



THE CHINESE UNIVERSITY OF HONG KONG
Department of Physics
SEMINAR

Supernovae Time Profiles as a Probe of New Physics at Neutrino Telescopes

by

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Time: 4:00 - 5:00 p.m.

Place: L2, Science Centre, CUHK

ALL INTERESTED ARE WELCOME

Abstract

Neutrino telescopes, including IceCube, can detect galactic supernova events by observing the collective rise in photomultiplier count rates with a sub-second time resolution. In my talk, I will illuminate the ability of neutrino telescopes to explore new weakly coupled states emitted from supernovae and subsequently decaying to neutrinos. Specifically, I will investigate galactic supernovae events, exploring BSM scenarios such as Majoron-like bosons and neutrino magnetic moment portals. By analyzing neutrino time profiles from supernovae within time windows as short as 0.01s, I will establish that IceCube can serve as a leading probe for new physics.

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