Abstract Submitted
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QCD calculations with optical lattices YUZHI LIU, YANNICK MEURICE, Department of Physics and Astronomy, University of Iowa — By trapping cold polarizable atoms in periodic potentials created by crossed laser beams, it is now possible to experimentally create "clean" lattice systems. Experimentalists have successfully engineered local and nearest-neighbor interactions that approximately recreate Hubbard-like models on table tops. I discuss the possibility of using this new technology in order to: 1) calculate correlation functions and determinants for models with fermions, 2) design new systems with emergent local gauge invariance.

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