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A

British Association for the Advancement of Science.

Circular No. 26, issued by the Seismological Committee, Professor
H. H. TURNER, F.R.S. (Chairman), Mr. JOHN MILNE, F.R.S.,
Shide, Isle of Wight (Secretary).

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I. General Notes on Registers from Similar Horizontal Pendulums (Milne Type).

THE following registers are continuous with those published by the Seismological Investigation Committee in their first twenty-five circulars and in the Reports of the Association, 1896 to 1899.

If observers will kindly send a copy of their register, together with copies of their more important seismograms, to the Secretary of the Seismological Investigation Committee, Shide, Newport, Isle of Wight, England, as early as possible after June 30, and again after December 31 of each year, the interval of time which must elapse before they receive copies of the registers of co-workers in various parts of the world will be considerably reduced.

The time employed is Greenwich mean time (civil), expressed in hours, minutes, and in decimals of minutes. 24 or 0 hours = midnight.

*Amplitude indicates half of the complete range of the maximum motion, and is expressed in millimetres. *Values less than 0.1 millimetre refer to the thickening of the line or minute ripples, and indicate half its width.*

As 1° turn of the calibrating screw in the bed-plate of the instrument causes a tilt of 1".9 (secs. of arc), and as this is accompanied by a measurable displacement of the outer end of the boom, it is easy to determine the angular value corresponding to a 1 millimetre displacement. In each register this quantity should be stated.

Records only obtained at a single station have been excluded.

* In Circulars 1 to 25, 1mm. should read 0.1mm.

II. Registers.

The Register from Shide, Newport, Isle of Wight, England. 50°41'N. 1°17'W.

JOHN MILNE; Assistants, MESSRS. S. HIROTA AND J. H. BURGESS.

The following entries refer to three pendulums, A, B, and C. The pendulums B and C, given to the Shide Observatory by Mr. A. F. Yarrow in 1901, respectively record E.W. and N.S. motion. A records E.W. motion. The records are photographic.

A. With multiplying lever:

Ja. 1 to June 30 18 secs. period. 1mm. amp. = 0".14.

B. Period 18 seconds. 1° turn = 5mm.

C. Jan. 1 to June 30 18 secs. period. 1° turn = 6mm. amp. ca.

Ats. = air tremors. P₂ refers to the commencement of the second phase of motion. d. = duration. a. = amplitude. If this is less than 0.1mm. or with Ats., d. is not given.

No.	Date	Com- mence- men.	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
3137	Jan. 1	H. M.	H. M.	MM.	H. M.	A.B.C.
3138	" 3	—	7 1	0.1	—	A.C. Max. for B. 12-7
3139	" 4	—	12 8	0.1	—	A.
3140	" 4	15 58	4 30.5	0.1	—	A. P ₂ 16-9
			16 40	2.5	4 45	
			16 47	3.0		
3141	" 5	—	3 41	0.2	—	B.C. With Ats.
3142	" 6	—	0 53.5	0.5	—	A. With Ats.
			1 8.5	0.5		
3143	" 8	—	9 27	0.5	—	B. With Ats.
			9 31.5	0.5	—	C. "
3144	" 16	—	11 38	0.1	—	B.
			11 45	0.1		
			11 39	0.1	—	C.
			11 47	0.1		

The Register from Shide, Newport, Isle of Wight, England—continued,

No.	Date	Com. mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
3145	Jan. 16	H. M.	H. M.	MM.	H. M.	
3146	" 19	—	16 43	0.1	—	A.B. Max. for C 16-44.
		—	2 43	0.1	—	A. With Ats.
		—	2 39	0.1	—	B. "
3147	" 20	—	2 42	0.1	—	C. "
		4 21?	5 12.2	1.0	—	A. "
			5 24	1.0	—	
			5 29.5	0.6	—	
		4 21?	5 12.5	0.4	—	B. "
			5 23	0.3	—	
		4 21.5	5 14	0.4	—	C. "
			5 24	0.3	—	
3148	" 21	—	2 29	0.2	—	A.B.C.
3149	" 21	—	3 13	0.1	—	B.C.
3150	" 23	—	20 40	0.1	—	B.
		—	20 38.5	0.1	—	C. A dismantled
3151	" 24	16 28	16 36.5	16.0	3 0	A. P ₂ 16-31.5
3152	" 25	1 46.5	1 54.4	0.5	0 35	A.
		—	1 54.5	0.1	—	B.
3153	" 25	—	1 54.5	0.2	—	C.
		—	20 8.5	2.5	—	A. Beginning lost
		—	20 9	0.5	—	B. changing paper.
3154	" 26	—	20 8	0.5	—	C. End in Ats.
3155	" 26	—	8 31.5	0.1	—	B.
3156	" 26	15 0?	14 9.2	1.0	—	A. With Ats.
		—	15 23	5.0	—	A. "
3157	" 26	—	15 28.7	1.5	—	
3158	" 31	—	19 1.5	0.5	—	A. "
		—	11 14	0.1	—	A.
		—	11 13	0.1	—	B.C.
3159	" 31	11 52	12 20	0.5	—	A.
		11 53	12 23	0.2	—	B.
		11 53	12 20	0.1	—	C. End in next eqke.
3160	" 31	—	13 15	0.1	—	A. P ₂ 12-56.7. End at 14-55
		—	13 15	0.2	—	B. P ₂ 12-57
3161	" 31	—	13 15.5	0.5	—	C.
		—	20 56	0.9	—	B. End at 24-37
3162	Feb. 4	—	20 52.5	1.1	—	C.
3163	" 5	—	2 47	0.2	—	B. Max. for C 2-51
		—	2 14	0.3	—	A. With Ats.
		—	2 12.5	0.2	—	B. "
3164	" 6	—	2 15	0.2	—	C. "
		8 25	8 36.5	0.4	—	A. "
		8 24	8 36	0.2	1 34	B.
3165	" 10	—	8 36.5	0.2	1 35	C.
3166	" 10	—	5 51	0.1	—	B.C.
3167	" 12	—	18 52.5	0.1	—	B.C.
3168	" 13	—	0 7	0.2	—	A. With Ats.
3169	" 13	8 8.5	0 17	0.1	—	A.
3170	" 13	16 50.5	8 16.5	3.0	1 30	A.
			16 59	0.3	—	A. End lost changing paper
			17 24	0.3	—	
3171	" 15	—	17 39.5	0.3	—	
3172	" 16	—	3 48.5	1.5	—	A. With Ats.
		—	10 54	1.0	—	A. "
		—	11 20	0.6	—	
		—	11 23	0.5	—	
		—	11 54	0.5	—	
3173	" 16	—	18 3.5	0.2	—	A.
3174	" 17	—	4 47	0.2	—	A. "
		—	4 58	0.2	—	

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The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
3175	Feb. 19	—	11 38	0.5	—	A.
		—	11 38	0.1	—	B.
		—	11 35	0.1	—	C.
3176	" 19	23 20?	23 30.5	0.7	—	A. With Ats.
		—	23 32.5	0.3	—	B. "
		—	23 33	0.2	—	C. "
3177	" 20	—	5 18.5	0.3	—	A.B.C. a. for B.C. 0.1mm.
3178	" 20	—	13 56	0.5	—	A. With Ats.
		—	13 51	0.6	—	B. "
		13 39?	13 50.5	0.5	—	C. "
3179	" 21	—	8 43	0.2	—	A.B.
		—	8 40	0.1	—	C.
3180	" 21	—	18 22	0.2	—	A.
		—	18 27	0.2	—	
		—	18 26	0.1	—	B.
		—	18 27	0.1	—	C.
3181	" 22	13 34?	14 18.5	0.5	3 20	A. With Ats.
		—	14 21	0.5	—	
		—	14 18	0.2	—	B. "
		—	14 26	0.1	—	
		—	14 19	0.1	—	C. "
		—	14 26	0.1	—	
3182	" 23	—	3 34.5	0.3	—	A. "
		—	3 34.5	0.2	—	B. "
		—	3 34	0.1	—	C.
3183	" 23	—	22 43.5	0.2	—	A.B.C. a. for B.C. 0.1mm.
3184	" 24	—	15 5	0.1	—	B.C.
3185	" 24	—	16 41	0.1	—	B.C.
3186	" 25	3 22?	4 18	0.5	3 30	A. With Ats.
		—	4 19	0.2	—	B. "
		—	4 12	0.2	—	C. "
3187	" 25	10 55.5	11 6.5	0.5	1 7	A.
		—	11 6	0.1	—	B.
		—	11 10.5	0.1	—	C.
3188	" 25	—	22 12	0.2	—	A.B.
		—	22 10	0.1	—	C.
3189	" 25	—	23 15	0.2	—	A.
		—	23 14	0.1	—	B.
		—	23 15	0.1	—	C.
3190	" 26	—	20 46	0.1	—	A.
3191	" 27	—	0 43	1.2	—	A. With Ats.
		—	0 43	0.5	—	B. "
		—	0 42.5	0.1	—	C. "
3192	" 29	15 23.5	15 42	0.5	—	C. End in Ats.
3193	" 29	—	19 35	0.1	—	C.
3194	Mar. 3	—	0 32	0.3	—	A. With Ats.
		—	0 41	0.4	—	
		—	0 29.5	0.2	—	C.
3195	" 5	—	1 40	0.4	—	A.B. "
		—	1 39.5	0.2	—	C. "
3196	" 7	—	20 13.5	0.5	—	A. "
		—	20 13	0.2	—	B.C. "
3197	" 8	—	15 23	1.0	—	A. "
		—	15 23	0.1	—	B.C. "
3198	" 10	—	5 51	0.1	—	A.
		—	5 46.5	0.1	—	B.
		—	5 45	0.1	—	C.
3199	" 10	—	12 6	0.2	—	A.
		—	12 7.5	0.1	—	B.
		—	12 8	0.1	—	C.
3200	" 11	—	10 58	3.0	—	A. Beginning and end lost
		10 32.5	10 58	1.0	—	B. End in Ats.
		10 31	11 0	1.5	—	C. "

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The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
3201	Mar. 11	—	16 40	0.2	—	A.B. With Ats.
		—	16 41	0.2	—	C. "
3202	" 13	—	20 36.5	0.3	—	A. "
		—	20 37	0.1	—	B. "
		—	20 34.5	0.2	—	C. "
3203	" 13	—	21 15	0.3	—	A. "
		—	21 15	0.1	—	B. "
		—	21 17	0.1	—	C. "
3204	" 14	—	7 31.7	0.7	—	A. "
		—	7 32	0.2	—	B. "
		—	7 28.5	0.2	—	C. "
		—	7 32	0.1	—	
3205	" 16	—	14 43.5	0.1	—	B.
		—	14 45	0.1	—	C.
3206	" 16	—	16 26.5	0.1	—	B.C.
3207	" 17	—	16 31	0.3	—	A. With Ats.
3208	" 17	—	23 58.5	0.5	—	A. "
3209	" 21	—	14 8	0.2	—	A.
		—	14 12.5	0.1	—	B.
		—	14 14	0.1	—	C.
3210	" 21	—	17 10	0.1	—	A.
		—	17 9	0.1	—	B.
		—	17 15	0.1	—	C.
3211	" 22	—	1 55	0.2	—	A.B.C.
3212	" 22	—	5 36.2	1.2	—	A. With Ats.
		—	5 36.5	0.3	—	B. "
		—	5 35	0.2	—	C. "
3213	" 22	—	18 52	0.1	—	A.B.
		—	18 55	0.1	—	C.
3214	" 23	—	9 1	0.1	—	B.C.
3215	" 24	—	13 18.5	0.1	—	B.
		—	13 17	0.1	—	C.
3216	" 25	—	5 35	0.1	—	A.B.C.
3217	" 25	—	15 8	0.1	—	A.B.
		—	15 7	0.1	—	C.
3218	" 26	—	7 29.5	0.1	—	A.B.
		—	7 32.5	0.1	—	C.
3219	" 29	—	19 19	0.1	—	C.
3220	" 30	—	8 28	0.5	—	A. With Ats.
3221	" 30	—	21 33.5	0.1	—	B. "
		—	21 34	0.1	—	C. "
3222	April 8	—	2 44	0.1	—	B.
3223	" 8	—	9 15.5	0.3	—	A.
		—	9 25	0.3	—	
		—	9 15	0.1	—	B.C.
3224	" 9	—	7 2	0.5	—	B. With Ats.
		—	7 1	0.2	—	C. "
3225	" 9	—	9 11.5	0.5	—	A. a. for B.C. 0.1mm.
3226	" 13	—	3 7	0.4	—	B. With Ats.
		—	3 16	0.3	—	
		—	3 12.5	0.2	—	C.
3227	" 13	—	19 39	0.3	—	A. End at 20-30
		—	19 38.5	0.1	—	B. "
		—	19 39	0.1	—	C. "
3228	" 14	14 5	14 14	0.1	1 0	B.
		14 5.5	14 16	0.2	1 0	C.
3229	" 14-15	22 56	23 58	0.5	2 25	A.
		—	0 0	0.2	—	B. End at 1-20
		22 56.5	0 0	0.1	2 25	C.
3230	" 15	—	17 9.5	0.2	—	A.
		—	17 8	0.1	—	B.
		—	17 26	0.2	—	

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The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
3230	Mar. 15	—	17 9	0.1	—	C.
			17 25	0.2		
3231	" 15	—	23 38	0.3	—	A. a. for B.C. 0.2mm.
3232	" 17	—	4 40	0.6	—	A. With Ats.
			4 46	0.6		
			4 40	0.2	—	B. "
			4 46	0.2		
			4 43	0.2	—	C. "
3233	" 18	—	8 30	0.2	—	B. "
			8 33	0.2	—	C. "
3234	" 19	—	0 33	0.3	—	A. "
			0 32	0.2	—	B.C. "
3235	" 19	—	1 10	0.2	—	A. a. for B.C. 0.1mm.
3236	" 19	15 28	15 36.5	0.2	0 50	A.
			15 36	0.1	—	B.
			15 36.5	0.1	—	C.
			2 51.5	1.5	—	A. End in Ats.
3237	" 20	1 52.5	2 55	1.0	2 30	B.
		1 54	2 58	0.2	2 25	C.
		1 53	3 7.2	0.6	—	A. With Ats.
3238	" 21	—	3 7.5	0.2	0 43	B.
		3 2	3 11	0.3	0 43	C.
		3 5	18 26	0.1	—	A.
3239	" 22	—	18 23.5	0.1	—	B.C.
			23 40	0.2	0 45	A.
3240	" 22	23 24.5	23 40	0.1	—	B.C.
			22 43.7	0.9	—	A. End in Ats.
3241	" 23	21 59	22 43.5	0.2	—	B. With Ats.
			22 38.5	0.3	2 15	C.
		21 58.5	3 36	0.1	—	B.
3242	" 24	—	3 34	0.1	—	C.
			10 58.5	0.1	—	B. End at 11-30
3243	" 25	—	10 55.5	0.1	0 55	C.
		10 34.5	16 10	0.1	1 45	B.C.
3244	" 26	16 0	4 39	0.1	—	A.C.
3245	" 27	—	4 38.5	0.1	—	B.
			13 42.5	0.2	—	B.
3246	May 1	—	13 41.5	0.2	—	C.
			23 53	0.1	—	B.C.
3247	" 1	—	20 19	0.1	—	A.
3248	" 3	—	20 20	0.2	—	B. End at 21-40
			20 21	0.1	—	C. End at 22-12
			19 9.5	>30.0	—	A. P ₂ 19-7
3249	" 6	19 3.7	19 9	10.5	—	B. P ₂ 19-7
		19 3.7	19 10.5	27.5	—	C. P ₂ 19-7.2
		19 3.7	22 19	0.3	—	A. End at 1-28 on 7th
3250	" 6	—	22 19	0.2	—	B.C.
			14 46	0.1	—	B.C.
3251	" 7	—	11 55	0.3	—	A.
3252	" 8	—	11 54.5	0.1	—	B.C.
			21 18.5	0.1	—	B.
3253	" 8	—	21 20	0.1	—	C.
			11 11	0.1	—	B.C.
3254	" 10	—	5 51	0.3	1 50	B.
3255	" 11	5 20	5 53.5	0.1	1 50	C.
		5 19.5	16 7.5	0.1	—	B.C. End lost.
3256	" 11	15 19	18 22	0.5	—	B. "
3257	" 11	17 38.5	18 21	0.2	—	C. "
		17 38.5	21 20	0.2	—	B. End at 22-0
3258	" 11	—	21 19	0.1	—	C. "
			12 21	0.1	—	B.C.
3259	" 12	—	19 58	0.1	—	A.C.
3260	" 13	—	19 57.5	0.1	—	B.

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The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
3261	May 14	H. M.	H. M.	MM.	H. M.	A.
		—	15 25	0.5	—	B.C.
3262	" 15	0 22.5	15 24.5	0.2	—	A.
		0 24	0 50	0.8	—	B.
		0 24	0 56.5	0.4	—	C.
3263	" 15	—	0 50	0.4	—	A. End at 4-30
		—	2 4.2	0.8	—	B. "
		—	2 5	0.2	—	C. "
		—	2 6.5	0.2	—	A. With Ats.
3264	" 16	15 3.5?	15 12.5	1.5	—	B. "
		—	15 15	1.5	—	C. "
		—	15 12.5	0.4	—	A. End at 18-20
		—	15 15	0.4	—	B. "
		15 2.5?	15 12	0.8	—	C. "
3265	" 17	16 48.5	16 54.7	2.0	—	A. End at 18-20
		—	16 56.2	1.2	—	B. "
		16 48.5?	16 56.7	0.6	—	C. "
		16 48.5?	16 58.2	0.8	—	A. a. for B. 0.5mm.
3266	" 18	21 54	22 34	0.9	2 35	C. "
		21 53	22 33	0.2	2 50	A. With Ats.
3267	" 19	—	2 54.5	0.4	—	A.
3268	" 21	—	9 20.5	1.6	—	B.
		8 50	9 20.5	0.9	—	C.
		8 50.5	9 16.5	1.0	—	A.C. End at 12-10
3269	" 21	—	10 39	0.5	—	B. "
		—	10 39	0.2	—	A.C.
3270	" 22	—	8 41.5	0.2	—	A. a. for B. 0.3mm.
3271	" 22	13 29.5	13 36.5	1.1	1 35	C. With Ats.
		13 29	13 37	0.3	—	A.B.C.
3272	" 22	—	17 28	0.2	—	A.C.
3273	" 22-23	23 7	23 45	0.2	1 50	B.
		—	23 44	0.1	—	A. P, 2-46
3274	" 23	2 36	2 57	8.0	6 2	
		—	3 9.5	23.0	—	
		—	3 12.7	>40.0	—	
		—	3 19	>40.0	—	
		—	2 57	4.2	—	B.
		—	3 12.5	>20.0	—	
		—	3 19.2	14.0	—	
		2 36	2 57.5	4.0	6 0	C.
		—	3 9	19.0	—	
		—	3 11	>22.0	—	
3275	" 23	—	23 51	0.1	—	B.C.
3276	" 25	—	16 45	0.1	—	A.
		—	16 38	0.1	—	C.
		—	16 45	0.1	—	
3277	" 25	18 6.5	18 13.5	1.5	1 15	A.
		—	18 13	0.1	—	B.
		18 6	18 13	1.0	1 20	C.
3278	" 25	—	20 26	0.1	—	A.
3279	" 25	—	21 27	0.1	—	B.C.
3280	" 26	—	3 27	0.1	—	B.C.
3281	" 26	8 6.5	8 19	1.0	—	B.
		—	8 21	1.0	—	C.
3282	" 28	—	8 1.5	0.1	—	A.B.C.
3283	" 28	12 57	13 51	1.5	—	A.
		—	13 56.5	2.5	—	
		12 57	13 52	0.6	—	B.
		12 58	13 49.5	0.6	3 10	C.
		—	13 53.5	0.6	—	
		—	13 56.5	0.6	—	
3284	" 31	—	21 16	0.2	—	B.
		—	21 18.5	0.2	—	C.

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The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
3285	June 1	—	0 51.5	0.4	—	A.
		0 49	0 51.5	0.1	—	B.
		0 50.5	0 53.5	0.1	—	C.
3286	" 1	—	1 4.5	1.5	—	A. With Ats.
		1 1?	1 4.5	0.3	0 32	B. "
		—	1 3	0.2	—	C. "
3287	" 1	—	9 53	0.1	—	B.C.
3288	" 1	11 40	11 47	0.2	0 45	B.C.
3289	" 2	12 18	12 30	0.4	3 15	A.
		—	13 12.2	0.6	—	
		12 15	12 31	0.1	4 0	B.
		—	13 12.5	0.2	—	
		12 18.5	12 34	0.1	—	C.
		—	13 13	0.1	—	
3290	" 3	—	13 38	0.1	—	A. With Ats.
		—	13 30	0.5	—	B. "
		—	13 26	0.5	—	C. "
		—	13 33	0.5	—	
3291	" 4	—	16 21	0.1	—	A.B.C.
3292	" 5	11 34	12 45.7	0.5	3 0	A.
		11 34.5	12 29	0.2	—	C.
		—	12 35	0.2	—	
3293	" 6	—	16 4.5	0.3	—	A. a. for B.C. 0.1mm.
3294	" 6	—	18 2.5	0.2	—	A.
		—	18 6.5	0.2	—	
3295	" 6	—	19 7	0.2	—	A.
3296	" 6	—	20 40	0.2	—	A.
3297	" 6	—	22 29	0.2	—	A.
3298	" 7	—	4 30	0.5	—	A.
3299	" 7	—	5 18.5	0.6	—	A.
3300	" 7	—	7 18.2	0.2	—	A.
3301	" 7	—	9 38.5	0.8	—	A. P ₁ 9-25.2
3302	" 7	10 14?	10 37.2	1.5	—	A.
		—	10 39	2.0	—	
		—	10 41.5	2.5	—	
3303	" 7	—	11 17.7	1.6	—	A.
		—	11 21.5	1.5	—	
		—	11 26.5	1.6	—	
3304	" 7	—	13 6.5	1.5	—	A. P ₁ 12-48?
		—	13 20	1.0	—	
		—	13 31	1.2	—	
3305	" 7	14 48.5?	15 3	0.7	—	A.
3306	" 7	18 42.5	19 7.7	2.2	—	A.
		—	19 9.5	1.8	—	
		—	19 15.5	2.1	—	
		—	19 54	2.6	—	
3307	" 8	—	0 41	0.5	—	A.
3308	" 8	—	1 2.7	0.5	—	A.
3309	" 8	—	2 0	0.5	—	A.
3310	" 8	2 39?	2 55.2	0.9	—	A.
3311	" 8	—	3 37	1.0	—	A.
3312	" 8	—	4 18	0.5	—	A.
3313	" 8	—	5 4	0.8	—	A.
3314	" 8	—	5 37	0.6	—	A.
3315	" 8	—	5 44	0.6	—	A.
3316	" 8	—	5 54	0.6	—	A.
3317	" 8	—	6 54.5	1.0	—	A.
3318	" 8	—	7 34.5	4.5	—	Smoked paper.
3319	" 8	—	8 18.5	7.0	—	"
3320	" 8	—	8 57	1.0	—	"
3321	" 8	—	9 31.2	1.5	—	"
3322	" 8	—	9 58	2.5	—	A.
3323	" 8	—	10 11	2.0	—	A.

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The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
3324	June 8	—	10 23	2.0	—	A.
3325	" 8	13 19?	13 41	2.5	4 25?	A.
			13 45	3.5		
3326	" 9	—	9 0	0.1	—	A.
3327	" 9	17 10	17 23	0.1	—	A.
3328	" 9	17 34.7?	17 53.2	1.5	3 30	A.
3329	" 9	21 53.5	22 21.5	0.5	3 0	A.
			22 53	1.0		
			23 3.5	0.7		
		21 55	22 21.5	0.2	3 30	B.
			22 53	0.3		
			23 3	0.4		
		21 55	22 22.5	0.2	3 30	C.
			22 55	0.3		
			23 2.5	0.3		
3330	" 10	16 20.5	16 50	11.0	—	A. P ₂ 16-26.5
		16 17	16 50	3.5	—	B. P ₂ 16-26.5
		16 17	16 51.5	2.5	—	C. P ₂ 16-17
			16 56	3.0		
3331	" 10	—	18 48.5	0.6	—	A. End at 22-45
			19 2.5	0.6		
			18 48.5	0.4	—	B. "
			18 58	0.6	—	C. "
3332	" 12	7 22.2	7 49.5	1.5	3 0	A.
		7 23.5	7 50	0.3	3 15	B.
		7 23	7 48.5	0.6	3 10	C.
3333	" 12	12 55	13 27	2.0	—	A. P ₂ 13-5
			13 32.5	2.0		
			13 36	3.0		
		12 55	13 27.5	0.6	4 15	B.
			13 32.5	1.5		
		12 55	13 33	1.0	4 15	C.
3334	" 12	—	15 7	0.2	—	B.C.
3335	" 14	—	1 48	0.1	—	B.
3335	" 14	—	1 48	0.1	—	A.
3336	" 14	—	1 56	0.1	—	A.
		—	1 55	0.1	—	B.
		—	1 54	0.1	—	C.
3337	" 14	—	14 27.5	0.1	—	B.C.
3338	" 14	16 57	17 6	0.2	1 30	B.
		16 56.5	17 3	0.2	1 30	C.
3339	" 15	0 21?	1 12	0.2	—	A. With Ats.
		—	1 9.5	0.1	—	B. "
		—	1 10	0.1	—	C. "
3340	" 15	—	19 11.5	0.8	—	A. a. for B. 0.2mm.
		—	19 12	0.2	—	C.
3341	" 15	—	22 3	0.2	—	A.B.C.
3342	" 16	—	13 4	0.5	—	A. With Ats.
		—	13 3.5	0.1	—	B. "
		—	13 4	0.1	—	C. "
3343	" 16	18 28	18 39	2.0	—	A. P ₂ 18-32
		—	18 39	0.5	—	B.
		—	18 38.5	0.3	—	C.
3344	" 17	11 9	12 18.2	1.2	—	A. With Ats.
			14 38.7	0.6		
		11 7.5	12 16.5	0.4	—	B. "
			14 39	0.2		
		—	12 8	0.5	—	C. "
			12 15.5	0.5		
			14 39	0.2		
3345	" 18	2 21.5?	2 31.5	0.5	—	A.B.C. With Ats.
3346	" 18	12 7	12 23.5	1.5	—	A.
		12 7	12 24	0.6	—	B. C.

The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
3347	June 18	H. M.	H. M.	MM.	H. M.	A. End at 16-0.
		—	12 51.5	8.3	—	
			12 54.5	8.0		
			12 58	10.0		
			13 4.2	6.0		B. End at 16-0.
		—	12 53	3.0	—	
			12 58	2.5		
		—	12 53.5	2.2	—	
			12 58	2.6		C. "
			0 5	0.2	—	
3348	" 20	—	23 24	0.1	—	A.
3349	" 20	—	23 26	0.1	—	A.
3350	" 23	—	19 40.5	0.1	—	B.C.
3351	" 26	17 7	17 36	1.1	2 32	B.
3352	" 27	—	2 6	0.1	—	A. P ₂ 17-11.
3353	" 27	21 33	22 10	1.0	—	A.B.C.
		21 33	22 10	0.6	2 45	A. P ₂ 21-40.5.
		21 31.5	22 10	0.4	2 45	B. P ₂ 21-40.5.
3354	" 28	—	14 21.5	0.1	—	C. P ₂ 21-40.5.
3355	" 28	—	19 42	0.2	—	B.C.
3356	" 29	7 55	8 45	0.6	—	A.B.C.
3357	" 29	7 56	8 45	0.3	3 0	A.
		—	20 43	0.2	—	B.C.
		—	20 42.5	0.1	—	A. End at 22-47.
3358	" 30	—	8 43	0.1	—	B.C. "
		—	8 47	0.1	—	B.
		—			—	C.

