

# KIC 011852808

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 011852808-01 | OBS      | No   | 254.887000    | 346.801832   | 146.0       | 21.814           | 8.0 | 7.5 | 1.72                        | 5922            | 2.30                   | 5.32                   |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments  |
|--------------|----------|------|-------|---|---|---|---|---|
| 011852808-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL_SKYE—LPP_DV—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.

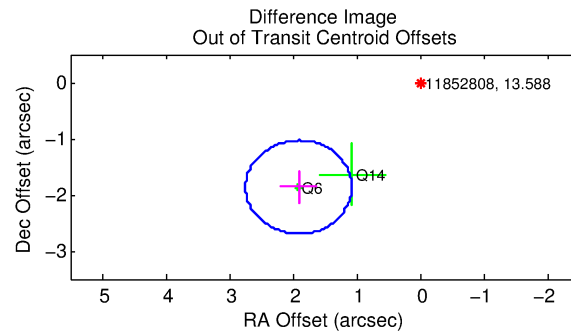
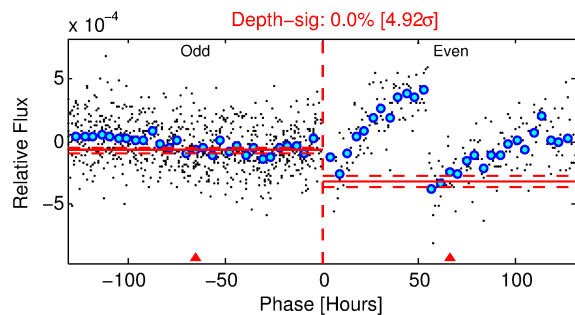
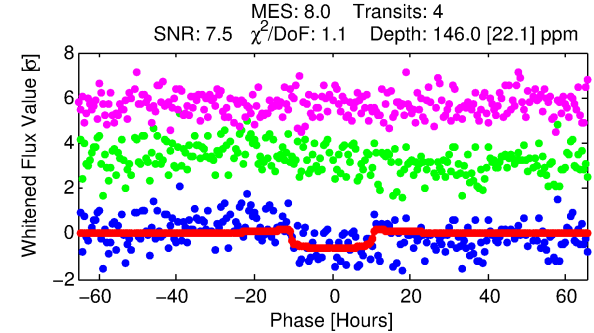
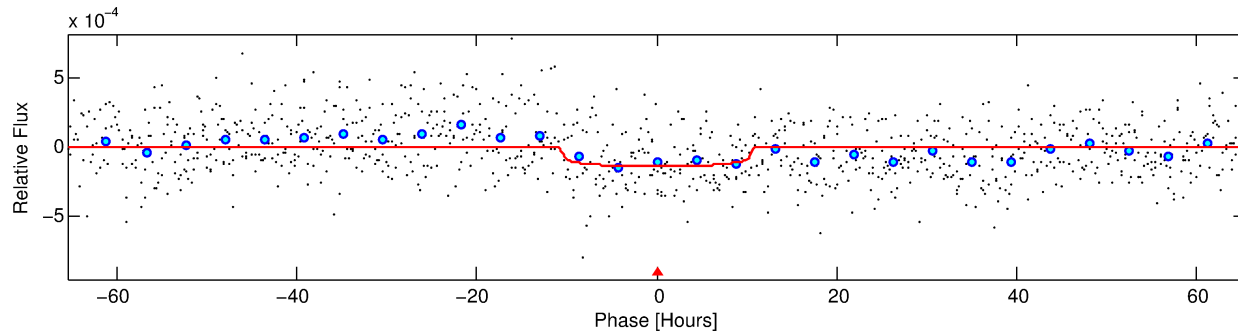
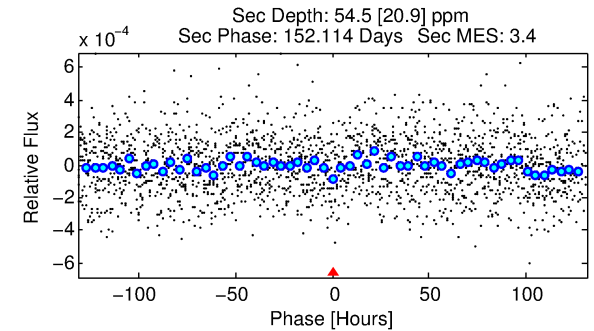
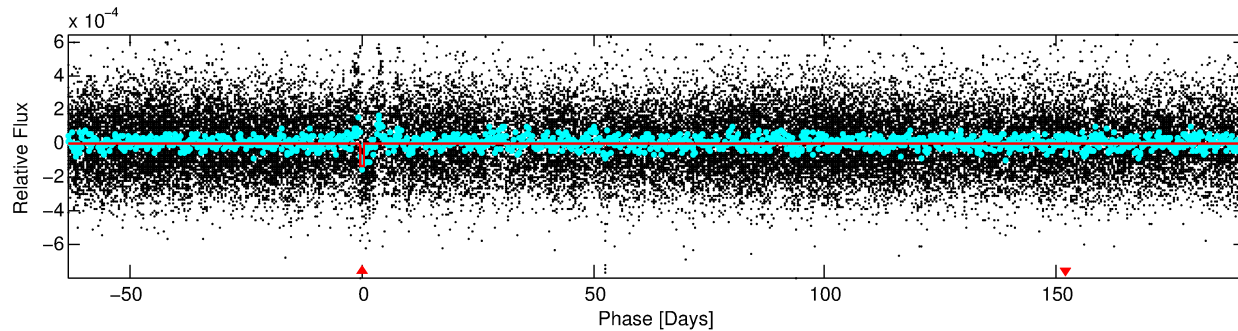
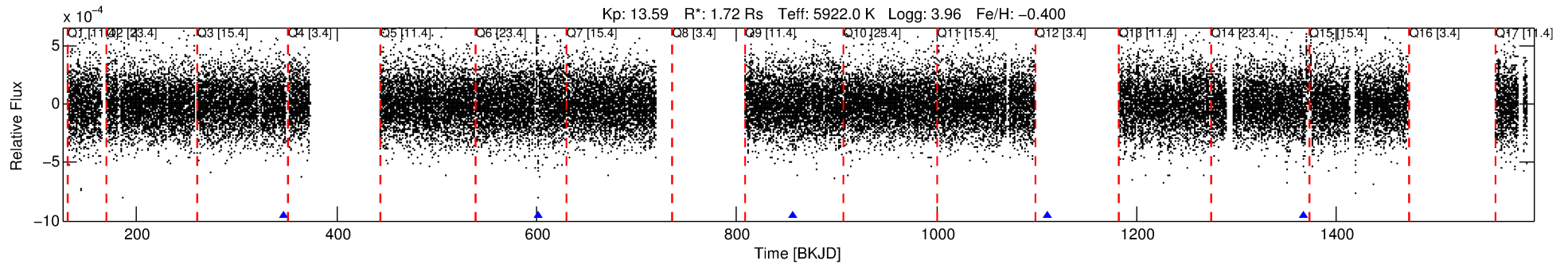
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011852808-01

No Significant Match Found

# DV One-Page Summary

KIC: 11852808 Candidate: 1 of 1 Period: 254.887 d



## DV Fit Results:

Period = 254.88700 [0.01266] d  
Epoch = 346.8018 [0.0312] BKJD  
Rp/R\* = 0.0123 [0.0031]  
a/R\* = 54.14 [66.34]  
b = 0.81 [0.52]  
Seff = 5.32 [4.20]  
Teq = 387 [76] K  
Rp = 2.30 [1.15] Re  
a = 0.7806 [0.3600] AU  
Ag = 3440.65 [3460.75] [0.99σ]  
Teffp = 4585 [745] K [5.61σ]

