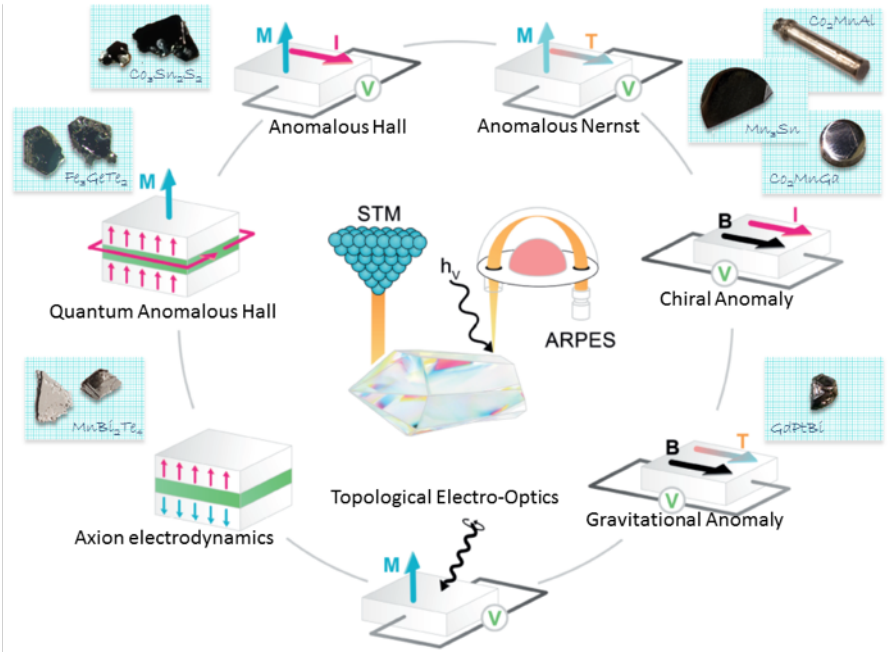
Magnetic materials and topology

Claudia Felser

MPI CPfS - Max Planck Institute Chemical Physics of Solids
Dresden, Germany

Topology, a mathematical concept, recently became a hot and truly transdisciplinary topic in condensed matter physics, solid state chemistry and materials science. All 200 000 inorganic materials were recently classified into trivial and topological materials: topological insulators, Dirac, Weyl and nodal-line semimetals, and topological metals [1, 2]. Around 20% of all materials host topological bands. Currently, we have focussed also on magnetic materials, a fertile field for new since all crossings in the band structure of ferromagnets are Weyl nodes or nodal lines [3, 4, 5, 6, 7], as for example Co_2MnGa and $Co_3Sn_2S_2$. Beyond a single particle picture and identified antiferromagnetic topological materials [8].



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