THE EVOLUTION OF STAR FORMATION AND NUCLEAR ACTIVITY IN COMPACT GROUPS OF GALAXIES OVER THE PAST 3 GYR

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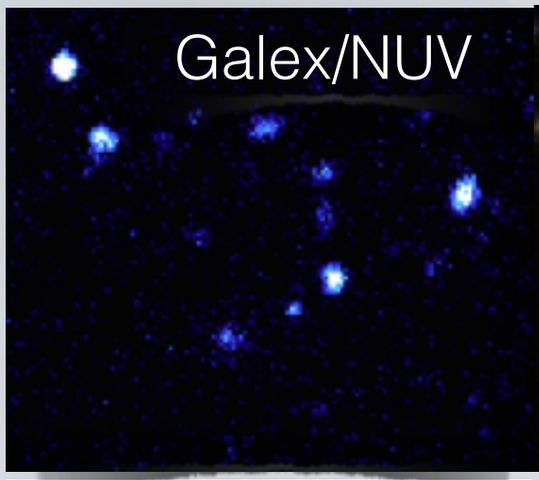
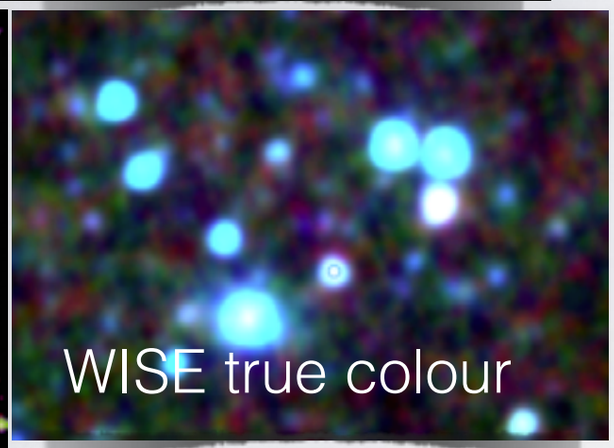
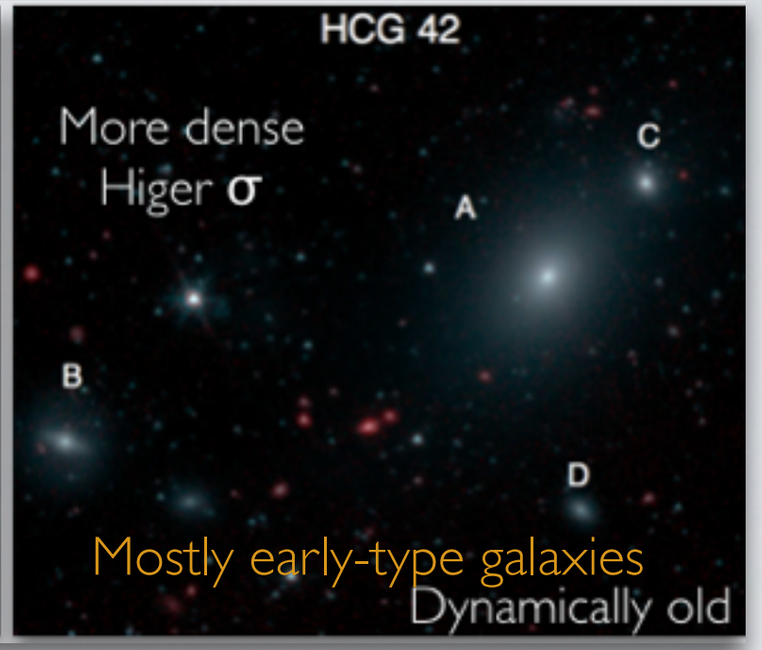
The largest multi-wavelength compact group sample to-date…

