

S05a **The Large fraction of Luminous Obscured Quasars at Cosmic Noon Unveiled with Deep and Wide Multiwavelength Survey**

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Statistical studies of X-ray selected AGN indicate that the fraction of obscured AGN increases towards high redshifts where at least 50% of high redshift AGN are obscured. Due to the large amounts of gas and dust most of the accretion activity is hidden away from large optical surveys which are heavily biased against obscuration but can be revealed through deep X-ray datasets. We investigated the obscured fraction of luminous quasars at high redshift ($z > 2$) using a unique sample of 306 X-ray AGN detected in the 2-10 keV band constructed by matching the deep and wide XMM-SERVS X-ray point-source catalog with a multiwavelength photometric catalog covering from u^* to $4.5\mu\text{m}$ bands within the HSC-Deep XMM-LSS field. Assuming a parametric X-ray luminosity and absorption functions, we estimate that $76_{-3}^{+4}\%$ of luminous quasars ($\log L_X(\text{ergs}^{-1}) > 44.5$) above $z > 2$ are obscured by Hydrogen column density ($\log N_H$) larger than $\log N_H(\text{cm}^{-2}) > 22$. The fraction indicates an increased contribution of obscured accretion at high redshift than that in the local universe. Both the obscured and unobscured $z > 2$ AGN show a broad range of SEDs and morphology but follow the expected trend of red-obscured and blue-unobscured SEDs. An investigation of the host galaxy and obscuration properties using SED fitting with the addition of mid-infrared and far-infrared datasets is ongoing.