



MODELING METAL AND DUST ENRICHMENT IN THE FIRST GALAXIES

Raffaella SCHNEIDER

(Sapienza, Università di Roma, Italy)

Friday, July 23, 2021, 13:30–15:15 (CEST)

The birth of the first stars in the Universe is accompanied by the first production of elements heavier than helium. The release of the newly produced metals in the surrounding medium has a dramatic impact on gas cooling and the nature of subsequent stellar populations. The physical conditions present in supernova ejecta and in the winds of intermediate mass stars on the asymptotic giant branch enable the condensation of the first solid grains. These, in turn, affect the efficiency of star formation by favoring molecular hydrogen formation and play an important role in the thermal properties of the interstellar medium. Finally, the presence of dust change the appearance of distant galaxies, by absorbing UV radiation and re-emitting it in the far IR. In this lecture, I will try to give an overview on some of these important elements that are essential to interpret observations of distant galaxies and to help us understand how the Universe emerged from the cosmic dark ages.