



PADERBORN PHOTONIC LECTURE

WEDNESDAY, 13TH JULY 2022

PROF. DR. CHRISTIAN SCHNEIDER

UPB | LECTURE HALL A.1 | 15:30 H

Exciton-Polaritons in microcavities loaded with atomically thin crystals

Monolayer transition metal dichalcogenides (TMDC) have emerged as a new platform for studies of tightly bound excitons and many-body excitations in ultimately thin materials. Their giant dipole coupling to optical fields makes them very appealing for implementing novel photonic devices, and for fundamental investigations in the framework of cavity quantum electrodynamics. I will discuss the formation of exciton-polaritons in the regime of strong light-matter coupling between TMDC excitons and microcavity photons, and focus specifically on the effect of bosonic condensation. I will furthermore address the question on the emergence of long-range first-order spatial coherence, via interferometric $g(1)(t)$ measurements from cryogenic up to ambient conditions.



Prof. Dr. Christian Schneider (Foto: Daniel Schmidt)