

BD +20° 1171 - LONG-PERIODIC VARIABLE STAR

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ABSTRACT. BD +20°1171 (= NSV 16732 = TYCHO 1320 91 1 = HD 39785 = SAO 077726) is a long-periodic pulsating variable star of SRc-type with a period of 20930^d, range of variations in B 8.^m8 - 10.^m3, and the most reliable maximum is JD 2443410.5

Key words: Stars: SRc - type: BD +20°1171

The variability of brightness of the star BD +20°1171 ($a = 05^{\circ}55^m37.8^s$, $S = +20^{\circ}28'08''.4$ (2000.0); spectrum K5), has been discovered by An-dronov et al. (1994) and Renault (1984). The highest peaks at the periodogram computed for the measurements on the Odessa Sky Patrol plates (Andronov et al., 1994) correspond to possible periods 13700^d and 50 - 200^d.

The author made an independent research of the star BD +20°1171 on the negatives of the S, T, A series of the Moscow plate collection. Alltogether 90 data points have been obtained. The finding chart and the comparison stars have been kindly given to us by I.L.Andronov. The author determined the brightness of comparison stars according to the standart SA 74 in the photometric system B.

Computer analysis of the observations obtained in the interval 1896-1994 argues for the most satisfactory period $\sim 20930^d$ (Fig. 2) and possible periods of 11500 - 14000^d, 16000 - 18000^d corresponding to lower peaks at the periodogram and also didn't prove periods 50 - 200^d.

Such a discrepancy in results is caused by absence of coherent periodicity and shows variations of the possible period and shape of the pulsations. Much shorter cycles of low coherence of a thousand day (or even shorter) scale are possible.

For the provement of all the reserch results, it is necessary to make an independent research on negatives of the Sonneberg and Harvard photograph libraries in the interval 1900 - 1960.

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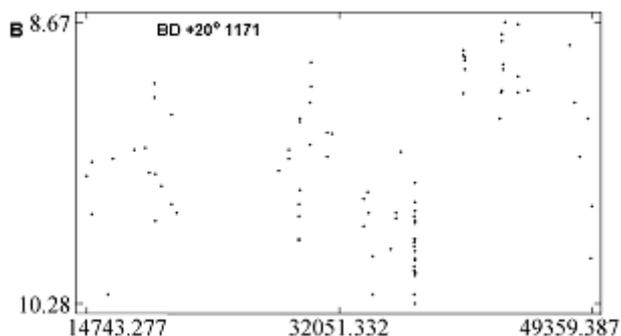


Figure 1: Light curve of BD +20°1171

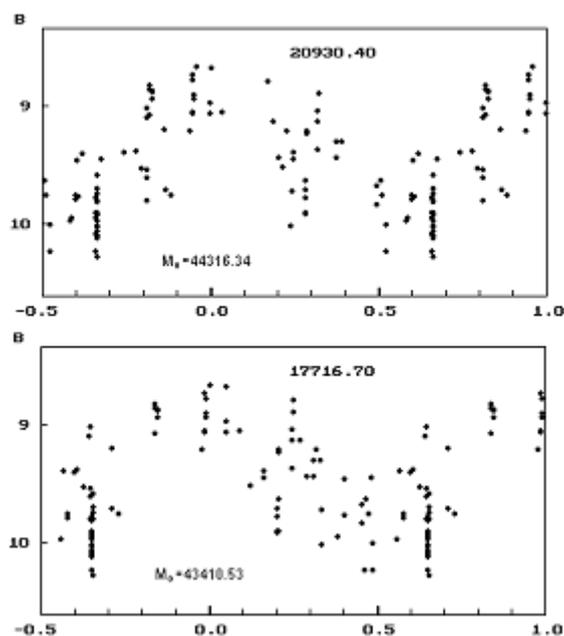


Figure 2: Phase light curves of BD +20°1171

References

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