



X-RAY ASTRONOMY 2019

Current Challenges and New Frontiers in the Next Decade

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What makes clumpy obscuration and X-ray occultation events?

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Most active galactic nuclei are seen through thick circum-nuclear gas and dust. Also, these column densities vary on time scales of days to years, indicating that the obscurer is made from clumps. We present the first clumpy obscurer model that reproduces eclipse events and column density distributions. We developed a new, open-source Monte Carlo code, XARS, to X-ray illuminate arbitrary geometries, including warped disks, out-flowing winds and clump arrangements, and produce high S/N X-ray spectra for XSPEC for these. Preliminary fits show good agreement with NuSTAR spectral observations of some nearby AGN. I will demonstrate how the eROSITA survey will be able to systematically monitor millions of AGN on year-time scales for occultation events, probing the granularity of the obscuring medium.

Topic

Multi-messenger and transient astronomy

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