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New Elements of Three Eclipsing Binaries

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#	Name	Other	Coord (J2000)	Type	Max	Min	System	Period	Epoch (JD)	type	Sp	Comment	L.Curve	Find.Chart	Data
1	OZ Aur	GSC 2392-00768, HV 06868	05 02 51.99, +32 29 49.8	EB	13.5	14.1	R	0.9537	2451528.96	min		Comm. 1	1.PNG		NSVS 6848552
2	V345 Ser	GSC 0923-00693	15 16 21.89, +11 30 02.2	EW:	14.3	15.1	R	0.37248	2451402.745	min		Comm. 2	2.PNG		NSVS 10570308
3		TYC 3509 01251 1	17 36 37.53, +46 05 13.5	EB	10.5	10.85	R	1.0593	2451386.534	min		Comm. 3	3.PNG		NSVS 5318780 NSVS 5347790

Comments:

1. OZ Aur, an IS: star (variable star with rapid variations) in the GCVS, where the information was based on Fadeev (1973), is actually an EB star according to ROTSE-I data. MinII = 13.8 . The ROTSE data with photometric correction flags (usually rejected) were kept for the analysis. In the case of OZ Aur, the use of these data considerably increases the number of available observations without deteriorating quality and allows us to determine the period more accurately.

2. The variability of V345 Ser was reported by Takamizawa (2000) and the system is listed in the GCVS with an SR (semi-regular pulsating star) variability type. According to ROTSE-I data it is an EW star. J-H=0.283 (2MASS).

3. TYC 3509 01251 1 was considered by Akerlof et al. (2000) to be an RRC pulsating star with P = 0.52949399 d. From the NSVS data, we prefer the star's classification as an eclipsing binary (type EB). MinII = 10.7. B-V=0.228 according to Tycho 2. The ROTSE data with photometric correction flags (usually rejected) were kept for the analysis. In the case of TYC 3509 01251 1, the use of these data considerably increases the number of available observations without deteriorating quality and allows us to determine the period more accurately.

Remarks:

I present my investigation of 3 known variable stars based on ROTSE-I data (Wozniak et al., 2004). Earlier studies led to wrong classification of these stars, actually eclipsing systems.

References:

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Wozniak, P.R., Vestrand, W.T., Akerlof, C.W., et al., 2004, Astronomical Journal, 127, 2436