

# Constraining the stellar mass accretion in early-type galaxies in the last 9 Gyr

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**Early-type galaxies (ETGs)** = spheroidal galaxies morphologically selected

**High-z sample:** all the ETGs at  $1.26 < z < 1.6$  with available velocity dispersion  $\sigma$ ,  $M_{\text{star}}$  (BC03/Chabrier) and  $R_e$  (r band rest) (Gargiulo et al. 2014; Longhetti et al. 2014; Cappellari et al. 2009; Bezanson et al. 2013; Belli et al. 2014).

**Local Old Sample:** ETGs at  $0.05 < z < 0.06$  from SDSS with available  $\sigma$ ,  $M_{\text{star}}$  (BC03/Chabrier) and  $R_e$  (r band) and luminosity weighted age (LWA)  $> 9$  Gyr to take into account the progenitor bias (Thomas et al. 2010).

## RESULTS

From the comparison of structural ( $M_{\text{star}}$  and  $R_e$ ) and dynamical ( $\sigma$ ) parameter of **high-z sample** and **local old sample** we have found:

- *All* high-z ETGs have a local *old* counterpart  $\rightarrow$  simplest scenario: they have completed their stellar mass accretion.

- At fixed  $\sigma$ , the minimum and maximum value of  $R_e$  of the two distributions excludes that *all* the ETGs at  $z \sim 1.4$  significantly evolve in size in the last 9 Gyr.

- At fixed  $\sigma$ , the largest and more massive local old ETGs do not have a corrispective at  $z \sim 1.4 \rightarrow$  they appear later (inside-out accretion / morphological transformation)

