PROCEEDINGS

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A NEW TURBIDIMETER.[1]

BY P. V. WELLS.

A SYSTEMATIC study of turbidity for the purpose of defining a proper standard is much needed. The paper describes an instrument in which the turbidity is measured by the light diffracted from the particles. A collimated beam from an intense source such as a Nernst or tungsten filament passes through a variable thickness of the turbid medium and is totally reflected by a prism, thence forming a uniform beam in one field of a photometer. The light diffracted by only a small angle is not totally reflected, but is refracted by the prism into the other aperture of the photometer. Thus the reading is a function of the ratio of the intensities of the light scattered and transmitted, which, in turn, varies with the turbidity.

The instrument is adapted to liquids, gases and solid plates. Minute traces are measureable with photometric precision, while the range is widened by varying the thickness of the medium. The characteristics of a preliminary instrument constructed at the Bureau of Standards are discussed.

[1] Abstract of a paper presented at the Washington Meeting of the Physical Society April 24, 1914.