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Present Role of Ultrasonic Waves in Physics

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MEASUREMENT OF RELATIVE HUMIDITY BY
MEANS OF THERMOCOUPLES

C. G. ANDERSON

A discussion is given of the construction and use of thermocouples as wet and dry bulb hygrometers for measuring the vapor pressure of water in small spaces. Experiments for determining the effect of thermocouple form, air velocity, and other factors affecting the reading of the instrument are described.

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PRESENT RÔLE OF ULTRASONIC WAVES IN PHYSICS

VICTOR B. COREY

The following are the significant results of modern researches in ultrasonics with regard to their contributions to theoretical and applied physics. Precision velocity measurements in gases, made over wide frequency ranges by means of the Pierce interferometer serve experimentally to substantiate the kinetic theory of gases; such measurements in liquids, made either by the interferometer, diffraction spectra, or visibility method, offer an independent and exact means for calculation of important physical constants of the liquids, and through detection of velocity dispersion, suggest a point of attack for investigation of liquid structure. Sound field amplitude photographs afford precise measurements of ultrasonic absorption in liquids. Certain physical constants of particular solids can be measured. Industrial applications are mentioned.

DEPARTMENT OF PHYSICS,
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IOWA CITY, IOWA.

THE M_5 AND M_4 EDGES OF GOLD IN THE PURE STATE
AND IN A GOLD COPPER ALLOY

J. W. McGRATH

For most of the M_5 and M_4 x-ray absorption edges already measured there is a discrepancy between observed and calculated