

KIC 003663494

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 003663494-01 | OBS | 6352.01 | 5.116964 | 133.895591 | 146.5 | 3.771 | 8.2 | 8.5 | 0.91 | 5955 | 1.25 | 276.12 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--------------|
| 003663494-01 | OBS | PC | 0.88 | 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.

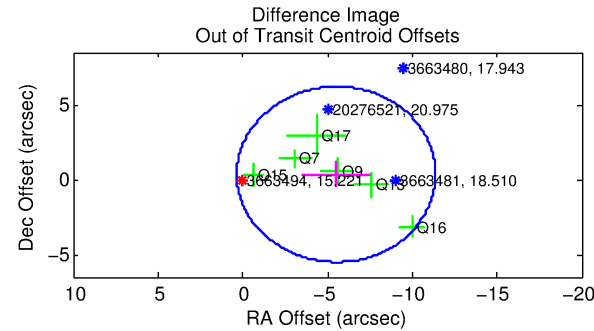
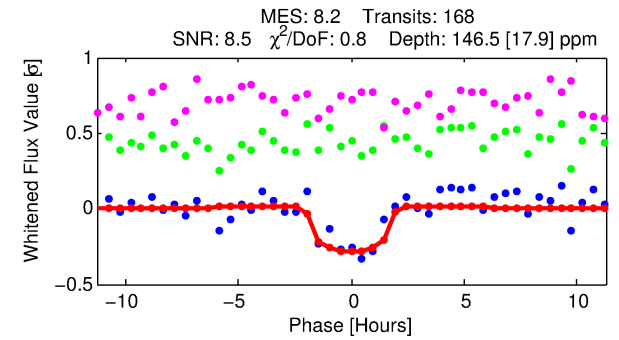
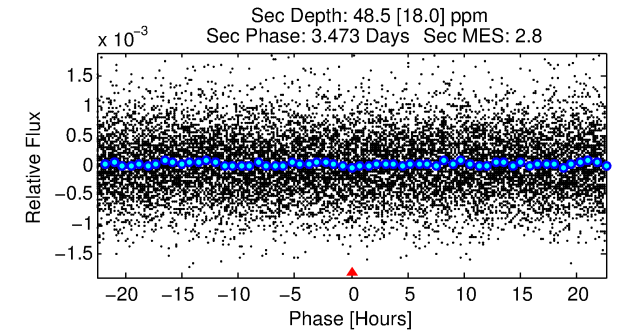
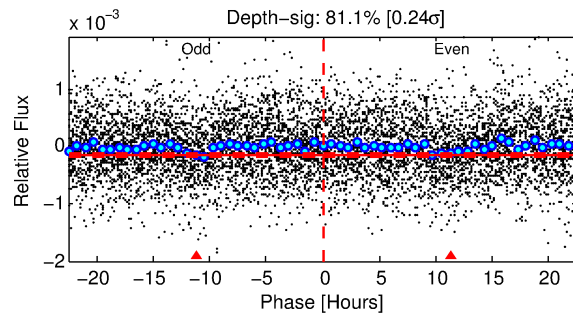
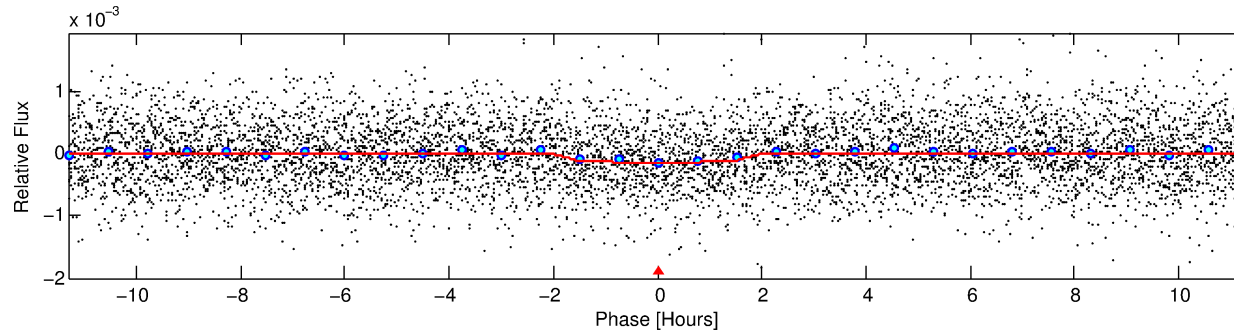
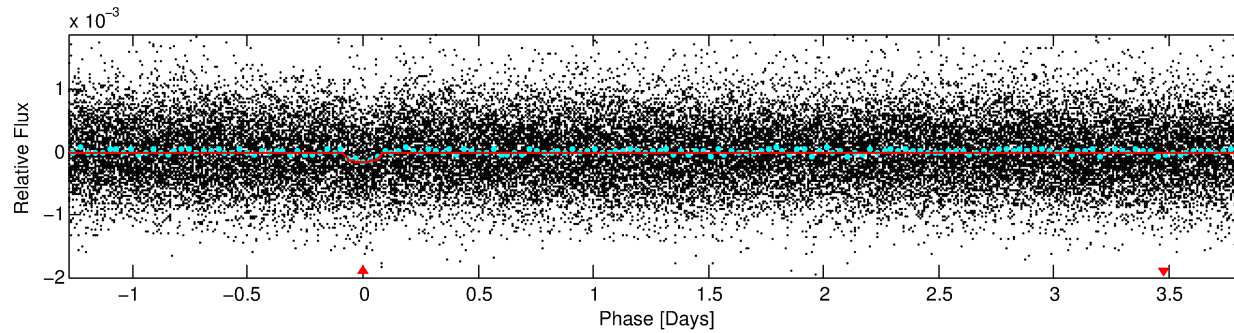
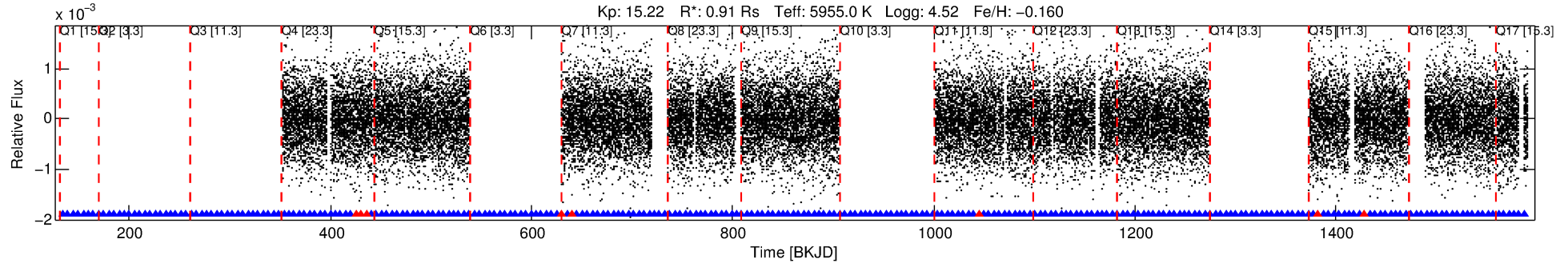
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003663494-01

No Significant Match Found

DV One-Page Summary

KIC: 3663494 Candidate: 1 of 1 Period: 5.117 d
KOI: K06352.01 Corr: 0.905



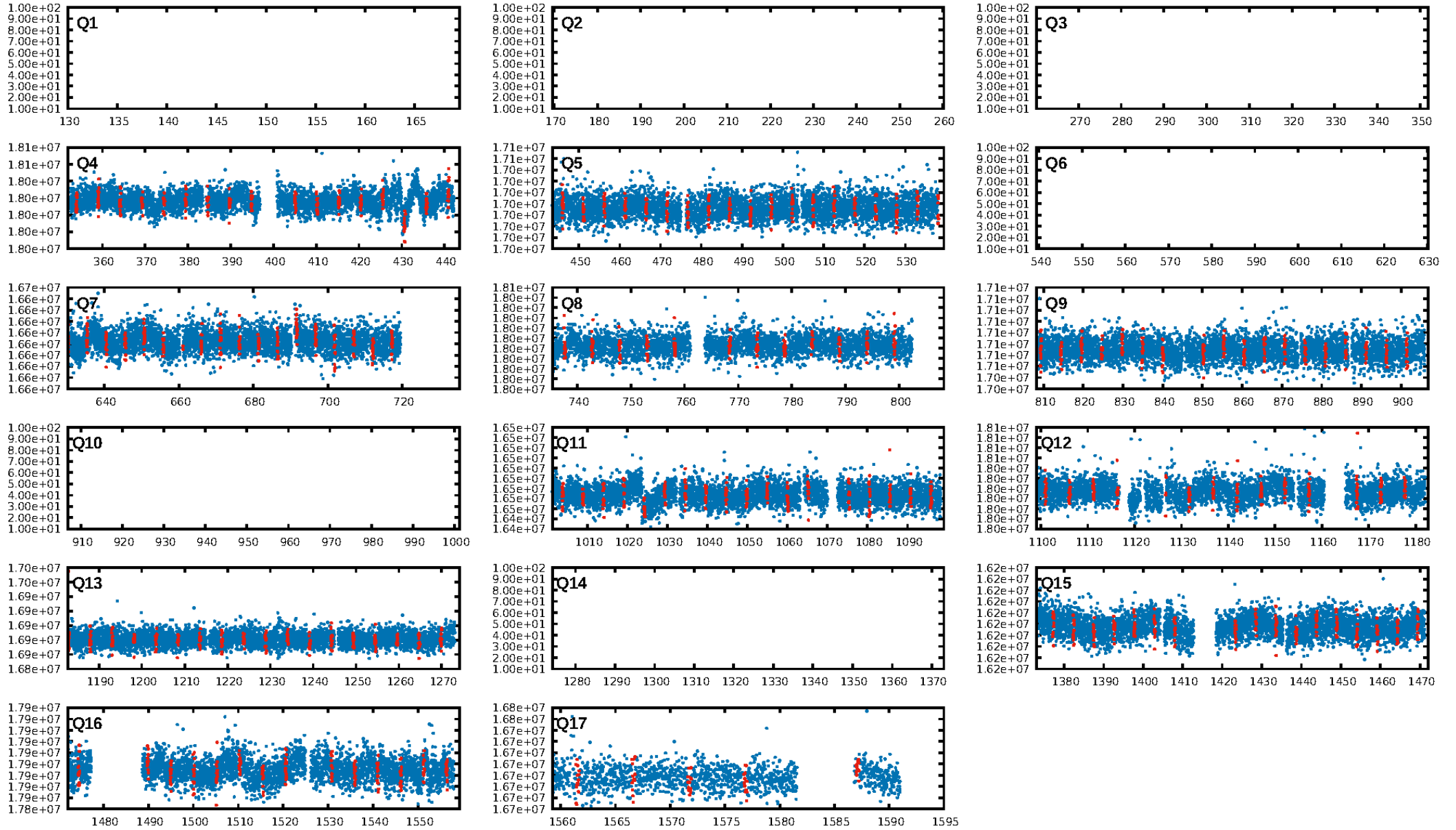
DV Fit Results:

Period = 5.11696 [0.00005] d
Epoch = 133.8956 [0.0077] BKJD
Rp/R* = 0.0126 [0.0111]
a/R* = 5.86 [25.03]
b = 0.84 [1.52]
Seff = 276.12 [113.01]
Teq = 1039 [106] K
Rp = 1.25 [1.17] Re
a = 0.0581 [0.0152] AU
Ag = 57.78 [106.94] [0.53 σ]
Teff = 4431 [2011] K [1.68 σ]

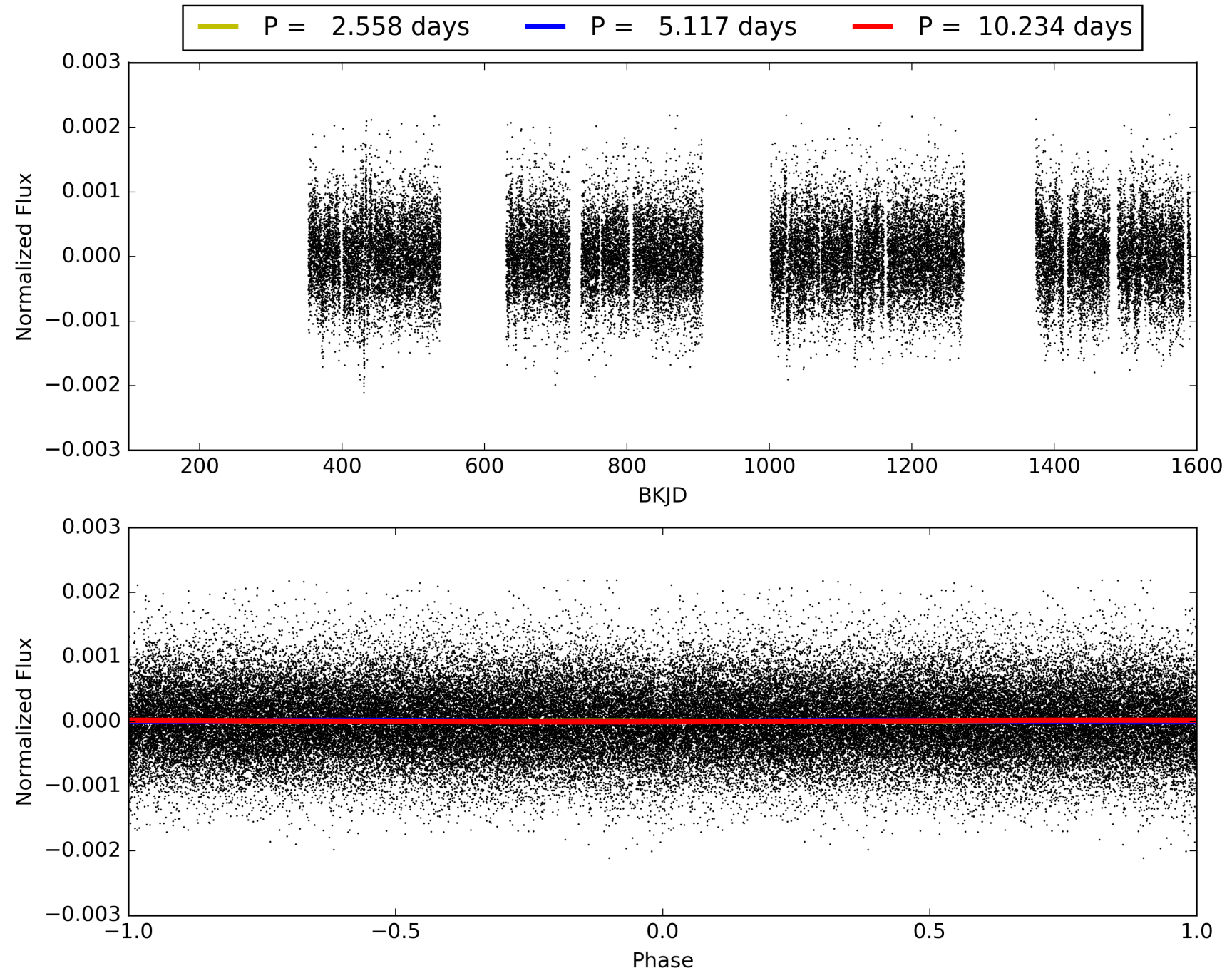
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.82e-16
RollingBand-fgt: 0.95 [155/163]
GhostDiagnostic-chr: -14.78
Centroid-sig: 0.0%
Centroid-so: 2.515 arcsec [2.16 σ]
OotOffset-rm: 5.523 arcsec [2.83 σ]
KicOffset-rm: 0.581 arcsec [0.85 σ]
OotOffset-st: 0/2/1/3 [6]
KicOffset-st: 0/2/1/3 [6]
DiffImageQuality-fgm: 0.33 [2/6]
DiffImageOverlap-fno: 1.00 [11/11]

TCE 003663494-01, PDC Light Curves

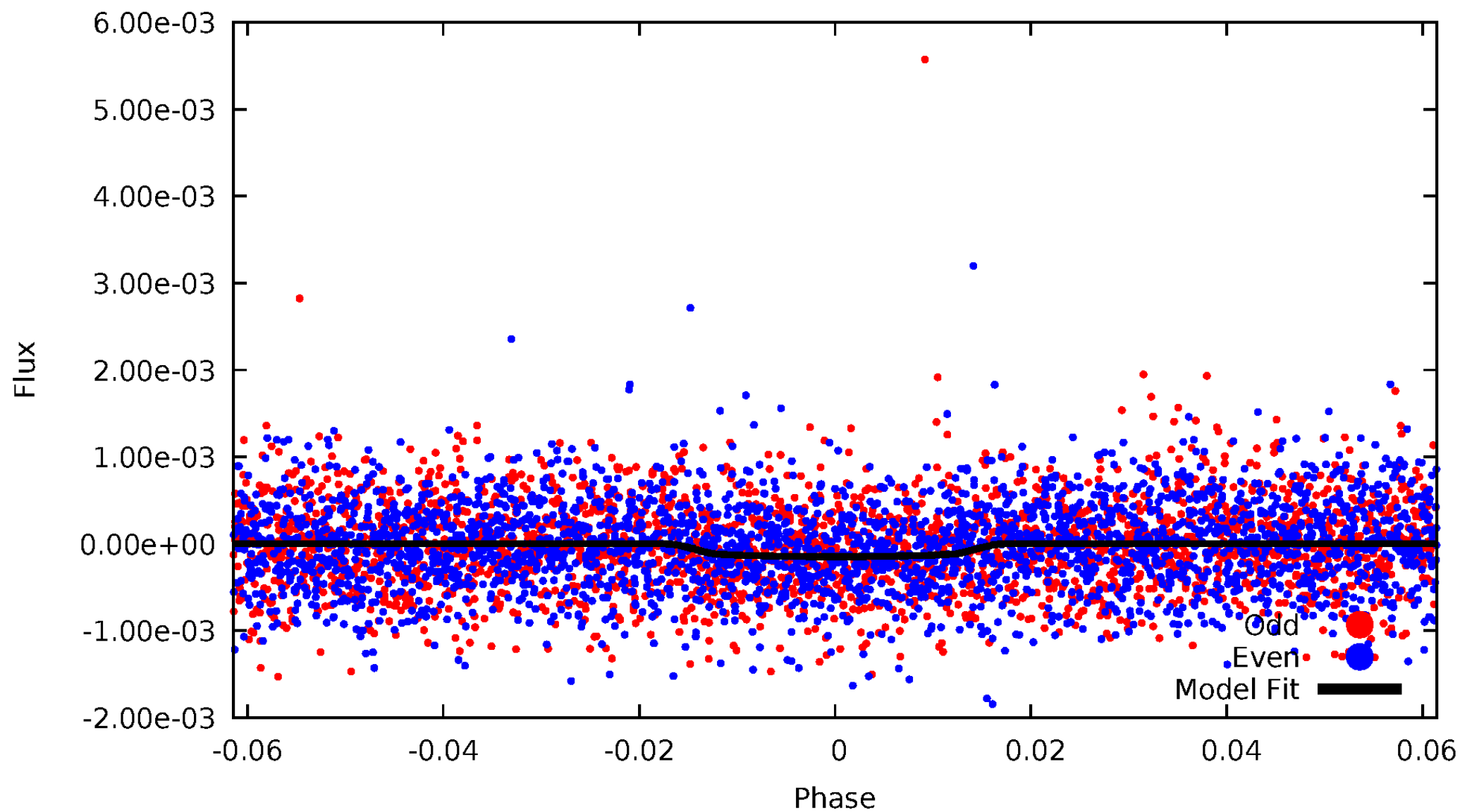


TCE 003663494-01



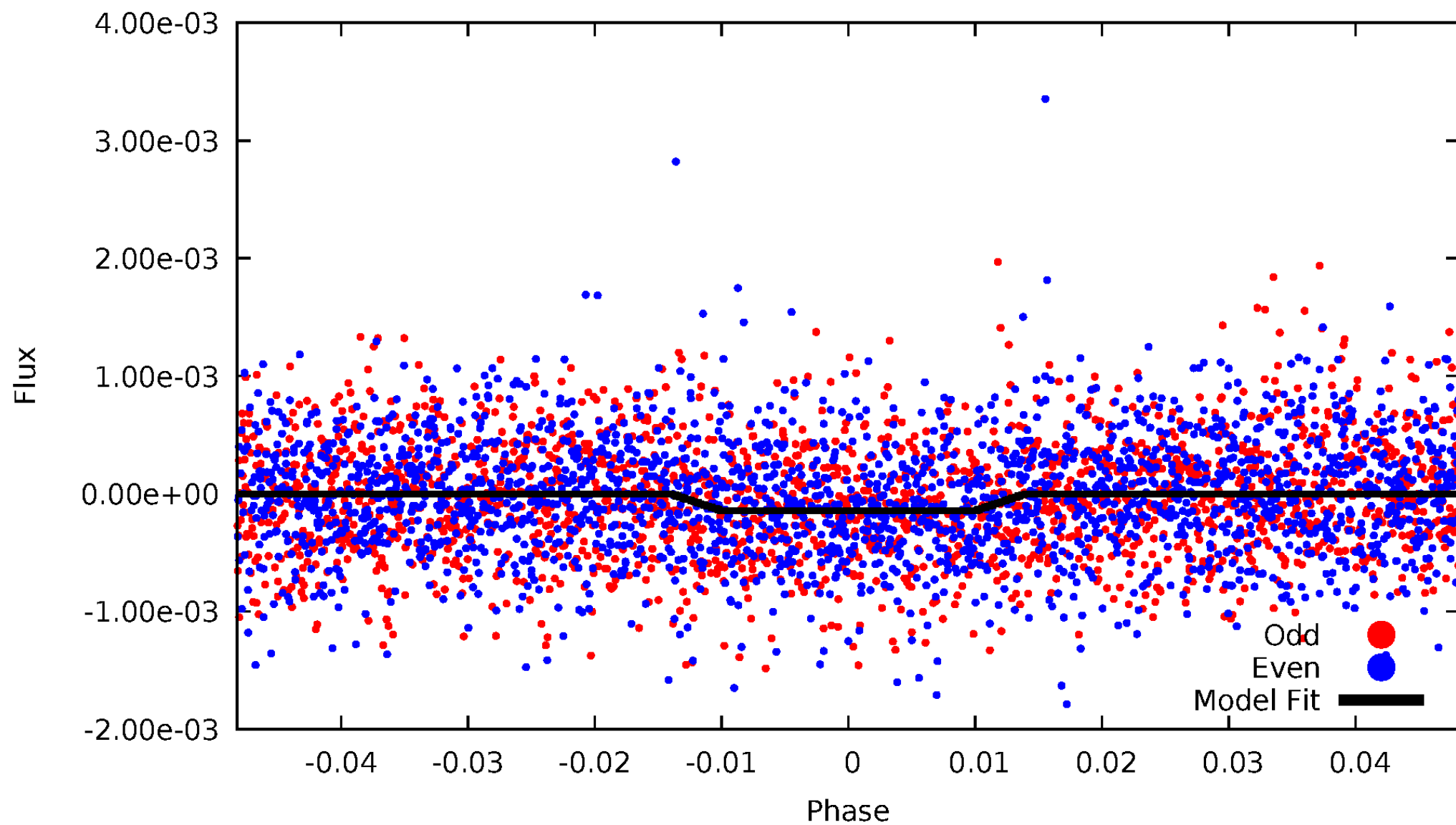
DV Odd/Even

TCE 003663494-01



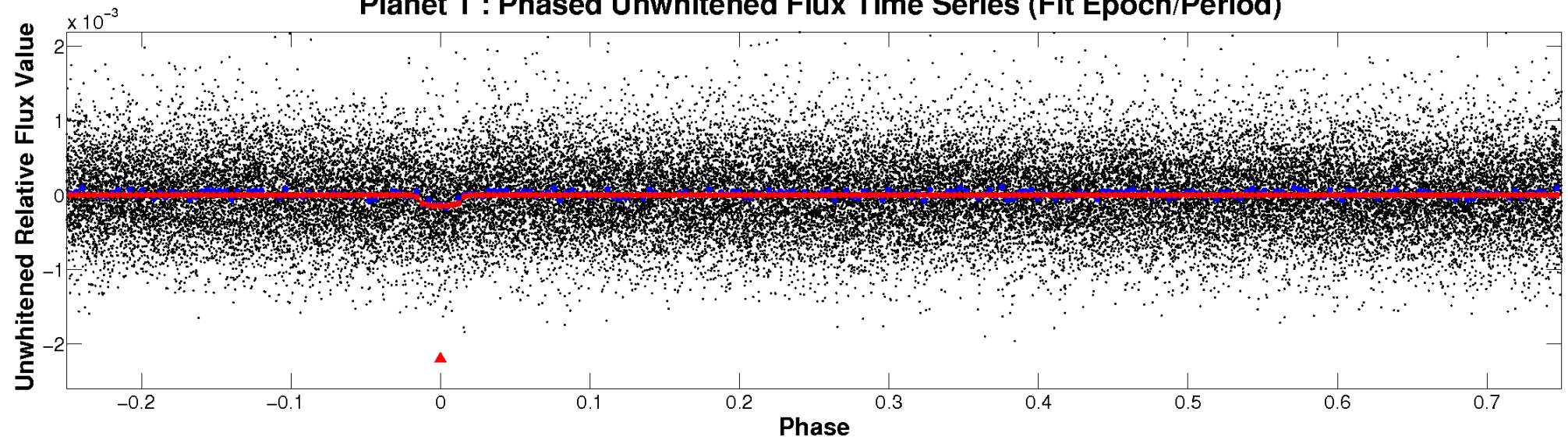
ALT Odd/Even

TCE 003663494-01

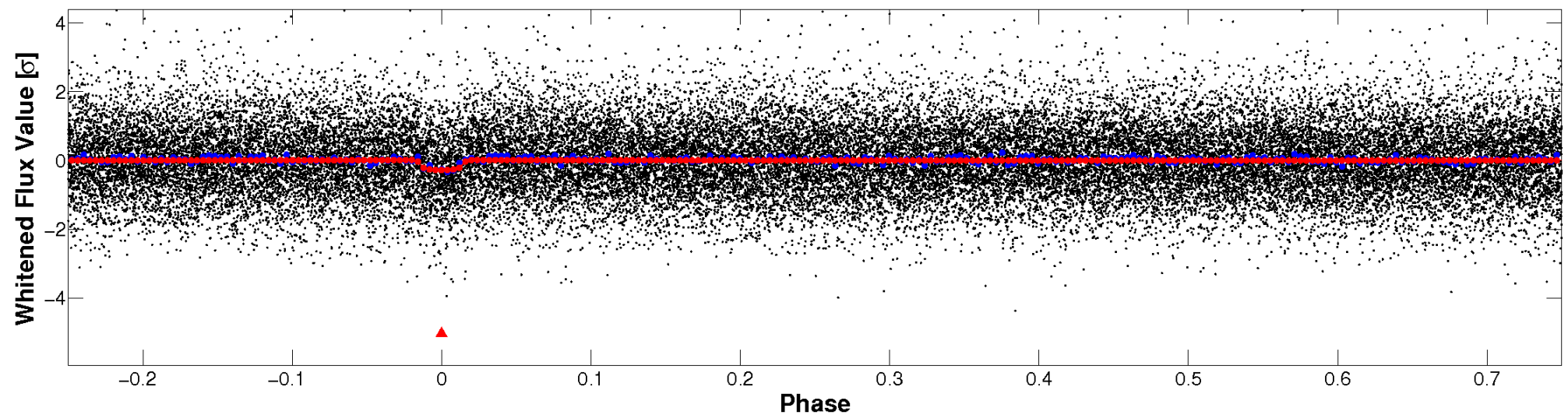


Non-Whitened Vs. Whitened Light Curve

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

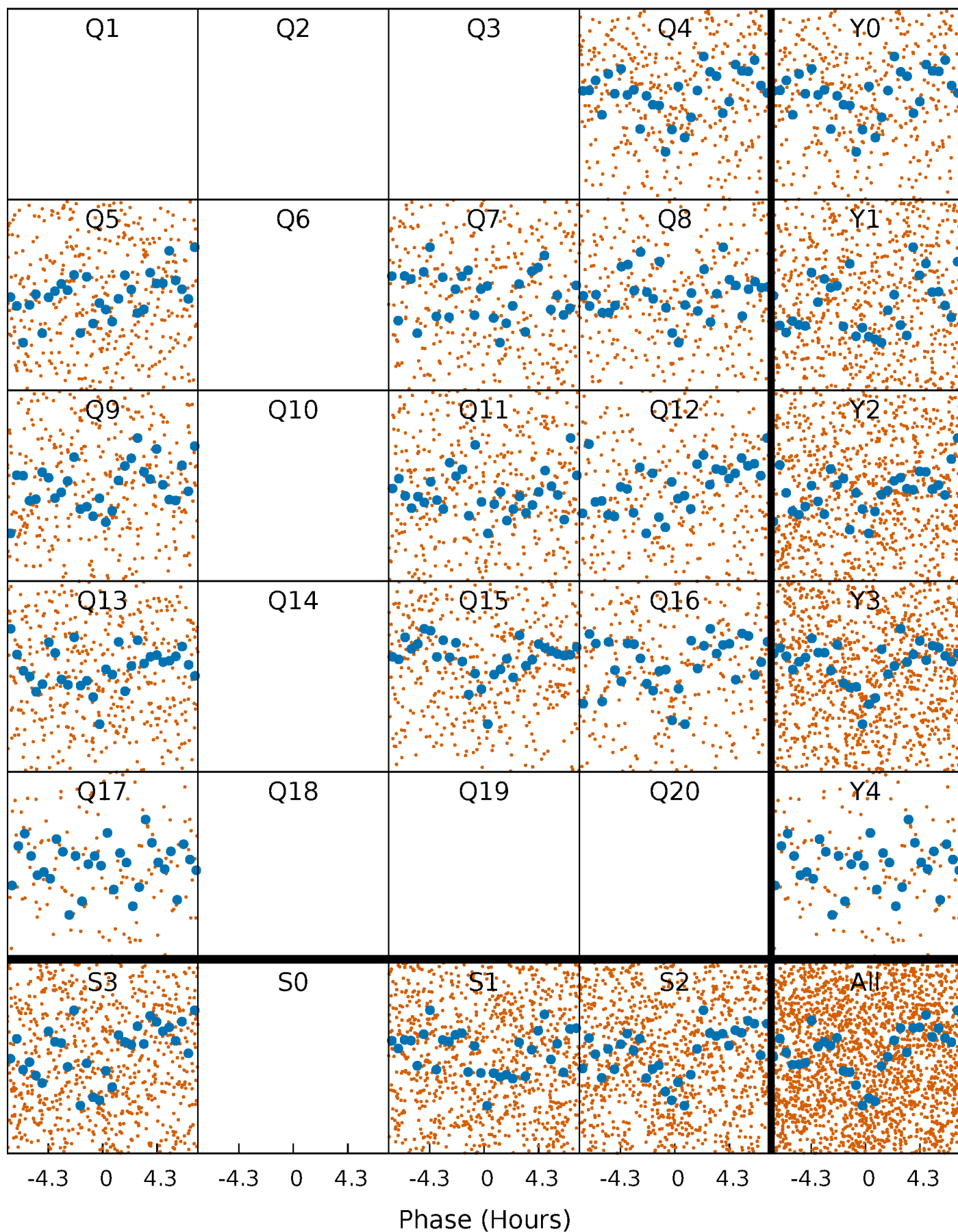


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



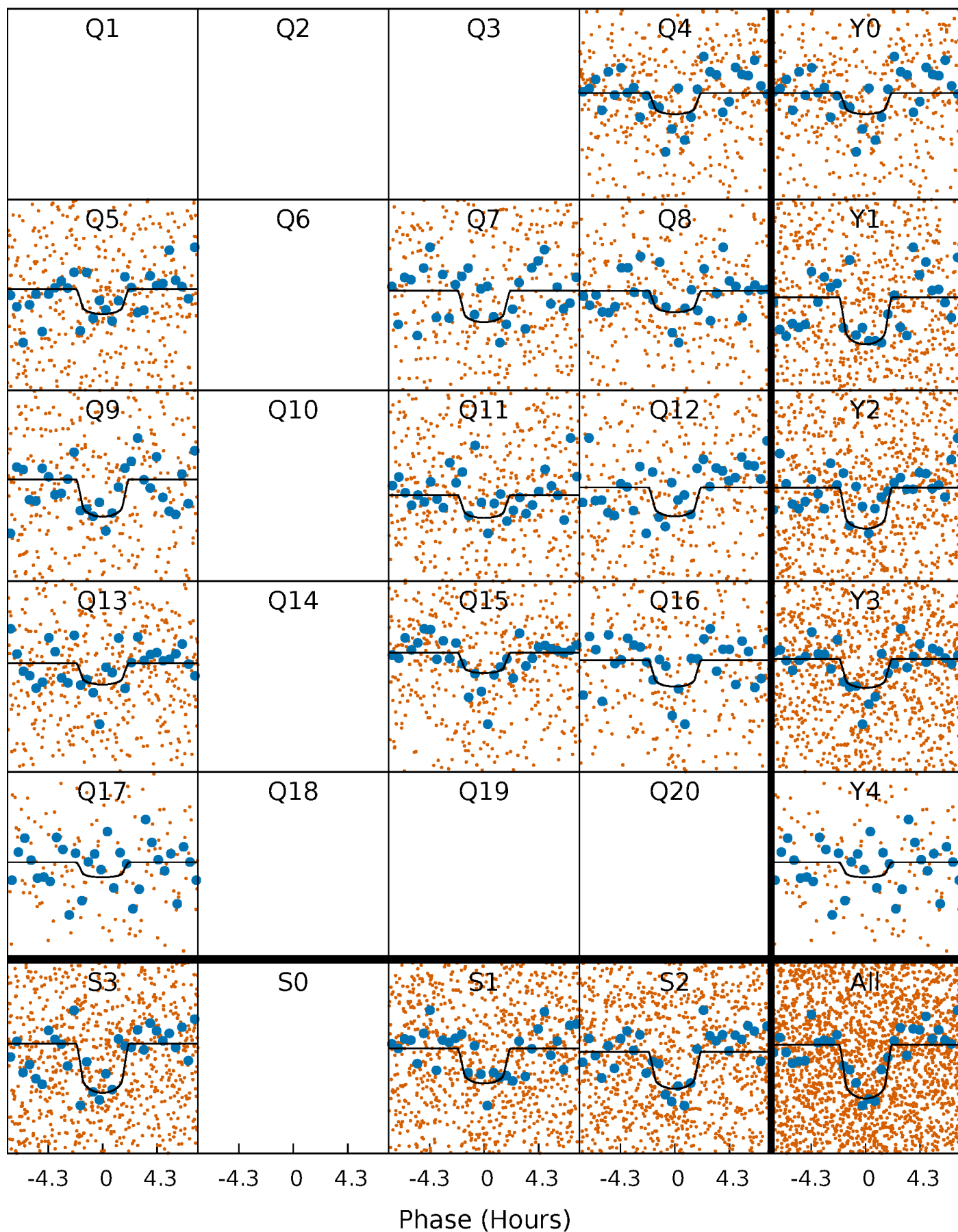
PDC Quarter-Phased Transit Curves

TCE 003663494-01 P= 5.116964 Days $T_0=133.895591$ (BKJD)



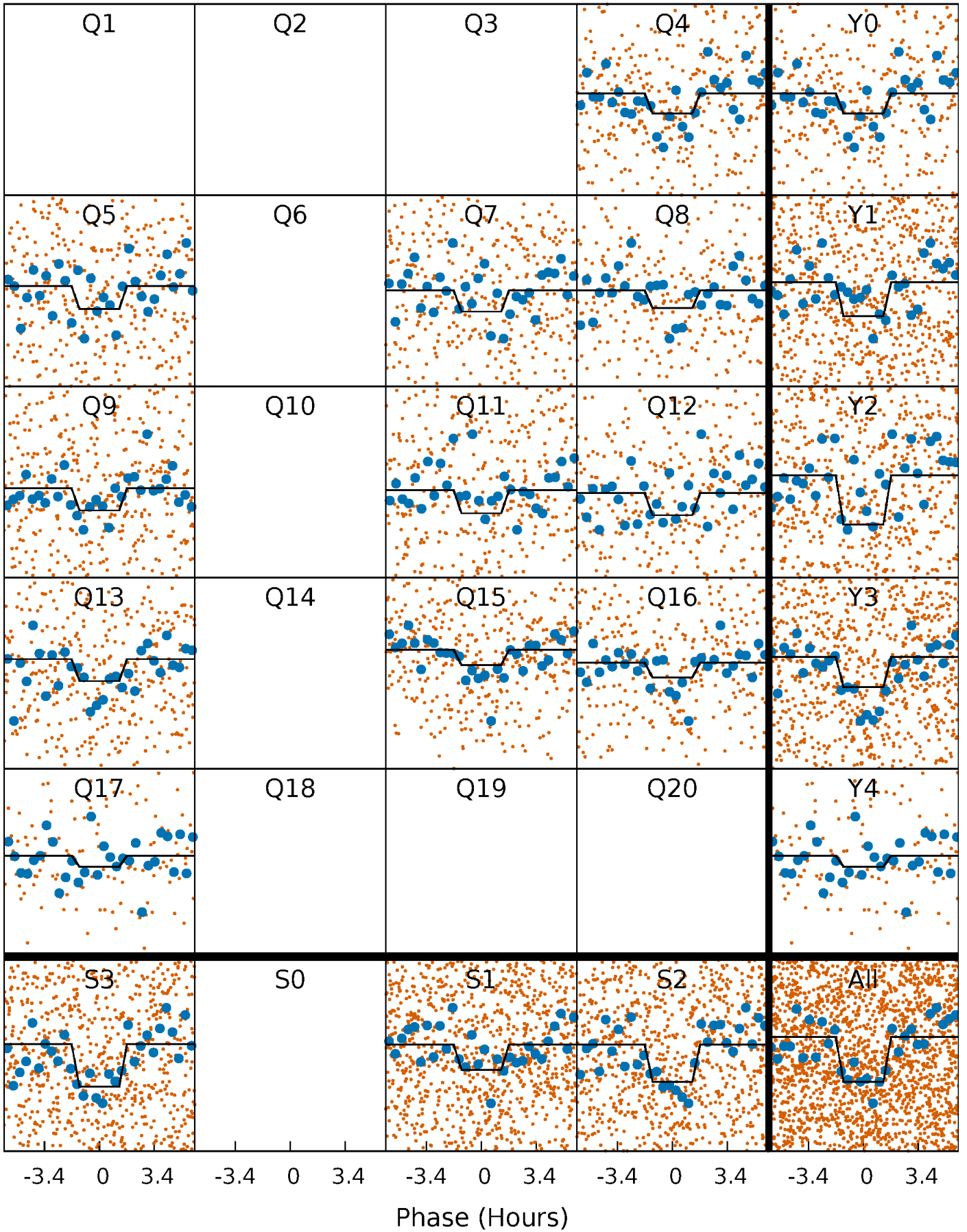
DV Quarter-Phased Transit Curves

TCE 003663494-01 P= 5.116964 Days $T_0=133.895591$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

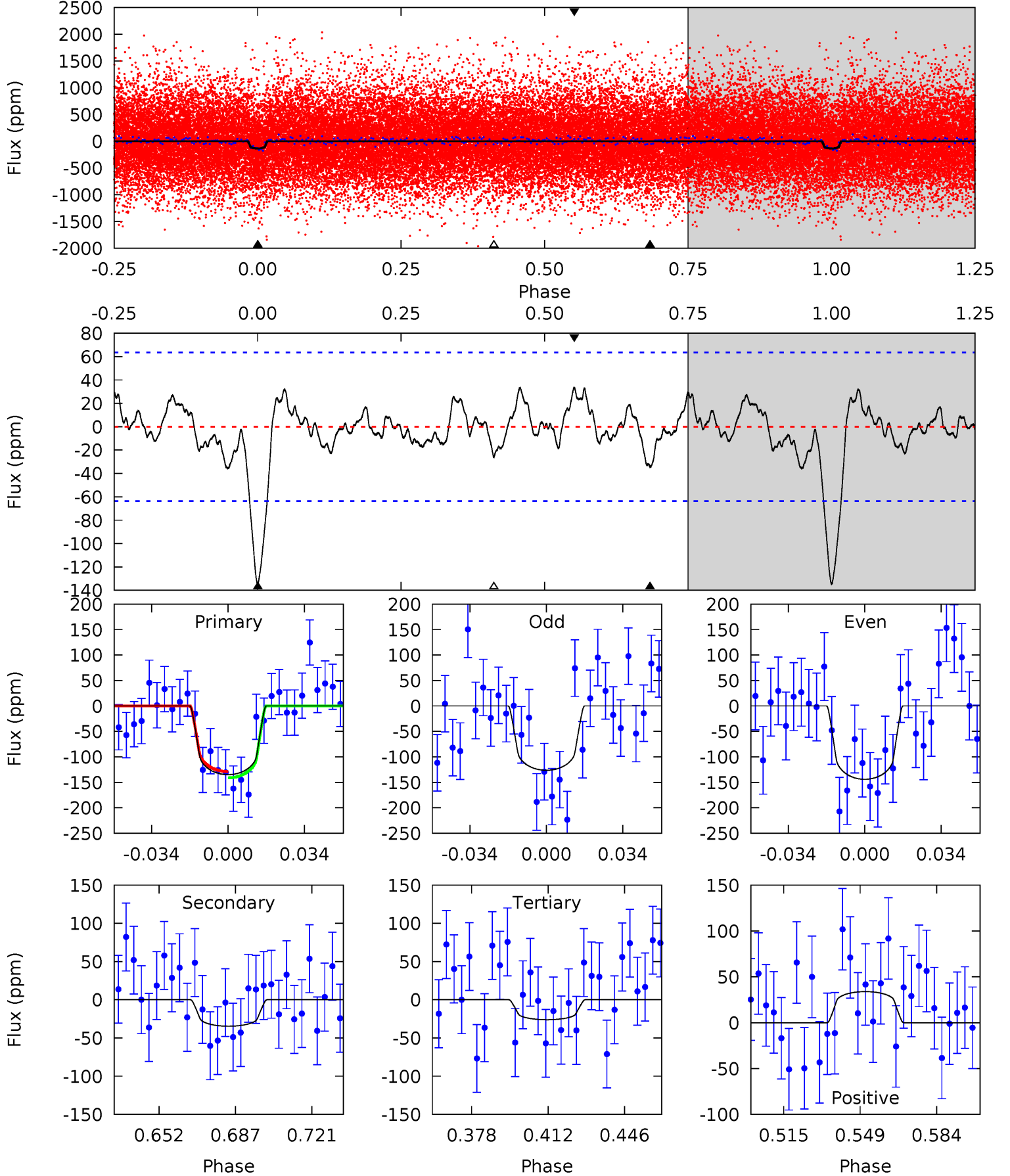
TCE 003663494-01 P= 5.116892 Days $T_0=133.902960$ (BKJD)



DV Model-Shift Uniqueness Test

003663494-01, P = 5.116964 Days, E = 133.895591 Days

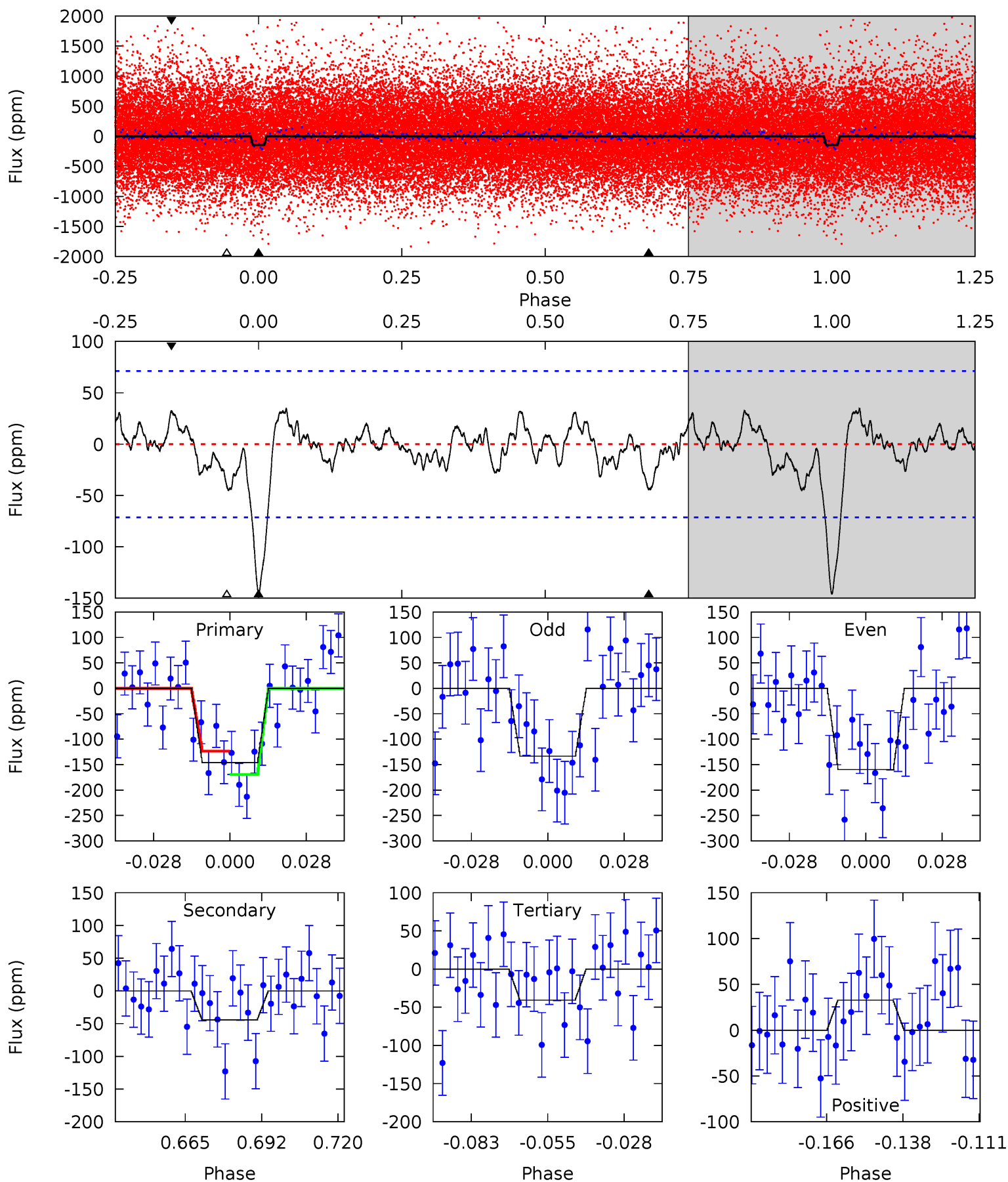
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.2 | 2.61 | 1.96 | 2.55 | 4.78 | 2.12 | 1.07 | 8.19 | 7.61 | 0.64 | 0.06 | 0.67 | 0.82 | 0.20 | 0.47 |



Alt Model-Shift Uniqueness Test

003663494-01, P = 5.116892 Days, E = 133.902960 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.90 | 3.01 | 2.76 | 2.22 | 4.83 | 2.20 | 1.05 | 7.14 | 7.68 | 0.25 | 0.79 | 0.89 | 0.83 | 0.19 | 1.56 |



Stellar Parameters For KIC 003663494

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5955^{+188}_{-208} | $4.520^{+0.050}_{-0.212}$ | $-0.160^{+0.300}_{-0.300}$ | $0.910^{+0.280}_{-0.093}$ | $0.999^{+0.122}_{-0.134}$ | $1.869^{+0.392}_{-0.947}$ |
| | +3%/-3% | +1%/-5% | +188%/-188% | +31%/-10% | +12%/-13% | +21%/-51% |
| 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 003663494-01 / KOI 6352.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|--------------|------------------------|----------------------|-----------------------|-------------------|
| DV | -35 ± 13 | $1.55^{+1.10}_{-0.93}$ | 1488^{+104}_{-76} | 4031^{+1787}_{-699} | 25^{+131}_{-17} |
| Alt. | -44 ± 15 | $1.44^{+1.05}_{-0.83}$ | 1491^{+107}_{-79} | 4326^{+2030}_{-814} | 38^{+178}_{-26} |

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

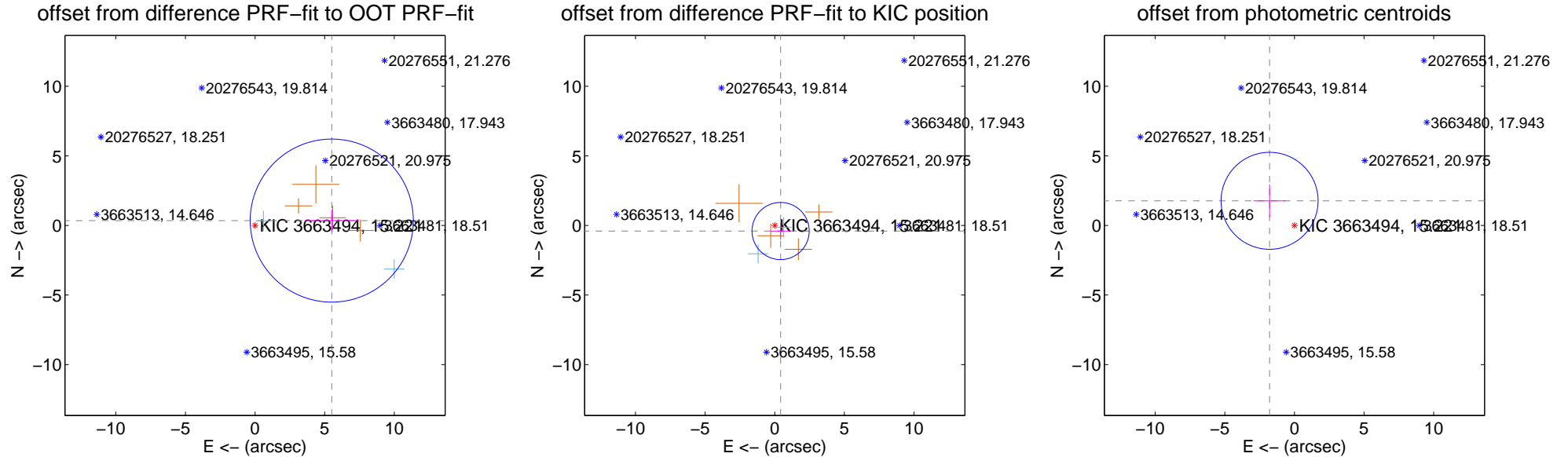
DV Centroid Data

Supplemental centroid analysis for 003663494-01. Kepler magnitude: 15.22. Transit SNR 8.53

There are 2 quarters with good PRF difference image offsets

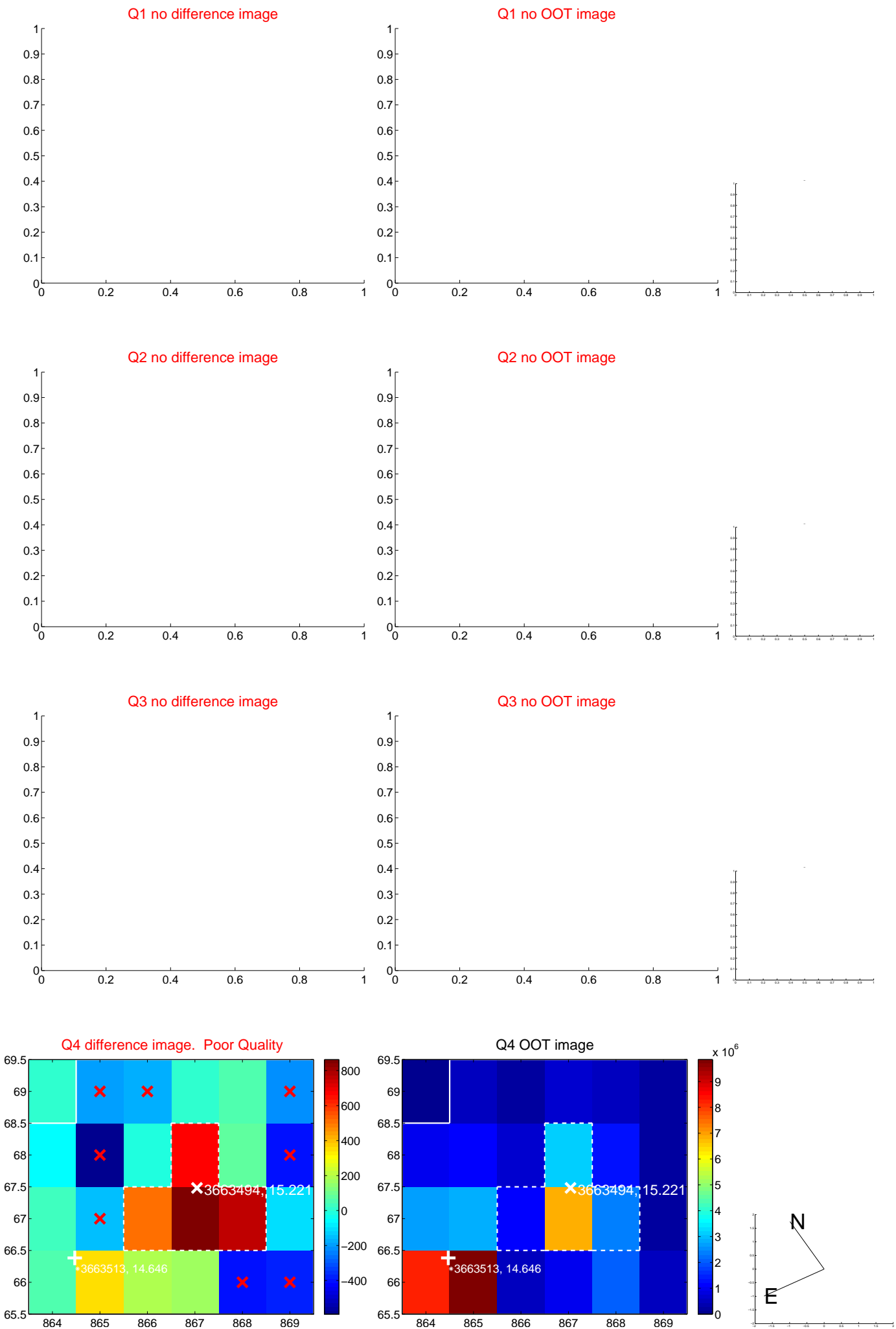
The OOT PRF centroid is offset from the target star catalog position by about 7.07 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 5.523 ± 1.953 | 2.83 | -5.512 ± 1.956 | 0.348 ± 0.783 |
| PRF-fit source offset from KIC position | 0.581 ± 0.685 | 0.85 | -0.421 ± 0.733 | -0.401 ± 0.627 |
| photometric centroid source offset | 2.51 ± 1.16 | 2.16 | 1.79 ± 1.15 | 1.77 ± 1.17 |

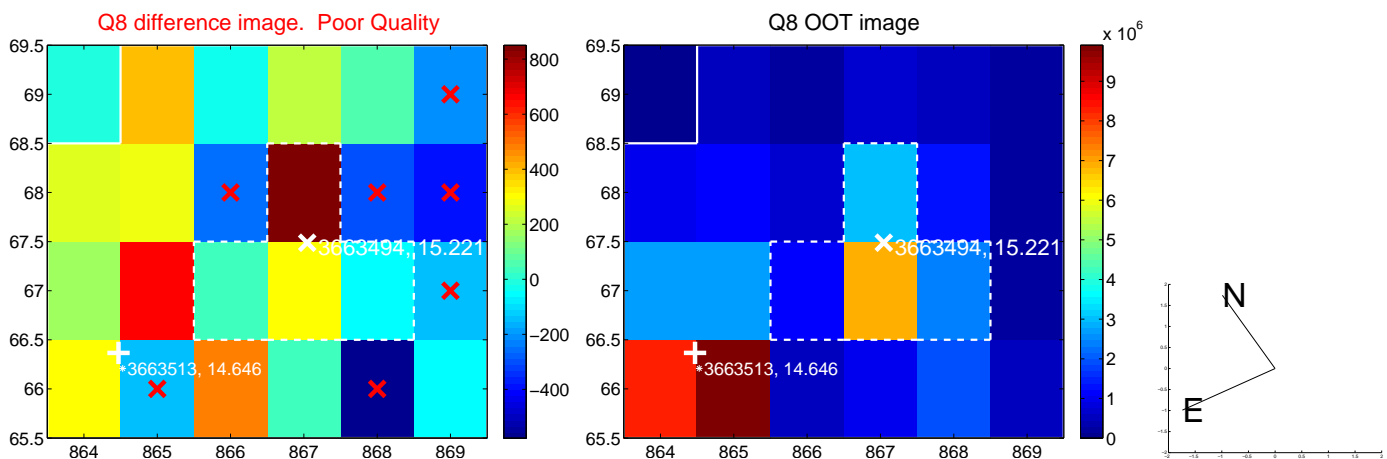
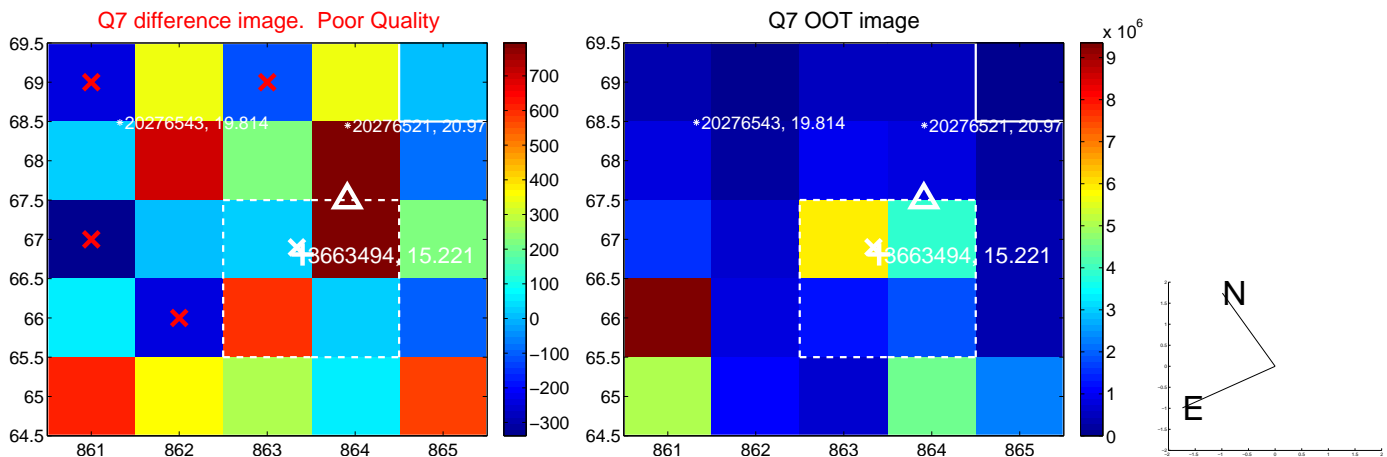
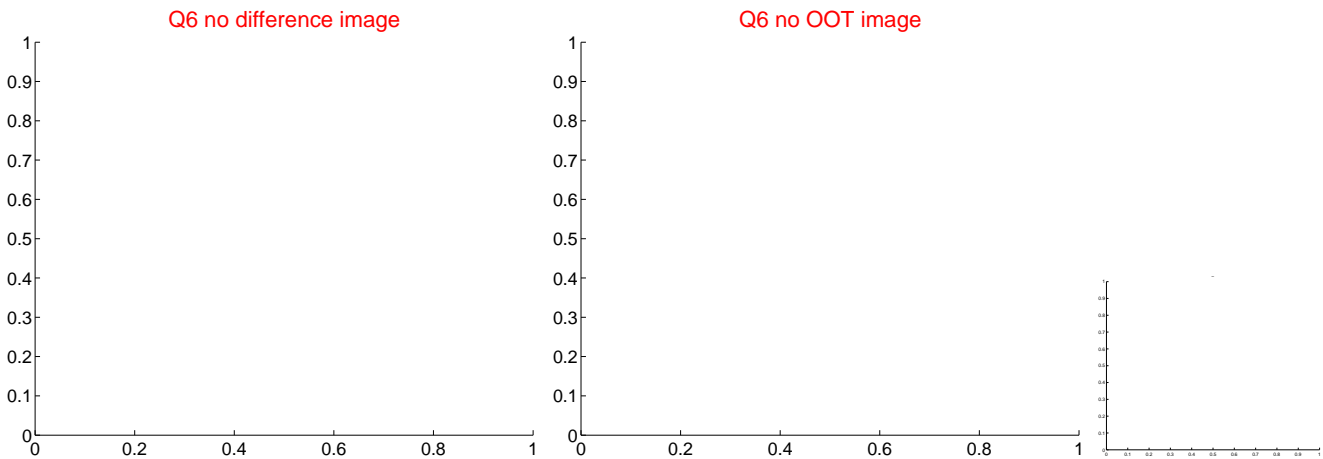
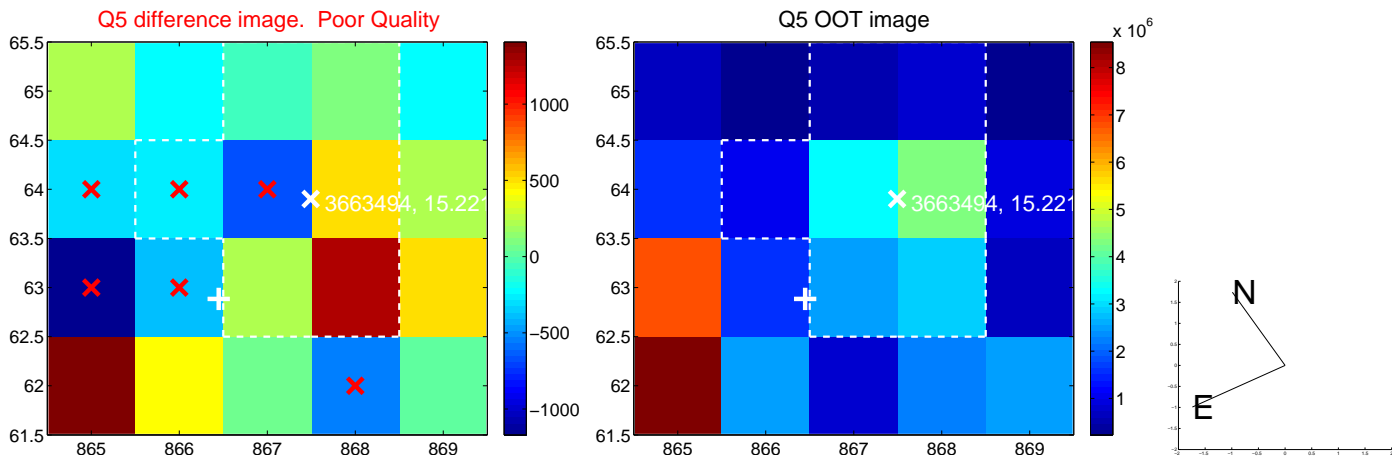


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

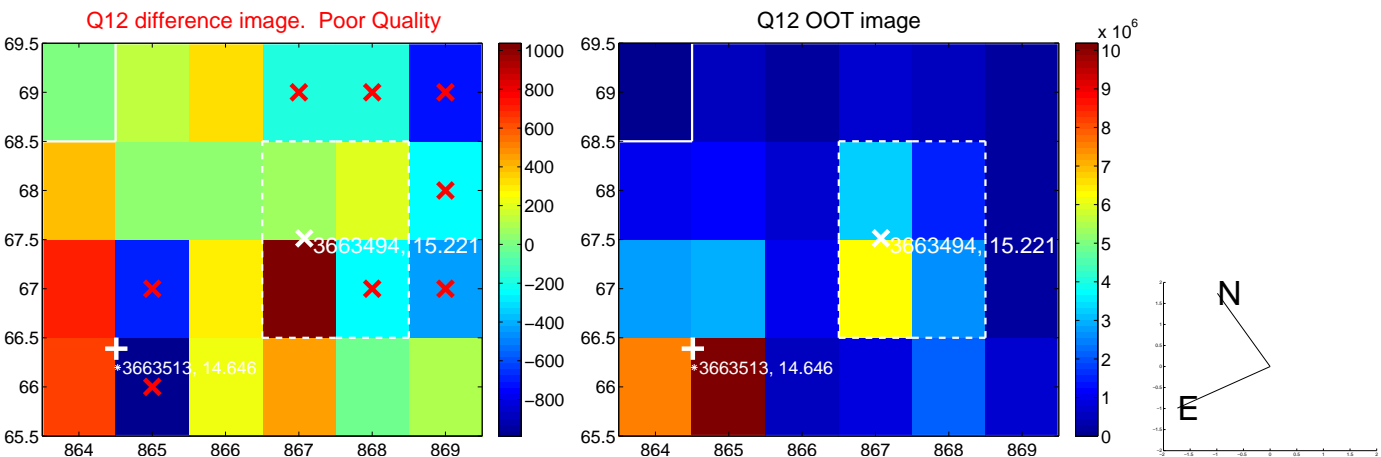
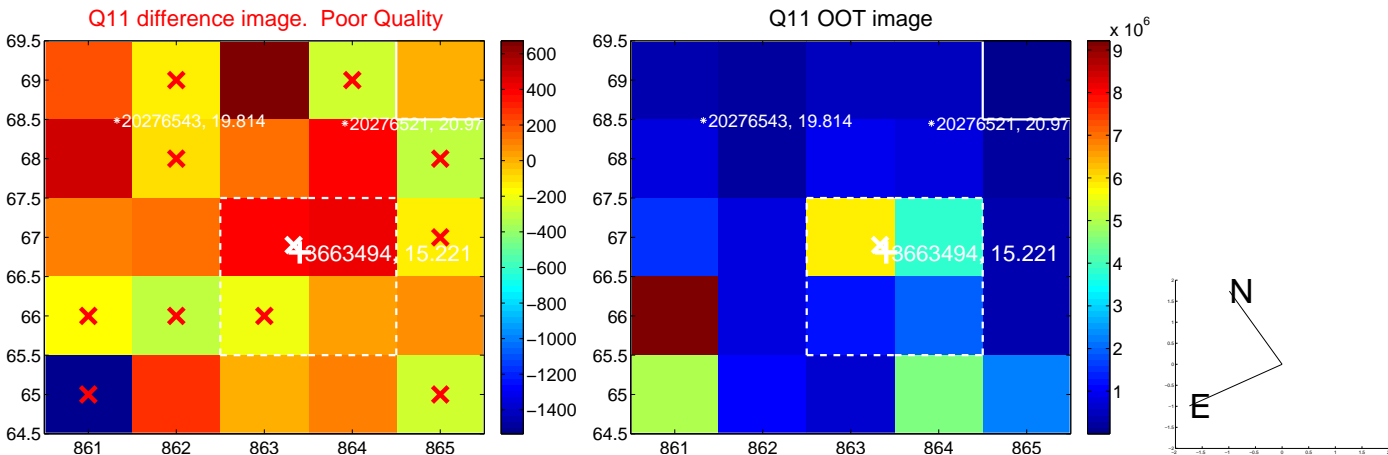
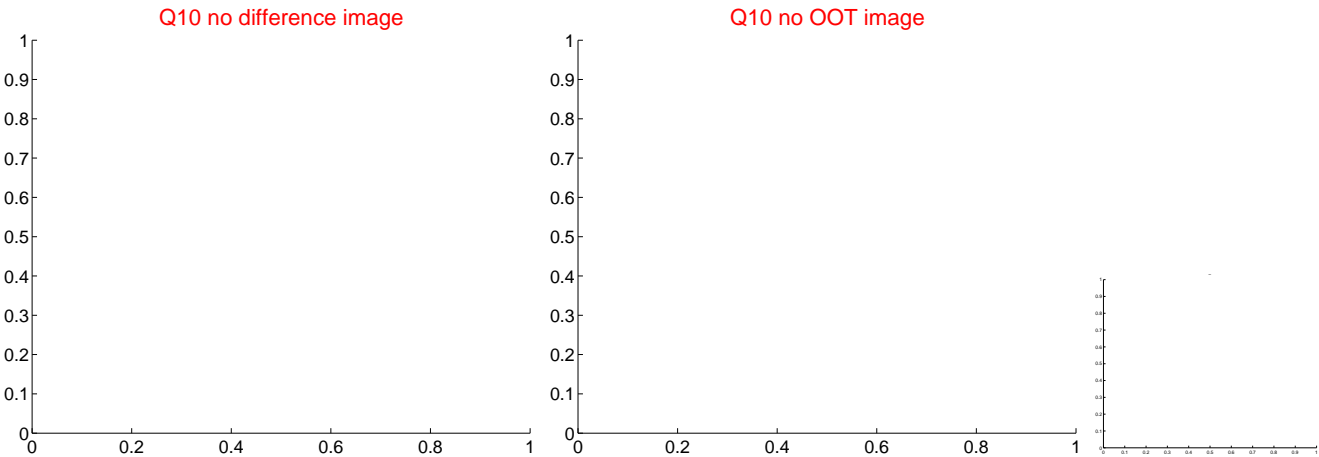
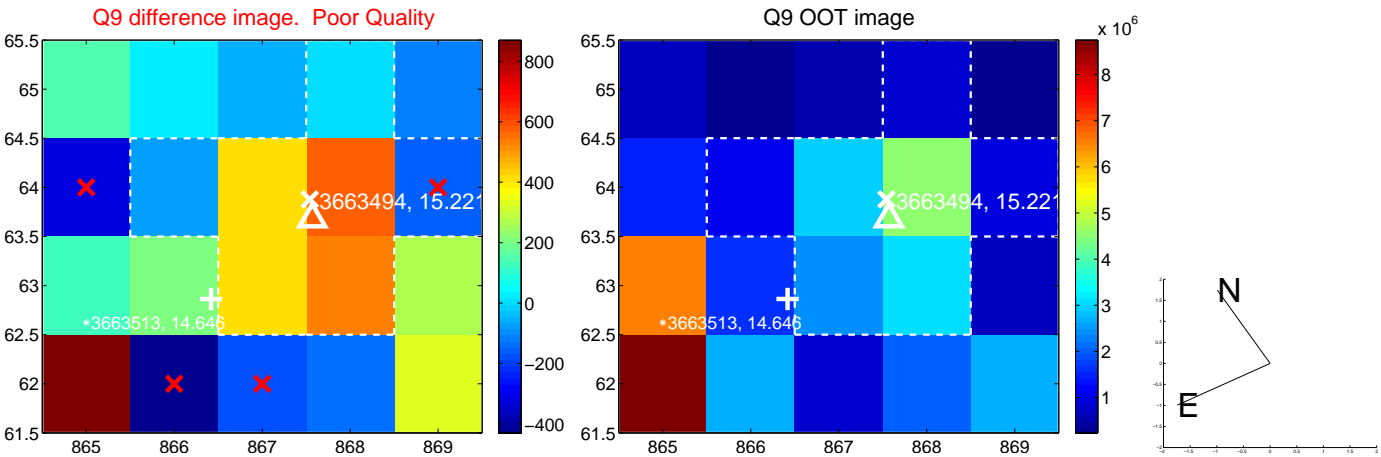
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



