

**Title:** Stellar Populations of Lyman-alpha Emitters at  $z = 4.86$ : A comparison to LBGs

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## **Abstract:**

We present a study of stellar population of Lyman Alpha Emitters (LAEs) at  $z = 4.86$  in GOODS North and its flanking field selected based on optical narrowband (NB711) and broadband ( $V$ ,  $Ic$  and  $z'$ ) observations using Suprime-Cam on Subaru Telescope. With the publicly available IRAC data in GOODS-N and further IRAC observations in the flanking field, we select 9 LAEs which are not contaminated by neighboring objects in IRAC images and construct their individual observed spectral energy distributions (SEDs) from Suprime-Cam  $Ic$  and  $z'$  bands and IRAC  $3.6\mu\text{m}$  and  $4.5\mu\text{m}$  bands which cover from rest-frame UV to optical wavelength ranges. We derive stellar masses, ages, color excesses, and star formation rates by SED fitting method by assuming the constant star formation history. We find that the rest-frame optical absolute magnitude shows a good relation with the derived stellar masses. In order to investigate the differences between LAEs and LBGs, a comparison is made to LBGs selected at the same redshift in the same observed field. Their stellar properties are derived by the same population synthesis models. We find that LAEs are younger, less massive, and forming stars at lower rates as compared with LBGs.