

PS1 StackObjectAttributes table fields

The starting point for the PS1 data archive is at [Pan-STARRS1 data archive home page](#).

Description: Contains the PSF, Kron (1980), and aperture fluxes for all filters in a single row, along with point-source object shape parameters. See StackObjectThin table for discussion of primary, secondary, and best detections. References: Kron, R. G. 1980, ApJS, 43, 305.

Name	Unit	Data Type	Size	Default Value	Description
objID	dimensionless	BIGINT	8	NA	Unique object identifier.
uniquePsp sSTid	dimensionless	BIGINT	8	NA	Unique internal PSPS stack identifier.
ippObjID	dimensionless	BIGINT	8	NA	IPP internal object identifier.
randomStackObjID	dimensionless	FLOAT	8	NA	Random value drawn from the interval between zero and one.
primaryDetection	dimensionless	TINYINT	1	255	Identifies if this row is the primary stack detection.
bestDetection	dimensionless	TINYINT	1	255	Identifies if this row is the best detection.
gippDetectID	dimensionless	BIGINT	8	NA	IPP internal detection identifier.
gstackDetectID	dimensionless	BIGINT	8	NA	Unique stack detection identifier.
gstackImageID	dimensionless	BIGINT	8	NA	Unique stack identifier for g filter detection.
gxPos	sky pixels	REAL	4	-999	PSF x center location from g filter stack detection.
gyPos	sky pixels	REAL	4	-999	PSF y center location from g filter stack detection.
gxPosErr	sky pixels	REAL	4	-999	Error in PSF x center location from g filter stack detection.
gyPosErr	sky pixels	REAL	4	-999	Error in PSF y center location from g filter stack detection.
gpsfMajorFWHM	arcsec	REAL	4	-999	PSF major axis FWHM from g filter stack detection.
gpsfMinorFWHM	arcsec	REAL	4	-999	PSF minor axis FWHM from g filter stack detection.
gpsfTheta	degrees	REAL	4	-999	PSF major axis orientation from g filter stack detection.
gpsfCore	dimensionless	REAL	4	-999	PSF core parameter k from g filter stack detection, where $F = F_0 / (1 + k r^2 + r^{3.33})$.
gpsfLikelihood	dimensionless	REAL	4	-999	Likelihood that this g filter stack detection is best fit by a PSF.
gpsfQf	dimensionless	REAL	4	-999	PSF coverage factor for g filter stack detection.
gpsfQfPerfect	dimensionless	REAL	4	-999	PSF-weighted fraction of pixels totally unmasked for g filter stack detection.
gpsfChiSq	dimensionless	REAL	4	-999	Reduced chi squared value of the PSF model fit for g filter stack detection.
gmomentXX	arcsec ²	REAL	4	-999	Second moment M _{xx} for g filter stack detection.
gmomentXY	arcsec ²	REAL	4	-999	Second moment M _{xy} for g filter stack detection.
gmomentYY	arcsec ²	REAL	4	-999	Second moment M _{yy} for g filter stack detection.
gmomentR1	arcsec	REAL	4	-999	First radial moment for g filter stack detection.
gmomentRH	arcsec ^{0.5}	REAL	4	-999	Half radial moment (r ^{0.5} weighting) for g filter stack detection.
gPSFFlux	Janskys	REAL	4	-999	PSF flux from g filter stack detection.
gPSFFluxErr	Janskys	REAL	4	-999	Error in PSF flux from g filter stack detection.

