

Characterizing Circumgalactic Gas around Passive Galaxies

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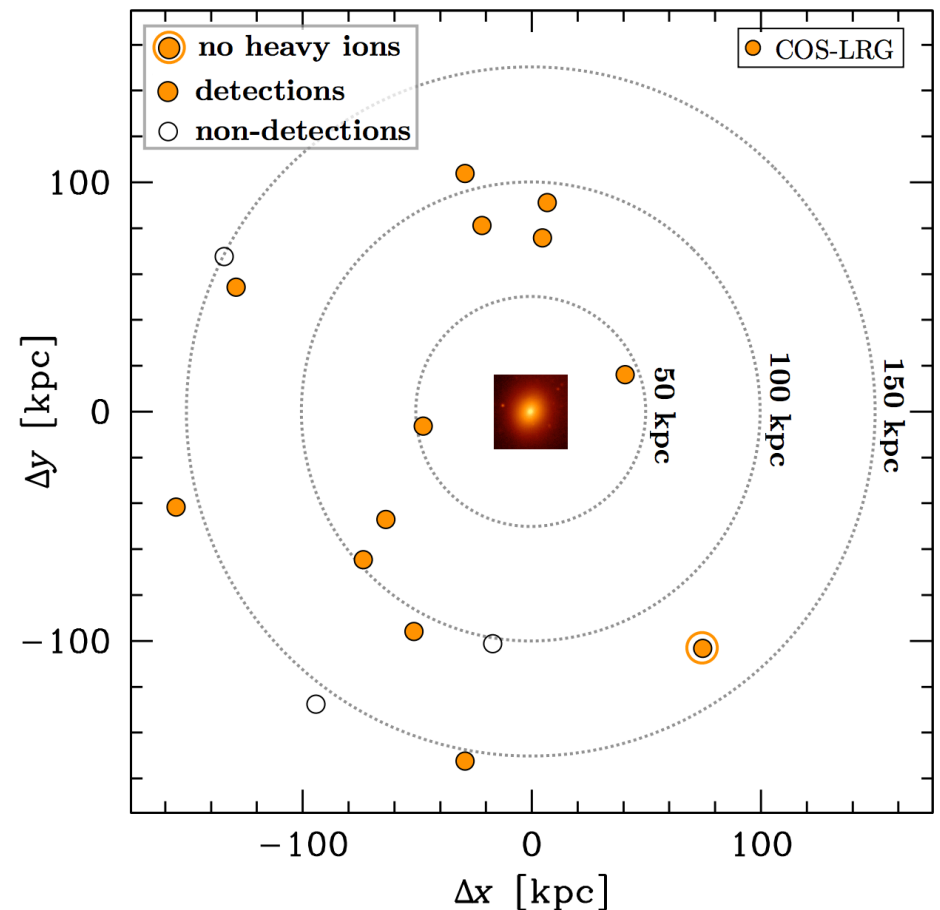
It is well-established that LRGs contain abundant cool gas in their halos

(e.g., Gauthier+2009, 2010; Lundgren+2009; Bowen & Chelouche 2011; Gauthier & Chen 2011; Huang+2016; Zahedy+2016, 2017a,b)

An HST/COS program to study the CGM of $z \sim 0.4$ LRGs

Chen, Zahedy et al. (2018a), *MNRAS* in press (arXiv:1805.07364)

- **16 mass-limited LRGs** ($M_{\text{star}} \gtrsim 10^{11} M_{\odot}$), at $d < 160$ kpc from a UV-bright background QSO; ***no prior knowledge of the presence of any absorption features.***
- $z_{\text{LRG}} > 0.26$ to ensure accurate $N(\text{HI})$ measurements from higher-order Ly-series lines & Ly-limit.
- Primary goals: determine $N(\text{HI})$, detailed studies of the ionization, metallicity, and physical conditions of the gas



Selected key results: Gas Properties in the CGM of LRGs

Zahedy et al. (2018), *MNRAS* submitted

