	—	—	—	—	—	
	26	—	—	—	82°3	80°4	80°0	79°4	81°1	83°0	81°8	82°5	82°6	81°4	—	
	27	82°3	82°2	81°2	—	80°6	80°7	79°8	80°7	82°5	83°5	83°5	83°8	81°9	—	
	28	83°2	83°2	83°3	82°4	82°0	81°4	81°5	81°6	82°4	83°5	84°5	84°0	82°8	—	
	29	83°0	83°2	82°2	82°4	81°5	81°4	80°3	80°6	82°3	83°0	83°8	84°2	82°3	—	
	30	84°0	83°2	83°1	82°4	82°0	81°7	81°1	82°0	83°7	84°7	—	85°2	83°0	—	

Means. { A	82°5	82°4	82°0	81°4	80°7	80°3	80°1	81°1	82°3	83°1	83°4	83°0	81°9
{ B	82°8	82°2	81°6	82°1	81°0	80°7	80°6	80°9	82°5	83°1	83°1	83°2	82°0

* The Observation was taken 5 minutes late.
a A break appears to have taken place.
b Needle taken out and cleaned.

c Rejected, taken late.
The needle was slightly disturbed on the 23d, 24th and 25th.

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = 0.00002909 \times \cot 12.40 \times \left(\frac{7.379}{18.06}\right)^2 = 0.0001507$$

$$q = 0.0004363$$

$$\frac{g}{k} = \frac{0.0004363}{0.0001507} = 28.6834$$

ther. °
Zero.. 80.0

VERTICAL FORCE MAGNETOMETER. (uncorrected.)

Gottingen Mean Time.	Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.
Singapore Mean Time.	H. M. 6.16	H. M. 8.16	H. M. 10.16	H. M. 12.16	H. M. 14.16	H. M. 16.16	H. M. 18.16	H. M. 20.16	H. M. 22.16	H. M. 0.16	H. M. 2.16	H. M. 4.16	sc. d.		
	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.		
1	456	387	358	403	389	381	—	—	667	534	392	—	441		
2	v	v	315	—	—	—	—	—	—	—	—	—	—		
3	—	—	—	335	310	333	357	396	655	616	431	441	419		
4	413	347	347	307	333	v	345	352	551	584	481	417	407		
5	400	347	323	328	323	323	330	390	574	581	522	385	402		
6	390	363	318	337	344	303	284	407	544	499	397	380	380		
7	348	352	297	322	320	280	240	333	519	602	535	473	385		
8	392	327	287	252	294	v	281	197	354	403	314	231	303		
9	226	a	193	a	—	—	—	—	—	—	—	—	—		
10	—	—	—	138	133	112	99	184	306	321	309	259	—		
11	181	160	23	22	7	15	3	43	142	91	31	38	63		
12	50	34	v	14	7	21	23	69	167	173	124	131	74		
13	89	83	55	38	27	10	12	129	257	293	238	176	117		
14	138	118	50	95	89	107	79	153	264	294	229	212	152		
15	178	119	146	131	—	127	107	162	—	—	—	—	—		
16	—	—	—	—	—	—	—	—	—	—	—	—	—		
17	—	—	—	—	—	—	—	—	—	—	—	—	—		
18	-93	-183	270	-80	-98	-264	a	—	—	—	—	-154	—		
19	-258	-350	-470	a	—	—	—	—	—	—	519	448	—		
20	274	191	50	56	39	-68	-15	-68	-57	-18	-264	-257	-11		
21	-375	-370	-441	-424	-489	-550	-598	-498	-427	-415	-571	-686	-487		
22	v	-718	—	a	—	—	—	—	—	—	—	—	—		
23	—	—	—	—	—	—	—	—	—	—	—	—	—		
24	—	—	—	244	217	267	235	289	419	374	269	176	—		
25	119	159	141	169	164	149	145	226	318	349	311	140	199		
26	127	111	77	89	84	74	67	168	v	139	151	75	106		
27	39	-31	-26	-23	-41	v	-57	v	114	102	43	42	16		
28	-43	-65	-51	-49	-62	-38	-65	17	124	149	31	-17	6		
29	-92	-116	-106	-102	v	-116	-132	2	131	127	22	-78	-42		
30	v	-156	-142	a	—	—	—	—	—	—	—	—	—		
31	—	—	—	246	281	256	239	351	483	469	249	209	—		

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.
1	84.9	84.3	83.7	83.2	82.3	83.0	—	—	84.4	84.5	83.2	—	83.7																			
2	—	—	81.0	—	—	—	—	—	—	—	—	—	—																			
3	—	—	—	82.2	79.9	79.2	79.7	80.5	82.7	84.1	83.5	83.7	81.7																			
4	83.4	82.6	81.5	80.3	80.2	—	80.4	80.5	82.7	83.7	84.6	84.2	82.2																			
5	83.6	83.0	81.8	81.7	80.6	80.7	80.2	81.0	83.0	84.0	84.4	83.5	82.3																			
6	83.2	83.2	82.0	81.7	80.6	80.0	79.4	80.6	81.9	81.7	81.1	80.8	81.4																			
7	80.7	81.3	79.8	79.3	78.5	78.2	78.0	79.8	81.2	82.5	83.0	82.9	80.4																			
8	82.6	82.5	81.2	80.0	80.2	—	79.0	80.8	82.6	83.5	83.4	82.0	81.6																			
9	81.7	—	81.4	—	—	—	—	—	—	—	—	—	—																			
10	—	—	—	78.8	78.2	78.1	76.6	78.3	80.4	81.5	82.5	82.7	—																			
11	81.0	80.4	80.1	79.7	79.2	78.8	78.6	80.0	81.4	81.4	81.3	81.1	80.3																			
12	81.0	80.8	—	79.2	79.1	78.0	77.1	78.7	80.4	81.5	82.7	83.2	80.2																			
13	82.7	82.3	81.0	80.7	80.2	79.0	78.2	79.9	81.1	82.5	83.0	84.0	81.2																			
14	83.1	82.5	81.5	80.6	80.2	79.8	78.3	80.6	82.4	83.6	84.6	84.2	81.8																			
15	83.5	83.2	82.1	81.3	—	80.2	79.8	81.3	—	—	—	—	—																			
16	—	—	—	—	—	—	—	—	—	—	—	—	—																			
17	—	—	—	—	—	—	—	—	—	—	—	—	—																			
18	83.5	82.8	82.5	81.1	80.0	80.2	—	—	—	—	—	81.0	—																			
19	81.2	80.8	79.8	—	—	—	—	—	—	—	—	81.7	82.4																			
20	82.2	81.6	81.1	80.2	80.2	79.1	79.1	80.2	79.7	82.7	83.6	83.7	81.1																			
21	83.9	84.5	83.6	83.0	83.3	83.2	79.8	81.3	82.6	83.7	83.6	81.6	82.8																			
22	—	81.0	—	—	—	—	—	—	—	—	—	—	—																			
23	—	—	—	—	—	—	—	—	—	—	—	—	—																			
24	—	—	—	80.7	78.9	79.6	78.2	80.2	82.3	83.2	84.0	83.5	—																			
25	82.5	83.0	81.2	80.9	80.3	79.6	78.8	79.8	82.4	83.3	84.0	81.8	81.5																			
26	81.8	81.2	80.6	80.2	80.1	79.3	78.5	80.0	—	81.7	82.2	82.1	80.7																			
27	81.8	81.2	80.4	81.0	79.8	—	78.7	—	81.5	82.7	84.0	84.1	81.5																			
28	82.8	82.7	82.2	81.0	80.0	79.4	78.8	80.7	82.5	84.2	84.4	84.3	81.9																			
29	83.6	83.2	82.5	82.3	—	80.4	80.2	80.8	82.6	84.5	84.6	83.9	82.6																			
30	—	83.1	82.5	—	—	—	—	—	—	—	—	—	—																			
31	—	—	—	81.0	81.4	80.5	79.9	80.1	82.8	84.0	82.5	81.8	—																			

a Series broken.

v Vibrating.

$$k = a \cdot \cot \theta \frac{T^2}{T_0^2} = 0.00002909 \times \cot 12.40^\circ \times \left(\frac{7.379}{18.06}\right)^2 = 0.0001507$$

$$\frac{q}{k} = \frac{0.0004363}{0.00001507} = 28.6834$$

ther. Zero.. 80°0

$$q = 0.0004363$$

VERTICAL FORCE MAGNETOMETER. (uncorrected.)

Göttingen Mean Time.		Noon.	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	
Singapore Mean Time.		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.				
VERTICAL FORCE MAGNETOMETER. NOVEMBER 1841.		sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	
		1	231	237	214	198	187	135	122	225	330	373	131	167	212	— 17	195
		2	119	82	68	—	25	84	33	126	275	269	199	37	120	— 40	80
		3	17	18	9	10	11	3	— 38	90	246	322	v	— 55	58	— 32	26
		4	— 100	— 111	— 102	— 80	— 74	— 84	— 114	— 82	14	114	17	— 29	— 53	— 20	— 73
		5	v	— 147	— 138	— 151	— 157	— 185	— 216	— 91	84	v	30	— 58	— 103	— 40	— 143
		6	— 136	— 193	— 198	—	—	—	—	—	—	—	—	—	—	—	—
		7	—	—	—	— 187	— 211	— 197	— 217	— 148	— 22	— 77	— 167	— 214	— 164	— 40	— 204
		8	— 244	— 261	— 239	— 231	— 246	— 262	— 290	— 263	— 143	— 6	— 88	— 278	— 213	— 17	— 230
		9	— 284	— 342	— 356	— 308	v	— 331	— 342	— 278	— 167	— 170	— 194	— 208	— 271	— 40	— 311
		10	— 341	— 332	— 323	— 319	— 311	— 310	— 322	— 299	— 218	— 114	— 134	— 240	— 272	— 34	— 306
		11	— 246	— 356	— 349	— 358	— 358	— 365	— 368	— 245	— 126	— 30	— 171	— 319	— 274	— 11	— 285
		12	v	— 376	— 383	— 368	v	— 380	— 409	— 330	— 195	— 210	— 295	— 356	— 330	— 52	— 382
		13	— 362	— 385	— 406	*	—	—	—	—	—	—	—	—	—	—	—
		14	—	—	—	— 31	— 36	— 38	— 79	— 79	139	v	47	— 67	—	—	—
		15	— 96	— 62	— 58	— 57	— 65	— 74	— 100	— 28	— 142	189	74	— 70	— 41	— 32	— 73
		16	— 70	— 80	— 51	— 61	— 93	— 87	— 136	— 48	205	345	166	9	8	— 34	— 26
		17	— 71	— 88	— 76	—	—	—	—	—	—	112	31	— 97	—	—	—
		18	— 47	— 55	— 96	— 92	— 76	— 124	— 192	— 178	— 24	7	— 8	— 28	— 76	— 46	— 122
		19	— 106	— 56	— 124	— 95	— 94	— 107	— 135	— 16	130	185	131	18	— 22	— 54	— 76
		20	— 61	— 53	— 86	—	—	—	—	—	—	—	—	—	—	—	—
		21	—	—	—	v	2	31	6	59	235	286	135	44	54	— 46	8
		22	7	v	— 42	— 16	v	— 49	— 59	33	39	169	— 9	— 59	1	— 40	— 39
		23	— 40	— 74	— 67	— 79	— 91	— 86	— 88	— 32	39	78	— 84	— 95	— 51	— 11	— 62
		24	— 86	— 89	— 114	v	— 112	— 107	— 146	— 37	87	89	— 8	— 151	— 61	14	— 47
		25	— 120	— 125	— 133	— 154	— 159	— 170	— 179	— 104	62	183	142	103	— 54	17	— 37
		26	91	76	62	—	—	—	— 151	— 94	34	12	— 53	—	— 3	— 14	— 17
		27	— 87	— 93	— 91	—	—	—	—	—	—	—	—	—	—	—	—
		28	—	—	—	— 104	— 107	— 114	— 127	— 85	— 23	18	— 19	— 57	— 74	— 23	— 97
		29	— 59	— 66	— 71	— 69	— 78	— 88	— 87	— 87	— 45	— 28	— 35	— 62	— 64	— 17	— 81
30	— 75	— 80	— 81	— 81	— 89	— 72	— 98	— 83	— 50	— 40	— 58	— 90	— 75	— 20	— 95		
Hourly Means....		— 109	— 162	— 163	— 179	— 126	— 172	— 196	— 118	7	47	— 67	— 141	— 116	—	—	
Means of A & B.....		— 59	— 65	— 73	— 81	— 87	— 87	— 115	— 54	42	115	29	— 41	— 37	—	—	
Temp. Correction.....		— 82	— 109	— 114	— 126	— 105	— 126	— 152	— 83	26	84	— 15	— 87	— 74	— 27	— 100	
Corrected Means.....		— 46	— 37	— 23	— 11	9	20	34	— 3	— 43	— 75	— 80	— 66	— 27	—	—	
Differences.....		— 128	— 146	— 137	— 137	— 96	— 106	— 118	— 86	— 17	9	— 95	— 153	— 101	—	—	
Diurnal Oscillation = .00		— 137	— 155	— 146	— 146	— 105	— 115	— 127	— 95	— 26	0	— 104	— 162	— 110	—	—	
		2065	2336	2200	2200	1582	1733	1914	1432	0392	0	1567	2441	1655	$\frac{\Delta Y}{Y}$	—	

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. NOVEMBER 1841.		1	81.4	81.3	80.5	79.4	79.1	78.3	77.5	80.0	81.3	82.7	82.6	83.3	80.6	
		2	82.2	81.4	81.0	—	80.0	79.2	78.8	80.4	82.5	83.3	83.3	82.8	82.8	81.4
		3	82.1	81.8	81.2	81.2	80.3	79.6	79.1	80.0	81.8	83.8	—	81.2	81.2	81.1
		4	81.6	81.0	80.0	80.0	79.3	79.5	79.1	79.8	80.5	82.8	82.3	82.6	82.6	80.7
		5	—	81.9	80.8	81.0	80.3	80.2	79.5	80.6	82.0	—	84.0	83.6	83.6	81.4
		6	83.1	82.6	81.5	—	—	—	—	—	—	—	—	—	—	—
		7	—	—	—	81.6	80.8	81.2	80.0	80.8	81.4	81.0	81.5	80.7	80.7	81.4
		8	80.1	80.1	80.4	80.0	80.0	79.2	78.8	79.6	80.6	82.8	83.2	82.2	82.2	80.6
		9	81.7	81.1	80.0	80.8	—	79.6	79.4	80.6	81.8	82.7	83.4	83.7	83.7	81.4
		10	82.7	82.7	81.6	81.3	81.2	80.6	80.5	80.1	79.5	81.3	81.7	81.2	81.2	81.2
		11	80.7	80.2	79.6	79.2	78.5	77.9	77.8	79.6	81.3	83.4	83.6	83.1	83.1	80.4
		12	—	82.1	81.4	81.2	—	79.1	78.6	80.6	82.1	84.0	84.8	83.9	83.9	81.6
		13	82.6	82.0	81.4	—	—	—	—	—	—	—	—	—	—	—
		14	—	—	—	79.8	79.6	79.2	78.4	80.1	82.4	—	84.0	83.2	83.2	—
		15	82.8	82.5	81.7	81.4	79.9	80.4	78.5	79.2	80.9	82.2	82.3	81.7	81.7	81.1
		16	80.5	80.7	80.8	80.5	79.7	79.3	78.8	80.4	82.3	83.5	84.3	84.1	84.1	81.2
		17	82.8	82.2	82.0	—	—	—	—	—	—	82.8	83.3	82.3	82.3	—
		18	81.4	81.8	81.2	80.9	80.2	80.0	79.2	81.0	82.5	83.3	83.8	83.4	83.4	81.6
		19	81.6	82.0	81.5	80.8	80.6	80.3	79.6	80.8	82.5	84.0	84.6	84.0	84.0	81.9
		20	83.0	82.4	81.9	—	—	—	—	—	—	—	—	—	—	—
		21	—	—	—	—	79.8	79.7	78.8	80.0	81.8	83.0	83.7	83.0	83.0	81.6
		22	82.1	—	81.4	80.3	—	79.3	78.8	80.1	82.3	83.9	83.7	82.0	82.0	81.4
		23	81.5	80.6	80.4	79.7	79.3	78.6	78.8	80.5	81.6	82.4	80.5	80.5	80.5	80.4
		24	79.8	79.4	79.2	—	78.0	78.1	77.0	78.6	80.5	81.9	81.6	79.8	79.8	79.5
		25	79.1	79.2	78.7	77.6	78.2	77.7	77.4	79.0	80.6	82.0	82.2	81.5	81.5	79.4
		26	81.2	80.4	79.7	—	—	—	—	79.6	79.8	81.8	80.4	81.1	—	80.5
		27	81.6	81.2	80.9	—	—	—	—	—	—	—	—	—	—	—
		28	—	—	—	80.1	78.8	77.7	77.7	79.9	81.9	82.9	83.4	83.0	83.0	80.8
		29	82.5	81.8	81.5	80.7	80.4	79.6	78.6	80.4	80.0	80.5	81.1	80.5	80.5	80.6
		30	80.8	80.8	80.5	79.9	79.5	78.7	79.0	80.2	81.8	82.5	82.3	82.0	82.0	80.7
Means.		81.7	81.5	80.7	80.6	79.9	79.5	79.0	80.2	81.4	82.8	83.0	82.6	81.1		
		81.5	81.2	80.8	80.2	79.5	79.1	78.6	80.0	81.6	82.5	82.7	82.1	80.9		

On the 1st Nov. a new needle was substituted for the old one.
On the 26th at 6 h., the needle was deflected out of the field of view.

* A break occurs.
v Vibrating.

$$k = a \cdot \cot \theta \frac{T^2}{T_1} = 0.00002909 \times \cot 12.40 \times \left(\frac{7.379}{18.06}\right)^2 = .00001507$$

$$q = 0.0004363$$

$$\frac{q}{k} = \frac{0.0004363}{0.00001507} = 28.6834$$

ther. °
Zero.. 80.0

VERTICAL FORCE MAGNETOMETER. (uncorrected.)

Gottingen Mean Time.	Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.
Singapore Mean Time.	H. M. 6:16	H. M. 8:16	H. M. 10:16	H. M. 12:16	H. M. 14:16	H. M. 16:16	H. M. 18:16	H. M. 20:16	H. M. 22:16	H. M. 0:16	H. M. 2:16	H. M. 4:16	sc. d.	sc. d.	sc. d.
	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.
1	-104	-115	-105	b											
2															
3	-264	-319	-318	-267	-298	-309	-308	-207	-97	-72	-141	-240	-237	-23	-260
4	-246	-291	-288												
5				-282	-272	-289	-280	-200	-107	-120	-143	-140	-221	-3	-224
6		-237	-271	-253	-259	-252	-274	-157	-49	-58	33	-204	-180	-26	-206
7	-239	-264	-261	-271	-292	-271	-295	-250	-114	-123	-242	-219	-237	-23	-260
8	-304	-346	-326	-373	-353	-332	-376	-257	-187	-155	-169	-146	-277	-43	-320
9	-304	-328	-298	-321	-333	-292	-333	-181	-62	-85	-163	-219	-243	-46	-289
10		-341	-325	-274	-289	-300	-329	-236	-101	-80	-172	-204	-241	-23	-264
11	-244	-258	-251												
12				-207	-216	-228		-130	-74	-46	-187	-199	-185	-17	-202
13	-256	-261	-233	-276	-256	-254	-266	-161	-36	-7	-94	-219	-193	-0	-193
14	-263	-279	-309	-283	-324	-291	-323	-271	-125	-171	-234	-283	-263	-6	-269
15	-299	-299	-275	-283	-325	-328	-327	-184	-115	-63	-252	-300	-254	-23	-277
16	-306	-317	-319	-306	-321	-346	-339	-253	-63	-96	-200	-248	-260	-26	-286
17	-309	-364	-331	-356	-329	-361	-360	-277	-193	-85	-205	-280	-288	-11	-299
18	-336	-333	-344												
19				-396	-339	-357	-365	-298	-201	-106	-124	-226	-285	11	-274
20	-341	-357	-327	-352	-350	-355	-366	-309	-218	-115	-229	-288	-301	3	-298
21	-359	-371	-384	-359	-380	-380	-361	-268	-206	-100	-223	-287	-306	20	-286
22	-337	-348		-216	-196	-222	-180	-220	-41	-23	-20	-156	-178	-6	-184
23	-153	-143	-84	-98	-114	-128	-179	-151	31	98	-34	-84	-87	-26	-113
24	-138	-160	-156												
25															
26				-196	-209	-211	-225	-179	15	97	-114	-191	-139	-29	-168
27	-234	-272	-228	-263		-275	-264	-252	-230	-195	-317	-345	-261	14	-247
28	-295	-303		-66	-88	-98		-66	-53	-116	-32	-99	-122	37	-85
29	-116	-207	-213	-220	-213	-189	-221	-166	-8	-29	-108	-168	-155	-3	-158
30	-180	-220	-247	-260	-263	-236	-232	-162	-94	-101	-160	-241	-200	14	-186
31	-226	-251	-258	-265	-268	-272	-270	-199	-73		-39	-275	-218	37	-181
Hourly Means.....	-261	-286	-275	-268	-273	-274	-294	-210	-100	-76	-149	-219	-224	-9	-230
Temp. Correction.....	-26	-11	-6	9	26	37	46	17	-29	-57	-66	-46	-9		
Corrected Means.....	-287	-297	-281	-259	-247	-237	-248	-193	-129	-133	-215	-265	-233		
Differences.....	-158	-168	-152	-130	-118	-108	-119	-64	0	-04	-86	-136	-104		
Diurnal Oscillation=00	2381	2532	2291	1959	1778	1628	1793	0964	0	0060	1296	2050	1561	$\frac{\Delta Y}{Y}$	

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.			
1	81.7	81.2	81.0	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	80.3			
2																																			
3	82.6	81.2	81.3	80.1	79.6	79.0	78.8	79.9	81.7	82.4	82.2	80.5	80.8																						
4	80.5	80.0	79.8																																
5				79.2	78.6	77.9	77.2	79.5	80.8	82.0	82.5	83.0	80.1																						
6		81.7	81.1	80.6	79.6	78.7	78.6	79.7	81.5	82.5	84.1	81.4	80.9																						
7	81.0	80.4	80.6	80.2	79.2	79.0	79.2	80.2	82.2	82.7	82.5	82.0	80.8																						
8	82.1	81.3	80.4	80.6	80.0	79.7	79.6	80.7	82.1	83.2	83.8	84.3	81.5																						
9	83.0	82.0	81.2	79.8	80.4	80.2	79.3	80.6	82.3	83.1	83.7	83.4	81.6																						
10		82.0	80.6	80.4	79.7	79.1	78.6	80.0	81.8	82.7	82.0	82.1	80.8																						
11	81.4	80.5	78.7																																
12				80.7	80.2	79.6		79.8	80.8	81.7	81.7	81.5	80.6																						
13	80.5	79.9	80.4	79.1	78.3	77.9	78.7	79.5	81.2	82.1	82.4	80.5	80.0																						
14	80.3	80.4	79.5	79.9	79.1	78.7	78.4	79.3	81.1	82.0	82.3	81.7	80.2																						
15	81.4	81.0	81.3	80.6	79.5	79.1	78.2	79.5	81.8	83.0	82.2	82.0	80.8																						
16	81.5	80.7	80.7	80.5	80.2	79.0	78.4	80.0	81.8	82.7	83.2	82.5	80.9																						
17	81.2	81.2	80.5	80.0	79.1	78.5	77.8	79.5	80.0	81.7	82.9	82.5	80.4																						
18	80.2	80.4	80.0																																
19				78.2	78.3	77.8	77.1	78.4	80.2	80.6	82.5	81.0	79.6																						
20	80.1	79.9	80.2	79.2	78.5	78.2	77.4	78.7	80.7	82.5	81.8	81.2	79.9																						
21	79.7	79.5	78.8	78.6	78.2	77.6	77.5	78.6	79.4	81.0	81.5	81.0	79.3																						
22	80.6	79.7		79.0	78.6	78.2	79.2	78.6	81.0	82.5	83.2	81.3	80.2																						
23	81.2	81.1	81.7	81.5	81.0	80.0	79.1	78.6	80.7	82.5	82.3	81.4	80.9																						
24	81.0	80.7	80.5	*																															
25	*																																		
26				81.6	80.0	80.2	79.5	80.3	81.9	83.0	82.1	81.0	81.0																						
27	81.0	79.6	80.2	79.6		79.5	78.5	79.4	79.5	79.4	79.0	78.9	79.5																						
28	78.4	77.8		76.8	76.1	76.0		76.6	79.0	81.5	82.7	82.3	78.7																						
29	81.2	80.8	79.6	79.3	78.9	79.2	78.4	79.5	81.5	81.6	80.4	80.6	80.1																						
30	79.8	79.7	78.9	79.5	78.8	79.1	78.4	79.2	80.5	80.4	80.5	79.7	79.5																						
31	79.2	78.2	77.5	77.6	77.6	77.2	77.0	78.7	80.5		81.9	79.8	78.7																						

The Observations of 1st and 2d, are omitted in the hourly means. The needle was disturbed on the 7th, 14th, 17th and 27th.

b. Series broken.

ABSTRACT OF TERM DAY OBSERVATIONS. COMMENCING at 10 P. M. 20th January 1841. Gottingen Mean Time.

WEDNESDAY the 20th January 1841.

THURSDAY the 21st January 1841.

Gottingen Mean Time. P. M.

Table with columns for Declination Magnetometer (m. s.) and data for hours 10-23 on Wednesday and 0-9 on Thursday. Values range from 39.4 to 41.0.

Table with columns for Horizontal Force Magnetometer (Ther.) and data for hours 2:30, 12:30, 22:30, 32:30, 42:30, 52:30. Values range from 79.7 to 93.9.

Table with columns for Vertical Force Magnetometer (Ther.) and data for hours 7:30, 17:30, 27:30, 37:30, 47:30, 57:30. Values range from 307 to 340.

Table with columns for Barometer (uncorrected) and Attached Thermometer (Dry/Wet) and data for hours 1:021 to 1:043. Values range from 75.0 to 80.4.

Table with columns for Remarks on the Weather (Zenith and Horizon) and descriptive text for weather conditions.

ABSTRACT OF TERM DAY OBSERVATIONS. COMMENCING at 10 P. M. 21st April 1841. Gottingen Mean Time.

WEDNESDAY the 21st April 1841.														THURSDAY the 22d April 1841.											
Gottingen Mean Time.	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	
	P. M.																								
DECLINATION MAGNETOMETER.	m. s.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	
	0·0	34·8	34·9	35·6	35·1	33·9	33·0	32·2	31·6	32·0	32·0	32·0	33·0	34·0	34·3	33·9	32·6	32·9	33·0	33·0	33·0	34·0	34·3	34·0	34·1
	5·0	34·7	35·0	35·9	35·1	33·9	32·8	32·0	31·5	31·9	32·0	32·0	33·0	34·1	34·4	33·9	32·4	32·9	33·0	33·2	32·9	34·0	34·7	34·0	34·1
	10·0	34·7	35·1	35·9	35·1	33·8	32·8	31·9	31·5	31·9	32·0	32·0	33·1	34·1	34·5	33·9	32·4	32·9	33·0	33·1	33·0	34·0	35·0	34·0	34·0
	15·0	34·7	35·1	36·0	35·0	33·6	33·0	32·0	31·6	32·0	32·0	32·0	33·1	34·0	34·3	34·0	32·4	33·0	33·0	33·0	33·0	34·0	35·0	34·0	34·0
	20·0	34·6	35·3	36·1	34·9	33·2	33·0	31·8	31·6	31·9	32·0	32·0	33·2	34·1	—	34·0	32·4	33·0	33·0	33·0	33·1	34·1	35·0	34·0	34·0
	25·0	34·7	35·4	36·0	34·9	33·0	32·9	31·9	31·5	32·0	32·0	32·0	33·5	34·0	—	33·9	32·4	33·0	33·0	33·0	33·4	34·1	34·9	34·0	34·1
	30·0	34·8	35·4	35·8	34·8	32·8	32·8	32·0	31·3	31·9	32·0	32·3	33·8	34·0	34·1	33·9	32·6	33·1	32·9	33·0	33·3	34·0	34·5	34·0	34·4
	35·0	34·9	35·2	35·8	34·8	32·8	32·5	31·9	31·4	31·9	32·0	32·5	33·9	34·0	34·0	33·8	32·9	33·0	32·8	33·1	33·3	34·0	34·2	34·0	34·6
	40·0	34·9	35·1	35·8	34·7	32·9	32·3	31·8	31·6	32·0	32·0	32·5	33·9	34·0	33·9	33·5	32·9	33·1	32·9	33·0	33·3	34·0	34·0	34·0	34·5
	45·0	34·9	35·2	35·6	34·4	33·0	32·3	31·7	31·7	32·0	32·0	32·6	33·9	34·1	33·8	33·4	33·0	33·0	32·9	33·0	33·6	34·2	33·9	34·0	34·6
	50·0	34·9	35·3	35·2	34·2	33·0	32·4	31·6	32·0	32·0	32·0	32·7	33·9	34·1	33·8	33·1	33·0	33·0	33·0	32·9	33·8	34·5	33·9	34·0	34·6
55·0	34·9	35·4	35·1	34·1	—	32·3	31·4	32·0	32·0	32·0	32·9	34·0	34·1	34·0	33·0	33·0	32·9	33·0	32·8	34·0	34·4	33·9	34·0	34·7	
HORIZONTAL FORCE MAGNETOMETER.	2·30	96·4	95·9	94·4	93·8	93·5	92·8	92·0	91·5	93·8	94·9	97·4	100·1	100·1	100·1	99·5	98·6	98·8	98·6	97·9	97·7	98·1	97·6	95·3	95·8
	12·30	96·2	95·9	94·2	93·2	93·5	92·6	91·8	91·8	94·0	94·9	98·4	100·1	100·1	100·1	99·7	98·2	98·9	98·4	98·1	97·7	98·4	95·8	95·7	95·9
	22·30	96·2	95·7	94·4	93·1	93·2	93·3	91·6	92·4	94·3	95·1	99·6	100·1	100·1	100·0	99·7	98·1	99·2	98·2	98·2	97·9	98·2	94·7	95·7	95·8
	32·30	96·5	95·3	94·1	93·3	93·0	93·3	92·2	92·1	94·4	95·8	100·0	100·1	100·1	99·9	100·0	98·2	99·0	98·0	98·5	98·0	97·9	94·7	95·5	96·3
	42·30	96·4	94·9	93·9	93·0	92·9	92·2	91·6	—	94·8	96·2	100·0	100·1	100·1	99·4	99·8	98·6	98·8	97·4	98·3	98·1	97·8	94·8	95·6	96·5
52·30	96·3	94·5	94·0	93·5	93·3	92·5	91·4	92·9	95·0	96·6	100·1	100·1	100·1	99·5	99·1	98·7	98·7	97·5	98·0	98·0	97·8	95·1	95·8	96·5	
Ther...	81·6	81·5	81·3	81·4	81·9	82·3	83·2	83·5	84·1	83·5	85·0	85·0	84·6	84·3	84·0	84·0	83·8	83·4	83·2	83·0	82·9	83·0	82·3	82·0	
VERTICAL FORCE MAGNETOMETER.	7·30	-387	-379	-380	-397	-372	-275	-247	-250	-206	-220	-215	-248	-303	-340	-316	-325	-330	-332	-327	-341	-352	-347	-327	-346
	17·30	-382	-379	-382	-392	-355	-277	-247	-243	-204	-210	-237	-274	-309	-347	-316	-331	-335	-332	-335	-341	-364	-346	-340	-357
	27·30	-381	-379	-386	-390	-336	-277	-257	-230	-215	-197	-244	-274	-313	-351	-319	-332	-335	-328	-340	-337	-364	-334	-349	-366
	37·30	-381	-378	-390	-387	-325	-257	-252	-214	-211	-196	-245	-278	-318	-351	-322	-332	-328	-334	-348	-340	-354	-329	-350	-374
	47·30	-381	-376	-392	-387	-328	-251	-250	-195	-202	-196	-239	-285	-324	-339	-322	-338	-328	-325	-350	-347	-356	-329	-350	-377
	57·30	-376	-377	-396	-379	-312	-258	-248	-206	-211	-198	-243	-295	-330	-327	-322	-336	-327	-330	-329	-354	-351	-327	-342	-377
Ther...	81·5	82·0	81·5	81·5	82·0	83·0	84·0	84·3	84·9	85·3	85·4	85·0	84·5	84·0	84·5	84·5	84·3	83·8	84·2	83·8	83·6	82·5	82·5	83·5	
REMARKS ON THE WEATHER.	ZENITH.	clear	do.	light cirri	clear	do.	part-clear, cir-haze	cir-haze	cir-cum, cir-haze	part-cir	clear	light cirri	light cir-haze	lt-cir, stra, cir-stra	overcast	do.	do.	do.	clear	do.	do.	do.	do.	do.	do.
	HORIZON.	light cir-haze	stra, a few cum	cir-stra, cum	clear	cum, stra	cum	cum, stra	heavy-cum	cum, stra	cum, stra, haze	cir, cum	cir, cir-stra, by-cum	cir-stra	cir, cir-stra	overcast	do.	do.	clear	do.	do.	do.	haze	clear	haze
	light fog	light breeze	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
	clear, N. to E., calm.	calm	lg. W. calm	calm	stra. S. hot, calm	cum. N., calm	clear, sea	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
Barometer uncorrected } = 29·0 +	0·987	0·985	1·003	1·027	1·048	1·041	1·061	1·043	1·013	0·992	0·970	0·936	0·994	0·955	0·953	0·967	0·981	0·998	1·012	1·004	1·001	0·986	0·968	0·967	
Attached Thermometer..	80·1	80·0	80·0	79·9	80·6	81·0	82·0	82·5	83·0	83·5	84·0	84·0	83·5	83·0	82·5	82·0	81·9	81·2	81·0	80·5	80·1	80·0	79·5	78·6	
Dry do.	77·4	76·1	76·0	78·5	80·6	82·5	83·7	84·2	85·1	85·0	85·4	85·0	84·0	83·5	83·2	82·8	82·5	82·0	82·0	81·5	81·0	80·8	80·5	79·5	
Wet do.	76·0	74·8	74·5	77·0	77·0	79·0	79·2	79·5	80·0	79·0	79·0	77·5	80·0	79·5	79·9	79·8	79·8	79·8	79·9	79·8	78·8	78·5	78·3	77·3	

ABSTRACT OF TERM DAY OBSERVATIONS. COMMENCING at 10 P. M. 22d September 1841. Gottingen Mean Time.

WEDNESDAY the 22d September 1841.

THURSDAY the 23d September 1841.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 P. M.

0 1 2 3 4 5 6 7 8 9

Table with columns for Declination Magnetometer (m. s.) and values for each hour from 10 P.M. to 9 A.M. on both days.

Table with columns for Horizontal Force Magnetometer (2.30 to 52.30) and values for each hour from 10 P.M. to 9 A.M. on both days.

Table with columns for Vertical Force Magnetometer (7.30 to 57.30) and values for each hour from 10 P.M. to 9 A.M. on both days.

Table with columns for Barometer (uncorrected) and Attached Thermometer (Dry/Wet) and values for each hour from 10 P.M. to 9 A.M. on both days.

Table with columns for Remarks on the Weather (Zenith and Horizon) and descriptive text for each hour from 10 P.M. to 9 A.M. on both days.

ABSTRACT OF TERM DAY OBSERVATIONS. COMMENCING at 10 P. M. 26th November 1841. Gottingen Mean Time.																											
FRIDAY the 26th November 1841.																	SATURDAY the 27th November 1841.										
Gottingen Mean Time.		10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9		
		P. M.																									
DECLINATION. MAGNETOMETER.	m. s.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	
	0 · 0	33·3	32·8	32·1	31·6	30·3	30·8	32·2	33·9	35·8	36·5	36·1	34·9	34·1	33·8	34·7	34·6	34·1	34·1	34·0	34·1	34·9	34·9	34·9	34·6	34·7	
	5 · 0	33·3	32·9	31·9	31·5	30·5	30·9	32·4	34·3	35·8	36·7	36·0	34·9	33·9	33·8	34·8	34·5	34·2	34·0	34·0	34·1	34·9	34·6	34·6	34·6	34·7	
	10 · 0	33·4	32·9	31·6	31·6	30·5	31·0	32·4	34·4	35·7	36·7	36·0	34·7	34·0	34·0	34·8	34·3	34·1	34·0	34·3	34·2	34·9	34·6	34·7	34·7	34·8	
	15 · 0	33·4	32·8	31·6	31·5	30·5	31·0	32·3	34·6	35·7	36·6	35·9	34·6	34·0	34·1	34·8	34·2	34·1	34·0	34·4	34·2	34·8	34·7	34·4	35·0		
	20 · 0	33·4	32·7	31·9	31·1	30·6	30·1	32·6	34·9	35·7	36·9	35·8	34·7	33·9	34·2	34·8	34·2	34·1	34·0	34·3	34·3	34·8	34·6	34·2	35·1		
	25 · 0	33·4	32·7	31·8	31·1	30·6	31·3	32·6	35·1	35·6	36·6	35·6	34·4	34·0	34·2	34·8	34·2	33·9	34·0	34·2	34·8	34·8	34·7	34·1	35·0		
	30 · 0	33·3	32·6	31·8	30·9	30·6	31·5	32·8	35·3	35·8	36·7	35·5	34·5	33·9	34·3	34·7	34·1	33·9	34·0	34·2	34·8	34·9	34·8	34·4	35·3		
	35 · 0	33·3	32·6	31·8	30·8	30·6	31·6	33·1	35·3	35·8	36·8	35·5	34·4	33·9	34·4	34·7	34·1	34·1	34·0	34·3	34·9	34·8	34·5	34·7	34·3		
	40 · 0	33·3	32·5	31·7	30·6	30·6	31·9	33·3	35·7	36·1	36·9	35·5	34·2	33·8	34·6	34·6	34·1	34·1	34·0	34·2	34·9	34·5	34·6	34·8	35·0		
	45 · 0	33·4	32·5	31·7	30·6	30·7	32·0	33·1	35·8	36·3	36·6	35·4	34·2	33·9	34·7	34·6	34·0	34·1	34·0	34·2	34·9	34·8	34·7	34·7	35·0		
50 · 0	33·1	32·4	31·7	30·5	30·8	32·1	33·4	35·9	36·5	36·6	35·3	34·3	33·7	34·7	34·6	34·0	34·2	34·0	34·3	34·9	34·8	34·6	34·5	35·0			
55 · 0	33·1	32·4	31·6	30·4	30·9	32·1	33·6	35·9	36·6	36·3	35·2	34·0	33·9	34·7	34·6	34·0	34·1	34·0	34·2	34·7	34·7	34·6	34·6	35·1			
HORIZONTAL FORCE MAGNETOMETER.	2 · 30	81·9	81·0	81·4	80·0	78·0	76·0	76·0	77·7	79·6	81·8	82·8	83·3	83·0	83·4	83·2	83·6	83·6	83·9	84·0	83·8	83·9	82·8	82·3	81·6		
	12 · 30	81·3	81·0	81·1	79·9	77·9	76·1	76·1	77·7	79·5	82·0	83·0	83·3	83·4	83·2	83·3	83·5	83·8	83·8	84·1	83·8	83·9	82·8	81·9	—		
	22 · 30	81·2	81·3	80·7	79·4	77·8	75·7	76·2	78·3	79·7	82·2	83·2	83·1	82·7	83·2	83·3	83·6	83·8	83·9	84·0	84·0	83·0	82·5	81·8	81·2		
	32 · 30	82·1	81·3	80·4	79·2	77·1	75·9	76·3	78·7	80·2	82·4	83·0	83·0	82·9	83·2	83·4	83·6	83·3	84·0	84·0	84·0	83·3	81·7	81·9	81·6		
	42 · 30	81·4	81·4	80·2	78·9	77·0	76·2	76·7	79·2	80·8	82·6	83·2	83·1	83·1	83·0	83·4	—	83·8	84·0	83·6	83·9	82·6	82·0	81·3	82·1		
	52 · 30	81·2	81·5	80·2	78·4	76·7	76·0	76·7	79·4	81·4	82·6	83·2	83·1	83·5	83·1	83·5	83·6	83·9	84·1	83·8	83·7	83·3	84·0	81·5	81·2		
Ther..	79·6	79·5	79·5	79·4	79·8	80·2	81·2	81·3	80·7	80·8	81·1	81·3	81·5	81·6	81·1	80·8	80·6	80·2	80·1	80·0	79·8	79·6	79·4	79·1			
VERTICAL FORCE MAGNETOMETER.	7 · 30	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.		
	17 · 30	—	-96	-149	-129	-83	-13	36	12	8	-16	-61	-97	-95	-95	-85	-88	-91	-98	-82	-90	-86	-100	-114	-143		
	27 · 30	—	-104	-150	-122	-72	-4	36	13	4	-26	-65	-96	-94	-98	-88	-90	-95	-92	-89	-90	-86	-100	-115	-150		
	37 · 30	—	-113	-142	-117	-62	2	40	—	4	-31	-76	-91	-92	-97	-91	-92	-94	-91	-88	-90	-93	-96	-116	-150		
	47 · 30	—	-120	-141	-109	-48	6	35	19	4	-37	-79	-94	-92	-94	-88	-91	-94	-93	-91	-90	-92	-102	-100	-150		
	57 · 30	—	-140	-138	-103	-36	15	24	16	-9	-53	-89	-94	-92	-90	-90	-93	-96	-92	-93	-90	-97	-105	-97	-150		
Ther..	79·2	80·5	79·6	79·3	79·8	80·8	81·8	81·0	80·4	80·9	81·1	81·3	81·4	81·2	81·6	81·5	81·2	81·0	80·9	81·1	81·0	80·7	80·0	79·3			
Barometer(uncorrected) = 29·0 +	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.		
	0·964	0·972	0·986	1·005	1·023	1·035	1·028	1·025	1·010	0·989	0·961	0·948	0·939	0·953	0·966	0·987	0·992	1·003	1·019	1·011	1·012	1·000	0·973	0·979			
	Attached Thermometer..	78·0	78·1	78·0	78·0	78·3	79·0	80·0	80·0	79·5	79·2	81·0	80·0	80·1	80·4	80·0	79·4	79·2	78·8	78·7	78·8	77·0	77·6	77·5	77·5		
	Dry do.	78·5	78·7	77·9	78·2	79·4	80·7	81·9	78·3	79·5	80·5	81·0	81·0	81·2	81·8	80·1	79·2	79·4	78·9	79·0	78·3	77·8	78·5	77·8	77·5		
Wet do.	75·5	75·8	75·0	75·3	76·5	77·6	78·0	77·8	77·1	77·2	77·5	78·1	78·4	76·9	76·3	75·8	76·0	75·6	75·2	75·1	74·8	74·3	74·0	74·4			
REMARKS ON THE WEATHER.	ZENITH.	Horizon.																									
	part-cir-cum cir-cumuli do. overcast cloudy do. do. overcast do. do. cloudy do. do. cloudy do. do. cir-stra do. cloudy cir-stra, dt.-cum. cir, cir-cum haze few light-cir. cir-cumuli clear cir-cumuli clear																										



SINGAPORE 1842.

MAGNETICAL OBSERVATIONS.

SINGAPORE, 1842. MAGNETICAL OBSERVATIONS.

$a. (1 + \frac{H}{F}) = 40.7 \times 1.000311 = 40.7127$

Zero.. January.. { from 1st to 6th = 37.5
from 9th to 31st = 34.6

Zero.. February.. 34.6

a. = 1.36.47 East of North.

DECLINATION MAGNETOMETER.

Gottingen Mean Time.		Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Declination o' 1.30 +
Singapore Mean Time.		H. M. 6.16	H. M. 8.16	H. M. 10.16	H. M. 12.16	H. M. 14.16	H. M. 16.16	H. M. 18.16	H. M. 20.16	H. M. 22.16	H. M. 0.16	H. M. 2.16	H. M. 4.16		
		sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	' "
OBSERVATIONS OF THE DECLINATION MAGNETOMETER.	JANUARY 1842.	1	38.1	38.5	35.3	—	—	—	—	—	—	—	—	—	—
	2	—	—	—	33.9	33.5	33.4	32.2	29.9	29.9	33.2	34.3	35.7	33.8	4.16
	3	35.4	35.4	34.2	34.0	33.6	32.7	33.7	32.9	30.4	32.4	35.7	37.7	34.0	4.24
	4	35.8	35.9	34.1	34.0	33.3	33.5	32.9	30.9	31.6	33.5	34.9	37.2	34.0	4.24
	5	36.0	35.3	34.5	33.9	33.5	32.8	32.8	33.8	32.8	33.0	33.7	35.0	33.9	4.20
	6	34.8	34.6	34.4	34.0	33.8	33.5	33.1	32.0	32.5	34.5	35.1	34.2	33.9	4.20
	7	34.3	34.9	34.8	33.6	33.1	32.6	32.2	32.1	—	30.5	28.6	—	—	—
	8	37.2	38.1	37.4	—	—	—	—	—	—	—	—	—	—	—
	9	—	—	—	27.2	27.5	27.1	24.5	25.6	26.0	27.8	29.4	28.5	27.0	1.37
	10	22.7	28.0	27.8	27.5	27.5	26.7	24.2	23.3	27.5	27.5	26.4	27.0	26.3	1.09
	11	28.1	28.3	27.5	26.9	27.5	27.6	26.0	27.8	29.0	30.7	30.7	28.0	28.2	2.26
	12	28.2	28.5	28.2	27.0	26.9	26.5	24.9	25.3	29.3	25.6	29.1	27.6	27.2	1.45
	13	27.9	27.5	27.7	27.0	27.4	27.5	25.5	24.6	26.0	29.9	30.4	28.8	27.5	1.58
	14	28.8	28.0	27.7	27.9	27.6	27.8	26.3	25.2	23.8	27.4	29.6	28.0	27.3	1.49
	15	28.3	28.4	28.0	—	—	—	—	—	—	—	—	—	—	—
	16	—	—	—	27.9	27.8	28.0	27.1	27.1	27.3	30.0	32.0	30.7	28.5	2.38
	17	29.1	29.1	28.8	28.3	28.4	28.3	27.0	26.1	26.3	29.1	32.5	29.1	28.5	2.38
	18	34.4	29.3	28.9	28.1	29.4	28.7	27.2	28.3	29.8	31.0	30.6	31.3	29.7	3.27
	19	30.0	29.2	29.2	29.7	29.4	29.2	28.2	27.5	29.1	31.4	30.8	28.0	29.3	3.11
	20	28.5	28.9	28.3	28.5	28.6	28.4	27.2	27.2	29.0	26.6	30.0	28.7	28.3	2.30
	21	29.1	29.1	29.0	29.0	28.0	28.1	26.4	24.5	26.5	29.1	29.7	30.0	28.2	2.26
	22	30.1	30.3	31.2	—	—	—	—	—	—	—	—	—	—	—
	23	—	—	—	30.0	30.0	29.9	28.5	27.1	28.0	29.4	31.0	30.8	29.7	3.27
	24	30.4	30.2	29.9	29.5	30.3	29.9	30.0	28.7	30.1	31.0	31.3	31.2	30.2	3.47
	25	30.8	30.4	30.8	29.5	29.9	29.4	28.1	28.7	30.1	31.0	29.3	29.2	29.8	3.31
	26	29.7	29.8	29.6	29.0	28.9	28.9	26.0	24.8	26.0	28.0	28.2	28.0	28.0	2.18
	27	27.5	27.3	27.0	27.0	27.2	29.1	27.9	26.7	27.8	30.4	30.5	30.6	28.2	2.26
	28	29.5	29.1	29.0	27.8	27.4	27.0	25.6	26.2	27.3	29.6	31.0	28.9	28.2	2.26
	29	29.0	29.0	28.3	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	31	—	—	—	29.7	29.5	29.7	27.5	27.6	28.6	30.1	32.0	31.5	29.4	3.15
Hourly Means { No. 1	36.0	35.5	34.5	34.0	33.5	33.2	32.9	31.9	31.4	33.3	34.7	36.0	—	—	
{ No. 2	29.0	28.9	28.7	28.3	28.4	28.2	26.7	26.5	27.9	29.2	30.2	29.3	—	2.56	
Declination = 1.30' +	3 34	3 26	3 11	2 54	2 53	2 44	1 51	1 38	2 19	3 17	4 01	3 43	2 58	—	
Diurnal Oscillations..	1 56	1 48	1 33	1 16	1 15	1 06	0 13	0	0 41	1 39	2 23	2 05	1 20	—	
OBSERVATIONS OF THE DECLINATION MAGNETOMETER.	FEBRUARY 1842.	1	30.8	30.6	30.2	29.5	29.9	29.5	28.0	25.7	26.0	30.5	34.7	33.0	29.8
	2	32.1	31.1	30.1	29.9	30.4	29.5	29.1	29.2	28.8	29.5	31.7	32.1	30.3	3.52
	3	30.0	30.6	30.0	29.7	24.8	29.3	28.9	29.3	30.1	29.8	30.3	30.6	29.5	3.19
	4	30.0	30.1	30.1	30.1	29.7	29.8	30.2	29.7	30.6	31.4	32.1	31.6	30.4	3.56
	5	30.0	30.1	30.4	—	—	—	—	—	—	—	—	—	—	—
	6	—	—	—	29.6	29.3	28.5	26.0	27.0	30.5	30.7	31.9	32.0	29.7	3.27
	7	30.1	28.7	29.8	30.1	29.9	29.3	27.5	27.2	30.0	32.1	32.7	31.9	29.9	3.35
	8	30.9	30.0	29.9	30.3	30.4	29.5	27.2	26.2	29.2	31.7	31.9	30.4	29.8	3.31
	9	29.8	30.0	30.2	30.3	30.1	30.0	28.2	26.9	27.4	29.6	31.7	31.0	29.6	3.23
	10	30.1	30.2	30.0	30.1	30.1	29.4	27.1	26.5	29.3	32.1	32.7	32.4	30.0	3.39
	11	30.6	30.3	29.9	30.0	30.8	30.6	28.2	24.6	28.0	31.0	32.0	31.4	29.8	3.31
	12	31.3	30.6	30.2	—	—	—	—	—	—	—	—	—	—	—
	13	—	—	—	30.0	29.3	28.2	27.2	26.9	29.9	32.3	32.1	30.3	29.8	3.31
	14	30.1	30.1	30.0	29.5	30.0	29.5	28.4	27.2	28.9	30.9	32.5	30.5	29.8	3.31
	15	29.8	30.0	30.0	29.9	30.0	29.9	29.9	27.1	28.0	29.3	31.8	32.3	29.8	3.31
	16	30.9	30.4	30.2	29.7	29.8	29.3	28.5	27.2	28.5	30.1	31.0	31.0	29.7	3.27
	17	31.4	30.0	30.0	29.8	30.4	30.2	29.2	28.3	29.1	29.1	31.1	30.4	29.9	3.35
	18	30.8	30.2	30.2	29.9	31.6	30.8	29.3	26.2	28.0	30.3	32.0	33.6	30.2	3.47
	19	31.1	30.0	30.3	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	29.3	29.6	29.6	30.4	27.4	29.0	30.6	28.1	30.5	29.6	3.23
	21	30.9	31.0	30.6	30.5	30.6	30.4	29.3	27.6	31.0	32.1	30.9	30.4	30.4	3.56
	22	31.5	31.0	30.7	30.6	30.6	30.2	29.4	27.9	31.3	33.8	31.0	31.0	30.8	4.12
	23	31.5	30.9	30.6	30.8	30.6	30.2	29.0	27.2	31.6	32.1	31.5	30.2	30.5	4.00
	24	31.0	30.5	30.3	30.8	29.7	31.6	32.4	31.5	31.8	32.2	30.6	30.1	31.0	4.20
	25	31.2	31.0	30.6	29.8	30.1	28.3	27.6	26.9	31.4	34.1	31.9	31.0	30.3	3.52
	26	30.5	30.9	30.8	—	—	—	—	—	—	—	—	—	—	—
	27	—	—	—	30.7	30.9	30.2	28.8	25.8	28.0	32.9	32.8	30.0	30.2	3.47
	28	30.8	31.1	30.8	30.8	30.8	30.4	29.3	23.8	27.2	32.0	33.3	31.9	30.2	3.47
Hourly Means.....	30.7	30.4	30.2	30.1	30.0	29.7	28.7	27.2	29.3	31.2	31.8	31.2	30.0	3.41	
Declination = 1.30' +	4 08	3 56	3 47	3 43	3 39	3 27	2 46	1 45	3 11	4 28	4 53	4 28	3 41	—	
Diurnal Oscillations..	2 23	2 11	2 02	1 58	1 54	1 42	1 01	0	1 26	2 43	3 08	2 43	1 56	—	

* The Observations of 7th and 8th January, are omitted in the hourly and daily means.

$a. (1 + \frac{H}{P}) = 40.7 \times 1.000311 = 40.7127$

Zero.. March.. 35.1

Zero.. April.. 35.5

$a. = 1^{\circ}36'47$ East of North.

DECLINATION MAGNETOMETER.

Gottingen Mean Time.	Noon.												Daily and Monthly Means.	Declination 1°30' +	
	2	4	6	8	10	12	14	16	18	20	22				
Singapore Mean Time.	H. M. 6.16	H. M. 8.16	H. M. 10.16	H. M. 12.16	H. M. 14.16	H. M. 16.16	H. M. 18.16	H. M. 20.16	H. M. 22.16	H. M. 0.16	H. M. 2.16	H. M. 4.16			
	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	" "	
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. MARCH 1842.	1	31.0	31.0	30.4	30.4	31.0	31.5	31.9	29.1	29.1	30.2	31.9	32.1	30.8	3°52
	2	31.4	31.1	30.4	30.7	30.5	30.7	31.5	29.5	30.9	32.0	32.8	32.3	31.1	4 04
	3	31.1	30.7	30.4	30.4	30.6	30.4	31.0	29.3	29.4	30.3	31.4	31.1	30.5	3°39
	4	31.3	30.8	30.8	30.4	30.9	30.9	30.1	28.2	28.1	31.2	32.3	31.3	30.5	3°39
	5	31.5	30.0	30.9	—	—	—	—	—	—	—	—	—	—	—
	6	—	—	—	31.0	30.4	30.5	29.7	28.2	29.9	32.8	32.0	31.0	30.6	3°43
	7	31.3	30.9	31.0	31.0	30.5	31.3	30.8	28.5	29.1	31.9	32.8	31.4	30.0	3°56
	8	31.6	31.2	30.8	31.0	30.3	30.9	30.6	28.5	29.0	33.4	34.3	32.7	31.2	4 08
	9	31.3	31.4	30.9	30.7	30.9	31.0	30.4	27.2	27.6	31.2	31.8	30.5	30.4	3°35
	10	31.0	31.1	30.9	31.0	30.8	31.2	31.0	29.1	30.5	33.2	32.0	30.0	31.0	4°00
	11	31.0	31.0	31.0	30.9	31.4	31.1	30.1	28.8	28.3	30.9	32.8	32.0	30.8	3°52
	12	31.5	31.2	30.9	—	—	—	—	—	—	—	—	—	—	—
	13	—	—	—	31.0	31.0	30.3	29.6	27.9	28.5	33.2	33.5	31.3	30.8	3°52
	14	31.1	30.9	31.6	30.9	31.0	30.5	30.1	28.8	29.5	33.0	32.8	31.0	30.9	3°52
	15	30.9	30.9	30.9	31.3	31.7	31.2	31.9	30.3	30.8	34.0	32.3	30.2	31.4	4°16
	16	31.0	30.8	30.8	31.8	30.4	31.0	31.9	28.9	29.0	30.2	30.4	31.3	30.6	3°43
	17	31.8	31.0	31.0	31.1	31.0	31.0	31.0	28.8	28.7	30.1	29.8	30.0	30.4	3°35
	18	31.3	31.1	31.2	31.3	31.7	32.5	32.0	30.3	32.3	34.0	32.2	31.1	31.7	4°28
	19	32.7	33.5	32.2	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	32.3	32.4	32.0	31.0	31.8	33.7	34.9	32.1	31.6	32.5	5°01
	21	32.2	32.3	32.3	32.4	32.5	31.9	30.8	30.3	33.1	33.1	31.1	30.9	31.9	4°36
	22	32.1	32.0	32.1	32.5	32.6	32.0	31.4	31.4	33.2	33.0	31.2	31.8	32.1	4°45
	23	33.4	32.0	32.0	32.5	32.1	30.0	29.3	31.5	33.8	35.0	33.9	34.4	32.5	5°01
	24	32.0	31.8	32.0	—	—	—	—	Good Friday.	—	—	—	—	—	—
	25	—	—	—	32.1	32.4	32.0	31.4	30.9	33.1	29.7	33.0	31.6	31.8	4°32
	26	31.6	31.5	32.0	—	—	—	—	—	—	—	—	—	—	—
	27	—	—	—	32.0	32.1	32.3	31.6	31.1	33.8	34.9	32.2	32.0	32.2	4°08
	28	32.6	32.1	31.8	32.0	32.5	32.4	31.2	29.1	29.8	31.4	32.1	33.0	31.7	4°28
	29	32.0	31.9	32.0	32.4	32.3	32.1	32.0	32.0	33.2	33.7	33.5	33.0	32.5	5°01
	30	32.1	31.9	31.6	32.3	33.1	32.5	32.0	31.0	31.3	32.9	34.0	33.2	32.3	4°53
	31	32.0	31.5	32.1	32.1	32.4	32.2	32.9	31.3	30.2	30.5	31.4	32.6	31.7	4°28
Hourly Means.....	31.6	31.4	31.3	31.4	31.5	31.4	31.0	29.7	30.6	32.3	32.3	31.7	31.3	4°12	
Declination = 1°30' +	4 24	4 16	4 12	4 16	4 20	4 16	4 00	3 07	3 43	4 53	4 53	4 28	4 14		
Diurnal Oscillations..	1 17	1 09	1 05	1 09	1 13	1 09	0 53	0	0 36	1 46	1 46	1 21	1 07		
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. APRIL 1842.	1	31.6	32.1	31.9	32.1	32.7	33.0	33.1	31.0	31.7	33.0	34.1	34.1	32.5	4°45
	2	32.0	31.8	31.9	—	—	—	—	—	—	—	—	—	—	—
	3	—	—	—	32.9	34.2	32.0	34.1	32.0	33.1	34.7	32.5	31.9	32.7	4°53
	4	32.1	32.1	32.5	32.6	32.9	32.6	32.7	31.6	32.0	33.1	32.3	32.1	32.4	4°40
	5	32.7	31.7	32.0	32.2	32.8	31.7	32.8	31.3	32.1	33.6	31.4	32.0	32.2	4°32
	6	32.0	32.1	32.1	32.3	32.5	32.0	32.4	31.7	33.1	34.0	32.3	31.6	32.3	4°36
	7	32.3	32.0	31.9	32.0	32.4	32.0	31.8	29.5	31.2	32.6	32.4	31.9	31.8	4°16
	8	32.7	31.9	31.7	32.6	32.5	31.4	32.8	31.8	32.2	32.8	31.4	32.0	32.1	4°28
	9	32.1	31.9	31.9	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	32.1	32.5	32.7	32.4	30.7	33.2	36.0	35.4	35.7	33.1	5°09
	11	33.8	32.0	32.3	33.0	33.0	32.2	31.8	29.1	30.5	30.7	29.9	32.2	31.7	4°12
	12	32.9	33.0	32.0	32.9	32.4	33.2	33.2	31.0	31.3	33.0	33.6	33.9	32.7	4°53
	13	34.2	31.4	32.0	32.9	33.2	33.7	34.3	31.2	31.2	32.6	31.8	31.2	32.5	4°45
	14	32.1	31.9	32.0	32.3	32.9	32.3	32.8	30.0	33.0	35.4	33.9	32.7	32.6	4°09
	15	33.2	31.4	30.1	33.9	33.9	32.5	33.1	31.8	33.6	34.6	34.5	33.8	33.0	5°05
	16	32.2	31.8	32.2	—	—	—	—	—	—	—	—	—	—	—
	17	—	—	—	32.5	32.9	32.0	33.6	32.5	32.6	33.1	32.0	32.2	32.5	4°45
	18	34.0	33.0	33.0	33.1	33.1	33.0	33.0	31.7	32.5	33.5	34.4	34.1	33.2	5°13
	19	33.5	33.0	33.0	33.1	33.6	33.5	32.3	30.7	31.5	31.6	32.1	33.6	32.6	4°49
	20	33.1	32.4	32.7	32.7	32.6	32.4	34.2	32.2	33.4	33.4	32.6	33.5	32.9	5°01
	21	33.0	32.4	31.9	32.9	33.0	33.0	34.2	30.7	32.4	32.4	31.7	33.5	32.6	4°49
	22	33.1	32.4	32.9	32.9	34.1	34.1	34.0	33.9	32.2	32.3	32.3	32.0	33.0	5°05
	23	34.0	33.0	32.7	—	—	—	—	—	—	—	—	—	—	—
	24	—	—	—	32.7	32.9	33.0	33.9	32.6	31.7	32.1	33.3	34.0	33.0	5°05
	25	33.1	32.5	32.6	33.0	33.5	33.3	33.6	31.9	31.8	33.8	34.2	32.6	33.0	5°05
	26	32.9	32.6	32.9	33.4	33.3	33.5	33.9	34.9	32.5	32.9	32.6	32.5	33.1	5°09
	27	33.0	33.0	32.5	33.5	33.9	33.8	33.5	32.8	31.8	31.0	32.2	33.2	32.8	4°57
	28	32.1	32.7	33.0	33.8	34.0	33.6	34.6	33.8	32.8	32.8	32.8	33.1	33.3	5°17
	29	33.3	32.7	32.7	33.5	34.1	34.0	35.3	32.2	31.5	30.1	31.7	33.0	32.8	4°57
Hourly Means.....	32.8	32.3	32.2	32.8	33.1	32.9	33.3	31.7	32.2	33.0	32.7	32.9	32.7	4°49	
Declination = 1°30' +	4 57	4 36	4 32	4 57	5 09	5 01	5 17	4 12	4 32	5 05	4 53	5 01	4 51		
Diurnal Oscillations..	0 45	0 24	0 20	0 45	0 57	0 49	1 05	0	0 20	0 53	0 41	0 49	0 39		

$$a. \left(1 + \frac{H}{P}\right) = 40.7 \times 1.000311 = 40.7127$$

$$a. = 1.36.47 \text{ East of North.}$$

Zero.. September.. 35.4

Zero.. October.. 35.4

DECLINATION MAGNETOMETER.

Gottingen Mean Time.	Noon. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23																								Daily and Monthly Means.	Declination 1.30 +
	Singapore Mean Time.																									
	A.m. A.m.																									
	6 16 7 16 8 16 9 16 10 16 11 16 12 16 13 16 14 16 15 16 16 16 17 16 18 16 19 16 20 16 21 16 22 16 23 16 0 16 1 16 2 16 3 16 4 16 5 16																									
	sc.d. sc.d.																									
1	32.2 32.2 31.8 32.1 32.1 32.0 32.3 32.6 32.7 30.8 33.1 33.1 34.9 34.6 33.5 32.2 32.0 31.6 31.3 31.9 34.7 35.3 34.2 34.3																								32.8	5.01
2	33.1 32.5 32.5 32.7 31.5 33.4 32.5 31.7 31.4 32.0 32.3 34.0 34.9 34.3 32.4 31.3 30.4 29.9 30.6 31.6 31.3 33.1 33.6 33.1																								32.3	4.40
3	33.8 32.9 32.6 32.6 32.7 32.4 32.0 32.5 32.4 32.9 32.9 34.3 34.4 32.8 31.9 31.8 33.0 34.0 33.9 33.1 33.0 33.7 34.0																								33.0	5.09
4	33.0 32.5 32.3 32.3 32.6 32.1 32.2 32.0 32.5 32.9 32.9 32.9 34.1 35.2 33.3 31.9 31.5 31.3 31.9 31.0 31.6 33.4 34.0 33.6																								32.6	4.53
5	33.7 33.0 33.1 32.8 32.3 32.4 32.8 33.0 32.3 32.6 33.2 33.0 34.5 34.7 32.6 31.2 31.6 31.4 31.5 31.6 32.2 33.4 33.6 33.7																								32.7	4.57
6	33.3 33.2 32.7 32.5 32.5 32.4 32.6 33.0 32.9 32.9 32.9 33.0 34.7 35.0 34.1 31.9 31.1 30.8 30.7 30.6 30.5 32.6 33.5 33.5																								32.6	4.53
7	33.1 32.6 32.7 32.3 32.8 32.9 32.9 32.9 33.0 32.7 32.6 33.2 34.4 34.3 32.1 30.7 29.9 30.6 31.9 30.9 31.5 31.9 33.5 33.9																								32.5	4.49
8	34.0 33.2 33.0 33.0 33.0 33.1 32.6 33.0 32.9 32.3 32.8 32.9 33.6 33.7 33.1 33.0 31.9 31.4 31.3 31.9 31.8 32.1 32.6 33.7																								32.7	4.57
9	33.8 33.0 32.6 32.2 32.1 32.7 32.6 32.6 33.3 33.1 33.4 34.0 34.7 33.0 32.8 32.0 32.5 32.6 31.9 32.1 32.9 33.7 33.5																								32.9	5.05
10	33.1 33.0 32.4 32.4 32.4 32.7 32.5 32.3 32.3 32.5 33.1 33.9 34.3 34.2 33.6 32.9 32.4 32.2 32.0 32.0 32.7 33.8 33.8 33.8																								32.9	5.05
11	33.0 32.8 32.1 32.2 32.0 33.0 33.0 33.0 33.0 32.8 32.6 32.5 34.5 34.8 32.4 29.0 29.4 30.0 30.4 31.0 32.0 32.6 33.2 32.6																								32.2	4.36
12	32.9 32.8 32.9 32.4 32.0 32.9 33.0 32.9 32.8 32.8 33.4 33.9 34.2 33.5 31.7 30.4 29.5 30.0 31.9 32.2 33.1 32.8 32.8 33.2																								32.5	4.49
13	33.0 32.9 32.9 32.8 32.7 32.3 32.3 32.7 33.1 33.1 33.2 33.3 34.3 33.2 31.0 29.5 29.1 30.0 32.1 31.7 32.3 32.9 33.1 33.7																								32.4	4.45
14	33.8 33.8 33.1 33.0 32.3 32.5 32.2 32.4 32.7 32.6 32.7 32.9 34.2 33.7 31.9 30.0 30.0 31.2 32.2 32.5 32.2 33.6 33.8 34.3																								32.6	4.53
15	34.0 33.5 33.1 32.3 32.4 32.9 33.1 33.1 33.3 33.1 31.5 34.0 33.3 32.9 31.2 30.5 29.6 30.0 30.7 31.3 32.0 33.0 33.5																								32.3	4.40
16	33.4 33.6 33.2 33.0 32.8 32.8 32.8 33.0 33.8 33.8 33.7 33.7 34.6 32.9 32.1 29.7 29.0 28.9 29.0 30.9 31.6 33.2 33.5 34.0																								32.5	4.49
17	33.1 33.3 32.7 32.5 32.3 33.0 33.4 33.9 34.0 34.2 34.5 34.9 35.5 34.6 31.2 28.6 28.9 29.5 30.8 33.7 35.1 35.1 34.7 33.7																								33.0	5.09
18	33.2 33.1 32.6 32.3 32.9 33.1 33.6 33.6 34.1 33.9 34.6 35.0 34.7 33.5 30.4 30.0 29.9 31.0 32.2 33.2 33.4 33.8 33.9 33.4																								33.0	5.09
19	33.9 33.9 32.8 33.0 33.3 33.3 33.5 33.8 34.6 34.4 34.6 35.1 34.9 33.0 31.6 30.6 31.8 32.1 34.1 35.4 34.3 34.7 34.1 34.9																								33.6	5.33
20	34.6 33.8 33.5 33.5 33.8 33.7 33.4 34.1 34.5 34.0 34.6 34.1 34.9 34.0 32.0 30.4 31.5 31.8 31.8 32.1 32.4 32.3 33.0 33.6																								33.2	5.17
21	33.9 33.9 33.6 33.6 33.2 33.8 34.1 32.5 32.2 32.4 32.4 34.4 32.7 32.0 30.5 30.6 30.6 30.5 31.6 30.9 31.0 31.2 31.9																								32.3	4.40
22	31.6 31.5 31.2 31.5 31.8 31.3 31.2 30.8 31.0 30.9 31.0 30.7 29.3 28.6 28.1 28.1 29.5 28.2 28.0 28.7 28.5 28.7 28.2 27.4																								29.8	2.59
23	27.9 28.4 28.7 28.4 28.0 29.0 29.0 28.8 28.8 28.4 29.1 28.8 28.3 27.5 26.9 31.1 31.5 33.0 33.1 33.7 33.3 33.6																								29.8	2.59
24	33.8 32.2 32.2 31.9 31.9 32.2 32.0 31.7 31.5 32.9 32.2 31.6 31.0 31.0 31.9 32.7 31.7 32.2 33.0 33.5 32.8																								32.2	4.36
25	32.8 31.9 31.8 32.4 31.6 32.0 32.2 32.2 32.0 32.7 32.4 31.7 30.0 29.9 29.9 30.7 31.2 31.9 32.1 32.5 32.5 32.1																								31.7	4.16
26	32.0 32.2 30.5 31.1 30.9 30.7 30.6 31.4 31.1 31.0 32.7 32.1 30.4 29.4 29.5 30.3 30.5 30.8 31.3 32.1 32.5 32.1																								31.1	3.52

Hourly Means.....	33.1 32.8 32.4 32.3 32.2 32.4 32.5 32.8 32.6 32.5 32.8 33.3 33.9 33.4 31.8 30.6 30.4 30.8 31.4 31.9 32.2 32.9 33.2 33.2	32.4	4.43
Declination=1.30 +	5 13 5 01 4 45 4 40 4 36 4 45 4 49 5 01 4 53 4 49 5 01 5 21 5 46 5 25 4 20 3 31 3 23 3 39 4 04 4 24 4 36 5 05 5 17 5 17	4 44	
Diurnal Oscillations.	1 50 1 38 1 22 1 17 1 13 1 22 1 26 1 38 1 30 1 26 1 38 1 58 2 23 2 02 0 57 0 08 0 0 0 16 0 41 1 01 1 13 1 42 1 54 1 54	1 21	

Gottingen Mean Time.	Noon. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23																								Daily and Monthly Means.	Declination 1.30 +
	Singapore Mean Time.																									
	A.m. A.m.																									
	6 16 7 16 8 16 9 16 10 16 11 16 12 16 13 16 14 16 15 16 16 16 17 16 18 16 19 16 20 16 21 16 22 16 23 16 0 16 1 16 2 16 3 16 4 16 5 16																									
	sc.d. sc.d.																									
1	32.7 31.8 31.3 31.0 30.9 32.3 32.9 31.9 32.5 31.6 30.8 31.1 31.3 32.1 32.9 33.7 33.5 33.0 33.0 33.1																								32.1	4.32
2	33.0 32.6 32.5 32.4 32.2 32.1 32.0 32.2 33.1 32.7 33.5 33.1 31.7 32.2 33.0 33.7 35.0 35.0 34.0 33.0 32.5 32.7																								32.9	5.05
3	32.5 32.3 32.0 32.0 31.9 32.2 32.9 32.8 32.5 32.3 32.1 30.6 29.2 29.3 30.9 32.4 33.3 33.5 32.2 32.4 31.7 31.5																								31.9	4.24
4	31.8 32.0 32.0 32.4 32.6 33.0 33.0 33.9 34.0 34.0 32.8 31.4 30.5 30.8 31.6 33.0 33.9 34.0 33.5 33.4 33.5 33.4																								32.7	4.57
5	33.8 34.0 33.9 33.8 33.7 33.0 34.0 33.8 33.8 33.7 32.0 31.0 30.4 30.8 31.1 31.9 33.6 34.7 36.0 35.7 34.4 33.1																								33.3	5.21
6	32.5 33.2 34.1 32.6 33.8 33.9 33.3 33.7 34.0 34.0 30.9 30.6 29.4 28.9 29.0 32.0 35.2 37.2 37.5 37.1 35.1 34.1																								33.3	5.21
7	34.3 34.1 33.9 33.6 34.0 33.7 33.5 33.3 34.1 33.1 33.0 32.0 32.1 32.2 33.5 35.0 36.0 35.9 35.1 35.0																								33.9	5.46
8	34.8 34.1 34.0 33.8 33.8 33.9 34.0 33.7 33.7 32.4 31.4 31.0 30.9 31.2 32.5 33.9 35.3 36.9 35.9 34.9 34.6																								33.6	5.33
9	34.6 34.3 34.1 34.0 34.0 33.8 33.9 33.9 33.8 33.6 32.6 32.0 31.3 31.0 32.4 32.3 33.7 35.3 36.6 36.9 35.7 35.1																								33.8	5.41
10	34.9 34.6 34.5 32.9 34.0 34.3 34.4 33.8 33.7 32.0 33.7 33.8 33.7 32.0 33.7 33.9 34.1 35.1 35.9 35.4 35.1 33.8 33.9																								33.9	5.46
11	35.7 34.9 34.4 34.2 32.6 34.2 33.9 34.0 34.4 33.9 33.4 32.1 31.8 31.1 33.9 34.1 35.1 35.9 35.4 35.1 33.8 33.9																								33.9	5.46
12	34.0 34.0 34.0 33.9 33.4 33.3 33.5 33.9 33.9 33.7 32.5 32.1 32.0 32.0 32.1 33.8 35.3 36.5 36.5 35.1 34.9 34.6																								33.8	5.41
13	34.5 34.2 34.0 33.2 33.5 32.1 33.5 33.9 34.9 33.0 32.6 32.5 32.5 32.6 33.8 34.3 34.6 34.9 34.9 34.8 34.3																								33.7	5.27
14	33.9 33.2 32.6 32.8 32.7 32.9 32.7 33.9 34.4 33.5 32.6 31.8 31.9 31.6 32.0 33.1 34.3 34.7 35.3 35.2 35.0 33.5																								33.3	5.21
15	33.2 33.3 33.2 33.3 33.1 33.3 33.4 33.8 34.0 34.1 34.3 32.6 30.6 30.0 29.7 31.9 33.2 34.0 34.2 34.4 33.7 33.0																								33.0	5.09
16	33.0 32.7 32.7 33.0 33.2 33.1 33.2 33.7 33.9 33.9 33.2 32.6 31.5 30.6 29.7 29.5 31.3 32.9 32.9 34.1 34.2 33.9 33.9																								32.7	4.57
17	33.3 32.9 32.8 32.7 32.9 33.0 33.4 33.8 33.4 33.4 33.0 33.0 32.0 31.4 31.0 31.3 33.1 34.8 35.3 35.3 34.9 34.1 33.5																								33.2	5.17
18	33.3 33.2 33.0 32.8 32.7 33.0 33.4 33.8 33.4 33.0 31.6 31.0 31.2 31.0 30.6 31.6 33.9 34.0 34.1 33.7 33.2 33.1																								32.7	4.57
19	33.2 33.4 33.1 33.0 32.9 32.1 32.5 32.5 31.6 30.5 30.3 30.9 31.0 32.0 32.0 33.2 34.9 34.1 34.0 34.2 34.4																								32.6	4.53
20	34.3 33.9 33.0 32.8 32.9 33.0 33.0 32.5 32.8 31.9 31.4 31.2 30.6 31.0 32.0 32.9 32.9 33.9 34.0 33.9 33.6																								32.7	4.57
21	33.6 33.2 33.0 32.8 32.5 32.4 32.5 31.9 32.5 32.3 32.2 31.4 31.4 30.9 31.4 31.6 32.1 33.1 33.5 34.4 34.5 34.0																								32.6	4.53
22	34.0 33.6 33.0 32.6 32.4 32.4 32.5 32.3 32.0 32.4 33.1 31.2 30.5 29.9 28.9 30.3 31.3 32.6 34.0 33.7 34.4 34.3																								32.3	4.40
23	34.2 33.5 33.0 32.5 32.1 32.0 32.2 32.0 32.5 32.5 32.3 31.1 30.2 29.6 30.0 31.9 33.4 34.9 36.0 34.6 33.9 33.8																								32.6	4.53
24	33.8 33.5 32.8 32.7 33.0 33.0 32.9 32.6 33.0 32.7 32.7 31.9 31.3 31.1 30.1 31.2 32.0 32.3 32.8 33.5 33.0 33.0																								32.5	4.49
25	33.3 33.7 33.1 32.8 32.7 32.5 32.1 32.2 32.3 31.7 32.0 32.5 32.6 33.0 34.2 35.1 34.8 34.5 33.9 32.7 32.8																								33.0	5.09
26	33.3 33.0 32.8 32.5 32.1 32.1 32.5 32.6 32.6 32.3 31.2 31.1 31.0 32.0 32.7 34.7 35.0 34.3 33.4 33.0 32.1 32.2																								32.6	4.53

Hourly Means.....	33.6 33.4 33.2 32.9 32.9 33.0 33.0 33.1 33.3 33.1 32.5 31.7 31.2 31.0 31.3 32.5 33.8 34.4 34.7 34.5 33.9 33.6	33.0	5.10
Declination=1.30 +	5 33 5 25 5 17 5 05 5 05 5 09 5 09 5 13 5 21 5 13 4 49 4 16 3 56 3 47 4 00 4 49 5 41 6 06 6 18 6 10 5 46 5 33	5 10	
Diurnal Oscillations.	1 46 1 38 1 30 1 18 1 18 1 22 1 22 1 26 1 34 1 26 1 02 0 29 0 09 0 0 0 13 1 02 1 54 2 19 2 31 2 23 1 59 1 46	1 23	

a. The collimating thread of the Reading Telescope is broken.

SINGAPORE 1842. MAGNETICAL OBSERVATIONS.

		HORIZONTAL FORCE MAGNETOMETER.												sc. div. ther.			
		$g = \frac{0.002142}{0.001946} = 1.1007$												Zero.. 101.4 80.0			
		$k = a. \cot v = 0.003136 \times \cot 58^\circ 10' 30'' = 0.001946$															
		$g = 0.002142$															
		HORIZONTAL FORCE MAGNETOMETER.															
Gottingen Mean Time.	Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$1 + \frac{\Delta X}{X}$	
Singapore Mean Time.	H. M. 6-16	H. M. 8-16	H. M. 10-16	H. M. 12-16	H. M. 14-16	H. M. 16-16	H. M. 18-16	H. M. 20-16	H. M. 22-16	H. M. 0-16	H. M. 2-16	H. M. 4-16	sc. d.	sc. d.	sc. d.	1.00	
HORIZONTAL FORCE MAGNETOMETER. JANUARY 1842.	1	91.6	91.0	91.2	—	—	—	—	—	—	—	—	—	—	—	—	
	2	—	—	—	89.7	89.8	88.7	87.9	85.9	83.1	84.0	87.9	89.8	88.4	0.8	80.2	2375
	3	90.8	91.0	89.3	89.3	87.5	88.8	89.2	87.4	84.7	85.9	87.6	88.4	88.3	-0.2	88.1	2589
	4	88.4	89.5	89.0	88.6	89.5	88.5	83.6	86.8	84.5	84.4	87.3	89.7	87.5	-0.4	87.1	2783
	5	92.9	89.6	88.9	83.8	88.3	88.9	88.3	87.2	84.6	86.4	89.0	91.9	88.3	-1.3	87.0	2802
	6	91.4	92.2	91.6	91.7	90.9	90.7	89.5	87.1	86.4	88.0	91.5	93.0	90.3	-1.2	89.1	2394
	7	92.9	94.1	95.0	91.5	92.5	92.3	91.0	90.2	88.8	89.6	91.9	—	91.8	-1.5	90.3	2161
	8	95.5	94.6	93.9	—	—	—	—	—	—	—	—	—	—	—	—	—
	9	—	—	—	82.7	83.5	83.9	82.6	81.2	79.2	82.0	84.9	86.9	85.9	-2.1	83.8	3425
	10	87.3	87.5	87.5	86.2	84.8	84.0	83.5	80.7	81.0	85.0	86.6	86.9	85.1	-1.2	83.9	3405
	11	86.3	86.8	88.5	84.7	86.0	85.0	85.0	84.1	82.1	85.1	87.2	87.4	85.7	0.3	86.0	2997
	12	86.2	86.2	85.8	85.3	86.1	85.3	84.4	81.6	79.3	81.4	83.9	85.2	84.2	1.5	85.7	3055
	13	84.2	83.6	85.8	84.4	85.1	85.8	85.8	84.2	85.0	85.0	86.6	87.1	85.2	2.6	87.8	2648
	14	87.0	86.8	86.6	87.1	86.3	85.2	85.5	83.5	81.0	81.7	85.3	85.5	85.1	1.0	86.1	2977
	15	86.0	85.3	87.0	—	—	—	—	—	—	—	—	—	—	—	—	—
	16	—	—	—	87.5	88.6	86.5	85.7	82.4	79.8	81.1	84.2	86.7	85.1	0.8	85.9	3016
	17	87.3	87.5	87.0	88.4	87.3	85.7	85.0	82.3	79.0	81.0	80.0	86.0	84.7	0.7	85.4	3114
	18	86.8	87.0	85.5	90.7	87.0	87.7	87.1	85.2	82.2	85.4	85.9	88.1	86.5	0.3	86.8	2842
	19	88.3	88.0	87.1	87.6	86.0	86.9	86.5	84.6	82.1	83.8	86.7	86.3	86.1	0.6	86.7	2801
	20	85.0	85.3	84.2	84.0	83.7	84.8	83.4	80.4	76.5	79.2	84.4	85.1	83.0	0.2	83.2	3542
	21	84.3	86.5	85.0	85.1	84.4	82.1	82.5	83.0	80.5	81.6	83.5	87.8	83.8	0.3	84.1	3366
	22	85.4	85.0	85.4	—	—	—	—	—	—	—	—	—	—	—	—	—
	23	—	—	—	84.2	84.1	84.1	83.0	82.9	80.0	82.9	86.7	86.7	84.2	-0.8	83.4	3503
	24	85.4	85.1	86.5	84.5	84.2	84.0	81.9	81.3	77.9	82.5	85.1	86.5	83.8	-1.3	82.5	3678
	25	86.8	86.9	86.1	85.8	83.4	84.4	83.4	81.4	80.7	84.0	85.8	86.1	84.5	-0.7	83.8	3425
	26	85.4	85.1	85.1	84.5	83.4	83.4	82.4	79.5	77.5	79.4	83.7	85.2	82.9	-0.8	82.1	3755
	27	84.1	83.9	84.0	85.1	83.6	85.1	83.9	82.5	84.5	83.3	86.1	86.9	84.4	-1.2	83.2	3542
	28	83.1	82.9	83.1	82.1	83.2	82.4	82.3	80.7	79.0	80.6	84.0	85.1	82.4	-1.0	81.4	3892
	29	85.5	85.4	84.8	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	84.1	84.0	83.4	82.3	79.8	77.0	79.7	83.1	86.4	82.9	-1.2	81.7	3833
	31	86.8	85.0	84.7	83.8	82.4	81.8	80.7	79.0	75.1	79.6	83.4	86.9	82.4	-0.6	81.8	3814
Hourly Means.....	87.5	87.4	87.2	86.2	86.0	85.8	84.8	83.3	81.2	83.2	85.9	87.2	85.5	-0.2	85.2	3146	
Temp. Correction.....	-1.2	-0.3	0.1	0.6	0.8	1.2	1.5	1.0	-0.4	-1.0	-2.2	-1.9	-0.2				
Corrected Means.....	86.3	87.1	87.3	86.8	86.8	87.0	86.3	84.3	80.8	81.3	83.7	85.3	85.3				
Differences.....	1.0	0.2	0	0.5	0.5	0.3	1.0	3.0	6.5	6.0	3.6	2.0	2.0				
Diurnal Oscillation = 0.00	0195	0039	0	0097	0097	0058	0195	0584	1266	1168	0701	0389	0399	$\frac{\Delta X}{X}$			
TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. JANUARY 1842.	1	79.0	79.0	79.0	—	—	—	—	—	—	—	—	—	—	—	—	
	2	—	—	—	76.9	79.8	79.7	78.8	79.0	79.5	80.4	80.6	80.0	79.3			
	3	80.2	80.0	79.8	79.3	78.8	78.7	78.3	79.2	80.9	82.6	82.2	82.2	80.2			
	4	81.1	80.1	79.8	79.8	79.4	79.0	78.8	79.4	80.7	81.8	82.5	82.8	80.4			
	5	82.8	81.5	80.8	80.0	79.4	79.3	79.1	80.0	81.8	82.8	82.9	83.8	81.2			
	6	82.8	81.8	81.2	80.4	79.8	79.2	79.1	79.7	80.8	82.0	83.0	82.8	81.1			
	7	82.6	81.5	81.0	80.4	81.5	80.5	79.3	80.0	81.7	82.8	83.8	—	81.4			
	8	84.8	82.4	81.9	—	—	—	—	—	—	—	—	—	—			
	9	—	—	—	80.2	80.1	79.9	79.3	80.0	82.1	83.7	84.4	84.0	81.9			
	10	83.2	81.9	81.2	81.0	80.3	79.8	79.4	79.8	81.3	81.5	81.8	81.7	81.1			
	11	80.8	80.3	80.0	79.7	79.4	79.2	79.0	79.0	79.0	79.8	79.8	79.8	79.7			
	12	79.6	79.0	79.0	79.0	78.7	78.6	78.5	78.5	78.0	78.1	78.2	77.7	78.6			
	13	77.0	76.8	76.3	76.3	76.5	76.0	76.2	76.8	78.0	80.4	80.4	80.0	77.6			
	14	79.6	79.0	78.6	78.8	78.4	78.2	78.0	78.6	80.2	79.7	79.8	80.1	79.1			
	15	79.8	79.0	78.8	—	—	—	—	—	—	—	—	—	—			
	16	—	—	—	79.2	78.8	78.0	78.0	78.5	80.2	80.9	79.8	80.4	79.3			
	17	79.3	79.4	78.7	78.7	78.2	78.0	78.0	78.6	80.3	82.0	81.2	80.5	79.4			
	18	80.9	80.3	79.3	79.1	78.3	78.5	78.6	79.0	80.3	81.2	80.8	79.8	79.7			
	19	80.0	79.4	79.2	79.0	78.8	78.8	78.2	78.8	79.3	80.5	81.0	80.4	79.5			
	20	80.2	80.0	79.5	79.2	78.8	78.5	78.3	78.7	80.2	81.4	82.0	81.1	79.8			
	21	80.0	79.8	79.3	79.1	78.6	78.0	78.0	77.4	80.4	81.8	81.9	81.6	79.7			
	22	81.0	80.5	80.1	—	—	—	—	—	—	—	—	—	—			
	23	—	—	—	80.0	79.5	79.2	78.7	79.0	80.8	82.7	83.6	83.0	80.7			
	24	82.5	81.2	81.0	80.6	80.2	80.0	80.0	79.9	80.8	82.7	82.7	82.3	81.2			
	25	81.8	81.0	80.5	80.1	79.8	79.0	78.1	78.9	80.7	82.3	82.8	82.4	80.6			
	26	81.8	81.0	80.4	80.0	79.5	79.0	78.9	79.1	80.7	82.4	82.6	83.0	80.7			
	27	81.4	80.0	80.5	80.0	79.7	79.6	79.1	79.9	81.6	83.5	84.4	83.6	81.1			
	28	81.2	80.8	80.0	80.0	79.7	79.4	79.0	79.6	80.6	82.9	84.0	83.3	80.9			
	29	82.7	81.1	80.4	—	—	—	—	—	—	—	—	—	—			
	30	—	—	—	80.6	79.6	79.1	79.2	79.6	80.8	82.4	83.4	83.9	81.1			
	31	83.0	81.0	80.2	79.8	79.0	78.0	78.1	79.0	80.0	81.5	83.1	83.2	80.5			
Means.	81.1	80.3	79.9	79.5	79.3	78.9	78.6	79.1	80.4	81.7	82.0	81.7	80.2				

$k = a \cdot \cot v = .0003136 \times \cot 58^\circ 10' 30'' = .0001946$

$\frac{g}{k} = \frac{.0002142}{.0001946} = 1.1007$

sc. div. ther.

