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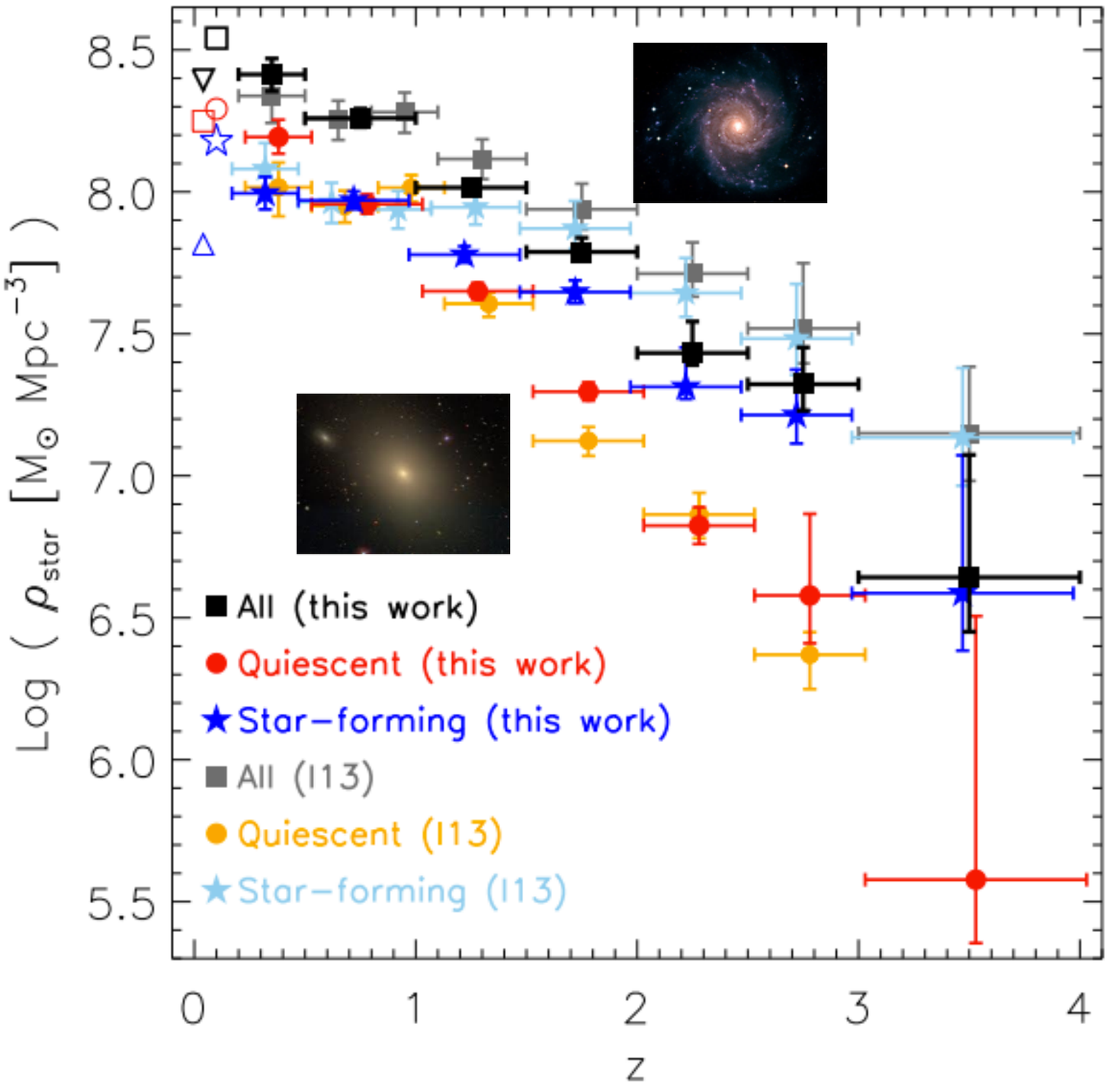
The mechanisms for quiescent galaxy formation at z<1

