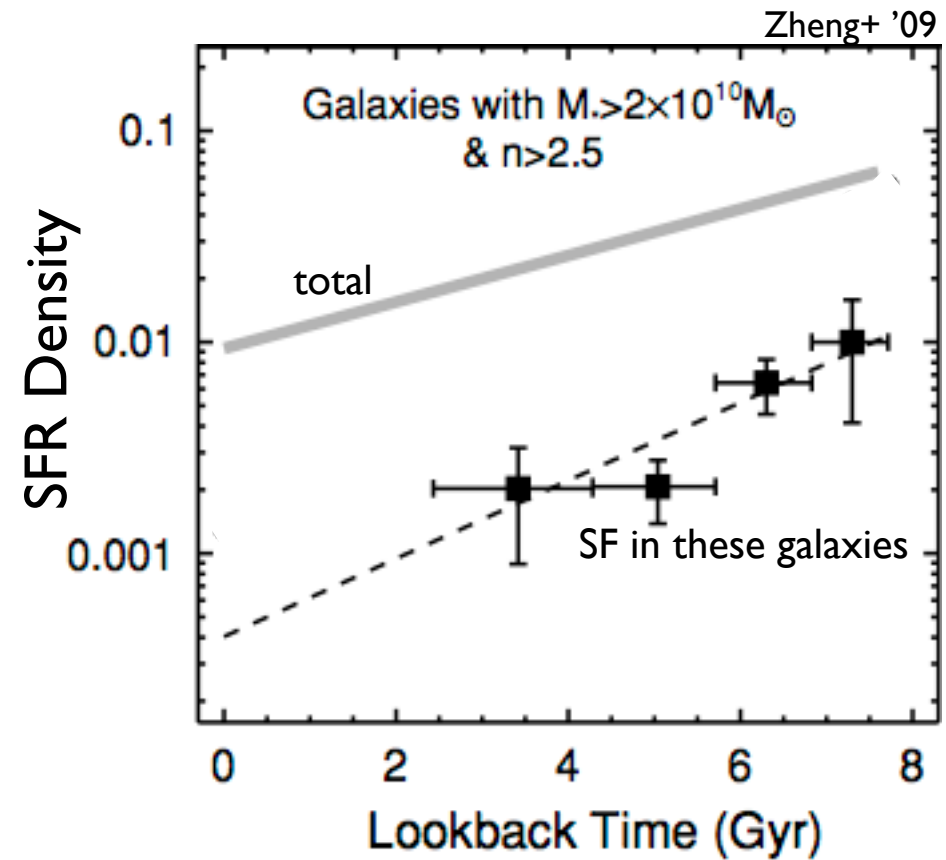
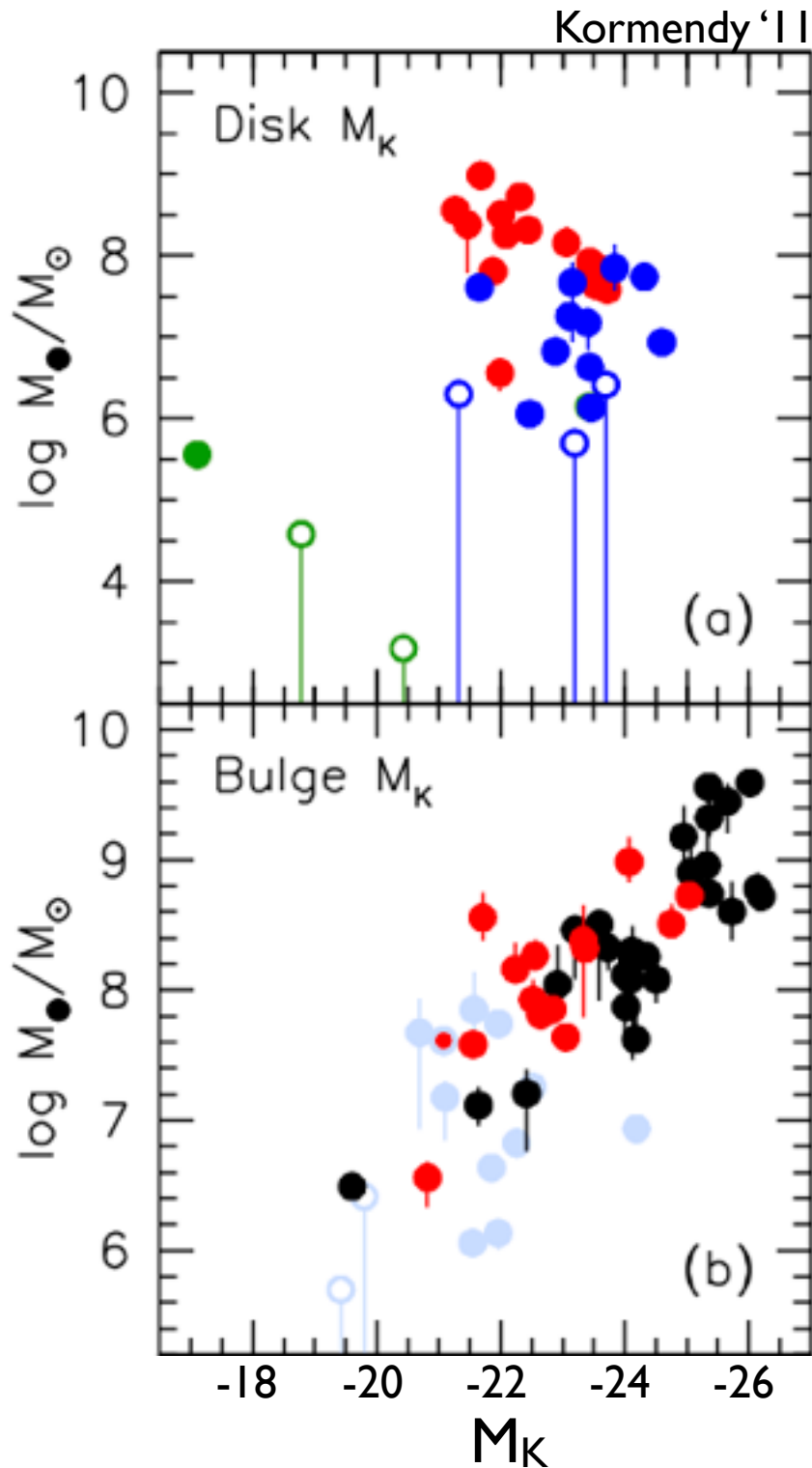
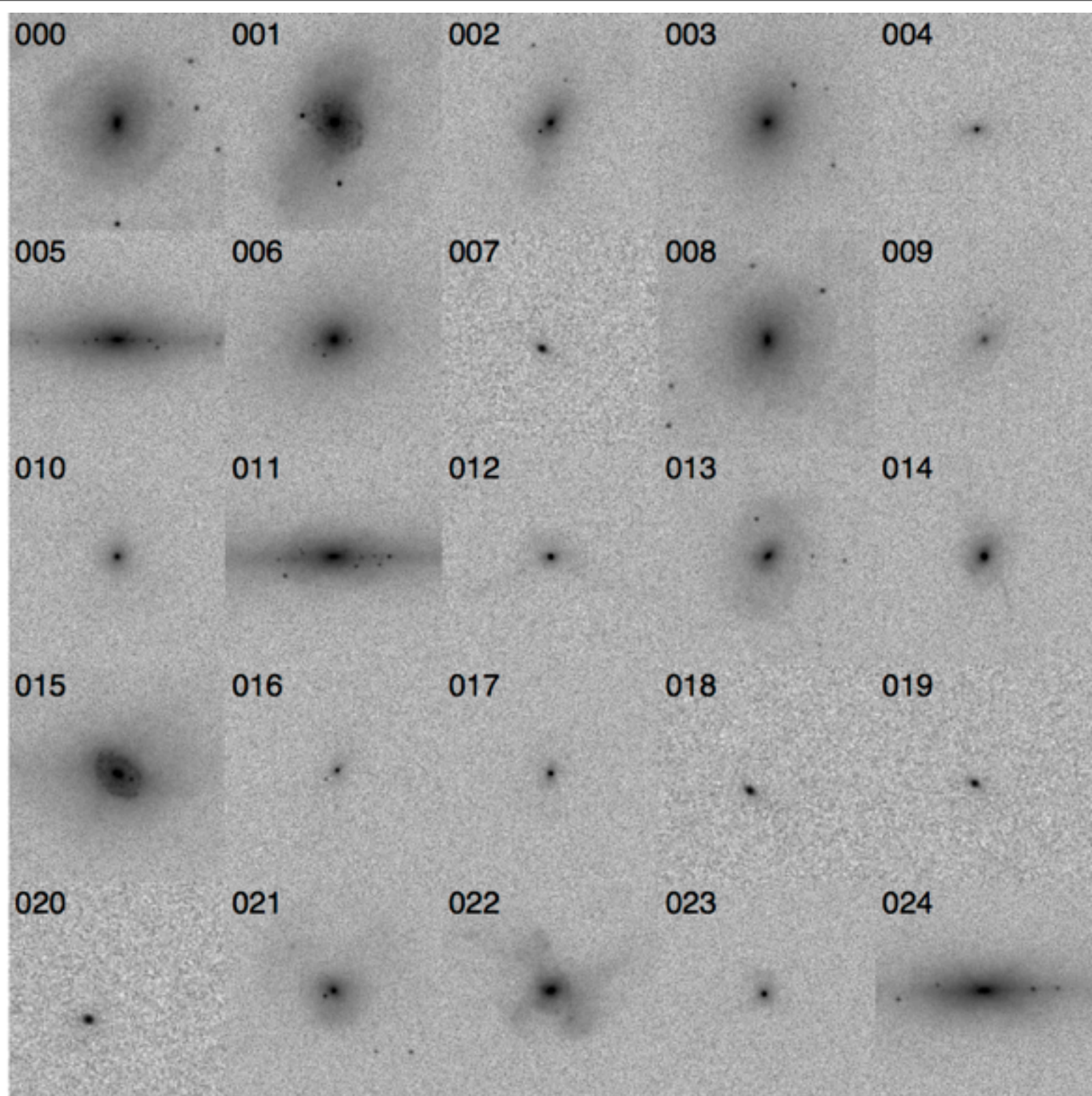


Star Formation & BH Growth Are *NOT* Strictly Co-Eval

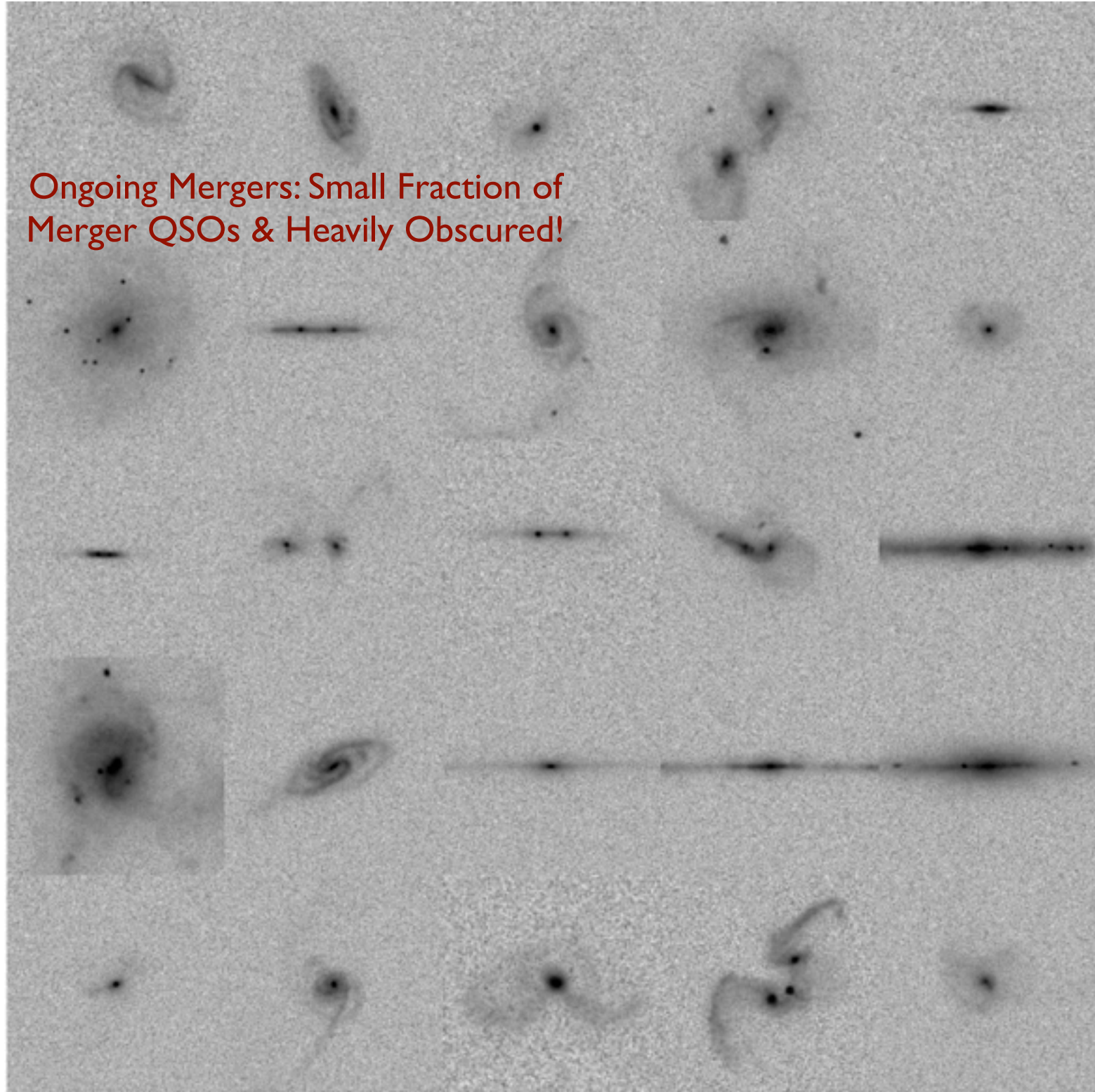


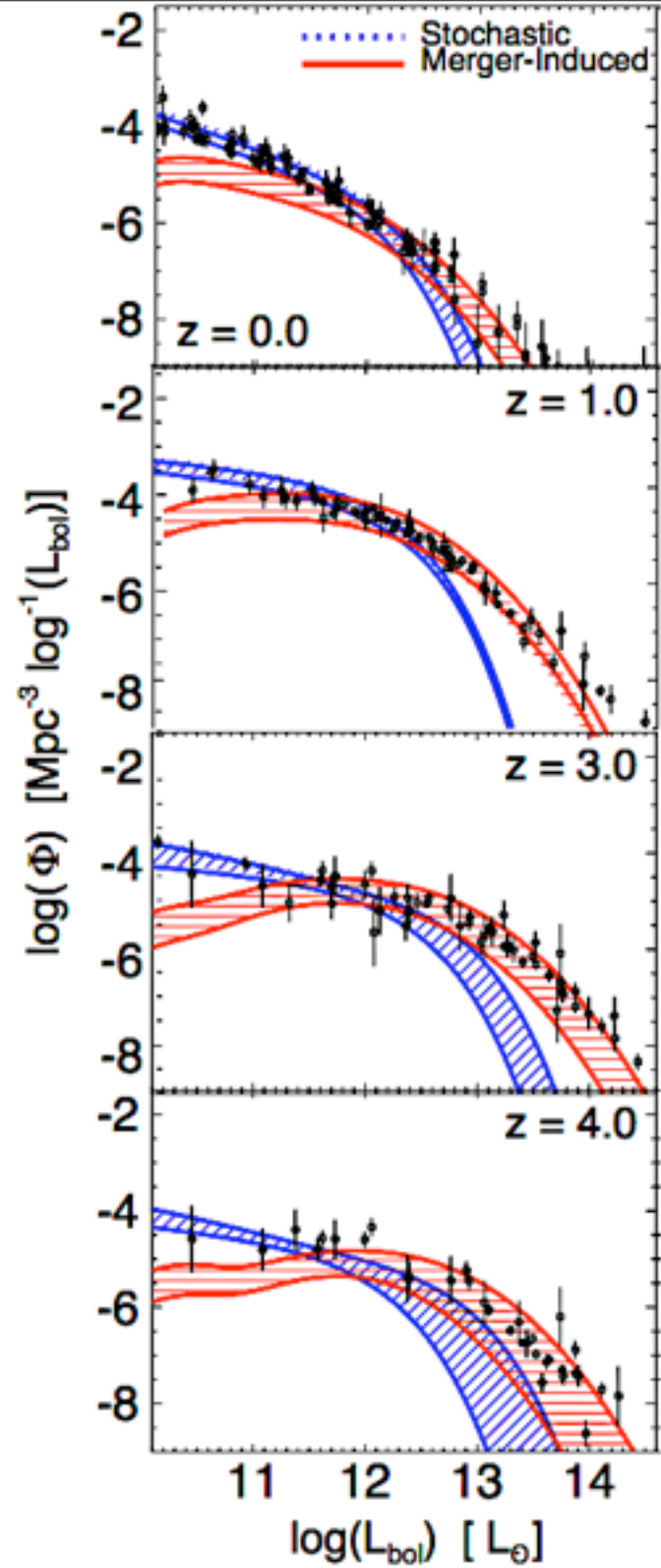
Should We See Merger-AGN Signatures?



