

KIC 008242519

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 008242519-01 | OBS | No | 367.848712 | 236.819362 | 1154.0 | 14.763 | 8.1 | 8.1 | 0.92 | 5849 | 3.82 | 0.87 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 008242519-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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

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

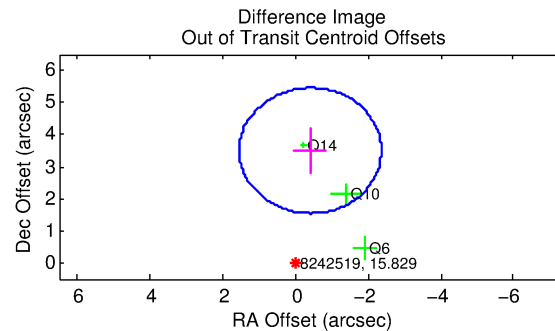
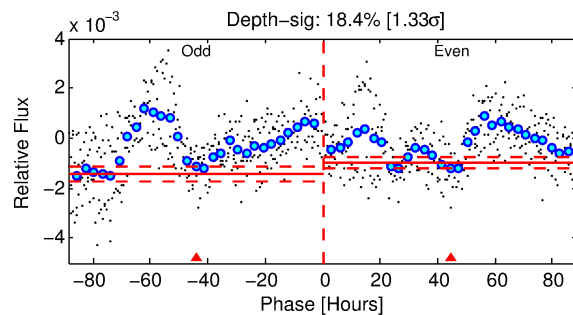
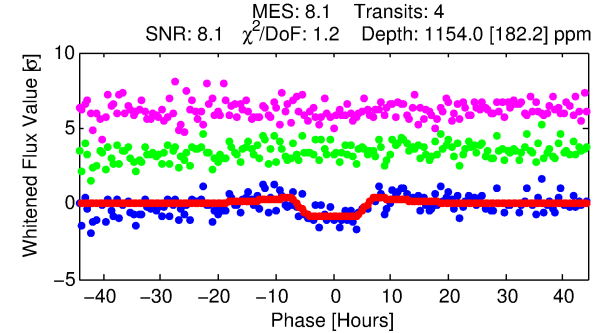
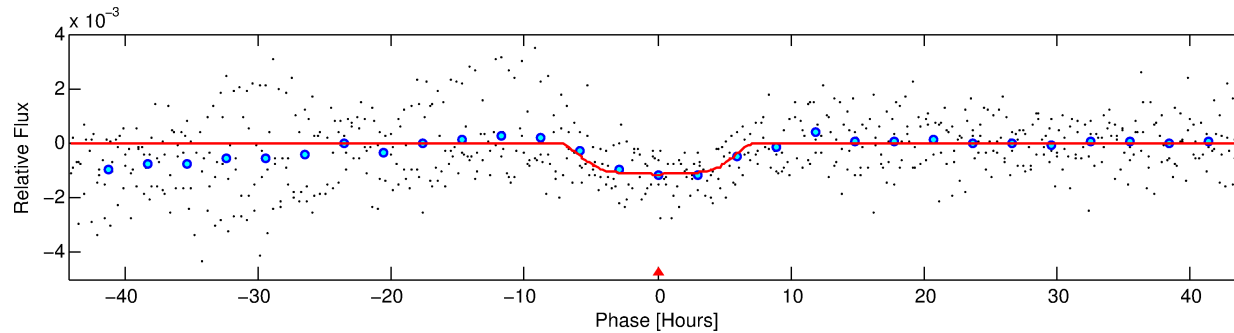
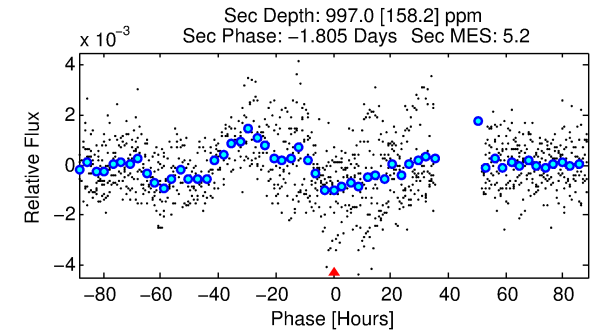
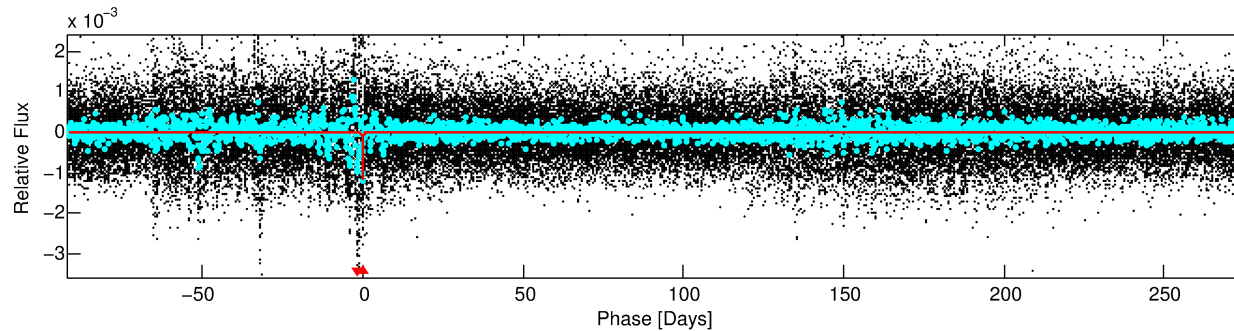
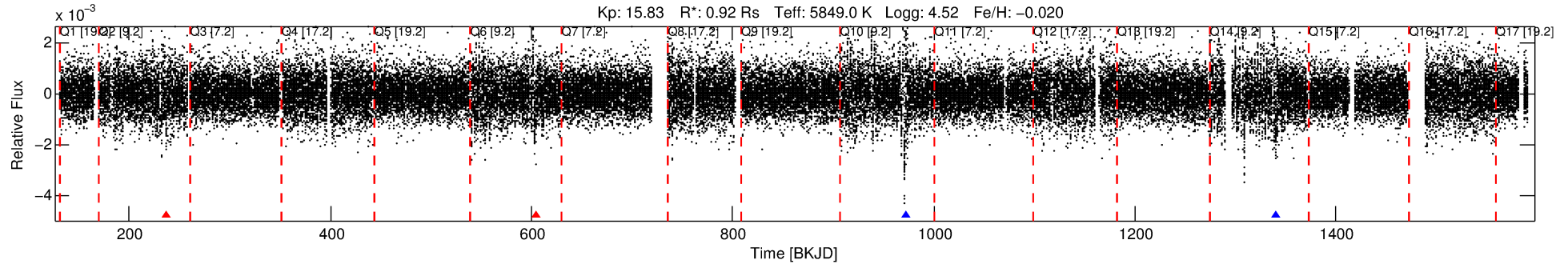
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008242519-01

No Significant Match Found

DV One-Page Summary

KIC: 8242519 Candidate: 1 of 1 Period: 367.849 d



DV Fit Results:

Period = 367.84871 [0.01646] d
Epoch = 236.8194 [0.0300] BKJD
Rp/R* = 0.0381 [0.0042]
a/R* = 88.85 [24.96]
b = 0.93 [0.04]
Seff = 0.87 [0.30]
Teq = 246 [21] K
Rp = 3.82 [1.11] Re
a = 1.0093 [0.2259] AU
Ag = 38204.42 [16122.21] [2.37σ]
Teffp = 5322 [397] K [12.76σ]