Kate Rowlands

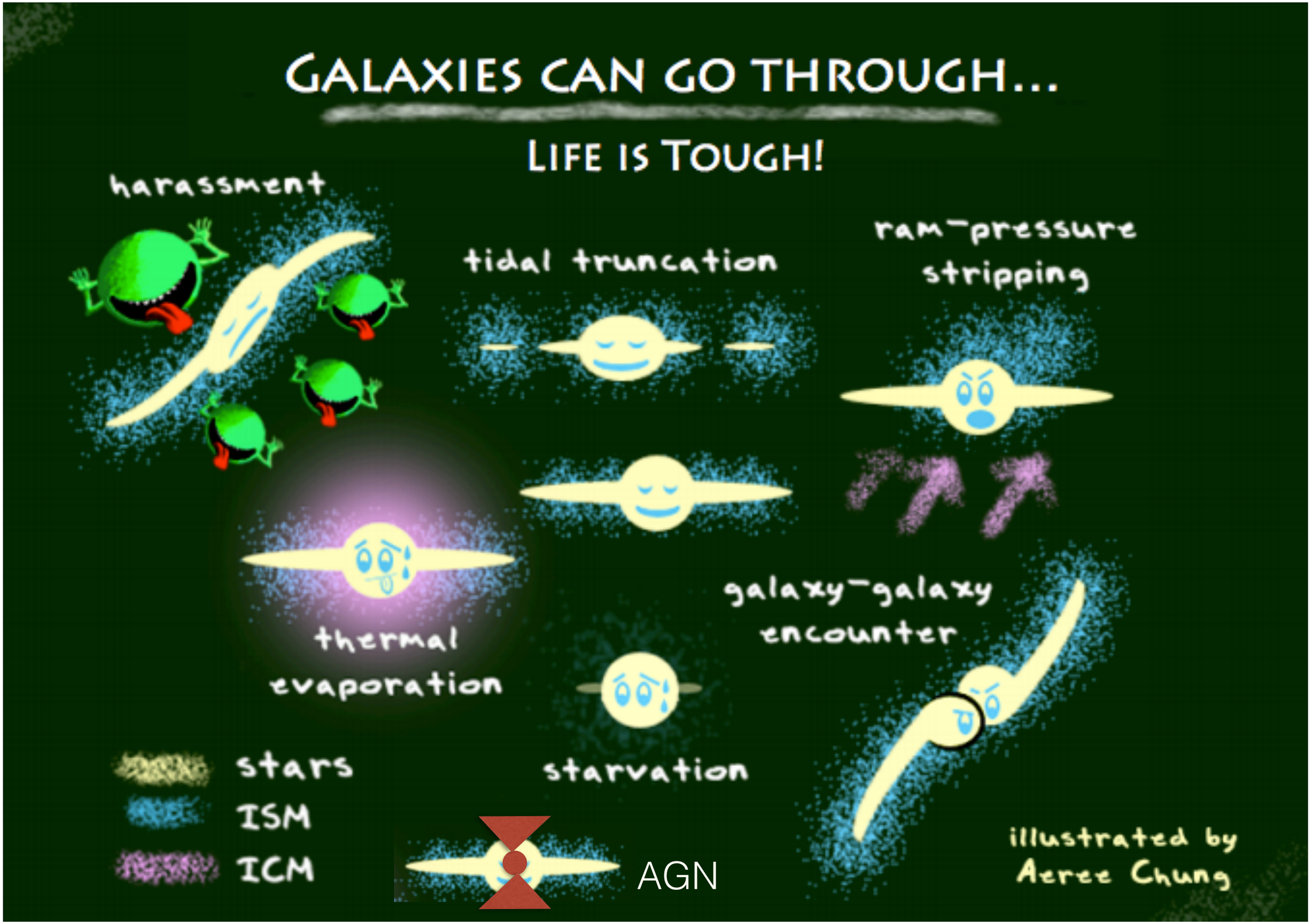
Vivienne Wild & the GAMA team

Building the quiescent galaxy population

Stellar mass density



Muzzin et al. (2013), Ilbert et al. (2013)



Faber+07, Schawinski+07, Cortese & Hughes 09, Salim+12, Fang+12, 2013, Wetzel+13, McGee +14, Yesuf+14, Schawinski+14, Smethurst+15,16, Peng, Maiolino & Cochrane 15, Trayford+16

Selecting transition galaxies spectroscopically

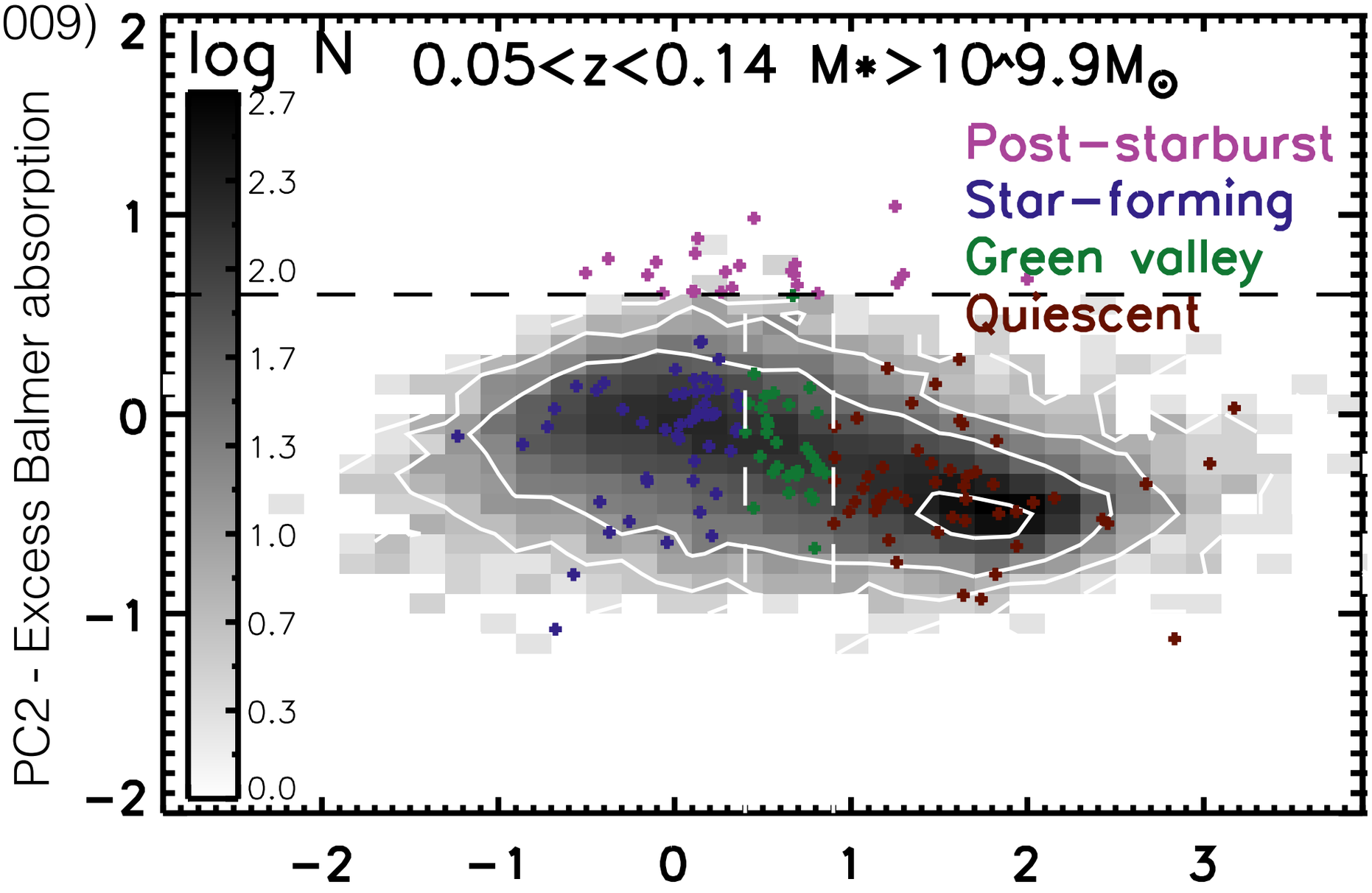
0.05<z<0.35
71510

0.5<z<1
22021

Rowlands et al.
submitted

Selecting transition galaxies spectroscopically

Wild et al. (2009)



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Selecting transition galaxies spectroscopically

