

PLASMA PROCESSES AT THE SCALES OF GALAXIES AND CLUSTERS OF GALAXIES

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Matter on large scales in the Universe is distributed in form of sheets, filaments and spherical halos. Most of the known matter in the Universe is in a diffuse plasma state — in halos around galaxies and clusters of galaxies, and in the intergalactic medium tracing the large scale cosmological filaments. Recent multi-wavelength observations have informed us about the state of this dilute plasma that covers a range of densities and temperatures. Progress in high resolution numerical simulations allows us to understand this diffuse plasma, but there are several puzzles that involve a complex interplay of processes such as cooling, feedback heating, gravity, and turbulence.[†]
