

# KIC 008847466

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 008847466-01 | OBS      | No   | 337.908160    | 266.299814   | 161.0       | 4.591            | 7.2 | 7.4 | 2.11                        | 5390            | 2.96                   | 4.13                   |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments   |
|--------------|----------|------|-------|---|---|---|---|--|
| 008847466-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

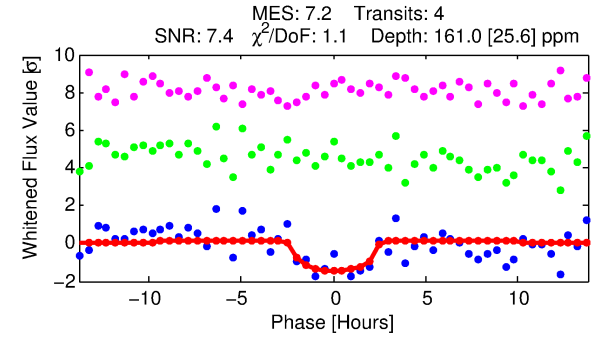
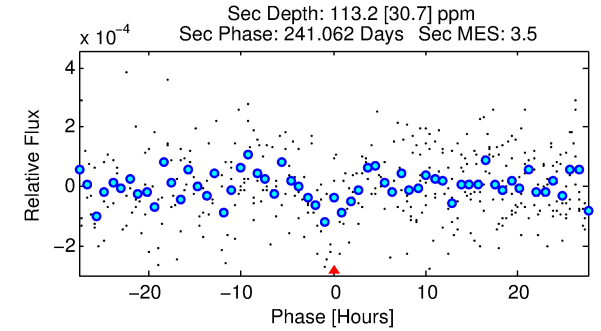
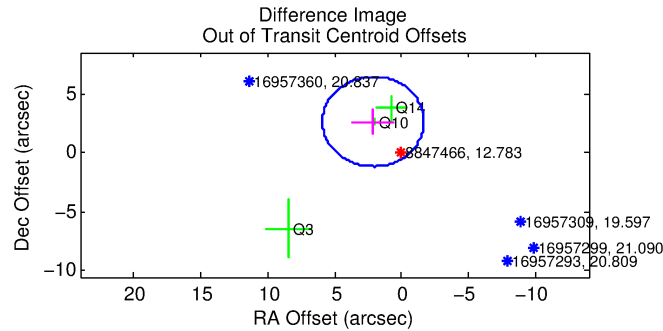
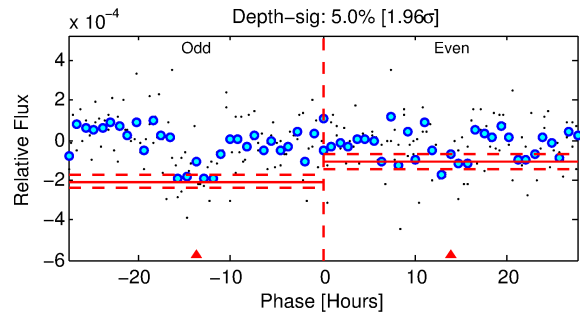
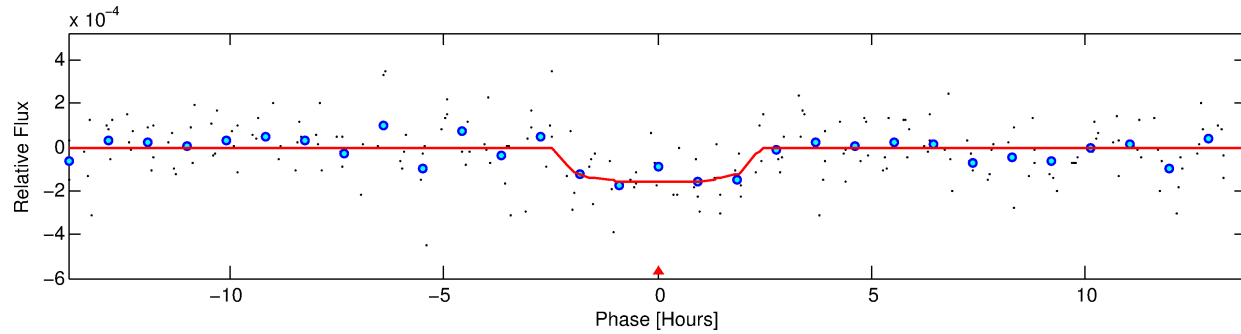
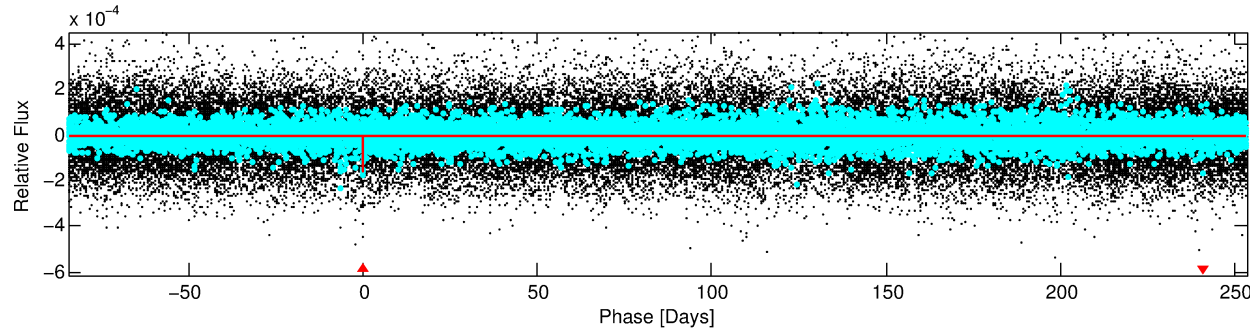
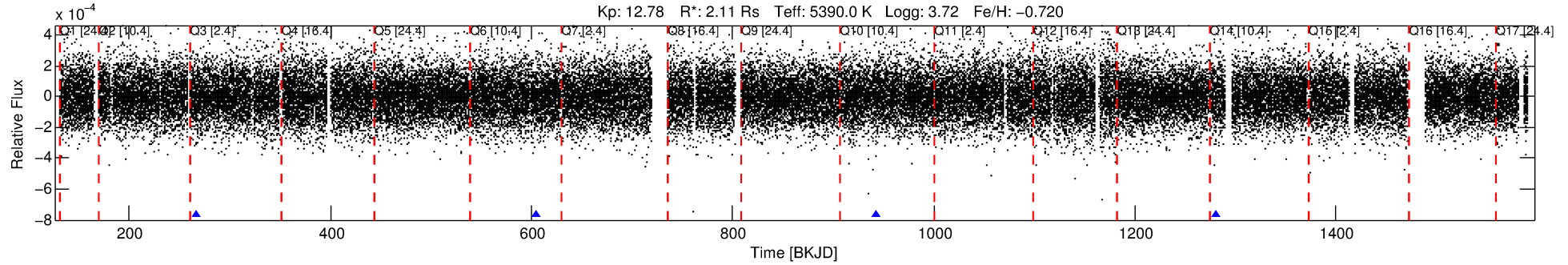
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008847466-01

No Significant Match Found

# DV One-Page Summary

KIC: 8847466 Candidate: 1 of 1 Period: 337.908 d



## DV Fit Results:

Period = 337.90816 [0.00785] d  
Epoch = 266.2998 [0.0132] BKJD  
Rp/R\* = 0.0128 [0.0216]  
a/R\* = 356.96 [2724.62]  
b = 0.79 [3.70]  
Seff = 4.13 [1.75]  
Teq = 363 [39] K  
Rp = 2.96 [5.11] Re  
a = 0.9031 [0.2773] AU  
Ag = 5812.05 [19760.65] [0.29 $\sigma$ ]  
Teffp = 4907 [4142] K [1.10 $\sigma$ ]

