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SPECTROSCOPIC DATA ON SEVERAL VARIABLE, OR POSSIBLY VARIABLE, STARS

During the early inspection of the moderate-dispersion objective-prism plates taken for the Michigan Southern Spectral Survey, several objects showing H β and H γ emission were noted but not published (Bidelman and MacConnell 1973) because of uncertain coordinates. New data have become available and it seems worthwhile to publish the old results:

Object	α (1900)	δ	mag.	Date and Remarks
NSV 3632	7 ^h 35 ^m 5	-82° 39'	13.2-14.1 pg	Dec. 1, 1968.
	8 30.3	-9 23	11.7 vis	Jan. 23, 1969; not seen on later plate. Stephenson finds red, br. H α .
Hen 1102	15 41.5	-32 25	13.1 vis	May 29, 1968. Br. H α also seen, sp. perhaps Sc. Henize also classifies it as an uncertain Sc.
V1008 Oph	16 39.0	-14 30	14.2-16.3 pg	June 16, 1969. Stephenson finds type M1, br. H α .

Three other variables appear to have been erroneously classified as of type S: (1) V1959 Cyg was so called by Nassau *et al.* (1954). However, Cohen *et al.* (1989) find it to be an M star, and the late N. Sanduleak has classified it on a 1974 plate as M3. (2) V524 Cas = IRC +70012 was classified S by the writer (1980), but what was thought to be the λ 7909 LaO band is more likely due to VO, and the star is probably of type M8. And (3) GR Cygni = IRC +40466 was also classified as S, again on the basis of the presence of the λ 7909 LaO band. However in this case the attribution to LaO is thought to be correct, but the star also has very strong infrared CN bands, and should no doubt be classified as intermediate between carbon and S. Its infrared spectrum is in fact quite similar to that of the well-known CS star VX Aquilae. The writer would be less than candid if he did not

acknowledge that he quickly re-examined the spectrum of GR Cygni after Volk and Cohen (1989) published their infrared spectral scan showing a strong SiC feature!

Also it may be noted that spectral types for the three RR Lyrae stars BD UMa, BF UMa, and BN CVn have been given by Slettebak and Stock (1959). They are A7, A0, and F0 respectively.

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