

KIC 007948784

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007948784-01 | OBS | 1968.01 | 10.087448 | 135.136612 | 557.9 | 3.179 | 32.7 | 35.8 | 1.09 | 6310 | 3.21 | 186.60 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 007948784-01 | OBS | PC | 1.00 | 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.

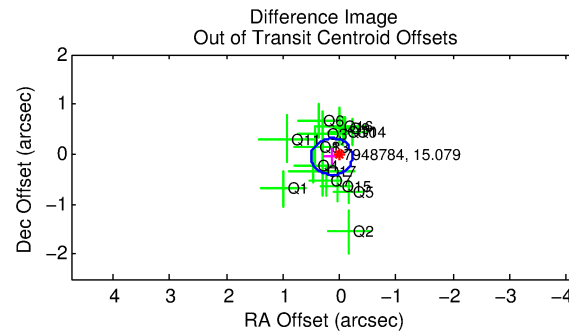
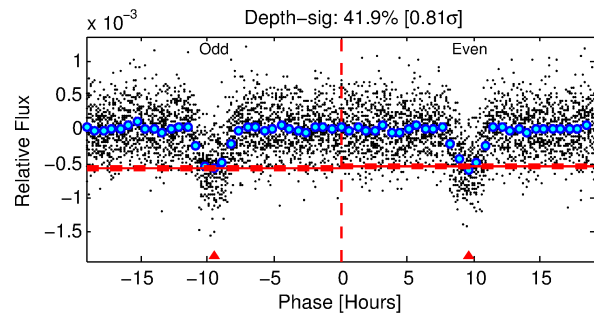
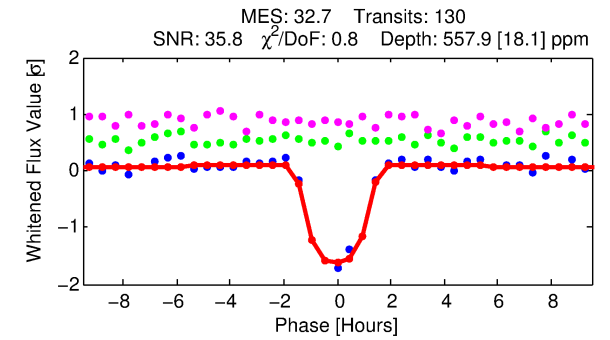
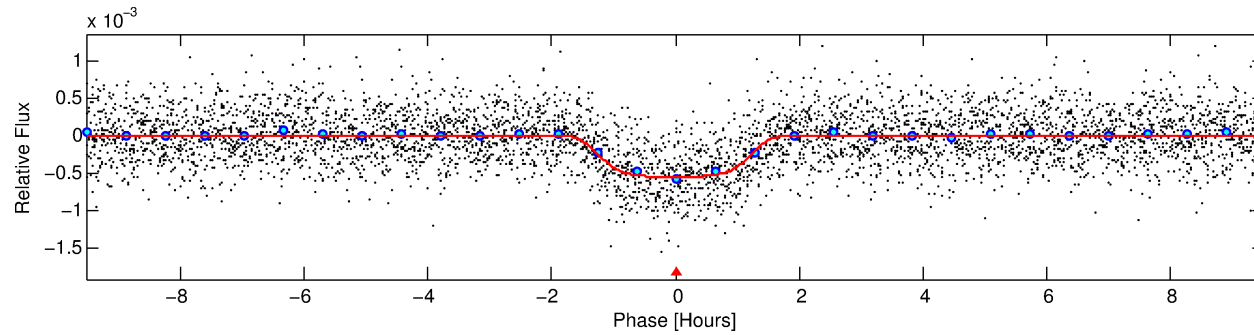
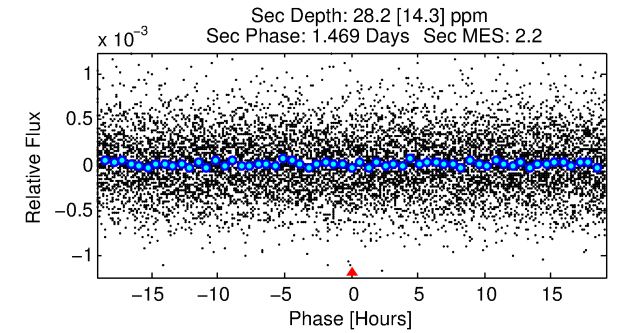
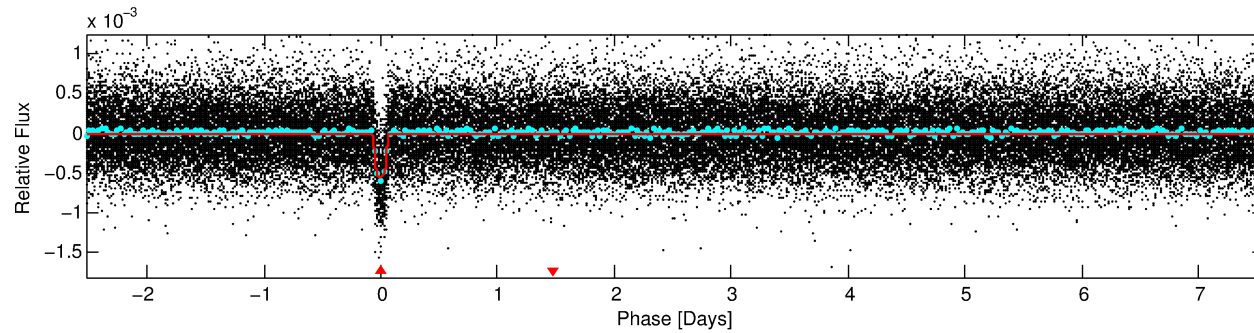
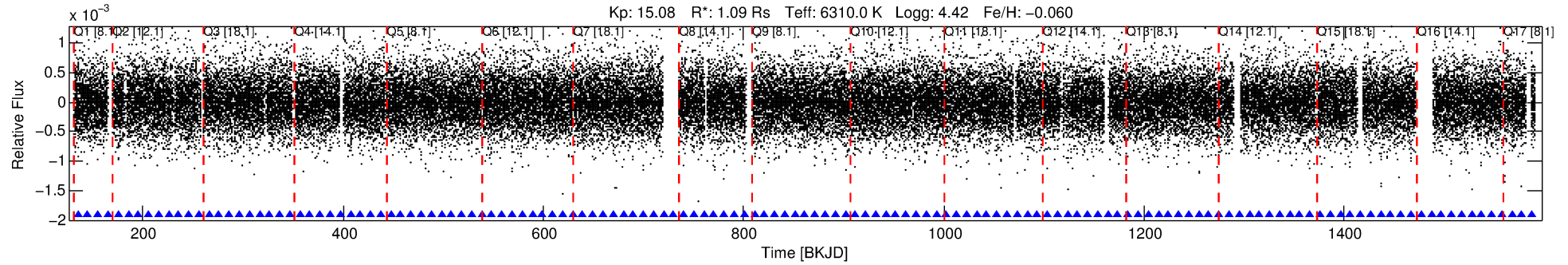
Ephemeris Match Information For 007948784-01

No Significant Match Found

DV One-Page Summary

KIC: 7948784 Candidate: 1 of 1 Period: 10.087 d

KOI: K01968.01 Corr: 0.920



DV Fit Results:

Period = 10.08745 [0.00003] d
Epoch = 135.1366 [0.0020] BKJD
Rp/R* = 0.0269 [0.0009]
a/R* = 9.62 [1.28]
b = 0.95 [0.01]
Seff = 186.60 [70.52]
Teff = 942 [89] K
Rp = 3.21 [0.92] Re
a = 0.0955 [0.0231] AU
Ag = 13.73 [8.53] [1.49 σ]
Teffp = 2805 [369] K [4.90 σ]

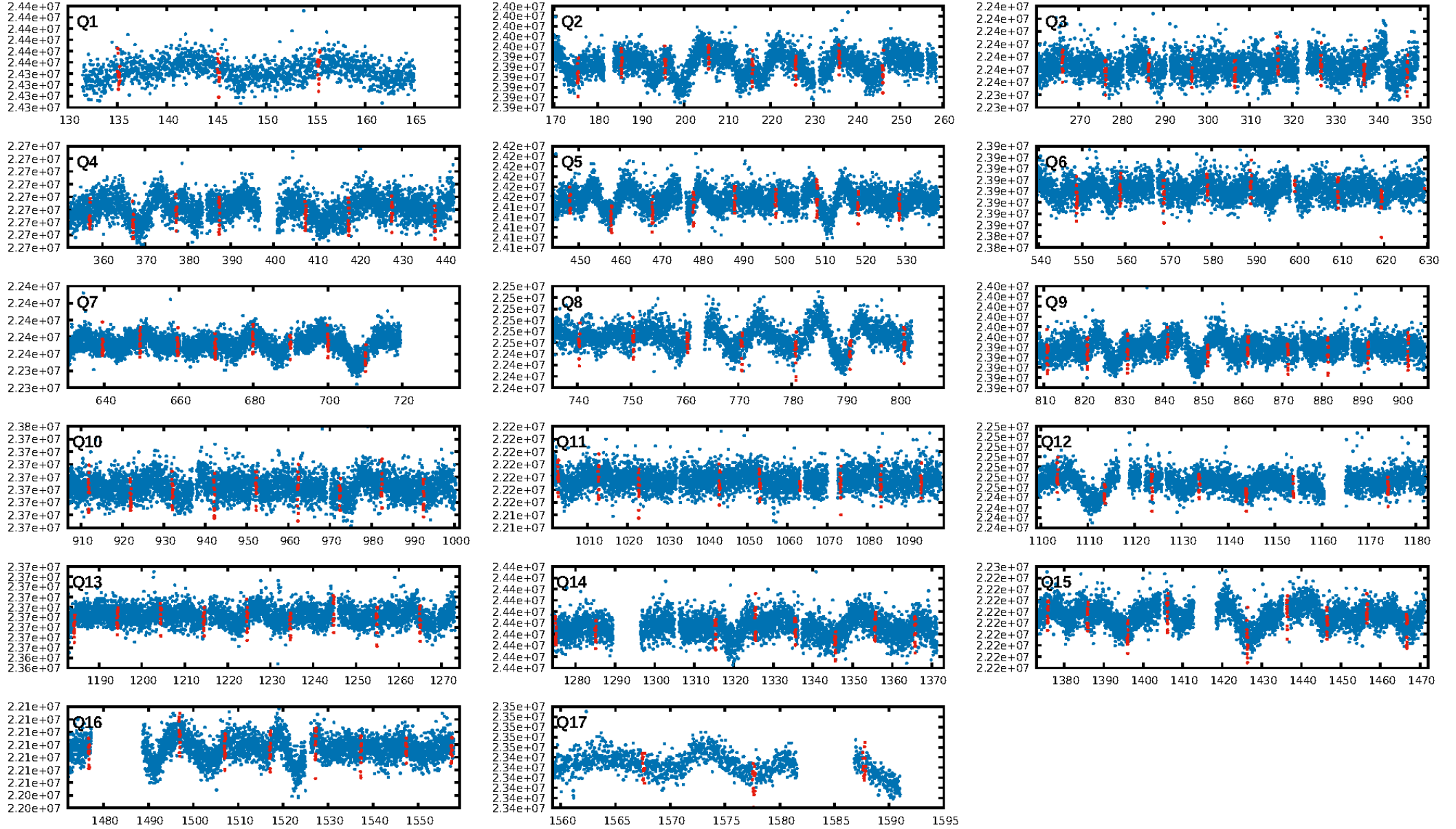
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.36e-227
RollingBand-fgt: 1.00 [124/124]
GhostDiagnostic-chr: 7.107
Centroid-sig: 0.0%
Centroid-so: 0.661 arcsec [1.80 σ]
OotOffset-rm: 0.151 arcsec [1.24 σ]
KicOffset-rm: 0.172 arcsec [1.34 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