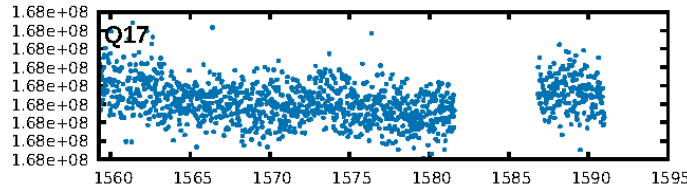
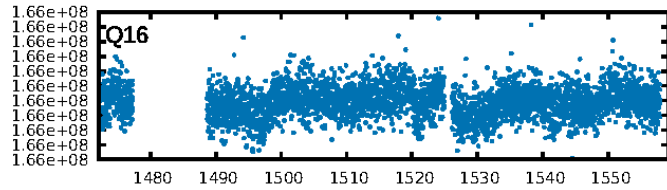
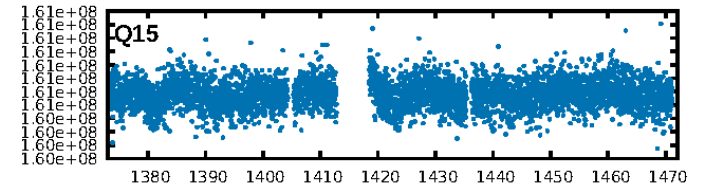
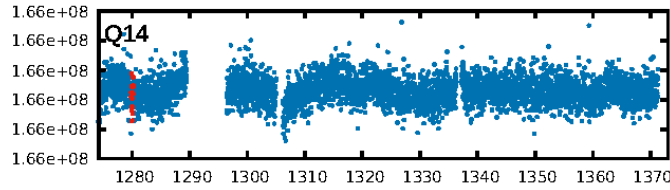
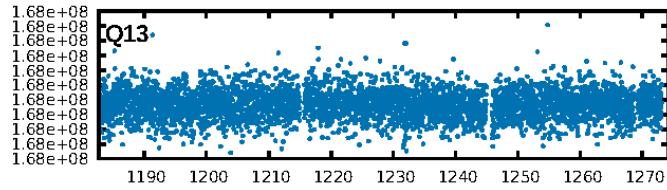
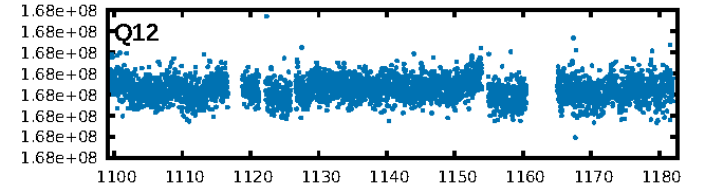
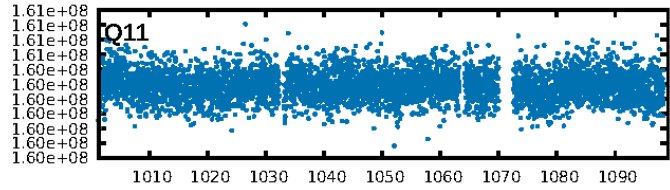
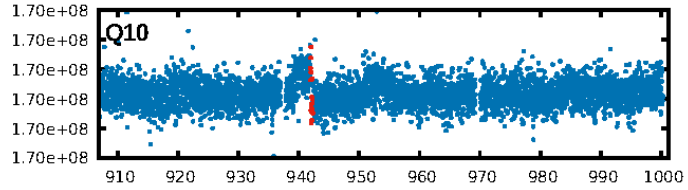
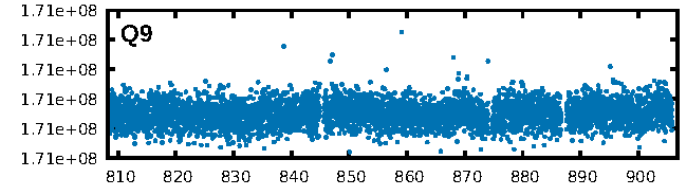
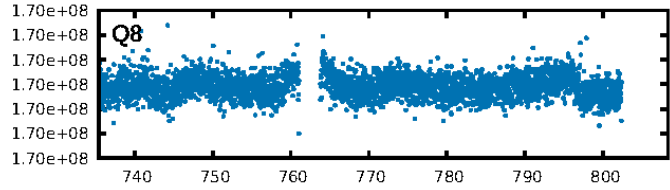
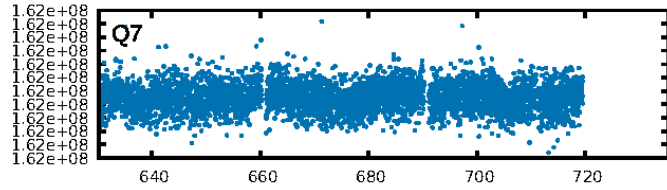
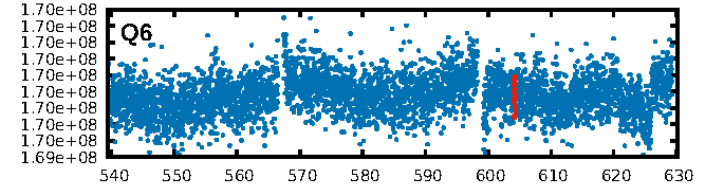
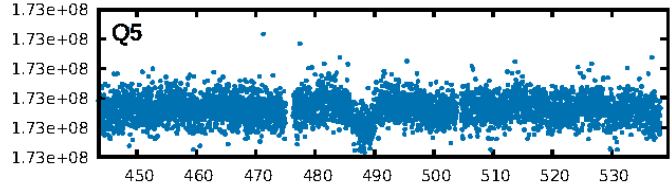
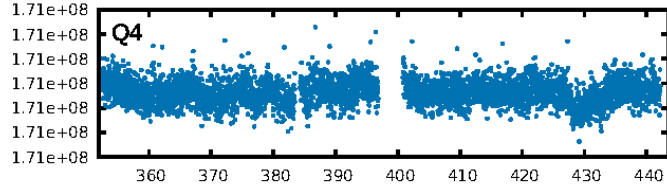
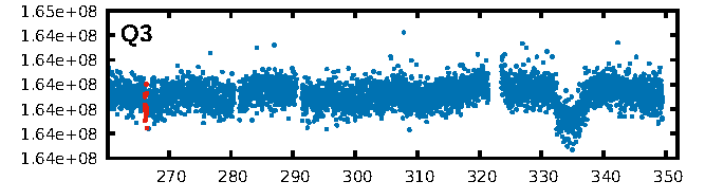
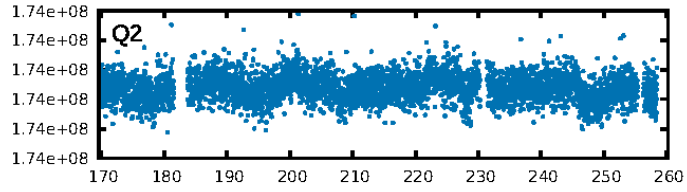
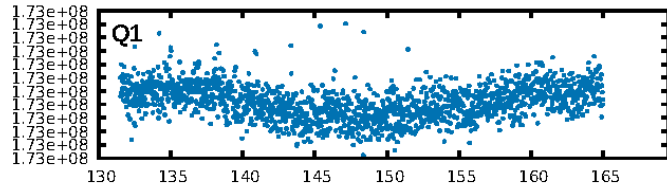
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 6.4%  
ModelChiSquareGof-sig: 96.0%  
**Bootstrap-pfa: 3.41e-11**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 1.156  
**Centroid-sig: 0.1%**  
**Centroid-so: 8.591 arcsec [3.16 $\sigma$ ]**  
OotOffset-rm: 3.380 arcsec [2.67 $\sigma$ ]  
KicOffset-rm: 3.590 arcsec [2.92 $\sigma$ ]  
OotOffset-st: 2/1/0/0 [3]  
KicOffset-st: 2/1/0/0 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [4/4]

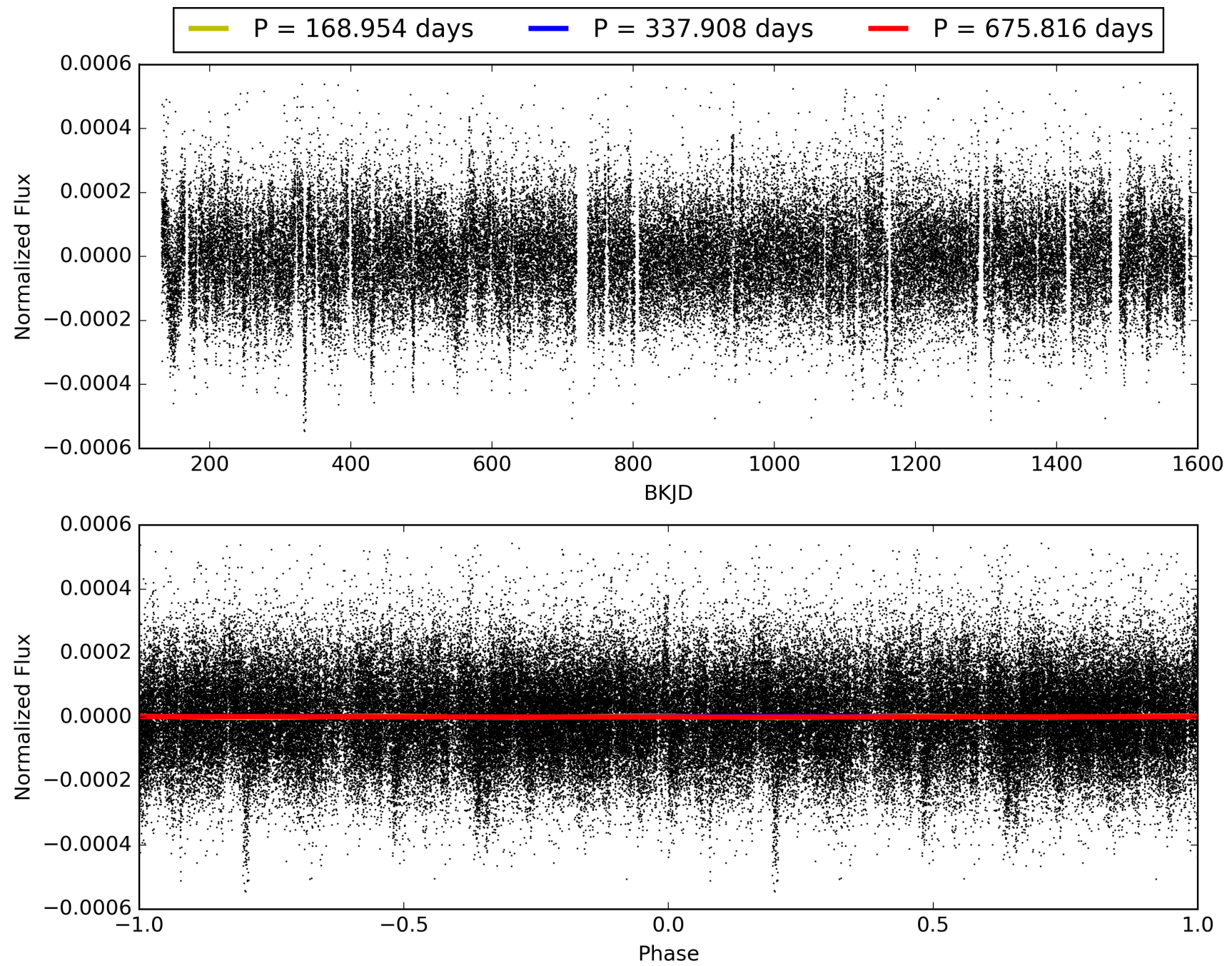
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:58:03 Z

