

# KIC 011404260

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 011404260-01 | OBS      | No   | 663.913659    | 174.392750   | 152.1       | 12.992           | 8.5 | 8.0 | 2.81                        | 8197            | 3.85                   | 9.65                   |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments                                    |
|--------------|----------|------|-------|---|---|---|---|---|
| 011404260-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL_SKYE--ALL_TRANS_CHASES |

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

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

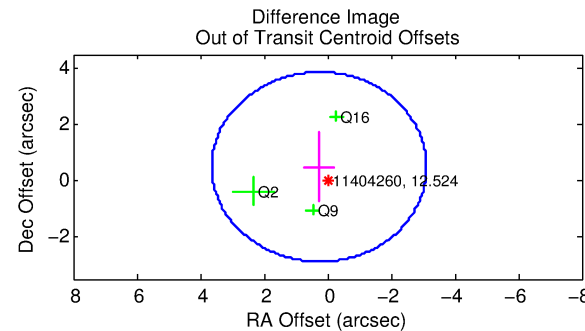
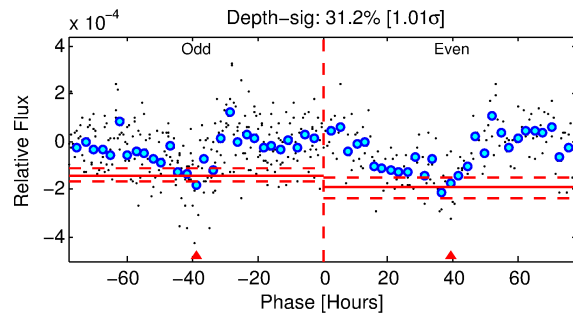
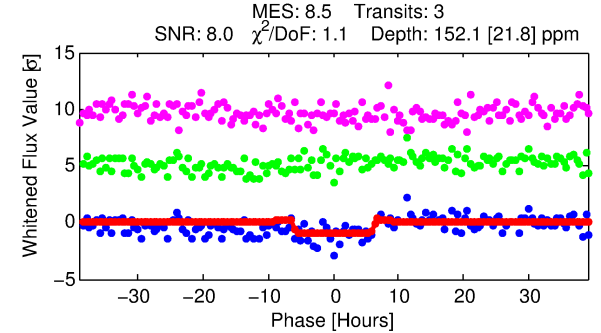
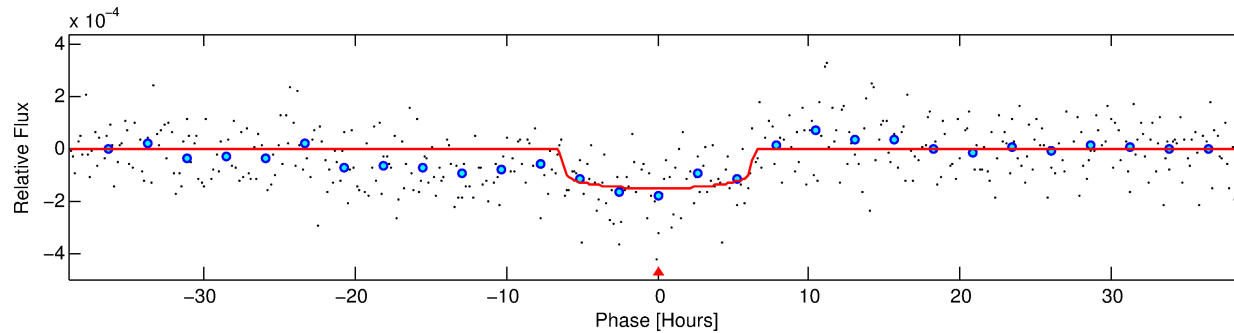
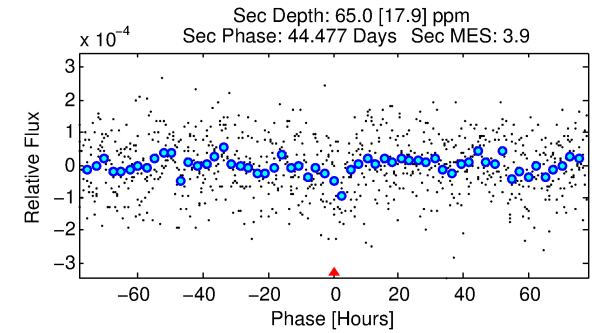
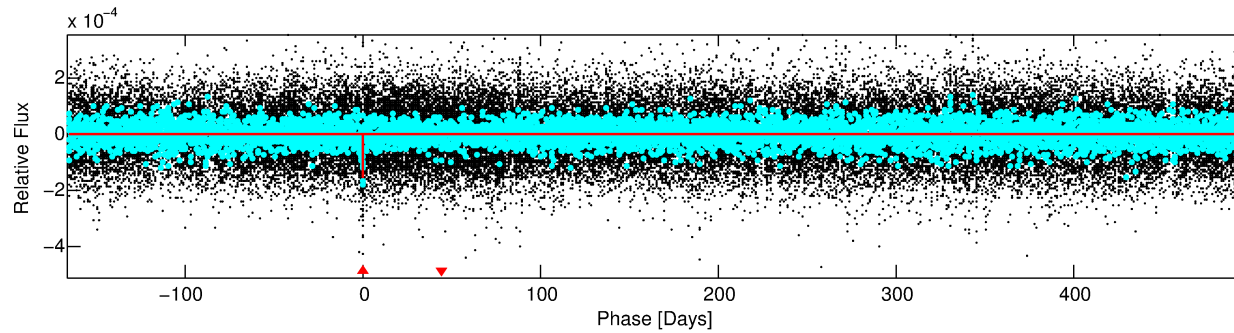
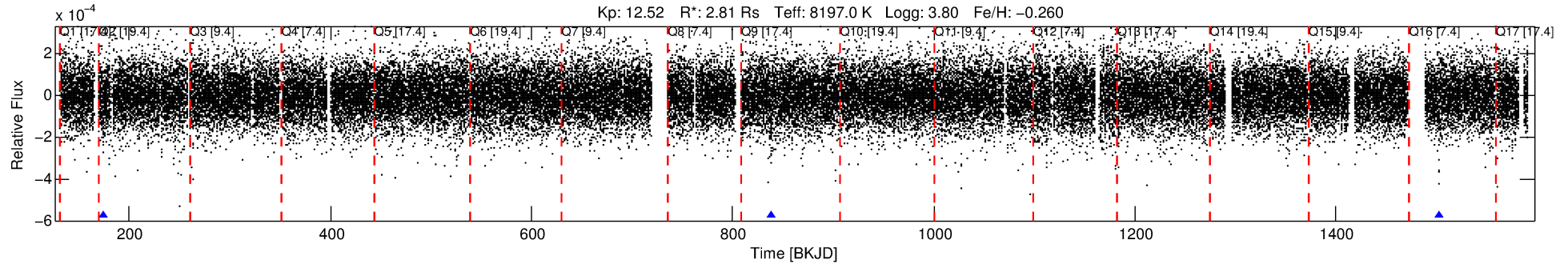
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011404260-01

No Significant Match Found

# DV One-Page Summary

KIC: 11404260 Candidate: 1 of 1 Period: 663.914 d



## DV Fit Results:

Period = 663.91366 [0.01277] d  
Epoch = 174.3927 [0.0162] BKJD  
Rp/R\* = 0.0125 [0.0029]  
a/R\* = 235.08 [307.58]  
b = 0.81 [0.55]  
Seff = 9.65 [6.55]  
Teq = 449 [76] K  
Rp = 3.85 [1.81] Re  
a = 1.8229 [0.7364] AU  
Ag = 8008.44 [6839.63] [1.17σ]  
Teffp = 6573 [935] K [6.53σ]

