This light effect was found in over a dozen specimens secured from different regions, as well as in a number of other minerals. However, the effect was more marked in argentite than in any of the other crystals examined.

It was found that the resistance of a crystal of argentite varied from several megohms with a potential difference across the crystal of one volt to less than a hundred thousand ohms with a potential difference of twenty volts. In obtaining the curve showing this relation, it was found necessary to apply the voltage only for a very small fraction of a second for the resistance very rapidly increased with the time that the voltage was applied.

The ratio $\Delta R/R$ (ΔR being the change of resistance on illumination) was found to be a constant for different applied voltages.

UNIVERSITY OF MICHIGAN.

DEMONSTRATION OF THE WIND IN THE CORONA DISCHARGE.

By JAKOB KUNZ.

THE wind has been demonstrated by means of vapors of ammonium chloride and ether. The deflections of these vapor jets can easily be projected on a screen by means of an arc lamp without lenses. A corona discharge of alternating currents between 2 parallel wires of different diameters has been used. The phenomena presented by 2 different and 2 equal wires are very different.

UNIVERSITY OF ILLINOIS.

INCREASED IONIZATION OVER SOLAR FACULÆ.

By CHARLES E. ST. JOHN.

ON the Bohr theory, radiation of the normal or arc-type occurs when the nuclear charge is unity and an electron falls from an orbit to one of lower potential energy. The enhanced or spark lines are produced when the nucleus is doubly charged and the atom is first-step ionized. Saha has adapted the Nernst equation for the equilibrium of gaseous reactions to the determination of the percentage of ionized to un-ionized atoms as a function of temperatures and pressure. The Saha equation suggests, as he points out, that in the spectra of faculæ, owing to higher temperature, the percentage of ionization should be increased and hence the enhanced lines strengthened. Preliminary spectrograms of faculæ show changes in the intensity of the enhanced lines in agreement with this deduction, the spectrum changing from G₀ to F-type, that is in the direction of higher temperature. The preliminary results for titanium are as follows:

Wave-length.	Class of Line.	Effect over Faculæ.
4306.078.....	Arc	No change
4443.976.....	Spark	Strengthened
4468.663.....	Spark	Strengthened
4501.445.....	Spark	Strengthened
4548.198.....	Arc	No change
4527.490.....	Arc	No change
4572.156.....	Spark	Strengthened

MOUNT WILSON SOLAR OBSERVATORY.

A NOTE ON MISSING SPECTRA.

BY A. S. EVE.

MINING engineers use well-constructed sieves made of phosphor bronze wire with various sizes of mesh, ranging up to three hundred wires to the inch.

When a narrow beam of parallel light falls on the sieve diffraction bands and patterns are produced which may be observed directly, or after projection.

By a calculation involving simple proportion only, the wave-length of any light can be determined.

A sieve with 300 wires to the inch was found to have the intervals between the wires precisely equal to their diameters. It necessarily follows that the even order spectra are entirely absent, while the odd order spectra are enhanced in brilliancy. On inclining the sieve to the ray the gaps are effectively narrower while the circular wires are not, hence at about 30° the missing spectra suddenly appear.

A photograph of the sieve was taken with a white screen behind it. This photograph was used as a grating and all the spectra were found present. Possibly the light flooded the plate when the photograph was taken, so that the gaps were enlarged relatively to the image of the wires. There is no new principle involved in the above, but the method is a valuable and effective method of demonstrating missing spectra. Such sieves might have advantages over coarse gratings in astronomical work.

MCGILL UNIVERSITY.

THE ULTRAVIOLET ABSORPTION OF ANTHRACENE AND BENZENE.

BY J. M. HYATT.

THE purpose of this investigation was to check the results previously obtained, by using the Hilger sector photometer according to the method described by Howe.¹

Anthracene.

The anthracene absorption was determined by using a number of different concentrations of the anthracene in ethyl alcohol, the thickness of the absorbing

¹ H. E. Howe, PHYS. REV., Vol. VIII., 1916.