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Microquasars to QSOs with CCI: big leap or continuous spectrum?

We have used The Chandra Source Catalog to extract light curves of point sources from nearby galaxies, ULXs, and 25 nearby ($z \leq 0.2$) QSOs. We have Chandra grating observations of 25 Galactic XRBs adjusted to ACIS count rates at a distance of 1 Mpc. A three-dimensional color-color-RelInt diagram shows that the distribution of ULXs is well matched in both color and luminosity with point sources from early-type and starburst galaxies. QSOs match the colors of ULXs but are several orders of magnitude higher in luminosity. The extra-galactic point sources also extend to much higher luminosities than XRBs within our Galaxy. Very few ULXs line up with Galactic XRBs. The ULX M82 X-1 is the only ULX associated with a black hole compact object for which we have CSC2 lightcurves. None of the pulsing ULX candidates (M82 X-2, NGC5907 ULX-1, NGC7793 P13, and NGC4599 ULX) line up in colors with Galactic pulsars although we note that each of these sources had only 2-4 significant detections in CSC2. If location in a color-color plane is related to the type of compact object in an XRB, then a significant fraction of extragalactic point sources and ULXs do not line up with any type of Galactic XRB. The fact that the distribution of ULXs line up so well with the distribution of extragalactic point sources both in the color-color plane and in luminosity suggests a population of objects that have no XRB counterpart in the Galaxy or the Magellanic Clouds.

Contribution

Oral talk

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