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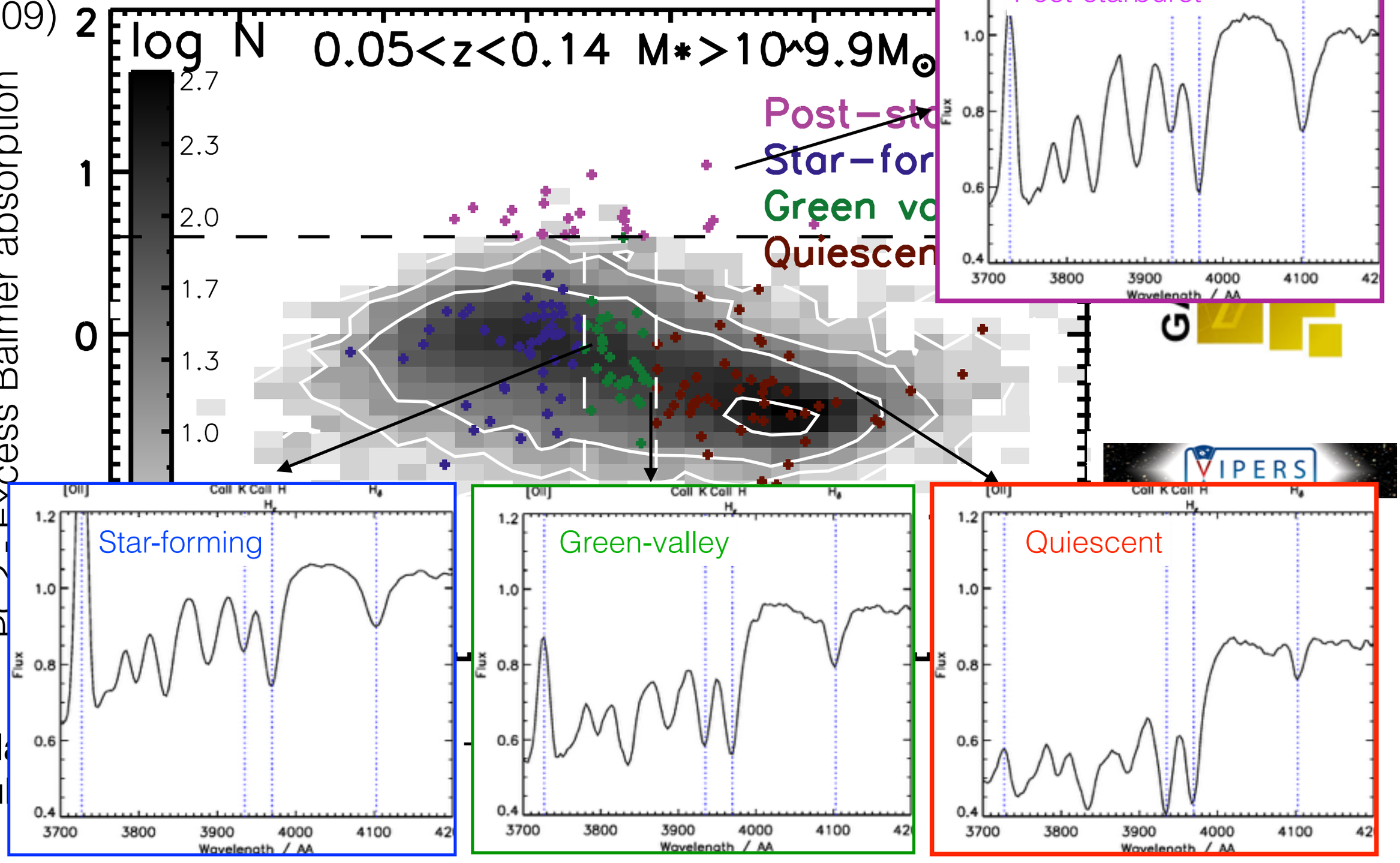

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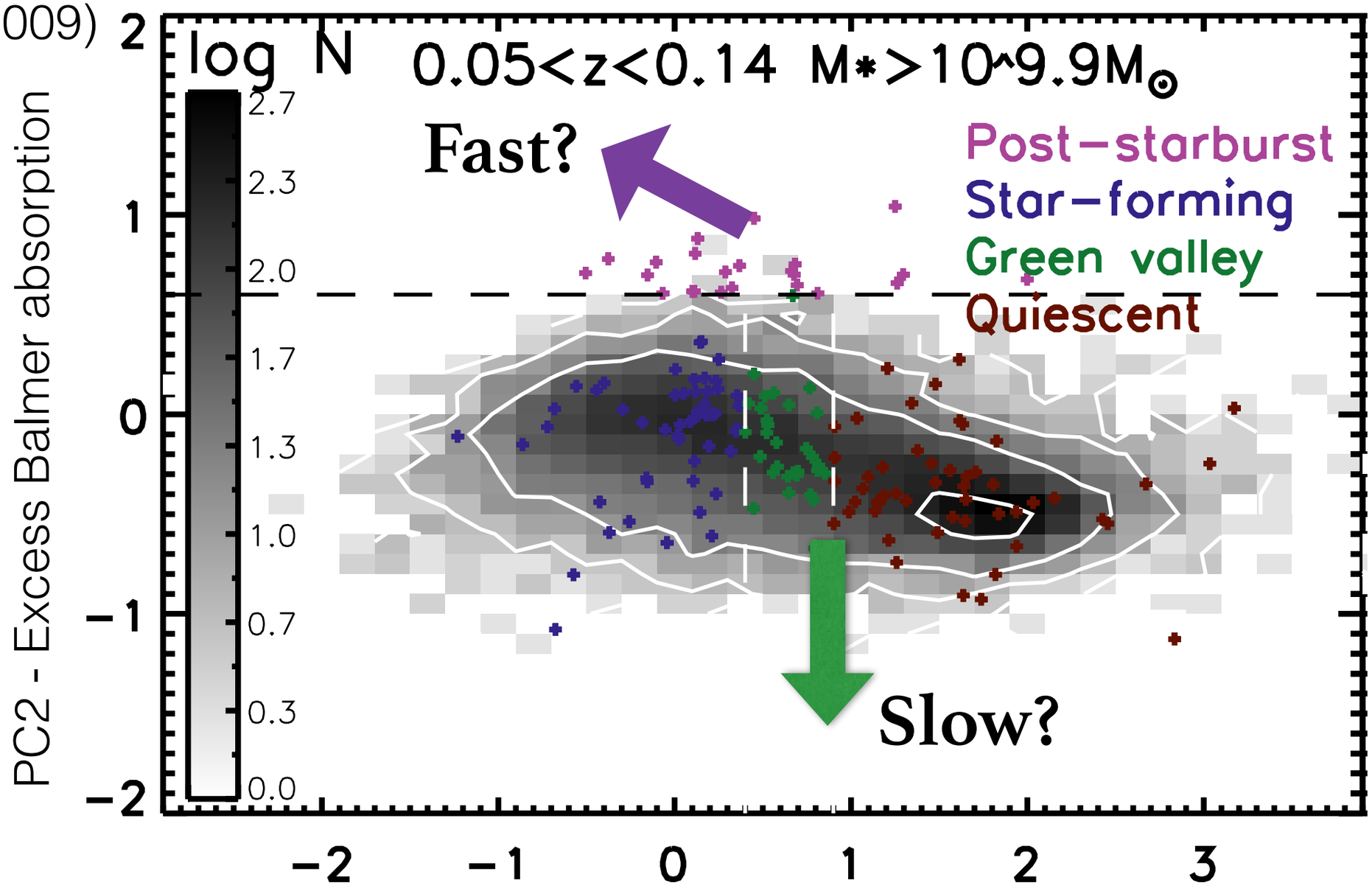
Selecting transition galaxies spectroscopically