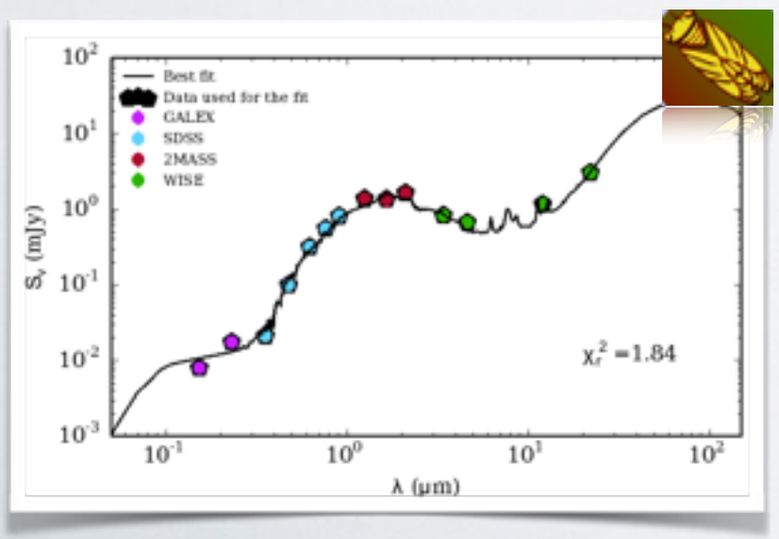




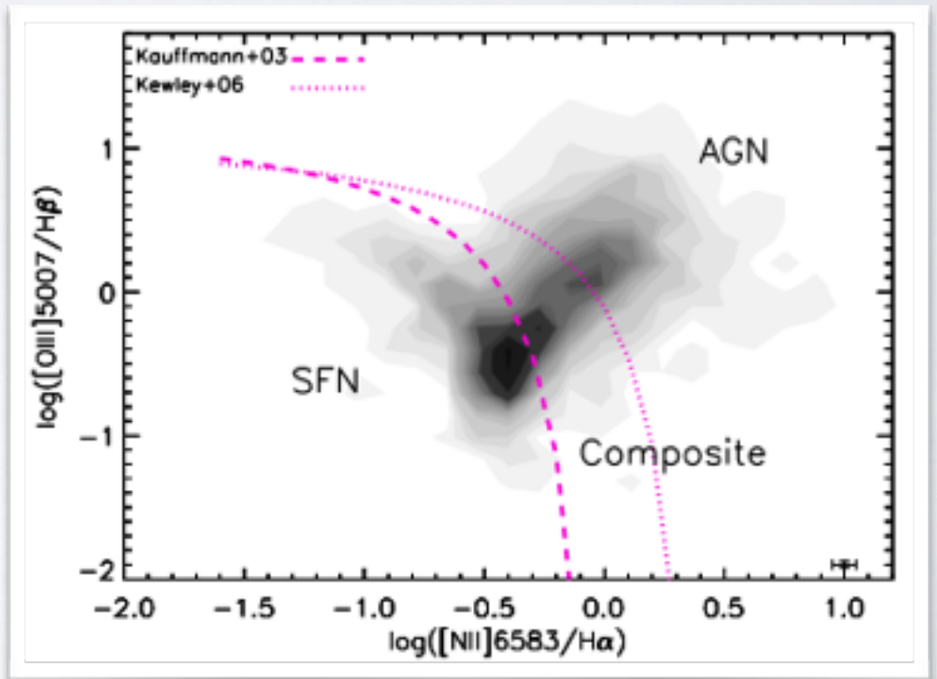
1. We perform group dynamical classifications (dynamically young & old groups)



