

KIC 003219256

Q1-17 DR25 TCE Parameters

| TCE | Run Type | KOI? | Period (Days) | Epoch (BKJD) | Depth (ppm) | Duration (Hours) | MES | SNR | R_{\star} (R_{\odot}) | T_{\star} (K) | R_p (R_{\oplus}) | S_p (S_{\oplus}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 003219256-01 | OBS | No | 0.535572 | 131.749385 | 57.0 | 2.979 | 12.1 | 10.7 | 3.84 | 7493 | 3.37 | 0.00 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003219256-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED |

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

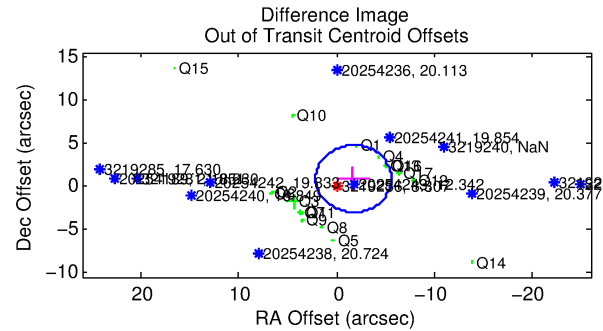
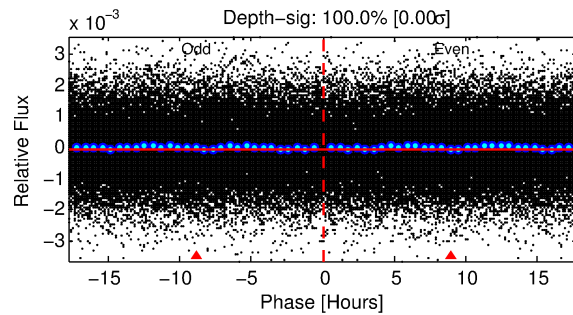
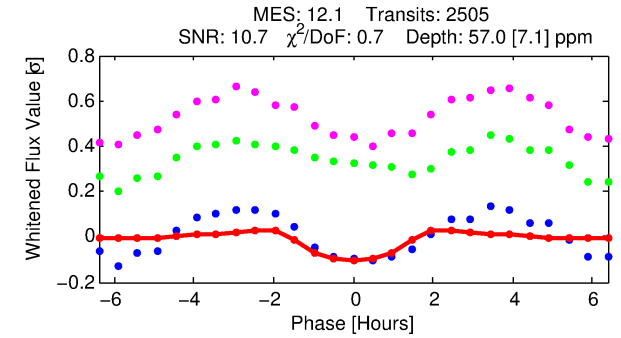
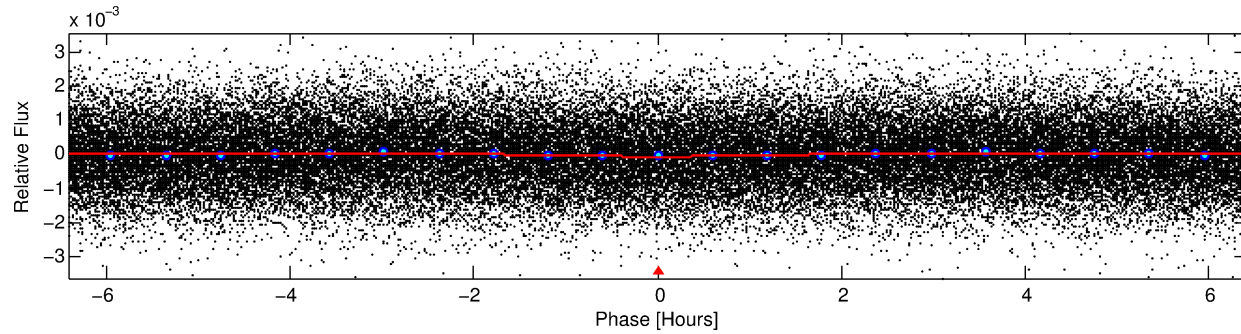
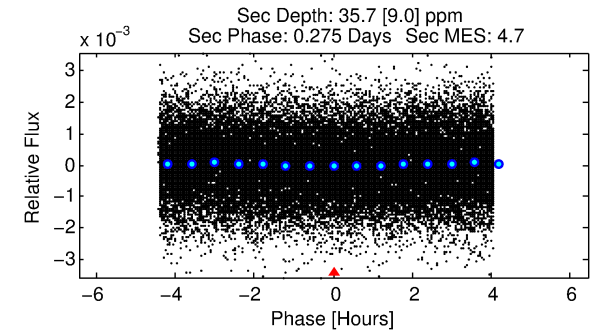
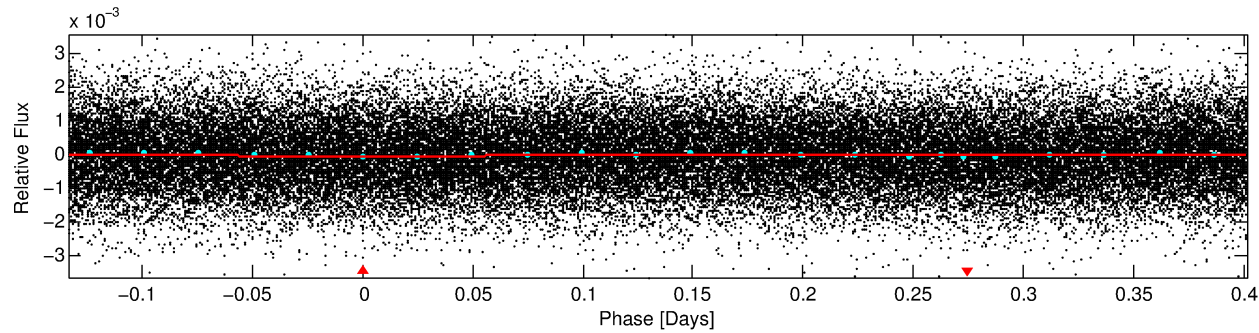
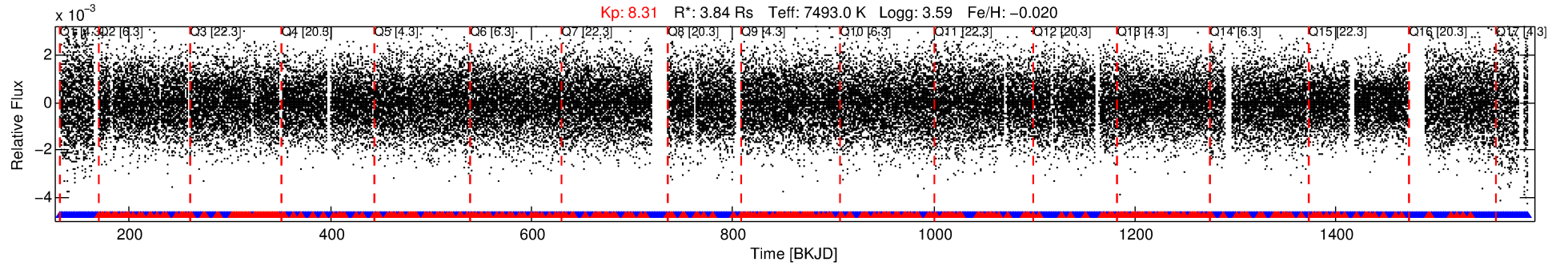
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003219256-01

No Significant Match Found

DV One-Page Summary

KIC: 3219256 Candidate: 1 of 1 Period: 0.536 d



DV Fit Results:

Period = 0.53557 [0.00001] d
Epoch = 131.7494 [0.0032] BKJD
 $R_p/R^* = 0.0080$ [0.0065]
 $a/R^* = 1.13$ [1.23]
 $b = 0.90$ [1.08]
Seff = N/A
Teq = N/A
 $R_p = 3.37$ [2.85] R_e
 $a = N/A$
Ag = N/A
Teffp = N/A

