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An investigation of the nuclear black hole mass and global properties of NGC 4552 PETER KIRCHER, JASON PINKNEY, Ohio Northern University — In previous papers, we presented the spectroscopic and photometric data needed to estimate the mass of the supermassive black hole in NGC 4552. Now we have a new, refined black hole mass estimate from gas disk kinematics. We plot our galaxy on the key demographic scaling relations of M_{BH} vs. σ and M_{BH} vs. Luminosity. Since black hole formation appears to be intertwined with galaxy formation, we also compare the global properties of our galaxy (effective radius, luminosity, effective surface brightness, ellipticity) to other galaxies, including views of the "fundamental plane." Our elliptical is relatively compact, low in ellipticity, with almost no rotational support and with a "core" surface brightness profile. We also consider the gas/dust morphology: NGC 4552 appears to be another galaxy with an erratic dust disk morphology which nevertheless produces an (apparently) accurate BH mass using gas kinematics.

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