

321

Accession number:20114014391406

Title:Tunable narrowband THz pulse generation in scalable large area photoconductive antennas

Authors:Krause, Johannes (1); Wagner, Martin (1); Winnerl, Stephan (1); Helm, Manfred (1); Stehr, Dominik (1)

Author affiliation:(1) Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden Rossendorf, P.O. Box 510119, 01314 Dresden, Germany

Corresponding author:Krause, J.

Source title:Optics Express

Abbreviated source title:Opt. Express

Volume:19

Issue:20

Issue date:September 26, 2011

Publication year:2011

Pages:19114-19121

Language:English

E-ISSN:10944087

Document type:Journal article (JA)

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

Abstract:The generation and characterization of narrowband THz pulses by means of chirped pulse difference frequency generation in Auston-switch type photoconductive antennas is reported. Using optical pulses with energies in the range from 1 nJ to 1uJ, we generate THz pulses with up to 50 pJ in energy and electric field strengths on the order of 1 kV/cm. Two emitter concepts are investigated and circumvention of the fast saturation for small area excitation by scaling of the THz emitter is demonstrated.

Number of references:23