

KIC 007671950

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007671950-01 | OBS | 7846.01 | 10.599209 | 134.854499 | 115.5 | 9.747 | 8.2 | 9.0 | 1.07 | 6194 | 1.30 | 152.90 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--------------|
| 007671950-01 | OBS | PC | 0.94 | 0 | 0 | 0 | 0 | CENT_KIC_POS |

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

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

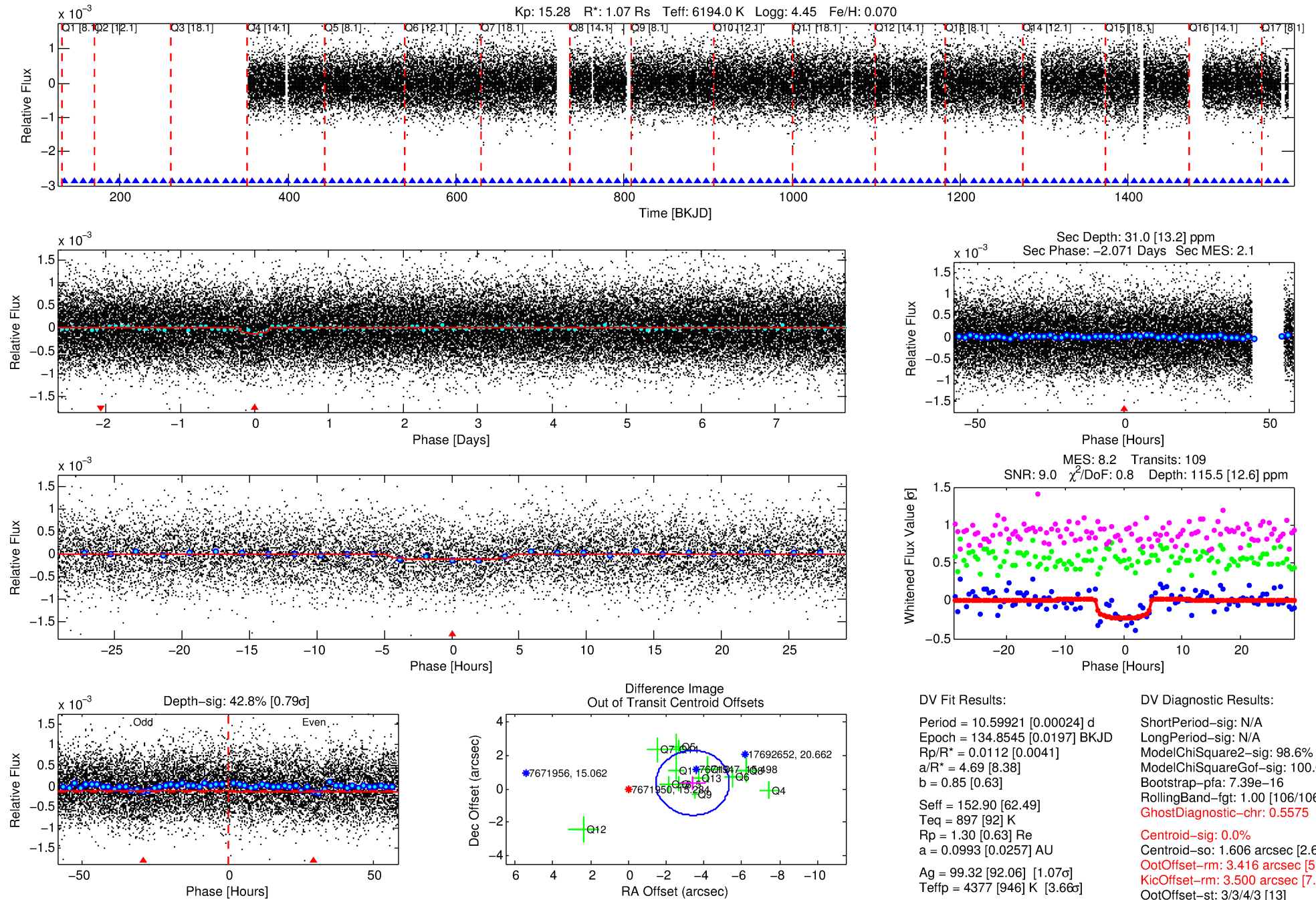
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007671950-01

No Significant Match Found

DV One-Page Summary

KIC: 7671950 Candidate: 1 of 1 Period: 10.599 d



DV Fit Results:

Period = 10.59921 [0.00024] d
Epoch = 134.8545 [0.0197] BKJD
Rp/R* = 0.0112 [0.0041]
a/R* = 4.69 [8.38]
b = 0.85 [0.63]
Seff = 152.90 [62.49]
Teq = 897 [92] K
Rp = 1.30 [0.63] Re
a = 0.0993 [0.0257] AU
Ag = 99.32 [92.06] [1.07 σ]
Teffp = 4377 [946] K [3.66 σ]

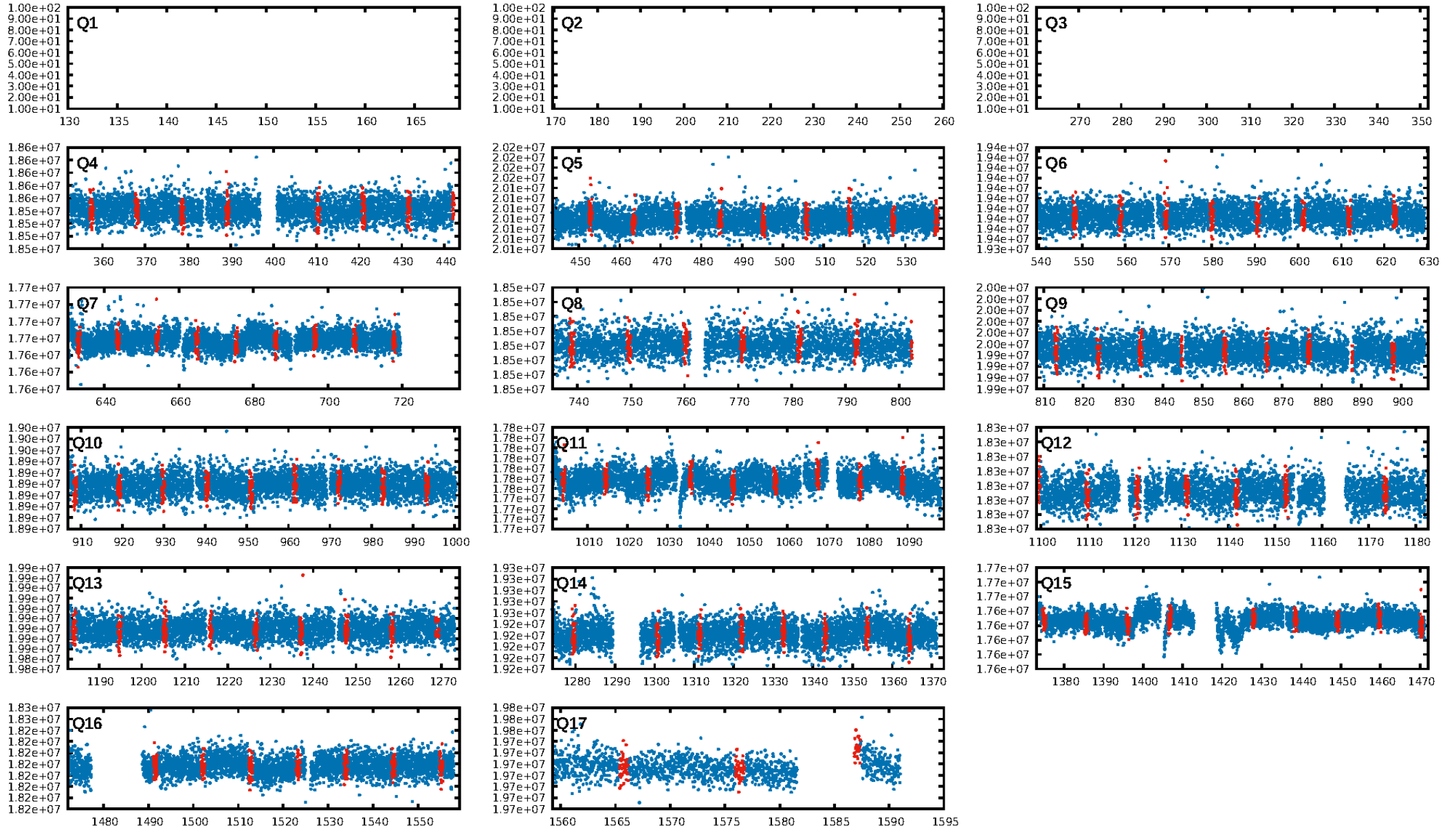
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.39e-16
RollingBand-fgt: 1.00 [106/106]
GhostDiagnostic-chr: 0.5575
Centroid-sig: 0.0%
Centroid-so: 1.606 arcsec [2.61 σ]
OotOffset-rm: 3.416 arcsec [5.29 σ]
KicOffset-rm: 3.500 arcsec [7.64 σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 1.00 [14/14]

