LIGHTCURVES FOR 91 AEGINA, 235 CAROLINA, 1117 REGINITA, AND (505657) 2014 SR339

Lorenzo Franco
Balzaretto Observatory (A81), Rome, ITALY
lor_franco@libero.it

Alessandro Marchini
Astronomical Observatory, DSFTA - University of Siena (K54)
Via Roma 56, 53100 - Siena, ITALY

Giorgio Baj
M57 Observatory (K38), Saltrio, ITALY

Giulio Scarfi
Iota Scorpii Observatory (K78), La Spezia, ITALY

Giacomo Succi, Mauro Bachini
Santa Maria a Monte (A29), ITALY

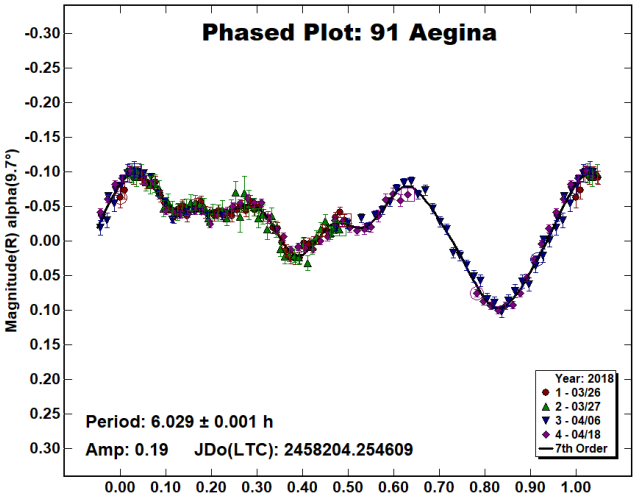
Claudio Arena
CT Observatory, Catania, ITALY

(Received: 2018 Jul 7)

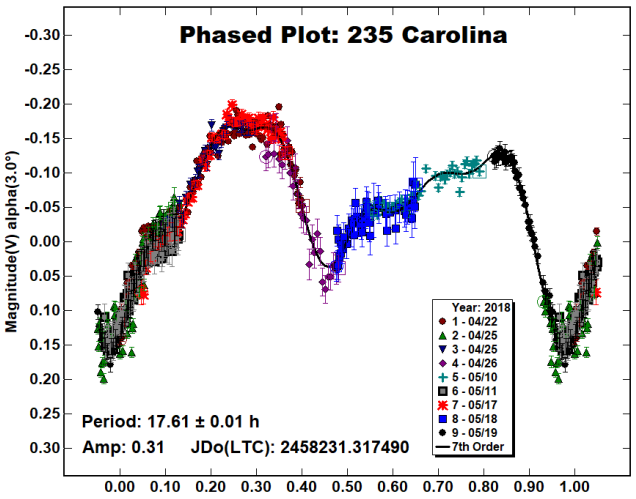
Photometric observations of three main-belt and one near-Earth asteroids were made in order to acquire lightcurves for shape/spin axis models. For 91 Aegina, the synodic rotation period is 6.029 ± 0.001 h, amplitude 0.19 mag. For 235 Carolina, the synodic rotation period is 17.61 ± 0.01 h, amplitude 0.31 mag. For 1117 Reginita, the synodic rotation period is 2.9467 ± 0.0001 h, amplitude 0.19 mag. For (505657) 2014 SR339, the synodic rotation period is 8.71 ± 0.01 h, amplitude 0.75 mag.

Collaborative observations were made inside the UAI (Italian Amateur Astronomers Union; DSTFA, 2018) of a group of asteroids listed in the Lightcurve/Photometry Opportunities and Shape/Spin Modeling Opportunities sections from recent issues of the *Minor Planet Bulletin*. The CCD observations were made in 2018 February-May using the instrumentation described in Table I. Lightcurve analysis was done at the Balzaretto Observatory with *MPO Canopus* (Warner, 2016). All the images were calibrated with dark and flat frames and converted to R magnitudes using solar colored field stars from a version of the CMC-15 catalogue (Munos, 2017) distributed with *MPO Canopus*. Table II shows the observing circumstances and results.

91 Aegina is a C-type middle main-belt asteroid discovered on 1866 November 4 by E. Stephan at Marseille. Collaborative observations of this asteroid were made over four nights. We derived a synodic period of P = 6.029 ± 0.001 h with an amplitude A = 0.19 ± 0.01 mag. The period is close to the previously published results in the asteroid lightcurve database (LCDB; Warner et al., 2009).



235 Carolina is an S-type outer main-belt asteroid discovered on 1883 November 28 by J. Palisa at Vienna. Collaborative observations of this asteroid were made over eight nights. We derived a synodic period of P = 17.61 ± 0.01 h with an amplitude A = 0.31 ± 0.04 mag. The period is close to the previously published results in the asteroid lightcurve database (LCDB; Warner et al., 2009).



Observatory (MPC code)	Telescope	CCD	Filter	Observed Asteroids
Università Siena (K54)	0.30-m MCT f/5.6	SBIG STL-6303e (bin 2x2)	Rc	91, 235, 1117
M57 (K38)	0.30-m RCT f/5.5	SBIG STT-1603	C	91, 235, (505657)
Iota Scorpii(K78)	0.40-m RCT F/8	SBIG STXL-6303e (bin 2x2)	Rc	235
Santa Maria a Monte(A29)	0.40-m NRT f/5	DTA Discovery plus Kaf 260	Rc, C	235
CT Observatory	0.20-m NRT f/5	ATIK 314L+	Rc	235

Table I. Observing Instrumentations. MCT: Maksutov-Cassegrain, NRT: Newtonian Reflector, RCT: Ritchey-Chretien.