Simulated Optical Images of High Redshift Galaxies using GALEX Ultraviolet Images of Nearby Galaxies

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We present the simulated optical images of galaxies observed with the Hubble Space Telescope (HST) Advanced Camera for Surveys (ACS) at high redshifts using GALEX near-ultraviolet (NUV: ~2271 Å) and far-ultraviolet (FUV: ~1528 Å) images of nearby galaxies. Galaxy morphology plays an important role in the assessment of the evolutionary state of galaxies. In this respect, the prediction of optical-band morphologies at high redshifts requires UV images of local galaxies with various morphologies. We present simulated optical images at cosmological distances using more diverse and high-quality nearby galaxies obtained through the GALEX UV observations. We also describe the details of the algorithm of simulations.