

Abstract Submitted  
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**Observation of noise mediated interaction between coherent conductors** KARL THIBAULT, CHRISTIAN LUPIEN, BERTRAND REULET, Univ of Sherbrooke — Transport in quantum conductors is affected by their electromagnetic environment, a phenomenon known as Dynamical Coulomb Blockade. This can be understood as a feedback of the noise generated by the sample on itself, and has been thoroughly studied for various macroscopic environmental impedances such as an RC circuit or a resonator. Here, we have devised a sample where two quantum coherent conductors (normal-metal–insulator–normal-metal tunnel junctions) are capacitively coupled so that each of them plays the role of the environment for the other one. The two junctions can be dc biased independently, but interact via their finite frequency noise. We have characterized this interaction by measuring the differential resistance of each junction as well as their trans-resistance, which measures how the current in one junction affects the voltage on the other one.

Karl Thibault  
Univ of Sherbrooke

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