"Peremennye Zvezdy",
Prilozhenie,
vol. 8, N 26 **(2008)**

Variable Stars in the Field of GSC 4329-01772

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Received: 28.05.2008; accepted: 26.06.2008
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#	Name	Other	Coord (J2000)	Type	Max	Min	System	Period	Epoch (JD)	type	Sp	Comment	L.Curve	Find.Chart	Data
1		GSC 4329-01772	04 28 41.04, +68 33 27.2	RRAB	12.93	13.95		0.679933	2454533.3152	max		Comm. 1	1.png	1.jpg	1.dat
2		GSC 4329-01554	04 29 09.87, +68 34 01.3	EW	13.06	13.41		0.402501	2454460.4769	min		Comm. 2	2.png	2.jpg	2.dat
3		GSC 4329-00430	04 28 18.82, +68 47 18.3	EW	13.98	14.31		0.388967	2454507.2884	min		Comm. 3	3.png	3.jpg	3.dat
4		GSC 4329-01354	04 29 25.45, +68 43 02.3	CEP:	13.80	13.93		1.1109	2454497.52	max		Comm. 4	4.png	4.jpg	4.dat
5		USNO-A2.0 1575-02037786	04 28 31.26, +68 20 52.7	EA	15.21	17.86		1.3268	2454460.4247	min		Comm. 5	5.png	5.jpg	5.dat
6		USNO-A2.0 1575-02024177	04 25 59.69, +68 32 58.6	EW	15.82	16.18		0.397794	2454506.3782	min		Comm. 6	6.png	6.jpg	6.dat
7		USNO-A2.0 1575-02027975	04 26 41.59, +68 44 28.0	EB	15.86	16.29		0.511654	2454502.1929	min		Comm. 7	7.png	7.jpg	7.dat
8		USNO-A2.0 1575-02032089	04 27 26.01, +68 33 24.0	EB	14.96	15.16		1.2500	2454460.4309	min		Comm. 8	8.png	8.jpg	8.dat
9		USNO-A2.0 1575-02032895	04 27 34.95, +68 17 42.3	EW	16.23	16.52		0.348318	2454506.3435	min		Comm. 9	9.png	9.jpg	9.dat

Comments:

1. From NSVS data (Wozniak et al., 2004), one of the authors (A. Khruslov) detected RR Lyrae-type variability of NSVS 525525, but the ROTSE-I angular resolution was insufficient to determine which of the two stars, GSC 4329-01772 or GSC 4329-01832, varied. We were able to solve this problem from our CCD observations. Blazhko effect. Four observed maxima: HJD 2454460.5698, 2454497.2770, 2454499.3176, 2454533.3152.

2. Discovered by Khruslov (2006). Four observed primary minima: HJD 2454460.4769, 2454506.3610, 2454510.3807, 2454533.3238. MinII = 13.37.

3. Discovered by Khruslov (2006). Four observed primary minima: 2454460.6114, 2454502.2318, 2454507.2884, 2454533.3498. MinII = 14.27.

4. Unknown type, possibly a Cepheid.

5. We observed one primary minimum, HJD 2454460.4247. MinII = 15.34.

6. We observed five primary minima, HJD 2454497.2280, 2454499.2192, 2454506.3782, 2454510.3548, 2454524.2739. MinII = 16.13.

7. We observed four primary minima, HJD 2454502.1929, 2454507.3100, 2454509.3562, 2454510.3763. MinII = 16.10.

8. We observed two primary minima, HJD 2454460.4309, 2454499.1830. MinII = 15.03.

9. We observed five primary minima, HJD 2454497.2937, 2454499.3856, 2454504.2529, 2454506.3435, 2454507.3925. MinII = 16.48.

Remarks:

During observations of the variable object NSVS 525525, a close pair of the stars GSC 4329-01772 and GSC 4329-01832 (37" angular separation), we determined which star was variable, discovered six new variable stars, and observed two variable stars discovered earlier. Our observations were carried out in Astrotel-Caucasus observatory using the 300-mm Ritchey-Chretien telescope, equipped with an unfiltered SBIG STL-11000 CCD camera. In total, we obtained 520 5-minute images on JD 2454460-54537. We used the MaxIm DL software for basic reductions for dark current, flat fields, and bias. For search for new variable stars, we applied VaST software by Sokolovsky and Lebedev (2005), and for photometry, CCD Soft V.5 (http://www.bisque.com/Products/CCDSoft/). The comparison star was GSC 4329-02360 (USNO-B1 1585-0074036; 04:29:26.47, +68:33:49.4 (J2000), R1 = 13.96, R2 = 14.26) assuming Rcomp = 14.11. The check star was GSC 4329-02690.

References:

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Sokolovsky, K., Lebedev, A., 2005, in 12th Young Scientists' Conference on Astronomy and Space Physics, Kyiv, Ukraine, April 19-23, 2005, eds.: Simon, A.; Golovin, A., p.79
Wozniak, P.R., Vestrand, W.T., Akerlof, C.W. et al., 2004, Astron. J., 127, 2436