Register from M.O. Central Observatory, Kew Observatory, Richmond.

51°28'N. 0°19'W.

Director, DR. W. N. SHAW, F.R.S.; Superintendent, DR. C. CHREE, F.R.S.;
Observer, E. G. CONSTABLE.

B.O.T. = merely a broadening of the trace.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
1370	Jan. 4	H. M.	H. M.	MM.	H. M.	
1371	" 4	—	4 36	—	—	—
1372	" 20	16 22.5	16 42.4	0.6	1 15	B.O.T.
1373	" 24	—	5 21	—	—	—
1374	" 25	16 28.8	16 38.7	3.7	0 46	—
1375	" 26	20 5.2	20 7.2	0.5	0 12	—
1376	" 26	15 16.2	15 24.3	0.5	0 45	—
1377	" 31	20 31.0	20 50.3	0.6	1 13	—
1378	Feb. 13	8 14.0	8 21.7	0.4	0 15	Masked by Ats.
1379	" 15	—	3 49	—	—	B.O.T.
1380	" 16	—	10 55	—	—	"
1381	" 20	13 49.5	13 52.0	0.6	0 25	—
1382	" 23	—	22 33	—	—	B.O.T.
13.2	" 25	—	4 18	—	—	"
13.3	" 27	—	0 43	—	—	"

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Register from M.O., Central Observatory, Kew Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
1384	March 8	—	15 24	—	—	B.O.T.
1385	" 16	—	16 30	—	—	"
1386	" 21	—	14 7	—	—	"
1387	" 24	—	13 19	—	—	"
1388	" 25	—	15 4	—	—	"
1389	April 9	—	14 6	—	—	"
1390	" 17	4 33.3	4 44.2	0.4	0 20	—
	" 18	—	8 30	—	—	B.O.T. ? Ats.
1391	" 20	2 39.5	2 54.0	0.3	0 37	Ill-defined.
1392	" 23	—	22 48	—	—	B.O.T.
1393	" 26	—	15 52	—	—	"
			16 8	—	—	
1394	May 1	—	13 43	—	—	"
1395	" 6	19 3.7	19 9.7	7.4	1 40	Rather sudden com.
1396	" 11	—	16 4	—	—	B.O.T.
1397	" 11	—	18 22	—	—	"
1398	" 13	—	19 54	—	—	"
1399	" 15	—	0 59	—	—	"
1400	" 16	—	15 15	—	—	"
1401	" 17	16 49.2	16 56.7	1.1	0 20	—
1402	" 18	22 18.5	22 36.0	0.3	0 25	Ill-defined.
1403	" 21	9 0.0	9 23.5	0.4	0 44	—
1404	" 22	—	13 37	—	—	B.O.T.
1405	" 22	—	23 46	—	—	"
1406	" 23	2 36.7	3 15.2	15.7	2 53	—
1407	" 25	18 8.5	18 15.5	0.7	0 16	—
1408	" 28	13 42.2	13 50.0	0.5	0 39	Second Max. at 14-2.3.
1409	June 1	—	1 5	—	—	B.O.T.
1410	" 2	—	13 15	—	—	"
1411	" 3	—	13 30	—	—	"
1412	" 7	—	10 30	—	—	" and frequently until 13-25
1413	" 7	18 55.2	19 7.0	0.6	2 2	Amplitude increased again at 19-56
1414	" 8	—	1 0	—	—	B.O.T., and at 2-53, 3-35, 5-4, 5-42, 6-53.
1415	" 8	7 18.8	8 15.0	2.0	3 57	—
1416	" 8	13 30.0	13 42.5	0.6	1 5	—
1417	" 10	16 30.5	16 49.2	1.5	1 52	Second Max. at 16-59.5.
1418	" 10	—	19 3	—	—	B.O.T.
1419	" 12	—	7 44	—	—	"
1420	" 12	13 7.3	13 36.4	1.0	?	Latest stage spoilt by Ats.
1421	" 16	—	18 38	—	—	B.O.T.
1422	" 17	—	12 11	—	—	"
1423	" 18	12 17.8	12 51.7	2.3	1 51	—
1424	" 26	17 32.5	17 36.8	0.4	0 18	—
1425	" 27	22 4.5	22 11.5	0.3	0 18	—
1426	" 29	—	8 42	—	—	B.O.T.

Period = 18 seconds.
Scale, 1mm. = 0".54.

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Register from Liverpool Observatory, Bidston. 53°24'N 3°4'W.
Director, W. E. PLUMMER.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
1908	Jan. 4	H. M. 4 18.6	H. M. 4 29.2	MM. 0.4	H. M. 0 35	—
1909	" 4	16 12.7	16 35.8	0.9	1 16	—
1910	" 6	—	1 8.2	—	—	—
1911	" 8	—	9 50	—	—	—
1912	" 20	5 1.8	5 21.2	0.3	0 40	—
1913	" 24	—	16 42.5	2.4	0 45	Com. not recorded.
1914	" 25	20 4.4	20 10.6	0.4	0 25	—
1915	" 26	14 9.0	14 16.0	0.1	—	End uncertain.
1916	" 26	15 16.7	15 21.0	0.6	0 34	—
1917	" 31	20 30.6	20 50.8	0.7	1 17	—
1918	Feb. 10	18 43.9	18 55.0	0.1	0 28	Small.
1919	" 13	8 10.8	8 17.4	0.5	0 26	—
1920	" 13	—	17 26	—	—	Light bad.
1921	" 15	3 14.4	3 15.6	—	0 33	Line irregular.
1922	" 16	10 40.7	10 52.0	0.1	0 39	—
1923	" 19	23 23.3	23 31.5	0.2	0 22	—
1924	" 20	13 47.8	13 52.0	0.4	0 25	—
1925	" 21	18 11.7	18 20.0	0.2	0 18	—
1926	" 25	4 6.9	4 19.3	0.2	0 30	—
1927	March 5	—	1 40	—	—	Very small.
1928	" 8	15 18.4	15 25.0	0.1	0 16	—
1929	" 10	—	5 52.8	—	—	—
1930	" 10	11 54.3	12 5.3	—	0 36	—
1931	" 11	11 6.2	11 11.8	0.2	0 23	—
1932	" 13	20 25.0	20 36.1	—	0 55	—
1933	" 14	7 28.5	7 34.2	—	0 17	—
1934	" 21	13 56.7	14 5.9	—	1 8	Irregularities possibly due to Afs.
1935	" 22	5 20.7	5 30.6	—	0 20	Small and uncertain.
1936	" 24	13 12	—	—	0 17	—
1937	" 25	—	15 0	—	0 9	—
1938	" 30	—	21 42	—	—	—
1939	April 9	—	14 15	—	—	—
1940	" 13	2 58	—	—	0 16	Very small.
1941	" 13	—	19 38.4	—	—	—
1942	" 14	—	14 10	—	—	Line disturbed.
1943	" 14	23 48.6	23 53.0	0.1	0 12	—
1944	" 15	17 32.2	17 34.7	0.1	0 15	—
1945	" 15	—	23 40	—	—	—
1946	" 17	4 15.6	4 35.2	0.5	0 49	—
1947	" 20	2 31.0	2 47.7	0.6	1 20	—
1948	" 21	2 40.5	2 48.8	0.2	0 36	—
1949	" 23	22 36.2	22 41.8	0.2	0 20	—
1950	" 24	3 25.2	3 31.4	—	—	Small. End uncertain.
1951	May 3	19 39.1	20 8.2	0.2	0 49	—
1952	" 6	—	19 11.2	3.2	—	Beginning lost.
1953	" 6	22 9.9	22 22.7	0.2	0 36	—
1954	" 14	15 8.3	15 20.7	0.2	0 21	—
1955	" 15	0 37.8	0 48.7	0.4	1 29	Probably two quakes.
1956	" 16	15 9.0	15 13.4	0.4	0 25	—
1957	" 17	16 47.8	16 58.5	0.6	0 40	—
1958	" 18	22 28.6	22 33.9	0.2	0 21	—
1959	" 19	2 48	—	—	0 7	—
1960	" 21	8 51.3	9 14.6	0.2	1 5	End uncertain.
1961	" 22	23 24.2	23 32.5	0.1	0 31	—
1962	" 23	2 36.0	3 13.2	12.6	3 10	—
1963	" 25	16 37.5	16 41.3	0.1	0 12	—
1964	" 25	18 12.3	18 15.1	1.2	0 23	—
1965	" 25	—	21 27	—	—	—

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Register from Liverpool Observatory, Bidston—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
1966	May 26	8 7.8	8 18.2	—	0 12	—
1967	" 28	7 56.9	8 2.1	0.1	0 20	—
1968	" 28	13 10.7	13 45.1	0.2	1 27	—
1969	June 1	0 51.0	1 5.8	0.1	0 24	—
1970	" 1	11 43.7	11 45.8	0.1	0 9	—
1971	" 2	12 29	—	—	—	—
1972	" 2	13 4.2	13 16.3	0.2	0 35	—
1973	" 3	—	13 26	—	—	—
1974	" 4	—	6 21	—	—	—
1975	" 5	12 15.8	12 24.7	0.3	0 34	—
1976	" 7	4 13.0	4 54.7	0.2	1 39	Numerous max. fol- lowed to 13-4.
1977	" 7	14 47.2	14 56.7	0.1	0 40	—
1978	" 7	18 49.4	19 48.3	0.4	2 31	Again; many max.
1979	" 8	2 44.1	2 52.7	0.3	0 40	—
1980	" 8	6 39.6	8 19.3	—	5 18	Many subsidiary max.
1981	" 9	22 15.1	22 22.4	0.1	0 17	Continued to 22-50 possibly.
1982	" 10	16 24.8	16 47.7	1.5	—	End uncertain.
1983	" 10	18 32.6	18 50.7	0.3	0 52	—
1984	" 12	7 31.7	7 41.6	0.3	1 10	—
1985	" 12	12 55.8	13 26.2	1.5	2 8	—
1986	" 14	16 56.9	17 5.8	0.1	0 44	—
1987	" 15	1 5.6	1 19.0	0.1	0 49	—
1988	" 15	19 5.7	19 10.4	0.1	0 11	—
1989	" 16	12 58.3	13 2.5	0.1	0 16	—
1990	" 16	18 32.0	18 38.3	0.3	0 27	—
1991	" 17	11 36.6	12 4.7	0.3	1 30	—
1992	" 23	19 37.2	19 40.7	0.3	0 59	—
1993	" 26	17 12.2	17 38.4	0.5	0 57	—
1994	" 27	21 55.0	22 5.8	0.1	0 40	—
1995	" 28	—	19 12	—	—	—
1996	" 29	8 14.9	8 46.4	0.4	0 57	—

Period of oscillation = 18.5 seconds.
1mm. displacement = 0".53.
1° calibrating screw = 4.2mm.

*Register from Stonyhurst College Observatory 53°50'N. 2°28'W.
Director, REV. W. SIDGREAVES, S.J.*

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM.	H. M.	
497	Jan. 4	16 1.5	16 43.5	2A. 1.5	2 30	—
498	" 5	—	16 49	1.1	—	—
499	" 6	—	3 39	—	—	—
500	" 8	—	1 5.8	—	—	—
501	" 20	4 30.7	9 41.3	—	—	—
			5 14.5	0.5	—	End in Ats.
			5 22.5	0.6	—	—
502	" 21	3 7	3 11.5	0.1	0 16	—

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Register from Stonyhurst College Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
503	Jan. 24	16 28.2	16 37.6	4.5	1 10	P ₁ 16-32.3, P ₂ 16-36.
504	" 25	20 0.7	20 9.5	0.5	0 29	P ₁ 20-6.
505	" 26	15 15.5	15 26.9	0.9	—	P ₁ 15-15.5, P ₂ 15-20.5.
506	" 31	20 25	20 51.5	0.6	3 5	P ₁ 20-31.5, P ₂ 20-35.5.
507	Feb. 13	—	0 11	—	—	—
508	" 13	8 9.5	8 20	0.5	0 28	—
509	" 15	3 39	3 51	0.1	0 18	—
510	" 16	10 16	10 53	0.1	>1 14	End during change.
511	" 19	23 27.2	23 32.5	0.5	0 14	—
512	" 20	13 47.8	13 53.4	0.5	0 29	P ₁ 13-53.4.
513	" 22	13 57.5	14 30	—	1 57	—
			15 23.5	—	—	—
514	" 25	3 27	4 20.4	—	2 0	—
515	" 29	—	15 42	—	—	—
516	March 8	15 13.5	15 21.5	—	0 26	—
517	" 11	—	10 57	2.5	—	—
518	" 14	7 21.3	7 24.7	—	0 22	—
			7 37	—	—	—
519	" 21	—	14 7	—	—	—
520	" 22	—	5 30	—	—	—
521	" 24	—	13 20	—	—	—
522	" 25	—	15 9	—	—	—
523	" 30	—	21 38	—	—	—
524	Apr. 9	14 15.5	14 23	—	0 28	—
525	" 14	—	23 56	—	—	—
526	" 15	—	17 9	—	—	—
527	" 15	23 36.5	23 42	0.1	0 14	—
528	" 17	4 16.5	4 39	0.5	0 48	—
529	" 19	—	0 35	—	—	—
530	" 20	2 3.5	2 53.5	0.5	1 0	—
531	" 21	3 4	3 24	—	0 24	—
532	" 23	22 36.7	22 39.2	0.2	0 37	—
533	May 1	13 31	13 35	—	0 22	—
			13 39.5	—	—	—
534	" 3	20 5.5	20 17.7	—	0 33	—
535	" 6	19 4.9	19 10.7	29.8	2 40	P ₁ 19-4.9, P ₂ 19-8.4.
536	" 6	22 6.5	22 22.4	0.1	0 47	—
537	" 11	5 20.3	5 47	—	0 50	—
538	" 11	17 50.5	18 19.5	0.2	2 15	—
			18 42	0.2	—	—
539	" 11	21 15.5	21 19.5	0.1	0 12	—
540	" 14	15 15.6	15 20.5	0.2	0 13	—
541	" 15	0 34	1 5	0.2	2 0	Six other max.
542	" 17	16 49.9	16 59	0.6	0 50	—
543	" 18	22 15.3	22 35.5	0.4	0 35	Preceded by small tre-
544	" 19	—	4 26	—	—	[mors.]
545	" 21	8 52.5	9 19.3	0.6	0 27	—
			9 24.6	0.6	—	—
546	" 23	2 36.6	3 12.8	34.0	4 48	P ₁ 2-46.4.
			3 18.1	26.0	—	—
547	" 25	18 8.1	18 18.2	1.0	0 47	—
548	" 28	—	8 9	—	—	—
559	" 28	13 14.7	13 46	0.4	2 30	—
			13 55	0.3	—	—
			13 58	0.3	—	—
			14 7.5	0.5	—	—
550	June 1	0 54.5	1 8	0.2	0 24	—
551	" 2	12 45	13 25.7	0.1	1 5	—
552	" 3	13 14.5	13 22.5	0.1	1 8	—
			13 28.4	0.1	—	—
553	" 5	12 16.4	12 31.5	0.2	1 28	—
554	" 6	—	15 26.7	—	—	—

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Register from Stonyhurst College Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
555	June 7	18 52	19 7.3	0.5	2 20	—
			19 50.1	0.5		
556	" 8	7 18	7 31.5	0.5	—	—
557	" 8	7 58	8 13.3	2.5	—	P, 8-4.
558	" 8	13 18.4	13 41	0.6	1 37	—
			13 58	0.5		
559	" 9	22 45	22 51.4	0.1	0 55	—
560	" 10	16 25.5	16 47.6	2.4	3 6	P, 16-33.3.
561	" 10	—	18 51.5	0.4	—	—
562	" 12	7 30.5	7 48.6	0.1	1 30	—
563	" 12	12 55.5	13 35	1.4	2 57	P, 13-5.4.
564	" 14	—	16 58	—	—	—
565	" 15	1 6.5	1 17.5	—	0 24	—
566	" 15	19 6.1	19 11	0.1	0 12	—
567	" 16	18 31.2	18 37	0.5	0 14	—
568	" 18	—	12 51.3	3.0	—	Com. lost. P, 12-15.5, P, 12-48.
569	" 26	17 11.5	17 40.3	0.5	1 34	—
570	" 27	21 51	—	—	1 0	Max. 22-12 to 22-17.
571	" 29	8 15.3	8 47.5	0.2	1 25	—
		Jan.-March	Period, 18 seconds.		1mm.=0".44.	
		April	Period, 18.5 "		1mm.=0".42.	
		May-June	Period, 19 "		1mm.=0".41.	

Register from Hill Top, West Bromwich. 52°32'N. 2°W.

Owner and Observer, J. J. SHAW.

Instrument records on smoked paper.

Pendulum A records N.-S. motion. 1mm.=0".1 of arc tilt.

Pendulum B records E.-W. motion. 1mm.=0".15 of arc tilt.

Boom Period, 16secs. Weight, 240lb.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM.	H. M.	
401	Jan. 4	3 37.7	4 27	0.3	—	A.
		3 35.3	4 32	0.3	1 25	B.
402	" 4	15 58.5	16 45.5	1.4	—	A.
		—	16 48.5	1.0	2 32	B.
403	" 24	16 28.1	16 36.2	9.5	1 6	E.W. Max. 16-39.7, 10mm., Greece.
404	" 25	20 1.5	20 6.4	0.7	0 31	E.W. Max. 20-9, 1mm.
405	" 26	—	14 7	1.5	—	—
406	" 26	14 59	15 19	3.0	1 21	B.
407	" 31	13 16 to	13 26	0.5	—	B.
408	" 31	20 30.8	20 53	4.0	1 30	A. & B.
409	Feb. 13	8 11?	8 16.2	2.5	0 19	A. & B.
410	" 16	—	10 54	0.2	—	B.
411	" 19	—	23 31	0.2	—	B.
412	" 20	13 48	13 52.5	0.7	0 12	B.

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Register from Hill Top, West Bromwich—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
413	March 8	H. M.	H. M.	MM.	H. M.	
414	" 11	10 28	15 29	0.6	—	B.
415	" 22	—	11 1	2.0	—	A.
416	April 17	—	10 59.5	3.5	—	B.
417	" 20	1 53.1	5 37	0.1	—	B.
418	May 1	—	4 31	0.1	—	B.
419	" 6	19 3.2	2 51	—	1 52	B. Com. very clearly defined.
420	" 15	19 3.1	13 38	0.1	—	—
421	" 16	15 10	19 14.3	88.0	—	A. P ₂ 19-6.3. Off Iceland.
422	" 17	16 43.5	19 9.9	53.0	2 30	B.
423	" 21	8 50	0 51	0.2	—	B.
424	" 23	2 36.2	15 15	1.5	0 20	A. B. Max. 15-12.5, 1mm.
425	" 25	18 9.7	16 56	1.0	0 27	B.
426	June 1	0 52	9 19	0.5	1 10	B.
427	" 1	11 42	3 11	55.0	2 36	A. Burma.
428	" 7	—	3 20	75.0	—	B. P ₂ 2-45.8.
429	" 7	—	18 15	0.5	0 23	A. P ₂ 18-13. Roumania.
430	" 7	—	18 19	2.5	—	B.
431	" 7	—	1 5	0.2	0 23	B.
432	" 7	—	11 49	0.1	—	—
433	" 8	—	10 37	0.5	—	—
434	" 8	—	11 20	1.0	—	—
435	" 8	—	13 4	0.2	—	—
436	" 8	—	19 7	0.7	—	—
437	" 8	—	19 54	1.0	—	—
438	" 8	—	3 36	0.1	—	—
439	" 8	—	5 9	0.1	—	—
440	" 8	—	7 26	0.5	—	—
441	" 8	—	8 21	7.0	—	—
442	" 10	16 15.7	13 41	1.8	1 40	—
443	" 12	7 24	16 48	3.0	3 45	—
444	" 14	—	7 45	0.5	1 6	—
445	" 16	—	17 6	0.1	—	—
446	" 17	—	18 40	0.1	—	—
447	" 17	—	12 11	0.5	—	—
448	" 18	12 2	12 55	3.0	2 0	P ₂ 12-15, P ₂ 12-50, 2nd Max. 13-17.
449	" 26	—	17 38.5	0.2	—	—
450	" 29	—	8 46	0.7	—	—

*Register from Woodbridge Hill, Guildford, England. 51°15'N. 0°35'W.
Owner and Observer, F. EDWARD NORRIS. Assistant, E. SMART.*

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
330	Jan. 4	H. M.	H. M.	MM.	H. M.	
331	" 4	4 12.6	4 26	—	—	W. P ₂ 4-16.5.
332	" 5	16 3.8	16 44.3	0.3	1 55	W. P ₂ 16-13.2.
333	" 6	—	3 37	—	—	W.
334	" 20	4 20	1 2.4	0.03	—	W.
335	" 21	3 3.3	5 8	0.1	1 15	W. P ₂ 4-28.8.
			3 15.3	0.02	0 22	W. P ₂ 3-6.4.

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Register from Woodbridge Hill, Guildford, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
336	Jan. 24	16 27.7	16 36.3	2.6	1 47	W. P ₂ 16-31.2.
337	" 25	19 58.4	20 4.7	—	0 10	W. P ₂ 20-0.4
338	" 26	15 9.5	15 25.3	0.03	0 32	W. P ₂ 15-14.9.
339	" 26	—	19 58.5	0.02	—	N.
340	" 31	—	11 12	0.05	—	N.
341	" 31	—	13 19.5	0.03	—	N.
342	" 31	20 28.9	20 50.3	0.15	2 0	N. P ₂ 20-32.3.
343	Feb. 10	18 10.5	18 47.2	0.1	—	N.
344	" 12	—	0 14.8	0.1	—	N.
345	" 13	—	0 14.7	0.02	—	N.
346	" 13	8 9.8	8 15.3	0.8	0 39	N. P ₂ 8-12.9.
347	" 20	13 31.6	13 57.2	1.9	—	N. P ₂ 13-38.
348	March 7	—	20 13.5	0.2	—	W.
349	" 8	15 11	15 21.5	3.0	—	N. P ₂ 15-12.6.
350	" 11	10 36.5	11 3.7	3.1	1 27	N. P ₂ 10-42.8.
351	" 11	16 38.2	16 41	0.1	0 16	N.
352	" 13	—	20 37.3	0.05	—	W.
353	" 13	—	21 13.2	0.05	—	W.
354	" 14	—	7 36	0.2	—	N.
355	" 22	18 46.9	18 54.7	1.15	0 23	W. P ₂ 18-51.1.
356	" 24	—	13 22	0.3	—	N.
357	" 25	—	5 33	0.2	—	W.
358	" 25	—	15 8.3	0.15	—	N.
359	" 30	—	21 33.6	0.1	—	N.
360	April 9	14 15.1	14 20.3	0.4	0 20	W. P ₂ 14-18.3.
361	" 13	2 50.2	3 0.7	0.07	—	W. P ₂ 2-52.9.
362	" 14	—	14 16.9	0.03	—	N.
363	" 14	22 56.5	23 56.2	0.05	1 37	W. P ₂ 23-7.5.
364	" 15	16 25.4	17 12.7	0.05	1 35	W. P ₂ 16-34.8.
365	" 15	23 32.8	23 39.6	0.9	0 20	W. P ₂ 23-36.2.
366	" 17	4 3.6	4 34	0.1	1 15	W. P ₂ 4-11.1.
367	" 19	0 23.2	0 34	0.75	0 35	W. P ₂ 0-27.
368	" 19	—	15 41.2	0.3	—	W.
369	" 20	1 53.1	2 50	0.5	2 12	W. P ₂ 2-2.2.
370	" 21	—	3 19.7	0.75	—	W.
371	" 23	22 1.0	22 34.8	0.1	0 46	W. P ₂ 22-8.8.
372	" 24	3 15.5	3 30.8	0.1	0 32	W. P ₂ 3-20.1.
373	" 25	—	10 25	0.05	—	N.
374	" 26	—	16 9.4	0.04	—	N.
375	" 27	—	4 45	0.05	—	N.
376	" 28	—	7 48.3	0.2	—	N.
377	May 1	13 27.9	13 39	0.2	0 23	N. P ₂ 13-31.2.
378	" 3	19 27	20 8.9	0.1	1 6	N. P ₂ 19-35.4.
379	" 6	19 4.4	19 12.9	37.6	5 10	W. P ₂ 19-7; P ₂ 19-9.3.
380	" 7	—	14 53.7	0.1	—	N.
381	" 8	—	11 51.5	0.05	—	N.
382	" 11	5 5.9	5 44.3	0.15	0 55	N. P ₂ 5-15.8.
383	" 11	—	15 54.3	0.1	—	N.
384	" 11	17 39.6	18 18.8	0.3	3 1	N.
			18 34.7	0.35		
385	" 11	20 31	21 24.6	0.07	1 27	N. P ₂ 20-40.5.
386	" 12	—	12 23	0.1	—	N.
387	" 14	15 7	15 19.3	0.15	0 25	W. P ₂ 15-12.
388	" 15	0 34.7	0 55.6	0.03	1 2	W. P ₂ 0-40.8.
389	" 16	15 9.3	15 17	6.4	2 0	W. P ₂ 15-11.5.
390	" 17	16 44	16 56.5	2.7	0 37	W. P ₂ 16-48.4.
391	" 17	—	18 7.2	0.15	—	W.
392	" 18	22 6.2	22 33.1	0.1	0 39	W. P ₂ 22-12.6.
393	" 19	—	4 9.4	0.05	—	W.
394	" 21	8 44.3	9 16.4	0.5	1 21	W. P ₂ 8-51.3.
395	" 21	10 2.9	10 41.4	0.2	1 3	W. P ₂ 10-9.7.
396	" 22	—	13 33.3	0.3	—	W.

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Register from Woodbridge Hill, Guildford, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
397	May 22-23	23 16	23 32.8	0.15	1 12	W. P ₂ 23-23.
398	" 23	2 36.0	3 9	17.8	4 40	W. P ₂ 2-45.5.
399	" 25	—	16 37.5	0.5	—	W.
400	" 25	18 6.7	18 16.9	5.1	0 51	N. P ₂ 18-10.5.
401	" 28	13 1.9	13 44	0.65	1 55	N. P ₂ 13-10.9.
402	" 31	—	21 21	0.05	—	N.
403	June 1	0 47.4	1 7	1.45	0 47	N. P ₂ 0-52.7.
404	" 1	11 29.7	11 52.5	0.8	0 50	N. P ₂ 11-34.6.
405	" 2	12 45.3	13 21.7	0.4	—	N.
406	" 3	13 21	13 37.5	0.15	0 35	W. P ₂ 13-26.5.
407	" 5	—	12 34.5	0.1	0 43	W. With Ats.
408	" 7	3 5.4	3 37.7	0.05	1 1	W.
409	" 7	—	4 39	0.1	—	W.
410	" 7	—	5 18.8	0.02	—	W.
411	" 7	—	7 19.7	0.02	—	W. 14 quakes between 9h. and 15-36 and 4 quakes between 18-36 and 20h.
412	" 8	0 39.3	1 11.5	0.07	0 43	N. P ₂ 0-48.4. 11 quakes between 2-32 and 11.30 and 3 quakes between 13-11 and 15h.
413	" 9	17 29.7	17 56	0.25	—	N. P ₂ 17-35.7.
414	" 9	—	22 22	0.05	—	N.
415	" 9	—	22 52.5	0.03	—	W.
416	" 10	16 17.1	16 50	2.1	3 2	W. P ₂ 16-25.2.
417	" 12	7 13.7	7 38.3	0.25	1 15	N. P ₂ 7-20.4.
418	" 12	12 55.7	13 25.6	1.0	2 50	N. P ₂ 13-5.3.
419	" 14	16 16.7	17 18	0.1	—	N. 2 quakes.
420	" 15	0 46.5	1 11	0.05	—	N.
421	" 15	—	19 13	0.15	—	W.
422	" 16	—	13 7.6	0.6	—	N.
423	" 16	18 29.7	18 32	1.15	0 9	N.
424	" 17	11 27	12 12.3	0.55	1 46	N. P ₂ 11-37.2.
425	" 18	12 2	12 52	1.35	2 27	N. P ₂ 12-11.1.
426	" 20	—	0 5.5	0.15	—	N.
427	" 23	19 30.7	19 43	0.25	—	N.
428	" 26	17 11.1	17 42.2	0.2	—	N. P ₂ 17-20.2.
429	" 27	21 43.9	22 12.2	0.3	0 56	N.
430	" 29	8 8	8 55.5	0.35	—	N. P ₂ 8-18.3.
431	" 29	—	20 47	0.05	—	N.

