

SEISMOGRAPH RECORDS.

For the Month of January, 1929.

FROM HELWAN OBSERVATORY, EGYPT.

 $\phi = 29^{\circ} 51' N$, $\lambda = 31^{\circ} 20' E$, $h = 115$ m.Director P. A. Curry.

Seismograph Milne-Shaw recording E—W motion.

Theoretical magnification = 250.

Period of undamped pendulum = 12^s.0.

Times are expressed in Greenwich Civil Mean Time.

Govt. Press 11394 A, 1924-429 ex.

DATE 192 <u>9</u> .	PHASE.	TIME.			PERIOD. s.	AMPLITUDE	REMARKS.
		h.	m.	s.		A _E . μ	
January 6	e	1	10	25			
	iS	1	11	45			
" 13	iP	0	15	41			
	iS	0	25	50			
	F	4.0 h.					No definite Maximum.
" 16	iP	8	18	25			
	S	8	28	36			
	M	9	01	09	16	± 12	
	F	9.7 h.					
" 17	e	11	58	30	?		
	S	12	09	29			
	M ₁	12	43	50	20	± 52	
	M ₂	12	47	47	16	± 36	
	F	14.5 h.					
" 22	P	14	48	00			
	S	14	52	00			
	M	14	56	29	10	± 43	
	F	16.2 h.					
" 24	e	20	50	25			
	S	21	02	00			

Smaller tremors were also recorded at : 1d 8h. 1d 13h. 4d 21h.
 12d 22h. 14d 3h. 17d 0h. 17d 11h. 17d 22h. 18d 21h. 19d 3h. 19d 12h.
 20d 12h 50m (local). 20d 15h. 21d 5h. 21d 15h. 23d 11h. 23d 13h.
 23d 14h. 23d 15h. 23d 22h. 25d 2h. 25d 21h. 27d 16h. 30d 17h. 31d 19h.

Record lost from 10d 1h. to 10d 7h. light out.
 " " " 29d 2h. a.m. to 29d 2h p.m., clock found stopped.
 " " " 31d 4h. to 31d 7h., light out.

SEISMOGRAPH RECORDS.

For the Month of February, 1929.

FROM HELWAN OBSERVATORY, EGYPT.

 $\varphi = 29^{\circ} 51' N$, $\lambda = 31^{\circ} 20' E$, $h = 115$ m.Director P. A. Curry.

Seismograph Milne-Shaw recording E—W motion.

Theoretical magnification = 250.

Period of undamped pendulum = $12^{\circ} 0$.

Times are expressed in Greenwich Civil Mean Time.

Govt. Press 11394 A, 1924-429 ex.

DATE 192 <u>9</u> .	PHASE.	TIME.			PERIOD. s.	AMPLITUDE	REMARKS.
		h.	m.	s.		A_E .	
February 1	P	17	20	48			
	iS	17	25	51			
	M ₁	17	28	55	10	± 50	
	M ₂	17	38	14	12	± 49	
	F	20.0 h.					
" 2	iP	0	10	30			
	eS	0	18	39			
	M	0	42	50	10	± 71	
	F	3.9 h.					
" 10	e	15	54	35			P. doubtful.
	S	16	07	45			
	M ₁	16	44	32	25	± 12	
	M ₂	16	50	05	20	± 13	
	F	18.6 h.					
" 22	P	20	53	05			
	S	21	02	18			
	M	21	26	16	15	± 103	
	F	24.5 h.					

Smaller tremors were also recorded at : 2d 18h. (local). 3d 3h. 5d 2h.

5d 4h (local). 6d 3h. 6d 7h. 6d 23h. 7d 5h. 7d 11h. 8d 3h. 8d 8h.

8d 9h. 9d 22h. 10d 3h. 10d 4h. 10d 6h. 10d 14h. 12d 12h. 12d 15h.

13d 18h. 13d 23h. 14d 15h. 15d 5h. 15d 6h. 15d 8h. 16d 20h. 17d 21h.

