



Seminar

Precision measurement and precision control in ultracold atoms, with a few applications

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Time: 10:00am, December 12, 2023 (Tuesday)

时间: 2023年12月12日 (周二) 上午 10:00

Venue: Room W563, Physics Building, Peking University

地点: 北京大学物理楼 西563

Abstract

After nearly thirty years of development, research on ultracold atoms has become one of the representative fields of atomic, molecular, and optical physics, providing powerful tools for studying fundamental scientific problems. In this seminar, I will discuss precision measurement techniques and the corresponding precision control techniques in ultracold atomic systems, with a focus on precision frequency techniques. I will describe several applications of such precision techniques in ultracold atoms, such as the realization of two-dimensional Dirac-type spin-orbit coupling, the Qi-Wu-Zhang model, and nontrivial band topology in ultracold Fermi gases.

About the Speaker

Xibo Zhang received his Ph.D. degree at the University of Chicago in 2012/03 and then performed postdoctoral research at JILA, CU Boulder. In 2015/12 he joined the International Center for Quantum Materials, Peking University as an assistant professor. His experimental research mainly involves the precision control of quantum materials and quantum simulation based on ultracold atoms.