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1991 BV PHOTOELECTRIC OBSERVATIONS OF CG Cyg

Photometric observations for this star have been reported previously by Zeilik et al., 1991; Dapergolas et al., 1991; Dapergolas et al., 1989a and references therein.

The eclipsing binary CG Cyg was observed for the period 15-26 July with the 1.2m Kryonerion telescope and a single channel photon counting photometer described by Dapergolas and Korakitis (1987). The photometer employs a high gain 9789QB phototube and conventional BV filters. Its output is fed directly to a microcomputer enabling rapid data access.

The data reduction method is the standard one and as a comparison star we used BD +34^o4216. The constancy of the comparison star was verified by Milone et al. (1979). The data presented here were obtained with an accuracy of ± 0.015 mag.

Table I lists the dates of observations and phases covered whereas Figures 1 and 2 summarize the results for B and V colours.

In Table II the times of minima and the O-C values are listed for the V and B bands respectively. Times of minima are calculated using the method described by Kwee and van Woerden (1956), whereas the O-C values were determined from the linear ephemeris $T=2439425.^d1221 + 0.^d631141E$ given by Milone and Ziebarth (1974).

TABLE I

Date	Phase
15 July 1991	.61 .97
17 July 1991	.76 .14
19 July 1991	.92 .31
20 July 1991	.46 .76
25 July 1991	.38 .76
26 July 1991	.97 .40

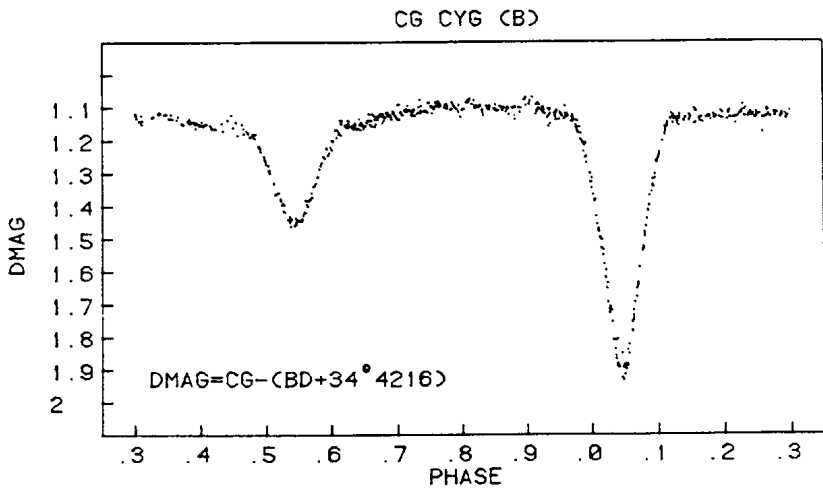


Figure 1

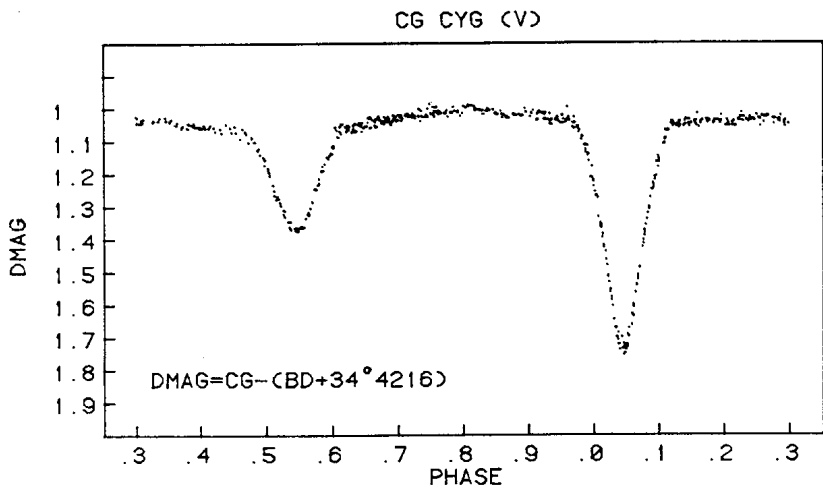


Figure 2

TABLE II

Type of minima	V COLOUR		B COLOUR	
	Heliocentric Jul. Day	(O-C) phase	Heliocentric Jul. Day	(O-C) phase
Primary	2448455.5163	0.045	2448455.5163	0.046
	± 0.0001		± 0.0001	
Primary	2448457.4097	0.045	2448457.4099	0.046
	± 0.0001		± 0.0001	
Secondary	2448458.3563	0.545	2448458.3560	0.545
	± 0.0003		± 0.0003	
Secondary	2448463.4048	0.545	2448463.4048	0.545
	± 0.0002		± 0.0003	
Primary	2448464.3527	0.046	2448464.3528	0.046
	± 0.0002		± 0.0002	

TABLE III

Differences between Primary and Secondary minima for CG Cygni in B and V colours

DATE	δB (mag)	δV (mag)
1991	0.46	0.37
1990	0.48	0.37
1989	0.45	0.39
1988	0.34	0.30
1987	0.41	0.30

From Figures 1 and 2 it can be seen that there are irregularities outside the eclipse already reported previously by Milone et al. (1979), Dapergolas et al. (1989b), Beckert et al. (1989), Dapergolas et al. (1991), and Zeilik et al. (1991).

The observed differences between the primary and secondary minima for the period 1987 - 1991 are listed in Table III (Dapergolas et al., 1988, 1989a, 1989b, 1991).

From the values of Table III it can be seen that there is a variation in the difference of both minima depths and for both colours probably due to the photospheric activity of the system.

From the times of minima found here and those published by Milone et

al. (1979) and Dapergolas et al. (1989a, 1989b, 1991) the O-C residuals show large variations which might be due to the continuous period variations of the system.

A. DAPERGOLAS and E. KONTIZAS

National Observatory of Athens
Astronomical Institute
P.O. Box 20048
GR Athens 118-10
Greece

M. KONTIZAS

Section of Astrophysics, Astronomy
and Mechanics, Dept. of Physics,
University of Athens
Panepistimiopolis
GR-157 83, Zografos Athens, Greece

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