Lehrstuhl für Physik

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S E M I N A R
on
Semiconductor Physics and Nanotechnology

Mo, 13.05.2024, 11:15 Uhr,

Seminar in
person in the Physics lecture hall *or* via Zoom

"Scanning SQUID-on-tip microscopy of 2D and chiral magnetism"

Prof. Dr. Martino Poggio

Department of Physics and Swiss Nanoscience Institute, University of Basel, Switzerland

The ability to map magnetic field sensitively and on the nanometer-scale – unlike global magnetization or transport measurements – overcomes ensemble or spatial inhomogeneity in systems ranging from arrays of nanometer-scale magnets, to superconducting thin films, to strongly correlated states in van der Waals heterostructures. Local imaging of nanometer-scale magnetization, Meissner currents, or current in edge-states is the key to unraveling the microscopic mechanisms behind a wealth of new and poorly understood condensed matter phenomena.

I will discuss efforts in our group aimed at developing and applying high-sensitivity, high-resolution, non-invasive magnetic scanning probes. In particular, we have been developing superconducting sensors, based on nanometer-scale superconducting quantum interference devices fabricated at the apex of a scanning probe tip. I will discuss recent imaging experiments with these tools on 2D and chiral magnets, including $Cr_2Ge_2Te_6$, CrSBr, Cu_2OSeO_3, which yield new insights into their underlying magnetism.

Zoom – Link:
https://zoom.us/j/96375934537?pwd=RTlKTWhSdzRHU211YTY1bGFxTUtpZz09
Meeting-ID: 963 7593 4537
Kenncode: =r=4YQ