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Twisted Boundary Conditions for Lattice Monte Carlo Simulations JOSEPH PAKI, EMANUEL GULL, University of Michigan, SIMMONS MANY BODY PHYSICS COLLABORATION — Numerical simulations for spatially correlated lattice models have made progress via Dynamical Mean Field Theory and Dynamical Cluster Approximation, but are still hindered by a computational cost that scales exponentially with lattice size. We present a method of addressing finite size errors in a computationally efficient manner by running simulations with twisted boundary conditions. Averaging over these boundary conditions allows for thermodynamic extrapolation of physical quantities of interest without the cost associated with large system simulations.

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