PS1 Database observational metadata tables

This page describes the contents of the PanSTARRS-1 observational metadata database tables. These tables include information on the observations that contributed to the PS1 survey, including observation date, exposure time, filter, seeing, etc. Other tables include information on secondary data products such as the list of images that contribute to stacks. The information is not specific to individual objects but may be useful in understanding the images and catalogs. The descriptions are extracted from the PSPS Schema Browser interface created by the University of Hawaii.

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Tables included in DR1

StackToImage

Description: Contains the mapping of which input images were used to construct a particular stack.

Name	Unit	Data Type	Size	Default Value	Description
stackImageID	dimensionless	BIGINT	8	NA	Unique stack identifier.
imageID	dimensionless	BIGINT	8	NA	Unique image identifier. Constructed as (100 * frameID + ccdID).

StackToFrame

Description: Contains the mapping of input frames used to construct a particular stack along with processing stats.

Name	Unit	Data Type	Size	Default Value	Description
stackImageID	dimensionless	BIGINT	8	NA	Unique stack identifier.
frameID	dimensionless	INT	4	NA	Unique frame/exposure identifier.
scaleFactor	dimensionless	REAL	4	0	normalization factor applied to input image before stacking.
zp	magnitudes	REAL	4	0	Photometric zeropoint. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
expTime	seconds	REAL	4	-999	Exposure time of the frame/exposure. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.

airMass	dimensionless	REAL	4	0	Airmass at midpoint of the exposure. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.

StackMeta

Description: Contains the metadata describing the stacked image produced from the combination of a set of single epoch exposures. The nature of the stack is given by the StackTypeID. The astrometric and photometric calibration of the stacked image are listed.

Name	Unit	Data Type	Size	Default Value	Description
stackImageID	dimensionless	BIGINT	8	NA	Unique stack identifier.
batchID	dimensionless	BIGINT	8	NA	Internal database batch identifier.
surveyID	dimensionless	TINYINT	1	NA	Survey identifier. Details in the Survey table.
filterID	dimensionless	TINYINT	1	NA	Filter identifier. Details in the Filter table.
stackTypeID	dimensionless	TINYINT	1	0	Stack type identifier. Details in the StackType table.
tessID	dimensionless	TINYINT	1	0	Tessellation identifier. Details in the TessellationType table.
projectionID	dimensionless	SMALLINT	2	-1	Projection cell identifier.
skyCellID	dimensionless	TINYINT	1	255	Skycell region identifier.
photoCalID	dimensionless	INT	4	NA	Photometric calibration identifier. Details in the PhotoCal table.
analysisVer	dimensionless	VARCHAR(100)	100		IPP software analysis release version.
md5sum	dimensionless	VARCHAR(100)	100		IPP MD5 Checksum.
expTime	seconds	REAL	4	-999	Exposure time of the stack. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
nP2Images	dimensionless	SMALLINT	2	-999	Number of input exposures/frames contributing to this stack.
detectionThreshold	magnitudes	REAL	4	-999	Reference magnitude for detection efficiency calculation.
astroScat	dimensionless	REAL	4	-999	Measurement of the calibration (not astrometric error) defined to be the sum in quadrature of the standard deviations in the X and Y directions.
photoScat	dimensionless	REAL	4	-999	Photometric scatter relative to reference catalog.
nAstroRef	dimensionless	INT	4	-999	Number of astrometric reference sources.
nPhotoRef	dimensionless	INT	4	-999	Number of photometric reference sources.
recalAstroScatX	arcsec	REAL	4	-999	Measurement of the re-calibration (not astrometric error) in the X direction.
recalAstroScatY	arcsec	REAL	4	-999	Measurement of the re-calibration (not astrometric error) in the Y direction.
recalNAstroStars	dimensionless	INT	4	-999	Number of astrometric reference sources used in recalibration.
recalphotoScat	magnitudes	REAL	4	-999	Photometric scatter relative to reference catalog.
recalNPhotoStars	dimensionless	INT	4	-999	Number of astrometric reference sources used in recalibration.

