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The Approach To Typicality in Many-Body Quantum Systems SAI VINJANAMPATHY, SHAWN DUBEY, LUCIANO SILVESTRI, KURT JACOBS, University of Massachusetts, Boston — The recent discovery that for large Hilbert spaces, almost all (that is, typical) Hamiltonians have eigenstates that place small subsystems in thermal equilibrium, has shed much light on the origins of irreversibility and thermalization. Here we present numerical evidence that many-body lattice systems generically approach typicality as the number of subsystems is increased, and thus provide further support for the eigenstate thermalization hypothesis. We will present our results that indicate that the deviation of many-body systems from typicality scales as an inverse power of the number of systems, and we compare this with the equivalent scaling for random Hamiltonians.

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