20d 21h. 24d 13h. 25d 21h. 26d 1h. 26d 4h. 26d 9h. 27d 7h. 28d 1h.

Record lost at 4d from 0h to 14h., lamp out.

SEISMOGRAPH RECORDS

For the Month of March, 1929.

FROM HELWAN OBSERVATORY, EGYPT.

 $\varphi = 29^{\circ} 51' N$, $\lambda = 31^{\circ} 20' E$, $h = 115$ m.Director P. A. Curry.

Seismograph Milne-Shaw recording E-W motion.

Theoretical magnification = 250.

Period of undamped pendulum = 12^s.0.

Times are expressed in Greenwich Civil Mean Time.

Govt. Press 7762-1922-300 ex.

DATE 192 <u>9</u> .	PHASE.	TIME.			PERIOD. s.	AMPLITUDE A _E . μ	REMARKS.
		h.	m.	s.			
March 7	P	1	48	13	30	± 180	probably (S)
	iS	1	59	01			
	M	2	32	27			
	F	6	h.				
" 16	eP	12	36	28	10	± 5	
	eS	12	41	11			
	M	12	46	37			
	F	13.2	h.				
" 27	P	7	43	35	< 4	± 30	
	iS	7	44	53			
	M	7	45	00			
	F	8.1	h.				
Smaller tremors were also recorded at : 1d 8h. 1d 19h. 3d 3h. 3d 17h. 4d 13h. 5d 16h. 6d 8h. 7d 11h. 8d 5h. 8d 6h. 8d 11h. 9d 2h. 9d 4h. 9d 11h. 10d 6h. 10d 14h. 10d 23h. 12d 4h. 13d 7h. 13d 11h. 14d 14h. 14d 23h. 15d 2h. 15d 6h. 15d 12h. 15d 13h. 15d 18h. 15d 21h. 16d 2h. 16d 03h. 16d 8h. 17d 4h. 18d 16h. 18d 23h. 19d 0h. 19d 12h. 19d 21h. 20d 21h. 21d 2h. 21d 11h. 22d 3h. 23d 20h. 24d 1h. 24d 6h. 25d 4h. 25d 15h. 26d 9h. 26d 10h. 26d 14h. 27d 21h. 27d 22h. 28d 4h. 28d 20h. 30d 7h. 31d 3h. 31d 5h. 31d 20h.							
Record lost at 29d from 4h. to 6h. , clock found stopped.							

SEISMOGRAPH RECORDS

For the Month of April, 1929.

FROM HELWAN OBSERVATORY, EGYPT.

 $\varphi = 29^{\circ} 51' N$, $\lambda = 31^{\circ} 20' E$, $h = 115$ m.Director P. A. Curry.

Seismograph Milne-Shaw recording E-W motion.

Theoretical magnification = 250.

Period of undamped pendulum = 12^s.0.

Times are expressed in Greenwich Civil Mean Time.

Govt. Press 7762-1922-300 ex.

DATE 192 <u>9</u> ,	PHASE.	TIME.			PERIOD. s.	AMPLITUDE A _E . μ	REMARKS.
		h.	m.	s.			
/ April 8	P	10	28	48			No definite maximum.
	S	10	38	47			
/ " 9	P	4	03	50	18	± 8	
	S	4	13	02			
	M	4	34	55			
	F	5.5 h.					
/ " 17	P	11	50	29	< 4	± 6	
	IS	11	52	01			
	M	11	52	05			
	F	12.1 h.					
/ " 28	P	5	04	17	13	± 6	
	S	5	09	02			
	M	5	13	45			
	F	6 h.					
Smaller tremors were also recorded at : 2d 11h. 5d 9h. 5d 15h. 5d 23h. 7d 3h. 7d 20h. 8d 1h. 10d 5h. 10d 21h. 11d 0h. 12d 19h. 13d 7h. 13d 21h. 16d 1h. 16d 15h. 17d 3h. 17d 7h. 19d 4h. 19d 21h. 20d 1h. 20d 15h. 21d 13h. 27d 12h. 27d 18h. 27d 21h. 29d 16h. 29d 18h. 30d 19h.							
Record lost at 22d from 3h to 7h., lamp out.							

