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STM Response of a Luttinger Liquid with a Kondo Impurity PAATA KAKASHVILI, HENRIK JOHANNESSON, Institute of Theoretical Physics, Chalmers University of Technology & Göteborg University — We study the STM (Scanning Tunneling Microscopy) response of a Luttinger liquid with a Kondo impurity. The system can be realized by adding a magnetic impurity to a quantum wire or carbon nanotube. At low temperatures we map the system to a boundary problem, and use Bosonization and Boundary Conformal Field Theory techniques to calculate the finite-temperature Green's functions. The local density of states is calculated for different temperatures and distances from the impurity. We discuss properties of the uniform and Friedel terms in the STM current, and show how it takes fingerprints of the electron correlations.

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