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## A Simplified Conductivity-Radiation Experiment for the Elementary Laboratory

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of the twenty-six samples these values increase in magnitude together. If one plots the values of the former, changing from one to eight times, and of the latter varying sixty times, the points are included within an angle of about  $35^\circ$  (with one exception). This approximate correspondence adds credence to the view—obtained on other grounds, that the water structure alters by the breaking of H bonds and that this is the chief cause of the variations in the adiabatic compressibility.

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## A SIMPLIFIED CONDUCTIVITY-RADIATION EXPERIMENT FOR THE ELEMENTARY LABORATORY

LESTER T. EARLS

In an attempt to fill a need for the laboratory approach to the physical processes of conduction and radiation of heat, the following two-part experiment is suggested:

The heat conductivity of a poorly conducting specimen (such as wool cloth) is measured by allowing heat to flow through it from a hot cup above into a copper receiving block below. Direct measurements permit the calculation of the coefficient of thermal conductivity with an accuracy which is adequate for the elementary laboratory work. The heat-absorbing characteristics of various surfaces are tested by using them to face copper blocks of similar dimensions, and radiating them with the heat and light radiations from either a cone-type radiant electric heater or a 200-watt electric light.

Typical data taken by elementary physics students in a three-hour laboratory period are presented and discussed.

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## CONCERNING PHYSICS APTITUDES

C. J. LAPP

The search for physics aptitudes extends back to 1926 when eight were tentatively listed. The checking and rechecking of these have resulted in discarding of six. Of the many new aptitudes suggested and studied, four new ones have been discovered. The