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Title

Terahertz Photovoltaic Response of Si-MOSFETs: Spin Related Effect

Source

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Abstract

We report on investigations of photovoltaic response of Si-MOSFETs subjected to terahertz radiation in high magnetic fields. Then a DC drain-to-source voltage is developed that shows singularities in magnetic fields corresponding to paramagnetic resonance conditions. These singularities are investigated as a function of incident frequency, temperature and two-dimensional carrier density. We tentatively attribute these resonances to spin transitions of the electrons bound to Si dopants and discuss the possible physical mechanism of the photovoltaic signal generation.