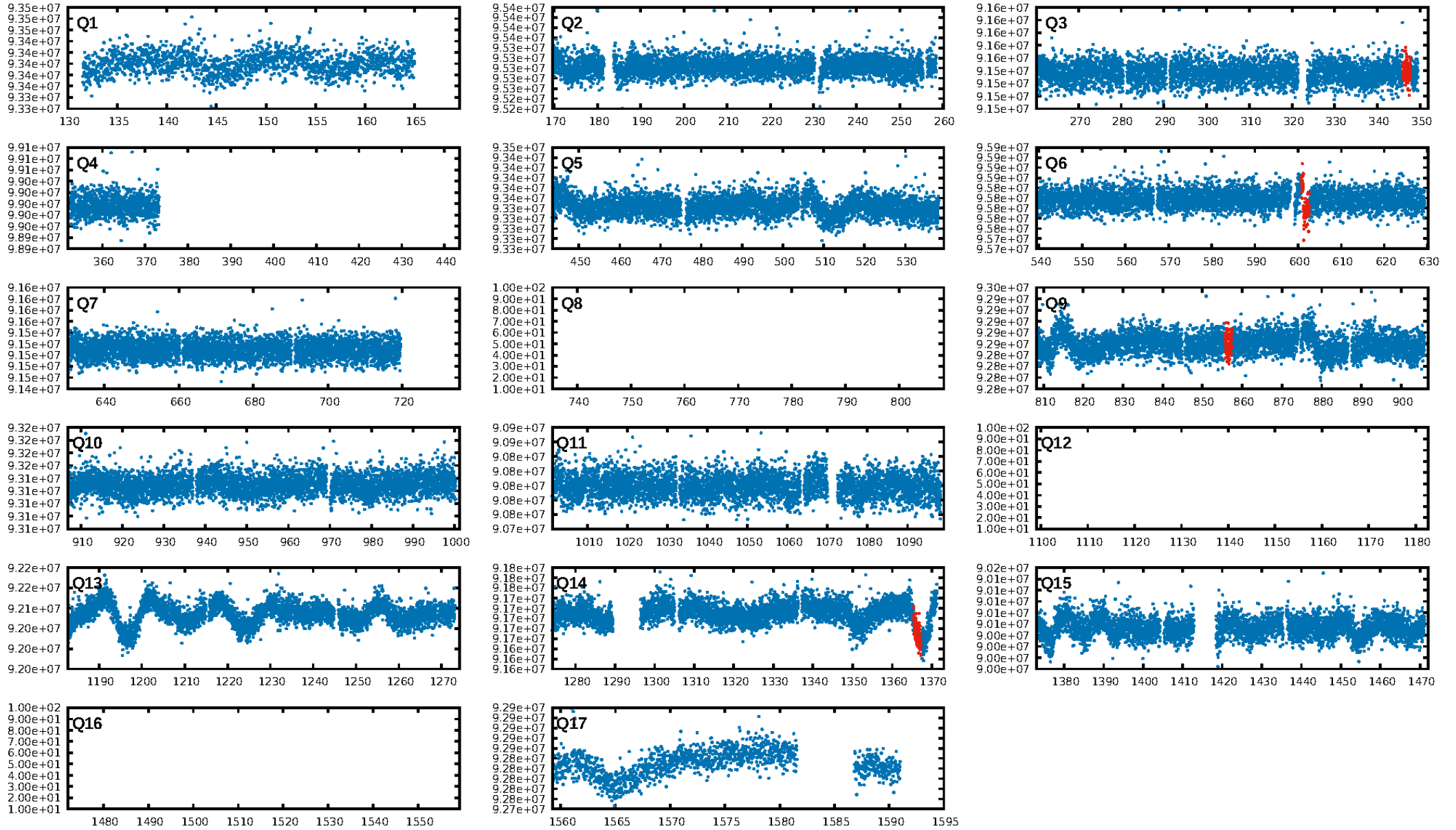
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 98.3%  
Bootstrap-pfa: 4.77e-14  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 1.359  
Centroid-sig: 4.5%  
Centroid-so: 3.507 arcsec [1.85σ]  
OotOffset-rm: 2.670 arcsec [9.62σ]  
KicOffset-rm: 2.492 arcsec [6.61σ]  
OotOffset-st: 2/0/0/0 [2]  
KicOffset-st: 2/0/0/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [4/4]

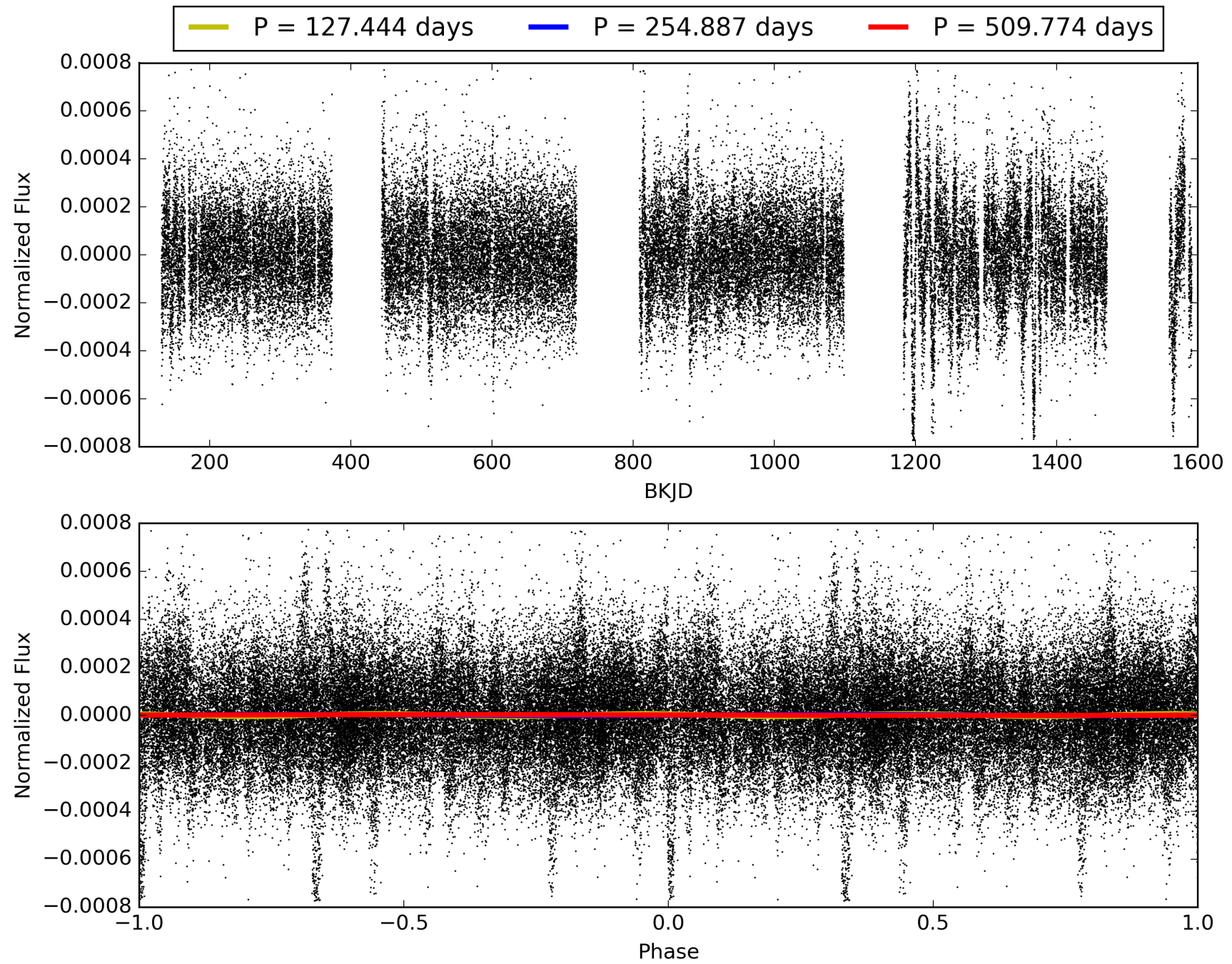
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:14:07 Z

