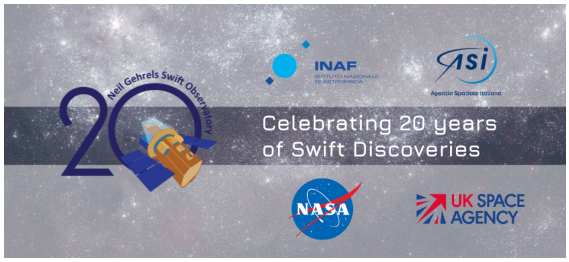

Contribution ID: **140** Type: **Contributed talk**

Too many or just right? Massive jetted quasars in the early Universe

Friday 28 March 2025 09:50 (20 minutes)

The formation and evolution of the first supermassive black holes have been put in the spotlight after the discovery of few hundreds extremely massive quasars at high redshift. An interesting twist in our understanding of the matter was introduced by the discovery of an unusual number of jetted sources: X-ray observations of blazars (i.e. AGN with jets aligned to our LoS) at $z > 4$ prove that the most massive active black holes are preferentially hosted in jetted quasars in the first Gigayear from the Big Bang. Jets might thus play a crucial role in fast assembling and accreting matter onto supermassive black holes. Investigating their occurrence and activity is not straightforward at high z: multi frequencies observations are needed to identify them, especially at high energies where the jet dominates the emission. Swift/XRT has proved to be the most efficient instrument to study $z > 4$ blazars, but lately also eROSITA comes easily into play in this picture: its sensitivity in the soft X-ray energies nicely complements existing and/or new X-ray observations for some sources, gives the much needed multiwavelength view on others, or helps in identifying brand new blazar candidates. I will present our current knowledge about $z > 4$ blazars, a population that provides a comprehensive view on jet, accretion and mass features of the $M > 10^9 M_\odot$ jetted quasars. I will also dive into the inconsistencies that arise from low and high-frequency observations: do jet features change across cosmic time? What is their role in the evolution of the first supermassive black holes of our Universe?

Primary author: SBARRATO, Tullia (Istituto Nazionale di Astrofisica (INAF))

Presenter: SBARRATO, Tullia (Istituto Nazionale di Astrofisica (INAF))

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