

Formation of Very Early Galaxies ($z > 5$)

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Abstract. The electronic catalog of infrared and optical photometry in the Hubble Deep Field South (NICMOS) identifies galaxies at redshifts ranging from z near 0 through z greater than 10. In this paper we try to investigate the formation and evolution of different structures in the Universe, using cosmological N-body simulations. By means of $256^3/512^3$ -point, 5–25 Mpc simulations, we traced the relation among the evolution of first order filamentary web structures, galactic and cluster structures, and second order filamentary web structures. These simulations have been made in order to derive the environmental effects (first/second order collapse, heating/cooling mergers) in the early Universe ($10 > z > 2$), closely related to galactic and cluster evolution.