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M.O. 243*f*.

AIR MINISTRY.

METEOROLOGICAL OFFICE.

BRITISH METEOROLOGICAL AND MAGNETIC YEAR BOOK, 1921.—Part IV.

HOURLY VALUES FROM AUTOGRAPHIC RECORDS: 1921.

COMPRISING

HOURLY READINGS OF TERRESTRIAL MAGNETISM AT ESKDALEMUIR OBSERVATORY

AND

SUMMARIES OF THE RESULTS OBTAINED

IN

TERRESTRIAL MAGNETISM, METEOROLOGY, AND ATMOSPHERIC ELECTRICITY
CHIEFLY BY MEANS OF SELF-RECORDING INSTRUMENTS AT THE OBSERVATORIES OF THE METEOROLOGICAL OFFICE.

IN CONTINUATION OF

The Reports of the National Physical Laboratory, 1900–1909, *and* (*in similar form*) *Summaries of Results of Geophysical and Meteorological Observations*, 1910, *the Reports of the Kew Committee of the Royal Society*, 1872–1899, *and of the Kew Observatory Committee of the British Association*, 1842–1871.

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PREFACE.

FOR the years 1911 to 1913, "Hourly Values from Autographic Records" was published in two sections. The issue of the first section, which contained hourly values of pressure, temperature, humidity, wind, rainfall, and sunshine, terminated with the publication of the 1913 volume. The present volume represents the Section 2 of those three years, and is the eleventh of the series. It may be regarded as a continuation in extended form of the tables and summaries giving the results of observations in terrestrial magnetism and atmospheric electricity which were included in the Reports of the Committee of Management of the Kew Observatory from 1842 to 1910, and of tables published by the Meteorological Office in the *Quarterly Weather Report* from 1869 to 1880, and thereafter in *Hourly Readings*.

The tables of the present volume fall into three groups. In the first group the mean daily variation of the various meteorological elements is given for each month. The figures refer to the five observatories, Aberdeen, Eskdalemuir, Cahirciveen (Valencia Observatory), Richmond (Kew Observatory), and Falmouth.

In the second group fall Tables I to XLVIII, in which the readings of the magnetographs at Eskdalemuir Observatory for each hour throughout the year are set out, together with appropriate notes; Tables XLIX to LXIV, giving results deduced from these readings and corresponding figures for Kew Observatory; and Tables LXVII and LXVIII, in which magnetic data for various stations, British and foreign, are set out.

In the third group are the three tables which show the mean daily variation of potential gradient at Richmond and Eskdalemuir. The values from which the means have been computed are not published.

The tables are followed by notes on the management of the magnetic and electrical instruments and on results of interest. For notes on the meteorological instruments reference may be made to the Year Book, Part IV, Section 1, 1913. Notes on the Meteorological Summaries are included in this volume.

It will be noticed that the tabulation of the autographic records at the Meteorological Office Observatories, which provides the material for this volume, also yields information which is not printed here, such as the daily values of the extremes of temperature and other meteorological elements, and the range of magnetic force. For this information reference should be made to the *Geophysical Journal* issued as Part III, Section 2, of the British Meteorological and Magnetic Year Book.

* * * * * * *

The only part of the British Meteorological and Magnetic Year Book for 1921 which is not yet published is the *Réseau Mondial* 1921. For 1922 the serial statistical data published by the Meteorological Office have appeared under the following titles:—

Daily Weather Report.	Weekly Weather Report.
Monthly Weather Report.	Observatories' Year Book.

while a fifth Volume for 1922 has still to appear, viz:—

Réseau Mondial.

The *Observatories' Year Book* contains data similar to those included in the present volume: it contains also a considerable portion of the information which has appeared in the *Geophysical Journal*, and in *Hourly Values from Autographic Records, Meteorological Section*, the publication of which is referred to above as having terminated with the issue for 1913. The *Observatories' Year Book* does not contain daily values of meteorological elements at Second Order Stations: this was considered unnecessary in view of the regular publication of daily values from Telegraphic Stations in the *Daily Weather Report*.

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(18781) Wt. 6232/12037/379 375 2/26 Harrow G.69/8

CORRECTIONS TO PREVIOUS VOLUMES.

Eskdalemuir.

Year.	Page.	Table.	For	Read
1912	8	II	Mean 15h., 250	249
1912	9	IV	Magnetic Notes: Line 15, 78γ	68γ
1912	30	XLV	Mean 3h., 1010	1009
1912	26	XXXVII	,, 9h., 1004	1007
			,, 10h., 999	995
			,, 12h., 995	991
			,, 15h., 1004	1008
			These errors affect Tables XLIX, LXIV and LXV, the corrections to which are as follows:—	
1912	32	XLIX	Oct. 1h., 6·7	6·6
			,, 4h., 7·1	7·0
			,, 5h., 8·3	8·6
			,, 10h., −13·4	−16·8
			,, 12h., −17·5	−20·9
			,, 13h., −16·9	−16·8
			,, 14h., −10·6	−10·5
			,, 15h., − 8·0	− 4·5
			,, 16h., − 1·3	− 1·2
			,, 17h., 1·4	1·5
			,, 19h., 4·5	4·6
			,, 20h., 6·2	6·3
			,, 21h., 8·5	8·6
			,, 22h., 7·0	7·1
			,, 23h., 7·6	7·8
			Means for Year and Equinox are affected to a slight extent.	
1912	37	LXIV	3rd Col., Oct., −0·1	− 0·2
1912	37	LXV	Oct. N. Component.	
			a_1 .. 11·1	11·3
			b_1 .. 1·1	0·9
			a_2 .. −6·7	−7·2
			b_2 .. −0·4	−0·1
			c_1 .. 11·1	11·4
			α_1 .. 84·8	88·8
			c_2 .. 6·7	7·2
			α_2 .. 273·4	275·5
			Tables LII, LIII and LIV are also affected.	
1913	34	LVI	Jan., 23h., 5·2	−5·2
1914	37	LXIV	Vertical Component: c_1 Column, Unit°	γ
1915	41	XXIV	Magnetic Notes: Line 7, 17d. 1h. 45m.	16d. 13h. 1m.
1915	43	XXVIII	Line 6, 1d. 22h. 12m.	1d. 22h. 34m.
1915	91	IX	2nd July, 2nd Col.: 1d. 2h. 34m.	1d. 22h. 34m.
1916	35	XII	Magnetic Notes: Line 4, 8d. 8h. 6m.	8d. oh. 40m.
1916	59	LXF	Jan., 23h., $\varkappa$15·8	−15·8
1916	61	LXIV	All days. N. Component.	
			α_1 Equinox .. 16·8	109′·1 } L.M.T.
			α_1 Summer .. 18·5	126′·9 }
1916	64	LXXVI	Mean Value, Year 256	248
1917	61	LXIV	W. Component. All days.	
			Year, b_2 .. 5·0	9·4
1917	61	LXIVA	,, c_2 .. 5·5	9·7
			,, α_2 .. 30·3	19·8
1918	31	XXXII	Magnetic Notes: Line 14, 15d. 15h. 32m.	15d. 15h. 52m.
1918	37	XLIV	Line 6, 29th	9th
			Line 7, 13h. 26m.	13h. 23m.
1918	39	XLVIII	Line 11, 25d. 3h. 53m.	25d. 3h. 50m.
1918	70	—	Line 11, 1911–17	1911–18
1918	70	IX	(In heading) Mean 1911–17	Mean 1911–18
1918	71	X	W. Range 50–59, 26	25
1918	72	XI	1st Col., 10	10*
1918	72	XI	No. 17,* 2nd Col., Aug. 15, 15h. 32m.	Aug. 15, 15h. 52m.
			No. 24, 2nd Col., Nov. 29, 13h. 26m.	Nov. 9, 13h. 23m.
			No. 27, 2nd Col., Dec. 25, 3h. 53m.	Dec. 25, 3h. 50m.
1919	19	VII	Vertical Component: 11th, 18h., 1978	1078
1919	49	LXVII	Total Intensity, 1910, 49368	48368
1919	67	VI	"2" days, $\Sigma\gamma^2$ April, 6101	6152
1919	—	LXIVA	N. Component, α_1 Summer, disturbed days, 32·0	147·9
1920	49	LXVII	Total Intensity, 1910, 49368	48368
1920	67	VIII	Heading: Unit 10 γ^2	Unit 1 γ^2
1920	71	—	Line 7 (page 47)	(Page 49)

1918, 1919, 1920. Table LXIV*a*. The values of α_n as printed really refer to G.M.T. and not to Local Mean Time. The corrections required to adjust to L.M.T. are as follows:—

To α_1 add 3·2.
,, α_2 ,, 6·4.
,, α_3 ,, 9·6.
,, α_4 ,, 12·8.

HOURLY VALUES FROM AUTOGRAPHIC RECORDS. 1921.

LIST OF OBSERVATORIES.

	Latitude.	Longitude.	G.M.T. of Local Mean Noon.	Height above M.S.L. in metres.
Central Observatory:			h m	
Kew Observatory, RICHMOND, Surrey	51° 28′ N.	0° 19′ W.	12 1	5·5
Magnetic Observatory:				
ESKDALEMUIR, Dumfriesshire ..	55 19 N.	3 12 W.	12 13	242·0
Western Observatory:				
Valencia Observatory, CAHIRCIVEEN, Co. Kerry.	51 56 N.	10 15 W.	12 41	9·1
Auxiliary Observatories:				
ABERDEEN (Meteorology)	57 10 N.	2 6 W.	12 8	14·0
FALMOUTH (Meteorology)	50 9 N.	5 4 W.	12 20	50·8

Notes.—(1) The height given is that of the site of the rain-gauge. The heights of other meteorological instruments are shown under the appropriate Tables.

(2) Values printed in *italic* type in the following Tables are obtained by interpolation.

(3) Daily mean values are computed as $\frac{1}{24}\left\{\frac{1}{2}(0 + 24) + (1 + \cdots + 23)\right\}$

HOURLY VALUES FROM AUTOGRAPHIC RECORDS.

PRESSURE AT STATION LEVEL: MONTHLY MEANS OF HOURLY VALUES.

**Readings in millibars at exact hours, Greenwich Mean Time.*

Aberdeen : H_b (height of barometer cistern above Mean Sea Level) = 26·8 metres. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
Jan.	01·23	01·28	01·25	01·26	01·21	01·07	01·07	01·23	01·54	01·88	02·03	02·07	01·82	01·67	01·52	01·62	01·69	01·62	01·50	01·47	01·51	01·49	01·40	01·38	01·34	01·49
Feb.	20·10	20·09	19·98	19·80	19·71	19·66	19·68	19·85	20·05	20·33	20·44	20·58	20·42	20·32	20·13	20·10	20·17	20·30	20·51	20·70	20·83	20·88	20·95	20·90	20·84	20·29
Mar.	04·16	04·16	04·13	04·01	03·99	04·01	04·03	04·07	04·17	04·20	04·24	04·09	04·06	04·07	03·79	03·75	03·66	03·66	03·73	03·93	04·05	04·15	04·23	04·30	04·19	04·03
April	17·61	17·40	17·15	16·86	16·70	16·70	16·88	17·13	17·34	17·52	17·64	17·63	17·64	17·70	17·63	17·57	17·60	17·67	17·86	18·19	18·37	18·38	18·28	18·15	17·97	17·57
May	08·90	08·71	08·45	08·25	08·08	08·06	08·10	08·23	08·30	08·30	08·31	08·35	08·31	08·38	08·32	08·27	08·26	08·25	08·33	08·49	08·65	08·78	08·71	08·55	08·40	08·38
June	17·92	17·80	17·66	17·61	17·60	17·65	17·79	18·03	18·15	18·31	18·38	18·36	18·35	18·35	18·18	18·11	18·02	17·98	17·99	18·07	18·20	18·33	18·34	18·30	18·21	18·07
July	13·32	13·17	13·02	12·84	12·77	12·72	12·75	12·89	12·98	13·01	13·04	12·92	12·84	12·71	12·69	12·62	12·57	12·61	12·62	12·67	12·85	12·97	12·93	12·93	12·78	12·84
Aug.	07·60	07·46	07·32	07·25	07·27	07·35	07·48	07·73	07·84	07·98	08·05	07·98	07·94	07·88	07·81	07·77	07·69	07·64	07·70	07·85	08·04	08·05	07·96	07·92	07·82	07·74
Sept.	13·90	13·87	13·65	13·47	13·33	13·22	13·33	13·52	13·65	13·70	13·70	13·60	13·49	13·41	13·29	13·13	13·07	13·09	13·23	13·49	13·69	13·77	13·80	13·84	13·82	13·51
Oct.	13·47	13·28	13·08	12·84	12·76	12·75	12·77	12·97	13·29	13·50	13·60	13·61	13·49	13·35	13·18	13·12	13·13	13·26	13·48	13·57	13·53	13·45	13·29	13·23	13·14	13·24
Nov.	14·20	14·10	13·98	13·83	13·83	13·77	13·79	13·89	14·10	14·24	14·50	14·59	14·48	14·42	14·29	14·32	14·39	14·48	14·63	14·73	14·75	14·71	14·72	14·65	14·60	14·32
Dec.	05·56	05·49	05·25	05·13	04·86	04·70	04·61	04·52	04·67	04·79	05·01	05·13	05·01	04·95	04·89	04·93	05·11	05·22	05·38	05·39	05·39	05·48	05·46	05·40	05·34	05·09
Year	11·50	11·40	11·24	11·09	11·01	10·97	11·02	11·17	11·34	11·48	11·58	11·58	11·49	11·43	11·31	11·28	11·28	11·31	11·42	11·55	11·65	11·70	11·67	11·63	11·54	11·38

Eskdalemuir : H_b = 237·3 m. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
Jan.	79·23	79·19	79·22	79·15	79·03	78·89	78·90	79·02	79·34	79·73	79·75	79·73	79·48	79·15	78·91	79·00	78·92	78·85	78·88	78·89	78·96	78·90	79·07	78·98	78·97	79·13
Feb.	95·26	95·24	95·21	95·13	95·00	95·08	95·20	95·41	95·71	95·90	95·99	96·13	96·06	95·82	95·66	95·61	95·56	95·71	95·90	96·13	96·21	96·18	96·29	96·30	96·30	95·72
Mar.	81·94	81·90	81·93	81·77	81·61	81·68	81·76	81·92	81·99	81·99	82·02	81·99	81·89	81·78	81·58	81·34	81·14	81·17	81·29	81·53	81·69	81·73	81·95	82·06	82·01	81·74
April	92·45	92·26	92·05	91·80	91·71	91·71	91·95	92·08	92·15	92·24	92·24	92·07	92·01	91·97	91·93	91·79	91·78	91·79	91·97	92·30	92·66	92·82	92·78	92·73	92·60	92·14
May	84·37	84·19	83·97	83·75	83·64	83·72	83·84	83·96	84·09	84·12	84·04	84·01	83·98	83·98	83·96	83·89	83·79	83·76	83·84	83·87	83·99	84·09	84·12	84·07	83·95	83·95
June	93·53	93·52	93·48	93·44	93·47	93·53	93·55	93·78	93·86	93·92	93·86	93·81	93·79	93·67	93·56	93·40	93·21	93·09	93·06	93·12	93·38	93·68	93·68	93·71	93·76	93·55
July	88·96	88·83	88·66	88·51	88·42	88·43	88·49	88·56	88·63	88·64	88·59	88·53	88·53	88·40	88·37	88·27	88·18	88·06	88·08	88·05	88·21	88·50	88·58	88·54	88·48	88·45
Aug.	83·02	82·90	82·86	82·82	82·82	82·93	83·14	83·27	83·40	83·46	83·52	83·47	83·46	83·42	83·32	83·22	83·06	83·02	82·93	83·01	83·14	83·20	83·32	83·29	83·22	83·17
Sept.	90·36	90·23	90·01	89·81	89·69	89·62	89·79	89·96	90·10	90·27	90·26	90·23	90·18	90·08	89·95	89·90	89·84	89·77	89·89	90·17	90·35	90·44	90·47	90·41	90·31	90·07
Oct.	90·73	90·64	90·47	90·23	90·15	90·19	90·17	90·39	90·63	90·75	90·71	90·55	90·44	90·21	90·07	89·96	90·03	90·17	90·47	90·67	90·69	90·72	90·70	90·67	90·56	90·43
Nov.	88·65	88·50	88·45	88·40	88·36	88·28	88·29	88·45	88·68	88·83	88·86	88·87	88·71	88·52	88·47	88·52	88·59	88·74	88·89	89·00	89·03	88·97	88·89	88·79	88·68	88·66
Dec.	83·73	83·61	83·53	83·38	83·26	83·14	83·08	83·17	83·32	83·52	83·69	83·68	83·52	83·33	83·18	83·33	83·61	83·74	83·78	83·81	83·75	83·75	83·90	83·95	83·97	83·54
Year	87·69	87·58	87·49	87·35	87·26	87·27	87·35	87·50	87·66	87·78	87·80	87·75	87·67	87·53	87·41	87·35	87·31	87·32	87·42	87·55	87·67	87·75	87·81	87·79	87·73	87·55

Cahirciveen (Valencia Obs.) : H_b = 13·7 m. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
Jan.	12·75	12·53	12·23	12·06	11·77	11·36	11·09	11·05	11·24	11·55	11·64	11·79	11·65	11·41	11·31	11·42	11·59	11·82	12·13	12·40	12·58	12·78	12·75	12·76	12·67	11·90
Feb.	22·43	22·36	22·16	22·00	21·83	21·82	21·93	22·20	22·70	23·17	23·33	23·49	23·55	23·39	23·10	23·00	22·94	22·94	23·13	23·29	23·33	23·41	23·48	23·41	23·38	22·87
Mar.	13·56	13·28	13·03	12·61	12·26	12·25	12·43	12·60	12·75	12·91	12·92	12·95	12·96	12·89	12·71	12·77	12·95	13·17	13·54	13·80	14·02	14·14	14·04	13·88	13·67	13·10
April	21·02	20·88	20·62	20·37	20·22	20·29	20·48	20·76	20·95	21·03	21·01	21·02	20·99	20·87	20·69	20·52	20·34	20·36	20·46	20·56	20·84	21·09	21·09	21·08	21·00	20·73
May	13·55	13·39	13·19	13·04	12·86	12·89	13·00	13·07	13·16	13·25	13·17	13·15	13·03	12·93	12·85	12·72	12·63	12·63	12·64	12·74	12·94	13·33	13·36	13·36	13·33	13·03
June	23·30	23·16	23·00	22·80	22·71	22·76	22·92	23·02	23·13	23·14	23·07	23·17	23·16	23·07	23·03	22·96	22·86	22·75	22·76	22·83	22·98	23·25	23·36	23·35	23·30	23·02
July	15·59	15·41	15·21	15·00	14·88	14·88	15·02	15·15	15·33	15·36	15·32	15·40	15·43	15·40	15·32	15·26	15·03	14·89	14·81	14·79	14·82	15·11	15·20	15·15	15·05	15·15
Aug.	13·37	13·29	13·16	12·94	12·80	12·73	12·86	12·90	13·05	13·21	13·18	13·19	13·24	13·24	13·16	13·14	13·02	12·95	13·02	13·11	13·39	13·74	13·65	13·57	13·47	13·16
Sept.	17·42	17·37	17·23	17·10	17·04	17·04	17·21	17·38	17·64	17·80	17·81	17·83	17·81	17·70	17·54	17·32	17·08	17·03	17·09	17·13	17·39	17·46	17·48	17·41	17·40	17·39
Oct.	18·29	18·16	17·95	17·69	17·50	17·46	17·43	17·49	17·80	18·07	18·24	18·34	18·43	18·29	18·13	18·05	18·01	18·08	18·37	18·59	18·65	18·75	18·80	18·76	18·68	18·15
Nov.	12·37	12·26	12·01	11·89	11·66	11·57	11·55	11·60	11·70	11·97	12·04	12·19	12·03	11·85	11·61	11·47	11·52	11·63	11·80	11·80	11·84	11·88	11·80	11·62	11·59	11·80
Dec.	17·20	17·09	16·98	16·99	16·97	16·90	16·92	17·08	17·21	17·53	17·68	17·97	17·76	17·49	17·31	17·15	17·26	17·53	17·83	17·95	18·13	18·32	18·25	18·22	18·25	17·51
Year	16·74	16·60	16·40	16·21	16·04	15·99	16·07	16·19	16·39	16·58	16·62	16·71	16·67	16·54	16·40	16·31	16·27	16·32	16·46	16·58	16·74	16·94	16·94	16·88	16·82	16·48

Richmond (Kew Obs.) : H_b = 10·4 m. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
Jan.	14·74	14·66	14·70	14·68	14·59	14·48	14·40	14·48	14·70	14·98	14·98	14·89	14·58	14·25	14·06	14·11	14·10	14·21	14·25	14·30	14·34	14·39	14·31	14·32	14·26	14·47
Feb.	24·31	24·21	24·16	24·03	23·96	24·00	24·09	24·40	24·75	25·03	25·10	25·19	25·02	24·76	24·47	24·31	24·31	24·49	24·84	25·06	25·22	25·40	25·54	25·55	25·58	24·70
Mar.	17·02	16·97	16·86	16·71	16·68	16·79	16·97	17·19	17·45	17·58	17·62	17·55	17·35	16·94	16·61	16·31	16·18	16·21	16·46	16·72	16·84	16·94	16·90	16·91	16·88	16·90
April	19·05	18·89	18·72	18·55	18·49	18·57	18·81	18·99	19·05	19·07	18·99	18·90	18·65	18·41	18·18	17·95	17·81	17·86	18·11	18·46	18·89	19·05	19·11	19·09	18·98	18·65
May	13·96	13·82	13·65	13·53	13·51	13·62	13·78	13·93	13·99	13·92	13·81	13·65	13·47	13·32	13·10	12·90	12·79	12·70	12·82	13·04	13·36	13·72	13·82	13·86	13·73	13·50
June	20·77	20·66	20·52	20·44	20·48	20·59	20·71	20·87	20·94	20·90	20·89	20·81	20·66	20·41	20·24	19·97	19·78	19·63	19·66	19·94	20·26	20·77	20·89	20·94	20·90	20·49
July	17·17	17·05	16·98	16·83	16·78	16·90	17·06	17·27	17·38	17·41	17·33	17·15	16·98	16·78	16·50	16·28	16·04	15·87	15·94	16·07	16·38	16·81	16·89	17·00	16·94	16·78
Aug.	12·45	12·33	12·16	12·05	12·00	12·01	12·19	12·43	12·55	12·71	12·69	12·57	12·41	12·32	12·18	12·13	12·02	11·96	11·98	12·15	12·45	12·69	12·68	12·67	12·60	12·33
Sept.	19·04	18·96	18·96	18·87	18·80	18·83	19·03	19·29	19·47	19·67	19·59	19·46	19·24	19·03	18·74	18·57	18·48	18·48	18·61	18·86	19·15	19·27	19·21	19·03	18·88	19·02
Oct.	20·83	20·84	20·72	20·62	20·64	20·71	20·77	21·07	21·42	21·58	21·54	21·39	21·02	20·60	20·29	20·08	20·01	20·08	20·42	20·57	20·71	20·94	21·06	21·07	21·05	20·80
Nov.	18·21	18·04	17·88	17·67	17·51	17·37	17·36	17·52	17·77	17·89	17·97	17·89	17·50	17·16	16·93	16·87	17·01	17·13	17·29	17·48	17·57	17·78	17·75	17·69	17·67	17·54
Dec.	17·07	16·95	16·90	16·85	16·68	16·58	16·64	16·84	17·07	17·39	17·56	17·53	17·28	17·02	16·87	16·92	17·15	17·31	17·44	17·66	17·79	17·91	17·83	17·83	17·85	17·23
Year	17·88	17·78	17·68	17·57	17·51	17·54	17·65	17·86	18·04	18·18	18·17	18·08	17·85	17·58	17·35	17·20	17·14	17·16	17·32	17·53	17·75	17·97	18·00	18·00	17·94	17·70

**Note.* 1. The initial 9 or 10 of the reading is omitted *i.e.* 1005·06 mb. is written 05·06 and 981·44 mb. becomes 81·44. 2. The latitude correction has been allowed for.

DIURNAL INEQUALITIES OF PRESSURE AT STATION LEVEL.

Departures from the mean of the day adjusted for non-periodic change.

Aberdeen. Unit = 1 millibar. **1921.**

G.M.T.	Midt.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
Jan.	−0·21	−0·17	−0·19	−0·19	−0·25	−0·39	−0·40	−0·25	+0·06	+0·40	+0·55	+0·58	+0·32	+0·18	+0·02	+0·11	+0·18	+0·10	−0·02	−0·05	−0·02	−0·05	−0·13	−0·17	−0·21
Feb.	+0·18	+0·15	0·00	−0·21	−0·33	−0·41	−0·42	−0·28	−0·11	+0·14	+0·22	+0·32	+0·13	0·00	−0·21	−0·28	−0·24	−0·14	+0·04	+0·20	+0·30	+0·32	+0·36	+0·28	+0·18
Mar.	+0·15	+0·15	+0·11	−0·01	−0·03	−0·01	+0·01	+0·05	+0·15	+0·18	+0·21	+0·07	+0·03	+0·04	−0·23	−0·27	−0·37	−0·37	−0·30	−0·11	+0·02	+0·11	+0·19	+0·26	+0·15
Apr.	+0·21	−0·01	−0·27	−0·58	−0·75	−0·77	−0·60	−0·37	−0·17	−0·01	+0·10	+0·07	+0·06	+0·11	+0·03	−0·05	−0·03	+0·02	+0·19	+0·51	+0·67	+0·67	+0·55	+0·41	+0·21
May	+0·27	+0·10	−0·13	−0·32	−0·47	−0·46	−0·40	−0·25	−0·16	−0·14	−0·11	−0·05	−0·07	+0·03	−0·02	−0·04	−0·04	−0·03	+0·08	+0·25	+0·44	+0·59	+0·54	+0·40	+0·27
June	0·00	−0·14	−0·29	−0·35	−0·38	−0·33	−0·20	+0·02	+0·13	+0·28	+0·34	+0·31	+0·28	+0·27	+0·09	+0·01	−0·09	−0·15	−0·15	−0·08	+0·04	+0·15	+0·15	+0·10	0·00
July	+0·21	+0·09	−0·05	−0·21	−0·24	−0·27	−0·23	−0·07	+0·05	+0·10	+0·15	+0·06	−0·01	−0·11	−0·11	−0·15	−0·18	−0·12	−0·08	−0·02	+0·19	+0·33	+0·31	+0·33	+0·21
Aug.	−0·03	−0·18	−0·33	−0·40	−0·40	−0·32	−0·20	+0·03	+0·14	+0·27	+0·33	+0·26	+0·20	+0·14	+0·06	0·00	−0·09	−0·14	−0·09	+0·05	+0·23	+0·23	+0·14	+0·08	−0·03
Sept.	+0·35	+0·33	+0·11	−0·07	−0·20	−0·31	−0·20	0·00	+0·13	+0·18	+0·18	+0·09	−0·02	−0·09	−0·21	−0·37	−0·43	−0·40	−0·26	0·00	+0·21	+0·29	+0·32	+0·37	+0·35
Oct.	+0·06	−0·11	−0·30	−0·53	−0·60	−0·59	−0·55	−0·34	−0·01	+0·22	+0·33	+0·35	+0·24	+0·12	−0·04	−0·08	−0·06	+0·08	+0·32	+0·43	+0·39	+0·33	+0·19	+0·14	+0·06
Nov.	+0·08	−0·03	−0·17	−0·34	−0·35	−0·43	−0·43	−0·35	−0·15	−0·02	+0·22	+0·29	+0·17	+0·09	−0·06	−0·04	0·00	+0·08	+0·21	+0·30	+0·30	+0·25	+0·24	+0·15	+0·08
Dec.	+0·35	+0·29	+0·06	−0·05	−0·31	−0·46	−0·54	−0·62	−0·45	−0·33	−0·10	+0·02	−0·08	−0·14	−0·19	−0·14	+0·06	+0·17	+0·34	+0·37	+0·37	+0·47	+0·46	+0·41	+0·35
Year	+0·14	+0·04	−0·12	−0·27	−0·58	−0·39	−0·35	−0·20	−0·03	+0·11	+0·20	+0·20	+0·11	+0·05	−0·07	−0·11	−0·11	−0·07	+0·03	+0·15	+0·26	+0·31	+0·28	+0·23	+0·14

Eskdalemuir. **1921.**

G.M.T.	Midt.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
Jan.	−0·03	−0·05	−0·01	−0·08	−0·18	−0·31	−0·29	−0·16	+0·17	+0·57	+0·61	+0·59	+0·35	+0·04	−0·20	−0·09	−0·17	−0·23	−0·18	−0·17	−0·08	−0·13	+0·05	−0·03	−0·03
Feb.	+0·07	0·00	−0·07	−0·20	−0·37	−0·34	−0·25	−0·09	+0·17	+0·32	+0·36	+0·45	+0·34	+0·06	−0·14	−0·23	−0·33	−0·23	−0·08	+0·11	+0·15	+0·07	+0·14	+0·11	+0·07
Mar.	+0·24	+0·20	+0·22	+0·06	−0·10	−0·04	+0·04	+0·20	+0·26	+0·27	+0·29	+0·25	+0·15	+0·04	−0·17	−0·41	−0·61	−0·58	−0·46	−0·23	−0·07	−0·03	+0·19	+0·30	+0·24
Apr.	+0·39	+0·19	−0·02	−0·28	−0·38	−0·38	−0·15	−0·03	+0·04	+0·12	+0·11	−0·06	−0·13	−0·17	−0·22	−0·37	−0·39	−0·38	−0·21	+0·11	+0·47	+0·63	+0·58	+0·52	+0·39
May	+0·21	+0·05	−0·16	−0·36	−0·46	−0·36	−0·22	−0·08	+0·07	+0·12	+0·06	+0·04	+0·03	+0·05	+0·04	0·00	−0·09	−0·10	−0·01	+0·05	+0·18	+0·30	+0·35	+0·31	+0·21
June	+0·09	+0·07	+0·02	−0·02	−0·01	+0·05	+0·06	+0·28	+0·35	+0·40	+0·33	+0·27	+0·24	+0·11	−0·01	−0·18	−0·38	−0·51	−0·55	−0·49	−0·25	+0·04	+0·03	+0·05	+0·09
July	+0·27	+0·16	+0·01	−0·12	−0·19	−0·16	−0·08	+0·01	+0·10	+0·13	+0·10	+0·06	+0·08	+0·02	−0·04	−0·12	−0·20	−0·29	−0·26	−0·26	−0·09	+0·23	+0·33	+0·30	+0·27
Aug.	−0·05	−0·17	−0·23	−0·27	−0·29	−0·19	+0·02	+0·14	+0·26	+0·32	+0·36	+0·31	+0·29	+0·24	+0·13	+0·02	−0·14	−0·19	−0·29	−0·22	−0·09	−0·05	+0·07	+0·03	−0·05
Sept.	+0·26	+0·13	−0·08	−0·28	−0·40	−0·47	−0·30	−0·12	+0·01	+0·19	+0·19	+0·15	+0·10	+0·01	−0·12	−0·17	−0·22	−0·29	−0·17	+0·11	+0·30	+0·39	+0·42	+0·36	+0·26
Oct.	+0·21	+0·13	−0·03	−0·26	−0·33	−0·29	−0·30	−0·08	+0·17	+0·30	+0·26	+0·12	+0·01	−0·21	−0·35	−0·45	−0·37	−0·23	+0·09	+0·29	+0·31	+0·36	+0·34	+0·31	+0·21
Nov.	+0·01	−0·14	−0·19	−0·25	−0·29	−0·37	−0·36	−0·20	+0·03	+0·18	+0·20	+0·21	+0·05	−0·13	−0·19	−0·14	−0·07	+0·08	+0·23	+0·33	+0·36	+0·30	+0·22	+0·12	+0·01
Dec.	+0·31	+0·19	+0·10	−0·07	−0·19	−0·33	−0·39	−0·32	−0·17	+0·02	+0·17	+0·15	−0·02	−0·22	−0·38	−0·24	+0·04	+0·15	+0·19	+0·21	+0·13	+0·12	+0·26	+0·30	+0·31
Year	+0·17	+0·06	−0·04	−0·18	−0·27	−0·27	−0·19	−0·04	+0·12	+0·24	+0·25	+0·21	+0·13	−0·01	−0·14	−0·20	−0·24	−0·23	−0·14	−0·01	+0·11	+0·18	+0·25	+0·23	+0·17

Cahirciveen (Valencia Obs.). **1921.**

G.M.T.	Midt.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
Jan.	+0·81	+0·60	+0·29	+0·13	−0·15	−0·56	−0·83	−0·86	−0·67	−0·37	−0·27	−0·12	−0·25	−0·48	−0·58	−0·47	−0·29	−0·06	+0·25	+0·52	+0·70	+0·91	+0·88	+0·89	+0·81
Feb.	+0·03	−0·07	−0·31	−0·51	−0·73	−0·77	−0·71	−0·47	−0·01	+0·42	+0·54	+0·66	+0·68	+0·48	+0·15	+0·01	−0·08	−0·12	+0·02	+0·15	+0·14	+0·19	+0·22	+0·11	+0·03
Mar.	+0·52	+0·23	−0·02	−0·45	−0·80	−0·82	−0·64	−0·48	−0·34	−0·18	−0·17	−0·15	−0·14	−0·21	−0·41	−0·35	−0·17	+0·05	+0·41	+0·66	+0·88	+1·00	+0·89	+0·72	+0·52
Apr.	+0·28	+0·14	−0·12	−0·37	−0·51	−0·45	−0·26	+0·02	+0·22	+0·30	+0·27	+0·29	+0·26	+0·14	−0·04	−0·21	−0·39	−0·36	−0·26	−0·16	+0·12	+0·36	+0·37	+0·35	+0·28
May	+0·40	+0·26	+0·07	−0·08	−0·24	−0·21	−0·09	0·00	+0·09	+0·20	+0·12	+0·11	0·00	−0·09	−0·17	−0·29	−0·37	−0·36	−0·33	−0·23	−0·02	+0·38	+0·42	+0·43	+0·40
June	+0·28	+0·13	−0·03	−0·23	−0·32	−0·26	−0·10	−0·01	+0·11	+0·11	+0·05	+0·15	+0·14	+0·05	+0·01	−0·06	−0·16	−0·27	−0·27	−0·19	−0·04	+0·23	+0·34	+0·33	+0·28
July	+0·17	+0·02	−0·17	−0·35	−0·45	−0·42	−0·26	−0·11	+0·09	+0·15	+0·13	+0·23	+0·28	+0·27	+0·22	+0·19	−0·02	−0·14	−0·20	−0·20	−0·14	+0·16	+0·28	+0·26	+0·17
Aug.	+0·25	+0·17	+0·04	−0·19	−0·33	−0·41	−0·28	−0·24	−0·10	+0·06	+0·03	+0·03	+0·07	+0·07	−0·01	−0·04	−0·16	−0·23	−0·17	−0·09	+0·19	+0·53	+0·44	+0·36	+0·25
Sept.	+0·02	−0·03	−0·17	−0·30	−0·36	−0·36	−0·19	−0·01	+0·25	+0·41	+0·42	+0·45	+0·43	+0·31	+0·16	−0·06	−0·30	−0·35	−0·29	−0·25	+0·01	+0·09	+0·10	+0·03	+0·02
Oct.	+0·34	+0·19	−0·03	−0·31	−0·52	−0·57	−0·62	−0·57	−0·29	−0·03	+0·12	+0·21	+0·28	+0·13	−0·05	−0·15	−0·20	−0·14	+0·13	+0·33	+0·37	+0·45	+0·49	+0·43	+0·34
Nov.	+0·18	+0·09	−1·12	−0·21	−0·40	−0·47	−0·45	−0·36	−0·24	+0·07	+0·17	+0·35	+0·23	+0·08	−0·13	−0·23	−0·15	−0·01	+0·20	+0·23	+0·30	+0·37	+0·32	+0·17	+0·18
Dec.	+0·22	+0·06	−0·09	−0·12	−0·18	−0·31	−0·33	−0·21	−0·12	+0·15	+0·25	+0·51	+0·25	−0·06	−0·29	−0·49	−0·42	−0·20	+0·05	+0·13	+0·27	+0·41	+0·31	+0·22	+0·22
Year	+0·29	+0·15	−0·05	−0·25	−0·42	−0·47	−0·39	−0·28	−0·08	+0·11	+0·14	+0·23	+0·19	+0·06	−0·09	−0·18	−0·23	−0·18	−0·04	+0·08	+0·23	+0·42	+0·42	+0·36	+0·29

Richmond (Kew Obs.). **1921.**

G.M.T.	Midt.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.	mb.
Jan.	+0·03	−0·03	+0·03	+0·03	−0·04	−0·12	−0·19	−0·09	+0·15	+0·45	+0·47	+0·40	+0·11	−0·20	−0·37	−0·30	−0·29	−0·16	−0·11	−0·03	+0·03	+0·10	+0·04	+0·07	+0·03
Feb.	+0·24	+0·09	−0·02	−0·20	−0·31	−0·33	−0·30	−0·03	+0·26	+0·48	+0·50	+0·54	+0·32	+0·01	−0·34	−0·55	−0·59	−0·48	−0·18	−0·01	+0·10	+0·22	+0·31	+0·27	+0·24
Mar.	+0·04	0·00	−0·10	−0·24	−0·27	−0·16	+0·03	+0·26	+0·52	+0·66	+0·70	+0·64	+0·44	+0·04	−0·28	−0·57	−0·70	−0·66	−0·41	−0·15	−0·02	+0·08	+0·05	+0·07	+0·04
Apr.	+0·36	+0·21	+0·04	−0·12	−0·18	−0·10	+0·14	+0·33	+0·39	+0·41	+0·34	+0·24	0·00	−0·24	−0·46	−0·69	−0·83	−0·78	−0·53	−0·17	+0·26	+0·43	+0·49	+0·47	+0·36
May	+0·34	+0·21	+0·05	−0·05	−0·07	+0·06	+0·22	+0·38	+0·45	+0·39	+0·30	+0·14	−0·03	−0·17	−0·38	−0·57	−0·67	−0·75	−0·62	−0·40	−0·06	+0·31	+0·42	+0·46	+0·34
June	+0·34	+0·23	+0·08	0·00	+0·03	+0·13	+0·25	+0·41	+0·47	+0·42	+0·41	+0·33	+0·17	−0·09	−0·27	−0·54	−0·73	−0·89	−0·86	−0·59	−0·27	+0·23	+0·34	+0·39	+0·34
July	+0·27	+0·17	+0·11	−0·03	−0·08	+0·05	+0·22	+0·44	+0·56	+0·60	+0·53	+0·36	+0·20	+0·01	−0·26	−0·47	−0·70	−0·86	−0·79	−0·65	−0·33	+0·11	+0·21	+0·32	+0·27
Aug.	+0·20	+0·07	−0·10	−0·23	−0·28	−0·27	−0·10	+0·13	+0·25	+0·40	+0·37	+0·25	+0·08	−0·01	−0·15	−0·22	−0·33	−0·40	−0·39	−0·22	+0·08	+0·31	+0·29	+0·28	+0·20
Sept.	−0·07	−0·14	−0·13	−0·22	−0·28	−0·25	−0·03	+0·23	+0·42	+0·62	+0·55	+0·43	+0·21	+0·01	−0·27	−0·43	−0·52	−0·51	−0·38	−0·11	+0·18	+0·31	+0·25	+0·08	−0·07
Oct.	+0·14	+0·15	+0·01	−0·09	−0·08	−0·03	+0·03	+0·32	+0·66	+0·82	+0·76	+0·61	+0·23	−0·20	−0·52	−0·75	−0·82	−0·76	−0·43	−0·29	−0·15	+0·07	+0·17	+0·17	+0·14
Nov.	+0·40	+0·26	+0·11	−0·07	−0·21	−0·33	−0·31	−0·14	+0·14	+0·29	+0·38	+0·33	−0·04	−0·36	−0·57	−0·61	−0·44	−0·30	−0·11	+0·09	+0·21	+0·44	+0·44	+0·39	+0·40
Dec.	+0·23	+0·08	0·00	−0·09	−0·29	−0·42	−0·40	−0·22	−0·02	+0·26	+0·39	+0·33	+0·05	−0·24	−0·42	−0·41	−0·21	−0·08	+0·02	+0·21	+0·31	+0·39	+0·28	+0·24	+0·23
Year	+0·21	+0·11	+0·01	−0·11	−0·17	−0·15	−0·04	+0·17	+0·35	+0·48	+0·48	+0·38	+0·15	−0·12	−0·36	−0·51	−0·57	−0·55	−0·40	−0·19	+0·03	+0·25	+0·27	+0·27	+0·21

Note.—The entry for the hour n is X_n where $X_n = p_n - \bar{p} - (n - 12)\,(p_{24} - p_0)/24$, p_n being the pressure at hour n and $\bar{p}$ the mean for 24 hours.

HOURLY VALUES FROM AUTOGRAPHIC RECORDS.

TEMPERATURE: MONTHLY MEANS OF HOURLY VALUES.

** Readings, in degrees absolute, at exact hours, Greenwich Mean Time.*

Aberdeen: North Wall Screen on Tower: h_t (height of thermometer bulb above the ground) =12·5 metres. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	a	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*
Jan.	77·9	77·8	77·8	77·6	77·4	77·3	77·2	77·3	77·3	77·4	77·7	78·2	78·5	79·1	79·2	79·1	78·7	78·4	78·2	78·0	77·9	77·8	77·8	77·7	77·8	78·0
Feb.	77·8	77·8	77·8	77·7	77·5	77·6	77·5	77·5	77·8	78·1	78·7	79·3	79·9	80·3	80·3	80·3	79·8	79·4	79·0	78·7	78·4	78·2	78·2	78·1	77·9	78·6
Mar.	78·1	77·9	77·7	77·5	77·2	77·1	77·1	77·2	77·8	78·6	79·3	80·0	80·4	80·6	80·7	80·6	80·5	80·4	80·0	79·4	79·1	78·9	78·7	78·5	78·3	78·9
April	78·3	78·1	77·8	77·7	77·7	77·7	78·2	79·1	80·3	81·2	81·8	82·2	82·6	82·6	82·7	82·5	82·2	81·8	81·2	80·6	80·1	79·6	79·1	78·5	78·1	80·1
May	81·3	81·0	80·6	80·3	80·1	80·6	81·8	82·8	83·5	84·4	85·0	85·3	85·6	85·7	85·8	85·7	85·2	85·0	84·7	84·1	83·1	82·5	82·0	81·6	81·3	83·2
June	83·1	82·8	82·5	82·4	82·4	83·0	84·1	85·0	85·4	85·7	86·3	86·6	86·9	86·9	86·9	86·6	86·4	86·2	85·8	85·4	84·8	84·1	83·7	83·4	83·1	84·8
July	85·7	85·5	85·3	85·1	85·1	85·3	85·9	86·5	87·1	87·7	88·1	88·5	89·0	89·1	89·2	89·2	89·1	88·3	88·6	87·9	87·2	86·7	86·5	86·3	85·9	87·2
Aug.	84·2	84·1	84·0	83·8	83·7	83·8	84·2	85·0	85·7	86·3	86·8	87·3	87·7	87·9	87·8	87·8	87·5	87·1	86·5	85·9	85·3	84·9	84·8	84·4	84·1	85·7
Sept.	84·4	84·1	84·0	83·8	83·7	83·7	83·6	84·1	84·9	85·8	86·4	86·9	87·4	87·7	87·7	88·0	87·4	86·8	86·1	85·6	85·2	84·9	84·6	84·5	84·3	85·5
Oct.	83·0	83·0	82·9	82·9	83·0	82·8	83·0	83·1	83·6	84·1	84·6	85·1	85·5	85·7	85·8	85·7	85·2	84·7	84·2	83·7	83·5	83·3	83·3	83·1	83·0	84·0
Nov.	77·5	77·5	77·5	77·4	77·5	77·5	77·4	77·4	77·6	77·9	78·2	78·6	79·1	79·2	79·1	79·0	78·6	78·3	78·1	78·0	77·8	77·7	77·7	77·6	77·5	78·0
Dec.	78·5	78·4	78·4	78·5	78·4	78·4	78·2	78·2	78·3	78·3	78·8	79·4	79·7	79·8	79·8	79·6	79·4	79·2	79·0	78·8	78·8	78·7	78·6	78·6	78·5	78·8
Year	80·8	80·7	80·5	80·4	80·3	80·4	80·7	81·1	81·6	82·1	82·6	83·1	83·5	83·7	83·8	83·7	83·3	83·0	82·6	82·2	81·8	81·5	81·2	81·0	80·8	81·9

Eskdalemuir: Louvred Hut: h_t = 0·9 m. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	a	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*
Jan.	77·4	77·3	77·4	77·5	77·6	77·5	77·4	77·2	77·2	77·2	77·5	77·8	78·1	78·4	78·4	78·2	77·9	77·7	77·6	77·6	77·6	77·6	77·4	77·4	77·3	77·6
Feb.	75·0	74·9	74·7	74·5	74·4	74·4	74·6	74·4	74·4	75·1	76·3	77·1	77·8	78·5	78·8	78·6	78·2	77·5	76·7	76·3	75·8	75·6	75·3	75·2	75·1	76·0
Mar.	76·9	76·5	76·3	76·3	76·3	76·1	76·0	76·1	76·6	77·3	78·0	78·5	78·7	79·0	79·4	79·3	78·8	78·4	78·1	77·7	77·5	77·3	77·2	77·0	76·9	77·5
April	76·2	76·0	76·0	75·7	75·7	75·6	75·9	77·0	78·5	79·7	80·9	81·9	82·3	83·0	83·1	83·2	82·8	82·0	81·2	79·7	78·3	77·6	76·9	76·5	76·1	79·0
May	78·5	78·1	77·8	77·6	77·3	77·4	78·7	80·6	82·1	83·0	83·5	84·2	84·5	84·5	84·6	84·8	84·6	84·3	83·8	82·7	81·4	80·4	79·7	79·0	78·5	81·4
June	81·7	81·3	81·0	80·7	80·6	80·9	82·2	83·6	85·0	86·1	86·7	87·6	88·0	88·6	89·0	88·9	88·9	88·5	88·1	86·8	85·2	83·9	82·8	82·3	81·8	84·9
July	84·6	84·2	83·7	83·4	83·3	83·7	84·6	85·9	87·0	87·9	89·0	90·0	90·6	91·0	91·1	91·1	90·8	90·4	89·8	89·0	87·9	86·7	85·8	85·3	84·8	87·4
Aug.	83·7	83·3	82·9	82·5	82·3	82·2	82·4	83·6	84·8	85·8	86·6	87·1	87·4	87·6	87·9	87·7	87·5	87·0	86·6	85·8	85·0	84·3	84·2	83·7	83·5	85·1
Sept.	81·6	81·4	81·5	81·3	81·2	81·3	81·4	82·4	83·6	84·8	85·7	86·3	86·7	87·0	87·2	86·9	86·4	85·7	84·5	83·4	82·8	82·4	82·0	81·6	81·6	83·7
Oct.	82·0	81·9	81·8	81·8	82·1	81·9	81·8	81·6	82·1	83·2	84·3	84·9	85·3	85·6	85·5	85·3	84·8	84·2	83·6	83·1	82·8	82·6	82·5	82·2	82·1	83·2
Nov.	75·7	75·5	75·3	75·2	75·0	74·9	74·8	74·7	74·8	75·5	76·5	77·2	77·7	78·0	78·0	77·5	76·8	76·3	75·9	75·9	75·7	75·6	75·5	75·6	75·5	76·0
Dec.	77·3	77·1	77·2	77·3	77·4	77·6	77·7	77·7	77·6	77·7	78·2	78·7	79·1	79·2	79·0	78·7	78·1	77·9	77·8	77·8	77·7	77·7	77·4	77·3	77·4	77·9
Year	79·2	79·0	78·8	78·7	78·6	78·6	79·0	79·5	80·3	81·1	81·9	82·6	83·0	83·4	83·5	83·3	83·0	82·5	82·0	81·3	80·7	80·1	79·7	79·4	79·2	80·8

Cahirciveen: (Valencia Obs.): North Wall Screen: h_t=1·3 m. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	a	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*
Jan.	82·1	82·0	82·0	82·1	82·0	82·0	82·0	82·0	81·9	81·9	82·0	82·4	82·6	82·8	82·8	82·8	82·6	82·4	82·3	82·2	82·0	82·0	81·9	81·9	81·9	82·2
Feb.	80·1	80·2	80·1	80·1	79·9	79·8	79·8	79·8	79·8	80·0	80·3	81·1	81·4	81·6	81·7	81·6	81·4	81·1	80·7	80·5	80·4	80·4	80·3	80·2	80·2	80·5
Mar.	80·6	80·7	80·6	80·6	80·4	80·5	80·3	80·5	80·6	81·1	81·6	82·0	82·3	82·4	82·4	82·1	81·9	81·7	81·3	80·9	80·9	80·9	80·7	80·6	80·7	81·2
April	80·9	81·1	80·9	80·7	80·5	80·5	80·5	80·8	81·6	82·5	83·1	83·8	84·2	84·5	84·6	84·8	84·5	84·2	83·8	83·2	82·4	82·1	81·6	81·3	81·0	82·4
May	82·6	82·4	82·3	82·3	82·3	82·3	82·6	83·2	83·8	84·3	84·6	85·0	85·3	85·3	85·5	85·7	85·5	85·3	84·8	84·3	83·7	83·3	83·0	82·7	82·5	83·8
June	85·3	85·0	84·7	84·4	84·2	84·3	85·3	86·7	88·0	88·6	89·2	89·4	89·7	89·8	89·9	89·9	90·0	90·1	89·3	88·8	87·9	87·1	86·4	85·8	85·5	87·5
July	88·7	88·6	88·3	88·2	88·1	88·0	88·6	89·9	90·7	91·5	92·2	92·4	92·6	92·8	92·7	92·8	92·9	92·7	92·0	91·4	90·8	90·1	89·6	89·1	88·9	90·6
Aug.	86·6	86·4	86·2	86·1	86·1	86·0	86·0	86·4	87·1	87·6	88·0	88·4	88·8	89·2	89·2	88·9	88·7	88·5	88·1	87·5	87·2	87·0	86·7	86·7	86·6	87·4
Sept.	86·3	86·0	85·9	85·8	85·7	85·5	85·4	85·6	86·3	87·1	88·0	88·5	88·8	89·0	89·1	89·1	88·8	88·5	88·0	87·3	86·9	86·9	86·6	86·4	86·3	87·1
Oct.	86·1	86·1	86·1	86·0	86·0	86·0	86·1	86·2	86·4	86·7	87·2	87·6	87·9	88·0	88·0	87·9	87·7	87·3	86·9	86·6	86·4	86·2	86·2	86·2	86·1	86·8
Nov.	83·2	83·1	83·2	83·1	83·0	83·0	83·0	82·9	82·9	83·0	83·4	83·9	84·2	84·3	84·5	84·4	84·1	83·7	83·4	83·3	83·3	83·2	83·1	83·1	82·9	83·4
Dec.	82·8	83·0	83·0	83·0	82·9	82·8	82·7	82·7	82·6	82·8	83·0	83·2	83·4	83·7	83·7	83·6	83·3	83·0	82·9	82·9	82·8	82·9	82·9	83·0	83·0	83·0
Year	83·8	83·7	83·6	83·5	83·4	83·4	83·5	83·9	84·3	84·7	85·2	85·6	85·9	86·1	86·2	86·1	86·0	85·7	85·3	84·9	84·6	84·3	84·1	83·9	83·8	84·7

Richmond (Kew Obs.): North Wall Screen: h_t=3·0 m. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	a	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*	*a*
Jan.	80·9	80·7	80·7	80·7	80·4	80·3	80·2	80·2	80·3	80·6	81·1	81·6	81·9	82·2	82·3	82·3	82·0	81·5	81·3	81·0	80·9	80·8	80·8	80·8	80·6	81·1
Feb.	77·3	77·1	76·9	76·7	76·6	76·3	76·2	76·2	76·3	76·8	77·7	78·8	79·7	80·4	80·8	80·9	80·7	80·1	79·3	78·7	78·3	78·1	77·8	77·7	77·4	78·1
Mar.	79·4	79·2	79·0	78·7	78·4	78·2	78·1	78·3	79·3	80·4	81·6	82·6	83·3	84·0	84·3	84·4	84·1	83·7	82·8	81·9	81·3	80·8	80·3	79·9	79·6	81·0
April	79·7	79·3	79·0	78·7	78·5	78·3	78·4	79·2	80·3	81·6	82·9	83·9	84·9	85·5	85·8	86·0	86·0	85·5	84·6	83·5	82·5	81·7	80·9	80·3	79·7	82·0
May	83·0	82·6	82·1	81·9	81·7	81·9	82·6	83·9	85·0	86·1	87·1	88·1	88·9	89·5	89·8	90·0	90·0	89·8	89·4	88·2	86·6	85·5	84·6	83·7	83·1	85·9
June	85·9	85·4	85·0	84·5	84·2	84·8	85·5	86·6	87·7	88·8	89·7	90·6	91·5	92·1	92·6	92·9	92·9	92·8	92·4	91·4	89·9	88·4	87·5	86·7	85·8	88·7
July	89·8	89·2	88·7	88·3	87·8	88·0	88·9	90·2	91·7	93·1	94·4	95·4	96·3	97·0	97·5	97·8	97·7	97·8	97·1	96·0	94·3	92·9	91·8	90·8	90·0	93·0
Aug.	87·9	87·5	87·2	87·0	86·6	86·4	86·9	87·8	88·9	90·1	91·1	92·1	92·9	93·3	93·7	93·7	93·5	93·2	92·6	91·6	90·5	89·7	89·0	88·3	87·7	90·1
Sept.	86·1	85·5	85·1	84·7	84·5	84·2	84·3	84·8	86·0	87·7	89·3	90·8	91·9	92·5	93·0	93·1	92·7	92·2	91·0	89·5	88·4	88·1	87·0	86·3	85·8	88·3
Oct.	84·1	83·6	83·4	83·0	82·9	82·7	82·5	82·7	83·4	84·9	86·4	88·1	89·7	90·8	91·4	91·4	90·7	89·5	87·8	86·8	85·9	85·4	84·9	84·6	84·2	86·1
Nov.	77·5	77·2	77·1	76·9	76·8	76·7	76·6	76·5	76·7	77·0	77·6	78·2	78·7	79·3	79·6	79·6	79·1	78·5	78·1	77·8	77·7	77·6	77·4	77·4	77·1	77·7
Dec.	79·6	79·6	79·5	79·5	79·6	79·6	79·5	79·6	79·6	79·7	80·0	80·4	81·1	81·4	81·6	81·4	80·9	80·6	80·4	80·2	80·1	80·0	79·9	79·8	79·7	80·2
Year	82·6	82·3	82·0	81·7	81·5	81·5	81·6	82·2	82·9	83·9	84·9	85·9	86·7	87·3	87·7	87·8	87·5	87·1	86·4	85·6	84·7	84·1	83·5	83·0	82·6	84·3

* *Note.*—The initial 2 of the readings is omitted, i.e., 275·0 degrees absolute is written 75·0.

DIURNAL INEQUALITIES OF TEMPERATURE.

Departures from the Mean of the day adjusted for non-periodic change.

Aberdeen. **1921.**

G.M.T.	Midt.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Jan.	−0·1	−0·2	−0·3	−0·4	−0·6	−0·8	−0·8	−0·7	−0·7	−0·6	−0·3	+0·2	+0·5	+1·1	+1·3	+1·1	+0·8	+0·5	+0·2	+0·1	0·0	−0·1	−0·1	−0·2	−0·1
Feb.	−0·7	−0·8	−0·7	−0·9	−1·1	−0·9	−1·0	−1·0	−0·7	−0·4	+0·2	+0·7	+1·3	+1·7	+1·7	+1·7	+1·2	+0·8	+0·4	+0·1	−0·2	−0·3	−0·4	−0·5	−0·7
Mar.	−0·7	−0·9	−1·2	−1·4	−1·6	−1·7	−1·7	−1·6	−1·0	−0·3	+0·4	+1·1	+1·5	+1·7	+1·8	+1·7	+1·6	+1·5	+1·0	+0·5	+0·1	0·0	−0·3	−0·5	−0·7
April	−2·0	−2·1	−2·4	−2·5	−2·5	−2·5	−2·0	−1·1	+0·1	+1·0	+1·7	+2·1	+2·4	+2·5	+2·6	+2·3	+2·1	+1·7	+1·1	+0·5	0·0	−0·5	−1·0	−1·6	−2·0
May	−1·9	−2·2	−2·6	−2·9	−3·1	−2·6	−1·5	−0·4	+0·3	+1·2	+1·7	+2·1	+2·4	+2·5	+2·6	+2·5	+2·0	+1·7	+1·4	+0·9	−0·2	−0·8	−1·2	−1·6	−1·9
June	−1·7	−2·0	−2·3	−2·4	−2·5	−1·9	−0·8	+0·2	+0·5	+0·8	+1·4	+1·7	+2·0	+2·0	+2·1	+1·7	+1·6	+1·4	+1·0	+0·5	0·0	−0·7	−1·1	−1·5	−1·7
July	−1·4	−1·6	−1·9	−2·0	−2·1	−1·9	−1·3	−0·6	−0·1	+0·5	+0·9	+1·3	+1·8	+1·9	+2·0	+2·0	+1·9	+1·1	+1·3	+0·6	−0·1	−0·5	−0·7	−1·0	−1·4
Aug.	−1·5	−1·6	−1·7	−1·9	−2·0	−1·9	−1·5	−0·7	−0·1	+0·6	+1·1	+1·6	+2·0	+2·2	+2·1	+2·1	+1·8	+1·4	+0·9	+0·2	−0·3	−0·8	−0·9	−1·2	−1·5
Sept.	−1·1	−1·4	−1·5	−1·7	−1·7	−1·8	−1·9	−1·4	−0·6	+0·3	+0·9	+1·5	+1·9	+2·2	+2·3	+2·5	+2·0	+1·3	+0·7	+0·1	−0·3	−0·6	−0·8	−0·9	−1·1
Oct.	−0·9	−1·0	−1·1	−1·1	−1·0	−1·1	−1·0	−0·9	−0·3	+0·1	+0·7	+1·1	+1·6	+1·8	+1·9	+1·7	+1·3	+0·8	+0·3	−0·2	−0·4	−0·6	−0·6	−0·8	−0·9
Nov.	−0·5	−0·5	−0·5	−0·6	−0·5	−0·5	−0·6	−0·6	−0·4	−0·1	+0·1	+0·5	+1·1	+1·1	+1·1	+1·0	+0·6	+0·3	+0·1	0·0	−0·2	−0·3	−0·3	−0·4	−0·5
Dec.	−0·3	−0·4	−0·4	−0·3	−0·4	−0·5	−0·6	−0·6	−0·5	−0·5	−0·1	+0·6	+0·9	+1·0	+1·0	+0·8	+0·5	+0·3	+0·2	0·0	0·0	−0·1	−0·2	−0·2	−0·3
Year	−1·1	−1·2	−1·4	−1·5	−1·6	−1·5	−1·2	−0·8	−0·3	+0·2	+0·7	+1·2	+1·6	+1·8	+1·9	+1·8	+1·4	+1·1	+0·7	+0·3	−0·1	−0·5	−0·7	−0·9	−1·1

Eskdalemuir. **1921.**

G.M.T.	Midt.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Jan.	−0·3	−0·3	−0·3	−0·2	−0·1	−0·1	−0·3	−0·5	−0·5	−0·4	−0·1	+0·2	+0·5	+0·8	+0·8	+0·6	+0·3	+0·1	+0·1	+0·1	+0·1	0·0	−0·1	−0·2	−0·3
Feb.	−0·9	−1·1	−1·3	−1·5	−1·5	−1·6	−1·4	−1·6	−1·6	−0·9	+0·3	+1·1	+1·8	+2·5	+2·7	+2·5	+2·2	+1·5	+0·7	+0·3	−0·2	−0·5	−0·7	−0·8	−0·9
Mar.	−0·6	−0·9	−1·1	−1·1	−1·2	−1·3	−1·4	−1·4	−0·9	−0·1	+0·5	+1·0	+1·3	+1·5	+1·9	+1·8	+1·3	+0·9	+0·6	+0·2	0·0	−0·2	−0·3	−0·5	−0·6
April	−2·8	−3·0	−3·0	−3·3	−3·3	−3·4	−3·1	−2·1	−0·5	+0·7	+1·9	+2·9	+3·3	+4·0	+4·1	+4·2	+3·8	+3·0	+2·2	+0·8	−0·6	−1·3	−2·0	−2·4	−2·8
May	−2·9	−3·3	−3·6	−3·8	−4·1	−4·0	−2·7	−0·8	+0·7	+1·7	+2·2	+2·8	+3·2	+3·2	+3·3	+3·4	+3·2	+2·9	+2·4	+1·3	0·0	−1·0	−1·7	−2·4	−2·9
June	−3·2	−3·6	−3·9	−4·2	−4·3	−4·0	−2·7	−1·3	+0·1	+1·2	+1·7	+2·6	+3·0	+3·7	+4·0	+4·0	+4·0	+3·6	+3·2	+1·9	+0·3	−1·1	−2·1	−2·7	−3·2
July	−2·7	−3·1	−3·6	−3·9	−4·0	−3·7	−2·7	−1·4	−0·3	+0·6	+1·7	+2·6	+3·3	+3·7	+3·8	+3·7	+3·5	+3·0	+2·4	+1·6	+0·5	−0·7	−1·7	−2·2	−2·7
Aug.	−1·5	−1·9	−2·3	−2·6	−2·8	−2·9	−2·7	−1·5	−0·3	+0·7	+1·5	+2·0	+2·3	+2·6	+2·8	+2·7	+2·5	+1·9	+1·6	+0·8	0·0	−0·7	−0·8	−1·3	−1·5
Sept.	−2·1	−2·3	−2·2	−2·4	−2·5	−2·4	−2·3	−1·3	−0·1	+1·1	+1·9	+2·6	+3·0	+3·3	+3·5	+3·2	+2·6	+1·9	+0·8	−0·3	−0·9	−1·4	−1·7	−2·1	−2·1
Oct.	−1·2	−1·3	−1·4	−1·4	−1·1	−1·3	−1·4	−1·6	−1·1	+0·1	+1·1	+1·7	+2·1	+2·4	+2·3	+2·1	+1·5	+1·0	+0·4	−0·1	−0·4	−0·6	−0·8	−1·0	−1·2
Nov.	−0·4	−0·7	−0·8	−0·9	−1·0	−1·2	−1·3	−1·3	−1·2	−0·5	+0·5	+1·2	+1·7	+2·1	+2·0	+1·5	+0·9	+0·3	0·0	0·0	−0·1	−0·2	−0·3	−0·3	−0·4
Dec.	−0·6	−0·7	−0·6	−0·5	−0·4	−0·3	−0·2	−0·2	−0·3	−0·2	+0·3	+0·8	+1·2	+1·3	+1·1	+0·8	+0·2	0·0	−0·1	−0·1	−0·2	−0·2	−0·5	−0·7	−0·6
Year	−1·6	−1·8	−2·0	−2·1	−2·2	−2·2	−1·9	−1·3	−0·5	+0·3	+1·1	+1·8	+2·2	+2·6	+2·7	+2·5	+2·2	+1·7	+1·2	+0·5	−0·1	−0·7	−1·1	−1·4	−1·6

Cahirciveen (Valencia Obs.). **1921.**

G.M.T.	Midt.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Jan.	−0·2	−0·2	−0·3	−0·2	−0·3	−0·2	−0·3	−0·3	−0·3	−0·3	−0·2	+0·2	+0·4	+0·6	+0·7	+0·6	+0·5	+0·3	+0·1	0·0	−0·1	−0·1	−0·2	−0·3	−0·2
Feb.	−0·3	−0·3	−0·3	−0·4	−0·6	−0·7	−0·7	−0·7	−0·7	−0·5	−0·2	+0·5	+0·9	+1·1	+1·2	+1·1	+0·9	+0·5	+0·2	−0·1	−0·1	−0·1	−0·3	−0·4	−0·3
Mar.	−0·5	−0·5	−0·5	−0·6	−0·7	−0·7	−0·8	−0·7	−0·5	−0·1	+0·5	+0·9	+1·2	+1·2	+1·3	+1·0	+0·7	+0·5	+0·1	−0·3	−0·3	−0·3	−0·4	−0·5	−0·5
April	−1·5	−1·3	−1·5	−1·7	−1·9	−1·9	−2·0	−1·6	−0·8	+0·1	+0·7	+1·4	+1·8	+2·1	+2·2	+2·3	+2·1	+1·8	+1·4	+0·7	−0·1	−0·3	−0·9	−1·1	−1·5
May	−1·3	−1·4	−1·6	−1·6	−1·6	−1·5	−1·3	−0·7	−0·1	+0·4	+0·7	+1·2	+1·5	+1·5	+1·7	+1·9	+1·7	+1·5	+0·9	+0·5	−0·1	−0·5	−0·8	−1·1	−1·3
June	−2·1	−2·4	−2·7	−3·0	−3·2	−3·2	−2·2	−0·7	+0·5	+1·1	+1·7	+1·9	+2·2	+2·3	+2·3	+2·4	+2·5	+2·6	+1·8	+1·2	+0·3	−0·5	−1·2	−1·7	−2·1
July	−1·8	−2·0	−2·3	−2·3	−2·5	−2·6	−2·0	−0·7	+0·1	+0·9	+1·6	+1·8	+2·0	+2·2	+2·1	+2·1	+2·2	+2·0	+1·3	+0·8	+0·2	−0·5	−1·1	−1·5	−1·8
Aug.	−0·8	−1·0	−1·2	−1·3	−1·4	−1·4	−1·4	−1·0	−0·3	+0·2	+0·6	+1·0	+1·5	+1·7	+1·8	+1·5	+1·3	+1·1	+0·7	+0·2	−0·2	−0·3	−0·6	−0·7	−0·8
Sept.	−0·8	−1·1	−1·3	−1·4	−1·5	−1·6	−1·7	−1·5	−0·9	0·0	+0·8	+1·3	+1·7	+1·9	+1·9	+1·9	+1·7	+1·3	+0·8	+0·2	−0·2	−0·3	−0·5	−0·8	−0·8
Oct.	−0·6	−0·7	−0·7	−0·8	−0·7	−0·7	−0·7	−0·6	−0·3	0·0	+0·5	+0·9	+1·2	+1·3	+1·3	+1·2	+1·0	+0·6	+0·2	−0·1	−0·3	−0·5	−0·5	−0·5	−0·6
Nov.	−0·4	−0·4	−0·4	−0·5	−0·5	−0·6	−0·5	−0·6	−0·6	−0·4	−0·1	+0·5	+0·8	+0·9	+1·1	+1·0	+0·7	+0·3	+0·1	0·0	0·0	−0·1	−0·2	−0·2	−0·4
Dec.	−0·1	+0·1	0·0	0·0	−0·1	−0·2	−0·2	−0·3	−0·3	−0·3	0·0	+0·2	+0·4	+0·6	+0·7	+0·5	+0 3	−0·1	−0·2	−0·2	−0·3	−0·2	−0·2	−0·1	−0·1
Year	−0·9	−0·9	−1·1	−1·1	−1·3	−1·3	−1·1	−0·8	−0·3	+0·1	+0·6	+1·0	+1·3	+1·5	+1·5	+1·5	+1·3	+1·1	+0·6	+0·3	−0·1	−0·3	−0·6	−0·7	−0·9

Richmond (Kew Obs.). **1921.**

G.M.T.	Midt.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Jan.	−0·3	−0·5	−0·5	−0·4	−0·7	−0·8	−0·9	−0·9	−0·8	−0·5	+0·1	+0·5	+0·9	+1·2	+1·3	+1·2	+0·9	+0·5	+0·3	+0·1	0·0	−0·1	−0·1	−0·2	−0·3
Feb.	−0·8	−0·9	−1·2	−1·4	−1·5	−1·8	−1·9	−1·9	−1·9	−1·3	−0·4	+0·6	+1·6	+2·2	+2 7	+2·8	+2·6	+1·9	+1·1	+0·6	+0·1	−0·1	−0·4	−0·5	−0·8
Mar.	−1·5	−1·7	−1·9	−2·2	−2·6	−2·7	−2·9	−2·7	−1·7	−0·6	+0·6	+1·6	+2·3	+2·9	+3·2	+3·3	+3·0	+2·7	+1·8	+0·9	+0·2	−0·2	−0·7	−1·4	−1·5
April	−2·2	−2·7	−2·9	−3·2	−3·5	−3·7	−3·5	−2·8	−1·6	−0·3	+1·0	+2·0	+2·9	+3·5	+3·9	+4·0	+4·0	+3·6	+2·6	+1·5	+0·6	−0·3	−1·1	−1·6	−2·2
May	−2·9	−3·3	−3·7	−4·0	−4·2	−4·0	−3·3	−2·0	−0·9	+0·2	+1·2	+2·2	+3·0	+3·6	+3·9	+4·0	+4·0	+3·9	+3·5	+2·2	+0·6	−0·5	−1·4	−2·3	−2·9
June	−2·9	−3·3	−3·8	−4·3	−4·6	−4·0	−3·2	−2·1	−1·1	0·0	+1·0	+1·9	+2·7	+3·4	+3·9	+4·2	+4·2	+4·0	+3·7	+2·7	+1·1	−0·3	−1·3	−2·1	−2·9
July	−3·1	−3·7	−4·2	−4·7	−5·1	−5·0	−4·1	−2·7	−1·3	+0·1	+1·4	+2·3	+3·3	+3·9	+4·5	+4·8	+4·7	+4·7	+4·0	+2·9	+1·2	−0·2	−1·3	−2·4	−3·1
Aug.	−2·3	−2·6	−2·9	−3·1	−3·5	−3·7	−3·1	−2·3	−1·1	0·0	+1·0	+2·1	+2·9	+3·3	+3·6	+3·7	+3·5	+3·2	+2·6	+1·6	+0·5	−0·3	−1·0	−1·7	−2·3
Sept.	−2·3	−2·9	−3·3	−3·7	−3·9	−4·1	−4·1	−3·5	−2·3	−0·6	+1·0	+2·5	+3·6	+4·3	+4·7	+4·9	+4·5	+4·0	+2·7	+1·3	+0·2	−0·1	−1·1	−1·9	−2·3
Oct.	−2·0	−2·4	−2·7	−3·0	−3·2	−3·4	−3·5	−3·4	−2·7	−1·2	+0·3	+2·0	+3·6	+4·7	+5·3	+5·2	+4·6	+3·3	+1·7	+0·6	−0·2	−0·8	−1·3	−1·6	−2·0
Nov.	−0·4	−0·7	−0·8	−1·0	−1·1	−1·1	−1·2	−1·3	−1·1	−0·8	−0·2	+0·5	+1·0	+1·6	+1·9	+1·9	+1·4	+0·8	+0·5	+0·2	+0·1	0·0	−0·1	−0·2	−0·4
Dec.	−0·5	−0·5	−0·6	−0·6	−0·6	−0·5	−0·6	−0·5	−0·5	−0·4	−0·1	+0·3	+0·9	+1·3	+1·4	+1·2	+0·7	+0·4	+0·2	0·0	−0·1	−0·2	−0·3	−0·4	−0·5
Year	−1·8	−2·1	−2·4	−2·6	−2·9	−2·9	−2·7	−2·2	−1·4	−0·5	+0·6	+1·5	+2·4	+3·0	+3·3	+3·4	+3·2	+2·7	+2·1	+1·2	+0·3	−0·3	−0·9	−1·3	−1·8

Note—The entry for the hour n is X_n where $X_n = \bar{t}_n - t - (n - 12)(t_{24} - t_0)/24$, t_n being the temperature at hour and $\bar{t}$ the mean for 24 hours.

