The catalogs of structural parameters for HSC/PDR2 (Kawinwanichakij et al. submitted)

There are two catalogs:

1. A catalog for Deep+UltraDeep layer ("dud_pdr2_final.fits")
2. A catalog for Wide layer in eFEDS footprint (overlapping with GAMA09H footprint) with 128.3 < ra < 144.5 and -1.75 < dec < 4.8 ("wide_efeds_pdr2_final.fits")

The stellar mass and photo-z estimates are from the Mizuki catalog.

Column Title	**Description**
Object_id	Object identifier from PDR2 (https://hsc-release.mtk.nao.ac.jp/schema/)
[x]mag and [x]mag_err	cmodel magnitude and error of the HSC bands (grizy), with dust extinction correction
photoz_err68_min,photoz_err68_max	Lower and upper bound of the 68% confidence interval of photo-z from the Mizuki catalog
photoz_best	Photo-z from the Mizuki catalog
stellar_mass	Stellar mass estimate from the Mizuki catalog
[x]_psfmag_cmodelmag	PSF magnitude - cmodel magnitude for the HSC band x
fitted_flux and fitted_mag	Best-fit flux and magnitude from Lentronomy (without any correction), measured in HSC-i band image
fitted_reff	Best-fit effective radius (semimajor axis) (without any correction) in arcsecond, measured in HSC-i band image
fitted_sersic	Best-fit Sersic index (without any correction), , measured in HSC-i band image
fitted_q	Best-fit axis ratio, measured in HSC-i band image
fitted_conc	Best-fit concentration parameter, measured in HSC-i band image
fitted_redchi2	Reduced chi-squared of the best-fit structural parameters
local_bkg	Measured local sky background (flux/pixel) of the cutout image
Median_residual and sigma_residual	Median value and standard deviation of the 1D residual light profile (observed surface

	brightness profile - model surface brightness profile). The unit is magnitude/pixel^2
nneighbors_detected	Number of neighboring sources in a cutout to be modeled simultaneously with a target source (at the center).
fitted_framesize	width of a cutout in pixel
fitted_x_err	Uncertainties of best-fit structural parameter “x” obtained using a MCMC.
corrected_x	Best-fit structural parameters “x” (measured in HSC i-band) and after applying the multidimensional corrections for observational bias using simulated galaxies. Note: The unit of corrected_reff is arcsecond. The rest-frame correction to 5000 A has not been applied yet.)
eta_x	The correction used to applied to structural parameter x to get corrected_x. Note: The corrections for effective radius (eta_reff), sersic index (eta_sersic), and concentration parameter (eta_conc) are in percentage.
calib_flag	calib_flag==1 indicated that the corrected_x has been corrected (using eta_x). calib_flag==0 indicated that the corrected_x has not been corrected (using eta_x) because the parameters are outside the interpolation grid.
quiescent_flag	quiescent_flag ==1 indicated if source is classified as quiescent galaxies using rest-frame SDSS u-r vs. r-z colors quiescent_flag ==0 indicated if source is classified as quiescent galaxies using rest-frame SDSS u-r vs. r-z colors Note: The urz color-color selection is only calibrated for galaxies at 0.2 < photoz_best < 1. The quiescent_flag for sources with photoz_best<0.2 or photoz_best >1.0 might not be reliable.
re_corrfactor5000A	The correction for galaxy size measured in HSC i-band to a common rest-frame 5000 Angstrom.

	Note: 1. To compute size in unit of kpc and in 5000 Angstrom using For raw effective radius: re_kpc = fitted_reff * scale_kpc_per_arcsec * re_corrfactor5000A For corrected effective radius: re_kpc = corrected_reff * scale_kpc_per_arcsec * re_corrfactor5000A 2. 2. This correction is only calibrated for galaxies at 0.2 < photoz_best < 1. The values for sources with photoz_best<0.2 or photoz_best >1.0 might not be reliable.
goodfits_flag	goodfits_flag == 1 indicated sources with “reliable” fitting result: (abs(median_residual') < 0.05) & sigma_residual < 0.03 Note: The quality cut above is conservative, and users can adjust the threshold to relax the condition.
use_flag	Standard selection of galaxies (use_flag==1)