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The metallicity-luminosity relation at medium redshift based on faint CADIS emission line galaxies

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Abstract We derived oxygen abundances of FAINT CADIS emission line galaxies ($-20.5 > M_B > -17$) in two redshift bins, at $0.392 < z < 0.415$, and at $0.625 < z < 0.648$, using multi-object spectroscopy with FORS2 at the VLT, and with DOLORES at TNG. Combining our results with published metallicities of galaxies with BRIGHTER absolute magnitudes at medium redshift we can study the metallicity-luminosity relation at medium redshift ($0.3 < z < 0.7$) over a wider luminosity range.

Our results indicate that a correlation between galaxy metallicity and absolute magnitude M_B , known for galaxies in the local universe, apply also at medium redshift. However, the relation is slightly displaced to lower abundances. I will discuss possible explanations (luminosity evolution or metallicity evolution between $z=0$ and $z=0.64$?) for this finding.