

Abstract Submitted  
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**Characterizing single atom optical dipole traps** CHUNG-YU SHIH,  
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MAN, Georgia Institute of Technology — Trapping and manipulating individual  
neutral atoms in far off-resonant traps (FORTs) is a promising approach for quantum  
information processing. It is important to characterize the trapping environment of  
the atom and the atomic level shifts due to the trapping fields. Using non-destructive  
measurement techniques,<sup>1</sup> we have measured the level dependent AC Stark shifts,  
trap frequencies, and temperature of single rubidium atoms confined in optical dipole  
trap.

<sup>1</sup>M. J. Gibbons *et al.*, *Phys. Rev. Lett* **106**, 133002 (2011).

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