Wild et al. (2009)



0.05<z<0.35
71510

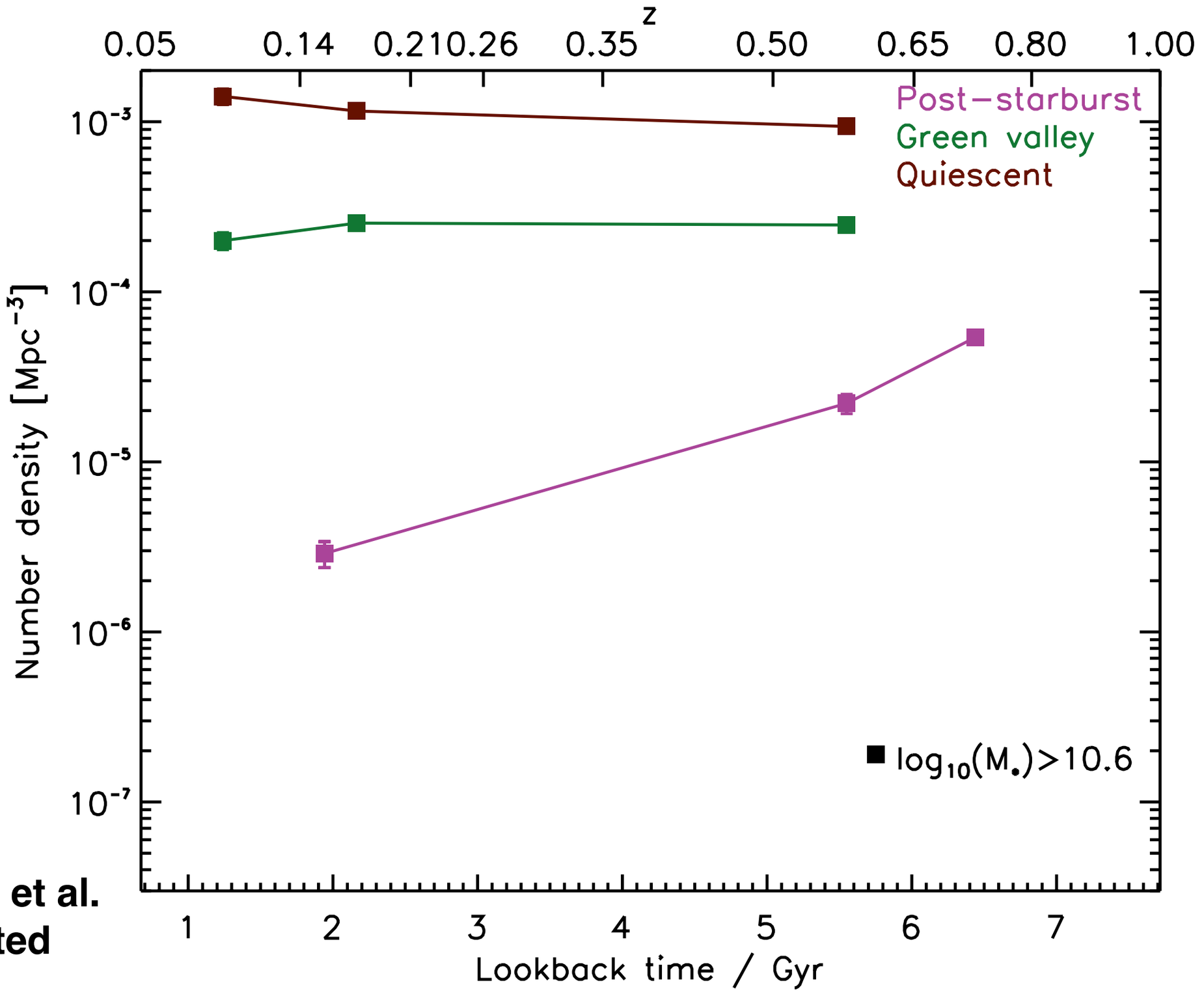
GAMA

VIPERS

0.5<z<1
22021

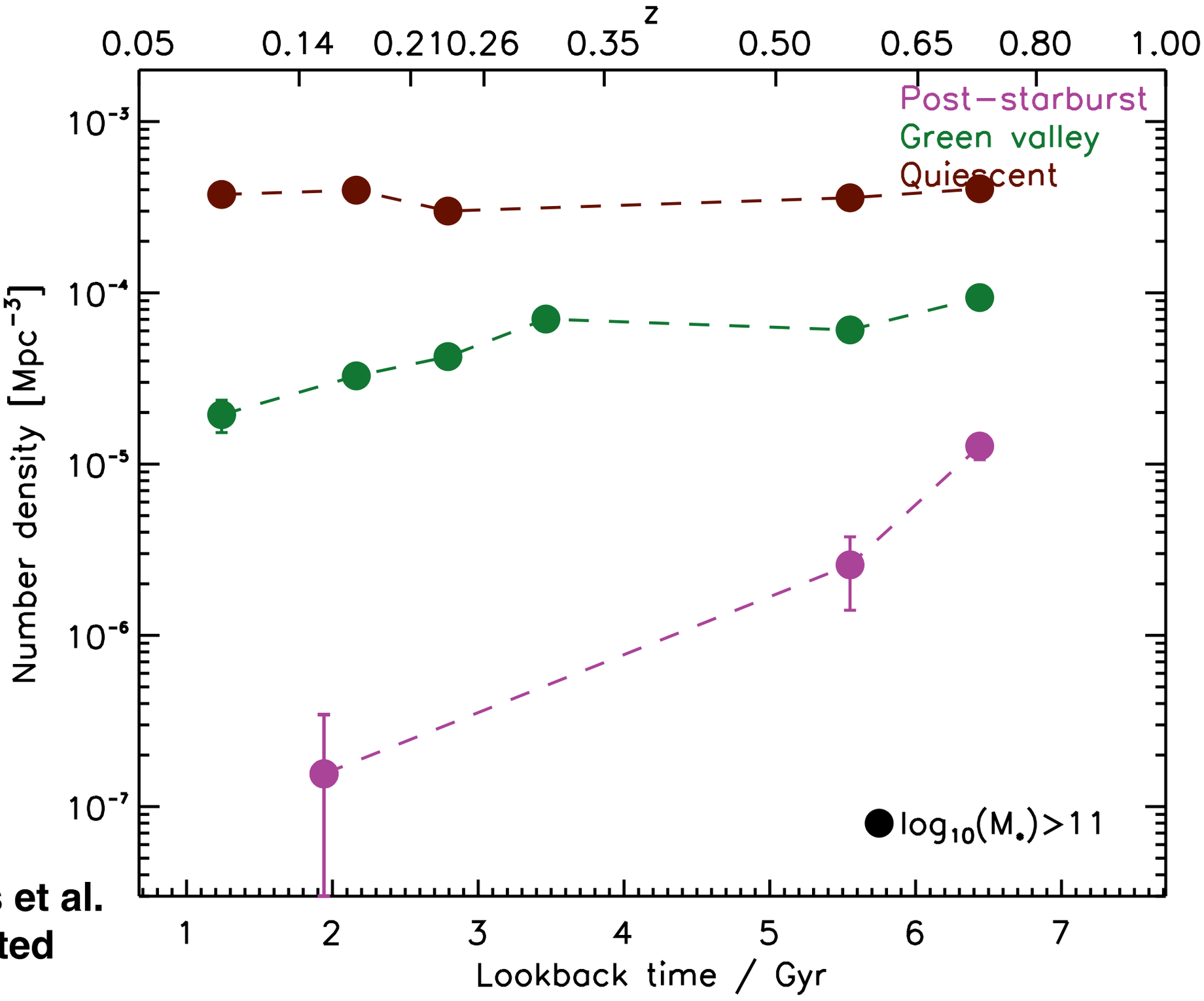
Rowlands et al. submitted