Boom Period = 10 seconds, Jan. 1 to June 7.

9 seconds, June 7 to 30.

Phases uncertain during January, February, and March.

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Register from Frensham Hall, Haslemere, Surrey, England. 51°5'N 0°43'W.
Observer, SAML. KEVAN.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
533	Jan. 4	H. M. 4 18.7	H. M. 4 23.4	MM. 0.7	H. M. 0 29	—
	" 4	16 7.3	16 35	1.0	1 30	—
534	" 5	—	3 44.8	0.3	—	—
	" 6	—	0 53	0.2	—	—
537	" 20	5 2.3	5 12.4	0.9	0 34	—
538	" 24	16 33.8	16 40.2	3.8	0 43	—
539	" 26	—	14 9	0.1	—	—
	" 26	—	15 20.8	0.2	—	—
540	" 31	20 31.7	20 54.2	0.9	1 30	—
541	Feb. 6	—	8 56.2	0.2	—	—
542	" 10	—	18 52	0.2	—	—
	" 12	—	0 7.5	0.1	—	—
	" 13	—	0 16	0.5	—	—
	" 13	8 14.8	8 16.6	1.0	0 15	—
543	" 15	—	3 49	0.2	—	—
	" 16	—	10 53.3	0.4	—	—
544	" 19	—	11 37.6	0.1	—	—
	" 19	—	23 32	0.4	—	—
	" 20	—	13 49.9	0.6	—	—
545	" 22	—	14 18.8	0.5	—	—
	" 24	—	15 4.8	0.2	—	—
546	" 26	20 42.4	20 45.4	0.7	0 8	—
	" 27	—	0 43.2	0.5	—	—
	" 29	—	15 41	0.2	—	—
547	March 3	—	0 31.7	0.7	—	—
548	" 8	15 18.3	15 22.8	0.3	0 9	—
549	" 11	10 47.2	10 58.6	2.0	0 28	—
	" 14	—	7 32	0.1	—	—
551	" 21	—	14 7.3	0.9	—	—
	" 22	—	5 33	0.5	—	—
552	" 24	—	13 17	0.2	—	—
	" 25	—	5 34	0.2	—	—
554	" 30	—	21 33	0.1	—	—
556	April 8	—	9 15	0.2	—	—
557	" 14	23 55	23 57	0.3	0 7	—
558	" 17	—	4 40	0.6	—	—
559	" 21	3 5.6	3 7	0.3	0 5	—
560	" 25	—	10 57	0.2	—	—
	" 26	—	16 11	0.1	—	—
561	May 1	—	13 40.7	0.1	—	—
562	" 3	—	20 20	0.3	—	—
	" 6	19 3.9	19 10.2	10.5	2 10	P ₁ 19-8.
	" 6	—	19 15.4	8.5	—	—
	" 6	—	22 20	0.2	—	—
563	" 7	—	14 44.8	0.1	—	—
	" 8	—	11 55	0.1	—	—
	" 11	—	5 50.7	0.2	—	—
564	" 11	—	17 50.1	0.3	—	—
	" 11	21 15.8	21 20	0.3	0 9	—
	" 14	—	15 27	0.4	—	—
	" 15	—	0 50	0.4	—	—
	" 15	—	0 56.6	0.4	—	—
565	" 16	15 8.6	15 12.6	0.9	0 11	—
	" 17	16 35.8	16 41.3	1.0	0 31	—
	" 18	—	22 34	0.8	—	—
566	" 21	8 55.4	9 19.3	1.0	1 0	—
	" 22	—	13 36	0.3	—	—
	" 22	—	23 45.2	0.4	—	—

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Register from Frensham Hall, Haslemere, Surrey, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
	May 23	H. M. 2 36	H. M. 3 9	MM. 12.5	H. M. 4 51	P ₁ 2-46.2.
			3 15.5	14.5		
			3 19.2	11.0		
567	" 25	—	16 41.9	0.6	—	—
	" 25	18 5.9	18 9.3	1.5	0 25	—
	" 28	—	8 3	0.2	—	—
568	" 31	—	21 17	0.2	—	—
	June 1	—	1 5.6	0.2	—	—
	" 1	—	11 48	0.3	—	—
569	" 2	—	12 31	0.2	—	—
	" 2	13 2.2	13 19.3	0.4	0 41	—
	" 3	—	13 30	0.4	—	—
	" 5	—	12 44	0.4	—	—
570	" 6	—	16 4	0.1	—	—
	" 6	—	16 32	0.1	—	—
	" 6	—	18 0	0.4	—	—
	" 7	3 59	4 22	0.1	—	—
	" 7	—	4 54	0.2	—	—
	" 7	—	5 18.5	0.1	—	—
	" 7	—	7 25	0.2	—	—
	" 7	—	7 42.2	0.3	—	—
	" 7	—	8 40	0.2	—	—
	" 7	—	9 35	0.2	—	—
	" 7	—	9 48	0.2	—	—
	" 7	—	10 31.5	0.3	—	—
	" 7	—	10 40	0.3	—	—
	" 7	—	10 44	0.5	—	—
	" 7	—	11 19	0.5	—	—
	" 7	—	13 11	0.3	—	—
	" 7	18 41	19 9	0.6	—	—
			19 12.5	0.6	—	—
			19 19	0.6	—	—
	" 8	—	0 41.5	0.1	—	—
	" 8	—	2 0	0.1	—	—
	" 8	—	3 6	3.2	—	—
	" 8	—	3 47.5	0.2	—	—
	" 8	—	6 51	0.3	—	—
	" 8	—	7 43	0.5	—	—
	" 8	—	8 23	0.6	—	—
	" 8	—	9 31	1.0	—	—
	" 8	—	10 23.9	0.4	—	—
	" 8	—	11 13.5	0.4	—	—
571	" 8	13 20	—	—	—	—
	" 9	—	9 15	0.1	—	—
	" 9	—	17 24	0.1	—	—
	" 9	—	18 9	0.2	—	—
	" 9	—	22 54	0.2	—	—
	" 9	—	23 6	0.2	—	—
	" 10	—	16 51	0.5	—	—
	" 10	—	17 0	1.0	—	—
	" 10	—	18 50	2.2	—	—
	" 10	—	19 0	0.2	—	—
			19 8.5	0.2	—	—
	" 12	7 18	7 47	0.3	3 0	—
	" 12	12 54	13 29	0.2	3 25	—
			13 33	1.2	—	—
			15 8	1.1	—	—
572	" 14	—	17 6	0.2	—	—
	" 15	—	19 11	0.2	—	—
	" 16	—	13 4.2	0.1	—	—
	" 16	—	18 39	0.6	—	—
	" 17	—	12 18	0.7	—	—
573	" 18	12 15.3	12 50.8	3.0	2 20	P ₁ 12-49.4.

Register from Frensham Hall, Haslemere, Surrey, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
575	June 26	H. M. 17 19	H. M. 17 32.4	MM. 0.8	H. M. 0 40	—
	" 27	—	22 9.8	0.7	—	—
	" 29	8 13.8	8 15	0.3	—	—
Period, 18 seconds. 1° turn = 4.5mm.						

*Register from Fskdalemuir Observatory. 55°19'N. 3°12'W.
Superintendent, GEORGE W. WALKER, M.A., A.R.C.Sc.
Professional Assistant, L. SOUTHERNS, B.A., B.Sc.*

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM.	H. M.	Waves. Scale value in secs. 1mm. = 0.43.
349	Jan. 3	11 23	11 55.5	0.1	—	N.S. 0.43.
		11 28.5	11 54	0.1	—	E.W. 0.36.
350	" 4	3 56	4 35	0.6	2 21.5	N.S. 0.43.
		3 58	4 33.5	0.2	2 14	E.W. 0.36.
351	" 4	15 58.5	16 39.5	1.0	3 47	N.S. 0.43.
		15 59	16 41	1.0	3 47	E.W. 0.36.
352	" 5	3 25.5	3 44	0.1	0 38	N.S. 0.43.
		3 27	3 40	0.1	0 33.5	E.W. 0.36.
353	" 8	9 22	9 24	0.1	0 8	N.S. 0.43.
		9 22	9 23	0.1	0 6	E.W. 0.37.
354	" 20	4 22.5	5 19	0.2	2 44.5	N.S. 0.44.
		4 22.5	5 21.5	0.4	3 53	E.W. 0.37.
355	" 21	—	2 26	0.1	—	N.S. 0.44.
		—	2 27.5	0.1	—	E.W. 0.37.
356	" 23	—	20 45	0.1	—	N.S. 0.43.
		—	20 38	0.1	—	E.W. 0.37.
357	" 24	16 28	16 41.5	1.4	2 27.5	N.S. 0.43.
		16 29	16 41.5	2.3	2 23.5	E.W. 0.37.
358	" 25	—	1 51.5	0.2	—	N.S. 0.43.
		—	1 50.5	0.1	—	E.W. 0.37.
359	" 25	20 1	20 10.5	0.3	0 36	N.S. 0.43.
		20 0	20 10.5	0.4	0 37	E.W. 0.37.
360	" 26	—	14 7.5	0.1	—	N.S. 0.43.
		—	14 8	0.1	—	E.W. 0.37.
361	" 26	14 59	15 20.5	1.0	1 42	N.S. 0.43.
		14 59	15 21	0.5	1 47	E.W. 0.37.
362	" 26	18 56.5	19 2.5	0.1	0 32.5	N.S. 0.43.
		18 57	19 3.5	0.1	0 36	E.W. 0.37.
363	" 31	—	12 18.5	0.1	—	N.S. 0.43.
		—	12 20.5	0.1	—	E.W. 0.39.
364	" 31	12 57.5	13 20.5	0.3	1 23	N.S. 0.43.
		12 57.5	13 20.5	0.01	1 27	E.W. 0.39.

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Register from Eskdalemuir Observatory—continued.

No.	Date	Com- mence- ment		Max.		Max. Ampli- tude	Dura- tion	Remarks	Scale value in secs.
		H.	M.	H.	M.	MM.	H. M.	Waves.	
365	Jan. 31	20	22	20	49.5	0.9	3 27	N.S.	0.43.
366	Feb. 13	20	22	20	49.5	0.7	3 24	E.W.	0.39.
		8	8	8	18	0.4	0 47.5	N.S.	0.43.
		8	8.5	8	19	0.4	0 47	E.W.	0.37.
367	" 13	16	54	17	28	0.2	1 32	N.S.	0.43.
		16	54	17	27	0.2	1 23	E.W.	0.37.
368	" 16	10	0.5	10	54.5	0.2	1 55	N.S.	0.43.
		9	58	10	51.5	0.3	2 5	E.W.	0.37.
369	" 19	10	50	11	22.5	0.1	0 54	N.S.	0.43.
		10	43.5	11	21	0.1	1 6	E.W.	0.36.
370	" 19	23	19.5	23	33.5	0.1	0 31.5	N.S.	0.43.
		23	19	23	30	0.3	0 26	E.W.	0.36.
371	" 20	—	—	14	0.5	0.3	—	N.S.	0.43.
372	" 21	—	—	18	29	0.1	—	N.S.	0.43.
		—	—	18	25	0.1	—	E.W.	0.36.
373	" 22	14	19.5	14	31.5	0.1	—	N.S.	0.43.
		14	20.5	14	29	0.1	—	E.W.	0.36.
374	" 24	14	51.5	15	5	0.1	0 32.5	N.S.	0.43.
		14	57	15	6.5	0.1	0 25.5	E.W.	0.36.
375	" 25	3	15.5	4	13	0.1	1 54.5	N.S.	0.43.
		3	22	4	12	0.1	1 52.5	E.W.	0.36.
376	" 25	11	3	11	6.5	0.1	0 8.5	N.S.	0.43.
		11	3.5	11	5	0.1	0 11	E.W.	0.36.
377	" 25	—	—	22	10	0.1	—	N.S.	0.43.
		—	—	22	6.5	0.1	—	E.W.	0.36.
378	" 26	20	45	20	46	0.1	—	N.S.	0.43.
		20	45	20	46	0.1	—	E.W.	0.37.
379	" 27	—	—	0	44	0.2	—	N.S.	0.43.
		—	—	0	42	0.2	—	E.W.	0.37.
380	March 3	—	—	21	32.5	0.1	—	N.S.	0.43.
		—	—	21	32	0.1	—	E.W.	0.37.
381	" 5	1	34.5	1	40.5	0.1	0 13.5	N.S.	0.43.
		1	33	1	40.5	0.1	0 16	E.W.	0.37.
382	" 8	2	6	2	17	0.1	0 32	N.S.	0.43.
		2	4	2	22.5	0.1	0 33	E.W.	0.37.
383	" 8	—	—	15	32	0.1	—	N.S.	0.43.
		—	—	15	22	0.1	—	E.W.	0.37.
384	" 11	10	32.5	10	58	1.0	1 43.5	N.S.	0.43.
		10	33	10	57	1.4	1 47	E.W.	0.37.
385	" 11	12	53.5	13	2.5	0.1	0 39.5	N.S.	0.43.
		12	51.5	13	3.5	0.1	0 42.5	E.W.	0.37.
386	" 11	16	31	16	47	0.1	0 32.5	N.S.	0.43.
		16	29	16	47	0.1	0 33.5	E.W.	0.37.
387	" 13	20	19	21	14	0.1	1 11	N.S.	0.43.
		20	21.5	20	51	0.1	1 3	E.W.	0.37.
388	" 14	7	10	7	32	0.1	0 48.5	N.S.	0.43.
		7	11.5	7	34.5	0.1	0 50.5	E.W.	0.37.
389	" 16	—	—	14	40.5	0.1	—	N.S.	0.43.
		—	—	14	39	0.2	—	E.W.	0.37.
390	" 17	23	56	0	1.5	0.1	—	N.S.	0.43.
		23	56	0	1	0.1	—	E.W.	0.37.
391	" 22	—	—	1	49.5	0.1	—	N.S.	0.43.
		—	—	1	48	0.1	—	E.W.	0.37.
392	" 22	—	—	5	47.5	0.2	—	N.S.	0.43.
		—	—	5	38	0.1	—	E.W.	0.37.
393	" 22	18	55	18	57.5	0.1	0 6.5	N.S.	0.43.
		18	55	18	56	0.1	0 6	E.W.	0.37.
394	" 23	—	—	8	59.5	0.1	—	E.W.	0.37.
395	" 24	12	42	13	31.5	0.1	1 13.5	N.S.	0.43.
		12	42	13	26.5	0.1	1 16	E.W.	0.37.
396	" 25	—	—	5	32.5	0.1	—	N.S.	0.43.
		—	—	5	31	0.1	—	E.W.	0.37.

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Register from Eskdalemuir Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	Waves. Scale value in secs.
397	April 13	2 53	3 12	0.1	0 30.5	N.S. 0.42.
		2 55.5	3 8	0.1	0 28	E.W. 0.36.
398	" 13	19 31.5	19 40	0.1	0 22.5	N.S. 0.42.
		19 31.5	19 37	0.1	0 25	E.W. 0.36.
399	" 14	13 56.5	14 15.5	0.1	1 42.5	N.S. 0.42.
		13 54.5	14 14.5	0.1	1 56	E.W. 0.36.
400	" 14	22 57	23 8.5	0.2	2 8.5	N.S. 0.42.
		23 5.5	23 8.5	0.2	1 53	E.W. 0.36.
401	" 15	16 27	17 30	0.1	2 0	N.S. 0.43.
		16 26.5	17 30	0.1	2 9.5	E.W. 0.36.
402	" 15	23 36	23 43.5	0.1	0 23	N.S. 0.43.
		23 36	23 44	0.1	0 15	E.W. 0.36.
403	" 17	4 12	4 42.5	0.2	1 43.5	N.S. 0.43.
		4 12.5	4 40.5	0.3	1 45.5	E.W. 0.36.
404	" 18	8 26	8 32	0.1	0 11.5	N.S. 0.43.
		8 27	8 33	0.1	0 12	E.W. 0.36.
405	" 19	0 30	0 35.5	0.1	0 44.5	N.S. 0.43.
		0 30	0 35.5	0.1	0 46	E.W. 0.36.
406	" 19	—	15 41.5	0.1	—	N.S. 0.43.
		—	15 35.5	0.1	—	E.W. 0.36.
407	" 20	1 54.5	2 53.5	0.4	2 17	N.S. 0.43.
		1 54.5	2 55.5	0.4	2 19.5	E.W. 0.36.
408	" 21	3 3.5	3 19	0.1	0 30.5	N.S. 0.43.
		3 3.5	3 13.5	0.1	0 34	E.W. 0.36.
409	" 23	22 7	22 42.5	0.2	1 11	N.S. 0.42.
		22 7	22 45.5	0.2	1 22	E.W. 0.35.
410	" 24	3 18.5	3 34	0.1	—	N.S. 0.42.
		3 19	3 33.5	0.1	—	E.W. 0.35.
411	" 25	10 49	10 52	0.1	0 22.5	N.S. 0.42.
		10 44	10 48.5	0.1	0 28.5	E.W. 0.35.
412	" 26	—	16 10.5	0.1	—	N.S. 0.42.
		—	16 2.5	0.1	—	E.W. 0.35.
413	May 1	—	13 40	0.2	—	N.S. 0.42.
		—	13 39.5	0.1	—	E.W. 0.35.
414	" 3	19 32	20 10.5	0.1	1 17.5	N.S. 0.42.
		19 32	20 20.5	0.1	1 6.5	E.W. 0.35.
415	" 6	19 3	19 8.5	6.0	3 56.5	N.S. 0.42.
		19 3	19 8	13.8	3 56.5	E.W. 0.43.
416	" 10	11 3	11 6	0.1	0 13	N.S. 0.42.
		11 2	11 5	0.1	0 18	E.W. 0.43.
417	" 11	5 29	5 50.5	0.1	0 56	N.S. 0.42.
		5 23.5	5 48	0.1	1 4.5	E.W. 0.43.
418	" 11	—	18 31	0.3	—	N.S. 0.42.
		17 39.5	18 21.5	0.3	1 50	E.W. 0.43.
419	" 11	21 14	21 20	0.2	0 27	N.S. 0.42.
		21 13	21 18	0.1	0 19	E.W. 0.43.
420	" 12	12 19	12 22	0.1	0 36.5	N.S. 0.42.
		12 19	12 19.5	0.1	0 31	E.W. 0.43.
421	" 13	—	20 26	0.1	—	N.S. 0.42.
		—	19 57.5	0.1	—	E.W. 0.39.
422	" 15	0 24.5	0 58.5	0.3	2 36.5	N.S. 0.42.
		0 28.5	1 5	0.2	2 14	E.W. 0.39.
423	" 16	—	15 13.5	0.6	—	N.S. 0.42.
		15 11.5	15 14.5	0.3	—	E.W. 0.39.
424	" 17	16 49	16 58	0.6	1 36	N.S. 0.42.
		16 50	17 1	0.4	1 33.5	E.W. 0.39.
425	" 18	22 5.5	22 36.5	0.1	1 37	N.S. 0.42.
		22 5.5	22 38.5	0.1	1 34.5	E.W. 0.39.
426	" 19	—	2 52	0.1	—	N.S. 0.42.
		—	2 53	0.1	—	E.W. 0.39.
427	" 21	—	9 13	0.1	—	N.S. 0.42.
		—	9 15	0.1	—	E.W. 0.39.

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Register from Eskdalemuir Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
						Scale value in secs.
428	May 22	H. M.	H. M.	MM.	H. M.	Waves.
429	" 23	—	13 40.5	0.1	—	E.W. 0.39.
		2 46	3 8	0.6	1 22.5	N.S. 0.42.
		2 36.5	3 8	1.6	2 23.5	Spider webs on boom E.W. 0.39.
430	" 25	—	16 48.5	0.1	—	N.S. Ditto. 0.42.
431	" 25	—	16 45	0.1	—	E.W. 0.39.
432	" 25	18 7	18 16.5	0.6	0 54	N.S. 0.42.
		18 6.5	18 18	0.8	0 54.5	E.W. 0.39.
433	" 25	21 23	21 25	0.1	0 7	N.S. 0.42.
		21 25	21 26.5	0.1	0 5	E.W. 0.39.
434	" 26	3 31.5	3 38	0.1	0 40	N.S. 0.42.
		3 30.5	3 33	0.1	0 19	E.W. 0.39.
435	" 26	8 8	8 32	0.1	0 42.5	N.S. 0.42.
		8 9	8 28	0.1	0 25	E.W. 0.39.
436	" 28	7 55	8 0	0.2	0 30	N.S. 0.43.
		7 54	8 6	0.1	0 36	E.W. 0.36.
437	" 28	13 6	13 54.5	0.6	—	N.S. 0.43.
438	" 31	13 11	13 44	0.4	—	E.W. 0.36.
		20 48	21 13.5	0.1	1 3	N.S. 0.43.
439	June 1	0 42	1 5.5	0.1	0 51	N.S. 0.43.
		—	1 6	0.3	—	E.W. 0.36.
440	" 1	11 43	11 48	0.1	0 27	N.S. 0.43.
		11 44.5	11 46	0.2	0 21	E.W. 0.36.
441	" 2	12 15	13 7	0.2	—	N.S. 0.43.
442	" 3	12 55	13 26.5	0.3	1 58.5	N.S. 0.43.
		12 54.5	13 36.5	0.3	1 53.5	E.W. 0.45.
443	" 4	6 0	6 23.5	0.1	1 13	N.S. 0.43.
		6 9	6 24.5	0.1	0 57.5	E.W. 0.45.
444	" 5	—	12 35.5	0.2	—	N.S. 0.43.
		—	12 28.5	0.1	—	E.W. 0.45.
445	" 7	10 15	10 39.5	0.5	0 2	N.S. 0.43.
		—	10 45	0.4	—	E.W. 0.45.
446	" 7	—	13 7.5	0.3	—	N.S. 0.43.
		—	13 8	0.3	—	E.W. 0.45.
447	" 7	14 36.5	15 3.5	0.2	1 30	N.S. 0.43.
		14 35	15 1	0.1	1 30.5	E.W. 0.45.
448	" 7	17 51	17 58	0.1	0 22	N.S. 0.43.
		17 49	17 55	0.1	0 27.5	E.W. 0.45.
449	" 7	18 43.5	19 10	0.6	—	N.S. 0.43.
		18 43	19 13	0.4	—	E.W. 0.45.
450	" 8	—	23 3.5	0.2	—	N.S. 0.43.
		—	23 3.5	0.1	—	E.W. 0.45.
451	" 8	—	3 37	0.2	—	N.S. 0.43.
		—	3 37.5	0.2	—	E.W. 0.45.
452	" 8	4 52	5 40	0.2	—	N.S. 0.43.
		—	5 40.5	0.2	—	E.W. 0.45.
453	" 8	—	7 33.5	0.4	—	N.S. 0.43.
		—	7 31	0.4	—	E.W. 0.45.
454	" 8	—	8 27.5	1.3	—	N.S. 0.43.
		—	8 19.5	1.2	—	E.W. 0.45.
455	" 8	—	9 32	0.9	—	N.S. 0.43.
		—	9 31.5	0.9	—	E.W. 0.45.
456	" 8	13 10	13 41.5	0.5	2 8	N.S. 0.43.
		13 17	13 43	0.6	2 7	E.W. 0.45.
457	" 9	7 31.5	7 38.5	0.1	1 13	N.S. 0.43.
		7 32.5	7 38	0.1	1 2.5	E.W. 0.45.
458	" 9	8 48.5	9 6	0.2	0 50.5	N.S. 0.43.
		8 48	9 3.5	0.1	0 59	E.W. 0.45.
459	" 9	17 25	17 55.5	0.2	1 52	N.S. 0.43.
		17 34	17 57.5	0.1	1 37.5	E.W. 0.45.
		22 14	22 52	0.2	1 35	N.S. 0.43.
		22 14.5	23 1.5	0.1	1 49.5	E.W. 0.45.

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Register from Eskdalemuir Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	Waves. Scale value in secs.
460	June 10	16 16.5	16 47	1.2	3 27.5	N.S. 0.43.
		16 16.5	16 48.5	0.6	3 12	E.W. 0.45.
461	" 12	7 22	7 46.5	0.4	1 26	N.S. 0.43.
		7 23.5	7 48.5	0.2	1 22	E.W. 0.45.
462	" 12	11 9	11 12	0.1	0 21	N.S. 0.43.
463	" 12	12 56.5	13 35.5	0.2	3 16	N.S. 0.43.
		12 55.5	13 6.5	0.3	2 57	E.W. 0.45.
464	" 14	—	16 32	0.1	—	N.S. 0.43.
465	" 15	19 5.5	19 11	0.2	0 26	N.S. 0.43.
		19 8.5	19 13	0.1	0 10.5	E.W. 0.45.
466	" 16	13 1	13 3.5	0.2	0 19	N.S. 0.43.
		13 1	13 2.5	0.1	0 13	E.W. 0.45.
467	" 16	18 32	18 38.5	0.5	0 34	N.S. 0.43.
		18 31.5	18 37.5	0.2	0 40	E.W. 0.45.
468	" 17	11 28.5	12 12.5	0.3	1 54	N.S. 0.43.
		11 36.5	12 10.5	0.2	1 51.5	E.W. 0.45.
469	" 18	12 18.5	13 1.5	1.6	3 33.5	N.S. 0.44.
		12 18.5	12 51.5	0.4	3 2	E.W. 0.52.
470	" 26	17 12	17 40	0.4	1 49.5	N.S. 0.43.
		17 13	17 42.5	0.2	1 49.5	E.W. 0.50.
471	" 27	2 0	2 2.5	0.1	0 12.5	N.S. 0.43.
472	" 27	21 33	21 41.5	0.1	2 13	N.S. 0.43.
		21 41	21 42.5	0.1	1 2	E.W. 0.50.
473	" 28	—	19 16	0.1	—	N.S. 0.43.
474	" 29	8 13.5	8 19.5	0.1	1 16.5	N.S. 0.43.
		8 9.5	8 23	0.1	0 53.5	E.W. 0.50.
475	" 29	20 41	20 44.5	0.1	0 9.5	N.S. 0.43.
		20 41.5	20 48	0.1	0 9	E.W. 0.50.

