



Martin Weitz

*Institut für Angewandte Physik, Universität
Bonn, Wegelerstr. 8, D-53115 Bonn*

„Bose-Einstein Condensation of Light”

**Thursday, June 14th, 2018, 4:15 p.m.
Building C6 4, Lecture Hall II**

Bose-Einstein condensation has been observed in several physical systems, including cold atomic gases, exciton-polaritons, and magnons. Photons usually show no Bose-Einstein condensation, since for Planck's blackbody radiation the particle number is not conserved and the photons at low temperatures vanish in the system walls. I here describe experiments with a dye-filled optical microresonator experimentally observing Bose-Einstein condensation of photons. Thermalization is achieved in a number conserving way by repeated absorption re-emission cycles on the dye molecules, and the cavity mirrors provide both an effective photon mass and a confining potential. More recently, we have investigated calorimetric properties of the trapped photon gas, and determined both the heat capacity and the entropy around the phase transition. In other work, we have realized lattice potentials for photons in the dye microcavity. In my talk, I will begin with a general introduction and give an account of current work and future plans of the Bonn photon gas experiment.

Giovanna Morigi (57472) takes care of the guest.

Interested people are cordially invited

Coffee at 4:00 p.m. in front of the Lecture Hall