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

# TCE 011852808-01, PDC Light Curves

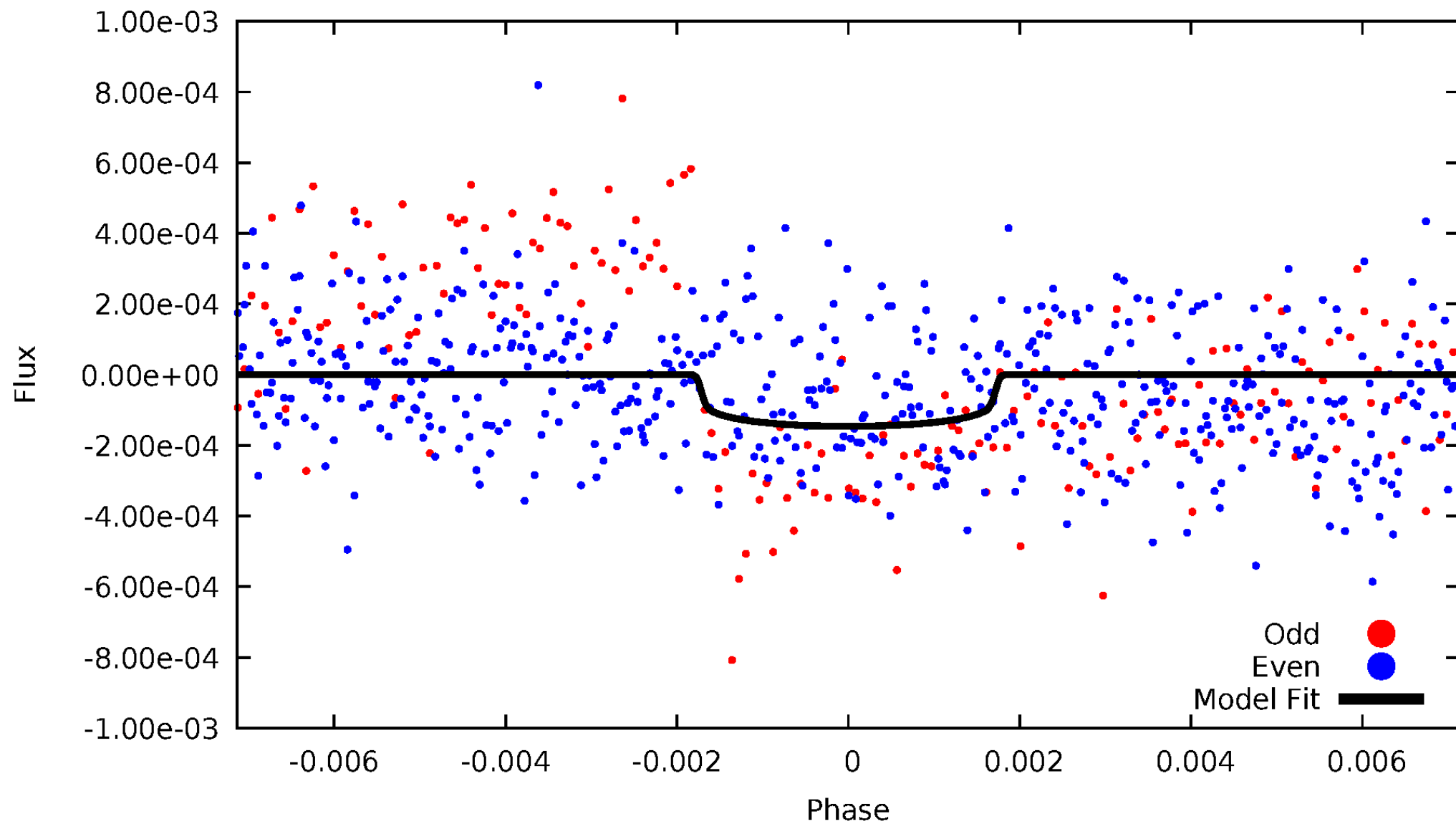


TCE 011852808-01



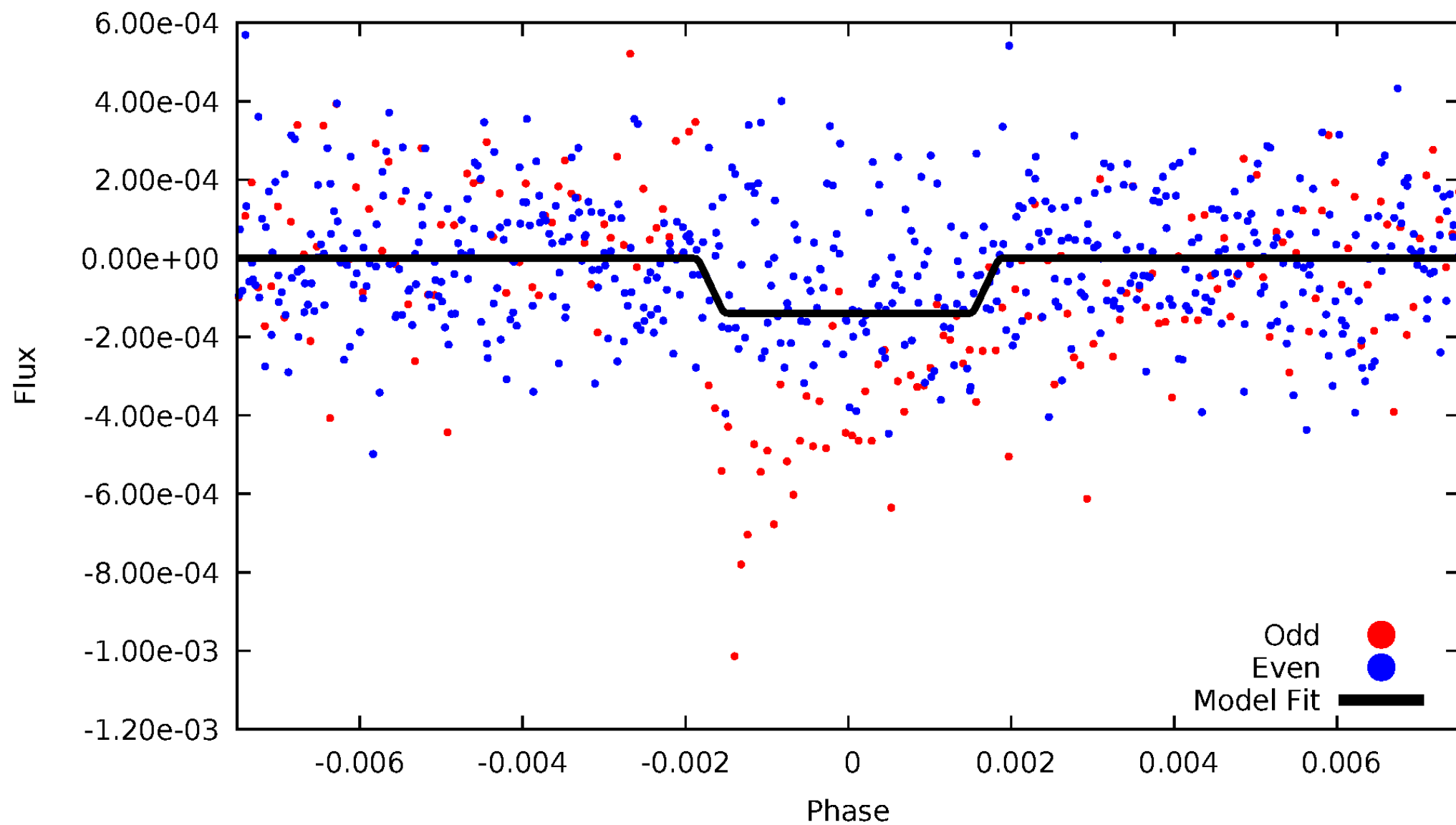
# DV Odd/Even

TCE 011852808-01



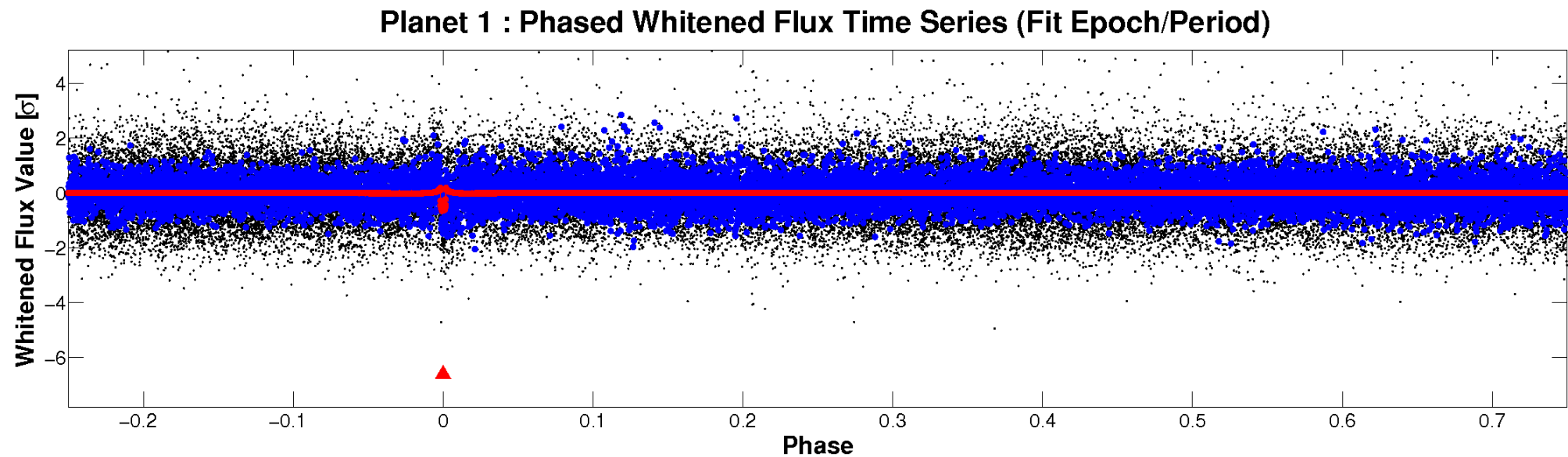
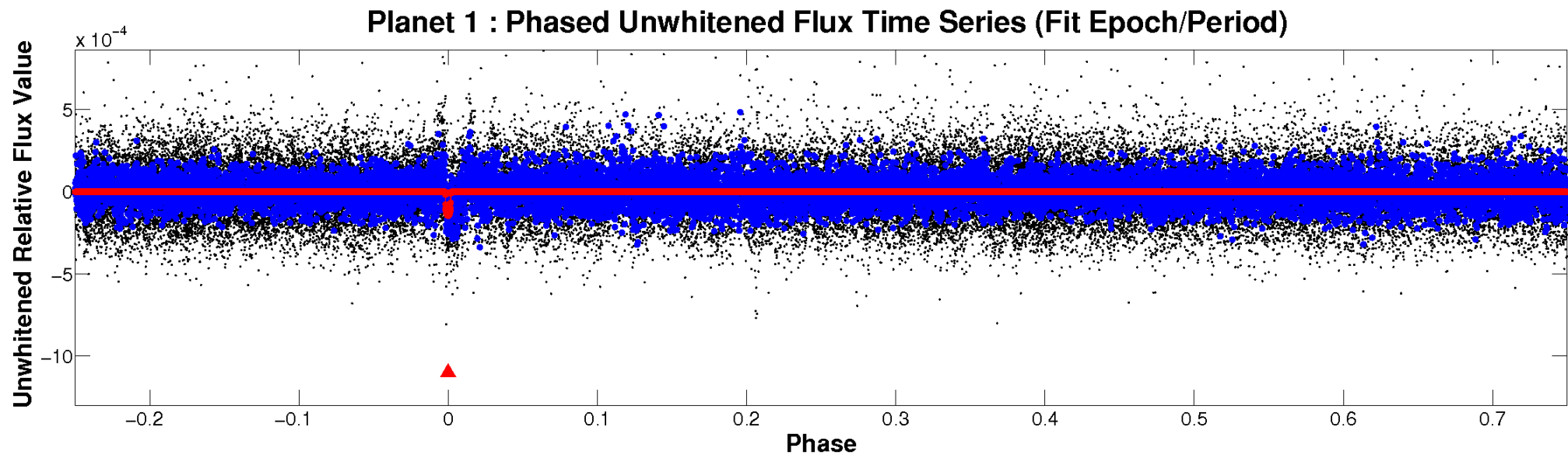
# ALT Odd/Even

