



- RAY ASTRONOMY 2019

Current Challenges and New Frontiers in the Next Decade

8-13 September 2019
CNR/INAF Research Area, Bologna, Italy

Contribution ID: 20

Type: **Contributed**

Searching for high- z AGN with Chandra and with future facilities

Thursday, 12 September 2019 15:00 (15 minutes)

Chandra and XMM-Newton showed that AGN existed in the early Universe (at $z \sim 7.5$) and this challenges our understanding of SMBH formation. Chandra detected serendipitously only a handful of $z > 4-5$ sources and the majority of the constraints on the nature of early Black holes come from Cosmic background fluctuations studies or stacking/follow up of Infrared selected sources. I will present recent results constraining the nature of SMBH seeds using cosmic background fluctuations and Chandra surveys. These studies led to the serendipitous discovery of a previously unknown, X-ray emitting component of the ISM. Finally, in this talk I will present strategies and plans to detect SMBHs in the early universe with Athena, Lynx or AXIS.

Topic

The cosmic frontier: first black holes and proto-clusters

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Session Classification: ACTIVE GALACTIC NUCLEI