Contribution ID: **25** Type: **Regular**

X-ray variability of the jet power in NGC 1275

Tuesday 8 October 2024 11:50 (15 minutes)

We present a comprehensive multi-wavelength analysis of NGC 1275/Perseus A, focusing on its X-ray and gamma-ray emission over a 24-year period (2000-2024). Our study utilizes data from multiple space-based observatories, including SUZAKU, XMM-Newton, SWIFT, and INTEGRAL. The X-ray data observed by Suzaku/XIS were treated using a model-independent method for separating the spectral components of the active galactic nucleus NGC 1275 from the surrounding emission of the Perseus cluster. The 2000-2024 X-ray and gamma-ray lightcurves and spectra of NGC 1275 were obtained; the spectral analysis shows that jet emission mainly dominates in the 3-300 keV spectra of this object. We also estimated jet power variations over time. This approach provides insights into the long-term behavior of NGC 1275's active galactic nucleus and its jet dynamics.

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Session Classification: Physics of AGN