北京大学量子材料科学中心

International Center for Quantum Materials, PKU

Seminar

Self-learning Quantum Monte Carlo method

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Time: 4:00pm, March. 24, 2017 (Friday)

时间：2017年3月24日 （周五）下午4:00

Venue: Room w563, Physics building, Peking University

地点：北京大学物理楼，西563会议室

Abstract

Self-learning Monte Carlo (SLMC) method is a general-purpose numerical method to simulate many-body systems. SLMC can efficiently cure the critical slowing down in both bosonic and fermionic systems. In this talk, I will give a introduction about the background, basic idea and the design principle of SLMC. Later, I will explicitly show how to use SLMC in classic systems, free fermions coupled with classical spins systems, and interacting fermion systems.

Refs:

[1] arXiv:1610.03137 (2016)
[2] arXiv:1611.09364 (2016)
[3] arXiv:1612.03804 (2016)

About the speaker

Xiao Yan Xu received his Bachelor degree in Physics in 2012 from Huazhong University of Science and Technology. Since 2012, he has been a doctoral student in Institute of Physics, Chinese Academy of Sciences.