

Abstract Submitted
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Progress towards quantum-gas experiments in optical lattices DANIEL PERTOT, DANIEL GREIF, REBEKAH SCHILLER, DOMINIK SCHNEBLE, SUNY Stony Brook — We present our progress towards quantum simulation experiments with ultracold bosonic atoms in an optical lattice. We have achieved Bose-Einstein condensation of rubidium-87 in a transporter apparatus featuring a moving-coil TOP trap (McTOP). Quasi-pure condensates containing up to one million atoms are routinely produced with high stability. As atomic micro-motion in TOP traps precludes the direct loading of condensates into a single quasi-momentum state of an optical lattice, we are in the process of implementing a loading scheme involving evaporation of nearly-condensed thermal clouds in a crossed optical dipole trap. We will discuss our recent experimental results.

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