

SPECIAL SEMINAR/SONDERSEMINAR
LMU/MPQ

am: Donnerstag, 26.4.2012

Uhrzeit: 9:30 Uhr s.t.

spricht: Professor Dr. Alexander Högele
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Thema: Long-lived Excitons in Pristine Carbon Nanotubes

Ort: LMU, Faculty of Physics, Chair Prof. T. W. Hänsch
Discussion Room H 311

gez. Prof. T.W. Hänsch

Abstract

Semiconducting carbon nanotubes exhibit optical resonances in the near infrared. Since the first observation of photoluminescence from single-walled carbon nanotubes basic understanding of optical properties such as the role of strong exciton binding and diameter dictated optical excitations have emerged. However, various aspects of the intrinsic photophysics remained masked by imperfections and defects introduced during the growth of carbon nanotubes or as a result of their uncontrolled environment.

We demonstrate that it's possible to minimize such extrinsic effects by growth of suspended carbon nanotubes. Based on our recent experiments we discuss implications of the material quality for the observation of intrinsic optical properties of pristine carbon nanotubes.