Register from the Coats Observatory, Paisley. 55°50'N. 4°26'W.

Observer, DONALD MACLEAN.

Convener of Committee, JOHN WOODROW, F.R.A.S.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
1222	Jan. 4	4 28	4 30	0.2	1 20	—
1223	" 4	16 8	16 38	0.7	2 36	—
1224	" 20	4 18	5 16.5	0.3	2 5	—
1225	" 21	—	3 16	0.2	—	—
1226	" 24	16 32.5	16 40	1.3	1 11	—
1227	" 25	—	1 53.5	0.1	—	—
1228	" 25	—	20 9	0.5	—	Com. and end in Ats.
1229	" 26	—	14 9	0.1	—	—
1230	" 26	15 15.5	15 21	0.6	0 40	—
1231	" 31	13 7	13 16.5	0.3	0 38	—
1232	" 31	20 27	20 56	0.5	—	End lost in Ats.
1233	Feb. 13	8 13	8 21	0.6	0 30	—
1234	" 16	10 18	10 54.5	0.1	1 33	—
1235	" 16	—	18 4	0.1	—	—
1237	" 20	13 40	13 52.5	0.3	0 40	—

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Register from the Coats Observatory, Paisley—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
1238	Feb. 22	14 14	14 41.5	0.2	0 44	—
1239	" 23	3 19	3 38	0.2	0 33	—
1240	" 24	—	15 7	0.1	—	—
1241	" 25	3 30	4 19	0.1	1 7	—
1242	" 25	—	22 19.5	0.1	—	—
1243	" 25	—	23 20	0.1	—	—
1244	" 27	—	0 42.5	0.2	—	—
1245	March 3	—	0 32	0.1	—	—
1246	" 8	15 10	15 29	0.2	0 45	—
1247	" 11	10 47	10 56.5	0.7	1 29	—
1248	" 11	—	16 40.5	0.1	—	—
1250	" 14	7 23	7 32	0.1	—	—
			7 46	0.1	0 52	—
1251	" 16	—	16 31	0.1	—	—
1252	" 21	—	14 6	0.1	—	—
1254	" 22	—	5 37	0.1	—	—
1255	" 24	—	13 19	—	—	—
1256	" 25	—	15 7.5	0.1	—	—
1257	April 14	—	14 14	0.1	—	—
1258	" 17	—	4 39.5	0.6	—	Com. and end in Ats.
1259	" 20	—	2 51.5	0.5	—	" "
1260	" 21	—	3 7.5	0.1	—	—
1261	May 1	13 15	13 36.5	0.1	0 44	—
1262	" 1	—	23 43	0.1	—	—
1264	" 6	19 3.5	19 7.5	—	—	Max. beyond range of paper. End in Ats.
1266	" 7	—	14 46	—	—	—
1267	" 11	5 16.5	5 55.5	0.1	0 59	—
1268	" 11	17 46	18 33.5	0.2	—	End lost in Ats.
1269	" 14	15 14	15 20	0.1	0 21	—
1270	" 16	15 11	15 15.5	0.5	1 4	—
1271	" 17	16 47.5	16 59	0.6	1 2	—
1272	" 21	8 50	9 16	0.3	2 20	—
1273	" 22	13 28	13 35.5	0.2	0 30	—
1274	" 22	—	17 27	—	—	—
1275	" 23	2 39	3 10.5	—	4 53	Max. beyond range of paper.
1276	" 25	18 9	18 17.5	0.4	0 55	—
1277	" 26	—	8 18	—	—	—
1278	" 28	13 13	13 55.5	0.3	2 33	—
1279	June 2	12 25	13 26	0.2	1 29	—
1280	" 3	13 13	13 30	0.2	1 25	—
1282	" 5	12 15	12 27	0.2	1 28	—
1283	" 7	—	7 14	0.1	—	—
1284	" 7	9 20	9 33	0.2	0 38	—
1285	" 7	10 22	10 37.5	0.3	0 34	—
1286	" 7	11 5	11 12	0.3	1 5	—
			11 19	0.2	—	—
			11 26.5	0.2	—	—
1287	" 7	12 43	13 3	0.2	1 2	—
1288	" 7	13 48	14 59	0.2	1 49	—
1289	" 7	18 50	19 5	0.6	—	—
			19 50	0.3	1 50	—
1290	" 8	—	5 55	0.1	—	—
1291	" 8	—	6 1	0.1	—	—
1292	" 8	6 40	8 15	2.2	5 59	—
1293	" 8	13 26	13 37.5	0.6	1 32	—
1295	" 9	17 49	17 54.5	0.2	0 28	—
1296	" 10	16 25.5	16 47	1.5	3 6	—
1297	" 12	7 33	7 47.5	0.2	1 29	—
1298	" 12	12 52	13 31.5	1.0	3 1	—
1299	" 15	19 3	19 10.5	0.1	0 16	—

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Register from the Coats Observatory, Paisley—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1800	June 16	H. M. 18 30	H. M. 18 36	MM. 0.4	H. M. 0 28	—
1301	" 17	11 37	12 9	0.2	1 21	—
1302	" 18	12 10	12 58.5	2.2	2 55	—
1303	" 26	17 10	17 40.5	0.3	—	End lost in Afs.
1304	" 29	8 14	8 45	0.3	1 35	—

1mm. of amplitude = 0".47.
Period of pendulum = 17 seconds.

*Register from Royal Observatory, Edinburgh. 55°55'N. 3°11'W.
Director, R. A. SAMPSON, D.Sc., F.R.S.*

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
919	Jan. 3	H. M. 11 41.5	H. M. —	MM. —	H. M. 0 45.7	0
920	" 4	4 18.7	4 34.2	0.2	1 42.8	—
921	" 4	15 59.0	16 40.9	0.4	3 24.8	—
922	" 5	—	3 43.4	—	—	00
923	" 6	—	1 5.7	—	—	0
924	" 8	—	9 23.0	—	—	0
925	" 16	—	11 45.2	—	—	00
926	" 16	—	16 40.5	—	—	00
927	" 20	4 27.3	5 13.0	0.1	2 5.5	—
928	" 21	—	3 17.7	—	—	00
929	" 23	20 24.8	—	—	1 22.7	0
930	" 24	16 28.6	16 38.6	0.5	1 47.5	—
931	" 25	1 46.4	1 50.0	0.1	0 27.7	—
932	" 25	20 2.4	20 8.2	0.1	0 31.5	—
933	" 26	—	8 31.2	—	—	000
934	" 26	—	14 8.4	—	—	00
935	" 26	14 59.2	15 19.8	0.2	1 23.0	—
936	" 26	—	19 4.6	—	—	00
937	" 31	—	12 24.3	—	—	0
938	" 31	12 57.7	13 20.6	0.1	1 33.3	—
939	" 31	20 26.0	20 49.8	0.5	3 2.3	—
940	Feb. 10	—	19 15.0	—	—	000
941	" 13	—	0 40.5	—	—	000
942	" 13	8 9.2	8 18.2	0.3	0 44.8	—
943	" 13	17 4.4	17 26.5	—	1 11.1	0
944	" 15	—	3 14.0	—	—	000
945	" 15	3 36.3	3 46.5	0.1	0 30.2	—
946	" 16	10 7.3	10 52.9	0.1	2 4.8	—
947	" 17	—	4 39.0	—	—	000
948	" 19	11 18.8	—	—	0 27.0	0
949	" 19	23 19.4	23 30.9	0.1	0 26.8	—
950	" 20	13 47.8	13 53.4	0.2	0 27.9	—
951	" 21	—	8 45.0	—	—	000

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Register from Royal Observatory, Edinburgh—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
952	Feb. 21	—	18 20.0	—	—	0
953	" 22	—	14 21.5	—	—	0
954	" 24	—	15 5.6	—	—	00
955	" 25	3 54.0	—	—	1 6.5	0
956	" 25	—	11 3.5	—	—	00
957	" 25	—	22 9.5	—	—	000
958	" 25	—	23 13.1	—	—	000
959	" 26	20 45.5	20 48.8	0.1	0 7.5	—
960	" 27	0 36.5	0 42.4	0.1	0 8.6	—
961	" 29	—	15 42.9	0.1	—	Duration uncertain; Ats
962	" 29	—	19 36.0	—	—	00
963	March 3	—	0 33.0	—	—	0
964	" 5	—	1 36.0	—	—	0
965	" 7	—	20 12.8	—	—	00
966	" 8	15 7.8	15 26.8	0.1	1 17.0	—
967	" 10	—	5 52.0	—	—	000
968	" 10	—	12 1.5	—	—	000
969	" 11	10 35.4	10 57.2	1.1	2 56.9	—
970	" 11	—	16 38.0	—	—	00
971	" 13	—	20 43.5	—	—	000
972	" 13	—	21 18.8	—	—	000
973	" 14	—	7 35.0	—	—	00
974	" 16	14 31.9	14 44.0	0.1	1 51.6	—
975	" 17	—	16 36.5	—	—	0
976	" 21	—	14 12.0	—	—	00
	" 21	—	17 12.0	—	—	0
977	" 22	—	1 51.0	—	—	0
978	" 22	—	5 31.0	—	—	00
979	" 22	—	18 58.0	—	—	0
980	" 24	13 8.7	13 18.9	0.1	0 44.8	—
981	" 25	5 30.2	5 34.7	0.1	1 33.4	—
982	" 25	—	15 16.1	—	—	000
983	" 26	—	7 30.6	—	—	000
984	" 29	—	19 23.3	—	—	0
985	" 30	—	8 40.0	—	—	0
986	" 30	—	21 36.0	—	—	0
987	April 8	2 35.5	2 46.6	0.1	0 17.1	—
988	" 8	—	9 17.0	—	—	0
989	" 9	—	7 10.7	—	—	000
990	" 13	—	2 57.3	—	—	000
991	" 13	—	19 37.0	—	—	0
992	" 14	—	14 14.0	—	—	0
993	" 14	—	23 12.0	—	—	00
994	" 15	—	17 31.5	—	—	00
995	" 15	—	23 44.0	—	—	000
996	" 17	4 13.7	4 37.2	0.1	1 17.3	—
			4 42.0	—	—	
997	" 19	—	0 35.4	—	—	0
998	" 19	—	1 12.2	—	—	000
999	" 19	—	15 38.0	—	—	000
1000	" 20	2 1.3	2 53.0	0.1	2 11.0	—
1001	" 21	3 3.4	3 11.2	0.1	0 21.8	—
1002	" 22	—	23 39.7	—	—	000
1003	" 23	—	22 38.0	—	—	0
1004	" 24	—	3 31.3	—	—	00
1005	" 25	—	11 4.0	—	—	0
1006	" 26	—	16 11.0	—	—	00
1007	May 1	13 28.9	13 38.3	0.1	0 21.5	—
1008	" 1	—	23 58.8	—	—	000
1009	" 3	—	19 32.5	—	—	00
1010	" 3	—	20 7.4	—	—	0
1011	" 3	—	20 21.2	—	—	000

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Register from Royal Observatory, Edinburgh—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
1012	May 6	19 2.9	19 7.0	>15.0	3 53.9	—
1013	" 10	—	11 4.7	—	—	000
1014	" 11	5 23.7	5 54.0	0.1	0 58.7	—
1015	" 11	17 39.4	18 29.2	0.2	1 51.0	—
1016	" 11	21 14.3	21 16.9	0.1	0 11.2	—
1017	" 12	—	12 18.5	—	—	0
1018	" 14	—	15 21.5	—	—	00
1019	" 15	0 29.7	1 5.0	0.1	1 56.8	—
			2 5.4	—	—	
1020	" 16	15 9.5	15 15.5	0.3	0 51.3	—
1021	" 17	16 50.0	16 57.5	0.5	0 52.9	—
1022	" 17	—	18 5.2	—	—	0
1023	" 18	22 31.9	22 35.5	0.1	0 38.4	—
1024	" 19	—	2 50.6	—	—	00
1025	" 19	—	4 32.7	—	—	000
1026	" 21	8 51.0	9 16.1	0.4	2 39.7	—
1027	" 22	13 29.5	13 35.3	0.2	0 9.1	—
1028	" 22	—	17 26.2	—	—	0
1029	" 22	23 24.4	23 45.4	0.1	0 49.9	—
1030	" 23	2 36.3	3 10.0	>15.0	4 30.7	—
			3 15.3	12.4	—	
1031	" 23	—	23 50.8	—	—	000
1032	" 25	—	16 10.5	—	—	000
1033	" 25	—	16 45.3	—	—	00
1034	" 25	18 6.9	18 18.9	0.8	0 47.8	—
1035	" 25	—	20 34.3	—	—	000
1036	" 25	—	21 27.3	—	—	00
1037	" 26	—	8 18.5	—	—	00
1038	" 28	—	8 11.3	—	—	0
1039	" 28	13 9.7	14 5.7	0.2	2 33.6	—
1040	" 31	—	21 12.0	—	—	00
1041	June 1	0 51.3	1 6.5	0.2	0 26.4	—
1042	" 1	—	9 51.5	—	—	000
1043	" 1	11 44.2	11 46.0	0.1	0 56.	—
1044	" 2	12 23.8	—	—	2 13.5	0
1045	" 3	—	12 39.0	—	—	0
1046	" 3	12 56.1	13 36.1	0.1	1 29.1	—
1047	" 4	—	6 16.0	—	—	000
1048	" 5	11 46.2	12 31.4	0.1	1 35.1	—
			12 45.0	—	—	
1049	" 7	—	10 38.3	0.2	—	June 6th, 17-3, to 8th, tremors practically continuous; Max of 0.2mm. or greater entered.
1050	" 7	—	11 16.4	0.2	—	
1051	" 7	—	19 7.0	0.3	—	
1052	" 7	—	19 11.5	0.3	—	
1053	" 7	—	19 51.0	0.2	—	
1054	" 7	—	20 2.4	0.2	—	—
1055	" 8	7 55.0	8 12.5	1.1	—	—
			8 14.3	1.0	—	
1056	" 8	—	13 39.5	0.5	—	—
1057	" 8	—	13 41.7	0.5	—	—
1058	" 9	—	9 3.5	—	—	0
1059	" 9	17 38.5	17 57.1	0.1	1 17.5	—
1060	" 9	22 12.9	22 20.2	0.1	0 14.2	—
1061	" 9	22 39.7	22 56.5	0.1	1 18.8	—
1062	" 10	16 20.9	16 52.9	1.0	2 59.5	—
1063	" 12	7 23.7	7 44.8	0.1	1 27.2	—
1064	" 12	12 55.5	13 32.8	1.0	3 11.0	—
1065	" 14	—	16 58.2	—	—	0
1066	" 15	—	1 15.9	—	—	0
1067	" 15	19 4.0	19 9.7	0.1	0 8.9	—
1068	" 16	—	13 1.0	—	—	0
1069	" 16	18 31.5	18 37.0	0.2	0 27.0	—

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Register from Royal Observatory, Edinburgh—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
1070	June 18	—	2 28.5	—	—	000
1071	" 18	12 16.5	12 54.3	0.7	3 6.8	—
1072	" 20	—	23 20.4	—	—	000
1073	" 26	17 11.9	17 39.8	0.2	1 17.1	—
1074	" 27	—	21 42.2	—	—	0
1075	" 27	22 0.6	22 12.5	0.1	0 51.9	—
1076	" 28	—	19 16.0	—	—	00
1077	" 29	8 15.2	8 46.0	0.2	1 13.5	—
1078	" 29	—	20 43.4	—	—	0

Period of Pendulum = 17 seconds. 1mm. = 0".54.
For records below 0.1mm. of amplitude the intensity is denoted
by 0, 00, or 000, in decreasing order of magnitude.

Register from University College, Cork. 51°53'N. 8°28'W.

Observer, JAMES J. LALOR.

Director, I. SWAIN, B.A., A.R.C.Sc.I.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM.	H. M.	
1	Jan. 4	4 10	4 22	0.6	0 40	—
2	" 4	16 10	16 42	1.5	1 22	—
3	" 24	16 32	16 38	2.0	0 40	—
4	" 26	15 18	15 26	0.5	0 26	—
5	Feb. 15	3 49	3 51	0.25	0 7	—
6	Mar. 11	10 48	10 56	1.0	0 43	—
7	May 6	19 2	19 7	18.0	2 38	—
8	" 23	2 36	3 13	15.0	2 30	—

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Register from Ponta Delgada, St. Miguel, Azores. 37°44'N. 25°41'W.
Director, Colonel F. A. CHAVES.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
476	Jan. 24	H. M. 16 35.8	H. M. —	MM. —	H. M. 0 36	I. of Mercalli's scale. Thickening of line.
476	" 26	13 56.2	13 56.9	4.2	0 13	VII. ditto.
477	" 31	12 56.3	12 58.7	1.4	0 18	I. ditto.
477	" 31	20 17.9	—	—	1 36	I. ditto. Thickening of line.
481	Feb. 27	0 39.6	—	—	0 12	I. ditto. Ditto.
481	March 3	0 15.5	—	—	0 16	I. ditto. Ditto.
482	" 11	10 51.5	—	—	0 24	I. ditto. Ditto.
486	April 5	0 57.1	0 57.1	1.3	0 2	III. ditto.
491	May 6	19 10.3	19 14.6	21.4	1 33	I. ditto.
491	" 11	17 53.5	—	—	0 12	I. ditto. Thickening of line.
492	" 16	15 0	15 2.9	2.8	0 37	I. ditto.
493	" 22	12 49.6	12 49.6	2.0	0 4	I. ditto.
493	" 23	2 44.0	2 55.8	1.6	1 25	I. ditto.
495	June 8	7 50.2	—	—	1 57	I. ditto. Thickening of line.
496	" 10	16 27.5	—	—	0 51	I. ditto. Ditto.
496	" 12	13 1.5	—	—	0 24	I. ditto. Ditto.
496	" 16	18 38.6	—	—	0 8	I. ditto. Ditto.
Mean scale value, 1mm. = 0".49.						

Register from Rio Tinto Mines, Huelva, Spain. 37°46'N. 6°38'W.
Observer, W. A. JENKIN.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
378	Jan. 4	H. M. 4 5	H. M. 4 19	MM. 1.0	H. M. 1 0	—
379	" 4	16 10	16 52	1.0	1 46	—
399	" 24	16 25	16 37	0.7	1 3	—
406	" 31	20 33	20 55	0.5	1 32	—
			21 6	0.5		
			21 15	0.5		
451	Mar. 16	14 33	14 41	0.4	0 20	—
463	" 27	20 3	20 5	0.3	0 8	—
473	April 8	2 26	2 31	0.3	0 13	—
482	" 17	4 12	4 38	0.5	0 38	—
485	" 20	2 8	2 59	0.5	1 33	—
499	May 3	20 12	20 19	0.4	0 20	—
502	" 6	19 4	19 14	12.0	2 12	—
507	" 11	17 51	18 20	0.5	0 49	—
510	" 15	0 33	0 39	0.4	0 37	—
514	" 18	22 17	22 26	0.5	0 21	—
518	" 23	2 36	3 11	8.5	3 41	—
521	" 25	18 12	18 18	0.5	0 27	—

Register from Rio Tinto Mines, Huelva, Spain—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
524	May 28	H. M. 13 17	H. M. 14 1	MM. 0.7	H. M. 0 52	—
534	June 7	10 30	10 44	0.7	1 25	—
"	" 7	12 56	13 6	0.5	0 35	—
"	" 7	18 58	19 7	0.7	—	—
"	" 7	19 35	19 48	0.6	—	—
535	" 8	6 50	—	—	—	—
"	" 8	—	8 21	0.5	5 24	—
			8 29	1.5		
			8 34	1.0		
			8 42	1.4		
			8 53	0.7		
			8 58	0.5		
			9 5	0.5		
			9 25	0.6		
			9 31	1.0		
			9 36	1.0		
			9 46	0.6		
			9 59	0.5		
535	" 8	13 24	11 24	0.5		
			13 46	1.0	1 47	—
			13 59	0.6		
			14 11	0.5		
			14 23	0.5		
537	" 10	16 30	16 58	1.7	2 30	—
539	" 12	13 5	13 22	2.0	1 8	—
544	" 17	11 55	12 15	0.5	0 53	—
545	" 18	12 13	12 45	3.5	2 13	—
553	" 26	17 22	17 32	0.4	0 38	—
554	" 27	21 37	22 3	0.4	0 38	—
555	" 28	21 1	22 9	0.5	2 3	—

Feb. 12. Afs. from 16h. to 8h. on 13th.
Mar. 9. " 15h. to 6h. on 10th.
April 26. " 22h. to 24h.
Period = 19 seconds. 1° turn = 5mm.

Register from the Observatorio de Marina de San Fernando.
36°27'N. 6°12'W.

Director, Rear-Admiral T. DE AZCARATE.

Pendulum A (new model) records N.-S. motion.
Pendulum B (old model) records E.-W. motion.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
2	Jan. 4	H. M. 4 5.2	H. M. 4 19.7	MM. 2.0	H. M. 0 26	A. Max. for B. 4-19.5.
3	" 4	16 3.7	16 46.2	3.0	2 40	A.
		16 9.7	16 47.2	3.5	2 25	B.
4	" 6	0 49	0 54	0.5	0 10	A.
		0 51.6	0 54.6	0.5	0 7	B.

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Register from the Observatorio de Marina de San Fernando, Spain—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
7	Jan. 14	—	7 57	0.3	—	A.
8	" 17	14 57.8	—	—	—	A.
10	" 20	4 32.6	5 54.2	0.7	2 6	A.
		5 14.2	5 53	0.5	0 52	B.
11	" 24	16 28.5	16 40	1.5	0 58	A. Cephalonia.
		16 32	16 35.8	1.5	0 53	B.
12	" 26	1 40	—	—	—	B.
13	" 26	15 19.5	15 28.7	0.8	0 22	A.
		15 22.3	15 28.5	1.1	0 22	B.
18	" 31	—	13 7.3	—	—	A.
19	" 31	20 33.3	20 57.8	2.0	2 41	A.
		20 34	20 58	1.3	2 30	B.
26	Feb. 13	—	8 20.6	—	—	A.
27	" 13	16 50.9	—	—	0 54	A.
		17 8	17 18	0.5	0 20	B.
30	" 16	10 42.1	11 1	0.7	1 17	A.
		10 43	11 6	0.4	0 45	B.
31	" 17	6 38.5	—	—	—	A.
34	" 20	13 33.5	13 45.5	0.7	0 23	A.
		13 44.4	13 45	0.5	0 14	B.
36	" 22	—	14 15	—	—	A.
38	" 25	3 9.5	4 16.5	—	2 3	A.
39	" 26	23 28.3	—	—	—	A.
41	" 29	—	2 35.5	—	—	A.
42	" 29	15 20	15 31.3	—	0 35	A.
44	March 3	0 25.4	—	—	0 32	A.
49	" 8	15 8.5	15 22.4	0.4	0 44	A.
52	" 11	10 51	11 5.8	1.9	0 40	A.
56	" 16	14 40.3	14 45.7	—	0 38	A.
57	" 16	22 29.7	22 33.7	—	0 52	A.
58	" 20	0 0	—	—	—	A.
60	" 22	1 37	1 45	0.6	0 24	A.
		1 40	1 45	0.5	0 12	B.
63	" 25	—	5 43	—	—	A.
78	April 13	3 9.7	—	—	—	A.
80	" 14	23 49.2	—	—	—	B.
81	" 16	—	6 47.3	—	—	A.
82	" 17	4 12.5	4 41.5	0.4	0 58	A.
		4 16	4 36.2	0.4	0 46	B.
85	" 20	2 44.5	3 5.5	1.0	1 11	A.
		2 46.6	3 1	0.6	1 2	B.
89	" 24	—	3 59.7	—	—	A.
95	May 3	20 13	20 18.8	0.2	0 34	A.
		20 15.8	20 18.8	0.4	0 19	B.
98	" 6	19 6.5	19 19.5	6.0	—	A.
		19 7.5	19 17.5	>18.0	3 15	B.
101	" 8	21 52.5	—	—	—	A.
102	" 11	17 50.2	18 20.5	1.5	1 43	A.
		17 51	18 20.7	1.0	1 5	B.
103	" 11	20 50.2	—	—	—	A.
106	" 15	0 20	1 57.4	0.5	—	A.
		0 36.4	1 56.4	0.5	1 26	B.
108	" 16	15 9	15 12.4	0.5	0 18	A.
		15 9.4	15 16	0.4	0 11	B.
109	" 17	16 49.3	16 58.5	1.0	0 32	A.
		16 48.5	16 58	0.8	0 29	B.
111	" 18	22 28	22 36.2	0.5	—	A.
		22 28.5	22 35.5	0.4	0 13	B.
113	" 21	9 21.5	9 26.5	0.6	—	A.
		9 22	9 24.5	0.5	—	B.
114	" 22	13 39	13 42	0.6	0 8	A.
		13 38	13 40	0.5	0 8	B.

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Register from the Observatorio de Marina de San Fernando, Spain—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
115	May 22	H. M. 23 34.5	H. M. 23 40.5	MM. 0.9	H. M. 0 15	A.
116	" 23	23 35 ?	23 37 3 19	0.4 17.0	0 8 —	B. A. P ₂ 2-48. Com. and end in Ats.
		—	3 24	12.0	—	A.
118	" 25	18 7.6	3 18	>17.5	—	B.
		18 10.6	3 18	1.0	0 52	A.
122	" 28	13 16	18 20	—	0 23	B.
		13 22.6	13 55.6	0.8	2 3	A.
123	" 31	—	13 55	0.8	1 40	B.
124	June 1	—	4 30	—	—	A.
126	" 3	13 29.5	12 15.3	—	—	A.
		13 28.2	13 31.7	0.5	0 34	A.
128	" 5	11 43.6	13 41	0.5	0 32	B.
		12 32	12 41.6	0.5	2 7	A.
130	" 7	7 37.1	12 40.6	0.4	0 22	B.
		9 37	10 48	1.7	4 17.5	A. Several quakes.
131	" 7	18 48.1	10 48	1.0	5 51	B.
		19 7	19 16.6	—	1 19	A.
132	" 7	—	19 9	1.0	—	B.
		—	19 47.5	4.0	1 53	B.
		—	23 37.5	0.4	—	A.
		—	0 10.5	0.3	—	A.
		—	0 31.5	0.3	—	A.
		—	0 47.0	0.3	—	A.
		—	1 12.5	0.3	—	A.
		—	2 8.0	0.5	—	A.
		—	3 5.5	1.0	—	A.
		—	3 45.0	1.0	—	A.
		—	5 52.5	0.6	—	A.
		—	6 12.0	0.5	—	A.
		—	7 3.0	0.9	—	A.
		—	7 40.5	1.6	—	A.
		—	8 27.0	6.0	—	A.
		7 29.5	8 20.5	4.0	—	B.
		—	9 25.0	1.0	—	A.
		—	9 48.0	3.5	—	A.
		—	10 32.0	0.6	—	A.
		—	10 50.5	0.6	—	A.
		—	11 23.0	0.7	—	A.
		—	12 24.5	0.5	—	A.
		—	13 25.5	0.5	—	A.
		—	13 48.0	1.2	—	A.
		—	14 10.0	0.8	—	A.
133	" 9	17 56.6	18 6.6	0.8	0 19	A.
		17 57.5	18 7.0	—	0 17	B.
134	" 10	16 19.1	16 59.0	6.5	3 4	A. P ₂ 16-29.
		16 35	16 56.0	3.0	2 38	B.
		—	18 46.5	1.7	—	A.
		—	20 10.0	0.2	—	A.
135	" 12	7 49.6	7 50.6	0.6	—	A.
		7 49.6	7 49.6	0.5	0 33	B.
136	" 12	13 4	13 29.3	3.0	—	A.
		13 4.6	13 23	2.0	1 13	B.
137	" 15	12 17.7	12 18.4	0.5	0 7	A.
138	" 16	18 41.5	18 43.8	0.6	0 8	A.
		18 42.2	18 44	0.4	0 6	B.
139	" 17	11 41	12 21.2	0.8	1 18	A.
		11 51.7	12 21	0.5	0 54	B.
140	" 18	11 35	12 16.5	0.8	3 27	A.
		—	12 46.7	7.0	—	—
		12 14.3	12 46.7	6.5	2 15	B.

