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Author

Ortolani, M (Ortolani, Michele); Stehr, D (Stehr, Dominik); Wagner, M (Wagner, Martin); Helm, M (Helm, Manfred); Pizzi, G (Pizzi, Giovanni); Virgilio, M (Virgilio, Michele); Grosso, G (Grosso, Giuseppe); Capellini, G (Capellini, Giovanni); De Seta, M (De Seta, Monica)

Title

Long intersubband relaxation times in n-type germanium quantum wells

Source

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Abstract

We measured the non-radiative intersubband relaxation time in n-type modulation-doped Ge/SiGe multi-quantum wells of different thickness by means of degenerate pump-probe experiments. The photon energy was tuned to be resonant with the lowest conduction band intersubband transition energy (14-29 meV), as measured by terahertz absorption spectroscopy and in agreement with band structure calculations. Temperature-independent lifetimes in excess of 30 ps were observed.