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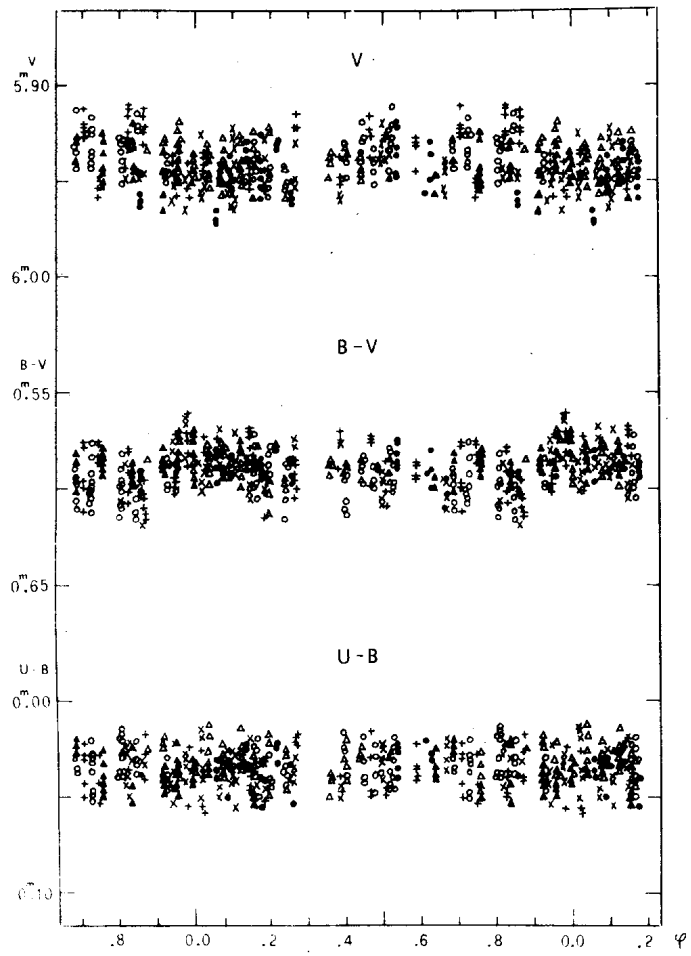
LIGHT VARIATIONS OF THE H AND K EMISSION STAR HD 206860

HD 206860 is a GOV star showing H and K emission core. Spectrophotometric observations by O.C.Wilson (1976) show small amplitude but definite variations of the H and K emission components indicating a chromospheric activity. No clear periodicity results from Wilson's observations carried out between 1967 and 1975.

In the framework of a research of photospheric activity in stars showing a chromospheric activity (Blanco and Catalano 1970; Blanco, Catalano and Godoli 1973), UBV observations of HD 206860 were made at the stellar station of Catania Astrophysical Observatory. The observations were performed with the 30 cm N cassegrain telescope in the years 1970, 1971, 1972 and with the 61 cm cassegrain telescope in the years 1974, 1975, 1977. The stars HD 207223, HD 212314 and HD 211976, whose UBV magnitudes were taken from the Photoelectric Catalogue (Blanco et al. 1968), allow us to transform our observations to the UBV standard system. A total of 428 measurements for each colour were obtained in 96 nights of observation. The V light measurements showed small amplitude variations. An analysis for periodicity was made using a computer programme which picks out the period minimizing the root mean square of the scatter along the light curve. We found a period of $24^{d}.90$ and an amplitude of $0^{m}.02$ in the V light. No variation is evident for the colour indices B-V and U-B. The V magnitude and colour indices versus the phase computed by the elements:

$$JD_{\odot}(\text{the light min.}) = 2440821.48 \pm 24^{d}.90\ E$$


V
5.90
6.00
B-V
0.55
0.65
U-B
0.00
-0.10
.8
0.0
.2
.4
.6
.8
0.0
.2
φ

are plotted in the figure. Even if the variation amplitude is of the same order as the scatter of the observations, the V light curve repeats unchanged during the seven years of observations. The annual average of V magnitude and colour indices do not show any clear variation and give mean values of $V = 5^m.944 \pm 0.008$, $B-V = 0^m.589 \pm 0.013$, $U-B = 0^m.035 \pm 0.014$.

HD 206860 is known to be a single star, so the variations we observed are due to an intrinsic variability. We would like to interpret the light variations in terms of spots, or more generally active regions, connected with the observed chromospheric activity. In this hypothesis the observed period of $24^d.90$ would be the rotation period of the star, which applies very well to a G0 main sequence star.

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