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Experimental Progress Toward Trapping Atoms in Novel Geometries[1] HONG GAO, MATTHEW PASIENSKI, MATTHEW R. WHITE, BRIAN DEMARCO, University of Illinois at Urbana-Champaign, Urbana, Illinois 61801 — We present experimental progress toward loading a Bose-Einstein condensate into an optical lattice and using a spatial light modulator (SLM) to manipulate atoms. We generate the optical lattice in such way that controlled collisions between atoms can be achieved in any direction. An SLM is used create arbitrary light intensity patterns to manipulate optically trapped atoms. We will also discuss recent results on RF-dressed condensates.

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