

KIC 011392618

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 011392618-01 | OBS | 1623.01 | 110.921598 | 174.222993 | 486.3 | 5.232 | 37.3 | 36.4 | 1.38 | 5725 | 3.62 | 9.13 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------------------|
| 011392618-01 | OBS | FP | 0.19 | 0 | 0 | 1 | 0 | CENT_UNRESOLVED_OFFSET |

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

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

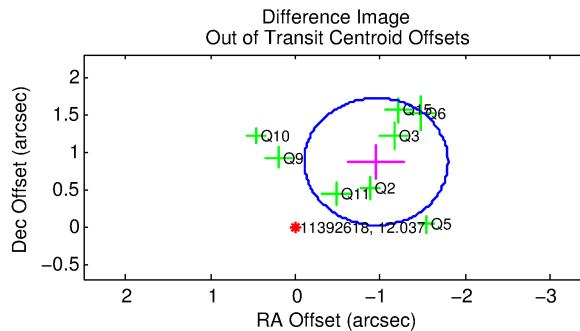
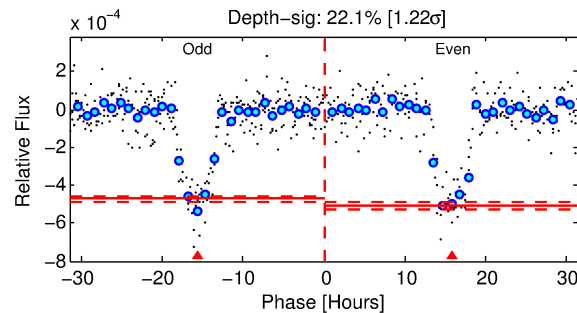
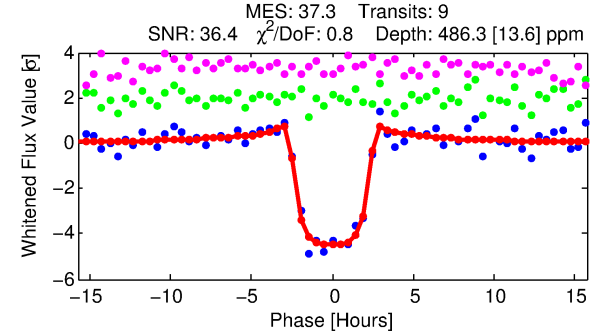
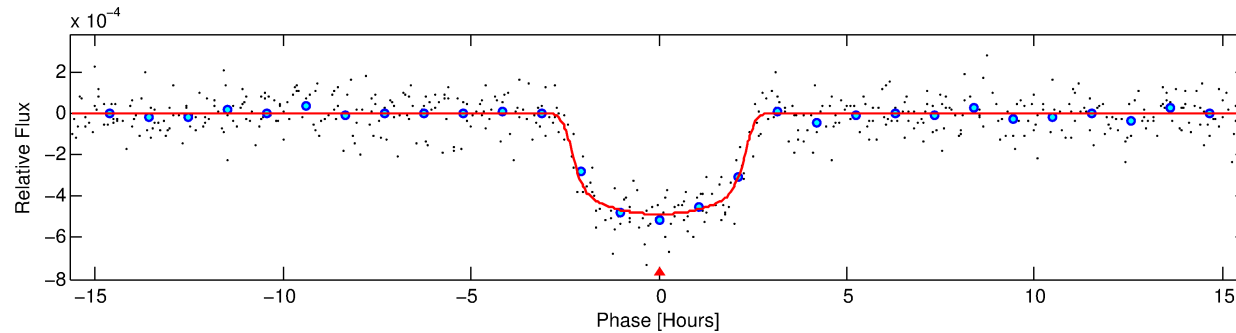
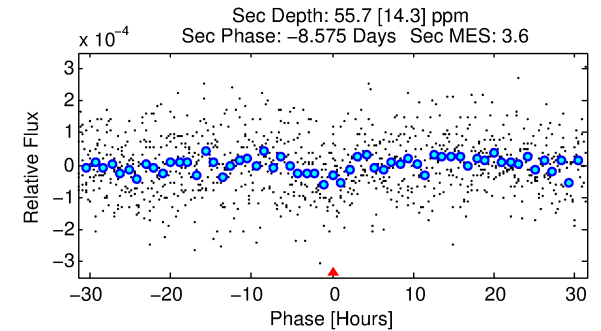
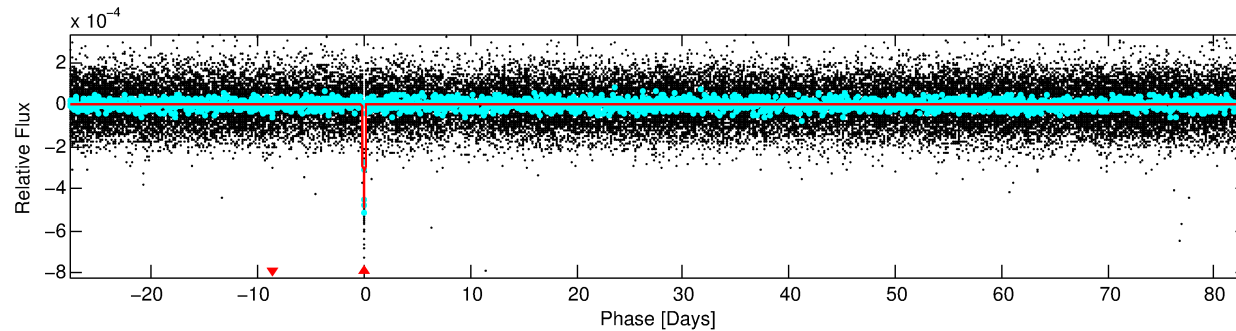
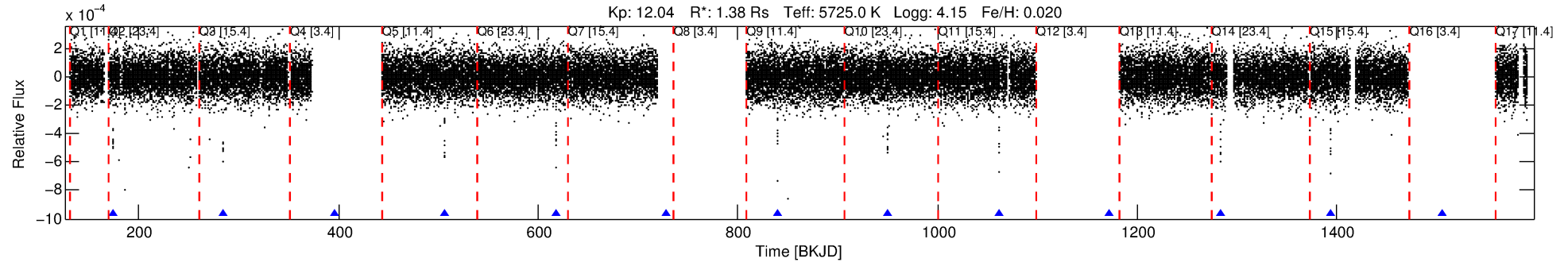
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011392618-01

No Significant Match Found

DV One-Page Summary

KIC: 11392618 Candidate: 1 of 1 Period: 110.922 d
KOI: K01623.01 Corr: 0.988



DV Fit Results:

Period = 110.92160 [0.00035] d
Epoch = 174.2230 [0.0023] BKJD
Rp/R* = 0.0240 [0.0012]
a/R* = 80.27 [17.30]
b = 0.90 [0.05]
Seff = 9.14 [3.22]
Teq = 443 [39] K
Rp = 3.62 [0.83] Re
a = 0.4492 [0.0968] AU
Ag = 472.38 [208.41] [2.26σ]
Teffp = 3195 [227] K [11.95σ]

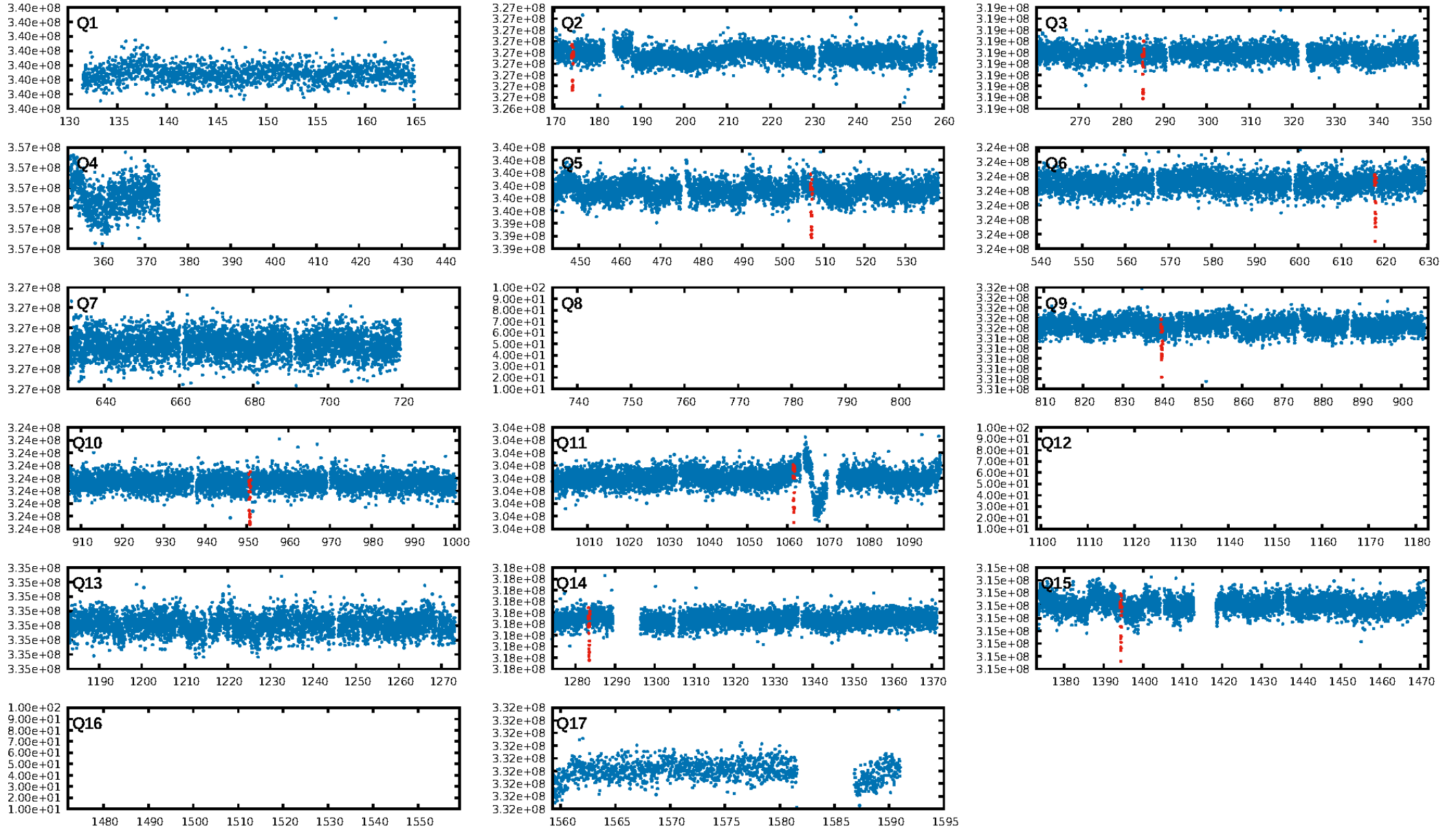
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 74.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.14e-240
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 5.08
Centroid-sig: 0.5%
Centroid-so: 0.633 arcsec [2.00σ]
OotOffset-rm: 1.289 arcsec [4.56σ]
KicOffset-rm: 1.075 arcsec [3.75σ]
OotOffset-st: 3/3/0/2 [8]
KicOffset-st: 3/3/0/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

