

Discovery of Three Eclipsing Binaries in the field of AW Cru

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#	Name	Other	Coord (J2000)	Type	Max	Min	System	Period	Epoch (JD)	ttype	Sp	Comment	L.Curve	Find.Chart	Data
1		USNO B1.0 0295-0396025	12 11 00.60, -60 29 03.4	EW	16.57	17.21	*	0.327674	2456356.774	min		Comm. 1	variable1_phase.jpg	variable1_finder.png	variable1_data.txt
2		USNO-B1.0 0295-0396078	12 11 05.69, -60 29 25.5	EB	17.18	17.87	*	0.719034	2456356.810	min		Comm. 2	variable2_phase.jpg	variable2_finder.png	variable2_data.txt
3		USNO-B1.0 0295-0396145	12 11 10.69, -60 29 53.5	EW	16.88	17.67	*	0.317365	2456356.741	min		Comm. 3	variable3_phase.jpg	variable3_finder.png	variable3_data.txt

Comments:

1. USNO-B1.0 0295-0396025 = USNO-A2.0 0225-13488535.

2. USNO-B1.0 0295-0396078 = USNO-A2.0 0225-13492997.
Min I = JD 2456762.709 ± 0.009; Min II = JD 2457083.764 ± 0.001.

3. USNO-B1.0 0295-0396145 = USNO-A2.0 0225-13497346. MinI = JD 2457083.826 ± 0.002; MinII = JD 2456846.5966 ± 0.0003, MinI = JD 2456762.6520 ± 0.0006; MinII = JD 2456762.811 ± 0.005; MinI = JD 2456356.7409 ± 0.0002.

Remarks:

We present the light elements of three newly discovered eclipsing binaries. Their variability was detected during our observations of the variable AW Cru in 2013. All the observations were made at the Estación Astrofísica Bosque Alegre, in Argentina with a 1.54 meter reflector telescope and an unfiltered CCD camera. The reductions of the images were done using the [Fotodif 3.93](#) software. We use two comparison stars USNO-A2.0 0225-13471141 and 0225-13461332 for the photometry; their red magnitudes from the USNO-A2.0 catalog (Monet et. al. 1998) were used.

We also calculated some times of minima, when enough data points were available, with [AVE](#) software. The period and the phase-plotted images of the stars were obtained using the Lomb–Scargle algorithm in the [NASA Exoplanet Archive Periodogram Service](#). The names, positions and magnitudes of the stars were obtained thanks to the [VizieR](#) catalogue access tool, CDS, Strasbourg, France (Ochsenbein et. al. 2000).

References:

Monet, D.G., Bird, A., Canzian, B., et al., 1998, USNO-A2.0, A Catalogue of Astrometric Standards (U.S. Naval Observatory, Washington, DC), Centre de Données Astronomiques de Strasbourg, I/252
Ochsenbein, F., Bauer, P., Marcout, J., 2000, Astron. Astrophys. Suppl., 143, 23