Is the red sequence building at low redshift?



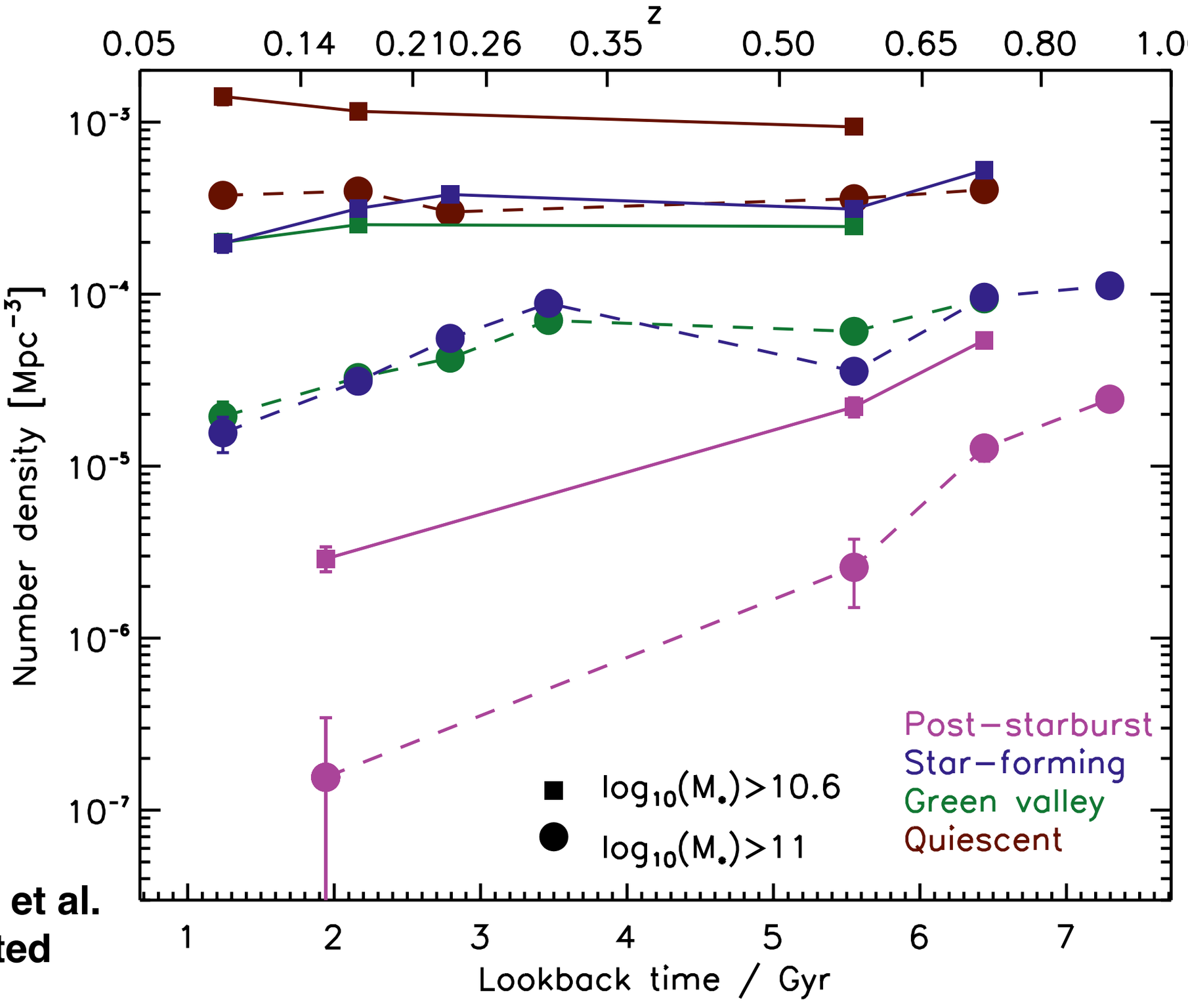
Rowlands et al. submitted

Is the red sequence building at low redshift?



