

Title: "The X-ray Sky - Exploring the Population of Bright X-ray sources with the Chandra Galactic Bulge Survey"

Abstract:

The Chandra Galactic Bulge Survey (GBS) is a multi-wavelength survey covering ~5% of the Galaxy's stellar mass with 2 6x1 degree strips above and below the Galactic Plane. The X-ray observations are shallow to maximize the number of quiescent Low Mass X-ray Binaries (LMXBs) relative to Cataclysmic Variables (CVs) and coronally active stars. By conducting a census of Low Mass X-ray Binaries in the Milky Way, the GBS can constrain models of binary evolution, the common envelope phase in particular, and expand the number of known LMXBs with donor stars accessible through spectroscopy. Mass measurements of black holes (BHs) in particular are riddled with selection effects which the GBS avoids by finding new objects while still in quiescence. After removing duplicates, there are 1640 unique X-ray sources in the 12 square degree survey area, which represent a wide variety of X-ray emitting classes from compact objects like black holes and neutron stars, to extremely close binaries with tidally spun up stars, to AGN, to CVs, and even to accretion outbursts in young stars.