

IOA Seminar

Perturbative unitarity of Higgs inflation in metric-affine gravity

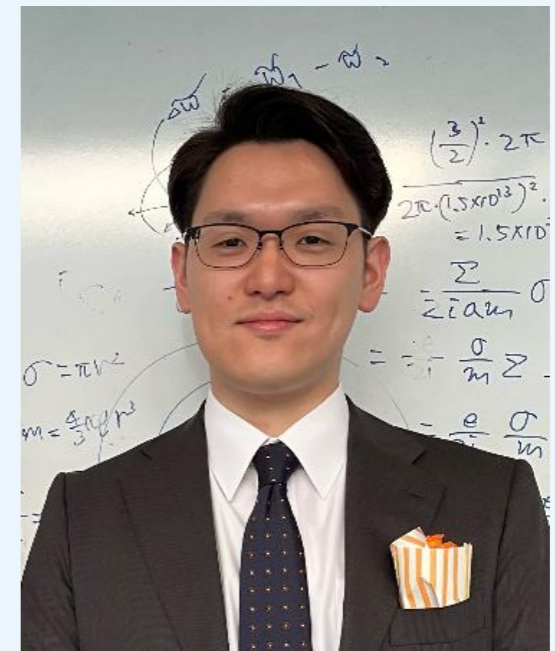
Date 14:00 - 15:30, May 14 (Thursday), 2026

Place 1118, Building 9 (Zoom ID: 881 5903 1592)

Speaker

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Abstract

Higgs inflation is an attractive class of models in which the Standard Model Higgs field drives cosmic inflation. The original setup was first formulated within Riemannian geometry and has been extended to metric-affine gravity. Although it is appealing to identify the Higgs as the inflaton, these models are known to suffer from a lower UV cutoff than the Planck scale, indicating the necessity of UV completion. In this talk, after a brief review of the unitarity issue and previous approaches to UV completion, I will investigate how small deformations of simple Higgs inflation models affect the emergence and properties of dynamical degrees of freedom, with particular emphasis on the large- N limit.

Biography

Dr. Yusuke Mikura obtained his Ph.D. in 2025 from Nagoya University in Japan. During his graduate program, he was a long-term visiting student at SISSA in Italy. Since April 2025, he has been working at Institute of Astronomy & Astrophysics, Academia Sinica in Taiwan as a postdoc fellow. His research interests include gravitational theories, early universe phenomenology, gravitational waves, and the large-scale structure.