

KIC 005183357

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 005183357-01 | OBS | 1669.01 | 61.037242 | 175.177033 | 440.8 | 8.940 | 30.7 | 33.7 | 1.61 | 6309 | 3.97 | 32.80 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 005183357-01 | OBS | PC | 0.99 | 0 | 0 | 0 | 0 | NO_COMMENT |

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

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

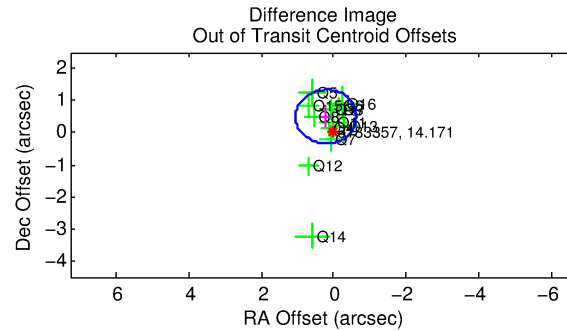
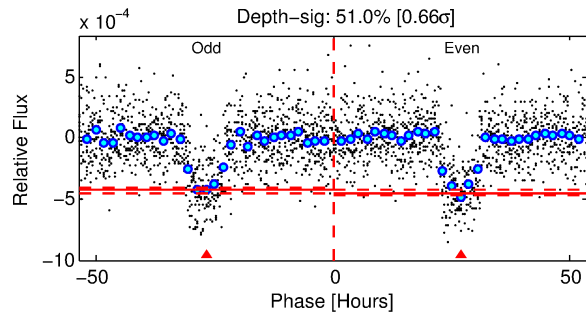
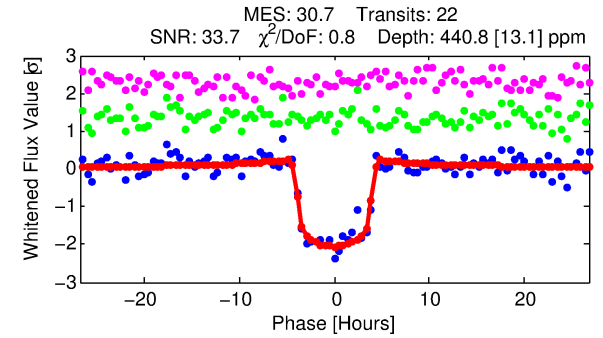
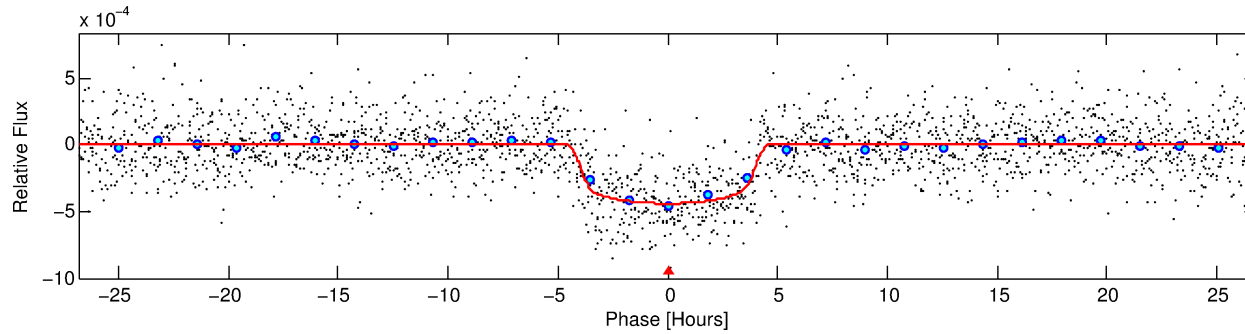
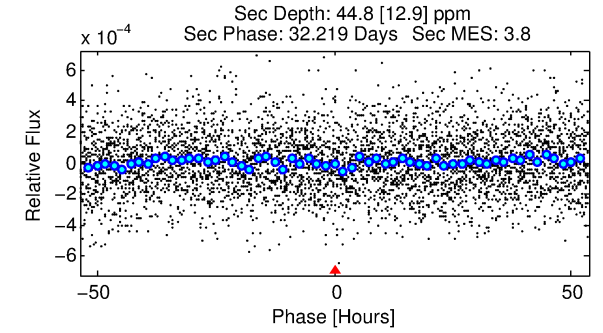
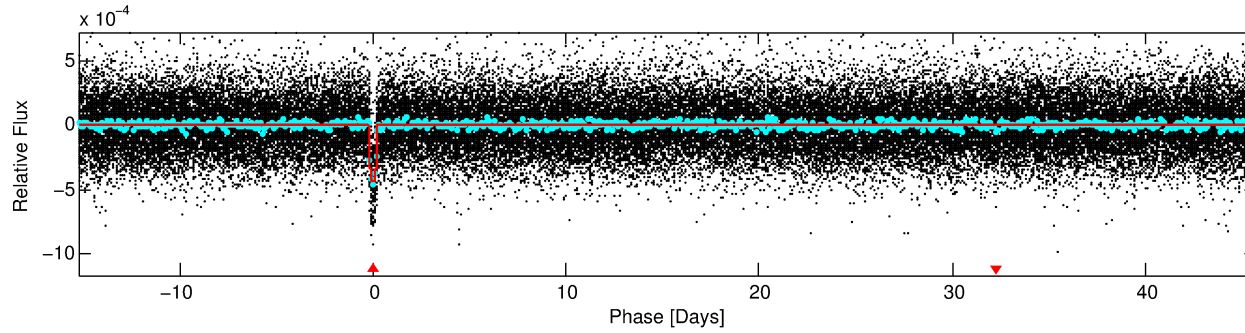
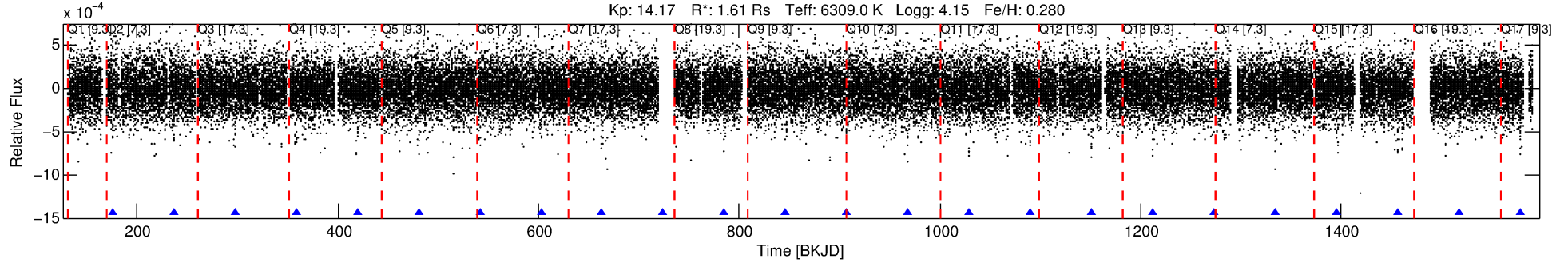
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005183357-01

No Significant Match Found

DV One-Page Summary

KIC: 5183357 Candidate: 1 of 1 Period: 61.037 d
KOI: K01669.01 Corr: 0.995



DV Fit Results:

Period = 61.03724 [0.00034] d
Epoch = 175.1770 [0.0046] BKJD
Rp/R* = 0.0225 [0.0009]
a/R* = 25.80 [4.76]
b = 0.90 [0.04]
Seff = 32.80 [7.85]
Teq = 610 [37] K
Rp = 3.97 [0.71] Re
a = 0.3358 [0.0518] AU
Ag = 176.21 [66.76] [2.62σ]
Teffp = 3438 [260] K [10.76σ]

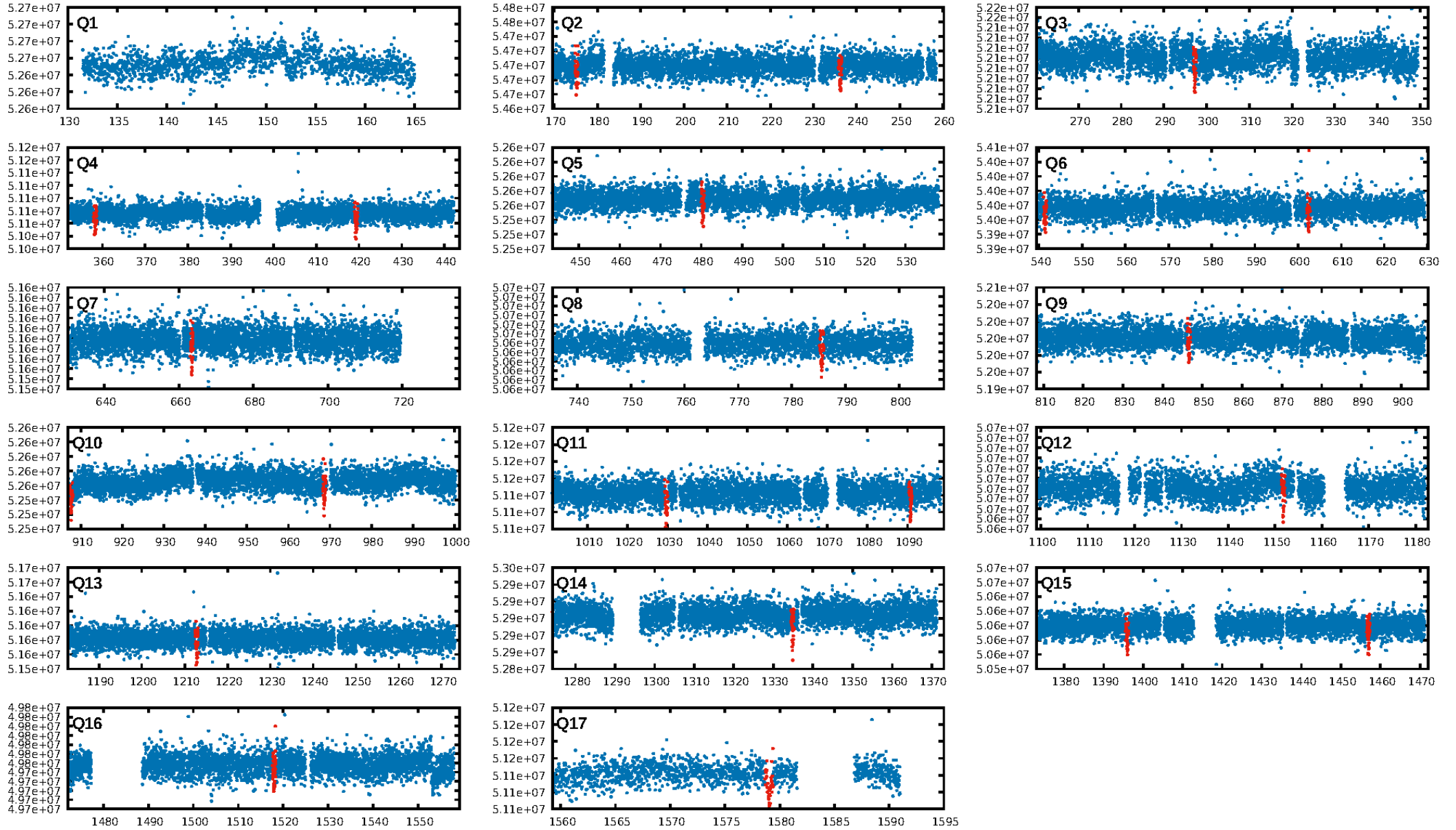
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.84e-186
RollingBand-fgt: 1.00 [21/21]
GhostDiagnostic-chr: 3.893
Centroid-sig: 19.6%
Centroid-so: 0.169 arcsec [0.49σ]
OotOffset-rm: 0.542 arcsec [1.94σ]
OotOffset-st: 2/4/4/3 [13]
KicOffset-rm: 0.498 arcsec [1.58σ]
KicOffset-st: 2/4/4/3 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [14/14]

