

## Occultations during the total eclipse of 1888 July 22

observed at the Washburn Observatory by *Geo. C. Comstock*.

The eclipse was observed at Madison under very favorable conditions. The day had been clear and warm up to 4 p. m. when a passing shower cooled the air and the clouds disappearing at 9 p. m. left a clear sky and good definition. I observed the eclipse with the large equatorial of the Washburn Observatory with a power of 145 diameters. During totality the moon appeared unusually bright, considerably brighter than during the eclipse of January 28, but with marked differences of brightness at different parts of the disk, the edge nearest the axis of the shadow cone being much darker than the opposite limb.

I had prepared predictions of the times of immersion and emersion of all stars of the Südliche Durchmusterung which were occulted at this place and observed as many of these as possible together with immersions of some fainter stars, in the hope that similar observations might be made elsewhere although no provision seems to have been made for concerted action of this kind. Unfortunately there were but four emersions of stars of the SD. during totality and of these two were lost. The times were observed by eye and ear with a sidereal chronometer beating half seconds. Both immersions and emersions of stars down to the 10 mag. inclusive were observed without much difficulty and I estimate the probable error of such an observation at  $\pm 0.2$ . Immersions of stars of the 10.5 mag. were difficult to observe and I do not think that emersions of such stars would be observed with any precision.

Except where the contrary is noted the disappearances and reappearances were instantaneous and well observed. The several columns of the accompanying table of observations seem to require no explanation beyond the statement that  $Q$  denotes the estimated position angle of the point of moon's limb at which the star was observed and

that the magnitudes are my own estimates independent of the SD.

### Occultations.

No.	Mag.	Star	Em. Imm.	Madison M.T.	$Q$
1	10	SD. —20°5869	E	11 <sup>h</sup> 5 <sup>m</sup> 28.8	280
2	10	—	I	7 39.8	95
3	10	—	I	11 19.4	45
4	10	—	I	17 30.4	160
5	9.5	—	I	23 54.4	45
6	10	—	I	25 17.9	90
7	10	—	I	25 45.9	95
8	9.5	SD. —20.5885	I	27 47.2	30
9	9.5	—	I	34 44.1	78
10	10	—	I	35 26.8	85
11	10	—	I	36 29.9	165
12	10	—	I	40 42.9	150
13	10.5	—	I	42 48.5	155
14	10	SD. —21.5682	I	51 54.9	155
15	10.5	—	I	53 31.7	156
16	9.5	SD. —20.5893	I	11 54 46.0	75
17	9	—	I	12 4 32.4	75
18	9.2	SD. —20.5900	I	15 55.1	93
19	9.6	SD. —20.5898	I	17 18.0	80
20	9.5	SD. —21.5682	E	23 12.7	190
21	9	SD. —20.5896	I	27 47.5	20
22	9.5	SD. —20.5903	I	12 33 25.5	87

### Remarks.

Nr. 13. Not instantaneous.

» 22. Not instantaneous. Moon's limb quite bright.

Washburn Observatory, University of Wisconsin, Madison 1888 July 24.

*Geo. C. Comstock.*

## Elliptische Elemente des Cometen 1887 II (Brooks Jan. 22).

Von den bis dahin veröffentlichten, ausschliesslich parabolischen Elementensystemen dieses Cometen gründet sich dasjenige von Dr. H. Oppenheim (A. N. 2780) auf den grössten Beobachtungszeitraum: es sind dort Beobachtungen von 1887 Febr. 11 bis März 28 verwendet worden. Da indessen der Comet noch bis April 23 verfolgt werden konnte, so erschien eine vorläufige, den ganzen Beobachtungszeitraum umfassende Bahnbestimmung wünschenswerth, zumal die Abweichung der Beobachtung von der Oppenheim'schen Ephemeride an einzelnen Stellen ziemlich beträchtliche Werthe erreichte.

Ich legte meiner Rechnung die folgenden gleichwerthig verwendeten Beobachtungen zu Grunde:

1887 Jan. 27: Kiel, Padua, Paris, Algier (2 Beob.), Nizza, Albany,

1887 Febr. 24: Genf (2 Bb.), Göttingen (2 Bb.), Bordeaux, Palermo,

März 28: Bordeaux, Hamburg, Orwell Park,

April 20: Genf, Besançon, Orwell Park,

und erlangte dadurch die 4 Normalörter:

1887	$\alpha$ 1887.0	$\delta$ 1887.0
Jan. 27.5	284° 31' 9.2	+76° 10' 14.4
Febr. 24.5	46 35 20.0	+61 33 47.3
März 28.5	66 7 6.8	+33 8 51.6
April 20.5	73 48 37.6	+21 26 56.0

Leider war es mir nicht möglich alle in der Nähe der Zeiten meiner Normalörter liegenden Beobachtungen zu