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

## TCE 008847466-01, PDC Light Curves

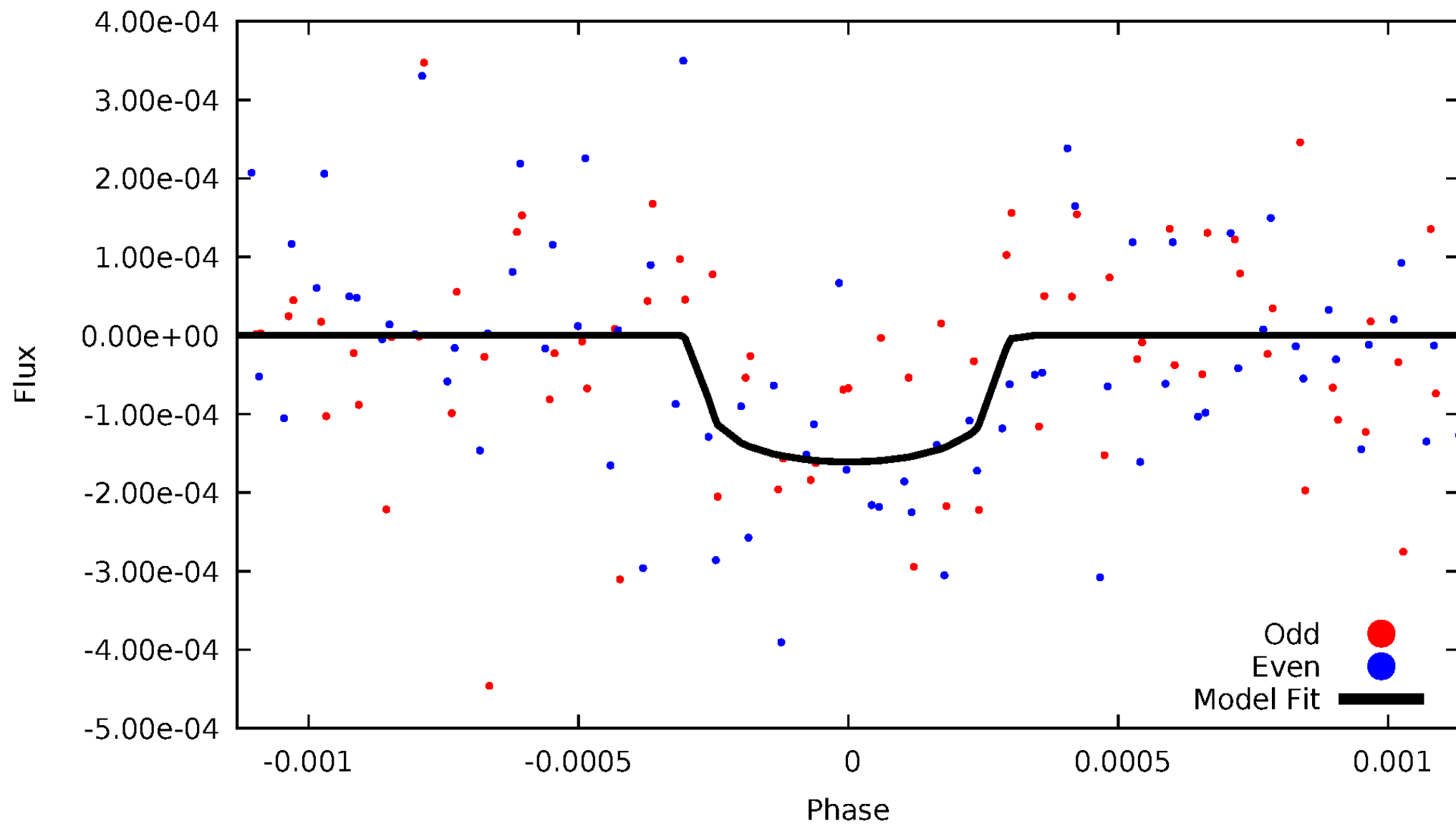


TCE 008847466-01



