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uvby OBSERVATIONS OF HD 5303 IN OCTOBER 1981*

The observations of the RS CVn-type southern binary HD 5303 (Collier et al. 1981) have been obtained on 12 consecutive nights of the last decade of October 1981. The simulatneous four-colour photometer on the 50 cm Danish telescope in ESO, La Silla, Chile (Grønbech et al. 1976) was used. Up to 40 standard stars were observed each night to tie the observations of the variable and three auxiliary stars to the standard uvby system. Star HD 5499 was used as the primary comparison. The four colour indices of the auxiliary stars are listed in Table I. The mean errors of all photometric data in that table are typically 0.002 to 0.004.

Table I

Auxiliary stars for HD 5303

Star	HD	CPD	Sp	No. of nights	V	b-y	m_1	c_1
Comparison	5499	$-74^{\circ}74$	K1IV	11	6.685	0.595	0.435	0.380
Check 1	5210	$-75^{\circ}66$	G1/2V	11	8.691	0.375	0.193	0.299
Check 2	4815	$-75^{\circ}64$	K4III	5	5.081	0.847	0.740	0.402

Table II

Differential observations of HD 5303 (relative HD 5499)

MJD (hel)	Phase	ΔV	Δ(b-y)	Δm_1	Δc_1
44898.106	0.814	0.842	-0.128	-0.241	-0.084
44899.079	.162	0.840	-0.131	-0.256	-0.080
44900.076	.519	0.845	-0.117	-0.269	-0.057
.253	.582	0.818:	-0.123:	-0.244:	-0.099:
44901.112	.889	0.878	-0.124	-0.244	-0.068
44903.048	.581	0.834	-0.123	-0.281	-0.081
44904.080	.950	0.928	-0.123	-0.252	-0.073
44905.061	.300	0.795	-0.115	-0.252	-0.066
44906.086	.667	0.810	-0.113	-0.247	-0.072
44907.098	.028	0.951	-0.120	-0.238	-0.092
44908.101	.387	0.813	-0.130	-0.238	-0.071
44909.066	0.732	0.808	-0.120	-0.238	-0.069

* Based on observations obtained at the European Southern Observatory, La Silla,Chile.

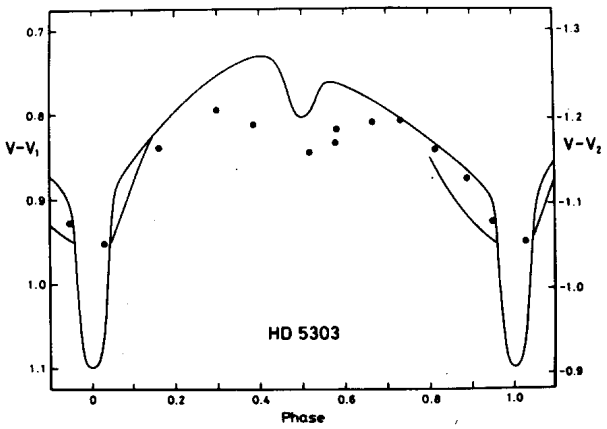

Figure 1: The new observations of HD 5303 plotted together with the light curves of Collier et al. (1981) which were obtained in 1979 and 1980.

The differential observations of HD 5303 are listed in Table II and plotted in Fig. 1. They were obtained normally only once per night, through air-masses between 1.44 and 1.54. The time in Table II is expressed in heliocentric modified Julian Days (MJD = JD - 2 400 000.5). The phases have been computed from the ephemeris given in the note added in proof in Collier et al. (1981).

The differential data in Fig. 1 are plotted together with the light curve copied from graphs given in Collier et al. who already noticed rather large changes in the light curve in time-scales of a few months (this is marked in the schematic light curves in Fig.1). Here we would like to note a rather substantial change in shape around the secondary minimum and a moderately good agreement with one of the previous light curves at the primary minimum.

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