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Spectrum of the Flare of September 2, 1960.

ELSKE V. P. SMITH AND PATRICK S. MCINTOSH, *Sacramento Peak Observatory and Harvard College Observatory, Sunspot, New Mexico*.—We obtained at the maximum of this flare a spectrum that covers the entire range from $\lambda 3700$ to $H\alpha$. The peak intensities of the early Balmer lines, $H\alpha$ through $H\zeta$, are about two times the continuum level and decrease gradually to 10% above the continuum at $H12$. The last Balmer line that is clearly visible is $H14$. All the Balmer lines are exceptionally wide, starting with $H\alpha$ at 22 Å total width, $H\delta$ 16 Å, and $H11$ about 6 Å. The metal and helium lines, however, have considerably smaller widths, 4 Å for HeI D3 for instance, 5 Å for the $CaII$ K line, and only of the order of 1.5 to 2 Å for the NaI D lines and MgI b group. None of the lines show any indication of central self-reversal. All lines, whether due to hydrogen or metals, are asymmetric in the usual sense, namely the red wing falls off more slowly and extends further than the blue.

In several respects this flare seems similar to that of September 17, 1957 studied by Jefferies and the Smiths, and of July 30, 1958, studied by Z. Svestka. Here too a layer of high excitation but low opacity appears to cover a much more extensive region of lower excitation but very great opacity. The source function in such a model would increase sharply near the surface of the flare.

Meteor Observations with an Image Orthicon

I. JOHN SPALDING, *General Engineering Laboratory, Schenectady, New York*, AND CURTIS L. HEMENWAY, *Dudley Observatory, Albany, New York*.—An experimental system composed of an $f/1.1$, 2" focal length camera lens, a Z5294 G.E. image orthicon and associated electronics have been used to obtain pictures on a TV monitor of meteors, wakes, trains, aurorae, and faint clouds. Typical monitor photographs taken during the Perseid shower (August 12, 1960), are shown.

Meteor pictures with 1/30-sec exposure are found to effectively stop the meteor motion. The limiting magnitude of the system appears to be fainter than 6th magnitude for meteors.

Meteor wakes can be distinguished from meteor trains and the time and position development of both are available for study. The train phenomenon has been shown to take approximately $\frac{1}{2}$ sec to develop after the passage of a meteor and the lengths of trains are found to be significantly shorter than the observed meteor lengths.

Three train spectra were obtained in two hours' observation using an objective prism. While the

spectra have low resolution, they indicate that the train spectra are very narrow compared with meteor and wake spectra.

Auroral photographs have also been obtained at 1/30-sec exposure and motion pictures of time behavior in aurorae can be made.

The New University of Georgia Observatory.

L. HAROLD SPRADLEY, JR., *Department of Physics and Astronomy, Athens, Georgia*.—In developing a program of teaching and research in astronomy, the University of Georgia is building an observatory on the main campus of the University at Athens. The principal instrument is a Newtonian-Cassegrain telescope of 24" aperture, built by the Fecker Company. Also in construction is an 8" camera with a focal ratio of $f/6.3$, to be housed separately from the main telescope. The research program will emphasize problems in optical resolution, particularly as applied to objects in the solar system, the first subject under consideration being the slopes of features on the surface of the moon.

A Spectrophotometric Comparison of 7 Sextantis and Sirius.

YVONNE H. STONE AND GEORGE WALLERSTEIN, *Berkeley Astronomical Department, University of California*.—We have compared atmospheric parameters and abundances in the high-velocity A-dwarf 7 Sextantis with Sirius. Both excitation temperature and the colors lead to the conclusion that θ (7 Sextantis) $-\theta$ (Sirius) $\doteq -0.03 \pm 0.05$ (maximum error), and $\log P_e$ (7 Sextantis) $-\log P_e$ (Sirius) $\doteq +0.08$. The measured equivalent widths combined with these parameters yield an iron to hydrogen ratio that is twice as large in 7 Sextantis as in Sirius, but the uncertainty in the temperature permits an equal abundance. Relative to iron Al , V , Ti , and Cr are normal; Mg , Si , and Mn may be overabundant by a factor of 2 or 3, while Sr may be deficient by a factor of 2 and Ba by at least a factor of 3. He lines $\lambda\lambda 4026$, 4388 , and 4471 are present indicating an excess of helium in 7 Sextantis, but the amount is exceedingly temperature sensitive. Carbon is overabundant by a factor of 10 if our identification of a line at $\lambda 4267$ as due to CII in 7 Sextantis is correct.

Use of Balloons and High-Altitude Aircraft for Precursor Satellite Studies.

JOHN STRONG, *Laboratory of Astrophysics and Physical Meteorology, Johns Hopkins University, Baltimore, Maryland*.—High-altitude balloons and aircraft, available now, offer attractive possibilities to study the atmospheres of the earth, planets and stars.

This atmospheric absorption break-through by means of lighter- and heavier-than-air vehicles is