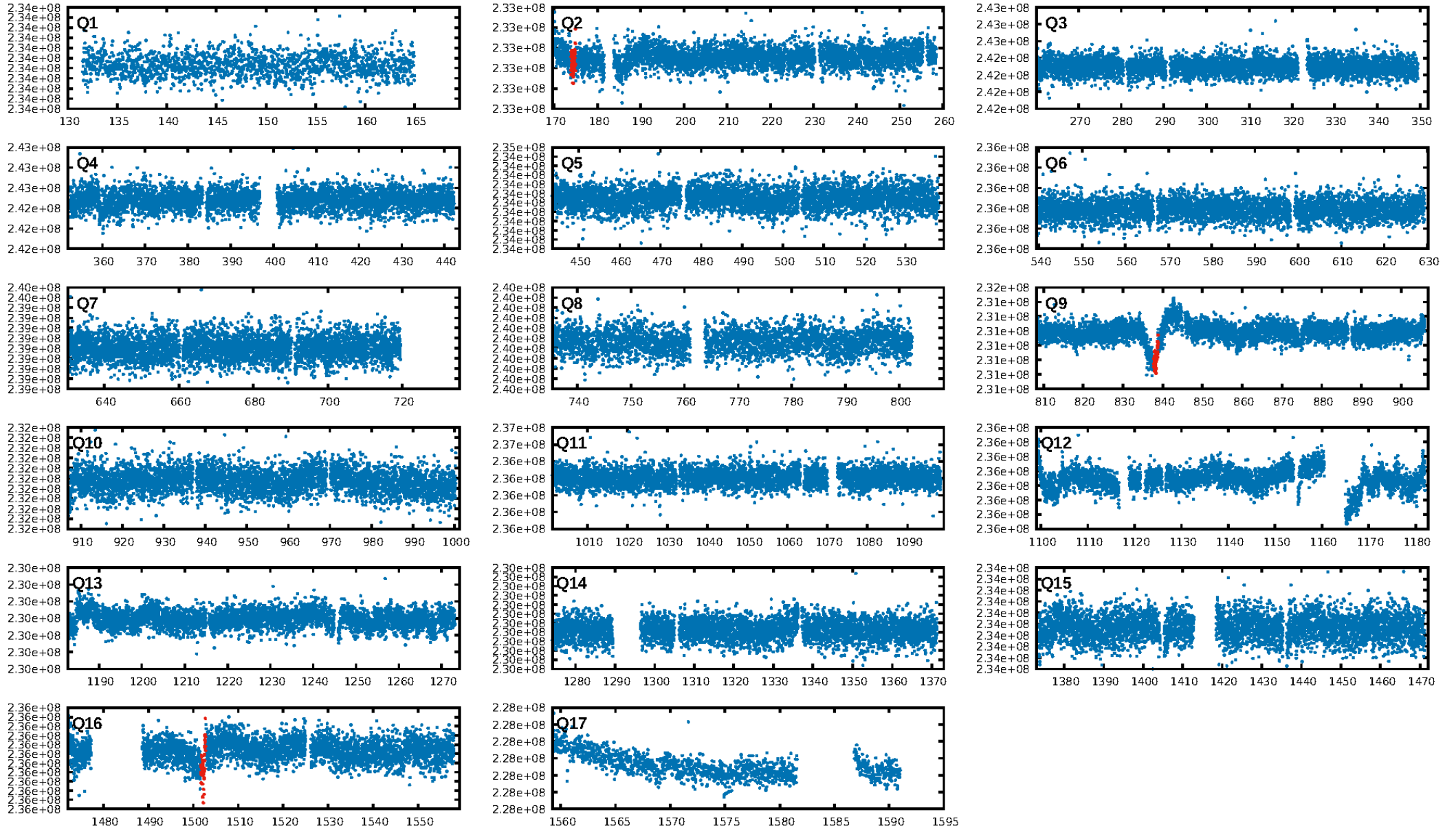
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.8%  
ModelChiSquareGof-sig: 97.8%  
**Bootstrap-pfa: 1.40e-12**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.561  
Centroid-sig: 34.1%  
Centroid-so: 1.411 arcsec [1.09σ]  
OotOffset-rm: 0.555 arcsec [0.49σ]  
KicOffset-rm: 0.437 arcsec [0.39σ]  
OotOffset-st: 1/0/1/1 [3]  
KicOffset-st: 1/0/1/1 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

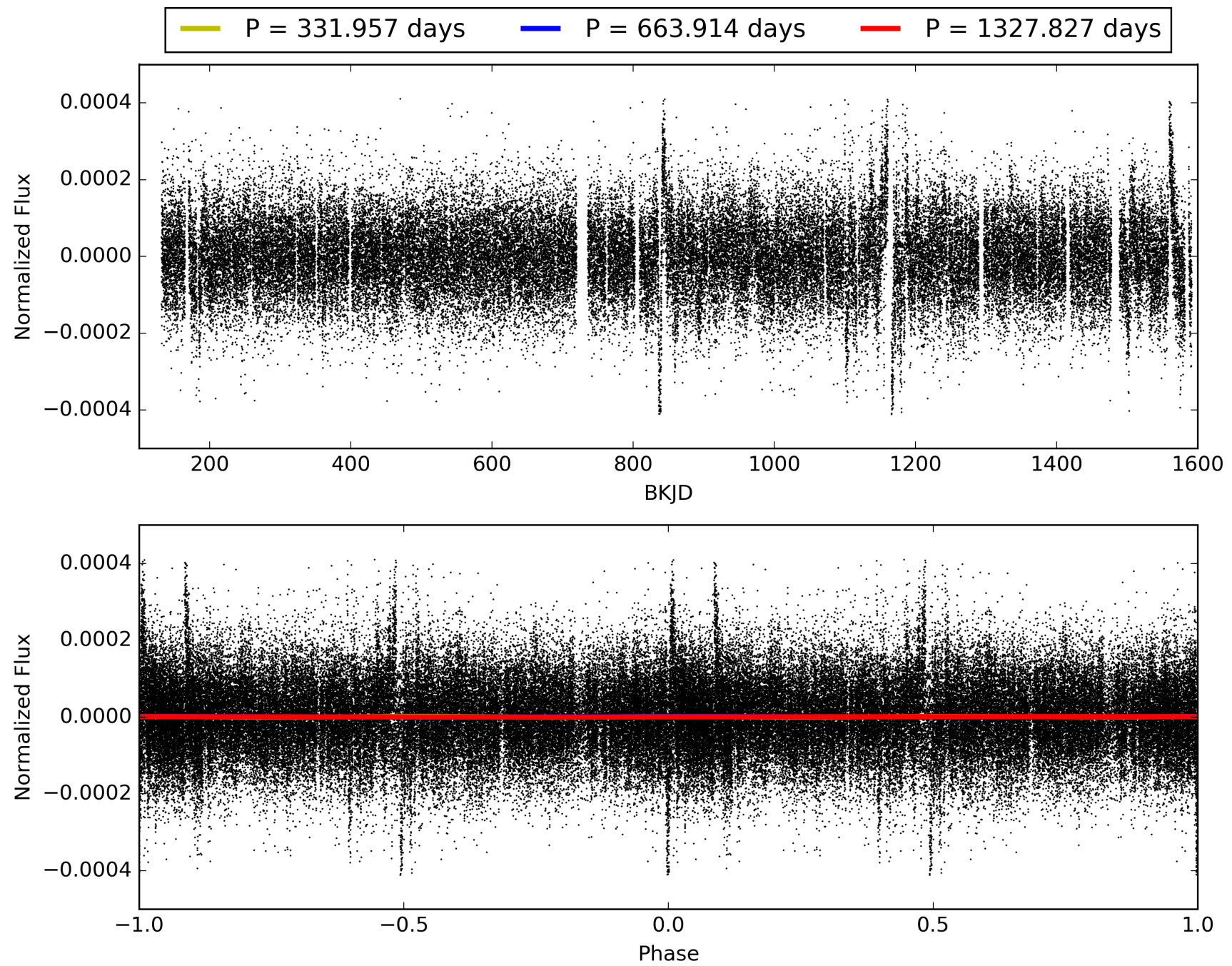
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:52:57 Z

