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ON THE SPECTRUM OF THE SERPENS VARIABLE

Stienon (1971) has reported the finding of a peculiar variable star in Serpens. In the past the star has not shown any variability in its brightness as well as in its spectrum. Therefore, several alternatives with regards to its nature has been put forward by Stienon.

On the Bosscha Schmidt plates that were taken for purposes of spectral classification of stars in Serpens, we can easily identify the spectrum of the variable. The purpose of this report is to outline the appearance of the spectrum taken on IIA-0 plates which were exposed for 60 minutes. The 6°-objective prism yields a dispersion of 312A/mm at H-gamma. A limiting magnitude of 12.6 (photographic) was reached in the surveys that were carried out on 3 different nights in May 1971 (May 22, UT=17: 57; May 24, UT = 22:04; May 26, UT = 19:20). In addition to these plates, an 1N plate was exposed behind an RG 8 filter for 15 minutes (May 26, UT = 20:05) to record the infrared spectral regions.

A visual inspection of the plates reveals the following information: At the given position of the variable, the spectrum that was observed on May 22 shows a trace of emission lines at H-delta and H-epsilon. The absorption features suggest that the spectrum belongs to the spectral class later than K5. On the other plates these features, but the emission lines, remained the same. The brightness, as can be judged from their spectral densities on various plates, does not indicate any variation. In addition, there is no indication that the star can be later than M 1 (on Mt. Wilson scale), as otherwise the TiO bands should be easily recognized on our infrared plate.

As Stienon has suggested, more observations of this star are needed, but the present observation suggests that the star is similar to Popper's flare star, in the sense that it may be a flare star whose spectrum does not belong to the dM group.

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Reference:

Stienon, Francis M. 1971, Inf.Bull.Var.Star no.545.