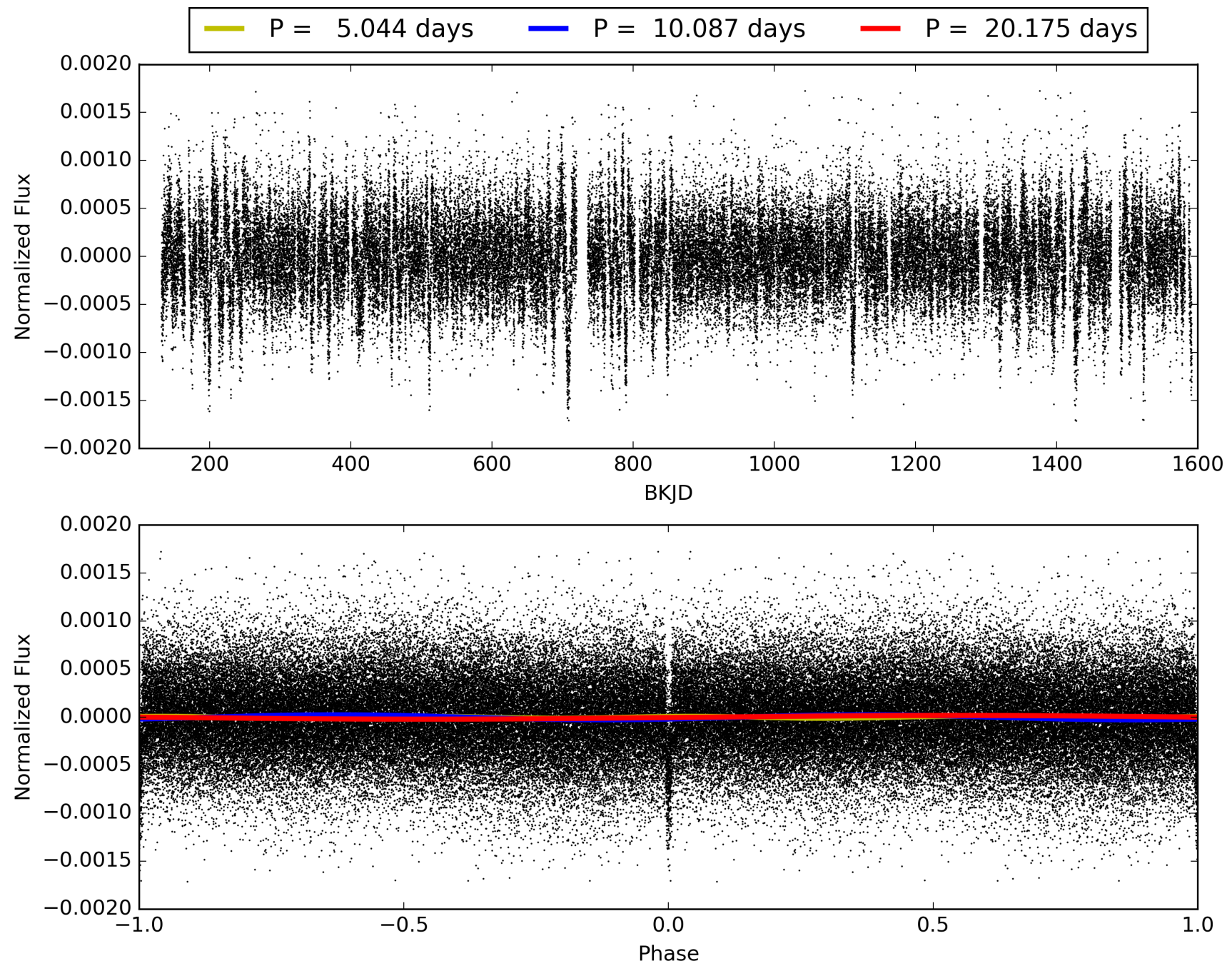
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:27:00 Z

