

## Vulcano Workshop 2014 - Frontier Objects in Astrophysics and Particle Physics



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### **Missing Baryons at all Astronomical Scales: current evidence and future prospects**

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Baryons are missing at all astronomical scales in the Universe, from galaxies to the large scales of structure formation and the Universe as a whole. Hydro-dynamical simulations for the formation of structures, tend to re-concile the different “missing-baryon” problems and predict that most of the baryonic matter of the Universe is hiding in a hot and tenuous gaseous phase, surrounding virialized structures and more at large in the low-redshift inter-galactic space.

Here I will first summarize the current state of the art and show the current evidence of such matter in the local Universe, and will then focus on the short- and long-term future prospects for such a rich and still relatively unexplored field of research.

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