

Spectroscopic Synergies: SDSS Characterization of Chandra Source Catalog Counterparts



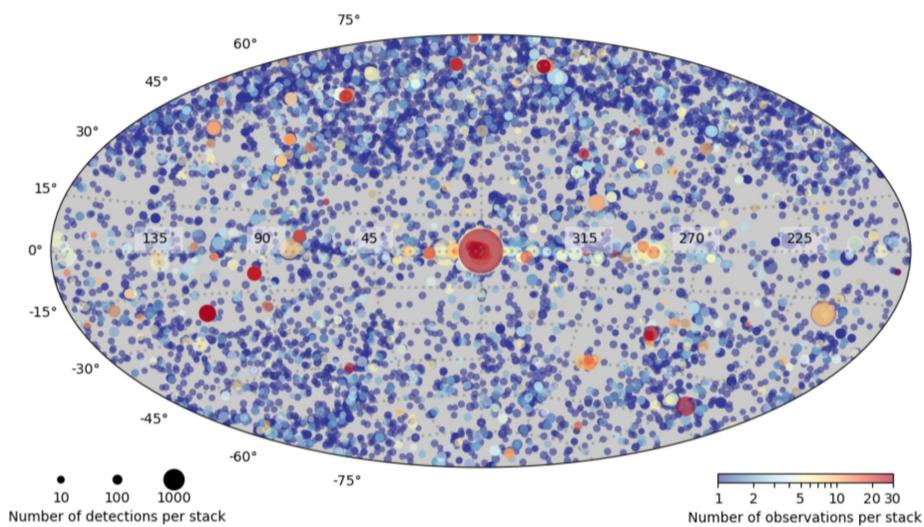
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Chandra X-ray Center

Chandra Source Catalog

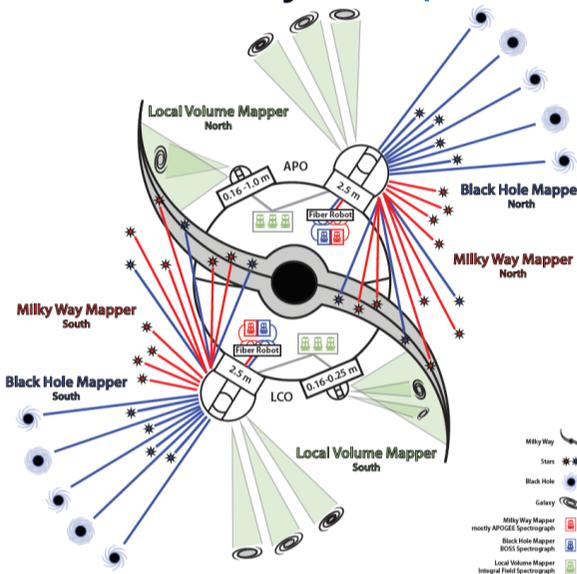
The CSC 2.1 includes measured properties for about 400k X-ray sources with data public by Dec 2021.

<https://cxc.cfa.harvard.edu/csc>



SDSS-V

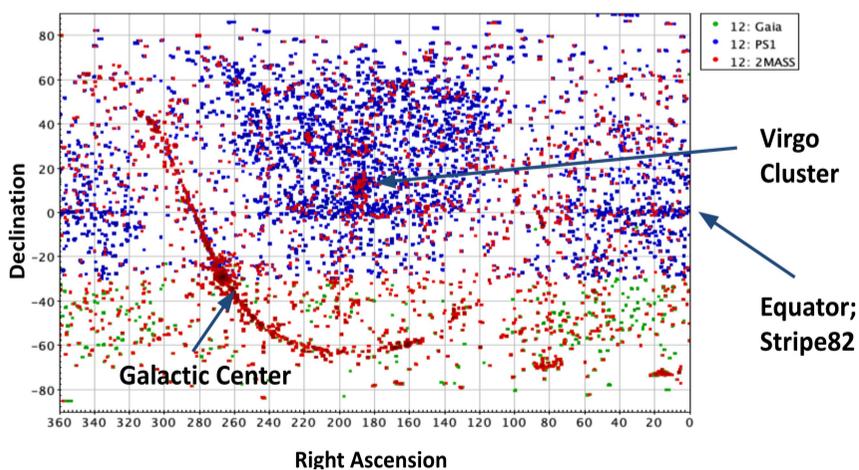
The SDSS-V (2020 – 2027) is providing multi-epoch optical ($r < 21$, $R \sim 2000$) & IR ($H < 14$, $R \sim 22,500$) spectroscopy across the entire sky <https://www.sdss.org>



SDSS-V uses 500 optical and IR fibers robotically positioned at both the APO 2.5m North (7deg² FoV) and LCO 2.5m South (3deg²)

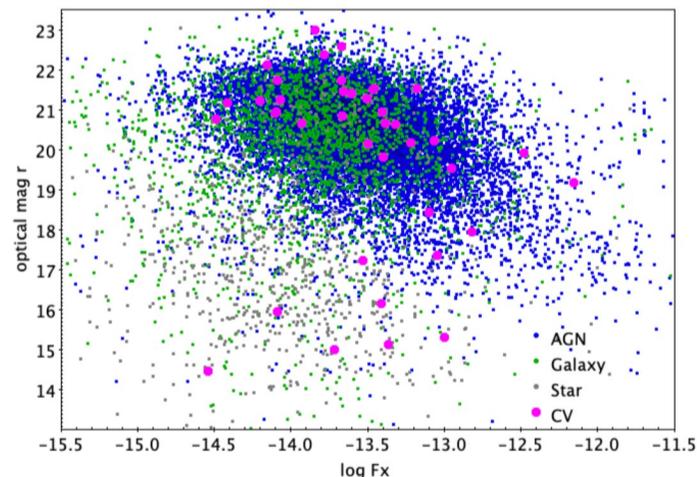
CSC/SDSS-V Targets

SDSS-V is obtaining optical & IR spectra for ~40k of 188k CSC2.1 counterparts matched to all-sky opt/IR catalogs



https://cxc.cfa.harvard.edu/csc/csc_crossmatches.html

SDSS Spectra Past & Present

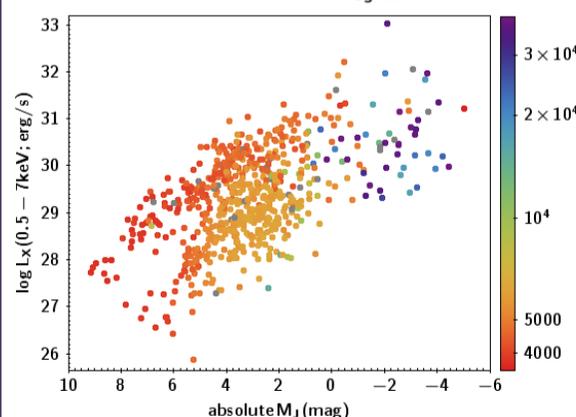


Existing Optical Spectroscopic Matches

CSC2.1 2022 Oct Matched (3") to DR17 + spAll-v6_0_9 through 59764

14231 AGN
2473 Galaxies
817 Stars
44 CVs

17565



$\log L_X$ vs. M_J (color shows T_{eff}) for 740 CSC2.1 matched to stars with SDSS-V APOGEE IR spectra. SDSS provides $\log g$, T_{eff} and $[\text{Fe}/\text{H}]$



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