Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Systematic studies of optically-trapped dielectric nanospheres LEVI NEUKIRCH, Department of Physics and Astronomy, University of Rochester, Rochester, New York 14627, USA, JAN GIESELER, ROMAIN QUIDANT, ICFO-Institut de Ciencies Fotoniques, Mediterranean Technology Park, 08860 Castelldefels (Barcelona), Spain, LUKAS NOVOTNY, Institute of Optics, University of Rochester, Rochester, New York 14627, USA; Photonics Laboratory, ETH Zürich, 8093 Zürich, Switzerland, NICK VAMIVAKAS, Institute of Optics, University of Rochester, Rochester, New York 14627, USA — Mesoscopic resonators have garnered significant interest recently in a number of experiments designed to blur the line between classical and quantum systems. In particular, optically trapped mesoscopic particles offer a distinct advantage over many other systems, as they can be mechanically isolated from the environment. We present results from dynamical studies of micro- and nano-scale dielectric particles suspended in a free-space optical dipole trap. Particle position is monitored via the interference of scattered and unscattered laser light. Of interest are the effects of the trap laser and ambient pressure on the external motion and internal temperature of the particles.

Levi Neukirch
Department of Physics and Astronomy, University of Rochester,
Rochester, New York 14627, USA

Date submitted: 29 Nov 2012 Electronic form version 1.4