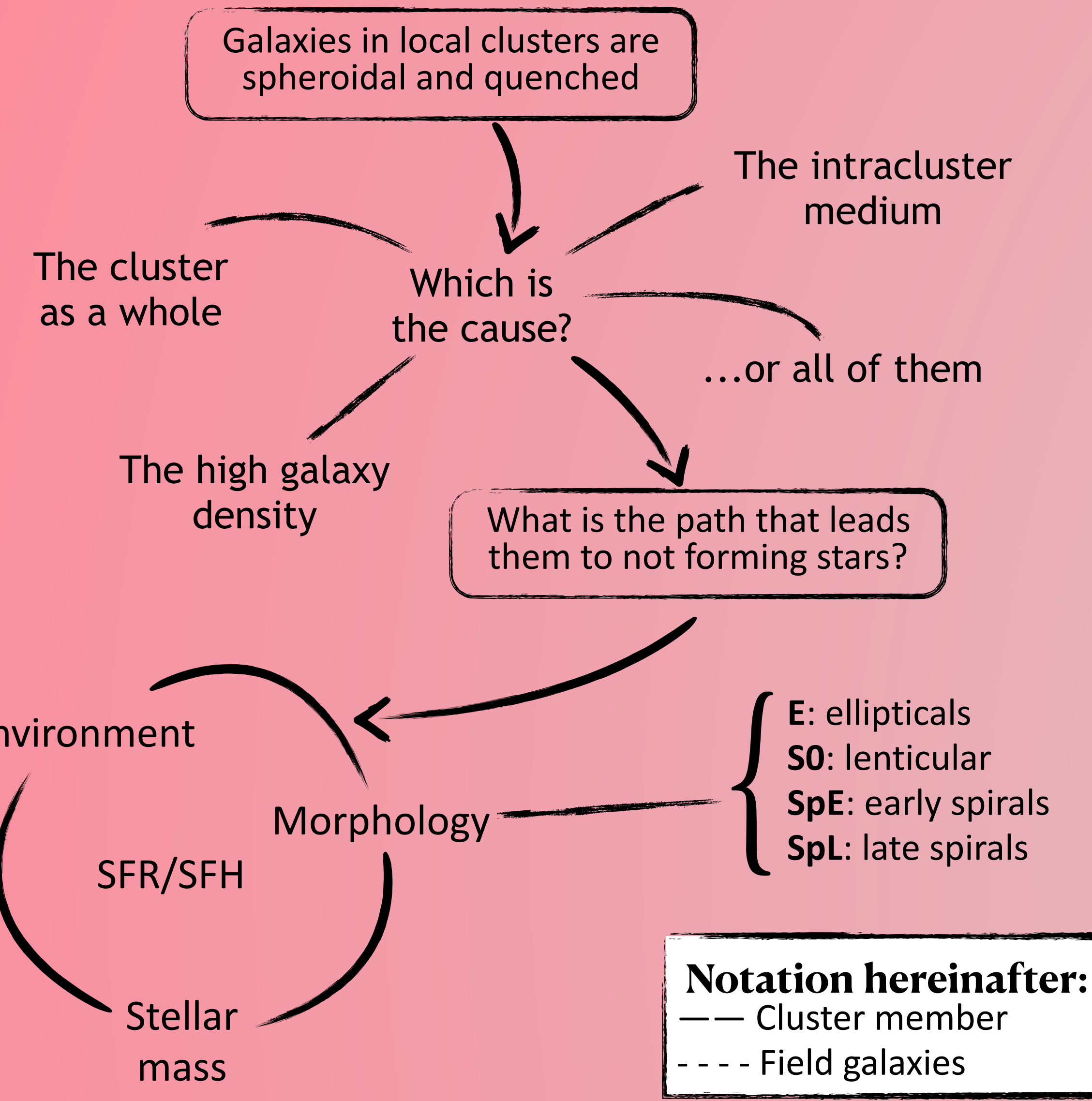


There was once a star-forming galaxy... that was quenched

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Abstract



The data

WINGS/OmegaWINGS ($0.04 < z < 0.07$):