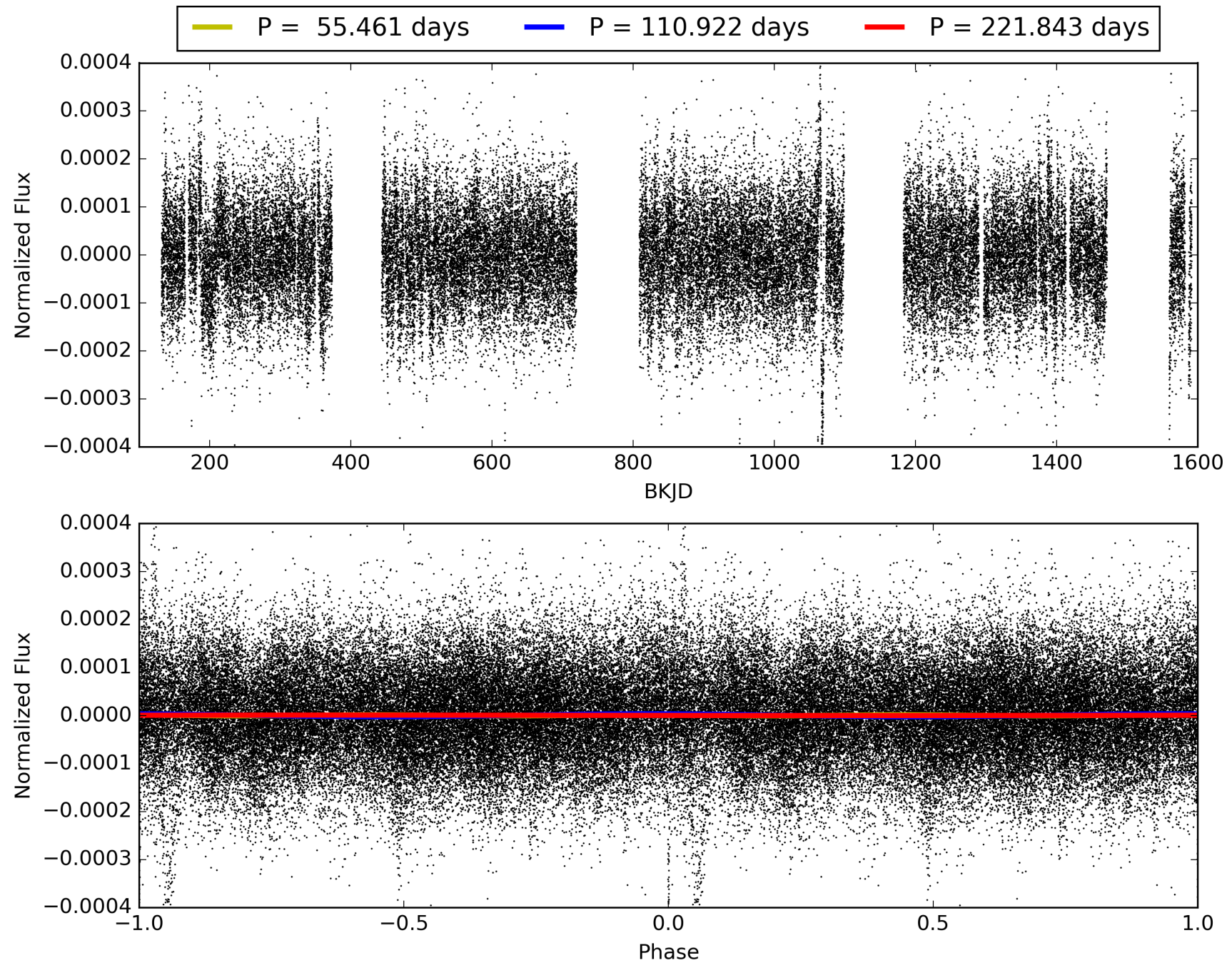
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:08:39 Z

