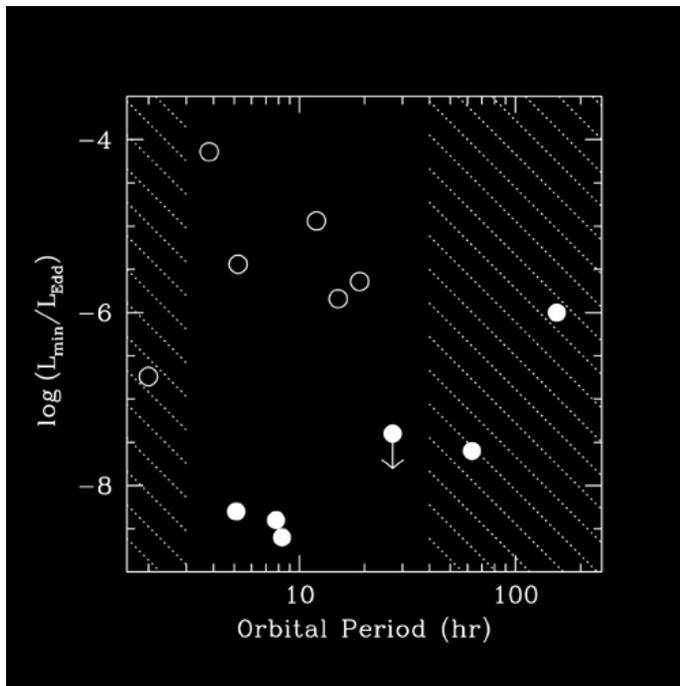




Chandra Science Highlights

Chandra Uncovers New Evidence for Event Horizons Surrounding Black Hole



The X-ray luminosities of four dormant X-ray novae (filled circles) containing black holes are compared to the luminosities of five dormant X-ray novae containing neutron stars (open circles) of similar orbital period. The vertical axis is the luminosity in units of the Eddington limit for each source. (Eddington limit = $1.3 \times 10^{38} m$ erg/sec, where m is the mass of the accreting source in solar units.)

Credit: M. Garcia et al.

Ref: M. Garcia, et al. 2001, "New Evidence for Black Hole Event Horizons from Chandra" astro-ph/0012452

- Chandra observations detect two more short period black hole transients in quiescence, and add an upper limit which is a factor 30 below previous limits.
- These observations show that black hole systems are at least 100 times fainter than the neutron star systems.
- Given that the amount of energy and matter being accreted is similar in both cases, the much lower luminosity of the black hole systems indicates that they have an event horizon which hides more than 99% of their accretion luminosity.

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