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

# TCE 011404260-01, PDC Light Curves

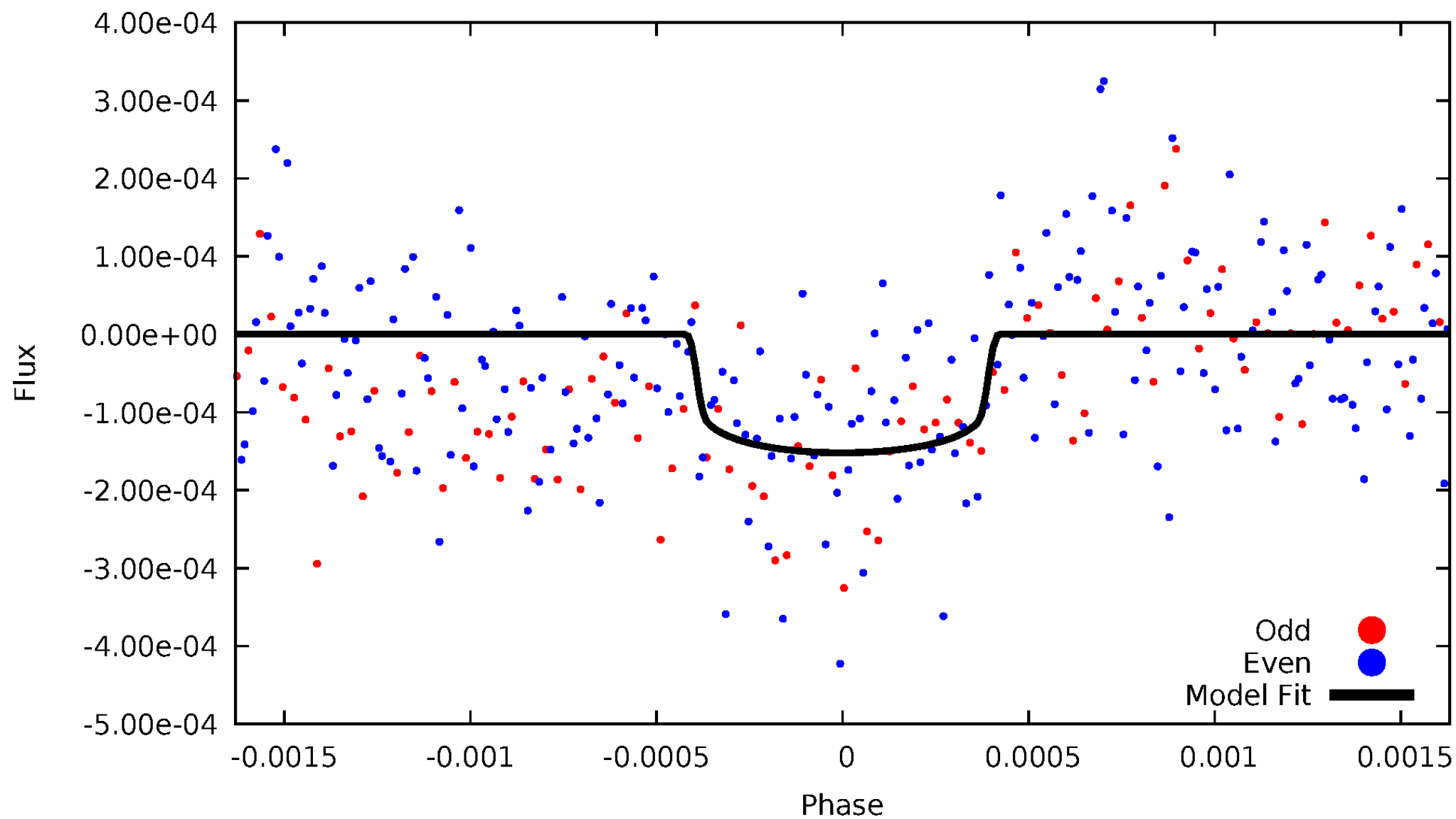


TCE 011404260-01



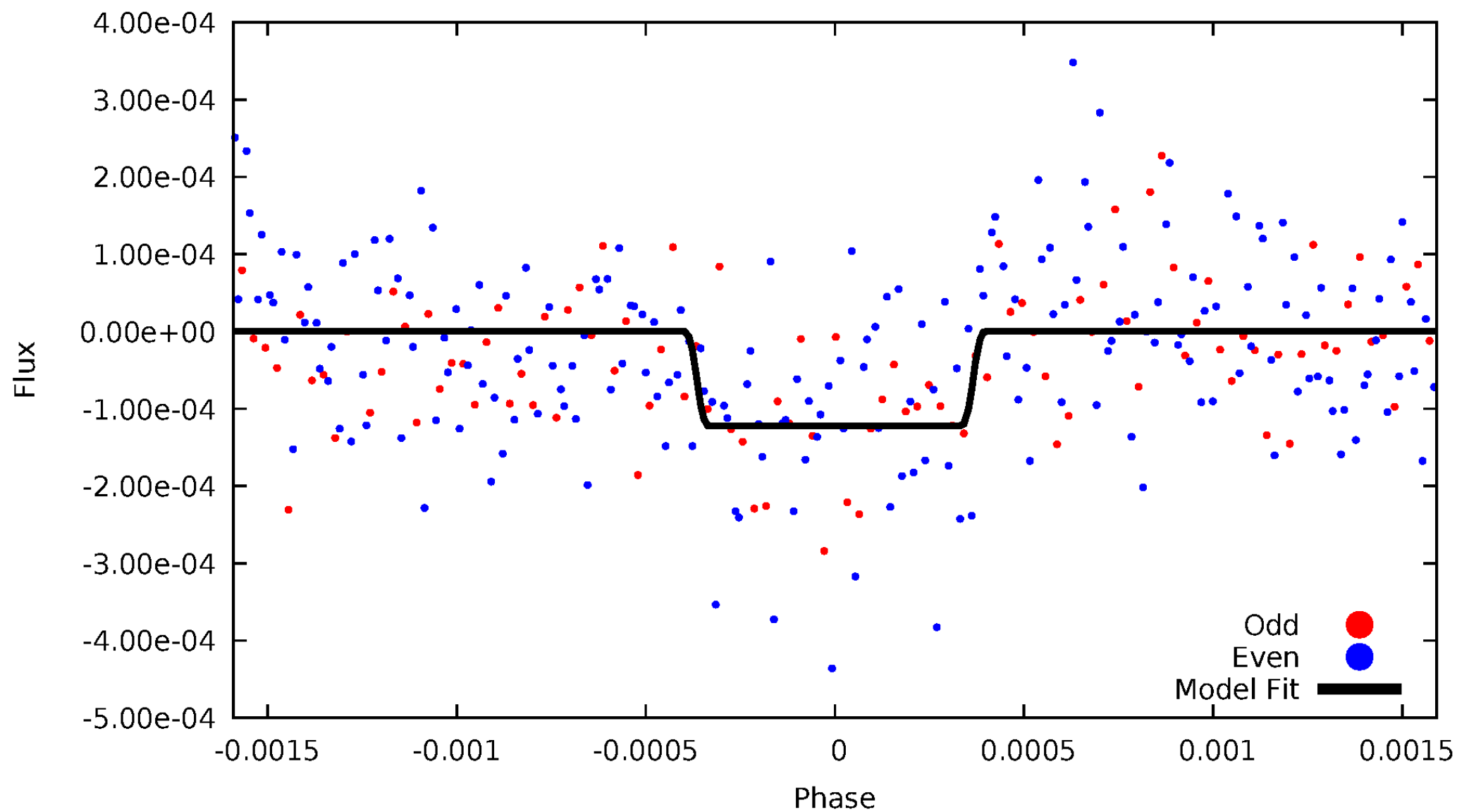
# DV Odd/Even

TCE 011404260-01



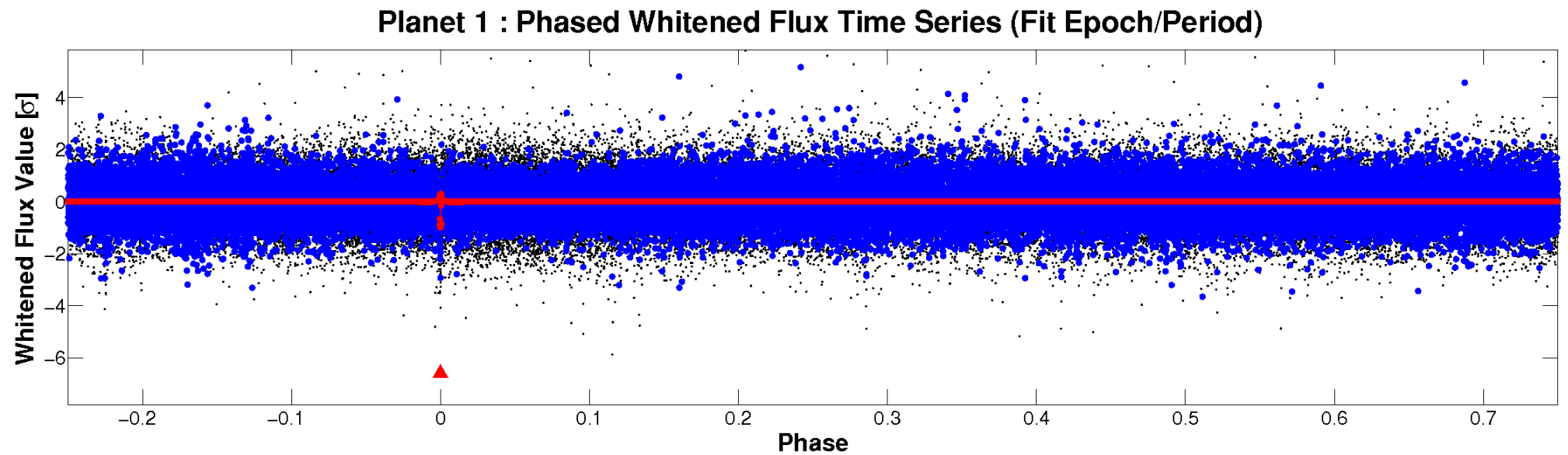
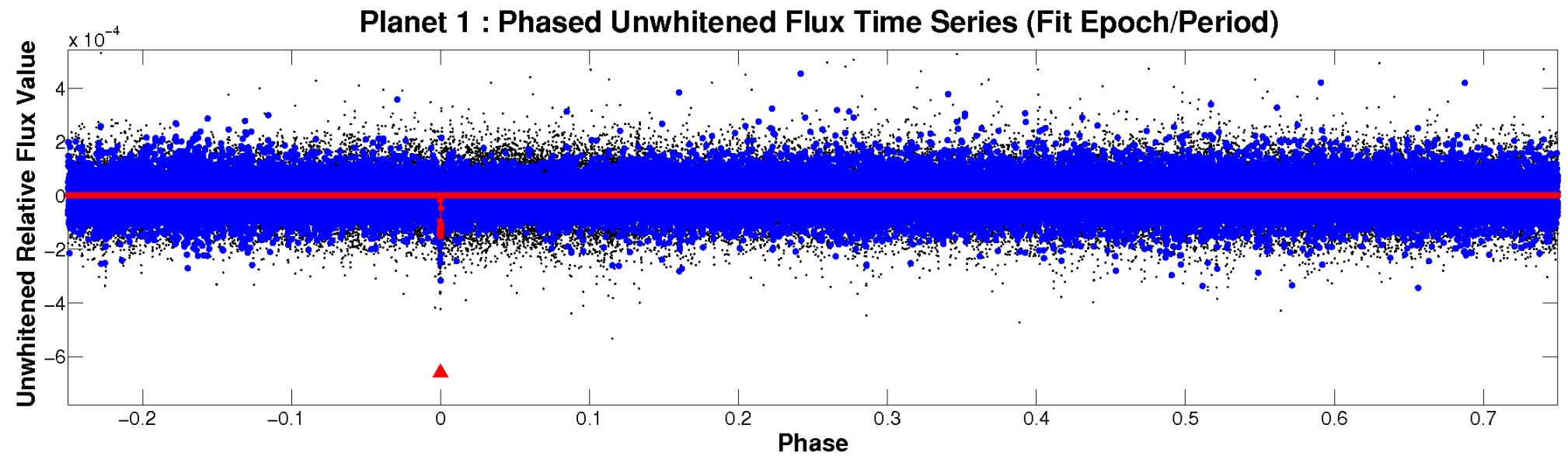
# ALT Odd/Even

