

Host galaxy/black hole relations in bulges and ellipticals



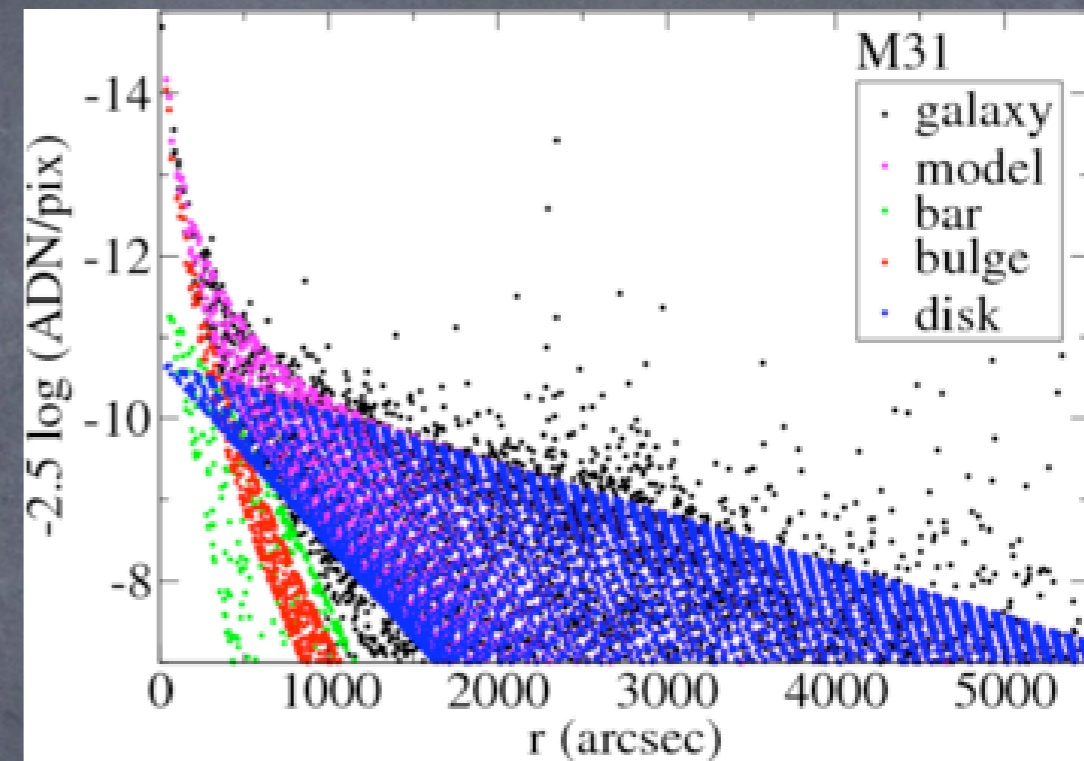
