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Compatibility of JWST results with exotic halos

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The James Webb Space Telescope (JWST) is unveiling astounding results on the composition and evolution of the cosmo at very high redshifts. In this talk, I develop a UV luminosity function model for high-redshift galaxies, considering parameters such as the stellar formation rate, dust extinction, and halo mass function, calibrated at $z = 4-7$. Testing the model against higher redshifts suggests a negligible role of dust extinction very early on, prompting a modification of the stellar formation rate to incorporate a larger fraction of luminous objects per massive halo. I discuss some exotic explanations of this effect. Based on <https://arxiv.org/abs/2403.13068>

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