TCE 011852808-01



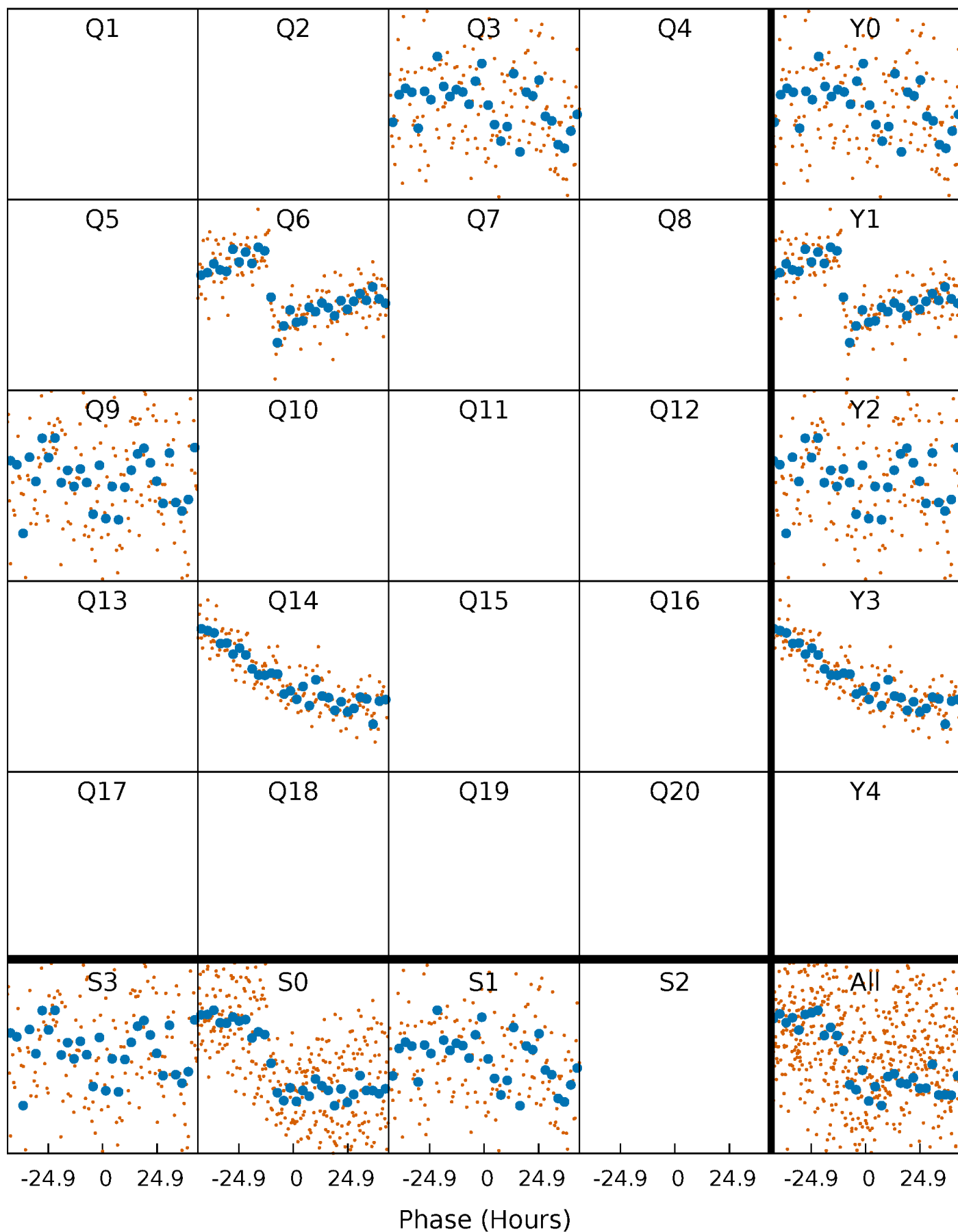


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

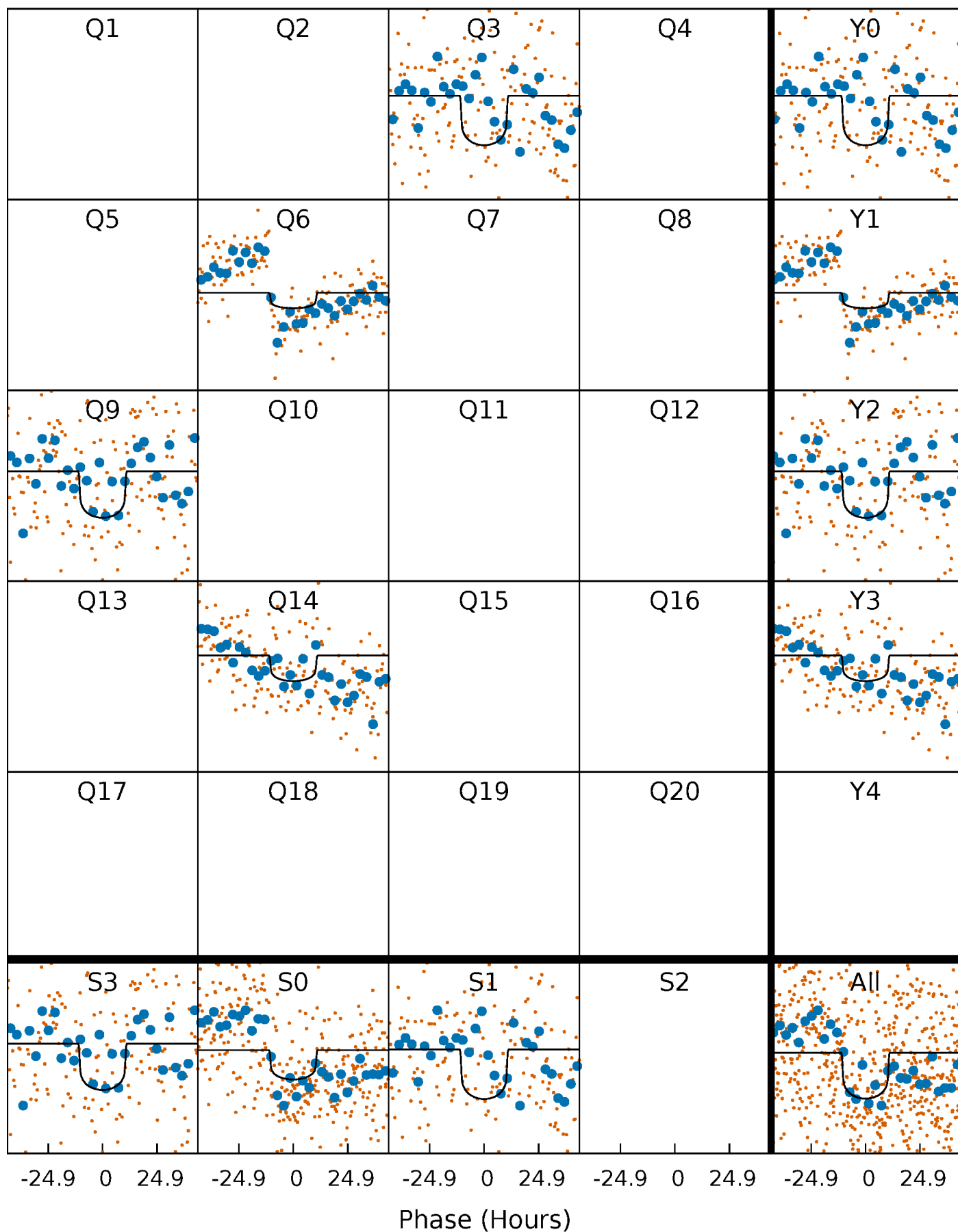
TCE 011852808-01     $P=254.887000$  Days     $T_0=346.801832$  (BKJD)





