

10 NEW VARIABLE STARS IN THE CONSTELLATION ANTLIA

Ivan Sergey, Sergei Dubrouski, Igor Baluk, Alexander Pobyiaha

The Regional Centre of Technical Creativity of Children and Youth (RCTCCY), Gomel, Belarus
seriv76@tut.by; toliman@tut.by; balig@tut.by; apobiyaha@gmail.com

ABSTRACT. 10 new variable stars in the constellation Antlia are reported, their phenomenological characteristics are listed.

Key words: Stars: new variable stars, eclipsing binaries, RR Lyr-type stars, Catalina survey.

1. Introduction

The authors carried out investigation using the time series photometry data from the Catalina Real-Time Transient Survey (CRTS) in 2013-2014. About 2,300 new variable stars were found; the data for 10 the most recently discovered ones are presented in the journal *Odessa Astronomical Publications*. Sergei A. Dubrouski is a software architect of the data-mining project who is responsible for the semi-automatic search for new variable stars prior to the final processing of those data by a group of enthusiasts. Alexander V. Pobyiaha is Sergei Dubrouski's assistant in the digital photometric sky survey data processing.

SSS_J105243.0-283155

The star was discovered by I.I. Baluk.

The PPMXL position of the star: RA = 10^h 52^m 43.007^s, Dec = -28° 31' 55.49".

The star's catalogue identifiers: the 2MASS identifier – J10524300-2831555, the USNO identifier – B1.0 0614-0251069.

The star's variability type: EA.

The peak brightness is 16.20^m; the primary minimum brightness is 16.91^m (in the C and V bands), the secondary minimum brightness is 16.33^m (in the C and V bands).

The star's light ephemerides are plotted in Figure 1. $D = 0.18$.

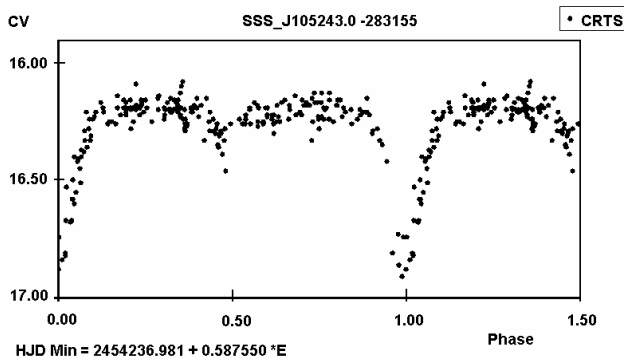


Figure 1

SSS_J104410.6-225402

The star was discovered by I.I. Baluk.

The PPMXL position of the star: RA = 10^h 44^m 10.619^s, Dec = -22° 54' 02.46".

The star's catalogue identifiers: the 2MASS identifier – J10441060-2254023, the USNO identifier – B1.0 0670-0284915.

The star's variability type: RRC.

The peak brightness is 16.95^m; the minimum brightness is 17.44^m (in the C and V bands).

The star's light ephemerides are plotted in Figure 2. $M - m = 0.4$.

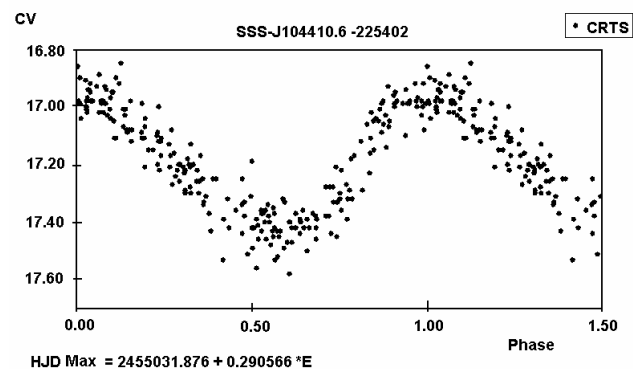


Figure 2

SSS_J103605.4-233709

The star was discovered by I.I. Baluk.

The PPMXL position of the star: RA = 10^h 36^m 05.396^s, Dec = -23° 37' 10.12".

The star's catalogue identifiers: the 2MASS identifier – J10360539-2337101, the USNO identifier – B1.0 0663-0243873.

The star's variability type: EW.

The peak brightness is 16.30^m; the minimum brightness is 16.80^m (in the C and V bands).

The star's light ephemerides are plotted in Figure 3.