$g = .0002142$

Zero..101.4 80.0

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$1 + \frac{\Delta X}{X}$	
Singapore Mean Time.	H. M. 6:16	H. M. 8:16	H. M. 10:16	H. M. 12:16	H. M. 14:16	H. M. 16:16	H. M. 18:16	H. M. 20:16	H. M. 22:16	H. M. 0:16	H. M. 2:16	H. M. 4:16	sc. d.	sc. d.	sc. d.		
HORIZONTAL FORCE MAGNETOMETER. MARCH 1842.	1	80.7	82.6	83.3	82.0	81.0	79.8	80.0	77.1	75.1	78.3	80.3	81.8	80.1	-0.1	80.0	4165
	2	83.0	84.9	85.8	82.2	80.6	81.0	81.0	78.9	76.0	77.0	79.4	81.7	80.9	-0.1	80.8	4009
	3	81.5	81.2	80.3	80.7	80.5	80.0	80.2	78.3	75.6	77.0	80.0	82.1	79.8	0.7	80.5	4067
	4	81.6	80.5	80.3	81.0	78.5	79.9	80.0	77.9	75.1	78.7	82.0	84.8	80.0	-0.7	79.3	4300
	5	85.1	83.0	83.8	—	—	—	—	—	—	—	—	—	—	—	—	—
	6	—	—	—	84.9	81.8	81.1	80.8	79.5	77.7	81.4	83.9	83.7	82.2	-1.5	80.7	4028
	7	83.4	82.8	82.4	82.0	82.1	82.3	81.4	78.7	77.9	80.8	83.5	83.7	81.8	-2.0	79.8	4204
	8	83.7	84.7	84.0	84.0	82.0	81.3	80.2	78.0	75.4	75.2	79.5	83.8	81.0	-2.0	79.0	4359
	9	82.9	82.6	83.0	81.5	81.9	81.0	80.0	75.9	73.9	76.7	82.1	82.3	80.3	-2.0	78.3	4495
	10	82.3	82.6	82.9	82.4	82.9	80.4	80.4	77.0	73.2	75.0	78.5	79.5	79.7	-1.9	77.8	4593
	11	80.0	81.1	80.7	81.2	80.2	80.1	78.2	74.8	70.4	72.0	78.9	79.0	78.0	-0.6	77.4	4670
	12	78.8	80.0	80.1	—	—	—	—	—	—	—	—	—	—	—	—	—
	13	—	—	—	78.8	79.3	78.3	78.4	75.0	71.9	76.5	81.0	81.9	78.3	-0.7	77.6	4632
	14	82.3	81.5	80.9	79.6	79.6	78.9	78.1	75.8	73.0	73.0	77.9	79.5	78.3	-1.5	76.8	4787
	15	80.5	79.3	80.1	80.7	81.9	82.6	81.6	78.4	73.0	76.6	82.2	81.0	79.8	-2.0	77.8	4593
	16	80.1	79.1	82.7	84.3	84.8	85.5	85.0	82.6	80.6	84.7	86.8	86.8	83.6	-2.6	81.0	3970
	17	86.9	84.9	85.0	85.5	84.4	83.4	83.1	80.9	78.9	81.2	85.6	85.4	83.8	-3.2	80.6	4048
	18	84.9	84.4	83.9	83.4	82.8	82.0	81.0	77.9	76.1	79.1	84.0	85.3	82.1	-2.5	79.6	4243
	19	86.5	89.9	87.6	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	85.9	84.0	83.0	81.3	79.2	80.0	82.9	82.6	83.1	83.8	-1.5	82.3	3716
	21	83.6	83.2	83.0	82.6	82.5	81.0	80.3	76.9	77.0	80.2	82.8	82.8	81.3	-2.3	79.0	4359
	22	82.4	82.7	82.0	83.0	82.5	81.8	80.0	77.2	74.9	75.7	79.1	80.9	80.3	-2.5	77.8	4593
	23	85.1	83.1	81.4	81.2	80.0	78.0	78.5	79.4	77.2	77.0	82.3	87.6	80.9	-1.9	79.0	4359
	24	86.1	84.5	84.0	—	—	—	—	—	—	—	—	—	—	—	—	—
	25	—	—	—	83.4	82.1	81.8	81.6	78.9	76.9	79.6	83.7	84.0	82.2	-2.4	79.8	4204
	26	82.0	81.8	82.2	—	—	—	—	—	—	—	—	—	—	—	—	—
	27	—	—	—	80.0	79.2	82.6	80.7	75.4	77.0	81.2	85.3	86.9	81.2	-2.8	78.4	4476
	28	86.0	84.2	83.9	82.5	82.7	81.0	80.2	76.8	74.2	76.9	81.3	82.8	81.0	-2.0	79.0	4359
	29	83.8	82.0	82.0	82.8	81.6	81.9	81.0	76.8	75.4	77.3	83.1	84.0	81.0	-2.2	78.8	4398
	30	83.9	85.9	84.2	83.5	83.8	82.5	81.3	79.0	77.0	79.3	82.6	84.5	82.3	-2.3	80.0	4165
	31	83.3	82.0	82.4	82.5	81.9	81.8	80.5	78.1	74.5	72.5	77.6	80.0	79.7	-1.0	78.7	4417
Hourly Means.....	83.1	82.9	82.8	82.4	81.7	81.3	80.6	77.8	75.7	77.9	81.8	83.0	80.9	-1.7	79.2	4316	
Temp. Correction.....	-2.6	-1.9	-1.3	-1.2	-0.7	-0.3	-0.0	-0.7	-2.0	-2.8	-3.3	-3.5	-1.7	—	—	—	
Corrected Means.....	80.5	81.0	81.5	81.2	81.0	81.0	80.6	77.1	73.7	75.1	78.5	79.5	79.2	—	—	—	
Differences.....	1.0	0.5	0	0.3	0.5	0.5	0.9	4.4	7.8	6.4	3.0	2.0	2.3	—	—	—	
Diurnal Oscillation=00	0195	0097	0	0058	0097	0097	0175	0857	1518	1247	0584	0389	0443	—	—	—	

TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. MARCH 1842.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.			
	80.3	80.0	79.9	79.9	79.7	79.3	78.0	78.9	80.0	81.4	82.0	81.8	80.1	80.1	80.9	80.3	80.3	80.7	79.8	79.7	79.0	78.5	78.4	79.2	80.0	80.6	81.4	82.0	83.4	83.4	81.4	81.8			
	80.3	80.9	80.3	80.3	79.8	79.8	79.6	79.4	79.8	80.2	80.3	81.0	82.4	82.1	83.0	83.3	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8		
	80.6	80.0	79.8	79.6	79.2	80.2	79.1	80.0	81.2	82.0	82.3	83.4	83.4	81.4	82.2	83.4	83.4	81.4	82.0	84.0	83.4	83.1	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8		
	82.3	81.2	81.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	—	—	—	80.9	81.3	79.8	79.5	80.0	81.4	82.2	83.4	83.4	81.4	82.0	84.0	83.4	83.1	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	
	82.6	82.0	81.5	81.0	80.0	80.7	80.6	81.0	82.0	84.0	83.4	83.1	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	
	82.8	82.2	82.4	81.7	80.4	80.3	80.3	81.0	82.4	82.1	83.0	83.3	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8
	83.0	82.0	81.6	81.0	80.6	79.7	79.7	80.5	82.2	83.3	84.0	83.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8
	83.0	82.5	82.0	81.6	81.4	81.3	80.8	81.0	81.6	82.0	81.7	81.3	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7
	81.2	81.0	80.8	80.2	79.7	79.4	79.2	79.9	80.1	81.2	82.1	80.8	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5
	79.2	79.3	79.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	—	—	—	80.3	80.2	80.0	79.7	80.1	81.5	82.0	82.9	83.1	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6
	82.8	82.0	80.1	80.7	80.1	80.0	79.5	80.3	81.7	83.0	83.1	83.6	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4	81.4
	83.6	82.3	80.2	81.0	80.7	80.2	80.0	80.3	82.5	83.5	84.4	83.2	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8
	83.3	82.8	82.1	81.7	81.0	81.0	80.7	81.0	82.8	83.9	84.6	84.3	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4
	83.5	82.7	82.3	82.0	81.5	81.0	81.1	81.6	83.1	84.8	85.7	84.9	82.9																						

SINGAPORE 1842. MAGNETICAL OBSERVATIONS.

		HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)															
$k = a \cdot \cot v = .0003136 \times \cot 58^\circ 10' 30'' = .0001946$		$\frac{q}{k} = \frac{.0002142}{.0001946} = 1.1007$											sc. div.		ther.		
$q = .0002142$													Zero. 101.4		..... 80.0	
Gottingen Mean Time.	Noon.	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$1 + \frac{\Delta X}{X}$	
Singapore Mean Time.	H. M. 6:16	H. M. 8:16	H. M. 10:16	H. M. 12:16	H. M. 14:16	H. M. 16:16	H. M. 18:16	H. M. 20:16	H. M. 22:16	H. M. 0:16	H. M. 2:16	H. M. 4:16	sc. d.	sc. d.	sc. d.	1.00	
HORIZONTAL FORCE MAGNETOMETER. APRIL 1842.	1	79.9	85.0	83.4	82.4	81.9	79.4	80.3	77.2	76.7	78.0	81.8	83.3	80.8	-1.2	79.6	4243
	2	83.0	83.0	83.1	—	—	—	—	—	—	—	—	—	—	—	—	—
	3	—	—	—	85.0	83.0	79.8	82.0	78.4	76.9	81.0	83.0	84.2	81.9	-2.0	79.9	4184
	4	85.1	82.9	82.7	81.9	81.8	80.7	80.6	79.2	76.4	77.0	81.9	83.4	81.1	-2.2	78.9	4378
	5	82.6	81.0	81.9	80.8	80.5	79.0	80.3	78.0	77.0	80.6	84.0	85.1	80.9	-1.4	79.5	4262
	6	84.0	83.5	83.0	83.0	82.0	81.9	80.2	78.6	74.9	76.0	81.0	83.3	80.9	-2.5	78.4	4476
	7	82.2	81.9	81.9	81.6	82.0	81.3	79.6	76.4	74.8	75.9	81.1	82.4	80.1	-2.9	77.2	4709
	8	81.6	80.6	80.0	79.8	80.4	79.2	80.1	79.6	75.2	76.9	81.3	82.6	79.8	-1.4	78.4	4476
	9	81.9	81.2	81.2	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	78.5	81.3	81.3	79.0	77.3	76.9	80.6	84.2	91.0	81.2	-1.2	80.0	4165
	11	91.3	85.9	87.9	86.3	83.0	82.3	78.3	77.3	78.0	81.2	84.4	83.9	83.3	-0.7	82.6	3659
	12	86.2	89.1	84.0	84.3	79.5	82.3	78.9	76.4	76.9	77.9	84.7	98.4	83.2	—	—	—
	13	97.5	96.4	90.3	88.0	85.2	84.1	83.1	81.0	78.9	81.2	85.1	86.2	86.4	—	—	—
	14	87.5	86.0	85.4	84.9	84.5	83.0	82.9	76.1	85.0	93.1	105.2	98.1	87.6	—	—	—
	15	98.5	91.6	92.4	91.0	90.2	86.1	86.0	87.8	84.9	90.0	95.7	94.8	90.7	—	—	—
	16	91.0	89.9	88.9	—	—	—	—	—	—	—	—	—	—	—	—	—
	17	—	—	—	85.9	84.7	84.6	83.5	79.5	77.7	79.7	82.0	84.0	84.3	-2.1	82.2	3736
	18	87.5	87.0	86.8	85.6	84.2	82.1	81.2	80.0	78.6	82.1	85.8	88.8	84.1	-2.8	81.3	3911
	19	90.0	89.2	86.9	85.5	84.7	84.5	83.4	81.3	78.5	79.8	82.4	84.7	84.2	-2.0	82.2	3736
	20	84.1	85.9	85.0	84.6	85.2	83.1	81.6	76.8	82.1	81.2	84.7	83.6	83.2	-1.4	81.8	3814
	21	87.7	85.6	81.9	84.2	84.3	83.2	82.5	80.5	79.4	80.6	83.7	85.3	83.2	-2.0	81.2	3931
	22	84.8	84.0	84.7	83.3	83.1	81.4	81.3	79.5	76.5	85.8	83.6	84.1	82.7	-2.6	80.1	4145
	23	84.0	83.5	83.8	—	—	—	—	—	—	—	—	—	—	—	—	—
	24	—	—	—	83.0	81.9	81.6	80.6	78.7	77.0	77.7	80.0	83.5	81.3	-2.5	78.8	4398
	25	83.2	83.5	79.9	78.8	78.5	78.0	78.3	75.6	73.9	75.2	78.1	79.5	78.5	-3.0	75.5	5040
	26	80.0	80.0	79.9	80.1	79.3	78.9	78.9	77.0	73.6	73.9	77.0	80.5	78.3	-2.4	75.9	4962
	27	82.3	81.7	81.0	82.1	80.1	81.0	79.4	77.7	75.5	81.7	79.2	80.0	80.1	-3.2	76.9	4767
	28	79.9	80.0	80.3	79.8	79.2	79.2	78.3	76.9	74.0	77.8	81.0	81.4	79.0	-2.3	76.7	4806
	29	80.8	80.3	80.2	80.8	81.8	80.8	80.1	78.4	74.2	75.9	79.1	80.9	79.4	-2.4	77.0	4748
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hourly Means.....	84.1	83.6	83.1	82.5	82.0	81.1	80.4	78.3	76.5	79.0	81.9	83.6	81.3	-2.1	79.2	4312	
Temp. Correction.	-3.0	-2.5	-2.0	-1.5	-1.0	-0.7	-0.3	-1.1	-2.3	-3.3	-3.9	-3.7	-2.1	—	—	—	
Corrected Means.....	81.1	81.1	81.1	81.0	81.0	80.4	80.1	77.2	74.2	75.7	78.0	79.9	79.2	—	—	—	
Differences.....	0	0	0	0.1	0.1	0.7	1.0	3.9	6.9	5.4	3.1	1.2	1.9	—	—	—	
Diurnal Oscillation=.00	0	0	0	0019	0019	0136	0195	0759	1344	1052	0603	0234	0363	$= \frac{\Delta X}{X}$	—	—	
TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. APRIL 1842.	1	81.0	80.6	80.3	80.0	79.9	79.4	79.5	81.5	82.0	82.2	82.7	83.8	81.1	—	—	
	2	83.3	82.4	82.2	—	—	—	—	—	—	—	—	—	—	—	—	
	3	—	—	—	83.0	81.4	81.0	80.7	80.0	80.3	81.5	82.6	83.2	81.8	—	—	
	4	83.2	82.2	81.4	80.9	80.3	80.0	80.0	80.7	82.8	84.1	84.4	83.5	82.0	—	—	
	5	81.8	80.7	81.1	80.6	80.0	79.8	79.4	80.4	81.8	83.2	83.2	83.1	81.3	—	—	
	6	83.0	82.3	82.2	81.9	81.5	80.5	80.1	81.0	82.0	83.5	84.7	84.7	82.3	—	—	
	7	83.0	83.0	83.0	82.4	82.3	81.5	81.0	81.3	82.5	84.0	84.0	83.7	82.6	—	—	
	8	82.0	82.3	81.3	80.7	80.5	80.1	80.1	80.7	81.1	82.0	82.1	82.3	81.3	—	—	
	9	82.7	82.7	80.9	—	—	—	—	—	—	—	—	—	—	—	—	
	10	—	—	—	80.5	80.2	79.7	79.6	80.8	81.5	81.1	81.7	81.6	81.1	—	—	
	11	80.9	80.4	80.5	80.0	80.0	79.2	79.0	79.4	80.7	81.7	82.7	82.4	80.6	—	—	
	12	82.2	81.2	80.7	80.0	80.3	79.3	78.3	78.8	81.0	82.2	82.3	82.8	80.8	—	—	
	13	82.0	81.6	81.4	81.0	81.7	80.6	80.0	80.2	82.0	82.9	83.7	84.1	81.8	—	—	
	14	83.8	82.5	82.3	82.0	81.7	81.3	81.0	81.8	83.0	84.0	85.0	84.3	82.7	—	—	
	15	83.1	81.9	81.9	81.5	81.0	80.2	79.3	80.0	81.2	82.0	82.9	82.8	81.6	—	—	
	16	82.3	82.0	81.6	—	—	—	—	—	—	—	—	—	—	—	—	
	17	—	—	—	81.3	80.2	80.6	80.2	81.0	82.0	83.0	84.0	84.0	81.9	—	—	
	18	83.5	83.0	83.0	81.9	81.2	80.8	80.3	81.6	83.0	83.4	84.0	84.5	82.5	—	—	
	19	84.0	83.2	82.2	81.1	81.1	81.0	81.0	80.7	81.0	81.0	82.6	83.1	81.8	—	—	
	20	82.9	81.9	81.5	81.4	80.8	80.4	79.8	79.8	80.5	81.5	82.3	82.8	81.3	—	—	
	21	82.6	82.0	81.5	81.3	81.0	80.5	79.9	81.0	82.0	82.5	83.6	83.4	81.8	—	—	
	22	83.1	83.0	82.5	81.9	81.6	80.8	80.0	80.6	82.0	83.9	84.9	84.0	82.4	—	—	
	23	82.3	82.0	82.2	—	—	—	—	—	—	—	—	—	—	—	—	
	24	—	—	—	82.5	80.5	81.0	81.0	81.1	83.4	84.2	83.3	84.0	82.3	—	—	
	25	83.4	84.2	82.8	81.8	81.9	81.5	81.7	81.9	83.0	83.4	83.0	83.5	82.7	—	—	
	26	83.0	82.3	81.6	81.0	80.9	80.5	80.3	81.5	83.0	83.5	84.6	84.5	82.2	—	—	
	27	83.9	83.5	83.0	82.2	82.0	81.6	81.3	82.1	84.0	84.9	83.6	82.5	82.9	—	—	
	28	81.8	82.3	81.7	81.5	81.0	80.9	80.3	81.2	82.4	84.0	84.6	83.5	82.1	—	—	
	29	82.5	82.7	81.6	81.2	81.0	80.8	80.6	82.5	82.5	83.7	84.0	83.2	82.2	—	—	
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Means.	82.7	82.3	81.8	81.4	80.9	80.6	80.3	81.0	82.1	83.0	83.5	83.4	81.9	—	—	—	

The observations of the 12th, 13th, 14th and 15th, April are omitted in the hourly means.

$k = a. \cot v = .0003136 \times \cot 58^\circ 10' 30'' = .0001946$

$\frac{g}{k} = \frac{.0002142}{.0001946} = 1.1007$

sc. div. ther.

$g = .0002142$

Zero.. 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.		Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$1 + \frac{\Delta X}{X}$	
Singapore Mean Time.		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	sc. d.	sc. d.	sc. d.	1.00	
		6.16	8.16	10.16	12.16	14.16	16.16	18.16	20.16	22.16	0.16	2.16	4.16					
HORIZONTAL FORCE MAGNETOMETER.	April	30	82.0	82.3	81.9	—	—	—	—	—	—	—	—	78.0	—2.0	76.0	4943	
	1	—	—	—	78.6	78.2	77.9	77.0	76.1	74.0	74.0	76.0	77.6	77.0	—1.3	75.7	5001	
	2	81.1	79.8	74.0	78.9	78.7	78.1	77.5	73.5	71.4	74.3	77.7	78.9	78.3	—1.8	76.5	4845	
	3	79.1	80.3	82.0	80.5	79.2	78.3	77.2	75.5	73.0	75.0	78.9	80.2	77.6	—2.4	75.2	5099	
	4	79.5	79.6	78.9	78.8	78.6	78.4	78.0	76.0	72.5	72.9	77.4	80.8	78.1	—2.4	75.7	5001	
	5	81.0	81.3	81.6	79.7	79.4	78.5	78.2	75.5	72.0	74.3	75.4	80.0	80.6	—2.8	77.8	4593	
	6	80.4	78.5	82.4	83.8	83.3	82.0	79.9	77.5	76.9	78.1	82.7	81.9	—	—	—	—	
	7	82.7	84.5	84.8	—	—	—	—	—	—	—	—	—	80.6	—2.3	78.3	4495	
	8	—	—	—	81.1	80.9	81.3	79.7	76.4	74.7	76.9	81.4	83.1	80.0	—2.1	77.9	4573	
	9	82.4	81.4	82.0	82.0	81.3	80.4	78.9	75.9	73.7	77.3	82.0	83.0	80.8	—2.2	78.6	4437	
	10	81.9	82.0	82.2	79.1	80.4	79.7	78.6	76.4	76.0	79.5	85.8	87.8	84.0	—3.0	81.0	3970	
	11	85.7	86.5	86.5	84.5	87.6	84.0	82.3	79.9	78.9	81.3	84.6	86.2	80.6	—3.3	77.3	4689	
	12	86.6	85.3	85.0	85.1	79.1	76.7	80.0	76.3	75.0	76.3	80.2	81.7	80.6	—3.4	77.2	4709	
	13	81.6	80.6	81.5	85.9	82.6	84.1	79.6	76.5	74.3	77.0	80.1	83.5	—	—	—	—	
	14	83.0	82.7	82.4	—	—	—	—	—	—	—	—	—	81.7	—2.3	79.4	4281	
	15	—	—	—	86.3	84.8	79.9	78.4	80.2	77.3	80.0	82.4	82.6	91.6	—	—	—	—
	16	94.9	102.7	101.5	96.9	95.4	93.1	84.6	81.7	84.0	84.5	86.1	94.1	88.4	—2.2	86.2	2958	
	17	93.8	92.2	90.8	89.3	88.1	87.6	87.0	84.3	84.1	84.9	88.5	91.0	88.1	—2.8	85.3	3133	
	18	89.4	91.6	80.4	87.8	98.1	96.3	86.9	85.2	84.0	84.2	86.1	87.1	88.0	—	—	—	—
	19	90.5	92.0	96.8	89.1	89.3	89.0	88.5	86.0	83.5	83.2	85.0	83.0	79.2	—0.7	78.5	4456	
	20	80.6	81.4	81.1	79.8	79.2	79.4	78.0	77.0	75.4	76.4	80.2	82.4	—	—	—	—	—
	21	83.0	82.1	88.5	—	—	—	—	—	—	—	—	—	88.2	—1.9	86.3	2938	
	22	—	—	—	96.2	91.1	87.4	84.7	83.0	88.6	89.4	92.1	92.1	83.6	—3.4	80.2	4126	
	23	90.6	91.8	90.4	79.7	—	—	80.4	79.0	78.1	79.5	82.6	83.7	80.8	—4.0	76.8	4787	
	24	83.1	82.2	82.6	82.2	81.4	81.7	79.5	77.9	76.5	78.6	80.4	84.0	81.0	—3.5	77.5	4651	
	25	83.4	83.0	82.6	82.3	79.9	80.1	79.1	80.3	79.4	79.2	80.3	83.0	76.9	—4.1	72.8	5566	
	26	83.0	83.0	82.0	72.5	72.0	71.0	73.5	75.9	75.3	76.6	78.2	79.4	78.4	—3.9	74.5	5235	
	27	79.4	81.7	80.7	80.0	79.5	78.8	76.8	74.9	73.0	74.9	79.3	82.2	—	—	—	—	—
	28	81.0	79.5	79.0	—	—	—	—	—	—	—	—	—	79.6	—3.7	75.9	4962	
	29	—	—	—	—	80.0	79.0	80.4	77.2	76.1	78.7	82.0	83.0	80.6	—5.4	75.2	5099	
	30	82.6	82.0	81.3	81.2	81.0	81.0	79.1	79.0	77.1	78.4	82.0	83.2	80.5	—5.8	74.7	5196	
31	82.4	82.0	82.8	81.8	80.6	79.5	79.3	79.6	78.0	77.3	80.0	82.9	80.9	—2.9	78.0	4550		
Hourly Means		83.2	83.1	82.7	82.4	81.9	80.9	79.6	77.9	76.6	78.2	81.4	83.2	78.0	—	—	—	
Temp. Correction		—3.7	—3.3	—2.9	—2.2	—1.8	—1.4	—1.1	—1.9	—3.3	—4.2	—4.6	—4.2	2.1	—	—	—	
Corrected Means		79.5	79.8	79.8	80.2	80.1	79.5	78.5	76.0	73.3	74.0	76.8	79.0	—	—	—	—	
Differences		0.7	0.4	0.4	0	0.1	0.7	1.7	4.2	6.9	5.8	3.4	1.2	—	—	—	—	
Diurnal Oscillation = .00		0136	0078	0078	0	0019	0136	0331	0818	1344	1129	0662	0234	0414	—	—	—	

		Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$1 + \frac{\Delta X}{X}$	
		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	sc. d.	sc. d.	sc. d.	1.00	
		6.16	8.16	10.16	12.16	14.16	16.16	18.16	20.16	22.16	0.16	2.16	4.16					
TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER.	April	30	82.6	82.5	82.4	—	—	—	—	—	—	—	—	81.8	—	—	—	
	1	—	—	—	81.3	81.2	81.2	80.6	81.2	82.7	82.8	82.0	81.6	81.2	—	—	—	—
	2	83.1	82.2	81.0	80.6	80.0	80.0	79.5	80.5	82.2	83.0	82.3	81.3	81.6	—	—	—	—
	3	82.2	81.6	81.0	80.8	80.0	80.0	80.4	81.5	82.8	83.2	83.0	83.0	82.2	—	—	—	—
	4	82.6	82.2	81.8	81.7	81.5	81.2	81.0	81.3	82.2	83.1	83.7	83.5	82.2	—	—	—	—
	5	83.0	82.5	82.3	81.8	81.3	81.2	81.2	81.3	82.0	83.2	83.5	83.6	82.2	—	—	—	—
	6	83.2	83.0	82.6	82.2	82.0	81.7	81.0	81.7	83.3	84.1	83.1	82.0	82.5	—	—	—	—
	7	81.3	81.7	83.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	8	—	—	—	81.2	81.0	81.0	80.9	82.5	83.0	83.2	83.3	82.7	82.1	—	—	—	—
	9	82.6	81.0	82.1	81.7	81.7	81.4	81.3	80.5	81.6	82.1	83.0	83.3	81.0	—	—	—	—
	10	82.6	82.8	81.6	81.0	80.7	80.2	80.0	80.7	82.4	83.3	84.0	84.5	82.0	—	—	—	—
	11	83.6	83.0	81.7	81.8	81.4	81.0	80.9	81.8	83.2	84.0	85.6	84.5	82.7	—	—	—	—
	12	84.2	83.6	83.0	83.0	82.3	81.8	82.0	81.7	83.0	83.6	83.9	83.7	83.0	—	—	—	—
	13	83.2	83.0	83.0	82.7	83.1	81.6	81.5	81.6	83.5	84.0	84.5	85.0	83.1	—	—	—	—
	14	84.5	84.0	83.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	15	—	—	—	81.8	80.8	80.3	80.2	80.7	82.3	83.6	82.2	81.2	82.1	—	—	—	—
	16	81.0	81.3	81.7	81.5	80.7	80.3	81.2	80.9	82.7	82.8	82.8	83.5	81.7	—	—	—	—
	17	82.0	82.0	81.9	81.5	81.2	81.0	80.5	81.0	82.2	83.5	83.7	83.3	82.0	—	—	—	—
	18	83.0	82.6	82.5	82.3	82.2	81.8	81.5	82.0	83.0	83.8	83.2	82.2	82.5	—	—	—	—
	19	82.0	82.6	82.6	82.6	81.0	80.4	81.3	80.3	80.2	80.2	80.8	81.1	81.3	—	—	—	—
	20	81.0	80.7	80.0	80.0	79.3	79.1	79.0	80.6	81.5	82.3	83.3	80.5	80.6	—	—	—	—
	21	82.5	82.2	81.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	22	—	—	—	80.9	80.8	80.4	80.2	80.8	81.6	82.6	83.6	83.6	81.7	—	—	—	—
	23	83.2	82.7	82.2	81.8	—	—	81.3	82.0	83.0	84.1	85.5	85.0	83.1	—	—	—	—
	24	84.5	84.0	83.3	82.5	82.1	82.0	81.4	82.6	84.0	84.9	85.6	86.0	83.6	—	—	—	—
	25	85.2	84.2	83.2	82.2	81.5	81.3	80.7	81.8	83.7	84.4	85.0	85.1	83.2	—	—	—	—
	26	85.0	84.3	83.7	83.0	82.8	81.8	81.5	82.7	84.0	84.9	85.5	85.2	83.7	—	—	—	—
	27	85.0	84.3	83.4	83.0	82.0	81.5	81.3	82.3	84.0	85.1	85.2	85.3					

k = a. cot v = 0.0003136 X cot 58° 10' 30" = 0.0001946

g = 0.0002142

sc. div. Zero = 101.4 80.0

q/k = 0.0002142 / 0.0001946 = 1.103

HORIZONTAL FORCE MAGNETOMETER.

Table with columns for Gottingen Mean Time, Singapore Mean Time, and 23 hourly observations. Includes vertical label 'HORIZONTAL FORCE MAGNETOMETER. JULY 1842.' and various numerical data points.

Summary table for Horizontal Force Magnetometer with rows for Hourly Means, Temp. Correction, Corrected Means, Difference, and Diurnal Oscillations. Includes a formula ΔX/X.

Table with columns for 23 hourly observations and a final 'Means' row. Includes vertical label 'TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. JULY 1842.'

The Observations of the 2d, 3d and 4th, are omitted in the Hourly Means.

$k = a \cdot \cot v = 0.0003136 \times \cot 58^\circ 10' 30'' = 0.0001946$

$q = 0.0002142$

Ther. $\frac{sc. div.}{Zero} = \frac{101.4}{80.0} = 1.2675$

$\frac{q}{k} = \frac{0.0002142}{0.0001946} = 1.101$

HORIZONTAL FORCE MAGNETOMETER.

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$\frac{\Delta X}{X}$			
Singapore Mean Time.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.		
HORIZONTAL FORCE MAGNETOMETER. AUGUST 1842.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.		
	78.9	77.1	77.2	76.4	76.8	76.3	75.6	75.4	75.0	73.0	73.0	72.8	70.4	68.6	68.5	67.5	68.6	67.6	67.6	68.8	70.0	70.7	71.4	73.0	72.5	sc.d.	sc.d.	sc.d.	1.00		
	72.5	71.2	71.2	71.0	71.9	71.9	71.7	71.5	70.4	70.7	70.5	70.0	69.0	68.0	67.4	66.9	65.7	65.4	66.0	67.5	69.1	70.8	71.3	71.5	69.7	sc.d.	sc.d.	sc.d.	67.7	6558	
	71.0	71.0	71.0	71.0	70.6	70.5	70.0	69.8	69.8	69.7	70.0	69.5	68.8	67.8	67.4	66.9	60.9	68.4	69.1	69.2	69.9	70.4	71.0	71.0	69.2	sc.d.	sc.d.	sc.d.	66.8	6734	
	70.7	70.1	70.2	70.7	71.5	70.5	68.5	67.8	66.8	65.5	65.6	62.8	65.1	67.2	68.9	66.9	67.8	68.4	69.2	70.5	71.0	74.5	77.4	77.4	69.0	sc.d.	sc.d.	sc.d.	66.0	6890	
	75.8	75.2	74.0	75.3	74.2	73.5	72.4	72.2	71.6	70.7	70.3	70.0	69.1	69.3	69.3	67.9	67.0	68.8	70.5	74.2	74.3	76.1	75.1	76.3	72.2	sc.d.	sc.d.	sc.d.	69.0	6305	
	74.0	74.1	74.7	73.8	73.6	72.1	sc.d.	sc.d.	sc.d.	68.2	6461
	73.7	..	73.5	..	72.9	..	72.7	..	72.0	..	71.5	..	70.8	..	69.5	..	67.6	..	68.0	..	72.1	..	74.8	..	71.6	sc.d.	sc.d.	sc.d.	67.5	6597	
	73.4	..	73.1	..	73.5	..	72.9	..	72.0	..	71.6	..	70.4	..	68.0	..	65.0	..	66.3	..	70.0	..	73.0	..	70.8	sc.d.	sc.d.	sc.d.	66.2	6851	
	74.5	..	73.9	..	73.7	..	72.3	..	71.7	..	71.8	..	71.2	..	71.0	..	69.1	..	70.9	..	74.2	..	75.0	..	72.4	sc.d.	sc.d.	sc.d.	67.4	6616	
	75.6	..	74.2	..	73.1	..	72.8	..	71.9	..	71.4	..	70.6	..	68.9	..	66.5	..	66.0	..	68.4	..	78.6	..	71.5	sc.d.	sc.d.	sc.d.	67.1	6675	
	75.9	..	74.3	..	74.8	..	72.9	..	71.4	..	70.7	..	71.1	..	70.0	..	68.2	..	67.5	..	70.0	..	71.5	..	71.5	sc.d.	sc.d.	sc.d.	66.5	6792	
	71.1	..	71.5	..	71.3
	70.9	71.1	71.3	70.9	69.7	70.5	69.3	69.4	68.8	68.8	68.6	67.7	67.2	66.1	65.0	65.1	64.8	65.6	66.9	68.5	69.5	70.1	71.4	70.9	69.5	sc.d.	sc.d.	sc.d.	67.3	6636	
	71.0	71.0	70.4	69.3	69.5	69.6	69.5	69.0	69.0	68.8	68.0	67.5	66.9	66.6	..	63.5	63.0	65.7	67.4	69.4	70.9	71.2	72.0	73.0	68.8	sc.d.	sc.d.	sc.d.	67.7	6558	
	73.0	72.7	72.2	71.5	71.0	69.9	69.7	69.1	69.4	69.1	68.9	67.3	66.5	64.1	63.9	61.6	63.0	65.0	68.2	70.0	74.2	72.9	72.7	73.5	69.1	sc.d.	sc.d.	sc.d.	67.0	6909	
	73.0	73.0	73.4	74.3	71.5	73.0	72.4	68.1	69.8	70.2	68.8	69.7	67.1	65.5	63.6	63.2	63.0	67.4	67.6	68.3	74.0	74.7	74.1	73.1	69.8	sc.d.	sc.d.	sc.d.	67.4	6695	
	69.1	67.9	76.7	78.0	79.7	78.0	77.0	73.4	73.8	74.2	73.1	72.0	70.5	69.1	64.4	64.2	65.5	67.1	68.5	69.9	71.9	73.0	73.5	73.3	71.8	sc.d.	sc.d.	sc.d.	66.8	6616	
	72.2	72.4	72.1	72.0	71.9
	69.3	69.0	68.2	68.7	68.3	68.5	66.5	66.5	66.6	67.2	67.3	66.4	66.0	65.4	64.2	63.0	63.4	63.5	64.0	65.7	68.7	70.5	73.5	73.0	67.2	sc.d.	sc.d.	sc.d.	67.8	6539	
	73.2	70.5	70.0	70.0	70.3	70.3	70.1	70.0	69.2	68.6	68.3	68.4	67.3	66.2	64.7	64.3	63.7	65.3	66.2	66.1	66.6	67.4	67.7	66.8	68.0	68.0	sc.d.	sc.d.	sc.d.	67.2	6714
	67.8	69.9	72.1	71.0	71.2	67.3	68.9	69.6	68.2	67.6	67.5	66.8	66.0	64.7	65.6	64.4	65.2	66.1	68.1	68.9	70.4	70.8	71.4	71.8	68.4	sc.d.	sc.d.	sc.d.	67.2	6656	
	71.0	70.3	70.0	71.1	69.3	70.5	70.5	70.0	69.4	68.8	69.2	69.1	68.3	67.2	66.5	71.5	66.1	66.5	66.5	68.3	69.6	69.1	69.2	69.7	69.1	sc.d.	sc.d.	sc.d.	67.5	6597	
	70.0	70.0	70.4	70.1	69.6	69.9	69.5	69.4	68.6	68.1	68.6	68.5	67.6	67.6	66.3	67.0	66.3	66.2	68.0	70.4	68.2	70.3	71.5	71.6	68.9	sc.d.	sc.d.	sc.d.	67.8	6734	
	71.6	70.9	70.0	69.3	69.7	69.3
	66.7	66.6	66.9	66.9	67.3	67.4	67.1	72.0	66.9	66.7	66.0	66.1	66.1	65.3	63.5	62.2	61.8	61.3	62.1	63.5	65.4	66.9	68.0	68.1	65.9	sc.d.	sc.d.	sc.d.	67.8	6948	
	68.1	68.5	69.1	69.1	69.3	69.2	69.0	68.7	68.0	67.9	67.5	67.4	66.6	65.3	64.2	63.1	62.5	62.5	63.8	64.5	65.2	66.0	67.0	66.8	66.6	sc.d.	sc.d.	sc.d.	67.2	7045	
	66.2	66.5	67.0	66.7	66.3	66.5	66.2	66.2	66.0	65.6	66.2	65.4	65.0	64.4	63.0	62.0	61.1	62.1	63.2	64.6	67.0	68.0	68.2	68.2	65.5	sc.d.	sc.d.	sc.d.	67.8	7025	
	66.2	66.5	67.0	66.7	66.3	66.5	66.2	66.2	66.0	65.6	66.2	65.4	65.0	64.4	63.0	62.0	61.1	62.1	63.2	64.6	67.0	68.0	68.2	68.2	65.5	sc.d.	sc.d.	sc.d.	67.8	7162	

Hourly Means.....	71.9	71.0	71.6	71.0	71.2	70.2	70.4	69.8	69.8	68.8	69.2	68.2	68.1	66.4	66.6	65.1	65.2	65.1	66.8	67.8	69.6	70.0	71.6	71.1	69.0	sc.d.	sc.d.	sc.d.	1.00
Temp. Correction....	-3.3	-2.6	-2.9	-2.2	-2.6	-1.9	-2.0	-1.4	-1.7	-0.9	-1.2	-0.6	-1.0	-0.4	-1.7	-1.5	-2.6	-2.5	-3.5	-3.2	-3.9	-3.3	-3.7	-3.2	-2.2	sc.d.	sc.d.	sc.d.	67.31
Corrected Means....	68.6	68.4	68.7	68.8	68.6	68.3	68.4	68.4	68.1	67.9	68.0	67.6	67.1	66.0	64.9	63.6	62.6	62.6	63.3	64.6	65.7	66.7	67.9	67.9	66.8	sc.d.	sc.d.	sc.d.	67.31
Difference.....	0.2	0.4	0.1	0	0.2	0.5	0.4	0.4	0.7	0.9	0.8	1.2	1.7	2.8	3.9	5.2	6.2	6.2	5.5	4.2	3.1	2.1	0.9	0.9	2.0	sc.d.	sc.d.	sc.d.	67.31
Diurnal Oscillations } = .00	0039	0078	0019	0	0039	0097	0078	0078	0136	0175	0156	0234	0331	0545	0759	1013	1208	1208	1071	0818	0603	0409	0175	0175	0394	sc.d.	sc.d.	sc.d.	67.31

Hourly Means.....	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.
TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. AUGUST 1842.	85.2	85.0	85.0	85.0	85.0	84.0	84.2	83.6	83.4	83.0	83.0	82.8	83.0	83.9	84.2	85.0	85.3	85.4	85.5	85.4	84.7	84.7	84.8	84.4	82.6	82.5	82.5	82.2	82.0	82.0	82.0	82.0
83.8	84.0	83.0	81.2	83.0	82.2	82.0	81.0	81.3	81.3	81.6	81.2	81.2	81.1	81.7	81.7	82.0	83.3	83.6	83.8	84.0	84.0	84.1	84.0	82.6	82.5	82.5	82.2	82.0	82.0	82.0	82.0	82.0
83.3	83.1	83.1	83.0	83.0	82.4	..	81.8	81.5	81.3	81.2	81.2	81.2	81.5	82.3	83.1	83.5	83.6	83.2	83.4	83.8	84.0	83.8	84.0	82.7	82.5	82.5	82.2	82.0	82.0	82.0	82.0	82.0
85.6	83.2	83.0	83.2	83.2	83.0	82.3	82.0	81.7	81.4	81.2	81.0	81.0	80.7	81.5	82.3	83.6	84.0	84.1	84.4	84.7	84.8	83.2	84.2	82.9	82.5	82.5	82.2	82.0				

k = a. cot v = 0.0003136 X cot 58° 10' 30" = 0.0001946

g = 0 0002142

Zero = 101.4 80.0

q/k = 0.0002142 / 0.0001946 = 1.103

HORIZONTAL FORCE MAGNETOMETER.

Table with columns for Gottingen Mean Time, Singapore Mean Time, and 23 numbered columns for hourly observations. Includes a vertical label 'HORIZONTAL FORCE MAGNETOMETER. SEPTEMBER 1842.' and a final column for 'Daily and Monthly Means'.

Summary table with rows for 'Hourly Means', 'Temp. Correction', 'Corrected Means', 'Difference', and 'Diurnal Oscillations'. Includes a vertical label 'HORIZONTAL FORCE MAGNETOMETER. SEPTEMBER 1842.' and a final column for 'Daily and Monthly Means'.

Table with columns for 23 numbered columns for hourly observations and a final column for 'Daily and Monthly Means'. Includes a vertical label 'TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. SEPTEMBER 1842.' and a 'Means' row at the bottom.

$k = a. \cot v = \cdot 0003136 \times \cot 58^\circ 10' 30'' = \cdot 0001946$

$q. = \cdot 0002142$

$\frac{q}{k} = \frac{\cdot 0002142}{\cdot 0001946} = 1\cdot 1007$

$\text{Zero} = 101\cdot 4 \dots \dots 80\cdot 0$

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$1 + \frac{\Delta X}{X}$		
Singapore Mean Time.	h.m. 6:16	h.m. 7:16	h.m. 8:16	h.m. 9:16	h.m. 10:16	h.m. 11:16	h.m. 12:16	h.m. 13:16	h.m. 14:16	h.m. 15:16	h.m. 16:16	h.m. 17:16	h.m. 18:16	h.m. 19:16	h.m. 20:16	h.m. 21:16	h.m. 22:16	h.m. 23:16	h.m. 0:16	h.m. 1:16	h.m. 2:16	h.m. 3:16	h.m. 4:16	h.m. 5:16	sc.d.	sc.d.	sc.d.	1:00		
HORIZONTAL FORCE MAGNETOMETER. OCTOBER 1842.	sc.d. 71:4	sc.d. 71:0	sc.d. 70:8	sc.d. 70:6	sc.d. 70:3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1	71:4	71:0	70:8	70:6	70:3
	2	71:3	71:3	71:2	71:2	71:4	71:0	69:5	..	69:4	68:9	69:0	..	67:7	67:2	65:2	63:9	65:0	66:0	66:1	67:8	71:8	72:5	72:9	72:6	72:0	70:1	-3:4	66:7	67:53
	3	71:0	70:8	70:3	69:9	70:5	69:9	69:4	..	69:1	69:0	68:7	..	67:0	66:2	65:0	64:1	64:4	65:1	67:1	69:0	70:0	70:0	70:1	70:0	68:5	-3:9	64:6	71:62	
	4	68:4	69:0	68:2	67:4	67:1	66:8	66:7	..	67:9	68:2	67:8	..	67:4	65:6	63:4	62:0	61:8	62:2	64:0	66:4	68:0	68:9	70:2	70:1	67:4	-3:4	64:0	72:78	
	5	71:1	70:2	70:1	70:2	71:1	70:0	68:7	..	67:9	67:0	66:7	..	66:0	65:6	64:7	63:3	62:3	62:3	65:0	66:9	68:7	71:6	70:2	70:0	67:7	-3:2	64:5	71:81	
	6	69:9	70:6	70:9	70:4	70:0	69:4	68:6	..	68:4	68:1	68:2	..	67:2	66:4	65:1	63:9	62:0	62:0	62:6	64:1	68:0	69:3	69:3	69:3	67:4	-2:4	65:0	70:84	
	7	70:0	69:7	69:1	69:1	69:2	..	..	..	67:1	67:0	67:1	..	66:3	65:6	65:1	62:7	61:5	60:7	60:9	62:2	64:3	66:4	67:1	67:3	66:0	-0:9	65:1	70:64
	8	66:9	66:9	66:7	66:5	65:7	66:5	66:4	..	65:4	65:2	..	..	64:2	63:7	62:0	62:4	61:1	60:3	62:0	63:9	65:3	65:3	65:3	66:0	64:6	-0:3	64:3	72:19
	9	65:9	66:0	66:0	66:5	66:1	66:3	66:3	..	65:0	64:7	64:2	..	64:0	62:2	62:0	60:0	59:5	59:1	60:6	65:3	65:0	66:7	67:8	67:9	64:4	-0:1	64:3	72:19	
	10	68:4	69:0	68:2	67:4	67:1	66:8	66:7	..	64:2	63:7	61:5	..	64:2	63:7	61:5	60:5	60:0	60:7	63:2	66:0	67:9	69:0	68:5	68:8	65:6	-1:8	63:8	73:17	
	11	69:1	70:0	70:9	70:0	71:6	72:2	69:9	..	70:6	69:0	67:7	..	66:0	62:7	63:1	62:1	64:8	66:0	67:0	68:6	69:5	69:3	69:1	69:0	68:1	-1:1	67:0	66:95	
	12	68:8	71:0	70:7	72:1	74:9	73:5	70:6	..	68:5	68:5	68:2	..	66:9	66:0	65:4	64:9	64:7	65:2	67:7	68:9	69:8	70:5	70:8	70:7	69:0	-1:7	67:3	66:36	
	13	70:2	70:4	70:0	68:4	69:1	..	..	..	67:8	68:0	67:2	..	66:2	65:7	64:0	63:0	62:3	63:0	64:9	66:8	68:0	69:0	70:3	72:0	67:2	-1:7	65:5	69:87
	14	70:8	70:0	68:4	68:3	69:0	67:6	65:2	..	67:5	67:0	68:6	..	67:3	66:2	66:1	64:9	64:2	64:9	66:6	70:0	70:5	70:4	72:1	70:3	68:0	-2:0	66:0	68:90	
	15	69:0	68:9	69:3	70:3	70:9	70:1	69:2	..	66:6	66:9	66:0	..	67:5	66:0	63:8	61:8	62:0	63:5	64:2	64:8	66:5	68:0	67:8	68:8	66:9	-2:0	64:9	71:03	
	16	68:7	71:1	69:3	69:3	70:2	68:9	67:3	..	66:7	65:3	65:5	..	65:6	66:0	64:8	63:9	62:0	63:9	65:8	68:2	69:9	69:4	69:0	70:0	67:3	-1:7	65:6	69:68	
	17	70:3	69:2	68:7	68:8	68:1	67:5	68:0	..	67:9	68:0	68:0	..	67:7	65:8	63:5	62:4	61:1	62:0	64:9	65:6	66:1	67:0	66:9	66:5	66:5	-1:5	65:0	70:84	
	18	69:0	67:6	67:0	67:0	66:5	66:7	66:9	..	67:3	67:0	66:4	..	66:1	64:6	63:0	61:2	60:0	59:6	59:8	62:9	64:9	65:9	66:8	67:9	65:2	-0:0	65:2	70:45	
	19	68:0	68:0	67:2	67:0	66:8	..	..	..	67:9	67:1	66:9	..	66:0	66:8	62:9	63:4	62:7	64:4	69:3	63:7	65:8	67:7	67:7	70:0	66:5	-0:2	66:3	68:31
	20	71:5	71:5	70:3	68:2	69:0	67:4	67:1	..	65:7	65:7	..	..	63:9	63:2	62:7	60:6	60:2	60:5	60:9	63:1	64:2	65:0	65:5	66:1	65:3	-0:2	65:1	70:64
	21	66:4	66:3	66:4	66:7	66:7	66:2	66:3	..	66:5	66:1	66:0	..	65:1	63:9	62:8	62:0	62:6	61:9	62:1	64:1	64:3	65:8	65:0	67:9	69:9	65:2	0:1	65:3	70:25
	22	69:9	69:6	69:6	68:6	68:0	67:8	67:0	..	67:1	64:5	66:0	..	66:3	66:5	66:3	64:6	64:0	64:3	64:7	66:9	67:2	69:2	70:0	70:2	67:2	-1:1	66:1	68:70	
	23	72:8	72:1	73:0	74:0	74:8	72:2	69:0	..	67:5	68:6	68:3	..	68:0	66:2	65:1	65:6	64:7	65:3	66:4	68:0	70:0	68:2	68:0	70:0	69:0	-1:9	67:1	66:75	
	24	70:5	70:2	68:0	69:5	69:2	68:3	68:0	..	65:6	66:8	66:5	..	64:7	63:7	64:3	63:6	63:2	63:5	64:9	65:3	66:9	67:7	68:4	..	66:4	-1:0	65:4	70:06	
	25	68:7	69:9	69:3	68:4	67:8	..	..	..	64:1	64:0	63:8	..	65:0	64:2	63:9	62:6	62:6	64:2	65:1	66:0	67:4	67:3	65:9	65:3	65:7	-0:3	65:4	70:06
	26	66:0	66:2	65:9	65:9	65:3	65:3	66:0	..	65:6	65:2	65:1	..	64:2	63:2	61:0	59:0	58:8	60:0	62:5	65:0	66:0	65:9	66:0	66:4	64:3	0:4	64:7	71:42	
	Hourly Means.....	69:4	69:5	69:1	69:0	69:2	68:8	67:8	..	67:5	67:0	66:8	..	66:1	65:2	64:0	62:9	62:5	63:2	64:4	66:2	67:5	68:3	68:6	69:0	66:9	-1:5	65:4	70:15	
	Temp. Correction...	-2:6	-2:1	-1:7	-1:5	-1:2	-1:0	-0:9	..	-0:6	-0:2	-0:1	..	0:1	0:1	-0:3	-1:0	-1:5	-2:0	-2:2	-2:6	-2:8	-2:9	-2:9	-2:9	-1:5				
	Corrected Means...	66:8	67:4	67:4	67:5	68:0	67:8	66:9	..	66:9	66:8	66:7	..	66:2	65:3	63:7	61:9	61:0	61:2	62:2	63:6	64:7	65:4	65:7	66:1	65:4				
	Differences... ..	1:2	0:6	0:6	0:5	0	0:2	1:1	..	1:1	1:2	1:3	..	1:8	2:7	4:3	6:1	7:0	6:8	5:8	4:4	3:3	2:6	2:3	1:9	2:6				
Diurnal Oscillation. } = 00	0234	0117	0117	0097	0	0039	0214	..	0214	0234	0253	..	0350	0525	0837	1188	1362	1324	1129	0857	0642	0506	0448	0370	0503					

Hourly Means.....	Temp. Correction...	Corrected Means...	Differences... ..	Diurnal Oscillation. } = 00
69:4	-2:6	66:8	1:2	0234
69:5	-2:1	67:4	0:6	0117
69:1	-1:7	67:4	0:6	0117
69:0	-1:5	67:5	0:5	0097
69:2	-1:2	68:0	0	0039
68:8	-1:0	67:8	0:2	0214
67:8	-0:9	66:9	1:1	0234
66:9	-0:6	66:3	1:2	0253
66:8	-0:2	66:6	1:3	0350
66:7	-0:1	66:6	1:8	0525
66:2	0:1	65:3	2:7	0837
65:3	-1:0	63:7	4:3	1188
65:0	-1:5	63:5	6:1	1362
64:4	-2:0	62:2	7:0	1324
64:7	-2:2	62:5	6:8	1129
64:0	-2:6	61:4	5:8	0857
63:7	-2:8	60:9	4:4	0642
63:9	-2:9	60:0	3:3	0506
63:2	-2:9	60:3	2:6	0448
62:2	-2:6	59:6	2:3	0370
62:5	-2:8	59:7	1:9	
62:0	-2:2	59:8	2:6	
62:6	-2:6	60:0	2:3	
64:4	-2:8	61:6	2:6	
66:2	-2:8	63:4	2:6	
67:5	-2:9	64:6	2:6	
68:3	-2:9	65:4	2:6	
68:6	-2:9	66:1	2:6	
68:9	-2:9	66:8	2:6	
69:0	-2:9	67:0	2:6	
69:2	-2:9	67:3	2:6	
69:5	-2:9	67:6	2:6	
69:8	-2:9	67:9	2:6	
70:0	-2:9	68:1	2:6	
70:3	-2:9	68:4	2:6	
70:6	-2:9	68:7	2:6	
70:9	-2:9	69:0	2:6	
71:0	-2:9	69:3	2:6	
71:3	-2:9	69:6	2:6	
71:6	-2:9	69:9		

k = a. cot v = .0003136 x cot 58° 10' 30'' = .0001946

g/k = .0002142 / .0001946 = 1.1007

sc. div. Zero = 101.4 80.0

g. = .0002142

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, and hourly observations from 1 to 30 for November 1842. Includes sub-headers for sc.d., h.m., and various correction factors.

Summary table for Horizontal Force Magnetometer showing Hourly Means, Temp. Correction, Corrected Means, Differences, Diurnal Oscillation, and a final calculated value of 7206.

Table for TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER, NOVEMBER 1842, showing hourly temperature observations from 1 to 30.

Means. 81.5 81.2 81.0 80.7 80.6 80.4 80.2 ... 80.0 79.9 79.7 ... 79.6 79.6 80.0 80.5 81.1 81.6 82.1 82.3 82.6 82.2 82.0 81.9 81.0

Observations of the 22d November are omitted in the hourly means.

k = a. col v = .0003136 x col 58° 10' 30" = .0001946

g = .0002142

q/k = .0002142 / .0001946 = 1.1007

Zero = sc. div. 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER.-(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, and 23 hourly observations. Includes summary rows for Hourly Means, Temp. Correction, Corrected Means, Differences, and Diurnal Oscillation.

TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER.

Table with columns for 23 hourly observations and a final Means row. Includes a vertical label 'DECEMBER 1842.' on the left side.

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = 0.00002909 \times \cot 12.40' \times \left(\frac{7.414}{17.22}\right)^2 = 0.0001687$$

$$\frac{q}{k} = \frac{0.0004363}{0.0001687} = 25.8625 = 1^\circ \text{Faht.}$$

ther. Zero .. 80.0

$$g = .0004363$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Göttingen Mean Time.		Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.		
Singapore Mean Time.		H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.					
VERTICAL FORCE MAGNETOMETER.	JANUARY 1842.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.				
		1	-290	-308	-312													
		2				-289	-230	-239	-247	-201	-66	-38	-73	-179				-206
		3	-220	-215	-219	-214	-220	-234	-237	-176	-60	-33	-80	-157				-172
		4	-193	-219	-213	-216	-204	-197	-214	-157	-42	-23	-50	-95				-152
		5	-194	-208	-212	-219	-196	-223	-221	-137	-95	-46	-177	-177				-175
		6	-196	-207	-213	-232	-226	-243	-246	-198	-119	-45	-100	-214				-186
		7	-226	-242	-251	-236	-230	-243	-253	-175	-32	-21	-166					-189
		8	-208	-216	-230	a												
		9				-406	-405	-405	-443	-311	-183	-134	-196	-260				
		10	-290	-328	-308	-319	-317	-340	-380	-255	-130	-241	-382	-358				-304
		11	-291	-314	-347	-344	-356	-341	-378	-332	-272	-240	-418	-260				-324
		12	-340	-386	-387	-398	-409	-423		-373	-347	-412	-518	-534				-411
		13		-448	-478	-405	-479	-463	-495	-405	-225	-97	-337	-449				-389
		14	-428	-458	-442	a												
		15																
		16				-542	-578		-563	-463	-326	-377	-438	-512				
		17	-523	-526	-576	-552	-583	-548		-468	-319	-226	-393	-483				-473
		18	-505	-534	-527	-578	-554		-548	-467	-345	-404	-500	-529				-499
		19	-514	-514	-521	-511		-536	-604	-542	-374	-366	-439	-591				-501
		20	-575	-533	-543	-551	-517	-557	-594	-499	-338	-300	-449	-564				-502
		21	-542	-549	-547		-540	-557	-576	-540	-357	-297	387	-482				-488
		22	-517	-522	-537													
		23				-476	-481	-495	-495	-458	-251	-231	-252	-297				-418
		24	-363	-418	-424	-426	-417	-410	-427	-417	-265	-231	-274	-341				-368
		25	-360	-377	-368													
		26																
		27																
		28																
		29																
		30																
31																		

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.		JANUARY 1842.																
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.	JANUARY 1842.	1	79.1	78.6	78.5	°	°	°	°	°	°	°	°	°	°	°	°	
		2				76.8	79.8	78.5	78.2	78.7	80.0	80.2	81.0	81.2	79.2			
		3	80.2	80.5	79.7	79.5	78.5	78.5	77.7	79.1	81.2	83.0	82.5	82.2	80.2			
		4	81.1	80.0	79.5	79.2	79.1	78.6	78.0	79.2	80.5	82.0	82.7	82.3	80.2			
		5	81.6	80.8	80.3	79.4	79.4	78.5	78.0	79.5	81.6	83.0	82.8	83.5	80.7			
		6	82.4	81.4	80.4	79.6	79.4	78.0	78.4	79.2	80.7	82.4	83.4	82.5	80.7			
		7	82.2	81.2	81.0	80.2	79.5	78.8	78.4	79.6	81.7	83.0	84.0		80.9			
		8	83.0	81.9	81.3													
		9				79.8	79.5	79.2	78.3	79.7	82.2	83.8	84.5	83.7				
		10	83.1	81.9	81.9	80.9	80.1	79.5	78.7	79.6	81.2	81.6	81.5	81.4	81.0			
		11	80.9	80.2	80.0	79.7	79.0	78.7	78.1	78.4	79.0	79.8	79.8	79.5	79.4			
		12	79.4	79.0	79.1	78.8	78.2	78.3		77.8	77.5	77.6	77.5	76.8	78.2			
		13		76.3	75.7	75.7	75.7	75.0	75.6	76.3	78.3	80.5	80.5	79.9	77.2			
		14	79.6	79.4	78.4													
		15																
		16				79.3	78.8		77.5	78.2	80.0	80.2	79.7	80.1				
		17	79.2	79.5	79.2	78.7	78.0	77.9		78.3	80.0	83.0	81.0	80.5	79.6			
		18	80.3	80.2	79.4	79.0	78.4		78.0	78.7	80.2	81.0	80.6	79.6	79.6			
		19	79.7	79.6	79.2	79.5		78.4	77.7	78.2	79.3	80.4	81.0	80.4	79.4			
		20	80.1	80.5	80.3	80.4	79.4	78.3	78.0	78.6	80.3	81.4	81.7	80.8	80.0			
		21	80.0	79.7	79.6		78.3	77.7	77.7	78.0	80.2	81.6	81.6	81.2	79.6			
		22	80.6	80.6	80.2													
		23				80.0	79.4	79.2	78.0	78.6	81.0	82.8	83.5	82.9	80.6			
		24	82.3	81.3	81.1	80.8	80.2	79.7	79.4	79.6	81.0	83.1	82.6	82.1	81.1			
		25	81.6	80.8	80.6													
		26																
		27																
		28																
		29																
		30																
		31																
Means.																		

N. B.—Increasing negative numbers, or decreasing positive numbers, denote an increase of the Vertical Force. The hourly means were not taken in consequence of the frequent re-adjustment of the instrument.
a Series broken.

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = 0.00002909 \times \cot 12^\circ 40' \times \left(\frac{7.444}{17.22}\right)^2 = 0.00001687$$

$$\frac{q}{k} = \frac{0.0004363}{0.00001687} 25.8625 = 1^\circ \text{Faht.}$$

ther.
Zero .. 80°0

$$q = 0.0004363$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon.	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	
Singapore Mean Time.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	sc. d.	sc. d.	sc. d.	
	6:16	8:16	10:16	12:16	14:16	16:16	18:16	20:16	22:16	0:16	2:16	4:16	sc. d.	sc. d.	sc. d.	
	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	
VERTICAL FORCE MAGNETOMETER. FEBRUARY 1842.	1	—	—	—203	—283	—283	—300	—224	—31	125	45	—	—152	8	—144	
	2	—230	—238	—232	—234	—234	—240	—249	—200	—96	15	—86	—99	—177	0	—177
	3	—185	—218	—216	—227	—239	—242	—	—167	—90	—44	—43	—	—167	—10	—177
	4	—	—202	—201	—202	—242	—247	—262	—253	—116	—35	—58	—171	—181	—21	—202
	5	—204	—190	—198	—	—	—	—	—	—	—	—	—	—	—	—
	6	—	—	—	—240	—238	—239	—247	—204	—147	—68	—79	—124	—181	—36	—217
	7	—178	—210	—225	—218	—223	—241	—269	—156	9	49	—30	—61	—147	—62	—209
	8	—142	—106	—112	—215	—200	—178	—223	—123	—89	—60	—149	—226	—152	—31	—183
	9	—190	—182	—186	—232	—253	—259	—299	—284	—139	—164	—283	—330	—233	21	—212
	10	—337	—252	—279	—329	—322	—359	—349	—290	—170	—137	—140	—235	—266	34	—232
	11	—343	—356	—367	—375	—407	—413	—409	—318	—110	—119	—137	—240	—299	39	—260
	12	—365	—353	—388	—	—	—	—	—	—	—	—	—	—	—	—
	13	—	—	—	—436	—373	—	—472	—373	—206	—183	—294	—401	—349	16	—333
	14	—476	—449	—466	—474	—518	—504	—511	—354	—170	—170	—385	—449	—410	—3	—413
	15	—498	—484	—495	—484	—496	—496	—507	—428	—248	—221	—213	—425	—416	—8	—424
	16	—490	—497	—503	—515	—500	—	—511	—441	—381	—330	—350	—387	—446	—13	—459
	17	—469	—500	—521	—526	—	—458	—481	—392	—238	—219	—272	—359	—312	—18	—330
	18	—429	—449	—447	—466	—431	—475	—464	—375	—179	—174	—213	—207	—359	—26	—385
	19	—343	—368	—378	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—379	—412	—403	—413	—365	—208	—	—264	—	—353	—3	—356
	21	—316	—352	—329	—359	—343	—321	—360	—228	—82	—123	—182	—202	—266	—10	—276
	22	—230	—233	—251	—	—	—264	—274	—156	—18	—17	—84	—69	—159	—39	—198
	23	—162	—169	—216	—230	—229	—233	—261	—155	—35	—56	—171	—136	—171	—34	—205
	24	—212	—212	—236	—280	—281	—	—269	—156	—55	—77	—132	—157	—188	—41	—229
	25	—89	—209	—208	—288	—309	—287	—261	—183	—26	10	—212	—315	—198	—59	—257
	26	—260	—282	—285	—	—	—	—	—	—	—	—	—	—	—	—
	27	—	—	—	—382	—381	—376	—388	—297	—68	—76	—278	—317	—282	—44	—326
	28	—364	—304	—372	—373	—388	—381	—401	—387	—245	—241	—289	—	—340	—16	—356
Hourly Means.....	—296	—253	—309	—336	—332	—328	—356	—271	—131	—101	—179	—245	—261	—15	—273	
Temp. Correction.....	—41	—36	—16	0	21	26	34	21	—21	—49	—65	—54	—15	—	—	
Corrected Means.....	—337	—289	—325	—336	—311	—302	—322	—250	—152	—150	—244	—299	—276	—	—	
Differences.....	—187	—139	—175	—186	—161	—152	—172	—100	—2	0	—94	—149	—126	—	—	
Diurnal Oscillation=00	3155	2345	2952	3138	2716	2564	2902	1687	0034	0	1586	2514	2133	= $\frac{\Delta Y}{Y}$	—	
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. FEBRUARY 1842.	1	°	°	79.1	77.8	76.6	77.1	77.7	80.0	82.2	83.6	°	79.3	—	—	
	2	82.5	81.4	80.6	79.1	78.0	77.7	77.2	78.0	80.1	81.3	82.2	82.3	80.0	—	
	3	81.7	80.7	81.6	79.5	79.8	78.0	—	78.3	80.0	81.4	82.5	—	80.4	—	
	4	—	81.5	80.5	80.3	79.1	78.9	78.5	79.2	81.5	82.6	83.7	82.9	80.8	—	
	5	82.5	82.2	81.3	—	—	—	—	—	—	—	—	—	—	—	
	6	—	—	—	80.7	80.2	79.7	78.0	79.5	81.7	83.2	83.9	84.0	81.4	—	
	7	83.7	82.2	82.0	82.0	81.2	80.6	79.5	80.4	82.9	84.2	85.1	84.9	82.4	—	
	8	84.0	84.8	79.2	82.0	81.3	81.0	79.8	80.6	80.5	80.6	80.8	80.2	81.2	—	
	9	80.1	81.1	80.3	79.5	79.0	78.7	78.0	78.4	80.0	78.7	78.0	78.0	79.2	—	
	10	78.0	80.2	80.0	79.0	78.1	78.0	77.6	79.1	78.0	78.2	79.4	79.3	78.7	—	
	11	79.0	79.1	78.3	78.0	77.1	76.2	76.0	77.2	79.0	80.2	81.0	81.0	78.5	—	
	12	79.3	79.3	79.1	—	—	—	—	—	—	—	—	—	—	—	
	13	—	—	—	78.7	77.3	—	77.5	78.1	80.0	81.2	82.0	81.3	79.4	—	
	14	80.7	81.2	80.2	79.7	78.8	78.3	78.4	78.7	80.3	81.6	82.0	81.0	80.1	—	
	15	80.5	80.2	80.2	80.0	78.6	78.8	80.2	79.3	80.8	82.0	82.8	80.5	80.3	—	
	16	80.4	79.5	79.6	79.5	79.3	—	79.5	80.2	80.4	82.0	82.6	82.2	80.5	—	
	17	81.2	81.2	80.0	80.0	—	79.8	78.5	78.7	80.7	82.2	82.5	82.3	80.7	—	
	18	81.6	81.2	80.9	80.0	79.5	78.8	78.6	79.6	81.6	83.0	83.8	83.6	81.0	—	
	19	82.5	82.4	81.1	—	—	—	—	—	—	—	—	—	—	—	
	20	—	—	—	79.6	78.2	78.0	77.7	78.5	80.6	—	82.4	—	80.1	—	
	21	81.3	80.3	80.3	79.4	79.2	78.5	78.0	78.3	80.4	82.5	83.0	83.8	80.4	—	
	22	82.5	81.8	80.7	—	—	79.7	79.5	80.4	81.8	82.7	83.5	82.7	81.5	—	
	23	82.2	82.4	81.6	80.7	78.9	80.0	79.0	79.7	81.6	83.1	83.4	82.6	81.3	—	
	24	82.0	81.3	80.3	80.0	79.9	—	79.6	80.7	82.0	83.7	84.4	83.1	81.6	—	
	25	83.6	82.0	81.6	81.0	80.8	80.7	82.0	81.2	82.4	84.2	84.2	83.6	82.3	—	
	26	83.7	83.5	83.0	—	—	—	—	—	—	—	—	—	—	—	
	27	—	—	—	80.3	80.0	80.0	79.5	79.4	81.5	82.9	83.7	83.3	81.7	—	
	28	81.8	81.5	81.2	81.0	80.5	80.5	80.0	80.0	80.6	79.6	80.0	—	80.6	—	
Means.	81.6	81.4	80.6	80.0	79.2	79.0	78.7	79.2	80.8	81.9	82.5	82.1	80.6	—	—	

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = 0.00002909 \times \cot 12' 40'' \times \left(\frac{17.444}{17.22}\right)^2 = 0.0001687$$

$$\frac{q}{k} = \frac{0.0004363}{0.00001687} = 25.8625 = 1^\circ \text{ Fahr.}$$

ther. 0
Zero .. 80.0

$$q = 0.0004363$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.
Singapore Mean Time.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	sc. d.	sc. d.	sc. d.
	6.16	8.16	10.16	12.16	14.16	16.16	18.16	20.16	22.16	0.16	2.16	4.16			
	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.
1	-395	-444	-445	-433	-425	-429	-484	-396	-212	-224	-303	-411	-383	8	-375
2	-447	-479	-483	-464	-493	-468	-511	-465	-319	-395	-398	-446	-447	8	-439
3	-436	-500	-510	-492	-540	-518	—	-566	-466	-410	-385	-439	-478	13	-465
4	-536	-540	-576	-473	-575	-587	-604	-485	-315	-350	-358	-412	-484	5	-489
5	-514	-533	-547	—	—	—	—	—	—	—	—	—	—	—	—
6	—	—	—	-539	—	-511	-571	-479	-332	-357	-399	-430	-474	23	-497
7	-479	-490	-483	-497	-494	-525	-511	-321	-202	-247	-448	-413	-426	54	-480
8	—	-455	-444	-454	-461	-456	-481	-400	-234	-177	-300	-425	-390	44	-434
9	-427	-462	-473	-463	-455	-475	-450	-322	-136	-167	-327	-409	-380	41	-421
10	-385	-394	-410	-430	—	-460	-423	-339	-243	-209	-434	-449	-380	39	-419
11	-429	-437	-476	-476	-476	-493	-503	-469	-310	-238	-300	-446	-421	3	-424
12	-447	-428	-418	—	—	—	—	—	—	—	—	—	—	—	—
13	—	—	—	-436	-432	-429	-438	-392	-276	-277	-324	-382	-390	10	-400
14	-383	-406	-420	—	-416	-421	-415	-378	-245	-217	-360	-370	-366	28	-394
15	-404	-329	-264	-344	-344	-358	-361	-216	41	38	-238	-264	-260	47	-307
16	-255	-313	-328	-353	—	-355	-346	-283	97	91	-193	-213	-257	59	-316
17	-258	-228	-303	—	-280	-263	-268	-190	82	42	144	-158	-201	78	-279
18	-161	-236	-241	-234	-238	-245	-260	-116	55	10	-151	-221	-170	57	-227
19	-254	-250	-253	—	—	—	—	—	—	—	—	—	—	—	—
20	—	—	—	-259	-286	-285	-288	-147	18	-189	-251	—	-222	28	-250
21	-233	-267	-283	-276	-272	—	-302	95	15	59	-228	-233	-206	54	-260
22	-245	-235	-263	-276	-272	—	-296	-130	53	33	77	-125	-182	54	-236
23	-258	-259	—	-234	-236	-272	-224	-200	50	10	-140	-186	-189	41	-230
24	-227	-203	-204	—	Good Friday			—	—	—	—	—	—	—	—
25	—	—	—	-256	-278	-281	-305	-149	2	48	-154	-229	-195	57	-252
26	-200	-260	-254	—	—	—	—	—	—	—	—	—	—	—	—
27	—	—	—	-224	-216	-238	-284	-115	16	77	-109	-223	-184	62	-246
28	-237	-240	-226	-248	-242	-249	-282	-186	28	9	76	-244	-189	41	-230
29	-267	-258	-264	-264	-263	-282	-276	-131	10	-168	-285	-209	-223	41	-264
30	-293	-303	-292	-313	-310	-323	-334	-245	34	-101	-148	-190	-266	49	-315
31	-292	-305	-301	-319	-324	-348	-336	-292	210	-145	-229	-292	-283	16	-209
Hourly Means.....	-338	-356	-366	-365	-362	-386	-382	-289	-145	-164	-260	-313	-310	35	-344
Temp. Correction.....	-54	-41	-31	-21	5	3	13	5	47	70	80	72	-34		
Corrected Means.....	-392	-397	-397	-386	-367	-383	-369	-294	-192	-234	-340	-385	-345		
Differences.....	-200	-205	-205	-194	-175	-191	-177	-102	0	42	-148	-193	-153		
Diurnal Oscillation=00	3374	3458	3458	3273	2952	3222	2986	1721	0	0709	2497	3256	2575		$\frac{\Delta Y}{Y}$

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.			
1	79.6	78.8	79.4	79.5	79.2	79.3	77.6	78.4	80.1	81.4	81.6	81.3	79.7																						
2	80.6	80.1	80.0	80.3	79.5	79.5	78.6	78.6	79.5	78.9	80.0	80.2	79.7																						
3	80.3	79.6	79.4	79.7	79.2	79.6	—	78.0	78.0	80.2	80.4	80.4	79.5																						
4	79.8	79.8	79.4	79.3	79.0	78.7	78.5	79.7	81.2	81.7	82.6	83.2	80.2																						
5	82.4	81.3	81.0	—	—	—	—	—	—	—	—	—	—																						
6	—	—	—	78.8	79.1	79.4	79.4	79.7	81.2	82.3	83.4	82.6	80.9																						
7	82.3	82.6	82.0	81.4	81.0	80.4	80.2	80.9	83.1	84.3	83.4	83.3	82.1																						
8	—	82.5	82.5	82.0	80.3	80.0	79.9	80.9	82.2	82.6	83.0	82.8	81.7																						
9	82.6	81.9	81.5	80.6	80.4	79.3	79.5	80.4	82.2	83.5	84.1	83.5	81.6																						
10	82.4	82.4	81.7	81.2	—	81.5	80.5	80.1	81.7	82.7	81.2	81.1	81.5																						
11	80.8	81.0	80.0	79.5	79.2	77.8	79.6	79.2	80.3	81.5	82.5	80.1	80.1																						
12	78.7	79.5	78.8	—	—	—	—	—	—	—	—	—	—																						
13	—	—	—	80.2	79.7	80.4	78.2	80.2	81.3	81.5	83.2	83.0	80.4																						
14	82.5	81.7	79.9	—	79.6	79.5	78.8	80.1	81.3	82.6	83.0	83.4	81.1																						
15	83.3	82.2	82.6	80.8	80.2	79.6	79.0	80.6	82.4	83.2	84.2	83.4	81.8																						
16	83.2	82.3	82.0	81.3	—	80.5	80.5	80.8	82.6	84.1	84.6	83.5	82.3																						
17	83.5	83.0	82.5	—	82.6	81.0	80.6	81.4	83.2	85.0	85.6	85.0	83.0																						
18	83.7	82.2	82.1	82.8	81.0	80.5	79.5	80.7	82.5	83.9	83.9	83.6	82.2																						
19	81.7	80.7	80.6	—	—	—	—	—	—	—	—	—	—																						
20	—	—	—	81.7	80.5	80.1	79.5	80.6	82.7	81.9	82.1	—	81.1																						
21	82.4	—	83.0	80.7	80.0	—	79.3	81.0	83.0	84.1	84.0	83.8	82.1																						
22	82.6	82.7	82.2	81.6	81.0	—	79.5	80.1	81.9	82.8	84.2	84.3	82.1																						
23	83.4	82.7	—	80.4	79.2	79.8	80.0	79.8	81.6	83.2	83.4	83.7	81.6																						
24	83.2	83.4	83.0	—	Good Friday			—	—	—	—	—	—	—																					
25	—	—	—	81.																															

$$k = a \cdot \cot. \theta \frac{T^2}{T^2} = 0.00002909 \times \cot. 12^\circ 40' \times \left(\frac{7.444}{17.22}\right)^2 = 0.0001687$$

$$\frac{g}{k} = \frac{0.0004363}{0.00001687} = 25.8625 = 1^\circ \text{Faht. Zero} \dots 80^\circ 0$$

$$g = .0004363$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

ther.

Gottingen Mean Time.	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	
Singapore Mean Time.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	sc. d.	sc. d.	sc. d.	
	6:16	8:16	10:16	12:16	14:16	16:16	18:16	20:16	22:16	0:16	2:16	4:16			
	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	
1	—300	—361	—355	—341	—356	—365	—348	—264	—89	—164	—194	—251	—282	—13	—295
2	—327	—331	—335	—	—	—	—	—	—	—	—	—	—	—	—
3	—	—	—	—316	—344	—314	—344	—323	—211	—173	—283	—267	—297	—41	—338
4	—301	—315	—336	—343	—	—336	—334	—243	—116	—102	—205	—348	—271	—47	—318
5	—364	—305	—297	—311	—323	—313	—342	—262	—107	—96	—302	—346	—281	—21	—302
6	—313	—289	—318	—299	—319	—280	—339	—239	—35	19	—86	—214	—226	—59	—285
7	—278	—279	—280	—	—329	—283	—297	—229	—58	12	—223	—276	—229	—65	—294
8	—303	—279	—279	—275	—315	—322	—319	—296	—148	—86	—220	—191	—253	—28	—281
9	—293	—317	—342	—	—	—	—	—	—	—	—	—	—	—	—
10	—	—	—	—313	—366	—	—381	—240	—141	—262	—336	—334	—302	—21	—323
11	—375	—345	—362	—423	—378	—399	—423	—355	—185	—180	—328	—315	—339	—13	—352
12	—331	—417	—310	—386	—335	—374	—419	—290	—122	—53	—190	—258	—290	—18	—308
13	—386	—322	—346	—330	—324	—324	—372	—274	—119	—231	—190	—262	—290	—41	—331
14	—316	—342	—306	—295	—322	—318	—338	—169	—43	—85	—320	—370	—269	—65	—334
15	—	—360	—356	—	—346	—376	—378	—308	—114	—131	—292	—300	—296	—26	—322
16	—318	—329	—276	—	—	—	—	—	—	—	—	—	—	—	—
17	—	—	—	—306	—337	—349	—347	—243	—122	—96	—105	—198	—252	—44	—296
18	—275	—289	—261	—246	—306	—335	—313	—167	10	—39	—68	—140	—202	—62	—264
19	—266	—263	—279	—250	—307	—298	—270	—276	—153	—101	—87	—158	—226	—47	—273
20	—298	—238	—244	—202	—	—241	—266	—203	—109	—96	—165	—161	—202	—39	—241
21	—232	—211	—105	—188	—168	—184	—234	—120	11	—93	—108	—	—148	—54	—202
22	—176	—172	—160	—199	—188	—	—243	—201	—30	4	—43	—208	—147	—67	—214
23	—219	—237	—178	—	—	—	—	—	—	—	—	—	—	—	—
24	—	—	—	—153	—209	—218	—196	—131	—14	40	—77	—	—145	—59	—204
25	—196	—126	—214	—184	—173	—178	—214	—134	—20	—57	—134	—140	—148	—70	—218
26	—215	a	—98	—104	—46	—67	—31	—20	65	179	123	14	—	—	—
27	—34	—43	—21	—19	—29	—48	8	12	125	152	38	13	13	—	—
28	—49	—50	—20	—18	—31	—25	—49	84	84	74	23	—51	—2	—	—
29	—55	2	—2	—21	—22	—44	—21	—44	77	150	—77	38	—2	—	—
30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hourly Means.....	—293	—292	—283	—282	—302	—306	—320	—236	—91	—94	—188	—249	—245	—43	—285
Temp. Correction.	—57	—52	—47	—31	—18	—8	5	—10	—52	—75	—85	—80	—42	—	—
Corrected Means.....	—350	—344	—330	—313	—320	—314	—315	—246	—143	—169	—273	—329	—287	—	—
Differences.....	—207	—201	—187	—170	—177	—171	—172	—103	0	—26	—130	—186	—144	—	—
Diurnal Oscillation=00	3492	3391	3155	2868	2986	2885	2902	1738	0	0439	2193	3138	2432	= $\frac{\Delta Y}{Y}$	—

	80°0	80°5	80°0	80°0	79°1	78°8	78°6	79°5	82°0	82°0	82°7	83°3	80°5		
1	80°0	80°5	80°0	80°0	79°1	78°8	78°6	79°5	82°0	82°0	82°7	83°3	80°5		
2	82°5	82°3	82°2	—	—	—	—	—	—	—	—	—	—		
3	—	—	—	82°2	81°1	81°0	80°5	79°7	80°2	82°0	82°5	83°2	81°6		
4	82°5	82°0	81°1	80°6	—	79°6	79°1	80°6	82°5	83°9	84°3	83°0	81°8		
5	81°2	81°0	81°1	80°6	78°5	79°0	78°2	79°7	81°6	83°0	82°9	82°6	80°8		
6	82°5	82°3	82°1	82°1	81°6	81°7	79°7	81°2	82°5	83°6	84°5	84°0	82°3		
7	83°2	82°6	82°7	—	81°6	81°5	81°5	81°2	82°6	84°0	83°6	83°0	82°5		
8	82°0	81°8	82°0	79°6	80°2	79°6	79°7	80°2	81°0	82°2	82°1	82°5	81°1		
9	82°0	81°7	80°5	—	—	—	—	—	—	—	—	—	—		
10	—	—	—	80°6	79°6	—	79°1	80°3	81°0	81°0	81°4	81°4	80°8		
11	80°5	80°6	80°3	79°4	79°7	79°0	78°5	79°4	81°0	82°0	82°9	82°3	80°5		
12	82°0	81°4	81°0	79°7	79°5	79°1	77°5	78°6	81°0	82°3	83°0	82°8	80°7		
13	81°6	81°2	81°1	80°7	80°8	80°0	79°6	80°3	82°2	83°5	84°0	84°1	81°6		
14	83°1	83°0	82°0	81°6	81°2	81°0	80°1	82°0	83°2	84°0	85°3	83°8	82°5		
15	—	81°0	81°5	—	80°5	79°6	79°5	79°0	81°3	82°5	82°7	82°6	81°0		
16	82°1	81°3	81°5	—	—	—	—	—	—	—	—	—	—		
17	—	—	—	81°6	80°3	80°1	80°0	81°1	82°0	82°9	84°1	83°9	81°7		
18	83°4	83°4	83°2	81°7	80°9	80°3	79°9	81°5	82°9	83°2	84°2	84°1	82°4		
19	83°5	82°9	82°5	82°0	80°4	80°5	80°6	80°2	81°0	82°2	83°0	83°0	81°8		
20	82°1	81°6	—	81°4	—	80°4	80°8	80°0	81°5	82°2	82°5	82°5	81°5		
21	82°3	82°6	82°5	82°5	82°3	81°4	80°2	81°0	82°6	82°6	83°1	—	82°1		
22	82°7	83°4	83°5	82°3	82°0	—	79°6	80°1	82°4	84°0	84°7	83°3	82°6		
23	82°5	82°0	81°2	—	—	—	—	—	—	—	—	—	—		
24	—	—	—	82°1	82°0	81°5	81°5	81°5	83°5	84°2	83°5	—	82°3		
25	83°1	84°1	83°0	82°0	82°5	82°1	81°3	81°7	83°4	83°6	82°5	83°5	82°7		
26	82°5	—	81°6	81°0	82°0	80°3	81°6	81°5	82°3	84°2	84°5	84°0	—		
27	83°5	83°1	84°1	83°0	83°0	83°0	82°3	82°2	84°1	84°7	83°0	82°6	83°2		
28	81°5	81°7	82°5	82°5	82°0	81°5	80°9	80°6	82°6	83°8	84°1	83°0	82°2		
29	82°5	80°5	83°0	82°3	82°0	81°5	81°5	82°7	82°7	84°0	83°2	83°0	82°4		
30	—	—	—	—	—	—	—	—	—	—	—	—	—		
Mean.	82°2	82°0	81°8	81°2	80°7	80°3	79°8	80°4	82°0	82°9	83°3	83°1	81°7	—	—

a Series broken.