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Register from the Observatorio de Marina de San Fernando, Spain—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
145	June 26	H. M. 17 15.7 17 31.2	H. M. 17 39.5 17 32.2	MM. 0.5 0.7	H. M. 0 26 0 21	A. B.
146	" 27	21 40 21 37.7	22 9 22 11.2	0.5 0.5	0 48 0 47	A. B.
147	" 29	8 14.6 8 15	8 44.3 8 43	1.0 0.5	0 41 0 34	A. B.
Pendulum A. Period = 20 seconds. 1mm. = 0".25.						
" B. " = 19 seconds. 1mm. = 0".28.						

*Register from the University, Valetta, Malta. 35°54'N. 14°31'E.
Observer, C. LEACH.*

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
455	Jan. 20	H. M. 4 4	H. M. 4 26	MM. 0.3	H. M. 2 20	—
456	" 24	16 25.5	16 30	3.0	2 5	Zante. —
457	" 25	19 55	20 2.8	0.5	0 25	—
458	" 26	14 56.7	15 29.7	0.5	0 52	—
459	" 31	12 57	13 14.7	1.5	1 14	Marianopolis. —
460	Feb. 13	8 4.5	8 7.5	1.0	—	—
461	" 22	14 1.8	14 10.8	0.5	0 13	—
462	" 29	15 13.5 or 15 28	15 34.5	0.5	0 28	—
463	Mar. 3	0 26.5	0 44.3	0.5	0 27	—
464	" 5	—	1 34.5	0.3	—	—
465	" 8	—	15 6.3	1.0	—	Masked by Ats. —
466	" 11	10 51.3	11 12	1.0	1 9	—
467	" 22	1 29	1 33	0.5	0 16	—
468	April 8	2 35.5	2 46	0.3	—	—
469	" 16	—	6 30	0.3	—	End at 6-40. —
470	" 20	2 54.3	3 12.5	0.5	3 0	—
471	" 21	2 57.5	2 59.5	1.0	0 13	—
472	" 30	8 57.3	9 47.8	0.5	—	—
473	May 6	19 8.3	19 21.3	3.0	1 43	Iceland. —
474	" 6	21 44.3	22 2	0.5	1 4	—
475	" 11	17 47.5	18 5	1.0	1 0	—
476	" 15	0 26.5	0 53	1.0	1 32	—
477	" 16	15 12.7	15 23.5	0.5	0 21	—
478	" 17	16 29.5	16 46.5	1.5	1 28	—
479	" 18	22 26	22 29.5	0.5	0 24	—
480	" 21	8 32.8	9 17.3	0.5	2 31	—
481	" 23	2 35.5	3 10.8	5.0	3 42	Burmah. —
482	" 25	18 9	18 12.3	0.5	0 15	—
483	June 1	—	11 21	0.5	—	—
484	" 7	11 14.5	11 54	0.7	—	End in Ats. —
485	" 7	19 48.5	20 34	1.0	2 14	—
486	" 8	6 2.5	6 37.5	0.5	1 0	—
487	" 8	7 54	9 27.5	1.5	—	End in next quake. —
488	" 8	—	10 44.5	1.5	—	Probably two shocks. —
499	" 12	13 7.5	13 34.5	1.5	1 36	—
490	" 18	—	12 46.3	2.5	—	Tremors. —
491	" 26	17 12	17 21.1	1.0	1 7	—
492	" 28	20 8.5	20 16.5	0.5	0 22	—



S 6
A

British Association for the Advancement of Science.

*Circular No. 27, issued by the Seismological Committee, Professor
H. H. TURNER, F.R.S. (Chairman), Mr. JOHN MILNE, F.R.S.,
Shide, Isle of Wight (Secretary).*

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I. *General Notes on Registers from Similar Horizontal Pendulums (Milne Type).*

THE following registers are continuous with those published by the Seismological Investigation Committee in their first twenty-six circulars and in the Reports of the Association, 1896 to 1899.

If observers will kindly send a copy of their register, together with copies of their more important seismograms, to the Secretary of the Seismological Investigation Committee, Shide, Newport, Isle of Wight, England, as early as possible after June 30, and again after December 31 of each year, the interval of time which must elapse before they receive copies of the registers of co-workers in various parts of the world will be considerably reduced.

The time employed is Greenwich mean time (civil), expressed in hours, minutes, and in decimals of minutes. 24 or 0 hours = midnight.

*Amplitude indicates half of the complete range of the maximum motion, and is expressed in millimetres. *Values less than 0.1 millimetre refer to the thickening of the line or minute ripples, and indicate half its width.*

As 1° turn of the calibrating screw in the bed-plate of the instrument causes a tilt of 1".9 (secs. of arc), and as this is accompanied by a measurable displacement of the outer end of the boom, it is easy to determine the angular value corresponding to a 1 millimetre displacement. In each register this quantity should be stated.

Records only obtained at a single station have been excluded.

* In Circulars 1 to 25, 1mm. should read 0.1mm.

II. Registers.

The Register from Shide, Newport, Isle of Wight, England. 50°41'N. 1°17'W.
JOHN MILNE; Assistants, MESSRS. S. HIROTA, J. H. BURGESS, AND
J. HORIKAWA.

The following entries refer to three pendulums, A, B, and C. The pendulums B and C, given to the Shide Observatory by Mr. A. F. Yarrow in 1901, respectively record E.W. and N.S. motion. A records E.W. motion. The records are photographic.

A. With multiplying lever:

Jan. 1 to June 30 18 secs. period. 1mm. amp. = 0".14.

B. Period 18 seconds. 1° turn = 5mm.

C. Jan. 1 to June 30 18 secs. period. 1° turn = 6mm. amp. ca.

Ats. = air tremors. P₂ refers to the commencement of the second phase of motion. d. = duration. a. = amplitude. If this is less than 0.1mm. or with Ats., d. is not given.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
3359	July 1	H. M. 1 6 1 6	H. M. 1 13 1 13	MM. 1.5 0.3	H. M. 0 45 0 45	A. B.C. Max. for C 1-12.
3360	" 1	—	8 35.5 8 32.5	0.1 0.1	— —	A. B.C.
3361	" 2	—	4 25	0.1	—	B. Max. for C 4-28.
3362	" 6	—	17 27.5 17 28	0.2 0.1	— —	A. B.
3363	" 7	8 8.5	8 25 8 36 8 55 9 14.5	3.0 10.5 — —	5 0	A. 3rd and 4th Max. off the scale.

The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment		Max.		Max. Ampli- tude	Dura- tion		Remarks
		H.	M.	H.	M.	MM.	H.	M.	
363	July 7	8	8	8	25.5	1.5	5	0	B. C not working.
				8	37	2.5			
				8	39	3.0			
				8	55.5	2.5			
				9	14.5	2.5			
363a	" 7	22	55	23	13	2.0	2	20	A. P ₂ 23-1.
		22	56	23	13	0.5	2	18	B.
364	" 8	16	20	16	45	0.2	—	—	A. End in Ats.
		16	21	16	45	0.1	—	—	B. "
365	" 8	17	24.3	17	29	2.0	—	—	A.
		17	26	17	39	0.5	1	30	B. C not working.
366	" 8	19	9	19	25	0.2	—	—	B.
367	" 8	22	4.5	22	32.5	3.0	3	40	A. P ₂ 22-11.
		22	3.7	22	33.5	0.7	3	42	B. P ₂ 22-13.5.
368	" 9	8	31.5	8	53.5	1.5	—	—	A. End in Ats.
				8	56	2.0			
		8	28.5	8	55.5	0.4	—	—	B. End in Ats.
369	" 10	20	40.5	21	0	0.1	—	—	A. B.
		20	42	20	58	0.1	—	—	C.
370	" 11	7	23	7	26.3	0.5	0	29	C.
371	" 13	15	22	15	27.5	0.2	—	—	A. End in Ats.
		15	21.5	15	31.5	0.1	1	12	C.
372	" 14	9	15.5	9	32	0.5	1	30	A.
		9	16	9	35	0.2	—	—	C.
373	" 16	1	22.5	1	57.5	0.2	1	50	A.
		—	—	1	57	0.1	—	—	B.C.
374	" 17	20	57	21	18	0.3	1	30	A.
		—	—	21	18.5	0.1	—	—	C.
375	" 18	21	47.5	22	30.5	0.2	—	—	B.C. End in Ats.
376	" 20	14	5.5	14	16	0.1	—	—	B.
				14	31	0.6			
		14	5	14	15	0.1	1	20	C. 2nd Max. 14-29.
377	" 22	10	31.5	10	37.5	0.2	0	48	B.C.
378	" 23	16	6	16	46	0.1	2	0	A.
		16	4	16	46	0.1	1	51	B.
379	" 24	12	4.5	12	22.5	6.0	3	40	A. P ₂ 12-12.5. B.C.
				12	47.5	2.5			not working.
				12	51.7	2.6			
				13	4.5	3.5			
380	" 24	—	—	22	46	0.1	—	—	A.
		—	—	22	55	0.1	—	—	B.
381	" 24	23	46	0	19	0.2	1	30	A. 2nd Max. 0-26.
		23	46	0	19	0.1	1	15	B.
		23	45.5	0	25	0.1	1	15	C.
382	" 25	—	—	23	31.2	1.0	—	—	A. End in next quake.
				23	52	0.7			
		23	24.5	23	31	0.2	—	—	B. " "
				23	52	0.2			
		—	—	23	30.5	0.2	—	—	C. " "
		—	—	23	47	0.2			
383	" 26	—	—	0	14	1.2	—	—	A.
				0	22	1.7			
		—	—	0	25.7	1.7			
		—	—	0	14	0.2	—	—	B.
		—	—	0	22	0.5			
		—	—	0	27.5	0.5			
		—	—	0	16	0.5	—	—	C.
		—	—	0	28.5	0.5			
384	" 26	—	—	3	40.5	0.5	—	—	B.
		—	—	3	38	.6	—	—	C.
385	" 26	—	—	8	51.5	0.3	—	—	B.C. End at 10-50.
				8	58.5	0.4			

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The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
3386	July 28	—	1 36	0.1	—	A.B.C.
3387	" 30	—	5 11	0.1	—	B.
			5 20	0.1		
			5 35	0.1		
		—	5 10	0.1	—	C.
			5 25	0.1		
			5 35	0.1		
3388	" 30	—	16 11	0.2	—	A. B.C. not working.
3389	" 31	—	8 40	0.2	—	A.
		—	8 39	0.1	—	B.
		8 19	8 40	0.1	—	C.
3390	" 31	10 7	10 47	0.5	3 0	A.
			10 58	1.7		
		10 6	10 46	0.2	2 55	B.
			10 58	0.5		
		10 7	10 58	0.2	2 55	C.
3391	" 31	—	20 25	0.2	—	B.
		—	20 27	.1	—	C.
3392	Aug. 1	9 12.5	9 17.5	0.3	—	A. End in Ats.
			9 23.5	0.3		
		9 10.5	9 17	0.1	—	B. End in Ats.
			9 23.5	0.1		
		9 10	9 18	0.1	—	C. End in Ats.
			9 25	0.1		
3393	" 1	11 52	11 57.5	0.3	—	A. End in Ats.
		11 48	11 57.5	0.1	—	B.C. "
3394	" 1	—	19 10	0.1	—	B.C. "
3395	" 2	—	16 39.5	0.1	—	A.B.
		—	16 37	0.1	—	C.
3396	" 3	—	4 38.5	0.5	—	A.
		—	4 4	0.1	—	B.
		—	4 40	0.2	—	C.
3397	" 3	9 34	9 53	0.1	1 7	B.
		9 33	9 52	0.1	1 7	C.
3398	" 4	—	19 28	0.1	—	A.
		—	19 32	0.1	—	B.C.
3399	" 4	21 51	22 17	1.6	—	A. P ₂ 21-58.7.
		—	22 17.5	0.5	—	B.
		21 51	22 16	1.0	—	C. P ₂ 21-56.
3400	" 5	—	6 6.5	0.2	—	A.B.C.
3401	" 5	—	13 59	0.1	—	A.B.C.
3402	" 6	—	11 50.5	0.2	—	A.
		—	11 50.5	0.1	—	B.C.
3403	" 6	—	13 51.2	0.3	—	A. Com. and end in Ats.
			14 24	0.6		
			14 27.5	0.6		
		13 34.5?	14 29.5	0.3	2 15	B.
		13 34.5	13 49.5	0.1	2 15	C.
			14 22	0.5		
3404	" 6	18 40	18 53.2	0.2	—	B.
		18 39.5	18 54.2	0.3	—	C.
3405	" 6	21 26	21 54.5	0.2	—	B.
			21 58.5	0.2		
		21 27.5	21 53.5	0.5	—	C.
3406	" 6	—	22 28	0.3	—	B.
		—	22 28	0.5	—	C. End at 0-5.
			22 42.5	0.6		
3407	" 7	20 2	—	—	—	B. Max. and end lost
		20 1.5	—	—	—	C. changing paper
3408	" 9	1 34	1 42	> 40.0	—	A. P ₂ 1-39.
		1 34.5	1 43	13.0	8 15	B. P ₂ 1-38.5.
			1 47	> 20.0		

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The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
3408	Aug. 9	H. M. 1 35.5	H. M. 1 43 1 47 2 2	MM. > 22.0 > 22.0 16.0	H. M. 8 15	C. P ₁ 1-39.
3409	" 9	14 8.3 14 9	14 16.5 14 16	0.1 0.1	— 1 0	A. B.C.
3410	" 9	18 37	18 46	0.1	0 49	B.C.
3411	" 10	9 29 9 29 9 29.5	9 37.5 9 37.5 9 37.5	5.5 2.0 2.2	2 15 2 7 2 7	A. P ₁ 9-33. B. P ₁ 9-33.5. C. P ₁ 9-33.5.
3412	" 10	18 36.5 18 35 18 36	18 44 18 44 18 43.5	0.6 0.2 0.2	0 47 0 47 0 47	A. B. C.
3413	" 10	22 37.5	23 15 23 28.5 23 17 23 28 23 14.5	0.3 0.6 0.3 0.2 0.7	— 2 35 2 35	A. End in Ats. B. C.
3414	" 11	— —	7 31 7 32.5	0.1 0.2	— —	A.B. C.
3415	" 14	—	4 24.5	0.1	—	B.C. With Ats.
3416	" 15	13 57 13 57 13 56.5	14 23.5 14 23.5 14 22.5	0.1 0.1 0.1	1 48 — —	A. B. C.
3417	" 17	—	19 48 20 26.5 20 36 19 48 20 26 19 50 20 26	1.5 > 12.0 11.0 0.5 4.5 0.5 4.2	— — — — — — —	A. P ₁ 19-31.5. B. P ₁ 19-31.5. C. P ₁ 19-31.5.
3418	" 18	1 17.5 1 15.5	1 48.5 1 48.5	0.2 0.1	— —	A. B.C.
3419	" 18	3 4.5 3 2.5 3 3.5	3 27 3 27 3 29	0.2 0.1 0.1	1 17 — —	A. B. C.
3420	" 18	8 0 8 0 8 0	8 56 8 55 8 58	0.5 0.1 0.1	2 25 — 2 25	A. B. C.
3421	" 18	13 40 13 43	13 55.5 13 55 13 55.5	0.4 0.1 0.1	2 55 2 52 —	A. B. C.
3422	" 18	—	19 12	0.1	—	C.
3423	" 18	20 13.3 20 11	21 32 21 32	0.1 0.1	— —	B. C.
3424	" 18	—	22 32 22 39 22 32 22 25	0.3 0.4 0.5 0.3	— — — —	A. B. C.
3425	" 19	—	16 51.5 16 50	0.3 0.1	— —	A. B.C.
3426	" 19	—	17 6.5 17 5	0.2 0.1	— —	A. B. Max. for C. 17-4.
3427	" 19	—	18 3.5 18 5	0.1 0.2	— —	A. With Ats. B.C. a. for C 0.1mm.
3428	" 20	—	11 47 11 35	0.1 0.2	— —	A. With Ats. B. "
3429	" 21	—	5 22 5 18	0.1 0.2	— —	B. C.
3430	" 21	17 55 17 55	18 41 18 40	0.4 0.2	— —	B. End in Ats. C. "

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The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
3431	Aug. 23	H. M. 14 4 14 4 14 4	H. M. 14 38.5 14 35.5 14 35.5	MM. 6.5 2.2 0.7	H. M. — — —	A. End in Ats. B. " C. "
3432	" 23	21 51 — 21 52	22 7.5 22 5.5 22 20.5 22 6 22 17	0.3 0.2 0.2 0.2 0.2	— — — — —	A. " B. " C. "
3433	" 24	1 29 1 31	2 0 2 1	0.1 0.1	— —	B C.
3434	" 25	1 27.5	1 41	0.2	1 20	B.C.
3435	" 25	5 10	5 18.5	0.1	—	B.C.
3436	" 29	6 1.5	6 27	0.1	—	B. With Ats.
3437	" 30	18 42	—	—	—	C.
3438	" 31	14 23	14 25.5	0.1	—	C.
3439	" 31	22 36.5	23 21	1.0	3 25	C
3440	Sept. 1	4 30	4 32.5 4 55.5 5 2.5 4 29.5 5 7	0.5 0.2 0.2 0.1 0.2	— — — 3 20 —	A. C. C.
3441	" 1	14 8	14 26	0.1	1 30	C.
3442	" 4	—	9 42.5	0.1	—	A.
3443	" 5	—	19 32.5 19 31	0.1 0.1	— —	A. B.C.
3444	" 10	16 21.5	16 39	0.1	1 29	C.
3445	" 11	—	1 52	0.5	—	A. With Ats.
		1 10	1 54	0.4	—	B.C. "
3446	" 12	6 13.5 6 13	6 35 6 33	0.2 0.1	1 45 —	A. B.C.
3447	" 13	23 36	23 46.5 23 48.5 23 36.5 23 48 23 36.5 23 48	21.0 40.0 2.5 3.0 2.5 4.0	2 40 — 2 25 2 25 2 25 —	A. P ₁ 23-40. B. P ₁ 23-40.5. C. P ₁ 23-40.5.
3448	" 16	20 18	20 26.5	0.1	0 40	B.C.
3449	" 16	21 15.5 21 15	21 17.5 21 16.5	0.1 0.1	0 20 0 10	B C.
3450	" 17	—	19 34 19 32	0.5 0.5	— —	B. C.
3451	" 20	21 53.5	22 6	0.1	0 50	B. Com. for C 21-54.5.
3452	" 22	4 52	5 51.5	0.1	—	B.C. With Ats.
3453	" 25	18 42	18 50 18 48.5	0.3 0.1	0 50 —	A. C. B not working.
3454	" 26	—	0 23	0.1	—	A.C.
3455	" 26	19 49.5	20 45	0.1	—	B.C. Max. for A 20-4.
3456	" 28	13 0 13 0	13 8.3 13 7.3	0.1 0.2	— —	A. End in Ats. C. "
3457	" 29	21 6 21 6	21 21.5 21 21.5	4.0 1.1	— —	A. End in next eqke. B.C. "
3458	" 29	—	22 2.5 22 18.5 22 2.5 22 3 22 8.5	> 15.0 10.5 > 12.0 6.5 8.0	— — — — —	A. B. C.
3459	" 30	5 43 5 42.5 5 43	6 9 6 9.2 6 5.5	1.2 0.5 0.8	— — —	A. End in Ats. B. " C. "

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The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
3460	Oct. 1	H. M. 6 4	H. M. 6 38.5	MM. 0.3	H. M. —	B.
		6 4.5	6 36	0.1	—	C.
3461	" 8	21 40	21 58.3	0.1	1 17	B.
		21 38	21 57.7	0.1	1 17	C.
3462	" 10	—	19 26.5	0.1	—	A.C. Beginning and
		—	19 31.5	0.1	—	B. [end lost.
3463	" 11	—	2 17.5	0.4	—	A.
		2 4.5	2 17	0.1	—	B.C.
3464	" 12	15 40 ?	16 20	1.0	—	B. End at 18-55.
		—	16 35	0.5	—	—
		15 40 ?	16 17	0.6	—	C. End at 18-30.
		—	16 22.5	0.6	—	—
		—	16 29	0.8	—	—
		—	16 40	0.8	—	—
3465	" 12	—	20 17	0.3	—	A. End at 21-10.
		—	20 15	0.2	—	B. " 21-33.
		—	20 11.5	0.1	—	C. " 21-33.
3466	" 16	—	13 25.7	0.1	—	A.
3467	" 17	10 52	11 16	0.1	1 20	A.
		10 53.5	11 16	0.2	1 5	B.
		10 53	11 15	0.1	1 5	C.
3468	" 18	—	12 17.5	1.0	—	A. End in next eqke.
		—	12 17.5	0.2	—	B. "
		—	12 17	0.2	—	C. "
3469	" 18	—	12 48.7	2.0	—	A.
		—	12 51.2	2.0	—	—
		—	12 49	1.5	—	B.
		—	12 51	1.0	—	C.
		—	12 56.5	1.0	—	—
3470	" 20	—	11 10	0.1	—	C. With Ats.
3471	" 22	—	9 6	0.2	—	B.
3472	" 22	—	10 48	0.1	—	A. With Ats.
3473	" 22	—	20 29.7	0.1	—	A.
3474	" 25	—	13 9	0.2	—	A. With Ats.
		—	13 6.5	0.1	—	B. "
		—	13 7.5	0.1	—	C. "
3475	" 26	9 19.2?	9 20.7	0.2	—	A. End at 10-50.
		—	9 31.2	0.2	—	—
		—	10 45	0.5	—	—
		—	9 30.5	0.1	—	B. With Ats.
		—	10 6.5	0.2	—	—
		—	9 31	0.1	—	C. With Ats.
3476	" 29	—	10 4.5	0.1	—	A. With Ats.
		—	5 50.5	0.2	—	—
		—	6 28.5	0.2	—	—
		—	7 13.5	0.3	—	—
		—	5 53	0.1	—	B. With Ats.
		—	7 15	0.3	—	—
		—	5 51.5	0.1	—	C. With Ats.
		—	7 15	0.3	—	—
3477	" 31	12 8.5	12 33	4.5	2 40	B. P ₂ 12-29.
		12 6.5	12 32	2.0	2 20	C P ₂ 12-30.3.
3478	" 31	17 53	18 33.3	1.7	—	B With Ats
		—	18 35	4.0	—	—
		17 53	18 34	0.7	—	C. With Ats.
		—	18 41	0.5	—	—
3479	Nov. 1	—	6 26.5	0.2	—	C. With Ats.
3480	" 1	—	19 46.5	1.0	—	A. "
		—	19 48	0.3	—	B. "
		—	19 48.5	0.1	—	C. "
3481	" 2	—	3 26.5	1.0	—	A. "
		—	3 30	0.7	—	B. "
		—	3 30.2	0.5	—	C. "

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The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
3482	Nov. 2	—	4 35.5	0.3	—	B. With Ats.
3483	" 2	—	4 32.5	0.3	—	C. "
3484	" 3	—	21 59	0.5	—	B.C. "
		—	7 6	1.0	—	A. "
		—	7 5	0.5	—	C. "
3485	" 7	7 44.7	8 2	4.0	4 25	B. P ₂ 7-52.5.
		—	8 13	2.5	—	—
		7 45	8 2.5	3.0	4 25	C. P ₂ 7-52.5.
		—	8 13 7	1 5	—	—
3486	" 7	16 56.5	17 31.5	2.0	—	B. P ₂ 17-26.5.
		16 56.7	17 36	0.5	—	C. P ₂ 17-28.
3487	" 7	—	18 16.7	3.0	—	B. P ₂ 18-11.5.
		—	18 21.5	0.7	—	C. P ₂ 18-13.
3488	" 8	8 34.5	8 51	0.1	—	B. With Ats.
		8 31	8 52	0.1	1 44	C. "
3489	" 14	17 40	17 50.5	1.0	1 15	A. "
		17 46	17 49.7	0.1	—	B. "
		17 45.7	17 51	0.1	—	C. "
3490	" 17	—	12 21.5	0.5	—	B. End at 14-56.
		—	12 18	0.1	—	C. " 14-50.
3491	" 19	—	14 23.7	1.5	—	A. "
		—	14 34.2	1.5	—	—
		—	14 48	3.5	—	—
		—	14 59.2	3.0	—	—
		—	14 24.5	0.5	—	B. "
		—	14 34.7	0.5	—	—
		—	14 44 5	0.7	—	—
		—	14 59.2	0.5	—	—
		14 3.5?	14 19	0.1	—	C. "
		—	14 36.2	0.1	—	—
		—	14 37.2	0.5	—	—
		—	14 57.7	0.5	—	—
3492	" 22	—	1 34	0.1	—	A. With Ats.
3493	" 25	—	9 47	0.1	—	C. "
3494	" 27	—	10 24	0.2	—	B.C. "
3495	" 28	—	21 25	0.1	—	C. "
3496	" 30	—	3 28.5	0.5	—	B. With Ats.
		—	3 30.7	0.1	—	C. "
3497	Dec. 1	—	9 24.7	2 0	—	B. P ₂ 9-18 With Ats.
		—	9 26.5	3.7	—	—
3498	" 5	—	13 7.5	0.2	—	A. 2nd Max. 13-14.5.
		—	13 9	0.2	—	B. 2nd Max. 13-17.
		—	13 14.7	0.1	—	C. "
3499	" 5	18 9.6	18 41	0.2	—	A. With Ats.
		—	18 35.7	0.1	—	B. "
		—	18 41	0.1	—	C. "
3500	" 6	—	15 49.5	0.5	—	A. End at 16-55.
		—	15 51.7	0.5	—	B. " 16-54.5.
		—	15 45	0.1	—	C. "
3501	" 7	22 56	23 13.7	2.9	—	A. 2nd Max. at 23-20.3.
		22 55.5	23 13.5	0.5	—	B. "
		—	23 34	0.7	—	—
		—	23 15.5	0.5	—	C. 2nd Max. at 23-19.7.
3502	" 9	0 1.2	0 46	1.5	—	B. P ₂ 0-13.
		—	0 51.5	1.0	—	—
		0 2	0 51.5	0.6	—	C. "
		0 2.3	0 46	5.0	—	A. P ₂ 0-12.7.
3503	" 9	—	9 24	13.0	—	A. With Ats.
		8 34.7	9 23	5.0	—	B. P ₂ 8-55.5.
		8 34.2	9 25.5	0.7	—	C. With Ats.
3504	" 9	—	15 24	0.2	—	B. "
		—	15 20	0.1	—	C. "

The Register from Shide, Newport, Isle of Wight, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
3505	Dec. 17	H. M.	H. M.	MM.	H. M.	A.
		—	11 18.7	0.1	—	C.
3506	" 22	—	11 20.7	0.2	—	B. With Ats.
		—	9 41	0.3	—	C.
3507	" 24	0 16	9 43	0.1	—	A.
			0 25.7	1.0	—	
			1 1.5	1.5	—	
			1 16.3	1.5	—	
		0 17	0 31	0.5	—	B.
			1 1	0.5	—	
			1 18	0.7	—	
3507	" 24	0 19	0 31	0.2	—	C. End at 2-50
			1 0.7	1.0	—	
			1 12.5	0.7	—	
			1 20.5	0.5	—	
3508	" 24	18 33.5	19 5	1.0	—	A. 2nd Max. at 19-7.5.
		18 41.5	19 8.3	0.7	—	C.
3509	" 28	8 55.5	9 6.7	2.0	—	B. P ₁ 8-57.5.
		8 55	9 6	1.0	—	C. P ₂ 8-57.
3510	" 29	—	22 43.7	0.1	—	A.
		—	22 39	0.1	—	B.
		—	22 42	0.1	—	C.

