



北京大学量子材料科学中心

International Center for Quantum Materials, PKU

Weekly Seminar

Spin-orbit torques and room-temperature skyrmions in magnetic hybrid structures

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Time: 4:00pm, Dec. 19, 2018 (Wednesday)

时间: 2018年12月19日 (周三) 下午4:00

Venue: Room W563, Physics building, Peking University

地点: 北京大学物理楼, 西563会议室

Spintronic devices that rely on the electron spins are promising for the application in information storage and processing. To enable high-performance spintronic devices, people are motivated to look for energy-efficient magnetization switching means and ultra-small magnetic information carrier. The spin-orbit torques (SOTs) and magnetic skyrmions, which together exhibit the above-mentioned properties, once observed have attracted tremendous attentions. This talk will introduce our recent progress on the studies of SOTs and room-temperature skyrmions in magnetic thin films, including following parts: (1) current-induced SOTs in various bilayers, such as heavy metal/ferromagnetic metal, 2D material/ferromagnetic metal, and heavy metal/magnetic insulators; (2) creation and manipulation of room-temperature skyrmions for device applications.

Guoqiang Yu received B.S. degree in physics from Jilin University, Changchun, China, in 2007 and the Ph.D. degree in condensed state physics from Institute of Physics, Chinese Academy of Science, Beijing, China, in 2012. In 2012, he joined the University of California, Los Angeles, CA, as a postdoctoral researcher. In October 2017, he joined in Institute of Physics, Chinese Academy of Science as an associate professor. His major research interests are spin-orbit coupling-related spin-orbit torque effect and magnetic skyrmion in magnetic multilayers.