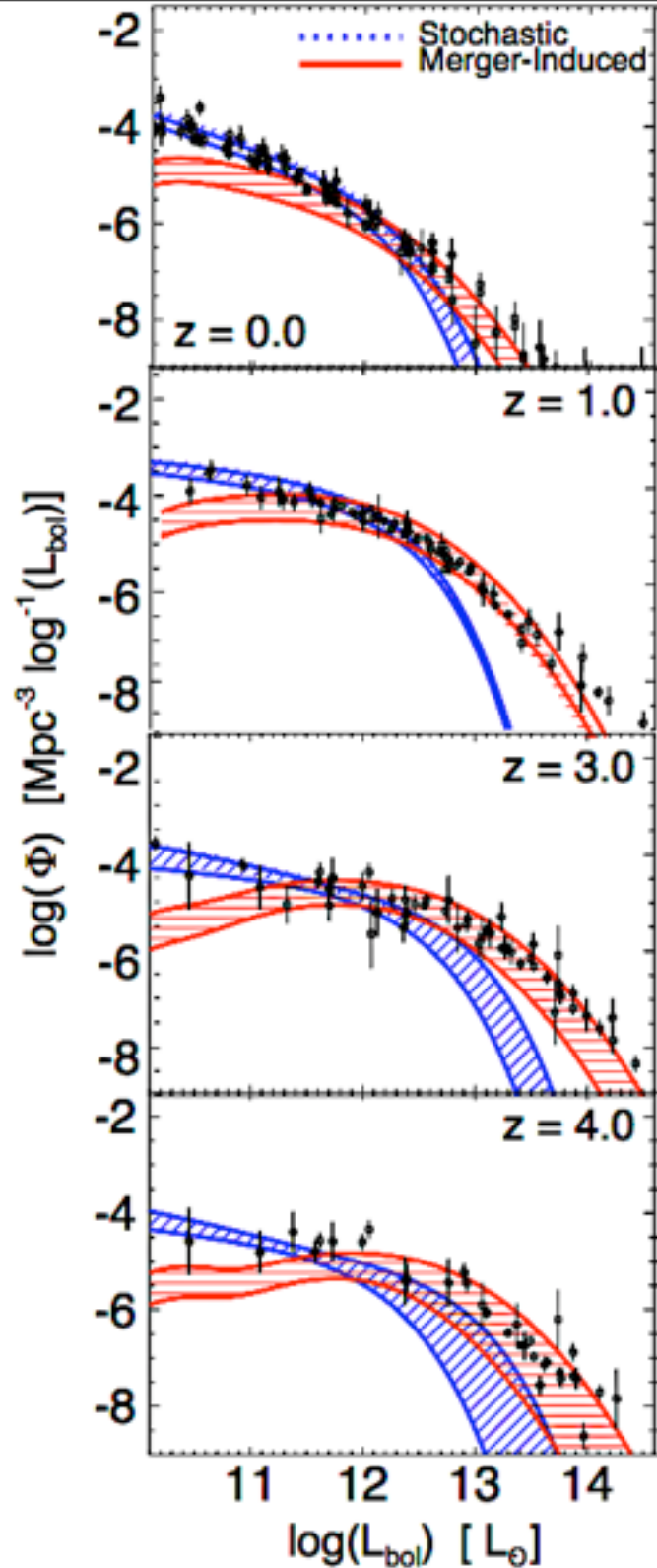
Should We See Merger-AGN Signatures?

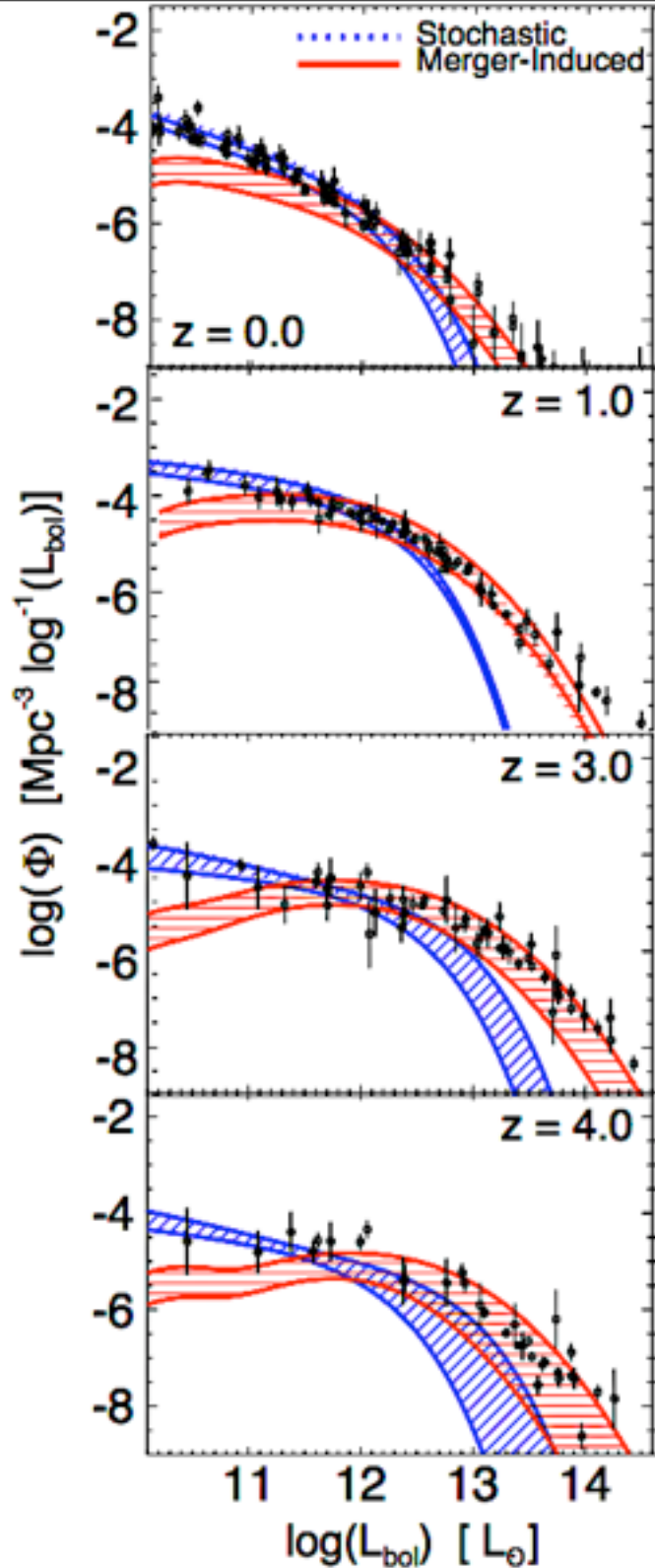
Ongoing Mergers: Small Fraction of
Merger QSOs & Heavily Obscured!





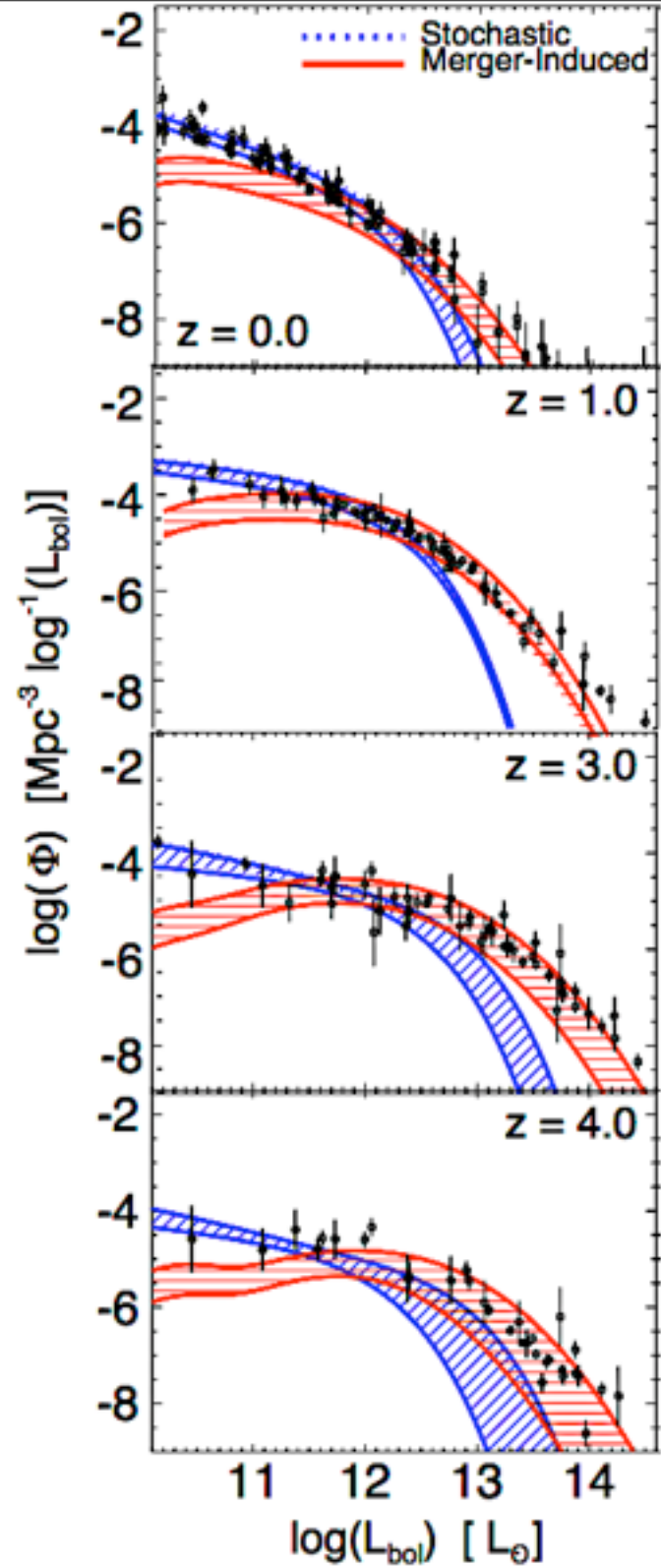
Are the observations a problem for merger models?

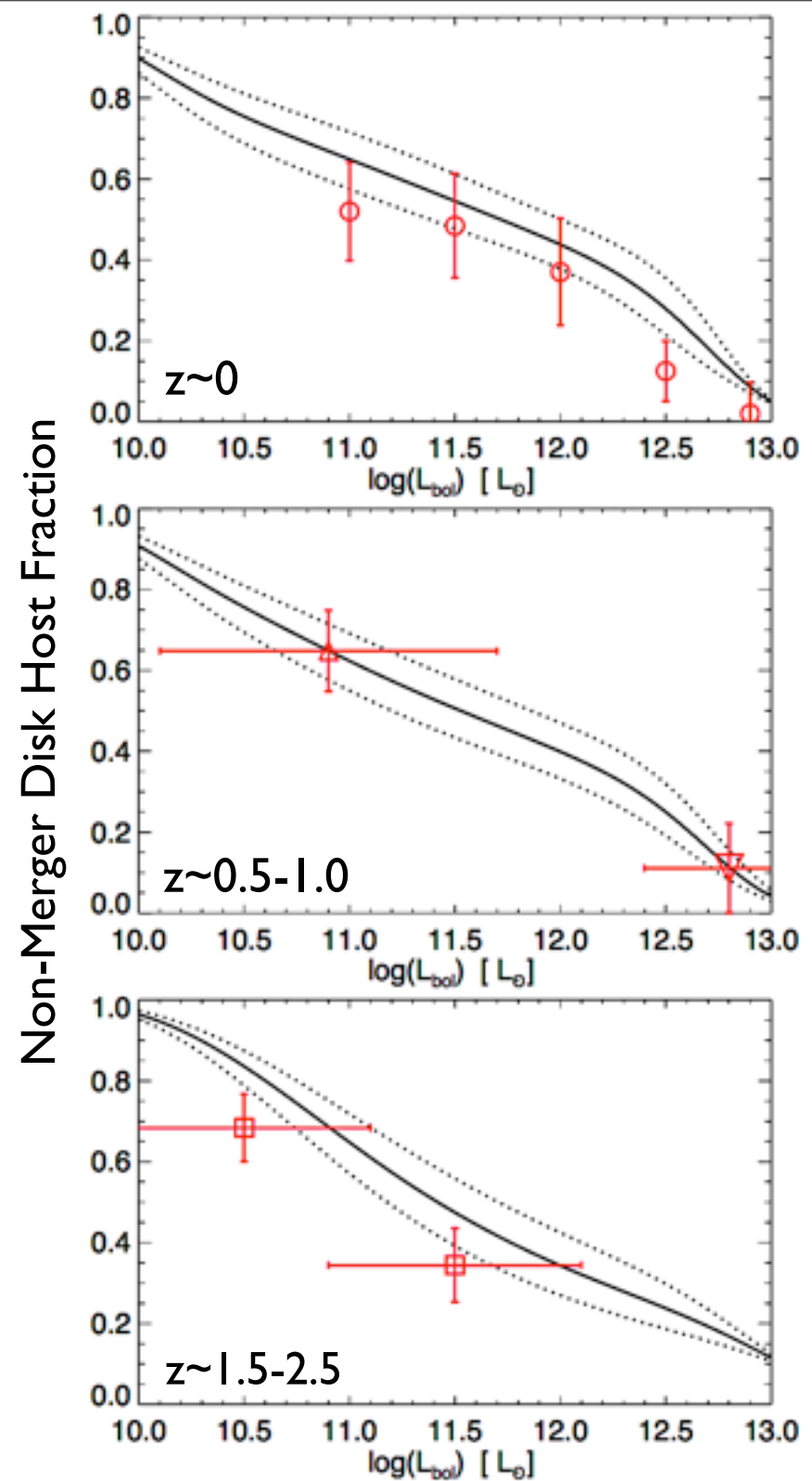
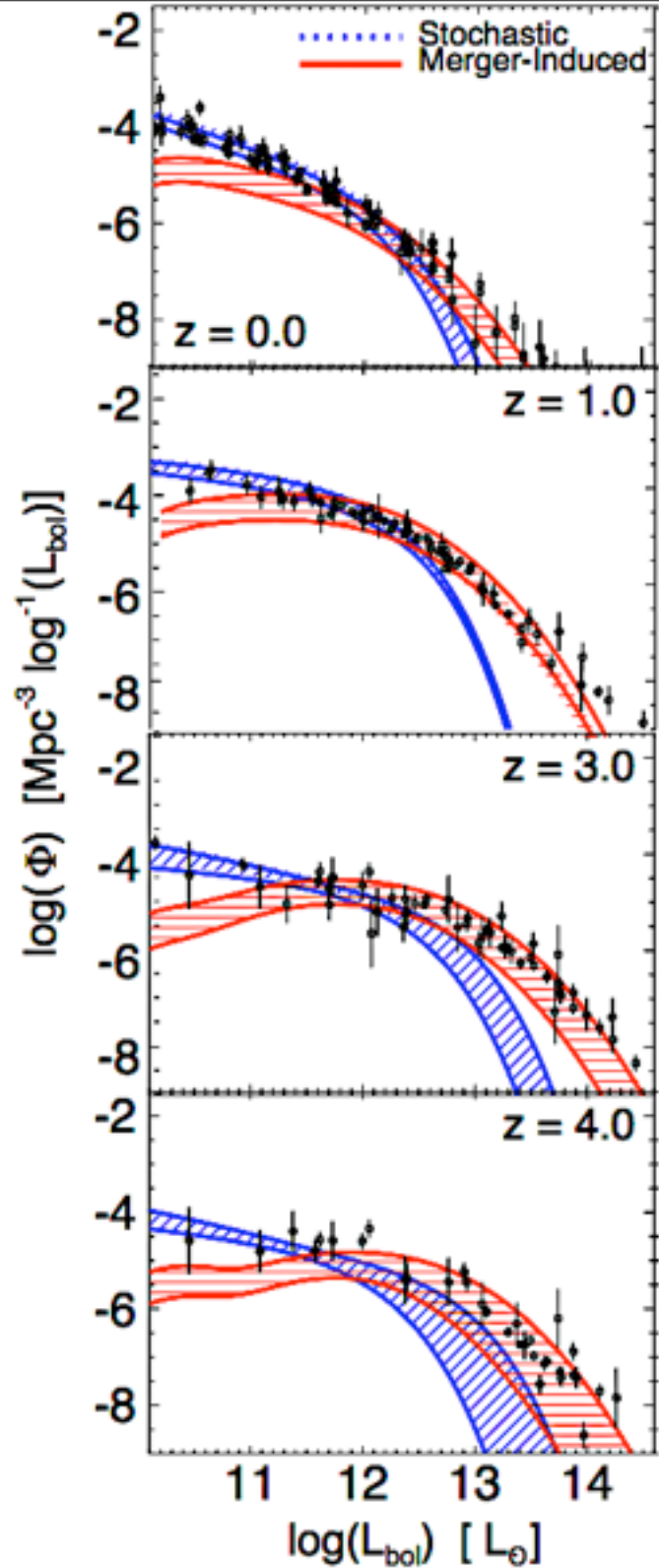


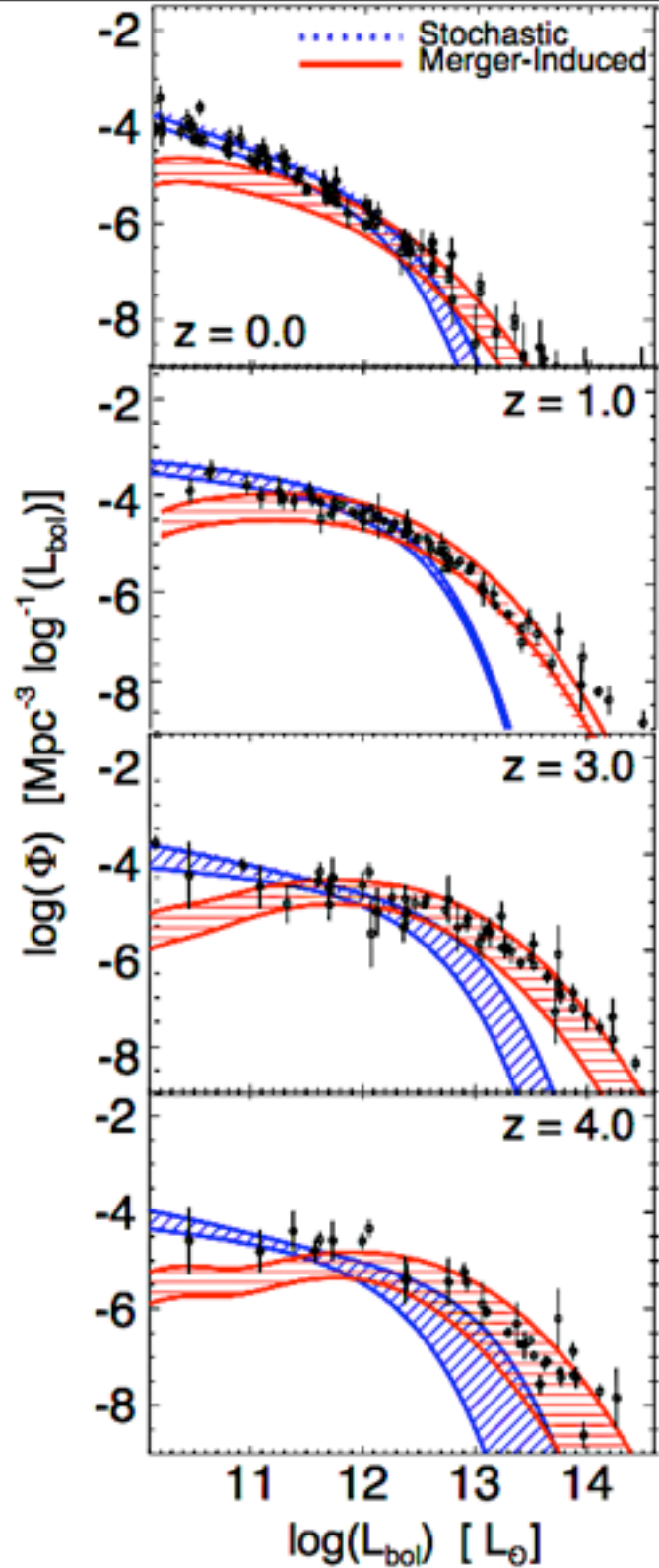


Are the observations a problem for merger models?