The observations from 26th to 29th are omitted in the daily and hourly means.

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = 0.00002909 \times \cot 12.40' \times \left(\frac{7.444}{17.22}\right)^2 = 0.0001687$$

$$g = .0004363$$

$$\frac{g}{k} = \frac{0.0004363}{0.0001687} = 25.8625 = 1^\circ \text{ Fahr.}$$

ther. Zero .. 80.0

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.		Noon	2	4	6	8	10	12	14	16	18	20	22	Daily and Monthly Means.	Temp. Corr.	Corrected Means.
Singapore Mean Time.		H. M. 6.16	H. M. 8.16	H. M. 10.16	H. M. 12.16	H. M. 14.16	H. M. 16.16	H. M. 18.16	H. M. 20.16	H. M. 22.16	H. M. 0.16	H. M. 2.16	H. M. 4.16			
VERTICAL FORCE MAGNETOMETER.	April 30	sc. d. 23	sc. d. 6	sc. d. 15	sc. d. 27	sc. d. 21	sc. d. 15	sc. d. 36	sc. d. 79	sc. d. 65	sc. d. 59	sc. d. 27	sc. d. 52	— 23	— 62	— 85
	1	—	—	—	— 27	— 21	— 15	— 36	— 79	— 65	— 59	— 27	— 52	— 36	— 39	— 75
	2	— 124	— 88	— 75	— 95	— 65	— 64	— 124	— 25	113	209	13	— 102	— 53	— 47	— 100
	3	— 116	— 68	— 102	— 113	— 74	— 87	— 119	— 122	20	74	52	16	— 49	— 75	— 124
	4	— 115	— 87	— 80	— 75	— 110	— 84	— 104	— 52	154	146	— 81	— 103	— 35	— 67	— 102
	5	— 110	— 48	— 37	— 61	— 83	— 89	— 118	— 75	69	165	— 15	— 23	— 78	— 65	— 143
	6	— 72	— 37	— 93	— 117	— 127	— 66	— 125	— 47	113	— 144	— 74	— 144	—	—	—
	7	— 146	— 105	— 91	—	—	—	—	—	—	—	—	—	—	—	—
	8	—	—	—	— 141	— 117	— 119	— 109	— 107	— 51	46	— 13	— 85	— 87	— 62	— 149
	9	— 125	— 104	— 126	— 122	— 95	— 116	— 105	— 136	— 34	— 6	— 33	— 78	— 90	— 67	— 157
	10	— 107	— 105	— 102	— 94	— 132	— 94	— 102	— 45	119	110	56	26	— 39	— 65	— 104
	11	— 46	— 32	4	— 44	— 52	— 68	— 26	— 18	130	149	— 104	— 14	— 10	— 83	— 93
	12	— 33	— 14	— 44	— 15	— 31	— 27	— 23	18	104	120	41	— 402	— 25	— 93	— 118
	13	— 8	— 10	13	8	— 5	— 13	— 14	52	242	198	138	73	56	— 91	— 35
	14	4	33	25	—	—	—	—	—	—	—	—	—	—	—	—
	15	—	—	—	— 11	— 51	— 43	— 54	— 14	100	138	— 15	— 45	6	— 59	— 53
	16	— 127	— 124	— 49	— 55	— 39	— 40	— 35	— 40	— 37	51	37	— 12	— 39	— 44	— 83
	17	—	— 50	— 30	— 17	— 19	— 23	— 40	— 17	78	150	35	— 61	1	— 62	— 61
	18	— 35	— 28	— 31	— 31	— 25	— 31	— 42	2	105	108	15	— 90	— 7	— 80	— 87
	19	— 76	— 63	— 54	— 49	— 57	— 94	— 96	— 105	— 80	— 60	— 23	— 87	— 70	— 28	— 98
	20	—	— 99	— 67	— 84	— 71	— 103	— 126	— 52	60	131	125	— 13	— 27	— 31	— 58
	21	— 109	— 61	— 36	—	—	—	—	—	—	—	—	—	—	—	—
	22	—	—	—	— 88	— 99	— 65	— 81	— 67	— 15	125	47	— 7	— 38	— 57	— 95
	23	— 65	— 56	— 43	— 48	— 42	— 60	— 82	— 12	34	91	112	74	— 8	— 75	— 83
	24	— 4	— 18	— 27	— 12	— 10	— 11	— 28	54	128	148	110	117	37	— 98	— 61
	25	16	6	36	33	28	20	— 28	54	133	158	153	109	60	— 80	— 20
	26	27	17	8	77	55	9	3	91	167	214	163	123	79	— 96	— 17
	27	48	91	73	62	^a	—	277	327	354	391	314	314	—	—	—
	28	322	336	300	—	—	—	—	—	—	—	—	—	—	—	—
	29	—	—	—	—	237	227	235	280	308	318	315	295	288	—	—
	30	281	301	354	90	311	289	344	342	383	391	417	369	323	—	—
31	330	359	380	387	356	360	371	416	488	568	531	417	413	—	—	
Hourly Means	— 66	— 50	— 43	— 51	— 54	— 56	— 70	— 32	69	103	31	— 34	— 21	— 66	— 87	
Temp. Correction	— 75	— 80	— 78	— 62	— 49	— 44	— 28	— 39	— 75	— 96	— 96	— 85	— 67	—	—	
Corrected Means	— 141	— 130	— 121	— 113	— 103	— 100	— 98	— 71	— 6	7	— 65	— 119	— 88	—	—	
Differences	— 148	— 137	— 128	— 120	— 110	— 107	— 105	— 78	— 13	0	— 72	— 126	— 95	—	—	
Diurnal Oscillation = .00	2497	2311	2159	2024	1856	1805	1771	1316	0219	0	1215	2126	1608	$\frac{\Delta Y}{Y}$		

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.	April 30	82.5	83.6	83.5	°	°	°	°	°	°	°	°	°	—	—
	1	—	—	—	82.5	82.4	82.5	81.1	81.5	83.1	82.6	82.2	81.3	82.4	—
	2	81.5	81.2	82.0	81.7	81.5	81.2	79.0	80.6	82.4	84.1	82.2	81.0	81.5	—
	3	80.8	—	81.7	81.6	80.6	81.3	80.8	80.7	81.7	82.8	83.7	83.6	81.8	—
	4	82.7	83.0	82.8	83.0	82.2	82.5	81.7	82.2	83.2	83.1	84.5	83.5	82.9	—
	5	83.0	83.4	83.5	82.8	82.5	82.3	80.5	81.0	82.0	83.5	83.3	83.6	82.6	—
	6	83.0	83.0	83.1	82.7	81.3	82.0	80.5	81.6	83.7	84.5	82.5	82.0	82.5	—
	7	81.0	82.3	82.3	—	—	—	—	—	—	—	—	—	—	—
	8	—	—	—	82.0	82.2	82.2	81.7	81.4	83.2	83.5	83.3	83.2	82.4	—
	9	82.7	83.3	83.0	82.3	82.7	82.3	82.1	80.4	82.0	83.0	83.5	83.5	82.6	—
	10	82.7	83.1	82.3	82.0	81.5	81.3	80.4	81.2	83.0	83.7	84.2	84.4	82.5	—
	11	83.5	83.8	84.0	82.8	82.1	82.0	81.6	81.9	83.5	84.4	85.0	84.0	83.2	—
	12	84.0	84.5	83.5	84.0	82.8	82.6	82.7	82.2	83.7	84.5	84.2	84.0	83.6	—
	13	83.5	83.5	84.0	83.5	83.0	82.5	81.8	82.2	84.0	83.5	84.0	85.0	83.5	—
	14	84.0	84.7	84.5	—	—	—	—	—	—	—	—	—	—	—
	15	—	—	—	82.1	81.2	80.8	80.5	81.2	—	83.8	81.7	81.0	82.3	—
	16	80.5	81.5	81.7	81.5	81.3	81.0	81.0	81.0	82.5	83.0	82.9	82.6	81.7	—
	17	—	82.5	82.5	82.3	81.8	81.3	81.3	81.5	82.6	84.0	83.8	83.2	82.4	—
	18	83.5	83.5	83.5	83.5	83.0	83.1	82.4	82.6	83.8	84.0	83.0	81.6	83.1	—
	19	82.5	82.2	82.2	82.0	81.5	80.5	80.5	79.6	79.7	80.5	81.3	81.2	81.1	—
	20	—	81.0	80.9	80.6	80.0	79.6	80.0	80.5	82.0	82.7	83.6	82.7	81.2	—
	21	82.2	83.0	83.3	—	—	—	—	—	—	—	—	—	—	—
	22	—	—	—	81.7	81.4	81.0	80.5	80.7	81.7	83.5	83.9	84.0	82.2	—
	23	83.2	83.0	83.1	82.5	81.2	81.0	81.0	82.2	83.1	84.3	85.5	85.0	82.9	—
	24	84.3	84.3	84.0	82.2	82.6	82.4	82.3	83.0	84.5	85.3	85.5	85.5	83.8	—
	25	84.8	84.0	83.3	82.3	81.6	81.1	80.0	81.6	84.0	84.6	85.2	85.2	83.1	—
	26	84.3	84.0	84.4	83.4	82.5	81.7	81.2	82.5	84.0	85.4	85.7	85.4	83.7	—
	27	84.5	83.7	83.5	83.0	—	—	81.0	82.3	84.2	85.2	85.2	85.3	—	—
	28	84.6	84.5	83.5	—	—	—	—	—	—	—	—	—	—	—
	29	—	—	—	—	81.5	80.5	80.1	82.4	83.7	84.6	85.3	85.3	83.3	—
	30	84.5	84.8	85.2	84.5	84.1	83.5	83.6	84.5	86.0	86.5	87.0	86.6	85.1	—
31	85.7	85.7	86.0	85.5	84.5	83.6	83.3	84.4	86.1	87.0	87.3	86.6	85.5	—	
Means.	82.9	83.1	83.0	82.4	81.9	81.7	81.1	81.5	82.9	83.7	83.7	83.3	82.6	—	—

^a Series broken. Observations from the 27th to 31st are omitted in the hourly and daily means.

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = 0.00002909 \times \cot 12.40' \times \left(\frac{7.444}{17.22}\right)^2 = 0.0001687$$

$$q = .0004363$$

$$\frac{q}{k} = \frac{0.0004363}{0.0001687} = 25.8625 = 1^\circ \text{ Faht. } \text{ther.}$$

Zero .. 80°0

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Göttingen Mean Time.	Noon. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23																							Daily and Monthly Means.	Temp. Corr.	Corrected Means.				
	Singapore Mean Time.																													
	h.m. 6-16	h.m. 7-16	h.m. 8-16	h.m. 9-16	h.m. 10-16	h.m. 11-16	h.m. 12-16	h.m. 13-16	h.m. 14-16	h.m. 15-16	h.m. 16-16	h.m. 17-16	h.m. 18-16	h.m. 19-16	h.m. 20-16	h.m. 21-16	h.m. 22-16	h.m. 23-16	h.m. 0-16	h.m. 1-16	h.m. 2-16	h.m. 3-16	h.m. 4-16	h.m. 5-16	sc.d.	sc.d.	sc.d.			
VERTICAL FORCE MAGNETOMETER. JUNE 1842.	1	360	398	414	425	409	356	391	393	395	349	337	347	399	409	432	477	511	535	486	505	488	417	399	373	417	-137	280		
	2	357	348	394	385	382	389	382	371	373	362	328	373	374	333	346	373	411	443	472	409	437	446	435	394	388	-106	282		
	3	351	369	367	368	..	228	290	102	154	235	297	354	301	322	384	414	459	441	459	333	310	323	312	299	325	-116	209		
	4	300	327	338	351	353	318	
	5	269	267	292	303	289	288	301	292	330	392	452	489	519	482	451	346	287	227
	6	281	251	291	304	267	227	206	224	235	293	234	249	219	231	306	396	437	440	433	404	323	403	297	223	299	-36	263		
	7	276	262	266	273	267	261	272	273	272	233	242	248	267	259	269	298	318	339	381	351	279	234	258	248	277	-18	259		
	8	213	255	252	252	244	251	243	225	219	232	222	214	235	230	260	257	291	333	372	394	365	328	278	257	268	-28	240		
	9	213	237	229	244	235	245	242	235	230	226	208	240	197	151	189	287	335	389	361	312	480	183	200	142	250	-39	211		
	10	194	227	227	230	a	..	162	38	43	41	32	7	4	18	86	111	130	147	161	184	152	151	98	79	115	..	..
	11	19	44	43	50	48	
	12	16	41	34	31	18	8	0	12	10	35	107	177	223	186	169	136	156	83	71	
	13	36	71	61	44	48	61	78	66	57	64	48	24	9	16	53	86	43	78	152	160	153	132	75	45	69	
	14	9	35	61	69	42	68	58	64	26	20	27	26	23	..	10	65	121	159	157	142	130	78	62	337	78	
	15	317	352	374	385	384	372	345	362	365	380	375	376	377	390	371	467	484	571	533	577	519	487	470	414	418	-80	338		
	16	378	414	424	419	416	419	422	453	433	422	426	429	431	423	442	495	536	564	559	547	512	505	495	475	460	-109	351		
	17	..	460	460	467	470	477	471	468	475	465	468	473	478	463	507	575	591	624	617	611	570	498	470	436	504	-98	406		
	18	430	491	503	487	484	
	19	..	..	..	..	..	..	428	431	426	409	457	465	486	461	525	548	556	570	585	585	530	517	509	479	494	-111	383
	20	457	479	504	513	502	509	508	501	514	511	522	508	474	493	530	564	556	543	532	500	528	501	457	420	505	-109	396		
	21	416	478	455	478	460	464	467	451	445	473	481	470	466	445	450	458	461	484	469	469	488	517	522	496	469	-44	425		
	22	436	463	470	468	500	485	490	478	482	480	477	474	485	470	537	564	596	590	592	584	531	472	485	470	503	-62	441		
	23	509	469	488	500	484	473	465	470	447	475	447	414	424	454	493	522	559	562	561	554	526	486	478	456	488	-85	403		
	24	426	464	479	497	487	492	492	492	468	464	456	474	483	464	535	573	596	599	557	562	583	581	527	514	511	-91	420		
	25	476	497	490	494	505	
	26	..	..	..	..	..	..	396	394	491	442	367	424	429	419	438	477	527	550	570	551	511	445	416	400	465	-85	380
	27	406	445	443	445	455	459	459	514	504	488	491	477	497	466	516	516	553	603	612	563	534	515	508	497	498	-91	407		
	28	478	504	510	481	498	500	477	485	484	500	489	480	471	489	512	535	564	607	606	581	578	569	549	510	519	-103	416		
	29	500	531	531	553	551	558	550	504	471	478	483	481	457	463	481	521	568	552	512	552	495	489	469	465	509	-93	416		
	30	450	475	484	469	477	481	496	496	493	490	486	487	500	489	529	565	587	592	583	599	542	538	503	490	512	-103	409		

Hourly Means.....	382	408	417	421	420	398	398	390	394	396	390	397	398	391	426	467	497	519	517	501	481	445	424	395	428	-83	345
Temp. Correction..	-80	-80	-88	-85	-80	-78	-75	-67	-65	-62	-59	-49	-47	-52	-65	-85	-103	-116	-122	-122	-116	-109	-103	-93	-83	..	..
Corrected Means...	302	328	329	336	340	320	323	323	329	334	331	348	351	339	361	382	394	403	395	379	365	336	321	302	345	..	..
Differences.....	-101	-75	-74	-67	-63	-83	-80	-80	-74	-69	-72	-55	-52	-64	-42	-21	-9	0	-8	-24	-38	-67	-82	-101	-58	..	..
Diurnal Oscillation } = 00	1704	1265	1248	1130	1063	1400	1350	1350	1248	1164	1215	0928	0877	1080	0709	0354	0152	0	0135	0405	0641	1130	1383	1704	0985	= $\frac{\Delta Y}{Y}$	

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. JUNE 1842.	Hourly Observations																							Means.	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1	85.9	80.3	86.5	86.5	86.0	86.0	85.6	85.4	85.2	84.0	83.6	83.5	83.9	82.4	85.0	86.1	86.5	87.1	86.2	87.0	87.1	86.3	86.0	85.7	85.3
2	85.2	84.6	85.0	84.5	84.5	84.3	84.8	83.4	83.2	82.5	82.2	82.5	82.3	82.4	82.8	83.8	84.6	85.5	86.0	84.7	84.8	85.3	85.3	85.1	84.1
3	84.6	84.7	84.9	85.0	..	85.0	84.2	84.2	84.1	84.0	84.0	82.1	82.3	83.0	83.8	84.9	86.5	85.7	86.6	84.7	84.7	85.0	84.9	84.3	84.5
4	83.6	83.6	83.5	83.0	83.1	82.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6	82.0	81.7	82.5	82.0	82.5	81.2	80.2	79.8	80.3	80.0	80.0	79.0	79.1	79.2	80.5	82.0	82.5	83.4	83.9	84.0	83.0	82.0	82.0	81.5	81.4
7	81.1	81.5	81.4	81.0	80.5	80.4	80.3	79.7	79.8	79.6	79.3	79.2	79.2	79.5	80.0	80.5	81.0	81.6	82.6	82.5	81.9	81.5	81.6	81.5	80.7
8	81.1	81.0	81.2	80.9	80.4	80.6	80.4	80.0	80.0	79.5	79.4	79.6	79.5	80.0	80.8	80.7	81.1	81.8	82.5	83.7	83.2	83.0	83.0	82.5	81.1
9	81.8	81.7	81.5	81.5	81.3	81.2	81.2	79.7	80.4	80.5	80.0	80.0	80.0	80.2	81.0	82.2	83.0	83.6	83.8	83.8	82.6	82.4	81.8	81.5	81.5
10	81.2	80.5	80.9	..	..	..	80.7	79.1</																	

$$k = a. \cot. \theta \frac{T^2}{T^2} = 0.00002909 \times \cot. 12^\circ 40' \times \left(\frac{7.444}{17.22}\right)^2 = 0.0001687$$

$$g = .0004363$$

$$\frac{g}{k} = \frac{0.0004363}{0.0001687} = 25.8625 = 1^\circ \text{Faht. Zero} \dots 80^\circ \text{ther.}$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.		
Singapore Mean Time.	h.m. 6:16	h.m. 7:16	h.m. 8:16	h.m. 9:16	h.m. 10:16	h.m. 11:16	h.m. 12:16	h.m. 13:16	h.m. 14:16	h.m. 15:16	h.m. 16:16	h.m. 17:16	h.m. 18:16	h.m. 19:16	h.m. 20:16	h.m. 21:16	h.m. 22:16	h.m. 23:16	h.m. 0:16	h.m. 1:16	h.m. 2:16	h.m. 3:16	h.m. 4:16	h.m. 5:16					
VERTICAL FORCE MAGNETOMETER. AUGUST 1842.	1	sc.d. -257	sc.d. -238	sc.d. -230	sc.d. -242	sc.d. -213	sc.d. -199	sc.d. -226	sc.d. -246	sc.d. -258	sc.d. -242	sc.d. -313	sc.d. -264	sc.d. -243	sc.d. -307	sc.d. -226	sc.d. -185	sc.d. -162	sc.d. -161	sc.d. -178	sc.d. -176	sc.d. -159	sc.d. -307	sc.d. -236	sc.d. -243	sc.d. -229	sc.d. -116	sc.d. -345	
	2	sc.d. -332	sc.d. -302	sc.d. -311	sc.d. -307	sc.d. -333	sc.d. -344	sc.d. -307	sc.d. -290	sc.d. -344	sc.d. -340	sc.d. -323	sc.d. -327	sc.d. -378	sc.d. -347	sc.d. -348	sc.d. -255	sc.d. -245	sc.d. -209	sc.d. -189	sc.d. -158	sc.d. -178	sc.d. -195	sc.d. -241	sc.d. -288	sc.d. -287	sc.d. -75	sc.d. -362	
	3	sc.d. -334	sc.d. -298	sc.d. -287	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .
	4	sc.d. -182	sc.d. -134	sc.d. -131	sc.d. -134	sc.d. -134	sc.d. -137	sc.d. -152	sc.d. . . .	sc.d. -195	sc.d. -166	sc.d. -211	sc.d. -164	sc.d. -92	sc.d. -131	sc.d. -94	sc.d. -107	sc.d. -86	sc.d. -64	sc.d. 28	sc.d. -45	sc.d. 72	sc.d. -60	sc.d. -113	sc.d. -129	sc.d. -120	sc.d. -65	sc.d. -195	
	5	sc.d. -164	sc.d. -93	sc.d. 71	sc.d. -93	sc.d. -111	sc.d. -105	sc.d. -126	sc.d. -101	sc.d. -163	sc.d. -190	sc.d. -298	sc.d. -174	sc.d. -187	sc.d. -199	sc.d. -185	sc.d. -130	sc.d. 19	sc.d. 6	sc.d. -30	sc.d. -96	sc.d. -127	sc.d. -142	sc.d. -157	sc.d. -161	sc.d. -128	sc.d. 78	sc.d. 206	
	6	sc.d. -174	sc.d. -136	sc.d. -111	sc.d. -111	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .
	7	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .
	8	sc.d. 82	sc.d. . . .	sc.d. 105	sc.d. . . .	sc.d. -420	sc.d. . . .	sc.d. -460	sc.d. . . .	sc.d. -452	sc.d. . . .	sc.d. -410	sc.d. . . .	sc.d. -399	sc.d. . . .	sc.d. -527	sc.d. . . .	sc.d. -384	sc.d. . . .	sc.d. -318	sc.d. . . .	sc.d. -318	sc.d. . . .	sc.d. -407	sc.d. . . .	sc.d. -326	sc.d. -114	sc.d. -440	
	9	sc.d. -449	sc.d. . . .	sc.d. -427	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. -298	sc.d. . . .	sc.d. -288	sc.d. . . .	sc.d. -293	sc.d. . . .	sc.d. -298	sc.d. . . .	sc.d. -334	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. -127	sc.d. . . .	sc.d. -113	sc.d. . . .	sc.d. -162	sc.d. . . .	sc.d. -279	sc.d. -122	sc.d. 401	
	10	sc.d. -248	sc.d. . . .	sc.d. -199	sc.d. . . .	sc.d. -196	sc.d. . . .	sc.d. -74	sc.d. . . .	sc.d. -227	sc.d. . . .	sc.d. -246	sc.d. . . .	sc.d. -269	sc.d. . . .	sc.d. -247	sc.d. . . .	sc.d. -149	sc.d. . . .	sc.d. 44	sc.d. . . .	sc.d. -43	sc.d. . . .	sc.d. -126	sc.d. . . .	sc.d. -172	sc.d. -129	sc.d. 301	
	11	sc.d. -244	sc.d. . . .	sc.d. -216	sc.d. . . .	sc.d. -161	sc.d. . . .	sc.d. -267	sc.d. . . .	sc.d. -207	sc.d. . . .	sc.d. -263	sc.d. . . .	sc.d. -308	sc.d. . . .	sc.d. -278	sc.d. . . .	sc.d. -162	sc.d. . . .	sc.d. 113	sc.d. . . .	sc.d. -89	sc.d. . . .	sc.d. -217	sc.d. . . .	sc.d. -210	sc.d. -109	sc.d. 319	
	12	sc.d. -263	sc.d. . . .	sc.d. -217	sc.d. . . .	sc.d. -227	sc.d. . . .	sc.d. -263	sc.d. . . .	sc.d. -267	sc.d. . . .	sc.d. -306	sc.d. . . .	sc.d. -316	sc.d. . . .	sc.d. -293	sc.d. . . .	sc.d. -188	sc.d. . . .	sc.d. -145	sc.d. . . .	sc.d. -210	sc.d. . . .	sc.d. -310	sc.d. . . .	sc.d. -250	sc.d. -122	sc.d. 372	
	13	sc.d. -349	sc.d. . . .	sc.d. -289	sc.d. . . .	sc.d. -373	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .
	14	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .
	15	sc.d. -257	sc.d. -254	sc.d. -252	sc.d. -254	sc.d. -279	sc.d. -283	sc.d. -284	sc.d. -300	sc.d. -325	sc.d. -272	sc.d. -305	sc.d. -336	sc.d. -333	sc.d. -334	sc.d. -288	sc.d. -256	sc.d. -234	sc.d. -213	sc.d. -183	sc.d. -194	sc.d. -233	sc.d. -256	sc.d. -262	sc.d. -289	sc.d. -270	sc.d. -26	sc.d. -296	
	16	sc.d. -308	sc.d. -279	sc.d. -276	sc.d. -289	sc.d. -251	sc.d. -252	sc.d. -260	sc.d. -267	sc.d. -286	sc.d. -321	sc.d. -302	sc.d. -296	sc.d. -258	sc.d. -328	sc.d. . . .	sc.d. -210	sc.d. -169	sc.d. -169	sc.d. -167	sc.d. -197	sc.d. 208	sc.d. -230	sc.d. -262	sc.d. -320	sc.d. -257	sc.d. 72	sc.d. -329	
	17	sc.d. -362	sc.d. -284	sc.d. -292	sc.d. -357	sc.d. -254	sc.d. -275	sc.d. -268	sc.d. -288	sc.d. -281	sc.d. -297	sc.d. -299	sc.d. -315	sc.d. -365	sc.d. -355	sc.d. -345	sc.d. -212	sc.d. -214	sc.d. -226	sc.d. -248	sc.d. -286	sc.d. -295	sc.d. -297	sc.d. -284	sc.d. -295	sc.d. -291	sc.d. -59	sc.d. -350	
	18	sc.d. -332	sc.d. -286	sc.d. -319	sc.d. -369	sc.d. -321	sc.d. -332	sc.d. -340	sc.d. -331	sc.d. -310	sc.d. -338	sc.d. -358	sc.d. -347	sc.d. -375	sc.d. -375	sc.d. -288	sc.d. -258	sc.d. -206	sc.d. -193	sc.d. -158	sc.d. 158	sc.d. 215	sc.d. -258	sc.d. -296	sc.d. -329	sc.d. -295	sc.d. 65	sc.d. -360	
	19	sc.d. -332	sc.d. -280	sc.d. -343	sc.d. -317	sc.d. -361	sc.d. -339	sc.d. -339	sc.d. -317	sc.d. -306	sc.d. -317	sc.d. -331	sc.d. -311	sc.d. -294	sc.d. -379	sc.d. -338	sc.d. -338	sc.d. -328	sc.d. -321	sc.d. 305	sc.d. -271	sc.d. -309	sc.d. -374	sc.d. -375	sc.d. -335	sc.d. -327	sc.d. -65	sc.d. -392	
	20	sc.d. -330	sc.d. -346	sc.d. -334	sc.d. 353	sc.d. -348	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .
	21	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .
	22	sc.d. -499	sc.d. -436	sc.d. -436	sc.d. -457	sc.d. -466	sc.d. -453	sc.d. -432	sc.d. -462	sc.d. -455	sc.d. -460	sc.d. -464	sc.d. -471	sc.d. -465	sc.d. -443	sc.d. -450	sc.d. -411	sc.d. -402	sc.d. -362	sc.d. -294	sc.d. -336	sc.d. -348	sc.d. -324	sc.d. -365	sc.d. -408	sc.d. -421	sc.d. -16	sc.d. -437	
	23	sc.d. -441	sc.d. -343	sc.d. -413	sc.d. -409	sc.d. -410	sc.d. -414	sc.d. -399	sc.d. -403	sc.d. -420	sc.d. -431	sc.d. -425	sc.d. -442	sc.d. -417	sc.d. -464	sc.d. -432	sc.d. -394	sc.d. -368	sc.d. -350	sc.d. -330	sc.d. -323	sc.d. -399	sc.d. . . .	sc.d. -453	sc.d. . . .	sc.d. -404	sc.d. -34	sc.d. -438	
	24	sc.d. . . .	sc.d. -463	sc.d. -465	sc.d. -450	sc.d. -440	sc.d. -417	sc.d. -417	sc.d. -452	sc.d. -416	sc.d. -420	sc.d. -420	sc.d. -475	sc.d. -452	sc.d. -472	sc.d. -412	sc.d. -357	sc.d. -307	sc.d. -292	sc.d. -324	sc.d. -355	sc.d. -377	sc.d. -252	sc.d. -255	sc.d. 291	sc.d. -391	sc.d. -31	sc.d. -422	
	25	sc.d. -322	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .
	26	sc.d. . . .	sc.d. . . .	sc.d. 83	sc.d. 77	sc.d. 94	sc.d. 65	sc.d. 66	sc.d. 57	sc.d. 31	sc.d. 35	sc.d. 68	sc.d. 65	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .
	27	sc.d. 99	sc.d. 93	sc.d. 85	sc.d. 80	sc.d. 107	sc.d. 147	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .
	28	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. . . .	sc.d. 47	sc.d. 34	sc.d. 28	sc.d. 35	sc.d. 30	sc.d. 27	sc.d. 21	sc.d. 36	sc.d. 63	sc.d. 64	sc.d. 65	sc.d. -7	sc.d. . . .	sc.d. -31	sc.d. . . .	sc.d. -19	sc.d. 27	sc.d. -44	sc.d. 22	sc.d. . . .	sc.d. . . .	
	29	sc.d. -40	sc.d. -50	sc.d. 39	sc.d. 32	sc.d. 42	sc.d. 19	sc.d. 44	sc.d. 41	sc.d. 20	sc.d. 7	sc.d. 26	sc.d. 30	sc.d. 31	sc.d. 9	sc.d. 25	sc.d. 50	sc.d. 64	sc.d. 45	sc.d. 68	sc.d. 78	sc.d. 58	sc.d. 35	sc.d. 8	sc.d. -22	sc.d. 27	sc.d. . . .	sc.d. . . .	
	30	sc.d. 15	sc.d. 13	sc.d. 39	sc.d. 27	sc.d. 34	sc.d. 22	sc.d. 24	sc.d. 27	sc.d. 25	sc.d. 18	sc.d. 39	sc.d. -27	sc.d. -54	sc.d. -53	sc.d. 32	sc.d. 101	sc.d. 154	sc.d. 151	sc.d. 82	sc.d. . . .	sc.d. 60	sc.d. 25	sc.d. 8	sc.d. -26	sc.d. 32	sc.d. . . .	sc.d. . . .	
	31	sc.d. -43	sc.d. 12	sc.d. 13	sc.d. 9	sc.d. -23	sc.d. -14	sc.d. -17	sc.d. -18	sc.d. -24	sc.d. -20	sc.d. -23	sc.d. -28	sc.d. 75	sc.d. -83	sc.d. -18	sc.d. 44	sc.d. 89	sc.d. -101	sc.d. 78	sc.d. 97	sc.d. 133	sc.d. 99	sc.d. 49	sc.d. 13	sc.d. 17	sc.d. . . .	sc.d. . . .	

Hourly Means.	-289	278	-262	-296	-294	-297	-290	-311	-267	-307	-285	-321	-286	-342	-276	-260	-194	-217	166	-226	-200	-249	-223	-294	-268	
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$$k = a \cdot \cot \theta \frac{T^2}{T^2} = 0.00002909 \times \cot 12.40' \times \left(\frac{7.444}{17.22}\right)^2 = 0.0001687$$

$$g = .0004363$$

$$\frac{g}{k} = \frac{0.0004363}{0.0001687} = 25.8625 = 1^\circ \text{Faht. Zero} \dots 80^\circ$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.				
Singapore Mean Time.	h. m. 6.16	h. m. 7.16	h. m. 8.16	h. m. 9.16	h. m. 10.16	h. m. 11.16	h. m. 12.16	h. m. 13.16	h. m. 14.16	h. m. 15.16	h. m. 16.16	h. m. 17.16	h. m. 18.16	h. m. 19.16	h. m. 20.16	h. m. 21.16	h. m. 22.16	h. m. 23.16	h. m. 0.16	h. m. 1.16	h. m. 2.16	h. m. 3.16	h. m. 4.16	h. m. 5.16	sc. d.	sc. d.	sc. d.				
VERTICAL FORCE MAGNETOMETER. SEPTEMBER 1842.	1	sc. d. -50	sc. d. 51	sc. d. 14	sc. d. 55	sc. d. 42	sc. d. 47	sc. d. 66	sc. d. 61	sc. d. 12	sc. d. -24	sc. d. 7	sc. d. 6	sc. d. -8	sc. d. -56	sc. d. 17	sc. d. 109	sc. d. 123	sc. d. 120	sc. d. 120	sc. d. 113	sc. d. 108	sc. d. -39	sc. d. -59	sc. d. -20	sc. d. 34	sc. d. -65	sc. d. -31			
	2	sc. d. -63	sc. d. 17	sc. d. 34	sc. d. -13	sc. d. -9	sc. d. -18	sc. d. 5	sc. d. 9	sc. d. 10	sc. d. 10	sc. d. -11	sc. d. 4	sc. d. 22	sc. d. -86	sc. d. -66	sc. d. -31	sc. d. -7	sc. d. 52	sc. d. v	sc. d. 43	sc. d. 36	sc. d. 21	sc. d. 16	sc. d. 6	sc. d. -2	sc. d. -28	sc. d. -30			
	3	sc. d. -34	sc. d. 43	sc. d. 49	sc. d. 31	sc. d. 8	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..		
	4	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. 15	sc. d. 22	sc. d. 11	sc. d. 40	sc. d. 36	sc. d. 50	sc. d. 18	sc. d. 6	sc. d. 46	sc. d. 95	sc. d. 125	sc. d. 157	sc. d. 128	sc. d. 67	sc. d. 2	sc. d. -61	sc. d. -41	sc. d. -36	sc. d. 34	sc. d. -67	sc. d. -33			
	5	sc. d. -59	sc. d. 12	sc. d. 10	sc. d. 41	sc. d. 36	sc. d. 41	sc. d. 32	sc. d. 64	sc. d. -7	sc. d. -13	sc. d. 13	sc. d. -10	sc. d. -32	sc. d. -48	sc. d. 9	sc. d. 40	sc. d. 93	sc. d. 97	sc. d. 63	sc. d. -3	sc. d. -119	sc. d. -66	sc. d. -59	sc. d. -51	sc. d. 4	sc. d. -78	sc. d. -74			
	6	sc. d. -28	sc. d. 27	sc. d. 7	sc. d. 17	sc. d. 30	sc. d. 31	sc. d. 5	sc. d. 10	sc. d. 7	sc. d. -31	sc. d. 4	sc. d. -18	sc. d. -63	sc. d. v	sc. d. 35	sc. d. 98	sc. d. 128	sc. d. 122	sc. d. 107	sc. d. 79	sc. d. 49	sc. d. 0	sc. d. -35	sc. d. -60	sc. d. 23	sc. d. -78	sc. d. -55			
	7	sc. d. -32	sc. d. 20	sc. d. 17	sc. d. 28	sc. d. 16	sc. d. 4	sc. d. 11	sc. d. 13	sc. d. -9	sc. d. -27	sc. d. 40	sc. d. 8	sc. d. -27	sc. d. -7	sc. d. -18	sc. d. 27	sc. d. 52	sc. d. 64	sc. d. 82	sc. d. 75	sc. d. 58	sc. d. -20	sc. d. -6	sc. d. -13	sc. d. 15	sc. d. -80	sc. d. -65			
	8	sc. d. -35	sc. d. -31	sc. d. 16	sc. d. 13	sc. d. 27	sc. d. 16	sc. d. 2	sc. d. 9	sc. d. 8	sc. d. -24	sc. d. -9	sc. d. -31	sc. d. -83	sc. d. v	sc. d. -18	sc. d. -56	sc. d. 10	sc. d. 59	sc. d. 91	sc. d. 66	sc. d. v	sc. d. 1	sc. d. 3	sc. d. -53	sc. d. -1	sc. d. -67	sc. d. -68			
	9	sc. d. -70	sc. d. -16	sc. d. -37	sc. d. -29	sc. d. -39	sc. d. -50	sc. d. -57	sc. d. v	sc. d. -20	sc. d. -33	sc. d. -22	sc. d. -57	sc. d. -107	sc. d. -80	sc. d. -19	sc. d. 30	sc. d. 41	sc. d. 52	sc. d. 43	sc. d. v	sc. d. -9	sc. d. -75	sc. d. -105	sc. d. -93	sc. d. -34	sc. d. -47	sc. d. -81			
	10	sc. d. -37	sc. d. -7	sc. d. -12	sc. d. -5	sc. d. -9	sc. d. *	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..		
	11	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. -258	sc. d. -215	sc. d. -218	sc. d. -213	sc. d. -216	sc. d. -223	sc. d. -239	sc. d. -233	sc. d. -210	sc. d. -203	sc. d. -230	sc. d. -249	sc. d. -252	sc. d. -235	sc. d. -232	sc. d. -237	sc. d. -260	sc. d. -260	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	
	12	sc. d. -258	sc. d. -231	sc. d. -229	sc. d. -236	sc. d. -237	sc. d. -262	sc. d. -236	sc. d. -252	sc. d. -252	sc. d. -204	sc. d. -274	sc. d. -292	sc. d. -294	sc. d. -264	sc. d. -243	sc. d. -215	sc. d. -173	sc. d. -185	sc. d. -176	sc. d. -223	sc. d. -279	sc. d. -265	sc. d. -299	sc. d. -243	sc. d. -41	sc. d. -284	sc. d. -286	sc. d. -57	sc. d. -343	
	13	sc. d. -295	sc. d. -276	sc. d. -265	sc. d. -276	sc. d. -276	sc. d. -303	sc. d. -288	sc. d. -288	sc. d. -296	sc. d. -296	sc. d. -292	sc. d. -291	sc. d. -290	sc. d. -335	sc. d. -315	sc. d. -235	sc. d. -227	sc. d. -227	sc. d. -238	sc. d. -290	sc. d. -308	sc. d. -333	sc. d. -335	sc. d. -286	sc. d. -57	sc. d. -299	sc. d. -276	sc. d. -23	sc. d. -299	
	14	sc. d. -327	sc. d. -316	sc. d. -306	sc. d. -290	sc. d. -294	sc. d. -290	sc. d. -288	sc. d. -293	sc. d. -287	sc. d. -307	sc. d. -311	sc. d. -311	sc. d. -324	sc. d. -334	sc. d. -311	sc. d. -250	sc. d. -268	sc. d. -268	sc. d. -280	sc. d. -138	sc. d. ..	sc. d. -174	sc. d. -180	sc. d. -186	sc. d. -276	sc. d. -23	sc. d. -153	sc. d. -130	sc. d. -23	sc. d. -153
	15	sc. d. -167	sc. d. -114	sc. d. -134	sc. d. -129	sc. d. -117	sc. d. -110	sc. d. -117	sc. d. -134	sc. d. -123	sc. d. -110	sc. d. -145	sc. d. -177	sc. d. -192	sc. d. -195	sc. d. -133	sc. d. -78	sc. d. -43	sc. d. -37	sc. d. v	sc. d. -113	sc. d. -145	sc. d. -154	sc. d. -156	sc. d. -170	sc. d. -130	sc. d. -23	sc. d. -153	sc. d. -107	sc. d. -23	sc. d. -153
	16	sc. d. v	sc. d. -85	sc. d. -106	sc. d. -90	sc. d. -92	sc. d. -74	sc. d. -122	sc. d. -157	sc. d. -122	sc. d. -155	sc. d. -168	sc. d. -183	sc. d. -197	sc. d. -185	sc. d. -139	sc. d. -65	sc. d. -8	sc. d. 17	sc. d. -29	sc. d. -50	sc. d. -126	sc. d. -106	sc. d. -107	sc. d. -122	sc. d. -107	sc. d. -44	sc. d. -151	sc. d. -107	sc. d. -44	sc. d. -151
	17	sc. d. v	sc. d. -123	sc. d. -127	sc. d. -135	sc. d. -148	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..
	18	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. -149	sc. d. -132	sc. d. -185	sc. d. -166	sc. d. -129	sc. d. -135	sc. d. v	sc. d. -201	sc. d. -201	sc. d. -111	sc. d. -41	sc. d. -37	sc. d. -42	sc. d. -130	sc. d. -109	sc. d. -133	sc. d. -109	sc. d. -120	sc. d. -127	sc. d. -54	sc. d. -181	sc. d. -127	sc. d. -54	sc. d. -181
	19	sc. d. -165	sc. d. -120	sc. d. -108	sc. d. -141	sc. d. -149	sc. d. -127	sc. d. -120	sc. d. -143	sc. d. -158	sc. d. -165	sc. d. -158	sc. d. -143	sc. d. -127	sc. d. -210	sc. d. -163	sc. d. -123	sc. d. -63	sc. d. -50	sc. d. -28	sc. d. -50	sc. d. -69	sc. d. -77	sc. d. -111	sc. d. -168	sc. d. -122	sc. d. -41	sc. d. -163	sc. d. -122	sc. d. -41	sc. d. -163
	20	sc. d. -180	sc. d. -131	sc. d. -121	sc. d. -157	sc. d. -148	sc. d. -127	sc. d. -135	sc. d. -116	sc. d. -145	sc. d. -177	sc. d. -149	sc. d. -145	sc. d. -238	sc. d. -241	sc. d. -177	sc. d. -81	sc. d. 52	sc. d. 67	sc. d. 85	sc. d. 10	sc. d. -33	sc. d. v	sc. d. -108	sc. d. -206	sc. d. -113	sc. d. -36	sc. d. -149	sc. d. -113	sc. d. -36	sc. d. -149
	21	sc. d. -242	sc. d. -198	sc. d. -208	sc. d. -148	sc. d. -162	sc. d. -182	sc. d. -168	sc. d. -172	sc. d. -177	sc. d. -179	sc. d. -181	sc. d. -177	sc. d. -239	sc. d. -245	sc. d. -190	sc. d. -118	sc. d. -58	sc. d. -46	sc. d. -89	sc. d. -118	sc. d. v	sc. d. -148	sc. d. -143	sc. d. -84	sc. d. -160	sc. d. -54	sc. d. -214	sc. d. -160	sc. d. -54	sc. d. -214
	22	sc. d. 64	sc. d. 120	sc. d. 123	sc. d. 122	sc. d. 127	sc. d. 121	sc. d. 122	sc. d. 118	sc. d. 123	sc. d. 124	sc. d. 122	sc. d. 121	sc. d. 130	sc. d. 93	sc. d. 122	sc. d. 123	sc. d. 147	sc. d. 146	sc. d. 151	sc. d. 133	sc. d. 114	sc. d. 107	sc. d. 104	sc. d. 108	sc. d. 120	sc. d. -59	sc. d. 61	sc. d. 120	sc. d. -59	sc. d. 61
	23	sc. d. v	sc. d. 25	sc. d. 28	sc. d. 31	sc. d. 33	sc. d. 33	sc. d. 32	sc. d. 30	sc. d. v	sc. d. -120	sc. d. -105	sc. d. -110	sc. d. ..	sc. d. -202	sc. d. -140	sc. d. -82	sc. d. -49	sc. d. -46	sc. d. -51	sc. d. -98	sc. d. -94	sc. d. -93	sc. d. -98	sc. d. -155	sc. d. -59	sc. d. -57	sc. d. -116	sc. d. -59	sc. d. -57	sc. d. -116
	24	sc. d. -157	sc. d. -161	sc. d. -153	sc. d. -136	sc. d. -148	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..
	25	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. ..	sc. d. -184	sc. d. -195	sc. d. -140	sc. d. -144	sc. d. -144	sc. d. -154	sc. d. -167	sc. d. -224	sc. d. -180	sc. d. -93	sc. d. -52	sc. d. -25	sc. d. -34	sc. d. -17	sc. d. -66	sc. d. -144	sc. d. -173	sc. d. -118	sc. d. -131	sc. d. -57	sc. d. -188	sc. d. -131	sc. d. -57	sc. d. -188
	26	sc. d. -158	sc. d. -134	sc. d. -132	sc. d. -124	sc. d. -131	sc. d. -122	sc. d. -136	sc. d. -179	sc. d. -152	sc. d. -152	sc. d. -133	sc. d. -162	sc. d. -195	sc. d. -201	sc. d. -129	sc. d. -53	sc. d. -9	sc. d. -18	sc. d. -33	sc. d. v	sc. d. -57	sc. d. -115	sc. d. -151	sc. d. -165	sc. d. -124	sc. d. -62	sc. d. -186	sc. d. -124	sc. d. -62	sc. d. -186
	27	sc. d. -175	sc. d. -149	sc. d. -130	sc. d. -125	sc. d. -119	sc. d. -129	sc. d. -115	sc. d. ..	sc. d. -132	sc. d. -130	sc. d. -140	sc. d. ..	sc. d. -215	sc. d. -250	sc. d. -146	sc. d. -89	sc. d. -78	sc. d. -16	sc. d. 5	sc. d. 4	sc. d. -27	sc. d. -100	sc. d. -122	sc. d. -130	sc. d. -114	sc. d. -78	sc. d. -192	sc. d. -114	sc. d. -78	sc. d. -192
	28	sc. d. -133	sc. d. ..	sc. d. -132	sc. d. -125	sc. d. -189	sc. d. -190	sc. d. -133	sc. d. ..	sc. d. -140	sc. d. -146	sc. d. -108	sc. d. ..	sc. d. -163	sc. d. -192	sc. d. -126	sc. d. -68	sc. d. -57	sc. d. -6	sc. d. -40	sc. d. -41	sc. d. -55	sc. d. -72	sc. d. -126	sc. d. -136	sc. d. -113	sc. d. -65	sc. d. -178	sc. d. -113	sc. d. -65	sc. d. -178
	29	sc. d. -111	sc. d. -119	sc. d. -105	sc. d. -107	sc. d. -140	sc. d. -101	sc. d. -104	sc. d. ..	sc. d. v	sc. d. -126	sc. d. -110	sc. d. ..	sc. d. -153	sc. d. -183	sc. d. -145	sc. d. -67	sc. d. -77	sc. d. -25	sc. d. -26	sc. d. -54	sc. d. -45	sc. d. -58	sc. d. -89	sc. d. -91	sc. d. -97					

k = a. cot. θ T^2 = 0.00002909 × cot. 12° 40' × (7.444 / 17.22)^2 = 0.0001687

g = .0004363

g/k = 0.0004363 / 0.0001687 = 25.8625 = 1° Faht. Zero .. 80° 0

ther.

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, and 24 numbered columns for observations. Includes a vertical label 'VERTICAL FORCE MAGNETOMETER. NOVEMBER 1842.' on the left side.

Summary table with rows for 'Hourly Means', 'Temp. Correction', 'Corrected Means', 'Differences', and 'Diurnal Oscillation'. Includes a vertical label 'VERTICAL FORCE MAGNETOMETER. NOVEMBER 1842.' on the left side.

Table with columns for 24 numbered columns for observations. Includes a vertical label 'TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. NOVEMBER 1842.' on the left side.

Means. 81.3 81.4 81.4 81.2 80.9 80.7 80.4 .. 80.1 79.9 79.7 .. 79.1 79.3 80.0 80.7 81.4 82.2 82.6 82.6 82.8 82.4 82.0 81.6 81.1

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 23d March 1842. Gottingen Mean Time.

WEDNESDAY, the 23d March 1842.

THURSDAY, the 24th March 1842

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23

0 1 2 3 4 5 6 7 8 9

DECLINATION MAGNETOMETER.	m. s.		sc.d.														sc.d.									
	0°0'	6°0'	30°0'	30°5'	29°3'	29°5'	31°5'	32°8'	33°8'	35°1'	35°0'	34°6'	33°9'	33°2'	34°4'	33°8'	32°0'	31°8'	31°8'	32°0'	32°0'	32°0'	32°0'	32°6'	32°1'	31°5'	32°0'
12°0'	30°6'	30°3'	30°4'	30°4'	31°6'	32°6'	33°7'	35°3'	34°9'	34°7'	33°9'	33°3'	34°3'	33°9'	31°9'	31°8'	31°8'	32°0'	32°0'	32°0'	32°0'	32°3'	32°0'	31°5'	32°0'	
18°0'	30°5'	29°7'	29°0'	30°2'	32°0'	32°9'	34°2'	35°3'	34°7'	34°7'	33°5'	33°5'	34°6'	33°5'	32°0'	31°8'	31°8'	32°0'	32°0'	32°0'	32°0'	32°0'	31°9'	32°2'	31°5'	32°0'
24°0'	30°5'	29°5'	28°0'	30°1'	32°0'	33°0'	34°5'	35°2'	34°5'	34°6'	33°4'	33°4'	34°6'	33°4'	32°0'	31°8'	32°0'	32°0'	32°0'	32°0'	32°2'	32°0'	32°7'	31°7'	32°0'	
30°0'	30°4'	29°7'	28°0'	30°5'	31°9'	33°0'	34°5'	35°2'	34°5'	34°4'	33°5'	33°5'	34°3'	33°1'	32°0'	31°8'	32°0'	32°0'	32°0'	32°2'	32°1'	32°6'	32°1'	31°8'	31°6'	
36°0'	30°2'	29°5'	28°9'	30°5'	32°1'	33°0'	34°5'	35°2'	34°5'	34°1'	33°4'	33°7'	34°0'	33°0'	32°0'	31°9'	32°0'	32°0'	32°0'	32°3'	32°3'	32°0'	32°1'	31°8'	31°6'	
42°0'	29°9'	29°5'	28°8'	31°0'	32°9'	33°0'	34°7'	35°1'	34°6'	34°0'	33°3'	33°9'	33°8'	32°5'	32°0'	32°0'	32°0'	32°0'	32°0'	32°3'	32°1'	32°0'	31°7'	31°6'		
48°0'	30°0'	29°2'	28°0'	31°0'	32°3'	33°5'	34°7'	35°1'	34°8'	33°8'	33°4'	34°2'	33°5'	32°3'	31°9'	31°9'	32°0'	32°0'	32°0'	32°0'	32°8'	32°2'	31°9'	31°6'	31°4'	
54°0'	30°1'	29°1'	28°6'	31°0'	32°3'	33°8'	34°9'	35°0'	34°6'	33°8'	33°2'	34°5'	33°4'	32°1'	31°9'	31°8'	32°0'	32°0'	32°0'	32°9'	32°2'	31°8'	31°8'	31°3'		

HORIZONTAL FORCE MAGNETOMETER.	2°0'		78°0'														84°5'									
	8°0'	14°0'	78°1'	78°9'	78°5'	80°7'	79°4'	77°7'	77°0'	76°9'	77°6'	78°6'	82°3'	83°8'	87°6'	88°1'	86°1'	85°0'	84°5'	84°1'	84°0'	84°1'	82°0'	82°8'	83°2'	81°4'
20°0'	78°6'	78°5'	78°7'	81°2'	79°5'	77°9'	77°1'	76°8'	77°6'	79°3'	82°7'	84°2'	87°8'	88°6'	85°9'	85°0'	84°7'	84°2'	84°0'	82°8'	82°2'	82°4'	83°7'	81°6'		
26°0'	79°1'	78°6'	78°3'	80°9'	78°9'	77°8'	77°6'	76°6'	77°7'	80°1'	83°3'	84°6'	87°6'	88°1'	85°6'	84°9'	84°5'	84°0'	84°4'	82°2'	82°9'	82°5'	83°2'	82°0'		
32°0'	78°8'	78°5'	79°2'	80°5'	78°2'	77°6'	77°7'	77°0'	78°0'	80°3'	83°6'	84°8'	87°6'	88°0'	85°5'	84°9'	84°5'	84°0'	84°4'	82°4'	83°0'	82°2'	82°5'	81°3'		
38°0'	79°0'	78°3'	79°2'	80°1'	78°2'	77°0'	77°3'	77°0'	78°1'	80°7'	83°8'	85°1'	87°3'	87°4'	85°3'	84°9'	84°5'	84°0'	84°2'	82°1'	83°1'	82°3'	82°7'	81°5'		
44°0'	79°0'	77°2'	79°0'	79°4'	78°2'	76°8'	77°2'	77°0'	78°3'	81°1'	83°3'	85°7'	87°1'	87°0'	85°3'	84°9'	84°3'	84°0'	84°6'	82°3'	83°0'	82°6'	82°5'	81°0'		
50°0'	79°2'	78°3'	78°4'	79°2'	78°1'	77°1'	77°0'	78°3'	81°4'	83°5'	86°1'	87°4'	86°9'	85°1'	84°9'	84°4'	84°0'	84°2'	82°0'	82°8'	83°3'	81°5'	81°4'			
56°0'	78°9'	78°2'	79°1'	79°4'	78°2'	77°4'	77°1'	77°2'	78°7'	81°7'	83°6'	86°9'	87°7'	86°5'	85°1'	84°7'	84°2'	84°1'	84°2'	82°1'	82°9'	82°7'	81°6'	81°3'		
Ther..	80°0'	79°6'	79°0'	79°3'	80°1'	81°0'	81°7'	82°2'	82°8'	83°2'	83°5'	83°7'	84°0'	84°2'	83°9'	83°4'	83°0'	82°4'	82°0'	81°9'	81°5'	81°0'	80°9'	80°8'		

VERTICAL FORCE MAGNETOMETER.	4°0'		-245														-226									
	10°0'	16°0'	-248	-224	-243	-264	-189	-106	-33	-16	-37	-57	-143	-175	-196	-222	-228	-203	-207	-204	-220	-197	-215	-244	-245	
22°0'	-257	-224	-243	-261	-188	-101	-33	17	-42	-69	-151	-175	-203	-217	-221	-203	-205	-199	-204	..	-199	-222	-249	-230		
28°0'	-248	-226	-245	-256	-175	-97	-30	..	-44	-79	-162	-167	-200	-228	-226	-213	-213	-192	-208	-220	-204	-219	-251	-233		
34°0'	-240	-227	-250	-249	-165	-90	-33	36	-50	-97	-174	-172	-197	-236	-219	-207	-208	-192	-210	-218	-202	-221	-259	-234		
40°0'	-231	-235	-254	-242	-155	-78	-33	31	-54	-107	-179	-174	-194	-245	-213	-211	-225	-192	-210	-211	-212	-225	-260	-336		
46°0'	-241	-240	-254	-232	-153	-64	-30	11	-54	-114	-175	-175	-187	-239	-208	-214	-208	-193	-210	-193	-214	-231	-256	-236		
52°0'	-244	-247	-250	-222	-148	-48	-18	10	-48	-123	-173	-176	-188	-235	-211	-216	-208	-193	-216	-195	-219	-233	-255	-231		
58°0'	-226	-224	-249	-209	-139	-50	-14	-16	-53	-139	-174	-183	-194	-238	-218	-210	-212	-204	-216	-195	-219	-227	-255	-228		
Ther..	79°8'	80°4'	80°0'	79°3'	79°8'	80°6'	81°6'	82°2'	83°2'	83°3'	83°4'	83°5'	83°7'	83°7'	83°2'	83°5'	83°4'	83°0'	83°0'	82°5'	82°4'	82°0'	81°8'	81°4'		

Barometer(uncorrected) = 29.0 +	0.961		0.961														0.964									
	Attached Thermometer...	78°0'	78°0'	78°0'	77°5'	79°0'	79°3'	80°0'	81°1'	81°8'	82°0'	82°2'	82°5'	83°0'	82°8'	82°5'	82°0'	81°0'	80°6'	79°6'	79°0'	78°8'	78°0'	78°0'		
Dry do.	73°5'	73°3'	75°0'	77°5'	79°6'	81°1'	81°7'	82°1'	83°0'	83°3'	83°6'	84°0'	84°0'	84°0'	82°5'	81°8'	81°2'	81°0'	80°4'	80°0'	79°7'	80°2'	79°0'	78°6'		
Wet do.	71°8'	72°1'	73°2'	75°0'	77°0'	77°7'	77°7'	78°4'	78°5'	78°1'	78°0'	78°0'	78°0'	78°1'	78°1'	78°2'	77°0'	76°0'	78°9'	77°0'	77°0'	76°7'	76°4'	76°0'		

REMARKS ON THE WEATHER.	ZENITH.		HORIZON.	
	clear.....	do.....	clear.....	do.....
pt-lt-cir-cum.....	do.....	clear.....	do.....	
cir, cir-cu.....	do.....	clear.....	do.....	
pt-lt-cir.....	do.....	clear.....	do.....	
pt-cir-cu.....	do.....	clear.....	do.....	
haze.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
pt-cir, cir-cu.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
pt-cir-cu.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....	do.....	clear.....	do.....	
cir-cum.....	do.....	clear.....	do.....	
clear.....	do.....	clear.....	do.....	
do.....				

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 20th April 1842. Gottingen Mean Time.

WEDNESDAY the 20th April, 1842.

THURSDAY the 21st April 1842.

Gottingen Mean Time.		10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	
		P. M.																								
DECLINATION MAGNETOMETER.	m. s.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	
	0° 0'	32.4	32.8	34.2	33.4	32.2	31.9	33.4	33.6	33.4	32.5	32.6	33.2	33.5	33.5	33.0	32.5	32.4	33.1	31.9	33.3	32.7	33.4	33.0	33.5	
	6° 0'	32.9	33.1	33.9	33.3	31.5	31.8	33.7	33.4	33.3	33.0	32.7	33.5	33.5	33.3	32.9	32.8	32.2	33.0	32.0	32.7	32.7	33.2	32.9	33.5	
	12° 0'	32.8	33.1	33.9	33.0	31.2	31.5	33.6	33.5	33.1	33.5	33.3	32.7	33.4	33.5	32.7	32.8	32.2	33.0	32.4	33.0	32.7	33.2	32.7	33.3	
	18° 0'	33.0	33.1	33.9	31.8	32.0	32.4	33.6	33.2	32.8	33.6	33.6	32.8	34.7	33.6	32.6	32.9	32.3	32.6	32.6	33.0	32.5	32.9	32.6	33.1	
	24° 0'	32.4	33.1	33.6	31.6	32.0	31.7	33.9	33.1	32.6	33.6	33.7	32.9	33.6	33.5	32.5	32.9	32.5	31.5	32.6	32.7	32.5	33.4	32.8	33.4	
	30° 0'	33.1	33.1	33.6	31.5	31.7	32.5	33.9	33.2	32.4	33.6	33.5	32.8	33.5	33.7	32.5	32.9	32.6	32.5	32.6	33.0	32.4	34.1	33.1	33.3	
	36° 0'	33.0	33.3	33.6	31.6	31.5	32.6	33.9	33.0	32.2	33.5	33.5	33.0	33.2	33.6	32.5	32.6	32.9	32.7	32.8	33.0	32.5	34.4	33.2	33.3	
	42° 0'	33.4	33.1	34.0	31.6	31.0	32.7	33.6	33.3	32.4	33.0	33.6	33.1	33.2	33.2	32.5	32.5	33.0	33.0	32.8	33.0	32.5	34.4	33.2	33.3	
	48° 0'	32.7	33.6	34.1	31.5	31.1	33.0	33.6	33.3	32.2	32.7	33.6	33.2	33.4	33.1	32.2	32.5	32.7	32.9	33.2	32.7	32.7	33.2	33.5	33.0	
	54° 0'	32.9	33.8	33.6	31.6	31.7	33.1	33.6	33.4	32.6	32.5	33.4	33.4	33.5	32.9	32.4	32.5	33.0	32.0	33.4	32.7	32.7	33.0	33.4	33.0	
HORIZONTAL FORCE MAGNETOMETER.	2° 0'	83.1	81.9	81.6	80.1	76.8	76.0	82.1	83.2	81.2	81.4	84.7	85.2	83.6	87.1	87.7	86.2	85.6	87.0	81.9	83.3	84.2	84.7	84.3	83.5	
	8° 0'	83.3	81.6	81.2	80.1	76.0	76.0	82.8	83.2	81.5	81.3	84.7	85.2	84.7	87.4	87.3	86.3	85.5	87.0	82.0	83.1	84.3	84.8	84.1	83.5	
	14° 0'	82.5	82.2	82.0	80.1	76.1	76.2	82.5	83.4	81.8	81.7	85.0	85.2	85.0	87.5	87.4	86.3	85.5	87.0	82.6	82.9	84.2	87.6	84.0	83.3	
	20° 0'	82.3	81.5	81.2	78.1	76.0	76.2	82.8	82.8	81.9	82.3	85.7	85.0	85.0	87.9	87.4	86.4	85.4	86.1	83.2	83.4	84.3	84.9	84.0	83.9	
	26° 0'	81.9	81.5	81.2	77.6	76.1	75.9	83.0	82.5	81.6	82.4	86.1	84.8	85.1	87.8	86.7	86.5	85.6	85.8	83.8	84.0	83.3	84.7	84.0	83.5	
	32° 0'	82.4	82.1	81.4	76.7	76.0	77.3	83.3	82.5	82.0	83.5	85.7	84.6	86.0	87.7	86.4	86.4	86.0	85.4	84.4	84.6	85.0	84.6	84.0	83.3	
	38° 0'	81.7	81.7	81.4	76.8	75.9	77.6	83.6	82.0	82.0	83.7	85.5	84.4	85.8	88.4	86.1	86.1	86.1	84.0	84.9	84.8	84.6	84.6	84.0	83.2	
	44° 0'	82.3	82.3	81.6	76.2	74.9	78.0	83.6	81.5	82.5	84.2	85.8	84.5	86.1	88.7	86.0	86.1	86.3	83.6	85.1	84.9	84.6	84.7	84.0	83.2	
	50° 0'	81.4	82.0	81.0	76.1	75.0	79.5	83.3	81.3	82.0	84.6	84.9	84.7	86.5	88.5	86.1	86.0	86.5	83.4	85.2	84.8	84.7	84.7	83.9	83.1	
	56° 0'	81.7	82.2	81.1	76.7	75.5	80.5	83.2	81.4	81.4	85.0	85.3	84.7	86.9	88.0	86.2	86.0	86.8	82.6	84.6	84.8	84.6	84.7	84.8	83.2	
	Ther..		80.4	79.8	79.8	80.0	79.8	80.0	80.5	81.0	81.5	82.4	82.3	82.5	82.8	82.9	82.6	82.0	82.6	81.8	81.5	81.3	81.3	81.0	81.0	80.6
VERTICAL FORCE MAGNETOMETER.	4° 0'	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	
	10° 0'	-241	-249	-266	-268	-194	-124	-123	-138	-96	-89	-112	-153	-157	-197	-215	-198	-205	-213	-159	-172	-186	-189	-165	-185	
	16° 0'	-243	-250	-262	-266	-177	-117	-118	-140	-96	-76	-158	-150	-160	-203	-209	-191	-201	-213	-171	-174	-185	-207	-164	-196	
	22° 0'	-224	-250	..	-244	-178	-117	-113	-133	-98	-73	-158	-149	-165	-206	-209	-190	-198	-197	-176	-173	-186	-211	-172	-197	
	28° 0'	-225	-248	-251	-233	-193	-110	-110	-125	-98	-79	-163	-149	-167	-213	-196	-192	-192	-190	-182	-176	-188	-204	-174	-188	
	34° 0'	-228	-250	-251	-228	-178	-99	-113	-120	-108	-91	-164	-149	-170	-218	-190	-195	-196	-191	-187	-177	-189	-194	-190	-182	
	40° 0'	-231	-250	-257	-218	-187	-99	-121	-117	-120	-117	-155	-150	-167	-227	-190	-200	-196	-182	-193	-188	-192	-185	-194	-188	
	46° 0'	-232	-233	-260	-208	-167	-93	-122	-104	-125	-128	-166	-152	-174	-239	-188	-204	-203	-188	-195	-189	-194	-180	-192	-183	
	52° 0'	-236	-246	-273	-204	-143	-98	-131	-101	-125	-148	-160	-159	-181	-247	-188	-205	-203	-191	-196	-190	-196	-175	-192	-179	
	58° 0'	-242	-259	-273	-204	-131	-104	-139	-98	-114	-158	-156	-159	-186	-244	-190	-203	-198	-188	-197	-188	-196	-175	-193	-184	
	58° 0'	-248	-266	-270	-203	-130	-109	-145	-96	-98	-165	-	-161	-192	-232	-167	-211	-203	-185	-187	-188	-191	-168	-188	-184	
Ther..		80.4	80.8	80.3	79.7	80.0	80.6	81.5	81.5	82.2	82.5	82.5	82.5	82.5	85.0	82.3	82.8	82.0	82.6	82.5	82.5	82.0	82.3	81.4		
Barometer(uncorrected) = 29.0 +	in.	1.005	1.040	1.056	1.103	1.123	1.110	1.070	1.035	1.016	0.970	0.976	0.952	0.941	0.952	0.974	0.989	1.002	1.014	1.024	1.040	1.029	1.020	1.008	0.995	
	Attached Thermometer..	78.9	77.0	77.0	77.5	78.0	78.3	79.0	79.5	80.1	80.9	81.1	81.4	81.8	81.9	81.2	80.8	80.4	80.0	79.0	79.5	79.5	79.3	79.5	79.3	
	Dry do.	80.3	77.9	77.7	78.2	78.9	79.3	80.5	81.0	81.5	82.6	82.6	83.0	83.0	82.6	81.4	80.6	80.0	80.5	80.2	76.8	76.8	78.8	80.1	77.6	
	Wet do.	75.1	75.0	75.0	75.2	75.4	75.8	76.1	76.2	77.0	77.4	77.0	77.1	77.2	77.5	76.8	76.8	77.0	77.1	77.0	74.8	71.7	76.0	76.7	74.8	
	REMARKS ON THE WEATHER.	ZENITH.	clear.	clear.	clear.	overcast nim	overcast.	do.	cloudy	ovt-haze, cum-stra.	cir-cum, cir.	ovt.dt-cir-cum, } cir-stra. }	clear.	cir, cir-stra	cir, cir-cum	clear.	pt-lt-cir	clear.	do.	do.	do.	cir, cir-haze	clear.	do.	do.	do.
		HORIZON.	stra.	stra.	stra, cum-stra	overcast nim	overcast.	do.	cloudy	ovt-haze, cum-stra.	lt-cir, cir-stra.	{ ovt. dt-cir-cum, } { cir, cir-stra .. }	cir, cir-stra	cir, cir-cum	{ pt-cir-stra, clouds } { N. and S. }	cum, stra	few stra. S.	clear.	do.	do.	do.	cir, cir-haze lg.	clear.	do.	do.	do.
		ZENITH.	clear.	clear.	clear.	overcast nim	overcast.	do.	cloudy	ovt-haze, cum-stra.	cir-cum, cir.	ovt.dt-cir-cum, } cir-stra. }	clear.	cir, cir-stra	cir, cir-cum	clear.	pt-lt-cir	clear.	do.	do.	do.	cir, cir-haze	clear.	do.	do.	do.
		HORIZON.	stra.	stra.	stra, cum-stra	overcast nim	overcast.	do.	cloudy	ovt-haze, cum-stra.	lt-cir, cir-stra.	{ ovt. dt-cir-cum, } { cir, cir-stra .. }	cir, cir-stra	cir, cir-cum	{ pt-cir-stra, clouds } { N. and S. }	cum, stra	few stra. S.	clear.	do.	do.	do.	cir, cir-haze	clear.	do.	do.	do.
		ZENITH.	clear.	clear.	clear.	overcast nim	overcast.	do.	cloudy	ovt-haze, cum-stra.	cir-cum, cir.	ovt.dt-cir-cum, } cir-stra. }	clear.	cir, cir-stra	cir, cir-cum	clear.	pt-lt-cir	clear.	do.	do.	do.	cir, cir-haze	clear.	do.	do.	do.
		HORIZON.	stra.	stra.	stra, cum-stra	overcast nim	overcast.	do.	cloudy	ovt-haze, cum-stra.	lt-cir, cir-stra.	{ ovt. dt-cir-cum, } { cir, cir-stra .. }	cir, cir-stra	cir, cir-cum	{ pt-cir-stra, clouds } { N. and S. }	cum, stra	few stra. S.	clear.	do.	do.	do.	cir, cir-haze	clear.	do.	do.	do.
		ZENITH.	clear.	clear.	clear.	overcast nim	overcast.	do.	cloudy	ovt-haze, cum-stra.	cir-cum, cir.	ovt.dt-cir-cum, } cir-stra. }	clear.	cir, cir-stra	cir, cir-cum	clear.	pt-lt-cir	clear.	do.	do.	do.	cir, cir-haze	clear.	do.	do.	do.
HORIZON.		stra.	stra.	stra, cum-stra	overcast nim	overcast.	do.	cloudy	ovt-haze, cum-stra.	lt-cir, cir-stra.	{ ovt. dt-cir-cum, } { cir, cir-stra .. }	cir, cir-stra	cir, cir-cum	{ pt-cir-stra, clouds } { N. and S. }	cum, stra	few stra. S.	clear.	do.	do.	do.	cir, cir-haze	clear.	do.	do.	do.	
ZENITH.		clear.	clear.	clear.	overcast nim	overcast.	do.	cloudy	ovt-haze, cum-stra.	cir-cum, cir.	ovt.dt-cir-cum, } cir-stra. }	clear.	cir, cir-stra	cir, cir-cum	clear.	pt-lt-cir	clear.	do.	do.	do.	cir, cir-haze	clear.	do.	do.	do.	
HORIZON.		stra.	stra.	stra, cum-stra	overcast nim	overcast.	do.	cloudy	ovt-haze, cum-stra.	lt-cir, cir-stra.	{ ovt. dt-cir-cum, } { cir, cir-stra .. }	cir, cir-stra	cir, cir-cum	{ pt-cir-stra, clouds } { N. and S. }	cum, stra	few stra. S.	clear.	do.	do.	do.	cir, cir-haze	clear.	do.	do.	do.	

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 27th May, 1842. Gottingen Mean Time.

FRIDAY the 27th May, 1842.

SATURDAY, the 28th May, 1842.

Gottingen Mean Time.

10 P.M.

Table with columns for hours 10-23 and 0-9, and rows for Declination Magnetometer values (m. s. sc.d. sc.d. etc.)

HORIZONTAL FORCE MAGNETOMETER.

Table with columns for hours 2-6 and 8-12, and rows for Horizontal Force Magnetometer values (Ther., 81.5, 81.3, etc.)

VERTICAL FORCE MAGNETOMETER.

Table with columns for hours 4-8 and 10-14, and rows for Vertical Force Magnetometer values (Ther., 81.5, 81.3, etc.)

Barometer(uncorrected) = 29.0 + Attached Thermometer... Dry do Wet do

Table with columns for hours 0-23 and rows for Barometer and Attached Thermometer readings

REMARKS ON THE WEATHER.

Table with columns for ZENITH and HORIZON, and rows for weather remarks (overcast, cir-cum, cum-stra, etc.)

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 20th July 1842. Gottingen Mean Time.

WEDNESDAY the 20th July 1842.

THURSDAY the 21st July 1842.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8 9

Table with columns for Declination Magnetometer, Horizontal Force Magnetometer, Vertical Force Magnetometer, Barometer, Attached Thermometer, and Remarks on the Weather. Includes data for Gottingen Mean Time from 10 P.M. to 9 P.M. for both days.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 21st September, 1842. Gottingen Mean Time.

WEDNESDAY the 21st September 1842.

THURSDAY the 22d September 1842.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8 9

P. M.

Table with columns for Declination Magnetometer, Horizontal Force Magnetometer, Vertical Force Magnetometer, Barometer, Attached Thermometer, and Remarks on the Weather. Includes sub-columns for Zenith and Horizon.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 19th October 1842. Gottingen Mean Time.

WEDNESDAY the 19th October 1842.

THURSDAY the 20th October 1842.

Gottingen Mean Time.		10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9
P. M.																									
DECLINATION MAGNETOMETER.	m. s.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.
	0° 0'	33.9	33.2	32.6	31.5	30.6	29.7	29.5	31.3	33.0	32.9	34.1	34.2	33.9	33.9	33.3	32.9	32.8	32.7	32.9	33.0	33.4	33.9	33.4	33.4
	6° 0'	33.6	33.1	32.2	31.6	30.2	29.6	29.5	31.7	32.9	33.2	34.1	34.1	..	34.0	33.3	32.9	32.6	32.7	32.9	33.0	33.4	33.8	33.4	33.3
	12° 0'	32.9	33.2	32.2	31.6	30.1	29.5	29.6	32.0	33.0	33.3	34.3	34.0	34.1	34.0	33.2	32.9	32.5	32.7	32.9	33.0	33.4	33.9	33.2	33.3
	18° 0'	32.8	33.0	31.9	31.3	30.1	29.5	29.7	32.1	33.0	33.4	34.2	34.1	33.9	34.0	33.1	32.8	32.4	32.6	32.9	33.0	33.4	33.9	33.2	33.1
	24° 0'	32.6	33.0	32.1	31.2	29.7	29.4	29.7	32.1	33.0	33.4	34.3	34.0	34.0	33.7	33.2	32.8	32.5	32.7	33.0	33.0	33.5	33.9	32.6	33.1
	30° 0'	33.1	33.1	31.9	31.0	29.6	29.4	30.4	32.2	33.1	33.5	34.1	34.0	34.0	33.7	33.0	32.9	32.6	32.7	33.0	33.1	33.5	33.9	33.4	33.1
	36° 0'	33.4	32.9	31.8	30.9	29.6	29.4	30.5	32.4	33.1	33.5	34.3	34.1	34.0	33.9	33.1	32.8	32.7	32.7	33.0	33.1	33.5	33.8	33.5	33.2
	42° 0'	33.3	32.9	31.7	30.9	29.7	29.4	30.9	32.5	33.2	33.6	34.4	34.1	34.1	33.7	33.0	32.9	32.7	32.8	33.0	33.2	33.6	33.5	33.7	33.2
	48° 0'	33.4	32.9	31.7	30.7	29.7	29.4	31.1	32.6	33.0	33.7	34.3	34.0	34.0	33.7	32.9	32.8	32.8	32.9	33.0	33.3	33.7	33.5	33.8	33.2
54° 0'	33.4	32.7	31.8	31.0	29.7	29.5	31.3	32.7	32.9	34.0	34.3	34.0	34.0	33.5	32.9	32.7	32.8	32.9	33.0	33.4	33.9	33.4	33.8	33.0	
HORIZONTAL FORCE MAGNETOMETER.	2° 0'	65.5	65.3	65.6	66.0	64.8	63.9	62.8	63.9	65.8	68.2	69.9	69.4	69.0	70.0	70.3	69.2	68.7	68.8	68.1	67.5	68.0	68.1	67.9	68.0
	8° 0'	66.1	65.3	65.8	66.0	64.5	63.8	62.7	63.9	66.0	68.7	69.9	69.2	69.1	70.0	70.4	69.2	68.7	68.6	68.0	67.4	68.0	68.2	67.9	67.9
	14° 0'	66.0	65.2	65.2	66.3	64.2	63.7	62.7	64.0	66.3	69.1	69.9	69.3	69.1	70.0	70.7	69.0	69.0	68.4	67.9	67.4	68.0	68.0	67.9	68.0
	20° 0'	66.1	65.5	65.5	66.2	64.0	63.6	62.7	64.0	66.5	69.3	69.6	69.2	69.1	69.9	70.8	68.8	69.4	68.4	67.9	67.4	68.0	68.0	67.9	67.9
	26° 0'	65.9	65.6	65.3	65.6	63.9	63.5	62.7	64.1	66.9	69.3	69.6	69.3	69.1	69.7	70.7	68.7	69.4	68.3	67.9	67.4	68.1	68.0	67.9	67.9
	32° 0'	65.4	65.7	65.7	65.5	63.8	63.5	62.9	64.2	67.1	69.1	69.4	69.0	69.1	69.8	71.0	68.7	69.2	68.3	67.8	..	68.0	67.9	67.9	67.9
	38° 0'	65.4	66.2	65.7	65.3	63.9	63.0	63.3	64.3	67.4	69.6	69.3	69.1	69.4	69.9	70.5	68.7	69.1	68.2	67.7	67.6	68.0	67.7	67.9	68.0
	44° 0'	65.5	65.7	65.8	65.3	63.8	62.8	63.6	64.8	67.8	69.6	69.6	69.0	69.7	69.9	69.8	68.6	69.0	68.2	67.6	67.8	68.1	67.9	68.0	68.0
	50° 0'	65.3	65.6	65.7	65.1	63.8	62.7	63.7	64.9	67.9	69.8	69.4	68.8	70.0	70.0	69.7	68.8	69.0	68.3	67.5	67.9	68.0	67.9	68.0	67.9
	56° 0'	65.3	65.5	65.9	64.9	63.8	62.8	63.8	65.2	68.0	69.9	69.4	68.9	70.0	70.2	69.4	68.9	68.9	68.2	67.5	68.0	68.1	67.9	68.0	67.9
Ther..	79.9	81.0	80.0	80.0	80.3	80.7	81.3	82.0	82.5	83.0	83.5	83.0	83.1	83.0	83.0	82.5	82.0	81.2	81.1	81.1	81.1	81.0	80.8	80.7	
VERTICAL FORCE MAGNETOMETER.	4° 0'	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	
	10° 0'	-410	-379	-413	..	-411	-363	-309	-296	-326	-343	-382	-408	-405	-447	-416	-403	-429	-443	-431	-418	-396	-396	-420	-447
	16° 0'	-420	-374	-422	..	-413	-357	-305	-297	-330	-345	-384	-407	-405	-447	-410	-403	-433	-442	-430	-415	-396	-407	-425	-446
	22° 0'	-418	-384	-426	..	-408	-351	-298	-303	-328	-344	-386	-412	-411	-460	-405	-403	-437	-438	-431	-411	..	-396	-425	-445
	28° 0'	..	-392	-434	-445	-403	-346	-293	-312	-328	-344	-391	-405	-411	-465	-408	-409	-441	-436	-433	-409	-397	-396	-427	-438
	34° 0'	..	-389	-440	-438	-398	-344	-292	-320	-331	-344	-393	-404	-417	-471	-408	-415	-445	-435	-433	-408	-407	-404	-428	-436
	40° 0'	-392	-398	-443	-427	-392	-337	-291	-324	-330	-345	-401	-404	-417	-441	-401	-415	-445	-434	-434	-404	..	..	-427	-431
	46° 0'	-392	-396	-444	-430	-386	-318	-291	-330	-334	-349	-404	-404	-420	-438	-401	-410	-448	-434	-432	-401	-396	-404	-434	-431
	52° 0'	-388	-404	-455	-430	-379	-318	-291	-330	-335	-359	-401	-404	-426	-440	-402	-410	-448	-434	-429	-396	-398	..	-437	-431
	58° 0'	-392	-415	-455	-427	-372	-317	-293	-332	-334	-365	-409	-403	-431	-426	-402	-417	-448	-433	-425	-388	-398	-398	-432	-427
Ther..	80.0	80.5	80.0	79.5	81.0	81.0	81.8	82.6	83.0	83.6	83.7	83.5	83.2	82.5	82.6	82.0	82.0	81.5	81.5	81.7	82.0	81.5	81.3	81.1	
Barometer(uncorrected) = 29.0 +	in.	0.922	0.944	0.960	0.980	0.960	1.003	1.007	0.990	0.975	0.936	0.917	0.902	0.910	0.952	0.970	1.014	1.002	1.007	1.009	1.017	1.001	0.967	0.950	0.941
	Attached Thermometer..	78.0	78.2	78.0	78.0	78.5	79.0	80.0	80.8	81.2	82.0	82.8	82.0	82.2	82.0	81.5	81.0	80.0	79.0	79.0	79.0	79.0	78.0	78.0	78.0
	Dry do.	78.0	78.5	78.1	78.0	79.5	80.7	81.5	82.0	82.9	83.5	83.0	82.3	82.5	82.2	81.5	81.0	78.0	79.2	78.0	78.0	78.0	78.7	78.8	78.0
	Wet do.	75.8	75.6	75.6	76.1	76.5	77.8	78.3	78.4	78.0	78.8	78.3	78.2	78.3	78.2	78.0	77.0	75.0	76.0	75.3	75.5	75.8	76.0	76.0	76.0
REMARKS ON THE WEATHER.	ZENITH.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	HORIZON.	.....	stra, cum-stra.....	cum. W, stra. N.....	stra, cum.....	overcast.....	do.	do.	do.	do.	heavy cum.....	overcast.....	{ ort. cu-st. cir-cu- } { str. from N. to E. }	overcast.....	cum, stra.....	cum, cum-stra.....	overcast.....	do.	do.	do.	do.	do.	do.	do.	do.
.....		.....	.....	.....	.....	.....	.....	.....	.....	.....	fresh breeze.....	.....	.....	.....	.....	th. S. W. hor.	very heavy rain.....	.....	.....	.....	th., lightning	lightning W .....	.....	calm.....	

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 25th November 1842. Gottingen Mean Time.

FRIDAY the 25th November 1842.

SATURDAY the 26th November 1842.

Gottingen Mean Time.

10 P. M.

DECLINATION MAGNETOMETER.	FRIDAY the 25th November 1842.													SATURDAY the 26th November 1842.										
	m. s.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.		
0° 0'	31.7	31.2	30.6	31.0	31.1	30.9	31.5	32.0	33.1	34.0	34.1	34.7	34.0	33.0	33.0	32.8	32.9	32.6	32.3	32.1	32.3	32.2	32.0	32.0
6° 0'	31.7	31.2	30.6	31.1	31.0	31.0	31.4	32.0	33.3	34.1	34.1	34.8	34.0	33.0	33.0	32.7	32.8	32.6	32.2	32.0	32.2	32.2	32.0	32.0
12° 0'	31.8	31.2	30.6	31.1	30.9	31.0	31.4	32.1	33.4	34.1	34.1	34.9	34.0	33.0	33.0	32.7	32.8	32.5	32.3	32.0	32.2	32.1	32.0	32.0
18° 0'	31.7	31.1	30.6	31.1	31.0	31.0	31.3	32.3	33.5	34.2	34.1	34.9	33.8	33.0	33.0	32.6	32.7	32.5	32.2	32.0	32.2	32.1	32.0	32.0
24° 0'	31.7	31.1	30.6	31.2	30.8	31.1	31.3	32.3	33.6	34.2	34.4	34.7	33.8	33.1	33.0	32.7	32.8	32.4	32.3	31.9	32.3	32.0	32.0	32.0
30° 0'	31.5	30.7	30.8	31.3	30.8	31.1	31.4	32.5	33.7	34.2	34.4	34.7	33.4	33.0	33.0	32.7	32.7	32.5	32.2	32.0	32.3	32.0	32.0	31.9
36° 0'	31.5	30.6	30.8	31.3	30.8	31.2	31.5	32.8	33.8	34.2	34.4	34.5	33.4	33.0	33.0	32.7	32.7	32.5	32.2	32.0	32.3	32.0	32.0	31.9
42° 0'	31.3	30.6	30.9	31.2	30.9	31.3	31.6	32.8	33.9	34.1	34.5	34.4	33.2	33.0	32.9	32.6	32.6	32.4	32.2	32.2	32.5	32.0	32.0	31.9
48° 0'	31.3	30.6	30.8	31.3	30.8	31.4	31.9	32.9	33.9	34.2	34.7	34.3	33.0	33.0	33.0	32.7	32.5	32.3	32.2	32.3	32.4	32.0	32.1	31.9
54° 0'	31.3	30.7	30.9	31.2	30.7	31.3	32.0	33.0	34.0	34.1	34.7	34.1	33.0	33.0	32.9	32.9	32.4	32.3	32.2	32.2	32.3	32.0	32.1	31.9
HORIZONTAL FORCE MAGNETOMETER.																								
2° 0'	65.0	64.4	63.9	65.5	64.5	64.1	64.0	65.0	64.2	65.1	65.1	65.7	66.4	66.1	65.6	66.0	66.2	63.0	63.1	62.3	61.9	61.5	61.2	61.1
8° 0'	64.9	64.5	63.9	65.5	64.6	64.0	64.0	65.2	64.3	65.1	65.2	65.8	66.4	66.0	65.6	66.0	63.5	63.1	63.0	61.7	62.0	61.4	61.2	61.1
14° 0'	64.9	64.2	63.8	65.4	64.7	64.0	64.0	65.2	64.4	65.1	65.2	65.8	66.4	66.0	65.8	66.0	62.3	63.1	63.0	61.0	62.0	61.4	61.2	61.1
20° 0'	64.7	64.1	63.7	65.1	64.6	64.0	64.1	65.0	64.6	65.2	65.4	65.9	66.4	66.0	65.8	66.0	62.5	63.0	63.0	61.1	62.0	61.3	61.2	61.0
26° 0'	64.7	64.2	63.8	65.2	64.2	64.0	64.3	64.3	64.7	65.2	65.4	66.0	66.4	65.9	65.8	66.2	63.0	63.1	63.0	61.1	61.8	61.3	61.2	60.9
32° 0'	64.6	64.0	64.1	65.5	64.2	64.0	64.6	63.6	64.8	65.2	65.4	66.0	66.2	66.0	65.8	66.4	63.1	63.1	62.9	61.2	61.8	61.3	61.2	60.9
38° 0'	64.6	64.0	65.5	65.3	64.1	63.9	64.5	63.5	65.0	65.2	65.4	66.1	66.3	65.8	65.9	66.4	63.0	63.1	62.9	61.5	61.7	61.2	61.2	60.9
44° 0'	64.7	63.9	66.1	64.9	64.0	64.0	64.7	63.7	65.0	65.2	65.5	66.0	66.4	65.8	66.0	66.9	63.1	63.0	62.9	61.7	61.7	61.3	61.1	60.9
50° 0'	64.7	64.0	65.8	64.8	64.0	63.9	64.9	63.8	65.1	65.1	65.5	66.1	66.2	65.5	66.0	66.9	62.7	63.1	63.0	61.8	61.6	61.3	61.1	60.9
56° 0'	64.5	64.0	65.7	64.7	64.0	64.0	65.0	64.0	65.1	65.1	65.6	66.2	66.1	65.6	66.0	66.9	62.4	63.2	62.8	61.9	61.5	61.3	61.1	60.8
Ther..	81.4	81.2	81.3	81.1	81.2	81.7	82.2	82.4	83.3	83.4	83.4	83.5	83.5	83.1	82.3	82.5	82.3	82.2	82.2	82.1	82.0	81.6	81.4	81.3
VERTICAL FORCE MAGNETOMETER.																								
4° 0'	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	
10° 0'	-113	-143	-163	-156	..	-100	-57	-5	11	4	-26	-38	-58	-109	-86	-96	-111	-125	-78	-84	-109	-121	-131	-117
16° 0'	-128	-146	-163	-153	..	-100	-53	4	12	-6	-27	-39	-72	-123	-87	-104	-111	-105	-80	-67	-111	-121	-135	-115
22° 0'	-128	-151	-165	-151	-131	-83	-50	11	10	-6	-29	-40	-73	-120	-88	-145	-114	-99	-78	-92	-112	-121	-136	-113
28° 0'	-135	-147	-166	-154	-117	-77	-49	11	10	-9	-32	-41	-81	-113	-86	-101	-116	-91	-78	-97	-112	-121	-136	-113
34° 0'	-135	-145	-167	-154	-113	-66	-27	12	11	-11	-34	-41	-87	-114	-88	-103	-116	-87	-84	-105	-112	-122	-133	-110
40° 0'	-125	-143	-167	-150	-106	-66	-27	12	11	-12	-35	-43	-89	-103	-93	-154	-119	-84	-84	-107	-113	-122	-132	-107
46° 0'	-135	-141	-163	-149	-105	-62	-13	12	9	-13	-35	-44	-92	-101	-90	-107	-119	-84	-82	-109	-114	-125	-130	-103
52° 0'	-134	-138	-163	-148	-100	-62	-10	18	7	-17	-36	-45	-96	-107	-92	-113	-120	-83	..	-107	-115	-128	-128	-100
58° 0'	-137	-137	-159	-145	-100	-62	-8	14	4	-19	-37	-52	-100	-92	-94	-113	-125	-83	-88	-106	-116	-129	-125	-96
Ther..	81.3	81.3	81.2	80.9	81.2	81.8	82.7	83.2	84.0	84.0	83.9	84.0	83.5	83.2	83.2	83.0	83.0	83.0	83.1	82.6	82.2	82.0	81.5	81.7
Barometer(uncorrected) = 29.0 +																								
Attached Thermometer..																								
Dry do.																								
Wet do.																								
REMARKS ON THE WEATHER.																								
ZENITH.												HORIZON.												
overcast												overcast												
clear												stra												
cir, cum-stra												stra, cum												
heavy clouds												heavy clouds												
cloudy												cloudy												
cum, cir												cum, cum-stra												
cir, cir-cum												cumuli												
cum, cir-cum												d-cum												
heavy clouds												heavy clouds												
do.												do												
cir-cum												heavy cum												
cir, lt-cir-cum												cir-cum, cum												
do.												cir-cum N, cum W												
clear												stra. S, stra, cum E												
haze												cum, stra												
clear												fog												
pt-haze												cloudy												
cir-cum												haze												
pt-cir-cum												cum, cum-stra												
nearly clear												nearly clear												
pt-cir-stra												stra, haze												
clear												cir-stra												
do.												do												
pt-cir-cum												{ cir-cum-stra W. } { cir-stra												

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 21st December 1842. Gottingen Mean Time.

