Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Nonequilibrium Transport in Quantum Impurity Models:(Bethe-Ansatz for open systems) PANKAJ MEHTA, NATAN ANDREI, Rutgers University — We develop an exact non-perturbative framework to compute steady-state properties of quantum-impurities subject to a finite bias. We show that the steady-state physics of these systems is captured by nonequilibrium scattering eigenstates which satisfy an appropriate Lippman-Schwinger equation. Introducing a generalization of the equilibrium Bethe-Ansatz - the Nonequilibrium Bethe-Ansatz (NEBA), we explicitly construct the scattering eigenstates for the Interacting Resonance Level model and derive exact, nonperturbative results for the steady-state properties of the system.

Pankaj Mehta
Rutgers University

Date submitted: 16 Jan 2006 Electronic form version 1.4