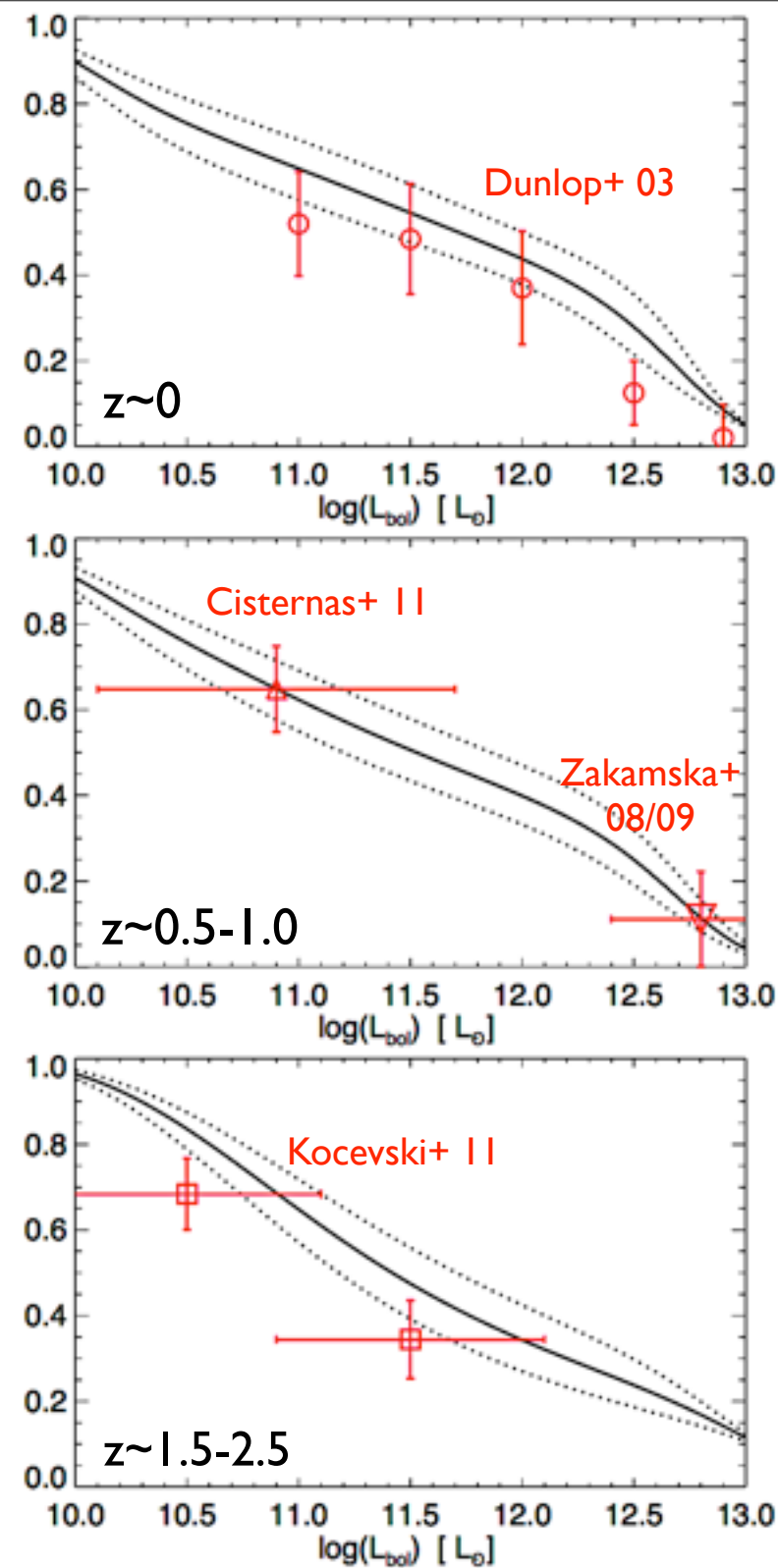
Are we mapping the stochastic-merger transition (without realizing it)?

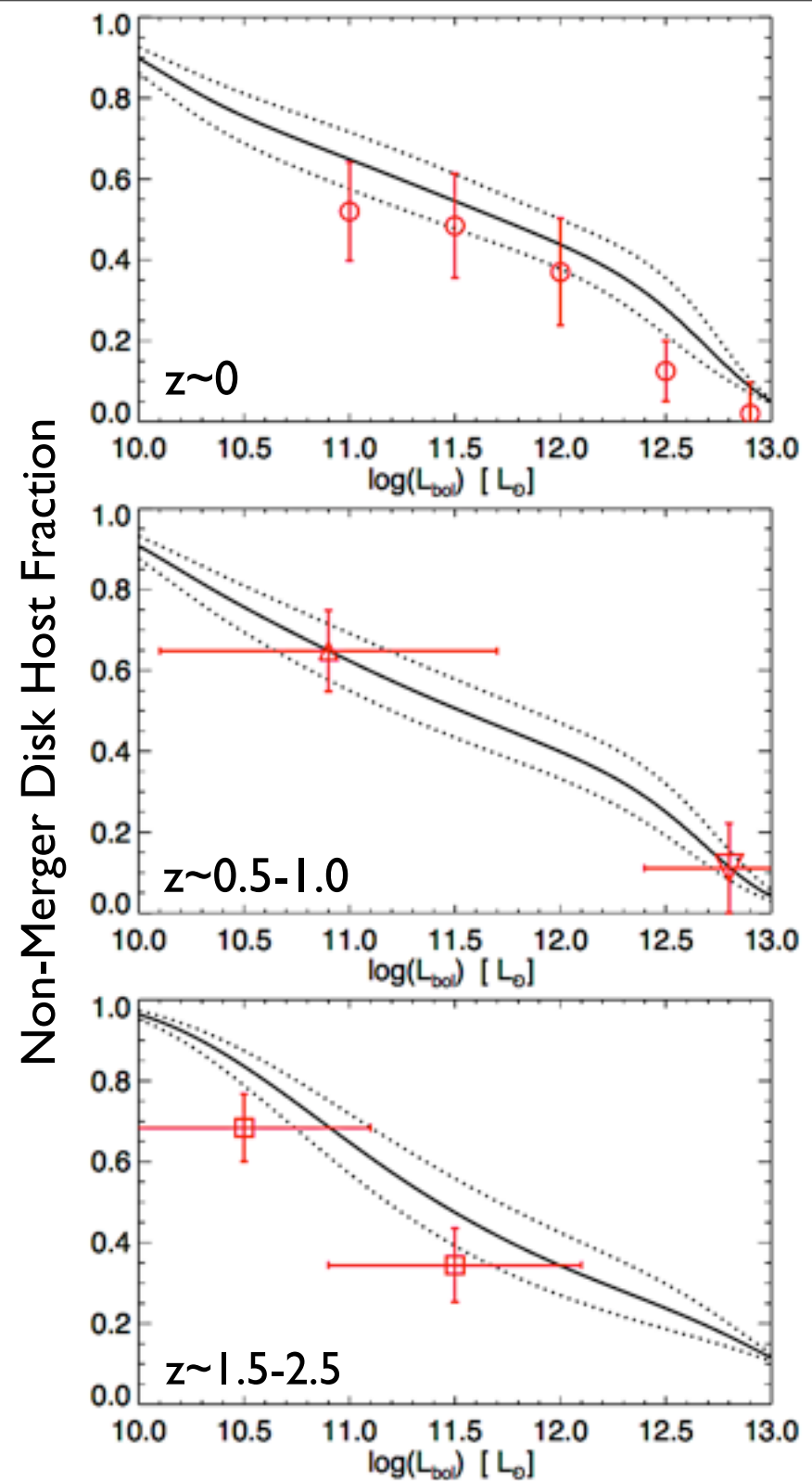
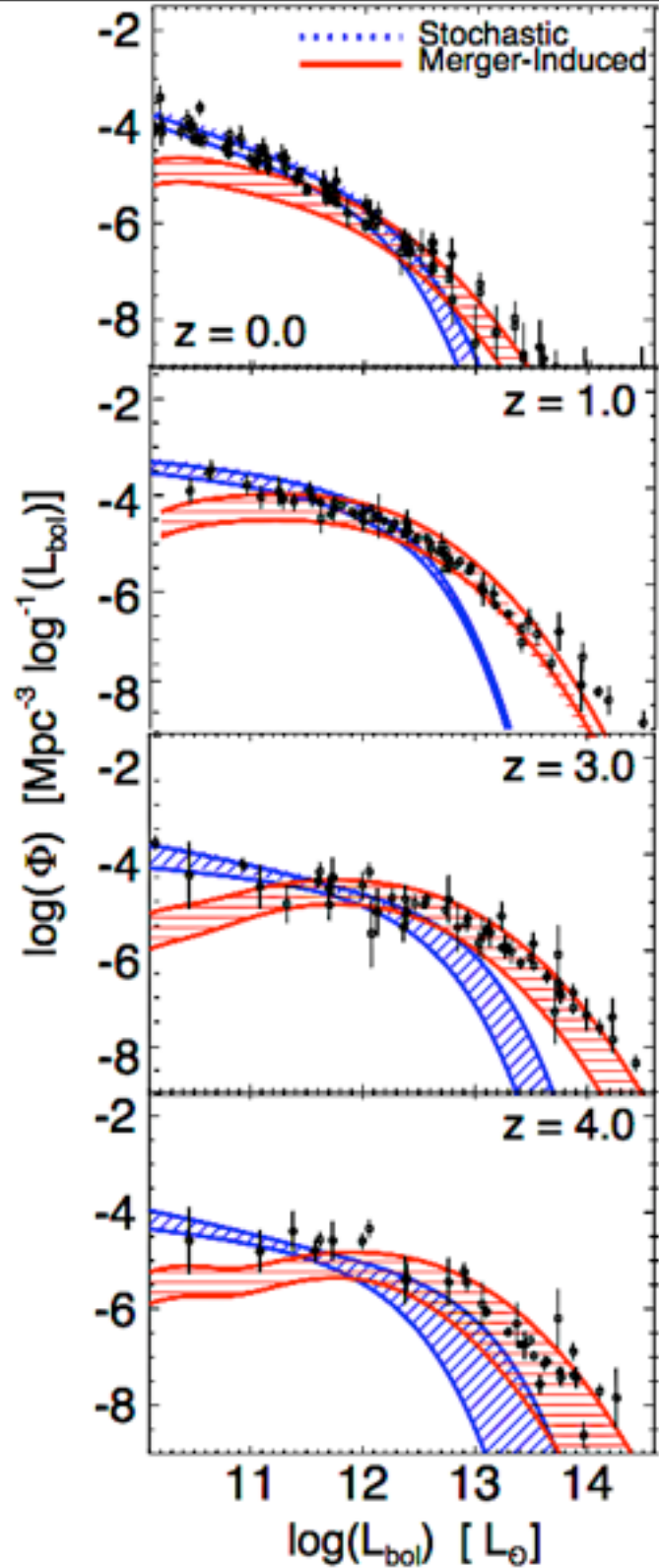