TCE 011404260-01



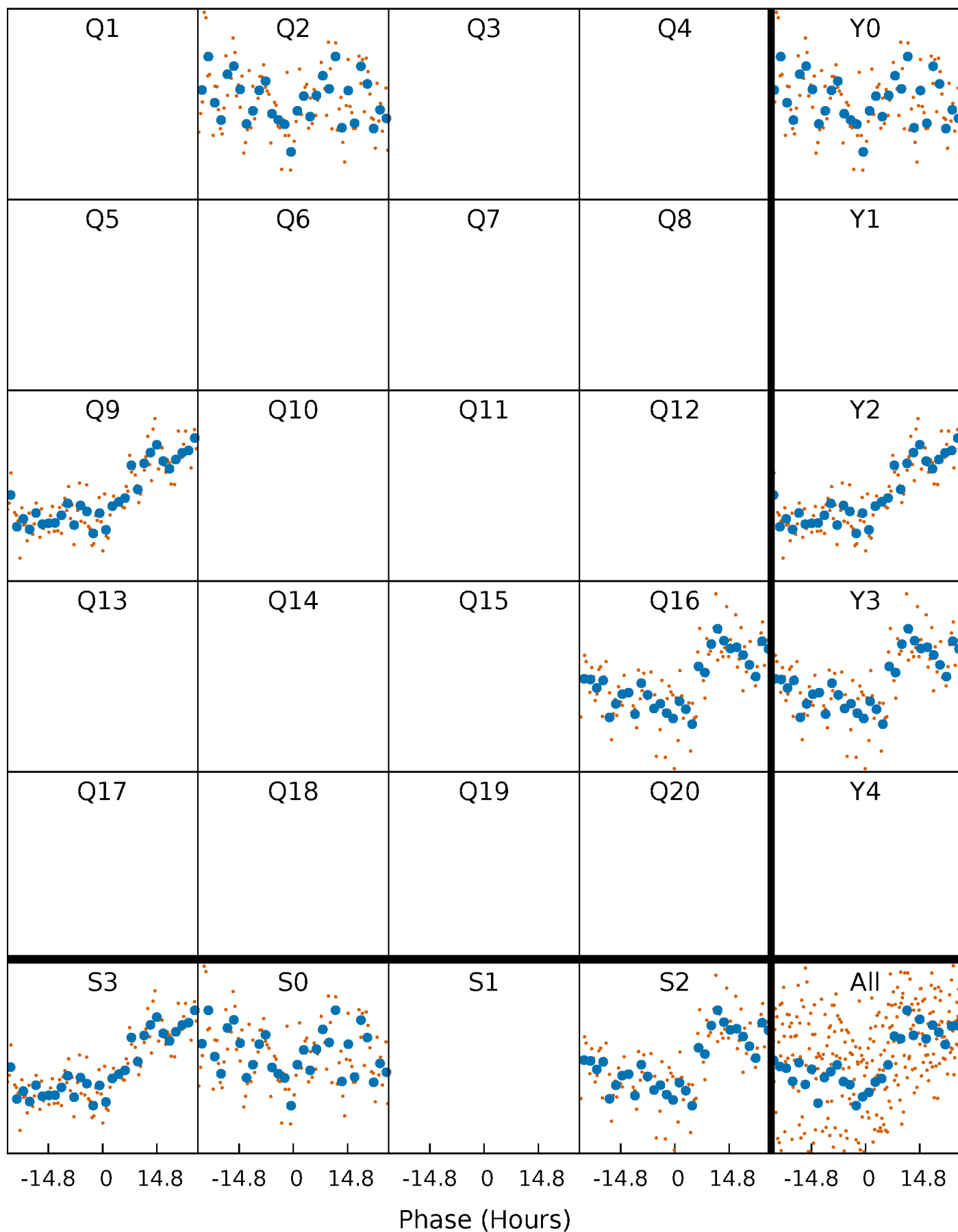


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

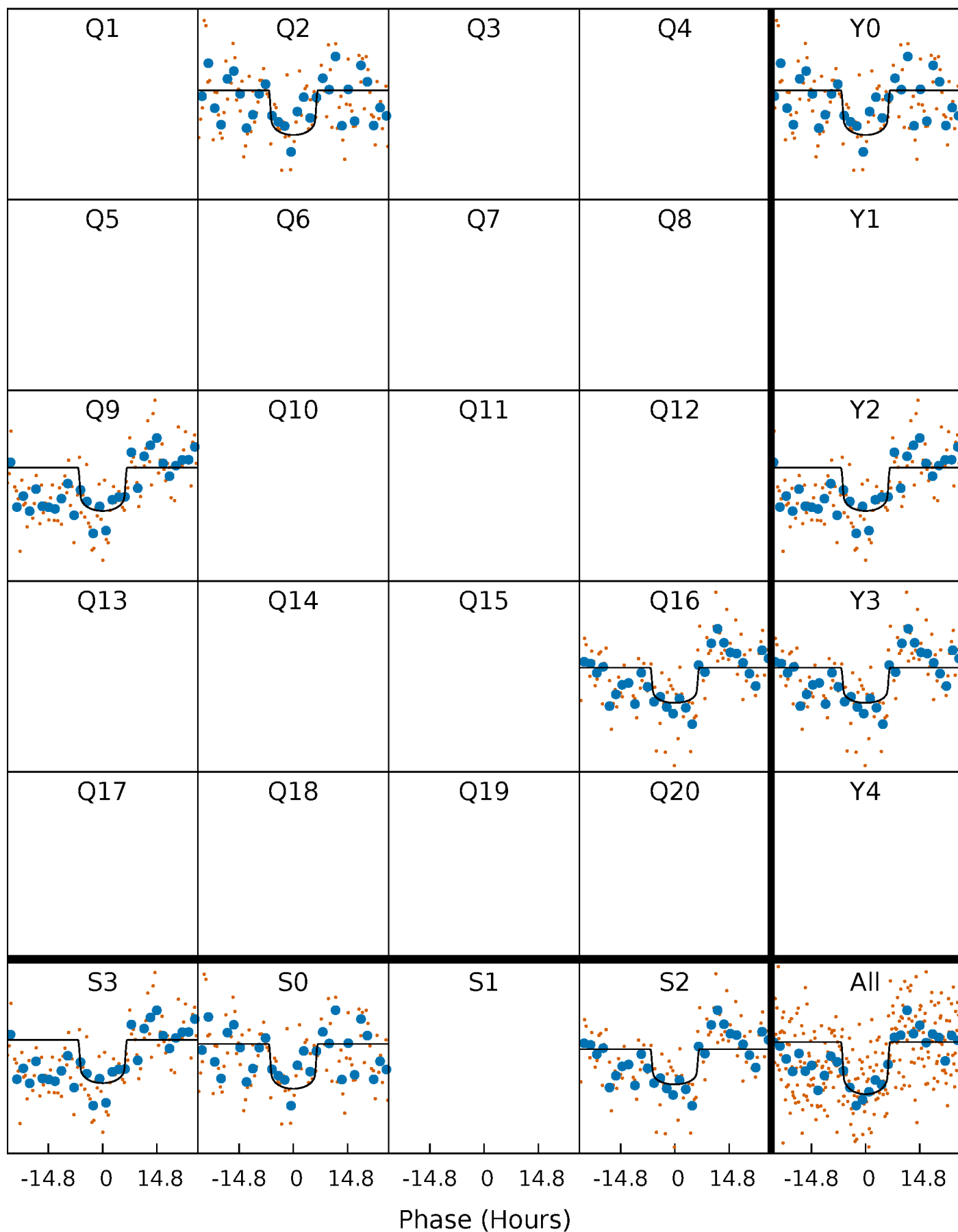
TCE 011404260-01 P=663.913659 Days  $T_0=174.392750$  (BKJD)





