

**Galaxies in 3D
across the Universe**

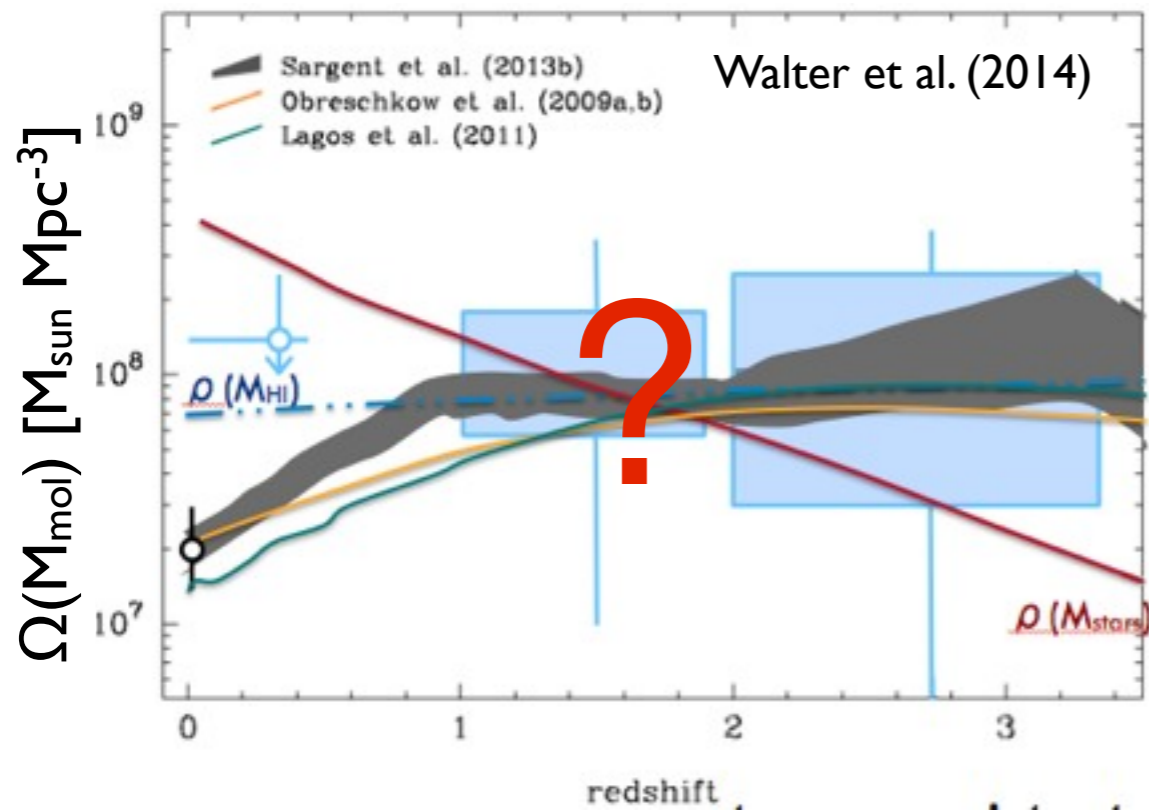
IAU SYMPOSIUM 309
VIENNA, 7–11 JULY 2014

Glenn van de Ven
glenn@mpia.de

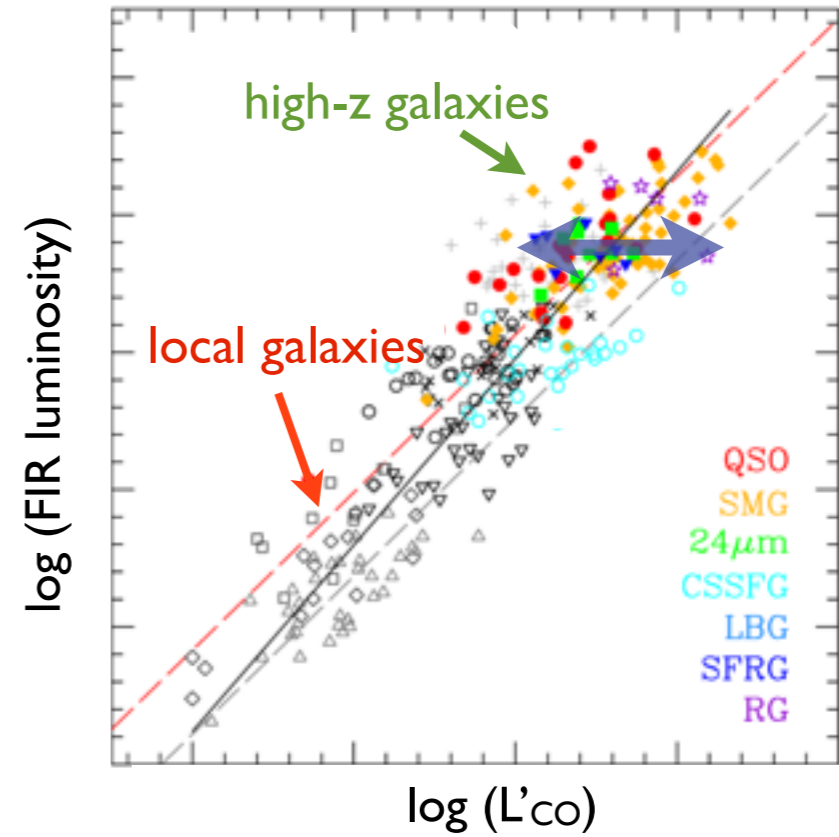
summary & discussion

FORMATION OF STARS

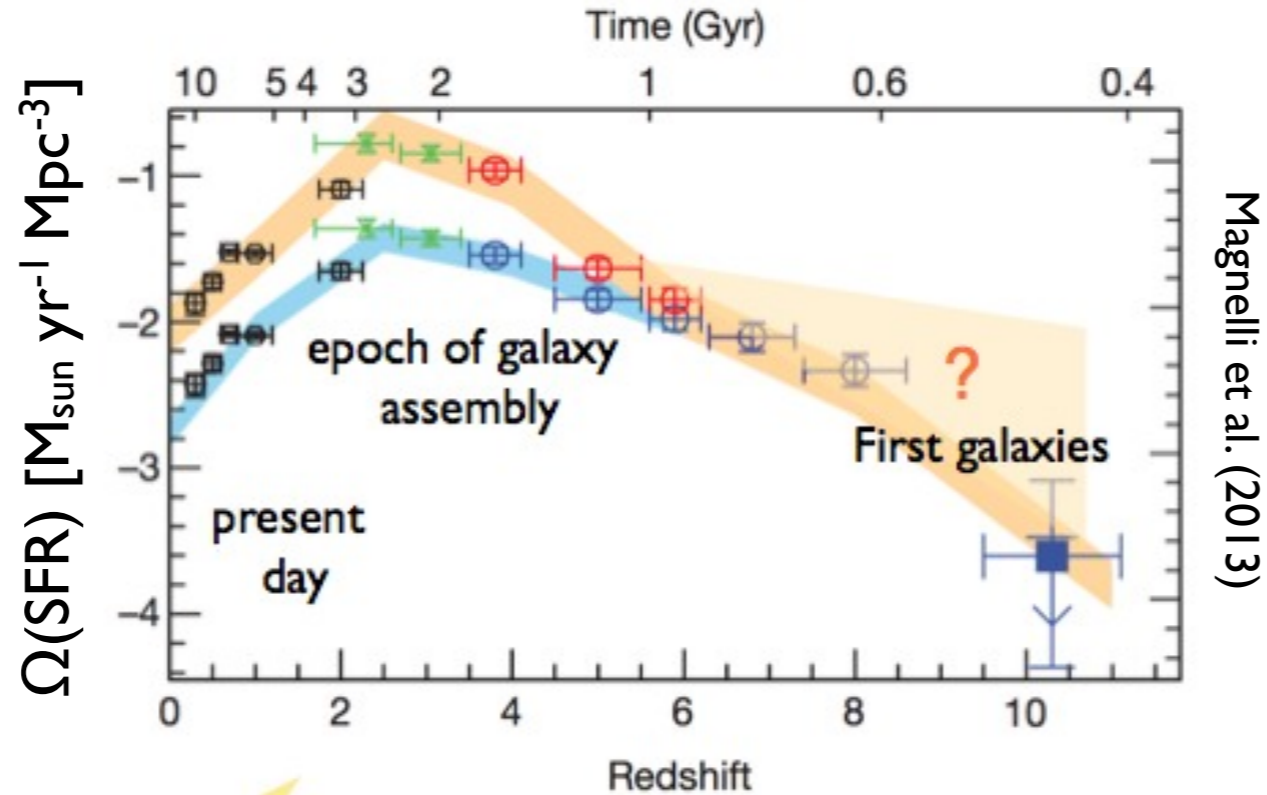
Cosmic star formation



+



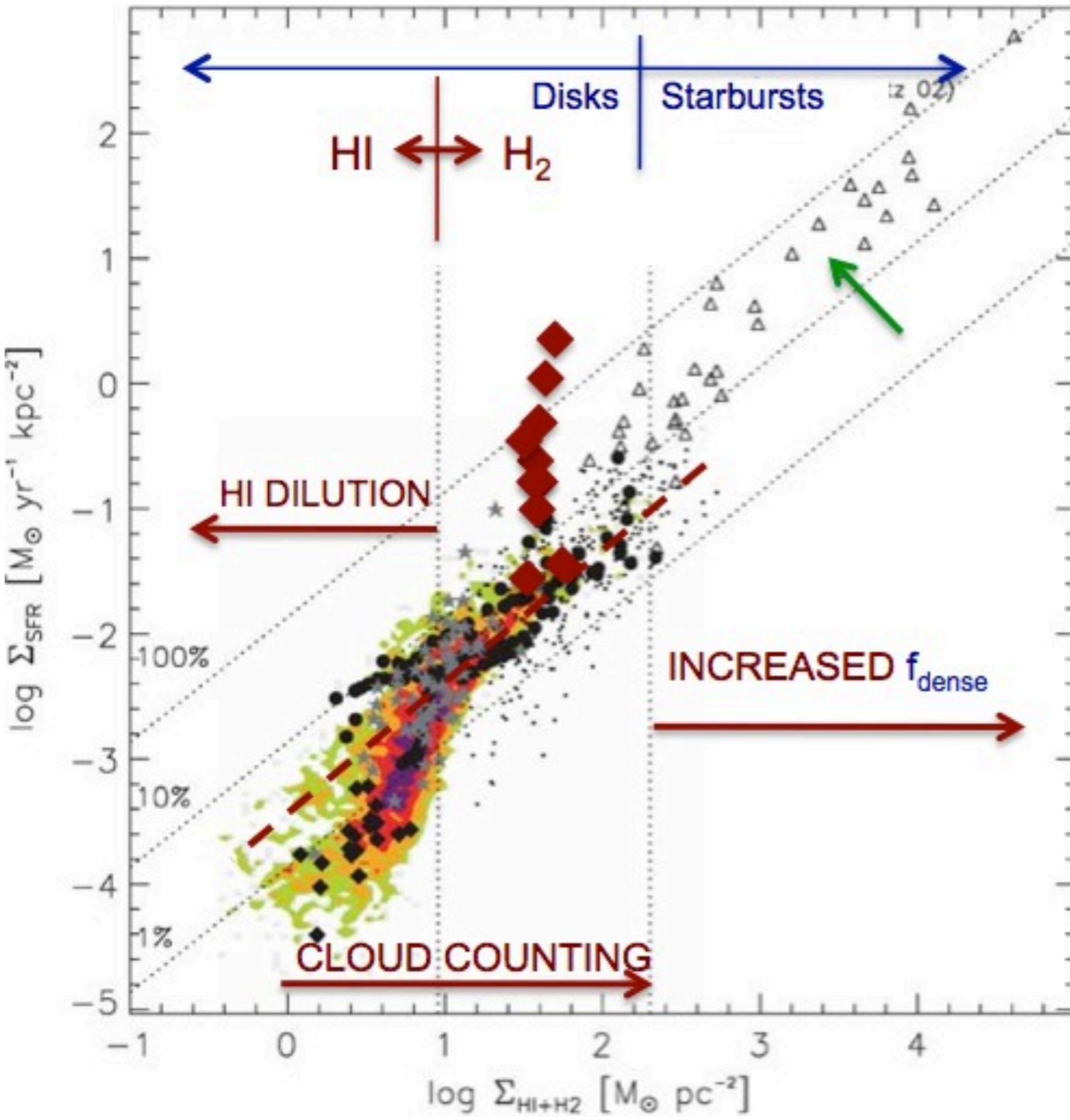
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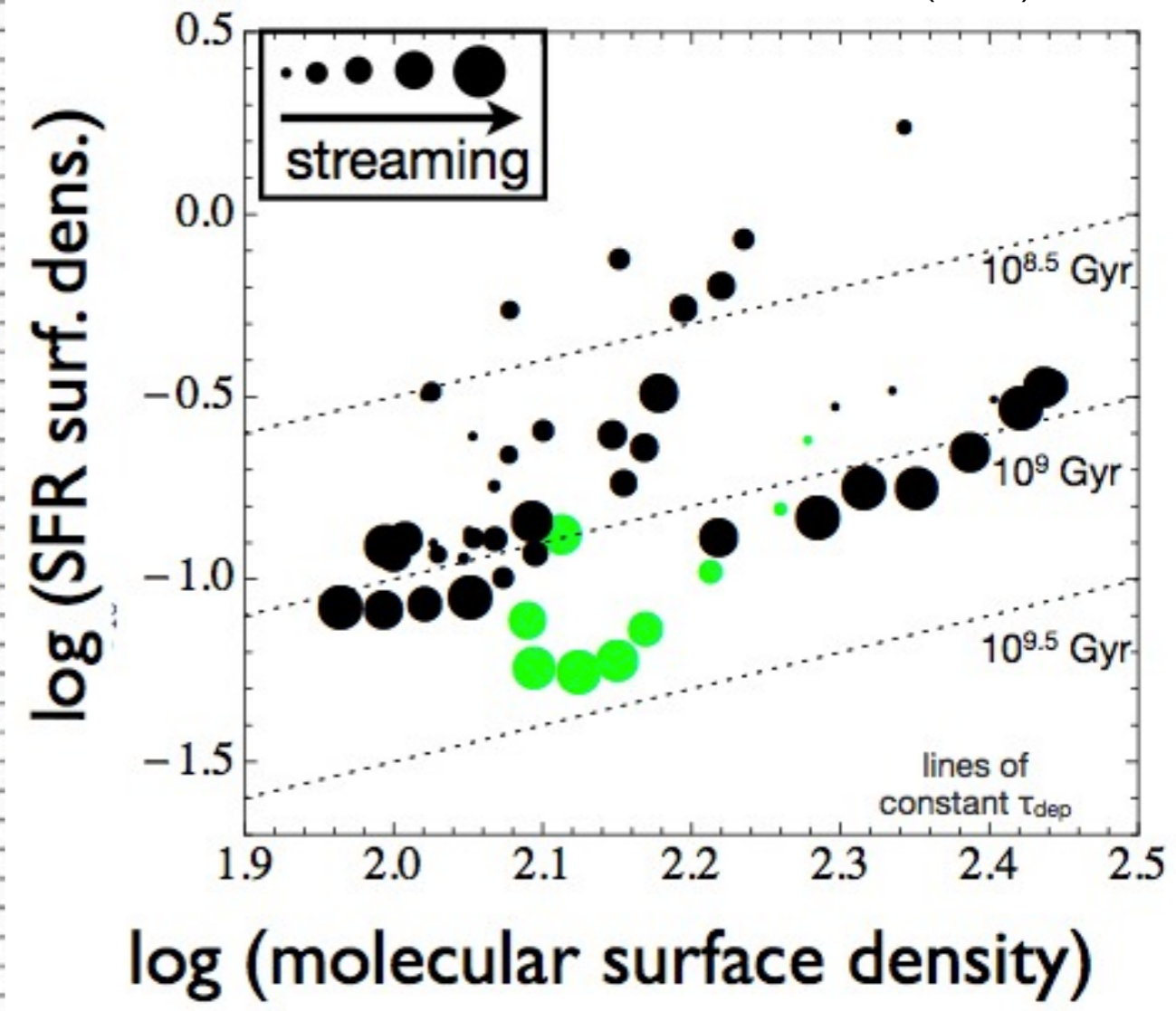
Talks by Burgarella, Calzetti, Decarli, Dunne, Narayanan, Sobral, Swinbank, Tacconi

Star formation law?