HOURLY VALUES FROM AUTOGRAPHIC RECORDS.

RELATIVE HUMIDITY: MONTHLY MEANS OF HOURLY VALUES.

Deduced from thermometer readings at exact hours, Greenwich Mean Time, by Glaisher's method.

Aberdeen. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Jan.	81	81	81	82	83	83	83	82	82	81	80	80	79	77	76	77	78	78	80	81	81	82	81	81	81	81
Feb.	83	82	82	82	82	81	82	82	81	81	79	77	76	75	75	74	79	80	82	82	83	83	83	82	83	80
Mar.	78	78	80	79	80	81	80	82	79	76	74	72	71	70	70	72	74	74	75	77	78	78	79	78	78	76
April	85	84	84	85	86	85	85	83	79	74	72	71	69	68	68	69	70	72	75	77	78	80	82	84	85	78
May	79	80	80	81	82	82	79	75	72	68	67	67	65	64	63	65	67	67	68	70	74	76	78	79	79	73
June	80	81	81	81	81	80	77	73	71	70	68	67	66	67	66	68	68	69	70	72	75	77	78	80	80	74
July	82	82	83	83	84	83	81	80	76	73	73	71	69	67	67	67	68	70	72	74	77	79	79	81	82	76
Aug.	85	85	85	85	86	86	85	82	78	75	73	71	70	70	70	70	72	74	77	80	82	85	85	85	86	79
Sept.	80	81	81	81	82	82	82	80	78	75	71	71	69	68	68	67	69	73	76	78	79	80	81	80	80	76
Oct.	85	86	86	86	86	86	85	85	83	81	79	77	76	75	76	76	78	80	81	83	83	84	84	84	85	82
Nov.	83	83	82	84	85	85	85	84	84	84	85	83	81	81	81	81	81	83	84	84	84	85	84	83	83	83
Dec.	78	79	80	79	79	79	80	81	81	81	80	79	77	76	76	75	76	77	78	79	79	79	80	79	78	79
Year	82	82	82	82	83	83	82	81	79	77	75	74	72	72	71	72	73	75	77	78	80	81	81	81	82	78

Eskdalemuir. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Jan.	90	90	89	88	88	88	88	89	88	89	89	89	89	88	87	87	88	89	90	90	89	89	91	89	90	89
Feb.	85	83	84	84	85	83	83	85	87	87	82	81	78	77	77	77	78	81	82	83	85	85	85	85	86	83
Mar.	87	88	88	88	89	87	87	87	87	84	82	80	79	77	77	78	82	84	86	87	87	88	88	88	87	85
April	83	85	85	86	86	85	83	82	79	77	71	67	66	64	62	61	62	67	70	74	77	81	81	82	83	76
May	86	87	88	89	87	88	85	83	77	73	70	67	66	67	68	66	66	67	69	72	78	82	84	85	86	77
June	85	86	85	85	85	86	83	79	75	71	69	67	65	63	64	64	64	66	67	70	75	79	83	84	85	75
July	87	87	89	89	91	90	89	84	81	78	74	70	67	66	66	67	68	71	73	76	79	83	85	87	88	79
Aug.	90	89	89	90	90	90	91	87	83	82	79	76	75	74	73	73	76	80	82	85	87	88	88	89	89	84
Sept.	90	91	91	91	90	90	91	88	87	83	79	77	74	73	71	72	75	78	82	86	86	88	89	90	90	84
Oct.	88	88	89	88	88	89	89	89	89	87	83	81	80	79	79	81	82	84	86	87	88	88	89	89	88	86
Nov.	86	87	87	87	87	88	88	87	87	86	83	81	79	77	79	81	82	83	85	84	85	85	87	86	86	84
Dec.	88	88	88	87	87	88	87	87	89	89	87	86	85	84	84	86	86	86	88	89	89	89	88	89	88	87
Year	87	87	88	88	88	88	87	86	84	82	79	77	75	74	74	75	76	78	80	82	84	85	87	87	87	82

Cahirciveen (Valencia Obs.) **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Jan.	88	88	89	88	89	89	89	88	88	89	88	88	87	87	87	86	87	86	87	86	87	87	87	87	88	88
Feb.	82	82	83	83	84	83	83	83	82	82	82	79	77	76	75	76	77	78	79	80	80	80	81	82	82	80
Mar.	83	83	83	82	84	83	85	83	83	83	82	80	80	80	80	79	79	79	81	82	82	82	82	83	83	82
April	81	79	80	81	81	81	80	81	79	77	74	71	71	70	72	71	72	73	74	76	78	79	80	81	81	77
May	85	86	86	86	86	86	85	85	82	81	79	78	77	78	77	77	77	77	78	79	81	83	83	85	85	82
June	87	87	88	88	88	88	87	84	79	77	75	73	73	73	74	74	73	72	74	76	79	83	84	87	87	80
July	86	86	87	87	87	88	86	83	80	77	74	72	72	70	71	72	71	71	75	77	80	82	84	85	86	79
Aug.	88	89	90	89	90	90	91	90	89	87	85	84	83	81	81	82	82	82	84	85	86	86	87	87	88	86
Sept.	87	88	88	88	88	87	88	87	86	84	80	78	77	77	77	78	79	81	82	84	85	85	86	86	86	84
Oct.	88	88	88	88	89	89	89	89	89	88	86	85	84	82	82	82	83	85	86	86	87	87	87	87	89	86
Nov.	85	85	85	86	85	86	86	86	87	86	85	85	84	84	83	84	84	86	86	86	85	86	86	85	86	85
Dec.	86	85	85	85	85	85	86	86	86	86	84	85	86	83	82	83	84	85	86	85	85	85	85	85	86	85
Year	85	85	86	86	86	86	86	85	84	83	81	80	79	78	78	79	79	80	81	82	83	84	84	85	85	83

Richmond (Kew Obs.) **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Jan.	87	85	86	85	87	87	88	88	88	88	87	84	83	81	82	80	81	82	83	84	85	86	86	86	87	85
Feb.	85	84	85	86	85	86	87	88	87	87	83	80	76	73	71	70	70	72	77	78	81	82	83	83	84	81
Mar.	86	87	87	88	89	88	89	88	85	80	76	70	68	65	64	64	66	67	70	75	78	80	83	84	86	78
April	83	84	85	85	85	87	87	86	81	75	70	66	63	60	59	57	58	59	63	67	72	75	79	81	83	74
May	82	83	85	86	87	86	83	80	75	70	66	62	59	57	58	58	58	57	58	63	68	73	76	79	82	71
June	75	78	80	82	83	80	78	72	67	63	60	57	54	52	50	50	50	51	52	56	61	66	69	72	75	65
July	71	76	77	79	82	81	78	72	66	60	54	50	48	47	45	44	44	45	47	51	57	61	65	69	71	61
Aug.	82	81	85	86	87	88	86	83	77	71	66	61	58	56	55	55	55	57	59	63	68	72	75	79	82	71
Sept.	85	87	88	88	88	89	90	88	85	77	70	63	59	56	54	55	56	58	64	70	74	78	81	84	85	74
Oct.	89	90	91	92	92	93	94	94	92	88	82	76	68	63	61	60	63	69	76	81	84	86	87	88	89	82
Nov.	87	86	87	87	87	87	87	87	87	86	84	84	81	80	79	79	81	84	85	87	86	86	86	87	88	85
Dec.	87	87	87	86	87	87	86	86	86	86	86	83	81	78	77	78	81	83	83	85	85	84	85	86	86	84
Year	83	84	85	86	87	87	86	84	81	77	73	70	66	64	63	62	64	65	68	72	75	77	80	82	83	76

WIND SPEED: MONTHLY MEANS OF HOURLY VALUES.

Averages, in metres per second, for periods of sixty minutes centered at the exact hours, Greenwich Mean Time.

Aberdeen: H_a (height of anemometer above M.S.L.) = 37 metres. **1921.**
h_a (height of anemometer above ground = 23 metres.

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s
Jan.	4·5	4·5	4·3	3·9	3·9	3·9	4·0	3·8	4·0	4·0	4·2	3·9	4·2	4·4	4·3	4·2	4·1	4·0	4·1	4·2	4·2	4·2	4·4	4·6	4·6	4·2
Feb.	3·3	3·3	3·2	3·4	3·3	3·4	3·4	3·2	3·3	3·6	3·8	4·1	4·6	4·6	4·5	4·0	3·5	3·3	3·2	3·1	3·2	3·3	3·1	3·3	3·0	3·5
Mar.	4·2	4·0	4·1	4·0	3·9	3·8	4·2	4·5	4·6	5·4	6·0	6·3	6·4	6·7	6·5	6·0	5·7	5·2	4·8	4·4	4·4	4·4	4·1	4·2	4·3	4·9
April	2·9	2·9	3·0	3·0	3·1	3·4	3·1	3·2	3·3	3·7	3·9	4·4	4·6	4·8	4·7	4·7	4·3	4·0	3·4	3·0	2·7	2·4	2·5	2·7	2·9	3·5
May	2·5	2·4	2·3	2·4	2·2	2·3	2·7	3·3	3·6	4·0	4·4	4·4	4·6	4·9	4·7	4·5	4·3	4·2	3·7	3·2	3·1	2·6	2·2	2·5	2·5	3·4
June	2·4	2·7	2·5	2·5	2·8	3·0	2·9	3·5	3·9	4·2	4·1	4·1	4·3	4·3	4·3	4·1	3·9	3·7	3·5	3·4	2·8	2·8	2·5	2·4	2·4	3·4
July	2·1	2·0	2·1	2·2	2·2	2·4	2·9	3·0	3·4	3·8	4·1	4·2	4·5	4·6	4·6	4·4	4·4	4·0	3·6	2·8	2·5	2·3	2·3	2·1	2·1	3·2
Aug.	2·3	2·6	2·5	2·7	2·6	2·4	2·4	2·8	3·4	3·5	3·9	4·1	4·2	4·1	4·2	3·9	3·9	3·5	3·2	3·0	2·4	2·3	2·3	2·4	2·3	3·1
Sept.	2·9	2·9	2·9	2·7	2·7	2·7	3·0	2·8	3·0	3·5	3·8	3·7	3·7	3·9	4·0	3·9	3·6	3·2	3·0	2·6	2·4	2·4	2·7	2·7	2·9	3·1
Oct.	2·9	2·7	2·5	2·6	2·7	2·8	3·2	3·1	3·5	3·5	3·8	4·2	4·3	4·2	4·4	4·0	3·3	3·1	3·3	3·4	3·4	3·2	3·1	3·1	3·0	3·3
Nov.	4·0	3·7	3·9	4·0	3·7	3·6	3·7	4·0	3·9	4·2	4·5	4·3	4·6	4·4	4·4	4·4	4·2	4·1	3·9	4·1	4·0	4·1	4·1	4·0	4·0	4·1
Dec.	4·5	4·6	4·6	4·9	4·9	4·9	4·8	4·6	4·7	4·6	4·6	4·9	5·2	5·2	4·6	4·6	4·4	3·9	4·5	4·3	4·4	4·2	4·1	4·3	4·5	4·6
Year	3·2	3·2	3·2	3·2	3·2	3·2	3·4	3·5	3·7	4·0	4·3	4·4	4·6	4·7	4·6	4·4	4·1	3·9	3·7	3·5	3·3	3·2	3·1	3·2	3·2	3·7

Eskdalemuir: H_a = 250 m. h_a = 15 m. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s
Jan.	7·5	7·7	7·7	7·7	7·9	7·5	7·5	7·6	7·4	7·2	6·9	7·2	7·7	8·1	8·3	8·2	7·9	7·9	7·7	7·6	7·5	7·8	7·7	7·8	7·5	7·7
Feb.	3·7	3·5	3·6	3·4	3·1	3·0	3·0	3·1	3·3	3·5	3·9	4·0	3·9	4·6	4·7	4·2	4·0	3·5	3·4	3·2	3·2	3·2	3·5	3·5	3·7	3·6
Mar.	7·2	7·1	6·3	6·2	6·5	6·6	6·4	6·7	7·3	7·9	8·5	9·1	9·5	9·3	9·5	9·5	9·2	8·6	8·0	7·5	7·4	7·1	7·1	6·7	7·1	7·7
April	3·7	3·8	3·8	3·7	3·8	3·9	3·8	4·0	4·6	5·2	5·5	6·0	6·2	6·0	6·1	5·9	5·9	5·9	5·1	4·1	3·6	3·7	3·8	3·7	3·6	4·7
May	2·2	2·0	2·3	2·6	2·8	2·8	3·0	3·9	4·9	5·2	5·5	5·7	6·0	6·0	5·8	5·9	6·0	5·7	5·1	4·1	3·2	3·0	2·7	2·2	2·1	4·1
June	3·0	3·1	2·9	2·8	2·8	3·0	3·5	3·3	4·0	4·6	4·4	4·4	4·5	4·3	4·5	4·4	4·5	4·3	4·7	4·5	3·7	2·9	3·1	3·3	3·0	3·8
July	2·3	2·0	2·0	2·1	2·3	2·5	2·7	3·1	3·4	4·2	4·3	4·5	4·8	4·7	4·5	4·5	4·4	4·1	3·6	3·6	3·1	2·7	2·8	2·7	2·5	3·4
Aug.	2·7	2·7	2·6	2·6	2·5	2·7	2·8	3·0	3·2	3·6	4·4	4·8	4·8	4·9	4·8	4·5	4·4	3·8	3·4	3·1	2·8	2·8	2·7	2·6	2·5	3·4
Sept.	2·0	2·2	2·2	2·3	2·3	2·3	2·1	2·4	3·3	4·4	4·9	5·6	5·8	5·9	5·8	5·3	4·8	4·4	3·7	3·1	2·6	2·5	2·5	2·3	2·1	3·5
Oct.	3·9	4·1	4·2	4·0	4·0	3·9	4·1	4·1	4·1	4·5	5·2	6·2	6·5	6·8	6·6	6·3	5·8	5·1	4·4	4·4	4·3	4·3	4·6	4·1	4·2	4·8
Nov.	3·2	3·2	3·3	3·2	2·9	3·0	3·1	2·8	2·7	2·7	3·3	3·8	4·1	4·3	4·1	3·9	3·7	3·7	3·4	3·5	3·5	3·0	2·9	3·0	2·9	3·3
Dec.	6·5	6·2	6·1	6·5	6·4	6·2	6·5	6·4	6·4	6·6	6·9	7·6	8·0	8·0	7·7	7·1	6·6	6·2	6·2	6·0	6·4	6·6	6·6	6·4	6·7	6·7
Year	4·0	4·0	3·9	3·9	3·9	3·9	4·0	4·2	4·5	5·0	5·3	5·7	6·0	6·1	6·0	5·8	5·6	5·3	4·9	4·6	4·3	4·1	4·2	4·0	4·0	4·7

Cahirciveen (Valencia Obs.): H_a = 26 m. h_a = 14 m. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s
Jan.	6·6	6·7	6·4	6·6	6·3	6·2	6·3	6·2	6·0	6·3	6·5	7·1	7·2	7·3	7·7	7·4	7·1	7·0	7·1	6·7	6·4	6·3	6·2	6·2	6·5	6·7
Feb.	4·1	4·2	4·2	4·5	4·2	4·0	4·3	4·0	3·5	3·5	3·2	3·4	4·0	3·9	4·7	4·7	4·4	4·0	3·9	4·0	4·2	4·0	4·0	3·8	4·1	4·0
Mar.	6·8	7·1	7·0	7·1	7·0	7·2	6·6	6·7	6·2	6·6	6·8	7·3	7·7	7·9	8·0	8·0	7·8	7·3	6·5	6·3	6·2	6·3	6·5	6·5	6·7	7·0
April	4·1	4·4	4·2	3·9	4·3	4·6	4·4	4·2	4·7	5·0	5·2	5·8	6·2	6·5	6·5	6·5	6·6	6·3	5·9	5·4	4·8	4·3	4·3	4·2	4·1	5·1
May	3·7	3·6	3·6	3·5	3·4	3·6	3·8	3·9	4·6	4·9	5·3	5·6	5·9	6·0	6·4	6·6	6·6	6·4	6·0	5·5	4·8	4·2	4·3	3·9	3·8	4·8
June	1·9	2·2	2·2	2·0	1·8	2·1	2·1	2·3	2·6	3·1	4·0	4·6	4·7	5·0	5·4	5·3	5·1	5·1	4·9	4·1	3·3	2·1	2·2	1·9	1·8	3·3
July	3·9	3·8	3·7	3·6	3·9	3·8	3·9	3·9	4·1	4·4	4·9	5·1	5·8	6·0	6·2	6·0	6·2	5·7	5·5	5·1	4·6	4·3	3·8	3·7	4·2	4·7
Aug.	5·1	4·9	4·5	4·6	4·8	4·8	4·5	4·7	5·0	5·5	5·8	6·1	6·4	6·9	7·1	7·2	7·1	6·5	6·4	5·9	5·3	5·5	5·2	5·0	5·1	5·6
Sept.	3·1	2·8	3·0	3·1	3·3	3·3	3·0	3·1	3·1	3·3	3·7	3·9	4·3	4·3	4·3	4·0	3·8	3·7	3·0	2·7	2·8	2·8	2·6	2·8	3·0	3·3
Oct.	3·5	3·5	3·8	3·8	4·1	4·2	4·3	4·6	4·9	4·9	4·8	4·8	5·1	5·1	5·0	4·8	4·5	4·1	3·8	3·8	3·7	3·5	3·4	3·5	3·6	4·2
Nov.	5·7	5·6	5·7	5·4	6·1	6·1	6·4	6·4	6·4	6·4	6·2	6·1	6·5	6·1	6·5	6·4	6·3	5·9	5·6	5·5	5·8	5·8	5·4	5·8	5·6	6·0
Dec.	7·2	7·4	7·7	7·6	7·5	7·6	7·5	7·4	7·3	7·4	7·5	7·1	7·3	7·5	7·9	7·5	7·3	7·2	6·9	6·8	7·1	7·3	7·3	7·4	7·3	7·4
Year	4·6	4·7	4·7	4·6	4·7	4·8	4·8	4·8	4·9	5·1	5·3	5·6	5·9	6·0	6·3	6·2	6·1	5·8	5·5	5·1	4·9	4·7	4·6	4·6	4·7	5·2

Richmond (Kew Obs.): H_a = 25 m. h_a = 20 m. **1921.**

G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Mean
	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s
Jan.	4·3	4·4	4·2	4·6	4·4	4·6	4·2	4·2	4·3	4·2	4·5	5·0	5·0	5·3	5·1	5·0	4·6	4·7	4·4	4·7	4·3	4·7	4·6	4·7	4·1	4·6
Feb.	2·1	2·3	2·3	2·6	2·3	2·4	2·1	2·4	2·3	2·6	3·0	3·6	3·6	4·1	3·9	4·2	3·8	3·6	3·0	3·0	2·7	2·7	2·3	2·3	2·2	2·9
Mar.	3·3	3·4	3·1	3·2	2·8	2·8	2·8	3·4	3·7	4·4	5·4	6·1	5·8	6·2	5·9	6·4	5·5	5·8	4·6	4·4	4·1	4·4	3·7	3·9	3·2	4·4
April	2·4	2·5	2·4	2·5	2·7	2·7	2·7	3·2	3·5	3·8	4·4	4·9	4·6	5·0	4·9	5·2	4·7	4·7	4·0	3·7	3·1	2·9	2·5	2·6	2·5	3·6
May	2·0	2·1	2·0	2·2	2·0	2·3	2·5	2·9	3·1	3·6	3·8	4·2	4·1	4·4	4·1	4·4	4·4	4·4	4·1	3·5	2·7	2·7	2·5	2·3	2·0	3·2
June	2·4	2·3	2·3	2·3	2·3	2·6	2·9	3·5	3·6	3·9	4·3	4·5	4·4	4·5	4·5	4·6	4·4	4·6	4·4	4·2	3·4	3·2	3·0	2·6	2·4	3·5
July	2·3	2·1	2·2	2·0	1·9	2·0	2·0	2·5	2·8	3·1	3·3	3·6	3·8	4·1	4·2	4·4	4·2	4·6	4·7	4·4	3·8	3·5	3·1	2·9	2·4	3·2
Aug.	2·1	2·2	2·3	2·2	2·0	2·0	2·3	2·8	3·3	3·7	4·2	4·7	4·7	4·8	4·6	4·7	4·6	4·6	4·0	3·5	3·0	2·7	2·4	2·2	2·0	3·3
Sept.	1·7	2·0	1·7	1·8	1·8	1·8	1·8	2·0	2·2	2·7	3·3	3·7	3·6	3·9	3·9	4·2	3·6	3·5	2·9	2·4	2·0	1·9	1·9	1·9	1·7	2·6
Oct.	1·6	1·5	1·4	1·4	1·3	1·4	1·3	1·4	1·5	1·8	2·4	2·9	3·2	3·5	3·4	3·5	2·8	2·2	1·8	1·8	1·8	2·0	1·8	1·8	1·9	2·1
Nov.	2·5	2·6	2·5	2·6	2·5	2·4	2·5	2·6	2·6	2·9	2·8	3·1	3·2	3·5	3·3	3·4	2·8	2·5	2·5	2·5	2·7	2·6	2·4	2·5	2·4	2·7
Dec.	4·2	4·6	4·3	4·4	4·0	4·4	3·9	4·2	4·2	4·1	4·1	4·7	4·8	5·1	4·9	5·0	4·3	4·4	4·1	4·4	4·1	4·6	4·2	4·5	4·2	4·4
Year	2·6	2·7	2·6	2·7	2·5	2·6	2·6	2·9	3·1	3·4	3·8	4·3	4·2	4·5	4·4	4·6	4·1	4·1	3·7	3·5	3·1	3·2	2·9	2·9	2·6	3·4

Note.—At Aberdeen, Cahirciveen and Richmond, the speed of the wind is obtained from the records of a Robinson Cup-anemometer. At Eskdalemuir the speed is obtained from the records of a Dines Pressure-tube Anemometer.

RAINFALL: MONTHLY TOTALS OF HOURLY VALUES.

Amounts, in millimetres, for periods of sixty minutes, ending at the exact hours, Greenwich Mean Time.

Aberdeen : H_r (height of receiving surface above M.S.L.) = H (height of station above M.S.L.) + h_r (height of receiving surface above ground) = 14·0 metres + 0·6 metres. **1921.**

G.M.T.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Day.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Jan.	2·4	1·7	1·3	1·2	1·8	1·2	2·2	0·9	0·5	0·8	0·7	1·0	0·2	0·0	0·1	0·0	0·4	2·4	1·0	2·6	3·4	5·2	0·7	0·3	32·0
Feb.	0·6	0·0	0·0	1·2	1·6	1·0	0·5	0·7	0·1	0·9	0·6	0·6	0·4	0·4	0·3	0·6	1·2	1·2	0·4	0·6	0·5	0·8	1·1	0·0	15·3
Mar.	1·6	3·8	0·2	3·2	1·3	1·1	1·3	0·8	1·1	3·2	2·3	2·8	4·1	2·1	3·0	4·1	2·9	2·7	2·5	1·1	0·6	0·8	1·7	1·2	49·5
April	0·8	0·3	1·1	1·0	1·1	1·2	2·0	1·5	1·2	1·7	0·9	0·8	1·1	1·1	0·3	2·1	2·3	1·8	1·4	2·9	3·7	2·7	2·9	2·5	38·4
May	4·1	2·6	0·8	3·0	1·2	1·6	2·0	0·5	1·1	0·5	0·5	0·9	0·5	1·7	2·9	0·1	1·1	0·1	0·1	0·1	0·0	1·0	2·7	3·8	32·9
June	1·1	1·2	1·4	1·2	0·9	1·0	0·5	0·8	1·3	1·6	0·7	0·7	0·3	0·1	0·5	1·5	1·2	1·4	5·6	1·4	1·3	0·6	0·9	0·9	28·1
July	0·0	0·5	0·2	0·2	0·2	0·2	1·5	2·9	3·9	3·7	2·8	3·3	1·9	0·6	0·6	1·2	3·0	3·2	1·8	2·6	0·3	0·3	0·3	0·4	35·6
Aug.	2·4	3·8	8·3	4·4	2·6	3·9	2·0	1·0	0·5	0·0	0·2	0·1	0·5	0·3	0·4	0·1	0·0	0·4	3·9	4·3	3·3	2·0	1·6	4·6	50·6
Sept.	1·1	0·1	0·0	0·5	2·2	1·5	2·4	1·0	2·9	2·9	0·4	0·5	0·2	0·2	0·4	0·0	1·3	0·8	1·1	2·4	1·5	0·6	0·3	0·3	24·6
Oct.	0·7	0·2	0·0	0·2	0·5	0·1	0·4	2·1	2·2	2·8	1·7	1·5	1·5	1·9	0·7	1·9	2·3	3·3	5·7	2·9	2·3	0·3	1·1	1·2	37·5
Nov.	0·8	0·6	1·6	1·9	1·0	1·9	2·2	2·6	2·3	4·2	1·3	2·4	1·5	3·5	0·8	0·7	0·5	1·8	1·9	1·4	1·0	0·8	1·5	0·9	39·1
Dec.	0·1	0·0	0·2	1·2	1·5	5·5	8·7	2·9	1·0	2·5	0·3	2·1	0·7	0·1	0·7	0·3	0·6	1·6	4·9	0·5	2·5	1·2	0·8	0·0	39·9
Year	15·7	14·8	15·1	19·2	15·9	20·2	25·7	17·7	18·1	24·8	12·4	16·7	12·9	12·0	10·7	12·6	16·8	20·7	30·3	22·8	20·4	16·3	15·6	16·1	423·5

Eskdalemuir : H_r = 240·0 m. + 0·4 m. **1921.**

G.M.T.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Day.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Jan.	12·2	15·2	11·7	12·9	11·9	13·0	11·8	22·0	17·3	15·8	19·5	14·2	11·2	9·1	7·5	9·9	10·5	11·5	11·2	15·3	14·1	12·4	11·6	11·3	313·1
Feb.	1·3	0·8	3·1	2·0	0·7	0·6	0·6	0·8	1·3	0·4	0·6	0·2	1·0	0·3	0·3	0·3	0·7	0·6	1·5	1·3	0·6	0·3	0·3	1·0	20·6
Mar.	12·1	13·8	13·1	11·1	12·1	9·0	6·7	6·0	7·9	5·3	9·0	7·4	9·0	6·9	9·1	10·0	12·1	13·6	13·8	7·3	9·0	8·0	6·3	6·5	225·1
Apr.	3·2	2·6	3·3	1·4	1·3	2·9	3·4	2·0	1·4	1·4	2·8	1·2	0·8	1·5	0·8	0·5	2·9	1·7	1·6	2·0	2·6	1·9	2·7	2·6	48·5
May	5·7	4·2	4·6	4·1	4·1	3·7	2·8	3·8	1·5	0·5	0·3	0·6	6·7	3·7	3·3	4·2	4·1	5·2	7·2	2·6	2·2	1·9	3·9	5·8	86·7
June	2·0	0·0	0·0	1·3	1·1	0·5	0·7	1·1	1·5	1·5	2·6	1·0	0·3	2·2	0·2	0·1	0·3	1·6	1·2	1·7	0·3	0·9	0·4	0·5	23·0
July	2·8	5·6	6·8	6·1	8·8	6·0	7·3	5·4	3·8	1·6	1·2	0·3	0·8	0·6	3·4	10·9	10·2	6·2	6·5	4·6	2·1	0·9	1·2	1·3	104·4
Aug.	4·7	4·9	2·8	5·6	8·6	1·5	2·9	8·6	4·2	3·3	6·3	4·5	8·8	12·6	10·5	8·8	10·6	11·8	10·3	8·0	9·6	7·9	10·7	7·0	174·5
Sept.	2·0	5·0	6·0	5·2	5·4	5·7	4·7	4·1	4·3	5·4	2·8	1·2	0·3	0·2	0·7	4·2	7·9	3·1	5·2	0·6	0·5	1·7	2·0	1·5	79·7
Oct.	2·1	0·9	2·4	2·4	4·9	5·1	5·5	4·9	5·5	5·9	4·3	8·5	8·1	5·8	4·2	6·5	7·5	7·9	2·3	6·0	2·5	4·6	7·9	2·8	118·5
Nov.	5·4	6·9	5·0	3·8	4·9	3·0	5·4	3·0	3·6	4·4	2·9	1·9	1·1	1·1	3·5	1·5	1·5	2·3	2·5	2·9	2·5	3·1	4·5	4·0	80·7
Dec.	6·0	8·1	6·8	8·5	8·7	6·2	7·4	13·8	16·4	12·4	10·2	8·6	12·7	14·1	16·0	12·3	11·1	10·5	6·9	19·3	12·9	9·4	5·1	5·7	249·1
Year	59·5	68·0	65·6	64·4	72·5	57·2	59·2	75·5	68·7	57·9	62·5	49·6	60·8	58·1	59·5	69·2	79·4	76·0	70·2	71·6	58·9	53·0	56·6	50·0	1523·9

Cahirciveen (Valencia Obs.) : H_r = 9·1 m. + 0·5 m. **1921.**

G.M.T.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Day.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Jan.	2·5	3·7	5·4	13·3	8·8	5·2	7·1	7·3	4·3	5·8	18·2	7·1	5·3	3·5	4·8	2·0	3·8	7·2	4·3	6·0	3·3	2·8	1·5	1·3	134·5
Feb.	4·2	8·2	3·9	10·6	6·2	5·1	2·7	0·7	1·0	0·7	0·6	0·9	1·1	1·6	1·6	2·3	2·9	3·6	4·1	4·7	3·2	2·2	3·0	1·7	76·8
Mar.	5·4	6·9	4·1	7·0	11·2	10·2	7·4	10·3	6·3	6·6	9·1	6·9	4·4	9·4	13·1	4·4	3·1	3·7	3·9	4·5	4·5	5·8	7·0	8·1	163·3
Apr.	2·1	2·6	2·9	2·2	2·5	0·2	0·7	1·2	0·3	1·1	0·5	1·1	1·2	2·8	0·9	2·2	1·9	0·6	0·2	1·2	0·5	0·1	0·2	1·5	30·7
May	1·8	2·8	2·5	1·4	1·4	1·1	2·2	3·3	2·8	2·1	2·8	4·7	10·2	8·8	5·2	6·7	6·6	2·2	1·5	1·3	3·6	0·6	2·0	0·5	78·1
June	0·3	0·4	0·0	0·0	0·2	0·0	0·6	0·2	0·0	0·0	0·0	0·1	0·2	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·2	0·1	0·2	0·2	2·7
July	0·6	1·4	0·8	10·4	8·7	4·6	2·3	9·3	7·2	1·7	1·4	0·7	2·1	4·6	2·4	6·8	2·9	5·1	14·2	7·3	4·4	1·7	2·5	1·9	105·0
Aug.	6·1	9·0	3·5	12·9	10·2	14·6	9·9	8·0	7·2	2·8	2·3	3·4	4·0	3·0	2·6	5·7	16·8	6·1	5·1	1·5	3·8	8·3	4·0	3·6	154·4
Sept.	1·3	0·9	0·6	0·9	1·5	0·5	0·2	0·0	0·5	0·2	0·5	3·1	3·2	0·8	2·4	4·0	2·3	1·8	4·1	2·3	3·4	1·3	0·6	0·4	36·8
Oct.	1·9	2·0	5·4	3·1	5·9	9·4	7·8	8·9	4·5	3·8	1·2	5·9	7·2	4·0	6·3	5·0	3·3	6·2	3·8	2·4	1·6	0·5	2·4	3·8	106·3
Nov.	6·6	1·6	1·9	2·5	7·4	5·4	5·5	15·7	12·9	10·1	8·6	7·4	8·5	7·1	12·3	6·5	6·5	9·9	11·4	9·0	7·2	13·0	9·1	6·9	193·0
Dec.	2·5	2·5	2·5	1·6	2·4	2·1	3·1	2·2	2·7	2·2	2·9	4·5	2·8	1·3	2·8	5·7	11·0	9·3	10·7	5·4	2·2	3·1	1·7	3·0	90·2
Year	35·3	42·0	33·5	65·9	66·4	58·4	49·5	67·1	49·7	37·1	48·1	45·8	50·2	46·9	54·4	51·3	61·1	55·7	63·3	45·6	37·9	39·5	34·2	32·9	1171·8

Richmond (Kew Obs.) : H_r = 5·5 m. + 0·5 m. **1921.**

G.M.T.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	24	Day.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Jan.	0·0	0·1	0·7	0·8	1·1	0·1	0·0	1·2	2·4	0·5	4·0	6·2	1·8	8·6	4·0	2·1	4·9	0·8	0·9	3·1	3·9	1·8	0·9	1·9	51·8
Feb.	0·0	0·0	0·1	0·2	0·0	0·1	0·0	0·0	0·3	0·0	0·6	0·8	0·1	1·4	0·0	0·0	0·1	0·0	0·0	0·4	0·7	0·1	0·0	0·0	4·9
Mar.	4·4	0·7	0·5	1·6	0·0	0·9	0·6	0·7	0·0	0·0	0·0	0·0	0·1	0·4	0·2	1·9	3·0	1·7	1·0	2·7	1·1	1·7	3·9	6·7	33·8
Apr.	2·7	1·3	0·9	1·6	2·1	0·4	0·6	0·1	2·9	0·2	0·7	1·3	0·3	3·6	0·5	0·3	0·3	5·6	0·1	0·1	0·0	0·1	0·3	0·9	26·9
May	0·2	0·0	1·3	1·7	1·3	1·5	1·7	3·5	1·1	2·6	0·1	0·5	0·5	1·3	2·1	0·6	0·0	0·1	0·3	0·8	1·1	0·8	0·6	1·3	25·0
June	0·0	0·2	0·0	0·0	0·1	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·3	0·1	0·5	0·2	1·0	1·5	0·7	0·4	0·1	0·0	0·0	0·0	5·1
July	0·0	0·0	0·5	0·0	0·1	0·2	0·1	0·0	0·0	0·5	0·0	0·0	0·0	0·4	0·3	1·6	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	3·7
Aug.	0·0	0·1	0·1	0·0	0·4	5·8	2·3	2·4	2·3	0·2	0·7	2·3	2·2	0·2	0·0	3·7	0·6	0·3	0·1	0·3	0·3	0·3	0·3	0·3	25·2
Sept.	11·2	3·7	0·4	0·2	1·7	3·0	1·9	0·0	0·2	0·3	0·0	0·1	0·1	0·0	0·0	0·0	0·0	0·7	1·6	2·2	4·0	3·5	5·0	5·0	44·8
Oct.	0·1	0·0	0·0	1·0	0·0	0·0	0·7	0·1	0·3	0·2	0·9	0·0	0·4	0·2	0·5	0·5	0·2	1·5	2·4	1·2	0·1	0·1	0·0	0·7	11·1
Nov.	0·9	0·6	0·6	6·9	3·8	0·3	0·3	0·9	1·4	1·7	6·3	1·8	1·3	2·2	6·1	1·2	2·1	1·0	0·8	0·7	0·8	1·0	0·2	0·3	43·2
Dec.	0·5	0·3	2·3	2·4	2·2	2·2	1·3	1·9	1·0	4·3	1·2	1·3	1·2	2·0	0·8	0·9	0·2	1·0	1·0	0·2	0·4	3·0	1·3	0·1	33·0
Year	20·0	7·0	7·4	16·4	12·8	14·5	9·5	10·8	11·9	10·5	14·5	14·3	8·3	20·4	15·0	13·0	12·4	14·2	8·9	12·1	12·5	12·4	12·5	17·2	308·5

Note.—The amounts of rainfall are obtained at each observatory from the autographic records of a Beckley raingauge.

For **Falmouth** see p. 53.

DURATION OF BRIGHT SUNSHINE: MONTHLY MEANS OF HOURLY VALUES.

Amounts for periods of sixty minutes ending at the hours of Local Apparent Time.

Aberdeen : h_s (height of recorder above ground) = 20·7 metres. **1921.**

Hour L.A.T.	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	Day
	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.
Jan.	..	..	..	..	..	·04	·18	·30	·28	·30	·28	·23	·03	..	..	..	..	..	1·64
Feb.	..	..	..	..	..	·11	·22	·24	·30	·23	·20	·17	·10	·03	..	..	..	..	1·60
Mar.	..	..	..	·09	·39	·51	·48	·45	·40	·34	·33	·34	·32	·23	·07	..	..	..	3·95
April	..	..	·15	·34	·51	·59	·58	·58	·69	·64	·61	·59	·54	·49	·34	·18	·02	..	6·85
May	..	·17	·45	·49	·61	·68	·65	·63	·54	·55	·52	·53	·54	·46	·37	·24	·07	..	7·59
June	·01	·28	·39	·45	·41	·46	·53	·48	·50	·51	·54	·57	·55	·54	·50	·46	·38	·06	7·62
July	..	·07	·23	·26	·32	·40	·38	·42	·43	·37	·41	·45	·35	·35	·25	·23	·11	·01	5·04
Aug.	..	·04	·19	·31	·41	·38	·32	·41	·36	·37	·32	·32	·22	·21	·14	·12	·03	..	4·15
Sept.	..	..	·02	·16	·33	·43	·42	·39	·40	·41	·35	·38	·35	·25	·07	..	..	..	3·96
Oct.	..	..	..	..	·11	·27	·30	·33	·33	·35	·31	·24	·21	·08	..	..	..	..	2·53
Nov.	..	..	..	..	..	·08	·18	·27	·33	·35	·29	·21	·08	..	..	..	..	..	1·79
Dec.	..	..	..	..	..	..	·11	·30	·32	·39	·30	·15	..	..	..	..	..	..	1·57
Year	..	·05	·12	·17	·26	·33	·36	·40	·41	·40	·37	·35	·27	·22	·15	·10	·05	·01	4·02

Eskdalemuir : h_s = 1·5 m. **1921.**

Hour L.A.T.	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	Day
	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.
Jan.	..	..	..	..	..	·01	·11	·16	·14	·14	·11	·12	·01	..	..	..	..	..	0·80
Feb.	..	..	..	..	·06	·19	·24	·26	·31	·30	·29	·28	·19	·04	..	..	..	..	2·16
Mar.	..	..	..	·08	·22	·30	·35	·33	·32	·30	·28	·26	·13	·10	·01	..	..	..	2·68
April	..	..	·15	·29	·47	·48	·53	·59	·54	·60	·55	·49	·40	·38	·30	·15	..	..	5·92
May	..	·04	·29	·48	·57	·53	·49	·49	·47	·41	·46	·41	·36	·40	·43	·27	·05	..	6·15
June	..	·20	·36	·45	·52	·59	·53	·52	·55	·56	·55	·48	·48	·46	·49	·42	·24	..	7·40
July	..	·04	·21	·25	·27	·24	·37	·47	·49	·45	·37	·37	·37	·33	·27	·27	·07	..	4·84
Aug.	..	..	·05	·30	·39	·37	·36	·37	·33	·37	·35	·30	·29	·18	·16	·09	..	..	3·91
Sept.	..	..	..	·11	·25	·38	·41	·45	·47	·49	·48	·37	·32	·26	·11	..	..	..	4·10
Oct.	..	..	..	..	·11	·26	·35	·34	·38	·38	·31	·26	·23	·09	..	..	..	..	2·71
Nov.	..	..	..	..	·01	·20	·38	·38	·39	·40	·37	·28	·14	..	..	..	..	..	2·55
Dec.	..	..	..	..	..	·01	·13	·16	·19	·23	·25	·16	..	..	..	..	..	..	1·13
Year	..	·02	·09	·16	·24	·30	·35	·38	·38	·39	·36	·31	·24	·19	·15	·10	·03	..	3·70

Cahirciveen (Valencia Obs.) : h_s = 12·8 m. **1921.**

Hour L.A.T.	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	Day.
	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.
Jan.	..	..	..	..	..	·01	·11	·11	·18	·14	·20	·18	·04	..	..	..	..	..	0·97
Feb.	..	..	..	..	·01	·09	·24	·32	·28	·26	·21	·28	·20	·06	..	..	..	..	1·95
Mar.	..	..	..	·02	·10	·23	·33	·35	·33	·28	·32	·27	·24	·20	·04	..	..	..	2·71
April	..	..	·04	·32	·33	·42	·50	·59	·65	·62	·62	·67	·57	·51	·52	·14	..	..	6·50
May	..	·01	·11	·22	·24	·28	·38	·41	·45	·47	·51	·53	·51	·47	·39	·27	·05	..	5·30
June	..	·29	·45	·55	·55	·55	·55	·55	·59	·58	·65	·65	·62	·59	·60	·58	·30	..	8·65
July	..	·09	·28	·34	·37	·44	·41	·48	·49	·51	·52	·57	·55	·55	·50	·39	·14	..	6·63
Aug.	..	..	·03	·19	·24	·21	·26	·29	·39	·45	·45	·38	·40	·35	·24	·06	..	..	3·94
Sept.	..	..	..	·09	·36	·38	·45	·45	·43	·43	·41	·46	·45	·36	·21	·01	..	..	4·49
Oct.	..	..	..	..	·02	·13	·19	·20	·25	·30	·32	·34	·31	·14	·01	..	..	..	2·21
Nov.	..	..	..	..	..	·05	·21	·23	·21	·25	·29	·17	·09	·01	..	..	..	..	1·51
Dec.	..	..	..	..	..	..	·08	·15	·19	·27	·19	·11	·03	..	..	..	..	..	1·02
Year	..	·03	·08	·14	·19	·23	·31	·34	·37	·38	·39	·38	·33	·27	·21	·12	·04	..	3·82

Richmond (Kew Obs.) : h_s = 13·3 m. **1921.**

Hour L.A.T.	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	Day
	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.	hr.
Jan.	..	..	..	..	..	·04	·11	·14	·21	·16	·16	·11	·03	..	..	..	..	..	0·96
Feb.	..	..	..	..	·02	·04	·09	·24	·31	·31	·33	·29	·23	·07	..	..	..	..	1·93
Mar.	..	..	..	·07	·32	·43	·45	·46	·45	·42	·39	·35	·30	·26	·08	..	..	..	3·98
April	..	..	·05	·32	·50	·58	·65	·67	·61	·57	·62	·55	·60	·45	·25	·09	..	..	6·51
May	..	·06	·37	·50	·51	·59	·65	·62	·55	·52	·54	·50	·46	·51	·48	·43	·07	..	7·36
June	..	·14	·38	·48	·44	·49	·51	·49	·51	·52	·56	·53	·55	·54	·58	·48	·22	..	7·42
July	..	·02	·34	·58	·60	·69	·72	·62	·59	·62	·65	·57	·60	·59	·59	·41	·09	..	8·28
Aug.	..	..	·10	·30	·42	·53	·54	·56	·55	·41	·44	·34	·33	·36	·31	·17	·02	..	5·38
Sept.	..	..	..	·05	·22	·43	·49	·56	·63	·65	·62	·60	·55	·42	·24	·02	..	..	5·48
Oct.	..	..	..	..	·06	·25	·44	·53	·59	·74	·68	·70	·57	·35	..	..	..	..	4·91
Nov.	..	..	..	..	..	·08	·08	·11	·14	·23	·30	·22	·07	·01	..	..	..	..	1·24
Dec.	..	..	..	..	..	..	·10	·17	·21	·24	·21	·21	·03	..	..	..	..	..	1·17
Year	..	·02	·10	·19	·26	·35	·40	·43	·45	·45	·46	·41	·36	·30	·21	·13	·03	..	4·55

Note.—The hourly duration of Sunshine is obtained from the records of the Campbell-Stokes Recorder, an instrument in which the Sun's rays are focussed through a 10 cm. spherical lens of crown glass upon a strip of blue card exposed in a metal bowl, the duration of bright sunshine being shown by the length of the scorch on the card.

For **Falmouth** see p. 53.

I.—TERRESTRIAL MAGNETIC FORCE: NORTH COMPONENT.

Eskdalemuir. (X.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **January, 1921.**

15,000 γ (·15 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	996	1001	997	997	1001	1001	1002	988	983	1000	1002	992	988	992	981	962	972	981	986	988	992	998	1012	991	991	992
2	991	993	994	997	997	997	1001	1001	999	998	997	992	991	987	994	997	991	994	1002	1002	1002	1001	997	1002	1002	997
3	1001	992	995	996	997	1004	1004	1000	1001	997	983	986	987	991	995	996	995	993	995	998	1001	999	997	998	1000	996
4	1000	997	995	1002	1000	1005	1006	1001	997	998	987	985	984	981	980	971	976	977	977	985	996	996	995	997	994	991
5	993	996	995	995	995	1003	1005	997	994	984	984	982	970	965	959	984	984	990	980	979	993	995	995	996	995	988
6	995	995	999	999	999	1004	997	1000	994	989	986	989	989	990	985	992	993	991	993	991	994	997	999	1001	1003	994
7	1003	1001	1000	1001	1004	1005	1006	1011	1003	1001	996	992	988	987	991	993	999	1004	1007	1006	1000	1005	999	997	994	1000
8	993	988	994	994	996	1003	1004	1008	1004	996	988	981	979	982	988	990	993	998	1001	1004	1004	1004	1003	1003	1002	996
9	1002	1002	1003	1006	1009	1013	1017	1008	1004	1004	989	989	993	988	991	980	972	971	984	989	1021	1002	998	995	999	997
10	999	1003	999	998	1008	1010	1007	1018	1013	1008	993	988	989	972	969	980	989	989	979	977	981	979	1017	984	985	993
11	984	988	989	991	992	997	1004	1002	1000	997	993	988	987	988	992	990	994	998	1002	1000	998	997	995	996	1009	995
12	1009	992	984	997	1007	1006	1008	1004	1003	1003	996	988	981	980	977	983	981	985	990	999	993	998	998	1003	1002	994
13	1001	1002	1002	1002	998	1006	1012	1008	1006	999	*	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—
14	*	—	—	—	—	—	—	—	—	*	1001	993	988	989	992	997	996	1001	1001	1003	1011	1002	1001	1001	1002	—
15	1001	1000	998	1001	1005	1006	1006	1007	1006	1000	993	989	977	970	978	999	998	1001	1005	1006	1000	988	994	1002	994	997
16	994	994	993	996	998	997	1005	1005	1001	996	992	993	994	996	1000	997	995	992	1001	1005	999	994	992	992	995	997
17	995	991	990	995	996	1005	1005	1008	1010	986	971	977	976	977	990	996	1006	†	†	966	976	988	973	996	986	—
18	985	†	—	—	—	—	—	—	—	—	†	986	980	976	980	983	985	986	988	986	984	999	1000	994	990	—
19	990	987	989	989	994	999	1003	1005	1005	1000	986	986	986	‡	—	—	—	—	—	—	—	—	—	—	‡	—
20	‡	—	—	—	—	—	—	—	—	—	‡	998	994	989	989	989	989	989	987	975	983	983	988	999	983	—
21	983	988	989	992	993	1003	1003	1008	999	985	§	—	—	—	—	—	§	996	§	—	—	—	—	§	995	—
22	995	995	994	995	994	1004	999	997	1004	991	988	989	988	987	989	994	994	994	995	994	992	994	999	1002	999	995
23	998	997	1006	1008	992	999	1009	1002	1002	998	989	992	993	991	989	989	990	994	997	996	992	1003	999	998	998	997
24	998	998	995	1007	997	997	1018	1018	1012	993	985	992	976	982	985	973	969	978	987	991	993	990	995	995	994	993
25	994	997	996	997	997	998	1000	999	1004	1001	996	993	993	993	992	994	998	1002	999	996	995	987	987	984	999	996
26	998	998	991	995	997	1001	1003	1004	1002	1006	999	991	993	984	976	981	985	986	992	993	996	998	999	1004	998	995
27	998	997	996	999	1001	1001	1009	1002	1006	1001	993	994	992	993	994	996	991	993	999	998	1000	996	995	997	995	998
28	995	994	994	991	995	1003	1011	1011	1004	992	983	979	985	990	995	991	986	985	992	994	992	997	993	994	997	994
29	996	993	994	998	995	1001	1001	1003	996	989	991	985	982	986	990	992	995	987	991	986	993	990	996	995	995	993
30	995	994	991	994	996	999	1000	1000	996	992	987	986	985	991	996	999	995	996	996	991	985	989	997	997	1005	994
31	1004	990	995	994	1000	1003	1005	1005	1006	996	980	978	967	975	984	985	988	981	960	990	994	999	994	994	996	990
Mean‖	997	995	995	998	998	1002	1005	1003	1001	997	990	988	985	986	987	988	988	990	993	995	997	996	997	997	998	995

‖ Mean of 23 days. 10th, 13th, 14th, 17th, 18th, 19th, 20 and 21st, omitted. * Clock stopped. † Gas failed. ‡ Burner choked. § Sheet fogged.

II.—TERRESTRIAL MAGNETIC FORCE: WEST COMPONENT.

Eskdalemuir. (—Y.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **January, 1921.**

4,000 γ (·04 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day.	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	796	797	791	797	797	798	798	798	818	816	822	819	817	817	819	802	804	809	809	793	790	792	791	798	798	804
2	798	798	808	802	797	799	802	802	803	808	812	809	808	803	803	804	801	798	805	803	801	798	798	791	794	802
3	794	790	790	793	798	803	797	798	803	808	811	819	824	823	814	813	809	805	804	798	801	801	800	798	801	804
4	801	802	810	782	792	797	800	807	804	811	810	818	816	816	819	809	802	798	797	794	798	794	792	795	795	803
5	795	802	804	803	806	797	803	802	805	809	817	814	817	824	814	813	811	806	803	792	797	798	800	798	797	805
6	797	795	799	799	802	797	808	803	801	801	805	808	815	818	808	808	808	805	803	799	797	795	788	797	802	802
7	802	803	803	804	803	804	803	803	797	802	807	808	814	817	818	811	808	808	806	804	792	776	789	793	795	803
8	795	802	798	798	802	802	804	803	801	800	803	804	812	813	813	811	809	808	805	803	801	800	800	802	803	804
9	803	804	805	808	808	809	809	818	823	822	813	815	825	819	818	824	818	818	800	793	755	780	793	794	793	807
10	793	777	797	794	797	803	809	807	805	803	801	799	813	826	825	822	820	813	798	782	781	781	745	779	787	799
11	787	797	800	803	804	805	804	801	801	799	804	807	809	813	809	807	808	806	805	802	798	797	793	790	781	802
12	781	782	789	804	797	800	802	801	799	802	802	802	807	813	805	813	809	804	807	801	794	794	797	797	798	800
13	798	799	799	797	797	804	802	803	800	801	*	—	—	—	—	—	—	—	—	—	—	—	—	—	*	—
14	*	—	—	—	—	—	—	—	—	*	809	809	809	817	815	810	804	805	806	798	798	802	800	799	798	—
15	798	793	797	798	803	803	803	803	803	804	809	811	813	827	817	807	808	807	806	805	803	797	792	772	796	803
16	795	797	792	795	795	797	795	796	797	801	802	805	810	814	812	811	813	810	811	812	809	797	781	761	778	800
17	778	781	785	790	788	798	797	796	801	793	821	824	830	818	824	817	†	†	†	765	797	785	788	765	770	—
18	770	†	—	—	—	—	—	—	—	—	†	808	812	808	806	804	801	802	803	801	785	800	792	792	790	—
19	790	790	789	792	792	796	797	800	800	802	807	812	815	817	‡	—	—	—	—	—	—	—	—	—	‡	—
20	‡	—	—	—	—	—	—	—	—	—	‡	808	812	814	812	807	804	796	802	802	788	780	756	712	788	—
21	788	801	801	792	802	800	811	796	804	797	802	807	811	817	810	808	803	802	801	798	788	788	792	795	796	801
22	796	797	797	797	799	793	790	797	797	796	801	802	804	804	807	801	801	799	800	789	787	795	796	797	797	798
23	797	798	801	785	787	796	791	794	796	797	797	802	803	806	806	802	800	800	796	796	796	791	794	793	795	797
24	795	796	792	792	808	792	796	795	804	807	816	819	822	822	824	818	804	797	799	796	795	789	790	791	792	802
25	792	795	796	796	796	797	797	801	801	801	799	802	805	807	807	803	798	800	797	782	780	787	775	778	803	796
26	803	794	792	792	792	796	796	796	796	801	799	807	823	823	821	810	808	803	797	797	792	793	792	793	795	801
27	795	797	799	801	801	798	802	802	802	802	802	804	808	808	803	800	800	801	801	797	796	792	788	786	794	799
28	794	794	794	801	797	801	791	797	802	805	808	812	822	816	812	812	801	807	801	796	789	792	790	790	792	801
29	792	794	804	801	796	788	792	796	796	807	812	814	817	817	812	805	807	802	796	796	791	790	792	795	795	801
30	795	796	797	802	795	792	794	794	791	793	799	805	811	816	812	806	802	801	800	797	788	783	775	774	776	796
31	776	781	788	794	796	800	800	799	796	796	807	810	818	821	815	817	809	808	771	794	798	796	796	795	795	800
Mean‖	795	796	798	798	799	798	799	800	802	804	807	809	814	816	813	809	806	804	801	797	793	792	791	790	794	801

‖ Mean of 23 days. 10th, 13th, 14th, 17th, 18th, 19th, 20 and 21st, omitted. * Clock stopped. † Gas failed. ‡ Burner choked.

III.—TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.

Eskdalemuir. (Z.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **January, 1921.**

44,000 γ (·44 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1038	1043	1047	1048	1047	1047	1049	1053	1050	1047	1049	1052	1056	1059	1066	1076	1080	1078	1078	1084	1081	1074	1064	1062	1062	1060
2	1061	1064	1064	1059	1062	1062	1062	1063	1064	1063	1066	1068	1068	1067	1066	1066	1067	1067	1064	1062	1062	1062	1061	1062	1057	1064
3	1056	1058	1059	1058	1056	1054	1055	1056	1056	1059	1061	1060	1060	1061	1059	1059	1057	1057	1059	1058	1058	1057	1057	1055	1054	1058
4	1053	1053	1049	1048	1049	1048	1048	1048	1049	1049	1052	1053	1054	1057	1062	1065	1070	1070	1073	1072	1063	1058	1057	1052	1050	1056
5	1049	1047	1047	1046	1044	1045	1045	1047	1047	1049	1051	1051	1051	1054	1065	1063	1059	1054	1056	1059	1055	1052	1051	1049	1049	1052
6	1049	1049	1048	1047	1047	1044	1044	1044	1044	1047	1049	1049	1049	1050	1052	1052	1051	1051	1051	1052	1052	1051	1052	1049	1048	1049
7	1047	1047	1047	1046	1046	1046	1046	1045	1046	1046	1048	1048	1048	1049	1050	1050	1049	1048	1048	1048	1050	1051	1049	1049	1049	1048
8	1048	1047	1046	1046	1047	1046	1046	1046	1047	1047	1050	1050	1050	1050	1050	1050	1050	1050	1049	1050	1048	1048	1047	1047	1048	1048
9	1047	1047	1046	1045	1044	1043	1043	1043	1041	1041	1044	1044	1044	1046	1050	1055	1059	1063	1063	1062	1059	1049	1047	1049	1048	1049
10	1047	1044	1040	1043	1044	1043	1042	1040	1040	1040	1044	1048	1047	1048	1052	1052	1052	1053	1057	*	—	—	—	*	1045	—
11	1044	1045	1046	1047	1047	1047	1047	1047	1047	1047	1048	1048	1047	1048	1048	1049	1050	1050	1050	1051	1051	1051	1055	1055	1052	1049
12	1051	1049	1050	1046	1046	1048	1047	1048	1048	1047	1050	1050	1054	1054	1056	1059	1059	1058	1058	1055	1057	1055	1053	1051	1050	1052
13	1049	1050	1049	1050	1050	1046	1045	1049	1050	1053	‡	—	—	—	—	—	—	—	—	—	—	—	—	—	‡	—
14	‡	—	—	—	—	—	—	—	—	‡	1056	1055	1053	1054	1057	1058	1058	1060	1061	1061	1061	1059	1058	1058	1059	—
15	1058	1059	1059	1059	1057	1057	1057	1057	1057	1057	1063	1063	1065	1064	1061	1060	1060	1060	1061	1061	1061	1066	1066	1066	1061	1061
16	1060	1060	1061	1060	1059	1059	1058	1058	1058	1059	1059	1058	1055	1056	1058	1059	1059	1060	1060	1059	1062	1068	1068	1073	1066	1060
17	1065	1063	1062	1062	1061	1058	1057	1058	1054	1057	1061	1057	1058	1058	1062	1063	†	†	†	1118	1095	1081	1077	1067	1054	—
18	†	—	—	—	—	—	—	—	—	—	†	1051	1052	1054	1057	1059	1060	1060	1062	1066	1070	1064	1058	1059	1061	—
19	1060	1059	1060	1060	1059	1057	1056	1056	1055	1055	1060	1060	1059	1057	1059	1057	1056	1056	1056	1059	1060	1059	1056	1056	1056	1058
20	1055	1054	1054	1054	1052	1052	1052	1052	1052	1051	1054	1055	1055	1055	1055	1056	1058	1061	1061	1067	1073	1076	1072	1062	1054	1058
21	1052	1053	1054	1054	1050	1045	1041	1041	1044	1048	1054	1055	1053	1053	1055	1057	1055	1055	1055	1055	1062	1062	1058	1057	1055	1053
22	1054	1052	1052	1052	1051	1048	1048	1048	1047	1047	1048	1048	1048	1049	1052	1052	1052	1052	1052	1053	1055	1053	1052	1052	1052	1051
23	1051	1050	1046	1043	1043	1041	1042	1043	1043	1044	1047	1048	1048	1047	1048	1050	1049	1049	1048	1049	1051	1050	1049	1050	1049	1047
24	1047	1047	1047	1042	1037	1033	1031	1032	1032	1035	1041	1041	1046	1050	1054	1058	1063	1064	1058	1055	1053	1053	1053	1051	1051	1047
25	1050	1048	1048	1048	1047	1045	1044	1043	1040	1039	1042	1045	1045	1045	1047	1048	1048	1048	1048	1052	1051	1052	1054	1055	1046	1047
26	1045	1038	1044	1046	1045	1043	1042	1042	1041	1038	1039	1043	1042	1043	1047	1051	1053	1053	1053	1051	1049	1047	1045	1042	1042	1045
27	1040	1040	1042	1042	1042	1042	1040	1040	1038	1039	1041	1042	1046	1050	1050	1050	1050	1050	1049	1048	1046	1048	1048	1048	1045	1045
28	1044	1044	1044	1044	1043	1040	1040	1038	1036	1036	1041	1042	1042	1043	1044	1048	1052	1052	1049	1049	1051	1048	1046	1044	1044	1044
29	1044	1044	1040	1035	1036	1037	1039	1038	1037	1035	1036	1038	1039	1040	1044	1045	1046	1047	1049	1051	1050	1049	1047	1044	1042	1042
30	1042	1041	1041	1040	1041	1042	1041	1041	1041	1041	1041	1039	1039	1040	1041	1044	1044	1043	1044	1046	1049	1049	1047	1041	1041	1042
31	1031	1036	1037	1038	1038	1037	1036	1036	1037	1036	1041	1040	1040	1040	1043	1045	1047	1051	1076	1065	1053	1048	1046	1044	1043	1044
Mean‖	1048	1048	1048	1047	1047	1046	1046	1046	1045	1046	1048	1049	1049	1051	1053	1055	1055	1055	1056	1056	1055	1054	1053	1052	1050	1050

‖ Mean of 23 days. 10th, 13th, 14th, 17th, 18th, 19th, 20th, and 21st omitted. * Drum slipping. ‡ Clock stopped. † Gas failed.

TABLE IV.—AUXILIARY OBSERVATIONS IN ABSOLUTE MEASURE; DAILY VALUES OF TEMPERATURE IN THE EAST ROOM OF MAGNET HOUSE; MAGNETIC NOTES FOR THE MONTH.

Eskdalemuir. **January, 1921.**

Date	Time G.M.T. From	Time G.M.T. To	Horizontal Force.	Declination.	Dip.	Temperature in Magnet House.	Magnetic Character of day (0–2).	Date.
Jan.	h. m.	h. m.	γ	° ′ ″	° ′	a		
						280+		
						4·1	ID	1
						4·0	0C	2
						4·0	0	3
						4·0	1	4
						3·9	0	5
						3·9	0	6
7	11 53	11 59	16694	16 45 20		3·8	0	7
						3·8	0C	8
						3·7	1	9
						3·8	2D	10
						3·8	0	11
						3·8	0	12
						3·8	0C	13
						3·7	0C	14
						3·7	1	15
						3·7	1	16
						3·7	ID	17
						3·4*	0	18
						3·7	0	19
						3·6	1	20
						3·6	0	21
						3·5	0C	22
						3·5	0	23
						3·5	ID	24
						3·5	0	25
26	11 52	11 58	16721	16 47 29		3·5	0	26
						3·5	0	27
28	14 46	15 11			69 40·6	3·5	0	28
						3·5	0	29
						3·5	0	30
						3·4	ID	31

* Gas out part of day.

MAGNETIC NOTES.

January, 1921.

This was a very quiet month, the character figure 0 being assigned to two-thirds of the days and the figure 2 to only one day. The days of greatest disturbance were 10th and 17th.

There is a similarity in the movements in W, and also in N, between 22h. and 23h. on 15th and 16th. In a fairly large bay-like movement between 22h. and 24h. on 20th W fell to a value about 103γ below the undisturbed value. Regular bays in the negative direction were centred at 1d. 7h. 30m. in N and at 5d. 18h. 40m. in W.

EXPLANATORY NOTE.

Extreme values of each component of magnetic force are given for each day in the *Geophysical Journal*.

The daily means given in Table I to III are computed as $\frac{1}{24}\left[\frac{1}{2}(0+24)+(1+\ldots+23)\right]$.

"Temperature in Magnet House" is the mean of the corrected readings, at 9h. 30m. G.M.T., of the thermometers in N., W., and V. magnetograph cases.

The times of absolute observations are those of the declination and dip observations only. The horizontal force values refer to the mean time of the declination observations, being derived by a combined use of the actual observations and curve measurements.

C in the "Magnetic Character of Day" column denotes an "International Quiet Day," while D denotes a disturbed day used for the computation of Tables LX*a*—LX*c*.

HOURLY VALUES FROM AUTOGRAPHIC RECORDS.

V.—TERRESTRIAL MAGNETIC FORCE: NORTH COMPONENT.

Eskdalemuir. (X.) *Mean Values for Periods of* 60 *Minutes centered at the Hours of Greenwich Mean Time.* **February, 1921.**

15,000 γ (·15 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	996	996	996	997	1000	1000	1000	1000	1000	994	991	990	988	986	985	980	971	974	970	1005	998	988	992	996	998	991
2	997	999	996	998	999	997	990	1009	998	974	984	980	976	980	970	960	964	974	989	996	987	995	994	991	989	987
3	989	994	994	993	995	999	990	995	995	989	984	984	985	991	994	994	993	993	995	995	996	996	994	997	995	993
4	995	995	995	997	999	999	1001	1002	1000	998	995	994	994	995	995	995	997	1004	1003	989	989	988	999	1001	998	997
5	998	993	993	995	998	1000	1002	1003	1004	1002	991	977	989	983	964	971	963	953	969	974	964	980	972	991	1019	985
6	1018	987	977	967	982	988	989	993	989	986	985	985	980	978	974	968	973	978	989	979	984	989	994	993	994	984
7	994	999	994	991	990	991	993	993	993	992	989	985	978	978	977	974	974	988	992	988	979	984	992	993	994	988
8	993	992	992	992	994	997	998	1002	1001	994	987	982	978	980	978	982	987	987	992	994	998	998	997	999	997	992
9	997	998	998	998	998	1000	999	1001	1002	1001	994	988	985	987	991	991	992	993	997	993	996	1001	1005	1003	1002	996
10	1002	1001	1001	1001	1002	1002	1002	1002	998	993	986	981	983	987	992	993	985	990	999	1002	1001	998	993	988	997	995
11	996	999	989	990	996	1001	999	992	995	995	990	983	981	981	987	991	991	990	993	996	995	995	998	1000	997	993
12	997	995	995	996	998	1000	1001	998	1000	997	990	983	981	982	987	994	996	997	999	1000	1001	1000	999	999	1000	995
13	1000	1001	1002	1002	1002	1010	1009	1001	1002	1002	997	994	993	992	996	995	974	987	982	996	996	1001	986	990	988	996
14	987	986	980	1010	990	996	986	990	988	987	982	978	978	984	986	989	991	992	987	985	978	983	978	984	996	987
15	996	978	985	985	986	990	991	989	985	980	976	976	977	979	986	988	992	990	991	993	995	991	993	992	993	987
16	993	992	991	994	994	995	995	995	993	991	988	980	980	985	987	993	995	995	996	997	1000	998	998	996	996	993
17	995	994	992	997	1015	1008	1003	997	989	995	995	984	980	981	984	989	990	998	997	995	995	995	995	997	994	994
18	994	994	993	994	996	996	998	999	1000	999	995	990	978	984	991	995	995	995	979	981	987	995	998	999	996	993
19	996	994	1006	994	995	998	1002	1001	1003	1000	984	982	980	969	965	983	987	994	992	999	1003	1002	1003	1001	1000	993
20	1000	999	998	1003	999	998	998	997	995	994	994	992	989	992	990	990	994	994	998	999	1000	999	999	998	1019	997
21	1019	1011	995	994	997	995	995	996	987	984	984	981	975	976	977	979	983	985	990	993	994	994	994	994	994	990
22	993	992	992	991	987	982	995	1001	992	992	984	976	980	982	984	982	983	984	989	993	993	996	1001	993	993	989
23	993	993	994	994	994	995	996	998	1002	998	988	978	977	979	985	988	989	993	998	993	998	998	999	1002	1002	993
24	1002	1000	1001	999	1001	1003	1005	1004	1002	992	980	973	974	983	989	994	994	995	999	1002	1003	1007	1000	995	1010	996
25	1010	997	998	998	1002	1004	1003	1003	1003	998	978	973	978	979	977	979	987	992	991	988	987	988	994	999	998	992
26	997	997	996	997	997	998	1001	1002	1002	997	988	977	968	978	986	992	993	997	996	978	986	993	997	998	997	992
27	997	997	997	997	997	997	1001	1002	1000	994	980	981	983	988	987	984	990	993	987	993	999	998	1005	1004	1002	994
28	1002	1001	997	1002	1002	1005	1011	1011	1007	998	987	979	967	977	986	990	992	992	985	992	997	999	1007	1004	997	995
Mean	998	996	994	995	997	998	998	999	997	993	987	982	981	983	984	986	986	989	991	992	993	995	996	996	998	992

VI.—TERRESTRIAL MAGNETIC FORCE: WEST COMPONENT.

Eskdalemuir. (—Y.) *Mean Values for Periods of* 60 *Minutes centered at the Hours of Greenwich Mean Time.* **February, 1921.**

4,000 γ (·04 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	795	798	798	799	802	801	797	797	798	803	803	806	810	806	811	812	806	797	794	760	765	786	792	793	795	797
2	794	795	796	802	790	791	800	806	801	799	806	810	806	821	818	806	814	802	780	777	796	799	795	791	789	800
3	789	790	801	790	781	781	785	790	795	791	791	799	802	806	805	800	800	800	799	797	796	795	791	787	793	794
4	793	795	795	795	796	796	796	796	795	794	800	804	806	807	807	805	804	806	807	806	791	802	795	791	790	799
5	790	785	785	791	793	792	791	791	795	798	797	805	832	827	827	828	822	812	807	796	784	769	760	788	770	798
6	770	752	775	810	802	791	791	791	791	790	790	794	797	801	805	802	806	790	784	792	789	785	785	786	793	791
7	793	795	791	791	792	791	791	791	790	787	786	798	801	805	812	805	803	788	792	785	779	785	791	792	795	793
8	795	796	796	796	798	795	795	795	796	795	796	803	817	818	813	806	802	797	797	794	795	791	790	791	794	799
9	794	796	796	795	795	795	793	792	793	790	791	792	797	802	806	805	804	802	800	795	790	797	796	797	799	797
10	799	798	798	797	797	797	797	796	795	795	791	795	805	812	817	817	807	802	804	802	799	796	789	777	800	799
11	799	776	772	789	790	792	794	795	794	790	790	792	799	805	809	806	802	799	799	798	795	794	790	790	791	794
12	791	795	795	795	795	796	795	795	794	792	794	801	805	805	804	801	799	800	799	799	798	796	795	795	795	797
13	795	796	796	796	799	801	792	795	795	794	791	795	807	815	817	818	816	812	802	804	799	789	762	768	774	798
14	774	768	779	779	753	771	783	789	795	794	791	797	804	812	812	805	801	801	792	795	796	784	778	781	767	789
15	767	762	776	779	782	780	788	790	794	796	800	806	808	810	815	809	804	805	805	801	794	795	795	791	791	794
16	791	789	794	795	787	789	789	789	790	794	798	802	806	813	813	805	800	800	799	798	798	795	794	796	794	797
17	794	789	784	776	766	750	767	778	791	799	798	795	799	813	813	809	805	804	802	800	800	794	794	794	791	792
18	791	791	794	794	794	794	794	794	794	792	795	805	806	812	811	809	805	803	788	793	797	796	799	798	795	798
19	795	794	784	774	783	790	795	799	798	800	795	800	818	824	824	816	803	811	803	800	800	799	796	796	795	800
20	796	790	792	790	788	791	791	791	790	791	792	797	801	811	812	812	806	802	800	800	797	793	791	791	778	796
21	778	763	763	785	791	798	812	812	798	800	790	801	811	820	818	812	805	796	795	792	791	791	791	793	792	796
22	792	792	795	791	791	794	791	790	791	791	789	793	802	806	813	807	796	796	796	795	792	785	776	790	790	794
23	790	791	791	793	792	793	795	794	790	785	785	790	801	809	807	805	801	797	795	796	796	794	794	795	795	795
24	795	795	795	795	795	796	795	793	785	778	778	786	801	806	805	802	800	800	800	800	797	797	795	780	775	794
25	775	784	791	800	796	795	794	791	787	783	781	789	811	825	823	815	803	796	796	793	781	770	788	796	796	795
26	796	795	795	796	796	796	796	793	790	786	790	797	804	811	812	806	801	796	795	775	776	797	796	795	792	795
27	792	793	794	796	796	796	796	795	790	782	780	790	802	818	820	811	805	801	791	795	798	795	785	785	791	796
28	791	795	790	812	795	791	791	791	790	794	793	802	819	823	816	813	806	801	801	803	798	793	778	786	789	799
Mean	790	788	790	793	791	791	793	794	793	792	792	798	806	812	813	809	805	801	797	794	792	792	789	790	790	796

VII.—TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.

