Planet	Max Elon	D	Max E	RA	Dec	Br Mag	D	Br Mag	Min Dist	D	Min Dist
6455	2012/10/23	127.4°	23h36m	-29°	2012/10/07	14.2	2012/10/02		0.437		
1694	2012/10/24	172.1°	1h49m	+19°	2012/10/23	12.7	2012/10/18		0.810		
889	2012/10/26	163.9°	2h28m	- 2°	2012/10/27	13.1	2012/10/28		0.987		
95	2012/10/29	170.1°	1h57m	+22°	2012/10/29	11.3	2012/10/28		1.620		
2341	2012/10/31	176.6°	2h27m	+10°	2012/10/31	13.8	2012/10/31		0.889		
4222	2012/10/31	178.2°	2h26m	+12°	2012/10/31	13.0	2012/11/06		0.711		
5234	2012/11/01	173.9°	2h14m	+19°	2012/11/01	14.1	2012/11/01		1.318		
1508	2012/11/03	143.8°	2h42m	+51°	2012/11/15	14.2	2012/11/21		0.926		
499	2012/11/05	178.3°	2h39m	+17°	2012/11/05	13.8	2012/11/07		2.245		
748	2012/11/11	178.0°	3h 7m	+19°	2012/11/12	13.5	2012/11/14		2.316		
4613	2012/11/11	165.9°	3h24m	+ 4°	2012/11/11	13.4	2012/11/08		0.881		
704	2012/11/15	159.6°	2h54m	+37°	2012/11/14	9.9	2012/11/11		1.709		
4352	2012/11/21	176.7°	3h51m	+16°	2012/11/21	14.1	2012/11/20		1.224		
882	2012/11/22	177.0°	3h47m	+22°	2012/11/21	13.3	2012/11/15		1.405		
2397	2012/11/23	163.4°	4h 9m	+ 4°	2012/11/24	14.4	2012/11/25		1.595		

Planet	Max Elon	D	Max E	RA	Dec	Br Mag	D	Br Mag	Min Dist	D	Min Dist
5646	2012/11/23	163.7°	3h40m	+36°	2012/11/09	14.4	2012/10/07		0.444		
430	2012/11/25	177.1°	4h 3m	+23°	2012/11/25	12.4	2012/11/26		1.131		
1088	2012/11/27	177.0°	4h11m	+24°	2012/11/26	12.7	2012/11/18		0.892		
3322	2012/12/01	178.4°	4h27m	+23°	2012/12/01	14.0	2012/12/06		0.990		
352	2012/12/02	179.5°	4h37m	+21°	2012/12/02	11.4	2012/11/27		0.933		
1083	2012/12/02	178.2°	4h36m	+20°	2012/12/02	14.2	2012/12/07		0.996		
3998	2012/12/02	167.4°	4h26m	+34°	2012/12/02	14.4	2012/12/03		0.864		
1052	2012/12/07	176.2°	5h 0m	+18°	2012/12/07	13.6	2012/12/03		0.983		
20789	2012/12/14	174.1°	5h31m	+29°	2012/12/14	14.5	2012/12/13		0.954		
521	2012/12/15	177.9°	5h33m	+21°	2012/12/15	10.2	2012/12/08		1.068		
1	2012/12/18	178.1°	5h45m	+25°	2012/12/18	6.7	2012/12/20		1.684		
183	2012/12/19	134.6°	5h16m	-21°	2012/12/08	12.2	2012/12/04		1.050		
1116	2012/12/29	152.0°	6h41m	+51°	2012/12/28	12.8	2012/12/26		1.351		
4179	2012/12/30	171.3°	6h 1m	+21°	2012/12/16	10.5	2012/12/12		0.046		

ROTATION PERIOD DETERMINATION FOR 668 DORA

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For previously unstudied 668 Dora a rotation period of 22.914 ± 0.001 hours and amplitude 0.19 ± 0.02 magnitude have been found.

