

Coulomb blockade and diffusive anomalies in disordered quantum wires

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It has been known since decades that quasi one-dimensional fermion systems cannot be described by noninteracting quasiparticles. However, only recently strong electronic correlations in quantum wires have been demonstrated convincingly by means of transport measurements. In fact, a rich variety of interaction effects arises in quantum wires ranging from Coulomb blockade, over diffusive anomalies to Tomonaga-Luttinger behavior depending on the number of transport channels and disorder. The talk summarizes some of the advances made recently.