

GOVERNMENT NOTIFICATION.—No. 135.

The following Report from the Director of the Observatory is published for general information,
By Command,

FREDERICK STEWART,
Colonial Secretary.

Colonial Secretary's Office, Hongkong, 31st March, 1888.

HONGKONG OBSERVATORY.

Magnetic Observations made during the year 1887.

The observations of Declination and Horizontal Force were made with the Unifilar Magnetometer, Elliott Brothers No. 55, and the Dips were observed with Dip-circle, Dover No. 71.

The methods adopted in making the observations and in determining and applying the corrections are explained in *Appendix G. of Obs. and Res. made in 1885*: "On the verification of the Unifilar Magnetometer Elliott Brothers, No. 55." The value of $\log. \pi^2 K$ was 3.44959, at 20° Cent. and the value of P was + 8.819. The mean value of the magnetic moment of the vibrating needle was 0.48980 in English Units and 639.47 in C.G.S. Units.

The times of vibration exhibited in the table are each derived from 12 observations of the time occupied by the magnet in making 100 vibrations, corrections having been applied for rate of chronometer and arc of vibration.

The observations of Horizontal Force are expressed in C.G.S. Units (one centimeter, one gramme, one second) but the monthly synopsis exhibits X, the Horizontal, as well as Y, the Vertical, and the Total Forces, which have been computed by aid of the observed Dips, and their values are also given in English Units (one foot, one grain, one second) and in Gauss's Units (one millimeter, one milligramme, one second).

The mean of the observations made during the past four years give for the 1st January 1886 the following mean values for the different elements: Declination (East) = 0°44'19", Dip (North) = 32°25'15", Horizontal Force = 7.8204 (British Units) = 0.36059 (C.G.S. Units).

OBSERVATIONS OF MAGNETIC DECLINATION AND DIP.

1887.	H.K.M.T.	Declination, East.	Observer.	H.K.M.T.	Dip, North.	Needle.	Observer.
January,	14 ^d 2 ^h 43 ^m p.	0° 43' 36"	F.G.F.	14 ^d 3 ^h 41 ^m p.	32° 24'.12	No. 1	F.G.F.
February,	14 2 45 p.	0 41 50	"	15 3 5 p.	23.23	2	"
March,	15 2 49 p.	0 42 34	M.A.	4 20 p.	23.81	1	M.A.
April,	16 2 59 p.	0 42 46	"	14 3 40 p.	23.77	2	"
May,	16 2 38 p.	0 41 0	F.G.F.	4 35 p.	22.05	1	"
June,	15 2 21 p.	0 41 11	M.A.	14 3 5 p.	22.58	2	"
July,	16 2 36 p.	0 42 50	F.G.F.	3 45 p.	19.75	1	"
August,	17 2 38 p.	0 42 30	M.A.	16 3 16 p.	22.25	2	"
September,	14 2 45 p.	0 40 28	F.G.F.	4 11 p.	23.08	1	"
October,	15 2 19 p.	0 41 48	M.A.	15 3 16 p.	24.98	2	"
November,	15 2 37 p.	0 42 0	F.G.F.	4 12 p.	23.71	1	"
December,	14 2 28 p.	0 42 54	"	16 2 50 p.	25.50	2	"
				3 42 p.	25.78	5	"
				14 3 6 p.	20.62	6	"
				3 55 p.	24.71	1	"
				17 3 37 p.	20.38	2	"
				3 58 p.	19.77	1	"
				16 3 35 p.	20.54	2	"
				15 3 5 p.	23.12	1	F.G.F.
				3 49 p.	21.85	2	"
				16 3 32 p.	20.57	1	M.A.
				22.48	22.48	2	"
				20.33	22.83	1	F.G.F.
				22.26	20.33	2	"
				21.25	22.26	1	"
					21.25	2	"

OBSERVATIONS OF HORIZONTAL MAGNETIC FORCE.

