MAGNETIC OBSERVATIONS AT MAURITIUS, MAY 28-30, 1919.

By A. WALTER, *Director*.

In accordance with Dr. Bauer's circular letter of February 19, 1919, there are submitted the results of magnetic and meteorological observations made at the Royal Alfred Observatory, Mauritius, in connection with the solar eclipse of May 29, 1919, which it is hoped will be found serviceable. [Five-minute values of D (declination), H (horizontal intensity), and Z (vertical intensity), from 10^h to 16^h 30^m, G. M. T., were supplied for May 27, 28, 29, 30, and 31. Tables 1, 2, 3, and 4 were derived from these data. *Geographic coordinates*: Latitude 20° 05' .6 S N.; longitude, 57° 33' .2 or 3^h 50^m .2 E. —*Ed.*]

TABLE 1.—*Five-minute values of D, May 28-30, 1919.*

[$D = W 10^\circ + \text{tab. quantity}$; $N = \text{mean of May 28 and 30}$; $29 = \text{May 29.}$]

G.M.T.	10 ^h		11 ^h		12 ^h		13 ^h		14 ^h		15 ^h		16 ^h	
	N	29	N	29	N	29	N	29	N	29	N	29	N	29
^m														
00	7.6	6.9	6.0	5.5	6.4	5.5	8.0	7.5	9.2	9.1	9.4	9.5	9.9	9.3
05	7.3	6.9	6.0	5.6	6.5	5.9	8.0	7.7	9.3	9.4	9.7	9.5	9.9	9.3
10	7.1	6.9	6.0	5.5	6.6	6.1	8.2	8.1	9.4	9.4	9.7	9.6	10.0	9.3
15	6.9	6.8	6.0	5.3	6.7	6.2	8.4	8.3	9.4	9.4	9.7	9.6	10.0	9.3
20	6.7	6.8	6.0	5.3	6.8	6.2	8.6	8.4	9.4	9.4	9.8	9.6	10.0	9.3
25	6.6	6.8	6.0	5.3	7.0	6.3	8.8	8.5	9.5	9.4	9.8	9.6	10.0	9.3
30	6.4	6.7	6.0	5.3	7.1	6.5	8.8	8.6	9.5	9.4	9.8	9.6	10.0	9.3
35	6.4	6.5	6.1	5.3	7.3	6.8	8.9	8.7	9.5	9.4	9.8	9.5	....	....
40	6.3	6.3	6.1	5.3	7.4	6.9	9.0	8.8	9.5	9.4	9.9	9.5	....	....
45	6.2	6.1	6.1	5.4	7.4	7.0	9.1	8.9	9.5	9.5	9.9	9.5	....	....
50	6.2	5.9	6.2	5.5	7.5	7.1	9.2	9.0	9.5	9.5	9.9	9.4	....	....
55	6.0	5.7	6.3	5.5	7.6	7.3	9.2	9.1	9.4	9.5	9.9	9.4	....	....

TABLE 2.—*Five-minute values of H, May 28-30, 1919.*

[$H = 23050\gamma + \text{tab. quantity}$; $N = \text{mean of May 28 and 30}$; $29 = \text{May 29.}$]

G.M.T.	10 ^h		11 ^h		12 ^h		13 ^h		14 ^h		15 ^h		16 ^h	
	N	29	N	29	N	29	N	29	N	29	N	29	N	29
^m	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
00	72	70	66	65	62	61	64	57	63	59	60	58	61	57
05	72	70	67	65	62	61	64	57	63	59	60	58	61	57
10	72	70	66	65	63	61	65	57	63	59	60	58	61	56
15	71	70	66	65	63	60	64	58	63	58	60	58	61	55
20	71	70	65	64	63	59	64	58	62	58	60	58	61	55
25	70	70	65	64	64	59	63	58	62	59	60	58	61	55
30	70	70	64	64	64	58	63	58	62	59	61	58	61	54
35	69	70	64	64	64	58	64	59	62	58	60	58	..	..
40	68	70	64	64	64	58	64	59	61	58	61	58	..	..
45	68	70	63	63	64	58	63	59	61	59	61	58	..	..
50	67	69	63	62	64	57	64	59	61	59	61	58	..	..
55	66	67	62	62	64	57	63	59	61	58	61	58	..	..

