

Z122b Galaxy evolution study from the cosmology emission line galaxy sample

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One of the main targets in the Subaru Prime Focus Spectrograph (PFS) is the emission line galaxy (ELG) sample with sufficiently high [OII] emission at $0.6 < z < 2.4$ in the PFS cosmology program. Although the main scientific goal with the ELG sample is to infer cosmological parameters such as the neutrino masses and the dark energy equation of state, the gigantic ELG sample simultaneously offers us synergetic studies of galaxy evolution science in a wide redshift coverage. In this talk, we will discuss how the cosmology ELG sample is planned to be selected in terms of optical photometric magnitudes and colors in HSC. Then we will introduce our modeling of emission lines in a cosmological hydrodynamical simulation and showcase a few example studies such as co-evolution of dark matter halos and ELGs as well as the properties of interstellar medium and dust attenuation.