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**THE FIRST GROUND-BASED PHOTOMETRY OF V1123 TAURI**

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<b>Equatorial coordinates:</b>	<b>Equinox:</b>
R.A. = $03^{\text{h}}34^{\text{m}}58^{\text{s}}.55$ DEC. = $+17^{\circ}42'38''$	2000.0

<b>Observatory and telescope:</b>
Ege University Observatory, 48 cm Cassegrain telescope.

<b>Detector:</b>	High Speed Three-Channel Photon counting photometer (HSTCP).
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<b>Filter(s):</b>	UBVR
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<b>Date(s) of the observation(s):</b>
2003.11.19, 2003.11.20, 2003.12.02, 2005.09.10, 2005.09.11, 2005.10.05, 2005.10.14

<b>Comparison star(s):</b>	BD +17°567
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<b>Check star(s):</b>	BD +17°568
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<b>Transformed to a standard system:</b>	Yes
<b>Standard stars (field) used:</b>	HD 24537 (Landolt 1983) HD 285703 (Oja 1996)

<b>Availability of the data:</b>
upon request

<b>Type of variability:</b>	EW
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**Remarks:**

V1123 Tau is a Beta Lyrae type eclipsing binary ( $G0$ ,  $V_{max}=9^m87$ ) according to the Hipparcos catalogue (ESA 1997), and it is listed as a W UMa type binary by Kazarovets et al. (1999). We obtained two times of mid-primary and two times of mid-secondary eclipse during the 2005 observing season (in  $U$ ,  $B$ ,  $V$ , and  $R$  filters), and listed in Table 1. Because the times of minima obtained in 2003 has been already published by Taş et al. (2004), they are not included in Table 1. The  $O - C$  was represented by a linear ephemeris, and least-squares solution leads to the following ephemeris,

$$\text{HJD Min I} = 24\ 53658.5149(4) + 0^d3999478 (2) \times E$$

We calculated the phases corresponding to the new light elements and presented the light and colour variations of V1123 Tau for 2003 and 2005 in Figures 1 and 2, respectively. The continuous light variation reflects the proximity of the components. The colour curves get redder for both primary and secondary minima. The primary and secondary minima have similar depths. These are common properties of W UMa type contact systems. The depths of primary and secondary minima are listed in Table 2. In the 2003 light curve, Max II is brighter than Max I by 0.032, 0.023, 0.021, and 0.013 mags in  $U$ ,  $B$ ,  $V$ , and  $R$  filters, respectively. In the 2005 light curves the magnitudes of the maxima are nearly equal. The values of  $V$  magnitude and colours at phase 0.75 for both observing years are nearly the same;  $V = 9^m667$  and  $U - B = 0^m226$ ,  $B - V = 0^m684$ ,  $V - R = 0^m407$ . This  $B - V$  colour corresponds to the spectral type G6 V (Gray 1992).

Table 1: The times of light minima of V1123 Tau.

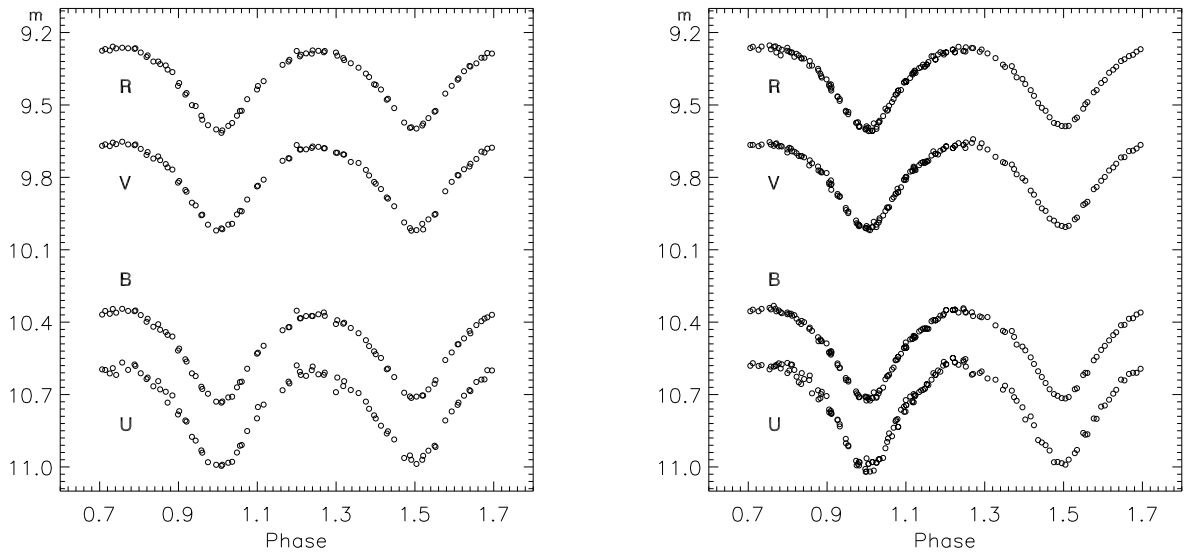
HJD (24 00000 +)	E	$O - C$ (I) (day)	$O - C$ (II) (day)	Filter	Type	Reference
53624.5198( $\pm 3$ )	-85.0	0.0011	0.0004	UBVR	I	This study
53625.5179( $\pm 3$ )	-82.5	-0.0008	-0.0014	UBVR	II	This study
53649.5159( $\pm 3$ )	-22.5	-0.0002	-0.0002	UBVR	II	This study
53658.5151( $\pm 4$ )	0.0	0.0000	0.0002	UBVR	I	This study

