



Sonderforschungsbereich TRR 160

Kohärente Manipulation wechselwirkender Spinanregungen
in maßgeschneiderten Halbleitern

Integrated Research Training Group (IRTG)

**Magnetic Condensed Matter - Synthesis, Spectroscopy
and Modelling**

Seminarankündigung

Dienstag, 22.10.2019, 14:00 Uhr

CP-E0-139

“Coherent light-matter interactions in 2d semiconductors”

**Vortragender: Jason Horng
University of Michigan, United States**

Abstract:

Coherent coupling between the optical field and semiconductor excitons has led to rich physics and diverse applications of the exciton-polariton systems. Recent studies on transition-metal-dichalcogenides (TMD) shows that it is feasible to create high-quality monolayers with exciton linewidths approaching their radiative limit. Excitons in such monolayers have little dephasing rate and inhomogeneity, therefore they exhibit coherent resonance with a macroscopic transition dipole at low temperatures. We show that the large dipole moment stemmed from exciton many-body physics leads to various interesting phenomena, including cooperative Lamb shift and biexcitonic optical Stark effect.