WEDNESDAY the 21st December 1842.

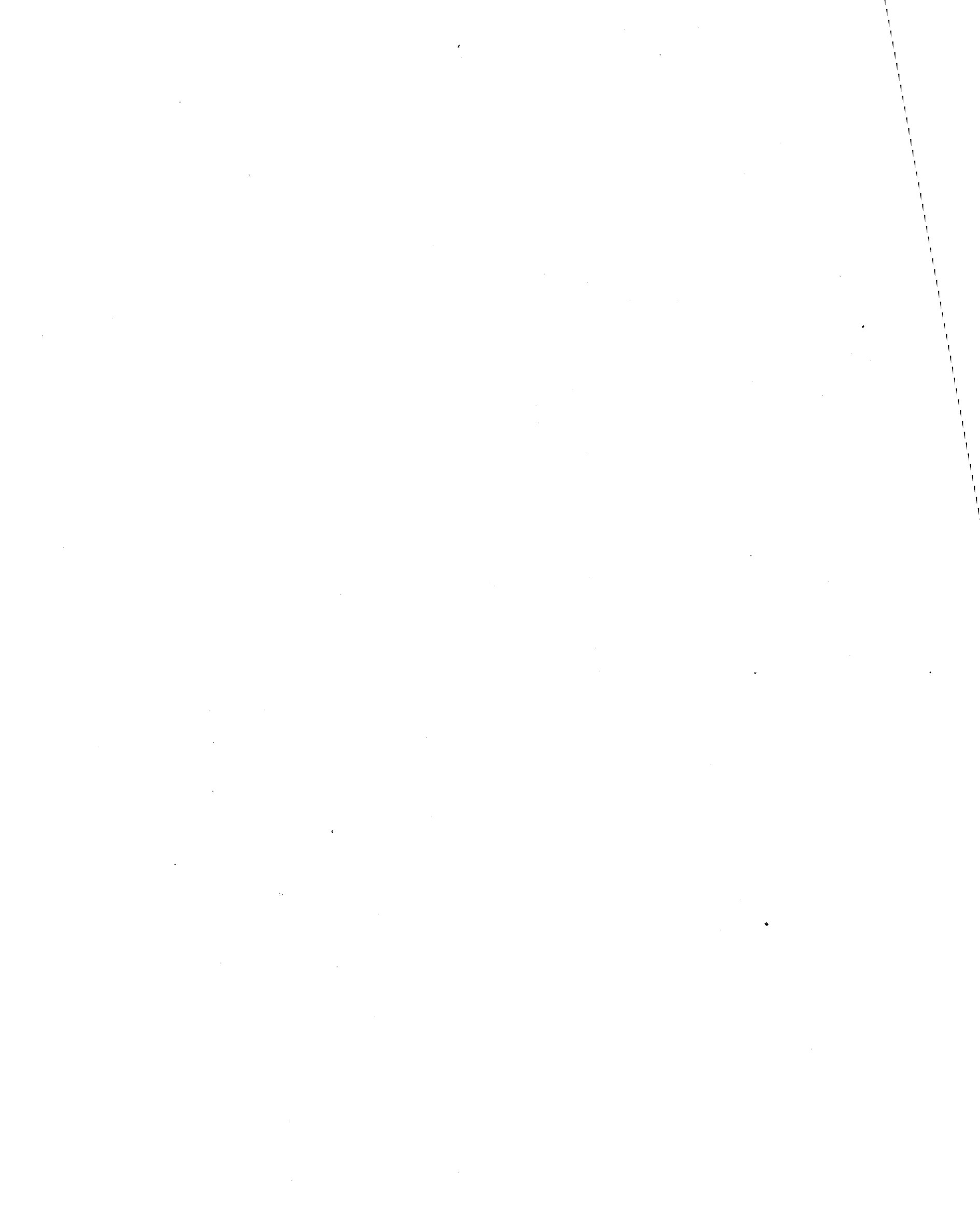
THURSDAY the 22d December 1842.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23

0 1 2 3 4 5 6 7 8 9

DECLINATION MAGNETOMETER.	WEDNESDAY the 21st December 1842.														THURSDAY the 22d December 1842.										
	m. s.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	
0° 0'	31.0	30.7	30.9	29.6	30.2	30.5	30.4	30.6	31.2	31.5	32.8	34.1	34.0	33.2	32.9	32.5	32.2	31.9	31.5	31.3	31.3	31.4	31.1	30.7	
6° 0'	30.9	30.7	30.7	29.8	30.1	30.5	30.2	30.6	31.5	31.5	32.8	34.2	34.0	33.2	32.9	32.4	32.1	31.8	31.5	31.3	31.3	31.3	31.1	30.5	
12° 0'	30.6	30.3	30.7	29.8	30.1	30.4	30.2	30.6	31.6	31.5	32.9	34.2	34.0	33.1	32.9	32.5	32.1	31.8	31.4	31.3	31.3	31.2	31.1	30.5	
18° 0'	30.8	30.9	30.4	29.8	30.2	30.4	30.3	30.6	31.5	31.6	33.0	34.2	34.0	33.0	32.9	32.4	32.0	31.7	31.5	31.3	31.3	31.2	30.9	30.4	
24° 0'	30.8	31.0	30.4	29.9	30.3	30.5	30.5	30.7	31.5	31.8	33.4	34.2	33.9	32.9	32.8	32.4	32.0	31.8	31.5	31.2	31.3	31.4	30.9	30.2	
30° 0'	30.6	30.9	30.1	29.8	30.3	30.5	30.6	30.8	31.3	32.0	33.6	34.3	33.9	32.9	32.7	32.4	32.0	31.8	31.4	31.4	31.1	31.4	30.8	30.2	
36° 0'	30.6	30.9	29.8	30.0	30.3	30.5	30.6	30.9	31.4	32.1	33.8	34.2	33.9	32.8	32.6	32.3	32.0	31.8	31.4	31.1	31.3	31.4	30.8	30.2	
42° 0'	30.5	31.3	30.1	30.0	30.4	30.4	30.6	30.9	31.4	32.4	33.9	34.0	33.8	32.8	32.6	32.3	32.0	31.6	31.4	31.1	31.2	31.2	30.6	30.2	
48° 0'	30.5	31.3	30.0	30.0	30.5	30.4	30.6	31.1	30.4	32.6	34.0	34.0	33.6	32.9	32.4	32.2	32.0	31.6	31.4	31.1	31.2	30.9	30.7	30.3	
54° 0'	30.2	31.0	29.7	30.0	30.5	30.4	30.6	31.2	31.4	32.8	34.0	34.0	33.6	32.8	32.5	32.1	31.9	31.6	31.4	31.3	31.4	31.1	30.7	30.2	
HORIZONTAL FORCE MAGNETOMETER.	2° 0'	62.8	62.6	63.0	62.4	61.5	59.2	57.6	57.5	58.9	60.7	64.1	66.4	66.3	67.8	67.8	66.3	65.2	64.5	64.2	63.8	63.5	63.4	62.5	61.5
	8° 0'	62.9	62.7	63.0	62.1	61.2	59.1	57.0	57.6	58.8	61.0	64.5	66.4	66.3	68.2	67.7	66.2	65.3	64.5	64.0	63.7	63.5	63.4	62.2	61.1
	14° 0'	62.5	62.6	63.0	62.1	61.0	58.8	57.0	57.7	59.0	61.5	64.8	66.4	66.5	68.3	67.6	66.1	65.3	64.0	64.0	63.6	63.4	63.4	62.0	60.7
	20° 0'	63.1	63.0	63.0	61.9	60.9	58.7	57.2	58.0	59.1	61.9	64.9	66.4	66.4	68.7	67.5	..	65.0	64.4	64.1	63.5	63.6	63.4	62.1	60.9
	26° 0'	63.1	62.7	62.9	62.0	60.6	58.6	57.5	57.8	59.5	62.1	65.2	66.3	66.4	69.0	67.3	..	64.8	64.2	64.0	63.5	63.4	63.3	61.8	60.9
	32° 0'	62.6	63.4	63.2	62.2	60.5	58.4	57.7	57.9	59.7	62.5	65.0	66.3	66.5	69.3	65.0	..	64.8	64.2	63.9	63.2	63.6	63.4	62.0	60.6
	38° 0'	62.8	63.3	62.7	62.3	60.5	58.1	57.6	58.0	59.9	62.9	65.7	66.3	66.9	69.5	65.1	65.5	64.7	64.1	64.1	62.8	63.6	63.4	62.2	60.9
	44° 0'	63.3	63.0	62.4	62.5	60.4	57.7	57.7	58.3	60.0	63.3	65.9	66.3	66.9	69.2	67.0	65.5	64.5	64.1	64.0	63.2	63.7	63.1	61.6	61.5
	50° 0'	62.6	63.3	62.6	61.9	60.1	57.8	57.7	58.6	60.3	63.7	66.0	66.4	67.2	68.7	66.8	65.3	64.4	64.4	64.0	63.5	63.5	63.1	61.9	61.1
	56° 0'	62.5	62.8	62.3	62.0	59.9	57.5	57.7	58.8	60.5	64.0	66.4	66.4	67.5	68.3	66.6	65.3	64.5	64.1	64.0	63.5	63.6	62.6	61.6	60.9
Ther..	79.3	79.3	79.3	79.0	79.2	80.0	80.7	81.2	81.5	81.8	82.0	82.4	82.7	84.5	83.1	82.0	81.4	81.0	81.0	80.8	80.5	80.2	80.0	80.0	
VERTICAL FORCE MAGNETOMETER.	4° 0'	-307	-308	-306	-306	-300	-293	-286	-279	-276	-285	-288	-288	-290	-289	-301	-309	-309	-311	-307	-310	-312	-313	-314	-314
	10° 0'	-307	-310	-309	-307	-300	-293	-285	-279	-277	-285	-288	-287	-288	-290	-302	-309	-308	-309	-307	-309	-313	-313	-313	-315
	16° 0'	-315	-309	-309	-307	-300	-291	-285	-279	-280	-285	-288	-287	-289	-290	-303	-310	-307	..	-308	-310	-313	-313	-312	-314
	22° 0'	-313	-307	-310	-308	-298	-290	-285	-279	-280	-282	-288	-289	-289	-291	-303	-309	-309	-309	-309	-308	-310	-313	-313	-314
	28° 0'	-311	-309	-307	-307	-297	-291	-285	-278	-289	-287	-287	-287	-289	-288	-292	-304	-307	-310	-308	-308	-310	-313	-313	-315
	34° 0'	-312	-305	-309	-306	-297	-289	-283	-278	-281	-287	-287	-287	-289	-293	-305	-308	-310	-309	-308	-310	-313	-313	-313	-314
	40° 0'	-313	-306	-308	-306	-297	-288	-282	-276	-281	-288	-287	-290	-288	-294	-305	-308	-310	-310	-308	-311	-313	-313	-313	-313
	46° 0'	-306	-306	-308	-305	-295	-289	-281	-275	-281	-288	-287	-290	-289	-294	-307	-309	-311	-309	-308	-310	-313	-313	-313	-312
	52° 0'	-310	-308	-309	-302	-295	-287	-281	-279	-284	-288	-287	-291	-289	-294	-306	-310	-310	-307	-310	-307	-310	-313	-313	-314
	58° 0'	-309	-307	-308	-304	-293	-287	-279	-278	-284	-288	-287	-290	-289	-300	-307	-309	-311	-309	-309	-310	-313	-313	-315	-313
Ther..	78.5	78.5	78.8	78.0	79.3	80.0	80.7	81.5	81.7	82.0	82.0	82.3	82.3	82.6	81.5	81.0	80.5	80.2	80.5	80.0	80.0	79.5	79.4	79.1	
Barometer (uncorrected) = 29.6 +	in.	1.034	1.040	1.066	1.081	1.080	1.086	1.084	1.070	1.046	1.023	0.993	0.979	0.981	1.007	1.025	1.040	1.053	1.082	1.058	1.079	1.068	1.043	1.023	0.995
	Attached Thermometer..	77.0	77.0	77.0	77.0	77.6	79.1	79.8	80.3	80.8	80.8	81.0	81.0	81.4	82.0	81.0	80.0	79.4	79.0	79.0	74.0	77.5	77.8	77.5	77.3
	Dry do.	74.8	74.0	74.5	77.0	79.0	80.0	81.0	81.5	81.7	81.8	82.0	82.3	82.0	82.1	80.8	79.7	79.0	78.0	78.0	75.0	75.0	73.4	73.7	76.0
	Wet do.	73.0	72.0	72.8	74.1	75.5	76.0	76.3	76.5	76.5	76.8	76.6	76.8	77.0	75.1	74.9	74.8	74.9	74.2	74.8	73.0	72.5	71.8	72.0	73.2
REMARKS ON THE WEATHER.	ZENITH.	clear	do.	do.	do.	do.	light cir.	clear	do.	cir-cum.	clear	cir-cum.	cir-cum.	pl-t. cir-cum.	nearly clear	clear	do.	do.	do.	do.	do.	do.	do.	do.	do.
	HORIZON.	clear	fog	stra.	clear	do.	dt cum.	cum	dt-cum	cum	dt-cum	cum, cum-stra	dt-cum, stra	lt-cum, cir-cum	dt-cum	cir-stra, lt-cum	cir-stra, cum	clear	do.	do.	do.	haze	clear	do.	do.
		calm	do.	do.	do.	calm	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	calm	do.	do.	do.	do.	calm	do.	do.



SINGAPORE 1843.

MAGNETICAL OBSERVATIONS.

SINGAPORE 1843. MAGNETICAL OBSERVATIONS.

$$a. \left(1 + \frac{H}{F}\right) = 40.7 \times 1.000311 = 40.7127$$

$$a. = 1.36.47 \text{ East of North.}$$

Zero...36.7

DECLINATION MAGNETOMETER.

Göttingen Mean Time.		Noon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Declination					
Singapore Mean Time.		h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.				
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. JANUARY 1843.		sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	1.30 +		
		DECEMBER 31	32.1	31.9	32.0	31.7	31.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		1	31.9	31.6	31.5	31.1	31.0	30.8	30.5	31.0	31.0	30.6	30.6	30.1	28.9	28.9	28.6	28.8	30.7	30.0	29.9	32.0	33.0	33.1	33.1	32.3	31.9	31.1	2.59	31.1	2.59	
		2	31.0	32.1	31.9	31.9	31.5	31.5	31.6	31.4	30.9	31.2	31.0	30.8	29.2	28.5	29.1	30.2	29.5	30.4	31.5	..	32.8	32.7	32.6	32.0	31.1	31.6	3.19	31.6	3.19	
		3	31.9	32.0	31.9	31.8	31.5	31.4	31.3	31.0	31.1	31.2	30.5	30.6	30.2	29.9	30.2	30.2	29.7	30.2	31.8	32.6	33.1	34.0	33.7	32.0	31.4	31.4	2.59	31.4	3.11	
		4	32.0	32.0	32.0	31.9	31.7	31.3	31.3	31.6	31.4	30.9	30.8	30.7	30.0	29.4	29.1	29.0	29.5	29.6	31.2	32.9	34.3	35.2	35.2	33.1	31.5	31.5	3.15	31.5	3.15	
		5	31.7	31.8	31.7	31.3	31.1	30.8	30.9	30.9	31.0	31.0	30.9	30.5	29.6	29.4	29.1	30.0	29.3	31.0	33.3	35.3	35.5	34.9	33.8	32.9	31.6	31.6	3.19	31.6	3.19	
		6	32.9	32.8	32.4	32.3	32.1
		7
		8	29.4	29.0	29.0	29.5	29.2	29.0	29.0	28.6	28.6	28.5	28.4	28.5	28.6	28.0	27.9	28.0	27.6	28.4	29.5	29.9	30.8	29.8	29.7	29.5	28.9	28.9	2.29	28.9	1.29	
		9	29.4	29.6	29.6	29.6	29.5	29.2	28.9	29.1	29.0	29.0	28.9	28.2	27.9	26.7	26.5	26.8	28.9	27.3	28.3	29.7	30.2	30.8	31.2	30.9	29.0	29.0	1.33	29.0	1.33	
		10	30.5	30.5	30.5	30.4	30.2	30.0	29.9	30.0	28.9	29.2	29.0	29.2	29.4	29.1	30.2	30.0	29.5	28.9	28.4	28.4	28.8	29.2	30.0	30.0	29.6	29.6	1.58	29.6	1.58	
		11	30.2	30.1	30.0	29.9	29.9	29.6	29.5	29.4	29.3	29.4	29.1	28.4	28.0	28.1	27.6	28.0	28.0	28.7	29.5	30.9	31.2	31.2	31.2	31.2	29.5	29.5	1.54	29.5	1.54	
		12	30.0	30.0	30.0	29.9	29.9	29.6	29.4	29.4	29.4	29.0	28.8	27.7	27.1	26.7	26.9	28.0	29.0	30.1	31.0	32.3	33.3	32.9	32.0	31.1	29.7	29.7	2.02	29.7	2.02	
		13	30.3	30.2	30.2	30.1	30.0
		14
		15	30.0	30.4	30.3	30.9	30.7	30.2	29.8	29.5	29.3	28.9	28.5	25.8	25.6	25.5	26.4	28.9	29.2	30.6	30.7	30.8	29.6	30.0	31.0	31.1	29.3	29.3	1.45	29.3	1.45	
		16	30.8	30.7	30.7	30.0	29.7	29.7	29.4	30.7	29.5	28.7	28.3	27.9	25.8	25.1	26.1	28.0	29.2	31.5	32.2	31.2	30.6	30.6	30.3	30.1	29.4	29.4	1.49	29.4	1.49	
		17	30.0	30.0	30.0	30.5	29.6	29.6	29.6	29.5	29.4	28.9	28.3	28.2	27.6	27.2	26.5	28.0	29.0	30.2	30.8	30.6	29.9	30.2	31.1	31.0	29.4	29.4	1.49	29.4	1.49	
		18	30.8	30.4	30.0	30.0	30.0	30.0	30.0	29.8	29.6	29.4	29.3	28.6	27.2	26.6	26.8	29.1	29.9	31.5	28.5	34.0	33.5	31.9	31.0	29.9	29.9	2.10	29.9	2.10		
		19	30.6	30.3	30.4	30.2	30.1	30.2	29.6	29.6	29.5	29.1	28.6	22.0	27.7	27.0	27.8	28.8	29.6	29.7	30.3	32.0	32.5	30.9	30.6	30.3	29.5	29.5	1.54	29.5	1.54	
		20	29.4	30.0	30.0	29.7	29.5
		21
		22	30.3	30.0	29.8	30.0	29.3	29.4	29.7	29.3	29.4	28.8	29.0	29.0	28.6	28.7	27.9	28.0	28.9	28.0	28.7	29.9	31.5	32.1	31.6	30.9	29.2	29.2	1.41	29.2	1.41	
		23	30.0	30.0	30.0	29.7	29.6	29.4	29.6	29.8	29.7	29.6	29.6	29.1	28.8	28.1	28.1	29.1	29.5	29.7	30.2	29.7	29.9	30.0	30.0	30.0	29.5	29.5	1.54	29.5	1.54	
		24	29.7	30.0	30.0	30.0	29.9	30.1	29.7	29.5	29.7	29.4	29.2	28.7	28.3	27.9	27.9	28.4	27.9	28.2	28.5	29.5	30.9	31.1	31.1	30.3	29.4	29.4	1.49	29.4	1.49	
		25	29.8	29.9	29.9	30.0	29.9	29.5	29.5	29.5	29.4	29.0	29.3	29.4	28.5	26.9	27.6	28.5	29.0	28.9	29.3	30.0	..	..	..	..	29.2	29.2	1.41	29.2	1.41
		26	30.0	30.4	30.2	30.0	29.8	29.6	29.4	29.1	29.0	29.1	28.3	28.0	26.9	25.8	26.9	27.9	29.6	29.7	30.3	32.0	32.5	30.9	30.6	30.3	29.1	29.1	1.37	29.1	1.37	
		27	31.1	30.8	30.4	30.0	30.0
		28
		29	29.6	30.2	29.9	30.0	29.9	29.9	29.9	29.5	29.4	29.5	29.1	28.6	27.8	27.0	27.9	29.4	29.8	30.1	31.4	31.7	31.0	29.0	28.8	29.3	29.5	29.5	1.54	29.5	1.54	
30	29.9	29.7	29.9	29.6	29.9	29.7	29.8	29.2	29.0	29.1	28.9	28.8	27.9	27.4	28.7	30.4	30.4	31.1	31.8	32.2	31.6	30.0	30.4	29.5	29.8	29.8	2.06	29.8	2.06			
Hourly Means		30.6	30.6	30.5	30.4	30.3	30.0	30.0	29.9	29.8	29.6	29.3	28.7	28.2	27.7	28.0	28.9	29.4	29.8	30.7	31.3	31.6	31.4	31.2	30.7	29.9	2.11	29.9	2.11			
Declination = 1 30 +		2 38	2 38	2 34	2 30	2 26	2 14	2 14	2 10	2 06	1 58	1 45	1 21	1 01	0 41	0 53	1 29	1 49	2 06	2 42	3 07	3 19	3 11	3 03	2 42	2 12	1 31	2 12	1 31			
Diurnal Oscillations.		1 57	1 57	1 53	1 49	1 45	1 33	1 33	1 29	1 25	1 17	1 04	0 40	0 20	0	0 12	0 48	1 08	1 25	2 01	2 26	2 38	2 30	2 22	2 01	1 31	1 31	1 31	1 31			
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. FEBRUARY 1843.		sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	1.30 +		
		1	29.4	30.0	29.7	29.5	29.4	29.5	29.5	29.7	29.7	29.3	29.2	28.6	27.1	25.9	27.5	28.5	28.5	29.9	32.1	32.8	31.6	30.8	30.0	29.9	29.5	29.5	1.54	29.5	1.54	
		2	29.8	29.9	29.9	29.8	29.5	29.6	29.4	29.0	28.8	28.9	28.7	28.6	27.9	27.4	26.6	27.5	29.4	32.5	34.6	34.9	34.0	32.3	31.2	30.0	30.0	30.0	2.14	30.0	2.14	
		3	29.6	29.7	29.7	29.6	29.5	30.0	29.5	29.0	29.1	29.2	28.7	28.3	26.3	25.5	26.8	29.2	31.4	31.9	32.6	33.9	32.6	31.5	30.2	29.9	29.7	29.7	2.02	29.7	2.02	
		4	29.7	29.6	29.5	29.4	29.4
		5
		6	29.9	29.9	29.6	30.0	29.9	30.0	30.0	29.9	29.7	29.7	29.0	28.1	27.4	25.1	24.4	26.3	27.1	28.9	30.0	32.1	32.4	32.4	31.9	31.2	29.4	29.4	1.49	29.4	1.49	
		7	30.0	29.9	29.6	29.7	29.6	29.7	29.9	29.7	29.5	29.6	29.1	28.5	28.6	26.7	25.9	27.0	27.1	27.9	28.9	27.8	27.9	29.1	30.0	29.9	28.8	28.8	1.25	28.8	1.25	
		8	29.8	29.8	29.7	29.7	29.9	29.6	29.4	29.2	29.3	28.9	29.1	28.6	28.3	28.0	28.2	28.3	28.9	29.7	31.3	32.0	33.0	33.3	32.3	31.9	29.9	29.9	2.10	29.9	2.10	
		9	29.8	30.1	29.9	29.7	29.8	30.0	29.0	28.9	28.7	28.4	28.7	28.7	28.2	27.4	27.9	29.1	30.1	30.1	30.5	30.8	30.2	29.3	29.0	29.9						

SINGAPORE 1843. MAGNETICAL OBSERVATIONS.

$$a. \left(1 + \frac{H}{F}\right) = 40.7 \times 1.000311 = 40.7127$$

Zero... 36.7

a. = 1.36 47 East of North.

DECLINATION MAGNETOMETER.

Göttingen Mean Time.		Noon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Declination			
Singapore Mean Time.		h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.		
OBSERVATIONS OF THE DECLINATION MAGNETOMETER.	MARCH 1843.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.		
	1	29.6	29.5	29.1	29.0	28.9	29.1	28.9	28.7	28.6	28.9	28.8	29.0	29.2	28.3	26.9	26.6	23.6	24.8	26.8	28.1	28.4	28.5	28.0	27.6	26.6	25.7	25.7	0.57	
	2	26.3	26.3	26.1	26.0	26.0	26.0	25.9	25.8	25.6	25.9	25.8	25.9	26.0	26.1	23.5	22.7	22.9	23.8	25.4	26.6	27.3	28.0	27.8	26.9	25.8	25.8	25.8	-0.41	
	3	26.3	26.0	25.8	25.8	26.5	26.5	26.0	26.0	26.1	26.0	25.8	25.8	25.9	25.4	23.8	23.6	23.4	24.1	25.7	26.1	26.9	27.4	27.6	27.8	26.9	25.8	25.8	-0.37	
	4	27.2	27.0	26.9	26.7	26.1	26.9	26.0	26.9	27.0	26.5	26.7	26.8	26.9	26.1	25.9	23.5	23.9	25.5	25.0	25.4	25.3	25.9	27.1	26.8	26.2	26.2	26.2	-0.20	
	5	27.3	26.2	26.9	26.8	27.0	26.9	26.9	26.7	26.6	26.1	26.7	27.0	26.8	24.7	24.1	22.9	23.8	24.9	25.9	26.3	27.2	27.6	27.6	27.4	26.2	26.2	26.2	-0.20	
	6	26.9	26.8	25.7	26.5	26.1	26.6	26.4	26.5	26.7	26.5	26.2	26.5	26.1	26.5	26.2	25.8	26.3	26.8	27.6	28.4	29.3	29.0	28.2	27.8	26.9	26.9	26.9	0.08	
	7	27.0	26.8	26.4	26.2	26.1	26.1	25.8	25.9	25.9	26.0	25.8	26.0	26.2	25.7	25.2	25.7	27.1	28.2	29.4	29.0	28.0	27.4	27.2	26.9	26.7	26.7	26.7	0.00	
	8	26.9	27.0	26.8	26.9	26.3	26.0	26.1	26.2	26.5	26.0	26.0	26.1	26.3	25.9	26.0	26.1	26.6	26.9	26.9	27.2	28.0	28.0	28.6	27.6	26.7	26.7	26.7	0.00	
	9	27.4	26.9	26.5	26.3	26.4	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	0.00
	10	27.2	27.2	26.1	25.6	26.8	26.5	26.8	27.1	25.2	25.6	25.5	26.0	26.4	26.8	27.5	27.2	27.1	27.0	26.5	26.8	27.5	27.2	27.1	27.0	26.5	26.5	26.5	-0.08	
	11	26.9	27.2	26.8	27.1	26.8	26.2	27.1	27.0	27.0	26.9	26.9	27.0	27.0	26.4	25.6	25.7	27.1	28.9	28.3	28.2	27.2	27.1	27.0	27.2	27.0	27.0	27.0	27.0	0.12
	12	27.2	27.4	27.3	27.0	26.9	26.0	27.1	26.7	26.5	25.9	26.4	26.6	26.1	25.9	26.8	25.9	26.5	26.6	26.6	27.5	28.0	28.1	28.1	27.9	26.9	26.9	26.9	26.9	0.08
	13	27.4	27.1	26.9	27.0	26.9	26.9	26.9	26.8	26.8	26.9	26.5	26.2	26.9	26.6	25.9	26.6	26.0	27.4	27.7	27.8	27.1	26.7	27.0	27.0	26.9	26.9	26.9	26.9	0.08
	14	27.0	26.9	26.9	26.8	27.0	27.0	26.8	26.6	26.3	26.7	26.7	26.3	26.1	25.5	25.6	26.0	26.9	27.7	26.9	26.8	26.0	26.1	26.3	26.6	26.6	26.6	26.6	26.6	-0.04
	15	27.0	27.0	27.0	26.9	26.9	27.0	27.0	27.0	27.1	27.5	26.9	26.8	27.1	26.5	25.4	25.1	25.0	26.8	27.6	27.8	27.7	27.6	27.6	27.0	26.9	26.9	26.9	26.9	0.08
	16	27.1	27.4	27.4	27.2	26.6	26.9	26.9	26.9	27.2	26.9	26.9	25.8	24.4	23.6	23.5	24.5	26.0	27.4	27.7	27.3	28.0	27.8	27.7	27.7	27.7	26.6	26.6	26.6	-0.04
	17	27.7	27.6	27.1	27.0	27.0	27.0	26.9	26.9	27.0	27.0	27.3	26.8	26.6	25.3	25.3	26.1	27.2	27.8	27.8	28.5	28.9	28.2	27.7	27.7	27.7	27.1	27.1	27.1	0.16
	18	27.2	26.8	26.8	26.7	26.7	26.6	26.9	26.9	27.1	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	0.16
	19	27.6	27.1	27.0	26.7	26.7	26.8	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	0.04
	20	26.8	27.0	27.0	26.9	26.8	26.8	26.6	27.0	26.7	26.9	26.7	26.6	26.6	26.1	25.1	25.3	25.5	26.1	26.9	26.2	24.9	25.3	27.2	27.9	27.2	26.5	26.5	26.5	-0.08
	21	27.1	27.0	27.0	27.0	26.9	26.7	27.0	26.9	26.8	26.9	26.6	26.3	26.0	25.4	24.9	24.6	25.8	25.4	25.4	25.4	25.4	25.3	26.6	27.5	28.1	27.7	26.4	26.4	-0.12
	22	27.2	27.0	27.0	26.9	27.1	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9
	23	28.9	28.7	28.3	28.1	28.0	27.6	28.0	28.0	28.0	27.9	27.9	27.9	28.5	27.7	27.0	27.6	29.2	30.2	29.5	28.6	27.7	28.0	28.9	29.0	28.2	28.3	28.3	28.3	1.01
	24	28.5	28.2	28.0	28.0	27.9	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	0.05
	25	28.5	28.2	28.0	28.0	27.9	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
	26	28.5	28.2	28.0	28.0	27.9	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
	27	28.5	28.2	28.0	28.0	27.9	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
	28	28.5	28.2	28.0	28.0	27.9	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
	29	28.5	28.2	28.0	28.0	27.9	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
	30	28.5	28.2	28.0	28.0	27.9	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
31	28.5	28.2	28.0	28.0	27.9	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	
Hourly Means	27.3	27.1	26.9	26.9	26.8	26.8	26.8	26.8	26.8	26.8	26.7	26.7	26.6	26.7	26.0	25.3	25.1	25.7	26.6	27.2	27.3	27.5	27.7	27.7	27.4	26.8	26.8	0.01		
Declination = 1 30 + Diurnal Oscillations.	0.24	0.16	0.08	0.08	0.04	0.04	0.04	0.04	0.04	0.00	0.00	-0.01	-0.00	-0.28	-0.57	-1.05	-0.41	-0.04	0.20	0.24	0.33	0.41	0.41	0.28	0.03	0.03	1.08			
OBSERVATIONS OF THE DECLINATION MAGNETOMETER.	APRIL 1843.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.		
	1	35.0	34.4	34.3	34.1	34.1	34.6	34.8	33.8	34.7	34.3	34.1	33.8	33.3	33.1	34.2	35.1	35.9	36.1	35.5	35.5	35.5	35.1	34.3	34.6	34.6	34.6	5.21		
	2	34.7	35.3	35.1	35.0	33.9	34.8	35.0	35.2	35.0	35.0	34.6	34.4	34.0	33.1	32.6	32.6	33.7	34.3	34.8	34.5	35.7	36.2	36.0	35.2	34.6	34.6	34.6	5.21	
	3	34.9	34.6	34.7	34.9	34.9	34.8	34.9	35.0	34.8	35.0	34.8	35.0	35.0	34.7	33.7	32.9	32.8	33.8	34.7	35.4	35.4	35.8	36.4	35.6	34.8	34.8	34.8	5.29	
	4	34.7	34.1	34.7	34.6	36.2	34.9	33.7	34.3	34.5	34.5	34.9	35.3	36.7	36.7	34.9	33.2</													

SINGAPORE 1843. MAGNETICAL OBSERVATIONS.

a. (1 + H/F) = 40.7 x 1.000311 = 40.7127

Zero... May... } from 1st to 21st = 36.7
from 25th to 31st = 43.3

Zero... June... 43.3

a. = 1.36.47 East of North.

DECLINATION MAGNETOMETER.

Table with columns: Gottingen Mean Time, Singapore Mean Time, Noon, 1-23, Daily and Monthly Means, Declination. Rows include observations for May 1843 (A and B) and June 1843.

Summary table for May 1843: Hourly Means, Declination = 1 30 +, Diurnal Oscillations.

Table with columns: Observations of the Declination Magnetometer, Hourly Means, Declination = 1 30 +, Diurnal Oscillations. Rows include observations for June 1843.

a The Observations are omitted in the hourly and daily means.
* The thread of the Declination needle is broken.

b The wire of the Reading Telescope is broken.
† The observations of 30th June are omitted in the hourly and daily means as they appear doubtful.

SINGAPORE 1843. MAGNETICAL OBSERVATIONS.

a. (1 + R/F) = 40.7 x 1.000311 = 40.7127

Zero... July... from 1st to 10th = 43.3 from 16th to 31st = 45.5

Zero... August... 45.5

a. = 1° 36' 47" East of North.

DECLINATION MAGNETOMETER.

Table with columns for 'Gottingen Mean Time', 'Singapore Mean Time', 'Hourly Means', 'Declination = 1 30 + Diurnal Oscillations', and 'Observations of the Declination Magnetometer' for July and August 1843. Includes data for 31 days of each month and summary statistics.

a The thread of the declination needle is broken.

SINGAPORE 1843. MAGNETICAL OBSERVATIONS.

a. (1 + H/F) = 40.7 x 1.000311 = 40.7127

Zero..Sept... { from 1st and 2d = 45.5 from 3d to 30th = 45.3

Zero..Oct..43.3

a. = 1.36.47 East of North.

DECLINATION MAGNETOMETER.

Table with columns for 'OBSERVATIONS OF THE DECLINATION MAGNETOMETER.' (Sept 1-29, Oct 1-31), 'Hourly Means', 'Declination = 1 30 + Diurnal Oscillations.', and 'Daily and Monthly Means'. Includes sub-headers for 'Gottingen Mean Time' and 'Singapore Mean Time'.

* The observations of the 1st and 2d September are omitted in the hourly and daily means.

a. (1 + H/F) = 40.7 x 1.000311 = 40.7127

Zero... 43.3

a. = 1.36.47 East of North.

DECLINATION MAGNETOMETER.

Table for NOVEMBER 1843. Columns include Gottingen Mean Time, Singapore Mean Time, and observations from Noon to 23:00. Includes 'Hourly Means' and 'Declination = 1.30 + Diurnal Oscillations' at the bottom.

Summary row for NOVEMBER 1843 with 'Hourly Means' and 'Declination = 1.30 + Diurnal Oscillations'.

Table for DECEMBER 1843. Columns include observations from Noon to 31:00. Includes 'Hourly Means' and 'Declination = 1.30 + Diurnal Oscillations' at the bottom.

Summary row for DECEMBER 1843 with 'Hourly Means' and 'Declination = 1.30 + Diurnal Oscillations'.

a The reading Telescope was found to have been slightly moved in its Y's and the readings of the 18th and 19th are omitted in consequence.

SINGAPORE 1843. MAGNETICAL OBSERVATIONS.

k = a. cot v = .0003136 X cot 58° 10' 30" = .0001946
g. = .0002142

q/k = .0002142 / .0001946 = 1.1007

Zero = sc. d. 101.4 ther. 80.0

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns: Gottingen Mean Time, Singapore Mean Time, Hours (1-23), Daily and Monthly Means, Temp. Corr., Corrected Means, 1 + ΔX/X. Rows include Dec 31 1842 and Jan 1-31 1843.

Summary table with rows: Hourly Means, Temp. Correction, Corrected Means, Differences, Diurnal Oscillation. Includes a formula ΔX/X.

Table with columns: Hours (1-23), Daily and Monthly Means, Temp. Corr., Corrected Means, 1 + ΔX/X. Rows include Dec 31 1842 and Jan 1-31 1843.

Means. 79.7 79.4 79.1 79.0 78.8 78.4 78.5 78.3 78.1 78.1 77.9 77.7 77.6 77.5 77.6 78.1 78.7 79.4 79.9 80.1 80.4 80.4 80.3 80.5 78.9

SINGAPORE 1843. MAGNETICAL OBSERVATIONS.

k = a. cot v = .0003136 x cot 58° 10' 30" = .0001946
q = .0002142

q/k = .0002142 / .0001946 = 1.1007

Zero = sc. d. 101.4 80.0 ther.

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, hours of day (Noon to 23), and various magnetic force readings (sc. d., h. m.). Includes a vertical label 'HORIZONTAL FORCE MAGNETOMETER. FEBRUARY 1843.' and summary rows for hourly means, temp. correction, and differences.

Summary rows for the magnetometer data: Hourly Means, Temp. Correction, Corrected Means, Differences, Diurnal Oscillation, and a final summary row with a large X symbol.

Table for TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. FEBRUARY 1843. Columns include hours of day and temperature readings in degrees Fahrenheit (°F).

Means. 81.9 81.4 81.2 81.0 80.7 80.4 80.2 79.9 79.8 79.6 79.4 79.2 79.3 79.0 79.1 79.8 80.6 81.3 81.9 82.4 82.6 82.7 82.6 82.5 80.8

* The observations of the 24th are omitted in the hourly means.

k = a. cot v = .0003136 x cot 58° 10' 30" = .0001946

g = .0002142

q' = .0002142 / k = .0001946 = 1.1007

ther. Zero = 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, and hourly observations for March 1843. Includes a summary row for 'Hourly Means' and 'Temp. Correction'.

Summary row for 'Hourly Means' and 'Temp. Correction' with values for each hour of the day.

Table for 'TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER.' showing hourly temperature observations for March 1843.

Means. 82.4 82.2 82.1 81.9 81.7 81.5 81.4 81.3 81.1 81.0 80.8 80.6 80.5 80.5 80.7 81.1 81.5 81.9 82.3 82.7 82.8 82.9 82.9 82.7 81.7

* The observations of the 28th are omitted in the hourly means.

SINGAPORE 1843. MAGNETICAL OBSERVATIONS.

11

k = a. cot v = .0003136 X cot 58° 10' 30" = .0001946
g. = .0002142

q/k = .0002142 / .0001946 = 1.1007

Zero = 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Göttingen Mean Time, Singapore Mean Time, and hourly observations for April 1843. Includes a summary row for Hourly Means, Temp. Correction, Corrected Means, Differences, and Diurnal Oscillation.

Table showing TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER for April 1843, with columns for hourly observations and a summary row for Means.

* The observations of the 5th and 6th are omitted in the hourly means,

k = a. cot v = .0003136 x cot 58° 10' 30" = .0001946

g = .0002142

q/k = .0002142 / .0001946 = 1.1007

ther. Zero = 101.4 ... 80.0

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, and various magnetic force measurements for May 1843. Includes sub-sections for 'HORIZONTAL FORCE MAGNETOMETER' and 'TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER'.

Table with columns for 'TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER' and 'MEANS' for May 1843, showing temperature readings and their averages.

$k = a. \cot v = .0003136 \times \cot 58^\circ 10' 30'' = .0001946$

$\frac{q}{k} = \frac{.0002142}{.0001946} = 1.1007$

Zero = 101.4 80.0 ther.

$q = .0002142$

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Table for Horizontal Force Magnetometer. Columns include Gottingen Mean Time, Singapore Mean Time, hours 1-23, and summary statistics like Monthly Means, Temp. Corr., Corrected Means, and ΔX/X.

Summary statistics for the magnetometer observations, including hourly means, temperature corrections, corrected means, differences, and diurnal oscillation.

Table for Temperature of Horizontal Force Magnetometer. Columns include hours 1-30, and summary statistics like Monthly Means, Temp. Corr., Corrected Means, and ΔX/X.

k = a. cot v = .0003136 X cot 58° 10' 30" = .0001946

g = .0002142

q/k = .0002142 / .0001946 = 1.1007

Zero = sc. d. 101.4 ther. 80.0

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, and 23 hourly observations. Includes summary rows for Hourly Means, Temp. Correction, Corrected Means, Differences, and Diurnal Oscillation.

Table for TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. Columns include 23 hourly observations and a final Means row.

* The Observations of the 24th and 25th, are omitted in the hourly and daily means.

k = a. cot v = .0003136 x cot 58° 10' 30" = .0001946

q = .0002142

q/k = .0002142 / .0001946 = 1.1007

Zero = 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER. — (uncorrected.)

Table with columns for Göttingen Mean Time, Singapore Mean Time, and 23 numbered columns of observations. Includes a vertical label 'HORIZONTAL FORCE MAGNETOMETER. AUGUST 1843.' and summary rows at the bottom.

Summary table with rows: Hourly Means, Temp. Correction, Corrected Means, Differences, Diurnal Oscillation. Includes a formula ΔX/X = 0351.

Table with columns for 23 numbered columns of observations and a 'Means.' row at the bottom. Includes a vertical label 'TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. AUGUST 1843.'

k = a. cot v = .0003136 X cot 58° 10' 30" = .0001946

q = .0002142

q/k = .0002142 / .0001946 = 1.1007

Zero = 101.4 sc. d. 80.0 ther.

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns: Gottingen Mean Time, Singapore Mean Time, 23 hourly observations, Daily and Monthly Means, Temp. Corr., Corrected Means, and ΔX/X. Includes vertical label 'HORIZONTAL FORCE MAGNETOMETER. SEPTEMBER 1843.' and various numerical data points.

Summary table with rows: Hourly Means, Temp. Correction, Corrected Means, Differences, Diurnal Oscillation. Includes numerical values and a formula ΔX/X.

Table with columns: 30 hourly observations, and Means. Includes vertical label 'TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. SEPTEMBER 1843.' and numerical data points.

Means.

82.5 82.4 82.3 82.1 82.0 81.8 81.6 81.6 81.4 81.3 81.1 81.0 80.9 80.9 81.1 81.5 82.0 82.4 82.6 82.7 82.7 82.8 82.7 82.6 81.9

$k = a. \cot v = '0003136 \times \cot 58^{\circ} 10' 30'' = '0001946$

$q = '0002142$

$\frac{q}{k} = \frac{'0002142}{'0001946} = 1'1007$

$Zero = 101'4 \dots\dots 80^{\circ} 0$ *ther.*

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$\frac{\Delta X}{X}$	
Singapore Mean Time.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.
SEPT. 30	62.4	63.5	60.5	63.2	63.3			62.0	61.5	61.2	61.0	61.0	60.9	61.0	60.5	57.2	55.4	54.9	56.1	56.7	59.5	62.1	63.0	64.0	63.1	60.6	-1.3	59.3	8192
1	64.0	64.7	64.9	65.1	63.0	64.5	64.3	63.0	62.5	62.6	62.4	62.0	62.1	60.8	59.9	58.6	55.9	56.5	57.5	62.8	64.6	64.5	64.6	65.3	62.3	-1.3	61.0	7862	
2	67.1	63.5	63.6	63.4	63.0	63.0	62.9	62.4	60.5	61.0	60.8	61.6	60.9	60.5	58.8	56.8	56.0	56.7	58.2	59.9	61.6	62.2	61.0	61.7	61.1	-0.1	61.0	7862	
3	61.5	61.7	62.1	59.9	62.0	62.0	61.2	61.1	61.4	61.1	60.9	61.0	60.7	58.2	55.9	54.3	53.0	53.0	55.9	59.6	61.7	63.4	65.1	64.0	60.0	-0.4	59.6	8135	
4	64.3	63.8	64.2	64.0	64.1	61.0	64.3	63.1	61.0	60.8	61.3	61.3	61.0	59.5	58.4	58.4	59.4	60.9	61.4	62.3	62.5	63.3	63.6	64.0	62.0	-0.6	61.4	7784	
5	64.0	64.1	64.4	64.1	64.0	63.4	63.0	63.0	62.9	62.6	61.9	61.4	61.4	59.8	57.7	57.2	55.4	56.0	57.8	59.0	60.4	61.0	61.6	62.4	61.2	-1.1	60.1	8037	
6	62.9	62.5	63.0	63.0	63.0			60.8	61.6	61.0	60.9	60.6	59.6	59.8	59.6	57.4	55.4	53.5	53.0	54.3	56.8	59.3	61.9	61.2	61.0	59.6	-0.9	58.7	8309
7	61.0	61.5	61.3	61.4	61.1	60.9	60.0	60.2	60.0	60.0	59.3	59.0	58.1	56.9	55.1	53.3	52.2	51.6	54.6	56.6	60.7	60.6	60.8	61.6	58.6	0.2	58.8	8290	
8	61.1	59.3	61.1	60.7	60.9	61.0	60.6	59.7	60.0	60.8	59.8	58.6	59.8	58.6	56.0	54.3	53.3	53.1	55.0	57.7	60.7	61.7	61.2	60.8	59.0	-0.3	59.3	8192	
9	60.2	60.5	60.6	60.4	60.1	60.4	60.0	59.4	59.9	59.8	59.8	59.6	59.8	59.1	56.7	55.3	54.1	54.7	56.0	58.2	60.1	60.5	60.6	60.4	59.0	-0.6	58.4	8368	
10	60.3	61.0	61.7	61.0	61.4	61.0	60.4	60.0	60.0	59.6	59.3	59.6	60.5	60.6	59.1	57.9	54.5	55.1	56.9	59.9	60.9	61.1	61.0	62.7	59.8	-0.3	59.5	8154	
11	63.1	63.8	64.3	63.1	64.0	62.9	62.2	61.6	61.5	61.0	60.7	60.5	60.0	59.1	57.9	56.6	55.7	55.9	56.7	58.2	60.0	62.7	64.2	64.2	60.8	-0.7	60.1	8037	
12	64.4	64.0	62.6	62.5	62.0			63.4	64.0	63.9	62.9	62.5	60.9	61.1	59.9	58.4	57.5	56.4	58.0	58.5	61.0	63.7	63.5	65.5	65.5	61.8	-0.9	60.9	7881
13	67.5	64.4	63.4	63.3	63.0	62.3	62.9	61.4	61.1	61.3	59.9	60.5	61.6	61.2	58.8	55.6	57.5	58.2	59.5	61.2	64.3	63.1	64.5	63.4	61.7	-1.7	60.0	8057	
14	64.0	64.6	61.1	64.3	63.7	62.2	64.5	61.9	62.9	62.6	62.5	62.3	62.1	61.9	59.9	58.2	57.8	57.7	60.5	61.8	63.6	63.2	63.4	63.8	62.2	-2.0	60.2	8018	
15	63.5	62.8	63.9	64.8	63.8	62.5	62.7	63.1	62.9	62.2	61.0	62.0	61.8	61.1	60.5	59.9	61.0	61.6	61.5	61.9	62.5	62.7	62.9	62.9	62.9	62.3	-1.3	61.0	7862
16	63.6	63.0	63.0	63.1	63.0	62.1	61.2	61.2	61.2	60.1	60.6	60.4	60.4	59.0	57.0	57.0	57.7	59.4	62.5	63.2	63.9	63.3	63.9	63.0	61.3	-1.0	60.3	7998	
17	63.0	62.2	62.5	62.7	62.1	61.8	62.0	61.7	62.5	62.2	61.7	61.0	61.0	59.3	57.5	57.2	57.4	58.2	59.3	60.9	62.0	62.3	62.0	61.8	61.0	-1.0	60.0	8057	
18	62.0	62.0	62.0	62.0	62.0	62.0			60.9	60.8	60.1	60.0	59.9	59.2	59.6	58.5	57.0	56.0	55.5	55.6	57.1	59.4	60.9	61.3	61.1	59.8	-1.3	58.5	8348
19	61.0	61.0	61.2	61.4	61.3	61.1	61.2	61.0	61.0	60.4	60.0	60.4	60.0	59.8	59.4	57.6	56.0	54.3	53.4	53.7	55.1	57.6	59.8	61.7	61.9	59.3	-2.0	57.3	8581
20	62.5	64.6	64.6	63.8	62.3	61.7	61.1	61.1	61.3	62.0	60.3	60.6	59.8	57.9	55.4	53.2	51.7	52.5	55.7	59.5	62.4	63.9	63.9	62.0	62.0	60.1	-1.4	58.7	8309
21	61.9	61.7	61.6	63.0	63.9	64.0	62.7	62.1	61.9	61.9	61.1	61.5	61.1	60.2	57.4	55.6	54.5	54.4	55.9	61.5	62.5	64.5	62.6	64.9	60.9	-1.3	59.6	8135	
22	64.0	63.9	64.1	64.0	62.7	64.6	64.5	63.1	63.0	62.1	61.6	62.3	61.6	60.6	60.8	57.5	58.0	57.1	60.2	61.9	62.2	63.2	62.8	62.7	62.7	62.0	-1.4	60.6	7940
23	63.5	62.8	63.6	63.1	62.6	64.0	63.5	62.1	62.1	62.1	62.0	61.8	61.9	60.7	60.0	58.9	58.8	59.1	59.1	60.2	61.6	62.0	62.6	62.2	61.7	-1.5	60.2	8018	
24	62.4	62.4	62.2	62.8	62.2	62.5			61.4	61.7	60.8	61.7	60.5	61.0	61.1	60.9	59.1	58.3	57.8	57.9	58.2	59.1	59.6	59.9	60.9	61.5	-0.7	60.0	8057
25	62.5	63.2	64.5	64.4	63.2	64.1	61.6	61.0	61.0	60.5	60.0	60.2	60.1	59.5	58.5	56.8	54.1	57.5	58.6	59.8	60.0	60.7	61.9	62.4	60.8	0.2	61.0	7862	
26	63.0	64.4	63.9	62.7	63.0	62.1	62.1	59.3	60.0	60.0	60.0	60.0	59.7	58.9	57.1	56.3	55.0	54.1	56.0	56.5	59.7	58.9	59.3	59.6	59.5	59.6	0.8	60.4	7979

Hourly Means..... 63.0 62.8 62.8 62.8 62.7 62.4 62.1 61.5 61.4 61.2 60.8 60.7 60.6 59.6 57.9 56.4 55.8 56.3 57.7 60.0 61.6 62.2 62.5 62.6 60.7 -0.9 59.8 8086

Temp. Correction... -1.4 -1.3 -1.1 -1.0 -0.9 -0.7 -0.6 -0.4 -0.3 -0.2 -0.1 0.1 0.2 0.1 -0.1 -0.6 -0.9 -1.3 -1.7 -1.8 -1.8 -1.8 -1.7 -1.5 -0.9

Corrected Means... 61.6 61.5 61.7 61.8 61.8 61.7 61.5 61.1 61.1 61.0 60.7 60.8 60.8 59.7 57.8 55.8 54.9 55.0 56.0 58.2 59.8 60.4 60.8 61.1 59.9

Differences..... 0.2 0.3 0.1 0 0 0.1 0.3 0.7 0.7 0.8 1.1 1.0 1.0 2.1 4.0 6.0 6.9 6.8 5.8 3.6 2.0 1.4 1.0 0.7 1.9

Diurnal Oscillation. } = '00 0099 0058 0019 0 0 0019 0058 0136 0136 0156 0214 0195 0195 0409 0778 1168 1344 1324 1129 0701 0389 0272 0195 0136 0378 = $\frac{\Delta X}{X}$

TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. SEPT. 30 80.5 80.3 80.2 80.0 80.2

1 82.6 82.5 82.4 82.1 81.8 81.3 81.0 81.0 81.0 81.1 80.9 80.8 80.8 81.2 81.5 81.5 81.0 80.5 80.6 80.7 80.8 80.8 80.8 81.0 81.2

2 80.8 80.9 80.7 80.5 80.2 80.1 79.9 79.7 79.7 79.7 79.7 79.3 79.4 79.5 79.5 79.6 79.6 79.8 79.9 80.2 80.5 80.9 81.0 81.0 81.0

3 80.8 81.0 80.9 80.6 80.4 80.2 80.1 80.0 80.0 80.0 80.0 79.9 79.8 79.8 79.9 80.0 80.1 80.5 80.8 80.9 81.0 81.0 81.0 81.0 81.0

4 80.8 80.9 80.8 80.8 80.6 80.4 80.1 80.0 79.8 79.5 79.3 79.0 79.0 79.2 79.8 80.1 80.3 80.9 81.4 81.7 81.9 81.9 82.0 82.0 80.5

5 81.8 81.9 81.9 81.8 81.3 81.3 81.1 81.0 80.9 80.7 80.3 80.2 80.0 80.3 80.5 80.1 80.0 80.4 80.7 81.2 81.5 81.7 81.8 81.8 81.0

6 81.3 81.5 81.3 81.3 81.0

7 80.8 80.7 80.5 80.3 80.3 80.3 80.2 80.2 80.2 80.2 80.6 80.9 81.2 81.4 81.0 80.9 80.8 80.4 80.3 80.8

8 80.1 80.0 80.0 80.0 79.9 79.8 79.8 79.6 79.7 79.5 79.4 79.4 79.1 79.0 79.0 79.3 79.8 80.2 80.5 80.5 80.2 80.1 80.0 80.0 79.8

9 79.8 79.6 79.1 79.0 79.2 79.2 79.0 78.8 78.8 78.8 78.8 78.8 78.8 78.9 79.1 79.6 79.9 80.2 80.7 80.9 81.0 81.3 81.3 81.0 79.7

10 80.7 80.5 80.2 80.2 80.4 80.4 80.4 80.2 80.0 80.0 79.9 79.7 79.6 79.8 80.3 80.5 80.5 81.0 81.5 81.7 81.4 81.0 81.0 80.8 80.5

11 80.7 80.6 80.5 80.2 80.3 80.1 80.1 80.0 79.8 79.8 79.7 79.5 79.4 79.5 79.9 80.0 80.4 80.9 81.1 81.0 80.8 81.0 80.8 80.7 80.3

12 80.7 80.6 80.6 80.6 80.4 80.2 80.1 80.0 79.9 79.8 79.7 79.7 79.5 79.5 79.8 80.2 80.8 81.1 81.4 81.5 81.7 81.8 81.8 81.8 81.9

13 81.7 81.6 81.5 81.4 81.2

14 80.2 80.0 80.1 80.0 79.9 79.7 79.6 79.7 78.8 80.2 80.6 81.1 81.5 81.9 82.0 82.1 82.1 82.0 80.8

15 81.8 81.8 81.7 81.6 81.3 81.3 81.0 81.0 80.8 80.5 80.3 80.1 80.0 80.1 80.6 81.1 81.8 82.8 82.9 83.0 82.8 82.5 82.4 82.4 81.5

16 82.1 82.1 82.0 82.0 81.9 81.8 81.8 81.8 81.7 81.6 81.3 80.8 80.9 80.9 80.9 81.1 81.3 81.8 82.2 82.3 82.5 82.8 82.7 82.4 81.8

17 82.1 82.0 81.8 81.6 81.3 81.0 80.8 80.6 80.6 80.5 81.3 80.1 80.1 80.5 80.9 81.0 81.7 81.7 81.5 81.4 82.0 82.0 82.0 81.2 81.2

18 82.0 81.8 81.7 81.5 81.2 80.0 80.0 80.3 80.4 80.2 80.3 80.0 79.9 80.0 80.2 80.5 81.0 81.8 82.3 82.0 81.6 81.3 81.3 81.2 80.9

19 81.1 81.0 80.9 80.8 80.7 80.7 80.5 80.5 80.1 80.2 80.1 80.0 79.8 79.8 80.2 80.9 81.0 81.4 81.8 82.0 82.0 82.0 81.9 81.7 80.9

20 81.5 81.4 81.1 81.0 80.8 80.8

21 80.4 80.4 80.4 80.3 80.2 80.0 79.8 79.8 80.0 80.8 81.2 81.9 82.3 82.7 82.9 83.0 82.9 82.8 81.2

22 82.6 82.7 82.0 81.8 81.6 81.3 81.2 81.0 80.9 80.8 80.7 80.6 80.5 80.5 80.8 81.3 81.8 82.2 82.2 82.8 83.2 83.4 83.6 83.1 81.8

23 82.7 82.2 82.0 81.8 81.5 81.4 81.2 80.9 80.7 80.6 80.2 80.0 79.9 79.8 80.0 80.5 81.0 81.0 82.0 82.3 82.3 82.4 82.5 82.2

k = a. cot v = .0003136 X cot 58° 10' 30" = .0001946

g = .0002142

q/k = .0002142 / .0001946 = 1.1007

sc. d. ther. Zero = 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, and various magnetic force readings for November 1843. Includes sub-headers for 'HORIZONTAL FORCE MAGNETOMETER.' and 'NOVEMBER 1843.'

Summary table for November 1843 with rows for 'Hourly Means', 'Temp. Correction', 'Corrected Means', 'Differences', and 'Diurnal Oscillation'. Includes a formula for ΔX/X.

Table with columns for 'TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER.' and 'NOVEMBER 1843.' showing temperature readings for each day of the month.

Means. 80.6 80.5 80.4 80.3 80.2 80.0 79.8 79.7 79.6 79.4 79.3 79.2 79.1 79.1 79.4 79.8 80.3 80.7 81.0 81.1 81.1 81.0 80.9 80.2

$k = a. \cot v = .0003136 \times \cot 58^\circ 10' 30'' = .0001946$
 $g = .0002142$
 $\frac{q}{k} = \frac{.0002142}{.0001946} = 1.1007$
 Zero = $\frac{sc. d.}{sc. d.}$ $101.4 \dots\dots 80.0$
ther.

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$\frac{\Delta X}{X}$		
Singapore Mean Time.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	sc. d.	sc. d.	sc. d.	1.00	
HORIZONTAL FORCE MAGNETOMETER. DECEMBER 1843.																														
1	62.3	62.3	61.4	61.7	62.9	62.3	61.5	60.8	61.0	60.9	58.8	59.8	59.1	57.2	56.6	55.1	55.1	55.8	57.6	58.6	59.2	59.9	61.9	63.0	59.8	0.3	60.1	8037	..	
2	63.7	63.0	63.0	64.6	63.7	61.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	..	..	..	..	..	..	60.1	60.0	60.0	59.6	59.2	59.5	58.8	58.1	56.7	55.7	54.9	55.9	56.2	57.8	60.0	60.3	60.5	60.5	59.7	0.2	59.9	8076	..
4	60.5	60.7	60.8	60.9	60.5	60.0	59.8	60.0	59.5	59.6	60.3	58.4	59.2	58.5	57.6	56.5	56.3	57.0	58.2	59.1	59.9	60.1	60.4	60.2	59.3	-0.0	59.3	8192	..	
5	60.8	61.0	61.9	61.7	61.5	59.6	59.0	60.0	60.0	60.8	59.7	59.2	58.5	57.1	55.9	55.2	55.0	55.7	56.8	57.4	58.1	59.0	60.9	62.8	59.1	-0.6	58.5	8348	..	
6	63.1	63.8	63.1	61.7	61.8	60.3	60.6	60.0	59.5	59.5	59.9	59.1	58.3	57.5	56.1	55.9	56.5	57.4	58.3	58.0	59.0	59.6	59.8	59.9	59.5	-0.3	59.2	8212	..	
7	60.3	59.9	59.5	59.2	58.9	58.7	59.1	58.9	58.8	58.7	58.4	57.7	57.9	57.6	56.7	56.4	55.8	56.2	57.9	59.2	59.9	60.0	59.7	59.5	58.5	0.3	58.8	8290	..	
8	59.1	59.0	59.0	59.0	61.0	63.7	62.9	62.5	63.4	62.0	59.0	60.9	59.7	58.2	55.4	53.5	51.9	54.2	52.6	54.8	55.0	61.0	61.9	62.1	58.8	-0.4	58.4	8368	..	
9	61.9	62.4	62.7	62.1	62.0	64.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	60.8	61.0	62.1	60.9	61.6	62.2	61.9	61.8	61.8	61.6	60.3	62.0	63.6	63.5	62.3	62.2	62.6	63.5	62.1	-1.3	60.8	7901	..
11	63.4	63.1	63.5	62.9	62.0	62.9	62.3	62.5	59.9	60.7	61.3	60.9	60.6	59.7	60.3	58.4	57.0	59.0	60.5	58.7	60.1	60.9	61.4	62.0	61.0	-1.1	59.9	8076	..	
12	62.9	63.1	65.7	60.4	63.0	63.3	61.5	61.6	61.8	61.9	61.5	61.9	60.6	60.5	60.2	59.3	58.4	59.2	59.8	60.6	61.8	61.6	62.5	62.4	61.5	-1.3	60.2	8018	..	
13	62.4	62.2	63.0	62.7	62.2	62.0	61.9	60.6	61.0	61.6	62.1	61.3	60.7	60.0	59.6	58.7	58.9	59.4	60.1	61.8	63.8	64.1	64.1	64.8	61.6	-1.8	59.8	8096	..	
14	64.0	63.0	62.5	63.1	63.1	62.9	62.1	62.1	61.5	61.4	61.1	62.5	60.7	59.2	58.7	58.4	57.5	58.2	58.6	59.7	60.6	61.4	62.7	62.7	61.1	-1.9	59.2	8212	..	
15	62.9	62.4	63.0	61.8	63.1	63.3	63.1	62.9	62.2	62.0	61.3	61.1	60.7	60.8	60.4	60.4	61.0	59.9	59.1	59.6	60.5	60.5	60.6	60.1	61.3	-1.7	59.6	8135	..	
16	60.3	60.9	60.5	59.8	59.6	59.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17	..	..	..	..	..	..	59.0	58.8	58.4	57.9	57.9	58.1	58.4	58.5	58.5	58.6	57.9	58.1	59.0	59.1	59.9	59.6	59.4	59.5	59.1	-0.0	59.1	8231	..
18	59.4	59.1	59.8	60.2	60.2	60.3	60.1	59.8	58.0	57.4	57.3	57.2	57.2	56.9	56.7	56.5	55.3	55.5	56.5	57.6	57.9	57.9	57.5	57.1	58.0	0.6	58.6	8329	..	
19	56.9	57.6	58.3	58.1	58.5	58.0	58.1	57.6	57.1	57.4	56.8	56.8	56.0	55.6	55.4	54.4	53.8	54.8	55.8	57.3	59.1	59.6	60.1	60.7	57.2	1.4	58.6	8329	..	
20	60.0	60.9	61.2	60.6	60.2	60.2	59.9	58.9	59.0	58.5	58.0	58.1	58.0	57.0	55.3	54.4	53.5	53.0	53.5	58.0	55.7	57.0	57.1	57.1	57.6	1.4	59.0	8251	..	
21	57.1	57.0	57.1	57.5	57.4	58.0	58.2	58.2	58.3	57.4	57.6	57.0	56.3	54.8	53.5	52.5	51.5	52.4	53.7	55.3	57.0	57.8	57.6	57.3	56.2	1.2	57.4	8562	..	
22	57.6	57.6	57.7	57.9	57.9	57.3	57.3	57.8	57.1	57.0	56.6	56.8	56.5	55.6	54.9	53.3	52.8	51.8	52.3	55.0	55.6	57.4	58.0	57.9	56.2	1.1	57.3	8581	..	
*23	57.5	57.9	58.0	58.0	57.8	58.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
*24
*25	59.2
26	59.1	59.5	59.9	59.4	59.6	59.3	59.0	58.5	58.3	58.0	57.9	57.2	56.8	55.5	54.1	53.5	53.5	54.0	54.2	55.4	57.1	57.7	59.3	61.0	57.4	0.6	58.0	8446	..	
27	61.4	61.9	59.8	59.5	59.7	60.2	60.5	61.3	60.6	60.0	59.3	59.0	58.5	58.2	57.0	56.8	55.8	55.1	56.0	57.8	58.3	59.6	62.1	62.8	59.2	-0.0	59.2	8212	..	
28	62.9	65.2	66.1	67.7	63.6	62.5	62.9	62.2	61.8	61.5	61.1	60.9	60.1	59.5	58.9	57.4	57.2	57.0	57.8	58.7	59.4	60.0	60.0	60.3	61.0	-0.3	60.7	7920	..	
29	60.9	60.4	60.5	60.2	60.6	60.6	60.5	60.6	60.7	59.7	59.5	60.0	59.5	58.7	57.9	58.0	55.9	55.5	56.2	57.2	58.0	59.4	59.9	59.0	59.1	0.3	59.4	8173	..	
30	59.2	59.7	59.6	59.1	59.4	59.1
31	..	..	..	..	..	..	58.2	58.2	58.1	58.0	58.0	57.5	56.9	55.4	54.5	53.5	52.7	54.7	54.9	55.9	56.9	58.0	59.0	..	57.2	0.8	58.0	8446	..

Hourly Means.....	60.7	60.9	61.1	60.8	60.8	60.7	60.4	60.2	59.9	59.7	59.2	59.2	58.7	57.9	57.1	56.3	55.6	56.0	56.8	57.7	58.6	59.4	60.0	60.4	59.1	-0.1	59.0	8260
Temp. Correction..	-0.8	-0.6	-0.3	-0.1	-0.0	0.1	0.1	0.2	0.4	0.7	0.8	0.9	1.1	1.0	0.8	0.3	-0.1	-0.6	-0.8	-1.0	-2.2	-0.9	-1.1	-0.9	-0.1	..	..	..
Corrected Means...	59.9	60.3	60.8	60.7	60.8	60.8	60.5	60.4	60.3	60.4	60.0	60.1	59.8	58.9	57.9	56.6	55.5	55.4	56.0	56.7	56.4	58.5	58.9	59.5	59.0	..	..	..
Differences... ..	0.9	0.5	0	0.1	0	0	0.3	0.4	0.5	0.4	0.8	0.7	1.0	1.9	2.9	4.2	5.3	5.4	4.8	4.1	4.4	2.3	1.9	1.3	1.8	..	..	..
Diurnal Oscillation } = 00	0175	0097	0	0019	0	0	0058	0078	0097	0078	0156	0136	0195	0370	0564	0818	1032	1052	0934	0798	0857	0448	0370	0253	0358	$\frac{\Delta X}{X}$	..	..

TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. DECEMBER 1843.																															
1	81.1	81.1	81.0	80.5	80.4	80.0	79.8	79.5	79.3	79.1	79.0	79.0	78.9	78.8	78.8	79.1	79.5	79.8	79.9	79.9	79.9	79.9	79.0	80.0	79.9	79.7	..	..	..
2	79.9	79.8	79.7	79.5	79.5	79.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	..	..	..	..	..	..	79.8	79.6	79.5	79.3	79.2	79.1	79.0	78.9	79.2	79.6	80.0	80.0	80.0	80.3	80.8	80.8	80.7	80.5	79.8	..	..	..	..	..	..
4	80.4	80.2	80.0	79.9	79.8	79.6	79.5	79.7	79.5	79.2	79.0	78.9	78.9	79.2	79.6	80.0	80.6	81.0	81.0	81.1	81.1	81.3	81.3	81.3	80.0	..	..	..	..	..	..
5	81.3	81.0	80.8	80.7	80.5	79.3	79.0	80.2	80.0	79.9	79.8	79.8	79.5	79.6	7																

k = a. cot θ T^2 = 00002909 × cot 12.40 × (7.406/15.12)^2 = 00002166

g/k = 00032000/00002166 = 14.774 = 1° Faht.

ther. Zero .. 80.0

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, hours of day (Noon to 23), and columns for Daily and Monthly Means, Temp. Corr., and Corrected Means. Contains data for Dec 31 and Jan 1-31.

Summary table with rows: Hourly Means, Temp. Correction, Corrected Means, Differences, Diurnal Oscillation. Includes a calculation ΔY/Y = 1577.

Table with columns for hours of day (Dec 31 to 31) and columns for Daily and Monthly Means, Temp. Corr., and Corrected Means. Contains temperature data for Dec 31 and Jan 1-31.

* The Observations of the 31st Dec. 1842 and 1st Jan. 1843 are omitted in the hourly and daily means. N. B.—Increasing negative numbers or decreasing positive numbers denote an increase of the vertical force.

ther.

$$k = a. \cot \theta \frac{T^2}{r^2} = \cdot 00002909 \times \cot 12^{\circ}40' + \left(\frac{7.406}{15.12} \right)^2 = \cdot 00002166$$

$$q = \cdot 00032000$$

$$\frac{q}{k} = \frac{\cdot 00032000}{\cdot 00002166} = 14.774 = 1^{\circ} \text{Faht. Zero} \dots 80^{\circ}0$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Göttingen Mean Time.		Noon. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23																								Daily and Monthly Means.	Temp. Corr.	Corrected Means.
Singapore Mean Time.		h. m. h. m. h. m. h. m. h. m. h. m. h. m. h. m. h. m. h. m. h. m. h. m. h. m. h. m. h. m. h. m. h. m. h. m. h. m.																										
1		sc.d. sc.d.																								sc. d.	sc. d.	sc. d.
2		-180 -190 -199 -203 -203 -210 -211 -213 -214 -218 -221 -215 -215 -228 -210 -143 -100 -81 -73 -102 -139 -156 -165 -170																								-177	-10	-187
3		-198 -210 -212 -214 -207 -218 -221 -223 -227 -226 -226 -233 -229 -236 -190 -132 -70 -58 -38 -58 -79 -123 -148 -162																								-172	-12	-184
4		-191 -206 -215 -218 -218 -223 -224 -229 -234 -227 -228 -232 -236 -247 -239 -205 -148 -109 -77 -76 -108 -151 -198 -205																								-194	-18	-212
5		-226 -234 -236 -242 -233 -236 -238 -230 -251 -243 -247 -240 -259 -240 -204 -174 -156 -128 -142 -134 -150 -184 -192																								-209	-18	-227
6		.. .. -204 -230 -244 -249 -247 -259 -250 -255 -259 -210 -217 -266 -269 -276 -271 -226 -202 -192 -176 -184 -172 -164 -149 -163																								-222	-21	-243
7		-210 -231 -233 -246 -246 -228 -252 -253 -251 -250 -244 -250 -250 -236 -207 -134 -94 -75 -63 -73 -81 -103 -131 -151																								-187	-28	-215
8		-192 -214 -215 -219 -226 -229 -238 -239 -241 -240 -240 -243 -243 -91 -200 -176 -144 -122 -124 -131 -140 -152 -164 -184																								-192	-28	-220
9		-184 -207 -207 -213 -214 -222 -227 -229 -229 -231 -231 -227 -225 -227 -193 -158 -126 -120 -120 -146 -172 -190 -192 -187																								-195	-35	-230
10		-200 -212 -218 -216 -216 -205 -213 -213 -217 -215 -220 -220 -217 -203 -169 -132 -124 -96 -93 -115 -147 -168 -186 -188																								-183	-38	-221
11		-206 -214 -218 -221 -244 -264 -268 -269 -281 -276 -253 -258 -266 -209 -206 -181 -176 -174 -178 -179 -197 -201 -203																								-224	-27	-251
12		.. .. -235 -245 -254 -256 -256 -262 -268 -270 -275 -280 -288 -294 -287 -288 -260 -226 -179 -172 -153 -186 -198 -194 -194 -204																								-239	-12	-251
13		-228 .. -265 -268 -265 -262 -281 -276 -272 -278 -284 -291 -278 -256 -211 -156 -105 -111 -142 -165 -181 -195 -185 -195																								-224	-10	-234
14		-214 -247 -249 -251 -253 -255 -259 -257 -263 -264 -267 -273 -275 -245 -196 -142 -115 -123 -141 -172 -190 -203 -212 -203																								-220	-19	-239
15		-226 -242 .. -232 -235 -238 -239 -247 -251 -256 -258 -263 -256 -239 -190 -132 -90 -95 -124 -163 -184 -197 -190 -177																								-205	-21	-226
16		-203 .. -260 -262 -263 -260 -260 -272 -280 -274 -276 -281 -265 -267 -238 -193 -130 -95 -95 -105 -140 -165 -190 -206																								-217	-21	-238
17		-225 -245 -246 -252 -257 -234 -237 -239 -250 -256 -257 -251 -237 -210 -141 -80 -58 -91 -128 -170 -178 -180 -192																								-201	-30	-231
18		-216 -226 -233 -236 -235 -239 -235 -238 -237 -241 -244 -247 -245 -236 -189 -143 -96 -80 -83 -102 -112 -130 -149 -152																								-189	-37	-226
19		-190 -209 -214 -218 -222 -222 -226 -222 -228 -225 -229 -238 -202 -157 -118 -73 -81 -108 -120 -161 -180 -182																								-183	-41	-224
20		-216 -215 -223 -232 -229 -221 -223 -225 -229 -222 -228 -233 -227 -224 -242 -221 -198 -148 -121 -141 -121 -118 -130 -154 -130																								-194	-35	-229
21		-212 -225 -223 -228 -234 -232 -244 -233 -239 -246 -248 -258 -253 -258 -234 -202 -173 -141 -151 -130 -117 -128 -134 -182																								-205	-33	-238
22		-208 -218 -220 -223 -224 -225 -229 -230 -236 -240 -243 -251 -251 -250 -220 -178 -126 -111 -115 -104 -99 -126 -149 -175																								-194	-31	-225
23		-182 -213 -219 -220 -226 -233 -238 -239 -254 -245 -250 -244 -227 -196 -143 -93 -62 -98 -133 -133 -145 -164 -179																								-188	-35	-223
24		-211 -215 -224 -230 -230 -231 -231 -232 -234 -236 -241 -246 -245 -248 -222 -168 -124 -115 -136 -161 -168 -156 -153 -170																								-201	-41	-242
25		-199 -210 -217 -222 -219 -219 -221 -222 -225 -227 -231 -235 -219 -221 -188 -156 -136 -110 -112 -123 -147 -168 -169 -174																								-190	-44	-234
26		-197 -222 -230 -236 -239 -223 -233 -236 -243 -245 -228 -239 -243 -235 -193 -142 -109 -113 -130 -129 -143 -154 -170 -178																								-196	-40	-236
27		-202 -210 -220 -219 -222 -223 -227 -232 -232 -229 -232 -244 -249 -264 -220 -204 -175 -166 -196 -212 -218 -224 -230 -230																								-220	-27	-247
28		-246 -259 -263 -262 -263 -264 -265 -268 -270 -270 -270 -275 -275 -256 -217 .. -104 -81 -109 -139 -170 -199 -230 -238																								-226	-15	-241

Hourly Means.....	Temp. Correction..	Corrected Means..	Differences.....	Diurnal Oscillation. } = 00
-207 -222 -229 -233 -234 -233 -239 -241 -244 -244 -245 -250 -247 -240 -212 -169 -128 -111 -117 -133 -147 -163 -176 -184	-34 -31 -30 -27 -25 -25 -22 -19 -18 -16 -12 -9 -7 -9 -15 -22 -31 -35 -41 -44 -46 -44 -43 -38	-241 -253 -259 -260 -259 -258 -261 -260 -262 -260 -257 -259 -254 -249 -227 -191 -159 -146 -158 -177 -193 -207 -219 -222	-95 -107 -113 -114 -113 -112 -115 -114 -116 -114 -111 -113 -108 -103 -81 -45 -13 0 -12 -31 -47 -61 -73 -76	2058 2318 2448 2469 2448 2426 2491 2469 2513 2469 2404 2448 2339 2231 1754 0975 0282 0 0260 0671 1018 1321 1581 1646

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.		Noon. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23																								Daily and Monthly Means.	Temp. Corr.	Corrected Means.
MARCH 1843.		81.3 81.2 81.0 81.0 81.0 80.1 80.7 80.5 80.3 80.2 79.9 79.6 79.6 79.2 79.5 80.5 81.0 81.3 81.6 82.0 82.0 81.6 81.5 81.2																										
1		81.3 81.2 81.0 81.0 81.0 80.7 80.5 80.3 80.2 80.0 80.0 79.9 79.5 79.6 80.2 80.5 81.0 81.6 81.6 82.0 82.0 81.7 81.7 81.3																								81.2	..	81.2
2		80.0 80.8 80.7 80.6 80.6 81.0 81.0 81.0 80.8 80.5 80.5 80.3 80.5 80.7 81.2 81.5 81.8 82.5 82.5 83.0 82.5 82.0 82.0																								81.2	..	81.2
3		81.7 81.5 81.5 81.4 81.3 81.3 81.0 81.0 80.7 80.5 80.3 80.2 80.1 80.1 80.5 81.0 81.6 82.0 82.4 82.6 83.1 83.0 82.7 82.6																								81.4	..	81.4
4		82.2 82.0 82.0 81.8 81.7 81.6 81.5 81.3 81.0 81.0 80.9 80.8 80.5 80.8 81.1 81.7 82.2 82.5 83.0 83.2 83.2 83.0 83.0 82.7																								81.9	..	81.9
5		82.3 82.2 82.0 82.0 81.6 81.5 81.5 81.3 81.2 81.0 81.0 80.8 80.7 80.7 81.2 81.5 82.0 82.4 82.5 83.2 83.5 83.5 83.5 83.3																								81.9	..	81.9
6		82.7 82.5 82.5 82.4 82.2 82.0 82.0 81.9 81.8 81.5 81.3 81.2 81.5 81.7 82.0 82.5 83.0 83.4 83.5 83.7 84.0 83.7 82.3																								82.4	..	82.4
7		83.0 82.9 82.8 82.7 82.5 82.6 82.5 82.4 82.3 83.2 82.0 81.8 81.8 82.0 82.4 82.0 82.5 83.5 84.2 83.6 83.2 82.8 82.5 82.2																								82.6	..	82.6
8		82.2 82.1 82.0 81.7 81.5 81.0 80.8 80.8 80.7 80.5 80.5 81.2 80.5 81.0 81.5 82.2 82.6 83.0 83.2 83.2 83.2 82.7 82.5																								81.8	..	81.8
9		82.0 81.7 81.5 81.3 81.2 81.0 80.5 80.3 80.0 79.7 79.4 79.1 78.7 79.0 79.5 80.0 80.5 81.0 81.6 81.7 82.0 82.2 82.2 82.0																								80.8	..	80.8
10		81.5 .. 81.0 80.8 80.5 80.4 80.2 80.0 80.0 79.5 79.3 79.1 79.0 79.2 79.5 80.2 81.0 81.5 81.7 82.3 82.5 82.0 82.1 81.7																								80.7	..	80.7
11		81.5 81.4 81.2 81.0 81.0 80.9 80.7 80.5 80.5 80.3 80.0 79.7 80.0 80.5 81.1 81.5 82.2 82.4 82.7 83.0 83.0 82.8 82.7																								81.3	..	81.3
12		82.1 81.9 .. 81.5 80.5 81.5 81.2 81.0 80.7 80.5 80.4 80.0 80.1 80.0 80.6 81.2 82.0 82.0 82.3 82.5 82.8 83.0 82.7 82.6																								81.4	..	81.4
13		82.2 .. 81.9 81.7 81.5 81.5 81.3 81.0 80.7 80.5 80.2 79.7 79.7 80.0 80.5 81.0 81.5 82.2 82.4 82.6 82.7 82.5 82.5 82.3																								81.4	..	81.4
14		82.1 82.0 81.8 81.5 81.4 81.5 81.5 81.4 81.2 81.0 80.9 80.6 81.0 81.2 82.0 82.4 82.9 83.2 83.3 83.0 83.3 83.3 83.1																								82.0	..	82.0
15		82.7 82.5 82.5 82.3 82.2 82.0 81.8 81.8 81.5 81.5 81.2 81.0 80.9 81.0 81.7 82.2 82.6 83.2 83.6 84.0 84.2 84.3 84.3 84.0																								82.5	..	82.5
16		83.5 83.2 83.0 82.9 82.5 82.5 81.7 81.6 81.5 81.5 81.4 82.0 82.5 83.3 83.6 84.1 84.0 84.0 83.5 83.2																								82.8	..	82.8
17		82.9 82.8 82.6 82.5 82.2 82.2 82.0 82.0 82.0 81.7 81.4 81.2 81.1 81.4 81.5 82.0 83.0 83.2 83.4 83.4 83.5 83.5 83.3 83.2																								82.4	..	82.4
18		83.0 82.5 82.4 82.4 82.0 82.2 82.0 81.6 81.4 81.2 80.9 80.7 80.6 80.6 81.5 81.5 82.7 82.7 83.6 83.6 83.5 83.5 83.4 83.0																								82.2	..	82.2
19		82.6 82.5 82.3 82.2 82.2 82.0 81.7 81.6 81.5 81.3 81.0 80.7 80.6 80.7 81.0 81.5 82.4 82.6 82.8 83.5 84.0 83.7 83.5 83.0																								82.1	..	82.1
20		83.0 82.5 82.3 82.4 82.4 82.0 81.7 81.5 81.5 80.9 80.8 81.0 81.4 82.0 82.6 83.0 83.4 83.8 83.8 83.7 83.8 83.4																								82.4	..	82.4
21		83.1 82.9 82.7 82.5 82.6 82.5 82.5 82.2 82.0 82.0 81.5 81.4 81.2 81.5 81.8 82.5 83.0 83.5 83.6 84.0 84.4 84.5 84.3 83.7																								82.8	..	82.8
22		83.4 83.3 83.2 83.0 83.0 83.0 82.8 82.6 82.3 82.0 82.0 82.0 82.2 82.5 82.9 83.2 83.5 83.8 84.2 84.0 84.0 84.1 84.0																								83.0	..	83.0
23		84.0 83.4 83.2 83.1 83.0 82.6 82.5 82.2 81.9 81.7 81.6 81.3 80.3 81.2 81.9 82.5 83.2 83.2 83.0 83.6 83.8 83.7 83.5 83.4																								82.7	..	82.7
24		83.0 82.9 82.7 82.6 82.6 82.5 82.5 82.4 82.3 82.0 81.9 81.7 81.6 81.5 81.3 81.2 81.2 81.0 81.0 81.2 81.5 81.3 81.0 81.1																								81.8	..	81.8
25		81.0 80.7 80.6 80.5 81.5 80.3 80.5 80.3 80.1 80.0 80.0 79.9 79.7 80.0 80.3 .. 81.5 82.0 82.3 82.3 82.7 82.5 82.1 81.7																								81.0	..	81.0

Means.

