

Contributed Talk

Splinter eROSITA

UNDERSTANDING AGN EVOLUTION WITH LARGE X-RAY SURVEYS:
PROSPECTS FOR EROSITA

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In the past 50 years, astronomers have used X-ray surveys to tackle fundamental questions for structure formation such as: How did supermassive black holes form and grow in the nuclei of galaxies? Why are their physical properties today so tightly linked to those of their hosts? What was the impact on the surrounding structures of the copious energy release, either in radiative or mechanical form, associated to the growth of such black holes in active galactic nuclei (AGN)? State of the art observations with Chandra and XMM-Newton have been used to give at least partial answers to some of these questions. However, there are major limitations with existing X-ray surveys: many crucial aspects of the study of the connection between AGN and host galaxies cannot be explored because of the limited volume of the Universe explored. eROSITA is expected to yield a sample of around 3 million active galactic nuclei, which is bound to revolutionize our view of the evolution of supermassive black holes and their impact on the process of structure formation in the Universe. Here I will briefly highlight some of the most promising outcomes of such program, including a discussion of key multi-wavelength synergies with current and future wide-area survey projects.