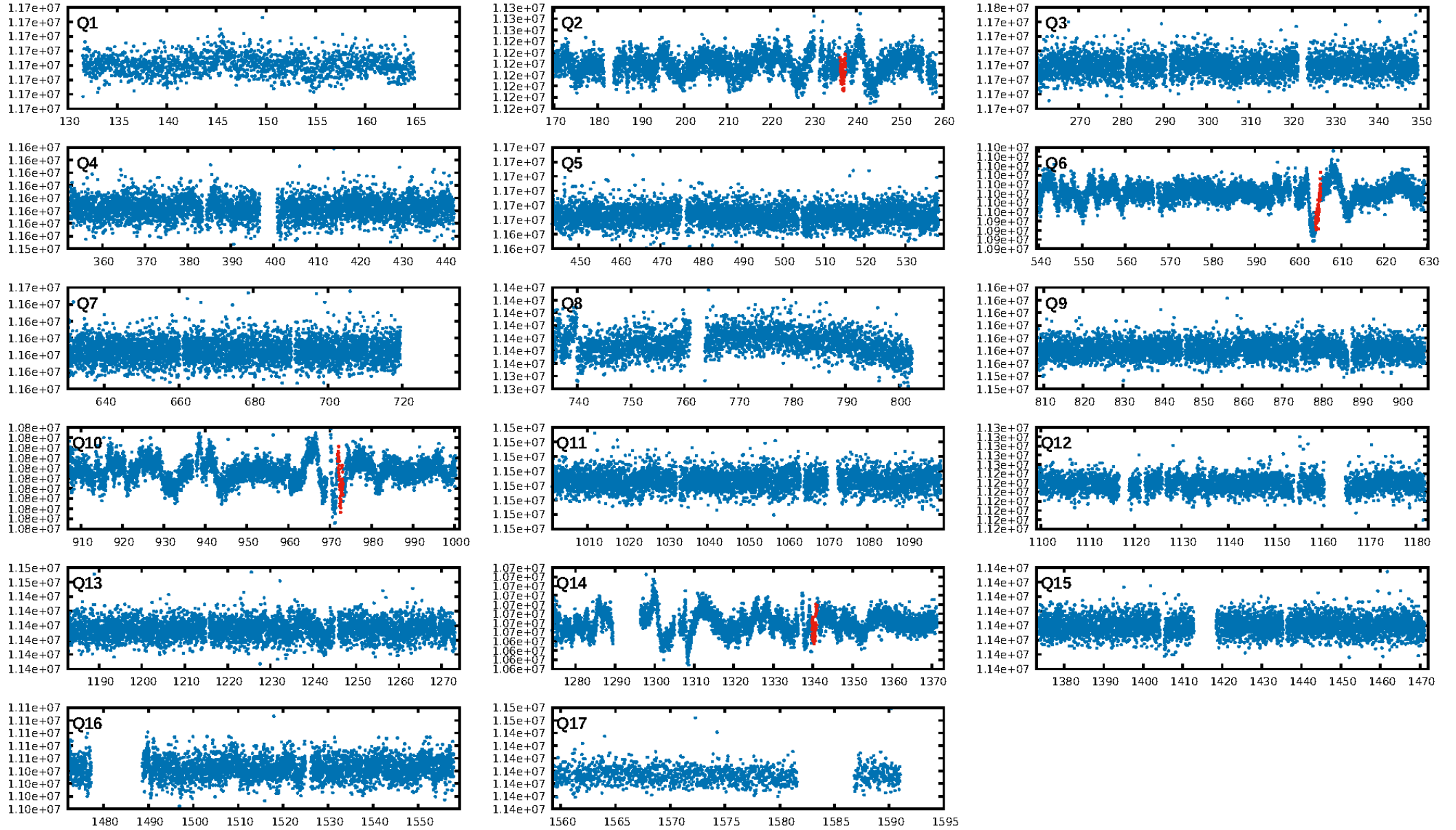
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 13.7%
ModelChiSquareGof-sig: 97.6%
Bootstrap-pfa: 1.10e-10
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: 0.6848
Centroid-sig: 0.1%
Centroid-so: 4.821 arcsec [2.27σ]
OotOffset-rm: 3.522 arcsec [5.40σ]
KicOffset-rm: 3.461 arcsec [4.95σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

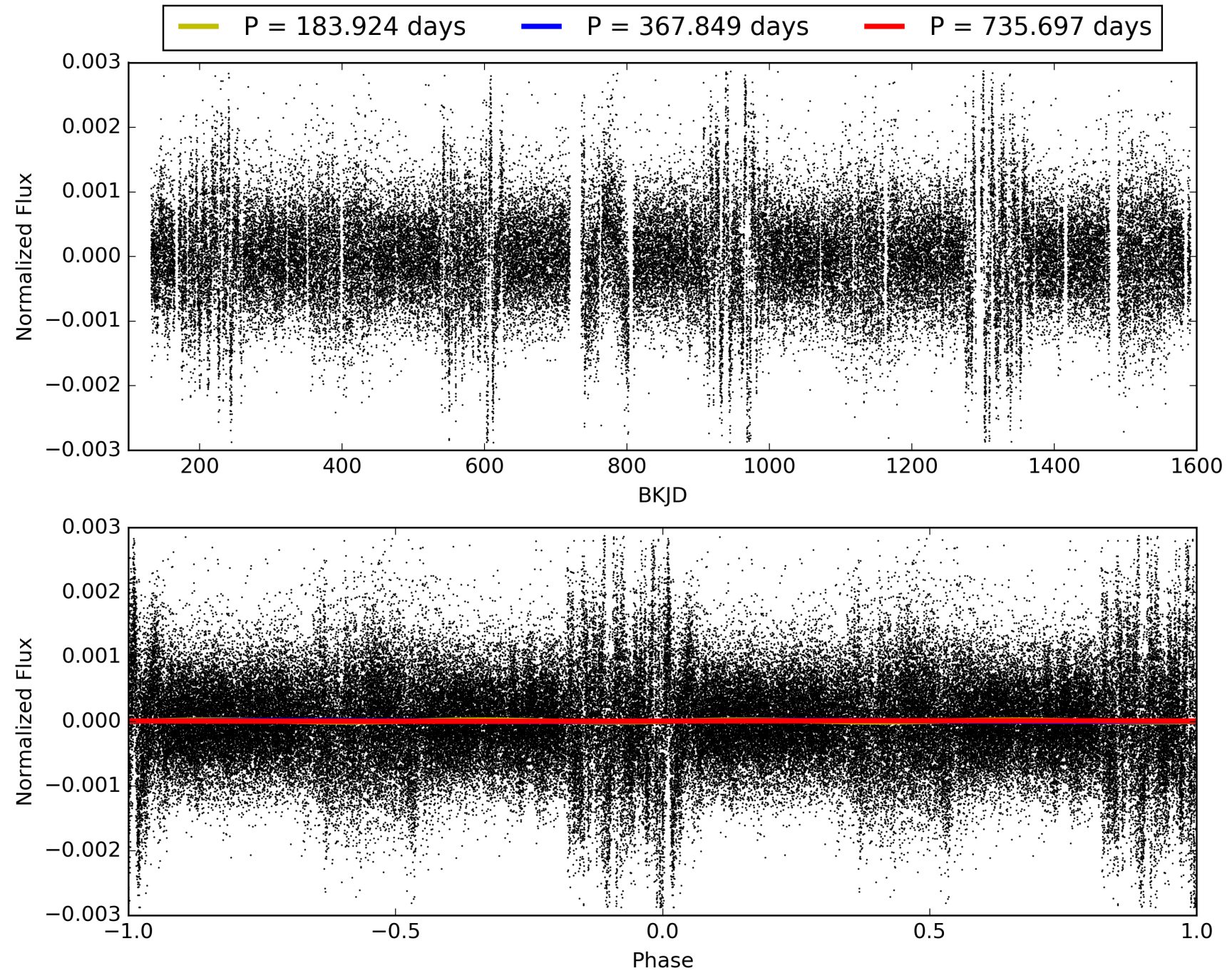
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:49:25 Z

