The Data Products of Euclid Data Archive

Euclid NASA Science Center (ENSCI)

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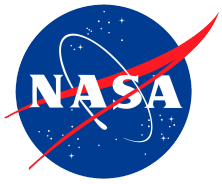

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Version History

Version	Date	Author	Comments
Version 1.0	June 14, 2023	James Colbert	First release

Introduction

The Euclid Survey is done in a 'step-and-stare' mode, where the telescope will point to a position on the sky and then imaging and spectroscopic measurements will be performed on an area of ~0.5 deg² around this position. The telescope consists of two cameras, the visible instrument (VIS) and the Near Infrared Spectrometer and Photometer (NISP) instrument, which are observed simultaneously using a light splitting dichroic.

For the survey standard operating mode, the telescope undertakes a 4-point dither pattern. At each position VIS and NISP each take a 570s exposure, consisting of a direct visible image and a red grism exposure. This is followed by further NISP exposures in the Y, J, and H band filters (112 seconds each). The telescope is then dithered, and the sequence is repeated starting with a different grism position angle. There are actually two operational grisms oriented 180 degrees from each other. Each grism which will be used twice in this sequence, but with slight angular offsets (+/- 4 degrees), effectively creating the four different grism angles (Scaramella et al. 2022, A&A 662, A112).

This standard four dither operating mode sequence is called a single observation and all the individual exposures associated with each observation are organized by ***Observation ID*** in the archive. Alternatively, Euclid also processes all of its imaging into merged mosaics, which can contain multiple different observations. All products associated with these mosaics are organized by ***Tile ID*** in the archive.

Euclid Data Products

The Euclid Data Products come in three forms: images, spectra, and catalogs.

IMAGES:

Image files can be retrieved as either merged mosaics, stacks of images all taken at a single pointing, or the individual, calibrated exposure images. Most users will probably be interested in the merged mosaic files, where all the different filters have been mapped to a common pixel scale, but depending on their science case a user may desire one of the alternative products taken at the same sky position. All have been fully calibrated.

Merged (MER) Mosaics - All imaging processed by Euclid is registered to a common astrometry and pixel scale. They are split into regularly sized tiles and organized by those tile numbers. All filter bandpasses – the VIS optical filter and the NIR Y, J, H filters – are generally available for

every tile. There may also be additional optical bandpass images from supplementary external (EXT) ground data.

List of associated files:

BGSUB-MOSAIC - FITS file containing the background-subtracted mosaic. This is the primary merged mosaic image.
RMS - FITS file containing the mosaic rms data set.
FLAG - FITS file containing the mosaic flag data set.
4BGMOD - FITS file containing the subtracted background model.
GRID-PSF - FITS file containing the mosaic PSF GRID model.
CATALOG-PSF - FITS files containing the mosaic PSF CATALOG model.
SEGMAP - Map showing the connected pixels of the objects detected on the corresponding MER Detection Mosaic Product. The object id numbers in the segmentation map should coincide with the id numbers in the object catalog.

Stacked Frames - Each observation sequence of a field is composed of four frames of the 0.54 deg^2 common area, observed with a dither step in-between. During each frame the visual instrument (VIS) and the Near Infrared Spectro-Photometer (NISP) carry out exposures of the sky simultaneously. It is these four frames that are stacked, after the data have been matched, distortion corrected, and shifted. Unlike the merged mosaics, this product retains its original pixel scale, a feature that has greatest importance for the more finely sampled and higher resolution optical VIS filter. The resulting products are single images, no longer split into the multiple detectors like the individual, calibrated images (see below). There are four available filter bandpasses, the VIS optical filter and the NIR Y, J, H filters. Each stacked frame will be associated with an observation ID.

List of associated files:

Stacked frame - Stacked frame for one observation, combining the 4 dither exposures (calibrated frames). Each file consists of 3 extensions : i) SCI extension for the science frame, ii) RMS extension for the RMS map and iii) FLG or Data Quality map.
VIS stacked weight map - Associated weight map of the VIS optical stacked map (VIS only product).
VIS stacked background map - Background map associated with each VIS optical stacked map (VIS only product).
PSF - PSF fits file associated with the science image. Each bandpass will have its own file. NIR images have an additional smaller .psf file.

Individual, Calibrated Frames - These are the individual exposures that make up an observation. There are generally four of them per observation ID, separated on the sky by the dither pattern. There are four available filter bandpasses, the VIS optical filter and the NIR Y, J, H filters. These data could be of interest to users concerned about artifacts or cosmic rays missed by the pipeline affecting (or creating) faint sources or users studying short timescale transient phenomenon.

List of associated files:

Calibrated frame - A calibrated frame for each dither exposure, organized as a multi-extension FITS file where the number of extensions is the number of detectors multiplied by the three data layers. For the VIS optical filter there are 108 extensions: 36 CCD times the 3 layers for the science frame (SCI), rms map (RMS), and flag map (FLG). For the NIR filters there are 48 extensions: 16 detectors times the 3 layers for the science frame (SCI), rms map (RMS), and data quality flags (DQ). Each observation ID comes with a set of 4 calibrated frame files, one for each dither.

Background calibrated frame model map - The background map associated with each calibrated frame. These are multi-extension fits files. For VIS this file has 36 extensions, for all 36 CCDs but only a single layer. For NIR (filters Y, J, H) this file contains 48 extensions, 16 detectors multiplied by 3 layers: SCI, RMS, and DQ.

VIS calibrated frame weight map - The weight map associated with each VIS optical calibrated frame (VIS only product).

PSF for calibrated frame - PSF fits file associated with the calibrated frame. Each filter bandpass will have its own file. NIR images have an additional smaller .psf file.

SPECTRA:

Euclid spectra come in two formats: the entire two dimensional, full set of detectors grism observations taken at each exposure and the individual, extracted and combined one dimensional spectra. The two dimensional images are similar to the calibrated frames for imaging. There are four exposures for each observation, each at a different dither position and grism dispersion angle, packaged as a multi-extension fits files. Each detector of each exposure contains thousands of dispersed two dimensional spectra. While detector effects have been calibrated out for these two dimensional whole array images, some flat fielding of the spectra remains undone as that must be done on a spectrum by spectrum basis and can not be simply applied across the whole detector field of view.

The one dimensional combined spectra are the products created after decontamination, extraction from 2D to 1D, relative flux calibration (a type of field position dependent flat fielding), absolute calibration, and the combination of the same spectra from multiple different exposures and/or dispersion angles.

List of associated files:

Calibrated grism frame - The grism science frame that is produced at the end of the preprocessing steps, organized as a multi-extension FITS file with 48 extensions: 16 detectors times the 3 layers for the science frame (SCI), rms map

(RMS), and data quality flags (DQ). Each observation ID comes with a set of 4 calibrated frame files, one for each dither position and grism dispersion angle.
1D combined spectra - Fits files containing the one dimensional spectra that have been created by combining all the available spectra for a single object across multiple dither positions and/or grism dispersion angles (generally 4 extractions per object). These multi-extension FITS files will contain no more than 1000 (?) spectra per file (one spectra per object). They are organized by groupings of OBJECT ID, where the OBJECT ID corresponds directly to the Object IDs given in the merged catalog data products (see below).

CATALOGS:

Euclid has produced a number of catalogs based on the data from its survey. The primary catalog is that derived directly from the Merged Mosaics, with each catalog entry being a single source containing all its photometry (VIS, Y, J, H and any accompanying external ground observations) along with other basic measurements, like size and shape measurements. The object ID number in the Merged Catalog is then used in all other catalogs, so they can be easily cross-linked together.

For a detailed list of the available column names and their descriptions for any catalog, the reader can skip to the ***Description of the Table Columns*** section below and find the table of column descriptions that match their table of interest.

Merged Catalog - Final merged catalog with photometric and morphological information. It contains object positions, total fluxes, colors and some object characterization parameters. One file per mosaic tile.

Spectroscopy Catalogs - Every one dimensional spectrum is processed through a template and line fitting pipeline, producing several different catalogs.

List of associated catalogs:

Redshift - Catalog of best fit redshifts for each source

Probability distribution functions - A probability distribution function is generated for each source describing the likelihood of the best fit redshift(s).

