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Title

Monte Carlo Simulation of Noise and THz Generation in InP FET at Excess of Electrons in Channel

Source

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Abstract

Electron transport and drain current noise in field effect transistor with n^+ InP channel have been studied by Monte Carlo particle simulation which simultaneously solves the Boltzmann transport and pseudo-2D Poisson equations. It is shown that at gate voltages giving excess electron concentration in n-region of channel the drain current self-oscillations in THz frequency range are possible. The self-oscillations are driven by electron plasma instability. (5 References).