

## A possible route to ferromagnetic Weyl semimetals

In this talk, our recent experimental work on study of electronic structure, and magnetic and electron transport properties of  $\text{HgCr}_2\text{Se}_4$ , as a part of the effort to verify the theoretical prediction, will be presented. Emphasis will be put on measurements of electron spin polarization by Andreev reflection spectroscopy, as well as the mechanisms for negative magnetoresistance in the ferromagnetic state and colossal magnetoresistance in the paramagnet-ferromagnet phase transition region. This talk will also contains a brief introduction to some intertwined states of matter important for condensed matter physics, such as ferromagnet vs. semiconductor, half metal vs. semimetal, and topological insulator vs. Weyl semimetal.

Yongqing Li received his B.S. degree at Tianjin University, and Ph.D. degree in Physics at Florida State University. During 2003-2005, he was a postdoctoral researcher at the Center for Spintronics and Quantum Computation, University of California, Santa Barbara. He then worked as a visiting scientist at the Max Planck Institute for Solid State Research in Stuttgart. In 2008, he joined the Dan Tsui Laboratory at the Institute of Physics (IOP), Chinese Academy of Science. He was appointed as a professor of physics in 2009. He became a research group leader of the low dimensional electron systems at IOP in 2011. His research has covered a broad range of mesoscopic and nanoscale structures based on semiconductors, ferromagnets, topological insulators, as well as superconductors.

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[xswu@pku.edu.cn](mailto:xswu@pku.edu.cn)