

New Eclipsing Binary Star GSC 04372-00577

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Received: 3.05.2008; accepted: 13.05.2008
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|-----------------------------|---|------------------------|-----------------|------------------|----|
| Star Name: | GSC 04372-00577, USNO-B1.0 1644-0054634, 2MASS 07272448+7425595 | | | | |
| Coordinates (J2000): | 07 27 24.45, +74 25 59.7 | | | | |
| Variability type: | EW; | Limits, System: | 13.25-13.70(R); | Spectrum: | G: |
| Period: | 0.32539 d; | Epoch(min): | JD 2454479.5727 | | |

Remarks:

We report the discovery of a new W UMa type eclipsing binary star GSC 04372-00577. The observations were performed with the Astrotel-Caucasus robotic telescope (D = 300 mm, F = 2310 mm) equipped with an unfiltered STL-11000M CCD camera. We searched for variable stars on the base of VaST software (<http://saistud.sai.msu.ru/vast/>). Unfiltered magnitudes were calibrated using a nearby comparison star GSC 04372-00393 (= USNO-B1.0 1644-0054512, 07:26:24.73, +74:26:17.2 [J2000]; R1 = 13.15, R2 = 13.27), assuming R_{comp} = 13.21.

The primary minimum is about 0.01 mag deeper than the secondary one. The maximum that follows the secondary minimum is by 0.02 mag fainter than that following the primary minimum (positive O'Connell effect). The 2MASS infrared colors J = 12.295 (+/-0.020), H = 12.007 (+/-0.023), and Ks = 11.935 (+/-0.022) suggest an early G spectral type (Bessell & Brett, 1988). We can use single-epoch 2MASS data to guess the spectral type since J, H, and K magnitudes were measured simultaneously and eclipses in W UMa type systems are often colorless.

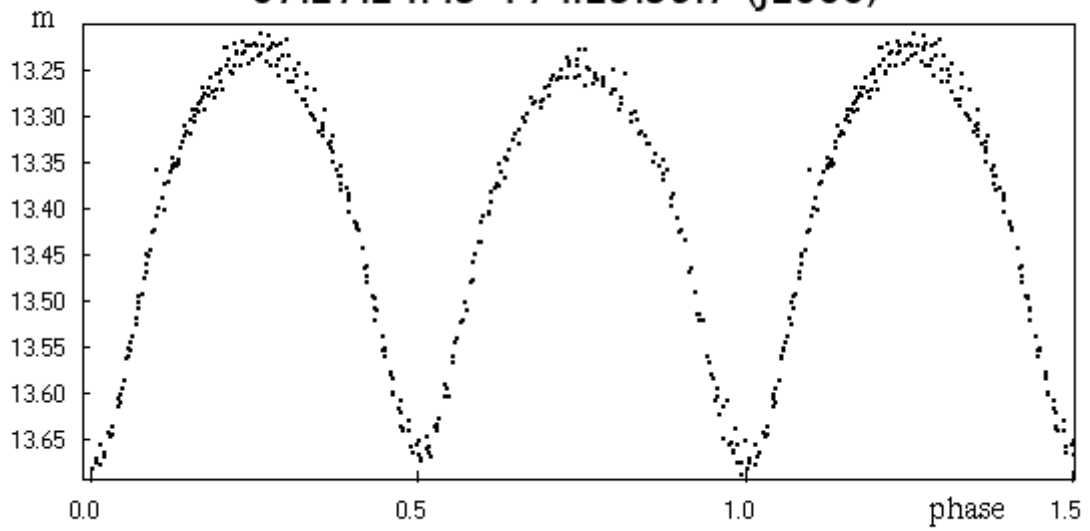
Acknowledgments. The authors are grateful to Dr. V.P. Goranskij for providing us with the period analysis software. This research has made use of the [Aladin](#) interactive sky atlas, operated at CDS, Strasbourg, France; the [International Variable Star Index](#) (VSX) operated by the [AAVSO](#); and data products from the Two Micron All Sky Survey, which is a joint project of the University of Massachusetts and the Infrared Processing and Analysis Center/California Institute of Technology, funded by the National Aeronautics and Space Administration and the National Science Foundation. K. Sokolovsky was supported by the International Max Planck Research School (IMPRS) for Radio and Infrared Astronomy.

