

# KIC 007802461

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007802461-01 | OBS      | No   | 511.279315    | 403.848368   | 1234.8      | 7.737            | 10.9 | 8.6 | 0.57                        | 4407            | 2.02                   | 0.10                   |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments  |
|--------------|----------|------|-------|---|---|---|---|---|
| 007802461-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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

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

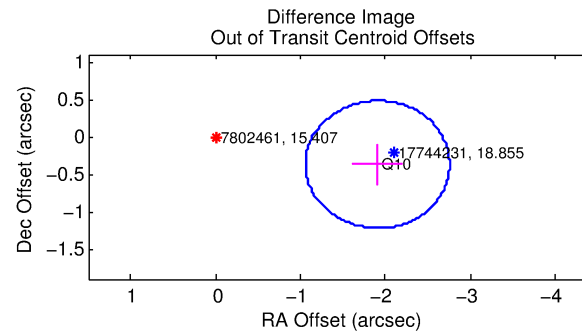
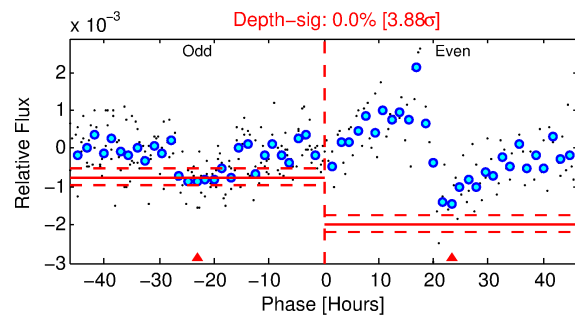
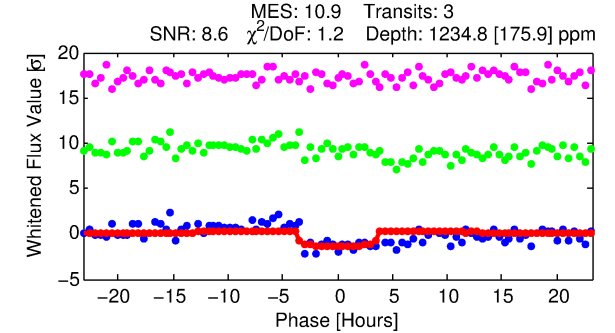
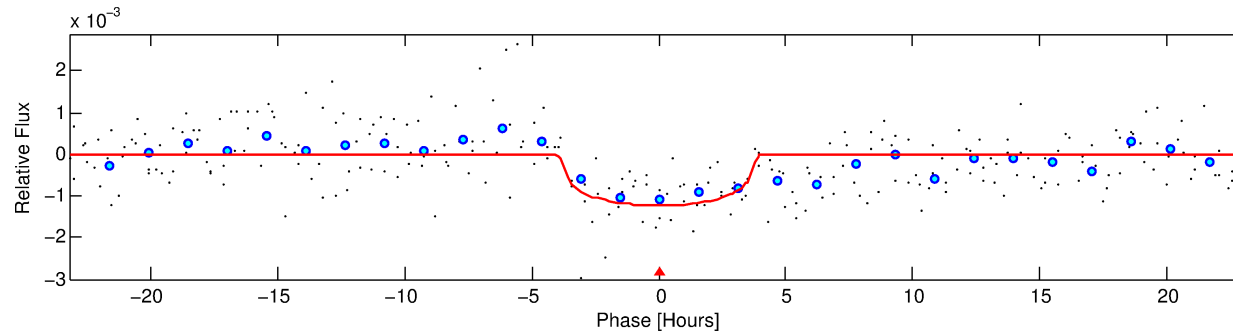
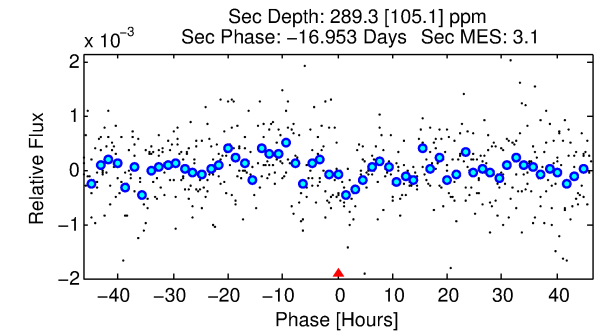
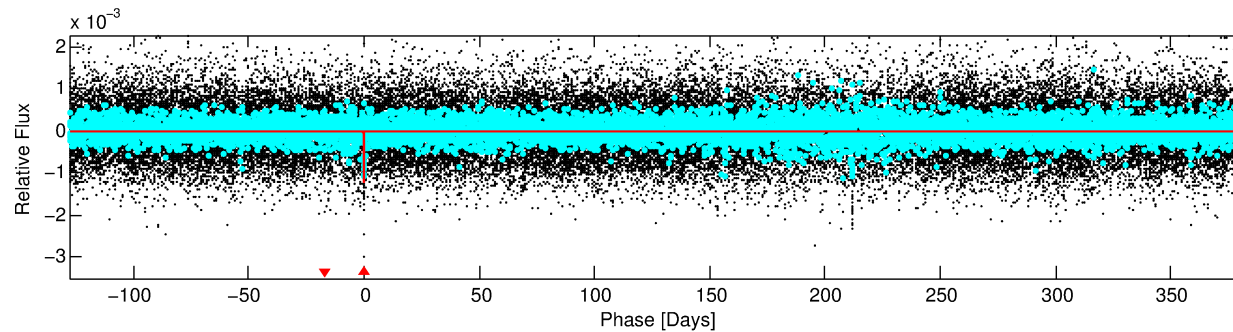
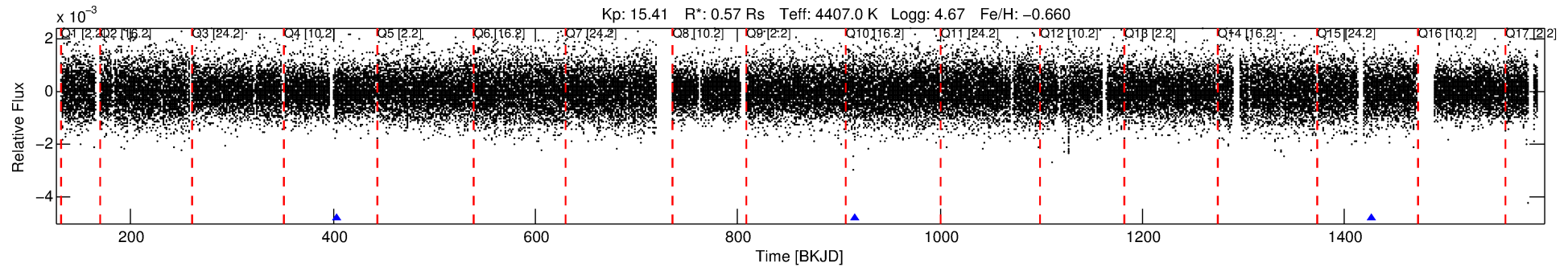
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007802461-01

No Significant Match Found

# DV One-Page Summary

KIC: 7802461 Candidate: 1 of 1 Period: 511.279 d



## DV Fit Results:

Period = 511.27931 [0.01241] d  
Epoch = 403.8484 [0.0142] BKJD  
Rp/R\* = 0.0326 [0.0285]  
a/R\* = 452.72 [1362.34]  
b = 0.51 [4.41]  
Seff = 0.10 [0.02]  
Teq = 145 [6] K  
Rp = 2.02 [1.78] Re  
a = 1.0293 [0.0739] AU  
Ag = 41123.17 [73480.58] [0.56σ]  
Teffp = 3183 [1423] K [2.14σ]

