

How does the environment affect the size of the galaxies?

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Symposium 3: Deconstructing massive galaxy formation

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Tell me where you live...



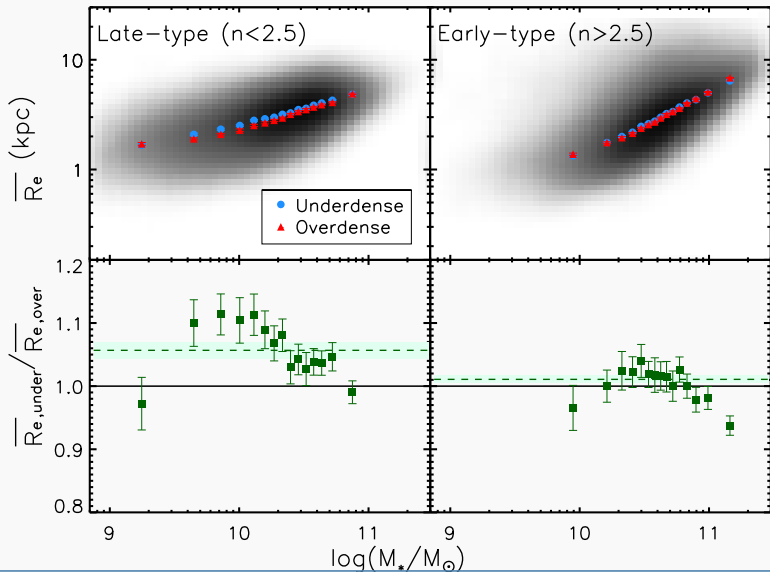
Observationally:

- ▶ **Low redshift:** Larger spirals in the field. No trend for ETG's.
- ▶ **Intermediate-high redshift:** No differences for ETG's.
- ▶ Tight scaling relations

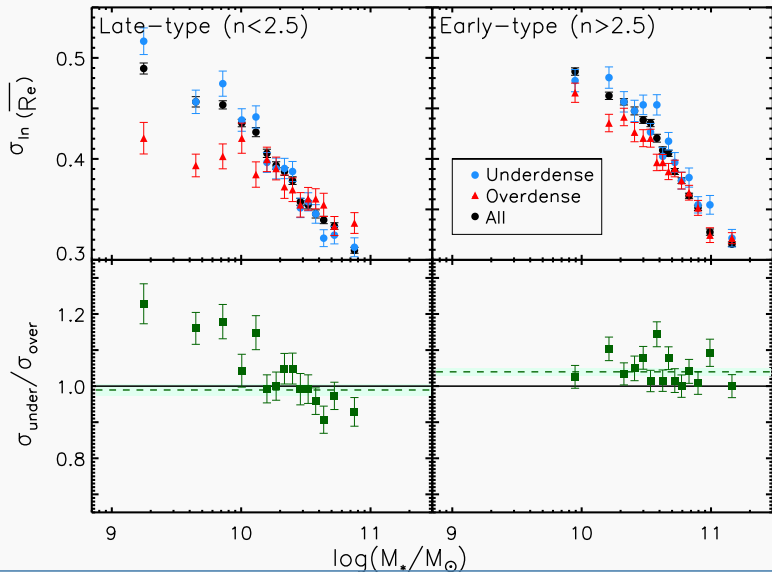
Models predict:

