Matrix-product Ansatz for Fermions in a 1D Continuum S.S.
CHUNG, University of Cincinnati, K. SUN, University of Texas at Dallas, C.J.
BOLECH, University of Cincinnati — We present a novel implementation of a
matrix-product ansatz for fermions in a 1D continuum, which correctly predicts
the ground state properties of a homogeneous interacting spin-1/2 system. This
includes the signatures of a partially polarized regime, in agreement with a large
amount of theoretical work which has guided, and/or has been inspired by, recent
cold-atom experiments.

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