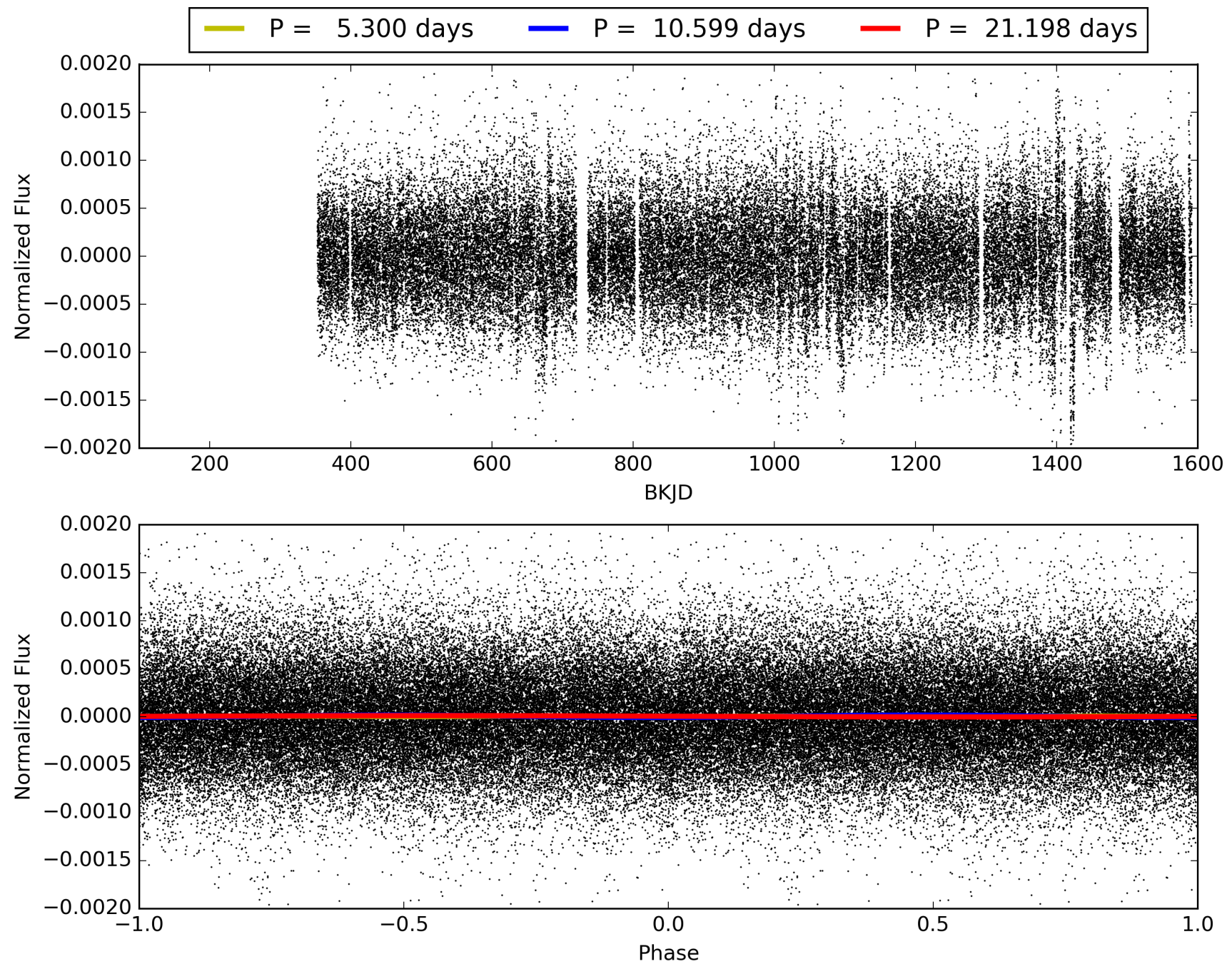
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:31:38 Z