psfModelID	dimensionless	INT	4	-999	PSF model identifier.
psfFWHM	arcsec	REAL	4	-999	Mean PSF full width at half maximum at image center.
psfWidMajor	arcsec	REAL	4	-999	PSF major axis FWHM at image center.
psfWidMinor	arcsec	REAL	4	-999	PSF minor axis FWHM at image center.
psfTheta	degrees	REAL	4	-999	PSF major axis orientation at image center.
photoZero	magnitudes	REAL	4	-999	Locally derived photometric zero point for this stack.
ctype1	dimensionless	VARCHAR(100)	100		Name of astrometric projection in right ascension.
ctype2	dimensionless	VARCHAR(100)	100		Name of astrometric projection in declination.
crval1	degrees	FLOAT	8	-999	Right ascension corresponding to reference pixel.
crval2	degrees	FLOAT	8	-999	Declination corresponding to reference pixel.
crpix1	sky pixels	FLOAT	8	-999	Reference pixel for right ascension.
crpix2	sky pixels	FLOAT	8	-999	Reference pixel for declination.
cdelt1	degrees/pixel	FLOAT	8	-999	Pixel scale in right ascension.
cdelt2	degrees/pixel	FLOAT	8	-999	Pixel scale in declination.
pc001001	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel x and right ascension.
pc001002	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel y and right ascension.
pc002001	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel x and declination.
pc002002	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel y and declination.
processingVersion	dimensionless	TINYINT	1	NA	Data release version.

StackDetEffMeta

Description: Contains the detection efficiency information for a given stacked image. Provides the number of recovered sources out of 500 injected sources for each magnitude bin and statistics about the magnitudes of the recovered sources for a range of magnitude offsets.

Name	Unit	Data Type	Size	Default Value	Description
stackImageID	dimensionless	BIGINT	8	NA	Unique stack identifier.
magref	magnitudes	REAL	4	NA	Detection efficiency reference magnitude.
nInjected	dimensionless	INT	4	NA	Number of fake sources injected in each magnitude bin.
offset01	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 1.
counts01	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 1.
diffMean01	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 1.
diffStdev01	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 1.

errMean01	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 1.
offset02	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 2.
counts02	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 2.
diffMean02	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 2.
diffStdev02	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 2.
errMean02	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 2.
offset03	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 3.
counts03	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 3.
diffMean03	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 3.
diffStdev03	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 3.
errMean03	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 3.
offset04	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 4.
counts04	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 4.
diffMean04	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 4.
diffStdev04	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 4.
errMean04	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 4.
offset05	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 5.
counts05	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 5.
diffMean05	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 5.
diffStdev05	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 5.
errMean05	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 5.
offset06	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 6.
counts06	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 6.
diffMean06	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 6.
diffStdev06	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 6.
errMean06	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 6.
offset07	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 7.
counts07	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 7.
diffMean07	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 7.
diffStdev07	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 7.

errMean07	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 7.
offset08	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 8.
counts08	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 8.
diffMean08	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 8.
diffStdev08	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 8.
errMean08	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 8.
offset09	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 9.
counts09	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 9.
diffMean09	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 9.
diffStdev09	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 9.
errMean09	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 9.
offset10	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 10.
counts10	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 10.
diffMean10	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 10.
diffStdev10	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 10.
errMean10	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 10.
offset11	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 11.
counts11	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 11.
diffMean11	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 11.
diffStdev11	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 11.
errMean11	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 11.
offset12	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 12.
counts12	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 12.
diffMean12	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 12.
diffStdev12	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 12.
errMean12	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 12.
offset13	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 13.
counts13	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 13.
diffMean13	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 13.
diffStdev13	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 13.

errMean13	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 13.

Tables not included in DR1

The tables below are not part of the DR1 database, but their descriptions are included for completeness.

FrameMeta

Description: Contains metadata related to an individual exposure. A "Frame" refers to the collection of all images obtained by the 60 OTA devices in the camera in a single exposure. The camera configuration, telescope pointing, observation time, and astrometric solution from the detector focal plane (L,M) to the sky (RA,Dec) is provided.