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

TCE 008242519-01, PDC Light Curves

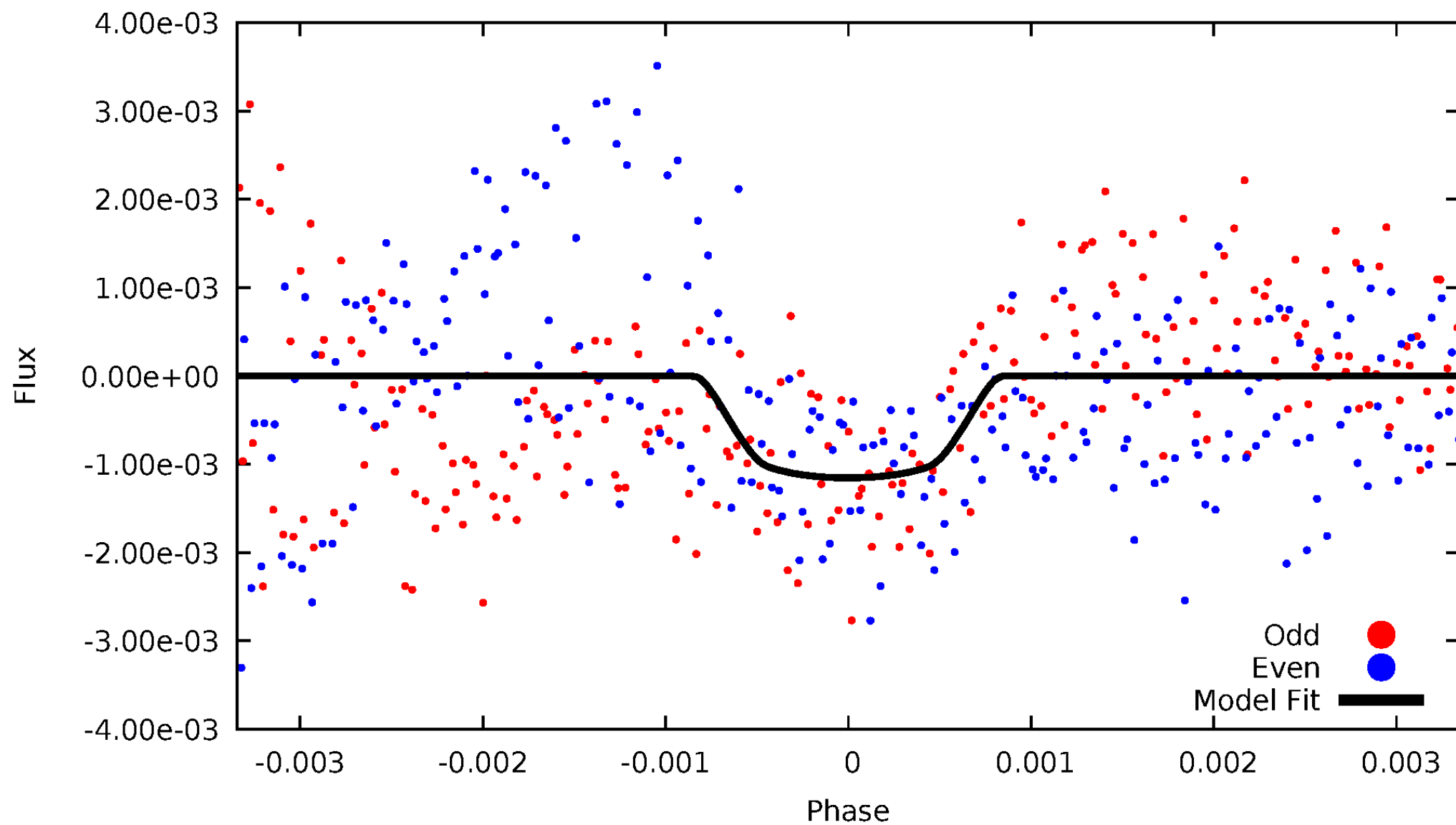


TCE 008242519-01



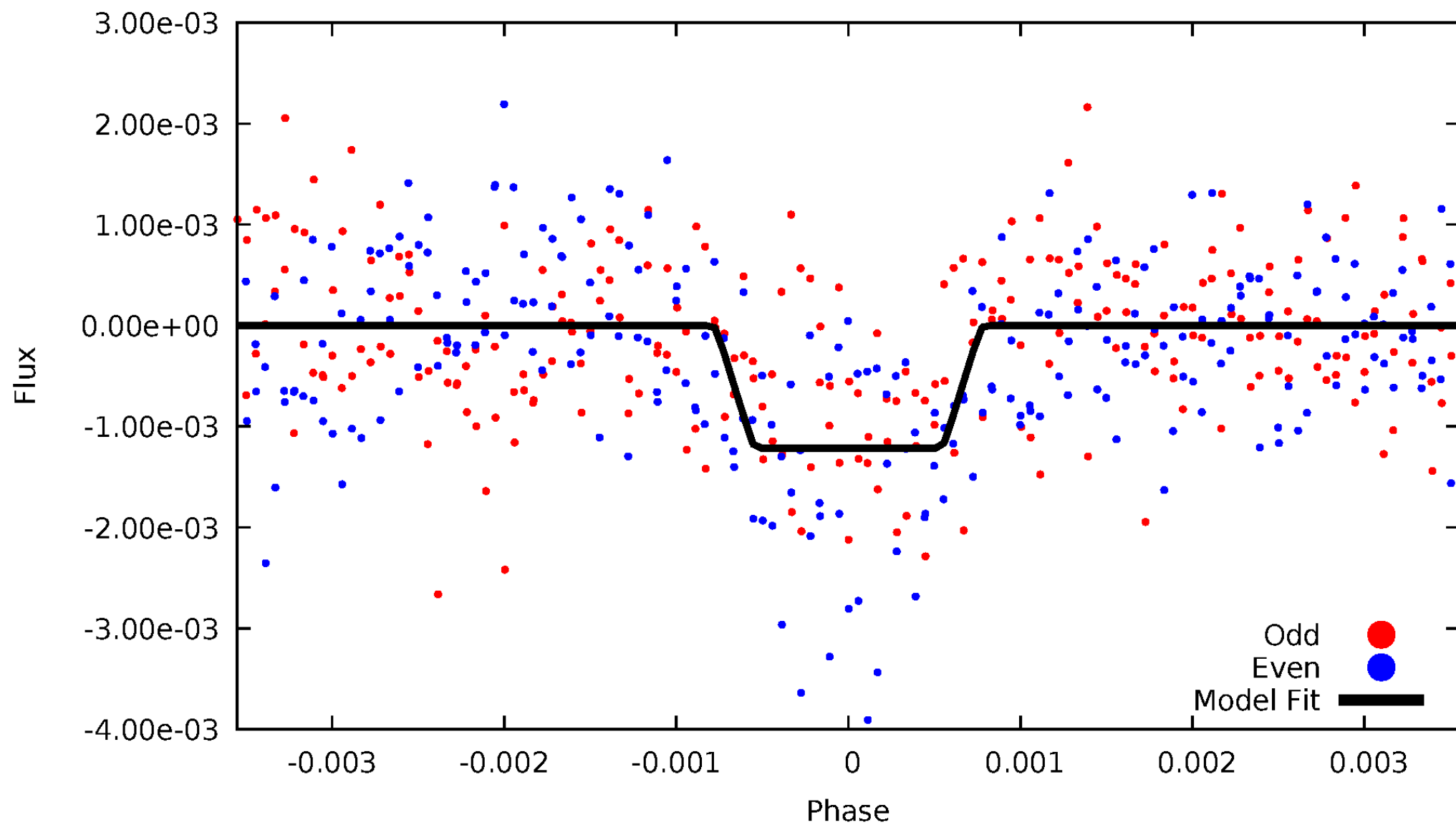
DV Odd/Even

TCE 008242519-01



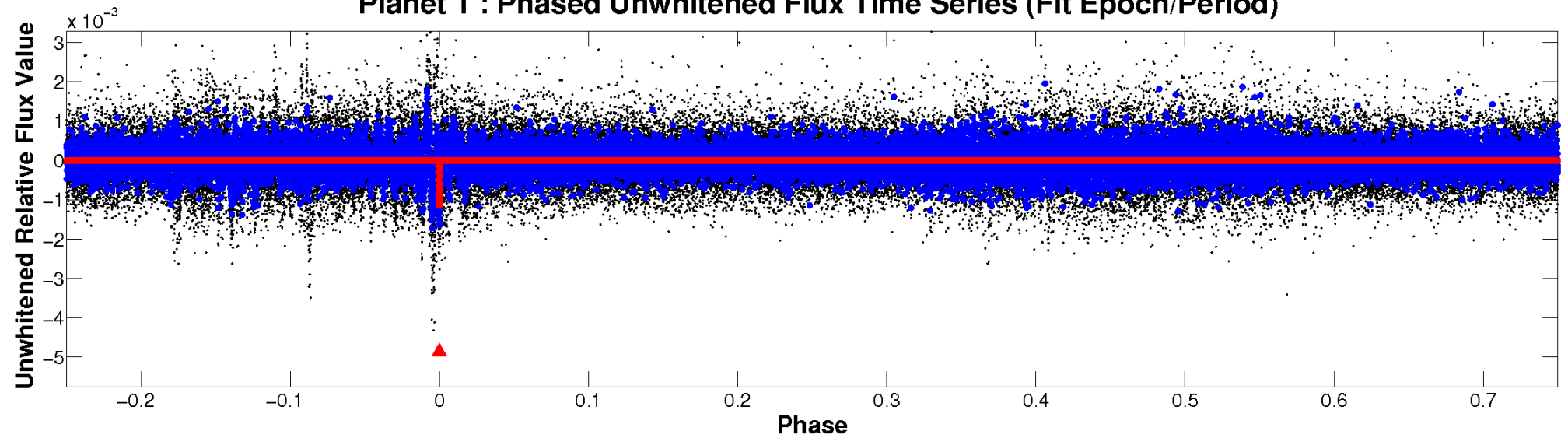
ALT Odd/Even

TCE 008242519-01

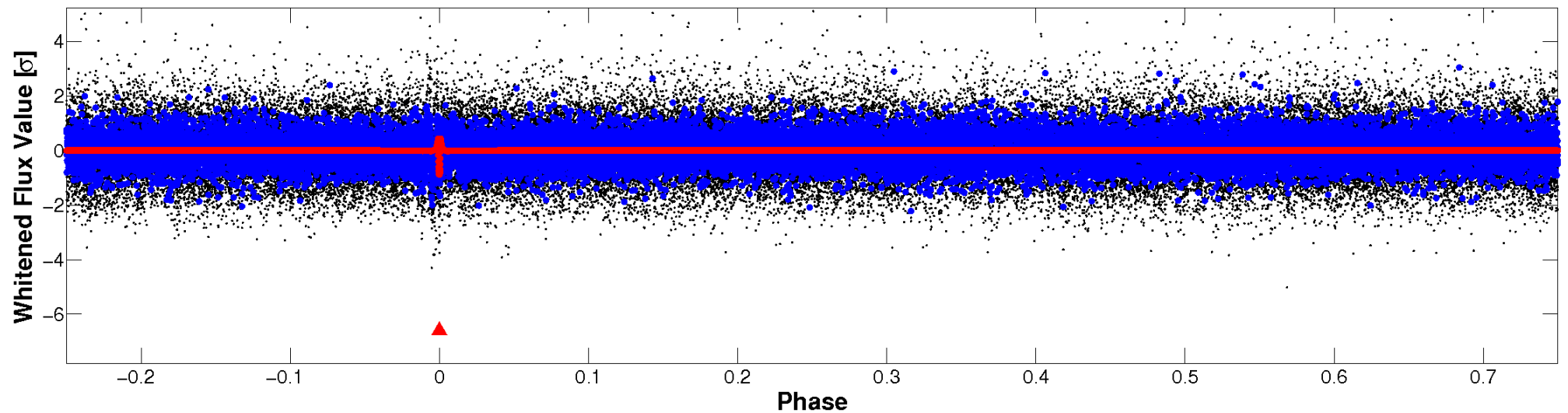