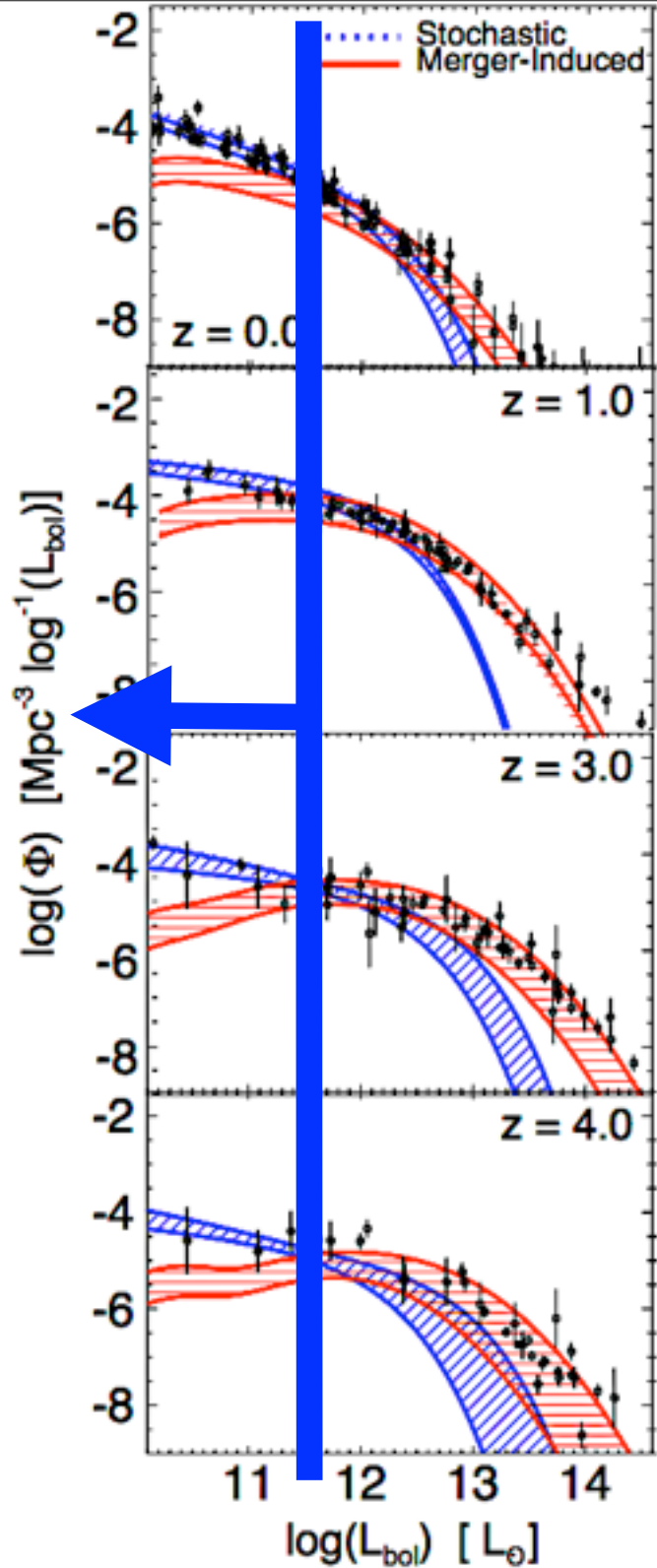




Non-Merger Disk Host Fraction

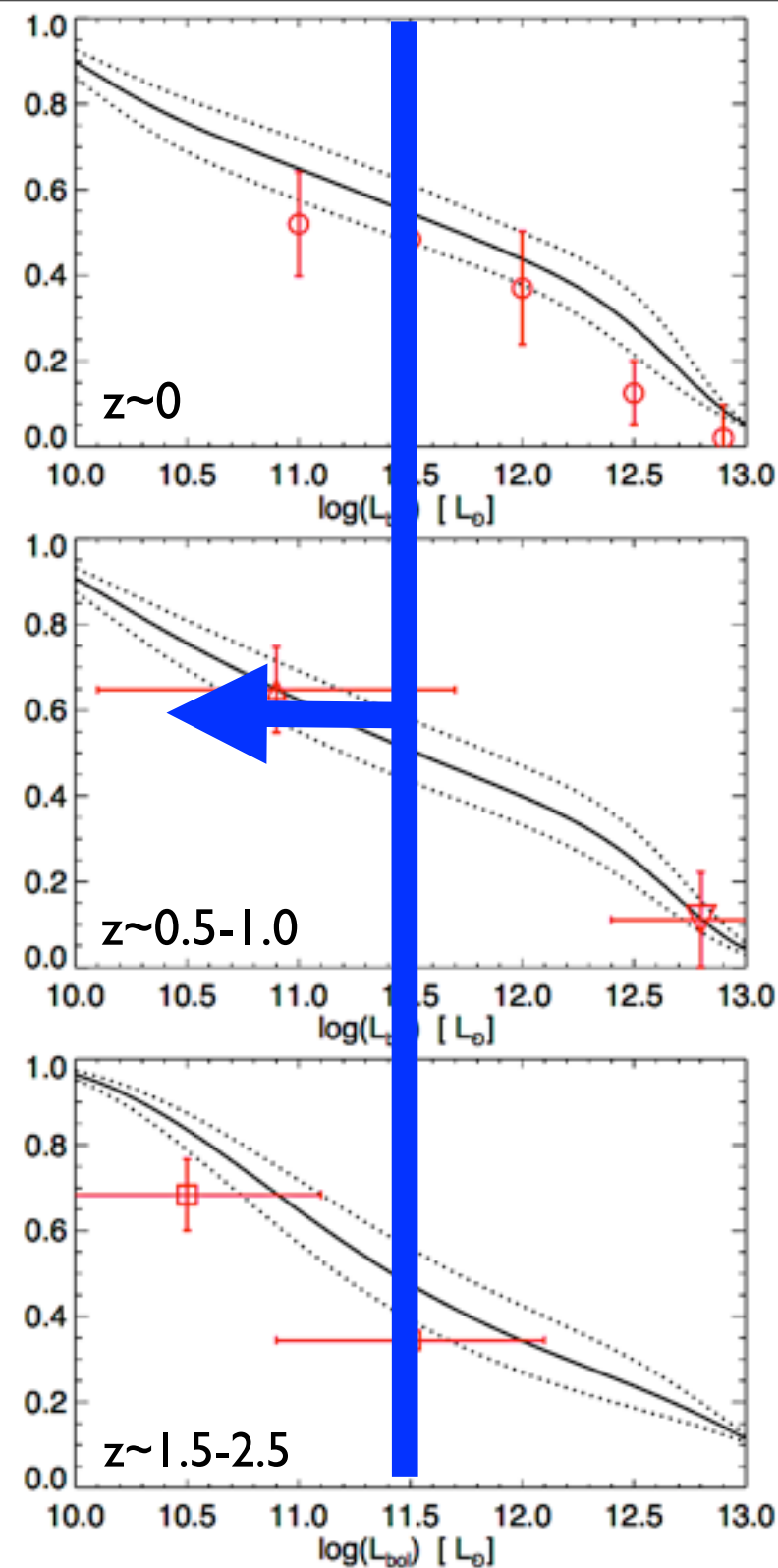


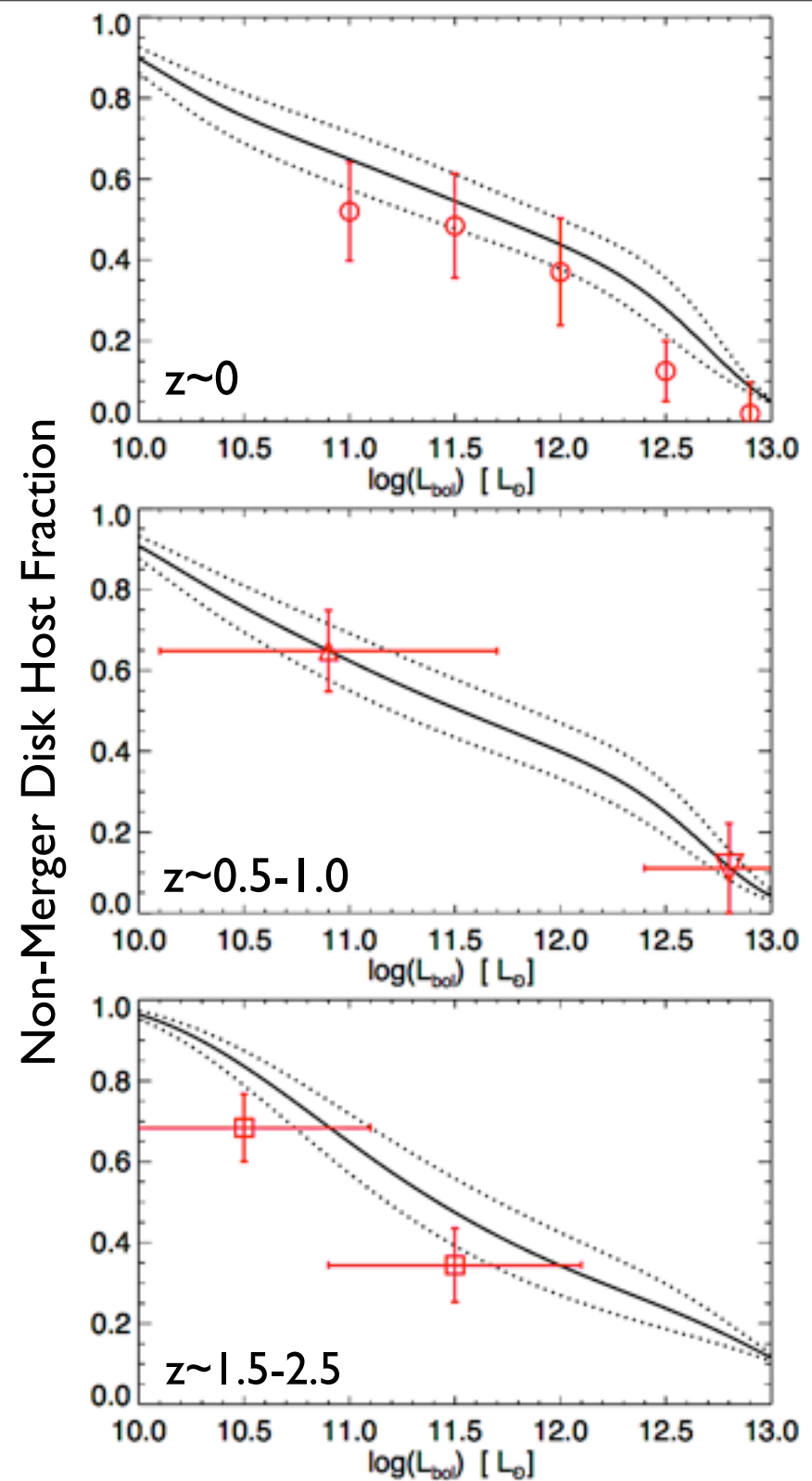
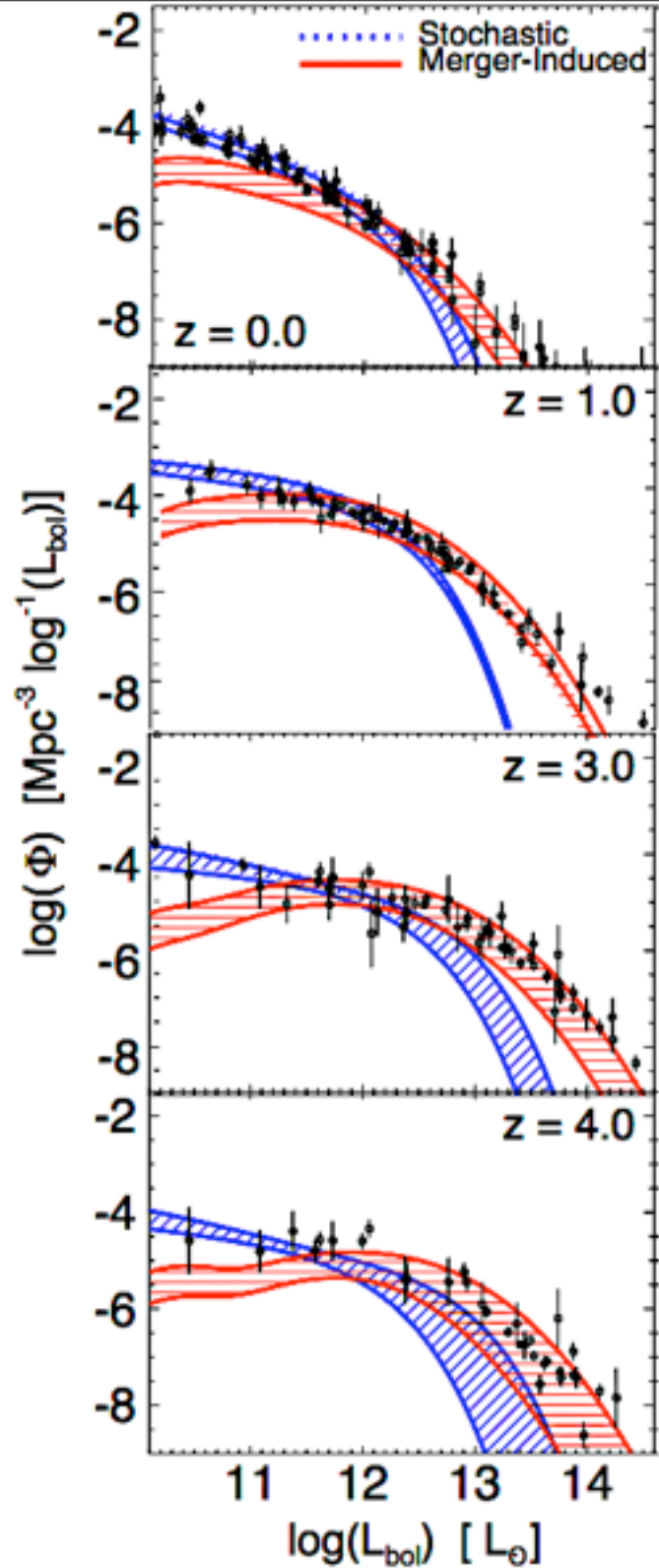


