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## Investigating the effect of galaxy mergers on star-formation rates using spatially resolved stellar mass maps

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### Abstract

The spatially resolved stellar mass maps of high-redshift ( $z < 2$ ) galaxies are used to separate merging and non-merging galaxies. For this purpose, we used the combination of non-parametric indices such as asymmetry ( $A$ ), Gini and  $M_{20}$  coefficients. Classification based on the stellar mass maps reduces the effect of large star-forming clumps and hence increases the robustness of the sample selection method. We compared the relative fraction of merging systems with  $\log(M) > 10.5$  solar mass, with respect to the star-forming galaxies above and below the star-forming main sequence (SFMS) at different redshift ranges. We found that the fraction of mergers above and below the SFMS at each redshift is comparable. The results show that mergers have small effects on the star-formation rates and the distribution of the merging galaxies about the SFMS.

**Keywords:** galaxy structure, galaxy evolution, galaxy mass distribution, galaxy star formation.

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