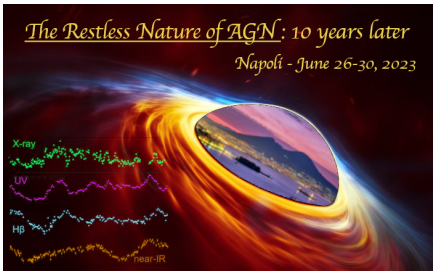

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X-ray variability properties of the BASS unobscured AGN from XMM-Newton observations.

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I will present the analysis of the X-ray variability properties of the Seyfert 1 Galaxies belonging to the BAT AGN Spectroscopic Survey (BASS) using XMM-Newton observations. This sample includes more than 500 observations of 151 local AGN (medium redshift z=0.06). The aim of this work is to constrain the relation between the common estimators of the variability amplitude (i.e., fractional variability and normalised excess variance), calculated in different energy bands, with the physical and accretion properties of AGN such as the black hole masses of the central supermassive black hole (known for all the sources of the BASS sample from either broad Balmer lines or reverberation mapping estimations) and Eddington ratios (estimated combining the black hole masses measurements with the estimates of the bolometric luminosity derived from the BAT 14-150 keV luminosity). As expected from previous studies we find a strong anti-correlation between the excess variance and the black hole mass. We do not find correlation between the excess variance and the Eddington ratio but we find a strong anti-correlation with the 2-10 keV luminosity, which disappears when we removed the dependence of the excess variance on the black hole mass. Exploring the relation of excess variance in different energy bands we found that the variability of the sources of our sample is mostly due to the flux variation of the primary continuum and/or of the reflection component, at least on scale of 10ks. I will also show the comparison of the variability property of the unobscured AGN of the BASS sample with the X-ray variability properties of a sample of 5 Super and Hyper-Eddington sources ($1< \lambda_{Edd} <426$) belonging to the Super-Eddington Accreting Massive Black Holes sample.

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