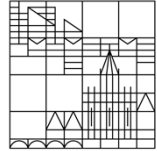


Physikalisches Kolloquium

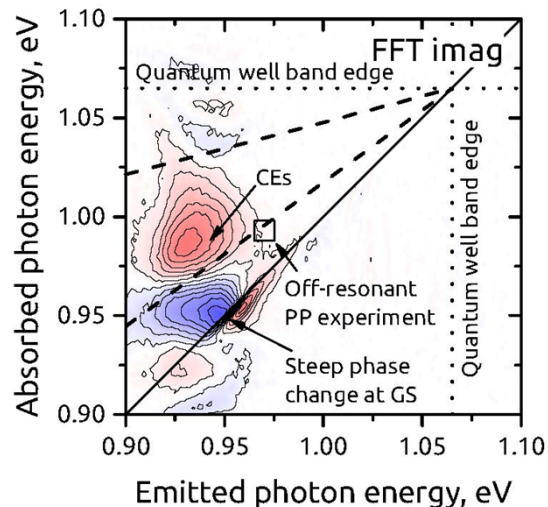
Universität
Konstanz



Di 30.04.19
15:15 Uhr
14:45 Uhr, Kaffee/Tee
R 513



Dr. Nina Owschimikow
Technische Universität Berlin



Multi-dimensional spectroscopy of low-dimensional semiconductors

Semiconductor structures with reduced dimensionality, like 2D materials or quantum dots, are an important class of materials for applications in opto-electronics. Describing the charge carrier dynamics in the complex energy landscape formed by these nanostructures requires spectroscopy techniques capable of delivering massive data sets for parallel data analysis. The objects we study range from new materials like transition metal dichalcogenides (TMDs) to classic III-V semiconductor systems. For the former, I will show the influence of fine structure on strongly bound many-carrier states like trion and biexciton. For the latter, I will discuss the formation of mixed-dimensional electron-hole pairs and their impact on gain and dephasing in self-assembled and submonolayer quantum dots.