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93 LEONIS

Hall et al. (1980) have recently announced that the light of 93 Leonis is variable. They have classified the system as an RS CVn binary.

This system has been observed spectroscopically from Victoria since 1976 in an attempt to determine velocity amplitudes for both components. Measurements made so far indicate that Cannon's value for the period was remarkably accurate. Any given value for the velocity occurs 2d-3d earlier than predicted from his ephemeris. About 355 cycles separate the Victoria observations from Cannon's epoch, so the period is probably not more than 0.008 shorter than his value.

The composite spectral type was first recognized by Slettebak (1955), who gave A + G5 III-IV as an approximate classification. On the Victoria spectrograms, the relative prominence of the Balmer series increases towards the UV. In the normal photographic region, the three Balmer lines are just strong enough to explain why earlier observers classified a G-type spectrum as F8. Slettebak's classification is probably still the best that can be made. Thus, the secondary component is the one of earlier spectral type. It probably is also the less massive star of the pair, but velocity measurements of it are still very uncertain.

The emission at H and K detected by Young and Koniges (1977) is not obvious on any of the Victoria plates, but fairly certainly present on those obtained in 1978. That it originates in the early-type secondary is unlikely: it must almost certainly be part of the spectrum of the component measured by Cannon. It may vary in strength, but, since the Victoria spectrograms are of different dispersions and densities, no variation can yet be considered established.

The system is undoubtedly an interesting one, and the variation of its light is a significant new discovery. Assigning 93 Leonis to the RSCVn group, however, seems questionable. Spectroscopic observations are continuing at Victoria.

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