Table 2: The depths of the eclipses with respect to the second maximum.

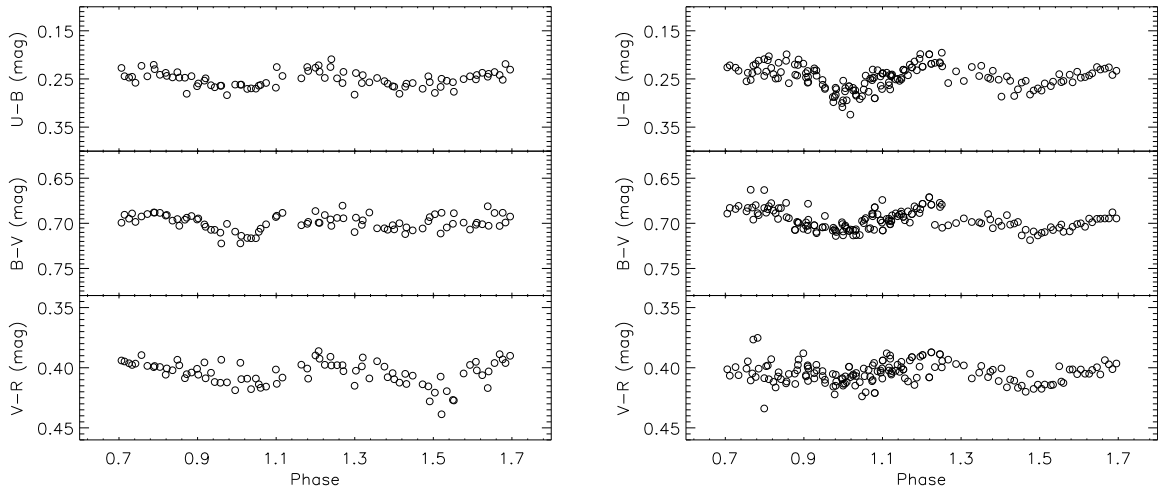
	2003		2005	
	Min I	Min II	Min I	Min II
$U$ (mag)	0.413	0.405	0.409	0.408
$B$ (mag)	0.389	0.363	0.371	0.365
$V$ (mag)	0.368	0.367	0.344	0.339
$R$ (mag)	0.352	0.335	0.333	0.328

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This study has been partly supported by EBILTEM (Ege Universitesi Bilim Teknoloji Uygulama ve Araştırma Merkezi).



**Figure 1.** The light variations of V1123 Tau obtained using U, B, V, and R filters in the years 2003 (the left panel) and 2005 (the right panel).



**Figure 2.** The colour curves of V1123 Tau belong to the years 2003 (the left panel) and the 2005 (the right panel).

#### References:

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 Taş, G., Sipahi, E., Dal, H.A., Göker, Ü.D., Tıgırak, E., Yiğen, S., Özdarcan, O., Topçu, A.T., Güngör, C., Çelik, S., Evren, S., 2004, *IBVS*, No. 5548.