Prof. Dr. Friederike Schmid
Institut für Physik
friederike.schmid@uni-mainz.de

Prof. Dr. Hartmut Wittig
Institut für Kernphysik
hartmut.wittig@uni-mainz.de

JOHANNES GUTENBERG UNIVERSITÄT MAINZ

Physikalisches Kolloquium

May 30, 2023 at 4:15 p.m.
HS KPH

Prof. Angela Wittmann
JGU Institute for Physics

Exploring spintronics at unconventional hybrid interfaces

Controlled manipulation of a system allows for systematic investigation of the underlying interactions and phenomena. Simultaneously, tunability also enables the development of novel materials systems and devices customized for specific applications. Here, we will focus on materials systems that conventionally have not been used as active components in spintronic devices. We will explore the impact of strain on the antiferromagnetic domain structure via magneto-elastic coupling1. Furthermore, we will delve into hybrid molecule-magnetic interfaces. Molecules offer a unique way of controlling and varying the structure at the interface making it possible to precisely tune the spin injection and diffusion by molecular design2. In particular, chirality has gained recent interest in the context of the chiral-induced spin selectivity effect3. Here, we will explore signatures of spin filtering at a non-magnetic chiral molecule-metal interface paving the path toward novel hybrid spintronics.

Contact:
Daniela Reibel
Sekretariat Prof. Dr. Friederike Schmid
Institut für Physik
reibel@uni-mainz.de

Fulya Mank
Sekretariat Prof. Dr. Hartmut Wittig
Institut für Kernphysik
mank@uni-mainz.de

MATERIALS IN MAINZ SCIENCE

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