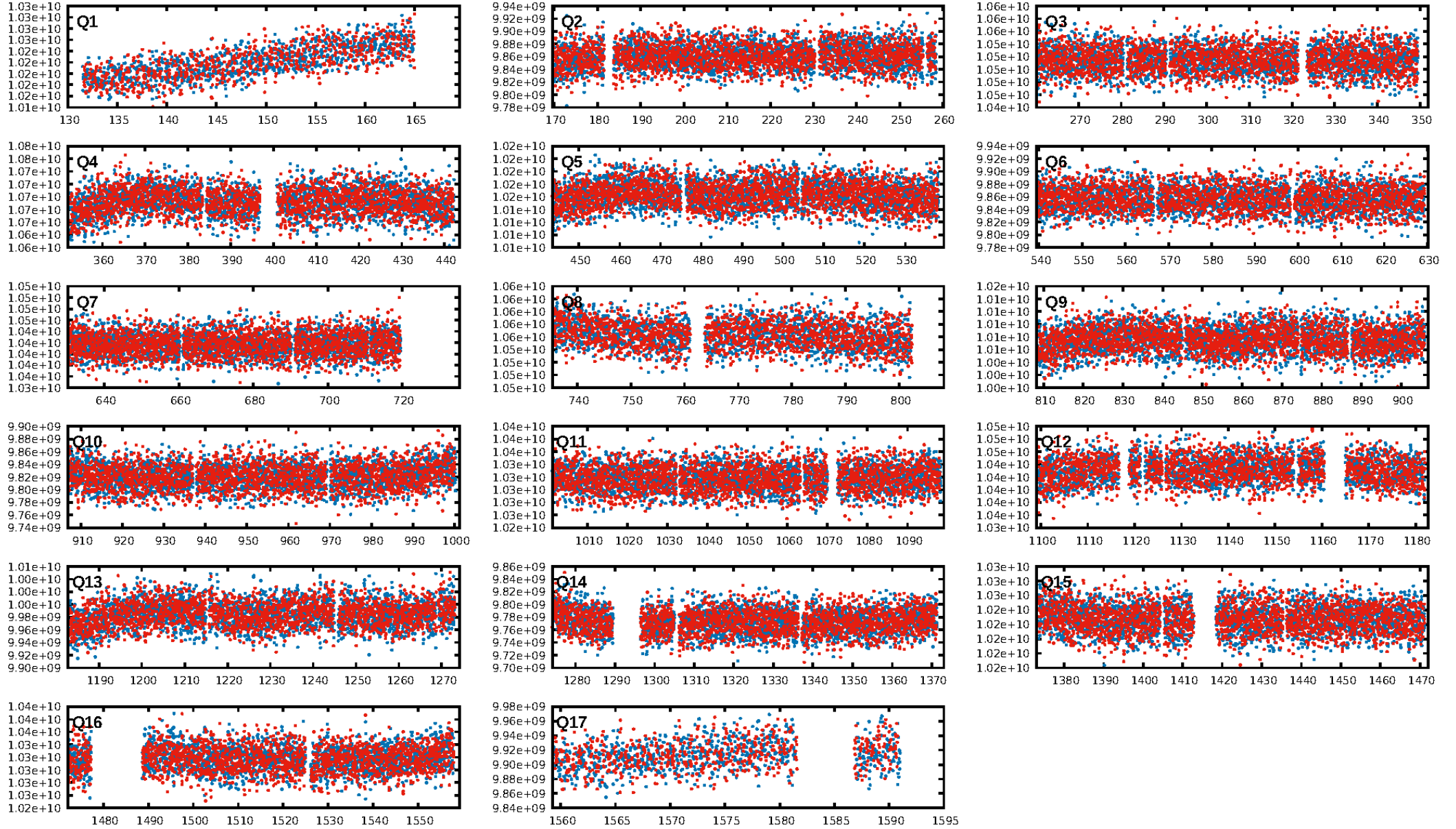
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareG-sig: N/A
Bootstrap-pfa: 3.59e-29
RollingBand-fgt: 0.83 [1981/2392]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 2.201 arcsec [5.02σ]
OotOffset-rm: 1.929 arcsec [1.49σ]
KicOffset-rm: 2.249 arcsec [1.19σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

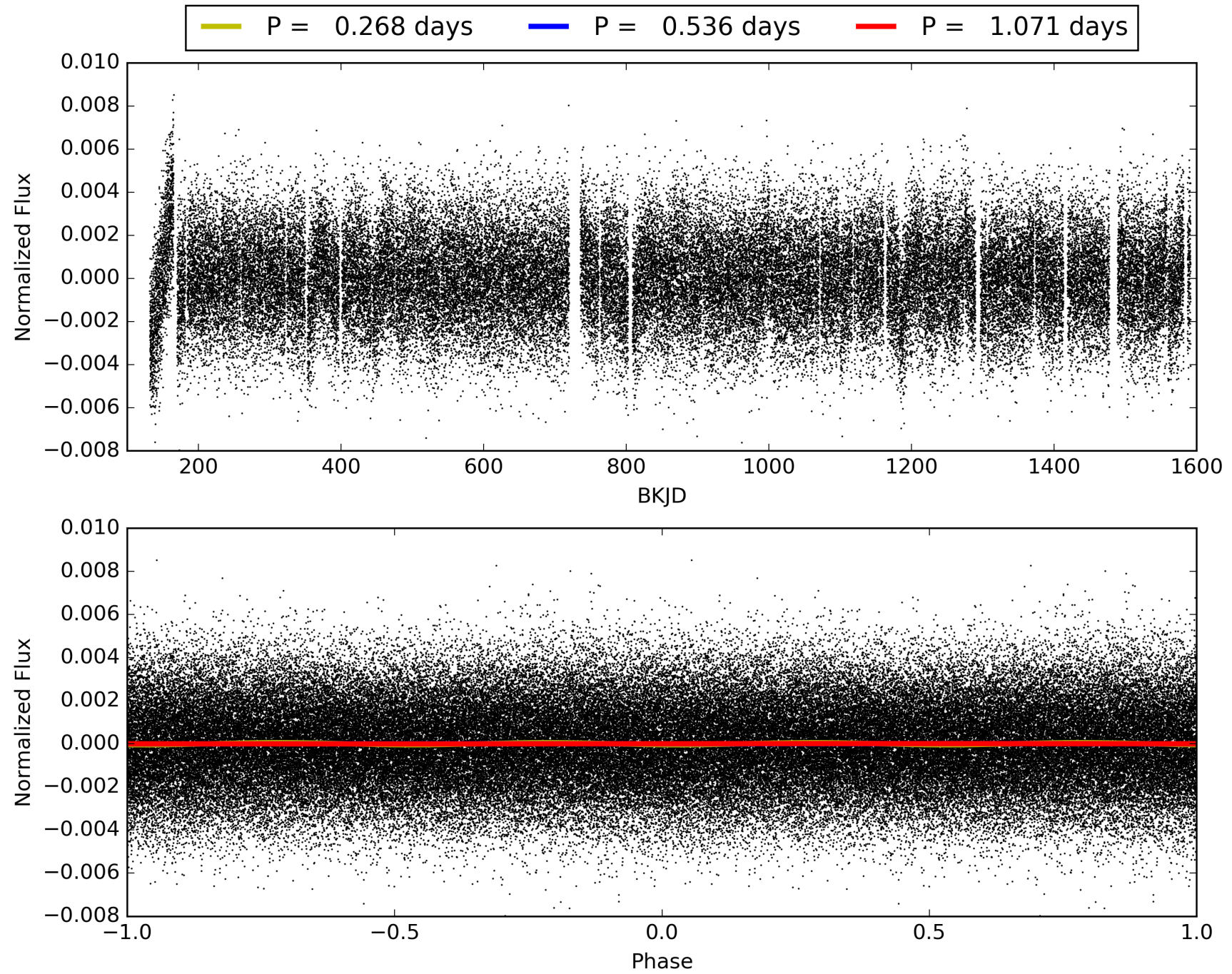
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:43:09 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003219256-01, PDC Light Curves

