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DUPLICITY AND SPECTRAL TYPES OF HV 10814

HV 10814 = CSV 2851 was discovered by Swope (Harv. Ann. 109, no. 9, 1943), who remarked: "there is variation in median magnitude during a season, with rapid variations superposed". Sanduleak and Stephenson (IBVS no. 770, 1973) found that the spectral type was dM3e, with H and Ca II emission. Busko, Quast and Torres (IBVS no. 1275, 1977) discovered that the star varied sinusoidally in light over a range of  $\Delta B = 0.15$  mag. with, tentatively, a period of 2.69 days.

The star was observed on 1977 July 7 at the coude focus of the Lick 120-inch reflector, and was found to be in fact a visual double. The separation was estimated as about 3" in p.a.  $200^\circ$ , with  $\Delta m = 1-2$  mag. Slit spectrograms (dispersion  $34 \text{ \AA mm}^{-1}$ , covering the yellow-red region) of the individual stars show that the brighter component is type M3e V, in agreement with Sanduleak and Stephenson; H $\alpha$  is a strong, narrow emission line and the He I lines  $\lambda\lambda 5875, 6678$  are weakly in emission. The fainter component is M4e V, with narrow bright H $\alpha$  but without He I emission. The radial velocity determined from the single spectrogram of star A is  $-18 \text{ km sec}^{-1}$ , while B was measured as  $-28 \text{ km sec}^{-1}$ . Experience with velocities measured on such plates indicates that the standard deviation of one of these velocities is about  $4 \text{ km sec}^{-1}$ , so that a common velocity for the pair is not ruled out. It is not apparent which star is the variable.

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