X27a LAE fraction at $z \sim 3$–6 down to $M_{1500} \simeq -16.5$ mag probed by MUSE

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The redshift (z) evolution of Lyα emitter (LAE) fraction among galaxies, X(LAE), has been used to probe the evolution of the HI gas fraction of the intergalactic medium (IGM) at the end of reionization. X(LAE) has been found to increase from $z = 3$ to 6, and to decrease at $z > 6$. However, uncertainties in the measurement of X(LAE) are still matters of debate (e.g., Stark et al., 2011; Tilvi et al., 2014; De Barros et al., 2017). In the last ASJ meeting (X42a), we have shown our X(LAE) with Lyα equivalent width larger than 25 Å and UV magnitude (M_{1500}) of -21.75 to -18.75 mag at $z \sim 3$–6 with MUSE data (e.g., Bacon et al., 2017; Inami et al., 2017). It is consistent with those in De Barros et al. (2017) and Haro et al. (2018) at $z \sim 4$–6, while it is lower than that in Stark et al. (2011) at $z \sim 4$–5. Recently, we find that the discrepancy does not arise from a difference in M_{1500} distribution between the samples. It possibly arises from the difference in the methods including completeness correction. In this talk, we discuss the possible origins of such discrepancy and interpret our X(LAE). We also show our X(LAE) as a function of M_{1500} down to an unprecedented depth, ~ -16.5 mag. We compare it with a cosmological galaxy evolution model in Garel et al. (2015) and discuss the implications for reionization.