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

TCE 011392618-01, PDC Light Curves

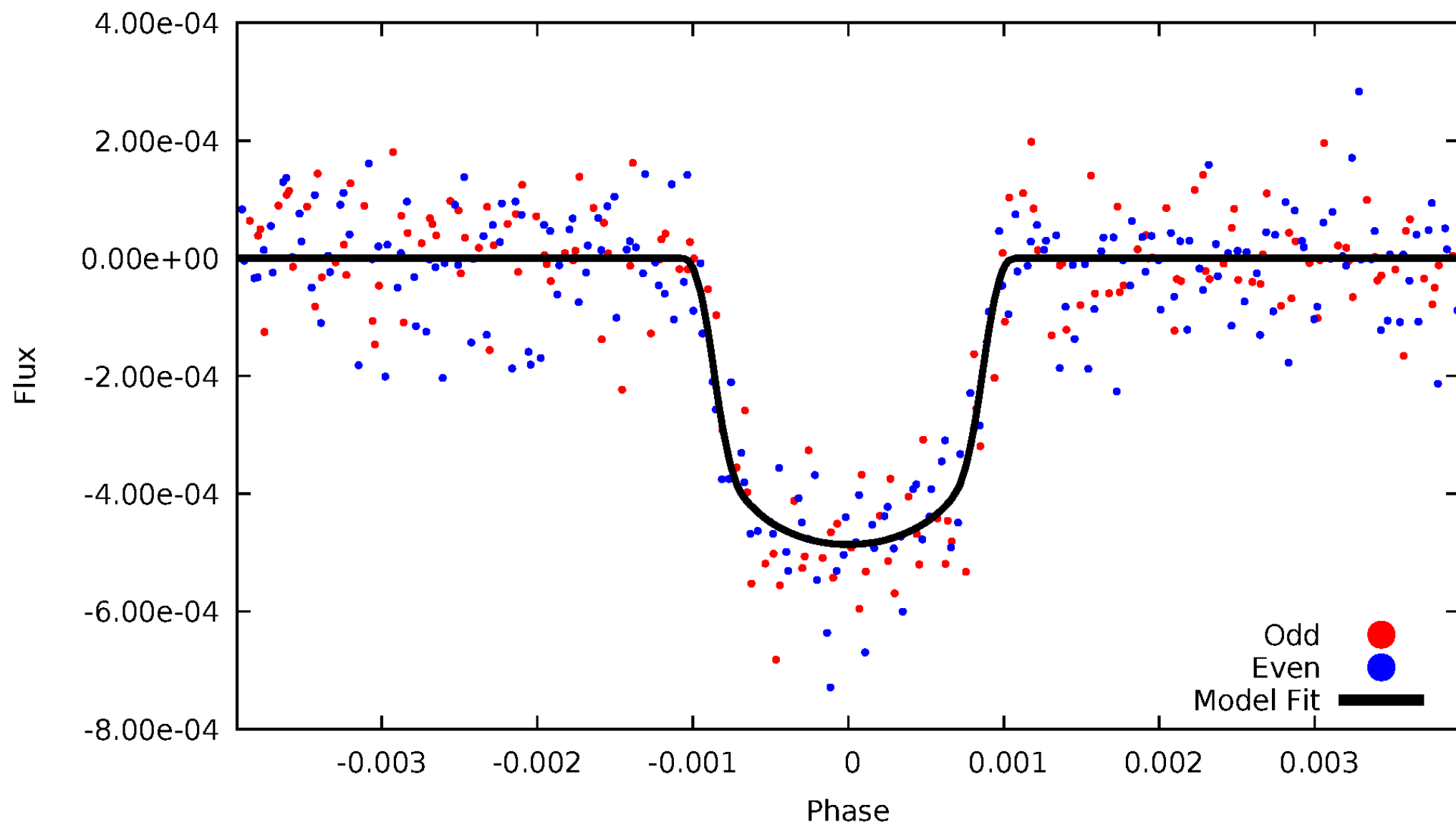


TCE 011392618-01



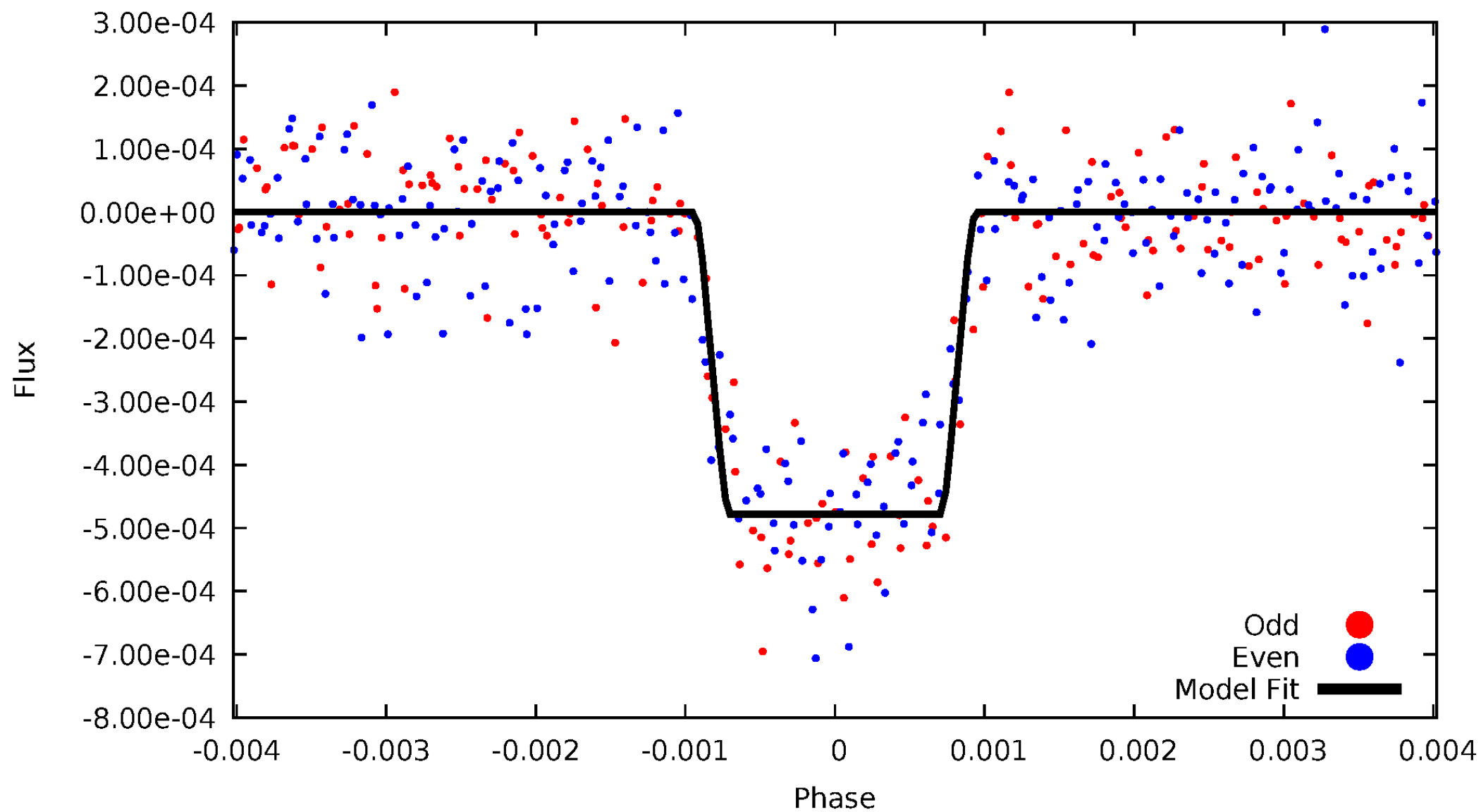
DV Odd/Even

TCE 011392618-01

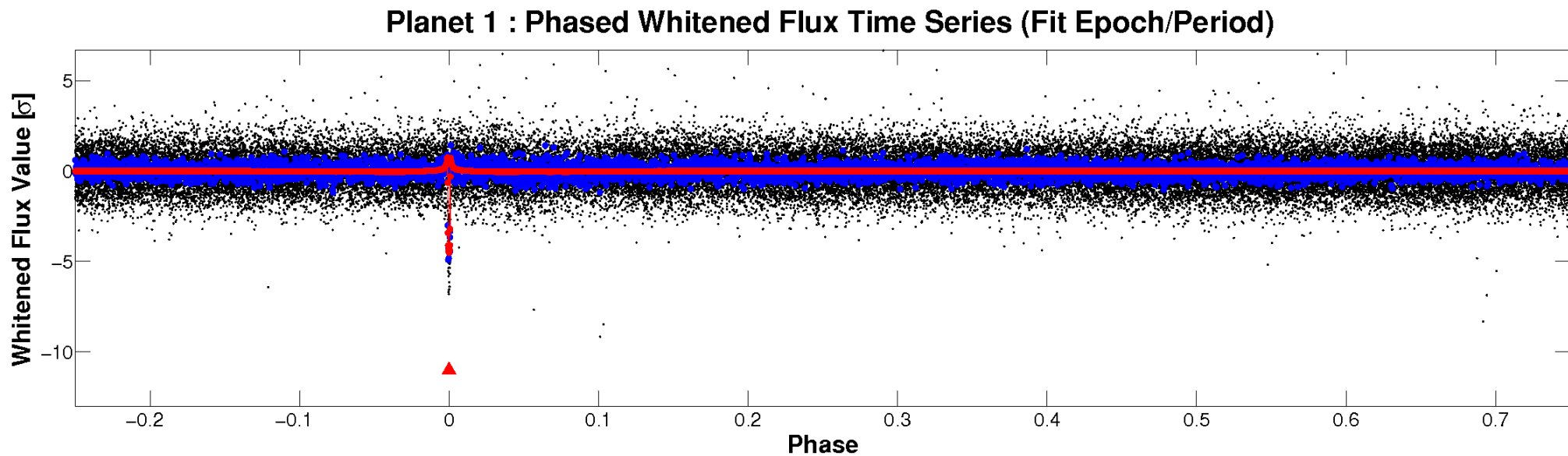
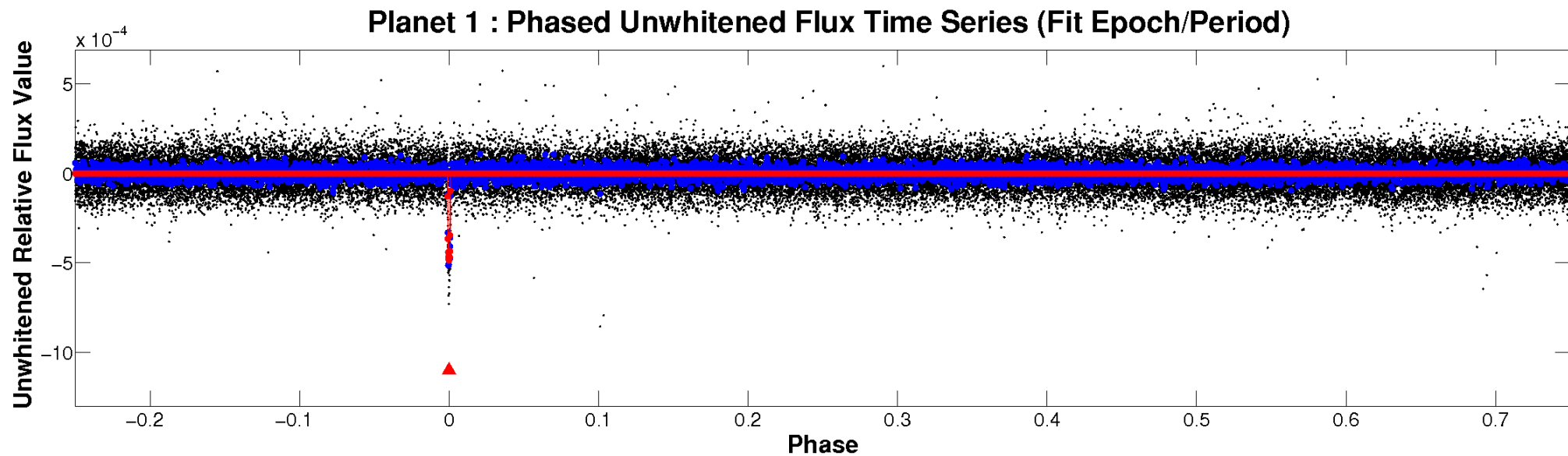


