OTTO VON GUERICKE UNIVERSITÄT MAGDEBURG

DEPARTMENT OF THEORY OF CONDENSED MATTER

Homepage

We are always looking forward to students who are interested in Bachelor and Master projects related to our current resear activities. If you are interested, don't hesitate to contact us.

Nano- and microstructures of semiconductor materials are interesting for basic research as well as for applications, e.g. novel lig sources. The sizes of these objects are in the nano- and micrometer range, and therefore of the order of the de Broglie wavelen and the optical wavelength, respectively. Because of this, quantum mechanical effects are relevant leading to fascinati phenomena. We are interested in the following aspects: (a) Many-body interactions, as e.g. between electrons and photons, t elementary excitations of the electromagnetic field. (b) Systems with complex dynamical behaviour located at the border betwe classical and quantum mechanics. (c) Another topic of our research are exceptional points, special degeneracies in open quantu systems, and their potential applications in optics and photonics.