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OBSERVATIONS OF HDE 245770 DURING THE RECENT X-RAY FLARE-UP
 OF ITS COUNTERPART A0535+26

By a lucky chance the flare-up of the transient X-ray source A0535+26 in December 1977 (reported by M. Chartres and F. Li in IAUC 3154) could, for the first time, also be followed up its optical counterpart HDE 245770. There is no longer any doubt about a physical connection of these objects. Earlier flare-ups of the X-ray source took place at 1975 April 28 (IAUC 2774) and 1975 November 7 (IAUC 2863) (both were spells of maximal intensities).

In 1973 the author discovered the variability of the Bpe star HDE 245770 (Astron. Nachr. 295, 47). Since then it has continuously been observed by photoelectric UBV photometry at the Sonneberg 60 cm telescope II. From about the time of the recent X-ray flare-up we have measurements of 3 nights at our disposal. The object was compared with the star HDE 245906 with the following adopted magnitudes (see Mitt. Veränd. Sterne 7, 105): $V=10^m.54$, $B-V=+0^m.45$, $U-B=+0^m.22$. It should be noted that the magnitude of the object in V at 1977 Dec. 18.9 (UT) was the brightest one known to the author. In the other colours this maximum is less marked.

J.D.	1977/78 UT	V	B	U
244 3496.37	Dec. 18.87	$8^m.72$	$9^m.41$	$8^m.93$
498.59	21.09	8.87	9.45	8.93
524.46	Jan. 15.96	8.86	9.44	8.88

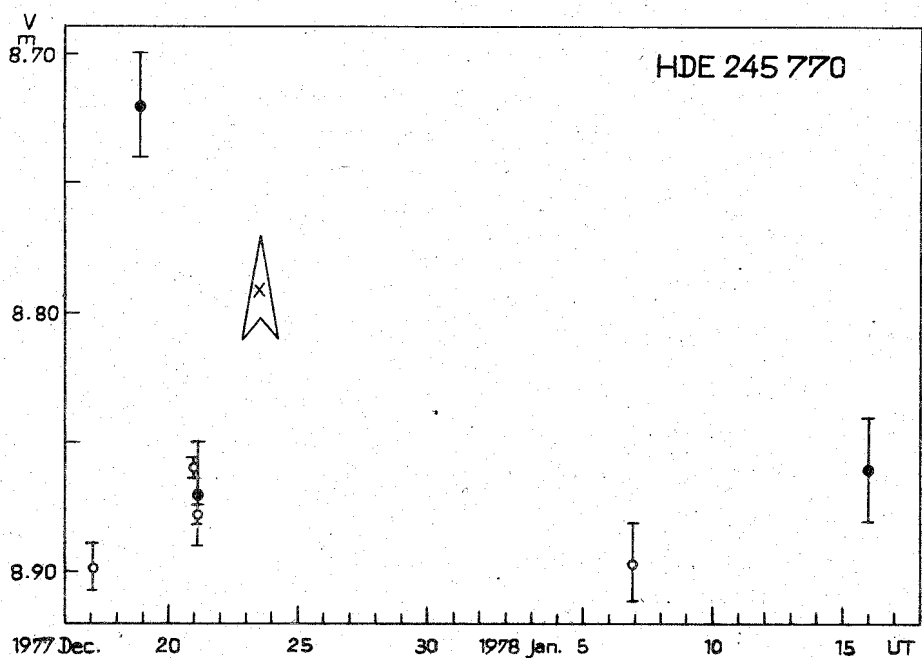
(standard deviations in V and B about ± 0.02 mag, in U about ± 0.05 mag.).

Independent of the author's observations, the star was also measured at that time by C. Bartolini et al. and A. Giangrande et al. Their differences to the comparison stars HD 35170 and HD 37438 are published in IAUC 3167. The values obtained on the basis of the magnitude $V=5^m.15$ for HD 37438 given by D.L.Crawford

(Astrophys.J. 137, 523) are plotted in the diagram (open circles) beside the values obtained by the author (filled circles). The vertical bars in the diagram give the range of the standard deviations; the arrow marks the spell of maximum X-ray intensity.

It is remarkable that the star enters maximum brightness about 5 days earlier than the X-ray source. This behaviour will be hard to explain if the small increase in optical brightness is understood as an effect of heating the optical component of a binary system by a compact X-ray component.

Besides, HDE 245770 is the brightest optical counterpart of a transient X-ray source that has ever been detected.



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