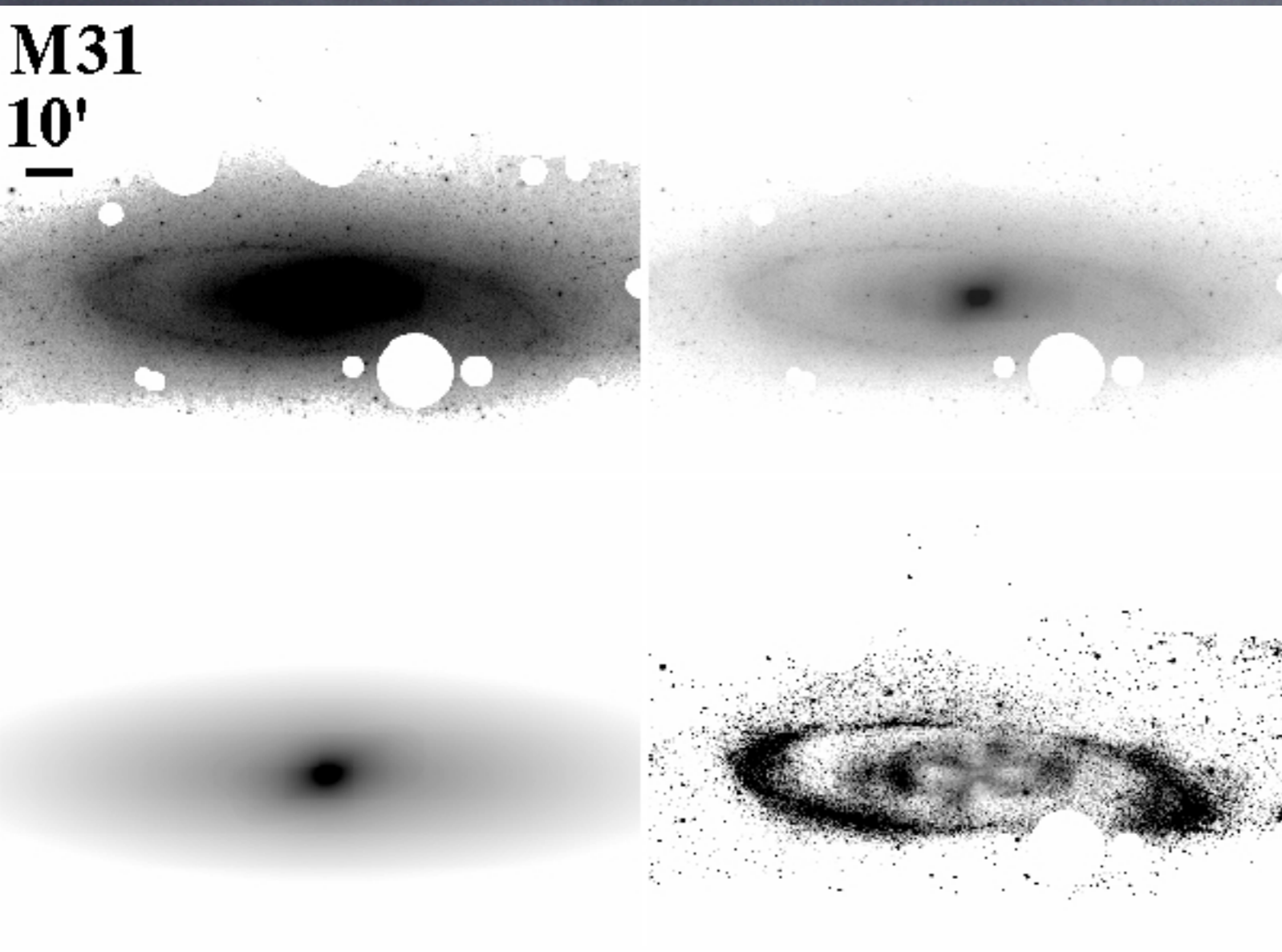
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with Peter Erwin (MPE)

