

# 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                                                                                                                                                                                                             |
|---------------------------|---------------|--------------|------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>diffImageID</b>        | dimensionless | BIGINT       | 8    | NA            | Unique difference identifier.                                                                                                                                                                                           |
| <b>batchID</b>            | dimensionless | BIGINT       | 8    | NA            | Internal database batch identifier.                                                                                                                                                                                     |
| <b>surveyID</b>           | dimensionless | TINYINT      | 1    | NA            | Survey identifier. Details in the Survey table.                                                                                                                                                                         |
| <b>filterID</b>           | dimensionless | TINYINT      | 1    | NA            | Filter identifier. Details in the Filter table.                                                                                                                                                                         |
| <b>diffTypeID</b>         | dimensionless | TINYINT      | 1    | 0             | Difference type identifier. Details in the DiffType table.                                                                                                                                                              |
| <b>frameID</b>            | dimensionless | INT          | 4    | NA            | Frame/exposure identifier for the positive image in warp-stack difference images; not populated for stack-stack differences.                                                                                            |
| <b>posImageID</b>         | 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. |
| <b>negImageID</b>         | dimensionless | BIGINT       | 8    | NA            | Image identifier for the negative image. For warp-stack difference images, this corresponds to the StackMeta.stackImageID entry.                                                                                        |
| <b>ippDiffID</b>          | dimensionless | BIGINT       | 8    | NA            | IPP diffRun identifier.                                                                                                                                                                                                 |
| <b>tessID</b>             | dimensionless | TINYINT      | 1    | 0             | Tessellation identifier. Details in the TessellationType table.                                                                                                                                                         |
| <b>projectionID</b>       | dimensionless | SMALLINT     | 2    | -1            | Projection cell identifier.                                                                                                                                                                                             |
| <b>skyCellID</b>          | dimensionless | TINYINT      | 1    | 255           | Skycell region identifier.                                                                                                                                                                                              |
| <b>photoCalID</b>         | dimensionless | INT          | 4    | NA            | Photometric calibration identifier. Details in the PhotoCal table.                                                                                                                                                      |
| <b>analysisVersion</b>    | dimensionless | VARCHAR(100) | 100  |               | IPP software analysis release version.                                                                                                                                                                                  |
| <b>md5sum</b>             | dimensionless | VARCHAR(100) | 100  |               | IPP MD5 Checksum.                                                                                                                                                                                                       |
| <b>detectionThreshold</b> | magnitudes    | REAL         | 4    | -999          | Reference magnitude for detection efficiency calculation.                                                                                                                                                               |
| <b>expTime</b>            | seconds       | REAL         | 4    | -999          | Exposure time of positive image. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.                                                                                                     |
| <b>psfModelID</b>         | dimensionless | INT          | 4    | -999          | PSF model identifier.                                                                                                                                                                                                   |
| <b>psfFWHM</b>            | arcsec        | REAL         | 4    | -999          | Mean PSF full width at half maximum at image center.                                                                                                                                                                    |
| <b>psfWidthMajor</b>      | arcsec        | REAL         | 4    | -999          | PSF major axis FWHM at image center.                                                                                                                                                                                    |
| <b>psfWidthMinor</b>      | arcsec        | REAL         | 4    | -999          | PSF minor axis FWHM at image center.                                                                                                                                                                                    |
| <b>psfTheta</b>           | degrees       | REAL         | 4    | -999          | PSF major axis orientation at image center.                                                                                                                                                                             |
| <b>kernel</b>             | dimensionless | VARCHAR(100) | 100  |               | Subtraction kernel.                                                                                                                                                                                                     |
| <b>mode</b>               | dimensionless | TINYINT      | 1    | 0             | Subtraction mode for which input to convolve.                                                                                                                                                                           |
| <b>numStamps</b>          | dimensionless | INT          | 4    | -999          | Number of stamps.                                                                                                                                                                                                       |
| <b>stampDevMean</b>       | dimensionless | REAL         | 4    | -999          | Mean stamp deviation.                                                                                                                                                                                                   |

|                          |               |              |     |      |                                                                                 |
|--------------------------|---------------|--------------|-----|------|---------------------------------------------------------------------------------|
| <b>stampDevRMS</b>       | dimensionless | REAL         | 4   | -999 | RMS stamp deviation.                                                            |
| <b>normalization</b>     | dimensionless | REAL         | 4   | -999 | Normalization.                                                                  |
| <b>convolveMax</b>       | dimensionless | REAL         | 4   | -999 | Maximum convolution fraction.                                                   |
| <b>deconvolveMax</b>     | dimensionless | REAL         | 4   | -999 | Maximum deconvolution fraction.                                                 |
| <b>ctype1</b>            | dimensionless | VARCHAR(100) | 100 |      | Name of astrometric projection in right ascension.                              |
| <b>ctype2</b>            | dimensionless | VARCHAR(100) | 100 |      | Name of astrometric projection in declination.                                  |
| <b>crval1</b>            | degrees       | FLOAT        | 8   | -999 | Right ascension corresponding to reference pixel.                               |
| <b>crval2</b>            | degrees       | FLOAT        | 8   | -999 | Declination corresponding to reference pixel.                                   |
| <b>crpix1</b>            | sky pixels    | FLOAT        | 8   | -999 | Reference pixel for right ascension.                                            |
| <b>crpix2</b>            | sky pixels    | FLOAT        | 8   | -999 | Reference pixel for declination.                                                |
| <b>cdelt1</b>            | degrees/pixel | FLOAT        | 8   | -999 | Pixel scale in right ascension.                                                 |
| <b>cdelt2</b>            | degrees/pixel | FLOAT        | 8   | -999 | Pixel scale in declination.                                                     |
| <b>pc001001</b>          | dimensionless | FLOAT        | 8   | -999 | Linear transformation matrix element between image pixel x and right ascension. |
| <b>pc001002</b>          | dimensionless | FLOAT        | 8   | -999 | Linear transformation matrix element between image pixel y and right ascension. |
| <b>pc002001</b>          | dimensionless | FLOAT        | 8   | -999 | Linear transformation matrix element between image pixel x and declination.     |
| <b>pc002002</b>          | dimensionless | FLOAT        | 8   | -999 | Linear transformation matrix element between image pixel y and declination.     |
| <b>processingVersion</b> | dimensionless | TINYINT      | 1   | NA   | Data release version.                                                           |