



TRR 80 Sonderseminar

Am Dienstag, den 20. November um 16:00 Uhr

spricht

Dr. Ivan Rungger

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über das Thema

Ab initio simulations for electron transport through nanostructures

Different aspects of transport properties at the nano-scale are investigated with the ab initio electron transport code SMEAGOL. In the first part I will present transport properties and current-induced spin-torques for novel magnetic tunnel junctions, and show that tunnel magnetoresistance (TMR) and tunnel electroresistance (TER) can coexist in all-oxide junction stacks [1]. Then I will analyze the long range scattering properties of topological states on the antimony surface, in order to rationalize why only specific scattering wave vectors dominate in experiments [2]. In the final part I evaluate changes in energy barriers under current flow, a key aspect in the context of electromigration [3].

[1] N. M. Caffrey, T. Archer, I. Rungger and S. Sanvito, arXiv:1202.4919

[2] A. Narayan, I. Rungger and S. Sanvito, arXiv:1207.4716

[3] R. Zhang, I. Rungger, S. Sanvito and Shimin Hou, Phys. Rev. B 84, 085445 (2011)

Gäste sind herzlich willkommen.

Der Vortrag findet im Seminarraum S-288 / Institut für Physik, Universität Augsburg statt.

Gastgeber: Prof. Dr. Ulrich Eckern
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