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

TCE 007948784-01, PDC Light Curves

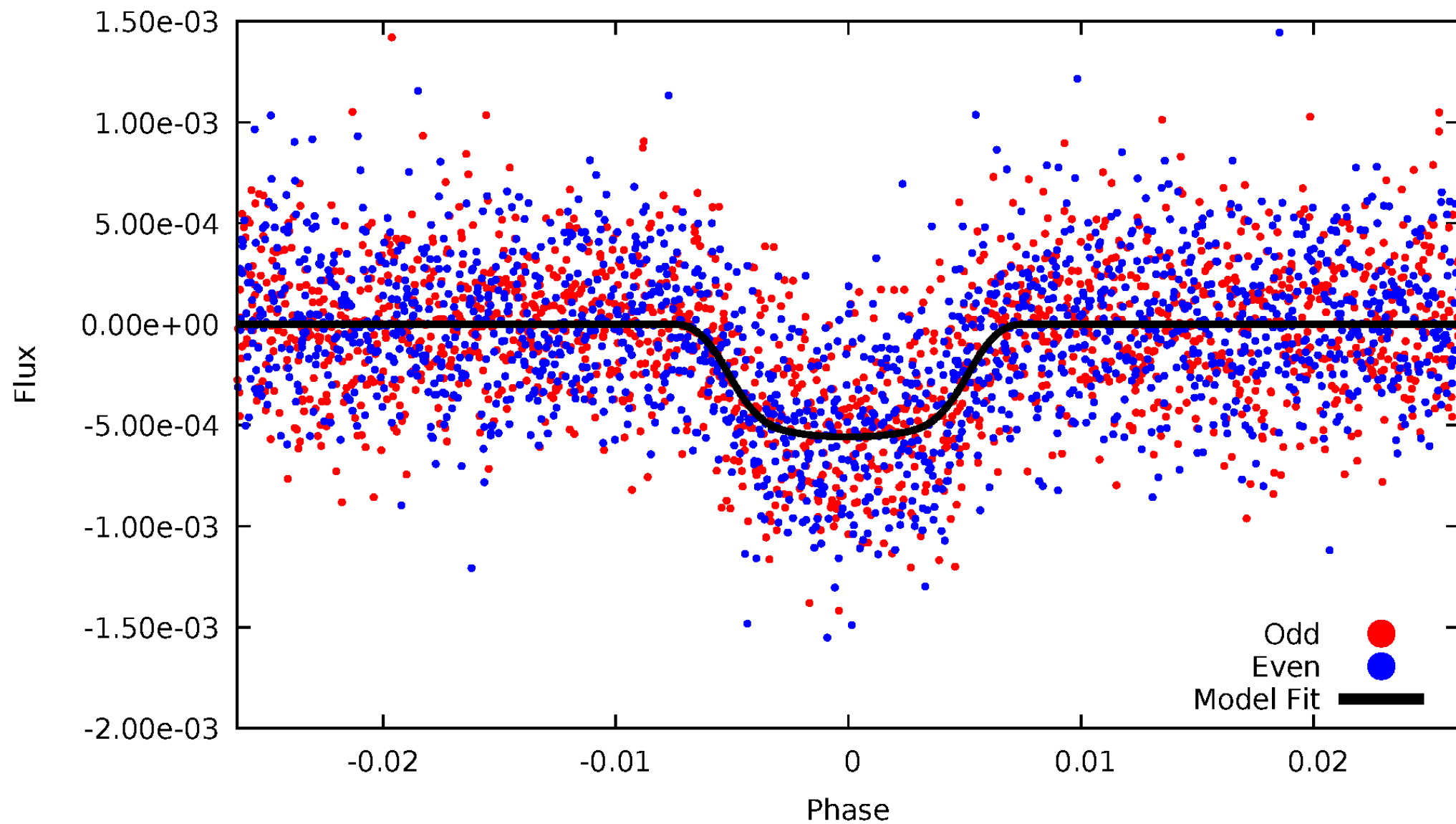


TCE 007948784-01



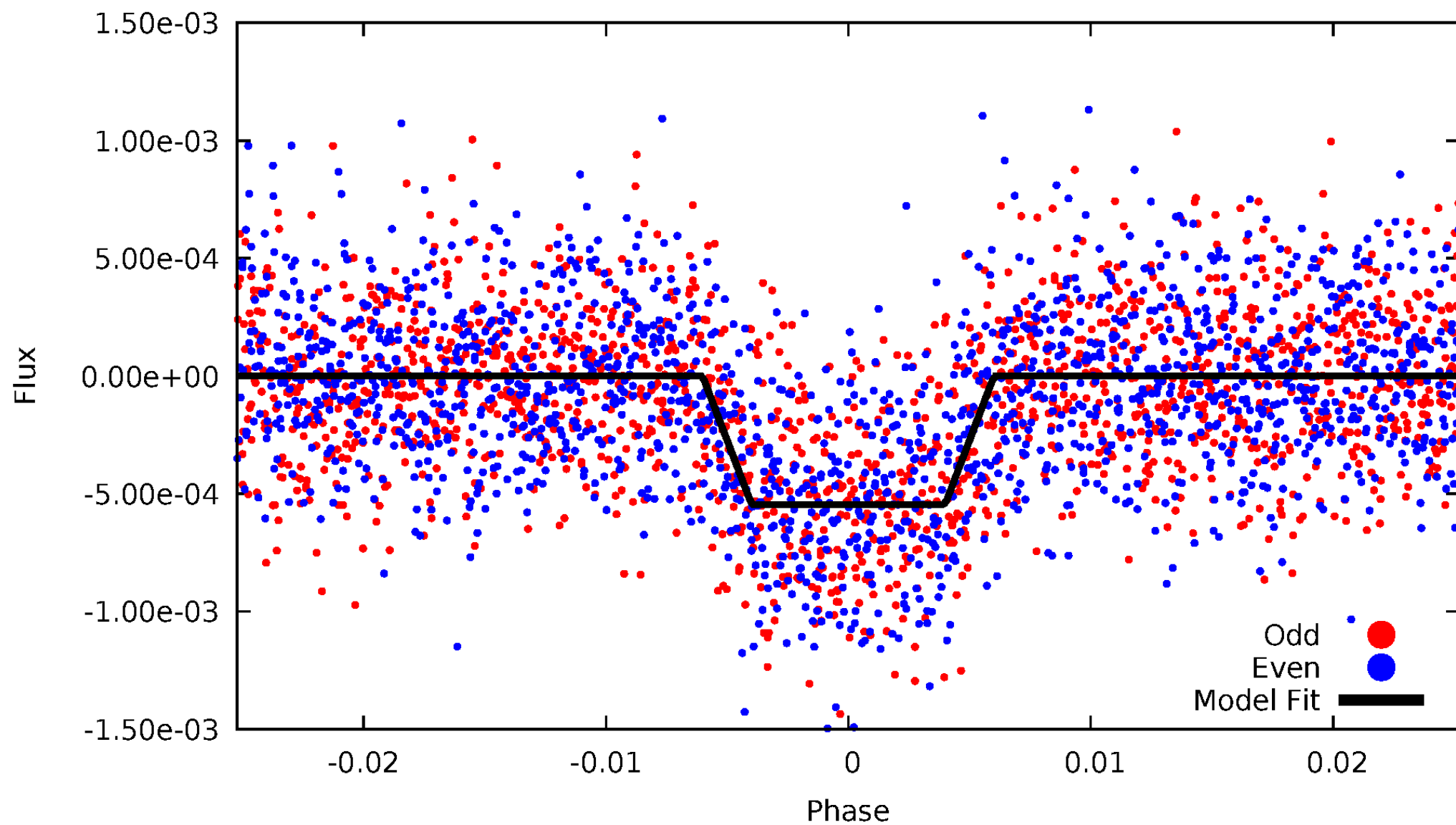
DV Odd/Even

TCE 007948784-01

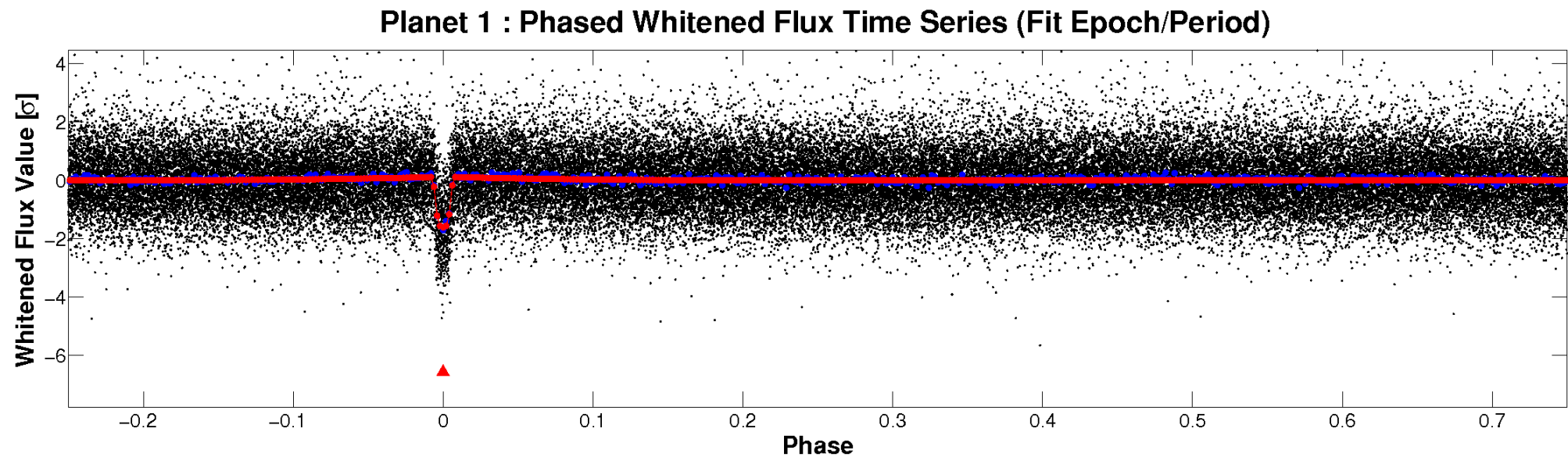
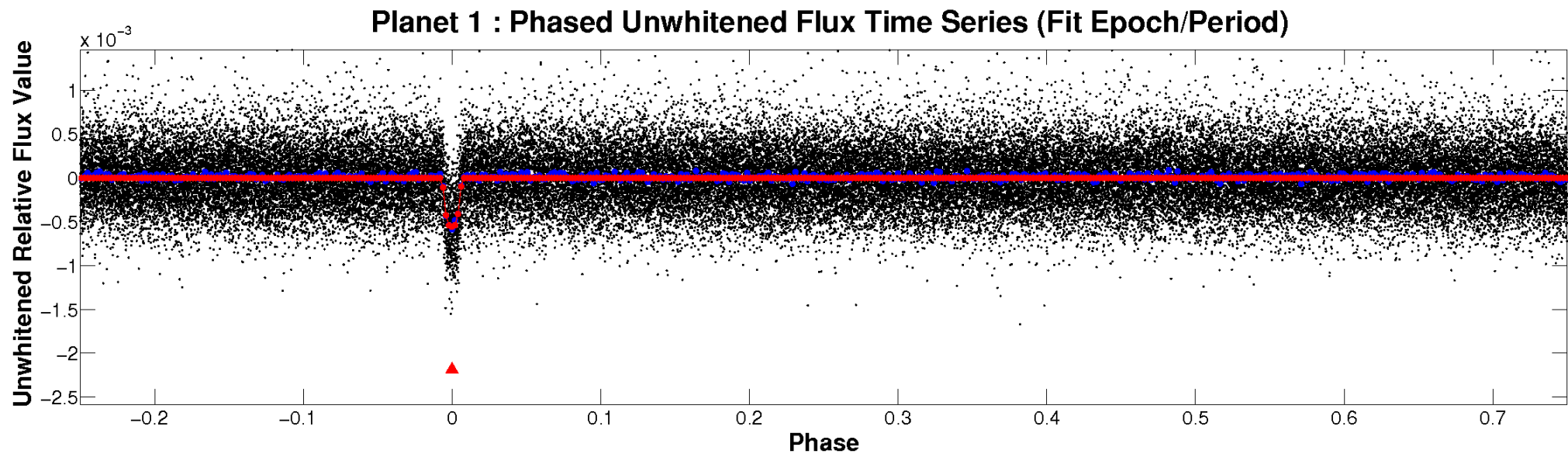


