

Abstract Submitted
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Terahertz Spectroscopy of Semiconductor Materials and Nanostructures WILLIAM BAUGHMAN, SHAWN DAVID WILBERT, LEE BUTLER, NICK HARRIS, GANG SHEN, NABIL DAWAHRE, JOSEPH BREWER, PATRICK KUNG, SEONGSIN MARGARET KIM, The University of Alabama — Terahertz (THz) time-domain spectroscopy is an attractive method to obtain the electronic transport properties in a variety of semiconductor materials and nanostructures. Unlike traditional techniques, THz spectroscopy does not require the realization of electrical contacts or even direct contact to the material probed. Here, we report the use of THz time-domain spectroscopy to determine the dielectric constant of a variety of semiconductor materials in the THz spectral range, and extract the refractive index, absorption coefficient and electrical conductivity. We also present a comparison of the results obtained from other techniques, including four-point probe resistivity measurements.

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