

SFB – Colloquium

Speaker: **Prof. Dr. Hugo Dil**
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Date: Tuesday, 04.06.2024, 14:15, H34

Topic: Spin textures in real and reciprocal space throughout the relativistic spectrum

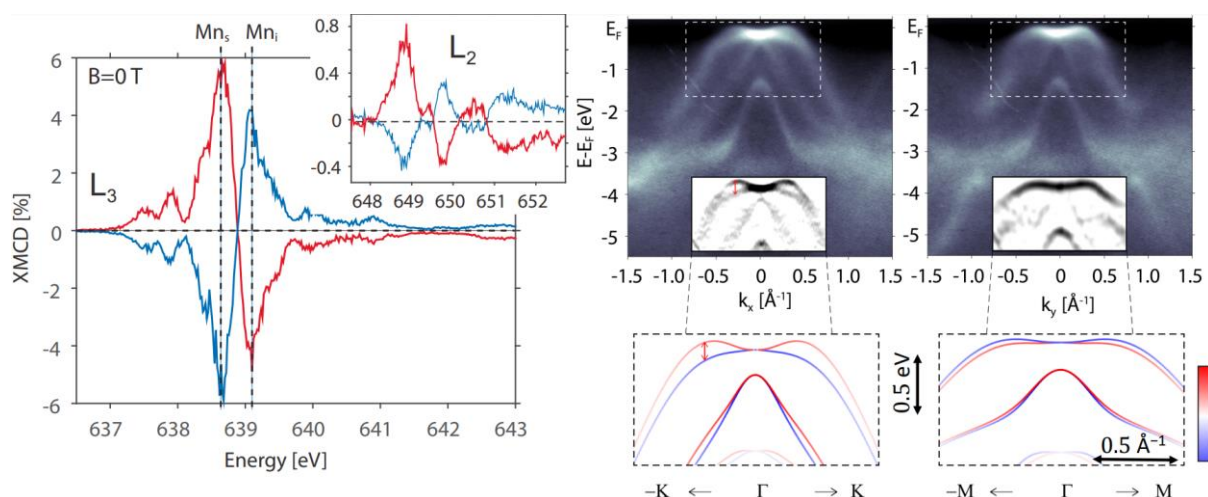
Abstract:

Relativistic influence on the electron spin is described through spin-orbit interaction and a rich variety of physical phenomena and spin textures are created as a function of its strength. On one side of the spectrum one finds Rashba systems and topological materials and on the other side ferromagnets and altermagnets. Experimental results, using a variety of spectroscopic techniques, from throughout the spectrum will be presented with a focus on systems with exchange interaction. Prime examples of this are efficient switching and topological spin textures in multiferroic systems [1] and altermagnets. The latter are a new classification in the family of magnetic materials where the spin symmetries are characterised by rotations rather than translation or inversion. This seemingly small distinction has far reaching consequences which are most clearly expressed in the lifting of the spin degeneracy in reciprocal space [2].

[1] J. Krempasky, JHD, *et al.* Nature Commun. **14**, 6127 (2023)

Host: Prof. Dr. Jaroslav Fabian

[2] J. Krempasky, JHD, *et al.* Nature **626**, 517 (2024)



XMCD switching in multiferroic (Ge,Mn)Te [1] and spin splitting in altermagnetic MnTe [2].