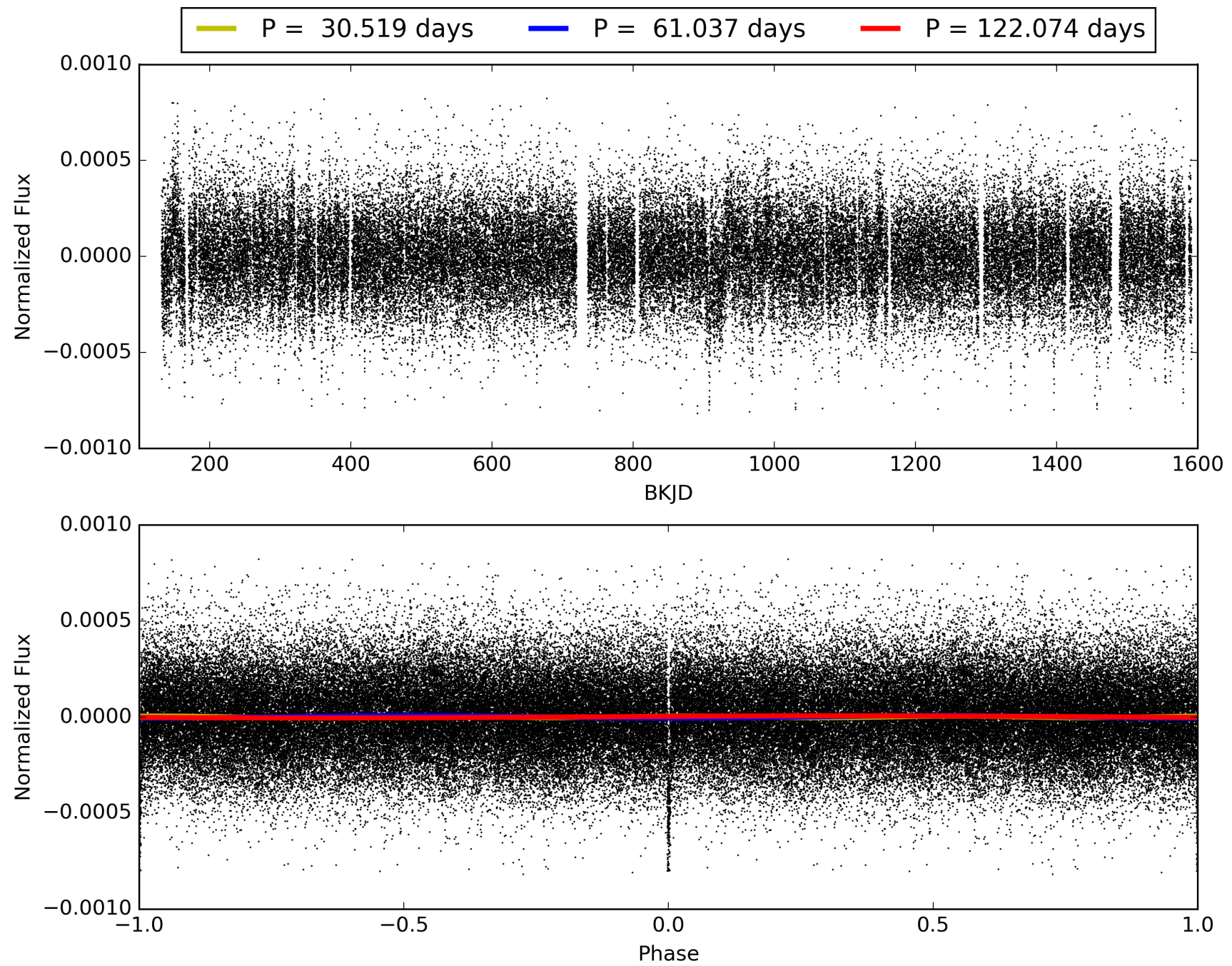
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:42:04 Z

