STAR FORMATION HISTORIES OF Z~0.8 GALAXIES IN LEGA-C

Scaling relations between global galaxy properties and star-formation rate (SFR) activity suggest a close link between galaxy mass and dynamics on the one hand, and star-formation history (SFH) on the other. Due to the need for high-S/N, high-resolution continuum spectroscopy, reconstructing SFHs was previously only possible for local galaxies. The VLT LEGA-C Survey has collected high-quality spectra of ~3000 galaxies at redshifts z=0.6–1, with the aim of revealing the internal dynamics and stellar population content of these galaxies. Based on reconstructed SFHs we show that the stellar ages of z~1 galaxies correlate strongly with their stellar velocity dispersions and ongoing SF activity; and that the SFHs of L* galaxies with ongoing SF activity, unlike their present-day counterparts, are near their peak in SFR. By combining the lookback approach with the archaeological approach these results illustrate the potential offered by high-S/N spectroscopy of high-redshift galaxies.

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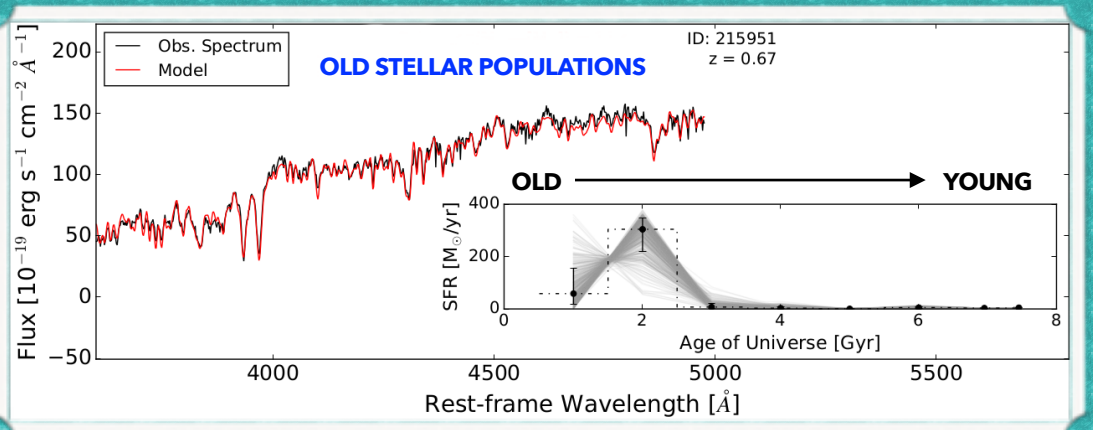
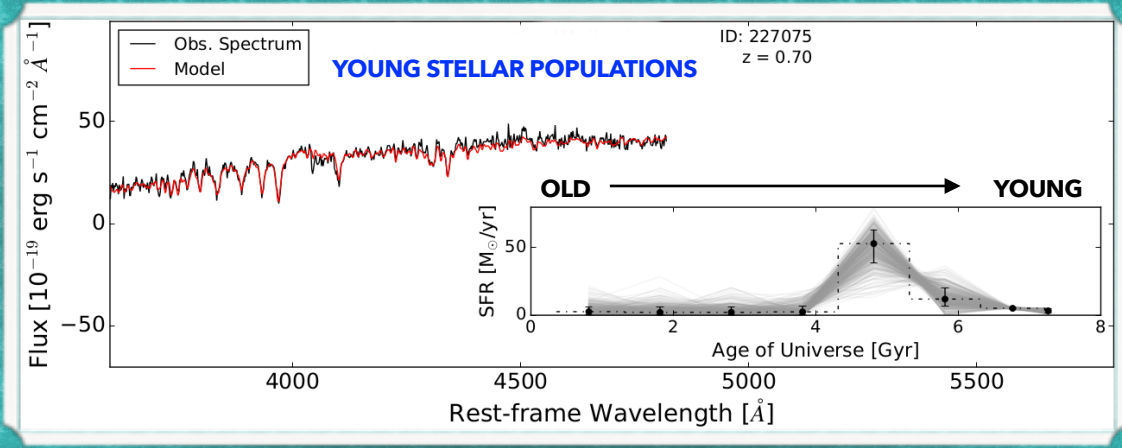
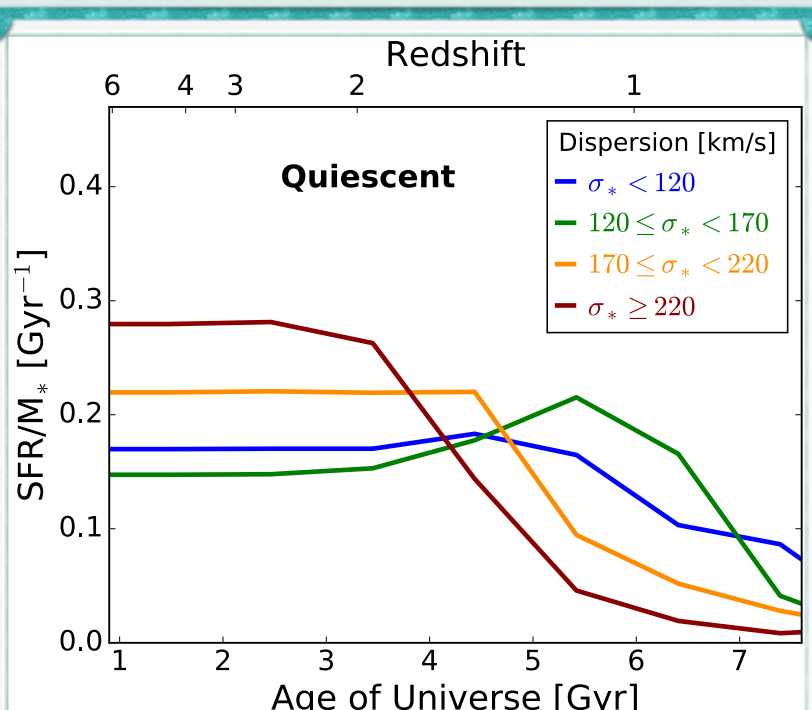
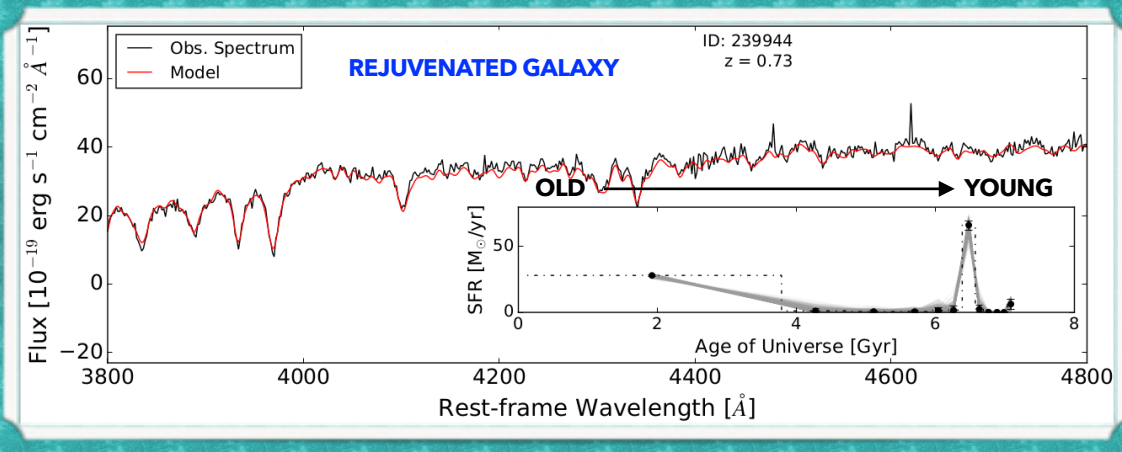
VARIATION IN STAR FORMATION HISTORIES