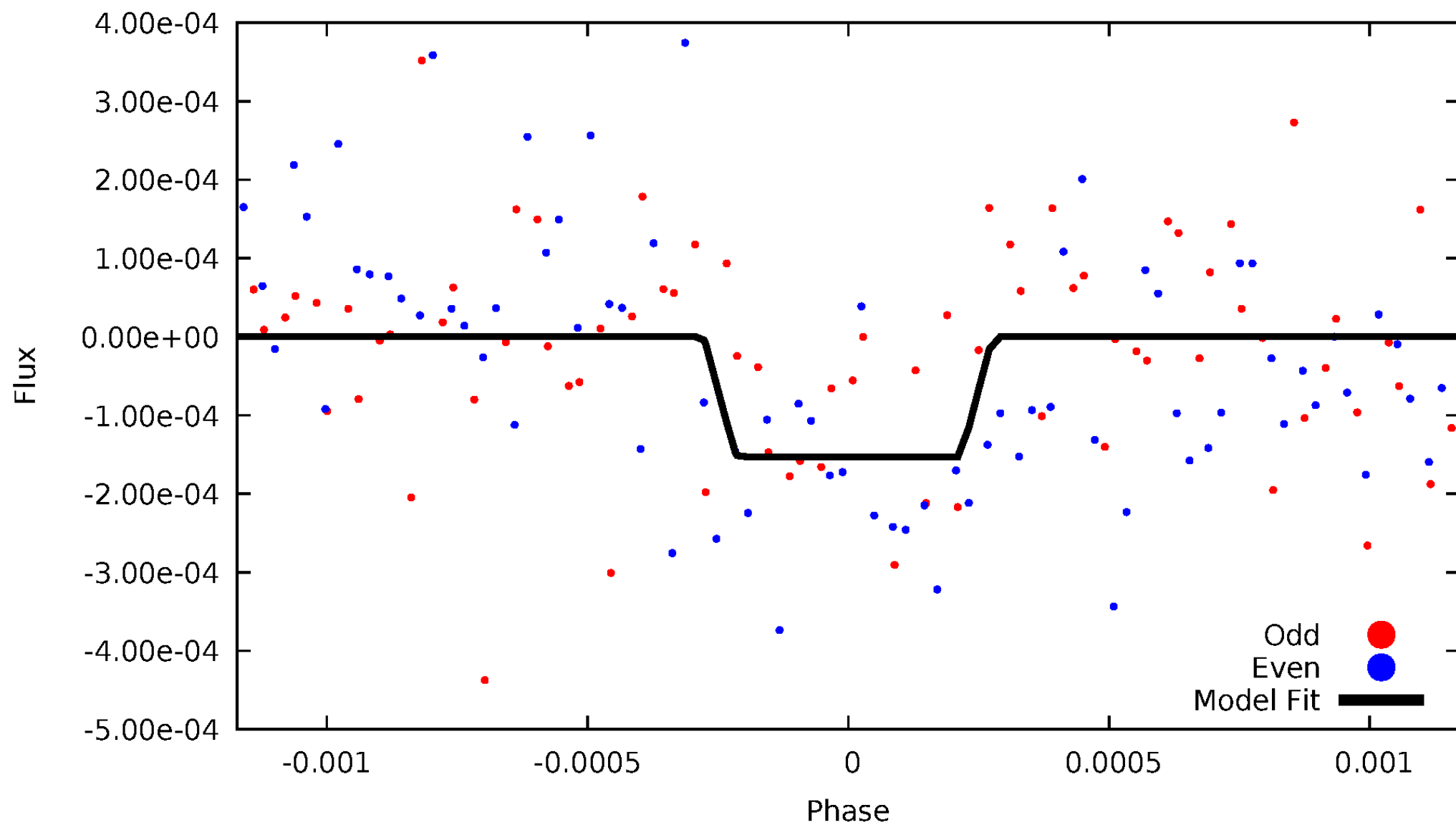
# DV Odd/Even

TCE 008847466-01



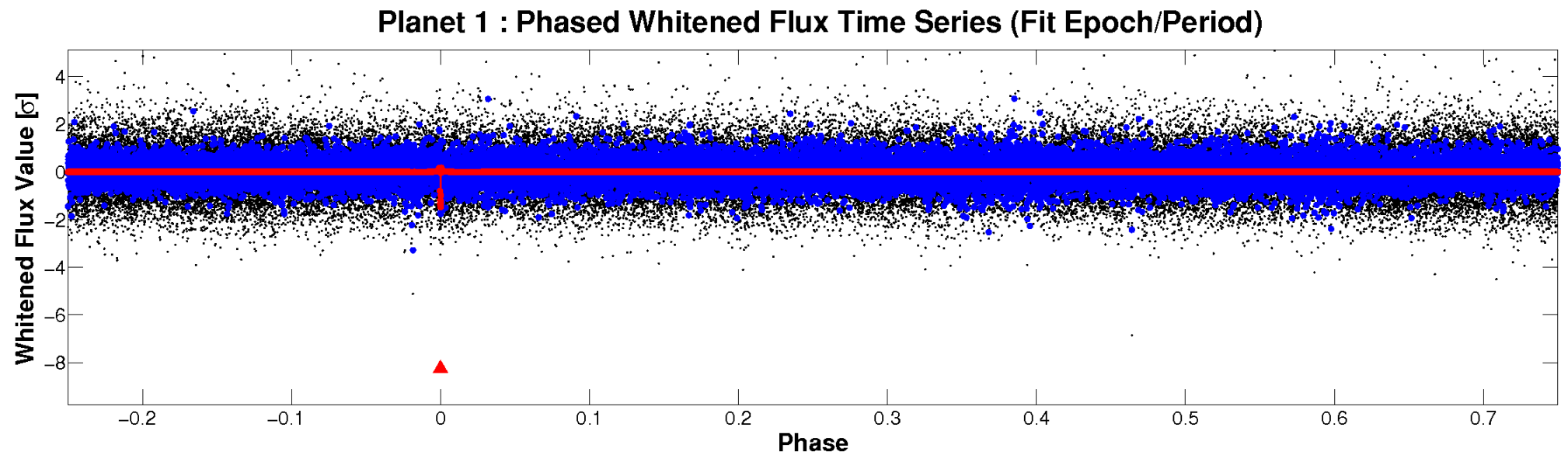
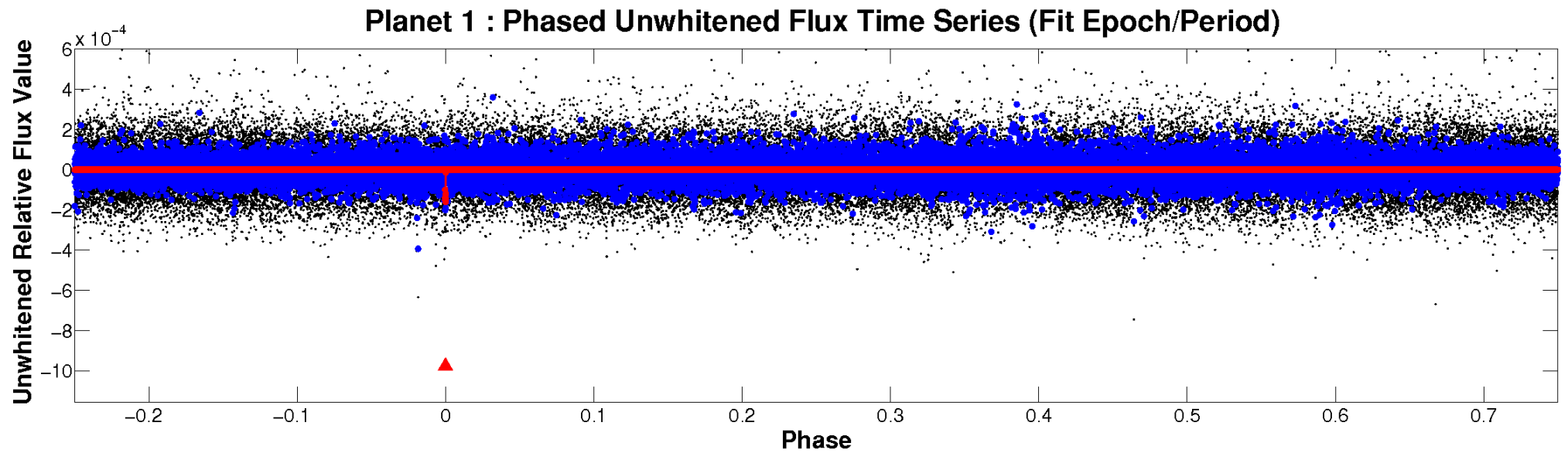
# ALT Odd/Even

