

Four Previously Unreported Red Variables in ASAS

Nicholson, Martin, Remote Astronomical Society Observatory, Mayhill, New Mexico;
email newbinaries@yahoo.co.uk

Whiting, Eric, Remote Astronomical Society Observatory, Mayhill, New Mexico;
email ericwhiting1960@yahoo.com.au

Abstract: Based on the rationale outlined by Greaves (2005) the 2MASS survey was data-mined for entries that matched the following criteria: $\text{dec} < 0.000$ and $j_m - k_m > 1.2$ and $\text{vr_m_opt} - j_m > 6$ and $j_m < 6.00$. A total of 4,128 stars matched these four criteria. The publically available ASAS light curves for four previously unreported variables are presented.

Introduction: Greaves (2005) was of the opinion that “red long period variables occupy specific regions within redmag-J and J-Ks plots” and previous work by Nicholson and Whiting (2006) and Sokolovsky and Pojmanski (2006) has shown that many red long period variables do not yet appear in the [International Variable Star Index](#) maintained by the [American Association of Variable Star Observers](#). The current project was intended to confirm, or deny, the statement made by Greaves - with the bonus that new discoveries were likely if this were the case.

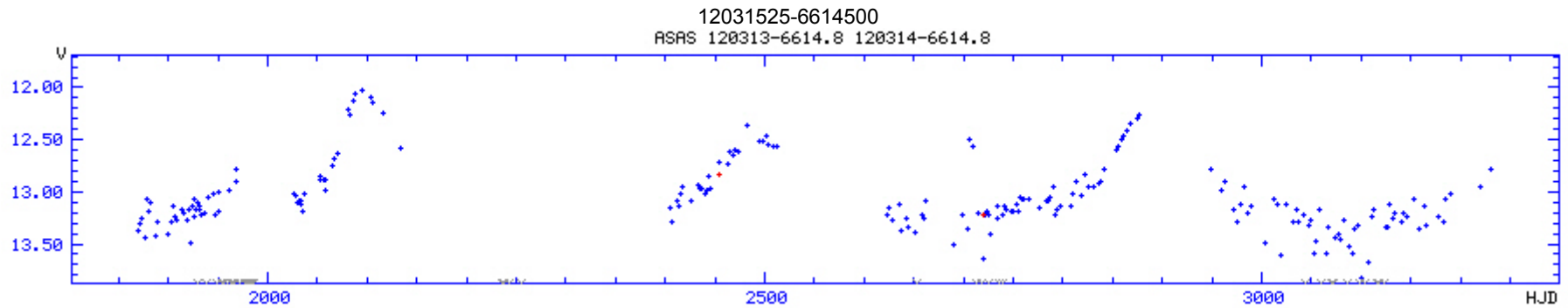
Methodology: The methodology used matched that adopted in [Red variables in ASAS, part 1, 0h – 2h](#) by Nicholson (2006)

Results:

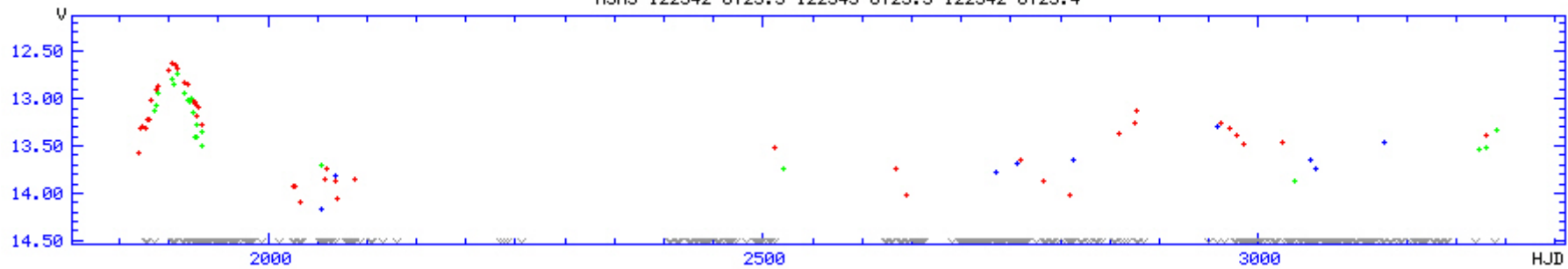
Right Ascension	Declination	Variable Status	Type	Simbad	Alternative Identity
12 03 15.25	-66 14 50.0	Not previously reported	SRB	IRAS 12006-6558	GSC 08986-04273
12 25 44.59	-67 23 16.5	Not previously reported	SRB	IRAS 12229-6706	GSC 08987-00075
12 31 47.66	-56 09 40.7	Not previously reported	SRB	IRAS 12290-5553	USNO-A2.0 0300-15931642
12 32 15.91	-77 17 23.3	Not previously reported	SRB	No entry	GSC 09416-00679