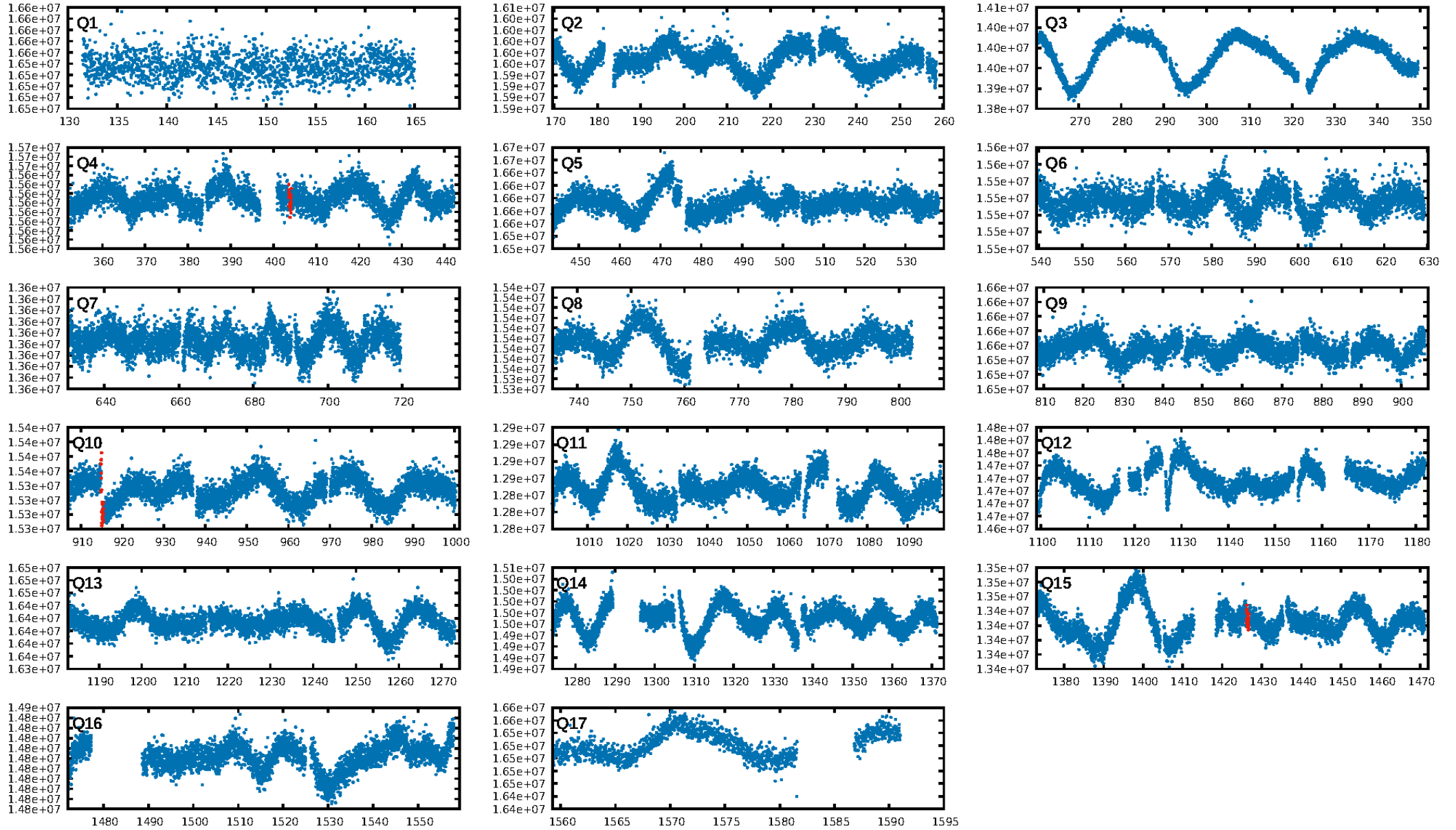
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.1%  
ModelChiSquareGof-sig: 97.8%  
Bootstrap-pfa: 1.61e-19  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -4.447  
Centroid-sig: 5.2%  
Centroid-so: 2.261 arcsec [2.39σ]  
OotOffset-rm: 1.946 arcsec [6.86σ]  
KicOffset-rm: 5.609 arcsec [19.81σ]  
OotOffset-st: 1/0/0/0 [1]  
KicOffset-st: 1/0/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

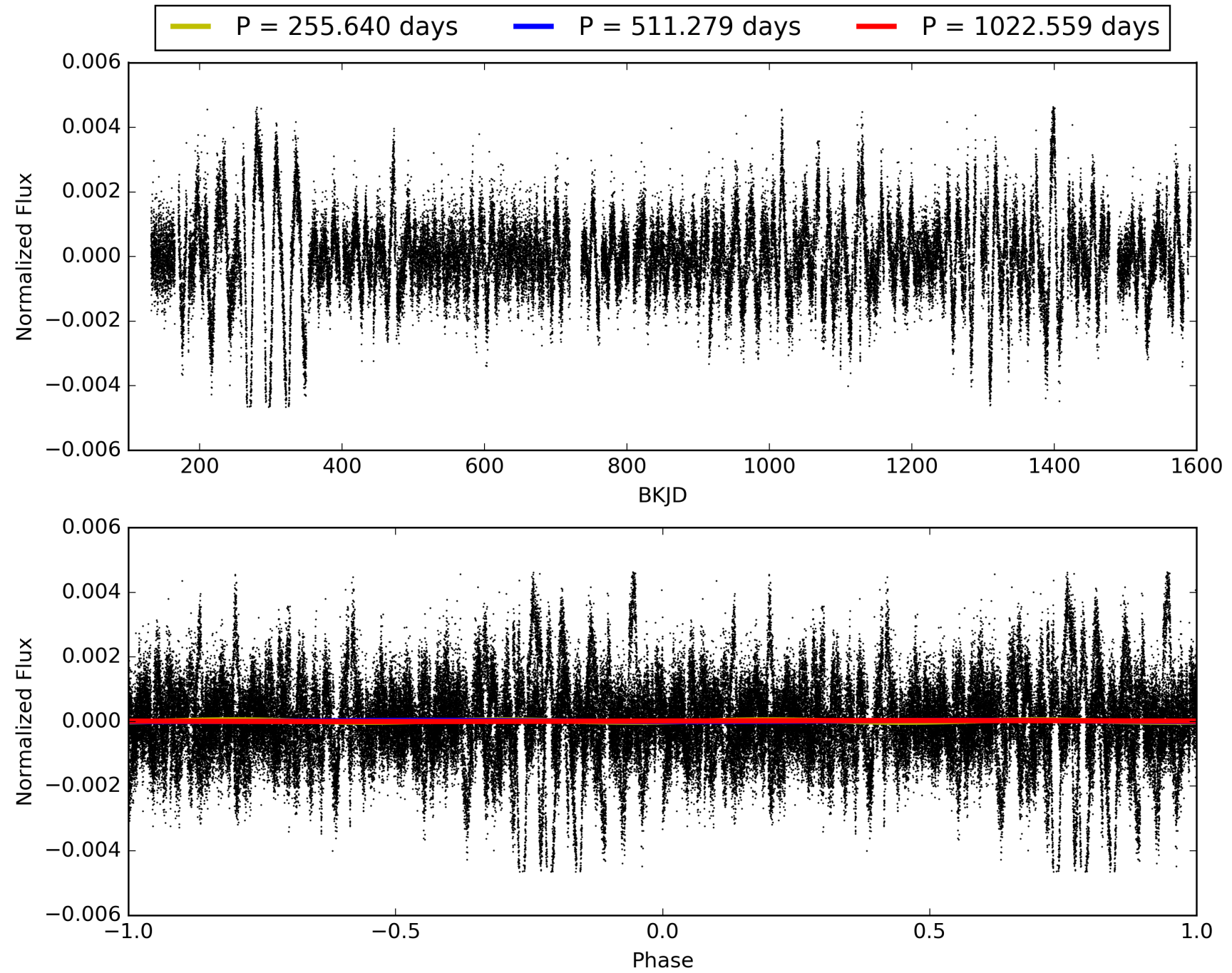
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:09:06 Z