ALT Odd/Even

TCE 007948784-01

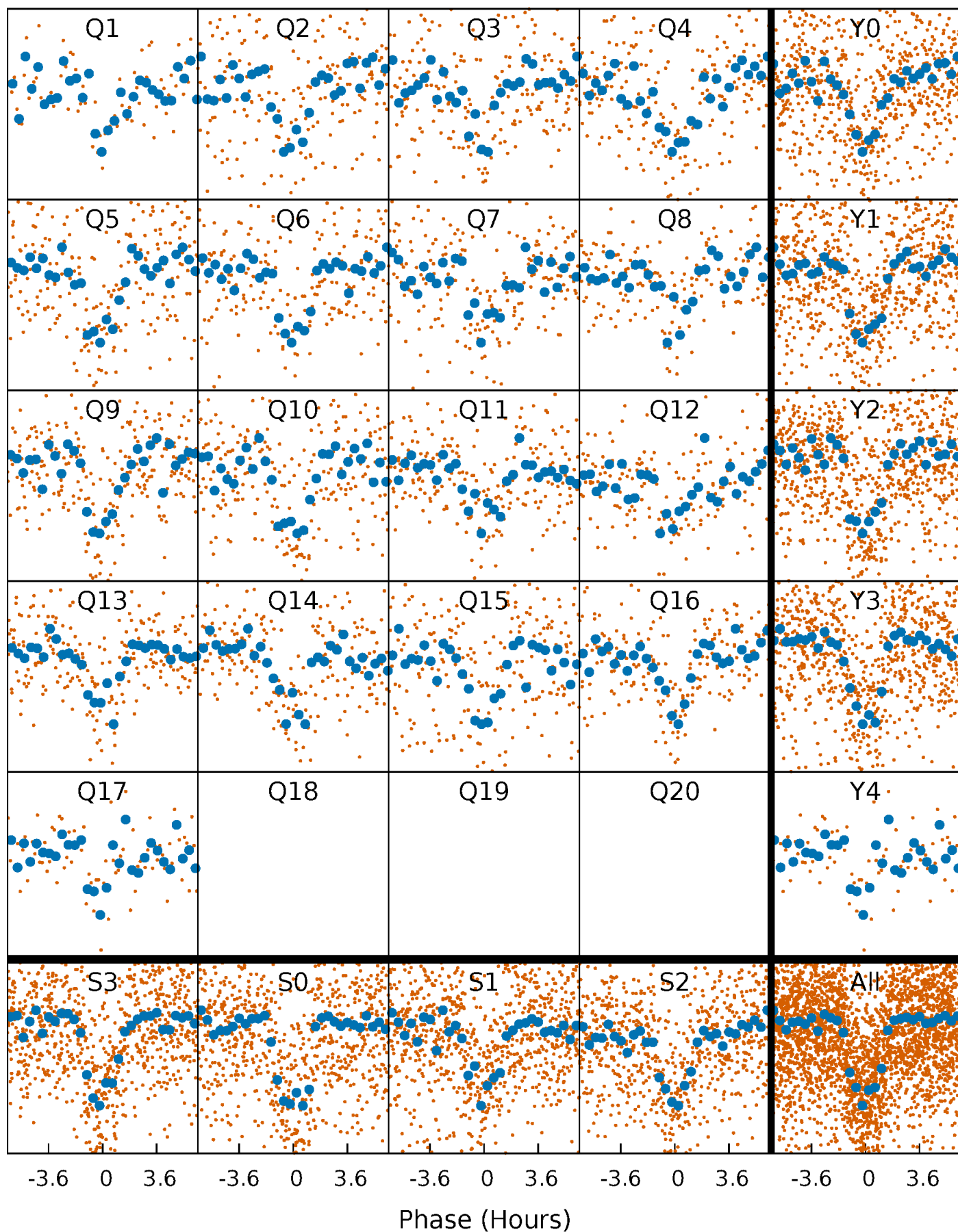


Non-Whitened Vs. Whitened Light Curve



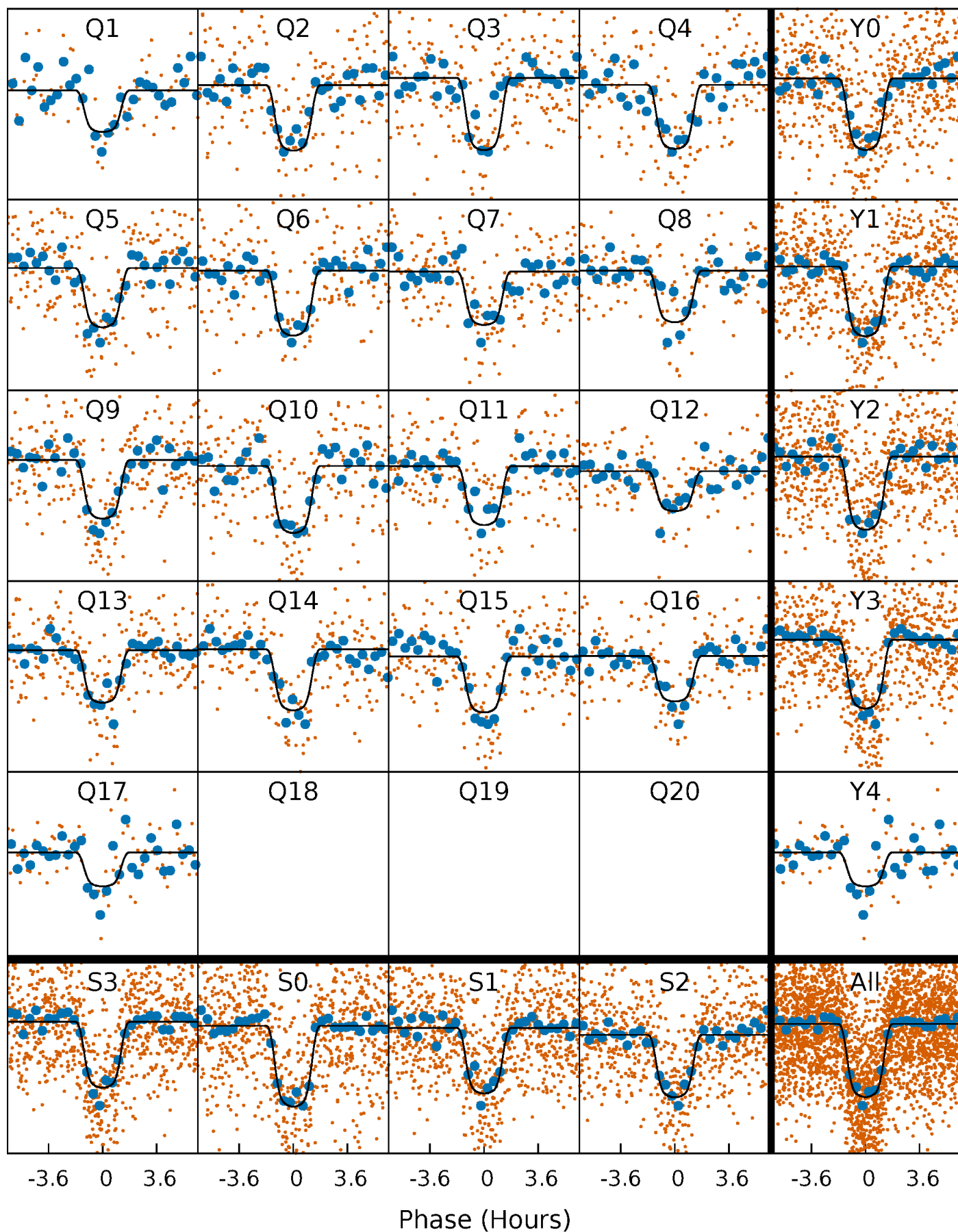
PDC Quarter-Phased Transit Curves

TCE 007948784-01 P= 10.087448 Days $T_0=135.136612$ (BKJD)



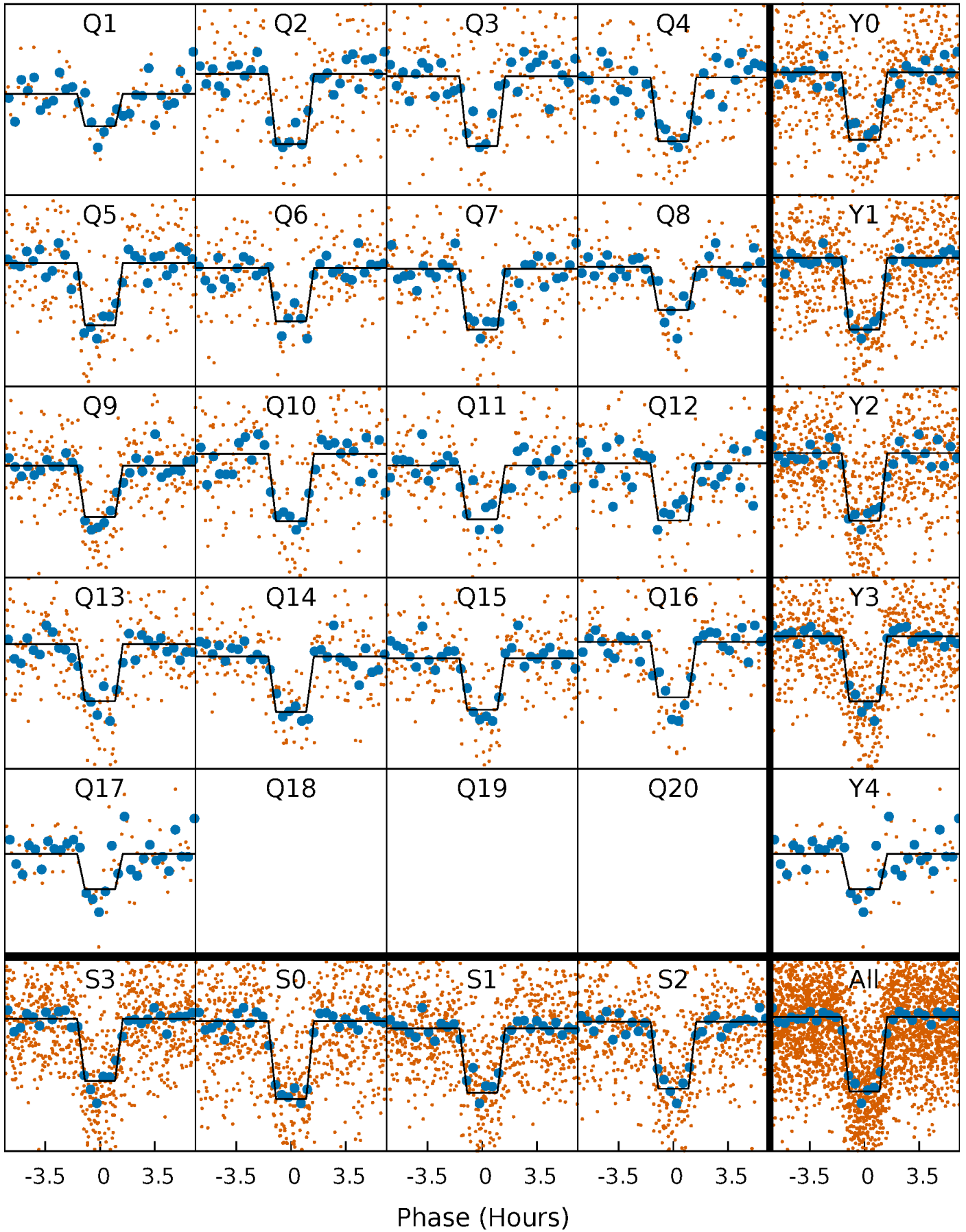
DV Quarter-Phased Transit Curves

TCE 007948784-01 P= 10.087448 Days $T_0=135.136612$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

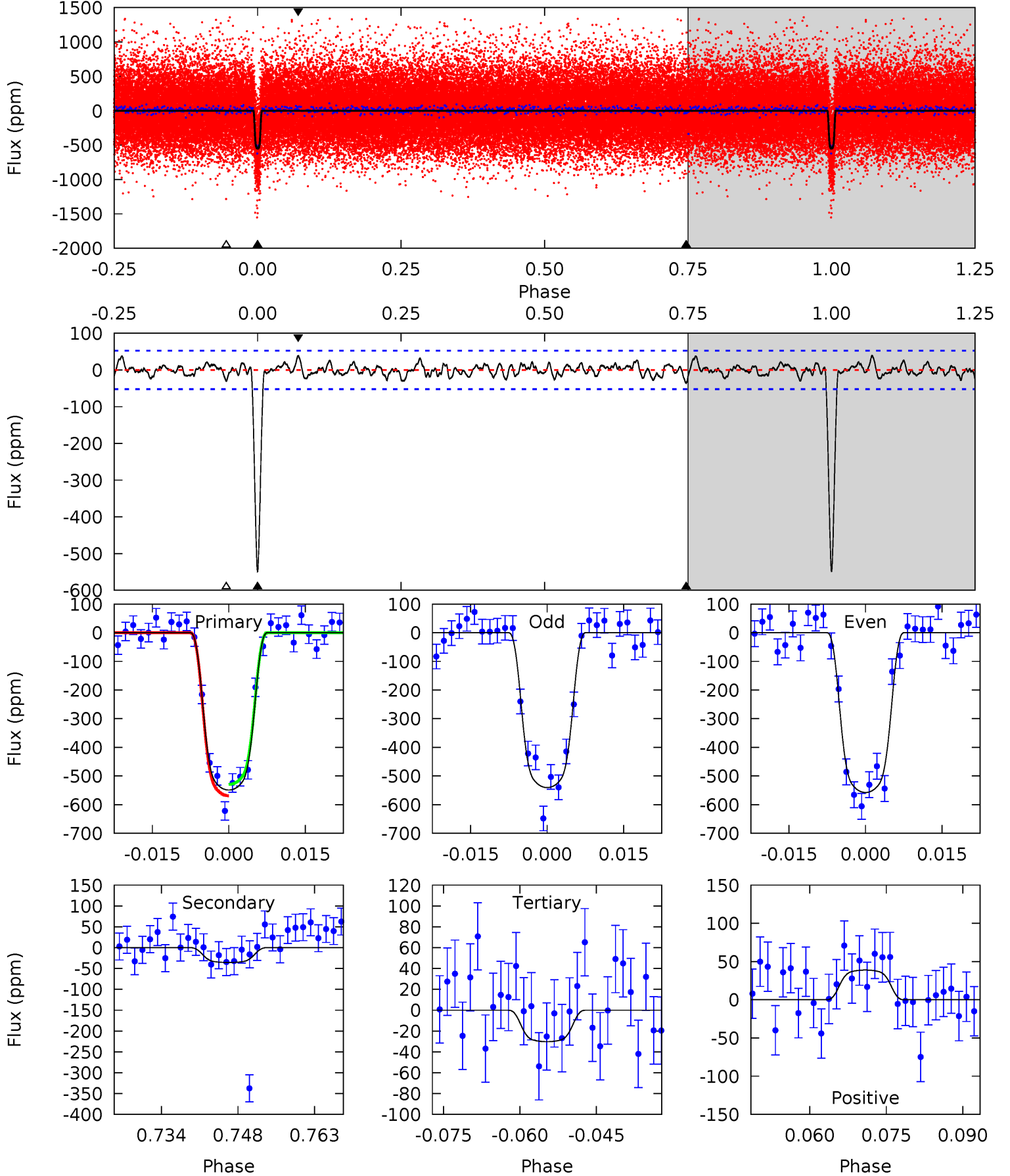
TCE 007948784-01 P= 10.087446 Days $T_0=135.136157$ (BKJD)



