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Title

Plasmon Excitation and Plasmonic Detection of Terahertz Radiation in the Grating-Gate Field-Effect-Transistor Structures

Source

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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.