*Register from M.O. Central Observatory, Kew Observatory, Richmond.
51°28'N. 0°19'W.*

Director, DR. W. N. SHAW, F.R.S.; Superintendent, DR. C. CHREE, F.R.S.;
Observer, E. G. CONSTABLE.

B.O.T. = merely a broadening of the trace.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
1427	July 7	H. M.	H. M.	MM.	H. M.	End lost changing sheet, etc.
		8 11.8	8 40.7	2.0	>3 0	
1428	" 7	23 10.7	23 12.0	0.3	0 22	—
1429	" 8	?	17 39	0.3	?	Spoilt by Ats.
1430	" 8	22 11.8	22 36.3	0.4	1 8	—
1431	" 9	8 48.2	8 56.0	0.3	0 30	—
1432	" 11	—	7 26	—	—	B.O.T.
1433	" 14	—	9 25	—	—	—
1434	" 18	22 17.8	22 29.5	0.3	0 25	Ill-defined.
1435	" 20	14 12.5	14 31.0	0.3	0 23	—
1436	" 24	12 12.2	12 27.3	0.6	1 20	—
1437	" 25-26	23 30.5	0 14.5	0.4	1 38	—
1438	" 26	3 32.5	3 45.7	0.4	1 5	—
1439	" 26	?	8 58.5	0.3	?	Com. spoilt by Ats.
1440	" 30	—	16 26	—	—	B.O.T.

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Register from M.O., Central Observatory, Kew Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
1441	July 31	—	10 45	—	—	B.O.T.
1442	Aug. 4	22 6.2	22 16.0	0.3	0 25	—
1443	" 5	—	14 8	—	—	B.O.T.
1444	" 6	14 10.0	14 38.2	0.3	1 10	Ill-defined.
1445	" 6	18 51.8	18 52.7	0.2	0 5	—
1446	" 6	21 38.0	22 41.5	0.3	1 40	—
1447	" 7	—	17 54	—	—	B.O.T.
1448	" 9	1 34.0	1 43.2	>17.0	3 52	Max. repeated at 1-45.1 and 1-46.5.
1449	" 10	9 32.8	9 38.9	1.1	0 43	—
1450	" 10	—	23 12	—	—	B.O.T.
1451	" 17	19 31.1	20 20.0	3.4	2 36	—
1452	" 18	—	8 53	—	—	B.O.T.
1453	" 18	22 17.8	22 25.0	0.3	0 15	—
1454	" 19	—	17 57	—	—	B.O.T.
1455	" 21	18 25.0	18 27.5	0.3	0 28	Ill-defined.
1456	" 23	14 16.5	14 38.3	0.8	1 4	—
1457	" 23	21 49.7	22 3.2	0.4	0 32	—
1458	" 25	—	1 40	—	—	B.O.T.
1459	" 30	—	19 15	—	—	"
1460	" 31	23 6.5	23 15.7	0.6	0 42	—
1461	Sept. 1	—	4 51	—	—	B.O.T.
1462	" 4	—	7 29	—	—	"
			9 50	—	—	"
1463	" 10	—	16 38	—	—	"
1464	" 11	1 44.6	1 53.2	0.5	0 38	—
1465	" 12	—	6 30	—	—	B.O.T.
1466	" 13	23 35.8	23 48.3	4.6	1 16	—
1467	" 16	—	15 2	—	—	B.O.T.
1468	" 20	—	22 6	—	—	"
1469	" 22	—	5 53	—	—	"
1470	" 25	—	19 31	—	—	"
1471	" 26	—	19 53	—	—	"
1472	" 29	21 11.0	22 3.6	7.0	2 52	—
1473	" 30	5 56.7	6 8.6	0.3	0 23	—
1474	Oct. 1	—	6 59	—	—	B.O.T.
1475	" 8	—	21 58	—	—	"
1476	" 12	15 59.4	16 18.3	0.5	0 41	—
1477	" 12	—	20 16	—	—	B.O.T.
1478	" 16	—	13 21	—	—	"
1479	" 18	12 25.7	12 49.5	0.8	1 10	—
1480	" 20	—	11 10	—	—	B.O.T.
1481	" 22	—	9 8	—	—	"
1482	" 25	—	13 7	—	—	"
1483	" 26	—	9 30	—	—	"
1484	" 26	—	10 1	—	—	"
1485	" 29	—	6 30	—	—	"
1486	" 31	12 27.3	12 34.7	1.0	0 21	—
1487	" 31	17 53.0	18 38.2	1.7	1 16 ?	Duration uncertain. Ats.
1488	Nov. 1	—	6 33	—	—	B.O.T.
1489	" 2	—	3 28	—	—	"
1490	" 2	—	4 34	—	—	"
1491	" 2	—	22 0	—	—	"
1492	" 3	—	7 5	—	—	"
1493	" 5	—	11 30	—	—	"
1494	" 7	7 54.0	8 2.5	2.3	2 35	—
1495	" 7	17 8.1	17 33.2	0.6	1 57	—
			18 19.1	0.8	—	—
1496	" 8	—	8 59	—	—	B.O.T.
1497	" 14	—	17 50	—	—	"
1498	" 17	12 15.0	12 23.8	0.3	0 17	—
1499	" 19	?	14 44.5	0.7	?	Com. lost in Ats.

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Register from M.O. Central Observatory, Kew Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
1500	Nov. 22	—	1 35	—	—	B.O.T.
1501	" 25	—	9 50.2	—	—	"
			9 56.1	—	—	"
1502	" 27	—	10 25	—	—	"
1503	" 28	—	21 12	—	—	"
1504	" 30	—	3 24	—	—	"
1505	Dec. 1	8 59.2	9 24.8	1.9	0 48	—
1506	" 5	—	13 11	—	—	B.O.T.
1507	" 5	—	18 37	—	—	"
1508	" 6	—	15 44	—	—	"
1509	" 7	23 8.4	23 15.5	0.3	1 30	—
1510	" 9	0 12.0	0 39.4	0.7	1 14	—
1511	" 9	8 43.0	9 22.5	5.0	2 1	Ill-defined; light rather weak.
1512	" 9	—	15 25	—	—	B.O.T.
1513	" 17	—	1 5	—	—	"
1514	" 24	0 24.9	1 6.9	0.2	1 57	—
1515	" 24	18 55.8	19 1.6	0.8	0 34	—
			19 5.8	0.4	—	—
1516	" 28	8 27.0	9 4.6	0.6	1 26	—
1517	" 29	22 35.3	22 45.2	0.1	0 33	Ill-defined.

1mm. displacement = 0".53 of arc.
Period = 18secs.

Register from Woodbridge Hill, Guildford, England. 51°15'N. 0°35'W.
Owner and Observer, F. EDWARD NORRIS. Assistant, E. SMART.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM.	H. M.	
432	July 1	1 6.8	1 17	1.7	0 46	N. P ₂ 1-10.6.
434	" 7	8 8.3	8 39.2	2.6	3 18	W. P ₂ 8-16.3.
435	" 7	23 1	23 31	0.15	1 6.5	N. P ₂ 23-11.3.
436	" 8	17 2.2	17 37.8	0.35	0 54.5	N. P ₂ 17-11.7.
437	" 8	22 4.5	22 45.4	1.7	1 43.5	N. P ₂ 22-10.6. Dou- ble eqke.
438	" 9	8 36.3	8 57.3	3.5	1 19.3	N. P ₂ 8-42.7.
439	" 10	—	21 2.7	0.3	—	N.
440	" 11	7 20.7	7 26.5	5.25	0 40	N. P ₂ 7-22.6.
441	" 13	14 46.3	15 28.5	0.05	—	N. P ₂ 14-56.9.
442	" 13	—	21 53	0.1	—	N.
443	" 14	—	9 29.7	0.2	—	N.
444	" 17	—	13 36	0.1	—	W.
445	" 22	—	10 39.8	0.02	—	W.
446	" 23	? 16 7.5	16 39.2	0.03	—	N. P ₂ 16-14.7.
447	" 24	12 12.6	12 44.1	0.7	2 18	W. P ₂ 12-23.1.
448	" 24	—	17 53.4	0.05	—	W.
450	" 24	—	22 40.3	0.05	—	W.
451	" 25	—	23 9.9	0.05	—	W.
452	" 25	23 26.3	0 15.6	1.0	4 0	W. P ₂ 23-37.7.
453	" 26	3 7	3 42.8	0.6	2 10	W. P ₂ 3-13.7.
454	" 26	—	8 56.7	0.25	—	W.

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Register from Woodbridge Hill, Guildford, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
455	July 30	—	5 10.2	0.2	—	N.
456	" 31	10 39	10 59.1	1.15	—	N. P ₂ 10-46.2.
457	Aug. 1	18 40	19 9	0.1	0 51	N. P ₂ 18-45.
458	" 2	—	16 53.3	0.25	—	N.
459	" 3	—	4 47	0.3	—	N.
460	" 4	—	19 21	0.25	—	N.
461	" 4	21 50.2	22 16.3	1.05	1 18	N. P ₂ 21-59.
462	" 5	—	6 31.6	0.3	—	N.
463	" 6	11 34.2	11 52.3	0.25	—	N. P ₂ 11-39.5.
464	" 6	13 40	14 27.7	0.25	1 24	N. P ₂ 13-49.4.
465	" 6	18 50.3	18 54.8	2.8	0 42	N. P ₂ 18-51.8.
466	" 6	?21 22.7	22 37.2	0.5	2 12	W.
467	" 9	18 16.8	18 48.4	0.05	1 10	W. P ₂ 18-25.1.
468	" 10	9 28.4	9 38.4	15.0	0 52	W. P ₂ 9-32.4.
469	" 10	18 39.5	18 47.4	1.75	0 34	W.
470	" 10	22 48	23 14.9	0.25	1 2.5	W. P ₂ 22-55.3.
471	" 11	—	7 32.2	0.3	—	W.
472	" 15	14 *36.3	14 43.3	0.03	—	N. *P ₂ .
473	" 17	—	15 19.2	0.1	—	N.
474	" 17	19 26.7	20 17.1	2.6	2 55	N. P ₂ 19-37.6.
475	" 17	23 *36	23 37	0.03	—	W. *P ₂ .
476	" 18	—	1 34.7	0.05	—	N.
477	" 18	?8 6.2	8 48	0.05	?1 7	W.
478	" 18	18 54.3	19 33.3	0.06	—	N. P ₂ 19-2.2.
479	" 18	21 43.3	22 20.8	0.4	2 10	N. P ₂ 21-53.8.
480	" 19	?16 36.2	16 59.2	0.25	—	W. P ₂ 16-43.9.
481	" 19	17 *27.4	17 41	0.1	—	N. *P ₂ .
482	" 21	17 52	18 35	0.3	1 23	N. P ₂ 18-1.9.
483	" 23	—	8 37	0.2	—	N.
484	" 23	14 16.3	14 40.2	3 0	1 21	W. P ₂ 14-22.8.
485	" 23	21 50.4	22 11.6	1.8	0 55	N. P ₂ 21-58.2.
486	" 24	—	1 25.3	0.15	—	N.
487	" 24	—	2 5.1	0.3	—	N.
488	" 25	—	1 24	0.07	—	N.
489	" 30	18 24.2	19 10	0.05	1 16	N. P ₂ 18-35.3.
490	" 31	—	14 1.3	0.1	—	N.
491	" 31	22 36.6	23 18	0.6	1 24	N. P ₂ 22-46.
492	Sept. 1	4 1.7	4 18.4	0.02	—	N.
493	" 1	?4 28.1	5 15.3	0.1	1 26	N. P ₂ 4-36.9.
494	" 1	—	14 23.8	0.03	—	N.
495	" 10	16 7.8	16 37.5	0.15	—	W. P ₂ 16-14.9.
496	" 11	1 2.1	1 46	0.3	—	N. P ₂ 1-11.6.
497	" 13	23 36.8	23 45.8	—	1 37	W. P ₂ 23-40.6.
498	" 15	2 3	2 4.2	0.95	0 5.5	N. P ₂ 2-3.2.
499	" 16	21 12	21 16.6	1.6	0 13	N. P ₂ 21-13.6.
500	" 26	—	0 57.5	0.1	—	N.
501	" 29	21 5.5	21 39.2	0.7	—	W.
502	" 29	—	22 3.1	5.95	—	W.
503	Oct. 12	15 24.7	15 24.7	0.3	0 2	N.
504	" 12	15 33.8	16 12.5	0.65	1 44	N. P ₂ 15-43.6.
505	" 12	20 0.5	20 19.8	0.8	0 34	N.
506	" 16	—	13 25.8	0.4	—	N.
507	" 17	—	11 5.8	0.25	2 4	N.
508	" 18	?12 7	12 56	0.9	—	N. P ₂ 12-16.4.
509	" 22	—	10 50.3	0.8	—	N.
510	" 25	—	13 6.1	0.1	—	N.
511	" 26	9 13.3	9 59.5	0.2	—	N. P ₂ 9-24.3.
512	" 31	12 20.7	12 35	12.8	1 24	W. P ₂ 12-25.3.
513	" 31	17 42	18 30	0.85	1 28	W. P ₂ 17-52.5.
514	Nov. 1	—	6 51.5	0.5	—	W.
515	" 1	19 *39.6	19 44.2	0.05	—	N. *P ₂ .
516	" 2	3 14.7	3 28	1.0	—	W.
517	" 2	—	4 42	0.2	—	W.

Register from Woodbridge Hill, Guildford, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
518	Nov. 2	—	21 57.3	0.3	—	W.
519	" 7	7 51.5	8 18.5	2.8	3 7	W. P ₁ 8-0.7.
520	" 7	—	17 26.4	0.4	—	W.
		—	18 11.1	0.5	—	W.
521	" 8	8 16	8 49.3	0.05	1 5	W. P ₁ 8-24.
522	" 14	17 49	17 54.2	0.2	0 10	W.
523	" 19	?13 55	14 36.2	2.0	—	W. With Ats.
524	Dec. 1	?8 44.7	9 22.2	1.6	—	W.
525	" 5	12 39.7	13 5	0.15	—	N.
526	" 6	—	15 34.3	1.4	—	N.
527	" 7	22 57.3	23 32.6	0.2	—	N.
528	" 9	0 3.9	0 41.7	0.7	—	N. P ₁ 0-13.
529	" 9	8 15.6	9 19.2	2.5	1 50	N. P ₁ 8-27.
530	" 17	—	11 17.6	1.6	—	N.
531	" 21	—	8 25	0.2	—	N.
532	" 24	?0 23.2	0 58.2	0.35	—	W. P ₁ ?0-31.4.

*Register from Frensham Hall, Haslemere, Surrey, England. 51°5'N. 0°43'W.
Observer, SAML. KEVAN.*

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM.	H. M.	
576	July 1	—	1 12	0.4	0 5	—
577	" 3	—	18 28.7	0.4	0 4	—
	" 4	—	1 50.6	0.1	0 3	—
	" 7	8 15.2	8 46.3	3.5	2 12	P ₁ 8-23.2.
	" 7	10 40.4	11 49.6	1.0	0 40	—
578	" 8	—	17 39	0.3	0 8	—
	" 8	22 12.3	22 35.7	0.7	1 7	—
	" 9	—	8 55	0.7	0 2	—
	" 11	—	7 26.4	0.3	0 4	—
579	" 13	—	14 39	0.4	0 9	—
	" 13	—	15 25	0.1	0 5	—
	" 14	—	9 30.8	0.2	0 6	—
580	" 16	—	1 58	0.3	0 4	—
	" 17	—	13 36.3	0.1	0 7	—
	" 17	—	21 18.8	0.1	0 4	With Ats.
581	" 20	—	4 43	0.3	0 10	—
	" 20	14 7.7	14 12.2	0.8	0 27	—
	" 22	—	10 33.2	0.7	0 15	—
	" 23	—	16 45.3	0.3	0 7	—
582	" 24	12 12.2	12 47	1.0	1 25	P ₁ 12-22.
	" 25	—	0 19	0.2	0 4	—
	" 25	23 29.7	0 15.8	0.9	—	—
	" 26	—	3 45.8	0.8	—	—
	" 26	8 41	8 50.3	0.4	—	—
583	" 30	—	5 20	0.2	—	—
	" 30	—	16 12	0.1	—	—
	" 31	—	8 40.5	0.2	—	—
	" 31	—	10 56.6	0.3	—	—
	" 31	—	20 25.5	0.2	—	—

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Register from Frensham Hall, Haslemere, Surrey, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
584	Aug. 1	—	9 17	0.1	—	—
	" 1	—	11 57	0.1	—	—
	" 2	—	16 23.8	0.3	—	—
	" 4	—	22 16	0.9	—	—
	" 5	—	6 8	0.1	—	—
585	" 6	—	11 35.9	0.4	—	—
	" 6	—	13 51	0.2	—	—
	" 6	—	14 24	0.3	—	—
	" 6	—	18 51.2	0.5	—	—
	" 6	—	21 53.3	0.4	—	—
	" 6	—	22 50	0.5	—	—
	" 9	1 34.2	1 43.7	15.0	6 0	P ₂ 1-34.8.
			1 47.7	16.0		
			1 52.8	15.0		
			1 58.6	12.5		
586	" 9	—	14 16	0.1	—	—
	" 9	—	18 45	0.2	—	—
	" 10	—	9 37.9	1.5	—	P ₂ 9-36.6.
	" 10	—	23 14	0.3	—	—
	" 11	—	7 32	0.2	—	—
587	" 14	—	4 26	0.2	—	—
	" 15	—	14 23	0.1	—	—
588	" 17	19 30	20 15.8	6.0	2 30	P ₂ 19-40.
	" 18	1 46	1 48	0.1	0 5	—
	" 18	—	3 26.5	0.2	—	—
	" 18	8 52	8 54	0.3	0 7	—
	" 18	13 50	13 53	0.2	0 4	—
	" 18	22 16.2	22 19.8	0.8	0 26	—
	" 19	18 5.4	18 20.2	0.7	0 20	—
	" 20	—	11 49	0.4	—	—
	" 21	—	5 22	0.3	—	—
	" 21	—	18 40	0.3	—	—
589	" 23	14 18.4	14 36.3	1.3	0 42	With Ats.
	" 23	—	21 13.8	0.1	—	—
	" 23	—	22 7	0.2	—	—
	" 25	—	1 40.8	0.1	—	—
590	" 29	—	6 26.6	0.1	—	—
591	" 30	—	19 14	0.1	—	—
	" 31	—	23 10.8	0.8	—	—
	Sept. 1	—	5 3	0.1	—	—
592	" 4	—	9 45	0.1	—	—
	" 5	—	19 29.8	0.2	—	—
593	" 11	—	1 51.5	0.4	—	With Ats.
594	" 13	23 37	23 47	3.0	1 22	P ₂ 23-44.
595	Oct. 1	—	6 40	0.1	—	—
597	" 10	—	19 25.3	0.2	—	—
	" 11	—	2 17	0.2	—	—
598	" 16	—	13 25.2	0.3	—	—
599	" 17	10 19	—	0.1	—	—
	" 18	—	12 43.3	1.0	—	With Ats.
600	" 22	—	9 7	0.3	—	—
	" 22	—	10 48.6	0.3	—	—
601	" 25	—	13 8.4	0.2	—	—
	" 26	—	9 20	0.5	—	Also at 9-30 & 10-4.
602	" 29	—	5 52	0.4	—	—
	" 29	—	6 28.7	0.3	—	—
	" 29	—	7 16	0.1	—	—
	" 31	12 27.5	12 32.2	1.7	—	—
	" 31	—	18 33.2	1.4	—	P ₂ 18-22.3.
	Nov. 1	—	6 25.5	0.4	—	—
603	" 1	—	19 46.2	0.1	—	—
	" 2	—	3 20.4	0.4	—	—
	" 2	—	4 34.6	0.3	—	—

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Register from Frensham Hall, Haslemere, Surrey, England—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
	Nov. 2	21 58	—	—	—	—
	" 3	—	7 7	0.5	—	—
604	" 7	—	8 1.3	2.5	—	—
"	" 7	—	17 26.8	1.8	—	—
"	" 7	—	18 12	3.0	—	—
"	" 8	—	8 49.7	0.3	—	—
606	" 14	—	17 50	0.1	—	—
"	" 17	—	12 15.6	0.8	—	—
607	" 19	14 20	14 43.5	0.9	1 0	—
"	" 22	—	1 34	0.1	—	—
608	" 25	—	9 45	0.2	—	—
609	" 27	—	10 24	0.6	—	—
"	" 28	—	21 25	0.1	—	—
"	" 30	—	3 28	0.5	—	—
611	Dec. 5	—	13 7.7	0.2	—	—
"	" 7	—	23 35	0.5	—	—
612	" 9	0 12.4	0 38.8	1.5	1 0	P, 9-14.
"	" 9	—	9 16.6	3.0	—	—
"	" 9	—	15 23	0.1	—	—
615	" 22	9 23	—	—	—	—
"	" 24	0 1	—	—	—	—
616	" 24	18 51.5	19 2.4	1.0	0 25	—
"	" 28	8 48	—	—	—	—
617	" 29	—	22 35	0.2	—	—
"	" 31	—	14 22	0.2	—	—

Period = 22secs.
1° turn = 8.5mm.

*Register from Stonyhurst College Observatory. 53°50'N. 2°28'W.
Director, REV. W. SIDGREAVES, S.J.*

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM. 2A.	H. M.	
572	July 1	—	1 13	—	—	—
573	" 7	8 12.5	8 35.1	4.1	3 30	P, 8-16.4; P, 8-23.3.
574	" 7	23 11.5	23 34	0.2	0 50	—
575	" 8	17 28.5	17 39	0.2	0 28	—
"	"	—	17 43	0.1	—	—
576	" 8	22 12.1	22 34	0.8	0 52	—
"	"	—	22 42	0.5	—	—
577	" 9	8 36.3	8 54.5	0.5	1 7	—
"	"	—	9 1	0.2	—	—
578	" 11	—	7 28.5	—	—	—
579	" 13	—	15 21.5	—	—	—
580	" 17	—	21 20	—	—	—
581	" 18	21 49.5	22 22.5	0.4	2 9	—
582	" 20	14 7.5	14 27	0.5	0 56	—
583	" 22	—	10 35.5	—	—	—
584	" 24	12 13.6?	12 50	1.7	2 43	P, 12-23.5.
585	" 24	—	18 17.5	—	—	—

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Register from Stonyhurst College Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM. 2A.	H. M.	
586	July 25	23 31	24 24.2	1.4	2 36	P ₁ 23-45 ; P ₂ 24-9.5.
587	" 26	3 0.5	3 39	0.4	2 17	—
			3 46	0.5		
			3 55	0.3		
588	" 26	8 20.4	8 57	0.3	1 40	—
589	Aug. 1	—	19 11.8	—	—	—
590	" 4	22 6.6	22 17	0.5	0 46	—
591	" 6	21 34.5	22 30.7	0.6	2 20	—
592	" 9	1 35.5	1 44	>30.0	4 20	Max. indicated on magnetogram at 1-44
			1 45	>30.0		
			1 47.5	30.0		
			1 50	30.0		
			1 56.5	28.0		
			1 59.5	27.0		
593	" 10	9 24.4	9 44.5	1.1	1 18	P ₁ 9-34.4 ; P ₂ 9-38.
594	" 10	18 40.7	—	<0.1	0 20	—
595	" 10	22 58	23 15	0.5	1 47	—
596	" 17	19 31.4	20 21.8	10.5	3 25	P ₁ 19-40.6 ; P ₂ 20-10.
597	" 18	8 41.3	8 50.7	0.1	0 30	—
598	" 18	19 25.4	19 33	0.1	0 24	—
599	" 18	22 17.1	22 22.7	0.5	0 26	—
600	" 19	16 45.5	17 43	<0.1	1 54	—
601	" 20	—	14 20	—	—	—
602	" 23	14 19.8	14 37.2	1.0	1 20	P ₁ 14-34.2.
			14 43.7	1.0		
603	" 25	—	1 40	—	—	—
604	" 30	18 43.6	19 11	0.1	1 0	P ₁ 19-5.7.
605	" 31	22 44.6	23 16	0.4	1 30	P ₂ 23-3.6.
606	Sept. 1	4 31.4	4 43.6	0.1	1 40	—
			5 30.7	0.1		
607	" 1	—	14 25	—	—	—
608	" 5	—	19 39.5	0.1	—	—
609	" 10	16 33	16 37	0.1	0 16	—
610	" 11	1 11.9	1 49.6	0.5	2 17	—
611	" 12	—	6 29.5	—	—	—
612	" 13	23 37.3	23 46	6.0	2 17	—
			23 48.4	5.8		
			23 51.5	4.1		
			23 52.5	4.2		
613	" 22	5 47	5 52	<0.1	0 47	—
			6 30	<0.1		
614	" 29	21 5.5	21 33	2.5	4 35?	P ₁ 21-10.9.
			22 2	11.7		
615	" 30	5 57.1	6 8	0.4	0 26	—
616	Oct. 11	—	2 15	—	—	—
617	" 12	15 38	16 6.7	0.5	1 56	P ₁ 15-43.
			16 14.5	0.5		
618	" 12	20 1	20 11.3	0.2	0 33	—
619	" 17	10 20.7	11 6	0.2	?	—
620	" 18	12 16.3	12 51.6	0.6	3 4	—
			12 54.5	0.6		
621	" 25	—	13 5	—	—	—
622	" 26	9 19	—	—	1 45	—
623	" 31	12 21.5	12 32.1	0.6	1 24	—
624	" 31	17 44.7	18 35	1.6	2 14	—
			18 38.7	1.6		
625	Nov. 2	3 27.6	3 30.8	0.4	0 30	—
			3 36	0.4		
626	" 2	4 33.8	4 42.5	0.1	0 26	—
627	" 2	21 58.5	22 5	0.1	0 12	—
628	" 3	6 50.5	6 56	0.3	0 21	—
			7 3	0.3		

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Register from Stonyhurst College Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM. 2A.	H. M.	
629	Nov. 7	7 51.5	8 0.7	4.1	3 45	P ₁ 7-54.8 ; P ₂ 8-0.3.
			8 5	2.9		
			8 10.3	6.1	2 33	—
630	" 7	17 7	17 31	1.2		
			18 16	2.0		Beginning and end in
631	" 17	?	12 21.5	0.5	?	Ats.
632	" 30	3 12.8	3 27.5	—	0 25	—
633	Dec. 1	8 59	9 22	4.0	1 0	Times approx.
634	" 4	—	6 13	—	—	—
635	" 5	12 47.5	13 12	0.1	2 30	—
636	" 5	18 27.8	18 41.5	<0.1	0 28	—
637	" 6	15 17.5	15 39.5	<0.1	0 34	—
638	" 7	22 59	23 15	0.5	1 42	—
639	" 9	0 11.3	0 38	0.6	1 20	—
640	" 9	8 43.5	9 19.5	3.0	3 0	—
641	" 17	—	1 48	—	—	—
642	" 24	0 21	1 3	0.5	2 10	—
			1 10.7	0.5		
643	" 24	?	18 59	1.4	?	High wind.
			19 6	0.6		
644	" 28	8 25	9 5	0.6	1 40	—
645	" 29	?	22 49.5	0.1	?	With Ats.
July-Aug. Period, 19 seconds. 1mm.=0".41. September " 18 " 1mm.=0".44. October " 18.6 " 1mm.=0".42. Nov.-Dec. " 18 " 1mm.=0".44.						

