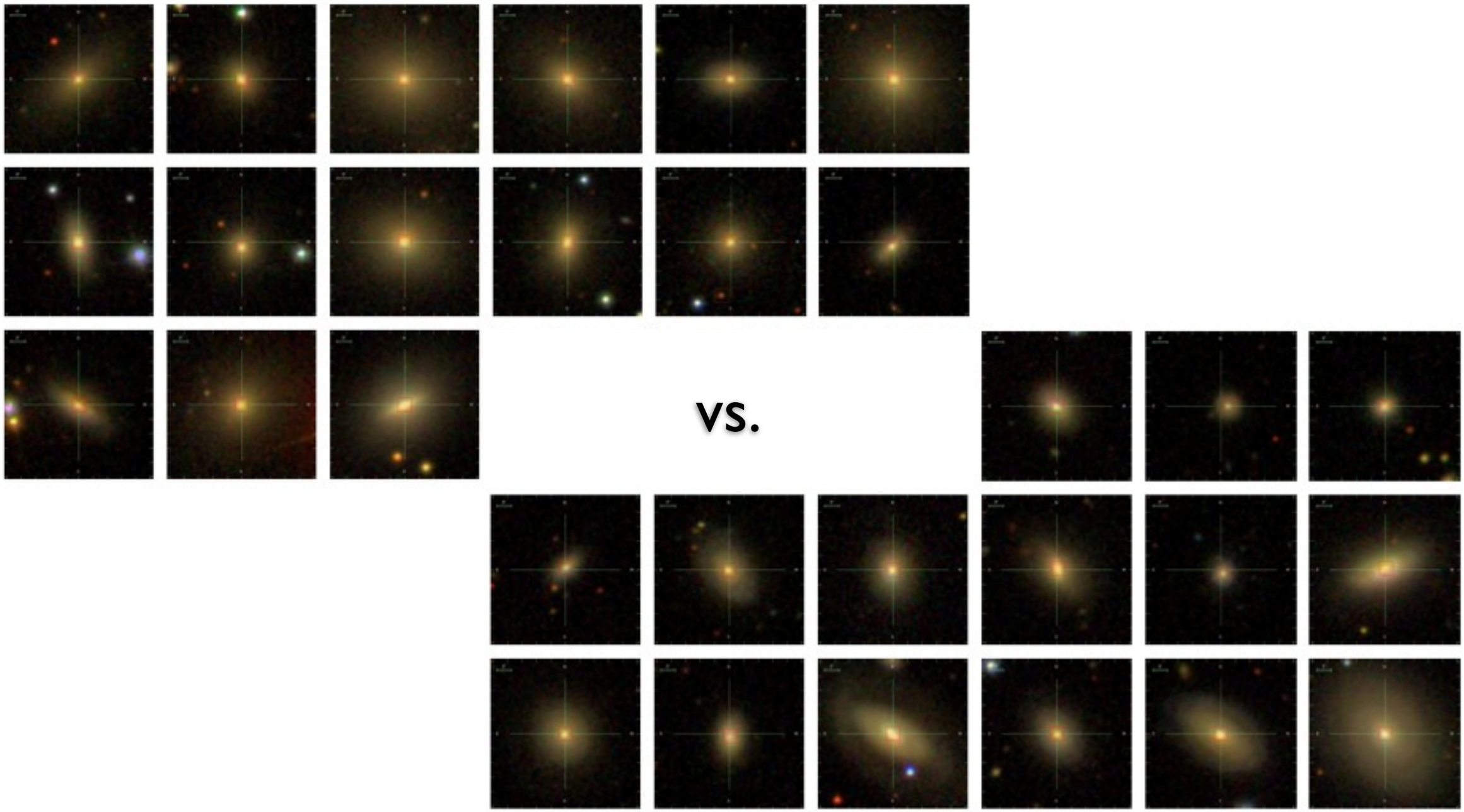
Young stars in nearby early-type galaxies:
the **ultraviolet fundamental planes**