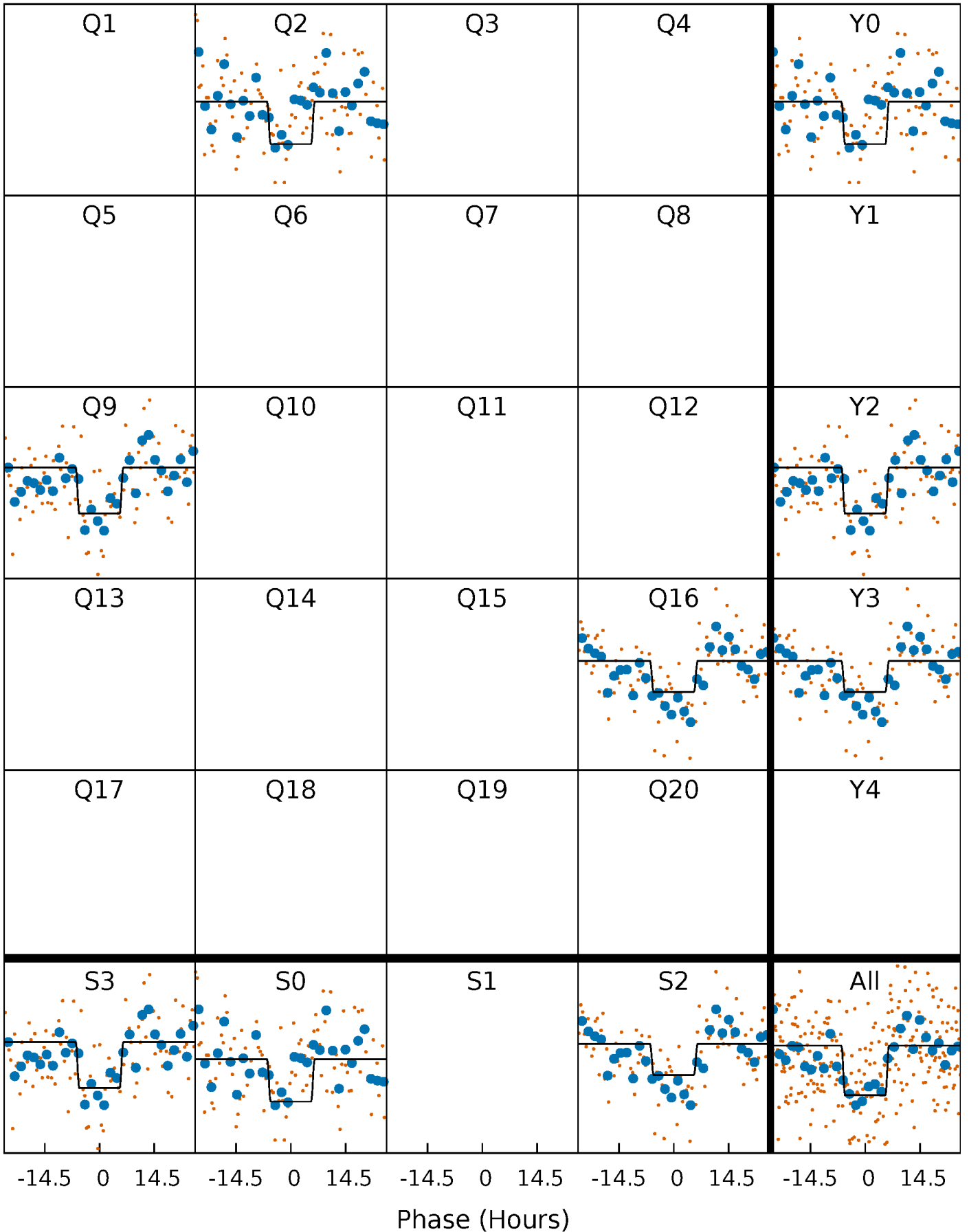
# DV Quarter-Phased Transit Curves

TCE 011404260-01 P=663.913659 Days  $T_0=174.392750$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

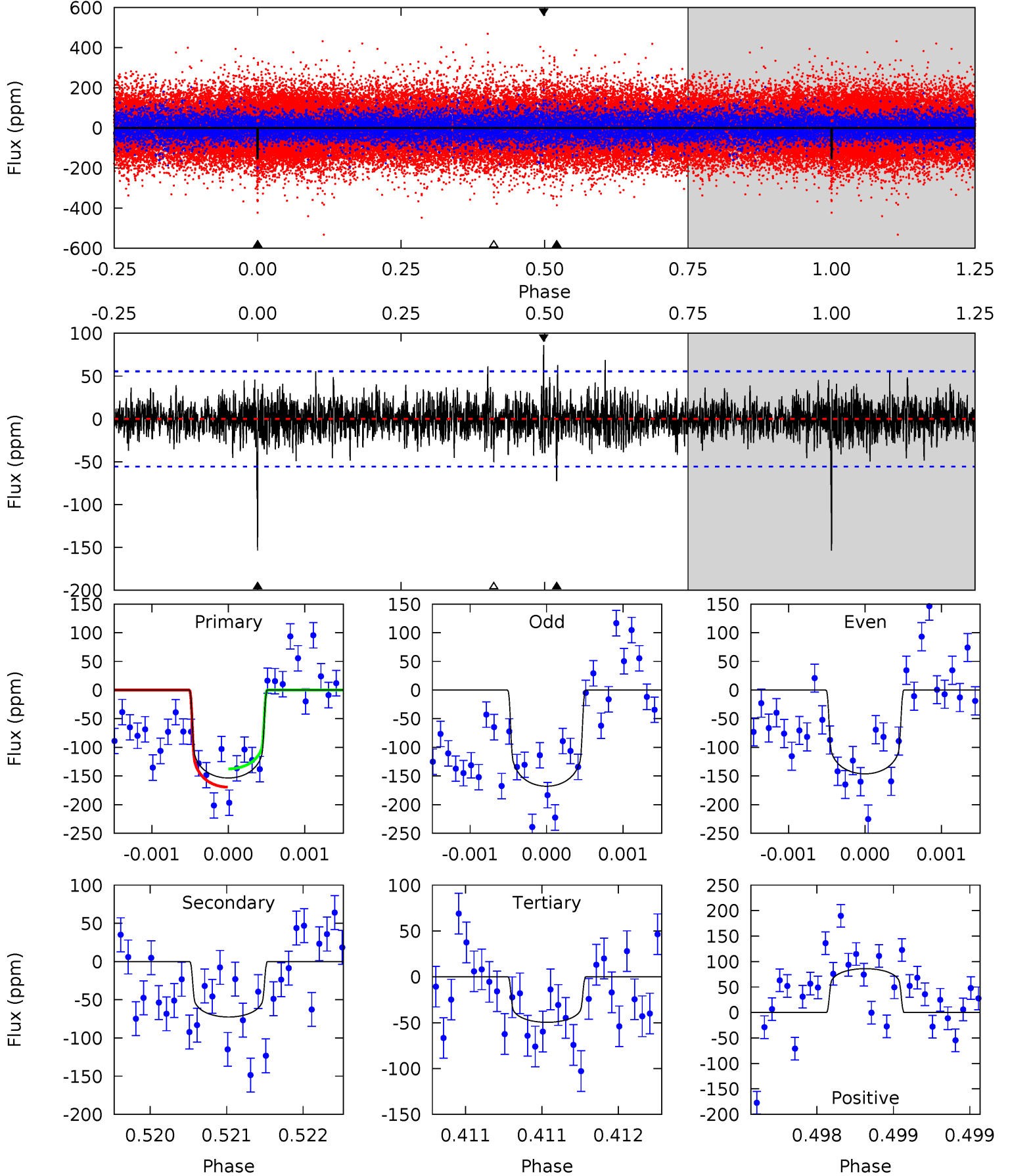
TCE 011404260-01 P=663.893176 Days  $T_0=174.434724$  (BKJD)