82.3 82.1 82.0 81.8 81.7 81.7 81.5 81.3 81.2 81.1 80.8 80.6 80.5 80.6 81.0 81.5 82.1 82.4 82.8 83.0 83.1 83.0 82.9 82.6	81.8
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N. B.—Increasing negative numbers or decreasing positive numbers denote an increase of the vertical force.

k = a. cot θ T^2 = 00002909 × cot 12°40' × (7.400 / 15.12)^2 = 00002166

g/k = 00032000 / 00002166 = 14.774 = 1° Faht. Zero... 80.0

g = 00032000

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, and various magnetic force readings (sc.d., h.m.) for April 1843. Includes sub-sections for 'VERTICAL FORCE MAGNETOMETER' and 'TEMPERATURE OF VERTICAL FORCE MAGNETOMETER'. Includes a summary table at the bottom with 'Hourly Means', 'Means of A and B', 'Temp. Correction', 'Corrected Means', 'Differences', and 'Diurnal Oscillation'.

ther.

* A break occurs.

† The Observations of the 17th are omitted in the hourly and daily means.

N. B.—Increasing negative numbers or decreasing positive numbers denote an increase of the vertical force.

k = a. cot θ ... T^2 = .00002909 × cot 12.40 × (7.400/15.12)^2 = .00002166
q = .00032000

q/k = .00032000 / .00002166 = 14.774 = 1° Faht. Zero... 80°0

VERTICAL FORCE MAGNETOMETER. — (uncorrected.)

Table with 26 columns for hours from Noon to 11 PM. Rows include 'Vertical Force Magnetometer' data (sc.d. values), 'Hourly Means', 'Temp. Correction', 'Corrected Means', and 'Diurnal Oscillation'.

Table with 26 columns for hours from Noon to 11 PM. Rows include 'Temperature of Vertical Force Magnetometer' data (temperature values) and 'Means'.

N. B.—Increasing negative numbers or decreasing positive numbers denote an increase of the vertical force.

ther.

$k = a \cdot \cot \theta \frac{T'^2}{T^2} = .00002909 \times \cot 12^\circ 40' \times \left(\frac{1.406}{15.12}\right)^2 = .00002166$ $\frac{q}{k} = \frac{.00032000}{.00002166} = 14.774 = 1^\circ \text{Faht.}$ Zero .. $80^\circ 0$

$q = .00032000$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Göttingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.				
Singapore Mean Time.	h.m. 6:16	h.m. 7:16	h.m. 8:16	h.m. 9:16	h.m. 10:16	h.m. 11:16	h.m. 12:16	h.m. 13:16	h.m. 14:16	h.m. 15:16	h.m. 16:16	h.m. 17:16	h.m. 18:16	h.m. 19:16	h.m. 20:16	h.m. 21:16	h.m. 22:16	h.m. 23:16	h.m. 0:16	h.m. 1:16	h.m. 2:16	h.m. 3:16	h.m. 4:16	h.m. 5:16							
VERTICAL FORCE MAGNETOMETER.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.			
JULY 1843.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	-234	-253	-251	-248	-248	..	-235	-231	-231	-251	-269	-284	-289	-290	-280	-243	-241	-241	-198	-198	-208	-232	-260	-272	-247	..	-31	..	-278		

Hourly Means.....	-313	-317	-321	-321	-319	..	-318	-322	-324	-327	-328	-339	-333	-324	-312	-284	-258	-250	-235	-227	-231	-250	-272	-295	-297	-26	-322
Temp. Correction..	-30	-28	-27	-25	-24	..	-18	-16	-15	-13	-12	-10	-9	-15	-22	-28	-34	-37	-40	-42	-44	-40	-37	-33	-26	..	..
Corrected Means...	-343	-345	-348	-346	-343	..	-336	-338	-339	-340	-340	-349	-342	-339	-334	-312	-292	-287	-275	-269	-275	-290	-309	-328	-323	..	..
Differences.....	-74	-76	-79	-77	-74	..	-67	-69	-70	-71	-71	-80	-73	-70	-65	-43	-23	-18	-6	0	-6	-21	-40	-58	-54	..	..
Diurnal Oscillation. } = 00	1603	1646	1711	1668	1603	..	1451	1495	1516	1538	1538	1733	1581	1516	1408	0931	0498	0390	0130	0	0130	0455	0866	1278	1160	=	$\frac{\Delta Y}{Y}$

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
JULY 1843.	83.8	..	82.7	..	82.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	83.8	..	81.3	..	81.2	..	81.4	..	81.1	..	81.0	..	81.5	..	81.0	..	81.1	..	81.4	..	81.1	..	81.3	..	82.1	..	81.4	..	80.7	..	80.9

Means.	82.0	..	81.8	..	81.6	..	81.2	..	81.0	..	80.8	..	80.6	..	81.5	..	82.3	..	82.7	..	83.0	..	82.5	..	81.8
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v Vibrating.
 N. B.—Increasing negative numbers or decreasing positive numbers denote an increase of the vertical force.

SINGAPORE 1843. MAGNETICAL OBSERVATIONS.

$k = a \cdot \cot \theta \frac{T^2}{T^2} = 00002909 \times \cot 12^{\circ}40' \times \left(\frac{7.406}{15.12}\right)^2 = 00002166$
 $\frac{g}{k} = \frac{00032000}{00002166} = 14.774 = 1^{\circ} \text{Faht.}$
 $q = 00032000$ ther. Zero... 80.0

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	
Singapore Mean Time.	h.m. 6.16	h.m. 7.16	h.m. 8.16	h.m. 9.16	h.m. 10.16	h.m. 11.16	h.m. 12.16	h.m. 13.16	h.m. 14.16	h.m. 15.16	h.m. 16.16	h.m. 17.16	h.m. 18.16	h.m. 19.16	h.m. 20.16	h.m. 21.16	h.m. 22.16	h.m. 23.16	h.m. 0.16	h.m. 1.16	h.m. 2.16	h.m. 3.16	h.m. 4.16	h.m. 5.16	sc. d.	sc. d.	sc. d.	
VERTICAL FORCE MAGNETOMETER. AUGUST 1843.	1	sc.d. -254	sc.d. -256	sc.d. -254	sc.d. -261	sc.d. -263	sc.d. -264	sc.d. -263	sc.d. -263	sc.d. -263	sc.d. -264	sc.d. -260	sc.d. -265	sc.d. -260	sc.d. -248	sc.d. -221	sc.d. -185	sc.d. -157	sc.d. -146	sc.d. -159	sc.d. -179	sc.d. -214	sc.d. -234	sc.d. -243	sc. d. -235	sc. d. -47	sc. d. -282	
	2	-244	-230	-232	-232	-236	-242	-245	-248	-248	-252	-262	-266	-328	-294	-271	-236	-199	-186	-157	-163	.	-196	-222	-256	-237	-40	-277
	3	-276	-264	-217	.	-268	-270	-273	-274	-270	-273	-277	-277	-262	-231	-224	-223	-314	-306	-304	-275	.	-290	-299	-307	-272	-46	-318
	31	-301	-315	-320	-316	-318	-331	-344	-335	-340	-343	-337	-345	-332	-342	-334	-298	-285	-265	-232	-218	-208	-258	-267	-285	-303	-24	-327

Hourly Means.....	-304	-311	-308	-312	-313	-314	-318	-317	-318	-320	-323	-328	-323	-316	-300	-276	-255	-245	-241	-240	-256	-264	-275	-287	-294	-28	-322
Temp. Correction...	-33	-30	-28	-27	-25	-24	-22	-21	-18	-16	-13	-10	-7	-12	-21	-28	-37	-41	-46	-46	-46	-44	-43	-38	-28		
Corrected Means...	-337	-341	-336	-339	-338	-338	-340	-338	-336	-336	-336	-338	-330	-328	-321	-304	-292	-286	-287	-286	-302	-308	-318	-325	-322		
Differences.....	-51	-55	-50	-53	-52	-52	-54	-52	-50	-50	-50	-52	-44	-42	-35	-18	-6	0	-1	0	-16	-22	-32	-39	-37		
Diurnal Oscillation. } = 00	1105	1191	1083	1148	1126	1126	1170	1126	1083	1083	1083	1126	0953	0910	0758	0390	0130	0	0022	0	0347	0477	0693	0845	0791		$= \frac{\Delta V}{V}$

VERTICAL FORCE MAGNETOMETER.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. AUGUST 1843.	83.5	83.2	83.0	83.0	82.7	82.6	82.6	82.6	82.7	82.5	82.2	81.9	81.4	81.8	82.5	83.1	83.6	84.1	84.6	85.0	85.0	85.0	84.5	84.2	83.2						
	83.8	83.5	83.3	83.3	83.2	82.7	82.4	82.2	82.0	81.5	81.2	81.0	80.9	81.3	82.2	82.6	83.0	83.7	84.3	84.2	83.0	83.7	84.3			84.8	84.6				
	83.5	83.5	83.2	.	83.3	83.2	83.0	83.0	83.0	83.0	83.4	83.0	83.4	83.3	83.0	83.7	84.3	84.4	83.2	82.7	82.4	82.8	.	.	82.2	82.0	83.1				
	82.6	82.2	82.2	81.6	81.3	81.2	81.2	81.0	80.9	80.8	80.5	80.3	80.0	81.5	81.8	82.5	83.0	83.7	84.1	83.8	83.8	82.4	82.8	82.6	82.2	81.5	81.6				

Means. 82.2 82.0 81.9 81.8 81.7 81.6 81.5 81.4 81.2 81.1 80.9 80.7 80.5 80.8 81.4 81.9 82.5 82.8 83.1 83.1 83.1 83.0 82.9 82.6 81.9

N. B.—Increasing negative numbers or decreasing positive numbers denote an increase of the vertical force.

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = .00002909 \times \cot 12.40 \times \left(\frac{7.406}{15.12} \right)^2 = .00002166$$

$$q = .00032000$$

$$\frac{q}{k} = \frac{.00032000}{.00002166} = 14.774 = 1^\circ \text{Faht.} \quad \text{ther. Zero. } 80^\circ$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23																							Daily and Monthly Means.	Temp. Corr.	Corrected Means.						
	Singapore Mean Time.																															
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>				
	6.16	7.16	8.16	9.16	10.16	11.16	12.16	13.16	14.16	15.16	16.16	17.16	18.16	19.16	20.16	21.16	22.16	23.16	0.16	1.16	2.16	3.16	4.16	5.16				sc. d.	sc. d.	sc. d.		
VERTICAL FORCE MAGNETOMETER. SEPTEMBER 1843.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	
1	-300	-315	-314	-320	-321	-326	-331	-328	-337	-337	-338	-326	-324	-316	-297	-275	-277	-263	-255	-263	-258	-277	-298	-305		-25	-330					
2	-298	-302	-308	-308	-301
3	..	..	..	..	..	..	-297	-298	-296	-296	-301	-301	-299	-278	-258	-240	-207	-207	-214	-206	-209	-212	-223	-241	-265	-35	-300
4	-265	-275	-277	-272	-283	-285	-293	-294	-289	-279	-285	..	-283	-274	-254	-239	-220	-211	-210	-222	-236	-222	-235	-237	-258	-50	-308					
5	-248	-260	-264	-264	-270	-272	-272	-264	-260	-263	-273	-277	-271	-260	-231	-185	-159	-138	-125	-145	-164	-183	-219	-232	-229	-61	-290					
6	-236	-239	-240	-240	-241	..	-249	-249	-253	-257	-257	-257	-249	-251	-233	-193	-181	-209	-201	-207	-202	-193	-213	-230	-229	-65	-294					
7	-238	-247	-253	-252	-259	-263	-263	-260	-264	-270	-276	-280	-273	-261	-240	-211	-212	-220	-205	-201	-179	-184	-193	-209	-238	-62	-300					
8	-243	-248	-257	-252	-258	-251	-260	-260	-261	-266	-261	-259	-253	-226	-186	-178	-172	-219	-266	-286	-282	-271	-271	-248	-59	-307						
9	-284	-314	-295	-293	-312
10	..	..	..	..	..	..	-327	-325	-332	-331	-331	-327	-313	-316	-298	-249	-198	-187	-174	-195	-235	-253	-261	-275	-279	-24	-303
11	-299	-297	-306	-310	-313	-308	-304	-300	-304	-313	-315	-307	-323	-326	-316	-285	-241	-228	-223	-257	-269	-286	-296	-297	-293	-33	-326					
12	-308	-314	-318	-325	-330	-334	-340	-332	-332	-328	-338	-344	-333	-327	-303	-273	-253	-222	-218	-230	-248	-254	-280	-285	-299	-28	-327					
13	-300	-306	-311	-315	-327	-332	-334	-333	-332	-336	..	-335	-327	-317	-309	-262	-216	-280	-192	-192	-218	-253	-256	-267	-289	-28	-317					
14	-292	-295	-301	-302	-313	-317	-314	-315	-313	-318	-330	-325	-325	-345	-333	-282	-322	-244	-216	-230	-251	-268	-268	-283	-292	-24	-316					
15	-299	-309	-314	-325	-339	-337	-344	-344	-350	-350	-365	-357	-355	-327	-314	-276	-228	-197	-198	-205	-213	-233	-233	-258	-294	-15	-309					
16	-280	-286	-294	-292	-304
17	..	..	..	..	..	..	-313	-320	-317	-316	-316	-319	-315	-288	-274	-240	-183	-171	-213	-263	-272	-288	-286	-292	-280	-33	-313
18	-301	-308	-315	-314	-319	-339	-330	-328	-332	-334	-323	-325	-338	-346	322	-267	-227	-203	-182	-220	-264	-278	-307	-319	-297	-28	-325					
19	-323	-319	-327	-328	-330	-328	-325	-317	-333	-338	-348	-341	-341	-341	-306	-247	-198	-186	-191	-198	-243	-287	-306	-307	-296	-33	-329					
20	-311	-319	-325	-337	-332	-318	-322	-322	-327	-335	-343	-343	-339	-343	-323	-272	-250	-253	-254	-307	-322	-320	-326	-323	-315	-31	-346					
21	-333	-348	-342	-346	-337	-332	-330	-336	-329	-345	-343	-350	-346	-346	-335	-307	-278	-284	-281	-320	-326	-349	-355	-345	-331	-13	-344					
22	-365	-372	-370	-378	-367	-374	-371	-365	-371	-369	-379	-388	-379	-374	-357	-323	-344	-342	-340	-367	-327	-319	-319	-318	-357	-7	-364					
23	-333	-347	-356	-348	-346
24	..	..	..	..	..	..	-330	-329	-326	-332	-350	-335	-324	-307	-255	-204	-164	-120	-278	-206	-258	-312	-327	-321	-296	-38	-334
25	-320	-320	-320	-324	-324	-327	-330	-330	-328	-334	-340	-342	-332	-314	-286	-249	-204	-197	-208	-257	-267	-281	-279	-284	-296	-41	-337					
26	-347	-302	-309	-307	-315	-319	-324	-328	-328	-328	-332	-324	-308	-300	-237	-246	-249	-286	-323	-323	-322	-322	-317	..	-308	-44	-352					
27	-323	-324	-331	-331	-326	-340	-340	-343	-343	-370	-374	-383	-375	-355	-311	-267	-229	-206	-248	-258	-275	-312	-340	-343	-319	-34	-353					
28	-376	-370	-369	-369	-365	-350	-318	-370	-372	-377	-377	-375	-374	-372	-368	-356	-330	-322	-324	-345	-368	-382	-373	-366	-361	-30	-391					
29	-385	-223	-225	-230	-232	-286	-292	..	..	-304	-801	-301	-304	-239	-222	-201	-192	-189	-211	-242	-248	-256	-245	-252	-254	-7	-261			
30	
Hourly Means....	-304	-302	-306	-307	-311	-317	-314	-316	-318	-321	-325	-327	-321	-312	-292	-256	-225	-220	-225	-243	-259	-272	-280	-287	-290	-34	-323					
Temp. Correction..	-38	-37	-34	-33	-31	-28	-27	-25	-22	-21	-19	-15	-15	-19	-19	-34	-43	-47	-53	-52	-52	-50	-47	-43	-33							
Corrected Means...	-342	-339	-340	-340	-342	-345	-341	-341	-340	-342	-344	-342	-336	-331	-311	-290	-268	-267	-278	-295	-311	-322	-327	-330	-323							
Differences.....	-75	-72	-73	-73	-75	-78	-74	-74	-73	-75	-77	-75	-69	-64	-44	-23	-1	0	-11	-28	-44	-55	-60	-63	-56							
Diurnal Oscillation. } = 00	1625	1560	1581	1581	1625	1689	1603	1603	1581	1625	1668	1625	1495	1386	0953	0498	0022	0	0283	0606	0953	1191	1300	1365	1224							

	Noon. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23																							Daily and Monthly Means.	Temp. Corr.	Corrected Means.						
	Singapore Mean Time.																															
	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>	<i>h. m.</i>
	6.16	7.16	8.16	9.16	10.16	11.16	12.16	13.16	14.16	15.16	16.16	17.16	18.16	19.16	20.16	21.16	22.16	23.16	0.16	1.16	2.16	3.16	4.16	5.16				sc. d.	sc. d.	sc. d.		
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. SEPTEMBER 1843.	82.3	82.0	81.8	81.8	81.3	81.1	81.8	80.4	80.3	80.1	80.0	79.9	79.8	81.0	80.0	81.5	82.5	82.9	83.8	83.7	83.3	83.2	82.9	82.5	81.7	..	..	..	..	..	..	..
1	82.0	81.9	81.8	81.6	81.6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	81.5	81.5	81.3	81.3	81.2	81.0	81.0	81.3	81.7	82.5	83.3	83.6	84.1	84.1	84.3	84.0	84.6	83.6	82.4	..	..	..	..	..	..	..
3	83.0	83.0	82.9	82.9	82.6	82.5	82.1	81.9	81.9	82.0	82.0	..	81.8	82.5	83.3	83.8	8															

$$k = a \cdot \cot \theta \frac{T'^2}{T^2} = \cdot 00002909 \times \cot 12^\circ 40' \times \left(\frac{7.460}{15.12}\right)^2 = \cdot 00002166$$

$$q = \cdot 00032000$$

$$\frac{g}{k} = \frac{\cdot 00032000}{\cdot 00002166} = 14.774 = 1^\circ \text{Faht. Zero... } 80.0$$

ther.

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.					
Singapore Mean Time.	h. m. 6:16	h. m. 7:16	h. m. 8:16	h. m. 9:16	h. m. 10:16	h. m. 11:16	h. m. 12:16	h. m. 13:16	h. m. 14:16	h. m. 15:16	h. m. 16:16	h. m. 17:16	h. m. 18:16	h. m. 19:16	h. m. 20:16	h. m. 21:16	h. m. 22:16	h. m. 23:16	h. m. 0:16	h. m. 1:16	h. m. 2:16	h. m. 3:16	h. m. 4:16	h. m. 5:16								
	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.				
SEPT. 30	-259	-267	-260	-272	-270	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	-238	-239	-241	-245	-242	-266	-303	-300	-300	-303	-302	-302	-302	-280	-244	-232	-211	-226	-240	-282	-292	-314	-312	-307	-272	-19	-264					
2	-317	-303	-317	-306	-314	-316	-317	-316	-298	-304	-303	-308	-307	-207	-207	-233	-242	-303	-247	-252	-286	-7	-293			
3	-276	-282	-288	-281	-292	-295	-297	-304	-307	-304	-305	-307	-310	-295	-269	-216	-176	-166	-181	-251	-271	-277	-273	-295	-272	-9	-281					
4	-305	-296	-296	-298	-304	-297	-312	-310	-307	-309	-313	-319	-311	-295	-267	-245	-225	-233	-263	-279	-258	-228	-229	-249	-281	-10	-291					
5	-279	-282	-285	-282	-293	-293	-293	-297	-300	-303	-301	-306	-304	-284	-260	-217	-188	-206	-216	-240	-247	-241	-239	-261	-267	-19	-286					
6	-282	-282	-287	-290	-296				
7			
8	-320	-320	-320	-323	-331	-325	-323	-335	-325	-326	-326	-336	-330	-320	-310	-269	-240	-217	-281	-264	-299	-321	-319	-323	-309	0	-309					
9	-325	-326	-335	-338	-343	-342	-343	-340	-341	-346	-344	-342	-342	-334	-319	-286	-257	-241	-240	-255	-261	-252	-274	-292	-309	1	-308					
10	-309	-315	-318	-319	-326	-322	-321	-320	-366	-364	-365	-370	-365	-353	-302	-260	-223	-207	-203	-231	-285	-311	-328	-337	-309	-12	-321					
11	-338	-343	-350	-349	-354	-353	-360	-357	-358	-357	-361	-365	-363	-357	-325	-301	-268	-251	-261	-280	-292	-317	-332	-349	-331	-9	-340					
12	-351	-352	-356	-356	-364	-364	-360	-360	-365	-365	-358	-372	-365	-360	-338	-292	-272	-260	-252	-266	-284	-307	-315	-322	-332	-13	-345					
13	-339	-339	-341	-344	-353				
14		
15	-337	-335	-339	-345	-351	-349	-351	-349	-357	-359	-364	-370	-367	-367	-323	-274	-254	-219	-225	-264	-315	-319	-310	-315	-323	-18	-341					
16	-331	-337	-336	-347	-348	-342	-348	-362	-362	-362	-350	-357	-355	-351	-334	-297	-262	-251	-259	-270	-280	-300	-315	-332	-324	-33	-357					
17	-351	-362	-368	-374	-374	-386	-376	-380	-379	-383	-386	-387	-383	-380	-360	-335	-314	-299	-305	-313	-315	-313	-316	-320	-352	-24	-376					
18	-326	-318	-318	-338	-338	-334	-326	-345	-361	-363	-360	-366	-260	-354	-338	-328	-312	-303	-301	-315	-335	-337	-337	-339	-335	-18	-353					
19	-351	-352	-356	-358	-358	-359	-360	-361	-361	-365	-366	-366	-363	-357	-346	-337	-332	-324	-324	-324	-327	-331	-333	-337	-348	-18	-366					
20	-348	-357	-355	-355	-356	-366		
21	
22	-228	-239	-243	-251	-254	-256	-261	-262	-264	-265	-272	-271	-280	-276	-267	-245	-227	-217	-217	-226	-234	-231	-234	-238	-248	-31	-279					
23	-246	-269	-261	-264	-263	-263	-268	-269	-269	-272	-275	-273	-270	-262	-253	-242	-231	-225	-229	-233	-232	-242	-246	-255	-24	-279						
24	-252	-254	-251	-258	-259	-271	-267	-265	-263	-254	-264	-268	-264	-263	-258	-269	-214	-201	-199	-205	-211	-211	-210	-209	-243	-21	-264					
25	-216	-253	-260	-265	-267	-277	-283	-280	-287	-285	-289	-289	-289	-287	-274	-244	-224	-209	-211	-211	-213	-224	-243	-247	-255	-24	-279					
26	-264	-264	-264	-266	-265	-265	-261	-263	-258	-249	-244	-250	-255	-250	-244	-242	-230	-220	-215	-222	-220	-234	-241	-240	-243	-27	-270					
27	-275	-292	-292	-296	-296	-299		
28	
29
*30
*31	-511	-515	-523	-506	-513	-512	-515	-504	-509	-525	-393	-409	-394	-367	-350	-371	-379	-388	-433	-449	-446	-417	-406

Hourly Means.....	-298	-303	-305	-309	-312	-315	-317	-319	-321	-323	-325	-328	-326	-319	-296	-267	-242	-232	-237	-256	-269	-278	-280	-287	-294	-17	-311
Temp. Correction...	-21	-19	-16	-15	-15	-12	-7	-6	-3	0	-3	1	-3	-12	-19	-25	-31	-34	-37	-37	-34	-33	-27	-17	..	..	..
Corrected Means...	-319	-322	-321	-324	-327	-327	-324	-326	-327	-326	-329	-328	-325	-322	-308	-286	-267	-263	-271	-293	-306	-312	-313	-314	-312	..	..
Differences.....	-56	-59	-58	-61	-64	-64	-61	-63	-64	-63	-66	-65	-62	-59	-45	-23	-4	0	-8	-30	-43	-49	-50	-51	-49	..	..
Diurnal Oscillation. } = '00	1213	1278	1256	1321	1386	1386	1321	1365	1366	1365	1430	1408	1343	1278	0975	0498	0087	0	0173	0650	0931	1061	1083	1105	1054	= $\frac{\Delta V}{V}$	..

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.	OCTOBER 1843.																							Means.															
SEPT. 30	80.7	80.3	80.2	79.9	79.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	82.7	82.6	82.3	82.1	81.8	81.5	81.0	81.1	81.2	81.2	81.0	80.8	80.6	81.5	82.2	81.7	81.3	81.0	80.8	80.8	81.0	81.1	81.2	81.0	81.4	81.2	81.0	81.4	81.2	81.0	81.4	81.2	81.0						
3	80.5	80.7	80.6	80.4	82.2	80.0	79.7	79.7	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6	79.6			
4	80.8	80.7	80.5	80.4	80.3	80.0	80.0	80.0	79.9	79.9	79.9	79.9	79.8	80.0	79.8	80.2	80.6	80.6	80.6	80.6	81.4	81.6	81.6	81.8	81.9	81.6	81.3	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6	80.6			
5	80.6	80.7	80.7	80.8	80.5	80.4	80.1	80.0	79.8	79.5	79.5	79.3	79.4	79.5	79.5	80.0	80.7	80.8	81.5	81.9	82.0	82.5	82.3	82.4	82.0	80.7	81.3	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7			
6	81.5	81.7	81.7	81.7	81.4	81.3	81.2	80.9	80.8	80.7	80.6	80.3	80.5	80.7	80.6	80.6	80.9	81.2	80.5	82.5	82.4	82.5	82.5	82.0	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3	81.3

SINGAPORE 1843. MAGNETICAL OBSERVATIONS.

k = a. cot θ T^2 = .00002909 × cot 12.40 × (7.406 / 15.12)^2 = .00002166

g/k = .00032000 / .00002166 = 14.774 = 1° Faht.

ther. Zero .. 80°0

g = .00032000

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, hours (1-23), and values for Vertical Force Magnetometer. Includes a vertical label 'VERTICAL FORCE MAGNETOMETER.' and date 'NOVEMBER 1843.'.

Summary table with rows: Hourly Means, Temp. Correction, Corrected Means, Differences, Diurnal Oscillation. Includes a vertical label 'VERTICAL FORCE MAGNETOMETER.' and date 'NOVEMBER 1843.'

Table with columns for hours (1-23) and values for Temperature of Vertical Force Magnetometer. Includes a vertical label 'TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.' and date 'NOVEMBER 1843.'

N. B.—Increasing negative numbers or decreasing positive numbers denote an increase of the vertical force.

SINGAPORE 1843. MAGNETICAL OBSERVATIONS.

$$k = a. \cot \theta \frac{T^2}{T^2} = .00002909 \times \cot 12^{\circ}40' \times \left(\frac{7.406}{15.12}\right)^2 = .00002166$$

$$q = .00032000$$

$$\frac{g}{k} = \frac{.00032000}{.00002166} = 14.774 = 1^{\circ} \text{Faht.} \quad \text{ther. Zero.. } 80.0$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

VERTICAL FORCE MAGNETOMETER. DECEMBER 1843.	Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.			
	Singapore Mean Time.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.						
	6:16	7:16	8:16	9:16	10:16	11:16	12:16	13:16	14:16	15:16	16:16	17:16	18:16	19:16	20:16	21:16	22:16	23:16	0:16	1:16	2:16	3:16	4:16	5:16							
1	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.
2	-523	-529	-528	-532	-539	-541	-550	..	-565	-571	-566	-570	-574	-514	-540	-502	-478	-459	-472	-468	-473	-496	-538	-561	-526	-1	-527				
3	-558	-562	-566	-567	-563	-569	-569	-549	-501	-473	-456	-459	-472	-453	-460	-508	-509	-520	-530	..	-529		
4	-523	-1	-524	
5	-532	-544	-548	-554	-553	-517	-544	-553	-558	-562	-560	-562	-560	-547	-510	-469	-497	-424	-438	-456	-472	-479	-479	-504	-518	-10	-528				
6	-514	-545	-541	-542	-544	-545	-552	..	-551	-552	-558	-561	-554	-542	-526	-520	-508	-507	-503	-506	-535	-543	-548	-558	-537	-6	-543				
7	-568	-569	-570	-573	-569	-568	-566	-564	-563	-568	-567	-559	-567	-562	-522	-509	-472	-450	-448	-454	-487	-477	-472	-483	-529	3	-526				
8	-494	-546	-554	-554	-567	-573	-568	-571	-576	-565	-558	-560	-569	-563	-518	-479	-419	-348	-278	-293	-362	-412	-452	-509	-495	-13	-508				
9	-515	-515	-522	-525	-524	-510	-21	-531		
10	-509	-515	-519	-519	-530	-528	-537	-537	..	-521	-501	-491	-473	-473	-482	-482	-490	-512	-510	-21	-531			
11	-544	-552	-562	-568	-566	-572	-566	-568	-558	-566	-577	-577	-580	-586	-572	-542	-487	-487	-511	-489	-480	-492	-523	-551	-545	-16	-561				
12	-576	-567	-598	..	-612	-615	-608	-605	-610	-610	-610	-618	-615	-594	-571	-540	-483	-471	-465	-467	-482	-496	-532	-553	-561	-19	-580				
13	-564	-558	-583	-589	-595	-594	-600	-597	-607	-617	-611	-612	-625	-626	-593	-547	-490	-468	-443	-434	-473	-487	-526	-544	-558	-24	-582				
14	-556	-557	-561	-570	-573	-574	-580	-582	-591	-588	-594	-595	-591	-582	-532	-520	-486	-472	-449	-436	-455	-459	-476	-499	-536	-28	-564				
15	-523	-532	-542	-543	-548	-552	-556	-554	-554	-560	-563	-563	-566	-577	-570	-558	-546	-505	-448	-426	-450	-493	-525	-543	-533	-25	-558				
16	-558	-559	-551	-567	-567	-568		
17	-577	-582	-585	-588	-591	-594	-600	-615	-598	-568	-533	-516	-485	-503	-509	-507	-516	-535	-557	-1	-558			
18	-564	-572	-580	..	-597	-555	-599	-603	-602	-601	-606	-612	-612	-600	-570	-555	-550	-542	-576	-597	-611	-606	-603	-608	-588	7	-581				
19	-620	-615	-617	-620	-623	-618	-625	-626	-626	-628	-625	-631	-624	-627	-599	-543	-499	-471	-492	-509	-538	-565	-573	-598	-588	18	-570				
20	-614	-624	-629	-632	-631	-636	-632	-635	-637	-638	-636	-644	-650	-642	-635	-599	-572	-558	-593	-591	-591	-594	-597	-625	-618	16	-602				
21	-635	-641	-642	-641	-649	-643	-648	-645	-647	-644	-657	-657	-654	-642	-617	-586	-566	-547	-550	-548	-570	-583	-596	-609	-617	15	-602				
22	-635	-635	-646	-640	-646	-636	-639	-651	-650	-649	-650	-654	-655	-610	-601	-630	-593	-590	-587	-587	-587	-590	-586	-606	-623	13	-610				
23	-624	-629	-641	-642	-642	-645		
24	-646	-651	-651	-651	-642	-611	-586	-548	-531	-532	-546	-565	-586	-615	-545	7	-538	
*25	-634	
26	-618	-623	-636	-629	-641	-642	-638	-637	-637	-636	-640	-638	-642	-627	-607	-580	-548	-536	-557	-567	-592	-600	-600			
27	-601	-614	-610	-606	-613	-617	-621	-624	-621	-625	-629	-638	-637	-630	-603	-583	-548	-510	-506	-613	-511	-527	-557	-584	-607	6	-601				
28	..	-577	-642	-642	-643	-637	-643	-640	-638	-643	-639	-643	-635	-627	-611	-595	-564	-547	-525	-516	-567	-549	-574	-596	-593	-1	-594				
29	-609	-616	-627	-633	-636	-641	-643	-644	-646	-642	-645	-650	-646	-616	-632	-613	-582	-550	-528	-551	-574	-606	-618	-627	-604	-3	-607				
*30	-640	-644	-651	-650	-655	-658	a	-616	4	-612		
*31	65	..	28	17	13	9	18	58	118	137	215	166	214	215	191	160	123			

Hourly Means....	-573	-576	-585	-588	-592	-592	-591	-596	-595	-596	-600	-601	-603	-595	-575	-550	-521	-498	-492	-499	-512	-525	-541	-561	-565	-3	-564
Temp. Correction...	-10	7	-4	-3	-1	0	0	3	4	7	9	12	10	6	-1	-7	-12	-15	-16	-18	-19	-15	-12	-3	..	..
Corrected Means...	-583	-583	-589	-591	-593	-592	-591	-593	-591	-589	-591	-592	-591	-585	-569	-551	-528	-510	-507	-515	-530	-544	-556	-573	-568	..	..
Differences....	-76	-76	-82	-84	-86	-85	-84	-86	-84	-82	-84	-85	-84	-78	-62	-44	-21	3	0	-8	-23	-37	-49	-66	-61	..	..
Diurnal Oscillation. } = .00	1646	1646	1776	1819	1863	1841	1819	1863	1819	1776	1819	1841	1819	1689	1343	0953	0455	0065	0	0173	0498	0801	1061	1430	1326	..	..

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. DECEMBER 1843.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	*30	*31		
	1	81.0	81.0	80.8	80.7	80.6	80.2	80.1	..	79.5	79.4	79.0	79.0	79.3	79.3	79.8	80.0	80.1	80.5	80.5	80.5	80.2	79.9	80.1
	2	79.8	79.8	79.7	79.6	79.5	79.4	

Means.	80.7	80.5	80.3	80.2	80.1	80.0	80.0	79.8	79.7	79.5	79.4	79.4	79.2	79.3	79.6	80.1	80.5	80.8	81.0	81.1	81.2	81.3	81.0	80.8	80.2
--------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	----	----	----	----	----	----	----

a Series broken. * The observations of 25th are omitted in the daily means and those of the 30th and 31st in the hourly and daily means.
 N. B.—Increasing negative numbers or decreasing positive numbers denote an increase of the vertical force.

ABSTRACT OF TERM DAY OBSERVATIONS. COMMENCING at 10 P. M., 18th January 1843. Gottingen Mean Time.

WEDNESDAY the 18th January 1843.

THURSDAY the 19th January 1843.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23

0 1 2 3 4 5 6 7 8 9

Table with columns for Declination Magnetometer (m. s.) and rows for hours 0.0 to 54.0. Values are in sc.d. format.

Table with columns for Horizontal Force Magnetometer and rows for hours 2.0 to 56.0. Values are in sc.d. format, with a 'Ther.' row at the bottom.

Table with columns for Vertical Force Magnetometer and rows for hours 4.0 to 58.0. Values are in s.d. format, with a 'Ther.' row at the bottom.

Table with columns for Barometer (uncorrected) and Attached Thermometer (Dry/Wet) and rows for hours 75.5 to 72.3.

Table with columns for Remarks on the Weather (Zenith and Horizon) and rows for hours 75.5 to 72.3.

ABSTRACT OF TERM DAY OBSERVATIONS. COMMENCING at 10 P. M. 22d March 1843. Gottingen Mean Time.

WEDNESDAY the 22d March 1843.

THURSDAY the 23d March 1843.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 P.M.

0 1 2 3 4 5 6 7 8 9

Table with columns for Declination Magnetometer (m. s.) and values for hours 10-23 and 0-9.

Table with columns for Horizontal Force Magnetometer and values for hours 2:30-57:30.

Ther.. 81.4 81.3 81.2 81.0 81.0 81.6 83.0 83.2 83.3 83.2 83.3 83.3 83.1 83.0 82.7 82.4 82.2 82.4 81.9 81.7 81.5 81.2 81.0 80.8

Table with columns for Vertical Force Magnetometer (s. d.) and values for hours 7:30-62:30.

Ther.. 81.4 81.2 81.1 81.4 81.5 82.0 83.0 83.2 83.4 83.5 83.5 83.3 83.3 83.2 83.0 82.4 82.4 82.0 82.0 81.6 81.4 81.2 81.2 80.9

Table with columns for Barometer (uncorrected) and Attached Thermometer (Dry/Wet) with values in inches.

Table with columns for Remarks on the Weather (Zenith/Horizon) and weather conditions like overcast, rain, etc.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 19th April 1843. Gottingen Mean Time.

WEDNESDAY the 19th April 1843.

THURSDAY the 20th April 1843.

Table with columns for Gottingen Mean Time (P.M.), Declination Magnetometer (m. s.), and data points for hours 10-23 and 0-9.

Table with columns for Horizontal Force Magnetometer and data points for hours 2-6 and 8-12.

Table with columns for Vertical Force Magnetometer and data points for hours 4-12 and 14-18.

Table with columns for Barometer (uncorrected), Attached Thermometer (Dry/Wet), and data points for hours 1-24.

Table with columns for Remarks on the Weather (Zenith/Horizon) and descriptive weather notes for each hour.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 26th May 1843. Gottingen Mean Time.

FRIDAY the 26th May 1843.													SATURDAY the 27th May 1843.													
Gottingen Mean Time.													Gottingen Mean Time.													
P. M.													P. M.													
10 11 12 13 14 15 16 17 18 19 20 21 22 23													0 1 2 3 4 5 6 7 8 9													
DECLINATION MAGNETOMETER.	m. s.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.
	0.0	39.3	38.6	39.9	38.9	38.3	37.9	37.2	37.0	37.3	37.9	37.8	37.9	38.3	38.6	38.2	38.8	38.1	38.5	38.6	38.9	39.0	39.1	39.2	39.1	39.1
	6.0	39.3	38.7	40.0	39.0	38.2	38.0	37.0	37.0	37.4	37.9	37.7	..	38.4	38.6	38.4	38.6	38.1	38.5	38.6	38.7	39.0	39.1	39.3	39.0	39.0
	12.0	39.2	38.7	39.9	39.0	38.0	37.7	37.1	37.0	37.3	37.9	37.6	37.9	38.2	38.6	38.6	38.6	38.4	38.6	38.6	38.9	39.0	39.1	39.3	38.9	38.9
	18.0	38.7	38.7	40.2	39.0	37.9	37.7	37.4	37.0	37.4	37.8	37.7	37.8	38.2	38.2	38.6	38.6	38.6	38.6	38.8	38.8	39.0	39.1	39.4	38.8	38.8
	24.0	38.1	38.7	40.2	38.8	37.8	37.4	37.7	37.0	37.6	37.6	37.6	37.8	38.7	38.1	38.8	38.7	38.5	38.6	38.8	39.0	39.0	39.1	39.3	38.7	38.7
	30.0	37.8	38.8	40.0	38.6	37.8	37.4	37.5	37.0	37.6	37.8	37.5	37.9	38.8	38.1	38.8	38.7	38.5	38.6	38.8	39.0	39.1	39.1	39.2	38.7	38.7
	36.0	37.7	38.8	40.0	38.6	37.8	37.5	37.7	37.0	37.7	37.8	37.6	38.0	38.4	38.0	38.8	38.6	38.7	38.6	38.7	38.6	39.0	39.1	39.1	39.2	38.7
	42.0	37.8	39.0	39.9	38.3	37.9	37.2	37.4	37.0	37.8	37.8	37.7	38.0	38.6	38.0	..	38.6	38.7	38.7	38.7	38.9	39.1	39.1	39.1	38.8	38.8
	48.0	38.0	39.2	39.6	38.3	37.9	37.0	37.2	37.0	37.8	37.9	37.7	38.1	38.8	38.2	38.8	38.5	38.6	38.7	38.8	39.0	39.1	39.1	39.1	38.8	38.8
	54.0	38.3	39.5	39.0	38.3	37.8	37.3	37.0	37.2	37.9	37.8	37.7	38.6	38.6	38.2	38.8	38.3	38.6	38.7	38.8	39.0	39.1	39.2	39.1	38.8	38.8
HORIZONTAL FORCE MAGNETOMETER.	2.0	63.4	62.2	61.9	62.3	62.0	62.8	60.0	59.0	59.4	60.9	62.2	63.6	66.0	68.7	69.0	68.9	68.3	68.0	67.9	67.5	67.1	67.0	67.1	66.7	
	8.0	61.9	62.3	61.3	62.0	62.0	62.5	59.4	58.9	59.4	60.9	62.4	63.8	66.2	69.0	68.9	68.8	68.3	68.0	67.7	67.5	67.0	67.0	67.1	66.5	
	14.0	60.9	62.3	62.5	62.1	62.0	62.0	59.1	58.8	59.5	61.1	62.7	63.9	66.2	68.8	68.9	68.8	68.4	68.0	67.9	67.4	67.0	67.0	66.9	66.5	
	20.0	60.5	62.1	61.8	62.3	61.8	61.7	59.3	59.0	59.9	61.3	63.0	64.0	66.3	68.5	69.0	68.6	68.5	68.0	67.7	67.4	67.1	67.0	66.9	66.4	
	26.0	60.2	62.0	61.8	62.1	61.8	61.4	59.6	..	60.2	61.6	63.0	64.0	68.0	68.5	69.0	68.5	68.6	68.0	67.9	67.6	67.1	67.0	66.9	66.3	
	32.0	59.8	62.0	62.2	62.3	61.9	61.7	59.6	58.9	60.3	61.7	63.1	64.0	68.4	68.4	68.9	68.4	68.5	68.2	67.8	67.6	67.2	67.0	66.9	66.2	
	38.0	60.0	62.0	63.0	62.0	61.9	61.3	59.4	59.0	60.2	61.7	63.5	64.5	68.2	68.7	68.9	68.8	68.2	68.2	67.9	67.5	67.2	67.0	66.9	66.2	
	44.0	60.4	62.1	62.8	61.9	62.1	60.5	59.3	58.8	60.4	61.9	63.2	64.7	68.2	68.8	69.0	68.3	68.2	68.3	67.7	66.7	67.1	67.0	66.9	66.1	
	50.0	61.0	62.1	62.8	61.9	62.4	60.0	59.3	59.0	60.4	62.0	63.1	66.1	68.3	68.9	68.9	68.3	68.2	68.0	67.7	67.0	67.2	67.0	66.9	66.2	
	56.0	61.8	61.9	62.5	62.0	62.6	60.1	58.9	59.2	60.8	62.0	63.3	66.4	68.5	69.0	68.9	68.3	68.1	67.7	67.7	67.0	67.0	67.1	66.7	66.2	
	Ther..	81.2	81.2	81.3	81.4	81.8	82.4	83.0	83.5	83.7	84.0	84.2	84.5	84.6	84.5	84.3	84.0	83.8	83.8	83.6	83.2	83.0	82.7	82.5	82.1	
VERTICAL FORCE MAGNETOMETER.	4.0	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	
	10.0	-287	-294	-286	-275	-232	-215	-167	-130	-120	-120	-157	-162	-188	-219	..	-259	-255	-242	-245	-261	-271	-268	-278	-281	
	16.0	-281	-294	-289	-274	-227	-199	-158	-130	-118	-122	-157	-165	-188	-222	..	-257	-256	-250	-253	-264	-271	-270	-274	-278	
	22.0	-279	-294	-285	-274	-223	-199	-151	-127	-115	-128	-158	-166	-191	-224	-272	-257	-255	-252	-256	-263	-271	-273	-274	-279	
	28.0	-278	-292	-278	-272	-219	-194	-154	-127	-115	-137	-157	-168	-199	-226	-272	-255	-256	-252	-250	-263	-272	-275	-274	-279	
	34.0	-274	-291	-280	-267	-216	-195	-154	-119	-117	-141	-157	-168	-213	-233	-272	-253	-260	-252	-258	-266	-272	-275	-278	-281	
	40.0	-274	-291	-287	-264	-217	-182	-148	-118	-117	-145	-157	-172	-208	-240	-269	-258	-257	-254	-258	-267	-271	-278	-280	-282	
	46.0	-281	-291	-283	-235	-219	-176	-145	-120	-117	-149	-160	-180	-208	-246	-267	-256	-250	-254	-258	-268	-271	-278	-280	-282	
	52.0	-284	-289	-280	-247	-222	-170	-135	-115	-110	-152	-157	-181	-213	-244	-267	-258	-251	-255	-258	-268	-271	-279	-281	-284	
	58.0	-291	-288	-278	-241	-219	-166	-128	-122	-114	-153	-158	-187	-212	-246	-266	-256	-251	-249	-263	-267	-271	-279	-281	-285	
	Ther..	81.5	81.5	81.5	81.9	81.9	83.6	84.0	84.6	84.8	85.2	85.2	85.2	85.2	84.7	84.2	84.0	..	84.0	83.8	83.3	83.2	82.9	82.5	82.4	
Barometer(uncorrected) = 29.0 +	in.	0.911	0.925	0.929	0.954	0.968	0.976	0.971	0.950	0.940	0.924	0.900	0.882	0.888	0.893	0.903	0.922	0.940	0.964	0.968	0.977	0.970	0.951	0.935	0.929	
	Attached Thermometer..	80.0	80.0	80.0	80.8	81.0	81.4	82.1	82.8	83.0	83.8	83.9	84.0	84.1	84.0	83.5	83.3	83.0	83.0	82.5	82.0	82.0	81.0	81.0	80.9	
	Dry do.	80.9	80.8	81.0	81.3	82.0	83.8	83.9	83.9	84.0	84.2	84.5	84.9	84.5	84.0	84.0	83.7	83.3	83.1	83.0	82.2	82.2	81.7	81.3	81.1	
Wet do.	78.2	78.2	78.5	78.9	79.4	79.9	80.1	80.8	80.5	80.2	80.4	79.0	78.5	78.2	79.0	79.5	80.0	80.0	79.4	79.0	78.8	78.4	78.0	77.9		
REMARKS ON THE WEATHER.	ZENITH.	overcast	do.	do.	cir-haze	do.	cir-haze, cir-cum	clear	do.	cir-cum	pt-cir	cir, cir-cum	cir, cir-stra, cir-haze	cir-cum	cir-haze	cir-cum	clear	do.	cir-haze	clear	do.	do.	cir	lt-haze	few cir	
	HORIZON.	overcast	do.	do.	cum, cum-stra	{ cir-cum-stra, cum, } { cum-stra, cum, }	do	cum, cum-stra	do.	cum.N.	cum	cir-stra, cir	cum	cir-cum, cum	cum, cir-stra, stra	cir-stra, cir	clear	do.	cir-haze	haze	do.	do.	cum, cum-stra	cum-stra, stra	cum, cum-stra	

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 21st June 1843. Gottingen Mean Time.

WEDNESDAY the 21st June 1843.

THURSDAY the 22d June 1843.

Gottingen Mean Time.

10 P. M.

Table with columns for Declination, Horizontal Force, Vertical Force, Barometer, Thermometer, and Remarks on the Weather. Rows include time intervals (0.0 to 54.0) and various magnetic force measurements.

ABSTRACT OF TERM DAY OBSERVATIONS. COMMENCING at 10 P. M. 19th July 1843. Gottingen Mean Time.

Table with columns for Date (Wednesday 19th July 1843, Thursday 20th July 1843), Gottingen Mean Time (10-23 P.M., 0-9), Declination Magnetometer (0-54), Horizontal Force Magnetometer (2-56), Vertical Force Magnetometer (4-58), Barometer (uncorrected) (0.974-0.982), Attached Thermometer (78.9-81.0), Dry (76.3-77.8), Wet (76.3-77.8), Cloudy Sky in 8ths, and Remarks on the Weather (Zenith and Horizon).

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 25th August 1843. Gottingen Mean Time.

FRIDAY the 25th August 1843.

SATURDAY the 26th August 1843.

Gottingen Mean Time.

		10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	
		P. M.																								
DECLINATION MAGNETOMETER.	m. s.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.		
	0.0	47.6	47.5	48.5	48.0	46.4	46.1	45.1	44.3	44.6	45.6	47.8	47.7	48.1	47.9	47.9	47.0	46.1	46.0	46.3	46.0	46.4	46.6	46.6	46.7	
	6.0	47.6	47.6	48.6	48.0	47.3	45.9	44.7	44.1	44.9	45.9	47.8	47.7	47.8	47.9	47.8	46.9	46.1	45.9	46.3	46.8	46.3	46.7	46.5	46.5	
	12.0	47.2	47.5	48.6	48.0	47.5	45.7	44.8	43.9	45.0	46.9	47.8	47.7	47.7	48.0	47.8	47.0	46.1	45.9	46.3	46.4	46.5	46.7	46.6	46.3	
	18.0	47.2	47.5	48.8	47.6	47.2	45.6	44.5	43.9	45.2	46.9	48.0	47.6	47.6	47.9	47.6	47.0	46.1	45.9	46.2	46.5	46.5	46.7	46.5	47.5	
	24.0	47.2	47.5	48.9	47.5	46.7	45.7	44.4	43.9	45.4	46.6	48.0	47.8	47.6	48.0	47.1	46.4	46.0	45.9	46.2	46.5	46.5	46.6	46.5	47.3	
	30.0	47.2	47.6	48.9	47.3	46.7	45.2	44.5	44.0	45.3	46.9	48.1	48.1	47.7	47.9	47.8	46.3	46.0	46.1	46.1	46.5	46.6	46.9	46.5	47.2	
	36.0	47.3	47.8	49.1	47.1	46.4	45.3	44.5	44.0	45.3	46.9	48.1	48.1	47.7	47.9	47.9	46.4	46.0	46.2	49.0	46.4	46.5	46.9	46.6	47.1	
	42.0	47.3	48.2	48.1	47.0	46.1	45.1	44.5	44.0	45.4	47.2	47.8	48.0	47.7	47.9	47.4	46.3	46.2	46.2	46.4	46.3	46.5	46.8	46.6	47.1	
	48.0	47.4	48.1	48.0	46.7	46.2	45.2	44.7	44.5	45.5	47.4	47.5	48.1	47.9	47.9	47.0	46.3	46.2	46.2	46.4	46.5	46.5	46.8	46.6	46.0	
	54.0	47.5	48.1	48.2	46.5	46.2	45.1	44.6	44.4	45.5	47.5	47.7	48.1	47.8	47.9	47.0	46.2	46.1	46.2	46.1	46.4	46.7	46.7	46.8	46.0	
	HORIZONTAL FORCE MAGNETOMETER.	2.0	63.0	63.0	62.0	61.4	59.3	58.5	58.1	58.6	58.6	62.3	64.3	64.6	65.2	64.6	63.8	64.0	64.1	64.2	64.6	64.0	63.9	63.7	63.3	62.4
8.0		63.0	63.0	61.7	61.3	59.1	58.5	58.1	58.5	59.1	62.3	64.3	64.6	64.8	64.3	63.8	64.0	64.1	64.1	64.7	64.0	63.9	63.6	63.5	62.6	
14.0		63.3	62.7	61.7	61.1	59.0	58.5	58.2	58.4	59.4	62.9	64.2	64.7	64.7	64.1	63.8	63.9	64.0	64.1	64.7	64.0	63.9	63.5	63.3	62.5	
20.0		63.2	62.7	62.1	60.7	58.9	58.8	58.4	58.5	59.8	63.2	64.6	64.9	64.5	64.1	63.9	63.6	64.1	64.1	64.7	63.9	63.9	63.5	63.3	62.4	
26.0		63.1	62.7	61.6	60.6	58.7	58.5	58.3	58.5	59.9	63.5	64.4	65.1	64.4	64.1	64.0	63.9	64.1	64.2	64.3	63.8	63.9	63.5	63.1	62.4	
32.0		63.2	62.5	61.6	60.3	58.3	57.9	58.5	58.6	60.0	63.4	64.7	64.9	64.3	63.8	64.0	64.0	64.1	64.2	64.0	63.4	63.8	63.4	63.1	62.3	
38.0		63.3	62.4	61.5	60.0	57.9	58.2	58.6	58.8	60.2	63.7	64.3	65.2	64.3	63.9	64.0	64.0	64.3	64.2	64.0	63.7	63.9	63.3	63.0	62.4	
44.0		63.1	62.1	61.4	60.0	57.8	58.4	58.7	59.0	60.5	64.1	64.4	65.2	64.1	64.0	64.0	64.0	64.4	64.4	64.0	63.9	63.8	63.3	62.9	62.4	
50.0		63.1	62.4	61.4	59.8	57.9	58.5	58.8	58.8	61.4	64.3	64.6	65.3	64.1	64.0	64.0	64.0	64.3	64.4	64.1	63.7	63.8	63.3	62.5	62.5	
56.0		63.2	62.0	61.4	59.6	58.3	57.9	59.1	..	61.7	64.0	64.7	65.3	64.4	64.0	64.0	64.0	64.2	64.5	64.0	63.8	63.7	63.3	62.5	62.6	
Ther..			79.9	79.7	79.7	79.8	80.0	80.9	81.7	80.9	81.0	81.0	81.3	81.6	81.5	81.4	81.3	80.2	80.2	81.3	81.2	81.2	80.9	80.5	80.3	80.3
VERTICAL FORCE MAGNETOMETER.		4.0	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	
	10.0	-371	-369	-357	-343	-307	-258	-198	-244	-238	-260	-268	-291	-314	-325	-338	-346	-346	-339	-344	-359	-359	-357	-350	-352	
	16.0	-366	-369	-355	-338	-303	-251	-198	-233	-241	-259	-268	-295	-312	-325	-338	-344	-346	-339	-348	-357	-357	-357	-353	-355	
	22.0	-367	-369	-355	-333	-298	-231	-198	-242	-247	-260	-270	-297	-313	-327	-338	-343	-346	-338	-350	-360	-357	-357	-354	-354	
	28.0	-366	-369	-355	-330	-293	-235	-195	-234	-251	-261	-271	-301	-315	-327	-341	-343	-344	-338	-350	-358	-356	-356	-354	-354	
	34.0	-368	-372	-352	-306	-289	-243	-192	-236	-250	-264	-279	-305	-317	-332	-344	-348	-342	-343	-348	-357	-356	-354	-354	-354	
	40.0	-368	-372	-349	-322	-278	-233	-180	-238	-253	-263	-279	-307	-316	-330	-345	-346	-342	-344	-345	-356	-356	-354	-354	-355	
	46.0	-368	-372	-346	-320	-268	-234	-198	-239	-248	-265	-281	-310	-319	-334	-345	-349	-342	-344	-346	-359	-357	-354	-355	-356	
	52.0	-369	-372	-346	-317	-264	-223	-198	-240	-254	-264	-286	-314	-318	-334	-345	-347	-340	-344	-345	-359	-356	-354	-353	-357	
	58.0	-370	-365	-343	-312	-260	-203	-216	-233	-261	-265	-290	-315	-320	-338	-346	-348	-340	-346	-360	-359	-356	-353	-357	-357	
	Ther..		80.0	79.7	79.7	80.0	80.7	81.6	82.5	82.3	81.5	81.7	81.7	81.7	81.7	81.6	81.3	81.2	81.3	81.3	81.4	81.1	81.0	80.9	80.6	80.5
	Barometer(uncorrected) = 29.0 +	in.	1.017	1.022	1.028	1.033	1.045	1.057	1.058	1.050	1.024	1.002	0.990	0.986	0.982	0.986	0.993	1.008	1.020	1.037	1.051	1.056	1.037	1.006	0.992	1.006
Attached Thermometer ..		78.2	78.0	78.0	78.3	79.0	79.8	79.9	81.2	80.6	80.6	80.6	81.0	81.0	80.9	80.2	80.1	80.3	80.5	80.3	80.4	80.0	79.5	80.6	79.3	
Dry do		79.9	78.8	78.8	79.1	80.0	81.0	82.0	80.9	80.8	81.0	81.3	81.3	81.1	81.1	82.8	82.9	81.2	81.0	80.8	80.5	80.0	80.0	80.0	80.0	
Wet do		76.2	75.7	75.6	76.4	77.3	78.4	78.9	77.4	77.6	78.0	78.0	78.0	77.6	78.0	78.1	78.0	78.0	78.1	78.0	77.7	77.1	76.7	76.5	76.6	
REMARKS ON THE WEATHER.	Cloudy Sky in 8ths.	0.	0.	7.	7.	5.	7.	7.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	8.	0.	0.	0.	0.	
	ZENITH.	clear	pt-cum, cum-stra	cum, cir-cum, stra	pt-cir-stra	pt-cum, stra	pt-ly-cum	cum, cum-stra	overcast	do	do	do	do	do	do	do	do	foggy	overcast	pt-overcast	overcast	do	clear	do	do	do
	HORIZON.	calm	pt-cum, cum-stra	cum, cir-cum, stra	pt-cir-stra	pt-cum, stra	pt-ly-cum	cum, cum-stra	overcast	do	do	do	do	do	do	do	do	calm	overcast	pt-overcast	overcast	do	clear	do	do	do
	Remarks	clear	pt-cum, cum-stra	cum, cir-cum, stra	pt-cir-stra	pt-cum, stra	pt-ly-cum	cum, cum-stra	overcast	do	do	do	do	do	do	do	do	foggy	overcast	pt-overcast	overcast	do	clear	do	do	do

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 20th September 1843. Gottingen Mean Time.

WEDNESDAY the 20th September 1843.

THURSDAY the 21st September 1843.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 P. M.

0 1 2 3 4 5 6 7 8 9

DECLINATION MAGNETOMETER.

Table with 2 columns (m. s.) and 34 columns of magnetic declination values for various times.

HORIZONTAL FORCE MAGNETOMETER.

Table with 2 columns (2.0 to 56.0) and 34 columns of horizontal force values.

VERTICAL FORCE MAGNETOMETER.

Table with 2 columns (4.0 to 58.0) and 34 columns of vertical force values.

Barometer(uncorrected) = 29.0 +

Table with 34 columns of barometer readings in inches.

Attached Thermometer...

Table with 34 columns of dry thermometer readings.

Dry do.

Table with 34 columns of wet thermometer readings.

Wet do.

Table with 34 columns of wet thermometer readings.

Cloudy Sky in 8ths.

Table with 34 columns of sky condition observations.

REMARKS ON THE WEATHER.

ZENITH.

HORIZON.

Table with 34 columns of weather remarks for Zenith and Horizon.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 18th October 1843. Gottingen Mean Time.

WEDNESDAY the 18th October 1843.

THURSDAY the 19th October 1843.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 P. M.

0 1 2 3 4 5 6 7 8 9

DECLINATION MAGNETOMETER.

m. s. sc.d.

Table of declination magnetometer readings for each hour from 0:00 to 54:00.

HORIZONTAL FORCE MAGNETOMETER.

2.0 8.0 14.0 20.0 26.0 32.0 38.0 44.0 50.0 56.0 Ther.

Table of horizontal force magnetometer readings for each hour and temperature.

VERTICAL FORCE MAGNETOMETER.

4.0 10.0 16.0 22.0 28.0 34.0 40.0 46.0 52.0 58.0 Ther.

Table of vertical force magnetometer readings for each hour and temperature.

Barometer (uncorrected) = 29.0 +

Table of uncorrected barometer readings for each hour.

Attached Thermometer..

Table of attached thermometer readings for each hour.

Dry do.

Table of dry thermometer readings for each hour.

Wet do.

Table of wet thermometer readings for each hour.

Cloudy Sky in sths.

Table of cloudy sky observations in sths for each hour.

REMARKS ON THE WEATHER.

ZENITH. HORIZON.

Table of weather remarks for zenith and horizon for each hour.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 24th November 1843. Gottingen Mean Time.

FRIDAY the 24th November 1843.

SATURDAY the 25th November 1843.

Gottingen Mean Time.

Table with columns for Declination Magnetometer (m. s.) and values for hours 10-23 on Friday and 0-9 on Saturday.

Table with columns for Horizontal Force Magnetometer (m. s.) and values for hours 10-23 on Friday and 0-9 on Saturday.

Table with columns for Vertical Force Magnetometer (m. s.) and values for hours 10-23 on Friday and 0-9 on Saturday.

Table with columns for Barometer (uncorrected) and Attached Thermometer (Dry, Wet) with values for hours 10-23 on Friday and 0-9 on Saturday.

Table with columns for Remarks on the Weather (Zenith, Horizon) and Cloudy Sky in Ellips. with descriptive text for each hour.



SINGAPORE, 1844.

MAGNETICAL OBSERVATIONS.

SINGAPORE 1844. MAGNETICAL OBSERVATIONS.

a. (1 + H/F) = 40.7 x 1.000311 = 40.7127

Zero.. January.. 43.3

Zero.. February.. 43.3

a. = 1.36 47 East of North.

DECLINATION MAGNETOMETER.

Table with columns for 'Gottingen Mean Time', 'Singapore Mean Time', 'Hourly Means', 'Declination = 1.30+', 'Diurnal Oscillations', and 'Observations of the Declination Magnetometer' for January and February 1844. Includes numerical data for 24 hours per day and summary statistics.

$$a. \left(1 + \frac{H}{F}\right) = 40.7'' \times 1.000311 = 40.7127''$$

Zero.. March..43.3

Zero.. April..43.3

a. = 1°36'47" East of North.

DECLINATION MAGNETOMETER.

Göttingen Mean Time.		Noon. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23																							Daily and Monthly Means.	Declination 0' 1 30 +		
Singapore Mean Time.		h.m. h.m.																										
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. MARCH 1844.		1	44.0	43.2	43.0	42.9	42.7	43.0	43.0	43.0	43.0	43.0	43.0	42.3	41.7	41.4	42.0	42.7	43.0	44.2	45.4	45.4	46.1	45.3	44.9	43.4	6.51	
		2	43.2	43.0	42.6	41.9	42.4	43.0																			42.8	6.26
		3						42.7	42.5	43.0	42.7	42.4	42.4	42.8	41.4	40.6	40.7	41.7	42.1	43.7	45.0	44.8	45.2	44.3	43.9		43.1	6.38
		4	43.3	43.4	42.9	41.6	42.4	42.4	42.5	42.4	42.2	42.1	42.4	42.1	42.5	40.7	41.7	42.5	44.0	45.0	45.0	44.4	45.2	45.3	44.2	44.1	43.1	6.38
		5	43.5	43.2	42.7	41.7	42.5	42.5	42.5	42.5	42.2	42.2	43.4	43.6	44.0	42.2	40.5	41.4	42.7	43.2	43.9	45.0	45.5	45.0	45.0	44.7	42.8	6.26
		6	43.6	43.2	42.2	42.0	42.4	41.8	42.5	42.6	42.5	42.3	42.5	42.3	42.5	42.1	41.0	40.4	40.3	41.7	43.6	45.2	44.9	45.3	45.1	45.1	42.9	6.30
		7	43.6	42.6	42.5	41.9	42.7	43.0	43.0	43.0	43.4	43.0	42.5	43.6	42.2	39.9	40.1	41.2	42.2	44.2	44.0	44.1	44.0	44.1	44.5	44.0	42.9	6.30
		8	43.1	43.0	42.7	42.8	42.3	43.0	43.1	43.0	43.2	42.7	42.4	42.3	42.6	40.4	39.4	40.3	41.3	42.8	44.1	42.4	44.0	44.0	43.9	43.3	42.6	6.18
		9	43.0	43.0	43.0	42.8	42.7	43.0																			42.8	6.26
		10							43.0	43.1	42.8	43.0	42.4	42.4	42.4	42.3	42.0	41.6	42.4	43.2	43.3	43.1	43.1	43.0	43.1	43.6	42.8	6.26
		11	43.3	42.8	42.9	42.8	42.7	42.5	42.5	42.3	42.5	42.4	42.3	42.3	42.5	42.1	41.7	41.3	41.7	42.0	41.7	42.2	42.2	42.7	42.9	43.1	42.4	6.10
		12	43.4	42.6	43.1	42.7	42.5	42.1	42.9	42.9	42.9	42.8	42.3	42.8	42.9	43.0	42.1	42.1	43.4	43.8	44.1	44.4	44.3	44.4	43.8	43.3	43.1	6.38
		13	43.1	42.6	42.4	42.6	42.1	42.2	42.3	42.4	42.1	42.3	42.5	42.1	42.2	41.6	41.7	42.6	43.9	44.8	45.2	45.3	45.5	45.6	44.6	43.9	43.1	6.38
		14	42.9	42.7	42.8	42.4	42.3	42.0	42.4	42.4	42.4	42.0	42.1	41.6	41.3	40.9	40.4	41.1	42.7	44.0	44.8	44.9	44.9	45.1	44.0	43.5	42.7	6.22
		15	43.4	43.7	43.0	42.9	42.8	42.2	42.1	42.1	41.7	41.7	41.5	41.6	41.4	40.9	40.6	41.5	43.0	44.2	44.1	44.4	44.7	44.3	43.5	42.9	42.7	6.22
		16	42.9	42.7	42.7	42.2	42.1	42.0																			42.6	6.18
		17							42.2	42.2	42.1	42.7	41.6	41.4	40.6	40.6	39.6	40.6	42.6	44.0	45.0	46.0	45.6	45.0	43.6	42.8	42.6	6.18
		18	42.7	42.6	42.5	42.2	42.1	42.4	42.4	42.3	42.7	43.0	42.3	41.8	41.5	40.9	40.0	40.1	41.1	43.8	45.0	45.0	44.9	43.9	44.0	43.9	42.6	6.18
		19	42.6	42.7	42.1	42.0	42.2	42.4	42.3	42.0	41.8	42.4	41.8	41.5	41.0	40.7	40.1	40.2	41.9	43.0	44.3	44.8	44.6	44.2	43.6	43.2	42.4	6.10
		20	42.9	42.6	42.5	42.4	42.1	42.0	42.6	42.4	42.3	42.6	42.3	42.8	42.9	42.5	41.1	41.0	42.0	42.9	43.5	43.9	44.2	44.8	44.0	43.7	42.7	6.22
		21	43.0	43.0	43.0	42.7	42.6	42.5	42.4	42.4	42.5	42.3	42.1	42.1	41.6	41.4	39.8	40.2	41.6	42.5	43.0	44.1	44.5	45.2	44.5	44.2	42.6	6.18
		22	43.4	42.3	42.1	42.2	42.0	42.0	41.9	42.5	42.7	42.6	42.3	42.1	42.0	42.5	42.0	41.9	42.2	43.0	43.0	43.4	44.1	44.3	44.0	43.6	42.7	6.22
		23	42.8	42.5	42.6	42.2	42.2	42.3																			42.2	6.02
		24							42.9	42.5	42.2	42.5	42.2	42.3	42.0	41.7	41.1	40.3	40.5	40.8	40.7	42.0	43.0	44.0	44.1	43.9	42.5	6.14
		25	43.1	43.0	42.7	42.7	42.4	42.4	42.7	42.7	42.9	42.1	42.5	42.4	42.6	42.1	41.7	41.1	41.6	42.0	42.1	42.8	42.9	42.8	43.1	43.7	42.5	6.14
		26	43.5	42.9	42.3	42.4	42.2	42.6	42.6	42.3	42.2	42.1	41.8	42.2	42.5	43.0	42.1	41.2	40.6	40.5	40.1	40.9	42.1	43.2	43.5	43.8	42.2	6.02
		27	43.4	42.9	42.4	42.5	42.3	42.2	42.9	42.5	42.4	42.5	42.7	42.6	42.2	41.9	41.7	41.8	42.4	42.8	43.0	43.0	44.1	44.0	43.8	44.1	42.7	6.22
		28	44.0	43.0	42.6	42.5	42.5	42.4	42.8	43.0	42.7	42.5	42.2	42.5	42.6	42.0	41.4	41.2	41.6	42.0	42.6	43.0	43.1	44.0	43.0	43.3	42.6	6.18
		29	42.9	42.3	42.5	42.4	42.8	42.4	42.6	42.9	42.6	42.9	43.0	41.6	42.5	44.1	42.9	42.5	42.0	41.3	43.0	41.5	42.8	43.5	43.0	41.3	42.5	6.14
		30	43.6	43.0	42.1	42.1	42.1	42.3																			42.6	6.18
		31	..	..	..	..	..	..	43.0	43.0	42.9	43.3	42.7	43.1	42.8	42.3	41.2	40.7	41.0	42.1	43.0	42.7	43.0	43.6	44.2	43.9	42.6	6.18
		Hourly Means....		43.2	42.9	42.6	42.3	42.4	42.4	42.6	42.5	42.5	42.5	42.3	42.3	42.2	41.7	41.0	41.2	42.1	42.9	43.5	43.8	44.1	44.3	43.9	43.6	42.7	6.22
Declination = 1.30 +		6 42	6 30	6 18	6 06	6 10	6 10	6 18	6 14	6 14	6 14	6 06	6 06	6 02	5 41	5 13	5 21	5 58	6 30	6 55	7 07	7 19	7 27	7 11	6 59	6 32		
Diurnal Oscillations		1 29	1 17	1 05	0 53	0 57	0 57	1 05	1 01	1 01	1 01	0 53	0 53	0 49	0 28	0	0 08	0 45	1 17	1 42	1 54	2 06	2 14	1 58	1 46	1 09		
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. APRIL 1844.		1	43.0	43.2	42.8	42.1	43.0	42.1	43.0	42.9	43.0	42.2	43.2	42.9	43.1	43.3	42.4	41.5	41.7	41.9	41.8	41.2	42.5	43.1	43.7	43.6	42.6	6.18
		2	43.2	42.8	42.6	42.6	42.6	43.0	42.0	42.9	42.9	43.0	42.9	42.9	43.0	42.4	42.0	42.1	43.0	43.9	43.2	43.1	43.6	44.1	43.2	42.9	42.9	6.30
		3	43.0	42.5	42.4	42.5	41.4	42.0	41.9	41.6	42.5	42.2	42.0	42.1	42.7	42.3	41.4	41.0	42.0	42.0	43.0	43.9	44.2	44.0	43.1	43.0	42.4	6.10
		4	42.1	43.1	42.6	42.8	42.4	42.1																			42.7	6.22
		5							42.7	42.1	42.5	42.8	42.1	42.4	42.5	43.2	41.9	41.5	42.0	43.7	43.5	43.8	43.4	43.8	43.4	43.3	42.7	6.22
		6	43.1	42.8	42.7	42.6	42.6	42.5																			42.9	6.30
		7							42.9	43.0	42.9	43.1	43.0	42.8	43.3	43.1	42.2	51.8	42.0	42.2	42.9	43.9	43.8	43.7	43.8	43.3	42.9	6.30
		8	43.0	43.0	42.8	42.5	42.3	42.6	42.7	42.8	42.9	42.6	42.5	42.6	42.5	42.2	41.8	42.0	42.5	43.0	43.8	44.1	44.1	43.8	44.0	43.5	42.9	6.30
		9	42.6	42.3	42.3	42.1	42.4	42.5	42.5	42.6	42.5	42.5	42.1	42.5	43.0	43.0	42.5	41.3	41.1	42.0	43.1	44.5	44.5	44.0	44.0	43.0	42.7	6.22
		10	43.4	43.1	43.0	42.5	41.9	42.8	43.0	43.0	42.8	42.0	42.0	42.2	42.3	41.6	40.2	40.0	40.7	41.0	41.7	42.5	43.0	43.1	42.6	42.4	42.2	6.02
		11	43.0	43.0	42.4	42.6	42.5	42.3	42.9	43.0	42.9	43.0	42.7	42.3	41.5	41.9	41.0	40.5	41.1	42.4	43.5	44.0	44.1	43.9	43.4	42.5	42.6	6.18
		12	42.5	42.1	42.7	42.9	42.5	42.9	43.0	43.0	43.1	43.0	42.9	42.8	43.4	42.5	41.8	41.7	41.0	41.7	42.0	42.2	42.6	43.1	43.4	43.7	42.6	6.18
		13	43.4	42.8	42.5	42.5	42.7	42.4																			42.7	6.22
		14							42.4	42.5	43.0	42.8	42.7	42.2	42.6	43.9	44.0	44.0	43.2	42.8	42.5	41.9	41.7	42.0	42.1	42.7	42.7	6.22
		15	43.1	43.5	43.3	42.9	43.0	42.9	43.1	43.3	43.1	43.3	42.5	42.0	43.0	42.0	41.4	40.9	40.4	42.0	42.8	43.7	43.4	43.6	44.0	44.0	42.8	6.26
		16	43.2	42.9	42.8	43.0	43.0	43.1	42.3	43.8	43.4	43.2	43.0	42.9	43.1	42.5	41.9	40.6	39.9	41.6	42.9	44.3	43.5	45.4	46.9	45.9	43.1	6.38
		17	45.0	43.8	42.7	40.0	42.4	42.8																				

SINGAPORE 1844. MAGNETICAL OBSERVATIONS.

$$a. \left(1 + \frac{H}{F}\right) = 40'' \cdot 7 \times 1\cdot000311 = 40'' \cdot 7127$$

$$a = 1'' \cdot 36 \cdot 47 \text{ East of North.}$$

Zero.. May.. 43° 3

Zero.. June.. 43° 3

DECLINATION MAGNETOMETER.

		Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Declination o / ' +				
Gottingen Mean Time.																															
Singapore Mean Time.		h.m. 6'16	h.m. 7'16	h.m. 8'16	h.m. 9'16	h.m. 10'16	h.m. 11'16	h.m. 12'16	h.m. 13'16	h.m. 14'16	h.m. 15'16	h.m. 16'16	h.m. 17'16	h.m. 18'16	h.m. 19'16	h.m. 20'16	h.m. 21'16	h.m. 22'16	h.m. 23'16	h.m. 0'16	h.m. 1'16	h.m. 2'16	h.m. 3'16	h.m. 4'16	h.m. 5'16						
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. MAY 1844.		sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.			
		1	42·4	43·3	42·9	42·9	43·0	43·2	43·6	44·0	43·8	44·0	44·7	44·9	45·9	45·2	44·2	43·2	43·0	42·2	42·2	42·7	42·9	42·8	43·4	43·9	43·5		6·55		
		2	43·7	42·6	42·5	42·3	42·4	42·9	43·1	43·2	43·5	43·6	44·4	45·0	45·3	45·1	44·0	43·4	43·1	42·1	42·2	43·0	42·8	43·0	43·4	43·8	43·3		6·47		
		3	42·7	42·4	42·2	42·6	41·7	42·5	43·0	43·2	43·4	43·5	43·3	43·3	44·5	44·4	43·5	42·5	42·4	43·1	43·0	43·1	43·8	43·8	43·7	43·3	43·1		6·38		
		4	43·0	42·8	42·9	42·8	42·9	43·0		
		5		
		6	43·2	42·6	42·5	42·4	42·1	42·2	42·9	43·3	42·8	43·3	42·9	43·0	43·3	43·7	42·7	42·5	42·0	41·3	41·0	40·9	41·1	42·1	43·0	43·2	42·5		6·14		
		7	43·0	43·0	43·0	42·8	43·0	42·9	43·2	43·4	43·3	43·4	42·5	42·8	43·9	44·2	43·4	43·3	44·0	43·3	42·2	42·0	43·0	42·1	42·5	42·2	43·0		6·34		
		8	42·3	42·0	42·1	42·6	42·0	42·9	43·0	43·6	43·5	44·0	44·0	44·5	45·0	44·9	43·5	42·1	41·3	40·2	40·0	40·8	41·2	41·3	43·1	42·9	42·6		6·18		
		9	42·0	42·5	43·0	42·4	42·6	42·8	43·3	43·3	43·3	43·2	43·3	43·3	43·4	44·1	44·6	43·7	42·1	40·8	39·1	38·9	39·0	39·5	41·1	42·7	42·8	42·2		6·02	
		10	42·5	42·5	42·6	42·9	43·0	42·9	42·8	42·9	43·0	43·1	43·0	43·3	44·1	44·5	45·9	42·6	41·4	39·8	39·3	40·1	41·5	43·2	44·0	43·8	42·6		6·18		
		11	43·5	43·0	42·9	42·3	42·3	42·5		
		12		
		13	42·7	43·0	42·5	42·7	42·5	43·0	43·4	44·0	43·7	43·8	43·7	43·8	45·0	45·0	44·4	43·6	43·2	42·9	43·4	42·7	41·5	43·0	44·0	44·0	43·4		6·51		
		14	42·8	42·9	42·0	42·1	43·2	42·9	43·0	43·4	43·9	43·4	43·5	43·6	43·9	43·7	43·5	42·2	42·3	42·2	42·7	44·0	44·0	44·0	44·0	43·0	43·2		6·42		
		15	42·2	42·0	42·5	42·7	42·3	42·7	42·8	43·0	43·3	43·4	43·5	43·4	43·5	43·4	44·2	44·4	43·4	42·6	42·8	43·0	43·1	43·0	42·5	42·4	43·0	42·4		6·30	
		16	42·7	42·9	42·7	42·2	42·7	43·0	43·1	43·5	42·8	43·3	43·4	42·9	43·0	44·2	43·9	42·9	42·7	42·6	41·9	41·5	41·1	42·1	43·3	43·6	42·7	42·8		6·26	
		17	42·5	42·4	42·8	42·4	42·3	42·8	42·9	42·9	42·9	43·1	43·0	43·3	44·2	44·4	44·0	43·2	42·7	42·1	42·4	42·9	42·9	43·2	43·1	43·2	43·0	43·0		6·34	
		18	43·2	42·6	42·2	42·4	42·4	42·5		
		19		
		20	42·6	42·3	42·3	42·2	42·2	42·4	42·6	42·7	43·0	43·3	43·3	43·4	44·3	44·6	43·7	42·6	42·2	42·0	42·4	42·9	43·0	42·9	43·0	42·1	42·8		6·26		
		21	42·3	42·2	41·9	42·0	42·1	42·7	42·9	43·1	43·8	44·0	44·0	43·5	44·5	44·7	43·7	42·2	41·6	40·9	40·9	41·3	42·6	43·0	42·1	41·5	42·6		6·18		
		22	42·0	42·1	42·0	42·0	42·3	42·6	43·3	44·1	44·2	44·0	45·2	44·5	43·3	48·7	44·2	43·7	43·4	43·5	42·8	42·5	42·0	42·0	42·0	42·0	42·1	42·1		6·47	
		23	41·7	42·0	42·0	41·8	42·5	42·8	43·4	43·3	43·3	43·4	43·5	44·0	44·7	44·7	44·2	42·9	41·6	40·9	41·5	42·5	43·4	43·6	43·1	42·1	42·9		6·30		
		24	41·7	42·8	42·0	42·7	42·7	43·3	43·0	43·0	44·0	44·0	44·1	43·9	44·0	44·8	44·0	43·1	41·9	40·6	39·6	40·9	43·0	42·9	42·7	42·1	42·8		6·26		
		25	42·3	42·8	42·8	42·9	42·9	42·9		
		26		
		27	43·0	42·6	42·5	42·6	43·0	43·5	43·6	44·4	43·9	44·0	43·9	44·5	45·4	43·7	42·2	42·0	41·4	41·9	41·3	42·0	43·0	43·4	42·7	43·0	43·0		6·34		
		28	42·5	41·4	41·5	42·5	42·5	42·5	42·9	43·4	43·9	43·5	43·1	43·3	44·0	44·5	44·2	43·4	42·9	42·0	41·8	42·6	43·6	44·0	43·1	42·6	43·0		6·34		
		29	42·7	42·5	42·7	42·5	42·6	43·2	43·2	43·4	43·8	44·0	44·3	43·6	44·6	44·8	44·2	42·9	41·6	40·2	40·2	41·2	42·9	43·7	44·0	43·0	43·0		6·34		
		30	42·4	42·0	42·0	42·1	42·6	42·9	43·0	43·5	43·6	43·4	43·4	43·4	44·3	44·3	43·7	43·0	42·6	41·8	42·3	43·0	43·8	43·8	43·8	43·1	43·0		6·18		
		31	42·5	42·4	42·2	42·4	42·4	42·6	43·0	43·0	43·3	43·4	43·9	43·9	45·0	44·8	43·7	42·7	42·5	42·0	41·5	42·1	42·7	43·0	42·1	42·0	42·9		6·30		
Hourly Means....		42·6	42·5	42·4	42·4	42·5	42·8	43·1	43·3	43·5	43·5	43·6	43·7	44·4	44·9	43·8	42·9	42·3	41·8	41·7	42·0	42·5	42·9	43·2	42·8	43·0		6·33			
Declination = 1° 30' + Diurnal Oscillations		6 18	6 14	6 10	6 10	6 14	6 26	6 38	6 47	6 55	6 55	6 59	7 03	7 31	7 52	7 07	6 30	6 06	5 46	5 41	5 54	6 14	6 30	6 42	6 26	6 33		6 33			
		0 37	0 33	0 29	0 29	0 33	0 45	0 57	1 06	1 14	1 14	1 18	1 22	1 50	2 11	1 26	0 49	0 25	0 05	0	0 13	0 33	0 49	1 01	0 45	0 52		0 52			
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. JUNE 1844.		sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.		
		1	42·2	42·5	42·4	42·1	42·1	42·7	
		2
		3	43·0	42·2	42·1	42·2	42·8	42·8	43·0	43·0	43·3	43·5	44·0	45·0	45·0	44·0	42·7	41·5	41·5	41·8	43·1	44·1	44·0	43·8	42·6	43·1	43·1		6·38		
		4	42·3	42·6	42·6	42·5	42·2	42·4	42·7	42·8	42·9	43·0	43·3	43·0	43·9	44·8	44·0	43·4	43·0	42·1	42·4	43·5	44·7	45·2	43·7	43·0	43·1		6·38		
		5	42·3	42·3	42·0	42·3	42·2	42·1	42·6	42·9	42·7	43·5	43·0	43·2	44·1	44·0	42·9	41·6	41·4	41·1	41·9	42·9	43·0	43·1	43·3	43·0	42·6		6·18		
		6	42·4	42·4	42·3	42·1	42·2	42·3	42·9	43·0	43·0	43·3	43·3	43·6	44·5	44·5	43·5	42·1	41·6	41·6	40·9	42·5	42·8	43·1	42·6	42·0	42·7		6·22		
		7	42·5	42·5	42·4	42·5	42·4	43·0	43·0	43·1	43·3	43·4	43·1	43·2	44·1	44·4	43·3	42·7	41·9	42·4	41·9	42·1	42·0	42·4	41·9	41·8	42·7		6·22		
		8	43·0	42·7	42·5	42·5	42·9	42·9		
		9		
		10	42·6	42·0	41·5	41·9	42·3	42·8	43·1	43·3	43·1	43·6	43·0	43·0	44·1	43·7	43·0	42·0	41·4	41·4	42·0	42·1	42·2	43·0	42·9	42·8	42·6		6·18		
		11	42·5	42·4	42·2	42·5	42·3	42·5	43·0	43·1	43·0	43·5	43·0	43·3	43·2	43·5	42·9	42·0	41·5	41·6	41·8	42·6	43·0	43·1	42·9	42·3	42·6		6·18		
		12	42·2	42·1	42·2	42·0	42·0	41·8	42·5	42·																					

SINGAPORE 1844. MAGNETICAL OBSERVATIONS.

$a. (1 + \frac{H}{F}) = 40.7 \times 1.000311 = 40.7127$

Zero.. July.. 43.3

Zero.. August.. 43.3

$a. = 1^{\circ}36'47''$ East of North.

DECLINATION MAGNETOMETER.

