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A Novel Technique for the Study of Defects Using Quantum Wires

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Abstract

A technique utilizing changes in the conductance of a quantum wire to measure the detrapping time and density of electron traps is described. The technique permits the study of defects in heterostructure material over a wide range of doping levels and under a variety of conditions. The technique also introduces the possibility of studying one microsecond or faster (de)trapping times.