PHYSICS SEMINAR SERIES

TOPIC: Unique Topological Phases of Cold Atoms: Exploring the Interplay of Interaction and Novel Lattice Geometry

SPEAKER: W. Vincent Liu, University of Pittsburgh and Shanghai Jiao Tong University

TIME: 2:00-3:00pm, Monday, December 11, 2017

VENUE: Room 385, Geography Building, Zhongbei Campus (华东师范大学中山北路校区，地理楼 385 室)

HOST: Guoxiang Huang, East China Normal University

ABSTRACT OF THE TALK

When interacting ultracold atoms are loaded into various novel forms of optical lattices, would it be possible to encounter conceptually novel phases that have no prior analogue from the well-known condensed matter models? In this talk, I will report some of our recent findings by exploiting symmetries and topology beyond natural conditions in such artificial quantum systems.

Reviews related to the talk:
• X. Li, WVL, Rep. Prog. Phys. 79, 116401 (2016)

Technical references:
• B. Liu, X. Li, B. WU, and WVL, Nature Communications 5:5064 (2014)

BIOGRAPHY

Dr. Liu received his Ph.D. from University of Texas at Austin in 1999 mentored by Professor Steven Weinberg (Nobel Laureate). After graduation, he became a postdoctoral research associate at the University of Illinois at Urbana-Champaign for two years under the supervision of Eduardo Fradkin and Mike Stone and then spent three years as a postdoctoral fellow at Massachusetts Institute of Technology mentored by Professors Frank Wilczek (Nobel Laureate) and Patrick Lee. Since 2004, he has been on the faculty of the University of Pittsburgh. He was the recipient of Outstanding Young Researcher Award by the International Organization of Chinese Physicists and Astronomers in 2007, was selected by the Chinese national 1000-people program in 2016, and became an elected Fellow of American Physical Society in 2017. He holds adjunct Chair Professorship in Shanghai Jiao Tong University, affiliated with both School of Physics and Astronomy and T.D. Lee Institute.