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UNUSUAL BEHAVIOUR OF THE RECURRENT NOVA T CrB

Our observations of T CrB were accomplished on the 48 cm telescope of the Byurakan Astrophysical Observatory during nine nights in March-June 1982 and one night in January 1983. The aim of these observations was to detect possible flares, expected (Palmer and Africano, 1982) about the phase 0.2 of the orbital period (Kraft, 1958). The star has been monitored in the u band. Since 02.04.1982 differential photometry in the ubv bands was accomplished as well. BD+26<sup>o</sup>2761 served as comparison star. The stars BD+26<sup>o</sup>2756 and BD+26<sup>o</sup>2763 were used as control stars.

The results of monitoring are given in Table I, where:  $\phi$  is the orbital

Table I

Date	$\phi$	A	t(min)	$\sigma_T$	$\sigma_{BD}$	T(min)
04.03.1982	0.06	0. <sup>m</sup> 40	4.9	0. <sup>m</sup> 090	0. <sup>m</sup> 010	64
13.03	0.10	0.65	4.4	0.146	0.023	77
15.03	0.11	0.49	5.9	0.085	0.032	94
30.03	0.17	0.41	4.9	0.069	0.026	81
02.04	0.19	0.63	4.9	0.122	0.025	189
08.06	0.48	-	-	0.048	0.045	117
19.06	0.53	-	-	0.058	0.069	63
29.06	0.57	-	-	0.072	0.076	34
25.01.1983	0.50	-	-	0.066	0.072	20

phase, A - the maximum amplitude of ultra-violet light variation during the night, t - average time interval between light maxima,  $\sigma_T$  - standard deviation of T CrB,  $\sigma_{BD}$  - standard deviation of the comparison star BD+26<sup>o</sup>2761, T - the duration of each night's observation.

One can see from Table I that since 8 June 1982 the observed (see as well Walker, 1956, Bianchini and Middleditch, 1976) ultra-violet light variation of T CrB has stopped. The standard deviation of T CrB ( $\sigma_T$ ) has decreased and become equal to the corresponding value ( $\sigma_{BD}$ ) of the comparison star.

The results of differential photometry (Table II) presented in Figure 1,

show that the brightness of T CrB decreased in all the observed bands (ubv) at the same time when the ultra-violet light variations stopped.

Table II

Date	$\Delta u$	$\Delta b$	$\Delta v$
04.03.1982	$-0^{\text{m}}.46$	-	-
13.03	$-0.96$	-	-
15.03	$-0.22$	-	-
30.03	$-0.89$	-	-
02.04	$-0.70$	$0^{\text{m}}.17$	$0^{\text{m}}.06$
08.06	0.11	0.75	-
15.06	0.23	0.73	0.53
19.06	0.05	0.71	0.55
29.06	0.06	0.72	0.49
25.01.1983	$-0.59$	0.40	0.28

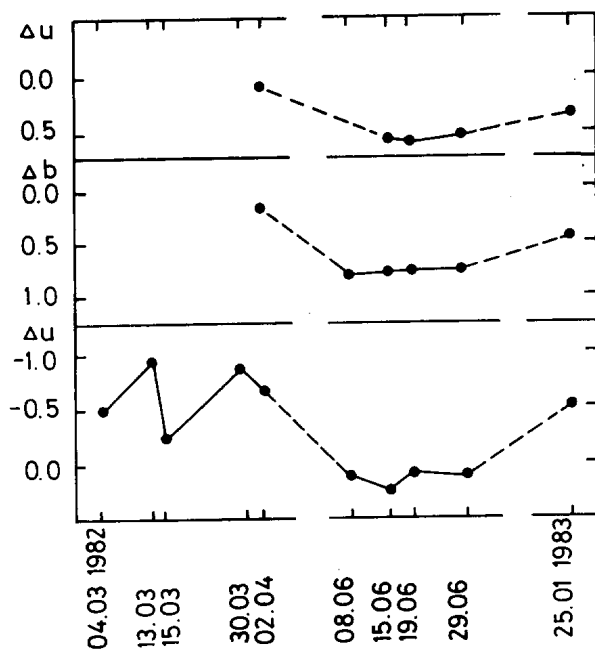


Figure 1

The average brightness decrease in different bands was:  $\Delta u = 0^{\text{m}}.70$ ,  $\Delta b = 0^{\text{m}}.56$ ,  $\Delta v = 0^{\text{m}}.47$ . That means that the star has reddened. The observation of T CrB in 1983 showed that the brightness had somewhat increased, yet had not reached its original value. The average increase of brightness in ubv

bands was:  $\Delta u = 0^{\text{m}}.70$ ,  $\Delta b = 0^{\text{m}}.33$ ,  $\Delta v = 0^{\text{m}}.24$ . The star had become bluer. The ultra-violet light variation was not observable.

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