7.2.17

Verhandlungen

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Regensburg 2010 – individual program

O: Fachverband Oberflächenphysik

O 52: Graphene II

O 52.7, Wednesday, 16:30–16:45, H31

selection status for this contribution: according to the sessions' setting

An ab initio study of graphenen nanoribbons doped with boron clusters — Cem Özdogan[1], •Jens Kunstmann[2], Alexander Quandt[3], and Holger Fehske[3] — [1]Department of Computer Engineering, Cankaya University, Ankara, Turkey

— [2]Institute for Materials Science and Max Bergmann Center of Biomaterials, Dresden University of Technology, Germany

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We present results from an ab initio study of graphene and graphene nanoribbons (GNR) doped with B_7 clusters. We already showed that this system might serve as a blueprint for the controlled layout of graphene based nanodevices, where the semiconducting properties are supplemented by parts of the graphene matrix and the metallic wiring is provided by chains of boron clusters [1,2]. We study how the B_7 clusters alter the physical properties of GNRs. A special focus is put on the magnetic properties of zigzag GNRs. [1] A. Quandt, C. Özdoğan, J. Kunstmann, and H. Fehske, Nanotechnology **19**, 335707 (2008). [2] A. Quandt, C. Özdoğan, J. Kunstmann, and H. Fehske, phys. stat. solidi (b) **245**, 2077 (2008).