

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**One-dimensional Bose-Einstein condensation of photons in a microtube** ALEX KRUCHKOV, École Polytechnique Fédérale de Lausanne (EPFL)  
— This study introduces a quasiequilibrium one-dimensional Bose-Einstein condensation of photons trapped in a microscopical waveguide. Light modes with a cut-off frequency (“photon’s mass”) interact through different processes of absorption, re-emission, and scattering on molecules of dye. In this work I consider conditions for the one-dimensional condensation of light and the role of photon-photon interactions in the system. The computational technique in use is the Matsubara’s Green’s functions formalism modified for the quasiequilibrium system under study.

Alex Kruchkov  
École Polytechnique Fédérale de Lausanne (EPFL)

Date submitted: 12 Jan 2016

Electronic form version 1.4