

GSC 3515-01231 - a New RR Lyrae Variable

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Star Name:	GSC 3515-01231, NSVS 5397700		
Coordinates (J2000):	17 52 39.89, +48 37 02.1		
Variability type:	RRAB;	Limits, System:	13.0 - 14.1 (Bpg);
Period:	0.5902848 d;	Epoch(max):	JD 2445159.079

Remarks:

In the NSVS data (Wozniak et al., 2004, also see <http://skydot.lanl.gov/nsvs>), we noticed variability of the object NSVS 5397700 with a period and light curve shape characteristic of RRAB stars but with a low amplitude, 0.4 mag. The ROTSE-I position of NSVS 5397700 is between two stars, GSC 03515-01231 and GSC 03515-01748, and it remained unclear which of them varied, with their combined brightness apparently presented in the NSVS.

To answer this question, we estimated 119 plates of Moscow collection taken with the 40-cm astrograph in Crimea (JD2434103 - 2448892). We found that it is GSC 3515-01231 that varies. It is an RRAB star with a normal amplitude and $M-m = 0.17$ P. The NSVS data and our observations were analyzed using the period-search software developed by Dr. V.P. Goranskij for Windows environment. The coordinates are from the 2MASS catalog (Cutri et al., 2003). The magnitudes of the comparison stars are B2 magnitudes from the USNO-B1.0 catalog (Monet et al., 2003).

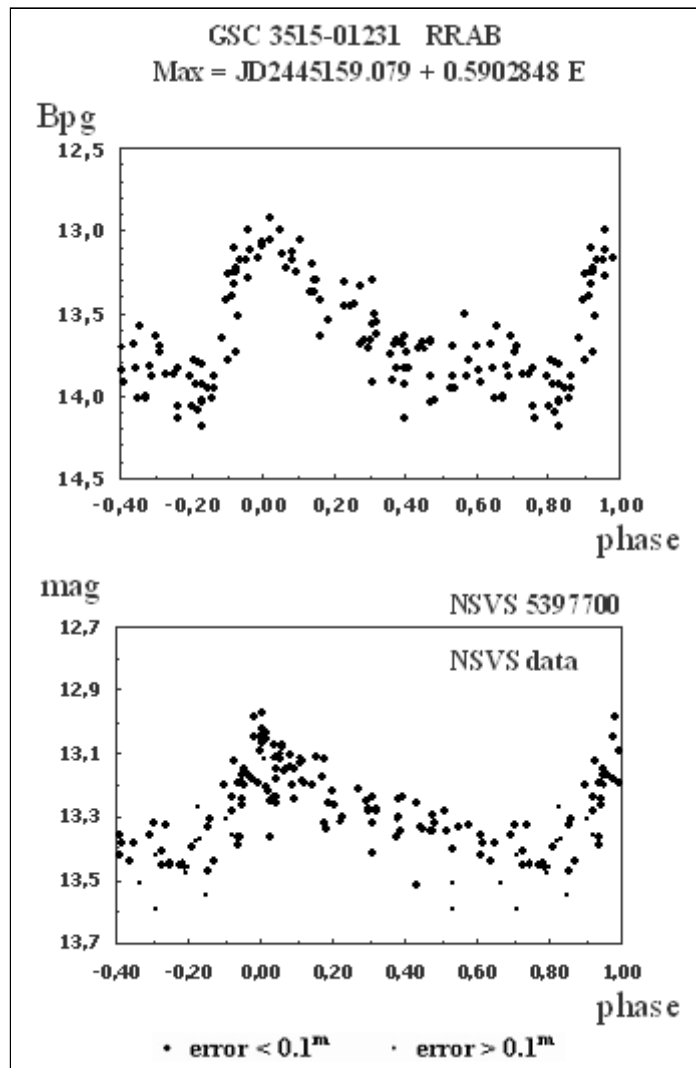
The Comparison Stars

	GSC	USNO-B1.0	B2 mag.
a	3515-01140	1385-0277644	12.50
b	3515-01141	1387-0277017	13.26
c	3515-01177	1386-0277758	13.31
d	3515-01534	1386-0277596	13.64
e	3515-01726	1386-0277639	14.14

References:

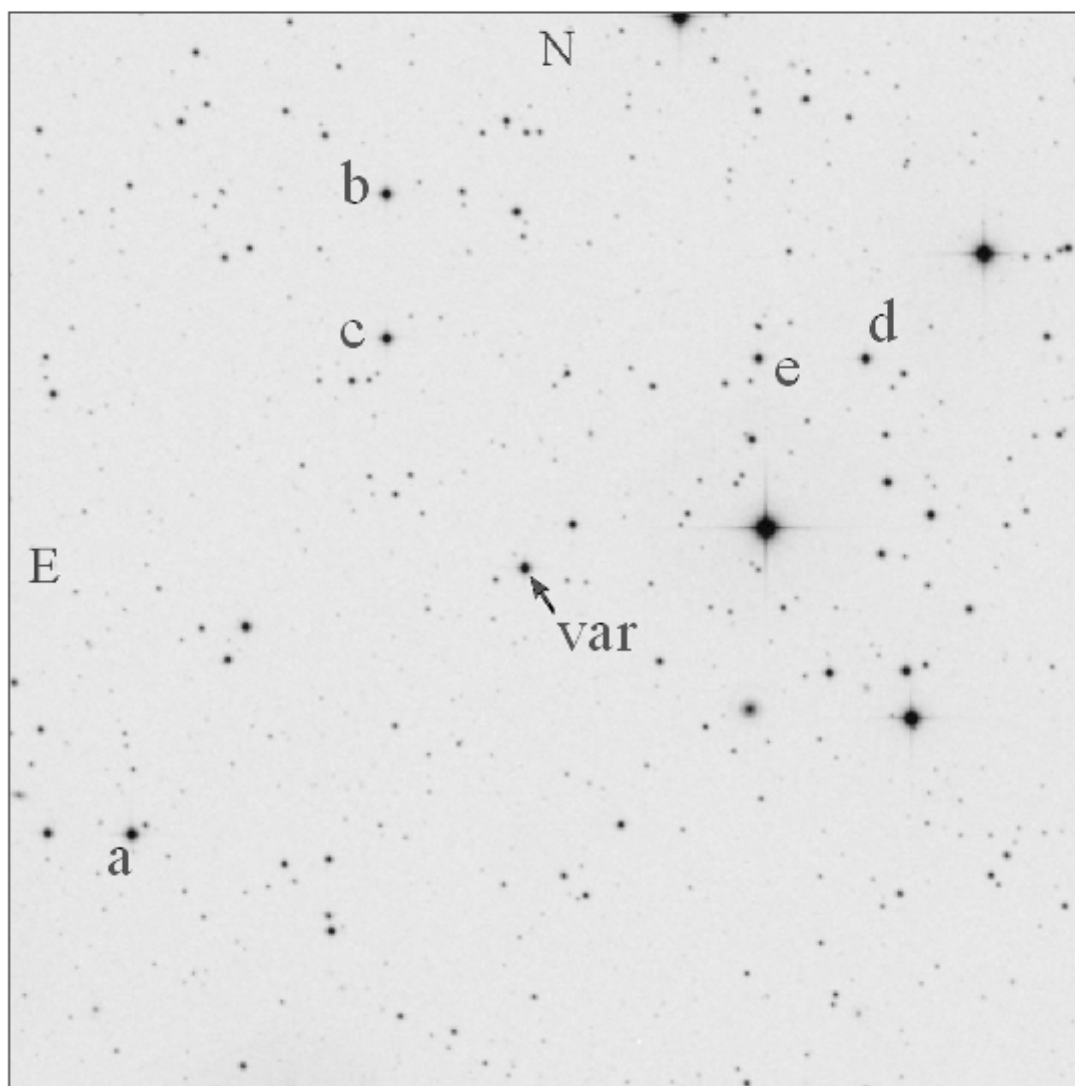
- Cutri, R.M., Skrutskie, M.F., Van Dyk, S. et al., 2003, 2MASS All-Sky Catalog of Point Sources, IPAC/California Institute of Technology
Monet, D.G., Levine, S.E., Canzian, B. et al., 2003, Astron. J., 125, 984
Wozniak, P.R., Vestrand, W.T., Akerlof, C.W. et al., 2004, Astron. J., 127, 2436

Light Curve



Finding Chart

GSC 3515-01231



POSS II blue

15'x 15'

Data Source

1. [rr.txt](#)