ALT Odd/Even

TCE 011392618-01

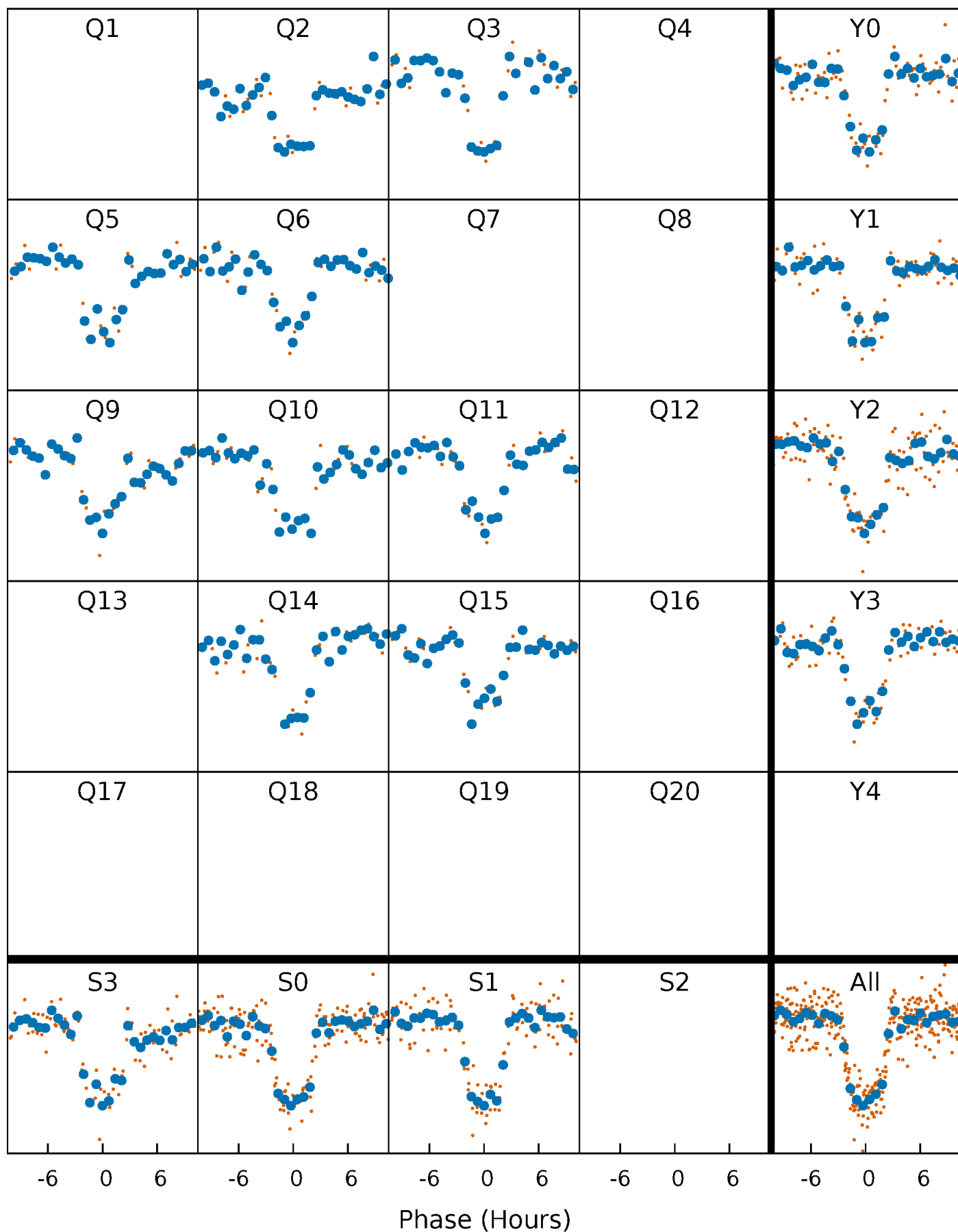


Non-Whitened Vs. Whitened Light Curve



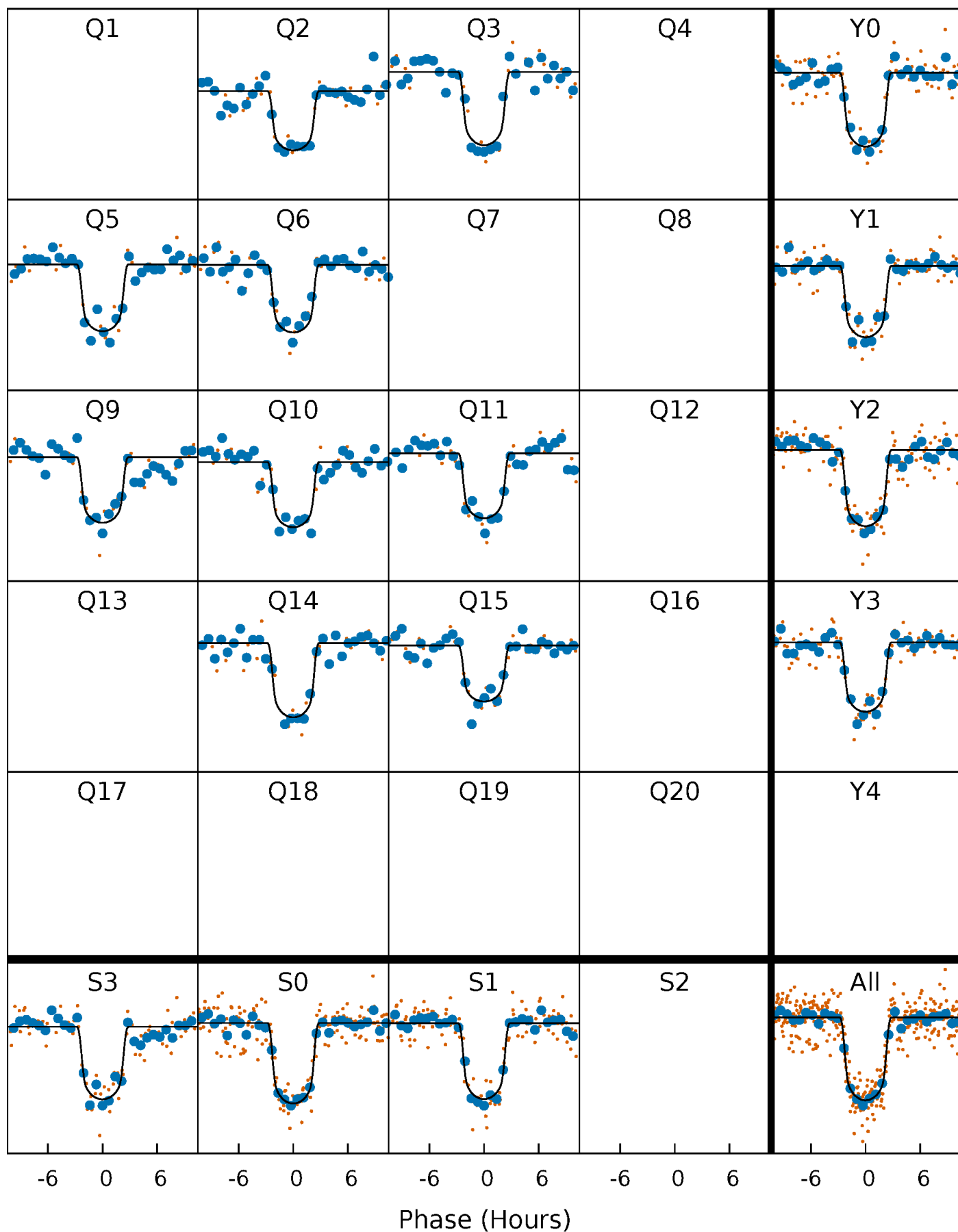
PDC Quarter-Phased Transit Curves

TCE 011392618-01 P=110.921598 Days $T_0=174.222993$ (BKJD)



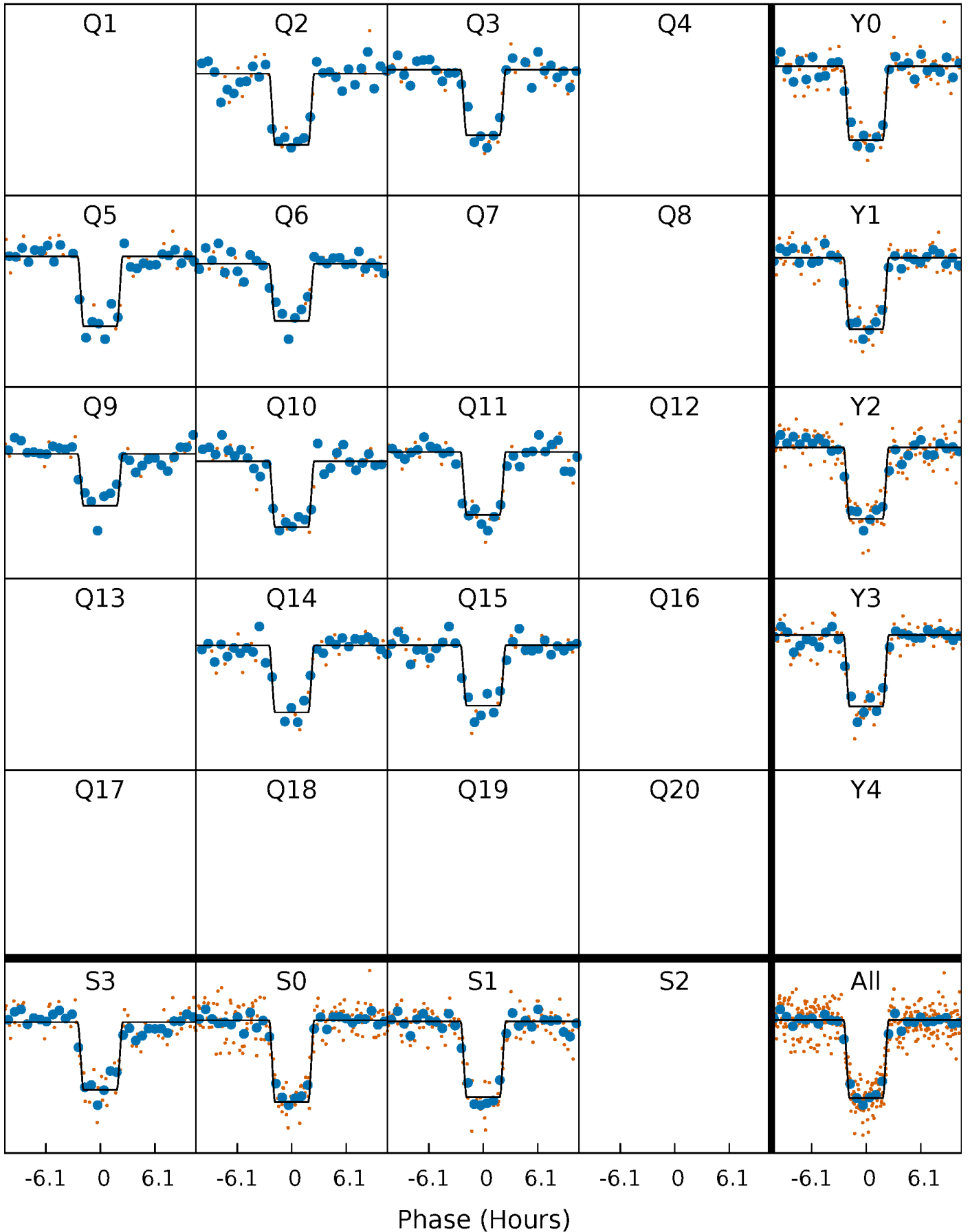
DV Quarter-Phased Transit Curves

TCE 011392618-01 P=110.921598 Days $T_0=174.222993$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