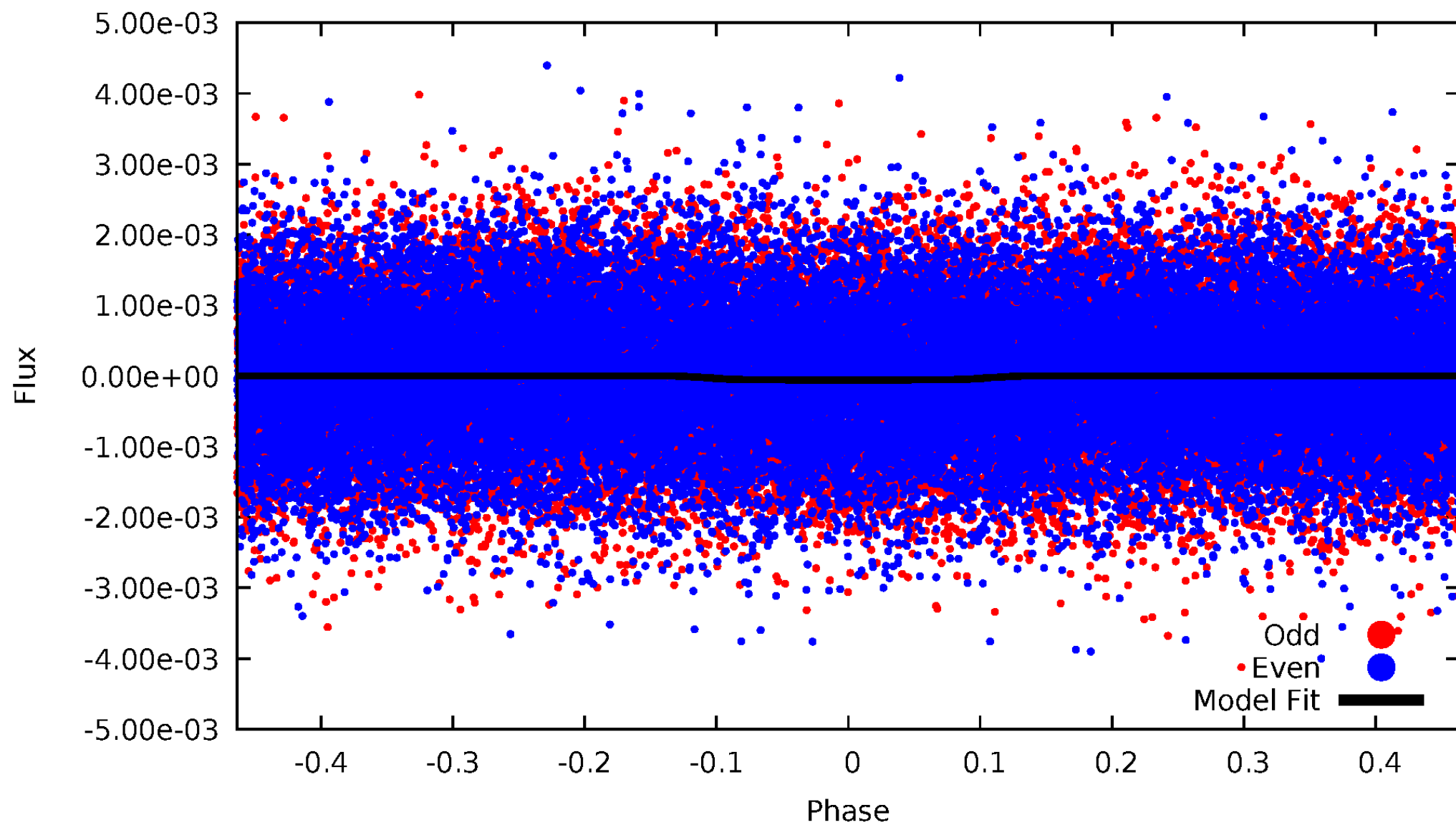


TCE 003219256-01



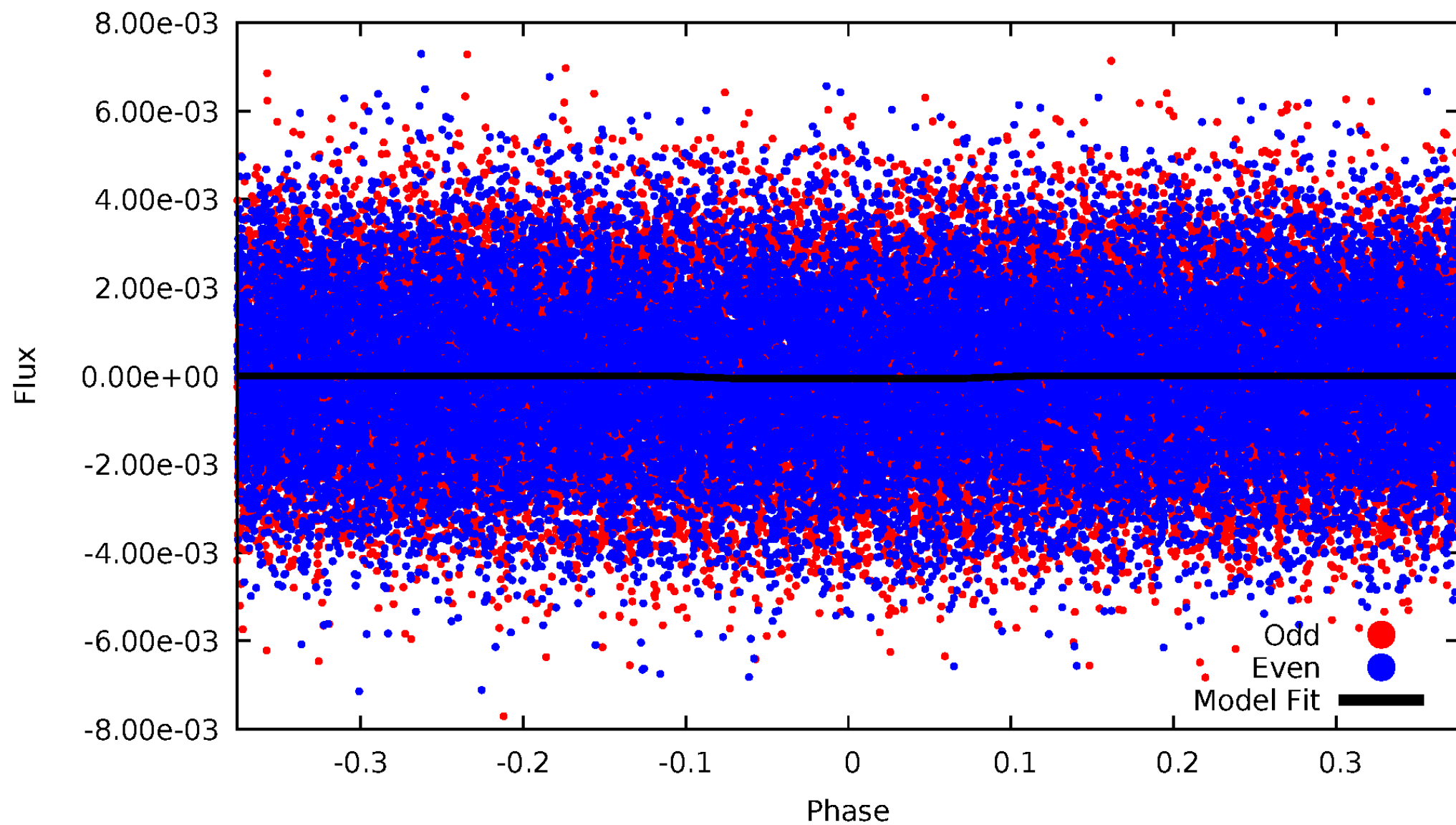
DV Odd/Even

TCE 003219256-01

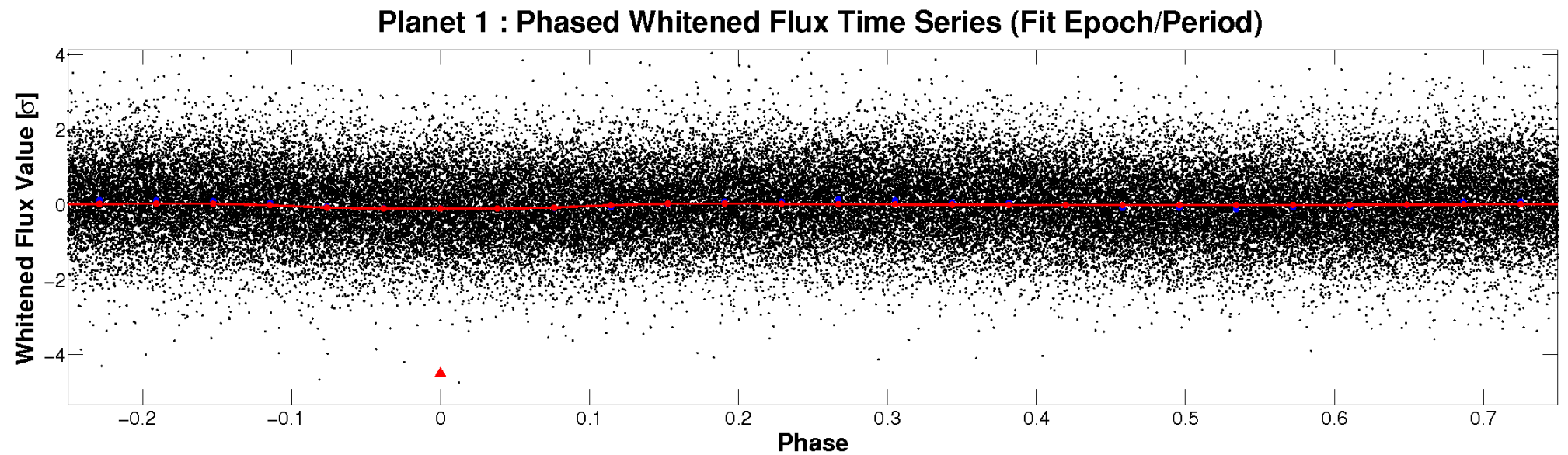
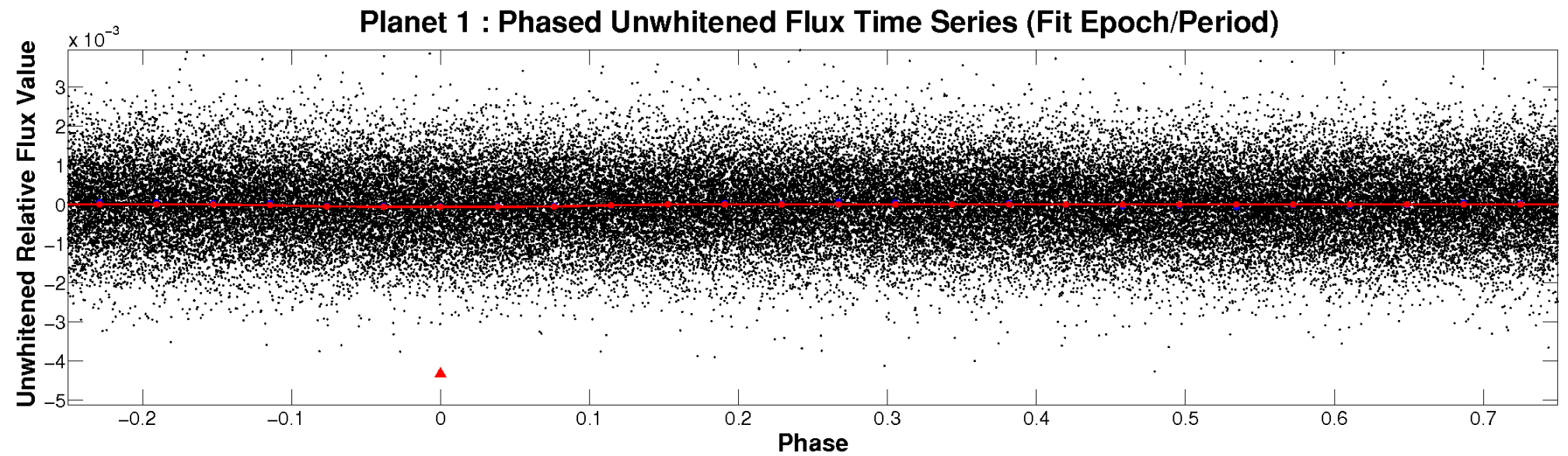


