



X-RAY ASTRONOMY 2019

Current Challenges and New Frontiers in the Next Decade

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Resolving the AGN Torus Spectrally, Spatially, and Temporally

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The NuSTAR and Swift survey of more than 150 obscured AGN in the local universe recently enabled basic parameters of the obscuring torus, such as the covering factor and the globally averaged column density, to be observationally constrained from the X-ray band. However, detailed analyses of particular AGN reveal that structural parameters of the torus may depend on the choice of the fitting model and its nuisance parameters, variability in intrinsic luminosity or line-of-sight column density, and contamination from non-nuclear emission. In modeling spatially unresolved single-epoch AGN spectra, these effects can be sources of systematic uncertainties that exceed statistical uncertainties on these important structural parameters. In this presentation I will demonstrate how X-ray spectroscopy (either broadband or with high spectral resolution) can be self-consistently combined with spatially resolved and multi-epoch data in order to help us in understanding the complexity of the AGN structure known under the deceptively simple name of the torus.

Topic

Active Galactic Nuclei: accretion physics and evolution across cosmic time

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