DV Model-Shift Uniqueness Test

007948784-01, $P = 10.087448$ Days, $E = 125.049164$ Days

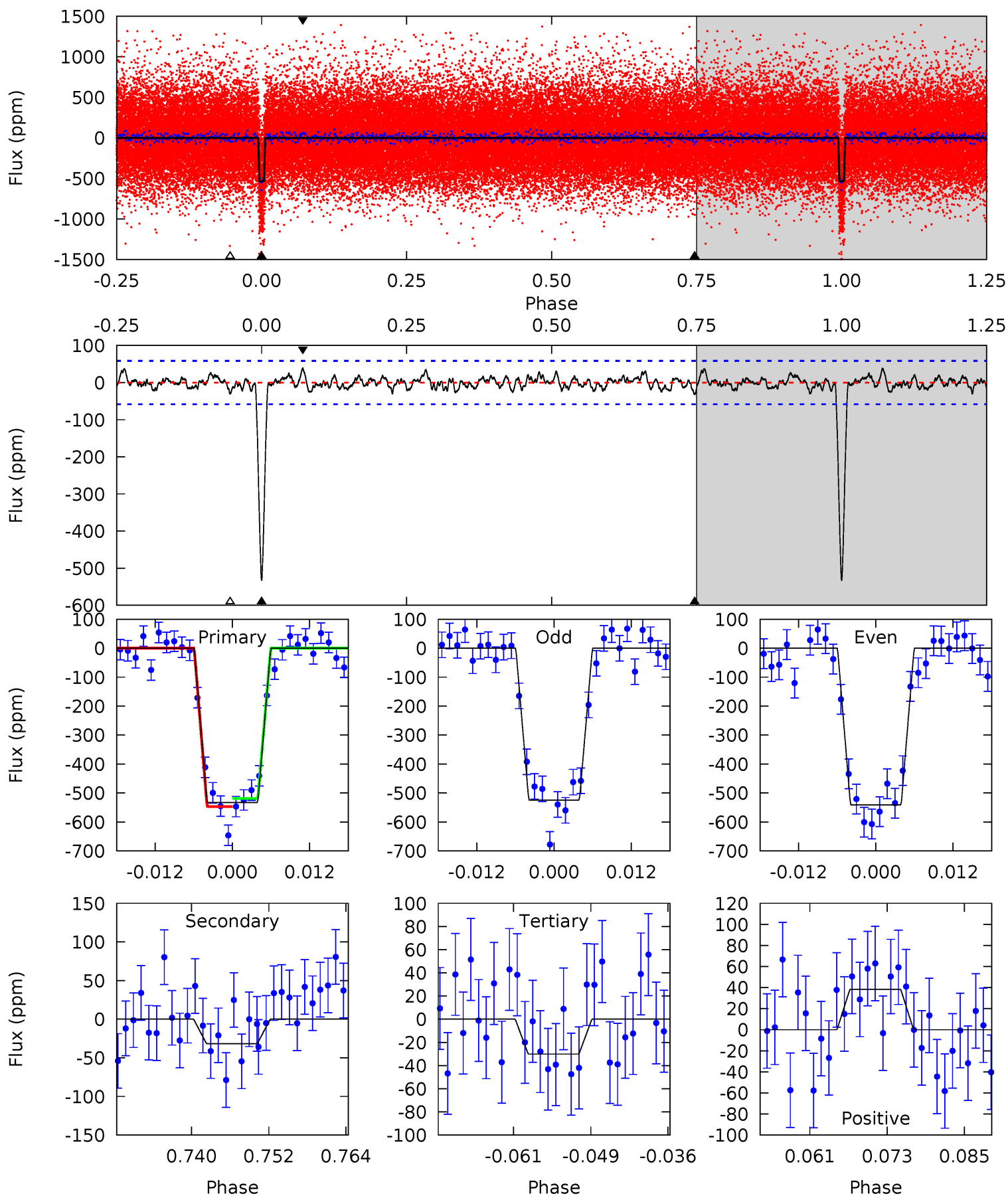
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 51.8 | 3.36 | 2.85 | 3.66 | 4.95 | 2.43 | 1.16 | 48.9 | 48.1 | 0.51 | -0.30 | 0.81 | 1.01 | 0.07 | 1.88 |



Alt Model-Shift Uniqueness Test

007948784-01, P = 10.087446 Days, E = 125.048711 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 45.4 | 2.71 | 2.57 | 3.28 | 4.99 | 2.51 | 1.06 | 42.8 | 42.1 | 0.15 | -0.56 | 0.73 | 1.00 | 0.07 | 1.18 |



Stellar Parameters For KIC 007948784

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6310^{+168}_{-205} | $4.417^{+0.065}_{-0.195}$ | $-0.060^{+0.250}_{-0.300}$ | $1.095^{+0.313}_{-0.134}$ | $1.143^{+0.157}_{-0.157}$ | $1.225^{+0.394}_{-0.610}$ |
| | +3%/-3% | +1%/-4% | +417%/-500% | +29%/-12% | +14%/-14% | +32%/-50% |
| 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 007948784-01 / KOI 1968.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|--------------|------------------------|----------------------|----------------------|------------------|
| DV | -36 ± 11 | $3.29^{+0.51}_{-0.28}$ | 1342^{+87}_{-68} | 3454^{+183}_{-197} | 16^{+7}_{-6} |
| Alt. | -32 ± 12 | $2.88^{+0.47}_{-0.28}$ | 1334^{+96}_{-65} | 3543^{+204}_{-259} | 18^{+9}_{-7} |

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 $A_{\text{obs}} \gg 1.0$

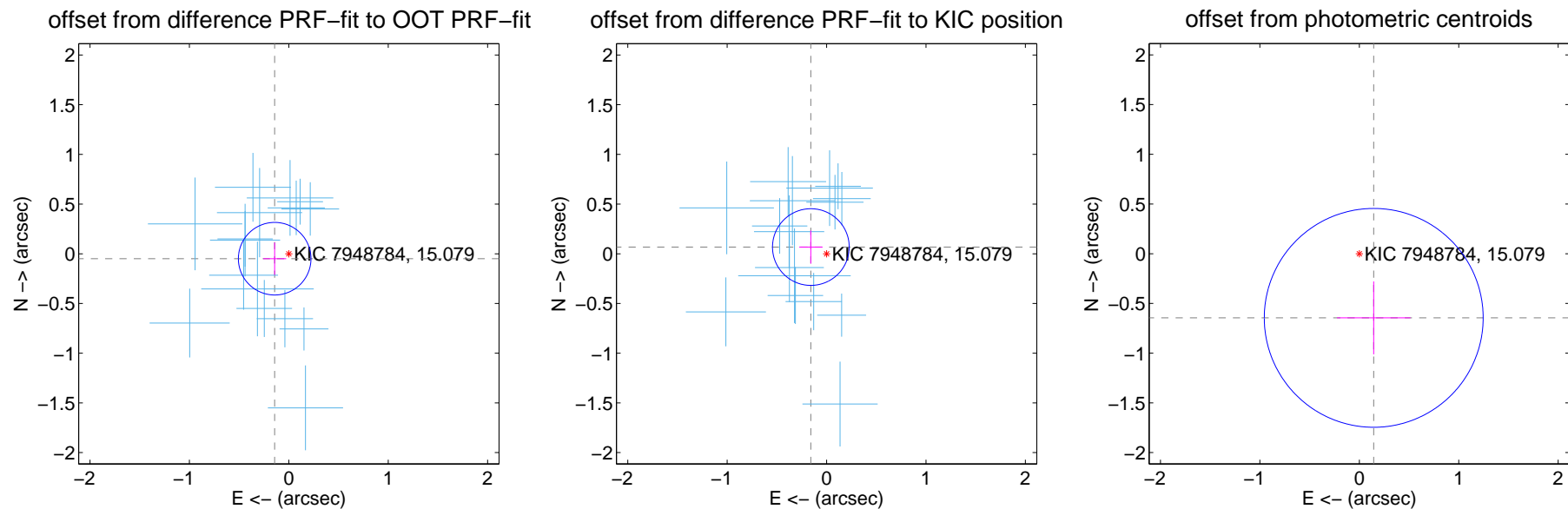
DV Centroid Data

Supplemental centroid analysis for 007948784-01. Kepler magnitude: 15.08. Transit SNR 35.85

There are 16 quarters with good PRF difference image offsets

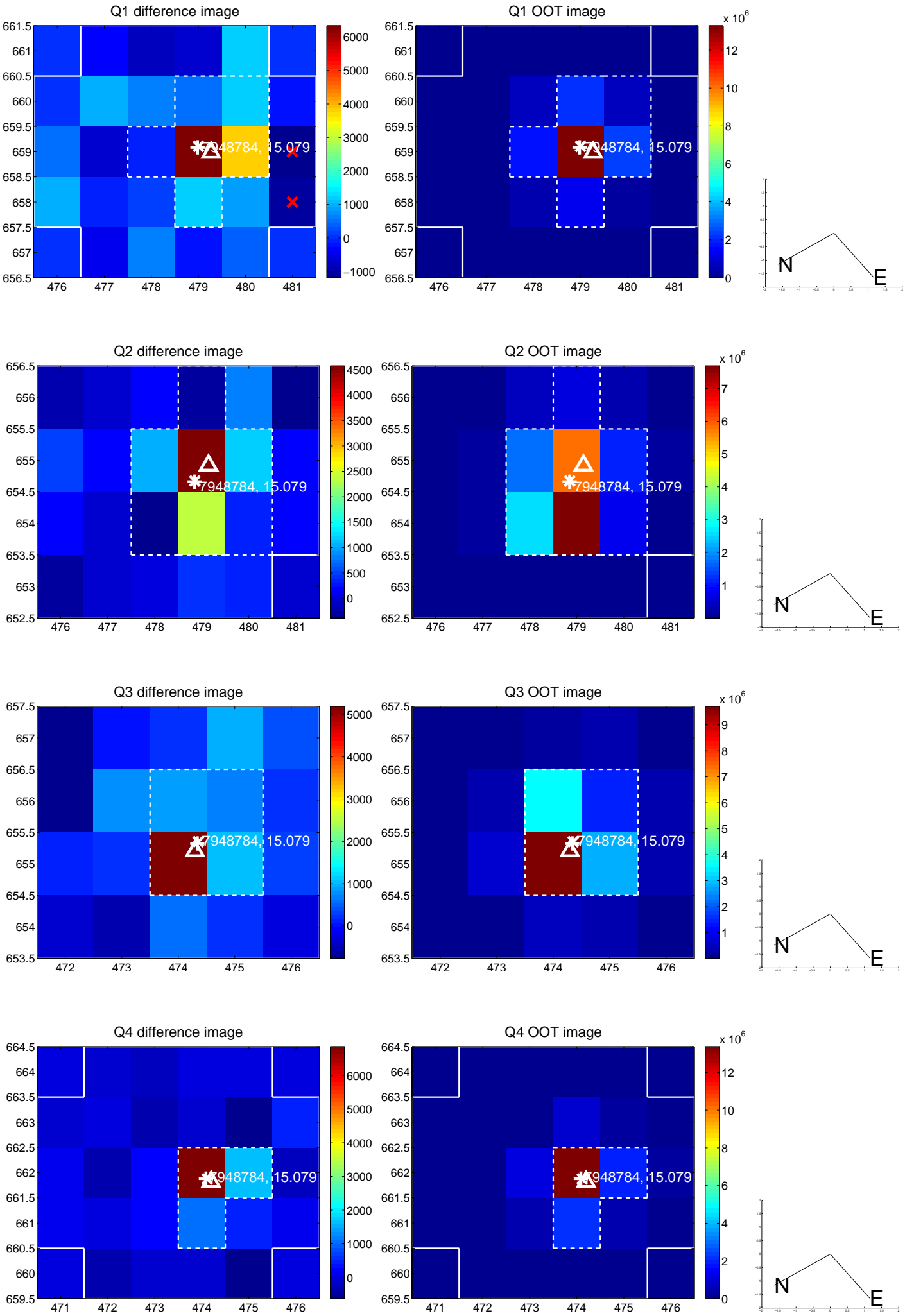
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.151 ± 0.122 | 1.24 | 0.142 ± 0.116 | -0.049 ± 0.163 |
| PRF-fit source offset from KIC position | 0.172 ± 0.129 | 1.34 | 0.158 ± 0.117 | 0.068 ± 0.166 |
| photometric centroid source offset | 0.66 ± 0.37 | 1.80 | -0.14 ± 0.37 | -0.65 ± 0.37 |

