



Seminar

Large Spin-Orbit Coupling Systems for Emerging Physics and Spintronics Applications

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Time: 3:00pm, June 8, 2021 (Tuesday)

时间: 2021年6月8日 (周二) 下午3:00

Venue: Room W563, Physics building, Peking University

地点: 北京大学物理楼, 西563会议室

Abstract

In order to address current challenges of spintronics, opportunities may exist for a focus research on the understanding and manipulation of fundamental spin-orbit coupling (SOC) in topological quantum materials. In this talk, I will present our work on the control of spin/magnetic states in magnetic topological insulators-based heterostructures. The independent manipulation of the topology of energy band and the magnetic exchange order enable us to observe emerging effects towards higher temperatures. In addition, I will also summarize our recent work on utilizing interfacial Rashba SOC for low-power spintronics devices with highly spin-to-charge conversion efficiency.

About the speaker

Dr. Xufeng Kou received his BS degree (with honor) in Chu Kochen Honors College from Zhejiang University (2009). From 2009 to 2015, he received his MS and PhD degrees in Electrical Engineering from UCLA. He joined ShanghaiTech University in 2016 and was promoted as the tenured associated professor since 2021. So far, Dr. Kou has published 3 book chapters, and co-authored 73 peer-reviewed journal papers including *Science*, *Nature Mater*, *Nature Nano.*, *Nature Comm.*, *Sci. Adv.*, *Phys. Rev. Lett.*, and *Proc. IEEE*. with more than 5200 citations (h-index of 33). He also holds several awards including the Qualcomm Innovation Fellowship (2012), Chinese Outstanding Student Abroad Scholarship (2013), Distinguished PhD Dissertation Award of UCLA (2015), Shanghai May 4th Youth Medal (2018), and Shanghai Science & Technology 35 Under 35 Award (2021).