

POLARIZATION OF THE BD+37°2426

SNEŽANA MARKOVIĆ

Astronomical Observatory, Volgina 7, 11160 Belgrade 74, Serbia and Montenegro

E-mail: smarkovic@aob.bg.ac.yu

This paper offers a short report on the polarimetric measurements of the star BD+37°2426 obtained at the Belgrade Astronomical Observatory. The star BD +37°2426 (HD118216) classified as having the spectral type F2IV is a variable of RSCVn type with B and V magnitude equaling to 5.317 and 4.947 respectively. Optical polarization measurements for 1000 stars closer than 50 pc from the Sun performed since 1991 were presented in the Sky Catalogue 2000.0 (Hirshfeld et al., 1991). The star BD+37°2426 is one of the stars from that catalogue, and also from the Belgrade polarimetric programme. Since our observations of this star took place in the period 1983 - 1990, we consider them to be a significant contribution to the existing catalogue.

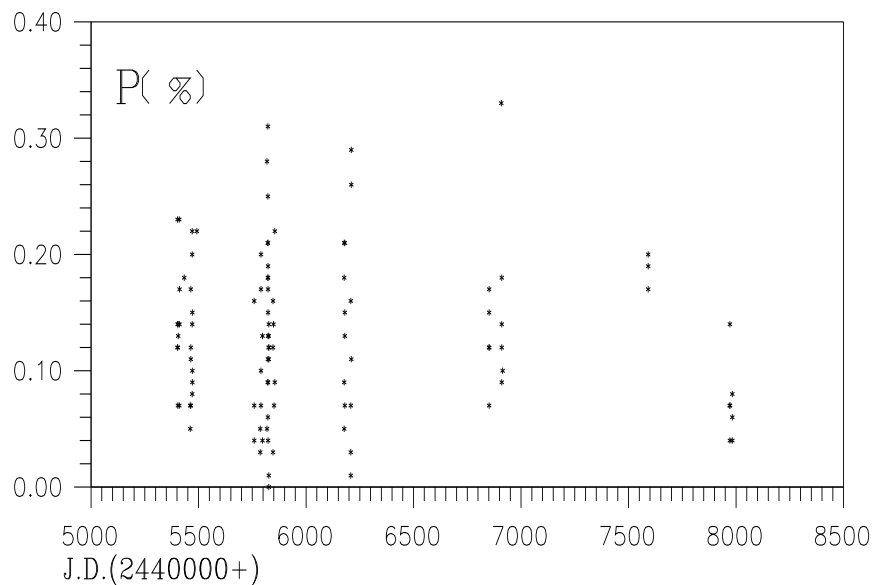


Figure 1: The observed polarization percentage of BD+37°2426 during the period 1983-1990.

Polarimetric observations at Belgrade observatory from 1974 to 1992 were carried out with the 65-cm Zeiss refractor and stellar polarimeter (Kubičela et al., 1976). The polarimeter was modified in 1979 and digital magnetic recording of observations made it suitable for further computer processing. The measurements were done in the visual (V) spectral region. Integration of the raw polarimetric signal was done in 4-second intervals. The angular velocity of the analyzer was one turn per minute. In most cases, "one measurement" is up to 8 one-minute polarimetric sine-wave signals phase-averaged. Typical standard deviation of an individual measurement is about 0.07% for the Stokes parameters Q and U.

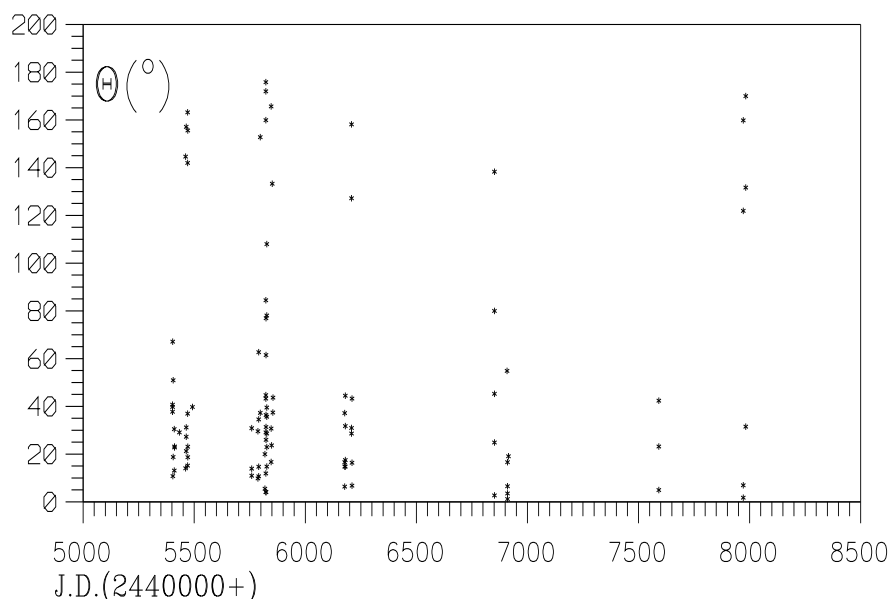


Figure 2: The position angle of the observed polarization of BD+37°2426 during the period 1983-1990.

Our observations of the star BD+37°2426 are shown in Fig. 1 (the percent of polarization P) and Fig. 2 (the angle of polarization Θ). The x-axis shows the time scale in J.D.

It is obvious from the given observed values of polarization that there exists a certain change of polarization, both in long-term and short-term scale which is apparent from the great scattering of data during one year.

References

- Hirshfeld, et al.: 1991, Sky Catalogue, 2nd Edition.
 Kubičela, A., Arsenijević, J., Vince, I.: 1976, *Publ. Dept. Astron. Univ. Belgrade*, **6**, 25.