
Studying the Circumgalactic Medium in Massive Spectroscopic Surveys of the IGM

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Abstract

I will present latest results from the study of the 100s of thousands of CGM regions at $z > 2$ identified in absorption in SDSS quasar spectra. I will discuss their gas properties from stacking to reveal their associated metals. I will also show results cross-correlating them with the sparse-sampled intensity mapping known as the Lyman-alpha forest in order to study their associated halo masses and even use them as a tracer of baryon acoustic oscillations. I will also discuss future surveys and the prospects for combining such data with Lyman-alpha and OIII emitting galaxies and cosmic web reconstruction for detailed environmental conditions at the star formation rate peak.

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