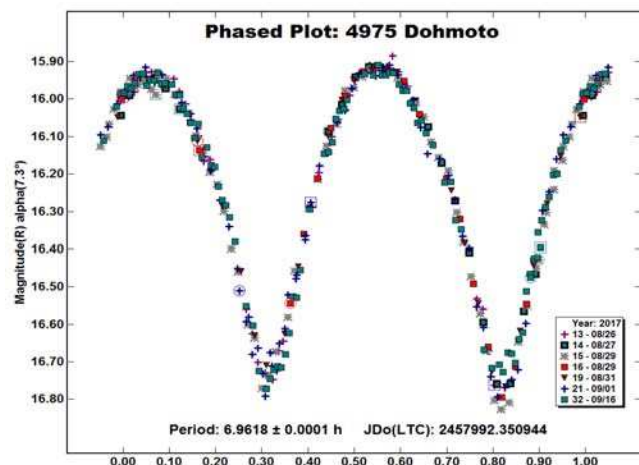
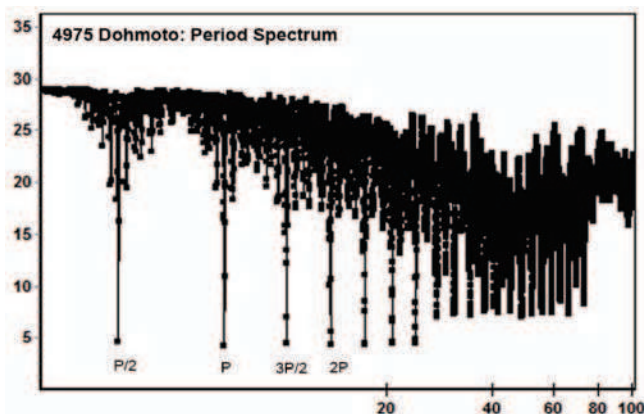




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ROTATION PERIOD DETERMINATIONS FOR 418 ALEMANNIA, 646 KASTALIA, AND 876 SCOTT

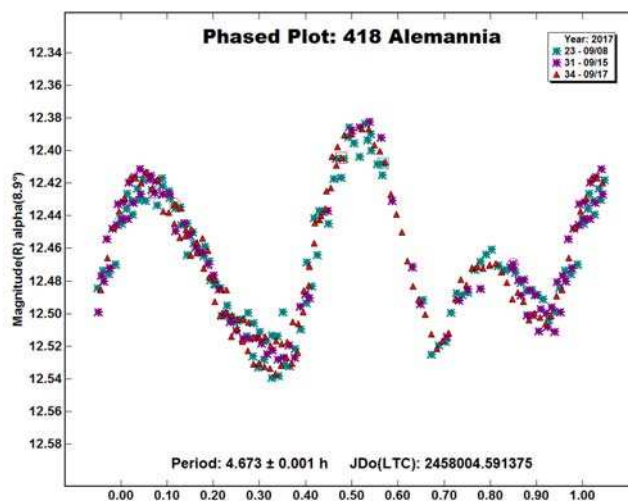
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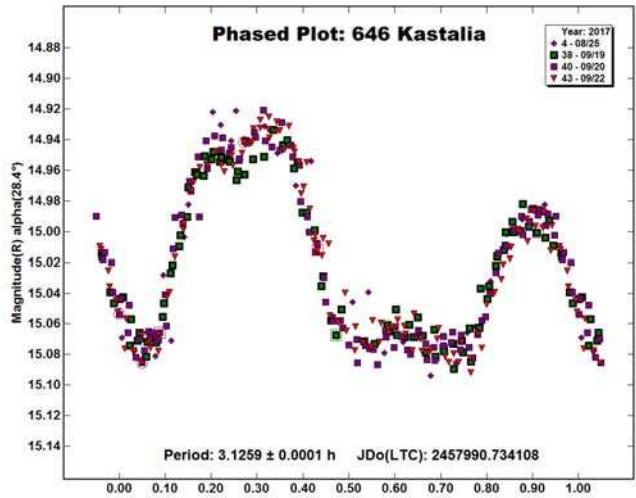
Synodic rotation periods and amplitudes are reported for
418 Alemannia: 4.673 ± 0.001 h, 0.14 ± 0.01 mag;
646 Kastalia: 3.1259 ± 0.0001 h, 0.14 ± 0.01 mag;
876 Scott: 11.817 ± 0.001 h, 0.21 ± 0.02 mag.

