

COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS

Number 2744

Konkoly Observatory
Budapest
11 June 1985
HU ISSN 0374 - 0676

PHOTOELECTRIC PHOTOMETRY OF DI CEPHEI DURING 1981-1984

The T Tauri type variable star DI Cephei (Kholopov, 1952) was observed at the mountain station of the Konkoly Observatory. The measurements were carried out with an unrefrigerated photoelectric photometer, attached to the 102 cm Ritchey-Cretien telescope of the observatory. The identification chart is shown in Figure 1.

On several nights DI Cephei was monitored in order to record flare-like activity in the U band. As Figures 2-5 show, there are irregularities on the light curve, especially in the U band. The most convincing flare-like events occurred on the night 10/11 September 1983 (J.D.2445588.5702).

In that case the amplitude of the brightening reached about 3 magnitudes in U band, about 0.8 magnitude in B band and about 0.4 magnitude in V band.

Table I shows the observed average brightnesses during the monitoring intervals, where the first column gives the calendar date, column 2 the J.D. of the beginning and the end of measurements. One moment represents the middle of the monitored time interval. Columns 3-5 give the average UB_V magnitudes.

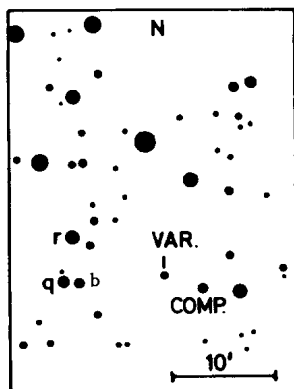


Figure 1 : Identification chart for the variable and the comparison stars.

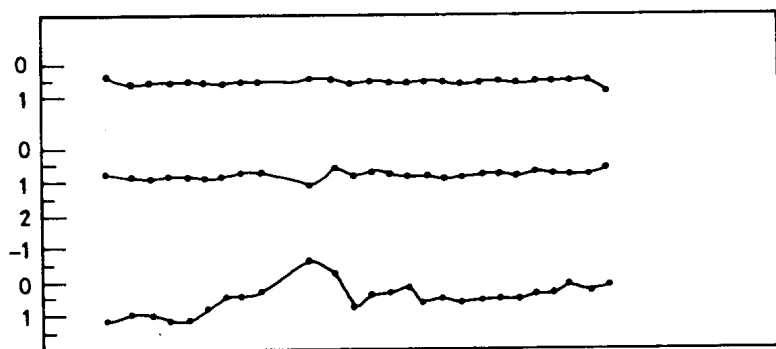


Figure 2 : Light curve based on the 08/09 Sep. 1983 (J.D.2445586.3098-.6255 observations.

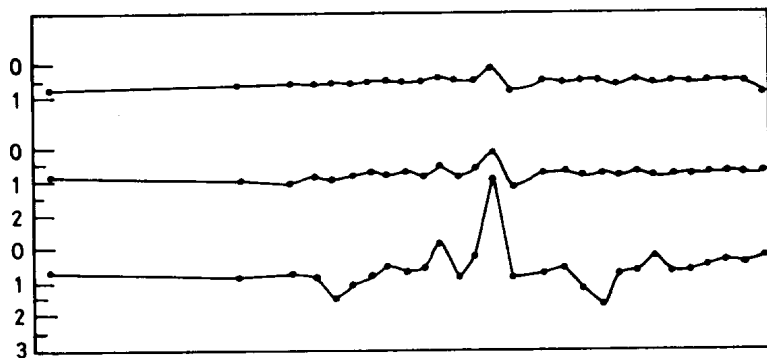


Figure 3 : Light curve based on the 10/11 Sep. 1983 (J.D.2445588.3361-.6292) observations.

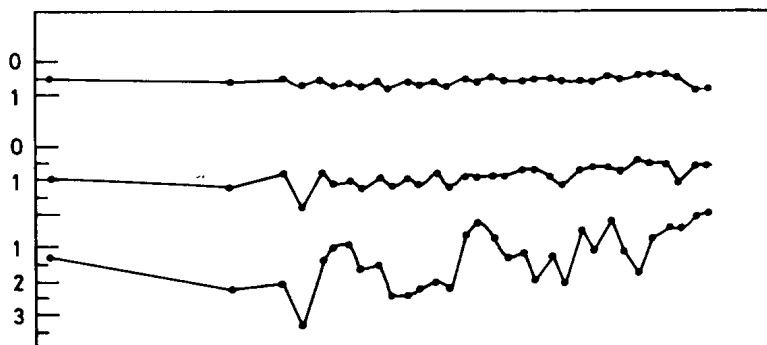


Figure 4 : Light curve based on the 04/05 Oct..1983 (J.D.2445612.3350-.6076) observations.