Name	Unit	Data Type	Size	Default Value	Description
frameID	dimensionless	INT	4	NA	Unique frame/exposure identifier.
frameName	dimensionless	VARCHAR(32)	32	NA	Frame/exposure name provided by the camera software.
surveyID	dimensionless	TINYINT	1	NA	Survey identifier. Details in the Survey table.
filterID	dimensionless	TINYINT	1	NA	Filter identifier. Details in the Filter table.
ippChipID	dimensionless	INT	4	NA	IPP chipRun identifier.
ippCamID	dimensionless	INT	4	NA	IPP camRun identifier.
ippWarpID	dimensionless	INT	4	NA	IPP warpRun identifier.
cameraID	dimensionless	SMALLINT	2	NA	Camera identifier. Details in the CameraConfig table.
cameraConfigID	dimensionless	SMALLINT	2	NA	Camera configuration identifier. Details in the CameraConfig table.
telescopeID	dimensionless	SMALLINT	2	NA	Telescope identifier.
analysisVer	dimensionless	VARCHAR(100)	100		IPP software analysis release version.
md5sum	dimensionless	VARCHAR(100)	100		IPP MD5 Checksum.
nOTA	dimensionless	SMALLINT	2	-999	Number of valid OTA images in this frame/exposure.
photoScat	magnitudes	REAL	4	-999	Photometric scatter relative to reference catalog across the full field of view.
nPhotoRef	dimensionless	INT	4	-999	Number of photometric reference sources.
expStart	days	FLOAT	8	-999	Modified Julian Date at the start of the exposure.
expTime	seconds	REAL	4	-999	Exposure time of the frame/exposure. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
airmass	dimensionless	REAL	4	0	Airmass at midpoint of the exposure. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
raBore	degrees	FLOAT	8	-999	Right ascension of telescope boresight.
decBore	degrees	FLOAT	8	-999	Declination of telescope boresight.
ctype1	dimensionless	VARCHAR(100)	100		Name of astrometric projection in right ascension.

ctype2	dimensionless	VARCHAR(100)	100		Name of astrometric projection in declination.
crval1	degrees	FLOAT	8	-999	Right ascension corresponding to reference pixel.
crval2	degrees	FLOAT	8	-999	Declination corresponding to reference pixel.
crpix1	focal plane pixels	FLOAT	8	-999	Reference pixel for right ascension.
crpix2	focal plane pixels	FLOAT	8	-999	Reference pixel for declination.
cdelt1	degrees/pixel	FLOAT	8	-999	Pixel scale in right ascension.
cdelt2	degrees/pixel	FLOAT	8	-999	Pixel scale in declination.
pc001001	dimensionless	FLOAT	8	-999	Linear transformation matrix element between focal plane pixel L and right ascension.
pc001002	dimensionless	FLOAT	8	-999	Linear transformation matrix element between focal plane pixel M and right ascension.
pc002001	dimensionless	FLOAT	8	-999	Linear transformation matrix element between focal plane pixel L and declination.
pc002002	dimensionless	FLOAT	8	-999	Linear transformation matrix element between focal plane pixel M and declination.
polyOrder	dimensionless	TINYINT	1	255	Polynomial order of astrometric fit between the detector focal plane and the sky.
pca1x3y0	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^3 y^0) for right ascension.
pca1x2y1	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^2 y^1) for right ascension.
pca1x1y2	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^1 y^2) for right ascension.
pca1x0y3	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^0 y^3) for right ascension.
pca1x2y0	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^2 y^0) for right ascension.
pca1x1y1	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^1 y^1) for right ascension.
pca1x0y2	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^0 y^2) for right ascension.
pca2x3y0	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^3 y^0) for declination.
pca2x2y1	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^2 y^1) for declination.
pca2x1y2	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^1 y^2) for declination.
pca2x0y3	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^0 y^3) for declination.
pca2x2y0	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^2 y^0) for declination.
pca2x1y1	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^1 y^1) for declination.
pca2x0y2	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^0 y^2) for declination.
batchID	dimensionless	BIGINT	8	NA	Internal database batch identifier.
processingVersion	dimensionless	TINYINT	1	NA	Data release version.