References:

Bessell M. S., Brett J. M., 1988, PASP, 100, 1134

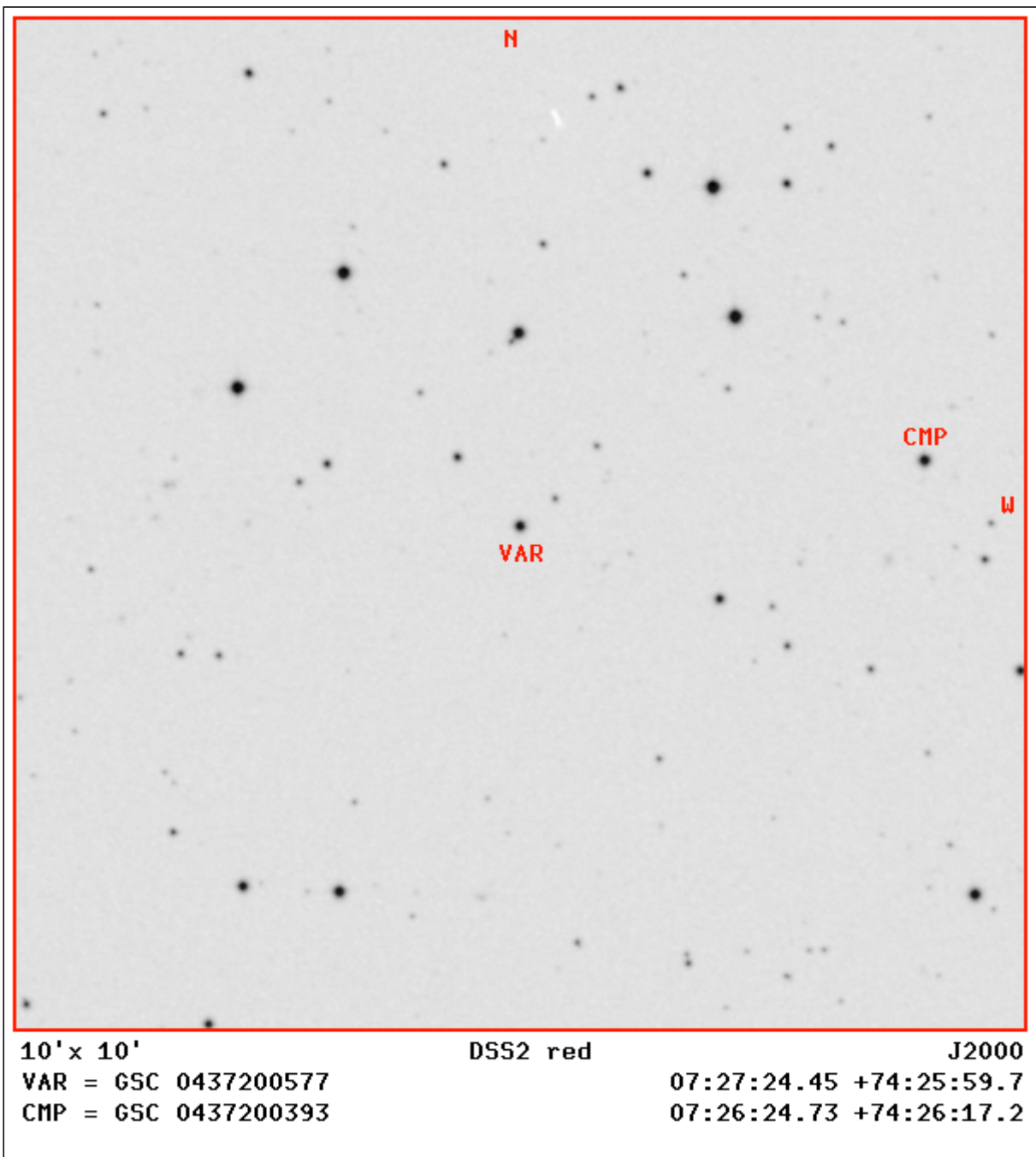
Light Curve

GSC 0437200577
07:27:24.45 +74:25:59.7 (J2000)



$$\text{HJDmin} = 2454479.5727 + 0.32539 \times E$$

Finding Chart



Data Source

1. [gsc0437200577.txt](#)