# DV Model-Shift Uniqueness Test

011404260-01, P = 663.913659 Days, E = 174.392750 Days

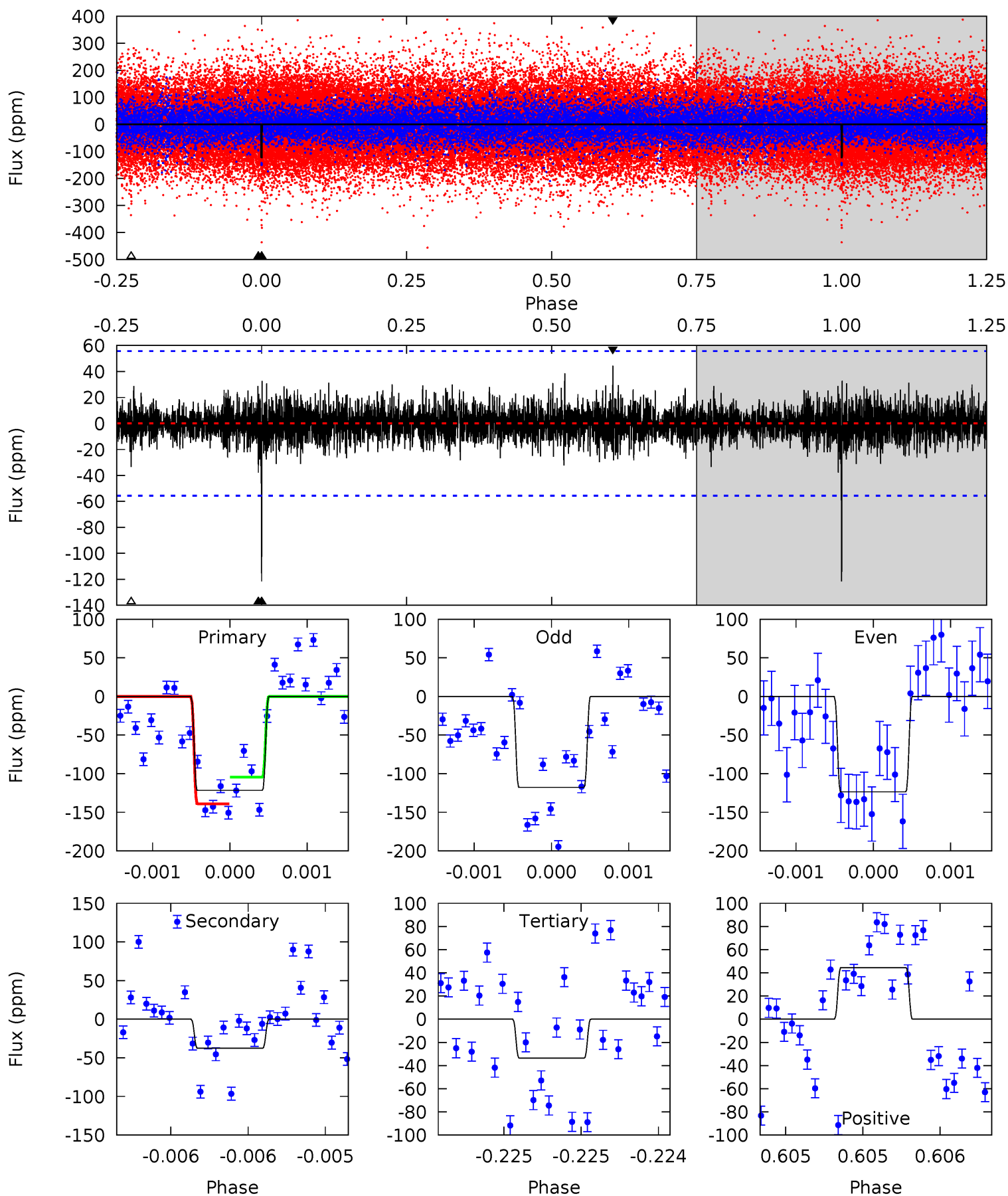
| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.1 | 7.16 | 4.89 | 8.48 | 5.48            | 3.34            | 1.50             | 10.3    | 6.66    | 2.27    | -1.32   | 1.01    | 0.91 | 0.36  | 1.58 |



# Alt Model-Shift Uniqueness Test

011404260-01, P = 663.893176 Days, E = 174.434724 Days

| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.0 | 3.72 | 3.31 | 4.38 | 5.49            | 3.36            | 0.92             | 8.69    | 7.62    | 0.41    | -0.66   | 0.27    | 1.03 | 0.27  | 1.71 |



### Stellar Parameters For KIC 011404260

|        | $T_{\text{eff}} (K)$ | $\log(g)$                 | $[\text{Fe}/\text{H}]$     | $R (R_{\odot})$           | $M (M_{\odot})$           | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
|        | $8197^{+226}_{-340}$ | $3.802^{+0.391}_{-0.069}$ | $-0.260^{+0.200}_{-0.300}$ | $2.815^{+0.304}_{-1.142}$ | $1.834^{+0.093}_{-0.373}$ | $0.116^{+0.358}_{-0.027}$                 |
|        | +3%/-4%              | +10%/-2%                  | +77%/-115%                 | +11%/-41%                 | +5%/-20%                  | +309%/-24%                                |
| 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 011404260-01 / KOI

| Detrend | Depth (ppm)  | $R_p (R_{\oplus})$     | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$  | $A_{\text{obs}}$        |
|---------|--------------|------------------------|----------------------|-----------------------|-------------------------|
| DV      | $-73 \pm 10$ | $3.47^{+1.01}_{-0.96}$ | $608^{+37}_{-70}$    | $6506^{+1143}_{-699}$ | $10807^{+9435}_{-4386}$ |
| Alt.    | $-38 \pm 10$ | $3.08^{+1.03}_{-0.97}$ | $606^{+43}_{-61}$    | $5892^{+1098}_{-803}$ | $7088^{+8628}_{-3472}$  |

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

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

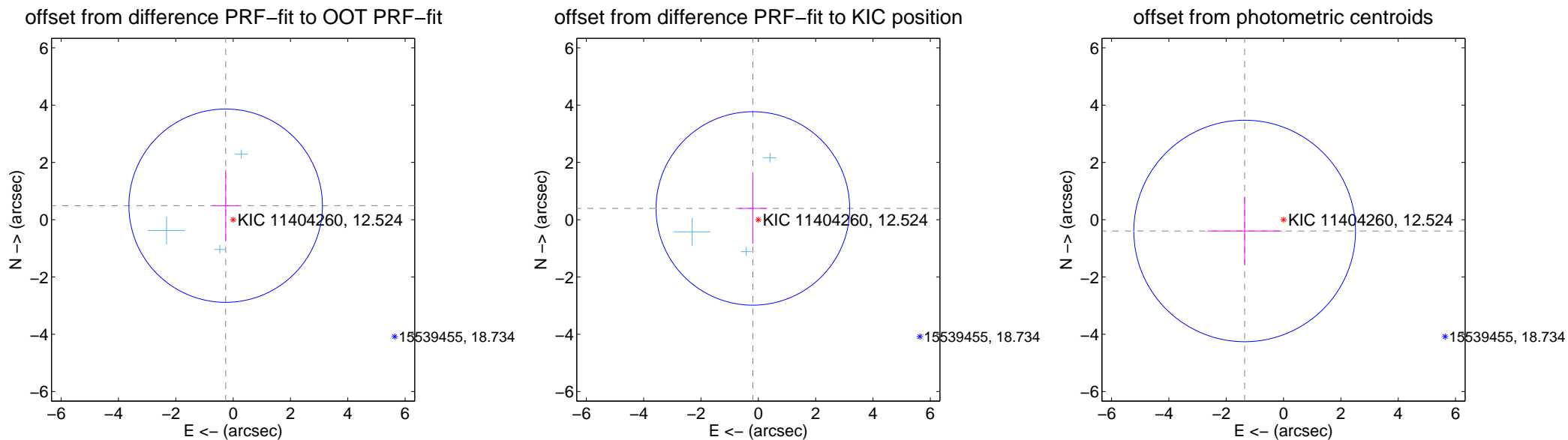
## DV Centroid Data

Supplemental centroid analysis for 011404260-01. Kepler magnitude: 12.52. Transit SNR 8.00