*Register from Liverpool Observatory, Bidston. 53°24'N. 3°4'W.
Director, W. E. PLUMMER.*

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM.	H. M.	
1997	July 1	1 6.4	1 11.7	0.2	0 16	—
1998	" 7	8 8.3	8 40.8	2.6	3 57	P ₂ 8-16.2.
1999	" 7	23 11.1	23 29.7	0.1	0 46	—
2000	" 8	17 26.2	17 39	0.3	0 33	—
2001	" 8	22 15	22 30.7	0.2	1 37	—
2002	" 9	8 35.4	8 57.2	0.3	1 27	—
2003	" 11	7 25	7 26.7	0.2	0 7	—
2004	" 14	9 17.2	9 31.7	0.2	0 23	—
2005	" 17	13 30	13 37.7	0.1	0 35	—
2006	" 18	21 45	22 4	0.2	0 52	Changing paper.
2007	" 20	14 7.9	14 23.2	0.2	0 40	—
2008	" 23	16 34.8	16 43	0.1	0 42	—
2009	" 24	12 12.4	12 48.7	1.1	2 40	P ₂ 12-24.1.
2010	" 24	23 48.4	0 17.2	0.1	0 50	—
2011	" 25	23 29.5	0 24.1	0.7	2 22	—

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Register from Liverpool Observatory, Bidston—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
2012	July 26	2 56.7	3 25.6	0.6	2 13	—
2013	" 26	8 11.6	8 51	0.5	2 11	—
2014	" 30	—	5 28	—	—	Very small.
2015	" 31	10 43.7	10 55.2	0.1	0 23	—
2016	Aug. 4	22 1.8	22 20.6	0.2	0 48	—
2017	" 6	14 10.1	14 19.6	0.2	0 59	—
2018	" 6	18 51.2	18 54.6	0.3	0 17	—
2019	" 6	21 32.3	22 29.5	0.3	2 12	—
2020	" 9	1 34.5	1 48.7	14.9	4 13	P ₂ 1-38.6.
2021	" 10	9 27.6	9 42.4	1.3	1 8	P ₂ 9-32.
2022	" 10	22 55.7	23 9	—	0 55	Very small.
2023	" 15	14 39.2	14 41.7	0.1	0 11	—
2024	" 17	19 25.6	20 16.1	4.6	4 26	P ₂ 19-30.2.
2025	" 18	7 38	7 44.7	0.1	0 30	—
2026	" 18	22 15.6	22 23.2	0.3	0 32	Several other maxima near.
2027	" 21	17 53.2	18 30.7	0.4	2 1	—
2028	" 23	14 11.6	14 42.1	1.6	1 45	—
2029	" 23	21 50.2	22 5.8	0.4	1 3	—
2030	" 30	19 1.4	19 13.7	0.1	0 34	—
2031	" 31	22 45.4	23 16.3	0.6	1 30	—
2032	Sept. 1	4 30.7	4 44.3	0.2	1 47	—
2033	" 4	1 19.7	1 23.4	—	0 7	With Ats.
2034	" 5	19 22.3	19 26.2	0.1	0 37	—
2035	" 7	—	18 4	—	—	—
2036	" 10	16 30	16 32.3	0.1	0 16	—
2037	" 12	6 18.3	6 24.7	0.1	0 14	—
2038	" 13	23 36.4	23 51.4	3.7	2 6	P ₂ 23-41.2.
2039	" 16	20 20.7	20 27.4	0.1	0 18	—
2040	" 16	21 16.2	21 19.5	0.1	0 10	—
2041	" 17	19 31.8	19 36.2	0.2	0 22	—
2042	" 20	21 57.1	22 3.3	0.1	0 28	—
2043	" 22	5 48.3	5 52	0.2	1 3	—
2044	" 25	13 30.8	13 36.1	0.1	0 24	—
2045	" 25	18 41.3	18 47.7	—	0 19	Amp. very small.
2046	" 26	20 4.9	20 23.7	—	0 48	" "
2047	" 28	13 2.7	13 8.6	—	0 15	" "
2048	Oct. 1	6 32.5	6 37.3	0.1	0 14	—
2049	" 10	19 20	19 21.7	0.2	0 5	—
2050	" 11	2 13.1	2 15.4	0.1	0 9	—
2051	" 16	13 20	13 25	0.1	0 17	—
2052	" 17	10 53.2	11 10.8	0.3	1 11	—
2053	" 18	12 16.1	12 28.3	0.7	2 22	P ₂ 12-23.
2054	" 20	11 4.0	11 10.6	0.2	0 30	—
2055	" 22	9 10	9 49	0.1	0 9	—
2056	" 22	20 25	20 28.7	0.1	0 12	—
2057	" 25	13 3.8	13 5.4	0.1	0 6	—
2058	" 26	9 24.2	9 31.5	0.2	0 26	—
2059	" 26	9 58.8	10 3.7	0.2	0 35	—
2060	" 31	12 27.8	12 34	1.1	0 38	P ₂ 12-29.1.
2061	" 31	17 46.4	18 35.1	1.8	2 23	P ₂ 17-52.5.
2062	Nov. 1	6 24	6 27.2	0.1	0 10	—
2063	" 1	—	19 39.7	—	—	Very small.
2064	" 2	3 18.1	3 30	0.1	0 22	—
2065	" 2	4 31.8	4 40.1	0.1	0 20	—
2066	" 2	21 58.5	22 2.6	0.1	0 10	—
2067	" 3	6 53.7	6 56.4	0.2	0 22	—
2068	" 7	7 51.2	8 11.4	2.6	3 33	P ₂ 7-56.7.
2069	" 7	17 6.8	17 30.5	2.7	2 51	—
2070	" 7	—	23 25	—	—	With Ats.
2071	" 8	8 40.5	8 53.4	0.2	0 44	—
2072	" 13	2 2.4	2 7.3	0.2	0 12	—
2073	" 14	17 46.5	17 50.8	—	—	With Ats.

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Register from Liverpool Observatory, Bidston—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
2074	Nov. 17	12 9.4	12 18.7	0.6	0 42	—
2075	" 19	14 17.9	14 44	0.8	2 6	P ₁ 14-23.4.
2076	" 22	1 30.7	1 33.7	0.1	0 7	—
2077	" 25	9 37.3	9 43	0.1	0 30	—
2078	" 27	10 17.4	10 30	—	—	With Afs.
2079	" 28	21 15.6	21 20.4	0.1	0 22	—
2080	" 30	3 22.6	3 28.5	0.1	0 15	—
2081	Dec. 1	9 0	9 24.4	1.8	1 8	—
2082	" 4	6 17.8	6 21.9	0.1	0 10	—
2083	" 5	12 47.7	13 7.9	0.2	1 22	—
2084	" 5	18 29.6	18 35.8	0.1	0 17	—
2085	" 6	15 32.7	15 41.5	0.1	0 32	Time uncertain.
2086	" 7	23 5.8	23 14.6	0.3	1 40	—
2087	" 9	0 12	0 41	0.6	1 22	P ₁ 0-17.5.
2088	" 9	8 44.1	9 21.3	2.3	2 40	P ₁ 8-54.2.
2089	" 17	0 57.8	1 11.6	0.1	0 34	—
2090	" 17	11 9.6	11 15	—	0 14	Max. very small.
2091	" 20	21 1.4	21 7.3	—	0 17	" "
2092	" 22	9 27.7	9 36.8	0.1	0 18	—
2093	" 24	0 24.8	0 57.7	0.7	1 31	—
2094	" 24	18 54.9	19 0	1.1	0 41	—
2095	" 28	8 27.2	9 6.4	—	1 22	Max. small.
2096	" 29	22 32.3	22 43.5	0.1	0 30	—

*Register from Eskdalemuir Observatory. 55°19'N. 3°12'W.
Superintendent, GEORGE W. WALKER, M.A., A.R.C.Sc.
Professional Assistant, L. SOUTHERNS, B.A., B.Sc.*

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM.	H. M.	
476	July 1	1 9	1 12.5	0.4	0 21	N.S.
		1 5.5	1 12.5	0.1	0 27.5	E.W.
477	" 1	8 30	8 33	0.1	0 6.5	N.S.
478	" 3	18 31	18 34	0.1	0 16	N.S.
		18 29	18 34	0.1	0 11.5	E.W.
479	" 4	1 42	1 47	0.1	0 8	N.S.
		1 44.5	1 50.5	0.1	0 9	E.W.
480	" 7	8 7.5	8 44.5	1.5	3 22.5	N.S.
		8 7.5	8 51	1.1	3 4	E.W.
481	" 7	23 0.5	23 12.5	0.1	0 57.5	N.S.
		23 0.5	23 11	0.1	0 48	E.W.
482	" 8	?	17 38	0.1	?	N.S.
		?	17 39	0.1	?	E.W.
483	" 8	22 3.5	22 35	0.5	2 3	N.S.
		22 3.5	22 37.5	0.3	1 51.5	E.W.
484	" 9	8 30	8 59.5	0.5	?	N.S.
		8 29	8 56.5	0.1	?	E.W.
485	" 11	7 25.5	7 31	0.1	0 15.5	N.S.
		7 25	7 30	0.1	0 19	E.W.
486	" 13	14 56	14 57	0.1	0 7	N.S.
487	" 14	9 20	9 20.5	0.1	0 52	N.S.
		9 20	9 20.5	0.1	0 36	E.W.
488	" 16	1 54.5	2 0	0.1	0 20.5	N.S.

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Register from Eskdalemuir Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
489	July 17	21 12.5	21 25	0.1	0 36	N.S.
490	" 18	21 58	22 42	0.1	1 32	N.S.
491	" 20	?	14 21	0.1	?	N.S.
492	" 24	12 12	12 22.5	0.5	2 20.5	N.S.
		12 12	12 22.5	0.4	1 12.5	E.W.
493	" 24	18 16.5	18 20	0.1	0 5.5	N.S.
494	" 24	23 39.5	23 46.5	0.1	0 17.5	N.S.
495	" 25-26	23 28	23 39	0.2	1 50	N.S.
		?	0 21	0.1	?	E.W.
496	" 26	2 50	3 40	0.1	2 8.5	N.S.
		3 30	3 43	0.1	?	E.W.
497	" 26	8 5	8 54	0.1	1 55	N.S.
		?	8 56	0.1	?	E.W.
498	" 31	8 34	8 37	0.1	?	N.S.
499	" 31	10 42	10 55.5	0.3	1 14	N.S.
		10 43.5	10 55.5	0.1	0 25.5	E.W.
	" 31	17 50	17 56.5	0.1	0 12	N.S.
500	Aug. 1	9 14	9 15.5	0.1	0 10.5	N.S.
501	" 1	9 31.5	9 33.5	0.1	0 10.5	N.S.
502	" 1	11 53.5	11 55.5	0.1	0 5.5	N.S.
503	" 3	4 30	4 31	0.1	0 5	N.S.
504	" 4	19 23.5	19 25.5	0.1	0 9.5	N.S.
505	" 4	21 53	22 32.5	0.2	1 9	N.S.
		?	22 35	0.1	?	E.W.
506	" 6	13 51	13 51.5	0.1	0 45.5	N.S.
		13 50.5	14 32.5	0.2	1 39.5	E.W.
507	" 6	18 48	18 59	0.1	0 24	N.S.
		18 48.5	18 55.5	0.2	0 55	E.W.
508	" 6	21 33.5	21 34	0.1	1 9.5	N.S.
		21 33.5	21 53	0.2	2 33	E.W.
509	" 7	20 2	20 24	0.1	0 54	E.W.
510	" 9	1 34.5	? 51.5	15.0	4 50	N.S.
		1 34.5	? 55	11.0	4 48	E.W.
511	" 10	9 30	9 44	1.0	1 44.5	N.S.
		9 29	9 41	1.2	1 50	E.W.
512	" 10	18 39.5	18 52	0.1	0 21.5	N.S.
		18 40	18 41	0.1	0 26	E.W.
513	" 10	22 39.5	23 22	0.1	1 20.5	N.S.
		22 50	23 15	0.2	1 8.5	E.W.
514	" 11	7 33.5	7 34.5	0.1	0 12.5	N.S.
		7 33.5	7 35	0.1	0 12.5	E.W.
515	" 14	4 22	4 26.5	0.1	0 16.5	N.S.
		4 19	4 24.5	0.1	0 20	E.W.
	" 15	7 12.5	7 14	0.1	0 18.5	N.S.
		?	7 12.5	0.1	?	E.W.
516	" 17	19 26.5	20 23.5	6.8	4 35	N.S.
		19 26.5	20 17	3.9	4 30.5	E.W.
517	" 18	1 34	1 39.5	0.1	0 16	N.S.
		1 33	1 40	0.1	0 29	E.W.
518	" 18	3 12.5	3 25	0.1	0 31.5	N.S.
		3 12	3 19.5	0.1	0 46	E.W.
519	" 18	?	8 51	0.2	?	N.S.
		?	8 47.5	0.2	?	E.W.
520	" 18	13 47.5	14 35.5	0.1	?	N.S.
		13 47.5	13 48	0.1	?	E.W.
521	" 18	18 52	19 35.5	0.2	1 21	N.S.
		18 51.5	19 29	0.1	1 23.5	E.W.
522	" 18	21 14.5	21 29	0.1	?	N.S.
		21 17	21 24.5	0.1	?	E.W.
523	" 18	?	22 29	0.2	?	N.S.
		?	22 20	0.2	?	E.W.
524	" 19	16 44	18 28.5	0.1	2 12	N.S.
		16 44.5	18 5	0.2	2 22.5	E.W.

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Register from Eskdalemuir Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
525	Aug. 20	11 22	11 35.5	0.1	0 27.5	N.S.
		11 33	11 35	0.1	0 8	E.W.
526	" 21	? ?	18 38.5	0.6	? ?	N.S.
		? ?	18 31.5	0.4	? ?	E.W.
527	" 23	14 14	14 38.5	0.6	? ?	N.S.
		14 11	14 45.5	0.8	? ?	E.W.
528	" 23	21 58	22 3	0.5	1 23	N.S.
		21 51	22 15.5	0.3	1 20	E.W.
529	" 24	? ?	2 7.5	0.1	? ?	N.S.
		? ?	2 7.5	0.1	? ?	E.W.
530	" 25	1 33	1 40	0.1	0 22	N.S.
		1 33.5	1 40.5	0.1	0 18.5	E.W.
531	" 25	5 19	5 20	0.1	0 2	N.S.
		5 18	5 21	0.1	0 6.5	E.W.
532	" 30	18 26.5	19 11.5	0.2	1 25.5	N.S.
		18 22	19 9.5	0.2	1 43.5	E.W.
533	" 31	14 25	14 31	0.1	0 25	N.S.
		14 9	14 27.5	0.1	0 55	E.W.
534	" 31	21 3	21 6.5	0.1	0 9.5	N.S.
		21 3.5	21 7.5	0.1	0 10.5	E.W.
535	" 31	22 35	23 15	0.5	2 47.5	N.S.
		22 37	23 16	0.6	2 48	E.W.
536	Sept. 1	4 26	4 59	0.2	? ?	N.S.
		4 27	4 48.5	0.2	? ?	E.W.
537	" 1	? ?	14 25.5	0.1	? ?	N.S.
		? ?	14 31	0.1	? ?	E.W.
538	" 10	14 44.5	14 59	0.1	? ?	N.S.
		14 41.5	14 58.5	0.1	0 38	E.W.
539	" 10	16 7	16 35.5	0.1	1 12	N.S.
		16 26	16 36	0.2	0 51	E.W.
540	" 11	1 12	1 47.5	0.3	2 37	N.S.
		1 12	1 57.5	0.3	2 36.5	E.W.
541	" 12	6 23	6 28	<0.1	0 29	N.S.
		6 21	6 31	0.1	0 18	E.W.
542	" 13	23 37	23 48.5	5.3	1 30	N.S.
		23 37	23 48.5	5.0	1 30	E.W.
543	" 16	—	15 37	—	—	N.S.
		—	15 36.5	—	—	E.W.
544	" 16	20 0.5	20 31	0.1	0 41	N.S.
		20 13.5	20 31	0.1	0 29	E.W.
545	" 16	—	21 19	0.1	—	N.S.
		—	21 18	0.1	—	E.W.
546	" 20	—	22 1.5	0.1	—	N.S.
		—	22 2.5	0.1	—	E.W.
547	" 21	—	12 18	—	—	N.S.
		—	12 17	—	—	E.W.
548	" 22	—	5 59	0.1	0 20	N.S.
		—	5 58	0.1	0 20	E.W.
549	" 25	—	1 9	—	—	N.S.
		—	1 9	—	—	E.W.
550	" 25	—	18 43.5	—	—	N.S.
		—	18 45.5	—	—	E.W.
551	" 26	—	18 24.5	—	—	N.S.
		—	18 22.5	—	—	E.W.
552	" 26	19 46	20 33	0.1	—	N.S.
		19 40	20 32	0.1	—	E.W.
553	" 28	—	13 8	0.1	—	N.S.
		—	13 8.5	0.1	—	E.W.
554	" 29	21 5.5	22 3	5.0	4 0	N.S.
		21 6.0	22 1	4.9	4 0	E.W.
555	" 30	5 56	6 10	0.2	0 42	N.S.
		5 56	6 5.5	0.2	0 50	E.W.

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Register from Eskdalemuir Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
556	Oct. 3	—	17 17	<0.1	—	N.S.
		—	17 16	<0.1	—	E.W.
557	" 10	—	19 27.5	<0.1	—	N.S.
		—	19 26.5	<0.1	—	E.W.
558	" 11	—	2 18	<0.1	—	N.S.
		—	2 14.5	<0.1	—	E.W.
559	" 12	15 32.5	16 12.5	0.4	3 0	N.S.
		15 36	16 7	0.4	3 0	E.W.
560	" 12	20 2.5	20 11.5	0.5	0 36	N.S.
		20 2.5	20 10.5	0.3	0 30	E.W.
561	" 13	—	2 46	0.1	—	N.S.
		—	2 45	<0.1	—	E.W.
562	" 17	10 11	11 17	0.1	2 0	N.S.
		10 11	11 18.5	0.1	2 0	E.W.
563	" 18	12 16	13 1	0.6	1 30	N.S.
		12 16	12 44	0.7	1 30	E.W.
564	" 20	—	11 17.5	0.1	—	N.S.
		—	11 8	0.1	—	E.W.
565	" 21	—	23 55	—	—	N.S.
		—	23 56.5	—	—	E.W.
566	" 22	—	9 12	—	—	N.S.
		—	9 6	—	—	E.W.
567	" 22	—	10 57	—	—	N.S.
		—	10 53	—	—	E.W.
568	" 22	—	20 26	—	—	N.S.
		—	20 26	—	—	E.W.
569	" 25	—	13 4.5	—	—	N.S.
		—	13 5	—	—	E.W.
570	" 26	—	9 29	—	—	N.S.
		—	9 31.5	—	—	E.W.
571	" 31	12 24	12 33	1.5	0 20	N.S.
		12 24	12 32.5	0.5	0 22	E.W.
572	" 31	17 52.5	18 35	1.0	2 0	N.S.
		17 52.5	18 34	1.2	2 0	E.W.
573	Nov. 1	—	6 29	—	—	N.S.
		—	6 31	—	—	E.W.
574	" 1	—	19 43.5	—	—	N.S.
		—	19 43.5	—	—	E.W.
575	" 2	3 15	3 30	0.3	2 0	N.S.
		3 11	3 35	0.1		E.W.
576	" 2	—	4 35	0.1		N.S.
		—	4 33	<0.1	—	E.W.
577	" 2	—	14 48.5	—	—	N.S.
		—	14 48.5	—	—	E.W.
578	" 2	—	21 59	0.1	0 25	N.S.
		—	22 4	0.1	0 30	E.W.
579	" 3	—	7 2.5	0.2	—	N.S.
		—	6 56	0.1	—	E.W.
580	" 7	7 51.5	8 1	1.5	2 0	N.S.
		7 51.5	8 1	2.0	2 0	E.W.
581	" 7	?	17 33	0.1	—	N.S.
		17 8	17 36	0.5	—	E.W.
582	" 7	?	18 17.5	0.2	—	N.S.
		?	18 20	0.5	—	E.W.
583	" 8	—	8 54.5	0.1	—	N.S.
		—	8 59.5	<0.1	—	E.W.
584	" 10	—	3 32	<0.1	—	N.S.
		—	3 20.5	<0.1	—	E.W.
585	" 14	—	17 47.5	<0.1	—	N.S.
		—	17 47.5	<0.1	—	E.W.
586	" 17	?	12 20	<0.1	?	N.S.
		11 56	12 22	0.4	1 0	E.W.

Register from Eskdalemuir Observatory—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
587	Nov. 19	—	14 41	0.3	—	N.S.
		—	14 43.5	0.6	—	E.W.
588	" 22	—	1 34	<0.1	—	N.S.
		—	1 33	0.1	—	E.W.
589	" 27	—	10 24	—	—	N.S.
		—	10 25	—	—	E.W.
590	" 28	—	21 20	—	—	N.S.
		—	21 19	—	—	E.W.
591	" 30	—	3 26	0.1	—	N.S.
		—	3 25	0.1	—	E.W.
592	" 30	—	11 31	0.4	—	N.S.
		—	11 31	0.4	—	E.W.
593	Dec. 1	—	9 23	1.9	—	N.S.
		—	9 23	1.6	—	E.W.
594	" 6	—	15 49	0.1	—	N.S.
		—	15 46	0.2	—	E.W.
595	" 7	23 4	?	0.1	—	N.S.
		23 4	?	0.2	—	E.W.
596	" 9	0 1	0 47	0.6	—	N.S.
		0 11	0 40	0.8	—	E.W.
597	" 9	8 54	9 22	1.2	0 59	N.S.
		8 54	9 21	3.4	0 59	E.W.
598	" 24	0 21	1 10	0.4	2 17	N.S.
		0 22	1 8	0.5	2 13	E.W.
599	" 24	18 43	19 6	0.5	0 40	N.S.
		18 41	18 58	0.8	0 40	E.W.
600	" 26	—	0 50	0.1	—	N.S.
		—	0 43	<0.1	—	E.W.
601	" 26	—	8 29	<0.1	—	N.S.
		—	8 29	0.1	—	E.W.
602	" 28	8 47	9 1	0.8	1 17	N.S.
		8 44	9 3	0.5	1 14	E.W.

Period :—

		N.S.	E.W.
July	1	16.7 = .447.	15.0 = .520.
"	8	17.14 .428.	15.0 .520.
"	15	16.7 .447.	15.0 .520.
"	22	16.2 .468.	15.0 .520.
"	29	16.88 .439.	15.0 .520.
Aug.	5	?	17.14 .428.
"	12	17.14 .428.	18.75 .359.
"	19	16.88 .439.	18.0 .391.
"	26	17.14 .428.	18.75 .359.
Sept.	2	16.7 .447.	18.0 .391.
"	9	16.7 .447.	18.5 .370.
"	16	17.1 .429.	17.7 .404.
"	23	17.1 .429.	18.0 .390.
"	30	17.1 .429.	17.7 .404.
Oct.	7	17.1 .429.	17.7 .404.
"	14	16.8 .443.	17.1 .429.
"	21	16.9 .438.	17.1 .429.
"	28	16.8 .443.	17.1 .429.
Nov.	4	17.0 .433.	17.7 .404.
"	11	17.1 .429.	18.0 .391.
"	18	17.3 .419.	17.65 .406.
"	25	17.1 .429.	19.0 .348.
Dec.	4	17.1 .429.	19.1 .343.
"	9	16.9 .438.	18.8 .357.
"	16	16.7 .447.	18.8 .357.
"	23	16.9 .438.	18.8 .357.
"	30	16.7 .447.	18.8 .357.

