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The Age of Discovery with the James Webb Space Telescope

Time: 15:00-16:00, 10 October (Thursday), Shanghai time

Venue: N600 (TDLI)

Host: Yosuke Mizuno

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Meeting ID: 323843546

Abstract:

The James Webb Space Telescope (JWST) observations have revolutionized extragalactic research, particularly with the discovery of low-luminosity active galactic nuclei (AGNs) at high redshifts, powered by accreting black holes (BHs) with masses of 10^{6-8} M_{\odot} . These AGN populations are crucial for understanding early BH assembly and coevolution with their host galaxies. Several remarkable findings distinguish these JWST-identified AGNs from their low-redshift counterparts: (1) their abundance is 1-2 orders of magnitude higher than that of bright quasars, (2) the BH-to-galaxy mass ratio appears significantly higher than the local relationship, and (3) strong absorption features are often seen on top of Balmer emission lines. In this talk, I will review these new results from the first-round of JWST observations, explore theoretical explanations and predictions for those aspects, and propose potentially interesting observations to further investigate the early BH population.

Biography:

Dr. Inayoshi is an associate professor in Kavli Institute for Astronomy and Astrophysics, Peking University. Before joining KIAA in the fall of 2018, Dr. Inayoshi spent 4 years at Columbia University in US as a Junior Simons Fellow. He received his Ph.D. in physics from Kyoto University, Japan, in 2014.