gApFlux	Janskys	REAL	4	-999	Aperture flux from g filter stack detection.
gApFluxErr	Janskys	REAL	4	-999	Error in aperture flux from g filter stack detection.
gApFillFac	dimensionless	REAL	4	-999	Aperture fill factor from g filter stack detection.
gApRadius	arcsec	REAL	4	-999	Aperture radius for g filter stack detection.
gKronFlux	Janskys	REAL	4	-999	Kron (1980) flux from g filter stack detection.
gKronFluxErr	Janskys	REAL	4	-999	Error in Kron (1980) flux from g filter stack detection.
gKronRad	arcsec	REAL	4	-999	Kron (1980) radius from g filter stack detection.
gexpTime	seconds	REAL	4	-999	Exposure time of the g filter stack. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
gExtNSigma	dimensionless	REAL	4	-999	An extendedness measure for the g filter stack detection based on the deviation between PSF and Kron (1980) magnitudes, normalized by the PSF magnitude uncertainty.
gsky	Janskys /arcsec^2	REAL	4	-999	Residual background sky level at the g filter stack detection.
gskyErr	Janskys /arcsec^2	REAL	4	-999	Error in residual background sky level at the g filter stack detection.
gzp	magnitudes	REAL	4	0	Photometric zeropoint for the g filter stack. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
gPlateScale	arcsec /pixel	REAL	4	0	Local plate scale for the g filter stack.
rippDetectID	dimensionless	BIGINT	8	NA	IPP internal detection identifier.
rstackDetectID	dimensionless	BIGINT	8	NA	Unique stack detection identifier.
rstackImageID	dimensionless	BIGINT	8	NA	Unique stack identifier for r filter detection.
rxPos	sky pixels	REAL	4	-999	PSF x center location from r filter stack detection.
ryPos	sky pixels	REAL	4	-999	PSF y center location from r filter stack detection.
rxPosErr	sky pixels	REAL	4	-999	Error in PSF x center location from r filter stack detection.
ryPosErr	sky pixels	REAL	4	-999	Error in PSF y center location from r filter stack detection.
rpsfMajorFWHM	arcsec	REAL	4	-999	PSF major axis FWHM from r filter stack detection.
rpsfMinorFWHM	arcsec	REAL	4	-999	PSF minor axis FWHM from r filter stack detection.
rpsfTheta	degrees	REAL	4	-999	PSF major axis orientation from r filter stack detection.
rpsfCore	dimensionless	REAL	4	-999	PSF core parameter k from r filter stack detection, where $F = F_0 / (1 + k r^2 + r^3.33)$.
rpsfLikelihood	dimensionless	REAL	4	-999	Likelihood that this r filter stack detection is best fit by a PSF.
rpsfQf	dimensionless	REAL	4	-999	PSF coverage factor for r filter stack detection.
rpsfQfPerfect	dimensionless	REAL	4	-999	PSF-weighted fraction of pixels totally unmasked for r filter stack detection.
rpsfChiSq	dimensionless	REAL	4	-999	Reduced chi squared value of the PSF model fit for r filter stack detection.
rmomentXX	arcsec^2	REAL	4	-999	Second moment M_{xx} for r filter stack detection.
rmomentXY	arcsec^2	REAL	4	-999	Second moment M_{xy} for r filter stack detection.
rmomentYY	arcsec^2	REAL	4	-999	Second moment M_{yy} for r filter stack detection.
rmomentR1	arcsec	REAL	4	-999	First radial moment for r filter stack detection.
rmomentRH	arcsec^0.5	REAL	4	-999	Half radial moment ($r^{0.5}$ weighting) for r filter stack detection.
rPSFFlux	Janskys	REAL	4	-999	PSF flux from r filter stack detection.
rPSFFluxErr	Janskys	REAL	4	-999	Error in PSF flux from r filter stack detection.
rApFlux	Janskys	REAL	4	-999	Aperture flux from r filter stack detection.
rApFluxErr	Janskys	REAL	4	-999	Error in aperture flux from r filter stack detection.

