

The Obscured Growth of Early Supermassive Black Holes: Insights from X-rays and Beyond

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“Deep X-ray surveys have long been the most effective method for uncovering obscured Active Galactic Nuclei (AGN) in the distant Universe, revealing that the growth of supermassive black holes (SMBHs) becomes increasingly shrouded in obscurity at earlier cosmic times. However, even the most extensive X-ray surveys to date struggle to uncover and thoroughly understand the physics and demographics of heavily obscured SMBHs during the Universe’s first billion years.

In this talk, I will explore potential physical explanations for the rising levels of nuclear obscurity with redshift, discuss the future potential of next-generation X-ray facilities to probe early SMBH activity, and examine the challenges posed by the unexpected lack of X-ray emission from the large population of high-redshift AGN recently identified by JWST. I will also highlight possible alternative approaches to studying these early black holes.”

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