

# KIC 003347807

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 003347807-01 | OBS      | 7653.01 | 324.175292    | 445.835646   | 87.5        | 18.095           | 7.8 | 6.6 | 2.18                        | 5792            | 2.23                   | 5.02                   |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments                                   |
|--------------|----------|------|-------|---|---|---|---|--|
| 003347807-01 | OBS      | FP   | 0.00  | 1 | 0 | 1 | 0 | INDIV_TRANS_SKYE—CENT_FEW_DIFFS—HALO_GHOST |

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

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

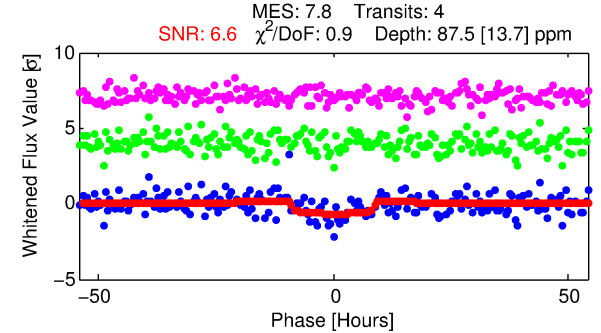
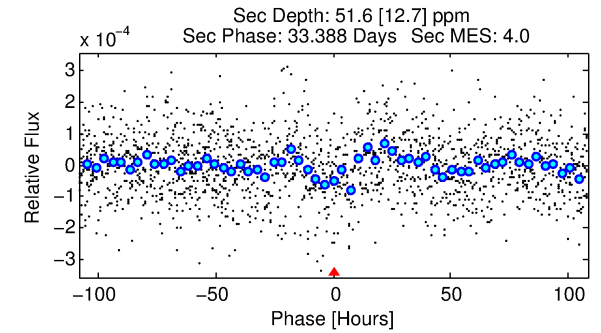
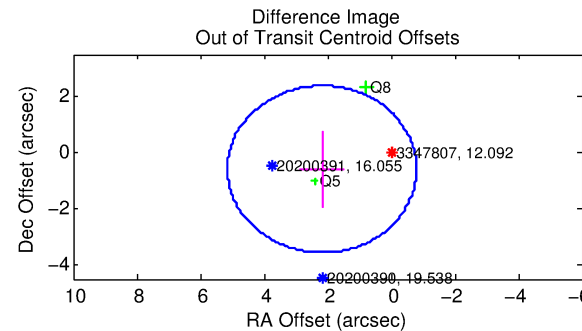
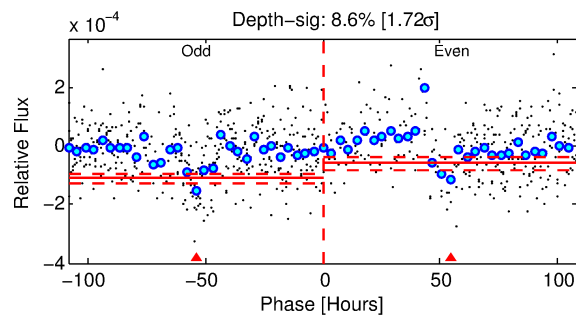
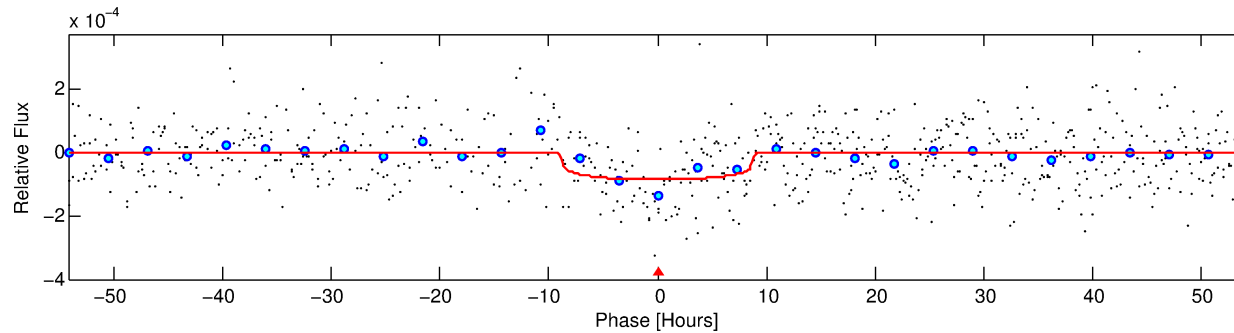
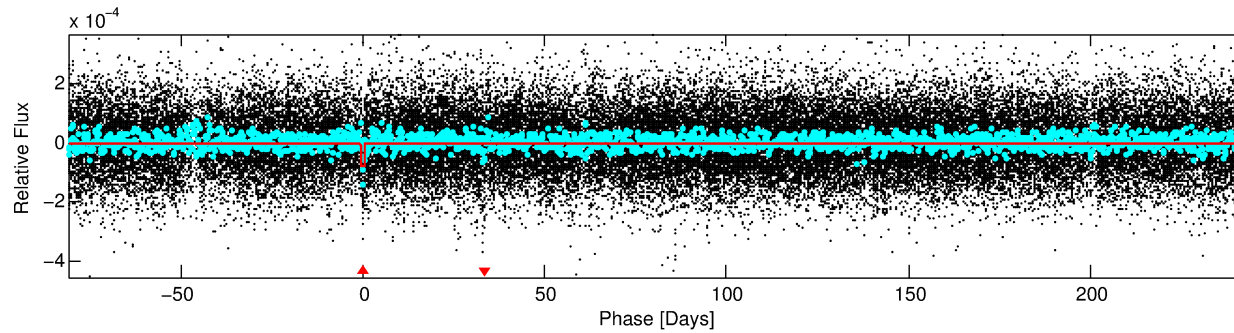
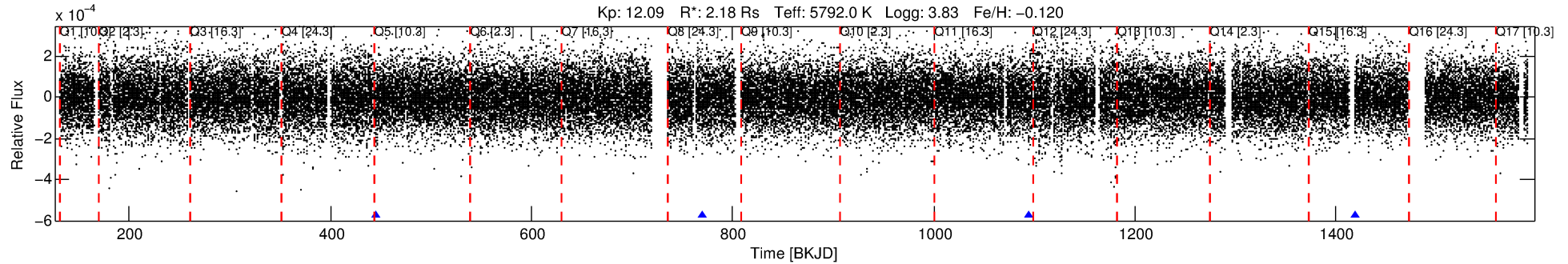
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003347807-01

