

# KIC 007750419

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007750419-01 | OBS      | 1708.01 | 32.773658     | 151.446467   | 544.5       | 3.416            | 18.9 | 21.6 | 1.53                        | 5640            | 4.80                   | 52.30                  |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments   |
|--------------|----------|------|-------|---|---|---|---|------------|
| 007750419-01 | 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.

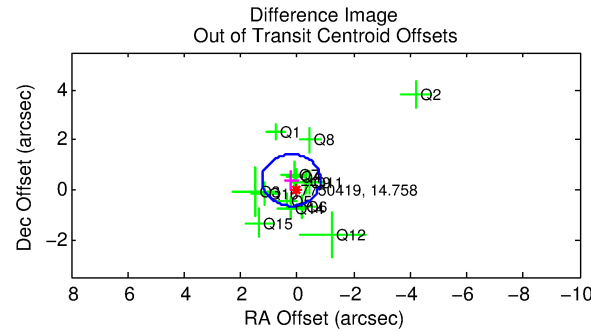
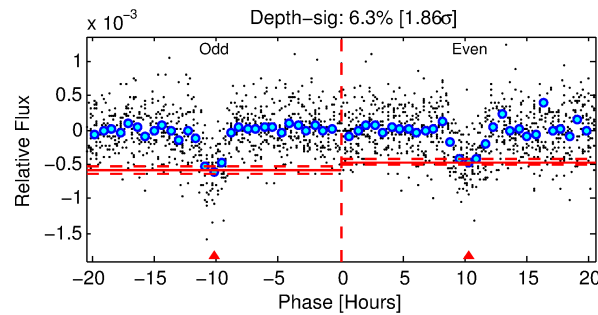
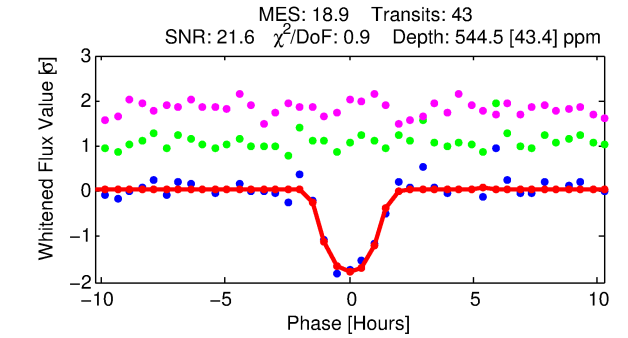
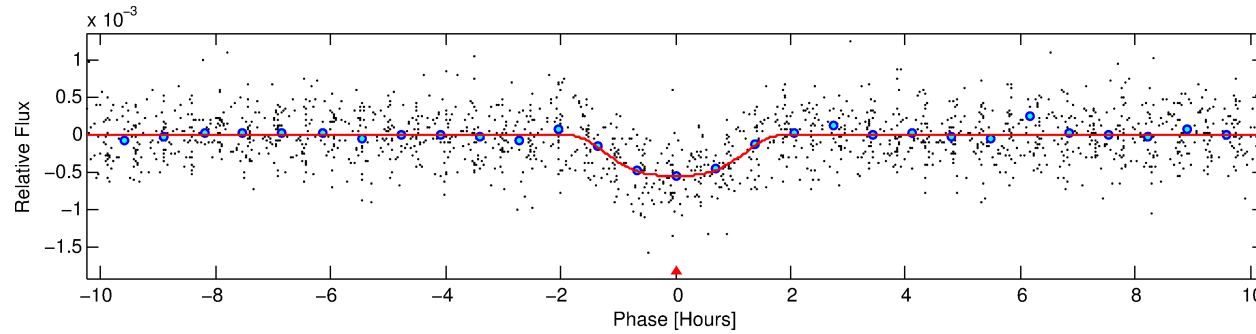
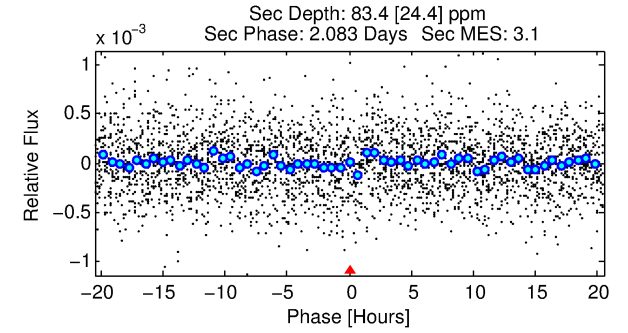
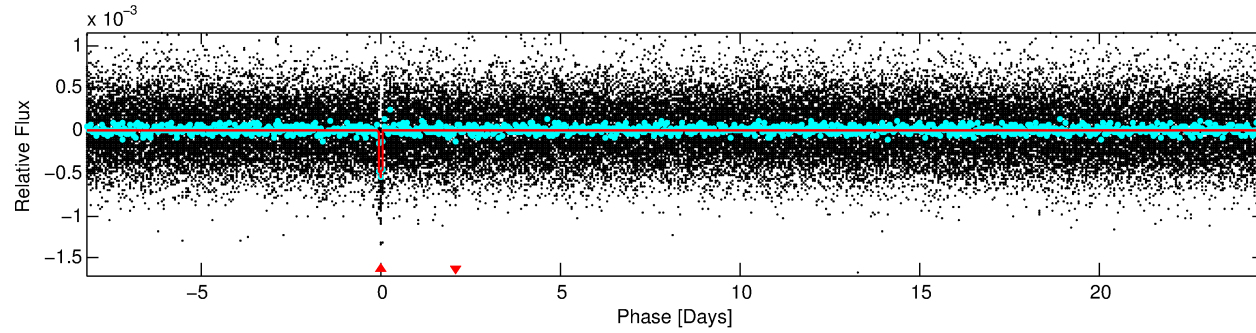
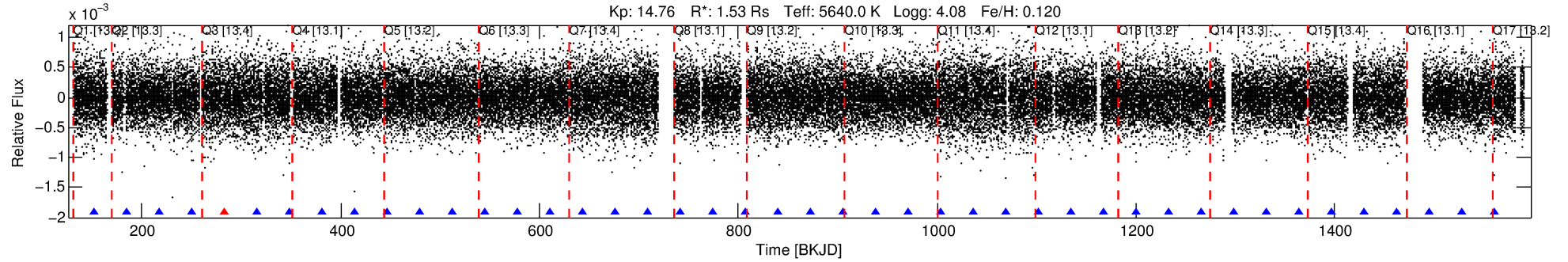
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007750419-01

No Significant Match Found

# DV One-Page Summary

KIC: 7750419 Candidate: 1 of 1 Period: 32.774 d  
KOI: K01708.01 Corr: 0.978



## DV Fit Results:

Period = 32.77366 [0.00016] d  
Epoch = 151.4465 [0.0041] BKJD  
Rp/R\* = 0.0287 [0.0019]  
a/R\* = 25.56 [3.33]  
b = 0.97 [0.01]  
Seff = 52.30 [18.50]  
Teff = 686 [61] K  
Rp = 4.80 [1.17] Re  
a = 0.2020 [0.0446] AU  
Ag = 81.17 [38.45] [2.08σ]  
Teffp = 3182 [260] K [9.37σ]

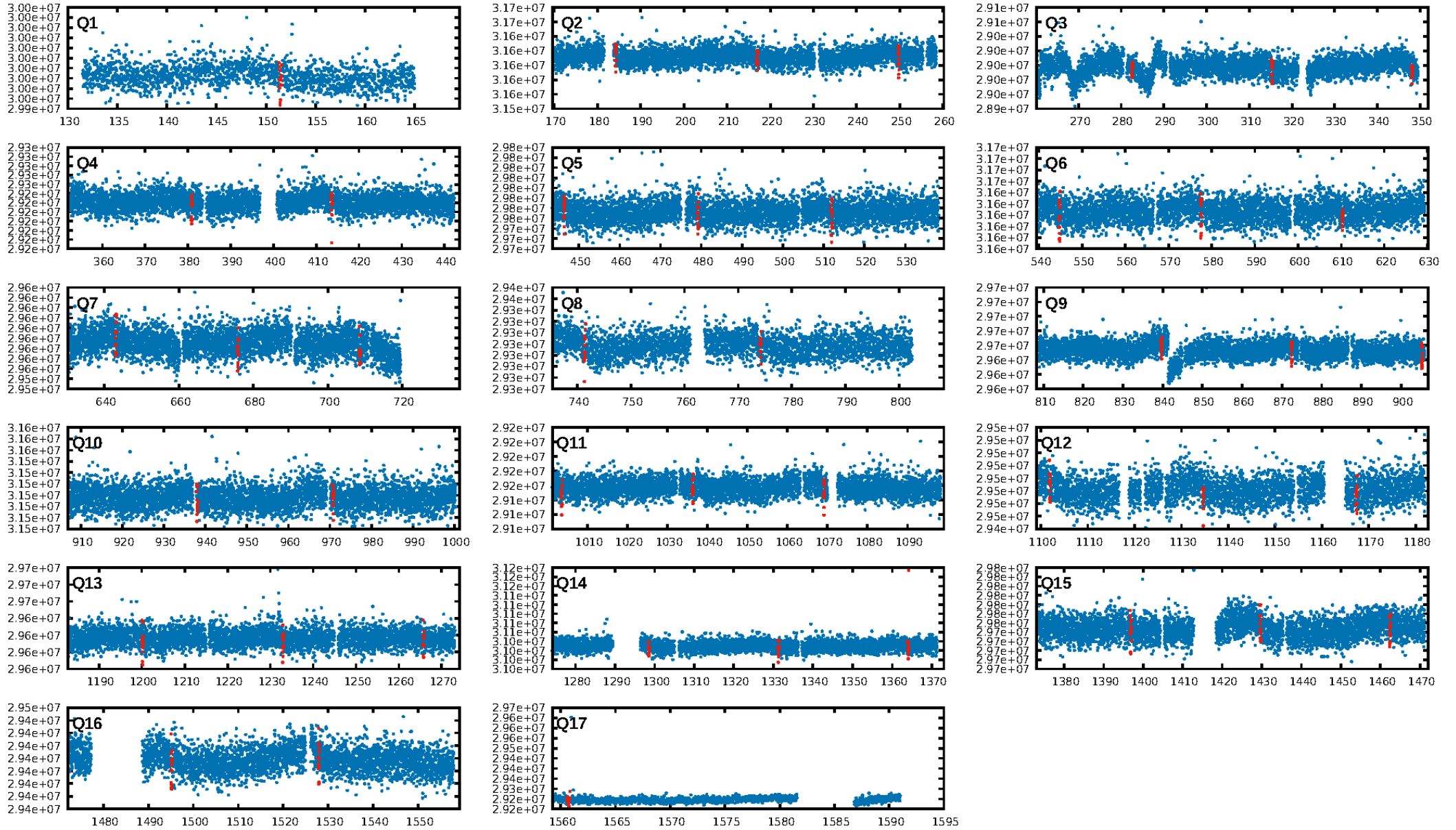
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 59.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 8.07e-77  
RollingBand-fgt: 0.98 [40/41]  
GhostDiagnostic-chr: 2.051  
Centroid-sig: 1.4%  
Centroid-so: 1.686 arcsec [2.43σ]  
OotOffset-rm: 0.431 arcsec [1.25σ]  
KicOffset-rm: 0.453 arcsec [1.23σ]  
OotOffset-st: 3/4/4/3 [14]  
KicOffset-st: 3/4/4/3 [14]  
DiffImageQuality-fgm: 0.86 [12/14]  
DiffImageOverlap-fno: 1.00 [15/15]