- Photometry (B, V)
- Redshifts, cluster memberships
- Morphology
- Local density

Galaxy sample:

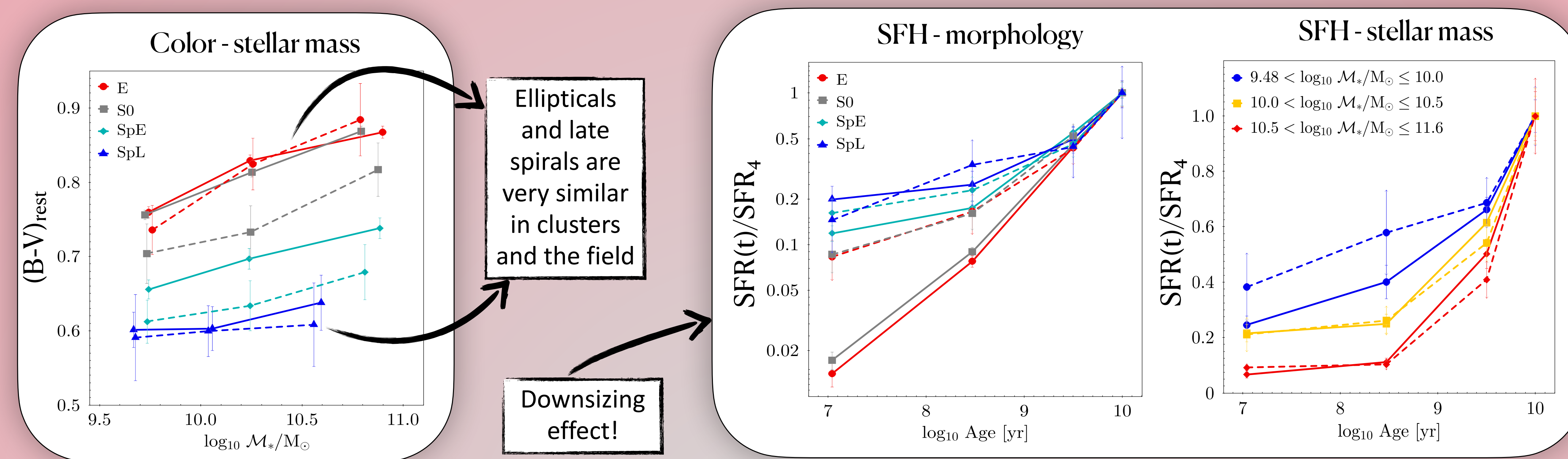
- $M_* > 3 \times 10^9 M_\odot$
- Cluster members (4,598 galaxies; 8,845 weighted)
- Non members (field; 676 galaxies; 1,071 weighted)

SINOPSIS: spectrophotometric non-parametric code:

