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PHOTOELECTRIC OBSERVATIONS OF THE FLARE STAR DO Cep IN 1975

Continuous photoelectric monitoring of the flare star DO Cep has been carried out at the Stephanion Observatory during the year 1975, using the 30-inch Cassegrain reflector of the Department of Geodetic Astronomy, University of Thessaloniki. Observations have been made with a Johnson dual channel photoelectric photometer in the B colour of the international UBV system. The telescope, the photometer, and the observational procedure have been described elsewhere (Mavridis et al., 1982). Here we mention only that the transformation of our instrumental uvv system to the international UBV system is given by the following equations:

for the time interval from 25-6-1975 to 30-7-1975

$$\begin{aligned}V &= v_{\circ} + 0.119(b-v)_{\circ} + 2.163, \\(B-V) &= 0.819 + 1.047(b-v)_{\circ}, \\(U-B) &= -1.509 + 1.006(u-b)_{\circ},\end{aligned}$$

and for the time interval from 31-7-1975 to 30-9-1975

$$\begin{aligned}V &= v_{\circ} + 0.046(b-v)_{\circ} + 2.440, \\(B-V) &= 0.782 + 1.062(b-v)_{\circ}, \\(U-B) &= -1.612 + 1.063(u-b)_{\circ}.\end{aligned}$$

The monitoring intervals in UT as well as the total monitoring time for each night are given in Table I. Any interruption of more than one minute has been noted. In the fourth column of Table I the standard deviation of random noise fluctuation $\sigma(\text{mag}) = 2.5 \log(I_{\circ} + \sigma) / I_{\circ}$ for different times (UT) of the corresponding monitoring intervals is given.

During the 59.13 hours of the monitoring time no flare was observed.

Table I
Monitoring intervals in 1975

Date	Monitoring intervals (UT)	Total Monitoring time	σ (U.T.)
1975			
July			
20-21	21 ^h 00 ^m -21 ^h 13 ^m , 21 ^h 17 ^m -21 ^h 54 ^m , 21 57 -22 25 , 22 42 -23 11 , 23 15 -23 41 , 23 47 -00 10 , 00 23 -00 54 , 00 59 -01 23 , 01 27 -01 40 , 01 44 -01 55.	03 ^h 55 ^m	0.11(21 ^h 09 ^m), 0.09(21 ^h 29 ^m), 0.09(22 09), 0.11(23 01), 0.08(23 35), 0.06(00 03), 0.05(00 37), 0.03(01 11), 0.02(01 47).
25-26	21 48 -22 13 , 22 18 -22 54 , 22 59 -23 27 , 23 50 -00 06 , 00 22 -00 49 , 00 54 -01 23 , 01 47 -02 07.	03 01	0.08(22 02), 0.07(22 35), 0.07(23 13), 0.07(23 54), 0.08(00 39), 0.09(01 09), 0.09(01 51).
26-27	20 48 -21 16 , 21 21 -21 36 , 21 51 -22 19 , 22 38 -23 05 , 23 08 -23 37 , 23 41 -00 04 , 00 24 -00 50 , 00 55 -01 27 , 01 31 -01 52.	03 49	0.07(20 57), 0.11(21 22), 0.12(21 54), 0.15(22 42), 0.17(23 11), 0.13(23 44), 0.11(00 32), 0.11(01 02), 0.11(01 38).
28-29	21 09 -21 35 , 21 40 -22 08 , 22 13 -22 46 , 23 16 -23 36 , 23 55 -00 12 , 00 17 -00 44 , 01 10 -01 40 , 01 45 -02 01.	03 17	0.09(21 20), 0.09(21 57), 0.12(22 39), 0.11(23 25), 0.08(00 03), 0.09(00 25), 0.07(01 30), 0.08(01 54), 0.11(23 20), 0.11(23 57), 0.10(00 27), 0.09(01 28), 0.10(01 51).
29-30	23 09 -23 37 , 23 46 -00 04 , 00 07 -00 13 , 00 18 -00 45 , 01 08 -01 35 , 01 40 -02 05.	02 11	0.11(23 20), 0.11(23 57), 0.10(00 27), 0.09(01 28), 0.10(01 51).
31	23 47 -00 00.	00 13	0.07(23 49).
August			
1	00 00 -00 11 , 00 26 -00 40 , 00 44 -01 13 , 01 35 -02 04.	01 23	0.10(00 37), 0.11(01 10), 0.09(02 00).
1-2	21 15 -21 36 , 22 08 -22 21 , 22 27 -22 36 , 22 58 -23 27 , 23 31 -00 01 , 01 21 -01 59.	02 20	0.05(21 35), 0.04(22 09), 0.08(23 25), 0.06(23 58), 0.05(01 23).
2-3	19 29 -19 56 , 20 12 -20 31 , 20 36 -21 01 , 21 30 -21 54 , 22 02 -22 29 , 22 34 -23 06 , 23 30 -23 58 , 00 02 -00 31 , 00 36 -01 01 , 01 26 -01 55.	04 25	0.05(19 40), 0.05(20 26), 0.04(20 44), 0.03(21 42), 0.03(22 12), 0.04(22 44), 0.05(23 51), 0.03(00 13), 0.03(00 49), 0.04(01 46).
5-6	23 53 -00 19 , 00 22 -00 50 , 00 55 -01 35 , 01 38 -02 03.	01 59	0.04(00 02), 0.04(00 35), 0.04(01 03), 0.05(01 40).
7-8	21 07 -21 36 , 21 40 -22 07 , 22 11 -22 37 , 22 52 -23 20 , 00 16 -00 31 , 00 38 -01 02 , 01 13 -01 20.	02 36	0.03(21 13), 0.04(21 42), 0.04(22 14), 0.03(23 04), 0.04(00 28), 0.04(00 48), 0.03(01 18).
8-9	20 36 -20 59 , 21 31 -21 56 , 21 59 -22 29 , 22 43 -23 11 , 23 14 -23 50 , 00 31 -00 56 , 01 04 -01 47.	03 30	0.08(20 39), 0.04(21 34), 0.03(22 05), 0.03(22 49), 0.04(23 17), 0.04(00 43), 0.03(01 18).