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

TCE 007671950-01, PDC Light Curves

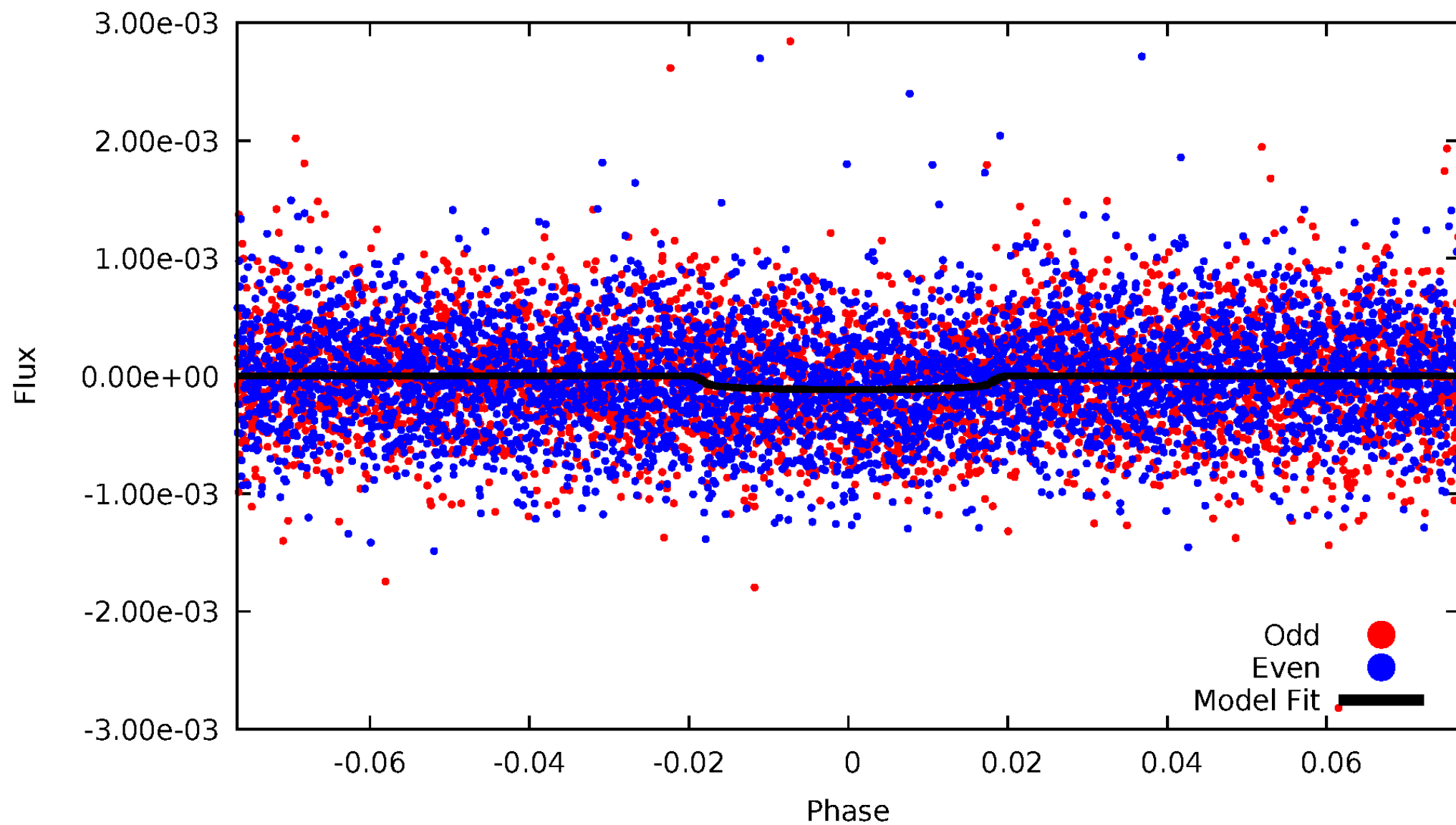


TCE 007671950-01



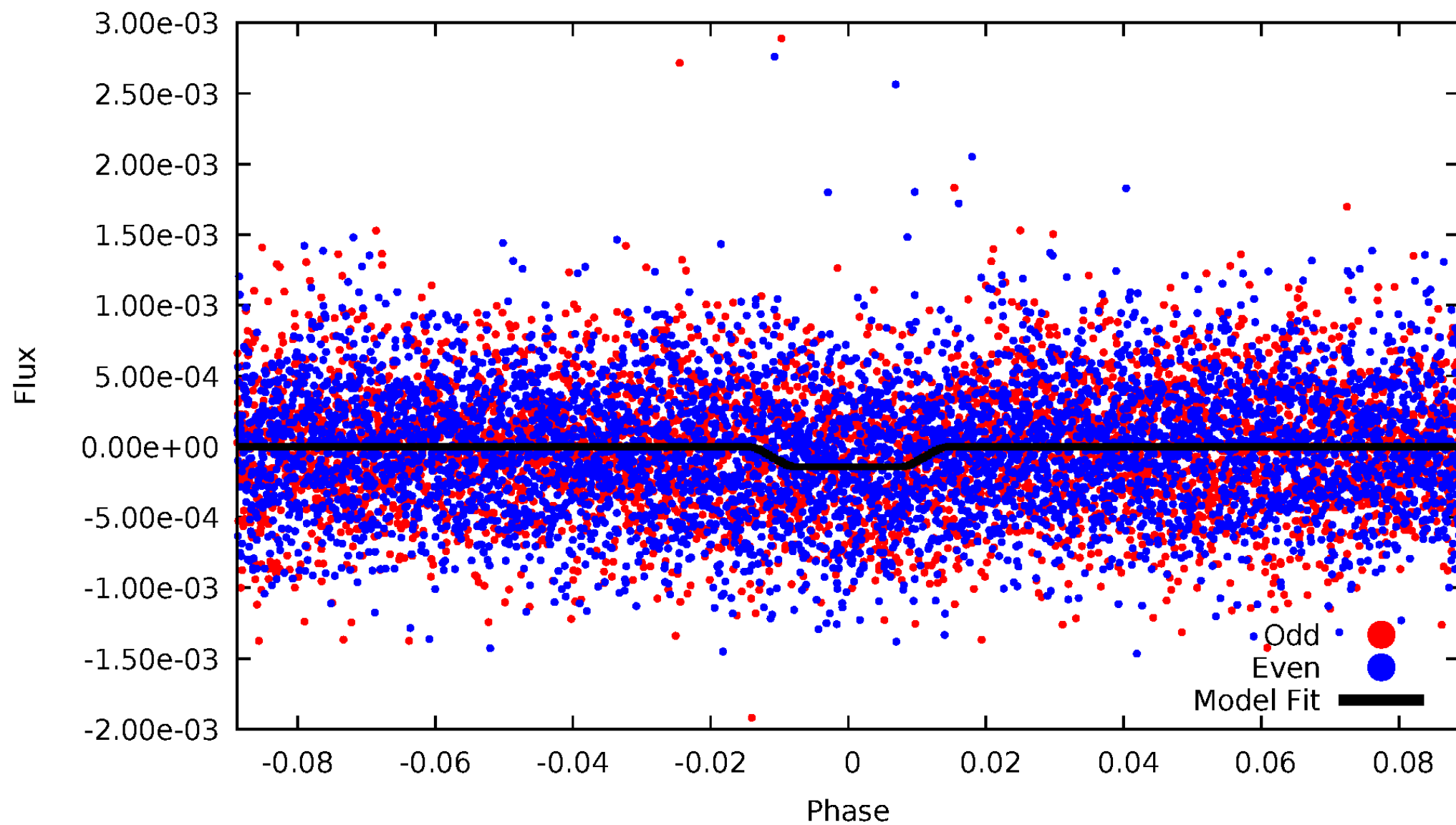
DV Odd/Even

TCE 007671950-01



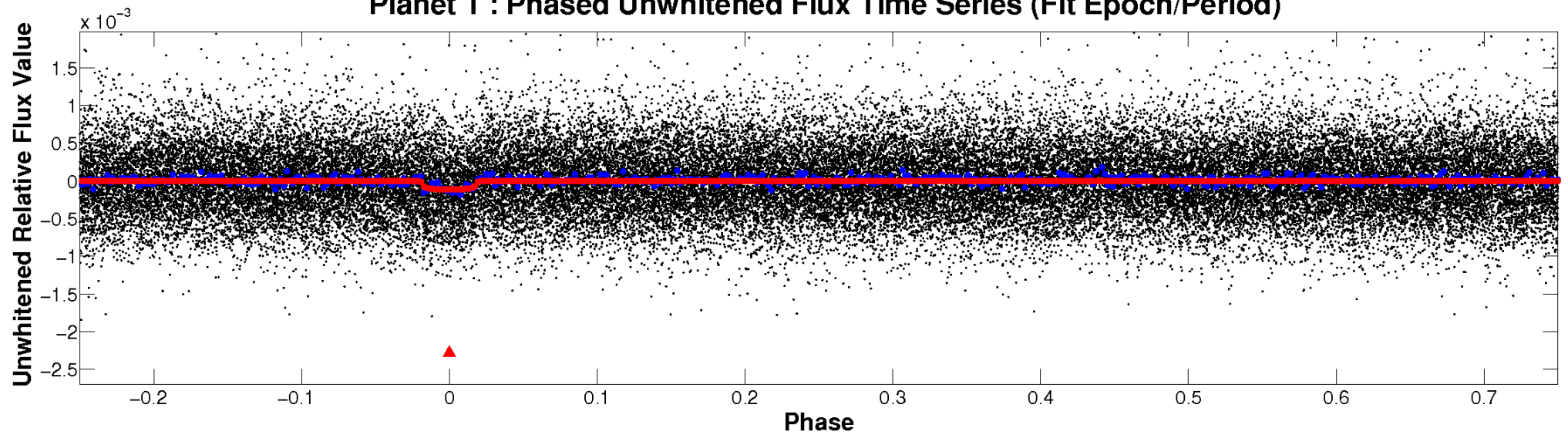
ALT Odd/Even

TCE 007671950-01

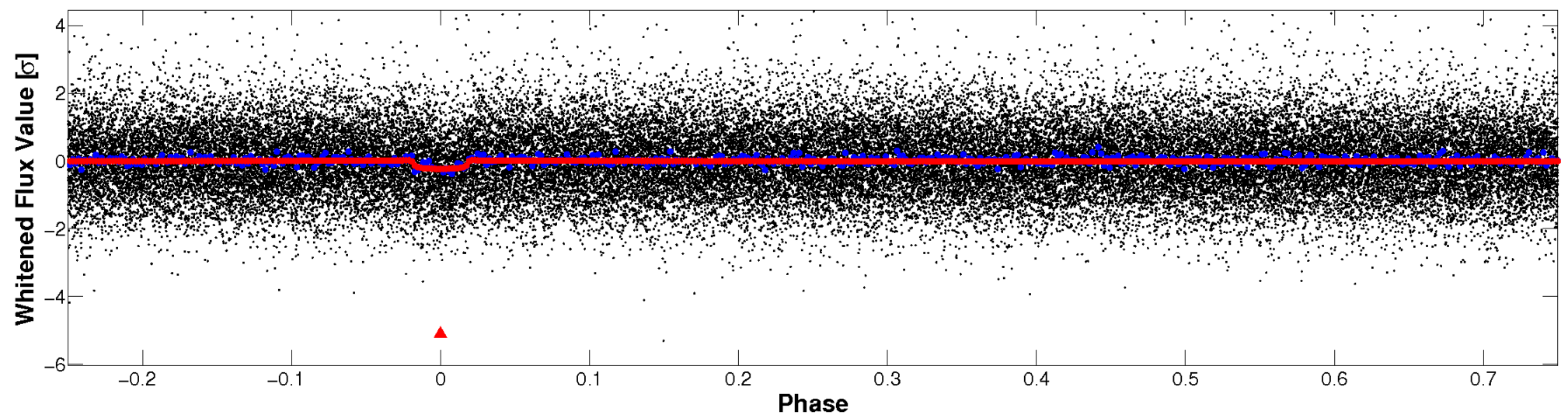


Non-Whitened Vs. Whitened Light Curve

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

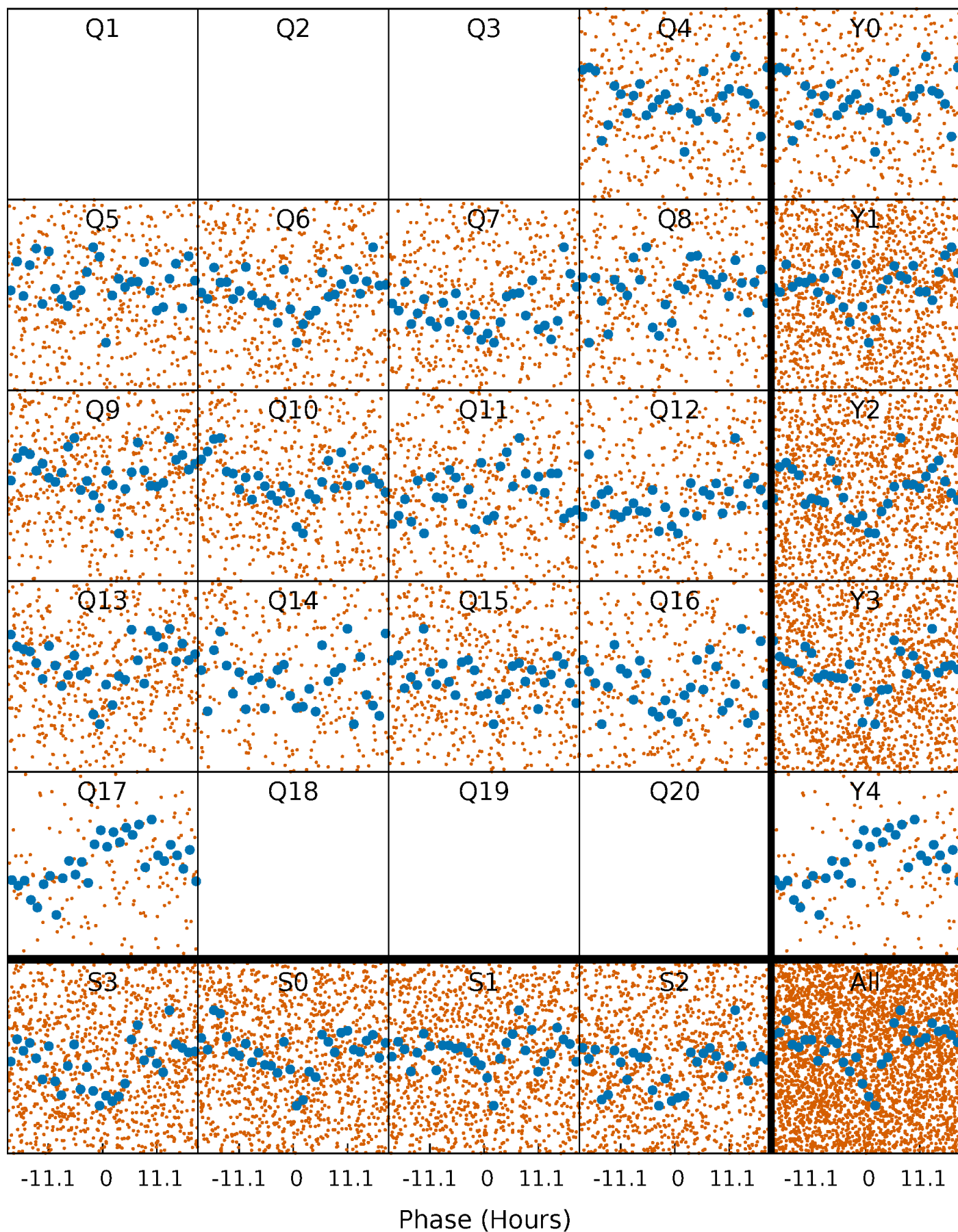


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



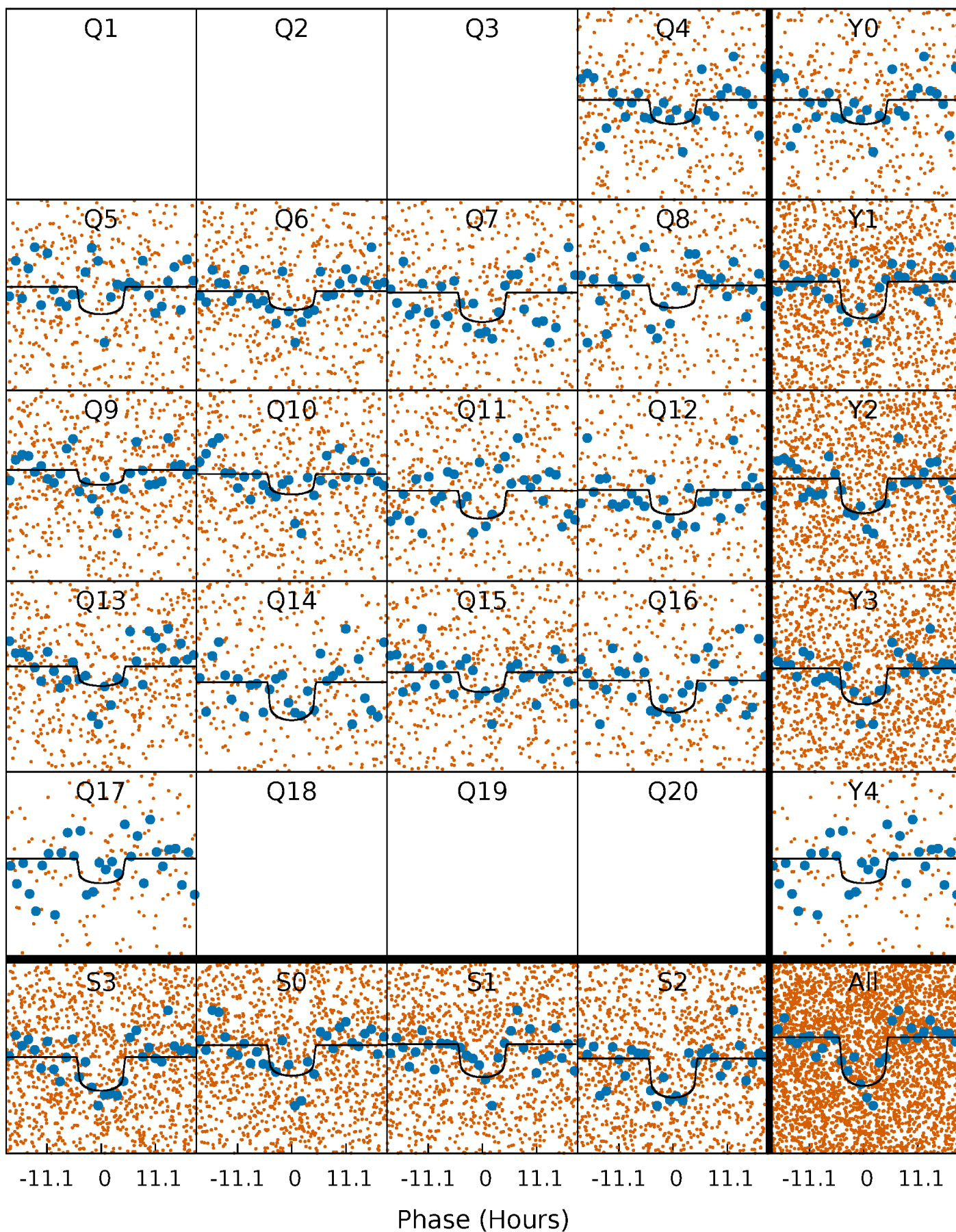
PDC Quarter-Phased Transit Curves

TCE 007671950-01 P= 10.599209 Days $T_0=134.854499$ (BKJD)