Classification - Catalog of classifications for each source including the probability of classification

Rest frame parameters - Catalog of rest frame parameters for each source produced by best fit template. Split into two catalogs, one for galaxies and one for stars.

Spectral line feature - Catalog of spectral line feature measurements for each source, including fluxes, line widths, etc.

Continuum features - Catalog of spectral continuum features for each source. Split into three catalogs: atomic, molecular, and general continuum features.

Photometric Redshift Catalogs - The photometry of every source is processed through a photometric redshift fitting pipeline, producing several different catalogs.

List of associated catalogs:

Photometric redshift - Catalog of the photometric redshift of each source along with its probability distribution function.

Classification - Catalog describing the classification (star/galaxy/QSO) of each object and its associated probability.

Spectral energy distribution (SED) - Catalog of SEDs for each source. Split into two catalogs: galaxies and stars.

Physical parameters - Catalog of physical parameters derived from the best fit template.

Shear Catalogs - For every source from the merged catalog, a shear analysis pipeline takes the original VIS optical filter images and measures a set of shear parameters. There is a different catalog generated for each of the different weak lensing shear measurement codes applied.

List of associated catalogs:

BFDMoments - Shear catalog using the BFD moments code.

KSB - Shear catalog using the KSB code.

LensMC - Shear catalog using the Lens MC code.

MomentsML -Shear catalog using the moments ML code.

Regauss - Shear catalog using Regauss code.

Description of Table Columns

Below are a list of tables describing the columns within each catalog available from the archive. The tables include the column names, a description of what that column value is, and the scientific unit of the value. Many columns have no applicable units, while others are missing or unavailable as of this publication, so the **Unit** column will be frequently empty.

Merged Catalog

Column name	Description	Unit
OBJECT_ID	Euclid unique source identifier	
RIGHT_ASCENSION	Source barycenter RA coordinate (SExtractor ALPHA_J2000) decimal degrees	deg
DECLINATION	Source barycenter DEC coordinate (SExtractor DELTA_J2000) decimal degrees	deg
SEGMENTATION_MAP_ID	Source ID in the associated segmentation map	
VIS_DET	Flag to indicate if the source is detected in the VIS mosaic (1) or is only detected in the NIR mosaic (0)	
FLUX_G_EXT_DECAM_APER	Gext DECam band source aperture photometry flux (2 FWHM) on PSF-matched images	**µ**Jy
FLUX_R_EXT_DECAM_APER	Rext DECam band source aperture photometry flux (2 FWHM) on PSF-matched images	**µ**Jy
FLUX_I_EXT_DECAM_APER	Iext DECam band source aperture photometry flux (2 FWHM) on PSF-matched images	**µ**Jy

FLUX_Z_EXT_DECAM_APER	Zext DECam band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_U_EXT_OMEGACAM_APER	Uext OmegaCAM band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_G_EXT_OMEGACAM_APER	Gext OmegaCAM band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_R_EXT_OMEGACAM_APER	Rext OmegaCAM band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_I_EXT_OMEGACAM_APER	Iext OmegaCAM band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_U_EXT_LSST_APER	Uext LSST band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_G_EXT_LSST_APER	Gext LSST band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_R_EXT_LSST_APER	Rext LSST band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_I_EXT_LSST_APER	Iext LSST band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_Z_EXT_LSST_APER	Zext LSST band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_U_EXT_MEGACAM_APER	Uext MegaCam band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy

FLUX_R_EXT_MEGACAM_APER	Rext MegaCam band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_G_EXT_JPCAM_APER	Gext JPCam band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_I_EXT_PANSTARRS_APER	Iext PANSTARRS band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_Z_EXT_PANSTARRS_APER	Zext PANSTARRS band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_Z_EXT_HSC_APER	Zext HSC band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_VIS_APER	VIS band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_Y_APER	Y band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_J_APER	J band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUX_H_APER	H band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy
FLUXERR_G_EXT_DECAM_APER	Gext DECam band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_R_EXT_DECAM_APER	Rext DECam band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy

FLUXERR_I_EXT_DECAM_APER	Iext DECam band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_Z_EXT_DECAM_APER	Zext DECam band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_U_EXT_OMEGACAM_APER	Uext OmegaCAM band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_G_EXT_OMEGACAM_APER	Gext OmegaCAM band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_R_EXT_OMEGACAM_APER	Rext OmegaCAM band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_I_EXT_OMEGACAM_APER	Iext OmegaCAM band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_U_EXT_LSST_APER	Uext LSST band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_G_EXT_LSST_APER	Gext LSST band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_R_EXT_LSST_APER	Rext LSST band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_I_EXT_LSST_APER	Iext LSST band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_Z_EXT_LSST_APER	Zext LSST band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy

FLUXERR_U_EXT_MEGACAM_APER	Uext MegaCam band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_R_EXT_MEGACAM_APER	Rext MegaCam band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_G_EXT_JPCAM_APER	Gext JPCam band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_I_EXT_PANSTARRS_APER	Iext PANSTARRS band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_Z_EXT_PANSTARRS_APER	Zext PANSTARRS band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_Z_EXT_HSC_APER	Zext HSC band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_VIS_APER	VIS band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_Y_APER	Y band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_J_APER	J band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUXERR_H_APER	H band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUX_NIR_STACK_APER	NIR stack band source aperture photometry flux (2 FWHM) on PSF-matched images	µJy

FLUXERR_NIR_STACK_APER	NIR stack band source aperture photometry flux (2 FWHM) on PSF-matched images error	µJy
FLUX_G_EXT_DECAM_TOTAL	Gext DECam band source template fitting flux (TPHOT measurement)	µJy
FLUX_R_EXT_DECAM_TOTAL	Rext DECam band source template fitting flux (TPHOT measurement)	µJy
FLUX_I_EXT_DECAM_TOTAL	Iext DECam band source template fitting flux (TPHOT measurement)	µJy
FLUX_Z_EXT_DECAM_TOTAL	Zext DECam band source template fitting flux (TPHOT measurement)	µJy
FLUX_U_EXT_OMEGACAM_TOTAL	Uext OmegaCAM band source template fitting flux (TPHOT measurement)	µJy
FLUX_G_EXT_OMEGACAM_TOTAL	Gext OmegaCAM band source template fitting flux (TPHOT measurement)	µJy
FLUX_R_EXT_OMEGACAM_TOTAL	Rext OmegaCAM band source template fitting flux (TPHOT measurement)	µJy
FLUX_I_EXT_OMEGACAM_TOTAL	Iext OmegaCAM band source template fitting flux (TPHOT measurement)	µJy
FLUX_U_EXT_LSST_TOTAL	Uext LSST band source template fitting flux (TPHOT measurement)	µJy
FLUX_G_EXT_LSST_TOTAL	Gext LSST band source template fitting flux (TPHOT measurement)	µJy
FLUX_R_EXT_LSST_TOTAL	Rext LSST band source template fitting flux (TPHOT measurement)	µJy
FLUX_I_EXT_LSST_TOTAL	Iext LSST band source template fitting flux (TPHOT measurement)	µJy
FLUX_Z_EXT_LSST_TOTAL	Zext LSST band source template fitting flux (TPHOT measurement)	µJy

FLUX_U_EXT_MEGACAM_TOTAL	Uext MegaCam band source template fitting flux (TPHOT measurement)	µJy
FLUX_R_EXT_MEGACAM_TOTAL	Rext MegaCam band source template fitting flux (TPHOT measurement)	µJy
FLUX_G_EXT_JPCAM_TOTAL	Gext JPCam band source template fitting flux (TPHOT measurement)	µJy
FLUX_I_EXT_PANSTARRS_TOTAL	Iext PANSTARRS band source template fitting flux (TPHOT measurement)	µJy
FLUX_Z_EXT_PANSTARRS_TOTAL	Zext PANSTARRS band source template fitting flux (TPHOT measurement)	µJy
FLUX_Z_EXT_HSC_TOTAL	Zext HSC band source template fitting flux (TPHOT measurement)	µJy
FLUX_Y_TOTAL	Y band source total flux	µJy
FLUX_J_TOTAL	J band source total flux	µJy
FLUX_H_TOTAL	H band source total flux	µJy
FLUXERR_G_EXT_DECAM_TOTAL	Gext DECam band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_R_EXT_DECAM_TOTAL	Rext DECam band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_I_EXT_DECAM_TOTAL	Iext DECam band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_Z_EXT_DECAM_TOTAL	Zext DECam band source template fitting flux error (TPHOT measurement)	µJy

