

# Dissecting **Two-halo Galactic Conformity Effect** for central galaxies

Kai Wang, Yingjie Peng & Yangyao Chen (arXiv: 2304.06886)



Kai Wang | 王凯  
Durham University



www.KosmosWalker.com  
wkcosmology@gmail.com



Two-halo Galactic Conformity Effect is the **spatial correlation of central galaxy properties** out to **several Mpc**.

For example, the **central galaxy quiescent fraction** around quiescent central galaxies is **higher** than that of star-forming central galaxies, and such quiescent fraction excess **extends to several Mpcs**.

## Reference:

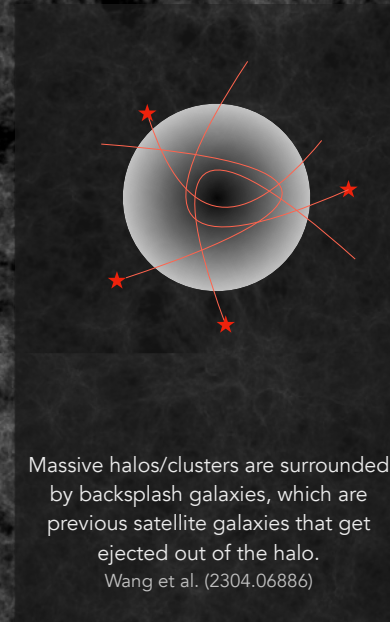
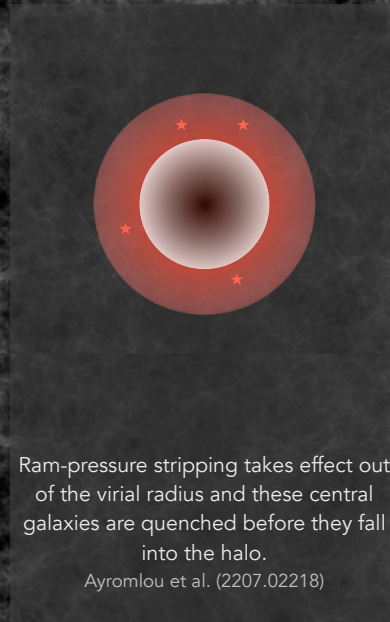
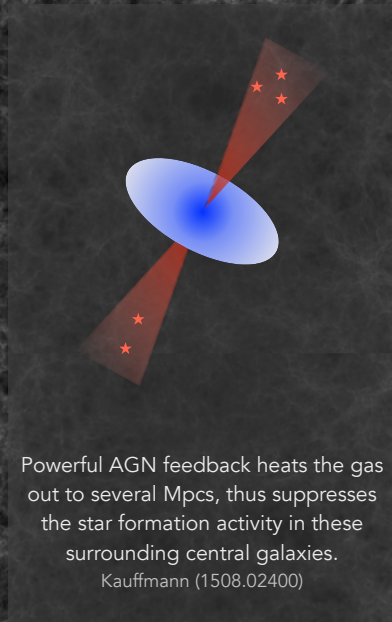
- ♦ Wang et al. (2304.06886)
  - ♦ Kauffmann et al. (1209.3306)
  - ♦ Kauffmann (1508.02400)
  - ♦ Ayromlou et al. (2207.02218)
  - ♦ Sin et al. (1702.08460)
  - ♦ Lacerna et al. (1703.10175)
- and reference therein...



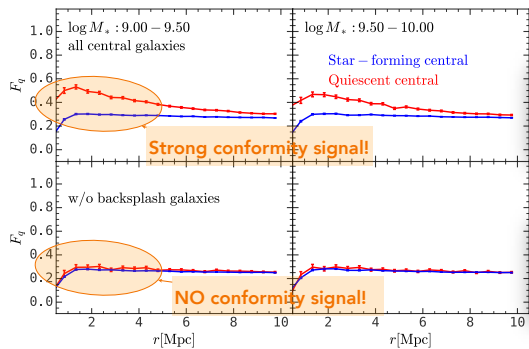
National Astronomy Meeting (NAM) 2025

## WHAT

**modulates the quenching of central galaxies across several Mpc scale?**



**Our analysis in TNG supports this one** 



**Strong conformity signal**, manifested as **higher central galaxy quiescent fraction around quiescent central galaxies, with backplash galaxies included.**

**NO conformity signal**, as the quiescent fraction of surrounding central galaxy is **independent of primary galaxy, with backplash galaxies excluded.**

Quiescent fraction of central galaxies around  $10^{13} M_{\text{sun}}$  halos.

Excessive quenching mainly from backplash central galaxies.

**NO excessive quenching from non-backplash central galaxies around massive halos.**