No Significant Match Found

# DV One-Page Summary

KIC: 3347807 Candidate: 1 of 1 Period: 324.175 d



## DV Fit Results:

Period = 324.17529 [0.01508] d  
Epoch = 445.8356 [0.0236] BKJD  
Rp/R\* = 0.0094 [0.0037]  
a/R\* = 89.74 [164.46]  
b = 0.77 [0.99]  
Seff = 5.02 [2.79]  
Teq = 382 [53] K  
Rp = 2.23 [1.23] Re  
a = 0.9786 [0.3419] AU  
Ag = 5457.23 [5450.60] [1.00 $\sigma$ ]  
Teff = 5072 [1070] K [4.38 $\sigma$ ]

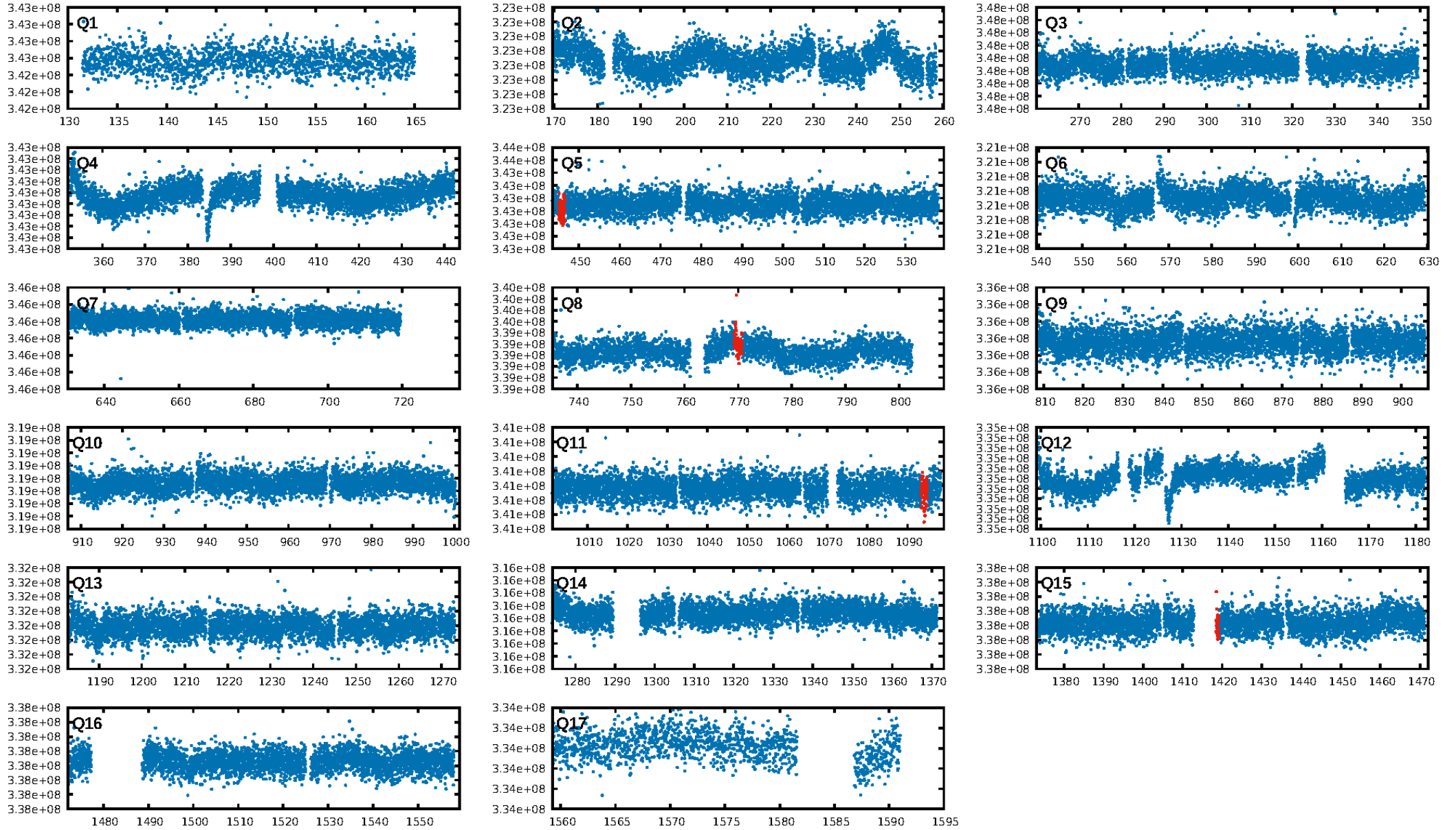
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 15.2%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 8.22e-15  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 0.1589  
Centroid-sig: 84.5%  
Centroid-so: 0.491 arcsec [0.41 $\sigma$ ]  
OotOffset-rm: 2.252 arcsec [2.27 $\sigma$ ]  
OotOffset-st: 0/0/1/1 [2]  
KicOffset-rm: 2.312 arcsec [3.16 $\sigma$ ]  
KicOffset-st: 0/0/1/1 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [2/2]

