

[표GC-43] Quantitative Morphology of High Redshift Galaxies Using GALEX Ultraviolet Images of Nearby Galaxies

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An understanding of the ultraviolet (UV) properties of nearby galaxies is essential for interpreting images of high redshift systems. In this respect, the prediction of optical-band morphologies at high redshifts requires UV images of local galaxies with various morphologies. We present the simulated optical images of galaxies at high redshifts using diverse and high-quality UV images of nearby galaxies obtained through the Galaxy Evolution Explorer (GALEX). We measured CAS (concentration, asymmetry, clumpiness) as well as Gini/M20 parameters of galaxies at near-ultraviolet (NUV) and simulated optical images to quantify effects of redshift on the appearance of distant stellar systems. We also discuss the change of morphological parameters with redshift.

[표GC-44] Improved and quality-assessed emission and absorption line measurements in Sloan Digital Sky Survey galaxies

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We present a new database of absorption and emission-line measurements based on the entire spectral atlas from the Sloan Digital Sky Survey (SDSS) 7th data release of galaxies within a redshift of 0.2. Our work makes use of the publicly available penalized pixel-fitting (pPXF) and gas and absorption line fitting (gandalf) IDL codes, aiming to improve the existing measurements for stellar kinematics, the strength of various absorption-line features, and the flux and width of the emissions from different species of ionized gas.

Our fit to the stellar continuum uses both standard stellar population models and empirical templates obtained by combining a large number of stellar spectra in order to fit a subsample of high-quality SDSS spectra for quiescent galaxies. Furthermore, our fit to the nebular spectrum includes an exhaustive list of both recombination and forbidden lines. Foreground Galactic extinction is implicitly treated in our models, whereas reddening in the SDSS galaxies is included in the form of a simple dust screen component affecting the entire spectrum that is accompanied by a second reddening component affecting only the ionized gas emission.

Most notable of our work is that, we provide quality of the fit to assess reliability of the measurements. The quality assessment can be highly effective for finding new classes of objects. For example, based on the quality assessment around the H α and [NII] nebular lines, we found approximately 1% of the SDSS spectra which classified as "galaxies" by the SDSS pipeline are in fact type I Seyfert AGN.

This work is published in ApJS (Aug 2011 issue) and the database is publicly available.