Final sample of 1,770 groups with complete coverage in 14 bands

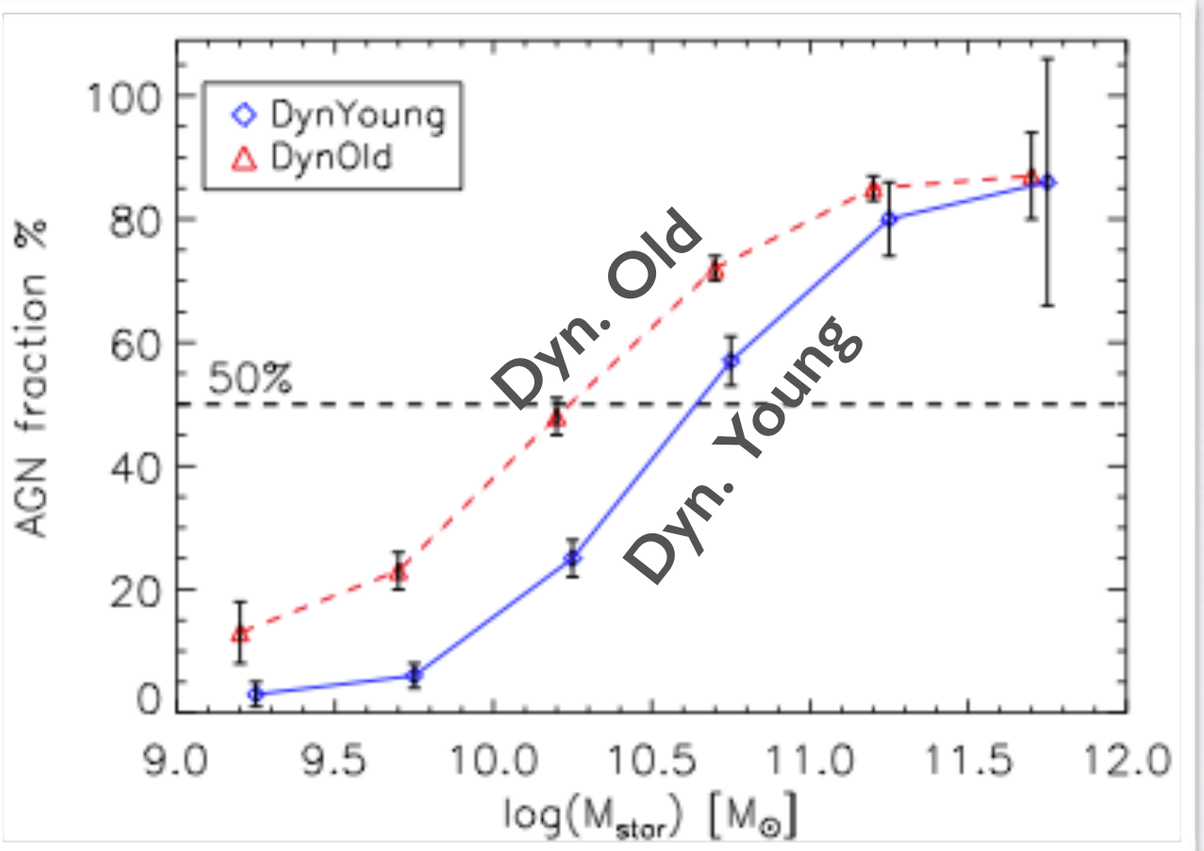


2. nuclear spectral classifications



3. …as well as SED fitting

Evolution of the nuclear activity

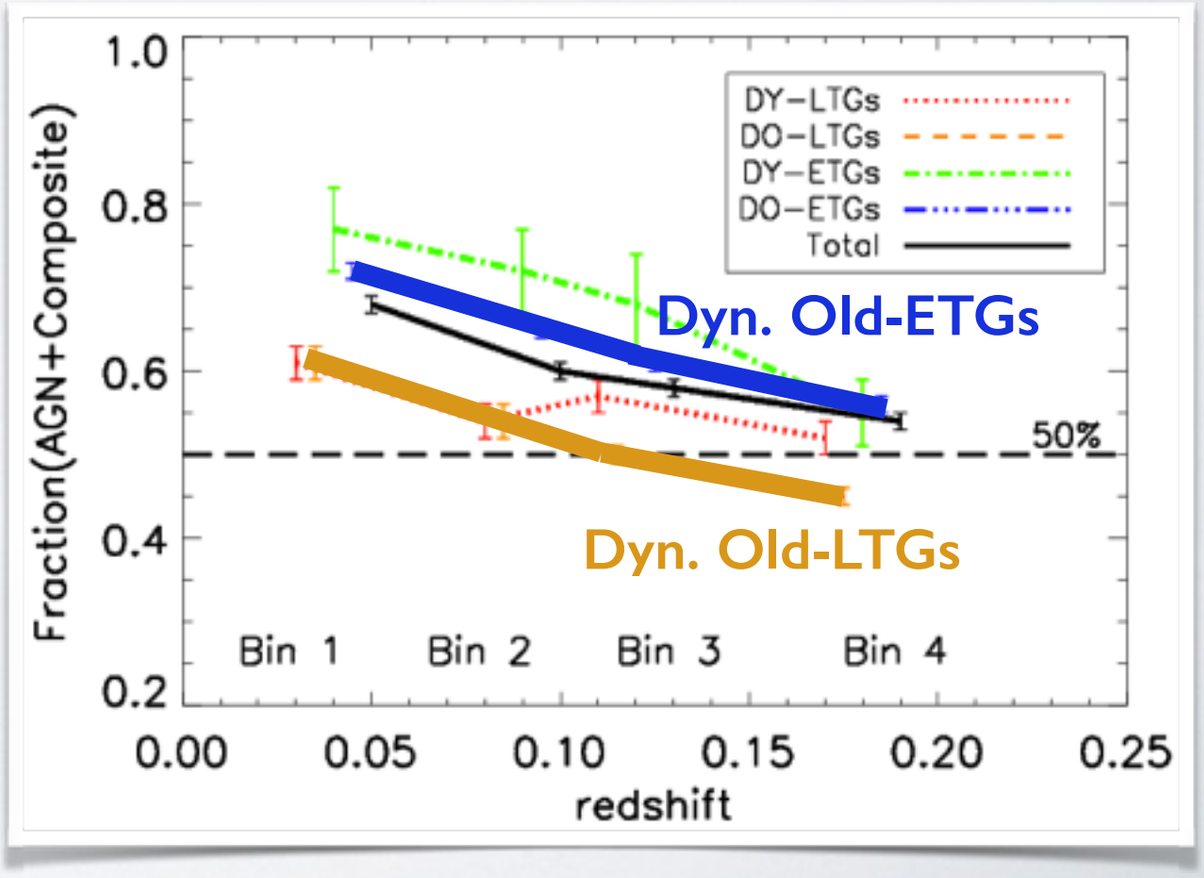


Galaxies in dynamically old groups are more probable to host AGN at lower stellar masses, than those in dynamically young groups

The fraction of AGN hosting galaxies has increased over the past 3 Gyr, however the luminosities of the individual galaxies have been diminishing