Non-Whitened Vs. Whitened Light Curve

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

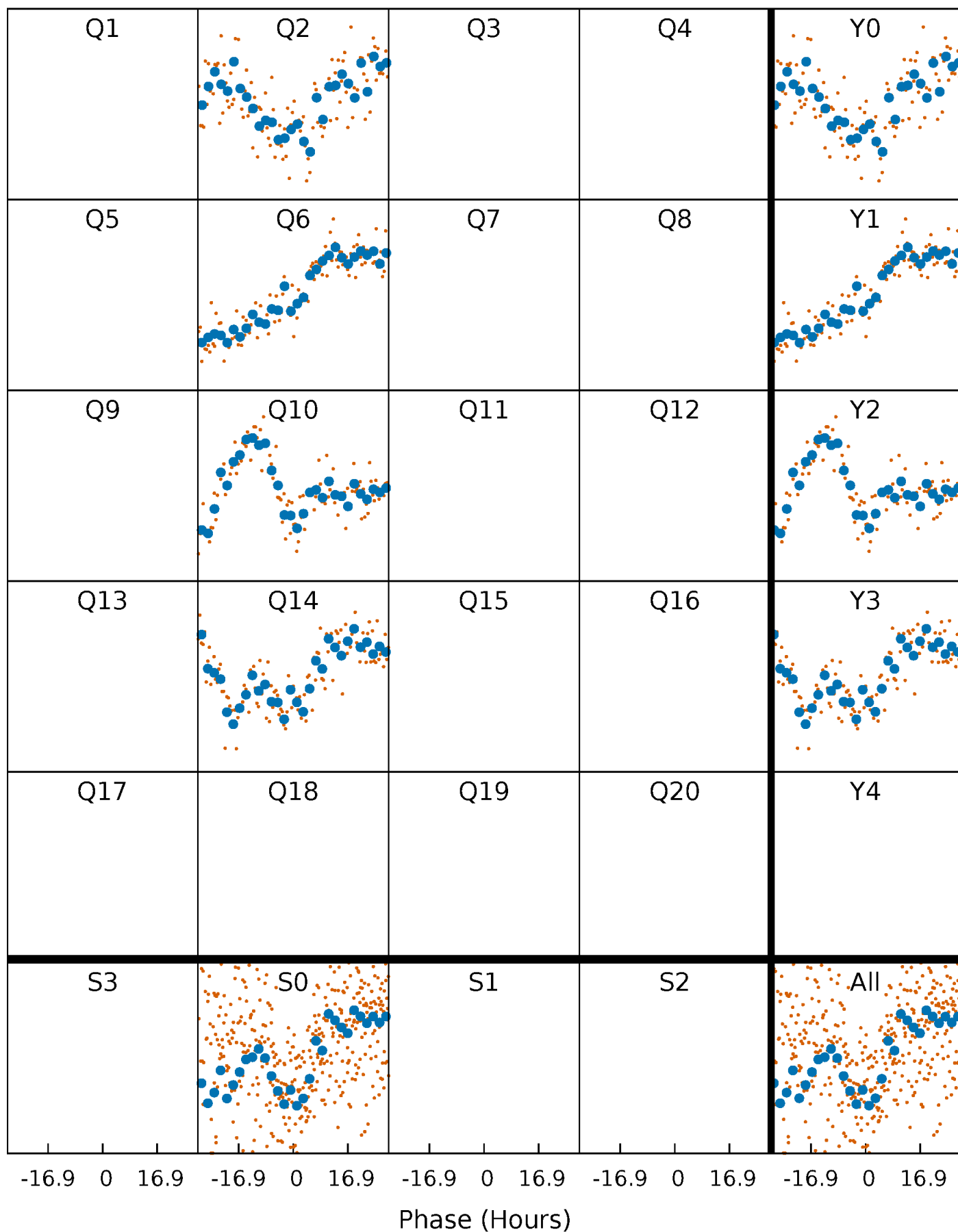


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



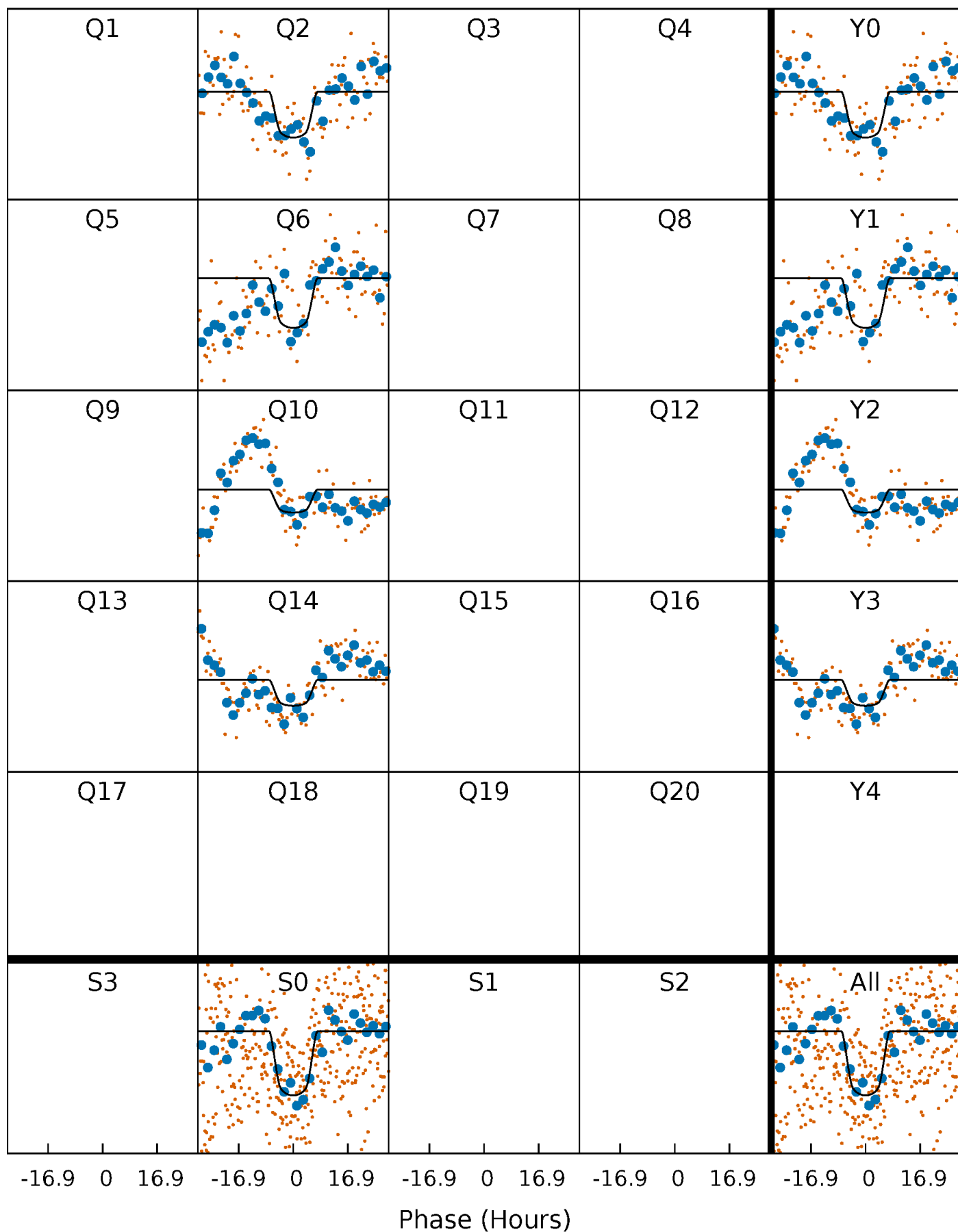
PDC Quarter-Phased Transit Curves

TCE 008242519-01 P=367.848712 Days $T_0=236.819362$ (BKJD)



