



X-RAY ASTRONOMY 2019

Current Challenges and New Frontiers in the Next Decade

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A search for intermediate-mass black holes in the Swift-XRT catalog

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Intermediate-mass black holes (IMBH) are thought to be the building blocks of supermassive black holes that are found at the center of massive galaxies, but evidence for their existence is elusive. We performed a search for IMBH in Swift-XRT data by studying hyperluminous X-ray source candidates (HLX), which were identified through a cross-correlation of the Swift-XRT catalog with the Galaxy List for the Advanced Detector Era (GLADE) covering nearly 2 million galaxies with high completeness up to 300Mpc. This selection contains foreground stars and background AGN that we partly eliminate by developing a classification into 3 classes (AGN, star and stellar-mass compact objects) based on the source properties. Thanks to this classification we are able to obtain 110 HLX candidates including 5 HLX previously identified in the literature. We are currently validating the nature of these objects.

Topic

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