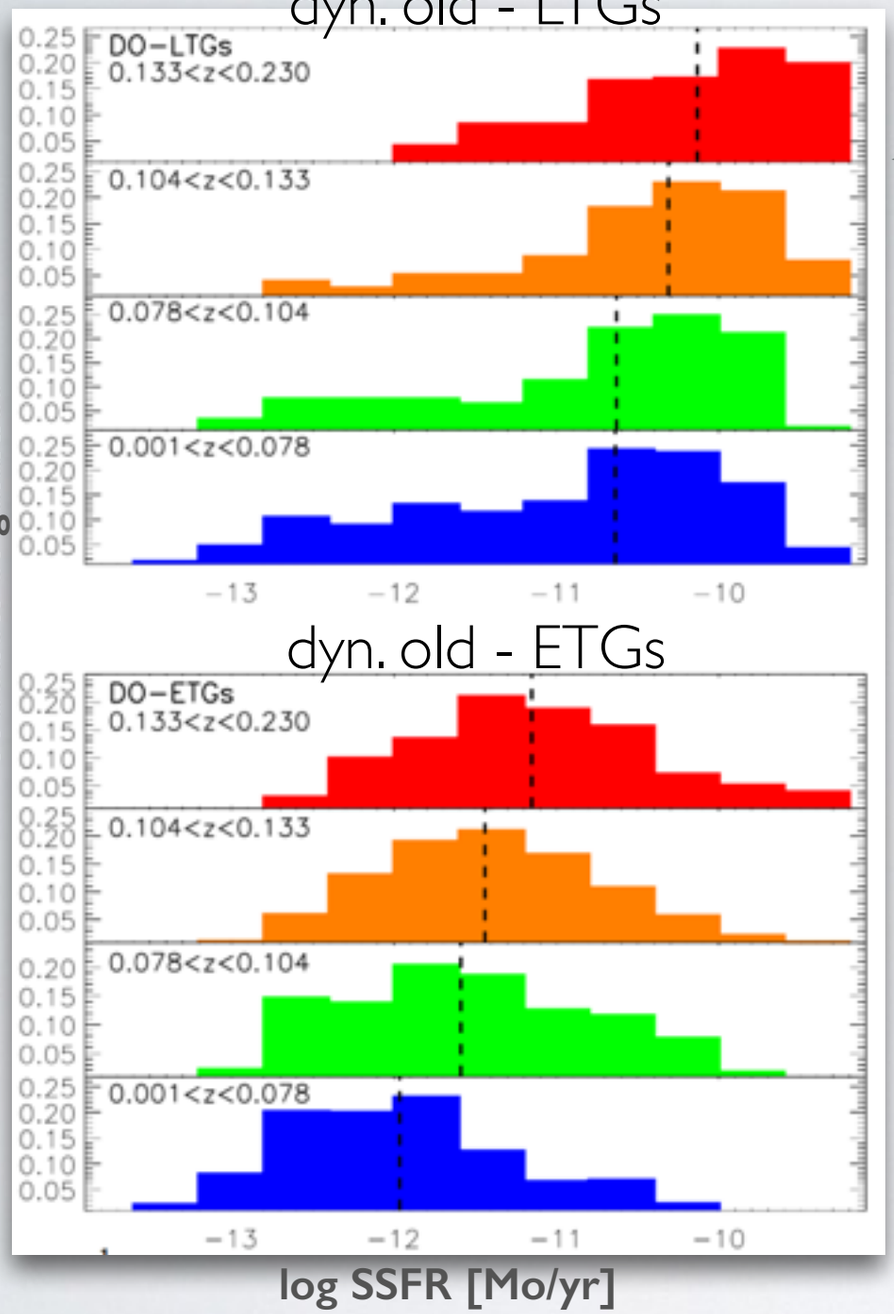
redshift bin	DY-LTGs $\times 10^{40}$erg s^{-1}	DO-LTGs $\times 10^{40}$erg s^{-1}	DY-ETGs $\times 10^{40}$erg s^{-1}	DO-ETGs $\times 10^{40}$erg s^{-1}
Bin1	0.67±0.07	0.58±0.05	0.26±0.05	0.34±0.02
Bin2	1.63±0.23	0.81±0.10	0.57±0.11	0.48±0.03
Bin3	1.64±0.25	2.07±0.25	0.76±0.21	0.54±0.03
Bin4	3.70±0.63	2.41±0.37	1.51±0.43	1.03±0.07