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

# TCE 007802461-01, PDC Light Curves

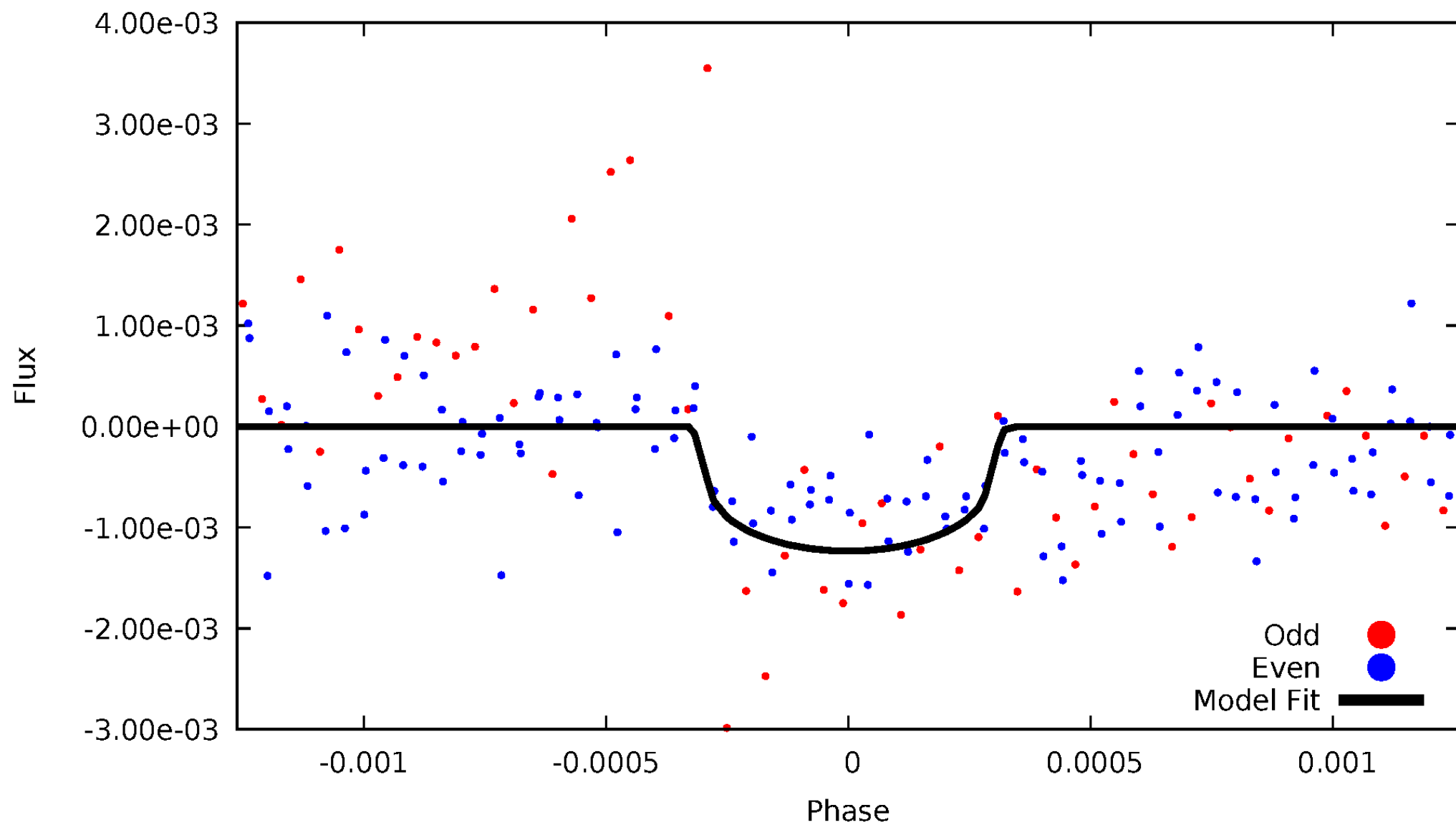


# TCE 007802461-01



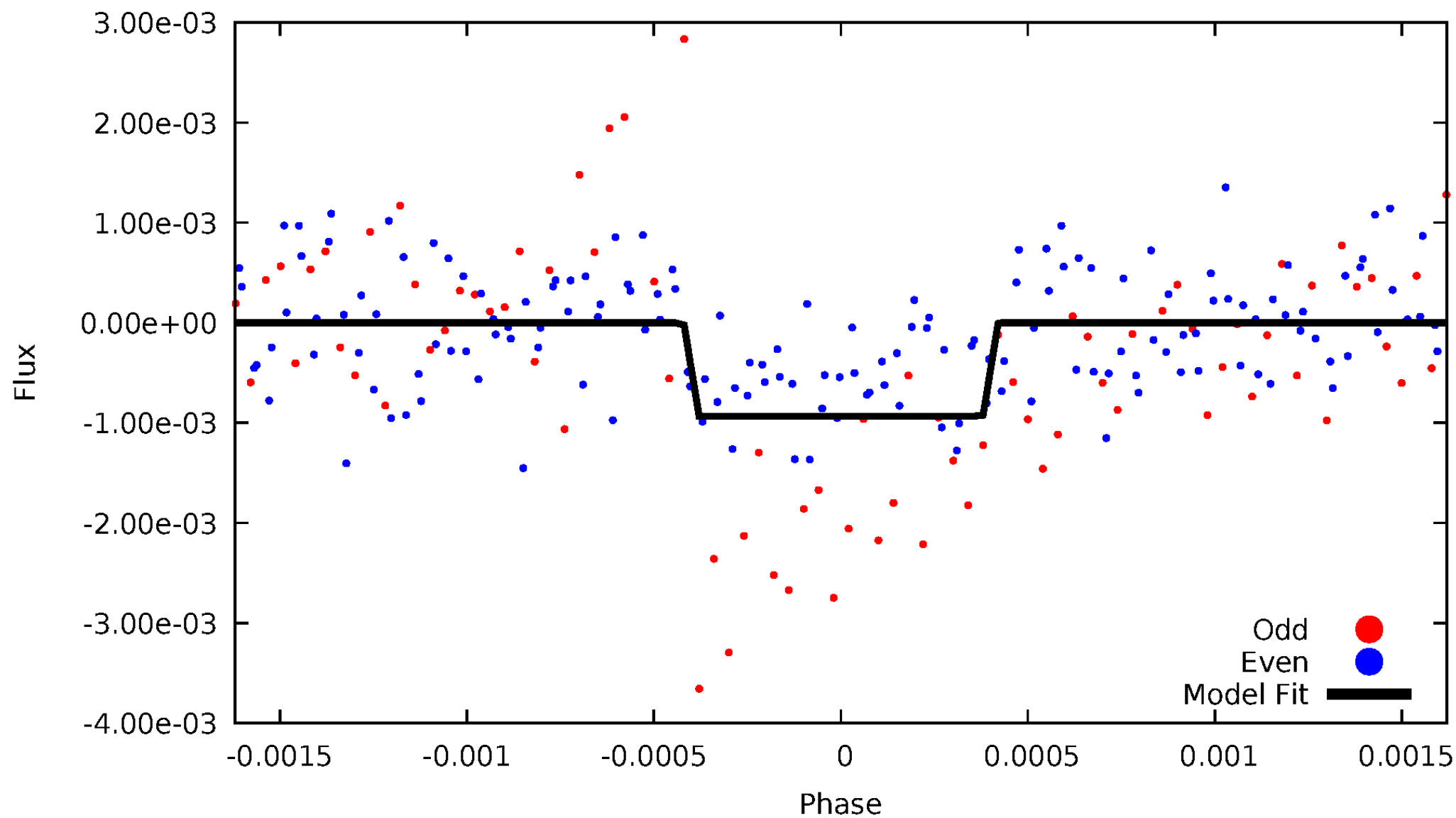
# DV Odd/Even

TCE 007802461-01



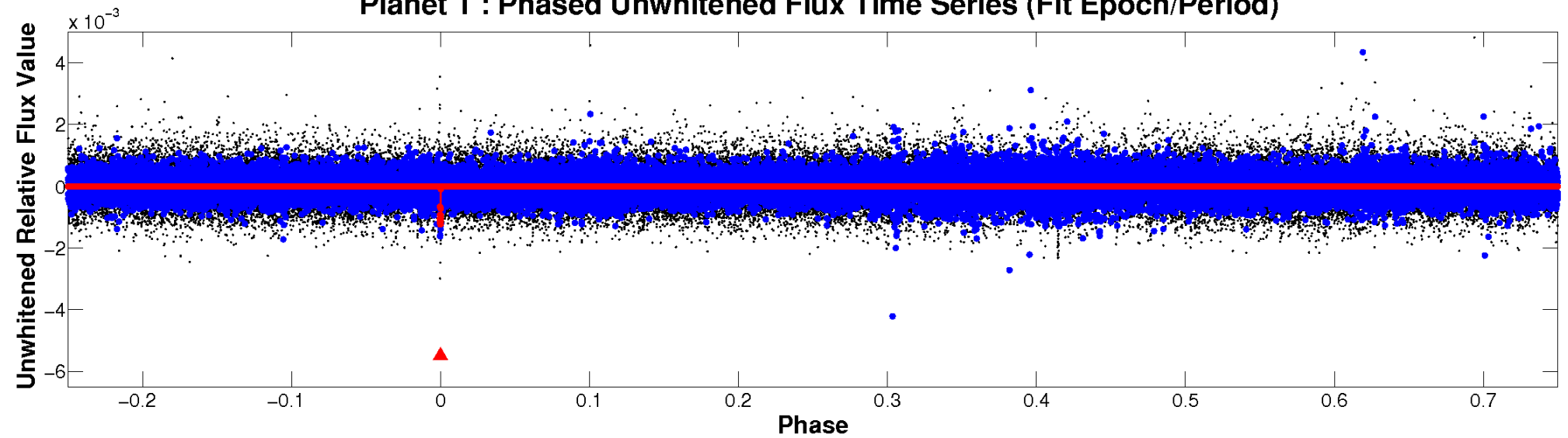
# ALT Odd/Even

TCE 007802461-01

