23.02.2018

Open position for PhD student in the field

“Single crystal diamond growth”

The activity of the Augsburg Diamond Group at the chair Experimentalphysik IV (Prof. M. Albrecht) is focused on the physics and the technology of diamond synthesis by chemical vapor deposition (CVD). Few years ago we could demonstrate that wafer-size single crystals can be synthesized by heteroepitaxy using the multilayer structure diamond/Ir/YSZ/Si.

Hitherto unrivalled in size, our heteroepitaxial diamond crystals still suffer from chemical and structural defects e.g. dislocations. Their density has successfully been reduced during the last years by 3-4 orders of magnitude using appropriate growth procedures. Novel concepts are now required to achieve further improvements which bring the material closer to high-end applications in power electronics, radiation detectors or various quantum technologies.

In the framework of our new DFG project SCHR 479/6 we will explore novel “**Concepts and mechanisms of dislocation density reduction in heteroepitaxial diamond”.**

We are searching for a PhD student whose work will comprise sample growth (e.g. CVD, e-beam evaporation), design and implementation of modifications in one of the CVD reactors, preparation and patterning of different masks for lateral overgrowth, sample shaping (e.g. laser cutter), and handling of various characterization tools (e.g. µ-Raman, HR-XRD, SEM, … etc.).

The ideal candidate holds a Master degree preferably in physics or material science and has profound expertise in solid state physics. The candidate should enjoy practical work. Endurance in solving technical & physical problems autonomously and the ability to work in a team are equally important.

The 3-years position is TVL-E13 (75%).

Applications should be submitted until 12.03.2021. The starting date is flexible (asap).

Contact person for questions (e.g. within an informal Zoom meeting) and the submission of applications:

Dr. Matthias Schreck
Lehrstuhl Experimentalphysik IV
Institut für Physik
Universität Augsburg
86135 Augsburg
Tel: +49-821-598-3401

matthias.schreck@physik.uni-augsburg.de
https://www.uni-augsburg.de/en/fakultaet/mntf/physik/groups/exp4/team/schreck/
https://www.uni-augsburg.de/en/fakultaet/mntf/physik/groups/exp4/workgroups/diamond/