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Register from Royal Observatory, Edinburgh. 55°55'N. 3°11'W.
Director, R. A. SAMPSON, D.Sc., F.R.S.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM.	H. M.	
1079	July 1	—	1 11.1	—	—	0
1080	" 1	—	8 29.6	—	—	000
1081	" 3	—	18 33.2	—	—	000
1082	" 7	8 9.9	8 33.5	1.6	4 27.1	—
			8 40.0			
1083	" 7	—	23 1.7	—	—	000
1084	" 7	23 10.9	23 12.4	0.2	0 57.8	—
1085	" 8	—	17 3.5	—	—	00
1086	" 8	17 25.7	17 36.6	0.1	0 36.9	—
1087	" 9	8 36.5	8 57.6	0.3	1 41.5	—
1088	" 11	7 25.6	7 28.9	0.1	0 13.1	—
1089	" 14	—	9 26.4	—	—	0
1090	" 17	—	13 39.0	—	—	00
1091	" 17	—	21 25.4	—	—	000
1092	" 18	21 49.0	22 28.9	0.2	2 0.5	—
1093	" 20	14 7.8	14 21.7	0.1	0 48.5	—
1094	" 22	—	10 35.2	—	—	00
1095	" 23	—	16 51.5	—	—	0
1096	" 24	12 12.3	12 22.9	0.4	2 51.4	—
1097	" 25-26	23 28.5	24 21.6	0.2	2 30.7	—
			24 29.2			
1098	" 26	2 55.8	3 42.8	0.2	2 34.9	—
1099	" 26	8 14.3	8 56.3	0.1	1 5.7	—
1100	" 30	—	5 28.0	—	—	00
1101	" 31	—	8 35.5	—	—	0
1102	" 31	10 41.5	10 54.0	0.1	0 34.8	—
1103	" 31	—	17 55.0	—	—	0
1104	" 31	19 13.3	—	—	0 24.7	0
1104a	" 31	—	20 26.2	—	—	000
1105	Aug. 1	—	9 20.0	—	—	00
1106	" 1	—	11 54.4	—	—	00
1107	" 1	—	19 4.3	—	—	00
1108	" 1	—	19 17.7	—	—	000
1109	" 4	21 54.8	22 19.3	0.2	1 12.5	—
1110	" 5	—	13 57.5	—	—	000
1111	" 6	13 49.8	14 27.4	0.1	1 27.6	—
1112	" 6	18 52.3	18 55.5	0.1	0 24.3	—
1113	" 6	21 33.9	22 47.4	0.2	2 29.8	—
1114	" 7	—	20 12.0	—	—	0
1115	" 9	1 34.5	1 48.5	10.3	4 35.0	—
			1 57.3	9.5		
1116	" 10	9 33.7	9 40.0	0.5	1 24.2	—
1117	" 10	18 40.2	18 47.8	0.1	0 16.7	—
1118	" 10	23 6.8	23 20.2	0.1	0 48.5	—
1119	" 11	—	7 34.5	—	—	0
1120	" 14	—	4 26.7	—	—	000
1121	" 15	—	14 9.7	—	—	000
1122	" 15	—	14 41.5	—	—	00
1123	" 17	19 26.5	20 25.0	2.7	3 42.5	—
1124	" 18	—	1 43.5	—	—	000
1125	" 18	—	3 25.7	—	—	00
1126	" 18	—	8 54.5	—	—	0
1127	" 18	—	13 54.3	—	—	00
1128	" 18	—	19 27.5	—	—	00
1129	" 18	—	21 30.5	—	—	000
1130	" 18	21 49.4	22 28.6	0.1	0 56.1	—
1131	" 19	16 54.0	18 3.5	0.1	1 58.4	—
1132	" 20	—	11 35.6	—	—	0
1133	" 21	—	11 44.8	—	—	0
1134	" 21	17 53.4	18 39.9	0.1	2 14.2	—

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Register from Royal Observatory, Edinburgh—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
1135	Aug. 23	14 15.6	14 38.5	0.4	1 58.0	—
1136	" 23	21 50.4	22 19.6	0.2	1 7.4	—
1137	" 24	—	2 2.4	—	—	00
1138	" 25	—	1 41.0	—	—	0
1139	" 30	—	19 13.5	—	—	0
1140	" 31	—	14 28.6	—	—	000
1141	" 31	22 44.5	23 13.1	0.1	1 38.5	—
			23 28.2			
1142	Sept. 1	—	4 47.6	—	—	0
1143	" 1	—	5 13.6	—	—	00
1144	" 1	—	14 24.2	—	—	000
1145	" 4	—	1 22.0	—	—	000
1146	" 5	—	19 35.5	—	—	00
1147	" 10	—	14 55.9	—	—	00
1148	" 10	16 32.3	16 36.1	0.1	0 33.0	—
1149	" 11	1 10.7	1 52.5	0.1	2 14.9	—
1150	" 12	—	6 28.8	—	—	00
1151	" 13	23 36.9	23 46.6	2.8	2 7.4	—
			23 52.5	3.1		
1152	" 16	—	20 32.0	—	—	00
1153	" 16	—	21 17.7	—	—	0
1154	" 17	—	19 36.1	—	—	00
1155	" 20	—	22 2.6	—	—	0
1156	" 25	—	13 32.9	—	—	00
1157	" 26	—	19 42.1	—	—	00
1158	" 26	—	20 31.0	—	—	0
1159	" 28	—	11 23.8	—	—	00
1160	" 28	—	13 9.2	—	—	00
1161	" 29	21 6.1	22 2.8	3.1	4 25.8	—
1162	" 30	5 56.1	6 5.1	0.2	0 45.9	—
1163	Oct. 1	—	6 37.6	—	—	0
1164	" 8	—	21 53.6	—	—	000
1165	" 10	—	19 29.0	—	—	0
1166	" 12	15 34.0	16 7.2	0.2	3 45	—
1167	" 12	20 3.2	20 14.0	0.1	0 52.3	—
1168	" 16	—	13 24.5	—	—	0
1169	" 17	—	10 3.0	—	—	0
1170	" 17	—	11 6.3	—	—	0
1171	" 18	12 11.2	12 52.3	0.5	3 12.2	—
1172	" 20	11 1.7	11 17.6	0.1	0 52.0	—
1173	" 22	—	9 5.7	—	—	0
1174	" 22	—	10 49.7	—	—	00
1175	" 22	—	20 32.8	—	—	000
1176	" 25	—	13 5.6	—	—	00
1177	" 26	9 23.0	10 8.9	0.1	1 14.5	—
1178	" 31	12 28.5	12 34.5	0.7	1 23.5	—
1179	" 31	17 52.0	18 32.3	0.4	2 41.1	—
1180	Nov. 1	—	6 32.0	—	—	000
1181	" 1	—	19 41.0	—	—	00
1182	" 2	3 18.0	3 30.2	0.1	1 39.3	—
1183	" 2	—	22 1.3	—	—	00
1184	" 3	6 51.0	7 2.5	0.1	0 33.4	—
1185	" 7	7 51.5	8 0.6	1.5	3 50.8	—
			8 9.2	1.1		
1186	" 7	16 56.7	17 34.7	0.5	3 26.1	—
			18 20.0	0.6		
1187	" 8	8 36.7	8 51.0	0.1	1 1.8	—
1188	" 14	—	17 46.0	—	—	00
1189	" 17	12 6.5	12 21.0	0.1	0 44.7	—
1190	" 19	14 12.0	14 32.3	0.1	1 24.9	—
1191	" 22	—	1 33.0	—	—	0
1192	" 25	9 40.3	9 48.0	0.1	0 32.7	—
1193	" 27	—	10 23.3	—	—	0

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Register from Royal Observatory, Edinburgh—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
1194	Nov. 28	21 11.3	21 17.7	0.1	0 29.0	—
1195	" 30	—	3 25.3	—	—	0
1196	Dec. 1	8 41.8	9 22.5	1.5	2 0.7	—
1197	" 4	—	6 16.8	—	—	000
1198	" 5	12 46.8	13 6.4	0.1	1 34.4	—
1199	" 5	—	18 37.9	—	—	0
1200	" 6	—	15 44.8	—	—	0
1201	" 7	23 2.3	23 15.5	0.1	2 18.0	—
			23 46.3			
1202	" 9	0 5.0	0 44.6	0.3	2 32.0	—
1203	" 9	8 44.5	9 20.8	3.1	3 14.7	—
1204	" 22	—	9 35.8	—	—	00
1205	" 24	0 15.9	1 3.4	0.1	2 33.6	—
1206	" 24	18 31.8	18 58.5	0.5	1 14.6	—
1207	" 28	8 17.9	9 5.8	0.2	1 42.3	—
1208	" 29	—	22 6.4	—	—	00
1209	" 29	—	22 37.8	—	—	0

Period of Pendulum = 17 seconds. 1mm. = 0".54.
For records below 0.1mm. of amplitude the intensity is denoted
by 0, 00, and 000, in decreasing order of magnitude.

*Register from the Coats Observatory, Paisley. 55°50'N. 4°26'W.
Observer, DONALD MACLEAN, F.R.A.S.
Convener of Committee, JOHN WOODROW, F.R.A.S.*

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM.	H. M.	
1305	July 3	—	18 35	—	—	Very small.
1306	" 7	8 11.5	8 36	2.8	3 18	—
1307	" 8	—	16 45.5	—	—	—
1308	" 8	17 25	17 37.5	0.2	0 30	—
1309	" 9	8 34	8 59	0.5	1 16	—
1310	" 11	—	7 27	0.1	—	—
1311	" 13	—	15 27	—	—	—
1312	" 20	14 8	14 19	0.3	1 7	—
1313	" 24	12 11.5	12 22	0.7	2 39.5	—
1314	" 26	8 16	8 57	0.2	1 34	—
1315	" 30	—	16 10.5	—	—	—
1316	" 31	—	8 39	—	—	—
1317	" 31	10 35	10 55.7	0.3	1 7	—
1318	Aug. 1	—	11 56.5	—	—	—
1319	" 3	—	9 53	0.1	—	—
1321	" 4	—	19 26.7	0.1	—	—
1322	" 4	22 4.5	22 17	0.4	0 51	—
1323	" 5	13 43	14 17	0.3	1 30	—
1324	" 6	—	13 51	0.1	—	—
1325	" 6	14 21	14 31	0.3	0 59	—

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Register from the Coats Observatory, Paisley—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
1326	Aug. 6	—	18 55	0.2	—	—
1327	" 6	21 33.5	22 29.5	0.5	2 17	—
1328	" 9	1 32.8	1 44.5	—	4 50	Max. beyond range of paper.
1329	" 9	—	17 3	—	—	—
1330	" 10	9 20	9 45	1.5	1 25	—
1331	" 10	18 39	18 50.5	0.2	0 26	—
1332	" 11	—	7 31	—	—	—
1333	" 14	—	4 24	0.2	—	—
1335	" 17	19 25	20 22	5.8	—	End lost in Ats.
1336	" 18	8 38	8 49.5	0.2	0 42	—
1337	" 18	—	13 55	—	—	—
1338	" 19	—	16 3	0.1	—	—
1339	" 19	—	16 51	0.1	—	—
1340	" 19	—	18 3.5	0.1	—	—
1341	" 20	—	14 19	—	—	—
1345	" 23	14 15	14 39	0.6	1 30	—
1346	" 23	—	22 19.5	0.2	—	—
1347	Sept. 1	4 30	4 43.5	0.2	1 24	—
1349	" 13	23 37	23 45.5	3.2	—	End lost in a storm of Ats.
1350	" 19	—	20 8	—	—	End lost in Ats.
1351	" 25	18 48	20 9.5	0.5	—	—
1353	" 28	—	13 10.5	—	—	—
1354	" 29	21 8	22 4.5	3.4	4 16	—
1355	" 30	5 55	6 10	0.3	0 45	—
1356	Oct. 1	—	6 39	0.1	—	—
1357	" 12	15 36	16 15	0.4	1 54	—
1358	" 12	20 5	20 12.5	0.2	0 33	—
1359	" 16	—	13 25.5	0.1	—	—
1360	" 17	—	11 13	0.1	—	—
1361	" 18	12 6	12 47.5	0.8	3 11	—
1362	" 29	—	5 50	0.1	—	—
1363	" 31	12 25	12 34.5	1.1	1 15	—
1364	" 31	17 45	18 32	0.8	2 14	—
1365	Nov. 2	3 10	3 33	0.3	0 54	—
1366	" 2	—	4 36	0.1	—	—
1367	" 3	6 30	7 2	0.3	0 50	—
1368	" 5	—	11 30.5	—	—	—
1369	" 7	7 50.5	8 1	2.0	3 40	—
1370	" 7	17 4	17 34	0.8	2 46	2nd Max. 18-19.5.
1371	" 14	—	17 46	0.1	—	—
1372	" 17	12 5	12 21	0.4	1 10	—
1373	" 19	14 16	14 24.5	0.3	1 7	—
1374	" 22	1 13	1 33.5	0.2	0 52	—
1375	Dec. 1	—	9 22	0.9	—	Com. and end lost in Ats.
1376	" 4	—	6 30	0.1	—	—
1377	" 5	12 40	13 6.5	0.2	1 40	—
1379	" 6	15 14	15 35	0.2	0 50	—
1380	" 7	22 55	23 52	0.8	1 58	—
1381	" 9	—	0 39	0.6	—	Com. lost in Ats.
1383	" 9	8 44	9 20	3.1	3 9	—
1384	" 9	—	15 23.5	0.1	—	—
1387	" 24	0 21.5	1 9.5	0.3	2 5	—
1388	" 24	—	19 6	0.6	—	—
1389	" 28	8 27	9 5	0.6	1 35	—

Period of pendulum = 17 seconds.
1mm. of amplitude = 0".47.

Register from Ponta Delgada, St. Miguel, Azores. 37°44'N. 25°41'W.
Director, Colonel F. A. CHAVES.

[illegible]

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Register from the Observatorio de Marina de San Fernando.
36°27'N. 6°12'W.

Director, Rear-Admiral T. DE AZCARATE.

Pendulum A (new model) records N.-S. motion.
Pendulum B (old model) records E.-W. motion.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
154	July 7	H. 8 19.5 M. 8 19	H. 8 45 M. 8 53.5	MM. 8.0 7.0	H. M. 2 50 2 59	A. B.
155	" 8	22 21.5 22 26	22 40 22 41.5	1.5 1.2	0 48 1 0	A. B.
156	" 9	8 38	8 51.2	2.3	0 26	A. c. for B. 8-37.5.
158	" 11	7 18 7 17.5	7 18.5 7 19	1.5 1.5	0 14 0 10	A. B.
160	" 14	9 16 9 15.4	9 23 22 29.2	0.6 0.5	0 34 0 21	A. B.
164	" 18	22 15 22 17.5	22 23.8 22 32.3	0.5 0.4	1 20 1 20	A. B.
165	" 20	14 4.8 14 6.3	14 22 14 22	0.5 0.4	0 33 0 31	A. B.
167	" 23	16 23.6 16 22.4	16 35 16 34.5	0.6 0.5	0 42 0 41	A. B.
168	" 24	12 11.2 12 12.4	12 27.7 12 24.6	1.5 2.0	2 39 2 23	A. B.
169	" 25	23 26.6 23 27	— —	— —	— —	A. B.
169	" 26	— —	0 41.4 0 40.4	2.0 1.4	2 3 2 3	A. B.
170	" 26	3 41 3 41.4	3 53.4 3 51.4	1.0 0.6	— —	A. B.
171	" 26	8 51.4 8 52	9 0.4 8 56.4	0.6 0.5	1 3 1 1	A. B.
172	" 30	— —	5 4 —	— —	— —	A. A.
174	Aug. 4	21 50.1	22 6.7	1.8	0 53	A.
176	" 6	13 43 14 14	14 27.5 14 29	0.5 0.5	0 28 2 3	B. A.
177	" 6	18 48 18 49.5	18 49.8 18 51	0.8 0.5	0 29 0 24	A. B.
178	" 6	21 31 21 32	22 42.6 22 45.6	2.5 2.0	1 53 2 5	A. B.
180	" 9	1 35 1 35	1 44.8 1 45.5	>14.0 >18.0	6 0 4 6	A. B.
181	" 10	9 34 9 34.5	9 41.5 9 40.5	2.0 1.7	1 1 0 48	A. B.
182	" 10	22 35 22 59.5	23 3 23 4	1.2 1.0	— 0 30	A. B.
185	" 17	19 32 19 33	20 36 20 35	7.0 6.5	2 53 2 55	A. B.
186	" 19	16 45.5 16 45.5	17 51 17 53.7	0.6 0.5	1 55 1 37	A. B.
188	" 21	— —	5 11.5 —	— —	— —	A. With Ats.
189	" 21	17 58.5 18 12.5	18 48.5 18 48.5	0.5 0.4	1 56 0 56	A. B.
190	" 23	14 17.5 14 25.5	14 47 14 47	1.2 1.0	1 53 1 13	A. B.
191	" 23	21 56 21 59	22 10.5 22 9	0.4 0.3	0 44 0 39	A. B.
193	" 25	— —	1 51.2 6 26.2	— —	— —	A. With Ats.
196	" 29	— —	— —	— —	— —	A. A.
199	" 31	22 46.5	23 20	1.0	1 35	A.
199	Sept. 1	22 48	23 23.2	0.8	1 4	B.

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Register from the Observatorio de Marina de San Fernando, Spain—continued.

No.	Date	Com- mence- ment		Max.		Max. Ampli- tude	Dura- tion		Remarks
		H.	M.	H.	M.	MM.	H.	M.	
204	Sept. 11	1	11.5	1	48.5	1.0	1	57	A.
		1	11	1	51.5	0.8	1	55	B.
206	" 13	23	36.5	23	48.5	5.1	2	11	A.
		23	42.5	23	49.5	4.6	2	5	B.
212	" 22	5	32.8	5	44.6	0.4	0	34	A.
		5	40.4	5	48	0.5	0	18	B.
216	" 26	0	2	—	—	—	—	—	A.
220	" 29	21	11.5	22	10.5	11.4	3	36	A.
		21	12	22	11.5	10.0	3	38	B.
227	Oct. 12	15	37.5	16	19.5	1.2	2	38	A.
		15	41	16	21.5	1.5	2	28	B.
228	" 12	20	4.7	20	15.7	0.8	0	32	A.
		20	8	20	15.2	0.6	0	22	B.
233	" 17	—	—	11	17.5	—	—	—	A.
235	" 18	12	17.5	12	56	3.5	2	49	A.
		12	19	12	54	2.5	2	21	B.
243	" 26	9	25.8	10	21	0.5	2	6	A.
		9	33	10	12	0.5	1	8	B.
246	" 31	12	22.5	12	35.7	1.0	1	29	A.
		12	28	12	31	3.5	1	22	B.
247	" 31	17	45.5	18	43.5	2.4	2	17	A.
		17	50	18	45	2.0	2	15	B.
249	Nov. 2	—	—	3	34	—	—	—	A.
250	" 2	14	38	14	51.5	0.4	0	58	A.
		14	43	14	54	0.3	0	47	B.
251	" 3	—	—	7	1	—	—	—	A.
255	" 7	7	52	8	35	4.5	3	16	A.
		7	52	8	31.5	4.2	3	2	B.
256	" 7	17	6	18	12.5	2.5	2	9	A.
		17	7	18	12	1.7	2	10	B.
257	" 7	19	15	—	—	—	—	—	A.
257	" 8	—	—	8	44	—	—	—	A.
262	" 13	—	—	6	56	—	—	—	A.
267	" 17	12	0.5	12	17	0.5	1	13	A.
		12	8.5	12	20.5	0.4	0	31	B.
269	" 19	14	6.8	14	46	0.7	1	27	A.
		14	18.5	14	49	1.5	1	23	B.
272	" 22	—	—	1	52	—	—	—	A.
276	" 27	—	—	10	16.5	—	—	—	A.
279	Dec. 1	9	22	9	30.5	1.0	0	59	A.
		9	23	9	29	1.0	0	42	B.
281	" 3	—	—	6	49	—	—	—	A.
283	" 5	12	49.5	13	24.5	0.7	1	12.5	A.
284	" 6	15	37.5	—	—	—	—	—	A.
285	" 7	22	50	23	13	1.0	1	54	A.
		22	58	23	14	0.6	1	45	B.
286	" 9	0	5.8	0	53.3	3.5	1	5	A.
		0	6	0	55	1.6	1	8	B.
287	" 9	8	54.5	9	16.5	2.4	3	0	A.
		8	55.5	9	18	2.3	2	39	B.
298	" 24	0	22	1	10.6	0.6	1	34	A.
		0	22	1	11	0.5	1	32	B.
300	" 24	19	2.5	19	14.5	0.6	0	29	A.
		19	2	19	14	0.5	0	30	B.
303	" 28	9	3	9	13.5	0.8	1	27	A.
		9	3.5	9	12	0.8	0	48	B.
304	" 29	21	48.8	—	—	—	—	—	A.

Pendulum A Period = 20 seconds. 1mm. = 0".25.
Pendulum B Period = 19 seconds. 1mm. = 0".28.

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Register from Rio Tinto Mines, Huelva, Spain. 37°46'N. 6°38'W.
Observer, W. A. JENKIN.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM.	H M	
563	July 7	8 14	8 55	3.0	2 48	—
566	" 9	8 34	8 50	1.0	0 35	—
580	" 23	16 28	16 37	0.5	0 28	—
581	" 24	12 9	12 21	1.0	1 45	—
592	Aug. 4	21 52	22 6	0.5	0 30	—
594	" 6	14 18	14 25	0.5	0 42	—
	" 6	21 32	22 39	0.5	1 50	—
596	" 9	1 31	1 49	12.0	3 57	—
598	" 10	9 30	9 37	0.7	0 36	—
	" 10	22 56	23 0	0.5	0 19	—
605	" 17	19 22	20 33	2.5	2 46	—
606	" 18	22 22	22 26	0.5	0 14	—
611	" 23	14 21	14 40	0.5	0 41	—
619	" 31	22 58	23 15	0.6	0 31	—
629	Sept. 11	1 39	1 49	0.5	0 50	—
632	" 13	23 37	23 50	2.0	0 58	—
648	" 29	21 8	22 10	11.0	2 52	—
661	Oct. 12	15 53	16 21	0.7	1 11	—
667	" 18	12 16	12 51	1.0	1 20	—
680	" 31	12 20	12 28	1.5	0 36	—
	" 31	17 44	18 42	2.5	2 5	—
686	Nov. 7	7 47	7 49	3.7	2 38	—
687	" 7	17 2	17 25	1.5	1 49	—
697	" 17	12 9	12 17	0.6	0 28	—
699	" 19	14 16	14 48	0.5	1 13	—
710	Dec. 1	9 19	9 27	0.6	0 23	—
717	" 7	23 5	23 15	0.5	0 45	—
718	" 9	0 12	0 52	1.0	1 17	—
719	" 9	8 41	9 13	1.5	1 25	Other max. 9-16, 9-20
734	" 24	19 3	19 10	0.4	0 23	—
Period = 19 seconds. 1° turn = 0°.47.						

Register from the University, Valetta, Malta. 35°54'N. 14°31'E.
Observer, C. LEACH.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
493	July 7	H. 8 M. 21.5	H. 8 M. 43.3	MM. 2.0	H. — M. —	—
494	" 9	8 15.5	8 45.5	1.5	1 5	—
495	" 18	21 54	22 33.7	1.5	1 37	—
496	" 24	—	12 54.5	2.5	—	End at 13-30.
497	Aug. 6	13 50	14 14.7	0.5	1 0	—
498	" 6	21 30	—	—	1 58	—
499	" 9	1 32	1 37.5	17.0	4 7	—
500	" 10	9 27.5	9 33	1.0	1 0	—
501	" 10	22 56	23 12	0.5	—	—

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Register from the University, Valetta, Malta—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
502	Aug. 17	19 27.7	19 47.8	1.5	3 3	—
503	Sept. 11	1 11.2	1 28.5	1.0	1 37	—
504	" 13	23 45	23 51	4.0	—	—
505	" 29	21 7	22 5.5	2.5	4 39	—
506	Oct. 12	15 49	16 21	0.5	2 46	—
507	" 26	9 19.7	10 13.5	0.5	2 2	—
508	" 31	12 24.5	12 42	1.0	1 14	—
509	" 31	17 45	18 39.5	1.0	2 23	—
510	Nov. 19	14 19.2	14 48.8	0.7	1 16	—
511	Dec. 1	8 42	9 25	0.5	1 10	—
512	" 7	23 3.6	23 21.7	1.0	1 25	—
513	" 9	0 19.5	0 51.7	1.0	1 13	—
514	" 9	8 53	9 30	2.0	2 55	—
515	" 24	0 22.2	0 27.5	0.5	1 22	—
516	" 28	8 18	8 54	2.0	2 13	—

Register from Helwan Observatory, Cairo, Egypt. 29°51'N. 31°20'E. Director, B. F. E. KEELING.

A records E.W. motion.
B records N.S. motion.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
1912						
		H. M.	H. M.	MM.	H. M.	
1823	July 1	1 35	—	0.1	0 19	B.
1823a	" 1	3 47	—	0.1	0 12	A. only.
1824	" 1	8 51	—	0.1	1 5	A.
	"	9 13	—	0.1	0 20	B.
1825	" 2	4 37	—	0.1	0 15	A. only.
1830	" 4	1 9	1 12	0.1	3 51	A.
	"	1 6	1 13	0.2	0 24	B.
1831	" 4	7 5	7 10	0.1	0 10	A. d. for B. 13m.
1832	" 6	21 13	—	0.1	0 23	A.
	"	21 16	—	0.1	0 35	B.
1834	" 7	4 15	—	0.1	0 12	A.
	"	4 8	—	0.1	0 22	B.
1835	" 7	8 10	9 14	1.4	6 1	A.
	"	8 10	9 8	1.9	5 54	B.
1836	" 7	14 56	—	0.1	1 17	B. only.
1837	" 7	23 13	23 50	0.2	2 38	A.
	"	23 14	23 55	0.1	1 52	B.
1838	" 8	17 1	17 34	0.1	2 30	A. d. for B. 1-6.
1839	" 8	22 11	23 28	0.1	3 9	A.
	"	22 6	—	0.1	3 18	B.
1840	" 9	8 26	8 34	2.6	2 33	A.
	"	8 25	8 37	2.5	2 26	B.
1841	" 10	3 33	—	0.1	0 39	A.
	"	3 43	—	0.1	0 26	B.
1843	" 10	20 40	20 50	0.1	0 27	A.
	"	20 44	20 50	0.1	0 24	B.
1847	" 11	17 40	—	0.1	0 20	B. only.

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Register from Helwan Observatory, Cairo, Egypt—continued.

No.	Date	Com- mence- ment	Max.	Max. Ampli- tude	Dura- tion	Remarks
		H. M.	H. M.	MM.	H. M.	
1849	July 13	14 57	15 33	0.1	1 8	A.
		14 57	15 30	0.1	0 47	B.
1851	" 14	9 15	9 30	0.2	1 3	A.
		9 15	9 34	0.2	1 11	B.
1853	" 16	1 29	1 34	0.1	0 50	A.
		1 15	1 39	0.1	0 52	B.
1857	" 17	12 29	—	0.1	2 14	B. only.
1858	" 17	13 4	—	0.1	1 6	A. only.
1860	" 17	21 5	21 21	0.2	0 58	A.
		21 4	21 24	0.1	1 2	B.
1861	" 17	23 59	—	0.1	0 6	A. only.
1862	" 18	21 39	22 46	0.8	2 30	A.
		21 51	22 45	0.3	2 36	B.
1866	" 20	13 40	14 29	0.3	2 3	A.
		13 45	14 28	0.2	2 15	B.
1871	" 23	15 35	16 38	0.4	2 6	B.
1872	" 23	16 5	16 36	0.4	1 49	A.
1874	" 24	12 15	13 8	1.0	3 16	A.
		12 17	13 9	1.2	3 46	B.
1875	" 24	21 51	—	0.1	0 8	A.
		21 52	21 53	0.1	0 7	B.
1876	" 24	23 45	—	0.1	0 27	A.
		23 46	—	0.1	0 42	B.
1878	" 25	23 26	—	0.3	7 32	A. d. for B. 7-30.
1879	" 26	8 0	—	0.1	2 53	A.
		7 54	8 56	0.2	3 0	B.
1880	" 26	11 54	—	0.1	0 15	A. only.
1887	" 30	5 12	—	0.1	1 47	A.
		5 7	—	0.1	0 58	B.
1892	" 31	7 46	—	0.1	0 9	A.
		8 3	—	0.1	0 26	B.
1893	" 31	11 6	—	0.1	0 29	A.
		11 1	—	0.1	0 32	B.
1894	" 31	18 44	19 31	0.1	2 16	A.
		19 18	19 31	0.1	1 42	B.
1895	Aug. 1	9 10	—	0.1	0 10	A.
		9 13	—	0.1	0 3	B.
1896	" 1	19 4	19 10	0.1	0 24	A.
		19 3	—	0.1	0 18	B.
1898	" 3	9 32	9 45.6	0.4	1 0	A.
		9 37	9 46.6	0.3	0 28	B.
1899	" 3	17 57	18 2	0.2	0 18	A.
		17 58	—	0.1	0 10	B.
1902	" 4	20 12	—	0.1	1 12	A.
		20 33	—	0.1	0 51	B.
1903	" 4	21 59.1	22 11.8	0.5	1 55	A. 2nd max. 22-17.4
		21 59.1	22 12.2	0.6	1 24	B. 2nd max. 22-13.4.
1905	" 5	13 44	—	0.1	0 18	A. d. for B. 0-10.
1905a	" 6	5 3	—	0.1	0 33	A. c. for B. 5-6.
1906	" 6	6 4	—	0.2	0 8	A. d. for B. 0-6. a.
						0.1mm.
1907	" 6	13 42	14 8.4	2.0	3 22	A.
		13 46	14 5.9	1.2	2 49	B. 2nd max. 14-8.5.
1908	" 6	18 52	19 2	0.3	0 40	A.
		18 52.5	19 0	0.6	0 45	B.
1909	" 6	21 32	21 54	0.4	3 37	A. 2nd max. 21-56.
		21 32	21 54	0.3	2 47	B.
1910	" 7	20 4	20 17	0.2	0 53	B. 2nd max. 20-47.
1911	" 9	1 33.1	1 39	>15.0	4 53	B. Many maxima.
1912	" 10	9 26.7	9 34.8	1.5	1 35	B.
1913	" 10	18 40	18 42	0.2	0 19	B.
1914	" 10	22 34.4	23 44.7	1.0	1 41	B.
1915	" 13	23 44	—	0.1	0 10	A. d. for B. 6m.