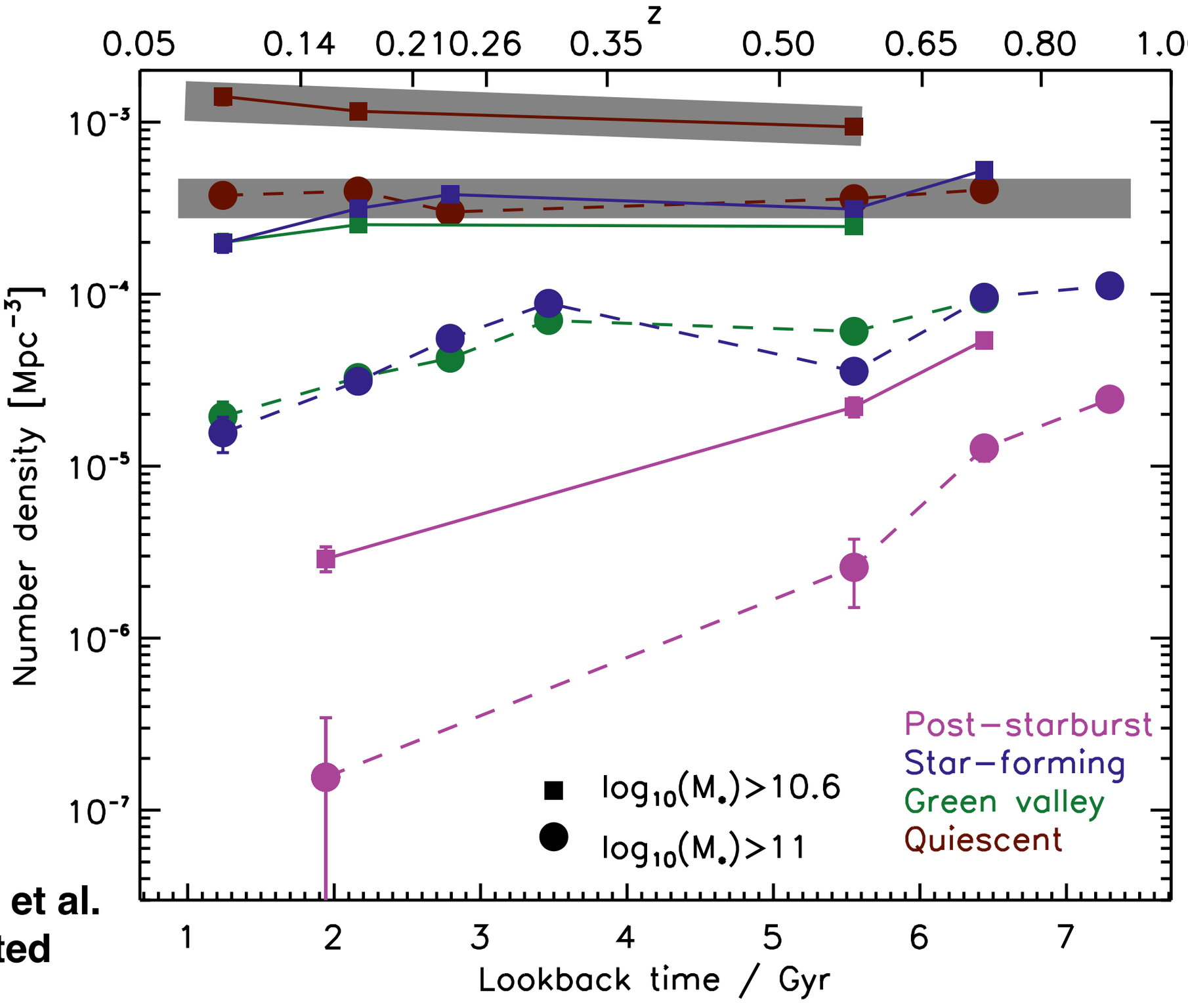
Rowlands et al. submitted

Is the red sequence building at low redshift?



