



B.Sc.-/ M.Sc. Thesis Multiprobe Lithographical Processing of 2D Materials

We have a problem:

Two-dimensional (2D) materials are crystalline materials that consist of a single-layer of one or few atoms. Overall, this material class has become one of the most active research areas within the last decade. Since the first reliable fabrication of graphene - the most prominent representative of 2D materials - and the demonstration of its extraordinary electrical characteristics in 2004, a variety of different 2D materials has been discovered and studied. In general, 2D materials are highly promising for enabling different kind of novel applications, e.g. flexible and next-generation electronics, supercapacitors and highly sensitive sensors. As the surface to volume ratio of 2D materials is extraordinary high, surface contaminations occurring during conventional lithographical fabrication procedures have a significant negative influence on the properties of 2D materials. To avoid these contaminations, resist-free, nanorobot-assisted lithographical techniques should be evaluated in order to tailor 2D materials into dedicated device structures.

We are looking for:

... excellent students of "physics" or "engineering physics" searching for an interesting subject for their bachelor or master thesis. We expect a profound knowledge in surface science and solid state physics as well as the willingness to work on a challenging topic.

We offer

... an interesting topic, related to nanotechnology.

Our group has profound experience within this area and all equipment necessary to push this new and interesting subject closer to application maturity.

For excellent students, we also offer long-term perspectives.

Last but not least: We have an outstanding coffee machine... ☺

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