New constraints on high-z galaxy gas content and star formation from ALMA and JWST observations of lensed galaxies

ALMA and JWST are opening a new era to study the ISM of galaxies in the young Universe. Even if they are biased towards extreme objects, samples of lensed dusty star-forming galaxies allow us to access a large set of lines from the near-IR to the millimeter range, unveiling the nature. In this talk, I will review recent results obtain from observations of the SPT sample of lensed galaxies with ALMA and JWST. I will first focus on the cross-calibration of the various gas tracers as CO, [CI], [CII], and dust. I will then present new results from the JWST/TEMPLATES program and in particular the detection of PAH at high redshift.