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: **314** Type: **Poster**

X-ray properties of z>4 blazars

Friday, 13 September 2019 17:44 (2 minutes)

We present the X-ray properties of a complete and well-defined sample of 24 high-z (z=4-5.5) blazar candidates selected from the CLASS radio survey. After completing the existing archival data (Swift-XRT, Chandra and XMM-Newton) with dedicated Swift-XRT observations, we identified the bona-fide blazars based on the X-ray intensity (compared to the optical one) and flatness of the spectrum. We then compared their X-ray-to-radio luminosity ratios with a sample of confirmed blazars at lower redshifts (≈1.1), finding a significant difference in the two populations. We interpret this redshift-dependant evolution as due to the interaction of the electrons within an extended part of the jet with the Cosmic Microwave Background photons.

Topic

Active Galactic Nuclei: accretion physics and evolution across cosmic time

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Session Classification: POSTER SESSION