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THE LIGHT VARIATIONS OF HD 34626

HD 34626 (B 1.5 IV np, mv $8^m.2$) is one of several stars described by Petrie and Pearce (1962) as having spectral lines which vary in width, but not in a way which is explicable in terms of two spectra. These stars were examined photometrically by Percy (1970) in the hope that some of them might be β Canis Majoris stars; however, most of them did not vary in light. HD 34626 was an exception; it varied by nearly $0^m.1$ on a time scale ≥ 8 hours.

Further observations of this star were obtained at Kitt Peak National Observatory in October 1970, using a 41 cm reflector with refrigerated 1P21 photomultiplier tube. Observations were made through a standard \underline{B} filter, relative to BD +36 $^{\circ}$ 1086, and were corrected for differential extinction and reduced to the sun.

The star varies in brightness by about $0^m.1$ on a time scale of 12 hours (the time required for the star to complete half a cycle). However, the variation is not strictly periodic - the range varies from $0^m.02$ to $0^m.10$.

The spectral type of HD 34626 is B 1.5 IV np according to Walborn (1971). According to Walker and Hodge (1966), the absolute magnitude is -3.7 (consistent with the spectral type) and the projected rotational velocity is 570 km-sec^{-1} . If the latter figure is correct, the inclination must be almost 90° ; otherwise the star would be rotationally disrupted.

There is no simple explanation for the light variations. The observed time scale is much greater than the longest radial pulsation period for a star of absolute magnitude -3.7. The star might possibly be an ellipsoidal variable with an orbital period of 24 hours, although the observed range in radial velocity is only 23 km-sec^{-1} . Finally, the star might be rotating with a period of 12 hours. If the radius is $7 R_{\odot}$, and the rotational velocity is 570 km-sec^{-1} , then the rotation period would be 14 hours. In this case, the variation in brightness might be due to the rotation of a non-uniform star. Further spectroscopic ob-

servations would be valuable.

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Photometric Observations of HD 34626 Relative to BD +36°1086

JD hel. 2440000+	ΔB	J.D.hel. 2440000+	ΔB	J.D.hel. 2440000+	ΔB
881.809	0.677	884.994	0.683	886.882	0.712
883.803	0.670	885.027	0.709	.935	0.718
.850	0.659	.767	0.711	.983	0.716
.896	0.659	.839	0.759	887.770	0.677
.962	0.658	.917	0.758	.825	0.671
884.793	0.689	.962	0.740	.877	0.692
.857	0.668	886.007	0.703	.965	0.666
.912	0.660	.778	0.679		
.950	0.661	.827	0.694		

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