IAP Seminar

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Defect engineering of 2D materials: From fundamental aspects to applications

The exciting and often unusual properties of 2D materials are interesting from a basic research point of view but are also at the heart of many future applications. An important issue in this context are defects which will always be present in all 2D materials at finite temperatures and may affect the material properties in various ways. Because defects may be beneficial for certain applications or may even be a prerequisite for a given function, e.g. chemically active sites for catalysis or charge carrier traps in electronic devices, the development of efficient strategies for defect engineering has become indispensable. A standard tool in materials science to artificially introduce defects into solids in a controllable way is the use of ion beams. But their application to 2D materials offers both new challenges as well as opportunities some of which shall be discussed in this talk.

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Marika Schleberger is University Professor at the Universität Duisburg-Essen where she heads the surface science group. She received the Award of the Stifterverband für die Deutsche Wissenschaft, earned a Dorothea-Erxleben fellowship, a Max-Planck research fellowship, and the DFG Heisenberg fellowship. She received her Diploma and PhD degrees at the University of Osnabrück and did postdoctoral research, i.a. with Sven Tougaard (Odense Universitet, Denmark), Martin Landolt (ETH Zürich, Switzerland) and Jürgen Kirschner (MPI Halle, Germany).

All interested colleagues are welcome to this seminar lecture (45 min. presentation followed by discussion)

Friedrich Aumayr
(LVA Leiter und Seminar Chair)