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

TCE 005183357-01, PDC Light Curves

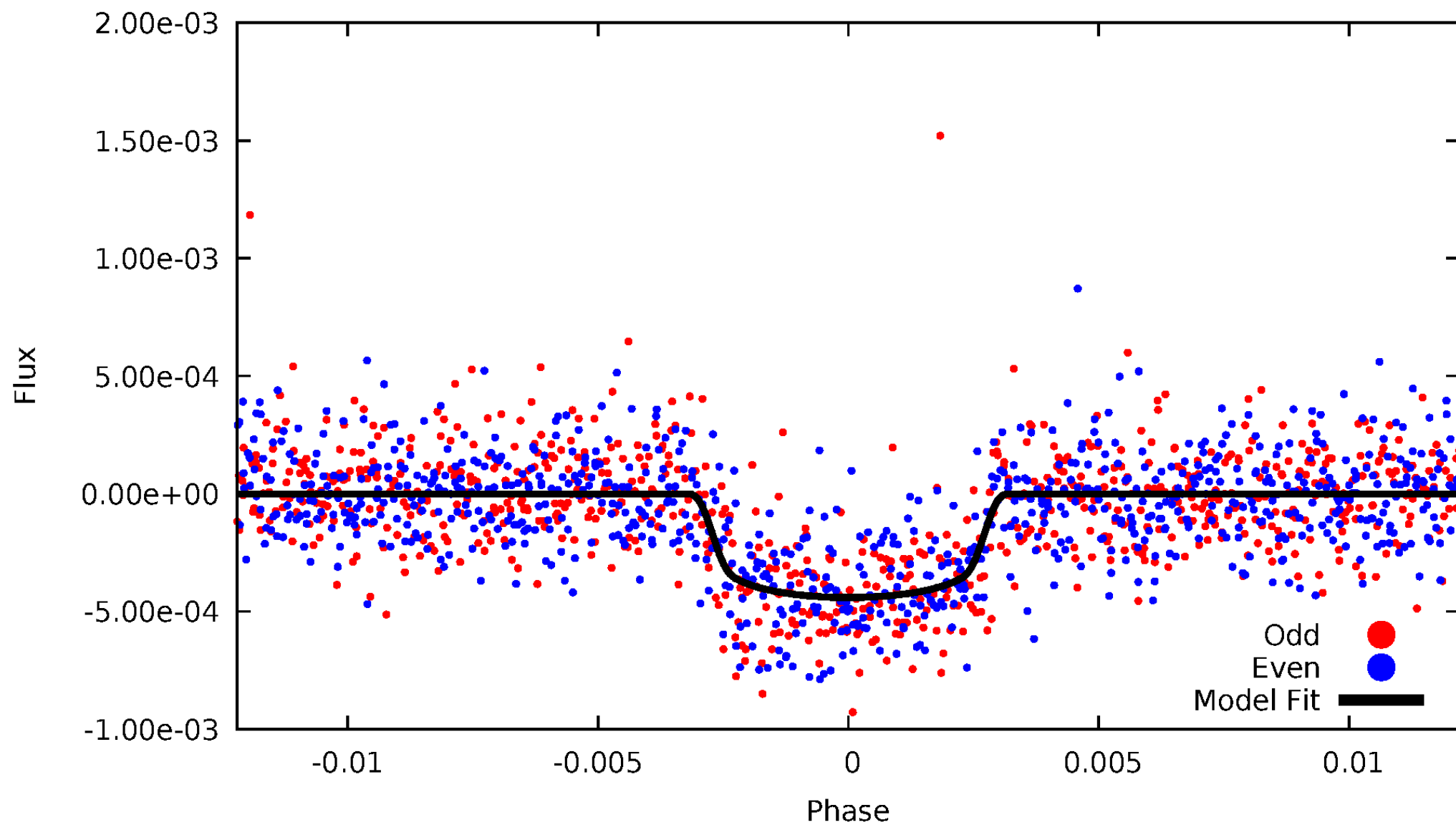


TCE 005183357-01



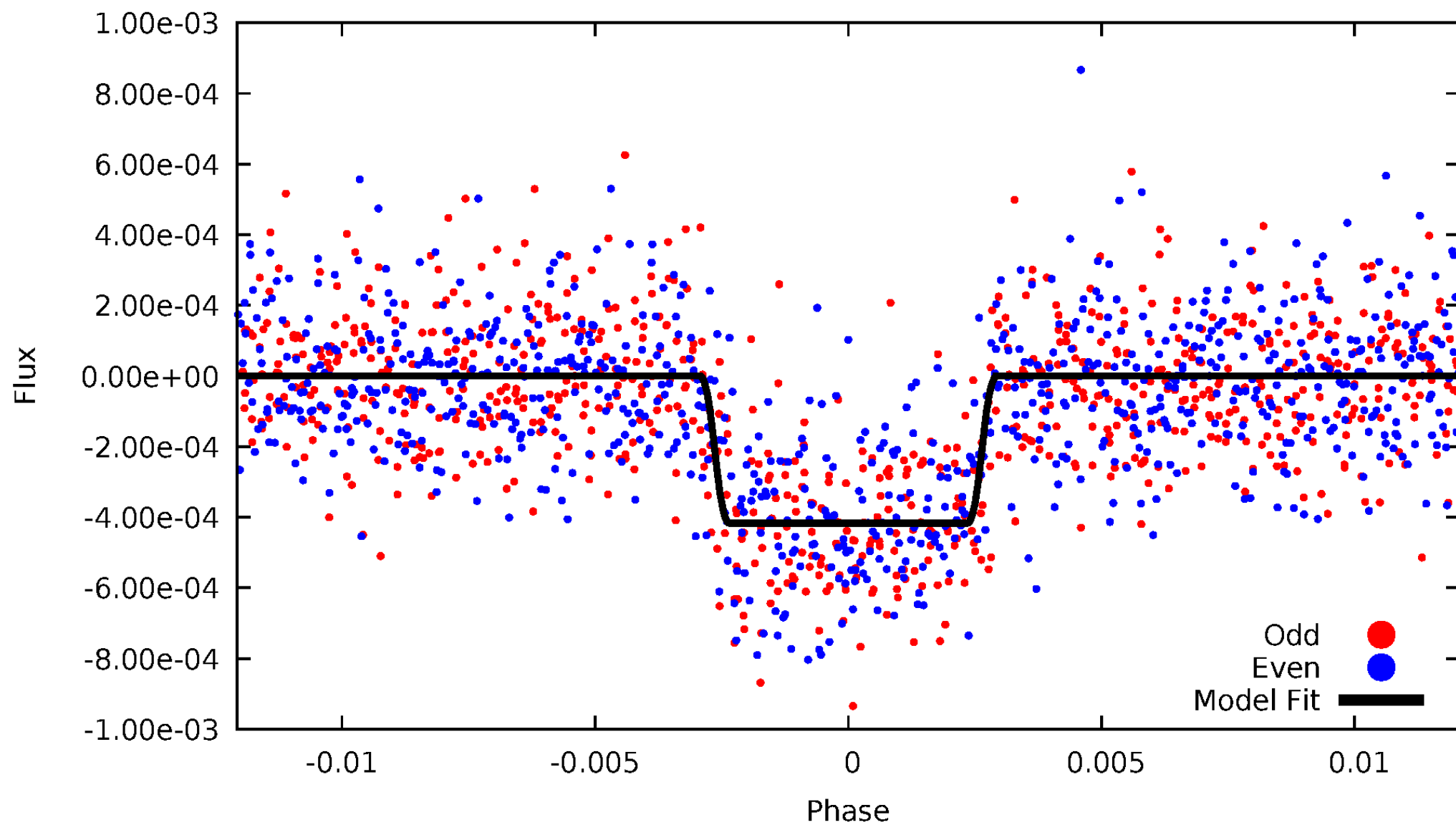
DV Odd/Even

TCE 005183357-01



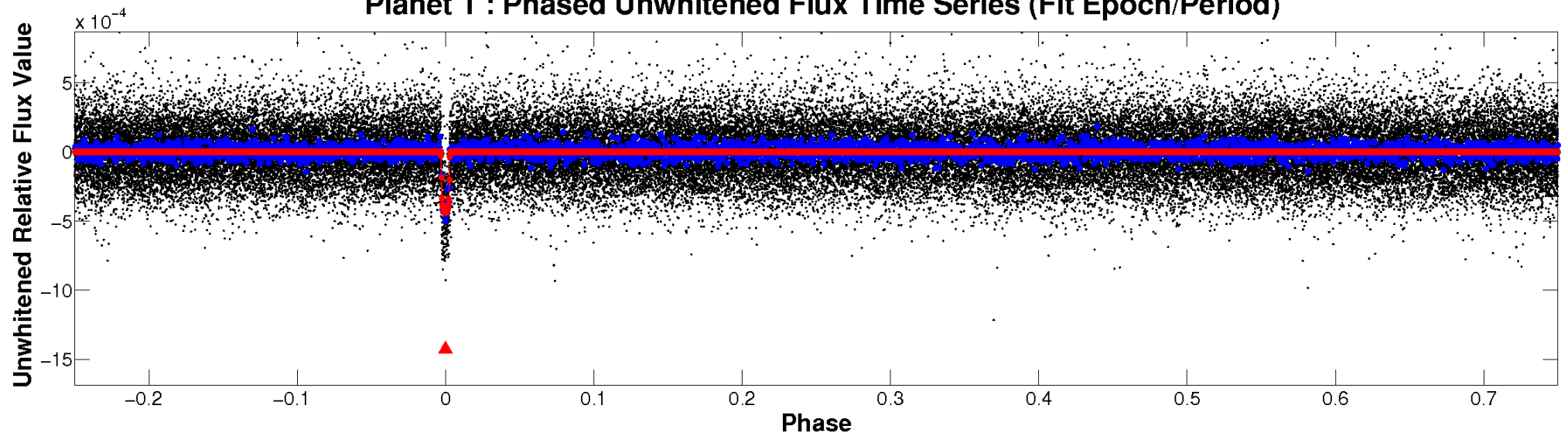
ALT Odd/Even

TCE 005183357-01

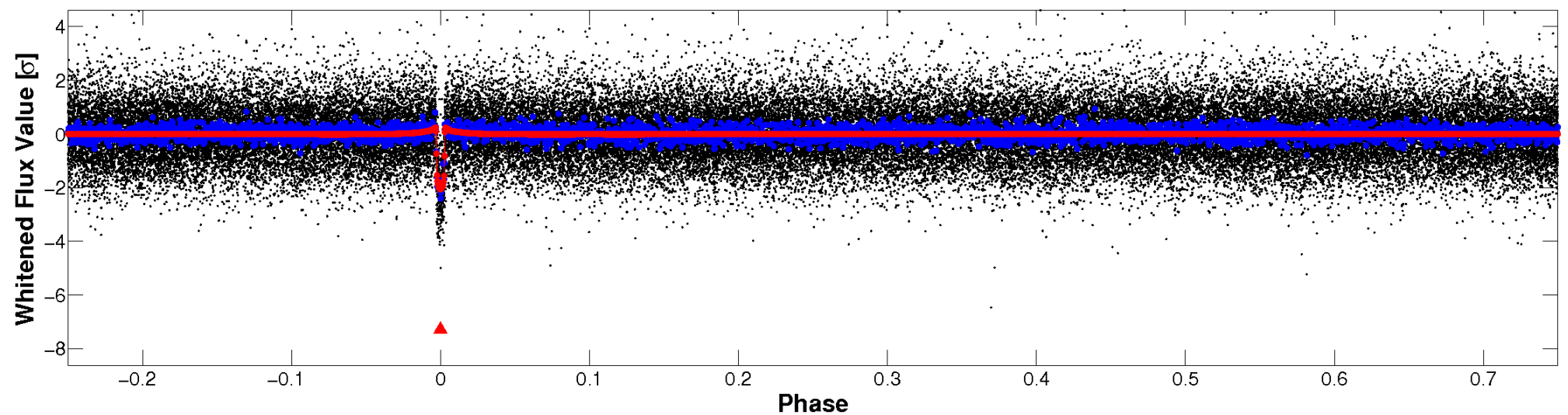


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