Eskdalemuir. (Z.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **February, 1921.**

44,000 γ (·44 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1044	1040	1040	1039	1039	1039	1039	1039	1039	1039	1039	1040	1043	1043	1045	1047	1048	1052	1059	1059	1050	1046	1044	1043	1040	1044
2	1040	1039	1038	1035	1035	1036	1035	1030	1034	1038	1039	1040	1041	1040	1044	1056	1061	1060	1060	1056	1051	1046	1044	1044	1044	1044
3	1044	1039	1031	1026	1026	1027	1031	1033	1035	1037	1038	1038	1039	1040	1040	1042	1042	1042	1040	1040	1040	1040	1041	1042	1041	1037
4	1041	1040	1040	1039	1039	1038	1038	1038	1038	1038	1036	1038	1043	1040	1040	1040	1040	1039	1039	1043	1051	1048	1048	1047	1044	1041
5	1045	1046	1046	1044	1043	1040	1040	1038	1036	1035	1036	1038	1036	1041	1048	1055	1066	1078	1071	1069	1077	1074	1065	1052	1018	1050
6	1019	1013	1029	1031	1029	1037	1041	1041	1042	1045	1045	1042	1044	1045	1046	1052	1051	1054	1055	1053	1053	1053	1053	1050	1047	1043
7	1047	1044	1044	1045	1045	1045	1045	1044	1043	1041	1042	1045	1045	1045	1045	1049	1053	1054	1053	1053	1056	1053	1050	1049	1046	1047
8	1047	1047	1046	1046	1046	1046	1045	1043	1042	1042	1038	1035	1036	1039	1045	1048	1050	1051	1050	1048	1046	1046	1046	1046	1046	1045
9	1047	1046	1046	1045	1045	1044	1044	1043	1042	1043	1044	1045	1045	1044	1044	1044	1044	1045	1046	1047	1048	1047	1045	1044	1044	1045
10	1044	1043	1043	1043	1043	1043	1042	1042	1043	1043	1043	1042	1042	1050	1051	1054	1055	1056	1055	1052	1052	1052	1054	1059	1052	1048
11	1053	1047	1051	1051	1052	1051	1051	1051	1050	1052	1052	1052	1051	1047	1049	1055	1058	1058	1056	1054	1053	1053	1051	1050	1050	1052
12	1050	1051	1051	1052	1051	1051	1051	1050	1051	1047	1045	1045	1045	1047	1050	1052	1051	1051	1050	1050	1049	1048	1048	1048	1048	1049
13	1048	1048	1047	1047	1047	1045	1044	1044	1044	1044	1047	1043	1042	1043	1044	1048	1057	1057	1061	1057	1056	1061	1055	1056	1056	1050
14	1057	1057	1062	1040	1041	1044	1045	1046	1048	1049	1049	1049	1049	1049	1048	1053	1055	1055	1057	1058	1061	1064	1066	1061	1056	1053
15	1057	1055	1053	1053	1054	1054	1054	1054	1051	1050	1050	1050	1052	1054	1054	1057	1056	1054	1054	1054	1056	1056	1056	1054	1053	1054
16	1054	1053	1050	1048	1050	1050	1050	1050	1050	1050	1049	1047	1046	1045	1045	1046	1049	1050	1050	1050	1050	1051	1051	1050	1050	1049
17	1050	1050	1050	1047	1039	1035	1037	1038	1038	1039	1042	1045	1042	1041	1039	1045	1048	1047	1047	1050	1050	1050	1050	1047	1048	1044
18	1049	1047	1047	1047	1047	1046	1046	1044	1043	1044	1046	1043	1043	1043	1043	1045	1048	1047	1055	1059	1057	1055	1051	1050	1049	1048
19	1049	1047	1035	1037	1040	1042	1042	1042	1040	1038	1040	1039	1036	1043	1047	1052	1057	1054	1051	1049	1047	1048	1048	1048	1048	1045
20	1049	1049	1048	1044	1044	1044	1044	1044	1044	1044	1044	1042	1040	1040	1042	1042	1044	1046	1045	1045	1046	1048	1048	1048	1041	1045
21	1042	1030	1032	1034	1037	1036	1030	1025	1032	1035	1040	1040	1042	1046	1051	1054	1056	1054	1053	1050	1050	1050	1050	1049	1049	1043
22	1049	1049	1048	1049	1049	1045	1041	1039	1040	1041	1045	1044	1042	1045	1047	1051	1053	1052	1050	1049	1049	1049	1048	1046	1047	1047
23	1048	1049	1049	1049	1049	1048	1046	1046	1046	1046	1046	1043	1042	1046	1046	1049	1051	1051	1050	1050	1048	1048	1048	1047	1046	1048
24	1047	1047	1047	1047	1047	1047	1046	1047	1047	1047	1047	1045	1043	1044	1046	1047	1047	1047	1047	1047	1047	1046	1051	1047	1047	1047
25	1047	1045	1044	1044	1043	1044	1044	1044	1047	1047	1047	1044	1042	1042	1047	1051	1053	1055	1055	1055	1058	1059	1055	1051	1050	1049
26	1050	1050	1050	1050	1050	1050	1049	1047	1048	1047	1047	1045	1045	1047	1049	1048	1051	1051	1054	1063	1062	1055	1051	1051	1050	1050
27	1050	1049	1049	1049	1048	1047	1047	1047	1048	1047	1044	1041	1034	1036	1043	1047	1048	1051	1055	1055	1051	1051	1051	1049	1047	1047
28	1047	1047	1047	1040	1036	1040	1042	1043	1044	1043	1043	1039	1036	1039	1040	1045	1049	1053	1058	1058	1056	1055	1052	1049	1046	1046
Mean	1047	1045	1045	1044	1043	1043	1043	1043	1043	1043	1044	1043	1042	1044	1046	1049	1051	1052	1053	1053	1053	1052	1051	1049	1047	1047

VIII.—AUXILIARY OBSERVATIONS IN ABSOLUTE MEASURE; DAILY VALUES OF TEMPERATURE IN THE EAST ROOM OF MAGNET HOUSE; MAGNETIC NOTES FOR THE MONTH.

Eskdalemuir. **February, 1921.**

Date	Time G.M.T. From	Time G.M.T. To	Horizontal Force.	Declination.	Dip.	Temperature in Magnet House.	Magnetic Character of day (0–2).	Date.
Feb.	h. m.	h. m.	γ	° ′ ″	° ′	a 280+		
						3·5	I	1
2	11 30	12 5			60 40·7			
	14 37	14 49	16671	16 45 41		3·5	ID	2
						3·5	0	3
						3·5	0	4
						3·6	ID	5
						3·6	I	6
						3·5	0	7
8	11 2	12 0	16680	16 47 9	69 40·0	3·5	OC	8
						3·6	OC	9
10	11 11	11 26			69 41·1	3·6	I	10
11	11 12	11 38	16683	16 42 0	69 40·8	3·5	0	11
						3·5	OC	12
						3·5	ID	13
						3·4	I	14
						3·4	0	15
						3·4	OC	16
17	11 5	11 30	16688	16 42 22	69 40·7	3·4	I	17
						3·3	0	18
						3·3	ID	19
						3·4	0	20
						3·3	I	21
						3·3	0	22
23	10 54	11 20	16674	16 41 31	69 41·2	3·3	OC	23
						3·3	0	24
						3·3	0	25
						3·3	0	26
						3·3	0	27
						3·3	ID	28

MAGNETIC NOTES.

February, 1921.

In some respects the month was the quietest of the year. The mean character figure was 0·39 and to no day was the highest figure assigned. The periods of greatest disturbance were 5th and 6th, 13th and 14th, the latter thus following immediately the quietest day of the month, viz., 12th. Noticeable features of the disturbance of 13th—14th are tooth projections, positive, centred near 13d. 21h. 20m. on both N and W traces. What may be described as wave-like movements on which oscillations of short period were superposed occurred in N and W between 19h. and 22h. on 25th and between 18h. and 21h. on 26th.

See Explanatory Note, Table IV.

HOURLY VALUES FROM AUTOGRAPHIC RECORDS.

IX.—TERRESTRIAL MAGNETIC FORCE: NORTH COMPONENT.

Eskdalemuir. (X.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **March, 1921.**

15,000 γ (·15 C.G.S. unit) +

Hour G.M.T.	c	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	996	997	995	996	997	1003	1002	1005	1001	989	984	976	966	963	976	974	977	985	991	995	983	985	1006	1000	999	989
2	999	998	995	993	994	1003	1000	1001	999	981	967	964	975	976	961	966	985	990	994	995	995	995	993	998	1005	988
3	1005	1000	991	995	995	999	1001	999	992	988	982	980	981	985	990	985	987	991	988	986	993	995	998	1010	1001	992
4	1001	995	995	994	997	1000	1001	998	995	990	981	975	978	980	980	973	983	991	996	995	998	998	995	996	995	991
5	995	992	995	996	999	1000	1004	999	1000	995	985	978	976	980	989	995	991	990	995	999	1001	998	994	1001	996	994
6	996	995	995	995	999	1000	1003	1002	999	991	980	984	973	976	980	985	985	992	996	997	1000	1000	1000	1009	1000	993
7	1000	1000	1000	1000	1000	1001	1001	1004	1000	994	985	980	976	981	988	993	991	995	992	998	996	1010	1009	1005	1003	996
8	1003	1000	995	996	998	1001	1003	1005	1003	994	986	985	985	985	989	989	990	996	997	998	999	1000	1000	1001	1001	996
9	1001	1000	1000	1000	1001	1002	1005	1007	1007	1001	992	981	979	981	992	1000	1000	996	1010	1002	991	1001	1003	1014	995	998
10	994	989	979	1008	989	994	997	1004	994	983	973	971	970	973	976	982	983	982	984	984	988	995	994	994	995	987
11	995	990	990	992	994	997	999	1000	995	991	979	972	971	974	982	989	998	1000	1002	1000	1004	1006	1004	1005	1003	993
12	1003	994	999	994	998	1002	1004	1004	1000	992	972	965	968	976	992	987	992	996	983	999	1005	1008	1008	1008	1005	994
13	1005	1004	1005	1005	1004	1004	1008	1008	1005	998	985	975	969	970	979	989	994	1000	1002	1005	1005	1004	1006	1005	1004	997
14	1004	1002	1004	1001	1004	1004	*	—	—	*	980	969	967	980	990	994	990	984	977	990	998	989	992	989	1004	—
15	1004	1009	1004	1004	1006	1007	997	995	1004	963	931	941	954	954	966	967	973	975	984	971	978	983	984	990	986	981
16	986	980	987	975	1001	999	998	979	970	975	970	965	957	960	955	968	975	981	984	987	987	986	987	987	987	979
17	987	985	985	985	986	987	988	989	984	978	969	963	965	969	970	980	989	990	989	994	995	997	998	1004	999	985
18	999	999	993	992	990	994	998	989	993	989	979	973	974	970	982	985	993	997	992	996	995	993	994	997	995	990
19	995	990	981	988	994	999	997	994	988	983	975	971	973	974	978	982	989	993	994	997	998	997	995	995	995	988
20	995	994	995	995	997	999	1000	1004	1003	995	983	975	975	979	985	990	995	996	1000	1004	1004	998	998	999	999	994
21	999	999	999	999	1004	1005	1009	1008	1008	1000	987	979	975	976	979	977	1026	984	960	970	984	998	999	990	999	992
22	999	1007	995	992	987	1008	1004	959	935	951	940	932	922	930	950	979	974	978	980	979	976	987	984	993	993	972
23	993	985	983	983	984	992	996	999	995	983	973	964	960	960	969	977	980	984	989	990	994	996	998	995	995	984
24	995	995	997	995	997	998	999	998	990	980	972	965	955	964	973	976	984	990	996	997	993	984	985	994	996	986
25	996	997	999	992	1006	1006	990	998	1001	987	975	967	939	945	970	987	993	988	990	994	1003	1009	1012	1015	989	990
26	989	985	987	982	993	1000	990	993	985	965	971	962	947	971	949	954	979	974	986	994	997	997	1008	1022	1024	983
27	1024	985	990	985	993	992	1002	995	985	983	965	947	955	944	954	972	982	981	994	984	1013	1014	984	989	992	983
28	992	997	991	989	990	993	998	1002	989	982	970	966	960	960	970	969	968	977	988	999	999	1000	999	1000	1008	986
29	1008	1007	993	1003	989	1005	994	994	989	975	938	934	945	951	971	967	988	1029	993	990	989	1033	990	998	995	986
30	996	990	985	990	991	994	996	995	989	971	971	964	956	960	972	976	976	993	996	999	1001	999	1000	1005	1011	986
31	1011	999	998	996	996	991	992	1002	999	988	976	969	962	970	980	989	993	995	998	1001	1002	1000	1002	1001	1000	992
Mean†	999	995	993	994	996	999	999	998	993	985	973	967	965	968	975	980	987	990	991	993	996	999	998	1001	999	989

† Mean of 30 days, 14th omitted. * Clock stopped.

X.—TERRESTRIAL MAGNETIC FORCE: WEST COMPONENT.

Eskdalemuir. (—Y.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **March, 1921.**

4,000 γ (·04 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	789	790	790	795	795	794	793	795	792	789	791	805	816	824	819	814	807	802	796	797	778	758	785	791	794	796
2	794	795	790	796	813	787	784	785	784	784	792	802	804	817	812	805	802	800	800	798	796	795	788	779	796	796
3	796	785	794	790	789	790	792	791	790	785	782	789	800	811	811	808	803	797	790	785	790	790	786	784	781	793
4	781	789	791	795	796	790	790	789	782	778	788	794	807	817	817	807	803	800	800	796	787	793	785	786	786	794
5	786	790	792	790	790	791	790	790	786	781	784	795	806	814	812	807	800	796	796	795	790	790	787	775	789	793
6	789	794	792	792	795	793	790	790	785	782	784	796	807	814	816	808	802	795	796	791	795	795	793	788	790	795
7	790	792	793	793	793	794	794	792	785	779	781	790	805	815	815	810	801	797	790	799	797	780	774	779	785	793
8	785	784	791	790	790	790	789	787	780	775	780	790	807	817	816	808	800	795	795	795	794	795	795	795	795	794
9	795	795	795	795	795	793	791	791	787	780	781	790	805	820	827	828	822	817	817	811	811	799	792	741	731	798
10	731	763	799	789	776	784	784	783	780	778	776	785	800	811	810	827	800	795	797	799	795	796	790	785	797	789
11	797	786	789	790	790	790	790	787	780	774	776	785	802	812	818	801	816	810	806	803	800	800	795	795	782	796
12	783	787	790	788	791	791	791	787	781	775	771	783	803	818	829	818	812	806	797	799	801	799	799	797	795	796
13	795	795	797	796	795	796	796	793	785	778	775	787	805	817	822	818	808	803	801	802	801	797	795	792	791	798
14	791	785	791	791	795	796	*	—	—	*	786	797	808	820	827	822	813	808	809	806	799	786	757	746	774	—
15	774	774	772	772	772	775	781	797	781	769	784	814	829	839	843	844	842	822	830	827	785	770	785	791	791	799
16	791	786	780	767	796	769	799	803	786	772	780	790	796	807	804	806	805	796	790	791	790	790	790	790	788	791
17	788	787	786	786	786	786	788	785	779	775	774	784	798	807	806	802	800	795	797	801	797	797	795	786	782	791
18	782	779	782	783	785	788	786	785	785	777	779	784	807	808	816	812	805	801	796	797	793	793	794	792	786	792
19	786	785	781	775	780	786	785	783	781	775	776	790	805	812	809	802	796	794	791	792	792	793	793	792	791	790
20	791	791	791	790	790	790	790	788	781	777	782	788	798	807	809	807	800	794	796	797	797	797	796	793	792	793
21	792	791	791	791	790	786	785	783	775	769	775	786	801	827	835	835	878	872	817	795	788	789	795	790	781	801
22	781	769	771	782	801	820	816	785	794	790	791	802	806	818	817	823	811	806	803	794	776	761	779	782	776	795
23	776	784	784	785	786	791	789	784	775	769	770	777	788	799	807	812	804	797	796	796	794	793	791	790	788	789
24	788	786	791	786	789	789	789	781	774	769	769	781	801	818	829	820	812	802	799	775	752	718	771	785	786	786
25	786	791	786	796	781	771	791	775	771	764	772	788	801	819	829	820	813	801	796	794	791	742	761	732	767	786
26	767	777	788	812	789	783	781	791	789	785	796	801	805	822	822	818	812	801	796	797	796	791	769	764	764	794
27	764	789	777	786	797	792	790	778	775	776	781	785	807	812	811	819	811	797	759	768	767	767	780	783	790	787
28	790	793	786	795	786	785	785	781	775	772	766	785	803	809	819	813	812	801	801	797	796	796	791	786	796	793
29	796	785	812	792	779	793	791	785	778	774	767	784	797	812	828	820	808	760	778	783	767	779	775	771	783	788
30	793	793	795	790	787	786	783	778	775	775	781	791	794	804	813	816	804	801	798	793	786	791	794	797	802	792
31	802	790	785	779	784	788	790	783	774	770	773	784	797	817	818	812	801	796	794	796	796	792	788	790	790	791
Mean†	785	787	789	789	790	789	790	787	782	777	779	790	803	815	818	815	810	802	797	795	790	785	787	783	786	793

† Mean of 30 days, 14th omitted. * Clock stopped.

XI.—TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.

Eskdalemuir. (Z.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **March, 1921.**

44,000 γ (·44 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1046	1044	1044	1045	1043	1041	1041	1041	1041	1041	1040	1034	1035	1037	1043	1047	1051	1050	1050	1049	1056	1064	1046	1045	1043	1045
2	1044	1042	1043	1044	1037	1037	1038	1039	1040	1040	1038	1035	1034	1038	1044	1051	1051	1051	1048	1046	1047	1048	1050	1050	1043	1043
3	1043	1041	1041	1040	1042	1042	1042	1042	1042	1043	1042	1038	1034	1035	1038	1042	1043	1048	1052	1053	1050	1050	1048	1042	1040	1043
4	1041	1041	1042	1042	1038	1038	1039	1041	1045	1044	1042	1038	1034	1033	1034	1041	1047	1047	1047	1047	1047	1047	1047	1047	1044	1042
5	1044	1044	1043	1043	1043	1042	1040	1042	1043	1043	1041	1038	1037	1038	1037	1039	1044	1047	1043	1044	1047	1046	1048	1047	1046	1043
6	1046	1043	1043	1043	1042	1042	1040	1040	1042	1042	1039	1034	1032	1031	1039	1043	1047	1048	1047	1047	1044	1044	1044	1043	1043	1042
7	1043	1043	1043	1042	1042	1042	1041	1041	1044	1047	1043	1038	1035	1035	1035	1039	1044	1047	1047	1045	1046	1047	1043	1040	1039	1042
8	1039	1039	1042	1042	1042	1041	1039	1039	1040	1039	1036	1031	1029	1029	1030	1034	1039	1041	1039	1039	1039	1039	1040	1040	1040	1038
9	1040	1040	1040	1039	1039	1039	1038	1037	1039	1039	1037	1031	1027	1026	1027	1031	1039	1038	1038	1044	1055	1056	1050	1049	1036	1039
10	1036	1022	1024	997	1022	1032	1035	1034	1034	1035	1037	1030	1027	1029	1034	998	1047	1051	1050	1049	1051	1047	1045	1044	1037	1034
11	1037	1039	1041	1042	1042	1040	1039	1041	1044	1043	1041	1034	1033	1034	1034	1037	1039	1039	1039	1039	1040	1039	1040	1041	1041	1039
12	1042	1043	1039	1040	1040	1040	1040	1040	1040	1039	1038	1035	1031	1028	1031	1038	1041	1045	1048	1047	1042	1040	1040	1039	1039	1039
13	1039	1040	1039	1038	1038	1038	1037	1036	1039	1036	1033	1027	1023	1026	1031	1036	1040	1040	1039	1038	1037	1037	1037	1037	1037	1036
14	1037	1039	1037	1038	1036	1036	*	—	—	*	1029	1028	1029	1029	1034	1040	1048	1052	1052	1049	1049	1053	1041	1032	1032	—
15	1032	1031	1031	1032	1033	1034	1032	1026	1022	1025	1028	1027	1031	1042	1054	1058	1065	1065	1072	1098	1106	1083	1075	1061	1053	1049
16	1053	1051	1047	1040	998	1010	1016	1020	1028	1035	1035	1036	1037	1038	1043	1044	1049	1050	1051	1048	1047	1045	1044	1044	1044	1038
17	1044	1044	1044	1044	1044	1044	1044	1045	1047	1045	1044	1041	1036	1035	1040	1042	1044	1045	1043	1042	1043	1042	1043	1040	1039	1043
18	1039	1038	1040	1040	1040	1039	1039	1040	1040	1041	1039	1034	1029	1028	1030	1034	1039	1041	1043	1042	1043	1044	1044	1040	1040	1039
19	1039	1037	1037	1035	1034	1030	1033	1034	1039	1039	1038	1034	1030	1032	1034	1039	1041	1039	1040	1040	1041	1040	1040	1039	1039	1037
20	1039	1039	1039	1038	1038	1037	1035	1035	1035	1032	1030	1027	1026	1026	1029	1034	1035	1037	1038	1038	1039	1039	1039	1039	1039	1035
21	1039	1039	1039	1038	1037	1035	1034	1036	1037	1034	1034	1027	1026	1027	1030	1035	1045	1072	1098	1084	1068	1055	1047	1047	1042	1044
22	1042	1030	1026	1030	1029	999	997	1009	1014	1014	1026	1032	1042	1047	1048	1049	1048	1047	1048	1050	1058	1057	1051	1046	1043	1035
23	1043	1042	1043	1042	1041	1039	1038	1039	1043	1046	1043	1041	1037	1034	1035	1039	1039	1039	1039	1039	1039	1039	1039	1039	1040	1040
24	1041	1041	1040	1040	1039	1038	1036	1040	1041	1040	1038	1032	1027	1027	1029	1032	1036	1041	1040	1045	1055	1056	1048	1043	1042	1039
25	1043	1041	1040	1028	1011	1011	1019	1028	1031	1034	1032	1028	1029	1029	1034	1041	1049	1048	1047	1045	1043	1048	1020	995	1011	1032
26	1011	1022	1031	1024	1026	1029	1031	1032	1032	1036	1034	1033	1034	1044	1053	1054	1060	1057	1053	1048	1045	1045	1044	1026	1008	1038
27	1008	1018	1028	1035	1032	1034	1035	1037	1038	1036	1030	1032	1029	1033	1044	1045	1049	1060	1076	1077	1057	1028	1040	1041	1040	1040
28	1040	1036	1036	1036	1039	1041	1041	1043	1045	1041	1038	1030	1024	1025	1033	1040	1048	1052	1049	1045	1043	1041	1041	1041	1031	1039
29	1032	1020	1012	1000	1019	1021	1021	1030	1032	1033	1034	1029	1025	1032	1035	1042	1050	1066	1067	1059	1054	1033	1026	1020	1017	1033
30	1018	1014	1026	1034	1038	1039	1042	1043	1042	1039	1038	1034	1032	1032	1034	1039	1046	1049	1047	1046	1045	1043	1042	1041	1030	1038
31	1030	1028	1031	1035	1037	1038	1039	1041	1041	1039	1035	1033	1030	1031	1035	1038	1041	1043	1044	1043	1042	1042	1042	1041	1040	1038
Mean†	1038	1036	1037	1036	1035	1034	1035	1036	1038	1038	1037	1033	1031	1033	1037	1039	1045	1048	1049	1049	1049	1046	1043	1040	1038	1039

† Mean of 30 days, 14th omitted. * Clock stopped.

XII.—AUXILIARY OBSERVATIONS IN ABSOLUTE MEASURE; DAILY VALUES OF TEMPERATURE IN THE EAST ROOM OF MAGNET HOUSE; MAGNETIC NOTES FOR THE MONTH.

Eskdalemuir. **March, 1921.**

Date	Time G.M.T. From	Time G.M.T. To	Horizontal Force.	Declination.	Dip.	Temperature in Magnet House.	Magnetic Character of day (0–2).	Date.
Mar.	h. m.	h. m.	γ	° ′ ″	° ′	a 2800+		
						3·2	I	1
2	11 21	11 35			69 41·4	3·2	I	2
3	9 52	9 58	16691	16 40 41		3·2	I	3
						3·2	0	4
						3·2	0C	5
						3·2	0	6
						3·2	0	7
						3·1	0C	8
						3·1	I	9
10	11 41	12 8	16677	16 44 19	69 40·8	3·1	2	10
						3·1	0	11
						3·1	I	12
						3·1	0	13
						3·0	I	14
						3·0	ID	15
						3·0	I	16
17	11 31	11 53	16672	16 44 18	69 41·4	3·0	0C	17
						3·0	0	18
						3·0	0C	19
						3·0	0C	20
						3·0	2D	21
						3·0	2D	22
						2·9	0	23
24	11 9	11 34	16669	16 44 13	69 41·4	2·9	I	24
						2·9	2D	25
						2·9	I	26
						2·9	2D	27
						2·9	I	28
						2·9	2	29
						2·9	I	30
						2·9	0	31

MAGNETIC NOTES.

March, 1921.

This was a month of increased activity. Disturbed conditions occurred chiefly in the second half of the month, but there were fairly large disturbances on 9th–10th and 14th–15th. Short period oscillations in N and W were in evidence between 12h. and 19h. on 6th and between 12h. and 16h. on 7th. In the four minutes commencing at 14h. 49m. on 12th, N and W each decreased by 35γ and during the ensuing three or four hours the value of each component was mainly below normal. A small movement resembling a poorly developed "sudden commencement" occurred at 15h. 12m. on 13th and was followed by very slight disturbance during several hours. The two quietest days of the month (19th, 20th) were followed by a disturbance, lasting for about 34 hours, which began at 21d. 15h. 36m. with a very well-developed "sudden commencement" in which the preliminary negative movement in N and in W is clearly shown. The magnitudes of the preliminary negative and of the immediately following positive change were:—N, -15γ, $+64\gamma$; W, -11γ, $+48\gamma$. N and W remained above the undisturbed value for between one and two hours and each of the three components attained its maximum within three hours of the commencement of the disturbance. On the same day (21st) at 13h. 1m., there was a movement resembling, but on a very much smaller scale, the "sudden commencement" at 15h. 36m. Quiet conditions prevailed during the greater part of the 23rd and the first part of 24th, but thereafter fairly disturbed conditions continued until the end of the month.

See Explanatory Note, Table IV.

XIII.—TERRESTRIAL MAGNETIC FORCE: NORTH COMPONENT.

Eskdalemuir. (X.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **April, 1921.**

15,000 γ (·15 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1000	1000	998	1000	999	998	1000	1000	999	990	978	970	970	971	975	985	991	996	999	1003	1002	1004	1002	1003	1005	993
2	1005	1009	997	997	1000	1001	1003	1000	993	982	964	958	961	970	976	986	994	999	1000	1002	1003	1005	1010	1010	1005	993
3	1005	1004	1005	1005	1005	1004	1005	1006	1001	994	986	979	974	981	983	971	970	997	1000	1004	1003	1004	1015	1005	1000	996
4	1000	1000	1000	1000	1000	1004	1008	1010	1005	996	983	975	966	966	972	982	990	994	995	1000	1004	1003	1000	1001	1001	994
5	1001	1001	1000	1000	1000	999	1004	1005	1000	991	981	975	973	978	985	990	995	1000	1005	1010	1010	1014	996	996	1012	996
6	1012	1003	1005	1006	1011	1010	1010	1007	996	989	980	971	961	965	975	985	995	991	1008	1004	1000	1004	1004	1004	1004	996
7	1005	1003	1004	1005	1007	1007	1011	1009	1004	994	985	977	972	977	977	986	995	1000	1004	1007	1011	1012	1012	1013	1011	999
8	1011	1010	1009	1013	1011	1016	1017	1016	1007	983	966	956	950	952	974	970	976	990	1006	1006	1002	1002	1006	1005	1002	994
9	1002	1001	1001	1004	1001	1005	1003	1005	1001	996	982	974	961	961	972	986	989	995	1002	1015	995	1002	1001	1002	1020	994
10	1020	1018	994	992	1000	996	992	988	977	966	966	957	964	968	969	978	987	1005	1000	1012	1002	995	996	996	997	989
11	997	996	1001	1018	1016	1005	1006	1001	991	981	966	962	961	964	974	987	997	999	1012	1010	1015	1011	1010	1011	1011	996
12	1011	1014	1025	1033	1020	1011	1018	1020	1011	997	976	983	980	996	981	1017	1011	1000	1006	1004	1016	1011	1010	1016	1020	1007
13	1020	1011	1016	1015	1011	979	991	1011	947	950	953	950	939	942	947	953	972	995	1001	1005	1021	1005	995	996	1006	984
14	1007	993	999	1002	983	990	993	983	975	967	958	950	949	950	956	974	972	1006	1033	1008	997	997	1001	997	995	985
15	995	991	998	987	992	995	997	993	988	979	972	963	953	958	975	977	977	998	999	1007	1001	992	990	996	996	986
16	996	997	997	997	1012	1025	996	987	983	975	968	962	960	953	953	963	987	999	996	992	1002	1003	992	987	992	987
17	992	999	1016	1012	1011	1011	1005	993	983	972	962	955	948	952	966	981	993	1000	1002	1011	1012	1001	997	998	997	991
18	997	995	994	997	997	997	997	996	992	984	973	972	963	969	986	1022	1022	1012	1014	1036	1021	1028	1032	1026	1026	1002
19	1027	1032	1019	1032	1022	1024	1018	1032	1037	1017	995	985	981	988	1002	1006	1012	1013	1013	1009	1006	1008	1003	1002	1002	1011
20	1002	1004	1002	1003	1008	1001	1013	1008	999	993	981	975	977	987	983	1004	1028	1012	998	1012	997	988	993	994	1003	998
21	1003	1016	1018	983	957	929	983	968	948	935	929	929	938	948	960	970	986	1003	1013	1023	993	996	999	1003	1002	976
22	1002	993	984	991	997	996	1003	990	982	969	945	944	949	954	972	983	993	1013	1008	1010	1016	1008	1032	997	982	988
23	983	990	1003	1008	1011	1009	1009	1005	997	981	960	952	946	944	959	990	992	1002	1009	1009	1009	1015	1017	1006	1003	992
24	1003	1005	999	985	994	1006	1004	997	999	989	970	960	957	955	967	974	994	1009	1010	1015	1011	1014	1009	1013	1007	993
25	1007	1004	991	1002	1009	1013	1014	1005	999	988	973	963	968	970	975	985	988	998	1017	1018	1014	1013	1012	1018	1023	998
26	1024	1010	1011	1000	1006	1010	1015	1015	1007	990	975	964	960	965	973	984	995	1005	1020	1021	1015	1009	1010	1010	1007	999
27	1007	1005	1001	1006	1010	1014	1011	1001	985	969	961	962	971	982	991	1001	1010	1016	1018	1019	1015	1015	1013	1007	1000	
28	1007	1010	1011	1013	1010	1010	1007	1009	1004	992	973	967	974	980	986	996	1002	1011	1015	1020	1029	1027	1016	1017	1021	1004
29	1022	1016	1030	1025	1007	1005	1013	1016	1008	971	924	922	936	951	976	1021	1031	1031	978	999	995	1004	1002	1009	1007	995
30	1007	997	1000	992	992	994	998	994	987	971	966	962	959	966	966	973	989	1006	1016	1005	1005	1002	1005	1002	1002	990
Mean*	1005	1004	1004	1004	1003	1003	1005	1002	996	983	969	963	961	966	974	987	995	1003	1007	1010	1007	1006	1006	1005	1006	995

* Mean of 29 days, 13th omitted.

XIV.—TERRESTRIAL MAGNETIC FORCE: WEST COMPONENT.

Eskdalemuir. (—Y.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **April, 1921.**

4,000 γ (·04 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	790	786	787	786	785	785	785	780	774	770	775	785	798	809	812	809	802	795	789	790	790	790	791	791	793	790
2	793	790	787	785	785	785	784	775	769	765	774	790	807	821	822	813	804	798	796	794	793	792	782	777	785	791
3	785	790	790	788	790	788	786	779	769	766	774	790	811	831	837	827	807	807	801	796	796	795	780	752	762	793
4	762	786	786	785	785	784	781	777	770	769	775	786	801	810	812	808	802	797	795	795	795	795	792	791	790	790
5	790	790	789	790	790	786	785	780	772	769	769	780	798	817	820	811	803	798	796	796	796	795	785	790	788	791
6	788	769	767	769	770	777	779	774	770	770	774	783	796	811	817	812	807	795	793	794	791	790	790	791	790	787
7	790	790	789	788	789	794	796	781	768	763	770	780	793	808	811	807	805	802	797	796	796	796	795	795	793	792
8	793	793	794	790	784	781	779	774	770	765	768	779	802	818	832	828	823	807	797	790	783	781	774	780	787	791
9	787	789	787	785	784	785	779	770	764	763	766	775	802	820	829	834	832	823	816	775	777	789	790	789	784	792
10	784	760	747	755	756	758	774	764	764	773	779	793	809	823	823	818	808	807	802	769	764	775	765	754	739	779
11	739	764	758	739	754	768	770	770	769	766	771	785	798	808	816	818	817	812	811	802	805	801	796	792	794	786
12	794	792	794	781	779	777	783	774	774	774	780	797	815	839	840	843	832	807	800	798	808	797	792	792	794	798
13	794	790	796	790	833	811	818	802	769	785	780	786	801	795	810	801	789	795	790	790	753	774	779	770	758	791
14	758	748	758	758	765	775	772	769	765	769	776	785	801	814	823	817	802	813	785	778	769	774	760	758	742	779
15	742	757	739	745	773	763	764	758	759	760	771	785	796	815	828	823	812	809	800	775	775	774	772	761	773	778
16	773	774	769	758	761	764	757	756	759	770	786	801	821	829	833	824	823	820	801	786	785	769	756	764	770	785
17	770	789	780	752	759	764	764	754	753	758	764	779	795	804	810	806	801	795	790	783	779	780	779	777	781	779
18	781	785	783	783	780	777	773	765	758	764	774	790	802	807	811	833	836	818	801	792	788	796	792	798	812	792
19	812	804	774	742	758	756	757	752	760	774	774	792	808	821	818	807	799	788	783	785	786	790	782	782	789	783
20	789	785	788	787	781	796	812	786	781	773	777	790	801	817	804	807	817	801	782	758	757	770	784	788	785	789
21	786	766	787	818	814	836	855	818	765	775	777	792	809	812	809	802	797	797	786	786	786	791	791	783	783	797
22	783	808	818	787	761	770	777	762	753	754	764	775	802	764	819	816	808	805	797	798	798	765	713	720	770	780
23	770	790	792	777	775	771	770	760	753	755	765	781	806	827	814	814	806	798	791	791	789	773	780	779	789	785
24	789	796	797	802	799	788	774	768	764	759	763	781	802	810	815	811	808	804	796	791	791	791	786	775	783	790
25	783	788	802	794	783	780	775	765	760	759	771	783	801	813	812	809	806	799	796	794	793	791	788	781	782	789
26	782	789	780	783	783	776	776	775	770	765	768	775	788	801	806	807	804	801	801	796	787	782	782	786	786	786
27	786	784	785	783	780	776	770	764	759	759	765	776	790	803	809	808	805	802	801	797	797	796	794	790	786	787
28	786	788	787	785	779	775	775	771	770	770	771	781	797	808	803	803	805	804	803	807	807	806	796	791	793	790
29	793	786	788	775	770	764	753	759	761	786	786	797	811	819	840	842	860	778	798	802	796	802	791	790	781	793
30	781	776	775	770	774	769	764	759	766	770	781	787	795	805	802	802	797	796	796	791	791	789	791	787	785	784
Mean*	781	783	782	777	777	778	778	770	765	767	773	785	802	813	818	816	811	803	797	790	789	787	782	779	782	788

* Mean of 29 days, 13th omitted.

XV.—TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.

Eskdalemuir. (Z.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **April, 1921.**

44,000 γ (·44 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1041	1040	1040	1039	1039	1038	1038	1041	1041	1040	1037	1033	1030	1029	1033	1036	1040	1042	1042	1041	1041	1040	1040	1039	1037	1038
2	1038	1031	1031	1035	1037	1038	1040	1043	1043	1039	1034	1030	1025	1025	1029	1034	1039	1039	1039	1039	1039	1039	1039	1038	1037	1036
3	1037	1037	1037	1037	1037	1037	1038	1039	1039	1038	1030	1022	1013	1010	1018	1031	1037	1041	1043	1043	1043	1043	1041	1039	1036	1035
4	1037	1039	1040	1040	1040	1039	1039	1040	1040	1040	1035	1032	1028	1024	1030	1035	1036	1040	1040	1040	1040	1040	1040	1040	1040	1037
5	1041	1041	1041	1041	1039	1037	1037	1042	1045	1044	1042	1036	1029	1027	1031	1036	1038	1040	1040	1039	1040	1040	1043	1044	1037	1039
6	1038	1037	1038	1038	1037	1036	1034	1037	1037	1037	1037	1033	1030	1028	1030	1037	1041	1044	1047	1048	1046	1045	1044	1042	1042	1038
7	1043	1043	1043	1043	1042	1041	1038	1040	1044	1043	1038	1033	1030	1029	1034	1037	1039	1039	1039	1039	1040	1041	1042	1042	1042	1039
8	1042	1041	1041	1039	1039	1038	1038	1038	1040	1042	1037	1031	1026	1029	1038	1046	1053	1055	1056	1055	1055	1051	1047	1043	1042	1043
9	1043	1044	1045	1045	1045	1044	1044	1044	1036	1040	1044	1046	1028	1028	1034	1040	1048	1054	1064	1077	1065	1056	1050	1048	1034	1046
10	1035	1016	1010	1024	1024	1028	1035	1038	1038	1035	1032	1030	1028	1027	1035	1040	1043	1045	1057	1065	1064	1057	1050	1045	1041	1038
11	1042	1038	1029	1025	1025	1032	1035	1037	1038	1037	1034	1030	1029	1029	1034	1038	1041	1045	1046	1049	1046	1046	1046	1046	1044	1037
12	1045	1037	1034	1027	1031	1038	1038	1038	1035	1032	1035	1030	1028	1030	1037	1035	1042	1050	1052	1050	1047	1047	1046	1043	1038	1039
13	1039	*	—	—	—	—	—	—	—	*	1031	1040	1051	1060	1064	1069	1071	1066	1060	1060	1062	1055	1052	1052	1044	—
14	1045	1045	1045	1045	1046	1044	1048	1049	1047	1041	1037	1037	1036	1040	1050	1057	1058	1061	1074	1075	1077	1072	1056	1040	1034	1051
15	1035	1024	1017	1021	1017	1033	1041	1046	1045	1040	1038	1035	1035	1038	1046	1059	1057	1061	1066	1073	1070	1062	1060	1054	1049	1045
16	1050	1047	1046	1045	1036	1022	1025	1034	1037	1039	1042	1040	1038	1044	1056	1063	1071	1080	1088	1090	1083	1074	1063	1051	1046	1053
17	1047	1033	1014	1018	1028	1035	1040	1047	1048	1047	1043	1037	1035	1036	1044	1052	1053	1056	1056	1057	1059	1058	1058	1056	1052	1044
18	1053	1053	1053	1053	1053	1053	1054	1055	1053	1052	1048	1044	1041	1041	1044	1041	1041	1048	1052	1057	1059	1056	1052	1051	1046	1050
19	1047	1045	1035	1042	1048	1047	1049	1049	1045	1043	1042	1045	1050	1052	1058	1062	1066	1072	1073	1071	1070	1067	1070	1068	1066	1055
20	1067	1066	1064	1063	1062	1060	1047	1049	1054	1055	1058	1058	1059	1063	1071	1069	1079	1092	1100	1100	1092	1083	1074	1071	1063	1069
21	1064	1042	1027	1011	1002	1001	1000	1016	1035	1047	1051	1055	1060	1080	1100	1093	1085	1088	1097	1089	1083	1077	1074	1069	1068	1056
22	1069	1064	1028	1018	1036	1056	1065	1071	1073	1070	1069	1067	1062	1064	1066	1070	1073	1076	1077	1073	1074	1080	1073	1042	1036	1063
23	1036	1025	1036	1056	1062	1065	1069	1070	1069	1066	1063	1060	1056	1060	1073	1074	1077	1077	1076	1074	1073	1073	1069	1064	1064	1064
24	1065	1063	1058	1057	1056	1060	1066	1073	1074	1070	1063	1056	1055	1061	1066	1070	1072	1077	1079	1077	1074	1074	1074	1071	1070	1067
25	1071	1071	1068	1064	1068	1071	1071	1075	1075	1071	1066	1062	1060	1065	1070	1072	1075	1078	1077	1075	1072	1071	1071	1069	1062	1070
26	1062	1055	1053	1060	1064	1067	1068	1071	1070	1069	1067	1065	1063	1062	1064	1066	1066	1068	1071	1075	1076	1076	1075	1071	1071	1067
27	1071	1071	1071	1071	1068	1070	1071	1068	1065	1062	1059	1056	1053	1050	1050	1058	1061	1064	1066	1070	1071	1071	1070	1069	1069	1065
28	1070	1069	1068	1068	1070	1072	1072	1072	1071	1069	1065	1060	1054	1055	1060	1064	1067	1068	1071	1072	1070	1069	1071	1070	1068	1067
29	1069	1070	1068	1069	1070	1069	1065	1064	1061	1056	1058	1066	1078	1097	1135	1204	1242	1155	1229	1132	1117	1102	1095	1088	1082	1103
30	1082	1084	1082	1082	1080	1080	1078	1077	1073	1073	1067	1062	1062	1068	1077	1078	1078	1080	1082	1085	1085	1082	1080	1078	1077	1077
Mean†	1051	1047	1044	1044	1045	1047	1048	1050	1051	1050	1047	1045	1042	1045	1052	1059	1063	1066	1066	1067	1065	1062	1059	1055	1051	1053

† Mean of 29 days, 13th omitted. * Burner choked.

XVI.—AUXILIARY OBSERVATIONS IN ABSOLUTE MEASURE; DAILY VALUES OF TEMPERATURE IN THE EAST ROOM OF MAGNET HOUSE; MAGNETIC NOTES FOR THE MONTH.

Eskdalemuir. **April, 1921.**

Date	Time G.M.T. From	Time G.M.T. To	Horizontal Force.	Declination.	Dip.	Temperature in Magnet House.	Magnetic Character of day (0–2).	Date.
April	h. m.	h. m.	γ	° ′ ″	° ′	a 280+		
1	10 58	11 25	16672	16 41 13	69 41·0	2·9	0	1
						2·9	0	2
						2·9	1	3
						2·9	0C	4
						2·9	0C	5
						2·9	0	6
7	10 22	10 46	16597	16 38 3	69 40·9	3·0	0C	7
						3·0	0	8
						3·0	1	9
						3·0	1	10
						3·0	0	11
						2·9	1D	12
						3·0	2D	13
14	11 13	11 40	16649	16 44 33	69 42·9	3·0	1	14
						3·0	1	15
						3·0	1	16
						3·0	1	17
						3·0	2D	18
						3·0	2D	19
						3·0	1	20
						3·1	1	21
22	11 24	11 49	16661	16 44 0	69 43·5	3·0	2	22
						3·0	1	23
						3·1	1	24
						3·0	0	25
						3·0	0C	26
						3·0	0C	27
						3·0	2	28
29	11 37	12 1		16 47 28	69 44·7	3·0	2D	29
						3·0	0	30

MAGNETIC NOTES.

April, 1921.

Conditions were relatively quiet during the first seven days, but the remainder of the month was characterised by increased general activity. A prominent bay-shaped movement, negative, in W was centred at 3d. 22h. 46m. and was preceded by a small sharp increase in W at 21h. 52m. The quick run records obtained on parts of the 7th, 8th, 9th, in connection with the solar eclipse on 8th, show a number of groups of small pulsations varying in period from 20 to 40 seconds.* A large "sudden commencement" occurred at 18d. 14h. 35m. The sharp rise in N shows signs of oscillatory movement. The magnitudes of the sudden change were N, + 85γ; W, + 53γ; V, − 7γ. The subsequent disturbance persisted for only about twenty hours. There were no changes of very considerable magnitude but the latter part of the storm was marked by agitation of relatively short period. On 21st at 18h. 35m. N attained a maximum (about 100γ above normal) in a sharp tooth-like movement. The disturbance, which was initiated by a "sudden commencement" at 28d. 19h. 29m., reached its maximum development between 14h. and 18h. on 29th, and had practically subsided by midnight. In V maxima occurred near 16h. and 17h. on 29th and thereafter the decrease to the normal value was gradual.

* For details see "*Professional Notes*," Vol. 3, No. 35. Meteorological Office.

See Explanatory Note, Table IV.

HOURLY VALUES FROM AUTOGRAPHIC RECORDS.

XVII.—TERRESTRIAL MAGNETIC FORCE: NORTH COMPONENT.

Eskdalemuir. (X.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time* **May, 1921.**

15,000 γ (·15 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean.
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1002	999	996	998	998	1000	1003	1005	1001	990	976	971	979	974	967	990	1000	1011	1011	1013	1010	1005	1004	1004	1004	996
2	1005	1002	1000	1001	1002	1003	1006	1005	997	987	979	977	972	982	992	1000	1002	1011	1017	1016	1015	1011	1010	1013	1012	1000
3	1012	1016	1012	1012	1016	1017	1016	1006	997	993	986	986	986	982	982	993	1008	1030	1027	1025	1019	1017	998	993	971	1005
4	971	992	996	996	1011	1003	1021	991	978	953	955	961	960	963	982	987	995	1005	1008	1007	1007	1002	1007	1016	1006	991
5	1006	1005	1003	1002	1006	1006	1001	992	985	976	971	973	977	987	996	1003	1008	1010	1007	1010	1012	1011	1010	1011	1011	999
6	1012	1009	1010	1010	1008	1007	1005	998	988	978	973	978	988	998	1002	1014	1012	1021	1003	1018	1019	1019	1017	1007	1002	1004
7	1002	1003	1007	1008	1012	1012	1006	1002	992	986	980	978	980	981	988	1001	1012	1015	1016	1018	1022	1022	1021	1025	1029	1004
8	1029	1028	1026	1026	1024	1019	1012	988	982	978	963	972	970	963	972	975	1002	1007	1021	1024	1026	1022	1017	1014	1027	1002
9	1028	1027	1023	1018	1018	1020	1013	1005	992	979	979	973	964	979	982	1008	1029	1032	1043	1028	1028	1014	1008	1010	1005	1008
10	1005	1004	1009	1008	1009	1018	1014	1002	989	973	958	945	949	977	993	989	1003	1004	1006	1019	1028	1021	1015	1017	1014	998
11	1014	1014	1014	1015	1014	1014	1007	1003	999	994	982	974	966	970	980	995	1012	1028	1033	1033	1027	1033	1028	1022	1021	1007
12	1021	1020	1023	1025	1028	1032	1030	1038	1009	934	940	933	939	968	966	971	974	975	1006	1018	1013	1008	1001	1001	1000	994
13	1001	1004	1003	975	985	1000	1002	990	970	975	965	970	970	1004	1013	1053	1044	1044	1039	1117	1127	1036	886	916	768	999
14	768	896	955	934	881	896	876	926	940	955	962	959	948	977	977	969	1029	1132	1088	1098	1014	972	945	1132	857	970
15	858	504	504	504	504	504	504	504	828	818	902	892	931	931	954	968	976	1005	1014	1013	1005	986	981	956	976	817
16	976	961	986	863	808	767	764	*	—	*	708	828	882	902	941	946	946	975	1002	992	993	977	976	978	949	—
17	949	883	965	961	875	903	937	949	944	956	946	931	931	941	951	963	970	988	1008	992	984	982	997	992	991	955
18	991	963	964	969	971	976	976	973	968	951	943	931	937	951	976	978	981	996	1015	1026	1006	986	986	984	981	975
19	982	987	985	981	984	985	981	976	969	962	956	951	952	948	960	967	974	991	984	1002	1031	1051	974	992	913	979
20	913	967	977	878	952	985	962	941	952	955	942	952	967	968	975	1017	1025	1061	1063	1026	1023	986	986	1010	1031	981
21	1031	993	962	932	962	980	977	937	926	948	952	942	938	949	945	956	982*	1000	1046	1031	1002	1004	993	986	985	973
22	986	984	985	983	990	992	989	983	973	962	949	948	937	958	973	984	993	1013	1022	1008	1007	1019	1010	1005	992	986
23	992	1005	972	983	996	993	994	986	966	953	951	947	953	963	963	969	982	990	1001	1001	1002	1000	998	994	996	982
24	996	993	989	994	997	994	984	979	970	963	961	967	963	964	972	982	983	997	1012	1013	1015	1013	1013	1014	1005	989
25	1006	1006	998	1000	999	997	994	991	992	988	979	974	970	973	978	980	996	1003	1010	1010	1008	1004	1002	1000	999	994
26	999	998	999	999	1000	998	998	994	987	979	969	964	964	974	986	996	983	1001	1013	1011	1013	1013	1014	1011	1008	995
27	1008	1003	1000	1003	1001	1001	1003	999	995	995	984	971	962	975	983	991	1007	1009	1018	1027	1018	1021	1006	1009	1011	1000
28	1012	1011	1006	1007	1005	995	996	1002	997	986	979	975	974	971	973	982	991	996	1007	1018	1010	1019	1018	1010	1004	997
29	1004	1002	995	976	1000	1009	1004	994	988	986	974	965	971	974	1002	1006	1006	1015	1008	1016	1012	1009	1007	1006	1006	997
30	1007	1003	1003	1001	1001	1000	1001	1000	996	987	982	976	971	977	981	989	991	1000	1010	1019	1015	1010	1007	1005	1004	997
31	1004	1003	1003	1003	1004	1005	1001	988	981	981	972	967	975	971	972	979	992	998	1007	1014	1016	1013	1009	1006	1006	994
Mean†	992	994	996	990	991	995	993	988	980	973	966	962	963	971	979	989	1000	1013	1019	1023	1018	1011	1000	1007	988	992

† Mean of 29 days, 15th and 16th omitted.

* Trace too faint to read or off sheet during magnetic disturbance.

XVIII.—TERRESTRIAL MAGNETIC FORCE: WEST COMPONENT.

Eskdalemuir. (—Y.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **May, 1921.**

4,000 γ (·04 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	785	782	780	779	777	780	776	772	770	773	782	796	809	806	795	798	799	799	794	792	792	792	789	788	787	788
2	787	783	781	778	777	771	770	766	766	769	777	787	801	809	811	806	799	798	795	792	789	790	792	793	789	787
3	789	787	782	779	776	769	761	753	752	757	772	789	808	814	800	797	794	790	791	790	771	755	749	736	739	777
4	739	754	718	723	750	803	772	754	747	751	776	794	809	814	814	811	803	796	793	792	792	792	782	787	797	779
5	797	792	790	789	776	768	765	760	756	760	772	792	805	813	809	804	798	793	792	792	794	793	793	792	791	787
6	792	788	792	793	778	771	767	761	760	762	775	793	814	821	814	805	796	799	793	799	798	799	794	788	781	789
7	781	783	783	782	779	773	770	763	762	766	773	792	808	810	805	803	799	798	795	795	794	795	794	794	794	788
8	794	789	788	784	778	773	771	766	766	762	785	791	799	810	819	815	816	808	798	798	799	794	789	787	799	791
9	799	783	777	790	784	778	766	756	755	762	777	794	820	842	836	831	835	830	827	808	787	789	778	777	776	795
10	776	780	786	790	793	788	783	764	760	761	766	779	800	794	834	808	810	811	804	800	805	795	789	788	787	790
11	787	780	780	777	777	774	773	772	766	761	765	777	792	801	806	810	814	815	812	805	789	792	795	793	793	788
12	793	789	792	777	764	773	758	750	727	692	767	788	802	810	815	815	816	808	814	811	801	789	782	783	776	784
13	776	777	777	782	768	764	760	763	761	767	783	797	809	830	851	874	866	864	841	862	875	767	609	729	713	793
14	713	740	766	761	703	728	756	767	761	744	772	777	788	773	788	801	810	810	839	807	804	767	783	751	703	771
15	703	322	322	322	322	322	322	322	601	692	720	713	788	788	812	803	796	791	795	798	799	784	772	767	803	634
16	803	752	719	686	735	668	689	713	638	654	729	713	748	745	827	823	799	783	777	799	804	790	784	783	767	748
17	767	778	772	746	707	745	745	743	732	751	762	778	788	793	795	795	790	782	789	787	784	783	782	793	773	770
18	773	755	772	767	750	750	751	751	751	757	764	772	786	793	793	792	773	777	767	777	761	772	782	778	779	769
19	779	778	774	773	773	760	748	735	736	745	761	778	796	799	797	788	782	782	777	775	788	767	748	716	714	767
20	714	719	746	750	746	739	752	723	726	735	741	761	786	796	803	843	864	884	876	824	797	783	784	783	772	779
21	773	752	749	768	753	756	741	748	760	762	759	772	783	792	816	826	815	817	779	782	799	794	785	779	777	778
22	777	773	770	768	764	752	750	745	746	752	760	773	784	792	796	799	798	802	796	789	790	763	769	775	773	774
23	773	797	762	746	750	741	747	743	743	741	753	767	779	788	790	789	787	784	784	783	783	781	775	776	778	769
24	778	769	768	768	763	763	761	763	758	757	763	779	794	799	795	800	797	797	800	800	796	792	786	767	773	780
25	773	777	775	779	774	767	763	762	754	752	762	771	784	797	806	805	805	800	799	792	788	782	778	779	777	780
26	777	778	778	771	768	763	760	757	753	751	757	763	778	796	812	816	801	801	802	792	785	783	784	784	780	780
27	780	783	784	779	763	763	761	757	754	753	763	772	779	791	794	798	805	800	801	801	794	774	781	783	772	780
28	772	771	773	775	779	778	784	774	763	761	769	781	789	799	802	801	800	797	798	795	788	774	773	784	779	783
29	779	782	792	792	777	764	760	760	760	758	762	777	793	796	798	794	793	794	784	785	790	789	788	785	786	782
30	786	781	777	773	769	770	762	758	755	758	768	776	790	799	799	800	794	794	793	792	789	788	786	784	783	781
31	783	781	776	775	773	768	760	763	768	772	778	789	802	808	805	800	798	798	796	795	792	787	783	779	778	784
Mean*	776	775	774	773	765	765	762	757	754	755	768	781	796	803	807	808	805	804	801	797	794	783	776	777	773	781

* Mean of 29 days, 15th and 16th omitted.

XIX.—TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.

Eskdalemuir. (Z.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **May, 1921.**

44,000 γ (·44 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1077	1075	1075	1075	1074	1072	1070	1070	1068	1066	1062	1057	1054	1062	1074	1073	1071	1075	1075	1074	1074	1073	1071	1071	1071	1070
2	1072	1074	1075	1074	1073	1073	1072	1073	1072	1067	1066	1063	1063	1062	1062	1067	1071	1073	1076	1079	1080	1079	1076	1073	1072	1071
3	1073	1072	1072	1072	1072	1073	1072	1072	1068	1062	1053	1051	1048	1052	1060	1064	1068	1073	1081	1086	1089	1081	1068	1059	1051	1068
4	1051	1048	1045	1039	1032	1023	1028	1047	1052	1052	1055	1053	1052	1059	1067	1074	1081	1084	1083	1080	1077	1077	1076	1069	1065	1059
5	1066	1067	1069	1070	1073	1075	1076	1077	1073	1069	1062	1057	1055	1060	1065	1069	1073	1073	1073	1072	1072	1073	1073	1073	1073	1070
6	1074	1074	1074	1071	1073	1074	1074	1073	1072	1070	1066	1060	1054	1059	1066	1070	1073	1076	1078	1076	1074	1074	1074	1074	1070	1071
7	1070	1072	1074	1074	1074	1074	1074	1074	1073	1070	1068	1067	1062	1065	1068	1070	1071	1073	1074	1073	1072	1071	1071	1070	1070	1071
8	1070	1070	1071	1071	1072	1072	1070	1070	1066	1066	1062	1058	1058	1065	1069	1074	1078	1084	1089	1085	1082	1079	1079	1076	1064	1072
9	1064	1052	1061	1064	1063	1064	1066	1066	1065	1062	1059	1054	1051	1057	1064	1070	1079	1095	1105	1107	1102	1081	1066	1070	1070	1070
10	1070	1070	1070	1070	1068	1067	1069	1073	1074	1074	1071	1062	1054	1052	1061	1076	1085	1085	1082	1078	1076	1078	1078	1076	1075	1072
11	1076	1076	1076	1077	1078	1078	1077	1077	1076	1075	1069	1064	1063	1067	1069	1069	1070	1071	1075	1079	1082	1079	1075	1073	1073	1074
12	1073	1073	1069	1067	1061	1051	1050	1053	1056	1059	1050	1049	1054	1060	1075	1089	1111	1112	1099	1094	1099	1099	1090	1084	1083	1074
13	1083	1082	1082	1078	1054	1061	1068	1071	1074	1071	1067	1067	1067	1062	1055	1055	1072	1080	1107	1124	1152	1101	690	897	800	1049
14	800	875	986	1010	998	1003	972	1026	1064	1091	1097	1097	1107	1124	1149	1125	1124	1143	1144	1148	1117	1114	1042	909	687	1050
15	687	*	—	—	—	*	1205	1233	1153	1103	1142	1140	1130	1122	1120	1129	1132	1152	1150	1144	1136	1135	1108	1051	1045	—	
16	1046	1077	1072	1007	892	833	776	770	803	845	942	983	1093	1117	1129	1116	1115	1124	1126	1117	1117	1118	1112	1109	1074	1019
17	1074	1019	1065	1072	1056	1056	1076	1092	1100	1103	1102	1094	1092	1100	1105	1109	1112	1116	1116	1111	1110	1108	1104	1096	1092	1092
18	1092	1098	1097	1097	1088	1096	1096	1098	1100	1095	1093	1098	1110	1117	1117	1113	1114	1114	1120	1121	1124	1111	1104	1104	1103	1105
19	1103	1100	1100	1101	1101	1101	1102	1100	1100	1093	1087	1088	1088	1097	1101	1105	1106	1108	1108	1112	1112	1106	1046	940	939	1088
20	939	1007	1064	1019	985	1053	1053	1081	1096	1098	1096	1096	1097	1097	1103	1104	1108	1102	1109	1145	1154	1135	1117	1093	1048	1084
21	1048	1046	1064	1032	1040	1053	1072	1085	1087	1087	1085	1083	1085	1102	1108	1112	1120	1121	1132	1131	1117	1108	1106	1104	1104	1090
22	1104	1104	1104	1104	1103	1104	1101	1100	1095	1092	1088	1082	1081	1085	1089	1092	1093	1099	1109	1113	1108	1107	1100	1096	1099	1098
23	1099	1075	1048	1061	1078	1080	1080	1082	1086	1084	1080	1077	1076	1083	1091	1097	1100	1100	1100	1100	1100	1100	1100	1097	1089	1086
24	1089	1087	1089	1092	1095	1096	1096	1095	1093	1085	1080	1076	1077	1083	1088	1094	1097	1097	1097	1096	1093	1093	1093	1095	1094	1091
25	1094	1090	1092	1092	1095	1096	1093	1092	1088	1085	1084	1084	1084	1084	1085	1088	1093	1097	1097	1097	1097	1097	1096	1094	1093	1091
26	1093	1092	1092	1092	1095	1096	1096	1096	1091	1082	1076	1073	1074	1076	1077	1080	1089	1093	1093	1092	1092	1092	1092	1091	1091	1088
27	1091	1089	1089	1088	1093	1093	1094	1095	1096	1091	1090	1089	1087	1089	1089	1093	1093	1096	1098	1100	1101	1103	1098	1093	1091	1093
28	1091	1089	1089	1090	1090	1090	1080	1078	1080	1080	1085	1086	1084	1085	1087	1086	1091	1094	1096	1101	1104	1102	1093	1088	1089	1089
29	1089	1091	1086	1080	1078	1084	1089	1093	1093	1091	1085	1080	1080	1082	1086	1092	1093	1096	1101	1104	1100	1098	1096	1093	1089	1090
30	1089	1088	1091	1093	1095	1095	1095	1095	1093	1092	1085	1085	1087	1088	1094	1096	1100	1103	1103	1100	1098	1096	1093	1092	1092	1094
31	1091	1091	1091	1091	1092	1091	1089	1090	1087	1083	1078	1072	1067	1072	1079	1086	1092	1095	1093	1094	1094	1095	1093	1092	1091	1087
Mean†	1066	1067	1074	1073	1071	1074	1074	1079	1081	1079	1076	1073	1073	1077	1083	1086	1091	1094	1097	1099	1098	1093	1071	1067	1053	1080

† Mean of 29 days. 15th and 16th omitted.

* Trace too faint to read or off sheet during magnetic disturbance.

XX.—AUXILIARY OBSERVATIONS IN ABSOLUTE MEASURE; DAILY VALUES OF TEMPERATURE IN THE EAST ROOM OF MAGNET HOUSE; MAGNETIC NOTES FOR THE MONTH.

Eskdalemuir. **May, 1921.**

Date	Time G.M.T. From	Time G.M.T. To	Horizontal Force.	Declination.	Dip.	Temperature in Magnet House.	Magnetic Character of day (0–2).	Date.
May	h. m.	h. m.	γ	° ′ ″	° ′	a 280+		
						3·0	0	1
						3·0	0	2
						3·0	1	3
						3·0	1	4
5	11 25	11 49	16685	16 43 47	69 40·7	3·0	0C	5
						3·0	0C	6
						3·0	0C	7
						3·0	1	8
						3·0	1	9
						3·0	1	10
						3·0	0	11
12	11 12	11 40	16635	16 45 38	69 44·1	3·0	2	12
						3·1	2D	13
						3·1	2D	14
						3·1	2D	15
						3·2	2D	16
						3·2	2	17
						3·2	1	18
						3·3	2	19
20	10 59	11 24	16663	16 38 28	69 43·7	3·3	2D	20
						3·4	1	21
						3·4	1	22
						3·4	1	23
						3·4	0	24
						3·4	0C	25
						3·4	0	26
						3·5	0	27
						3·5	1	28
						3·5	1	29
						3·5	0C	30
31	10 57	11 23	16665	16 42 0	69 42·1	3·5	0	31

MAGNETIC NOTES.

May, 1921.

The largest disturbances of the year occurred during this month. The most disturbed days were 12th to 17th, 19th, 20th. Apart from moderate disturbance on 3rd, 4th, 8th and 9th, conditions were comparatively quiet until the 12th, when occurred a fairly large disturbance which is regarded by Father A. L. Cortie (Proc. Roy. Soc. A. Vol. 106) as the first of a long series of disturbances separated by intervals of approximately 27 days. The greatest storm of the year and in some respects one of the most remarkable ever recorded at the Observatory began with a "sudden commencement" at 13d. 13h. 12m. and continued until the forenoon of 17th. Descriptions of the records obtained at Eskdalemuir and elsewhere are to be found in "Nature," Vol. 107, May, 1921. A notable feature of the storm was the intense activity between 14d. 23h. and 15d. 8h. During this period there were very remarkable large and rapid repeated oscillations in V and on the records of all three components the limits of registration were exceeded several times. At 17d. 23h. 16m. there occurred a "sudden commencement" (N, + 44γ; W, + 37γ; V, − 6γ) which was followed by a disturbance of a very moderate character. Other "sudden commencements" occurred at 19d. 20h. 6m. and at 20d. 14h. 37m. On the former occasion the preliminary decrease in N and W is well shown, and the succeeding sudden rise in N (103γ) was more than four times as great as that in W. Between 22h. and 24h. on 20th there were large oscillations in N and W, the ranges being 500 and 350γ respectively. In this storm a large fall in V began within an hour of the "sudden commencement" and a minimum was reached shortly before midnight. This was followed by a partial recovery, but a sharp secondary minimum occurred near 3h. 30m. on 20th. The disturbance inaugurated by the "sudden commencement" on 20th persisted for about 32 hours and was characterised during the first five hours of its course by rapid small oscillations in N and W.

See Explanatory Note, Table IV.

HOURLY VALUES FROM AUTOGRAPHIC RECORDS.

XXI.—TERRESTRIAL MAGNETIC FORCE: NORTH COMPONENT.

Eskdalemuir. (X.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **June, 1921.**

15,000 γ (·15 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1007	1008	1011	1016	1014	1009	1004	1011	1012	1004	989	972	977	979	985	990	1002	1009	1020	1022	1021	1022	1026	1027	1027	1006
2	1027	1026	1025	1027	1031	1029	1028	1021	1012	1002	988	977	966	976	983	991	1000	1011	1021	1021	1017	1014	1011	1010	1008	1009
3	1008	1008	1007	1007	1007	1011	1011	1002	994	985	975	977	986	989	991	1002	1008	1013	1027	1035	1036	1037	1037	1056	1036	1009
4	1037	1037	1009	1007	1008	1008	1014	1008	984	977	964	968	977	983	978	970	*	—	—	—	—	—	—	—	*	—
5	*	—	—	—	—	—	—	—	—	*	973	973	982	989	995	1002	1007	1013	1018	1015	1012	1009	1006	1005	1009	—
6	1009	1003	1004	1004	1007	1006	1005	1002	989	982	987	997	1008	1013	995	986	1034	1003	1046	1067	1026	1009	1007	1003	1002	1008
7	1003	1007	998	1001	992	987	985	974	988	987	981	974	973	982	979	980	1008	1009	1022	1040	1019	1016	1010	1013	1006	997
8	1006	1004	997	1004	1005	1008	1007	1000	993	985	972	962	960	972	966	982	1013	1014	1023	1030	1064	1058	1031	983	1013	1002
9	1014	1007	1007	1012	1011	1011	1006	1000	994	992	986	979	978	980	974	988	1010	1052	1040	1034	1039	1023	1011	1013	1010	1007
10	1010	1011	995	1023	1018	995	986	990	991	979	964	966	969	985	985	990	1005	1009	1029	1024	1031	1020	1009	1010	1010	1000
11	1011	1011	1020	1011	1012	1012	1006	996	1000	991	986	976	977	988	998	1001	1024	1030	1028	1023	1019	1016	1015	1015	1015	1007
12	1015	1012	1011	1012	1015	1014	1016	1006	988	992	991	982	985	987	996	1016	1025	1016	1025	1025	1020	1015	1011	1011	1008	1008
13	1009	1008	1007	1008	1014	1018	1016	1009	1001	992	986	984	990	995	1004	1003	1012	1036	1031	1026	1031	1026	1025	1026	1024	1011
14	1024	1037	1028	1026	1031	1023	1015	1013	1011	997	989	997	996	1021	1004	1016	1008	1026	1031	1031	1027	1021	1013	1022	1022	1017
15	1022	1007	1001	1007	1001	1007	1007	1003	996	987	977	979	987	994	1003	1012	1016	1020	1019	1019	1018	1017	1017	1014	1013	1005
16	1014	1012	1007	1015	1022	1023	1017	1008	997	990	987	969	982	997	1006	1010	1008	1012	1023	1029	1028	1026	1024	1022	1022	1010
17	1022	1022	1021	1014	1010	1021	1025	1018	1007	990	986	988	993	995	988	998	999	1015	1019	1022	1022	1018	1013	1015	1019	1009
18	1020	1016	1015	1015	1016	1018	1016	1008	998	993	986	986	987	996	1001	1004	1010	1010	1014	1018	1020	1020	1021	1023	1020	1009
19	1020	1020	1019	1023	1023	1023	1020	1021	1018	1009	995	994	998	1003	1014	1018	1021	1023	1023	1029	1031	1033	1032	1032	1028	1019
20	1029	1034	1039	1029	1035	1030	1025	1019	1014	1000	995	995	996	1000	998	1023	1023	1014	1025	1032	1025	1024	1022	1022	1018	1018
21	1018	1015	1021	1016	1019	1021	1014	1006	1005	996	987	985	982	990	1001	1013	1019	1024	1030	1033	1032	1028	1038	1034	1029	1014
22	1029	1026	1029	1020	1005	1023	1015	1010	1001	991	975	971	968	982	996	1015	1024	1031	1027	1027	1024	1020	1019	1020	1021	1010
23	1021	1021	1019	1025	1025	1029	1029	1026	1020	1015	1007	988	988	1005	1006	1015	1020	1040	1044	1040	1039	1029	1029	1034	1030	1022
24	1031	1019	1020	1020	1011	1019	1022	1021	1016	1009	994	990	991	987	996	1005	1016	1022	1022	1026	1024	1021	1018	1016	1020	1013
25	1020	1018	1017	1019	1018	1017	1011	1011	1010	1002	991	986	990	989	1000	1006	1019	1024	1029	1032	1034	1030	1027	1029	1030	1014
26	1031	1032	1031	1031	1030	1028	1026	1023	1017	1000	983	978	986	988	987	1001	1010	1031	1052	1030	1022	1021	1016	1015	1014	1015
27	1014	1017	1017	1018	1023	1022	1019	1014	1002	992	997	993	983	994	997	1011	1011	1018	1036	1041	1032	1027	1024	1022	1022	1014
28	1023	1023	1023	1026	1035	1036	1023	1024	1013	1004	998	994	990	989	998	1013	1024	1033	1033	1031	1023	1030	1027	1024	1023	1018
29	1023	1024	1022	1027	1027	1027	1031	1027	1018	1004	998	998	999	1000	998	1002	1021	1028	1043	1042	1027	1037	1019	1016	1017	1019
30	1017	1017	1014	1018	1022	1019	1016	1004	1001	997	987	980	986	998	1016	1030	1035	1036	1031	1026	1026	1031	1023	1028	1020	1015
Mean†	1017	1016	1015	1016	1017	1017	1014	1009	1003	995	987	983	985	992	995	1004	1015	1021	1028	1031	1028	1025	1021	1020	1019	1011

† Mean of 27 days, 4th, 5th and 26th omitted. * Burner choked.

XXII.—TERRESTRIAL MAGNETIC FORCE: WEST COMPONENT.