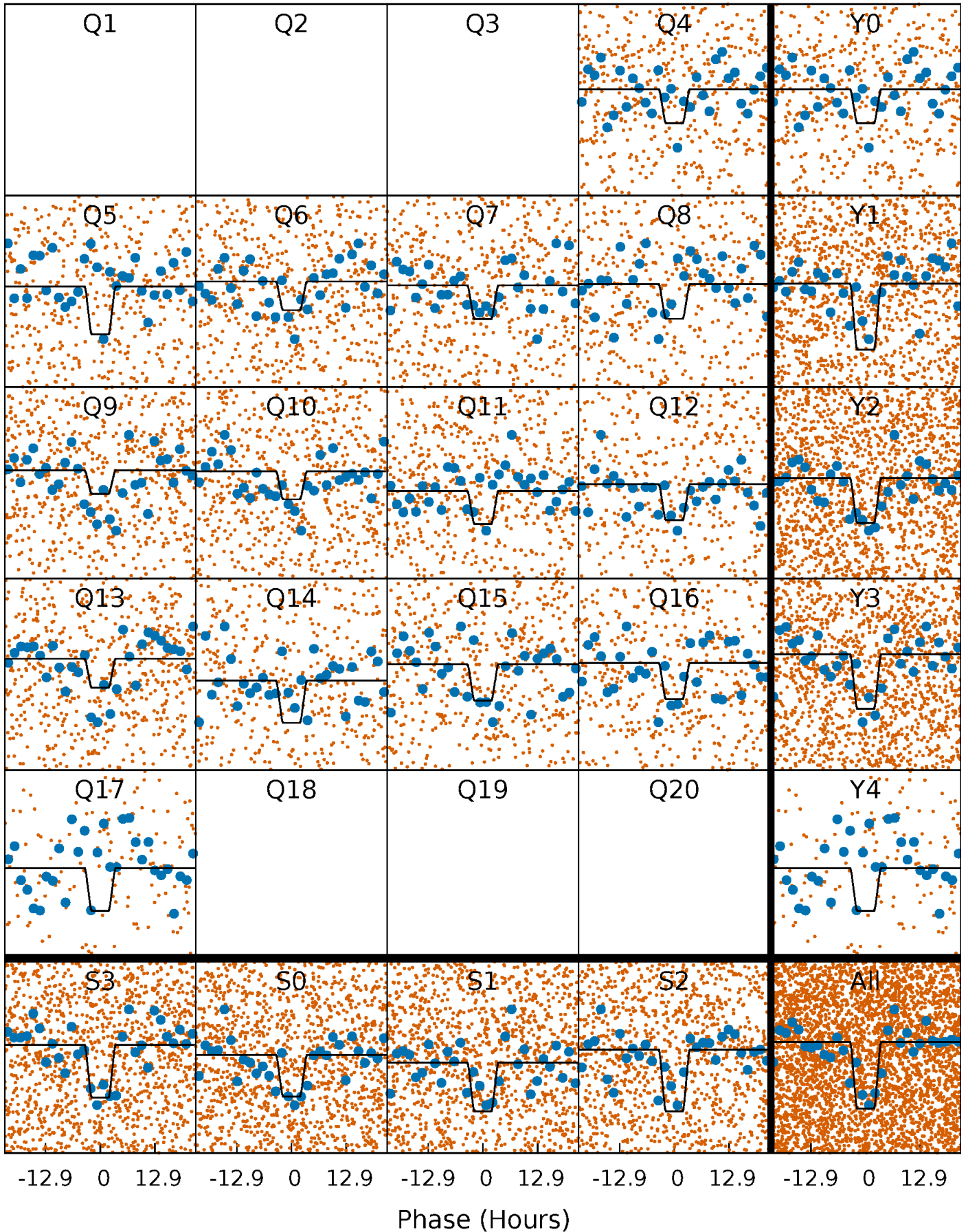
DV Quarter-Phased Transit Curves

TCE 007671950-01 P= 10.599209 Days $T_0=134.854499$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

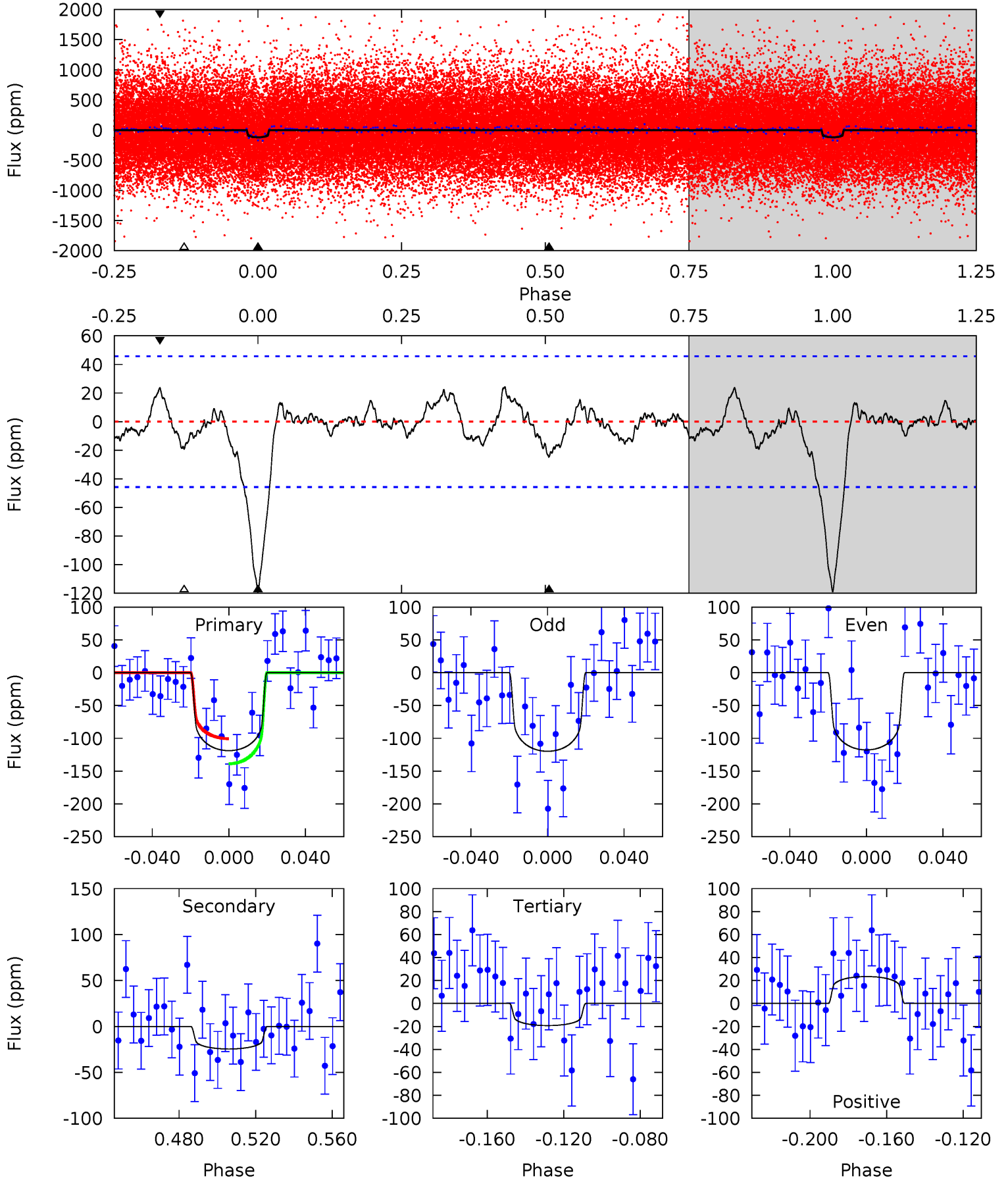
TCE 007671950-01 P= 10.598860 Days $T_0=134.894677$ (BKJD)



