

# PS1 Object Flags

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## ObjectQualityFlags values for column `qualityFlag` in table `ObjectThin`

These values are also listed in the system metadata table [ObjectQualityFlags](#).

Flag name	Flag value in hexadecimal form	Flag value in decimal form	Description of the flag
DEFAULT	0x00000000	0	Initial value; resets all bits.
QF_OBJ_EXT	0x00000001	1	Extended in our data (eg, PS).
QF_OBJ_EXT_ALT	0x00000002	2	Extended in external data (eg, 2MASS).
QF_OBJ_GOOD	0x00000004	4	Good-quality measurement in our data (eg,PS).
QF_OBJ_GOOD_ALT	0x00000008	8	Good-quality measurement in external data (eg, 2MASS).
QF_OBJ_GOOD_STACK	0x00000010	16	good-quality object in the stack (> 1 good stack measurement)
QF_OBJ_BEST_STACK	0x00000020	32	the primary stack measurements are the best measurements.
QF_OBJ_SUSPECT_STACK	0x00000040	64	suspect object in the stack (no more than 1 good measurement, 2 or more suspect or good stack measurement).
QF_OBJ_BAD_STACK	0x00000080	128	poor-quality stack object (no more than 1 good or suspect measurement).

## ObjectInfoFlags values for column `objInfoFlag` in table `ObjectThin`

These values are also listed in the system metadata table [ObjectInfoFlags](#).

Flag name	Flag value in hexadecimal form	Flag value in decimal form	Description of the flag
DEFAULT	0x00000000	0	Initial value; resets all bits.
FEW	0x00000001	1	Used within relphot; skip star.
POOR	0x00000002	2	Used within relphot; skip star.
ICRF_QSO	0x00000004	4	object IDed with known ICRF quasar (may have ICRF position measurement)
HERN_QSO_P60	0x00000008	8	identified as likely QSO (Hernitschek et al 2015), $P\_QSO \geq 0.60$
HERN_QSO_P05	0x00000010	16	identified as possible QSO (Hernitschek et al 2015), $P\_QSO \geq 0.05$
HERN_RRL_P60	0x00000020	32	identified as likely RR Lyra (Hernitschek et al 2015), $P\_RRLyra \geq 0.60$
HERN_RRL_P05	0x00000040	64	identified as possible RR Lyra (Hernitschek et al 2015), $P\_RRLyra \geq 0.05$
HERN_VARIABLE	0x00000080	128	identified as a variable based on ChiSq (Hernitschek et al 2015)
TRANSIENT	0x00000100	256	identified as a non-periodic (stationary) transient
HAS_SOLSYS_DET	0x00000200	512	at least one detection identified with a known solar-system object (asteroid or other).
MOST_SOLSYS_DET	0x00000400	1024	most detections identified with a known solar-system object (asteroid or other).
LARGE_PM	0x00000800	2048	star with large proper motion
RAW_AVE	0x00001000	4096	simple weighted average position was used (no IRLS fitting)

FIT_AVE	0x00002000	8192	average position was fitted
FIT_PM	0x00004000	16384	proper motion model was fitted
FIT_PAR	0x00008000	32768	parallax model was fitted
USE_AVE	0x00010000	65536	average position used (not PM or PAR)
USE_PM	0x00020000	131072	proper motion used (not AVE or PAR)
USE_PAR	0x00040000	262144	parallax used (not AVE or PM)
NO_MEAN_ASTRONOMY	0x00080000	524288	mean astrometry could not be measured
STACK_FOR_MEAN	0x00100000	1048576	stack position used for mean astrometry
MEAN_FOR_STACK	0x00200000	2097152	mean astrometry used for stack position
BAD_PM	0x00400000	4194304	failure to measure proper-motion model
EXT	0x00800000	8388608	extended in our data (eg, PS)
EXT_ALT	0x01000000	16777216	extended in external data (eg, 2MASS)
GOOD	0x02000000	33554432	good-quality measurement in our data (eg,PS)
GOOD_ALT	0x04000000	67108864	good-quality measurement in external data (eg, 2MASS)
GOOD_STACK	0x08000000	134217728	good-quality object in the stack (> 1 good stack measurement)
BEST_STACK	0x10000000	268435456	the primary stack measurements are the best measurements
SUSPECT_STACK	0x20000000	536870912	suspect object in the stack (no more than 1 good measurement, 2 or more suspect or good stack measurement)
BAD_STACK	0x40000000	1073741824	poor-quality stack object (no more than 1 good or suspect measurement)

## AstrometryCorrectionFlags values for column **astrometryCorrectionFlag** in table [ObjectThin](#)

These values are also listed in the system metadata table [AstrometryCorrectionFlags](#).