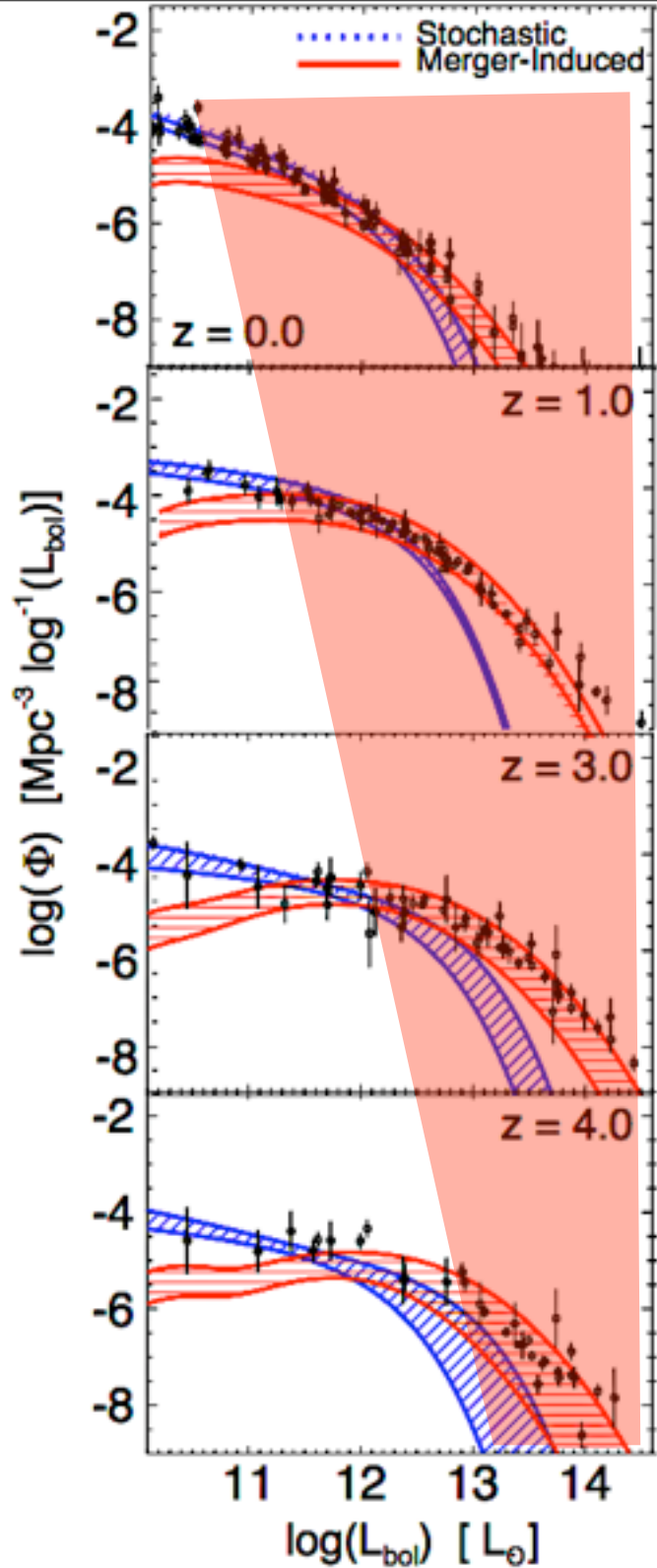


$$M_{\text{BH}} < 10^7$$

Non-Merger Disk Host Fraction

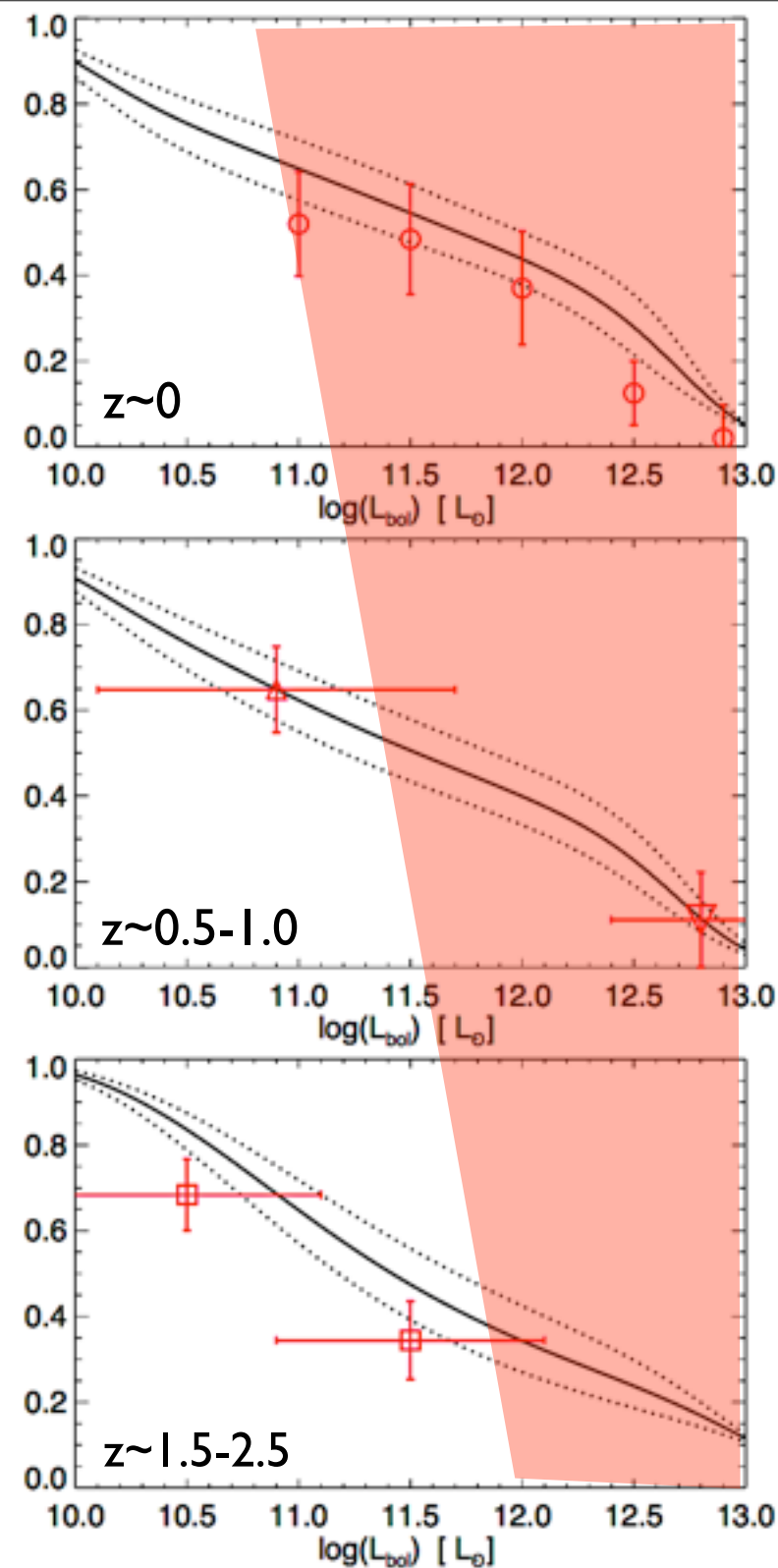


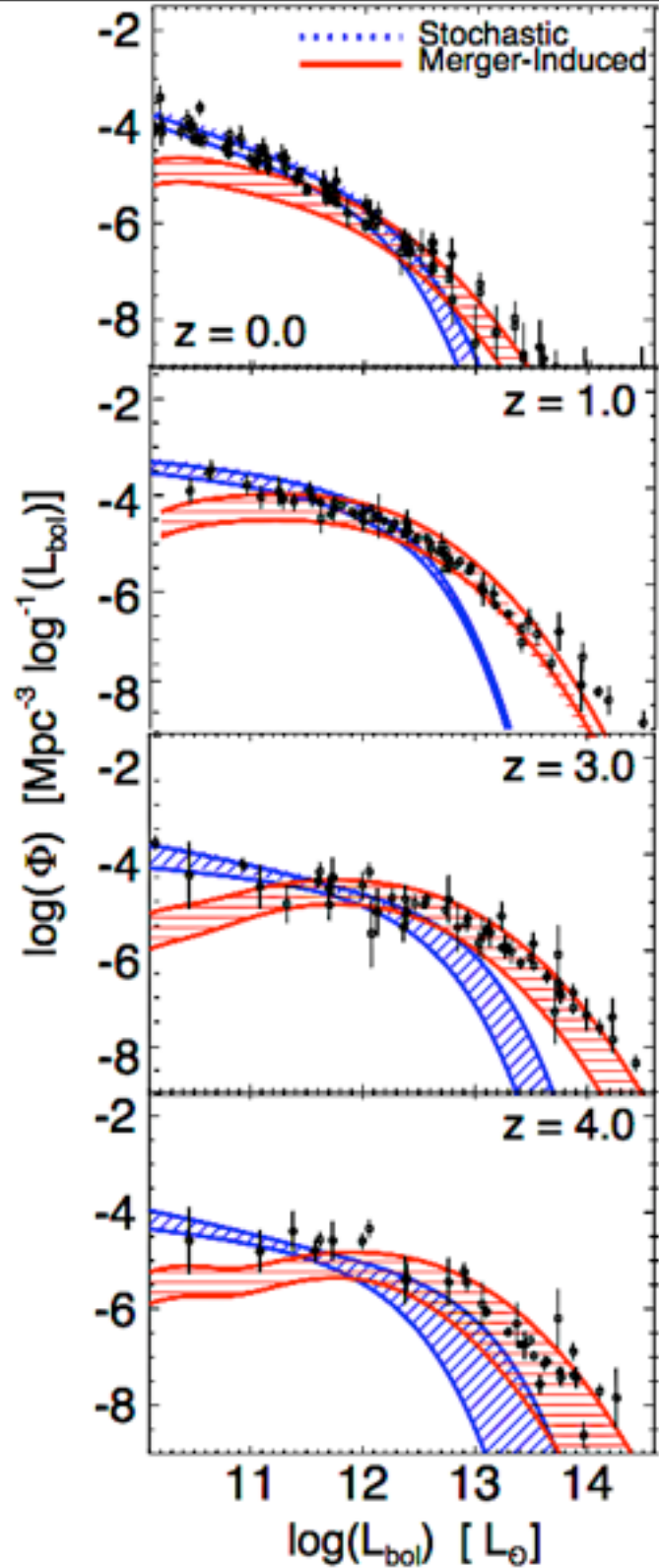




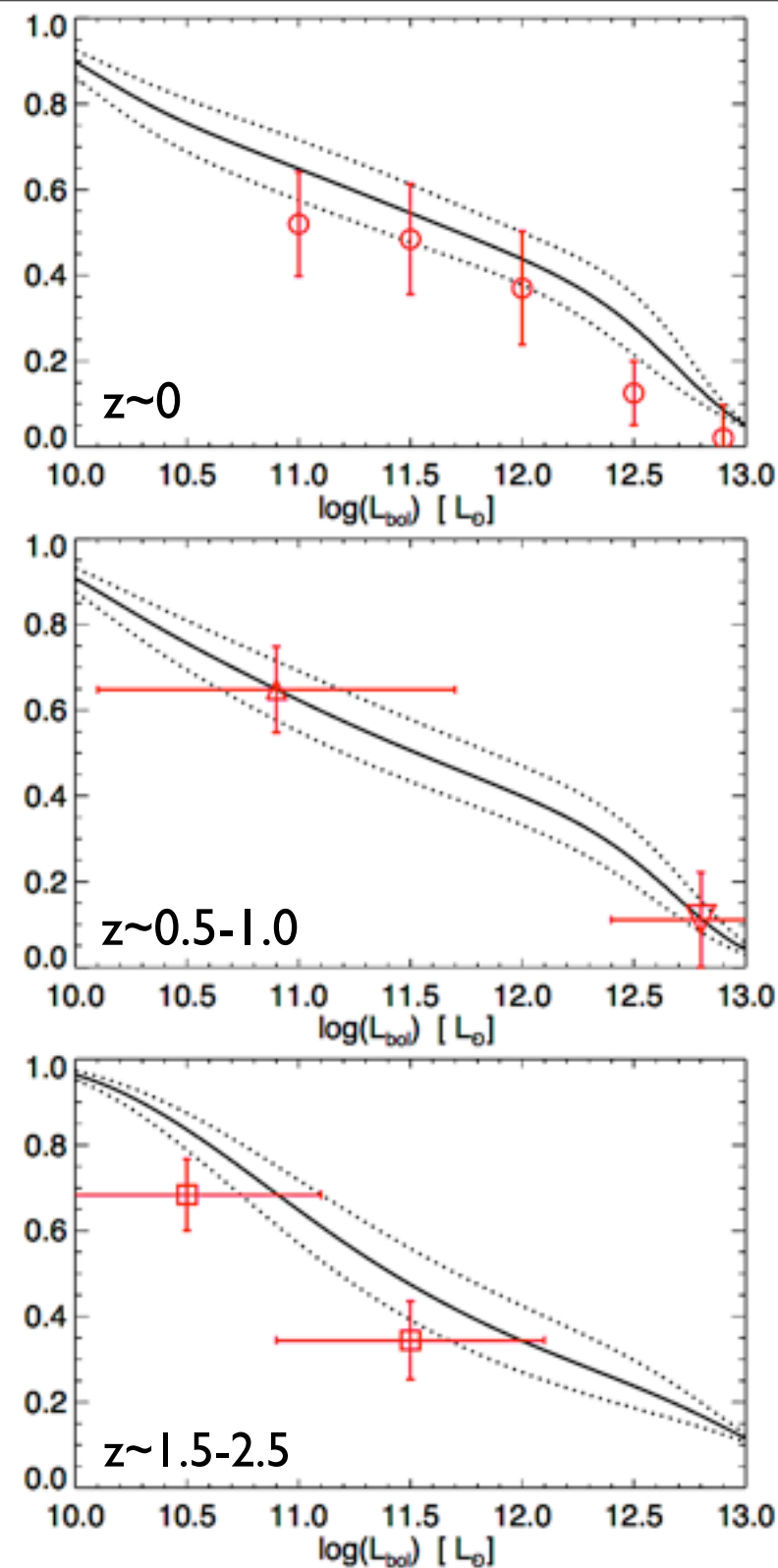
75% of J_{BOL}

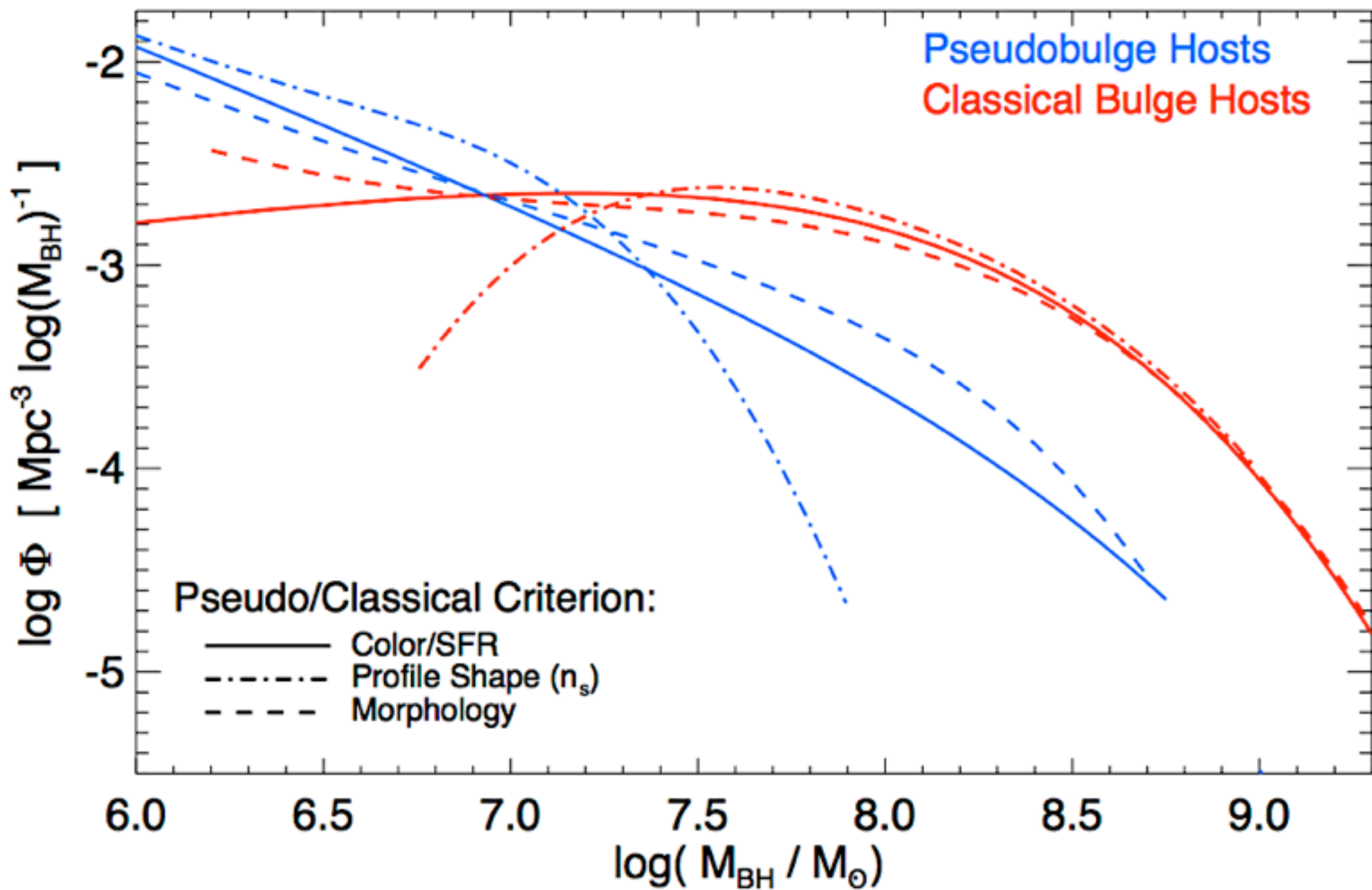
Non-Merger Disk Host Fraction