Kennicutt; Bigiel+; Lada+



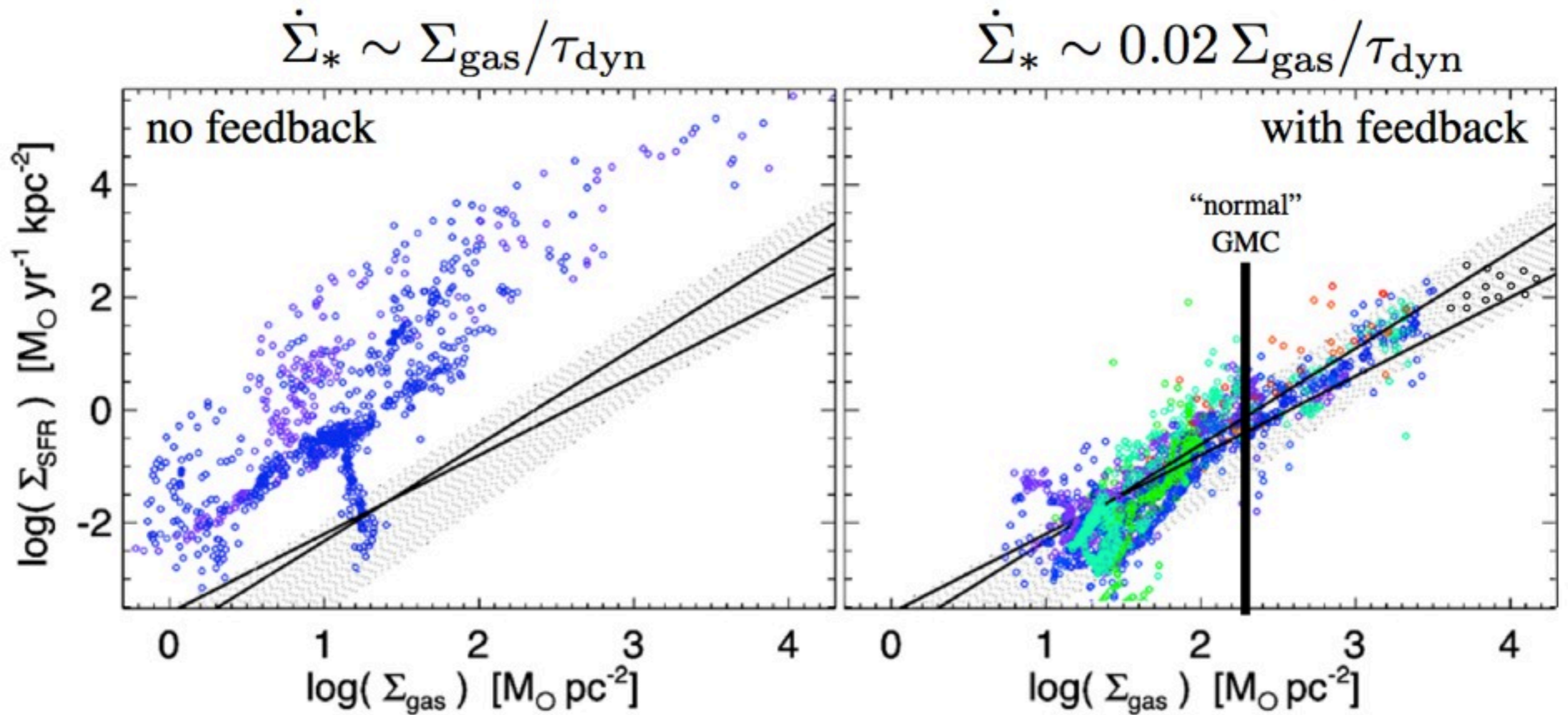
Meidt et al. (2013)



$$\tau_{\text{dep}} \sim \tau_{\text{dyn}} / \epsilon_{\text{ff}} \quad \tau_{\text{dyn}}? \quad \epsilon_{\text{ff}}?$$

Talks by Alatalo, Calzetti, Genzel, Hughes, Hopkins, Lada, Lopez Sanchez, Schinnerer, Xu

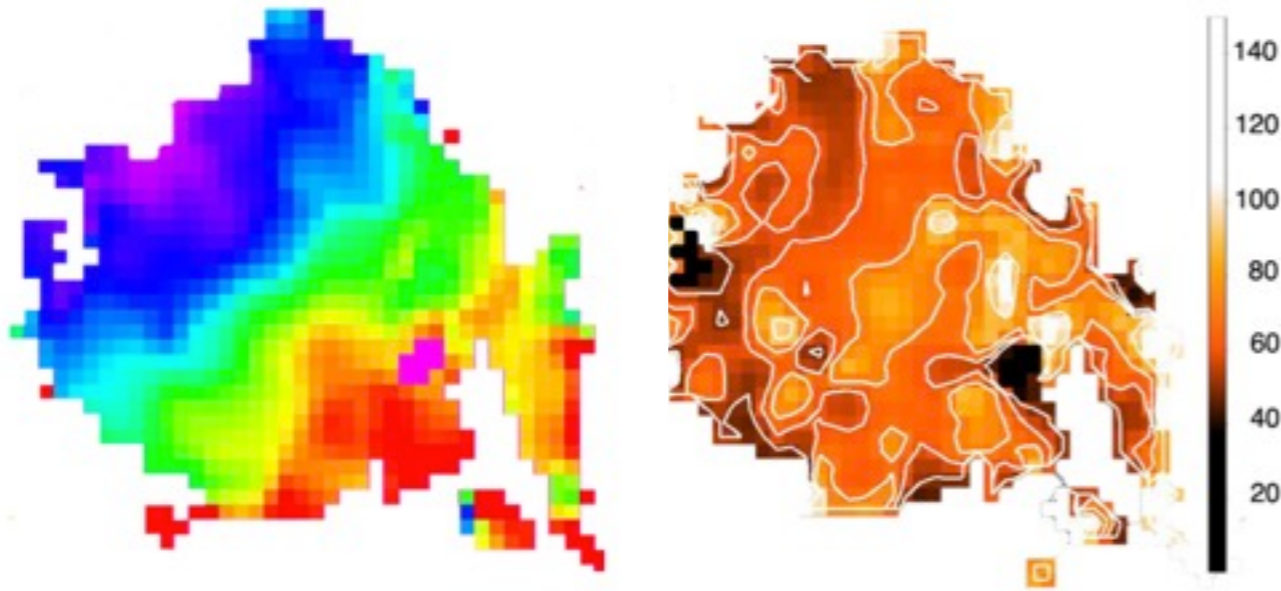
Star formation (in)efficiency



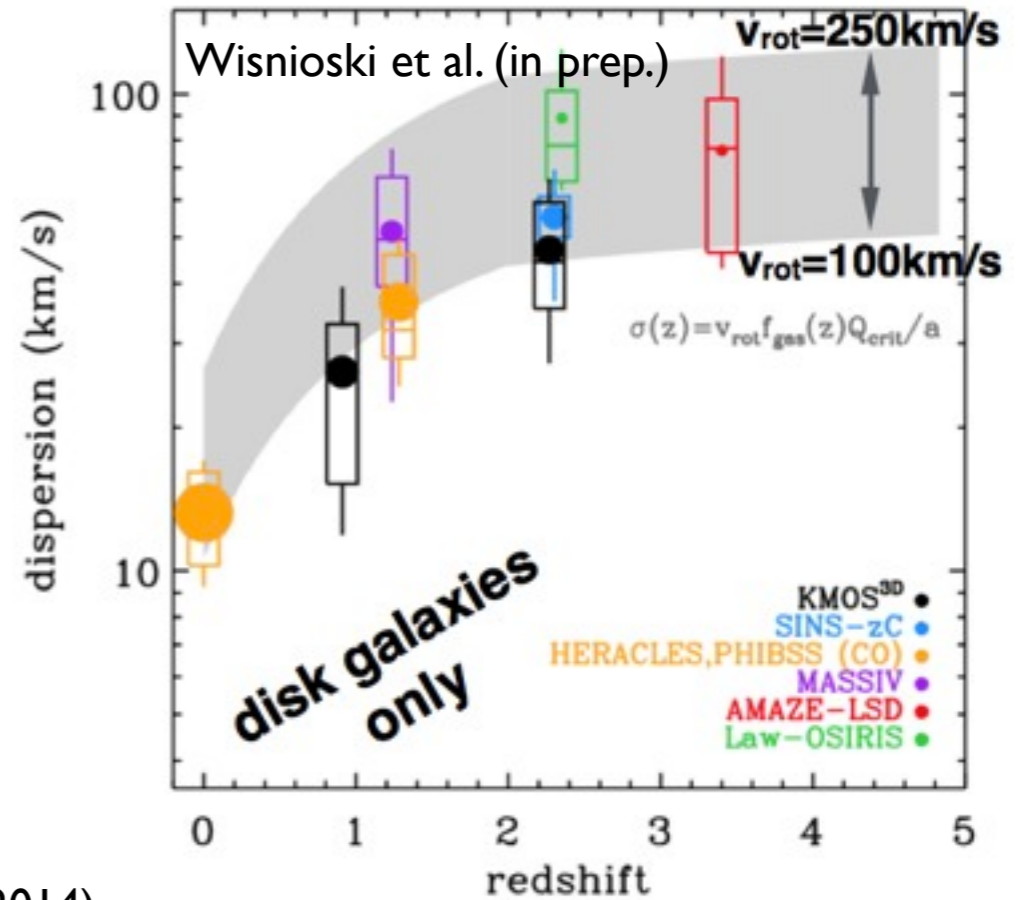
Hopkins, Quataert, & Murray (2011)

Talks by Alatalo, Calzetti, Goerdt, Hughes, Hopkins, Lada, Schinnerer, Xu

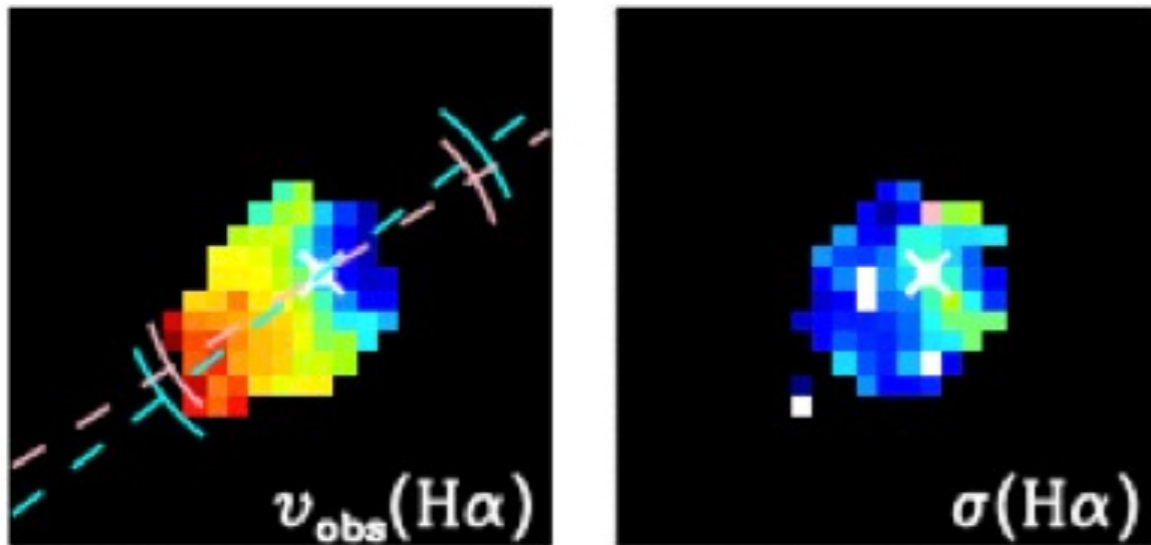
Star forming “main sequence”



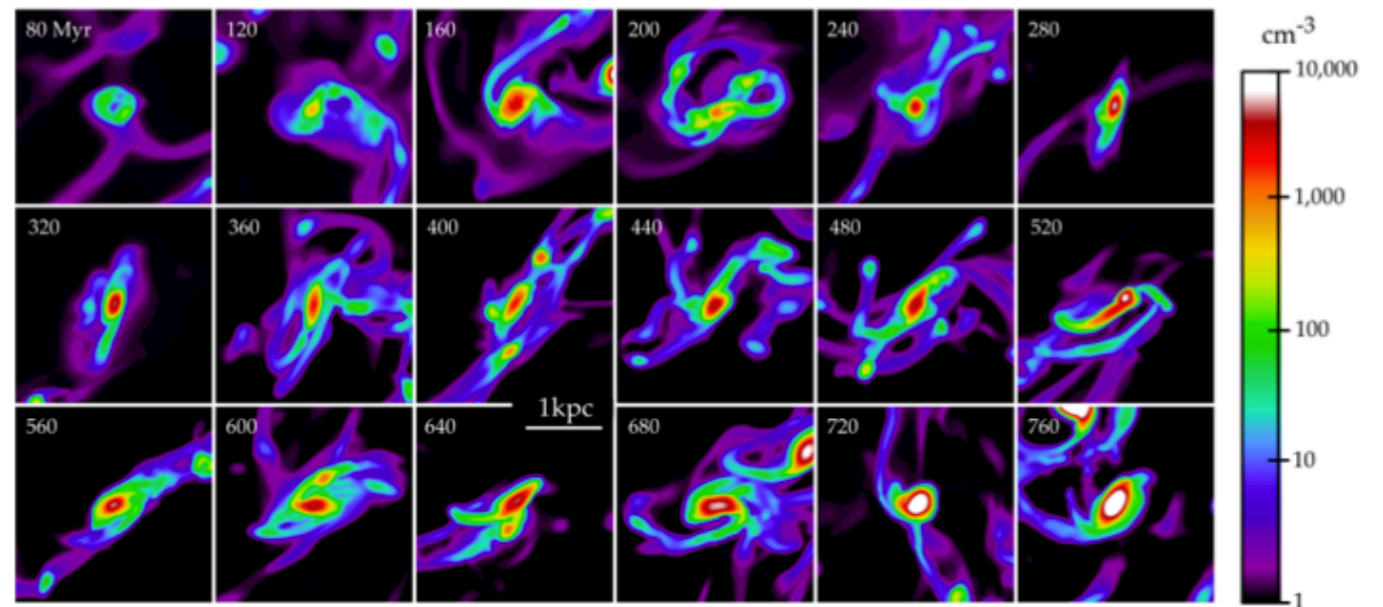
DYNAMO ($z < 0.1$): Fisher et al.



Bournaud et al. (2014)

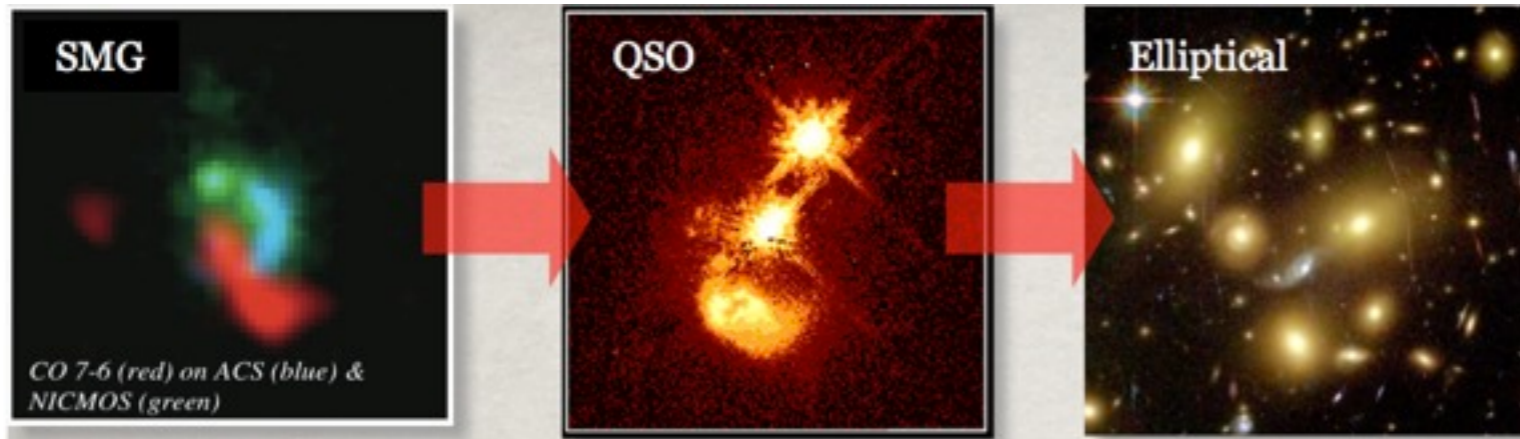


KMOS3D ($z = 1-2$): Wuyts et al.



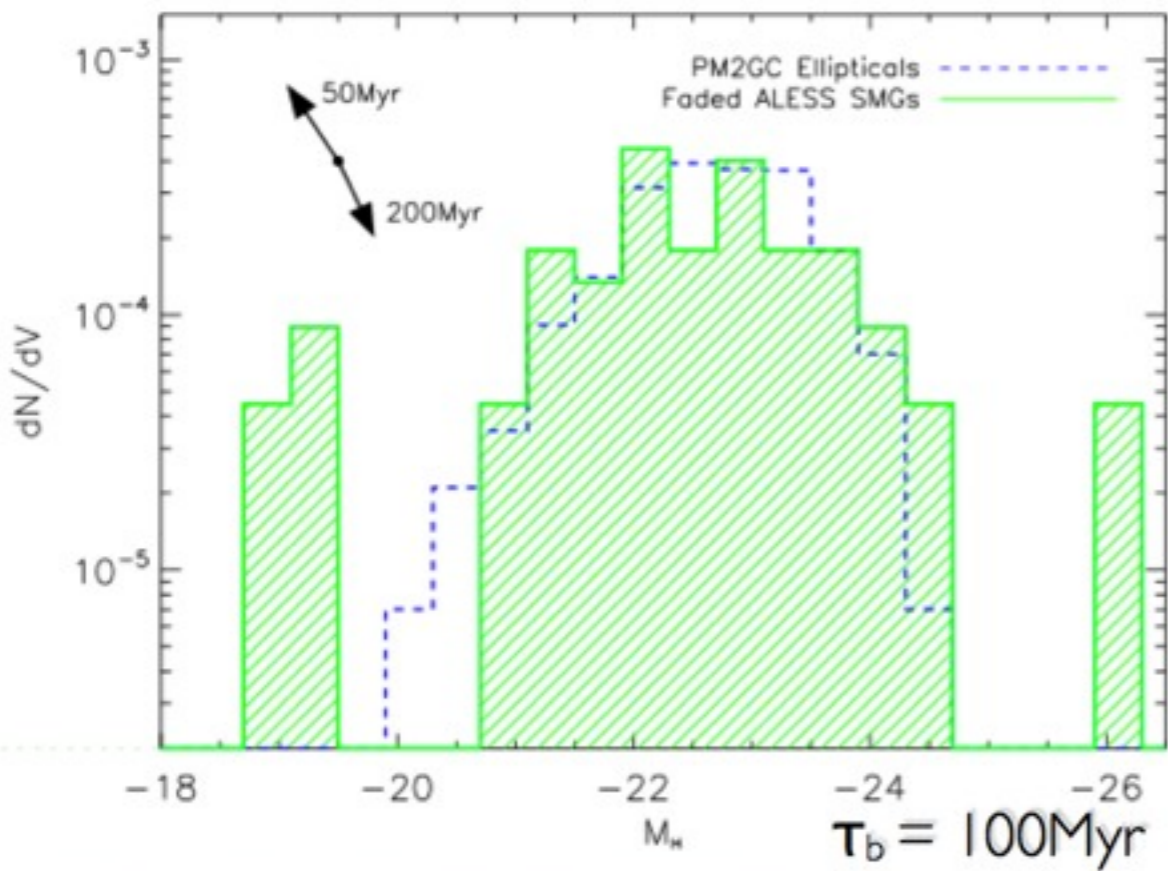
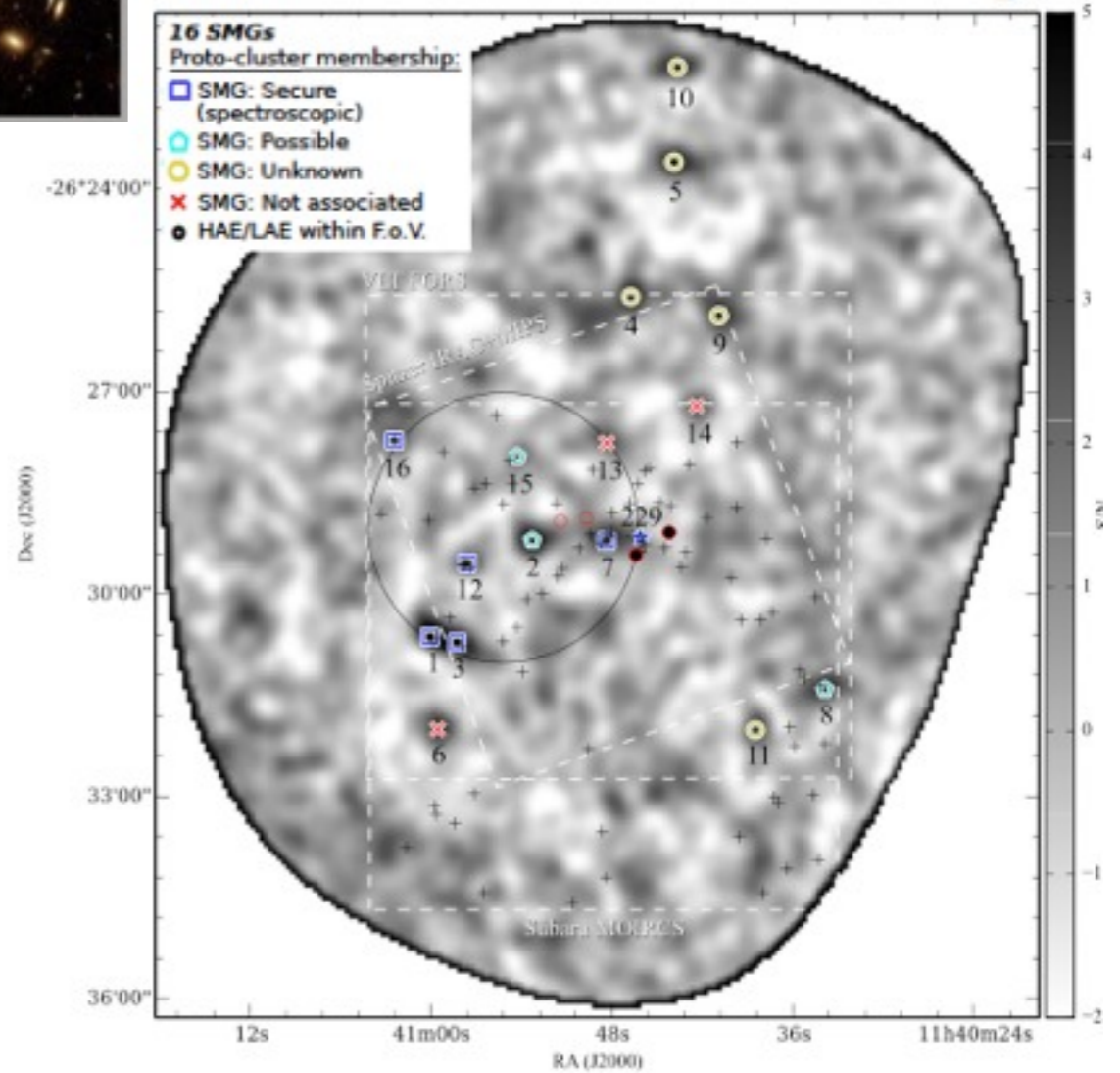
Talks by Bournaud, Fisher, Genzel, Foerster Schreiber, Mogotsi, Sobral, R. Williams, E. Wuyts, S. Wuyts

Off the “main sequence”



Dannerbauer et al. (in prep.)

