X-RAY ASTRONOMY 2019
Current Challenges and New Frontiers in the Next Decade
8-13 September 2019
CNR/INAF Research Area, Bologna, Italy

Contribution ID: **128** Type: **Poster**

X-ray observations of IR selected AGN

Friday, 13 September 2019 17:34 (2 minutes)

We study the X-ray properties (using XMM-Newton) of mid-infrared (mid-IR) selected AGN. For that purpose, we use WISE sources
in the Stripe82-XMM area to identify mid-IR AGN candidates, applying the Assef et al. criteria. . XMM-Newton observations cover 26 deg2. Our sample consists of 1946 IR AGN candidate and about 1/3 is detected in X-rays. 1507 have SDSS detection and 824 sources have optical spectra. We also use optical to mid-IR photometry to construct Spectral Energy Distribution
(SED) for the 1507 IR AGN with SDSS detection. The SED analysis indicates that only 1/3 of the sources are type-1 based on the inclination angle. Previous studies have found a correlation between optical/IR colours (r-W2) and AGN obscuration. The AGN population detected by SDSS presents two peaks in the r-W2 distribution while the X-ray detected sources do not cover
the second redder r-W2 peak. Therefore, it appears that at the X-ray fluxes depth probed, X-rays miss the most optically absorbed sources. We apply X-ray spectral fitting to estimate the obscuration (NH) for the ~500 X-ray detected AGN
and we compare with the obscuration found by the SED method.

Topic

Active Galactic Nuclei: accretion physics and evolution across cosmic time

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Session Classification: POSTER SESSION