ALT Odd/Even

TCE 003219256-01

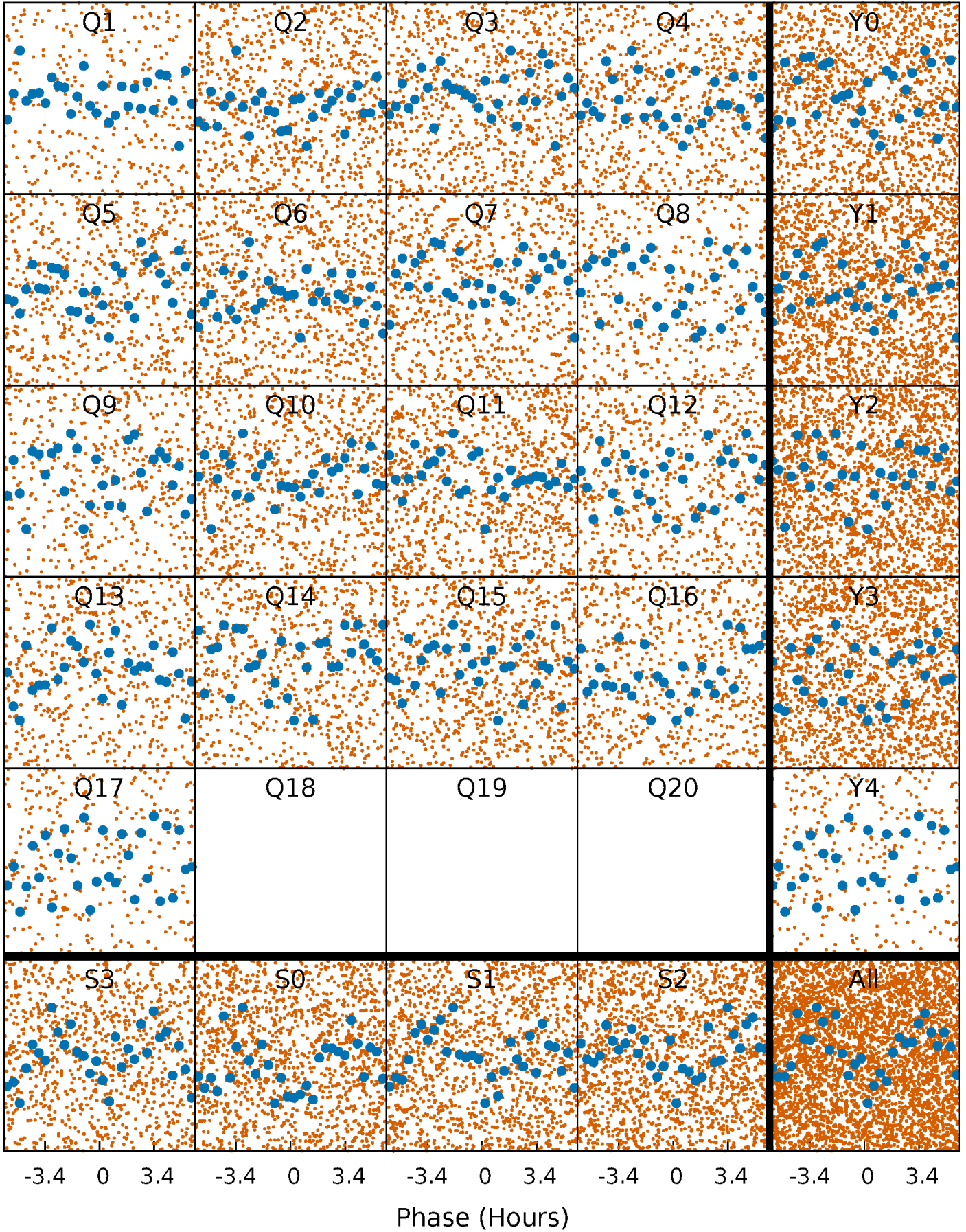


Non-Whitened Vs. Whitened Light Curve



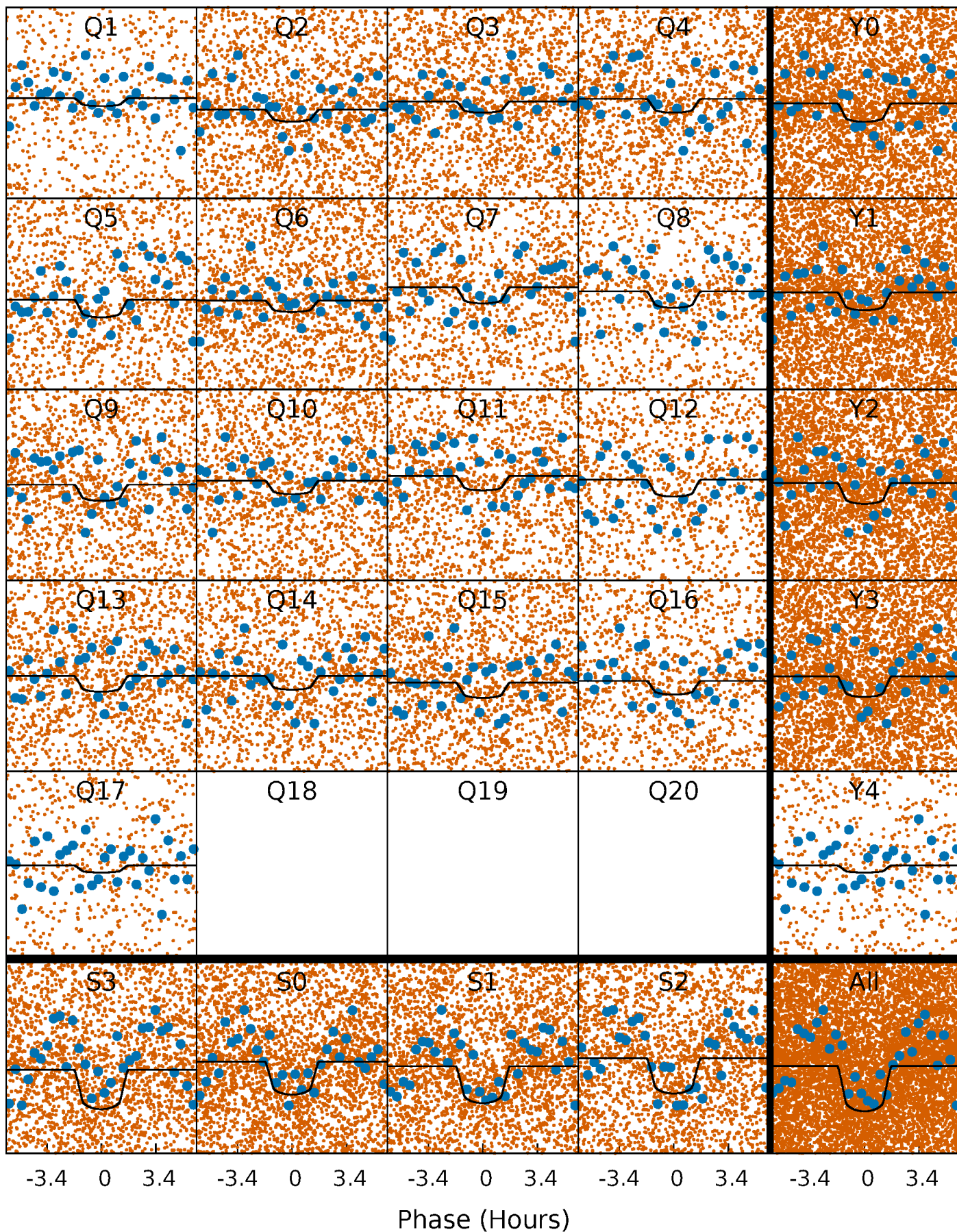
PDC Quarter-Phased Transit Curves

TCE 003219256-01 P= 0.535572 Days $T_0=131.749385$ (BKJD)