FLUXERR_U_EXT_OMEGACAM_TOTAL	Uext OmegaCAM band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_G_EXT_OMEGACAM_TOTAL	Gext OmegaCAM band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_R_EXT_OMEGACAM_TOTAL	Rext OmegaCAM band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_I_EXT_OMEGACAM_TOTAL	Iext OmegaCAM band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_U_EXT_LSST_TOTAL	Uext LSST band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_G_EXT_LSST_TOTAL	Gext LSST band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_R_EXT_LSST_TOTAL	Rext LSST band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_I_EXT_LSST_TOTAL	Iext LSST band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_Z_EXT_LSST_TOTAL	Zext LSST band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_U_EXT_MEGACAM_TOTAL	Uext MegaCam band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_R_EXT_MEGACAM_TOTAL	Rext MegaCam band source template fitting flux error (TPHOT measurement)	µJy

FLUXERR_G_EXT_JPCAM_TOTAL	Gext JPCam band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_I_EXT_PANSTARRS_TOTAL	Iext PANSTARRS band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_Z_EXT_PANSTARRS_TOTAL	Zext PANSTARRS band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_Z_EXT_HSC_TOTAL	Zext HSC band source template fitting flux error (TPHOT measurement)	µJy
FLUXERR_Y_TOTAL	Y band source total flux error	µJy
FLUXERR_J_TOTAL	J band source total flux error	µJy
FLUXERR_H_TOTAL	H band source total flux error	µJy
FLUX_VIS_PSF	VIS band source PSF-fitting photometry flux (TPHOT measurement)	µJy
FLUXERR_VIS_PSF	VIS band source PSF-fitting photometry flux error (TPHOT measurement)	µJy
FLUX_SEGMENTATION		µJy
FLUXERR_SEGMENTATION		µJy
FLUX_DETECTION_TOTAL		µJy
FLUXERR_DETECTION_TOTAL		µJy
FLAG_G_EXT_DECAM	Objects flag keeping track of the flagged pixels in the GextDECam flag image	
FLAG_R_EXT_DECAM	Objects flag keeping track of the flagged pixels in the RextDECam flag image	

FLAG_I_EXT_DECAM	Objects flag keeping track of the flagged pixels in the IextDECam flag image	
FLAG_Z_EXT_DECAM	Objects flag keeping track of the flagged pixels in the ZextDECam flag image	
FLAG_U_EXT_OMEGACAM	Objects flag keeping track of the flagged pixels in the UextOmegaCAM flag image	
FLAG_G_EXT_OMEGACAM	Objects flag keeping track of the flagged pixels in the GextOmegaCAM flag image	
FLAG_R_EXT_OMEGACAM	Objects flag keeping track of the flagged pixels in the RextOmegaCAM flag image	
FLAG_I_EXT_OMEGACAM	Objects flag keeping track of the flagged pixels in the IextOmegaCAM flag image	
FLAG_U_EXT_LSST	Objects flag keeping track of the flagged pixels in the Uext LSST flag image	
FLAG_G_EXT_LSST	Objects flag keeping track of the flagged pixels in the Gext LSST flag image	
FLAG_R_EXT_LSST	Objects flag keeping track of the flagged pixels in the Rext LSST flag image	
FLAG_I_EXT_LSST	Objects flag keeping track of the flagged pixels in the Iext LSST flag image	
FLAG_Z_EXT_LSST	Objects flag keeping track of the flagged pixels in the Zext LSST flag image	

FLAG_U_EXT_MEGACAM	Objects flag keeping track of the flagged pixels in the Uext MegaCam flag image	
FLAG_R_EXT_MEGACAM	Objects flag keeping track of the flagged pixels in the Rext MegaCam flag image	
FLAG_G_EXT_JPCAM	Objects flag keeping track of the flagged pixels in the Gext JPCam flag image	
FLAG_I_EXT_PANSTARRS	Objects flag keeping track of the flagged pixels in the Iext PANSTARRS flag image	
FLAG_Z_EXT_PANSTARRS	Objects flag keeping track of the flagged pixels in the Zext PANSTARRS flag image	
FLAG_Z_EXT_HSC	Objects flag keeping track of the flagged pixels in the Zext HSC flag image	
FLAG_VIS	Objects flag keeping track of the flagged pixels in the VIS flag image	
FLAG_Y	Objects flag keeping track of the flagged pixels in the Y flag image	
FLAG_J	Objects flag keeping track of the flagged pixels in the J flag image	
FLAG_H	Objects flag keeping track of the flagged pixels in the H flag image	
FLAG_NIR_STACK	Objects flag keeping track of the flagged pixels in the NIR stack flag image	
AVG_TRANS_WAVE_G_EXT_DECAM	Average filter transmission curve wavelength for the DECam G band	Angstrom
AVG_TRANS_WAVE_R_EXT_DECAM	Average filter transmission curve wavelength for the DECam R band	Angstrom

AVG_TRANS_WAVE_I_EXT_DECAM	Average filter transmission curve wavelength for the DECam I band	Angstrom
AVG_TRANS_WAVE_Z_EXT_DECAM	Average filter transmission curve wavelength for the DECam Z band	Angstrom
AVG_TRANS_WAVE_U_EXT_OMEGACAM	Average filter transmission curve wavelength for the omegaCAM U band	Angstrom
AVG_TRANS_WAVE_G_EXT_OMEGACAM	Average filter transmission curve wavelength for the omegaCAM G band	Angstrom
AVG_TRANS_WAVE_R_EXT_OMEGACAM	Average filter transmission curve wavelength for the omegaCAM R band	Angstrom
AVG_TRANS_WAVE_I_EXT_OMEGACAM	Average filter transmission curve wavelength for the omegaCAM I band	Angstrom
AVG_TRANS_WAVE_U_EXT_LSST	Average filter transmission curve wavelength for the LSST U band	Angstrom
AVG_TRANS_WAVE_G_EXT_LSST	Average filter transmission curve wavelength for the LSST G band	Angstrom
AVG_TRANS_WAVE_R_EXT_LSST	Average filter transmission curve wavelength for the LSST R band	Angstrom
AVG_TRANS_WAVE_I_EXT_LSST	Average filter transmission curve wavelength for the LSST I band	Angstrom
AVG_TRANS_WAVE_Z_EXT_LSST	Average filter transmission curve wavelength for the LSST Z band	Angstrom
AVG_TRANS_WAVE_U_EXT_MEGACAM	Average filter transmission curve wavelength for the MegaCam U band	Angstrom
AVG_TRANS_WAVE_R_EXT_MEGACAM	Average filter transmission curve wavelength for the MegaCam R band	Angstrom

AVG_TRANS_WAVE_G_EXT_JPCAM	Average filter transmission curve wavelength for the JPCam G band	Angstrom
AVG_TRANS_WAVE_I_EXT_PANSTARRS	Average filter transmission curve wavelength for the PANSTARRS I band	Angstrom
AVG_TRANS_WAVE_Z_EXT_PANSTARRS	Average filter transmission curve wavelength for the PANSTARRS Z band	Angstrom
AVG_TRANS_WAVE_Z_EXT_HSC	Average filter transmission curve wavelength for the HSC Z band	Angstrom
AVG_TRANS_WAVE_VIS	Average filter transmission curve wavelength for the VIS band	Angstrom
AVG_TRANS_WAVE_Y	Average filter transmission curve wavelength for the Y band	Angstrom
AVG_TRANS_WAVE_J	Average filter transmission curve wavelength for the J band	Angstrom
AVG_TRANS_WAVE_H	Average filter transmission curve wavelength for the H band	Angstrom
DEBLENDED_FLAG	Flag marking if the object was originally blended with another one	
PARENT_ID	ID of the parent sources of a deblended object	
PARENT_VISNIR	ID of the parent sources of a deblended object	
BLENDED_PROB	Probability that the source is blended with another source	
SHE_FLAG	Flags for objects SHE might want to remove (eg. bright stars)	
VARIABLE_FLAG	Object variability flag	
BINARY_FLAG	Flag for potentially binary stars	

