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Poster Flash Talk2: Obscured AGNs in the third Deepest XMM-Newton Field

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"In this project, we present preliminary results from a systematic X-ray analysis combined with multiwavelength photometric and spectroscopic data to identify and characterize obscured and highly obscured (Compton-Thick or CT) AGNs in the XMM-Newton 1.75 Ms Ultra Narrow Deep Field (XMM175UNDF) survey, one of the deepest XMM-Newton survey to date.

We analyzed a sample of 118 X-ray AGNs with redshifts up to z ~ 2.5 and optical/Infrared counterparts. We searched for typical multi-wavelength signatures of CT-AGNs, based on their spectral energy distribution (SED), UV/optical-mid-IR photometric colors, and X-ray spectroscopic features such as FeKα emission line intensity and reflected component.

We explored potential correlations between the main spectral properties of the obscured AGN population, such as column density, luminosity, FeKα line, photon index, and black hole mass. We found evidence of an anti-correlation between the luminosity and the FeKα line equivalent width (known as the "Iwasawa-Tanigushi effect"), suggesting this relation prevails in the most obscured AGNs. Additionally, we observed an over density distribution of obscured AGNs around a cosmic filament at z = 0.44, potentially linked of dust lanes in the host galaxy or underlying presence of BAL QSOs at this redshift."

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