DATE. 1887.	H.K.M.T.	Time of one Vibra- tion.	Tem- perature, Cent.	Logm X.	Value of m.	H.K.M.T.	Distance in Centi- meters.	Tem- perature, Cent.	Deflec- tion.	Log \bar{X} Mean.	Value of X.	Obser- ver.
January 15,...	3 ^h 13 ^m p.	3.4860	18° 0	2.36582	643.62	3 ^h 47 ^m p.	30 40	17° 5	7° 37' 17"	3.25143	0.36074	F.G.F.
February 14,...	3 7 p.	3.4883	20 .9	2.36575	642.82	3 36 p.	30 40	20 .8	3 11 33 7 36 1	3.25042	0.36112	"
March 16,...	2 31 p.	3.4859	17 .1	2.36584	642.57	3 47 p.	30 40	16 .9	3 10 40 7 36 17	3.25000	0.36134	M.A.
April 15,...	3 10 p.	3.4933	27 .7	2.36580	642.83	4 25 p.	30 40	25 .5	3 10 47 7 34 52	3.25040	0.36116	"
May 14,...	3 6 p.	3.4940	26 .5	2.36540	641.99	3 33 p.	30 40	25 .2	3 10 23 7 33 51	3.24966	0.36130	F.G.F.
June 14,...	3 9 p.	3.4991	29 .6	2.36469	641.26	4 15 p.	30 40	28 .7	3 10 12 7 32 6	3.24937	0.36113	M.A.
July 15,...	2 12 p.	3.5026	30 .7	2.36392	639.59	3 18 p.	30 40	29 .3	3 10 5 7 30 56	3.24787	0.36143	"
August 16,...	2 35 p.	3.5046	26 .2	2.36278	638.41	3 40 p.	30 40	25 .6	3 9 11 7 31 7	3.24742	0.36114	"
September 14,...	3 13 p.	3.5108	31 .0	2.36224	636.97	3 52 p.	30 40	29 .5	3 9 19 7 28 56	3.24600	0.36151	F.G.F.
October 14,...	2 44 p.	3.5141	30 .5	2.36146	635.97	3 39 p.	30 40	28 .6	3 8 20 7 28 27	3.24542	0.36143	M.A.
November 14,...	2 49 p.	3.5135	25 .3	2.36048	634.36	3 25 p.	30 40	24 .1	3 8 11 7 28 6	3.24418	0.36153	F.G.F.
December 14,...	3 5 p.	3.5142	20 .6	2.35930	633.26	3 33 p.	30 40	19 .8	3 8 0 7 28 40	3.24386	0.36117	"

RESULTS OF MAGNETIC OBSERVATIONS IN 1887.

Month. 1887.	Declina- tion, East.	Dip, North.	MAGNETIC FORCE.								
			ENGLISH UNITS.			METRIC UNITS.			C. G. S. UNITS.		
			X	Y	Total Force	X	Y	Total Force	X	Y	Total Force
January,	0° 43' 36"	32° 23' 40"	7.8238	4.9641	9.2657	3.6074	2.2888	4.2723	0.36074	0.22888	0.42723
February,	41 50	23 47	7.8322	4.9696	9.2758	3.6112	2.2914	4.2769	0.36112	0.22914	0.42769
March,	42 34	22 19	7.8368	4.9680	9.2790	3.6134	2.2906	4.2784	0.36134	0.22906	0.42784
April,	42 46	21 0	7.8328	4.9613	9.2720	3.6116	2.2876	4.2751	0.36116	0.22876	0.42751
May,	41 0	24 4	7.8360	4.9729	9.2807	3.6130	2.2929	4.2792	0.36130	0.22929	0.42792
June,	41 11	23 54	7.8322	4.9700	9.2760	3.6113	2.2916	4.2770	0.36113	0.22916	0.42770
July,	42 50	22 33	7.8388	4.9699	9.2816	3.6143	2.2916	4.2796	0.36143	0.22916	0.42796
August,	42 30	20 9	7.8325	4.9584	9.2700	3.6114	2.2862	4.2743	0.36114	0.22862	0.42743
September,	40 28	22 29	7.8404	4.9709	9.2834	3.6151	2.2920	4.2805	0.36151	0.22920	0.42805
October,	41 48	21 32	7.8386	4.9666	9.2796	3.6143	2.2900	4.2787	0.36143	0.22900	0.42787
November,	42 0	21 34	7.8410	4.9681	9.2824	3.6153	2.2907	4.2800	0.36153	0.22907	0.42800
December,	42 54	21 46	7.8332	4.9639	9.2736	3.6117	2.2887	4.2769	0.36117	0.22887	0.42759
Mean,	0° 42' 7"	32° 22' 24"	7.8349	4.9670	9.2766	3.6125	2.2902	4.2773	0.36125	0.22902	0.42773

W. DOBERCK,
Director.

Hongkong Observatory, 19th December, 1887.