TCE 008847466-01



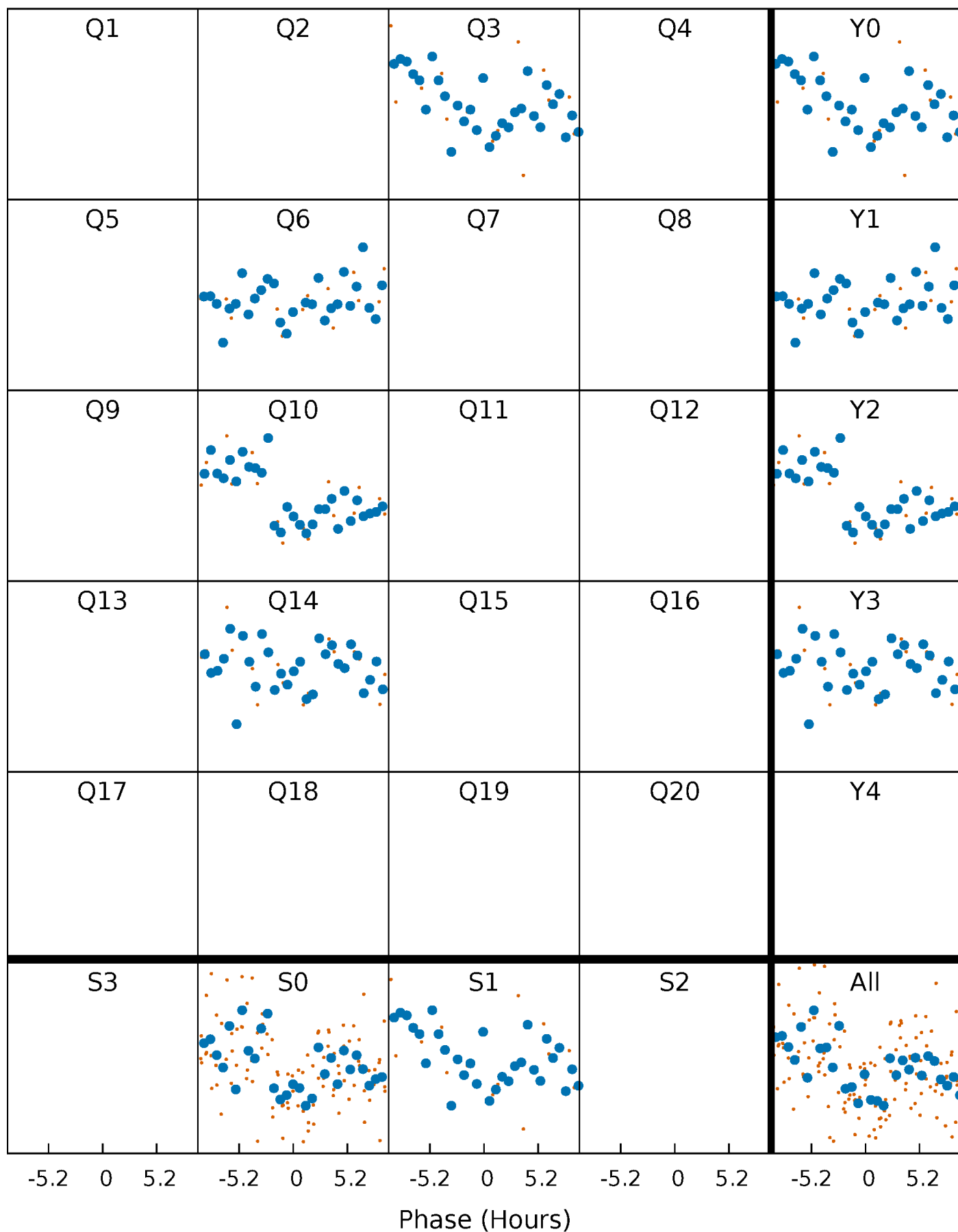


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

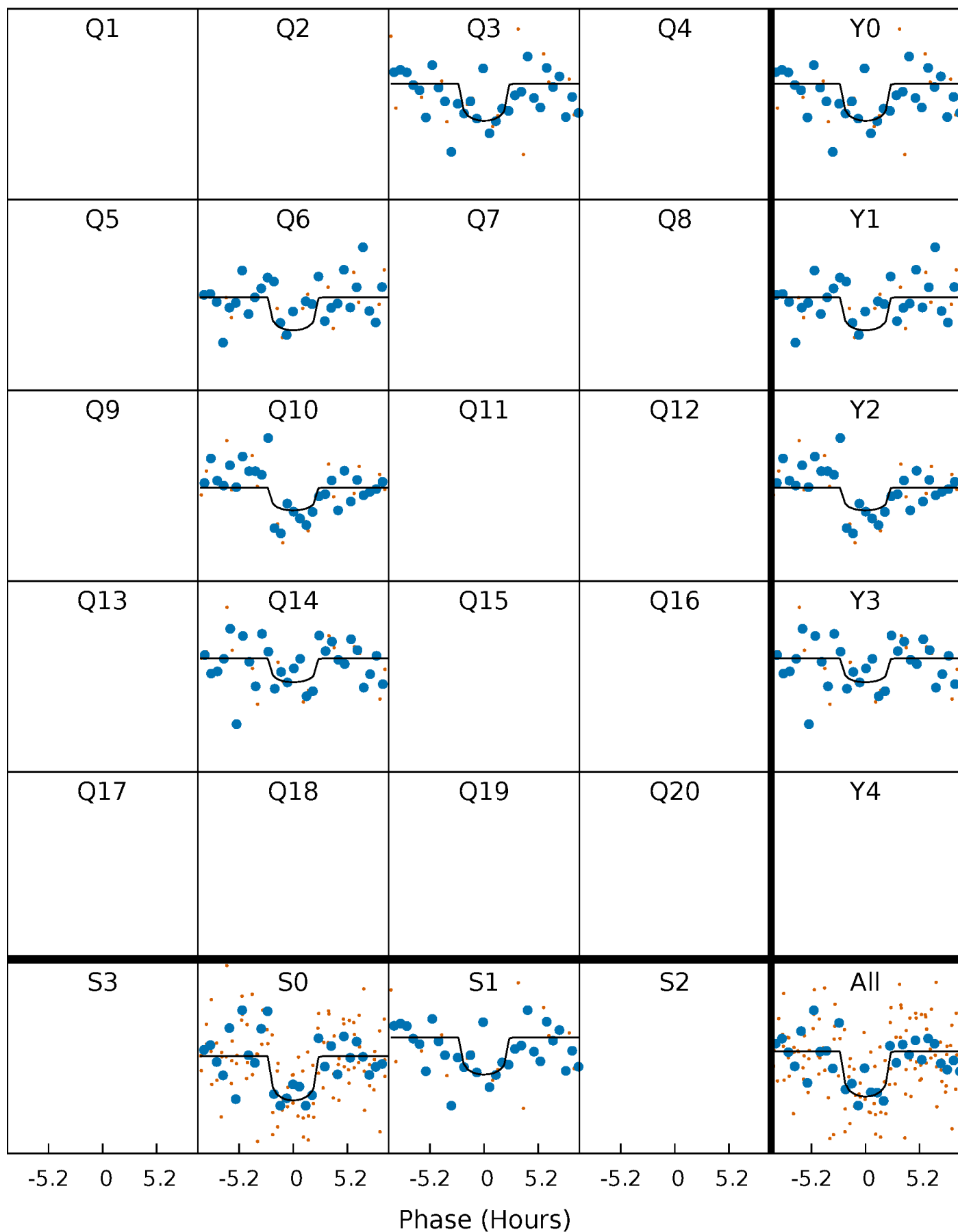
TCE 008847466-01 P=337.908160 Days  $T_0=266.299814$  (BKJD)





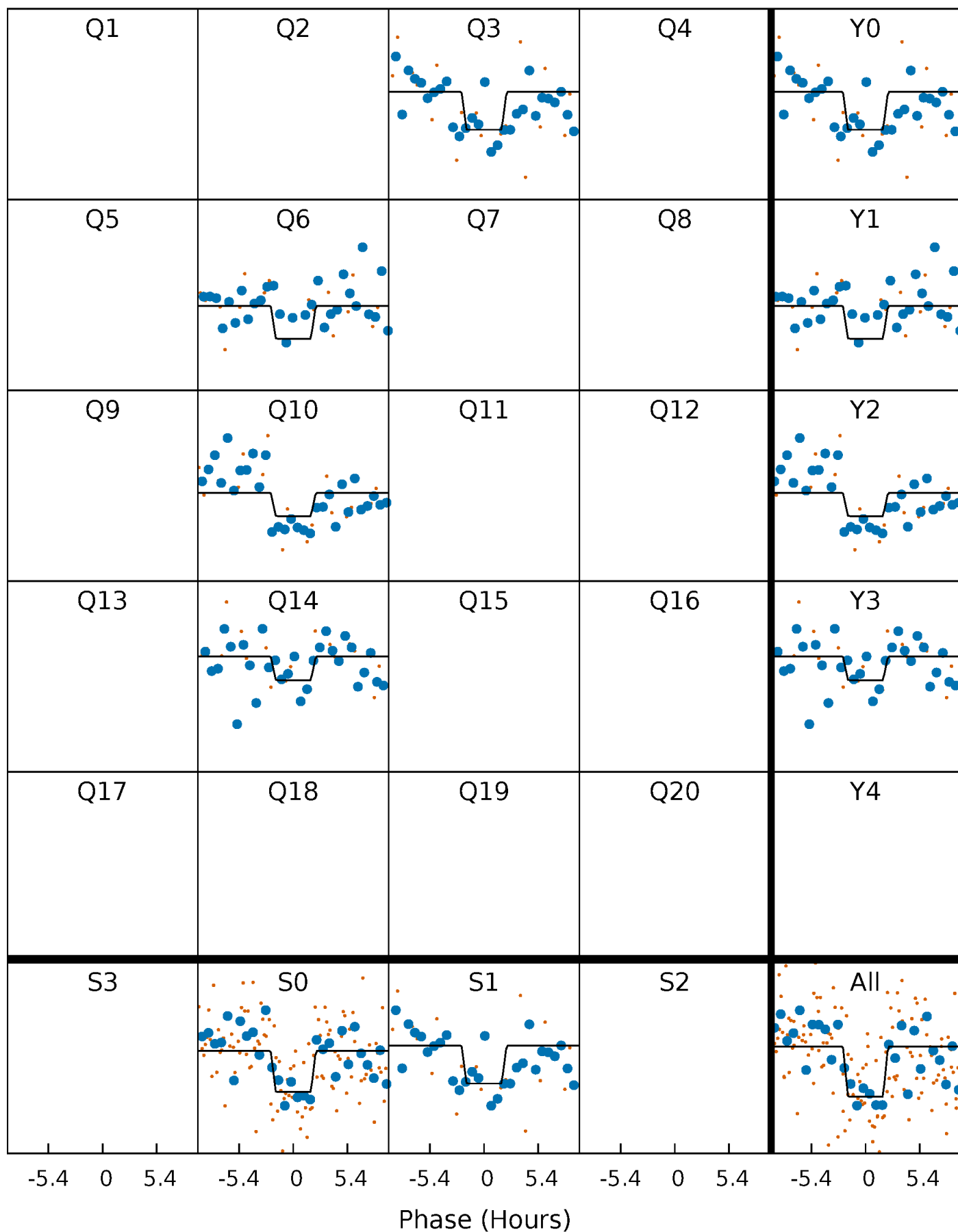
# DV Quarter-Phased Transit Curves

TCE 008847466-01 P=337.908160 Days  $T_0=266.299814$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