Eskdalemuir. (—Y.) *Mean Values of Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **June, 1921.**

4,000 γ (·04 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	778	776	776	773	767	756	768	762	756	755	758	768	784	798	800	799	795	790	792	797	795	794	794	794	790	780
2	790	784	784	785	778	768	766	766	764	768	789	803	807	810	801	793	790	791	790	789	788	784	784	783	779	785
3	779	778	774	773	768	763	757	753	755	756	764	777	790	796	796	800	801	799	800	801	802	805	800	796	779	783
4	779	784	758	756	756	761	759	752	762	773	795	804	816	823	825	817	820	811	800	795	785	775	774	774	777	786
5	778	774	774	757	769	763	755	753	757	758	764	781	797	804	806	801	795	790	785	785	784	784	783	779	780	778
6	780	779	777	775	768	763	756	753	751	759	776	791	812	828	823	819	842	799	817	774	780	780	786	786	783	787
7	783	780	774	777	769	774	775	764	763	758	771	785	805	817	823	818	816	798	795	800	785	779	784	784	782	787
8	782	786	786	770	759	753	747	752	754	760	769	779	790	805	806	808	817	807	801	800	802	796	753	752	748	780
9	748	764	802	800	774	759	754	750	749	749	763	779	796	810	821	823	822	829	817	796	785	789	785	783	784	786
10	784	798	794	742	759	758	763	753	752	757	756	767	771	785	790	791	796	797	797	791	782	785	782	781	781	776
11	781	779	793	769	760	757	752	753	757	758	769	775	786	794	799	798	800	797	793	791	790	785	785	781	780	779
12	781	780	776	778	773	766	760	762	765	766	766	772	785	791	797	804	801	793	804	801	794	791	791	786	785	783
13	785	781	780	780	776	765	755	753	748	748	764	775	786	801	803	801	803	814	802	801	798	792	791	786	785	783
14	785	793	785	786	765	760	756	757	755	764	776	782	791	808	808	813	808	798	801	801	798	792	786	777	760	785
15	760	764	759	766	770	767	760	760	762	765	774	780	785	794	803	805	798	791	785	781	786	782	783	780	781	778
16	781	775	773	770	765	759	750	755	758	754	772	780	790	796	806	802	791	786	787	792	791	791	786	785	781	779
17	781	785	783	794	781	778	775	777	764	769	786	797	809	821	817	817	803	798	792	790	787	786	783	785	790	790
18	790	786	780	776	769	761	755	753	754	753	765	781	801	813	813	811	803	789	785	782	784	786	790	787	784	782
19	784	780	779	776	772	769	764	760	761	760	768	779	788	799	809	812	807	802	804	795	786	786	786	788	791	784
20	792	776	780	762	758	760	759	755	750	754	774	782	803	813	815	828	819	808	808	797	795	792	786	776	772	785
21	772	772	765	765	773	769	769	766	760	758	755	762	780	793	803	802	797	797	794	792	780	781	782	788	786	778
22	786	777	780	781	786	771	774	770	757	739	746	758	773	792	803	803	803	802	796	793	790	788	787	786	782	781
23	782	783	779	777	771	770	760	754	744	743	751	775	796	813	824	835	824	835	829	808	802	792	788	793	792	789
24	792	781	777	772	780	767	761	753	751	751	760	770	788	799	802	800	798	799	792	789	788	787	786	782	781	780
25	781	779	777	775	771	770	767	762	757	756	761	771	788	795	800	802	807	807	799	794	792	792	791	787	786	783
26	786	783	781	782	781	780	774	765	765	760	771	773	788	802	815	823	820	815	820	802	798	792	787	782	780	789
27	780	780	776	773	773	764	755	748	748	755	762	772	785	797	803	807	803	799	802	803	803	797	792	786	786	782
28	786	783	786	782	773	764	761	756	756	752	761	771	783	787	791	792	793	797	795	793	789	792	792	790	789	780
29	789	795	800	780	776	769	761	748	744	749	755	767	792	803	807	808	810	802	808	808	792	780	781	786	782	784
30	782	777	776	770	764	756	758	761	759	764	771	782	796	799	808	808	808	797	791	790	792	797	791	788	772	783
Mean*	781	780	780	775	770	764	761	758	755	756	766	777	791	802	806	807	806	801	799	794	791	789	786	784	781	783

* Mean of 27 days. 4th, 5th, and 26th omitted.

XXIII.—TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.

Eskdalemuir. (Z.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **June, 1921.**

44,000 γ (·44 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1091	1090	1090	1088	1088	1090	1086	1083	1086	1079	1071	1066	1058	1063	1063	1067	1074	1079	1085	1085	1086	1086	1084	1084	1084	1080
2	1083	1083	1083	1082	1078	1078	1078	1077	1075	1071	1065	1066	1073	1077	1082	1083	1085	1089	1090	1090	1090	1089	1087	1087	1087	1081
3	1087	1086	1086	1086	1087	1089	1087	1089	1086	1083	1079	1076	1068	1070	1073	1077	1079	1082	1082	1084	1083	1081	1081	1076	1080	1081
4	1080	1068	1078	1081	1082	1080	1077	1078	1078	1073	1074	1074	1073	1078	1084	1093	1098	1106	1110	1107	1103	1097	1086	1083	1084	1085
5	1083	1082	1077	1072	1077	1082	1084	1082	1081	1077	1077	1079	1073	1073	1080	1086	1092	1093	1092	1091	1089	1088	1086	1087	1083	1083
6	1083	1082	1084	1086	1085	1086	1086	1084	1078	1071	1063	1056	1056	1064	1079	1090	1101	1125	1122	1137	1116	1109	1094	1089	1085	1089
7	1084	1084	1086	1084	1081	1070	1066	1067	1068	1068	1066	1066	1069	1072	1081	1087	1093	1098	1095	1092	1097	1099	1091	1086	1080	1081
8	1080	1078	1076	1072	1078	1081	1083	1083	1081	1079	1072	1064	1061	1068	1077	1076	1076	1083	1087	1088	1084	1077	1055	1032	1062	1074
9	1061	1066	1059	1042	1059	1075	1081	1082	1079	1074	1067	1063	1063	1063	1066	1071	1076	1086	1098	1111	1111	1102	1094	1089	1085	1077
10	1084	1075	1018	1025	1046	1065	1072	1080	1089	1086	1082	1071	1074	1079	1081	1083	1087	1089	1090	1093	1091	1089	1087	1083	1082	1076
11	1082	1080	1070	1066	1075	1081	1082	1082	1079	1081	1081	1079	1079	1082	1083	1086	1085	1090	1092	1090	1087	1085	1083	1082	1082	1082
12	1081	1081	1082	1081	1082	1084	1081	1081	1078	1074	1076	1073	1069	1070	1076	1082	1090	1097	1093	1097	1092	1087	1085	1082	1082	1082
13	1082	1081	1082	1084	1084	1082	1084	1084	1081	1080	1077	1073	1069	1069	1068	1070	1080	1086	1094	1094	1091	1088	1085	1082	1081	1081
14	1080	1076	1076	1074	1072	1076	1076	1075	1072	1072	1071	1065	1067	1070	1076	1079	1089	1104	1103	1100	1096	1092	1088	1078	1072	1080
15	1071	1068	1074	1075	1078	1078	1079	1080	1082	1080	1074	1066	1065	1069	1069	1071	1078	1083	1083	1083	1083	1083	1082	1079	1078	1077
16	1077	1075	1075	1076	1077	1078	1075	1074	1074	1070	1070	1066	1058	1058	1062	1069	1076	1078	1081	1078	1078	1078	1078	1078	1078	1073
17	1078	1077	1077	1074	1066	1055	1050	1052	1058	1061	1061	1061	1061	1066	1078	1087	1090	1093	1092	1086	1085	1082	1082	1081	1078	1073
18	1078	1077	1075	1077	1078	1078	1077	1078	1075	1070	1070	1067	1066	1067	1070	1069	1070	1079	1078	1079	1078	1078	1078	1077	1078	1075
19	1078	1078	1078	1078	1078	1078	1077	1073	1072	1073	1069	1061	1058	1063	1065	1066	1067	1069	1071	1074	1077	1076	1074	1074	1073	1072
20	1072	1067	1065	1065	1069	1069	1072	1073	1072	1069	1066	1061	1057	1059	1064	1065	1072	1078	1077	1080	1077	1076	1075	1076	1076	1070
21	1076	1075	1069	1071	1070	1069	1069	1069	1075	1076	1076	1072	1064	1065	1067	1069	1076	1078	1080	1082	1084	1081	1076	1074	1074	1073
22	1073	1075	1072	1064	1056	1057	1062	1066	1069	1071	1068	1067	1068	1067	1073	1077	1080	1083	1084	1082	1080	1076	1076	1076	1074	1072
23	1074	1076	1076	1076	1078	1079	1077	1076	1078	1076	1068	1069	1072	1071	1068	1065	1075	1081	1088	1094	1088	1084	1080	1076	1069	1077
24	1068	1070	1074	1076	1075	1074	1075	1074	1071	1070	1070	1070	1067	1068	1069	1072	1078	1083	1083	1083	1082	1079	1078	1078	1075	1075
25	1074	1074	1074	1074	1077	1077	1075	1073	1074	1074	1070	1066	1065	1069	1070	1070	1075	1077	1075	1074	1074	1074	1073	1073	1072	1073
26	1072	1071	1073	1073	1073	*	—	—	—	*	1071	1061	1054	1058	1069	1076	1086	1094	1096	1102	1094	1085	1080	1077	1077	—
27	1076	1076	1076	1076	1076	1077	1074	1073	1073	1069	1062	1058	1058	1061	1066	1071	1080	1081	1081	1082	1081	1080	1077	1076	1073	1073
28	1072	1072	1072	1071	1069	1069	1070	1071	1068	1060	1060	1055	1055	1059	1067	1071	1073	1081	1084	1087	1085	1080	1077	1075	1075	1071
29	1074	1071	1069	1066	1070	1074	1072	1071	1070	1067	1063	1054	1054	1058	1064	1067	1071	1075	1076	1076	1082	1082	1076	1072	1072	1070
30	1071	1070	1070	1070	1070	1072	1071	1070	1069	1070	1071	1068	1062	1065	1066	1067	1071	1075	1078	1078	1074	1073	1074	1071	1071	1071
Mean†	1077	1076	1074	1073	1074	1076	1075	1076	1075	1073	1070	1066	1064	1067	1071	1074	1080	1085	1087	1088	1086	1084	1080	1077	1077	1076

† Mean of 27 days. 4th, 5th and 26th, omitted.

* Burner choked.

XXIV.—AUXILIARY OBSERVATIONS IN ABSOLUTE MEASURE; DAILY VALUES OF TEMPERATURE IN THE EAST ROOM OF MAGNET HOUSE; MAGNET NOTES FOR THE MONTH.

Eskdalemuir. **June, 1921.**

Date	Time G.M.T. From	Time G.M.T. To	Horizontal Force.	Declination.	Dip.	Temperature in Magnet House.	Magnetic Character of day (0–2).	Date.
June	h. m.	h. m.	γ	° ′ ″	° ′	a 280+		
						3·5	0	1
						3·5	0	2
						3·5	2	3
						3·5	2D	4
						3·6	0C	5
						3·5	1D	6
7	11 15	11 44	16684	16 42 59	69 41·6	3·5	1	7
						3·5	2D	8
						3·5	1	9
						3·6	1	10
						3·6	0	11
						3·7	0	12
						3·7	0	13
14	11 0	11 25	16700	16 38 43	69 40·5	3·8	1D	14
						3·8	0C	15
						3·8	0	16
						3·8	1	17
						3·9	0C	18
						3·9	0C	19
						3·9	1	20
21	11 16	11 44	16670	16 37 15	69 41·7	4·0	0	21
						4·0	1	22
						4·0	1D	23
						4·1	0	24
						4·0	0C	25
						4·0	1	26
						4·1	0	27
28	10 55	11 48	16696	16 39 10	69 40·8	4·1	0	28
						4·2	1	29
						4·3	0	30

MAGNETIC NOTES.

June, 1921.

This was a month of moderate activity. The most disturbed days were 6th to 10th, 23rd; the quietest were 5th, 15th, 18th, 19th, 25th. A "sudden commencement" (N, + 40γ; W, + 24γ; V, − 4γ) occurred at 3d. 20h. 16m., but the subsequent disturbance was of small magnitude. The disturbances of 6th, 7th were confined mainly to the period 13h. to 22h. Between 19h and 24h. on 8th the ranges in N, W and V were 187, 126 and 90γ respectively.

See Explanatory Note, Table IV.

XXV.—TERRESTRIAL MAGNETIC FORCE: NORTH COMPONENT.

Eskdalemuir. (X.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **July, 1921.**

15,000 γ (·15 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1021	1017	1019	1025	1030	1031	1023	1019	1010	994	984	985	975	996	1017	1026	1026	1027	1032	1033	1024	1025	1023	1026	1024	1016
2	1024	1019	1013	1018	1018	1022	1023	1017	1010	999	996	991	993	998	1000	1010	1016	1028	1037	1033	1028	1024	1026	1022	1022	1015
3	1022	1023	1025	1021	1028	1027	1027	1015	1003	999	993	989	994	990	996	995	1017	1018	1028	1035	1034	1038	1033	1030	1024	1016
4	1025	1025	1029	1024	1025	1028	1027	1015	1004	999	989	989	992	986	995	1008	1019	1029	1036	1030	1040	1053	1019	1021	1022	1017
5	1022	1026	1024	1019	1018	1014	1013	1014	1005	995	985	981	981	985	999	1014	1021	1031	1040	1034	1025	1028	1032	1029	1020	1014
6	1021	1019	1023	1026	1028	1026	1020	1020	1014	1001	992	990	995	1005	1020	1017	1011	1025	1036	1050	1049	1050	1054	1046	1034	1023
7	1034	1025	1027	1040	1040	1035	1033	1035	1020	1012	1005	987	978	957	1000	1007	1015	1042	1045	1041	1027	1025	1021	1025	1025	1020
8	1025	1022	1017	1024	1024	1023	1011	1019	1002	992	956	964	982	1006	971	998	1016	1035	1026	1031	1040	1040	1019	1016	1022	1011
9	1023	1013	1017	1016	1007	1016	1026	993	1001	998	993	989	987	986	997	1026	1032	1017	1038	1050	1026	1017	1017	1026	1021	1013
10	1021	1021	1012	1008	1013	1016	1013	1013	1012	1007	992	981	973	978	987	1002	1013	1019	1027	1026	1021	1017	1022	1013	1008	1008
11	1008	1011	1011	1012	1012	1012	1008	1006	1005	999	992	987	991	991	992	1002	1012	1025	1028	1031	1030	1023	1021	1018	1021	1010
12	1021	1017	1016	1021	1021	1026	1022	1017	1010	1002	997	993	987	994	997	994	1018	1035	1038	1026	1026	1026	1023	1021	1022	1015
13	1023	1021	1019	1017	1022	1029	1027	1013	1007	1005	997	991	997	999	1000	1002	1019	1022	1027	1038	1033	1022	1022	1018	1021	1015
14	1021	1017	1022	998	1022	1034	1007	1017	1017	1007	994	984	987	992	998	1002	1007	1014	1021	1038	1034	1028	1027	1023	1028	1013
15	1028	1014	1017	1024	1017	1007	1026	1012	998	988	983	983	984	998	1018	1022	1018	1027	1042	1017	1030	1037	1032	1028	1023	1015
16	1024	1027	1023	1008	1028	1025	1014	995	983	990	981	970	968	980	992	1010	1004	1024	1024	1029	1023	1029	1040	1013	1005	1008
17	1005	1004	1008	1009	1008	1000	1008	1004	993	984	980	983	989	994	1004	1014	1023	1032	1029	1028	1018	1014	1024	1023	1009	1008
18	1009	1009	1008	1010	1015	1017	1009	1003	1000	994	982	975	979	979	987	1005	1019	1017	1023	1019	1023	1017	1015	1013	1014	1005
19	1014	1014	1010	1010	1017	1018	1014	1010	1000	991	983	980	979	993	999	1000	1006	1022	1028	1034	1038	1038	1057	1035	1018	1012
20	1019	1019	1012	1014	1024	1026	1024	1018	1005	985	985	985	993	1000	1004	1021	1006	1016	1025	1029	1029	1025	1023	1016	1016	1013
21	1016	1015	1017	1019	1020	1024	1018	1010	1005	999	985	978	978	990	1004	1005	1012	1017	1020	1019	1021	1024	1024	1024	1024	1010
22	1024	1023	1022	1026	1029	1029	1024	1019	1012	995	980	981	980	998	1007	1006	1009	1010	1015	1019	1024	1022	1029	1024	1029	1013
23	1029	1044	1029	1022	1011	1028	1025	1017	1000	982	989	985	987	985	993	1000	1005	1023	1023	1030	1030	1027	1029	1032	1029	1014
24	1030	1026	1028	1030	1030	1025	1025	1023	1017	1003	992	991	991	995	1003	1012	1012	1015	1017	1018	1021	1019	1020	1023	1020	1015
25	1020	1016	1011	1017	1018	1017	1013	1007	1006	1000	990	982	991	1002	1011	1019	1021	1016	1020	1024	1027	1035	1025	1025	1024	1013
26	1024	1022	1019	1020	1021	1022	1021	1020	1016	1009	998	992	991	995	1010	1027	1040	1025	1036	1031	1040	1059	1035	1027	1030	1021
27	1030	1030	1027	1030	1035	1030	1027	1021	1016	1007	996	987	991	996	1002	1020	1017	1020	1025	1033	1033	1028	1027	1022	1025	1019
28	1025	1019	1016	1015	1016	1020	1012	1007	1005	997	986	986	987	996	1007	1014	1020	1030	1030	1030	1031	1021	1037	1015	1011	1013
29	1012	1012	1012	1016	1017	1017	1018	1007	1007	1004	987	982	983	979	982	991	1007	1026	1036	1031	1026	1026	1036	1046	1023	1011
30	1023	1017	1012	1016	1017	1014	999	1001	1001	985	986	989	992	988	996	1006	1013	1016	1027	1040	1035	1026	1026	1026	1017	1010
31	1017	1017	1016	1014	1012	1004	1007	1008	1001	992	983	993	1001	1002	1007	1017	1021	1018	1021	1025	1022	1017	1014	1017	1017	1010
Mean	1021	1019	1018	1018	1021	1021	1018	1013	1006	997	988	985	986	991	1000	1009	1016	1023	1029	1031	1029	1028	1027	1024	1021	1013

XXVI.—TERRESTRIAL MAGNETIC FORCE: WEST COMPONENT.

Eskdalemuir. (—Y.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **July, 1921.**

4,000 γ (·04 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	772	764	765	770	771	765	763	756	755	754	766	781	797	814	826	831	820	802	795	788	787	785	781	783	775	783
2	775	772	771	776	769	758	749	749	748	747	760	777	796	801	801	797	792	795	796	796	792	792	786	785	783	779
3	783	775	775	770	773	761	756	762	761	764	767	780	800	814	818	814	815	806	796	793	791	781	781	783	777	784
4	777	775	787	765	750	744	743	732	744	745	754	773	788	799	804	811	813	802	794	787	785	765	767	777	778	774
5	778	786	781	765	760	760	760	758	754	757	773	788	799	807	815	814	807	802	800	793	789	788	781	765	770	782
6	770	769	774	765	760	754	751	752	749	748	759	771	796	813	825	823	808	802	799	802	802	797	787	780	756	781
7	756	770	777	766	770	780	776	770	760	756	767	776	798	805	829	831	829	819	800	791	781	781	782	780	781	786
8	781	786	791	779	776	770	770	768	754	749	761	779	787	812	801	800	801	794	781	787	791	770	776	783	792	781
9	791	769	775	775	812	801	770	774	765	764	763	773	790	801	812	818	801	798	802	774	780	784	782	785	779	786
10	779	775	769	770	763	754	749	749	752	751	759	769	780	787	791	795	795	788	783	780	780	779	774	779	769	773
11	769	769	770	769	768	763	759	752	744	747	759	766	778	787	791	795	795	799	794	790	786	784	780	776	771	775
12	771	771	769	775	771	764	758	755	754	759	764	779	790	803	811	802	801	795	780	782	785	790	784	777	782	779
13	782	769	768	763	769	763	751	752	759	769	780	795	807	817	822	817	817	810	794	795	781	769	775	761	755	782
14	755	764	780	779	787	763	764	759	744	744	753	764	783	796	802	800	801	801	795	794	790	785	775	765	758	777
15	758	762	737	734	732	753	724	738	746	748	763	778	791	802	811	803	796	801	808	792	795	798	791	749	753	771
16	753	759	770	785	748	750	751	753	759	765	778	790	793	806	803	801	786	790	786	775	772	775	763	761	767	774
17	767	769	777	779	771	770	754	748	747	748	759	770	785	798	806	806	794	787	782	782	779	779	782	775	769	776
18	769	770	774	774	760	753	752	747	739	748	760	779	796	807	812	808	792	780	779	774	779	776	775	775	775	774
19	775	774	775	775	767	754	749	751	754	753	756	766	785	811	816	807	791	790	787	787	786	786	769	775	768	777
20	768	770	759	766	764	758	753	749	744	747	766	780	802	813	818	813	796	786	780	780	776	774	775	775	774	776
21	774	777	779	769	764	754	747	750	755	760	769	776	795	809	808	801	790	780	779	784	785	785	780	780	780	777
22	780	785	790	784	772	759	748	745	745	748	770	785	792	801	810	801	799	796	785	786	787	785	784	775	780	780
23	780	769	738	749	778	775	754	757	752	758	759	769	790	800	792	788	790	791	790	791	786	784	780	777	775	775
24	774	770	777	769	759	762	757	748	747	744	750	767	784	791	796	797	790	789	790	785	781	778	773	767	757	772
25	757	762	773	774	763	759	757	757	752	752	758	765	778	791	799	800	806	802	801	795	793	776	780	774	775	776
26	775	765	766	765	763	758	753	748	747	747	753	763	780	795	802	801	810	800	799	792	773	750	758	775	778	773
27	778	774	763	765	762	757	752	752	752	758	765	778	799	817	817	816	806	795	790	790	786	783	780	779	779	780
28	779	786	782	762	759	757	751	747	742	742	750	768	786	799	798	791	784	789	789	790	777	776	768	769	770	772
29	770	763	763	763	758	757	763	769	776	763	763	775	800	809	803	795	793	790	791	784	785	784	758	752	755	776
30	755	752	753	759	758	752	752	745	739	737	751	764	787	800	802	799	799	794	789	765	777	774	777	769	770	769
31	770	770	769	767	759	760	752	751	748	753	765	782	789	796	806	801	791	784	781	776	774	769	769	772	768	773
Mean	772	771	771	769	766	761	754	753	751	752	762	775	791	803	808	806	800	795	791	786	784	780	777	773	772	777

XXVII.—TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.

Eskdalemuir. (Z.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **July, 1921.**

44,000 γ (·44 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1070	1069	1069	1069	1071	1072	1069	1070	1072	1069	1068	1067	1065	1057	1057	1061	1069	1077	1077	1076	1076	1073	1073	1071	1069	1069
2	1068	1069	1071	1070	1072	1072	1072	1072	1069	1065	1061	1056	1048	1052	1065	1061	1074	1072	1072	1072	1072	1072	1072	1072	1072	1068
3	1071	1071	1071	1071	1069	1064	1061	1061	1063	1057	1050	1047	1049	1055	1062	1064	1067	1076	1083	1083	1081	1079	1077	1072	1072	1067
4	1071	1070	1058	1053	1061	1067	1070	1074	1074	1074	1071	1065	1062	1063	1066	1069	1074	1079	1082	1082	1079	1079	1078	1074	1072	1071
5	1071	1064	1056	1061	1066	1066	1065	1062	1065	1060	1052	1048	1051	1053	1056	1062	1070	1073	1072	1073	1073	1070	1070	1070	1069	1064
6	1069	1069	1067	1069	1070	1072	1070	1076	1069	1069	1068	1062	1058	1061	1065	1065	1069	1071	1072	1070	1069	1070	1068	1064	1063	1068
7	1062	1063	1061	1060	1062	1061	1063	1063	1065	1065	1064	1054	1061	1072	1073	1081	1097	1104	1104	1102	1094	1085	1078	1074	1072	1074
8	1071	1071	1067	1067	1071	1071	1067	1062	1067	1067	1067	1060	1059	1063	1075	1072	1079	1090	1092	1084	1081	1078	1067	1067	1056	1071
9	1055	1050	1059	1065	1050	1031	1042	1052	1055	1055	1059	1058	1052	1053	1054	1063	1090	1094	1091	1099	1092	1082	1074	1070	1070	1065
10	1069	1068	1069	1069	1071	1073	1070	1070	1068	1061	1061	1058	1056	1058	1062	1065	1069	1070	1077	1077	1073	1069	1066	1063	1065	1067
11	1064	1065	1065	1067	1068	1069	1072	1072	1069	1065	1057	1056	1055	1060	1065	1068	1068	1069	1073	1072	1070	1070	1069	1068	1066	1067
12	1065	1064	1065	1064	1066	1066	1067	1069	1068	1065	1062	1056	1055	1058	1068	1069	1077	1084	1091	1084	1077	1072	1071	1069	1066	1069
13	1065	1063	1066	1068	1068	1070	1067	1067	1066	1066	1069	1066	1063	1062	1065	1070	1080	1093	1099	1100	1099	1093	1084	1076	1063	1074
14	1063	1062	1055	1054	1052	1058	1066	1063	1063	1066	1067	1066	1058	1058	1060	1066	1070	1078	1078	1078	1078	1078	1076	1067	1050	1066
15	1049	1049	1022	1029	1039	1043	1046	1054	1057	1061	1067	1066	1062	1059	1058	1057	1058	1067	1069	1078	1077	1073	1071	1077	1066	1058
16	1066	1061	1056	1010	1031	1038	1050	1052	1057	1054	1050	1045	1052	1064	1066	1067	1075	1077	1081	1086	1088	1081	1067	1060	1062	1060
17	1061	1064	1062	1063	1063	1064	1065	1068	1068	1068	1056	1045	1044	1054	1062	1066	1068	1072	1076	1080	1080	1080	1074	1072	1072	1066
18	1071	1069	1071	1075	1072	1075	1073	1073	1075	1075	1073	1063	1060	1065	1067	1069	1075	1082	1082	1078	1071	1071	1069	1070	1070	1072
19	1069	1070	1069	1067	1068	1070	1070	1070	1067	1066	1063	1058	1062	1059	1067	1070	1074	1072	1074	1076	1076	1074	1070	1070	1068	1069
20	1068	1067	1067	1068	1067	1070	1070	1070	1066	1070	1066	1060	1061	1061	1066	1071	1078	1079	1076	1074	1074	1074	1071	1070	1070	1069
21	1068	1068	1066	1068	1072	1074	1072	1069	1064	1061	1059	1056	1056	1059	1064	1071	1071	1072	1070	1067	1065	1066	1066	1067	1068	1066
22	1067	1065	1063	1053	1054	1059	1059	1060	1062	1063	1058	1056	1056	1059	1067	1071	1072	1076	1080	1077	1071	1067	1067	1067	1063	1064
23	1062	1047	1044	1050	1054	1058	1058	1060	1062	1062	1062	1057	1057	1066	1068	1074	1080	1083	1079	1072	1071	1070	1068	1067	1066	1064
24	1065	1065	1061	1041	1043	1048	1049	1052	1050	1050	1057	1053	1056	1058	1069	1065	1065	1069	1070	1069	1069	1069	1069	1068	1066	1060
25	1066	1065	1063	1061	1065	1066	1065	1065	1066	1067	1065	1061	1050	1050	1056	1057	1061	1065	1065	1065	1065	1066	1065	1065	1061	1063
26	1060	1061	1062	1061	1064	1065	1064	1064	1063	1060	1057	1058	1055	1055	1058	1066	1073	1080	1078	1077	1076	1073	1062	1060	1061	1065
27	1061	1060	1062	1064	1065	1068	1064	1064	1060	1057	1053	1052	1050	1053	1056	1057	1064	1069	1072	1073	1072	1068	1068	1067	1065	1063
28	1064	1063	1055	1056	1061	1067	1067	1067	1067	1064	1056	1052	1050	1051	1051	1058	1064	1068	1073	1076	1080	1072	1065	1059	1061	1063
29	1061	1064	1066	1064	1064	1067	1064	1061	1057	1058	1060	1057	1055	1063	1075	1076	1076	1076	1080	1083	1080	1076	1072	1055	1036	1067
30	1036	1039	1054	1061	1064	1065	1068	1071	1068	1067	1067	1063	1056	1056	1059	1064	1067	1068	1073	1083	1080	1076	1072	1063	1064	1065
31	1063	1066	1066	1066	1068	1070	1071	1072	1071	1072	1071	1063	1060	1063	1066	1066	1067	1070	1071	1074	1075	1075	1075	1071	1071	1069
Mean	1064	1063	1062	1060	1062	1064	1064	1065	1065	1064	1062	1058	1056	1059	1063	1066	1072	1077	1078	1079	1077	1074	1071	1068	1065	1067

XXVIII.—AUXILIARY OBSERVATIONS IN ABSOLUTE MEASURE; DAILY VALUES OF TEMPERATURE IN THE EAST ROOM OF MAGNET HOUSE; MAGNETIC NOTES FOR THE MONTH.

Eskdalemuir. **July, 1921.**

Date	Time G.M.T. From	Time G.M.T. To	Horizontal Force.	Declination.	Dip.	Temperature in Magnet House.	Magnetic Character of day (0–2).	Date.
July	h. m.	h. m.	γ	° ′ ″	° ′	a 280+		
						4·3	0	1
						4·4	0C	2
						4·5	1	3
						4·5	1	4
5	10 55	11 21	16698	16 41 54	69 40·9	4·6	0	5
						4·6	2	6
						4·7	2D	7
						4·7	1D	8
						4·8	2D	9
						4·8	0	10
						4·8	0C	11
						4·8	1	12
13	11 30	11 36	16695	16 42 53		5·0	1	13
14	11 3	11 18			69 41·6	5·0	1	14
						5·0	1D	15
						5·0	1D	16
						5·3	0	17
						5·4	0C	18
						5·2	1	19
20	10 52	11 19	16676	16 40 38	69 40·7	5·3	1	20
						5·3	0C	21
						5·4	0	22
						5·5	1	23
						5·5	0	24
						5·6	0C	25
						5·6	1	26
27	10 23	10 46	16680	16 37 15	69 40·8	5·7	0	27
						5·7	1	28
						5·8	1	29
						5·8	1	30
						5·9	0	31

MAGNETIC NOTES.

July, 1921.

Activity was slightly less than in the previous month. There was a "sudden commencement" at 6d. 14h. 0m., but the ensuing disturbance was moderate in character and did not attain full development until the afternoon of the following day. There were disturbed periods on 8th, 9th, 10th, the most prominent features being a peak maximum on the N trace at 9d. 18h. 56m. and a rather sharp minimum on the W trace six minutes earlier. The 11th was the quietest day of the month. Between 2h. 0m. and 2h. 40m. on 16th V decreased by 52γ and then made a gradual recovery. Associated with this movement there were irregularly shaped bays—positive in W, negative in N—between 2h. and 4h.

See Explanatory Note, Table IV.

HOURLY VALUES FROM AUTOGRAPHIC RECORDS.

XXIX.—TERRESTRIAL MAGNETIC FORCE: NORTH COMPONENT.

Eskdalemuir. (X.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **August, 1921.**

15,000 γ (·15 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1017	1013	1012	1012	1018	1021	1017	1011	998	987	977	985	997	1003	1009	1021	1018	1021	1019	1022	1029	1022	1021	1019	1016	1011
2	1016	1016	1017	1017	1017	1017	1013	1010	1002	990	998	1012	1021	1023	1025	1022	1029	1032	1027	1031	1039	1026	1015	1017	1022	1018
3	1022	1017	1026	1017	1019	1031	1036	992	934	948	954	964	982	1003	1002	1003	1003	1002	1012	1016	1010	1008	1005	1002	1003	1000
4	1004	1008	1010	1010	1013	1013	1010	1002	986	976	969	969	973	982	993	994	1001	1010	1036	1020	1015	1023	1023	1013	1016	1002
5	1016	1028	1030	1032	983	1015	1018	1007	987	953	940	959	974	988	993	1013	1008	1025	1008	1033	1018	1015	1013	1009	1017	1003
6	1017	1013	1000	1018	1009	999	1003	982	998	985	961	975	978	982	1009	1033	1015	1015	1010	1022	1023	1023	1020	1018	1008	1004
7	1008	1003	1020	1013	1003	1017	1014	1003	986	968	978	972	985	998	982	1013	1019	1023	1024	1028	1022	1023	1022	1019	1016	1006
8	1016	1013	1014	1012	999	1029	1022	1013	1008	993	977	980	980	984	1002	1018	1020	1023	1023	1019	1018	1019	1021	1031	1019	1010
9	1019	1013	1013	1015	1014	1015	1015	1006	997	988	978	969	983	990	997	1010	1011	1023	1018	1022	1015	1014	1015	1023	1022	1007
10	1022	1011	1010	1012	1012	1003	1018	1016	1013	1004	995	984	979	984	994	1008	1012	1016	1017	1026	1028	1027	1025	1027	1028	1010
11	1028	1029	1023	1010	1007	1019	1019	1015	1010	997	982	984	998	1006	988	998	1010	1028	1032	1021	1028	1024	1028	1020	1007	1012
12	1007	1022	1018	1013	1012	1008	1005	1000	996	988	979	977	983	993	998	1008	1018	1018	1017	1021	1018	1015	1017	1018	1021	1007
13	1021	1014	1014	1012	1013	1013	1013	1010	1004	997	984	988	988	993	991	993	1004	1017	1023	1033	1028	1023	1018	1023	1027	1009
14	1028	1019	1015	1015	1023	1019	1019	1015	1007	994	979	975	979	985	996	1002	1010	1020	1028	1035	1034	1029	1034	1019	1014	1011
15	1014	1013	1018	1010	1014	1019	1014	1005	1000	999	984	976	974	985	1003	1004	999	1038	1029	1013	1020	1021	1014	1014	1019	1008
16	1019	1007	999	1007	1008	1007	1001	994	990	984	966	955	971	979	984	994	1004	1005	1007	1038	1019	1019	1021	1005	1004	999
17	1004	1004	1006	1008	1006	1010	1008	1000	986	985	974	974	988	1005	1007	1009	1019	1008	1033	1014	1014	1014	1014	1019	1007	1005
18	1007	1012	1011	1009	1010	1023	1012	1009	1000	991	984	979	984	986	995	995	995	1003	1010	1014	1013	1013	1014	1014	1013	1004
19	1013	1013	1014	1014	1013	1009	1013	1009	1003	987	982	984	984	994	1000	1005	1009	1014	1019	1024	1026	1030	1030	1021	1026	1009
20	1026	1029	1015	1019	1020	1013	1007	995	988	976	973	974	977	979	984	995	1001	1010	1019	1035	1033	1023	1019	1019	1023	1005
21	1023	1027	1018	1019	1019	1021	1018	1010	1004	991	980	979	979	994	987	993	994	1018	1019	1033	1026	1019	1019	1018	1018	1009
22	1018	1019	1015	1015	1013	1012	1009	1003	990	985	979	979	983	985	990	999	1011	1020	1029	1029	1024	1023	1020	1016	1020	1007
23	1020	1019	1014	1014	1011	1014	1013	1008	997	987	978	978	985	995	1008	1009	1012	1015	1019	1024	1024	1023	1023	1026	1028	1009
24	1028	1023	1018	1020	1019	1016	1014	1011	1002	992	982	976	978	990	1001	1007	1016	1018	1033	1030	1025	1018	1019	1016	1014	1010
25	1014	1014	1013	1009	1015	1014	1014	1008	1000	993	984	975	975	984	990	1001	1008	1015	1022	1023	1022	1023	1021	1023	1019	1007
26	1019	1023	1029	1031	1025	1021	1035	1022	1022	1011	994	989	964	985	1001	1019	1004	1018	1007	1019	1020	1013	1011	1010	1012	1012
27	1012	1018	1010	1007	1005	1005	998	994	996	986	974	979	973	998	985	995	1011	1018	1022	1029	1013	1009	1015	1013	1010	1003
28	1010	1010	1010	1010	1009	1008	1005	999	994	990	989	991	1001	1005	1008	1009	1010	1010	1014	1014	1018	1018	1014	1027	1014	1007
29	1014	1013	1012	1013	1013	1011	1009	1008	1004	996	989	992	998	1004	1012	1015	1016	1013	1014	1014	1015	1015	1019	1018	1018	1010
30	1018	1015	1014	1013	1012	1009	1008	1009	1004	999	981	975	980	974	983	980	1017	1008	1047	1050	1000	1008	994	975	1005	1003
31	1005	1015	1008	990	998	1006	1006	1004	989	984	978	981	983	980	985	990	995	1006	1011	1009	1009	1008	1006	1005	1005	998
Mean	1016	1016	1014	1013	1011	1014	1013	1005	997	987	978	978	983	991	997	1005	1010	1016	1021	1025	1021	1019	1018	1016	1016	1007

XXX.—TERRESTRIAL MAGNETIC FORCE: WEST COMPONENT.

Eskdalemuir. (—Y.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **August, 1921.**

4,000 γ (·04 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	768	767	768	765	761	753	747	744	741	748	765	774	782	786	788	788	783	778	774	779	782	779	774	770	771	769
2	771	772	774	766	761	758	758	756	757	765	778	795	805	805	804	793	788	790	788	780	780	777	768	752	771	777
3	771	777	764	779	779	768	762	773	763	804	811	821	832	823	816	800	779	767	763	770	773	773	772	769	768	784
4	768	768	763	764	763	754	742	742	744	750	758	776	795	800	803	793	783	777	785	778	772	769	762	773	758	770
5	758	738	748	741	745	761	752	741	753	766	785	788	794	803	800	794	780	784	769	762	768	771	771	773	789	769
6	789	768	775	789	760	769	763	773	750	756	764	785	797	800	797	799	788	782	778	783	782	776	773	773	752	777
7	752	780	764	750	768	749	744	749	753	761	768	780	785	800	788	785	780	775	777	774	767	770	772	769	765	769
8	766	765	764	764	780	754	748	738	744	752	764	772	778	786	798	800	780	783	780	780	778	775	775	766	758	770
9	758	764	766	764	769	764	759	750	750	755	761	770	782	796	800	799	791	790	781	776	769	764	770	773	753	772
10	753	742	747	763	757	772	764	748	747	747	755	764	774	790	790	791	787	780	775	780	780	780	778	777	774	769
11	774	772	767	763	757	746	745	739	737	743	749	765	790	813	822	822	816	822	789	790	789	776	722	762	797	774
12	797	753	748	749	751	747	747	745	746	750	764	775	791	802	803	798	790	781	775	779	779	775	774	767	766	770
13	766	764	763	759	755	753	748	745	747	751	764	779	790	805	801	790	781	776	774	763	774	775	769	769	769	769
14	769	755	751	750	759	744	742	740	742	749	758	770	782	787	786	780	775	774	772	780	780	764	754	769	784	764
15	784	785	766	765	767	764	744	738	739	753	769	783	803	807	819	816	801	800	767	753	754	752	749	753	769	772
16	769	769	774	763	756	749	748	742	742	750	764	775	792	805	801	792	791	787	781	748	765	769	758	757	765	769
17	765	769	765	764	768	758	758	757	758	759	773	790	797	804	800	792	790	775	757	759	770	771	772	762	773	772
18	773	771	769	768	778	750	747	747	750	763	779	789	803	806	801	787	771	764	764	768	769	770	774	774	774	772
19	775	779	775	760	757	750	749	748	754	754	772	791	798	802	797	787	781	776	779	781	776	775	775	771	789	774
20	789	775	760	764	759	758	750	747	746	752	770	781	788	797	797	793	782	776	775	783	760	760	771	764	759	770
21	759	765	762	758	754	754	749	740	739	744	760	776	793	816	808	806	790	785	769	770	776	775	772	770	768	771
22	768	766	760	761	759	758	751	749	748	751	765	776	792	801	800	796	792	785	775	766	772	775	775	770	770	771
23	770	761	758	759	759	758	750	743	739	743	752	770	787	801	807	796	784	779	775	775	775	776	770	769	765	769
24	765	759	775	764	761	755	748	745	746	749	759	771	784	798	807	798	791	782	782	782	776	771	772	770	769	771
25	769	766	764	770	766	758	750	743	743	745	756	771	788	802	797	787	778	775	773	775	775	775	774	774	770	770
26	770	771	767	766	756	759	755	769	765	757	759	772	782	796	813	825	815	809	787	785	784	779	771	767	763	778
27	765	765	759	762	754	748	743	760	771	772	774	784	785	799	798	768	774	781	775	760	775	776	778	779	770	771
28	770	766	765	759	757	753	746	745	750	758	771	782	790	784	780	774	767	767	771	775	771	775	775	771	763	767
29	763	759	758	755	754	754	749	749	751	755	766	776	782	781	778	770	765	765	770	775	776	776	775	774	770	766
30	770	765	763	762	759	754	749	748	751	758	768	785	801	804	808	787	784	771	754	712	729	723	702	726	775	760
31	775	725	729	756	769	758	754	754	759	767	772	781	787	792	796	786	772	767	765	765	764	762	766	769	766	766
Mean	770	765	762	762	761	756	750	749	749	756	767	780	791	800	800	793	785	781	774	771	772	770	767	767	770	771

XXXI.—TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.

Eskdalemuir. (Z.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **August, 1921.**

44,000 γ (·44 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	
1	1071	1072	1072	1072	1072	1075	1074	1075	1075	1072	1072	1065	1058	1060	1064	1064	1068	1068	1069	1069	1070	1071	1071	1071	1071	1070
2	1070	1069	1067	1067	1068	1070	1070	1069	1069	1068	1060	1054	1050	1051	1051	1055	1060	1065	1067	1071	1075	1080	1070	1064	1061	1065
3	1060	1050	1058	1063	1051	1049	1057	1057	1061	1057	1058	1057	1061	1082	1094	1091	1091	1088	1083	1079	1076	1074	1074	1074	1073	1069
4	1073	1072	1072	1072	1073	1074	1074	1074	1074	1071	1069	1066	1066	1066	1066	1073	1079	1081	1078	1085	1087	1078	1071	1069	1058	1073
5	1058	1045	1038	1034	1038	1042	1040	1049	1057	1057	1054	1054	1058	1066	1075	1086	1083	1083	1088	1088	1083	1076	1072	1066	1049	1062
6	1048	1052	1045	1034	1042	1049	1053	1055	1057	1057	1061	1058	1057	1063	1070	1078	1091	1086	1081	1073	1072	1070	1067	1065	1063	1062
7	1062	1054	1052	1052	1051	1057	1061	1061	1062	1061	1057	1058	1058	1060	1068	1070	1072	1075	1073	1072	1075	1070	1068	1067	1066	1063
8	1066	1065	1065	1064	1045	1039	1050	1056	1057	1057	1057	1058	1059	1059	1061	1072	1087	1084	1077	1072	1069	1068	1068	1064	1059	1063
9	1059	1062	1064	1067	1068	1068	1067	1070	1068	1064	1056	1053	1055	1060	1066	1071	1075	1077	1078	1077	1080	1080	1075	1069	1064	1068
10	1063	1059	1058	1057	1059	1062	1059	1066	1067	1066	1063	1063	1062	1059	1060	1068	1071	1071	1071	1068	1067	1067	1067	1067	1066	1064
11	1065	1064	1062	1062	1059	1056	1058	1065	1064	1059	1057	1052	1050	1050	1057	1063	1071	1083	1095	1087	1078	1078	1082	1074	1050	1066
12	1050	1016	1042	1054	1062	1066	1066	1066	1062	1062	1060	1058	1055	1057	1060	1063	1064	1070	1071	1070	1071	1070	1070	1067	1064	1061
13	1063	1065	1065	1065	1065	1069	1068	1067	1065	1062	1062	1061	1057	1056	1065	1072	1076	1077	1075	1075	1073	1070	1069	1065	1057	1067
14	1057	1053	1056	1058	1057	1061	1065	1069	1069	1066	1065	1061	1058	1057	1061	1066	1069	1069	1066	1065	1069	1074	1069	1065	1060	1064
15	1060	1049	1053	1058	1058	1059	1061	1063	1062	1058	1055	1052	1049	1049	1057	1063	1069	1081	1116	1113	1101	1087	1076	1055	1045	1067
16	1044	1037	1047	1056	1064	1068	1068	1068	1068	1061	1059	1056	1055	1058	1067	1072	1077	1086	1092	1094	1082	1077	1072	1066	1066	1067
17	1066	1068	1068	1068	1068	1068	1071	1072	1073	1068	1062	1057	1058	1060	1068	1079	1084	1093	1097	1093	1085	1076	1072	1068	1066	1073
18	1066	1068	1068	1068	1063	1061	1064	1064	1060	1060	1056	1055	1059	1065	1076	1088	1092	1087	1084	1073	1073	1072	1072	1071	1071	1070
19	1071	1068	1064	1067	1068	1069	1068	1068	1068	1065	1063	1060	1060	1060	1064	1068	1069	1070	1069	1066	1068	1068	1066	1068	1060	1066
20	1060	1055	1060	1064	1067	1068	1068	1070	1067	1063	1061	1059	1056	1056	1060	1069	1073	1072	1069	1066	1075	1075	1071	1068	1064	1066
21	1063	1059	1056	1059	1061	1062	1063	1063	1059	1058	1053	1051	1050	1050	1055	1063	1068	1071	1075	1076	1070	1067	1066	1065	1065	1062
22	1064	1066	1066	1066	1066	1066	1066	1064	1062	1062	1059	1058	1053	1051	1054	1061	1063	1069	1071	1073	1070	1066	1064	1066	1062	1064
23	1062	1059	1061	1062	1063	1066	1064	1066	1063	1059	1058	1052	1045	1043	1050	1058	1062	1066	1065	1063	1062	1062	1062	1062	1062	1060
24	1062	1062	1060	1058	1062	1065	1065	1063	1062	1062	1059	1057	1053	1053	1054	1060	1064	1067	1071	1071	1070	1070	1066	1066	1065	1063
25	1065	1064	1065	1066	1066	1068	1070	1073	1070	1069	1063	1057	1053	1050	1057	1066	1070	1069	1067	1066	1066	1066	1066	1066	1066	1065
26	1066	1066	1063	1062	1063	1066	1065	1065	1062	1060	1057	1050	1050	1053	1055	1064	1085	1091	1099	1093	1080	1075	1074	1071	1070	1068
27	1070	1062	1051	1054	1062	1067	1067	1061	1055	1058	1059	1054	1058	1062	1069	1089	1092	1090	1099	1086	1074	1070	1069	1065	1066	1068
28	1066	1069	1070	1070	1070	1071	1071	1072	1069	1066	1058	1054	1054	1056	1060	1069	1070	1070	1079	1070	1070	1070	1070	1065	1063	1067
29	1062	1065	1066	1067	1068	1069	1068	1065	1065	1060	1058	1057	1053	1056	1062	1065	1068	1064	1062	1065	1065	1065	1065	1066	1068	1064
30	1068	1068	1068	1067	1068	1069	1069	1066	1063	1057	1050	1049	1052	1060	1065	1069	1073	1083	1098	1093	1077	1037	1034	1026	1013	1063
31	1013	1071	1029	1041	1042	1049	1050	1057	1061	1057	1063	1061	1060	1066	1074	1078	1079	1076	1075	1074	1074	1074	1073	1073	1073	1060
Mean	1061	1058	1059	1060	1061	1063	1064	1065	1064	1062	1059	1057	1056	1058	1063	1070	1075	1077	1079	1077	1074	1071	1069	1066	1061	1065

XXXII.—AUXILIARY OBSERVATIONS IN ABSOLUTE MEASURE; DAILY VALUES OF TEMPERATURE IN THE EAST ROOM OF MAGNET HOUSE; MAGNETIC NOTES FOR THE MONTH.

Eskdalemuir. **August, 1921.**

Date	Time G.M.T. From	Time G.M.T. To	Horizontal Force.	Declination.	Dip.	Temperature in Magnet House.	Magnetic Character of day (0–2).	Date.
Aug.	h. m.	h. m.	γ	° ′ ″	° ′	a		
						280+		
						6·0	0C	1
2	10 40	11 3	16704	16 40 3	69 39·2	5·9	1	2
						5·9	1D	3
						5·8	2	4
						5·8	2D	5
						5·8	1D	6
						5·8	1	7
						5·9	1	8
9	11 18	11 34			69 42·0			
	10 41	11 7	16672	16 38 19	69 42·0	6·0	0C	9
						6·1	0	10
						6·2	1	11
						6·2	0	12
						6·2	0	13
						6·3	1	14
						6·3	2	15
16	11 11	11 46	16664	16 41 22	69 43·2	6·4	1	16
						6·4	1	17
						6·4	0	18
						6·3	0	19
						6·4	0	20
						6·4	1	21
						6·4	0	22
23	9 45	10 17	16668	16 34 57	69 41·7	6·4	0C	23
						6·4	0	24
						6·4	0C	25
						6·5	2D	26
						6·5	1	27
						6·6	0	28
						6·6	0C	29
30	11 11	11 38	16598	16 41 43	69 41·2	6·6	2D	30
						6·6	1	31

MAGNETIC NOTES.

August, 1921.

Disturbance of a moderate character developed gradually after 14h. on 2nd and continued until 20h. on 3rd. A "sudden commencement" occurred at 4d. 17h. 35m., and the ensuing comparatively moderate disturbance persisted until the evening of 7th. Conditions on 11th were disturbed well above the average of the month, the largest changes occurring between 11d. 17h. and 12d. 2h. Further periods of more than average disturbance occurred on 15th and 16th. The "sudden commencement" at 26d. 1h. 17m. was followed by disturbed conditions lasting until the end of the next day. This disturbance was marked by no particularly large changes but there was considerable oscillatory movement, of small period, in N and W between 9h. and 17h. on 26th and between 6h. and 18h. on 27th. The 29th was the quietest day of the month. The disturbance which began about 30d. 10h. and continued for nearly 24 hours was the largest of the month in respect of absolute range.

See Explanatory Note, Table IV

XXXIII.—TERRESTRIAL MAGNETIC FORCE: NORTH COMPONENT.

Eskdalemuir. (X.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **September, 1921.**

15,000 γ (·15 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1005	1008	1008	1008	1008	1005	1003	996	989	983	974	976	988	1001	1007	1005	1004	1004	1009	1013	1015	1009	1003	1003	1000	1001
2	1000	995	1003	1001	1012	1023	1005	925	962	901	905	969	960	945	961	998	1028	1012	1003	1004	999	986	989	985	989	982
3	989	993	991	992	994	993	989	980	974	965	964	971	980	990	980	1008	995	999	999	1002	1006	1006	1005	1008	1008	991
4	1008	1004	1007	990	992	1014	1009	999	979	966	961	950	964	979	980	989	1002	1004	1009	1004	1014	1004	1018	999	1003	993
5	1002	1004	1003	999	993	998	1008	1008	1003	989	960	950	951	964	972	973	989	999	1002	1003	1006	1007	1019	1009	1008	992
6	1008	1008	1002	1004	1005	1012	1008	999	1003	995	984	976	965	969	972	974	980	994	1002	1003	1008	1009	1008	1013	1007	996
7	1007	1001	1001	1003	1001	1007	1013	1005	993	983	975	969	965	970	978	989	994	997	1004	1014	1018	1029	1023	1005	999	998
8	999	1013	1023	997	1004	1005	1001	990	977	974	973	976	979	988	1003	994	1013	998	998	1003	1006	1009	1005	1005	999	997
9	999	994	993	987	989	993	1003	995	983	979	976	973	975	978	985	994	1003	1002	1004	1007	1005	1008	1013	1014	1004	994
10	1004	1003	1003	1012	1013	1013	1013	1007	996	984	976	973	983	990	998	1007	1009	1003	1004	1010	1009	1007	1018	1010	1003	1002
11	1003	1014	1007	1007	1008	1007	1007	999	993	983	973	975	979	984	989	994	998	1002	1006	1010	1012	1014	1008	1010	1008	999
12	1008	1009	1008	1008	1008	1010	1011	1008	1004	998	988	982	977	978	983	993	1000	1007	1009	1013	1013	1013	1018	1015	1018	1003
13	1017	1012	1011	1011	1012	1012	1013	1013	1009	998	986	971	978	981	989	995	996	1004	1012	1016	1017	1018	1019	1025	1019	1005
14	1019	1012	1008	1010	1009	1011	1011	1012	1011	1001	985	978	982	987	991	997	1002	1005	1015	1017	1017	1021	1021	1022	1028	1006
15	1028	1023	1023	1017	1032	1023	1012	1009	1002	987	972	963	963	972	977	984	994	1002	1003	1007	1011	1011	1010	1011	1016	1001
16	1016	1009	1006	1007	1008	1008	1006	1002	994	983	978	980	983	988	993	993	1003	1001	1010	1017	1021	1031	1023	1007	1005	1003
17	1005	1009	1012	1012	1015	1007	1005	1007	1002	992	977	974	982	988	995	998	1001	1003	1003	1006	1007	1010	1007	1007	1007	1001
18	1007	1007	1006	1006	1006	1006	1002	996	985	977	968	970	981	990	998	1001	993	995	999	1017	1013	1004	997	1009	1001	997
19	1001	1011	1007	1007	1006	1017	1012	992	979	983	987	982	976	977	984	982	990	997	992	1005	1010	1009	1009	1010	1007	997
20	1006	1006	1005	1002	1002	1002	1001	1002	1002	991	971	964	962	972	982	996	1003	1004	1005	1009	1011	1013	1010	1009	1007	997
21	1007	1007	1007	1010	1012	1013	992	997	994	980	975	967	967	969	976	986	990	1002	1003	1002	1010	1001	1001	1026	1009	996
22	1009	998	1002	1002	1003	1003	1002	999	993	984	972	967	967	973	982	989	997	1005	1009	1013	1012	1012	1008	1010	1011	996
23	1011	1014	1030	1029	1012	1034	1016	1016	998	987	968	981	971	971	976	962	984	996	1001	1006	1005	1004	1004	1002	1001	999
24	1001	1000	998	1000	1001	1001	1001	1000	994	984	976	968	963	967	972	979	991	999	1003	1005	1005	1006	1005	1005	1006	993
25	1005	1005	1005	1005	1006	1007	1007	1006	1003	995	985	976	973	975	977	984	992	1001	1010	1014	1012	1009	1008	1008	1007	999
26	1007	1007	1007	1008	1007	1007	1008	1004	1000	990	981	977	975	977	980	986	995	1001	1008	1012	1014	1013	1011	1019	1019	1000
27	1019	1013	1012	1010	1010	1010	1010	1009	1000	990	975	971	975	983	990	993	998	1004	1007	1010	1014	1010	1015	1030	1015	1002
28	1015	1017	1014	1012	1015	1019	1020	1020	1012	1000	991	985	983	993	1001	1001	998	998	1004	985	988	1008	1007	1019	997	1004
29	997	993	1020	1027	1016	990	992	988	982	972	966	956	950	970	980	975	981	997	996	1016	1005	994	1000	991	995	990
30	995	990	985	995	996	994	997	998	988	989	980	976	975	973	977	983	1000	1003	1002	995	1000	1006	1014	1008	1006	993
Mean*	1007	1006	1007	1006	1007	1008	1006	1000	994	982	973	972	973	978	984	990	998	1001	1005	1008	1009	1009	1010	1010	1007	998

* Mean of 28 days, 19th and 20th omitted.

XXXIV.—TERRESTRIAL MAGNETIC FORCE: WEST COMPONENT.

Eskdalemuir. (—Y.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **September, 1921.**

4,000 γ (·04 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	766	765	765	764	762	760	755	750	749	754	765	775	785	791	787	777	770	765	769	770	770	764	752	740	735	765
2	735	719	726	702	717	748	754	755	755	739	802	788	799	791	793	776	761	777	759	757	722	756	760	761	761	757
3	761	759	757	755	755	754	749	748	749	749	761	774	786	792	783	780	771	767	766	770	771	770	747	761	765	764
4	765	765	764	770	773	744	743	751	744	754	765	770	785	797	791	780	777	754	761	761	755	754	760	748	739	763
5	739	754	749	749	751	764	753	744	744	748	759	776	796	802	803	792	781	771	770	767	759	761	759	760	760	765
6	760	761	768	772	761	755	754	751	747	740	754	767	781	796	797	791	777	771	770	768	764	748	755	754	753	765
7	753	759	759	759	759	759	752	744	743	749	761	774	787	796	799	798	793	791	781	770	763	759	756	738	744	767
8	744	748	691	680	742	749	744	744	744	749	757	769	778	785	796	781	797	781	769	771	770	771	748	743	751	756
9	751	766	770	770	754	760	744	733	735	744	764	776	788	797	791	781	780	775	775	775	770	771	773	765	759	767
10	759	759	760	762	755	751	743	743	743	753	769	780	787	797	786	781	777	772	765	766	770	770	768	759	767	766
11	767	764	760	760	755	757	755	752	748	745	755	769	785	791	787	781	773	770	770	772	769	769	761	762	763	766
12	763	762	761	762	760	760	756	752	749	750	755	760	770	780	779	777	785	771	770	771	770	768	765	765	766	765
13	766	765	764	762	762	762	760	756	753	750	754	764	776	785	786	783	779	779	776	775	771	770	769	754	752	767
14	752	755	762	762	761	760	759	753	745	744	751	765	781	792	793	787	781	776	777	772	770	771	770	770	770	767
15	770	764	758	760	739	728	734	744	749	757	768	781	786	797	788	776	765	764	761	764	767	766	767	764	756	763
16	756	759	754	754	754	755	753	749	751	755	765	780	788	791	789	779	776	769	770	775	770	740	753	746	757	764
17	757	754	761	756	748	749	755	754	751	750	755	765	776	788	787	781	775	770	768	767	766	765	765	765	767	764
18	767	767	765	763	761	760	757	749	746	749	757	771	787	796	797	792	781	784	775	773	764	743	744	756	764	767
19	764	764	753	753	749	748	754	752	754	753	760	769	781	787	791	783	778	771	759	764	767	763	764	764	764	764
20	764	765	765	763	760	760	754	745	739	740	751	765	781	797	797	791	781	773	771	771	768	770	765	764	762	767
21	762	770	770	749	741	747	750	749	743	744	754	770	785	796	796	792	782	777	770	764	748	745	751	760	738	763
22	738	747	749	756	755	758	754	748	744	743	749	760	767	775	776	776	771	770	770	770	770	768	765	765	763	761
23	763	764	749	719	769	749	733	743	746	751	765	771	792	786	798	784	776	775	763	764	764	764	763	762	760	763
24	760	760	760	760	759	760	759	753	744	739	743	752	764	775	779	777	775	769	767	768	765	765	764	764	764	762
25	764	762	761	760	760	760	760	757	751	748	749	759	770	777	777	777	774	772	770	770	763	764	759	762	764	764
26	764	764	763	760	759	759	754	749	746	747	755	767	776	783	784	784	779	771	765	766	765	765	767	762	769	765
27	769	765	764	761	760	760	756	754	749	749	751	764	778	786	786	781	776	771	770	770	754	761	760	758	764	765
28	764	765	764	761	760	759	757	754	749	745	752	766	781	798	807	804	804	792	781	770	720	722	729	706	712	762
29	712	744	717	688	729	738	737	739	740	747	755	766	777	789	786	778	754	755	760	695	723	744	744	756	760	746
30	760	760	778	760	754	760	760	757	753	752	764	769	776	778	773	766	769	768	764	755	758	759	760	764	746	763
Mean*	757	759	756	751	754	754	751	749	747	748	759	770	782	790	789	783	777	772	769	766	760	760	758	756	756	763

* Mean of 28 days, 19th and 20th omitted.

XXXV.—TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.

Eskdalemuir. (Z.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **September, 1921.**

44,000 γ (·44 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1073	1075	1074	1073	1073	1075	1076	1076	1074	1072	1071	1068	1068	1072	1073	1076	1079	1076	1075	1073	1074	1076	1079	1076	1071	1074
2	1071	1085	1044	1034	1007	973	997	1017	1043	1059	1067	1075	1079	1109	1124	1122	1149	1138	1133	1130	1110	1084	1084	1088	1087	1076
3	1087	1088	1088	1088	1088	1088	1088	1088	1083	1078	1075	1070	1073	1078	1085	1092	1095	1089	1085	1084	1082	1083	1084	1083	1083	1084
4	1083	1084	1085	1080	1051	1047	1049	1056	1056	1059	1059	1064	1071	1075	1085	1094	1097	1098	1096	1092	1086	1084	1068	1059	1067	1074
5	1067	1068	1068	1071	1072	1071	1070	1071	1068	1064	1068	1071	1068	1069	1080	1089	1092	1092	1090	1089	1088	1080	1072	1072	1076	1076
6	1076	1077	1078	1073	1076	1076	1079	1080	1080	1080	1078	1073	1069	1069	1078	1088	1091	1092	1089	1088	1088	1088	1084	1080	1077	1080
7	1076	1075	1077	1079	1079	1079	1079	1083	1080	1078	1075	1072	1067	1067	1072	1080	1086	1091	1089	1088	1087	1082	1067	1063	1059	1078
8	1059	1039	1038	1059	1067	1074	1079	1087	1087	1079	1075	1073	1074	1071	1076	1077	1079	1101	1109	1100	1091	1088	1089	1088	1083	1078
9	1083	1079	1070	1068	1067	1070	1075	1075	1075	1072	1070	1067	1067	1068	1074	1076	1079	1077	1076	1079	1079	1079	1075	1071	1074	1074
10	1074	1075	1075	1072	1073	1073	1074	1075	1072	1067	1067	1067	1066	1067	1068	1074	1075	1078	1079	1079	1077	1077	1075	1073	1074	1073
11	1074	1067	1070	1071	1071	1073	1074	1075	1071	1068	1067	1063	1063	1066	1067	1071	1074	1075	1075	1075	1076	1075	1076	1075	1075	1071
12	1075	1075	1075	1074	1074	1073	1074	1075	1073	1070	1067	1060	1061	1064	1067	1070	1070	1072	1073	1074	1075	1075	1075	1075	1072	1071
13	1072	1073	1073	1073	1072	1072	1072	1071	1070	1070	1069	1066	1061	1063	1067	1071	1070	1070	1071	1072	1073	1074	1074	1073	1073	1071
14	1073	1072	1071	1072	1071	1071	1072	1072	1071	1070	1065	1056	1051	1053	1058	1063	1067	1071	1070	1071	1074	1073	1073	1073	1071	1068
15	1071	1069	1065	1060	1054	1058	1061	1063	1063	1063	1063	1063	1066	1069	1074	1077	1079	1079	1078	1075	1074	1074	1074	1074	1071	1069
16	1071	1067	1070	1072	1073	1072	1072	1071	1071	1071	1071	1067	1065	1064	1067	1071	1076	1075	1075	1074	1074	1075	1071	1071	1071	1071
17	1071	1069	1070	1071	1072	1072	1072	1071	1071	1070	1068	1065	1060	1060	1067	1072	1076	1075	1075	1075	1075	1076	1077	1077	1077	1071
18	1077	1076	1077	1077	1077	1076	1079	1079	1078	1076	1072	1069	1063	1063	1067	1072	1079	1081	1079	1079	1080	1088	1083	1079	1077	1076
19	1077	1068	1072	1074	1073	1070	1070	1072	1072	1071	‡	‡	1068	†	—	—	—	—	—	—	—	—	—	—	†	—
20	†	—	—	—	—	—	—	—	—	†	1068	1067	1065	1064	1071	1076	1080	1083	1080	1079	1079	1079	1079	1079	1079	—
21	1079	1075	1070	1067	1067	1067	1072	1072	1075	1075	1054	1053	1053	1056	1061	1068	1071	1072	1075	1075	1074	1072	1068	1046	1040	1067
22	1040	1052	1058	1056	1058	1063	1064	1065	1065	1064	1062	1058	1051	1050	1054	1059	1064	1065	1063	1063	1063	1063	1064	1064	1064	1060
23	1064	1063	1051	1038	1027	1015	1026	1038	1046	1048	1048	1044	1041	1046	1054	1065	1074	1072	1074	1071	1070	1067	1067	1067	1066	1053
24	1066	1066	1066	1066	1066	1066	1067	1068	1067	1067	1067	1063	1063	1063	1063	1067	1069	1069	1067	1067	1067	1067	1067	1066	1066	1066
25	1066	1065	1065	1066	1065	1065	1065	1067	1067	1069	1066	1063	1059	1058	1058	1060	1063	1063	1063	1064	1067	1067	1067	1066	1065	1064
26	1066	1065	1065	1065	1064	1066	1067	1068	1068	1064	1062	1063	1064	1064	1064	1064	1067	1068	1068	1068	1068	1068	1068	1064	1061	1066
27	1061	1061	1063	1064	1064	1064	1066	1067	1067	1066	1064	1060	1056	1055	1057	1061	1066	1067	1067	1068	1069	1068	1067	1062	1061	1064
28	1061	1060	1061	1063	1062	1061	1060	1060	1061	1064	1062	1057	1050	1051	1055	1061	1068	1074	1082	1097	1118	1084	1071	1060	1059	1067
29	1059	1061	969	994	1003	1026	1050	1060	1065	1066	1064	1061	1060	1061	1067	1077	1088	1088	1080	1087	1072	1071	1071	1071	1071	1057
30	1071	1071	1066	1062	1065	1067	1065	1068	1068	1068	1068	1068	1066	1069	1072	1075	1079	1079	1078	1081	1078	1075	1069	1064	1054	1070
Mean*	1070	1070	1064	1065	1063	1063	1066	1069	1069	1068	1067	1064	1063	1065	1070	1075	1079	1080	1080	1080	1079	1076	1074	1071	1069	1070

* Mean of 28 days, 19th and 20th omitted. ‡ Fitting new gas pipe. † Gas too low.

XXXVI.—AUXILIARY OBSERVATIONS IN ABSOLUTE MEASURE; DAILY VALUES OF TEMPERATURE IN THE EAST ROOM OF MAGNET HOUSE; MAGNETIC NOTES FOR THE MONTH.

Eskdalemuir. **September, 1921.**

Date	Time G.M.T. From	Time G.M.T. To	Horizontal Force.	Declination.	Dip.	Temperature in Magnet House.	Magnetic Character of day (0–2).	Date.
Sept.	h. m.	h. m.	γ	° ′ ″	° ′	a 280+		
						6·6	0	1
						6·7	2D	2
						6·7	0	3
						6·7	1	4
						6·8	1	5
						6·8	0	6
7	11 14	11 44	16680	16 40 18	69 42·3	6·8	1	7
						6·8	1D	8
9	10 42	11 18		16 39 13	69 41·6	6·9	1	9
						6·9	0	10
						6·9	0C	11
						6·9	0C	12
13	10 48	11 14	16674	16 36 21	69 40·9	6·9	0C	13
						6·9	0	14
						6·9	1	15
16	11 13	11 36	16682	16 39 38	69 41·1	6·9	1	16
						6·9	0	17
						7·0	1	18
						7·0	1	19
20	11 11	11 33	16674	16 38 48	69 42·0	7·0	0	20
						7·0	1	21
						7·0	0	22
						7·0	1D	23
						7·0	0C	24
						7·0	0C	25
						7·0	0	26
						7·1	1	27
						7·0	2D	28
						7·0	2D	29
						7·0	1	30

MAGNETIC NOTES.

September, 1921.

Apart from a large disturbance near the beginning and another near the end of the month, conditions were characterised by only very moderate activity. The first storm began gradually shortly before 1d. 22h. and subsided rather abruptly 24 hours later. The largest changes in N and W took place mainly within the period 4h.–16h. on 2nd. V decreased from 2d. 0h. to a minimum at about 5h. and then increased somewhat irregularly to a maximum near 16h. The degree of disturbance on 7th and 8th was above the average for the month. The range in W between maximum and minimum turning points at 0h. 30m. and 2h. 31m. on 8th was 136γ. Small oscillations of short period occurred in N and in W between 22h and 24h.. on 12th, 13th, 14th, 15th. Very quiet conditions prevailed on 24th, 25th, 26th. The second of the two larger disturbances of the month commenced between 10h. and 11h. on 28th, and the period of most general disturbance in N and W was from 28d. 18h. to 29d. 4h. No large movements in these components occurred between 5h. and 12h. on 29th, this interval being characterised by almost continuous pulsatory movements of small magnitude. V reached a maximum shortly before 20h. on 28th, decreased and remained at approximately normal value from 28d. 22h. to 29d. 1h. Commencing at 29d. 1h. 30m., V decreased rather rapidly by 120γ to a sharp minimum at 2h. The subsequent recovery was relatively smooth but was interrupted by a shallow secondary minimum at 4h. The principal changes in the horizontal components on 29th occurred between 18h. and 20h. During this interval N reached a maximum at 19h. 14m., W a sharp minimum at 19h. 6m., and V a small peak maximum at 19h. 4m.

See Explanatory Note, Table IV.

XXXVII.—TERRESTRIAL MAGNETIC FORCE: NORTH COMPONENT.

Eskdalemuir. (X.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **October, 1921.**

15,000 γ (·15 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1006	996	1003	1005	1010	1010	1005	988	991	989	974	970	951	980	992	989	990	996	1000	1001	1001	1002	1000	1001	1004	994
2	1004	999	1001	1004	1004	1003	1008	1001	996	986	978	973	969	970	980	984	989	994	1001	1005	1004	1000	1001	1002	1000	994
3	999	998	997	1001	1001	997	1000	1004	995	989	981	970	969	974	976	985	1000	1003	1005	1004	1005	1003	1003	1009	1009	995
4	1009	1006	1003	1004	1007	1009	1007	999	994	990	979	977	975	979	984	988	987	994	999	1005	1002	1014	1008	1009	1014	997
5	1014	1005	1005	1009	1001	1002	1004	1004	1004	998	988	976	974	975	986	995	1002	1004	992	984	987	993	999	1000	999	996
6	999	994	995	1005	999	998	1002	1003	998	985	976	974	971	970	989	995	998	1001	1003	1009	998	1022	994	1005	993	995
7	993	993	999	1002	1001	1003	1003	1000	999	986	978	974	975	983	993	1000	1008	1008	1002	996	996	990	999	1008	1004	996
8	1004	989	989	983	1024	970	931	902	874	843	871	887	916	935	952	955	963	955	955	966	965	985	991	974	977	949
9	977	981	979	975	1008	996	983	976	970	973	961	955	948	955	965	973	973	983	990	989	989	1008	994	994	994	979
10	994	996	990	989	1000	999	999	998	998	1001	990	981	970	969	971	975	975	992	985	985	994	998	994	996	995	989
11	994	998	993	994	995	989	989	1002	1003	994	974	979	980	978	970	975	971	964	959	962	959	947	939	957	932	976
12	932	959	998	970	983	987	995	977	974	978	974	969	969	973	979	983	993	993	993	989	1013	1000	991	991	991	983
13	991	990	992	988	992	999	993	990	993	985	973	966	964	968	974	978	985	994	994	997	998	998	998	999	1001	988
14	1001	998	998	999	999	1003	1002	1003	989	982	980	975	978	983	984	988	983	987	988	998	1000	999	1003	1000	1023	993
15	1023	993	983	988	994	998	998	998	993	982	973	970	972	981	969	965	983	992	1003	994	998	998	998	998	997	989
16	997	993	993	994	997	998	998	998	996	987	976	975	978	982	984	989	992	996	998	998	1004	1002	999	999	1002	993
17	1002	1001	998	998	998	1000	999	998	998	993	978	972	973	979	987	991	994	998	999	998	993	994	997	998	999	993
18	999	998	998	998	999	1002	1003	1002	997	988	977	972	977	985	991	994	995	1001	1005	1007	1012	1004	1007	998	1005	996
19	1005	1003	1003	1009	1005	1005	1008	1008	1003	996	983	974	977	983	988	992	993	998	999	999	1001	1002	1002	1001	1000	997
20	1000	1002	1000	1000	1002	1003	1007	1006	1000	989	978	973	974	988	998	1003	1005	1008	1006	996	993	1003	1009	1009	1003	998
21	1003	1008	997	997	999	1004	990	1003	998	993	972	950	957	964	973	965	984	968	968	964	984	1003	999	998	993	985
22	992	990	991	992	992	997	997	997	997	991	976	972	968	974	979	981	972	983	987	1011	992	992	1000	1008	1001	989
23	1001	997	997	997	998	992	993	1006	1002	991	980	973	972	977	979	980	988	992	996	989	987	999	1006	998	995	991
24	995	995	995	995	997	1001	1006	1005	1003	992	971	965	963	972	981	977	987	994	993	990	987	998	999	999	997	990
25	997	1007	998	996	997	1001	1002	997	1000	992	977	965	968	976	982	987	988	996	999	997	997	998	998	1003	1009	993
26	1009	1002	1001	1001	1002	1005	1007	1011	1008	1001	983	977	972	967	972	986	991	975	972	980	992	988	992	994	997	991
27	997	995	991	993	1002	1006	1012	1007	1000	989	978	969	971	968	954	986	990	992	978	987	995	1001	1004	1003	1016	991
28	1015	1011	986	990	996	998	996	998	992	976	966	972	974	976	981	986	991	995	992	991	990	1006	998	986	996	990
29	996	991	991	991	997	996	993	1000	1000	994	982	975	962	947	977	986	987	987	986	1002	986	991	996	1000	1014	988
30	1014	998	992	996	997	999	1000	996	994	986	975	966	975	980	987	991	993	996	996	996	996	995	996	1001	1000	992
31	1000	998	998	1002	1006	1010	1007	1005	997	992	976	971	970	968	977	978	980	977	966	976	991	975	978	996	996	987
Mean*	999	996	995	995	1000	999	998	996	992	984	973	968	968	973	979	984	988	990	990	992	993	997	996	997	998	989

* Mean of 29 days, 2nd and 3rd omitted.