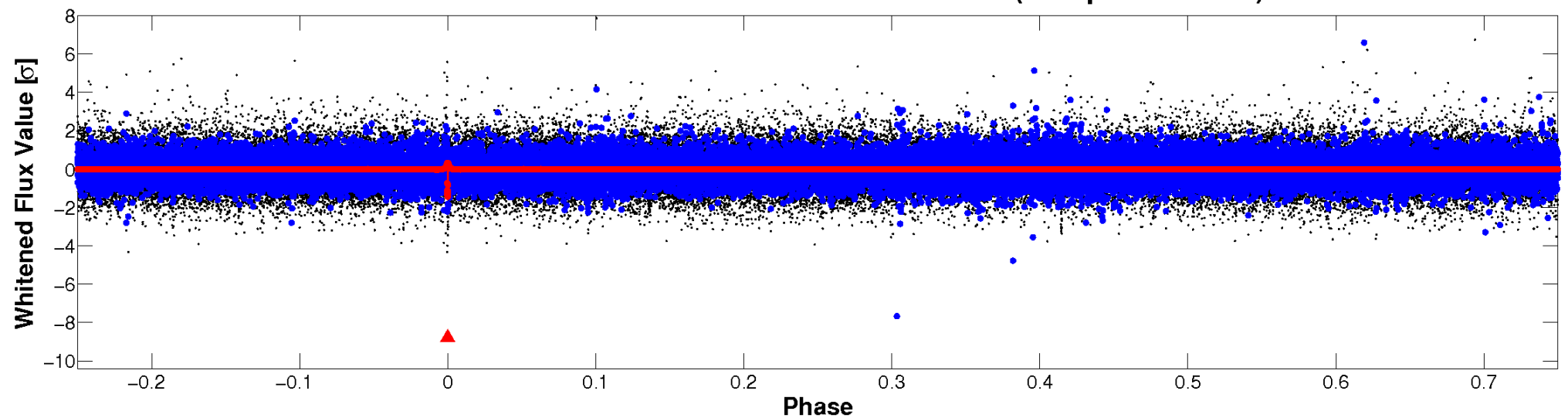


# Non-Whitened Vs. Whitened Light Curve

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

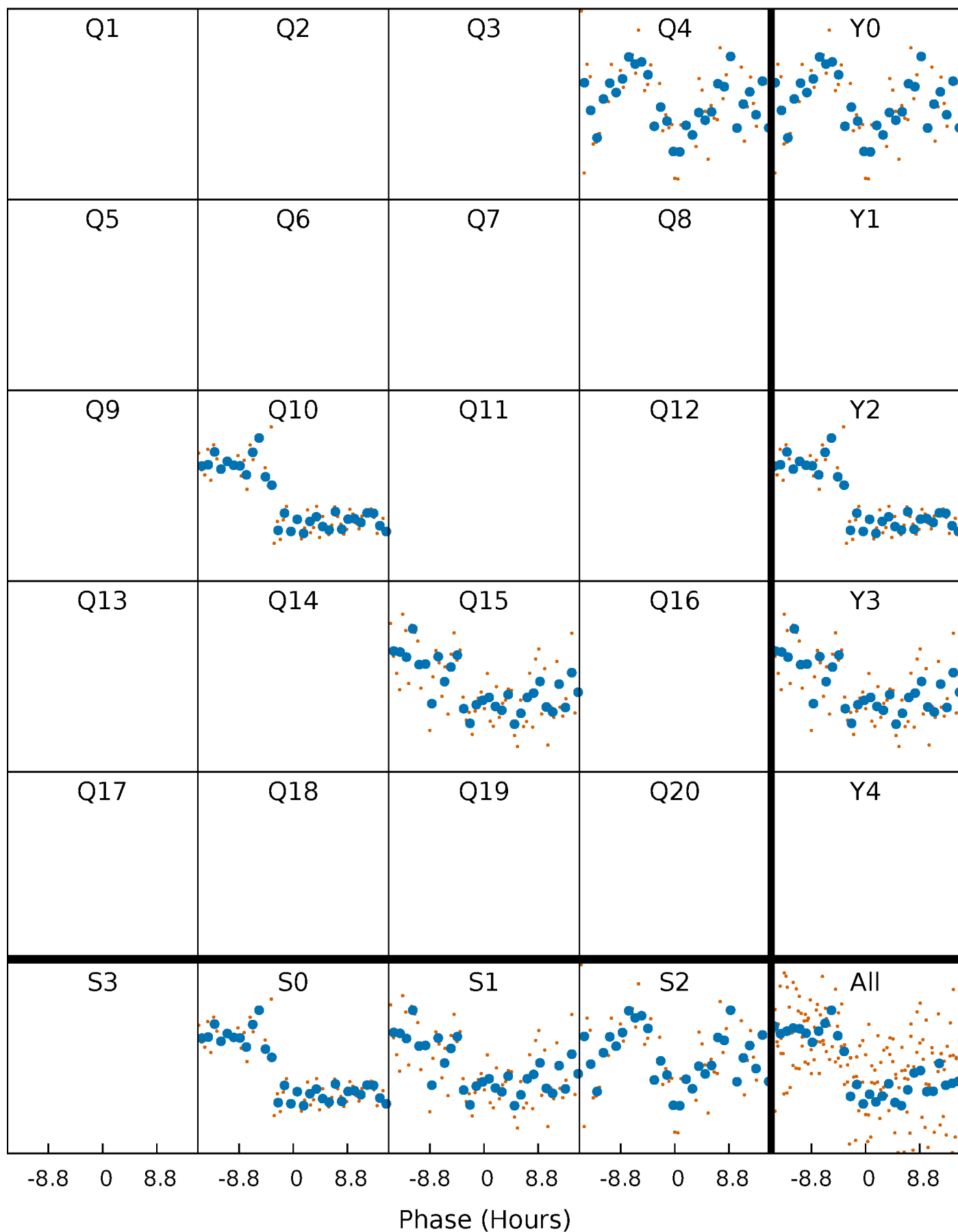


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 007802461-01 P=511.279315 Days  $T_0=403.848368$  (BKJD)





