

X25a AGN/Stellar Feedback Evolution at High Redshifts: Systematic Study with [OII], [OIII], and H α Blobs

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In the last ASJ meeting, we introduced the systematic way to select outflowing galaxies at high redshift via spatially extended [OII] emission over at least 30 kpc, which we call “[OII] blobs”. Some of these galaxies are probably experiencing the final phase of star formation with their gas heated and expelled out by AGN/stellar feedback, and quenching star formation whose process is a key to produce passively-evolving ellipticals. Searching for [OII], [OIII], and H α blobs that are galaxies with spatially extended emission of [OII], [OIII], and H α , respectively, in our Subaru/Suprime-Cam narrowband images, we extend our study of blobs to cover outflowing galaxies in the redshift ranges up to $z = 1.5$ in SXDS field. $z < 0.4$. With more stringent criteria used for identifying blobs than in our previous study, we are able to select large than 40 kpc as H α blobs at $z \sim 0.4$, [OIII] blobs at $z \sim 0.8$, and [OII] blobs at $z \sim 1.2$ and $z \sim 1.5$. Fractions of blobs against entire emitters are roughly constant over the redshift range, indicating that this strong outflowing phase is shorter than one Gyr and only a small fraction of galaxies experiences galactic scale outflow that is strong enough to expel gas out of the galaxies at each epoch.