

QUANTUM OPTICS SEMINAR



Title: Matter wave guiding through a photonic bandgap fiber

Speaker: Lars Wacker
The Institute of Laser Physics, Universität Hamburg

Time: Wednesday, October 5 at 11:15

Room: 1520-616

Abstract:

Ultracold quantum gases in one-dimensional geometries are an intriguing field of research as they allow for strong nonlinear atom-light interaction and efficient matter wave guiding. In this talk, I will discuss a project where we intend to study light-matter interaction in an extremely one-dimensional geometry. In this experiment, we realize such a configuration by coupling laser light into a hollow core photonic bandgap fiber where the resulting dipole trap efficiently confines previously cooled 85Rb atoms to a transverse dimension of $12\mu\text{m}$ and guides them along the fiber.

Jan Arlt