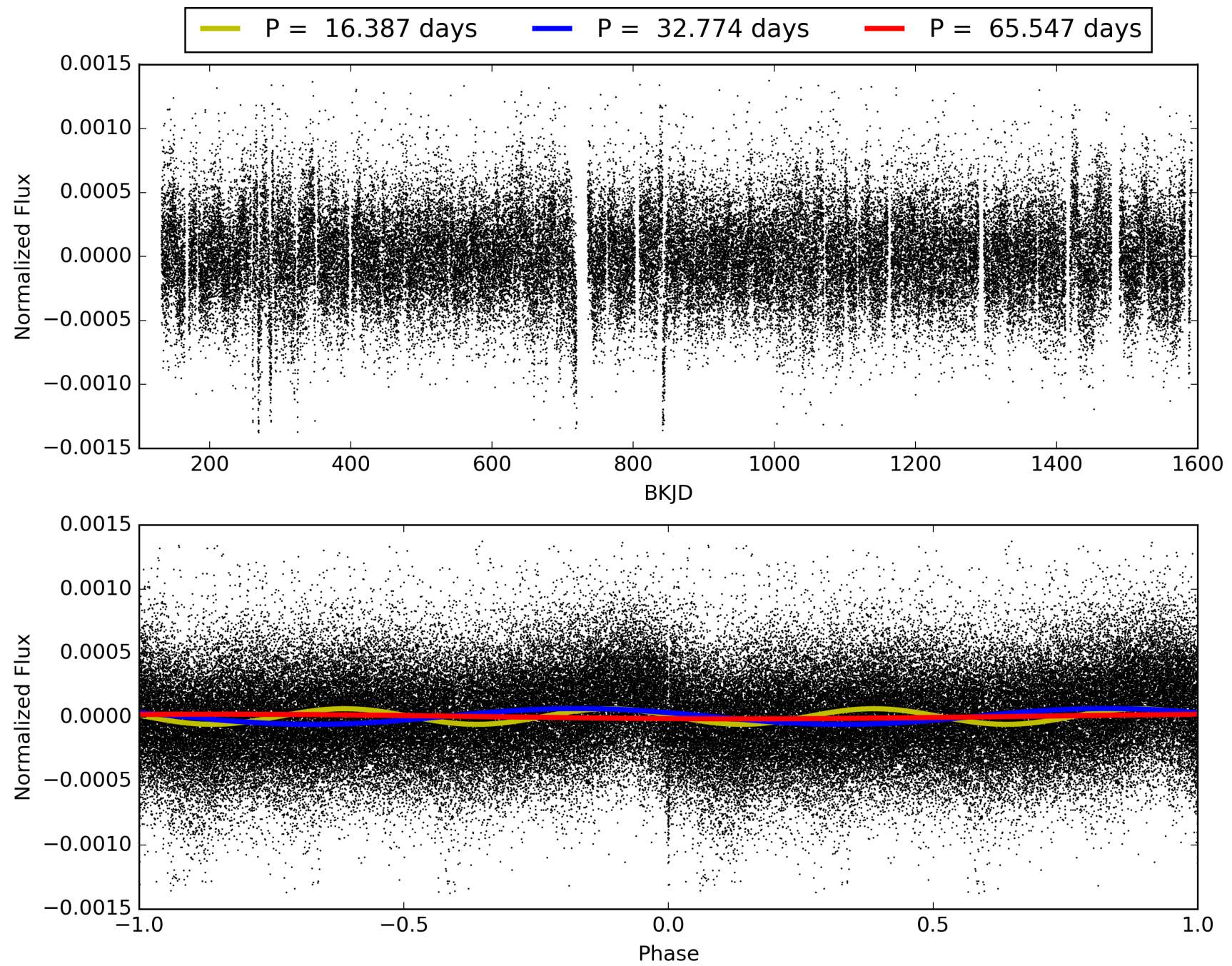
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:20:07 Z