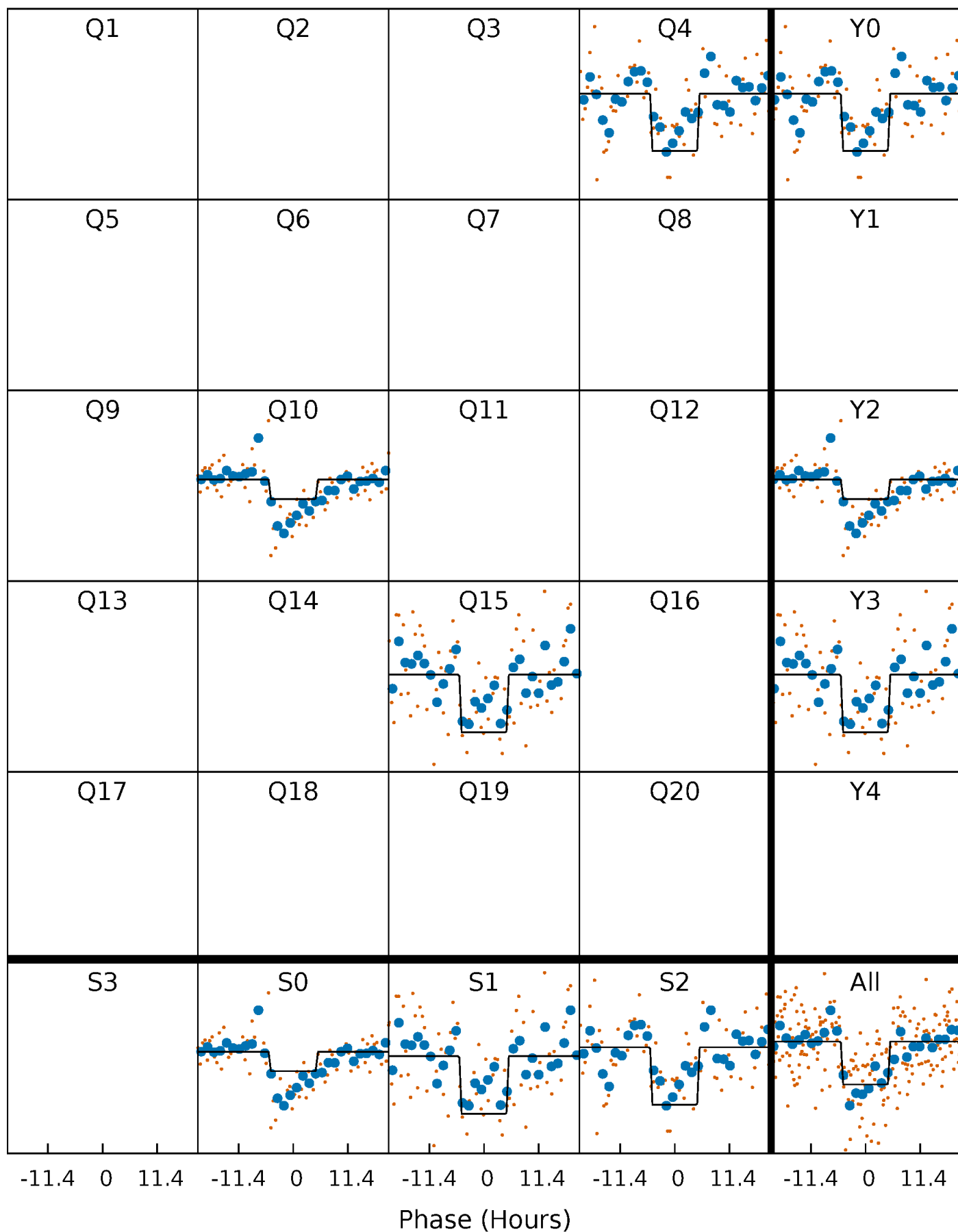
# DV Quarter-Phased Transit Curves

TCE 007802461-01 P=511.279315 Days  $T_0=403.848368$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

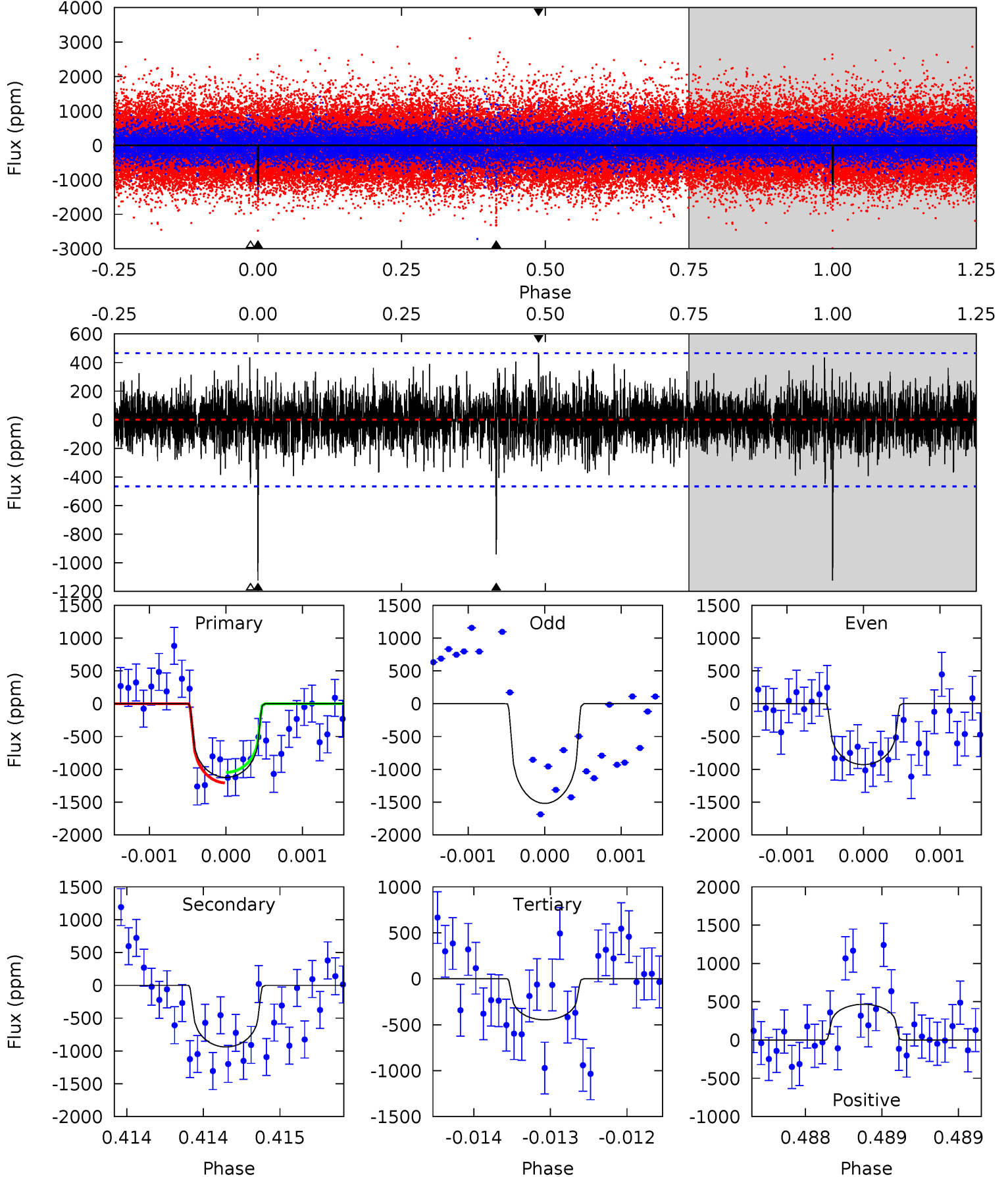
TCE 007802461-01 P=511.281727 Days  $T_0=403.911620$  (BKJD)



