

physics of high density matter,
compact objects,
and accretion

science topics

physics of neutron stars

physics of black holes; GR

White Dwarfs (the wider significance of - ?)

accretion physics

Gamma-ray Bursts

? GW sources

neutron stars: the 'cold Equation of State'; $R(M)$

stellar photospheric spectroscopy
photospheric composition, B-fields;
gravitational redshift, line broadening:
*multiple techniques for determining
fundamental stellar parameters*

CCO's: outcomes of stellar explosions

accretion in NS binaries

Black Hole Physics ($1-10^9 M_{\odot}$)

measures of spin from iron lines and thermal continuum (plus reverberation studies)

multiply-imaged (strong-lens) quasars:
micro-lens the X-ray (Fe K) emitting area
accretion disk physics from spectroscopy and variability (reverberation)

jet physics (*connection point to feedback and plasma SWGs*)

winds (*connection point to feedback and galaxies SWGs*)

Other

search for ms PSR in Galactic Center:

map GC potential (connection to DM:
msp may contaminate gamma ray signal)

tests of GR

SWG

composition: 24 signups today
expertise complement good (observer
dominated)

Planning

have to plan to reach out
tools to address evaluating XRS performance
in place
biggest task: Athena vs. XRS