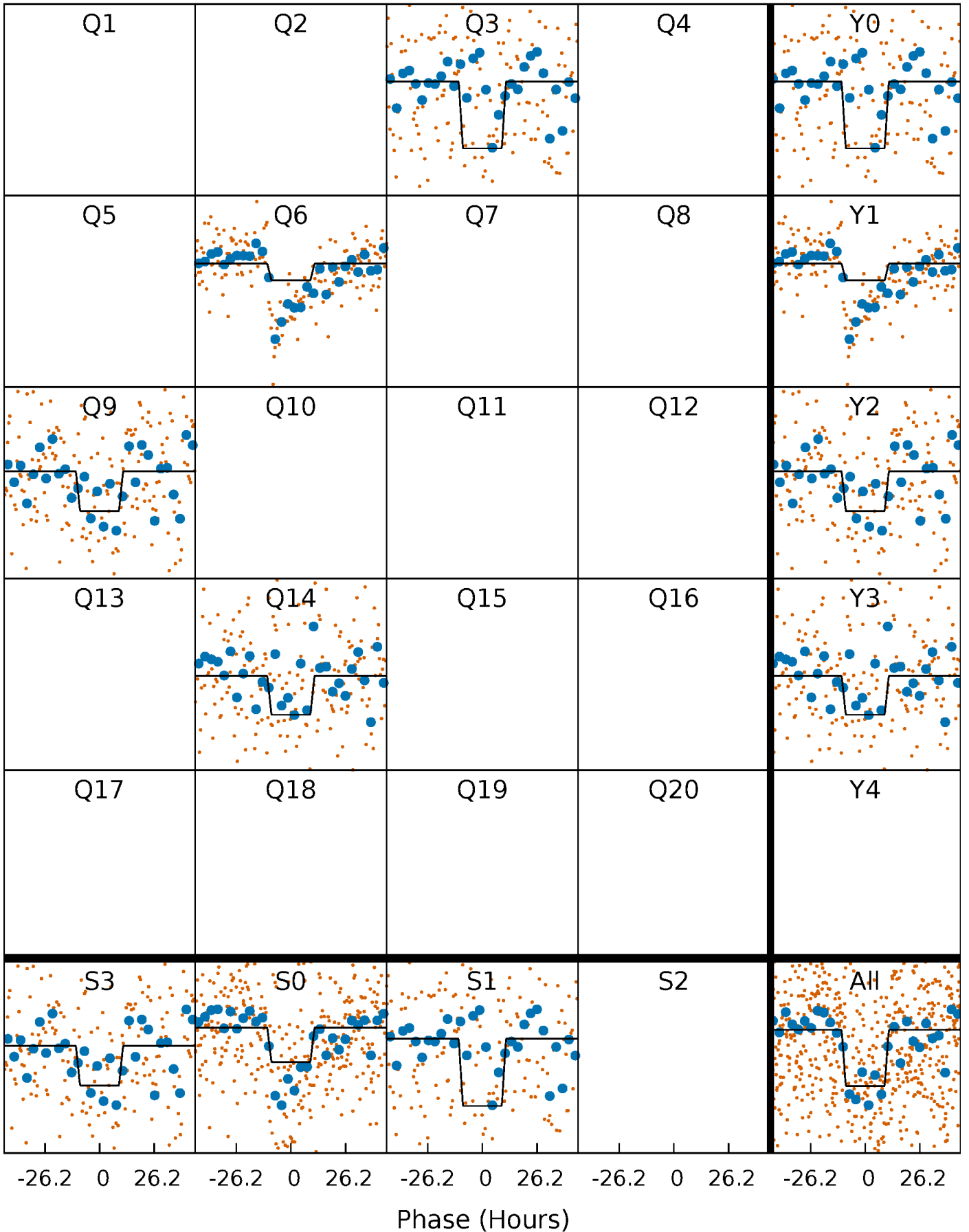
# DV Quarter-Phased Transit Curves

TCE 011852808-01 P=254.887000 Days  $T_0=346.801832$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

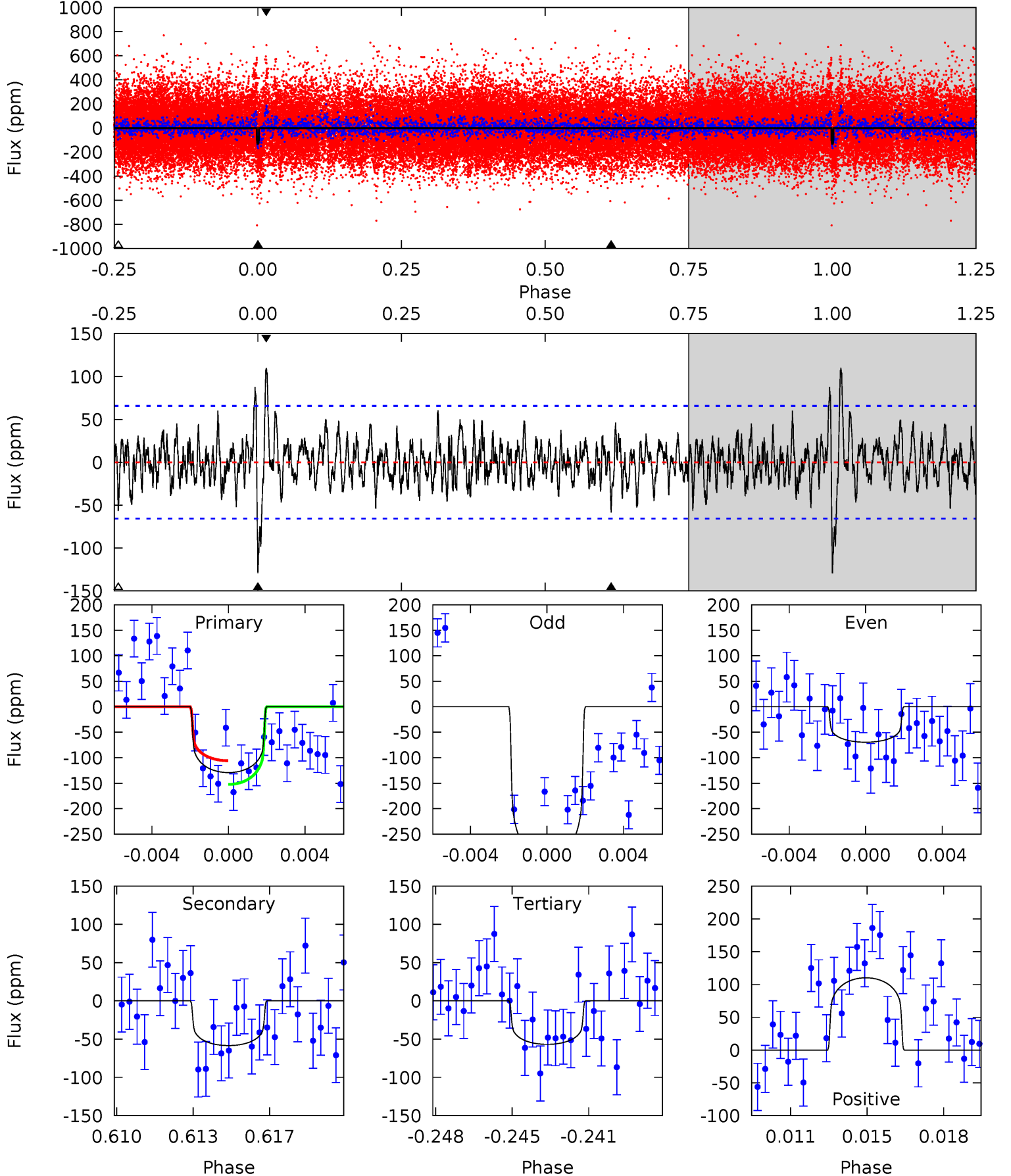
TCE 011852808-01 P=254.874605 Days  $T_0=346.824554$  (BKJD)



