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Thomson Effect in Single Crystals of Zinc

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formed of suitable material may be caused to actuate a recording point, resting on a disc of paper revolving at the same rate as the test lamp, thus drawing a distribution curve showing the variation in candle power of the test lamp in the plane of rotation.

IOWA STATE COLLEGE.

A NEW VALUE OF OPTIMUM THICKNESS FOR X-RAY SCATTERING

F. D. LEAMER

Using the general formula for the absorption of a homogeneous beam of x-rays,

$$I = I_o e^{-\mu t}$$

Hull has arrived at an expression which gives the total intensity of the scattered radiation that emerges from any scattering substance of thickness t. This total intensity becomes a maximum when

$$t = \frac{1}{\mu}$$

In our investigation of diffraction effects in liquids by photographic method it has become evident that such a thickness as predicted by the above formula does not give us a maximum of energy per unit area in the beam which is diffracted in accordance with the Bragg Law.

Our theory, which is verified by experiment, indicates that the thickness for which we will obtain maximum effect upon a photographic plate will be different than the optimum thickness for maximum scattering.

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THOMSON EFFECT IN SINGLE CRYSTALS OF ZINC

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Determinations of the Thomson coefficient of single crystals of zinc have been made by the method of Nettleton. For all orientations the coefficient increases with rising temperature (range 50-200°C). The variation of the coefficient for a single temperature (60°C) as a function of crystal orientation was discussed.

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