TABLE 3.—Five-minute values of Z , May 28-30, 1919.
 $[Z = -30300\gamma - \text{tab. quantity}; N = \text{mean of May 28 and 30; } 29 = \text{May 29.}]$

G.M.T.	10 ^h		11 ^h		12 ^h		13 ^h		14 ^h		15 ^h		16 ^h	
	N	29	N	29	N	29	N	29	N	29	N	29	N	29
m	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ	γ
00	44	57	47	56	53	56	60	63	65	66	66	67	67	67
05	44	56	47	56	54	56	61	63	65	66	66	67	67	67
10	44	56	48	56	54	57	61	63	65	66	67	67	67	67
15	44	56	48	56	55	58	62	64	66	66	67	67	67	67
20	45	56	49	56	56	58	62	64	66	66	67	67	67	67
25	45	55	50	56	56	59	63	64	66	66	67	67	67	67
30	45	55	50	56	57	59	64	64	66	66	67	67	67	67
35	45	55	51	56	58	60	64	65	66	66	67	67	..	..
40	46	55	51	56	58	61	64	65	66	66	67	67	..	..
45	46	55	51	56	58	61	64	65	66	67	67	67	..	..
50	46	55	52	56	59	62	65	66	66	67	67	67	..	..
55	47	56	52	56	60	62	65	66	66	66	67	67	..	..

TABLE 4.—Five-minute values of ΔD , ΔH , and ΔZ .
 $[\Delta D, \text{ or } \Delta H, \text{ or } \Delta Z = N - 29; \text{ West } D \text{ is minus.}]$

G.M.T.	10 ^h			11 ^h			12 ^h			13 ^h			14 ^h			15 ^h			16 ^h			
	ΔD	ΔH	ΔZ	ΔD	ΔH	ΔZ	ΔD	ΔH	ΔZ	ΔD	ΔH	ΔZ	ΔD	ΔH	ΔZ	ΔD	ΔH	ΔZ	ΔD	ΔH	ΔZ	
m		γ			γ			γ		γ				γ			γ		γ			γ
00	+0.7	-2	-13	+0.5	-1	-9	+0.9	-1	-3	+0.5	-7	-3	+0.1	-4	-1	-0.1	-2	0	+0.6	-4	0	
05	+0.4	-2	-12	+0.4	-2	-9	+0.6	-1	-2	+0.3	-7	-2	-0.1	0	-4	-1	+0.2	-2	-1	+0.6	-4	0
10	+0.2	-2	-12	+0.5	-1	-8	+0.5	-2	-3	+0.1	-8	-2	0	0	-4	-1	+0.1	-2	0	+0.7	-5	0
15	+0.1	-1	-12	+0.7	-1	-8	+0.5	-3	-3	+0.1	-6	-2	0	0	-5	0	+0.1	-2	0	+0.7	-6	0
20	-0.1	-1	-11	+0.7	-1	-7	+0.6	-4	-2	+0.2	-6	-2	0	0	-4	0	+0.2	-2	0	+0.7	-6	0
25	-0.2	0	-10	+0.7	-1	-6	+0.7	-5	-3	+0.3	-5	-1	+0.1	-3	0	+0.2	-2	0	+0.7	-6	0	
30	-0.3	0	-10	+0.7	0	-6	+0.6	-6	-2	+0.2	-5	0	+0.1	-3	0	+0.2	-3	0	+0.7	-7	0	
35	-0.1	+1	-10	+0.8	0	-5	+0.5	-6	-2	+0.2	-5	-1	+0.1	-4	0	+0.3	-2	0	.....	.....	.....	
40	0.0	+2	-9	+0.8	0	-5	+0.5	-6	-3	+0.2	-5	-1	+0.1	-3	0	+0.4	-3	0	.....	.....	.....	
45	+0.1	+2	-9	+0.7	0	-5	+0.4	-6	-3	+0.2	-4	-1	0	0	-2	-1	+0.4	-3	0			
50	+0.3	+2	-9	+0.7	-1	-4	+0.4	-7	-3	+0.2	-7	-1	0	0	-2	-1	+0.5	-3	0			
55	+0.3	+1	-9	+0.8	0	-4	+0.3	-7	-2	+0.1	-6	-1	-0.1	-3	0	+0.5	-3	0	.....	.....	.....	

MAGNETIC OBSERVATIONS AT DEHRA DUN, MAY 28-30, 1919.

BY CAPTAIN E. C. T. BOND, *Officer-in-Charge.*

In response to the co-operation requested by the Department of Terrestrial Magnetism for special simultaneous magnetic observations during the solar eclipse of May 29, 1919, I have the honor to forward abstracts of the declination, horizontal force, vertical force, and dip observations taken at the Dehra Dun Observatory, India, on the 28th, 29th, and 30th, May, 1919, in accordance with the published program. It will be observed that no unusual changes occurred in the magnetic elements during the observations; I hope, however, that these observations will be of use in the investigation of the effects of the eclipse on the Earth's magnetism.

The *geographic position* of the Observatory is: Latitude, $30^{\circ} 19'.3 \text{ N.}$; longitude, $78^{\circ} 03'.3$ or $5^{\text{h}} 12^{\text{m}}.2 \text{ E.}$

Meteorological Notes.—*May 28:* Calm atmosphere and clear sky in the forenoon; sultry afternoon with cloudy sky. *May 29:* Clear sky and calm atmosphere throughout the day; sultry in the afternoon. *May 30:* Cloudy sky throughout the day; sultry p. m.