- ▶ Larger galaxies in clusters
- ▶ Large scatter of the relations

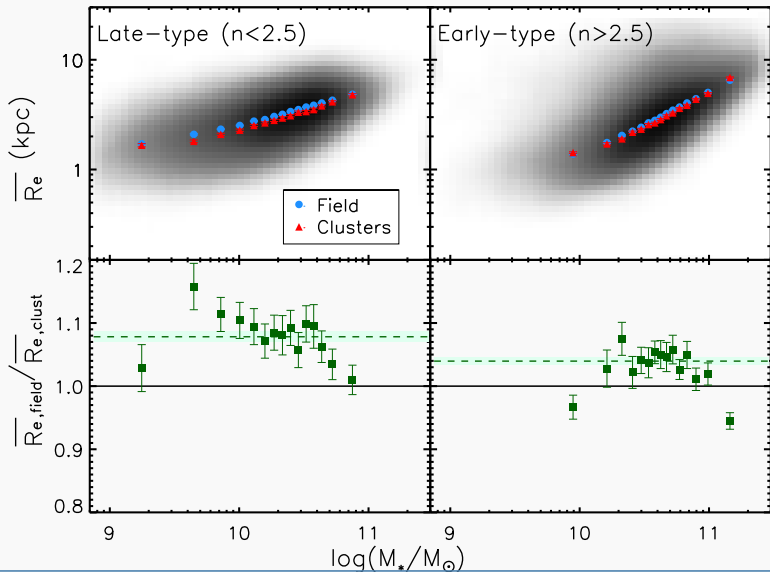
Mean sizes I: Galaxy number density



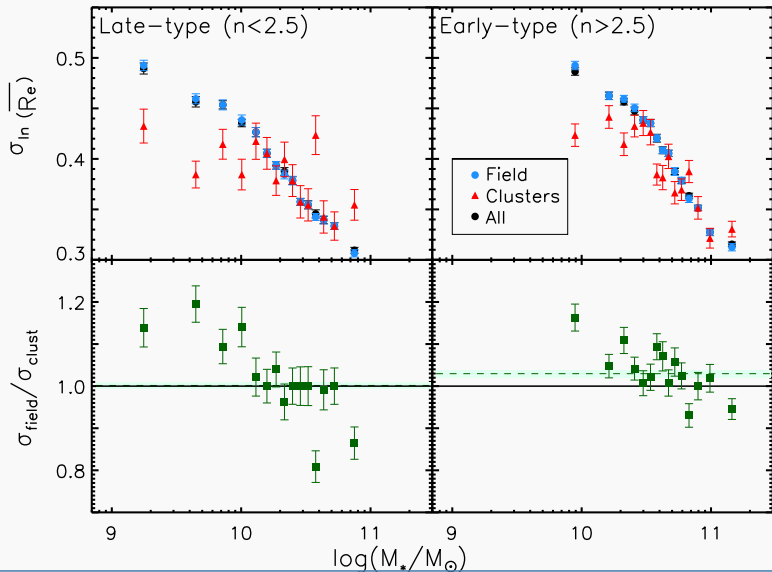
Scatter I: Galaxy number density



Mean sizes II: Clusters & Field

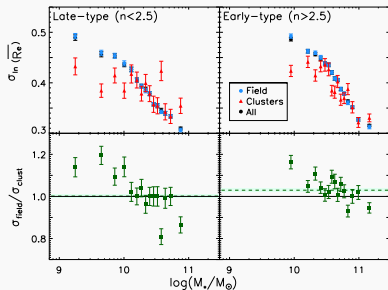
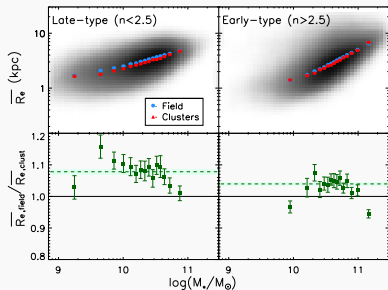


Scatter II: Clusters & Field



Conclusions

- ▶ Galaxies larger in the field
 - ▶ Late-type galaxies $\sim 7.5\%$ larger
 - ▶ Early-type galaxies $\sim 3.5\%$ larger
- ▶ Denser regions \rightarrow smaller scatter ($M_* < 2 \times 10^{10} M_{Sun}$)
- ▶ Measured scatter \longleftrightarrow intrinsic scatter



More info on 2014MNRAS.444.682C!