



Contribution ID : 78

Type : **Talk**

Topology and Chirality

Friday, 25 November 2022 11:00 (45)

Topology, a well-established concept in mathematics, has nowadays become essential to describe condensed matter. At its core are chiral electron states on the bulk, surfaces and edges of the condensed matter systems, in which spin and momentum of the electrons are locked parallel or anti-parallel to each other. Magnetic and non-magnetic Weyl semimetals, for example, exhibit chiral bulk states that have enabled the realization of predictions from high energy and astrophysics involving the chiral quantum number, such as the chiral anomaly, the mixed axial-gravitational anomaly and axions. The potential for connecting chirality as a quantum number to other chiral phenomena across different areas of science, including the asymmetry of matter and antimatter and the homochirality of life, brings topological materials to the fore.

Category

Solid State (Experiment)

Primary author(s) : Prof. FELSER, Claudia (Max Planck Institute for Chemical Physics of Solids)

Presenter(s) : Prof. FELSER, Claudia (Max Planck Institute for Chemical Physics of Solids)

Session Classification : Keynote Physics Talks 2

Track Classification : Physics talks