

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Purifications for canonical ensembles – matrix product state approximation and entanglement THOMAS BARTHEL, Department of Physics, Duke University — Matrix product purifications (MPPs) are a very efficient tool for the simulation of strongly correlated quantum many-body systems at finite temperatures. It is straightforward to compute an MPP of a grand-canonical ensemble. In this talk, we present methods for the efficient computation of MPPs of canonical ensembles under utilization of symmetries. Furthermore, we discuss their entanglement properties and a scheme for the efficient evaluation of global quantum number distributions.

Reference: T. Barthel, Phys. Rev. B **94**, 115157 (2016).

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Date submitted: 11 Nov 2016

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