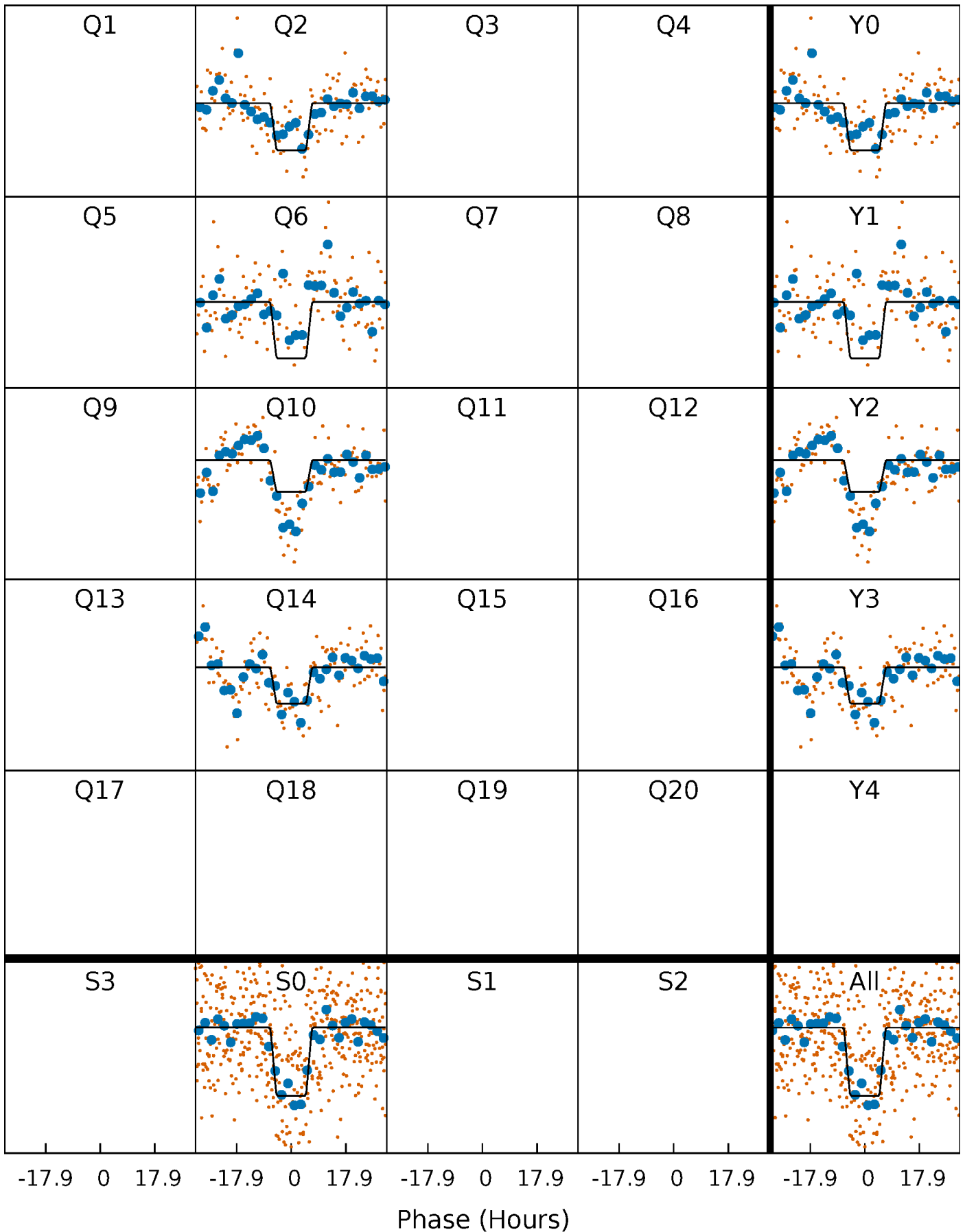
DV Quarter-Phased Transit Curves

TCE 008242519-01 P=367.848712 Days $T_0=236.819362$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

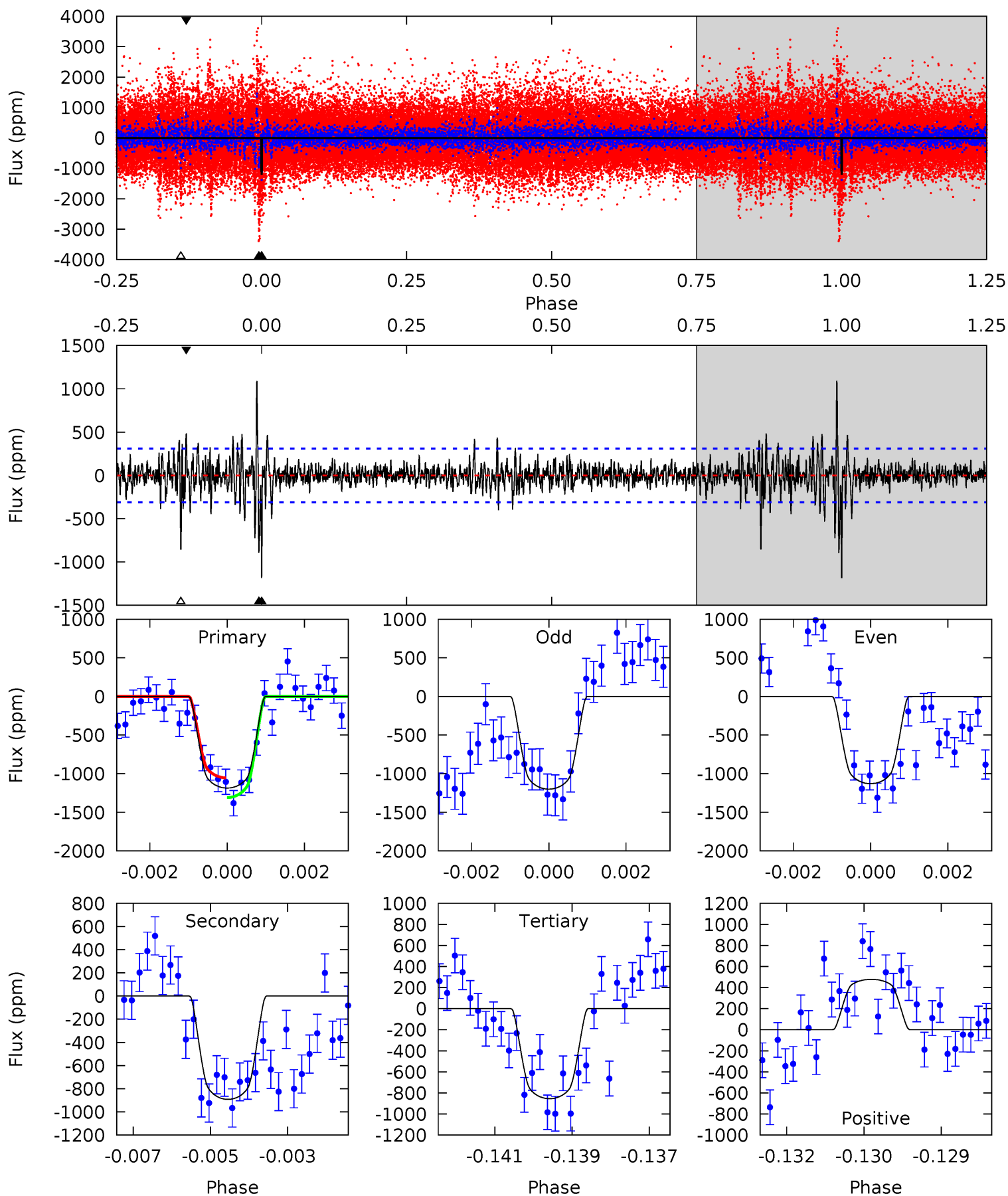
TCE 008242519-01 P=367.844947 Days $T_0=236.829515$ (BKJD)



DV Model-Shift Uniqueness Test

008242519-01, P = 367.848712 Days, E = 236.819362 Days

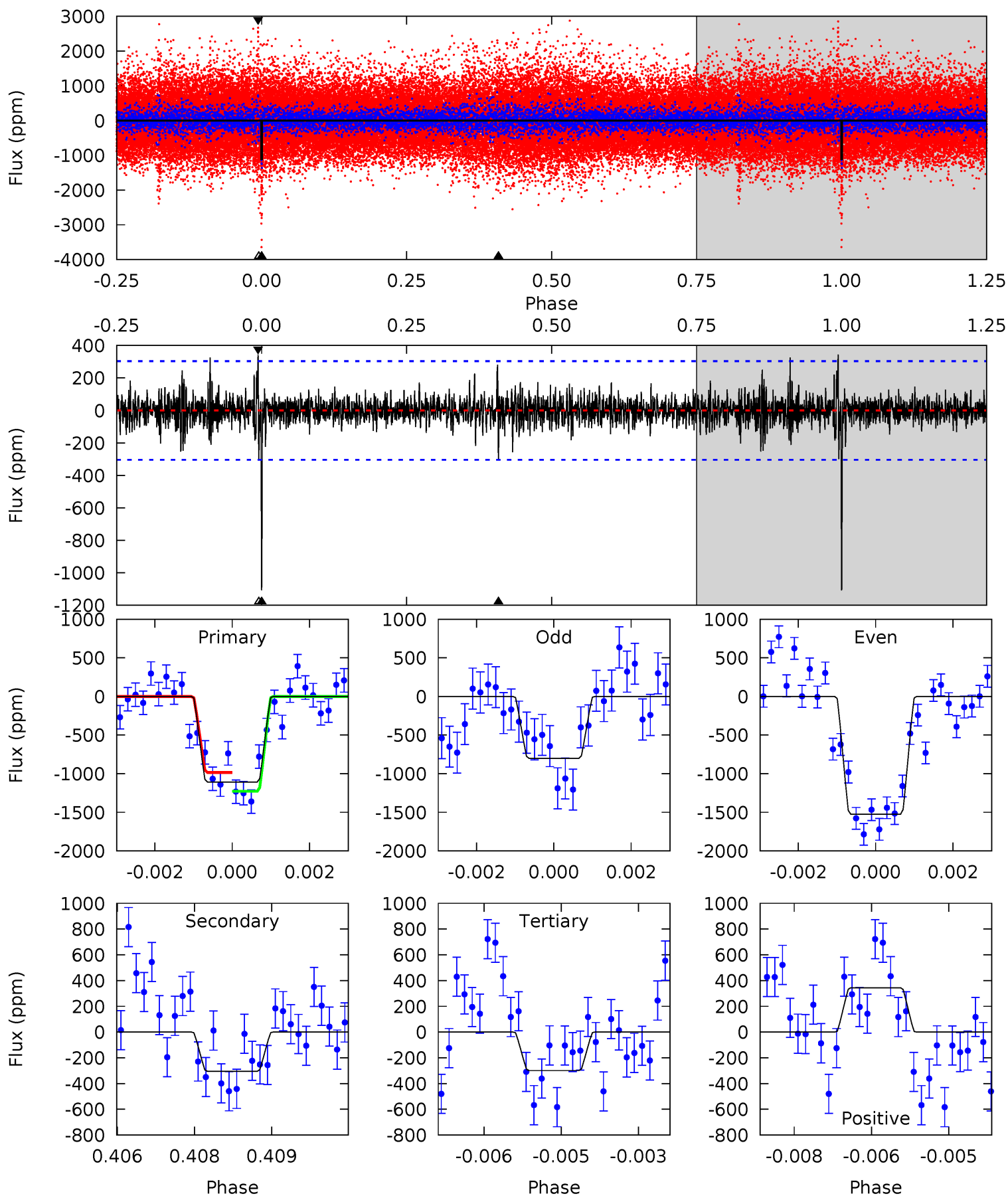
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 20.5 | 15.4 | 14.7 | 8.25 | 5.35 | 3.14 | 2.16 | 5.72 | 12.2 | 0.65 | 7.13 | 0.61 | 1.03 | 0.48 | 2.18 |