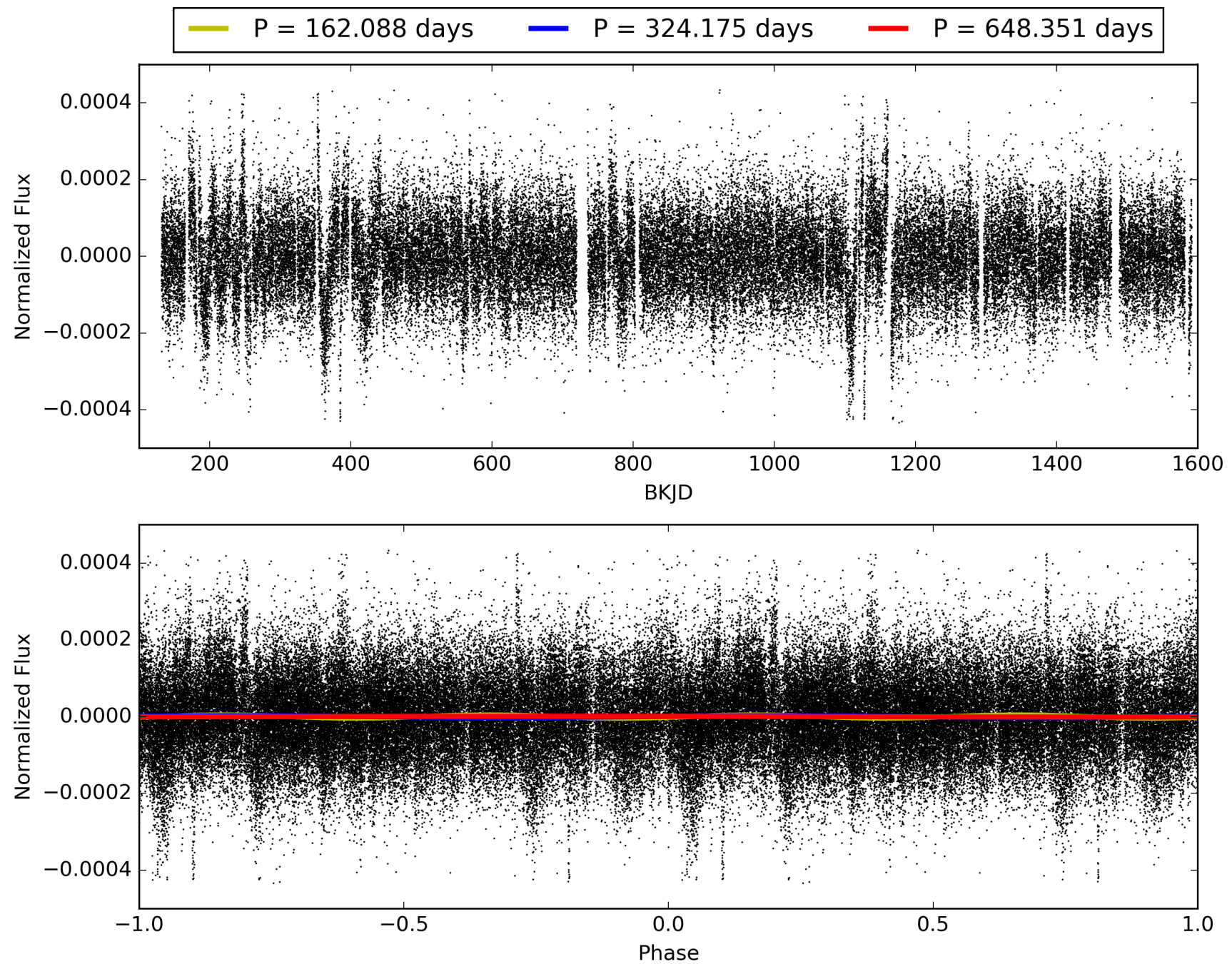
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:44:38 Z

