

Abstract Submitted  
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**Integrated Atom Chip System for Optical Lattice Experiments**

EVAN A. SALIM, MEGAN K. IVORY, ColdQuanta Inc., CAMERON J.E. STRAATSMA, DANA Z. ANDERSON, Department of Physics and JILA, University of Colorado at Boulder — We present an ultracold atom system incorporating a hybrid magnetic/optical atom chip for optical lattice experiments. The atom chip uses integrated, millimeter-scale optical elements to enable the production of optical lattice potentials near the atom chip traces and within a few hundred microns of a high-quality vacuum window. Due to their proximity to a window, the atoms are addressable by optics outside of vacuum operating at numerical apertures as high as 0.8. Demonstration of Bose-Einstein condensation in the chip trap and Landau-Zener tunneling in a 1D lattice are presented.

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