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

# TCE 007750419-01, PDC Light Curves

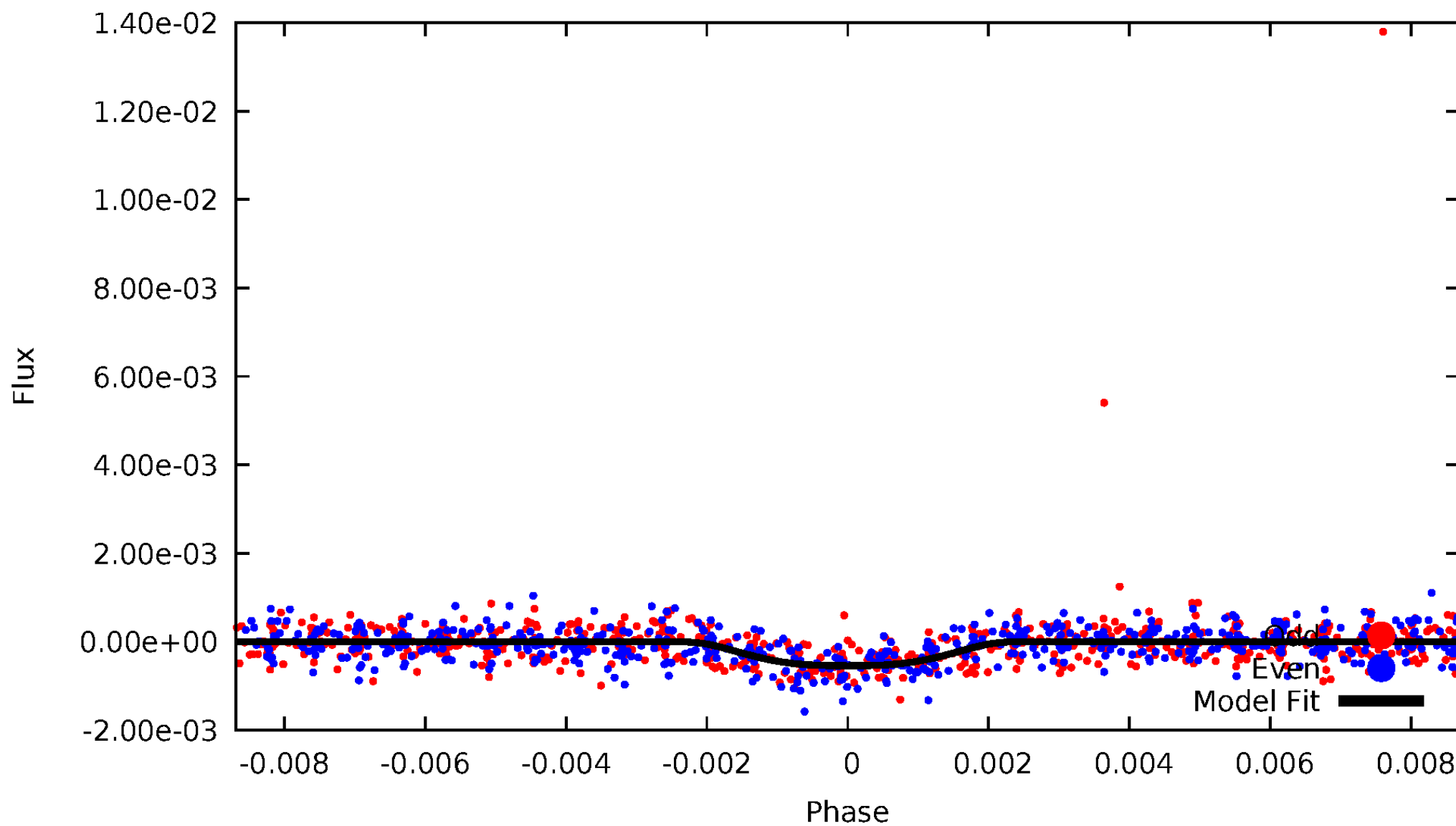


TCE 007750419-01



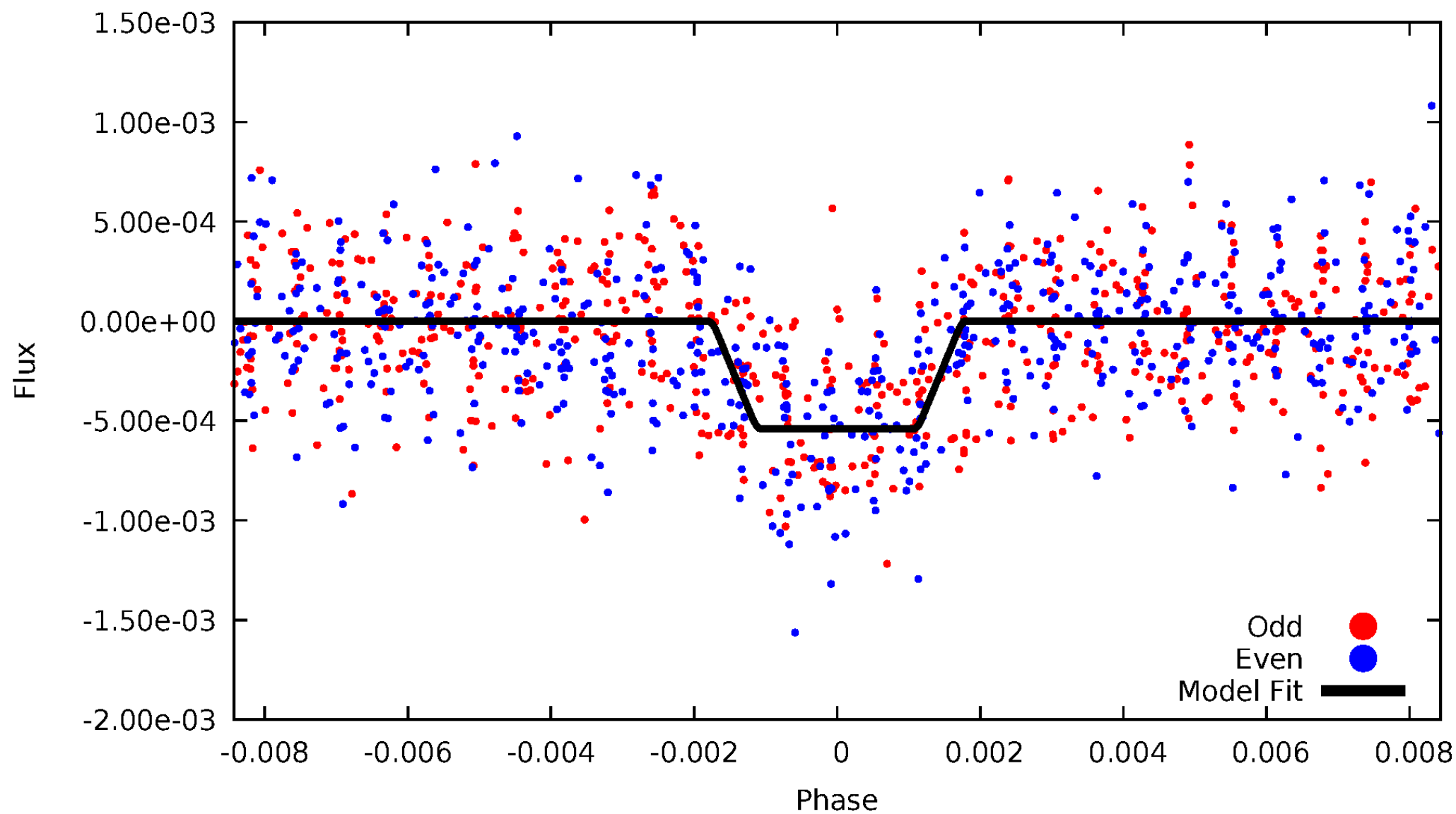
# DV Odd/Even

TCE 007750419-01



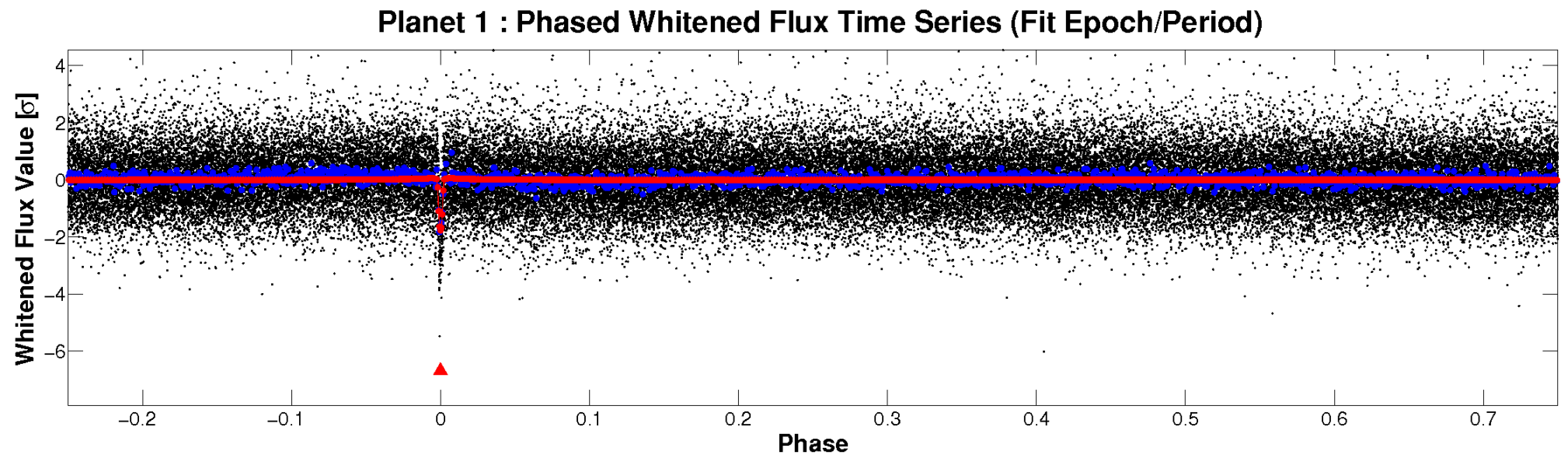
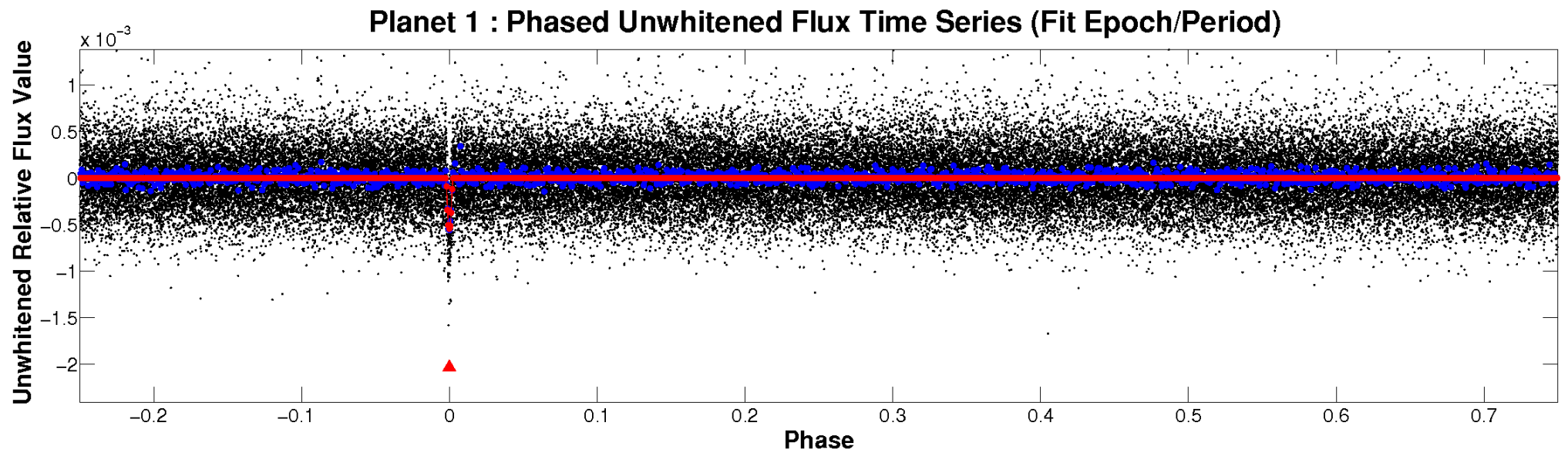
# ALT Odd/Even

