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CCD-photometry of variable stars at the Astronomical Institute of the Karazin Kharkiv National University

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#	Name	Other	Coord (J2000)	Type	Max	Min	System	Period	Epoch (JD)	type	Sp	Comment	L.Curve	Find.Chart	Data
1		2MASS 20320587+3117584	20 32 05.91, +31 17 59.0	EB	16.08	16.40	Rc	0.681777	2455414.4859	min		Comm. 1	star1.png	field1.jpg	star1r.txt star1v.txt
2		2MASS 20320881+3124169	20 32 08.82, +31 24 17.4	HADS	15.80	16.16	Rc	0.130040	2455414.3223	max		Comm. 2	star2.png	field2.jpg	star2r.txt star2v.txt
3		2MASS 20322963+3121455	20 32 29.70, +31 21 46.1	BY:	16.26	16.50	Rc		2455414.466	max		Comm. 3	star3.png	field3.jpg	star3r.txt star3v.txt
4		2MASS 20323917+3111576	20 32 39.17, +31 11 57.8	EW	15.57	15.80	Rc	0.323928	2455414.3835	min		Comm. 4	star4.png	field4.jpg	star4r.txt star4v.txt

Comments:

1. Min II = 16.32. Vc–Rc = 0.55±0.02.

2. Vc–Rc = 0.65±0.02. M–m = 0.28 P.

3. Period is probably close to 1 day.

4. Vc–Rc = 0.76±0.02.

Remarks:

Four variable stars were found during photometric observations of asteroids at the Scientific Research Institute for Astronomy of the Karazin Kharkiv National University (KhNU). Subsequent observations were carried out in the course of KhNU astronomy department students' astrophysical summer practical courses. All the data were obtained at the Chuguev observational station of the Scientific Research Institute for Astronomy of KhNU with its 70-cm AZT-8 Newton telescope (F = 2.8 m). The telescope is equipped with an FLI 47-10 Peltier-cooled CCD camera (1027×1056 pixels, pixel size 13×13 μm). Images were taken using V and R filters of the Johnson–Cousins photometric system. Original CCD frames were calibrated for dark current and flat field in the standard manner. To measure the stars' brightness, we used ASTPHOT package by Mottola et al. (1995). Relative accuracy of the photometry is 0.02. Our methods of observations and image processing are described in detail in Krugly et al. (2002) and Tereschenko et al. (2010).

References:

Krugly, Yu. N., Belskaya, I. N., Shevchenko, V. G., et al., 2002, Icarus, 158, 294.
Mottola, S., de Angelis, G., di Martino, M., et al., 1995, Icarus, 117, 62.
Tereschenko, I. A., Shevchenko, V. G., Krugly, Yu. N., 2010, Kinematika i Fizika Neb. Tel, 26, No. 2, 74.