POINT_LIKE_FLAG	Point-like flag : flag set to 1 for VIS detections with (DET_QUALITY_FLAG==0) AND (POINT_LIKE_PROBA>threshold), otherwise set to NaN	
POINT_LIKE_PROB	Probability between 0 and 1 that the source is point-like (the estimation uses a “star probability cube” defined in the MDB). Value is set to NaN for NIR-only objects (use MUMAX_MINUS_MAG for NIR-only objcts)	
EXTENDED_FLAG	Extended source flag	
EXTENDED_PROB	Probability between 0 and 1 that the source is extended	
SPURIOUS_FLAG	Spurious source flag	
SPURIOUS_PROB	Probability between 0 and 1 that the source is spurious	
MAG_STARGAL_SEP	Magnitude used to compute POINT_LIKE_PROB	mag
DET_QUALITY_FLAG	Detection step flags that could indicate the possible corruption of the MAG_STARGAL_SEP values	
MU_MAX	Peak surface brightness above the background in the detection band (directly from SExtractor)	mag/arcsec^2
MUMAX_MINUS_MAG	The difference between MU_MAX and MAG_STARGAL_SEP, valid even for NIR-only sources	mag/arcsec^2
SEGMENTATION_AREA	Isophotal area of the source above the analysis threshold (SExtractor ISOAREA_IMAGE)	pix
A_IMAGE	Semi-major axis of the source (from Asterism)	arcsec

POSITION_ANGLE	Position angle (CCW/x) of the source (from Asterism) range: -90 up to +90 decimal degrees	deg
ELLIPTICITY	A parametrization of how stretched an object is in the detection band, computed from the minor and major axes of the object itself (from Asterism)	
CONCENTRATION	This parameter, simply referred to as the concentration, is defined as the logarithm of the ratio between circular radii containing 80% and 20% of the total flux	
ASYMMETRY	The asymmetry quantifies the degree to which the galaxy flux is rotationally symmetric. It is obtained by subtracting from the original image, the flipped galaxy (rotated by 180deg)	
SMOOTHNESS	The smoothness quantifies the degree of small-scale structure of the galaxy. The image is smoothed with a box of width 0.25 rp and then subtracted from the original image	
GINI	It is a statistic parameter based on the Lorentz curve that presents the cumulative distribution function of galaxy's pixel i values	
MOMENT_20	It is defined as a normalized second-order moment of the 20% brightest pixels of the galaxy. This parameter can trace the spatial distribution of any bright core, bar, spiral arm, and off-centre star cluster	
A_IMAGE_ERR	Semi-major axis error	
POSITION_ANGLE_ERR	Position angle error	

ELLIPTICITY_ERR	Ellipticity error	
CONCENTRATION_ERR	Concentratrion error	
ASYMMETRY_ERR	Asymmetry error	
SMOOTHNESS_ERR	Smoothness error	
GINI_ERR	GINI error	
MOMENT_20_ERR	Moment of light error	
GAL_EBV	Estimated galactic E(B-V) at the source centroid according to the reference Planck map	mag
GAL_EBV_ERR	Error on galactic E(B-V) according to the reference Planck map	mag

Spectroscopy Catalogs

Classification Catalog

Contains the probability for objects to be a star/galaxy/QSO. Additionally, this table contains information on spectral coverage.

Column name	Description	Unit
OBJ_ID	Unique ID of the object	
SPE_STAR_PROB	The probability of the object to be a star	
SPE_GAL_PROB	The probability of the object to be a galaxy	
SPE_QSO_PROB	The probability of the object to be a quasar	
SPE_CLASS	Type in following choice:[`STAR`, `GALAXY`, `QSO`]	
SPE_GRISM	GRISM used. Type in following choice:[`BGS`, `RGS`, `BGS+RGS`]	
N_DITH	The maximum number of DITHER used	
SPE_WRANGE	The wavelength range	
SPE_NPIX	The number of valid pixels in the wavelength range	

Redshift Catalog

For galaxy and QSO candidates, the main outputs are spectroscopic redshifts and their associated error, reliability and sub-classification. For star candidates the main outputs are relative velocity and its associated error and sub-classification.

GALAXY_CANDIDATES

Column name	Description	Unit
OBJ_ID	Unique ID of the object	

SPE_RANK	Rank of candidate (=1 mean best candidate)	
SPE_Z	Estimated spectroscopic redshift	
SPE_Z_ERR	Error on estimated spectroscopic redshift	
SPE_Z_PROB	Probability of estimated spectroscopic redshift	
SPE_Z_REL	Reliability of estimated spectroscopic redshift	
SPE_SUBCLASS	Object sub-classification	
SPE_PROC_FLAG	Processing flag	

STAR_CANDIDATES

Column name	Description	Unit
OBJ_ID	Unique ID of the object	
SPE_RANK	Rank of candidate (=1 mean best candidate)	
SPE_RVEL	Estimated radial velocity	
SPE_RVEL_ERR	Error on estimated radial velocity	
SPE_MODEL_PROB	Probability of estimated star model	
SPE_MODEL_REL	Reliability of estimated star model	
SPE_SUBCLASS	Object sub-classification	
SPE_PROC_FLAG	Processing flag	

QSO_CANDIDATES

Column name	Description	Unit
OBJ_ID	Unique ID of the object	
SPE_RANK	Rank of candidate (i.e. =1 mean best candidate)	

SPE_Z	Estimated spectroscopic redshift	
SPE_Z_ERR	Error on estimated spectroscopic redshift	
SPE_Z_PROB	Probability of estimated spectroscopic redshift	
SPE_Z_REL	Reliability of estimated spectroscopic redshift	
SPE_SUBCLASS	Object sub-classification	
SPE_PROC_FLAG	Processing flag	

PDF Catalog

Contains the estimated redshift PDFs (Probability Density Function) for each spectrum.

Column name	Description	Unit
OBJECT_ID	Unique ID of the object	
SPE_PDF_CLASS	PDF classification	
SPE_Z_AXIS	Redshift axis	
SPE_PDF	PDF values	

Lines Catalog

Contains the spectral line measurements for each spectrum.

Column name	Description	Unit
OBJECT_ID	Unique ID of the object	
SPE_RANK	The rank of estimate (i.e. =1 mean best estimate)	
SPE_LINE_ID	The associated line ID in the reference line catalog	
SPE_LINE_FLAG	Flag on line measurement	

SPE_LINE_NAME	The name of the line	
SPE_LINE_CENTRAL_WL_GF	The estimated central wavelength of the line from Gaussian fit	Angstrom
SPE_LINE_CENTRAL_WL_ERR_GF	The error on the estimated central wavelength from Gaussian fit	Angstrom
SPE_LINE_FLUX_GF	The estimated flux of the line from Gaussian fit	erg/cm2/s
SPE_LINE_FLUX_ERR_GF	The error on the estimated flux of the line from Gaussian fit	erg/cm2/s
SPE_LINE_EW_GF	The estimated equivalent width of the line from Gaussian fit	Angstrom
SPE_LINE_EW_ERR_GF	The error on estimated equivalent width of the line from Gaussian fit	Angstrom
SPE_LINE_FWHM_GF	The estimated FWHM of the line from Gaussian fit	Angstrom
SPE_LINE_FWHM_ERR_GF	The error on estimated FWHM of the line from Gaussian fit	Angstrom
SPE_LINE_INTVAR_GF	The integrated variance within 3-sigma of the line from Gaussian fit	erg2/s2/cm4
SPE_LINE_SNR_GF	The signal-to-noise ratio of the line from Gaussian fit	
SPE_LINE_CONT_GF	The continuum estimated under the line from Gaussian fit	erg/cm2/s
SPE_LINE_LUM_GF	The estimated luminosity of the line from Gaussian fit	erg/s
SPE_LINE_LUM_ERR_GF	The error on the estimated luminosity of the line from Gaussian fit	erg/s
SPE_LINE_QUAL_GF	The quality of the measurements from Gaussian fit	
SPE_LINE_CENTRAL_WL_DI	The estimated central wavelength of the line from direct integration	Angstrom

SPE_LINE_CENTRAL_WL_ERR_DI	The error on the estimated central wavelength from direct integration	Angstrom
SPE_LINE_FLUX_DI	The estimated flux of the line from direct integration	erg/cm2/s
SPE_LINE_FLUX_ERR_DI	The error on the estimated flux of the line from direct integration	erg/cm2/s
SPE_LINE_EW_DI	The estimated equivalent width of the line from direct integration	Angstrom
SPE_LINE_EW_ERR_DI	The error on estimated equivalent width of the line from direct integration	Angstrom
SPE_LINE_SNR_DI	The signal-to-noise ratio of the line from direct integration	
SPE_LINE_CONT_DI	The continuum estimated under the line from direct integration	erg/cm2/s
SPE_LINE_LUM_DI	The estimated luminosity of the line from direct integration	erg/s
SPE_LINE_LUM_ERR_DI	The error on the estimated luminosity of the line from direct integration	erg/s
SPE_LINE_QUAL_DI	The quality of the measurements from direct integration	

Absorption Index Catalog

Contains the measurement of absorption Atomic indices, absorption molecular indices and Continuum features for each spectrum.

