

**LETTER TO THE EDITOR**

*Based on a presentation made at the 89th Annual Meeting of the AAVSO, October 28, 2000*

“DE CVn: an Eclipsing Binary with a White Dwarf ?”

DE CVn (RX J1326.9+4532, max. magnitude = 13.68 Rc) is an unusual eclipsing binary. There is currently only one publication on this star by R. M. Robb and R. Greimel (1997, *Inf. Bull. Var. Stars*, No. 4486). These authors suggest that, from their observations, the primary star is a M0V red dwarf and the secondary component is a white dwarf. Their initial analysis of the system revealed a 0.18-day period, but was later doubled to 0.36 day due to unequal maxima in the light curve. Their 1997 data reflect results from observing in the V and R bands for seven nights, and their published light curve exhibits two nights' data.

Due to the brief duration of the primary minimum,  $0.0212 \text{ day} \pm 0.0006$ , as calculated by Robb and Greimel, data points on the descending and ascending branches of the primary minimum are few in number. Gathering more data points for the ascending and descending branches would help to both determine the degree of totality of the eclipse and refine the published period of 0.36 day.

We observed DE CVn photometrically in the UBVRI bands for five nights in June 2000 (JD 2451697 through 2451701) with the CCD camera of the 31-inch telescope of the Lowell Observatory in Flagstaff, Arizona. Data in U and I filters were taken during three of the five nights.

Data were reduced using IRAF (version 2.11.3, distributed by NOAO under contract to the NSF) and magnitudes were extracted using the IRAF Daophot package.

This work is in progress, but we would like to present here one result of our CCD photometry: a strong dependence of the amplitude of variations on the color. An indication of this effect is found already in the cited paper by Robb and Greimel: the depth of the eclipse is 0.054 magnitude  $\pm 0.010$  in R and 0.128 magnitude  $\pm 0.029$  in V. From our current work, we confirm this trend in all the observed bands: minimum depth is 0.10 magnitude in I, 0.15 in R, 0.30 in V, 0.60 in B, and 1.00 in U. We suppose that this trend of decreasing minimum depth with decreasing wavelength is due to the color difference between the white dwarf and red dwarf stars.

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