



# 清华大学高等研究院

Institute for Advanced Study, Tsinghua University

## 物理学术报告

### Physics Seminars (biweekly)

**Title:** Towards simulating many-body physics on a NMR quantum simulator

**Speaker:** Xinhua Peng 彭新华  
(*University of Science and Technology of China*)

**Time:** 3:30pm, Wednesday, Nov 25, 2015  
(3:00~3:30pm, Tea, Coffee, and Cookie)

**Venue:** Conference Hall 322, Science Building, Tsinghua University

#### Abstract

In this talk, I will talk about our recent progress on experimental quantum simulation. Using a kind of nuclear magnetic resonance simulator, we experimentally study some interesting many-body physical phenomena in condensed-matter physics, such as quantum phase transitions, topological phase transition, Lee-Yang zeros and dynamical quantum Hall effect etc. These experiments demonstrate the feasibility of small quantum simulators for strongly correlated quantum systems and provide an experimental tool for further studies of complex quantum systems.