SEISMOGRAPH RECORDS

For the Month of May, 1929.

FROM HELWAN OBSERVATORY, EGYPT.

 $\phi = 29^{\circ} 51' N$, $\lambda = 31^{\circ} 20' E$, $h = 115$ m.Director P. A. Curry.

Seismograph Milne-Shaw recording E-W motion.

Theoretical magnification = 250.

Period of undamped pendulum = $12^{\text{s}}.0$.

Times are expressed in Greenwich Civil Mean Time.

Govt. Press 7762-1922-300 ex.

DATE 192 <u>9</u> .	PHASE.	TIME.			PERIOD. s.	AMPLITUDE A_E μ	REMARKS.
		h.	m.	s.			
/ May 1	iP	15	42	41	15	± 635	
	iS	15	46	56			
	M	15	53	40			
	F	19.6 h.					
/ " 1	P	19	37	40	< 4	± 16	Local, felt in Cairo.
	iS	19	38	30			
	M	19	38	36			
	F	20 h.					
/ " 13	P	13	32	20	10	± 13	
	S	13	36	32			
	M	13	44	12			
	F	15 h.					
/ " 18	iP	6	40	43	14	± 90	
	S	6	42	55			
	M	6	46	46			
	F	9.1 h.					
/ " 21	P	16	48	53	18	± 24	
	eS	16	59	08			
	M	17	31	02			
	F	19.8 h.					
/ " 26	P	22	54	05			No definite Maximum.
	S	23	05	05			
	F	3.5 h.					

MINISTRY OF PUBLIC WORKS.

PHYSICAL DEPARTMENT.

OBSERVATORY,
HELWAN, EGYPT.

TELEPHONE No. 45 (HELWÂN)

, 192

Earthquake recorded by Milne-Shaw Seismograph
at Helwan Observatory.

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Date	Phase	G.M.T.			Remarks
June 27 th	e	13 ^h	00 ^m	45 ^s	
1929	S	13	11	18	

R

J. L. Forte
for Director

Helwan Observatory.

SFISMOGRAPH RECORDS.

For the Month of June, 1929.

FROM HELWAN OBSERVATORY, EGYPT.

 $\varphi = 29^{\circ} 51' N$, $\lambda = 31^{\circ} 20' E$, $h = 115$ m.Director P. A. Curry.

Seismograph Milne-Shaw recording E-W motion

Theoretical magnification = 250.

Period of undamped pendulum = 12^s.0.

Times are expressed in Greenwich Civil Mean Time.

Govt. Press 10,356 A, 1926-300 ex.

DATE 192 <u>9</u> ,	PHASE.	TIME.			PERIOD. s.	AMPLITUDE A _E . μ	REMARKS.
		h.	m.	s.			
/ June 2	P	21	50	35			No maximum.
	S	22	00	19			
	F	23.0 h.					
/ " 3	P	20	36	08	10	± 10	doubtful S.
	S	21	43	15			
	M	20	56	39			
	F	21.9 h.					
/ " 6	P	10	59	32	13	± 14	
	iS	11	07	10			
	M ₁	11	21	52			
	M ₂	11	29	15			
	F	12.8 h.					
/ " 9	P	9	20	41	18	± 25	
	S	9	31	18			
	M	10	04	24			
/ " 10	P	23	11	25	12	± 6	
	S	23	17	35			
	M	23	33	22			
	F	24.5 h.					
/ " 13	P	0	25	02	21	± 31	
	S	0	35	31			
	M ₁	1	11	10			
	M ₂	1	22	24			
	F	4.0 h.					
/ " 13	iP	9	37	35	25	± 77	
	S	9	48	35			
	M	10	18	52			
	F	13.2 h.					

SEISMOGRAPH RECORDS.

For the Month of June, 1929.

FROM HELWAN OBSERVATORY, EGYPT.

 $\varphi = 29^{\circ} 51' N$, $\lambda = 31^{\circ} 20' E$, $h = 115$ m.Director P. A. Curry.

