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FO Vir, A CLOSE ECLIPSING BINARY, NOT AN RR Lyr-VARIABLE

The sixth magnitude variable FO Vir was suspected to be an USPC with a period of 0.5 d (Eggen, 1983) as a result of two nights of observations. Previous visual estimates (Poretti, 1977) have suggested the star could be an RRc variable with a period of 0.29 d, while according to the photoelectric observations of Jackisch (1972) it could be an RR with period between 0.5-0.7 d.

In order to clear the matter we began to observe this star in the V-light at Merate Observatory in 1982. We have 4 nights of observations in 1982, 1 night in 1983 and 8 in April 1984. Due to weather conditions the 1982 observations are of poor quality, except the first night. The 1982-83 measurements have been performed at the 102 cm reflector, while the 1984 ones at the 50 cm reflector. Two comparison stars of the same spectral type (A2) have been adopted: BD $+2^{\circ}2671$ (C1) and BD $+2^{\circ}2664$ (C2). From the ΔV's between C1 and C2 the resulting standard deviation of a single measurement is 0.011 mag.

Our data permit to affirm that FO Vir is a close eclipsing binary. We have searched for its period making a simultaneous least-squares fit of the trial frequency and its two first harmonics on the 1984 observations: it results in a period of 0.776 ± 0.006 d.

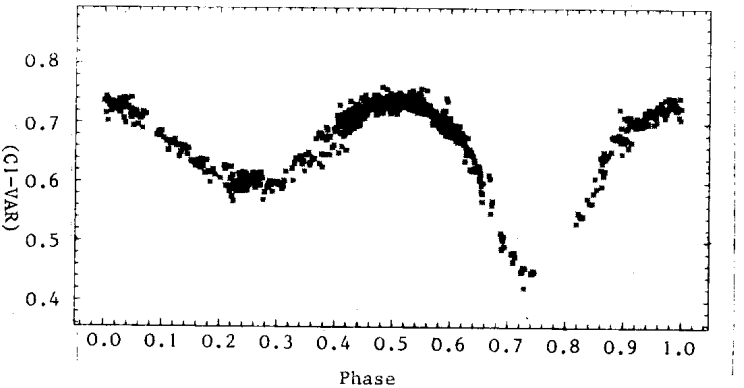

Figure 1

The 1984 data, phased with this period, have been plotted in Figure 1. As they fail to cover the primary minimum, we have added the 1983 night, which shows the descending branch, in order to get a better understanding of the light curve. This addition was made shifting arbitrarily the phases of this last night in order to get the best overlap: therefore some uncertainties remain about the real shape of this minimum.

With respect to the figure, the two Eggen's light curve probably represent the ascending branches from primary (JD 2444346) and secondary (JD 2445091) minimum.

We plan further observations in order to get a complete coverage of the light curve. We intend to publish our data and a study of the system when this task is fulfilled.

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