XXXVIII.—TERRESTRIAL MAGNETIC FORCE: WEST COMPONENT.

Eskdalemuir. (—Y.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **October, 1921.**

4,000 γ (·04 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	747	744	773	745	748	739	746	750	755	761	766	782	782	790	786	779	772	762	762	758	753	757	760	765	767	762
2	767	*	—	—	—	—	—	—	—	—	—	*	777	781	784	782	781	776	774	769	766	744	*	—	*	—
3	*	—	—	—	—	—	—	—	—	*	752	761	777	788	790	784	781	775	771	768	766	764	761	767	751	—
4	751	755	749	755	756	755	755	758	761	760	754	765	779	788	792	788	773	762	767	767	750	750	745	761	767	763
5	767	764	775	760	758	767	758	755	751	748	752	761	777	782	788	787	784	782	745	735	718	730	754	755	757	760
6	757	745	719	734	745	757	757	755	751	746	756	776	783	782	783	783	775	771	770	771	760	744	757	751	755	759
7	755	771	760	755	757	757	756	755	751	750	756	767	777	782	782	777	776	770	767	761	700	736	733	739	697	757
8	696	743	713	765	785	781	807	780	766	767	749	772	781	788	782	776	775	766	746	735	727	743	754	776	743	762
9	743	733	729	774	751	728	741	738	737	738	749	755	765	770	776	777	770	765	760	760	756	748	759	753	765	754
10	765	754	749	760	755	756	755	754	750	750	751	759	770	776	777	770	762	761	744	765	765	761	757	756	755	759
11	755	760	759	754	751	760	774	776	765	760	759	767	780	786	787	789	770	744	739	719	703	704	696	697	643	750
12	643	680	701	740	760	750	754	754	754	744	753	763	770	776	780	775	773	750	766	757	723	738	746	760	767	749
13	767	756	754	760	761	754	749	750	751	744	744	756	765	770	776	775	768	763	756	759	759	757	759	756	765	759
14	765	756	757	756	755	754	754	749	743	741	748	750	771	781	782	782	776	776	772	766	762	757	734	739	760	759
15	760	735	761	760	755	754	754	749	744	744	753	762	778	793	791	778	770	760	748	760	759	757	757	755	759	760
16	759	759	759	759	759	759	756	754	748	744	744	760	776	787	787	780	769	765	765	765	754	755	754	754	760	761
17	760	760	757	757	759	759	755	754	748	744	744	756	773	781	780	775	767	765	766	765	753	744	748	755	759	759
18	759	758	755	755	755	755	754	752	748	746	751	769	784	788	785	778	772	770	770	767	768	758	760	750	750	763
19	750	750	753	749	746	749	753	754	749	749	752	764	775	777	776	770	765	766	765	761	759	760	757	757	756	759
20	756	756	756	756	760	759	760	759	754	749	749	759	770	777	781	780	776	774	768	759	735	754	760	762	760	761
21	760	762	754	759	757	754	769	775	765	757	757	765	788	793	793	766	776	775	753	755	749	729	728	748	753	762
22	753	756	759	758	760	759	756	754	749	749	751	765	777	781	781	778	768	770	770	743	752	754	753	744	757	760
23	757	754	756	759	758	761	765	759	757	752	754	761	771	778	778	774	770	756	756	757	754	742	750	754	756	760
24	756	759	759	760	759	760	757	756	750	740	753	761	769	781	787	777	770	760	765	749	745	754	755	759	756	760
25	755	765	753	753	756	759	757	758	755	748	748	756	768	774	770	767	761	748	763	760	758	752	748	750	745	757
26	745	750	753	755	755	758	758	758	753	745	744	754	771	779	776	772	771	772	778	761	753	743	739	748	747	758
27	747	751	758	774	758	758	758	756	753	753	764	766	774	799	782	782	774	771	776	759	759	756	725	721	759	761
28	759	743	734	752	753	754	755	753	748	751	752	768	774	777	770	765	761	764	764	753	745	737	694	716	721	751
29	721	737	739	743	750	754	759	752	747	748	755	772	780	777	775	772	767	761	763	733	734	740	748	753	764	754
30	764	756	758	756	758	758	755	753	748	748	751	757	768	770	769	765	764	764	760	755	758	743	753	755	75	758
31	754	755	759	762	754	753	753	755	753	748	751	765	777	778	786	781	777	775	748	748	711	735	735	720	735	755
Mean†	749	751	750	756	756	756	758	756	752	749	752	763	775	781	781	776	771	765	761	755	746	746	745	749	749	758

† Mean of 29 days, 2nd and 3rd omitted.

* Light failed.

XXXIX.—TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.

Eskdalemuir. (Z.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **October, 1921.**

44,000 γ (·44 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1054	1052	1031	1031	1039	1043	1051	1059	1061	1064	1064	1064	1065	1064	1066	1076	1077	1076	1073	1073	1072	1072	1071	1070	1064	1061
2	1064	1065	1064	1066	1066	1066	1065	1068	1069	1068	1069	1069	1069	1071	1072	1073	1073	1072	1069	1068	1070	1076	1074	1071	1064	1069
3	1064	1062	1066	1068	1068	1067	1065	1065	1068	1068	1069	1068	1068	1068	1071	1072	1072	1072	1072	1072	1072	1072	1071	1066	1062	1069
4	1062	1064	1065	1067	1066	1065	1065	1067	1065	1066	1066	1064	1060	1060	1064	1070	1076	1081	1077	1076	1078	1076	1074	1070	1068	1069
5	1068	1068	1064	1061	1064	1064	1066	1068	1069	1068	1064	1063	1060	1059	1061	1066	1069	1073	1091	1105	1098	1085	1077	1073	1071	1071
6	1071	1060	1043	1034	1044	1056	1062	1065	1068	1071	1067	1059	1057	1062	1064	1068	1071	1071	1069	1068	1073	1069	1058	1061	1063	1062
7	1064	1061	1065	1069	1069	1069	1069	1070	1071	1070	1067	1064	1060	1058	1060	1065	1069	1070	1072	1077	1092	1077	1073	1061	1043	1068
8	1043	1016	1004	998	992	1011	1016	1028	1046	1057	1089	1119	1123	1097	1088	1091	1089	1097	1115	1127	1118	1098	1065	1007	1020	1063
9	1020	1057	1065	1035	1020	1039	1056	1066	1076	1079	1082	1078	1079	1078	1081	1081	1082	1082	1081	1082	1082	1080	1076	1073	1073	1069
10	1073	1070	1070	1069	1066	1069	1070	1073	1073	1070	1073	1072	1072	1070	1077	1082	1085	1086	1090	1086	1084	1082	1082	1082	1081	1076
11	1081	1077	1074	1076	1077	1074	1069	1067	1069	1069	1073	1070	1068	1070	1078	1090	1131	1135	1140	1138	1118	1094	1065	1017	999	1082
12	999	1014	986	1036	1053	1070	1077	1077	1077	1081	1078	1076	1074	1075	1077	1081	1088	1094	1088	1087	1081	1081	1080	1077	1074	1069
13	1074	1077	1077	1077	1075	1076	1077	1078	1081	1082	1082	1079	1078	1078	1078	1082	1082	1082	1082	1082	1081	1079	1079	1078	1073	1079
14	1073	1070	1073	1073	1074	1074	1075	1077	1078	1078	1076	1077	1074	1071	1073	1077	1085	1086	1086	1086	1085	1085	1086	1084	1061	1078
15	1061	1065	1066	1066	1073	1074	1077	1077	1078	1078	1077	1073	1070	1069	1077	1089	1087	1089	1087	1082	1082	1082	1081	1079	1078	1077
16	1078	1078	1078	1078	1077	1077	1077	1075	1074	1074	1076	1069	1066	1069	1073	1077	1078	1078	1077	1077	1078	1077	1078	1078	1077	1076
17	1077	1077	1077	1077	1077	1076	1077	1077	1077	1074	1073	1069	1063	1064	1069	1074	1077	1076	1076	1077	1081	1082	1081	1077	1077	1075
18	1077	1077	1077	1077	1077	1075	1074	1074	1077	1074	1069	1066	1065	1066	1069	1072	1074	1073	1073	1073	1073	1077	1077	1081	1078	1074
19	1078	1077	1075	1069	1069	1070	1070	1070	1072	1073	1072	1070	1069	1071	1073	1077	1081	1078	1077	1077	1077	1077	1077	1077	1074	1074
20	1077	1077	1077	1075	1075	1074	1074	1074	1077	1076	1074	1072	1070	1072	1073	1074	1074	1073	1074	1079	1088	1080	1074	1072	1073	1075
21	1073	1069	1070	1073	1073	1073	1070	1063	1065	1066	1070	1073	1070	1071	1078	1099	1103	1100	1111	1112	1102	1091	1079	1077	1077	1081
22	1078	1078	1078	1078	1078	1078	1078	1078	1075	1071	1073	1072	1071	1072	1078	1083	1088	1088	1087	1087	1083	1083	1082	1076	1074	1079
23	1074	1074	1074	1075	1075	1075	1071	1071	1073	1073	1071	1070	1073	1078	1083	1087	1087	1087	1086	1087	1088	1083	1076	1074	1075	1078
24	1076	1076	1076	1077	1078	1078	1076	1076	1079	1080	1080	1080	1080	1080	1083	1088	1092	1089	1088	1091	1095	1089	1086	1083	1080	1082
25	1080	1071	1071	1072	1075	1076	1076	1079	1079	1083	1079	1077	1077	1079	1080	1084	1084	1085	1080	1080	1080	1082	1082	1079	1076	1079
26	1076	1075	1075	1075	1075	1075	1075	1075	1076	1079	1080	1075	1072	1074	1078	1082	1084	1091	1095	1096	1094	1095	1091	1084	1077	1081
27	1077	1076	1076	1071	1071	1072	1072	1074	1075	1075	1075	1075	1076	1079	1086	1084	1084	1084	1091	1095	1091	1087	1084	1080	1055	1079
28	1056	1042	1054	1061	1067	1068	1069	1071	1073	1073	1076	1077	1076	1077	1080	1084	1084	1081	1080	1084	1085	1074	1073	1070	1066	1073
29	1066	1066	1063	1064	1064	1068	1069	1071	1073	1073	1072	1072	1077	1081	1080	1081	1084	1084	1083	1084	1085	1081	1080	1077	1070	1075
30	1071	1069	1074	1077	1076	1076	1076	1076	1077	1077	1074	1073	1073	1074	1077	1078	1078	1077	1077	1077	1078	1081	1081	1078	1078	1076
31	1078	1079	1078	1075	1073	1073	1071	1069	1070	1073	1073	1073	1073	1074	1077	1084	1086	1091	1102	1102	1100	1090	1090	1086	1081	1081
Mean*	1067	1066	1064	1064	1065	1068	1069	1071	1073	1073	1074	1073	1072	1072	1075	1080	1084	1085	1086	1088	1087	1082	1078	1072	1068	1075

* Mean of 29 days, 2nd and 3rd omitted.

XL.—AUXILIARY OBSERVATIONS IN ABSOLUTE MEASURE; DAILY VALUES OF TEMPERATURE IN THE EAST ROOM OF MAGNET HOUSE; MAGNETIC NOTES FOR THE MONTH

Eskdalemuir. **October, 1921.**

Date	Time G.M.T. From	Time G.M.T. To	Horizontal Force.	Declination.	Dip.	Temperature in Magnet House.	Magnetic Character of day (0–2).	Date.
Oct.	h. m.	h. m.	γ	° ′ ″	° ′	a 280+		
						7·1	I	1
						7·1	0	2
						7·1	oc	3
4	12 12	12 34	16671	16 39 45	69 41·7	7·1	I	4
						7·0	I	5
						7·0	I	6
						7·0	ID	7
						7·0	2D	8
						7·0	I	9
						7·0	0	10
11	11 15	11 47	16699	16 38 33	69 41·1	7·0	2D	11
						7·0	ID	12
						7·0	0	13
						7·0	0	14
						7·0	I	15
						7·1	oc	17
						7·1	oc	17
18	10 53	11 34	16683	16 40 13	69 41·7	7·1	oc	18
						7·1	oc	19
						7·1	0	20
						7·2	ID	21
						7·2	I	22
						7·2	0	23
						7·2	0	24
25	11 12	11 40	16665	16 36 15	69 42·6	7·2	0	25
						7·2	0	26
						7·2	I	27
						7·2	I	28
						7·2	I	29
						7·2	0	30
						7·2	I	31

MAGNETIC NOTES.

October, 1921.

The most disturbed periods were 5th to 9th, 11th and 12th, 21st, 27th to 29th. Apart from 21st the interval extending from 16th to 26th was comparatively quiet. There were rather large negative excursions in W centred at 18h. 30m. and 20h. 15m. on 5th. The largest disturbance of the month began about 7d. 14h., the largest changes in N and W occurring between 7d. 19h. and 8d. 14h. V reached a small maximum at 7d. 20h. and then decreased gradually and irregularly to a minimum between 3h. and 4h. on 8th. The principal maximum in V was at 8d. 11h. 19m. After reaching a further but less pronounced maximum at 19h. on 8th, V decreased steadily to a minimum at 23d. 20m., and this was followed by a secondary minimum between 3h. and 4h. on 9th. Conditions were fairly quiet on 10th and during the early hours of 11th but the second largest disturbance of the month developed after 8h. on the latter day and continued for nearly 24 hours. The moderate disturbance of 21st, which subsided rather suddenly shortly before midnight of that day, apparently began at 20d. 13h. 9m. with a small movement which resembles a poorly developed "sudden commencement." Further comparatively moderate disturbance occurred on 28th, 29th and again on 31st.

See Explanatory Note, Table IV.

HOURLY VALUES FROM AUTOGRAPHIC RECORDS.

XLI.—TERRESTRIAL MAGNETIC FORCE: NORTH COMPONENT.

Eskdalemuir. (X.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **November, 1921.**

15,000 γ (·15 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	995	990	995	1010	1003	1000	998	1001	998	993	980	971	969	974	984	985	980	986	1001	1004	1002	993	995	994	994	992
2	994	994	995	995	996	996	998	999	994	987	978	971	971	978	985	988	991	999	999	999	999	999	999	999	999	992
3	999	998	998	999	1001	1001	1002	1000	996	991	985	982	985	990	995	1000	1002	994	1002	999	999	1008	1001	1003	1000	997
4	1000	999	999	999	1000	1000	1004	1003	999	992	980	975	975	983	990	995	999	1003	1004	1004	1005	1004	1003	1002	1004	997
5	1004	1003	999	1001	1000	1004	1005	1003	1002	995	987	980	980	982	990	994	994	990	1002	1003	1001	992	1004	984	961	995
6	961	988	987	984	996	980	957	975	975	989	942	951	955	955	955	966	979	970	980	990	976	974	970	971	975	972
7	975	990	993	986	986	990	992	980	990	985	982	*	—	—	—	—	*	995	982	987	990	999	1016	995	995	—
8	995	1001	1000	991	994	997	998	1005	998	988	974	966	975	980	990	992	997	1002	1003	1004	1004	1004	1004	1003	985	994
9	985	993	993	994	1004	1005	1009	1001	1003	995	990	978	969	976	985	991	994	992	1004	994	989	991	1006	1017	995	994
10	994	995	991	995	999	1003	997	1002	1003	987	969	972	970	964	958	950	977	993	992	993	990	985	993	990	991	986
11	991	993	991	991	992	994	995	996	993	986	979	974	974	979	985	994	999	1001	1002	1000	997	995	1001	999	1008	992
12	1008	1004	998	1001	1002	999	1004	1005	999	993	989	984	988	992	998	1002	1005	1006	1004	1004	1003	1002	1000	1000	999	999
13	999	998	1002	1003	1004	1008	1011	1012	1008	999	993	990	985	989	989	990	982	988	1007	1009	1001	1000	994	999	1030	999
14	1030	989	993	999	992	996	999	999	996	990	988	985	986	988	992	994	995	992	993	1003	998	999	1002	1006	997	995
15	997	996	995	998	1000	1003	1004	1004	1002	993	985	983	984	993	999	1003	1004	1008	1008	1004	993	988	985	992	998	997
16	998	998	1003	1005	1009	1014	1016	993	968	998	985	979	974	945	978	997	1003	989	970	959	985	936	999	979	974	986
17	973	959	988	993	984	1002	983	958	967	975	968	950	924	919	948	969	968	983	988	980	978	1011	1008	978	984	973
18	984	993	984	983	978	975	973	992	973	972	974	960	945	952	952	980	994	992	992	1034	991	988	997	988	989	981
19	989	988	983	985	989	996	988	988	983	989	979	967	959	978	975	991	984	992	993	997	997	998	998	997	994	987
20	994	994	992	993	990	993	997	992	988	985	978	975	977	975	987	983	984	992	991	998	1001	998	994	995	997	990
21	997	997	999	997	997	998	1003	999	1000	998	993	968	963	962	980	974	983	973	989	998	994	997	1001	998	995	990
22	994	990	994	993	993	996	1001	1001	1001	996	984	981	979	983	985	988	991	996	982	979	990	997	1002	996	996	991
23	996	996	996	998	1001	1005	1006	1009	1010	1006	1006	992	976	976	981	981	982	990	976	998	948	952	983	987	1002	990
24	1002	1001	984	988	993	995	1001	1001	1001	992	987	972	977	929	987	989	988	995	996	996	996	997	998	999	1010	992
25	1010	999	998	1001	1004	1005	1008	1004	1001	1001	1000	996	991	986	988	991	991	991	990	991	991	994	1001	1001	998	997
26	998	999	1001	1004	1005	1006	1011	1011	1006	1003	999	996	996	996	996	997	1000	1001	1001	1005	1006	1005	1002	1002	1002	1002
27	1001	1001	1005	1005	1010	1010	1010	1011	1010	1004	999	995	994	992	994	995	996	1000	1000	1000	998	1000	1000	1003	1001	1001
28	1001	1000	1016	1015	1013	1014	1015	1023	1010	1009	1000	996	995	995	996	996	998	1001	1004	1005	1005	1003	1002	1001	1001	1005
29	1001	1000	1001	1002	1005	1008	1010	1011	1010	1005	1001	1000	997	1000	1002	1008	1009	1010	1011	1010	1009	1006	1002	1006	1005	1005
30	1005	1002	1003	1005	1006	1008	1010	1012	1010	1002	999	994	992	1001	1010	1012	1013	1013	1012	1010	1006	1007	1005	1002	1005	1006
Mean†	996	995	996	997	999	1000	1000	1000	997	994	985	979	976	978	985	989	992	995	996	999	995	994	998	996	996	993

†Mean of 29 days, 7th omitted. * Light out.

XLII.—TERRESTRIAL MAGNETIC FORCE: WEST COMPONENT.

Eskdalemuir. (—Y.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **November, 1921.**

4,000 γ (·04 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	735	741	764	738	728	746	749	751	750	748	749	759	768	780	783	782	792	780	768	765	764	754	752	751	753	759
2	753	751	752	755	754	752	753	752	748	746	750	758	768	773	771	767	759	763	763	758	758	754	754	754	754	757
3	754	757	756	758	758	758	757	754	752	748	747	754	767	771	770	768	768	763	762	763	758	748	752	752	752	758
4	752	752	755	757	757	757	755	752	747	742	743	752	763	773	773	767	763	763	759	758	758	758	758	757	758	757
5	758	752	757	758	758	758	757	754	752	746	747	753	768	778	779	779	789	780	772	764	752	742	688	647	653	752
6	653	683	710	757	752	758	780	769	770	763	738	754	763	770	783	748	774	768	758	756	747	724	725	720	738	749
7	737	741	727	736	745	751	756	762	757	750	745	*	—	—	—	—	*	751	759	748	748	746	751	745	746	—
8	746	773	755	746	751	751	752	752	751	746	747	751	762	763	763	761	756	757	756	755	753	752	735	702	714	751
9	714	734	737	766	747	748	752	756	752	746	759	759	769	774	778	772	766	757	736	756	755	747	728	720	745	752
10	745	747	753	751	745	745	746	763	758	757	756	757	775	773	779	770	772	762	755	750	740	730	723	737	743	754
11	743	751	752	755	754	752	751	747	743	737	740	751	761	767	764	763	758	758	757	757	753	753	749	746	761	753
12	761	752	753	753	751	752	752	751	746	741	749	756	766	771	766	763	762	762	758	757	756	755	753	752	751	756
13	751	753	756	756	756	757	757	756	752	747	750	758	762	768	767	767	761	761	763	757	757	725	731	746	751	755
14	751	687	708	730	740	742	746	748	747	746	751	758	762	763	762	755	752	753	749	744	753	752	750	742	749	745
15	749	750	752	756	757	757	756	753	749	746	747	754	762	763	762	758	761	762	760	762	757	729	725	739	750	753
16	750	758	756	762	758	765	763	753	768	773	767	764	778	773	773	764	765	762	751	724	709	678	667	702	735	749
17	735	747	694	731	746	756	762	794	767	741	747	752	755	762	763	777	766	742	746	741	729	655	708	718	735	743
18	735	751	747	746	753	771	779	768	751	752	750	757	757	770	767	755	752	757	740	716	703	722	758	745	749	750
19	748	747	752	755	754	750	749	756	758	755	756	751	750	765	756	756	719	756	755	752	750	750	750	749	747	752
20	747	745	747	750	750	755	750	751	745	747	745	749	751	756	760	758	745	755	751	750	749	748	746	745	749	750
21	749	738	740	740	746	751	753	755	755	750	756	752	757	760	772	755	753	745	741	730	745	745	740	739	740	748
22	740	745	750	752	750	751	752	750	747	745	744	751	755	761	761	757	757	740	741	738	750	750	745	744	743	749
23	743	747	750	751	752	755	755	755	751	750	755	758	757	764	768	771	764	764	762	712	695	694	708	734	744	747
24	744	720	745	749	750	750	757	755	749	745	745	753	763	766	763	756	747	750	753	752	750	746	747	746	747	750
25	747	740	747	751	750	750	750	751	750	750	756	757	764	767	766	766	757	755	757	734	746	746	749	750	752	752
26	752	755	756	755	756	756	756	753	752	751	752	753	756	756	756	755	755	752	750	751	750	750	751	750	750	753
27	749	747	741	744	742	741	747	750	754	755	754	760	760	765	765	764	760	755	755	753	744	744	744	744	745	751
28	745	746	749	721	728	733	740	747	748	755	751	755	759	760	759	755	754	752	751	750	749	749	749	749	749	748
29	749	750	754	754	755	755	755	754	751	752	751	755	759	760	756	755	755	755	755	754	752	747	745	746	746	753
30	746	749	751	755	751	750	754	751	749	745	744	749	755	762	768	760	756	756	755	753	753	747	748	739	730	752
Mean†	743	744	746	750	750	752	755	755	752	749	750	755	762	767	767	763	760	758	754	749	746	738	737	737	743	752

† Mean of 29 days, 7th omitted. * Light out.

XLIII.—TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.

Eskdalemuir. (Z.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **November, 1921.**

44,000 γ (·44 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1081	1078	1068	1052	1055	1059	1064	1068	1071	1073	1072	1073	1076	1080	1081	1087	1084	1084	1081	1077	1077	1082	1084	1083	1080	1075
2	1080	1080	1080	1079	1077	1076	1076	1075	1077	1076	1076	1077	1076	1077	1079	1081	1080	1079	1077	1076	1076	1076	1076	1076	1076	1077
3	1076	1076	1076	1076	1074	1073	1073	1073	1074	1076	1073	1072	1072	1075	1077	1077	1077	1076	1076	1076	1076	1076	1075	1073	1073	1075
4	1073	1073	1073	1073	1073	1072	1072	1072	1073	1076	1076	1075	1073	1073	1076	1077	1077	1076	1076	1073	1072	1072	1072	1072	1071	1074
5	1071	1069	1071	1071	1072	1072	1072	1072	1073	1076	1072	1071	1070	1072	1075	1077	1077	1077	1080	1080	1081	1084	1071	1072	1019	1073
6	1019	1023	1039	1047	1048	1052	1055	1056	1059	1061	1068	1072	1076	1085	1090	1117	1102	1097	1096	1089	1093	1099	1093	1088	1080	1073
7	1081	1090	1059	1064	1070	1073	1073	1073	1073	1075	1075	*	—	—	—	—	*	1079	1081	1086	1087	1082	1067	1066	1069	—
8	1069	1061	1053	1061	1067	1069	1069	1070	1073	1074	1073	1072	1071	1072	1073	1076	1076	1073	1073	1073	1072	1072	1073	1073	1065	1070
9	1065	1066	1068	1061	1058	1065	1065	1067	1069	1073	1071	1070	1070	1073	1073	1076	1077	1078	1081	1078	1082	1086	1082	1072	1069	1072
10	1069	1069	1066	1066	1069	1069	1069	1065	1064	1068	1069	1072	1074	1082	1094	1111	1099	1090	1085	1085	1085	1090	1086	1081	1077	1078
11	1078	1073	1074	1074	1074	1074	1074	1075	1078	1079	1078	1077	1075	1075	1079	1081	1078	1077	1075	1075	1076	1078	1078	1078	1069	1076
12	1069	1058	1065	1069	1070	1070	1070	1070	1070	1070	1070	1069	1070	1071	1074	1074	1074	1072	1071	1071	1071	1073	1074	1074	1074	1071
13	1074	1073	1070	1070	1069	1068	1067	1066	1069	1070	1068	1067	1070	1071	1074	1077	1079	1082	1077	1074	1074	1079	1077	1074	1045	1072
14	1045	1037	1051	1055	1061	1065	1066	1067	1070	1070	1070	1070	1070	1071	1073	1074	1074	1074	1077	1074	1074	1073	1074	1072	1072	1068
15	1073	1073	1072	1071	1071	1069	1068	1068	1071	1072	1072	1069	1069	1071	1074	1075	1071	1070	1069	1070	1075	1087	1087	1083	1075	1073
16	1076	1072	1072	1070	1068	1067	1064	1066	1070	1063	1066	1068	1073	1086	1097	1088	1084	1084	1090	1119	1113	1051	1063	1064	1056	1076
17	1056	974	974	1022	1044	1052	1051	1047	1056	1064	1065	1069	1081	1100	1124	1114	1117	1101	1093	1089	1093	1081	1063	1060	1049	1066
18	1049	1044	1049	1059	1062	1060	1051	1054	1063	1067	1072	1074	1083	1084	1088	1096	1094	1084	1085	1080	1076	1072	1060	1056	1066	1070
19	1066	1072	1071	1065	1068	1069	1070	1068	1067	1064	1068	1072	1077	1076	1082	1088	1099	1085	1079	1076	1073	1072	1072	1072	1072	1074
20	1072	1072	1072	1072	1072	1070	1069	1069	1071	1072	1072	1072	1074	1076	1077	1080	1080	1080	1077	1076	1073	1072	1072	1072	1070	1073
21	1070	1068	1063	1062	1064	1067	1067	1067	1067	1067	1068	1070	1073	1076	1076	1084	1089	1092	1086	1083	1077	1076	1074	1070	1058	1073
22	1059	1065	1065	1068	1069	1070	1069	1070	1072	1070	1069	1069	1068	1069	1072	1073	1076	1079	1080	1085	1078	1074	1072	1070	1069	1072
23	1069	1068	1068	1067	1066	1065	1065	1064	1064	1061	1060	1061	1066	1066	1069	1070	1077	1077	1083	1089	1078	1086	1086	1078	1061	1071
24	1061	1053	1058	1062	1065	1065	1063	1064	1064	1067	1066	1068	1066	1065	1066	1069	1071	1072	1069	1069	1069	1069	1068	1068	1063	1066
25	1063	1060	1057	1057	1059	1060	1061	1061	1061	1061	1061	1060	1060	1061	1064	1066	1069	1069	1071	1077	1074	1071	1068	1065	1065	1064
26	1065	1064	1062	1061	1061	1060	1060	1060	1061	1061	1063	1064	1064	1065	1065	1065	1065	1064	1064	1064	1064	1064	1063	1063	1062	1063
27	1063	1064	1065	1062	1059	1058	1058	1058	1058	1058	1061	1061	1062	1062	1065	1066	1065	1066	1065	1066	1069	1069	1067	1066	1065	1063
28	1065	1063	1051	1049	1049	1049	1047	1045	1049	1051	1054	1054	1057	1058	1062	1062	1062	1062	1062	1062	1062	1062	1062	1062	1062	1057
29	1062	1062	1061	1060	1058	1058	1058	1058	1057	1058	1058	1058	1058	1057	1058	1058	1058	1058	1058	1057	1058	1061	1062	1061	1060	1059
30	1060	1059	1058	1058	1057	1057	1055	1055	1057	1057	1057	1058	1055	1055	1058	1059	1059	1058	1058	1058	1058	1058	1058	1062	1062	1058
Mean†	1065	1061	1061	1063	1064	1065	1064	1064	1066	1067	1068	1068	1070	1072	1076	1079	1079	1077	1076	1077	1076	1075	1073	1071	1065	1070

† Mean of 29 days, 7th omitted. * Light out.

XLIV.—AUXILIARY OBSERVATIONS IN ABSOLUTE MEASURE; DAILY VALUES OF TEMPERATURE IN THE EAST ROOM OF MAGNET HOUSE; MAGNETIC NOTES FOR THE MONTH.

Eskdalemuir. **November, 1921.**

Date	Time G.M.T. From	Time G.M.T. To	Horizontal Force.	Declination.	Dip.	Temperature in Magnet House.	Magnetic Character of day (0–2)	Date.
Nov.	h. m.	h. m.	γ	° ′ ″	° ′	a 280+		
1	11 11	11 43	16661	16 37 14	69 42·0	7·1	1	1
						7·1	0C	2
						7·1	0C	3
						7·0	0C	4
						7·0	1	5
						7·1	1D	6
						7·0	1	7
8	11 25	11 50	16675	16 35 48	69 42·2	6·8*	1	8
						6·8	1	9
						6·7	1	10
						6·7	0	11
						6·7	0	12
						6·7	1	13
						6·7	1	14
						6·6	0	15
16	14 11	14 41	16673	16 34 55	69 41·6	6·6	2D	16
						6·6	2D	17
						6·6	1D	18
						6·6	1	19
						6·5	0	20
						6·5	1	21
22	11 47	11 59			69 41·4			
	14 21	14 26	16664	16 35 38		6·4	1	22
						6·3	1D	23
						6·3	0	24
						6·3	0	25
						6·2	0	26
						6·2	0C	27
						6·2	0	28
29	11 28	11 41			69 40·6			
	14 49	14 55	16692	16 32 58		6·2	0C	29
						6·1	0	30

MAGNETIC NOTES.

November, 1921.

The first considerable disturbance of the month commenced after 16h. on 5th. W was distinctly below normal for about four hours after 5d. 21h. In N a prominent peak, upon which were superposed small pulsations, was centred at 5d. 22h. 22m. The first important change in V was between 21h. 50m. and 22h. 40m. on 5th, when a decrease of about 65γ took place. After a temporary increase a minimum was reached between 0h. and 1h. on 6th and was followed by a very gradual increase to a maximum shortly after 15h. on 6th. The 7th, 8th, 9th, 10th, 13th and 14th, were moderately disturbed. The greatest disturbance of the month began shortly after 19h. on 15th The largest and most rapid changes in N and W took place between 19h. and 22h. on 16th. In this interval there were three rather large oscillations in N, the absolute range being 206γ. The range in W during the same interval was 235γ. The maximum in V occurred at 16d. 19h. 44m. and was followed in the ensuing 15 minutes by a rather rapid fall of 50γ, a further fall of equal amount occurring between 20h. 22m. and 20h. 30m. No further large change in V took place until midnight when there began a decrease of 121γ to a minimum at 17d. 1h. 30m., after which the recovery was fairly smooth. The disturbance continued throughout the whole of the 18th. The 26th was one of the quietest days of the year.

* Gas out on 7th.

See Explanatory Note, Table IV.

HOURLY VALUES FROM AUTOGRAPHIC RECORDS.

XLV.—TERRESTRIAL MAGNETIC FORCE: NORTH COMPONENT.

Eskdalemuir. (X.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **December, 1921.**

15,000 γ (·15 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1004	1004	1003	1004	1005	1009	1013	1013	1011	1007	999	998	993	987	990	995	996	1006	1008	1006	1004	1005	1002	1004	1001	1003
2	1001	1001	1000	999	1004	1008	1004	1023	1013	995	994	998	993	994	994	997	1004	1003	1001	1003	998	996	997	999	991	1001
3	991	1008	994	999	1007	1008	998	989	999	999	997	989	993	990	988	990	999	999	999	999	1000	1000	1003	1003	1003	998
4	1002	1002	1002	1002	1003	1007	1008	1011	1012	1007	999	992	984	992	987	993	988	992	993	997	995	1006	1005	1008	1005	1002
5	1005	999	1000	999	999	1003	1008	1008	1007	999	999	994	995	997	999	1001	1002	1003	1007	1007	1006	1004	1006	1004	1005	1000
6	1005	1000	1002	1002	1003	1004	1007	1007	1007	1007	1002	998	997	998	1000	1002	1004	1007	1003	997	1006	1009	1008	1005	1007	1003
7	1007	1008	1010	1011	1008	1010	1012	1017	1012	1011	1006	999	997	997	998	1003	1004	1007	1007	1007	1007	1009	1011	1008	1007	1007
8	1007	1007	1006	1007	1007	1008	1019	1017	1009	1007	998	993	992	993	988	979	990	997	1003	1007	998	989	999	1003	999	1001
9	999	999	1002	1004	1005	1012	1007	1008	1012	1008	1007	1007	1003	1007	1008	1007	1003	1007	1008	1008	1005	1004	999	1003	1003	1006
10	1002	1016	1002	997	998	1001	1005	1002	1002	1002	1006	1006	1002	1003	1002	992	1002	1006	1011	1006	1006	1004	997	1002	1001	1003
11	1001	1003	1003	1003	1006	1004	1005	1006	1007	1007	1007	1007	1007	1006	1006	1005	1006	1011	1007	985	982	1002	1006	1007	1009	1004
12	1009	1006	1002	996	987	1056	1026	994	983	958	987	982	943	963	986	984	987	989	974	978	992	978	997	997	983	989
13	983	982	998	987	991	1001	1009	997	992	983	953	962	956	952	984	987	962	1002	963	986	1011	1041	998	992	987	986
14	987	981	982	983	986	992	1002	998	994	982	994	991	987	992	992	997	997	999	998	998	996	998	1006	992	996	993
15	996	997	993	1001	999	1003	1001	999	1003	1002	994	997	997	971	996	989	997	1006	1007	1009	1007	1005	1002	1003	1002	999
16	1001	1010	1010	1000	983	1015	1015	1008	991	982	971	952	952	960	962	992	958	966	965	981	991	991	991	1004	996	985
17	996	1005	1000	996	985	997	997	991	990	981	981	961	962	974	982	990	986	1005	997	992	986	996	996	1000	1005	990
18	1005	995	994	996	997	1005	998	1005	1001	991	981	981	985	991	995	1000	1002	997	992	999	1001	1000	1001	998	998	996
19	997	999	1000	1000	1004	1004	1005	1004	1004	1000	990	985	986	990	997	999	997	999	996	1000	1000	999	1000	999	999	998
20	999	1004	1002	1003	1004	1005	1009	1010	1009	1004	1000	1000	995	995	999	1001	1004	1004	1004	1004	1004	1004	1004	1004	1004	1003
21	1003	1003	1003	1003	1004	1007	1008	1009	1008	1005	1003	996	994	994	998	1001	1001	1003	1004	1004	1003	1003	1003	1003	1001	1003
22	1001	1006	1009	1005	1007	1008	1013	1012	1013	1013	1003	999	994	996	1000	1004	1002	998	994	1003	986	1001	982	989	969	1001
23	969	988	993	954	990	988	988	989	994	994	994	989	984	989	995	998	999	999	999	999	999	1003	993	993	991	991
24	990	986	999	995	1007	1013	1013	1008	1002	994	989	989	987	988	995	993	986	982	978	998	976	980	980	987	993	992
25	993	993	989	992	994	1002	1003	995	998	998	993	992	991	989	997	999	1001	998	1002	1002	999	993	997	998	997	996
26	997	997	1000	1002	1002	1002	1003	1003	1002	1003	1000	993	993	997	998	992	994	978	982	983	979	993	991	1002	993	995
27	992	987	1005	1002	1001	1002	1012	1005	1007	997	997	996	996	996	997	997	1001	1007	1001	1006	1001	1002	999	1005	1008	1001
28	1008	1003	1001	1012	1021	1026	1017	998	991	990	987	988	981	977	949	947	982	978	972	999	973	975	1005	986	948	989
29	948	977	957	981	982	991	1006	1001	978	977	977	952	957	973	983	991	992	968	972	986	992	1007	1006	992	992	982
30	991	977	991	996	996	992	1003	997	1000	995	991	991	987	990	996	1000	1000	1000	1000	995	986	1000	1005	1002	990	995
31	990	992	996	996	992	1002	1013	1001	1000	1000	991	987	991	994	996	997	1000	1000	999	1000	1000	1000	1001	1000	1000	998
Mean	996	998	998	998	999	1006	1007	1004	1002	997	993	989	986	988	992	994	995	997	995	998	996	1000	1000	1000	996	997

XLVI.—TERRESTRIAL MAGNETIC FORCE: WEST COMPONENT.

Eskdalemuir. (—Y.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **December, 1921.**

4,000 γ (·04 C.G.S. unit) +

Hour G.M.T.	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	730	727	745	749	755	755	755	754	751	750	751	759	765	772	771	774	772	759	755	750	747	744	741	743	744	753
2	744	745	743	750	751	756	763	765	760	753	758	760	764	766	766	759	760	756	754	749	742	733	730	734	739	752
3	739	764	750	751	744	749	759	759	760	752	752	753	756	760	760	752	750	751	752	751	746	744	744	744	749	752
4	749	751	754	754	755	755	752	752	751	749	750	754	756	763	756	754	748	754	752	749	744	743	743	748	743	751
5	742	747	748	749	751	753	753	751	750	749	748	750	754	759	759	756	754	754	754	750	749	748	746	745	743	751
6	743	747	749	749	752	750	750	749	749	749	748	753	758	759	758	756	756	754	754	750	749	748	748	744	748	751
7	748	748	751	749	749	750	753	752	749	749	748	752	754	758	759	758	755	754	754	753	749	748	748	749	750	752
8	750	750	750	750	754	758	751	751	750	753	758	758	764	769	766	768	761	754	749	750	747	738	739	743	748	753
9	747	749	749	752	751	750	751	753	752	755	755	757	760	761	757	763	759	756	758	753	753	749	740	741	736	753
10	736	721	706	732	738	745	747	745	745	747	757	758	758	760	760	754	747	747	753	752	748	747	735	731	744	745
11	744	748	747	747	747	748	748	748	747	747	750	758	763	763	758	757	757	758	761	726	757	752	745	741	735	751
12	735	738	752	747	737	736	748	763	757	747	753	752	762	758	759	749	743	741	731	700	716	742	721	736	750	743
13	750	747	737	760	753	757	754	752	750	748	732	747	758	752	726	757	714	700	725	730	714	721	704	714	721	737
14	720	741	742	744	745	753	752	749	749	744	747	753	752	753	753	752	748	746	744	741	730	738	730	730	738	744
15	738	742	766	746	746	747	746	748	745	745	741	747	748	752	752	752	751	748	747	746	746	740	731	727	738	746
16	738	758	731	730	751	762	753	751	762	756	739	746	759	765	757	731	734	757	756	705	718	736	732	727	721	744
17	721	746	740	742	763	762	757	762	757	746	751	747	758	762	765	756	746	741	708	709	735	739	735	730	740	745
18	740	716	736	746	749	746	751	751	746	741	736	743	751	756	756	752	748	747	745	746	743	741	741	738	740	744
19	740	742	746	751	749	747	746	744	744	740	741	746	752	756	753	749	747	746	746	746	745	740	739	737	741	746
20	740	743	742	744	746	750	747	746	745	745	745	746	751	751	751	747	746	746	745	745	744	742	740	740	741	745
21	741	745	745	745	746	747	746	746	745	745	745	746	753	755	756	755	750	751	746	745	746	745	745	745	745	747
22	745	739	736	740	746	746	745	748	751	750	751	760	753	760	767	761	761	765	739	756	734	709	718	708	706	745
23	706	697	689	761	703	729	735	740	740	740	739	743	750	757	754	750	745	746	746	745	745	746	706	718	724	735
24	724	730	736	714	715	730	743	746	745	743	742	745	751	755	758	756	756	756	750	740	728	726	715	729	734	739
25	734	729	740	740	744	740	742	740	741	740	742	746	751	755	754	750	746	745	745	744	744	739	731	735	741	743
26	741	750	745	745	745	742	741	740	746	750	751	757	762	771	767	766	777	763	754	745	751	731	719	692	707	747
27	707	735	766	735	741	740	742	741	744	739	738	755	752	758	766	759	756	767	762	747	741	739	734	734	738	746
28	738	746	747	750	772	799	740	761	738	729	736	760	767	767	768	767	751	740	742	707	708	746	708	673	708	744
29	708	707	729	750	740	738	741	746	745	747	740	734	738	739	745	737	740	718	706	729	723	731	729	719	728	733
30	727	743	750	738	738	744	745	744	740	739	734	740	745	749	750	747	744	744	742	741	711	722	724	722	725	738
31	725	734	738	746	754	744	739	738	739	739	740	742	742	746	747	744	744	744	735	739	734	737	738	738	738	741
Mean	735	740	742	745	746	749	748	750	748	746	746	751	755	758	757	754	751	749	745	740	738	739	732	731	736	746

XLVII.—TERRESTRIAL MAGNETIC FORCE: VERTICAL COMPONENT.

Eskdalemuir. (Z.) *Mean Values for Periods of 60 Minutes centered at the Hours of Greenwich Mean Time.* **December, 1921.**

44,000 γ (·44 C.G.S. unit) +

Hour G.M.T	0	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
Day	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
1	1063	1061	1057	1057	1056	1053	1053	1053	1053	1053	1053	1053	1055	1058	1060	1058	1061	1061	1061	1061	1060	1060	1061	1058	1058	1057
2	1058	1057	1057	1054	1054	1053	1051	1046	1049	1049	1052	1051	1053	1056	1058	1060	1061	1061	1061	1061	1062	1065	1062	1060	1056	1056
3	1056	1044	1030	1041	1051	1049	1050	1050	1050	1050	1053	1054	1057	1061	1062	1065	1065	1065	1062	1062	1061	1061	1060	1058	1057	1055
4	1057	1057	1057	1057	1057	1057	1056	1056	1054	1054	1057	1055	1054	1057	1061	1065	1065	1065	1065	1065	1066	1061	1058	1054	1053	1059
5	1053	1054	1054	1054	1053	1053	1053	1053	1053	1054	1053	1051	1049	1052	1053	1057	1058	1057	1057	1057	1057	1056	1055	1054	1053	1054
6	1053	1053	1053	1053	1053	1053	1053	1053	1053	1052	1053	1053	1052	1050	1053	1054	1054	1053	1053	1057	1056	1053	1053	1053	1051	1053
7	1051	1049	1049	1045	1048	1049	1049	1049	1049	1049	1050	1051	1052	1054	1056	1056	1054	1053	1054	1054	1054	1053	1053	1051	1050	1051
8	1050	1049	1049	1049	1049	1048	1045	1045	1046	1046	1046	1049	1053	1053	1057	1061	1061	1061	1060	1057	1060	1065	1062	1057	1053	1053
9	1053	1053	1051	1050	1050	1049	1049	1049	1049	1046	1049	1049	1049	1052	1053	1053	1053	1053	1053	1053	1054	1057	1058	1057	1056	1052
10	1057	1053	1050	1050	1050	1050	1050	1050	1050	1049	1046	1046	1046	1049	1051	1054	1055	1054	1052	1052	1053	1054	1056	1057	1053	1051
11	1053	1051	1050	1050	1050	1050	1050	1050	1049	1047	1045	1043	1045	1048	1048	1049	1050	1049	1050	1064	1066	1061	1056	1054	1054	1051
12	1054	1054	1050	1050	1045	1006	1008	1018	1033	1041	1046	1050	1055	1059	1061	1063	1062	1062	1066	1075	1069	1045	1052	1050	1037	1049
13	1037	1021	1029	1034	1039	1045	1046	1046	1047	1050	1058	1061	1061	1072	1088	1075	1083	1086	1082	1076	1064	1045	1042	1046	1046	1056
14	1047	1043	1042	1043	1046	1044	1044	1047	1051	1052	1054	1052	1053	1055	1059	1056	1055	1055	1055	1055	1056	1055	1054	1055	1051	1051
15	1051	1049	1040	1042	1047	1047	1047	1047	1046	1046	1046	1047	1051	1051	1054	1055	1055	1054	1051	1051	1051	1052	1055	1055	1050	1050
16	1050	1033	1026	1029	1025	1025	1031	1035	1039	1040	1047	1055	1056	1060	1073	1092	1102	1100	1100	1104	1078	1064	1062	1056	1046	1058
17	1047	1033	1041	1045	1040	1031	1032	1035	1037	1041	1044	1049	1055	1055	1060	1063	1064	1064	1065	1065	1059	1053	1052	1052	1025	1049
18	1025	1036	1044	1047	1048	1049	1048	1047	1047	1048	1049	1048	1048	1048	1051	1052	1056	1056	1057	1055	1053	1052	1052	1052	1052	1049
19	1052	1051	1050	1049	1048	1048	1048	1048	1048	1049	1048	1048	1048	1047	1048	1053	1055	1053	1052	1052	1052	1052	1052	1050	1049	1050
20	1049	1047	1048	1048	1048	1048	1048	1047	1047	1048	1048	1045	1045	1045	1048	1052	1052	1052	1052	1052	1052	1049	1048	1048	1048	1049
21	1048	1047	1047	1047	1047	1048	1048	1048	1047	1045	1046	1044	1044	1044	1047	1048	1052	1052	1052	1052	1050	1049	1048	1048	1046	1048
22	1046	1045	1041	1043	1043	1044	1044	1044	1044	1044	1043	1040	1043	1044	1044	1045	1048	1052	1061	1056	1061	1068	1069	1068	1063	1050
23	1063	1051	1036	1011	1012	1035	1043	1047	1047	1048	1052	1049	1048	1048	1050	1052	1052	1052	1052	1052	1052	1052	1052	1052	1054	1046
24	1054	1052	1046	1048	1047	1041	1040	1041	1044	1046	1047	1047	1048	1048	1051	1055	1056	1060	1065	1064	1068	1068	1068	1064	1056	1053
25	1057	1052	1051	1053	1051	1050	1049	1049	1049	1049	1049	1048	1049	1049	1050	1053	1053	1053	1053	1053	1053	1055	1057	1055	1053	1052
26	1053	1050	1048	1048	1048	1048	1048	1048	1046	1045	1044	1044	1045	1045	1048	1053	1053	1064	1069	1071	1069	1073	1070	1070	1062	1054
27	1062	1053	1035	1035	1036	1040	1040	1041	1042	1044	1043	1044	1045	1047	1048	1049	1049	1048	1050	1050	1052	1049	1049	1049	1045	1046
28	1046	1042	1042	1037	1022	989	989	1006	1025	1036	1038	1037	1034	1042	1060	1087	1078	1074	1075	1078	1076	1071	1058	1042	1002	1044
29	1002	1007	1013	1001	1021	1037	1041	1042	1045	1049	1050	1055	1063	1063	1063	1063	1062	1067	1078	1070	1064	1053	1047	1049	1046	1047
30	1046	1042	1026	1039	1043	1043	1042	1042	1042	1045	1046	1046	1047	1046	1046	1046	1046	1047	1047	1049	1055	1050	1045	1041	1041	1044
31	1041	1042	1042	1042	1039	1041	1041	1042	1042	1042	1042	1042	1041	1041	1043	1047	1049	1049	1049	1046	1046	1046	1045	1045	1045	1044
Mean	1049	1046	1044	1044	1044	1043	1043	1044	1046	1047	1048	1049	1050	1052	1055	1058	1059	1059	1060	1060	1059	1056	1055	1054	1049	1051

XLVIII.—AUXILIARY OBSERVATIONS IN ABSOLUTE MEASURE; DAILY VALUES OF TEMPERATURE IN THE EAST ROOM OF MAGNET HOUSE; MAGNETIC NOTES FOR THE MONTH.

Eskdalemuir. **December, 1921**

Date	Time G.M.T. From	Time G.M.T. To	Horizontal Force.	Declination.	Dip.	Temperature in Magnet House.	Magnetic Character of day (0–2).	Date.
Dec.	h. m.	h. m.	γ	° ′ ″	° ′	a 280+		
						6·0	0	1
						6·0	0	2
						6·0	1	3
						6·0	0	4
						5·9	0	5
6	11 31	11 43			69 40·7			
	14 58	15 3	16696	16 34 13		5·9	0C	6
						5·9	0C	7
						5·8	0	8
						5·8	0	9
						5·7	0	10
						5·7	1	11
						5·7	2D	12
13	11 36	12 13	16653	16 32 23	69 43·7	5·6	2D	13
						5·6	1	14
						5·5	1	15
						5·5	2D	16
						5·5	1	17
						5·5	0	18
						5·5	0C	19
						5·5	0C	20
21	11 32	12 2	16687	16 34 4	69 40·8	5·4	0C	21
						5·4	1	22
						5·4	1	23
						5·4	0	24
						5·5	0	25
						5·5	1	26
						5·4	1	27
28	11 19	11 45	16682	16 35 0	69 41·3	5·3	2D	28
						5·2	1D	29
						5·3	1	30
						5·2	0	31

MAGNETIC NOTES.

December, 1921.

The days of greatest disturbance were 12th, 13th, 16th, 17th, 22nd, 23rd, 28th, 29th. On 20th, probably the quietest day of the year, the absolute daily ranges were N, 16γ; W, 11γ; V, 8γ. The first of the larger disturbances of the month began between 16h. and 17h. on 11th, the first prominent movement being a bay (negative) in W centred at 19h. 6m. Between 4h. 20m. and 4h. 50m. on 12th, N increased by 125γ. Other large changes in N and in W took place between 20h. and 22h. on 12th and between 13h. and 22h. on 13th. Conditions were comparatively quiet during the greater part of 14th. and 15th. Moderately disturbed conditions prevailed on 16th and 17th. Disturbance developed during the latter part of 22nd and continued until about 6h. on 23rd. On 23rd W increased by 112γ between 2h. 40m. and 3h. 7m. and then in the interval between 3h. 7m. and 3h. 50m. decreased by approximately the same amount. N fell to a minimum at 2h. 50m., and the minimum in V occurred at 3h. 20m. The disturbance which began late on 27th continued throughout 28th and 29th.

See Explanatory Note, Table IV.

XLIX.-LI.—DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE.

(Not corrected for the effect of the North Force on the West Magnetograph, or *vice versa*, or for the effect of the Horizontal Force on the V.F. Balance.)

Mean Hourly Values, Greenwich Mean Time, for the Months, Year, and Seasons.

XLIX.—NORTH COMPONENT (*all days except Jan. 10, 13, 14, 17, 18, 19, 20, 21, Mar. 14, Apl. 13, May 15, 16, June 4, 5, 26, Sept. 19, 20, Oct. 2, 3, Nov. 7*).

Eskdalemuir. **1921.**

Month and Season.	Hour 1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	1·2	1·0	3·6	4·2	7·8	x10·9	8·8	6·5	2·2	− 4·2	− 6·5	n̄ 9·3	− 9·0	− 7·7	− 6·5	− 6·3	− 4·7	− 2·2	0·0	1·8	1·4	1·9	2·1	3·0
F.	3·7	2·4	3·4	4·8	6·1	6·5	x 7·3	5·4	1·5	− 4·6	− 9·6	n̄11·4	− 9·3	− 8·1	− 6·2	− 5·8	− 2·8	− 1·2	0·4	0·8	2·5	3·5	4·2	6·3
M.	6·4	4·4	4·8	6·8	10·3	10·4	8·8	4·4	− 4·4	−15·7	−21·4	n̄24·2	−21·0	−14·0	− 8·8	− 1·8	1·4	2·5	4·4	6·6	9·9	8·6	x11·7	9·9
A.	9·8	9·7	9·3	8·6	8·4	11·0	8·0	1·2	−11·1	−25·3	−31·7	n̄33·4	−28·7	−20·5	− 7·9	0·2	8·6	12·0	x15·3	12·3	11·6	11·6	10·3	10·6
M.	0·2	2·4	− 3·7	− 1·8	2·1	0·5	− 5·1	−12·5	−20·0	−26·6	n̄29·8	−29·5	−20·8	−13·1	− 2·4	8·0	21·9	27·7	x31·6	27·3	20·3	8·9	16·6	− 2·1
J.	6·2	4·7	6·4	6·6	6·8	3·7	− 1·3	− 7·1	−15·4	−23·3	n̄27·7	−26·0	−18·7	−15·3	− 6·4	4·4	10·4	17·1	x19·4	16·7	13·4	9·3	8·5	7·5
J.	5·9	4·6	4·8	7·2	7·9	4·7	− 0·7	− 7·5	−16·2	−25·3	n̄28·8	−27·1	−22·0	−13·5	− 3·9	2·7	10·0	15·8	x17·5	15·9	15·2	14·3	10·8	7·7
A.	8·8	7·3	6·4	4·3	7·1	6·1	− 1·5	−10·4	−19·7	n̄28·8	−28·6	−23·8	−15·4	−10·0	− 1·8	2·8	9·6	14·1	x17·8	14·1	12·2	11·0	9·3	9·2
S.	8·2	9·4	8·4	9·1	10·4	8·3	1·9	− 3·9	−15·1	−24·6	n̄25·8	−24·9	−19·3	−13·2	− 7·4	− 0·1	3·8	7·2	10·4	11·8	11·7	x12·3	x12·3	9·2
O.	6·7	5·7	5·8	x10·6	10·0	8·2	6·5	2·6	− 5·3	−16·2	n̄21·2	−21·1	−16·3	− 9·9	− 5·3	− 1·5	1·2	0·7	2·5	4·0	7·7	7·1	8·3	9·2
N.	2·0	2·9	4·4	5·5	7·3	x 7·4	7·3	3·6	0·6	− 7·8	−14·3	n̄17·0	−15·0	− 8·4	− 3·5	− 0·5	1·6	3·4	6·0	1·9	1·0	5·3	3·3	3·3
D.	0·9	1·3	0·6	2·2	8·9	x10·3	7·0	4·6	− 0·3	− 3·8	− 7·9	n̄10·8	− 8·9	− 4·9	− 2·8	− 2·1	0·2	− 2·1	1·1	− 0·7	2·8	2·6	2·6	− 0·9
Y.	5·0	4·6	4·5	5·7	7·8	7·3	3·9	− 1·1	− 8·6	−17·2	−21·1	n̄21·5	−17·0	−11·5	− 5·3	0·0	5·1	7·9	x10·5	9·4	9·2	8·0	8·3	6·1
W.	1·9	1·9	3·0	4·2	7·5	x 8·8	7·6	5·0	1·0	− 5·1	− 9·6	n̄12·1	−10·5	− 7·3	− 4·8	− 3·7	− 1·5	− 0·5	1·9	1·0	1·9	3·3	3·1	2·9
Eq.	7·8	7·3	7·1	8·8	9·8	9·5	6·3	1·1	− 9·0	−20·4	−25·0	n̄25·9	−21·3	−14·4	− 7·4	− 0·8	3·7	5·6	8·1	8·7	10·2	9·9	x10·7	9·7
S.	5·3	4·7	3·5	4·1	6·0	3·7	− 2·1	− 9·4	−17·8	−26·0	n̄28·7	−26·6	−19·2	−13·0	− 3·7	4·5	13·0	18·7	x21·6	18·5	15·3	10·9	11·3	5·6

L.—WEST COMPONENT (*all days except Jan. 10, 13, 14, 17, 18, 19, 20, 21, Mar. 14, Apl. 13, May 15, 16, June 4, 5, 26, Sept. 19, 20, Oct. 2, 3, Nov. 7*).

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	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	− 5·7	− 3·9	− 3·8	− 2·7	− 3·0	− 2·4	− 1·1	0·2	2·5	5·5	8·1	12·6	x14·3	11·3	7·8	4·8	3·2	− 0·3	− 3·8	− 7·7	− 8·6	− 9·7	n̄10·7	− 6·9
F.	n̄ 8·2	− 6·3	− 3·1	− 5·5	− 5·2	− 3·3	− 2·4	− 2·9	− 3·7	− 3·8	2·1	10·4	16·3	x17·1	12·9	8·6	4·7	1·3	− 1·6	− 3·5	− 4·4	− 7·2	− 6·1	− 6·2
M.	− 6·4	− 4·2	− 4·0	− 3·4	− 4·2	− 3·2	− 6·1	−11·5	n̄16·4	−13·7	− 2·8	10·3	21·8	x25·0	21·7	16·6	8·6	4·2	2·4	− 3·1	− 8·2	− 6·1	− 9·7	− 7·6
A.	− 4·0	− 5·3	−10·1	− 9·9	− 9·2	− 9·2	−17·2	n̄22·4	−20·9	−14·9	− 2·4	14·2	25·5	x30·4	28·0	23·5	14·7	8·6	1·7	0·5	− 0·7	− 6·4	− 8·7	− 5·8
M.	− 7·4	− 8·0	− 9·5	−17·2	−17·0	−20·3	−25·1	n̄27·8	−26·9	−13·9	− 0·4	14·2	21·6	25·6	x26·6	24·4	23·5	20·2	16·3	13·0	3·0	− 4·5	− 3·4	− 7·1
J.	− 2·2	− 2·2	− 7·6	−12·3	−18·3	−21·9	−25·0	n̄27·3	−26·3	−16·6	− 5·5	8·5	19·5	23·8	x24·8	23·2	18·2	16·6	11·9	8·4	6·4	3·6	1·8	− 1·4
J.	− 6·5	− 6·3	− 8·6	−11·5	−16·3	−22·7	−24·2	n̄26·0	24·7	−15·2	− 2·1	13·9	26·1	x30·8	28·5	23·1	18·3	13·7	9·3	7·1	2·9	− 0·6	− 3·6	− 5·5
A.	− 6·2	− 8·5	− 8·8	− 9·5	−15·0	−20·4	n̄22·2	−21·6	−15·0	− 3·9	8·8	20·5	29·0	x29·4	22·6	14·1	10·0	3·5	0·5	1·6	− 0·2	− 4·1	− 3·5	− 1·2
S.	− 4·7	− 7·4	−12·1	− 9·3	− 8·9	−11·9	−14·2	n̄16·5	−15·3	− 4·2	6·4	18·5	x26·4	25·9	19·5	14·0	9·3	6·0	2·6	− 2·6	− 3·2	− 4·6	− 6·8	− 6·8
O.	− 7·7	− 7·9	− 2·2	− 1·9	− 2·4	− 0·4	− 2·3	− 6·5	− 9·2	− 6·3	4·9	16·6	x23·0	22·9	18·1	12·4	6·7	2·3	− 3·2	−12·9	−12·3	n̄13·0	− 9·9	− 9·1
N.	− 8·1	− 5·6	− 1·7	− 1·8	0·8	3·0	3·5	0·5	− 2·5	− 1·8	3·1	10·2	15·1	x15·8	11·4	8·4	6·6	2·9	− 2·8	− 5·4	−13·7	−14·3	n̄14·7	− 8·9
D.	− 6·0	− 3·4	− 0·2	0·6	3·8	2·7	4·0	2·6	0·4	0·1	4·9	9·4	x12·6	11·5	8·7	4·8	2·9	− 0·3	− 5·8	− 7·5	− 7·0	−13·6	n̄15·0	−10·3
Y.	− 6·1	− 5·7	− 6·0	− 7·0	− 7·9	− 9·2	−11·0	n̄13·3	−13·2	− 7·4	2·1	13·3	20·9	x22·5	19·2	14·8	10·6	6·6	2·3	− 1·0	− 3·8	− 6·7	− 7·5	− 6·4
W.	− 7·0	− 4·8	− 2·2	− 2·3	− 0·9	0·0	1·0	0·1	− 0·8	0·0	4·6	10·7	x14·6	13·9	10·2	6·7	4·3	0·9	− 3·5	− 6·0	− 8·4	−11·2	n̄11·6	− 8·1
Eq.	− 5·7	− 6·2	− 7·1	− 6·1	− 6·2	− 6·2	− 9·9	−14·2	n̄15·5	− 9·8	1·5	14·9	24·2	x26·1	21·8	16·6	9·8	5·3	0·9	− 4·5	− 6·1	− 7·5	− 8·8	− 7·3
S.	− 5·6	− 6·3	− 8·6	−12·6	−16·6	−21·3	−24·1	n̄25·7	−23·2	−12·4	0·2	14·3	24·1	x27·4	25·6	21·2	17·5	13·5	9·5	7·5	3·0	− 1·4	− 2·2	− 3·8

LI.—VERTICAL COMPONENT (*all days except Jan. 10, 13, 14, 17, 18, 19, 20, 21, Mar. 14, Apl. 13, May 15, 16, June 4, 5, 26, Sept. 19, 20, Oct. 2, 3, Nov. 7*).

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	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	− 1·4	− 1·4	− 2·5	− 3·1	− 4·0	− 4·3	− 4·1	n̄ 4·6	n̄ 4·6	− 2·1	− 1·6	− 1·0	0·1	2·2	3·9	4·7	4·7	x 5·6	5·3	4·2	2·9	1·7	0·6	− 1·3
F.	− 1·6	− 1·7	− 3·2	− 3·4	− 3·4	− 3·6	− 4·2	− 3·7	− 3·5	− 3·0	− 3·9	n̄ 4·3	− 2·9	− 1·0	2·5	4·9	5·7	x 6·1	x 6·1	6·0	5·3	4·2	2·7	0·1
M.	− 3·0	− 2·3	− 3·8	− 4·6	− 5·0	− 4·7	− 3·0	− 1·4	− 1·3	− 2·6	− 6·2	n̄ 8·1	− 6·6	− 2·7	0·1	5·9	8·8	x10·2	10·0	9·7	6·9	4·2	1·0	− 1·7
A.	− 5·4	− 9·2	− 8·7	− 7·8	− 6·1	− 5·0	− 2·3	− 2·0	− 3·2	− 5·5	− 8·3	n̄10·7	− 8·3	− 0·6	5·7	9·9	13·0	13·5	x13·7	11·7	8·9	6·2	2·0	− 1·4
M.	−18·4	−10·5	−11·5	−13·3	− 9·4	− 8·7	− 3·2	− 1·1	− 2·1	− 4·8	− 7·0	− 6·8	− 1·6	4·4	8·0	13·2	17·2	20·7	x23·2	23·1	18·8	− 3·1	− 6·7	n̄20·4
J.	0·0	− 2·8	− 3·8	− 2·2	− 0·8	− 0·9	− 0·8	− 1·0	− 3·2	− 6·3	−10·4	n̄11·9	− 9·0	− 5·0	− 1·8	3·4	9·1	10·6	x12·0	10·3	7·9	4·3	1·3	1·0
J.	− 2·8	− 4·6	− 6·0	− 3·9	− 2·4	− 1·8	− 0·9	− 1·4	− 2·5	− 4·6	− 8·8	n̄10·5	− 7·7	− 3·0	0·0	5·7	10·0	11·8	x12·1	10·2	7·5	4·0	1·1	− 1·8
A.	− 7·3	− 6·1	− 4·7	− 4·3	− 2·4	− 1·4	− 0·1	− 0·9	− 3·3	− 5·8	− 8·6	n̄ 9·8	− 7·5	− 2·0	4·7	9·3	11·4	x13·3	11·5	9·0	5·6	3·2	0·1	− 4·1
S.	− 0·9	− 6·3	− 6·0	− 7·8	n̄ 7·9	− 4·6	− 2·0	− 1·3	− 1·9	− 3·8	− 6·1	− 7·6	− 5·3	− 0·5	4·5	9·2	x10·1	9·7	9·8	8·8	6·2	3·5	0·7	− 0·5
O.	− 8·2	n̄10·2	− 9·9	− 9·0	− 6·4	− 5·2	− 3·8	− 1·8	− 1·1	− 0·5	− 1·4	− 2·4	− 2·4	0·6	5·6	9·1	10·0	11·8	x13·1	12·2	7·6	3·0	− 3·1	− 7·4
N.	n̄ 9·2	− 9·1	− 7·4	− 6·0	− 5·3	− 5·7	− 5·6	− 3·6	− 2·6	− 2·2	− 1·6	0·0	2·5	6·4	x 9·3	9·1	7·3	6·5	6·7	6·0	4·9	3·2	1·3	− 4·8
D.	− 5·1	− 7·6	− 7·6	− 7·1	n̄ 8·5	− 8·0	− 6·8	− 5·2	− 4·0	− 2·7	− 2·4	− 1·1	0·7	4·1	6·9	7·9	8·3	9·2	x 9·6	8·3	5·7	4·5	2·9	− 1·8
Y.	− 5·3	− 6·0	n̄ 6·3	− 6·0	− 5·1	− 4·5	− 3·1	− 2·3	− 2·8	− 3·6	− 5·5	− 6·2	− 4·0	0·2	4·1	7·7	9·6	10·7	x11·1	9·9	7·3	3·2	0·3	− 3·7
W.	− 4·3	− 4·9	− 5·2	− 4·9	− 5·3	n̄ 5·4	− 5·2	− 4·3	− 3·7	− 2·5	− 2·4	− 1·6	0·1	2·9	5·7	6·6	6·5	6·8	x 6·9	6·1	4·7	3·4	1·9	− 1·9
Eq.	− 4·4	− 7·0	− 7·1	n̄ 7·3	− 6·4	− 4·9	− 2·8	− 1·6	− 1·9	− 3·1	− 5·5	− 7·2	− 5·6	− 0·8	4·0	8·5	10·5	11·3	x11·6	10·6	7·4	4·2	0·2	− 2·7
S.	− 7·1	− 6·0	− 6·5	− 5·9	− 3·7	− 3·2	− 1·2	− 1·1	− 2·8	− 5·4	− 8·7	n̄ 9·7	− 6·5	− 1·4	2·7	7·9	11·9	14·1	x14·7	13·1	9·9	2·1	− 1·0	− 6·3

x and *n̄* mark respectively the mean maximum and minimum hourly values in each month or season.

LII.–LIV.—DIURNAL INEQUALITIES OF THE MAGNETIC COMPONENTS, DECLINATION, INCLINATION, AND HORIZONTAL FORCE.

Mean Hourly Values, Greenwich Mean Time, for the Months, Year, and Seasons.

LII.—DECLINATION (measured positive towards the West) (*all days except Jan. 10, 13, 14, 17, 18, 19, 20, 21, Mar. 14, Apr. 13, May, 15, 16, June 4, 5, 26, Sept. 19, 20, Oct. 2, 3, Nov. 7*).

Eskdalemuir. **1921.**

Month and Season.	Hour 1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
J.	−1·20	−0·82	−0·96	−0·79	−1·06	−1·12	−0·75	−0·35	0·36	1·33	1·98	3·04	x3·35	2·68	1·92	1·32	0·91	0·07	−0·74	−1·63	−1·78	−2·01	n̄2·23	−1·53
F.	n̄1·84	−1·39	−0·81	−1·36	−1·38	−1·04	−0·91	−0·90	−0·82	−0·47	0·97	2·72	3·77	x3·85	2·91	2·04	1·09	0·38	−0·38	−0·73	−1·01	−1·63	−1·45	−1·60
M.	−1·64	−1·08	−1·08	−1·07	−1·44	−1·23	−1·72	−2·52	n̄2·98	−1·78	0·71	3·47	5·54	x5·75	4·79	3·39	1·61	0·68	0·26	−1·01	−2·21	−1·71	−2·61	−2·08
A.	−1·37	−1·62	−2·53	−2·46	−2·31	−2·46	−3·86	n̄4·49	−3·47	−1·45	1·40	4·78	6·73	x7·20	5·99	4·61	2·40	0·99	−0·57	−0·63	−0·82	−1·95	−2·33	−1·78
M.	−1·47	−1·72	−1·66	−3·28	−3·47	−4·03	−4·66	n̄4·75	−4·13	−1·18	1·69	4·55	5·49	x5·82	5·39	4·34	3·35	2·35	1·34	0·95	−0·61	−1·41	−1·64	−1·28
J.	−0·80	−0·71	−1·86	−2·81	−4·01	−4·54	−4·85	n̄4·96	−4·28	−1·90	0·54	3·21	4·95	x5·59	5·27	4·31	2·98	2·26	1·20	0·68	0·47	0·16	−0·15	−0·71
J.	−1·63	−1·51	−1·98	−2·69	−3·67	n̄4·76	−4·72	−4·68	−3·92	−1·51	1·27	4·32	6·44	x6·87	5·86	4·40	3·01	1·77	0·81	0·47	−0·31	−0·95	−1·35	−1·54
A.	−1·75	−2·10	−2·10	−2·13	−3·37	n̄4·38	−4·28	−3·64	−1·81	0·93	3·42	5·44	x6·62	6·38	4·56	2·61	1·41	−0·15	−0·95	−0·52	−0·76	−1·46	−1·24	−0·77
S.	−1·41	−2·01	−2·89	−2·37	−2·37	−2·84	−2·92	n̄3·03	−2·12	0·62	2·77	5·11	x6·34	5·89	4·28	2·77	1·62	0·75	−0·11	−1·21	−1·32	−1·63	−2·07	−1·89
O.	−1·91	−1·89	−0·78	−1·00	−1·06	−0·56	−0·83	−1·43	−1·51	−0·29	2·20	4·52	x5·51	5·11	3·89	2·53	1·25	0·42	−0·77	−2·78	−2·88	n̄2·99	−2·44	−2·33
N.	−1·71	−1·27	−0·59	−0·67	−0·28	0·15	0·27	−0·12	−0·53	0·11	1·46	3·01	x3·87	3·61	2·45	1·69	1·21	0·38	−0·91	−1·19	−2·77	n̄3·13	−3·10	−1·95
D.	−1·23	−0·74	−0·07	−0·01	0·22	−0·07	0·37	0·24	0·10	0·25	1·43	2·49	x3·01	2·57	1·89	1·07	0·56	0·06	−1·21	−1·44	−1·54	−2·84	n̄3·12	−1·98
Y.	−1·50	−1·41	−1·44	−1·72	−2·02	−2·24	−2·41	n̄2·55	−2·09	−0·45	1·65	3·89	x5·14	5·11	4·10	2·92	1·78	0·83	−0·17	−0·75	−1·30	−1·80	−1·98	−1·62
W.	−1·50	−1·06	−0·61	−0·71	−0·63	−0·52	−0·26	−0·28	−0·22	0·31	1·46	2·82	x3·50	3·18	2·29	1·53	0·94	0·22	−0·81	−1·25	−1·78	−2·40	n̄2·48	−1·77
Eq.	−1·58	−1·65	−1·82	−1·73	−1·80	−1·77	−2·33	n̄2·87	−2·52	−0·73	1·77	4·47	x6·03	5·99	4·74	3·33	1·72	0·71	−0·30	−1·41	−1·81	−2·07	−2·36	−2·02
S.	−1·41	−1·51	−1·90	−2·73	−3·63	−4·43	n̄4·63	−4·51	−3·54	−0·92	1·73	4·38	5·88	x6·17	5·27	3·92	2·69	1·56	0·60	0·40	−0·30	−0·92	−1·10	−1·08

LIII.—INCLINATION (*all days except Jan. 10, 13, 14, 17, 18, 19, 20, 21, Mar. 14, Apl. 13, May 15, 16, June 4, 5, 26, Sept. 19, 20, Oct, 2, 3, Nov. 7*).

