

Abstract Submitted
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Observation of the Kondo effect in a carbon nanotube with asymmetric Schottky barriers JEROME LICINI, JEFFREY STEPHENS, Lehigh University, A. T. CHARLIE JOHNSON, DOUGLAS STRACHAN, SAM KHAMIS, DANVERS JOHNSTON, University of Pennsylvania — A CVD carbon nanotube sample measured at low temperature and high magnetic field was observed to show a substantial increase in differential conductivity ($\Delta I/\Delta V$) near zero voltage and a pronounced asymmetry with bias voltage that appear only below temperatures of 3.0K. The magnetic field peaks show complicated shifts and possible splits. The simplest interpretation that satisfies the data is that of a metallic tube whose Schottky barriers to the external contacts are asymmetric. The observation of a Kondo effect that varies with bias polarity dramatically illustrates the impact of coupling to the external leads.

Jerome Licini
Lehigh University

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