Contribution ID: **310** Type: **Talk**

【612】Scanning SQUID-on-tip microscopy of 2D and chiral magnetism

Tuesday 10 September 2024 17:00 (30 minutes)

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 Cr2Ge2Te6, CrSBr, Cu2OSeO3, which yield new insights into their underlying magnetism.

Author: POGGIO, Martino (University of Basel)

Presenter: POGGIO, Martino (University of Basel)

Session Classification: Spintronics and Magnetism at the Nanoscale

Track Classification: Spintronics and Magnetism at the Nanoscale