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G. R. Wait
State University of Iowa

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G. R. WAIT

ABSTRACT

1. The Hall Effect of ordinary metals may be expressed by the equation E=HIa/e where E= the Hall Effect, I= the primary current, e= the thickness of the conductor and a= a constant whose value in silver lies between .00083 to .00090. In the present investigation the above equation was found to hold in thin silver films, and that a has a value of .00084.

2. In thin films the specific resistances have by many investigators been found to be abnormally great at a critical thickness. In the case of silver, this critical thickness lies between 15×10^{-7} cm. and 50×10^{-7} cm. Various theories have been advanced to explain this increase in resistance. The films upon which the Hall Effect was measured were first measured for specific resistance. The results together with the results for Hall Effect are plotted against thickness in figure 38.

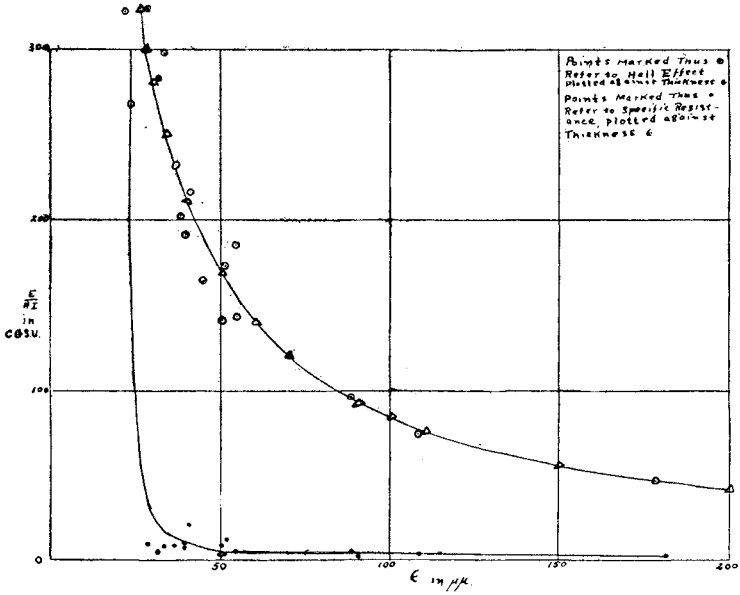

Fig. 38

3. The results upon Hall Effect will aid in explanation of the abnormal rise in specific resistance of silver films.

Department of Physics,
State University of Iowa.