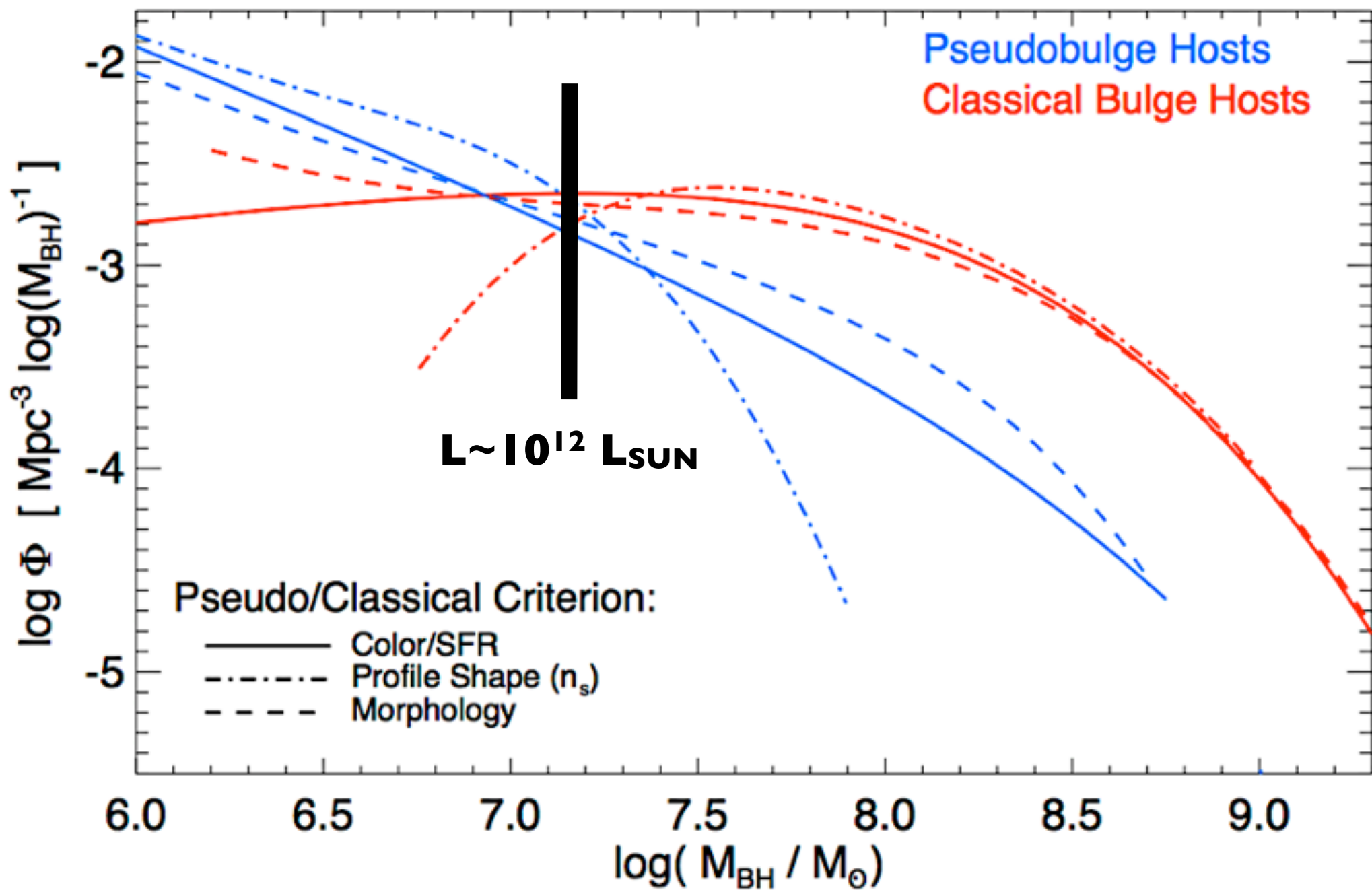




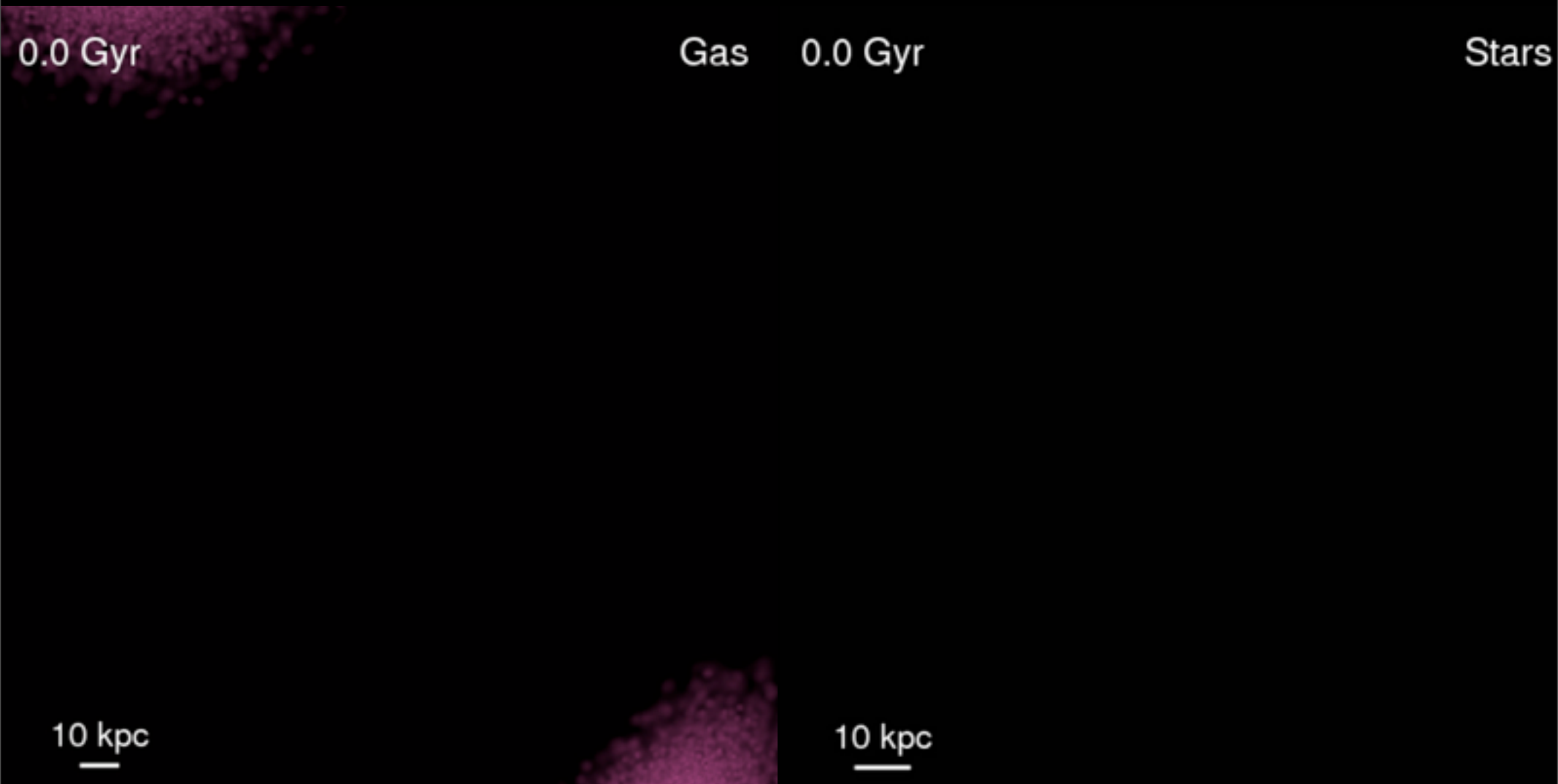
Non-Merger Disk Host Fraction



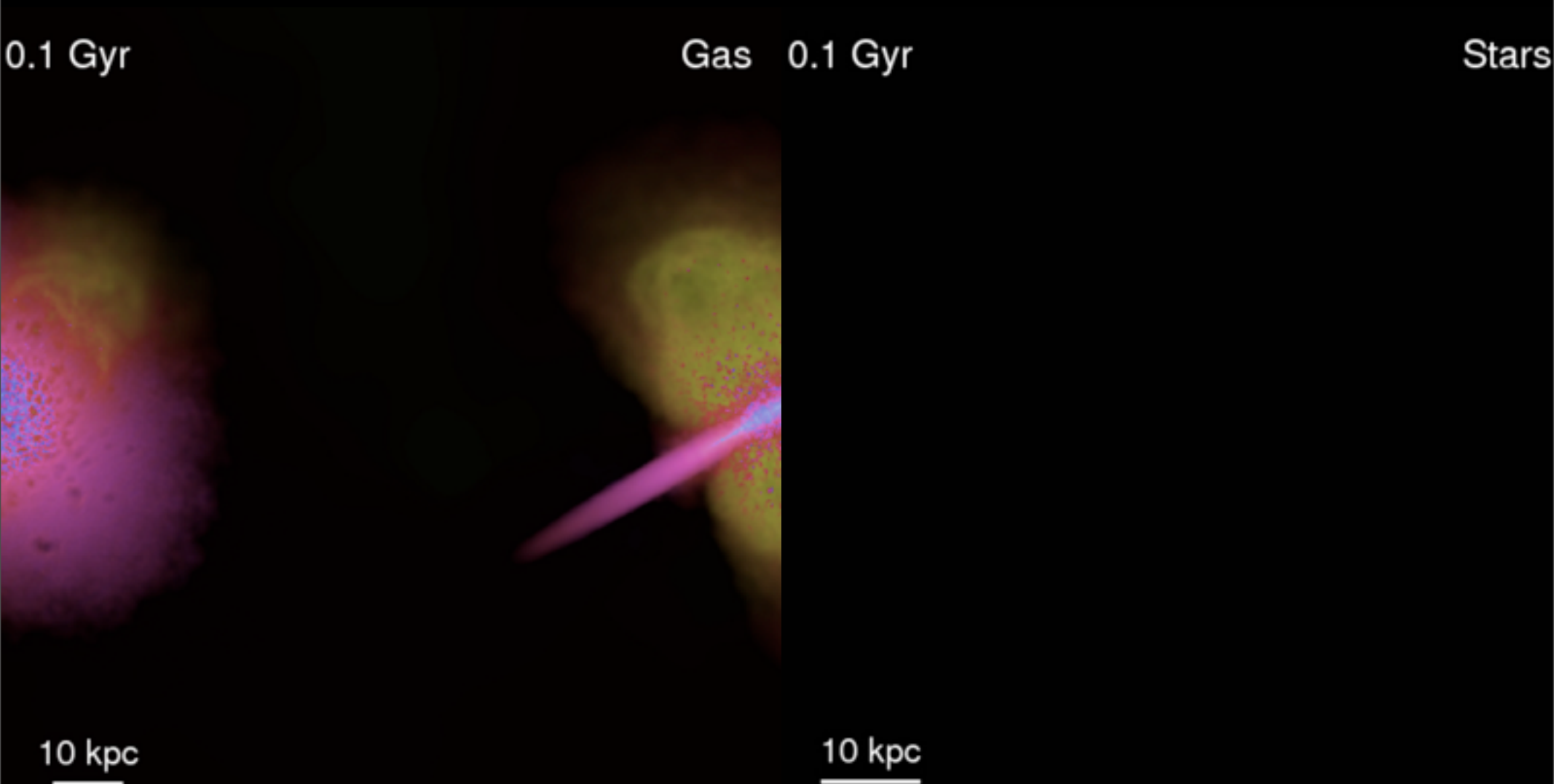




Milky Way



Starburst Disks (z=0)



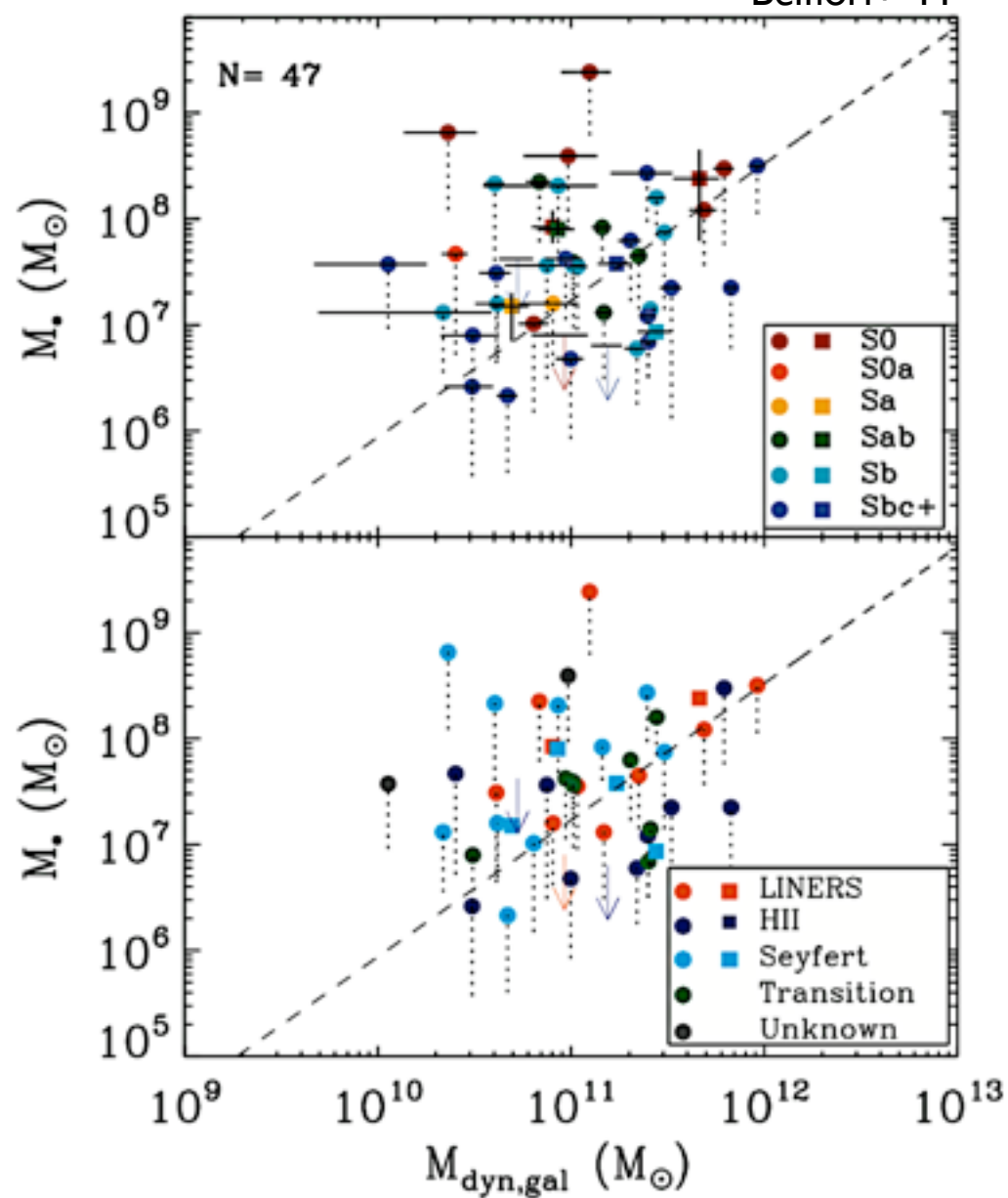
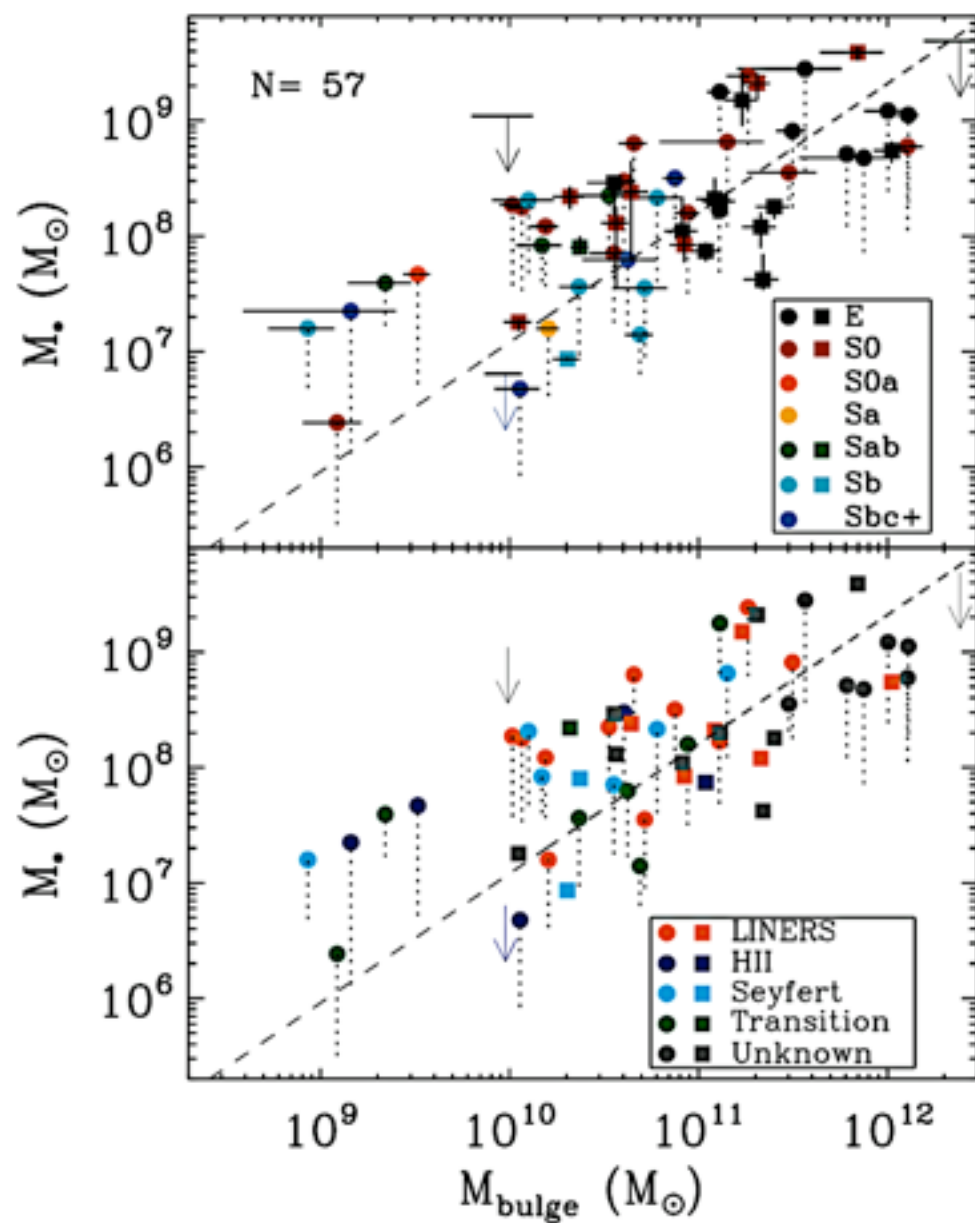
0.0 Gyr Stars 0.1 Gyr Stars

