北京大学量子材料科学中心
International Center for Quantum Materials, PKU

Seminar

High-temperature superconductivity: new insights and perspectives

Bernhard Keimer
Max Planck Institute for Solid State Research

Time: 13:00 pm, Nov. 20, 2015 (Friday)
时间：2015年11月20日 （周五）下午13:00 pm
Venue: Room M212, Physics Building, Peking University
地点：北京大学物理楼 中212

Abstract

•Almost three decades years after the discovery of high-temperature superconductivity in the copper oxides, new experimental techniques such as resonant x-ray scattering yield surprising insights into these materials [1]. After outlining our current understanding of this phenomenon, we will discuss the latest developments with a focus on the discovery of charge order and its interplay with superconductivity in the copper oxides [2]. We will also discuss perspectives for controlled manipulation of high-temperature superconductors and other correlated-electron materials at interfaces [3].

•

•[1] For a recent review, see B. Keimer *et al*., Nature **518**, 179 (2015).

•[2] G. Ghiringhelli *et al*., Science **337**, 821 (2012); S. Blanco-Canosa *et al*., Phys. Rev. Lett. **110**, 187001 (2013); Phys. Rev. B **90**, 054513 (2014); M. Le Tacon *et al*., Nature Phys. **10**, 52 (2014); R. Comin *et al*., Science **343**, 390 (2014).

•[3] A. Boris *et al*., Science **332**, 937 (2011); N. Driza *et al*., Nature Mater.**11**, 675 (2012); A. Frano *et al*., Phys. Rev. Lett. **111**, 106804 (2013); M. Hepting *et al*., Phys. Rev. Lett. **113**, 227206 (2014).

•

About the Speaker

Bernhard Keimer is currently Director at the Max Planck Institute for Solid State Research and Honorary Professor at the University of Stuttgart, Germany. He obtained his physics education from the Technical University of Munich and from the Massachusetts Institute of Technology, where he received his Ph.D. degree in 1991. Before taking up his current position in 1998, he spent seven years on the faculty of Princeton University, where he was appointed Full Professor in 1997. His research group uses spectroscopic methods to explore quantum many-body phenomena in correlated-electron materials and metal-oxide heterostructures. Bernhard Keimer has received numerous awards for his research, including most recently the Leibniz Prize of the German Science Foundation.

Host: 李源 <yuan.li@pku.edu.cn>