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Accession number:20123115291965

Title:Simultaneous determination of thickness and refractive index based on time-of-flight measurements of terahertz pulse

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Source title:Applied Optics

Abbreviated source title:Appl. Opt.

Volume:51

Issue:21

Issue date:July 20, 2012

Publication year:2012

Pages:5326-5330

Language:English

ISSN:00036935

E-ISSN:15394522

CODEN:APOPAI

Document type:Journal article (JA)

Publisher:Optical Society of America, 2010 Massachusetts Avenue NW, Washington, DC 20036-1023, United States

Abstract:We present a simple technique for simultaneous determination of thickness and refractive index of planeparallel samples in the terahertz radiation domain. The technique uses time-of-flight measurements of the terahertz pulse. It has been employed on nine different polymers and semiconductor materials, which are transparent for terahertz frequencies. Our results of thickness measurement are in good agreement with micrometer reading. The accuracy in the determination of refractive index is on the order of two decimal points. © 2012 Optical Society of America.

Number of references:18

Main heading:Refractive index

Controlled terms:Terahertz waves - Thickness measurement

Uncontrolled terms:Simultaneous determinations - Terahertz frequencies - Terahertz pulse - Terahertz radiation - Time of flight measurements

Classification code:711 Electromagnetic Waves - 741.1 Light/Optics - 943.2 Mechanical Variables Measurements

DOI:10.1364/AO.51.005326

Database:Compendex

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