z

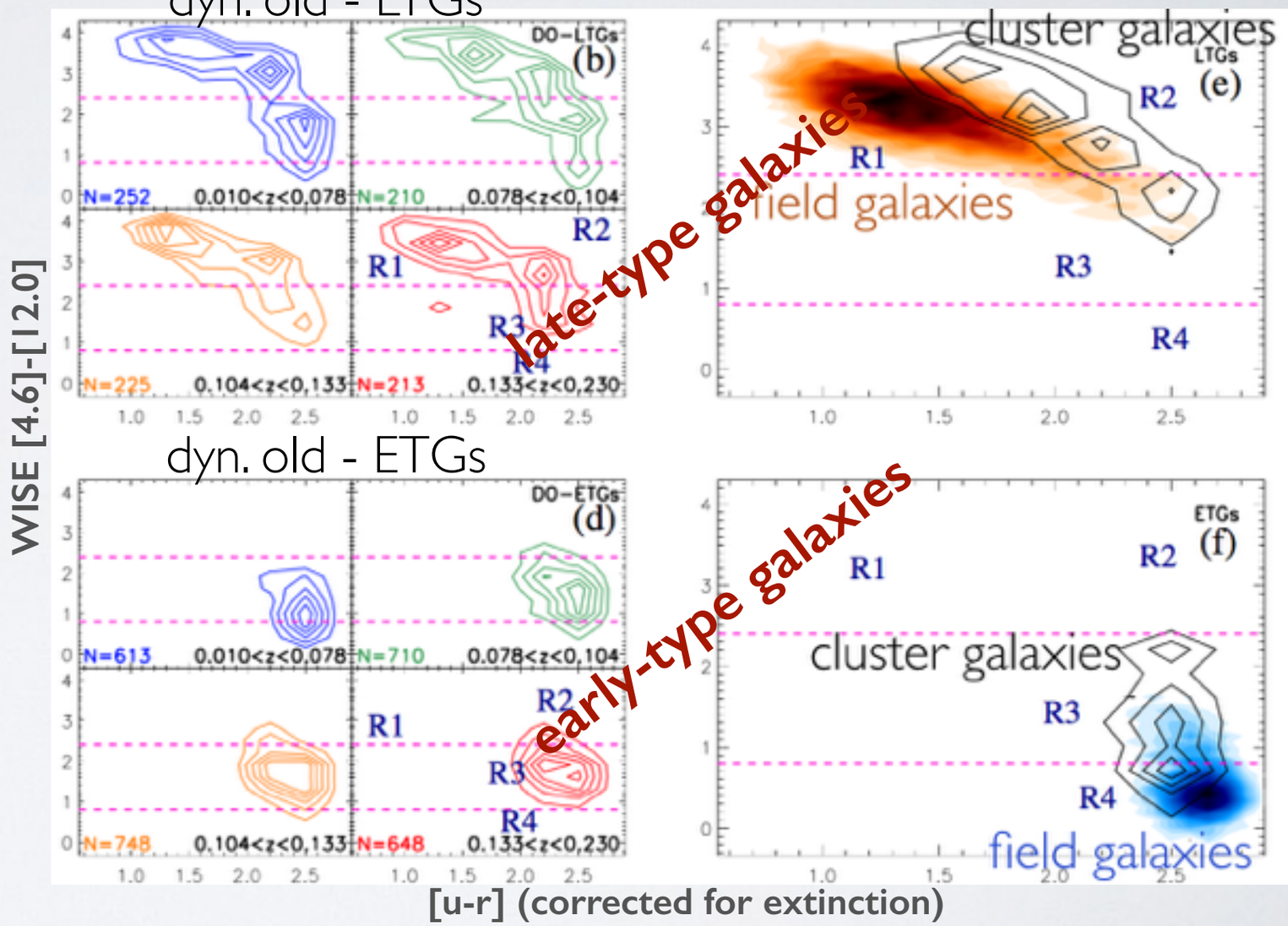


Evolution of star formation activity and galaxy colors

Significant changes are observed only in galaxies found in dyn. old groups…



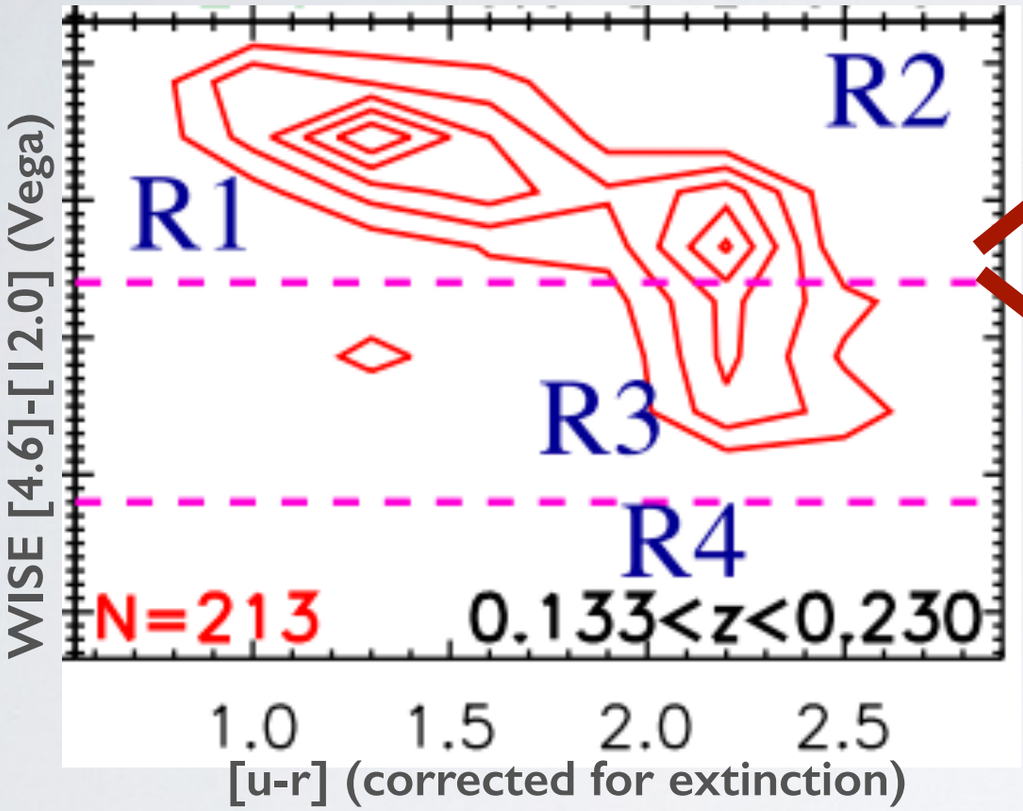
Significant reduction of star formation, consistent with the gas depletion scenario



Peculiar UV-optical/IR color evolution. Very different from that seen in the field and closer to that of cluster galaxies.

The possibility of shocks…

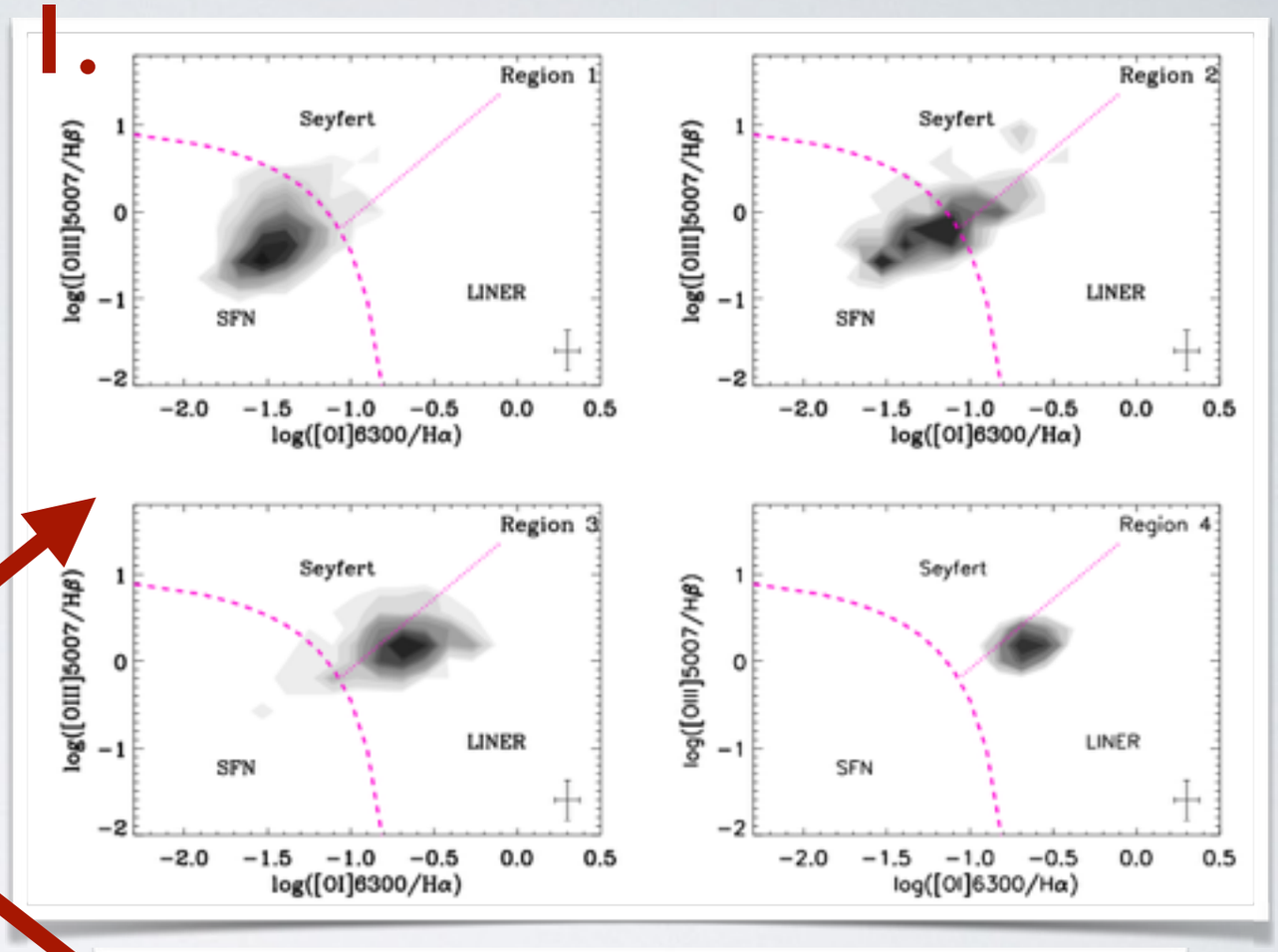
Large scale collisional shocks have been already detected in several compact groups (e.g. HCG92)