Proto-Cluster Membership



ALESS: Swinbank et al.

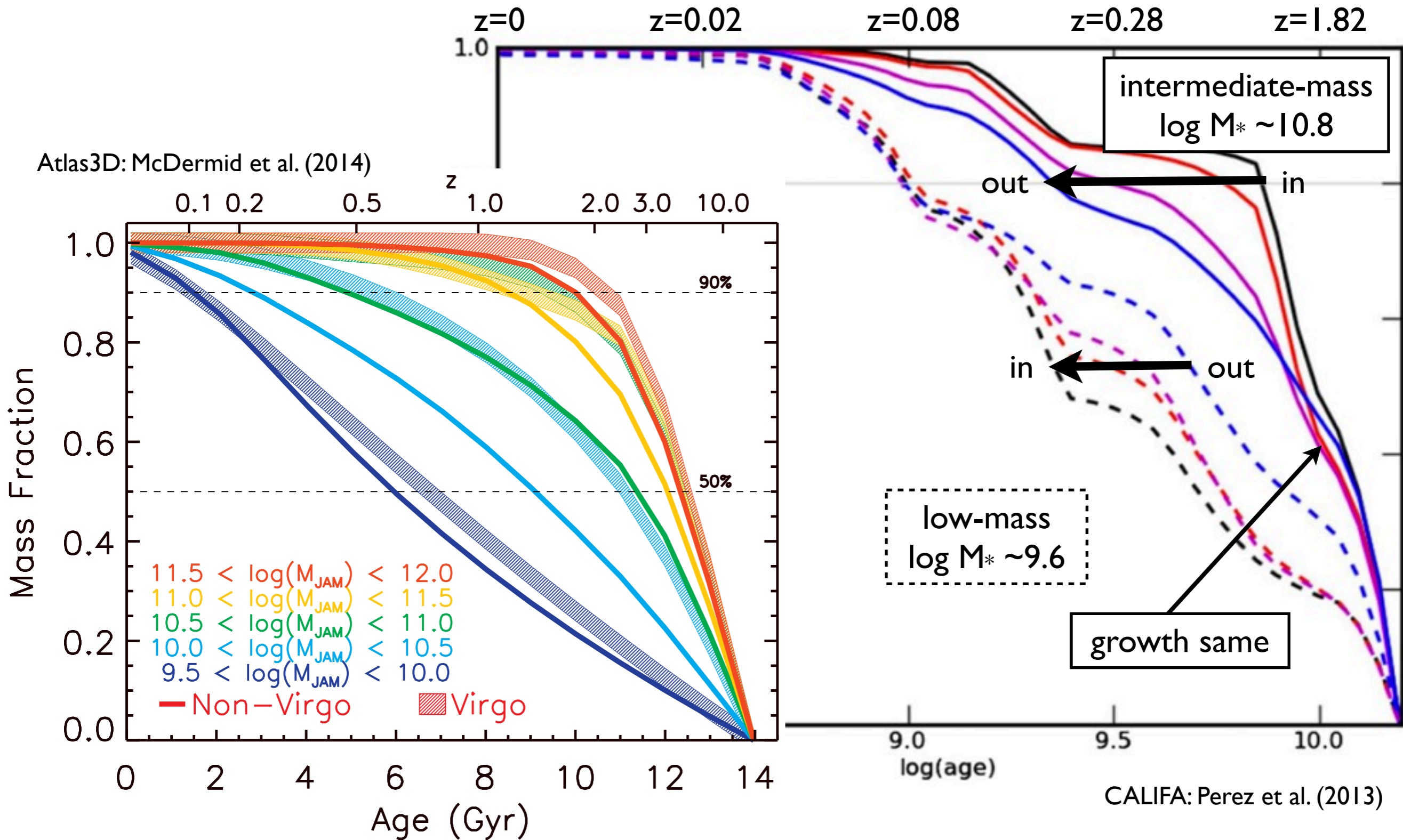
Talks by Dannerbauer, Morabito, Narayanan, Swinbank, Vieira, W. Williams

IAU symposium 309, Vienna, 7-11 July 2014

Glenn van de Ven, “summary & discussion”

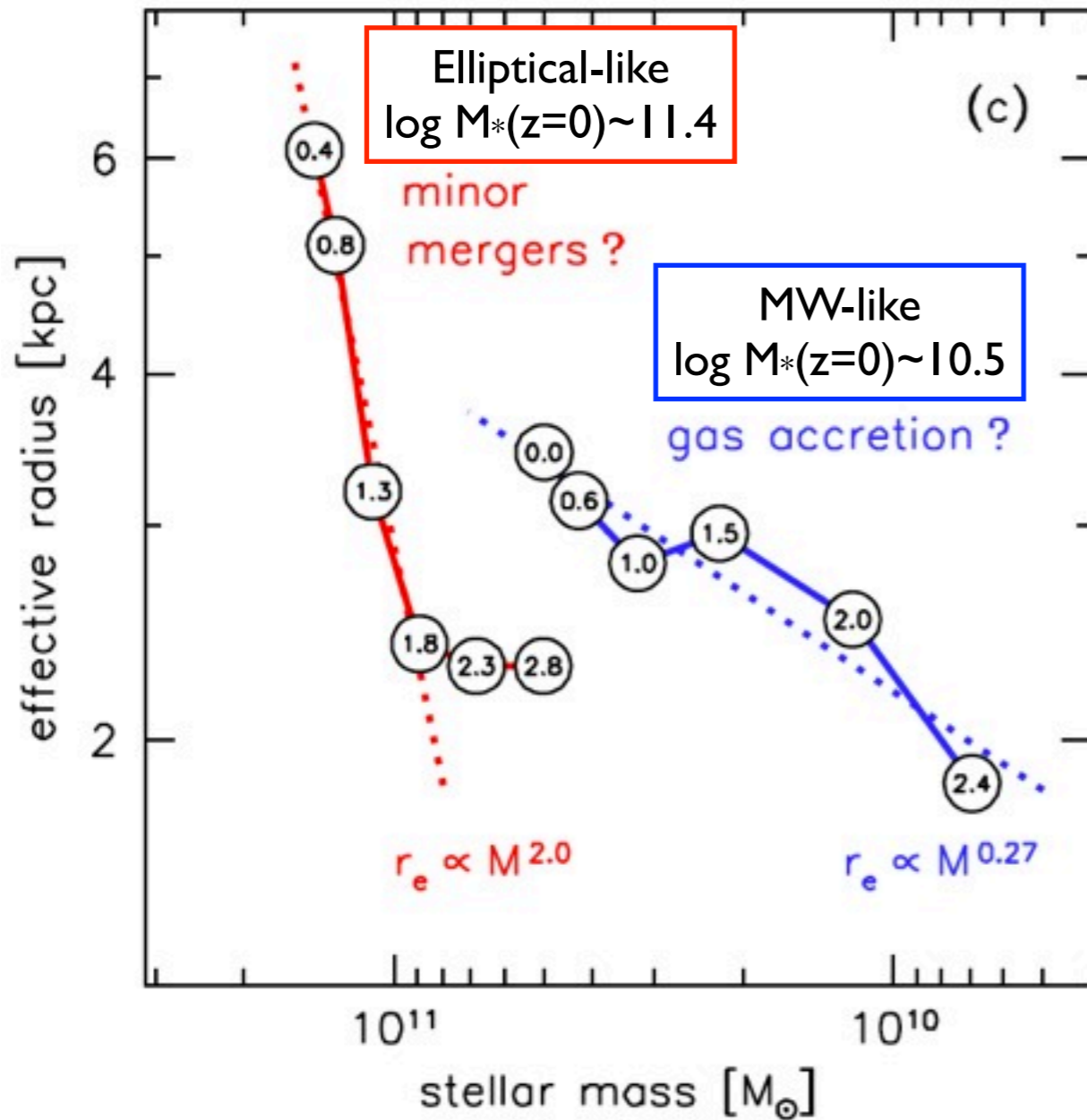
ASSEMBLY OF GALAXIES

Assembly: mass growth?

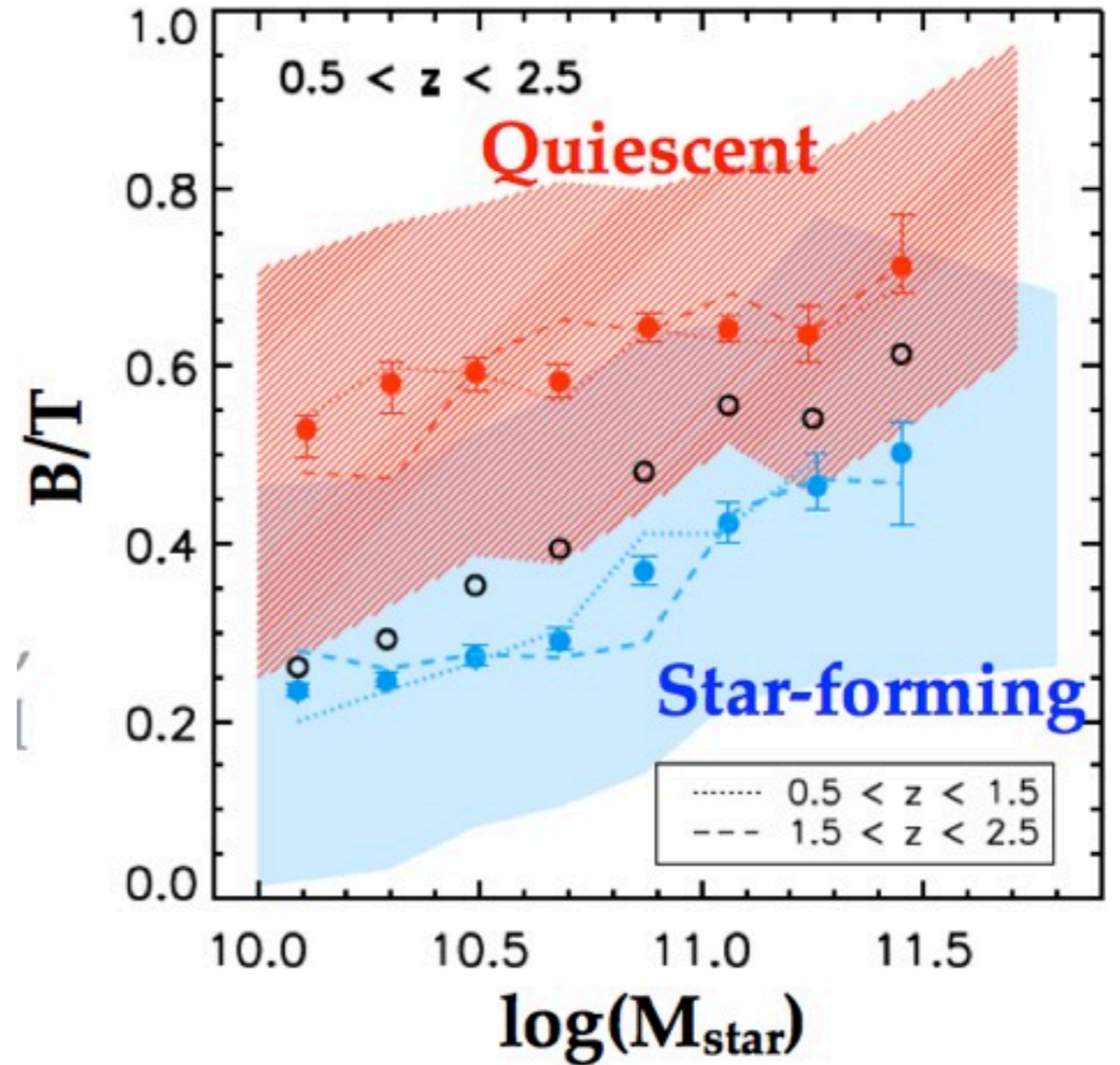


Talks by Cid Fernandes, Gonzalez Delgado, Naab, McDermid, Lewis

Assembly: mass growth?

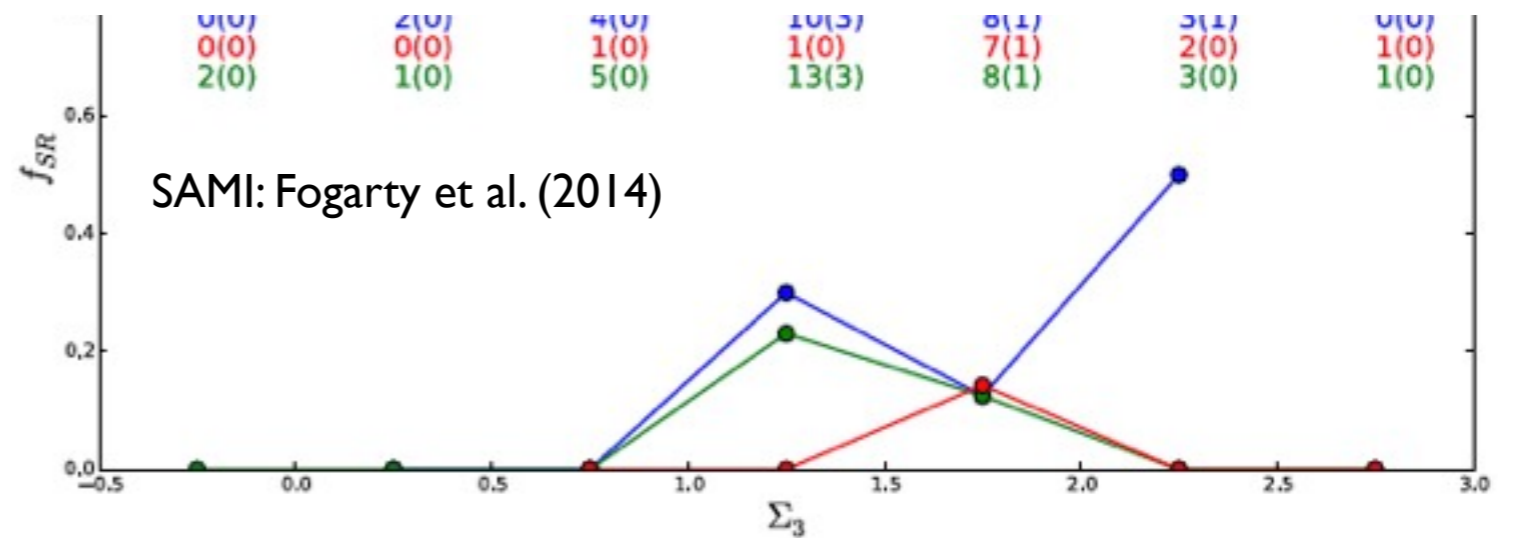
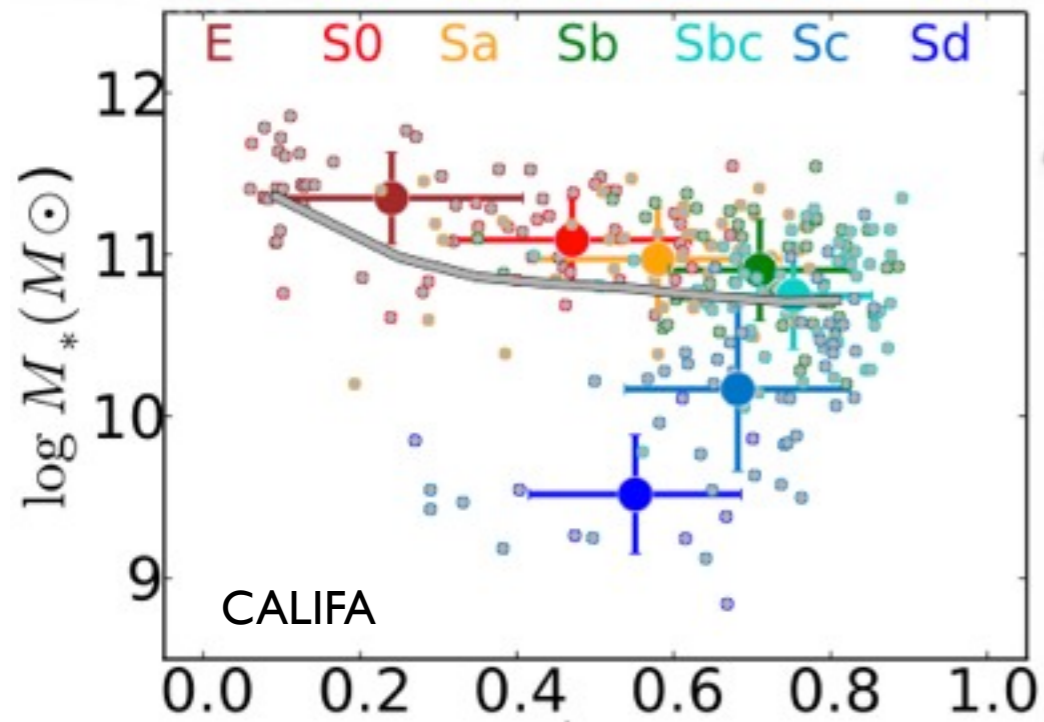


van Dokkum et al. (2013)