TCE 007750419-01



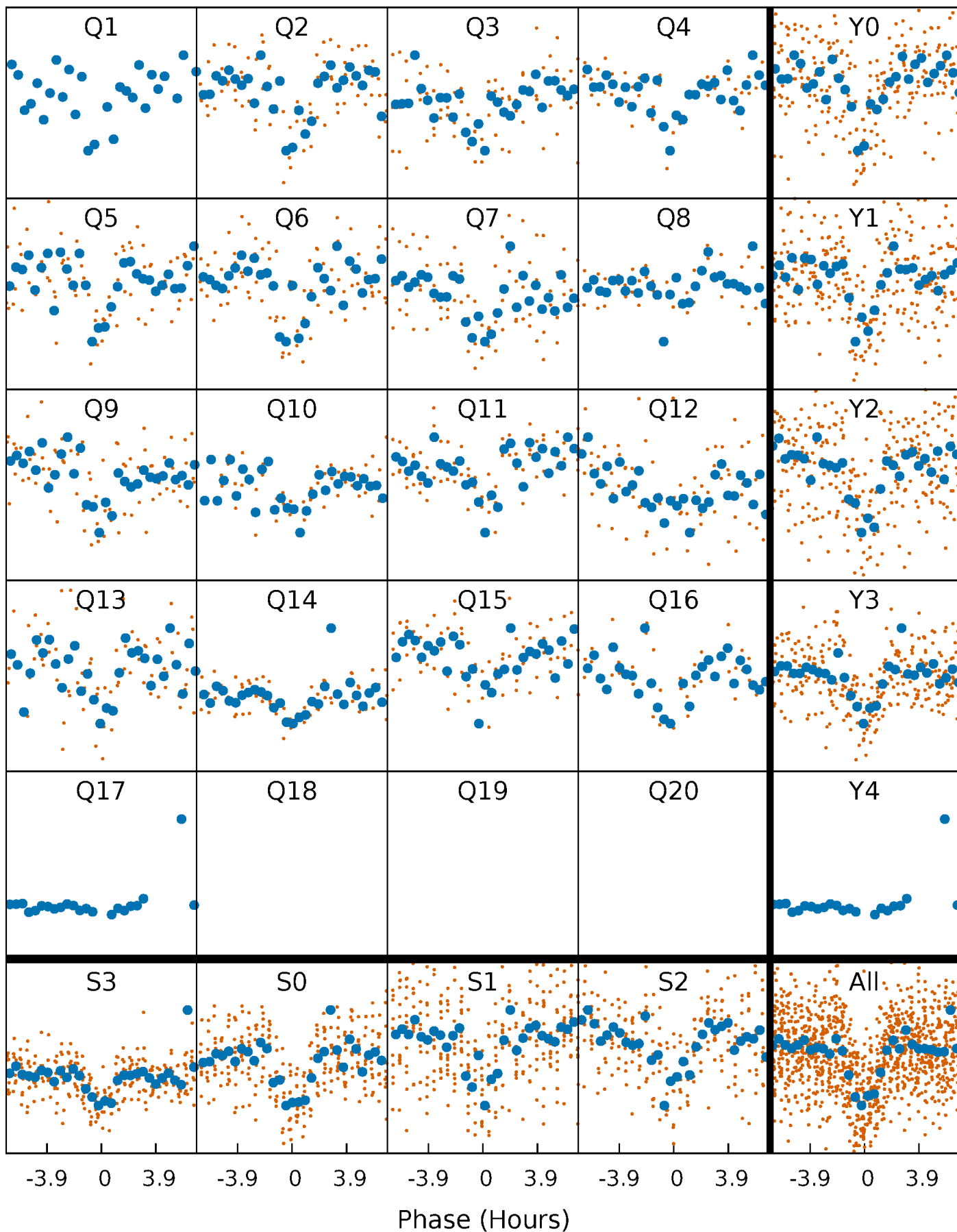


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

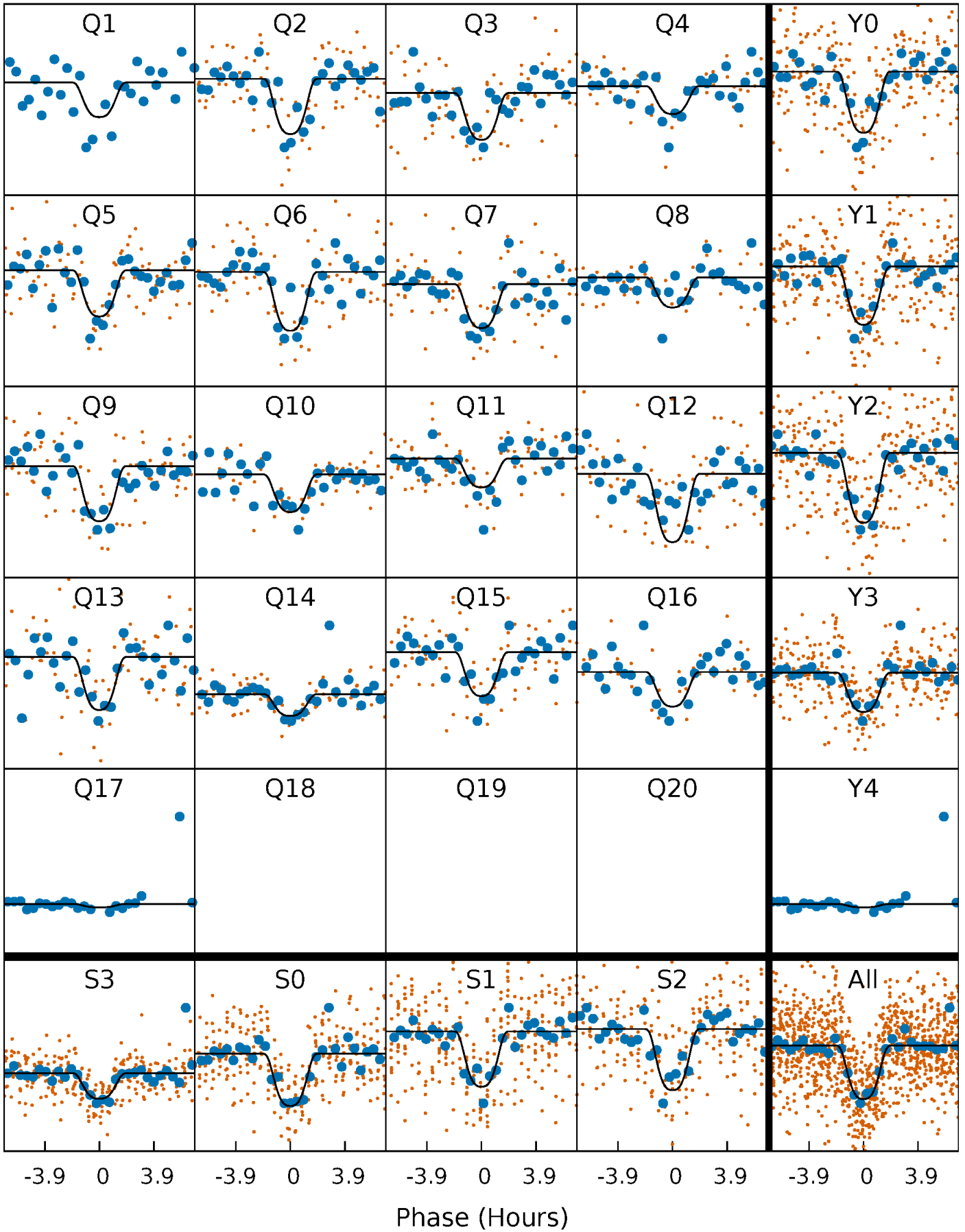
TCE 007750419-01 P= 32.773658 Days  $T_0=151.446467$  (BKJD)





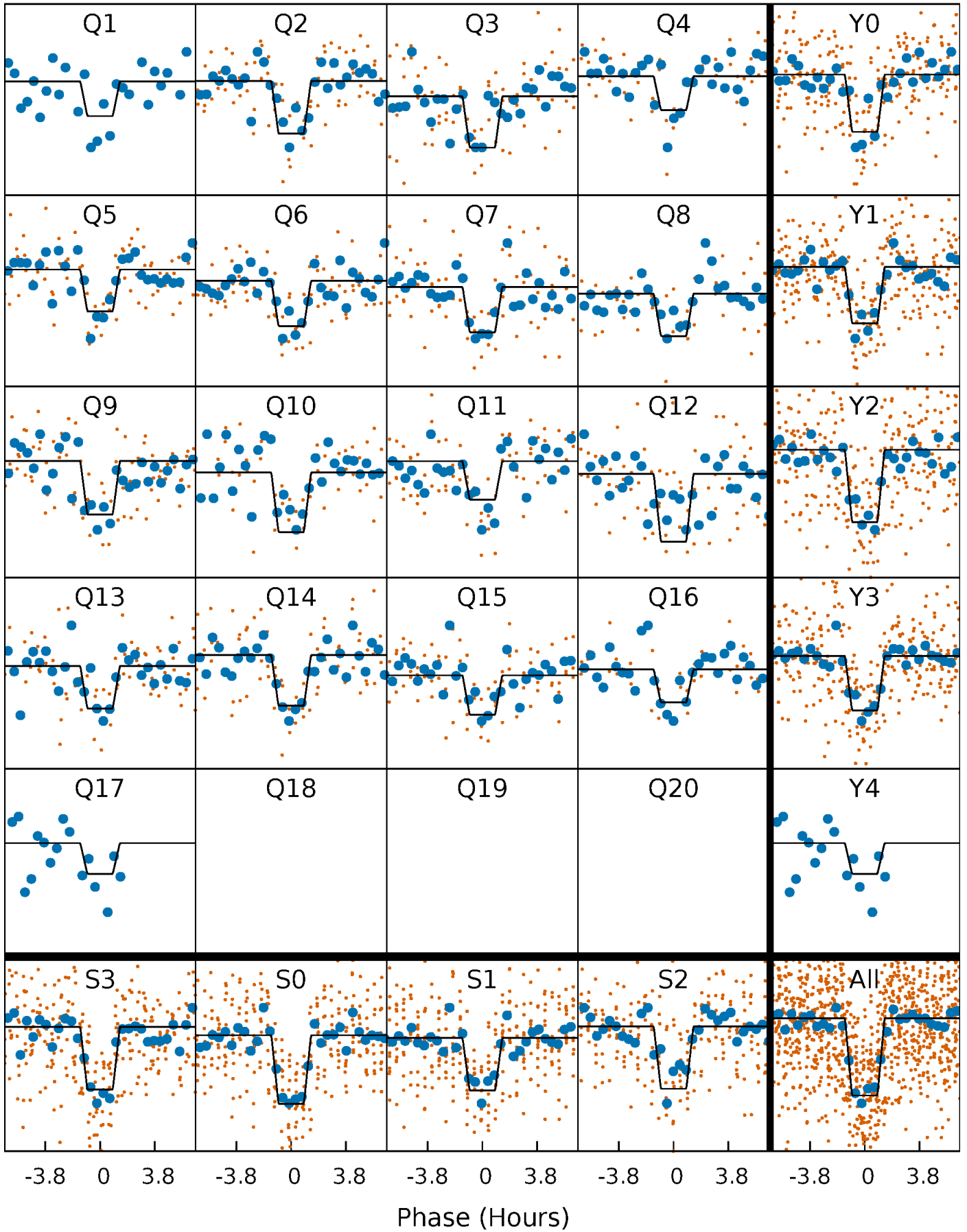
# DV Quarter-Phased Transit Curves

TCE 007750419-01 P= 32.773658 Days  $T_0=151.446467$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

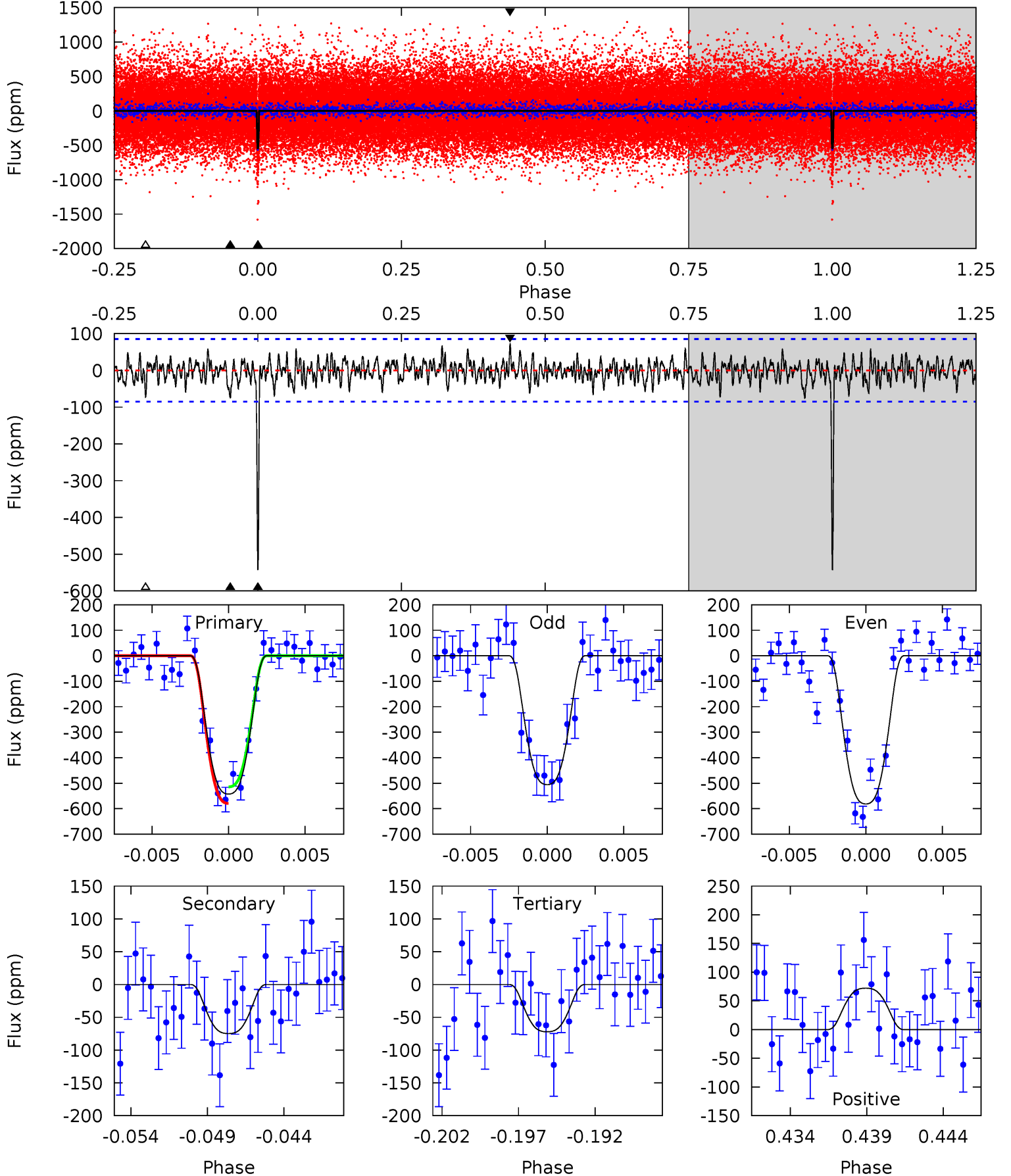
TCE 007750419-01 P= 32.773725 Days  $T_0=151.445126$  (BKJD)



