Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Continuous Matrix Product States for Spin-1/2 Fermions with Mass- and Spin-Imbalance SANGWOO S. CHUNG, C. J. BOLECH, Univ of Cincinnati — Recently, we have proposed a continuous matrix product states (cMPS) ansatz that can approximate ground states of interacting spin-1/2 fermions with spin-imbalance in 1D. We now extend that effort to describe a more general system, having both spin- and mass-imbalance. With mass-imbalance, there is no exact solution for the Gaudin-Yang Hamiltonian, and this is one of the first applications of the fermionic cMPS on non-integrable systems.

Sangwoo Chung
Univ of Cincinnati

Date submitted: 06 Nov 2015 Electronic form version 1.4