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A New High-Amplitude RRAB Variable

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Star Name:	USNO-A2.0 0750-11806419, 2MASS 17431462-1458044		
Coordinates (J2000):	17 43 14.62, -14 58 04.4		
Variability type:	RRAB;	**Limits, System:**	14.0 - 15.3 (pg);
Period:	0.709461 d;	**Epoch(max):**	JD 2442197.51

Remarks:

The variability of USNO-A2.0 0750-11806419 was discovered by one of the authors, N. Virnina, on CCD images. Her data, as well as those from our follow-up observation, were acquired using the remotely controlled apochromatic refractors of the Tzec Maun Observatory (AP206, D = 206 mm, F = 1620 mm, New Mexico, USA; and TOA150, D = 150 mm, F = 1095 mm, Pingelly, Western Australia), equipped with unfiltered SBIG STL-11000 CCD cameras. The cameras reach maximum quantum efficiency at around 500 nm, so we used V magnitudes of neighbouring stars from the GSC2.3 catalogue (Lasker et al. 2008) to calibrate the photometry. Thus, our CCD photometric system is instrumental v.

Our CCD photometry was not sufficient to classify the variable. We undertook additional study of USNO-A2.0 0750-11806419 using 132 plates of Moscow archive, taken on JD2442187 - 2450286 with the 40-cm astrograph in Crimea. B-band magitudes of neighbouring stars fron the USNO-A2.0 catalogue (Monet et al. 1998) were used for comparison. We find that the star is an RRAB variable with P = 0.709461 days and a rather large amplitude for this period.

The phased light curve based on our CCD observations (JD2454681 - 2454748) is in agreement with the photographic light elements. Unfortunately the maximum and minimum of the phased light curve are not covered with our CCD data.

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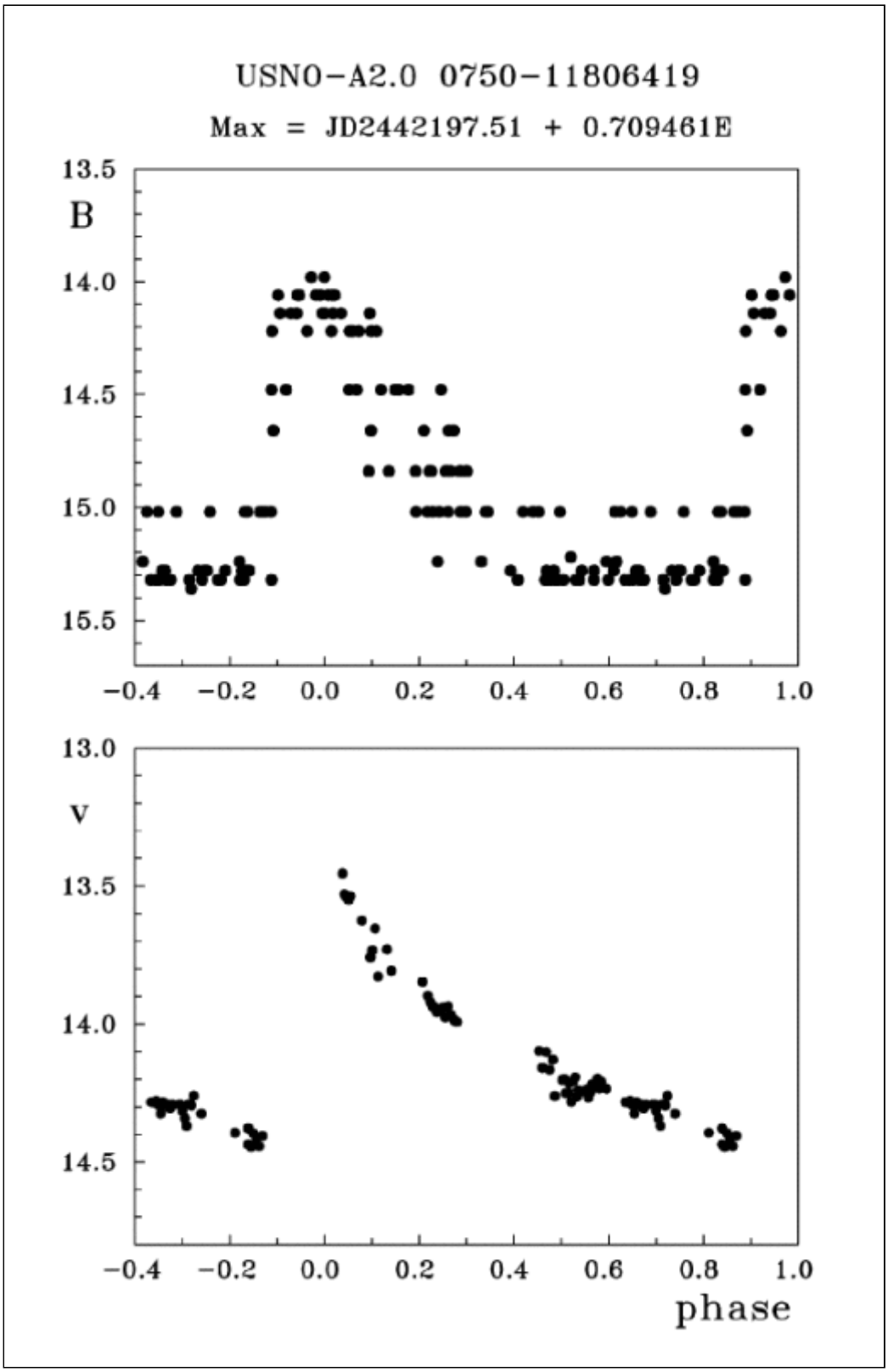
References:

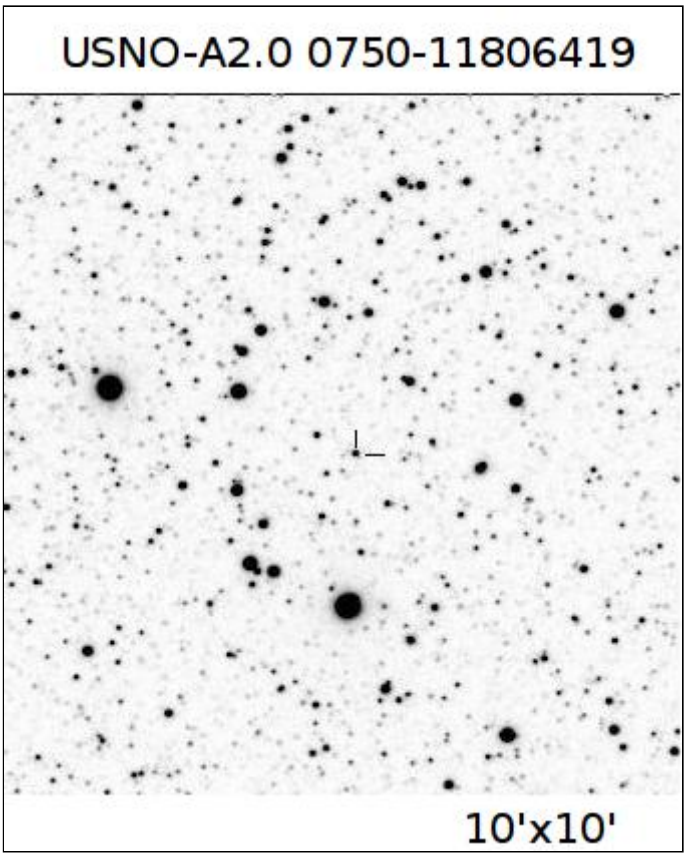
Lasker, B., Lattanzi, M.G., McLaen, B.L., et al., 2008, Astron. J., 136, 735
Monet, D., Bird, A., Canzian, B., et al., 1998, USNO-A2.0, A Catalog of Astrometric Standards (U.S. Naval Observatory, Washington, DC)

Light Curve



Photographic (top) and CCD (bottom) phased light curves of the new variable star.

Finding Chart



Data Source

1. data.txt