There are 3 quarters with good PRF difference image offsets

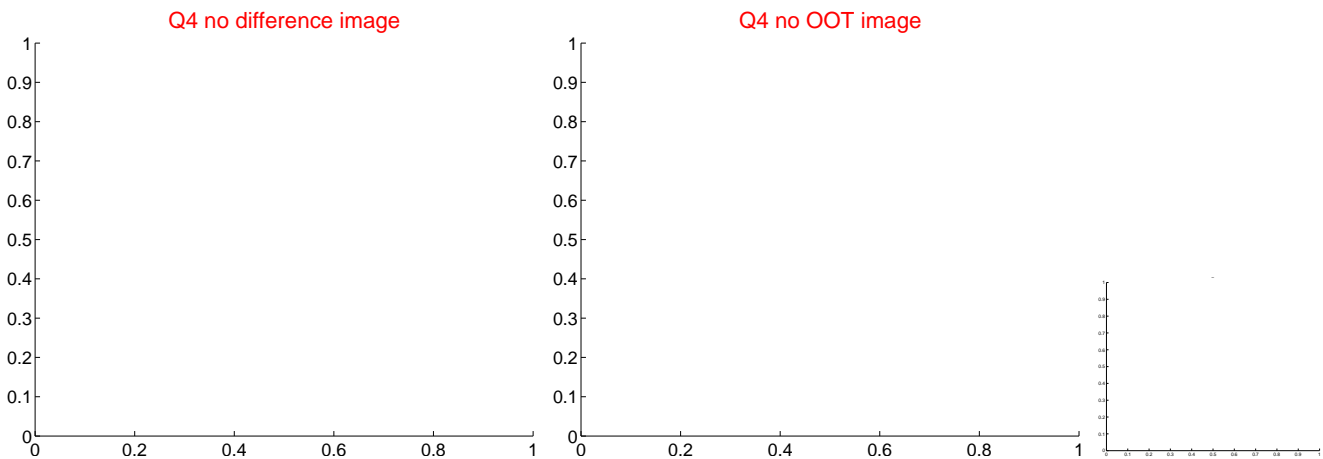
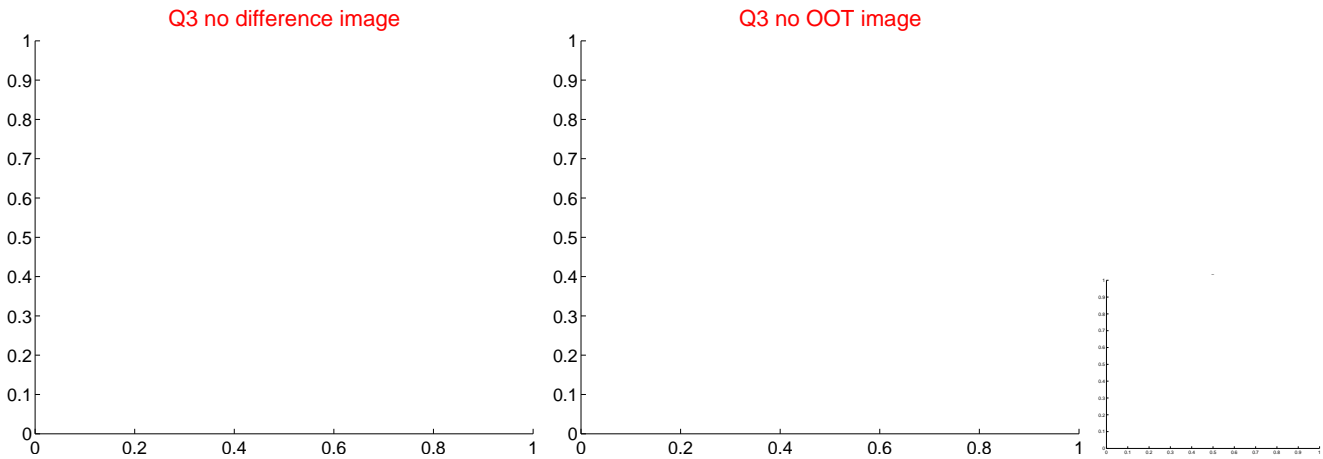
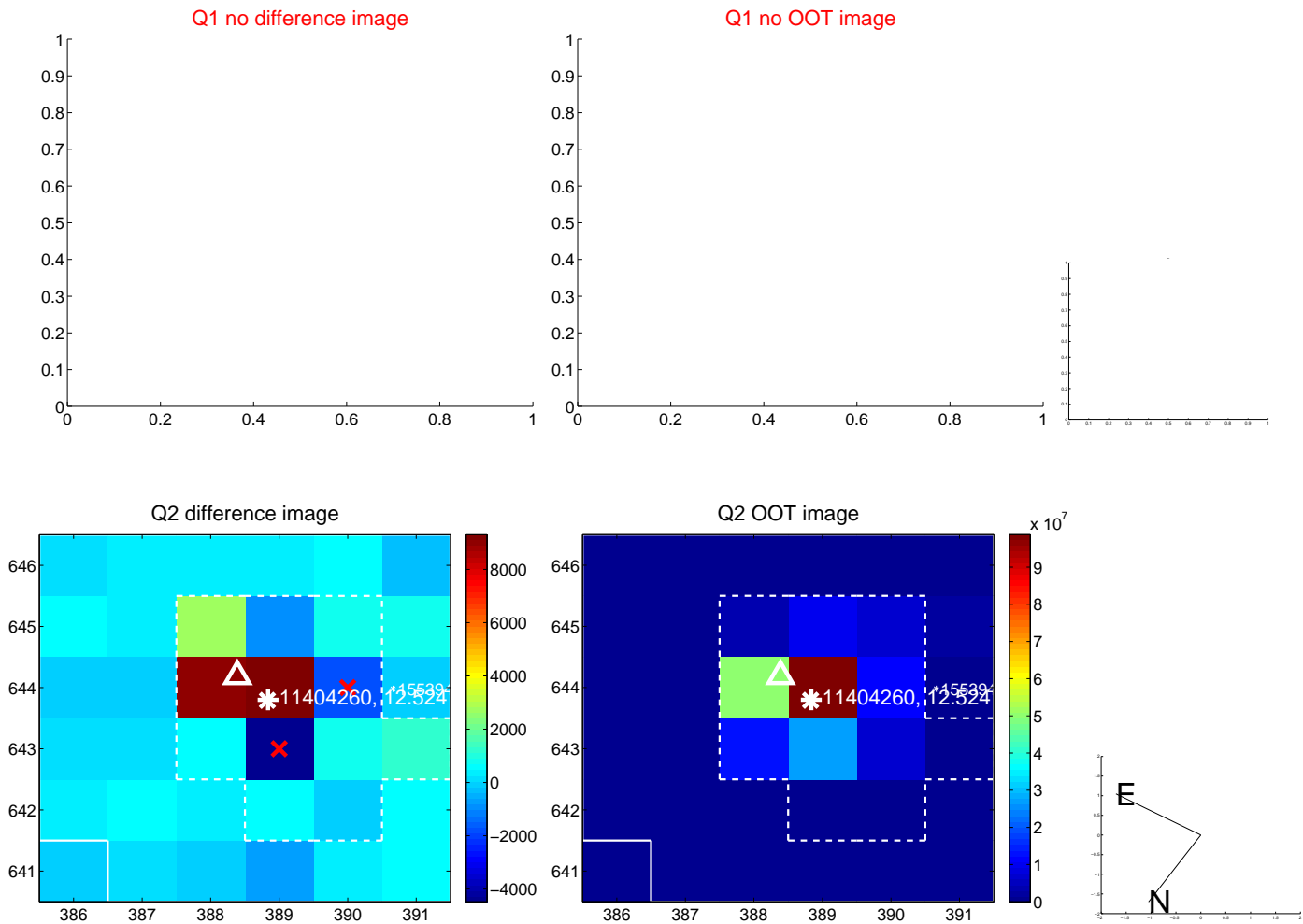
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec      |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT          | $0.555 \pm 1.125$  | 0.49                | $0.260 \pm 0.463$ | $0.490 \pm 1.250$ |
| PRF-fit source offset from KIC position | $0.437 \pm 1.126$  | 0.39                | $0.191 \pm 0.488$ | $0.393 \pm 1.229$ |
| photometric centroid source offset      | $1.41 \pm 1.29$    | 1.09                | $1.36 \pm 1.30$   | $-0.39 \pm 1.19$  |



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- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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.

