

Properties of star-forming galaxies: applications for cosmology

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The properties of nearby compact star-forming galaxies determined from recent studies are discussed. These galaxies are very similar to the galaxies in the early Universe and can be considered as building blocks for formation of giant galaxies. The important features of compact star-forming galaxies are low masses, low content of elements heavier than helium, and a very high star-forming activity. These properties make compact star-forming galaxies suitable for solving several cosmological problems. First of them is the search for and the detailed study of the galaxies with extremely low content of elements heavier than helium. Such galaxies are the best proxies of the earliest galaxies formed in the Universe. The second problem is related to the primordial nucleosynthesis, which is happened when the age of the Universe was only 2-3 minutes. Finally, the third discussed problem is the reionization of the Universe, which happened when its age was 200 - 1000 million years. For a reference, the age of the Universe now is 13.7 billion years.

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