Important notes about the light curves –

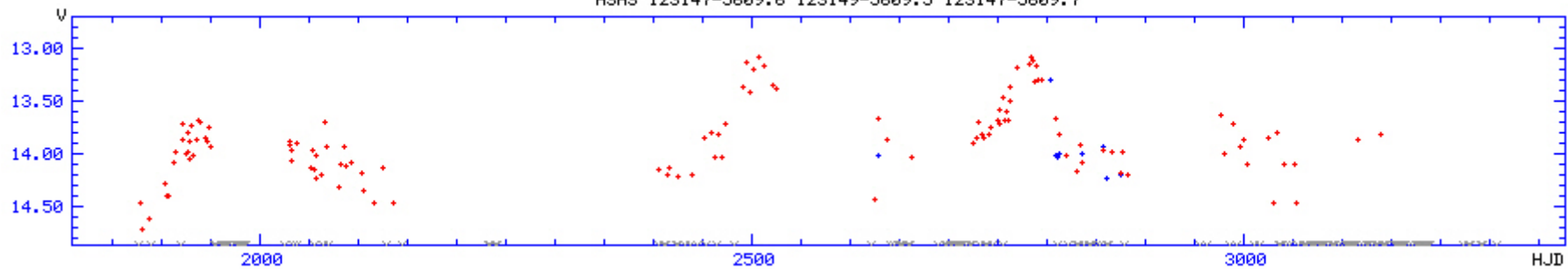
- The X axis is HJD 2450000 + the number quoted
- The Y axis is the V band magnitude
- The different colours correspond to different data collection runs
- The v sign means fainter than the value
- A few extraneous points appear in some light curves – usually well above all other points, ignore!



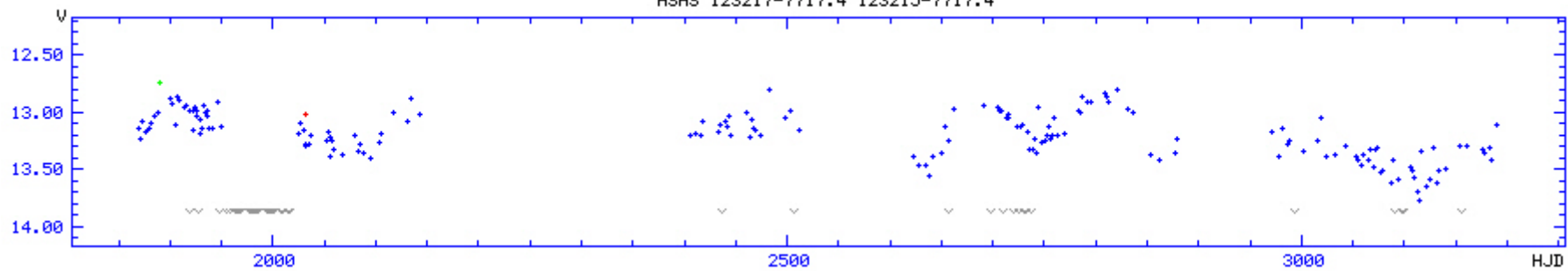
12254459-6723165
ASAS 122542-6723.5 122545-6723.3 122542-6723.4



12314766-5609407
ASAS 123147-5609.6 123149-5609.5 123147-5609.7



12321591-7717233
ASAS 123217-7717.4 123215-7717.4



Acknowledgements

This publication makes use of 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.

The online All Sky Automated Survey cgi engine was used to generate the ASAS plots.

References

- [How to find new Mira variables without really trying](#). John Greaves, AAVSO Discussion Group, November 2005.
- [Confirmation of 177 objects in the New Suspected Variables Catalogue as red long period variables](#). John Greaves, Open European Journal on Variable Stars, May 2006.
- [Six Variable Stars found in the NSVS Database \(3\)](#). Martin Nicholson and Eric Whiting, Open European Journal on Variable Stars, May 2006.
- [Five new red variables in the ASAS-3 database](#). Sokolovsky and Pojmanski, Open European Journal on Variable Stars, May 2006.
- [Red variables in ASAS, part 1, 0h – 2h](#). Martin Nicholson, Open European Journal on Variable Stars, June 2006.
- Pojmanski, G. 2002, Acta Astronomica, 52,397

Websites

- The Northern Sky Variability Study <http://skydot.lanl.gov/nsvs/nsvs.php>
- The Simbad Astronomical Database <http://simbad.harvard.edu/Simbad>
- The Combined General Catalogue of Variable Stars <http://vizier.hia.nrc.ca/viz-bin/VizieR?-source=II/250>
- The International Variable Star Index <http://www.aavso.org/vsx/>