ABSTRACT
Most early-type massive galaxies have grown their sizes during cosmic time. Several mechanisms have been proposed to explain this growth, being minor mergers the most promising way.

With our GTC/OSIRIS velocity dispersion measurements at high redshift we constrain evolutionary mechanisms.

THE TECHNIQUE

Determine the stellar mass plane:

\[ M_\ast \propto \sigma_v^2 r_e \]

\[ M_\ast \propto \left( \frac{r_e}{r_{\text{Shen}}(M_\ast)} \right)^{\alpha} \sigma_v^2 r_e \]

Interpret the stellar mass plane as a constraint on a generic evolutionary mechanism:

\[ \left( \frac{r_e}{\sigma_v} \right) = \left( \frac{M_\ast}{M_\text{tot}} \right)^\rho \]

\[ \left( \frac{\sigma_v}{\sigma_c} \right) = \left( \frac{M_\ast}{M_\text{tot}} \right)^\Sigma \]

Compare with \( \Sigma \) and \( \rho \) from merger simulations. Homology is ruled out for merger remnants (see Figure). Potentially, the technique allows to establish the relative importance of minor and major mergers.

REFERENCES

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