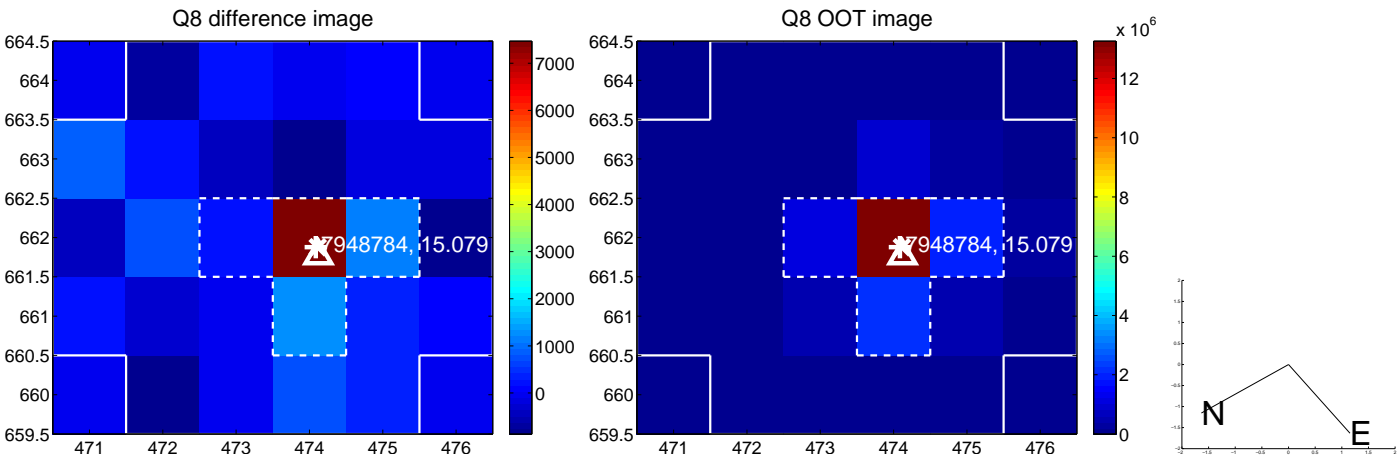
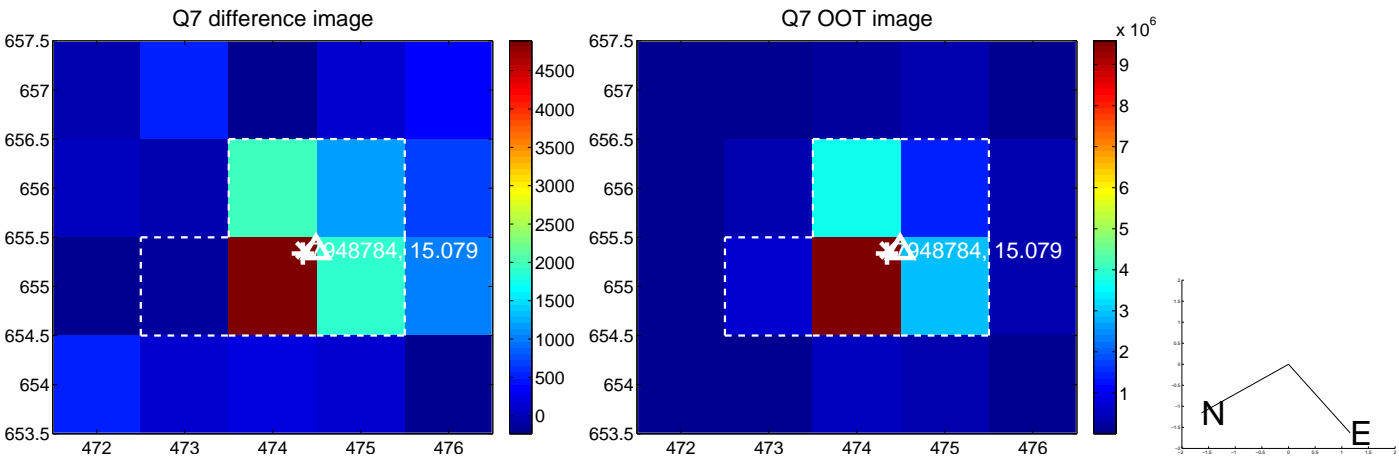
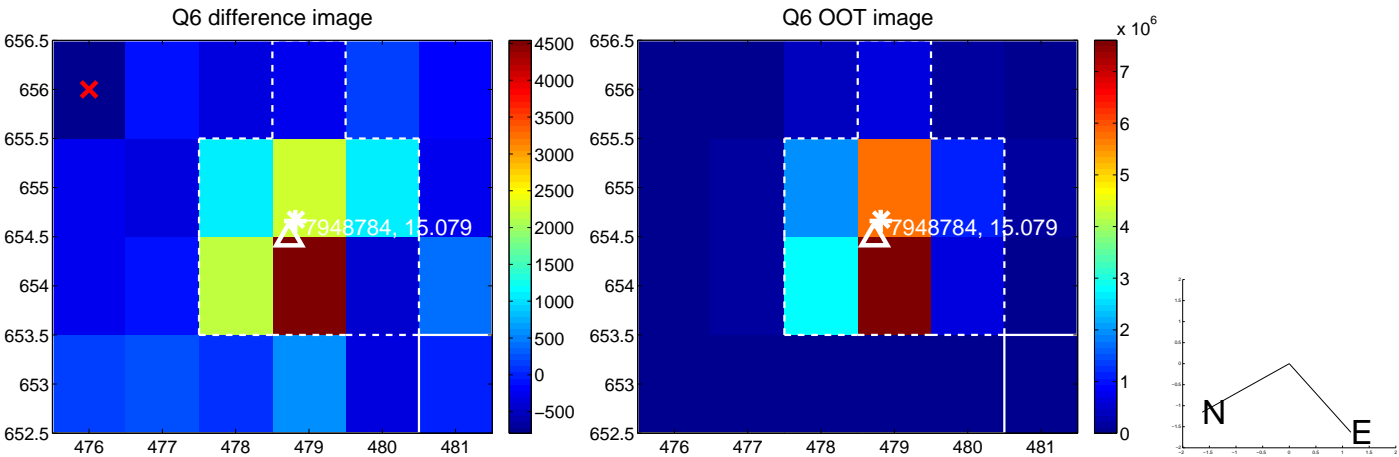
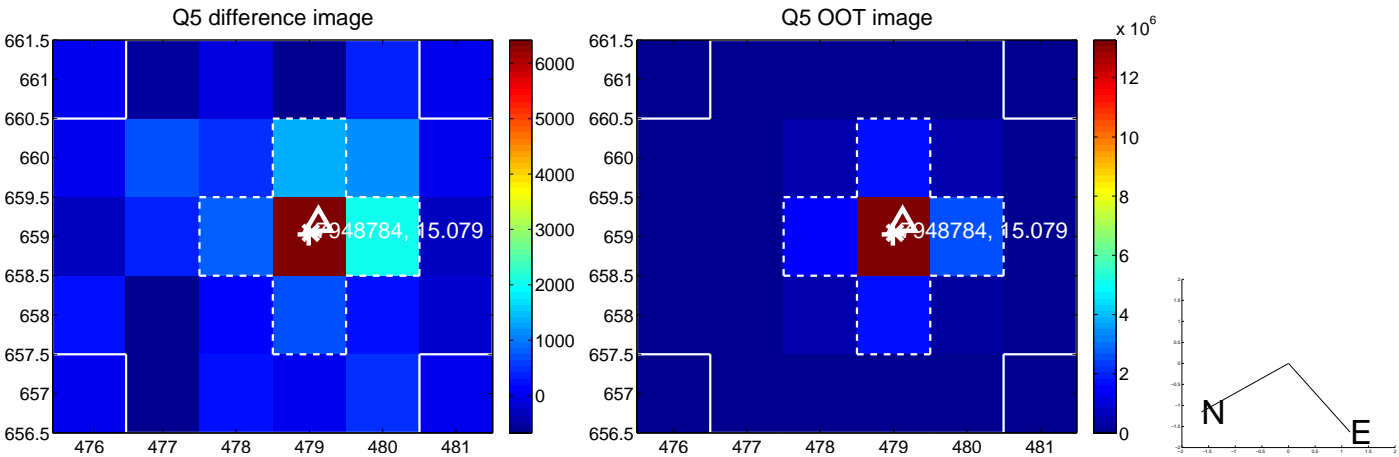