ImageMeta

Description: Contains metadata related to an individual OTA image that comprises a portion of the full exposure. The characterization of the image quality, the detrends applied, and the astrometric solution from the raw pixels (X,Y) to the detector focal plane (L,M) is provided.

Name	Unit	Data Type	Size	Default Value	Description
imageID	dimensionless	BIGINT	8	NA	Unique image identifier. Constructed as (100 * frameID + ccdID).
frameID	dimensionless	INT	4	NA	Unique frame/exposure identifier.
ccdID	dimensionless	SMALLINT	2	NA	OTA identifier based on location in the focal plane, specific to an individual device.
photoCalID	dimensionless	INT	4	NA	Photometric calibration identifier. Details in the PhotoCal table.
filterID	dimensionless	TINYINT	1	NA	Filter identifier. Details in the Filter table.
bias	adu	REAL	4	-999	OTA bias level.
biasScat	adu	REAL	4	-999	Scatter in bias level.
sky	Janskys /arcsec^2	REAL	4	-999	Mean sky brightness.
skyScat	Janskys /arcsec^2	REAL	4	-999	Scatter in mean sky brightness.
nDetect	dimensionless	INT	4	-999	Number of detections in this image.
detectionThreshold	magnitudes	REAL	4	-999	Reference magnitude for detection efficiency calculation.
astroScat	arcsec	REAL	4	-999	Measurement of the calibration (not astrometric error) defined to be the sum in quadrature of the standard deviations in the X and Y directions.
photoScat	magnitudes	REAL	4	-999	Photometric scatter relative to reference catalog.
nAstroRef	dimensionless	INT	4	-999	Number of astrometric reference sources.
nPhotoRef	dimensionless	INT	4	-999	Number of photometric reference sources.
recalAstroScatX	arcsec	REAL	4	-999	Measurement of the re-calibration (not astrometric error) in the X direction.
recalAstroScatY	arcsec	REAL	4	-999	Measurement of the re-calibration (not astrometric error) in the Y direction.
recalNAstroStars	dimensionless	INT	4	-999	Number of astrometric reference sources used in recalibration.
recalphotoScat	magnitudes	REAL	4	-999	Photometric scatter relative to reference catalog.
recalNPhotoStars	dimensionless	INT	4	-999	Number of astrometric reference sources used in recalibration.
nAxis1	pixels	SMALLINT	2	-999	Image dimension in x.
nAxis2	pixels	SMALLINT	2	-999	Image dimension in y.
psfModelID	dimensionless	INT	4	-999	PSF model identifier.
psfFWHM	arcsec	REAL	4	-999	Mean PSF full width at half maximum at image center.
psfWidMajor	arcsec	REAL	4	-999	PSF major axis FWHM at image center.
psfWidMinor	arcsec	REAL	4	-999	PSF minor axis FWHM at image center.
psfTheta	degrees	REAL	4	-999	PSF major axis orientation at image center.