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	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
J.	0·00	−0·02	−0·22	−0·29	−0·54	n̄0·76	−0·65	−0·54	−0·30	0·11	0·22	0·33	0·31	0·33	0·37	x0·43	0·36	0·28	0·21	0·13	0·14	0·11	0·09	−0·09
F.	−0·12	−0·07	−0·24	−0·29	−0·38	−0·44	n̄0·52	−0·38	−0·11	0·29	x0·48	0·43	0·21	0·16	0·21	0·32	0·23	0·20	0·16	0·17	0·05	0·02	−0·09	−0·28
M.	−0·36	−0·26	−0·33	−0·48	−0·71	n̄0·72	−0·52	−0·09	0·56	1·21	x1·28	1·15	0·77	0·35	0·15	−0·06	−0·04	0·01	−0·08	−0·12	−0·31	−0·33	−0·54	−0·53
A.	−0·68	n̄0·75	−0·62	−0·56	−0·52	−0·66	−0·24	0·30	1·04	1·78	x1·88	1·61	1·15	0·72	0·11	−0·22	−0·51	−0·60	−0·67	−0·51	−0·51	−0·47	−0·45	−0·61
M.	−0·33	−0·26	0·14	0·12	−0·05	0·14	0·73	1·31	1·75	x1·86	1·75	1·46	0·88	0·46	−0·16	−0·66	−1·43	−1·66	n̄1·77	−1·43	−0·90	−0·56	−1·16	−0·23
J.	−0·36	−0·33	−0·36	−0·24	−0·11	0·16	0·54	0·95	1·41	x1·66	1·63	1·21	0·60	0·41	−0·11	−0·64	−0·79	−1·15	n̄1·17	−0·98	−0·79	−0·56	−0·55	−0·43
J.	−0·33	−0·29	−0·29	−0·34	−0·25	0·09	0·49	0·94	1·45	x1·80	1·67	1·21	0·72	0·20	−0·30	−0·47	−0·74	−0·98	n̄1·00	−0·90	−0·84	−0·81	−0·59	−0·44
A.	−0·63	−0·46	−0·36	−0·20	−0·23	−0·03	0·52	1·06	1·47	x1·78	1·45	0·89	0·25	0·03	−0·20	−0·22	−0·53	−0·64	n̄0·87	−0·71	−0·64	−0·55	−0·53	−0·67
S.	−0·46	−0·61	−0·46	−0·60	n̄0·70	−0·42	0·10	0·53	1·22	x1·57	1·39	1·06	0·60	0·34	0·22	−0·04	−0·17	−0·34	−0·48	−0·49	−0·54	−0·62	−0·64	−0·47
O.	−0·49	−0·47	−0·58	n̄0·87	−0·76	−0·65	−0·47	−0·09	0·49	1·15	x1·23	0·98	0·54	0·21	0·13	0·09	0·04	0·20	0·22	0·29	−0·07	−0·14	−0·42	−0·60
N.	−0·20	−0·30	−0·43	−0·47	−0·61	n̄0·67	n̄0·67	−0·33	−0·06	0·48	0·82	x0·90	0·74	0·40	0·24	0·10	−0·05	−0·12	−0·17	0·13	0·32	0·01	0·10	−0·16
D.	−0·07	−0·21	−0·23	−0·33	−0·86	n̄0·91	−0·69	−0·47	−0·09	0·18	0·36	x0·49	0·35	0·20	0·19	0·24	0·14	0·37	0·28	0·39	0·10	0·21	0·19	0·21
Y.	−0·34	−0·34	−0·33	−0·38	n̄0·48	−0·41	−0·12	0·27	0·74	1·16	x1·18	0·98	0·59	0·32	0·07	−0·09	−0·29	−0·37	−0·45	−0·34	−0·33	−0·31	−0·38	−0·36
W.	−0·10	−0·15	−0·28	−0·35	−0·60	n̄0·70	−0·63	−0·43	−0·14	0·27	0·47	x0·54	0·40	0·27	0·25	0·27	0·17	0·18	0·12	0·21	0·15	0·09	0·07	−0·08
Eq.	−0·50	−0·52	−0·50	−0·63	n̄0·67	−0·61	−0·28	0·16	0·83	1·43	x1·45	1·20	0·77	0·41	0·15	−0·06	−0·17	−0·18	−0·25	−0·21	−0·36	−0·39	−0·51	−0·55
S.	−0·41	−0·34	−0·22	−0·17	−0·16	0·09	0·57	1·07	1·52	x1·78	1·63	1·19	0·61	0·28	−0·19	−0·50	−0·87	−1·11	n̄1·20	−1·01	−0·79	−0·62	−0·71	−0·44

LIV.—HORIZONTAL FORCE (*all days except Jan. 10, 13, 14, 17, 18, 19, 20, 21, Mar. 14, Apl. 13, May 15, 16, June 4, 5, 26, Sept. 19, 20, Oct. 2, 3, Nov. 7*).

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	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	− 0·5	− 0·2	2·4	3·2	6·6	x 9·7	8·1	6·3	2·8	− 2·4	− 3·9	n̄ 5·2	− 4·5	− 4·1	− 4·0	− 4·7	− 3·6	− 2·2	− 1·1	− 0·5	− 1·1	− 1·0	− 1·1	0·9
F.	1·2	0·4	2·3	3·0	4·4	5·2	x 6·3	4·4	0·4	− 5·5	n̄ 8·6	− 7·9	− 4·2	− 2·8	− 2·2	− 3·0	− 1·4	− 0·7	− 0·1	− 0·3	1·2	1·3	2·3	4·2
M.	4·3	3·0	3·4	5·5	8·7	x 9·0	6·7	0·9	− 8·9	−19·0	n̄21·3	−20·2	−13·8	− 6·2	− 2·2	3·1	3·8	3·6	4·9	5·4	7·2	6·5	8·4	7·3
A.	8·2	7·8	6·0	5·4	5·5	7·9	2·7	− 5·2	−16·6	−28·5	n̄31·0	−27·9	−20·2	−10·9	0·5	6·9	12·4	13·9	x15·0	11·9	11·0	9·3	7·4	8·5
M.	− 1·9	0·0	− 6·3	− 6·7	− 2·8	− 5·3	−12·1	−20·0	−26·8	n̄29·4	−28·6	−24·2	−13·8	− 5·2	5·3	14·7	27·7	32·3	x34·9	29·9	20·3	7·2	14·9	− 4·1
J.	5·3	3·8	4·0	2·8	1·3	− 2·8	− 8·4	−14·6	−22·3	−27·1	n̄28·1	−22·5	−12·3	− 7·9	0·9	10·9	15·2	21·1	x22·0	18·4	14·7	9·9	8·7	6·8
J.	3·8	2·6	2·2	3·7	2·9	− 2·0	− 7·6	−14·6	−22·6	n̄28·6	−28·2	−22·0	−13·6	− 4·1	4·4	9·2	14·8	19·0	x19·4	17·3	15·4	13·5	9·3	5·8
A.	6·6	4·6	3·6	1·4	2·5	0·0	− 7·8	−16·1	−23·2	n̄28·7	−24·9	−16·9	− 6·5	− 1·2	4·7	6·7	12·1	14·5	x17·2	14·0	11·7	9·4	7·9	8·5
S.	6·5	6·8	4·6	6·0	7·5	4·5	− 2·2	− 8·5	−18·9	n̄24·8	−22·9	−18·6	−10·9	− 5·3	− 1·6	3·9	6·3	8·6	x10·7	10·6	10·3	10·5	9·8	6·8
O.	4·2	3·2	4·9	x 9·6	8·9	7·8	5·6	0·7	− 7·7	−17·3	n̄18·9	−15·5	− 9·0	− 3·0	0·1	2·1	3·1	1·3	1·5	0·2	3·9	3·1	5·2	6·2
N.	− 0·4	1·1	3·7	4·8	7·2	7·9	x 8·0	3·6	− 0·1	− 8·0	−12·8	n̄13·4	−10·1	− 3·6	− 0·1	1·9	3·4	4·1	5·0	0·3	− 3·0	1·1	− 1·0	0·6
D.	− 0·8	0·3	0·6	2·3	9·6	x10·6	7·8	5·1	− 0·2	− 3·6	− 6·2	n̄ 7·7	− 4·9	− 1·4	− 0·2	− 0·6	1·0	− 2·1	− 0·6	− 2·8	0·7	− 1·4	− 1·8	− 3·8
Y.	3·0	2·8	2·6	3·4	5·2	4·4	0·6	− 4·8	−12·0	−18·6	n̄19·6	−16·8	−10·3	− 4·6	0·5	4·3	7·9	9·5	x10·7	8·7	7·7	5·8	5·8	4·0
W.	− 0·1	0·4	2·3	3·3	7·0	x 8·4	7·6	4·9	0·7	− 4·9	− 7·9	n̄ 8·6	− 5·9	− 3·0	− 1·6	− 1·6	− 0·2	− 0·2	0·8	− 0·8	− 0·6	0·0	− 0·4	0·5
Eq.	5·8	5·2	4·7	6·6	7·7	7·3	3·2	− 3·0	−13·0	−22·4	n̄23·5	−20·6	−13·5	− 6·4	− 0·8	4·0	6·4	6·9	8·0	7·0	x 8·1	7·3	7·7	7·2
S.	3·5	2·8	0·9	0·3	1·0	− 2·5	− 9·0	−16·3	−23·7	n̄28·5	−27·5	−21·4	−11·6	− 4·6	3·8	10·4	17·5	21·7	x23·4	19·9	15·5	10·0	10·2	4·3

x and n̄ mark respectively the mean maximum and minimum hourly values in each month or season.

Note.—The corrections formerly applied on account of the effect of the N. Force on the W. Magnetograph, etc., have been ignored this year as insignificant.

LV.-LVII.—INTERNATIONAL QUIET DAYS—DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE.

Mean Hourly Values, Greenwich Mean Time, for the Months, Year, and Seasons.

Eskdalemuir. LV.—NORTH COMPONENT (*Quiet Days*). **1921.**

Month and Season.	Hour 1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	− 0·1	1·6	2·6	2·6	7·9	7·6	x 7·9	x 7·9	0·3	− 4·1	− 8·1	− 9·8	n̄10·8	− 6·1	− 3·1	− 4·4	− 2·1	1·6	1·9	0·9	0·9	0·6	2·9	1·3
F.	2·5	2·3	2·9	3·5	5·1	5·3	6·1	x 6·7	3·1	− 3·9	−11·3	n̄13·5	−11·3	− 8·5	− 4·7	− 2·7	− 1·7	1·5	0·3	3·3	3·5	3·9	3·9	3·3
M.	2·3	0·2	1·8	4·5	6·8	x 7·9	7·5	4·8	− 1·9	−11·5	n̄16·8	−16·5	−14·0	− 9·4	− 4·5	− 1·0	1·1	3·0	6·2	7·1	5·6	4·5	7·3	5·2
A.	6·2	6·4	3·6	6·2	8·4	12·8	12·4	5·7	− 6·5	−19·1	−27·3	n̄31·1	−26·3	−19·9	−11·1	− 2·5	4·1	10·3	13·5	x14·0	12·8	8·8	8·8	9·8
M.	6·7	5·6	5·5	6·4	5·5	2·4	− 2·5	− 8·6	−16·3	−22·4	n̄23·7	−22·4	−16·5	−10·8	− 2·5	3·8	9·7	9·0	14·7	x14·8	12·7	10·8	8·9	8·2
J.	4·7	2·3	5·2	3·6	5·3	2·4	− 0·4	− 5·8	−13·6	−24·2	n̄25·3	−21·1	−16·2	− 7·3	− 1·9	4·5	7·2	9·1	12·2	x13·4	12·5	11·7	11·8	10·0
J.	5·8	3·6	6·6	7·7	9·3	4·9	− 1·0	− 4·6	−11·9	−21·3	n̄27·9	−24·4	−19·0	−12·4	− 3·3	4·3	8·7	x13·5	12·8	13·2	11·8	9·1	7·1	7·5
A.	7·4	5·7	5·3	6·8	7·4	5·9	0·3	− 8·9	−18·0	−27·2	n̄28·7	−21·1	−13·7	− 5·8	2·0	3·7	7·9	8·8	11·2	11·0	9·3	9·5	x11·4	10·0
S.	10·4	8·0	8·2	8·8	9·0	9·2	6·4	1·6	− 7·6	−17·8	−23·2	n̄25·8	−23·0	−18·2	−11·4	− 5·2	1·8	7·0	10·4	10·4	10·4	9·8	x10·6	9·4
O.	5·0	4·1	6·1	6·0	6·3	7·4	x 7·7	3·4	− 3·9	−15·6	n̄22·1	−20·0	−14·3	− 9·9	− 5·0	− 0·5	3·8	5·7	5·6	7·3	5·2	5·7	5·0	6·9
N.	1·2	2·3	2·6	4·9	5·4	x 7·1	6·9	3·8	− 2·3	− 9·6	−13·7	n̄14·1	−10·0	− 5·5	− 1·6	0·5	2·2	4·1	3·1	2·6	3·9	1·4	2·9	2·0
D.	0·6	1·2	1·5	2·3	3·6	5·7	x 6·9	5·4	2·8	− 2·5	− 7·2	n̄ 9·0	− 8·1	− 4·5	− 1·8	− 1·0	0·9	− 0·4	− 0·8	0·7	1·5	1·8	0·4	0·1
Y.	4·4	3·6	4·3	5·3	6·7	6·5	4·9	1·0	− 6·3	−14·9	n̄19·6	−19·1	−15·3	− 9·8	− 4·1	0·0	3·6	6·1	7·6	x 8·2	7·5	6·5	6·8	6·1
W.	1·1	1·8	2·4	3·3	5·5	6·4	x 7·0	6·0	1·0	− 5·0	−10·1	n̄11·6	−10·0	− 6·1	− 2·8	− 1·9	− 0·2	1·7	1·1	1·9	2·5	1·9	2·5	1·7
Eq.	6·0	4·7	4·9	6·4	7·6	9·3	8·5	3·9	− 5·0	−16·0	−22·3	n̄23·3	−19·4	−14·3	− 8·0	− 2·3	2·7	6·5	8·9	x 9·7	8·5	7·2	7·9	7·8
S.	6·2	4·3	5·7	6·1	6·9	3·9	− 0·9	− 7·0	−14·9	−23·8	n̄26·4	−22·2	−16·3	− 9·1	− 1·4	4·1	8·4	10·1	12·7	x13·1	11·6	10·3	9·8	8·9

Eskdalemuir. LVI.—WEST COMPONENT (*Quiet Days*). **1921.**

	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	− 1·4	0·5	− 1·5	− 1·3	− 2·7	− 2·1	− 0·2	− 0·6	0·4	4·3	3·9	x 6·8	5·4	6·4	4·0	2·2	0·2	1·7	− 3·3	n̄ 5·4	− 4·1	− 3·9	− 5·3	− 4·0
F.	− 2·0	− 1·2	− 0·9	− 2·4	− 2·4	− 2·7	− 3·2	− 3·8	n̄ 5·3	− 3·8	0·9	8·3	x12·4	11·5	7·1	3·8	1·7	0·3	− 1·4	− 2·6	− 3·5	− 4·4	− 3·6	− 3·1
M.	− 3·6	− 2·9	− 5·0	− 4·1	− 2·8	− 3·1	− 5·0	−10·4	n̄15·3	−12·8	− 2·7	10·6	x19·1	18·0	12·7	6·6	2·1	2·2	3·1	1·0	1·3	− 0·1	− 5·2	− 3·7
A.	1·7	− 0·6	− 0·8	− 1·5	− 4·0	− 5·9	−12·3	−20·2	n̄23.3	−19·2	− 9·4	4·9	18·4	x22·0	18·3	13·6	9·5	7·3	5·0	2·9	1·2	− 2·3	− 1·7	− 3·8
M.	− 1·1	− 1·9	− 2·1	−10·1	−15·4	−19·8	−24·4	n̄27·8	−25·5	−15·1	− 0·3	15·1	x23·0	21·6	18·4	13·4	11·9	9·5	9·1	7·7	6·6	4·2	2·6	0·4
J.	− 1·7	− 4·7	− 8·8	− 8·8	−13·3	−19·3	n̄22·1	−21·8	−21·8	−14·1	− 2·3	10·9	19·8	x24·8	24·5	20·1	13·7	9·2	4·8	3·5	2·9	3·2	0·6	0·6
J.	− 2·5	0·6	− 0·8	− 8·7	−16·5	−21·4	−23·5	n̄27·3	−24·4	−14·3	− 3·3	12·4	22·5	x25·4	23·0	17·5	13·4	11·6	9·3	8·2	3·4	0·7	− 1·9	− 3·4
A.	− 5·6	− 6·2	− 6·4	− 7·2	−11·6	−18·1	−23·3	n̄24·3	−19·9	− 9·1	3·1	15·1	24·1	x24·9	18·9	11·1	8·3	5·5	6·8	6·2	4·8	3·4	2·8	− 3·4
S.	− 3·1	− 4·4	− 4·7	− 6·2	− 5·5	− 7·2	−11·1	−16·0	n̄18·6	−13·7	− 4·0	8·3	17·0	x17·1	14·6	12·9	8·0	6·5	7·2	3·7	3·4	− 0·2	− 2·3	− 1·8
O.	− 4·1	− 4·8	− 5·8	− 6·0	− 5·2	− 6·2	− 7·2	−12·4	n̄14.8	−12·8	1·7	16·5	x22·8	21·6	15·3	7·9	6·2	6·2	4·2	− 1·8	− 6·0	− 5·4	− 6·2	− 3·9
N.	− 4·1	− 3·9	− 1·9	− 2·3	− 2·9	− 2·1	− 3·0	− 5·0	n̄ 6·8	− 6·4	0.4	8·1	x13·1	11·7	8·9	5·7	4·5	3·6	2·0	− 1·2	− 5·0	− 4·6	− 4·6	− 4·2
D.	− 2·0	− 0·5	0·4	1·1	1·4	0·9	− 0·2	− 1·3	− 2·2	− 2·5	0·6	5·5	x 7·5	7·0	4·5	2·2	1·5	0·2	− 1·1	− 2·4	− 4·5	− 5·2	n̄ 6·3	− 4·5
Y.	− 2·5	− 2·5	− 3·2	− 4·8	− 6·7	− 8·9	−11·3	−14·2	n̄14·8	−10·0	− 0·9	10·2	17·1	x17·6	14·2	9·8	6·7	5·3	3·8	1·7	0·0	− 1·2	− 2·6	− 2·9
W.	− 2·4	− 1·3	− 1·0	− 1·2	− 1·6	− 1·5	− 1·7	− 2·7	− 3·5	− 2·1	− 1·4	7·2	x 9·6	9·1	6·1	3·5	2·0	1·5	− 1·0	− 2·9	− 4·3	− 4·5	n̄ 4·9	− 3·9
Eq.	− 2·3	− 3·2	− 4·1	− 4·5	− 4·4	− 5·6	− 8·9	−14·7	n̄18·0	−14·6	− 3·6	10·1	19·3	x19·7	15·2	10·2	6·4	5·5	4·9	1·4	0·0	− 2·0	− 3·8	− 3·3
S.	− 2·7	− 3·1	− 4·5	− 8·7	−14·2	−19·6	−23·3	n̄25·3	−22·9	−13·1	− 0·7	13·4	22·3	x24·2	21·2	15·5	11·8	8·9	7·5	6·4	4·4	2·9	1·0	− 1·4

Eskdalemuir. LVII.—VERTICAL COMPONENT (*Quiet Days*). **1921.**

	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	− 0·8	− 1·0	− 2·6	− 1·5	n̄ 2·8	− 2·7	− 2·3	− 1·8	− 2·1	0·3	1·1	1·2	1·2	2·0	2·1	2·5	x 2·6	1·3	1·4	1·5	0·9	0·0	0·4	− 0·9
F.	1·0	0·3	0·0	0·3	0·0	− 0·5	− 1·2	− 1·3	− 1·8	− 2·9	− 4·2	n̄ 4·3	− 2·8	− 0·9	1·0	2·3	x 3·0	2·7	2·6	1·9	1·8	1·5	1·0	0·9
M.	1·4	1·8	1·2	1·1	− 0·3	− 0·9	− 0·1	1·7	0·5	− 1·2	− 4·8	n̄ 7·4	− 7·0	− 5·0	− 1·4	1·7	2·9	1·7	1·7	2·9	2·3	x 3·2	2·2	1·8
A.	0·8	0·6	2·0	1.5	1·7	1·4	3·0	3·5	2·3	− 1·2	− 5·0	− 8·8	n̄11·1	− 7·7	− 3·2	− 1·6	0·6	1·5	2·9	3·6	3·8	x 4·2	3·3	1·9
M.	− 0·6	1·1	1·1	3·0	3·8	3·4	3·1	0·7	− 2·0	− 6·2	− 8·7	n̄10·9	− 8·1	− 3·8	− 0·8	2·5	4·9	x 5·5	4·0	3·0	2·5	1·7	0·9	− 0·2
J.	0·1	− 0·1	− 0·5	1·9	2·9	2·7	1·5	1·1	− 0·9	− 3·7	− 7·9	n̄10·3	− 7·5	− 4·9	− 3·3	0·7	x 4·5	4·1	x 4·5	x 4·5	4·1	2·9	2·3	1·1
J.	0·2	0·2	1·2	2·8	4·2	3·8	3·2	1·6	− 0·4	− 4·0	− 8·6	n̄13·2	− 9·8	− 3·6	− 1·8	2·8	5·0	x 5·4	3·8	1·6	2·0	1·2	1·4	0·4
A.	0·3	1·4	2·5	3·0	4·7	4·0	x 5·1	3·4	− 0·1	− 3·6	− 8·3	n̄12·4	−11·5	− 5·6	− 0·7	3·0	3·1	2·4	2·1	2·6	2·7	1·6	0·5	− 0·2
S.	0·2	0·9	1·1	0·7	0·9	1·5	2·3	0·8	0·0	− 1·6	− 5·8	n̄ 7·4	− 6·0	− 4·4	− 0·9	0·5	1·1	1·1	1·7	3·0	3·0	x 3·2	2·4	1·6
O.	0·5	0·9	0·2	0·0	− 0·6	− 1·0	− 1·3	0·1	− 0·9	− 1·7	− 5·0	n̄ 7·2	− 5·8	− 2·4	1·1	3·1	2·1	1·7	2·0	3·0	x 3·8	3·6	2·7	1·1
N.	0·7	0·7	− 0·2	− 1·9	n̄ 2·7	− 2·6	n̄ 2·7	− 2·0	− 1·0	− 0·9	− 1·0	− 1·3	− 1·2	1·2	x 2·5	2·2	2·1	1·3	0·6	1·3	2·0	1·6	0·9	0·4
D.	− 1·6	− 1·5	n̄ 2·4	− 1·9	− 1·5	− 1·4	− 1·5	− 1·6	− 1·8	− 1·3	− 2·0	− 1·9	− 2·1	0·4	2·7	3·6	2·9	2·9	x 3·8	3·3	1·8	1·0	0·5	− 0·4
Y.	0·2	0·4	0·3	0·7	0·9	0·7	0·8	0·5	− 0·7	− 2·3	− 5·0	n̄ 7·0	− 6·0	− 2·9	− 0·2	1·9	x 2·9	2·6	2·6	2·7	2·6	2·1	1·5	0·6
W.	− 0·2	− 0·4	− 1·3	− 1·3	− 1·7	− 1·8	n̄ 1·9	− 1·7	− 1·7	− 1·2	− 1·5	− 1·6	− 1·2	0·7	2·1	x 2·6	x 2·6	2·1	2·1	2·0	1·6	1·0	0·7	0·0
Eq.	0·8	1·1	1·1	0·8	0·4	0·3	1·0	1·5	0·5	− 1·4	− 5·2	n̄ 7·7	− 7·5	− 4·9	− 1·1	0·9	1·7	1·5	2·1	3·1	3·2	x 3·5	2·6	1·6
S.	0·0	0·7	1·1	2·7	3·9	3·5	3·2	1·7	− 0·8	− 4·4	− 8·4	n̄11·7	− 9·2	− 4·5	− 1·6	2·3	x 4·4	4·3	3·6	2·9	2·8	1·9	1·3	0·3

x and n̄ mark respectively the mean maximum and minimum hourly values in each month or season.

LVIII.-LX.—INTERNATIONAL QUIET DAYS—DIURNAL INEQUALITIES.

Mean Hourly Values, Greenwich Mean Time, for the Months, Years, and Seasons.

LVIII.—DECLINATION (measured positive towards the West) *Quiet Days*.

Eskdalemuir. **1921.**

Month and Season.	Hour 1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
J.	-0·27	0·01	-0·46	-0·41	-1·00	-0·86	-0·50	-0·58	0·06	1·09	1·25	x1·92	1·71	1·61	0·96	0·70	0·15	0·25	-0·77	-1·12	-0·87	-0·80	n̄1·21	-0·86
F.	-0·55	-0·36	-0·35	-0·68	-0·77	-0·84	-1·00	-1·14	n̄1·23	-0·52	0·83	2·44	x3·11	2·76	1·68	0·91	0·42	-0·03	-0·30	-0·70	-0·89	-1·10	-0·93	-0·80
M.	-0·84	-0·58	-1·10	-1·08	-0·96	-1·08	-1·44	-2·33	n̄2·90	-1·84	0·46	3·07	x4·60	4·10	2·77	1·36	0·35	0·25	0·24	-0·23	-0·08	-0·27	-1·45	-1.03
A.	-0·02	-0·49	-0·37	-0·66	-1·28	-1·91	-3·16	n̄4·32	-4·21	-2·65	-0·25	2·80	5·19	x5·51	4·26	2·83	1·64	0·82	0·19	-0·26	-0·52	-0·97	-0·86	-1·33
M.	-0·62	-0·71	-0·74	-2·37	-3·37	-4·05	-4·67	n̄4·97	-4·08	-1·66	1·34	4·31	x5·50	4·90	3·78	2·43	1·77	1·34	0·93	0·65	0·55	0·19	-0·01	-0·40
J.	-0·61	-1·07	-2·03	-1·95	-2·92	-3·93	n̄4·34	-3·95	-3·50	-1·35	1·04	3·38	4·86	x5·32	4·95	3·70	2·27	1·28	0·22	-0·09	-0·17	-0·05	-0·58	-0·48
J.	-0·84	-0·10	-0·54	-2·17	-3·79	-4·50	-4·58	n̄5·10	-4·11	-1·57	1·00	3·88	5·55	x5·73	4·73	3·19	2·12	1·50	1·08	0·83	-0·02	-0·40	-0·78	-1·10
A.	-1·54	-1·56	-1·58	-1·82	-2·73	-3·90	n̄4·60	-4·27	-2·86	-0·19	2·30	4·22	x5·55	5·25	3·60	1·97	1·16	0·56	0·69	0·58	0·41	0·11	-0·11	-1·26
S.	-1·22	-1·34	-1·41	-1·74	-1·62	-1·97	-2·57	n̄3·26	-3·22	-1·65	0·58	3·16	x4·71	4·44	3·55	2·85	1·47	0·87	0·80	0·11	0·05	-0.61	-1·07	-0·90
O.	-1·10	-1·19	-1·50	-1·54	-1·40	-1·66	-1·87	-2·65	n̄2·70	-1·61	1·64	4·44	x5·34	4·84	3·32	1·58	0·99	0·89	0·50	-0·77	-1·49	-1·41	-1·51	-1·17
N.	-0·89	-0·91	-0·53	-0·74	-0·88	-0·82	-1·01	n̄1·22	-1·21	-0·70	0·89	2·41	x3·17	2·63	1·85	1·10	0·77	0·46	0·21	-0·39	n̄1·22	-0·99	-1·07	-0·93
D.	-0·42	-0·16	-0.01	0·09	0·07	-0·16	-0·44	-0·58	-0·60	-0·36	0·53	1·60	x1·96	1·65	1·00	0·50	0·25	0·06	-0·17	-0·52	-0·98	-1·14	n̄1·27	-0·88
Y.	-0·74	-0·71	-0·89	-1·26	-1·72	-2·14	-2·52	n̄2·86	-2·55	-1·08	0·97	3·14	x4·27	4·06	3·04	1·93	1·11	0·69	0·30	-0·16	-0·44	-0·62	-0·90	-0·93
W.	-0·53	-0·36	-0·34	-0·44	-0·65	-0·67	-0·74	-0·88	-0·75	-0·12	0·88	2·09	x2·49	2·16	1·37	0·80	0·40	0·19	-0·26	-0·68	-0·99	-1·01	n̄1·12	-0·87
Eq.	-0·80	-0·90	-1·10	-1·26	-1·32	-1·66	-2·26	-3·14	-n3·26	-1·94	0·61	3·37	x4·96	4·72	3·48	2·16	1·11	0·71	0·43	-0·29	-0·51	-0·82	-1·22	-1·11
S.	-0·90	-0·86	-1·22	-2·08	-3·20	-4·10	-4·55	n̄4·57	-3·64	-1·19	1·42	3·95	x5·37	5·30	4·27	2·82	1·83	1·17	0·73	0·49	0·19	-0·04	-0·37	-0·81

LIX.—INCLINATION (*Quiet Days*).

Eskdalemuir. **1921.**

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
J.	0·01	-0·14	-0·20	-0·18	-0·53	-0·51	n̄0·56	-0·54	-0·08	0·19	0·47	0·52	x0·62	0·32	0·17	0·30	0·20	-0·10	-0·02	0·08	0·04	0·04	-0·07	-0·02
F.	-0·10	-0·12	-0·17	-0·17	-0·28	-0·30	-0·36	-n0·39	-0·14	0·25	x0·60	x0.60	0·42	0·30	0·19	0·16	0·15	-0·04	0·07	-0·12	-0·11	-0·13	-0·16	-0·13
M.	-0·04	0·09	0·05	-0·18	-0·39	-n0·47	-0·39	-0·07	0·43	0·95	x1·01	0.67	0·36	0·13	0·01	-0·02	-0·04	-0·19	-0·42	-0·40	-0·32	-0·21	-0·32	-0·22
A.	-0·41	-0·39	-0·17	-0·33	-0·42	-0·67	-0·48	0·11	0·92	1·57	x1·81	1.68	1·06	0·67	0·28	-0·14	-0·43	-0·76	n̄0·89	-0·87	-0·75	-0·42	-0·45	-0·51
M.	-0·43	-0·30	-0·29	-0·15	0·03	0·31	0·70	1·10	1·49	x1·57	1·31	0.88	0·41	0·18	-0·22	-0·44	-0·73	-0·63	-1·02	n̄1·03	-0·88	-0·74	-0·60	-0·54
J.	-0·26	-0·06	-0·18	-0·02	-0·01	0·28	0·49	0·81	1·27	x1·73	1·47	0.89	0·48	-0·13	-0·43	-0·66	-0·61	-0·66	-0·76	n̄0·81	-0·76	-0·74	-0·71	-0·63
J.	-0·32	-0·24	-0·38	-0·26	-0·18	0·19	0·59	0·86	1·22	1·54	x1·64	1.00	0·55	0·22	-0·28	-0·54	-0·69	-0·95	-0·91	n̄0·96	-0·77	-0·57	-0·38	-0·40
A.	-0·36	-0·21	-0·16	-0·22	-0·14	0·07	0·55	1·12	1·54	x1·83	1·58	0.76	0·13	-0·24	-0·51	-0·37	-0·59	-0·61	n̄0·80	-0·76	-0·62	-0·64	-0·77	-0·58
S.	-0·61	-0·41	-0·41	-0·43	-0·45	-0·42	-0·14	0·22	0·84	1·36	x1·42	1.31	1·00	0·73	0·43	0·10	-0·24	-0·55	n̄0·76	-0·67	-0·66	-0·55	-0·58	-0·53
O.	-0·23	-0·15	-0·28	-0·27	-0·32	-0·38	-0·39	0·02	0·51	1·21	x1·26	0.79	0·34	0·16	0·05	-0·04	-0·31	n̄0·44	-0·39	-0·36	-0·13	-0·17	-0·14	-0·34
N.	0·02	-0·06	-0·14	-0·32	-0·36	n̄0·48	-0·45	-0·20	0·25	0·72	x0·85	0.72	0·36	0·16	0·00	-0·09	-0·17	-0·30	-0·22	-0·11	-0·11	0·04	-0·07	-0·04
D.	-0·04	-0·13	-0·17	-0·22	-0·29	-0·42	n̄0·48	-0·36	-0·18	0·18	0·40	x0.43	0·32	0·17	0·10	0·11	-0·02	0·09	0·17	0·08	0·04	0·01	0·11	0·07
Y.	-0·23	-0·18	-0·21	-0·23	-0·28	-0·23	-0·08	0·22	0·67	1·09	x1·15	0·85	0·50	0·22	-0·02	-0·14	-0·29	-0·43	n̄0·50	-0·49	-0·42	-0·34	-0·35	-0·32
W.	-0·03	-0·11	-0·17	-0·22	-0·37	-0·43	n̄0·46	-0·37	-0·04	0·34	x0·58	0·57	0·43	0·24	0·12	0·12	0·04	-0·09	0·00	-0·02	-0·04	-0·01	-0·05	-0·03
Eq.	-0·32	-0·22	-0·20	-0.30	-0·40	-0·49	-0·35	0·07	0·68	1·27	x1·38	1·11	0·69	0·42	0·19	-0·03	-0·26	-0·49	n̄0·62	-0·58	-0·47	-0·34	-0·37	-0·40
S.	-0·34	-0·20	-0·25	-0·16	-0·08	0·21	0·58	0·97	1·38	x1·67	1·50	0·88	0·39	0·01	-0·36	-0·50	-0·66	-0·71	-0·87	n̄0·89	-0·76	-0·67	-0·62	-0·54

LX.—HORIZONTAL FORCE (*Quiet Days*).

Eskdalemuir. **1921.**

	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	- 0·5	1·7	2·0	2·1	6·8	6·7	x7·5	7·4	0·3	- 2·7	- 6·6	- 7·4	n̄ 8·7	- 4·0	- 1·8	- 3·6	- 2·0	2·0	0·9	- 0·7	- 0·3	- 0·5	1·3	0·0
F.	1·8	1·9	2·5	2·7	4·2	4·3	4·9	x 5·4	1·5	- 4·8	n̄10·6	-10·5	- 7·2	- 4·8	- 2·4	- 1·5	- 1·1	1·5	- 0·1	2·4	2·4	2·5	2·7	2·3
M.	1·2	- 0·7	- 0·3	3·1	5·7	6·6	5·8	1·6	- 6·2	-14·6	n̄16·8	-12·8	- 8·0	- 3·8	- 0·6	0·9	1·6	3·4	6·8	x 7·1	5·7	4·2	5·5	3·9
A.	6·4	6·0	3·2	5·5	6·9	10·5	8·3	- 0·3	-12·9	-23·8	n̄28·8	-28·4	-19·9	-12·8	- 5·4	1·5	6·6	11·9	x14·3	x14·3	12·7	7·8	8·0	8·3
M.	6·1	4·9	4·7	3·3	0·9	- 3·3	- 9·3	-16·2	-22·9	n̄25·8	-22·8	-17·1	- 9·2	- 4·1	2·9	7·5	12·7	11·4	x16·7	16·4	14·1	11·6	9·3	8·0
J.	4·0	0·9	2·5	0·9	1·3	- 3·2	- 6·7	-11·7	-19·3	n̄27·2	-24·9	-17·1	- 9·9	0·1	5·2	10·1	10·8	11·3	13·1	x13·8	12·8	12·1	11·5	9·7
J.	4·9	3·6	6·1	4·9	4·2	- 1·5	- 7·7	-12·2	-18·3	-24·5	n̄27·7	-19·8	-11·8	- 4·7	3·5	9·1	12·1	x16·2	14·9	15·0	12·2	8·9	6·3	6·2
A.	5·5	3·7	3·3	4·4	3·8	0·5	- 6·4	-15·4	-23·0	n̄28·6	-26·7	-15·9	- 6·2	1·5	7·3	6·7	9·9	9·9	x12·7	12·3	10·3	10·1	11·7	8·6
S.	9·1	6·4	6·5	6·7	7·1	6·8	3·0	- 3·0	-12·5	-20·9	n̄23·3	-22·3	-17·2	-12·5	- 6·7	- 1·3	4·0	8·6	x12·0	11·0	11·0	9·4	9·5	8·5
O.	3·6	2·5	4·2	4·1	4·6	5·3	5·3	- 0·3	- 8·0	-18·6	n̄20·7	-14·5	- 7·2	- 3·3	- 0·4	1·8	5·4	x 7·2	6·6	6·5	3·3	3·9	3·0	5·5
N.	0·0	1·1	2·0	4·0	4·3	x 6·2	5·8	2·2	- 4·1	-11·0	n̄13·0	-11·2	- 5·8	- 1·9	1·0	2·1	3·4	4·9	3·6	2·2	2·3	0·0	1·4	0·7
D.	0·0	1·0	1·6	2·5	3·9	5·8	x 6·5	4·8	2·0	- 3·1	- 6·7	-n7·1	- 5·6	- 2·3	- 0·4	- 0·4	1·3	- 0·3	- 1·1	0·0	0·1	0·2	- 1·5	- 1·2
Y.	3·5	2·8	3·2	3·7	4·5	3·7	1·4	- 3·1	-10·3	-17·1	n̄19·1	-15·3	- 9·7	- 4·4	0·2	2·7	5·4	7·3	x 8·4	x 8·4	7·2	5·9	5·7	5·0
W.	0·3	1·4	2·0	2·8	4·8	5·8	x 6·2	5·0	- 0·1	- 5·4	n̄ 9·2	- 9·1	- 6·8	- 3·3	- 0·9	- 0·9	0·4	2·0	0·8	1·0	1·1	0·6	1·0	0·5
Eq.	5·1	3·6	3·4	4·9	6·1	7·3	5·6	- 0·5	- 9·9	-19·5	n̄22·4	-19·5	-13·1	- 8·1	- 3·3	0·7	4·4	7·8	x 9·9	9·7	8·2	6·3	6·5	6·6
S.	5·1	3·3	4·2	3·4	2·6	-1·9	- 7·5	-13·9	-20·9	-n26·5	-25·5	-17·5	- 9·3	- 1·8	4·7	8·4	11·4	12·2	x14·4	x14·4	12·4	10·7	9·7	8·1

x and n̄ mark respectively the mean maximum and minimum hourly values in each month or season.

Note—The corrections formerly applied on account of the effect of the N. Force on the W. Magnetograph, etc., have been ignored this year as insignificant.

LX*a*.-LX*c*.—SELECTED DISTURBED DAYS—DIURNAL INEQUALITIES OF THE GEOGRAPHICAL COMPONENTS OF MAGNETIC FORCE.

Mean Hourly Values, Greenwich Mean Time, for the Months, Year, and Seasons.

Eskdalemuir. LX*a*.—NORTH COMPONENT (*Disturbed Days*). **1921.**

Month and Season.	Hour 1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	2·5	1·3	4·1	7·0	8·5	14·1	13·7	10·3	6·3	− 2·6	− 4·8	−12·0	−11·4	−11·6	n̄16·0	−11·2	− 8·1	−12·0	− 3·2	0·6	2·5	x15·8	2·6	3·4
F.	6·3	7·5	6·9	7·9	10·7	11·5	x13·7	11·5	3·9	− 2·7	− 8·9	−10·3	−11·1	−15·1	−11·5	n̄15·3	−11·3	− 7·9	0·1	− 1·9	4·1	1·1	4·1	7·3
M.	10·0	8·5	6·0	11·4	16·3	13·6	4·7	0·9	− 8·4	−25·1	−31·0	n̄34·7	−33·3	−18·8	− 5·7	8·1	0·2	1·1	− 0·4	11·4	x19·3	14·2	17·5	14·5
A.	12·3	15·6	x19·4	10·5	2·4	6·8	14·5	− 1·4	−16·4	−35·9	−37·6	n̄40·0	−30·5	−21·2	4·4	10·3	11·0	3·4	11·7	13·0	12·6	9·9	11·4	14·0
M.	−88·3	−72·3	n̄110·2	−103·4	−88·6	−99·8	−96·6	−15·3	−13·0	3·1	2·6	12·4	27·5	36·2	57·3	73·1	114·1	103·7	x115·2	93·0	44·8	− 1·7	51·4	−45·1
J.	5·0	0·7	3·4	5·5	5·0	2·4	− 1·4	− 8·5	−17·1	−23·1	n̄26·0	−24·0	− 9·4	−19·4	−12·5	6·4	8·4	23·5	x29·5	26·4	16·6	7·2	− 2·3	3·8
J.	3·5	3·9	6·4	7·5	5·8	6·9	− 4·0	−13·7	−18·1	−30·2	n̄34·9	−33·4	−27·5	−17·0	0·4	5·1	17·4	x23·7	22·6	18·6	19·3	15·8	11·9	9·8
A.	10·5	11·5	14·3	2·1	7·9	13·3	− 3·9	−16·9	−26·3	n̄39·1	−32·3	−28·8	−17·6	− 6·0	6·4	6·6	11·2	14·8	x26·4	13·0	12·6	8·2	2·8	9·4
S.	8·3	x20·2	15·8	14·7	17·5	10·4	− 8·3	− 9·5	−28·6	n̄34·4	−21·3	−25·7	−20·6	− 9·5	− 7·3	7·8	7·6	8·1	10·9	9·0	8·9	10·1	9·8	6·0
O.	9·1	15·1	9·3	x20·8	11·2	2·5	− 2·1	− 9·1	−19·6	−24·4	n̄26·1	−18·3	−10·9	− 3·8	− 1·4	7·1	1·1	− 0·8	− 0·6	7·6	9·5	8·5	10·6	4·6
N.	7·4	12·1	13·0	13·9	x15·4	7·1	5·4	− 1·5	7·8	− 5·3	−14·0	−25·7	n̄31·2	−17·9	− 2·2	4·3	3·8	0·1	11·0	− 5·7	− 9·2	9·9	− 1·0	3·1
D.	5·3	3·6	5·6	3·5	x28·9	26·1	11·4	− 0·8	− 9·5	−12·1	−19·6	n̄28·6	−21·0	−12·9	− 5·1	− 8·8	− 4·0	−15·1	2·1	8·3	15·2	16·6	11·7	− 0·9
Y.	− 0·7	2·3	− 0·5	0·1	3·4	1·2	− 4·4	− 4·5	−11·6	−19·3	−21·2	n̄22·4	−16·4	− 9·7	0·6	7·8	12·6	11·9	x18·8	16·1	13·0	9·6	10·9	· 2·5
W.	5·4	6·1	7·4	8·1	x15·9	14·7	11·0	4·8	2·1	− 5·7	−11·8	n̄19·2	−18·7	−14·4	− 8·7	− 7·7	− 4·9	− 8·7	2·5	0·3	3·1	10·8	4·3	3·2
Eq.	9·9	x14·9	12·6	14·3	11·8	8·3	2·2	− 4·8	−18·3	n̄30·0	−29·0	−29·7	−23·8	−13·3	− 2·5	8·3	5·0	2·9	5·4	10·3	12·6	10·7	12·3	9·7
S.	−17·3	−14·0	−21·5	−22·1	−17·5	−19·3	n̄26·5	−13·6	−18·6	−22·4	−22·6	−18·4	− 6·7	− 1·5	12·9	22·8	37·8	41·4	x48·4	37·7	23·3	7·4	15·9	− 5·5

Eskdalemuir. LX*b*.—WEST COMPONENT (*Disturbed Days*). **1921.**

	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	−12·0	− 7·8	− 5·7	− 0·6	− 2·0	0·4	− 0·7	5·2	4·8	10·7	10·8	16·4	x20·3	19·4	13·3	7·7	5·0	− 7·6	−10·7	−11·1	−12·7	n̄21·8	−11·7	− 9·6
F.	−10·2	−12·6	− 7·4	−10·0	− 8·6	− 7·4	− 4·4	− 4·6	− 3·0	− 3·2	3·2	17·6	x23·6	22·4	18·6	15·0	10·8	2·2	0·0	− 0·2	− 5·4	n̄16·6	− 8·6	−10·6
M.	−10·1	−13·5	− 7·6	− 4·9	− 4·3	− 0·6	− 9·7	−14·1	−19·8	−12·9	1·5	15·2	29·3	33·3	34·4	x37·1	25·7	7·0	1·5	−12·7	n̄28·4	−14·3	−18·7	−13·4
A.	− 3·8	− 7·8	−20·3	−10·2	−16·8	−16·7	−22·8	n̄28·4	−15·9	−13·4	0·6	15·9	25·0	33·0	x34·7	33·0	7·4	4·9	4·2	− 2·6	3·3	− 1·0	− 1·4	− 0·7
M.	−78·5	−74·9	−81·1	−86·9	n̄97·9	−86·7	−85·3	−46·0	−25·4	4·8	7·6	38·8	41·0	70·4	x82·6	80·4	79·4	78·2	70·2	67·6	29·6	− 2·7	13·1	1·7
J.	− 4·5	−12·1	−15·9	−24·5	−26·5	−31·9	n̄33·5	n̄33·5	−26·5	−12·5	0·7	15·9	30·7	32·9	34·5	x38·7	26·9	26·9	13·3	11·5	5·5	− 3·7	− 4·3	− 8·3
J.	− 7·4	− 6·9	− 9·3	− 9·8	− 6·9	−19·8	−17·6	−21·7	n̄22·4	−12·7	− 0·1	12·2	25·3	x31·0	30·2	21·9	19·4	14·1	2·3	2·0	− 0·5	− 3·6	−11·1	− 8·5
A.	−10·6	−10·9	− 6·9	−14·4	−11·9	n̄17·8	−13·2	−17·5	− 5·6	3·7	16·5	27·6	31·7	x33·4	27·6	15·9	9·4	− 2·9	−10·7	− 5·8	− 8·5	−15·0	−11·2	− 2·9
S.	− 6·4	−25·2	n̄44·8	−11·6	− 6·7	−10·5	− 8·7	− 9·1	− 9·9	9·9	15·5	28·6	32·8	x38·8	27·2	20·8	18·2	8·3	− 6·9	−18·7	− 7·3	−10·1	−13·6	−10·6
O.	−13·3	−19·0	− 1·8	5·7	4·1	15·8	11·8	4·1	− 0·5	− 1·2	10·8	23·3	x29·1	29·0	20·8	18·3	5·3	− 1·4	−10·2	n̄35·1	−25·5	−24·0	−11·4	−34·7
N.	− 2·5	− 9·0	8·3	10·4	18·5	x24·6	23·8	16·7	10·4	5·3	10·2	14·5	19·6	21·9	13·4	13·9	7·6	− 0·4	−22·7	−36·6	n̄59·3	−41·4	−31·5	−15·8
D.	− 4·5	− 4·2	4·3	7·9	16·0	5·2	12·9	9·1	4·4	− 0·7	7·5	x16·8	16·6	11·7	9·3	− 2·2	− 7·1	− 5·9	n̄23·4	−21·5	− 1·7	−17·8	−22·4	−10·3
Y.	−13·6	n̄17·0	−15·7	−12·4	−11·9	−12·1	−12·3	−11·7	− 9·1	− 1·8	7·1	20·2	27·1	x31·4	28·9	25·0	17·3	10·3	0·6	− 5·3	− 9·2	−14·3	−11·1	−10·3
W.	− 7·3	− 8·4	− 0·1	1·9	6·0	5·7	7·9	6·6	4·1	3·0	7·9	16·3	x20·0	18·8	13·6	8·6	4·1	− 2·9	−14·2	−17·3	−19·8	n̄24·4	−18·6	−11·6
Eq.	− 8·4	−16·4	n̄18·6	− 5·3	− 5·9	− 3·0	− 7·3	−11·9	−11·5	− 4·4	7·1	20·7	29·1	x33·5	29·3	27·3	14·1	4·7	− 2·8	−17·3	−14·5	−12·4	−11·3	−14·9
S.	−25·2	−26·2	−28·3	−33·9	−35·8	n̄39·1	−37·4	−29·7	−20·0	− 4·2	6·2	23·6	32·2	41·9	x43·7	39·2	33·8	29·1	18·8	18·8	6·5	− 6·2	− 3·3	− 4·5

Eskdalemuir. LX*c*.—VERTICAL COMPONENT (*Disturbed Days*). **1921.**

	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	− 2·1	− 1·0	− 2·5	− 5·1	− 7·3	− 8·2	− 7·1	− 8·3	n̄ 9·2	− 5·4	− 5·3	− 2·8	− 1·1	3·1	7·8	10·9	11·4	x17·2	13·9	7·7	3·2	− 1·4	− 4·0	− 4·8
F.	− 2·9	− 5·6	− 7·4	− 7·7	− 7·1	− 7·0	− 8·1	− 7·7	− 7·6	− 6·0	− 7·1	n̄ 8·6	− 5·4	− 1·9	4·9	11·8	x14·4	14·3	12·0	11·8	11·3	7·5	4·6	− 2·7
M.	− 5·9	− 5·1	− 5·5	− 9·9	n̄15·9	−15·3	−11·7	−10·7	−10·7	− 9·5	−10·5	− 8·6	− 4·6	1·6	5·0	10·4	17·4	27·0	x29·4	24·8	12·4	4·6	− 4·2	− 4·7
A.	− 8·3	−12·3	−12·2	− 9·7	− 8·6	− 9·0	− 9·2	−12·4	−15·3	n̄15·5	−15·2	−12·4	− 6·8	6·5	23·3	35·4	x37·2	20·2	14·5	10·1	4·7	2·2	− 1·2	− 5·9
M.	−69·9	−26·5	−46·3	−89·8	−81·9	−99·4	−77·0	−52·0	−32·3	− 5·4	7·6	40·5	52·2	63·9	57·6	65·1	75·3	87·2	101·9	x106·1	90·8	−33·2	−18·8	n̄115·8
J.	− 7·3	− 5·1	− 5·1	− 3·7	− 2·0	− 2·4	− 2·8	− 4·4	− 7·4	−11·8	n̄15·6	−15·2	−10·6	− 3·8	0·2	7·7	19·9	22·3	x25·7	18·1	12·7	1·7	− 7·1	− 4·1
J.	− 4·6	−10·6	n̄17·6	−13·4	−15·4	−10·8	− 8·0	− 4·5	− 4·5	− 3·7	− 8·7	− 8·3	− 3·5	− 0·7	1·9	13·5	19·9	20·7	x23·0	19·4	12·6	4·0	2·0	− 2·6
A.	−11·5	−13·0	n̄15·1	−14·5	−11·6	− 9·5	− 7·7	− 5·8	− 7·9	− 9·3	−11·4	− 9·1	0·3	7·6	13·7	20·9	22·8	x26·7	22·3	15·0	4·1	2·1	− 1·4	7·9
S.	0·1	−29·4	−24·8	−29·6	n̄33·5	−21·3	−11·7	− 4·2	− 1·8	− 2·2	− 3·9	− 5·5	0·9	8·0	12·8	23·6	26·1	26·7	x27·7	22·4	8·6	5·8	3·7	1·7
O.	−29·5	n̄36·7	−25·7	−22·9	−15·9	−14·7	−13·6	− 8·6	− 5·2	2·0	7·4	6·4	2·0	4·4	13·8	25·0	28·6	35·0	x38·4	32·7	19·1	3·7	−20·5	−25·3
N.	n̄31·0	−27·1	−14·9	−10·7	− 9·4	−11·8	−11·9	− 7·3	− 6·9	− 4·2	− 2·0	4·7	12·7	21·8	x24·8	22·3	15·7	16·1	19·6	16·6	3·5	− 1·7	− 5·9	−13·0
D.	−20·3	−19·6	−21·3	−21·0	n̄30·9	−28·2	−21·7	−13·2	− 7·7	− 3·0	0·9	3·2	8·7	18·6	25·7	27·2	27·7	30·2	x30·7	20·4	5·9	2·6	− 0·9	−14·0
Y.	−16·1	−16·0	−16·5	−19·8	n̄20·0	−19·8	−15·9	−11·6	− 9·7	− 6·2	− 5·3	− 1·3	3·7	10·8	16·0	22·8	26·4	28·6	x29·9	25·4	15·7	− 0·2	− 4·5	−16·6
W.	n̄14·1	−13·3	−11·5	−11·1	−13·7	−13·8	−12·2	− 9·1	− 7·8	− 4·7	− 3·4	− 0·9	3·7	10·4	15·8	18·1	17·3	x19·5	19·1	14·1	6·0	1·7	− 1·5	− 8·6
Eq.	−10·9	n̄20·9	−17·1	−18·0	−18·5	−15·1	−11·6	− 9·0	− 8·3	− 6·3	− 5·6	− 5·0	− 2·1	5·1	13·7	23·6	27·3	27·2	x27·5	22·5	11·2	4·1	− 5·6	− 8·5
S.	−23·3	−13·8	−21·0	−30·3	−27·7	−30·5	−23·8	−16·7	−13·0	− 7·5	− 7·0	2·0	9·6	16·8	18·4	26·8	34·5	39·2	x43·2	39·6	30·0	− 6·4	− 6·3	n̄32·6

x and *n̄* mark respectively the mean maximum and minimum hourly values in each month or season.

Note—The corrections formerly applied on account of the effect of the N. Force on the W. Magnetograph, etc., have been ignored this year as insignificant.

LX*d*.-LX*f*.—SELECTED DISTURBED DAYS—DIURNAL INEQUALITIES.

Mean Hourly Values, Greenwich Mean Time, for the Months, Year, and Seasons.

Eskdalemuir. LX*d*.—DECLINATION (measured positive towards the West).—*Disturbed Days.* **1921.**

Month and Season.	Hour 1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
J.	−2·50	−1·62	−1·37	−0·53	−0·89	−0·75	−0·95	0·41	0·57	2·26	2·41	3·95	x4·68	4·51	3·57	2·17	1·47	−0·78	−1·92	−2·22	−2·65	n5·24	−2·46	−2·09
F.	−2·39	−2·93	−1·87	−2·44	−2·33	−2·14	−1·68	−1·59	−0·83	−0·48	1·15	4·08	x5·32	5·31	4·34	3·86	2·79	0·90	−0·01	0·07	−1·31	n3·34	−1·95	−2·53
M.	−2·58	−3·17	−1·85	−1·63	−1·82	−0·92	−2·19	−2·84	−3·41	−1·05	2·14	5·05	x7·75	7·67	7·12	6·85	5·05	1·32	0·32	−3·18	n6·74	−3·65	−4·73	−3·50
A.	−1·47	−2·47	−5·15	−2·63	−3·47	−3·70	−5·35	n5·53	−2·17	−0·52	2·33	5·50	6·74	x7·75	6·59	5·91	0·80	0·77	0·14	−1·29	−0·09	−0·78	−0·96	−0·96
M.	−10·28	−10·52	−9·51	−11·05	n14·10	−11·23	−11·15	−8·17	−4·24	0·77	1·35	6·93	6·47	11·76	x12·92	11·56	8·93	9·31	7·05	7·85	3·19	−0·43	−0·44	3·00
J.	−1·18	−2·42	−3·33	−5·15	−5·51	−6·43	n6·52	−6·10	−4·22	−1·10	1·67	4·55	6·60	x7·63	7·54	7·25	4·81	3·92	0·89	0·72	0·11	−1·15	−0·71	−1·86
J.	−1·68	−1·58	−2·22	−2·38	−1·70	n4·30	−3·24	−3·48	−3·35	−0·72	2·02	4·36	6·60	x7·11	5·92	4·01	2·80	1·39	−0·89	−0·70	−1·23	−1·63	−2·88	−2·26
A.	−2·71	−2·84	−2·20	−2·96	−2·82	n4·30	−2·37	−2·46	0·44	3·02	5·16	7·14	x7·28	6·93	5·07	2·75	1·19	−1·45	−3·65	−1·90	−2·42	−3·45	−2·36	−1·12
S.	−1·75	−6·16	n9·77	−3·16	−2·34	−2·68	−1·23	−1·24	−0·28	3·97	4·30	7·16	7·69	x8·21	5·79	3·64	3·14	1·17	−2·00	−4·22	−1·97	−2·59	−3·25	−2·44
O.	−3·16	−4·65	−0·90	−0·10	0·15	2·97	2·46	1·34	1·06	1·19	3·67	5·67	x6·39	5·95	4·19	3·19	0·99	−0·23	−1·98	n7·39	−5·59	−5·25	−2·87	−7·13
N.	−0·93	−2·49	0·87	1·23	2·74	4·43	4·39	3·39	1·60	1·36	2·84	4·37	x5·70	5·37	2·77	2·49	1·27	−0·07	−5·12	−6·89	n11·16	−8·75	−6·16	−3·30
D.	−1·20	−1·04	0·53	1·35	1·47	−0·51	1·88	1·84	1·42	0·58	2·62	x5·00	4·50	3·07	2·13	0·08	−1·16	−0·29	−4·74	−4·72	−1·23	−4·48	n5·12	−1·98
Y.	−2·65	n3·49	−3·06	−2·45	−2·55	−2·46	−2·16	−2·04	−1·12	0·77	2·64	5·31	6·31	x6·77	5·66	4·48	2·67	1·33	−0·99	−1·99	−2·59	−3·40	−2·82	−2·18
W.	−1·76	−2·02	−0·46	−0·10	0·25	0·26	0·91	1·01	0·69	0·93	2·26	4·35	x5·05	4·57	3·20	2·15	1·09	−0·06	−2·95	−3·44	−4·09	n5·45	−3·92	−2·48
Eq.	−2·24	−4·11	n4·42	−1·88	−1·87	−1·08	−1·58	−2·07	−1·20	0·90	3·11	5·85	7·14	x7·40	5·92	4·90	2·50	0·76	−0·88	−4·02	−3·60	−3·07	−2·95	−3·51
S.	−3·96	−4·34	−4·32	−5·39	−6·03	n6·57	−5·82	−5·05	−2·84	0·49	2·55	5·75	6·74	x8·36	7·86	6·39	4·43	3·29	0·85	1·49	−0·09	−1·67	−1·60	−0·56

Eskdalemuir. LX*e*.—INCLINATION (*Disturbed Days*). **1921.**

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
J.	0·02	0·04	−0·22	−0·56	−0·69	−n1·12	−1·04	−0·96	−0·73	−0·17	−0·03	0·38	0·31	0·44	0·97	0·84	0·71	x1·34	0·76	0·37	0·17	−0·63	−0·04	−0·16
F.	−0·28	−0·38	−0·48	−0·50	−0·70	−0·77	−n0·99	−0·84	−0·38	0·09	0·34	0·11	0·13	0·50	0·50	x0·99	0·88	0·82	0·30	0·42	0·12	0·44	0·02	−0·33
M.	−0·59	−0·41	−0·38	−0·88	n1·36	−1·24	−0·41	−0·05	0·66	1·62	1·70	x1·72	1·46	0·61	−0·17	−0·97	−0·07	0·47	0·73	0·13	−0·38	−0·52	−0·87	−0·79
A.	−0·92	n1·16	n1·16	−0·72	−0·05	−0·34	−0·72	0·33	0·98	x2·18	2·03	1·96	1·31	0·89	−0·37	−0·42	0·07	0·19	−0·47	−0·54	−0·76	−0·56	−0·74	−1·03
M.	5·45	5·43	x7·49	6·09	5·54	5·61	5·93	0·57	0·52	−0·42	−0·13	−0·54	−1·26	−2·09	−3·84	−4·63	n6·99	−6·00	−6·22	−4·64	−1·19	−0·67	−4·02	−0·01
J.	−0·42	0·06	−0·04	0·02	0·14	0·40	0·66	1·08	1·42	x1·43	1·27	0·86	−0·25	0·52	0·15	−0·96	−0·56	−1·47	n1·51	−1·47	−0·85	−0·35	0·06	−0·19
J.	−0·20	−0·38	−0·67	−0·63	−0·62	−0·33	0·40	1·18	1·48	x2·09	2·03	1·70	1·19	0·48	−0·55	−0·41	−1·00	n1·28	−0·93	−0·75	−0·92	−0·85	−0·50	−0·53
A.	−0·76	−0·85	n1·17	−0·22	−0·57	−0·75	0·32	1·28	1·60	x2·21	1·48	1·09	0·53	−0·07	−0·60	−0·21	−0·33	−0·23	−0·94	−0·35	−0·54	−0·18	0·00	−0·74
S.	−0·41	−1·55	−0·77	−1·46	n1·83	−1·00	0·41	0·68	x1·98	1·97	0·98	0·97	0·72	0·06	0·27	−0·32	−0·19	−0·02	0·12	0·34	−0·22	−0·31	−0·28	−0·14
O.	−1·06	−1·52	−1·20	n2·01	−1·20	−0·83	−0·43	0·29	1·14	1·64	x1·66	0·89	0·19	−0·20	0·03	−0·18	0·54	0·95	1·19	0·99	0·35	0·00	−0·97	−0·26
N.	−1·19	−1·28	−1·36	−1·35	n1·57	−1·22	−1·10	−0·40	−0·87	0·14	0·66	1·49	x1·95	1·27	0·50	0·01	0·00	0·40	0·21	1·48	1·81	0·11	0·52	−0·22
D.	−0·76	−0·64	−0·97	−0·90	n2·93	−2·47	−1·52	−0·44	0·33	0·72	1·14	1·60	1·25	1·07	0·79	1·28	1·08	x1·83	1·07	0·38	−0·80	−0·66	−0·35	−0·09
Y.	−0·09	−0·22	−0·08	−0·26	−0·49	−0·34	0·13	0·23	0·68	x1·13	1·09	1·02	0·63	0·29	−0·19	−0·42	−0·49	−0·25	−0·47	−0·30	−0·27	−0·35	n0·60	−0·37
W.	−0·55	−0·57	−0·76	−0·83	n1·47	−1·40	−1·16	−0·66	−0·41	0·20	0·53	0·90	0·91	0·82	0·69	0·78	0·67	x1·10	0·59	0·66	0·33	−0·19	0·04	−0·20
Eq.	−0·75	−1·16	−0·88	n1·27	−1·11	−0·85	−0·29	0·31	1·19	x1·85	1·59	1·39	0·92	0·34	−0·06	−0·47	0·09	0·40	0·39	0·23	−0·25	−0·35	−0·72	−0·56
S.	1·02	1·07	1·40	1·32	1·12	1·23	x1·83	1·03	1·26	1·33	1·16	0·78	0·05	−0·29	−1·21	−1·55	−2·22	−2·25	n2·40	−1·80	−0·88	−0·51	−1·12	−0·37

Eskdalemuir. LX*f*.—HORIZONTAL FORCE (*Disturbed Days*). **1921.**

	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	− 1·0	− 1·0	2·3	6·5	7·6	x13·6	12·9	11·3	7·4	0·6	− 1·5	− 6·7	− 5·1	− 5·5	−11·5	− 8·5	− 6·3	n13·7	− 6·1	− 2·6	1·3	8·8	− 0·9	0·5
F.	3·1	3·5	4·4	4·7	7·7	8·9	x11·8	9·7	2·8	− 3·5	− 7·6	− 4·8	− 3·9	− 8·1	− 5·7	n10·4	− 7·8	− 7·0	0·1	− 1·9	2·3	− 3·8	1·4	3·9
M.	6·7	4·3	3·6	9·5	14·3	12·9	1·7	− 3·2	−13·8	−27·7	n29·3	−28·8	−23·5	− 8·5	4·4	x18·4	7·5	3·1	0·1	7·2	10·3	9·5	11·4	10·0
A.	10·7	12·7	12·7	7·1	− 2·5	1·7	7·3	− 9·5	−20·3	n38·2	−35·8	−33·8	−22·1	−10·8	14·1	x19·3	12·7	4·6	12·4	11·7	13·0	9·2	10·5	13·2
M.	−107·1	−90·7	n128·8	−124·0	−113·0	−120·5	−116·9	−27·8	−19·7	4·3	4·7	23·0	38·0	54·9	78·5	93·0	x132·1	121·7	130·5	108·4	51·4	− 2·4	53·0	−42·7
J.	3·5	− 2·8	− 1·3	− 1·7	− 2·8	− 6·8	−11·0	−17·7	−23·9	n25·7	−24·7	−18·5	− 0·2	− 9·2	− 2·1	17·2	15·7	30·2	x32·0	28·6	17·4	5·9	− 3·5	1·3
J.	1·3	1·7	3·4	4·4	3·6	1·0	− 8·8	−19·3	−23·8	−32·6	n33·5	−28·5	−19·1	− 7·4	9·0	11·1	22·2	x26·8	22·3	18·3	18·3	14·1	8·2	7·0
A.	7·1	7·9	11·8	− 2·1	4·2	7·6	− 7·5	−21·2	−26·8	n36·5	−26·3	−19·7	− 7·8	3·8	14·1	10·9	13·4	13·3	x22·2	10·8	9·6	3·5	− 0·5	8·1
S.	6·1	12·2	2·3	10·8	x14·8	7·0	−10·4	−11·7	n30·2	−16·0	−16·5	−10·4	2·0	0·8	13·4	12·4	10·2	8·4	3·3	6·5	6·8	5·5	2·7
O.	4·9	9·0	8·4	x21·5	11·9	6·9	1·4	− 7·5	−18·9	n23·7	−22·0	−10·9	− 2·1	4·6	4·6	12·0	2·6	− 1·2	− 3·5	− 2·7	1·8	1·3	6·9	− 5·5
N.	6·4	9·0	14·8	16·2	x20·0	13·8	11·9	3·3	10·4	− 3·6	−10·5	−20·5	−24·4	−11·0	1·7	8·0	5·8	0·0	4·1	−15·9	n25·7	− 2·3	−10·0	− 1·6
D.	3·8	2·3	6·6	5·6	x32·3	26·4	14·6	1·8	− 7·8	−11·8	−16·6	n22·6	−15·5	− 9·0	− 2·3	− 9·0	− 5·9	−16·1	− 4·6	1·8	14·1	10·8	4·9	− 3·8
Y.	− 4·5	− 2·7	− 5·0	− 3·5	− 0·2	− 2·3	− 7·8	− 7·7	−13·7	n19·1	−18·3	−15·7	− 8·0	− 0·4	8·8	14·6	17·0	14·3	x18·2	13·9	9·8	5·1	7·2	− 0·6
W.	3·1	3·5	7·0	8·3	x16·9	15·7	12·8	6·5	3·2	− 4·6	− 9·1	n13·7	−12·2	− 8·4	− 4·5	− 5·0	− 3·6	− 9·2	− 1·6	− 4·7	− 2·7	3·4	− 1·2	− 0·3
Eq.	7·1	9·6	6·8	12·2	9·6	7·1	0·0	− 8·0	− 20·8	n30·0	−25·8	−22·5	−14·5	− 3·2	6·0	x15·8	8·8	4·2	4·4	4·9	7·9	6·7	8·6	5·1
S.	−23·8	−21·0	−28·7	−30·9	−27·0	−29·7	n36·1	−21·5	−23·6	−22·6	−20·0	−10·9	2·7	10·5	24·9	33·1	45·9	48·0	x51·8	41·5	24·2	5·3	14·3	− 6·6

x and *n* mark respectively the mean maximum and minimum hourly values in each month or season.

Note—The corrections formerly applied on account of the effect of the N. Force on the W. Magnetograph, etc., have been ignored this year as insignificant.

LXI*a*.—LXI*b*.—LXII.—DIURNAL INEQUALITIES OF DECLINATION AND HORIZONTAL FORCE.

* *Mean Hourly Values, Greenwich Mean Time, for the Months, Year, and Seasons.*

LXI*a*.—DECLINATION (measured positive towards the West) (*Ordinary days*).

Richmond (Kew Observatory). **1921.**

Month and Season.	Hour 1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.
	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
J.	−0·90	−0·46	−0·55	−0·31	−0·49	−0·63	−0·62	−0·52	0·05	1·12	1·94	2·88	*x*3·00	2·32	1·45	1·11	0·76	−0·11	−1·13	−1·68	−1·77	*n̄*2·10	−2·00	−1·43
F.	−1·31	−0·82	−0·50	−0·80	−0·86	−0·71	−0·72	−1·14	−1·09	−0·54	0·96	2·59	*x*3·39	3·21	2·31	1·90	0·76	0·08	−0·66	−0·87	−1·04	*n̄*1·54	−1·29	−1·31
M.	−1·00	−0·90	−0·85	−0·45	−0·86	−0·96	−1·60	−2·73	*n̄*3·21	−1·77	0·87	3·48	*x*4·95	4·84	3·90	2·65	1·35	0·48	−0·20	−1·33	−1·94	−1·61	−1·70	−1·38
A.	−0·91	−1·22	−2·03	−1·82	−2·01	−2·48	−3·89	*n̄*4·39	−3·41	−1·44	1·66	4·84	*x*6·73	6·57	5·31	3·48	1·89	0·32	−0·28	−0·53	−1·15	−1·82	−2·03	−1·34
M.	−0·84	−1·03	−1·03	−1·94	−2·51	−3·46	−4·35	*n̄*4·36	−3·28	−0·93	1·92	4·57	*x*5·57	5·28	4·16	2·83	1·88	0·61	0·19	−0·29	−0·75	−0·75	−0·74	−0·64
J.	−0·64	−0·69	−1·56	−2·17	−3·18	−3·88	*n̄*4·70	−4·63	−3·71	−1·65	0·99	3·32	4·84	*x*5·56	4·86	3·64	2·36	1·37	0·48	0·14	−0·12	0·04	−0·05	−0·57
J.	−1·33	−1·12	−1·51	−2·07	−3·12	−4·14	*n̄*4·53	−4·51	−3·39	−1·37	1·39	4·02	5·99	*x*6·33	5·35	3·64	2·31	1·08	0·38	0·10	−0·59	−0·79	−0·97	−1·26
A.	−1·34	−1·62	−1·64	−1·68	−2·78	−3·88	*n̄*4·31	−3·67	−1·60	0·81	3·40	5·22	*x*6·08	5·82	4·11	2·13	0·96	−0·46	−1·12	−0·70	−0·93	−1·19	−0·95	−0·68
S.	−1·06	−1·34	−1·69	−1·60	−1·94	−2·55	*n̄*3·49	−3·48	−2·38	−0·09	2·58	4·77	*x*5·76	5·19	3·61	2·08	1·01	0·22	0·04	−0·62	−1·11	−1·18	−1·38	−1·39
O.	−1·25	−0·91	−0·60	−0·82	−1·01	−0·99	−1·42	*n̄*2·37	−2·36	−0·74	2·07	4·26	*x*4·95	4·44	3·14	1·94	0·93	0·30	−0·65	−1·52	−2·13	−2·30	−1·83	−1·05
N.	−0·99	−0·40	−0·26	−0·25	−0·09	−0·05	−0·28	−1·15	−1·26	−0·20	1·39	2·67	*x*3·27	2·75	1·87	1·06	0·53	−0·21	−1·27	−1·06	−1·56	*n̄*1·71	−1·67	−1·10
D.	−0·61	0·10	0·03	0·35	0·23	0·13	0·06	−0·32	−0·44	0·04	1·22	1·94	*x*2·37	2·07	1·36	0·93	0·47	−0·32	−1·12	−1·15	−1·49	−2·12	*n̄*2·15	−1·47
Y.	−1·01	−0·87	−1·02	−1·13	−1·55	−1·97	−2·49	*n̄*2·77	−2·17	−0·56	1·70	3·71	*x*4·74	4·53	3·45	2·28	1·27	0·28	−0·45	−0·79	−1·22	−1·42	−1·40	−1·14
W.	−0·95	−0·40	−0·32	−0·25	−0·30	−0·32	−0·39	−0·78	−0·69	0·10	1·38	2·52	*x*3·01	2·59	1·75	1·25	0·63	−0·14	−1·05	−1·19	−1·47	*n*−1·87	−1·78	−1·33
Eq.	−1·06	−1·09	−1·29	−1·17	−1·46	−1·75	−2·60	*n̄*3·24	−2·84	−1·01	1·79	4·34	*x*5·60	5·26	3·99	2·54	1·29	0·33	−0·27	−1·00	−1·58	−1·73	−1·74	−1·29
S.	−1·04	−1·11	−1·43	−1·97	−2·90	−3·84	*n̄*4·47	−4·29	−2·99	−0·79	1·92	4·28	5·62	*x*5·75	4·62	3·06	1·88	0·65	−0·02	−0·19	−0·60	−0·67	−0·68	−0·79

LXI*b*.—DECLINATION (*Quiet days*).