# DV Model-Shift Uniqueness Test

007750419-01,  $P = 32.773658$  Days,  $E = 118.672809$  Days

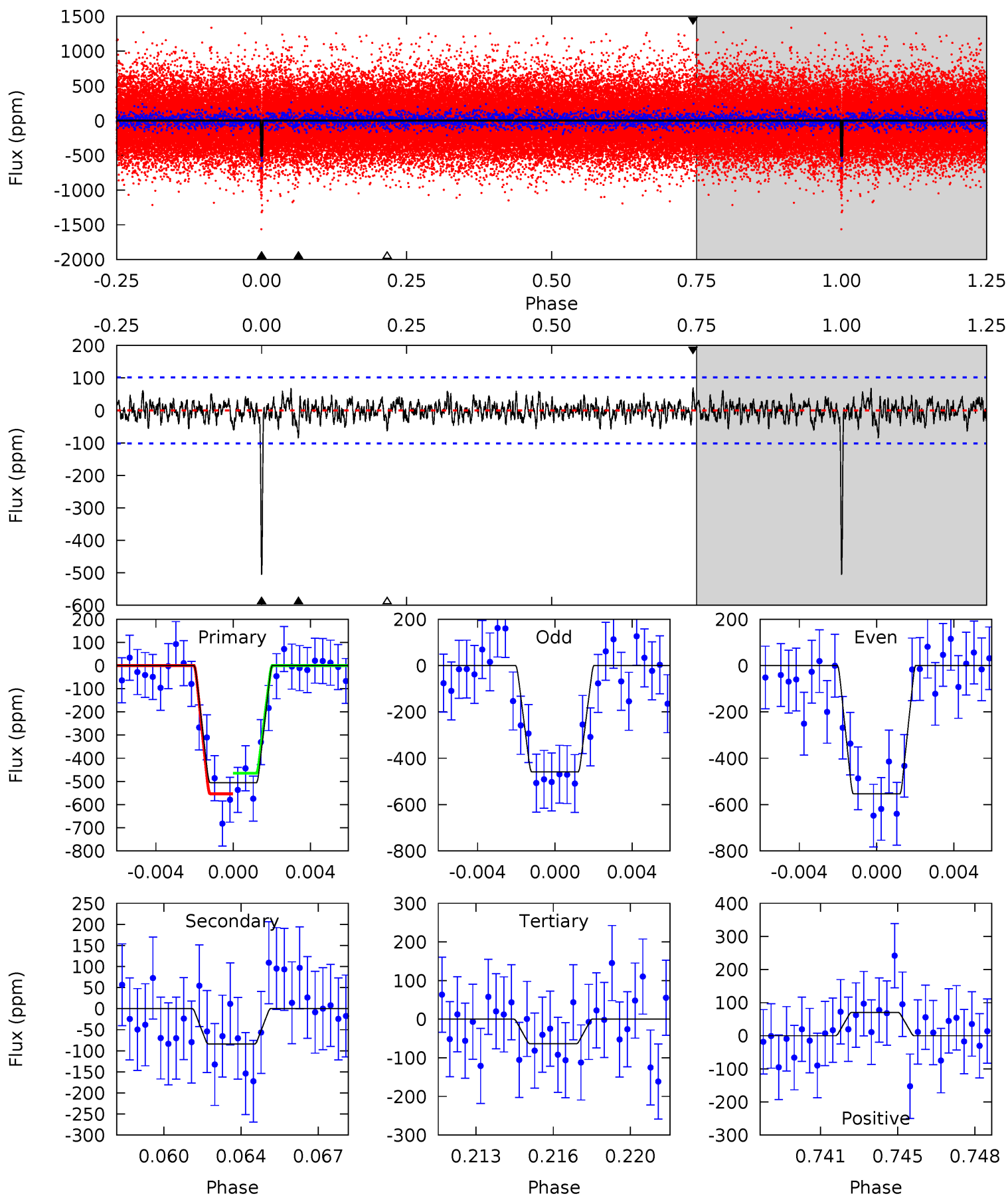
| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 32.9 | 4.54 | 4.38 | 4.38 | 5.16            | 2.81            | 1.36             | 28.5    | 28.5    | 0.17    | 0.17    | 2.30    | 0.97 | 0.12  | 1.97 |



# Alt Model-Shift Uniqueness Test

007750419-01, P = 32.773725 Days, E = 118.671401 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  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 26.0 | 4.31 | 3.27 | 3.63 | 5.22            | 2.92            | 1.09             | 22.7    | 22.4    | 1.04    | 0.68    | 2.45    | 0.92 | 0.12  | 2.29 |



### Stellar Parameters For KIC 007750419

|        | $T_{\text{eff}}(K)$ | $\log(g)$                 | [Fe/H]                    | $R$ ( $R_{\odot}$ )       | $M$ ( $M_{\odot}$ )       | $p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ ) |
|--------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
|        | $5640^{+84}_{-76}$  | $4.076^{+0.203}_{-0.087}$ | $0.120^{+0.150}_{-0.150}$ | $1.534^{+0.240}_{-0.360}$ | $1.023^{+0.092}_{-0.083}$ | $0.399^{+0.413}_{-0.112}$                     |
|        | +1%/-1%             | +5%/-2%                   | +125%/-125%               | +16%/-23%                 | +9%/-8%                   | +104%/-28%                                    |
| Source | SPE90               | SPE90                     | SPE90                     | DSEP                      |                           |   |

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

### Secondary Eclipse Parameters for KIC 007750419-01 / KOI 1708.01

| Detrend | Depth (ppm)  | $R_p$ ( $R_{\oplus}$ ) | $T_{max}$ (K)     | $T_{obs}$ (K)        | $A_{obs}$         |
|---------|--------------|------------------------|-------------------|----------------------|-------------------|
| DV      | $-75 \pm 16$ | $4.69^{+0.57}_{-0.58}$ | $950^{+40}_{-53}$ | $3552^{+151}_{-160}$ | $75^{+32}_{-20}$  |
| Alt.    | $-84 \pm 19$ | $3.80^{+0.51}_{-0.50}$ | $948^{+42}_{-58}$ | $3872^{+204}_{-210}$ | $128^{+57}_{-38}$ |

$T_{max}$  = 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  $A_{obs} \gg 1.0$

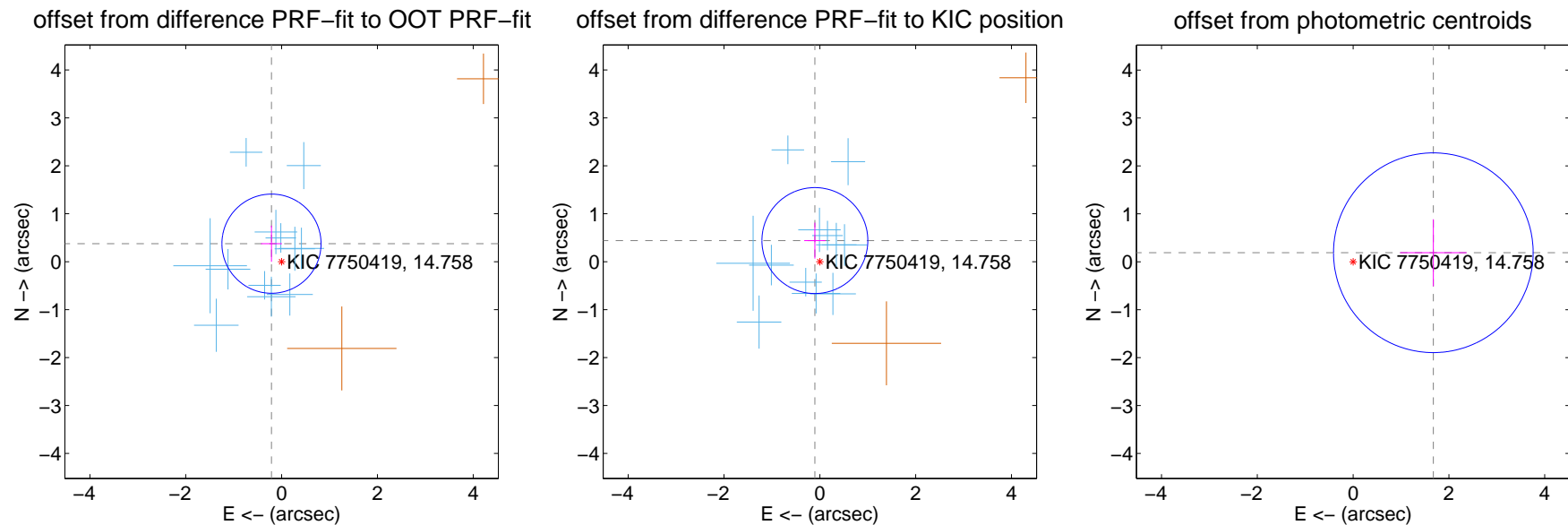
## DV Centroid Data

Supplemental centroid analysis for 007750419-01. Kepler magnitude: 14.76. Transit SNR 21.63

