

New Black Hole Candidates

To be evaluated by the Black Hole Database Committee

Lead Astronomer: Dr. Starr Brite

Using the Harlan J. Smith telescope at McDonald Observatory, we observed the bulge of a spiral galaxy, NGC 314159. Although the galaxy's bulge was not very bright, we measured a high velocity for stars of about 350 kilometers per second inside the bulge. Perhaps thick masses of dust are blocking the visible light from reaching the telescope. The bulge appears extremely compact and organized. We would like to do follow up observations, which may support our hypothesis that a 10^4 to 10^5 solar mass black hole lies in the bulge of this galaxy.

Lead Astronomer: Dr. Ima Stronomer

We have detected a black hole with a mass of 10^9 solar masses. The bulge of its host galaxy is extremely bright, which could only come from a compact and powerful source like a black hole. Although the velocity of luminous material is low (50 km/s), we think that the black hole is so large that our instrument can not record the innermost and fastest moving matter. The matter that our instrument can record is located far away from the black hole, so is moving more slowly than other claims reported in the Black Hole Database. We are considering follow up observations that may further support our claim.

Lead Astronomer: Dr. Sol Faraway

In our survey of spiral galaxies, we observed a peculiar galaxy with an extremely bright bulge. Further spectroscopic observations showed that the bulge material is orbiting a central object at about 250 km/s. To rule out intervening foreground objects, like a nearby star, we checked the astronomical database Set of Identifications, Measurements, and Bibliography for Astronomical Data (SIMBAD) for other objects at the galaxy's coordinates. No other objects appear in the foreground. The bulge appears well organized. We think the central object is a black hole with a mass of 10^9 solar masses.

Lead Astronomer: Dr. Cal Q. Laater

Our observations suggest that a 3×10^6 solar mass black hole is in the central core of the elliptical galaxy NGC 271828. We measure high velocities of gas and dust of 275 km/s. This elliptical galaxy shows no unusual brightness changes from end to end, most likely due to dust and gas scattering light from the core.

Lead Astronomer: Dr. Usee Themun

Recent observations with our new instrument on the McDonald Observatory 2.7-meter Harlan J. Smith telescope show strong support for a massive 5×10^5 solar mass black hole in the bulge of NGC 20051205, a spiral galaxy. Our instrument could measure the velocity of bulge material orbiting at 100 km/s. We observed the galaxy along its spiral disc edge, so we could not see the bulge well. We strongly suspect that follow up infrared observations will show strong far infrared emission in the bulge. X-ray observations may show extremely energetic activity from the bulge.