

COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS

Number 3022

Konkoly Observatory
Budapest
11 May 1987
HU ISSN 0374-0676

PHOTOMETRIC OBSERVATIONS OF WR78 = HD151932

The southern WN7 star WR78 showed no important photometric variations during an observing run in 1975 by Seggewiss and Moffat (1979) although its spectrum is known to display a complex behaviour. The star was included in an observing run we made with the Walraven photometer and the Dutch 91cm telescope on La Silla in 1986.

Data have been obtained on six nights during the period 23 May - 2 June. Two comparison stars were chosen : HD150608 (C_1) and HD155259 (C_2). The observing sequence was $WC_1C_2WC_1C_2WC_1C_2W$ (where W stands for WR78) and took about half an hour to complete. The reductions were made according to the algorithm published by Manfroid and Heck (1983, 1984). However no color transformation was attempted and the results are given in the natural system. Contrarily to the usual practice with the Walraven system, we used conventional magnitudes and not the decimal log scale. The data were then treated differentially so as to cancel out any trend left in the extraction of the zero point.

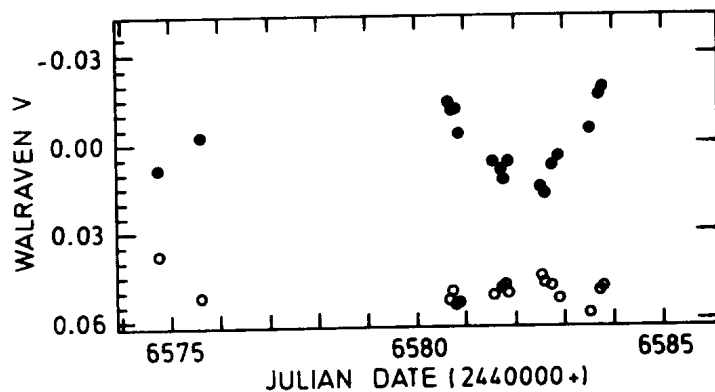


Figure 1. V magnitude.: Plot of the differential data relative to WR78 (filled circles) and to the comparison stars (circles).

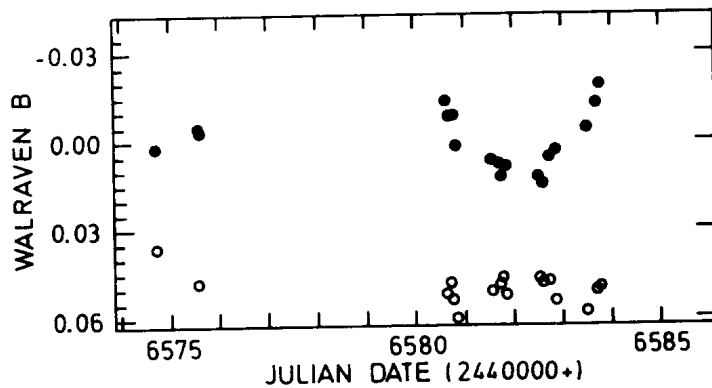


Figure 2. **B magnitude:** Plot of the differential data relative to WR78 (filled circles) and to the comparison stars (circles).

The most accurate data were obtained in the V and B bands. The scatter of the difference between both comparison stars is $\sigma_V = 0.004$ and $\sigma_B = 0.005$ and provides an estimation of the internal accuracy of the data. Plots of $W - (C_1 + C_2)/2$ and $C_1 - C_2$ are given in figures 1 (V) and 2 (B). They clearly show that WR78 was photometrically variable during our observations with a total amplitude of more than 0.03 i.e. an amplitude which could have been detected by Seggewiss and Moffat (1979) during their 1975 observations. Unfortunately, due to poor weather conditions, our data are too scarce to allow the derivation of any periodicity.

P. MAGAIN

European Southern Observatory
Casilla 567
La Serena
Chile

J.M. VREUX and J. MANFROID

Institut d'Astrophysique
B-4200 Cointe-Ougrée
Belgium

References.

- Manfroid, J., Heck, A., 1983, *Astron. Astrophys.*, **120**, 302
 Manfroid, J., Heck, A., 1984, *Astron. Astrophys.*, **132**, 110
 Seggewiss, W., Moffat, A.F.J., *Astron. Astrophys.*, **72**, 332