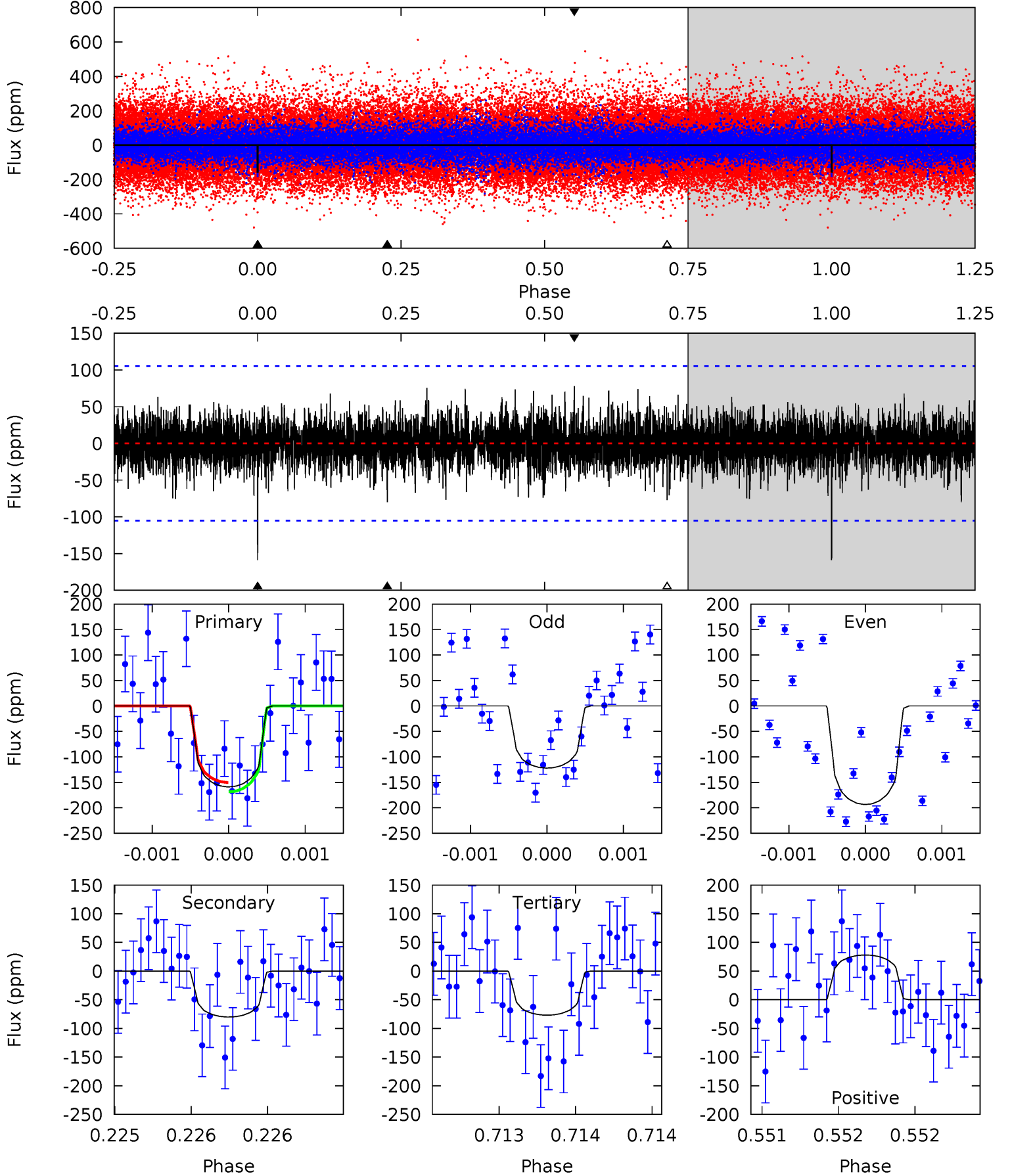
TCE 008847466-01 P=337.916574 Days  $T_0=266.285456$  (BKJD)



# DV Model-Shift Uniqueness Test

008847466-01, P = 337.908160 Days, E = 266.299814 Days

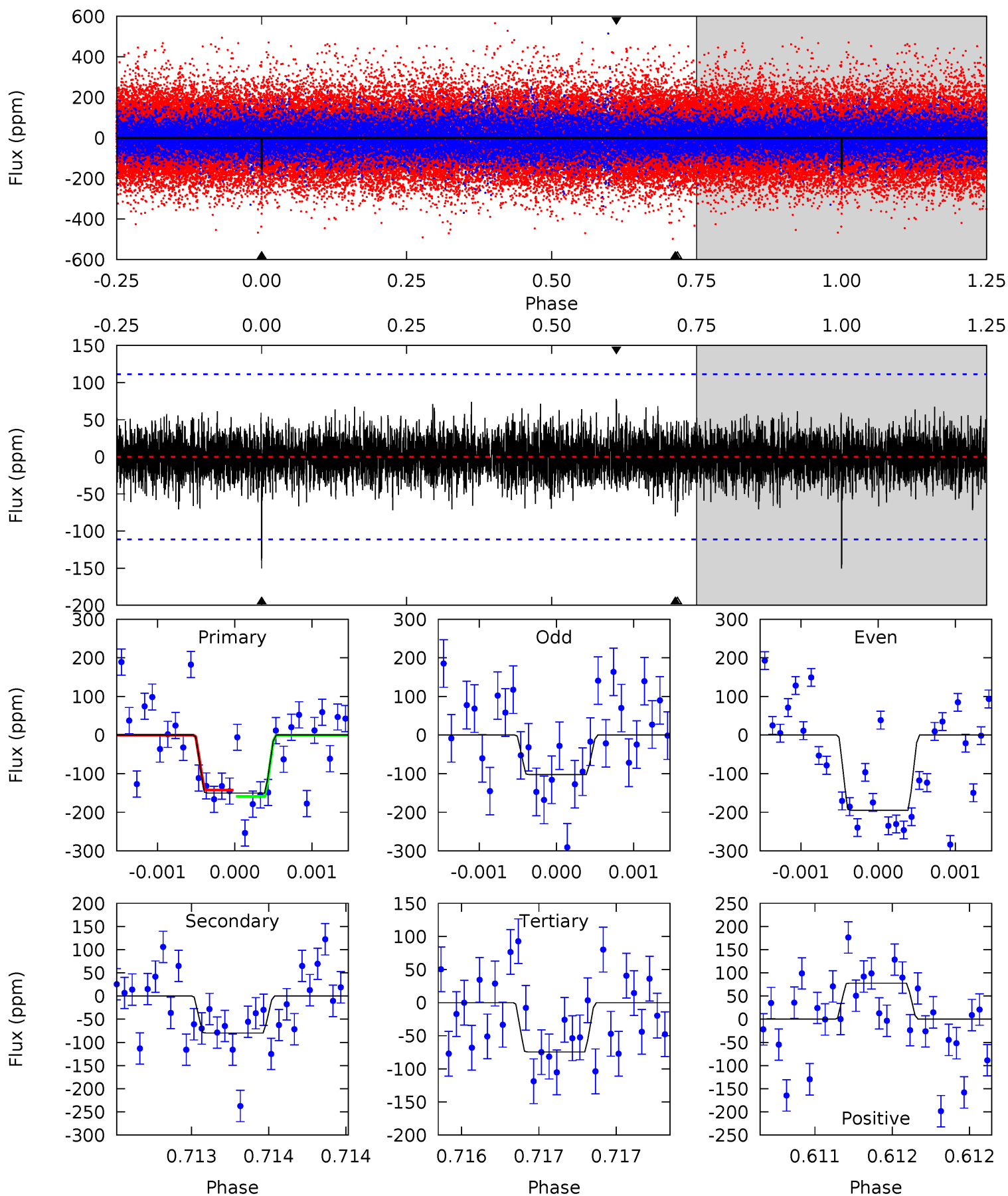
| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 8.37 | 4.22 | 4.05 | 4.11 | 5.54            | 3.43            | 1.12             | 4.32    | 4.26    | 0.17    | 0.11    | 1.88    | 1.09 | 0.33  | 0.48 |



# Alt Model-Shift Uniqueness Test

008847466-01, P = 337.916574 Days, E = 266.285456 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  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 7.51 | 4.00 | 3.73 | 3.89 | 5.56            | 3.46            | 1.02             | 3.78    | 3.62    | 0.27    | 0.10    | 2.31    | 1.05 | 0.34  | 0.41 |



### Stellar Parameters For KIC 008847466

|        | $T_{\text{eff}}(K)$  | $\log(g)$                 | [Fe/H]                     | $R$ ( $R_{\odot}$ )       | $M(M_{\odot})$            | $p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ ) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
|        | $5390^{+150}_{-122}$ | $3.724^{+0.136}_{-0.204}$ | $-0.720^{+0.300}_{-0.250}$ | $2.110^{+0.836}_{-0.279}$ | $0.859^{+0.224}_{-0.039}$ | $0.129^{+0.069}_{-0.070}$                     |
|        | +3%/-2%              | +4%/-5%                   | +42%/-35%                  | +40%/-13%                 | +26%/-5%                  | +53%/-54%                                     |
| Source | PHO1                 | FLK73                     | 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 008847466-01 / KOI

| Detrend | Depth (ppm)  | $R_p$ ( $R_{\oplus}$ ) | $T_{max}$ (K)     | $T_{obs}$ (K)         | $A_{obs}$               |
|---------|--------------|------------------------|-------------------|-----------------------|-------------------------|
| DV      | $-80 \pm 19$ | $5.04^{+4.64}_{-3.14}$ | $510^{+41}_{-29}$ | $3857^{+1833}_{-732}$ | $1451^{+8483}_{-1071}$  |
| Alt.    | $-80 \pm 20$ | $4.68^{+4.41}_{-3.24}$ | $510^{+41}_{-28}$ | $3950^{+2561}_{-773}$ | $1635^{+16826}_{-1206}$ |

