



Technische Universität Berlin



Technische Universität Berlin offers an open position:

Research Assistant - 0.75 working time - salary grade E13 TV-L Berliner Hochschulen

Faculty II - Institute of Solid State Physics

Reference number: II-634/20 (starting at the earliest possible / for a period of 3 years / closing date for applications 20/11/20)

Working field: Participation in the DFG project "Light-Matter Coupling and cavity-QED with Moiré Excitons in van der Waals Heterostructures". The overarching goal of this project as part of the newly established priority program SPP2244 "2D Materials - Physics of van der Waals [hetero]structures (2DMP)" is the development and (quantum) optical study of twisted van der Waals heterobilayers in the regime of cavity quantum electrodynamics. In cooperation with the project partners, Prof. Christian Schneider (University of Oldenburg) and Dr. Christopher Gies (University of Bremen), heterobilayers are to be used to generate and study, among other things, Bose-Einstein condensates of Moiré exciton-polaritons. Furthermore, the tunability of the potential landscape in the Moiré lattice shall be used to generate spatial correlations between localized excitons and thereby to control the collective emission behavior and to enable super-radiance. The work allows a deep insight into the physics and the future applications of novel 2D quantum materials. The activities include the following tasks: Design, manufacture and optical / quantum optical characterization of heterobilayers based on transition metal dichalcogenide monolayers and their coupling with monolithically integrated microresonators. The exciting and highly topical topic covers many aspects of quantum nanophotonics and provides a deep insight into the fascinating physics of novel 2D quantum materials.

Requirements: Successfully completed university degree (Master, Diplom or equivalent) in physics or similar courses of study with in-depth knowledge and experience in the fabrication and optical / quantum optical study of low-dimensional semiconductor materials, especially as part of the final theses, preferably in the field of 2D quantum materials based on transition metal dichalcogenide monolayers; Experience in the field of optical study of microresonator systems is desirable; also the willingness to interdisciplinary cooperation with external project groups; good command of German and/or English required; willingness to learn either English or German is expected.

Please send your application with the **reference number** and the appropriate documents (CV, certificates, a list of publications, and names and contact details of referees) **by email (in a single pdf file, max 5 MB) to reitzenstein.office@physik.tu-berlin.de**.

By submitting your application via email you consent to having your data electronically processed and saved. Please note that we do not provide a guaranty for the protection of your personal data when submitted as unprotected file. Please find our data protection notice acc. DSGVO (General Data Protection Regulation) at the TU staff department homepage: https://www.abt-2-tu-berlin.de/menue/themen_a_z/datenschutzerklaerung/ or quick access 214041.

To ensure equal opportunities between women and men, applications by women with the required qualifications are explicitly desired. Qualified individuals with disabilities will be favored. The TU Berlin values the diversity of its members and is committed to the goals of equal opportunities.

Technische Universität Berlin - Der Präsident - Fakultät II, Institut für Festkörperphysik, Prof. Dr. Stephan Reitzenstein, Sekr. EW 5-3, Hardenbergstr. 36, 10623 Berlin

The vacancy is also available on the internet at <http://www.personalabteilung.tu-berlin.de/menue/jobs/>