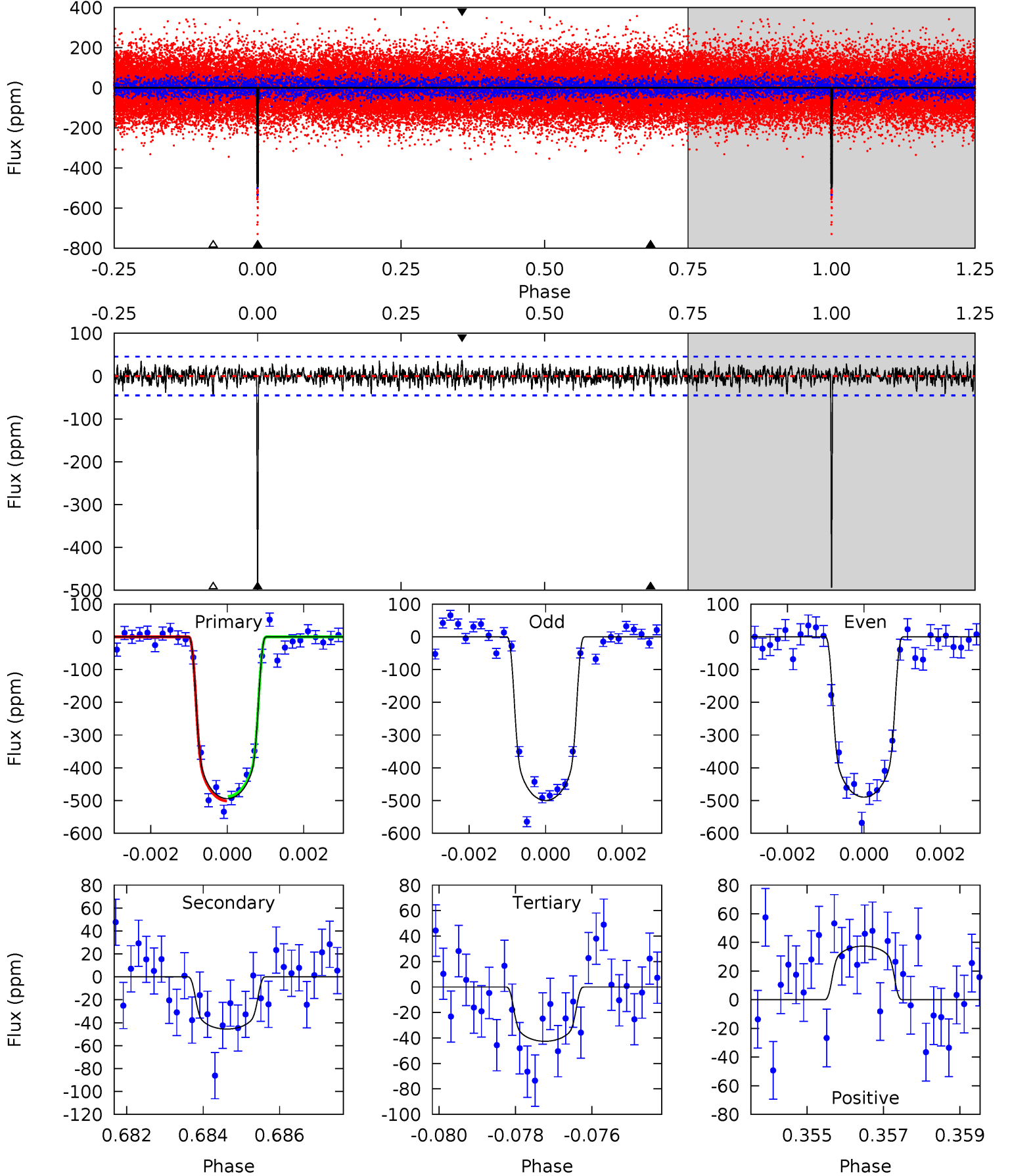
TCE 011392618-01 P=110.921654 Days $T_0=174.224215$ (BKJD)



DV Model-Shift Uniqueness Test

011392618-01, $P = 110.921598$ Days, $E = 63.301395$ Days

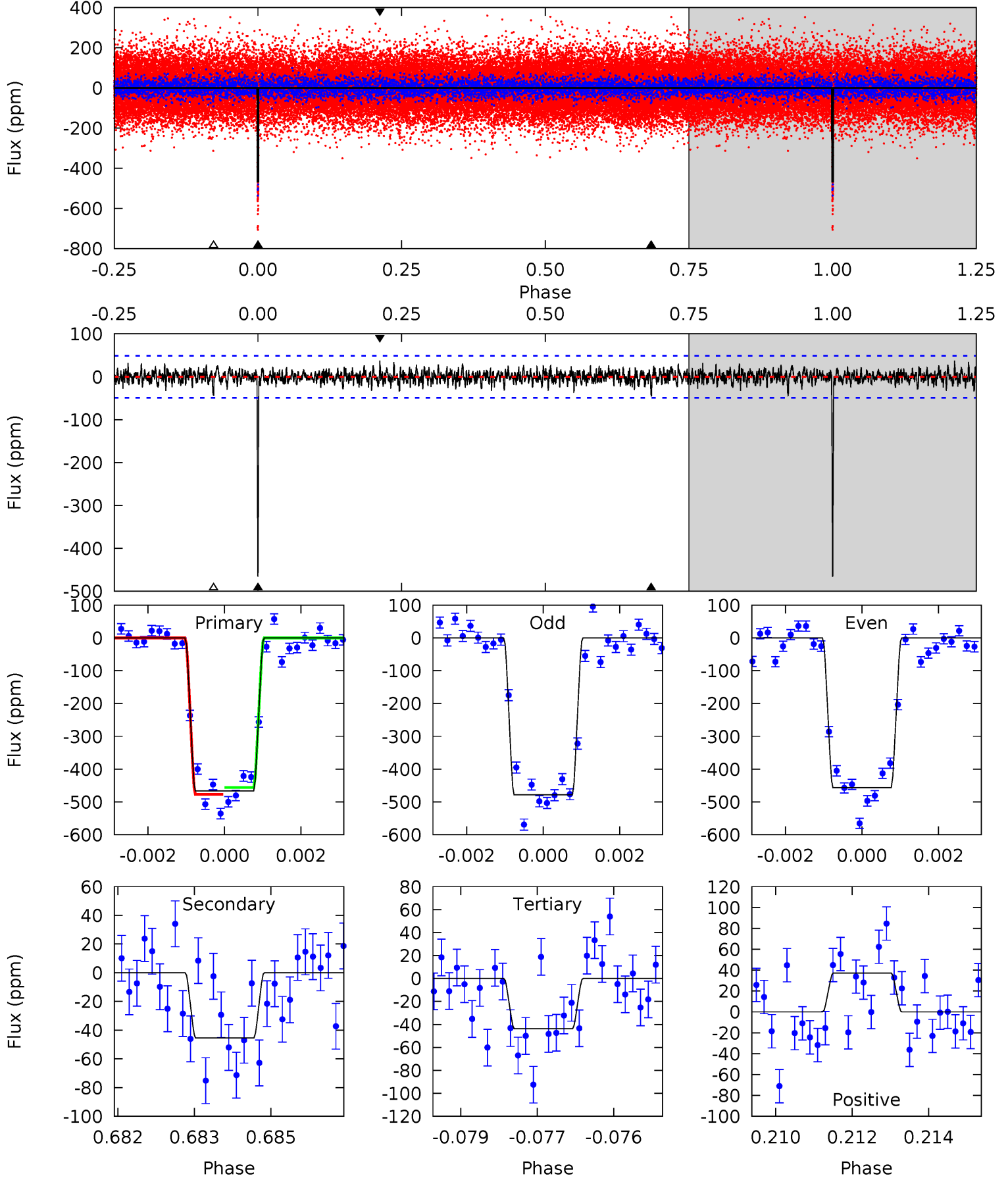
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 58.0 | 5.35 | 5.00 | 4.39 | 5.32 | 3.07 | 1.36 | 53.0 | 53.6 | 0.35 | 0.96 | 0.60 | 1.00 | 0.07 | 0.82 |



Alt Model-Shift Uniqueness Test

011392618-01, $P = 110.921654$ Days, $E = 63.302561$ Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 51.0 | 4.97 | 4.79 | 4.07 | 5.34 | 3.11 | 1.17 | 46.2 | 47.0 | 0.18 | 0.91 | 1.19 | 1.00 | 0.07 | 1.16 |



Stellar Parameters For KIC 011392618

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5725^{+104}_{-104} | $4.148^{+0.203}_{-0.101}$ | $0.020^{+0.150}_{-0.150}$ | $1.384^{+0.206}_{-0.309}$ | $0.981^{+0.090}_{-0.073}$ | $0.521^{+0.505}_{-0.158}$ |
| | +2%/-2% | +5%/-2% | +750%/-750% | +15%/-22% | +9%/-7% | +97%/-30% |
| Source | SPE59 | SPE59 | SPE59 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 011392618-01 / KOI 1623.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|-------------------|----------------------|---------------------|
| DV | -46 ± 9 | $3.59^{+0.37}_{-0.43}$ | 617^{+28}_{-35} | 3518^{+125}_{-125} | 395^{+143}_{-93} |
| Alt. | -45 ± 9 | $3.26^{+0.39}_{-0.40}$ | 614^{+29}_{-37} | 3611^{+135}_{-149} | 474^{+195}_{-126} |

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

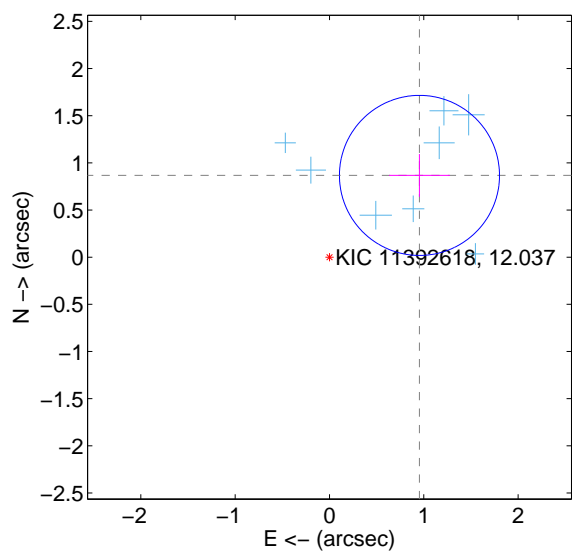
Supplemental centroid analysis for 011392618-01. Kepler magnitude: 12.04. Transit SNR 36.38

There are 8 quarters with good PRF difference image offsets

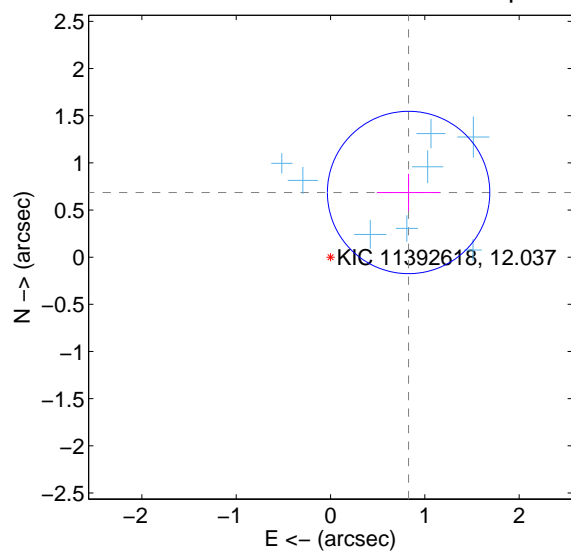
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 1.289 ± 0.283 | 4.56 | -0.954 ± 0.322 | 0.867 ± 0.227 |
| PRF-fit source offset from KIC position | 1.075 ± 0.287 | 3.75 | -0.828 ± 0.335 | 0.686 ± 0.197 |
| photometric centroid source offset | 0.63 ± 0.32 | 2.00 | -0.63 ± 0.32 | 0.06 ± 0.32 |

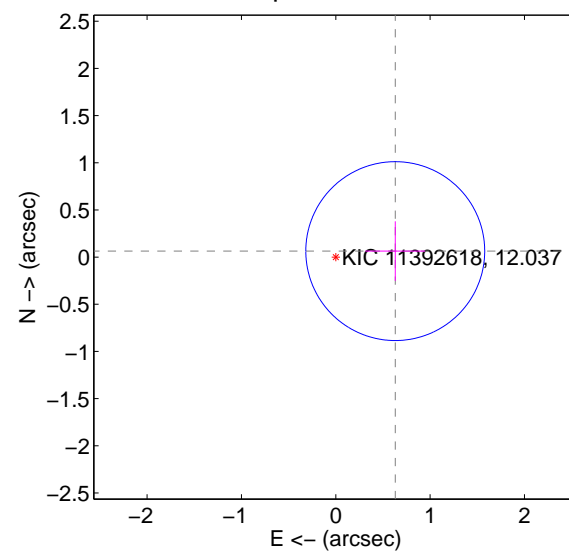
offset from difference PRF-fit to OOT PRF-fit



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.

