

Abstract Submitted  
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**Neutral Atom Imaging Using a Pulsed Electromagnetic Lens**

ERIK ANCIAUX, JAMIE GARDNER, YI XU, MARK RAIZEN, University of Texas-Austin — We present a novel technique for neutral atom imaging relying on a pulsed electromagnetic hexapole lens. Using a prototype lens with a supersonic beam of metastable neon, we have successfully imaged complex patterns with lower distortion and higher resolution than has been shown in any previous atom imaging experiment. Simulations suggest that with improvements in aberration correction our imaging scheme will be able to achieve nanoscale resolution, allowing for surface sensitive nanoscale atom microscopy and nanofabrication.

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