Abstract Submitted
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Ameliorating the sign problem for frustrated magnets using plaquette grouping KEVIN BEACH, University of Alberta — Frustrated quantum magnets are not amenable to simulation using conventional quantum Monte Carlo because of the infamous sign problem. In the overcomplete basis of singlet product states, updates have a many-to-one property that allows for grouping of updates around plaquettes in such a way that the negative sampling weights are almost entirely eliminated. Results for the J1-J2 quantun Heisenberg model on the square lattice are discussed.

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