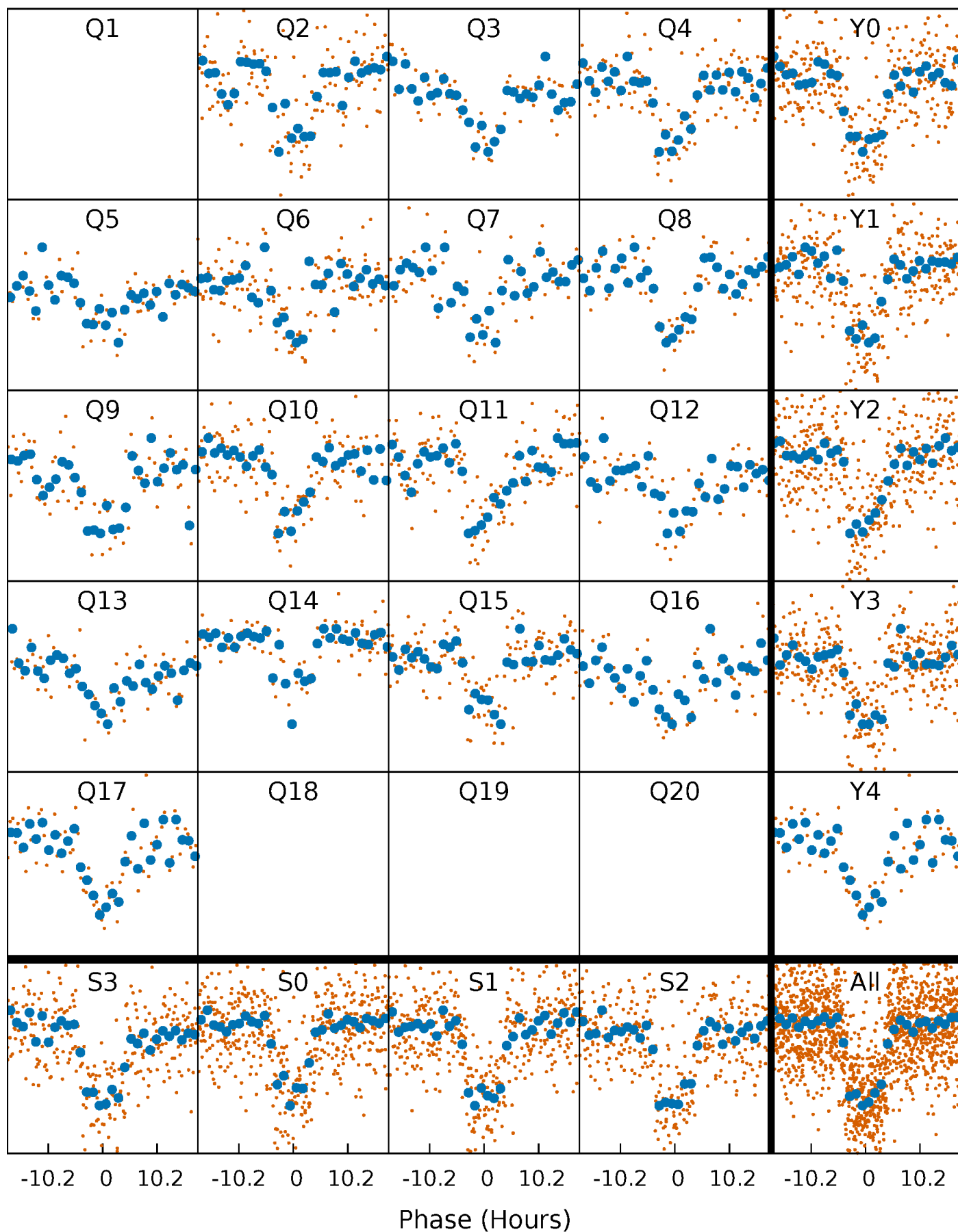


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



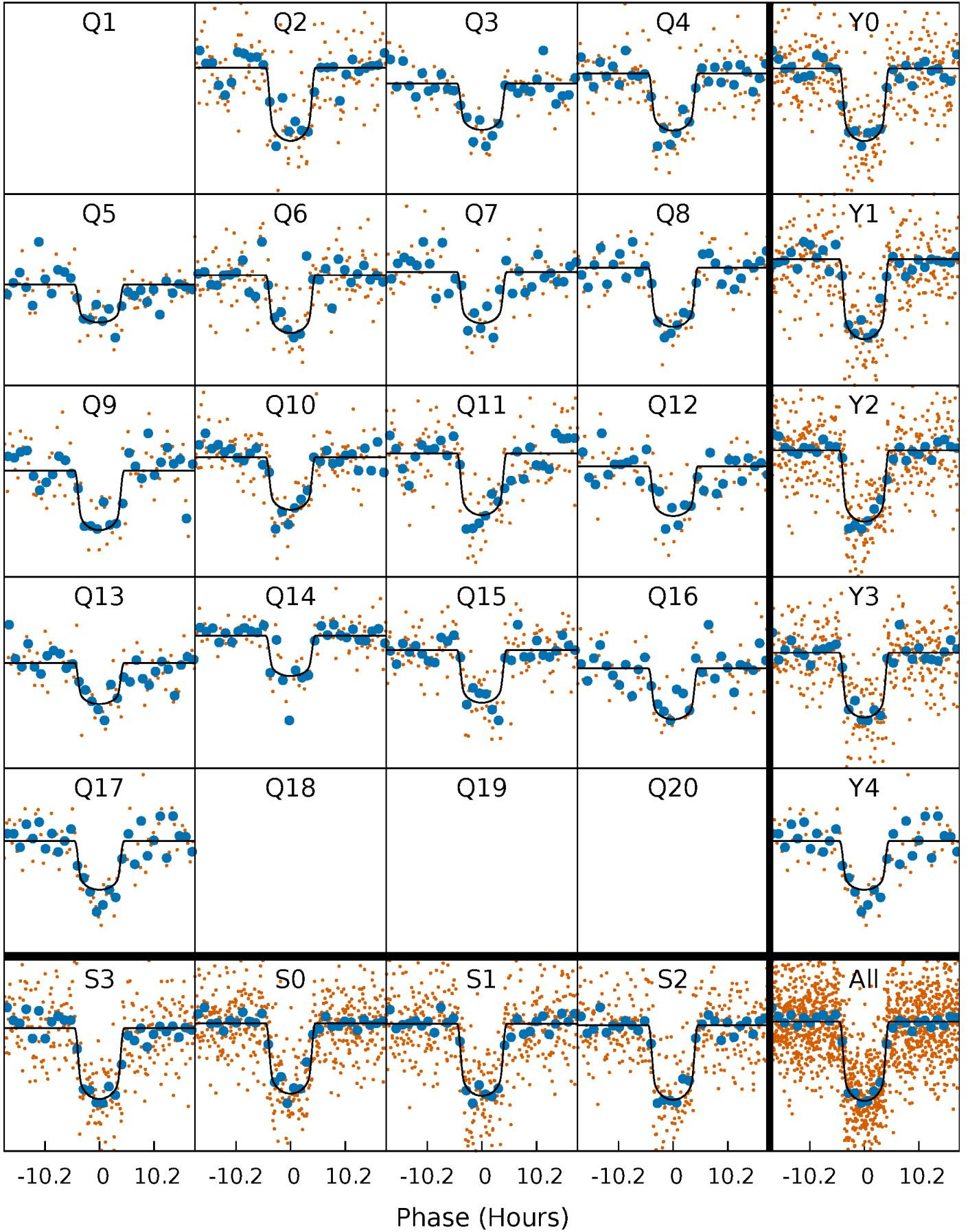
PDC Quarter-Phased Transit Curves

TCE 005183357-01 P= 61.037242 Days $T_0=175.177033$ (BKJD)



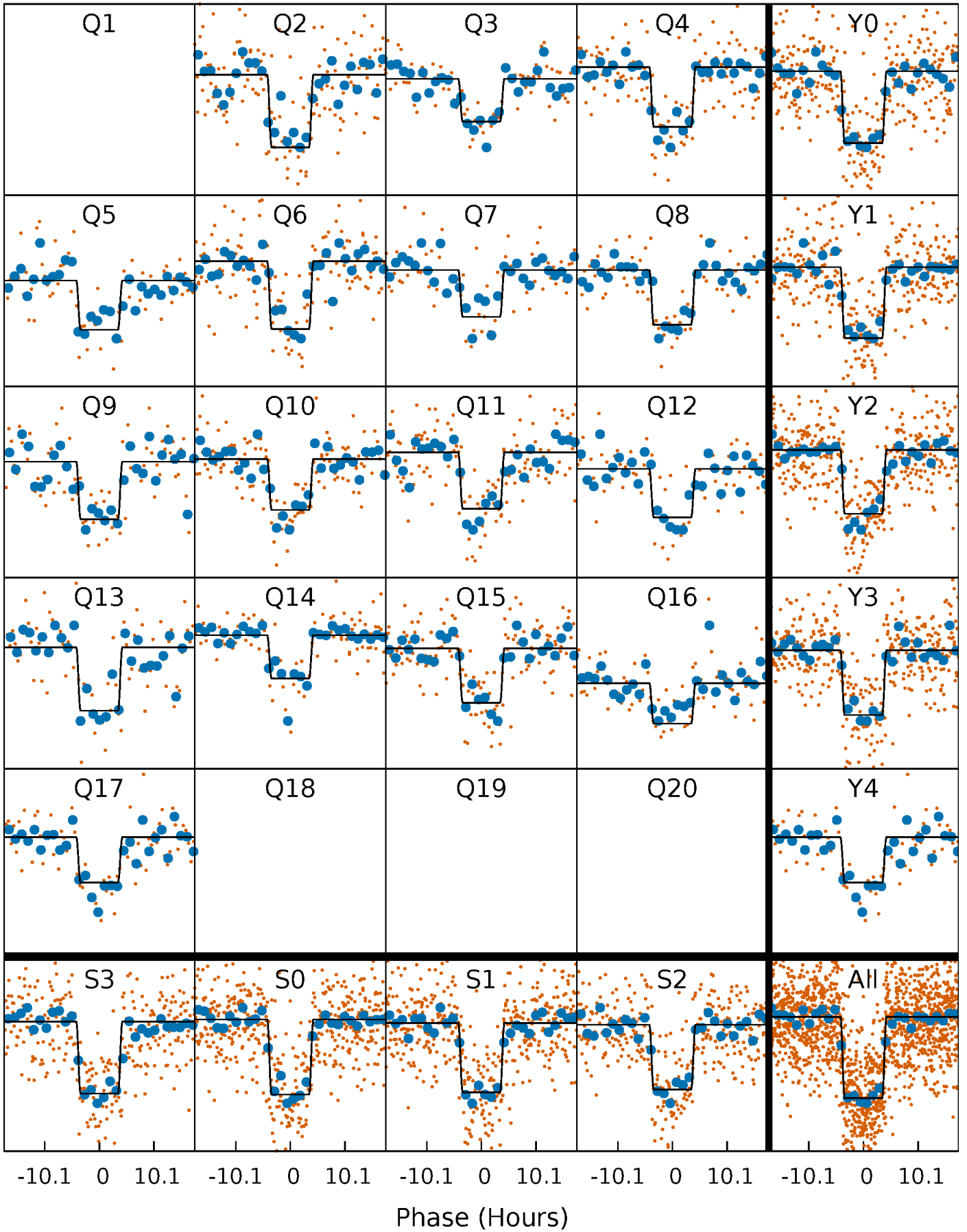
DV Quarter-Phased Transit Curves

TCE 005183357-01 P= 61.037242 Days $T_0=175.177033$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