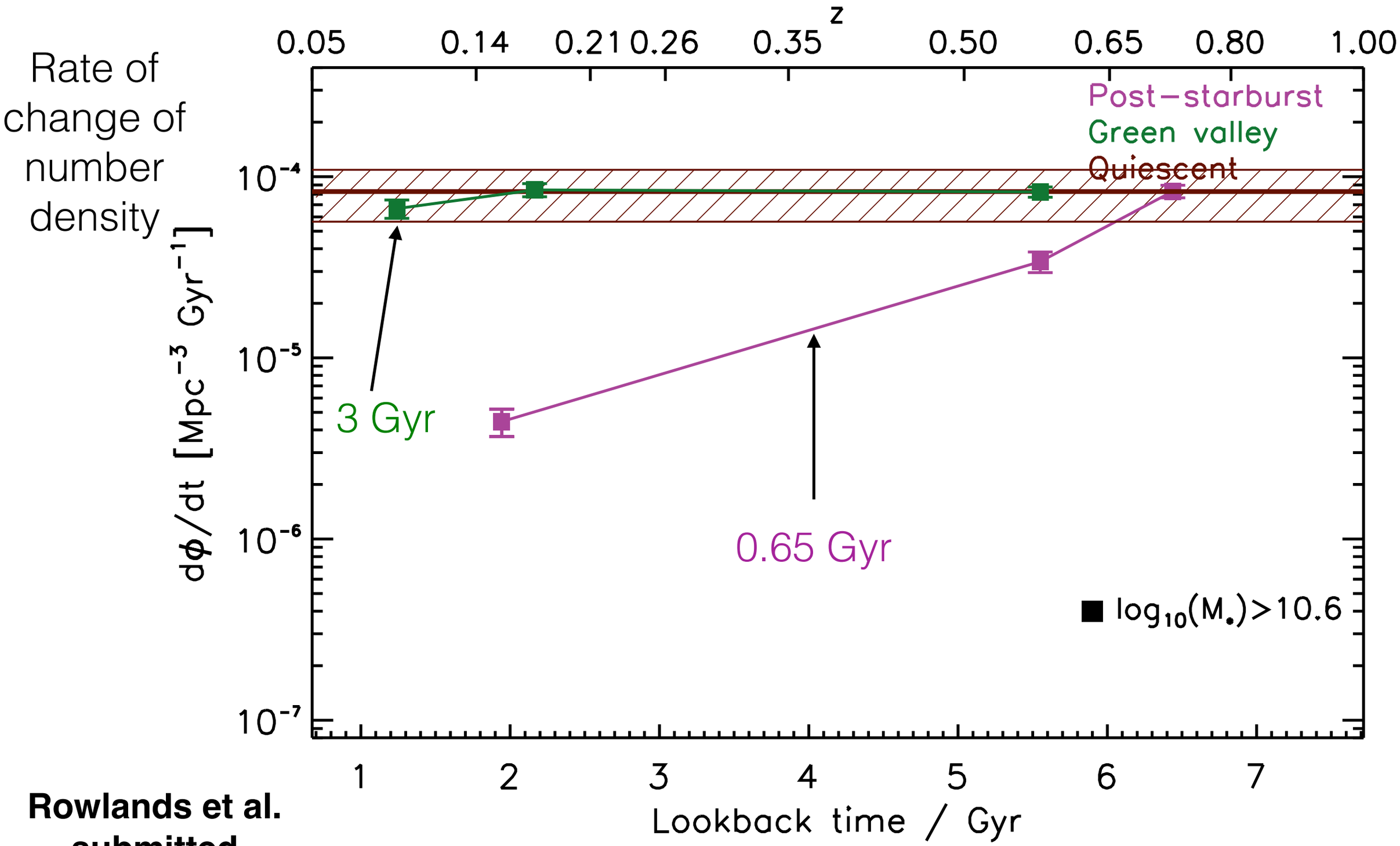
Rowlands et al. submitted

Is the red sequence building at low redshift?



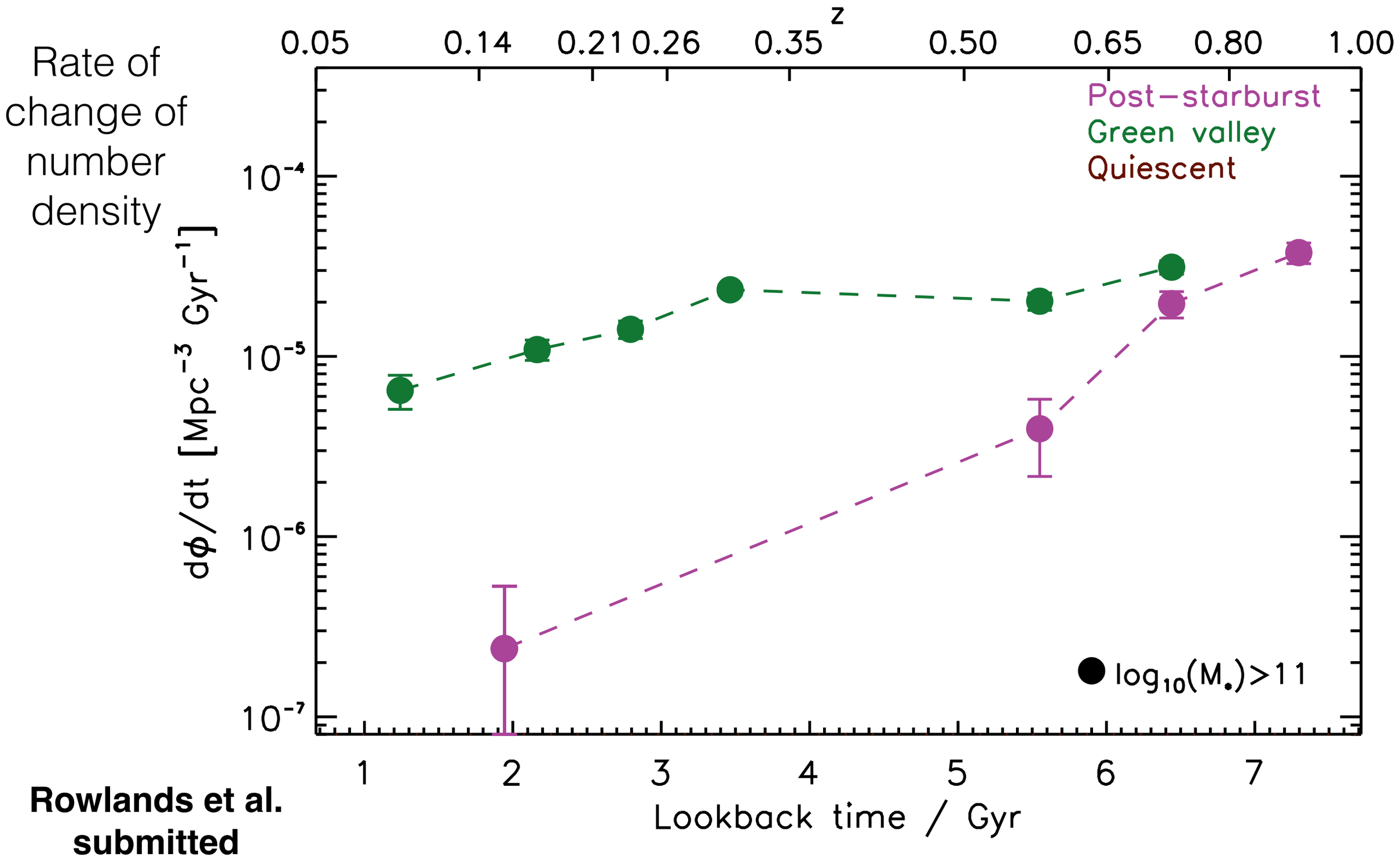
Rowlands et al. submitted

How quickly do galaxies stop forming stars?