What's new

- updated dynamical M_{BH} measurements
- well determined galaxy distances
- 2D image decomposition including bars and central sources
- error handling
 - distances, B/T, multiple σ measurements
- bulge stellar mass

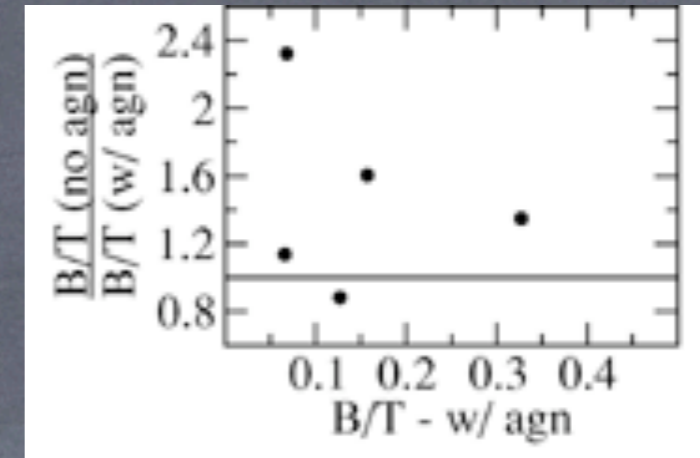
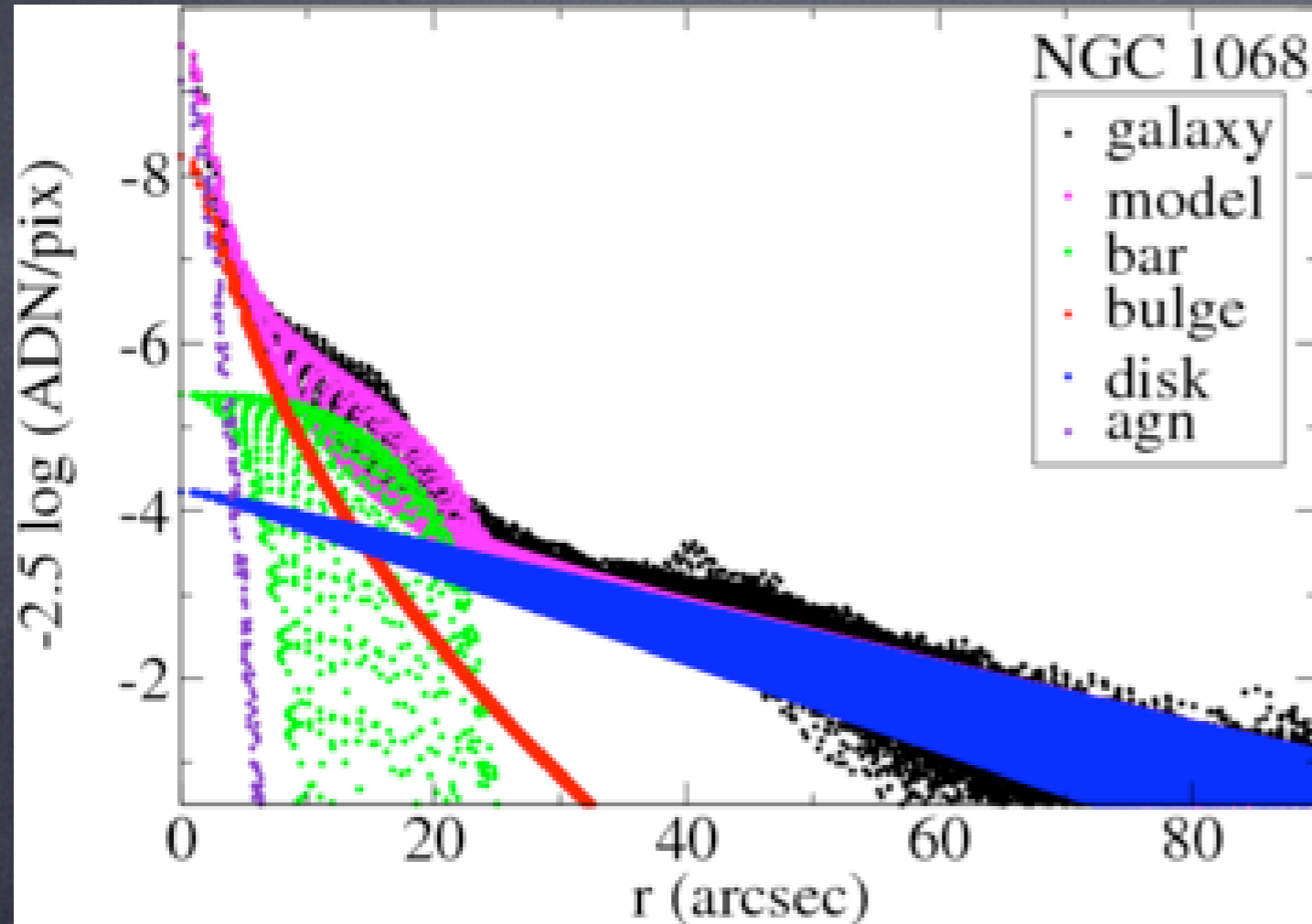
Decompositions

BUDDA (de Souza et al. 2004; Gadotti 2008)

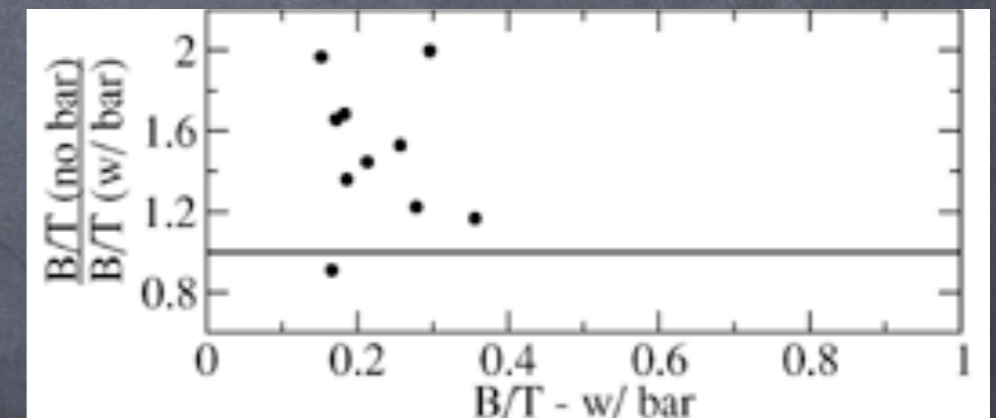


Spitzer 3.6 μ m – courtesy:
Barmby et al. (2006)