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Declination 0 / 1:30+		
Singapore Mean Time.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	
	6:16	7:16	8:16	9:16	10:16	11:16	12:16	13:16	14:16	15:16	16:16	17:16	18:16	19:16	20:16	21:16	22:16	23:16	0:16	1:16	2:16	3:16	4:16	5:16				
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. JULY 1844.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.		
	1	42.5	42.3	42.0	42.0	42.0	42.1	42.2	42.4	42.9	42.6	43.1	43.4	43.5	42.9	42.5	43.0	43.7	44.2	44.2	43.9	43.4	42.9	41.4	42.8	6:26		
	2	42.7	42.0	42.3	41.8	42.0	42.1	42.0	42.1	42.4	42.9	42.6	42.7	44.0	44.8	43.9	42.8	42.4	41.9	42.3	41.6	41.9	42.7	43.0	42.9	42.5	6:14	
	3	42.5	42.2	42.0	41.8	41.7	41.9	41.8	42.4	42.0	42.5	42.4	44.1	45.1	44.0	42.8	41.5	40.9	40.9	41.7	42.9	43.0	42.8	42.9	42.4	42.6	6:10	
	4	41.9	41.6	41.9	42.0	42.0	42.5	42.8	43.1	42.6	43.1	43.0	42.8	44.1	44.7	44.6	43.3	42.3	41.3	40.6	41.4	42.0	42.8	43.1	42.5	42.7	6:18	
	5	41.7	41.8	41.9	42.0	42.1	42.3	42.6	42.8	42.9	43.0	42.8	42.9	43.6	44.3	43.1	42.5	42.5	42.6	43.6	42.8	43.1	43.0	43.0	42.1	42.7	42.7	6:22
	6	41.7	42.0	41.8	41.8	42.3	42.4																					
	7							42.9	43.7	44.0	44.5	43.8	44.8	44.9	44.0	43.5	42.6	41.9	42.1	43.2	43.2	42.9	42.5	42.1	42.0		42.9	6:30
	8	41.7	41.9	41.3	41.5	41.7	41.5	42.0	42.2	42.5	42.6	42.5	42.3	43.6	44.2	43.4	43.2	43.0	43.4	43.7	43.9	44.1	44.0	42.3			42.7	6:22
	9	42.0	41.8	41.8	41.9	41.9	42.1	42.1	42.0	42.3	42.5	42.7	43.0	43.4	44.5	44.4	44.0	43.6	43.2	42.3	42.1	43.2	43.8	43.6	42.2		42.7	6:22
	10	42.3	42.6	42.0	42.0	41.8	42.1	42.5	42.4	42.8	42.7	42.9	43.0	44.0	43.6	43.5	43.0	43.2	43.3	42.6	42.9	42.2	42.5	42.7	43.0		42.7	6:22
	11	42.7	42.2	42.0	42.9	42.0	42.3	42.9	43.0	43.2	43.2	43.5	43.6	44.0	44.4	43.6	43.4	42.5	42.4	41.5	42.1	42.1	43.3	43.9	43.0		42.9	6:30
	12	42.4	42.3	42.0	42.0	41.9	42.0	42.0	42.3	42.4	42.6	42.9	43.5	44.0	43.8	42.6	41.6	40.1	39.8	39.3	39.4	40.8	42.4	43.3	42.9		42.0	5:54
	13	42.1	41.9	41.9	42.0	41.5	42.0																					
	14							42.9	43.0	43.0	43.1	43.4	43.5	44.5	45.0	43.9	42.8	41.9	41.1	41.1	42.4	44.0	44.3	43.2	42.7		42.8	6:26
	15	42.1	41.9	41.5	41.8	41.7	42.0	41.9	42.7	42.9	43.9	43.9	44.0	44.4	44.8	43.4	40.5	39.4	39.3	40.8	42.0	42.5	43.2	43.1	42.3		42.3	6:06
	16	41.6	41.6	41.6	41.9	41.8	42.2	42.5	42.9	42.7	43.5	43.4	43.5	43.9	44.8	43.1	41.6	41.5	41.7	42.4	43.3	43.1	43.0	42.9	42.9		42.6	6:18
	17	42.4	42.0	42.0	42.0	42.1	42.4	42.5	42.6	43.3	43.0	43.5	43.9	44.7	44.8	43.1	42.0	42.0	41.7	42.0	42.0	42.0	41.3	40.9	41.0		42.5	6:14
	18	40.8	41.2	41.3	41.7	42.3	42.1	42.9	43.0	43.1	43.2	43.1	42.9	43.5	44.5	44.1	43.0	42.9	43.1	42.9	42.8	42.7	43.0	43.0	42.6		42.7	6:22
	19	42.5	42.1	42.2	42.1	42.3	42.6	42.6	42.8	42.9	43.0	43.0	43.2	43.7	43.7	43.5	42.7	43.0	43.3	43.4	42.5	42.5	42.8	42.8	43.0		42.8	6:26
	20	42.9	42.1	42.0	41.6	42.3	42.4																					
	21							42.5	42.9	43.4	43.7	43.1	43.3	43.8	44.2	43.2	42.2	42.6	43.0	41.9	44.0	44.6	43.6	42.5	42.0		42.9	6:30
	22	41.6	42.0	42.0	42.0	42.0	42.2	42.7	42.9	43.0	43.2	43.1	43.1	43.4	43.3	42.1	41.2	40.6	41.0	41.6	43.0	44.0	44.0	43.5	43.0		42.5	6:14
	23	42.2	42.0	41.9	42.0	42.5	42.5	43.0	43.0	43.4	43.3	43.1	42.9	44.6	45.0	43.9	41.9	41.2	40.9	40.1	40.5	40.9	41.4	41.5	41.5		42.3	6:06
	24	41.8	42.1	42.1	42.3	42.6	42.8	42.8	42.6	43.1	43.4	43.4	43.7	44.5	44.2	43.0	41.5	40.9	40.9	42.1	44.1	44.9	44.5	44.5	44.6		42.3	6:34
	25	43.3	42.5	42.1	41.2	41.2	40.9	42.0	42.3	42.8	42.3	43.4	42.7	44.0	44.8	43.6	42.5	41.2	40.4	40.6	41.9	41.5	42.7	43.3	43.9		42.4	6:10
	26	43.0	42.0	42.2	42.0	42.0	42.0	42.1	42.2	43.0	43.0	43.3	43.6	44.1	40.9	41.4	40.2	40.1	41.3	42.6	43.5	43.4	44.0	45.3	44.5		42.5	6:14
	27	43.2	42.5	42.5	41.8	42.1	42.2																					
	28							42.8	43.0	43.0	43.1	43.2	44.0	44.4	43.9	42.6	41.7	40.8	40.8	41.9	43.7	43.9	45.1	44.4	42.9		42.9	6:30
	29	42.5	42.5	42.3	42.7	42.3	42.6	42.6	42.6	43.1	43.1	43.0	43.4	44.7	44.1	43.0	40.9	40.2	40.1	40.4	41.1	43.1	43.9	43.6	43.4		42.5	6:14
	30	43.0	42.4	42.5	41.9	42.2	42.3	42.3	42.6	42.7	43.2	43.1	43.6	44.2	45.9	44.6	43.0	41.4	41.1	41.0	41.3	41.5	42.1	43.3	44.0		42.7	6:22
31	43.3	42.8	42.0	42.5	41.9	42.3	42.2	42.9	43.2	43.9	43.6	44.5	46.6	47.1	45.2	42.9	41.4	41.5	40.8	41.5	42.3	42.9	43.7	43.5		43.1	6:38	
Hourly Means...	42.3	42.1	42.0	42.0	42.0	42.1	42.4	42.7	42.9	43.1	43.1	43.3	44.1	44.3	43.4	42.3	41.7	41.7	41.8	42.4	42.8	43.1	43.2	42.8		42.6	6:20	
Declination = 1:30+	6 06	5 58	5 54	5 54	5 54	5 58	6 10	6 22	6 30	6 38	6 38	6 47	7 19	7 27	6 51	6 06	5 41	5 41	5 46	6 10	6 26	6 38	6 42	6 26		6 20		
Diurnal Oscillations	0 25	0 17	0 13	0 13	0 13	0 17	0 29	0 41	0 49	0 57	0 57	1 06	1 38	1 46	1 10	0 25	0	0	0 05	0 29	0 45	0 57	1 01	0 45		0 39		
OBSERVATIONS OF THE DECLINATION MAGNETOMETER. AUGUST 1844.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.		
	1	42.7	41.9	41.3	41.0	41.2	42.0	42.6	42.1	43.6	42.6	43.0	44.8	45.5	46.1	44.1	42.2	40.3	40.4	40.9	42.0	41.1	44.0	44.5	45.6		42.7	6:22
	2	43.3	43.0	42.6	43.0	42.5	42.5	42.9	43.1	43.3	42.7	43.4	44.2	44.5	45.1	43.5	40.9	39.9	39.9	40.9	42.4	44.0	45.5	44.5	44.0		43.0	6:34
	3	42.8	43.7	43.2	42.5	42.5	42.4																					
	4							43.0	42.9	43.0	42.9	43.5	43.5	44.5	44.2	42.5	40.6	40.7	40.7	41.0	41.9	43.4	45.3	45.5	44.4		42.9	6:30
	5	43.5	43.3	42.7	42.4	41.8	42.5	42.8	43.0	42.8	42.9	43.3	43.4	43.8	44.6	43.9	43.0	42.0	43.0	44.0	44.3	44.5	44.6	44.4	44.5		43.4	6:51
	6	43.3	43.3	43.0	42.9	42.7	42.7	43.0	43.0	43.0	43.3	42.7	43.4	44.9	44.9	43.2	41.7	40.9	41.6	42.8	43.7	43.8	43.6	44.1	44.0		43.1	6:38
	7	43.5	43.1	42.9	42.8	42.8	43.0	42.6	42.6	42.7	42.9	43.0	43.4	43.2	44.1	44.9	43.5	42.2	40.5	40.7	40.9	41.6</						

a. (1 + H/F) = 40.7'' x 1.000311 = 40.7127''

Zero... 43.3

a. = 1.36.47 East of North.

DECLINATION MAGNETOMETER.

Table with columns for 'Gottingen Mean Time', 'Singapore Mean Time', 'Hourly Means', 'Declination', and 'Diurnal Oscillations'. It contains two main sections: 'OBSERVATIONS OF THE DECLINATION MAGNETOMETER' for August and September 1844, and another for October 1844. Each section lists magnetic declination values for 24 hours of the day.

a. (1 + H/F) = 40.7 x 1.000311 = 40.7127

Zero...43.3

a. = 1.36.47 East of North.

DECLINATION MAGNETOMETER.

Table with columns for 'OBSERVATIONS OF THE DECLINATION MAGNETOMETER.' (NOVEMBER 1844 and DECEMBER 1844), 'Hourly Means...', 'Declination = 1.30 + Diurnal Oscillations', and 'Daily and Monthly Means.' and 'Declination'. Includes sub-headers for 'Gottingen Mean Time' and 'Singapore Mean Time'.

SINGAPORE 1844. MAGNETICAL OBSERVATIONS.

k = a. cot v = .0003136 x cot 58° 10' 30" = .0001946
q = .0002142

q/k = .0002142 / .0001946 = 1.1007

Zero = sc. d. 101.4 ther. 80.0

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected)

Table with columns for time (Noon to 23), horizontal force magnetometer readings (sc.d.), temperature magnetometer readings (sc.d.), and various correction factors (Temp. Corr., Corrected Means, etc.). Includes sub-sections for 'HORIZONTAL FORCE MAGNETOMETER. JANUARY 1844.' and 'TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. JANUARY 1844.'

SINGAPORE 1844. MAGNETICAL OBSERVATIONS.

k = a. cot v = .0003136 x cot 58° 10' 30" = .0001946
q. = .0002142

q/k = .0002142 / .0001946 = 1.1007

Zero = 101.4 sc. d. ther. 80.0

HORIZONTAL FORCE MAGNETOMETER.-(uncorrected.)

Table with columns: Gottingen Mean Time, Singapore Mean Time, Noon, 1-23, Daily and Monthly Means, Temp. Corr., Corrected Means, and Delta X / X. Rows include hourly data for February 1844.

Summary table for Horizontal Force Magnetometer with rows: Hourly Means, Temp. Correction, Corrected Means, Differences, and Diurnal Oscillation.

Table for TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. Columns include hourly data for February 1844 and summary means.

Means.

80.5 80.3 80.0 79.9 79.7 79.7 79.5 79.3 79.1 79.0 79.0 78.8 78.7 78.7 78.9 79.3 79.8 80.2 80.5 80.7 80.8 80.9 80.8 80.7

79.8

$k = a. \cot v = .0003136 \times \cot 58^\circ 10' 30'' = .0001946$
 $q = .0002142$

$\frac{q}{k} = \frac{.0002142}{.0001946} = 1.1007$

$\text{Zero} = 101.4 \dots \dots \text{ther. } 80.0$

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$1 + \frac{\Delta X}{X}$			
Singapore Mean Time.	h.m. 6-16	h.m. 7-16	h.m. 8-16	h.m. 9-16	h.m. 10-16	h.m. 11-16	h.m. 12-16	h.m. 13-16	h.m. 14-16	h.m. 15-16	h.m. 16-16	h.m. 17-16	h.m. 18-16	h.m. 19-16	h.m. 20-16	h.m. 21-16	h.m. 22-16	h.m. 23-16	h.m. 0-16	h.m. 1-16	h.m. 2-16	h.m. 3-16	h.m. 4-16	h.m. 5-16	sc.d.	sc.d.	sc.d.	1'00			
HORIZONTAL FORCE MAGNETOMETER. APRIL 1844.	1	63.8	63.9	64.9	61.2	64.1	61.9	61.8	63.0	63.1	62.0	62.0	61.6	61.6	61.1	58.9	58.2	56.0	58.1	59.3	60.9	63.7	64.3	65.7	65.7	61.9	-1.1	60.8	7901		
	2	63.6	62.8	62.5	62.9	62.2	64.0	60.4	62.0	62.3	62.4	61.9	61.1	60.8	59.0	57.2	55.6	55.9	57.4	59.3	61.0	63.9	68.7	70.6	67.7	61.9	-1.2	60.7	7920		
	3	64.3	63.1	63.4	64.0	63.9	66.9	63.6	59.9	61.6	62.0	62.2	61.6	61.1	60.1	58.4	58.4	59.0	58.0	59.6	60.4	61.8	63.8	65.1	66.5	62.0	-1.4	60.6	7940		
	4	64.3	64.9	65.0	64.6	63.1	62.8																								
	5							62.5	62.0	61.0	59.8	59.8	59.7	59.7	59.0	56.6	56.1	56.4	56.2	57.7	58.5	58.6	59.6	61.1	62.8	60.5	-1.5	59.0	8251		
	6	63.4	63.4	63.0	63.1	63.0	62.3																								
	7							62.0	62.2	61.5	61.2	61.0	61.1	61.3	61.1	60.1	59.1	58.1	57.1	57.0	58.0	59.6	60.4	60.9	61.0	60.8	-1.4	59.4	8173		
	8	60.8	60.6	61.1	61.1	60.6	60.5	60.1	59.5	59.0	59.4	59.2	59.5	59.0	58.5	57.0	55.0	53.2	53.4	54.1	55.4	56.3	57.8	58.2	58.1	58.2	-0.6	57.6	8524		
	9	58.1	58.2	59.1	59.9	59.6	59.6	59.4	58.1	56.9	56.6	57.0	57.5	56.9	56.1	54.5	52.9	50.7	50.4	52.3	54.5	56.5	57.5	58.7	59.9	56.7	0.1	56.8	8679		
	10	61.5	61.0	61.0	60.0	59.2	59.4	58.4	58.4	58.1	58.1	57.3	57.3	57.1	55.5	53.6	52.5	51.2	50.2	50.7	52.9	54.1	57.2	57.4	57.8	56.6	0.6	57.2	8601		
	11	58.7	59.3	59.2	59.5	59.9	59.8	59.5	59.3	59.0	58.9	58.5	58.4	58.0	56.9	55.0	52.4	51.3	52.5	52.8	54.0	56.1	56.3	55.9	56.5	57.0	0.3	57.3	8581		
	12	57.2	57.7	58.1	58.9	58.5	58.2	58.6	58.0	57.7	57.0	57.0	56.6	55.8	54.9	52.9	51.2	50.1	50.9	52.4	54.4	56.2	57.7	58.6	58.6	56.1	0.3	56.4	8757		
	13	58.7	58.6	58.5	58.7	58.5	58.6																								
	14							59.1	59.0	58.2	57.7	57.6	56.1	56.0	54.9	53.1	51.3	50.0	50.7	52.1	55.5	58.6	60.0	59.7	59.0	56.7	-0.0	56.7	8698		
	15	60.0	62.2	63.0	62.5	61.2	60.7	60.5	60.8	59.5	60.0	58.5	59.0	59.0	57.7	56.6	55.6	53.9	53.2	54.8	56.4	57.9	59.2	59.6	60.0	58.8	-0.2	58.6	8329		
	*16	60.0	59.5	59.3	59.9	60.5	61.1	61.3	60.5	60.0	59.9	59.9	59.0	58.4	57.1	55.4	54.9	54.8	54.3	57.0	59.7	68.4	75.9	82.3	85.1						
	*17	83.9	83.9	84.7	77.6	78.8	73.5	72.4	69.0	67.0	67.4	63.6	64.0	64.1	62.7	60.9		62.0	62.0	63.0	63.1	63.8	62.7	58.5	58.0	60.8	-2.0	58.8	8290		
	18	61.0	61.4	62.8	63.0	62.2	63.3	63.0	63.2	63.1	62.2	63.5	63.7	62.6	59.5	56.8	55.5	54.4	55.1	57.1	59.2	61.0	61.8	62.1	62.9	60.2	-2.3	57.9	8465		
	19	63.4	63.0	62.9	62.4	62.2	61.8	61.9	61.8	61.5	61.4	61.1	61.2	60.4	59.4	57.8	55.9	54.4	54.9	56.1	58.2	59.1	61.2	62.1	62.0	60.2	-2.3	57.9	8465		
	20	61.5	62.0	61.2	61.8	60.9	60.8																								
	21							60.0	59.9	59.2	59.1	58.5	58.4	57.5	57.3	56.1	54.0	52.0	52.0	53.1	55.4	57.2	58.4	59.5	59.9	58.1	-1.8	56.3	8776		
	22	60.1	60.3	60.0	60.2	59.8	59.5	59.8	59.4	58.6	58.5	57.8	57.5	57.1	56.4	55.0	53.1	51.5	50.4	51.0	52.4	53.9	55.0	57.3		56.7	-1.4	55.3	8971		
	23							61.8	61.7	61.0	60.8	60.0	60.0	58.6	58.1	57.9	57.2	57.8	55.9	55.8	54.2	56.2	58.2	58.9	58.7	59.3	58.5	-1.9	56.6	8718	
	24	58.0	57.7	58.2	58.2	58.5	58.7	59.0	58.5	58.4	58.4	58.1	58.0	57.1	55.9	55.1	53.3	51.6	52.5	53.8	54.9	56.1	57.0	58.1	59.3	56.8	-2.3	54.5	9127		
	25	60.6	61.5	66.4	65.9	64.2	63.1	63.6	64.5	62.4	62.9	62.1	61.0	59.2	58.5	57.6	56.3	54.3	52.0	57.0	57.6	59.2	60.0	61.1	62.0	60.8	-2.2	58.6	8329		
	*26	68.6	71.1	66.2	65.1	66.7	63.2	61.8	63.2	63.5	62.1	62.1	62.0	61.5	62.2	59.4	58.7	58.4	61.5	60.4	62.9	61.1	63.3	63.0	64.0						
	27	62.6	62.2	62.4	62.8	61.7	61.8																								
	28							64.7	64.8	63.8	64.4	64.4	63.7	63.4	62.5	61.8	60.4	58.8	59.1	61.6	62.6	65.5	67.1	66.0	66.6	63.1	-2.1	61.0	7862		
	29	65.8	65.8	68.5	66.8	67.1	66.6	66.9	67.8	64.9	64.8	64.5	64.1	63.1	62.6	62.3	61.6	61.6	60.6	61.7	62.6	63.8	64.1	64.9	64.9	64.5	-2.4	62.1	7647		
	30	66.7	66.5	65.0	65.1	65.1	65.1	64.2	64.3	64.8	65.2	64.7	63.9	62.9	63.0	63.0	62.3	60.2	63.5	61.3	61.9	62.8	66.2	68.1	68.8	64.3	-2.5	61.8	7706		
Hourly Means....	61.5	61.7	62.2	62.0	61.7	61.6	61.4	61.2	60.6	60.4	60.2	59.9	59.3	58.5	57.1	55.7	54.5	54.8	55.8	57.3	58.9	60.1	60.9	61.5	59.5	-1.2	58.4	8375			
Temp. Correction..	-1.8	-1.7	-1.4	-1.3	-1.2	-1.0	-0.8	-0.8	-0.7	-0.6	-0.3	-0.2	-0.1	-0.2	-0.4	-0.9	-1.3	-1.9	-2.1	-2.3	-2.3	-2.2	-2.1	-2.0	-1.2						
Corrected Means ..	59.7	60.0	60.8	60.7	60.5	60.6	60.4	60.4	59.9	59.8	59.9	59.7	59.2	58.3	56.7	54.8	53.2	52.9	53.7	55.0	56.6	57.9	58.8	59.5	58.3						
Differences.....	1.1	0.8	0	0.1	0.3	0.2	0.2	0.4	0.9	1.0	0.9	1.1	1.6	2.5	4.1	6.0	7.6	7.9	7.1	5.8	4.2	2.9	2.0	1.3	2.5						
Diurnal Oscillation. } = .00	0214	0156	0	0019	0058	0039	0039	0078	0175	0195	0175	0214	0311	0496	0798	1163	1480	1538	1382	1129	0818	0564	0389	0253	0487			$\frac{\Delta X}{X}$			
TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. APRIL 1844.	1	81.9	81.8	81.5	81.3	81.2	81.0	80.0	80.9	80.9	80.8	80.6	80.5	80.3	80.0	80.0	79.8	80.2	80.7	81.0	81.4	81.8	82.0	82.2	82.2	81.0					
	2	82.1	81.7	81.4	81.0	81.0	80.9	79.8	70.7	80.6	80.4	80.2	80.2	80.2	80.0	80.0	80.6	81.0	81.7	82.0	82.0	82.0	82.1	82.5	82.3	81.1					
	3	82.1	81.8	81.6	81.3	81.2	81.0	80.9	80.7	80.5	80.3	80.2	80.0	80.0	80.0	80.3	81.0	81.4	81.9	82.1	82.4	82.5	82.4	82.5	82.5	81.3					
	4	82.3	82.0	81.9	81.6	81.4																									
	5							81.3	81.0	80.7	80.6	80.5	80.4	80.2	80.0	80.5	80.9	81.5	81.8	82.0	82.1	82.3	82.3	82.3	82.2	81.4					
	6	82.1	82.1	81.8	81.8	81.7	81.5																								
	7							81.3	81.3	81.2	81.0	80.9	80.8	80.8	80.9	81.0	81.3	81.7	81.9	81.2	81.0	81.1	81.2	81.0	81.0	81.0	81.3				
	8	81.0	80.9																												

k = a. cot v = .0003136 X cot 58° 10' 30" = .0001946

q = .0002142

q/k = .0002142 / .0001946 = 1.1007

Zero = 101.4 ther. 80.0

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, and various magnetometer readings (sc.d., h.m.) for July 1844. Includes sub-sections for Horizontal Force Magnetometer and Temperature of Horizontal Force Magnetometer.

$k = a. \cot v = .0003136 \times \cot 58^\circ 10' 30'' = .0001946$
 $q = .0002142$

$\frac{q}{k} = \frac{.0002142}{.0001946} = 1.1007$

$Zero = 101.4 \dots \dots 80.0$ *ther.*

HORIZONTAL FORCE MAGNETOMETER.-(uncorrected.)

Göttingen Mean Time.		Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$\frac{\Delta X}{X}$					
Singapore Mean Time.		h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.	h. m.				
HORIZONTAL FORCE MAGNETOMETER.	AUGUST 1844.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.			
		1	60.2	60.4	61.1	59.8	60.2	61.4	65.1	65.1	63.8	64.8	63.3	65.1	64.8	63.4	62.2	62.0	61.4	60.1	61.5	62.1	63.0	65.7	67.4	66.7	62.9	-1.4	61.5	7764				
		2	66.8	66.6	66.2	64.4	64.5	63.6	62.5	61.7	60.8	61.9	61.4	62.0	56.1	60.6	58.3	57.5	55.6	55.7	56.0	57.9	58.7	60.7	62.0	63.4	61.0	0.2	61.2	7823				
		3	63.7	64.4	64.7	63.4	63.2	63.1																										
		4							62.5	62.2	62.1	62.3	61.8	61.3	60.4	60.5	58.6	58.5	57.6	58.2	60.0	63.2	64.2	64.9	65.2	64.9	62.1	-0.9	61.2	7823				
		5	64.8	64.1	63.6	63.9	63.8	64.7	63.7	63.3	63.0	63.8	62.6	62.9	61.5	60.4	59.4	58.3	58.0	58.6	59.7	61.0	61.6	62.8	63.5	63.3	62.2	-2.0	60.2	8018				
		6	63.1	63.6	63.4	63.0	62.8	63.2	63.5	63.2	63.3	62.6	61.6	62.0	60.5	59.7	59.1	58.1	58.0	57.8	58.8	60.7	62.1	63.7	64.0	64.7	61.8	-1.8	60.0	8057				
		7	64.4	64.5	64.3	64.2	64.1	63.9	63.7	63.4	63.4	62.7	62.9	62.3	61.9	61.0	59.8	58.3	56.4	56.7	57.5	57.7	59.4	61.8	62.7	63.4	61.7	-1.9	59.8	8096				
		8	64.5	64.3	64.0	63.7	62.6	62.1	62.8	61.9	61.7	60.9	61.4	60.1	59.5	58.5	56.1	55.1	54.6	55.2	57.3	57.7	59.9	61.3	62.0	62.2	60.4	-1.3	59.1	8231				
		9	63.4	66.0	68.6	70.8	71.7	68.6	66.3	63.4	63.0	61.9	61.2	60.9	59.5	57.7	57.9	57.5	59.9	58.5	58.8	59.6	61.6	64.2	64.8	63.3								
		10	63.4	62.8	62.6	62.3	61.9	61.6																										
		11							62.2	61.1	61.9	61.5	61.0	61.1	60.1	59.1	58.7	57.9	57.2	56.9	57.2	57.5	59.7	61.8	62.2	62.7	60.6	-1.5	59.1	8231				
		12	62.1	62.1	61.9	62.1	62.0	62.1	62.0	61.8	61.2	60.5	60.6	59.6	58.6	57.6	57.5	57.2	58.3	59.7	62.0	62.7	63.0	62.6	62.1	62.1	60.9	-1.9	59.0	8251				
		13	61.8	62.2	62.2	62.3	62.6	62.5	62.0	62.2	62.1	62.0	61.8	60.7	59.5	58.4	58.0	57.4	57.7	58.5	59.2	60.4	61.7	62.1	62.2	62.2	60.9	-3.1	57.8	8485				
		14	62.0	62.0	62.4	62.9	63.1	63.5	63.2	63.5	62.5	61.8	61.9	63.1	61.1	58.3	56.6	55.4	54.5	55.9	56.0	57.2	58.5	60.5	62.0	61.9	60.4	-3.5	56.9	8659				
		15	61.8	61.8	61.8	62.0	62.1	62.2	62.1	62.1	61.9	61.4	61.7	61.2	59.6	59.4	55.7	54.3	54.3	54.6	55.8	57.9	58.8	59.0	59.5	59.6	59.6	59.6	-2.4	57.2	8601			
		16	60.3	60.2	61.2	60.9	58.9	58.8	58.3	59.0	59.4	59.5	59.8	58.7	58.7	57.2	54.7	56.7	51.0	50.8	52.9	55.5	57.9	59.9	60.8	60.5	58.0	-1.2	56.8	8679				
		17	60.7	61.2	60.9	61.2	60.9	61.6																										
		18							60.7	60.9	59.8	59.2	59.4	59.0	58.0	56.9	55.4	55.0	53.2	54.7	55.3	56.5	57.6	59.7	60.5	61.2	58.7	-1.2	57.5	8543				
		19	61.0	61.0	60.5	61.1	60.9	60.9	60.4	60.6	60.1	59.8	59.7	59.5	59.0	57.7	56.2	54.5	54.3	55.6	56.9	57.2	59.7	60.3	60.7	61.3	59.1	-1.5	57.6	8524				
		20	61.3	60.9	60.8	61.0	60.5	61.0	61.0	61.0	60.3	60.2	59.7	59.3	58.8	57.7	55.7	55.0	54.3	54.7	56.5	57.0	58.0	58.2	59.5	60.3	58.8	-2.0	56.8	8679				
		21	60.7	60.4	60.3	60.3	60.2	60.2	60.1	59.2	58.9	58.8	58.5	57.7	56.3	55.1	53.5	53.3	54.1	54.2	55.6	56.4	56.6	56.2	58.2	60.1	57.7	-1.4	56.3	8776				
		22	60.1	60.8	62.6	67.7	67.1	66.5	65.7	66.3	64.2	62.1	60.7	59.7	60.3	59.7	59.4	60.1	58.1	58.2	59.1	59.9	62.1	63.2	64.7	64.9	62.2	-1.1	61.1	7842				
		23	65.5	66.2	61.1	64.0	61.7	66.1	64.6	63.6	63.6	63.1	62.0	61.5	60.5	58.6	58.3	57.6	57.7	58.6	60.7	61.4	62.5	64.4	64.4	63.9	62.1	-0.8	61.3	7803				
		24	63.2	62.9	63.5	63.0	64.0	63.6																										
		25							62.1	61.7	61.4	60.8	60.6	61.1	59.3	58.2	57.6	56.9	56.5	58.3	60.5	60.6	61.1	61.7	62.0	61.9	60.9	-0.8	60.1	8037				
		26	62.2	62.0	62.5	62.2	61.1	61.1	60.9	60.9	61.0	60.8	60.8	60.1	58.8	57.9	55.2	54.9	55.3	55.5	56.0	56.5	58.8	60.4	59.8	59.8	59.3	-0.1	59.2	8212				
		27	60.5	60.7	60.1	60.2	60.4	60.3	60.4	60.3	60.0	59.5	59.0	58.7	57.9	56.0	54.2	53.5	53.6	54.0	54.3	55.4	56.9	58.2	59.4	59.7	58.0	-0.1	57.9	8465				
		28	60.4	60.5	60.9	61.0	61.0	60.9	60.4	59.7	59.2	59.4	58.6	59.2	58.0	56.5	55.0	53.8	53.5	53.2	53.8	55.0	57.0	59.5	60.2	60.9	58.2	-0.0	58.2	8407				
		29	60.6	60.3	60.1	60.2	60.0	59.8	58.2	58.6	58.8	61.3	62.0	60.3	58.3	57.7	57.0	55.8	58.3	56.8	58.4	60.6	63.6	66.1	64.7	64.1	60.1	-0.9	59.2	8212				
30	65.7	68.2	66.8	67.2	65.3	65.9	65.9	64.0	63.6	63.4	63.0	62.5	60.9	59.9	57.5	56.5	55.6	56.8	61.1	60.1	62.9	63.7	66.7	65.9	62.9	-1.2	61.7	7725						
Hourly Means.....		62.4	62.5	62.4	62.5	62.2	62.4	62.2	61.9	61.5	61.4	61.0	60.8	59.6	58.7	57.2	56.6	55.9	56.3	57.6	58.6	60.1	61.5	62.2	62.5	60.4	-1.4	59.1	8238					
Temp. Correction..		-2.0	-1.8	-1.7	-1.4	-1.3	-1.2	-1.2	-1.1	-0.9	-0.7	-0.6	-0.4	-0.2	-0.1	-0.4	-0.8	-1.2	-1.7	-2.0	-2.2	-2.3	-2.4	-2.4	-2.3	-1.3								
Corrected Means..		60.4	60.7	60.7	60.9	60.9	61.2	61.0	60.8	60.6	60.7	60.4	60.4	59.4	58.6	56.8	55.8	54.7	54.6	55.6	56.4	57.8	59.1	59.8	60.2	59.1								
Differences.....		0.8	0.5	0.5	0.3	0.3	0	0.2	0.4	0.6	0.5	0.8	0.8	1.8	2.6	4.4	5.4	6.5	6.6	5.6	4.8	3.4	2.1	1.4	1.0	2.1								
Diurnal Oscillation. } = 00		0156	0097	0097	0058	0058	0	0039	0078	0117	0097	0156	0156	0350	0506	0857	1052	1266	1286	1091	0934	0662	0409	0272	0195	0416	$\frac{\Delta X}{X}$							
TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER.	AUGUST 1844.	1	81.9	81.8	81.8	81.7	81.7	81.7	81.7	81.5	81.3	81.2	81.1	81.1	80.9	80.5	80.3	80.5	80.8	81.0	81.4	81.2	81.5	82.0	81.9	81.3								
		2	81.7	81.3	81.3	81.3	80.4	80.0	79.7	79.6	78.8	78.5	78.9	79.0	79.0	79.0	79.0	79.0	79.3	79.5	79.7	79.8	79.8	80.0	80.0	80.0	79.8							
		3	79.9	79.8	79.8	79.8	79.8	79.7																										
		4							80.7	80.6	80.5	80.0	79.9	79.7	79.7	79.8	80.2	81.0	81.6	82.1	82.5	82.5	82.3	82.5	82.7	82.8	80.8							
		5	82.8	82.3	82.1	81.9	81.9	81.9	81.8	81.5	81.3	81.2	80.9	80.7	80.3	80.6	81.2	81.9	82.4</															

k = a. cot v = .0003136 X cot 58° 10' 30" = .0001946
q = .0002142

q/k = .0002142 / .0001946 = 1.1007

sc. d. ther. Zero = 101.4 80°

HORIZONTAL FORCE MAGNETOMETER.-(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, HORIZONTAL FORCE MAGNETOMETER (OCTOBER 1844), and TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER (OCTOBER 1844). Includes sub-columns for hours 1-23 and summary statistics like Means, Temp. Correction, and Diurnal Oscillation.

* The observations of the 1st, 19th, 20th and 21st, are omitted in the hourly and daily means.

$k = a. \cot v = .0003136 \times \cot 58^\circ 10' 30'' = .0001946$
 $q = .0002142$

$\frac{q}{k} = \frac{.0002142}{.0001946} = 1.1007$

Zero = $\frac{sc. d.}{ther.}$ = $101.4 \dots \dots 80.0$

HORIZONTAL FORCE MAGNETOMETER.—(uncorrected.)

Göttingen Mean Time.	Noon. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23																							Daily and Monthly Means.	Temp. Corr.	Corrected Means.	+ $\frac{\Delta X}{X}$
	Singapore Mean Time.																										
	h.m. h.m.																							sc.d.	sc.d.	sc.d.	1-00
	6:16 7:16 8:16 9:16 10:16 11:16 12:16 13:16 14:16 15:16 16:16 17:16 18:16 19:16 20:16 21:16 22:16 23:16 0:16 1:16 2:16 3:16 4:16 5:16																							59.6	60.0	60.1	59.6
HORIZONTAL FORCE MAGNETOMETER.	59.6 60.0 60.1 60.0 61.5 61.2 60.1 61.8 61.8 59.9 59.2 58.6 59.0 58.5 57.4 56.9 55.7 57.1 57.7 59.9 61.2 61.6 62.0 60.6																							59.6	-1.4	58.2	8407
NOVEMBER 1844.	60.5 61.4 61.1 61.5 61.0 61.3																							59.9	-0.8	59.1	8231
	60.8 60.7 60.5 59.7 58.7 58.6 59.2 59.0 58.2 56.5 57.5 58.9 60.7 61.3 60.4 60.4 60.0 60.0																							58.7	-0.3	58.4	8368
	60.6 61.1 61.4 62.1 60.2 61.9 61.7 61.0 60.5 58.8 58.9 59.0 58.3 57.2 57.0 56.6 55.0 54.7 55.8 55.9 56.3 57.8 59.0 59.2																							57.6	0.6	58.2	8407
	59.2 59.7 59.4 59.5 59.6 59.1 59.3 59.0 57.9 57.6 57.1 58.7 58.3 57.7 56.3 55.7 54.2 54.7 55.0 55.0 55.8 57.0 57.9 58.1																							58.6	0.4	59.0	8251
	60.6 59.6 59.6 59.8 59.8 59.8 60.0 59.9 59.6 59.6 59.0 57.6 57.8 57.4 56.5 55.8 55.5 56.0 57.2 58.2 58.9 59.0 59.8 59.3																							58.0	-0.6	57.4	8562
	59.2 59.3 59.6 59.2 59.2 59.5 59.0 58.4 58.1 58.5 58.2 58.1 57.9 56.9 56.1 55.1 54.5 55.5 56.7 58.0 58.8 59.2 59.2 59.3																							58.2	-1.2	57.0	8640
	59.5 59.5 60.1 59.5 59.1 59.3 58.7 58.2 58.1 58.2 58.0 58.0 58.2 57.1 55.6 55.0 54.6 55.8 57.1 58.7 60.0 60.0 59.8 60.0																							58.2	-1.2	57.0	8640
	59.7 60.0 59.9 59.9 60.0 59.8																							58.1	-1.2	56.9	8659
	59.2 58.5 58.2 58.1 57.7 57.7 57.0 56.3 55.2 54.7 54.2 54.6 55.9 57.1 59.1 59.4 59.9 61.4																							58.1	-1.2	56.9	8659
	63.9 64.0 64.8 63.0 61.0 60.8 61.2 62.1 61.1 59.3 59.9 60.2 60.5 60.5 60.2 58.4 57.9 57.1 59.5 59.5 60.6 61.8 61.7 61.3																							60.8	-0.7	60.1	8037
	61.0 60.9 61.1 61.0 61.6 61.9 61.7 60.5 61.0 60.5 61.3 60.0 58.9 57.3 56.9 54.9 55.1 56.4 59.5 60.5 61.8 61.8 62.7 61.1																							60.0	-0.4	59.6	8135
	60.8 60.8 61.7 61.2 61.0 60.2 60.0 59.6 58.8 58.6 59.4 59.6 59.0 58.5 56.7 55.0 53.0 53.3 55.3 57.4 60.1 59.6 58.2 57.4																							58.5	-0.2	58.3	8387
	57.6 57.2 59.0 59.2 59.8 59.7 59.1 59.4 59.1 58.6 58.6 58.8 57.8 57.2 54.8 53.7 52.1 52.8 54.3 55.0 56.2 57.9 58.0 57.7																							57.2	0.9	58.1	8426
	58.1 58.1 58.5 59.2 58.5 58.2 58.1 58.0 58.2 58.1 57.2 56.5 56.3 54.3 51.2 48.5 48.4 49.1 49.0 50.2 54.9 64.1 65.3 69.1																							..	..	..	..
	74.5 72.9 67.3 68.6 69.7 72.0 .....																							..	..	..	..
	62.7 62.0 62.5 62.8 62.3 61.6 61.5 61.4 61.0 59.9 59.3 59.5 60.5 62.3 61.8 57.3 57.3 58.9																							58.4	0.2	58.6	8329
	58.0 58.1 57.9 57.1 56.9 57.4 57.1 56.0 54.8 54.6 55.9 59.9 59.2 58.4 57.6 58.7 59.5 60.6 61.3 60.6 61.2 61.1 63.0																							60.4	1.1	61.5	7764
	63.4 62.4 62.2 63.1 60.9 61.8 62.1 60.7 60.8 61.2 60.5 60.3 59.8 57.9 57.5 56.8 57.2 57.5 58.6 60.0 60.2 61.0 61.2 62.0																							59.2	0.8	50.0	8057
	62.1 61.6 61.4 61.1 60.6 60.0 59.1 59.9 59.2 59.0 59.5 59.6 59.8 59.4 58.3 56.3 56.9 55.8 56.8 57.4 58.7 59.8 60.0 60.0																							58.7	1.0	59.7	8115
	60.1 60.2 60.2 59.5 59.9 60.1 59.8 59.7 59.7 59.1 59.1 58.5 58.0 57.8 57.2 55.5 53.0 55.0 55.4 55.8 58.2 58.1 62.6 67.1																							62.8	0.6	63.4	7395
	65.9 65.5 63.3 64.0 63.1 59.7 63.1 64.3 62.0 63.6 64.1 63.1 59.6 60.4 59.9 60.3 59.5 59.9 64.4 64.1 63.0 64.9 64.7 64.6																							..	..	..	..
	64.6 63.6 63.3 63.5 62.4 62.9																							60.2	0.8	61.0	7862
	60.6 59.2 58.8 60.0 59.9 59.4 60.4 59.9 59.4 60.4 60.4 58.3 58.2 57.7 56.3 55.3 55.9 56.0 57.6 58.2 59.2 60.4 60.5																							58.9	0.8	59.7	8115
	59.9 60.4 60.7 60.4 59.5 59.9 59.6 59.9 60.0 59.9 60.0 59.9 60.2 59.3 58.2 57.7 56.3 55.3 55.9 56.0 57.6 58.2 59.2 60.0 60.7																							59.3	-0.4	58.9	8270
	60.2 60.2 60.1 60.0 60.2 60.0 59.6 59.6 59.7 59.2 61.2 61.1 60.6 58.6 57.6 56.3 55.7 55.4 57.0 59.2 59.9 61.0 61.2 61.1																							59.3	-0.8	58.5	8348
	60.6 60.5 61.3 60.4 59.5 59.2 59.0 58.4 57.9 57.5 57.3 56.6 58.4 58.8 58.6 57.4 55.8 57.5 58.8 60.0 61.4 62.1 62.2 64.5																							61.3	-1.9	59.4	8173
	63.5 65.6 68.0 68.9 66.4 62.8 61.8 62.4 61.7 60.2 59.6 60.2 59.4 58.8 57.5 57.3 55.4 58.0 58.2 59.0 60.9 61.0 62.1 61.7																							60.7	-2.1	58.6	8329
	62.5 62.5 62.3 62.2 63.2 64.0 63.2 62.2 62.0 61.5 60.7 60.2 59.7 59.4 59.4 57.8 56.7 57.1 58.1 59.0 60.1 61.3 61.6 61.2																							..	..	..	..
Hourly Means.....	61.0 61.0 61.2 61.1 60.7 60.5 60.2 60.1 59.6 59.3 59.3 59.1 59.0 58.3 57.4 56.4 55.7 56.3 57.7 58.6 59.5 60.2 60.6 60.9																							59.3	-0.2	59.1	8229
Temp. Correction...	-0.8 -0.7 -0.6 -0.3 -0.1 -0.0 0.2 0.3 0.6 0.6 0.6 0.8 0.9 0.9 0.6 0.1 -0.4 -0.9 -1.2 -1.3 -1.2 -1.1 -1.1 -1.0																							-0.2	..	..	..
Corrected Means...	60.2 60.3 60.6 60.8 60.6 60.5 60.4 60.4 60.2 59.9 59.8 59.9 59.9 59.2 58.0 56.5 55.3 55.4 56.5 57.3 58.3 59.1 59.5 59.9																							59.1	..	..	..
Differences.....	0.6 0.5 .02 0 0.2 0.3 0.4 0.4 0.6 0.9 1.0 0.9 0.9 1.6 2.8 4.3 5.5 5.4 4.3 3.5 2.5 1.7 1.3 0.9																							1.7	..	..	..
Diurnal Oscillation. } = .00	0117 0097 0039 0 0039 0058 0078 0078 0117 0175 0195 0175 0175 0311 0545 0837 1071 1052 0837 0681 0486 0331 0253 0175																							0330	=	$\frac{\Delta X}{X}$	
TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER.	81.9 81.7 81.5 81.3 80.3 81.2 81.1 80.8 80.8 80.4 80.3 80.1 79.9 80.1 80.7 81.2 81.8 82.2 82.7 82.8 82.7 82.0 82.0																							81.3	..	..	..
NOVEMBER 1844.	81.9 81.8 81.7 81.6 81.5 81.4																							80.7	..	..	..
	80.2 80.1 80.0 79.9 79.7 79.4 79.1 79.2 79.6 80.2 80.9 81.0 81.2 81.8 81.3 80.9 80.4 80.1 80.0 79.9																							80.3	..	..	..
	79.9 79.6 79.8 79.8 79.5 79.3 79.1 78.9 78.9 78.8 78.7 78.4 78.3 78.4 78.9 79.2 80.0 80.3 80.7 81.0 80.7 80.5 80.3 80.0																							79.5	..	..	..
	79.9 79.8 79.7 79.5 79.5 79.0 79.1 78.9 78.8 78.7 78.4 78.3 78.4 79.0 79.3 80.0 80.5 81.0 81.0 80.9 80.8 80.6 80.4																							80.5	..	..	..
	80.3 80.3 80.3 80.2 80.2 80.0 79.8 79.7 79.7 79.7 79.4 79.3 79.0 79.5 80.0 80.4 80.9 81.3 81.8 82.0 82.0 81.9 81.8 81.8																							81.1	..	..	..
	81.6 81.5 81.2 81.0 80.8 80.3 80.5 80.4 80.2 80.1 79.9 79.9 80.0 80.4 80.2 80.1 79.9 79.9 80.0 80.4 81.3 81.7 82.0 82.1 82.3																							81.1	..	..	..
	82.1 82.1 82.0 81.9 81.5 81.3 .....																							..	..	..	..
	81.0 80.9 80.8 80.6 80.3 80.2 80.0 80.3 80.6 81.0 81.2 81.0 81.0 81.1 81.1 81.2 81.6 81.5																							81.1	..	..	..
	81.3 81.0 80.8 80.8 80.7 80.4 80.2 80.0 79.9 79.7 79.6 79.5 79.4 79.3 79.7 80.1 80.6 81.2 81.7 81.7 81.8 81.9 81.8 81.5																							80.6	..	..	..
	81.2 81.0 80.9 80.5 80.2 80.0 80.0 79.7 79.5 79.3 79.3 79.0 79.1 79.0 79.4 80.0 80.6 81.2 81.6 81.9 82.3 81.1 81.0 81.0																							80.4	..	..	..
	80.7 80.7 80.5 80.3 80.2 80.2 80.1 80.0 80.0 80.0 80.0 80.0 79.8 79.8 80.1 80.1 80.1 80.2 80.3 80.3 80.4 80.4 80.3																							80.2	..	..	..
	80.0 79.9 79.7 79.4 79.2 79.0 78.9 78.8 78.7 78.6 78.5 78.4 78.2 78.2 78.4 78.8 79.1 79.2 79.8 79.9 79.9 80.0 80.1																							79.2	..	..	..
	80.1 79.8 79.8 79.9 79.8 79.8 79.8 79.6 79.4 79.3 79.2 79.1 79.0 79.0 79.0 79.3 79.8 80.0 80.7 81.1 81.4 81.4 81.5 81.3																							80.1	..	..	..
	81.0 80.8 80.8 80.8 80.7 80.5 .....																							..	..	..	..
	79.7 79.6 79.5 79.3 79.1 79.0 79.0 79.0 79.0 79.4 79.8 80.1 80.6 81.0 81.2 81.0 81.0 81.1 81.2 81.7 81.5 80.8 80.5																							80.2	..	..	..
	80.3 80.2 80.2 80.1 79.9 79.7 79.4 79.2 79.0 78.9 78.9 79.0 79.1 79.6 80.0 80.6 80.9 81.0 80.9 80.0 79.8 79.8 79.6																							79.8	..	..	..
	79.5 79.2 79.1 79.0 78.9 78.8 78.7 78.5 78.2 78.0 78.0 77.8 77.8 77.9 78.0 78.6 79.1 79.7 80.1 80.1 80.2 80.2 80.3 80.5																							79.0	..	..	..
	80.0 80.0 79.9 79.8 79.6 79.4 79.2 79.2 79.0 79.0 79.0 78.8 78.8 78.8 78.9 79.1 79.4 79.4 79.3 79.2 79.2 79.1 79.3 79.3																							79.3	..	..	..
	79.0 79.0 79.0 79.0 78.9 78.7 78.7 78.7 78.4 78.0 77.8 77.9 78.0 78.2 78.8 79.2 79.9 80.2 80.7 80.8 80.8 81.0 79.9																							79.1	..	..	..
	79.8 79.8 79.5 79.3 79.2 79.1 79.0 79.0 78.9 78.9 79.0 79.0 79.0 79.4 79.7 80.0 80.6 80.5 80.0 79.8 79.8 79.5																							79.5	..	..	..
	79.3 79.2 79.1 79.0 78.8 78.7 .....																							..	..	..	..
	79.1 78.7 78.7 78.9 78.9 78.8 78.8 78.9 79.2 79.6 80.2 80.2 80.2 79.9 79.8 79.9 79.9 79.9 79.9																							79.3	..	..	..
	79.8 79.7 79.7 79.4 79.4 79.2 79.0 78.9 78.9 78.9 78.0 78.2 78.6 79.0 79.4 79.9 80.8 80.3 80.2 80.6 80.6 80.5																							80.4	..	..	..
	80.3 80.1 79.9 79.9 79.9 79.9 79.9 79.6 79.2 81.6 81.5 81.3 78.9 79.2 79.8 80.2 80.9 81.3 81.5 81.7 81.7 81.6 81.5																							80.7	..	..	..
	81.3 81.0 80.8 80.7 80.6 80.4 80.2 80.0 79.9 79.8 79.7 79.3 79.0 79.3 79.8 80.1 81.0 81.5 81.8 82.1 82.2 82.7 82.7																							80.7	..	..	..
	82.1 82.0 81.8 81.8 81.6 81.4 81.1 81.0 80.9 80.8 80.8 80.5 80.3 80.3 80.8 81.3 81.9 82.2 82.9 83.0 83.0 83.0 83.0 83.0																							81.7	..	..	..
	82.7 82.4 82.1 82.0 81.9 81.6 81.5 81.2 81.0 81.0 80.6 80.5 80.8 80.7 80.9 81.4 82.0 82.6 83.0 83.0 83.0 83.0 83.0 82.8																							81.9	..	..	..
Means.	80.7 80.6 80.5 80.3 80.1 80.0 79.8 79.7 79.5 79.5 79.5 79.3 79.2 79.2 79.5 79.9 80.4 80.8 81.1 81.2 81.1 81.0 81.0 80.9																							80.2	..	..	..

The observations of the 15th, 16th and 17th, are omitted in the hourly and daily means,

$$k. = a. \cot \theta \frac{T^2}{T^2} = .00002909 \times \cot 12.40 \times \left(\frac{7.179}{14.84}\right)^2 = .00002293$$

$$q. = .0002595$$

$$\frac{q}{k} = \frac{.0002595}{.00002293} = 11.317 = 1^\circ \text{ Fahr.}$$

ther. Zero. .80°0

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.								
Singapore Mean Time.	h.m. 6:16	h.m. 7:16	h.m. 8:16	h.m. 9:16	h.m. 10:16	h.m. 11:16	h.m. 12:16	h.m. 13:16	h.m. 14:16	h.m. 15:16	h.m. 16:16	h.m. 17:16	h.m. 18:16	h.m. 19:16	h.m. 20:16	h.m. 21:16	h.m. 22:16	h.m. 23:16	h.m. 0:16	h.m. 1:16	h.m. 2:16	h.m. 3:16	h.m. 4:16	h.m. 5:16	sc.d.	sc.d.	sc.d.							
VERTICAL FORCE MAGNETOMETER. JANUARY 1844.	1	100	85	83	80	68	72	62	69	69	69	71	..	41	33	49	88	127	157	196	219	206	243	148	105	106	0	106						
	2	98	69	60	60	55	51	57	52	42	38	34	40	40	40	77	99	145	175	191	198	182	129	110	93	89	0	89						
	3	83	79	73	71	73	69	63	59	55	..	51	54	52	66	92	133	169	190	208	218	215	192	145	109	109	-5	104						
	4	91	82	78	72	69	63	81	69	57	46	50	51	50	46	52	78	157	175	174	171	143	78	52	42	84	-6	78						
	5	50	31	42	35	34	34	54	45	47	37	34	33	33	29	33	46	130	218	240	192	160	126	118	95	79	-6	73						
	6	80	68	68	56	65	57	..	..	..	..	..	..	..	16	25	26	105	151	181	181	185	146	125	89	71	..	..				
	7	..	..	..	..	..	..	..	60	53	45	42	57	16	25	26	105	151	181	181	185	146	125	89	71	..	..	..	..	
	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	9	..	..	..	..	..	..	..	-121	-125	-127	-124	-129	-125	-129	-121	-97	-63	-25	9	14	11	-41	-78	61	63	..	..	..	..
	10	60	51	44	41	37	33	35	37	30	23	19	19	9	8	33	68	113	134	158	138	107	73	51	64	58	6	64	..	..		
	11	54	44	44	40	41	34	37	40	36	36	37	39	24	24	59	115	141	158	179	185	130	96	105	..	74	..	..	..	..
	12	..	..	..	..	..	..	..	..	..	..	..	..	..	171	174	191	235	255	276	302	340	323	314	290	297	245	..	..	..	..
	13	..	219	213	212	204	200	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	14	..	..	..	..	..	..	173	170	162	160	156	156	139	140	192	221	219	188	189	208	167	141	122	149	178	..	..	..	..	..
	15	146	143	137	139	139	139	138	140	136	131	128	126	128	153	188	212	213	238	281	293	249	199	170	148	171	..	..	..	..	..
	16	139	138	131	124	119	117	117	129	123	116	118	113	106	111	132	185	176	182	194	162	132	108	..	98	133	..	..	..	..	..
	17	94	100	100	103	102	102	100	98	109	98	102	103	93	56	..	93	88	81	82	62	79	103	117	74	..	..	..	..	..	..
	18	51	42	33	22	9	4	15	16	14	17	11	5	6	19	62	84	89	91	69	64	76	67	36	36	39	18	57	..	..	..
	19	41	40	41	41	38	34	31	34	34	32	29	25	24	48	76	121	117	126	139	120	83	77	93	64	63	14	77	..	..	..
	20	37	31	24	19	11	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	21	..	..	..	..	..	..	18	18	11	4	8	4	-2	11	51	111	126	136	129	92	92	83	91	75	49	20	69	..	..	..	..
	22	78	67	60	48	50	37	103	42	39	37	50	39	30	38	70	113	157	160	130	93	74	63	65	61	71	12	83	..	..	..	..
	23	60	63	61	56	49	50	50	48	46	44	43	46	32	38	76	135	167	181	178	173	173	150	126	101	89	11	100	..	..	..	..
	24	101	91	85	77	76	75	62	62	62	62	62	69	63	70	87	144	141	151	192	151	145	131	121	104	99	3	102	..	..	..	..
	25	103	102	95	95	91	94	102	97	102	85	81	70	53	71	107	156	175	195	196	167	144	154	170	150	119	3	122	..	..	..	..
	26	122	117	109	104	101	97	93	90	87	83	83	89	93	85	94	116	166	196	222	222	210	187	143	129	127	1	128	..	..	..	..
	27	127	118	116	104	96	95	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	28	..	..	..	..	..	..	94	91	82	80	84	80	79	75	92	129	159	158	141	..	..	175	157	140	112	3	115	..	..	..	..
	29	137	124	129	116	111	107	107	102	104	98	97	100	96	86	117	147	193	208	199	180	200	184	189	187	138	-5	133	..	..	..	..
	30	155	139	134	130	128	123	117	127	121	126	122	120	111	116	133	169	203	215	197	190	176	160	153	132	146	-10	136	..	..	..	..
	31	138	127	117	123	122	120	117	108	102	108	105	103	93	99	132	180	216	226	210	185	161	126	143	144	138	-5	133	..	..	..	..
Hourly Means... { A	80	66	64	59	57	54	59	55	49	42	45	35	36	35	63	95	146	175	193	183	163	133	99	85	86	..	..	..	..	..	..
Means of A and B	96	88	84	78	73	70	76	69	67	65	65	62	57	63	91	134	159	170	167	149	139	130	124	110	99	..	..	..	..	..	..	..
Temp. Correction...	90	80	77	71	67	64	70	64	60	57	58	53	49	53	81	120	154	172	177	162	148	131	115	102	95	3	..	..	..	..	..	..
Corrected Means....	-2	0	1	3	3	5	8	9	10	14	15	16	17	16	12	8	2	-3	-8	-12	-14	-14	-11	-8	98	..	..	..	..	..	..	..
Differences	88	80	78	74	70	69	78	73	70	71	73	69	66	69	93	128	156	169	169	150	134	117	104	94	98	..	..	..	..	..	..	..
Diurnal Oscillation. } = 00	-81	-89	-91	-95	-99	-100	-91	-96	-99	-98	-96	-100	-103	-100	-76	-41	-13	0	0	-19	-35	-52	-65	-75	-71	..	..	..	..	..	..	..
	1857	2041	2087	2178	2270	2293	2087	2201	2270	2247	2201	2293	2362	2293	1743	0940	0298	0	0	0436	0803	1192	1490	1720	1638	..	..	..	..	..	..	..
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. JANUARY 1844.	1	80.6	80.2	80.0	79.9	80.0	79.9	79.5	79.5	79.2	79.0	..	78.7	79.0	79.2	79.5	80.0	80.4	80.7	81.0	81.2	81.5	81.5	81.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	
	2	80.8	80.5	80.3	80.0	80.2	79.9	79.7	79.5	79.5	79.0	78.9	78.7	78.6	78.7	79.2	79.5	80.1	80.7	81.0	81.5	81.7	81.9	81.9	81.6	81.2	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5
	3	80.4	80.3	80.2	80.1	80.2	80.1	80.0	79.7	79.5	..	79.3	79.2	79.1	79.2	79.5	80.1	80.7	81.0	81.5	81.7	81.9	81.9	81.6	81.2	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5
	4	80.9	80.8	80.7	80.5	80.6	80.3	80.3	80.2	81.1	80.0	80.0	79.9	79.8	79.8	79.9	80.0	80.7	80.9	81.2	81.6	81.4	80.7	80.0	80.0	80.0	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5
	5	80.0	80.0	80.0	80.0	80.0	80.0	80.0	79.9	79.7	79.6	79.5	79.3	79.2	79.2	79.5	80.0	80.6	81.3	81.9	82.6	82.6	82.5	82.7	82.2	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5
	6	81.7	81.5	81.2	81.0	80.8	80.6	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5
	7	79.8	79.7	79.6	79.5	79.3	79.3	79.2	79.2	79.6	80.1	80.4	81.0	81.4	81.8	81.9	82.0	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5
	8	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5
	9	79.5	79.3	79.1	79.1	79.0	78.9	78.6	78.5	78.9	79.5	80.1	80.6	80.8	80.7	80.6	80.3	80.2	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
	10	80.0	79.8	79.5	79.5	79.4	79.2	7																										

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = \cdot 00002909 \times \cot 12^\circ 40' \times \left(\frac{7 \cdot 479}{14 \cdot 84}\right)^2 = \cdot 00002293$$

$$\frac{q}{k} = \frac{\cdot 0002595}{\cdot 00002293} = 11 \cdot 317 = 1^\circ \text{Faht. } \text{ther. Zero... } 80^\circ 0$$

$$q = \cdot 0002595$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.		Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.																									
Singapore Mean Time.		h.m. 6-16	h.m. 7-16	h.m. 8-16	h.m. 9-16	h.m. 10-16	h.m. 11-16	h.m. 12-16	h.m. 13-16	h.m. 14-16	h.m. 15-16	h.m. 16-16	h.m. 17-16	h.m. 18-16	h.m. 19-16	h.m. 20-16	h.m. 21-16	h.m. 22-16	h.m. 23-16	h.m. 0-16	h.m. 1-16	h.m. 2-16	h.m. 3-16	h.m. 4-16	h.m. 5-16	sc.d.	sc.d.	sc.d.																									
VERTICAL FORCE MAGNETOMETER.	FEBRUARY 1844.	sc.d.																									128	123	110	104	99	111	102	90	102	104	101	86	84	95	130	182	227	220	206	182	174	150	155	164	134	-5	129
		2	156	135	130	133	132	144	129	115	115	113	107	88	86	99	127	183	215	218	236	197	126	101	116	121	138	-11	127																								
		3	125	131	121	118	115	117																						
		4	113	117	115	108	109	103	96	105	130	146	190	205	191	179	133	94	74	60	125	-6	119																							
		5	42	27	36	25	38	36	32	33	26	24	24	27	44	9	33	83	133	131	126	93	83	64	57	50	53	8	61																								
		6	47	47	41	40	40	38	40	36	31	30	33	28	17	25	68	124	186	229	233	154	102	80	48	51	74	1	75																								
		7	55	46	37	28	28																							
		8*	221	218	219	225*	223	222	215	172	175	294	306	319	306	287	263	208	195	190																							
		9*	187	177	175	178	179	180	180	180	177	177	178	180	180	180	171	171	179	205	245	255	246	230	216	209	208																							
		10*	205	203	200	199	183	185																							
		11	84	85	83	83	96	..	62	53	55	102	117	128	135	139	120	83	55	51																							
		12	58	57	57	58	55	48	44	49	51	53	53	54	51	49	66	107	134	173	169	149	140	135	129	121	86	17	103																								
		13	109	103	99	99	96	98	97	97	102	103	100	98	98	98	109	130	160	163	169	152	137	132	140	73	115	15	130																								
		14	36	31	27	24	22	20	24	23	25	24	24	24	..	..	28	36	53	63	46	24	9	25	19	95	32	19	51																						
		15	70	77	70	71	63	66	67	70	71	68	68	67	65	36	7	54	76	88	93	85	79	..	41	49	65	22	87																								
		16	40	32	32	30	30	29	34	35	37	34	34	33	33	36	52	68	87	114	120	118	83	89	78	71	56	12	68																								
		17	70	60	52	54	53	49																							
		18	..	..	..	..	..	..	65	71	74	74	78	76	75	76	85	105	121	145	142	141	119	118	113	111	89	1	90																		
		19	16	3	13	0	7	11	-15	-14	-25	-29	-34	-32	-31	-24	-14	5	24	30	29	19	10	-65	-73	-63	-11	-6	-17																								
		20	-60	-57	-61	-60	-63	-66	-67	-73	-74	-66	-67	-56	-56	-51	-13	36	36	76	80	81	47	6	-31	-56	-26	-7	-33																								
		21*	-72	-65	-74	-67	-70	-73	-73	-71	†139	135	135	131	119	129	160	224	287	313	329	294	292	246	232	198	..	..	..																					
		22	182	171	168	165	160	153	148	133	132	131	..	131	125	112	144	289	226	283	294	270	247	217	208	203	187	-7	180																								
		23	184	177	174	166	166	158	158	158	151	152	141	135	120	115	136	195	226	263	272	249	237	228	223	205	183	-5	178																								
		24	183	176	177	174	119	167	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
		25	..	..	..	..	..	..	178	176	178	180	175	157	167	167	192	232	264	262	261	269	289	287	250	220	204	-15	189																		
		26	210	188	187	169	122	117	115	161	161	156	158	153	156	164	180	219	274	302	303	286	260	238	231	219	197	-16	181																								
		27	209	194	185	187	189	188	182	185	180	177	173	170	167	169	186	227	260	281	297	287	271	246	232	230	211	-17	194																								
		28	216	204	201	198	191	196	177	182	160	152	157	150	150	152	165	213	277	278	275	238	210	232	256	246	203	-16	187																								
		29	221	204	198	192	190	176	180	172	166	160	161	156	153	169	212	248	272	264	244	233	245	254	250	205	205	-14	191																								
Hourly Means..		64	58	54	52	51	54	54	52	52	52	46	46	46	62	97	126	142	141	122	97	78	66	64	72	..	..																								
Means of A and B		201	188	184	179	162	167	162	168	162	159	161	151	149	147	167	227	254	277	281	263	249	242	236	225	198	..	..																							
Temp. Correction...		-6	-3	-2	0	1	3	5	7	8	9	11	11	12	11	8	1	-5	-8	-11	-14	-15	-15	-11	-10	-1	..	..																							
Corrected Means...		104	98	95	94	89	96	95	98	97	97	95	93	92	105	141	164	179	177	155	133	120	112	108	114	..	..																								
Differences		-75	-81	-84	-85	-90	-83	-84	-81	-82	-82	-84	-86	-87	-87	-74	-38	-15	0	-2	-24	-46	-59	-67	-71	-65	..	..																							
Diurnal Oscillation. } = 00		1720	1857	1926	1949	2064	1903	1926	1857	1880	1880	1926	1972	1995	1995	1697	0871	0344	0	0046	0550	1055	1353	1536	1628	1497	= $\frac{\Delta Y}{Y}$																										
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.	FEBRUARY 1844.	°																									81.2	80.8	80.7	80.6	80.3	80.0	80.0	79.9	79.6	79.6	79.3	79.1	79.0	79.3	79.6	80.1	80.6	81.0	81.5	81.6	81.9	81.7	81.6	81.6	80.4		
		1	81.6	81.2	81.0	81.0	81.0	80.6	80.8	80.6	80.4	80.3	80.2	80.0	79.9	80.0	80.2	80.7	81.0	81.5	82.1	82.5	81.8	81.6	81.6	81.5	81.0	81.0																									
		2	81.3	81.1	81.0	80.9	80.6	80.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	81.0				
		3	..	..	..	..	..	..	80.2	80.1	80.0	79.9	79.8	79.7	79.7	80.0	80.0	80.5	81.1	81.1	81.1	81.2	81.2	80.9	80.5	80.2	80.5	80.5																			
		4	79.7	79.5	79.0	79.0	78.9	78.8	78.6	78.5	78.4	78.3	78.2	78.2	78.2	78.4	78.5	79.0	79.5	80.0	80.7	80.6	80.7	80.7	80.9	80.7	80.7	79.3	79.3																								
		5	80.2	79.7	80.0	79.8	79.8	79.7	79.5	79.3	79.2	79.1	79.1	79.1	79.0	79.0	79.6	80.0	80.5	80.8	81.2	80.7	80.4	80.7	80.3	80.2	80.2	79.9	79.9																								
		6	80.0	79.5	79.5	79.2	79.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
		7	..	..	..	..	..	..	78.5	78.4	78.3	78.2	78.1	78.1	79.9	77.9	78.0	78.2	78.3	78.1	78.7	78.9	80.2	79.1	79.0	78.7	..	..	..																					
		8*	78.4	78.3	78.0	78.1	78.0	78.1	77.9	77.9	77.8	77.8	77.7	78.0	78.2	78.5	79.0	79.5	79.8	80.1	80.3	80.4	80.5	80.3																							
		9*	79.9	79.5	79.3	79.7	79.3	79.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
		10*	..	..	..	..	..	..	78.5	78.3	78.3	78.3	78.2	..	78.3	78.1	78.2</																														

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = \cdot 00002909 \times \cot 12 \cdot 40 \times \left(\frac{7 \cdot 470}{14 \cdot 84} \right)^2 = \cdot 00002293$$

$$q = \cdot 0002595$$

$$\frac{q}{k} = \frac{\cdot 0002595}{\cdot 00002293} = 11 \cdot 317 = 1^\circ \text{ Faht.}$$

ther. 0°
Zero .. $80 \cdot 0$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Göttingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.					
Singapore Mean Time.	h.m. 6:16	h.m. 7:16	h.m. 8:16	h.m. 9:16	h.m. 10:16	h.m. 11:16	h.m. 12:16	h.m. 13:16	h.m. 14:16	h.m. 15:16	h.m. 16:16	h.m. 17:16	h.m. 18:16	h.m. 19:16	h.m. 20:16	h.m. 21:16	h.m. 22:16	h.m. 23:16	h.m. 0:16	h.m. 1:16	h.m. 2:16	h.m. 3:16	h.m. 4:16	h.m. 5:16	sc.d.	sc.d.	sc.d.					
VERTICAL FORCE MAGNETOMETER. MARCH 1844.	*1	218	205	199	198	197	194	197	191	185	184	187	177	177	177	184	215	317	321	327	323	315	280	278	260	..	..	..	
	*2	235	212	204	199	197	197	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	*3	..	..	..	..	..	..	..	-98	-125	-126	-117	-132	-143	..	-109	-30	36	80	84	53	8	-34	-46	-58	..	..	..	..	..
	4	-64	-86	-82	-74	-90	-98	-96	-85	-84	-104	-112	-118	-117	-108	-76	-10	29	35	27	24	13	11	-34	-47	-56	-17	-73	..	..
	5	-78	..	-110	-86	-108	-108	-114	-81	-93	-94	-103	-122	-124	-134	-98	-36	38	47	54	34	24	15	-14	-33	-58	-23	-81	..	..
	6	-76	-83	-92	-120	..	-92	-109	-87	-99	-101	-110	-117	-119	-117	-82	-12	49	93	90	50	11	-18	-16	-14	-51	-16	-67	..	..
	7	-33	-95	-69	-72	-90	-100	-95	-76	-87	-88	-96	-109	-105	-92	-53	37	40	52	43	34	55	1	-24	-32	-44	-14	-58	..	..
	8	-37	-61	-65	-74	-95	-94	-79	..	-78	-94	-93	-100	-103	-98	-52	24	76	101	90	54	29	12	-12	-14	-33	-11	-44	..	..
	9	37	-72	-84	-84	-93	-95	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	10	-77	-81	-87	-101	-100	-104	-113	-109	-103	23	88	88	83	44	51	35	32	18	-33	-18	-51	
	11	-30	-58	-56	-55	-66	-63	-66	-70	-72	-75	..	-91	..	-100	-75	7	62	96	104	..	-10	-16	-15	-32	-32	-24	-56	..	..
	12	-102	-57	-80	-72	-58	-63	-70	-70	-65	-71	-70	-75	-80	-98	-76	-54	9	30	34	11	-16	-24	-33	-43	-50	-15	-65	..	..
	13	-59	-80	-80	-75	-77	-73	-72	-82	-85	-95	-96	-96	-100	-118	-101	-35	19	48	51	56	18	-41	-83	-88	-56	-9	-65	..	..
	14	-90	-112	-107	-117	-100	-106	-106	-105	-109	-101	-109	-115	-126	-117	-70	-25	77	90	77	9	-31	-55	-61	-63	-65	-2	-67	..	..
	15	-80	-111	-114	-114	-111	-88	-86	-95	-106	-109	-115	-118	-119	-116	-74	5	59	83	79	61	39	7	-47	-41	-55	-7	-62	..	..
	16	-59	-70	-76	-80	-81	-84	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	17	-83	-69	-77	-76	-94	-116	-120	-93	-18	..	121	152	172	116	68	16	-32	-42	-27	-16	-43	
	18	-43	-61	-66	-60	-51	-67	-74	-79	-91	..	-103	-110	-109	-78	-44	40	95	129	145	105	54	32	12	5	-18	-20	-38	..	..
	19	-14	-36	-40	-45	-50	-60	-58	-65	-57	-75	-78	-84	-79	-63	-9	89	165	151	156	120	69	20	-7	-16	-3	-24	-27	..	..
	20	-36	-46	-49	-48	-52	-47	-55	-60	-68	-65	-72	..	-71	-73	-49	24	75	114	101	59	41	-6	-27	-24	-19	-20	-39	..	..
	21	-46	-47	-46	-44	-53	-67	-56	-59	-64	-73	-85	-88	-83	-64	-41	3	55	69	71	34	25	-13	-34	-33	-31	-12	-43	..	..
	22	-54	-63	-62	-65	-81	-79	-82	-80	-92	-93	-94	-93	-94	-74	-16	56	118	127	133	84	51	31	18	-6	-21	-7	-28	..	..
	23	-26	-44	-54	-57	-64	-67	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	24	-71	-72	-79	-76	-84	-85	-86	-78	-47	1	55	100	108	102	69	18	17	8	-21	-9	-30	
	25	-21	-23	-39	-45	-51	-51	-50	-62	-66	-64	-66	-60	-55	-60	-25	39	51	41	31	12	6	-10	-15	-22	-25	-12	-37	..	..
	26	-46	-51	-56	-73	-84	-80	-80	-81	-82	-77	-75	-74	-78	-65	-65	-58	-49	..	5	-36	-42	-41	-45	-42	-60	-6	-66	..	..
	27	-53	-70	-74	-80	-80	-85	-84	-89	..	-92	-86	-86	-88	-73	-78	-15	29	40	25	32	20	1	-24	-38	-46	-3	-49	..	..
	28	-65	-79	-85	-85	-83	-75	-75	-79	-84	-95	-103	-106	-85	-85	-69	15	67	83	53	24	13	-23	-54	-53	-48	-7	-55	..	..
	29	-57	-60	-65	-59	-84	-81	-81	-77	-78	..	-94	-92	-107	-123	-104	-69	-41	18	26	45	-5	-60	-38	-39	-58	-16	-74	..	..
	30	-88	-117	-95	-99	-77	-91	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	31	..	..	..	..	..	..	-104	-94	-111	-118	-131	-136	-120	-117	-65	16	47	83	36	25	-12	-34	-60	-58	-63	-8	-71	..	..
Hourly Means.....	-51	-69	-73	-74	-77	-80	-80	-78	-83	-88	-94	-100	-100	-94	-62	3	56	81	75	48	23	-6	-25	-31	-41	-13	-54	..	..	
Temp. Correction...	-18	-16	-14	-12	-10	-9	-8	-6	-3	-1	1	3	3	0	-5	-10	-17	-24	-27	-28	-29	-28	-26	-23	-13	..	..	..	..
Corrected Means....	-69	-85	-87	-86	-87	-89	-88	-84	-86	-89	-93	-97	-97	-94	-67	-7	39	57	48	20	-6	-34	-51	-54	-54	..	..	..	..
Differences.....	-126	-142	-144	-143	-144	-146	-145	-141	-143	-146	-150	-154	-154	-151	-124	-64	-18	0	-9	-37	-63	-91	-108	-111	-111	..	..	..	..
Diurnal Oscillation. } = 00	2369	3256	3302	3279	3302	3348	3325	3233	3279	3348	3440	3531	3531	3462	2843	1468	0413	0	0206	0848	1445	2087	2476	2545	2536	$= \frac{\Delta V}{V}$						
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. MARCH 1844.	*1	81.7	81.5	81.3	81.3	81.3	81.0	81.0	80.9	80.6	80.5	80.2	80.0	79.8	80.0	80.5	81.0	81.7	82.0	82.5	82.7	82.9	82.9	82.7	82.5	..	..	..	..	..
	*2	82.2	81.9	81.7	81.5	81.5	80.9	..	79.9	79.6	79.4	79.2	79.0	78.9	..	79.5	80.3	80.6	80.2	81.9	82.1	82.5	82.6	82.4	81.8	
	*3
	4	81.6	81.4	81.0	81.0	81.0	81.0	81.0	80.8	80.6	80.4	80.2	80.1	80.0	80.0	80.5	81.2	81.9	82.5	82.8	83.1	83.4	83.4	83.5	82.9	81.5	81.5	81.4	81.3	81.2	81.1	81.0
	5	82.3	..	82.0	81.8	81.5	81.3	81.1	81.0	80.9	80.7	80.6	80.5	80.6	81.4	82.1	82.5	83.1	83.4	83.3	83.3	83.6	83.3	83.2	81.4	82.0	81.4	81.3	81.2	81.1	81.0	80.9
	6	82.7	82.0	81.6	81.4	..	80.9	80.7	80.5	80.2	80.0	79.9	79.8	79.5	79.6	80.0	80.6	81.5	82.3	82.6	83.2	83.2	83.2	83.0	82.6	81.4	81.4	81.3	81.2	81.1	81.0	80.9
	7	82.1	81.9	81.5	81.3	81.2	81.1	80.8	80.6	80.4	80.2	80.0	79.8	79.8	80.0	80.5	81.5	81.4	81.5	81.8	82.5	82.9	83.2	83.2	83.0	81.6	81.2	81.2	81.1	81.0	80.9	80.8
	8	81.3	81.0	80.8	80.6	80.5	80.6	80.4	..	80.0	79.9	79.8	79.7	79.5	79.7	80.3	80.5	81.4	82.0	82.5	82.4	82.7	82.7	82.4	82.2	81.0	81.0	80.9	80.8	80.7	80.6	80.5

$$k = a \cdot \cot \theta \frac{T^2}{T'^2} = 00002909 \times \cot 12^{\circ}40' \times \left(\frac{7479}{1484}\right)^2 = 00002293$$

$$\frac{q}{k} = \frac{0002595}{00002293} = 11.317 = 1^{\circ} \text{ Fah. } \text{ Ther. } 0$$

$$q = 0002595 \quad \text{Zero. } 80.0$$

VERTICAL FORCE MAGNETOMETER.-(uncorrected.)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.																
Singapore Mean Time.	h. m. 6-16	h. m. 7-16	h. m. 8-16	h. m. 9-16	h. m. 10-16	h. m. 11-16	h. m. 12-16	h. m. 13-16	h. m. 14-16	h. m. 15-16	h. m. 16-16	h. m. 17-16	h. m. 18-16	h. m. 19-16	h. m. 20-16	h. m. 21-16	h. m. 22-16	h. m. 23-16	h. m. 0-16	h. m. 1-16	h. m. 2-16	h. m. 3-16	h. m. 4-16	h. m. 5-16	sc. d.	sc. d.	sc. d.																
VERTICAL FORCE MAGNETOMETER. APRIL 1844.	1	-60	-82	-90	-78	-91	-81	-88	-88	-85	-86	-95	-102	-102	-106	-92	-64	-11	-13	6	-15	-11	-6	-21	-33	-62	-16	-78															
	2	-56	-72	-77	-85	-84	-91	-74	-93	-93	-91	-100	-102	-149	-90	-32	13	45	59	38	19	6	-29	-47	-40	-52	-17	-69															
	3	-48	-54	-66	-79	-79	-98	-90	-70	-86	-85	-98	-99	-101	-91	-54	3	24	78	94	75	33	-15	-46	-52	-42	-17	-59															
	4	-54	-69	-72	-80	-77	-78	Good Friday																																			
	5	..	..	..	..	..	..	-76	-77	-84	-78	-87	-90	-95	-90	-64	-8	71	80	85	77	64	84	6	-31	-31	-20	-51									
	6	-58	-59	-71	-78	-76	-74														
	7	..	..	..	..	..	..	-74	-73	-74	-73	-75	-79	-83	-80	-56	-18	8	24	-41	-43	-61	-67	..	-96	-60	-17	-77									
	8	-109	..	-109	-114	-113	-112	-121	-124	-123	-124	-132	-136	-143	-122	-71	1	30	101	81	27	-39	-76	-81	-105	-74	-8	-82															
	9	-100	-109	-117	..	-125	-134	-132	-131	-132	-128	-144	-153	-140	-120	-79	-32	40	75	79	30	-51	-127	-156	-165	-89	-1	-90															
	10	-164	..	-146	-142	-137	-138	-135	-142	-137	-147	-144	-150	-152	-162	-134	-73	-42	-42	-36	-48	-76	-109	-124	-136	-118	6	-112															
	11	-145	-154	-156	..	-158	-153	-159	-163	-159	-159	-158	-166	-159	-128	-81	2	58	67	72	41	-62	-105	-138	-159	-101	0	-101															
	12	-154	-163	-166	-172	-165	-157	-164	-173	-169	-165	-175	-179	-159	-182	-133	-61	7	11	-5	-29	-63	-64	-97	..	-121	2	-119															
	13	-132	-155	-166	-168	-168	-167														
	14	..	..	..	..	..	..	-165	-167	-168	-167	-171	-167	-161	-148	-134	-117	-81	-48	-34	-39	-88	-114	-115	-111	-131	..	-132									
	15	-137	-160	-163	-162	-164	-159	-169	-164	-164	-174	-183	-188	-182	-187	-164	-122	-83	13	37	-41	-47	-50	-63	-85	-123	-3	-126															
	16	-130	-147	-146	-154	-171	-155	-154	-165	-161	-166	-171	-171	-168	-151	-107	-79	-28	55	57	15	-46	-70	-119	-159	-112	-11	-123															
	17	-177	-182	-174	..	-153	-142	-157	-131	-121	-140	-116	-128	-130	-130	-99	..	-22	6	10	12	5	8	5	-22	-90	-17	-107															
	18	-73	-85	-97	-100	-93	-108	-113	-105	-108	-111	-125	-137	-124	-106	-55	8	22	27	6	3	-47	-43	-47	-67	-70	-23	-93															
	19	-89	-88	-88	-89	-95	-97	-97	-109	-109	-107	-113	-118	-109	-92	-54	-17	-28	85	51	15	-42	-50	-74	-87	-68	-26	-94															
	20	-90	-108	-101	-105	-98	-99														
	21	..	..	..	..	..	..	-90	-89	-92	-93	-90	-101	-101	-97	-80	-51	-7	-16	-41	18	10	-6	-39	-56	-68	-22	-90									
	22	-76	-90	-90	-102	-104	-103	-109	-109	-106	-103	-98	-107	-103	-95	-52	-10	43	94	106	90	78	60	25	-44	-42	-17	-59															
	23	-79	-86	-80	-94	..	-110	-110	-77	-80	-85	-83	-80	-80	-78	-57	-11	23	68	80	87	62	41	11	-32	-37	-23	-60															
	24	-49	-56	-73	-71	-86	-72	-95	-87	-92	-98	-91	-29	-10	-73	-25	-36	82	93	77	68	50	8	-24	-47	-31	-27	-58															
	25	-56	-57	-105	-99	-95	-103	-87	-83	-71	-81	-83	-93	-80	-69	-68	-24	79	40	16	1	-19	-48	-40	-46	-53	-26	-79															
	26	-92	-120	-89	-77	..	-64	-92	..	-108	-104	-114	-116	-116	-92	-45	-56	-33	-45	-8	-36	-58	-49	-26	-43	-72	-16	-88															
	27	-77	-81	-89	-91	-85	-93														
	28	..	..	..	..	..	..	-92	-98	-102	-110	-115	-117	-109	-95	-75	-41	-28	-27	-26	15	34	40	18	-39	-62	-25	-87									
	29	-62	-71	-88	-82	-87	-85	-96	-82	-79	-88	-93	-100	-90	-78	-65	-77	-65	-11	12	6	-24	-17	-12	-38	-61	-28	-89															
	30	-86	-83	-80	-79	-81	-81	-71	-82	-97	-97	-101	-108	-97	-94	-81	-51	-9	-6	38	41	44	15	-9	..	-55	-29	-84															
Hourly Means.....	-94	-101	-108	-105	-112	-110	-112	-112	-112	-114	-118	-121	-118	-110	-79	-38	4	31	30	14	-14	-31	-50	-74	-73	-15	-88																
Temp. Correction..	-18	-17	-16	-15	-12	-11	-9	-8	-7	-6	-5	-3	-2	-6	-10	-16	-20	-26	-28	-29	-29	-27	-26	-23	-15																		
Corrected Means..	-112	-118	-124	-120	-124	-121	-121	-120	-119	-120	-123	-124	-120	-116	-89	-54	-16	5	2	-15	-43	-58	-76	-97	-88																		
Differences.....	-117	-123	-129	-125	-129	-126	-126	-125	-124	-125	-128	-129	-125	-121	-94	-59	-21	0	-3	-20	-48	-63	-81	-102	-93																		
Diurnal Oscillation. } = 00	2683	2820	2958	2866	2958	2889	2889	2866	2843	2866	2935	2956	2866	2775	2155	1353	0482	0	0069	0459	1101	1445	1857	2339	2143		$\frac{\Delta Y}{Y}$																
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. APRIL 1844.	1	81.8	81.5	81.5	81.4	81.2	81.2	81.1	80.8	80.8	80.7	80.6	80.4	80.3	80.3	80.5	80.5	81.1	81.4	82.1	82.4	82.6	82.8	82.9	82.6	81.4																	
	2	82.0	81.6	81.3	81.0	81.0	81.0	80.8	80.7	80.6	80.4	80.3	80.3	80.2	80.3	80.6	81.3	81.7	81.6	83.0	83.0	83.1	83.2	83.3	82.7	81.5																	
	3	82.2	81.6	81.5	80.5	81.3	81.1	80.9	80.6	80.5	80.4	80.3	79.9	80.0	80.5	81.0	81.6	81.6	82.5	83.0	83.2	83.2	83.0	83.0	82.7	81.5																	
	4	82.2	82.0	82.0	81.9	81.6	81.3																
	5	81.3	81.0	80.7	80.6	80.6	80.5	80.3	80.5	81.1	81.9	82.4	82.6	83.0	83.2	83.6	83.4	83.2	82.6	81.8																	
	6	82.1	81.9	81.8	81.6	81.6	81.5																
	7	81.4	81.3	81.2	81.2	81.1	80.8	80.9	81.2	81.7	82.1	82.4	82.6	81.1	81.3	81.4	81.6	..	81.4	81.5																	
	8	81.0	..	80.8	80.6	80.5	80.4	80.3	80.2	80.1	80.0	79.8	79.5	79.5	80.1	80.5	81.0	81.6	82.1	82.2	81.7	81.2	81.1	81.3	81.0	80.7																	
	9	80.6	80.5	80.3	..	80.0	79.8	79.7	79.6	79.4	79.2	79.0	78.8	78.9	79.2	79.6	80.2	80.7	81.3	81.6	81.6	81.3	80.5	80.3	80.0	80.1																	
	10	79.6	..	79.6	79.7	79.6	79.5	79.4	79.3	79.4	79.2	79.0	78.9	79.0	78.9	79.1	79.5	79.6	79.7	79.8	80.0	80.1	80.2	80.0	80.3	79.5																	
	11	79.9	79.7	79.9	..	79.7	79.6	79.6	79.5	79.4	79.3	79.0	79.3	79.3	79.4	79.4	79.8	80.6	81.2	81.6	81.7	81.6	80.2	79.6	79.5	80.0																	
	12	79.3	79.2	79.4	79.2	79.2	79.2	79.1	79.0	78.9	78.8	78.5	78.5	78.7	78.9	79.5	80.1	80.5	80.8	81.2	81.7	82.1	82.0	81.7	..	79.8																	
	13	80.8	80.7	80.5	80.2	80.1	79.9																	
	14	79.3	79.3	79.2	79.0	79.3	79.1	79.2	79.3	79.6	79.8	80.2	80.6	81.0	81.2	81.0	81.0	81.0	80.9	80.1																	
	15	80.7	80.5	80.5	80.5	80.4	80.3	80.2	80.0	80.0	80.0	79.7	79.5	79.4	79.2	79.5	79.8	80.2	80.7	81.0	81.0	81.0	81.1	81.2	81.1	80.3																	
	16	80.9	80.7	80.5	80.4	80.4	80.2	80.2	80.1	80.0	80.0	79.9	79.9	79.0	80.1	80.6	81.0	81.6	82.0	82.5	82.6	82.6	82.8	82.6	82.4	81.0																	
	17	82.0	81.7	81.5	..	81.4	81.2	81.0	80.7	80.7	80.5	80.3	80.3	80.1	80.5	80.4	..	82.0	82.5	82.7	83.0	83.3	83.0	82																			

k = a. cot θ T^2 = .00002909 × cot 12°40' × (7.479/1484)^2 = .00002293

g/k = .0002595 / .00002293 = 11.317 = 1° Fahr. Zero. . . 80°0

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Main data table with columns for time (Noon to 23), magnetic force (sc.d.), temperature (sc.d.), and corrected means. Includes sub-sections for 'VERTICAL FORCE MAGNETOMETER' and 'TEMPERATURE OF VERTICAL FORCE MAGNETOMETER' for June 1844.

* The observations of the 17th, 29th and 30th are omitted in the hourly and daily means.

† Series broken.