moment Major	arcsec	REAL	4	-999	PSF major axis second moment.
moment Minor	arcsec	REAL	4	-999	PSF minor axis second moment.
moment M2C	arcsec^2	REAL	4	-999	Moment M2C = M_xx - M_yy.
moment M2S	arcsec^2	REAL	4	-999	Moment M2S = 2 * M_xy.
moment M3	arcsec^2	REAL	4	-999	trefoil second moment = sqrt((M_xxx - 3 * M_xyy)^2 + (3 * M_xxy - M_yyy)^2).
moment M4	arcsec^2	REAL	4	-999	quadrupole second moment = sqrt((M_xxxx - 6 * M_xxyy + M_yyyy)^2 + (4 * M_xxxy - 4 * M_xyyy)^2).
apResid	magnitudes	REAL	4	-999	Residual of aperture corrections.
dapResid	magnitudes	REAL	4	-999	Scatter of aperture corrections.
detector ID	dimensionless	VARCHAR(100)	100		Identifier for each individual OTA detector device.
qaFlags	dimensionless	BIGINT	8	-999	Q/A flags for this image. Values listed in ImageFlags.
detrend1	dimensionless	VARCHAR(100)	100		Identifier for detrend image 1, the static mask.
detrend2	dimensionless	VARCHAR(100)	100		Identifier for detrend image 2, the dark model.
detrend3	dimensionless	VARCHAR(100)	100		Identifier for detrend image 3, the flat.
detrend4	dimensionless	VARCHAR(100)	100		Identifier for detrend image 4, the fringe.
detrend5	dimensionless	VARCHAR(100)	100		Identifier for detrend image 5, the noisemap.
detrend6	dimensionless	VARCHAR(100)	100		Identifier for detrend image 6, the non-linearity correction.
detrend7	dimensionless	VARCHAR(100)	100		Identifier for detrend image 7, the video dark model.
detrend8	dimensionless	VARCHAR(100)	100		Identifier for detrend image 8.
photoZero	magnitudes	REAL	4	-999	Locally derived photometric zero point for this image.
ctype1	dimensionless	VARCHAR(100)	100		Name of astrometric projection in focal plane L.
ctype2	dimensionless	VARCHAR(100)	100		Name of astrometric projection in focal plane M.
crval1	focal plane pixels	FLOAT	8	-999	Focal plane L corresponding to reference pixel.
crval2	focal plane pixels	FLOAT	8	-999	Focal plane M corresponding to reference pixel.
crpix1	raw pixels	FLOAT	8	-999	Reference pixel for focal plane L.
crpix2	raw pixels	FLOAT	8	-999	Reference pixel for focal plane M.;
cdelt1	focal plane pixels/raw pixel	FLOAT	8	-999	Pixel scale in focal plane x.
cdelt2	focal plane pixels/raw pixel	FLOAT	8	-999	Pixel scale in focal plane y.
pc001001	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel x and focal plane pixel L.
pc001002	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel y and focal plane pixel L.
pc002001	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel x and focal plane pixel M.
pc002002	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel y and focal plane pixel M.

polyOrder	dimensionless	TINYINT	1	255	Polynomial order of astrometric fit between the image pixels and the detector focal plane.
pca1x3y0	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^3 y^0) for focal plane L.
pca1x2y1	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^2 y^1) for focal plane L.
pca1x1y2	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^1 y^2) for focal plane L.
pca1x0y3	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^0 y^3) for focal plane L.
pca1x2y0	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^2 y^0) for focal plane L.
pca1x1y1	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^1 y^1) for focal plane L.
pca1x0y2	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^0 y^2) for focal plane L.
pca2x3y0	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^3 y^0) for focal plane M.
pca2x2y1	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^2 y^1) for focal plane M.
pca2x1y2	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^1 y^2) for focal plane M.
pca2x0y3	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^0 y^3) for focal plane M.
pca2x2y0	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^2 y^0) for focal plane M.
pca2x1y1	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^1 y^1) for focal plane M.
pca2x0y2	dimensionless	FLOAT	8	-999	Polynomial coefficient for the astrometric fit component (x^0 y^2) for focal plane M.
processingVersion	dimensionless	TINYINT	1	NA	Data release version.

ImageDetEffMeta

Description: Contains the detection efficiency information for a given individual OTA image. Provides the number of recovered sources out of 500 injected fake source and statistics about the magnitudes of the recovered sources for a range of magnitude offsets.

Name	Unit	Data Type	Size	Default Value	Description
imageID	dimensionless	BIGINT	8	NA	Unique image identifier. Constructed as (100 * frameID + ccdID).
frameID	dimensionless	INT	4	NA	Unique frame/exposure identifier.
magref	magnitudes	REAL	4	NA	Detection efficiency reference magnitude.
nInjected	dimensionless	INT	4	NA	Number of fake sources injected in each magnitude bin.
offset01	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 1.
counts01	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 1.
diffMean01	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 1.
diffStdev01	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 1.

errMean01	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 1.
offset02	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 2.
counts02	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 2.
diffMean02	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 2.
diffStdev02	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 2.
errMean02	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 2.
offset03	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 3.
counts03	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 3.
diffMean03	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 3.
diffStdev03	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 3.
errMean03	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 3.
offset04	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 4.
counts04	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 4.
diffMean04	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 4.
diffStdev04	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 4.
errMean04	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 4.
offset05	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 5.
counts05	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 5.
diffMean05	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 5.
diffStdev05	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 5.
errMean05	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 5.
offset06	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 6.
counts06	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 6.
diffMean06	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 6.
diffStdev06	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 6.
errMean06	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 6.
offset07	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 7.
counts07	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 7.
diffMean07	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 7.
diffStdev07	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 7.