Observations to obtain the data used in this paper were made at the Organ Mesa Observatory with a 0.35-meter Meade LX200 GPS Schmidt-Cassegrain (SCT) and SBIG STL-1001E CCD. Exposures were 60 seconds, unguided, with a clear filter. Photometric measurement and lightcurve construction were done with *MPO Canopus* software. To reduce the number of points on the lightcurves and make them easier to read, data points have been binned in sets of 3 with a maximum time difference of 5 minutes.

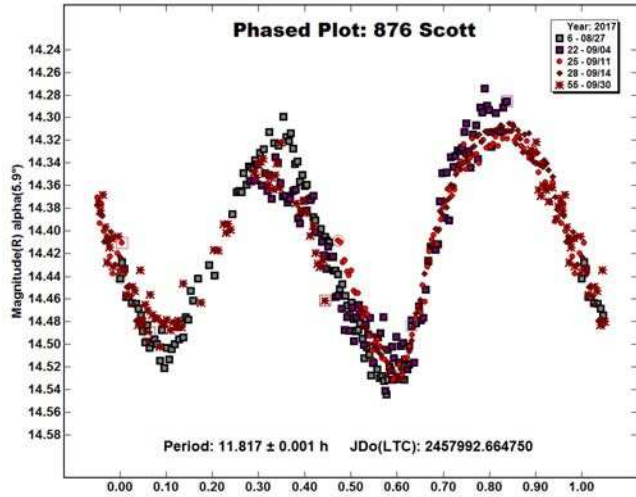
418 Alemannia. Previously published period determinations are by Lagerkvist et al. (1987), 5.82 h; Wetterer et al. (1999), 4.680 h; Behrend (2001), 4.6714 h; Behrend (2005), 4.67 h; and Behrend (2007), 4.6727 h. New observations were made on three nights from 2017 Sep 8-17 to contribute to lightcurve inversion modeling. The data provide a good fit to a period of 4.673 ± 0.001 h and amplitude 0.14 ± 0.01 h, with 3 unequal maxima and minima per cycle. This is consistent with all previously reported results except Lagerkvist et al. (1987).



646 *Kastalia*. Warner et al. (2009, updated 2017 June 1) find no previously published rotation periods. New observations on four nights from 2017 Aug 25 to Sep 22 provide a good fit to an irregular bimodal lightcurve with a period 3.1259 ± 0.0001 h and amplitude 0.14 ± 0.01 mag.



876 *Scott*. Previously published period determinations, all from sparse data sets, are by Lagerkvist et al. (1979, 14 hours) and by Waszczak et al. in the Palomar Transient Factory (PTF) Survey who reported 11.814 h for observations in 2010 and 11.813 h for observations in 2012. Dense lightcurves obtained on five nights from 2017 Aug 27 to Sep 30 provide a good fit to a bimodal lightcurve with a period 11.817 ± 0.001 h and amplitude 0.21 ± 0.02 mag. This is consistent with the PTF Survey. It is useful to obtain dense lightcurves of objects whose periods are already reported in the PTF in order to assess its statistical reliability.



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Number	Name	2017/mm/dd	Pts	Phase	L _{PAB}	B _{PAB}	Period (h)	P.E.	Amp	A.E.
418	Alemannia	09/08-09/17	862	8.9, 12.5	332	9	4.763	0.001	0.14	0.01
646	Kastalia	08/25-09/22	1002	28.3, 18.2	21	9	3.1259	0.0001	0.14	0.01
876	Scott	08/27-09/30	1466	5.9, 2.3, 9.4	347	-4	11.817	0.001	0.21	0.02

Table I. Observing circumstances and results. Pts is the number of data points. The phase angle is given for the first and last date, unless a minimum (second value) was reached. LPAB and BPAB are the approximate phase angle bisector longitude and latitude at mid-date range (see Harris et al., 1984).