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Theoretical magnification = 250.

Period of undamped pendulum = 12^s.0.

Times are expressed in Greenwich Civil Mean Time.

Govt. Press 10,356 A, 1926-300 ex.

DATE 192 <u>9</u> .	PHASE.	TIME.			PERIOD. s.	AMPLITUDE A _E . μ	REMARKS.
		h.	m.	s.			
/ June 19	eP	7	43	52	20	± 14	
	S	7	54	18			
	M	8	32	20			
/ " 27	e	13	00	45	18	> 700	
	S	13	11	18			
	M	13	46	20			
	F	18.0 h.					
/ " 30	P	2	57	50	15	± 11	
	S	3	08	33			
	M	3	46	42			
<p>Smaller tremors were also recorded at: 1d 8h. 1d 18h. 2d 12h. 4d 7h. 4d 15h. 4d 17h. 5d 9h. 6d 14h. 6d 16h. 7d 1h. 10d 0h. 12d 12h. 13d 20h. 13d 23h. 14d 23h. 15d 9h. 15d 19h. 15d 21h. 18d 14h. 22d 15h. 22d 18h. 23d 8h. 23d 22h. 25d 7h. 25d 10h. 26d 6h. 26d 17h. 27d 22h. 28d 1h. 28d 3h. 28d 16h. 29d 2h.</p> <p>Record lost from 16d 7h. to 17d 8h. " " " 17d 17h. to 18d 7h. " " at 20d from 1h to 8h. " " from 20d 12h. to 21d 7h.</p>							

SFISMOGRAPH RECORDS.

For the Month of July, 1929.

FROM HELWAN OBSERVATORY, EGYPT.

 $\varphi = 29^{\circ} 51' N$, $\lambda = 31^{\circ} 20' E$, $h = 115$ m.Director P. A. Curry.

Seismograph Milne-Shaw recording E—W motion

Theoretical magnification = 250.

Period of undamped pendulum = 12^s.0.

Times are expressed in Greenwich Civil Mean Time.

Govt. Press 10,356 A, 1926-300 ex.

DATE 192 <u>9</u> .	PHASE.	TIME.			PERIOD. s.	AMPLITUDE A _E . μ	REMARKS.
		h.	m.	s.			
July 5	eP	14	32	08	22	+ 47	
	S	14	43	05			
	M	15	22	15			
	F	18.5	h.				
" 6	P	9	57	44	17	+ 14	
	S	10	07	09			
	M	10	33	00			
	F	12.3	h.				
" 7	P	21	36	38	20	+ 103	
	S	21	47	10			
	M	22	26	25			
	F	2.0	h.				
" 13	P	7	41	48	10	+ 9	
	S	7	46	14			
	M	7	55	26			
	F	8.8	h.				
" 15	iP	7	47	52	8	+ 158	
	S	7	51	00			
	M	7	56	30			
	F	10.0	h.				
" 16	eP	19	47	01	10	+ 8	
	eS	19	52	00			
	M	19	56	32			
	F	20.1	h.				
" 25	eP	0	22	30			
	S	0	26	42			
	F	1.3	h.				

Smaller tremors were also recorded at : 2d 16h. 2d 22h. 3d 1h.
 3d 2h. 3d 8h. 3d 14h. 3d 19h. 4d 4h. 4d 9h. 4d 12h. 5d 22h. 6d 2h.
 8d 19h. 9d 6h. 9d 17h. 10d 14h. 11d 17h. 11d 21h. 11d 23h. 12d 18h.
 13d 15h. 14d 8h. 14d 9h. 15d 15h. 16d 2h. 17d 8h. 17d 21h. 18d 9h.
 21d 10h. 21d 11h. 21d 13h. 23d 18h. 24d 5h. 24d 10h. 24d 23h.
 25d 12h. 25d 23h. 26d 6h. 26d 17h. 26d 25h. 27d 13h. 28d 2h. 28d 17h.
 31d 6h. 31d 19h.