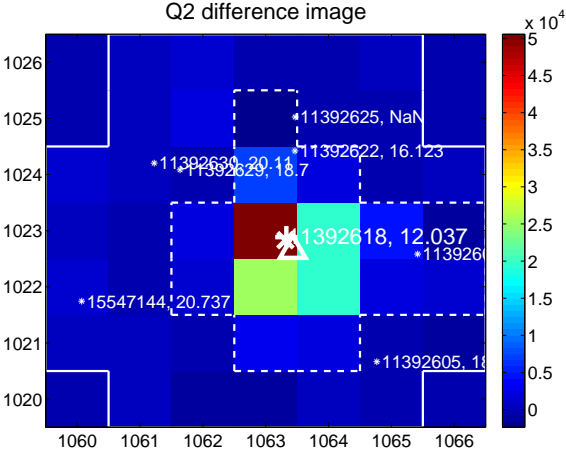
Q1 no difference image



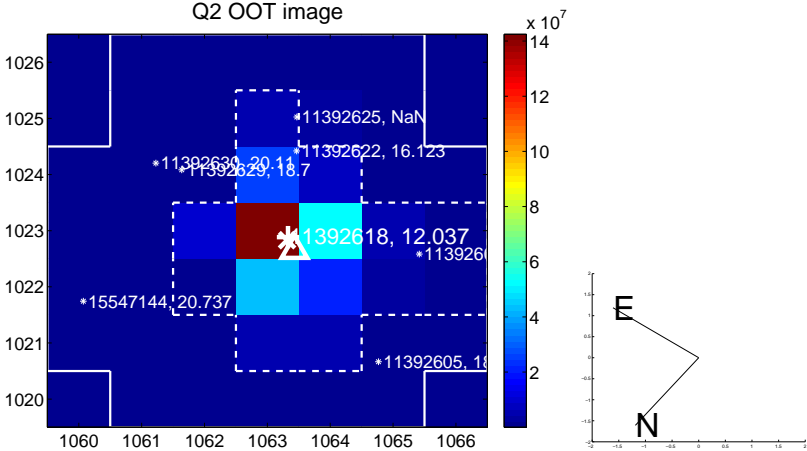
Q1 no OOT image



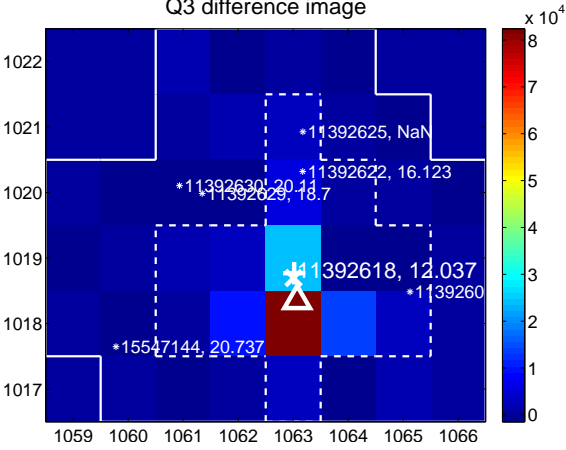
Q2 difference image



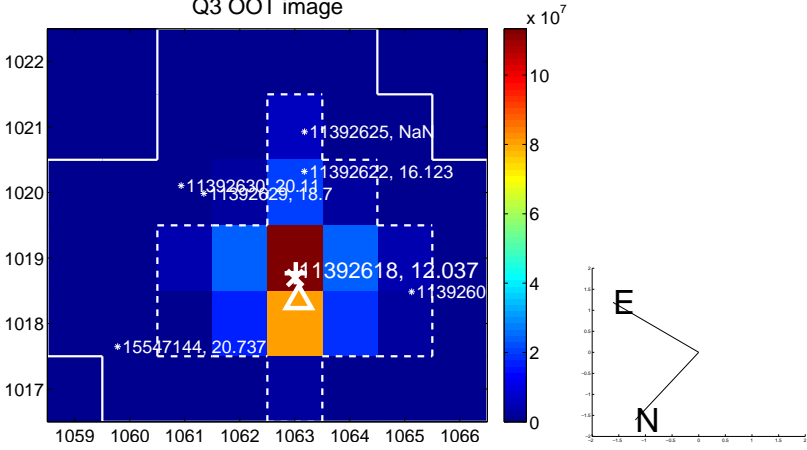
Q2 OOT image



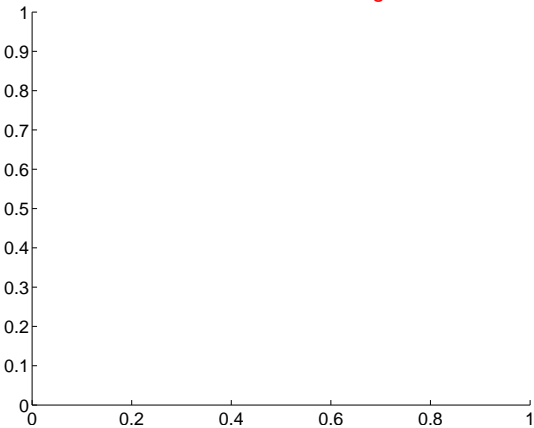
Q3 difference image



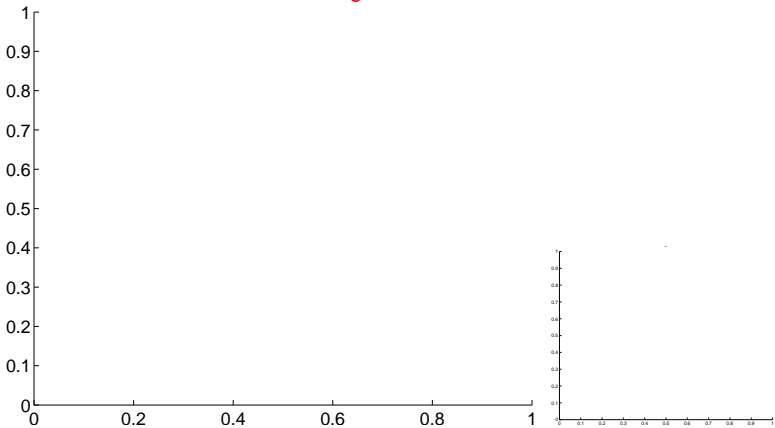
Q3 OOT image



