



X-RAY ASTRONOMY 2019

Current Challenges and New Frontiers in the Next Decade

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Exploiting the Chandra Source Catalog 2.0: the first science results

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The Chandra Source Catalog 2.0 is a powerful tool providing properties for 315,000 X-ray sources detected in the observations taken prior of 2015. We cross-matched the Sloan Digital Sky Survey DR14 and the CSC2.0 to build a sample of >6500 optically selected quasars that have both optical and X-ray spectroscopic information. This sample can be considered as a gold mine for studies on the quasar population. As a first application, we used it to analyze the relation between the X-ray and Ultraviolet luminosities in quasars and its non-evolution with redshift. Recently, it was found that the dispersion of this relation is not intrinsic, but mostly due to observational issues in measuring the two fluxes (at 2keV and 2500Å rest-frame). The results published so far with archival samples made use of only photometric data, reaching a dispersion of 0.24 dex on the relation. Here we present a huge step forward by using spectra provided by the newly released catalog, which allow us to obtain an unprecedentedly small dispersion of $\sigma < 0.20$ dex.

Topic

Active Galactic Nuclei: accretion physics and evolution across cosmic time

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