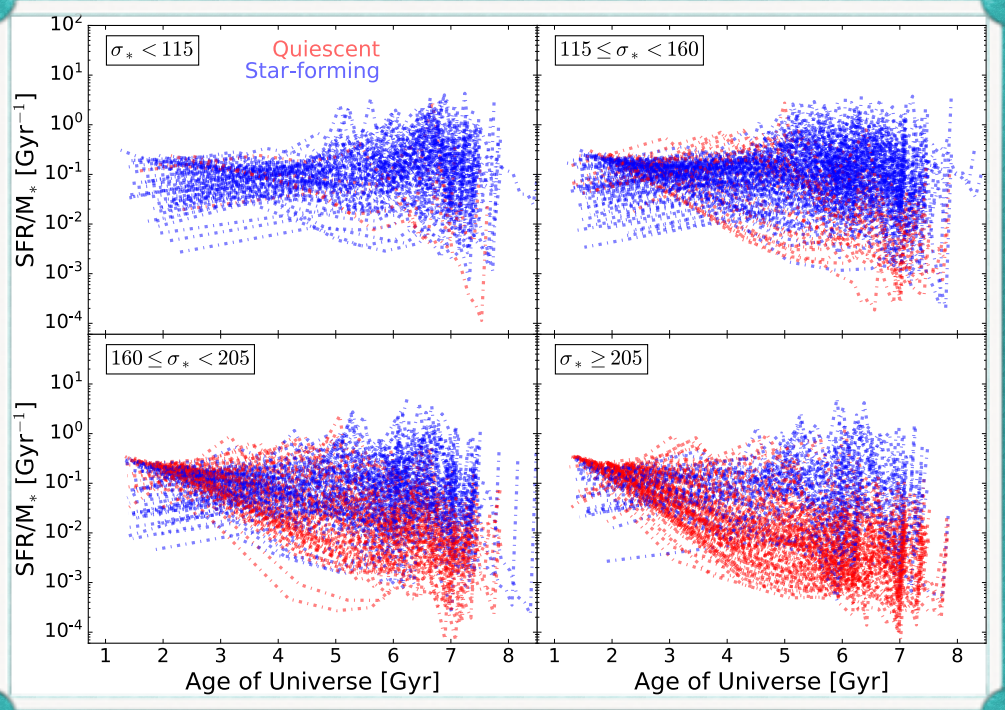
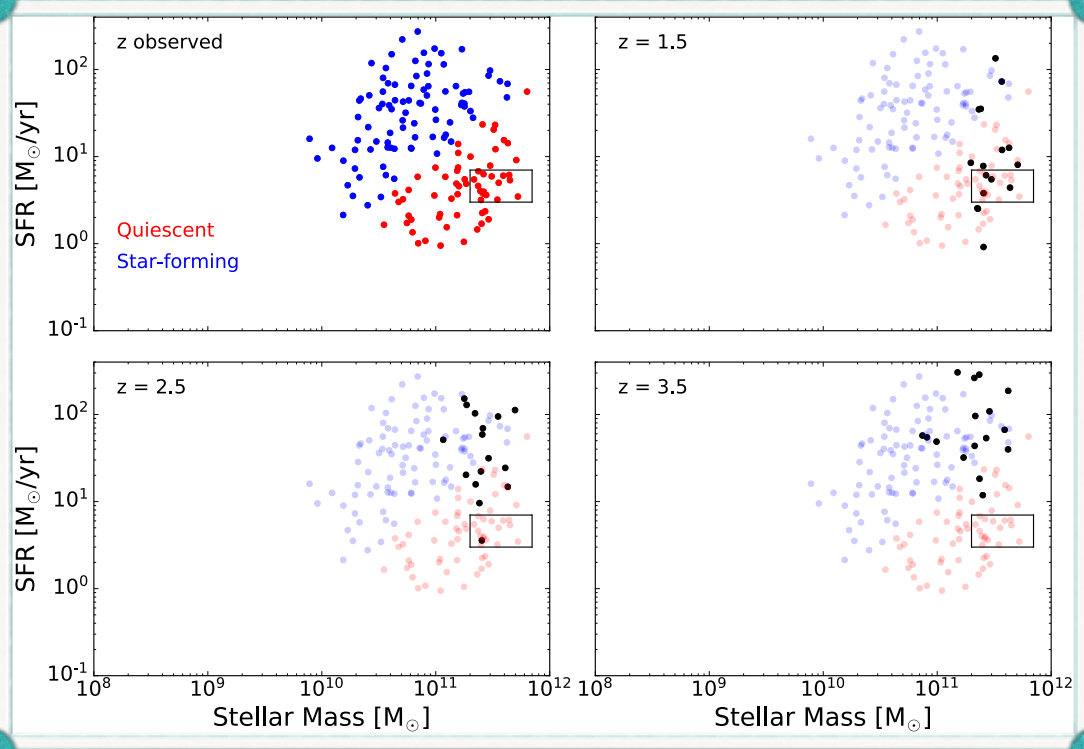
Velocity dispersion is correlated with SFHs: the stellar content in high velocity dispersion galaxies formed earlier and faster (Chauke et al. 2018).







The current star-formation activity of massive galaxies is strongly correlated with past star-formation activity (Chauke et al. 2018).



Tracking the evolution of galaxies' SFR-Mass relation: