

Measuring SFR and stellar masses in galaxies may be challenging

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Star formation rates and stellar masses are crucial parameters which are now routinely estimated in galaxies at all redshift. The measure of the variation of these parameters with z are common diagnostics of the evolution of galaxies with time.

In this talk I will show that the measure of these quantities is dependent on the available data and that the presence of IR data is crucial to estimate reliable SFR whereas the measure of the stellar mass depends on the assumed star formation histories. In systems with short term variations of the star formation rate each indicator (Lyman continuum, UV or IR emission) sample different timescales.

The analysis will be based both on a galaxy sample from the GOODS-S field and artificial galaxies built with our code CIGALE and coming from numerical simulations.