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Exploring the Dark Matter

Date: 2023/02/22 (Wed)

Venue: S4-208 (Online, 理論中心)

Time: 11:00-12:30

Abstract:

The nature of dark matter (DM) is still a great, mysterious issue. As we know, DM plays a major role in structure formation, and its abundance is about 5.5 times larger than ordinary matter in the present Universe. However, even all robust evidence to support the existence of DM until now is only connected with gravitational interactions. Still, it is believed that there are non-negligible couplings between Standard Model(SM) particles and DM in addition to gravitational interactions.

In this colloquium, I will first review these motivations of DM, and then introduce various experiments to search for DM, including DM direct and indirect detections as well as accelerator experiments. My contributions to some important DM issues will be emphasized.

Brief Biography :

Chih-Ting Lu, associate professor of Nanjing Normal University; He received his Ph.D. degree from National Tsing Hua University (NTHU) in 2015, and then engaged in post-doctoral research at NTHU, National Center for Theoretical Sciences (NCTS) and Korea Institute for Advanced Study (KIAS) in Korea. His main research topics include collider physics phenomenology, Higgs physics, dark matter physics, etc. Recently, he has focused on light dark matter issues, including the search for light dark matter in accelerators, direct and indirect detection experiments as well as model building.