Table I (Continued)

August			
17	19 ^h 39 ^m -20 ^h 08 ^m , 20 ^h 13 ^m -20 ^h 43 ^m , 20 46 -21 16 , 21 47 -22 14 , 22 17 -22 45.	02 ^h 24 ^m	0.07(19 ^h 44 ^m), 0.07(20 ^h 17 ^m), 0.09(20 57), 0.05(21 56), 0.06(22 22) .
23	20 25 -20 56.	00 31	0.17(20 33) .
24-25	19 15 -19 48 , 19 52 -20 26 , 20 29 -20 58 , 21 11 -21 38 , 21 43 -22 23 , 23 08 -23 37 , 23 49 -00 20 , 00 29 -00 58 , 01 05 -01 56.	05 03	0.11(19 42) , 0.12(19 57) , 0.11(20 35) , 0.11(21 15) , 0.11(21 48) , 0.14(23 11) , 0.13(23 52) , 0.16(00 52) , 0.13(01 09) .
25-26	19 57 -20 25 , 20 28 -20 58 , 21 02 -21 30 , 21 44 -22 13 , 22 17 -22 49 , 23 34 -00 19 , 00 22 -01 04 , 01 08 -01 46.	04 32	0.08(20 05) , 0.07(20 31) , 0.08(21 19) , 0.08(21 49) , 0.07(22 20) , 0.08(23 38) , 0.11(00 28) , 0.10(01 12) .
26-27	20 01 -20 31 , 20 37 -21 02 , 21 06 -21 36 , 21 53 -22 40 , 22 44 -22 47 , 22 52 -23 02 , 23 48 -00 27 , 00 30 -00 58.	03 32	0.07(20 03) , 0.06(20 45) , 0.06(21 11) , 0.05(21 59) , 0.05(22 54) , 0.07(23 52) , 0.08(00 34) .
September			
3-4	19 26 -20 01 , 20 05 -20 59 , 21 02 -21 38 , 22 57 -23 22 , 23 39 -00 40 , 00 17 -00 37 , 00 42 -01 00.	04 09	0.05(19 31) , 0.04(20 10) , 0.04(21 08) , 0.04(23 03) , 0.05(23 40) , 0.04(00 23) , 0.05(00 47) .
13-14	22 45 -23 07 , 23 11 -23 19 , 23 27 -23 33 , 23 43 -00 13 , 00 27 -00 55 , 00 58 -01 04 , 01 06 -01 11 , 01 13 -01 23 , 01 26 -01 30.	01 59	0.03(23 03) , 0.03(23 45) , 0.03(00 29) , 0.03(01 08) .
15-16	20 19 -20 50 , 20 54 -21 28 , 22 16 -22 32 , 22 34 -22 46 , 22 49 -22 56 , 22 59 -23 16 , 23 20 -23 44 , 00 43 -01 02 , 01 05 -01 11 , 01 18 -01 31.	02 59	0.05(20 39) , 0.05(21 11) , 0.05(22 30) , 0.03(23 03) , 0.03(23 34) , 0.03(01 21) .
24	22 41 -23 08 , 23 12 -23 38 , 23 44 -00 11.	01 20	0.07(22 55) , 0.11(23 25) , 0.15(23 55) .

TOTAL 59^h08^m = 59^h.13

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