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Quantum Flows of Probability and Heat GRAHAM REID, Kenyon College — Open quantum systems exchange energy and information with their environment. We use a version of the method of probability currents to quantify the flow of probability between basis states in a quantum system described by a finite dimensional Hilbert space. We investigate the behavior of open systems including small thermal machines, exploring how Lindblad-type dynamical evolution gives rise to the transfer of heat, work and entropy.

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