

Dropout Galaxies in JWST COSMOS Field

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Finding protoclusters in the epoch of reionization plays an essential role in understanding the evolution of galaxies and the early ionized universe. With this aim, we turn our attention to the COSMOS-Web field ($\alpha=10:00:27.92$, $\delta=+02:12:03.5$), spanning $41'.5$ by $46'.5$. At the present time, the lack of open access to reduced data triggered us to develop our own image reduction techniques utilize a blend of modified methodologies from previous studies to address challenges such as cosmic-ray artifacts, wisp, and readout noise. Following image reduction, we crossmatch with COSMOS-2020 catalog, resulting in a preliminary multi-broadband imaging catalog. Our approach integrates photometric redshifts and color-color selections. Moreover, this catalog is not only designed for identifying high-redshift dropout galaxies but also potential protoclusters. Additionally, the photometric redshift determinations benefited from the exceptional angular resolution provided by JWST in near-/mid-IR imaging, further enhancing the accuracy and reliability of our results.

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