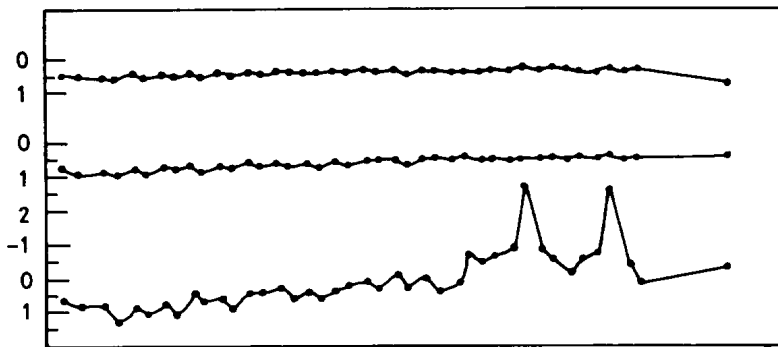
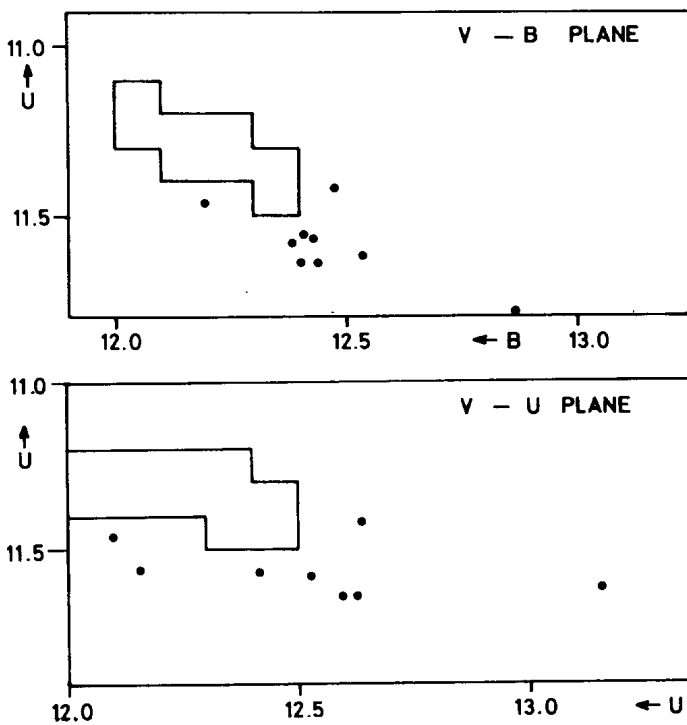


Figure 5 : Light curve based on the 05/06 Oct. 1983 (J.D.2445613.2545-.5855) observations.



Figures 6-7 : The observed average values on the V-B and V-U plane. The area encircled with solid lines means the observed boundaries of previous measurements. (Drawing after the graphs published by Gahm and Petrov, 1983).

Table I

Date	J.D.(244...)	V	B	U
16/17.07.1981	4802.5044	11.36	12.58	12.64
27/28.03.1982	5056.6444	11.73	12.97	13.5
08/09.09.1983	5586.3098-.6255	11.51	12.53	12.42
10/11.09.1983	5588.3361-.6292	11.52	12.49	12.53
04/05.10.1983	5612.3350-.6076	11.56	12.64	13.16
05/06.10.1983	5613.2545-.5855	11.4	12.3	12.1
01/02.09.1984	5945.5597	11.58	12.51	12.63
04/05.09.1984	5948.6220	11.5	12.51	12.16
05/06.09.1984	5949.5976	11.58	12.54	12.6

Figures 2-5 show the ΔV ΔB and ΔU light curves in the monitored interval.

DI Cephei shows remarkable variability pattern on the V - B and V - U plane (Gahm and Petrov, 1983). The new observations are in good agreement with that pattern but the measured magnitudes are greater than the previous ones.

Figures 6-7 show the new data plotted on the graph from the publication of Gahm and Petrov.

JANOS KELEMEN
Konkoly Observatory
Budapest, Hungary

References:

- Kholopov, P.N., :1952, Variable Stars, 9, 157
Gahm, G.F., Petrov, P.P., : 1983, Activity on Red Dwarf Stars Proc. IAU Coll. No.71, (Edited by P.B.Byrne and M.Rodono), p.497.