There are 12 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

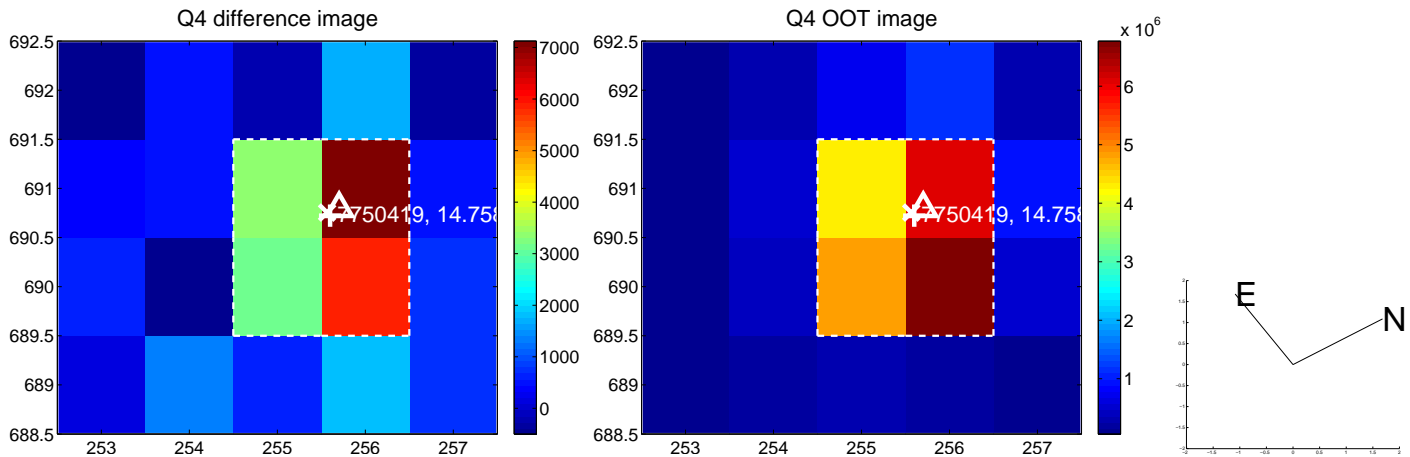
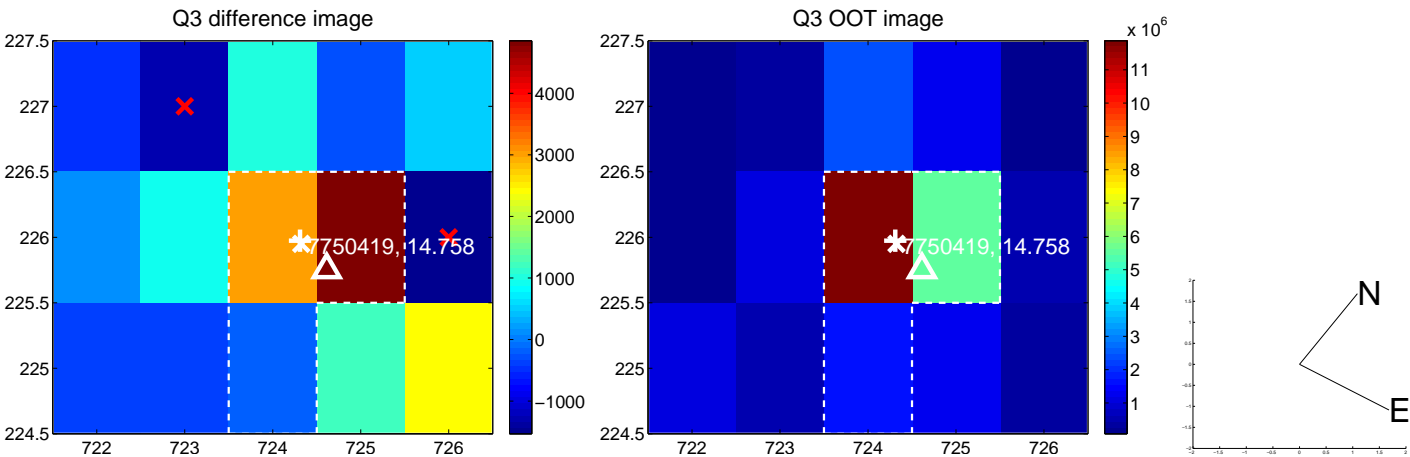
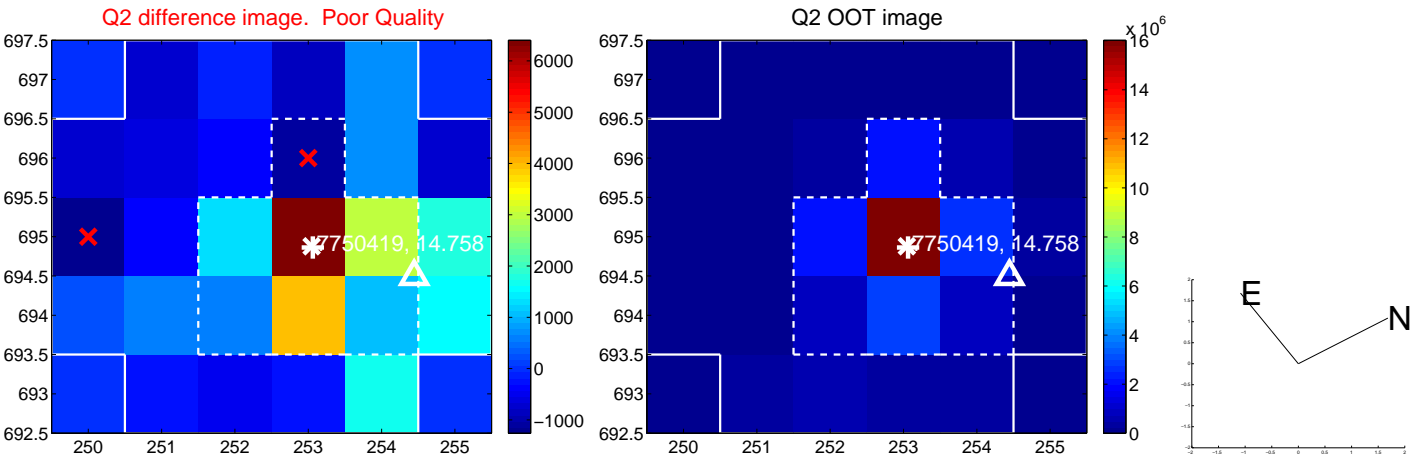
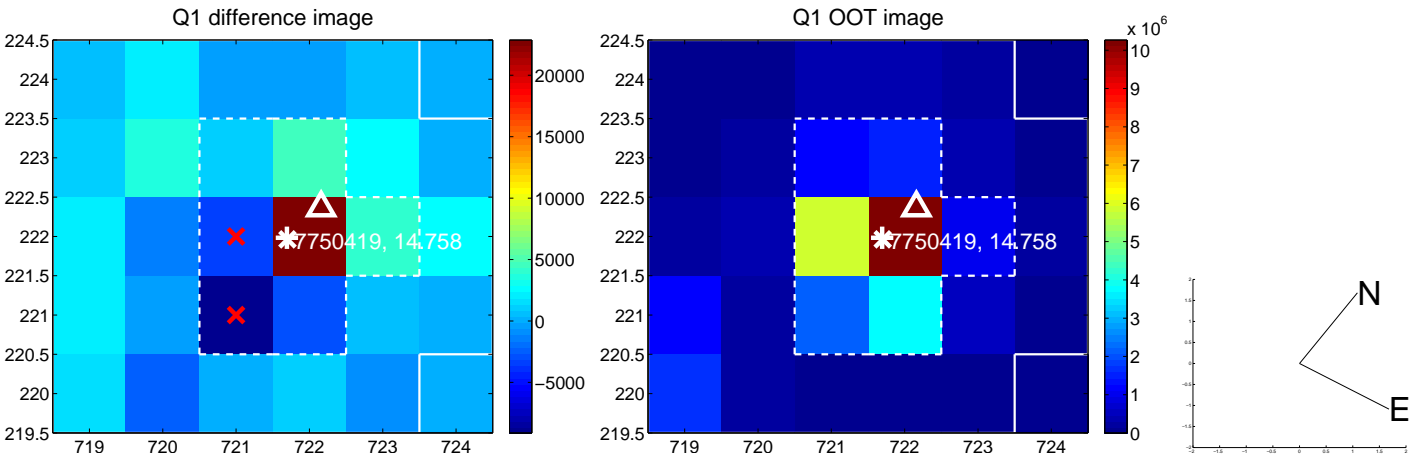
|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec      |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT          | $0.431 \pm 0.345$  | 1.25                | $0.211 \pm 0.218$ | $0.376 \pm 0.376$ |
| PRF-fit source offset from KIC position | $0.453 \pm 0.368$  | 1.23                | $0.104 \pm 0.223$ | $0.441 \pm 0.375$ |
| photometric centroid source offset      | $1.69 \pm 0.69$    | 2.43                | $-1.67 \pm 0.69$  | $0.19 \pm 0.70$   |



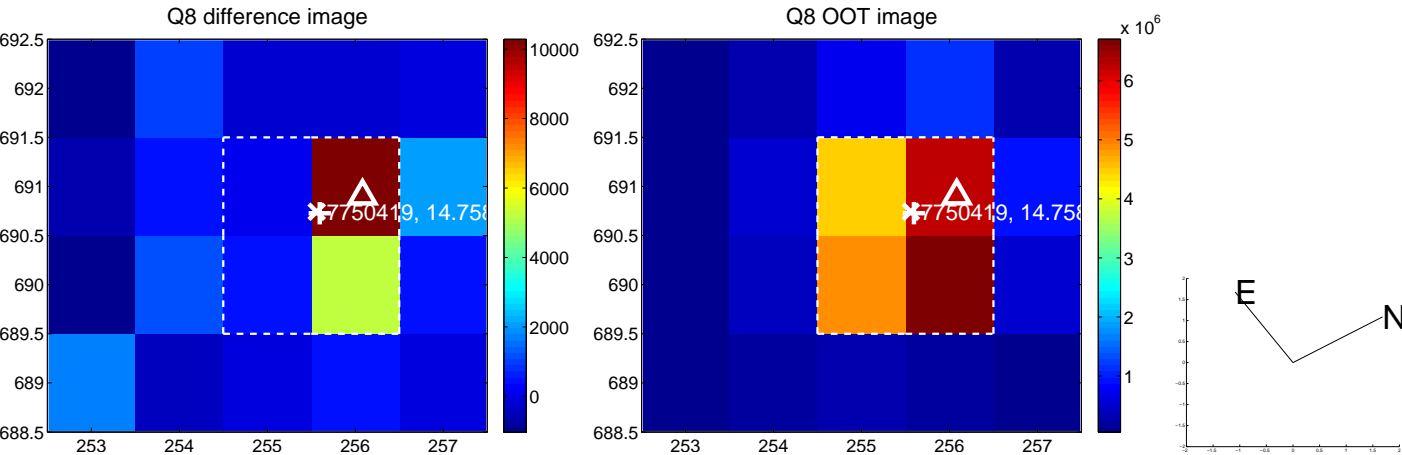
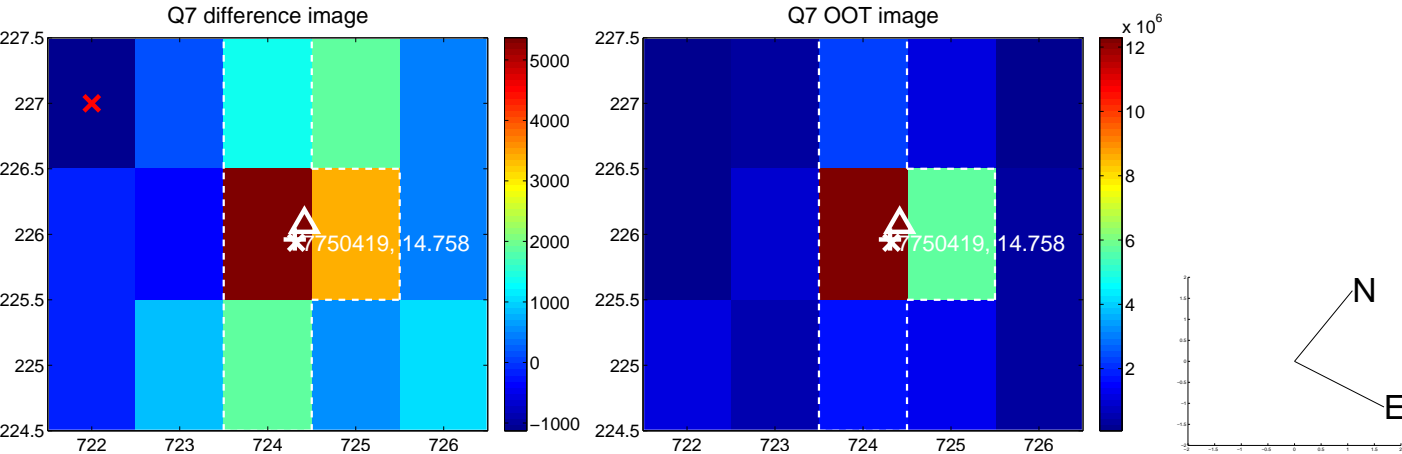
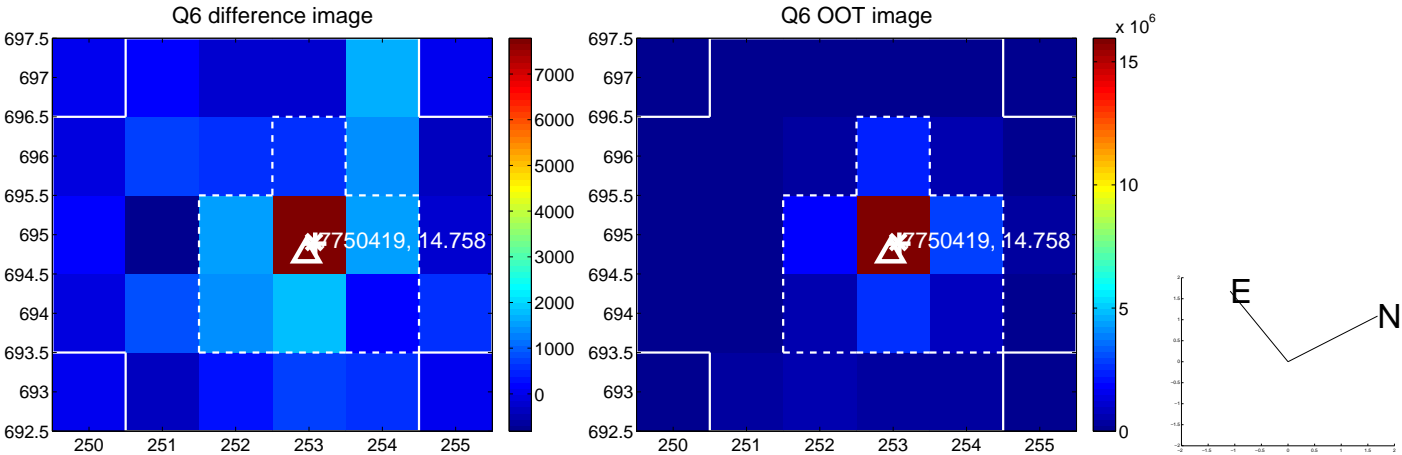
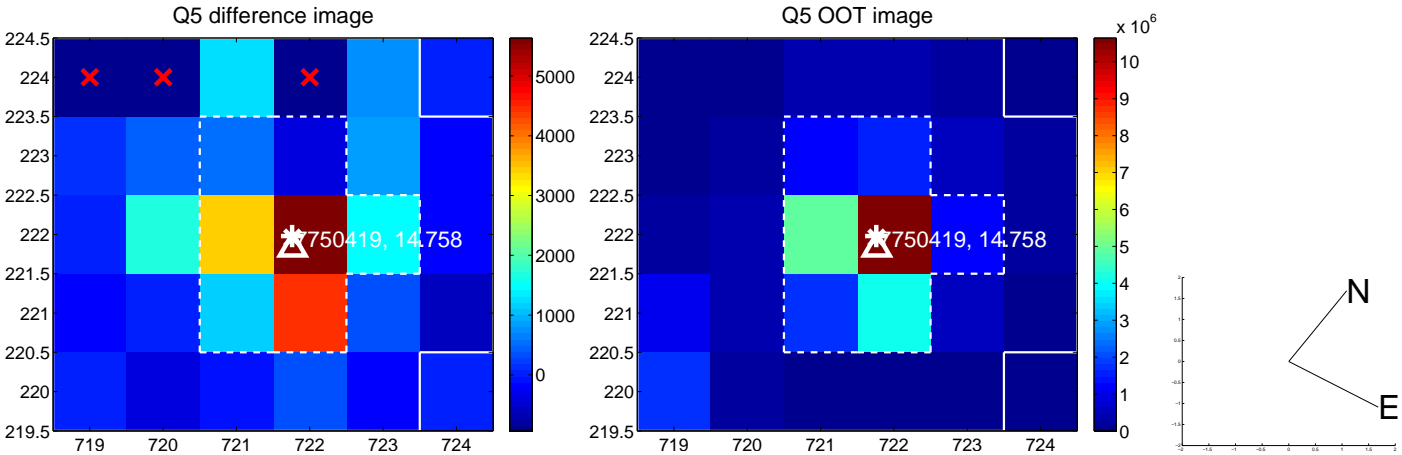
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



