

Abstract Submitted
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Performance of single qubit gates in an array of neutral atoms¹

YANG WANG, AISHWARYA KUMAR, XIANLI ZHANG, THEODORE A. CORCOVILOS, DAVID S. WEISS, Department of Physics, the Pennsylvania State University, University Park, PA 16802 — We have demonstrated arbitrary single qubit gates on neutral atoms trapped in a $5\times 5\times 5$ 3D optical lattice. We will describe two types of gates, both based on a combination of Stark-shifting target atoms with crossed optical beams and microwave pulses. Our poster will discuss gate quality, gate times, scalability issues and cross talk.

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