

Z124b Probing Galaxy Evolution through Narrow Band Emitters with Subaru PFS

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The study of narrow band emitters through the Subaru Hyper Suprime-Cam Strategic Survey Program (HSC-SSP) provides valuable insights into star formation and galaxy evolution at various redshifts. By analyzing emission line galaxies, we can effectively map the large-scale structure, study star forming activities, and investigate their environmental dependencies. We demonstrate a novel method for estimating accurate redshifts of star-forming galaxies by measuring the flux ratio of the same emission line observed through two adjacent narrow-band filters. Additionally, we investigate the environmental dependence of star-forming activity, measure $H\alpha$ and stellar continuum sizes. We also explore the 3-D structure of the cosmic web at $z = 0.4$ using HSC triple narrow-band imaging. Additionally, we also study the morphology dependence of star forming galaxies with JWST NIRCAM. The future involvement of the Prime Focus Spectrograph (PFS) is proposed for follow-up studies on these emitters. Using PFS will enable detailed analysis of their chemical abundances and physical properties, thereby enhancing our understanding of galactic processes and evolution.