straight line drawn through the filled circles of Figure 1 does not deviate from the horizontal by as much as 1 percent between λ 3400 and λ 6600. Previous determinations of the constancy of $\Delta\lambda/\lambda$ for nebular red shifts were based on a much shorter range of wave length, λ 3727 to λ 4861, and on very much smaller dispersion.[2]

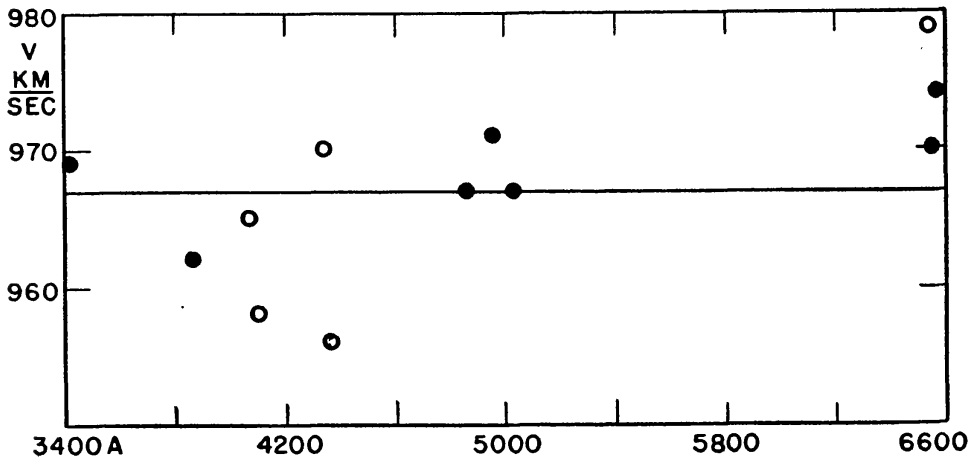

FIG. 1.—Radial velocities in the nucleus of NGC 4151 plotted against wave lengths.

OBSERVATIONS OF THE FAINT DWARF STAR L 726-8

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In accordance with a suggestion from Dr. W. J. Luyten a spectrogram of the near-by dwarf star L 726-8[1] was obtained with the 100-inch telescope on August 25, 1948. At the time of this observation the duplicity of the star was discovered and the telescope was guided on the brighter star. The difference in brightness of the components was estimated to be about one-half a magnitude and their separation about one second of arc. On the next night the spectrum of the fainter star was obtained with the slit of the spectrograph perpendicular to the line joining the stars. Later, on September 25, September 26, and October 9, 1948, additional spectrograms were obtained with seeing too poor

[2] M. L. Humason, *Mt. W. Contr.*, No. 426; *Ap. J.*, **74**, 35, 1931.
[1] *Harvard Announcement Card*, No. 990, April 20, 1949.

to separate the stars. On October 8 a direct photograph in red light clearly resolved the pair, and a separation of 1".5 in approximate position angle 117° was measured.

Except for the observation of September 25, the spectrograms show normal spectra of type dM5.5e which closely resemble those of Wolf 424 and Wolf 359. The emission lines of hydrogen and calcium (H and K) were exceedingly strong and no certain differences between the spectra of the two components were detected.

On September 25 the spectrum showed a marked change. The absorption lines and bands were nearly blotted out by heavy continuous spectrum in which the relative intensity in the region shortward of $H\delta$ was much greater than in the M5.5 spectrum. The bright lines of hydrogen were strengthened relative to the calcium lines. The lines λλ 4026 and 4471 *He* I and λ 4685 *He* II also appeared in emission but no forbidden lines were seen. The seeing was not good enough to resolve the double star but the total brightness, as seen on the slit, increased about one magnitude during the exposure of 144 minutes.

The change in spectrum and brightness was doubtless similar to that observed by Luyten on December 7 of the same year. Luyten suspects that the flare-up was due to line emission originating in the fainter star of the pair; our evidence indicates that the increased brightness arose mostly from the continuous spectrum but does not distinguish between the components.

Short-lived increases in brightness were reported by A. van Maanen for two other Me dwarfs, BD + 44°2051B[2] and Ross 882[3] and somewhat similar changes are characteristic of the T Tauri variables. Several of the dMe stars in the Taurus clouds as well as B10A[4] (MHα259-6) show overlying hot continuous spectra.

Using a visual absolute magnitude of 15.5 corresponding to the spectral type we estimate the parallax to be less than 0".4.

The mean radial velocity based largely on the bright lines of four plates, dispersion 110 A/mm, is +29.5 km/sec.

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[2] *Mt. W. Contr.*, No. 630; *Ap. J.*, **91**, 503, 1940.

[3] *Pub. A.S.P.*, **57**, 216, 1945.

[4] Struve and Swings, *Pub. A.S.P.*, **60**, 61, 1948.