

OVERALL TECHNIQUE FOR ESTIMATION
OF OPTICAL MATERIAL ABSORPTION
COEFFICIENTS

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S u m m a r y

A technique, based on laser interferometric calorimetry, for high-precision measurement of optical absorption and adsorption is proposed. A mathematical model for estimation of thermal fields which occur in a sample at partial absorption of high-power laser radiation is elaborated. The model considers the influence of the volumetric and superficial optical absorption coefficients. Sensitivity of the measurement technique of the absorption coefficients for optically transparent materials is $(10^{-3} - 10^{-7}) \text{ cm}^{-1}$. The results of experimental tests of optical materials in the visible spectral region are shown.