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

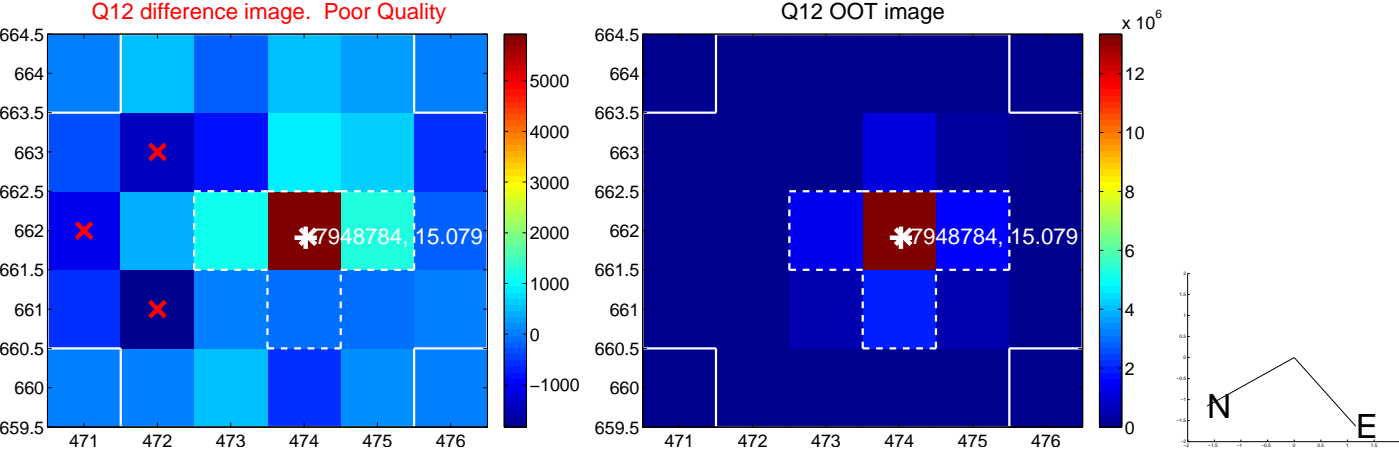
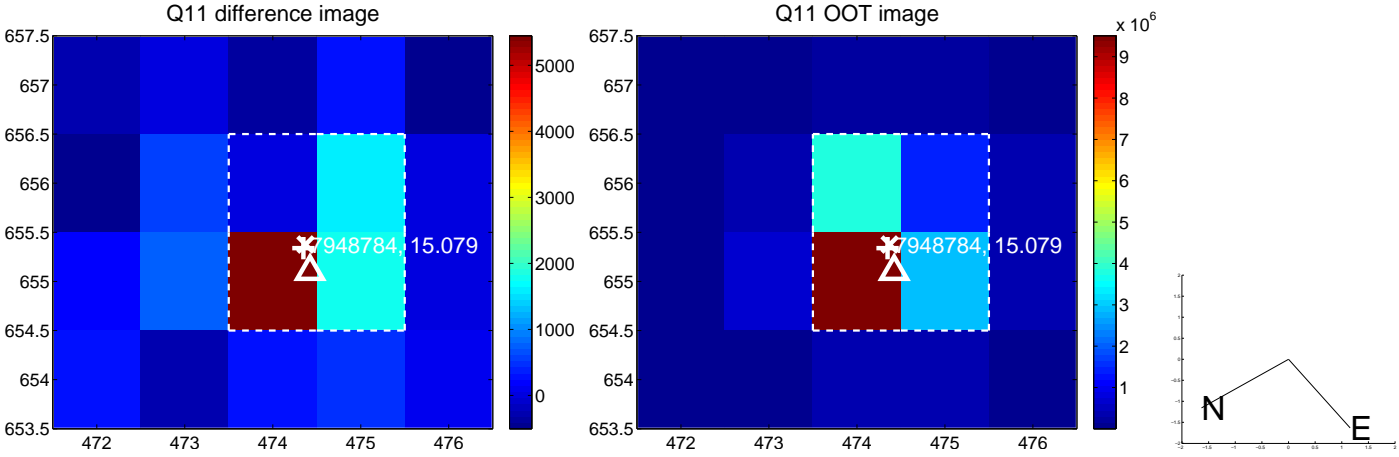
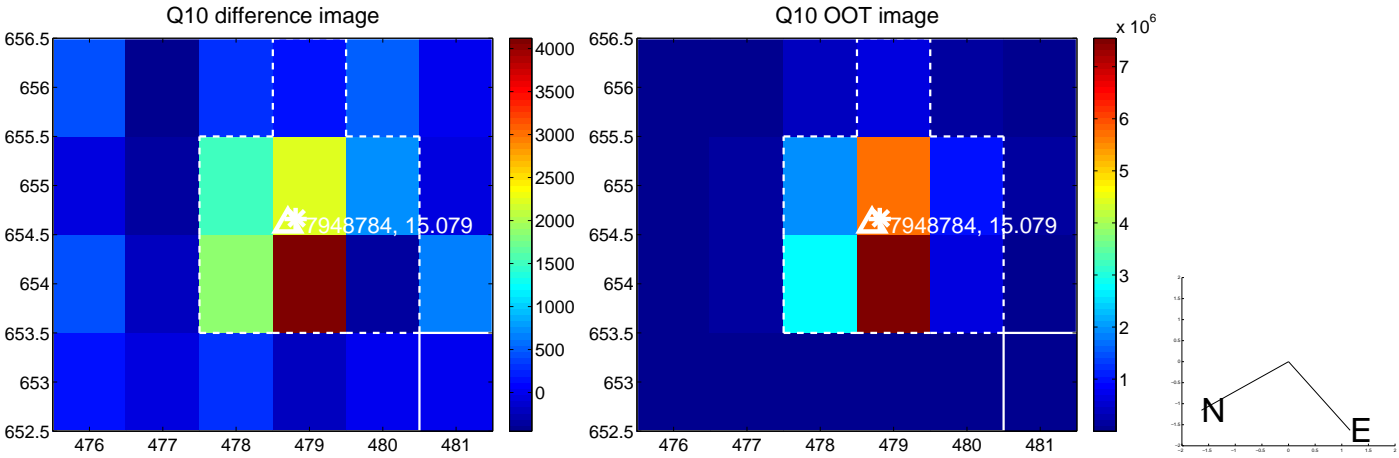
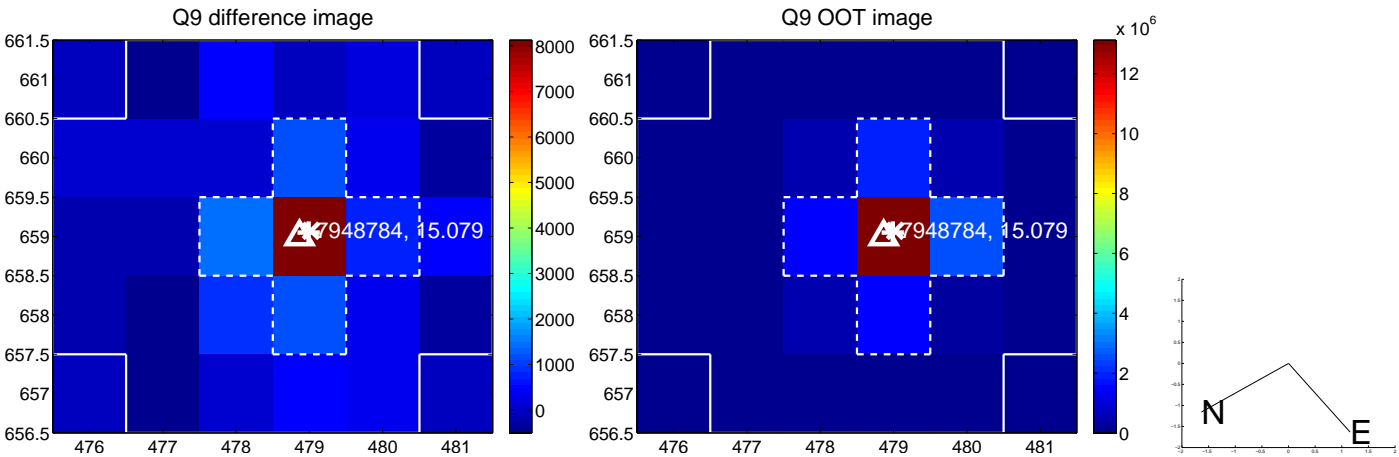
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