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SDSS

GAMA Galaxy And Mass Assembly

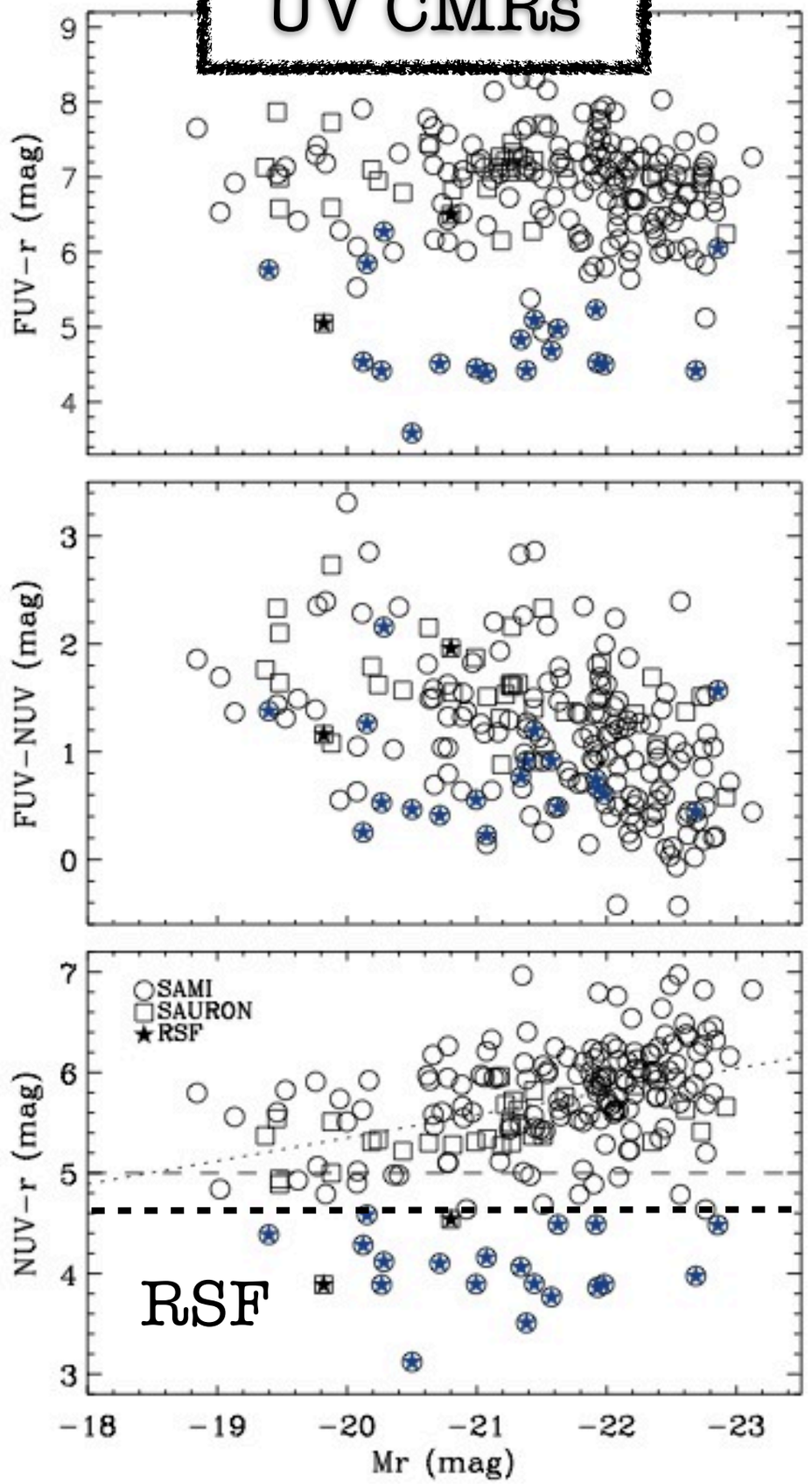
sami galaxy survey

Sample