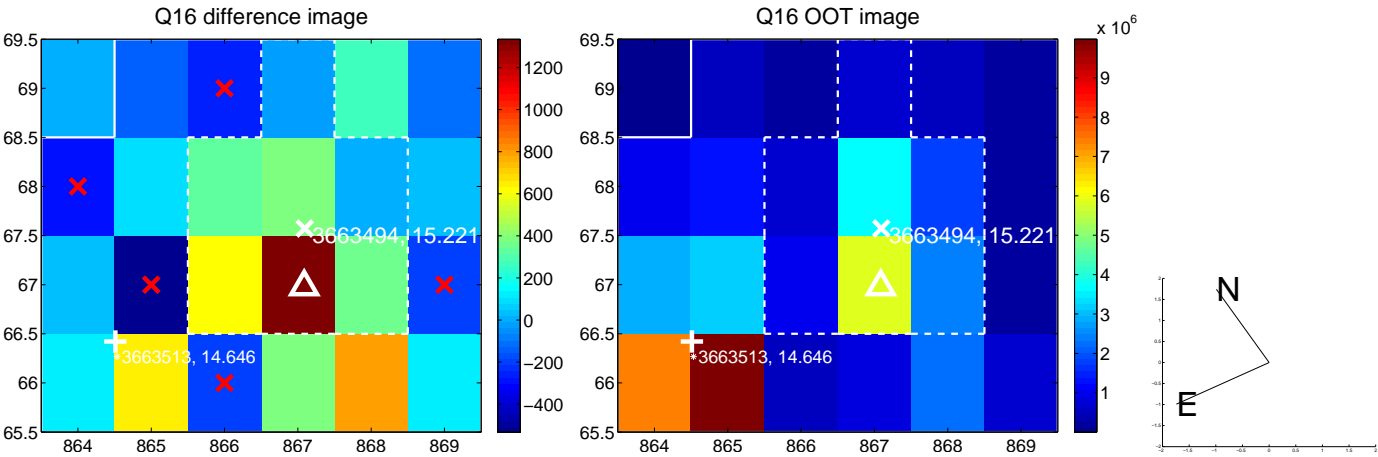
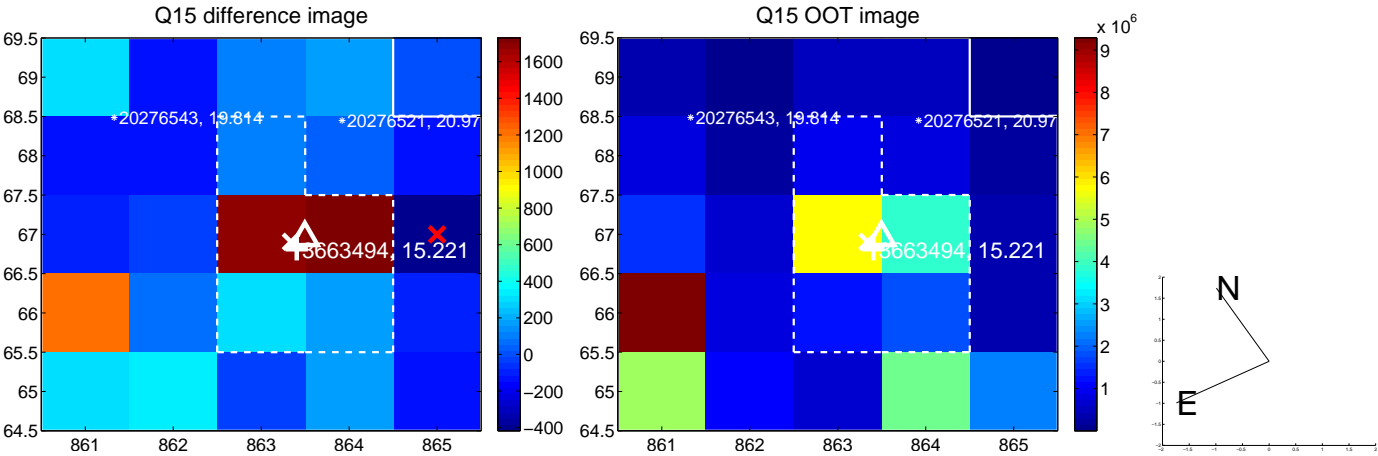
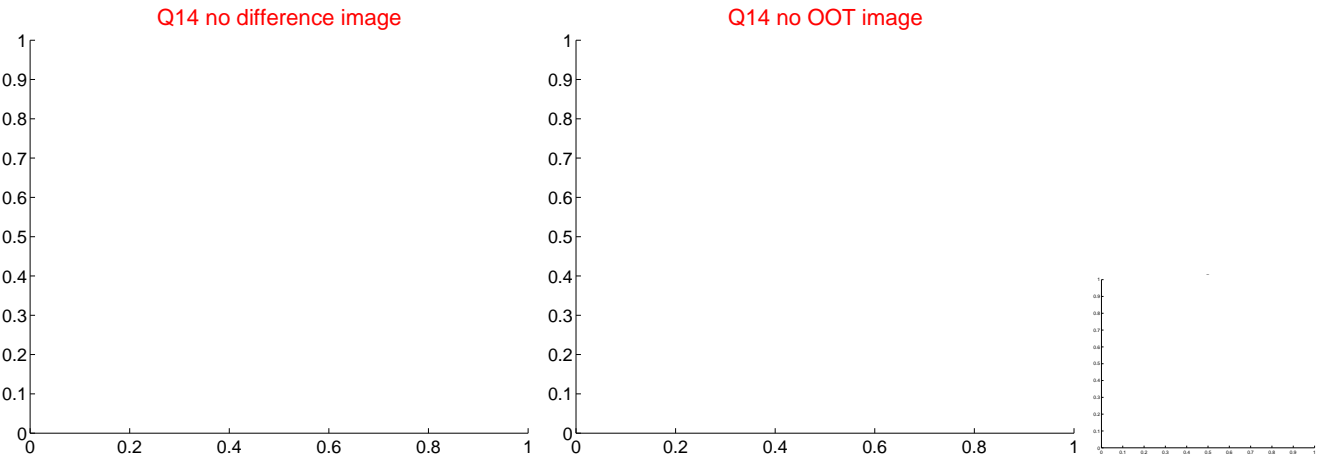
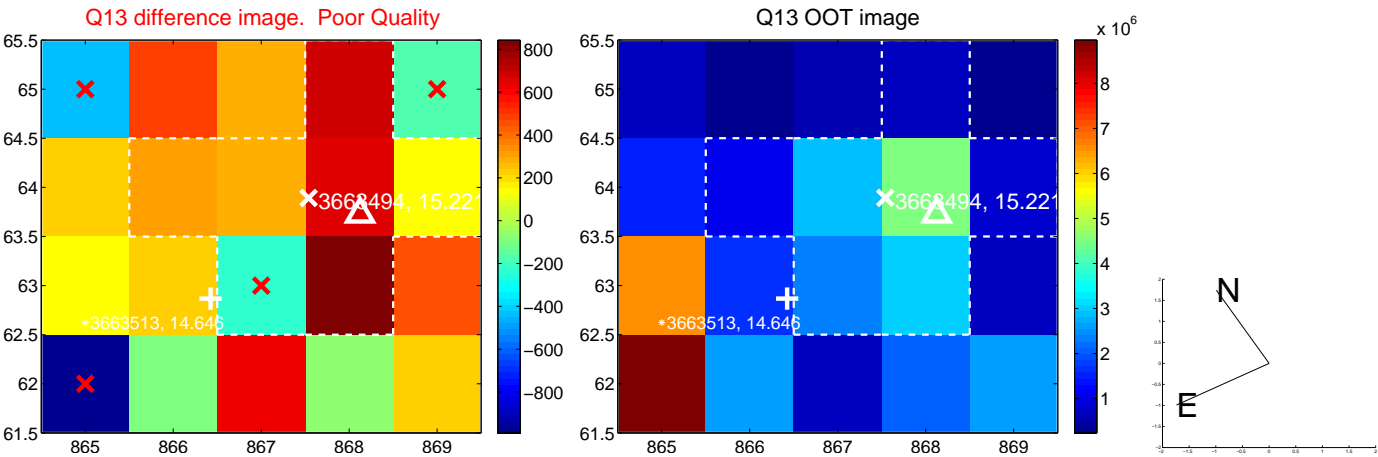
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



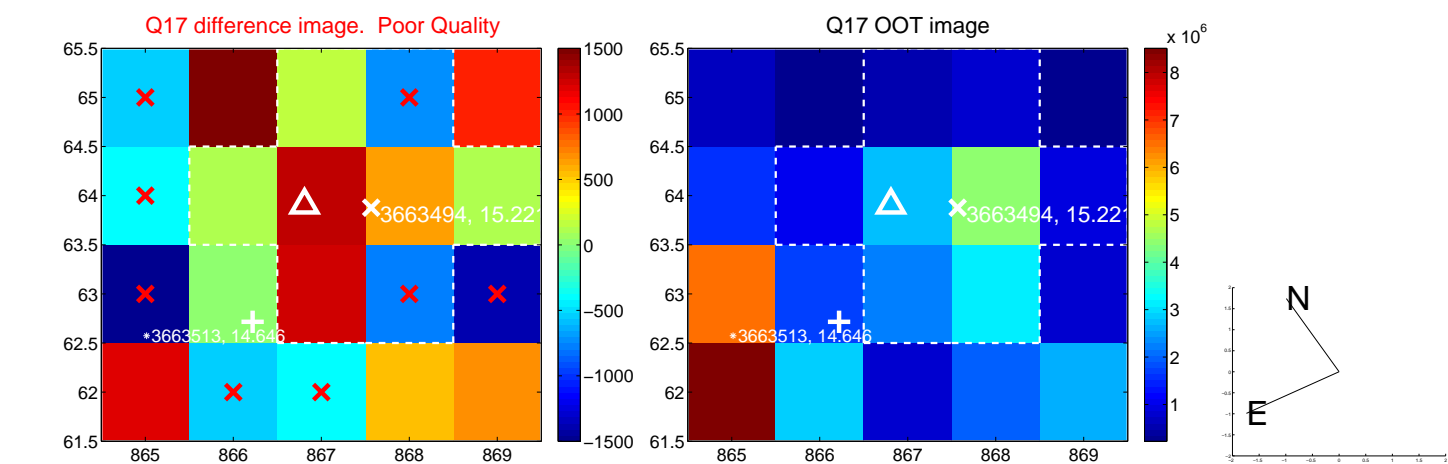
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



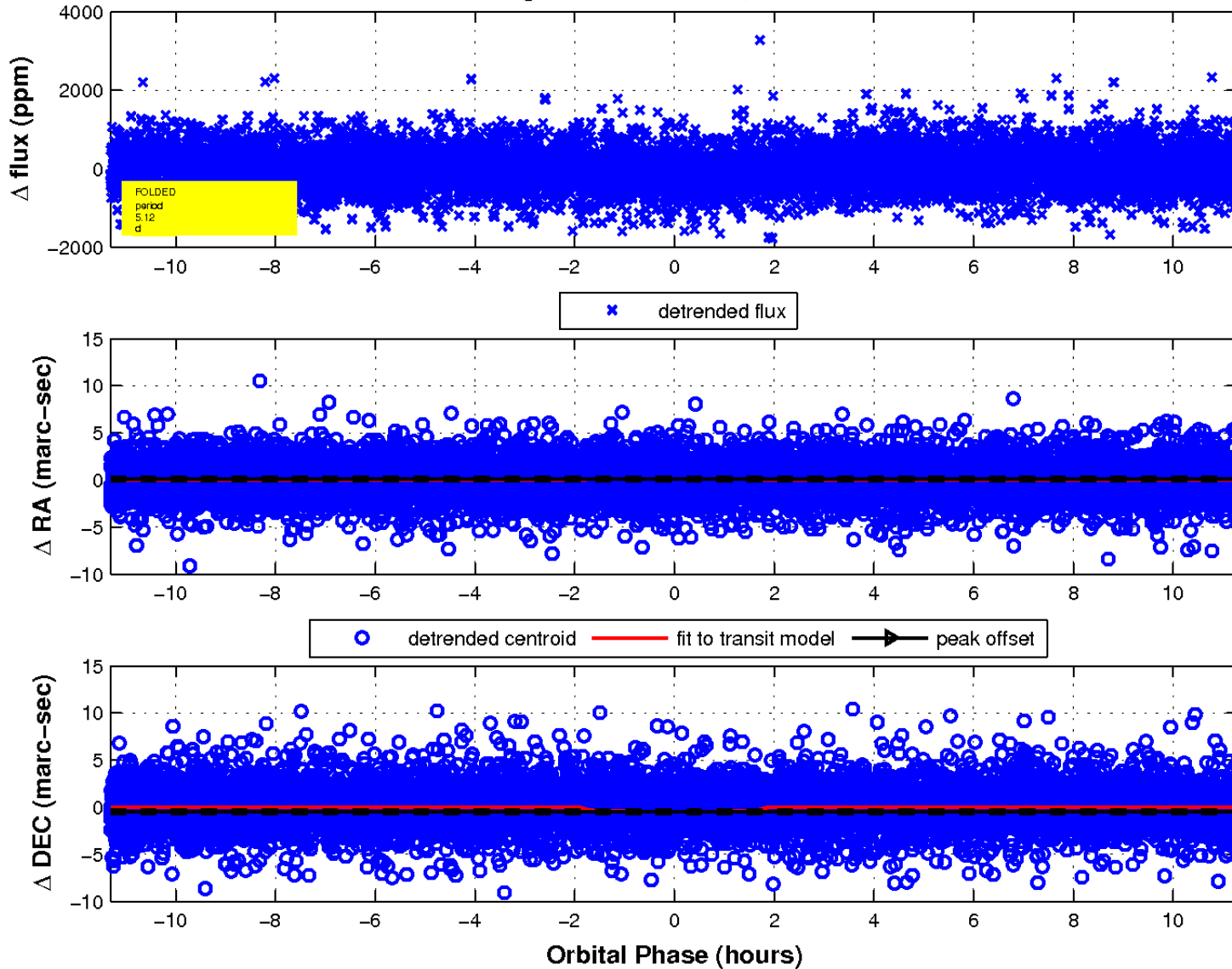
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