Richmond (Kew Observatory). **1921.**

	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′	′
J.	−0·23	−0·12	−0·32	−0·16	−0·36	−0·75	−0·65	−0·79	−0·19	0·94	1·32	*x*2·08	*x*2·08	1·66	0·83	0·59	0·09	0·07	−0·90	*n̄*1·14	−0·98	−0·98	−1·11	−0·91
F.	−0·31	−0·03	−0·10	−0·28	−0·57	−0·77	−0·80	−1·16	*n̄*1·35	−0·71	0·70	2·16	*x*2·92	2·57	1·53	0·76	0·44	−0·07	−0·69	−0·86	−0·86	−1·05	−0·83	−0·72
M.	−0·56	−0·34	−0·75	−0·64	−0·76	−1·01	−1·38	−2·44	*n̄*3·05	−1·84	0·50	3·11	*x*4·18	3·70	2·51	1·06	0·20	0·27	0·12	−0·26	−0·21	−0·54	−1·18	−0·81
A.	−0·45	−0·76	−0·58	−0·92	−1·22	−1·79	−3·49	*n̄*4·51	−4·13	−2·52	0·34	3·14	*x*5·40	*x*5·40	4·25	2·65	1·37	0·37	0·06	−0·12	−0·48	−0·70	−0·59	−0·61
M.	−0·34	−0·32	−0·45	−1·66	−2·51	−3·43	−4·80	*n̄*4·97	−3·80	−1·36	1·87	4·48	*x*5·43	4·56	3·20	1·83	1·08	0·61	0·47	0·20	0·11	0·12	0·02	−0·23
J.	−0·53	−0·89	−1·52	−1·49	−2·68	−3·52	*n̄*3·99	−3·76	−2·83	−0·99	1·26	3·45	4·36	*x*4·85	4·31	2·96	1·75	0·80	−0·06	−0·25	−0·48	−0·21	−0·17	−0·44
J.	−0·53	0·05	−0·38	−1·66	−3·09	−3·89	−4·38	*n̄*4·76	−3·67	−1·59	1·24	3·56	5·16	*x*5·31	4·31	2·68	1·56	0·71	0·49	0·46	−0·24	−0·15	−0·49	−0·80
A.	−1·15	−1·26	−1·25	−1·44	−2·39	−3·62	*n̄*4·64	−4·35	−2·70	−0·07	2·56	4·37	*x*5·28	4·67	3·22	1·67	0·78	0·48	0·49	0·34	0·13	0·16	−0·15	−1·08
S.	−0·87	−0·93	−1·07	−1·28	−1·34	−1·62	−2·78	*n̄*3·28	−2·80	−1·37	0·95	3·33	*x*4·59	4·25	3·24	1·96	0·94	0·44	0·32	−0·26	−0·43	−0·51	−0·77	−0·79
O.	−0·99	−1·14	−1·33	−1·30	−1·03	−1·28	−1·84	−3·05	*n̄*3·16	−1·37	1·78	4·25	*x*5·02	4·41	2·86	1·65	0·90	0·70	0·01	−0·86	−1·17	−1·26	−0·83	−1·08
N.	−0·38	−0·45	−0·14	−0·31	−0·44	−0·53	−0·96	*n̄*1·89	−1·64	−0·67	1·02	2·41	*x*2·98	2·31	1·62	1·01	0·44	−0·03	−0·22	−0·63	−1·10	−0·91	−0·92	−0·63
D.	−0·25	0·07	0·30	0·47	0·30	0·08	−0·45	−0·72	*n̄*0·99	−0·67	0·52	1·53	*x*1·78	1·53	0·71	0·40	0·11	−0·24	−0·56	−0·55	−0·76	−0·95	−0·91	−0·68
Y.	−0·55	−0·51	−0·63	−0·89	−1·34	−1·84	−2·51	*n̄*2·97	−2·53	−1·02	1·17	3·16	*x*4·10	3·77	2·72	1·60	0·81	0·34	−0·04	−0·33	−0·54	−0·58	−0·66	−0·73
W.	−0·29	−0·13	−0·06	−0·07	−0·27	−0·49	−0·72	*n̄*1·14	−1·04	−0·28	0·89	2·04	*x*2·44	2·02	1·17	0·69	0·27	−0·07	−0·59	−0·80	−0·92	−0·97	−0·94	−0·74
Eq.	−0·72	−0·79	−0·93	−1·03	−1·09	−1·42	−2·37	*n̄*3·32	−3·28	−1·77	0·89	3·46	*x*4·80	4·44	3·22	1·83	0·85	0·45	0·13	−0·37	−0·57	−0·75	−0·84	−0·82
S.	−0·64	−0·60	−0·90	−1·56	−2·67	−3·61	−4·45	*n̄*4·46	−3·25	−1·00	1·73	3·96	*x*5·06	4·85	3.76	2·28	1·29	0·65	0·35	0·19	−0·12	−0·02	−0·20	−0·64

LXII.—HORIZONTAL FORCE (*Quiet days*).

Richmond (Kew Observatory). **1921.**

	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	− 3·1	− 2·3	− 1·7	− 2·2	3·9	6·9	7·4	*x* 8·0	2·3	− 2·6	*n̄* 6·4	− 6·3	− 4·6	− 0·9	− 0·1	− 2·7	0·1	2·1	2·3	1·0	− 0·1	0·1	− 0·5	− 0·6
F.	− 2·5	− 2·1	− 1·4	− 0·7	2·0	3·2	7·3	*x* 9·7	4·5	− 2·7	− 7·7	*n̄* 8·3	− 5·4	− 3·2	− 1·5	− 1·7	− 1·0	1·7	1·2	1·7	1·6	1·3	2·6	1·2
M.	− 3·1	− 4·6	− 3·3	− 1·1	3·3	5·3	*x* 7·8	4·8	− 2·9	−12·0	*n̄*13·8	−10·6	− 3·4	− 0·2	1·8	0·2	0·3	3·2	6·1	6·4	5·2	4·3	4·6	2·0
A.	1·7	1·2	− 1·5	3·2	4·5	9·4	9·0	1·9	−10·3	−20.5	*n̄*24·4	−20·4	−13·3	− 9·9	− 4·3	3·0	8·0	11·2	11·1	*x*12·1	10·6	7·3	7·0	3·6
M.	3·0	1·2	1·1	− 0·6	− 2·0	− 3·8	− 4·6	− 5·2	−18·0	*n̄*19.3	−15·5	−11·1	− 7·1	− 4·0	1·9	5·9	10·3	9·5	13·2	*x*13·6	12·5	8·5	5·9	4·3
J.	3·9	1·7	1·6	0·2	0·3	− 2·7	− 5·2	−10·0	−16·2	*n̄*20.8	−17·3	−10·9	− 7·0	0·3	5·0	7·9	7·7	*x*11·4	10·0	9·2	9·0	7·7	7·7	6·5
J.	0·8	0·2	1·7	1·8	2·2	− 0·8	− 3·3	− 8·8	−14·8	−19.0	*n̄*19·1	−13·8	− 9·7	− 5·9	1·7	8·6	9·9	12·7	13·6	*x*14·1	12·1	8·5	4·6	2·8
A.	1·7	− 0·1	− 1·2	0·3	0·6	2·2	− 2·6	−12·4	−21·1	*n̄*24.6	−21·3	− 9·1	− 0·5	2·0	5·6	6·7	10·0	10·1	11·1	*x*11·6	10·6	8·3	7·3	4·8
S.	4·8	2·3	2·5	3·5	5·1	6·6	6·4	1·9	−10·3	−16.4	*n̄*16·7	−15·9	−13·2	− 9·4	− 6·1	− 1·3	3·5	7·3	9·3	*x* 9·5	9·0	7·5	6·0	4·2
O.	0·0	− 2·1	0·5	0·2	1·0	2·5	5·6	1·9	− 6·4	−15.7	*n̄*16.0	− 8·6	− 2·3	0·5	1·6	1·0	4·6	*x* 7·8	7·1	6·1	3·0	3·2	2·3	2·7
N.	− 2·7	− 3·0	− 2·3	0·6	2·0	5·0	*x* 7·8	4·9	− 2·2	− 9.7	*n̄*13·3	−11·7	− 5·3	− 2·1	0·3	1·7	3·9	7·7	6·8	3·3	3·7	2·3	2·5	− 0·2
D.	− 4·3	− 3·9	− 2·4	− 1·5	0·9	4·7	8·9	*x*10·6	5·9	− 2.3	− 6·3	*n̄* 6·6	− 4·4	− 3·2	− 1·7	− 1·6	2·7	2·6	1·8	1·3	0·6	1·3	− 0·4	− 2·7
Y.	0·0	− 1·0	− 0·5	0·3	2·0	3·2	3·7	0·6	− 7·5	−13·8	*n̄*14·8	−11·1	− 6·3	− 3·0	0·3	2·3	5·0	7·3	*x* 7·8	7·5	6·5	5·0	4·1	2·4
W.	− 3·1	− 2·8	− 1·9	− 0·9	2·2	4·9	7·8	*x* 8·3	2·6	− 4·3	*n̄* 8·4	− 8·2	− 4·9	− 2·3	− 0·8	− 1·1	1·4	3·5	3·0	1·8	1·5	1·2	1·1	− 0·6
Eq.	0·8	− 0·8	− 0·4	1·4	3·5	6·0	7·2	2·6	− 7·5	−16·2	*n̄*17·7	−13·9	− 8·1	− 4·8	− 1·8	0·7	4·1	7·4	8·4	*x* 8·5	6·9	5·6	5·0	3·1
S.	2·4	0·7	0·8	0·4	0·3	− 1·3	− 3·9	− 9·1	−17·5	*n̄*20·9	−18·3	−11·2	− 6·1	− 1·9	3·5	7·3	9·4	10·9	12·0	*x*12·2	11·0	8·3	6·4	4·6

x and *n̄* mark respectively the mean maximum and minimum hourly values in each month or season.

* For 1920 and 1921 the inequalities at Richmond, like those at Eskdalemuir, have been derived from mean hourly values for periods of 60 minutes centred at exact hours G.M.T. (*See* Hourly Values 1920, p. 56).

LXIII.—RANGE OF MEAN DIURNAL INEQUALITIES FOR THE MONTHS, YEAR, AND SEASONS OF 1921, AT ESKDALEMUIR AND RICHMOND (KEW OBSERVATORY).

Note.—The ranges are those shown in Tables XLIX. to LXII., in the preparation of which the non-cyclic change has been eliminated (see Table LXIII*a*).

Month and Season.	ESKDALEMUIR.																		RICHMOND.		
	"All" Days.			Quiet Days.			Disturbed Days.			"All" Days.			Quiet Days.			Disturbed Days.			'Ordinary' Days.	Quiet Days.	
	N.	W.	V.	N.	W.	V.	N.	W.	V.	D.	I.	H.	D.	I.	H.	D.	I.	H.	D.	D.	H.
	γ	γ	γ	γ	γ	γ	γ	γ	γ	′	′	γ	′	′	γ	′	′	γ	′	′	γ
J.	20·2	25·0	10·2	18·7	12·2	5·4	31·8	42·1	26·4	5·58	1·19	14·9	3·13	1·18	16·2	9·92	2·46	27·3	5·10	3·22	14·4
F.	18·7	25·3	10·4	20·2	17·7	7·3	29·0	40·2	23·0	5·69	1·00	14·9	4·34	0·99	16·0	8·66	1·98	22·2	4·93	4·27	18·0
M.	35·9	41·4	18·3	24·7	34·4	10·6	54·0	65·5	45·3	8·73	2·00	30·3	7·50	1·48	23·9	14·49	3·08	47·7	8·16	7·23	21·6
A.	48·7	52·8	24·4	45·1	45·3	15·3	59·4	63·1	52·7	11·69	2·63	46·0	9·83	2·70	43·1	13·28	3·34	57·5	11·12	9·91	36·5
M.	61·4	54·4	43·6	38·5	50·8	16·4	225·4	180·5	221·9	10·57	3·63	64·3	10·47	2·60	42·5	27·02	14·48	260·9	9·93	10·40	32·9
J.	47·1	52·1	23·9	38·7	46·9	14·8	55·5	72·2	41·3	10·55	2·83	50·1	9·66	2·54	41·0	14·15	2·94	57·7	10·26	8·84	32·2
J.	46·3	56·8	22·6	41·4	52·7	18·6	58·6	53·4	40·6	11·63	2·80	48·0	10·83	2·60	43·9	11·41	3·37	60·3	10·86	10·07	33·2
A.	46·6	51·6	23·1	40·1	49·2	17·5	65·5	51·2	41·8	11·00	2·65	45·9	10·15	2·63	41·3	11·58	3·38	58·7	10·39	9·92	36·2
S.	38·1	42·9	18·0	36·4	35·7	10·6	54·6	83·6	61·2	9·37	2·27	35·5	7·97	2·18	35·3	17·98	3·81	45·0	9·25	7·87	26·2
O.	31·8	36·0	23·3	29·8	37·6	11·0	46·9	64·2	75·1	8·50	2·10	28·5	8·04	1·70	27·9	13·78	3·67	45·2	7·32	8·18	23·8
N.	24·4	30·5	18·5	21·2	19·9	5·2	46·6	83·9	55·8	7·00	1·57	21·4	4·39	1·33	19·2	16·86	3·52	45·7	4·98	4·87	21·1
D.	21·1	27·6	18·1	15·9	13·8	6·2	57·5	40·2	61·6	6·13	1·40	18·3	3·23	0·91	13·6	10·12	4·76	54·9	4·52	2·77	17·2
Y.	32·1	35·8	17·4	27·8	32·5	9·9	41·2	48·4	49·9	7·69	1·66	30·3	7·13	1·65	27·5	10·26	1·73	37·3	7·51	7·07	22·6
W.	20·9	26·2	12·3	18·6	14·5	4·5	35·1	44·4	33·6	5·98	1·24	17·0	3·61	1·04	15·4	10·50	2·57	30·6	4·88	3·58	16·7
Eq.	36·6	41·6	18·9	33·1	37·7	11·2	44·9	52·1	48·4	8·90	2·12	31·6	8·22	2·00	32·3	11·82	3·12	45·8	8·84	8·12	26·2
S.	50·3	53·1	24·4	39·5	49·5	16·1	74·9	82·8	75·8	10·80	2·98	51·9	9·94	2·56	40·9	14·93	4·23	87·9	10·22	9·52	33·1

LXIII*a*.—NON-CYCLIC CHANGE (24h—0h) FOR THE MONTHS OF 1921 AT TWO OBSERVATORIES.

Month.	ESKDALEMUIR.									RICHMOND.		
	"All" Days.			Quiet Days.			Disturbed Days.			"Ordinary" Days.	Quiet Days.	
	N.	W.	V.	N.	W.	V.	N.	W.	V.	D.	D.	H.
	γ	γ	γ	γ	γ	γ	γ	γ	γ	′	′	γ
January	1·0	− 0·6	1·7	8·0	1·7	− 2·0	− 7·8	3·0	13·3	0·01	0·06	4·5
February	0·3	− 0·2	− 0·4	4·8	3·2	− 2·4	0·0	− 9·6	− 3·4	− 0·05	0·12	5·6
March	0·1	0·2	− 0·2	3·0	2·6	− 0·4	− 12·6	1·6	5·1	0·17	0·32	3·2
April	0·7	1·0	0·3	0·2	6·6	1·0	− 3·2	− 8·0	4·5	0·06	0·06	0·9
May	− 3·4	− 2·5	− 13·0	2·4	− 0·6	1·0	23·0	9·8	− 64·8	0·18	− 0·30	1·7
June	1·7	− 0·1	− 0·5	2·3	5·8	0·0	1·8	− 9·6	− 5·0	− 0·08	0·78	5·7
July	− 0·4	− 0·1	0·8	5·6	8·0	0·0	− 7·6	6·6	4·6	0·03	1·08	6·1
August	− 0·5	− 0·1	0·4	3·8	0·2	2·4	− 9·4	− 1·8	− 6·4	− 0·02	− 0·22	3·0
September	− 0·1	− 0·6	− 0·8	4·8	− 2·2	− 0·4	− 8·2	5·2	10·4	− 0·33	− 0·44	3·7
October	− 0·4	0·2	0·8	2·6	− 0·8	− 0·6	− 5·8	− 1·2	− 9·4	− 0·02	− 0·70	2·9
November	− 0·2	− 0·4	− 0·5	2·8	− 0·4	− 1·8	2·4	17·0	8·6	0·07	− 0·24	3·5
December	0·1	0·4	− 0·7	1·4	2·6	− 1·8	− 8·6	− 8·2	− 2·4	0·30	0·30	2·3

LXIII*b*.—MEAN VALUES OF THE SQUARES OF THE ABSOLUTE DAILY RANGES OF THE GEOGRAPHICAL COMPONENTS OF TERRESTRIAL MAGNETIC FORCE.*

Eskdalemuir. (Unit $1\gamma^2$). **1921.**

Month and Year.	R_N^2	R_W^2	R_V^2	$R_N^2 + R_W^2$	$R_N^2 + R_W^2 + R_V^2$	Mean Character Figure.
January	3115	4389	724	7090	7840	0·35
February	2950	3867	657	6817	7474	0·39
March	7681	7857	2014	15538	17552	0·77
April	10115	9082	3225	19197	22421	0·80
May	59137	42934	38408	102071	140479	0·87
June	7251	6329	1897	13580	15476	0·57
July	6609	5831	1509	12440	13950	0·68
August	6928	6360	2112	13288	15400	0·71
September	6716	6501	3217	13217	16669	0·63
October	6860	7792	3262	14945	18421	0·58
November	5784	8172	3175	13956	17131	0·60
December	5230	6362	2040	11592	13632	0·61
Year 1921	10698	9623	5187	20311	25537	0·63
Year 1920	11907	10266	6449	22174	28540	0·57
Year 1919	16237	13779	9179	30113	38890	0·73
Year 1918	15101	12598	7542	27757	35344	0·68
Year 1917	14535	12058	7842	26593	34435	0·65
Year 1916	12508	10172	8269	22680	30949	0·74
Year 1915	10066	9542	3808	19608	23416	0·86
Year 1914	4606	4333	1632	8939	10571	0·71
Year 1913	3097	3320	—	6417	—	0·58
Year 1912	3591	3402	—	6993	—	0·69
Year 1911	7655	6103	2514	13758	16272	0·85

* See footnote on page 63.

LXIV.—HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY.*

Values of a_n, b_n in the series $\Sigma\ (a_n \cos 15nt^\circ + b_n \sin 15nt^\circ)$, t being reckoned in hours from midnight G.M.T.

Eskdalemuir. (Longitude of Eskdalemuir Observatory, 3° 12′ W.) **1921.**

Month and Season.	North Component.								West Component.								Vertical Component.							
	a_1.	b_1.	a_2.	b_2.	a_3.	b_3.	a_4.	b_4.	a_1.	b_1.	a_2.	b_2.	a_3.	b_3.	a_4.	b_4.	a_1.	b_1.	a_2.	b_2.	a_3.	b_3.	a_4.	b_4.
	All Days.																							
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
J.	4·5	4·7	−3·7	−2·0	0·9	−1·4	0·3	0·6	−9·1	−0·5	1·9	3·1	−0·8	0·3	0·6	0·6	0·2	−4·7	−0·6	0·5	−0·2	0·2	−0·1	−0·1
F.	5·9	3·6	−3·0	−1·6	1·9	−0·9	0·0	0·5	−7·8	−4·3	1·3	4·5	−0·6	−2·6	0·2	1·6	1·7	−5·0	−1·5	−0·7	0·5	0·1	−0·4	−0·5
M.	13·0	1·8	−7·3	−1·7	3·7	−2·4	−0·2	0·0	−7·5	−8·4	0·4	10·1	−1·3	−4·6	1·1	2·5	2·2	−6·0	−3·7	−2·1	0·9	1·4	−1·0	−0·1
A.	18·4	−1·6	−11·7	−0·2	4·1	−0·6	−0·1	1·2	−8·1	−14·8	2·8	11·6	−1·6	−4·6	1·2	1·7	1·7	−9·2	−5·4	−2·6	2·3	−0·1	−0·7	−0·4
M.	15·3	−14·3	−13·3	−1·1	0·5	0·0	1·3	0·8	−6·5	−22·2	1·8	9·1	−3·4	−0·8	1·9	1·2	−3·4	−13·8	−9·3	−4·0	−2·0	0·8	−3·1	2·2
J.	15·4	−6·4	−10·1	0·7	0·8	−0·1	0·7	0·7	−2·4	−20·7	3·7	9·3	−1·8	−1·9	0·4	1·0	4·5	−5·2	−5·4	−2·0	1·1	0·7	0·0	0·4
J.	16·4	−6·4	−10·0	0·6	1·3	−1·7	0·2	0·1	−6·6	−20.1	4·1	10·5	−3·0	−3·0	0·1	1·4	2·8	−6·2	−5·4	−2·2	1·2	0·6	−0·2	0·0
A.	15·7	−6·7	−8·5	2·9	0·9	−2·2	1·5	1·8	−9·5	−14·0	8·2	7·8	−3·5	−2·5	0·5	0·4	1·3	−6·8	−6·4	−1·2	1·5	0·1	−0·6	−0·5
S.	16·3	−2·0	−7·8	1·2	1·3	−2·5	0·2	0·6	−9·7	−11·4	4·9	7·3	−2·8	−2·9	2·1	1·0	1·1	−7·3	−3·4	−1·7	2·4	0·6	−0·6	0·3
O.	11·7	1·9	−6·1	0·6	2·9	−2·6	−0·7	0·3	−11·0	−3·8	1·5	9·1	−1·1	−3·3	2·3	1·2	−2·1	−8·5	−4·2	−3·0	−0·1	0·5	−0·7	−0·2
N.	7·0	1·8	−6·2	−0·6	2·7	−0·5	−0·7	0·0	−9·7	−0·9	−1·6	6·0	−0·5	−1·2	1·5	2·0	−2·6	−7·4	−1·5	−0·5	0·1	−1·6	−1·0	−0·9
D.	3·8	2·9	−4·3	−0·9	1·6	−2·0	−0·1	−0·2	−8·6	1·4	−1·1	4·7	−1·3	−1·0	0·2	1·5	−0·8	−8·6	−1·1	−1·1	0·4	−0·3	−0·4	−0·4
Y.	12·0	−1·7	−7·7	−0·2	1·9	−1·4	0·2	0·5	−8·0	−10·0	2·3	7·7	−1·8	−2·3	1·0	1·3	0·5	−7·4	−4·0	−1·7	0·7	0·3	−0·7	0·0
W.	5·3	3·2	−4·3	−1·3	1·8	−1·2	−0·1	0·2	−8·8	−1·1	0·1	4·6	−0·8	−1·1	0·6	1·4	−0·4	−6·4	−1·2	−0·5	0·2	−0·4	−0·5	−0·5
Eq.	14·9	0·0	−8·2	0·0	3·0	−2·0	−0·2	0·5	−9·1	−9·6	2·4	9·5	−1·7	−3·8	1·7	1·6	0·7	−7·8	−4·2	−2·3	1·4	0·6	−0·8	−0·1
S.	15·7	−8·4	−10·5	0·8	0·9	−1·0	0·9	0·9	−6·2	−19·3	4·5	9·2	−2·9	−2·1	0·7	1·0	1·3	−8·0	−6·6	−2·3	0·5	0·5	−1·0	0·6
	Quiet Days.																							
Y.	10·3	−0·9	−6·8	−0·2	2·2	−1·5	−0·2	0·8	−3·7	−9·2	2·8	6·5	−2·5	−2·6	1·0	1·5	2·5	−0·9	−2·4	−0.4	1·1	0·1	−0·7	−0·3
W.	4·5	2·2	−4·4	−1·1	2·1	−0·9	−0·6	0·5	−4·1	−1·7	0·9	3·3	−1·0	−0·9	0·7	1·1	0·5	−2·1	−0·5	0·2	0·4	0·1	−0·3	−0·1
Eq.	12·4	0·5	−8·2	−1·6	2·9	−1·2	0·0	1·3	−3·6	−9·3	1·7	7·6	−2·7	−4·1	1·9	2·5	3·2	−0·4	−2·1	−1·2	1·3	0·3	−1·1	−0·5
S.	13·9	−5·4	−7·7	2·0	1·6	−2·3	0·1	0·6	−3·4	−16·5	5·7	8·5	−3·7	−2·6	0·4	0·9	3·8	−0·3	−4·6	−0·3	1·6	−0·1	−0·6	−0·4
	Disturbed Days.																							
Y.	11·1	−8·1	−8·5	−0·4	1·6	−1·1	−0·7	−0·2	−16·0	−13·1	2·2	8·5	0·2	−2·7	1·6	0·1	−5·0	−22·5	−6·6	−1·7	−1·5	2·2	−1·6	1·3
W.	9·5	7·0	−5·5	−2·2	1·6	−2·1	−1·2	−0·9	−14·6	4·5	−0·4	8·0	0·5	−1·6	1·6	1·3	−4·2	−15·7	−3·9	0·3	−0·3	0·4	−1·0	−0·3
Eq.	18·1	−1·5	−8·6	4·6	2·7	−3·2	−1·9	−0·2	−16·6	−9·4	2·0	11·1	0·8	−5·3	2·9	−0·8	−3·4	−20·2	−7·3	−2·5	1·1	2·1	−0·1	0·0
S.	5·7	−29·9	−11·6	−3·7	0·6	1·9	0·9	0·5	−16·8	−34·3	5·1	6·4	−0·8	−1·1	0·2	−0·2	−7·3	−31·4	−8·5	−2·9	−5·4	4·1	−3·6	4·2

LXIV*a*.—HARMONIC COMPONENTS OF THE DIURNAL INEQUALITY.*

Values of c_n, α_n in the series $\Sigma c_n \sin (15nt^\circ + \alpha_n)$, t being Mean Local Time reckoned in hours from midnight.

Eskdalemuir. (Longitude of Eskdalemuir Observatory, 3° 12′ W.) **1921.**

Month and Season.	North Component.								West Component.								Vertical Component.							
	c_1.	α_1.	c_2.	α_2.	c_3.	α_3.	c_4.	α_4.	c_1.	α_1.	c_2.	α_2.	c_3.	α_3.	c_4.	α_4.	c_1.	α_1.	c_2.	α_2.	c_3.	α_3.	c_4.	α_4.
	All Days.																							
	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°	γ	°
J.	6·5	46·9	4·2	247·6	1·7	157·6	0·7	34·4	9·1	270·1	3·6	37·6	0·8	300·0	0·8	57·4	4·7	181·3	0·8	313·0	0·3	336·3	0·2	265·2
F.	6·9	61·8	3·4	247·7	2·1	126·5	0·5	9·6	8·9	244·1	4·6	22·3	2·7	202·7	1·6	18·9	5·3	163·9	1·7	251·8	0·5	84·1	0·7	231·0
M.	13·1	85·4	7·4	263·2	4·4	132·4	0·2	282·1	11·3	225·0	10·1	8·7	4·8	205·9	2·7	37·1	6·4	163·1	4·3	246·9	1·7	43·9	1·0	278·6
A.	18·4	98·1	11·7	275·4	4·2	107·8	1·2	9·8	16·9	212·0	11·9	19·8	4·9	208·9	2·1	48·2	9·4	172·6	6·0	251·1	2·3	101·2	0·8	252·6
M.	20·9	136·1	13·3	271·7	0·5	101·4	1·5	70·0	23·1	199·5	9·3	17·7	3·5	265·7	2·3	70·1	14·3	197·2	10·2	253·3	2·2	301·8	3·8	318·9
J.	16·7	115·6	10·1	280·6	0·8	108·2	1·0	57·0	20·8	189·8	10·0	28·2	2·6	232·5	1·0	34·0	6·9	142·3	5·7	255·9	1·3	68·6	0·4	14·7
J.	17·6	114·5	10·0	279·6	2·2	153·6	0·2	74·1	21·2	201·5	11·2	27·7	4·2	234·1	1·4	16·0	6·8	167·1	5·8	253·9	1·3	74·1	0·2	295·1
A.	17·1	116·4	9·0	295·2	2·4	166·9	2·3	52·2	16·9	217·2	11·3	53·0	4·3	244·7	0·6	66·6	6·9	172·2	6·5	265·9	1·5	97·8	0·8	244·1
S.	16·5	100·2	7·9	285·5	2·8	163·1	0·6	34·7	14·9	223·7	8·8	39·9	4·0	233·3	2·3	76·9	7·4	175·0	3·8	249·8	2·5	84·9	0·7	310·0
O.	11·8	84·1	6·1	281·9	3·9	141·6	0·8	302·6	11·6	254·0	9·2	15·8	3·5	208·7	2·6	76·2	8·8	197·2	5·1	240·3	0·6	354·5	0·7	269·1
N.	7·3	78·8	6·3	271·0	2·7	110·3	0·7	282·0	9·8	268·2	6·2	351·3	1·3	213·3	2·5	50·2	7·9	202·7	1·6	258·5	1·6	185·8	1·4	242·9
D.	4·8	55·7	4·4	264·5	2·5	150·9	0·2	226·6	8·7	282·6	4·8	352·9	1·6	241·3	1·5	21·5	8·7	188·3	1·5	230·5	0·5	137·0	0·5	239·4
Y.	12·1	101·4	7·7	275·1	2·3	136·8	0·6	32·7	12·8	222·1	8·1	23·0	3·0	227·3	1·7	50·1	7·4	179·0	4·3	253·1	0·7	78·6	0·7	283·3
W.	6·2	61·6	4·5	259·7	2·1	134·3	0·3	342·6	8·9	266·3	4·6	7·6	1·4	224·9	1·6	36·8	6·4	186·6	1·3	255·5	0·4	161·9	0·7	240·7
Eq.	14·9	93·1	8·2	276·3	3·6	133·6	0·6	353·1	13·2	226·6	9·8	20·4	4·2	213·6	2·3	59·5	7·8	178·0	4·8	247·0	1·5	74·9	0·8	276·5
S.	17·9	121·4	10·5	280·6	1·3	149·4	1·3	59·4	20·2	201·2	10·2	32·4	3·6	244·4	1·2	48·9	8·1	174·1	7·0	256·8	0·7	49·7	1·1	312·5
	Quiet Days.																							
Y.	10·3	98·1	6·8	274·6	2·6	133·8	0·8	359·6	9·9	205·1	7·0	29·6	3·6	233·4	1·8	46·2	2·7	113·9	2·4	266·0	1·1	93·6	0·8	256·4
W.	5·1	67·1	4·5	262·9	2·2	122·5	0·8	321·1	4·4	250·1	3·4	21·8	1·3	237·2	1·3	44·0	2·1	170·8	0·5	298·6	0·4	87·5	0·3	257·7
Eq.	12·4	90·9	8·4	265·6	3·1	122·3	1·3	13·2	10·0	204·2	7·8	19·4	4·9	222·6	3·1	49·9	3·2	100·3	2·4	246·6	1·4	86·2	1·2	259·6
S.	14·9	114·2	7·9	290·9	2·8	155·8	0·6	20·1	16·9	194·9	10·2	40·1	4·6	244·0	1·0	37·1	3·8	97·9	4·6	272·5	1·6	101·3	0·7	251·0
	Disturbed Days.																							
Y.	13·8	129·3	8·6	273·5	2·0	133·7	0·7	267·6	20·7	234·0	8.8	21·2	2·7	185·8	1·6	99·0	23·0	195·7	6·8	261·9	2·6	334·5	2·0	322·2
W.	11·9	56·8	5·9	254.3	2·6	151·5	1·5	245·1	15·2	290·3	8·0	3·5	1·7	173·1	2·1	62·9	16·3	198·3	3·9	280.7	0·5	327·3	1·1	265·8
Eq.	18·2	98·0	9·7	304.7	4·2	148·8	1·9	276·3	19·1	243·6	11·3	16·7	5·4	180·6	3·0	118·4	20·5	192·7	7·7	257·7	2·4	38·2	0·1	269·0
S.	30·4	172·4	12·1	258·7	1·9	27·7	1·1	72·6	38·2	209·4	8·2	45·2	1·3	225·7	0·2	153·2	32·2	196·3	9·0	257·5	6·8	316·7	5·5	332·4

* See Notes on the Management of Instruments, page 61.

LXVII.—MEAN MONTHLY AND ANNUAL VALUES OF TERRESTRIAL MAGNETIC ELEMENTS AT THE METEOROLOGICAL OFFICE OBSERVATORIES, 1921.

errata 1964

1921.	RICHMOND (KEW OBS.) (quiet days D and H, absolute observations I).				ESKDALEMUIR. (all days except those noted in monthly tables).				CAHIRCIVEEN (VALENCIA OBS.) (in general 2 absolute observations per month).			
	North.	West.	Vertical.	Total.	North. −13	West. −3	Vertical. −37	Total. −39	North.	West.	Vertical.	Total.
	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
January	17819	4583	43244	46995	15995	4801	45050	48046	16871	5885	44359	47822
February	17825	4579	43235	46989	15992	4796	45047	48041	16866	5864	44288	47752
March	17825	4572	43247	47000	15989	4793	45039	48033	16864	5841	44291	47752
April	17832	4569	43321	47070	15995	4788	45053	48047	16864	5845	44287	47748
May	17827	4563	43342	47087	15992	4781	45080	48071	16859	5834	44274	47733
June	17821	4553	43254	47002	16011	4783	45076	48074	16860	5834	44317	47774
July	17825	4553	43236	46987	16013	4777	45067	48065	16862	5834	44263	47724
August	17829	4548	43285	47033	16007	4771	45065	48061	16863	5845	44265	47728
September	17825	4541	43243	46992	15998	4763	45070	48062	16856	5833	44274	47732
October	17829	4537	43229	46980	15989	4758	45075	48063	16861	5826	44331	47786
November	17832	4530	43304	47051	15993	4752	45070	48059	16871	5834	44324	47783
December	17831	4526	43251	47000	15997	4746	45051	48042	16877	5834	44320	47782
Year 1921	17827	4555	43266	47016	15998	4776	45062	48055	16865	5842	44299	47760
Year 1920	17822	4615	43297	47049	15990	4836	45062	48059	16837	5896	44353	47806
Year 1919	17815	4667	43305	47058	15985	4880	45084	48082	16823	5942	44385	47837
Year 1918	17814	4720	43361	47115	15973	4925	45067	48067	16810	5987	44407	47858
Year 1917	17809	4770	43366	47122	15976	4971	45093	48097	16808	6024	44448	47900
Year 1916	17816	4823	43395	47156	15986	5020	45119	48130	16803	6078	44473	47929
Year 1915	17808	4874	43376	47141	16001	5075	45173	48191	16785	6130	44519*	47972*
Year 1910	17781	5117	43546	47313	15976	5311	45343	49368	16732	6337	44771	48215
Year 1905	17743	5272	43742	47496	—	—	—	—	..	..	..	..

1921.	Declination (West).	Inclination (North).	Horizontal Force.	Declination (West).	Inclination (North).	Horizontal Force. −13	Declination (West).	Inclination (North).	Horizontal Force.
	° ′	° ′	γ	° ′	° ′	γ	° ′	° ′	γ
January	14 25·4	66 57·1	18399	16 42·4	69 39·6	16700	19 13·9	68 3·6	17868
February	14 24·4	66 56·5	18404	16 41·6	69 39·8	16696	19 10·4	68 2·5	17856
March	14 23·2	66 57·0	18402	16 41·2	69 39·9	16692	19 6·3	68 3·2	17847
April	14 22·3	66 58·7	18408	16 39·9	69 40·0	16696	19 7·0	68 3·0	17848
May	14 21·4	66 59·7	18402	16 38·7	69 41·0	16691	19 5·2	68 3·2	17840
June	14 19·9	66 57·8	18393	16 38·0	69 39·6	16710	19 5·2	68 4·3	17841
July	14 19·8	66 57·0	18397	16 36·7	69 39·4	16710	19 5·0	68 2·7	17843
August	14 18·7	66 58·2	18400	16 35·8	69 39·8	16703	19 7·0	68 2·5	17847
September	14 17·5	66 57·4	18394	16 34·8	69 40·7	16692	19 5·2	68 3·4	17837
October	14 16·6	66 56·8	18397	16 34·3	69 41·4	16682	19 3·8	68 4·8	17839
November	14 15·2	66 58·9	18398	16 32·9	69 41·2	16684	19 4·6	68 3·8	17851
December	14 14·5	66 57·5	18396	16 31·5	69 40·6	16686	19 4·2	68 3·3	17857
Year 1921	14 19·9	66 57·7	18399	16 37·3	69 40·3	16695	19 6·5	68 3·4	17848
Year 1920	14 31·0	66 57·9	18410	16 49·7 48·7	69 39·5	16706	19 17·9	68 5·3	17840
Year 1919	14 40·9	66 57·7	18416	16 58·7	69 39·6	16713	19 27·2	68 6·1	17842
Year 1918	14 50·4	66 58·4	18429	17 8·1	69 39·0	16715	19 36·2	68 6·5	17844
Year 1917	14 59·6	66 58·0	18437	17 ~~16·3~~ 17·1	69 38·6	16732	19 43·0	68 6·9	17855
Year 1916	15 8·8	66 57·5	18457	17 26·1	69 37·6	16756	19 53·1	68 6·6	17869
Year 1915	15 18·4	66 56·6	18463	17 35·9	69 36·9	16786	20 3·8	68 7·9*	17869
Year 1910	16 3·2	66 58·7	18503	18 23·3	69 37·8	16836	20 44·6	68 13·0	17892
Year 1905	16 32·9	67 3·8	18510	—	—	—	—	—	—

* Mean of 11 months.

LXVIII*a*.—MEAN VALUES, FOR THE YEARS SPECIFIED, OF THE MAGNETIC ELEMENTS AT OBSERVATORIES. DERIVED FROM PUBLICATIONS RECEIVED AT KEW OBSERVATORY, RICHMOND.

Place.	Latitude.	Longitude.	1921.				1920.				1919.			
			Declination.	Inclination.	Horizontal Force.	Vertical Force.	Declination.	Inclination.	Horizontal Force.	Vertical Force.	Declination.	Inclination.	Horizontal Force.	Vertical Force.
	N. ° ′	° ′	° ′	N. ° ′	γ	γ	° ′	N. ° ′	γ	γ	° ′	N. ° ′	γ	γ
Sitka (Alaska)	57 3	135 20 W.	30 28·5 E.	74 22·6	15570	55679	30 28·2 E.	74 22·1	15574	55662	30 26·7 E.	74 23·2	15578	55748
Rude Skov.	55 51	12 27 E.	7 45·2 W.	69 1·2	17105	44607	7 57·2 W.	68 59·6	17124	44596	8 7·4 W.	68 58·2	17144	44592
Eskdalemuir	55 19	3 12 W.	16 37·3 W.	69 40·3	16695	45062	16 42·7 W.	69 39·5	16706	45084	16 58·7 W.	69 39·6	16713	45084
Meanook	54 37	113 21 W.	..	..	..	..	43.	..	..	..	27 41·1 E.	77 54·2	12944	60400
Stonyhurst	53 51	2 28 W.	15 41·6 W.	68 43·0	17315	44449	15 52·9 W.	68 43·5	17300	44433	15 58·6 W.	68 43·1	17286	44376
Potsdam	52 23	13 4 E.	7 18·9 W.	66 34·5	18591	42911	7 29·4 W.	66 33·5	18606	42912	7 39·7 W.	66 32·3	18625	42913
Seddin	52 17	13 1 E.	7 20·5 W.	66 31·6	18629	42898	7 31·2 W.	66 30·6	18645	42899	7 41·3 W.	66 29·4	18663	42899
De Bilt (Utrecht)	52 5	5 11 E.	11 13·6 W.	66 52·6	18389	43065	11 24·2 W.	66 51·8	18397	43056	11 34·3 W.	66 51·5	18410	43075
Valencia (Ireland)	51 56	10 15 W.	19 6·5 W.	68 3·4	17848	44299	19 17·9 W.	68 5·3	17840	44353	19 27·2 W.	68 6·1	17842	44385
Kew (Richmond)	51 28	0 19 W.	14 19·9 W.	66 57·7	18399	43266	14 31·0 W.	66 57·9	18410	43297	14 40·9 W.	66 57·7	18416	43305
Greenwich	51 28	0 0	13 57·6 W.	66 53·0	18449	43218	14 8·6 W.	66 53·6	18454	43249	14 18·2 W.	66 53·3	18454	43242
Val Joyeux (near Paris)	48 49	2 1 E.	12 42·6 W.	64 40·0	19670	41548	12 53·0 W.	64 41·6	19666	41591	13 2·9 W.	64 43·1	19667	41643
Munich	48 9	11 37 E.	7 53·6 W.	..	..	..	8 3·8 W.	..	..	..	8 13·7 W.	..	..	..
Pola	44 52	13 51 E.	6 38·6 W.	60 10·3	22094	38537	..	..	..	..	7 1·6 W.	60 9·3	22111	38539
Agincourt (Toronto)	43 47	79 16 W.	6 50·6 W.	74 44·5	15839	58065	6 45·4 W.	74 44·6	15865	58166	6 41·0 W.	74 44·9	15885	58260
Tortosa	40 49	0 30 E.	11 49·1 W.	57 37·6	23301	36754	11 59·3 W.	57 39·4	23291	36781	12 7·6 W.	57 41·1	23291	36821
Coimbra	40 12	8 25 W.	15 13·4 W.	58 19·2	23110	37448	15 21·5 W.	58 22·8	23087	37496	15 29·4 W.	58 25·0	23075	37538
Cheltenham (Maryland)	38 44	76 50 W.	6 22·4 W.	70 56·5	19069	55200	6 18·5 W.	70 55·4	19118	55285	6 15·0 W.	70 54·4	19168	55371
San Fernando	36 28	6 12 W.	..	..	..	..	..	..	..	..	14 8·5 W.	53 44·6	25101	..
Tsingtau	36 4	120 19 E.	..	..	..	..	4 12·9 W.	52 7·0	30817	39610	4 9·9 W.	52 7·4	30812	39613
Tucson (Arizona)	32 15	110 50 W.	..	..	..	..	13 48·0 E.	59 27·6	26910	45610	13 47·8 E.	59 27·0	26940	45644
Lu-kia-pang	31 19	121 2 E.	..	..	..	..	3 21·4 W.	45 30·7	33175	33773	3 20·0 W.	45 31·0	33187	33790
Dehra Dun	30 19	78 3 E.	1 47·1 E.	45 4·2	32945	33025	1 52·0 E.	44 59·9	32951	32949	1 56·1 E.	44 54·8	32962	32863
Helwan	29 52	31 21 E.	..	..	..	..	..	..	..	..	1 30·6 W.	41 9·6	29941	26175
Hong Kong*	22 18	114 10 E.	0 22·6 W.	30 45·0	37190	22125	0 20·8 W.	30 46·4	37174	22137	0 19·8 W.	30 47·5	37158	22143
			*0 19·8 W.	30 45·8	37295	22199								
Honolulu (Hawaii)	21 19	158 4 W.	9 55·3 E.	39 24·5	28824	23683	9 53·2 E.	39 25·1	28847	23711	9 50·8 E.	39 25·8	28871	23740
Toungoo	18 56	96 27 E.	0 26·8 W.	23 7·0	39132	16704	0 23·7 W.	23 7·7	39114	16707	0 20·2 W.	23 8·3	39097	16707
Alibag (Bombay)	18 39	72 52 E.	0 15·9 E.	24 59·5	36956	17226	0 20·3 E.	24 54·7	36922	17147	0 24·5 E.	24 49·3	36899	17067
Vieques (Porto Rico)	18 9	65 26 W.	..	..	..	..	3 46·1 W.	51 22·7	27827	34832	3 39·9 W.	51 17·7	27905	34825
Antipolo	14 36	121 10 E.	..	..	..	..	0 35·9 E.	16 11·7	38100	11065	0 36·1 E.	16 10·1	38107	11048
Kodai-Kanal	10 14	77 28 E.	1 54·2 W.	4 38·5	37832	3071	1 49·9 W.	4 36·1	37787	3042	1 44·5 W.	4 33·5	37753	3010
	S			S				S				S		
Batavia	6 11	106 49 E.	0 47·9 E.	31 56·7	36766	22925	0 47·0 E.	31 53·7	36796	22899	0 46·0 E.	31 50·2	36728	22806
Apia (Samoa)	13 48	171 46 W.	10 10·7 E.	30 3·8	35265	20412	..	..	..	..	..	..	..	..
Mauritius	20 6	57 33 E.	10 30·7 W.	52 37·1	23061	30185	10 20·3 W.	52 40·1	23093	30278	10 10·5 W.	52 42·8	23112	30356
Pilar	31 40	63 53 W.	..	..	..	..	7 48·6 E.	25 41·3	25297	12168	7 57·4 E.	25 40·1	25350	12183
Christchurch, N.Z.	43 32	172 37 E.	17 4·6 E.	68 10·3	22241	55528	17 1·7 E.	68 9·2	22261	55525	16 58·6 E.	68 7·8	22280	55507

* The second set of values refer to the new hut.

LXVIII*b*.—ADDITIONAL VALUES FOR EARLIER YEARS.

			1918.				1917.				1916.			
	N. ° ′	° ′	° ′	N. ° ′	γ	γ	° ′	N. ° ′	γ	γ	° ′	N. ° ′	γ	γ
Prague	50 5	14 25 E.	..	..	..	..	7 5·3 W.	..	..	..	7 14·3 W.	..	..	..
Munich	48 9	11 37 E.	8 23·2 W.	..	..	..	8 32·0 W.	..	..	..	8 40·0 W.	..	..	..
	S			S				S				S		
Batavia	6 11	106 49 E.	0 46·0 E.	31 46·2	36716	22739	0 45·9 E.	31 42·0	36724	22682	0 46·0 E.	31 38·5	36698	22613
Melbourne	37 50	144 58 E.	..	..	..	..	8 3·2 E.	67 50·9	22961	56400	8 6·5 E.	67 48·7	23001	56395

A.—DIURNAL INEQUALITIES OF POTENTIAL GRADIENT IN THE OPEN, IN VOLTS PER METRE.

* *Mean Hourly Values, Greenwich Mean Time, for the Months, Year, and Seasons (Selected Quiet Days only).*

Richmond (Kew Observatory). **1921.**

Month and Season.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Non-cyclic change. 24–0	No. of Days Used	Mean Values
	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m		v/m
J.	− 71	−112	−113	n̄118	−109	− 93	− 53	0	42	44	38	49	31	11	35	33	77	85	x 88	82	55	40	3	− 42	+35	..	301
F.	−100	− 99	n̄137	−118	− 76	− 92	− 53	− 47	1	31	53	79	75	57	32	4	39	111	x118	101	58	7	− 14	− 30	+23	..	486
M.	− 64	− 63	n̄ 72	− 65	− 55	− 37	3	77	66	55	14	− 18	− 35	− 54	− 45	− 38	− 33	43	74	x112	92	63	16	− 36	− 6	..	324
A.	− 79	− 61	− 64	n̄103	− 58	− 38	44	x 74	71	65	22	24	− 28	− 29	− 11	9	14	38	44	71	50	23	− 25	− 53	− 26	..	293
M.	− 13	− 40	− 53	n̄ 57	− 46	− 4	x 65	63	46	16	5	− 8	− 19	− 22	− 26	− 20	− 14	− 10	16	43	43	32	1	2	− 15	..	167
J.	− 21	− 19	− 35	− 17	− 8	55	68	x 69	60	23	10	− 1	− 26	− 35	n̄ 49	− 25	− 16	− 4	− 6	− 2	− 9	1	− 3	− 14	+60	..	180
J.	− 21	− 26	− 36	n̄ 42	− 38	14	48	x 57	54	31	16	9	− 2	− 11	− 16	− 19	− 20	− 11	− 8	− 1	5	22	9	− 16	− 8	..	155
A.	− 33	− 45	− 48	n̄ 50	− 31	7	29	x 61	56	38	9	− 9	− 21	− 14	− 38	− 10	− 4	0	17	23	38	42	− 2	− 15	− 12	..	180
S.	− 61	n̄ 86	− 80	− 71	− 60	− 47	31	x 74	70	60	41	10	− 12	1	22	12	30	54	38	37	1	8	− 35	− 37	− 11	..	237
O.	− 37	− 35	− 55	n̄ 64	− 57	− 33	− 41	14	85	x 89	58	6	− 23	− 36	− 36	− 6	29	51	79	25	32	7	− 22	− 30	− 15	..	209
N.	− 37	− 80	− 92	− 98	n̄128	− 98	− 78	− 24	8	− 2	35	39	14	2	47	62	x 95	91	85	70	77	39	4	− 28	+34	..	504
D.	−102	−141	n̄145	−138	−121	−104	− 58	− 7	56	51	48	51	43	50	54	65	72	77	82	x 85	45	52	27	− 42	− 49	..	341
Y.	− 53	− 67	n̄ 78	n̄ 78	− 66	− 39	1	34	51	42	29	19	0	− 7	− 3	6	22	44	52	x 54	40	28	− 3	− 28	..	..	281
W.	− 78	−108	n̄122	−118	−109	− 97	− 60	− 19	27	31	43	55	41	30	42	41	71	91	x 93	85	58	34	5	− 35	..	..	408
Eq.	− 60	− 61	− 68	n̄ 76	− 57	− 39	9	60	x 73	67	34	5	− 25	− 29	− 17	− 6	10	47	59	61	44	25	− 17	− 39	..		266
S.	− 22	− 32	n̄ 43	− 42	− 31	18	53	x 62	54	27	10	− 2	− 17	− 21	− 32	− 18	− 13	− 6	5	16	19	24	1	− 11	..	..	170

B.—DIURNAL INEQUALITIES OF POTENTIAL GRADIENT IN THE OPEN, IN VOLTS PER METRE.

Eskdalemuir. * *Mean Hourly Values, Greenwich Mean Time, for the Months, Year, and Seasons (Oa Days only).* **1921.**

Month and Season.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	24–0	No. of Days Used	Mean Values
	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m		v/m
J.	29	32	− 31	− 70	− 55	− 10	5	20	− 17	− 61	− 70	n̄ 78	− 75	− 47	− 49	− 19	39	28	63	89	x133	97	26	23	− 13	4	262
F.	8	− 15	− 4	1	− 33	− 37	− 50	− 28	− 5	− 35	− 31	− 50	n̄ 62	− 54	− 46	− 30	17	69	x 84	x 84	70	51	69	37	9	17	313
M.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	..
A.	34	34	7	− 9	− 14	− 14	− 11	− 32	− 55	n̄ 74	− 62	− 60	− 63	− 72	− 58	− 52	− 35	19	97	x138	96	87	56	44	− 20	14	247
M.	19	3	− 6	11	42	38	26	− 7	− 27	− 39	− 46	− 49	n̄ 55	− 43	− 39	− 31	− 21	− 10	8	40	53	49	x 57	15	− 7	9	187
J.	27	− 3	− 19	7	13	− 9	− 11	− 31	− 33	− 33	− 34	− 39	n̄ 43	− 39	− 25	− 20	− 6	4	14	60	x 71	57	48	33	− 4	17	181
J.	− 25	− 24	− 28	− 19	0	− 9	− 3	4	− 17	5	12	− 16	− 24	n̄ 30	− 26	− 12	2	1	18	38	x 72	47	18	7	− 3	11	160
A.	− 11	14	68	53	− 13	− 13	31	36	− 6	− 14	− 45	− 45	n̄ 58	− 48	− 57	− 33	− 55	− 35	88	x119	49	5	8	− 43	70	3	205
S.	28	10	− 24	− 41	− 40	− 18	− 8	14	− 19	− 48	− 56	n̄ 67	− 59	− 55	− 48	− 42	− 25	6	53	102	x108	101	77	48	− 1	12	221
O.	− 32	− 34	− 39	− 61	− 47	− 36	2	1	− 29	n̄ 69	− 61	− 39	− 16	− 8	11	18	60	x117	76	90	79	50	− 15	− 29	− 5	14	242
N.	− 7	− 55	− 36	− 42	− 25	− 39	− 49	− 34	− 13	n̄ 60	− 45	− 45	21	40	33	44	67	x 81	59	49	40	46	15	− 40	− 56	9	342
D.	− 31	− 39	− 57	− 61	n̄ 69	− 64	− 56	− 63	− 33	− 49	− 44	− 43	− 57	− 43	25	104	106	98	91	x135	88	91	1	− 24	73	6	280
Y.	4	− 7	− 15	− 21	− 22	− 19	− 11	− 11	− 23	− 43	− 44	n̄ 48	− 45	− 36	− 25	− 7	14	34	59	x 86	78	62	33	6	..	..	240
W.	0	− 19	− 32	− 43	− 46	− 38	− 38	− 26	− 17	− 51	− 48	n̄ 54	− 43	− 26	− 9	25	57	69	74	x 89	83	71	28	− 1	..	..	299
Eq.	10	3	− 19	− 37	− 34	− 23	− 6	− 6	− 34	n̄ 64	− 60	− 55	− 46	− 45	− 32	− 25	0	47	75	x110	94	79	39	21	..	..	237
S.	3	− 3	4	13	11	2	11	1	− 21	− 20	− 28	− 37	n̄ 45	− 40	− 37	− 24	− 20	− 10	32	x 64	61	40	33	3	..	..	183

C.—DIURNAL INEQUALITIES OF POTENTIAL GRADIENT IN THE OPEN, IN VOLTS PER METRE.

Eskdalemuir. * *Mean Hourly Values, Greenwich Mean Time, for the Months, Year, and Seasons (1a and 2a Days only).* **1921.**

Month and Season.	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	24–0	No. of Days Used	Mean Values
	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m	v/m		v/m
J.	− 35	− 52	− 43	− 46	− 40	− 43	− 5	64	47	54	63	x101	78	4	12	− 22	− 18	2	90	− 39	− 47	− 27	− 27	n̄ 73	− 31	7	135
F.	4	− 23	− 41	− 57	− 59	− 50	− 52	n̄ 60	− 7	− 25	− 4	− 27	− 19	15	16	33	21	24	53	55	x 82	54	18	57	− 83	4	100
M.	− 32	− 30	5	22	− 13	− 20	25	21	11	36	34	9	4	− 17	9	24	x 60	8	− 81	n̄101	− 17	23	21	− 13	− 50	3	108
A.	x 35	− 7	x 35	31	− 22	− 26	− 16	2	5	22	4	9	− 21	− 7	7	10	26	18	29	− 6	n̄ 83	− 56	− 11	14	84	2	111
M.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0	..
J.	19	16	17	31	26	48	25	− 34	− 43	− 72	n̄ 77	− 25	− 23	− 19	− 28	− 22	− 21	14	44	21	x 52	32	5	17	− 19	7	139
J.	− 39	− 38	n̄ 54	− 43	− 23	19	7	13	37	− 12	− 11	− 22	− 16	− 6	− 35	− 10	4	20	43	51	x 67	51	15	− 15	− 66	6	136
A.	9	− 36	− 27	− 5	− 9	− 8	− 61	n̄ 71	− 22	− 52	− 25	2	33	8	14	12	9	29	61	x 90	79	41	− 27	− 41	−153	3	122
S.	3	61	− 26	− 22	4	−106	− 50	n̄164	− 12	− 45	− 71	− 81	− 60	6	3	− 18	124	x185	98	42	87	49	23	− 35	−232	2	180
O.	− 35	− 22	17	49	− 6	− 44	34	75	x137	52	− 25	4	6	− 19	20	10	6	22	− 40	− 41	n̄ 69	− 14	− 48	− 63	11	4	180
N.	− 26	− 40	− 50	− 95	− 90	− 62	− 78	n̄ 96	− 75	− 69	− 48	9	104	138	x197	150	172	103	11	− 18	− 55	− 40	− 22	− 33	197	3	194
D.	1	− 20	− 24	− 80	− 49	n̄126	−112	− 77	− 61	− 82	− 35	− 51	− 34	15	66	39	28	99	x126	93	109	110	21	36	−115	4	248
Y.	− 9	− 17	− 17	− 20	− 26	n̄ 38	− 26	− 30	2	− 18	− 18	− 7	5	11	26	19	37	x 48	39	13	19	20	− 3	− 14	..	..	150
W.	− 14	− 34	− 40	n̄ 70	− 60	n̄ 70	− 62	− 42	− 24	− 31	− 6	8	32	43	x 73	50	51	57	70	23	22	24	− 3	− 3	..	..	169
Eq.	− 7	1	8	20	− 9	n̄ 49	− 2	− 17	35	16	− 15	− 15	− 18	− 9	10	7	54	x 58	2	− 27	− 21	1	− 4	− 24	..	..	145
S.	− 4	− 19	− 21	− 6	− 2	20	− 10	− 31	− 9	n̄ 45	− 38	− 15	− 2	− 6	− 16	− 7	− 3	21	49	54	x 66	41	− 2	− 13	..	..	132

x and n̄ mark respectively the mean maximum and minimum hourly values in each month or season.

* See Notes on the Tables of Potential Gradient, page 70.

NOTES ON THE METEOROLOGICAL SUMMARIES.

In the meteorological tables in the present volume the diurnal variation of pressure, temperature, humidity, rainfall, sunshine and windspeed is shown. The tables in this volume, and in the corresponding volumes for 1918 to 1920, differ from those published for the years 1911 to 1917 in that the mean values of the various elements are printed, not their departures from normal. These values are averages for the months and the year; the individual readings from which the averages are derived are available for reference at the Meteorological Office. For the years 1874 to 1886 and 1900 to 1913 such hourly readings were published *in extenso*. For the years 1869 to 1880 and 1887 to 1899 five-day means were printed.

The normal hourly values computed for periods ending 1915 will be found in the 1917 volume.

In the tables for pressure, temperature and relative humidity, values at oh. and 24h. are both given. The small difference between them is due to the fact that the readings at the midnights with which a month opens and closes are in general different. In estimating the mean of all the readings for the month these first and last readings are given half-weight. In preparing the tables of the diurnal inequalities of pressure and temperature the non-cyclic change has been eliminated by the use of the formulæ given in footnotes.

Particulars of the methods of tabulation and of the instruments are published in the Introduction to *Part IV., Section* 1 of the *Year Book* for 1913 and in the *Annual Reports of the Meteorological Office* for the years 1867 and 1869. The barographs and the thermographs with dry and wet bulbs are photographic; the speed of the wind is recorded by cup anemometers, except at Eskdalemuir where a tube-anemometer is used for the hourly tabulations; the rain gauges in use are of Beckley's pattern; the duration of bright sunshine is measured by the Campbell-Stokes sunshine recorder.

The values in the tables have been expressed throughout in units based upon the C.G.S. system; tables for conversion to other units were given with the Notes for 1913. They will also be found in the *Computer's Handbook*.

Some points of importance in the history of the observations are referred to in the *Notes* for 1917 and are not reproduced here. It should be mentioned, however, that the system of time-marking previously in use introduced some uncertainty in the readings of the barograms and thermograms. The time marks occur at intervals of two hours and alternate readings used to be made at a time-mark and halfway between two time-marks. From 1st January, 1918, the time-marks have been made half-an-hour before each even hour instead of at the hour so that there is an unbroken curve for the hourly readings.

(*a*) *Pressure.*—The barometer readings are obtained from the hourly tabulations of photographic records from similar apparatus at all the observatories. Due allowance is made for the variation of gravity with latitude. The pressures refer to station level, *i.e.*, to the level of the cistern of the control-barometer, the readings of the curves being compared three times a day with those of this barometer. Tables for " reduction " of pressure to sea-level are printed in the Introduction to *Part IV, Section* 1 of the *Year Book* for 1913.

(*b*) *Temperature of the Air.*—Temperature is expressed in degrees absolute on the Kelvin Scale. The value of a degree is the same as on the centigrade scale, but the zero is taken to be the absolute zero of temperature, 273°C. below the normal freezing-point of water. The practice of indicating "degrees absolute" by "a" instead of by °A has been recently adopted. Thus the temperature of the freezing point of water is written 273a. Conversion from the centigrade to the absolute scale is a simple addition or subtraction. Tables for converting from the Fahrenheit to the absolute scale are given in the *Computer's Handbook.*

The temperatures shown for all four Observatories have been derived from the tabulation of photographic records from similar mercurial thermometers. At Eskdalemuir the thermometer screen is a large hut with louvred sides. At the other observatories the screen is on the north wall of the observatory building. In the case of Aberdeen the screen in question is mounted on the wall of the tower of King's College at a height of 12·5m. above ground.

At Valencia Observatory the north wall screen was modernised at the beginning of 1919 by the provision of a double roof, double louvres on all sides and a ventilated bottom to exclude all direct radiation. It was formerly a single louvred wooden shelter.*

(*c*) *Relative Humidity* is obtained from the tabulation of the photographic records of temperature combined with those of the wet-bulb thermometer. The thermometers are similar at all the Observatories; they have cylindrical bulbs about four inches long. The values of the humidity are calculated by the use of the Meteorological Office tables, which are based upon Glaisher's factors.†

The means for Richmond, Eskdalemuir, and Cahirciveen are obtained from the hourly values of humidity for each day; the means for Aberdeen are calculated from the mean hourly values for the month of the dry and wet-bulb temperatures.

Mention should be made here of a difficulty inherent in the psychrometric method of determining the relative humidity of the air. The depression of the wet-bulb reading depends not only on the amount of vapour present in the air, but also on the strength of the wind blowing past the thermometers. The tables in use for computing the humidity do not, however, take account of the wind.

(*d*) *Wind.*—The speed of the wind is obtained from the records of similar Robinson anemographs at Richmond, Cahirciveen, Falmouth, and Aberdeen, but at Eskdalemuir the records are made by a Dines Pressure-tube instrument. Anemographs of the latter type are also in operation at the other observatories and the charts are used in other publications of the office, *e.g.*, in the *Monthly Weather Report.*

The records from instruments of the two types, exposed at the same place, give approximately the same values for the mean speed.

More serious than any imperfections in the anemometers themselves is the difficulty in determining the relation between the wind which crosses the Observatory at a particular height and the general flow of air in the neighbourhood. In the extreme case of the anemometer at Falmouth,‡ the recorded speed is probably only half of what would be measured at the same height above ground in open country. The anemometer at Cahirciveen is on a tower at the NE corner of the main building, so that the exposure is less free for winds between SE and SW than for other directions.

(*e*) *Rainfall.*—In this table totals for the intervals between exact hours G.M.T. have been given instead of means. In previous volumes the totals referred to hours *centred* at exact hours G.M.T.

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* L.H.G. Dines. Meteorological Office Professional Notes No. 23, 1921.
† See Computer's Handbook Section 1.
‡ Not published now.

(*f*) *Sunshine.*—The duration of bright sunshine is obtained by the Campbell-Stokes sunshine recorder and is therefore measured by the burning or scorching of a blue card by the focussed sunlight. The values are given in hours and are obtained by dividing the totals for each month by the number of days in the month. It should be noted that the entries refer to hourly periods between exact hours of Local Apparent Time. In previous volumes they referred to hourly periods *centred* at exact hours of Local Apparent Time.

(*g*) *Harmonic Analysis.*—The systematic analysis of the records of pressure and temperature of the seven observatories of the Meteorological Office by means of the beautiful harmonic analyser invented by W. Thomson (Lord Kelvin) was a notable enterprise of the period 1871–1882. The results for each month of these years are published in *Harmonic Analysis of Hourly Observations of Air Temperature and Pressure at British Observatories:* Official Publication, No. 93. This volume contains also the harmonic components for the average diurnal variation in the several months for the same period.* Corresponding data for longer periods have not been published by the Office. The annual mean diurnal variation of pressure at the Observatories has been analysed, however, for these Notes for the last few years. Results for 1921 are set out below, the normals for the older observatories being for 1871–1915, those for Eskdalemuir for 1911–1915 :—

Harmonic Analysis of Pressure, 1921.

Observatory and Period.	Amplitude in Millibars.				Phase Angle, Greenwich Mean Time.								Phase Angle, Local Mean Time.			
					24-Hour Term.		12-Hour Term.		8-Hour Term.		6-Hour Term.					
	P_1	P_2	P_3	P_4	A_1	Max.	A_2	Max.	A_3	Max.	A_4	Max.	A_1	A_2	A_3	A_4
					°	h m	°	h m	°	h m	°	h m	°	°	°	°
Aberdeen, 1921 ..	·153	·243	·036	·014	176·0	18 16	143·7	10 13	353·1	2 9	304·3	2 26	178·1	147·9	359·4	312·7
,, Normal	·116	·249	·028	·009	157·8	19 29	143·6	10 13	349·5	2 14	335·7	1 55	159·9	147·8	355·8	344·1
Eskdalemuir, 1921..	·013	·254	·028	·015	83·8	0 25	143·5	10 13	31·0	1 19	306·7	2 23	87·0	149·9	40·6	319·5
Normal	·083	·257	·023	·016	75·1	1 0	141·9	10 16	15·0	1 40	330·6	1 59	78·3	148·3	24·6	343·4
Richmond (Kew Obs.) 1921	·216	·383	·030	·021	10·7	5 17	149·2	10 2	348·2	2 14	276·2	2 53	11·0	149·8	349·1	277·4
,, Normal	·138	·351	·030	·008	28·1	4 7	149·5	10 1	1·6	1 58	274·7	2 55	28·4	150·1	2·6	276·0
Cahirciveen (Val. Obs.) 1921	·167	·323	·023	·012	154·5	19 42	133·5	9 52	343·0	1 42	340·5	1 8	164·8	154·1	13·9	21·7
,, Normal	·151	·307	·034	·004	177·8	18 9	130·9	10 38	331·9	2 37	42·3	0 48	188·1	151·5	2·8	83·5

The notation is explained by two alternative formulæ for the inequality in question :

$P_1 \sin (15t+A_1)^\circ + P_2 \sin (30t+A_2)^\circ + P_3 \sin (45t+A_3)^\circ + P_4 \sin (60t+A_4)^\circ + \ldots$

and

$P_1 \cos 15(t-T_1)^\circ + P_2 \cos 30(t-T_2)^\circ + P_3 \cos 45(t-T_3)^\circ + P_4 \cos 60(t-T_4)^\circ + \ldots$

Here t is the time elapsed in hours since midnight and T_1, T_2, T_3, T_4 are the times of maxima of the four harmonic terms. The times of the corresponding minima differ from those of the maxima by twelve, six, four, and three hours respectively. While it has been convenient to record all the times to minutes this degree of accuracy can hardly be claimed.

It is of importance to note that whilst the 12-hour term is known to be fairly consistent throughout the year, the other terms are subject to very large changes from month to month.

It may also be mentioned that the "normal" values of the P's refer to the normal diurnal variation. The average values of the P's for individual years would naturally be greater.

* The results have been discussed by Dr. C. Chree, *Q.J.R. Met. Soc.* xliv., 1918, p. 99.

(*h*) *Additional Information.*—For a general account of the weather of the year, reference should be made to the Annual Summary of the *Monthly Weather Report.* Daily readings at Richmond, Cahirciveen, and Eskdalemuir are published in the *Geophysical Journal,* corresponding data for Aberdeen in *Daily Readings at Meteorological Stations of the First and Second Orders.* A summary of the monthly values at each of the four observatories is to be found in the Annual Supplement to the last-named publication.

Climatic diagrams based on the average hourly values up to 1910 are given for Aberdeen, Cahirciveen, Falmouth and Richmond in *The Weather Map.*

Graphs of diurnal variation of temperature at the same observatories for the period 1871 to 1895 are given in *Temperature Tables for the British Islands.* The corresponding pressure-graphs are reproduced in a paper by R. H. Curtis.*

Normal values for various elements are given in the *Book of Normals.*

* *Q.J.R. Met. Soc.*, xxvi., 1900, p. 1.

RAINFALL: MONTHLY TOTALS OF HOURLY VALUES.

Amounts, in millimetres, for periods of sixty minutes between exact hours, Greenwich Mean Time.

Falmouth : Hr=50.8 m. + 0.6 m. **1921.**

G.M.T.	0–1	1–2	2–3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10–11	11–12	12–13	13–14	14–15	15–16	16–17	17–18	18–19	19–20	20–21	21–22	22–23	23–24	Day.
Jan. ..	0·9	2·0	0·8	2·6	2·7	1·5	2·5	3·4	7·3	9·2	5·0	3·4	5·2	5·4	5·3	6·6	7·0	8·3	6·6	5·3	3·3	3·4	2·4	5·0	105·1
Feb. ..	1·4	0·3	0·0	0·5	0·9	0·8	0·6	1·4	2·0	0·2	0·8	0·2	1·0	0·2	0·1	0·0	0·0	0·0	0·7	0·7	0·6	1·3	0·3	0·8	14·8
March	0·8	3·3	2·5	1·5	1·9	2·1	3·1	7·3	7·8	2·8	2·5	3·0	3·3	4·0	6·4	2·0	2·3	4·0	8·5	6·6	2·7	3·2	3·1	0·7	85·4
April ..	1·0	2·4	2·8	2·0	2·3	1·0	0·5	1·6	0·2	0·1	0·3	0·4	1·7	0·1	0·6	0·6	0·3	0·2	0·2	0·6	0·3	1·5	2·8	2·0	25·5
May ..	8·5	6·2	3·9	2·5	2·2	1·3	0·8	4·0	2·9	0·4	0·0	0·0	0·7	0·7	0·4	0·4	0·7	2·5	2·4	3·5	1·8	3·1	3·4	7·8	60·1
June ..	0·2	0·0	0·5	0·0	0·2	0·0	0·0	0·0	0·3	0·0	0·0	0·0	0·0	0·0	0·0	1·1	0·0	0·1	0·0	0·0	0·0	0·0	0·2	0·2	2·8
July ..	5·3	2·7	1·0	0·4	1·6	0·4	3·4	0·5	1·7	6·1	3·1	1·5	1·2	2·6	6·2	1·8	0·5	0·3	0·2	0·8	1·7	1·2	3·7	6·3	54·2
Aug. ..	3·5	2·1	1·2	2·1	0·6	2·0	3·4	1·3	0·4	3·2	2·1	0·8	1·2	3·0	5·3	17·9	2·5	4·3	6·9	11·4	7·7	5·3	3·5	0·8	92·5
Sept. ..	0·5	1·6	0·6	0·9	0·4	0·5	0·6	0·6	0·7	0·5	0·0	0·0	0·9	0·6	2·4	1·9	3·1	1·4	1·1	0·2	1·0	0·2	0·9	0·0	20·6
Oct. ..	0·3	0·6	0·6	0·2	2·9	0·9	0·0	0·0	0·0	0·0	5·8	9·5	1·5	3·2	0·4	0·2	3·3	5·3	33·7	4·7	0·4	1·3	0·3	0·4	75·5
Nov. ..	5·9	8·0	7·6	6·6	8·9	3·3	5·1	2·9	5·9	6·0	1·6	1·1	2·7	2·5	6·1	12·1	6·7	1·7	3·9	3·5	8·6	7·4	5·2	6·2	129·5
Dec. ..	4·1	2·2	1·3	1·4	1·6	1·2	1·6	1·6	5·3	10·5	2·0	3·0	1·2	1·3	1·0	1·3	2·4	4·7	2·3	1·3	2·4	4·9	4·3	5·3	68·2
Year ..	32·4	31·4	22·8	20·7	26·2	15·0	21·6	24·6	34·5	39·0	23·2	22·9	20·6	23·6	34·2	45·9	28·8	32·8	66·5	38·6	30·5	32·8	30·1	35·5	734·2

DURATION OF BRIGHT SUNSHINE: MONTHLY MEANS OF HOURLY VALUES.