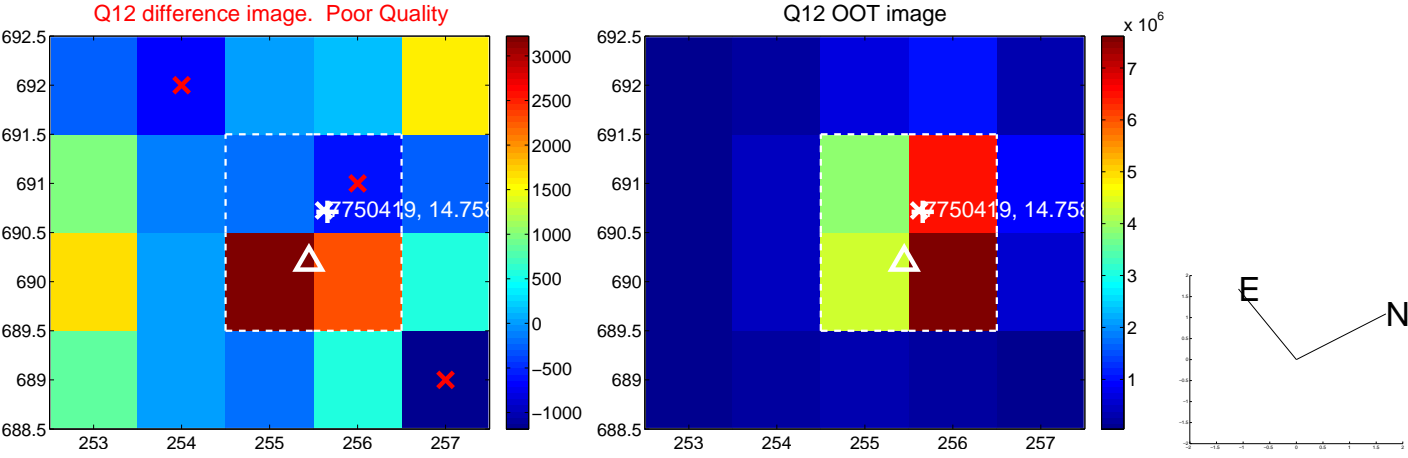
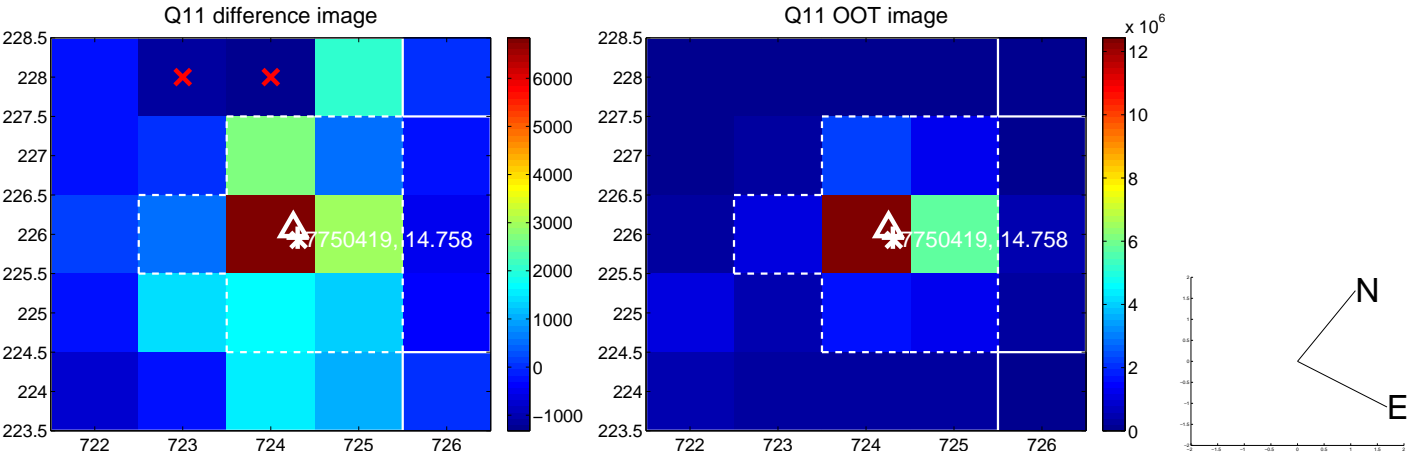
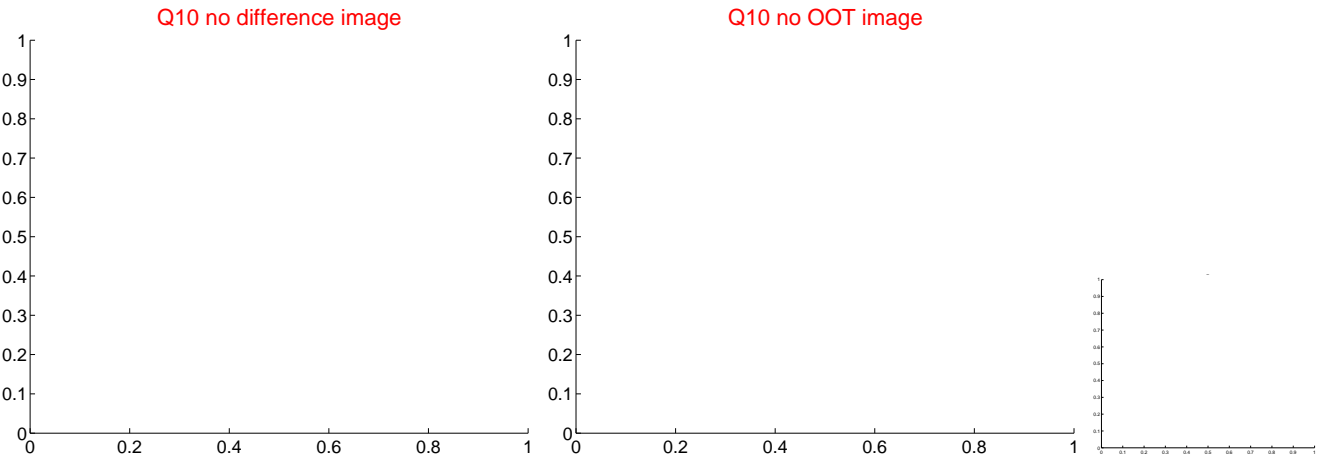
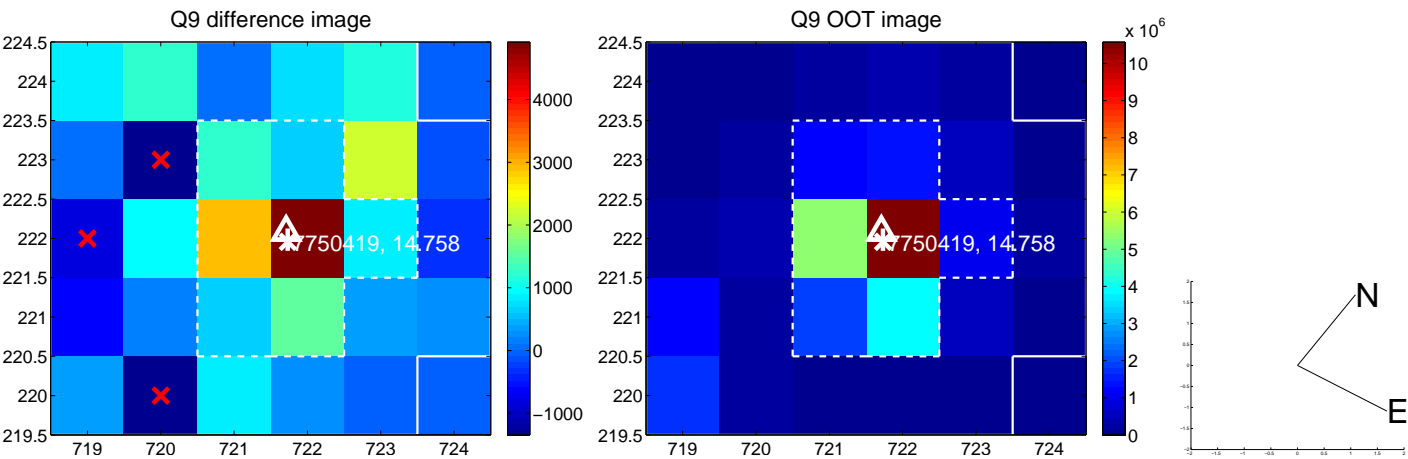
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



