

Abstract Submitted
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Characterizations of SiN and AlN microfabricated waveguides for evanescent-field atom-trap applications¹ JONGMIN LEE, MATT EICHENFIELD, ERICA DOUGLAS, JOHN MUDRICK, GRANT BIEDERMANN, YUAN-YU JAU, Sandia National Laboratories — Trapping neutral atoms in the evanescent fields generated by microfabricated nano-waveguides will provide a new platform for neutral atom quantum controls via strong atom-photon interactions. At Sandia National Labs, we are aiming at developing the related technology that can enable the efficient optical coupling to the waveguide at multiple wavelengths, fabrication nano-waveguides to handle required optical power, more robust waveguide structure, and the new fabrication geometry to facilitate the cold-atom experiments. We will report our latest results on the related subjects.

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