

New Variable Stars in the Field of Omicron Andromedae

[T. Kryachko](#)^{#1}, [A. Samokhvalov](#)^{#2}, [S. A. Korotkiy](#)^{#3}

#1. Astrotel Observatory, Karachay-Cherkessia, Russia;

#2. Surgut, Russia;

#3. Ka-Dar Scientific Center and Public Observatory, Moscow, Russia

Received: 7.10.2009; accepted: 5.11.2009

(E-mail for contact: bredfld@mail.ru, sav@surgut.ru, astro_stas@mail.ru)

#	Name	Other	Coord.(J2000)	Type	Max	Min	System	Period	Epoch (JD)	ttype	Sp	Comment	L.Curve	Find.Chart	Data
1		USNO-A2.0 1275-18071503	23 00 02.18, +42 35 43.0	EW	15.26	15.98		0.3127	2455038.3813	min		Comm. 1	01_PC-R.png	01_ch.jpg	01_data.txt
2		USNO-A2.0 1275-18088373	23 01 16.05, +42 22 21.6	RRAB	15.49	16.14		0.5743	2455100.3348	max		Comm. 2	02_PC-R.png	02_ch.jpg	02_data.txt
3		2MASS 23012756+4246419	23 01 27.56, +42 46 41.9	EW	16.34	17.01		0.2765	2455100.2374	min		Comm. 3	03_PC-R.png	03_ch.jpg	03_data.txt
4		GSC 3224-01531, USNO-A2.0 1275-18095742	23 01 48.94, +42 33 26.7	EW	13.04	13.16		0.2346	2455032.3487	min		Comm. 4	04_PC-R.png	04_ch.jpg	04_data.txt
5		GSC 3224-03300, USNO-A2.0 1275-18101782	23 02 16.22, +42 07 24.2	EB:	12.02	12.08		0.2791	2455039.4412	min		Comm. 5	05_PC-R.png	05_ch.jpg	05_data.txt
6		GSC 3224-02811, USNO-A2.0 1275-18114362	23 03 11.82, +42 39 09.1	EW:	13.94	14.34		0.4999	2455024.3986	min		Comm. 6	06_PC-R.png	06_ch.jpg	06_data.txt
7		USNO-A2.0 1275-18118785	23 03 31.98, +42 09 12.5	RRAB	14.76	15.54		0.4668	2455037.4399	max		Comm. 7	07_PC-R.png	07_ch.jpg	07_data.txt

Comments:

1. Three primary minima: HJD(TT) 2455038.3813, 2455039.3198, 2455100.2980. Min II = 15.89.

2. Three maxima: HJD(TT) 2455031.4094, 2455039.4523, 2455100.3348.

3. Three primary minima: HJD(TT) 2455034.4318, 2455039.4109, 2455100.2374. Min II = 17.01.

4. Primary minimum: HJD(TT) 2455032.3487. Min II = 13.15.

5. A close pair of stars 2MASS 23021634+4207262 and 2MASS 23021595+4207210. The angular resolution of our telescope is insufficient to determine which of the two stars varies. The coordinates in the table are for the blend of the two stars from the USNO-A2.0 catalogue (Monet et al. 1998). We observed two primary minima: HJD(TT) 2455032.4582, 2455039.4412. Min II = 12.05.

6. Primary minimum: HJD(TT) 2455024.3986.

7. A close pair of stars USNO-A2.0 1275-18118840 and USNO-A2.0 1275-18118785. The angular resolution of our telescope is insufficient to determine which of the two stars varies. Infrared colors J-H = 0.676, H-K = 0.086 and J-K = 0.762 (2MASS) of USNO-A2.0 1275-18118840 are consistent with a K spectral type star (Bessell and Brett 1988). Infrared colors J-H = 0.262, H-K = 0.184, J-K = 0.446 (2MASS) of USNO-A2.0 1275-18118785 are consistent with an F spectral type star (Bessell and Brett 1988) and RRAB classification. Four maxima: HJD(TT) 2455024.3694, 2455032.3054, 2455037.4399, 2455039.3162.

Remarks:

During observations of the field of omicron Andromedae we discovered seven new variable stars. Our observations were carried out at Astrotel-Caucasus observatory using 80-mm f/6 ED refractor, equipped with an unfiltered SBIG ST-2000XM CCD camera. In total, 689 images with 5-minute exposures were obtained on JD 2455024 - 2455100. For basic reduction for dark current, flat fields and bias, we used IRAF routines. For search and photometry of new variable stars we applied VaST software by Sokolovsky and Lebedev (2005). The comparison star is GSC 3224-01667 = USNO-B1.0 1327-0605901 (23:00:20.07, +42:44:45.9, J2000; R1 = 13.17, R2 = 13.28). Unfiltered magnitudes were calibrated using the comparison star, assuming $R_{\text{comp}} = 13.225$. Coordinates of the variable stars in the table were drawn from the 2MASS catalogue (Cutri et al. 2003) if another source is not specified in the Comments. For search for periods and epochs of primary minima and maxima we use Peranso software (www.peranso.com).

References:

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