

Abstract Submitted
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The Two-Impurity Anderson Model at Quantum Criticality¹

DAVID MROSS, Bonn University, Germany, HENRIK JOHANNESSON, Göteborg University, Sweden — We propose a realization of the two-impurity Anderson model in a double quantum-dot system. When charge transfer between the dots is suppressed the system exhibits a non-Fermi liquid critical line parameterized by the amount of charge localized on the dots. Employing conformal field theory techniques we identify the critical exponents that govern transport and thermodynamics in the vicinity of the critical line. We also determine the dynamical exponent that sets the time scale for buildup of the non-Fermi liquid state after the system is shifted into the critical region, e.g. by a sudden change of a nearby gate voltage.

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