SFISMOGRAPH RECORDS.

For the Month of August, 1929.

FROM HELWAN OBSERVATORY, EGYPT.

 $\varphi = 29^{\circ} 51' N$, $\lambda = 31^{\circ} 20' E$, $h = 115$ m.Director P. A. Curry

Seismograph Milne-Shaw recording E-W motion

Theoretical magnification = 250.

Period of undamped pendulum = 12^s.0.

Times are expressed in Greenwich Civil Mean Time.

Govt. Press 10,346 A, 1926-300 ex.

DATE 192 <u>9</u> .	PHASE.	TIME.			PERIOD. s.	AMPLITUDE A _E . μ	REMARKS.
		h.	m.	s.			
August 19	P	2	55	10	20	± 23	
	S	3	05	06			
	M	3	35	48			
	F	4.8	h.				
" 25	P	7	44	55	4	+ 10	
	S	7	45	42			
	M	7	46	06			
	F	8.0	h.				
" 28	eP	19	04	21	18	+ 11	
	S	19	14	42			
	M	19	50	45			
	F	20.5	h.				
Smaller tremors were also recorded at : 1d 5h. 1d 9h. 1d 14h. 3d 13h. 3d 15h. 3d 19h. 5d 15h. 7d 20h. 8d 13h. 11d 10h. 14d 3h. 15d 20h. 18d 0h. 18d 8h. 19d 21h. 19d 23h. 20d 16h. 21d 1h. 21d 13h. 21d 20h.(local) 22d 2 h. 22d 8h. 22d 17h. 22d 20h. 29d 10h. 29d 20h. 31d 19h.							
Clock stopped from 4d 9h. to 5d 7h.							
" " from 16d 21h. to 17d 7h.							

SEISMOGRAPH RECORDS.

For the Month of September, 1929.

FROM HELWAN OBSERVATORY, EGYPT.

 $\varphi = 29^{\circ} 51' N$, $\lambda = 31^{\circ} 20' E$, $h = 115$ m.Director P. A. Curry

Seismograph Milne-Shaw recording E-W motion

Theoretical magnification = 250.

Period of undamped pendulum = 12^s.0.

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Govt. Press 10,356 A, 1926-300 ex.

DATE 192 <u>9</u>	PHASE.	TIME.			PERIOD. s.	AMPLITUDE	REMARKS.
		h.	m.	s.		A _E . μ	
September 3	P	12	13	17	14	+ 32	
	S	12	17	56			
	M	12	26	28			
	F	13.3h.					
" 15	P	13	12	54	15	+ 13	
	S	13	17	02			
	M	13	23	22			
	F	14.0h.					
Smaller tremors were also recorded at : 1d 16h. 2d 11h. 3d 21h. 4d 22h. 5d 14h. 7d 18h. 8d 23h. 9d 3h. 9d 21h. 10d 20h. 11d 22h. 12d 21h. 16d 4 h. 17d from 19h to 23h. 21d 19h. 24d 1h. 24d 14h. 26d 6h. 26d 8h. 26d 9h. 27d 23h. 28d 15h.							

SEISMOGRAPH RECORDS.

For the Month of October, 1929.

FROM HELWAN OBSERVATORY, EGYPT.

 $\phi = 29^{\circ} 51' N$, $\lambda = 31^{\circ} 20' E$, $h = 115$ m.Director P. A. Curry.

