

PHOTOMETRY AND LIGHTCURVE ANALYSIS OF 1774 KULIKOV, 7145 LINZEXU, 11099 SONODAMASAKI AND (16024) 1999 CT101

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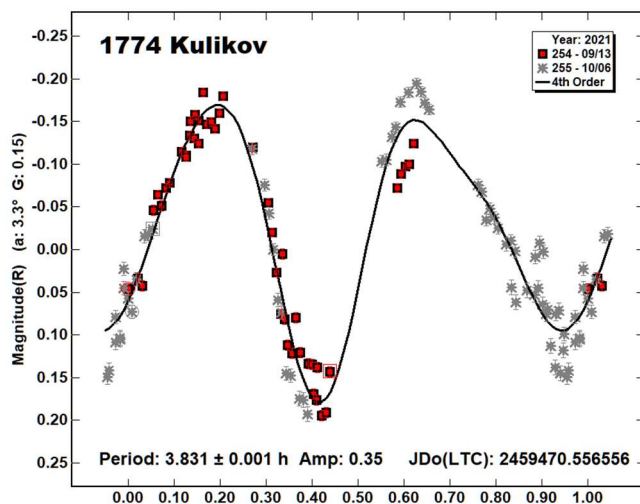
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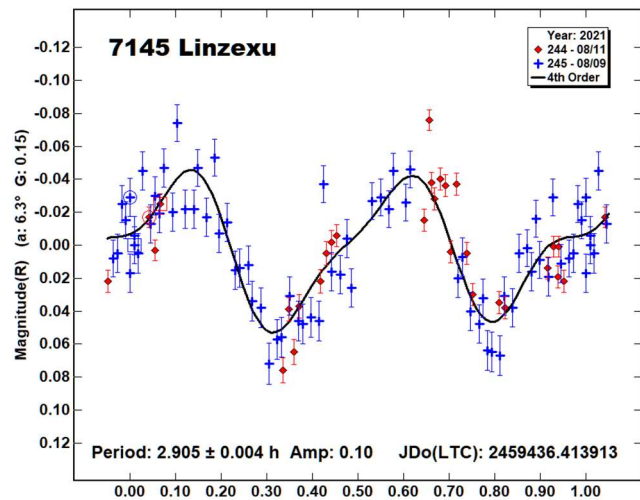
Photometric observations of four main belt asteroids were obtained on four nights 2021 August 9 to 2021 October 6. The following rotational periods were determined: 1774 Kulikov, 3.831 ± 0.001 h; 7145 Linzexu, 2.905 ± 0.004 h; 11099 Sonodamasaki, 7.247 ± 0.001 h and (16024) 1999 CT101, 2.791 ± 0.001 h.

We report on photometric observations obtained with the 0.6m telescope of the Southeastern Association for Research in Astronomy (SARA) consortium at Cerro Tololo Inter-American Observatory. The telescope is coupled with an Andor iKon-L series CCD. A detailed description of the instrumentation and setup can be found in the paper by Keel et al. (2017). The data was calibrated using *MaximDL* and photometric analysis was performed using *MPO Canopus* (Warner, 2017). All four asteroids were observed by FGCU's Asteroid Research Group previously and are shape modelling targets of our group.

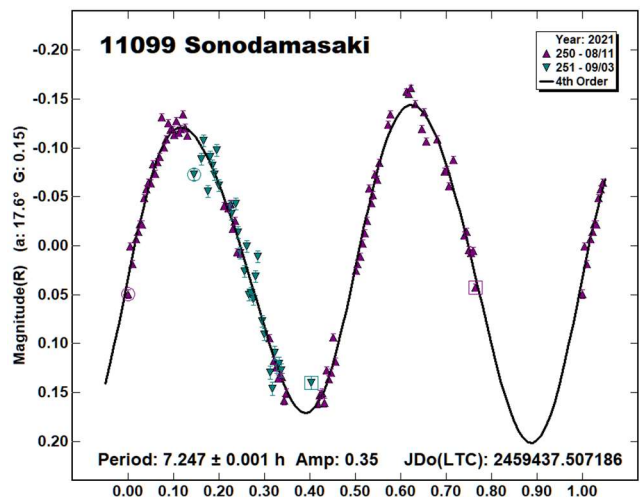
1774 Kulikov is a member of the Koronis family. The asteroid was observed on two nights, roughly three weeks apart. The derived rotational period of 3.831 ± 0.001 h with an amplitude of 0.35 mag is in good agreement with the result previously obtained by our group (Fauerbach and Nelson, 2019, 3.832 h; Fauerbach, 2019b, 3.823 h) and the result reported by Āurech et al. (2016, 3.830791 h).



