Contribution ID: **35**   Type: **Oral (onsite)**

A comprehensive search for dusty AGNs using a pixel-by-pixel color selection method from JWST imaging data

Wednesday 20 November 2024 09:50 (20 minutes)

Deep IR observations by JWST have discovered a large number of high-z, red, and compact objects called "little red dots"(LRDs). Based on the detection and analysis of broad emission lines, previous studies have argued that LRDs are low-luminosity AGNs hosting overmassive black holes. However, previous LRDs selection is mainly based on color and compactness criteria, potentially biasing results towards AGN-dominant cases where the host galaxies are undetected. To address this, we apply a pixel-by-pixel color selection method to JWST/NIRCam imaging data, aiming to identify LRDs/dusty-AGNs with extended or nearby components that may represent their host galaxies or merger counterparts. We confirm that our selection method finds previously identified LRD candidates with high completeness. Moreover, our method selects LRDs missed by typical selection methods: LRDs with extended components or nearby components, including the first dual LRDs. In this presentation, I will introduce our novel selection method and, based on the analysis of the selected objects, discuss the evolution of LRDs and high-z SMBHs.

Presenter: TANAKA, Takumi (the University of Tokyo / Kavli IPMU)