ATOMIC_INDICES

Column name	Description	Unit
OBJECT_ID	Unique ID of the object	

SPE_RANK	The rank of estimate (i.e. =1 mean best estimate)	
SPE_AT_IDX_NAME	The name of the atomic Lick index	
SPE_AT_IDX_VAL	The estimated value of the atomic Lick index	Angstrom
SPE_AT_IDX_ERR	The error on the estimated value of the atomic Lick index	Angstrom
SPE_SPEC_SNR	The estimated value of the spectrum SNR in a TBD window	

MOLECULAR_INDICES

Column name	Description	Unit
OBJECT_ID	Unique ID of the object	
SPE_RANK	The rank of estimate (i.e. =1 mean best estimate)	
SPE_MOL_IDX_NAME	The name of the molecular Lick index	
SPE_MOL_IDX_VAL	The estimated value of the molecular Lick index	mag
SPE_MOL_IDX_ERR	The error on the estimated value of the molecular Lick index	mag
SPE_SPEC_SNR	The estimated value of the spectrum SNR in a TBD window	

CONTINUUM_FEATURES

Column name	Description	Unit
OBJECT_ID	Unique ID of the object	
SPE_RANK	The rank of estimate (i.e. =1 mean best estimate)	

SPE_CNT_FEAT_NAME	The name of the absorption break feature	
SPE_CNT_FEAT_VAL	The estimated value of the absorption break feature	
SPE_CNT_FEAT_ERR	The error on the estimated value of the absorption break feature	
SPE_SPEC_SNR	The estimated value of the spectrum SNR in a TBD window	

Models Catalog

Contains the parameters required for building spectrum model of each galaxy candidates, star candidate and QSO candidates for each spectrum.

GALAXY_MODELS

Column name	Description	Unit
OBJ_ID	Unique ID of the object	
SPE_RANK	The rank of estimate (i.e. =1 mean best estimate)	
SPE_Z	Estimated spectroscopic redshift	
SPE_CNT_TPL_ID	The continuum template ID	
SPE_CNT_TPL_AMP	Amplitude of continuum template	
SPE_CNT_IGM_TPL_ID	IGM template ID	
SPE_CNT_ISM_COEF	Ebmv coefficient (unitless interval[0.,1.]	
SPE_TPL_RAT_ID	Template ratio ID	
SPE_TPL_RAT_E_AMP	Amplitude of emission template ratio	
SPE_TPL_RAT_A_AMP	Amplitude of absorption template ratio	

SPE_TPL_RAT_ISM_COEFF	Ebmv coefficient for emission lines(unitless interval[0.,1.]	
SPE_LINES_AMP	Amplitude of each line	
SPE_VEL_DISP_E	Velocity dispersion of emission lines	
SPE_VEL_DISP_A	Velocity dispersion of absorption lines	
LYA_OFFSET	Lya central wavelength offset	Angstrom
LYA_WIDTH	Lya line width	Angstrom
LYA_ASSYM_COEF	Alpha coefficient for skewed gaussian Lya model	

STAR_MODELS

Column name	Description	Unit
OBJ_ID	Unique ID of the object	
SPE_RANK	The rank of estimate (i.e. =1 mean best estimate)	
SPE_Z	Estimated spectroscopic redshift	
SPE_CNT_TPL_ID	The continuum template ID	
SPE_CNT_TPL_AMP	Amplitude of continuum template	

QSO_MODELS

Column name	Description	Unit
OBJ_ID	Unique ID of the object	
SPE_RANK	The rank of estimate (i.e. =1 mean best estimate)	
SPE_Z	Estimated spectroscopic redshift	

SPE_CNT_TPL_ID	The continuum template ID	
SPE_CNT_TPL_AMP	Amplitude of continuum template	
SPE_CNT_IGM_TPL_ID	IGM template ID	
SPE_CNT_ISM_COEF	Ebmv coefficient (unitless interval[0.,1.]	
SPE_TPL_RAT_ID	Template ratio ID	
SPE_TPL_RAT_E_AMP	Amplitude of emission template ratio	
SPE_TPL_RAT_A_AMP	Amplitude of absorption template ratio	
SPE_TPL_RAT_ISM_COEFF	E(B-V) coefficient for emission lines(unitless interval[0.,1.]	
SPE_LINES_AMP	Amplitude of each line	
SPE_VEL_DISP_E	Velocity dispersion of emission lines	
SPE_VEL_DISP_A	Velocity dispersion of absorption lines	
LYA_OFFSET	Lya central wavelength offset	Angstrom
LYA_WIDTH	Lya line width	Angstrom
PLYA_ASSYM_COEF	Alpha coefficient for skewed gaussian Lya model	

Photometric Redshift Catalogs

Photo Z Catalog

This table contains the photometric redshift and its probability distribution function.

Column name	Description	Unit
OBJECT_ID	Unique ID of the object in the survey, as set by MER	
PHZ_PDF	A vector containing the PHZ PDF values, for Z in range [0,6] with 0.01 step	
PHZ_MEDIAN	The median of the PHZ PDF	
PHZ_70_INT	The smallest PHZ PDF interval containing 70% of the probability	
PHZ_90_INT	The smallest PHZ PDF interval containing 90% of the probability	
PHZ_95_INT	The smallest PHZ PDF interval containing 95% of the probability	
PHZ_MODE_1	The first mode of the PHZ PDF	

PHZ_MODE_1_AREA	The total area of the first mode	
PHZ_MODE_2	The second mode of the PHZ PDF	
PHZ_MODE_2_AREA	The total area of the second mode	
PHZ_FLAGS	A 64 bit integer containing the flags of the PHZ processing. Bitwise meaning: l => not classified as galaxy, l0 => MAG > 24.5, l00 => SNR < 10, l000 => NNPZ flag: no close neighbor	
BIAS_ID	The identifier to be used for retrieving the bias correction shift from the bias correction map	
TOM_BIN_ID	The identifier of the Tomographic bin the object is attributed to.	

Physical Parameters Catalog

This table contains the physical parameters and their PDFs.

