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ON THE PERIOD OF THE LIGHT VARIATIONS OF THE M_n STAR HD 27295

The star HD 27295 (HR 1339=53 Tau, B9 M_n) was used as a comparison in the observations of HD 27962 carried out in 1973 and 1974 at the stellar station of the Catania Astrophysical Observatory. The observations were made in the UB_V system using the 90 cm telescope and the equipment described in Blanco et al. (1978).

From a first analysis of the observations it was evident that the dispersion of the measurements of HD 27295 was larger than allowed for a comparison star, so this star was eliminated from the programme.

From UB_V observations made some years before, Winzer (1974) derived a period of 4.302 days using HD 27176 (HR 1331 = 51 Tau, F0V) as a comparison star. This period is very close to the orbital period of 4.452064 days found by Dworetzky (1972) from spectroscopic observations.

Since our measurements were too few to look for a period determination, but not too far in time from Winzer's observations we decided to use our observations together with Winzer's ones to check or improve his period. To this end we used the second comparison in the programme of HD 27962, i.e. HD 27934 (HR 1387 = 65 Tau, A7IV), which in turn was found to be a suspected δ Sct star in the literature. However, during our observing session, HD 27934 showed a small dispersion, of the order of the natural dispersion, so it proved to be suitable to be used as a comparison star. After transforming our set of data into Winzer's system, we searched for periodicity by means of computer programmes (Deeming 1975, Breger 1982) which have been recently available to us. The best representation of data has been obtained with the period of 4.424125 days; which is close to Winzer's (1974) value. The resulting light curve in U is reported in Figure 1, The ephemerides used are:

$$JD (U \max) = 244 1992.553 + 4.424125 \cdot E \quad (1)$$

No reliable light curve is obtained when using the spectroscopic binary period by Dworetzky (1972).

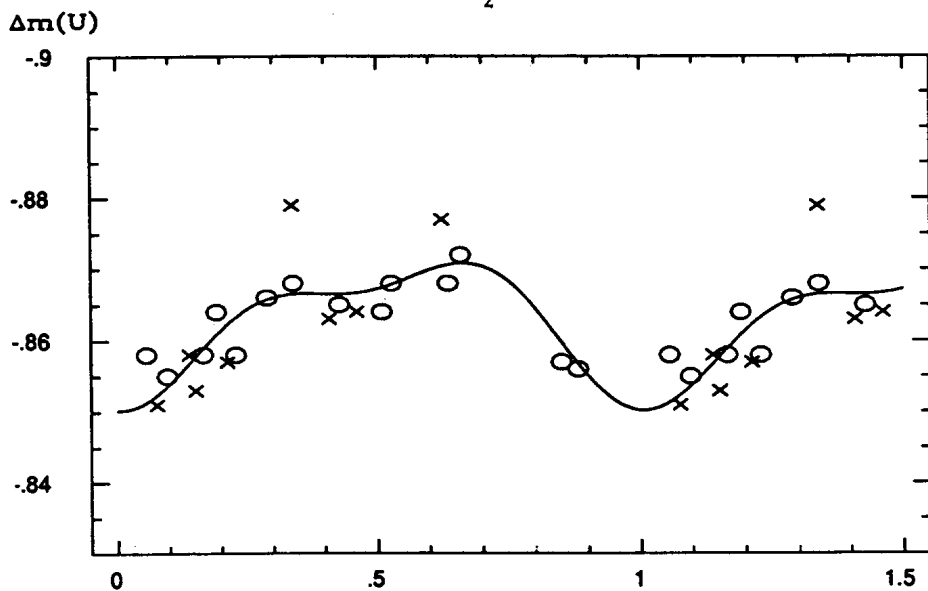


Figure 1 : U light curve of HD 27295. The phase is computed according to formula (1). Circles denote observations by Winzer (1974), crosses denote ours.

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