

X12a A clear picture of dust-obscured star-formation in the Early Universe

Tom Bakx (Nagoya University), Laura Sommovigo (Scuola Normale Superiore), Stefano Carniani (Scuola Normale Superiore), Andrea Ferrara (Scuola Normale Superiore), Yoichi Tamura (Nagoya University), Masato Hagimoto (Nagoya University)

Unobscured star-formation has been probed out to redshifts above 10, however recent sub-mm observations have revealed UV observations do not provide a complete picture. In fact, ALMA and NOEMA have observed dust-obscured emission in these early epochs. While it is clear that there exists vast dust reservoirs, at this moment, its full extent remains unknown due to poor constraints on the dust temperature. Using the short-wavelength bands of ALMA, we probe the full dust emission of a normal star-forming galaxy ($L \sim L^*$) in the Early Universe for the first time. Even in this relatively normal system, dust-obscured star-formation is dominant, and are thus important considerations for galaxy evolution at the highest redshifts. Future observations of high-redshift galaxies at short wavelengths are thus direly needed, especially with JWST on the horizon.