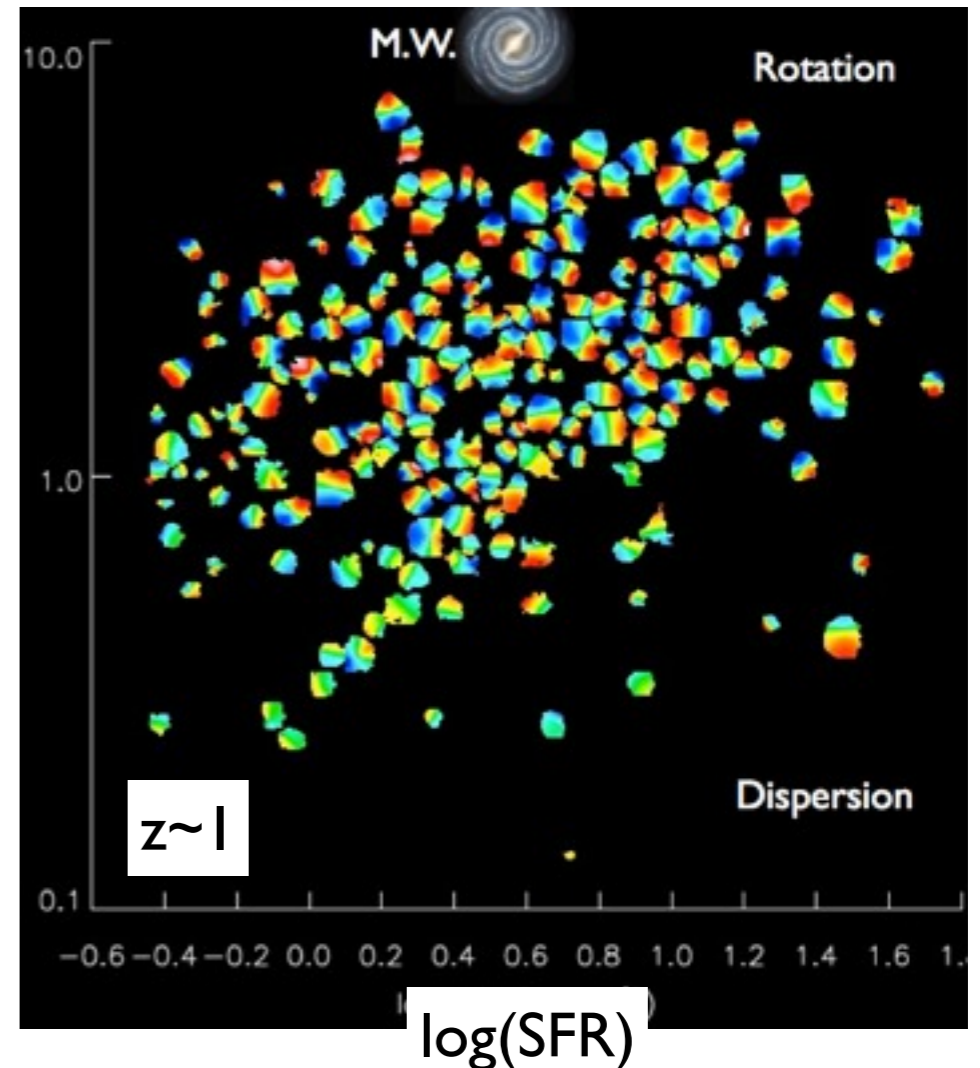
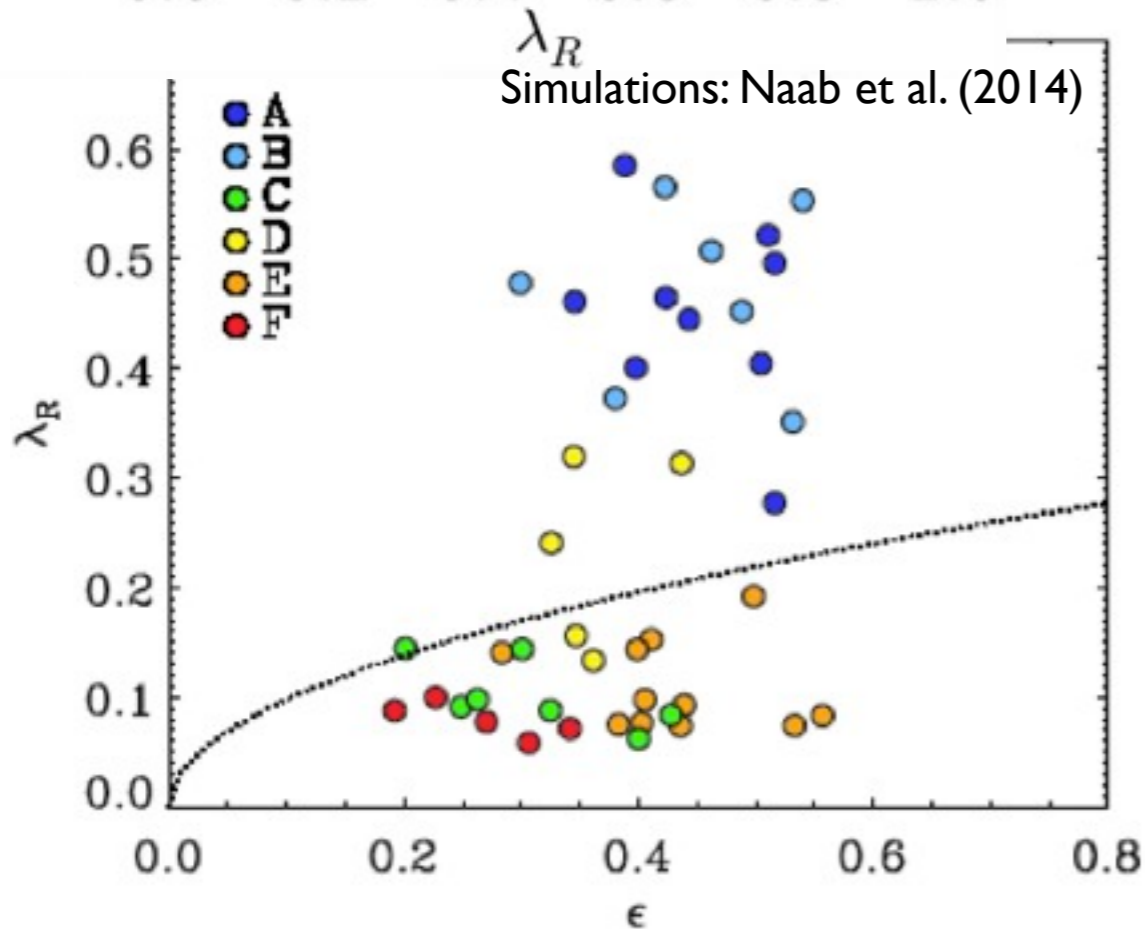


3DHST & CANDELS: Lang, Wuyts, et al. (2014)

Assembly: angular momentum?

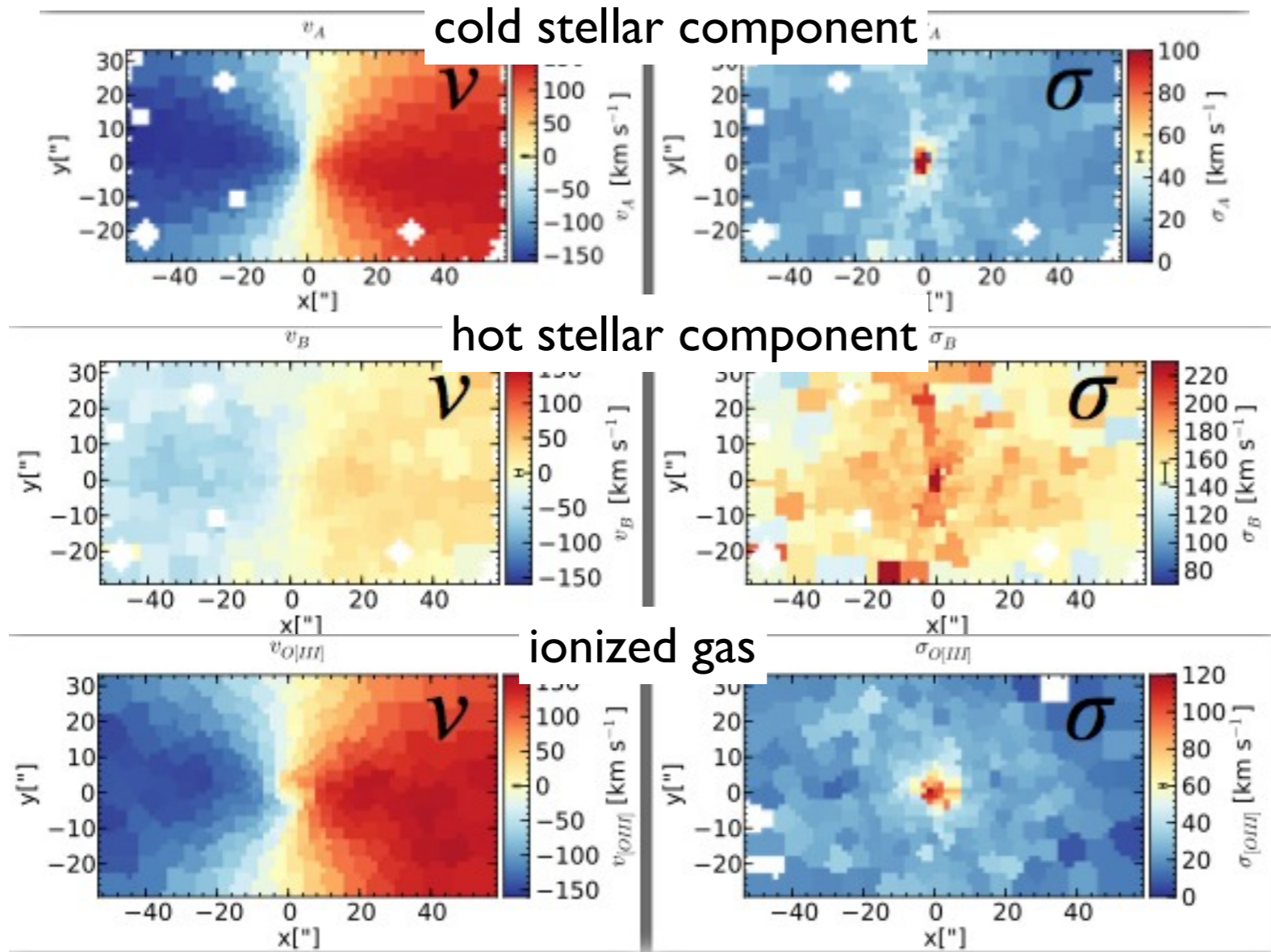


Stott et al. (in prep.)

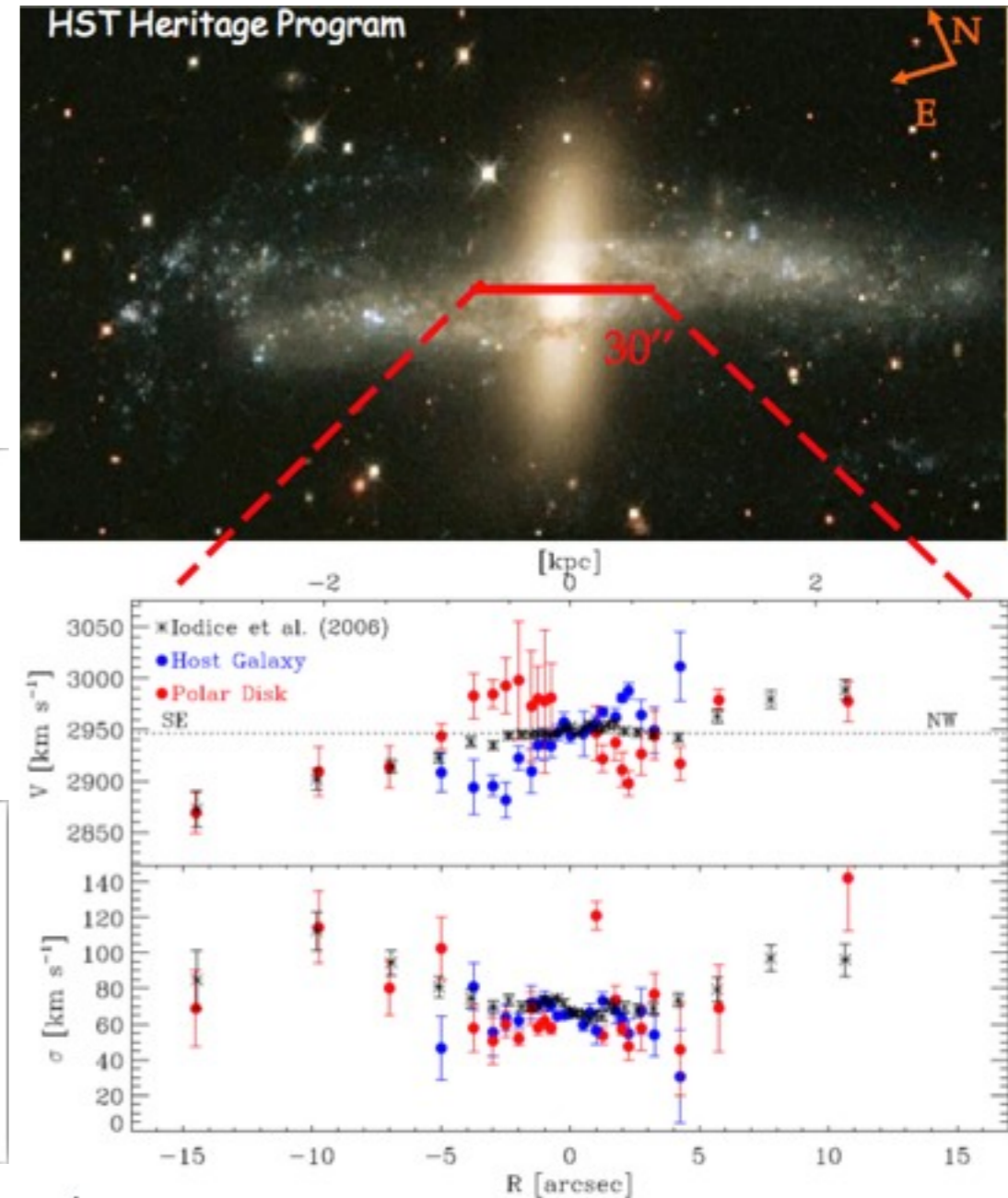


Talks by Coccato, Courteau, Fabricius, Fogarty, Naab, Silchenko, Stott

Assembly: angular momentum?



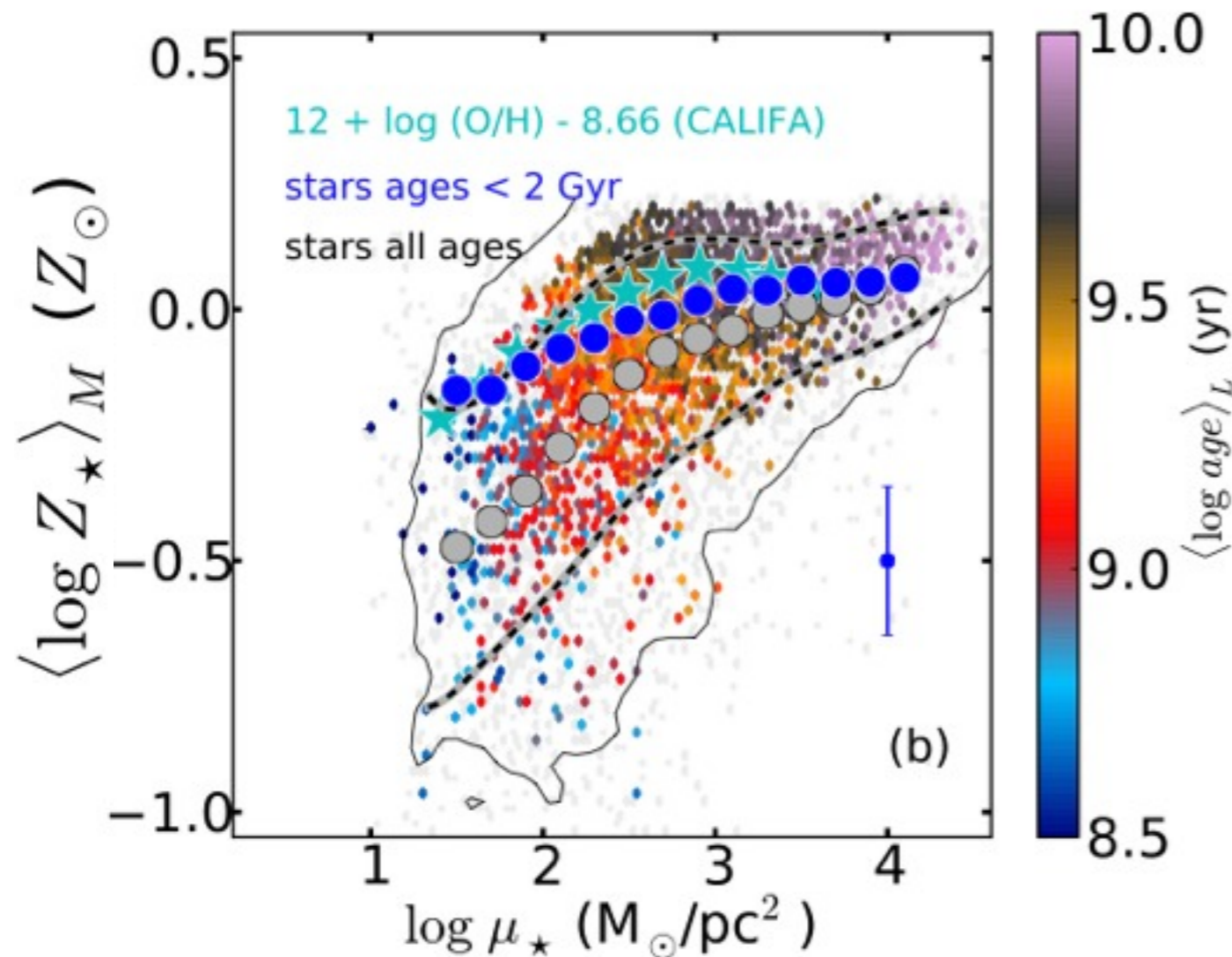
NGC7217: Fabricius et al.



