X17a Lya haloes around UV-selected galaxies at $z = 2.9$–4.4

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While integral field units like Very Large Telescope/Multi-Unit Spectroscopic Explorer (VLT/MUSE) make it possible to study Lyman-alpha haloes (LAHs) around high-redshift Lyman-alpha emitters (high-z LAEs) individually (e.g., Wisotzki et al. 2016; Leclercq et al. 2017, 2020), LAHs around UV-selected galaxies have been only studied with narrow-band stacks in overdense regions (e.g., Steidel et al. 2011; Xue et al. 2017). It is still unknown whether UV-selected galaxies ubiquitously have a Lya halo, as seems to be the case for LAEs. In this project, we search for LAHs around UV-selected galaxies individually, using deep MUSE data with $\approx$ 10–30 hour integration time in MUSE HUDF and $\approx$ 100–140 hour integration time in MXDF with adaptive optics (Bacon et al. 2017, 2020 in prep.). The sample of UV-selected galaxies is constructed from spectroscopic/photometric redshifts (spec-z/photo-z) in available catalogs (e.g., Rafelski et al. 2015; Bacon et al. 2020 in prep.). Among 14 spec-z galaxies with UV magnitudes of $M_{1600} \leq -18$ at $z = 2.9$–4.4 in MXDF, 7 LAHs are significantly detected. In HUDF, among $\approx$ 100 photo-z galaxies at $z = 2.9$–4.4, 20 LAHs are detected. We confirm that the detection is not affected by a continuum-like Lyα component. We will derive the LAH fraction around UV-selected galaxies considering surface brightness limits and completeness corrections, compare it with that around LAEs (Saust et al. 2020 in prep.), and discuss the origin of LAHs.