



# 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: 255

Type: **Poster**

## X-ray Dust Scattering towards the Galactic Center

*Friday, 13 September 2019 15:06 (1 minute)*

The Galactic Centre (GC) region contains many bright X-ray sources and has a high column density of foreground gas and dust. This suggests that X-ray dust scattering should be ubiquitous and intensive in the GC direction. In this poster, I will show our latest results of discovering significant dust scattering effects for a few bright X-ray sources in the GC. The effects include the existence of an extended X-ray halo around each point-like source, the extra dust scattering opacity imprinted in the X-ray spectrum which causes the spectral disagreement between different instruments and source extraction regions, and the change of apparent variability of XRB due to the smearing of foreground dust scattering. Our studies show that foreground dust scattering is a ubiquitous and important phenomenon that should be considered properly for the spectral-timing study of X-ray sources in the GC. We have created XSPEC models to correct for the dust scattering opacity of a few GC sources.

### Topic

Compact and diffuse sources in galaxies and in the Galactic Center

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**Session Classification:** POSTER SESSION