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NONVARIABILITY OF SVS 1740

SVS 1740 is listed as NSV 3633 in the New Catalogue of Suspected Variable Stars (NCSVS; Moscow; 1982). Lange noted its variability while observing TV Lyn, an RR Lyr star situated about 12' south of SVS 1740. Lange and Mandel (1971) gave the finding chart, evaluated the period, which is nearly half the period of TV Lyn, and classified SVS 1740 as a W UMa variable. They obtained independently complete light curves and derived the following ephemeris on the basis of 38 instants of minimum:

$$\text{Min I} = \text{hel. JD } 2441059.347 + 0^{d}.121369 \cdot E$$

According to the NCSVS the depths of minima are nearly half a magnitude. During the ensuing years five visual epochs of minimum have been published in MVS 7, 149, 1976 and MVS 8, 25, 1977 with good O-C computed by means of the above ephemeris.

According to Eggen (1967) there exists a sharp six-hour cut-off in the period distribution of W UMa systems. More recent data set the limit at $0^{d}.221$ with CC Com, but some doubt has been raised about the reality of the cut-off, which could be an effect of observational selection (Mochnacki, 1983).

It seemed therefore useful to obtain more precise light curves for a system which looked to be situated beyond the actual cut-off. B and V observations were performed by means of a two beam photoelectric photometer applied to the one meter reflector of the Merate Observatory (Broglia and Conconi; 1985). SVS 1740 was measured simultaneously with BD $+48^{o}1548$ during runs as long as about half the supposed period. No variations greater than a few millimagnitudes appear in the $\Delta m = m_{BD} - m_{SVS}$ and the colour of SVS 1740 is much bluer than expected from the colour-period relation for W UMa systems (Eggen, 1967). In particular we have the following results:

Interval	Δ V	ΔB	
JD 2446121.341 -- .394	$-0^m.102$	$-0^m.132$	
	± 1	1	m.e.
6144.325 -- .385	-0.101	-0.138	
	2	1	

After these observations were performed,Dr. M. Frolov (private communication) made known to us that the discovery of Lange and Mandel has inspired three precedent photoelectric investigations on the variability of SVS 1740. Mandel (1972) and Kovalenko's (1973) found constant light. Moreover sixty unpublished measurements obtained by G. Zhukov gave also constancy: V= 10.98, B-V= +0.50, U-B= +0.01.

What can be the reasons of so discordant results between visual and photoelectric measures, is not clear, because a misidentification or a choice of TV Lyn as comparison star seem to be unlikely. In any case SVS 1740 can be ruled out from the list of Suspected Variables.

P. BROGLIA

P. CONCONI

Merate Observatory
I - 22055 Merate,
Italy

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