167
Accession number:20121114848261
Title:Broadband terahertz pulse emission from ZnGeP<inf>2</inf>
Authors:Rowley, J.D. (1); Pierce, J.K. (1); Brant, A.T. (1); Halliburton, L.E. (1); Giles, N.C. (2); Schunemann, P.G. (3); Bristow, A.D. (1)
Author affiliation:(1) Department of Physics, West Virginia University, Morgantown, WV 26506-6315, United States; (2) Department of Engineering Physics, Air Force Institute of Technology, Wright-Patterson Air Force Base, OH 45433, United States; (3) BAE Systems, MER15-1813, P.O. Box 868, Nashua, NH 03061, United States
Corresponding author:Bristow, A.D.(alan.bristow@mail.wvu.edu)
Source title:Optics Letters
Abbreviated source title:Opt. Lett.
Volume:37
Issue:5
Issue date:March 1, 2012
Publication year:2012
Pages:788-790
Language:English
ISSN:01469592
E-ISSN:15394794
CODEN:OPLEDP
Document type:Journal article (JA)
Publisher:Optical Society of America, 2010 Massachusetts Avenue NW, Washington, DC 20036-1023, United States
Abstract:Optical rectification is demonstrated in(110)-cut ZnGeP2 (ZGP) providing broadband terahertz (THz) generation. The source is compared to both GaP and GaAs over a wavelength range of 1150 nm to 1600 nm and peak-intensity range of 0.5 GW?cm<inf>2</inf> to 40 GW?cm². ZGP peak-to-peak field amplitude is larger than in the other materials due to either lower nonlinear absorption or larger second-order nonlinearity. This material is well suited for broadband THz generation across a wide range of infrared excitation wavelengths. © 2012 Optical Society of America.
Number of references:19
Main heading:Optoelectronic devices
Controlled terms:Optics
Uncontrolled terms:Broadband terahertz - Broadband terahertz pulse - Field amplitudes - GaAs - Infrared excitation - Nonlinear absorptions - Optical rectifications - Second-order nonlinearity - THz generation - Wavelength ranges
Classification code:741.1 Light/Optics - 741.3 Optical Devices and Systems
DOI:10.1364/OL.37.000788
Database:Compendex