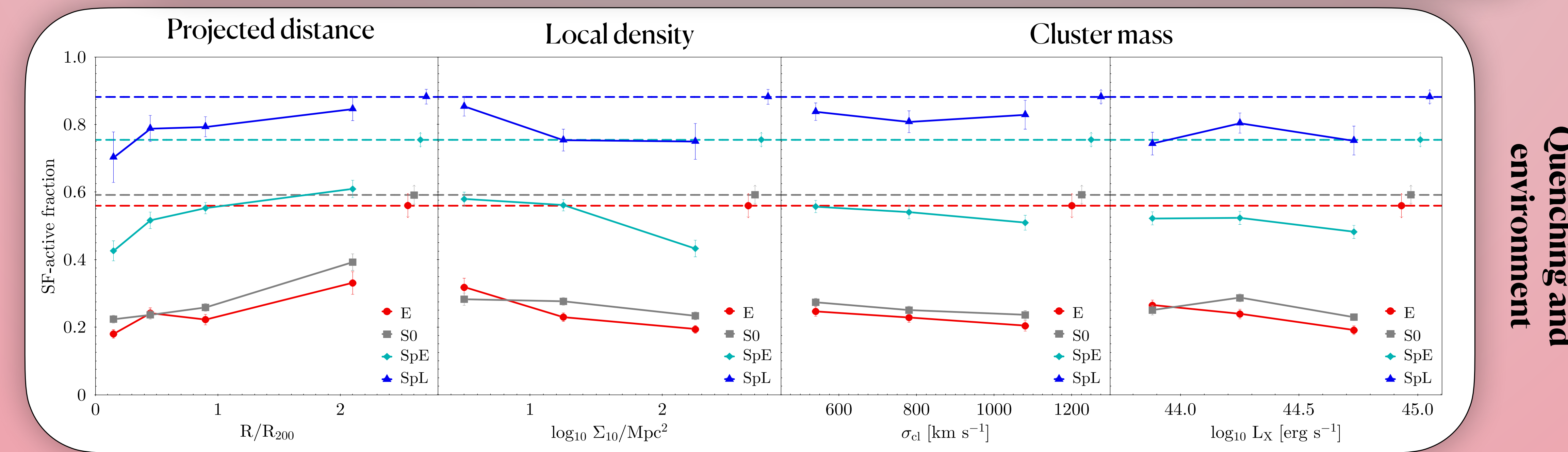
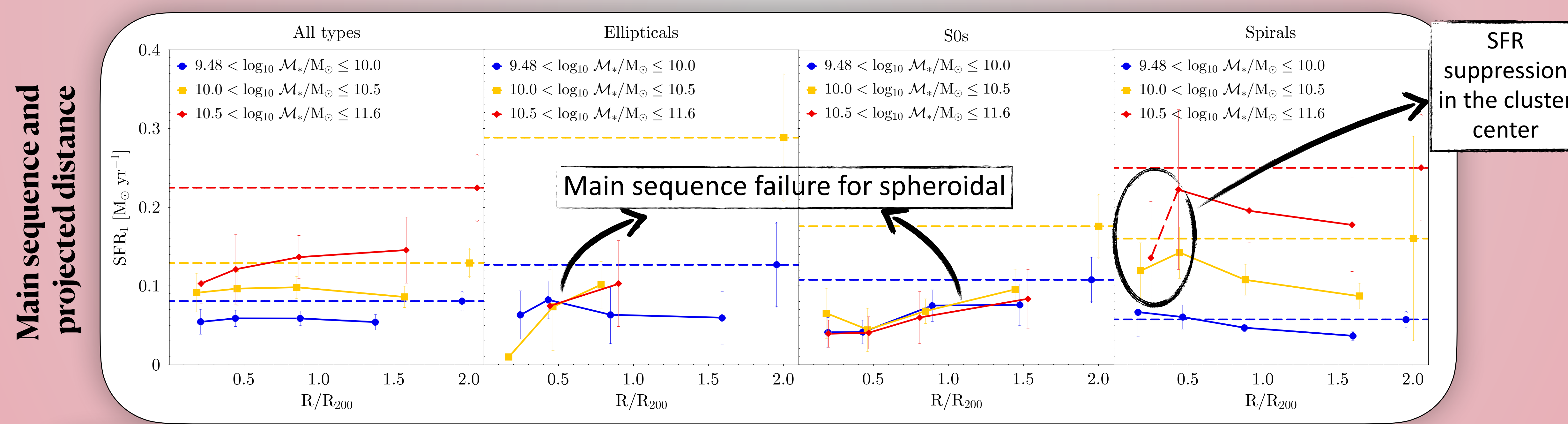
- Stellar mass
- SFR(t) in four age bins
- Stellar ages

SFR ₁	0 - 19.5 Myr
SFR ₂	19.5 - 572 Myr
SFR ₃	0.572 - 5.754 Gyr
SFR ₄	5.754 Gyr - Age _{universe}

