

Abstract Submitted
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Apparent sizes of black holes and their alternatives¹ JAMES GRABER, LC — Observers recently made a non-trivial measurement of the apparent diameter of Sagittarius A*, the black-hole candidate at the center of the Milky Way (Doeleman, *et al.*, *Nature*, 4 September 2008). At face value, this measurement appears to be more than two sigma smaller than predicted. Better measurements are anticipated within the next five to 10 years, or perhaps much sooner. This presents an opportunity for a new, further (imprecise, to be sure, but qualitatively independent) test of the predictions of general relativity. We present a few mathematical formulae relevant for predicting the apparent size of black holes or the equivalent collapsed objects in all metric theories of gravity, including general relativity.

¹Affiliation for identification only. Support/endorsement not implied.

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