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Title:Resonant-tunnelling-diode oscillators operating at frequencies above 1.1 THz Authors: Feiginov, Michael (1); Sydlo, Cezary (1); Cojocari, Oleg (1); Meissner, Peter (1) Author affiliation:(1) Technische Universität Darmstadt, 64283 Darmstadt, Germany; (2) ACST GmbH, 64283 Darmstadt, Germany Corresponding author: Feiginov, M. (feiginov@ont.tu-darmstadt.de) Source title: Applied Physics Letters Abbreviated source title: Appl Phys Lett Volume:99 Issue:23 Issue date:December 5, 2011 Publication year:2011 Article number:233506 Language:English ISSN:00036951 CODEN: APPLAB Document type: Journal article (JA) Publisher: American Institute of Physics, 2 Huntington Quadrangle, Suite N101, Melville, NY 11747-4502, United States Abstract:We present resonant-tunnelling-diode (RTD) oscillators operating at the fundamental

Frostract: we present resonant-tunnening-ulode (RTD) oscillators operating at the fundamental frequency of 1111 GHz. We show that our RTDs and RTD oscillators have much room for further improvement of their parameters and for further increase of their operating frequencies. The operating frequencies of several THz should be achievable with RTD oscillators. Our study also shows that operation of RTDs beyond the relaxation-time limit at THz frequencies should be possible. RTD oscillators under study are extremely compact (less than a square millimeter) room-temperature sources of coherent cw THz radiation. Such sources should enable plenty of real-world THz applications.

Number of references:15