# DV Model-Shift Uniqueness Test

007802461-01, P = 511.279315 Days, E = 403.848368 Days

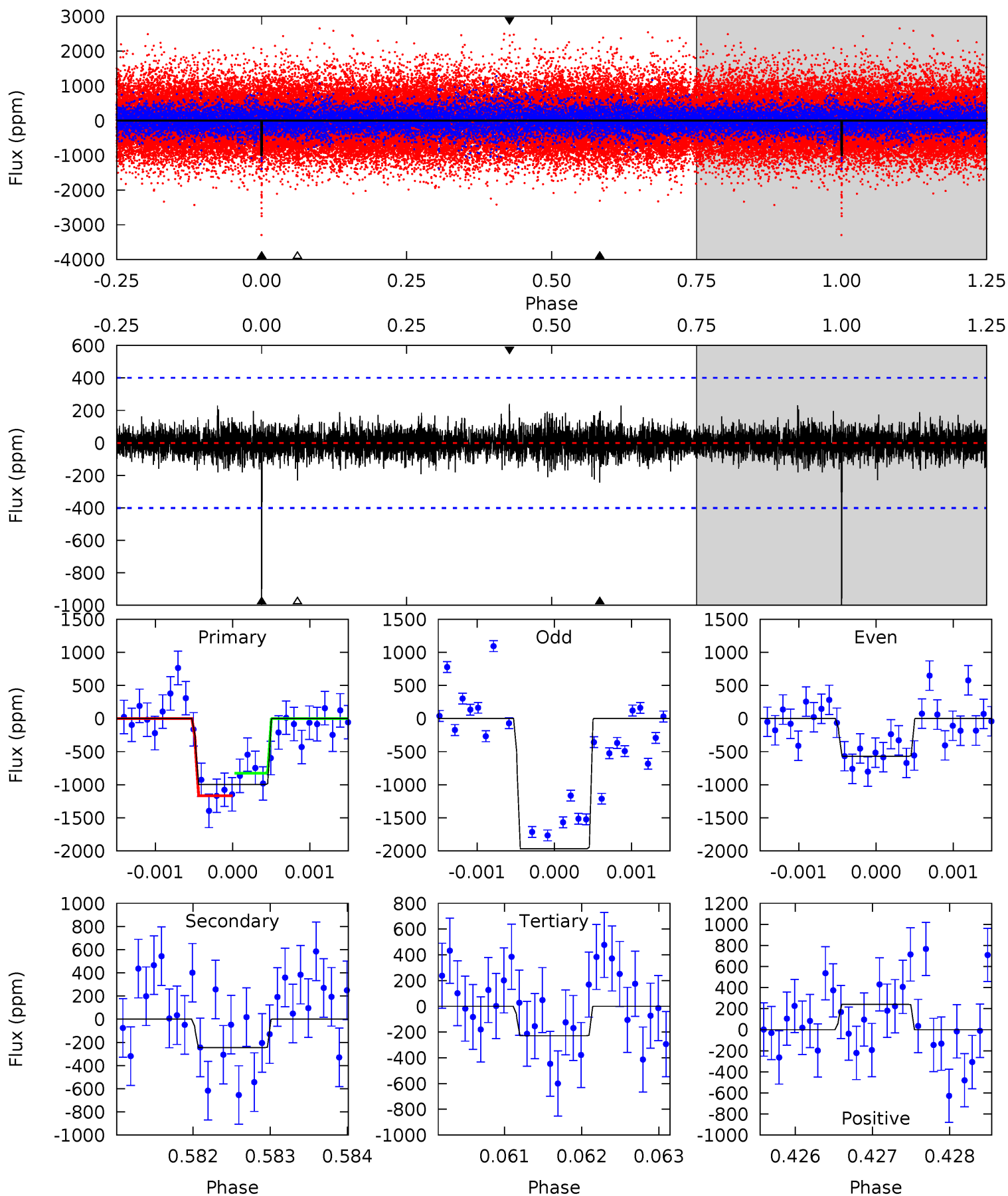
| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 13.3 | 11.1 | 5.29 | 5.53 | 5.52            | 3.40            | 1.37             | 8.01    | 7.78    | 5.83    | 5.60    | 3.22    | 1.13 | 0.29  | 0.94 |



# Alt Model-Shift Uniqueness Test

007802461-01, P = 511.281727 Days, E = 403.911620 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  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 13.6 | 3.34 | 3.12 | 3.29 | 5.48            | 3.34            | 0.76             | 10.5    | 10.3    | 0.23    | 0.06    | 8.97    | 1.76 | 0.19  | 2.33 |



### Stellar Parameters For KIC 007802461

|        | $T_{\text{eff}} (K)$ | $\log(g)$                 | $[\text{Fe}/\text{H}]$     | $R (R_{\odot})$           | $M (M_{\odot})$           | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
|        | $4407^{+131}_{-131}$ | $4.673^{+0.054}_{-0.027}$ | $-0.660^{+0.300}_{-0.300}$ | $0.569^{+0.045}_{-0.050}$ | $0.556^{+0.056}_{-0.038}$ | $4.251^{+1.055}_{-0.584}$                 |
|        | +3%/-3%              | +1%/-1%                   | +45%/-45%                  | +8%/-9%                   | +10%/-7%                  | +25%/-14%                                 |
| 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 007802461-01 / KOI

| Detrend | Depth (ppm)   | $R_p (R_{\oplus})$     | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$  | $A_{\text{obs}}$            |
|---------|---------------|------------------------|----------------------|-----------------------|-----------------------------|
| DV      | $-939 \pm 84$ | $2.34^{+1.64}_{-1.50}$ | $201^{+7}_{-7}$      | $4093^{+2149}_{-700}$ | $101379^{+688887}_{-67241}$ |
| Alt.    | $-245 \pm 73$ | $2.29^{+1.54}_{-1.37}$ | $200^{+8}_{-7}$      | $3296^{+1119}_{-502}$ | $27210^{+136470}_{-18579}$  |

