

Thermal diffusivity in low conducting solids: a capacitive method

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Abstract. The thermal diffusivity of a low conducting solid is measured by means of a capacitive method, providing the thermal expansion of the specimen as a function of time. The simultaneous knowledge of the temperature profile vs. time at the thermal source, in contact with the sample base, allows a rapid, accurate and reliable determination (within ~ 2%) of thermal diffusivity. No sensor is inserted into the specimen, thus avoiding any perturbation of the temperature field.

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