Amounts for periods of sixty minutes between exact hours of Local Apparent Time.

Falmouth : hs=10.4 m. **1921.**

L.A.T.	4–5	5–6	6–7	7–8	8–9	9–10	10–11	11–12	12–13	13–14	14–15	15–16	16–17	17–18	18–19	19–20	Day.
January	..	..	..	..	·08	·13	·28	·27	·18	·21	·15	·03	..	..	..	..	1·33
February	..	..	..	·09	·26	·29	·32	·30	·33	·28	·30	·26	·13	..	..	..	2·56
March	..	..	·06	·23	·37	·42	·40	·38	·45	·44	·44	·35	·32	·09	..	..	3·95
April	..	·13	·46	·60	·64	·67	·74	·70	·71	·76	·72	·76	·74	·53	·16	..	8·32
May	·05	·34	·42	·47	·55	·64	·63	·56	·52	·49	·55	·55	·65	·59	·42	·06	7·49
June	·12	·49	·56	·62	·64	·71	·69	·70	·65	·60	·68	·70	·76	·69	·56	·30	9·47
July	·04	·37	·53	·55	·65	·67	·70	·75	·68	·65	·62	·64	·65	·58	·50	·16	8·74
August	..	·14	·39	·38	·45	·45	·43	·40	·43	·46	·43	·41	·37	·26	·12	..	5·12
September	..	..	·21	·44	·56	·56	·59	·51	·57	·60	·59	·59	·46	·15	..	..	5·83
October	..	..	..	·17	·33	·42	·49	·48	·45	·44	·34	·30	·15	..	..	..	3·57
November	..	..	..	..	·13	·26	·24	·26	·23	·27	·22	·16	·01	..	..	..	1·78
December	..	..	..	..	·02	·19	·27	·30	·27	·25	·14	·04	..	..	..	..	1·48
Year	·02	·12	·22	·30	·39	·45	·48	·47	·46	·45	·43	·40	·35	·24	·15	·04	4·97

TERRESTRIAL MAGNETISM:—I. NOTES ON THE MANAGEMENT OF THE INSTRUMENTS AT KEW OBSERVATORY, RICHMOND, AND ON THE CORRESPONDING TABLES, 1921.

By C. CHREE, Sc.D., LL.D., F.R.S., Superintendent.

Absolute observations of declination, dip and horizontal force have been taken usually once a week. The instruments employed have been the Jones unifilar magnetometer, with declination magnet KO 90, collimator magnet KC 1 and mirror magnet AN, and the Barrow dip circle No. 33 with $3\frac{1}{2}$-inch needles. In the absolute observations of horizontal force deflections were made at three distances 22·5, 30 and 40 cms., and values were calculated for the distribution constants P and Q from all the observations of the year.

The values obtained of late years have been as follows:—

Year.	P.	Q.	Mean Value at 22·5, 30 and 40 cms. of $\log_{10}(1+Pr^{-2}+Qr^{-4})$
1917	+ 0·696	— 1236	$\bar{1}$·99938
1918	+ 1·683	— 1565	$\bar{1}$·99965
1919	+ 1·496	— 1525	$\bar{1}$·99958
1920	+ 0·971	— 1280	$\bar{1}$·99950
1921	+ 0·272	— 1054	$\bar{1}$·99930

Values for earlier years back to 1910 will be found in *Hourly Values* for 1920. Changes in P and Q having the same sign tend to neutralise one another. The fluctuations are probably partly accidental. Originally the values obtained for 1920 were employed for the reduction of the observations of 1921. The substitution of the values appropriate to 1921 entailed a correction of -4γ in the calculated values of H. This result was, however, obtained in time to secure the publication of the corrected values of H in the *Geophysical Journal.*

The magnetographs have remained in regular operation during the year. The scale value of the declination magnetograph remained as in previous years, 1 mm. = 0′·87. Scale value determinations of the horizontal force gave an unchanged value of 1 mm. = $5·8\gamma$ throughout the year. As in previous years a temperature correction of $3·1\gamma$ for 1° C. was applied to the readings of the horizontal force curves. The base values of the D and H curves were derived in the usual way from the absolute observations. Scale value determinations were also made of the V magnetograph in January and May and at the end of the year, the values obtained as the equivalent of 1 mm. being respectively $10·5\gamma$, $10·5\gamma$ and $11·5\gamma$.

The method of determining the scale values was that due to Broun, an auxiliary magnet being used to deflect the D and H magnets at the same distances and under like conditions, and again to deflect the D and V magnets under like conditions. The D, H, and V magnets are alike in size and shape, and the deflection distances large, viz., 85 cms. for H and D and 75 cms. for D and V.

The disturbance of the magnetic curves by artificial electric currents has been much as in the previous year. The publication of diurnal inequalities in D and H has thus been continued.

Particulars of the magnetic " character " of individual days on the international scale " 0 " (quiet), " 1 " (moderately disturbed) and " 2 " (highly disturbed) have been contributed quarterly as in recent years to Professor van Everdingen at de Bilt, for inclusion in the international lists. Full details will be found in the *Geophysical Journal.* The accompanying table shows the number of days in each month to which the several " characters " were assigned. It also gives for each month the mean of the " character " figures, treated as if ordinary arithmetical quantities. As there is a wide range in the disturbance to which any one figure is attached, the monthly means should be regarded as giving only a general indication of the disturbance prevailing.

1921.	Number of Days having Magnetic " Character."			Mean of " Character " Numbers.
	" 0."	" 1."	" 2."	
January	15	15	1	0·55
February	16	10	2	0·50
March	15	11	5	0·68
April	15	11	4	0·63
May	13	9	9	0·87
June	18	11	1	0·43
July	18	13	0	0·42
August	13	15	3	0·68
September	19	7	4	0·50
October	13	14	4	0·71
November	9	16	5	0·87
December	12	13	6	0·81
Year (Totals and Means) ..	176	145	44	0·64

The mean " character " figure is slightly greater than for the previous year, there being five fewer days of " character " 0. In view of the undoubted variability of the " character " standard, no inference can well be drawn as to the relative amount of disturbance in the two years. In 1920 disturbance was as usual most prominent in the equinoctial months, but in 1921 the months of May, November and December were the most disturbed. In May there was an unusually prolonged sequence of disturbed days, " character " 2 being assigned to every day from the 12th to the 21st, with the exception of the 18th.

The largest disturbances of the year occurred on the following dates :—May 13th to 17th, 19th, 20th, September 2nd, October 8th, November 16th, 17th, December 13th, 28th, 29th. The disturbance on May 14th–15th was much the largest of the year, and a very exceptional one. Owing to the limits of registration being exceeded, the full range cannot be assigned. In D it exceeded 2° 12′, and in H, 650γ. In the latter case the actual range was doubtless very much greater than that shown, as the trace was off the sheet for $4\frac{1}{2}$ consecutive hours on the 15th. The largest V movements occurred on the night of May 14th–15th, and the 15th being a Sunday, when electric trains start late, an exceptionally fine record was obtained. The upper limit of registration was exceeded twice between 4h. and 5h. on the 15th, but on each occasion there was only 2 or 3 minutes loss of trace. Thus, the range recorded, 1,500γ, was probably only very slightly exceeded. No range as large as this has ever been recorded before at Kew Observatory since regular registration began in 1858. It is impossible, of course, to say that no larger range has occurred since 1858, because the limits of registration have not infrequently been exceeded. The disturbance in May was distinguished not merely by the amplitude of the movements, but also by their highly oscillatory character. This highly oscillatory character was shared by V as well as by the horizontal components—sometimes it is markedly otherwise. There was a rise in V of 1,400γ between 3h. 53m. and 4h. 10m. on the 15th, and a little later in the course of twelve minutes there was a fall and a rise each exceeding 950γ. Shorter period oscillations were superposed on these and on other large movements.

In arriving at the international " character " figures all three elements D, H, and V are taken into account. But at Kew Observatory disturbance in V is practically never unaccompanied by disturbance in D and H—though the converse is not the case—and it is immaterial whether the V curves are consulted or not. But on individual occasions disturbance may be much more prominent in H than in D, and conversely.

In compiling the weekly chronicle now got out for mining engineers, D only is under consideration ; also the object in view is somewhat different. In the case of

mining engineers, the precise period of the day which is highly disturbed is important. Two-hour periods are dealt with and when a particular day is assigned " character " 2, the periods during which the D curve has that " character " are particularised. The number of these disturbed periods at different hours of the day during 1921 was as follows :—

Hour	0h–2h	2h–4h	4h–6h	6h–8h	8h–10h	10h–12h	12h–14h	14h–16h	16h–18h	18h–20h	20h–22h	22h–24h
Disturbed occasions	14	16	9	7	5	3	4	10	11	14	16	15

This represents a total for the year of 124 occasions, i.e., 248 hours, considered highly disturbed. The corresponding total for 1920 was 256 hours. As May, 1921, contributed no less than 100 hours, while no month in 1920 contributed more than 68, the natural inference is that if the month of May be omitted, 1921 was decidedly the quieter year. In 1921 the twelve hours 4h.–16h. G.M.T. contributed 31 per cent. of the highly disturbed hours, as compared with 25 per cent. in 1920. If May, however, be excluded, the percentage contribution from the twelve hours 4h.–16h. falls to 22. In 1921 four months, February, June, July and August, contributed no highly disturbed periods. Thus, the unusually disturbed month of May was followed by an exceptionally quiet time.

The data for mining engineers are issued within a few days of the end of the week, so that the " characters " have to be settled promptly and for only a few days at a time ; also D alone is considered. The days thus awarded " characters " 0, 1 and 2, numbered respectively 202, 130 and 33, giving a mean " character " for the year of 0·54, as compared with 0·63 for 1920.

Prior to 1919 diurnal inequalities were given only for the five international quiet days, and before taking the readings the curves were smoothed by hand. A change of procedure appeared desirable when D inequalities were prepared from all ordinary days. Accordingly, in 1921, as in 1920, all the curves have been measured with a mean value scale. The 60-minute intervals employed centre at exact hours G.M.T.

The diurnal inequalities for D from ordinary days are given in Table LXIa. Of the 33 days omitted as highly disturbed, 15 occurred in the four equinoctial months, 10 in the four winter months and 8 in the summer months (all in May).

The diurnal inequalities for D and H from the international quiet days are given in Tables LXIb and LXII.

The international quiet days had the following dates :—

January	..	2,	8,	13,	14,	22	July	..	2,	11,	18,	21,	25
February	..	8,	9,	12,	16,	23	August	..	1,	9,	23,	25,	29
March	..	5,	8,	17,	19,	20	September	..	11,	12,	13,	24,	25
April	..	4,	5,	7,	26,	27	October	..	3,	16,	17,	18,	19
May	..	5,	6,	7,	25,	30	November	..	2,	3,	4,	27,	29
June	..	5,	15,	18,	19,	25	December	..	6,	7,	19,	20,	21

In all the inequalities the non-cyclic changes have been allowed for in the usual way, i.e., by assuming them to come in at a uniform rate throughout the day. The units employed are 1′ in D and 1γ (or 1×10^{-5} C.G.S.) in H. In the case of D the minus sign means that the magnet points to the east of its mean position for the day. Inequalities are given for each month of the year, for the year as a whole, and for three seasons defined as in previous years : x and n are attached to the maximum and minimum hourly values.

There is, as usual, a distinct difference in type between the diurnal inequalities of D on quiet and ordinary days. Except in August and October, the easterly deviation near midnight is decidedly smaller in the quiet days. The difference is especially marked in the winter months. At that season the principal minimum (i.e., the easterly extreme) has a tendency to shift from the morning to the late evening hours. In Table LXIa it occurs before midnight in all four winter months, whereas in Table LXIb January is the only month showing the phenomenon. The easterly extreme in the winter season appears at 22h. for ordinary days, but for quiet days it appears at 8h., the same hour as for the other seasons and the year. In both quiet and ordinary days the principal maximum (westerly extreme) appears at 14h.

in June and July, and at 13h. in the remaining ten months. In Table LXIb the 12h. and 13h. values are equal in January, the 13h. and 14h. values in April.

In the case of H, Table LXII, it is the hour of the minimum which shows least dependence on the season. It occurs in a majority of the months at 11h., but in three of the summer months and for summer as a whole it occurs at 10h. In the case of the maximum there is a marked seasonal difference. In all the summer and equinoctial months except March, the principal maximum occurs in the afternoon, usually at 20h., but in all four winter months it appears at 7h. or 8h. In the equinoctial season the forenoon maximum, though smaller than the afternoon maximum, is well developed, but in the summer season it practically disappears.

Table LXIII gives the inequality ranges of the mean diurnal inequalities. The ordinary day D range exceeds that for quiet days in all the inequalities except those of the two months, May and October. In the winter months, especially January and December, the excess is considerable, taking into account the absolute size of the range at that season.

Comparing the D ranges in 1921 with the corresponding ranges in 1920, we find that in the case of ordinary days the 1920 range is the larger in every single month. In most months the excess is considerable, and it is particularly prominent in January and February. In the case of quiet days the ranges for the year and the seasons are markedly less in 1921 than in 1920. The same is true of most individual months, but May, October, and November are exceptions.

In the case of H the 1921 ranges are less than the 1920 ranges in the inequalities for the year, summer and equinox, and for nine months out of the twelve. The drop is particularly marked in June, July and August—which were particularly quiet months—but in February, November and December, the 1921 ranges were the larger. Taking both D and H into account, it is clear that the amplitude of the regular diurnal inequality showed a marked decline in 1921 as compared with the previous year.

The algebraic means of the non-cyclic changes in Table LXIIIa are $+0'\cdot03$ for ordinary and $+0'\cdot07$ for quiet days in D, and $+3\cdot6\gamma$ in H. As D is falling rapidly through secular change—at an average rate of about $0'\cdot03$ per diem—this implies an appreciable westerly tendency on the average quiet day. In H the non-cyclic change was positive in every individual month, the mean value for the year being slightly greater than in the previous year. It will be noticed that the three largest values of the n.c. change occurred in February, June and July, months which were conspicuous by the absence of large disturbances. This is hardly what we should have expected if the n.c. change represents a recovery from the depression usually produced in H by large storms.

Table LXVII gives the mean monthly and annual values of the magnetic elements. The results for D and H are derived from the curve measurements for the international quiet days. The values of I (Inclination) are derived from the absolute observations corrected to the mean of the day. The other elements are calculated from these. The mean derived from the ordinary days for D agreed to the nearest $0'\cdot1$ with that derived from the quiet days. The ordinary day mean was the higher of the two in six months and the smaller in four; in two months the values were identical. In eight months the difference was $0'\cdot1$ or less, and in only one month was it as large as $0'\cdot3$.

Comparing the mean values for 1921 and the previous year, we observe a fall of $11'\cdot1$ in D. This is the largest fall observed since registration commenced, being greater by $1'\cdot2$ than the fall in the previous year. In H there is a fall of 11γ as compared with 6γ in the previous year, and in I there is an apparent fall of $0'\cdot2$, as against a rise of $0'\cdot2$ in the previous year. In the case of yearly means deduced from absolute observations with a dip circle these apparent changes are too small to be treated as significant. The only safe conclusion is that the dip is at present very nearly stationary. As regards the derived elements, there appears a substantial fall in V, a rise of 5γ in N—as compared with 7γ in the previous year—and a fall of 60γ in W. The fall in W—arising almost entirely from the secular change in D—is slightly greater than for the previous year, and as in the previous year its progression throughout the twelve months is remarkably uniform.

TERRESTRIAL MAGNETISM:—II. NOTES ON THE MAGNETIC OBSERVATIONS MADE AT THE VALENCIA OBSERVATORY, CAHIRCIVEEN, 1921.

Absolute observations of declination, horizontal force (H) and inclination were taken in general twice a month and over some periods rather more frequently. The instruments in use, as in previous years, were the Dover unifilar No. 139, and the Dover dip circle No. 118. The mean times of observation were $10^{h.}\ 21^{m.}$ for the declination, $11^{h.}\ 44^{m.}$ for the horizontal force and $14^{h.}\ 30^{m.}$ for the inclination. In no case did the time of any individual observation differ from the mean by more than 10 minutes.

Only such observations of each element have been used as had been taken at times when that element, as recorded by the magnetographs at Kew Observatory, Richmond, was subject to no abnormal disturbance.

The deflections of the mirror magnet were taken at two distances of the collimator magnet and a single distribution constant, P, calculated from them. Except in one case twelve readings of deflection were taken for each complete observation, in the manner described in the notes on the observations for 1917.

The value of P was calculated for each month separately by the method described in the notes for the year 1919. The extreme variation in the value of P did not exceed the equivalent of $2\frac{1}{2}\gamma$ on the value of H.

The magnetic moment of the collimator magnet has continued to decrease at about the same rate as during the last two years; that is, three units per year. The mean value of P was 7·06 and the standard error of a single determination of it is 0·65, having varied very little in amount for several years.

Particulars of the individual observations will be found in the monthly numbers of the *Geophysical Journal*, the values of the horizontal force as there given being based on the values of the distribution constant determined as above.

Table LXVII gives the observed mean monthly and annual values of declination, horizontal force and inclination, and corresponding calculated values of the total force and the north, west and vertical components.

Values of the magnetic elements derived, like those at Valencia, from absolute observations require corrections to reduce them to the mean value for the day. In the absence of magnetographs, exact corrections cannot be assigned. It is inferred, however, from the diurnal variations observed at Kew, and in past years at Falmouth, that the corrections required to the Valencia mean yearly values would be only of the order $1'{\cdot}0$ in declination and $0'{\cdot}25$ in inclination. In the case, however, of horizontal force, a substantial correction would be required. It would probably be about $+\ 20\gamma$ in the average year, but greater in years of many and less in years of few sunspots.

TERRESTRIAL MAGNETISM:—III. NOTES ON THE MANAGEMENT OF THE MAGNETIC INSTRUMENTS AT ESKDALEMUIR AND ON THE CORRESPONDING TABLES, 1921.

The magnetographs at Eskdalemuir are arranged so as to record changes of the three geographical components of terrestrial magnetic force, viz., the north component, N (or + X), west component, W (or — Y), and the vertically downward component, V (or + Z).

The north and west magnetographs are of the Adie bifilar type. In each of these instruments torsion of the bifilar suspension (of fine tungsten steel wire) is used to bring the magnet into an azimuth approximately perpendicular to the direction of the component whose changes are recorded. During 1921 no change was made in the suspension of either instrument.

The vertical force instrument is a balance* designed by the late Professor W. Watson. The chief difficulty encountered with this instrument relates to the base line value, which is liable to sudden and large change if any considerable artificial movement is given to the pivoted magnet system, or when the drying agent (calcium chloride) within the instrument case is changed. Following the renewal of the drying agent on 31st December, 1920, considerable instrumental drift extended over several days. On 10th February, 1921, the control magnet, attached in a vertical position to the side of the supporting pier, was raised slightly; the base line value being increased by about 100γ.

The magnetographs are installed in an underground chamber in which the normal diurnal range of temperature is negligible. Temperature is ascertained daily at $9^{h.}\ 30^{m.}$ by means of the thermometers within the instrument cases. The monthly means for the year 1921, and the average values for the period 1911–1920, are shown below:—

Excess of Mean Temperature above 280a.

Month.	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Average 1911–20	3·3	2·6	2·2	2·0	2·4	3·3	4·3	5·4	6·1	5·9	5·2	4·2
,, 1921	3·7	3·4	3·0	3·0	3·2	3·8	5·1	6·2	6·9	7·1	6·6	5·5

The annual range of temperature during 1921 was 4·3° C., the mean for the previous ten years being 4·3° C.

The constants of the magnetographs were as follows:—

	North.	West.	Vertical.
Time scale 1 hour =	15·6 mm.	15·6 mm.	15·6 mm.
Time marks: until 27th May	Every two hours, ending at exact hour.		
,, ,, after 27th May	Every two hours, beginning at exact hour.		
Error of time mark	Not more than ± 1 min.		
Period of vibration, seconds	13·9	11·0	7·4
Logarithmic decrement	·368	·640	—
Angular equivalent of 1 mm. on paper, radians ..	·00032	·00032	·0003
Twist of bifilar suspension	35°	90°±5°	—
Ratio $\frac{\text{length of bifilar suspension}}{\text{mean breadth of suspension}}$	51	66	—
Temperature coefficient, per 1° C.	−9 γ	−2 γ	+ 26 γ
Direction of marked pole	West.	North.	—
Azimuth of magnet	270° 6′	0° 55′	346°

In the above table the azimuths given for the north and west instruments are approximate values derived from the results of determinations in 1919 and 1923.

* See *Terrestrial Magnetism. Vol. VI.*

The scale values were determined twice monthly. The method of determination is described in the Notes for 1913 and consists of measuring the photographically recorded deflection of the suspended or pivoted magnet produced by an auxiliary magnet, of known magnetic moment, situated at a known distance from the deflected magnet. The following values, obtained by overlapping means, were employed in reducing hourly readings :—

Month.	North Instrument. γ per mm.	West Instrument. γ per mm.	Vertical Instrument. γ per mm.
January	4·96	5·37	4·25
February	4·97	5·38	4·22
March	4·95	5·36	4·17
April	4·94	5·35	4·12
May	4·92	5·35	4·05
June	4·93	5·35	4·04
July	4·92	5·33	4·05
August	4·93	5·32	4·08
September	4·93	5·33	4·13
October	4·93	5·34	4·14
November	4·91	5·34	4·12
December	4·89	5·33	4·09

Absolute observations were made weekly in the east magnetic hut. The results of these observations are given in the tables of auxiliary observations printed under each month along with the hourly values. Declination and horizontal force were determined on Pier No. 5 by the Elliott magnetometer, No. 60, and dip on Pier No. 6 by the Schulze Inductor, No. 103. In the deflection observations of the horizontal force determinations three distances, viz., 25, 30, 35 cms. were used. The value of the correction $\log_{10}\left(1 + \frac{P}{25^2} + \frac{Q}{25^4}\right)$, used in the reduction of the horizontal force observations, was obtained for a given month by taking the mean for seven months including the given month as fourth of the seven. The values of this correction for the different months of the year were as follow :—

January, ·00552 ; February, ·00534 ; March, ·00547 ; April, ·00549 ; May, ·00553 ; June, ·00549 ; July, ·00546 ; August, ·00562 ; September, ·00566 ; October, ·00535 ; November, ·00530 ; December, ·00523.

The preliminary base line values were deduced from the results of the absolute observations, any of the latter obtained during times of considerable disturbance being excluded. The base line values finally adopted were obtained from a curve drawn smoothly through points given by the preliminary values. [See Plate I.]

The hourly readings are obtained from the magnetograms by means of a ruled glass scale. The reading for any given hour G.M.T. is that ordinate estimated to be the mean reading for 60 minutes centering at the given hour. The product of this ordinate and the scale value is added to the final base value, and the sum so obtained is the hourly value printed in the tables. The mean value for the day is—

$\frac{S}{24}$, where $S = \frac{1}{2}(u_0 + u_{24}) + u_1 + u_2 + \ldots\ldots u_{23}$, u_r being the reading per hour r.

In calculating diurnal inequalities, the non-cyclic change has been eliminated on the assumption that its time-rate is linear. Inequality values are first calculated to 0·01γ and then rounded off to 0·1γ. The inequalities in H, D, and I, were computed from those of N, W, and V, by means of the formulæ—

$$\delta D = \frac{180 \times 60}{\pi}\left(\frac{\delta W \cos D - \delta N \sin D.}{H}\right)$$

$$\delta H = \delta N \cos D + \delta W \sin D.$$

$$\delta I = \frac{180 \times 60}{\pi} \cos I \left(\frac{\delta V \cos I - \delta H \sin I}{H}\right)$$

in which δD, δI, are expressed in minutes of arc, and where H, D, and I for any month are the respective mean values for that month as published in Table LXVII.

The values of the harmonic coefficients were computed from the unrounded values of the inequalities. They were corrected where necessary, on account of the fact that the hourly values are not instantaneous values, but are mean values. The factors by which the coefficients have to be multiplied (*vide* Report of the British Association 1883, page 98) are 1·00286 for a_1, b_1, c_1; 1·01152 for a_2, b_2, c_2; 1·02617 for a_3, b_3, c_3; and 1·04720 for a_4, b_4, c_4. Finally, the values were rounded off to 0·1γ.

TERRESTRIAL MAGNETISM :—IV. REVIEW OF RESULTS OF MAGNETIC OBSERVATIONS AT ESKDALEMUIR DURING 1921. By A. CRICHTON MITCHELL, D.Sc., F.R.S.E., Superintendent.

1. The following account summarises the principal results of the magnetic observations made during 1921.

Reference may be made to the *Notes on the Management of the Magnetic Instruments* in this and in previous issues of the *Year Book* for details regarding the instruments employed and the manner in which the values of the elements are deduced from the magnetograms.

2. *Mean and Extreme Values of the Magnetic Elements*, 1921.—The mean values for 1921 and also for the previous year are given below in Table I. The values of N, W, and V have been computed from the hourly values derived from the autographic records of " all days," standardised by means of the absolute observations ; those of H, D, I, and T, have been deduced from the values of N, W, and V.

Table I.

Year.	H.	D. (West)	I.	N.	W.	V.	T.
	γ	° ′	° ′	γ	γ	γ	γ
1920 ...	16706	16 48.7	69 39.5	15990	4836	45 62	48059
1921 ...	16695	16 37.3	69 40.3	15998	4776	45062	48055

The value of H continued to diminish but the fall from the 1920 value was less than the average rate of decrease during the period for which observations are available. The decrease in westerly declination was noticeably greater than in any year since 1911. Inclination again increased slightly. The north component continued to rise from the minimum which occurred in 1918. The decrease in the west component was the largest since 1911. The vertical component remained stationary.

It is to be remembered that these mean annual values were deduced from the hourly values of N, W, and V on all days on which complete records were obtained. For the purposes of comparison the following mean values derived from the international quiet days may be noted :—N, 16,000γ ; W, 4,777γ ; V, 45,062γ.

The extreme values of N, W, and V recorded during the year are given in Table II. The sign > or < indicates that the trace exceeded the limits of registration.

Table II.

Component.	Maximum.		Minimum.		Absolute Annual Range.
	Value.	Date 1921.	Value.	Date 1921.	
	γ	h m	γ	h m	γ
North	16223	19 May. 23 12	<15504	15 May 0 0 to 7 40	>719
West	4953	13 May. 19 39	<4322	15 May 2 0 to 6 50	>631
Vertical..	>45250	29 Apl. 15 50 to 16 11 and 16 58 to 17 8	<44686	13 May 21 40 to 22 10 14 May 23 50 to 15 May 6 0	>564

The maximum value of V given in the above table is the maximum actually recorded, but it is almost certain that the true absolute maximum of the year occurred between $6^{h.}\ 10^{m.}$ and $7^{h.}\ 20^{m.}$ on May 15th and was greatly in excess of the value given in the table.

3. *Magnetic Character of the Year.*—In addition to assigning to each day a character figure according to the international scheme, it has been the practice for some years at Eskdalemuir to tabulate for each day two quantities which are in some measure representative of the degree of activity of the terrestrial magnetic force and which, therefore, may serve as comparatively simple means of quantitative estimation of activity. The quantities are (1) ΣR^2, the sum of the squares of the absolute daily ranges of the three components N, W, and V,* and (2) the mean of the 24-hourly values of Σr^2, the sum of the squares of the hourly ranges of these components.*

TABLE III.

	Values of ΣR^2. (Unit, 100 γ^2)											
1921	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	161	124	187	44	78	82	136	61	62	180	98	51
2	28	119	94	85	61	97	74	90	1057	..	23	60
3	26	21	56	203	224	160	99	277	81	..	23	82
4	64	31	43	47	288	*229*	173	159	215	86	25	27
5	69	196	45	74	61	*64*	93	291	115	310	452	9
6	27	215	52	75	81	414	152	192	77	202	409	7
7	46	35	54	58	57	211	267	107	172	224	101	12
8	19	22	30	144	125	591	273	150	388	995	143	44
9	196	12	232	217	234	285	324	101	93	165	125	16
10	275	31	254	204	189	313	90	63	84	51	195	65
11	37	43	49	140	110	85	62	333	51	677	26	55
12	63	9	78	165	900	69	135	162	47	563	34	542
13	..	204	45	*447*	*9084*	133	128	84	63	32	131	562
14	..	115	219	238	*6216*	129	87	103	73	118	135	78
15	142	57	284	243	*10432*	77	204	243	135	136	38	50
16	84	20	133	231	*5440*	127	244	347	91	60	1118	384
17	236	77	44	135	807	111	92	145	51	38	918	164
18	..	39	41	323	233	57	104	86	98	47	300	64
19	..	109	32	205	4375	66	171	72	..	34	108	17
20	..	55	26	180	2755	129	111	112	*98*	61	21	4
21	..	147	424	731	664	72	77	143	150	223	91	6
22	16	48	337	434	242	134	114	82	47	97	65	111
23	23	18	47	233	170	323	137	84	243	80	286	343
24	83	38	231	106	71	77	85	91	39	68	72	67
25	34	77	542	94	60	66	91	78	39	56	99	27
26	53	53	311	87	115	174	157	248	43	56	5	143
27	18	55	674	82	106	99	117	205	76	208	17	75
28	36	122	106	118	133	65	123	56	348	191	45	695
29	28	..	599	*1299*	91	126	176	37	744	153	11	336
30	54	..	114	85	65	77	164	421	54	47	25	103
31	142	..	58	..	82	..	64	151	..	184	..	24
Mean	78	75	176	224	1405	155	140	154	167	184	171	136

* R_N, R_W, and R_V denoting the ranges for a calendar day of the north, west, and vertical components, ΣR^2 is written for $R_N^2 + R_W^2 + R_V^2$.

ΣR^2 determined thus is entered in Table III., and monthly means, such as $\frac{1}{31}\sum_{1}^{31}(\Sigma R^2)$, are given in Table V.

Similarly r_n, r_w, and r_v denoting hourly ranges, Σr^2 stands for $r_n^2 + r_w^2 + r_v^2$.

Daily means of Σr^2 computed in the form $\frac{1}{24}\left\{\frac{0+24}{2}+1+2+ \ldots\ldots +23\right\}$ are shown in Table IV, and monthly means of Σr^2, being the mean values for the month of these daily means, are in Table V.

For other methods of estimating magnetic activity see *Activity of the Earth's Magnetism and Magnetic Characterisation of Days*, by G. van Dijk. Neder. Met. Inst. No. 102 (Utrecht, 1922).

The character figures assigned to each day of 1921 are shown in the fourth table under each month in this volume. The daily values of ΣR^2 and the daily means of Σr^2 are given in Tables III and IV respectively. The mean monthly values of the squares of the absolute daily ranges are shown in Table LXIII*b*,* page 45.

On those days when the trace went off the sheet the range has been obtained by taking the value at the edge of the sheet as the extreme value. The entries for such days, and also for occasions when there was partial failure of the record but for which values of the range have been assigned, are printed in italics in Table III. Similarly, in Table IV an italicised entry denotes that the value in question is an approximation, the record having failed for a few hours or the trace having passed beyond the edge of the sheet.

TABLE IV.

Mean Value of Σr^2.

(Unit, 100 γ^2)

1921.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	8·5	5·4	8·7	1·3	3·0	2·7	3·2	1·3	1·5	7·8	4·3	1·3
2	1·9	6·8	4·3	2·1	1·9	2·5	2·2	5·7	62·2	*2·0*	0·6	4·2
3	1·2	1·9	3·6	6·6	7·2	6·4	3·5	14·2	3·2	*2·2*	0·9	5·2
4	5·0	2·0	1·8	0·9	9·6	*9·7*	5·0	6·9	10·3	4·4	0·5	1·5
5	2·7	11·0	1·2	2·0	1·3	*1·6*	2·2	14·6	3·7	20·9	14·3	0·6
6	1·3	9·2	1·5	2·2	2·6	15·1	4·5	11·8	2·6	10·5	13·7	0·5
7	2·0	2·2	2·4	1·1	0·9	12·8	17·0	6·2	7·1	9·0	*6·8*	*0·7*
8	0·7	0·8	0·8	5·5	3·9	28·0	11·8	5·7	18·7	44·8	3·8	1·5
9	5·5	0·4	9·9	7·6	12·0	12·1	17·3	2·9	4·1	11·9	6·7	1·0
10	11·8	1·5	12·9	9·1	7·3	14·4	3·2	2·4	3·3	3·6	6·1	4·0
11	1·4	1·5	2·0	4·7	2·9	2·7	1·1	17·6	1·4	22·6	1·2	2·9
12	2·7	0·3	4·0	14·6	34·3	2·6	5·3	6·5	1·0	20·8	1·4	35·8
13	..	10·6	1·4	*41·1*	*394·8*	3·4	5·4	2·7	1·6	1·6	7·0	49·3
14	*1·6*	10·3	*11·7*	14·3	*581·6*	8·4	6·4	4·0	1·6	4·6	5·2	4·8
15	7·6	1·5	14·8	13·3	*1444·9*	1·8	12·2	16·3	3·3	5·0	1·6	2·4
16	3·6	0·6	8·8	6·4	*449·7*	2·8	14·3	11·8	4·9	1·5	49·2	26·2
17	*9·3*	3·3	1·2	4·2	43·4	5·3	3·6	4·3	1·9	1·2	48·8	9·5
18	*2·8*	2·2	1·8	15·8	11·3	1·3	2·5	2·6	3·6	1·1	23·3	3·2
19	..	5·3	1·4	14·6	170·1	1·7	5·7	1·9	*3·7*	1·2	5·6	0·6
20	..	2·5	0·5	12·0	132·9	5·3	5·0	4·3	*1·7*	1·8	2·2	0·2
21	..	4·5	16·3	25·6	34·0	2·6	2·0	5·3	4·9	15·4	5·8	0·2
22	1·2	1·9	20·6	18·5	8·2	5·7	5·0	2·1	1·1	4·7	4·8	7·7
23	2·1	0·6	1·6	9·1	6·2	18·5	7·1	1·7	11·6	3·9	13·6	16·2
24	5·3	1·2	6·4	4·5	3·9	3·2	3·7	2·7	0·7	3·2	2·5	4·2
25	2·0	2·7	35·2	3·1	1·7	1·4	2·3	1·4	0·9	2·7	2·5	0·9
26	3·0	2·4	17·0	3·1	4·1	*7·3*	6·6	16·5	1·0	2·7	0·3	6·1
27	1·1	2·2	41·7	1·8	4·4	2·1	3·7	11·5	2·1	8·8	0·8	4·6
28	1·5	6·7	5·1	2·5	7·4	2·1	5·4	1·7	15·9	10·6	2·3	42·5
29	2·6	..	32·4	*66·2*	4·7	5·5	5·7	0·9	43·8	4·8	0·6	26·9
30	1·7	..	4·6	2·5	1·7	2·3	6·3	23·3	3·7	1·4	0·8	7·5
31	6·4	..	2·3	..	3·7	..	2·0	5·1	..	7·9	..	1·7
Mean	3·6	3·6	9·0	10·5	109·5	6·4	5·8	7·0	7·6	7·9	7·9	8·8

Details of the monthly distribution and mean values of magnetic character figures, along with mean values of ΣR^2 and of Σr^2, are brought together in Table V.

* The entries in the column headed R_N^2 of Table LXIII*b* (p. 45) are the means of the daily range of R_N^2 for all days on which they have been actually obtained. Similarly for R_W^2 and R_V^2. The entries under $R_N^2 + R_W^2$ are the means of the daily values of these quantities for all days on which both have actually been obtained. Similarly for $R_N^2 + R_W^2 + R_V^2$. It may therefore happen that in any month when the value, e.g. of R_N^2 has not been obtained for a particular day, the entry in the fourth column may not be equal to the sum of the entries in the first and second columns, and similarly for $R_N^2 + R_W^2 + R_V^2$.

TABLE V.

Month.	Magnetic Character Figures.			Mean Character Figure.	Mean Value of $\Sigma R^2/100$.	Mean Value of $\Sigma r^2/100$.
	No. of "0" Days.	No. of "1" Days.	No. of "2" Days.			
1921.						
January	21	9	1	0·35	*78	†3·6
February	17	11	0	0·39	75	3·6
March	13	12	6	0·77	176	9·0
April	12	12	6	0·80	224	10·5
May	12	11	8	0·87	1405	109·5
June	16	11	3	0·57	155	6·4
July	13	15	3	0·68	139	5·8
August	14	12	5	0·71	154	7·0
September	14	13	3	0·63	‡167	7·6
October	15	14	2	0·58	‡184	7·9
November	14	14	2	0·60	171	7·9
December	16	11	4	0·61	136	8·8
Year 1921	177	145	43	0·63	255	15·6
Year 1920	194	137	35	0·57	286	13·9
Year 1919	146	170	49	0·73	388	21·1

* Mean for 25 days. † Mean for 27 days. ‡ Mean for 29 days.

By each of the three estimates of activity, January and February are shown to be the quietest months of the year. The values of ΣR^2 and Σr^2 for May emphasise the highly disturbed conditions which prevailed on several days of that month. The mean character figure and the mean value of Σr^2 were higher, while the mean value of ΣR^2 was lower, in 1921 than in 1920. The monthly means of ΣR^2 and of Σr^2 for January to April and July to September were less in 1921 than in the corresponding months of 1920.

The mean values of ΣR^2 and of the daily means of Σr^2 on days to which the different magnetic character figures have been assigned are shown in Table VI.

TABLE VI.

Month.	"0" Days.		"1" Days.		"2" Days.	
	$\frac{\Sigma R^2}{100}$.	$\frac{\Sigma r^2}{100}$.	$\frac{\Sigma R^2}{100}$.	$\frac{\Sigma r^2}{100}$.	$\frac{\Sigma R^2}{100}$.	$\frac{\Sigma r^2}{100}$.
1921.	γ^2	γ^2	γ^2	γ^2	γ^2	γ^2
January	36	1·9	138	6·4	275	11·8
February	37	1·6	133	6·8	—	—
March	43	1·5	171	8·2	472	26·5
April	85	2·5	240	10·6	471	26·4
May	79	2·7	236	10·2	5001	406·5
June	82	2·3	214	10·0	327	14·7
July	92	2·8	159	7·0	248	12·9
August	83	2·5	187	8·6	272	15·5
September	61	1·7	152	6·3	717	40·6
October	58	2·3	209	10·2	836	33·7
November	33	1·3	188	8·6	1018	49·0
December	31	1·6	140	8·5	546	38·5
Year 1921	60	2·1	181	8·5	926	61·5
„ 1920	78	2·6	242	11·4	1262	67·5
„ 1919	81	2·6	293	15·0	1644	103·8

The annual means given in the above table are the means of the monthly means. It is seen that on all classes of day the annual means of ΣR^2 and of Σr^2 were smaller in 1921 than in either 1920 or 1919. For "0" days in eleven months of 1921 the mean values of ΣR^2 and of Σr^2 were less than the corresponding quantities in 1920.

The monthly means of daily values of the ratio of ΣR^2 to the mean value of Σr^2 are given in Table VII.

TABLE VII.—*Monthly Means of Daily Values of* $\dfrac{R_N^2 + R_W^2 + R_V^2}{\frac{1}{24}\sum_1^{24}(r_n^2 + r_w^2 + r_v^2)}$

Month.	All Days.	"0" Days.	"1" Days.	"2" Days.
1921.				
January	20·7	20·1	21·5	23·2
February	23·8	25·6	21·0	—
March	24·6	30·5	21·3	18·7
April	28·8	36·7	24·0	22·6
May	26·5	33·6	24·8	18·0
June	29·8	36·6	21·7	23·4
July	29·0	35·2	24·8	22·8
August	28·4	36·7	23·1	18·2
September	31·7	39·6	25·7	18·6
October	24·4	27·3	21·6	26·0
November	24·4	26·8	22·5	20·8
December	19·0	21·2	17·4	14·4
Year 1921..	25·9	30·8	22·5	20·6
„ 1920..	28·2	32·3	23.0	19·5
„ 1919..	26·6	34·0	22·8	18·8

3*a*. *Daily Variation* of Σr^2.—This was referred to in the *Review* for 1920 and the same method of examination has been adopted again. The data used refer to the five international quiet days of each month,* and the mean values of Σr^2 for the hour periods centred at exact hours G.M.T. are given for the months, seasons and year in Table VIII.

TABLE VIII.—*Daily Variation of* Σr^2.

Means of Σr^2 *for International Quiet Days for months and seasons,* 1921.

Unit $1\gamma^2$.

Months and Seasons.	oh	1	2	3	4	5	6	7	8	9	10	11	Noon	13	14	15	16	17	18	19	20	21	22	23	Midt.	Mean
J.	207	179	101	128	113	271	88	116	101	122	62	74	65	132	116	107	186	213	95	101	157	43	47	335	150	130
F.	37	25	40	52	37	25	10	23	32	132	93	122	78	69	81	55	13	80	45	93	51	68	44	18	22	55
M.	129	76	30	126	136	91	25	84	98	140	68	190	162	210	83	138	113	116	59	54	72	49	74	143	103	102
A.	148	333	273	61	128	85	78	138	194	315	161	225	355	256	194	158	125	131	181	74	106	303	166	109	161	179
M.	490	141	125	174	107	82	91	83	96	144	149	406	283	214	176	200	221	270	133	103	94	71	212	70	79	164
J.	225	309	127	118	121	46	55	131	115	206	339	264	382	349	264	237	210	130	210	102	84	108	41	54	163	175
J.	132	148	162	119	96	163	142	110	102	219	222	323	279	266	260	339	295	369	123	173	244	320	110	122	152	202
A.	324	118	57	86	88	87	124	113	134	179	156	406	443	200	181	230	110	122	112	82	83	104	89	277	416	165
S.	297	118	21	26	23	23	27	72	127	115	98	219	219	62	77	96	100	164	88	48	100	124	180	336	134	112
O.	69	68	64	60	36	62	90	65	106	183	168	312	203	221	90	105	67	42	107	87	503	297	133	90	85	135
N.	28	36	94	41	29	37	19	21	47	64	97	143	217	77	72	51	39	75	20	50	120	111	30	86	84	68
D.	88	92	114	48	30	19	30	37	17	42	20	52	44	35	52	40	28	22	43	38	45	75	45	16	62	44
Y.	181	137	101	87	79	83	65	83	97	155	136	228	227	174	137	146	126	145	101	84	138	139	98	138	134	127
W.	90	83	87	67	52	88	37	49	49	90	68	98	101	78	80	63	67	97	51	71	93	74	41	114	79	74
Eq.	161	149	97	68	81	65	55	90	131	188	124	237	235	187	111	124	101	113	109	66	195	193	138	169	121	132
S.	293	179	118	124	103	95	103	109	112	187	217	350	347	257	220	251	209	223	145	115	126	151	113	131	203	176

* Owing to defective record the following substitutions for international quiet days were made:—January 3rd and 28th instead of 13th and 14th; June, 2nd instead of 5th; October, 20th instead of 3rd.

The daily variation is of a very irregular character and it is only in the seasonal and annual means that any semblance of regularity appears. The mean daily variation for winter 1921 is more irregular than that found in 1920. The equinox and summer means show a principal maximum near midday, a secondary maximum in the late evening or near midnight, and minima in the early morning and in the evening.

Harmonic analysis of the mean daily variation for each season and for the year yields the following values of the amplitudes of the first four terms :—

	P_1	P_2	P_3	P_4
	γ^2	γ^2	γ^2	γ^2
Winter	9	14	6	5
Equinox	35	59	11	3
Summer	83	61	5	30
Year	41	43	5	13

The relative importance of the 24-hour term in summer is much less marked than in 1920.

4. *Diurnal Inequalities.*—Diurnal inequalities have been calculated for (1) five international quiet days, (2) five selected disturbed days, and (3) all days for each month. The details are contained in Tables XLIX to LX*f*. The inequalities for the year for international quiet and selected disturbed days are shown in Plates II and III.

(*a*) Ranges.—The annual inequality range in each of the three components and for all classes of day was less than in the preceding five or six years, and the same may be said of the ranges of the seasonal inequalities for " all days."

For quiet days the seasonal ranges were less than in 1920, with the exception of the north component range in winter ; and, with the same exception and apart also from the vertical component range in winter 1919, the 1921 ranges were the smallest of the period 1916–21.

The effect of the large disturbances in May, 1921, was to make the ranges of the inequalities for selected disturbed days the largest for any month of that name in the period 1915–21. With the exception of the north component in winter the ranges of the winter and equinox disturbed day inequalities were less than in the preceding four or five years.

(*b*) Harmonic Coefficients.—For all and for quiet days the amplitudes of the 24-hour and 12-hour terms were, in the majority of cases, smaller than in the preceding four or five years.

For disturbed days c_1 for the north component was greater than in 1920 for the year, equinox and summer, and the value of α_1 for summer was appreciably larger than in 1920. Save in summer the values of c_1 for the west and vertical components were smaller than in the four or five preceding years. The value of c_1 for the west component in summer was the highest for that season during the period 1915–21. With the exception of the west component in equinox the values of c_2 were smaller than in the few preceding years.

5. *Daily Range.*—The values of mean absolute daily range for the months and seasons of the year, together with the means for 1911–20 are given in Table IX, and the ranges are also expressed as percentages of the mean absolute daily range for the year.

TABLE IX.—*Absolute Daily Range. Mean Monthly Values.*

Month.	Mean Absolute Daily Range.						Mean Daily Range expressed as Percentage of Yearly Mean.					
	1921.			Mean, 1911–20.*			1921.			Mean, 1911–20.*		
	N.	W.	V.	N.	W.	V.	N.	W.	V.	N.	W.	V.
	γ	γ	γ	γ	γ	γ	%	%	%	%	%	%
January . .	51	57	22	60	63	33	65	72	52	75	82	73
February . .	49	58	22	65	69	37	62	74	52	81	90	82
March . . .	75	80	37	87	87	55	95	101	88	108	113	122
April . . .	91	88	44	92	83	54	116	111	104	114	108	120
May . . .	172	146	113	90	77	49	218	185	268	112	100	109
June . . .	80	76	38	84	81	40	102	96	90	104	105	89
July . . .	78	75	35	84	79	45	99	95	83	104	102	100
August . . .	79	76	41	99	88	54	100	96	97	123	114	120
September . .	74	72	39	93	85	52	94	91	93	116	110	116
October . .	74	80	42	87	86	52	94	101	100	108	112	116
November . .	64	74	40	65	65	36	81	93	95	81	84	80
December . .	58	67	35	59	62	33	74	85	83	74	80	73
Winter . . .	55	64	30	62	65	35	70	81	71	78	84	77
Equinox . .	79	80	41	90	85	53	100	101	97	111	111	118
Summer . .	102	93	57	89	81	47	130	118	135	111	105	105
Year . . .	79	79	42	80	77	45	..	..	..	..	..	..

* For V: omitting July, November, December, 1912, and January to July, 1913.

The mean ranges in N, W, and V for the year, winter and equinox were less than in 1920. The unusually high mean ranges for May dominate the means for the summer, making the latter exceed the means for equinox. Together with those of August, 1917, the ranges for May, 1921, are the highest since January, 1911.

The lowest absolute range in each month occurred on the following days:—January 22nd, February 12th, March 20th, April 1st, May 7th, June 18th, July 31st, August 29th, September 25th, October 13th, November 26th, December 20th. On the two latter days the ranges in N, W, and V were 19γ, 11γ, 6γ and 16γ, 11γ, 8γ, respectively.

The frequency distribution of ranges recorded during the year is given in Table X.

TABLE X.—*Frequency Distribution of Absolute Daily Range.*

Range γ	No. of Cases, 1921.			Percentage Distribution.					
				North.		West.		Vertical.	
	N.	W.	V.	1921.	1911–20.	1921.	1911–20.	1921.	1911–20.
0–9	0	0	20	0·0	0·0	0·0	0·0	5·5	5·8
10–19	5	5	83	1·4	3·0	1·4	2·1	23·0	18·4
20–29	20	8	100	5·6	5·7	2·2	5·2	27·7	23·7
30–39	31	25	46	8·6	7·8	7·0	7·7	12·7	15·0
40–49	39	42	28	10·9	10·4	11·7	12·0	7·8	9·2
50–59	58	56	21	16·2	13·3	15·5	13·3	5·8	5·0
60–69	52	60	16	14·5	13·3	16·7	13·3	4·4	4·7
70–79	33	43	12	9·2	9·2	12·0	11·6	3·3	3·4
80–89	32	20	10	8·9	8·0	5·6	8·0	2·8	2·5
90–99	22	29	6	6·1	5·8	8·1	6·4	1·7	2·2
100–109	19	15	1	5·3	5·3	4·2	4·8	0·3	1·1
110–119	8	10	3	2·2	3·8	2·8	3·0	0·8	1·1
120–129	8	8	2	2·2	2·8	2·2	2·3	0·6	0·9
130–139	7	10	1	1·9	2·5	2·8	1·7	0·3	0·9
140–149 .. .	3	7	0	0·8	1·4	2·0	2·0	0·0	0·7
150–159	0	5	2	0·0	1·2	1·4	1·0	0·6	0·7
160–169	3	3	1	0·8	1·0	0·8	0·7	0·3	0·5
170–179	3	2	0	0·8	0·9	0·6	1·0	0·0	0·5
180–189	1	1	1	0·3	0·9	0·3	0·7	0·3	0·5
190–199	2	0	2	0·6	0·4	0·0	0·6	0·6	0·3
200 and above ..	13	9	6	3·6	3·4	2·5	2·4	1·7	2·9
Days omitted ..	6	7	4	..	..	..	..	..	..

For the north and west components there was a tendency for the most frequently recorded ranges to be slightly smaller than in 1920. For the vertical component the concentration in the intervals 10–19γ and 20–29γ was appreciably higher than in 1920. The number of days in 1921 on which the range of either horizontal component exceeded 159γ was 27 as compared with 36 and 55 such days in 1920 and 1919, respectively.

6. *Principal Magnetic Storms during* 1921.—Table XI gives particulars of the principal storms recorded during the year. The magnetograms for the most highly disturbed days are not published in this volume, but photographic copies may be obtained on application to the Director, Meteorological Office, Air Ministry, Kingsway, London, W.C.2.

TABLE XI.—*Principal Magnetic Disturbances Recorded at Eskdalemuir*, 1921.

Where the beginning of a disturbance has been marked by a "sudden commencement," the serial number is followed by an asterisk (*), and the time entered in the second column is that of the sudden commencement, estimated to the nearest minute. In other cases, the exact hour nearest the time at which disturbance may be regarded as having begun is entered in the second column. To the tabulated values of maximum and minimum the following have to be added :—

N, 15000γ ; W, 4000γ ; V, 44000γ.

No.	From.	To.	North Component.					West Component.					Vertical Component.				
			Max.	Time.	Min.	Time.	Range.	Max.	Time.	Min.	Time.	Range.	Max.	Time.	Min.	Time.	Range.
	d h m	d h	γ	d h m	γ	d h m	γ	γ	d h m	γ	d h m	γ	γ	d h m	γ	d h m	γ
1*	Mar.21 15 36	Mar. 23 2	1058	21 16 26	915	22 11 50	143	912	21 16 25	742	22 0 42	170	1107	21 18 5	993	22 5 55	114
2	,, 27 4	,, 27 24	1137	27 20 39	918	27 20 59	219	827	27 12 48	713	27 20 33	114	1083	27 18 42	1013	27 20 48	70
3	,, 29 0	,, 30 2	1085	29 20 34	915	29 10 27	170	860	29 2 16	702	29 20 28	158	1070	29 18 14	992	29 2 32	78
4	Apr.12 2	Apr. 14 4	1045	12 15 50	868	13 5 25	177	855	12 15 49	733	13 8 3	122	..	..	..	..	..§
5*	,, 18 14 35	,, 19 10	1077	18 19 22	988	18 17 17	89	882	18 14 39	732	19 7 42	150	1061	18 20 8	1033	19 2 4	28
6	,, 20 6	,, 22 8	1115	21 18 35	909	21 5 12	206	882	21 5 35	744	21 18 30	138	1103	20 17 55	994	21 5 48	109
7*	,, 28 19 29	,, 29 24	1113	29 17 13	887	29 9 50	226	914	29 15 48	711	29 17 8	203	>1250†	16 –– 17 ––	1056	29 8 40	>194
8	May12 2	May 12 24	1052	12 7 11	856	12 8 51	196	826	12 16 14	611	12 8 50	215	1119	12 16 30	1046	12 10 40	73
9*	,, 13 13 12	,, 17 10	1200	14 22 59	<504	15 {0 1 / 7 40}	>696	953	13 19 39	<322	15 {2 0 / 6 50}	>631	>1234	15 {6 10 / 7 20}	<686	13 {21 40 / 22 10}	>548
																{14 23 50 / 15 5 30}	
10*	,, 19 20 6	,, 20 10	1223	19 23 12	723	19 23 42	500	871	19 23 27	521	19 23 6	350	1114	19 20 35	859	19 23 40	255
11*	,, 20 14 37	,, 21 22	1117	20 18 3	907	21 7 45	210	943	20 16 45	719	21 1 48	224	1172	20 19 25	1015	21 3 2	157
12*	June 3 20 16	June 5 5	‡1071	3 20 20	‡952	4 14 51	‡119	832	4 13 46	731	4 1 29	101	1111	4 18 10	1065	4 1 12	46
13*	July 6 14 0	July 7 24	1069	6 22 12	947	7 13 10	122	849	7 15 3	746	7 4 8	103	1108	7 17 34	1052	7 10 43	56
14*	Aug. 4 17 35	Aug. 7 18	1063	4 17 41	929	5 9 32	134	815	5 13 28	714	5 0 30	101	1095	6 16 18	1030	6 3 2	65
15*	,, 26 1 17	,, 27 24	1069	27 19 24	948	26 12 0	121	849	26 14 48	735	27 5 40	114	1103	26 18 24	1047	26 11 16	56
16	,, 30 10	,, 31 9	1074	30 18 23	950	30 14 30	124	823	30 13 59	690	30 22 31	133	1109	30 18 16	999	31 0 38	110
17	Sept. 1 22	Sept. 2 22	1073	2 15 21	854	2 9 18	219	827	2 10 1	675	2 19 52	152	1154	2 16 3	968	2 {4 58 / 5 2}	186
18	,, 28 11	,, 30 8	1084	29 19 14	936	29 11 48	148	812	28 13 35	642	29 19 6	170	1133	28 19 51	939	29 2 0	194
19	Oct. 7 14	Oct. 9 9	1052	8 3 45	819	8 8 55	233	825	8 5 20	665	7 19 58	160	1147	8 11 19	986	8 3 21	161
20	,, 11 8	,, 12 10	1036	12 2 0	895	11 23 30	141	798	11 {13 52 / 14 55}	621	11 23 33	177	1147	11 16 19	963	12 1 40	184
21	Nov. 5 16	Nov. 7 6	1061	5 22 20	933	6 10 3	128	791	5 16 30	624	5 23 0	167	1128	6 15 3	1015	5 24 0	113
22	,, 15 19	,, 18 24	1057	16 20 26	851	16 20 39	206	822	16 20 30	587	16 21 20	235	1159	16 19 44	941	17 1 32	218
23	Dec.11 16	Dec. 14 6	1091	12 4 50	918	13 13 17	173	800	12 4 35	623	13 16 30	177	1098	13 13 41	999	12 5 28	99
24	,, 27 22	,, 30 8	1060	28 19 0	898	28 23 45	162	821	28 4 33	649	28 23 6	172	1094	28 18 47	977	28 5 39	117

† See *Geophysical Journal*, 1921, p. 21. ‡ N trace failed after 4d. 15h. § Light failed 1h.–10h., 13th.

ATMOSPHERIC ELECTRICITY :—NOTES ON THE TABLES OF POTENTIAL GRADIENT.

At both Kew and Eskdalemuir Observatories potential gradient is determined by means of the Kelvin water-dropping apparatus.

The method of standardizing the records so as to give potential gradient in the open is explained in *Hourly Values*, 1916.

The factors used in the reduction are shown month by month in the *Geophysical Journal*, Tables 5 and 6, where gradient values for four hours a day are set out.

The data utilised in the preparation of the tables (page 49) are mean values for periods of 60 minutes centered at the hours of Greenwich Mean Time. Means for the selected days of each month are found and from these the mean for the month (given in the last column of the tables) is computed. The departures from this mean are corrected for the non-cyclic change before being entered in the appropriate table.

The electrograph at Kew Observatory was moved from the main building at the end of May, 1915. A discussion of the effects of this removal will be found in *Hourly Values*, 1916. The method of testing the insulation of the electrograph at Eskdalemuir is described in *Hourly Values*, 1917.

For Kew Observatory (Table A) the inequalities and the mean Monthly and Annual Values are based on the curves of quiet days, selected from those entirely free from negative potential. Other considerations in the selection of quiet days are freedom from large irregular movements, absence of indications of inferior insulation in the electrograph, and the avoidance so far as possible of large non-cyclic changes. The selected quiet days numbered 10 in each month. The mean value of potential gradient for the year, 281v/m, is the lowest recorded for a number of years; it may be accounted for by the unusual purity of the atmosphere during the months of the coal strike, viz., April, May and June (Proc. R. Soc. A. Vol. 105, p. 315).

Tables B and C give the corresponding inequalities for Eskdalemuir, the former table for 0a days: the latter for 1a and 2a days combined. The explanation of these symbols is as follows :—

0, denotes a day during which from midnight to midnight no negative potential was recorded.

1, denotes one or more excursions of limited duration to the negative side of the scale.

2, denotes negative potential extending in the aggregate over 3 hours or more.

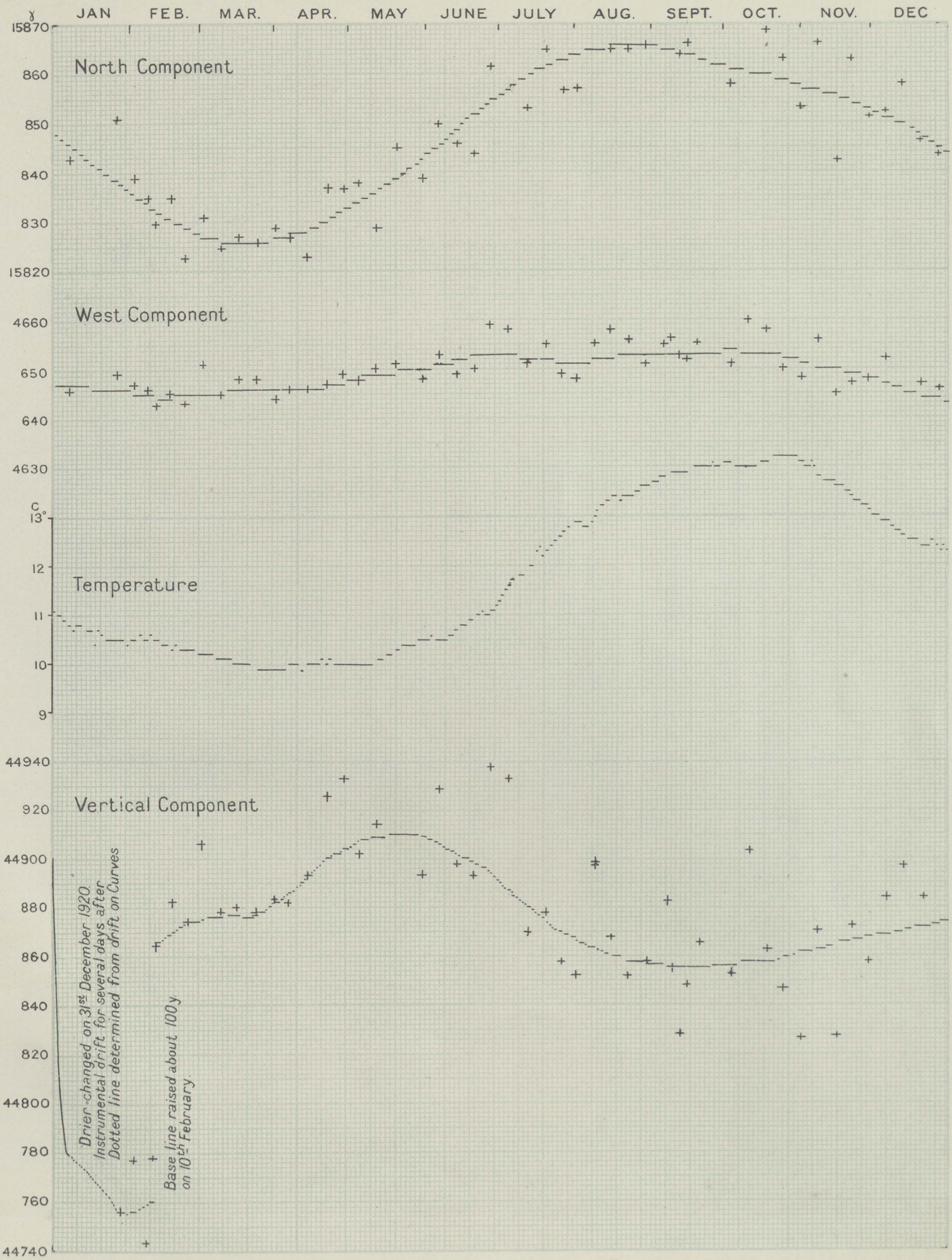
" a," denotes that within the 25 periods of 60 minutes for which an estimate of the mean potential gradient has to be made in the process of tabulation there was in no case a range of potential gradient in the open exceeding 1000 volts.

In forming these inequalities for Eskdalemuir, only those days were used on which all the 24 hours were available. The number of days employed in the several months in these two tables is specified, being highly variable.

Printed by H.M.S.O. Press, Harrow.

Plate I.

ESKDALEMUIR MAGNETOGRAPHS: BASE VALUES 1921.



H.M. Stationery Office Press, Kingsway W.C.2.

P.S. 18493. Wt. 6232 A. D 12037. 1146. 375. 1/26.

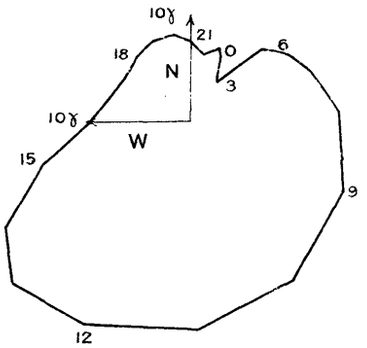
Plate II.

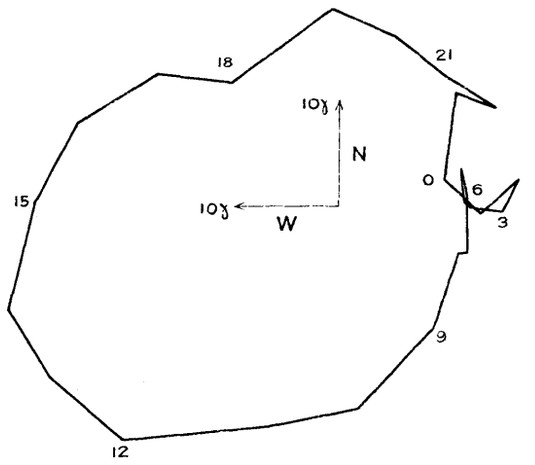
Vector Diagrams Illustrating Diurnal Variation in Magnetic Force on Quiet Days and Disturbed Days. Eskdalemuir 1921.

QUIET DAYS.

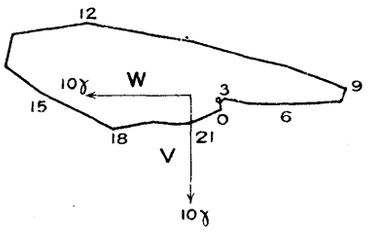
DISTURBED DAYS.

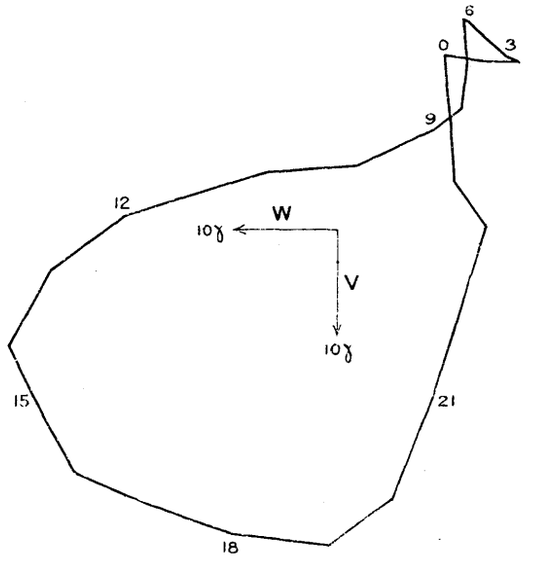
Horizontal Components.



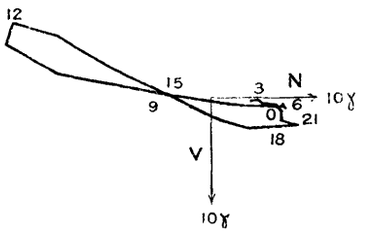


Prime Vertical Components.





Meridian Components.



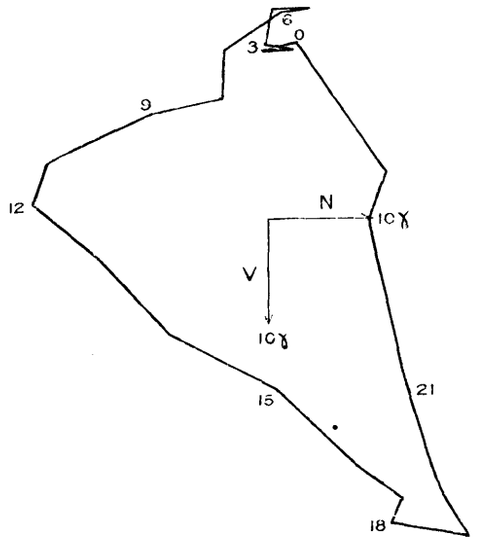


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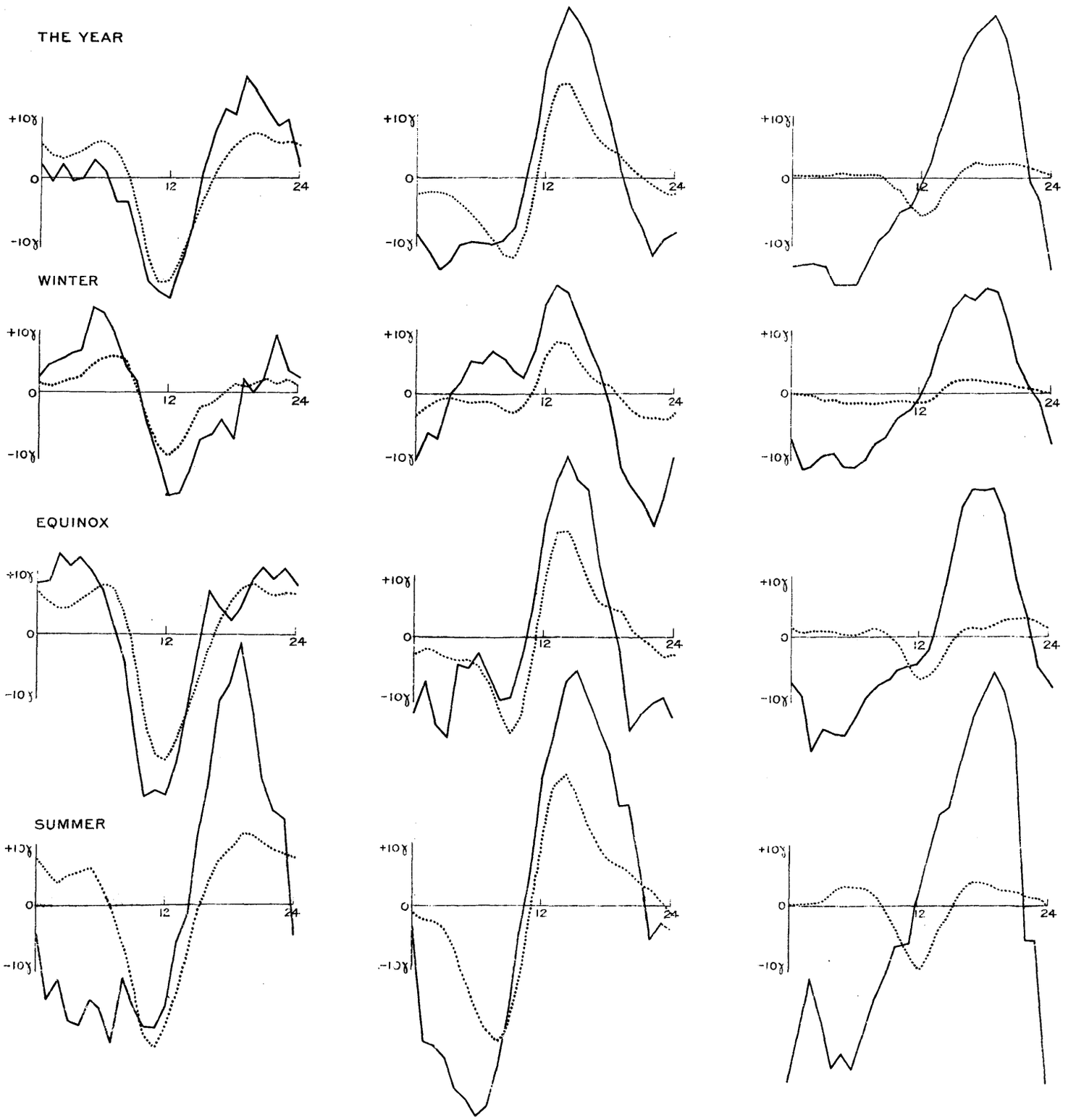
Plate III.

Diurnal Variation in the Components of Magnetic Force on Quiet and Disturbed Days, Eskdalemuir 1921.

(The Year and the Seasons.)

QUIET DAYS Dotted lines ..... DISTURBED DAYS Continuous lines. _____

North Component. West Component. Vertical Component.



Scales, Force, 1mm. = 1γ. Time, 2 mm. = 1 hr.

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