Minor planet 668 Dora was selected for observation because Harris et al. (2011) show no previous photometric observations and because at its 2011 August opposition it was considerably brighter than at any time for the next several years. Authors Pilcher and Durkee began observations independently. Author Martinez kindly offered to collaborate with Pilcher beginning in late August after Pilcher had lost many nights due to clouds and was having difficulty finding the period. Martinez offered helpful advice to find a definitive period and contributed several additional lightcurves to provide full phase coverage. When Pilcher and Durkee learned of each other's work, they agreed to share data and publish jointly.

Observations by Pilcher were made at the Organ Mesa Observatory with a Meade 35 cm LX200 GPS S-C, SBIG STL-1001E CCD, unguided exposures. Those by Durkee at the Shed of Science Observatory used a 0.35 m Schmidt-Cassegrain, SBIG ST-10XE CCD working at a scale of 0.94 arcsec/pixel, Celestron UHC LPR filter. Martinez used a Celestron CPC 1100 28 cm Schmidt Cassegrain, SBIG ST8XME CCD, clear filter. All observers used differential photometry only.

MPO Canopus software was used by all observers to measure the images photometrically, share data, adjust instrumental magnitudes up or down to produce the best fit, and prepare the lightcurve. Due to the large number of data points acquired the lightcurve has been binned in sets of three data points with a maximum of five minutes between points.

Five sessions were obtained 2011 July 31 – Aug. 8 by Pilcher, with 18 additional sessions by all three authors 2011 Aug. 20 – Sept. 7. When all data for all 23 sessions were combined they produced a very well defined asymmetric bimodal lightcurve with period 22.914 ± 0.001 hours, amplitude 0.19 ± 0.02 magnitudes.

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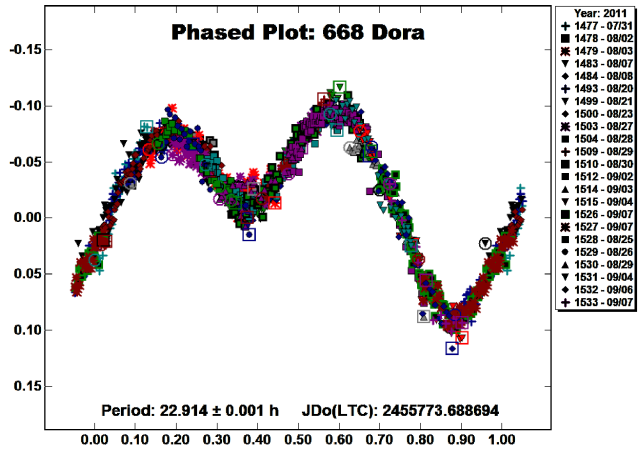

ASTEROIDS OBSERVED FROM GMARS AND SANTANA OBSERVATORIES: 2011 JULY - SEPTEMBER

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Lightcurves of three asteroids were obtained from Santana Observatory and Goat Mountain Astronomical Research Station (GMARS) from 2011 July to September: 688 Melanie, 1077 Campanula, and (42265) 2001 QL69.

Observations at Santana Observatory (MPC Code 646) were made with a 0.30-m Schmidt-Cassegrain (SCT) with a SBIG STL-1001E. All images were unguided and unbinned with no filter. Observations at GMARS (MPC Code G79) were made with a 0.4-m Schmidt-Cassegrain (SCT) with a SBIG STL-1001E. Measurements were made using *MPO Canopus*, which employs

differential aperture photometry to produce the raw data. Period analysis was done using *Canopus*, which incorporates the Fourier analysis algorithm (FALC) developed by Harris (Harris et al. 1989). The asteroids were selected from the list of asteroid photometry opportunities published on the Collaborative Asteroid Lightcurve Link (CALL) website (Warner et al. 2011).

The results are summarized in the table below, as are individual plots. Night-to-night calibration of the data (generally < ±0.05 mag) was done using field stars converted to approximate Cousins R magnitudes based on 2MASS J-K colors (Warner 2007 and Stephens 2008).

688 Melanie. All images were acquired at Santana Observatory. Melanie was observed (Binzel 1987) in 1984 June on two nights when it was at a similar longitude to 2011. He did not report a period since neither night showed more than a few hundredths of a magnitude of amplitude. Behrend (2011) reports a period of 19.968 h based upon three nights of observations in 2011 March covering about 90 percent of the lightcurve. That period is in fair agreement with this result.