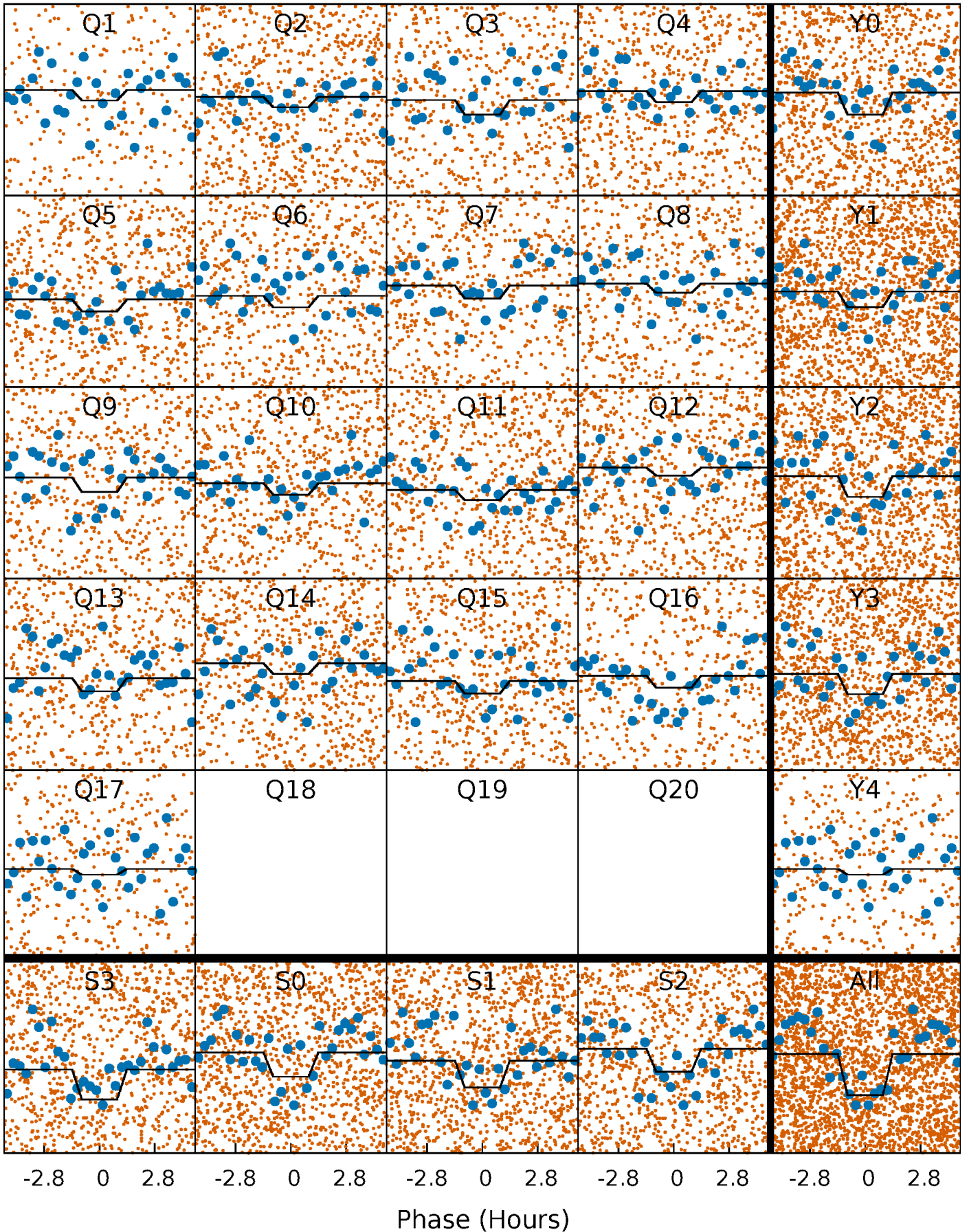
DV Quarter-Phased Transit Curves

TCE 003219256-01 P= 0.535572 Days $T_0=131.749385$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

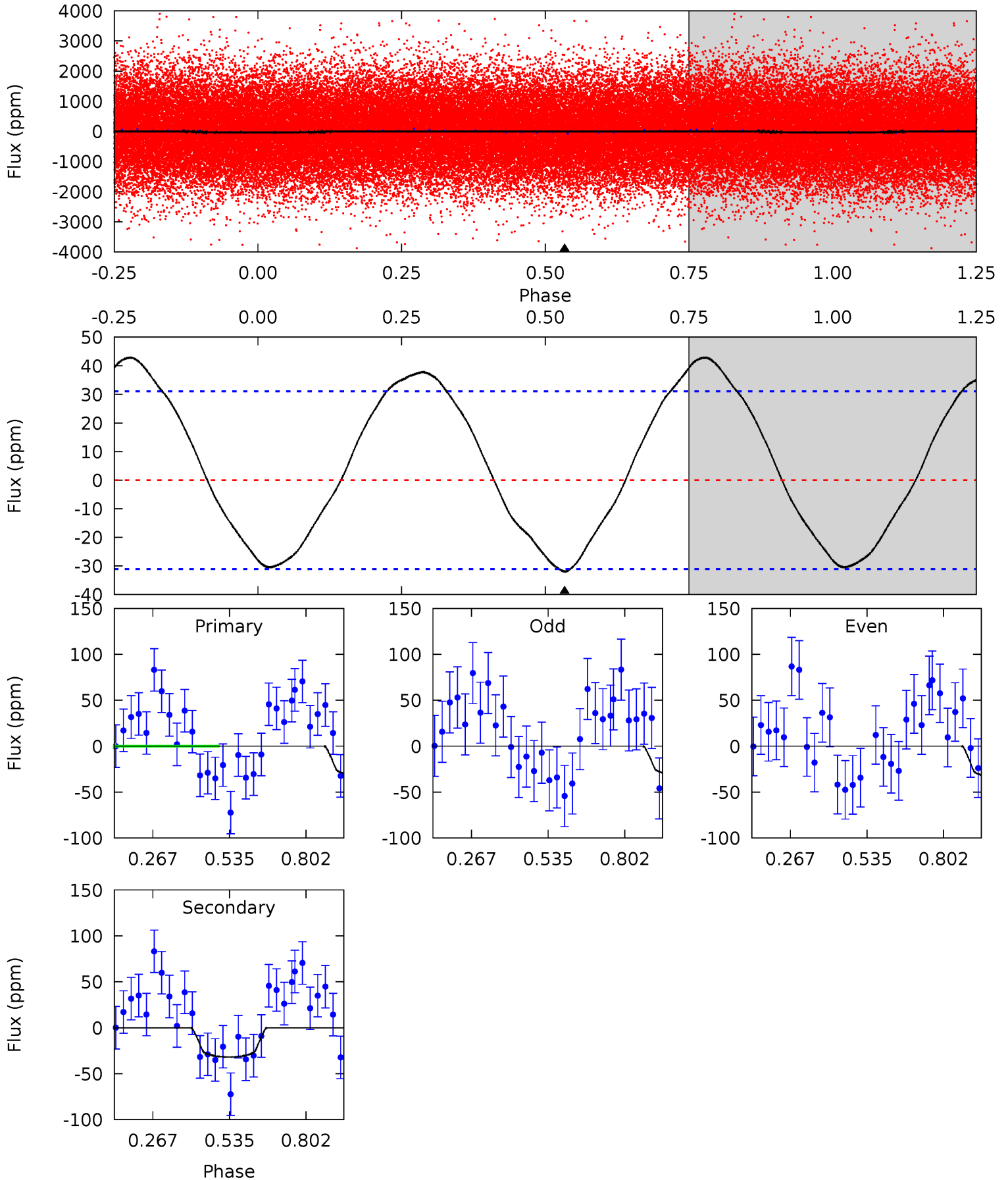
TCE 003219256-01 P= 0.535583 Days $T_0=131.752294$ (BKJD)



DV Model-Shift Uniqueness Test

003219256-01, P = 0.535572 Days, E = 131.213813 Days

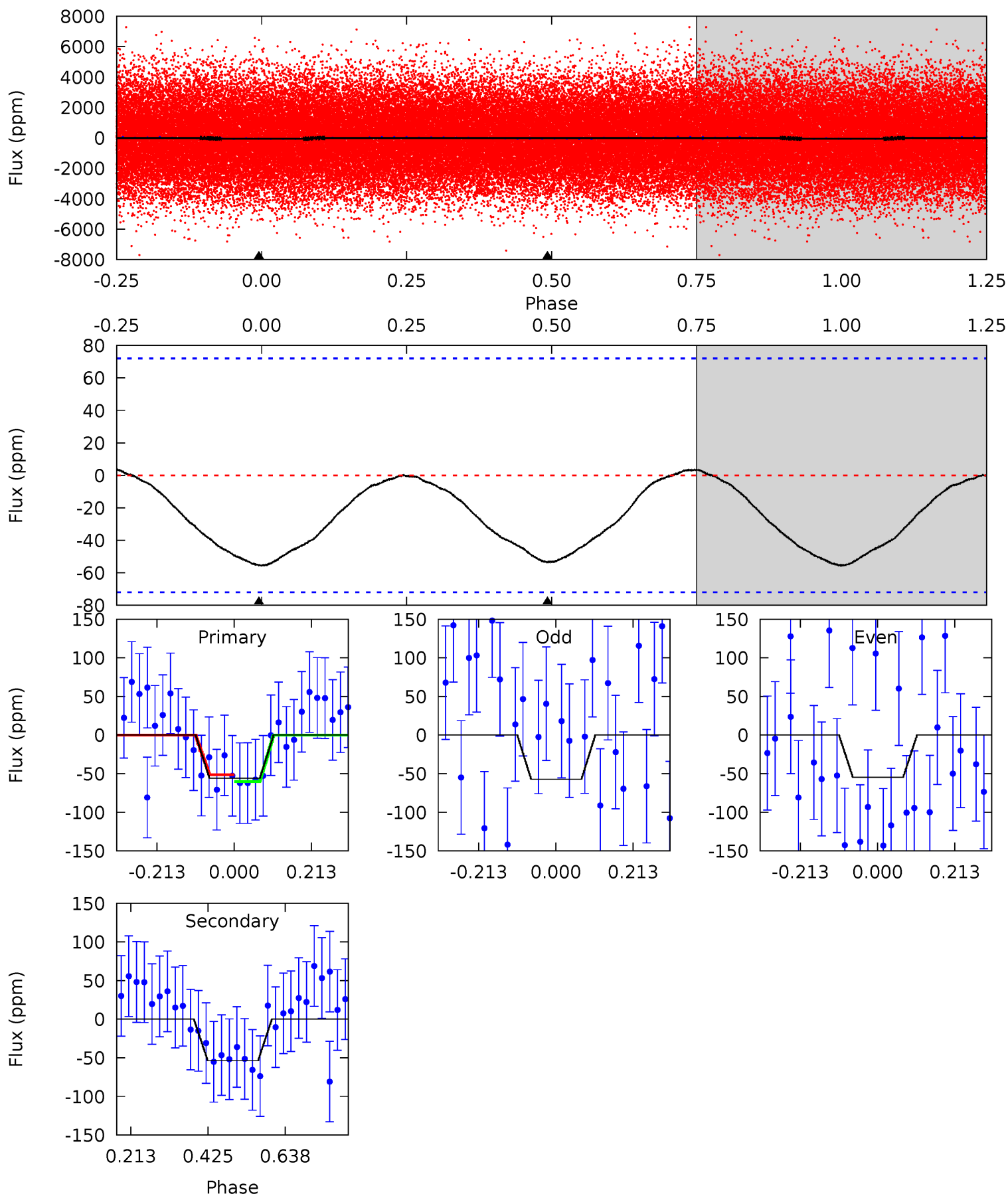
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 4.48 | 4.48 | 0 | 0 | 4.35 | 1.11 | 3.23 | 4.48 | 4.48 | 4.48 | 4.48 | 0.20 | 0.75 | 0.57 | 1.00 |



