DEPARTMENT OF PHYSICS
THE UNIVERSITY OF HONG KONG

Physics Colloquium

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Ultrafast Dynamics of Few-Body Atoms and Molecules in Laser Fields

December 4, 2024 (Wednesday)

5:00 p.m.

CYCP1, LG1/F, Chong Yuet Ming Chemistry Building, Main Campus, HKU

Prof. Liang-You PENG
School of Physics, Peking University

Abstract:
Revolutions in laser technologies have unprecedentedly enabled our ability to probe and control the microscopic motion inside atoms, molecules, liquid, and solids. The interaction of strong lasers with matter leads to many interesting nonlinear phenomena, which in turn provide novel ways to produce new light sources. In this colloquium, I will first review the progresses of lasers, especially touching some essentials related to the physics behind the Nobel prize of physics in 2018 and in 2023. Then, I will present some theoretical and experimental methodologies in the study of ultrafast dynamics in atoms and molecules. Finally, I will briefly introduce our recent work in this field.

Biography:
Liang-You Peng is an endowed Boya distinguished professor and vice dean in the School of Physics at Peking University. He obtained his bachelor degree in physics from Central China Normal University in 1998 and earned his PhD in Queen's University of Belfast in 2005. Then, he moved to the United States and worked as a postdoc in University of Nebraska Lincoln, until he was hired as an associate professor in 2007 by the School of Physics at Peking University. Prof. Peng's expertise covers several interesting fields in atomic, molecular and optical physics, such as ultrafast dynamics in laser-matter interaction, attosecond physics, quantum computation in trapped ions, and the related computational physics. He has published more than 140 papers in refereed journals, including 14 in Physical Review Letters, two book chapters, and several invited reviews in Physics Reports, Journal of Physics B, Chinese Physics B, ect. Due to these contributions, he has won several awards including Rao Yutai Award from Chinese Physical Society. He was recognized as outstanding referees in 2021 by American Physical Society.

Anyone interested is welcome to attend.

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