Graham Reid

Senior Honors
Talk in Physics

presents

"Quantum Flows of Probability and Heat"

Open quantum systems exchange energy and information with their environment. We use an extension of the method of probability currents to analyze the evolution of open and isolated quantum systems. Our method allows us to analyze the heat flow between simple quantum systems and reservoirs. Here we illustrate the method using a system of two coupled qubits that exchange heat with separate reservoirs, a degenerate version of a quantum heat engine. Future work will apply these methods to other quantum thermal machines and explore the fundamental basis for the principle of detailed balance.

Friday, September 30, 2016 - 3:10 p.m.

Franklin Miller, Jr. Lecture Hall
Hayes Hall 109

Reception to follow in the lobby of Hayes Hall