

LIGHTCURVE ANALYSIS OF THE KORONIS FAMILY MEMBER 1840 HUS

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(Received: 2023 April 10)

We report rotation lightcurves of 1840 Hus observed during its apparition in 2023. We have analyzed our data to calculate the synodic period with the *Canopus* software. Our conclusion with the available data is that the synodic rotation period is 4.7491 h

In the present study we report the data obtained during the observation campaign of the asteroid 1840 Hus carried out during the apparition of 2023. This work has been done from:

- Astronomical Center Alto Turia (CAAT), with the MPC code J57, located in Aras de los Olmos, Valencia
- Vallbona Observatory, with the MPC code J67, located at Puebla de Vallbona, Valencia.

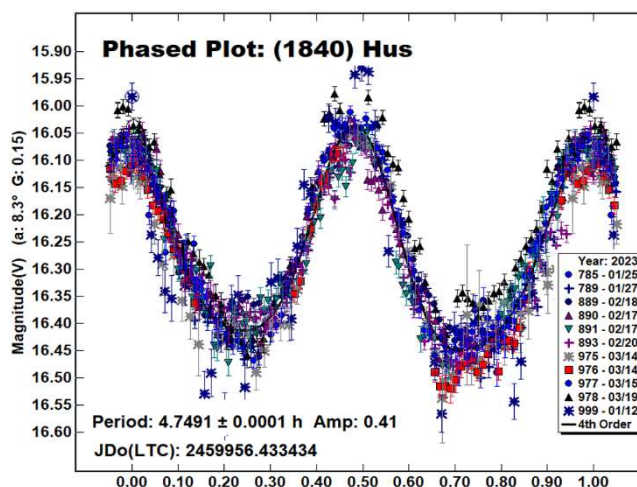
All of them operated by members of the Valencian Astronomy Association (AVA) (<http://www.astroava.org>).

Observatory	Telescope (m)	CCD (filter)	Observations
C.A.A.T. J57	43 cm DK	SBIG STXL-11002 C filter	02/16
			02/17
			02/18
			02/19
			02/20
			03/14
C.A.A.T. J57	106 mm Refr	ZWO ASI 1600 L filter	03/15
			03/18
			01/11
J67	SC 10"	ZWO ASI194 C filter	01/25
			01/27
			03/14

Table I. List of instruments and observations

This study is intended as a continuation of the observations made by Slivan et al. (2021) on the apparition in 2020. He calculated a rotation period of 4.7483 ± 0.0008 h. In the LCDB (Warner et al., 2009) we find statistical analyses of “sparse data” from surveys: Erasmus et al. (2020) report a period of 4.749 ± 0.001 h. Durech et al. (2016) using Lowell data reports a sidereal period of 4.749057 ± 0.00001 h.

Our observations were made in 10 nights in 2023 Jan 11 - March 18. Our analysis with *Canopus* shows a synodic rotation period of 4.7491 ± 0.0001 h.



Acknowledgements

We would like to express our gratitude to Brian Warner for supporting the CALL web site and his suggestions and to Dr. Stephen Slivan for his advice.

References

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Number	Name	yyyy mm/dd	Phase	L _{PAB}	B _{PAB}	Period(h)	P.E.	Amp	A.E.	Grp
1840	Hus	2023/01/11-03/18	8.3, 11.9	145.5	2.8	4.7491	0.0001	0.41	0.05	MB-O

Table II. Observing circumstances and results. The phase angle is given for the first and last date. L_{PAB} and B_{PAB} are the approximate phase angle bisector longitude/latitude at mid-date range. Grp is the asteroid family/group (Warner et al., 2009).