1077 Campanula. All images were acquired at Santana Observatory. There is no previously reported period in the Lightcurve Database (LCDB) (Warner et al. 2010).

(42265) 2001 QL69. All observations were acquired at GMARS with the 0.4-m SCT. 42265 does not have a previously reported period in the LCDB (Warner et al. 2010). It was a dim target found in the field of view of the primary target, 9023 Mnesthus. Observations of 42265 could not be obtained afterwards.

The data for each of these asteroids were uploaded to the ALCDEF database (see Warner et al. 2011) on the Minor Planet Center's web site (MPC 2011).

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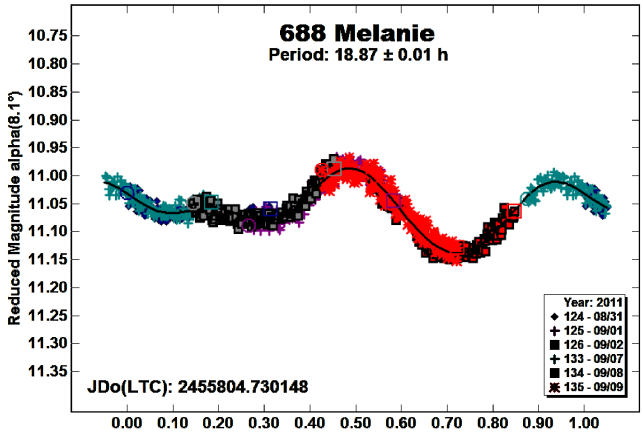

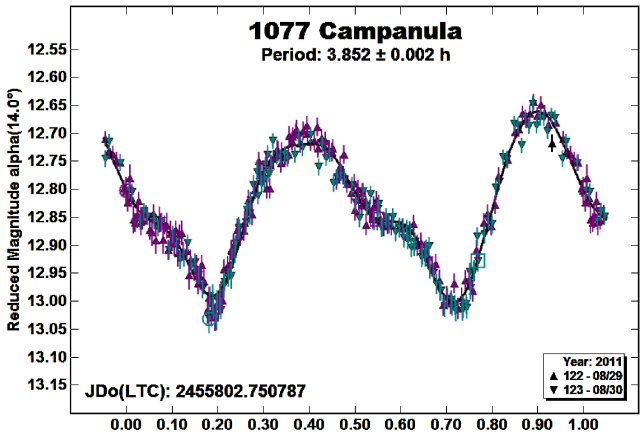

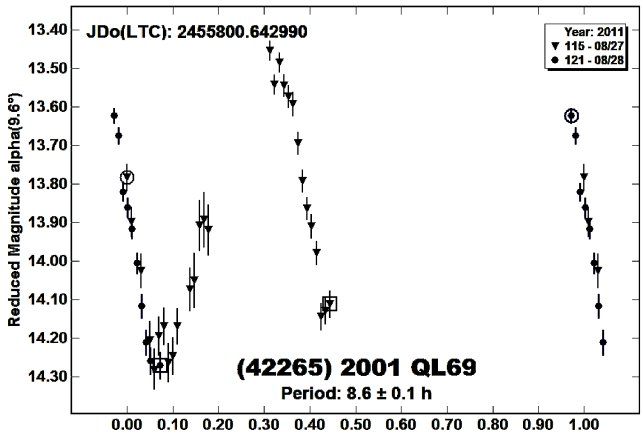

#	Name	mm/dd 2011	Data Pts	α	L_{PAB}	B_{PAB}	Per (h)	PE	Amp (mag)	AE
688	Melanie	08/31 - 09/09	857	8.2, 3.8	353	0	18.87	0.01	0.14	0.03
1077	Campanula	08/29 - 08/30	301	14.2, 13.6	356	0	3.852	0.002	0.33	0.03
42265	2001 QL69	08/27 - 08/28	39	9.4, 9.7	313	11	8.6	0.1	0.85	0.05