

X38a The properties of AGN-host galaxies at $z \sim 0.7 - 2.5$ unveiled with COSMOS-Web

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Studies of local galaxies found a strong correlation between the mass of galaxies and the mass of supermassive black holes (SMBHs) at their centers, suggesting a coevolution between them. Thanks to the high resolution and sensitivity of JWST, we can discuss the properties of AGN-host galaxies at higher- z in more detail. To delve into the properties of host galaxies more statistically, we present an analysis of ~ 70 X-ray-selected and already spectroscopically observed type-I AGNs at $0.7 < z < 2.5$ within COSMOS-web (Casey et al. 2022), a large ($\sim 0.54 \text{ deg}^2$) imaging survey using JWST. We perform a 2D image decomposition method (c.f., Ding et al. 2022) that extracts host galaxy components from image data by fitting with PSF and Sersic profiles and succeed in detecting host galaxy components, including sub-structure at $z \sim 2$. Then, we estimate the stellar mass of the host galaxies through SED fitting to discuss the evolution of the mass relation between host galaxies and their SMBHs in the high- z universe. We also discuss the morphological parameters and sub-structures of host galaxies. In this presentation, we will report our initial results using the COSMOS-web data obtained in January and April 2023.