association is considered to be one of the best cases for a high ratio of total to selective absorption.

Accurate spectral classifications from McDonald spectrograms are presented for 73 of the stars listed by Blaauw, Hiltner, and Johnson (*Astrophys. J.* **130**, 69, 1959). There is considerable scatter in the H-R diagrams, both for $R=5.4$ and for $R=3$. However, the results clearly indicate that the ratio $A/E_{B-V}=3$ is suitable for the O-B5 stars, and that the suggestion of a higher ratio was influenced by the inclusion of a number of foreground stars later than B6.

Photoelectric Photometry of H II Regions.

WILLIAM L. GEBEL, *Washburn Observatory*.—A program for photoelectric determination of total $H\alpha$ and $H\beta$ fluxes of diffuse nebulae is under way. The measurements are made with a 2-in $f/3.8$ achromat through interference filters of width 10 Å mounted in parallel light. From radio continuum fluxes the total absorption is derived using the theory of recombination. The reddening is taken from the measured Balmer decrement and from color excesses of associated stars. The result will be a new test of the law of interstellar reddening: the ratio of total to selective absorption, $R=3$.

The Balmer fluxes of 15 nebulae have been determined and new 6-cm radio fluxes for 10 nebulae have been measured with the 140-ft NRAO telescope.

Airborne Eclipse Comet Search and Related Experiments. JAMES GIBSON, *Van Vleck Observatory*.—During the solar eclipse of November 12, 1966 three modified K37 aerial cameras were operated aboard a four-engined jet aircraft to back up the ground-based comet search described elsewhere (Courten, H. C., and Genberg, R. W., *Astron. J.* **72**, 791, 1967, this issue). The cameras were rigidly attached to the aircraft, with no means of guidance to offset angular motions of the aircraft, and with no protection from vibration. Eastman Kodak type 2475 emulsion on 9½-in.-wide Estar base was conformed under vacuum to the curved field of the camera objectives. The longest exposures were 1 sec in white light (3900–7000 Å).

The NC-135 aircraft, operated by the U. S. Air Force for the Atomic Energy Commission's Lawrence Radiation Laboratory, was flown for 200 sec in the moon's shadow. In all, 110 exposures were made. No comets were observed. The limiting magnitude in eclipse was about 2.5. Camera focus settings were slightly inaccurate because persistent cloudy weather and camera trouble during the preparation period prevented final focus adjustments until after the eclipse. In addition, coronal

light scattered by the clear atmosphere above the right altitude of 34 000 ft provided an intense sky background. Well-focused star images fainter than fifth magnitude would have been difficult to detect against that background.

On two subsequent night flights, star fields were photographed with a well-focused camera, with exposures as above. Preliminary evaluation shows that images of stars to a V magnitude of 6.5 or fainter appear on 10% of these 1-sec exposures. They are sharp, or only slightly tailed by rolling of the aircraft during part of the exposure. On another 40% of the exposures the images have somewhat longer tails, but they still reach mag 6.0 to 6.4.

These results indicate the usefulness of this experimental technique for certain observational problems. For the airborne comet search in eclipse, longer-focus cameras with the same 12-cm aperture should be used, with shorter exposures on the same emulsion. This will decrease the limiting magnitude, but the sky background, which limited this attempt, will decrease more rapidly. The best compromise may take a focal length about 50% greater than that used, with exposures of $\frac{2}{3}$ sec.

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Spectrum of VV Cep in the Photographic Infrared.

R. GLEBOCKI AND P. C. KEENAN, *Perkins Observatory*.—Measurements of radial velocities and equivalent widths were made for some Fe and Ti lines, calcium triplet, and two O I blends, on spectrograms obtained at Perkins Observatory during the period from September 1943 to December 1964. Dispersion of the spectrograms was about 45 Å/mm.

Our radial velocities when superposed on Peery's plot (*Astrophys. J.* **144**, 672, 1966), seem to fit his data quite well.

Intensities of Ti and Fe lines did not change during the entire period while weakening of the three lines of calcium was observed in 1947 and probably in 1964–1965. But the most noteworthy event in photographic infrared region was the transient appearance of the blended lines of O I at $\lambda 7774$ and 8446 Å. The lines were observed in 1944–1945 and 1964–1965. Their intensity was high, comparable to the strength of these lines in B, A, F, supergiants.