

Massive Galaxy Challenges to Hierarchical Models

Alvio Renzini

INAF - Osservatorio Astronomico di Padova, Italy

Abstract

Guided by an unprecedented wealth of galaxy surveys at low and high redshift, great progress has been made in recent years in the modelling of galaxy formation and evolution. Recipes adopted to describe baryonic physics (star formation, AGNs and their feedback) have been tuned and by and large many observational properties of galaxy populations are now reasonably well reproduced by the models. One last issue appears to remain open, and this is the evolution of the number density of the most massive galaxies, where models predict a faster decline with redshift than derived by observations. The presentation will offer a review of the current attempts at mapping the evolution of the most massive galaxies and a comparison with current theoretical models.