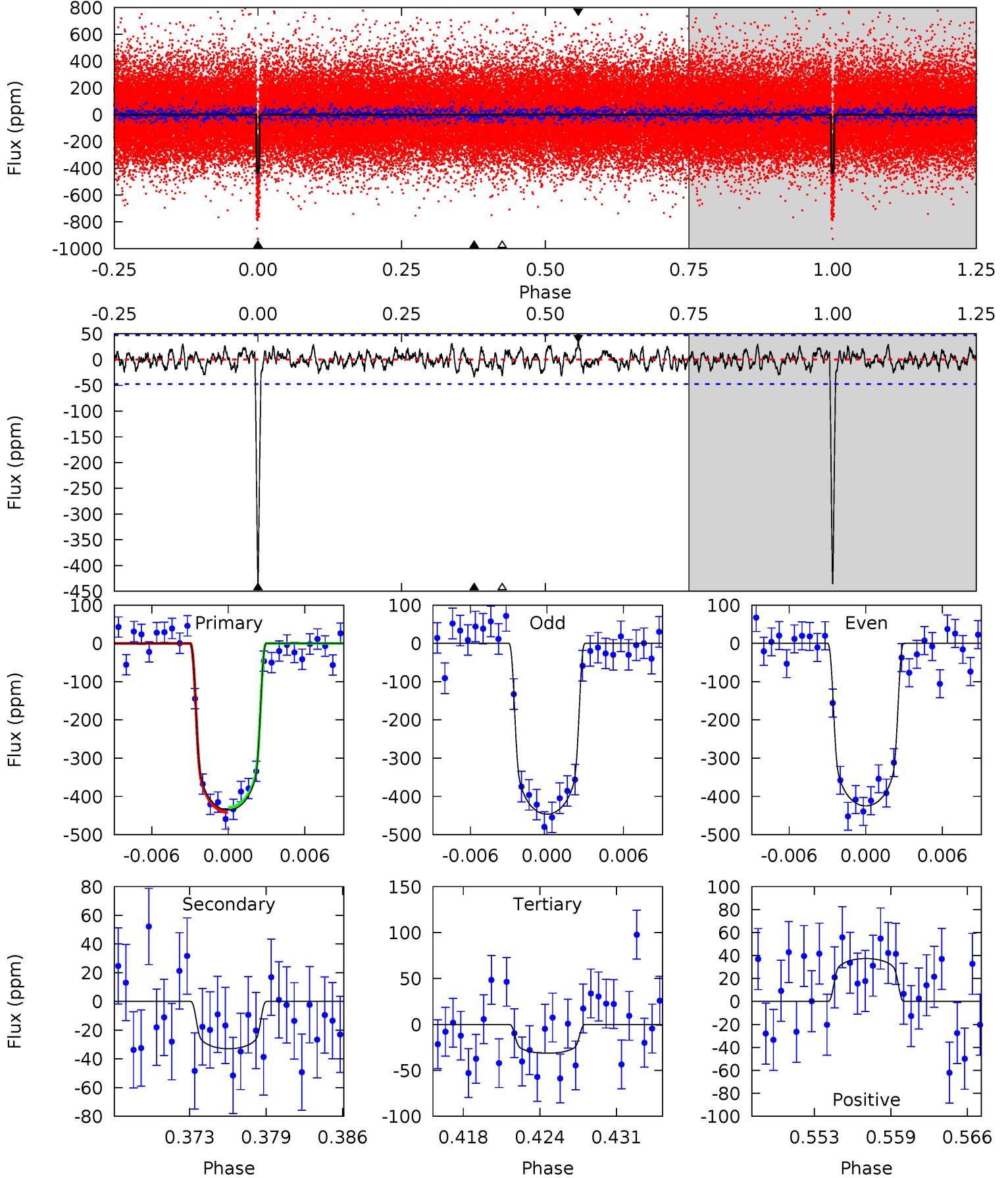
TCE 005183357-01 P= 61.037037 Days $T_0=175.180872$ (BKJD)



DV Model-Shift Uniqueness Test

005183357-01, $P = 61.037242$ Days, $E = 114.139791$ Days

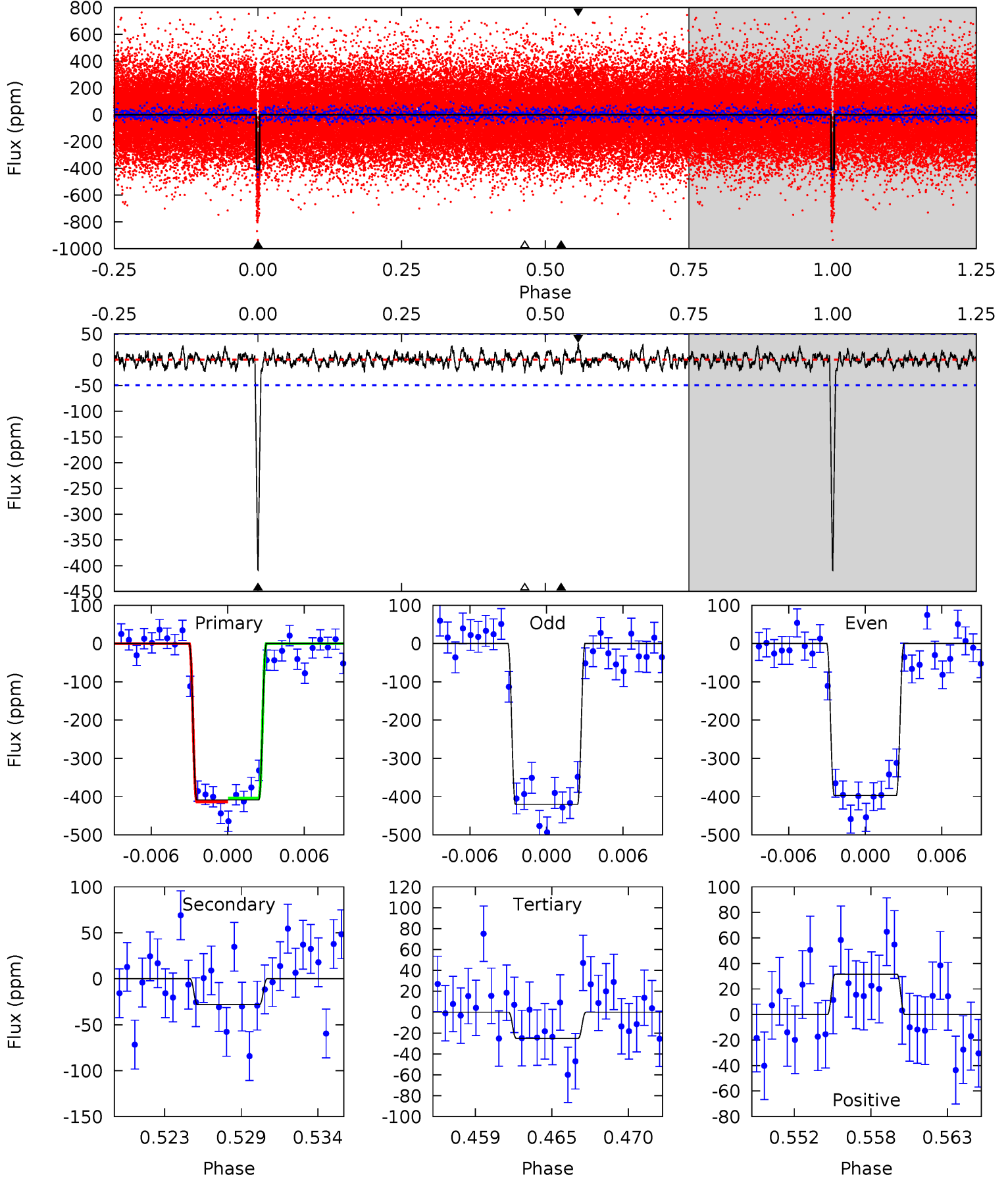
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 47.0 | 3.55 | 3.38 | 4.03 | 5.11 | 2.73 | 1.24 | 43.6 | 43.0 | 0.17 | -0.48 | 1.17 | 0.98 | 0.08 | 0.67 |



Alt Model-Shift Uniqueness Test

005183357-01, P = 61.037037 Days, E = 114.143835 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 42.2 | 2.91 | 2.59 | 3.26 | 5.13 | 2.76 | 0.96 | 39.7 | 39.0 | 0.32 | -0.35 | 1.21 | 1.00 | 0.07 | 0.51 |



Stellar Parameters For KIC 005183357

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 6309^{+75}_{-82} | $4.154^{+0.132}_{-0.120}$ | $0.280^{+0.150}_{-0.150}$ | $1.614^{+0.282}_{-0.254}$ | $1.358^{+0.098}_{-0.108}$ | $0.455^{+0.267}_{-0.155}$ |
| | +1%/-1% | +3%/-3% | +54%/-54% | +17%/-16% | +7%/-8% | +59%/-34% |
| Source | SPE90 | SPE90 | SPE90 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005183357-01 / KOI 1669.01

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|--------------|------------------------|-------------------|----------------------|-------------------|
| DV | -33 ± 9 | $3.97^{+0.48}_{-0.36}$ | 852^{+44}_{-36} | 3631^{+165}_{-199} | 129^{+48}_{-40} |
| Alt. | -28 ± 10 | $3.62^{+0.38}_{-0.36}$ | 853^{+42}_{-39} | 3635^{+200}_{-259} | 127^{+64}_{-48} |

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

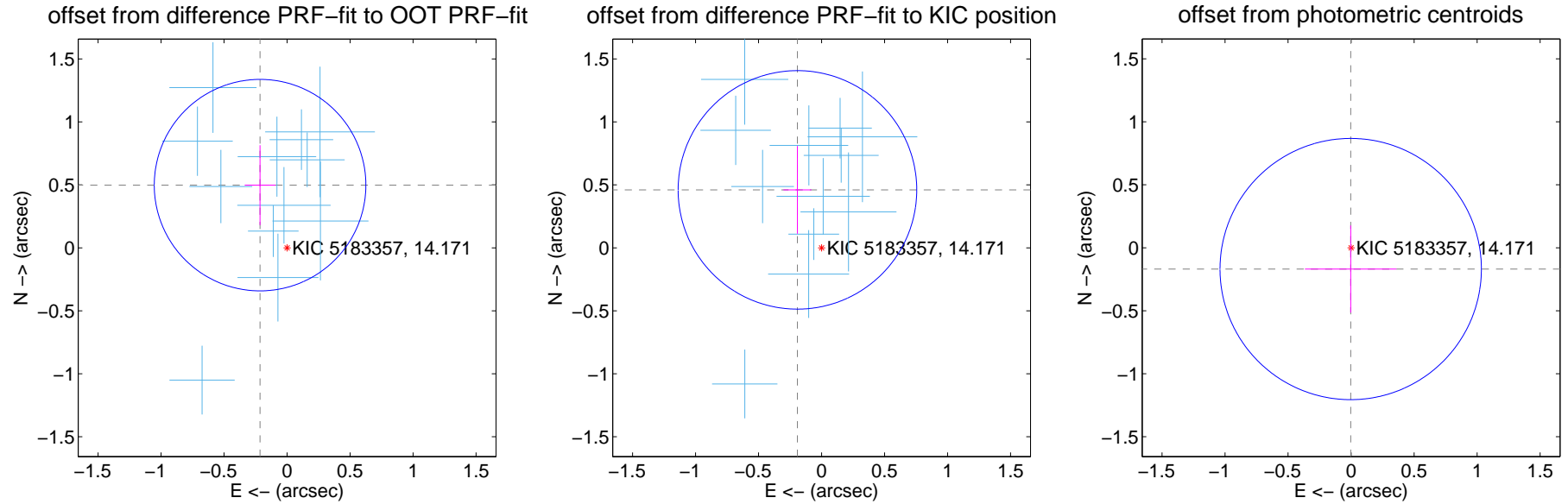
DV Centroid Data

Supplemental centroid analysis for 005183357-01. Kepler magnitude: 14.17. Transit SNR 33.67

