

清华大学高等研究院

Institute for Advanced Study, Tsinghua University

学术报告

Title:Experimental Realization of Quantum Spin LiquidsSpeaker:Tian-Heng Han 韩天亨
University of Chicago &
Argonne National Laboratory in Chicago, USATime:11:00am, Tuesday, Nov 18, 2014

Venue: Conference Hall 322, Science Building, Tsinghua University

Abstract

A quantum spin liquid (QSL), featuring long-range spin entanglement, is a manifestation of many-body problems. Such states host a zoo of exotic phenomena beyond Landau's paradigm, despite their simple microscopic constitutes. The past decade has witnessed a great adventure in this field thanks to the discovery of several promising compounds. I will start with introducing basic concepts followed by an exhibition of recent experimental and theoretical breakthroughs. The limitations of past investigations will be addressed with an eye towards stronger experimental evidence. Further developments of QSL physics require a close collaboration between experimentalists and theorists. Successful harness of unconventional properties in QSLs will be best achieved utilizing a combination of state-of-the-art measurement techniques.

报告人简介:

Dr. Tian-Heng Han (韩天亨) is a distinguished postdoctoral fellow at the University of Chicago and Argonne National Laboratory in Chicago, USA. He graduated from the Hong Kong University of Science and Technology in 2006 and received his Ph.D. in experimental condensed matter physics from MIT in 2012. His researches focus on the study of quantum magnets using a variety of techniques, such as single crystal growth, neutron and synchrotron x-ray scatterings, calorimetry and magnetometry. His observation of fractionalized spin excitations on a 2D frustrated magnet marks the best evidence so far of a quantum spin liquid state.