Rowlands et al. submitted

How quickly do galaxies stop forming stars?

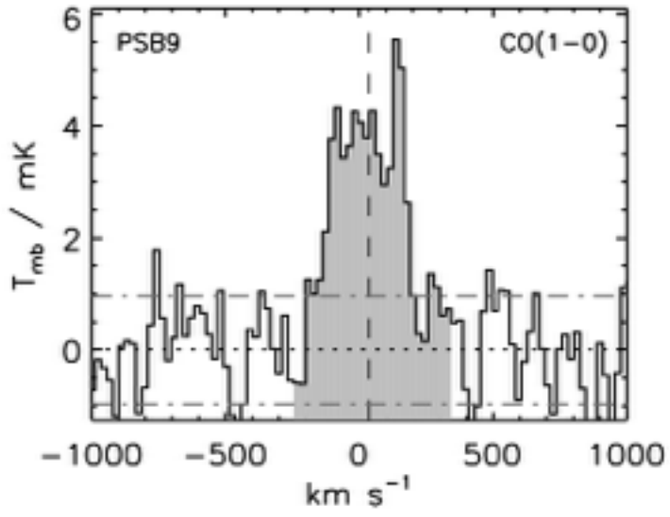


Rowlands et al. submitted

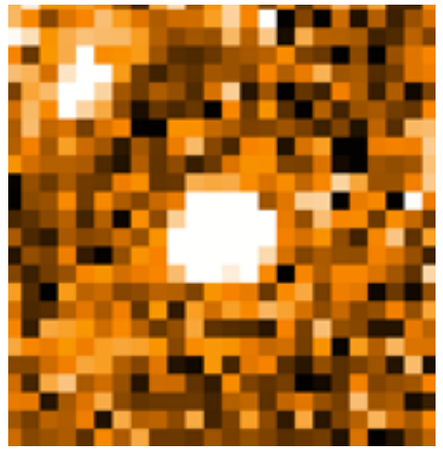
Post-starbursts at low-z are not dead?

Rowlands et al. (2015)

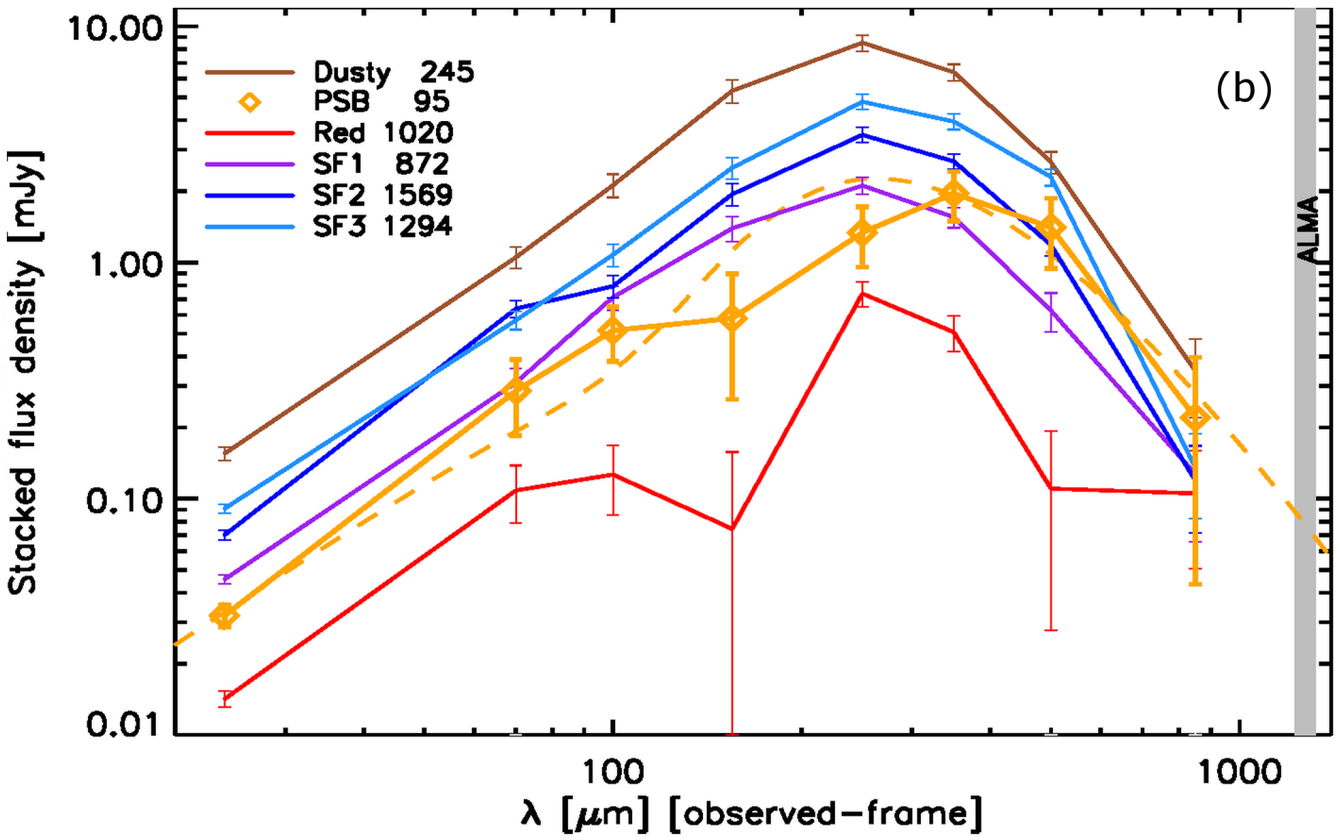
Molecular gas



Cold dust



Rowlands et al. in prep



See also Zwann +13, French+15, Alatalo+16

Conclusions

- Quiescent population growing in number density for intermediate mass galaxies, not growing at high masses.
- Post-starbursts are rare at z<1 — rapid transition less common at z~0 than at high redshift.
- Quiescent population growth could be entirely contributed by green valley or PSB galaxies z=0.7.
- Green valley transition dominant at z~0.1.
- Presence of transition galaxies inconsistent with quiescent population growth at $M_{*}>10^{11}M_{\odot}$. Rejuvenation?
- Spatially resolved studies needed.

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Rowlands et al. submitted