Alt Model-Shift Uniqueness Test

008242519-01, P = 367.844947 Days, E = 236.829515 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 19.6 | 5.38 | 5.28 | 6.08 | 5.37 | 3.16 | 1.07 | 14.3 | 13.5 | 0.10 | -0.70 | 6.45 | 1.10 | 0.24 | 2.16 |



Stellar Parameters For KIC 008242519

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5849^{+163}_{-184} | $4.517^{+0.044}_{-0.176}$ | $-0.020^{+0.250}_{-0.350}$ | $0.919^{+0.246}_{-0.098}$ | $1.014^{+0.104}_{-0.127}$ | $1.839^{+0.431}_{-0.858}$ |
| | +3%/-3% | +1%/-4% | +1250%/-1750% | +27%/-11% | +10%/-13% | +23%/-47% |
| Source | PHO1 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 008242519-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|---------------|------------------------|----------------------|----------------------|-------------------------|
| DV | -892 ± 58 | $3.99^{+0.72}_{-0.52}$ | 352^{+21}_{-15} | 5218^{+311}_{-276} | 30614^{+9908}_{-8005} |
| Alt. | -305 ± 57 | $3.71^{+0.59}_{-0.53}$ | 353^{+23}_{-16} | 4345^{+285}_{-251} | 12312^{+4817}_{-3855} |

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

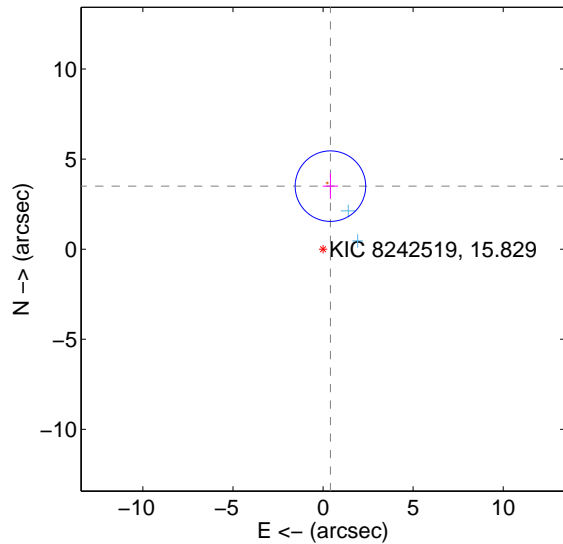
Supplemental centroid analysis for 008242519-01. Kepler magnitude: 15.83. Transit SNR 8.10

There are 2 quarters with good PRF difference image offsets

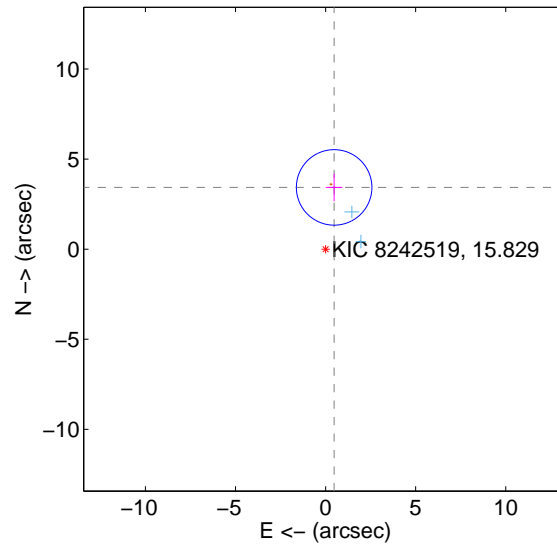
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 3.522 ± 0.652 | 5.40 | -0.410 ± 0.426 | 3.498 ± 0.705 |
| PRF-fit source offset from KIC position | 3.461 ± 0.699 | 4.95 | -0.475 ± 0.464 | 3.428 ± 0.766 |
| photometric centroid source offset | 4.82 ± 2.12 | 2.27 | 2.80 ± 2.03 | 3.93 ± 2.17 |

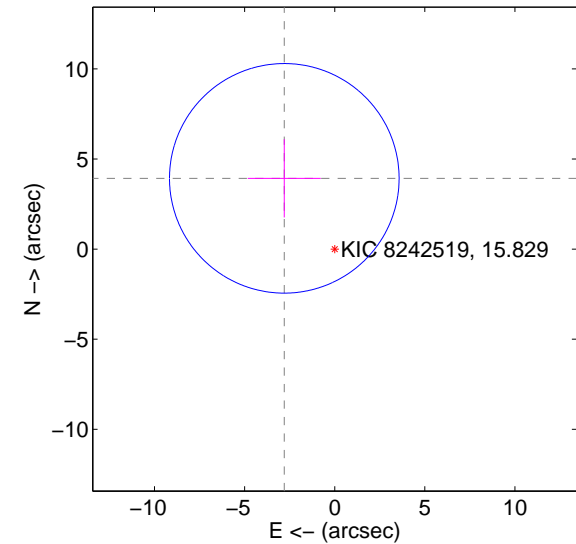
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

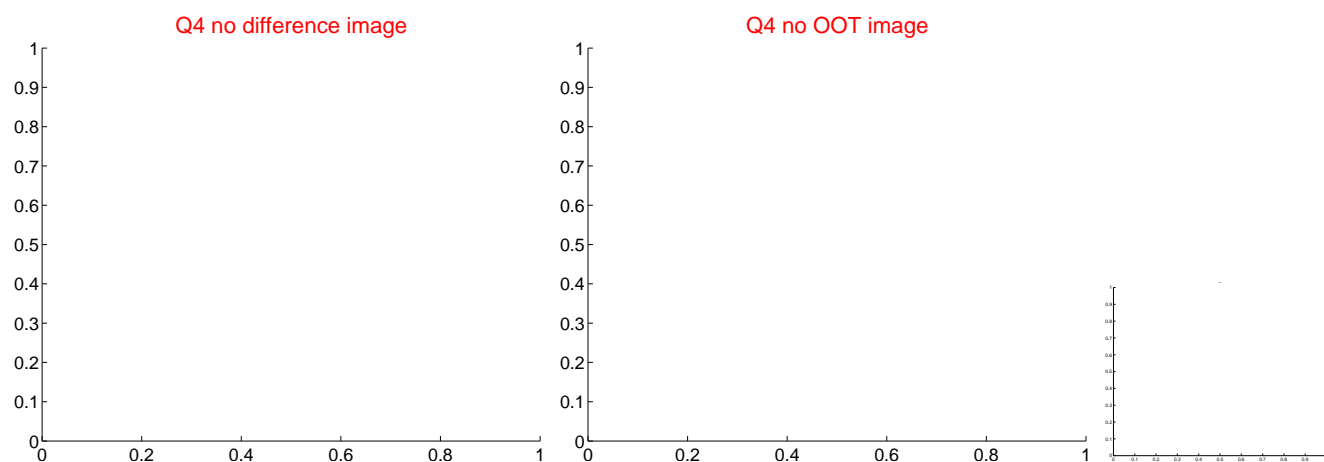
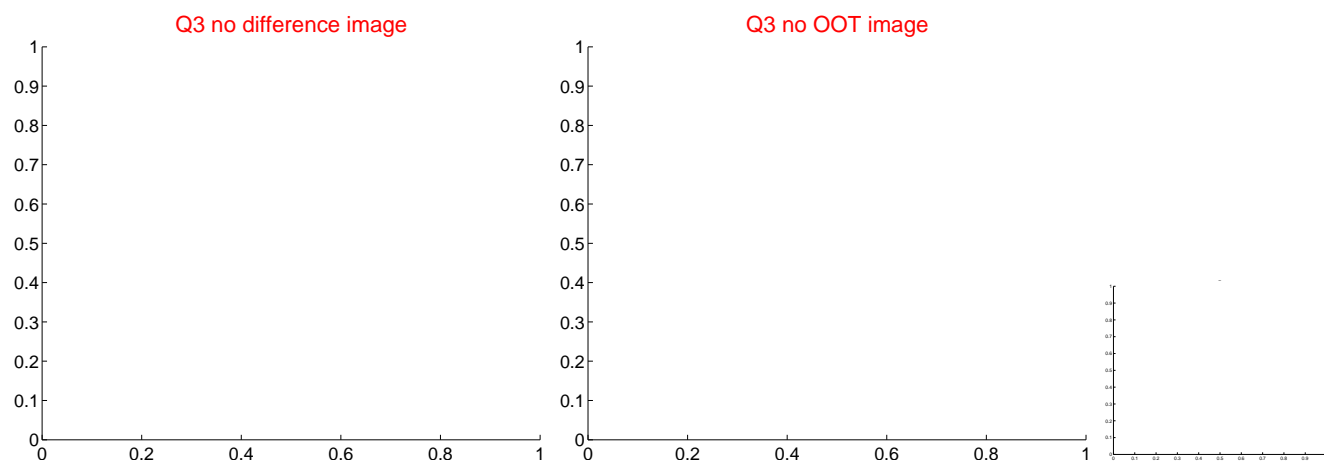
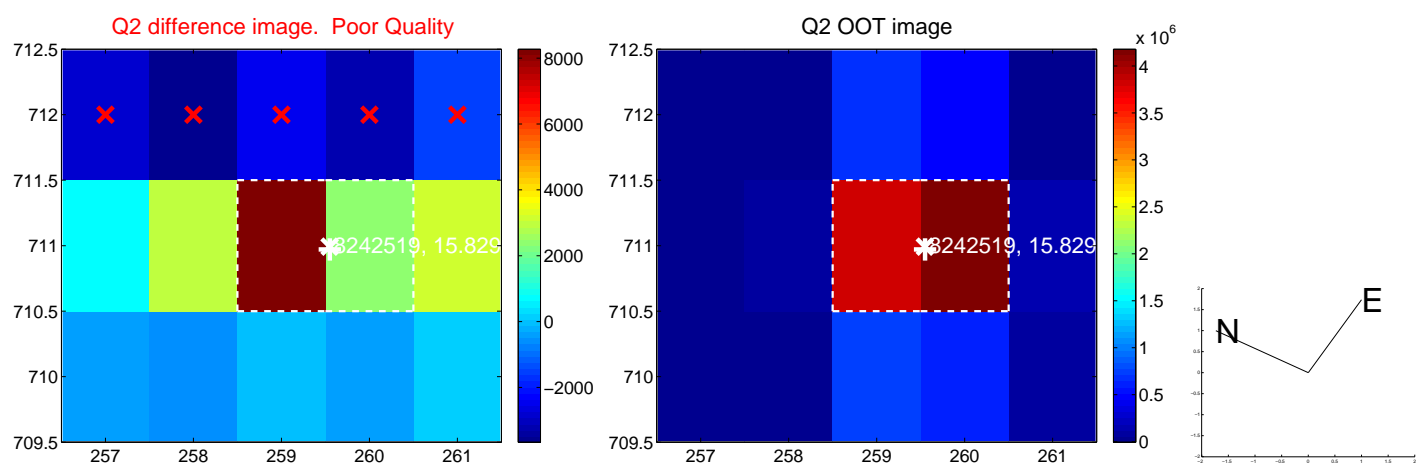
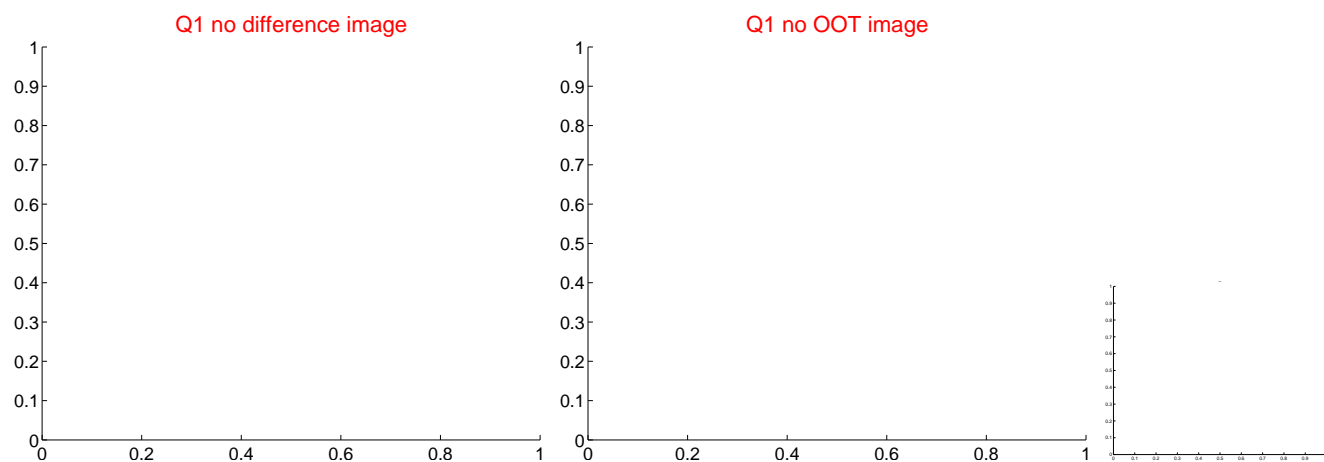