7145 Linzexu is an inner main-belt asteroid. Our analysis yields a rotational period of 2.905 ± 0.004 h with an amplitude of 0.10 mag. This is not in agreement with Pál et al. (2020, 13.7126 h) derived from TESS data, but in excellent agreement with previous publications by Ditteon and West (2011, 2.905 h) as well as our previous results (Fauerbach and Fauerbach, 2019, 2.905 h).



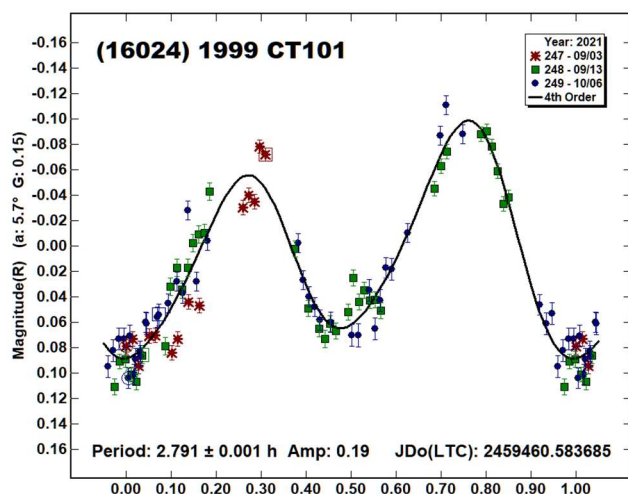
11099 Sonodamasaki is a member of the Klio family. The asteroid was observed on two nights, roughly three weeks apart. Our analysis yields a rotational period of 7.247 ± 0.001 h with an amplitude of 0.35 mag. This is in good agreement with previous measurements by Behrend et al. (2021web, 7.238 h), Āurech et al. (2018, 7.24714 h), Waszczak et al. (2015, 7.248 h) as well as our previous result (Fauerbach, 2019a, 7.251 h).



(16024) 1999 CT101 is a member of the Maria family. We observed (16024) 1999 CT101 for three nights over the period of a month. Our analysis yields a rotational period of 2.791 ± 0.001 h with an amplitude of 0.19 mag. This is in good agreement with the result by Waszczak et al. (2015, 2.804 h) as well as our previous result (Fauerbach and Brown, 2019, 2.786 h).

Number	Name	yyyy mm/dd	Phase	L _{PAB}	B _{PAB}	Period(h)	P.E.	Amp	A.E.
1774	Kulikov	2021 09/13,10/06	3.3,11.8	343	0.3	3.831	0.001	0.35	0.03
7145	Linzexu	2021 08/09,08/11	5.6,6.3	308	8.8	2.905	0.004	0.10	0.02
11099	Sonodamasaki	2021 08/11,09/03	17.6,25.2	301	-14.3	7.247	0.001	0.35	0.03
16024	1999 CT101	2021 09/03,10/06	5.7,12.4	348	-5.7	2.791	0.001	0.19	0.02

Table I. Observing circumstances and results. The phase angle is given for the first and last date. If preceded by an asterisk, the phase angle reached an extrema during the period. L_{PAB} and B_{PAB} are the approximate phase angle bisector longitude/latitude at mid-date range (see Harris et al., 1984).



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