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BD-8°4232, A NEW DELTA SCUTI STAR?

In the course of a programme of photometry of hot hydrogen-deficient stars (or helium stars) using the 1m telescope of the South African Astronomical Observatory, BD-8°4232 and BD-9°4385 (= HD148021) were used as comparisons for the helium star BD-9°4395. Figure 1 shows V-magnitudes (colour-corrected from observations through a Strömgren "y" filter) for the two comparison stars during a short run made on 1981 Jun 28/29. BD-8°4232

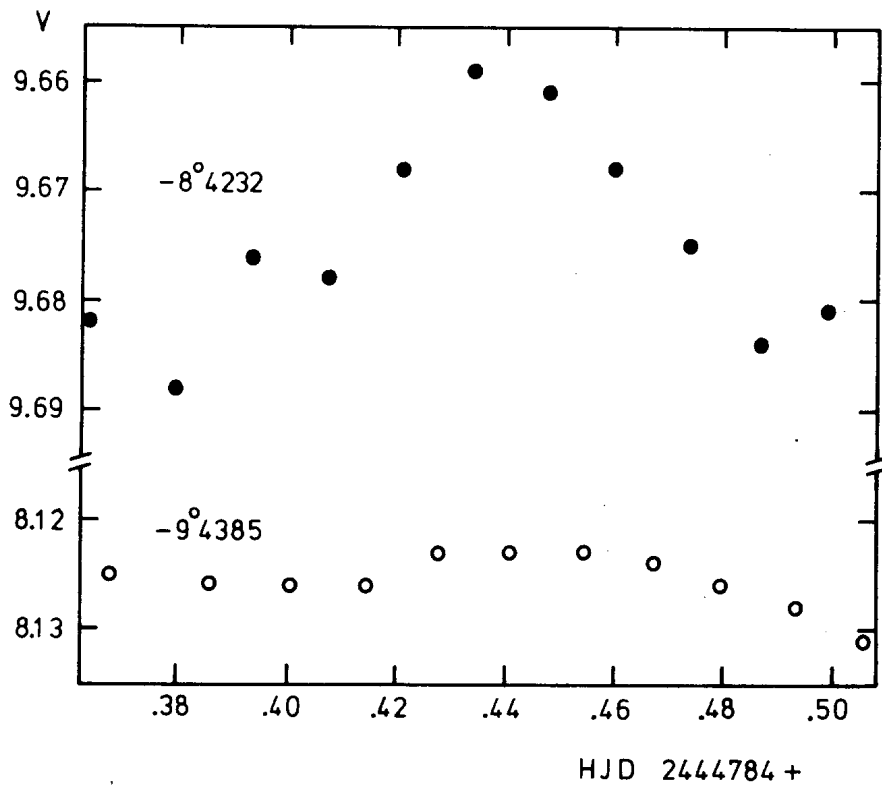


Figure 1

appears to vary with an amplitude of  $0.03^m$  and a period probably  $\sim 0.1^d$ . The slight dip in the magnitude of BD-9°4385 after H.J.D. 244 4784.48 is caused by a transparency deterioration rather than intrinsic stellar variability.

Table I Strömgren colours for BD-8°4232

HJD	V	(b-y)	$M_1$	$C_1$
244 4782.374	9.681	0.352	0.143	0.952
4784.350	9.682	0.354	0.147	0.934
4822.237	9.695	0.359	0.138	0.954
.256	9.681	0.364	0.131	0.947
.370	9.677	0.375	0.121	0.940
4823.245	9.674	0.355	0.131	0.965
.306	9.676	0.358	0.140	0.939
.340	9.670	0.363	0.143	0.906

Strömgren photometry of BD-8°4232 is given in Table I. The (b-y) and  $C_1$  indices indicate a reddening  $E(b-y) = 0.275$  and a spectral type around A7 (cf. Crawford 1979; Table 2). The Smithsonian Star Catalogue gives a spectral type of A5.

The short time scale of variation and the spectral type of BD-8°4232 suggest that it is a Delta Scuti type variable (cf. Baglin et.al. 1973).

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References:

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 Crawford, D.L., 1979. *Astron. J.*, 84, 1858.