offset from photometric centroids

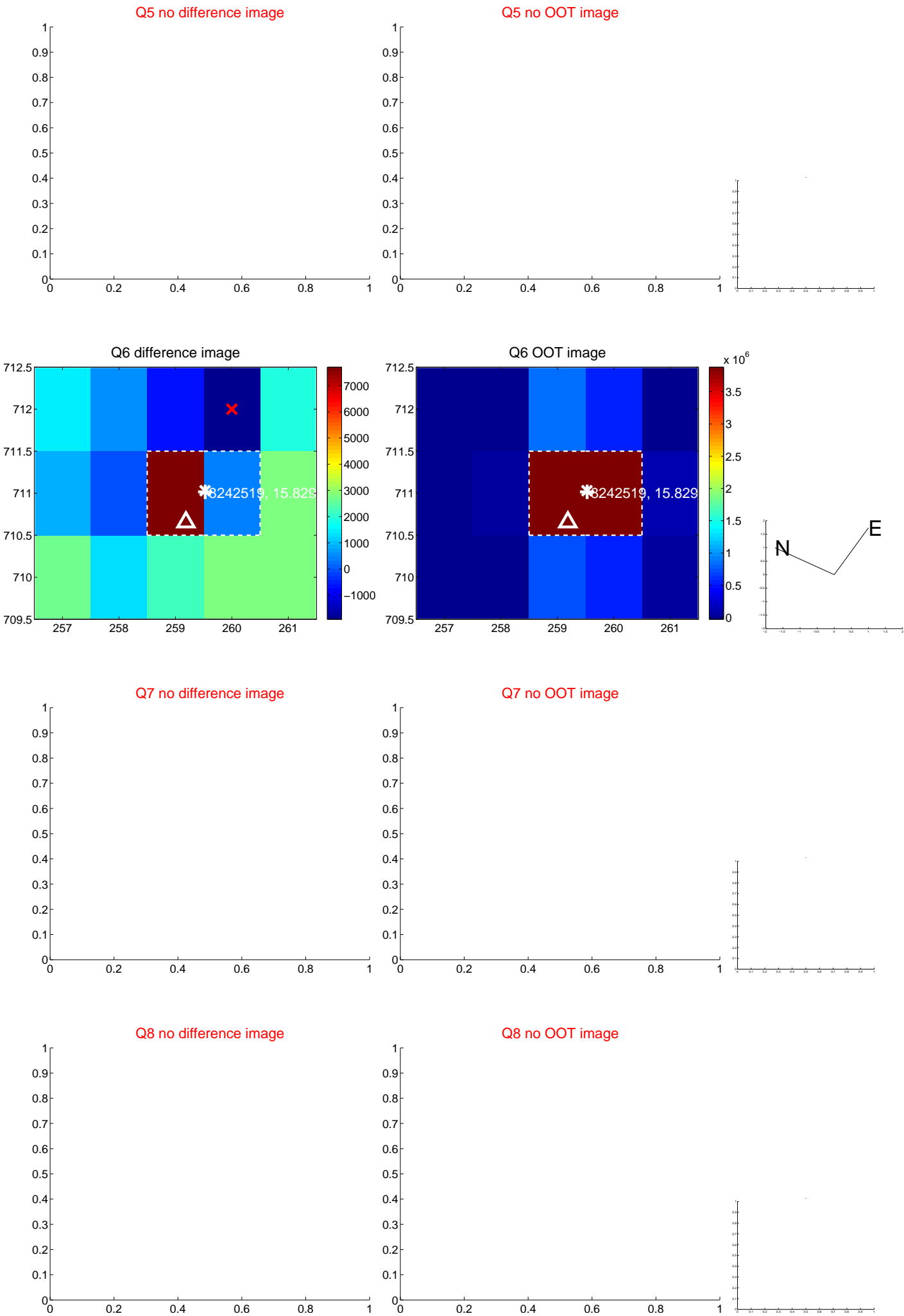


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

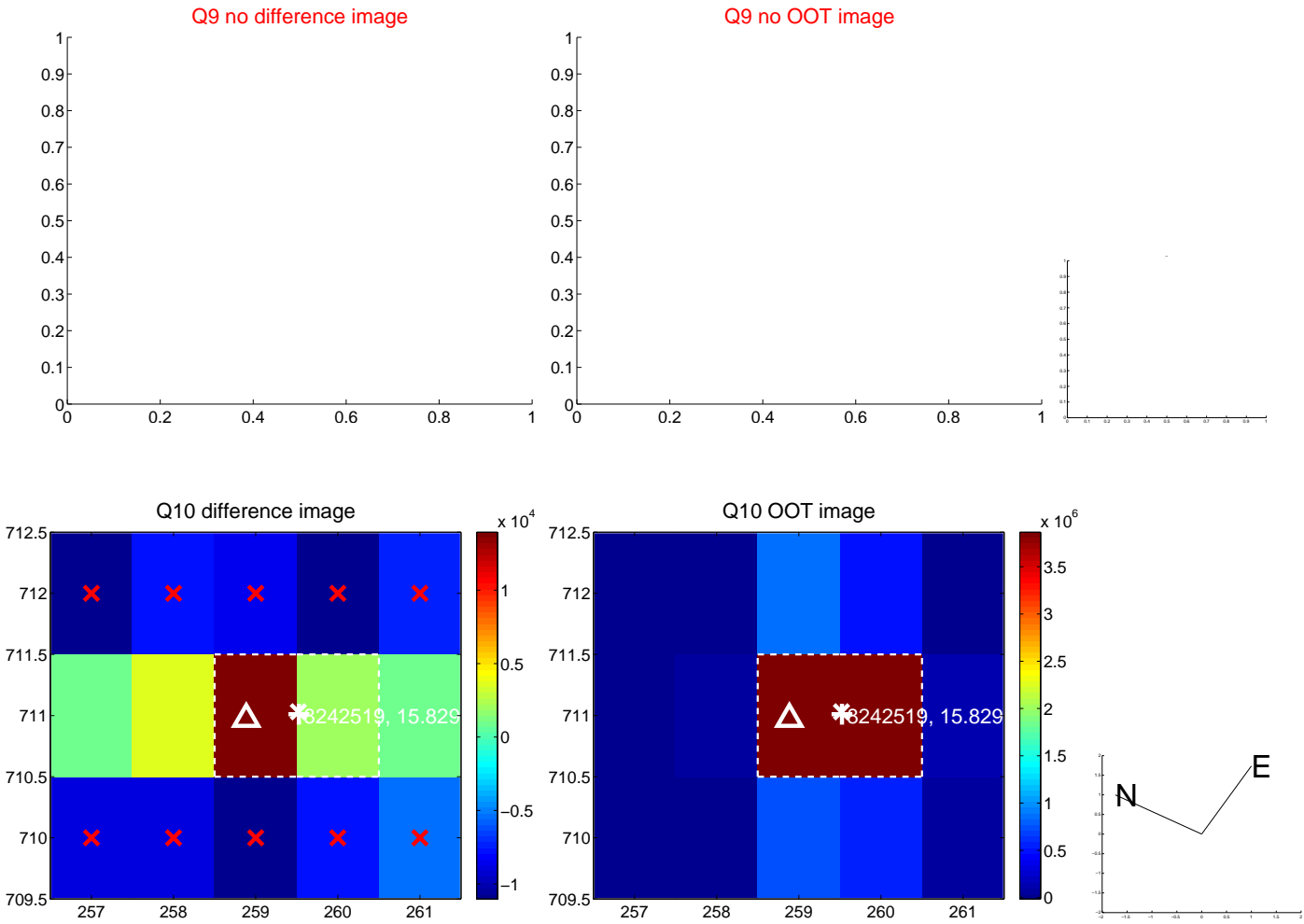
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



