



Universität
Basel

Research Project

Self-assembly and magnetic order of 2D spin lattices on surfaces

Third-party funded project

Project title Self-assembly and magnetic order of 2D spin lattices on surfaces

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Organisation / Research unit

Departement Physik / Physik

Department

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Status Completed

Surface-supported low-dimensional magnetic materials are of high fundamental interest and of significant

relevance for future applications, e.g., in nanoscale spintronics or quantum technology. Furthermore, they

could represent tunable model systems for, e.g., true single-layer frustrated two-dimensional (2D) quantum

spin lattices, which are very difficult to realize otherwise. This proposal includes the in-depth investigation of

chemically programmed and thereby tunable 2D and one-dimensional (1D) spin arrangements in a spectroscopy

approach combining X-ray magnetic circular dichroism (XMCD) with scanning tunneling microscopy

(STM). This uniquely allows us to study the interplay between competing magnetic interactions in single-layer

2D systems.

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