There are 12 quarters with good PRF difference image offsets

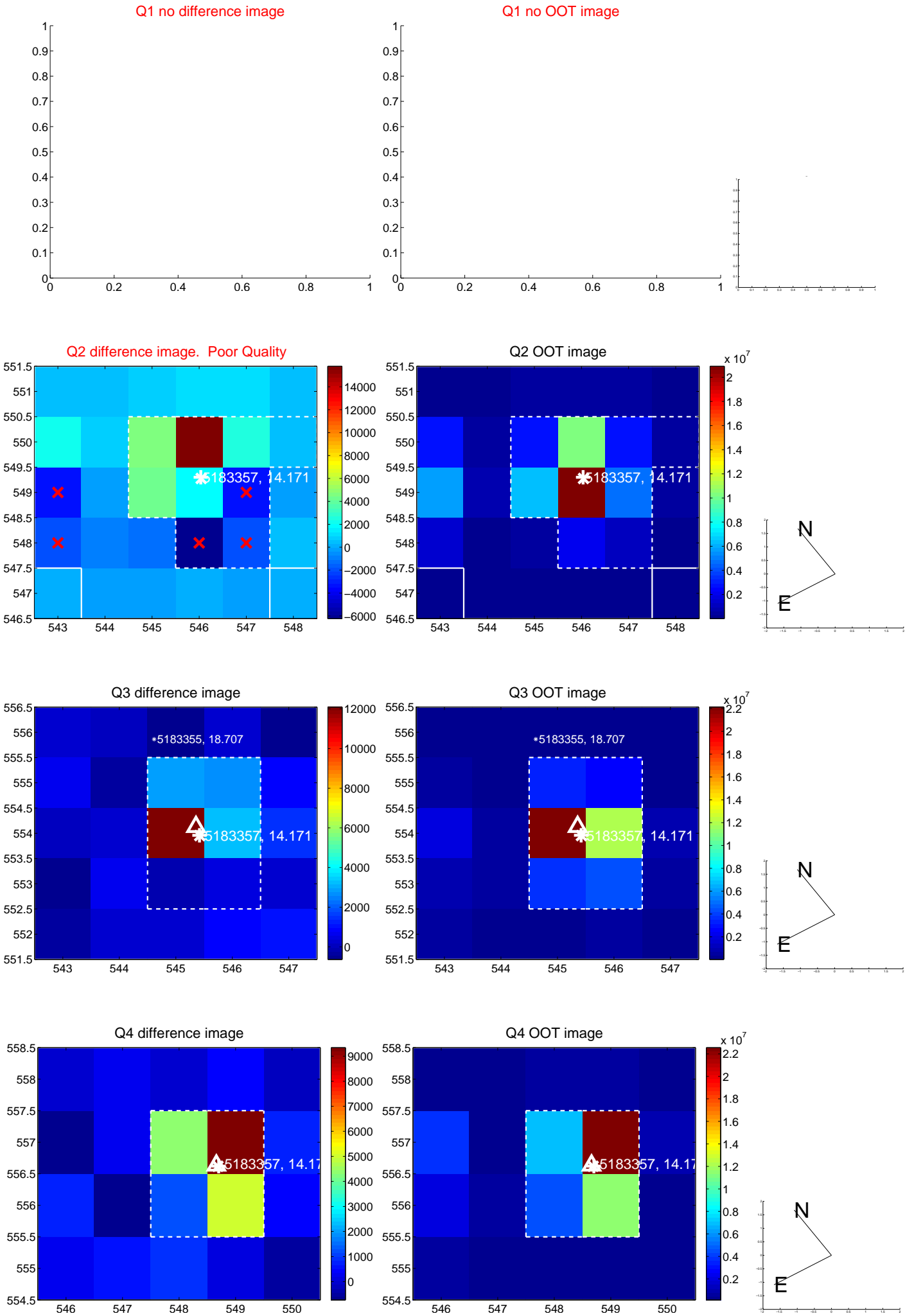
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.542 ± 0.280 | 1.94 | 0.214 ± 0.122 | 0.498 ± 0.317 |
| PRF-fit source offset from KIC position | 0.498 ± 0.316 | 1.58 | 0.191 ± 0.111 | 0.460 ± 0.348 |
| photometric centroid source offset | 0.17 ± 0.35 | 0.49 | 0.00 ± 0.36 | -0.17 ± 0.35 |

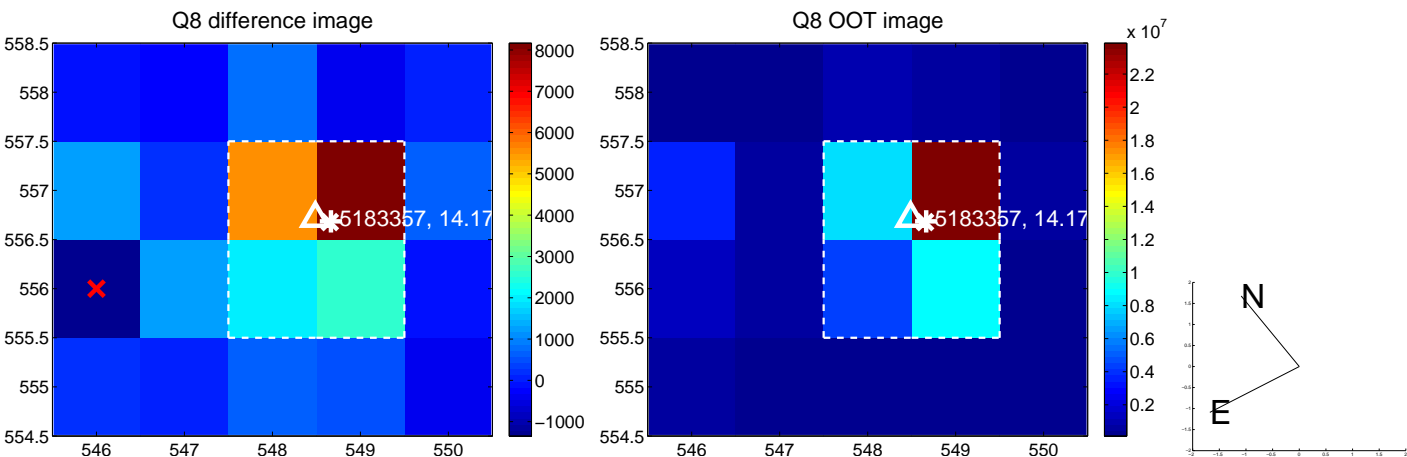
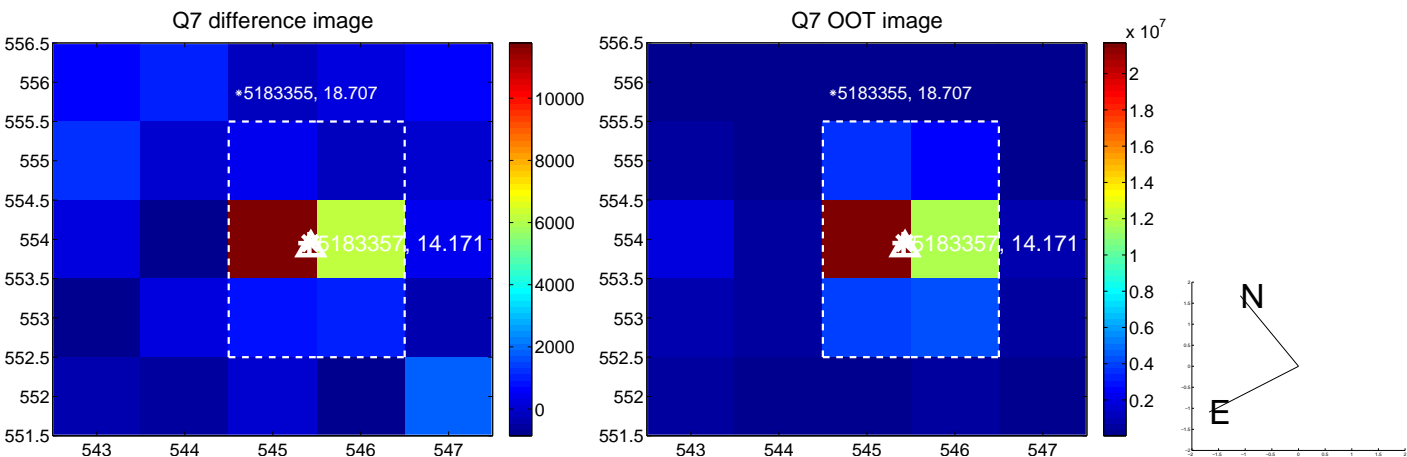
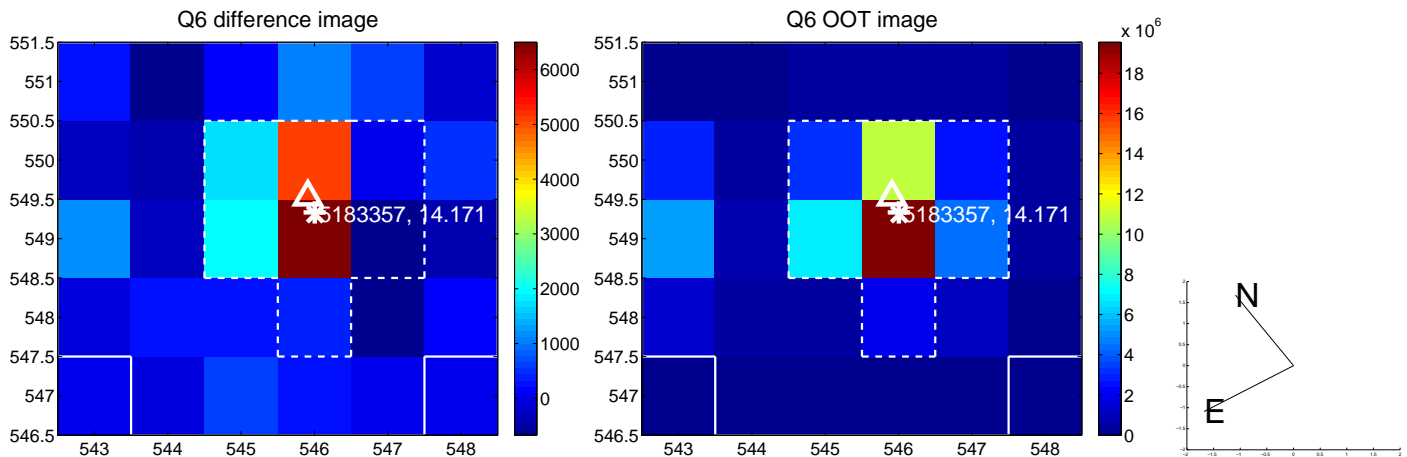
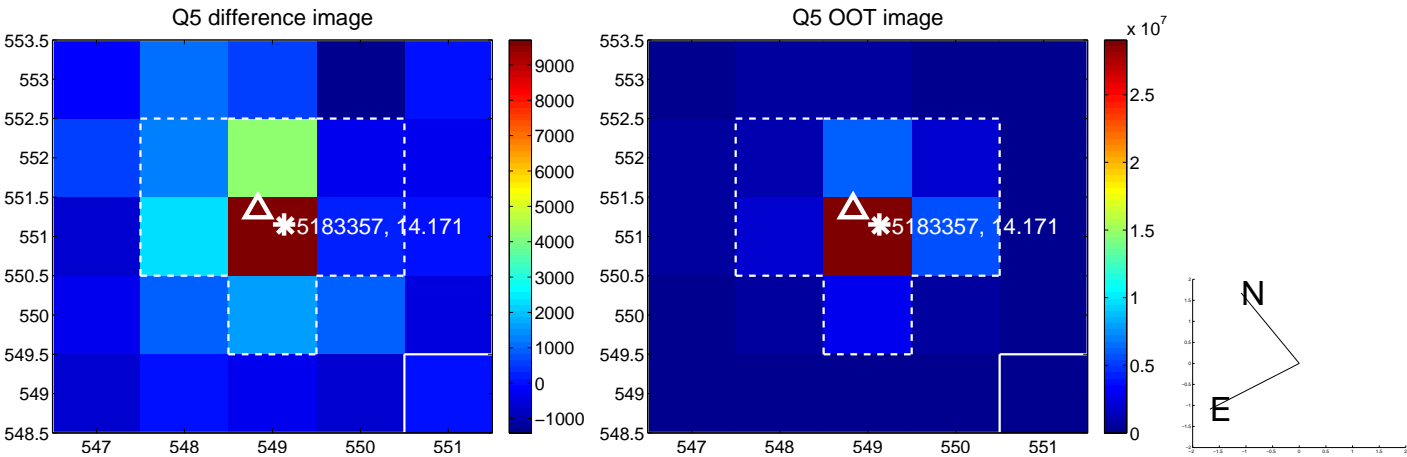


