Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Micro-optomechanical trampoline resonators[1] BRIAN PEPPER, DUSTIN KLECKNER, UC Santa Barbara, PETRO SONIN, EVAN JEFFREY, University of Leiden, DIRK BOUWMEESTER, UC Santa Barbara, University of Leiden — Recently, micro-optomechanical devices have been proposed for implementation of experiments ranging from non-demolition measurements of phonon number to creation of macroscopic quantum superpositions. All have strenuous requirements on optical finesse, mechanical quality factor, and temperature. We present a set of devices composed of dielectric mirrors on Si_3N_4 trampoline resonators. We describe the fabrication process and present data on finesse and quality factor.

[1]The authors gratefully acknowledge support from NSF PHY-0804177 and Marie Curie EXT-CT-2006-042580.

Brian Pepper
UC Santa Barbara

Date submitted: 19 Nov 2010 Electronic form version 1.4