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UBV PHOTOMETRY OF TWO ECLIPSING VARIABLES IN THE VICINITY OF M67

The discovery of several short-period variable stars in the vicinity of M67 was reported by Kurochkin (1960), who suggested that the new variables were likely to be either RR Lyrae stars or dwarf cepheids. Efremov, *et al.* (1964) argued that two of the stars, AH Cnc (SVS 1284) and AD Cnc (SVS 1277), were more probably W Ursae Majoris stars because of their locations in the H-R diagram; they are located on the main sequence at spectral types G0 and K0, respectively. In the case of AH Cnc, the latter hypothesis has been confirmed by Kurochkin (1965) and Eggen (1970).

Additional observations of AH Cnc and AD Cnc have been obtained with the 72-inch Perkins reflector of the Ohio State and Ohio Wesleyan Universities at the Lowell Observatory. The resulting light and color curves on the UBV system are shown in Figures 1 and 2. The light curves for both stars are characteristic of W Ursae Majoris stars.

Comparison of the observations of AH Cnc in Figure 1 with those by Eggen reveals a difference of about 0.15 mag. in the mean V brightness of the star and approximately 0.04 mag. in the B-V color. The differences are in the sense that the present observations show the star to be fainter and redder than in 1965 when observed by Eggen. It is certain that these differences do not result from errors in transforming the present observations to the UBV system. Very probably the differences are due to a real change in the brightness and color of this eclipsing system. Additional photometric observations would seem to be warranted.

Although nothing unusual is present in the light curve of AD Cnc, it is interesting to note that the color variation is somewhat greater than usual for W Ursae Majoris stars.

It is a pleasure to thank Dr. G. H. Herbig for providing a finder chart for AD Cnc.

Lowell Observatory  
Flagstaff, 7 March 1972

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References:

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Eggen, O.J. 1970, Mem. R.A.S. 70, 111.  
Kurochkin, N.E. 1960, Astr. Circ. U.S.S.R., No. 212., 1965, Comm. 27 I.A.U., Inf. Bull. Var. Stars, No. 79.

Figure 1. Light and color curves of AH Cnc observed on December 15, 1969.

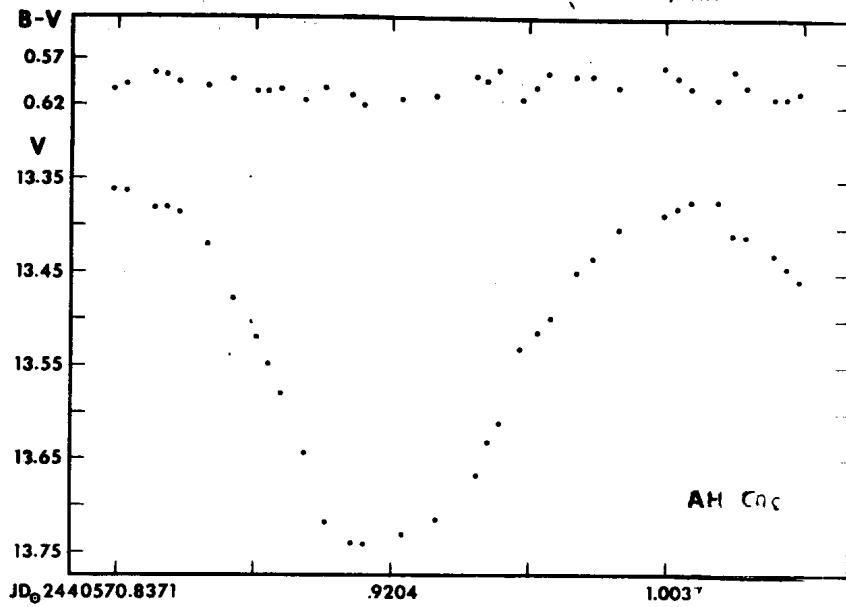


Figure 2. Light and color curves of AD Cnc observed on February 16, 1972.