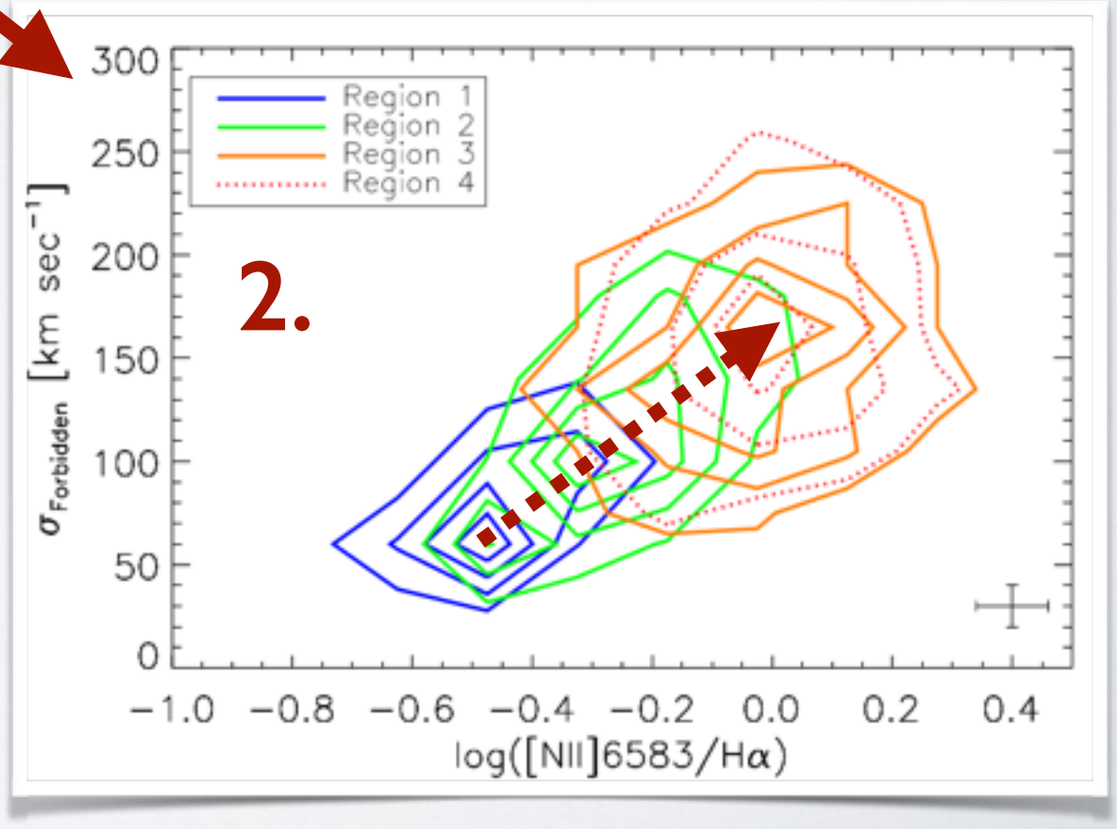
1. shocks can imitate LINER emission

2. shocks also enhance the velocity dispersion of the gas

1.



2.



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- Bitsakis et al. (2016) - MNRAS, 459, 957
- Alatalo et al. (2015) - ApJ, 812, 117
- Guillard et al. (2009) - A&A, 502, 515
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