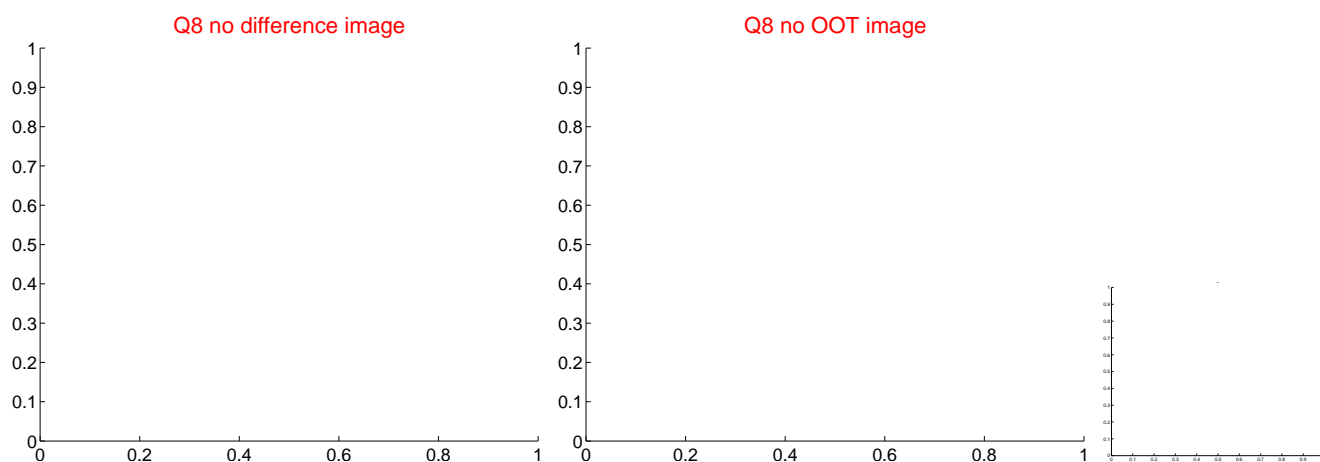
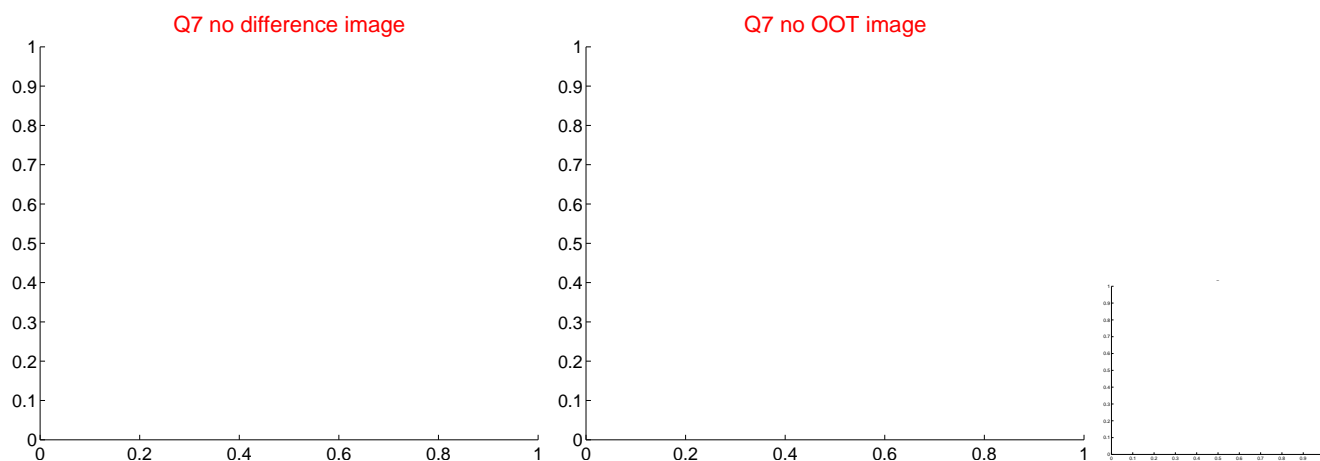
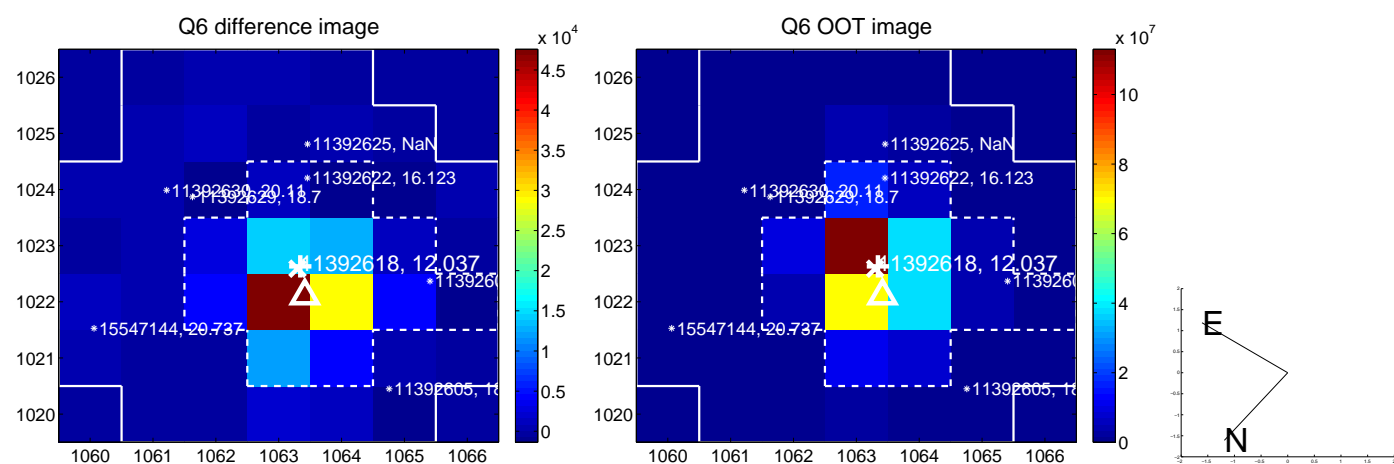
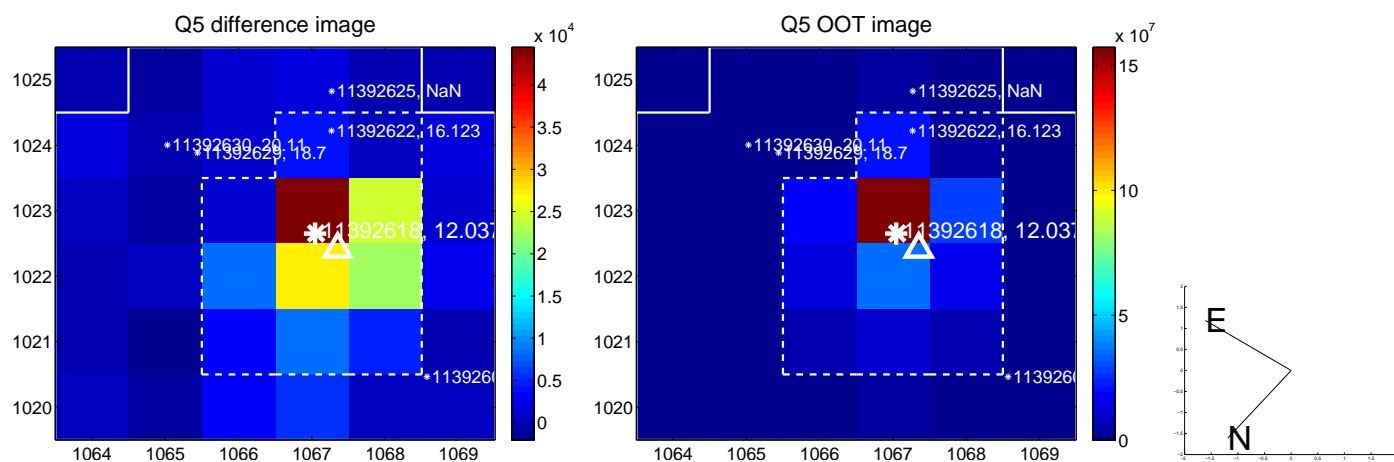
Q4 no difference image



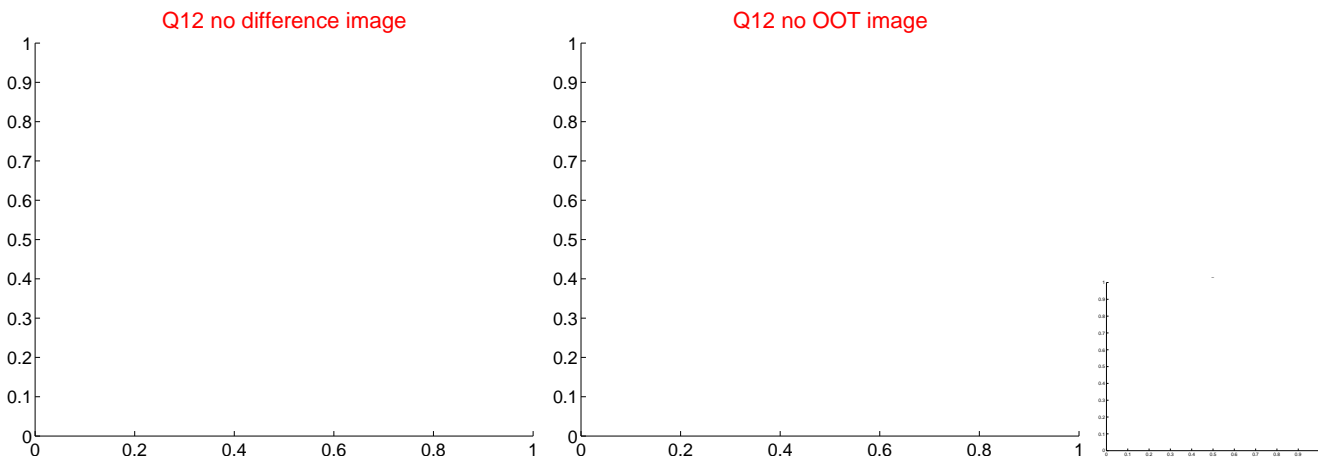
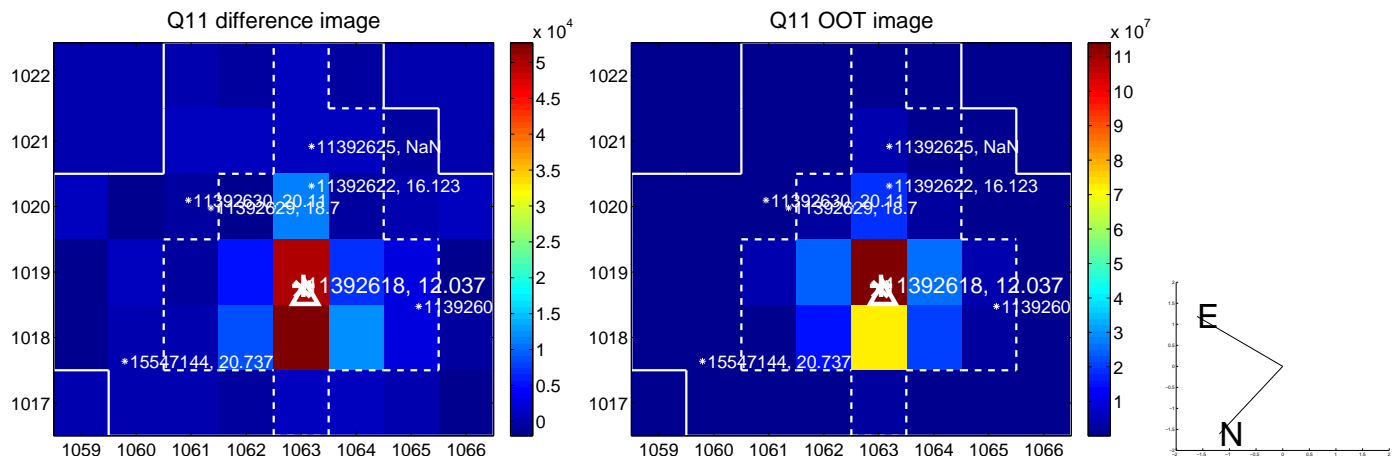
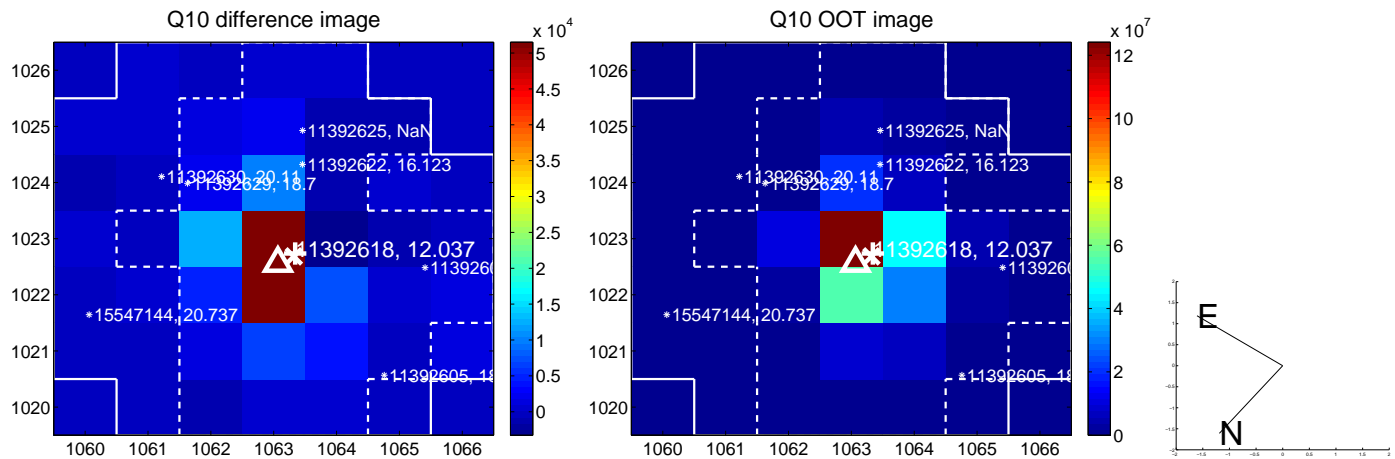
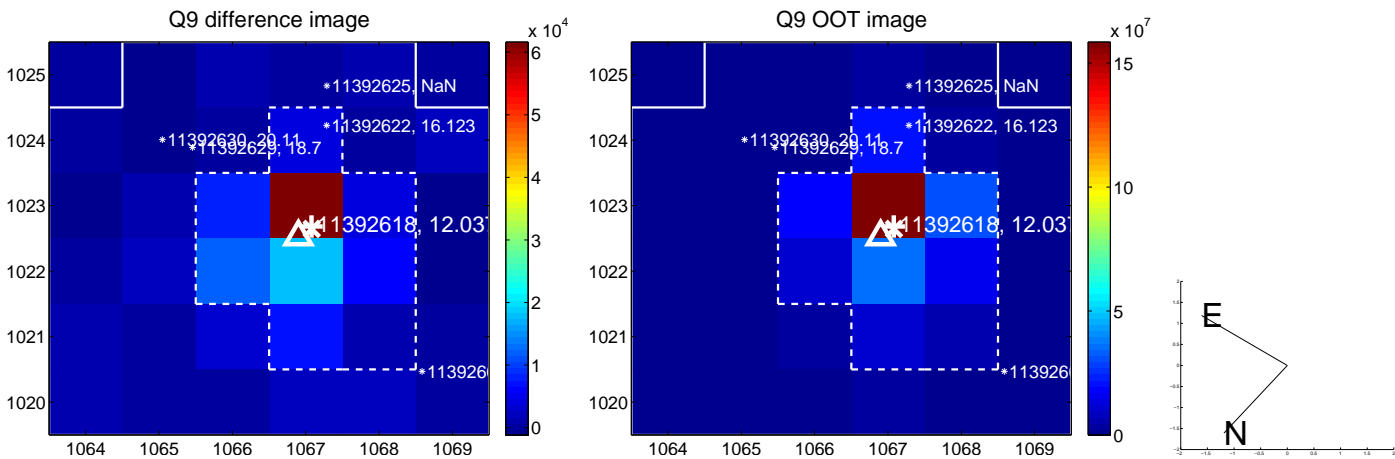
Q4 no OOT image