OBJECT_ID	Unique ID of the object in the survey, as set by MER	
PHYS_PARAM_FLAGS	A 64 bit integer containing the flags of the physical parameters processing (TBD)	

PHZ_PDF_NN_ID	A vector containing the neighbor id	
PHZ_PDF_NN_WEIGHT	A vector containing the neighbor weight	
PHZ_PDF_NN_SCALE	A vector containing the neighbor scale	
QUALITY_FLAG	Quality flag	
GALAXY_CLASS	Galaxy Class	
PHZ_PP_MEDIAN_Z	Point-estimate: Redshift median	
PHZ_PP_MODE_Z	Point-estimate: mode of the Redshift	
PHZ_PP_68_Z	vector containing the lower and upper bound for the 68% of PDF	
PHZ_PP_MEDIAN_LOG_STELLARMASS	median LOG Stellar Mass	
PHZ_PP_MODE_LOG_STELLARMASS	mode of the LOG Stellar Mass	
PHZ_PP_68_LOG_STELLARMASS	vector containing the lower and upper bound for the 68% of LOG Stellar Mass	
PHZ_PP_MEDIAN_SFR	median SFR	

PHZ_PP_MODE_SFR	mode of the SFR	
PHZ_PP_68_SFR	vector containing the lower and upper bound for the 68% of SFR	
PHZ_PP_SFH_TYPE	SFH TYPE	
PHZ_PP_SFH_TAU	SFH TAU	
PHZ_PP_MEDIAN_STELLAR_AGE	median stellar age	
PHZ_PP_MODE_STELLAR_AGE	mode of the stellar age	
PHZ_PP_68_STELLAR_AGE	vector containing the lower and upper bound for the 68% of stellar age	
PHZ_PP_MEDIAN_A_V	median extinction, A_V	
PHZ_PP_MODE_A_V	mode of the extinction, A_V	
PHZ_PP_68_A_V	vector containing the lower and upper bound for the 68% of A_V	
PHZ_PP_MEDIAN_DUST_LAW_SLOPE	median Dust Law Slope	

PHZ_PP_MODE_DUST_LAW_SLOPE	mode of the Dust Law Slope	
PHZ_PP_68_DUST_LAW_SLOPE	vector containing the lower and upper bound for the 68% of Dust Law Slope	
PHZ_PP_MEDIAN_DUST_LAW_WIDTH	median Dust Law Bump Width	
PHZ_PP_MODE_DUST_LAW_WIDTH	mode of the Dust Law Bump Width	
PHZ_PP_68_DUST_LAW_WIDTH	vector containing the lower and upper bound for the 68% of Dust Law Bump Width	
PHZ_PP_MEDIAN_DUST_LAW_HEIGHT	median Dust Law Bump Height	
PHZ_PP_MODE_DUST_LAW_HEIGHT	mode of the Dust Law Bump Height	
PHZ_PP_68_DUST_LAW_HEIGHT	vector containing the lower and upper bound for the 68% of Dust Law Bump Height	
PHZ_PP_MEDIAN_STELLAR_MET	median Stellar Metallicity	
PHZ_PP_MODE_STELLAR_MET	mode of the Stellar Metallicity	
PHZ_PP_68_STELLAR_MET	vector containing the lower and upper bound for the 68% of Stellar Metallicity	

PHZ_PP_MEDIAN_GAS_MET	median Gas Metallicity	
PHZ_PP_MODE_GAS_MET	mode of the Gas Metallicity	
PHZ_PP_68_GAS_MET	vector containing the lower and upper bound for the 68% of Gas Metallicity	
PHZ_PP_MEDIAN_MAGABS_FUV	median Absolute Magnitude FUV	
PHZ_PP_MODE_MAGABS_FUV	mode of the Absolute Magnitude FUV	
PHZ_PP_68_MAGABS_FUV	vector containing the lower and upper bound for the 68% of Absolute Magnitude FUV	
PHZ_PP_MEDIAN_MAGABS_NUV	median Absolute Magnitude NUV	
PHZ_PP_MODE_MAGABS_NUV	mode of the Absolute Magnitude NUV	
PHZ_PP_68_MAGABS_NUV	vector containing the lower and upper bound for the 68% of Absolute Magnitude NUV	
PHZ_PP_MEDIAN_MAGABS_U_JKC	median Absolute Magnitude U_JKC	
PHZ_PP_MODE_MAGABS_U_JKC	mode of the Absolute Magnitude U_JKC	

PHZ_PP_68_MAGABS_U_JKC	vector containing the lower and upper bound for the 68% of Absolute Magnitude U_JKC	
PHZ_PP_MEDIAN_MAGABS_B_JKC	median Absolute Magnitude B_JKC	
PHZ_PP_MODE_MAGABS_B_JKC	mode of the Absolute Magnitude B_JKC	
PHZ_PP_68_MAGABS_B_JKC	vector containing the lower and upper bound for the 68% of Absolute Magnitude B_JKC	
PHZ_PP_MEDIAN_MAGABS_V_JKC	median Absolute Magnitude V_JKC	
PHZ_PP_MODE_MAGABS_V_JKC	mode of the Absolute Magnitude V_JKC	
PHZ_PP_68_MAGABS_V_JKC	vector containing the lower and upper bound for the 68% of Absolute Magnitude V_JKC	
PHZ_PP_MEDIAN_MAGABS_R	median Absolute Magnitude r	
PHZ_PP_MODE_MAGABS_R	mode of the Absolute Magnitude r	
PHZ_PP_68_MAGABS_R	vector containing the lower and upper bound for the 68% of Absolute Magnitude r	
PHZ_PP_MEDIAN_MAGABS_VIS_EUCLID	median Absolute Magnitude VIS Euclid	

PHZ_PP_MODE_MAGABS_VIS_EUCLID	mode of the Absolute Magnitude VIS Euclid	
PHZ_PP_58_MAGABS_VIS_EUCLID	vector containing the lower and upper bound for the 68% of Absolute Magnitude VIS Euclid	
PHZ_PP_MEDIAN_MAGABS_I_JKC	median Absolute Magnitude I_JKC	
PHZ_PP_MODE_MAGABS_I_JKC	mode of the Absolute Magnitude I_JKC	
PHZ_PP_68_MAGABS_I_JKC	vector containing the lower and upper bound for the 68% of Absolute Magnitude I_JKC	
PHZ_PP_MEDIAN_MAGABS_Z	median Absolute Magnitude z	
PHZ_PP_MODE_MAGABS_Z	mode of the Absolute Magnitude z	
PHZ_PP_68_MAGABS_Z	vector containing the lower and upper bound for the 68% of Absolute Magnitude z	
PHZ_PP_MEDIAN_MAGABS_Y_EUCLID	median Absolute Magnitude Y_EUCLID	
PHZ_PP_MODE_MAGABS_Y_EUCLID	mode of the Absolute Magnitude Y_EUCLID	

PHZ_PP_68_MAGABS_Y_EUCLID	vector containing the lower and upper bound for the 68% of Absolute Magnitude Y_EUCLID	
PHZ_PP_MEDIAN_MAGABS_J_EUCLID	median Absolute Magnitude J_EUCLID	
PHZ_PP_MODE_MAGABS_J_EUCLID	mode of the Absolute Magnitude J_EUCLID	
PHZ_PP_68_MAGABS_J_EUCLID	vector containing the lower and upper bound for the 68% of Absolute Magnitude J_EUCLID	
PHZ_PP_MEDIAN_MAGABS_H_EUCLID	median Absolute Magnitude H_EUCLID	
PHZ_PP_MODE_MAGABS_H_EUCLID	mode of the Absolute Magnitude H_EUCLID	
PHZ_PP_68_MAGABS_H_EUCLID	vector containing the lower and upper bound for the 68% of Absolute Magnitude H_EUCLID	
PHZ_PP_MEDIAN_MAGABS_Ks	median Absolute Magnitude Ks	
PHZ_PP_MODE_MAGABS_Ks	mode of the Absolute Magnitude Ks	
PHZ_PP_68_MAGABS_Ks	vector containing the lower and upper bound for the 68% of Absolute Magnitude Ks	

PHZ_PP_MEDIAN_AGN_LUMFRAC	median AGN luminosity fraction	
PHZ_PP_MODE_AGN_LUMFRAC	mode of the AGN luminosity fraction	
PHZ_PP_68_AGN_LUMFRAC	vector containing the lower and upper bound for the 68% of AGN luminosity fraction	
PHZ_PP_MEDIAN_AGN_EBV	median AGN_Reddening	
PHZ_PP_MODE_AGN_EBV	mode of the AGN_Reddening	
PHZ_PP_68_AGN_EBV	vector containing the lower and upper bound for the 68% of AGN_Reddening	
PHZ_PP_MEDIAN_AGN_LBOL	median AGN bolometric luminosity	
PHZ_PP_MODE_AGN_LBOL	mode of the AGN bolometric luminosity	
PHZ_PP_68_AGN_LBOL	vector containing the lower and upper bound for the 68% of AGN bolometric luminosity	

Star SED catalog

This table contains the spectral energy distributions for objects identified as stars.

