

**AEGIS: History and modes of star formation in field galaxies since
 $z=1.4$**

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Abstract

We study star formation histories of massive field galaxies at $z < 1.4$ in the AEGIS survey, combining UV-to-IR star formation rate tracers and stellar masses for > 5000 galaxies.

We find that these galaxies form a distinct "main sequence", with a narrow range of star formation rates at a given mass and redshift. This range of star formation puts limits on the amplitude of episodic star formation: since $z \sim 1$, a gradual decrease ($\sim \times 10$) in most galaxies, not a decrease the frequency or amplitude of strong starbursts, dominates the evolution of star formation, of the evolving number density of Luminous Infrared galaxies, and of the comoving star formation rate density of the Universe.

This gradual decrease of star formation can be reproduced by a model of gradual gas exhaustion with mass-dependent timescales, longer for less massive galaxies. This model allows to quantify mass dependencies of star formation histories. The data and models also indicate a new picture of "staged galaxy formation", where the onset of major star formation shifts to lower redshifts for less massive galaxies.