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Magnetization of Electrolytic Nickel Films

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20,000 atmospheres and this offered such a convenient method for observing radioactivity, a spintharoscope arrangement was set up by using a florescent zinc sulphide screen containing a small amount of radium. This was mounted on the inner surface of the pressure window and a microscope focused on this screen, so that the scintillations could be observed.

Observations were made as the pressure was changed from one to twenty thousand atmospheres. For observations of this kind no attempts have been made as yet to make an actual count of scintillations at various pressures but so far as we could tell, the number of scintillations was unaffected as the pressure was changed.

CONCLUSIONS

1. The intensity of the phosphorescence of zinc sulphide screen is decidedly less (perhaps one-half) under extremely high pressures.
2. Aside from the intensity, the florescent and phosphorescent properties of zinc sulphide are very little affected by extremely high pressures.
3. Radioactivity is affected very slightly if at all by pressures as high as 20,000 atmospheres.

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APPARATUS FOR DETERMINATION OF RESISTIVITY AT LOW TEMPERATURES

A. G. HOYEM

An apparatus has been designed following the method of Cioffi and Taylor (J. O. S. A. and R. S. T. 6, 906 (1922)), by which the resistance of 2 single crystal specimens can be determined simultaneously at temperatures ranging from liquid air to room temperature. The method is being used to investigate crystals of "spectroscopically pure" zinc.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

MAGNETIZATION OF ELECTROLYTIC NICKEL FILMS

E. P. T. TYNDALL AND H. E. MALMSTROM

The magnetic properties of nickle films electrolytically deposited on brass tubes are determined by the method previously described

for Iron and Cobalt films (Phys. Rev. 30, 681 (1927); 35 292 (1930)). Films about 130 μ thick attain a magnetization of about 380 c. g. s. units in a field of 200 gauss, a value about equal to that for bulk nickel. As in Iron and Cobalt the coercive force is high, but the remanence is somewhat less than was found for iron and cobalt.

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IOWA CITY, IOWA.

THE DISTRIBUTION OF POTENTIALS WITHIN A RAW POTATO UNDER CONSTANT APPLIED VOLTAGE

E. C. McCracken

Uniformly shaped sections of raw potatoes were placed between parallel plane electrodes and subjected to a constant potential. The potential drops existing between one electrode and various points in the potatoes were measured. The equi-potential surfaces were found to be planes parallel to the surface of the terminal electrodes. The potentials of these planes were found to vary with time and previous passage of current. The relative size of the probing electrodes used influenced the shape of the potential distribution curves.

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FACTORS INFLUENCING THE ELECTRICAL RESIST- ANCE OF THE POTATO

E. C. McCracken

Extensive experimentation upon the electrical resistance of raw potatoes has given the following results: (1) the resistance of a uniformly shaped section varies inversely as its cross-sectional area; (2) the resistance is independent of the applied voltage; (3) the resistance of sections taken from a relatively homogeneous part of the tuber varies directly with the length; (4) the cortical layer lengthwise of the potato has the least resistance, the resistances of internal medullary area, the external medullary area, and the outer skin following in the order named. No investigation