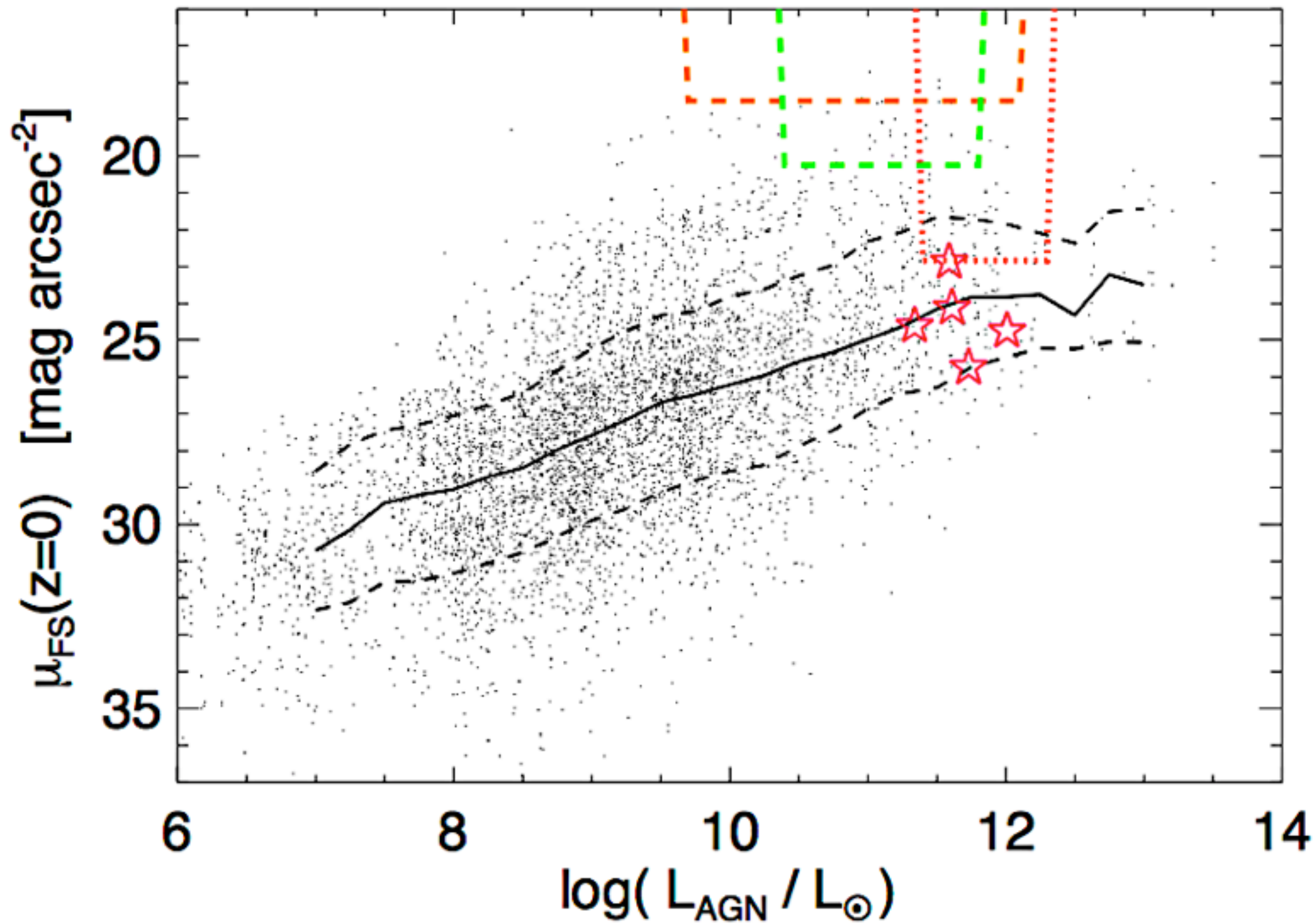
10 kpc

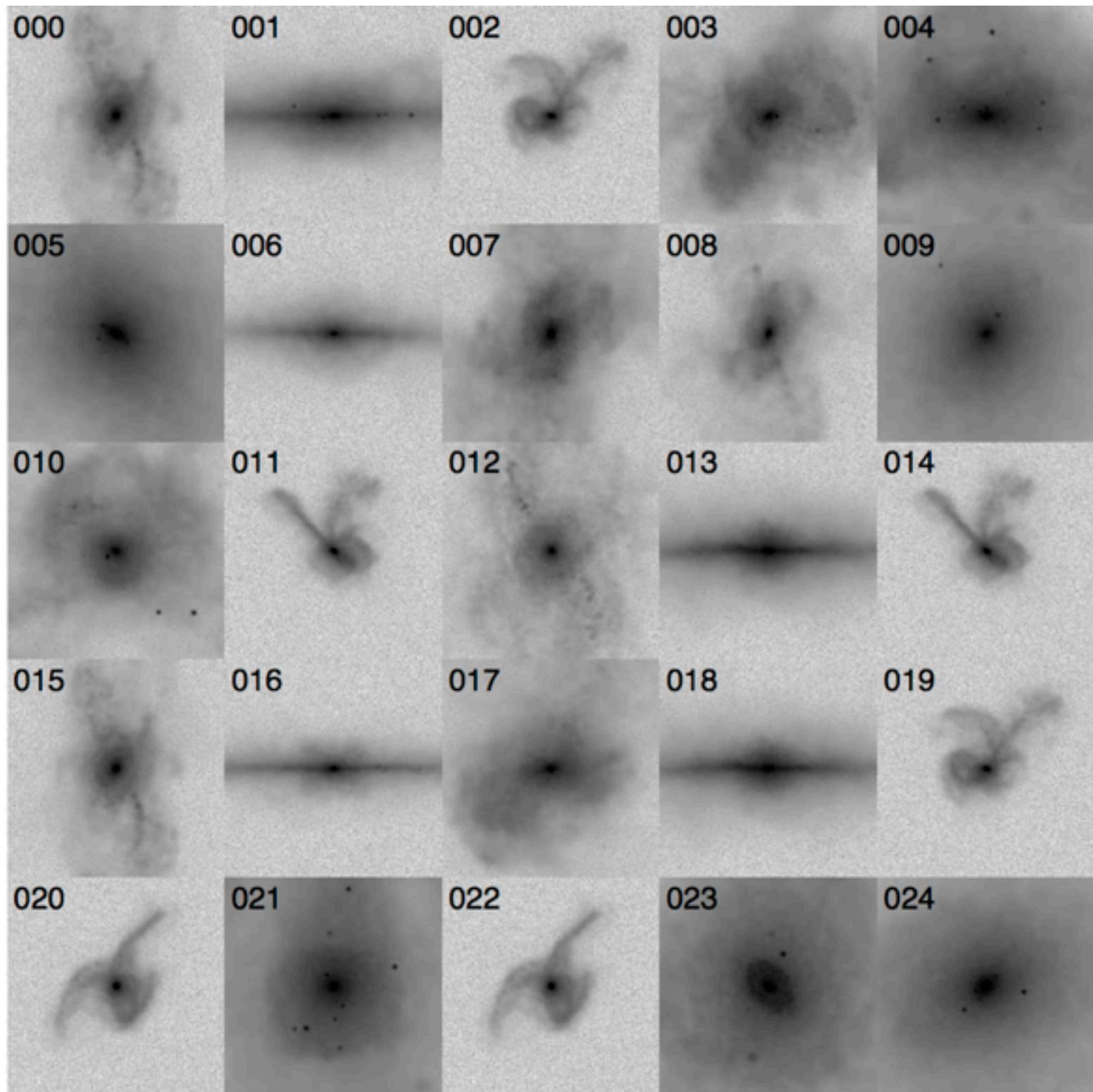
Milky Way

10 kpc

Starburst Disks



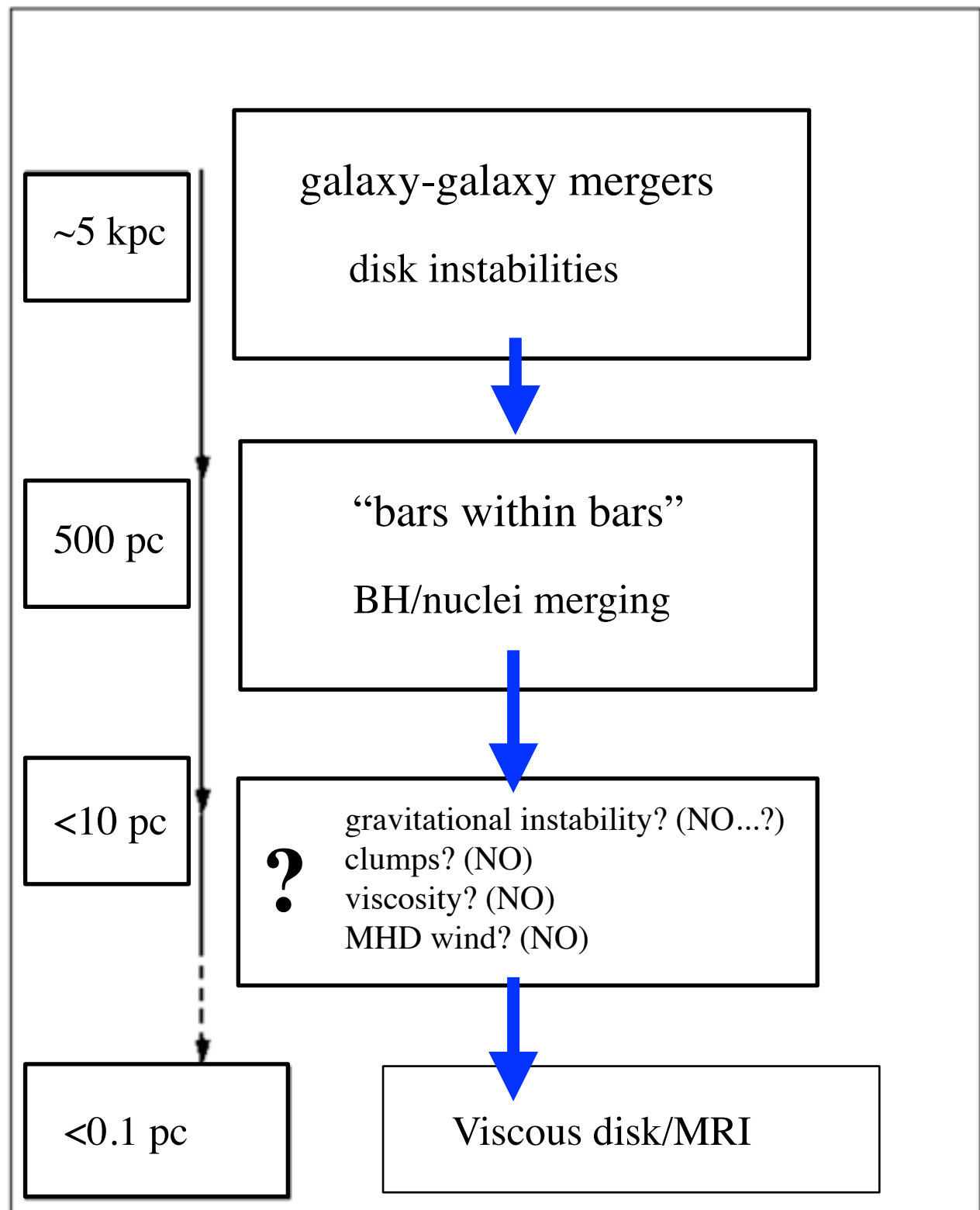


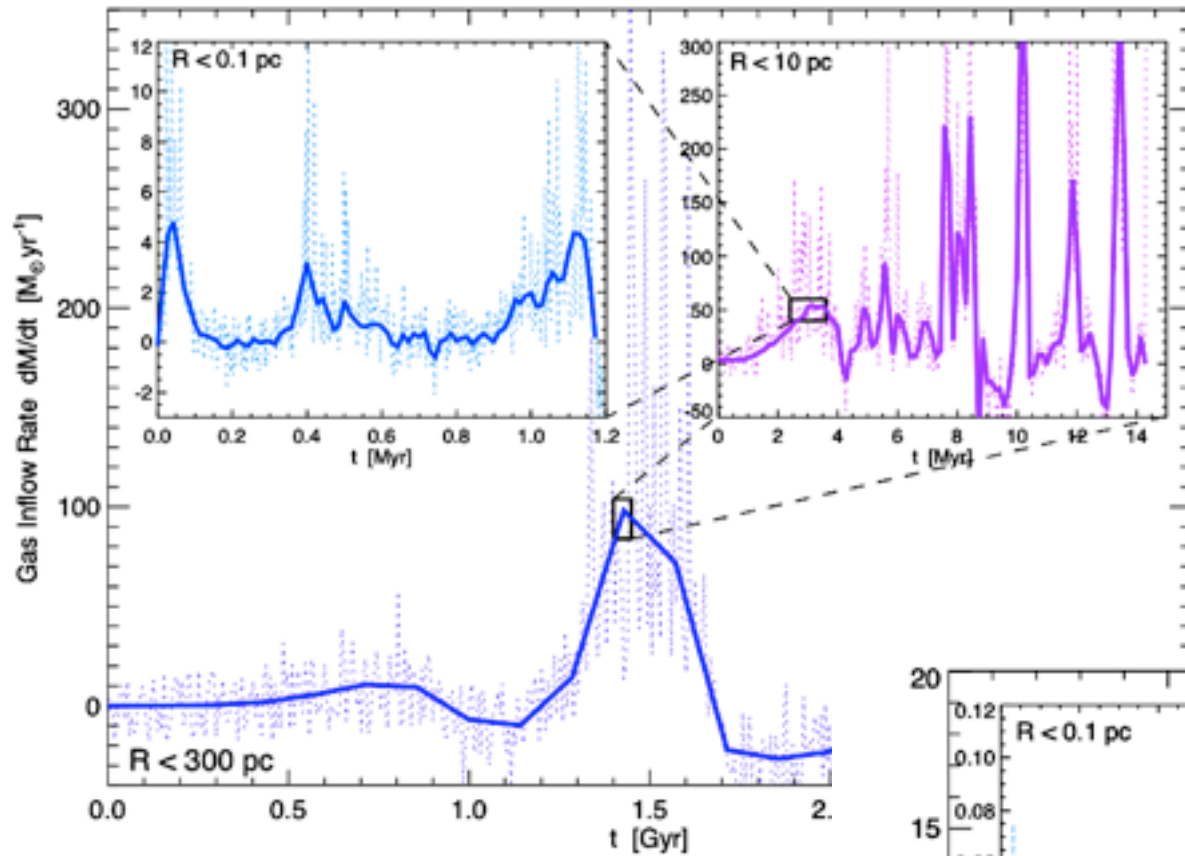


- Focus: Most luminous QSOs
($\sim 1\text{-}10 M_{\text{sun}}/\text{yr}$)

- ‘Bottleneck’ at
<10-50pc: BH begins
to dominate the potential

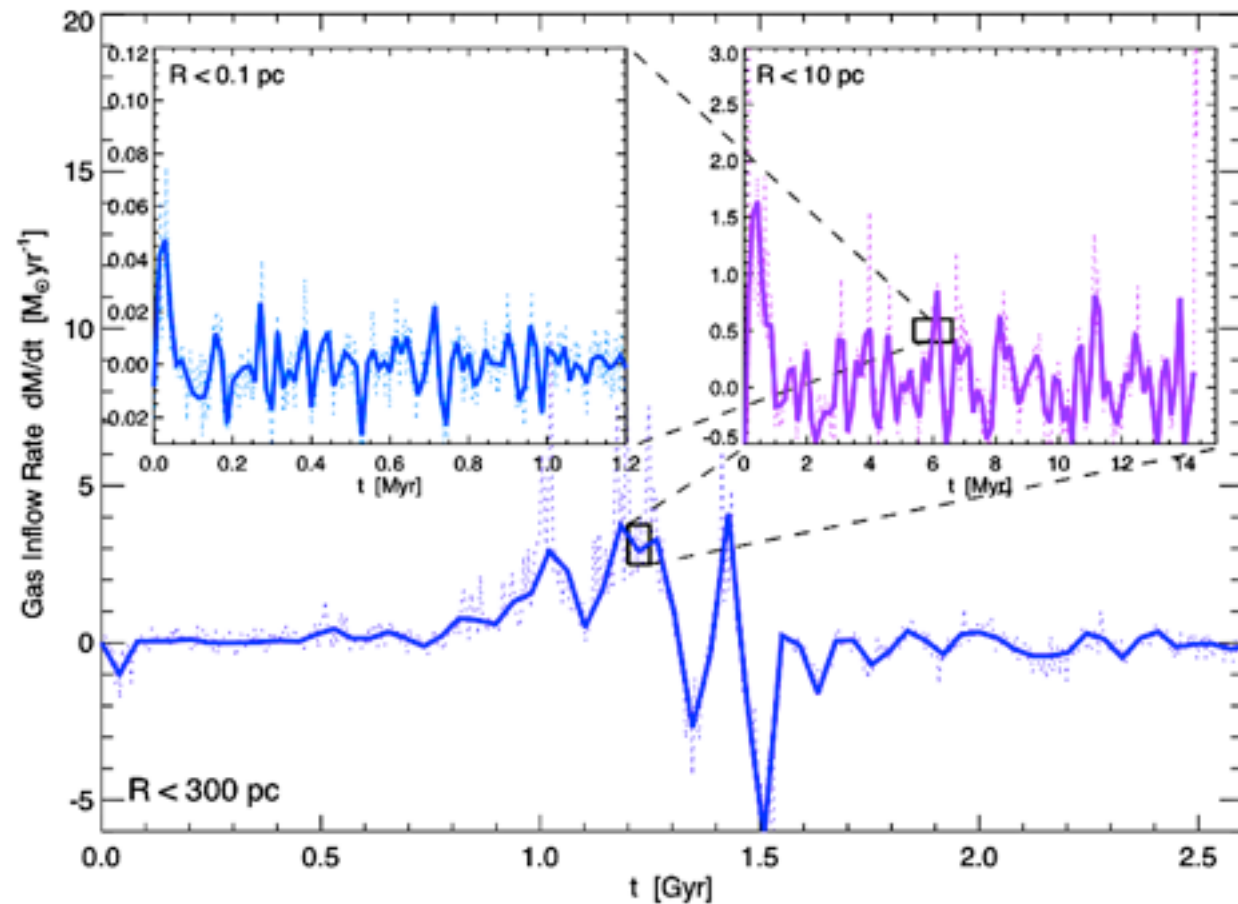
(e.g. Goodman et al.,
Jogee et al., Martini et al.)





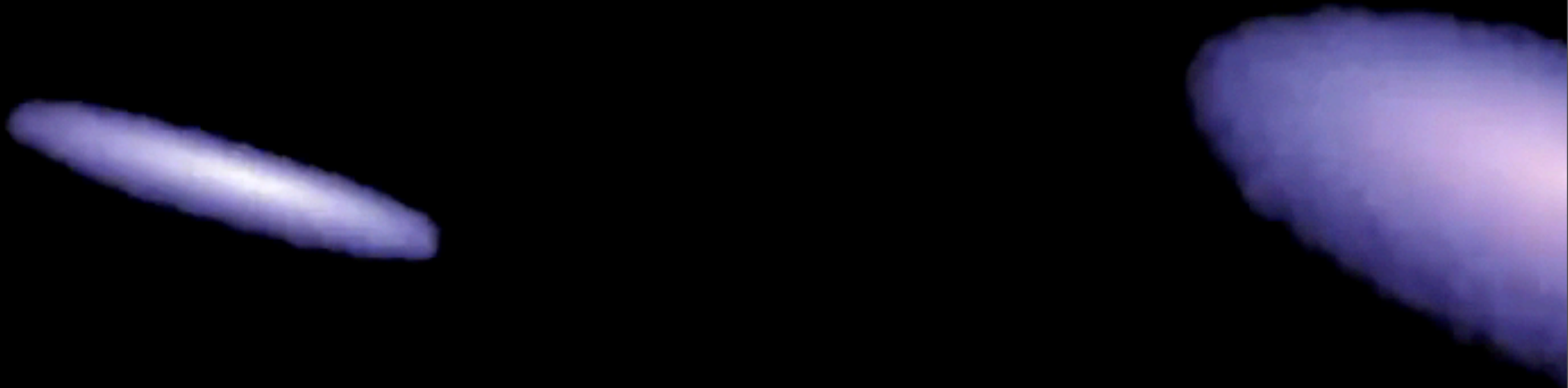
Gas-rich merger
(lots of inflow)

Weakly bar-unstable disk
(less inflow)



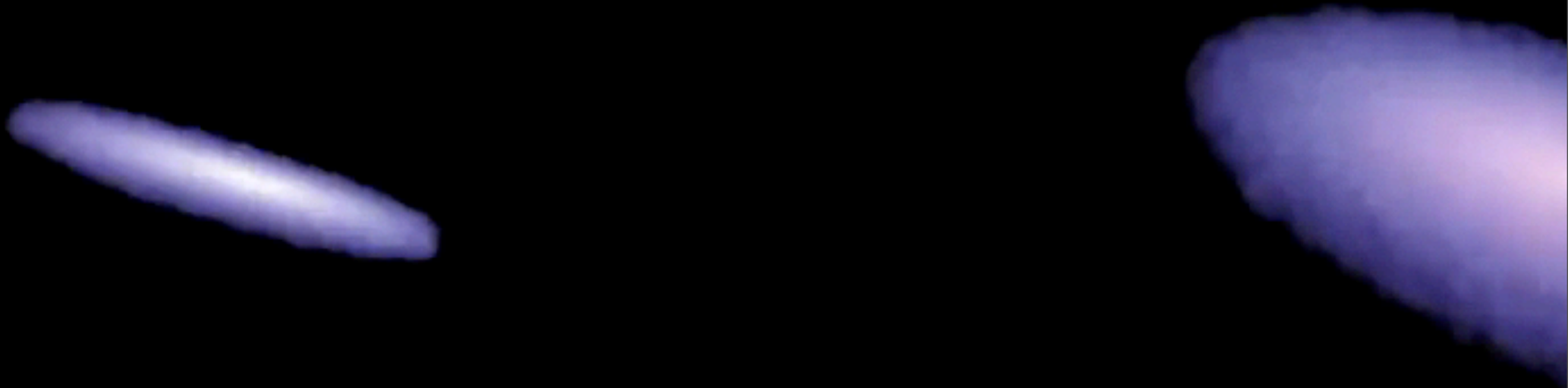
T = 0 Myr

Gas



$T = 0 \text{ Myr}$

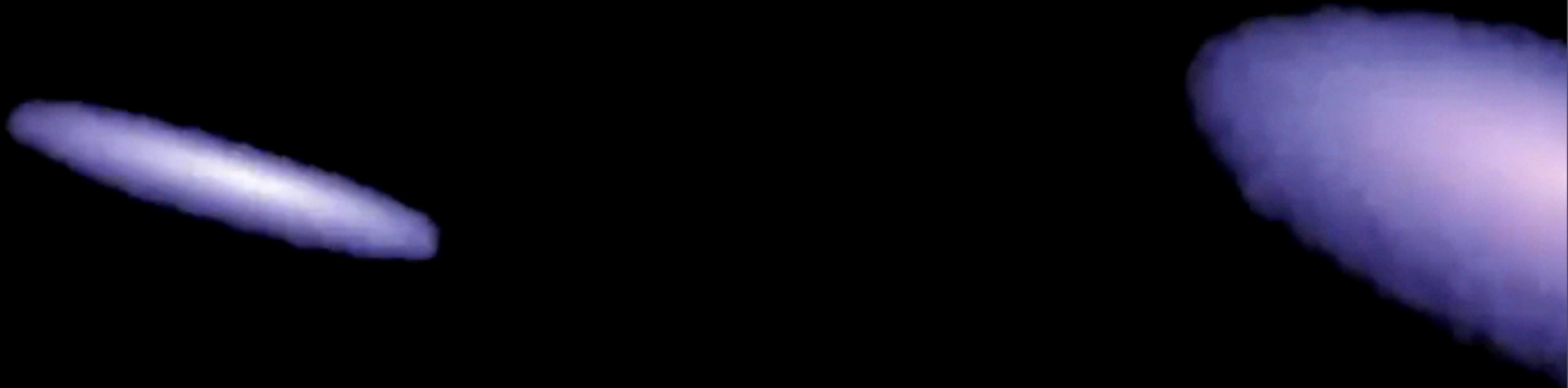
Gas



Tidal torques \Rightarrow large, rapid gas inflows (e.g. Barnes & Hernquist 1991)

