PHOTOGRAPHIC OBSERVATIONS OF NOVA LACERTAE.

BY R. K. MARSHALL.

Photographs made with a 3.6-inch Aldis Triplet lens (20-inch focus) on 45 nights between June 22 and September 1 (U.T.) provided 135 measurable images. The light-curve is fairly smooth, with a suspected 11-day periodicity with minima at July 7, 18, 29, and August 10, and amplitude approximately 0.3 magnitude. Except for this oscillation, the color index seems to have remained practically constant (assumed zero near maximum) until the end of July, after which it increased slowly to about +0.5 at the end of August, when the photographic magnitude of the star was 8.6. Observations are being continued.

INTENSITIES OF INTERSTELLAR LINES.

BY PAUL W. MERRILL AND OLIN C. WILSON.

Intensities of the following spectral lines show a correlation, although the scatter is considerable, with stellar distance and color excess: D1, D2, K, (H), λ 6284, λ 5780, (λ 5797), λ 6614?, λ 4427 ± ?.

The ratio of intensity D2 : D1 varies from 1.9 for equivalent width 0.15 A (D2) to 1.2 for widths 0.4 to 1.5 A. Dependence on galactic longitude is not conspicuous. The explanation may be furnished by thermal motions or turbulence of interstellar masses. Our general results and tentative conclusions appear to be similar to those of Beals.

The intensity of λ 6284 is on the average about equal to the mean of D1 and D2. λ 5780 is approximately one-half as intense as λ 6284, while λ 5797 is much weaker. For a specified equivalent width, the measured width of λ 6284 is about three times that of D1 or D2, that of λ 5780 slightly over twice as great. The correction for the finite purity of the spectrograph would clearly be greater, relatively, for the sharp D lines than for wider lines. Hence there appears to be no escape from the conclusion that the actual width of the new lines, λλ 5780, 6284, is several times that of the D lines. The significance of this puzzling fact is briefly discussed.

THE FREQUENCY DISTRIBUTION OF THE INTERVALS BETWEEN METEORS.

BY P. M. MILLMAN.

A study of the frequency distribution of over 4000 intervals between successive meteors leads to the conclusion that the Perseid meteors exhibit considerably more small intervals than would be expected on a theory of random distribution. The Leonid meteors and other meteors appearing in August and November show a very slight tendency to excess of small intervals. The complete paper will appear in the Journal of the Royal Astronomical Society of Canada for October, 1936.