Contribution ID: **171**   Type: **Contributed talk**

The legacy of Swift-BAT: A complete census of the heavily obscured AGN population in the local Universe

Friday 28 March 2025 09:30 (20 minutes)

I will present a summary of the results obtained in the past seven years by the Clemson-INAF Compton thick AGN project, which is based on the Palermo Swift-BAT catalog. By taking advantage of Swift-BAT effectiveness in detecting heavily obscured AGN at z~0, our group performed a multi-year, multi X-ray telescope effort aimed at obtaining a complete census of the obscured AGN population in the local Universe, while at the same time characterizing with unprecedented quality the properties of heavily obscured accreting supermassive black holes (SMBHs).

With our Swift-BAT selected, volume-limited sample, we provided the most accurate measurement of the fraction of Compton thick (i.e., with line-of-sight column density NHlos>1E24 cm-2) AGN at z<0.05 (i.e., within <~200 Mpc from us). Such a parameter is a key ingredient in AGN population synthesis model.

I will also show how we use the Palermo Swift-BAT catalog to build a large sample of heavily obscured AGN with multi-epoch X-ray observations, that are needed to characterize the properties of the clumpy medium surrounding accreting SMBHs, as well as to understand the complex feeding-feedback interplay which takes place between the SMBH and its host galaxy.

Primary author: MARCHESI, Stefano (Università di Bologna)

Presenter: MARCHESI, Stefano (Università di Bologna)

Session Classification: AGN: accretion and outflows, blazars and jets