X02a **Stellar Populations of Lyman Alpha Emitters at $z \sim 6-7$**

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Lyα emitters (LAEs) are a galaxy population commonly seen at high redshift. Studying the stellar population of LAEs is essential to understand their physical nature and to reveal the relationship between LAEs and other high-redshift galaxies. At $z \sim 6-7$, a few studies have reported on stellar populations of LAEs, but they are all based on a very small sample and consensus has not been reached.

We investigate the stellar populations of LAEs at $z = 5.7$ and 6.6 in a 0.65 deg^2 sky of the Subaru/XMM-Newton Deep Survey (SXDS) Field. We produce stacked multiband images at each redshift from 165 ($z = 5.7$) and 91 ($z = 6.6$) objects, to derive typical spectral energy distributions (SEDs) of $z \sim 6-7$ LAEs for the first time. The stacked LAEs have as blue UV continua as the HST/WFC3 z-dropout galaxies of similar $M_{\rm UV}$, but at the same time they have red UV-to-optical colors with detection in the 3.6μm band. Using SED fitting we find that the stacked LAEs have low stellar masses of $\sim (3-10) \times 10^7 M_\odot$, very young ages of $\sim 1-3$ Myr, negligible dust extinction, and strong nebular emission from the ionized ISM, although the $z = 6.6$ object is fitted similarly well with high-mass models without nebular emission; inclusion of nebular emission reproduces the red UV-to-optical color while keeping the UV color sufficiently blue. From the minimum contribution of nebular emission required to fit the observed SEDs, we place an upper limit on the escape fraction of ionizing photons to be $f_{\rm esc} \sim 0.6$ at $z = 5.7$ and ~ 0.9 at $z = 6.6$.