# DV Model-Shift Uniqueness Test

011852808-01, P = 254.887000 Days, E = 91.914832 Days

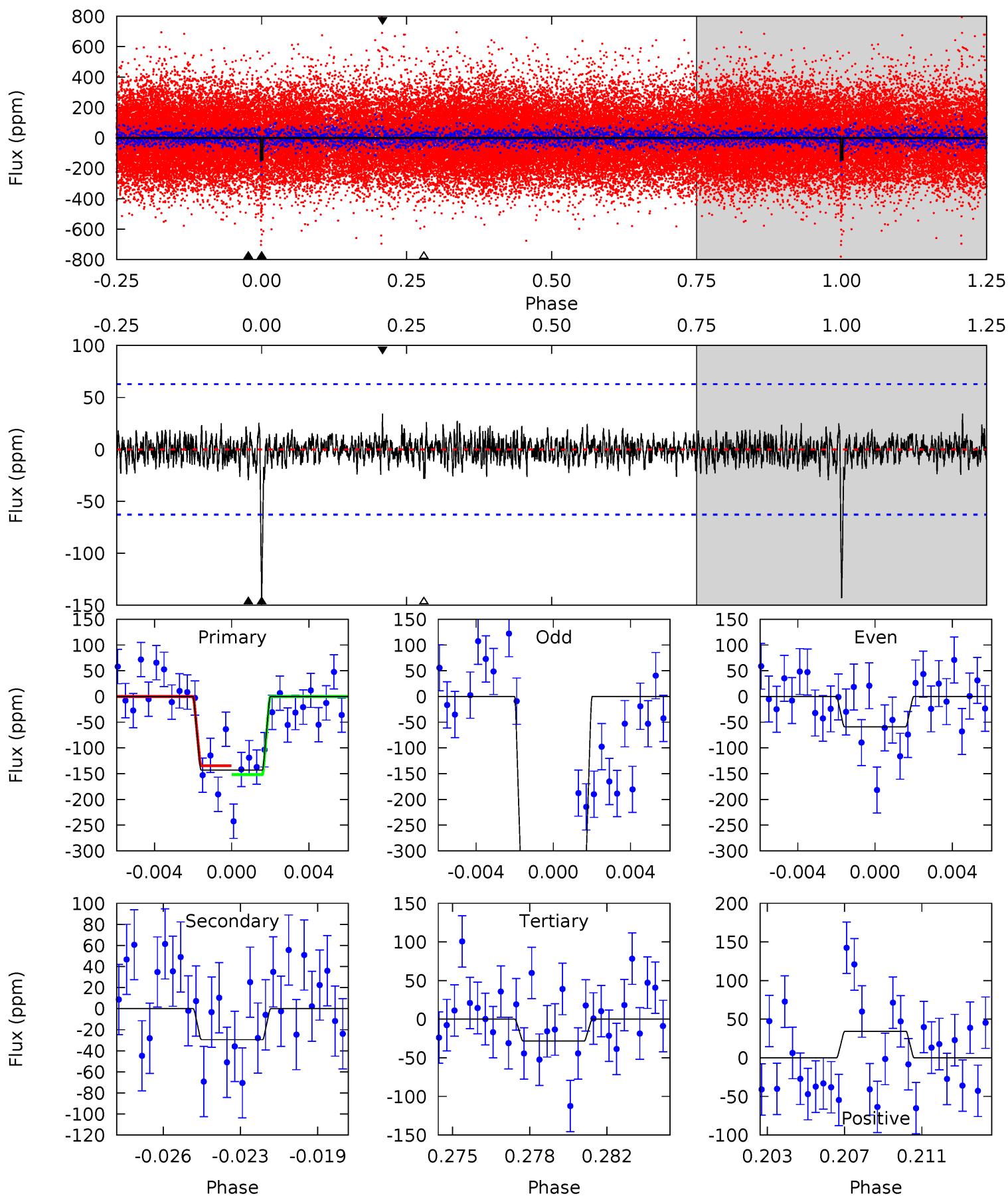
| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.3 | 4.64 | 4.52 | 8.76 | 5.22            | 2.91            | 1.69             | 5.75    | 1.51    | 0.13    | -4.11   | 8.01    | 1.31 | 0.46  | 1.85 |



# Alt Model-Shift Uniqueness Test

011852808-01,  $P = 254.874605$  Days,  $E = 91.949949$  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  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.9 | 2.44 | 2.35 | 2.85 | 5.21            | 2.90            | 0.73             | 9.55    | 9.05    | 0.09    | -0.41   | 12.6    | 1.92 | 0.19  | 0.71 |



### Stellar Parameters For KIC 011852808

|        | $T_{\text{eff}} (K)$ | $\log(g)$                 | [Fe/H]                     | $R (R_{\odot})$           | $M (M_{\odot})$           | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
|        | $5922^{+193}_{-193}$ | $3.959^{+0.472}_{-0.157}$ | $-0.400^{+0.300}_{-0.250}$ | $1.715^{+0.428}_{-0.734}$ | $0.977^{+0.129}_{-0.144}$ | $0.273^{+1.235}_{-0.117}$                 |
|        | +3%/-3%              | +12%/-4%                  | +75%/-62%                  | +25%/-43%                 | +13%/-15%                 | +453%/-43%                                |
| Source | PHO54                | PHO54                     | PHO54                      | DSEP                      |                           |   |

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

### Secondary Eclipse Parameters for KIC 011852808-01 / KOI

| Detrend | Depth (ppm)  | $R_p (R_{\oplus})$     | $T_{max} (K)$     | $T_{obs} (K)$        | $A_{obs}$              |
|---------|--------------|------------------------|-------------------|----------------------|------------------------|
| DV      | $-58 \pm 13$ | $2.17^{+0.72}_{-0.71}$ | $532^{+45}_{-66}$ | $4816^{+672}_{-495}$ | $4221^{+5451}_{-1916}$ |
| Alt.    | $-29 \pm 12$ | $2.11^{+0.69}_{-0.75}$ | $530^{+44}_{-67}$ | $4217^{+607}_{-512}$ | $2191^{+3088}_{-1238}$ |

$T_{max}$  = 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

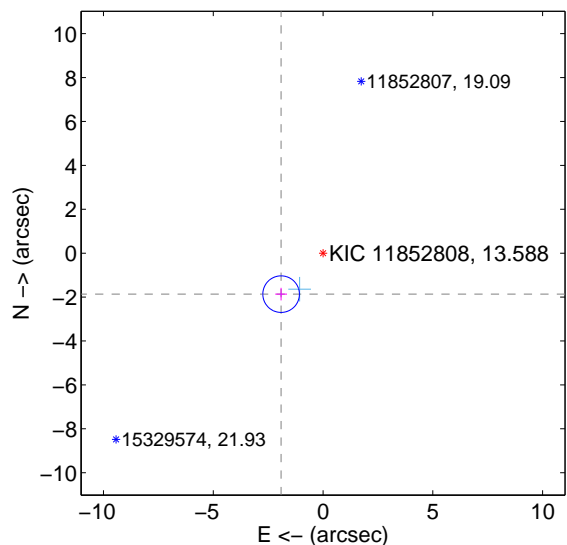
Supplemental centroid analysis for 011852808-01. Kepler magnitude: 13.59. Transit SNR 7.48

There are 2 quarters with good PRF difference image offsets

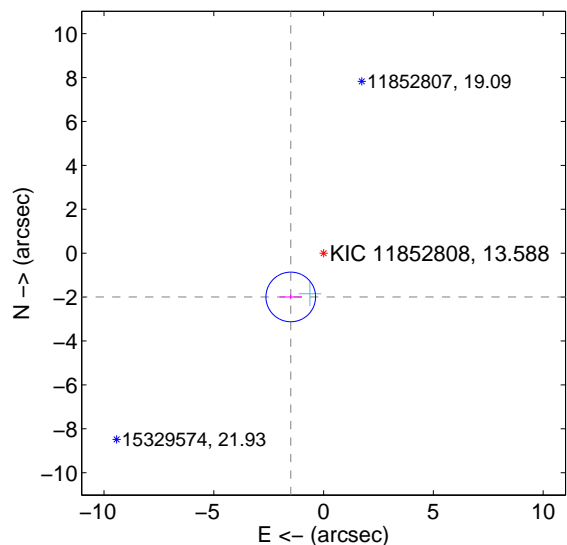
The direct PRF centroid is offset from the target star catalog position by about 0.49 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec       |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT          | $2.670 \pm 0.278$  | 9.62                | $1.910 \pm 0.267$ | $-1.866 \pm 0.288$ |
| PRF-fit source offset from KIC position | $2.492 \pm 0.377$  | 6.61                | $1.495 \pm 0.511$ | $-1.994 \pm 0.107$ |
| photometric centroid source offset      | $3.51 \pm 1.89$    | 1.85                | $3.17 \pm 1.87$   | $1.49 \pm 2.01$    |