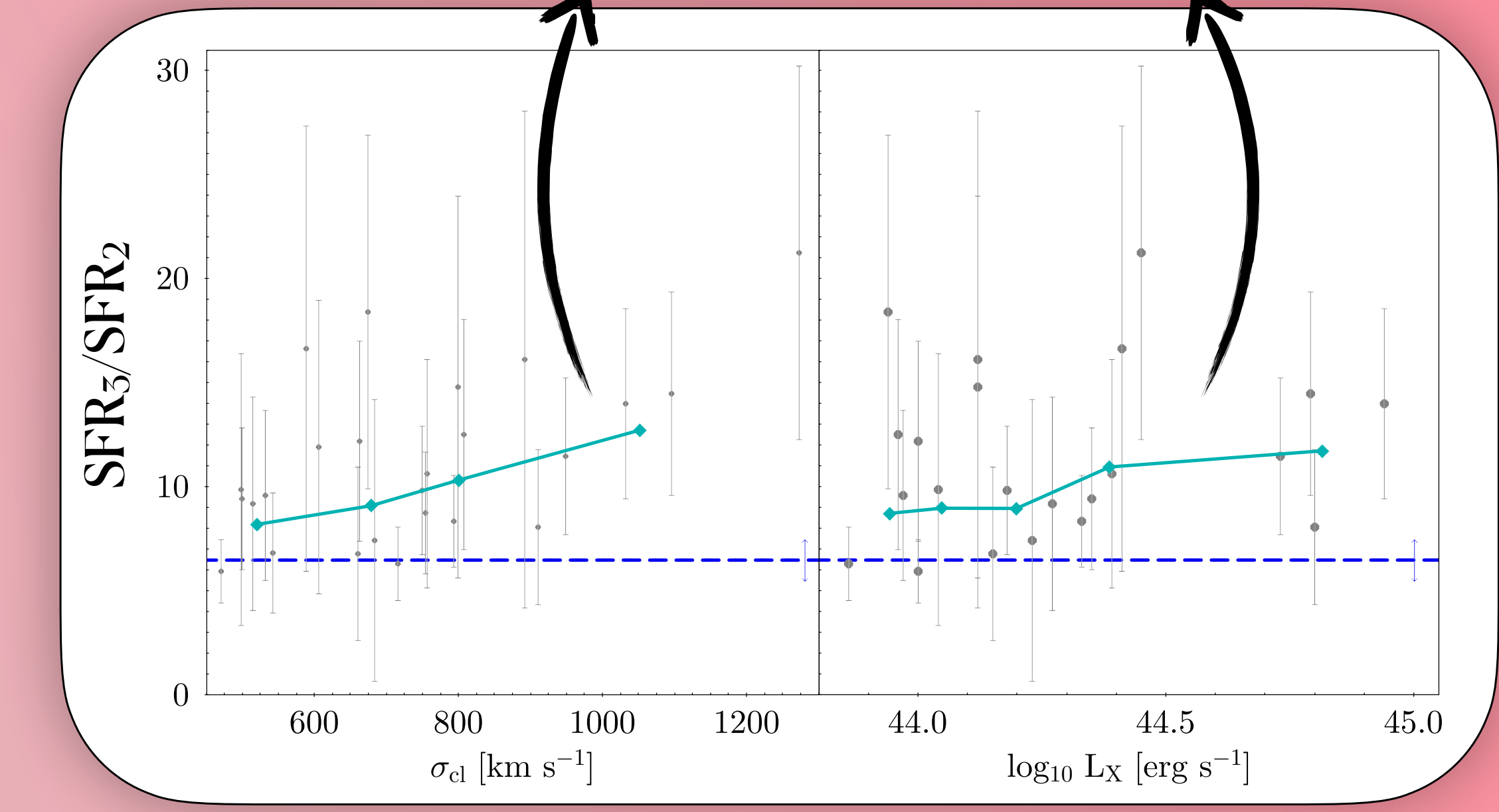
Galaxy properties



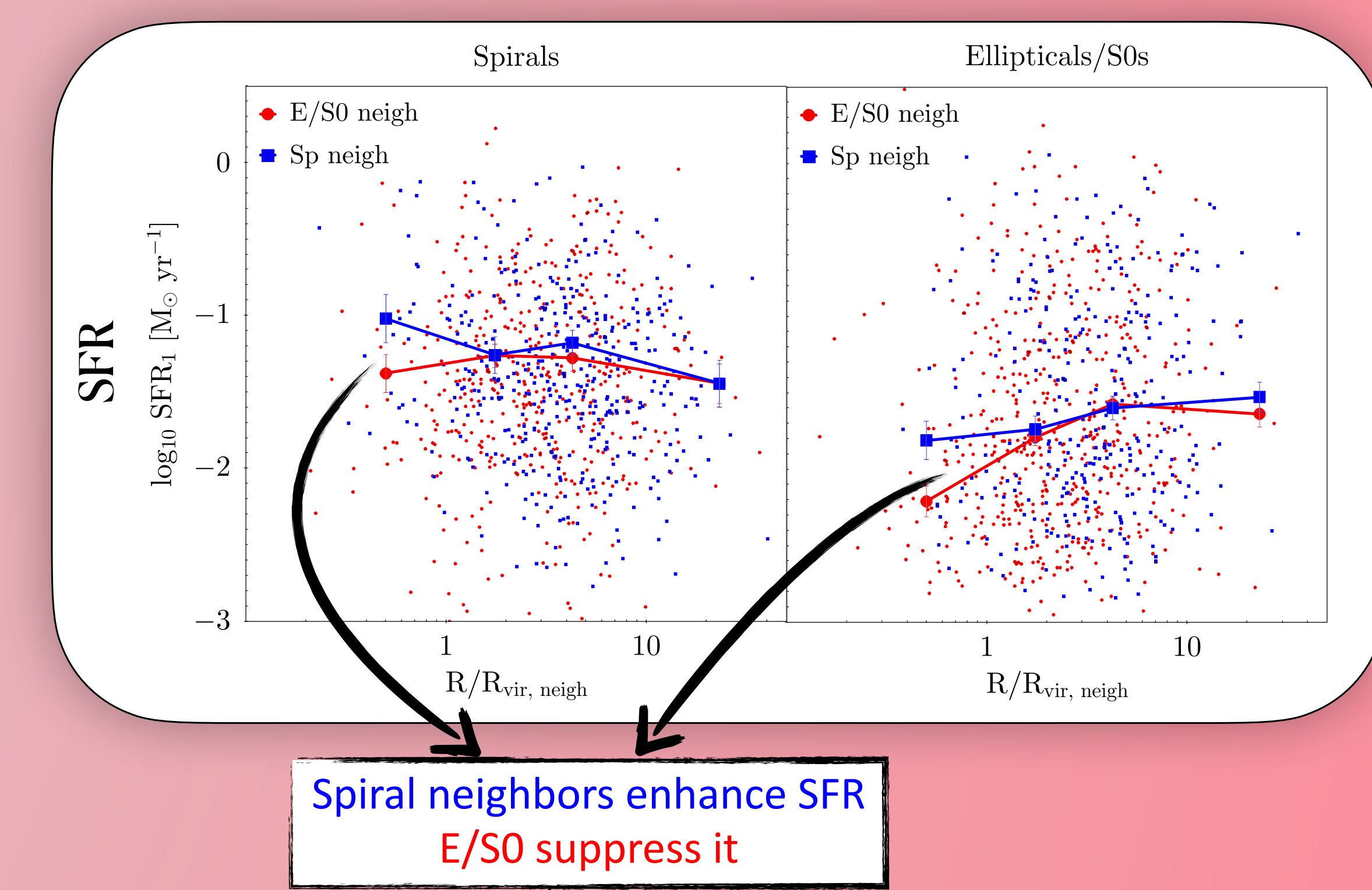
How does the cluster affect SFH?



More massive clusters —> stronger quenching



Closest neighbor interactions



Conclusions

- ✓ SFH in clusters steeper than in field at fixed mass and morphology: pure environmental effect!
- ✓ Morphology is essential when studying SFH. Not taking it into account is conducive to incorrect results.
- ✓ Quenching effects on spiral galaxies are stronger in more massive clusters: combination of local effects!
- ✓ Very close late-type neighbors will promote SFR, while early types will quench it.
- ✓ Clusters can both enhance and quench SFR on short timescales.