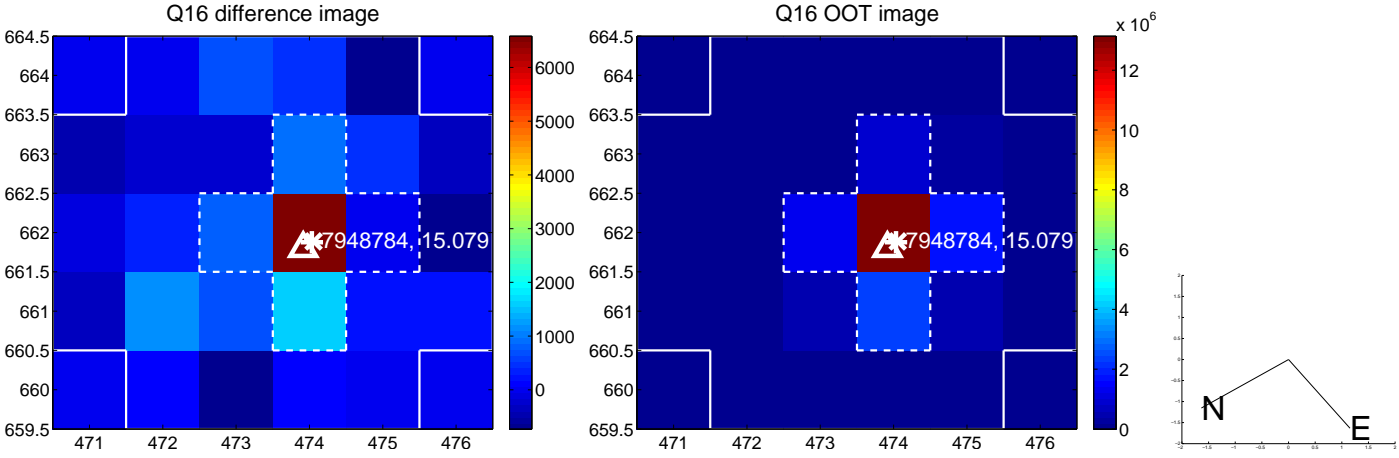
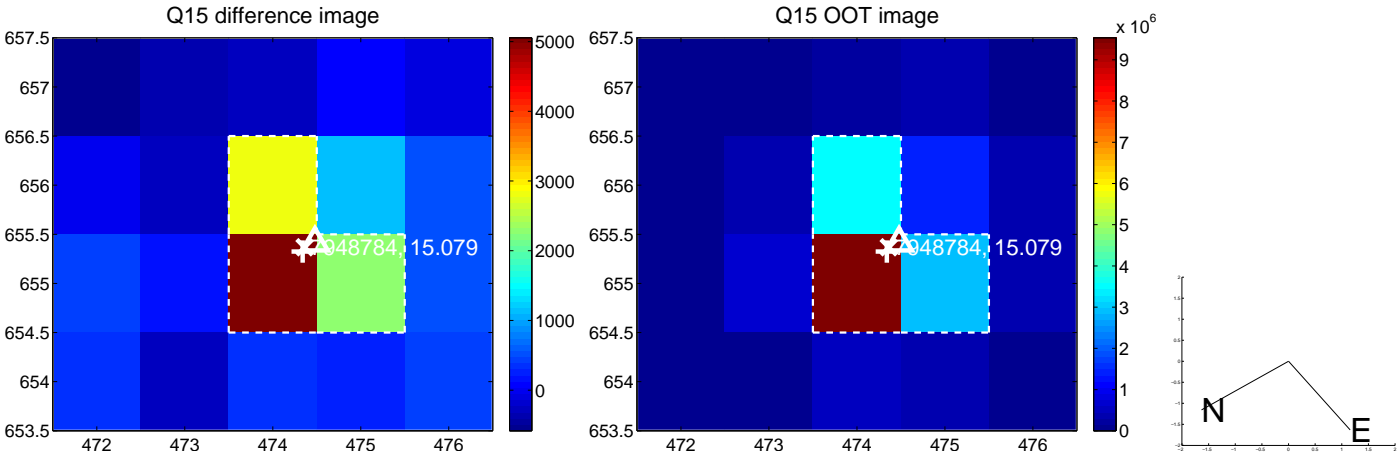
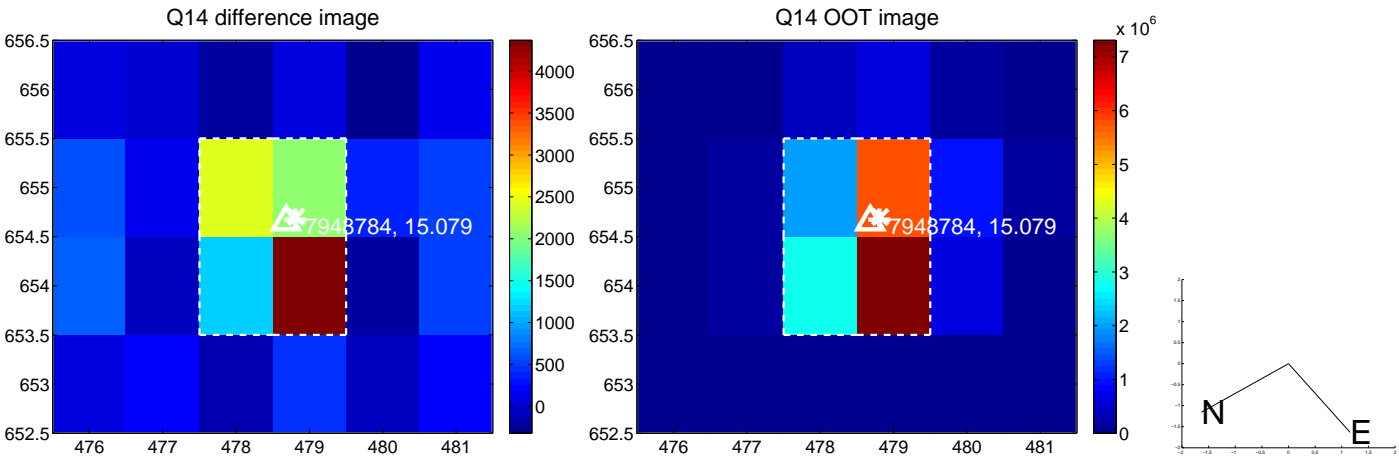
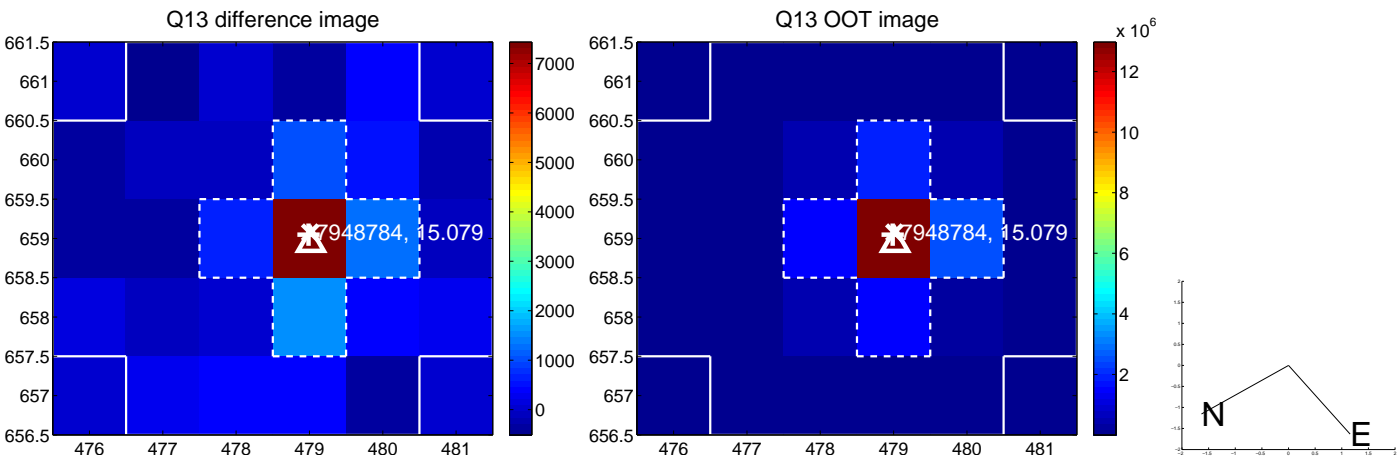
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



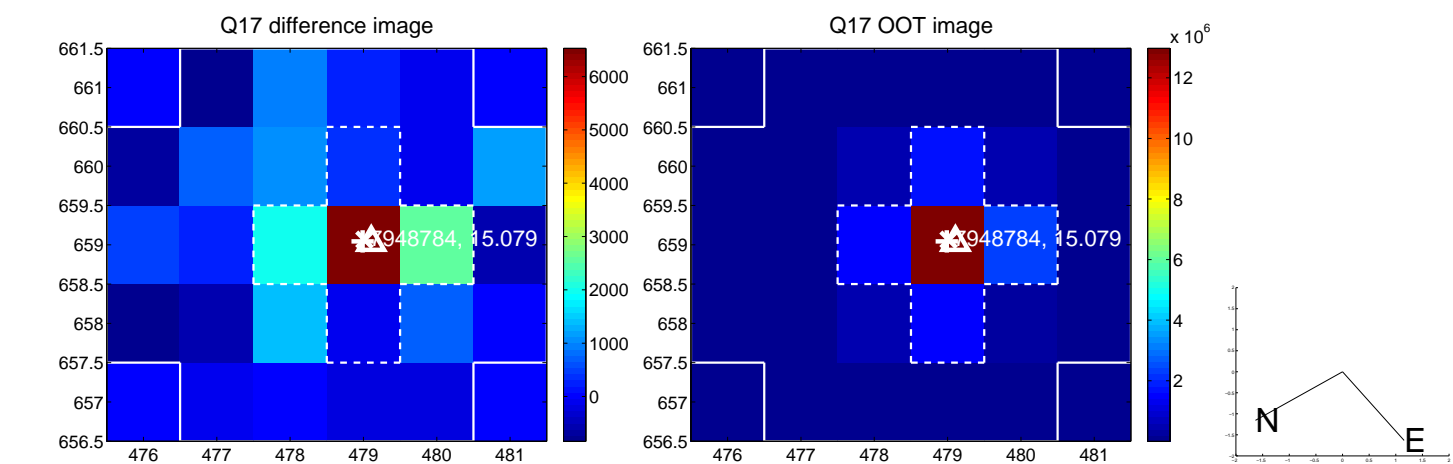
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



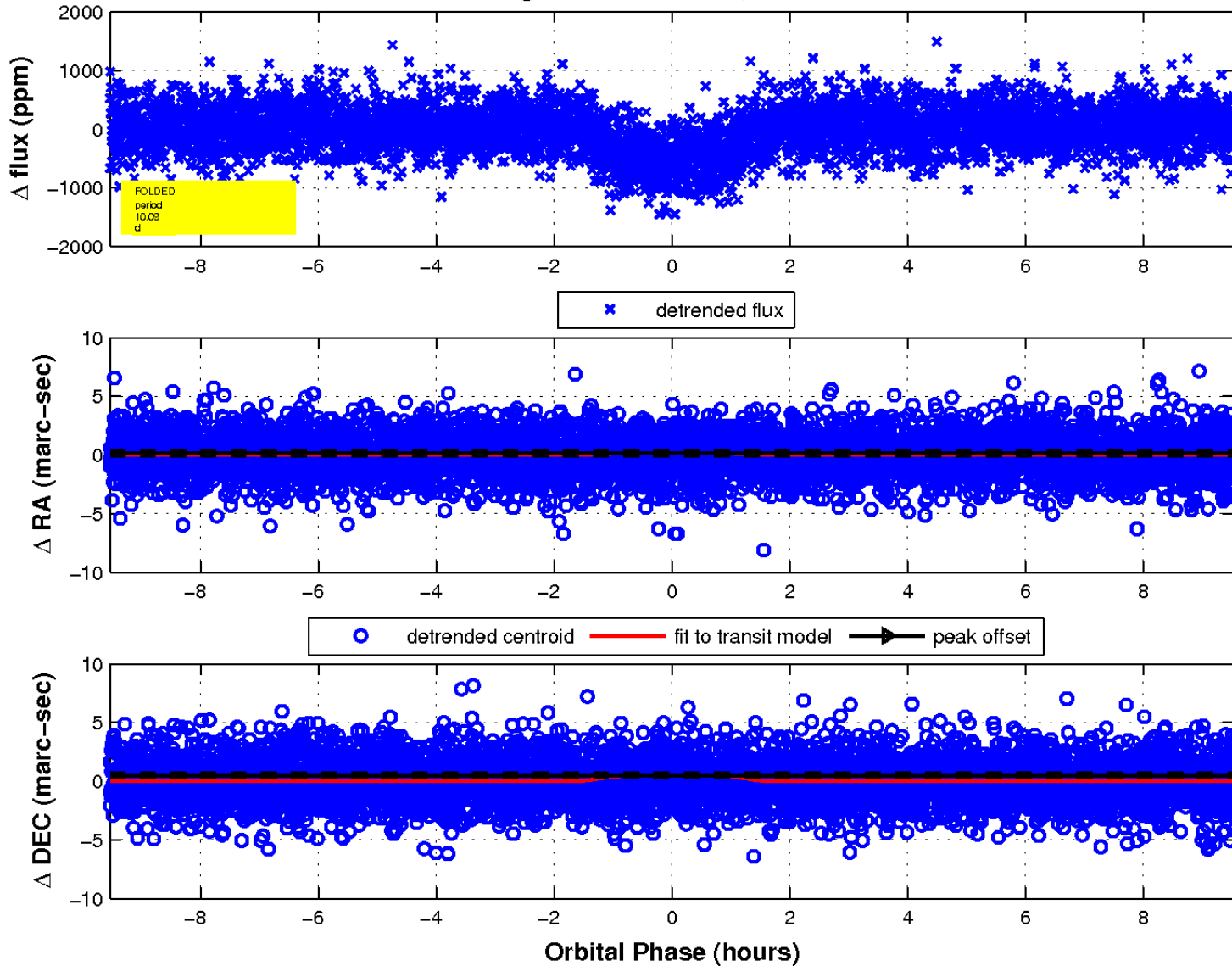
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

