

ROTATION PERIOD DETERMINATION FOR 308 POLYXO

Frederick Pilcher
Organ Mesa Observatory
4438 Organ Mesa Loop
Las Cruces, NM 88011 USA
fpilcher35@gmail.com

Luca Pietro Strabla, Ulisse Quadri, Roberto Girelli
Observatory of Bassano Bresciano
via San Michele 4 Bassano Bresciano (BS) Italy

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Lightcurves of 308 Polyxo were obtained by a collaboration between Bassano Bresciano Observatory and Organ Mesa Observatory. For 308 Polyxo the period is 12.029 ± 0.001 hours, amplitude 0.15 ± 0.02 magnitudes with an irregular lightcurve.

Previous period determinations are by Debehogne and Zappala (1980), 12.032 hours; Harris and Young (1983), 12.02 hours; and Higgins (2011), 12.01 hours. Due to the very near commensurability with Earth's period all of their lightcurves were incomplete. To sample the complete lightcurve, observers Pilcher at Organ Mesa Observatory (G50) and Strabla at Bassano Bresciano Observatory (565) collaborated. 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 from the APASS catalog with near solar colors were selected with the Comparison Star Selector included in this software. 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 APASS magnitudes, it was necessary to adjust the instrumental magnitudes of the individual sessions by several $\times 0.01$ magnitude for the minimum residual fit displayed in the lightcurve.

Photometric data from a total of 7 sessions 2014 Feb. 11 - Apr. 18 provide a good fit to a synodic rotation period 12.029 ± 0.001 hours, amplitude 0.15 ± 0.02 magnitudes, with a somewhat irregular lightcurve.

Observatory	Date	Phase Angle	Time h.	Num Obs
Organ Mesa	2014-02-11	13.0	7.5	288
Organ Mesa	2014-02-14	12.1	7.3	356
Organ Mesa	2014-02-21	9.7	7.3	349
Bassano Br.	2014-03-07	4.0	7.2	163
Organ Mesa	2014-03-20	1.4	7.7	390
Bassano Br.	2014-03-28	2.9	6.0	292
Organ Mesa	2014-04-18	12.7	5.0	236

References

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