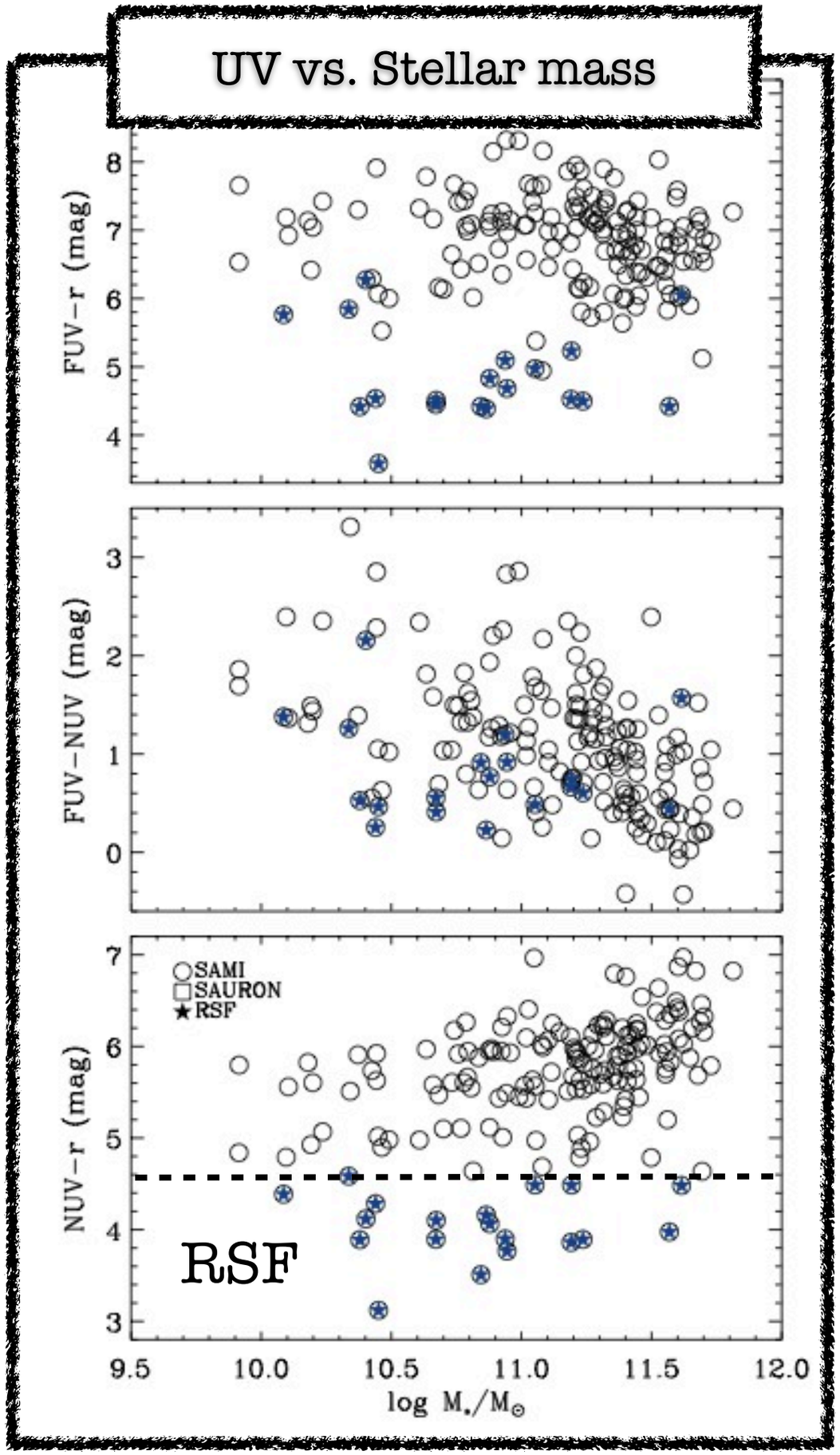
167 SAMI early-type galaxies

19 galaxies (~11%, blue stars) show blue NUV-r colours (NUV-r<4.6) suggesting recent star

