Astrometric Probes of Black Holes and Their Progenitors

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Abstract

Stellar mass black holes are likely produced when a massive star dies. However, the exact relationship between stellar initial mass and the final mass of the remnant after death is uncertain. Furthermore, the fraction of black holes in binaries and singles is also not known. I will discuss astrometric techniques that can probe the stellar mass black hole population in the Milky Way. This includes astrometric signals from gravitational microlenses and orbital astrometric wobble. I will also discuss the high stellar densities and infrared coverage necessary to probe a large sample of Milky Way BHs and begin to probe their structure and kinematic distributions.

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