Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Imaginary-time evolution following a quantum quench between distinct symmetric phases KEOLA WIERSCHEM, YING-JER KAO, National Taiwan University — Symmetry protected topological phases are a new class of distinct symmetric phases in the presence of a protecting symmetry. An early example of a nontrivial symmetry protected topological state is the ground state of the spin-1 Heisenberg antiferromagnet–the so-called Haldane phase. The Haldane phase is distinct from the symmetric product state of zero spin projection along the z axis $|\mathcal{D}\rangle = \prod_i |0\rangle_i$ that is adiabatically connected to the so-called large-D phase. In this work, we explore the imaginary-time evolution of the state $|\mathcal{D}\rangle$ after a quantum quench into the Haldane phase and present details of a quantum Monte Carlo method that can easily be extended to studies in higher dimensions.

Keola Wierschem
National Taiwan University

Date submitted: 12 Nov 2014 Electronic form version 1.4