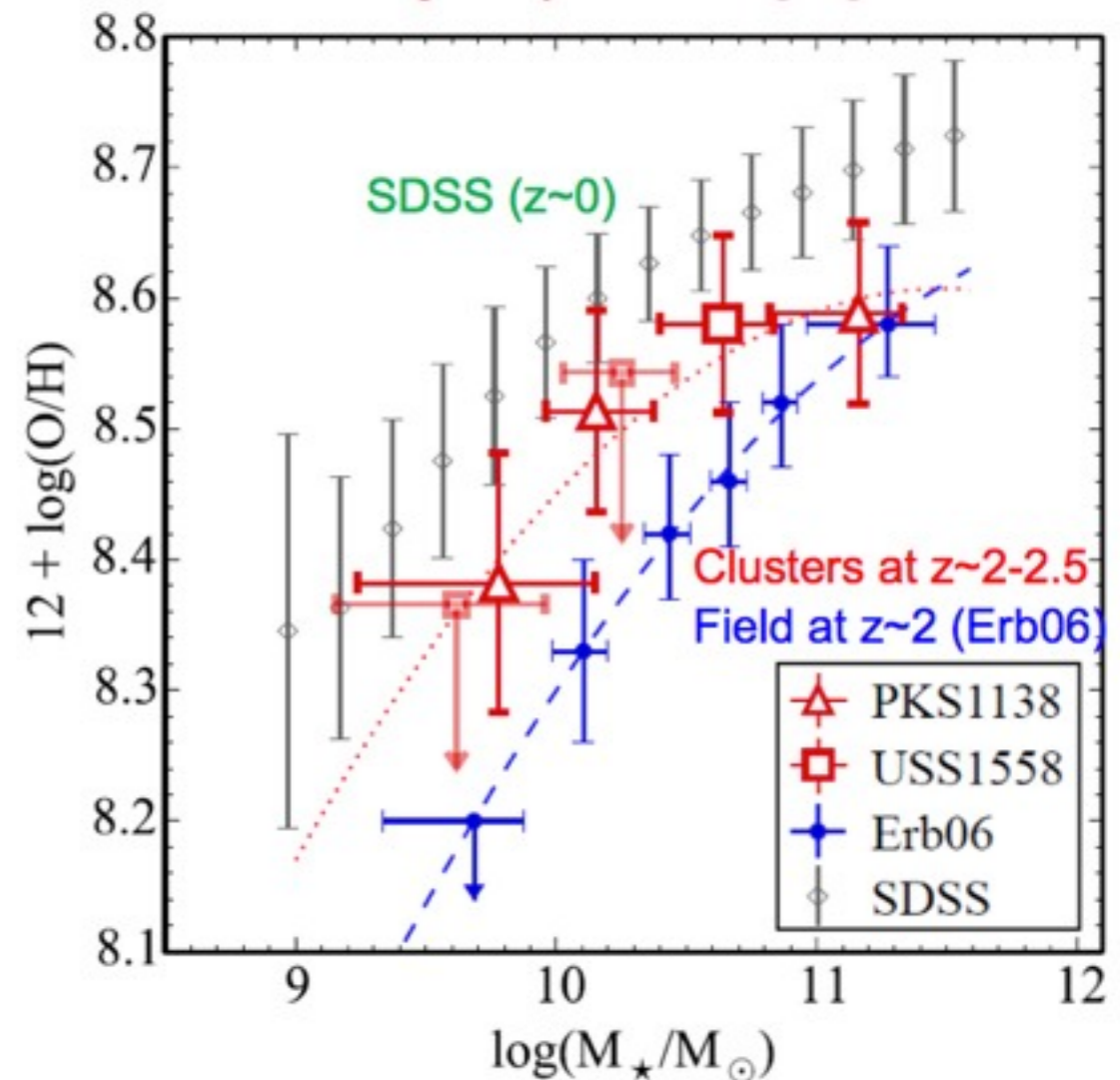
NGC 4650A: Coccato et al.

Talks by Coccato, Courteau, Fabricius, Fogarty, Naab, Silchenko

Assembly: metallicity?



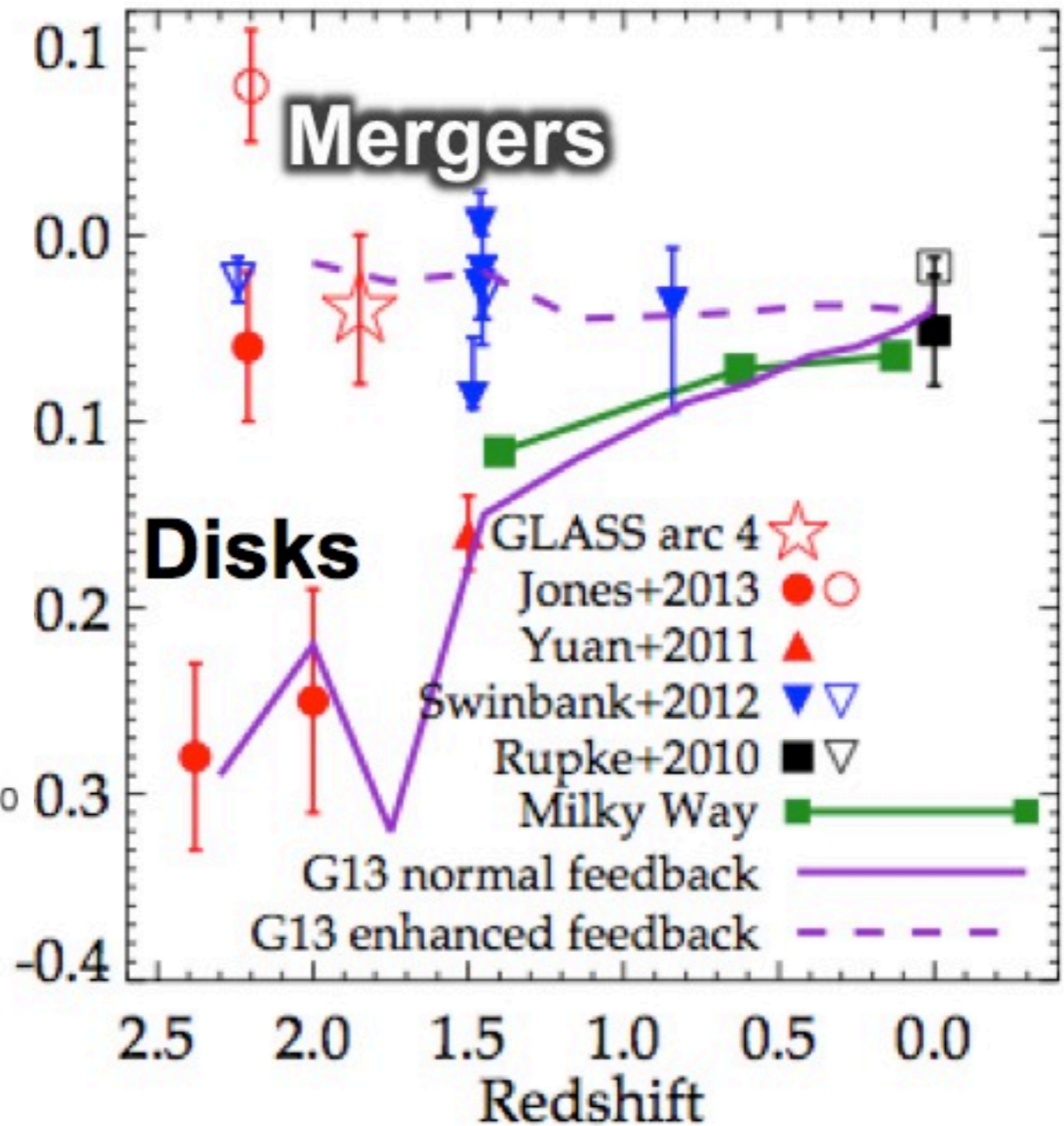
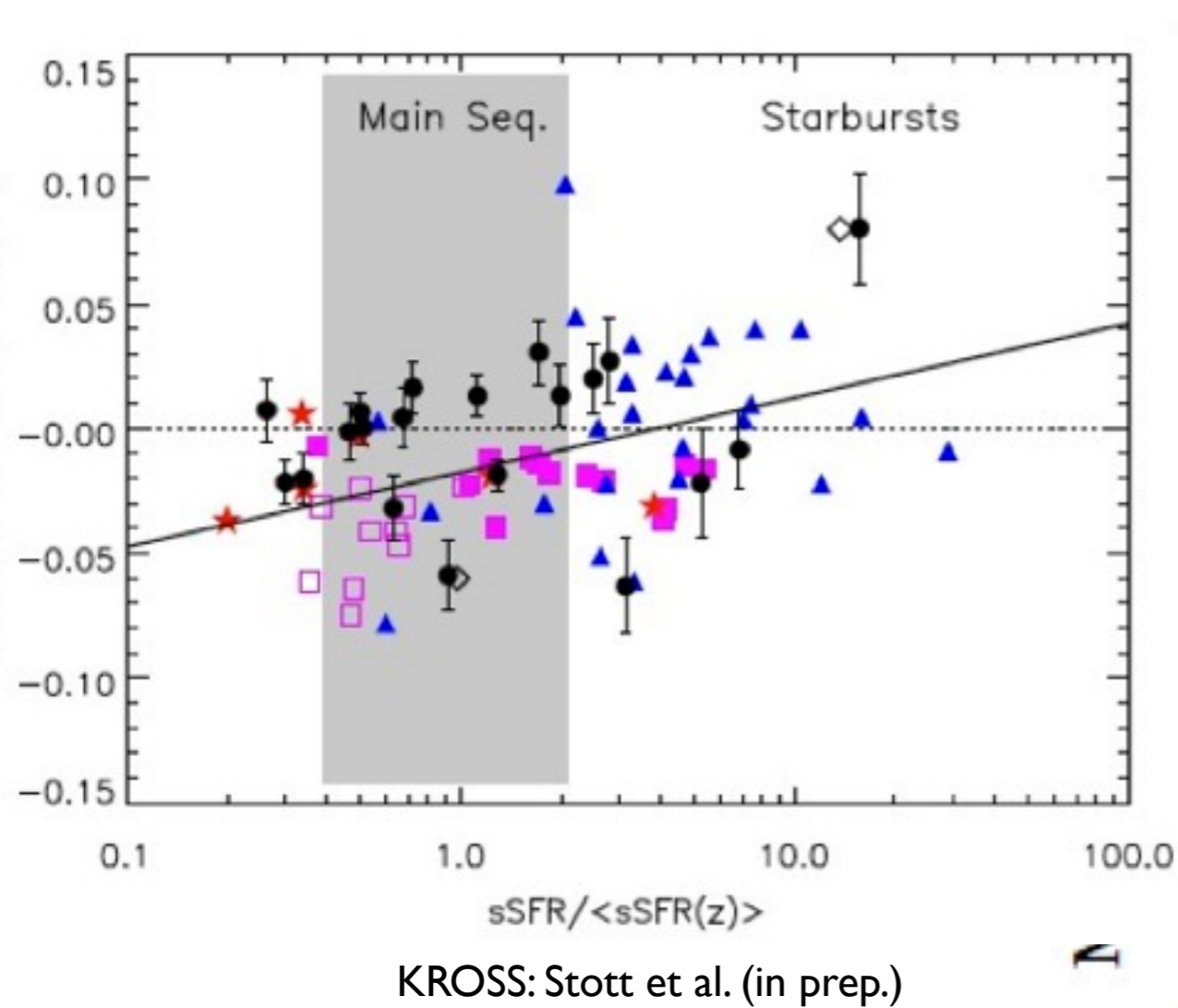
CALIFA: Gonzalez-Delgado et al. (2014)



Shimakawa et al. (2014)

Talks by Cid Fernandez, Gonzalez-Delgado, Jimenez, Kodama, Sanchez, Stott, E. Wuyts

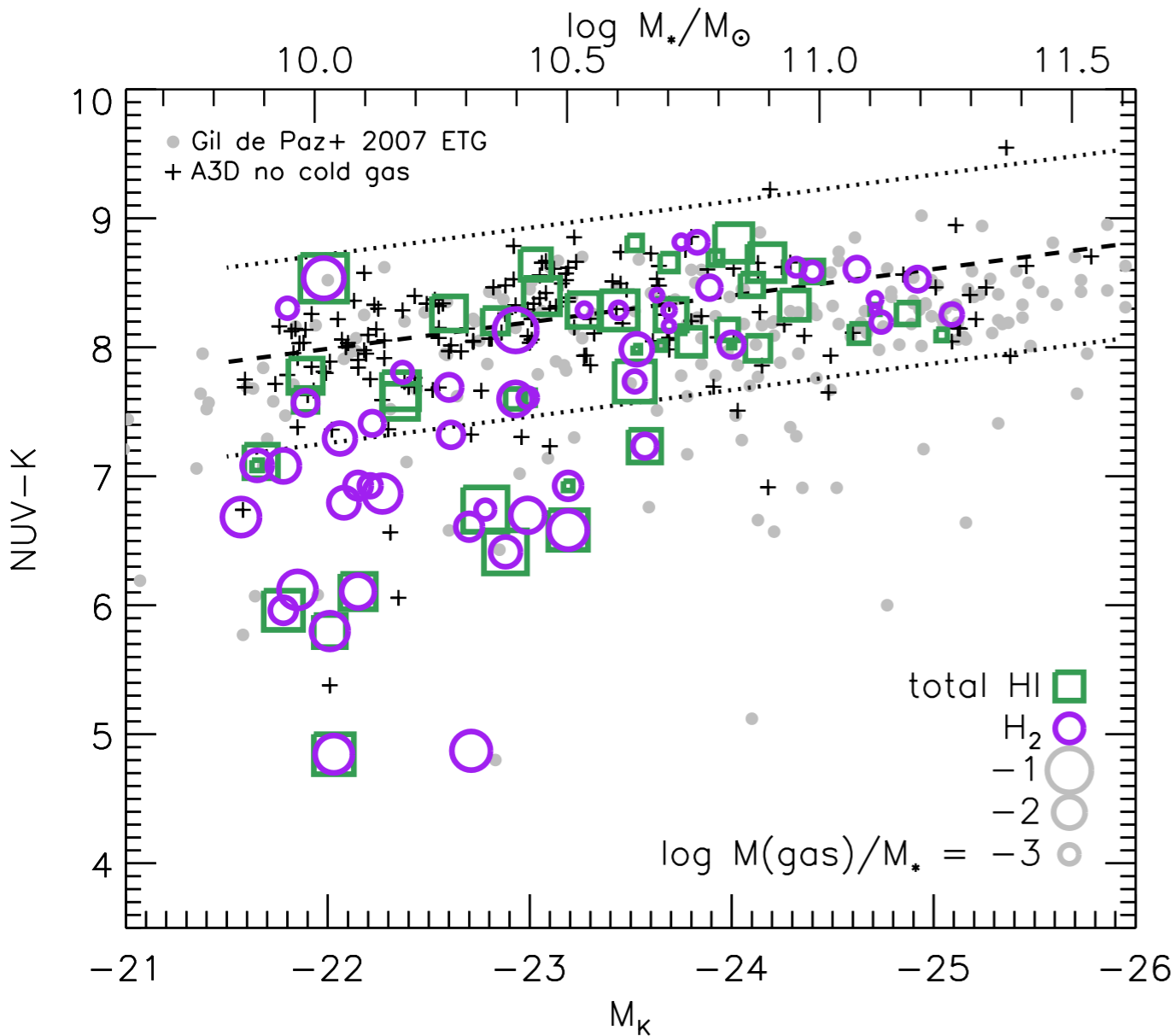
Assembly: metallicity gradients?



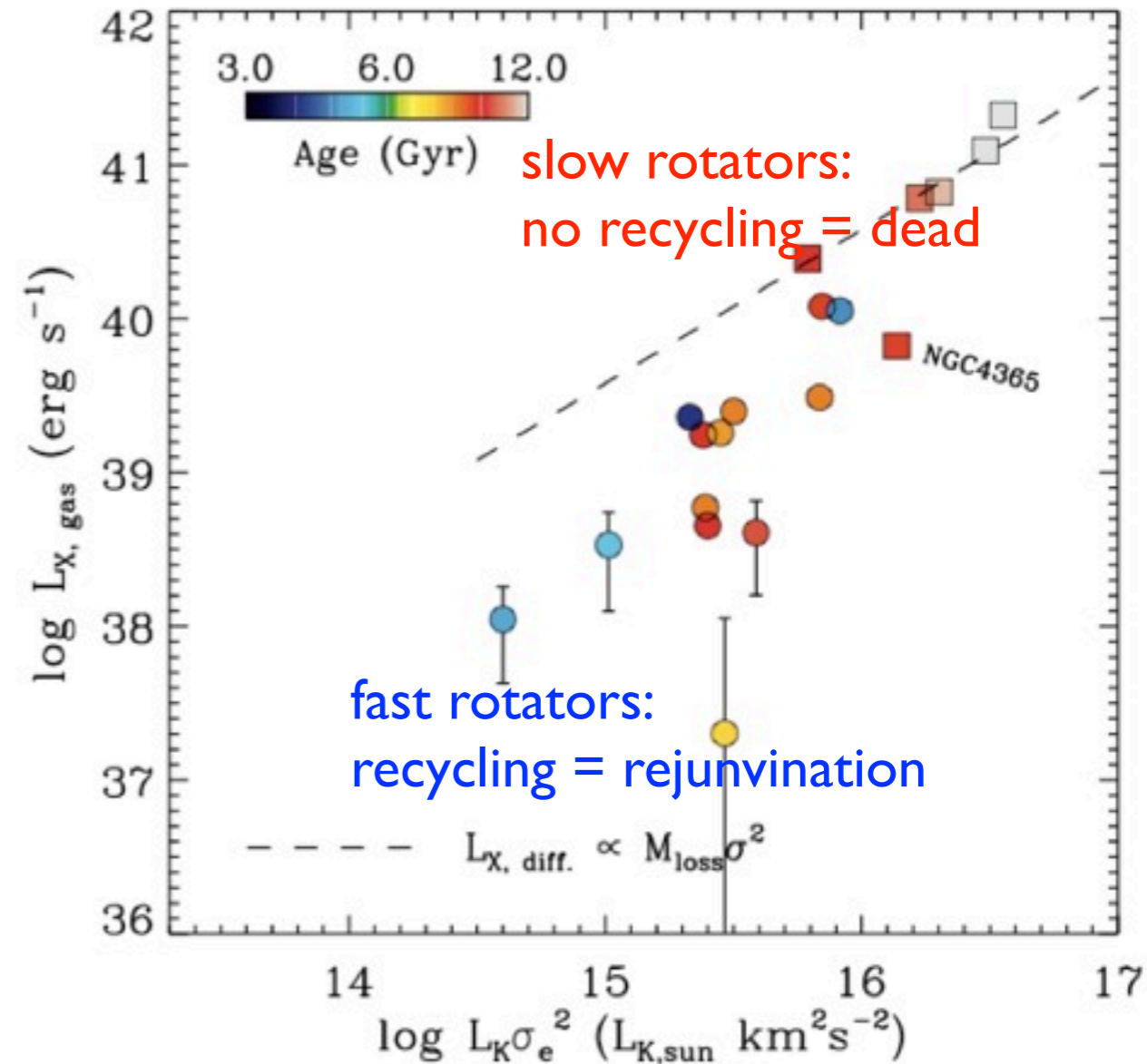
Talks by Bayliss, Contini, Hirschmann, Jones, Kewley, Sobral, Stott, E. Wuyts

QUENCHING OF GALAXIES

Quenching: blue to red (and dead?)