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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.

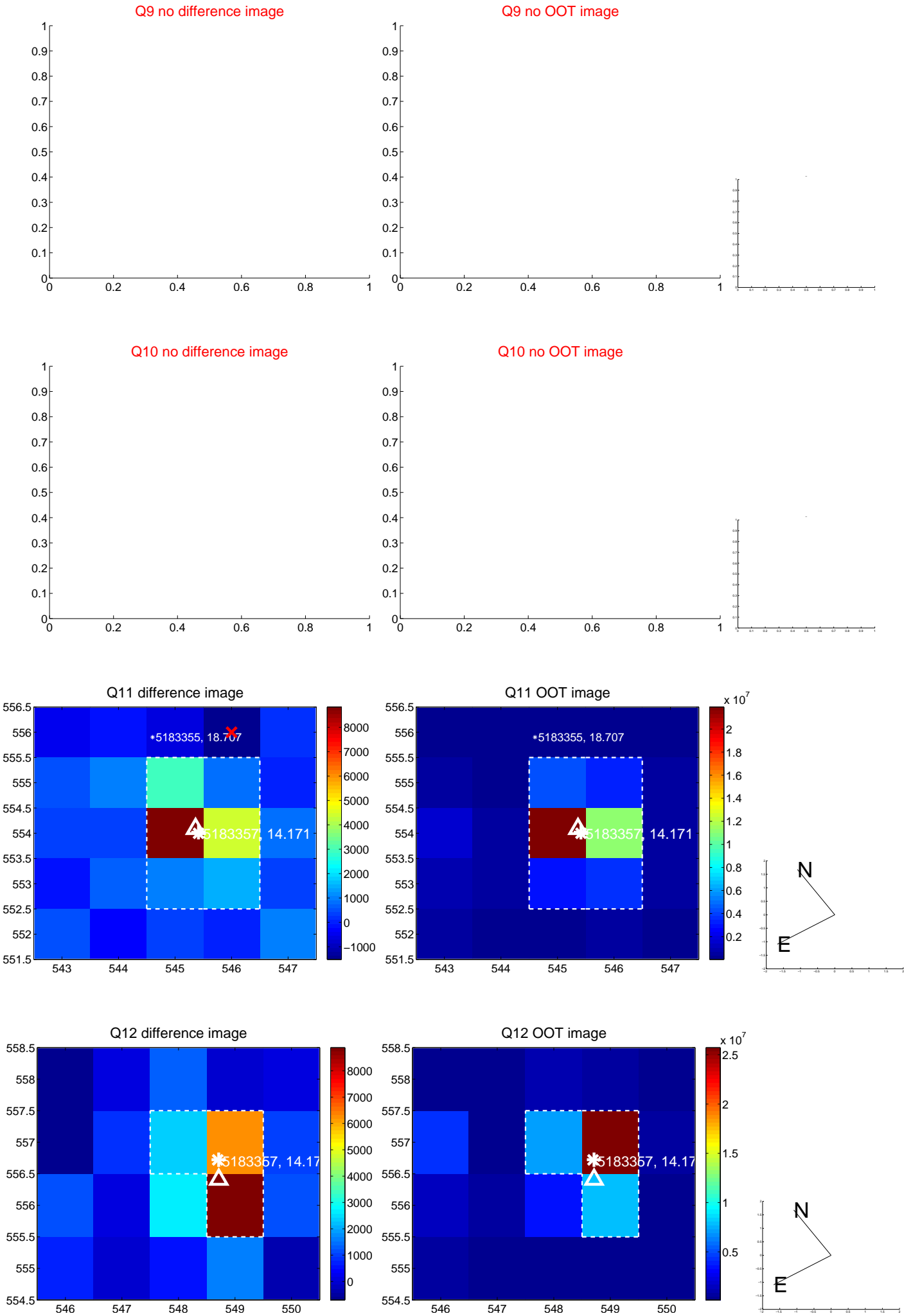
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