$k = a \cdot \cot \theta \frac{T^2}{T^2} = \cdot 00002909 \times \cot 12 \cdot 40 \times \left(\frac{7 \cdot 479}{14 \cdot 84}\right)^2 = \cdot 00002293$

$\frac{q}{k} = \frac{\cdot 0002595}{\cdot 00002293} = 11 \cdot 317 = 1^\circ \text{Faht.}$

ther.
 Zero .. 80° 0

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.			
Singapore Mean Time.	h. m. 6-16	h. m. 7-16	h. m. 8-16	h. m. 9-16	h. m. 10-16	h. m. 11-16	h. m. 12-16	h. m. 13-16	h. m. 14-16	h. m. 15-16	h. m. 16-16	h. m. 17-16	h. m. 18-16	h. m. 19-16	h. m. 20-16	h. m. 21-16	h. m. 22-16	h. m. 23-16	h. m. 0-16	h. m. 1-16	h. m. 2-16	h. m. 3-16	h. m. 4-16	h. m. 5-16	sc. d.	sc. d.	sc. d.			
VERTICAL FORCE MAGNETOMETER. JULY 1844.	*1	134	145	143	148	143	143	138	139	143	140	143	143	144	142	150	159	159	160	160	146	143	146	142	140	..	..	..
	*2	141	140	142	142	138	140	139	140	141	141	141	143	147	149	151	154	157	159	156	155	157	153	146	
	*3	145	140	145	161	161	158	157	155	154	154	160	..	160	166	170	172	170	173	178	167	165	163	162	159
	4	
	5	-70	-79	-50	..	-55	-59	-60	-52	..	-29	-28	..	-28	-33	-26	..	16	25	37	36	-5	-6	7	9	-30	-24	-22	-46	
	6	-38	-29	-27	-26	-28	-39	
	7	..	..	..	..	..	-46	-47	-41	-36	-38	-27	-36	-31	-16	-9	12	13	33	14	10	-8	-28	-26	-20	-20	-18	-38
	8	-28	-28	-25	-24	-31	-39	-42	-36	-36	-30	-38	-36	-20	-30	-26	-15	-5	10	7	7	-28	-20	-21	-22	-17	-39			
	9	-29	-26	-31	-29	-31	-31	-36	-30	-31	-31	-37	-25	-36	-32	-45	-37	-51	-50	-36	-18	-20	-36	-56	-58	-35	-9	-44		
	10	-58	-57	-54	-55	-56	-53	-55	-43	..	-62	-76	-78	-68	-69	-57	-48	-16	-3	-13	-19	-20	-23	-39	-56	-47	-10	-57		
	11	-64	-63	-63	-60	-56	-62	-67	-62	-76	..	-84	-86	-77	-69	-64	-47	-33	-39	-36	-54	-45	-32	-40	-60	-58	-15	-73		
	12	-77	-81	-79	-79	-77	-76	-75	-67	-72	-76	-78	..	-76	-69	-59	-52	-46	-47	-30	-32	-19	-18	-15	-35	-58	-16	-74		
	13	-54	-51	-53	-53	-60	-63	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	14	-78	-76	-87	-80	-84	-79	-54	-30	-17	15	21	..	63	44	53	17	-33	-34	-35	-69	
	15	..	-55	-45	-15	-52	-52	-50	-54	..	-42	-46	-47	-50	-56	-41	-25	9	19	40	..	35	17	-9	-27	-26	-41	-67		
	16	-50	-50	-59	-62	-64	-67	-57	-65	-67	..	-64	-70	-70	-69	-63	-61	-63	-44	-40	-47	-59	-59	-73	-60	-22	-82			
	17	-94	-91	-58	-59	-62	-65	-66	-70	-74	-71	-84	-88	-75	-75	-58	-29	-41	-8	-6	-10	-7	-15	-34	-40	-53	-10	-63		
	18	-52	-59	-75	-81	-70	-65	-70	-75	-76	..	-67	-72	-69	-60	-31	2	36	44	40	35	-14	-46	-74	-84	-43	-18	-61		
	19	-79	-93	-92	-97	-96	-92	-95	-91	-91	-102	-104	-97	-93	-81	-57	-7	-10	-7	-20	-40	-57	-70	-76	-73	-10	-83			
	20	-77	-79	-87	-86	-92	-92	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	21	..	..	..	..	..	-76	-78	-76	-78	-82	-90	-79	-77	-63	-44	-11	-9	-50	..	..	-26	-29	-43	-65	-25	-90	
	22	-56	-56	..	-81	-82	-85	-84	-90	-92	-94	-92	-95	-84	-65	-32	-32	-10	-20	-9	16	16	-15	-32	-50	-53	-28	-81		
	23	-67	-70	-70	-75	-78	-76	-84	-86	-91	-94	-94	-101	-93	-93	-82	-111	-95	-89	-60	-67	-53	..	-63	-70	-81	-15	-96		
	24	-80	-80	-82	-85	-84	-87	-88	-96	-98	-104	-107	-105	-83	-96	-85	-70	-51	-16	-42	-50	-50	-55	-72	-77	-8	-85			
	25	-99	-88	-101	-94	-91	-59	-72	-83	-70	-75	-77	-89	-95	-90	-78	-60	-48	-33	-59	-51	-39	-22	-28	-39	-68	-17	-85		
	26	-61	-58	-67	-67	-66	-59	-55	-56	-56	..	-69	-85	-82	-61	-43	-27	-7	..	16	17	6	-7	-10	-31	-42	-18	-60		
	27	-56	-58	-58	-58	-65	-60	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	28	..	..	..	..	..	-59	-63	-62	-65	-61	-60	-71	-60	-57	-66	-76	-75	-73	-68	-65	-55	-61	-70	-63	-16	-79	
	29	-76	-73	-76	-76	-76	-84	-81	-81	-79	-80	..	-92	-85	-76	-70	-46	-28	-13	-8	16	-4	-8	-37	-45	-55	-14	-69		
	30	-68	-65	-65	-65	-66	-69	-74	-77	-70	-77	-79	..	-82	-80	-12	-58	-48	-25	-10	-6	-5	-19	-31	-51	-52	-22	-74		
	31	-65	-71	-66	-66	-62	-72	-69	-72	-73	-73	-79	-85	-75	-62	-55	-44	-20	-14	-20	-6	-6	-20	-23	-47	-52	-20	-72		
Hourly Means.....	-63	-63	-63	-63	-65	-66	-67	-68	-71	-68	-71	-73	-69	-64	-52	-40	-25	-20	-10	-14	-14	-23	-37	-50	-51	-19	-69			
Temp. Correction...	-20	-20	-18	-18	-17	-16	-16	-14	-11	-10	-10	-9	-8	-9	-12	-16	-20	-22	-28	-28	-31	-31	-28	-25	-18	..	..	
Corrected Means...	-83	-83	-81	-81	-82	-82	-83	-82	-82	-78	-81	-82	-77	-73	-64	-56	-45	-42	-38	-42	-45	-54	-65	-75	-69	..	..	
Differences.....	-45	-45	-43	-43	-44	-44	-45	-44	-44	-40	-43	-44	-39	-35	-26	-18	-7	-4	0	-4	-7	-16	-27	-37	-31	..	..	
Diurnal Oscillation. } = 00	1032	1032	0986	0986	1009	1009	1032	1009	1009	0917	0986	1009	0994	0803	0596	0413	0161	0092	0	0092	0161	0367	0619	0848	0711	..	..	

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. JULY 1844.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Means.	
*1	83° 2	82° 7	82° 8	82° 6	82° 5	82° 3	82° 2	82° 0	81° 9	81° 7	81° 5	81° 5	81° 5	81° 5	81° 9	82° 4	82° 8	83° 1	83° 4	82° 8	82° 5	83° 0	83° 0	82° 8	..	..	..	..	..	..	..	..	..
*2	82° 7	82° 4	82° 4	82° 3	82° 3	82° 2	82° 1	82° 1	82° 0	82° 1	82° 0	81° 5	81° 5	81° 5	82° 0	82° 6	83° 1	83° 2	83° 5	83° 8	83° 9	84° 0	83° 9	83° 8	..	..	..	..	..	..	..	..	..	..
*3	83° 3	83° 1	83° 1	82° 9	82° 7	82° 6	82° 3	82° 1	81° 7	81° 5	81° 3	..	81° 0	81° 1	81° 5	81° 8	82° 1	82° 4	83° 0	83° 0	83° 1	82° 3	82° 3	82° 4	..	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5	82° 0	81° 8	81° 7	..	81° 4	81° 3	81° 1	81° 1	..	81° 0	80° 7	80° 5	80° 6	80° 9	..	81° 4	82° 2	82° 8	83° 2	83° 0	83° 2	83° 3	83° 3	83° 0	81° 9	..	..	..	..	..	..	..	..
6	82° 5	82° 5	82° 2	82° 4	82° 3	82° 2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	..	..	..	..	..	..	80° 6	80° 6	80° 5	80° 5	80° 5	80° 4	80° 4	80° 5	80° 7	81° 2	81° 3	81° 5	82° 1	82° 6	82° 6	82° 6	82° 4	82° 5	81° 6	..	..	..	..	..	..	..	..	..
8	82° 0	81° 7	81° 5	81° 5	81° 3	81° 2	81° 2	80° 9	80° 9	80° 7	80° 6	80° 6	80° 5	80° 6	80° 8	80° 8	81° 2	81° 8	82° 3	82° 4	82° 5	82° 3	82° 0	81° 9	81° 5	..	..	..	..	..	..	..	..	..
9	81° 6	81° 5	81° 5	81° 4	81° 3	81° 3	81° 2	81° 0	80° 8	80°																								

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = .00002909 \times \cot 12^{\circ} 40' \times \left(\frac{7479}{1484} \right)^2 = .00002293$$

$$\frac{q}{k} = \frac{.0002595}{.00002293} = 11.317 = 1^{\circ} \text{Faht.} \quad \text{ther. Zero}..80^{\circ} 0$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Göttingen Mean Time.		Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.			
Singapore Mean Time.		h.m. 6-16	h.m. 7-16	h.m. 8-16	h.m. 9-16	h.m. 10-16	h.m. 11-16	h.m. 12-16	h.m. 13-16	h.m. 14-16	h.m. 15-16	h.m. 16-16	h.m. 17-16	h.m. 18-16	h.m. 19-16	h.m. 20-16	h.m. 21-16	h.m. 22-16	h.m. 23-16	h.m. 0-16	h.m. 1-16	h.m. 2-16	h.m. 3-16	h.m. 4-16	h.m. 5-16						
VERTICAL FORCE MAGNETOMETER.	AUGUST 1844.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	
	1	-57	v	-70	-64	-62	-62	-68	-77	-78	-73	v	-73	-71	-79	-94	-89	-84	-69	-60	-46	-39	-12	-26	-51	-64	-16	-80			
	2	-60	-68	-65	-65	-79	-74	-76	-77	-81	-86	-89	-97	-92	-99	-78	-74	-61	-38	-34	-41	-41	-53	-71	-85	-70	0	-70			
	3	-82	-89	-84	-81	-83	-83	
	4	..	..	..	..	..	..	-67	-71	-79	-76	-80	-84	-78	-70	-64	-70	-56	-53	-46	-38	-11	-63	-28	-40	-66	-10	-76
	5	-50	-58	-55	-63	-65	-68	-67	-68	-68	-75	-77	-76	-71	-47	-24	-11	15	57	40	1	-25	-45	-52	-57	-42	-22	-64			
	6	-57	-69	-66	-63	-66	-71	-76	-75	-75	-83	-82	-86	-75	-74	-67	-11	-8	-6	14	15	-16	11	-7	-24	-46	-19	-65			
	7	-34	-49	-48	-47	-48	-56	-54	-66	-71	-65	-67	-67	-60	-40	-36	-61	-63	-75	-45	-14	-5	v	-23	-39	-49	-23	-72			
	8	-53	-59	-62	-64	-65	-76	-74	-74	-74	-78	-74	-68	-56	-33	-9	16	36	43	34	30	7	-20	-40	-37	-16	-53				
	9	-54	-71	-87	-97	-98	-79	-66	-56	-65	-69	-79	-81	-67	-47	-34	-10	-5	10	19	20	9	-15	-27	-38	-45	-8	-53			
	10	-50	-56	-57	-57	-59	-70	
	11
	12	-86	-90	-87	-88	-87	-84	-82	-85	-77	-87	-89	-94	-83	-84	-43	-14	20	-6	-7	v	-16	-24	-36	-46	-60	-19	-79			
	13	-59	-66	-66	-68	-69	-67	-66	-61	-61	-64	-66	-71	-56	-41	-33	-24	-5	18	-28	23	13	v	-10	-30	-42	-34	-76			
	14	-40	-50	-51	-44	-55	-57	-57	-59	-52	-53	-59	-81	-60	-62	-30	-6	7	16	30	-8	-18	-23	-35	-48	-37	-38	-75			
	15	-45	-51	-54	-45	-47	-50	-49	-53	-52	-52	-54	-62	-70	-69	-60	-21	5	16	-10	-16	-32	-28	-36	-51	-41	-27	-68			
	16	-65	-72	-71	-77	-80	-83	-79	-77	-83	-88	-89	-93	-79	-77	-58	-30	-11	22	23	v	10	-40	v	-94	-59	-11	-70			
	17	-86	-83	-43	-46	-48	-47	
	18	..	..	..	..	..	..	-68	-69	-67	-70	-82	-94	-93	-100	-85	-61	-34	-21	-5	v	32	-4	-32	-65	-55	-16	-71
	19	-79	-86	-88	-89	-84	-82	-88	-85	-87	-85	-88	-89	-78	-65	-52	-36	-35	-33	-38	-71	-50	-60	-40	-42	-68	-18	-86			
	20	-63	-75	-75	-72	-69	-76	-74	-84	-73	-75	-74	-71	-64	-58	-33	-17	10	v	-17	20	20	23	19	-11	-43	-24	-67			
	21	-42	-66	-68	-70	-22	-70	-66	-71	-70	-74	-79	-82	-78	-84	-77	-59	-55	-82	-48	-75	-50	-51	-46	-62	-64	-18	-82			
	22	-81	-86	-91	-105	-104	-98	-95	-95	-88	-84	-83	-78	-76	-73	-68	-49	-25	-17	-77	-6	-6	-30	-28	-43	-66	-14	-80			
	23	-66	-99	-65	-91	-86	v	-100	-98	-96	-98	-102	-100	-82	-88	-71	-33	-16	-48	-6	-27	-22	-52	-39	-56	-67	-12	-79			
	24	-65	-83	-86	-88	-89	-91		
	25	..	..	..	..	..	..	-89	-87	-90	-90	-119	-115	-88	-80	-87	-71	-17	-37	-8	-62	-7	-13	-29	-37	-68	-11	-79
	26	-68	-80	-111	-121	-110	-93	-94	-99	-106	-112	-112	-115	-105	-97	-72	-49	-70	-54	-96	-102	-79	-86	-99	-99	-93	-3	-96			
	27	-104	-103	v	-100	-104	-106	-116	-121	-122	-122	-122	-123	-98	-93	-87	-55	-78	-47	-95	-35	-35	-38	-74	-87	-90	-2	-92			
	28	-92	-95	-98	-95	-102	-101	-106	-113	-112	-110	-109	-114	-107	-101	-104	-91	-93	-42	-38	-51	-5	-18	-45	-57	-83	-3	-86			
	29	-91	-95	-96	-96	-97	-105	-101	-109	-112	-130	-118	-108	-96	-89	-98	-54	-93	-43	-85	-84	-28	-48	-54	-66	-87	-11	-98			
	30	-92	-105	v	-116	-114	-117	-116	-107	-107	-107	-106	-102	-100	-101	-78	-66	-49	-29	-54	-49	-55	-57	-65	-72	-85	-15	-100			
Hourly Means.....		-66	-76	-73	-77	-77	-78	-80	-81	-82	-84	-87	-89	-80	-75	-61	-42	-32	-22	-25	-28	-17	-31	-38	-55	-61	-16	-76			
Temp. Correction..		-20	-17	-16	-14	-14	-12	-11	-10	-9	-8	-6	-3	-2	-5	-10	-15	-18	-23	-26	-28	-31	-28	-27	-24	-16					
Corrected Means..		-86	-93	-89	-91	-91	-90	-91	-91	-91	-92	-93	-92	-82	-80	-71	-57	-50	-45	-51	-56	-48	-59	-65	-79	-76					
Differences.....		-41	-48	-44	-46	-46	-45	-46	-46	-46	-47	-48	-47	-37	-35	-26	-12	-5	0	-6	-11	-3	-14	-20	-34	-31					
Diurnal Oscillation. } = 00		0940	1101	1009	1055	1055	1032	1055	1055	1055	1078	1101	1078	0848	0803	0596	0275	0115	0	0138	0252	0069	0321	0459	0780	0720	=	$\frac{\Delta Y}{Y}$			
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.	AUGUST 1844.	81.9	..	81.7	81.6	81.6	81.6	81.6	81.5	81.3	81.3	..	81.1	80.9	80.6	80.1	81.3	81.5	81.6	81.9	81.6	81.4	81.8	82.1	81.7	81.4	80.0				
	2	81.4	81.0	81.0	81.0	80.3	80.1	79.8	79.7	79.4	79.4	79.4	79.3	79.2	79.2	79.4	79.5	79.7	79.8	79.8	79.7	80.2	80.3	80.5	80.1	80.9	80.0				
	3	79.8	79.6	79.7	79.6	79.6	79.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	4	..	..	..	..	..	..	80.5	80.5	80.4	80.1	80.0	79.7	79.7	79.8	80.5	81.3	81.8	82.1	82.8	82.4	82.7	82.8	83.0	82.9	80.9	80.9	
	5	82.5	82.3	82.1	81.9	81.8	81.8	81.7	81.6	81.5	81.0	80.9	80.6	80.6	81.1	81.8	82.3	82.7	83.5	83.3	82.5	82.3	82.0	81.9	81.8	81.9	81.9	81.8			
	6	81.7	81.6	81.6	81.5	81.4	81.2	80.0	80.7	80.5	80.4	81.1	79.9	79.6	79.8	80.5	81.5	82.1	82.8	83.5	83.7	84.0	84.0	84.0	83.6	81.7	81.7	81.7			
	7	83.4	82.9	82.7	82.6	82.6	82.5	82.0	82.0	81.6	81.7	81.5	81.1	81.1	81.6	81.7	80.7	80.5	80.7	81.7	82.5	82.8	..	82.6	82.5	82.0	82.0	82.0			
	8	82.0	81.9	81.7	81.4	81.1	80.8	80.6	80.5	80.3	80.0	79.9	79.8	79.6	79.8	80.5	81.6	82.4	83.2	83.2	83.4	83.5	82.5	82.1	81.8	81.4	81.4	81.4			
	9	81.5	81.1	81.0	80.7	80.5	80.4	80.5	80.3	79.7	79.7	79.5	79.2	79.1	79.7	80.4	81.0	81.0	80.8	81.2	81.7	82.6	82.3	82.0	81.7	80.7	80.7	80.7			
	10	81.4	81.1	81.0	80.8	80.6	80.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	11		
	12	81.7	81.5	81.5	81.5	81.6	81.4																								

k. = a. cot θ T^2 = .00002909 × cot 12.40 × (7.479/14.84)^2 = .00002293

q = .0002595 / k = .0002293 = 11.317 = 1° Faht. Ther. Zero... 80.0

q = .0002595

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, and Vertical Force Magnetometer readings for October 1844. Includes sub-columns for hours and minutes.

Summary table for Vertical Force Magnetometer showing Hourly Means, Temp. Correction, Corrected Means, Differences, and Diurnal Oscillation.

Table with columns for Temperature of Vertical Force Magnetometer readings for October 1844. Includes a means row at the bottom.

$$k = a \cdot \cot \theta \frac{T^2}{T'^2} = \cdot 00002909 \times \cot 12^{\circ} 40' \times \left(\frac{7.479}{14.84} \right)^2 = \cdot 00002293$$

$$\frac{q}{k} = \frac{\cdot 0002595}{\cdot 00002293} = 11.317 = 1^{\circ} \text{ Faht.}$$

ther. Zero .. 80.0

$$q = \cdot 0002595$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Göttingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.			
Singapore Mean Time.	h.m. 6-16	h.m. 7-16	h.m. 8-16	h.m. 9-16	h.m. 10-16	h.m. 11-16	h.m. 12-16	h.m. 13-16	h.m. 14-16	h.m. 15-16	h.m. 16-16	h.m. 17-16	h.m. 18-16	h.m. 19-16	h.m. 20-16	h.m. 21-16	h.m. 22-16	h.m. 23-16	h.m. 0-16	h.m. 1-16	h.m. 2-16	h.m. 3-16	h.m. 4-16	h.m. 5-16	sc.d.	sc.d.	sc.d.			
VERTICAL FORCE MAGNETOMETER. NOVEMBER 1844.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.			
	1	-59	-67	-78	-79	-81	-82	-81	-90	-90	-81	-85	-85	-94	-86	-63	-32	16	34	51	-18	-10	-23	-50	54	-54	-17	-71		
	2	-64	-67	-76	-84	-78	-81	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	3	..	..	..	..	..	..	..	-87	-87	-90	-90	-91	-96	-102	-101	-79	-40	-7	22	19	-10	-38	-37	-52	-67	..	..	..
	4	-64	-72	-81	-88	-84	v	-111	-102	-102	-99	-109	-109	-118	-118	-90	-46	-19	-53	-41	-77	-98	-102	-99	-103	-86	-5	-91	..	
	5	-113	-114	-115	-118	-117	-120	-123	-123	-123	-124	-128	-133	-138	-139	-108	-90	-40	-30	-20	-55	-76	-89	-102	-111	-102	5	-97	..	
	6	-124	-143	-107	-143	-112	-133	-128	-128	-132	-132	-141	-145	-150	-150	-124	-102	-66	-47	-54	-47	-78	-82	-98	-109	-111	3	-108	..	
	7	-118	-120	-120	-118	-118	-115	-122	-118	-118	-74	-127	-126	-128	-116	-96	-87	-61	-47	-36	-44	-71	-68	-82	-81	-96	-7	-103	..	
	8	-90	-100	-104	-110	-109	-111	-111	-107	-107	-110	-113	-116	-120	-113	-127	-51	-39	-13	-23	-30	-79	-49	-70	-65	-86	-15	-101	..	
	9	-72	-85	-87	-89	-90	-90	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	10	..	..	..	..	..	..	..	-92	-89	-89	-93	-96	-100	-98	-86	-72	-54	-48	-46	-74	-88	-88	-88	-96	-83	-15	-98	..
	11	-106	-113	-113	-113	-113	-113	-123	-123	-124	-118	-127	-125	-129	-107	-81	-38	-7	-6	-14	-43	-40	-79	-95	-85	-89	-9	-98	..	
	12	-85	-93	-105	-119	-77	-80	-84	-73	-83	-71	-72	-76	-122	-99	-71	-30	-14	-16	-9	-35	-68	-116	-116	-105	-76	-7	-83	..	
	13	-108	-108	-107	-110	-110	-107	-106	-111	-106	-111	-116	-118	-113	-100	-78	-55	-24	-18	-12	-35	-59	-71	-86	-92	-86	-3	-89	..	
	14	-99	-104	-111	-118	-119	-126	-126	-132	-134	-128	-79	-84	-131	-126	-110	-94	-66	-55	-45	-38	-69	-99	-104	-130	-101	7	-94	..	
	15	-109	-113	-115	-115	-118	-118	-116	-121	-124	-122	-122	-122	-121	-117	-89	-54	-21	-24	-10	-15	-56	-65	-102	-126	-92	-3	-95	..	
	16	-140	-138	-126	-128	-139	-141	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	17	-121	-122	-122	-126	-124	-130	-130	-123	-108	-86	-71	-53	-52	-57	-67	-77	-91	-110	-108	-3	-111	..
	18	-110	-109	-112	-116	-119	-125	-125	-125	-125	-123	-127	-147	-153	-139	-108	-63	-53	-43	-55	-97	-125	-133	-137	-143	-113	1	-112	..	
	19	-152	-153	-149	-152	-152	-156	-157	-153	-156	-160	-161	-162	v	-163	-105	-72	-54	-36	-73	-59	-81	-85	-108	-118	-123	6	-117	..	
	20	-134	-143	-144	-143	-145	-140	-140	-135	-135	-142	-125	-153	-158	-137	-105	-65	-34	-45	-68	-77	-99	-111	-130	-139	-119	7	-112	..	
	21	-144	-141	-139	-140	-144	-152	-150	-148	-153	-155	-159	-156	-164	-153	-129	-105	-58	-69	-73	-88	-115	-130	-156	-165	-133	9	-124	..	
	22	-159	-162	-148	-101	-102	-101	-110	-116	-108	-118	-167	-161	-153	-160	-143	-128	-102	-71	-69	-121	-141	-150	-136	-139	-128	5	-123	..	
	23	-143	-148	-147	-146	-145	-151	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	24	-162	-169	-180	-174	-170	-171	-182	-169	-159	-128	-104	-140	-148	-115	v	-155	-149	-159	-153	6	-147	..
	25	-166	-174	-188	-173	-172	-173	-168	-167	-174	-174	-174	-183	-181	-175	-154	-135	-98	-78	-73	-89	-106	-131	-150	-153	-150	6	-144	..	
	26	-158	-160	-163	-173	-172	-170	-167	-158	-161	-161	-115	-126	-128	-162	-146	-118	-80	-62	-58	-59	-71	-92	-115	-126	-129	-7	-136	..	
	27	-128	-143	-154	-152	-158	-155	-154	-149	-151	-154	-154	-156	-166	-164	-149	-126	-84	-59	-52	-53	-72	-80	-94	-104	-125	-10	-135	..	
	28	-117	-131	-146	-150	-145	-143	-135	-141	-139	-133	-136	-144	-145	-132	-111	-73	-41	-37	-36	-32	-63	-67	-82	-90	-107	-22	-129	..	
29	-112	-113	-122	-128	-134	137	-137	-131	-135	-137	-134	-127	-129	-122	-111	-93	-76	-60	-54	-64	-73	-88	-94	-105	-109	-24	-133	..		

Hourly Means.....	-115	-121	-122	-124	-122	-126	-125	-125	-126	-124	-126	-130	-136	-131	-109	-79	-50	-42	-42	-57	-77	-91	-103	-111	-105	-4	-109
Temp. Correction...	-7	-6	-3	-3	-1	0	2	3	5	6	7	8	7	6	2	-5	-10	-14	-18	-18	-18	-16	-12	-10	-4	..	..
Corrected Means...	-122	-127	-125	-127	-123	-126	-123	-122	-121	-118	-119	-122	-129	-125	-107	-84	-60	-56	-60	-75	-95	-107	-115	-121	-109	..	..
Differences.....	-66	-71	-69	-71	-67	-70	-67	-66	-65	-62	-63	-66	-73	-69	-51	-28	-4	0	-4	-19	-39	-51	-59	-65	-53	..	..
Diurnal Oscillation. } = 00	1513	1628	1582	1628	1536	1605	1536	1513	1490	1422	1445	1513	1674	1582	1169	0642	0092	0	0092	0436	0894	1169	1353	1490	1208	$= \frac{\Delta Y}{Y}$	

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. NOVEMBER 1844.	Hourly Means																							Daily and Monthly Means.	Temp. Corr.	Corrected Means.			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23						
1	81.7	81.6	81.4	81.2	81.2	81.2	80.9	80.7	80.6	80.3	80.4	80.1	80.1	80.4	81.2	81.7	82.2	82.7	83.4	83.4	82.8	82.5	82.4	82.1	81.5	..	..	..
2	81.9	81.7	81.6	81.5	81.4	81.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3	..	..	..	..	..	..	80.2	80.1	80.0	79.9	79.6	79.4	79.2	79.4	79.8	80.3	81.0	80.6	82.0	81.6	81.4	81.4	81.3	81.0	80.7	..	..	..	..
4	80.8	80.7	80.6	80.5	80.5	..	80.0	80.2	80.0	79.8	79.7	79.6	79.5	79.8	80.4	80.9	81.5	81.5	81.2	80.7	80.4	80.2	80.1	80.0	80.4	..	..	..	..
5	79.9	79.8	79.7	79.6	79.3	79.3	79.0	78.9	78.8	78.7	78.6	78.4	78.6	78.4	79.6	80.6	80.6	81.2	80.7	80.4	80.3	80.1	80.0	79.6	..	..	..	..	..
6	79.9	79.7	79.7	79.6	79.5	79.3	78.3	79.0	78.9	78.8	78.6	78.4	78.5	78.7	79.1	79.7	80.6	81.3	81.2	81.6	81.2	80.8	80.6	80.5	79.7	..	..	..	..
7	80.3	80.3	80.3	80.2	80.0	79.9	79.7	79.7	79.7	79.7	79.6	79.4	79.4	79.5	80.0	80.3	80.7	80.4	81.5	82.2	82.5	82.4	83.4	82.6	81.7	80.6	..	..	..
8	81.5	81.4	81.3	81.2	80.9	80.7	79.5	80.5	80.4	80.3	80.1	80.1	80.0	80.4	80.7	81.3	82.0	82.5	82.6	82.7	83.1	83.4	80.9	82.6	81.3	..	..	..	..
9	82.2	82.0	81.7	81.7	81																								

$$k = a \cdot \cot \theta \frac{T^2}{T'^2} = .00002909 \times \cot 12^{\circ} 40' \times \left(\frac{7.479}{14.94}\right)^2 = .00002293$$

$$q = .0002595$$

$$\frac{q}{k} = \frac{.0002595}{.00002293} = 11.317 = 1^{\circ} \text{ Fah. } \text{ther. Zero. } .80^{\circ}$$

VERTICAL FORCE MAGNETOMETER.-(uncorrected.)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.		
Singapore Mean Time.	h. m. 6-16	h. m. 7-16	h. m. 8-16	h. m. 9-16	h. m. 10-16	h. m. 11-16	h. m. 12-16	h. m. 13-16	h. m. 14-16	h. m. 15-16	h. m. 16-16	h. m. 17-16	h. m. 18-16	h. m. 19-16	h. m. 20-16	h. m. 21-16	h. m. 22-16	h. m. 23-16	h. m. 0-16	h. m. 1-16	h. m. 2-16	h. m. 3-16	h. m. 4-16	h. m. 5-16	sc. d.	sc. d.	sc. d.		
VERTICAL FORCE MAGNETOMETER. DECEMBER 1844.	Nov. 30	-102	-95	-97	-95	-109	-100	..	..	..	..	..	..	-141	-132	-112	-74	-41	10	-2	-24	-64	-92	-108	-112	-83	-16	-99
	1	-120	-126	-120	-129	-125	-133	-125	-133	-135	-137	-143	-139	-153	-146	-124	-100	-83	-65	-68	-74	-99	-112	-125	-134	-119	5	-114	
	2	-134	-140	-142	-146	-144	-144	-145	-147	-146	-146	-151	-154	-151	-143	-133	-113	-104	-87	-108	-90	-102	-104	-115	-115	-129	6	-123	
	3	-118	-137	-148	-142	-146	-150	-153	-156	-149	-153	-160	-157	-155	-159	-128	-89	-36	-18	-37	-31	-48	-75	-90	-105	-114	-5	-119	
	4	-115	-119	-171	-178	-173	-166	-137	-137	-142	-142	-167	-163	-154	-155	-127	-145	-50	-54	-54	-80	-113	-114	-127	-133	-130	-10	-140	
	5	-131	-136	-134	-134	-136	-133	-137	-135	-139	-140	-142	-142	-144	-140	-125	-105	-110	-75	-69	-74	-90	-118	-141	-144	-124	-6	-130	
	6	-139	-142	-143	-142	-146	-141	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	7	..	..	..	..	..	..	-142	-146	-148	-151	-159	-162	-160	-160	-152	-130	-113	-107	-87	-90	-106	-128	-142	-128	-136	6	-130
	8	-106	-164	-164	-164	-166	-166	-164	-170	-172	-173	-184	-184	-181	-159	-128	-104	-73	-64	-54	-64	-101	-126	-144	-155	-139	6	-133	
	9	-160	-165	-169	-171	-168	-168	-165	-170	-171	-170	-178	-172	-168	-159	-141	-137	-118	-106	-102	-128	-140	-155	-166	-182	-155	8	-147	
	10	-180	..	-197	-197	-199	-199	-198	-200	-201	-201	-204	-209	-204	-201	-197	-167	-140	-120	-89	-105	-132	-160	-179	-187	-177	25	-152	
	11	-190	-176	-197	-199	-199	-202	-203	-204	-203	-203	-206	-206	-211	-215	-181	-178	-149	-114	-107	-109	-138	-160	-185	-189	-180	25	-155	
	12	-191	-191	-191	-191	-181	-188	-180	-191	-195	-197	-199	-195	-247	-235	-168	-158	-153	-119	-112	-97	-103	-123	-134	-152	-170	11	-159	
	13	-161	-166	-178	-166	-173	-177	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	14	..	-127	-182	-188	-190	-184	-194	-190	-186	-186	-173	-178	-142	-179	-152	-126	-106	-91	-80	-78	-98	-115	-132	-149	-149	-2	-151	
	15	-165	-171	-177	-181	-182	-180	-184	-176	-179	-183	-184	-196	-187	-184	-173	-160	-143	-121	-94	-90	-90	-121	-115	-158	-158	3	-155	
	16	-166	-168	-172	-172	-173	-173	-169	-176	-176	-176	-173	-177	-167	-157	-134	-113	-94	-69	-56	-65	-69	-89	-125	-152	-140	-5	-145	
	17	-149	-138	-143	-132	-147	-153	-159	-171	-155	-153	-161	-185	-186	-191	-176	-163	-129	-110	-119	-65	-97	-108	-100	-96	-141	-7	-148	
	18	-148	-158	-163	-172	-163	-157	-161	-157	-157	-157	-156	-159	-177	-163	-148	-159	-159	-168	-168	-170	-152	-159	-160	-177	-161	-2	-163	
	19	-191	-187	-188	-184	-195	-195	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	20	..	..	..	..	..	..	-195	-193	-193	-190	-195	-198	-201	-201	-190	-167	-121	-84	-71	-75	-95	-142	-146	-144	-164	10	-154
	21	-174	-182	-189	-187	-188	-188	-191	-185	-192	-181	-185	-188	-190	-183	-160	-138	-102	-85	-65	-79	-98	-105	-148	-160	-156	2	-154	
	22	-167	-173	-173	-179	-187	-189	Christmasday	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	24	-156	-158	-160	-164	-151	-160	-160	-158	-157	-155	-155	-157	-154	-150	-126	-98	-76	-58	-69	-92	-125	-138	-145	-147	-136	-7	-143	
	25	-147	-149	-151	-154	-157	-159	-159	-158	-154	-163	-163	-170	-174	-172	-152	-134	-108	-99	-93	-100	-114	-128	-131	-136	-143	-7	-150	
	26	-141	-149	-152	-162	-155	-153	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	27	..	..	..	..	..	..	-173	-170	-170	-169	-157	-154	-161	-155	-146	-139	-130	-118	-128	-132	-136	-138	-130	-135	-148	-2	-150
	28	-137	-135	-136	-139	-144	-171	-187	-190	-190	-189	-173	-174	-180	-174	-166	-129	-100	-53	-52	-120	-121	-162	-155	-154	-147	-1	-148	
	29	-148	-157	-161	-161	-181	-170	-169	-168	-170	-173	-174	-183	-180	-165	-143	-109	-68	-49	-55	-71	-85	-135	-108	-118	-138	-7	-145	
	30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hourly Means.....	-149	-152	-161	-163	-165	-165	-168	-169	-169	-169	-172	-174	-175	-171	-151	-134	-106	-86	-81	-87	-105	-124	-135	-144	-145	1	-143		
Temp. Correction..	-3	-2	0	2	2	5	8	9	10	11	12	12	12	11	7	3	-1	-5	-8	-12	-12	-11	-9	-6	..	..	..
Corrected Means..	-152	-154	-161	-161	-163	-160	-160	-160	-159	-158	-160	-162	-163	-160	-144	-131	-107	-91	-89	-99	-117	-135	-144	-150	-143	..	..
Differences.....	-63	-65	-72	-72	-74	-71	-71	-71	-70	-69	-71	-73	-74	-71	-55	-42	-18	-2	0	-10	-28	-46	-55	-61	-54	..	..
Diurnal Oscillation. } = 00	1445	1468	1651	1651	1697	1628	1628	1628	1605	1582	1628	1674	1697	1628	1261	0963	0413	0046	0	0229	0642	1055	1261	1399	1246	=	$\frac{\Delta Y}{Y}$		
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. DECEMBER 1844.	Nov. 30	82.8	82.6	82.5	82.4	82.5	82.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1	80.1	80.0	79.9	79.8	79.7	79.7	79.5	79.5	79.4	79.2	79.2	79.1	79.1	79.0	79.0	79.0	79.0	79.2	79.5	79.6	80.2	80.6	80.5	80.2	79.9	79.6
	2	79.6	79.6	79.3	79.3	78.9	78.8	78.8	78.8	78.6	78.3	78.2	78.1	78.1	78.3	78.7	79.6	80.0	80.3	80.5	81.2	81.4	81.3	81.2	80.7	79.5
	3	80.4	80.3	80.2	80.1	79.8	79.7	79.7	79.6	79.4	79.2	79.1	79.1	79.3	79.3	79.9	80.3	81.5	81.5	81.3	82.1	82.5	82.3	82.1	81.5	80.4
	4	81.2	81.1	80.9	80.8	80.7	80.6	79.9	80.0	80.1	80.0	79.8	79.7	79.6	79.8	80.3	81.0	81.7	81.6	82.3	82.2	82.3	82.4	82.2	81.7	80.9
	5	81.4	81.3	81.2	81.1	81.0	80.6	80.5	80.6	80.5	80.3	80.1	80.0	80.1	80.6	80.3	80.3	80.3	80.5	80.3	80.2	80.6	80.4	80.1	80.1	80.5
	6	79.8	79.7	79.6	78.4	79.3	79.2
	7	79.2	79.1	79.1	79.1	79.0	78.9	78.8	79.0	79.4	79.5	80.1	80.4	80.4	80.5	80.3	79.9	79.6	79.6	79.5	79.5
	8	79.2	79.2	79.0	79.0	78.8	78.7	79.6	78.7	78.4	78.4	78.1	77.9	77.9	78.														

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 24th January 1844. Gottingen Mean Time.

WEDNESDAY the 24th January 1844.

THURSDAY the 25th January 1844.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 P. M.

0 1 2 3 4 5 6 7 8 9

Table with columns for Declination Magnetometer (m. s., sc.d.) and rows for values from 0.0 to 54.0.

Table with columns for Horizontal Force Magnetometer and rows for values from 2.0 to 56.0, plus a 'Ther..' row.

Table with columns for Vertical Force Magnetometer (s.d.) and rows for values from 4.0 to 58.0, plus a 'Ther..' row.

Table with columns for Barometer (uncorrected) and Attached Thermometer (Dry/Wet) and rows for values from 0.965 to 0.977 and 77.1 to 77.0.

Table with columns for Remarks on the Weather (Zenith, Horizon) and rows for weather conditions like 'calm', 'clear', 'cloudy', etc.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 20th March 1844. Gottingen Mean Time.

WEDNESDAY the 20th March 1844.

THURSDAY the 21st March 1844.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8 9 P. M.

Table with columns for Declination Magnetometer (m. s.) and rows for various declination values (0.0 to 54.0) across the 24 hours of the day.

Table with columns for Horizontal Force Magnetometer and rows for various force values (2.0 to 56.0) across the 24 hours of the day.

Table with columns for Vertical Force Magnetometer and rows for various force values (4.0 to 58.0) across the 24 hours of the day.

Summary row for the magnetometer data, labeled 'Ther..' with values for each hour.

Table for Barometer (uncorrected) and Attached Thermometer (Dry and Wet) with values for each hour.

Table for Remarks on the Weather, including Zenith and Horizon observations, with cloudiness in 8ths and weather descriptions for each hour.

ABSTRACT OF TERM DAY OBSERVATIONS. COMMENCING at 10 P. M. 24th April 1844. Gottingen Mean Time.

WEDNESDAY the 24th April 1844.

THURSDAY the 25th April 1844.

Gottingen Mean Time.

10

11

12

13

14

15

16

17

18

19

20

21

22

23

0

1

2

3

4

5

6

7

8

9

P. M.

DECLINATION
MAGNETOMETER.

m. s.

0.0
6.0
12.0
18.0
24.0
30.0
36.0
42.0
48.0
54.0

sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	
43.1	43.0	43.4	43.2	43.3	43.7	43.4	43.0	42.6	42.3	42.4	42.9	43.0	42.7	43.0	43.3	43.3	43.3	43.2	43.7	44.0	43.0	44.0	
43.1	43.0	43.4	43.1	43.2	43.9	43.4	42.9	42.6	42.2	42.6	42.9	43.0	42.8	43.0	42.6	43.2	43.7	43.3	43.0	44.0	43.2	44.0	
43.2	43.0	43.5	43.2	43.2	43.8	43.4	42.9	42.7	42.1	42.6	42.9	43.0	42.7	42.9	43.4	43.0	43.4	43.0	43.3	43.0	44.0	43.7	44.0
43.3	43.0	43.5	43.1	43.2	43.6	43.3	43.0	42.8	42.0	42.9	43.0	43.0	42.5	43.0	43.6	42.8	43.2	43.1	43.3	43.4	44.0	43.9	43.9
43.3	43.0	43.4	43.1	43.2	43.5	43.2	42.9	42.9	42.0	43.0	43.0	43.0	42.2	42.8	43.8	42.7	43.2	43.1	43.3	43.8	44.2	44.0	43.9
43.3	43.0	43.3	43.1	43.3	43.6	43.0	42.9	42.9	42.0	42.9	43.0	43.0	42.2	42.7	44.0	42.8	43.2	43.2	43.1	43.9	44.0	44.0	43.9
43.2	43.1	43.4	43.1	43.4	43.4	43.0	42.9	42.8	42.0	42.9	43.0	43.0	42.3	42.9	44.4	42.8	43.1	43.2	43.3	43.8	43.9	43.9	43.9
43.1	43.3	43.2	43.2	43.4	43.5	43.1	42.6	42.6	42.1	42.9	43.0	43.0	42.6	43.0	44.1	43.0	43.1	43.1	43.4	43.9	43.2	43.9	43.8
43.0	43.4	43.2	43.1	43.5	43.4	43.0	42.6	42.4	42.2	42.9	43.0	42.9	43.1	43.9	43.0	43.0	43.2	43.5	43.9	43.0	44.0	43.9	43.9

HORIZONTAL FORCE
MAGNETOMETER.

2.0
8.0
14.0
20.0
26.0
32.0
38.0
44.0
50.0
56.0
Ther...

58.1	58.0	57.1	55.9	55.1	53.3	51.6	52.5	53.8	54.9	56.1	57.1	58.1	59.3	60.5	61.5	66.4	65.9	64.2	63.1	63.6	64.5	62.7	62.9
58.1	57.6	57.1	55.9	54.6	53.2	51.6	52.7	54.0	54.9	56.1	57.1	58.5	59.3	60.6	61.9	66.1	66.2	63.5	63.2	63.4	62.6	62.3	62.5
58.0	57.6	57.0	55.8	54.3	53.1	51.6	53.1	54.1	54.8	56.2	57.1	58.6	59.5	60.9	62.5	66.0	66.4	63.3	63.9	63.4	61.4	62.4	62.5
58.0	57.9	57.0	55.7	54.1	53.0	51.5	53.2	54.2	54.9	56.5	57.2	58.8	59.4	60.8	62.8	65.7	66.2	62.8	64.2	63.7	60.8	62.6	62.4
58.0	57.8	56.8	55.7	54.1	52.7	51.5	53.2	54.3	55.0	56.9	57.3	58.9	59.3	60.6	63.3	65.3	66.0	62.7	64.6	64.0	60.0	62.9	62.4
58.0	57.7	56.7	55.4	54.1	52.3	51.6	53.4	54.5	55.2	57.0	57.7	59.0	59.0	60.2	64.0	65.8	65.4	62.9	65.0	63.5	60.1	62.9	62.4
58.0	57.6	56.6	55.2	54.0	51.9	51.7	53.3	54.6	55.4	56.9	57.7	59.1	59.0	60.6	64.5	65.7	65.1	62.8	64.7	63.7	60.9	63.1	63.9
58.0	57.5	56.5	55.3	53.9	51.8	52.2	53.4	54.7	55.7	56.7	57.9	59.1	59.4	60.8	65.0	65.6	64.9	62.7	64.3	64.5	61.7	63.0	62.4
58.0	57.4	56.4	55.2	53.7	51.8	52.2	52.5	54.7	55.9	56.8	57.9	59.1	59.7	61.2	65.5	65.4	64.6	63.1	63.9	64.6	62.5	62.6	62.4
58.0	57.2	56.2	55.1	53.5	51.8	52.3	53.8	54.8	56.0	57.0	57.9	59.2	60.6	61.3	65.5	65.3	64.6	63.0	63.8	64.6	62.2	62.6	62.4
80.9	80.9	80.9	81.0	81.5	82.0	82.8	83.5	83.6	83.8	83.8	83.7	83.3	83.1	83.0	82.9	82.5	82.3	82.0	82.0	81.7	81.8	81.8	81.7

VERTICAL FORCE
MAGNETOMETER.

4.0
10.0
16.0
22.0
28.0
34.0
40.0
46.0
52.0
58.0
Ther...

s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.
-91	-29	-10	-73	-25	36	82	93	77	68	50	-8	-24	-47	-56	-57	-105	-99	-95	-98	-87	-83	-71	-81
-82	-23	-9	-71	-16	37	82	97	82	71	43	-12	-29	-46	-54	-57	-105	-99	-92	-104	..	..	-73	-79
-82	-28	-23	-71	-4	..	88	91	82	74	37	-7	-31	-49	-55	-75	-97	-127	-92	-102	..	..	-76	-79
-67	-22	-41	-70	8	35	91	91	86	73	33	-11	-34	-49	-55	-77	-88	-131	-92	-100	-94	-57	-78	-30
-59	-15	-59	-66	12	45	96	91	82	78	22	-12	-35	-47	-50	-98	-96	-121	-91	-104	-89	-57	-80	-28
-51	-13	-68	-62	14	52	99	88	79	67	19	-12	-38	-45	-49	-98	-97	-110	-91	-104	-88	-60	-79	-82
-43	-17	-70	-56	14	67	95	83	78	63	17	-15	-38	-47	-56	-97	-105	-124	-93	-104	-87	-68	-81	-83
-37	-16	-73	-50	27	67	100	82	76	61	8	-15	-41	-51	-63	-96	-102	-124	-87	-104	-89	-68	-79	-84
-34	-12	-71	-45	30	72	100	80	70	62	8	-18	-44	-52	-66	-98	-95	-104	-92	-96	-91	-69	-82	-88
-31	-8	-73	-38	34	78	100	77	65	60	2	-20	-47	-49	-59	-96	-99	-104	-98	-93	..	-67	-81	-84
80.9	81.0	82.1	81.5	82.0	82.8	83.5	84.3	84.2	84.3	84.4	83.7	83.2	83.2	83.1	82.7	82.7	82.2	82.3	81.8	81.7	81.8	81.8	81.7

Barometer(uncorrected)
= 29.0 +

Attached Thermometer ..
Dry do

in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1.026	1.032	1.039	1.059	1.075	1.079	1.074	1.064	1.058	1.013	0.997	0.983	0.987	0.996	1.017	1.006	1.020	1.056	1.068	1.053	1.054	1.038	1.013	1.003
79.8	79.8	79.8	80.0	80.1	81.2	82.0	83.0	83.1	83.1	82.0	82.4	82.2	82.0	81.5	81.0	80.6	80.0	80.0	79.8	80.0	80.0	80.1	80.1
76.9	76.8	76.7	78.0	83.9	86.4	88.8	89.0	91.0	89.2	91.1	86.0	82.7	81.9	80.9	81.2	81.0	80.7	78.8	76.5	77.2	77.0	76.6	76.6
75.4	75.6	75.6	77.5	78.9	79.8	81.0	85.7	86.0	80.0	81.0	79.2	79.7	79.7	79.0	78.8	78.2	78.0	77.0	75.8	75.8	75.6	75.0	75.0

Cloudy Sky in 8ths.

8.	8.	8.	8.	8.	8.	6.	4.	6.	6.	7.	8.	8.	8.	5.	5.	7.	7.	6.	4.	5.	2.	4.
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REMARKS ON THE WEATHER.

ZENITH.
HORIZON.

overcast.	do.	do.	do.	do.	cir., cir-cum.	cir-cu., cir-haze.	clear.	cir-cum., cir.	overcast.	do.	do.	do.	cir-stra., cir.	do.	do.	do.	do.	haze.	cum-stra.	hy-cu., cu-str., str.	cloudy.	do.	clear.	do.	do.	do.	
overcast.	do.	do.	do.	do.	cum., stra.	cu., cum-stra., stra.	cu., cum-stra.	cum., stra.	cu., cum-stra.	do.	overcast.	do.	do.	do.	haze.	cum-stra.	hy-cu., cu-str., str.	cloudy.	cir-cu-stra. W.	cloudy.	do.	do.	do.	do.	do.	do.	
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.																								

ABSTRACT OF TERM DAY OBSERVATIONS

COMMENCING at 10 P.M. 24th May 1844. Gottingen Mean Time.

FRIDAY the 24th May 1844.

SATURDAY the 25th May 1844.

Gottingen Mean Time.

Table with columns for Declination Magnetometer, Horizontal Force Magnetometer, Vertical Force Magnetometer, Barometer, Attached Thermometer, Cloudy Sky in 8ths, and Remarks on the Weather (Zenith and Horizon). Rows represent time intervals from 0:0 to 54:0.

*-a The Term-day book and day book here disagree the series of temperature in both is the same but set against different hours-The Term-day book being one hour in advance it is impossible to say which is right there are several erasures in the Term-day book.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 19th June 1844. Gottingen Mean Time.

WEDNESDAY the 19th June 1844.

THURSDAY the 20th June 1844.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8 9
P. M.

DECLINATION MAGNETOMETER.	m. s.	WEDNESDAY the 19th June 1844.													THURSDAY the 20th June 1844.											
		sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.		
0° 0'		43.7	43.8	44.5	45.8	45.8	45.5	44.7	43.4	42.5	41.7	41.0	41.3	42.1	42.2	42.0	42.2	42.3	42.1	42.0	42.3	42.9	43.0	43.0		
6° 0'		43.7	43.8	44.5	45.9	45.6	45.5	44.6	43.3	42.4	41.7	41.0	41.7	42.2	42.2	42.2	42.1	42.2	42.2	42.0	42.5	42.9	43.0	43.1		
12° 0'		43.6	43.8	44.7	45.9	45.4	45.3	44.5	43.2	42.3	41.6	41.0	41.8	42.5	42.1	42.5	42.1	42.2	42.0	42.1	42.7	43.0	42.9	43.0		
18° 0'		43.4	43.9	44.9	46.1	45.5	45.2	44.7	43.1	42.2	41.3	41.0	41.9	42.7	42.1	42.0	42.6	42.1	42.0	42.2	42.7	32.9	42.9	43.1		
24° 0'		43.3	43.9	45.0	46.1	45.4	45.0	44.4	43.1	42.1	41.2	41.0	42.0	42.8	42.1	42.0	42.3	42.1	42.0	42.2	42.7	43.0	42.9	43.0		
30° 0'		43.3	43.9	45.2	46.1	45.2	45.0	44.2	42.9	42.0	41.1	41.0	42.0	42.7	42.0	42.1	42.3	42.0	42.0	42.2	42.8	43.0	42.9	43.0		
36° 0'		43.3	44.0	45.2	46.0	45.3	45.0	44.0	42.9	42.0	41.0	41.0	42.0	42.8	42.0	42.0	42.2	42.1	42.0	42.3	42.8	43.0	42.9	43.0		
42° 0'		43.5	44.0	45.2	46.0	45.2	45.0	44.0	42.8	41.9	41.0	41.0	42.0	42.5	42.0	42.2	42.2	42.1	42.0	42.2	42.8	43.0	42.9	43.1		
48° 0'		43.7	44.1	45.4	45.9	45.2	44.9	44.0	42.7	42.0	41.0	41.0	42.0	42.3	42.0	42.2	42.3	42.1	42.0	42.3	42.8	43.0	42.9	43.0		
54° 0'		43.7	44.1	45.7	45.9	45.2	*44.2	43.8	42.6	41.8	41.0	41.1	42.0	42.2	42.0	42.3	42.3	42.0	42.0	42.3	42.8	43.0	42.9	43.0		
HORIZONTAL FORCE MAGNETOMETER.		2° 0'	63.5	63.2	62.3	61.9	60.9	59.8	59.3	58.9	59.7	60.6	62.0	63.2	64.0	64.0	63.6	63.7	63.8	63.9	63.9	63.4	62.7	62.6	62.2	62.0
VERTICAL FORCE MAGNETOMETER.		4° 0'	488	487	491	498	505	519	531	532	523	520	504	497	494	492	492	496	513	533	519	511	514	509	505	509
Ther...		83.2	83.1	83.0	83.0	83.2	84.0	84.5	84.7	84.8	85.0	84.7	83.9	83.9	83.9	84.0	84.0	84.0	84.0	83.8	83.7	83.5	83.4	83.2	83.0	83.0
Barometer (uncorrected) = 29.0 +		0.971	0.981	0.997	1.014	1.028	1.034	1.032	1.022	1.012	1.006	0.989	0.972	0.967	0.977	0.988	1.009	1.036	1.052	1.038	1.038	1.023	1.016	1.008	0.998	0.998
Attached Thermometer...		82.2	82.0	82.0	82.2	82.5	83.2	84.0	83.8	84.0	84.4	84.1	83.2	83.0	83.0	83.0	82.9	82.7	82.7	82.1	81.8	81.9	82.0	81.8	81.8	
Dry do.		80.9	80.8	80.6	84.0	86.5	86.6	89.0	89.0	92.0	91.0	88.1	83.9	84.6	83.9	83.2	82.0	81.2	81.5	81.3	80.0	78.5	78.5	77.9	77.8	
Wet do.		78.1	77.8	78.0	79.0	81.0	82.0	81.9	82.0	82.0	77.0	78.0	79.0	78.9	78.7	79.0	79.0	78.0	78.0	78.0	77.0	76.9	76.2	76.1	76.1	
REMARKS ON THE WEATHER.		Cloudy Sky in 8ths.																								
ZENITH.																									
HORIZON.																									

* Register number 1442, which must be a mistake, as the series is continuous.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 24th July 1844. Gottingen Mean Time.

WEDNESDAY the 24th July 1844.

THURSDAY the 25th July 1844.

Gottingen Mean Time

10 P. M.

11 12 13 14 15 16 17 18 19 20 21 22 23

0

1 2 3 4 5 6 7 8 9

DECLINATION
MAGNETOMETER.

m. s.
0 0
6 0
12 0
18 0
24 0
30 0
36 0
42 0
48 0
54 0

Table of declination observations for each hour, showing values in degrees and minutes for each day.

HORIZONTAL FORCE
MAGNETOMETER.

2 0
8 0
14 0
20 0
26 0
32 0
38 0
44 0
50 0
56 0
Ther..

Table of horizontal force observations, including magnetometer readings and thermometer values.

VERTICAL FORCE
MAGNETOMETER.

4 0
10 0
16 0
22 0
28 0
34 0
40 0
46 0
52 0
58 0
Ther..

Table of vertical force observations, including magnetometer readings and thermometer values.

Barometer(uncorrected)
= 29.0 +

Table of uncorrected barometer readings for each hour.

Attached Thermometer..
Dry do.
Wet do.

Table of attached thermometer readings for dry and wet conditions.

Cloudy Sky in 8ths.

Table of cloudy sky observations in eighths.

REMARKS ON THE WEATHER.
ZENITH.
HORIZON.

Table of weather remarks for zenith and horizon, including cloud descriptions.

ABSTRACT OF TERM DAY OBSERVATIONS

COMMENCING at 10 P.M. 18th September 1844. Gottingen Mean Time.

WEDNESDAY the 18th September 1844.

THURSDAY the 19th September 1844.

Gottingen Mean Time.

10 P. M.

Table with columns for Declination Magnetometer (m. s.) and rows for hours 10-23 on Wednesday and 0-9 on Thursday. Values range from 43.0 to 43.1.

Table with columns for Horizontal Force Magnetometer and rows for hours 2.0 to 56.0. Values range from 60.5 to 69.3.

Table with columns for Vertical Force Magnetometer and rows for hours 4.0 to 58.0. Values range from -148 to -127.

Table with columns for Barometer (uncorrected) and Attached Thermometer (Dry/Wet). Values range from 1.025 to 1.031 and 75.8 to 82.9.

Table with columns for Cloudy Sky in 8ths, REMARKS ON THE WEATHER (ZENITH and HORIZON), and various weather descriptions like overcast, cum, cir-cum, etc.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 23d October 1844. Gottingen Mean Time.

WEDNESDAY the 23d October 1844.

THURSDAY the 24th October 1844.

Gottingen Mean Time.

DECLINATION
MAGNETOMETER.

m. s.
0.0
6.0
12.0
18.0
24.0
30.0
36.0
42.0
48.0
54.0

WEDNESDAY the 23d October 1844.													THURSDAY the 24th October 1844.										
10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9
sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.
42.7	39.2	37.8	37.2	36.7	40.6	41.3	43.0	44.7	44.8	44.4	43.1	43.0	43.2	43.7	43.6	43.5	43.4	43.3	43.1	43.0	43.1	43.1	43.0
42.8	39.0	37.6	37.3	36.7	40.6	41.5	43.5	44.9	45.0	44.3	43.1	43.0	43.2	43.7	43.6	43.5	43.4	43.3	43.1	43.0	43.1	43.1	43.0
43.0	39.0	..	37.1	37.0	40.5	41.5	43.7	44.9	45.0	44.2	43.0	43.3	43.1	43.4	43.7	43.5	43.5	43.3	43.1	43.0	43.2	43.0	43.0
42.9	38.6	..	37.1	36.9	40.5	41.6	44.1	44.9	45.0	44.1	43.0	42.9	43.0	43.6	43.6	43.5	43.4	43.3	43.1	43.0	43.3	43.1	42.9
42.7	38.4	37.7	37.0	37.0	40.5	41.9	44.2	45.1	44.9	44.0	43.0	42.9	43.0	43.7	43.6	43.4	43.5	43.3	43.1	43.0	43.3	43.0	42.9
42.6	38.3	37.4	37.0	37.0	40.6	42.3	44.2	45.1	44.9	44.0	43.1	42.9	43.2	43.8	43.5	43.4	43.4	43.3	43.0	43.0	43.3	43.0	42.9
42.5	38.3	37.4	37.0	36.8	40.6	42.5	44.5	45.1	44.8	44.0	43.0	42.9	43.3	43.6	43.6	43.4	43.4	43.3	43.0	43.0	43.3	43.0	42.9
42.7	38.1	37.4	37.6	37.1	40.7	42.5	44.6	45.1	44.8	43.9	43.1	43.0	43.4	43.7	43.5	43.4	43.4	43.2	43.0	43.0	43.1	43.0	42.8
42.2	38.0	37.4	37.7	39.3	40.8	42.6	44.7	45.0	44.7	43.4	43.0	43.1	43.6	43.7	43.5	43.4	43.4	43.2	43.0	43.0	43.1	43.0	42.8
39.0	37.7	37.5	37.0	39.5	41.0	42.9	44.8	44.9	44.7	43.2	43.0	43.1	43.7	43.7	43.4	43.5	43.4	43.2	43.0	43.1	43.1	43.0	42.8

HORIZONTAL FORCE
MAGNETOMETER.

2.0
8.0
14.0
20.0
26.0
32.0
38.0
44.0
50.0
56.0
Ther..

63.0	63.1	62.3	61.0	58.7	57.5	57.9	58.1	59.8	61.3	61.9	63.2	63.9	63.4	63.6	64.3	64.5	65.1	64.1	63.2	63.4	62.7	62.5	62.3
63.3	63.2	62.6	60.6	58.8	57.5	57.8	58.6	60.0	61.4	62.1	63.4	63.8	63.4	63.5	64.6	64.5	65.1	64.1	63.1	63.5	62.6	62.6	62.3
62.9	63.1	..	60.3	57.9	57.5	57.7	58.8	60.0	61.4	62.2	63.6	63.7	63.5	63.6	64.9	64.6	65.1	64.1	63.2	63.2	62.6	62.6	62.2
62.9	62.9	62.4	60.2	58.3	57.5	57.7	58.9	60.1	61.3	62.3	63.7	63.7	63.5	63.6	64.8	64.7	65.1	64.1	63.2	63.2	62.6	62.7	62.2
62.6	63.0	62.0	69.8	58.0	57.5	57.9	59.0	60.2	61.3	62.3	63.7	63.6	63.5	63.8	64.8	64.7	65.1	64.1	63.1	63.2	62.6	62.6	62.2
62.5	62.9	61.7	68.5	58.0	57.5	57.9	59.0	60.7	61.4	62.3	63.8	63.5	63.5	63.9	64.7	64.6	65.0	64.1	62.6	63.1	62.6	62.6	62.2
62.5	63.0	61.7	69.2	57.9	57.5	57.9	59.0	60.9	61.4	62.6	63.9	63.5	63.5	64.0	63.8	64.6	64.9	64.0	62.7	63.1	62.6	62.5	62.7
62.6	62.9	61.5	68.8	56.8	57.5	57.9	59.2	61.0	61.7	62.8	63.9	63.0	63.5	64.1	64.5	64.8	64.9	63.9	62.7	63.1	62.6	62.6	62.7
63.0	62.8	61.4	69.3	57.6	57.5	57.9	59.3	61.0	61.8	62.9	64.0	63.3	63.5	64.2	64.5	64.9	64.4	63.6	62.8	63.0	62.5	62.6	62.5
63.3	62.7	61.3	69.5	57.6	57.7	58.0	59.6	61.2	61.8	63.0	63.9	63.3	63.5	64.4	64.7	65.0	64.3	63.4	63.4	62.8	62.5	62.5	62.5

VERTICAL FORCE
MAGNETOMETER.

4.0
10.0
16.0
22.0
28.0
34.0
40.0
46.0
52.0
58.0
Ther..

s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.
-75	-68	-73	-42	-17	22	57	-6	28	..	..	..	-28	-33	-38	-51	-52	-57	..	-66	-57	-52	-51	-49
-82	-68	..	-38	-14	29	23	..	28	..	..	-53	-28	-35	-40	-51	-47	-56	76	-64	-57	-52	-51	-64
-70	-71	..	-31	-13	27	35	17	26	-55	..	-35	-27	-35	-40	-56	-60	-56	70	-61	-54	-52	-53	-64
-70	-70	-74	-33	-10	13	76	40	34	..	..	-36	-29	-39	-44	-56	-61	-66	67	-61	-65	-52	-53	-57
-72	-70	-65	-26	-7	22	68	46	27	..	..	-28	-29	-42	..	-60	-62	-61	67	-60	-59	-52	-54	-57
-68	-71	-62	-23	-4	37	25	54	27	..	..	-25	-27	-49	-49	-67	-63	-61	65	-59	-59	-50	-54	-57
-65	-71	-60	-18	-2	23	51	27	21	..	..	-24	-28	-39	-47	-67	-70	-62	66	-59	-52	-50	-54	-55
-67	-71	-53	-17	-7	-8	55	49	15	..	..	-24	-28	-39	-45	-59	-69	-62	68	-62	-51	-47	-54	-55
-67	-71	-48	-19	13	..	60	52	9	..	..	-28	-28	-39	..	..	-63	-62	70	-65	-51	-47	-48	-55
-70	-74	-41	-19	16	36	37	48	-5	..	..	-28	-28	-37	-46	-48	-63	-63	70	-59	-51	-51	-48	-58

Barometer(uncorrected)
= 29.04.....
Attached Thermometer ..
Dry do.
Wet do.

in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1.022	1.017	1.038	1.076	1.096	1.094	1.088	1.060	1.031	1.002	0.986	0.972	0.974	0.992	1.010	1.032	1.032	1.052	1.057	1.059	1.039	1.018	1.002	0.995
79.6	79.6	79.9	79.5	79.9	80.1	80.7	81.1	81.6	82.0	82.3	83.0	83.0	82.4	82.0	81.9	81.2	81.1	80.6	80.1	79.9	79.9	80.0	79.9
75.7	76.0	76.0	76.4	78.0	81.2	84.7	85.2	87.3	87.0	87.3	86.1	85.5	83.9	80.9	79.1	80.2	79.5	77.0	78.1	76.7	76.1	76.1	75.8
74.0	74.5	74.5	75.2	76.9	77.2	76.8	75.9	78.9	78.4	78.8	78.2	78.5	77.0	76.5	76.8	77.0	76.5	75.2	75.7	74.8	74.8	74.7	74.0

Cloudy Sky in 8ths.

8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..	8..
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REMARKS ON THE WEATHER.

ZENITH.
HORIZON.

overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....	overcast.....
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.	do.
do.	do.	do.	do.	do.	do.																		

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 29th November 1844. Gottingen Mean Time.

FRIDAY the 29th November 1844.

SATURDAY the 30th November 1844.

Gottingen Mean Time

10 P. M.

Table with columns for hours 10-23 and 0-9, and rows for Declination Magnetometer readings (m. s.) from 0.0 to 54.0.

HORIZONTAL FORCE MAGNETOMETER.

2.0 8.0 14.0 20.0 26.0 32.0 38.0 44.0 50.0 56.0

Table with columns for hours 0-9 and rows for Horizontal Force Magnetometer readings from 2.0 to 56.0.

Ther..

Table with columns for hours 0-9 and rows for temperature readings (Ther..) from 80.6 to 81.3.

VERTICAL FORCE MAGNETOMETER.

4.0 10.0 16.0 22.0 28.0 34.0 40.0 46.0 52.0 58.0

Table with columns for hours 0-9 and rows for Vertical Force Magnetometer readings from 4.0 to 58.0.

Ther..

Table with columns for hours 0-9 and rows for temperature readings (Ther..) from 80.7 to 81.6.

Barometer(uncorrected) = 29.0 +

Table with columns for hours 0-9 and rows for barometer readings in inches (in.) from 0.964 to 1.038.

Attached Thermometer.. Dry do. Wet do.

Table with columns for hours 0-9 and rows for attached thermometer readings (Dry/Wet) from 79.3 to 75.9.

Cloudy Sky in 8ths.

Table with columns for hours 0-9 and rows for cloudy sky observations in 8ths from 3 to 8.

REMARKS ON THE WEATHER.

ZENITH. HORIZON.

Table with columns for hours 0-9 and rows for weather remarks (Zenith/Horizon) from 0 to 9.

ABSTRACT OF TERM DAY OBSERVATIONS. COMMENCING at 10 P. M. 18th December 1844. Gottingen Mean Time.

		WEDNESDAY the 18th December 1844.													THURSDAY the 19th December 1844.											
Gottingen Mean Time.		10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	
		P. M.																								
DECLINATION MAGNETOMETER.	m. s.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	
	0° 0'	42.0	41.7	41.8	42.2	42.9	43.0	44.0	45.0	45.4	46.1	47.0	47.8	47.0	46.0	44.4	43.9	43.9	43.3	43.0	42.6	42.1	42.2	42.0	42.1	
	6° 0'	42.0	41.8	41.6	42.3	43.0	43.1	44.0	44.9	45.6	46.1	47.0	48.0	46.9	46.0	44.3	44.0	44.0	43.1	43.0	42.5	42.1	42.3	42.0	42.3	
	12° 0'	42.0	41.6	41.5	42.4	42.5	43.2	44.0	44.9	45.8	46.4	47.0	48.0	46.9	45.6	44.5	44.0	43.9	43.1	42.9	42.4	42.2	42.3	42.0	42.0	
	18° 0'	42.0	41.6	41.4	42.3	43.0	43.4	44.1	44.9	45.9	46.5	47.0	48.0	46.9	45.5	44.6	43.9	44.0	43.1	42.9	42.4	42.3	42.3	42.1	42.1	
	24° 0'	42.1	41.6	41.3	42.4	42.9	43.7	44.1	44.9	45.9	46.9	47.2	47.8	46.7	45.4	44.8	43.9	44.0	43.1	42.9	42.3	42.4	42.3	42.1	42.1	
	30° 0'	42.1	41.2	41.6	42.2	43.0	43.8	44.3	45.0	46.1	46.9	47.2	47.8	46.7	44.9	44.5	44.0	43.8	43.0	42.9	42.2	42.4	42.3	42.1	41.6	
	36° 0'	42.1	41.1	41.6	42.6	42.8	43.9	44.7	45.0	46.2	47.0	47.4	47.5	46.6	44.5	44.5	44.0	43.7	43.0	42.9	42.2	42.2	42.1	42.1	41.6	
	42° 0'	42.1	41.2	41.8	42.2	42.7	43.9	44.9	45.0	46.2	47.0	47.4	47.5	46.5	44.4	44.5	44.0	43.6	43.0	42.9	42.1	42.2	42.1	42.1	42.0	
	48° 0'	42.1	41.4	42.0	42.2	43.1	44.0	44.9	45.0	46.1	47.0	47.5	47.3	46.2	44.4	44.2	43.9	43.5	43.0	42.8	42.1	42.2	42.1	42.0	41.9	
	54° 0'	42.1	41.8	42.0	42.5	43.0	44.0	45.0	45.3	46.1	47.0	47.6	47.1	46.0	44.4	44.1	43.9	43.4	43.0	42.6	42.1	42.2	42.0	42.0	41.9	
	HORIZONTAL FORCE MAGNETOMETER.	2° 0'	56.8	56.9	57.1	55.2	55.3	53.6	52.5	53.4	55.1	55.4	57.3	60.2	62.0	62.4	61.6	61.0	61.1	60.5	61.1	61.5	61.8	61.0	60.3	58.3
8° 0'		56.9	56.9	56.9	58.3	55.2	53.6	52.6	53.2	55.0	55.9	58.0	61.4	61.8	62.3	61.3	61.1	61.0	59.9	60.9	61.5	61.5	61.0	59.9	58.4	
14° 0'		56.6	56.9	56.4	55.7	55.4	53.4	52.5	53.0	55.1	56.1	58.0	61.9	61.7	62.5	61.3	61.2	61.1	59.9	60.7	61.6	61.1	61.0	59.5	58.3	
20° 0'		56.4	56.9	56.2	55.8	55.5	53.2	52.5	53.4	55.0	56.3	58.3	61.9	61.8	63.0	61.4	61.2	61.2	60.1	60.7	61.7	61.0	61.0	59.2	58.5	
26° 0'		56.4	57.3	56.2	56.2	55.3	53.1	52.5	53.5	54.9	56.1	58.6	62.0	61.5	63.0	61.4	61.3	61.0	60.0	60.6	61.9	61.0	60.9	59.1	58.3	
32° 0'		56.3	57.2	55.7	55.7	54.9	53.1	52.4	54.2	55.0	56.6	59.7	62.0	61.5	63.3	61.3	61.2	61.3	60.5	60.5	62.0	61.0	60.8	58.8	58.2	
38° 0'		56.3	57.2	55.9	55.5	54.9	53.0	52.8	54.2	55.4	56.9	59.4	61.9	61.9	63.3	61.3	61.3	61.3	61.7	60.5	62.1	61.0	60.6	58.9	58.3	
44° 0'		..	..	55.9	55.2	54.2	53.0	52.9	54.1	57.0	57.1	59.9	62.1	61.8	62.4	61.2	61.3	61.1	61.5	60.5	62.0	61.1	60.3	58.6	58.4
50° 0'		56.6	57.3	55.5	55.2	56.6	52.8	53.3	54.6	56.6	57.1	50.2	62.1	61.8	61.7	61.1	61.3	61.1	61.4	60.5	62.0	61.0	60.3	58.3	58.5	
56° 0'		56.9	57.2	55.8	55.1	53.9	52.6	53.4	54.8	56.1	57.4	50.8	62.1	61.8	61.6	61.1	61.1	60.8	61.4	61.2	61.9	61.0	60.3	58.2	58.6	
Ther...			79.0	79.4	79.5	79.0	79.0	79.5	79.9	80.9	81.3	81.3	81.8	81.9	81.8	81.6	81.3	81.2	80.9	80.2	80.3	80.2	80.0	79.9	79.9	79.9
VERTICAL FORCE MAGNETOMETER.		4° 0'	-173	-177	-166	-157	-134	-113	-94	-69	-56	-65	-69	-89	-125	-152	-149	-138	-143	-132	-147	-153	-159	-171	-155	-153
	10° 0'	-166	-119	-164	-157	-131	-113	-86	-62	-60	-61	-74	-92	-129	-154	-151	-138	-143	-133	-147	-153	-152	-163	-154	-154	
	16° 0'	-166	-169	-166	-155	-128	-113	-84	-59	-60	-61	-74	-92	-129	-154	-151	-142	-145	-135	-148	-158	-152	-164	-156	-148	
	22° 0'	-166	-169	-163	-155	-128	-113	-82	-59	-64	-61	-76	-101	-131	-157	-145	-142	-139	-138	-148	-158	-152	-164	-156	-157	
	28° 0'	-166	-169	-163	-154	-128	-113	-82	-58	-65	-61	-76	-105	-136	-157	-140	-145	-139	-138	-145	-160	-153	-164	-158	-145	
	34° 0'	-175	-169	-161	-154	-128	-113	-71	-59	-72	-64	-80	-105	-138	-159	-141	-145	-139	-145	-145	-160	-153	-165	-158	-147	
	40° 0'	-175	-169	-161	-154	-122	-113	-71	-59	-72	-67	-80	-110	-142	-159	-146	-145	-140	-146	-147	-159	-153	-152	-150	-147	
	46° 0'	-175	-167	-161	-145	-122	-113	-71	-52	-84	-69	-82	-118	-143	-156	-140	-150	-140	-147	-147	-159	-153	-155	-150	-147	
	52° 0'	-177	-168	-159	-145	-115	-103	-75	-52	-84	-69	-82	-118	-143	-154	-140	-144	-142	-147	-149	-163	-166	-155	-150	-152	
	58° 0'	-177	-167	-159	-139	-113	-103	-74	-52	-80	-69	-90	-118	-143	-149	-140	-143	-132	-147	-151	-160	-171	-155	-150	-152	
	Ther..		79.4	80.3	80.0	79.6	79.7	80.0	80.6	81.3	81.7	81.7	81.9	82.2	82.0	81.5	81.4	81.6	81.3	81.2	80.7	80.6	80.2	80.4	80.6	80.6
	Barometer(uncorrected)	in.	0.948	0.955	0.967	1.003	1.024	1.035	1.021	1.003	0.991	0.966	0.924	0.902	0.904	0.917	0.931	0.961	0.990	1.004	0.998	0.987	0.978	0.961	0.942	0.930
Attached Thermometer ..	do	78.0	78.3	78.4	78.0	78.2	78.5	79.0	80.0	80.7	80.9	81.2	81.8	82.0	81.7	80.8	80.2	79.9	79.2	79.0	78.4	78.0	78.2	78.3		
Dry do	do	75.5	78.3	75.0	76.9	80.0	81.2	84.6	85.2	84.2	87.8	86.7	86.2	84.6	82.0	81.0	78.2	79.0	78.2	78.0	77.2	77.1	75.4	75.0	75.0	
Wet do	do	74.3	74.0	74.0	75.5	77.2	77.4	79.2	78.3	78.0	80.2	78.7	78.9	78.0	78.3	77.5	77.0	77.0	76.4	76.0	75.1	75.0	74.1	74.0	73.8	
REMARKS ON THE WEATHER.	Cloudy Sky in 8ths.	8.	8.	8.	8.	8.	8.	6.	6.	7.	6.	6.	6.	8.	8.	8.	6.	6.	5.	5.	4.	3.	3.	4.		
	ZENITH.	overcast.	do.	do.	do.	cir-cum.	overcast.	cir, cir-cum.	cir, cir-cum-stra.	do.	cir, cir-cum.	cir-haze.	do.	overcast.	do.	do.	do.	do.	stra, haze.	cum-stra, haze.	cloudy.	stra.	clear.	do.	do.	
REMARKS ON THE WEATHER.	HORIZON.	overcast.	do.	do.	do.	cum-stra, stra.	overcast.	stra, cum-stra.	cum, cum-stra.	do.	cum, cum-stra.	cum, cum-stra.	do.	overcast.	do.	do.	do.	do.	stra, haze.	cum-stra, haze.	cloudy.	stra.	cum, stra.	do.	cloudy.	
	ZENITH.	overcast.	do.	do.	do.	cir-cum.	overcast.	cir, cir-cum.	cir, cir-cum-stra.	do.	cir, cir-cum.	cir-haze.	do.	overcast.	do.	do.	do.	do.	stra, haze.	cum-stra, haze.	cloudy.	stra.	clear.	do.	do.	



SINGAPORE, 1845.

MAGNETICAL OBSERVATIONS.

SINGAPORE 1845. MAGNETICAL OBSERVATIONS.

a. (1 + H/F) = 40.7 x 1.000311 = 40.7127

Zero..January..43.3

Zero..February..43.3

a. = 1.36.47 East of North.

DECLINATION MAGNETOMETER.

Table with columns for 'Gottingen Mean Time', 'Singapore Mean Time', 'OBSERVATIONS OF THE DECLINATION MAGNETOMETER.' (JANUARY 1845, FEBRUARY 1845), 'Hourly Means', 'Declination = 1.30 + Diurnal Oscillations', 'Daily and Monthly Means', and 'Declination 1.30 +'. It contains numerical data for magnetic declination observations.

SINGAPORE 1845. MAGNETICAL OBSERVATIONS.

a. (1 + H/F) = 40.7 x 1.000311 = 40.7127

Zero.. May.. 43.3

Zero.. June.. 43.3

a. = 1.36.47 East of North.

DECLINATION MAGNETOMETER.

Table with columns for Gottingen Mean Time, Singapore Mean Time, and Declination. It contains two main sections: MAY 1845 and JUNE 1845. Each section lists hourly observations from 1 to 30, followed by hourly means and declination data. The table is organized into columns for hours of the day and rows for each day.

a. (1 + n/F) = 40.7 x 1.000311 = 40.7127

Zero... July... 43.3

Zero... August... 43.3

a. = 1.36.47 East of North.

DECLINATION MAGNETOMETER.

Main data table with columns for time (Noon to 23), declination values, and monthly means. Includes sub-sections for July 1845 and August 1845.

Daily and Monthly Means. Declination 1.30+

Vertical text on the right side of the table: OBSERVATIONS OF THE DECLINATION MAGNETOMETER.

Hourly Means... Declination = 1.30+ Diurnal Oscillations

Vertical text on the right side of the table: OBSERVATIONS OF THE DECLINATION MAGNETOMETER.

Hourly Means... Declination = 1.30+ Diurnal Oscillations

a. (1 + H/F) = 40.7 x 1.000311 = 40.7127

Zero.. September.. 43.3

Zero.. October.. 43.3

a. = 1.36.47 East of North.

DECLINATION MAGNETOMETER.

Table with columns for 'Göttingen Mean Time', 'Singapore Mean Time', 'Hourly Means', 'Declination', and 'Diurnal Oscillations'. It contains two main sections: 'OBSERVATIONS OF THE DECLINATION MAGNETOMETER. SEPTEMBER 1845.' and 'OBSERVATIONS OF THE DECLINATION MAGNETOMETER. OCTOBER 1845.'. Each section lists daily observations from 1 to 30/31 days, with corresponding mean values and oscillations.

k = a . cot v = .0003136 X cot 58° 10' 30'' = .0001946
g = .0002142

q = .0002142
k = .0001946 = 1.1007

ther. sc.d. Zero = 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER—(uncorrected.)

Table for Horizontal Force Magnetometer. Columns include Gottingen Mean Time, Singapore Mean Time, hours of the day (1-23), and various magnetic force readings. Includes a vertical label 'HORIZONTAL FORCE MAGNETOMETER. JANUARY 1845.'

Summary table for Horizontal Force Magnetometer. Rows include Hourly Means, Temp. Correction, Corrected Means, Differences, and Diurnal Oscillation. Includes a vertical label 'HORIZONTAL FORCE MAGNETOMETER. JANUARY 1845.'

Table for Temperature of Horizontal Force Magnetometer. Columns include hours of the day (1-23) and temperature readings. Includes a vertical label 'TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. JANUARY 1845.'

Means. 81.0 80.7 80.5 80.3 80.1 79.8 79.7 79.6 79.4 79.3 79.2 79.1 79.0 79.0 79.2 79.5 80.0 80.5 80.9 81.2 81.3 81.3 81.2 81.2

SINGAPORE 1845. MAGNETICAL OBSERVATIONS.

k = a. cot v = .0003136 x cot 58° 10' 30" = .0001946
q = .0002142

q/k = .0002142 / .0001946 = 1.1007

sc. d. ther. o. Zero = 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER-(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, and hourly observations from 1 to 28. Includes vertical text 'HORIZONTAL FORCE MAGNETOMETER. FEBRUARY 1845.' and summary rows for means, corrections, and differences.

Summary rows for the magnetometer section: Hourly Means, Temp. Correction, Corrected Means, Differences, and Diurnal Oscillation.

Table for TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. FEBRUARY 1845. Contains hourly temperature observations from 1 to 28 and a summary row for Means.

