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SV Cen - UBV LIGHT CURVE 1974-79

The light curve of the eclipsing variable SV Cen (HD 102552) is presented here with details of minima and maxima. Comparison star HD 102503 was used for all observations and differential magnitudes in the sense Variable - Comparison are presented here graphically and numerically in the file No. 177 of the IAU Archives of Unpublished Photoelectric Observations of Variable Stars. The observations were done with standard UBV photometers at Perth Observatory and Siding Spring Observatory.

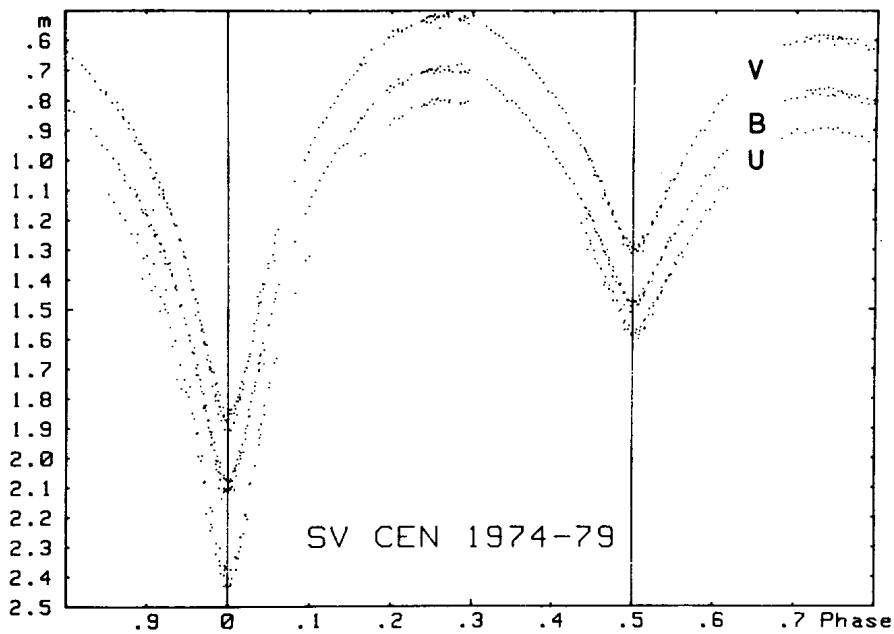


Fig. 1. Light curve of SV Cen in the UBV photometric system during the period 1974-79 (Perth and Siding Spring). Ordinates: Differential magnitude Var-Com in B, for V shift +.2 and for U shift -.2. Abscissae: Phase.

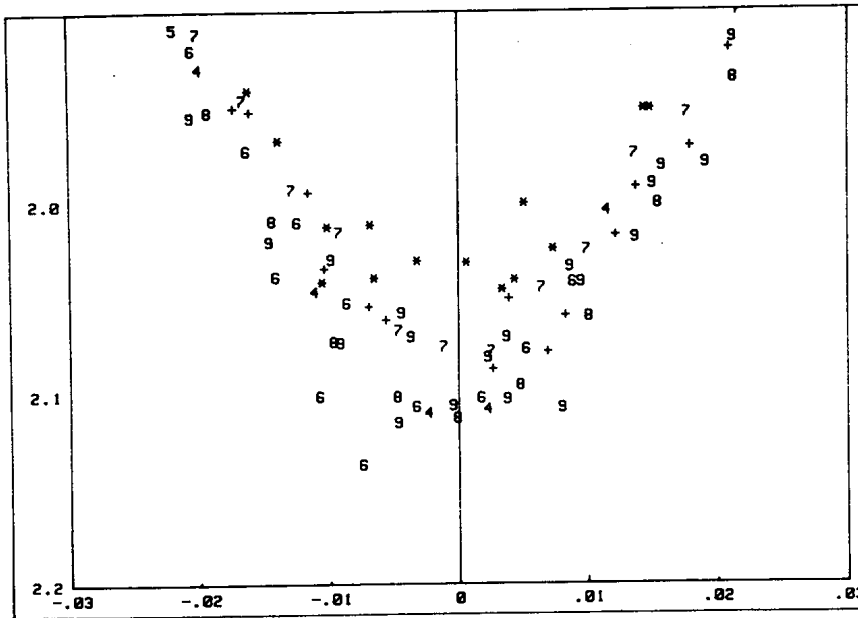


Fig. 2. Differential magnitudes in B for phases close to primary minimum in detail. The digits represent the last digit of the year of observation between 1974-79, their center coordinates B(mag) and phase. For comparison, the 1970 observations of Irwin, Landolt (1972), and 1972 of Landolt (1973) are added.