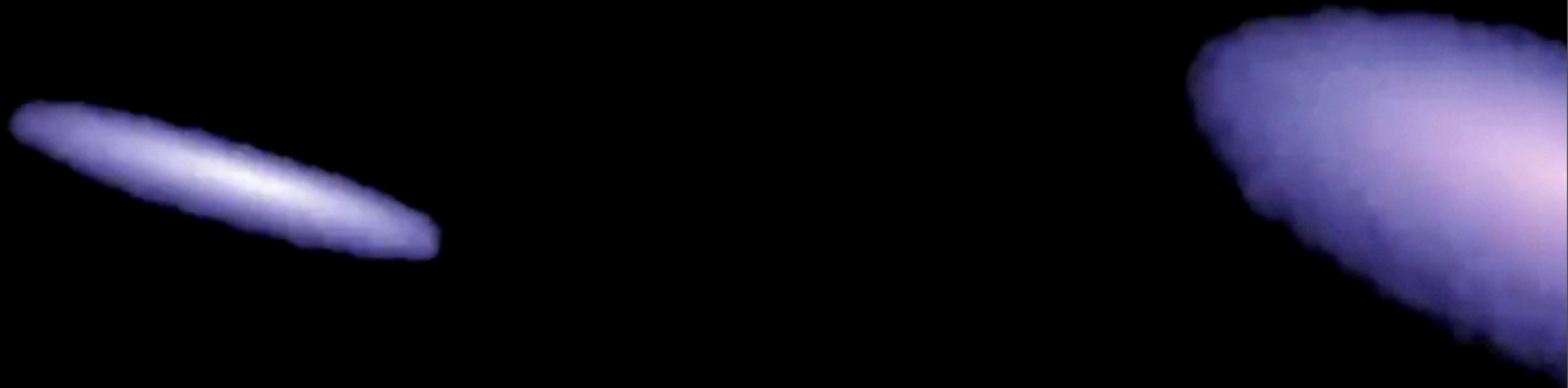
T = 0 Myr

Gas



$T = 0 \text{ Myr}$

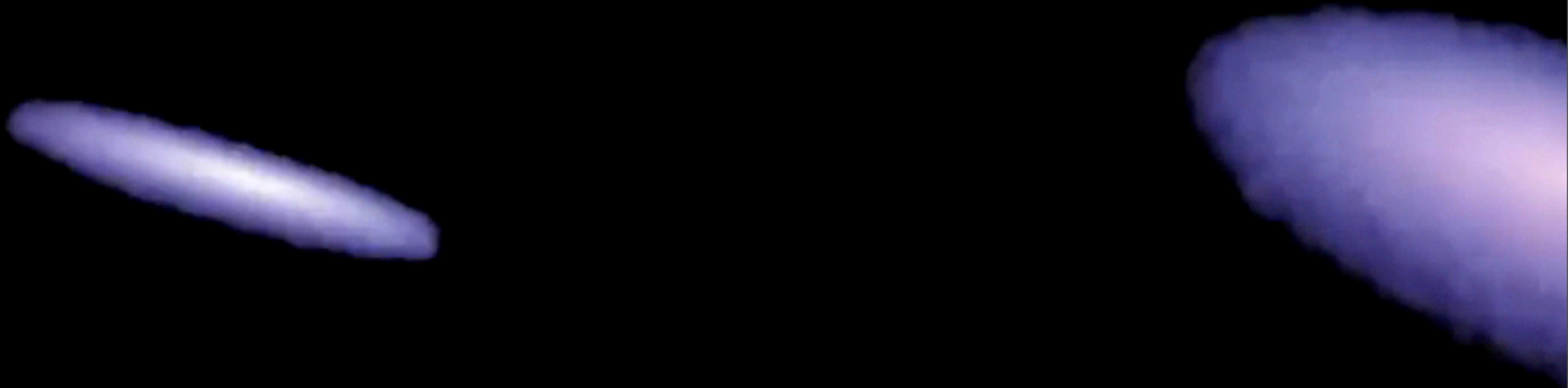
Gas



Triggers Starbursts (e.g. Mihos & Hernquist 1996)

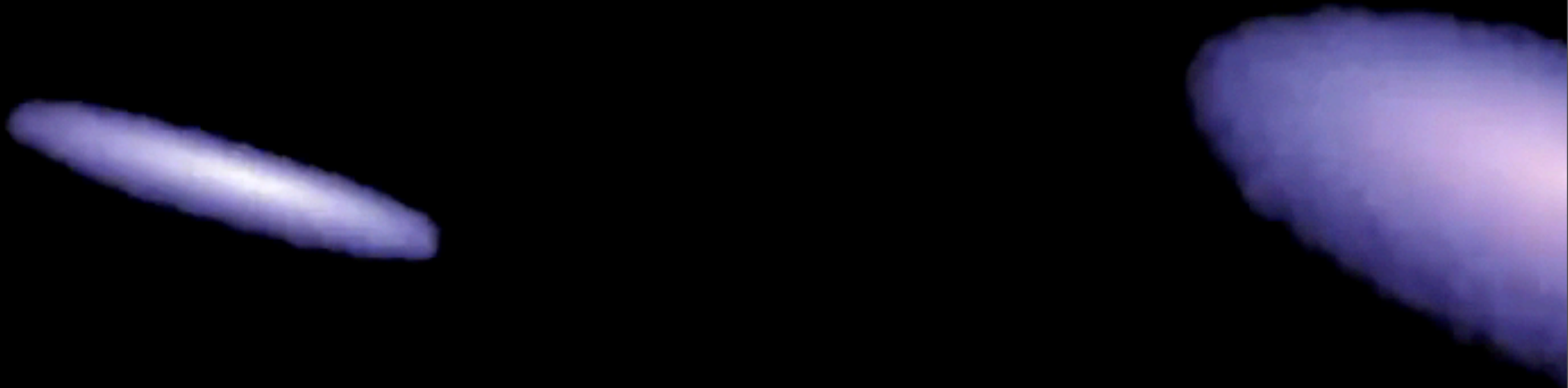
T = 0 Myr

Gas



$T = 0 \text{ Myr}$

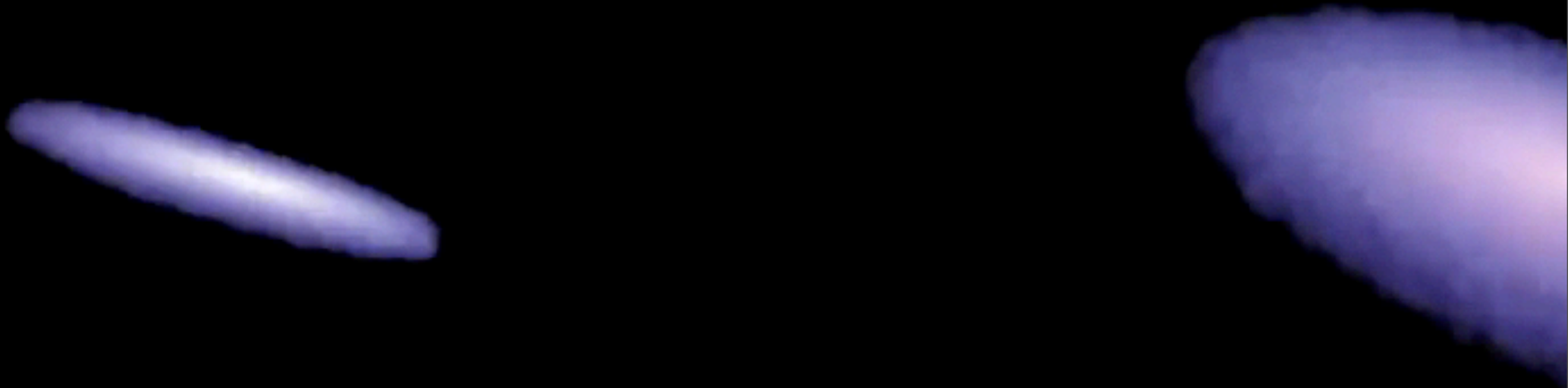
Gas



Fuels Rapid BH Growth?
(e.g. Di Matteo et al., PFH et al. 2005)

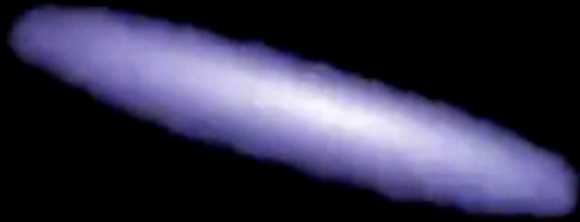
T = 0 Myr

Gas



$T = 0 \text{ Myr}$

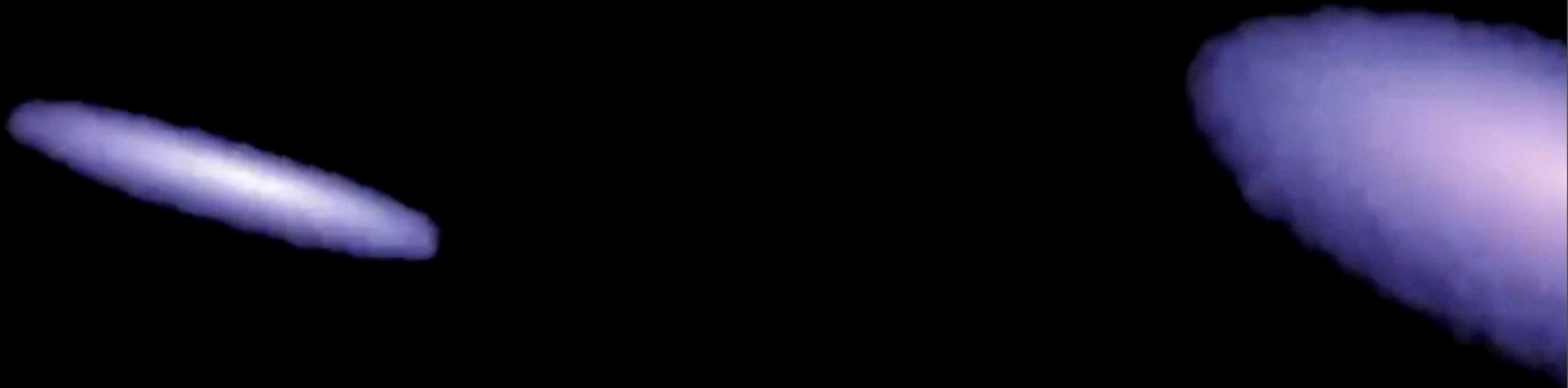
Gas



Large-scale simulation:
follow gas to sub-kpc scales

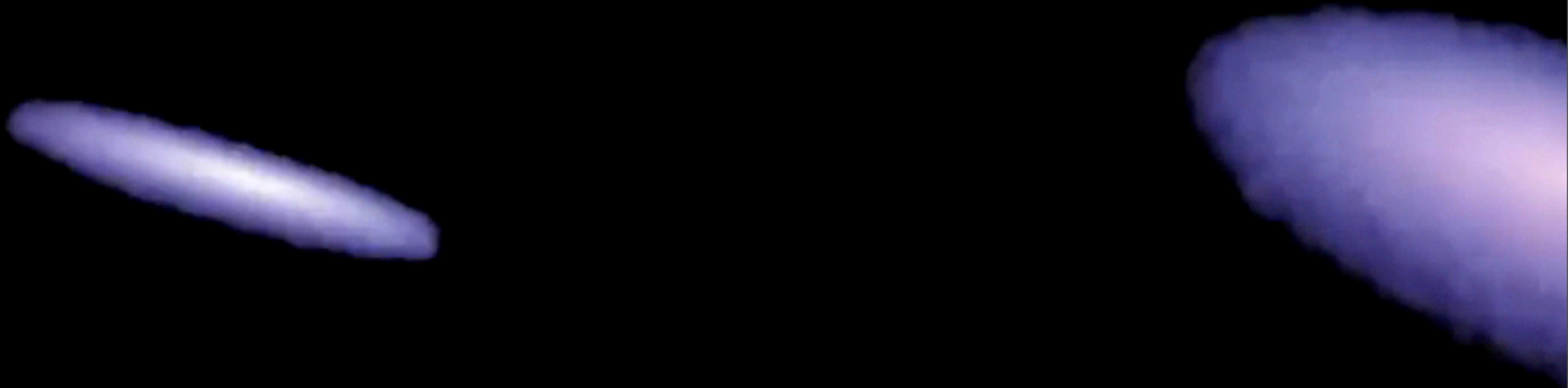
T = 0 Myr

Gas



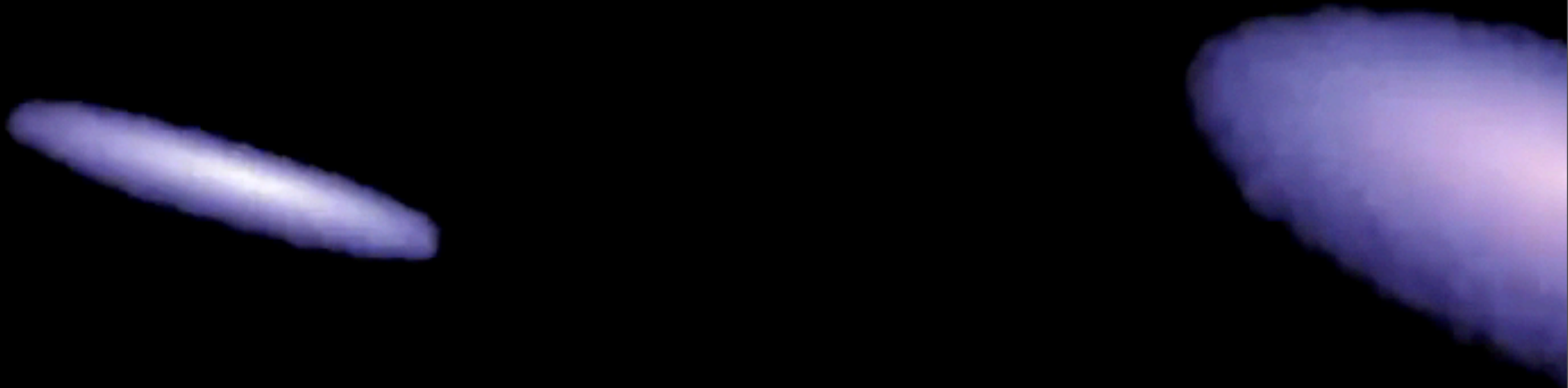
T = 0 Myr

Gas



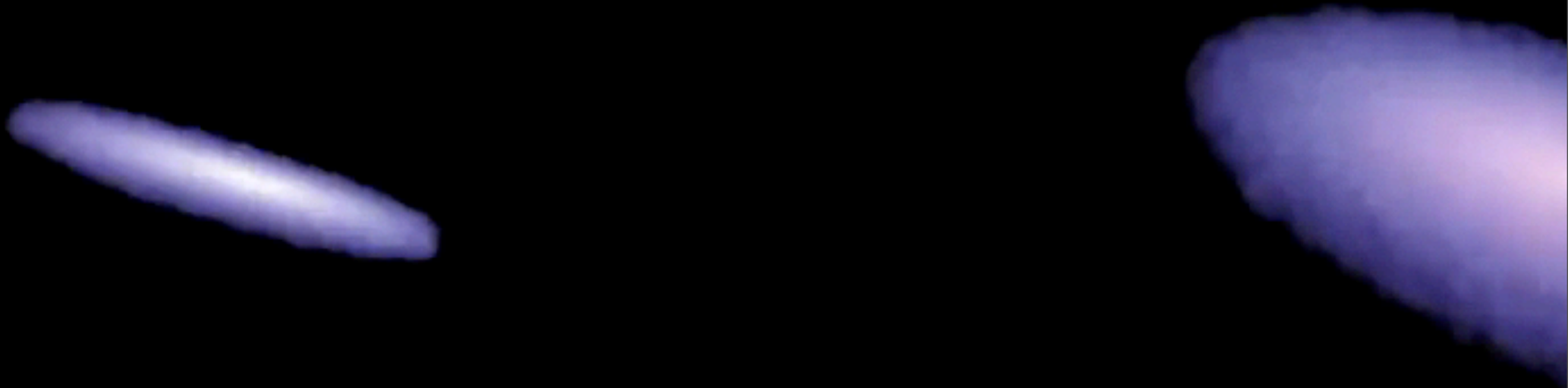
T = 0 Myr

Gas



T = 0 Myr

Gas



T = 0 Myr

Gas