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

# TCE 003347807-01, PDC Light Curves

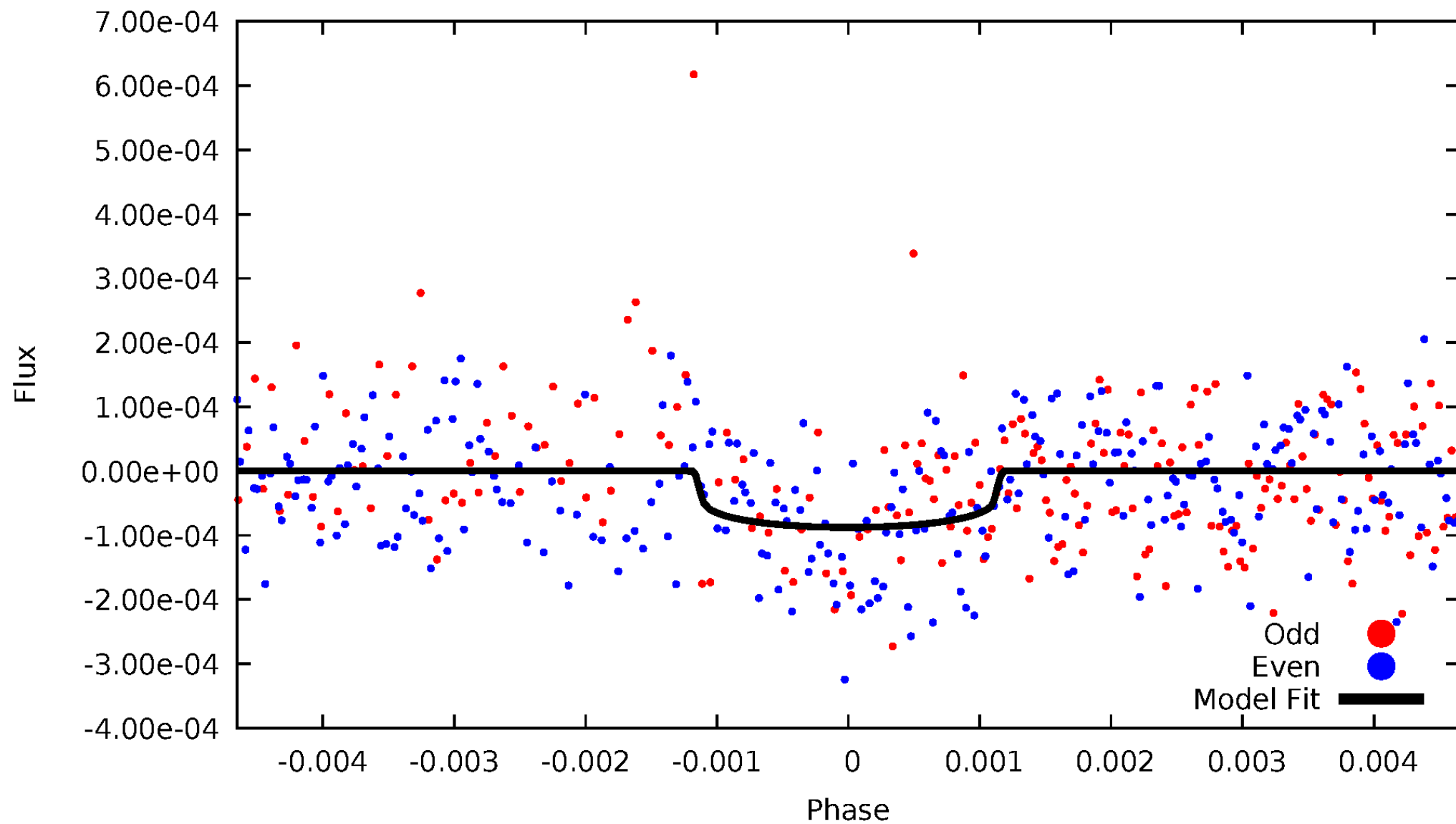


TCE 003347807-01