Flag name	Flag value in hexadecimal form	Flag value in decimal form	Description of the flag
AC_CORRECTED	0x00000001	1	Astrometry Corrected using Gaia EDR3.
AC_DCR	0x00000002	2	Differential Chromatic Aberration Correction was performed.
AC_PM	0x00000004	4	Proper Motions were calculated.
DEFAULT	0x00000000	0	Initial value; resets all bits.

## ObjectFilterFlags values, e.g., column **gFlags** in table [MeanObject](#)

These values are also listed in the system metadata table [ObjectFilterFlags](#).

Flag name	Flag value in hexadecimal form	Flag value in decimal form	Description of the flag
DEFAULT	0x00000000	0	Initial value; resets all bits.
SECF_STAR_FEW	0x00000001	1	Used within relphot: skip star.
SECF_STAR_POOR	0x00000002	2	Used within relphot: skip star.
SECF_USE_SYNTH	0x00000004	4	Synthetic photometry used in average measurement.
SECF_USE_UBERCAL	0x00000008	8	Ubercal photometry used in average measurement.
SECF_HAS_PS1	0x00000010	16	PS1 photometry used in average measurement.
SECF_HAS_PS1_STACK	0x00000020	32	PS1 stack photometry exists.
SECF_HAS_TYCHO	0x00000040	64	Tycho photometry used for synthetic magnitudes.
SECF_FIX_SYNTH	0x00000080	128	Synthetic magnitudes repaired with zeropoint map.
SECF_RANK_0	0x00000100	256	Average magnitude uses only rank 0 detections.
SECF_RANK_1	0x00000200	512	Average magnitude uses only rank 1 detections.
SECF_RANK_2	0x00000400	1024	Average magnitude uses only rank 2 detections.
SECF_RANK_3	0x00000800	2048	Average magnitude uses only rank 3 detections.

SECF_RANK_4	0x00001000	4096	Average magnitude uses only rank 4 detections.
SECF_STACK_PRIMARY	0x00004000	16384	PS1 stack photometry comes from primary skycell.
SECF_STACK_BESTDET	0x00008000	32768	PS1 stack best measurement is a detection (not forced).
SECF_STACK_PRIMDET	0x00010000	65536	PS1 stack primary measurement is a detection (not forced).
SECF_HAS_SDSS	0x00100000	1048576	This photcode has SDSS photometry.
SECF_HAS_HSC	0x00200000	2097152	This photcode has HSC photometry.
SECF_HAS_CFH	0x00400000	4194304	This photcode has CFH photometry (mostly Megacam).
SECF_HAS_DES	0x00800000	8388608	This photcode has DES photometry.
SECF_OBJ_EXT	0x01000000	16777216	Extended in this band.

## ForcedGalaxyShapeFlags values, e.g., column **gGalFlags** in table [ForcedGalaxyShape](#)

These values are also listed in the system metadata table [ForcedGalaxyShapeFlags](#).

Flag name	Flag value in hexadecimal form	Flag value in decimal form	Description of the flag
NO_ERROR	0x00000000	0	No error condition raised.
FAIL_FIT	0x00000001	1	Fit failed to converge or was degenerate
TOO_FEW	0x00000002	2	Not enough points to fit the model
OUT_OF_RANGE	0x00000004	4	Fit minimum too far outside data range
BAD_ERROR	0x00000008	8	Invalid size error (nan or inf)

## Column **XinfoFlag** (X one of g,r,i,z,y) in [StackObjectThin](#)

See DetectionFlags in [PS1 Detection Flags](#)

## Column **XinfoFlag2** (X one of g,r,i,z,y) in [StackObjectThin](#)

See DetectionFlags2 in [PS1 Detection Flags](#)

## Column **XinfoFlag3** (X one of g,r,i,z,y) in [StackObjectThin](#)

See DetectionFlags3 in [PS1 Detection Flags](#)