$k = a \cdot \cot v = .0003136 \times \cot 58^\circ 10' 30'' = .0001946$
 $q = .0002142$

$\frac{q}{k} = \frac{.0002142}{.0001946} = 1.1007$

$Zero = 101.4 \dots \dots \dots 80.0$

HORIZONTAL FORCE MAGNETOMETER—(uncorrected)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$\frac{\Delta X}{X}$	
Singapore Mean Time.	h.m. 6-16	h.m. 7-16	h.m. 8-16	h.m. 9-16	h.m. 10-16	h.m. 11-16	h.m. 12-16	h.m. 13-16	h.m. 14-16	h.m. 15-16	h.m. 16-16	h.m. 17-16	h.m. 18-16	h.m. 19-16	h.m. 20-16	h.m. 21-16	h.m. 22-16	h.m. 23-16	h.m. 0-16	h.m. 1-16	h.m. 2-16	h.m. 3-16	h.m. 4-16	h.m. 5-16	sc.d.	sc.d.	sc.d.	1.00	
	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	1.00
1	57.6	57.4	57.4	57.4	57.3	57.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	56.0	56.0	55.9	55.9	55.3	55.2	55.1	54.3	51.2	49.4	48.6	48.7	50.3	52.4	54.1	56.1	57.2	57.3	54.7	-2.3	52.4	9535	
3	56.8	56.4	56.2	56.1	56.0	55.9	55.5	55.2	56.1	54.4	54.6	54.5	54.1	51.6	50.5	50.6	49.2	48.3	49.5	51.5	53.4	55.2	56.1	56.1	53.9	-2.4	51.5	9710	
4	55.4	55.2	55.1	55.2	55.2	55.2	54.6	54.5	54.4	54.0	53.6	54.1	53.9	53.0	51.4	49.5	48.1	47.7	49.0	50.4	51.9	53.6	55.4	56.1	53.2	-2.2	51.0	9808	
5	56.2	55.4	55.7	55.4	55.6	55.4	55.6	55.2	54.8	55.2	54.8	54.1	53.9	52.6	51.0	49.0	47.1	46.9	47.9	49.6	51.5	52.6	52.6	52.5	52.9	-1.8	51.1	9788	
6	52.2	53.3	53.2	52.9	53.2	53.1	53.6	52.5	52.7	52.6	52.3	52.2	51.5	51.9	49.8	47.5	47.3	45.8	45.5	46.5	48.7	49.9	50.8	51.1	50.8	-0.0	50.8	9847	
7	51.3	52.1	54.1	53.2	53.1	53.1	53.2	53.4	53.0	51.2	51.0	52.0	52.5	50.5	49.1	46.8	44.9	43.7	46.1	48.6	51.8	53.1	54.1	54.1	51.1	-0.2	50.9	9827	
8	54.9	54.9	54.5	53.5	54.0	54.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9	..	..	..	..	..	..	55.0	55.3	54.2	54.9	54.9	53.4	51.2	51.3	50.9	49.1	49.5	47.6	47.9	49.2	50.8	51.8	53.7	54.0	52.5	-0.9	51.6	9691	
10	54.9	55.1	56.1	54.0	54.3	54.1	54.0	53.5	53.0	53.1	52.9	52.7	53.1	52.9	51.9	49.9	48.1	46.8	47.2	59.0	50.9	52.1	53.7	54.2	52.8	-0.7	52.1	9593	
11	54.3	54.7	54.9	55.4	54.8	55.3	55.1	53.2	53.6	53.9	53.5	54.0	53.6	53.0	51.4	49.2	47.2	46.0	46.7	48.5	51.1	53.0	54.4	55.0	52.6	-1.7	50.9	9827	
12	54.9	54.8	54.8	54.8	54.6	54.9	54.9	54.1	53.7	53.3	53.1	52.5	51.9	51.0	50.6	47.6	46.0	45.4	45.8	48.7	52.3	55.6	56.2	57.8	52.5	-1.8	50.7	9866	
13	58.2	57.8	57.2	57.0	56.3	55.9	55.7	55.1	54.3	53.9	54.0	52.2	51.9	50.3	48.6	46.6	44.5	45.7	45.9	48.2	53.5	58.0	58.9	57.3	53.2	-1.7	51.5	9710	
14	57.8	57.2	56.3	57.9	57.0	57.0	56.0	54.2	55.8	54.6	54.0	54.6	55.0	54.4	52.3	51.7	49.9	49.0	49.6	51.5	52.6	54.0	56.0	56.9	54.4	-2.1	52.3	9554	
15	57.7	57.7	56.0	56.1	55.7	55.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	54.7	52.1	53.0	52.8	53.1	52.1	52.7	52.7	53.5	52.8	51.1	50.6	51.0	51.9	53.1	54.9	56.2	56.7	53.9	-1.8	52.1	9593	
17	56.9	56.1	56.4	56.4	55.5	55.2	55.6	55.1	55.0	54.3	54.0	54.0	53.4	52.5	51.4	50.0	49.4	48.8	49.1	48.7	52.0	53.5	54.0	54.1	53.4	-1.4	52.0	9613	
18	53.9	54.6	54.1	54.1	54.0	53.5	54.0	54.1	54.2	53.9	53.1	52.4	53.7	52.9	50.9	49.0	48.5	48.4	49.5	51.8	54.1	54.3	54.7	54.4	52.8	-1.4	51.4	9730	
19	53.7	53.9	54.0	54.0	54.2	55.1	51.6	52.4	55.4	55.8	55.0	56.1	55.8	54.2	53.9	52.5	51.8	52.1	54.2	54.0	53.9	54.5	57.1	..	54.2	-1.3	52.9	9438	
20	57.7	59.0	57.4	56.6	58.4	60.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	60.0	60.5	60.3	59.3	60.0	60.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23	..	..	..	..	..	..	61.8	59.6	56.3	56.0	55.1	54.1	54.5	53.8	54.3	52.9	50.4	52.1	51.0	51.0	52.3	54.1	57.1	58.8	56.0	-1.2	54.8	9069	
24	60.4	60.5	59.5	60.1	60.7	60.8	57.5	55.8	56.7	57.2	56.9	56.0	55.5	53.8	52.2	53.2	53.3	54.0	53.9	55.5	58.0	57.9	58.5	59.9	57.0	-1.4	55.6	8913	
25	59.8	59.6	57.7	57.5	58.0	56.1	56.4	56.5	56.6	55.8	55.5	55.4	54.9	53.6	51.8	51.3	49.2	48.8	49.4	52.9	55.2	59.3	59.7	58.8	55.4	-2.0	53.4	9341	
26	58.4	58.8	56.7	59.5	58.9	56.5	55.9	56.7	56.5	56.8	57.3	56.5	57.3	55.3	55.1	55.4	52.7	52.6	54.5	53.9	55.3	56.8	57.5	57.4	56.3	-2.1	54.2	9185	
27	56.5	57.7	55.8	56.8	58.2	54.8	57.5	57.4	56.9	55.2	56.0	56.3	56.3	54.2	51.3	50.4	48.4	48.5	49.8	52.1	54.3	55.7	56.7	56.6	54.7	-1.7	53.0	9419	
28	57.4	57.9	58.9	58.3	57.1	56.3	55.9	55.0	55.7	54.9	53.2	53.8	55.3	54.3	53.3	50.7	48.6	49.4	50.2	52.2	55.8	58.6	60.1	59.8	55.1	-1.8	53.3	9360	
29	59.2	58.3	58.1	59.8	59.0	58.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30	..	..	..	..	..	..	55.6	57.0	57.1	56.7	56.1	55.4	55.9	54.5	53.0	50.7	49.3	48.6	49.2	51.0	53.1	54.5	55.0	54.7	55.0	-2.0	53.0	9419	
31	54.2	54.8	54.8	55.0	54.8	54.1	53.7	54.0	54.2	52.8	52.5	52.7	52.4	51.5	50.4	48.9	47.0	46.4	49.0	50.4	51.8	53.1	54.2	54.4	52.4	-0.8	51.6	9691	

Hourly Means.....	56.4	56.5	56.2	56.2	56.2	55.9	55.4	54.9	55.0	54.5	54.2	54.0	54.1	53.2	51.8	50.4	49.0	48.5	49.3	51.5	53.2	54.8	55.9	56.2	53.9	-1.5	52.4	9533	
Temp. Correction...	-2.5	-2.2	-1.9	-1.7	-1.4	-1.2	-1.1	-0.9	-0.8	-0.6	-0.3	-0.1	0.1	-0.0	-0.3	-0.9	-1.5	-2.1	-2.4	-2.6	-2.9	-2.9	-3.0	-2.9	-1.5				
Corrected Means....	53.9	54.3	54.3	54.5	54.8	54.7	54.3	54.0	54.2	53.9	53.9	53.9	54.2	53.2	51.5	49.5	47.5	46.4	46.9	48.9	50.3	51.9	52.9	53.3	52.4				
Differences.....	0.9	0.5	0.5	0.3	0	0.1	0.5	0.8	0.6	0.9	0.9	0.9	0.6	1.6	3.3	5.3	7.3	8.4	7.9	5.9	4.5	2.9	1.9	1.5	2.4				
Diurnal Oscillation. } = 00	0175	0097	0097	0058	0	0019	0097	0156	0117	0175	0175	0175	0117	0311	0642	1032	1421	1635	1538	1149	0876	0564	0370	0292	0470	$= \frac{\Delta X}{X}$			

Hourly Means.....	83.0	82.9	82.3	82.2	81.8	81.7		
Temp. Correction...	
Corrected Means....	83.4	83.1	82.9	82.7	82.3	82.0	81.7	81.7	81.7	81.6	81.4	81.2	81.2	81.1	80.9	81.0	81.3	82.0	82.5	82.8	83.0	83.2	83.3	83.6	83.6	82.1				
Differences.....	82.6	82.1	82.0	81.9	81.7	81.3	81.3	81.2	81.1	81.0	81.1																			

k = a. cot v = .0003136 x cot 58° 10' 30" = .0001946
q = .0002142

q/k = .0002142 / .0001946 = 1.1007

sc. d. ther. Zero = 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER—(uncorrected.)

Table with columns for Göttingen Mean Time, Singapore Mean Time, and various magnetic force readings for May and June 1845. Includes sub-sections for Hourly Means, Temp. Correction, and Diurnal Oscillation.

Table with columns for Göttingen Mean Time, Singapore Mean Time, and various temperature readings for May and June 1845. Includes a sub-section for Means at the bottom.

* The observations of the 31st May and 1st of June are omitted in the hourly and daily means.

k = a. cot v = .0003136 x cot 58° 10' 30" = .0001946
q = .0002142

q/k = .0002142 / .0001946 = 1.1007

sc. d. Ther. Zero = 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER—(uncorrected.)

Table with columns for Gottingen Mean Time, Singapore Mean Time, and various magnetic force readings for August 1845. Includes sub-headers for 'HORIZONTAL FORCE MAGNETOMETER' and 'AUGUST 1845.'.

Summary table for the magnetometer section, including 'Hourly Means', 'Temp. Correction', 'Corrected Means', 'Differences', and 'Diurnal Oscillation'.

Table for 'TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER' for August 1845, showing temperature readings and corrections for each day of the month.

Means. 83.5 83.3 83.1 83.0 82.9 82.7 82.7 82.5 82.5 82.2 82.1 81.9 81.8 81.8 82.1 82.4 82.9 83.2 83.4 83.7 83.8 83.9 83.9 83.7

$k = a \cdot \cot v = \cdot 0003136 \times \cot 58^\circ 10' 30'' = \cdot 0001946$
 $g = \cdot 0002142$

$\frac{q}{k} = \frac{\cdot 0002142}{\cdot 0001946} = 1\cdot 1007$

Zero = $\frac{sc.d.}{ther.}$ = $\frac{101\cdot 4}{80\cdot 0}$

HORIZONTAL FORCE MAGNETOMETER—(uncorrected.)

Göttingen Mean Time.	Noon. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23																							Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$\frac{\Delta X}{X}$																			
	Singapore Mean Time.																																													
	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	sc.d.	sc.d.	sc.d.	1·0															
	6·16	7·16	8·16	9·16	10·16	11·16	12·16	13·16	14·16	15·16	16·16	17·16	18·16	19·16	20·16	21·16	22·16	23·16	0·16	1·16	2·16	3·16	4·16	5·16																						
HORIZONTAL FORCE MAGNETOMETER. OCTOBER 1845.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.																
	1	53·0	53·1	53·7	53·2	51·5	53·4	52·7	53·0	52·7	52·4	51·1	51·3	51·0	49·9	48·6	45·8	44·9	45·1	46·5	48·6	50·9	51·5	52·1	51·1	50·7	1·2	51·9	09632																	
	2	51·5	52·1	52·1	52·0	51·9	52·1	51·6	51·4	51·2	51·0	51·0	50·3	50·2	49·4	47·9	45·1	43·3	43·1	44·1	46·6	49·6	51·3	51·8	51·5	49·7	-0·1	49·6	10081																	
	3	53·1	55·0	55·6	55·8	54·3	50·7	53·1	53·2	53·1	51·9	51·0	51·9	51·0	50·5	49·6	47·1	46·4	46·0	47·9	49·6	50·9	51·9	51·9	52·8	51·4	-1·0	50·4	09925																	
	4	53·0	53·8	53·5	53·2	53·0	53·0																																							
	5						52·4	52·0	51·8	51·4	51·3	51·0	50·6	50·5	48·0	46·0	45·3	45·0	46·4	50·0	52·8	53·0	52·8	53·0	53·0	50·9	-2·1	48·8	10237																	
	6	53·3	53·2	53·7	54·0	55·7	54·1	52·8	53·2	53·1	52·9	52·5	52·2	52·1	51·4	50·3	49·5	49·2	49·8	51·0	52·5	52·7	53·6	53·2	52·8	52·4	-2·9	49·5	10100																	
	7	53·1	52·9	53·4	53·5	53·8	53·4	51·7	52·7	52·2	52·0	52·0	51·9	51·7	50·5	48·6	48·1	47·0	46·2	47·0	49·0	51·0	52·2	53·0	53·0	51·2	-2·5	48·7	10256																	
	8	53·3	53·7	53·7	53·8	53·2	53·5	52·9	52·0	52·4	51·5	51·4	50·6	50·1	49·3	47·5	45·5	45·4	45·5	46·4	47·3	49·2	50·2	51·3	52·1	50·5	-2·8	47·7	10450																	
	9	52·4	52·6	52·6	52·0	52·0	52·5	53·0	51·8	52·1	51·1	52·3	51·6	53·1	52·2	53·6	52·9	51·3	49·2	49·5	49·5	52·8	58·8	59·8	59·2	52·8	-2·5	50·3	09944																	
	10	59·5	57·7	58·9	56·6	56·6	55·1	54·6	54·5	54·7	54·1	53·9	53·4	53·5	52·1	50·1	48·5	47·3	47·1	49·4	50·5	52·0	53·5	53·6	53·1	53·3	-1·8	51·5	09710																	
	11	55·2	56·3	54·5	54·7	51·8	53·2																																							
	12							52·3	52·2	51·5	50·6	50·7	50·8	50·7	49·5	47·5	44·7	44·4	44·8	46·1	48·9	50·2	51·1	51·0	51·1	50·6	-0·8	49·8	10042																	
	13	51·3	51·7	51·8	52·0	51·7	51·2	51·4	51·0	50·5	50·5	50·2	50·1	49·9	48·7	46·1	44·0	42·9	42·9	46·2	48·9	50·8	51·0	50·7	50·6	49·4	-0·7	48·7	10256																	
	14	50·7	51·0	51·1	51·0	51·1	51·2	50·6	50·9	50·2	50·4	49·6	49·9	49·4	48·8	44·3	42·2	41·2	42·1	44·6	47·4	48·9	49·9	49·2	49·0	48·5	-0·7	47·8	10431																	
	15	49·3	50·7	50·7	52·2	52·6	53·7	53·4	51·2	50·1	50·1	49·6	49·0	48·8	47·7	45·0	43·7	42·5	41·7	43·7	46·2	47·0	47·9	49·1	48·7	48·5	0·3	48·8	10237																	
	16	49·8	50·0	50·3	49·8	50·7	50·6	50·0	49·6	49·5	48·5	48·0	47·7	46·8	45·3	43·1	42·1	42·0	41·6	45·7	50·5	52·8	53·9	52·4	52·3	48·4	-0·0	48·4	10314																	
	17	51·7	53·9	53·0	54·1	54·6	53·2	53·3	52·3	51·9	51·2	50·9	51·1	48·5	49·4	48·4	48·0	46·4	46·9	48·2	50·7	51·7	51·0	51·1	49·7	50·9	-0·8	50·1	09983																	
	18	49·8	49·6	49·2	49·8	50·9	51·1																																							
	19							50·1	49·9	49·9	48·9	48·0	48·1	48·5	47·5	46·1	43·4	44·5	45·5	47·2	49·5	49·5	49·3	45·0	48·1	48·3	-0·0	48·3	10333																	
	20	51·2	52·0	51·6	59·0	57·5	54·5	53·0	52·3	51·9	51·1	51·0	51·1	51·0	49·6	47·9	48·7	47·2	48·4	52·7	53·6	53·9	53·2	54·2	56·0	52·2	-0·4	51·8	09652																	
	21	56·0	58·3	57·6	57·0	56·8	55·0	54·2	53·0	52·5	52·3	49·0	51·5	51·7	50·8	50·8	49·5	48·7	48·3	49·2	50·5	52·3	53·7	54·9	55·3	52·9	-0·9	52·0	09613																	
	22	56·0	55·7	54·9	54·0	53·9	55·0	52·2	54·0	53·2	53·3	52·8	53·1	53·3	51·4	50·0	48·6	47·8	48·6	50·4	53·0	54·0	54·0	53·8	54·0	52·8	-2·3	50·5	09905																	
	23	54·0	50·9	54·2	54·2	54·1	54·0	53·8	53·9	53·0	53·0	52·4	53·1	52·6	52·5	49·7	48·2	47·7	48·0	49·9	50·9	53·1	54·9	56·2	56·3	52·5	-2·0	50·5	09905																	
	24	56·9	57·2	57·6	57·5	57·3	57·2	55·9	54·6	54·1	54·2	54·0	53·6	53·4	52·2	50·9	49·8	50·2	51·3	53·2	55·0	56·4	57·5	57·4	57·6	54·8	-1·9	52·9	09438																	
	25	57·4	57·7	57·6	56·0	55·9	55·4																																							
	26							53·1	53·0	53·0	52·5																																			
	27	53·2	54·6	55·8	55·5	56·0	55·2	54·0	53·2	53·1	52·7	53·0	51·5	50·7	49·9	48·6	48·2	47·7	48·0	49·5	50·7	51·1	51·3	51·4	51·6	51·9	-1·7	50·2	09964																	
	28	51·5	52·1	51·8	51·3	51·1	51·7	51·4	51·5	51·1	51·5	51·1	51·6	50·0	49·3	47·4	46·4	45·1	45·2	48·7	50·6	51·3	52·1	52·6	53·7	50·4	-2·1	48·3	10333																	
	29	54·0	53·6	53·9	54·3	54·8	53·0	52·6	52·0	52·1	51·6	51·0	51·0	49·9	50·4	49·2	47·3	47·0	47·4	49·5	50·9	51·3	51·6	51·5	50·6	51·3	-2·1	49·2	10159																	
	30	51·0	52·0	53·2	52·8	52·3	51·7	51·4	51·4	50·6	50·1	49·7	49·4	49·2	48·0	45·1	43·6	44·0	44·7	45·8	48·2	49·9	51·0	51·9	51·9	49·5	-2·0	47·5	10489																	
31	51·7	52·2	52·1	52·0	51·8	51·5	51·3	50·8	50·4	50·3	50·0	48·8	50·5	50·3	49·6	47·3	45·7	45·5	45·6	44·4	45·8	46·9	53·0	53·8	49·6	-1·7	47·9	10411																		
Hourly Means	53·1	53·4	53·6	53·7	53·6	53·2	52·5	52·2	51·9	51·5	51·1	51·0	50·7	49·9	48·3	46·8	46·0	46·1	47·9	49·8	51·3	52·2	52·5	52·6	51·0	-1·3	49·7	10061																		
Temp. Correction	-2·2	-2·0	-1·7	-1·5	-1·3	-1·1	-0·8	-0·6	-0·4	-0·3	-0·0	0·2	0·2	0·2	-0·2	-0·8	-1·3	-1·9	-2·4	-2·8	-3·0	-3·0	-2·9	-2·0	-1·3																					
Corrected Means	50·9	51·4	51·9	52·2	52·3	52·1	51·7	51·6	51·5	51·2	51·1	51·2	50·9	50·1	48·1	46·0	44·7	44·2	45·5	47·0	48·3	49·2	49·6	50·0	49·7																					
Differences	1·4	0·9	0·4	0·1	0	0·2	0·6	0·7	0·8	1·1	1·2	1·1	1·4	2·2	4·2	6·3	7·6	8·1	6·8	5·3	4·0	3·1	2·7	2·3	2·6																					
Diurnal Oscillation	0272 0175 0078 0019 0 0039 0117 0136 0156 0214 0234 0214 0272 0428 0818 1227 1480 1577 1324 1032 0778 0603 0525 0448																							0507	$= \frac{\Delta X}{X}$																					

$$k = a \cdot \cot v = \cdot 0003136 \times \cot 58^\circ 10' 30'' = \cdot 0001946$$

$$q = \cdot 0002142$$

$$\frac{q}{k} = \frac{\cdot 0002142}{\cdot 0001946} = 1 \cdot 1007$$

sc. d. ther.
Zero = 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER—(uncorrected.)

Göttingen Mean Time.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$\frac{\Delta X}{X}$					
Singapore Mean Time.		h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.	h.m.									
NOVEMBER 1845.		sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	1.0					
1		56.9	55.7	55.7	55.9	56.0	55.2																				53.3	-2.6	50.7	0.9866			
2								54.3	53.9	53.2	52.5	51.9	52.3	50.9	50.6	49.0	49.2	48.4	49.0	50.6	53.0	55.6	57.5	56.2	55.8		51.6	-2.3	49.3	1.0139			
3		55.1	55.1	54.1	53.3	53.8	53.4	53.0	53.0	52.3	52.2	51.6	51.5	51.1	50.1	48.1	46.7	45.9	46.0	47.8	54.2	51.6	52.5	52.7	53.1		52.1	-2.5	49.6	1.0081			
4		53.5	53.5	53.7	54.0	54.0	54.2	53.5	53.3	52.3	51.5	51.1	51.5	51.6	51.8	51.2	49.2	47.9	49.1	49.3	51.2	52.5	53.1	54.8	53.2		52.9	-2.5	50.4	0.9925			
5		53.8	53.3	53.9	55.8	59.5	59.1	58.2	57.1	52.1	52.3	53.1	52.0	51.5	50.0	48.7	48.5	48.0	49.5	51.0	51.2	51.9	53.6	54.0	54.0		53.1	-2.9	50.2	0.9964			
6		54.3	54.7	54.4	54.1	54.0	53.9	53.2	53.0	52.9	52.3	51.4	51.2	51.0	51.1	49.4	48.8	48.7	50.5	52.9	54.1	55.3	57.1	58.4	50.1		53.0	-2.4	51.6	0.9691			
7		58.0	58.2	58.4	58.3	58.2	56.7	56.3	55.6	54.7	54.1	53.7	53.3	53.1	52.6	51.7	50.7	47.9	50.2	52.4	51.9	52.8	52.6	52.2	52.8		54.0	-2.4	51.6	0.9691			
8		53.0	53.1	53.2	52.7	52.1	52.6																										
9								51.1	50.9	50.6	50.6	50.4	50.1	49.2	48.8	47.3	46.1	46.6	47.3	48.1	49.3	50.8	52.3	52.3	52.4		50.4	-1.8	48.6	1.0276			
10		52.0	52.3	51.8	51.2	51.1	51.1	51.5	50.9	51.6	51.1	50.3	50.4	50.4	49.6	48.9	47.5	47.9	48.9	48.6	49.6	50.6	51.1	51.7	51.5		50.5	-1.3	49.2	1.0159			
11		51.5	51.9	51.6	51.8	51.7	52.1	50.0	50.7	50.4	50.1	49.3	49.4	48.6	47.8	45.9	44.6	44.3	45.7	47.3	49.3	51.1	51.9	51.8	51.8		49.6	-1.0	48.6	1.0276			
12		51.3	51.1	51.6	51.3	51.9	51.0	51.2	51.7	51.3	51.1	50.3	50.7	49.7	48.5	46.9	44.6	44.1	44.7	46.1	48.2	48.8	49.7	50.1	50.4		49.4	-1.8	47.6	1.0470			
13		49.5	49.1	49.2	49.7	49.2	49.5	49.0	49.0	49.1	49.0	48.5	48.4	47.9	46.8	44.1	43.1	42.8	44.0	45.1	46.8	48.4	50.1	50.5	50.1		47.9	-0.2	47.7	1.0450			
14		50.0	49.9	50.0	50.3	49.9	49.9	49.8	50.0	49.0	49.0	49.0	49.0	48.3	47.0	45.1	42.9	42.4	43.1	44.5	47.2	49.1	50.2	50.7	50.8		48.2	-1.3	46.9	1.0605			
15		50.7	50.4	50.3	50.2	49.9	49.9																										
16								49.2	48.5	47.6	47.4	46.7	46.5	46.8	45.6	42.0	40.3	40.4	41.9	43.5	45.0	46.6	49.7	57.8	57.5		47.7	-0.3	47.4	1.0508			
17		61.3	60.7	58.1	56.4	53.4	54.7	54.1	53.5	53.0	53.6	54.0	53.6	52.6	52.3	51.0	50.3	49.8	49.7	51.0	51.9	53.0	53.5	52.6	52.5		53.6	-0.2	53.4	0.9341			
18		52.3	52.6	52.8	52.0	52.2	52.5	53.2	50.5	50.0	50.6	50.6	49.0	49.5	49.2	48.8	48.6	47.1	46.5	47.5	49.1	51.9	53.3	54.5	51.8		50.7	0.6	51.3	0.9749			
19		52.0	52.2	50.9	51.9	52.8	51.1	50.3	51.1	50.9	49.9	50.5	50.5	50.5	48.5	47.8	46.7	45.3	45.3	46.3	47.0	48.1	49.7	50.2	52.1		49.6	1.0	50.6	0.9886			
20		52.1	51.9	50.8	50.6	50.3	50.6	50.0	50.0	49.7	49.3	49.4	49.3	49.1	49.0	47.7	47.0	46.6	46.9	48.0	47.7	47.7	48.3	49.3	50.0		49.2	0.6	49.8	1.0042			
21		50.1	50.0	50.0	49.1	49.3	49.9	49.7	49.5	48.9	48.7	48.2	48.1	47.7	47.7	46.5	45.9	45.2	45.1	47.1	48.6	48.7	48.6	49.1	49.9		48.4	0.1	48.5	1.0295			
22		50.3	50.1	49.4	50.0	50.5	49.4																										
23								48.5		50.5	49.8	49.7	49.4	48.7	47.7	46.5	45.2	44.0	44.7	46.4	47.2	47.2	47.8	48.8	49.8		48.3	0.7	49.0	1.0198			
24		50.7	50.2	49.8	50.2	51.1	50.1	49.9	50.0	49.8	49.8	48.1	48.2	47.8	47.7	45.2	44.2	45.1	43.7	44.1	45.4	47.0	48.0	49.0	49.5		48.1	0.4	48.5	1.0295			
25		49.3	49.7	49.9	50.1	48.9	49.9	49.5	50.0	49.1	49.5	49.4	48.8	47.7	46.9	45.2	43.6	43.4	44.0	45.8	47.9	48.0	48.8	48.7	48.2		48.0	0.3	48.3	1.0333			
26		48.1	48.0	48.0	49.0	49.2	49.0	48.0	48.6	48.1	47.7	48.0	47.2	45.2	43.7	40.7	37.1	39.1	43.4	45.1	47.0	48.0	48.5	47.9	47.6		46.3	1.2	47.5	1.0489			
27		47.1	47.1	48.0	48.0	48.2	48.2	48.1	48.1	47.9	46.8	46.5	47.4	46.8	43.1	41.5	41.3	40.4	42.1	48.1	48.1	49.1	52.1	54.7	57.3		47.3	1.3	48.6	1.0276			
28		58.8	54.2	53.1	52.1	51.5	51.6	51.4	50.3	50.1	50.0	49.6	49.8	49.0	48.3	47.1	46.6	45.1	44.7	46.0	47.4	48.3	49.7	49.1	49.4		49.7	1.4	51.1	0.9788			
29		50.0	49.5	50.6	51.4	50.7	47.3																										
30																																	
Hourly Means.....		52.5	52.2	52.0	52.0	52.0	51.7	51.4	51.3	50.6	50.3	50.0	49.9	49.2	48.4	46.9	45.7	45.2	46.0	47.5	49.0	50.1	51.2	51.9	52.0	50.0	-0.6	49.3	1.0130				
Temp. Correction...		-1.3	-1.1	-0.9	-0.7	-0.6	-0.3	-0.2	-0.0	0.2	0.3	0.3	0.6	0.7	0.7	0.2	-0.1	-0.7	-1.1	-1.4	-1.8	-1.9	-2.0	-1.8	-1.5	-0.6							
Corrected Means...		51.2	51.1	51.1	51.3	51.4	51.4	51.2	51.3	50.8	50.6	50.3	50.5	49.9	49.1	47.1	45.6	44.5	44.9	46.1	47.2	48.2	49.2	50.1	50.5	49.4							
Differences.....		0.2	0.3	0.3	0.1	0	0	0.2	0.1	0.6	0.8	1.1	0.9	1.5	2.3	4.3	5.8	6.9	6.5	5.3	4.2	3.2	2.2	1.3	0.9	2.0							
Diurnal Oscillation. } = 0.00		0039	0058	0058	0019	0	0	0039	0019	0117	0156	0214	0175	0292	0448	0837	1129	1344	1266	1032	0818	0623	0428	0253	0175	0397							
NOVEMBER 1845.																																	
1		82.8	82.6	82.1	81.9	81.8	81.5																										
2								82.3	82.1	81.9	81.5	81.3	81.2	81.3	81.2	81.8	82.2	82.8	83.6	83.9	84.3	84.2	83.8	83.3	83.0		82.4						
3		82.8	82.4	82.2	82.0	81.9	81.8	81.7	81.3	81.0	80.8	80.8	80.5	80.4	80.3	81.0	81.5	82.1	82.8	83.3	83.8	84.0	84.0	84.0	83.8		82.1						
4		83.8	83.2	83.0	82.8	82.3	82.0	81.9	81.4	81.2	81.0	80.8	80.7	80.9	81.1	81.4	81.8	82.2	83.1	83.7	83.8	84.0	84.0	84.0	83.8		82.3						
5		83.3	83.0	82.5	82.1	82.0	81.9	81.7	81.3	81.0	80.7	80.7	80.4	80.3	80.6	81.2	81.8	82.1	82.9	83.8	84.3	84.6	84.8	84.8	84.3		82.6						
6		84.0	83.8	83.2	83.2	82.8	82.4	82.1	79.9	79.7	79.6	81.1	80.9	80.9	81.1	81.5	82.0	82.8	83.8	84.6	84.9	84.8	84.7	84.5		82.2							
7		83.9	83.5	83.1	82.9	82.6	82.1	81.9	81.8	81.3	81.2	81.2	81.1	81.0	81.1	81.5	81.8	82.2	82.9	82.3	82.0	82.5	82.7	82.7									
8		82.6	82.2	82.1	82.0	81.9	81.6																										
9								80.6	80.4	80.3	80.1	79.9	79.5	79.2	79.8	80.5	80.9	81.6	82.0	82.8	83.1	83.7	84.0	83.8	83.8		81.6						
10		83.2	82.5	82.1	81.9	81.6	81.3	81.2	81.1	80.9	80.8	80.7	80.2	80.1	80.2	80.8	81.0	81.5	81.8	80.9	80.4	80.9	80.9	80.9	80.9		81.2</						

SINGAPORE 1845. MAGNETICAL OBSERVATIONS.

$k = a. \cot v = .0003136 \times \cot 58^\circ 10' 30'' = .0001946$
 $q = .0002142$

$\frac{q}{k} = \frac{.0002142}{.0001946} = 1.1007$

ther. sc. d. Zero = 101.4 80.0

HORIZONTAL FORCE MAGNETOMETER—(uncorrected.)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	$\frac{\Delta X}{X}$		
Singapore Mean Time.	h. m. 6-16	h. m. 7-16	h. m. 8-16	h. m. 9-16	h. m. 10-16	h. m. 11-16	h. m. 12-16	h. m. 13-16	h. m. 14-16	h. m. 15-16	h. m. 16-16	h. m. 17-16	h. m. 18-16	h. m. 19-16	h. m. 20-16	h. m. 21-16	h. m. 22-16	h. m. 23-16	h. m. 0-16	h. m. 1-16	h. m. 2-16	h. m. 3-16	h. m. 4-16	h. m. 5-16	sc. d.	sc. d.	sc. d.	1-0		
HORIZONTAL FORCE MAGNETOMETER. DECEMBER 1845.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	1-0	
	1	50.7	50.7	50.9	50.9	50.9	49.8	50.0	50.2	49.5	49.8	50.0	49.9	49.8	48.5	51.3	49.4	44.3	44.5	46.3	52.7	54.6	52.1	53.6	53.7	50.1	0.1	50.0	10003	
	*2	54.2	54.8	54.9	54.0	53.1	52.2	51.9	51.2	51.4	51.0	50.6	50.3	50.1	49.5	48.2	47.0	46.4	43.8	44.5	45.7	49.0	53.0	56.0	59.2	..	..	..	..
	*3	61.1	60.7	56.2	58.5	61.5	64.4	61.2	66.1	64.5	58.8	56.5	57.1	55.8	59.1	60.4	60.8	61.7	64.0	61.3	60.8	59.6	58.3	57.5	56.9
	4	57.2	57.3	56.1	55.7	56.3	56.5	55.9	55.9	54.7	54.0	54.1	53.5	53.2	53.3	51.0	49.5	49.0	49.8	50.9	52.5	53.1	54.1	55.8	55.9	53.9	0.3	53.6	09302	
	5	56.8	58.0	58.4	58.0	58.4	58.4	58.1	57.3	55.1	54.5	54.3	53.5	53.2	53.6	51.3	50.5	51.3	51.2	51.9	51.9	52.7	54.0	54.7	54.8	54.6	0.1	54.7	09088	
	6	54.9	54.2	54.1	54.0	55.4	54.8
	7	..	..	..	..	..	..	51.6	51.7	51.2	51.3	51.2	51.2	50.2	50.0	49.0	48.0	45.1	48.3	49.5	50.6	51.6	51.2	51.4	52.1	51.3	0.6	51.9	09632
	8	52.7	51.1	50.6	52.6	52.1	51.8	51.4	50.2	50.3	50.0	49.3	49.1	48.8	47.7	47.1	46.0	45.9	46.6	47.6	48.8	50.2	51.1	51.2	51.3	49.7	0.8	50.5	09905	
	9	51.4	51.2	51.1	51.2	51.0	50.5	50.3	49.1	49.8	49.8	49.7	49.3	48.1	46.7	46.2	43.9	43.0	44.6	45.7	47.0	48.1	49.8	49.5	48.5	48.5	0.2	48.7	10256	
	10	50.1	51.2	52.1	51.2	51.5	51.1	49.5	50.0	49.5	48.6	49.1	48.3	47.4	45.6	43.3	42.7	43.5	45.5	47.1	48.2	49.4	49.9	49.6	49.5	48.5	0.2	48.7	10256	
	11	49.8	49.8	49.5	49.8	50.5	49.9	49.3	49.2	49.1	48.5	48.8	48.7	47.9	46.4	43.6	42.6	42.5	43.2	45.4	47.5	48.9	50.3	50.3	51.2	48.0	0.8	48.8	10237	
	12	50.2	49.8	50.0	50.2	48.9	49.5	49.9	50.5	50.0	49.5	49.3	48.8	47.8	46.0	44.4	44.5	45.8	47.4	47.2	49.0	49.2	48.7	52.0	..	48.7	0.9	49.6	10081	
	13	56.1	59.4	58.4	58.1	53.8	58.2
	14	50.1	49.9	50.1	49.8	49.6	49.7	49.1	48.2	45.3	44.2	43.0	43.1	44.1	46.5	48.1	49.0	48.9	50.2	50.1	50.1	1.3	51.4	09730
	15	50.2	53.1	53.1	51.1	51.1	50.8	50.8	46.9	50.2	46.1	48.6	49.1	49.7	48.9	47.8	47.1	46.3	47.2	49.9	50.2	50.3	50.4	50.9	50.9	49.6	1.9	51.5	09710	
	16	50.8	51.3	52.0	51.1	50.9	51.0	51.1	50.1	49.5	49.8	49.9	50.1	49.4	50.3	49.7	49.0	48.8	48.9	49.8	51.0	52.7	52.7	53.5	54.3	50.7	1.1	51.8	09652	
	17	52.0	51.4	52.0	52.0	50.8	51.8	51.0	50.9	50.6	50.0	49.9	49.9	49.4	49.5	48.0	47.0	46.0	46.9	48.2	49.1	51.2	52.1	53.0	53.2	50.2	0.4	50.6	09886	
	18	52.7	51.5	53.5	53.5	52.4	52.1	51.2	51.2	49.9	50.3	50.6	50.9	50.5	50.0	48.0	47.0	47.0	47.8	48.2	49.1	50.7	52.1	52.0	52.1	50.6	0.2	50.4	09905	
	19	51.9	52.0	51.4	51.7	51.7	51.8	51.5	51.3	51.2	51.0	50.9	50.5	50.0	48.8	47.8	45.3	45.3	45.8	47.1	49.2	50.3	50.3	50.1	50.7	49.9	0.8	49.1	10178	
	20	50.5	50.0	49.9	49.9	50.9	50.5
	21	..	..	..	..	..	..	49.2	48.9	49.2	49.1	49.1	49.1	49.0	47.4	47.0	46.2	46.1	45.5	46.7	47.6	48.0	47.4	48.3	48.8	48.5	0.4	48.9	10217
	22	47.8	49.0	48.8	48.2	48.1	48.8	48.7	48.4	48.3	48.0	48.0	47.8	47.6	46.0	45.1	44.9	43.7	44.5	45.9	46.1	46.8	47.4	47.2	44.7	47.1	1.9	49.0	10198	
	23	47.0	46.7	46.7	46.9	47.2	46.8	48.5	44.6	47.0	45.6	45.4	44.7	43.9	42.6	44.5	43.2	43.5	44.6	44.5	45.0	45.2	46.9	47.2	47.1	45.6	2.8	48.4	10314	
	24	48.9	47.8	48.6	48.8	48.5	47.2
	25	..	..	..	..	..	..	46.1	46.3	46.4	45.9	45.6	45.5	45.0	44.6	43.5	43.6	43.0	44.6	44.4	44.3	45.0	45.8	46.2	46.4	45.9	3.6	49.5	10100
	26	45.6	45.9	45.2	45.3	45.5	46.0	46.1	45.9	45.1	45.6	45.6	45.0	44.4	43.9	43.0	41.2	41.3	40.8	44.9	46.9	48.3	47.9	48.2	47.8	45.2	3.0	48.2	10353	
	27	47.9	48.3	49.0	48.0	48.5	48.9
	28	..	..	..	..	..	..	47.4	47.1	46.7	46.6	47.0	46.7	46.3	44.7	43.8	42.7	43.0	43.3	44.7	46.1	47.5	47.7	47.7	47.3	46.5	3.1	49.6	10081
	29	47.6	47.7	47.4	47.3	47.7	47.5	47.2	46.9	47.0	46.9	46.8	47.0	46.2	46.1	43.5	42.8	40.5	44.6	44.9	46.8	51.0	54.7	52.3	52.8	47.2	2.8	50.0	10003	
	30	53.1	55.6	54.9	53.2	55.1	51.2	51.3	52.3	51.2	51.0	50.1	50.2	50.2	48.5	47.1	46.3	45.8	46.1	48.7	50.0	51.2	52.1	52.0	52.1	50.8	2.1	52.9	09438	
31	52.7	52.0	49.9	50.6	51.2	51.0	50.3	51.1	50.0	48.7	49.4	49.8	49.9	49.3	48.1	49.6	45.7	45.2	45.8	47.4	48.2	50.6	50.3	50.2	49.3	1.5	50.8	09847		
Hourly Means.....	51.2	51.4	51.4	51.2	51.2	51.0	50.2	49.8	49.7	49.2	49.3	49.1	48.6	47.8	46.7	45.6	44.9	45.7	47.0	48.4	49.6	50.3	50.5	50.7	49.2	1.2	50.4	09932		
Temp. Correction..	0.6	0.9	1.0	1.2	1.2	1.3	1.7	1.8	1.9	2.0	2.2	2.2	2.2	2.2	2.0	1.7	1.1	0.6	0.1	-0.2	-0.2	-0.0	0.1	0.3	1.2	..	..	..	..
Corrected Means..	51.8	52.3	52.4	52.4	52.4	52.3	51.9	51.6	51.6	51.2	51.5	51.3	50.8	50.0	48.7	47.3	46.0	46.3	47.1	48.2	49.4	50.3	50.6	51.0	50.4	..	..	..	..
Differences.....	0.6	0.1	0	0	0	0.1	0.5	0.8	0.8	1.2	0.9	1.1	1.6	2.4	3.7	5.1	6.4	6.1	5.3	4.2	3.0	2.1	1.8	1.4	2.0	..	..	..	..
Diurnal Oscillation. } = 00	0117	0019	0	0	0	0019	0097	0156	0156	0234	0175	0214	0311	0467	0720	0993	1247	1188	1032	0818	0594	0409	0350	0272	0399

TEMPERATURE OF HORIZONTAL FORCE MAGNETOMETER. DECEMBER 1845.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Daily and Monthly Means.		
	80.1	80.0	79.9	79.7	79.7	79.6	79.5	79.3	79.0	79.0	79.0	78.9	78.8	78.9	79.0	79.6	80.1	81.0	81.8	81.9	82.3	82.0	81.9	81.6	81.6	80.1	80.1	80.1	80.1	80.1	80.1	80.1	80.1	80.1
	81.1	81.1	80.9	80.6	80.3	80.1	80.1	79.9	79.8	79.7	79.7	79.4	79.5	79.8																				

$$k = a \cdot \cot \theta \frac{T^2}{T^2} = .00002909 \times \cot 12^{\circ}40' \times \left(\frac{7.170}{14.84}\right)^2 = .00002293$$

$$\frac{q}{k} = \frac{.0002595}{.00002293} = 11.317 = 1^{\circ} \text{ Faht. } \text{ ther. } \text{ Zero}..80^{\circ}$$

$g = .0002595$
VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.												
Singapore Mean Time.	h.m. 6:16	h.m. 7:16	h.m. 8:16	h.m. 9:16	h.m. 10:16	h.m. 11:16	h.m. 12:16	h.m. 13:16	h.m. 14:16	h.m. 15:16	h.m. 16:16	h.m. 17:16	h.m. 18:16	h.m. 19:16	h.m. 20:16	h.m. 21:16	h.m. 22:16	h.m. 23:16	h.m. 0:16	h.m. 1:16	h.m. 2:16	h.m. 3:16	h.m. 4:16	h.m. 5:16	sc.d.	sc.d.	sc.d.												
VERTICAL FORCE MAGNETOMETER. FEBRUARY 1845.	1	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.				
	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	3	-120	-131	-131	-134	-132	-132	-137	-140	-142	-146	-148	-100	-100	v	-162	-107	-79	-84	-42	-101	-57	-72	-104	-132	-114	-8	-122	-114	-8	-122	-114	-8	-122	-114	-8	-122		
	4	-150	-170	-169	-157	-166	-162	-162	-162	-159	-157	-164	-170	-175	-175	-133	-111	-93	-85	-30	-98	-107	-138	..	-151	-141	-10	-151	-141	-10	-151	-141	-10	-151	-141	-10	-151		
	5	-152	-161	-163	-127	-182	-197	-197	-190	-178	-172	-174	-176	-180	-165	-173	-104	-76	-104	-61	-122	-96	-93	-129	-140	-146	-10	-147	-146	-10	-147	-146	-10	-147	-146	-10	-147		
	6	-152	v	-160	-173	-172	-175	-179	-180	-179	-178	-179	-181	-190	-176	-152	-123	-70	-48	-99	-51	-65	-102	-125	-125	-141	0	-141	-141	0	-141	-141	0	-141	-141	0	-141		
	7	-138	-151	-157	-157	-164	-167	-166	-168	-169	-169	-164	-166	-166	-169	-139	-97	-59	-93	-9	-72	-126	-152	-171	-167	-140	0	-140	-140	0	-140	-140	0	-140	-140	0	-140		
	8	-155	-156	-156	-156	-158	-158
	9
	10	-145	-142	-142	-150	-150	-150	-150	-152	-152	-150	-154	-162	-169	-174	-138	-94	-81	-15	-16	-17	-45	-61	-86	-105	-117	-9	-126	-117	-9	-126	-117	-9	-126	-117	-9	-126		
	11	-124	-132	-141	-143	-145	-145	-154	-160	-161	-166	-173	-173	-180	-178	-158	-86	-93	-26	-66	-49	-83	-85	-108	-122	-127	-6	-133	-127	-6	-133	-127	-6	-133	-127	-6	-133		
	12	-130	-140	-147	-147	-153	-154	-156	-171	-173	-177	-179	-186	-199	-168	-156	-108	-31	-47	-17	-37	-4	-10	-42	-79	-117	-1	-118	-117	-1	-118	-117	-1	-118	-117	-1	-118		
	13	-121	-130	-133	-145	-158	-161	-168	-173	-173	-174	-175	-179	-177	-173	-145	-92	-53	-80	-40	-82	-54	-63	-78	-89	-126	1	-125	-126	1	-125	-126	1	-125	-126	1	-125		
	14	-121	-116	-116	-128	-128	-136	-137	-140	-142	-144	-144	-146	-149	-160	-153	-118	-118	-59	-28	-20	-55	-55	-90	-102	-113	-2	-115	-113	-2	-115	-113	-2	-115	-113	-2	-115		
	15	-118	-121	-120	-129	-129	-135	
	16
	17	-100	-102	-111	-105	-133	-140	-135	-139	-139	-139	-139	-138	-188	-138	-104	-42	-35	24	-1	-20	-105	-113	-121	-110	-103	-12	-115	-103	-12	-115	-103	-12	-115	-103	-12	-115		
	18	-108	-119	-124	-134	-130	-135	-136	-136	-139	-149	-152	-146	-146	-151	-137	-89	-51	-24	-3	-10	-36	-63	-50	-68	-102	-11	-113	-102	-11	-113	-102	-11	-113	-102	-11	-113		
	19	-47	-113	-119	-122	-128	-133	-137	-140	-142	-146	-145	-146	-148	-148	-150	-102	-61	-23	-19	-35	-77	-59	-91	-91	-105	-11	-116	-105	-11	-116	-105	-11	-116	-105	-11	-116		
	20	-60	-127	-140	-151	-151	-148	-146	-142	-142	-144	-144	-137	-163	-170	-168	-139	-120	-92	-79	-83	-145	-133	-156	-132	-134	-5	-139	-134	-5	-139	-134	-5	-139	-134	-5	-139		
	21	-150	-161	-162	-156	-154	-159	-164	-156	-163	-163	-163	-157	-166	-166	-139	-94	-72	-38	-45	-73	-125	-162	-160	-151	-137	-5	-142	-137	-5	-142	-137	-5	-142	-137	-5	-142		
	22	-150	-154	-151	-162	-162	-155	
	23
	24	-149	-160	-162	-167	-166	-166	-165	-163	-169	-169	-183	-180	-187	-149	-167	-181	-106	-125	-93	-150	v	-167	-164	-158	-159	0	-159	-159	0	-159	-159	0	-159	-159	0	-159		
	25	-163	-159	-160	-168	-171	-175	-169	v	-152	-164	-165	-175	-186	-188	-168	-117	-73	-88	-51	-110	-103	-161	-171	-171	-148	-3	-151	-148	-3	-151	-148	-3	-151	-148	-3	-151		
	26	-147	-152	-169	-172	-154	-163	-161	-153	-167	-165	-165	-166	-174	-173	-175	-141	-91	-104	-41	-110	-124	-65	-98	-111	-139	-17	-156	-139	-17	-156	-139	-17	-156	-139	-17	-156		
	27	-134	-147	-153	-159	-159	-161	-162	-162	-140	-163	-177	-180	-180	-169	-149	-100	-93	-32	-63	-18	-35	-60	-93	-114	-125	-11	-136	-125	-11	-136	-125	-11	-136	-125	-11	-136		
	28	-133	-147	-160	-164	-164	-161	-161	-158	v	-153	-154	-169	-184	-210	-177	-187	-76	-91	v	-13	72	16	20	-9	-116	-11	-127	-116	-11	-127	-116	-11	-127	-116	-11	-127		
Hourly Means	-128	-139	-144	-147	-151	-154	-155	-155	-155	-157	-159	-159	-169	-167	-150	-110	-72	-60	-40	-65	-77	-92	-107	-116	-126	-6	-132	-126	-6	-132	-126	-6	-132	-126	-6	-132			
Temp. Correction ..	-11	-9	-7	-5	-3	-2	-1	1	3	5	6	7	9	9	3	-3	-9	-15	-19	-23	-23	-20	-20	-17	-6		-6		-6		-6		-6		-6				
Corrected Means	-139	-148	-151	-152	-154	-156	-156	-154	-152	-152	-153	-152	-160	-158	-147	-113	-81	-75	-59	-88	-100	-112	-127	-133	-132		-132		-132		-132		-132		-132				
Differences	-80	-89	-92	-93	-95	-97	-97	-95	-93	-93	-94	-93	-101	-99	-88	-54	-22	-16	0	-29	-41	-53	-68	-74	-73		-73		-73		-73		-73		-73				
Diurnal Oscillation } = 00	1834	2041	2110	2132	2178	2224	2224	2178	2132	2132	2155	2132	2316	2270	2018	1238	0504	0367	0	0665	0940	1315	1559	1697	1678		1678		1678		1678		1678		1678				
TEMPERATURE OF VERTICAL FORCE MAGNETOMETER. FEBRUARY 1845.	1	81.2	81.2	81.0	80.8	80.8	80.6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	2	80.1	79.9	79.8	79.5	79.4	79.4	79.2	79.0	79.7	80.3	80.6	81.0	81.3	81.7	81.6	81.4	81.5	81.3	80.5	..	80.5	..	80.5	..	80.5	..	80.5	..	80.5	..	80.5	
	3	80.8	80.4	80.3	80.3	80.4	80.2	80.1	80.0	79.9	79.7	79.5	79.3	79.3	..	79.7	80.3	80.8	81.6	82.1	82.5	82.6	82.6	82.3	81.8	80.7	..	80.7	..	80.7	..	80.7	..	80.					

k. = a. cot θ ... = 00002909 × cot 12°40' × (7.479/14.84)² = 00002293

g/k = 0002595 / 00002293 = 11.317 = 1° Faht. ther. Zero. .80°0

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Main data table with columns for Gottingen Mean Time, Singapore Mean Time, and various hourly observations for May 1845. Includes sub-sections for VERTICAL FORCE MAGNETOMETER and TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.

* The observations of the 30th are omitted in the hourly and daily Means. A break occurs at 30th day 5th hour. N. B.—Increasing negative numbers or decreasing positive numbers, denote an increase of the Vertical Force.

$$k = a \cdot \cot \theta \frac{r^2}{T^2} = .00002909 \times \cot 12^{\circ}40' \times \left(\frac{7.479}{14.84}\right)^2 = .00002293$$

$$q = .0002595$$

$$\frac{q}{k} = \frac{.0002595}{.00002293} = 11.317 = 1^{\circ} \text{ Faht. } \text{ ther. } 0^{\circ}$$

$$\text{Zero. } .80^{\circ}0$$

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Göttingen Mean Time.		Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.			
Singapore Mean Time.		h.m. 6-16	h.m. 7-16	h.m. 8-16	h.m. 9-16	h.m. 10-16	h.m. 11-16	h.m. 12-16	h.m. 13-16	h.m. 14-16	h.m. 15-16	h.m. 16-16	h.m. 17-16	h.m. 18-16	h.m. 19-16	h.m. 20-16	h.m. 21-16	h.m. 22-16	h.m. 23-16	h.m. 0-16	h.m. 1-16	h.m. 2-16	h.m. 3-16	h.m. 4-16	h.m. 5-16	sc. d.	sc. d.	sc. d.			
VERTICAL FORCE MAGNETOMETER.		sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.	sc. d.			
MAY 1845.		31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23						
JUNE 1845.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Hourly Means..		A	B																												
Means of A and B																															
Temp. Correction...																															
Corrected Means...																															
Differences																															
Diurnal Oscillation. } = 00		1559	1934	1651	1697	1605	1628	1559	1697	1582	1623	1766	2178	1766	1307	1032	0527	0229	0	0023	0023	0275	0596	0871	1307	1181					

TEMPERATURE OF VERTICAL FORCE MAGNETOMETER.																															
MAY 1845.		31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23						
JUNE 1845.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Means. } A.		82.8	82.6	82.6	82.5	82.3	82.3	82.1	82.0	81.9	81.7	81.6	81.6	81.5	81.8	82.3	82.6	82.8	83.1	83.2	83.2	83.5	83.4	83.0	82.4						
Means. } B.		84.3	84.1	83.9	83.8	83.8	83.7	83.5	83.4	83.1	82.9	82.9	82.7	82.5	82.8	83.0	83.5	84.0	84.3	84.7	85.0	85.2	85.2	85.1	84.7	83.9					

* A break occurs. † The observations of the 19th are omitted in the hourly and daily means.
 N. B.—Increasing negative numbers, or decreasing positive numbers, denote an increase of the Vertical Force.

$$k = a \cdot \cot \theta \frac{T'^2}{T^2} = .00002909 \times \cot 12.40 \times \left(\frac{7.479}{14.84}\right)^2 = .00002293$$

$$q = .0002595$$

$$\frac{g}{k} = \frac{.0002595}{.00002293} = 11.317 = 1^\circ \text{Faht.}$$

ther.
Zero. .. 80.0

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Gottingen Mean Time.	Noon.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily and Monthly Means.	Temp. Corr.	Corrected Means.	
Singapore Mean Time.	h.m. 6:16	h.m. 7:16	h.m. 8:16	h.m. 9:16	h.m. 10:16	h.m. 11:16	h.m. 12:16	h.m. 13:16	h.m. 14:16	h.m. 15:16	h.m. 16:16	h.m. 17:16	h.m. 18:16	h.m. 19:16	h.m. 20:16	h.m. 21:16	h.m. 22:16	h.m. 23:16	h.m. 0:16	h.m. 1:16	h.m. 2:16	h.m. 3:16	h.m. 4:16	h.m. 5:16				
	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.
1	-557	-561	-556	-557	-562	-556	-558	-565	-559	-565	-573	-573	-633	-605	-516	-490	-477	-453	-453	-484	-515	-502	-517	-534	-538	-1	-539	
2	-534	-543	-554	-536	-547	-524	-538	-549	-549	-560	-560	-560	-558	-539	-508	-476	-472	-432	-420	-451	-503	-516	-513	-520	-519	-14	-533	
3	-521	-546	-559	-575	-575	-569	-563	-563	-565	-562	-566	-594	-557	-528	-506	-490	-490	-483	-465	-459	-450	-454	-518	-524	-528	-11	-539	
4	-519	-536	-541	-547	-547	..	-560	-557	-562	-564	-573	-573	-573	-554	-530	-491	-467	-428	-415	-404	-439	-493	-472	-524	-516	-11	-527	
5	-539	-553	-550	-544	-543	-541	-539	-540	-555	-555	-563	-561	..	..	-537	..	-500	-509	-522	-532	-557	-560	-571	-565	-544	-18	-562
6	-550	-548	-557	-552	-560	-565	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	..	..	..	..	..	..	-592	..	-582	-587	-587	-581	-579	-577	-564	-532	-517	-526	-525	-512	-496	-507	-504	-504	-548	-11	-559
8	..	-523	-531	-531	-531	..	-586	-587	-583	-583	-589	-584	-576	-543	-519	-485	-466	-432	-490	-527	-546	-567	-573	-580	-542	-3	-545	
9	-580	-588	-590	-595	-599	-599	-606	-601	-601	-607	-608	-607	-602	-608	-568	-591	-490	-463	-470	-442	-449	-450	-463	-466	-525	2	-550	
10	-522	-537	-534	-546	-547	-553	-559	-563	-569	-578	-578	-576	-567	-561	-532	-466	-428	-409	-399	-433	-505	-538	-548	-547	-525	-15	-540	
11	-558	-553	-570	-570	-570	-562	-566	-570	-570	-567	-582	-573	-560	-589	-543	-441	-461	-531	-540	-550	-541	-548	-553	..	-552	-10	-562	
12	-572	-572	-574	-577	-557	-582	-582	-579	-580	-587	-594	-595	-590	-583	-551	-506	-484	-508	-491	-497	-492	-492	-476	-498	..	-546	-6	-552
13	-538	-537	-553	-551	-551	-555	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	-550	-555	-561	-561	-585	-581	-585	-575	-543	-509	-471	-432	-400	-391	-407	-444	-459	-475	-515	-18	-533
15	-466	-528	-528	-526	-532	-538	-542	-552	-557	-558	-564	-571	-540	-539	-530	-508	-467	-435	-410	-467	-498	-521	-522	-511	-517	-22	-539	
16	-539	-553	-561	-568	-561	-561	-564	-566	-568	-578	-578	-583	-572	-556	-493	-422	-365	-365	-396	-425	-460	-461	-449	-449	-508	-16	-524	
17	-486	-529	-529	-540	-545	-551	-555	-560	-551	-562	-562	-572	-569	-553	-529	-513	-461	-428	-419	-422	-429	-463	-510	-504	-514	-22	-536	
18	-525	-542	-545	-557	-560	-412	-565	-567	-567	..	-568	-568	-561	-539	-496	-440	-421	-421	-401	-421	-449	-465	-476	-477	-502	-25	-527	
19	-495	-514	-524	-524	-529	-537	-529	-562	-573	-570	-567	-577	-577	-601	-586	-525	..	-441	-443	-467	-490	-485	-475	-468	-524	-32	-556	
20	-489	-503	-511	-513	-514	-549	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21	..	..	..	..	..	..	-537	-541	-550	-552	-558	-567	-567	-576	-562	-506	-453	-447	-426	-447	-490	-513	-527	-539	-518	-20	-538
22	-542	-557	-557	..	-547	-547	-555	-566	-564	-564	-521	-521	-524	-580	-535	-500	-436	-395	-411	-467	-513	-538	-538	-538	-522	-10	-532	
23	-551	-551	-554	-563	-559	-561	-561	-567	-574	-578	-586	-586	-577	-562	-515	-467	-381	-360	-390	-464	-488	-494	-495	-511	-521	-18	-539	
24	-518	-534	-540	-548	-549	..	-551	-558	-560	-560	-518	..	-574	-561	-524	-515	-466	-532	-481	-499	-552	-595	-565	-553	-539	-25	-564	
25	-555	-591	-592	-577	-568	-557	-533	-541	-545	-538	-541	-563	-559	-553	-510	-490	-474	-435	-475	-536	-483	-480	-488	-502	-528	-24	-552	
26	-486	-538	-556	-556	-565	-567	-569	-555	-561	-567	-572	-572	-574	-582	-547	-513	-484	-457	-455	-464	-480	-487	-488	-532	-530	-20	-550	
27	-553	-569	-569	-571	-570	-570	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	..	..	..	..	..	..	-555	-568	-571	-575	-581	-587	-589	-604	-576	-526	-511	-508	-540	-565	-566	-578	-593	-593	-566	-3	-569
29	-598	-611	-608	-615	-617	-613	-622	-622	-622	-618	-623	-624	-624	-620	-588	-535	-514	-487	-521	-531	-575	-593	-593	-594	-591	10	-581	
30	-612	-622	-622	-631	-630	-630	-630	-630	-632	-634	-633	-638	-638	-641	-518	-502	-506	-532	-566	-593	-602	11	-591

Hourly Means....	-536	-552	-556	-559	-559	-557	-564	-567	-570	-573	-573	-580	-578	-572	-538	-502	-464	-452	-456	-475	-497	-511	-518	-525	-535	-13	-548
Temp. Correction..	-19	-17	-16	-15	-14	-11	-9	-7	-5	-3	-1	1	2	0	-5	-9	-15	-19	-23	-25	-25	-25	-24	-23	-13	-13	-548
Corrected Means..	-555	-569	-572	-574	-573	-568	-573	-574	-575	-576	-574	-579	-576	-572	-543	-511	-479	-471	-479	-500	-522	-536	-542	-548	-548	-548	-548
Differences.....	-84	-98	-101	-103	-102	-97	-102	-103	-104	-105	-103	-108	-105	-101	-72	-40	-8	-0	-8	-29	-51	-65	-71	-77	-77	-77	-77
Diurnal Oscillation. } = 00	1926	2247	2316	2362	2339	2224	2339	2362	2385	2408	2362	2476	2408	2316	1651	0917	0183	0	0183	0665	1169	1490	1628	1766	1755		$= \frac{\Delta Y}{Y}$

Hourly Means....	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Means.
1	80.3	80.2	80.1	80.1	79.9	79.7	79.6	79.5	79.3	79.1	78.7	78.7	77.0	78.7	79.4	80.1	80.7	81.2	81.7	81.7	81.2	81.8	82.0	81.7	80.1						
2	81.6	81.2	81.1	81.1	81.1	81.2	80.9	80.7	80.6	80.4	80.2	80.0	80.0	80.1	80.5	81.3	81.9	82.4	82.9	82.4	81.5	81.5	81.6	81.6	81.2						
3	81.5	81.2	81.1	80.9	80.7	80.6	80.6	80.2	80.2	79.9	79.5	79.3	79.3	79.5	80.1	80.3	80.9	81.5	82.1	82.5	82.8	83.2	82.6	82.3	81.0						
4	82.0	81.6	81.3	81.1	81.1	..	80.6	80.6	80.4	80.1	80.0	79.8	79.8	79.4	80.1	80.6	81.3	81.9	81.9	82.4	82.4	82.0	81.7	81.6	81.0						
5	81.4	81.3	81.2	81.2	81.2	81.2	81.2	80.9	80.6	80.5	80.4	80.3	..	..	80.6	..	82.2	82.7	83.2	82.9	82.5	82.5	82.5	82.3	81.6						
6	82.1	81.8	81.6	81.6	81.7	81.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7	..	..	..	..	..	..	80.5	..	80.0	79.9	79.5	79.3	79.2	79.5	79.9	80.4	81.1	81.6	81.9	81.9	82.0	81.7	81.6	81.6	81.0						
8	80.8	80.6	80.6	80.4	80.4	..																									

SINGAPORE 1845. MAGNETICAL OBSERVATIONS.

k. = a. cot theta T^2 = .00002909 x cot 12.40 x (7.479/14.84)^2 = .00002293
g/k = .0002595 / .00002293 = 11.317 = 1 degree Fahr.
q = .0002595
ther. Zero.. 80.0

VERTICAL FORCE MAGNETOMETER.—(uncorrected.)

Table with columns for Time (Noon to 23), Vertical Force Magnetometer (sc.d. values), Temperature Magnetometer (h.m. values), and Means. Includes sub-sections for October 1845 and Diurnal Oscillation.

* The observations from the 25th to 31st are omitted in the hourly and daily means. † Series broken.
N. B.—Increasing negative numbers, or decreasing positive numbers, denote an increase of the Vertical Force.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P.M. 22d January 1845. Gottingen Mean Time.

WEDNESDAY the 22d January 1845.

THURSDAY the 23d January 1845.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23

0 1 2 3 4 5 6 7 8 9

Table with columns for Declination Magnetometer (m. s., sc.d.) and rows for time intervals from 0.0 to 54.0.

Table with columns for Horizontal Force Magnetometer (2.0 to 56.0) and rows for time intervals from 0.0 to 56.0.

Table with columns for Vertical Force Magnetometer (4.0 to 58.0) and rows for time intervals from 0.0 to 58.0.

Table with columns for Barometer (uncorrected) and Attached Thermometer (Dry/Wet) and rows for time intervals from 0.0 to 74.0.

Table with columns for Cloudy Sky in 8ths, REMARKS ON THE WEATHER (ZENITH, HORIZON), and rows for time intervals from 0.0 to 74.0.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 21st February 1845. Gottingen Mean Time.

		FRIDAY the *21st February 1845.													SATURDAY the 22d February 1845.											
Gottingen Mean Time.		10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	
		P. M.																								
DECLINATION MAGNETOMETER.	m. s.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	
	0.0	42.7	42.9	43.0	42.2	40.0	39.3	39.0	41.0	42.9	44.0	44.0	43.7	44.0	43.7	43.2	43.2	43.4	43.1	42.7	42.3	43.0	43.6	43.9	44.0	
	6.0	42.7	43.0	43.0	41.7	39.3	39.0	39.0	41.3	43.0	44.0	44.0	43.9	44.0	43.6	43.2	43.5	43.3	43.1	42.6	42.3	43.1	43.6	43.6	44.4	
	12.0	42.8	42.9	43.0	41.4	39.8	39.0	39.0	41.6	43.0	44.0	43.8	43.9	44.0	43.5	43.5	43.5	43.1	42.5	42.8	42.4	42.7	43.7	43.8	44.5	
	18.0	42.8	43.0	43.0	41.2	39.8	39.0	39.1	42.0	43.3	44.1	43.8	43.8	44.0	43.5	43.5	43.6	43.1	42.7	42.7	42.4	43.1	43.5	43.5	44.5	
	24.0	42.8	43.0	43.0	41.0	39.8	38.9	39.1	42.0	43.3	44.1	43.8	43.9	44.0	43.3	43.5	43.5	43.1	43.1	42.4	42.7	43.0	43.3	43.5	44.3	
	30.0	43.0	42.9	43.1	40.9	39.7	38.6	39.3	42.3	43.5	44.0	43.8	43.9	43.8	43.3	43.5	43.5	43.1	43.2	42.5	43.0	43.3	43.1	43.6	44.5	
	36.0	44.1	42.9	42.7	40.7	39.9	38.7	39.5	42.3	44.0	44.0	43.6	44.0	44.0	43.4	43.5	43.5	43.1	43.2	42.5	43.1	43.5	43.2	43.7	44.0	
	42.0	44.0	43.0	42.5	40.6	39.9	39.0	39.5	42.6	44.0	44.0	43.4	44.1	43.9	43.3	43.5	43.5	43.1	43.0	42.4	43.0	43.5	43.5	43.6	44.0	
	48.0	43.1	43.1	42.4	40.4	39.7	39.0	40.4	42.6	44.0	44.1	43.6	44.0	43.8	43.3	43.2	43.4	43.0	43.1	42.3	43.1	43.5	43.4	43.7	43.7	
	54.0	43.0	43.1	42.4	40.2	39.5	38.9	40.5	42.8	44.0	44.0	43.6	44.0	43.8	43.2	43.1	43.4	43.1	42.7	42.5	43.1	43.5	43.7	43.8	43.7	
HORIZONTAL FORCE MAGNETOMETER.	2.0	54.0	54.2	54.6	55.1	53.1	51.0	49.3	49.0	50.1	52.5	53.5	55.1	57.4	55.8	56.1	56.0	56.2	56.8	56.6	51.9	54.9	54.8	54.5	55.5	
	8.0	53.8	54.4	54.8	54.9	52.8	50.3	49.2	49.7	50.6	52.8	53.5	55.7	57.1	55.8	56.2	56.0	56.2	56.7	56.4	53.1	54.7	55.3	53.9	55.2	
	14.0	54.0	54.4	54.8	54.6	52.3	50.2	49.1	49.5	50.5	52.7	53.5	55.9	57.1	55.8	56.2	56.0	56.3	56.5	56.2	53.3	55.4	55.5	54.1	55.4	
	20.0	54.2	54.5	54.8	54.3	51.9	50.2	49.0	49.7	50.5	53.4	53.6	56.3	57.1	55.6	56.1	56.0	56.4	56.5	55.6	54.3	55.5	54.8	54.4	54.4	
	26.0	54.2	54.5	54.7	54.2	51.8	49.8	49.0	49.6	50.0	53.5	53.7	56.6	57.2	55.5	56.1	56.0	56.8	56.6	55.5	53.6	55.3	54.9	54.1	54.0	
	32.0	54.0	54.5	54.8	54.1	51.7	49.3	49.0	49.0	50.5	53.5	53.8	56.8	57.2	55.5	56.0	55.9	56.9	56.9	54.9	53.9	55.1	54.8	54.9	52.8	
	38.0	54.1	54.6	54.9	54.0	51.7	49.3	49.0	49.5	51.2	53.5	54.0	57.4	56.8	55.6	56.0	55.9	56.9	57.1	53.9	54.7	54.9	55.2	55.1	52.8	
	44.0	54.0	54.7	54.9	53.8	51.7	49.5	49.1	49.9	51.6	53.0	54.2	57.6	56.5	55.6	56.0	55.8	56.8	57.2	53.6	55.0	54.9	54.8	54.9	52.8	
	50.0	54.1	54.6	55.0	53.5	51.3	49.6	49.2	50.0	52.2	53.4	54.5	57.6	56.4	55.9	56.0	55.8	56.8	57.4	52.5	54.9	54.7	54.5	54.7	52.5	
	56.0	54.1	54.5	55.1	53.3	51.1	49.5	49.0	50.0	52.5	53.5	54.9	57.7	56.4	56.1	56.0	56.0	57.0	57.0	53.1	54.8	55.5	54.2	54.8	52.6	
	Ther..		79.3	79.3	79.4	79.4	79.8	80.1	80.8	81.2	81.9	82.3	82.2	81.8	80.5	80.5	80.4	80.2	80.2	80.1	80.0	79.8	79.5	79.3	79.1	79.0
VERTICAL FORCE MAGNETOMETER.	4.0	-163	-157	-166	-166	-139	-94	-72	-38	-45	-73	-125	-162	-160	-151	-150	-154	-151	-162	-162	-155	-161	-175	-166	-171	
	10.0	-163	-159	-166	-166	-140	-91	-67	-37	-64	-86	-123	-165	-160	-149	-143	-154	-151	-163	-162	-155	-161	-175	-166	-161	
	16.0	-163	-160	-166	-162	-136	-86	-60	-33	-51	-77	-123	-166	-160	-149	-148	-150	-152	-163	-162	-162	-172	-172	-166	-161	
	22.0	-163	-160	-166	-162	-129	-86	-58	-32	-67	-86	-123	-166	-160	-150	-145	-150	-148	-163	-162	-157	-172	-173	-166	-161	
	28.0	-158	-160	-166	-168	-125	-79	-55	-31	-54	-86	-139	-164	-160	-150	-142	-146	-148	-167	-161	-161	-175	-168	-166	-161	
	34.0	..	-160	-169	-174	-122	-76	-53	-32	-69	-86	-139	-161	-157	-150	-144	-146	-147	-164	-161	-165	-171	-168	-166	-161	
	40.0	-157	-164	-174	-156	-118	-76	-52	-31	-57	-98	-143	-180	-155	-150	-141	-146	-155	-168	-160	-165	-171	-168	-164	-167	
	46.0	-157	-164	-174	-154	-163	-72	-47	-30	-75	-105	-152	-161	-155	-152	-147	-148	-157	-168	-160	-165	-171	-171	-169	-167	
	52.0	-157	-165	-176	-151	-107	-75	-43	-35	-68	-105	-152	-160	-155	-152	-151	-148	-155	-168	-160	-164	-175	-171	-171	-167	
	58.0	-157	-165	-169	-149	-102	-72	-43	-54	-83	-105	-156	-160	-151	-151	-154	-153	-155	-170	-151	-161	-175	-166	-171	-167	
	Ther..		79.5	79.6	79.7	79.7	80.1	80.6	81.2	81.7	82.4	83.1	82.4	81.0	80.8	80.7	80.7	80.7	80.7	80.6	80.3	80.2	79.8	79.7	79.7	79.6
Barometer(uncorrected) = 29.0+.....		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
Attached Thermometer..		78.0	78.0	78.0	78.1	78.4	79.0	80.1	81.0	81.8	82.5	82.2	80.8	79.9	79.8	79.3	79.0	78.9	78.7	78.5	78.0	..	..	..	..
Dry do.		75.0	75.3	75.0	76.8	80.4	83.6	85.6	88.5	92.0	90.5	79.9	78.8	79.3	78.0	77.8	75.1	74.9	74.7	75.2	74.0	73.9	73.7	73.8	73.8	
Wet do.		74.5	75.0	74.5	76.2	77.5	78.4	78.9	79.9	81.8	82.2	77.8	75.8	76.5	76.5	75.5	74.5	74.0	73.9	74.0	73.0	72.9	72.8	73.0	73.1	
REMARKS ON THE WEATHER.	ZENITH.	cir-cum.....	overcast.....	haze.....	do.....	overcast.....	cir-haze.....	cir-cum.....	cir.....	do.....	overcast.....	do.....	do.....	cir-cu-str.....	cir-cum.....	do.....	do.....	do.....	cir-cir-str.....	cir-cum, cir, nim ..	clear.....	do.....	pt-cir-str.....	cir-cum, cir ..	cir-str.....	
	HORIZON.	cum, stra.....	overcast.....	cum, stra.....	haze.....	overcast.....	stra, cum-stra.....	stra.....	cum, cum-stra.....	do.....	overcast.....	do.....	do.....	cir-cu-str.....	stra, cum-stra.....	do.....	do.....	do.....	stra, haze.....	do.....	stra.....	stra, haze.....	cum, stra.....	do.....	do.....	
Cloudy Sky in 8ths.		7..	8..	7..	6..	8..	8..	8..	7..	7..	8..	8..	8..	7..	6..	6..	6..	6..	7..	5..	3..	5..	5..	6..	6..	

* The date is missed. The observation taken 21st instead of 28th.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 19th March 1845. Gottingen Mean Time.

WEDNESDAY the 19th March 1845.

THURSDAY the 20th March 1845.

Gottingen Mean Time.

10 P. M.

Table with 23 columns for hours 10-23 and 23 columns for hours 0-9. Rows include Declination Magnetometer (m. s.) and Horizontal Force Magnetometer values.

HORIZONTAL FORCE

MAGNETOMETER. 2.0, 8.0, 14.0, 20.0, 26.0, 32.0, 38.0, 44.0, 50.0, 56.0

Table with 23 columns for hours 10-23 and 23 columns for hours 0-9. Rows include Vertical Force Magnetometer values.

VERTICAL FORCE

MAGNETOMETER. 4.0, 10.0, 16.0, 22.0, 28.0, 34.0, 40.0, 46.0, 52.0, 58.0

Table with 23 columns for hours 10-23 and 23 columns for hours 0-9. Rows include Thermometer readings.

Ther...

Table with 23 columns for hours 10-23 and 23 columns for hours 0-9. Rows include Barometer (uncorrected) and Attached Thermometer (Dry/Wet) readings.

Barometer(uncorrected)

Attached Thermometer... Dry do. Wet do.

Table with 23 columns for hours 10-23 and 23 columns for hours 0-9. Rows include Cloudy Sky in 8ths.

Cloudy Sky in 8ths.

REMARKS ON THE WEATHER.

HORIZON.

ZENITH.

Table with 23 columns for hours 10-23 and 23 columns for hours 0-9. Rows include Zenith and Horizon weather remarks.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 23d April 1845. Gottingen Mean Time.

WEDNESDAY the 23d April 1845.

THURSDAY the 24th April 1845.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23

0 1 2 3 4 5 6 7 8 9

Table with 2 columns: DECLINATION MAGNETOMETER (m. s.) and 24 columns of numerical data for hours 10-23 and 0-9.

Table with 2 columns: HORIZONTAL FORCE MAGNETOMETER and 24 columns of numerical data for hours 10-23 and 0-9.

Table with 1 column: Ther... and 24 columns of numerical data for hours 10-23 and 0-9.

Table with 2 columns: VERTICAL FORCE MAGNETOMETER and 24 columns of numerical data for hours 10-23 and 0-9.

Table with 1 column: Ther... and 24 columns of numerical data for hours 10-23 and 0-9.

Table with 1 column: Barometer(uncorrected) = 29.0 + and 24 columns of numerical data.

Table with 2 columns: Attached Thermometer (Dry, Wet) and 24 columns of numerical data.

Table with 1 column: Cloudy Sky in 8ths. and 24 columns of numerical data.

Table with 2 columns: REMARKS ON THE WEATHER (ZENITH, HORIZON) and 24 columns of descriptive text.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 30th May 1845. Gottingen Mean Time.

FRIDAY the 30th May 1845.

SATURDAY the 31st May 1845.

Gottingen Mean Time P. M.

DECLINATION MAGNETOMETER. m. s.

HORIZONTAL FORCE MAGNETOMETER. 2.0 8.0 14.0 20.0 26.0 32.0 38.0 44.0 50.0 56.0

VERTICAL FORCE MAGNETOMETER. 4.0 10.0 16.0 22.0 28.0 34.0 40.0 46.0 52.0 58.0

Barometer(uncorrected) = 29.0 + ... Attached Thermometer Dry Wet

REMARKS ON THE WEATHER. ZENITH. HORIZON. Cloudy Sky in 8ths.

Main data table with columns for time (10-23 and 0-9), declination, horizontal force, vertical force, barometer, thermometer, and weather remarks.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 23d July 1845. Gottingen Mean Time.

WEDNESDAY the 23d July 1845.

THURSDAY the 24th July 1845.

Gottingen Mean Time. P. M.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8 9

Table with columns for Declination Magnetometer (m. s.) and time (10-23 for Wednesday, 0-9 for Thursday). Rows show magnetic declination values.

Table with columns for Horizontal Force Magnetometer (2.0-56.0) and time. Rows show horizontal force values.

Table with columns for Vertical Force Magnetometer (4.0-58.0) and time. Rows show vertical force values.

Table with columns for Barometer (uncorrected) = 29.0 + ... and Attached Thermometer (Dry/Wet). Rows show atmospheric pressure and temperature readings.

Table with columns for Remarks on the Weather (Zenith and Horizon) and Cloudy Sky in 8ths. Rows describe weather conditions and cloud cover.

ABSTRACT OF TERM DAY OBSERVATIONS. COMMENCING at 10 P. M. 29th August 1845. Gottingen Mean Time.

FRIDAY the 29th August 1845.

SATURDAY the 30th August 1845.

Gottingen Mean Time.		10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	
P. M.																										
DECLINATION MAGNETOMETER.	m. s.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	sc.d.	
	0 0	42.1	41.9	44.5	45.1	42.9	41.5	41.0	40.8	43.2	44.0	44.7	44.0	43.1	43.0	42.0	41.4	41.0	40.4	40.7	41.0	40.9	40.4	41.3	41.4	
	6 0	42.1	42.0	44.6	45.0	42.9	41.4	41.1	41.0	43.1	43.9	44.0	44.0	43.3	42.9	42.0	41.0	41.0	40.3	40.7	40.9	40.9	40.6	41.3	41.4	
	12 0	41.1	42.4	44.6	44.2	42.6	41.2	41.1	41.0	43.2	44.5	43.3	43.8	43.4	42.9	41.9	41.0	41.0	40.4	40.2	40.9	40.9	40.6	41.2	42.0	
	18 0	41.4	42.5	44.9	44.6	42.5	41.2	41.3	41.1	42.6	45.0	43.1	43.8	43.3	42.9	41.7	41.0	41.0	40.8	40.7	40.6	40.9	41.2	41.1	41.8	
	24 0	41.9	42.5	44.9	44.3	42.4	41.3	41.6	41.2	42.3	45.2	43.1	43.1	43.3	42.6	41.8	41.0	41.0	40.9	40.6	40.9	41.0	41.4	41.1	42.0	
	30 0	41.8	43.3	45.5	44.5	42.4	41.4	41.4	41.8	42.3	45.3	43.2	43.2	43.3	42.3	41.6	41.0	40.9	40.6	40.7	41.2	41.0	41.1	41.1	42.1	
	36 0	41.1	43.4	45.2	43.8	42.0	41.4	41.5	42.0	42.3	45.1	44.0	43.8	43.2	42.2	41.5	41.0	40.8	40.3	40.6	40.9	40.8	41.0	41.6	41.9	
	42 0	41.5	43.5	46.0	43.5	41.9	41.3	41.4	42.1	42.6	45.1	43.9	44.0	43.1	42.1	41.5	41.0	40.9	40.7	40.6	41.0	40.8	41.1	41.5	42.5	
	48 0	41.9	43.5	45.2	43.3	41.9	41.0	41.2	42.7	43.0	45.0	43.9	43.8	43.0	42.2	41.4	41.0	40.8	40.7	40.8	41.4	40.6	41.0	41.2	42.5	
	54 0	41.7	44.3	44.6	43.0	41.7	41.0	40.6	43.5	43.5	44.9	43.9	43.5	43.0	42.2	41.4	41.0	40.7	40.7	40.9	41.5	40.7	41.0	41.0	42.5	
	HORIZONTAL FORCE MAGNETOMETER.	2 0	50.4	55.5	55.5	53.9	52.1	51.0	50.1	52.7	53.2	54.7	60.0	62.2	61.9	59.7	59.5	57.3	59.4	59.6	57.6	57.4	57.3	52.8	54.3	55.4
8 0		50.1	55.5	56.4	54.0	51.8	51.0	50.3	53.5	54.2	56.0	59.5	63.4	62.0	59.4	59.3	57.2	59.5	59.6	57.6	57.3	57.3	53.4	54.6	55.1	
14 0		50.9	55.5	55.9	53.5	52.3	51.9	50.4	53.1	54.8	56.5	59.1	64.4	61.9	59.5	59.2	57.0	59.7	59.4	57.6	57.5	57.2	54.1	54.3	54.9	
20 0		51.6	55.5	55.9	53.1	52.4	52.2	50.9	53.1	55.2	57.4	59.6	65.5	61.8	59.5	59.2	57.3	59.8	59.1	57.6	57.6	56.9	54.4	54.1	55.3	
26 0		52.5	55.8	56.1	52.8	52.6	52.6	51.1	52.7	55.0	58.0	59.7	66.0	61.2	59.5	59.3	57.5	59.7	59.0	57.6	57.6	56.6	54.7	54.2	55.1	
32 0		53.6	55.9	55.3	52.5	52.6	52.5	52.1	52.5	54.8	58.7	59.9	65.5	61.1	59.5	59.5	57.9	59.7	58.6	57.5	57.6	56.4	54.0	55.4	55.6	
38 0		54.5	56.1	55.3	52.1	51.4	52.0	52.4	52.4	55.4	60.0	60.2	64.4	60.6	59.6	59.3	57.9	59.9	57.6	57.3	57.6	55.3	53.8	54.1	54.7	
44 0		55.1	56.1	55.4	52.3	50.6	51.5	52.1	52.7	54.6	60.4	60.4	63.9	60.1	59.8	58.4	58.1	59.8	57.6	57.3	57.3	54.8	53.5	54.2	54.5	
50 0		55.3	56.1	54.7	52.3	51.7	51.8	52.6	52.7	54.7	59.8	60.9	63.1	60.1	59.9	58.1	58.3	59.8	57.5	57.6	57.3	53.4	54.0	55.3	54.5	
56 0		55.4	56.0	54.6	52.1	51.8	50.4	52.3	53.5	54.8	59.8	61.5	62.0	59.9	59.9	57.9	58.4	59.7	57.4	57.6	57.4	53.3	54.1	54.8	54.9	
Ther...			82.9	82.9	82.9	81.8	81.3	82.0	82.7	82.9	82.9	83.5	83.8	84.0	83.8	83.6	83.2	83.0	82.9	82.8	82.7	82.2	81.9	81.4	81.2	81.0
VERTICAL FORCE MAGNETOMETER.		4 0	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	s.d.	
	10 0	473	483	469	520	468	365	330	365	340	339	378	408	482	477	..	469	485	493	482	487	..	..	..
	16 0	463	463	469	..	468	367	330	377	336	352	388	420	482	477	483	470	485	493	482	481	..	..	..
	22 0	469	463	460	502	462	375	313	382	341	358	394	479	485	480	468	470	485	489	485	492	..	492	..		
	28 0	480	474	460	502	461	375	315	382	341	359	394	485	485	478	471	477	495	489	487	492	..	497	..		
	34 0	480	474	482	499	461	373	318	369	341	360	..	492	485	478	471	478	495	489	488	492	504	494	..		
	40 0	484	442	472	489	454	373	334	356	341	363	393	488	482	478	471	478	495	485	488	498	..	494	..		
	46 0	479	..	472	489	439	353	334	348	341	363	393	488	482	483	471	478	495	480	487	494	..	..	512	
	52 0	479	..	502	480	430	339	334	348	343	376	390	483	477	483	472	473	498	486	475	491	472	..	..
	58 0	477	..	502	477	434	339	347	348	339	376	391	483	477	483	472	478	498	482	483	495	..	..	..
	Ther...		83.0	83.3	83.5	82.5	82.5	82.9	83.2	83.3	83.3	84.4	84.4	84.7	84.3	84.0	83.6	83.7	83.4	83.3	83.0	82.8	82.6	82.2	81.8	81.6
	Barometer(uncorrected) = 29.0 +	in.	0.990	1.017	1.046	1.078	1.092	1.100	1.098	1.080	1.055	1.030	1.003	0.991	0.989	0.990	0.994	1.010	1.034	1.044	1.070	1.074	..	..	..
Attached Thermometer ..		81.9	82.0	81.9	81.0	80.3	81.0	81.8	82.1	82.1	83.1	83.2	83.8	83.2	83.0	82.8	82.4	82.0	81.4	81.2	81.0	..	..	..
Dry do		80.1	80.7	79.7	76.5	80.0	82.0	84.5	83.2	85.5	87.5	87.9	86.6	85.6	83.7	82.4	79.3	78.0	77.6	77.0	76.7	75.8	74.9	75.2	74.0	
Wet do	77.3	77.7	76.9	75.0	77.4	77.9	79.0	78.0	78.8	78.1	79.1	79.2	78.2	77.9	76.7	76.8	76.4	76.5	76.0	75.9	75.0	74.1	74.8	73.5		
REMARKS ON THE WEATHER.	ZENITH.	clear.....	cir-cum, haze ..	overcast.....	do.....	cir-cum-stra.....	do.....	cir-haze.....	overcast.....	do.....	do.....	cir, cir-str.....	do.....	do.....	overcast.....	cir-stra, cir.....	clear.....	pt-cir-stra.....	clear.....	do.....	do.....	do.....	do.....	do.....		
	HORIZON.	cloudy.....	stra, cum-stra.....	overcast.....	do.....	cir-cum-stra.....	do.....	cum, cum-stra.....	do.....	cum, stra.....	overcast.....	stra, cum-stra.....	cum, cum-stra.....	stra, cum-stra.....	overcast.....	stra, cum-stra.....	stra.....	do.....	do.....	haze.....	do.....	do.....	stra.....	do.....	stra, haze.....	
	Cloudy Sky in 8ths.	3..	7..	8..	rain, hard squall 8..	8..	8..	6..	8..	7..	8..	6..	6..	8..	8..	7..	2..	4..	4..	2..	2..	1..	2..	..	lg. S.E. to S.W. 2..	

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 24th September 1845. Gottingen Mean Time.

WEDNESDAY the 24th September 1845.

THURSDAY the 25th September 1845.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23

0 1 2 3 4 5 6 7 8 9

Table with columns for Declination Magnetometer (m. s.) and rows for hours 0.0 to 54.0. Values range from 41.1 to 42.0.

Table with columns for Horizontal Force Magnetometer (Ther.) and rows for hours 2.0 to 56.0. Values range from 81.2 to 82.8.

Table with columns for Vertical Force Magnetometer (Ther.) and rows for hours 4.0 to 58.0. Values range from -518 to -561.

Table with columns for Barometer (uncorrected) and Attached Thermometer (Dry/Wet) and rows for hours 0.0 to 74.0. Values range from 0.986 to 1.044.

Table with columns for Remarks on the Weather (Zenith and Horizon) and rows for hours 3.0 to 75.0. Includes weather descriptions like 'cir-cum', 'overcast', 'rain', 'thunder'.

ABSTRACT OF TERM DAY OBSERVATIONS.

COMMENCING at 10 P. M. 28th November 1845. Gottingen Mean Time.

FRIDAY the 28th November 1845.

SATURDAY the 29th November 1845.

Gottingen Mean Time.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8 9 P. M.

Table with 2 columns: DECLINATION MAGNETOMETER (m. s.) and 24 columns of magnetic declination values for each hour.

Table with 2 columns: HORIZONTAL FORCE MAGNETOMETER (2.0 to 56.0) and 24 columns of magnetic force values for each hour.

Table with 2 columns: VERTICAL FORCE MAGNETOMETER (4.0 to 58.0) and 24 columns of magnetic force values for each hour.

Table with 2 columns: Barometer(uncorrected) = 29.0 + and Attached Thermometer (Dry/Wet) with 24 columns of atmospheric data for each hour.

Table with 2 columns: REMARKS ON THE WEATHER (HORIZON, ZENITH) and 24 columns of weather observations for each hour.

ERRATA.

Year	Month.	Page.	Line.	Hour Column.	For	Read.
1842	June.....	13	Diurnal Oscillations.....	1	0139	0136
do	do	13	do	2	0179	0175
do	do	13	do	8	0016	0019
do	September...	16	Temp. Correction.....	14	1·3	1·2
do	do	16	do do General Mean.....	—	2·2	2·1
do	do	16	Corrected Mean.....	7	66·7	67·7
do	do	16	do	18	65·3	63·3
do	do	16	Differences.....	7	1·8	0·8
do	do	16	Diurnal Oscillations.....	7	0350	0156
do	do	16	do	17	1441	1247
do	do	16	do	20	9506	0506
do	do	16	do General Mean.....	—	0398	0382
1843	August.....	5	Declination.....	13	5·55	6·55

