X-RAY ASTRONOMY 2019
Current Challenges and New Frontiers in the Next Decade
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High-redshift accreting SMBHs in the X-rays

Thursday, 12 September 2019 15:15 (25 minutes)

Deep X-ray observations provide unprecedented insights into the physical properties and evolution of the accreting SMBH population in the early universe. I will present recent results on the bulk of the $z > 3$ AGN population, constituted by low- and moderate-luminosity AGN, based on the deepest Chandra surveys to date. I will focus in particular on the AGN X-ray luminosity function, which carries information about the mechanisms responsible for the formation of SMBHs and the onset of the BH-galaxy co-evolution, and on the evolution of the obscured AGN fraction from the local Universe to $z > 3$. I will also discuss the X-ray properties of the population of optically selected luminous QSOs at $z > 6$, exploiting both archival data (15 objects) and new Chandra observations (10 objects). In particular, X-ray photometric analysis of one of our new targets suggests that it is the first heavily obscured ($\log N_H \approx 24$) QSO candidate known at $z > 6$. Finally, I will discuss how future X-ray observatories (Athena, Lynx, AXIS) will dramatically improve our knowledge of SMBH formation and early growth at $z \approx 6 - 15$.

Topic

Active Galactic Nuclei: accretion physics and evolution across cosmic time

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