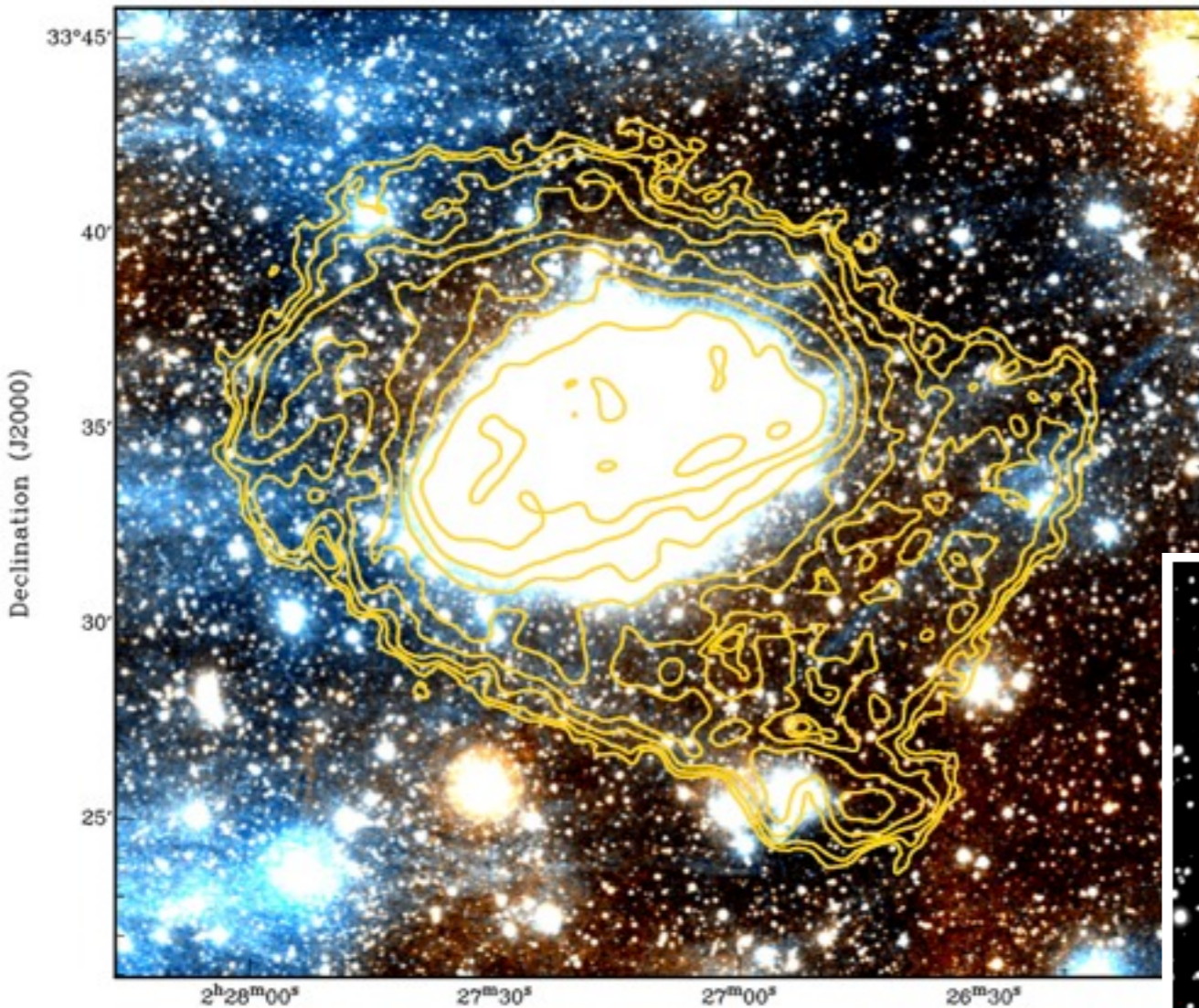
Atlas3D: Young et al. (2013)



Atlas3D: Sarzi et al. (2013)

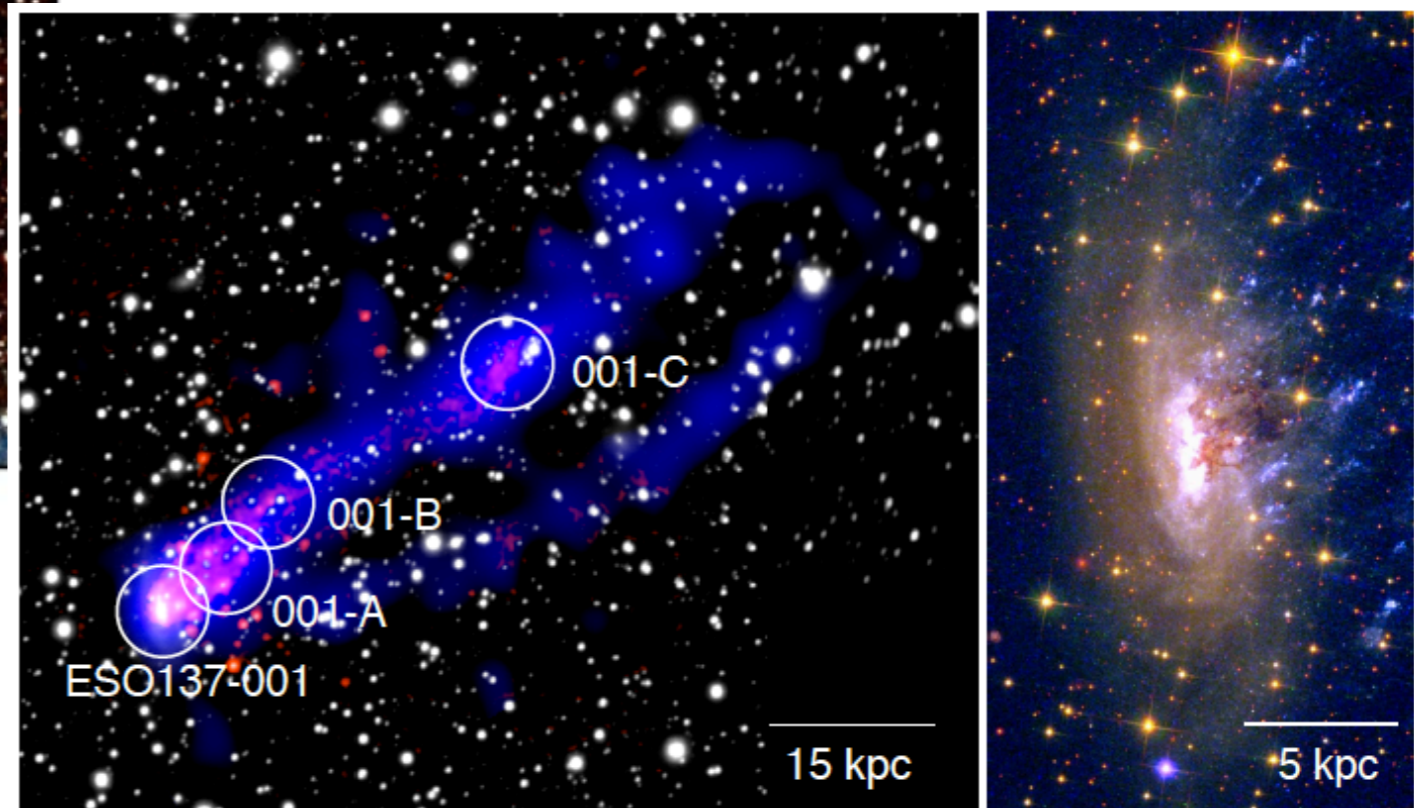
Talks by Hopkins, Sarzi, Young, ...

Quenching: interactions?



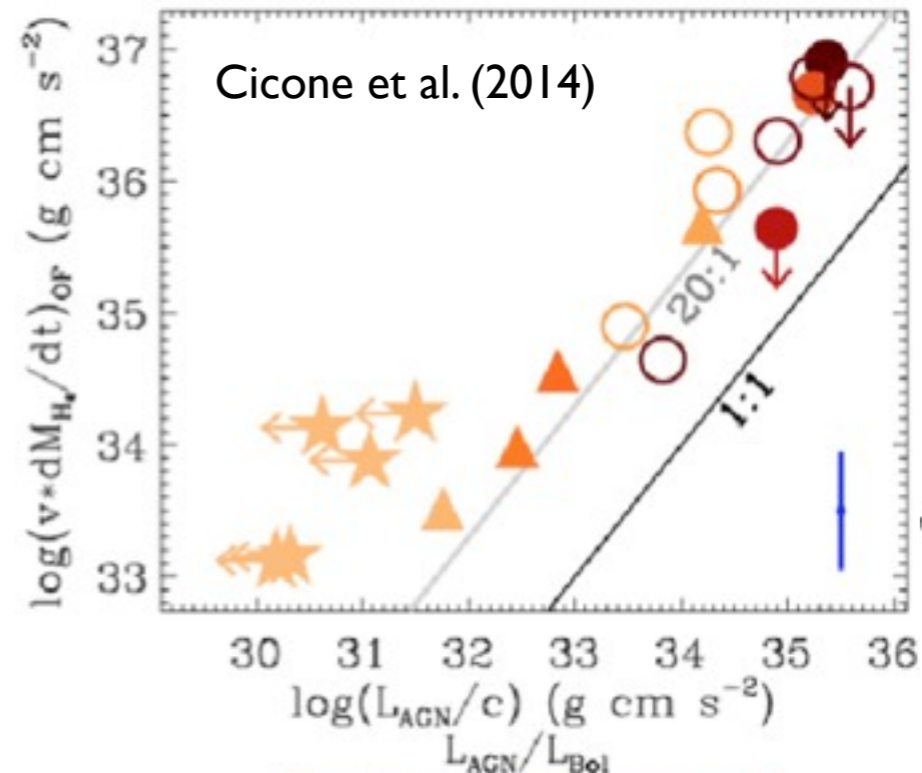
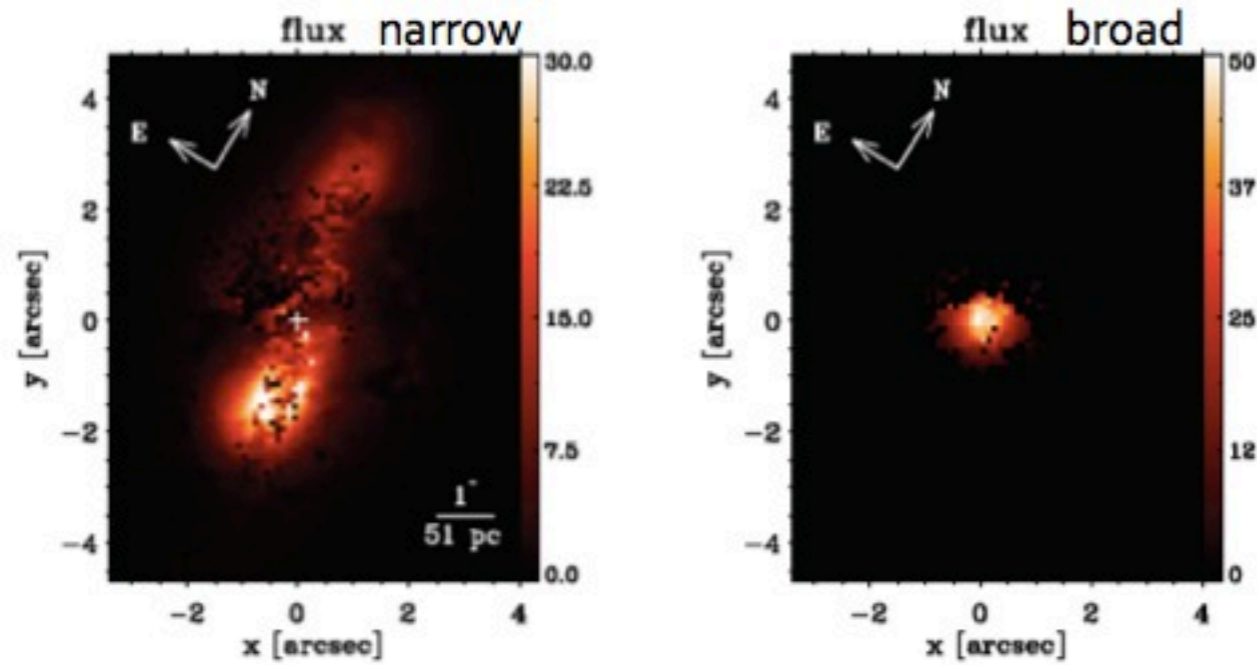
HALOGAS: Heald et al.

Sun et al. (2010), Jachym et al. (2014)

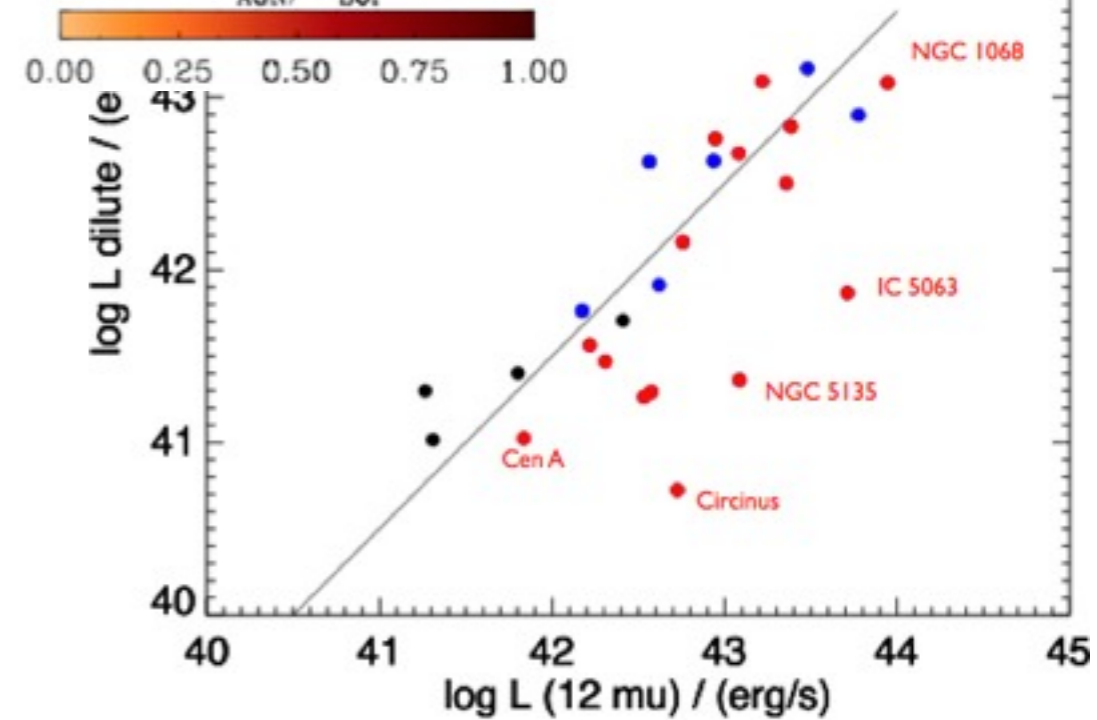
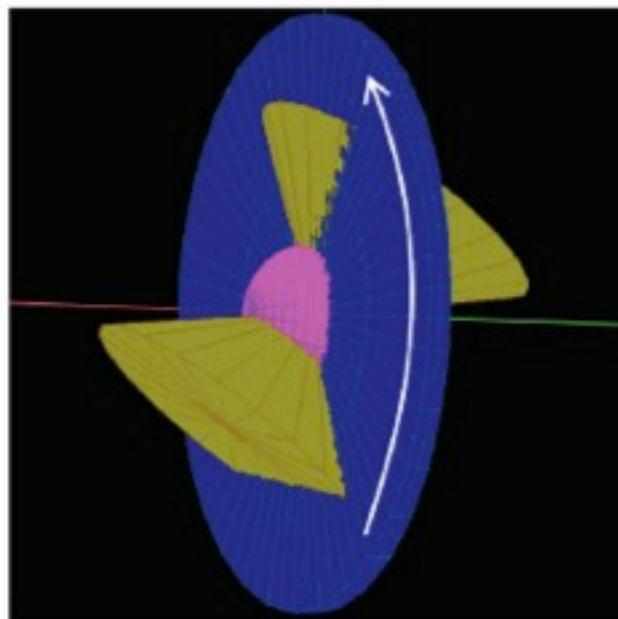
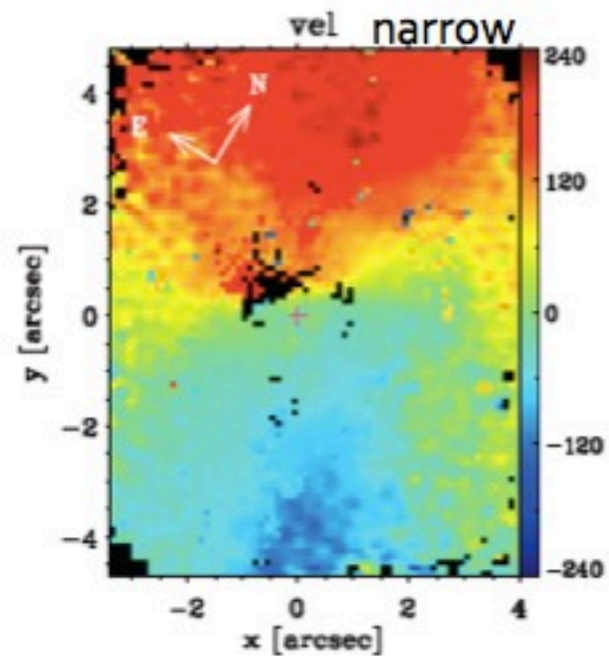


Talks by Alatalo, Finn, Heald, Kenney, Lopez Sanchez, Mendes de Oliveira, Moreno

Quenching: nuclear feedback?