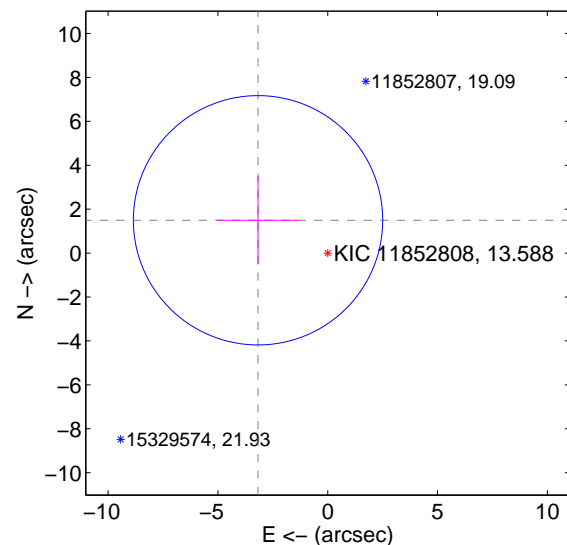
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



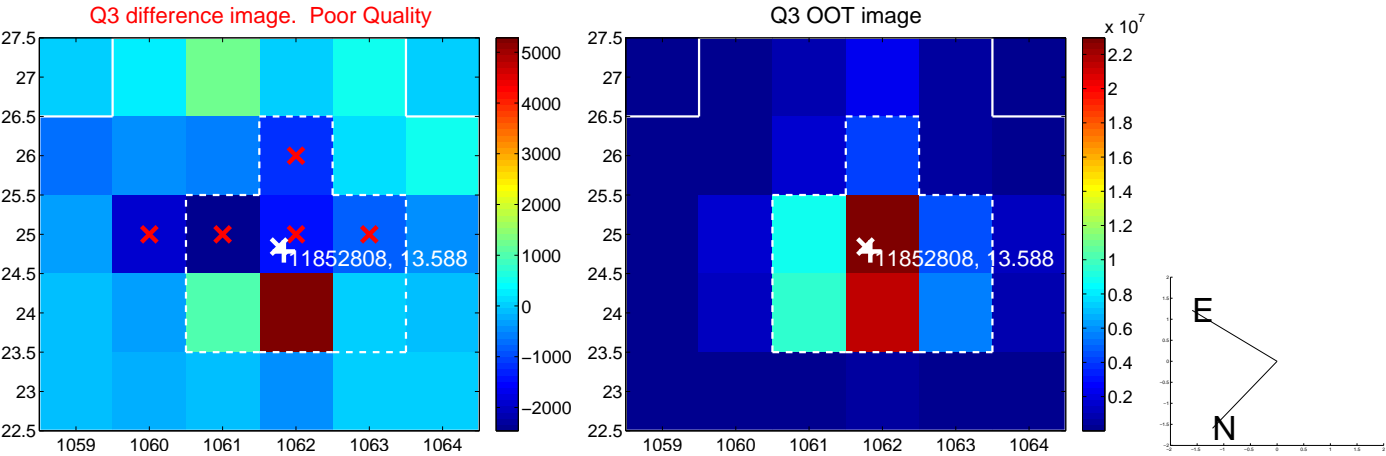
offset from photometric centroids



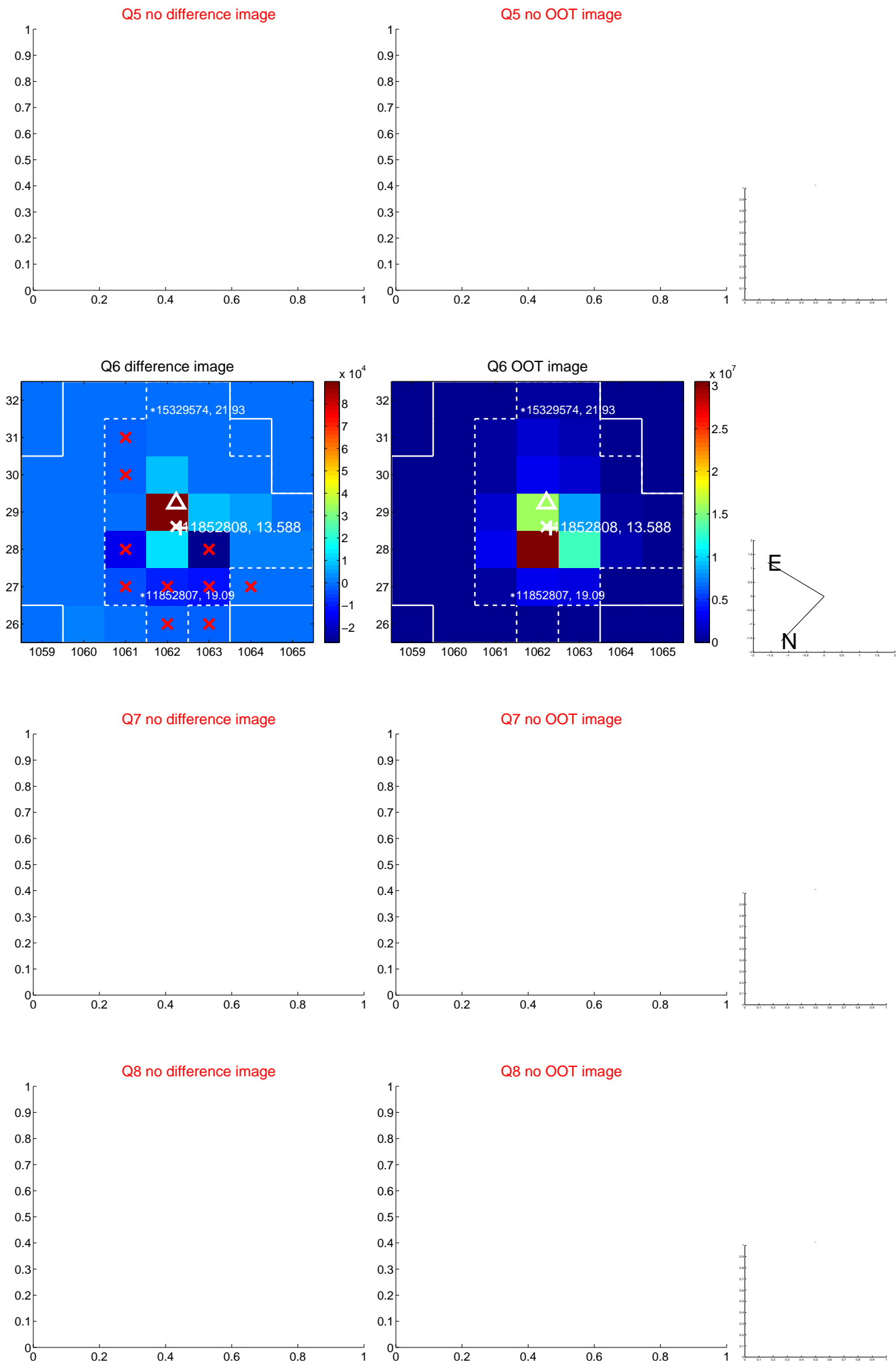
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



