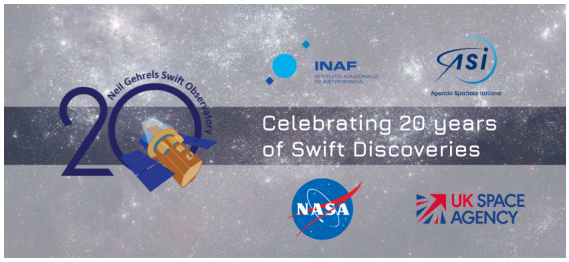

Contribution ID: **157** Type: **Poster**

X-ray Obscuration vs molecular gas distribution in local AGN

Tuesday 25 March 2025 14:27 (1 minute)

We present a study aiming at measuring the correlation between X-ray absorption and absorption due to the presence of molecular gas from larger scales in the host galaxies of nearby AGN. The study will be carried out through the hard X-ray selected AGN in the IBIS AGN CO survey (IBISCO), focussing in particular on those AGN identified as "ideal targets", i.e. those where there are indications that structures in the host galaxy (i.e. edge-on configuration, bars, rings, dust lanes, filaments, merging events) can significantly contribute to the total amount of absorption measured in the X- rays. For the X-ray absorption measurements, we use mainly broad-band spectra obtained by Swift-XRT in conjunction with high energy data (NuSTAR/INTEGRAL) both from archival and proprietary observations, while in the sub-mm regime we employ available ALMA and NOEMA (proprietary and archival) dat, as well as IRAM (30cm) data. ALMA and NOEMA data are spatially resolved and are crucial in order to reveal gas/dust structures not visible in the optical; they also allow to study the absorption spatial variability. IRAM data can instead give an overall estimate of the gas in the nuclear regions.

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Session Classification: Poster Session