Department of Physics
THE UNIVERSITY OF HONG KONG

Physics Colloquium

Unraveling the Origins of Elements: Bridging Nuclear Theory with Machine Learning

Prof. Haozhao LIANG
The University of Tokyo

Date: March 6, 2024 (Wednesday)
Time: 5:00 p.m.
Venue: CYCP3, LG1/F, Chong Yuet Ming Physics Building, Main Campus, HKU

Abstract:
Understanding the origin of elements in the universe stands as one of the paramount scientific questions. In particular, the nucleosynthesis of heavy elements spanning from iron to uranium entails thousands of highly neutron-rich isotopes, surpassing current experimental capabilities for direct measurements. Consequently, the systematic and self-consistent computation and prediction of the physical properties of neutron-rich isotopes have emerged as crucial frontiers in both nuclear physics and nuclear astrophysics. In this colloquium, Prof. Liang will discuss the theoretical investigations on nuclear mass and beta-decay half-lives, while exploring the potential roles and effectiveness of machine learning methodologies within this cutting-edge research domain.

Biography:
Prof. Haozhao Liang got his co-supervision Ph.D. degrees from Peking University, China, and Université Paris-Sud XI (now Université Paris-Saclay), France. He is now a tenured Associate Professor in Department of Physics, The University of Tokyo, and also an Honorary Associate Professor in Department of Physics, The University of Hong Kong. Prof. Liang's research interests are mainly focusing on nuclear density functional theory, and the relevant interdisciplinary applications in nuclear physics, nuclear astrophysics, and particle physics. He was awarded The International Union of Pure and Applied Physics (IUPAP) Young Scientist Prize in 2016.

Anyone interested is welcome to attend!

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