

Z111a **PFS Galaxy Evolution Survey. III: Modeling for PFS using cosmological simulations: feedback, metals, and IGM**

Kentaro Nagamine (Osaka U.) on behalf of the PFS Galaxy Evolution Survey Team

In the current cosmological framework of Lambda-CDM, galaxies form out of diffuse IGM, subject to the gravity of dark matter. The gas flows into the dark matter halo potential well via cold flow, and mechanical and/or radiative feedback from supernova & AGN will enrich the IGM with metals as galaxies merge and assemble their stellar mass. This inevitably brings complicated interplay between galaxies and IGM, and PFS+HSC data will present us with a unique opportunity to study the galaxy-IGM connection. In this presentation, we discuss the modeling for PFS using cosmological hydrodynamic simulations, and what we can learn about feedback by studying the correlation between HI, metals, and galaxies.