

Abstract Submitted  
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**Coherent non-local transport in quantum wires with strongly coupled electrodes**<sup>1</sup> YANFEI YANG, GEORGY FEDOROV<sup>2</sup>, PAOLA BARBARA, Department of Physics, Georgetown University, Washington, DC, SERHII SHAFRANIUK, Department of Physics and Astronomy, Northwestern University, Evanston, IL , BENJAMIN COOPER, RUPERT LEWIS, CHRISTOPHER LOBB, Department of Physics, CNAM and JQI, University of Maryland, College Park, MD — We report a one-dimensional non-local experiment, where the conductance of a section of carbon nanotube shows regular oscillations due to coherent and ballistic transport in an adjacent section. This occurs in spite of wide strongly coupled contact electrodes, which are expected to divide the nanotube into independent sections. Our simulations show that the electrodes form shallow and wide barriers, which maintain quantum coherence between the adjacent sections.

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