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A Microphotometer for the Study of Spectograms

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A theoretical expression is derived for the thermo-electric power of polycrystalline zinc in terms of the principal thermo-electric powers of the component crystals.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

A MICROPHOTOMETER FOR THE STUDY OF SPECTOGRAMS

I. J. GWINN

A modification of Harrison's microphotometer has been developed, following his suggestion, which is used for accurate measurements of line widths on spectrograms. A vertical optical system using microscope lenses focuses the light on a bismuth-silver thermocouple. Accurate readings of length are obtained with a finely constructed micrometer screw.

Studies have also been made on the relative intensities of lines on both optical and X-ray spectrograms. The instrument is also of use in testing the uniformity of thin films of metal.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

A SPECTROPHOTOMETRIC METHOD OF STUDYING HEMOGLOBIN AND OTHER COLORED SUB- STANCES IN SOLUTION

GEORGE E. DAVIS

An investigation was carried out to determine the possibilities of applying spectrophotometric methods to the problem of estimating the concentration of hemoglobin in blood. The concentration of a substance in solution can easily be determined from its transmission of some particular wave length, providing the absorption ratio for that wave length is known. A late model direct reading spectrophotometer was used. The method was found to be fairly accurate and simple and should prove valuable in other physical investigations involving the study of spectral transmission curves of various colored substances.

Some interesting irregularities in the shape of the spectral transmission curve in one of the absorption bands of oxyhemoglobin were observed.

These investigations were carried out under the direction of