Alt Model-Shift Uniqueness Test

003219256-01, P = 0.535583 Days, E = 131.216711 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 3.42 | 3.29 | 0 | 0 | 4.40 | 1.25 | 0.13 | 3.42 | 3.42 | 3.29 | 3.29 | 0.08 | 0.85 | 0.06 | 0.26 |



Stellar Parameters For KIC 003219256

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 7493^{+119}_{-163} | $3.587^{+0.247}_{-0.044}$ | $-0.020^{+0.150}_{-0.150}$ | $3.836^{+0.365}_{-1.023}$ | $2.075^{+0.220}_{-0.242}$ | $0.052^{+0.076}_{-0.008}$ |
| | +2%/-2% | +7%/-1% | +750%/-750% | +10%/-27% | +11%/-12% | +146%/-15% |
| Source | SPE4 | SPE4 | SPE4 | DSEP | | |

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003219256-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|--------------|------------------------|----------------------|-------------------------|---------------------------|
| DV | -32 ± 7 | $3.39^{+2.33}_{-2.01}$ | 6884^{+280}_{-521} | 4515^{+4801}_{-9366} | $0.412^{+2.009}_{-0.267}$ |
| Alt. | -54 ± 16 | $3.29^{+2.66}_{-2.05}$ | 6887^{+282}_{-473} | 5947^{+6903}_{-10211} | $0.707^{+4.487}_{-0.497}$ |

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

DV Centroid Data

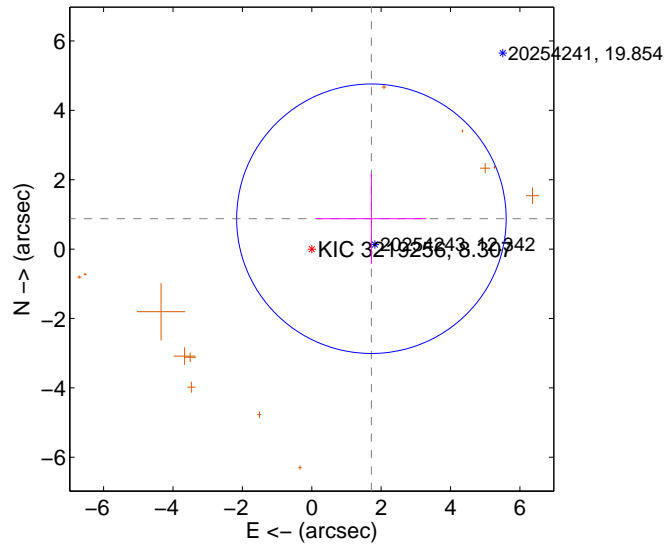
Supplemental centroid analysis for 003219256-01. **Kepler magnitude: 8.31.** Transit SNR 10.69

There are 0 quarters with good PRF difference image offsets

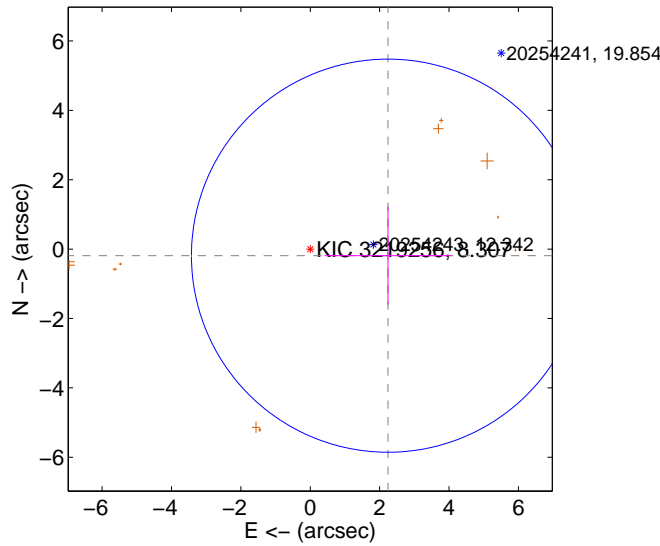
The direct PRF centroid is offset from the target star catalog position by about 1.61 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 1.929 ± 1.295 | 1.49 | -1.719 ± 1.585 | 0.875 ± 1.299 |
| PRF-fit source offset from KIC position | 2.249 ± 1.888 | 1.19 | -2.241 ± 1.829 | -0.190 ± 1.412 |
| photometric centroid source offset | 2.20 ± 0.44 | 5.02 | -0.88 ± 0.54 | -2.02 ± 0.42 |

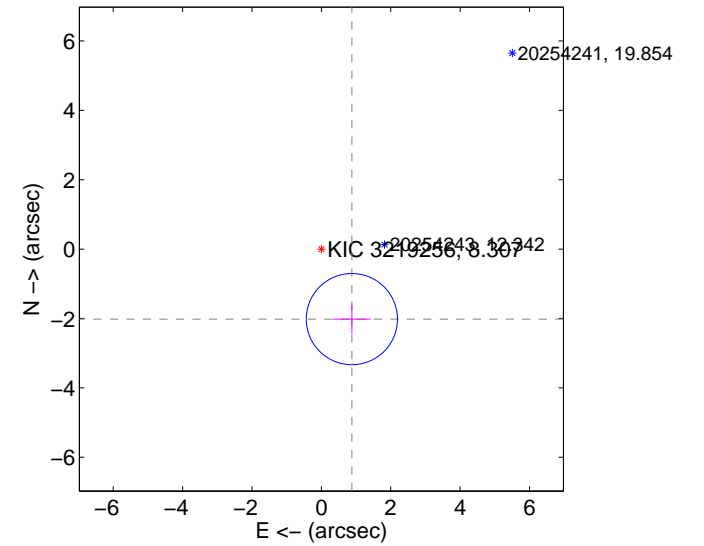
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

