

武汉物数所理论物理专业课程

Elementary introduction to superfluidity and cold atomic gases

A/Professor Shi-Zhong Zhang
The University of Hong Kong, China
磁共振楼10楼1016-17报告厅

Lecture schedule: From July 17-21, 2017 (20 hours)

09:30am-11:30am

15:00pm-17:00pm

Teaching assistant: Dr. Yi-Cong Yu

Secretary: Feng He and Mrs. Li-juan Liu



About the lecturer:

Dr. Shi-Zhong Zhang is currently an assistant professor in Department of Physics at the University of Hong Kong. He graduated from Tsinghua University in 2003, and received his PhD degree in physics from University of Illinois at Urbana-Champaign in 2009 under the supervision of professor Tony Leggett who was the Nobel laureate in 2003. From 2009 to 2012, he was a Postdoctoral Fellow at The Ohio State University, USA. Since 2012, he joined the University of Hong Kong. Dr. Zhang has done many beautiful works in ultracold atoms and quantum many-body physics. Due to his contributions in these research fields, he was awarded 2015 Croucher Innovation Award. Dr. Zhang has published a number of papers in *Science*, *Nature Physics* and *Physical Review Letters*, etc.

About the course:

The course attempts to review the rapidly developing field of cold atomic gases. It focuses on a few basic concepts such as condensate, superfluidity and explore their manifestations in various situations, including atoms with multiple internal states, restricted Hilbert space, optical lattices and high partial wave scattering etc. Both static and kinetic phenomena will be discussed. A special emphasize will be put on the strongly interacting Fermi gas, especially with reference to their transport properties.

NOTE:

This is a **compulsory** course for graduate students in Theoretical Physics.

主办单位:武汉物数所理论与交叉研究部