

# Spectroscopy of single semiconductor nanocrystals

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- Short introduction to semiconductor nanocrystals
  - Size and shape control
  - Electronic and optical properties
  - Fluorescence spectra and fluorescence dynamics
- Instrumentation for single nanocrystal detection
  - Confocal microscopy
  - Lasers and detectors
  - Analysis methods
- Selected examples of single nanocrystal spectroscopy
  - Fluorescence blinking
  - Spectral diffusion
  - Fluorescence polarization anisotropy
  - Plasmon exciton coupling in hybrid systems