CCNU – HUST Joint Colloquium

Minimalism in Modified Gravity

Date 10:00 - 11:00, May 26 (Friday), 2023

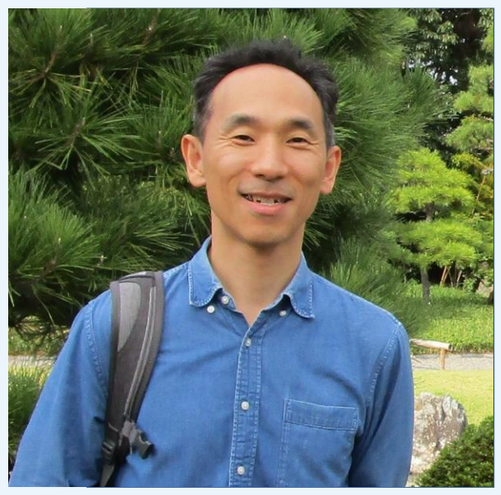
Place 1131, Building 9 (Zoom ID: 881 5903 1592)

Speaker

Prof. Shinji Mukohyama (向山 信治)

Yukawa Institute for Theoretical Physics, Kyoto University

(汤川理论物理研究所，京都大学)



Abstract

It is generally believed that modification of general relativity inevitably introduces extra physical degree(s) of freedom. In this talk I argue that this is not the case by constructing modified gravity theories with two local physical degrees of freedom. After classifying such theories into two types, I show explicit examples and discuss their cosmology and phenomenology, such as possible amelioration of tensions in cosmology and stable massive gravity/bigravity cosmology.

Biography

Prof. Shinji Mukohyama obtained his Ph.D. from Kyoto University in 1999. After working at the University of Victoria, Harvard University, and the University of Tokyo, he joined in Yukawa Institute of Theoretical Physics at Kyoto University as a professor in 2014. He received the Young Scientist Award of the Physical Society of Japan in 2007, Lagrange Award in 2014, and Visiting Professorship at the University of Tours from 2017 to 2018. He is an editorial board member of General Relativity and Gravitation, AAPPS Bulletin, European Physical Journal C, Progress of Theoretical and Experimental Physics, Classical and Quantum Gravity, and Universe.