

Abstract Submitted
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The Star-Formation Sequence: Tracking the Stellar Mass Growth of Galaxies since 2 Gyr after the Big Bang ADAM TOMCZAK, Texas A&M University, ZFOURGE COLLABORATION — Using data from the ZFOURGE Galaxy Evolution Survey in combination with public far-infrared imaging from the *Spitzer* and *Herschel* satellites we measure the relation between star-formation rate and stellar mass (SFR- M_{\odot}) for galaxies as early as when the universe was 12% of its current age. Similar to recent work from Whitaker et al. (2014) we find that the slope is not constant with stellar mass but tends to steepen towards lower masses. We also track the evolution of the cosmic star-formation density (SFD) as a function. Despite hosting the largest SFRs amongst star-forming galaxies, massive galaxies ($> 10^{11} M_{\odot}$) only constitute at most roughly 13% of the cosmic star-formation budget. Furthermore, the proportional amount of the SFD as a function of galaxy stellar mass evolves weakly with time. Finally, we compare the mass growth curves for galaxies that follow the average SFR- M_{\odot} relation to the modern technique of tracking galaxy descendants via abundance matching. We find a tension between these two approaches where the predicted mass growth from abundance matching is systematically lower than the integrated star-formation from the SFR- M_{\odot} relations by 0.1-0.3 dex.

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