Decompositions



Gadotti (2008)



Wrong B/T if fit does not include central source and
bar!

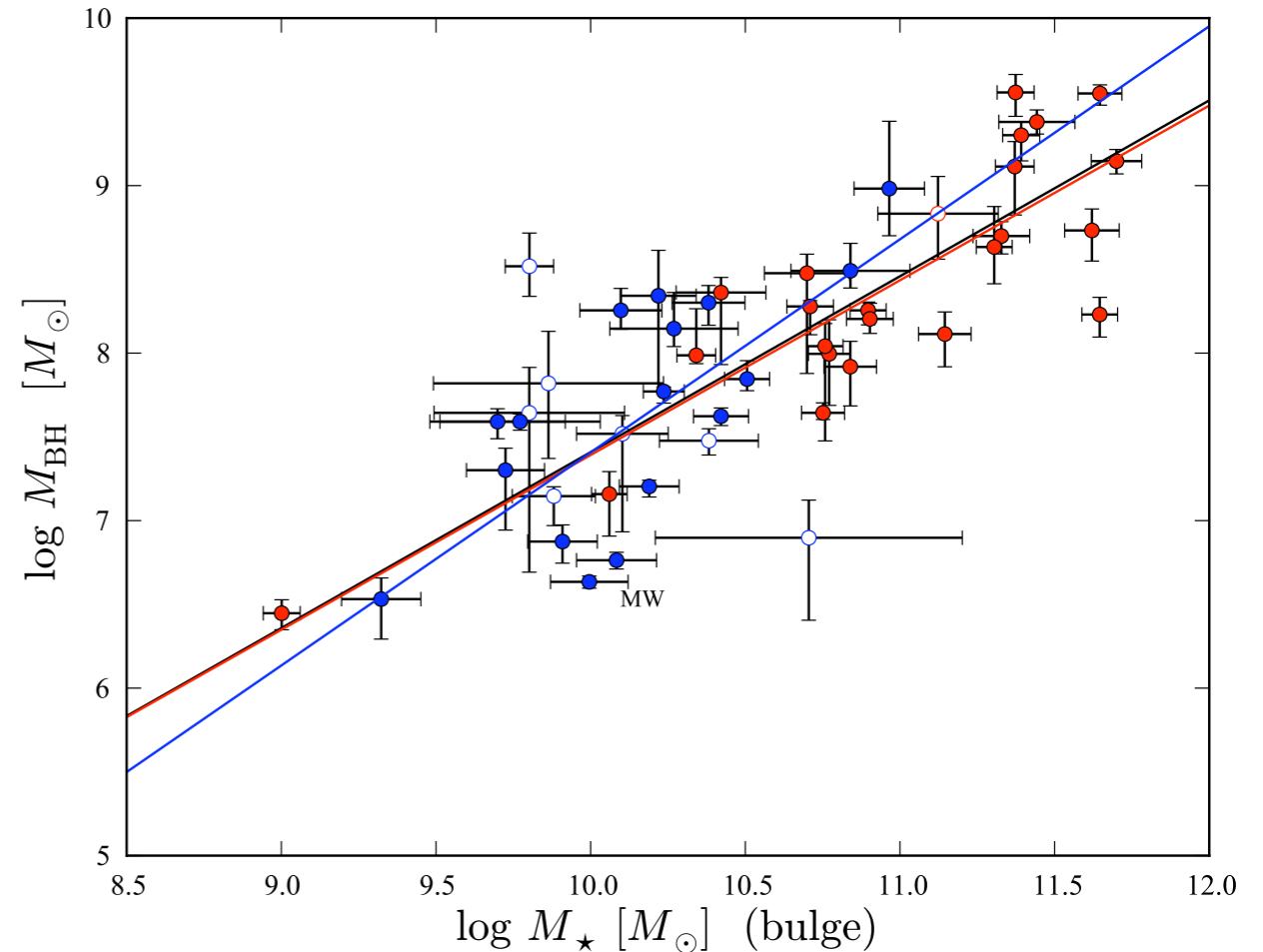
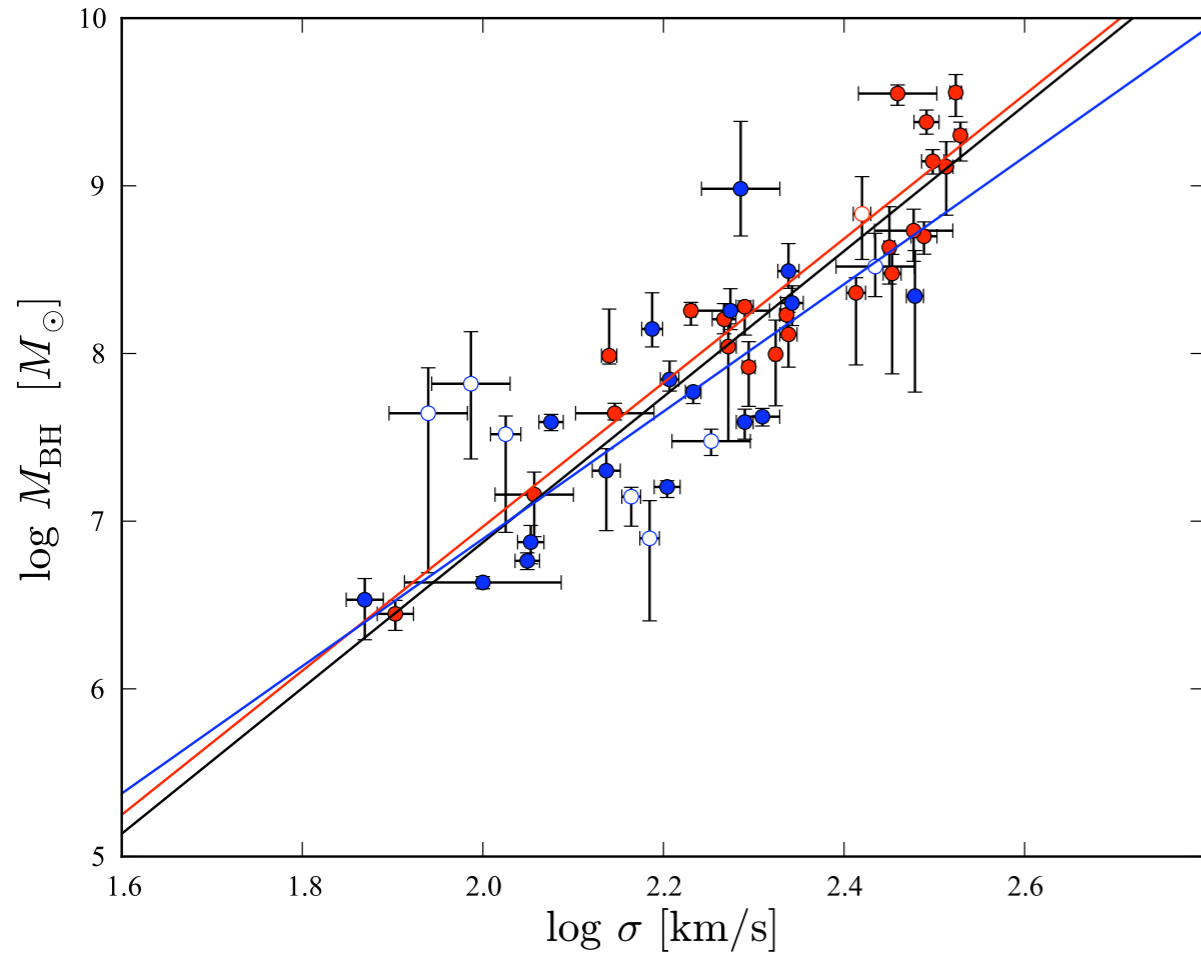
Decompositions

M_{BH} vs. M_{bulge} :

correlation coefficient for disk galaxies improves
from 0.66 to 0.76
when bar is accounted for