DV Model-Shift Uniqueness Test

007671950-01, $P = 10.599209$ Days, $E = 134.854499$ Days

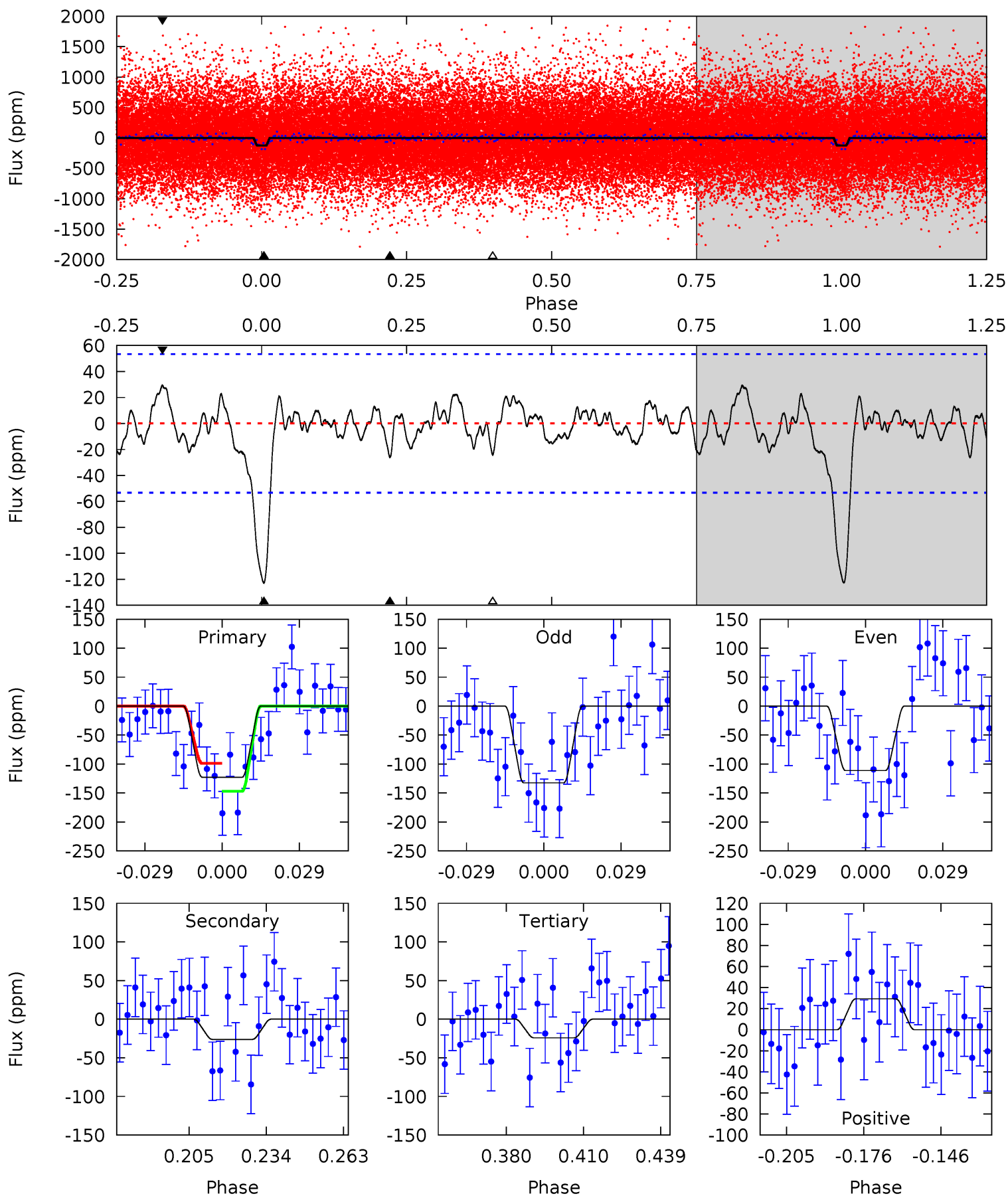
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.4 | 2.55 | 2.00 | 2.44 | 4.75 | 2.05 | 0.94 | 10.4 | 9.92 | 0.55 | 0.11 | 0.11 | 1.04 | 0.17 | 1.99 |



Alt Model-Shift Uniqueness Test

007671950-01, P = 10.598860 Days, E = 134.894677 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.1 | 2.36 | 2.18 | 2.65 | 4.82 | 2.18 | 1.02 | 8.90 | 8.43 | 0.17 | -0.29 | 0.95 | 0.97 | 0.19 | 2.17 |



Stellar Parameters For KIC 007671950

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 6194^{+193}_{-258} | $4.445^{+0.054}_{-0.202}$ | $0.070^{+0.250}_{-0.350}$ | $1.069^{+0.333}_{-0.119}$ | $1.161^{+0.149}_{-0.165}$ | $1.340^{+0.385}_{-0.719}$ |
| | +3%/-4% | +1%/-5% | +357%/-500% | +31%/-11% | +13%/-14% | +29%/-54% |
| Source | KIC0 | 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 007671950-01 / KOI 7846.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|--------------|------------------------|----------------------|----------------------|-------------------|
| DV | -25 ± 10 | $1.35^{+0.56}_{-0.45}$ | 1276^{+90}_{-62} | 4331^{+847}_{-634} | 70^{+99}_{-42} |
| Alt. | -26 ± 11 | $1.46^{+0.55}_{-0.56}$ | 1280^{+87}_{-70} | 4250^{+928}_{-585} | 62^{+109}_{-34} |

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

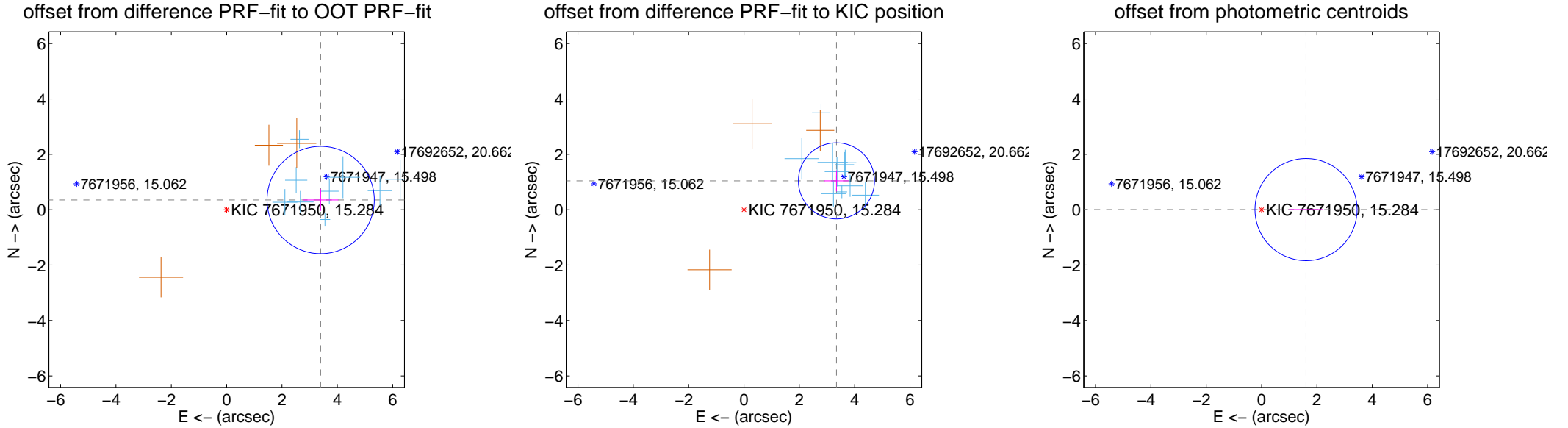
DV Centroid Data

Supplemental centroid analysis for 007671950-01. Kepler magnitude: 15.28. Transit SNR 9.05

There are 10 quarters with good PRF difference image offsets

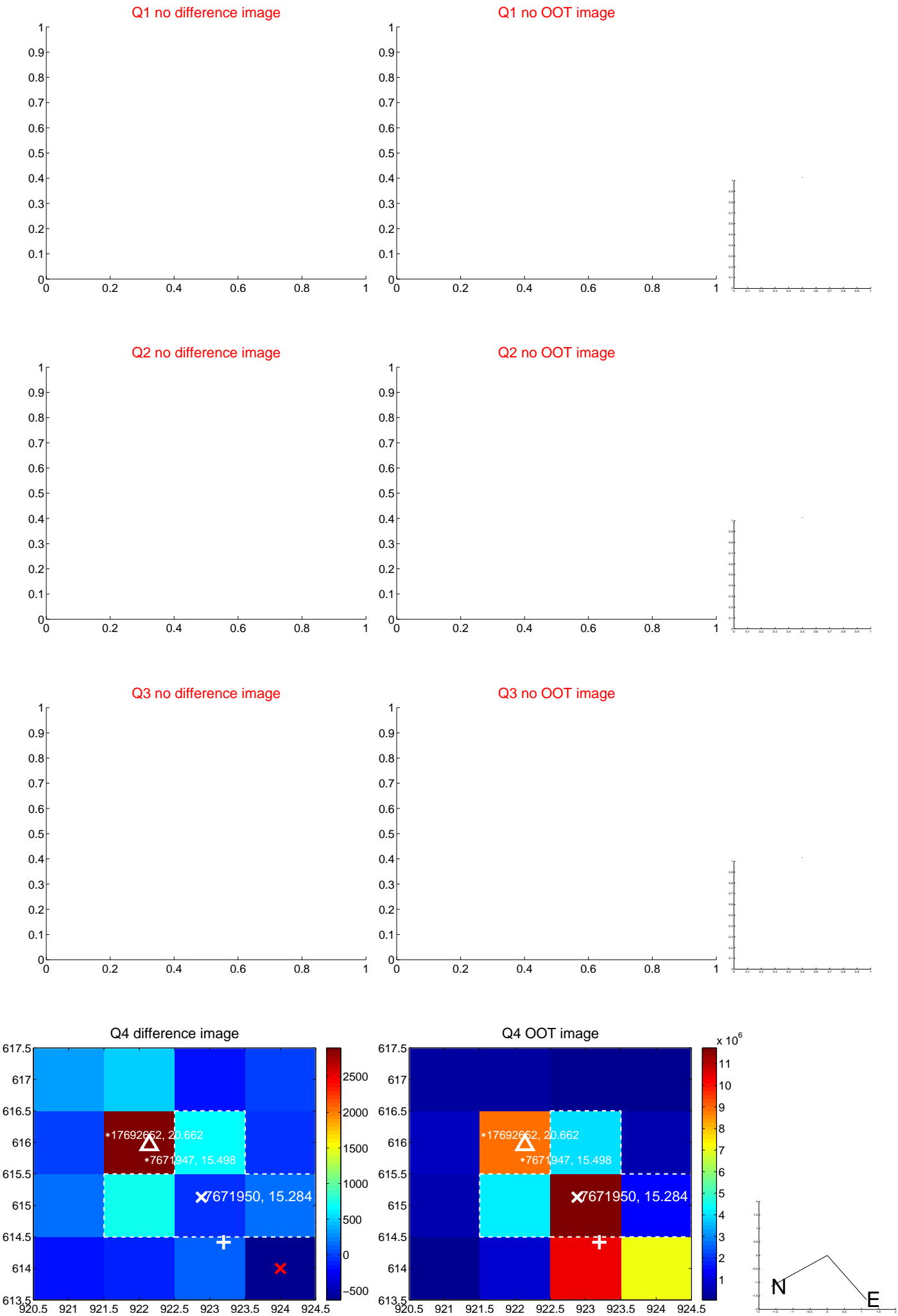
The direct PRF centroid is offset from the target star catalog position by about 1.17 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 3.416 ± 0.646 | 5.29 | -3.398 ± 0.638 | 0.350 ± 0.391 |
| PRF-fit source offset from KIC position | 3.500 ± 0.458 | 7.64 | -3.341 ± 0.436 | 1.041 ± 0.380 |
| photometric centroid source offset | 1.61 ± 0.61 | 2.61 | -1.61 ± 0.61 | 0.00 ± 0.49 |

