Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Spin current corrleations induced by the Kondo effect MARKUS KINDERMANN, Cornell University — Rapid technological progress over the past two decades has made available electrical conductors on the nanoscale. Due to their small size these conductors often have an effectively reduced dimensionality and one expects electron-electron interactions to play an important role. It is a fascinating but challenging endeavor to observe effects of these interactions in electrical measurements. Generically interactions manifest themselves in correlations. Measurements of current correlations should therefore most naturally be able to probe interactions. At low temperatures the Coulomb blockade in an interacting quantum dot is lifted by the Kondo effect. Although this effect results from interesting many-body correlations, no signatures of them have been found in previous calculations of current correlations. Since the Kondo effect results from spin fluctuations, one may expect it, however, to be observable in spin resolved transport measurements. I will show that this intuition is indeed correct. Kondo fluctuations can induce correlations between spin currents through a quantum dot.

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Date submitted: 29 Nov 2004 Electronic form version 1.4