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Accession number:20115014600735

Title:Plasmon excitation and plasmonic detection of terahertz radiation in the grating-gate field-effect-transistor structures

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Source title:Journal of Infrared, Millimeter, and Terahertz Waves

Abbreviated source title:J. Infrared. Millim. Terahertz Waves

Volume:32

Issue:10

Issue date:October 2011

Publication year:2011

Pages:1178-1191

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:Physics of plasma oscillations and basic principles of plasmonic detection of terahertz radiation in the grating-gate transistor structures with two-dimensional electron channels are considered. It is shown that the grating-gate-transistor plasmonic detectors can be efficiently coupled to terahertz radiation. Plasmonic detection response considerably increases if the electron density in the grating-gate transistor structure is spatially modulated.

Number of references:47