

Updated photometric elements of three variables in Lynx: GSC 03405-00823, GSC 03408-02627 and TYC 3408-00557-1

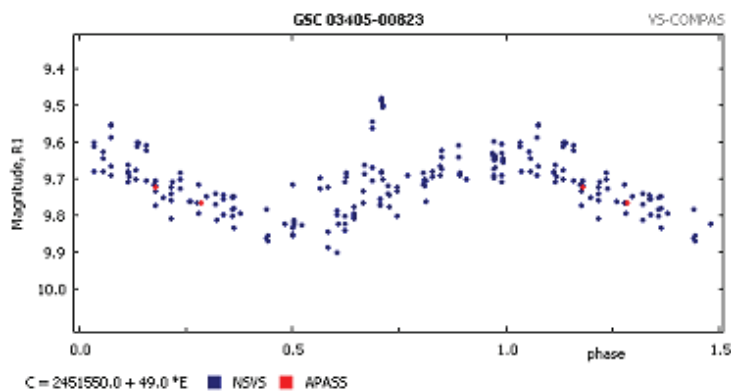
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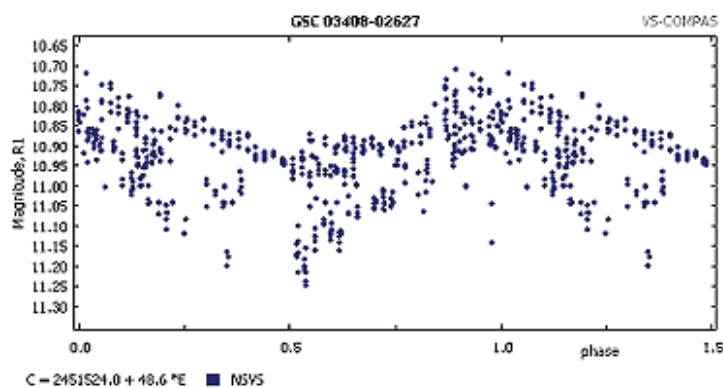
Abstract: The new variable stars published by A. Khruslov (2013; «New Variable Stars II»; Peremennye Zvezdy, Prilozhenie, vol. 13, N 6) have been investigated using data from various public photometric surveys. We confirm the findings listed in the referenced article; additionally, likely periods could be determined for GSC 03405-00823, GSC 03408-02627 and TYC 3408-00557-1, which were not given elements in the original publication due to poor photometric coverage by the NSVS.

Revised elements of three known variable stars from the article «New Variable Stars II» (Khruslov, 2013) are presented in this article. Period search and analysis was made by Siarhey Hadon using the “VSC Effect” custom software created by A. Prokopovich and I. Adamin. A search for additional data in other sky surveys was performed, but, generally, the Lynx region has poor coverage.

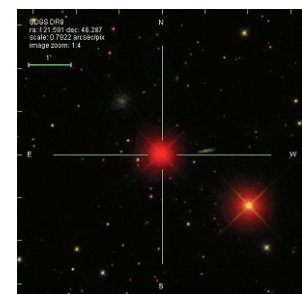
Below possible folded light curves for GSC 03405-00823, GSC 03408-02627 and TYC 3408-00557-1 are shown, based on available data from the NSVS.



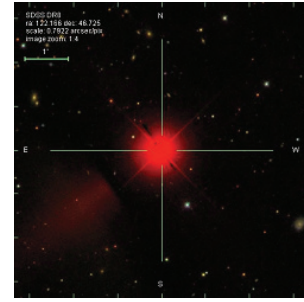
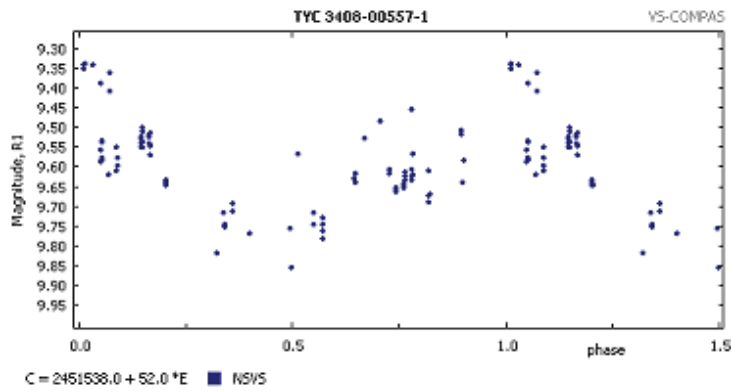
GSC 03405-00823 in Lynx (HJD 2451500-2451600)



GSC 03408-02627 in Lynx (HJD 2451450-2451600)



The target star is in a crowded area, so the light curve data from the NSVS database was contaminated by the following non-variable neighboring stars: 2MASS J08062516+4617067 (J-K= 0.40, V= 16.2, sep. 33").



TYC 3408-00557-1 in Lynx (HJD 2451500-2451630)

Table 1. – The list of revised variable stars presented in this paper.

Object Designation	RA (J2000)	DEC (J2000)	Var. Type	Epoch, HJD*	Period*	Mag. Range*
GSC 03405-00823	07 27 24.77	+51 28 34.5	SR	2451550	49	9.6 - 9.85 R1
GSC 03408-02627	08 06 22.04	+46 17 15.6	SR	2451524	48.6	10.75 - 10.95 R1
TYC 3408-00557-1	08 08 39.90	+46 43 28.8	SR	2451538	52	9.35 - 9.8 R1

* elements are valid for the selected date ranges

References

- Khruslov, A.V., 2013; PZP, 13, 16
- Caron, J., Kugel, F., 2013; Dauban survey
- Watson, C.; Henden, A. A.; Price, A., 2006-2010; AAVSO International Variable Star Index VSX, VizieR On-line Data Catalog: B/vsx
- Percy, J. R., 2007; "Understanding variable stars", Cambridge University Press
- Samus, N. N. et al., 2007-2013, General Catalogue of Variable Stars, VizieR On-line Data, B/gcvs
- Sterken, C., Jaschek, C., 1996; "Light Curves of Variable Stars, A Pictorial Atlas", Cambr. Univ. Press
- Lafler, J.; Kinman, T. D., 1965; Astrophysical Journal Supplement, 11, 216
- Henden, Arne A.; Smith, T. C.; Levine, S. E.; Terrell, D., AAS Meeting #220, #133.06
- Wozniak, P. R. et al., 2004; The Astronomical Journal, 127, 2436