Satellite Quenching Near Isolated MW-Sized Galaxies: Observations

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Building our pairs catalogue

- Investigate satellite quenching around $\sim L^*$ galaxies

- Use this as an indirect probe of the CGM of isolated galaxies, and/or quenching mechanisms

- From the MPA-JHU catalogue (Brinchmann+, 2004) of SDSS DR7, out to $z = 0.032$
  - Find isolated MW-sized, single satellite systems, $N = 580$
  - Find isolated field dwarfs, $N = 864$

- Cut on host or satellite properties to look for trends
Building our pairs catalogue
Control Sample Selection

- Account for stellar mass effects – “mass matching”
SSFR Distributions

![Graph showing SSFR distributions with different lines representing Satellites, corrected, Satellites, and Control.]
Trends with Host SSFR
Trends with Host SSFR
Trends with Host SSFR

Sats of RS hosts

Sats of BC hosts
Radial Trends

![Graph showing radial trends for different satellite populations. The graph plots the passive fraction against projected distance (Mpc). Two lines are shown: one for Sats of RS hosts and another for Sats of BC hosts. The Field is indicated by a horizontal dashed line.]
Conclusions

Coral Wheeler:
- Simulations are crucial to correcting SDSS galaxy catalogs for projection effects
  - Optimizing isolation criteria forces a trade-off between purity and sample size
- Hosts with exactly one LMC-like satellite are almost always ~MW mass

John Phillips:
- Quenching around L* hosts appears to occur predominantly around red sequence hosts
- Star-forming hosts appear to have satellite populations that look very similar to the field
- Is what is quenching the host also quenching the satellite? Possibly a hot halo?