

X52a Spatially resolved mass-metallicity relation of SDSS-MaNGA galaxy pairs

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One way we can enrich our understanding of galaxy evolution is to investigate the relationship between physical properties. One such relationship is one between the stellar mass (M_*) and gas phase metallicity of a galaxy, known as the mass-metallicity relation (MZR; Lequeux et al. 1979). This relationship indicates that the metallicity, in particular the oxygen abundance, increases with increasing stellar mass. Galaxy interactions and mergers are known to dilute the gas phase metallicity in central regions of galaxies. When two galaxies interact, lower metallicity gas associated with the interaction inflows towards the galaxy cores which lowers the metallicity in the nuclear region, and as a result interacting galaxies show an offset from the MZR. In this work, we studied the spatially resolved MZR of interacting galaxies from the Mapping Nearby Galaxies at APO (MaNGA; Bundy et al. 2015) catalogue to study the effect of interactions on the MZR at a local scale. We find a bimodality in distribution for spaxels in the core regions. In particular, we find that the core regions for close galaxy pairs show an offset below the MZR curve found in previous studies such as Barrera-Ballesteros et al. (2016), whereas the core regions for more distant galaxy pairs are closer to the relation. We will discuss these results and other findings.