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		h.	m.	s.			
October 2	eP	11	56	28	12	<u>+</u> 12	
	S	12	00	09			
	M	12	05	33			
	F	12.7 H.					
" 5	eP	17	12	31	20	<u>+</u> 16	
	eS	17	22	53			
	M	17	58	57			
	F	19.0 H.					
" 19	eP	10	27	45	18	<u>+</u> 100	
	iS	10	41	18			
	PR ₁	10	31	41			
	PR ₂	10	37	42			
	M	11	22	56			
	F	13.5 H.					
" 27	P	16	46	22	9	<u>+</u> 15	
	S	16	51	02			
	M	16	55	33			
	F	17.5 H.					
" 29	P	5	58	26	4	<u>+</u> 20	
	S	6	02	19			
	M	6	08	20			
	F	7.5 H.					
<p>Smaller tremors were also recorded at : 1D 6H, 2D 9H, 2D 19H, 3D 0H, 5D 2H, 5D 19H, 6D 7H, 6D 8H, 6D 13H, 6D 14H, 7D 15H, 8D 17H, 9D 3H, 10D 23H, 11D 19H 12^M (local), 13D 10H, 14D 11H, 15D 4H, 16D 20H, 18D 17H, 19D 20H, 20D 0H, 20D 13H, 21D 10H, 23D 0H, 23D 10H, 23D 20H, 23D 23H, 24D 6H, 24D 19H, 26D 6H, 28D 9H, 28D 12H, 28D 23H, 29D 9H, 29D 10H, 29D 11H, 29D 20H, 30D 4H, 31D 11H, 31D 23H.</p>							

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		h.	m.	s.			
November 1	P	7	01	05			
	iS	7	04	06			
	F	7.5 h.					
" 5	eP	11	51	08			
	S	12	01	53			
	M	12	35	20	25	± 14	
	F	13.1 h.					
" 11	iP	7	38	12			
	iS	7	39	34			
	M	7	39	40	< 4	± 64	felt in Cairo.
	F	8.0 h.					
" 15	P	19	04	35			
	iS	19	15	12			
	M	19	51	52	22	± 34	
	F	22.5 h.					
" 17	eP	3	56	16			
	S	4	07	05			
	M	4	46	35	16	± 24	
	F	7.0 h.					
" 18	iP	20	43	01			
	iS	20	51	54			
	M	21	15	19	20	± 98	
	F	1.0 h.					
" 20	P	20	05	40			
	S	20	11	27			

Smaller tremors were also recorded at: 3d 17h 40m(local).

4d 6h 53m(local). 4d 16h. 5d 6h. 5d 10h. 5d 20h. 6d 6h. 7d 0h.

8d 4h. 9d 2h. 13d 0h. 13d 18h. 14d 21h. 15d 12h. 18d 5h. 23d 0h.

24d 13h. 24d 17h. 30d 21h.

SEISMOGRAPH RECORDS.

For the Month of December, 1929.

FROM HELWAN OBSERVATORY, EGYPT.

 $\varphi = 29^{\circ} 51' N$, $\lambda = 31^{\circ} 20' E$, $h = 115$ m.Director P. A. Curry.

Seismograph Milne-Shaw recording E-W motion

Theoretical magnification = 250.

Period of undamped pendulum = 12^s.0.

Times are expressed in Greenwich Civil Mean Time.

Govt. Press 10,356 A, 1926-300 ex.

DATE 192 <u>9</u> .	PHASE.	TIME.			PERIOD. s.	AMPLITUDE A _E . μ	REMARKS.
		h.	m.	s.			
December 6	? eP	17	00	08	16	+ 40	
	iS	17	11	01			
	M	17	47	08			
	F	19.7 h.					
" 6	? eP	20	34	50	17	+ 29	
	iS	20	45	28			
	M	21	21	16			
	F	23.0 h.					
" 9	iP	7	00	35	18	+ 54	
	S	7	09	15			
	M	7	28	46			
	F	10.2 h.					
" 17	P	11	11	14 ?	20	+ 350	The lines were crowded together and it was almost impossible to determine the times of P & S.
	S	11	22	30 ?			
	M	11	53	24			
Smaller tremors were also recorded at : 1d 2h. 3d 8h. 4d 7h. 4d 8h. 5d 23h (local). 6d 12h. 9d 2h. 10d 3h. 10d 14h. 11d 8h. 13d 4h. 14d 16h. 15d 16h. 16d 11h. 18d 7h. 19d 12h. 20d 20h. 21d 12h. 24d 5h. 24d 20h. 24d 22h. 27d 13h. 28d 1h. 28d 2h. 28d 12h. 31d 1h. 31d 5h. 31d 23h.							