Column name	Description	Unit

OBJECT_ID	Unique ID of the object in the survey, as set by MER	
FLUX_IA427	Flux for the intermediate band IA427	
ERR_IA427	Error Flux for the intermediate band IA427	
FLUX_IA464	Flux for the intermediate band IA464	
ERR_IA464	Error Flux for the intermediate band IA464	
FLUX_IA484	Flux for the intermediate band IA484	
ERR_IA484	Error Flux for the intermediate band IA484	
FLUX_IA505	Flux for the intermediate band IA505	
ERR_IA505	Error Flux for the intermediate band IA505	
FLUX_IA527	Flux for the intermediate band IA527	
ERR_IA527	Error Flux for the intermediate band IA527	

FLUX_IA574	Flux for the intermediate band IA574	
ERR_IA574	Error Flux for the intermediate band IA574	
FLUX_IA624	Flux for the intermediate band IA624	
ERR_IA624	Error Flux for the intermediate band IA624	
FLUX_IA679	Flux for the intermediate band IA679	
ERR_IA679	Error Flux for the intermediate band IA679	
FLUX_IA709	Flux for the intermediate band IA709	
ERR_IA709	Error Flux for the intermediate band IA709	
FLUX_IA738	Flux for the intermediate band IA738	
ERR_IA738	Error Flux for the intermediate band IA738	
FLUX_IA767	Flux for the intermediate band IA767	

ERR_IA767	Error Flux for the intermediate band IA767	
FLUX_IA827	Flux for the intermediate band IA827	
ERR_IA827	Error Flux for the intermediate band IA827	
PHZ_FLAGS	A 64 bit integer containing the flags (TBD)	

Galaxy SED catalog

This table contains the spectral energy distributions for objects identified as galaxy.

Column name	Description	Unit
OBJECT_ID	Unique ID of the object in the survey, as set by MER	
FLUX_IA427	Flux for the intermediate band IA427	
ERR_IA427	Error Flux for the intermediate band IA427	
FLUX_IA464	Flux for the intermediate band IA464	
ERR_IA464	Error Flux for the intermediate band IA464	

FLUX_IA484	Flux for the intermediate band IA484	
ERR_IA484	Error Flux for the intermediate band IA484	
FLUX_IA505	Flux for the intermediate band IA505	
ERR_IA505	Error Flux for the intermediate band IA505	
FLUX_IA527	Flux for the intermediate band IA527	
ERR_IA527	Error Flux for the intermediate band IA527	
FLUX_IA574	Flux for the intermediate band IA574	
ERR_IA574	Error Flux for the intermediate band IA574	
FLUX_IA624	Flux for the intermediate band IA624	
ERR_IA624	Error Flux for the intermediate band IA624	
FLUX_IA679	Flux for the intermediate band IA679	

ERR_IA679	Error Flux for the intermediate band IA679	
FLUX_IA709	Flux for the intermediate band IA709	
ERR_IA709	Error Flux for the intermediate band IA709	
FLUX_IA738	Flux for the intermediate band IA738	
ERR_IA738	Error Flux for the intermediate band IA738	
FLUX_IA767	Flux for the intermediate band IA767	
ERR_IA767	Error Flux for the intermediate band IA767	
FLUX_IA827	Flux for the intermediate band IA827	
ERR_IA827	Error Flux for the intermediate band IA827	
PHZ_FLAGS	A 64 bit integer containing the flags (TBD)	

Classification catalog

This table contains the probability for objects to be a star/galaxy/QSO.

Column name	Description	Unit
OBJECT_ID	Unique ID of the object in the survey, as set by MER	
PHZ_STAR_PROB	the probability of the object to be a star	
PHZ_GAL_PROB	the probability of the object to be a galaxy	
PHZ_CLASSIFICATION	Classification attributed by PHZ PF	
PHZ_QSO_PROB	the probability of the object to be a quasar	

Shear Catalogs

The shear catalogs contain shear measurements from all three production methods and both control methods, making five catalogs total.

BFD Moments

Column name	Description	Unit
OBJECT_ID	Galaxy ID	
SHE_BFD_FIT_FLAGS	Set of bit flags based on fit status (see ShearMeasurementFlags)	
SHE_BFD_VAL_FLAGS	Set of bit flags based on validation status (definition TBD)	
SHE_BFD_FIT_CLASS	Classification of object as galaxy (0), star(1), or unknown (2)	
SHE_BFD_UPDATED_RA	Estimate of Right Ascension of the galaxy center position [deg]	
SHE_BFD_UPDATED_RA_ERR	1-Sigma error on RA	
SHE_BFD_UPDATED_DEC	Estimate of Declination of the galaxy center position [deg]	
SHE_BFD_UPDATED_DEC_ERR	1-Sigma error on DEC	
SHE_BFD_MOMENTS	7 calibrated Fourier Moments	
SHE_BFD_PQR	6 terms of calibrated Taylor expanded likelihood	
SHE_BFD_COV_EVEN	15 terms of covariance between 5 even calibrated moments	
SHE_BFD_COV_ODD	3 terms of covariance between 2 odd calibrated moments	
SHE_BFD_WEIGHT*	Calibrated weight for this object	
SHE_BFD_MOMENTS_UNCAL*	7 uncalibrated Fourier Moments	

SHE_BFD_PQR_UNCAL*	6 terms of uncalibrated Taylor expanded likelihood	
SHE_BFD_COV_EVEN_UNCAL*	15 terms of covariance between 5 even uncalibrated moments	
SHE_BFD_COV_ODD_UNCAL*	3 terms of covariance between 2 odd uncalibrated moments	
SHE_WEIGHT_UNCAL*	Uncalibrated Weight for this object	

Columns marked with * need to be added to the data model.

KSB Shear Measurements

Column name	Description	Unit
OBJECT_ID	Galaxy ID	
SHE_KSB_FIT_FLAGS	Set of bit flags based on fit status (see ShearMeasurementFlags)	
SHE_KSB_VAL_FLAGS	Set of bit flags based on validation status (definition TBD)	
SHE_KSB_FIT_CLASS	Classification of object as galaxy (0), star(1), or unknown (2)	
SHE_KSB_G1	Calibrated estimate of first component of ellipticity, in (-ra,dec) coordinates	
SHE_KSB_G1_ERR	Error on G1 in estimating shear	
SHE_KSB_G2	Calibrated estimate of second component of ellipticity, in (-ra,dec) coordinates	
SHE_KSB_G2_ERR	Error on G2 in estimating shear	
SHE_KSB_G1G2_COVAR	Covariance of G1 and G2 in estimating shear	
SHE_KSB_WEIGHT	Calibrated weight for this object	

SHE_KSB_G1_UNCAL	Uncalibrated estimate of first component of ellipticity, in (-ra,dec) coordinates	
SHE_KSB_G1_UNCAL_ERR	Error on G1_UNCAL in estimating shear	
SHE_KSB_G2_UNCAL	Uncalibrated estimate of second component of ellipticity, in (-ra,dec) coordinates	
SHE_KSB_G2_UNCAL_ERR	Error on G2_UNCAL in estimating shear	
SHE_KSB_G1G2_UNCAL_COVAR	Covariance of G1_UNCAL and G2_UNCAL in estimating shear	
SHE_KSB_WEIGHT_UNCAL	Uncalibrated weight for this object	
SHE_KSB_RE	Estimate of the size of the galaxy, as scale length for an elliptical profile	
SHE_KSB_RE_ERR	Error on RE	
SHE_KSB_UPDATED_RA	Estimate of Right Ascension of the galaxy center position [deg]	
SHE_KSB_UPDATED_RA_ERR	1-Sigma error on RA	
SHE_KSB_UPDATED_DEC	Estimate of Declination of the galaxy center position [deg]	
SHE_KSB_UPDATED_DEC_ERR	1-Sigma error on DEC	
SHE_KSB_FLUX	Estimate of galaxy flux in ADU	
SHE_KSB_FLUX_ERR	Error on FLUX	
SHE_KSB_SNR	Estimate of galaxy signal-to-noise ratio	
SHE_KSB_SNR_ERR	Error on SNR	

