

# Optische Detektion und Spektroskopie von Einzelmolekülen

We will discuss landmarks and review the newest publications on the field of optical detection and spectroscopy of single molecules. Topics to be covered include:

- **Optical methods for single molecule detection and spectroscopy**
  - o Fluorescence microscopy and spectroscopy
  - o Excitation and absorption spectroscopy
- **Photophysics of single emitters**
  - o Single photon emission
  - o Quantum jumps
  - o Fluorescence enhancement, quenching and blinking
- **Applications to nano-science and biology**
  - o Single molecule vs. ensemble measurements
  - o Remarkable achievements on physics, chemistry and biology.

**Additionally, we will perform a single molecule detection experiment in our laboratory.**

Einrichtung: Fakultät für Physik

Vorlesungsverzeichnis: Wintersemester 2007/2008

Veranstaltungstyp: Seminar

Dozent: Dr. Fernando D. Stefani

Termin: Do 16:30 – 18:30 Uhr - There is no seminar on the 23.10.2008!!!

Ort: Department für Physik, Amalienstr. 54, 2. Stock

Semesterwochenstunden: 2

Zielgruppe: Studenten, Diplomanden, Doktoranden und Mitarbeiter

Studienabschnitt: Hauptstudium