

PS1 Object Flags

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ObjectQualityFlags values, e.g., 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, e.g., 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 >= 0.60 |
| HERN_QSO_P05 | 0x00000010 | 16 | identified as possible QSO (Hernitschek et al 2015), P_QSO >= 0.05 |
| HERN_RRL_P60 | 0x00000020 | 32 | identified as likely RR Lyra (Hernitschek et al 2015), P_RRLyra >= 0.60 |
| HERN_RRL_P05 | 0x00000040 | 64 | identified as possible RR Lyra (Hernitschek et al 2015), P_RRLyra >= 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_ASTROM | 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) |

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](#)