X-RAY ASTRONOMY 2019
Current Challenges and New Frontiers in the Next Decade
8-13 September 2019
CNR/INAF Research Area, Bologna, Italy

Contribution ID: **166** Type: **Poster**

Hunting for X-ray Quasi-Periodic Eruptions: discovery of a second QPE active galactic nucleus

Friday 13 September 2019 17:36 (2 minutes)

Quasi-Periodic Eruptions have been recently discovered in the nucleus of the low-mass black hole galaxy GSN 069. QPEs are abrupt increases in the X-ray count rate over a quiescent flux level, and recur quasi-periodically every few hours (Miniutti et al. 2019, Nature in press). Thanks to a new XMM-Newton observation performed at the end of May 2019, we have discovered X-ray QPEs in a second active galactic nucleus, RX J1301.9+2747. We present the general temporal and spectral properties of the X-ray QPEs, together with some possible interpretations for this new physical phenomenon. QPEs could be key to understand puzzling aspects of the physics of accretion around super massive black holes, such as the fast variability displayed by the changing-look AGN, or the formation of the soft X-ray excess.

Topic

Active Galactic Nuclei: accretion physics and evolution across cosmic time

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Session Classification: POSTER SESSION