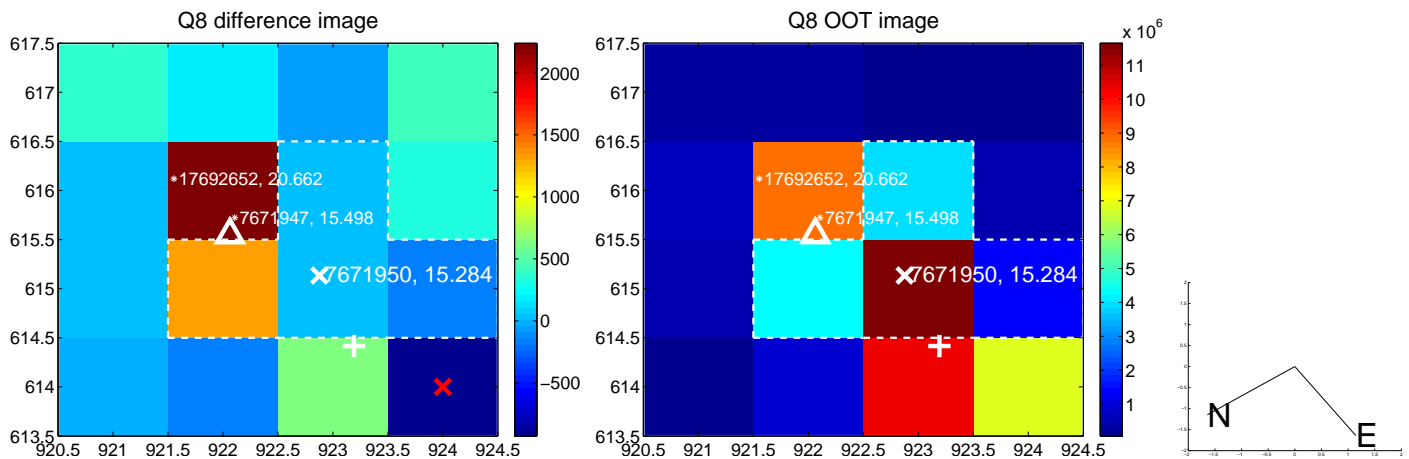
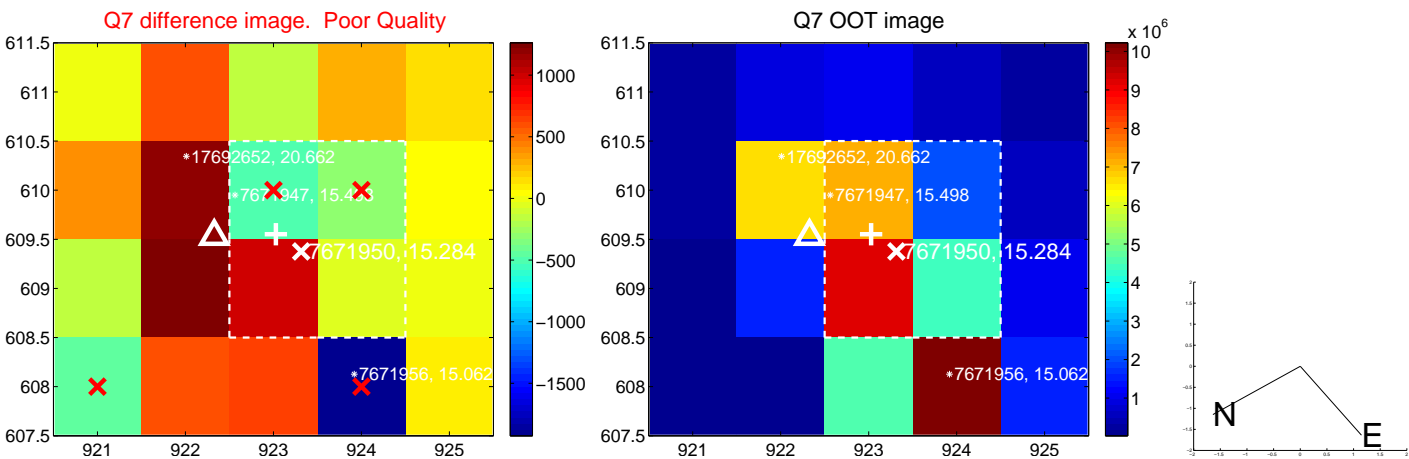
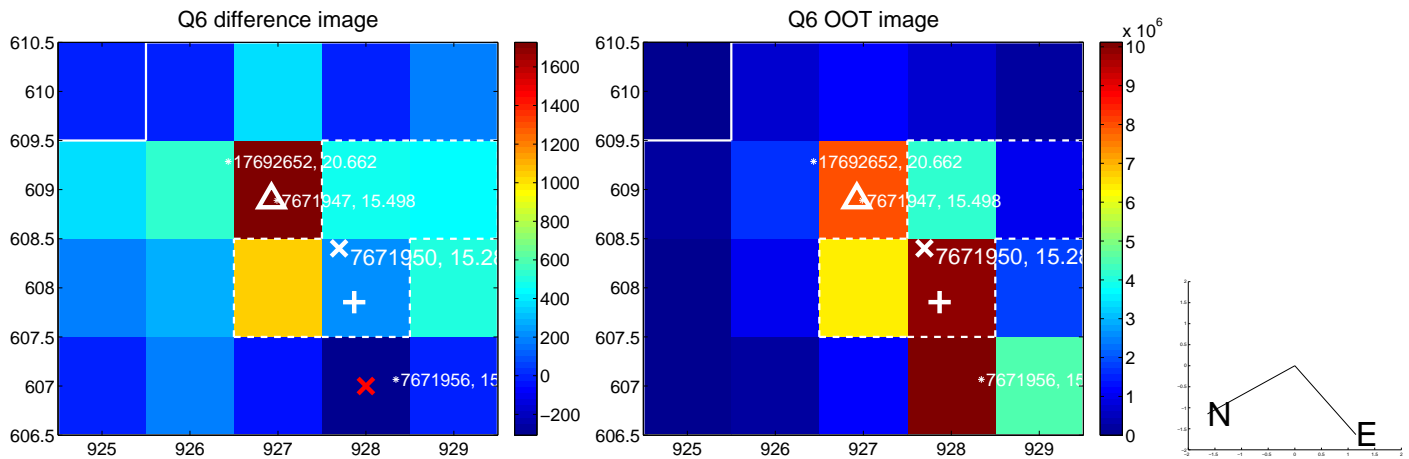
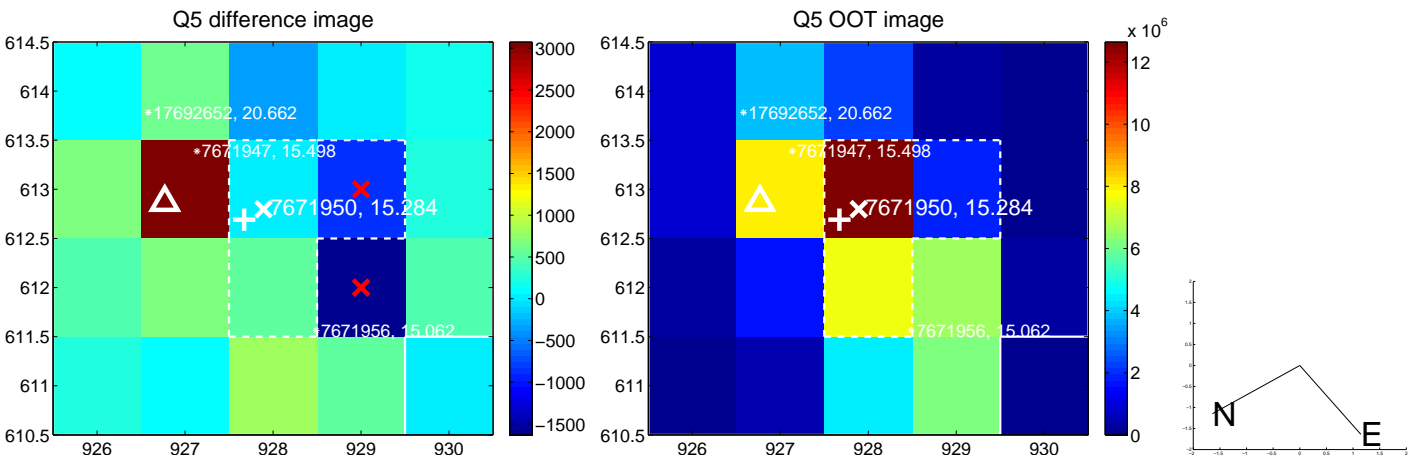