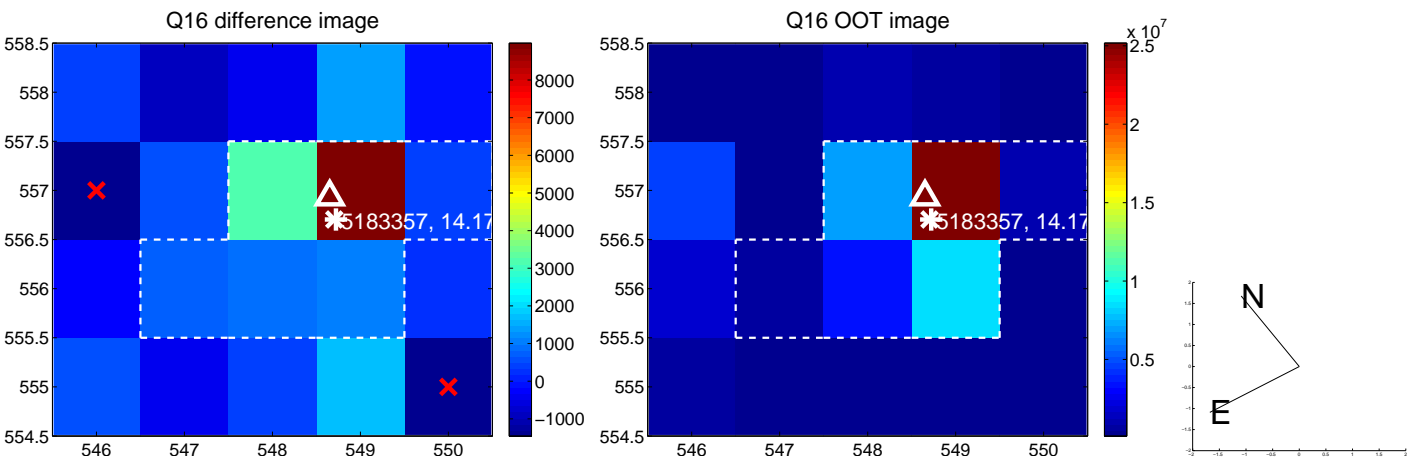
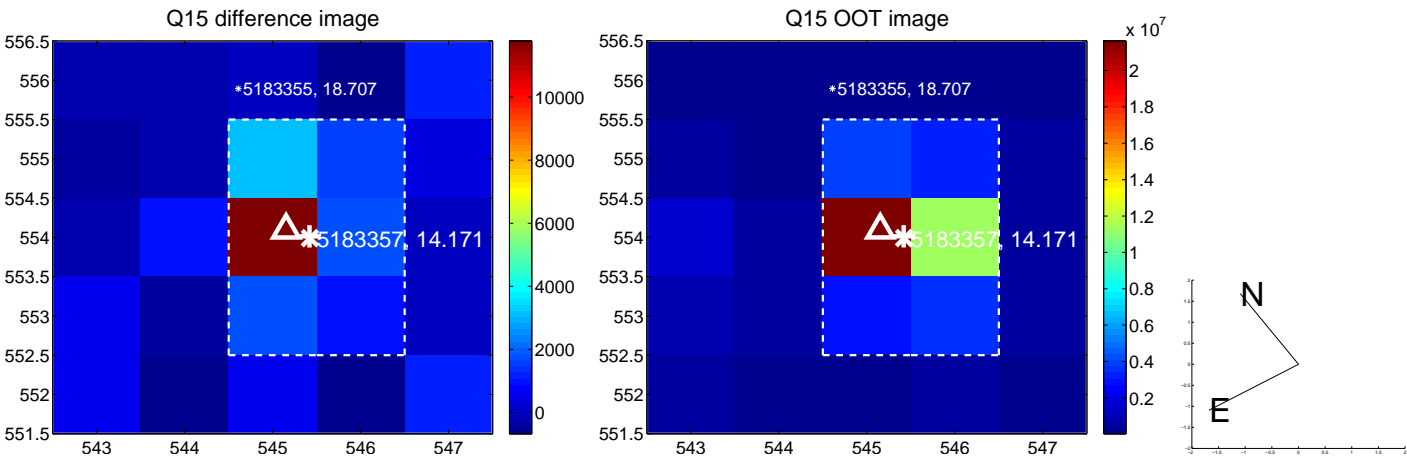
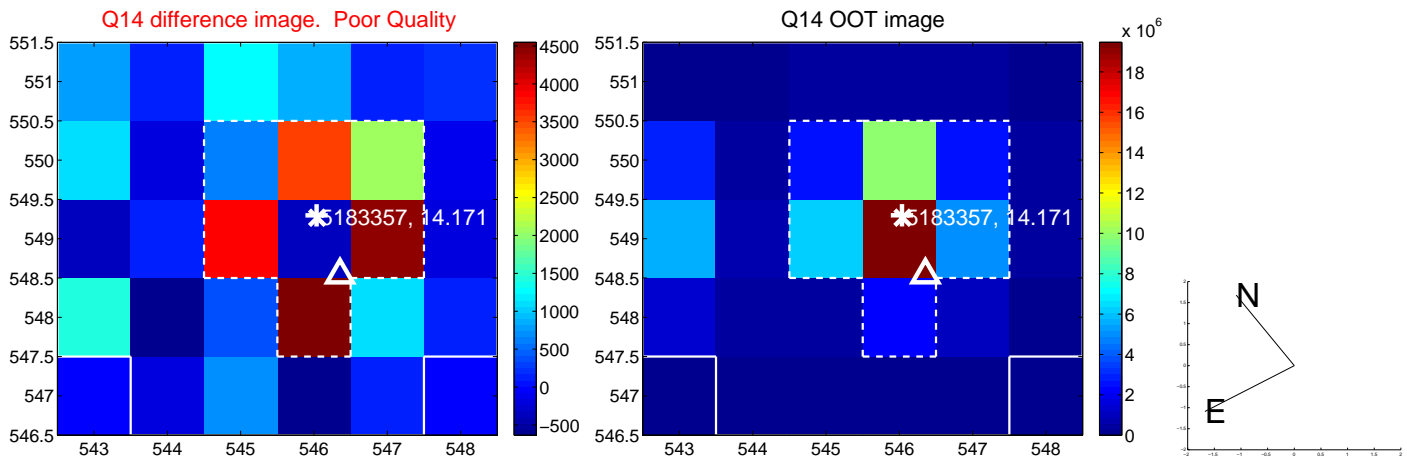
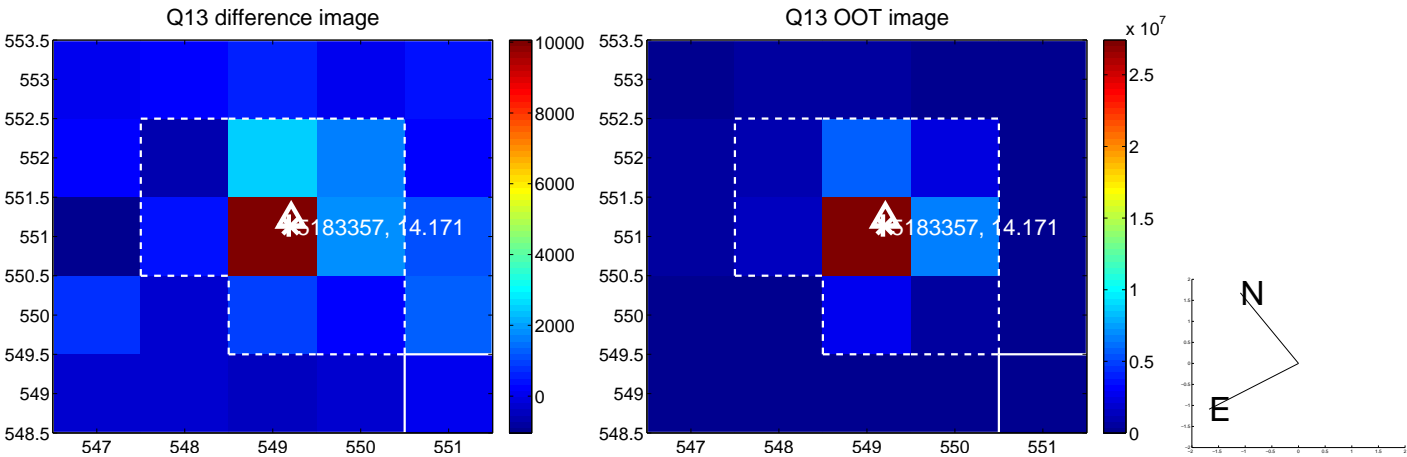
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



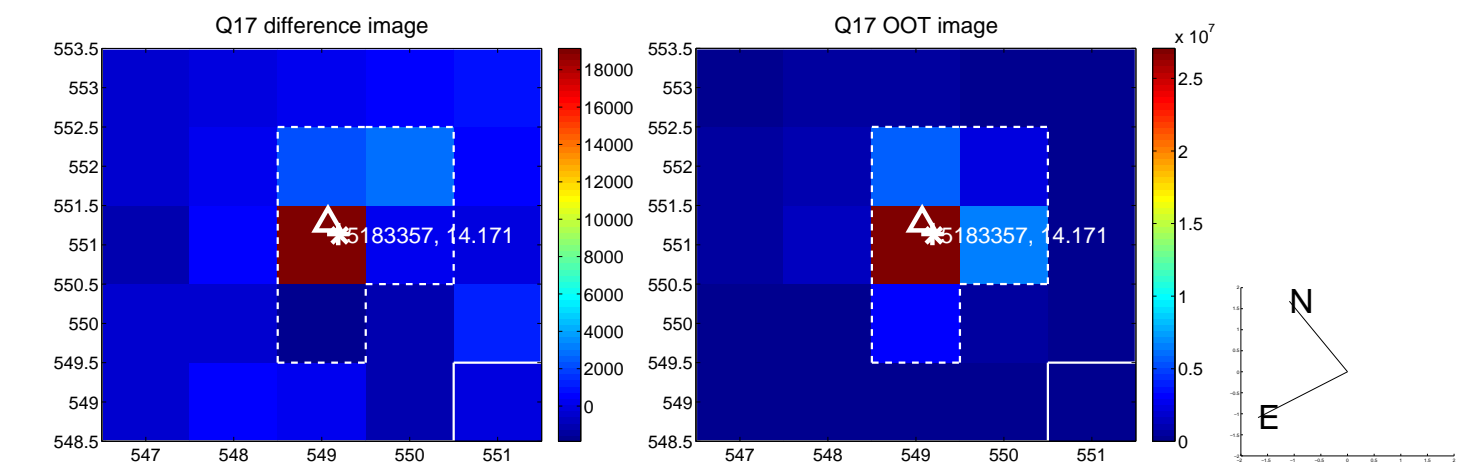
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



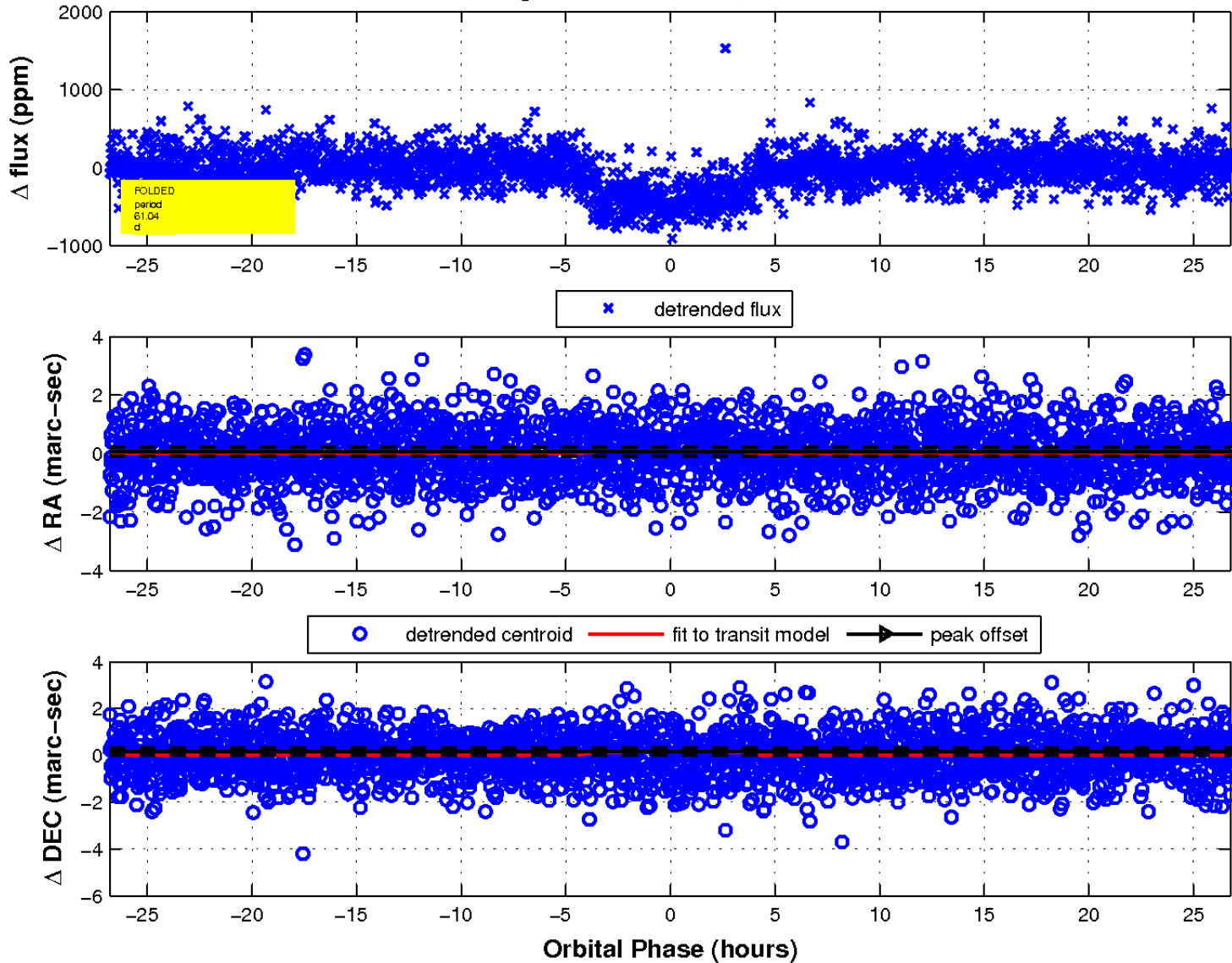
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