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

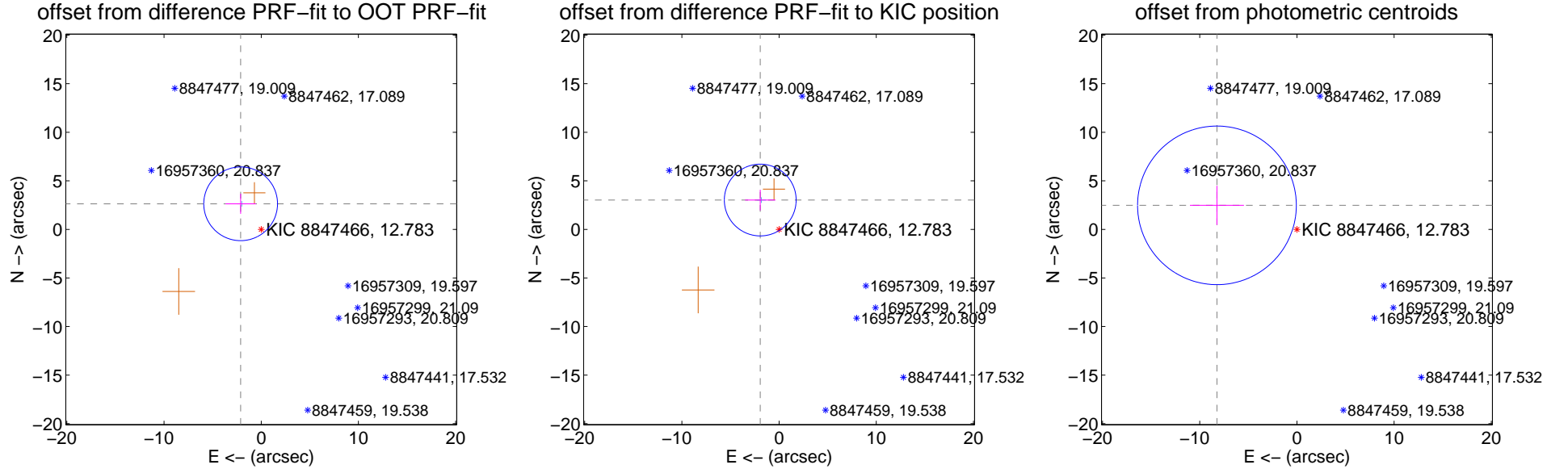
## DV Centroid Data

Supplemental centroid analysis for 008847466-01. Kepler magnitude: 12.78. Transit SNR 7.42

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.43 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec      |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT          | $3.380 \pm 1.265$  | 2.67                | $2.117 \pm 1.556$ | $2.635 \pm 1.034$ |
| PRF-fit source offset from KIC position | $3.590 \pm 1.231$  | 2.92                | $1.937 \pm 1.560$ | $3.023 \pm 1.067$ |
| photometric centroid source offset      | $8.59 \pm 2.72$    | 3.16                | $8.23 \pm 2.78$   | $2.47 \pm 2.01$   |



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.

Q1 no difference image



Q1 no OOT image



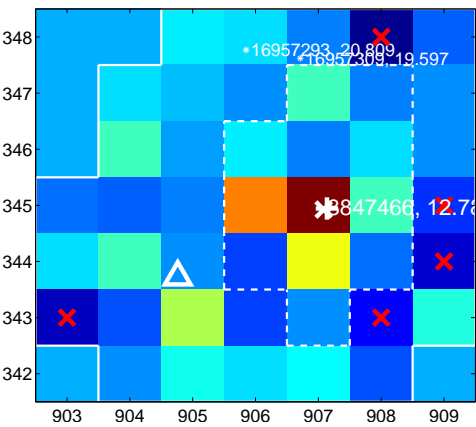
Q2 no difference image



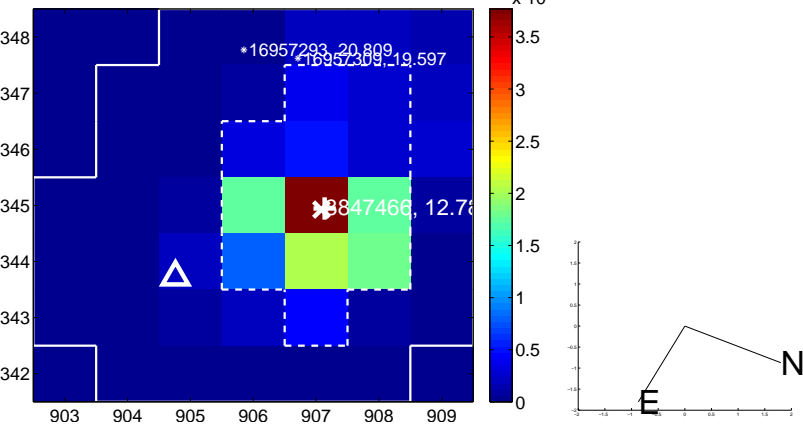
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image

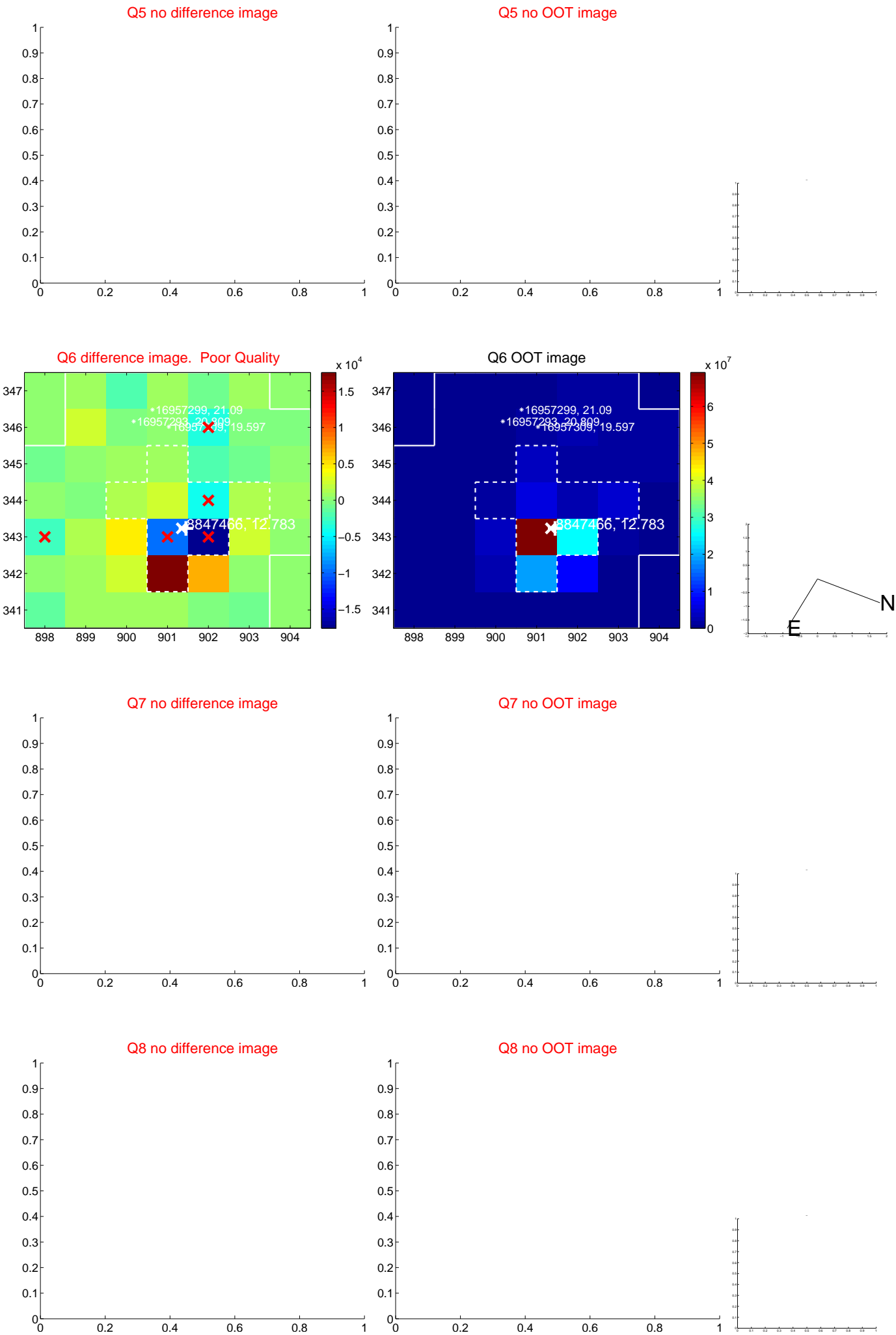


Q4 no OOT image





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.

