

Abstract Submitted  
for the OSF19 Meeting of  
The American Physical Society

**Stellar and Gas kinematics of the S0 galaxy NGC 3585** BRADLEE MCINTOSH, JASON PINKNEY, Ohio Northern University — We present new stellar kinematics for the nearby (18 Mpc) lenticular (S0) galaxy NGC 3585. This is one of a larger sample of galaxies observed with STIS (the Space Telescope Imaging Spectrograph) and the Magellan 6.5-m telescopes with the goal of measuring the masses of the nuclear black holes (BH) and seeing how they correlate with galaxy properties (i.e., the demographics of supermassive BH). We compare our kinematics to other published kinematics already used to measure the mass of the supermassive black hole in this galaxy. HST images of this galaxy reveal an organized dust disk at its center. Such dust disks usually coincide with gas disks that can also be used to measure the central black hole's mass if the gas produces line emission. Unfortunately, we do not detect emission lines ([OIII] and  $H\beta$ ) and so we conclude that the gas is not strongly ionized. Finally, we measure the effective velocity dispersion  $\sigma_e$  needed to plot NGC 3585 on the  $M_{BH} - \sigma_e$  relation governing supermassive black holes.

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Date submitted: 20 Sep 2019

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