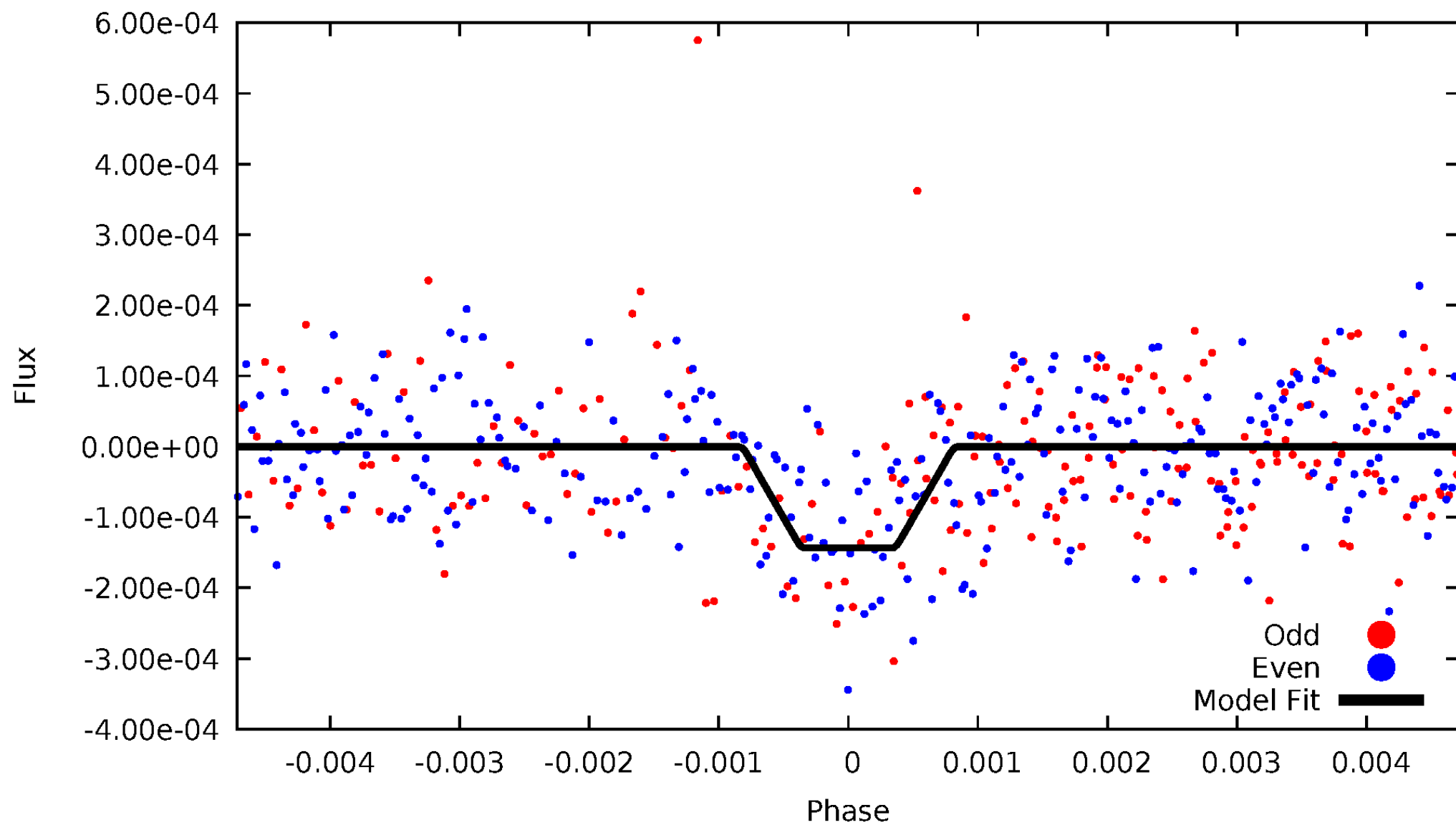
# DV Odd/Even

TCE 003347807-01



# ALT Odd/Even

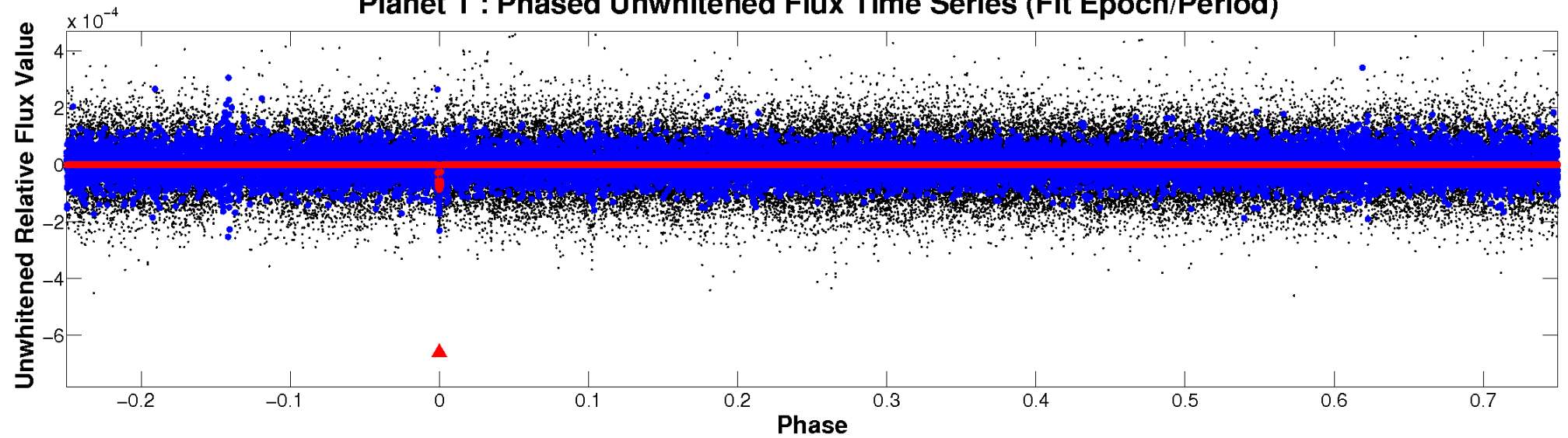
