

A METHOD OF DETERMINATION OF DIELECTRIC CONSTANTS

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Use has been made of the arrangement of oscillating currents described by J. J. Dowling in his article on "The Recording Ultra-Micrometer" in London "Engineering" for September 30, 1921. In this method the variation of the anode current of an oscillating electric valve is measured by a sensitive galvanometer and a curve is drawn showing the relation between the variation of this current and the change in the capacity in the circuit. A part of this curve is practically a straight line, so that a small change of capacity due to a change of dielectric in a condenser can be read off directly from the curve. We have been able to show the difference in capacity in an air condenser produced by exhausting the air; that is, the method is capable of measuring the dielectric constants of gases. It is proposed to measure the effect of pressure on the dielectric constants of gases, the constants of various solid and liquid dielectrics, and the effects of various changes in the dielectrics.

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