Scaling Relations



$$\alpha = 8.18 \pm 0.05 \quad \beta = 4.34 \pm 0.29$$

$$\varepsilon = 0.29 \pm 0.03$$

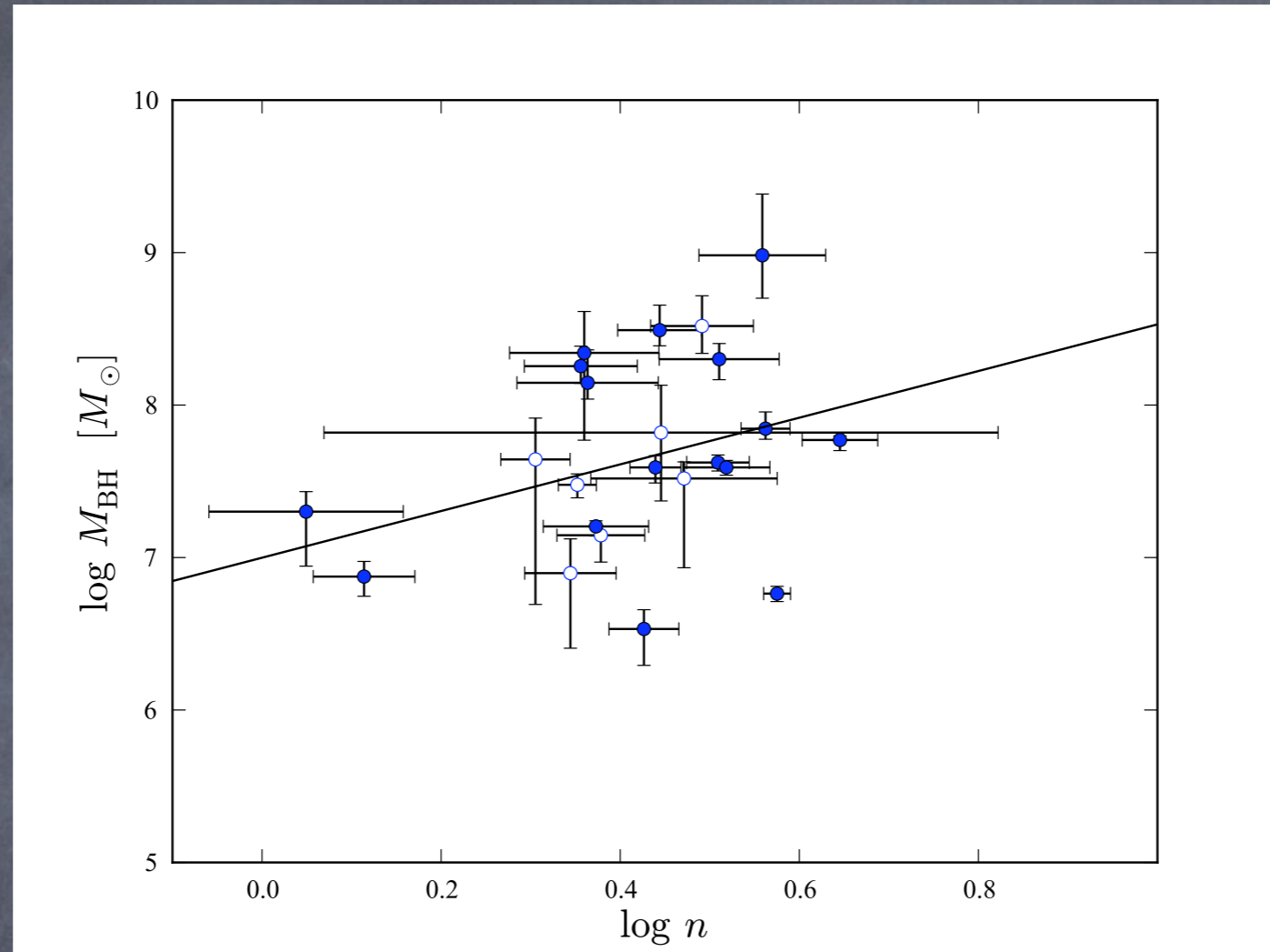
Gueltekin et al. (2009):

