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Kinematics and black hole mass for the narrow-angle tailed radio galaxy NGC 4061 JASON PINKNEY, Ohio Northern University, NUKER TEAM — In the quest to pin down the high-mass end of the M_{BH}-σ correlation for galaxies, NGC 4061 may attract attention. It has the largest velocity dispersion, 459 km s^{-1}, in the Hypercat catalogue and, according to M_{BH}-σ, the most massive supermassive blackhole in the nearby universe. Here we present analysis of new spectroscopy and imaging from HST and the ground for NGC 4061. HST imaging reveals an organized dust disk with a radius of 2.5 arcseconds. Our ground-based spectroscopy reveal central Hα emission from gas in rapid rotation; the velocity change is 270 km s^{-1} in 0.55 $''$ (250 pc). This suggests a BH mass of about $2 \times 10^9 M_\odot$ (similar to M87 with $3.0 \times 10^9 M_\odot$). Detailed models predict a 2-3$\times$ greater mass. We also obtain stellar kinematics using the absorption lines in the ground-based spectra (MDM 2.4-m) and in spectra from HST. We fit losvd's and Gauss-Hermite moments using a new, direct-template-fitting code. Isothermal sphere models predict a $M_{BH} \sim 1 \times 10^9$. The central velocity dispersion is only about 290 km s^{-1}. Thus, the large (459 km s^{-1}) dispersion is erroneous. Nevertheless, this galaxy is interesting in that it allows a much-needed comparison between the gas and stellar dynamical techniques for determining BH mass. We acknowledge support for HST proposal 9106 from NASA through a grant from the STScI, which is operated by the AURA under NASA contract NAS 5-26555, and to an LTSA grant NAG5-8238 to D. Richstone.

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