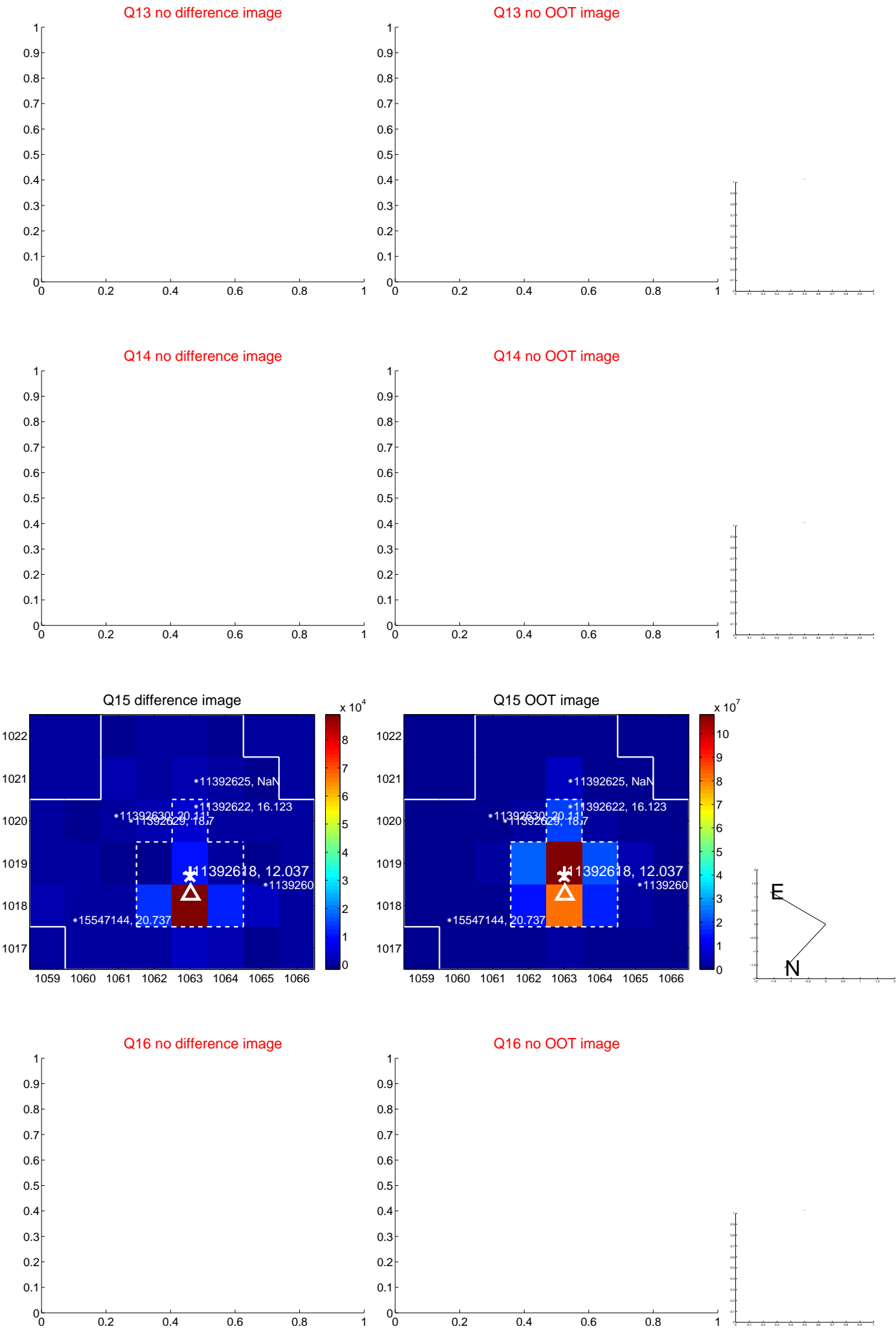
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



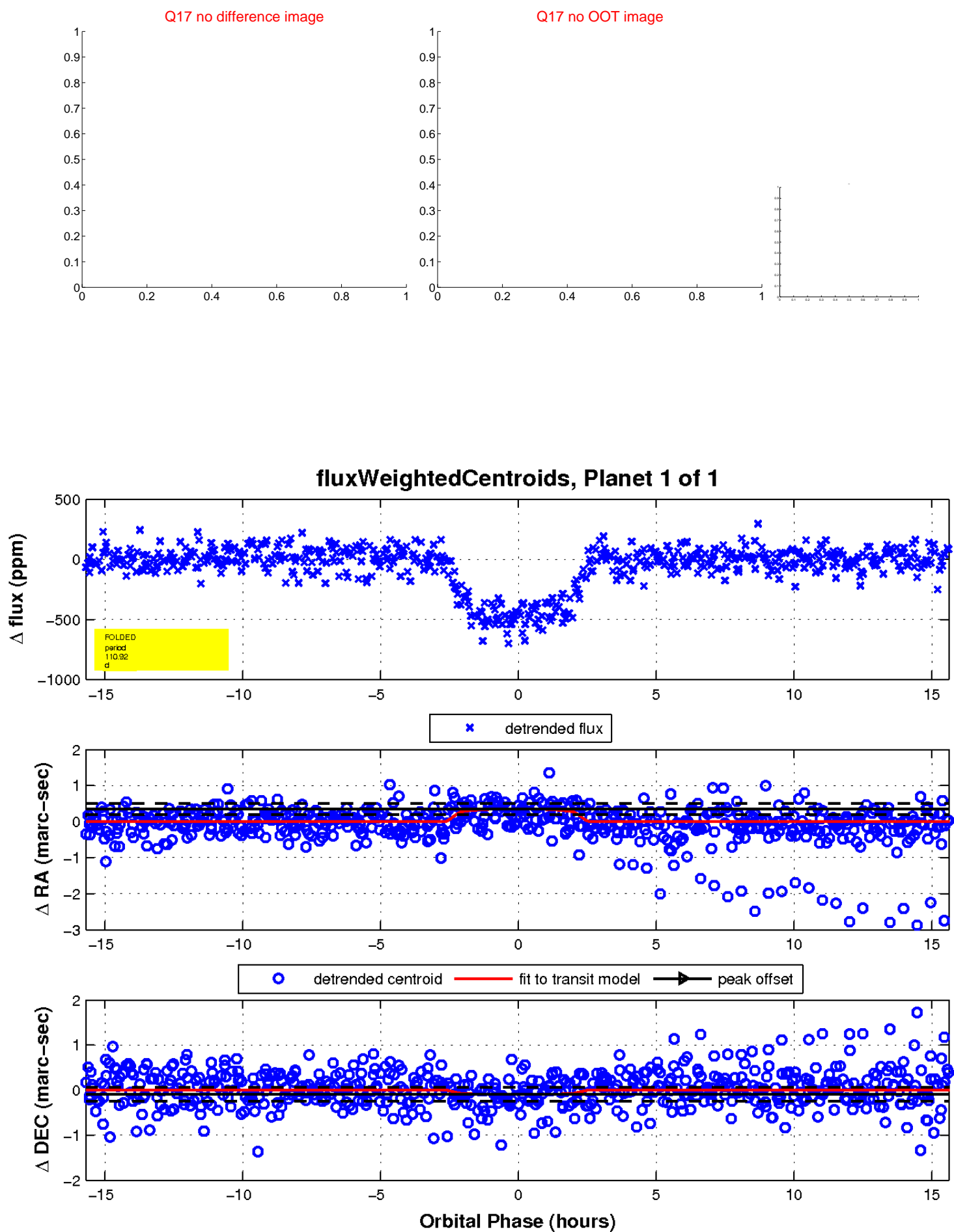
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