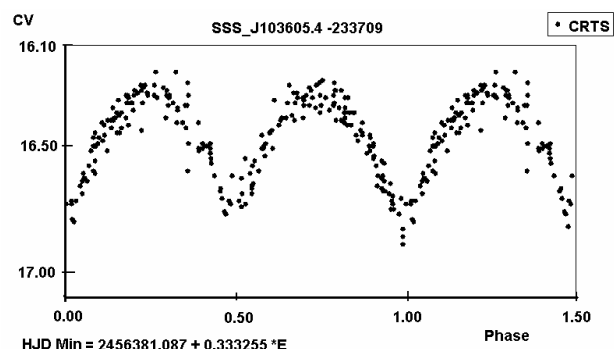


Figure 3

SSS_J103130.8-230054

The star was discovered by I.I. Baluk.
 The UCAC4 position of the star: RA = 10^h 31^m 30.844^s,
 Dec = -23° 00' 54.55".
 The star's catalogue identifiers: the 2MASS identifier – J10313084-2300545, the USNO identifier – B1.0 0669-0272688, the GSC identifier – 06620-00917, the UCAC4 identifier – 335-062709.
 The star's variability type: EW.
 The peak brightness is 14.40^m; the minimum brightness is 14.60^m (in the C and V bands).
 The star's light ephemerides are plotted in Figure 4.

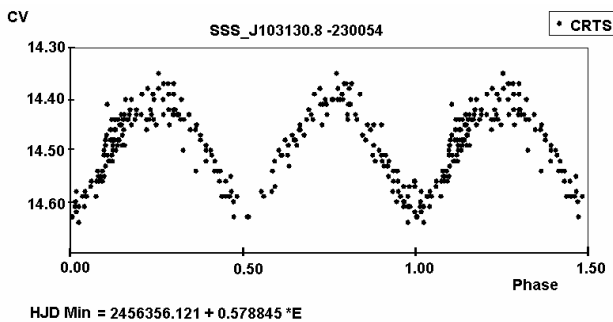


Figure 4

SSS_J103037.2-290242

The star was discovered by I.I. Baluk.
 The UCAC4 position of the star: RA = 10^h 30^m 37.228^s,
 Dec = -29° 02' 42.86".
 The star's catalogue identifiers: the 2MASS identifier – J10303723-2902428, the USNO identifier – B1.0 0609-0245875, the GSC identifier -06632-01372, the UCAC4 identifier -305-064151.
 The star's variability type: EA.
 The peak brightness is 13.20^m; the primary minimum brightness is 13.41^m (in the C and V bands); the secondary minimum brightness is 13.38^m (in the C and V bands).
 The star's light ephemerides are plotted in Figure 5.
 D = 0.07.

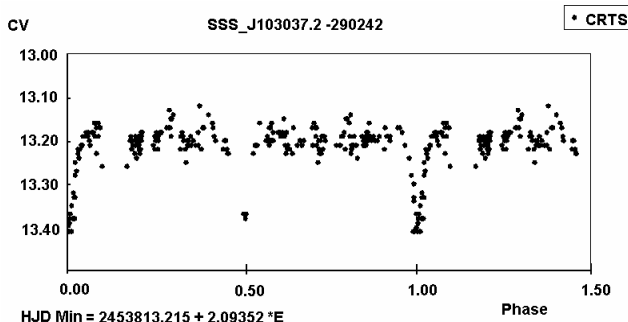


Figure 5

SSS_J110303.4-222917

The star was discovered by I.M. Sergey.
 The UCAC4 position of the star: RA = 11^h 03^m 04.39^s,
 Dec = -22° 29' 17.93".
 The star's catalogue identifiers: the 2MASS identifier – J11030438-2229179, the USNO identifier – B1.0 0675-0306520, the UCAC4 identifier – 338-062729.
 The star's variability type: RRAB.

The peak brightness is 15.78^m, the minimum brightness is 16.88^m (in the C and V bands).
 The star's light ephemerides are plotted in Figure 6.
 M – m = 0.2.

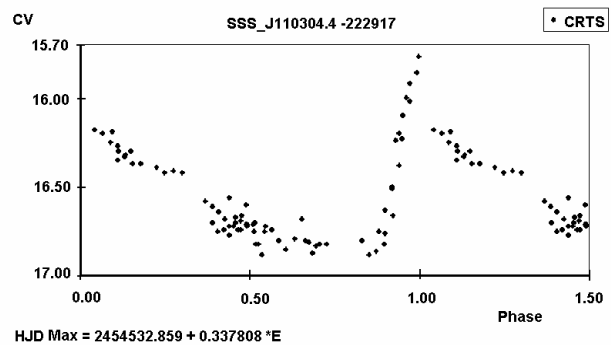


Figure 6

SSS_J103154.2-251541

The star was discovered by I.M. Sergey.
 The PPMXL position of the star: RA = 10^h 31^m 54.26^s,
 Dec = -25° 15' 41.62".
 The star's catalogue identifiers: the 2MASS identifier – J10315426-2515417, the USNO identifier – B1.0 0647-0249453.
 The star's variability type: RRAB.
 The peak brightness is 16.20^m, the minimum brightness is 17.40^m (in the C and V bands).
 The star's light ephemerides are plotted in Figure 7.
 M – m = 0.2.