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

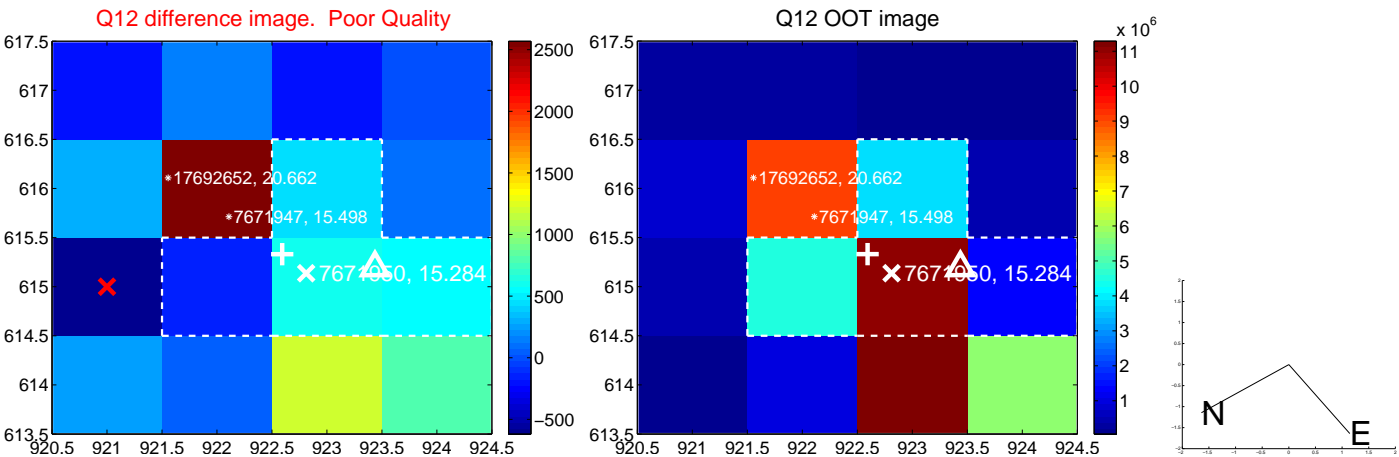
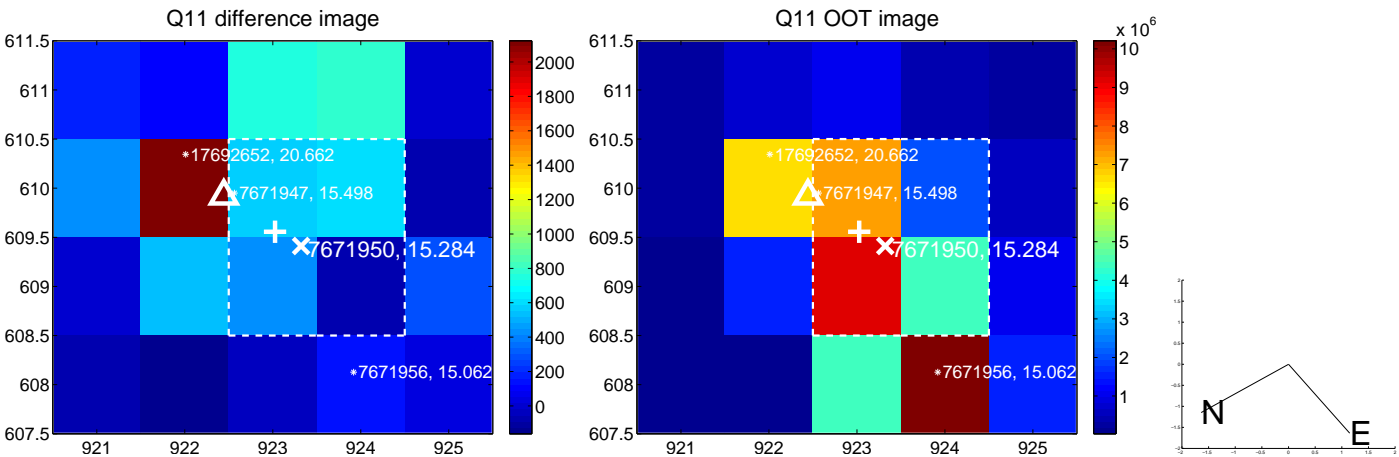
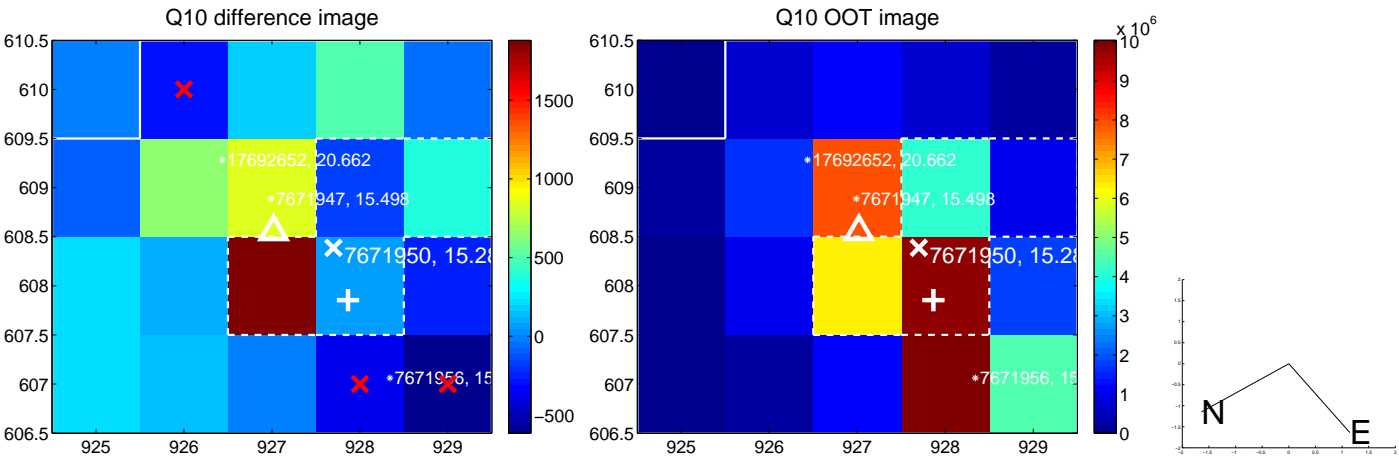
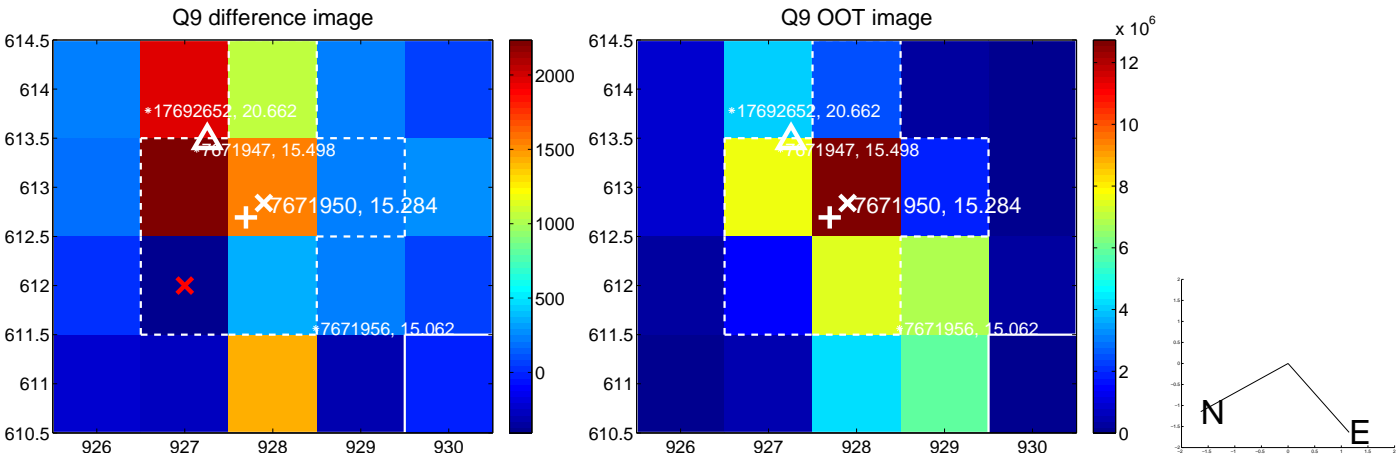
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



