

## Baryons in the Universe 2024



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# X-ray Observation of Cosmic Baryons

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“Baryons are still missing at all scales in the Universe, from galaxies to the intergalactic medium at large-scale-structure scales.

While theory unanimously and since two decades strongly suggests that they should be hiding in hot and tenuous material in the diffuse IGM (the so-called WHIM) and galaxy halos (so called CGM), observations have been struggling in confirming it. This is probably because of the limited power of the previous generation of high-resolution X-ray spectrometers. The situation is bound to change in the near-to-medium future, with the advent of observatories like XRISM and Athena or dedicated mission like LEM, Arcus or HUBS.

Here I will review the current observational evidence for both baryons in the WHIM and the CGM of galaxies, and outline the large discovery space that will be opened in the near-to-not-too-far future in this important field, by the upcoming UV and X-ray missions.”

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