

What can we learn from ultra-deep galaxy surveys?

Fontana, A.¹

¹ *INAF-Osservatorio Astronomico di Roma*

Abstract

My talk will be based on the set of results that we recently obtained using the GOODS-South and UDF data sets. Using such a U-to-8microns multiwavelength sample, we explored the evolution of the luminosity and mass functions up to very redshift and the nature of intrinsically red galaxies beyond redshift 2. Rather than a simple review of our results, however, I would like to use these results to critically discuss what we can physically learn from such kind of surveys, with a comparison with recent theoretical models. I will therefore link the basic questions that we still have to address in the study of galaxy formation and evolution with the results and perspectives of present and future ultra-deep surveys.