$$\varepsilon = 0.44 \pm 0.06$$

$$\alpha = 8.47 \pm 0.08 \quad \beta = 1.02 \pm 0.11$$

$$\varepsilon = 0.37 \pm 0.04$$

Scaling Relations

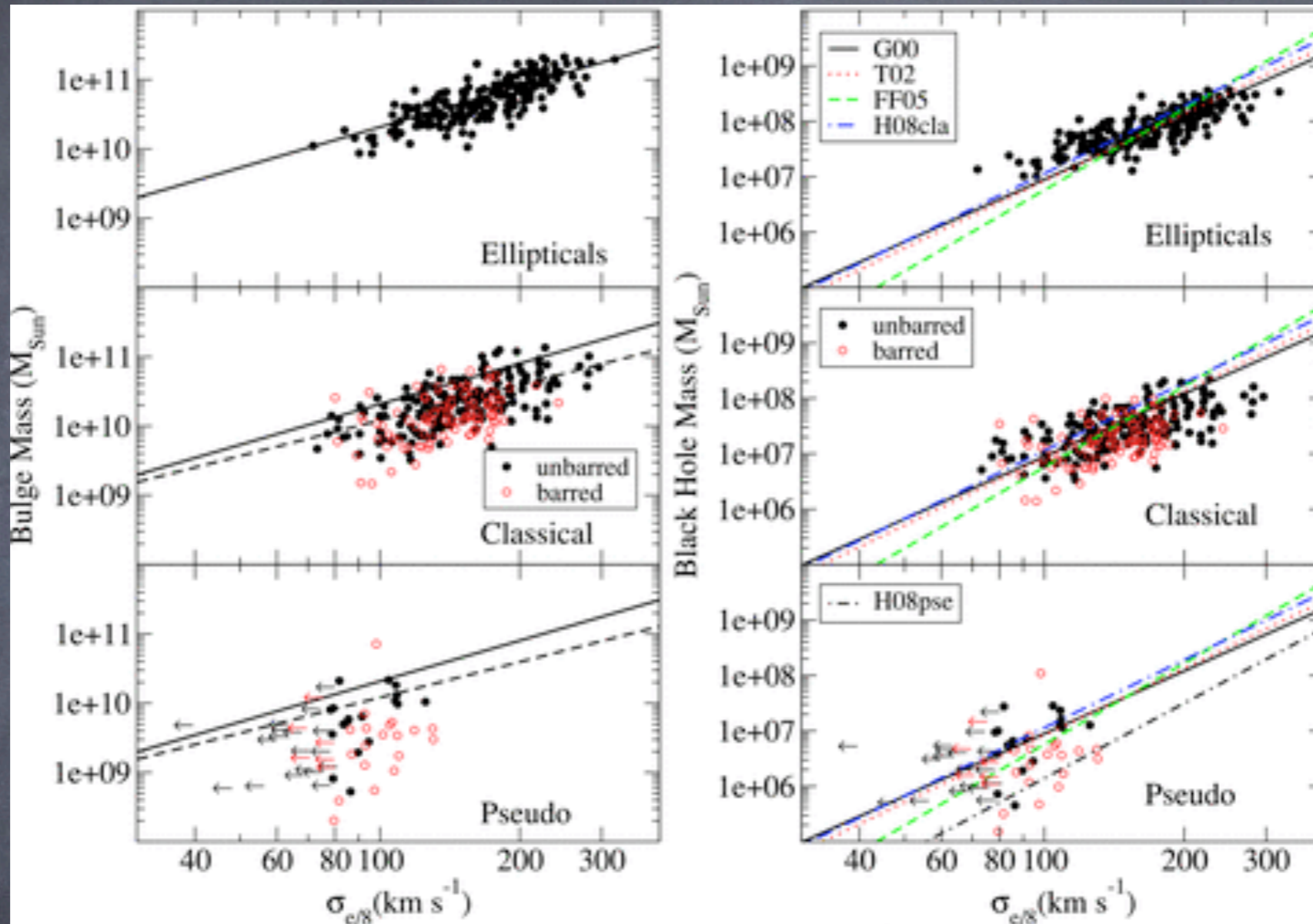


$$\alpha = 7.2 \pm 0.5 \quad \beta = 1 \pm 1$$

$$\varepsilon = 0.6 \pm 0.1$$

see also Graham & Driver (2007)

A Footnote



Gadotti & Kauffmann (2009)

Deviation of pseudo-bulges from M - σ relation might be only due to bars, even face-on