errMean07	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 7.
offset08	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 8.
counts08	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 8.
diffMean08	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 8.
diffStdev08	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 8.
errMean08	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 8.
offset09	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 9.
counts09	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 9.
diffMean09	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 9.
diffStdev09	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 9.
errMean09	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 9.
offset10	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 10.
counts10	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 10.
diffMean10	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 10.
diffStdev10	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 10.
errMean10	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 10.
offset11	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 11.
counts11	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 11.
diffMean11	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 11.
diffStdev11	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 11.
errMean11	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 11.
offset12	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 12.
counts12	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 12.
diffMean12	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 12.
diffStdev12	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 12.
errMean12	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 12.
offset13	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 13.
counts13	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 13.
diffMean13	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 13.
diffStdev13	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 13.

errMean13	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 13.

DiffToImage

Description: Contains the mapping of which input images were used to construct a particular difference image.

Name	Unit	Data Type	Size	Default Value	Description
diffImageID	dimensionless	BIGINT	8	NA	Unique difference identifier.
imageID	dimensionless	BIGINT	8	NA	Unique image identifier. Constructed as (100 * frameID + ccdID).

ForcedWarpToImage

Description: Contains the mapping of which input image comprises a particular warp image used for forced photometry.

Name	Unit	Data Type	Size	Default Value	Description
forcedWarpID	dimensionless	BIGINT	8	NA	Unique forced warp identifier.
imageID	dimensionless	BIGINT	8	NA	Unique image identifier. Constructed as (100 * frameID + ccdID).

DiffMeta

Description: Contains metadata related to a difference image constructed by subtracting a stacked image from a single epoch image, or in the case of the MD Survey from a nightly stack (stack made from all exposures in a single filter in a single night). The astrometric calibration of the reference stack is listed.

Name	Unit	Data Type	Size	Default Value	Description
diffImageID	dimensionless	BIGINT	8	NA	Unique difference identifier.
batchID	dimensionless	BIGINT	8	NA	Internal database batch identifier.
surveyID	dimensionless	TINYINT	1	NA	Survey identifier. Details in the Survey table.
filterID	dimensionless	TINYINT	1	NA	Filter identifier. Details in the Filter table.
diffTypeID	dimensionless	TINYINT	1	0	Difference type identifier. Details in the DiffType table.
frameID	dimensionless	INT	4	NA	Frame/exposure identifier for the postitive image in warp-stack difference images; not populated for stack-stack differences.
posImageID	dimensionless	BIGINT	8	NA	Image identifier for the positive image. For warp-stack difference images, this corresponds to the ForcedWarpToImage.forcedWarpID entry. For stack-stack difference images, this corresponds to StackMeta. stackImageID.
negImageID	dimensionless	BIGINT	8	NA	Image identifier for the negative image. For warp-stack difference images, this corresponds to the StackMeta. stackImageID entry.