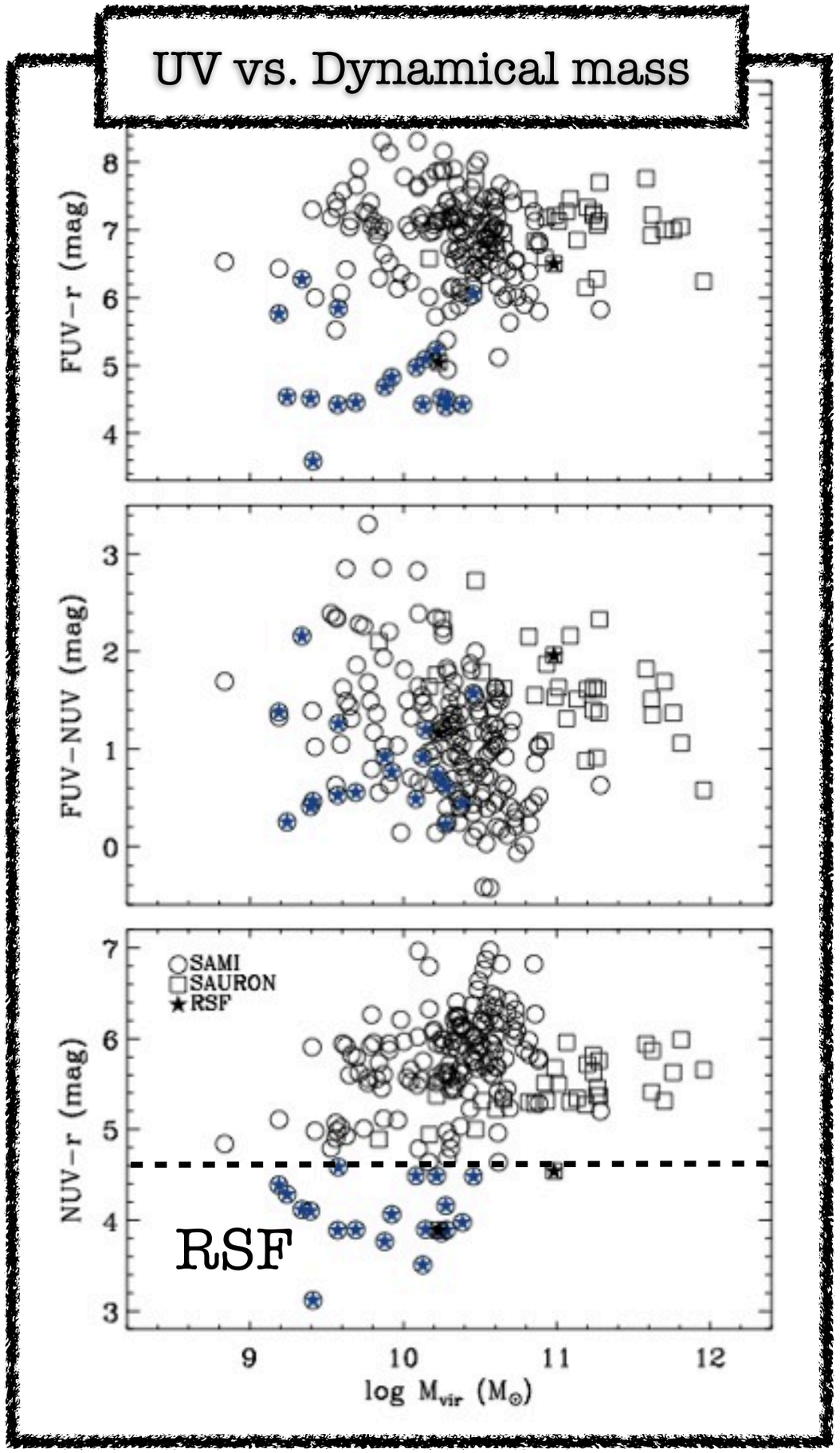
UV CMRs



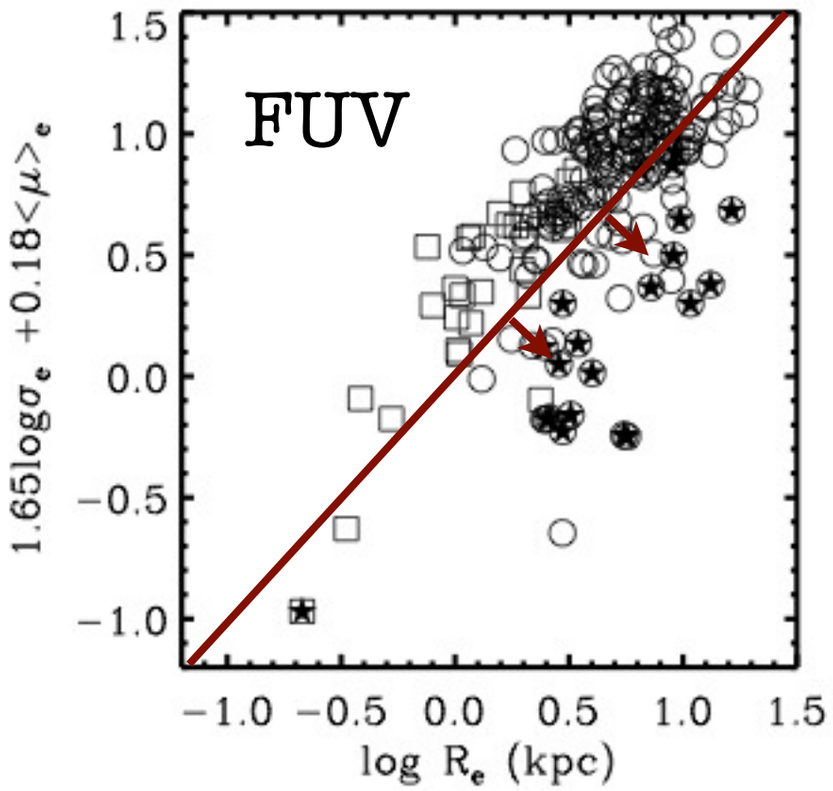
UV vs. Stellar mass

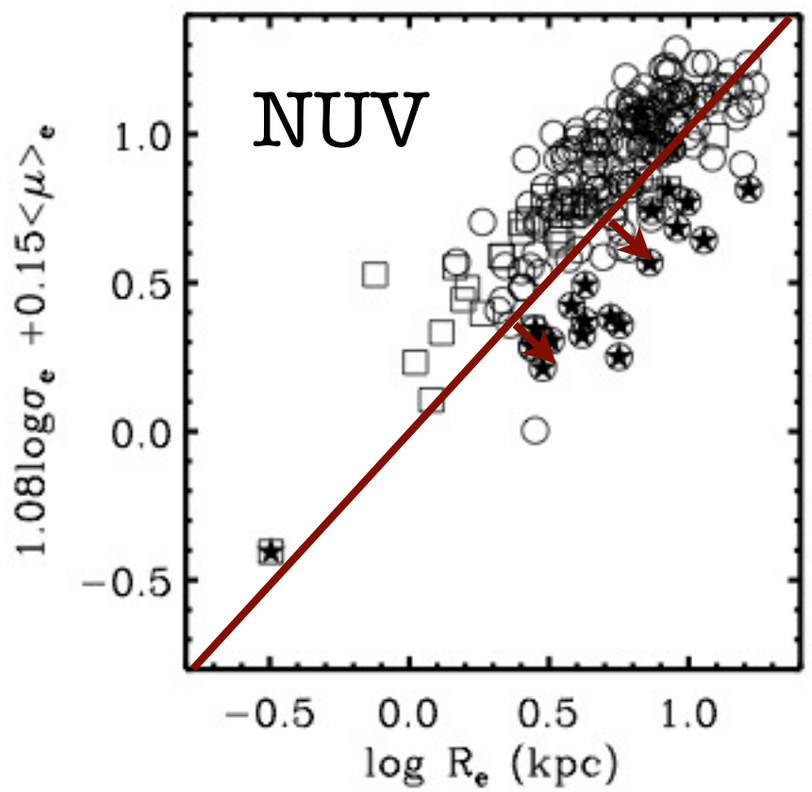


UV vs. Dynamical mass



UV Fundamental Planes



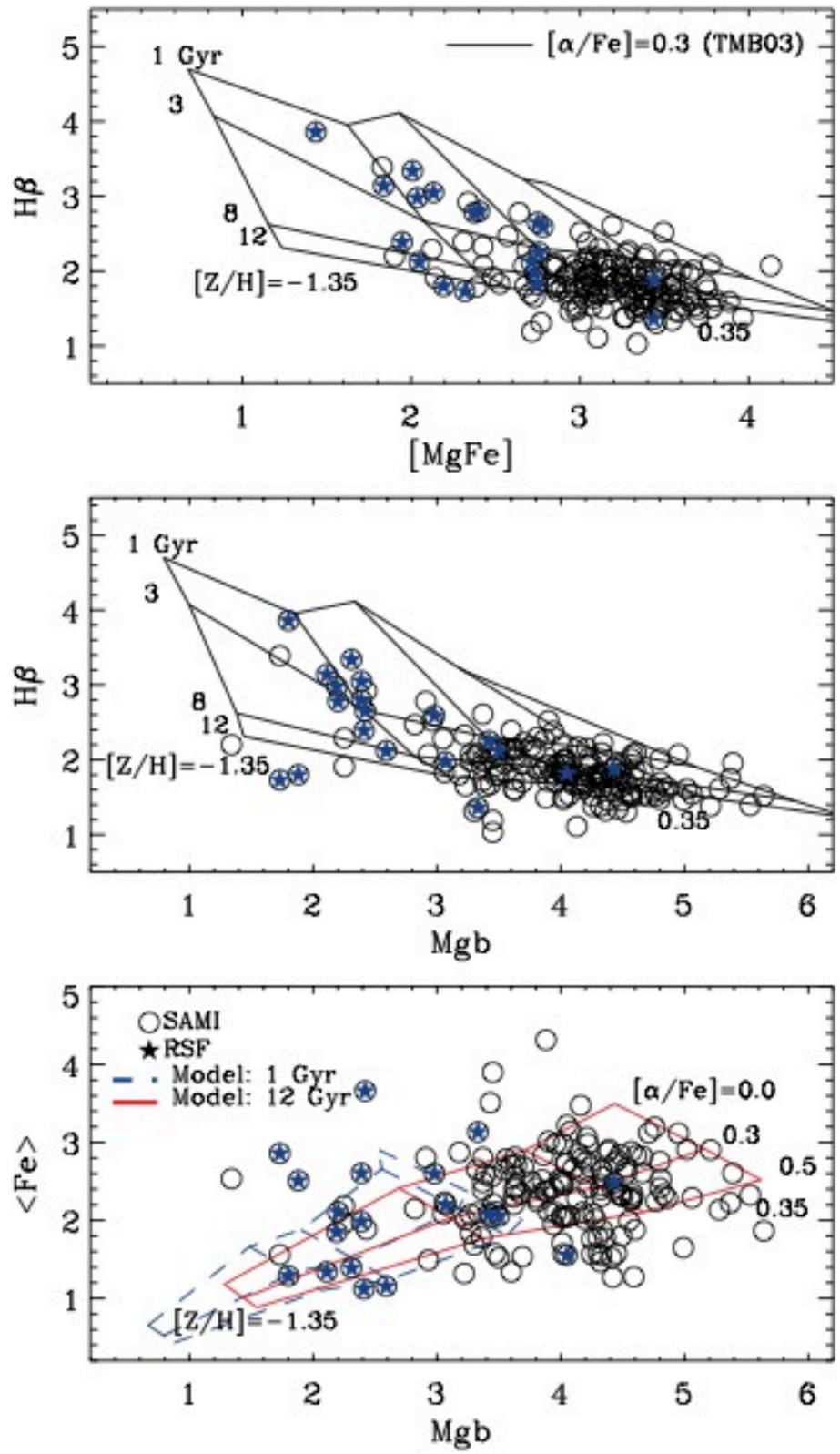


* RSF galaxies tend to have lower velocity dispersions and smaller effective radii and thus smaller masses than the bulk of the sample galaxies.

* RSF galaxies systematically deviate from the best-fit planes so as to create shallower slopes and increase the scatter.

* We thus conclude that a significant fraction of the fundamental plane tilt and scatter is due to low-mass early-type galaxies with stellar populations significantly younger than those of high-mass galaxies.

Absorption line indices :Stellar Populations



* There is a trend that RSF galaxies are slightly younger and more-metal poor than quiescent galaxies (top & middle panels).

* The values of [α/Fe] derived from the Mgb-<Fe> plane show an offset between RSF and quiescent galaxies (bottom panel).

* This suggests that these RSF galaxies have experienced mergers and that the gas is soured mainly from the infalling companion.

* If it is correct, minor mergers play an important role in the evolution of early-type galaxies at late epochs.