Evolution of the brightest group galaxies

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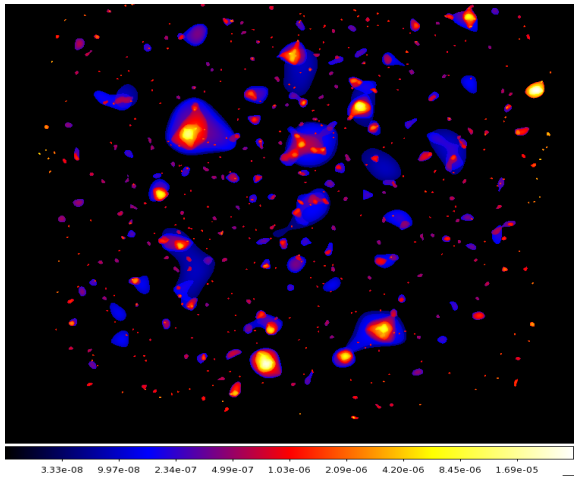
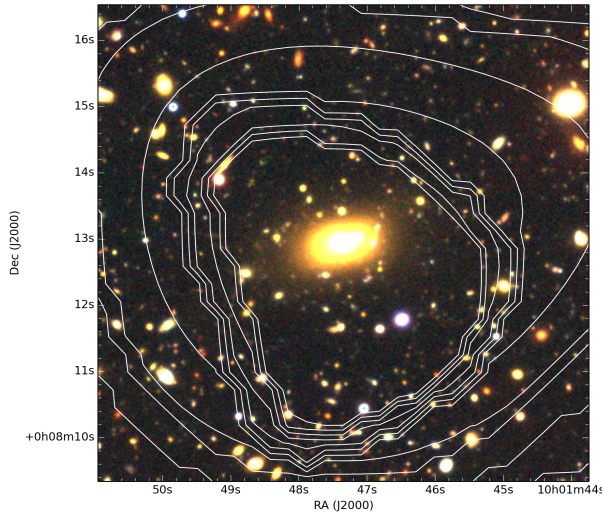
COSMOS 2 deg^2





Central group galaxies

- Extended X-ray emission Sources
- L_x>10^{40-44} ergs^{-1}
- T~10^{6-8}K, Z~0-2
- M>10^{12-15}M⊙

- Most massive galaxies
- Close to X-ray and group center
- Early type and elliptical
- The brightest group Galaxies (BGG)

What we see in observations?

Galaxies @ z = 2.6

✧ **Blue, small, dens, gas rich, peculiar/ irregular**

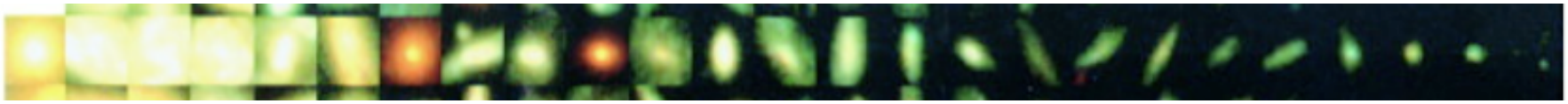
◆ **Galaxies show a remarkable variety of properties**

? Open questions

- ❖ ***What regulate galaxy evolution?***
- ❖ ***When galaxies assemble their stellar mass and how?***
- ❖ ***Where does this mass assembly occur?***
- ❖ ***What is the star formation history of dwarf galaxies ($<10^9 M_\odot$)?***

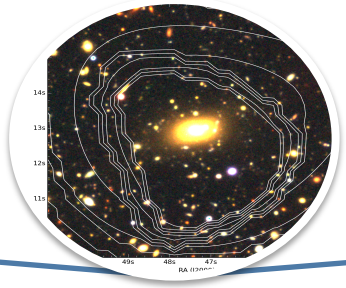
Galaxies @ z = 0.4

✧ **Red, massive, gas poor, regular shapes**



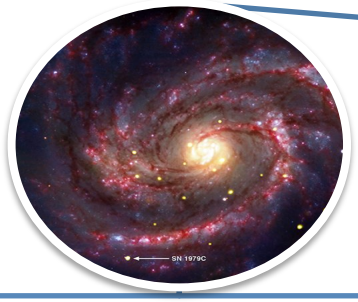
What regulate galaxy evolution?