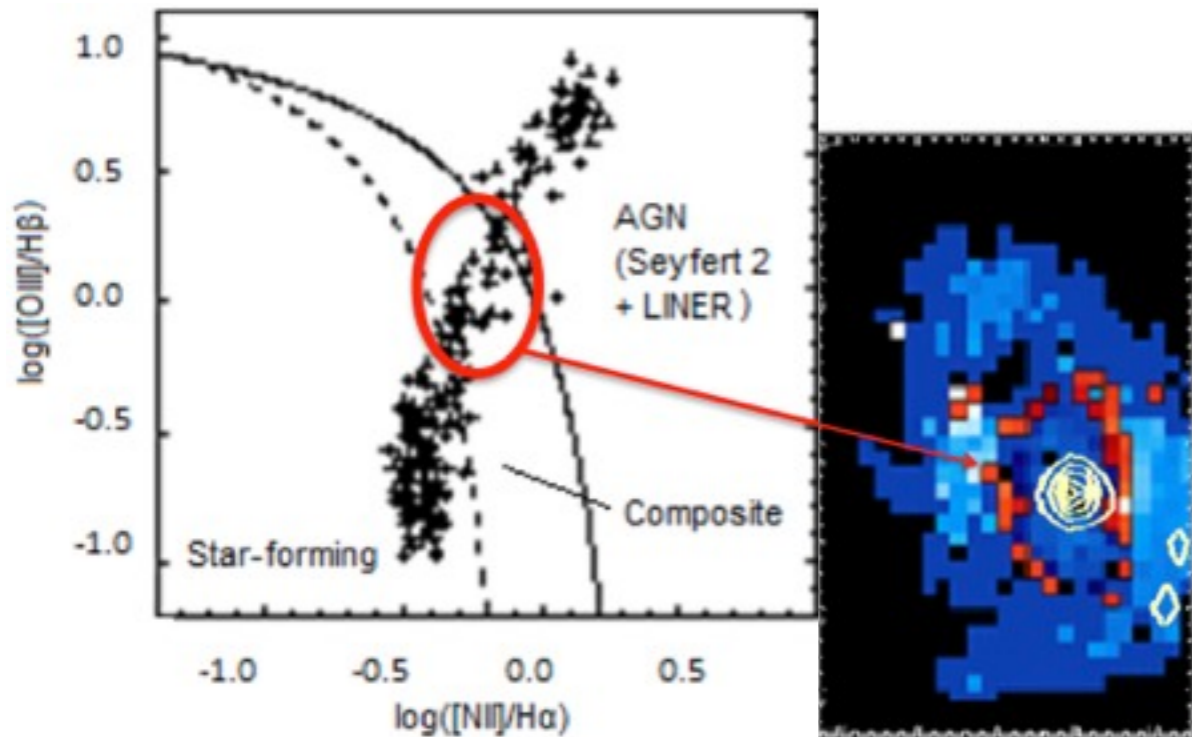
Burtscher et al.



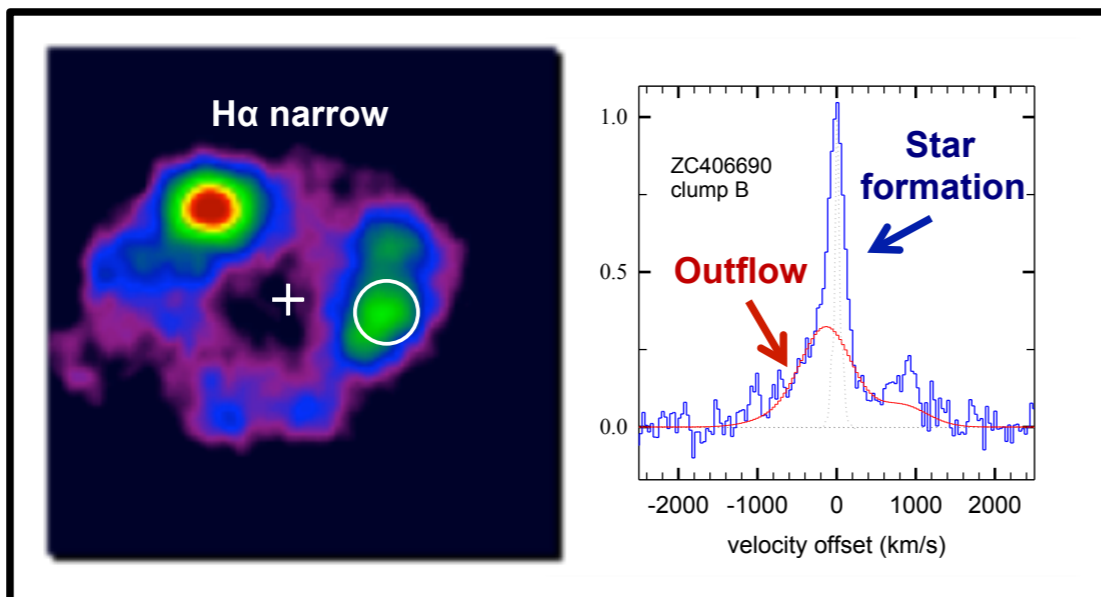
Lena et al. (2014)

Talks by Burtscher, Combes, Saito, Storchi-Bergmann, Combes

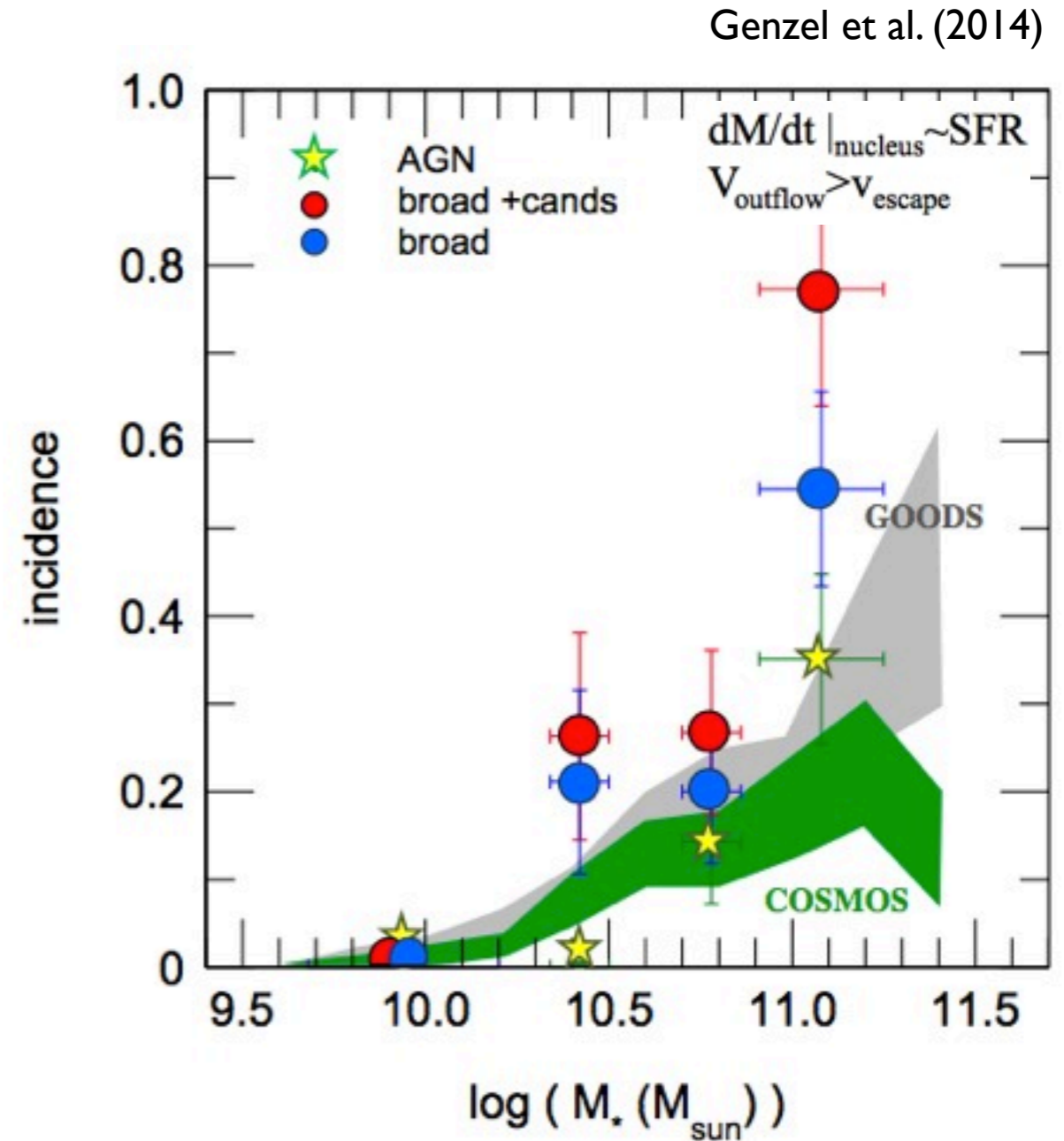
Quenching: nuclear feedback?



Davies, Rich, Kewley, et al. (2014)



Foerster Schreiber et al. (2014)

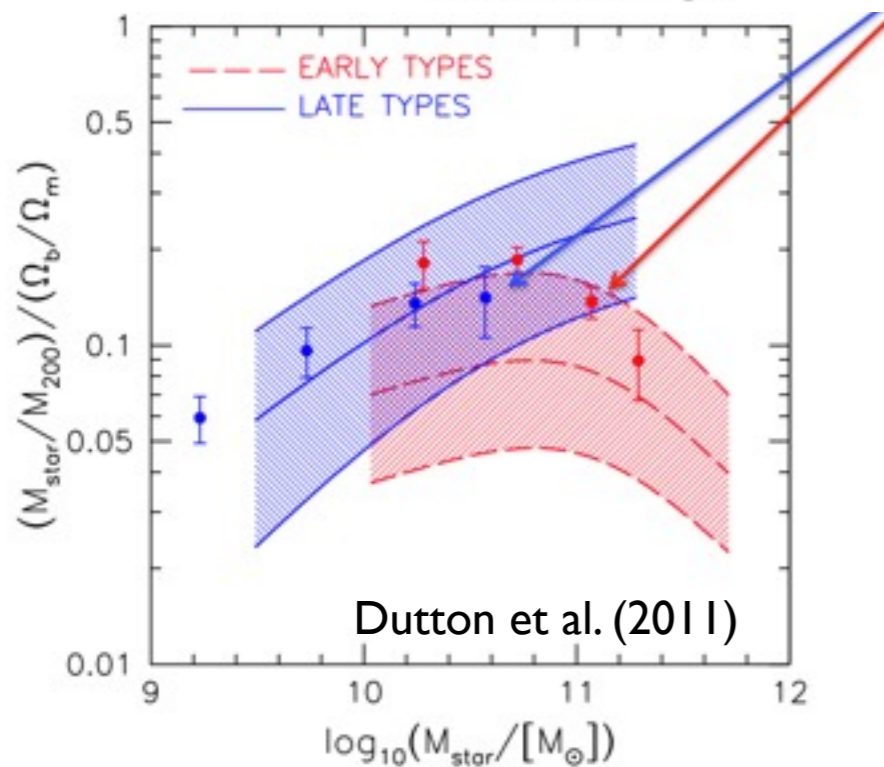
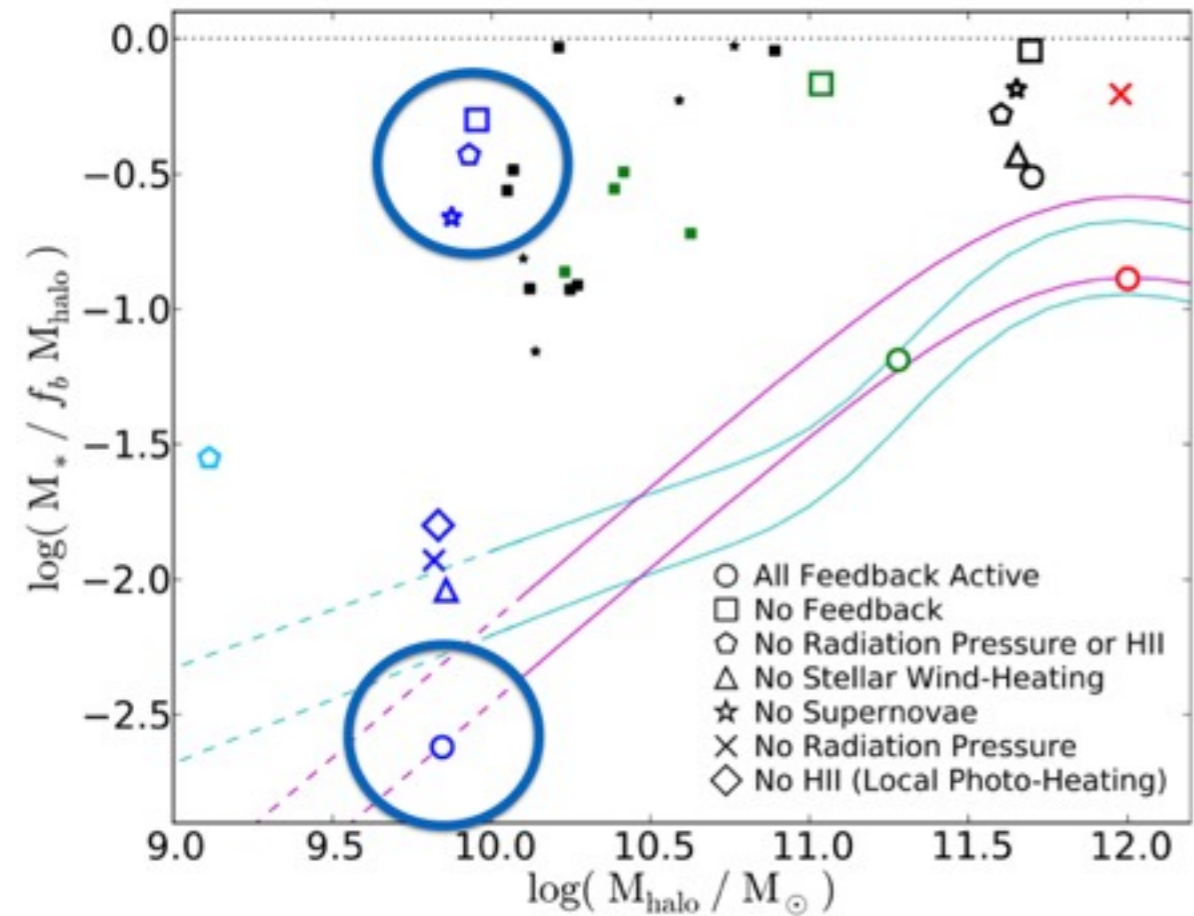


Talks by Allen, Arribas, Bournaud, Cresci, Del Pino, Dopita, Foerster Schreiber, Genzel, Ho, Hopkins, Kewley, Papaderos, Tremonti, Yuan

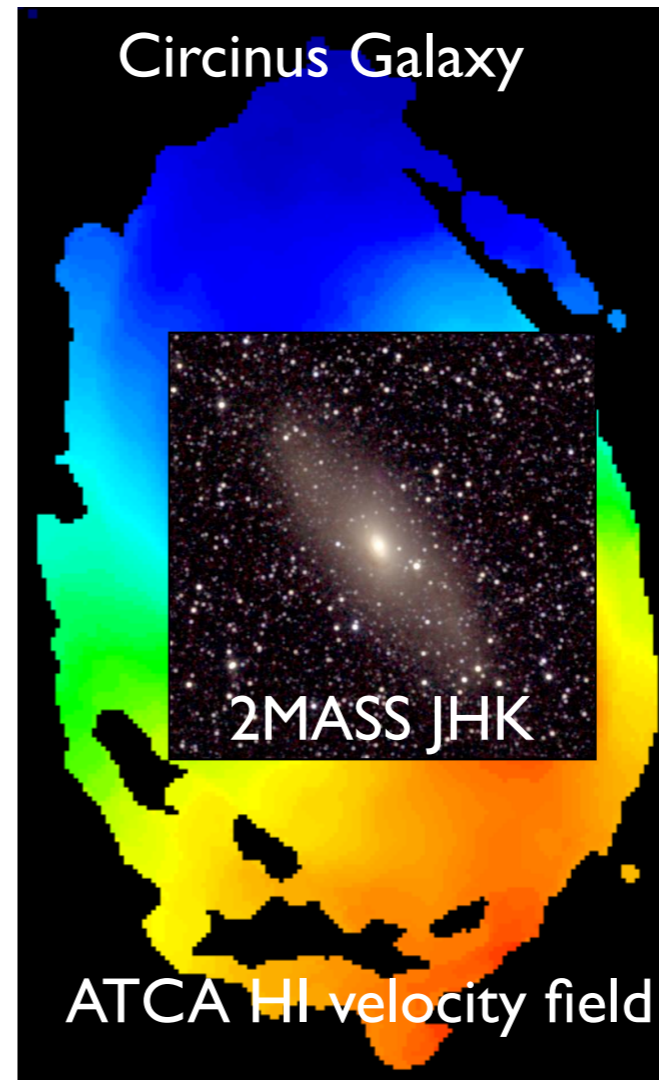
WHAT'S NEXT?