ippDiffID	dimensionless	BIGINT	8	NA	IPP diffRun identifier.
tessID	dimensionless	TINYINT	1	0	Tessellation identifier. Details in the TessellationType table.
projectionID	dimensionless	SMALLINT	2	-1	Projection cell identifier.
skyCellID	dimensionless	TINYINT	1	255	Skycell region identifier.
photoCalID	dimensionless	INT	4	NA	Photometric calibration identifier. Details in the PhotoCal table.
analysisVer	dimensionless	VARCHAR(100)	100		IPP software analysis release version.
md5sum	dimensionless	VARCHAR(100)	100		IPP MD5 Checksum.
detectionThreshold	magnitudes	REAL	4	-999	Reference magnitude for detection efficiency calculation.
expTime	seconds	REAL	4	-999	Exposure time of positive image. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
psfModelID	dimensionless	INT	4	-999	PSF model identifier.
psfFWHM	arcsec	REAL	4	-999	Mean PSF full width at half maximum at image center.
psfWidMajor	arcsec	REAL	4	-999	PSF major axis FWHM at image center.
psfWidMinor	arcsec	REAL	4	-999	PSF minor axis FWHM at image center.
psfTheta	degrees	REAL	4	-999	PSF major axis orientation at image center.
kernel	dimensionless	VARCHAR(100)	100		Subtraction kernel.
mode	dimensionless	TINYINT	1	0	Subtraction mode for which input to convolve.
numStamps	dimensionless	INT	4	-999	Number of stamps.
stampDevMean	dimensionless	REAL	4	-999	Mean stamp deviation.
stampDevRMS	dimensionless	REAL	4	-999	RMS stamp deviation.
normalization	dimensionless	REAL	4	-999	Normalization.
convolveMax	dimensionless	REAL	4	-999	Maxiumum convolution fraction.
deconvolveMax	dimensionless	REAL	4	-999	Maximum deconvolution fraction.
ctype1	dimensionless	VARCHAR(100)	100		Name of astrometric projection in right ascension.
ctype2	dimensionless	VARCHAR(100)	100		Name of astrometric projection in declination.
crval1	degrees	FLOAT	8	-999	Right ascension corresponding to reference pixel.
crval2	degrees	FLOAT	8	-999	Declination corresponding to reference pixel.
crpix1	sky pixels	FLOAT	8	-999	Reference pixel for right ascension.
crpix2	sky pixels	FLOAT	8	-999	Reference pixel for declination.
cdelt1	degrees/pixel	FLOAT	8	-999	Pixel scale in right ascension.
cdelt2	degrees/pixel	FLOAT	8	-999	Pixel scale in declination.
pc001001	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel x and right ascension.

pc001002	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel y and right ascension.
pc002001	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel x and declination.
pc002002	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel y and declination.
processingVersion	dimensionless	TINYINT	1	NA	Data release version.

DiffDetEffMeta

Description: Contains the detection efficiency information for a given individual difference image. Provides the number of recovered sources out of 500 injected sources and statistics about the magnitudes of the recovered sources for a range of magnitude offsets.

Name	Unit	Data Type	Size	Default Value	Description
diffImageID	dimensionless	BIGINT	8	NA	Unique difference image identifier.
magref	magnitudes	REAL	4	NA	Detection efficiency reference magnitude.
nInjected	dimensionless	INT	4	NA	Number of fake sources injected in each magnitude bin.
offset01	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 1.
counts01	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 1.
diffMean01	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 1.
diffStdev01	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 1.
errMean01	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 1.
offset02	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 2.
counts02	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 2.
diffMean02	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 2.
diffStdev02	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 2.
errMean02	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 2.
offset03	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 3.
counts03	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 3.
diffMean03	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 3.
diffStdev03	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 3.
errMean03	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 3.
offset04	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 4.
counts04	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 4.
diffMean04	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 4.

diffStdev04	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 4.
errMean04	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 4.
offset05	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 5.
counts05	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 5.
diffMean05	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 5.
diffStdev05	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 5.
errMean05	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 5.
offset06	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 6.
counts06	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 6.
diffMean06	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 6.
diffStdev06	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 6.
errMean06	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 6.
offset07	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 7.
counts07	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 7.
diffMean07	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 7.
diffStdev07	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 7.
errMean07	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 7.
offset08	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 8.
counts08	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 8.
diffMean08	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 8.
diffStdev08	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 8.
errMean08	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 8.
offset09	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 9.
counts09	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 9.
diffMean09	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 9.
diffStdev09	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 9.
errMean09	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 9.
offset10	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 10.
counts10	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 10.
diffMean10	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 10.

diffStdev10	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 10.
errMean10	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 10.
offset11	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 11.
counts11	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 11.
diffMean11	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 11.
diffStdev11	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 11.
errMean11	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 11.
offset12	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 12.
counts12	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 12.
diffMean12	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 12.
diffStdev12	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 12.
errMean12	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 12.
offset13	magnitudes	REAL	4	NA	Detection efficiency magnitude offset for bin 13.
counts13	dimensionless	REAL	4	NA	Detection efficiency count of recovered sources in bin 13.
diffMean13	magnitudes	REAL	4	NA	Detection efficiency mean magnitude difference in bin 13.
diffStdev13	magnitudes	REAL	4	NA	Detection efficiency standard deviation of magnitude differences in bin 13.
errMean13	magnitudes	REAL	4	NA	Detection efficiency mean magnitude error in bin 13.