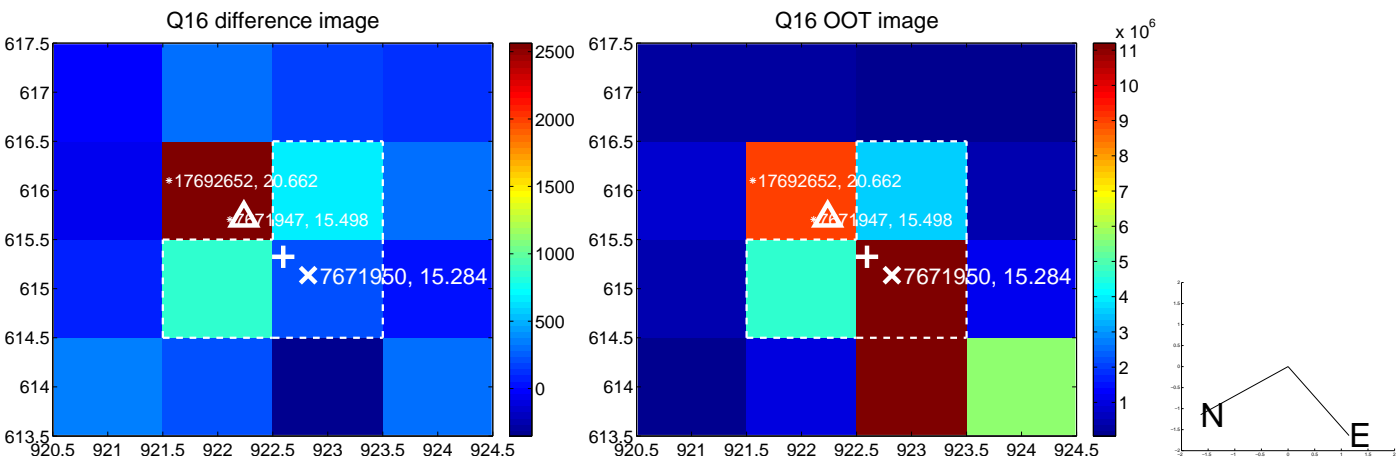
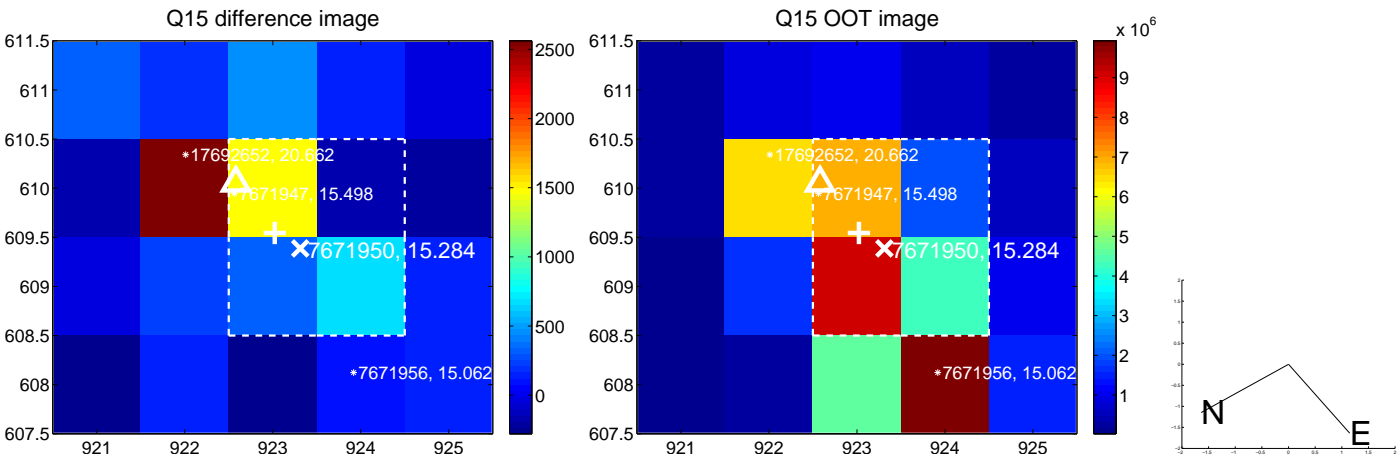
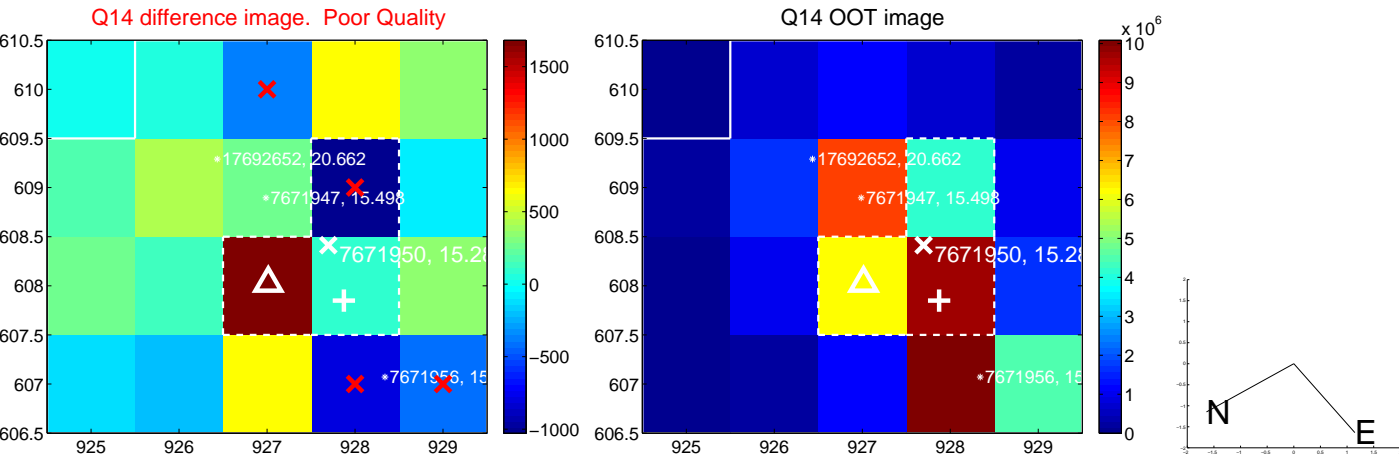
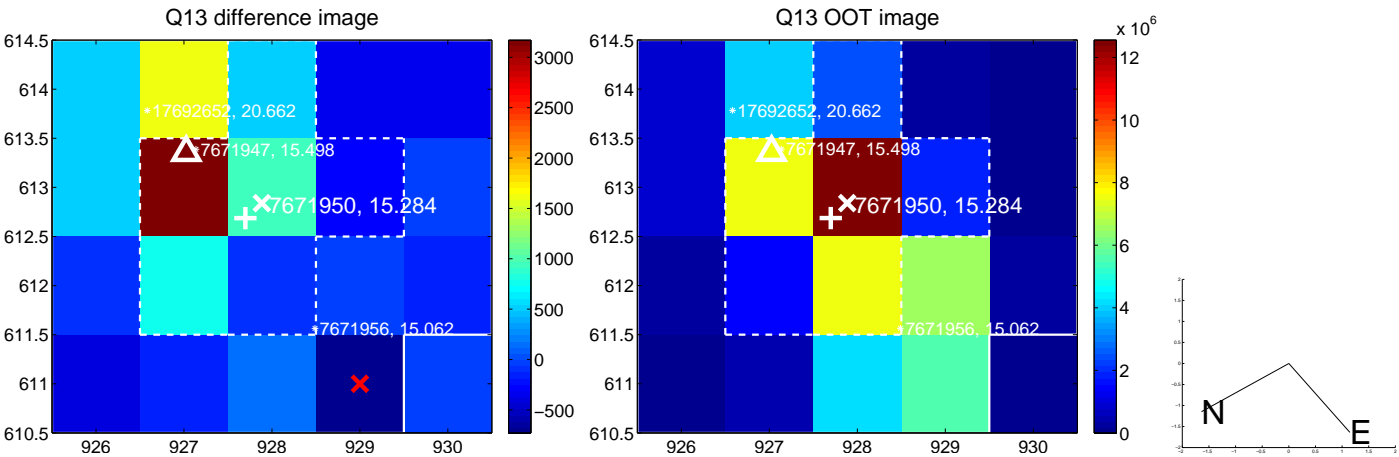
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



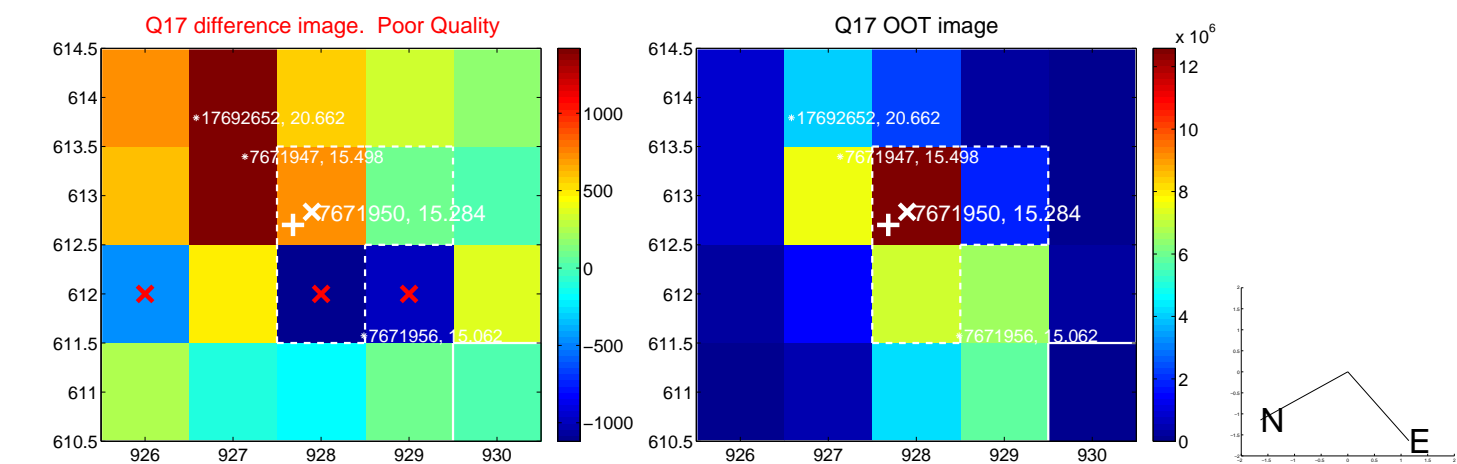
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



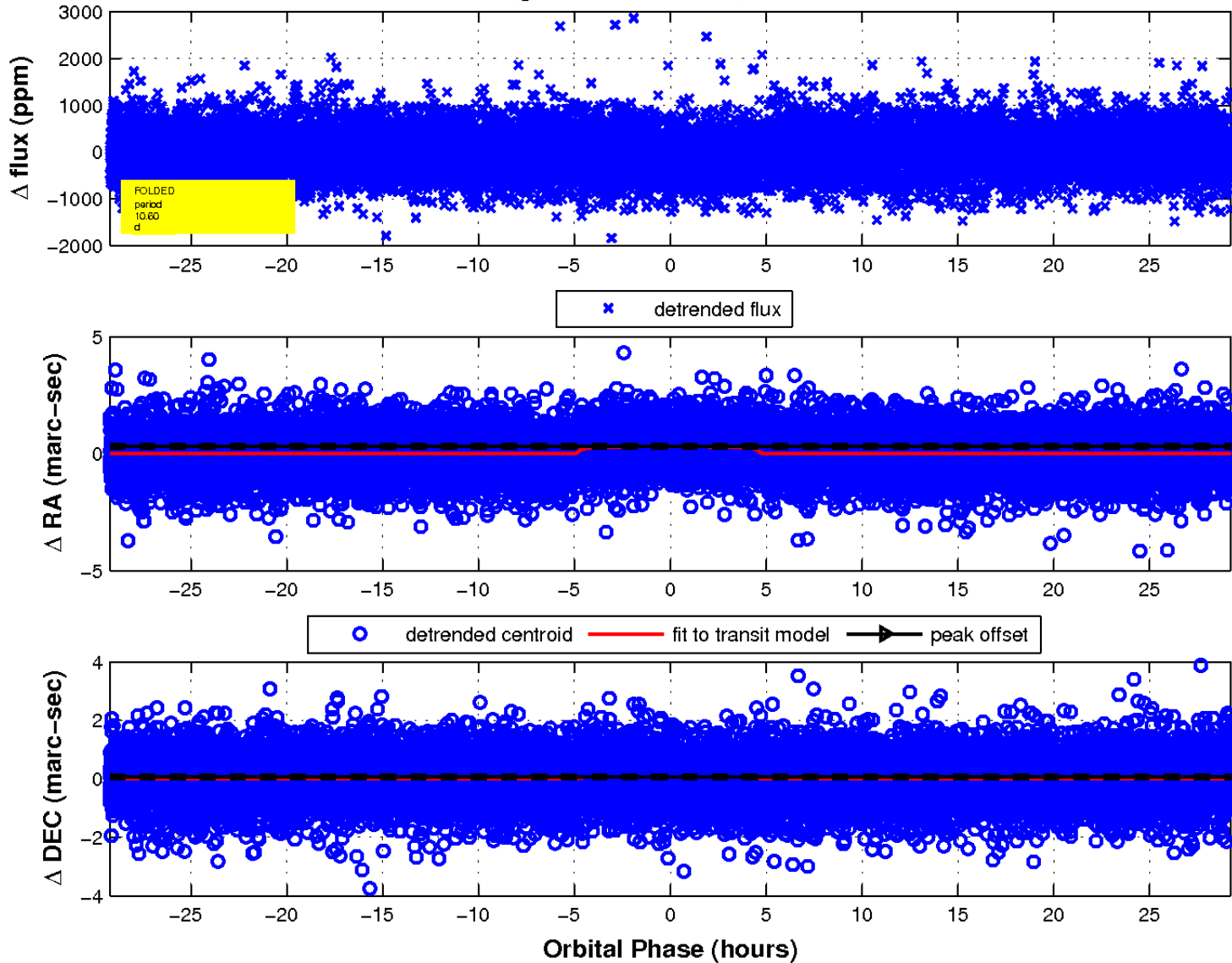
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