Stellar-to-halo mass

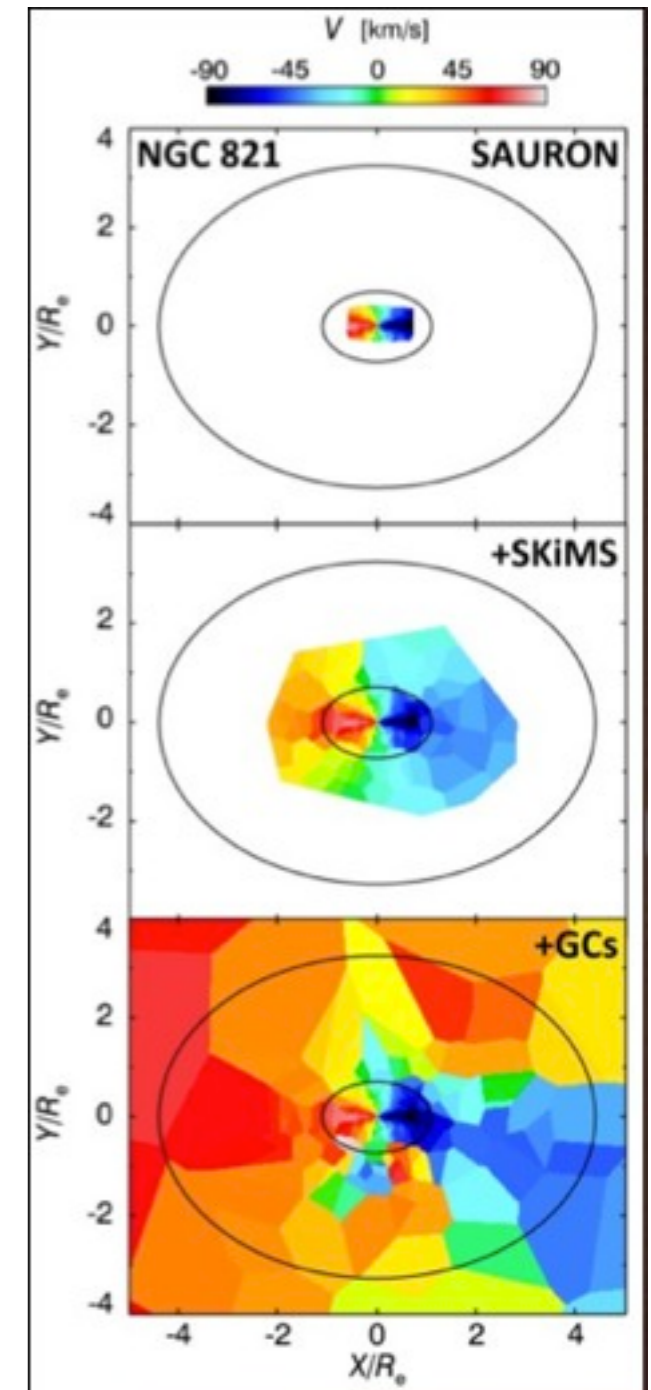
Hopkins et al. (2013)



Dutton et al. (2011)



Jones et al. 1999; Curran et al. 2008
Wilson et al. 2011

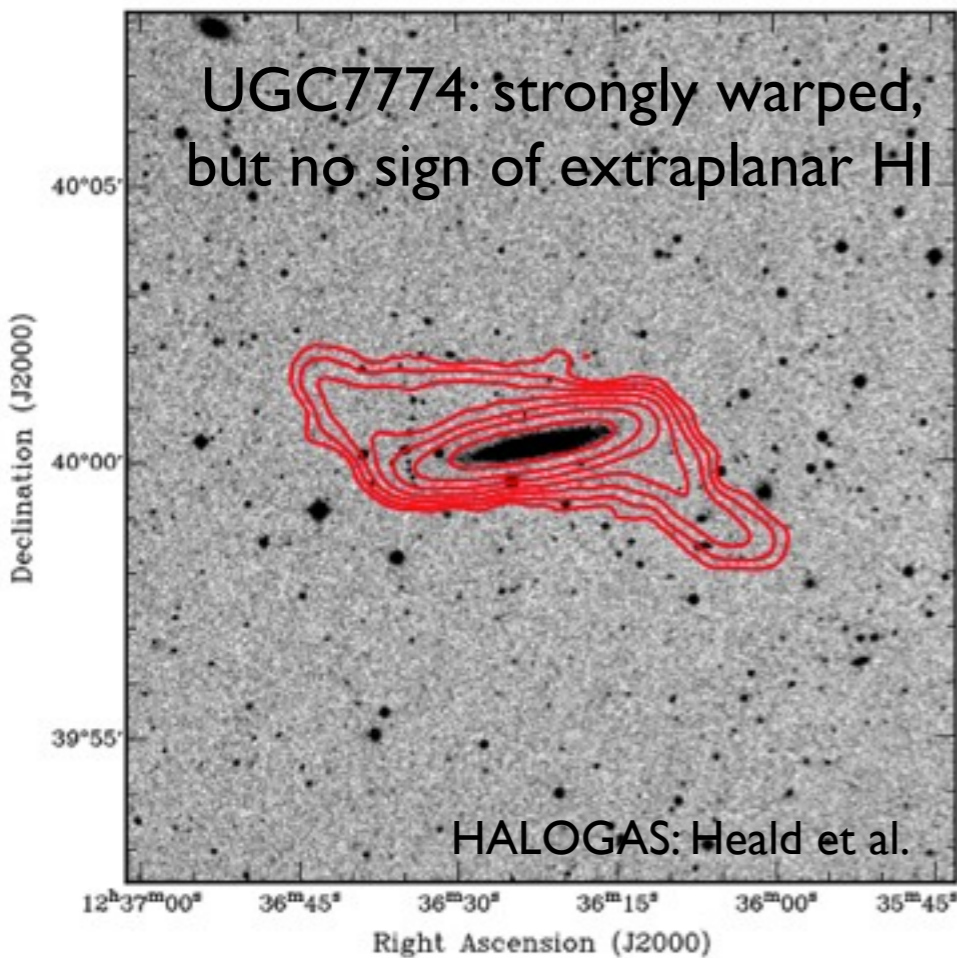
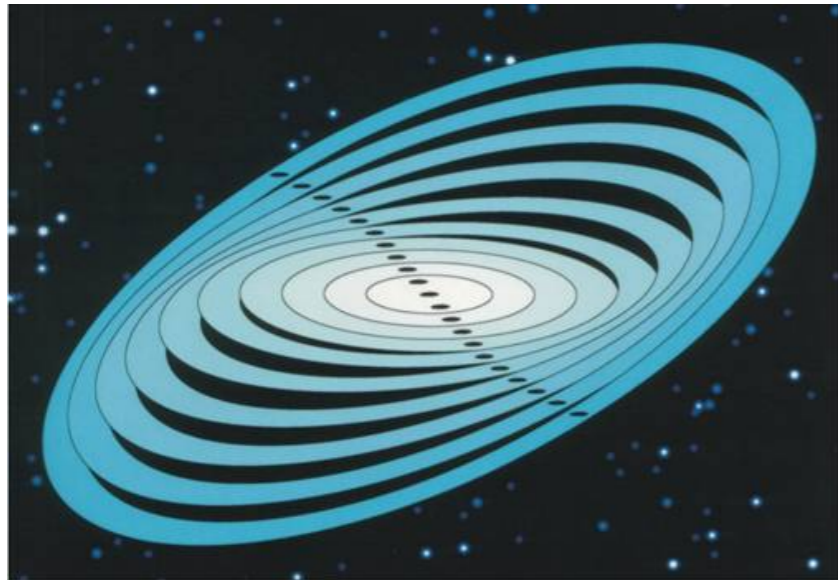


SLUGGS: Brodie et al. 2014

+ gravitational lensing (e.g. SLACS)

Talks by Barnabe, Courteau, Hopkins, S. Wuyts

Galaxies are 3D!

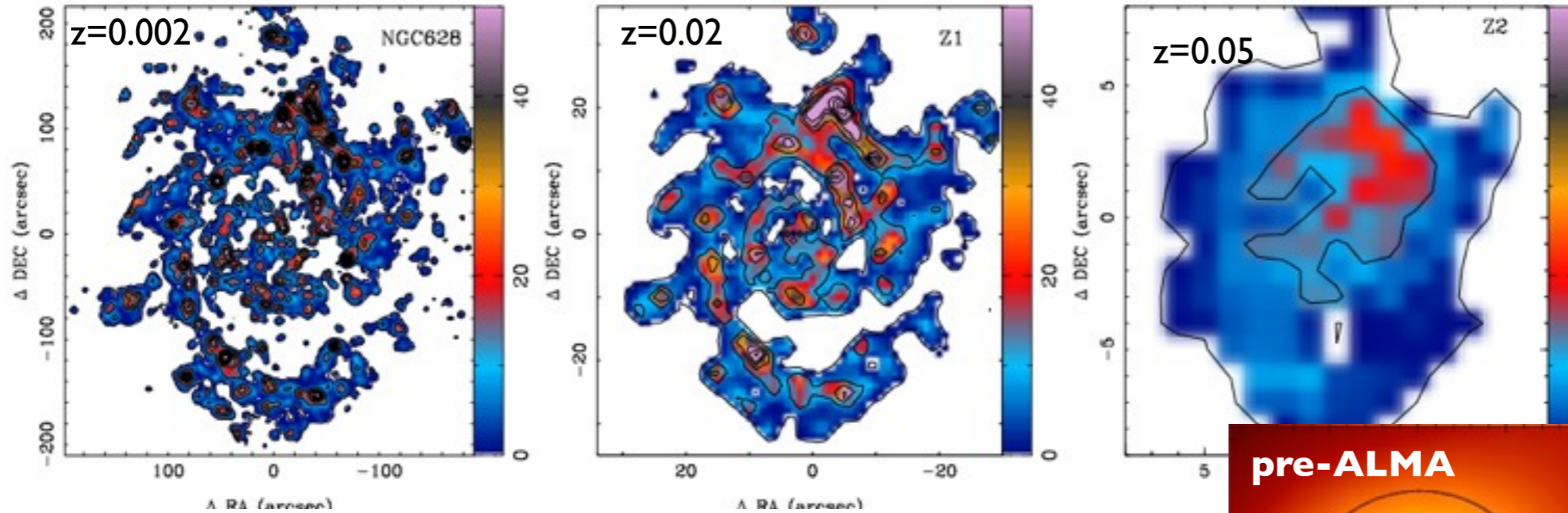


DSS B+R images, GALEX FUV+NUV images
+ ATCA HI mosaics + a preliminary TiRiFiC model.
(Credits: Koribalski, Gheller, Dolag, Kamphuis)

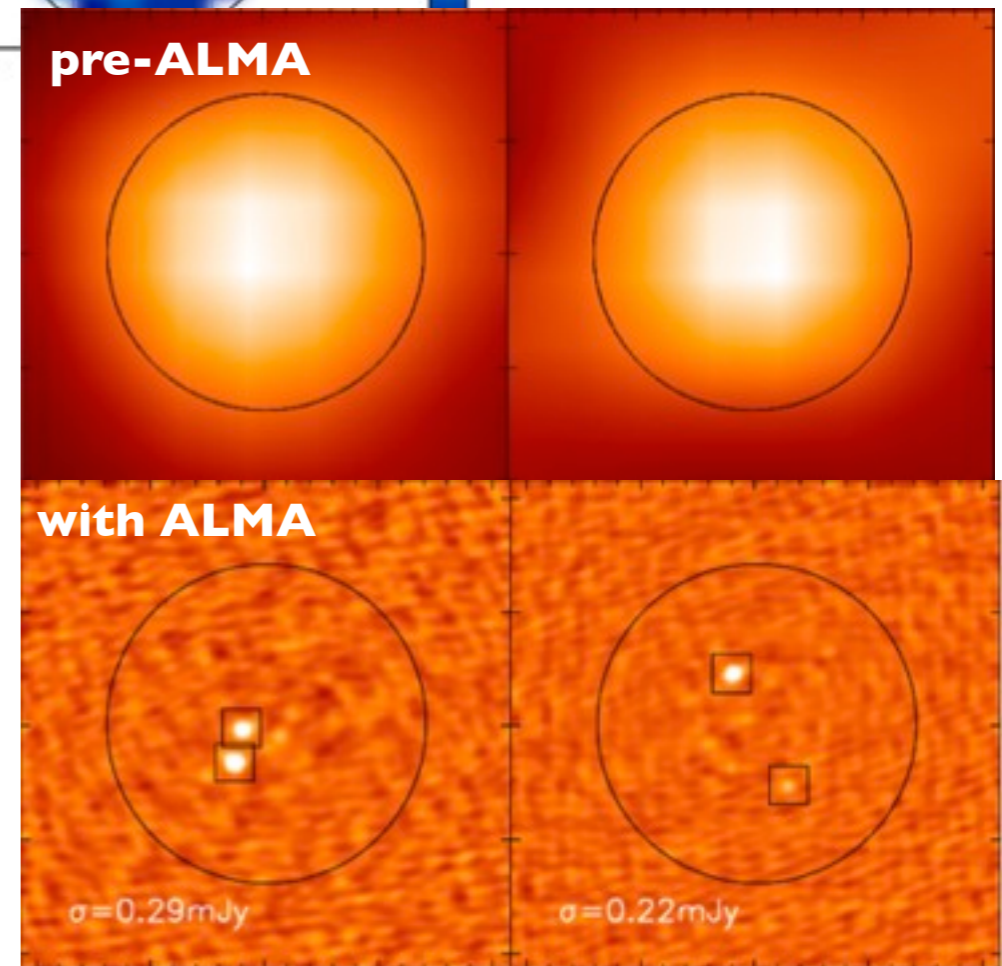
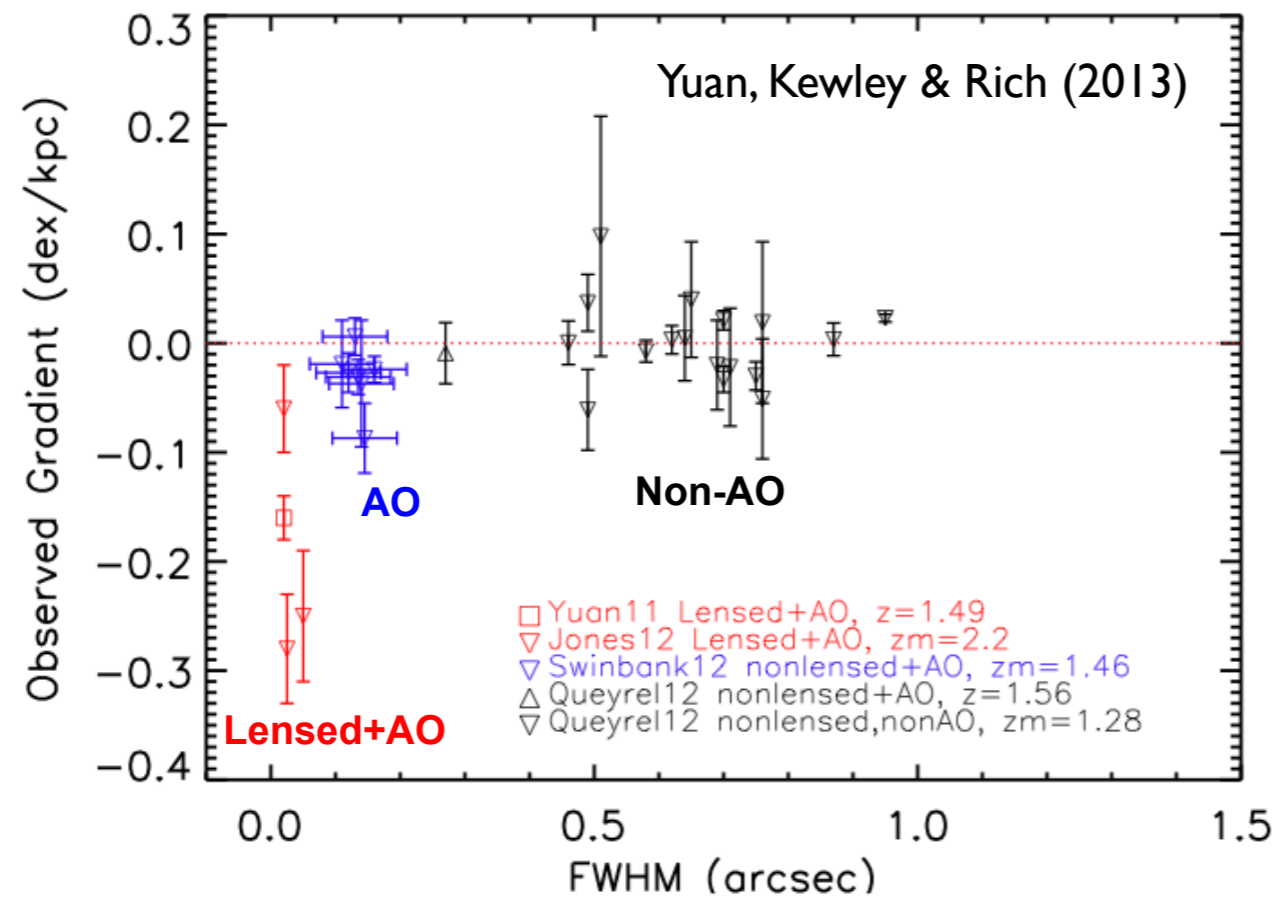
Talks by Koribalski, Heald, ...

Resolution!

CALIFA: Mast et al. 2014

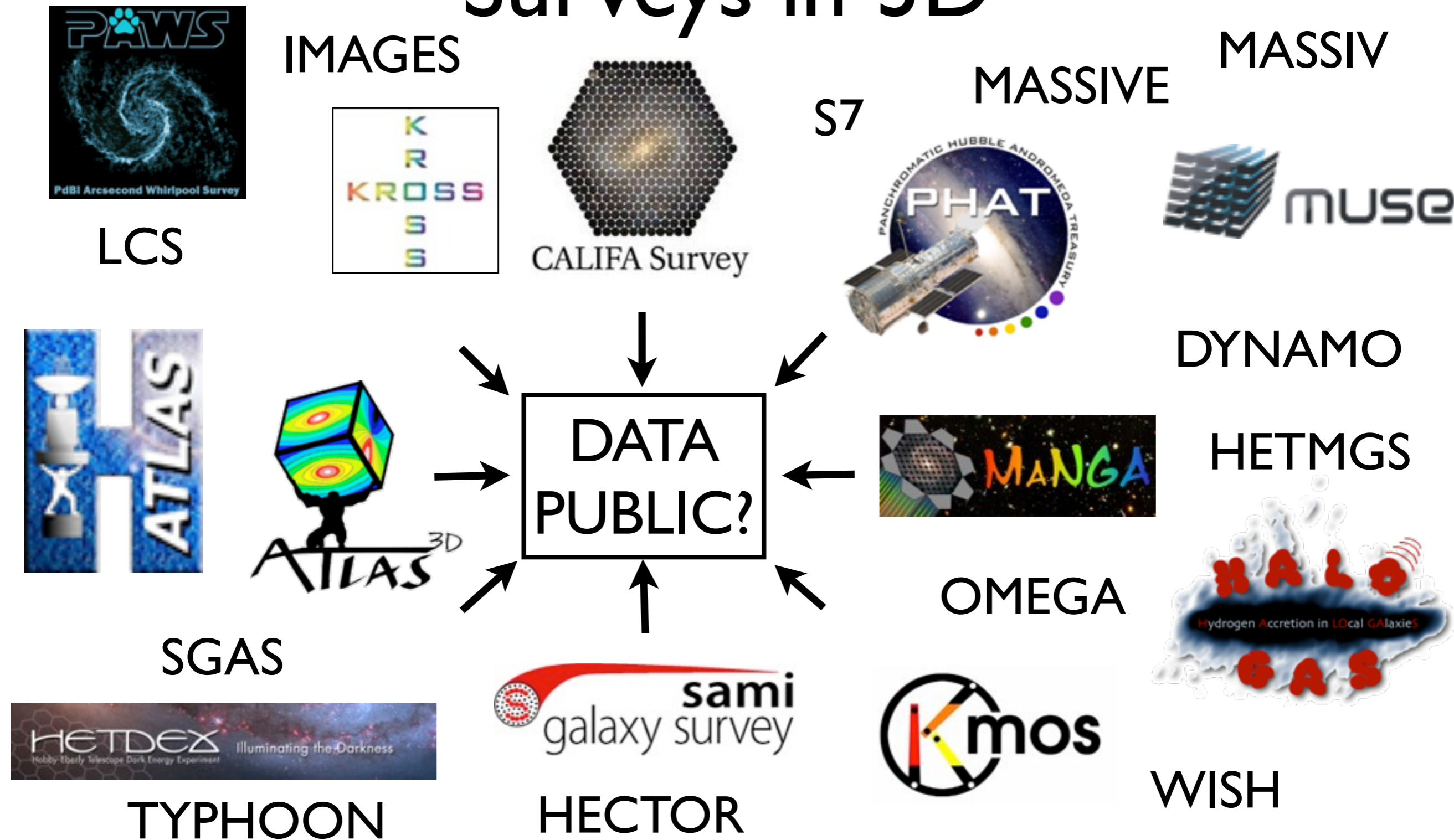


ALESS: Simpson et al.



Talks by Jones, Kewley, Swinbank

Surveys in 3D



Talks by Bayliss, Bland-Hawthorn, Burgarella, Del Pino, Dopita, Dunne, Finn, Fisher, Foerster, Genzel, Schreiber, Hammer, Lewis, Ma, Madore, Morabito, Roth, Sanchez, Schinnerer, Sharples, Sobral, Stott, Tacconi, Tremonti, Trimble, Vieira, Williams, E. Wuyts, S. Wuyts, Xu

Galaxies in 3D across the Universe

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THANKS!!!

