

凝聚态物理-北京大学论坛

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Chiral p-wave superconductivity in Sr_2RuO_4 : An update

Abstract I will first present a brief overview of the current status of Sr_2RuO_4 research, focusing on pairing symmetry in this superconductor. I will discuss in particular our quasi particle tunneling and phase-sensitive measurements indicating that Sr_2RuO_4 is a weak coupling superconductor featuring a chiral p-wave pairing state. I will present our more recent work on the eutectic phase of Sr_2RuO_4 -Ru, mesoscopic-size crystals of Sr_2RuO_4 , and related materials, which provides insight into the mechanism of superconductivity in this material. Finally, I will comment on outstanding issues and future trends of work on this exciting material system.

Dr. Ying Liu is a professor of physics at Pennsylvania State University. He received a B. S. degree from Peking University, Beijing, a M. S. degree at Institute of Physics, Chinese Academy of Sciences, Beijing, and a Ph. D. degree from University of Minnesota, all in physics. He joined the faculty of Department of Physics, Pennsylvania State University in 1994 after spending three years as a postdoctoral research associate at University of Colorado in Boulder. He has visiting positions at Shanghai Jiaotong University and Zhejiang University. His current research centers in contemporary experimental condensed matter and materials physics, focusing on superconductivity and physics of quantum electronic materials. Systems under current study include chiral p-wave superconductor Sr_2RuO_4 , mesoscopic and single-sheet superconductors, graphene and topological insulators, surfaces and interfaces of transition metal oxides, and strongly correlated quantum materials. Dr. Liu received an NSF Career Award in 1997 and is a fellow of American Physical Society. He received a NSFC Jieqing grant (Type B) in 2006 and was a Chang Jiang Jiangzuo Professor at Zhejiang University from 2007 to 2010.

时间：5月5日（星期四）15:00—16:40

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Photograph by Xiaodong Hu