



Wave Dark Matter and Pulsar Arrays

Date: **April 6, 2022 (Wednesday)**

~~March 30, 2022 (Wednesday)~~

Time: **10:00 a.m.**

Zoom Online Lecture: <https://bit.ly/3rlyVWe>

Meeting ID: 942 2996 1949

Password: 2859



*Prof. Tao LIU
HKUST*

Abstract:

Dark Matter (DM) is a long-standing puzzle on the Universe, while wave DM is one of the main theories to address this puzzle. In this talk, the speaker will introduce how pulsar arrays, which were originally proposed to detect low-frequency gravitational waves as a galactic interferometer, stand in the frontier of detecting wave DM. The speaker will specifically address in this context: (1) the role of individual pulsars; (2) the importance of developing “pulsar polarization arrays”; and (3) the necessity of correlating pulsar polarization arrays and pulsar timing arrays. The detection of wave DM thus forms an important task for radio astronomy.

Biography:

Dr. Tao Liu's research focuses on particle physics and its connection with astronomy and cosmology. Dr. Tao Liu received his PhD in Physics at University of Pennsylvania in 2007. Then he worked as “McCormick fellow” in Enrico Fermi Institute at University of Chicago during 2007-2010. After that, he moved to University of California at Santa Barbara to continue his postdoctoral research. He joined the Hong Kong University of Science and Technology (HKUST) in 2013 as a junior faculty. Now he is an associate professor at HKUST. He received the HKUST “School of Science Research Award” in 2016, and currently is the PI of the Hong Kong UGC/RGC Collaborative Research Fund project “Dark Matter and the Universe”.

Anyone interested is welcome to attend!

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