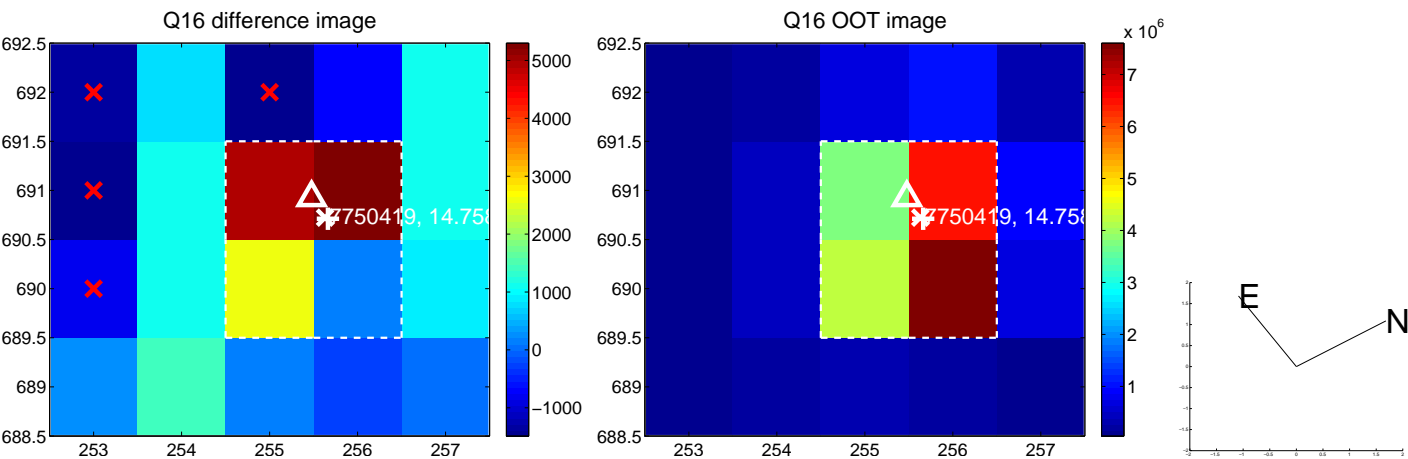
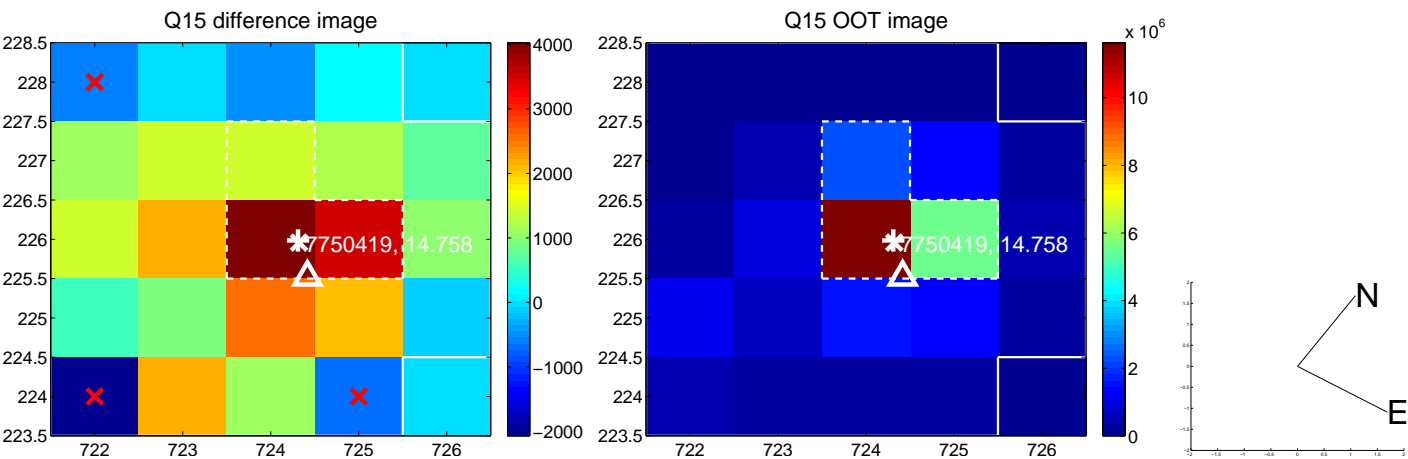
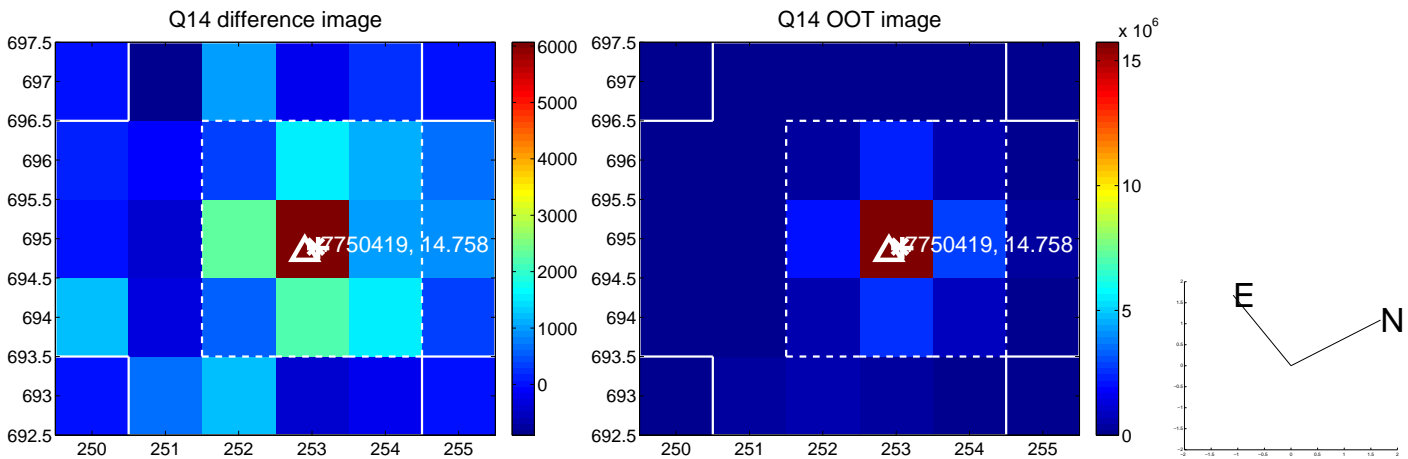
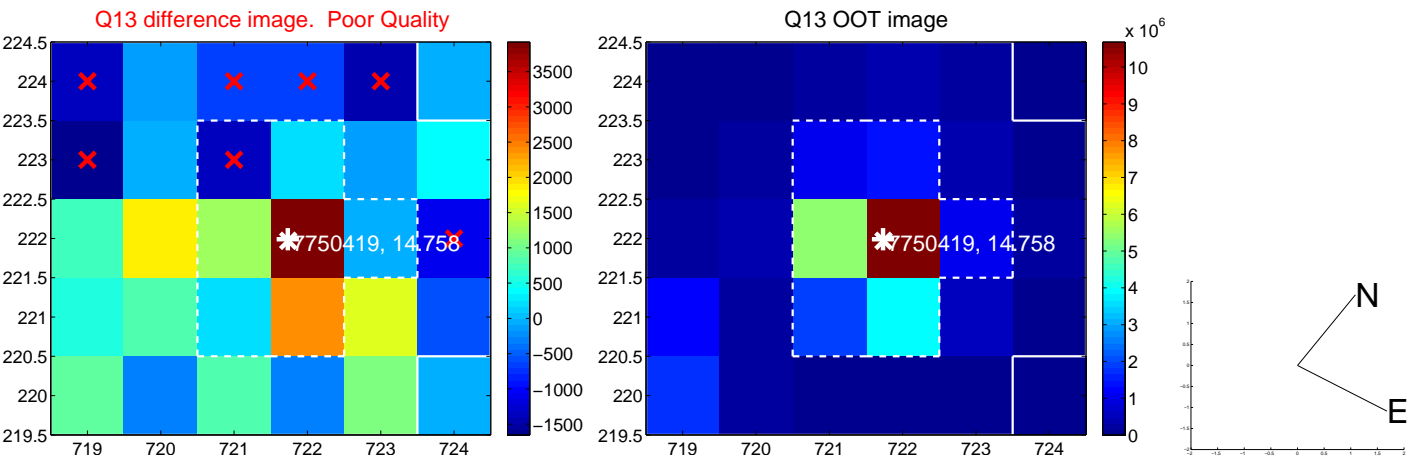
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



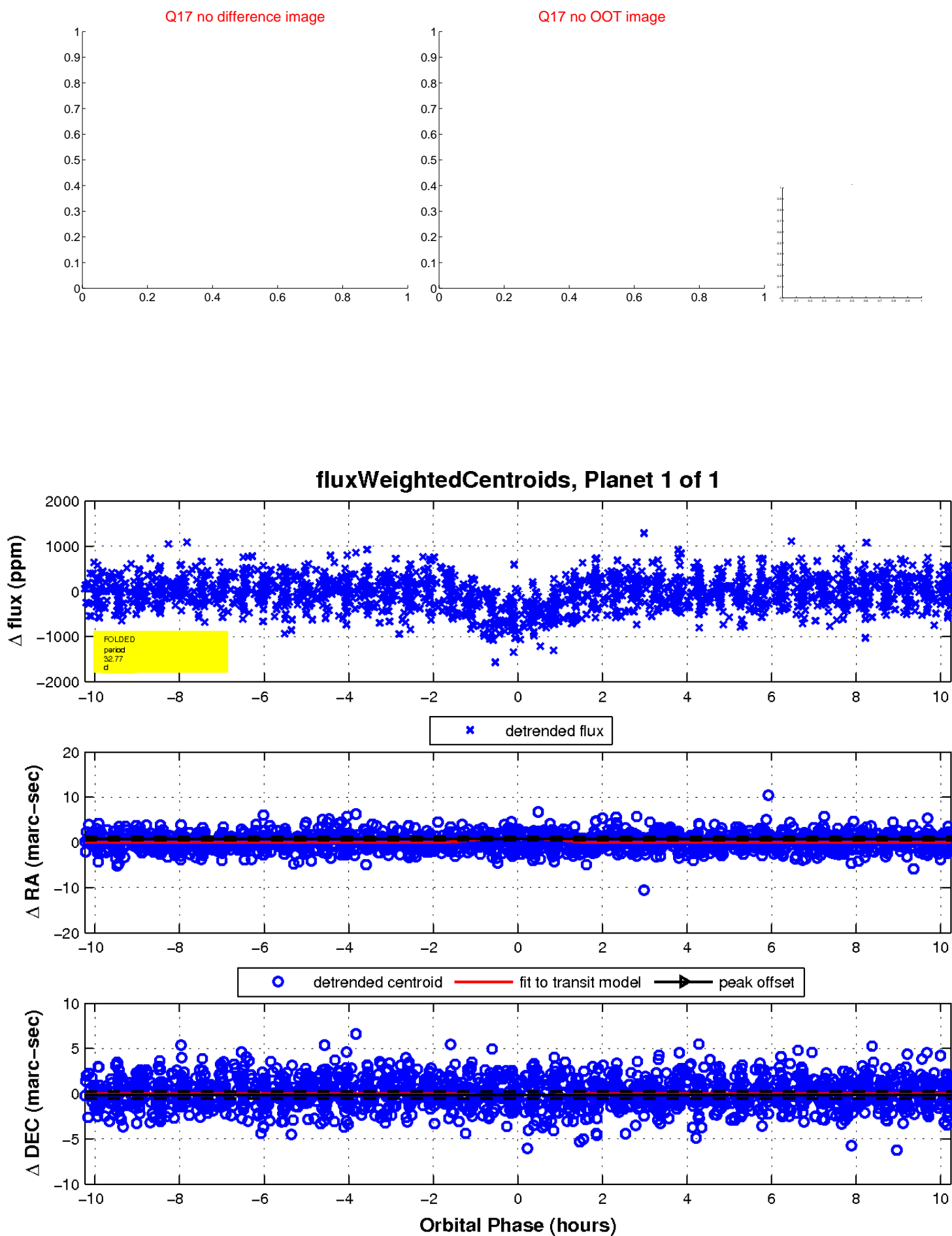
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

