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Processing of gas in galaxies within the cosmic web.

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Galaxies are distributed in a complex filamentary network of matter called the cosmic web. It remains debated which is the overall impact of the cosmic web in processing cold gas of galaxies, as they move through large-scale filaments around the clusters down to the densest regions of the cluster cores. I will present the results of a large observational campaign, mainly exploiting IRAM millimeter facilities, with the goal of quantifying the processing of galaxies' gas in the cosmic web and with cosmic time. I will discuss the degree of such processing in a variety of dense megaparsec-scale environments. Finally, I will discuss the potential of such studies for next generation multi-wavelength facilities. Thousands of distant clusters and BCGs will be detected with Euclid, enabling an unprecedented leverage to constrain galaxy evolution in cluster.

References

Castignani et al. 2022, A&A <https://ui.adsabs.harvard.edu/abs/2022A%26A...657A...9C/abstract>

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