

Abstract Submitted  
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**Many-body Co-tunneling in Coupled Quantum Dots** CAROLYN YOUNG, McGill University, MICHAEL HILKE, McGill University — We developed a new formalism which allows us to study co-tunneling events in coupled quantum dot structures. By generalizing the non-equilibrium Green's function (NEGF) method for the case of N-particle Green's functions, we are able to calculate the many-body self-energy associated with semi-infinite leads. This formalism can be used to calculate the co-tunneling contribution to the differential conductance of various structures, such as parallel- and serial-coupled quantum dots, as well as Aharonov-Bohm interference devices.

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