ForcedWarpMeta

Description: Contains the metadata related to a sky-aligned distortion corrected warp image, upon which forced photometry is performed. The astrometric and photometric calibration of the warp image are listed.

Name	Unit	Data Type	Size	Default Value	Description
forcedWarpID	dimensionless	BIGINT	8	NA	Unique forced warp identifier.
batchID	dimensionless	BIGINT	8	NA	Internal database batch identifier.
surveyID	dimensionless	TINYINT	1	NA	Survey identifier. Details in the Survey table.
filterID	dimensionless	TINYINT	1	NA	Filter identifier. Details in the Filter table.
frameID	dimensionless	INT	4	NA	Frame/exposure identifier of the Frame associated with this warp.
ippSkycalID	dimensionless	INT	4	NA	IPP skycal identifier for the run that generated the positions for forced photometry.
stackMetaID	dimensionless	INT	4	NA	Identifier for the stack which yielded the positions for forced photometry.
tessID	dimensionless	TINYINT	1	0	Tessellation identifier. Details in the TessellationType table.

projectionID	dimensionless	SMALLINT	2	-1	Projection cell identifier.
skyCellID	dimensionless	TINYINT	1	255	Skycell region identifier.
photoCalID	dimensionless	INT	4	NA	Photometric calibration identifier. Details in the PhotoCal table.
analysisVer	dimensionless	VARCHAR(100)	100		IPP software analysis release version.
md5sum	dimensionless	VARCHAR(100)	100		IPP MD5 Checksum.
expTime	seconds	REAL	4	-999	Exposure time of the source frame/exposure for this warp image. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
recalAstroScatX	arcsec	REAL	4	-999	Measurement of the re-calibration (not astrometric error) in the X direction.
recalAstroScatY	arcsec	REAL	4	-999	Measurement of the re-calibration (not astrometric error) in the Y direction.
recalNAstroStars	dimensionless	INT	4	-999	Number of astrometric reference sources used in recalibration.
recalphotoScat	magnitudes	REAL	4	-999	Photometric scatter relative to reference catalog.
recalNPhotoStars	dimensionless	INT	4	-999	Number of astrometric reference sources used in recalibration.
psfModelID	dimensionless	INT	4	-999	PSF model identifier.
psfFWHM	arcsec	REAL	4	-999	Mean PSF full width at half maximum at image center.
psfWidMajor	arcsec	REAL	4	-999	PSF major axis FWHM at image center.
psfWidMinor	arcsec	REAL	4	-999	PSF minor axis FWHM at image center.
psfTheta	degrees	REAL	4	-999	PSF major axis orientation at image center.
photoZero	magnitudes	REAL	4	-999	Locally derived photometric zero point for this warp image.
ctype1	dimensionless	VARCHAR(100)	100		Name of astrometric projection in right ascension.
ctype2	dimensionless	VARCHAR(100)	100		Name of astrometric projection in declination.
crval1	degrees	FLOAT	8	-999	Right ascension corresponding to reference pixel.
crval2	degrees	FLOAT	8	-999	Declination corresponding to reference pixel.
crpix1	sky pixels	FLOAT	8	-999	Reference pixel for right ascension.
crpix2	sky pixels	FLOAT	8	-999	Reference pixel for declination.
cdelt1	degrees/pixel	FLOAT	8	-999	Pixel scale in right ascension.
cdelt2	degrees/pixel	FLOAT	8	-999	Pixel scale in declination.
pc001001	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel x and right ascension.
pc001002	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel y and right ascension.
pc002001	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel x and declination.
pc002002	dimensionless	FLOAT	8	-999	Linear transformation matrix element between image pixel y and declination.
processingVersion	dimensionless	TINYINT	1	NA	Data release version.