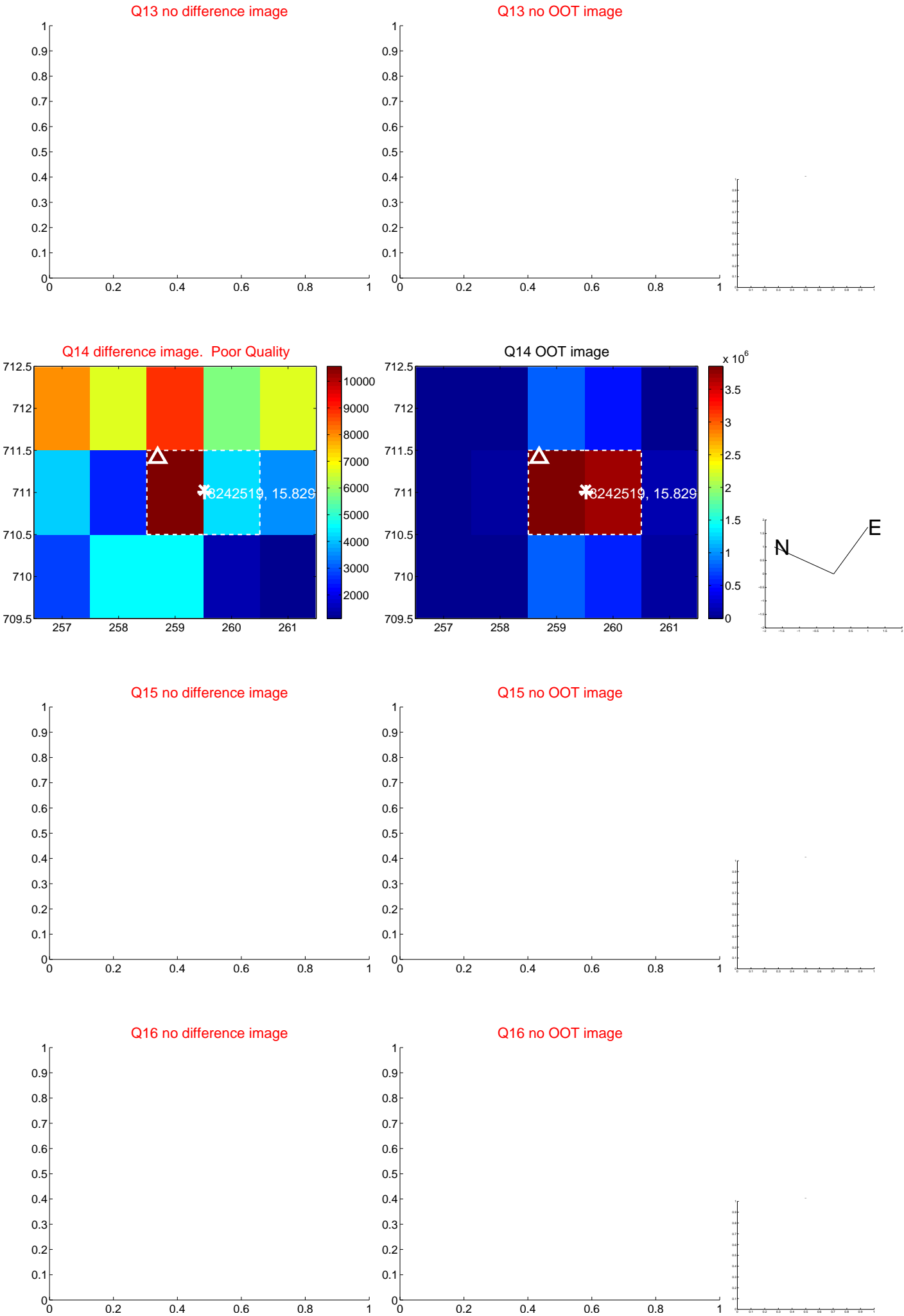
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



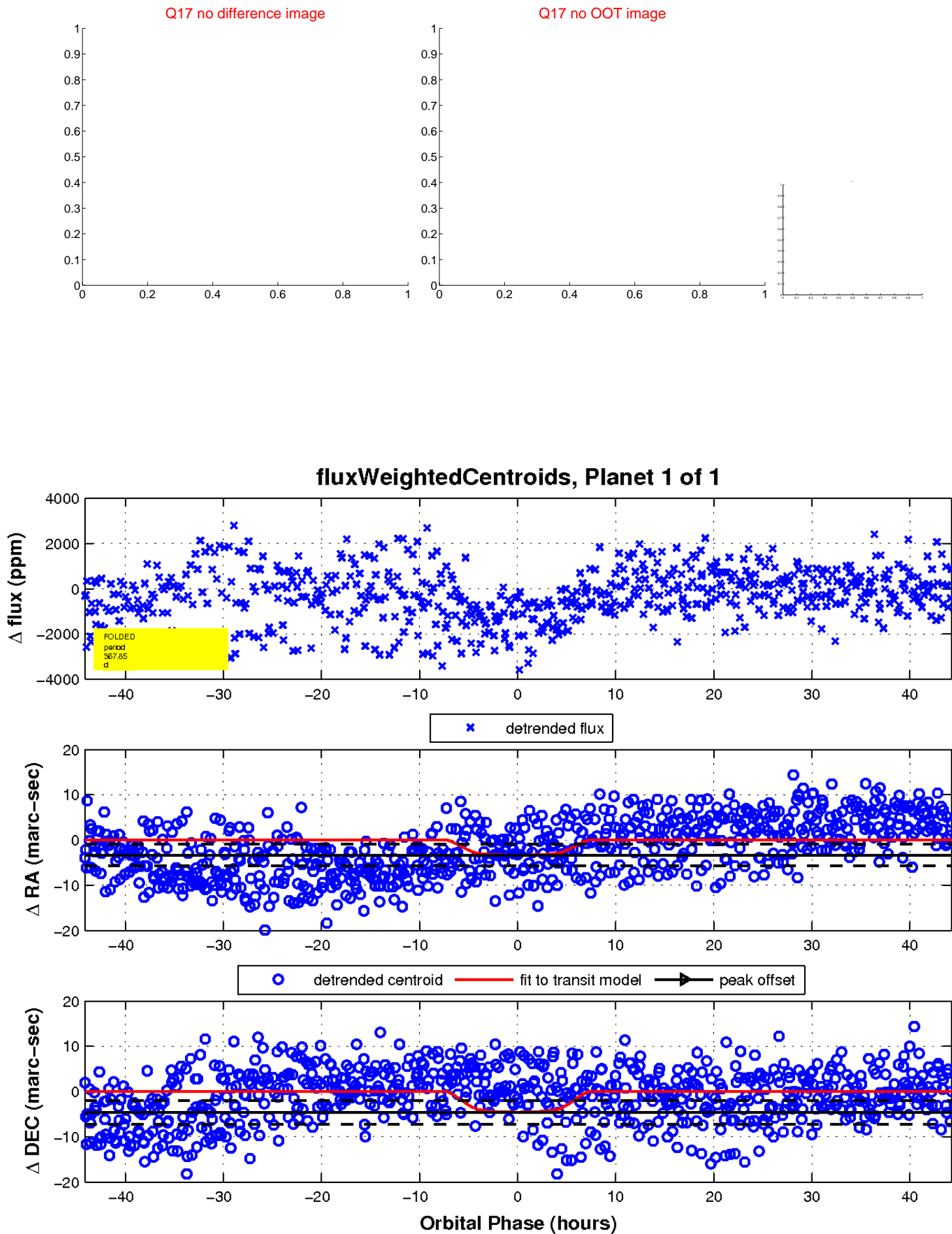
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