LensMc Shear Measurements

Column name	Description	Unit

OBJECT_ID	Galaxy ID	
SHE_LENSMC_FIT_FLAGS	Set of bit flags based on fit status (see ShearMeasurementFlags)	
SHE_LENSMC_VAL_FLAGS	Set of bit flags based on validation status (definition TBD)	
SHE_LENSMC_FIT_CLASS	Classification of object as galaxy (0), star(1), or unknown (2)	
SHE_LENSMC_GAL_PVALUE	P-value to classify object as a galaxy (p-value < threshold), otherwise as a star; supersedes FIT_CLASS	
SHE_LENSMC_G1	Calibrated estimate of first component of ellipticity, in (-ra,dec) coords.	
SHE_LENSMC_G1_ERR	1-Sigma error on G1	
SHE_LENSMC_G2	Calibrated estimate of second component of ellipticity, in (-ra,dec) coords.	
SHE_LENSMC_G2_ERR	1-Sigma error on G2	
SHE_LENSMC_WEIGHT	Calibrated shear weight	
SHE_LENSMC_G1_ICAL	Internally calibrated estimate of first component of ellipticity, (-ra,dec)	
SHE_LENSMC_G1_UNCAL	Uncalibrated estimate of first component of ellipticity, in (-ra,dec) coords.	
SHE_LENSMC_G1_UNCAL_ERR	1-Sigma error on G1_UNCAL or G1_ICAL	
SHE_LENSMC_G2_ICAL	Internally calibrated estimate of second component of ellipticity, (-ra,dec)	
SHE_LENSMC_G2_UNCAL	Uncalibrated estimate of second component of ellipticity, in (-ra,dec) coords.	
SHE_LENSMC_G2_UNCAL_ERR	1-Sigma error on G2_UNCAL or G2_ICAL	

SHE_LENSMC_WEIGHT_UNCAL	Uncalibrated shear weight	
SHE_LENSMC_RA	Estimate of Right Ascension of the galaxy center position [deg]	
SHE_LENSMC_RA_ERR	1-Sigma error on RA	
SHE_LENSMC_DEC	Estimate of Declination of the galaxy center position [deg]	
SHE_LENSMC_DEC_ERR	1-Sigma error on DEC	
SHE_LENSMC_RE	Estimate of the size of the galaxy, as disk scale length [arcsec]	
SHE_LENSMC_RE_ERR	1-Sigma error on RE	
SHE_LENSMC_FLUX	Estimate of galaxy flux in ADU per exposure	
SHE_LENSMC_FLUX_ERR	1-Sigma error on FLUX	
SHE_LENSMC_BULGE_FRAC	Estimate of galaxy bulge fraction	
SHE_LENSMC_BULGE_FRAC_ERR	1-Sigma error on BULGE_FRAC	
SHE_LENSMC_SNR	Estimate of galaxy signal-to-noise ratio	
SHE_LENSMC_SNR_ERR	1-Sigma error on SNR	
SHE_LENSMC_CHI2	Goodness of fit reduced chi-squared	
SHE_LENSMC_DOF	Number of degrees of freedom	
SHE_LENSMC_ACCEPTANCE	MCMC acceptance rate	
SHE_LENSMC_NEXP	Number of exposures contributing to the measurements on this object	

MomentsML Shear Measurements

Column name	Description	Unit

OBJECT_ID	Galaxy ID	
SHE_MOMENTSML_FIT_FLAGS	Set of bit flags based on fit status (see ShearMeasurementFlags)	
SHE_MOMENTSML_VAL_FLAGS	Set of bit flags based on validation status (definition TBD)	
SHE_MOMENTSML_FIT_CLASS	Classification of object as galaxy (0), star(1), or unknown (2)	
SHE_MOMENTSML_G1	Calibrated estimate of first component of shear, in (-ra,dec) coordinates	
SHE_MOMENTSML_G1_W	Weight for G1 estimate, if separate weights for G1 and G2 are adopted	
SHE_MOMENTSML_G2	Calibrated estimate of second component of shear, in (-ra,dec) coordinates	
SHE_MOMENTSML_G2_W	Weight for G2 estimate, if separate weights for G1 and G2 are adopted	
SHE_MOMENTSML_WEIGHT	Calibrated shear weight	
SHE_MOMENTSML_G1_UNCAL	Uncalibrated estimate of first component of shear, in (-ra,dec) coordinates	
SHE_MOMENTSML_G1_UNCAL_W	Uncalibrated weight for G1 estimate	
SHE_MOMENTSML_G2_UNCAL	Uncalibrated estimate of second component of shear, in (-ra,dec) coordinates	
SHE_MOMENTSML_G2_UNCAL_W	Uncalibrated weight for G2 estimate	
SHE_MOMENTSML_WEIGHT_UNCAL	Uncalibrated shear weight	
SHE_MOMENTSML_UPDATED_RA	Estimate of Right Ascension of the galaxy center position [deg]	
SHE_MOMENTSML_UPDATED_RA_ERR	1-sigma uncertainty on RA [deg]	

SHE_MOMENTSML_UPDATED_DEC	Estimate of Declination of the galaxy center position [deg]	
SHE_MOMENTSML_UPDATED_DEC_ERR	1-sigma uncertainty on DEC [deg]	
SHE_MOMENTSML_RE	Estimate of galaxy size, as half-light radius [arcsec]	
SHE_MOMENTSML_RE_ERR	1-sigma uncertainty on RE [arcsec]	
SHE_MOMENTSML_FLUX	Estimate of galaxy flux in ADU per exposure	
SHE_MOMENTSML_SNR	Estimate of galaxy signal-to-noise ratio	
SHE_MOMENTSML_SERSIC_INDEX	Estimate of galaxy Sersic index	
SHE_MOMENTSML_NEXP	Number of exposures contributing to the measurements on this object	

Regauss Shear Measurements

Column name	Description	Unit
OBJECT_ID	Galaxy ID	
SHE_REGAUSS_FIT_FLAGS	Set of bit flags based on fit status (see ShearMeasurementFlags)	
SHE_REGAUSS_VAL_FLAGS	Set of bit flags based on validation status (definition TBD)	
SHE_REGAUSS_FIT_CLASS	Classification of object as galaxy (0), star(1), or unknown (2)	
SHE_REGAUSS_G1	Calibrated estimate of first component of ellipticity, in (-ra,dec) coordinates	
SHE_REGAUSS_G1_ERR	Error on G1 in estimating shear	

SHE_REGAUSS_G2	Calibrated estimate of second component of ellipticity, in (-ra,dec) coordinates	
SHE_REGAUSS_G2_ERR	Error on G2 in estimating shear	
SHE_REGAUSS_G1G2_COVAR	Covariance of G1 and G2 in estimating shear	
SHE_REGAUSS_WEIGHT	Calibrated weight for this object	
SHE_REGAUSS_G1_UNCAL	Uncalibrated estimate of first component of ellipticity, in (-ra,dec) coordinates	
SHE_REGAUSS_G1_UNCAL_ERR	Error on G1_UNCAL in estimating shear	
SHE_REGAUSS_G2_UNCAL	Uncalibrated estimate of second component of ellipticity, in (-ra,dec) coordinates	
SHE_REGAUSS_G2_UNCAL_ERR	Error on G2_UNCAL in estimating shear	
SHE_REGAUSS_G1G2_UNCAL_COVAR	Covariance of G1_UNCAL and G2_UNCAL in estimating shear	
SHE_REGAUSS_WEIGHT_UNCAL	Uncalibrated weight for this object	
SHE_REGAUSS_RE	Estimate of the size of the galaxy, as scale length for an elliptical profile	
SHE_REGAUSS_RE_ERR	Error on RE	
SHE_REGAUSS_UPDATED_RA	Estimate of Right Ascension of the galaxy center position [deg]	
SHE_REGAUSS_UPDATED_RA_ERR	1-Sigma error on RA	
SHE_REGAUSS_UPDATED_DEC	Estimate of Declination of the galaxy center position [deg]	
SHE_REGAUSS_UPDATED_DEC_ERR	1-Sigma error on DEC	
SHE_REGAUSS_FLUX	Estimate of galaxy flux in ADU	

SHE_REGAUSS_FLUX_ERR	Error on FLUX	
SHE_REGAUSS_SNR	Estimate of galaxy signal-to-noise ratio	
SHE_REGAUSS_SNR_ERR	Error on SNR	