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ABSTRACTS *

Aller, Lawrence H. Metallic A stars.

Spectra of eleven A-type stars with strong metallic lines, photographed at the Mt. Wilson Observatory by Paul W. Merrill, have been studied in an effort to find the abundance ratio of the metals to hydrogen. The list includes representatives of Morgan's metallic and peculiar A stars. The latter objects show periodic variations of line intensities. The approximate equivalent widths, calibrated roughly in terms of numbers of absorbing atoms by means of the curve of growth suggest ten times as many metallic atoms and ions lie above the photosphere of one of these stars as above the photosphere of a normal A dwarf such as Sirius. The effects of blends, accidental errors accruing from the low dispersion employed, and the uncertainty in the excitation temperature make any comparison of individual elements difficult. In most of the stars, the hydrogen line profiles resemble those of Sirius although they are usually narrower. The number of hydrogen atoms in the second quantum state above the photosphere appears to be the same in these metallic and peculiar A stars as in Sirius, a result in harmony with their Harvard spectral classes, all near A0. A literal interpretation of the data would suggest a greater abundance of the metals in these A stars than in normal A dwarfs. Although stratification or chromospheric effects may play a role, the profiles of the hydrogen lines in most of the stars do not suggest a shell structure of the atmosphere.

Kirkwood Observatory,
Indiana University,
Bloomington, Ind.

Bidelman, William P. Emission line stars near η and χ Persei.

A plot of the known non-supergiant emission-line stars in the region of the double cluster in

Perseus shows that there is a much more pronounced grouping of these objects about the cluster χ Persei than about the other cluster. In view of the apparent similarity in constitution of the two clusters, this result is of considerable interest.

The average absolute magnitude of these emission-line stars may be estimated at about -3.5 , if it is assumed that they are associated with the double cluster; their spectral types, as far as known, range from B0 to B3.

Two previously unrecognized $H\alpha$ emission stars of early type have been found on an objective prism plate of the η and χ Persei region taken with the Schmidt-type reflector of the Warner and Swasey Observatory. This plate was made available to the writer through the kindness of the director of that observatory, Dr. J. J. Nassau. These new Be stars are BD +56°612 and star number 2566 in Oosterhoff's monograph on the double cluster in Perseus.

Yerkes Observatory,
Williams Bay, Wis.

Burns, Kevin. Two stars of low luminosity.

Faint companions having motions parallel to those of the bright stars accompany the following:

	ν And	D'Ag 5533
BD No.	+40°332	+19°4484
α (1900)	1 ^h 30 ^m 9	20 ^h 36 ^m 2
δ (1900)	+40°54'	+19°34'
p	160°	183°
d	55''	125''
π	0".070	0".052
$M - m$	-0.8	-1.4
M	13.7*	11.8

* Suspected variable.

Allegheny Observatory,
Pittsburgh, Pa.

* Of papers presented at the Seventy-fifth Meeting of the American Astronomical Society, Madison, Wisconsin, September 8-11, 1946.