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

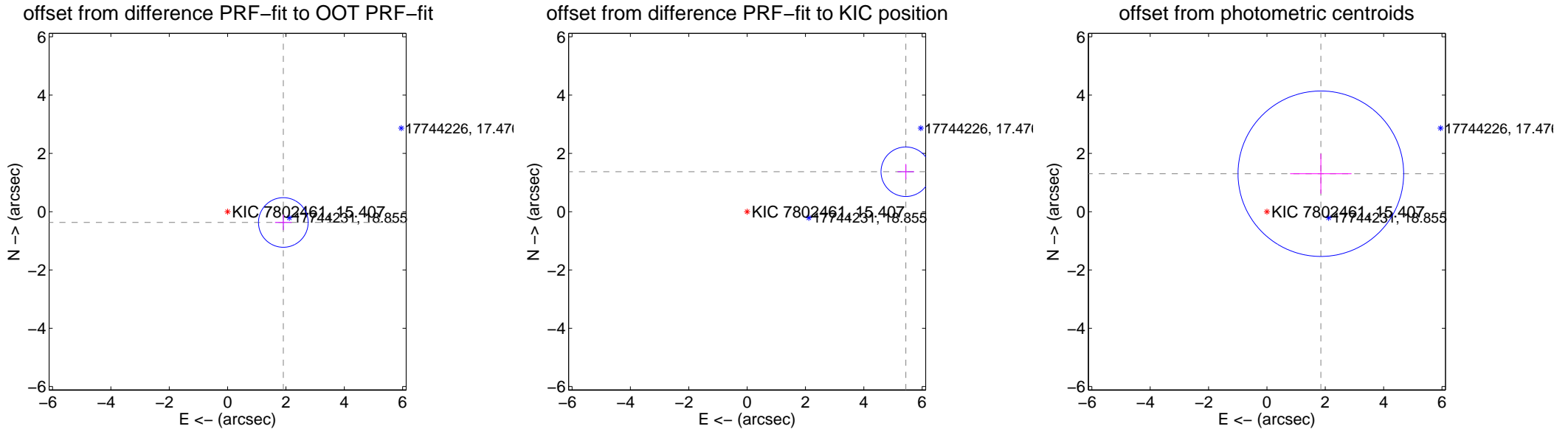
## DV Centroid Data

Supplemental centroid analysis for 007802461-01. Kepler magnitude: 15.41. Transit SNR 8.64

There are 1 quarters with good PRF difference image offsets

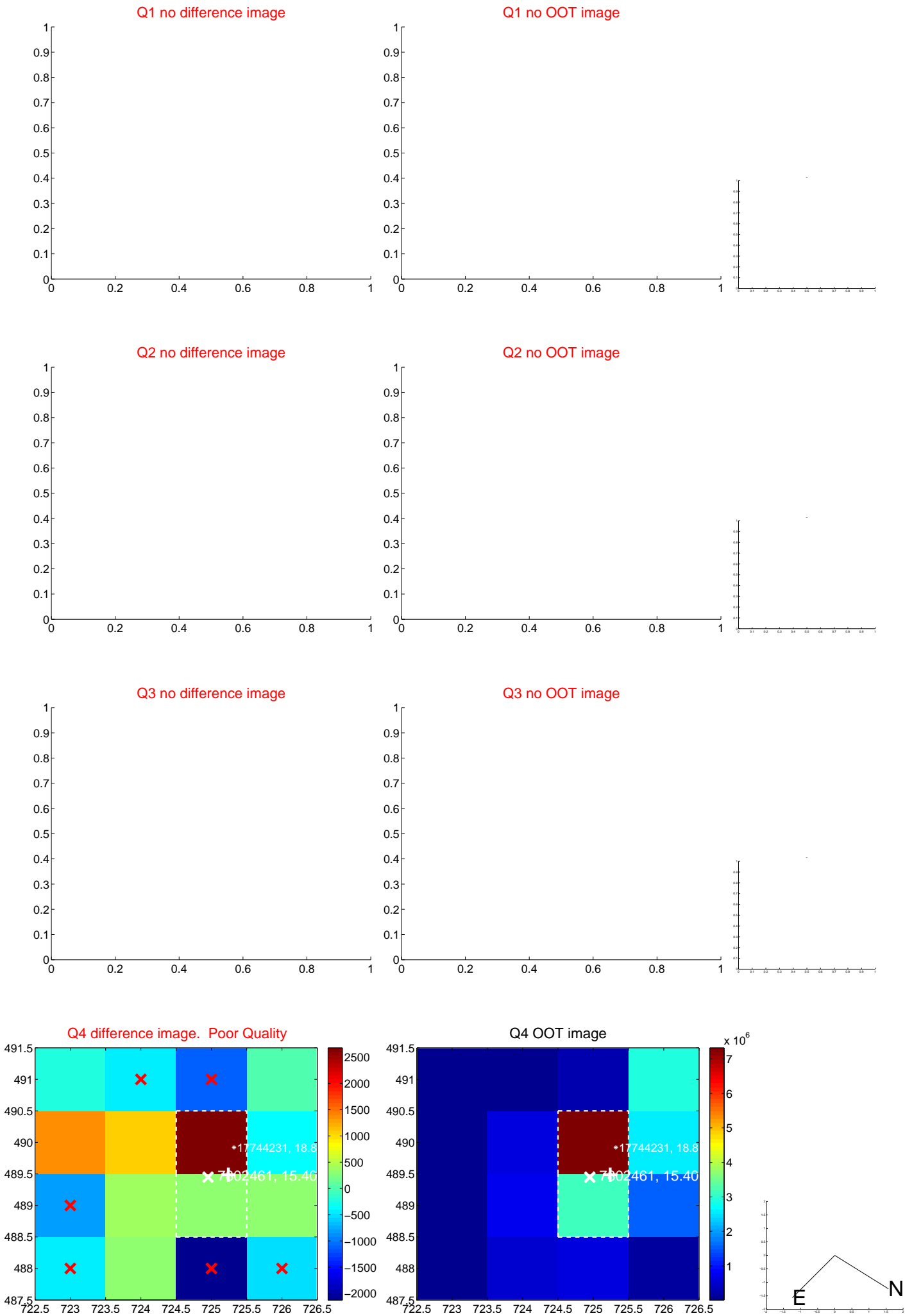
The OOT PRF centroid is offset from the target star catalog position by about 3.93 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA        | $\Delta$ Dec       |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT          | $1.946 \pm 0.284$  | 6.86                | $-1.910 \pm 0.284$ | $-0.370 \pm 0.263$ |
| PRF-fit source offset from KIC position | $5.609 \pm 0.283$  | 19.81               | $-5.439 \pm 0.284$ | $1.371 \pm 0.263$  |
| photometric centroid source offset      | $2.26 \pm 0.95$    | 2.39                | $-1.85 \pm 1.05$   | $1.30 \pm 0.68$    |



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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: 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.

