10
Accession number:20120714762871
Title:Single sampling point detection of frequency modulated terahertz waves
Authors:Scheller, Maik (1); Kinder, Thomas (2); Peters, Ole (1); Müller-Wirts, Thomas (2); Koch, Martin (1)
Author affiliation:(1) Fachbereich Physik, Philipps Universität Marburg, Renthof 5, Marburg 35032, Germany; (2) TEM Messtechnik GmbH, Groer Hillen 38, Hannover 30559, Germany
Corresponding author:Scheller, M.(maik.scheller@physik.uni-marburg.de)
Source title:Journal of Infrared, Millimeter, and Terahertz Waves
Abbreviated source title:J. Infrared. Millim. Terahertz Waves
Volume:33
Issue:1
Issue date:January 2012
Publication year:2012
Pages:36-42
Language:English
ISSN:18666892
E-ISSN:18666906
Document type:Journal article (JA)
Publisher:Springer New York, 233 Springer Street, New York, NY 10013-1578, United States
Abstract:We present single sampling point detection of the amplitude and phase of frequency modulated continuous wave terahertz radiation. Employing a conventional photomixing setup with a precise wavelength control allows for rapid scan rates in the kHz regime. Two application examples demonstrate the potential of this approach for real time monitoring of samples' thicknesses and transmittances. © 2011 Springer Science+Business Media, LLC.
Number of references:23
Main heading:Frequency modulation
Controlled terms:Terahertz waves
Uncontrolled terms:Application examples - Continuous Wave - Frequency modulated - Frequency-modulated continuous waves - Photomixing - Rapid scan - Real time monitoring - Sampling points - Tera Hertz - Wavelength control
Classification code:711 Electromagnetic Waves - 716 Telecommunication; Radar, Radio and Television - 717 Optical Communication - 718 Telephone Systems and Related Technologies; Line Communications
DOI:10.1007/s10762-011-9840-3
Database:Compendex