Galaxies @ z = 2.6

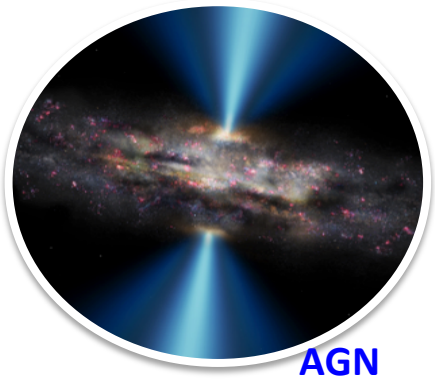


BGG evolution

1-Intergalactic processes

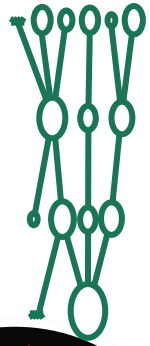


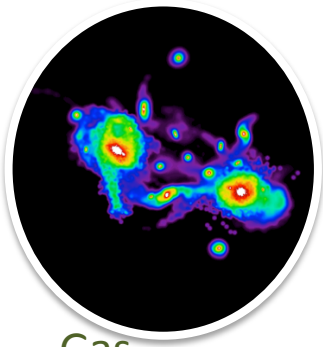
Supernova explosion



AGN

1-Extragalactic processes

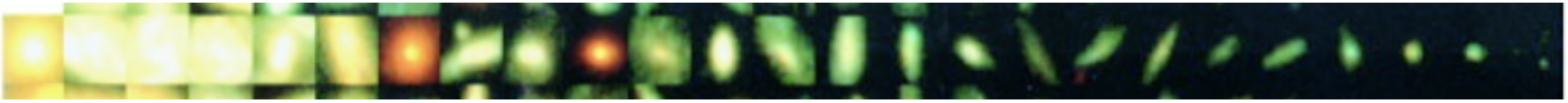




Gas stripping

Ram-pressure

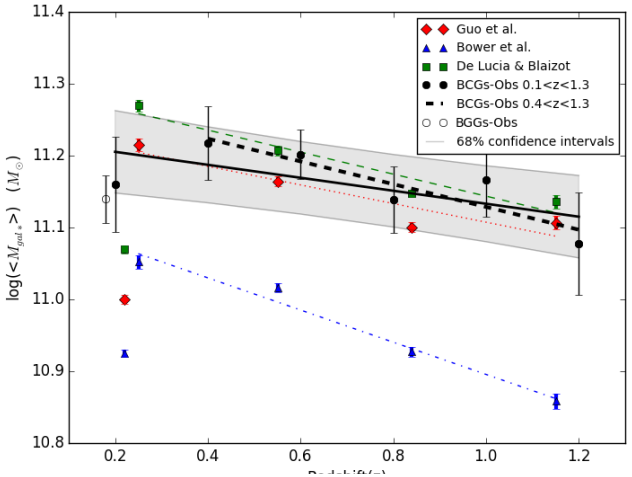
Merger



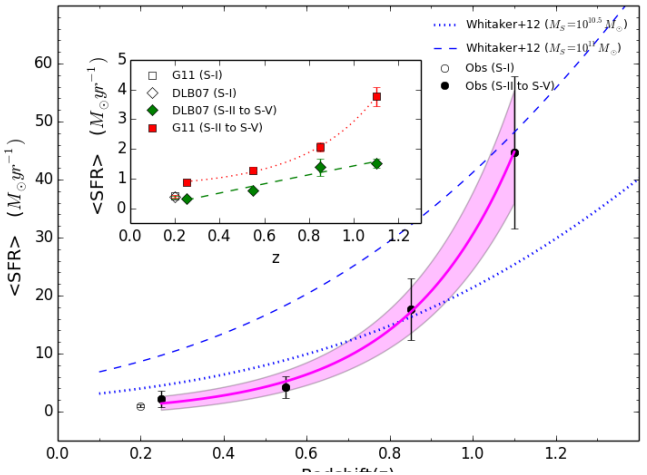
Galaxies @ z = 0.4

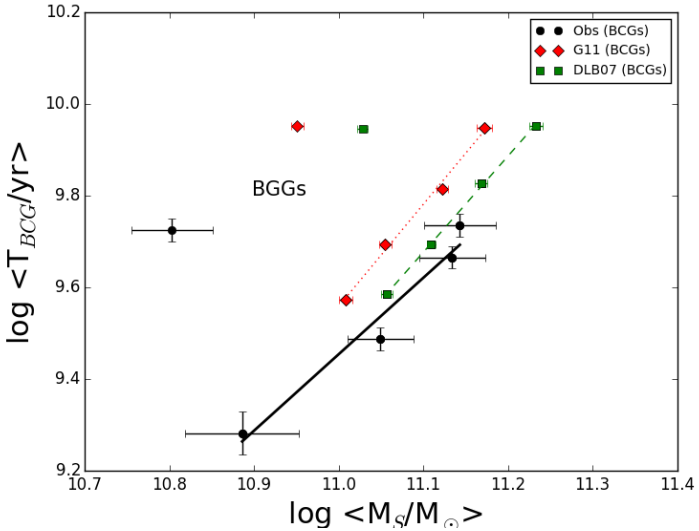
Summary: BGG evolution at 0.04<z<1.3

Evolution of stellar mass

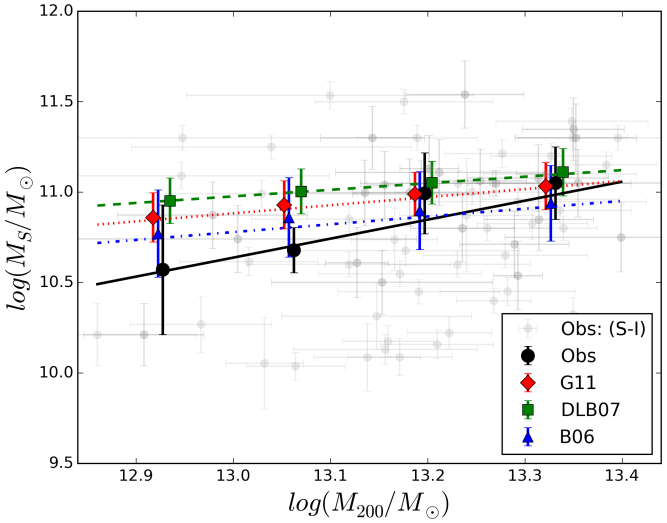


Evolution of Star formation rate





Stellar age-stellar mass



Stellar mass- halo mass

Kiitos Paljon!