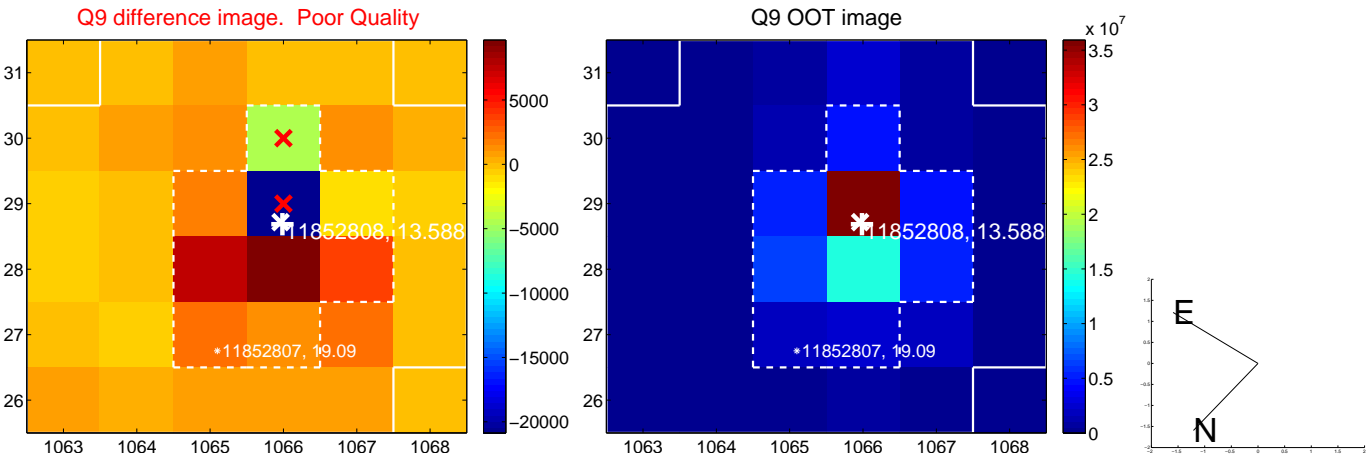
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



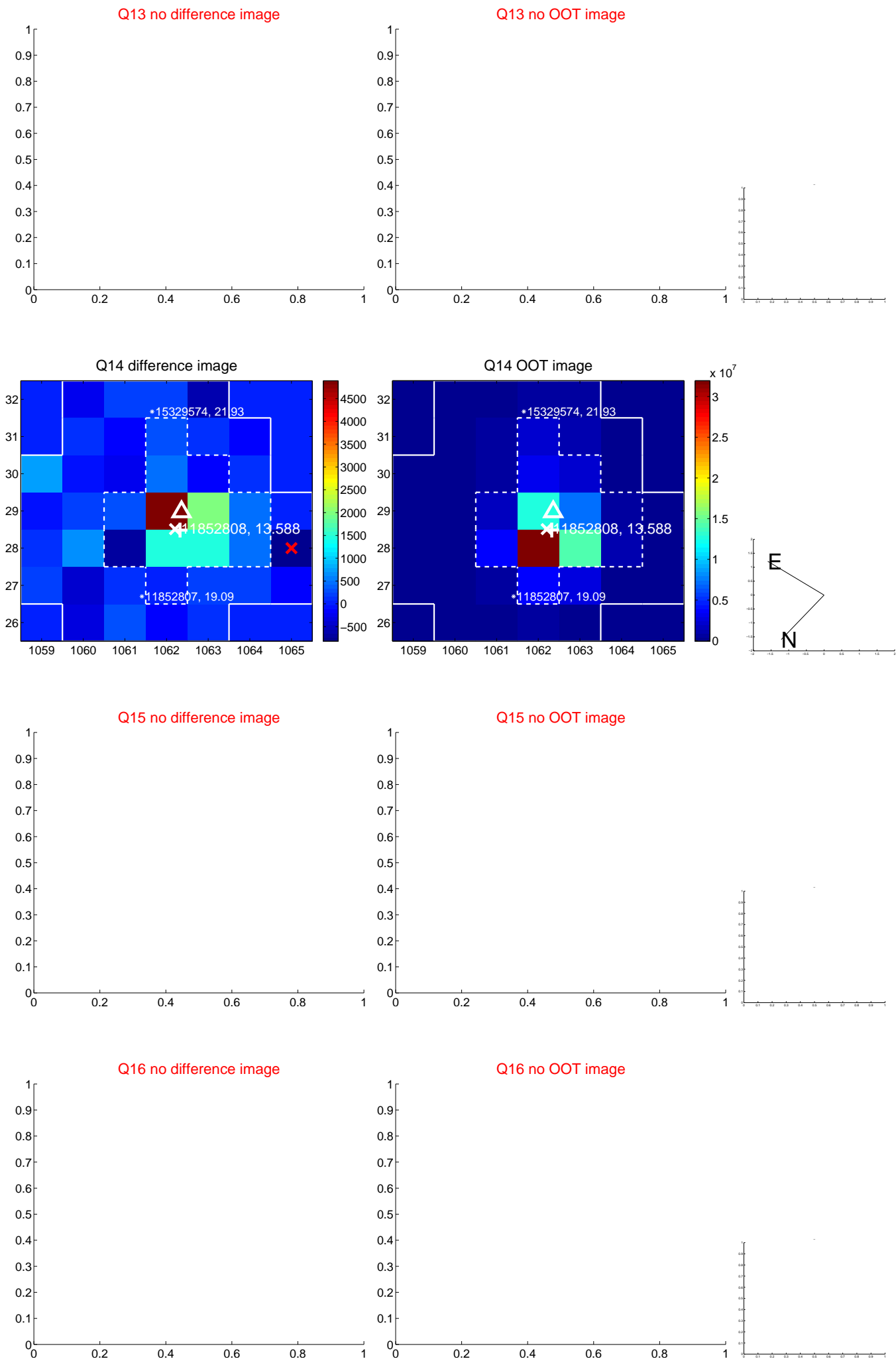
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



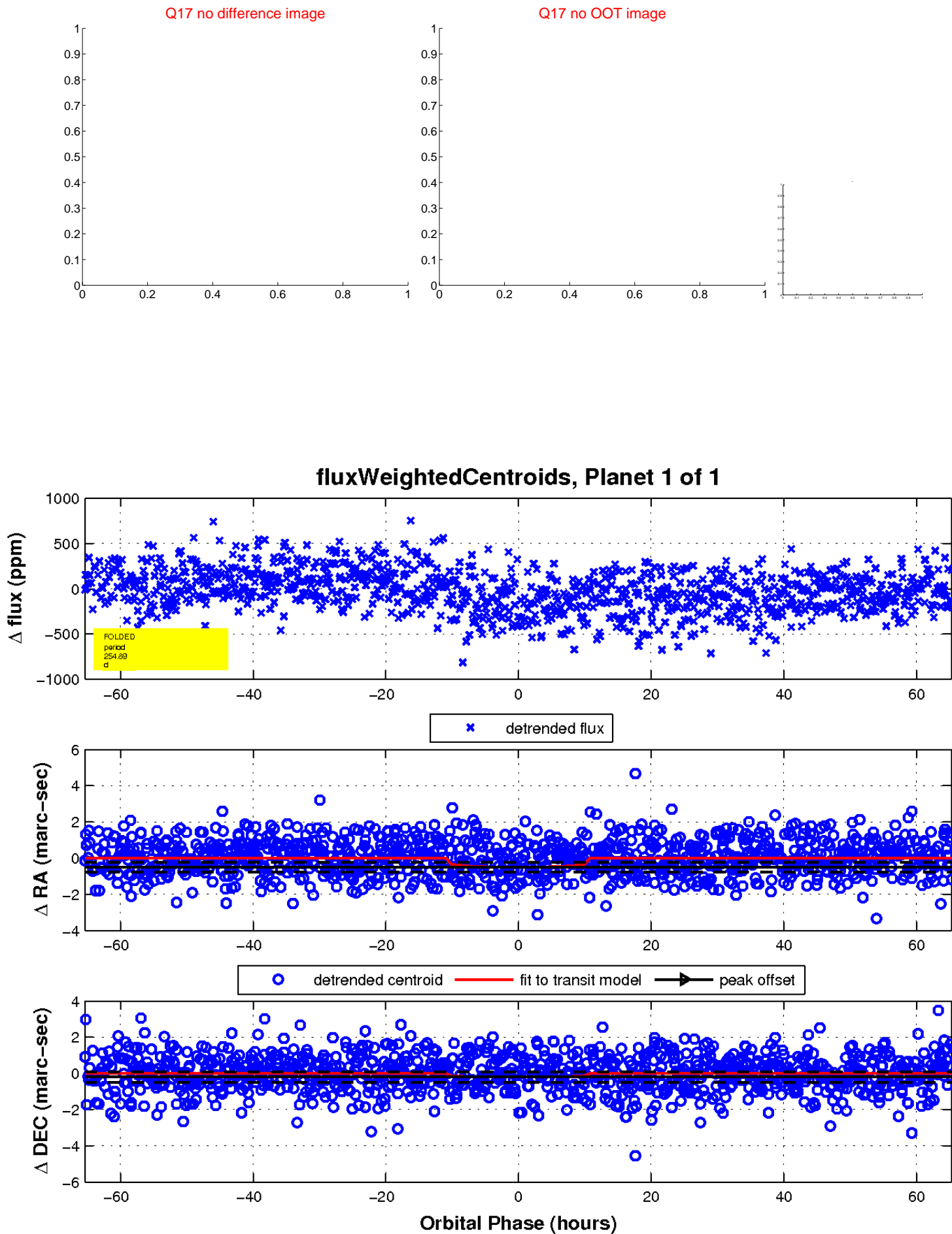
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

