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A NEW VARIABLE STAR IN CASSIOPETA

In an observational program on the eclipsing binary AB Cas, BD + 70^o188 was used as the comparison star (also used by Ando, 1980) and SAO 4710 (BD+70^o199= HD 16439) as the check star. The observations showed that while BD + 70^o188 kept a nearly constant brightness, SAO 4710 presented an undoubted photometric variability. This last star is not present in any of the variable star catalogues, hence it has to be considered as a new variable star. SAO 4710 was observed three nights in November 1987 with the 75 cm reflector at the "Sierra Nevada" Observatory (Spain) in the Strömgen four colours. Figure 1 shows the light curve in the v filter for November 17 th. In a preliminary Fourier

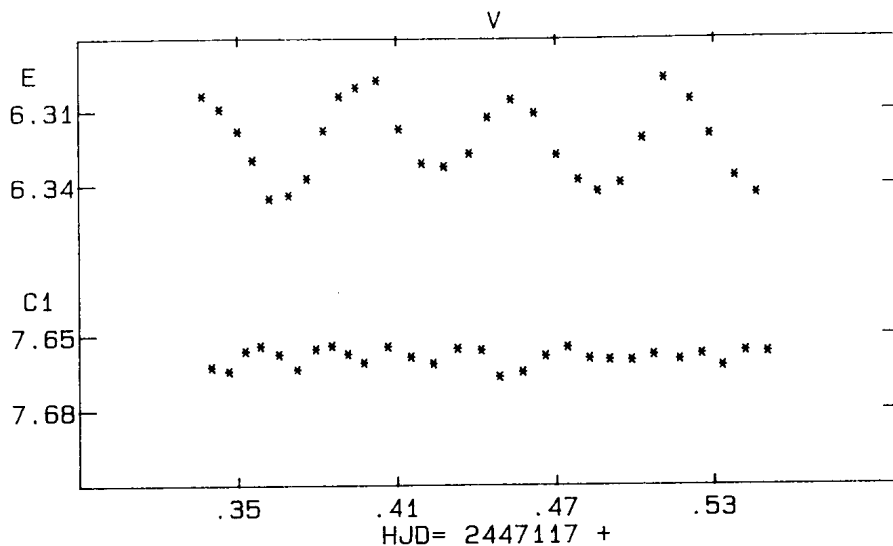


Figure 1. - Light curve in the v filter at November 17th, with E = SAO 4710 and C1 = BD +70^o188. The magnitudes are in the instrumental system.

analysis of these light curves we could verify that SAO 4710 is a monoperoiodic pulsator with an amplitude of 0.041^m in the v filter. After prewhitening of the main frequency (17.1438 c/d) the power spectrum does not show any further peak with a global amplitude greater than 0.007^m .

A tentative ephemeris is given as:

$$\text{HJD max.} = 2447117.39742 + 0.05833^d \cdot E$$

$\begin{array}{cc} \underline{+8} & \underline{+5} \end{array}$

The general aspect of the light curves suggests that we are dealing with a Delta Scuti type variable.

A more detailed study of this star will be published later.

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Reference:

Ando, H. 1980, *Astrophys. Space Sci.* 71, 249.