Photoacoustic Heat Transmission Method for Measuring the Specific Heat Capacity of Solids

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We present a photoacoustic method for measurement of the specific heat capacity in solids by means of an open cell in the heat transmission configuration. The method involves a liquid (i.e., distilled water) as a reference sample allowing photoacoustic cell parameters free measurements in the modulation frequency range where the samples are thermally thin. The results of measurements performed in test samples of different materials, including metals and semiconductors, are presented. The obtained values agree very well with the literature reported ones. A comparison with a similar method involving front side illumination is presented too.