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1989 BV PHOTOELECTRIC OBSERVATIONS OF CG Cyg

The eclipsing binary CG Cyg was observed from 24 July through 1 August 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.

Photometric observations for this star have been reported by us in 1988 and 1989 and other investigators listed by Dapergolas et al. (1989).

The data reduction method is the standard one and the BD +34^o 4216 was used as a comparison star. The constancy of the comparison star was verified by Milone et al. (1979). The data 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.

Table I

Date	Phase
24 July 1989	.16 .53
25 July 1989	.83 .14
26 July 1989	.31 .73
27 July 1989	.96 .14
30 July 1989	.78 .08
31 July 1989	.22 .65
1 Aug 1989	.05 .22

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 $T = 2439425.^d_{1221} + 0.^d_{631141} \cdot E$ given by Milone and Ziebarth (1974).

From Figures 1 and 2 it can be seen that there are irregularities outside the eclipse already reported by Milone et al. (1979) and ten years later by Dapergolas et al. (1989).

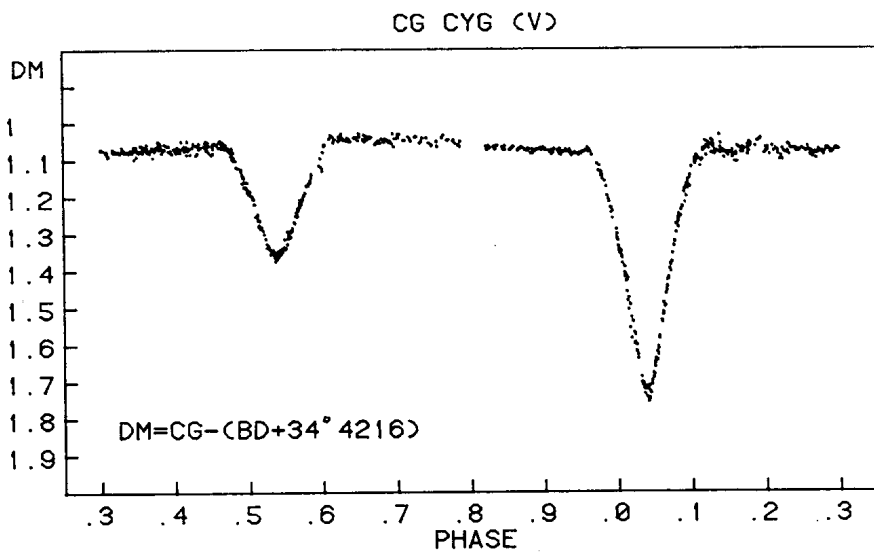


Figure 1

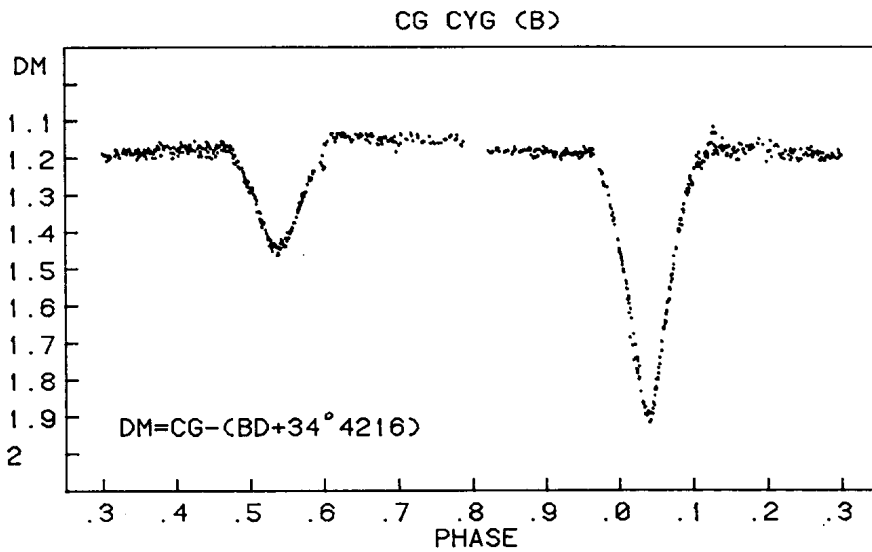


Figure 2

Table II

Type of minima	V COLOUR		B COLOUR	
	Heliocentric Jul. Day	(O-C) phase	Heliocentric Jul. Day	(O-C) phase
Primary	2447733.4867	0.039	2447733.4865	0.038
	± 0.0001		± 0.0001	
Secondary	2447734.4335	0.539	2447734.4331	0.538
	± 0.0001		± 0.0002	
Primary	2447735.3801	0.039	2447735.3798	0.038
	± 0.0001		± 0.0001	
Primary	2447738.5353	0.038	2447738.5355	0.038
	± 0.0003		± 0.0003	
Secondary	2447739.4826	0.539	2447739.4826	0.539
	± 0.0001		± 0.0001	

The observed difference between the primary and secondary minima is 0.45 mag for the B and 0.39 mag for V whereas these values for 1988 are 0.34 mag and 0.30 mag respectively (Dapergolas et al., 1988) and for the year 1987 0.41 mag and 0.30 mag (Dapergolas et al., 1989).

These values indicate that the differential variation of the two minima depths is similar for both colours (0.11 mag for B and 0.09 mag for V) for the years 1988 - 1989 but are quite different (-0.07 mag for B and 0.0 mag for V) for the years 1987 - 1988.

From the times of minima found here and those published by Dapergolas et al. (1989) and Milone et al. (1979) the O-C residuals show large variations which might be due to the continuous period variation of the system.

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