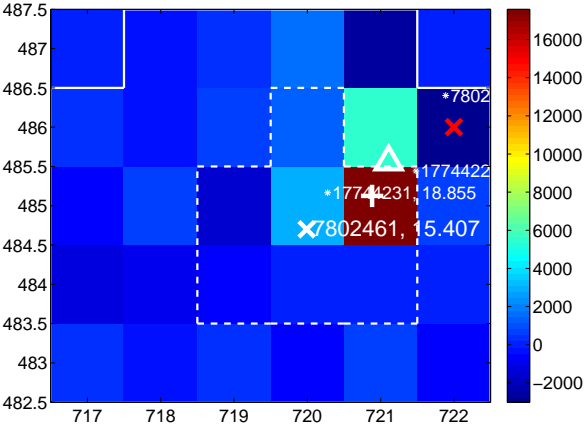
Q9 no difference image



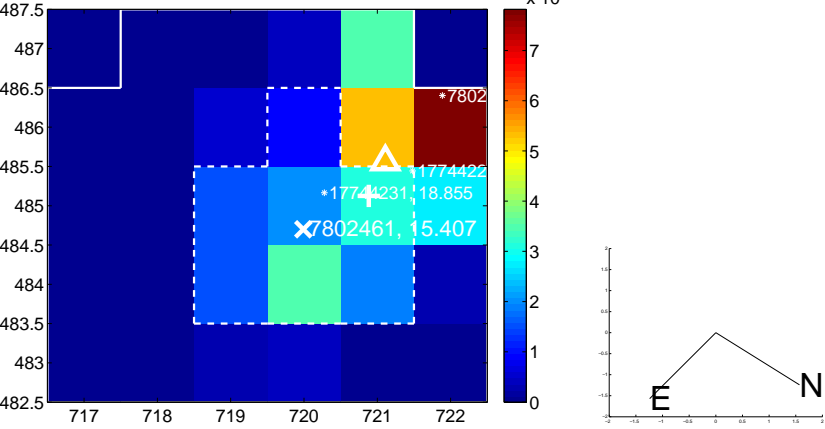
Q9 no OOT image



Q10 difference image



Q10 OOT image



Q11 no difference image



Q11 no OOT image



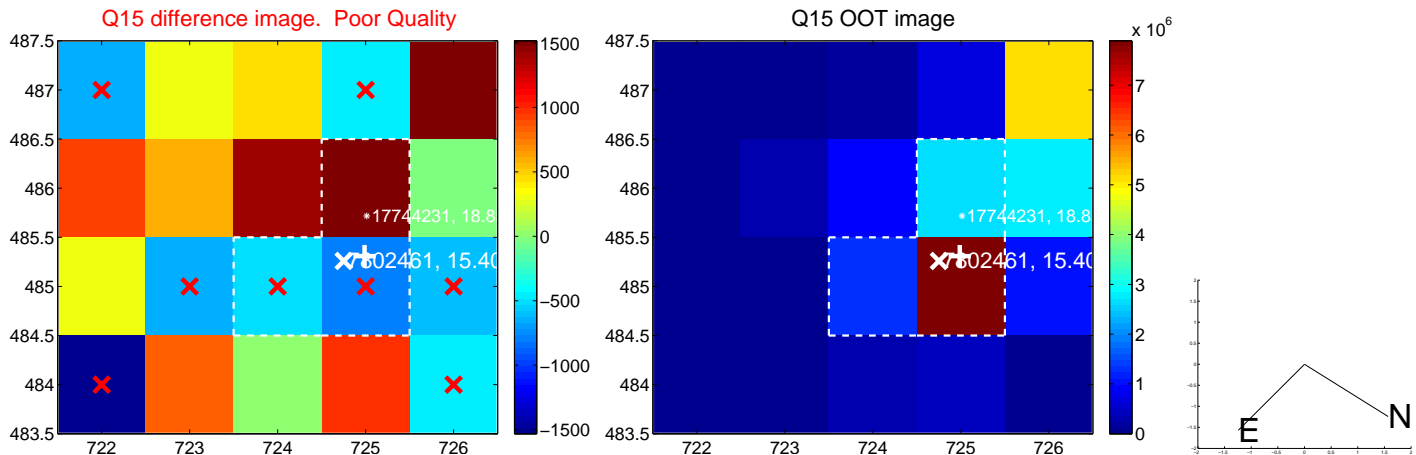
Q12 no difference image



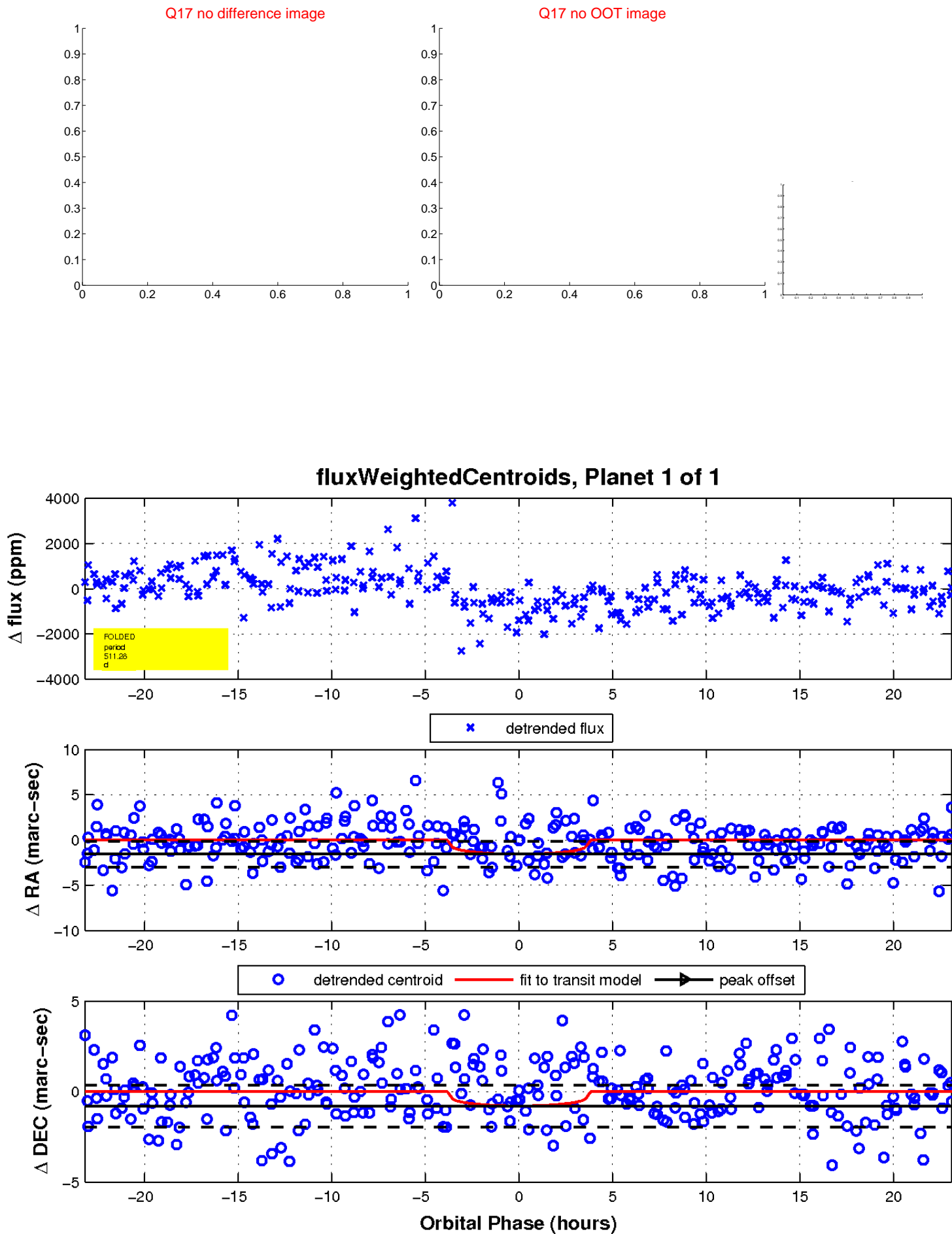
Q12 no OOT image



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