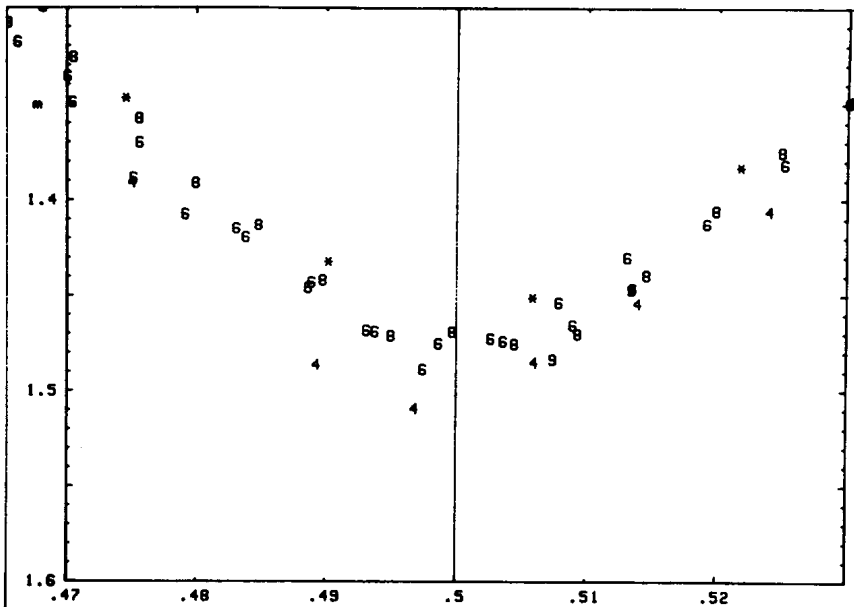


Fig. 3. The same as in Fig. 2 but for secondary minimum.

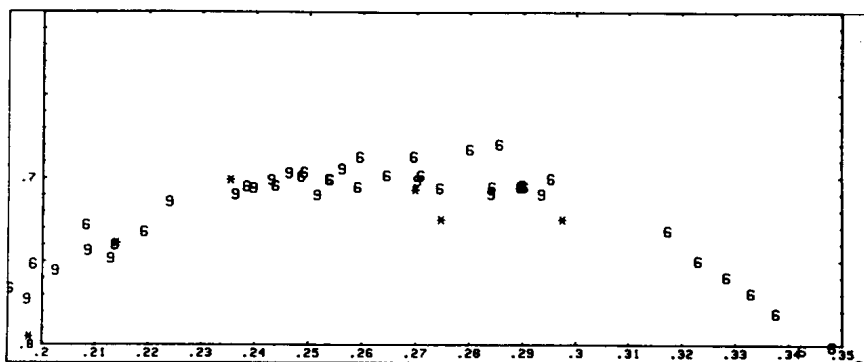


Fig. 4. As for Fig. 2 for the higher maximum with expanded magnitude scale.

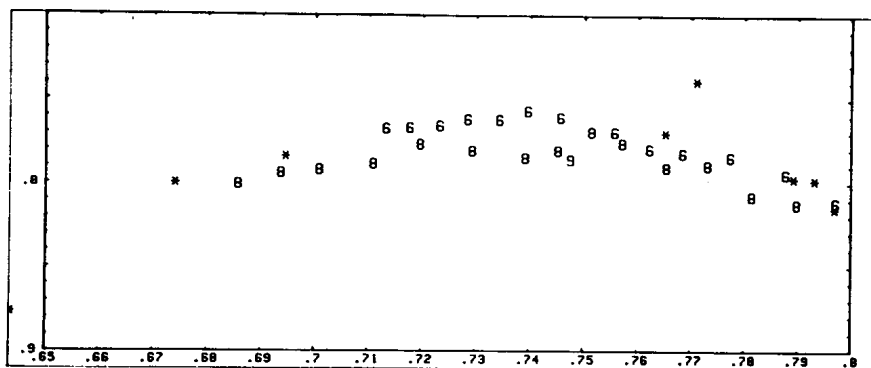


Fig. 5. As for Fig. 2. for the lower maximum with expanded magnitude scale.

Some observations have already been published by the author (Kviz 1976a) but the majority of observations is available in the files mentioned above. As the period of SV Cen varies very fast and in a rather complex way (Kviz 1976b, 1979, 1980; Herczeg, Drechsel 1985; Irwin, Landolt 1979) the calculation of the phase was based on interpolated values of epochs and periods. The main aim of these observations was the study of the variability of the period and of changes in the depth of minima. Some results concerning this topic have already been published (Kviz 1976b, 1982, 1983).

Figure 1 shows the light curve in V,B, and U differential magnitudes. Figures 2 and 3 show details of the primary and secondary minima respectively, distinguishing the observed points for individual years of observation. Primary minimum shows larger fluctuations from year to year than the secondary. To be sure that the variation in the depth of minima (discussed in previous papers: Kviz 1976b, 1982, 1983) is not caused by the variation of the zero point of the whole light curve, the observation at both maxima was carefully carried on and the details are presented in the Figures 4 and 5. As can be seen there are no variations of the brightness at maxima (note the changed vertical scale for maxima in comparison with minima, Figs. 2 and 3).

The fluctuation in the depth of minima is thus real and observers are reminded to pay sufficient attention not only to the time of the minimum but also to the depth by measuring carefully the magnitude of the minima. Observations on Siding Spring finished in 1979 because of discontinued support by the Australian Research Grant Commission. More observation of this star have been done by the author in the Geneva photometric system: they are being reduced and the results will be published in due time.

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