

**BLACK HOLES IN DENSE STAR CLUSTERS**  
**Aspen Center for Physics**  
**2015 Aspen Winter Conference January 17-22, 2015**

TITLE: Implications for Globular Cluster BHs from the Discovery of a Field BH XRB

SPEAKER: Gregory Sivakoff (University of Alberta, Canada)

Through their radio properties, multiple candidate black hole X-ray binaries have been discovered recently in Globular Clusters. Here we report on the discovery of a similar source, that while projected towards a globular cluster, with a parallax that places it as a foreground black hole X-ray binary candidate. This discovery has two critical implications for the candidate black hole X-ray binaries in globular clusters. First, it underscores the need to astrometrically confirm their globular cluster membership. Second, given the relatively small area over which parallax studies of radio-loud / X-ray quiet sources have been performed, this discovery suggests a larger population of field (i.e., primordial) black hole X-ray binaries than is typically assumed. This increased number may impact the initial conditions used in dynamical modeling of globular clusters, and the total implied black hole (binary) population.