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Title:Strained silicon modulation field-effect transistor as a new sensor of terahertz radiation
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Abstract:In this paper, we report on room temperature detection of terahertz radiation from strained-Si modulation-doped field-effect transistors. A non-resonant signal was observed with a maximum around the threshold voltage. The signal was interpreted due to the plasma wave nonlinearities in the channel. The intensity of the signal increases for the higher applied drain-to-source current. We also observed a dependence of the signal on the polarization of the incoming radiations.
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