Fabricating Micro-Optomechanical Systems for Quantum Optics

DUSTIN KLECKNER, SUSANNA THON, BRIAN PEPPER, UC Santa Barbara, DIRK BOUWMEESTER, UC Santa Barbara, University of Leiden — Micro-optomechanical systems have attracted significant interest as a platform for observing quantum effects in mesoscopic objects. However, making a system with the required optical and mechanical characteristics is extremely challenging. We discuss the fabrication of monolithic devices made from dielectric mirrors on Si$_3$N$_4$ resonators as well as preliminary data on optomechanical systems made from these devices.