ROTATION PERIOD DETERMINATION FOR 560 DELILA

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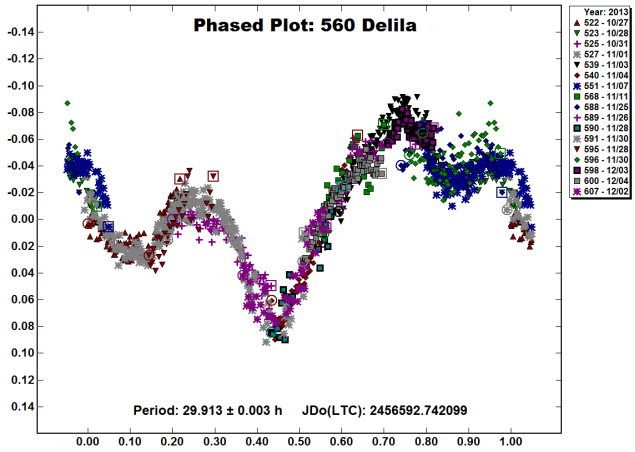
Lightcurves of 560 Delila were obtained by a collaboration between Bassano Bresciano Observatory and Organ Mesa Observatory. For 560 Delila, the period is 29.913 ± 0.003 hours, amplitude 0.15 ± 0.02 magnitudes with an irregular lightcurve.

The Asteroid Lightcurve Data Base (Warner et al. 2013) indicates no previous rotation period determination for 560 Delila, only an amplitude > 0.1 magnitude. Observers Pilcher at Organ Mesa Observatory (G50) and Strabla at Bassano Bresciano Observatory (565) collaborated to obtain a dense lightcurve, the first ever of 560 Delila. Equipment at Organ Mesa Observatory consists of a 0.35 meter Meade LX200 GPS Schmidt-Cassegrain, SBIG STL-1001E CCD, with a clear filter, 60 second exposure time, unguided. At Bassano Bresciano Observatory a 0.32 meter Schmidt telescope operating at F/3.1 and Starlight CCD camera MX-916 applied at direct focus was used with 120 second exposure time, unfiltered, unguided. *MPO Canopus* (BDW Publishing, 2010) was used to measure the images photometrically. Comparison stars with near solar colors were selected with the Comparison Star Selector included in this software. More accurate magnitudes for these stars were obtained from the Sloan r' magnitudes CMC14 (Carlsbad Meridian Circle) catalog posted on the VizieR (2013) web site, which were converted to Johnson-Cousins R magnitudes by R=r'-0.22. A Fourier analysis algorithm developed by Harris et al. (1989) was utilized to obtain the period which satisfied the data with minimum residual. Even with the use of CMC14 magnitudes, it was necessary to adjust the instrumental magnitudes of the individual sessions by several x 0.01 magnitude for the minimum residual fit displayed in the lightcurve.

Photometric data from a total of 17 sessions 2013 Oct. 27 - Dec. 4 provide a good fit to a synodic rotation period 29.913 ± 0.03 hours, amplitude 0.15 ± 0.02 magnitudes, with a somewhat irregular lightcurve.

Observatory	Date	Phase Angle	Time h.	Num Obs
Organ Mesa	2013-10-27	19.7	6.5	322
Organ Mesa	2013-10-28	19.4	6.9	345
Organ Mesa	2013-10-31	18.6	7.0	244
Organ Mesa	2013-11-01	18.3	7.1	260
Organ Mesa	2013-11-03	17.8	6.7	265
Organ Mesa	2013-11-04	17.5	6.1	230
Organ Mesa	2013-11-07	16.5	7.6	370
Bassano Br.	2013-11-11	15.0	4.3	83
Bassano Br.	2013-11-25	9.2	7.2	126
Bassano Br.	2013-11-26	8.8	6.5	136
Bassano Br.	2013-11-27	8.5	5.1	68
Bassano Br.	2013-11-28	7.9	4.5	93
Organ Mesa	2013-11-30	7.3	9.7	337
Bassano Br.	2013-11-30	7.0	4.5	164
Bassano Br.	2013-12-02	6.1	6.0	117
Organ Mesa	2013-12-03	5.9	3.3	163
Organ Mesa	2013-12-04	5.4	5.6	270



References

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