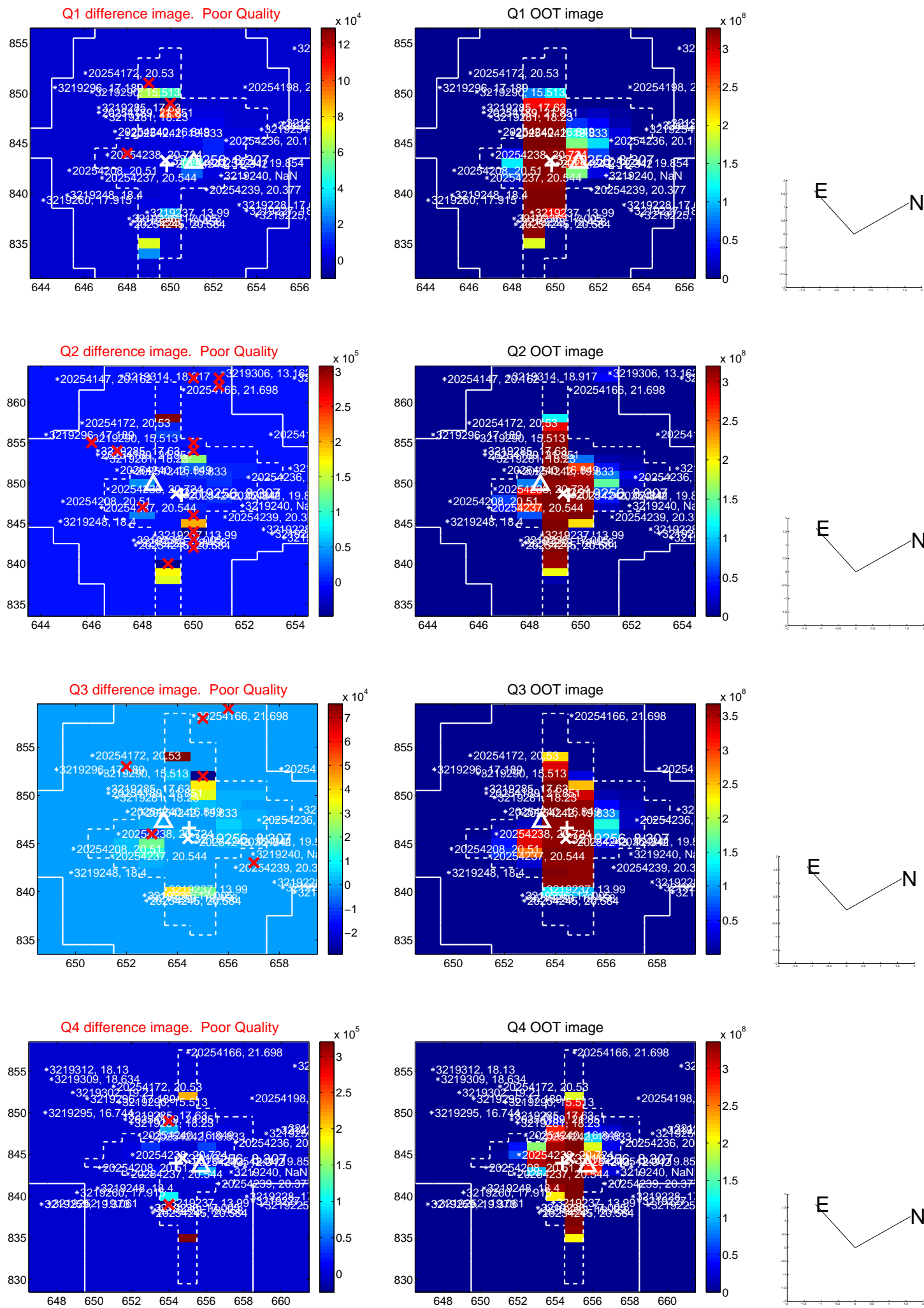


offset from photometric centroids

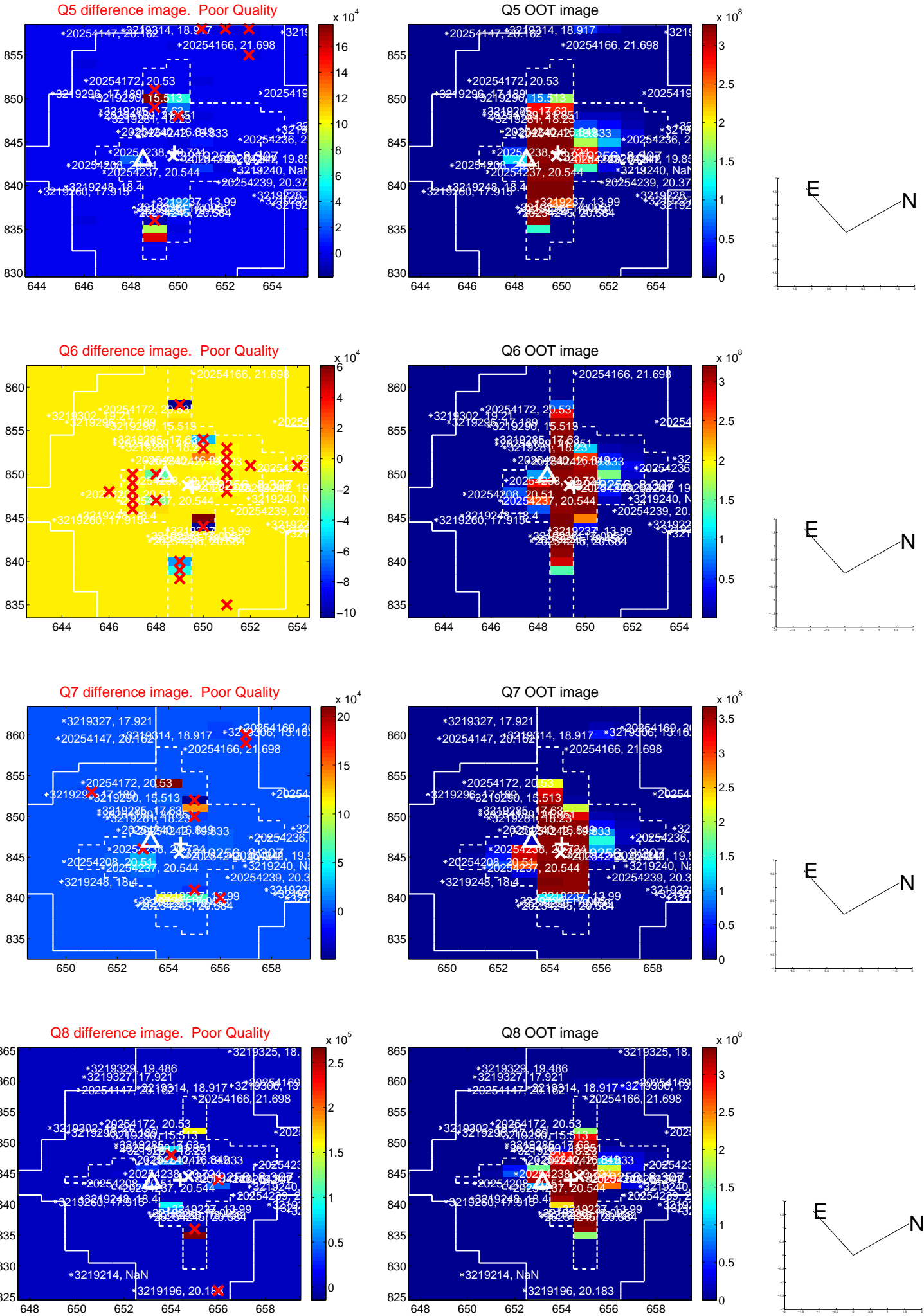


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

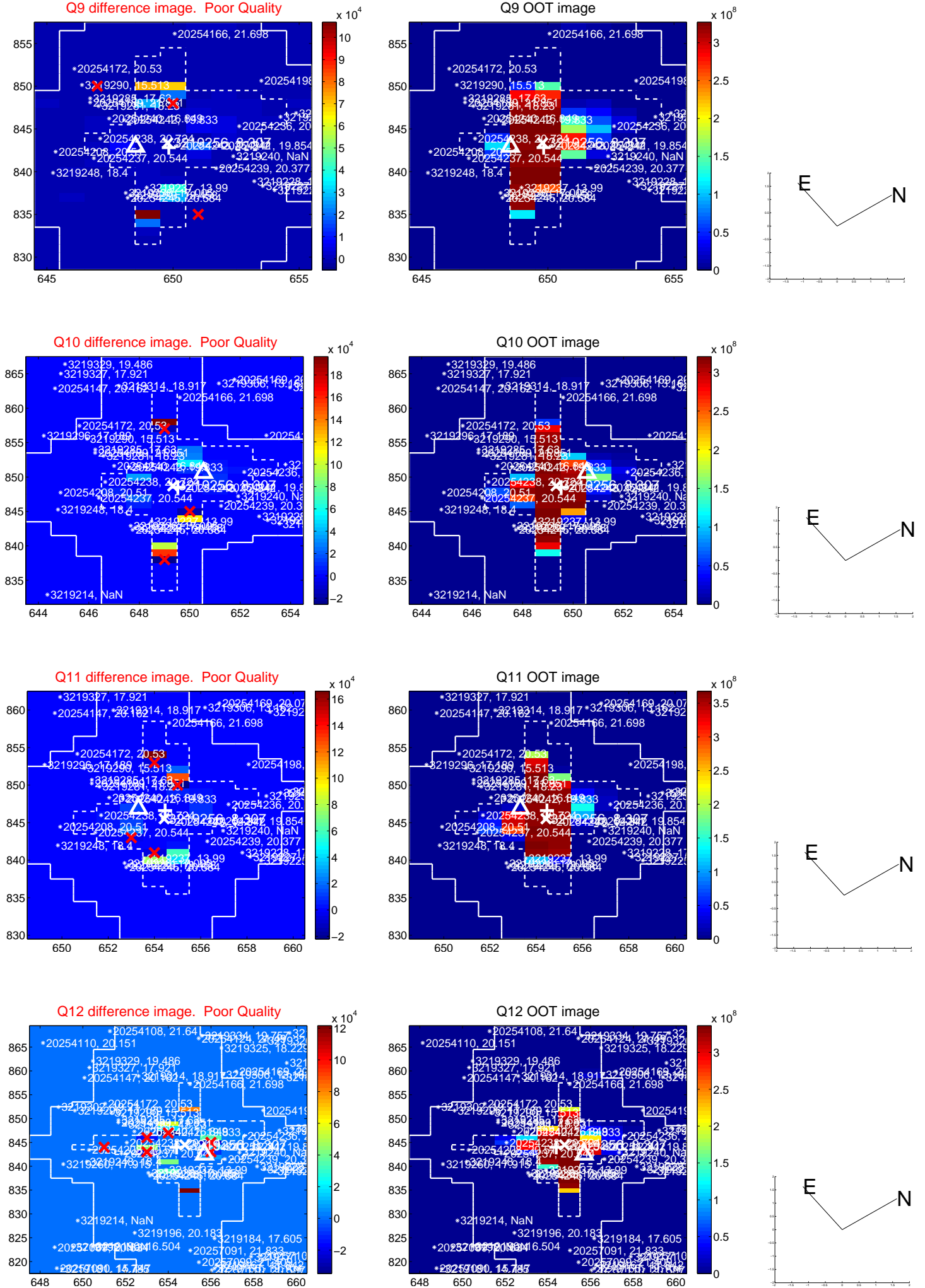
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



