
The build-up of metals and dust in the Universe: constraints from local dwarf galaxies and lyman-break galaxies at the epoch of reionisation

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Abstract

The chemical enrichment of galaxies is regulated by several physical processes: stellar birth and death, dust growth and destruction, galactic inflows and outflows. Understanding the interplay of such processes is essential in order to study the rise of metals and dust in the Universe, and to interpret the available and future observations of space- and ground-based telescopes operating at infrared and sub-millimeter wavelengths (e.g. Spitzer; ALMA; JWST).

In this talk, I will present the results of a recent investigation focused on low-metallicity galaxies, and specifically, Lyman-Break galaxies at the epoch of reionisation and local dwarf galaxies, which are considered to be the local counterparts of Lyman-Break galaxies. I will show how the comparison between model predictions and observations allows us to identify the most relevant physical processes driving dust evolution in these systems, and how the information of local dwarf galaxies can be employed to interpret the observations of Lyman-Break galaxies at 5

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