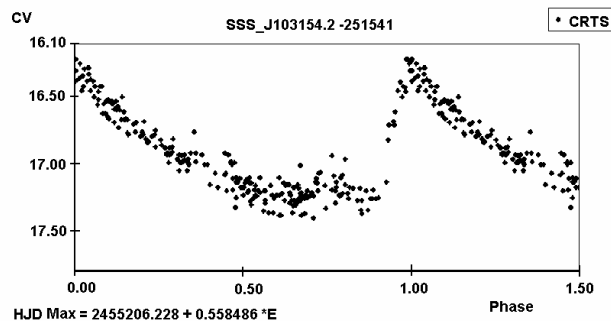


Figure 7

SSS_J103830.8-254501

The star was discovered by I.M. Sergey.
 The UCAC4 position of the star: RA = 10^h 38^m 30.77^s,
 Dec = -25° 45' 01.14".
 The star's catalogue identifiers: the 2MASS identifier – J10383074-2545011, the USNO identifier – B1.0 0642-0251547, the UCAC4 identifier – 322-062782.
 The star's variability type: RRAB.
 The peak brightness is 15.30^m, the minimum brightness is 16.55^m (in the C and V bands).
 The star's light ephemerides are plotted in Figure 8.
 M – m = 0.12.

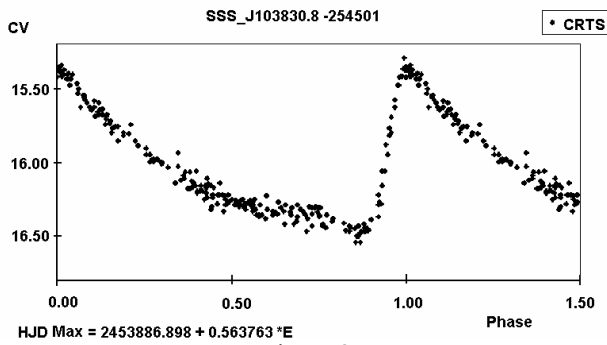


Figure 8

SSS_J104603.5-200058

The star was discovered by I.M. Sergey.

The UCAC4 position of the star: RA = $10^{\text{h}} 46^{\text{m}} 03.48^{\text{s}}$,
Dec = $-20^{\circ} 00' 58.53''$.

The star's catalogue identifiers: the 2MASS identifier – J10460348-2000589, the USNO identifier – B1.0 0699-0238422, the UCAC4 identifier – 350-061961.

The star's variability type: RRAB.

The peak brightness is 16.20^{m} , the minimum brightness is 17.41^{m} (in the C and V bands).

The star's light ephemerides are plotted in Figure 9.
 $M - m = 0.15$.

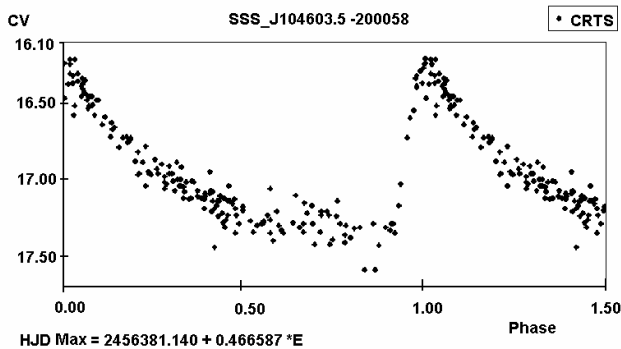


Figure 9

SSS_J104626.6-272234

The star was discovered by I.M. Sergey.

The UCAC4 position of the star: RA = $10^{\text{h}} 46^{\text{m}} 26.62^{\text{s}}$,
Dec = $-27^{\circ} 22' 35.01''$.

The star's catalogue identifiers: the 2MASS identifier – J10462661-2722350, the USNO identifier – B1.0 0626-0330553, the GSC identifier – 06642-00172, the UCAC4 identifier – 314-063479.

The star's variability type: EB.

The peak brightness is 13.73^{m} , the primary minimum brightness is 14.42^{m} (in the C and V bands) the secondary minimum brightness is 14.05^{m} (in the C and V bands).

The star's light ephemerides are plotted in Figure 10.
 $M - m = 0.15$.

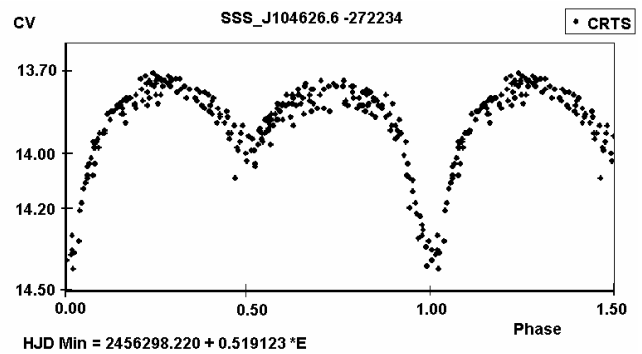


Figure 10

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References

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