

XXXIII. Observations of the Summer Solstice, 1813, with the Mural Circle, at the Royal Observatory.

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Read July 8, 1813.

1813.	Barometer.		Therm.		Refraction.	Observations as given by the Instrument.	Equations for N. P. D.		Equations for Zenith Distance.		Semi-diameter of the ☉ by Nautical Almanack.		Reduction to the Solstice.		Solstitial Zenith Distance with Parallax.		Solstitial N. P. D. with Parallax.		Correction for ☉'s Lat.		Solstitial Zenith Distance corrected for ☉'s Lat.		Solstitial N. P. D. corrected for ☉'s Lat.					
	In.	Out.	'	"			'	"	'	"	'	"	'	"	'	"	'	"	'	"	'	"	'	"	'	"		
June 10	29.57	62	69	0	30.3	☉ LL 67 14 21.9	0.6	38	31	22.1	15 46.5	26	44.7	28	0	58.9	66	32	20.4	1.0	28	0	59.9	66	32	21.4		
11	29.81	64	71	0	29.6	☉ UL 66 38 18.9	0.6	22	16.2	22.1	15 46.5	18	12.1	50.7	18.2	1.0	50.7	19.2	18.2	1.0	50.7	19.2	18.2	1.0	50.7	19.2		
12	29.70	64	74	0	30.1	☉ LL 67 5 48.1	0.6	22.1	15 46.4	22.1	15 46.4	14	32.4	57.6	19.1	1.0	57.6	20.1	19.1	1.0	57.6	20.1	19.1	1.0	57.6	20.1		
13	30.02	61	66	0	30.9	☉ UL 66 30 36.9	0.6	22.1	15 46.3	22.1	15 46.3	8	26.7	59.6	21.1	0.9	59.6	22.0	21.1	0.9	59.6	22.0	21.1	0.9	59.6	22.0		
15	29.62	60	66	0	30.1	☉ LL 66 56 2.3	0.6	22.1	15 46.1	22.1	15 46.1	0	1.9	57.5	19.0	0.7	57.5	19.7	19.0	0.7	57.5	19.7	19.0	0.7	57.5	19.7		
21	30.15	57	60	0	30.0	☉ UL 66 16 9.3	0.6	22.1	15 45.8	22.1	15 45.8	0	1.9	57.5	22.6	0.1	57.5	22.5	22.6	0.1	57.5	22.5	22.6	0.1	57.5	22.5		
23	30.17	56	59	0	30.8	☉ LL 66 48 7.4	0.6	22.1	15 45.6	22.1	15 45.6	0	32.0	58.5	20.0	0.3	58.5	19.7	20.0	0.3	58.5	19.7	20.0	0.3	58.5	19.7		
25	30.18	59	64	0	29.9	☉ UL 66 18 47.8	0.6	22.1	15 45.6	22.1	15 45.6	2	41.1	0.1	21.6	0.3	0	59.8	21.3	21.6	0.3	0	59.8	21.3	21.6	0.3	0	59.8
27	30.07	64	70	0	30.2	☉ LL 66 54 6.5	0.6	22.1	15 45.6	22.1	15 45.6	6	29.3	0.9	21.2	0.2	0	59.5	21.0	21.2	0.2	0	59.5	21.0	21.2	0.2	0	59.5
28	29.94	61	67	0	29.7	☉ UL 66 25 9.0	0.6	22.1	15 45.6	22.1	15 45.6	9	0.4	1.8	23.3	0.1	1	1.7	23.2	23.3	0.1	1	1.7	23.2	23.3	0.1	1	1.7
29	29.75	64	74	0	30.0	☉ LL 66 59 32.2	0.6	22.1	15 45.5	22.1	15 45.5	11	56.1	0.5	20.0	0.0	0	58.5	20.0	20.0	0.0	0	58.5	20.0	20.0	0.0	0	58.5
July 1	29.67	62	65	0	29.6	☉ UL 66 35 7.1	0.6	22.1	15 45.5	22.1	15 45.5	19	0.7	0	20.9	0.3	0	59.7	21.2	20.9	0.3	0	59.7	21.2	21.2	0.3	0	59.7
2	29.75	60	62	0	31.8	☉ LL 67 10 44.8	0.6	22.1	15 45.5	22.1	15 45.5	23	9.5	59.5	21.0	0.4	59.5	21.5	21.0	0.4	59.5	21.5	21.0	0.4	59.5	21.5		
Mean of 13 Observations							28	0	59.1	66	32	20.6	28	0	59.5	66	32	21.0	28	0	59.5	66	32	21.0	28	0	59.5	
Parallax — 4".0 Nutation — 6".5 =							—	10.5	—	10.5	—	10.5	—	10.5	—	10.5	—	10.5	—	10.5	—	10.5	—	10.5	—	10.5	—	10.5
Mean of Two Observations or Mean Obliquity, Jan. 1, 1813							—	10.1	—	10.1	—	10.1	—	10.1	—	10.1	—	10.1	—	10.1	—	10.1	—	10.1	—	10.1	—	10.1
Mean Obliquity							—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
* Mean Obliquity at Summer Solstice, 1812							—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

* I avail myself of this opportunity of correcting a very small error that was made in computing the summer solstice of 1812. The correction for the sun's latitude should have been 0".6 instead of 0".9, and should have been applied with the contrary sign. The obliquity thus corrected will be 23° 27' 50".5.