rApFillFac	dimensionless	REAL	4	-999	Aperture fill factor from r filter stack detection.
rApRadius	arcsec	REAL	4	-999	Aperture radius for r filter stack detection.
rKronFlux	Janskys	REAL	4	-999	Kron (1980) flux from r filter stack detection.
rKronFluxErr	Janskys	REAL	4	-999	Error in Kron (1980) flux from r filter stack detection.
rKronRad	arcsec	REAL	4	-999	Kron (1980) radius from r filter stack detection.
rexpTime	seconds	REAL	4	-999	Exposure time of the r filter stack. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
rExtNSigma	dimensionless	REAL	4	-999	An extendedness measure for the r filter stack detection based on the deviation between PSF and Kron (1980) magnitudes, normalized by the PSF magnitude uncertainty.
rsky	Janskys /arcsec^2	REAL	4	-999	Residual background sky level at the r filter stack detection.
rskyErr	Janskys /arcsec^2	REAL	4	-999	Error in residual background sky level at the r filter stack detection.
rzp	magnitudes	REAL	4	0	Photometric zeropoint for the r filter stack. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
rPlateScale	arcsec /pixel	REAL	4	0	Local plate scale for the r filter stack.
iippDetectID	dimensionless	BIGINT	8	NA	IPP internal detection identifier.
istackDetectID	dimensionless	BIGINT	8	NA	Unique stack detection identifier.
istackImageID	dimensionless	BIGINT	8	NA	Unique stack identifier for i filter detection.
ixPos	sky pixels	REAL	4	-999	PSF x center location from i filter stack detection.
iyPos	sky pixels	REAL	4	-999	PSF y center location from i filter stack detection.
ixPosErr	sky pixels	REAL	4	-999	Error in PSF x center location from i filter stack detection.
iyPosErr	sky pixels	REAL	4	-999	Error in PSF y center location from i filter stack detection.
ipsfMajorFWHM	arcsec	REAL	4	-999	PSF major axis FWHM from i filter stack detection.
ipsfMinorFWHM	arcsec	REAL	4	-999	PSF minor axis FWHM from i filter stack detection.
ipsfTheta	degrees	REAL	4	-999	PSF major axis orientation from i filter stack detection.
ipsfCore	dimensionless	REAL	4	-999	PSF core parameter k from i filter stack detection, where $F = F_0 / (1 + k r^2 + r^3.33)$.
ipsfLikelihood	dimensionless	REAL	4	-999	Likelihood that this i filter stack detection is best fit by a PSF.
ipsfQf	dimensionless	REAL	4	-999	PSF coverage factor for i filter stack detection.
ipsfQfPerfect	dimensionless	REAL	4	-999	PSF-weighted fraction of pixels totally unmasked for i filter stack detection.
ipsfChiSq	dimensionless	REAL	4	-999	Reduced chi squared value of the PSF model fit for i filter stack detection.
imomentXX	arcsec^2	REAL	4	-999	Second moment M_{xx} for i filter stack detection.
imomentXY	arcsec^2	REAL	4	-999	Second moment M_{xy} for i filter stack detection.
imomentYY	arcsec^2	REAL	4	-999	Second moment M_{yy} for i filter stack detection.
imomentR1	arcsec	REAL	4	-999	First radial moment for i filter stack detection.
imomentRH	arcsec^0.5	REAL	4	-999	Half radial moment ($r^{0.5}$ weighting) for i filter stack detection.
iPSFFlux	Janskys	REAL	4	-999	PSF flux from i filter stack detection.
iPSFFluxErr	Janskys	REAL	4	-999	Error in PSF flux from i filter stack detection.
iApFlux	Janskys	REAL	4	-999	Aperture flux from i filter stack detection.
iApFluxErr	Janskys	REAL	4	-999	Error in aperture flux from i filter stack detection.
iApFillFac	dimensionless	REAL	4	-999	Aperture fill factor from i filter stack detection.

