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: **332** Type: **Poster**

# X-ray imaging of relativistic shock in hotspots of Pictor A radio galaxy

*Friday 13 September 2019 18:54 (2 minutes)*

Here we present some preliminary results of our analysis of the Chandra observations of the Western and Eastern hotspots in the Pictor A radio galaxy. All the available Chandra data for the target, consisting of multiple pointings spanning over 15 years and amounting to the total exposure time of 464ks, have been included in the analysis. In particular, with the image deconvolution method we studied the X-ray morphology and variability in the Western hotspot region, confirming the flux changes taking place in the source on the timescale of years,
and clearly resolving the bow-shock structure of the hotspot. For the Eastern hotspot, we performed a detailed spectral analysis of various regions selected based on the observed correlation between the X-ray intensity and the polarised radio intensity. All in all, our findings suggests a substantial substructure of the targeted relativistic shocks, and this has profound consequences for understanding acceleration of high-energy particles at relativistic shocks, as well as the pressure balance between magnetic field and ultra-relativistic electrons within the
extended lobes of radio galaxies

## Topic

Active Galactic Nuclei: accretion physics and evolution across cosmic time

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**Session Classification:** POSTER SESSION