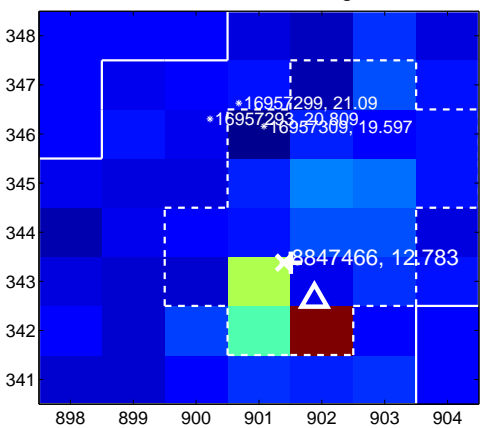
Q9 no difference image



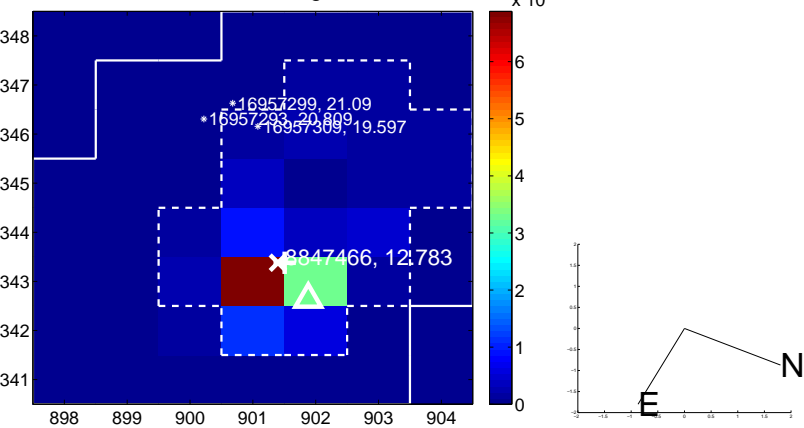
Q9 no OOT image



Q10 difference image



Q10 OOT image



Q11 no difference image



Q11 no OOT image



Q12 no difference image



Q12 no OOT image



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

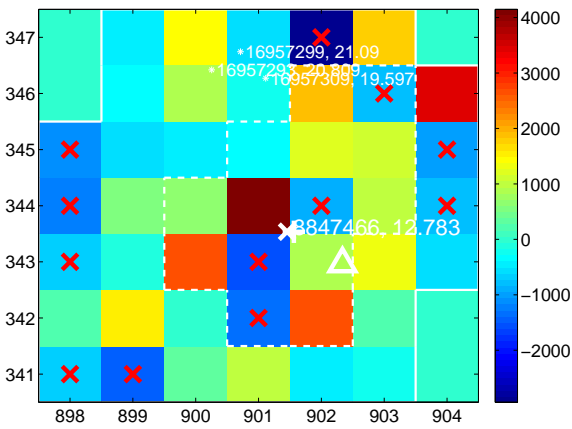
Q13 no difference image



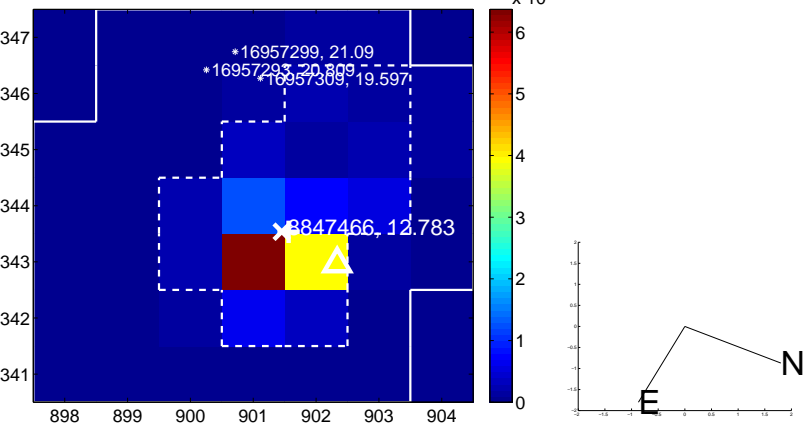
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



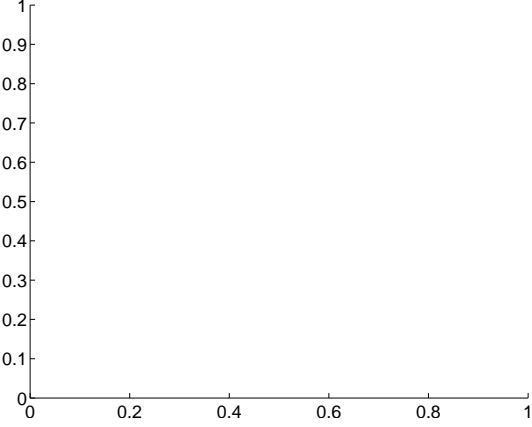
Q15 no difference image



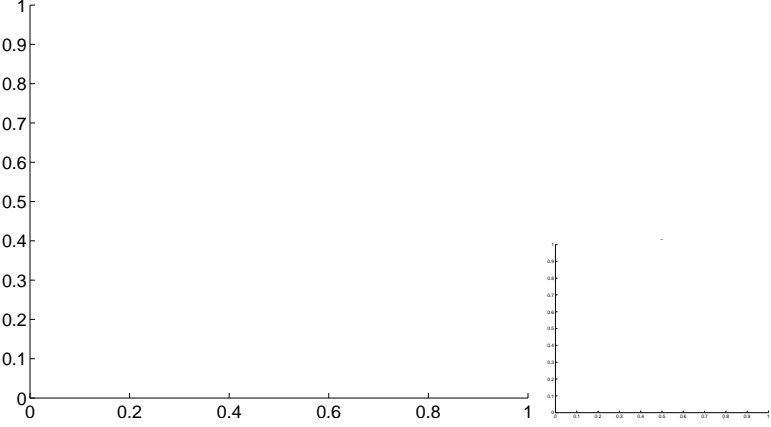
Q15 no OOT image



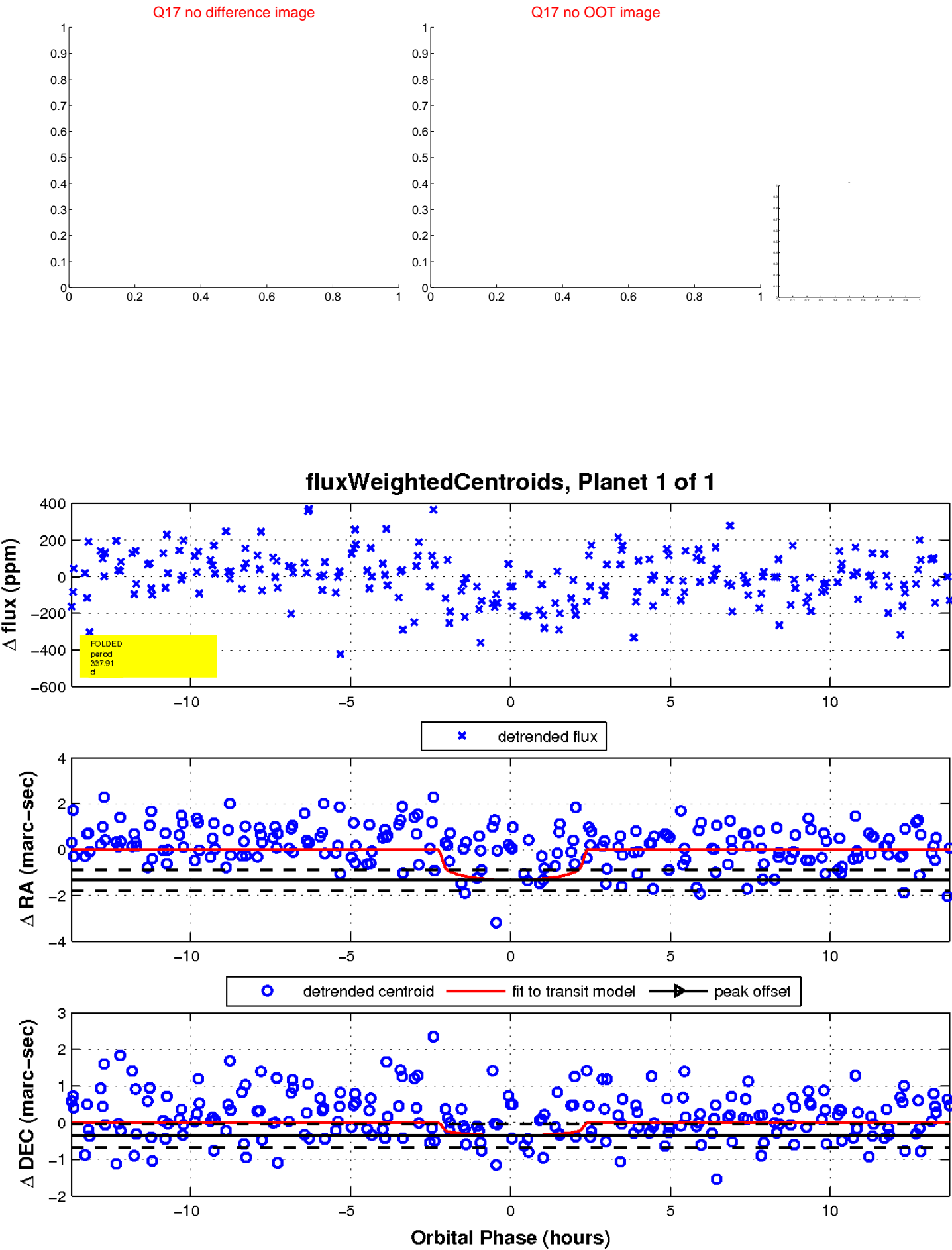
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