iApRadius	arcsec	REAL	4	-999	Aperture radius for i filter stack detection.
iKronFlux	Janskys	REAL	4	-999	Kron (1980) flux from i filter stack detection.
iKronFluxErr	Janskys	REAL	4	-999	Error in Kron (1980) flux from i filter stack detection.
iKronRad	arcsec	REAL	4	-999	Kron (1980) radius from i filter stack detection.
iexpTime	seconds	REAL	4	-999	Exposure time of the i filter stack. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
iExtNSigma	dimensionless	REAL	4	-999	An extendedness measure for the i filter stack detection based on the deviation between PSF and Kron (1980) magnitudes, normalized by the PSF magnitude uncertainty.
isky	Janskys /arcsec ²	REAL	4	-999	Residual background sky level at the i filter stack detection.
iskyErr	Janskys /arcsec ²	REAL	4	-999	Error in residual background sky level at the i filter stack detection.
izp	magnitudes	REAL	4	0	Photometric zeropoint for the i filter stack. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
iPlateScale	arcsec /pixel	REAL	4	0	Local plate scale for the i filter stack.
zippDetectID	dimensionless	BIGINT	8	NA	IPP internal detection identifier.
zstackDetectID	dimensionless	BIGINT	8	NA	Unique stack detection identifier.
zstackImageID	dimensionless	BIGINT	8	NA	Unique stack identifier for z filter detection.
zxPos	sky pixels	REAL	4	-999	PSF x center location from z filter stack detection.
zyPos	sky pixels	REAL	4	-999	PSF y center location from z filter stack detection.
zxPosErr	sky pixels	REAL	4	-999	Error in PSF x center location from z filter stack detection.
zyPosErr	sky pixels	REAL	4	-999	Error in PSF y center location from z filter stack detection.
zpsfMajorFWHM	arcsec	REAL	4	-999	PSF major axis FWHM from z filter stack detection.
zpsfMinorFWHM	arcsec	REAL	4	-999	PSF minor axis FWHM from z filter stack detection.
zpsfTheta	degrees	REAL	4	-999	PSF major axis orientation from z filter stack detection.
zpsfCore	dimensionless	REAL	4	-999	PSF core parameter k from z filter stack detection, where $F = F_0 / (1 + k r^2 + r^{3.33})$.
zpsfLikelihood	dimensionless	REAL	4	-999	Likelihood that this z filter stack detection is best fit by a PSF.
zpsfQf	dimensionless	REAL	4	-999	PSF coverage factor for z filter stack detection.
zpsfQfPerfect	dimensionless	REAL	4	-999	PSF-weighted fraction of pixels totally unmasked for z filter stack detection.
zpsfChiSq	dimensionless	REAL	4	-999	Reduced chi squared value of the PSF model fit for z filter stack detection.
zmomentXX	arcsec ²	REAL	4	-999	Second moment M _{xx} for z filter stack detection.
zmomentXY	arcsec ²	REAL	4	-999	Second moment M _{xy} for z filter stack detection.
zmomentYY	arcsec ²	REAL	4	-999	Second moment M _{yy} for z filter stack detection.
zmomentR1	arcsec	REAL	4	-999	First radial moment for z filter stack detection.
zmomentRH	arcsec ^{0.5}	REAL	4	-999	Half radial moment (r ^{0.5} weighting) for z filter stack detection.
zPSFFlux	Janskys	REAL	4	-999	PSF flux from z filter stack detection.
zPSFFluxErr	Janskys	REAL	4	-999	Error in PSF flux from z filter stack detection.
zApFlux	Janskys	REAL	4	-999	Aperture flux from z filter stack detection.
zApFluxErr	Janskys	REAL	4	-999	Error in aperture flux from z filter stack detection.
zApFillFac	dimensionless	REAL	4	-999	Aperture fill factor from z filter stack detection.
zApRadius	arcsec	REAL	4	-999	Aperture radius for z filter stack detection.
zKronFlux	Janskys	REAL	4	-999	Kron (1980) flux from z filter stack detection.

