

83

ASTRONOMICAL OBSERVATORY OF MILAN

CIRCULAR N.22

(Editor Prof. F. Zagar)

1967, January

VISUAL OBSERVATIONS AND REDUCTION OF OCCULTATIONS

OBSERVED FROM 1963 TO 1965

by

Franca Chlistovsky and Edoardo Proverbio

The visual observations of occultations carried out in 1963 and 1965 are the continuation of the observations begun in the 1946 (1).

For timing has been used a writing chronograph. No correction for limb and personal equation has been brought to the observed instants of occultation.

The reduction of the observations of occultation has been carried out utilising the preliminary correction $\Delta T_0 = + 35^s, 0$.

The utilised moon positions derived from "Astronomical Ephemeris" are referred to the "Improved Lunar Ephemeris", therefore the results reduced here are not directly connected to the results of the observations effected before 1960.

In the table I are given the working number, the N.Z.C. number, the magnitude, the phase (E = emersion, I = immersions), the date and the U.T. of the occultation of each star.

In the last column the observer's name is given (fc = F. Christovsky, il = I. Levi, lm = L. Martini, ep = E. Proverbio).

The time scale utilised for these observations is the local uniforme universal time scale UT2, based on the Time service of the Milan - Brera observatory.

Table II lists up the data of the differences $\Delta \delta = \delta' - \delta$, i.e. the angular distance of the star above the mean radius level of the moon, and the coefficients

$$p = \cos (\vartheta - \chi),$$

$$q = \sin (\vartheta - \chi),$$

for to determine the corrections δL and δB to the Moon's mean Longitude and Latitude by the method of least squares from the observational equations

$$\cos (\varrho - \chi) \delta L + \sin (\varrho - \chi) \delta B = \Delta \delta .$$

The values of these unknowns calculated separately for the years 1963 and 1965 are

	δL		δB
1963,7	- 0".56	\pm 0".28	+ 0".18 \pm 0".78
1965,4	- 0 .11	\pm 0 .26	- 0 .96 \pm 0 .47

References

- (1) Proverbio E., Rend. Ist. Lomb. Sc. e Lettere, Vol. 92 (459), 1958,
Proverbio E., Rend. Ist. Lomb. Sc. e Lettere, Vol. 94 (561), 1960.

TABLE I

No.	N.Z.C.	m	Ph.	Date	U. T.	Obs.
1	1387	6.8	I	63 04 03	23 ^h 20 ^m 15 ^s .10	ep
2	1312	6.8	I	63 05 27	21 08 52.00	ep
3	1312	6.8	I	63 05 27	21 08 53.00	il
4	1956	7.0	I	63 06 26	20 19 20.71	ep
5	1956	7.0	I	63 06 26	20 19 20.65	il
6	2754	5.9	I	63 09 26	21 02 01.88	ep
7	2754	5.9	I	63 09 26	21 02 02.10	il
8	3536	4.7	I	63 10 29	20 41 12.73	ep
9	3536	4.7	I	63 10 29	20 41 12.67	ep
10	2928	6.5	I	63 11 21	17 00 16.85	ep
11	2928	6.5	I	63 11 21	17 00 17.01	il
12	0018	6.0	I	63 12 23	17 17 33.88	ep
13	0532	7.2	I	65 02 09	20 49 25.46	ep
14	0700	5.7	I	65 02 10	19 24 08.69	ep
15	0859	6.5	I	65 02 11	20 21 28.51	ep
16	0865	6.1	I	65 02 11	21 20 24.27	ep
17	0865	6.1	I	65 02 11	21 20 24.80	lm
18	1208	6.4	I	65 05 06	20 12 46.69	fc
19	1208	6.4	I	65 05 06	20 12 46.29	lm
20	1702	4.2	I	65 05 10	20 04 08.23	fc

TABLE I

No.	N.Z.C.	m	Ph.	Date	U. T.	Obs.
21	1702	4.2	I	65 05 10	20 ^h 04 ^m 08 ^s .11	lm
22	1921	5.9	I	65 05 12	19 34 52.52	fc
23	1924	5.8	I	65 05 12	20 31 58.15	fc
24	2033	4.3	I	65 05 13	20 01 42.14	ep
25	3160	7.0	I	65 10 05	21 43 25.35	ep
26	3158	5.8	I	65 10 05	21 57 11.84	fc

TABLE II

No.	p	q	p ²	pq	q ²	$\Delta \delta$
	+		+		+	"
1	96	+ 29	92	+ 28	8	- 2.2
2	100	+ 8	99	+ 8	1	- 0.4
3	100	+ 8	99	+ 8	1	- 1.5
4	84	+ 54	71	+ 45	29	+ 0.7
5	84	+ 54	71	+ 45	29	+ 0.4
6	100	- 1	100	- 1	0	- 1.1
7	100	- 1	100	- 1	0	- 1.1
8	88	- 47	78	- 41	22	+ 0.1
9	88	- 47	78	- 41	22	+ 0.1
10	95	+ 32	90	+ 30	10	- 0.3
11	95	+ 32	90	+ 30	10	- 0.3
1963 12	99	+ 17	97	+ 17	3	- 0.1
1965 13	94	+ 35	88	+ 33	12	+ 0.5
14	93	- 37	86	- 34	14	- 1.7
15	96	- 28	92	- 27	8	- 0.7
16	52	- 85	27	- 44	73	- 0.9
17	52	- 85	27	- 44	73	- 1.0
18	94	- 34	88	- 32	12	+ 0.3
19	94	- 34	88	- 32	12	+ 0.6
20	100	+ 5	100	+ 5	0	- 0.1

TABLE II

No.	p	q	p^2	pq	q^2	$\Delta \delta$
	+		+		+	"
21	100	+ 5	100	+ 5	0	- 0.1
22	90	+ 44	81	+ 40	19	+ 0.8
23	87	+ 50	75	+ 43	25	+ 1.0
24	91	- 41	83	- 37	17	- 1.0
25	100	- 1	100	- 1	0	+ 0.3
26	80	+ 60	64	+ 48	36	- 1.0