

First JWST results on the high redshift, low mass end of the galaxy stellar mass function from $z=4$ to $z=8$

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Despite its crucial role in shaping our understanding of galaxy formation and evolution, the low mass end of the high redshift galaxy mass function has so far remained largely unknown. This is specially true for the high redshift universe, where even the deepest surveys have been unable to probe this elusive galaxy population.

To address this challenge, we leverage the powerful near-infrared imaging capabilities of the JWST, and supplement this data with larger area ancillary data from the Hubble Space Telescope (HST) and ground-based observatories.

We use two of the deep fields recently observed by JWST: HUDF and PRIMER-UDS, reaching a depth of ~ 29.5 mag for the blue NIRCam bands in HUDF. This strategy allows to mitigate cosmic variance while probing the low mass end of the galaxy mass function down to $\log_{10}(M/M_{\text{sun}})=8$ at redshift $z=5$ or $\log_{10}(M/M_{\text{sun}})=8.5$ at redshift $z=6$.

In this talk I will present the outcomes of our study, which will offer a preliminary examination of the low mass end of the galaxy mass function and pave the way for deeper and larger area JWST observations to complement our findings which will come in the future.

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