**Topological Hall Effects in Chiral Magnets**

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**Abstract:**

Chiral magnets are a series of magnets with broken inversion symmetry. A new type of spin interaction therein, the Dzyaloshinskii-Moriya interaction, stimulates the formation of many novel topological spin textures. One important example is the emergence of magnetic skyrmion, whose nontrivial topology enables unique dynamical property and thermal stability and gives rise to promising applications in future spintronic devices.

Other than neutron scattering and transmission electron microscopy, the topological Hall is an important identification of skyrmions. It features a hump in the Hall resistivity curve under the variation of external magnetic field. In this talk, I will discuss the topological Hall effect in a series of materials. I will also discuss alternative mechanism for the topological Hall-like effect in topologically trivial systems.

**Bio:**

Prof. Jiadong Zang received bachelor’s degree in 2007 and PhD degree in 2012, both from Fudan University. He was a postdoctoral fellow in the Institute of Quantum Matter at the Johns Hopkins University during 2012-2015. In 2015, he joined the Department of Physics at the University of New Hampshire (UNH) as an assistant professor. He was promoted to associate professor in 2020, and then to the full professor in 2023. His research field is theoretical condensed matter physics with a focus on many aspects of magnetism, including topological magnetism, quantum transport, and functional magnetic materials. Prof. Zang was recipient of IUPAP Young Scientist Prize in the field of magnetism and the Alexander von Humboldt Fellowship for Experienced Researchers. He is currently the chair of the APS New England Section.