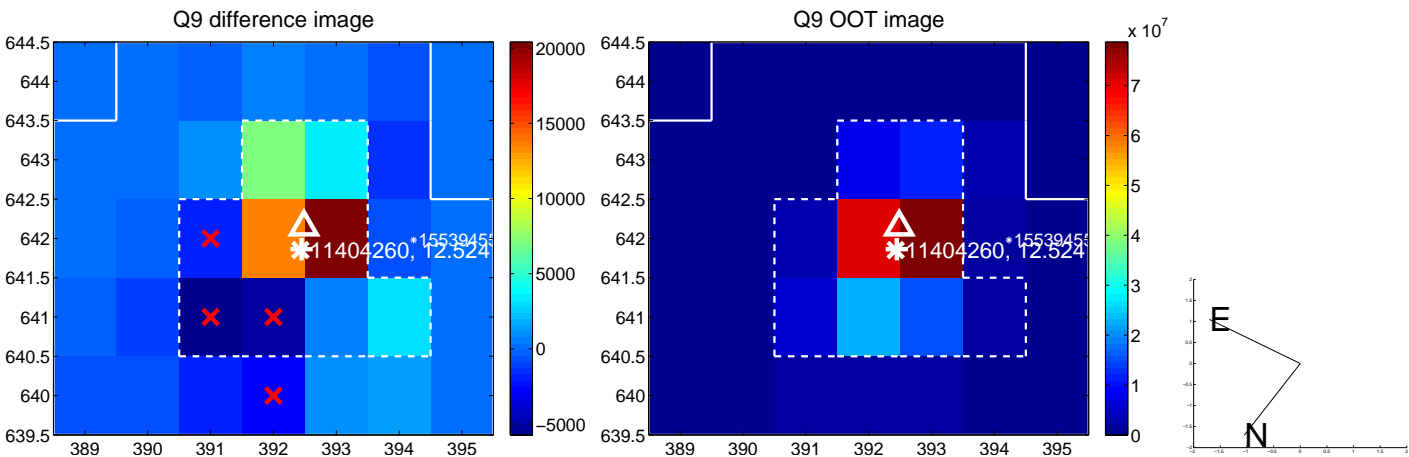




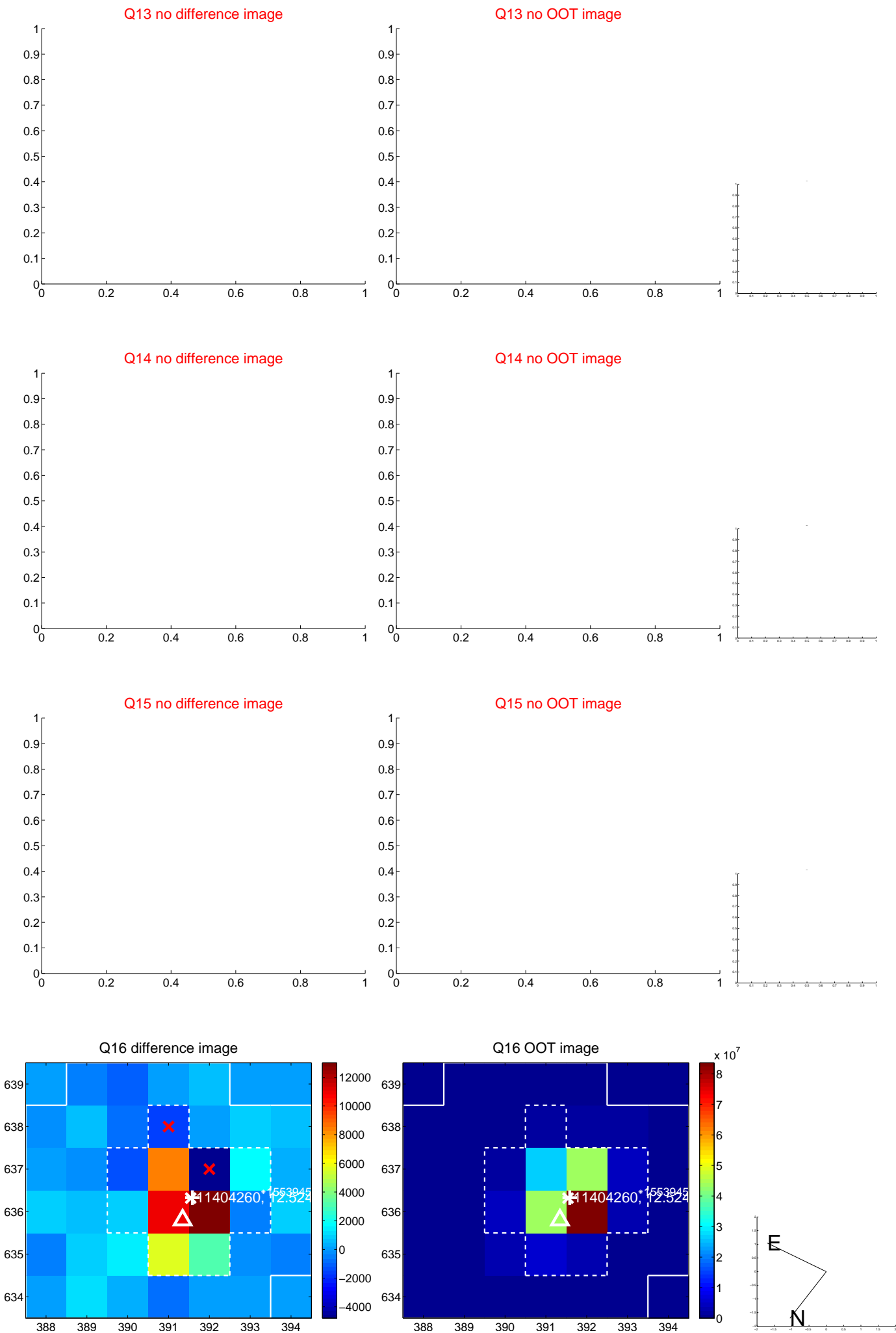
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



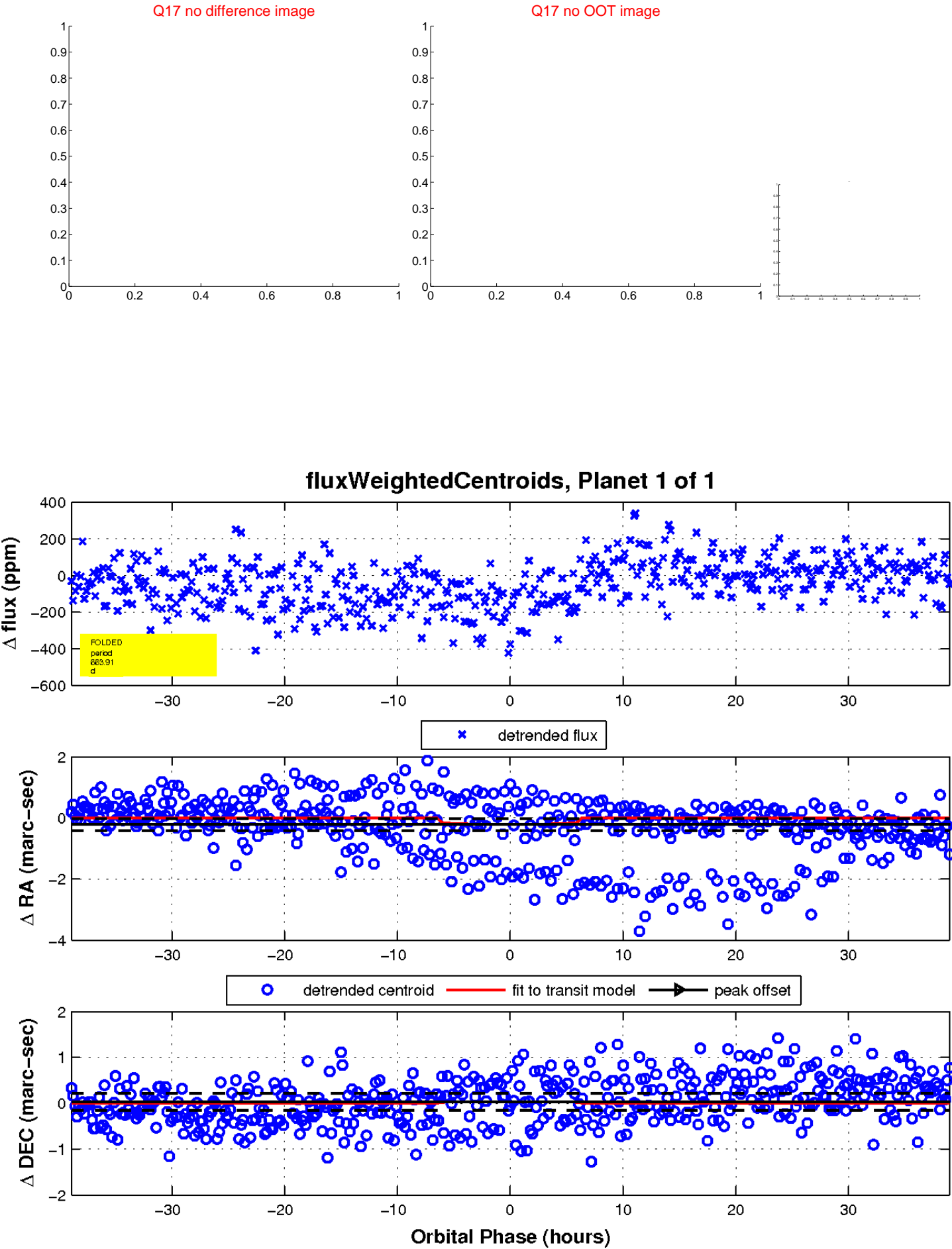
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

