Sonderforschungsbereich 631

Festkörperbasierte Quanteninformationsverarbeitung

SEMINARANKÜNDIGUNG

Donnerstag, 24. Februar 2011

13:30 Uhr

ZNN, Seminarraum

“Quantum optics and electronics studies of single and coupled quantum dot structures”

In this talk, I will primarily present an overview of a number of the research topics that I have explored in relation to both single and coupled quantum dots (QDs). To start with, results focusing on various aspects of single QDs will be outlined and discussed, namely, exciton dark state effects, electrically pumped QD emission, and single-dot optical isolation via a planar microcavity. The results obtained from asymmetric vertically coupled QD pairs and laterally coupled QD molecules will then be presented. To finish, I also plan to briefly outline some of the more recent electromodulation studies that I have carried out on organic small molecule and polymer materials that show potential for use in future optoelectronic devices.

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