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High-sensitivity capacitance method for measuring thermal diffusivity and thermal expansion: Results on aluminum and copper

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Abstract Thermal diffusivity and thermal expansion in high-conducting solids can be measured by means of a capacitance method, which turns out to be simple, reliable, and accurate and yields the first property with an accuracy of $\sim 1\%$ and the second one with an accuracy of $\sim 2\%$. Preliminary results, which are consistent with the literature, have been obtained on pure aluminum (99.999%) and on commercial copper, both at near room temperature.

Key words capacitance method - thermal diffusivity - thermal expansion

References secured to subscribers.

1. Rotter, M. (1998) A miniature capacitance dilatometer for thermal expansion and magnetostriction. *Review of Scientific Instruments* 69(7) [CrossRef]
2. Sparavigna, A. (1992) Thermal diffusivity and conductivity in low-conducting materials: A new technique. *International Journal of Thermophysics* 13 (2) [CrossRef]
3. Omini, M. (1992) Thermal diffusivity of solids with a low expansion coefficient: A dilatometric technique. *International Journal of Thermophysics* 13(4) [CrossRef]

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