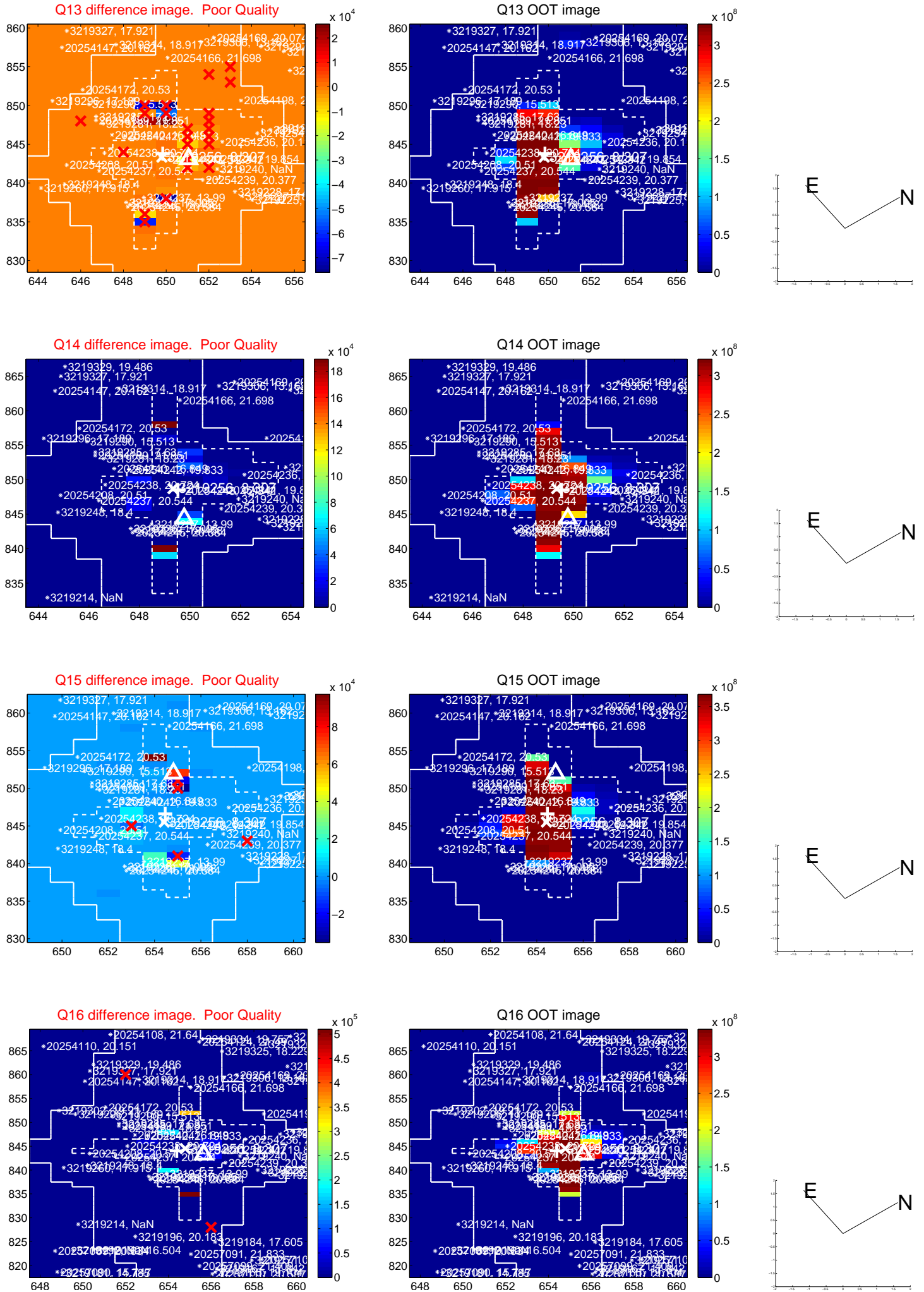
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



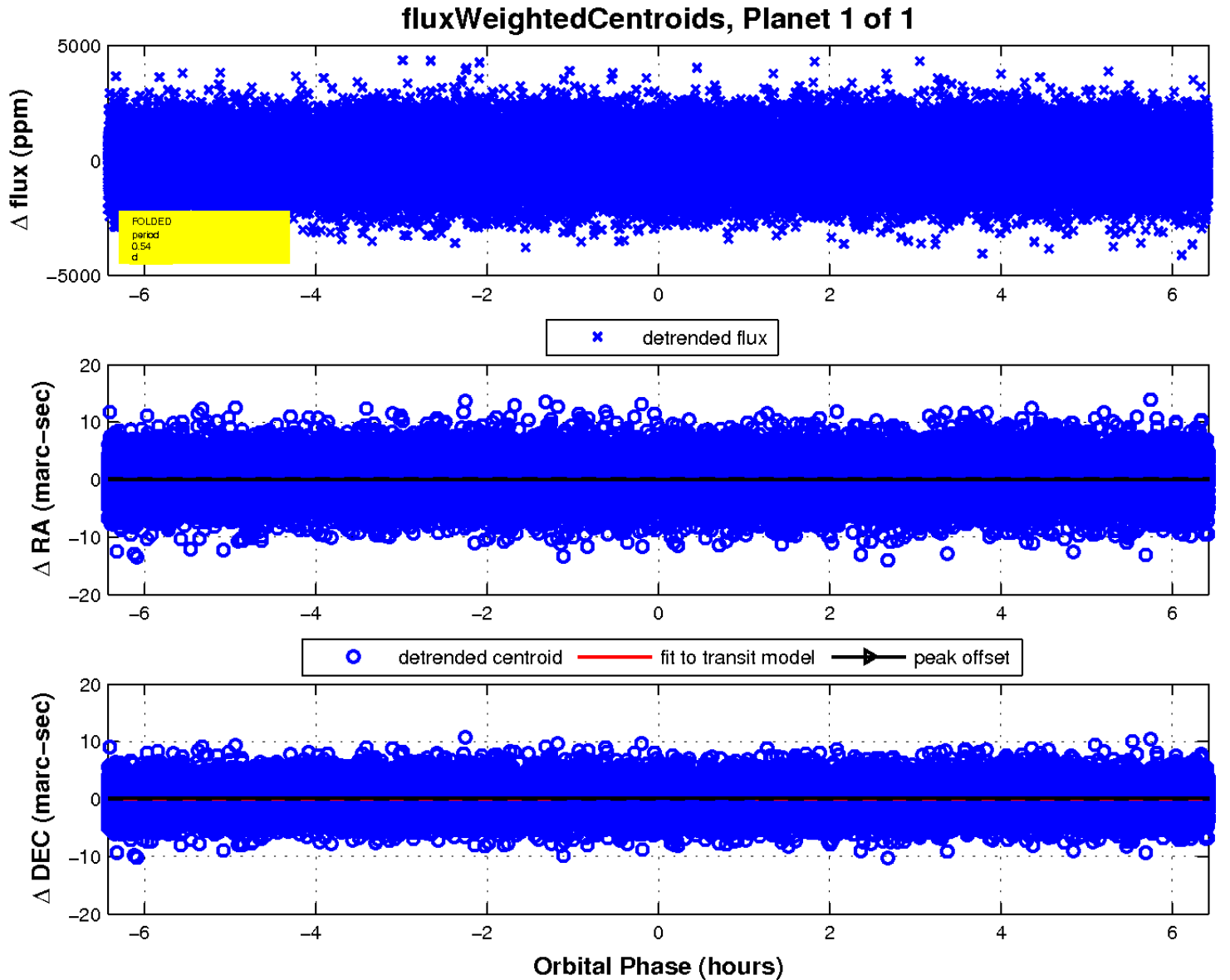
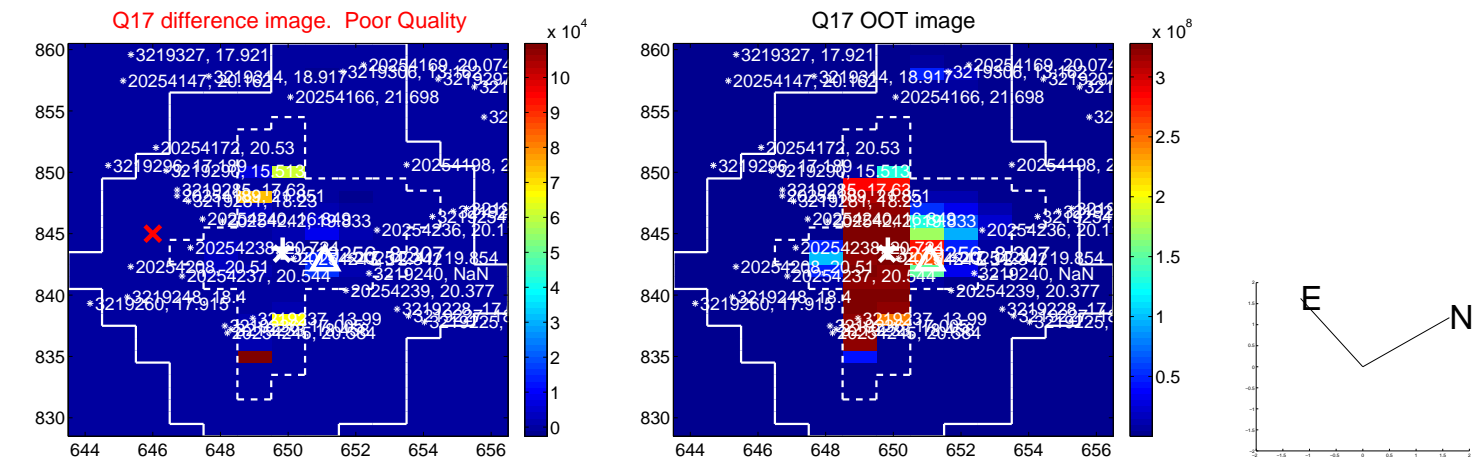
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

