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Magnetic Properties of Thin Nickel Films

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exceptional cases which tend to confirm Bridgman's strain theory. It seems more probable, however, that an explanation can be given in terms of the conditions governing the growth of the crystals.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

ON ATMOSPHERIC ELECTRICITY

C. S. DORCHESTER AND L. W. BUTLER

(Abstract)

An attempt was made during the summer of 1930 to check results claimed by Christofleau, Vincent, and others relating to the effect of atmospheric electricity on the growth of plants. The results were negative. During the course of these experiments, it was found that, except during the very driest part of the summer, the fair weather current was upward, a result which directly contradicts the work of other investigators in other parts of the world. No accurate comparison could be made with Simpson's value or the total current between earth and air on account of the type of apparatus used.

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MAGNETIC PROPERTIES OF THIN NICKEL FILMS

H. E. MALMSTROM

(Abstract)

Nickel films deposited from a nickel ammonium sulphate solution containing boric acid show decreasing coercive force with decreasing thickness in the range from 140 to 60 μ . The films are similar to films deposited from the same solution but without boric acid, but are magnetically harder. Nickel films show an ageing effect not found for iron and cobalt. Heating to 100°C accelerates this effect. The effect of tension on the films is studied by measuring at 100°C, in which case the differential expansion of the brass base and the film supplies the tension. The effect is zero for thickness of about 110 μ and is opposite in sense for thicker and thinner films. This result cannot be explained in terms of the usual effect of tension on bulk nickel.

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