

Jeudi 9 Mars 2023 à 11h (IAS, bâtiment 121, salle 1-2-3)

The Baryon Picture of the Cosmos

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The cosmic web is made of voids, sheets, nodes, and filaments that are well traced by the distribution of galaxies. Numerical simulations suggest that the filamentary structure between clusters of galaxies at the nodes of the cosmic web contains about 40% of the total baryons in the form of a hidden warm/hot component.

I will present how in the ByoPiC project we have combined the use of surveys in the optical, in the millimetre (via the Sunyaev-Zel'dovich and CMB-lensing signals measured by Planck), and in the X-rays to study the filamentary structure of the Universe and to unveil its content. Combining these observables, we have detected the cosmic web filaments, we tackled the problems of measuring their warm/hot baryon content and of characterising its properties. We have also shown how the cosmic web pattern can be used as a powerful cosmological probe.