zKronFluxErr	Janskys	REAL	4	-999	Error in Kron (1980) flux from z filter stack detection.
zKronRad	arcsec	REAL	4	-999	Kron (1980) radius from z filter stack detection.
zexpTime	seconds	REAL	4	-999	Exposure time of the z filter stack. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
zExtNSigma	dimensionless	REAL	4	-999	An extendedness measure for the z filter stack detection based on the deviation between PSF and Kron (1980) magnitudes, normalized by the PSF magnitude uncertainty.
zsky	Janskys /arcsec^2	REAL	4	-999	Residual background sky level at the z filter stack detection.
zskyErr	Janskys /arcsec^2	REAL	4	-999	Error in residual background sky level at the z filter stack detection.
zzp	magnitudes	REAL	4	0	Photometric zeropoint for the z filter stack. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
zPlateScale	arcsec /pixel	REAL	4	0	Local plate scale for the z filter stack.
yippDetectID	dimensionless	BIGINT	8	NA	IPP internal detection identifier.
ystackDetectID	dimensionless	BIGINT	8	NA	Unique stack detection identifier.
ystackImageID	dimensionless	BIGINT	8	NA	Unique stack identifier for y filter detection.
yxPos	sky pixels	REAL	4	-999	PSF x center location from y filter stack detection.
yyPos	sky pixels	REAL	4	-999	PSF y center location from y filter stack detection.
yxPosErr	sky pixels	REAL	4	-999	Error in PSF x center location from y filter stack detection.
yyPosErr	sky pixels	REAL	4	-999	Error in PSF y center location from y filter stack detection.
ypsfMajorFWHM	arcsec	REAL	4	-999	PSF major axis FWHM from y filter stack detection.
ypsfMinorFWHM	arcsec	REAL	4	-999	PSF minor axis FWHM from y filter stack detection.
ypsTheta	degrees	REAL	4	-999	PSF major axis orientation from y filter stack detection.
ypsCore	dimensionless	REAL	4	-999	PSF core parameter k from y filter stack detection, where $F = F_0 / (1 + k r^2 + r^3.33)$.
ypsLikelihood	dimensionless	REAL	4	-999	Likelihood that this y filter stack detection is best fit by a PSF.
ypsQf	dimensionless	REAL	4	-999	PSF coverage factor for y filter stack detection.
ypsQfPerfect	dimensionless	REAL	4	-999	PSF-weighted fraction of pixels totally unmasked for y filter stack detection.
ypsChiSq	dimensionless	REAL	4	-999	Reduced chi squared value of the PSF model fit for y filter stack detection.
ymomentXX	arcsec^2	REAL	4	-999	Second moment M_{xx} for y filter stack detection.
ymomentXY	arcsec^2	REAL	4	-999	Second moment M_{xy} for y filter stack detection.
ymomentYY	arcsec^2	REAL	4	-999	Second moment M_{yy} for y filter stack detection.
ymomentR1	arcsec	REAL	4	-999	First radial moment for y filter stack detection.
ymomentRH	arcsec^0.5	REAL	4	-999	Half radial moment ($r^{0.5}$ weighting) for y filter stack detection.
yPSFFlux	Janskys	REAL	4	-999	PSF flux from y filter stack detection.
yPSFFluxErr	Janskys	REAL	4	-999	Error in PSF flux from y filter stack detection.
yApFlux	Janskys	REAL	4	-999	Aperture flux from y filter stack detection.
yApFluxErr	Janskys	REAL	4	-999	Error in aperture flux from y filter stack detection.
yApFillFac	dimensionless	REAL	4	-999	Aperture fill factor from y filter stack detection.
yApRadius	arcsec	REAL	4	-999	Aperture radius for y filter stack detection.
yKronFlux	Janskys	REAL	4	-999	Kron (1980) flux from y filter stack detection.
yKronFluxErr	Janskys	REAL	4	-999	Error in Kron (1980) flux from y filter stack detection.

yKronRad	arcsec	REAL	4	-999	Kron (1980) radius from y filter stack detection.
yexpTime	seconds	REAL	4	-999	Exposure time of the y filter stack. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
yExtNSigma	dimensionless	REAL	4	-999	An extendedness measure for the y filter stack detection based on the deviation between PSF and Kron (1980) magnitudes, normalized by the PSF magnitude uncertainty.
ysky	Janskys /arcsec ²	REAL	4	-999	Residual background sky level at the y filter stack detection.
yskyErr	Janskys /arcsec ²	REAL	4	-999	Error in residual background sky level at the y filter stack detection.
yzp	magnitudes	REAL	4	0	Photometric zeropoint for the y filter stack. Necessary for converting listed fluxes and magnitudes back to measured ADU counts.
yPlateScale	arcsec /pixel	REAL	4	0	Local plate scale for the y filter stack.