TCE 003347807-01



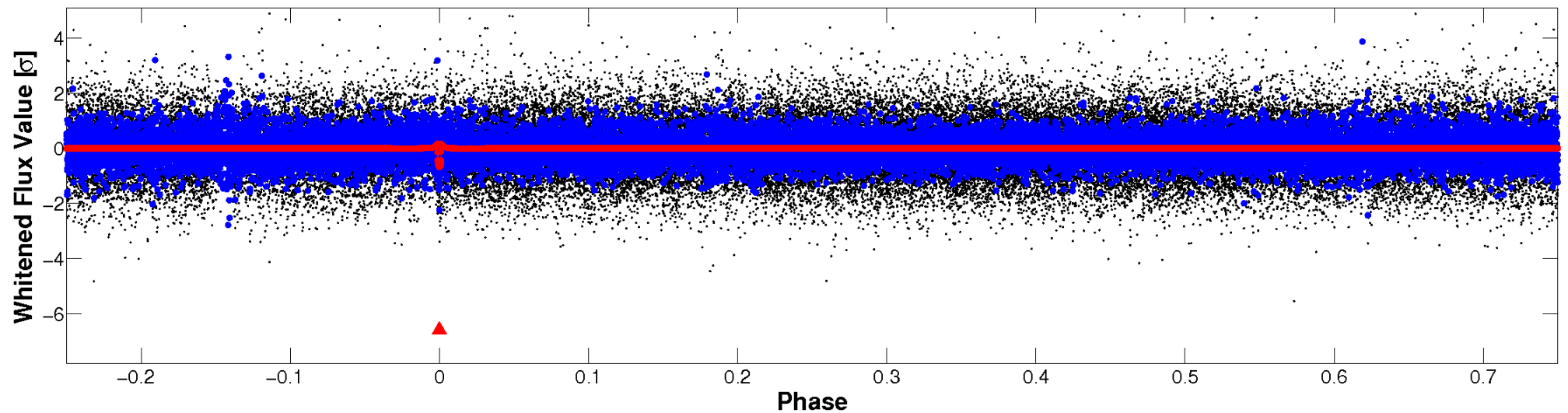


# Non-Whitened Vs. Whitened Light Curve

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

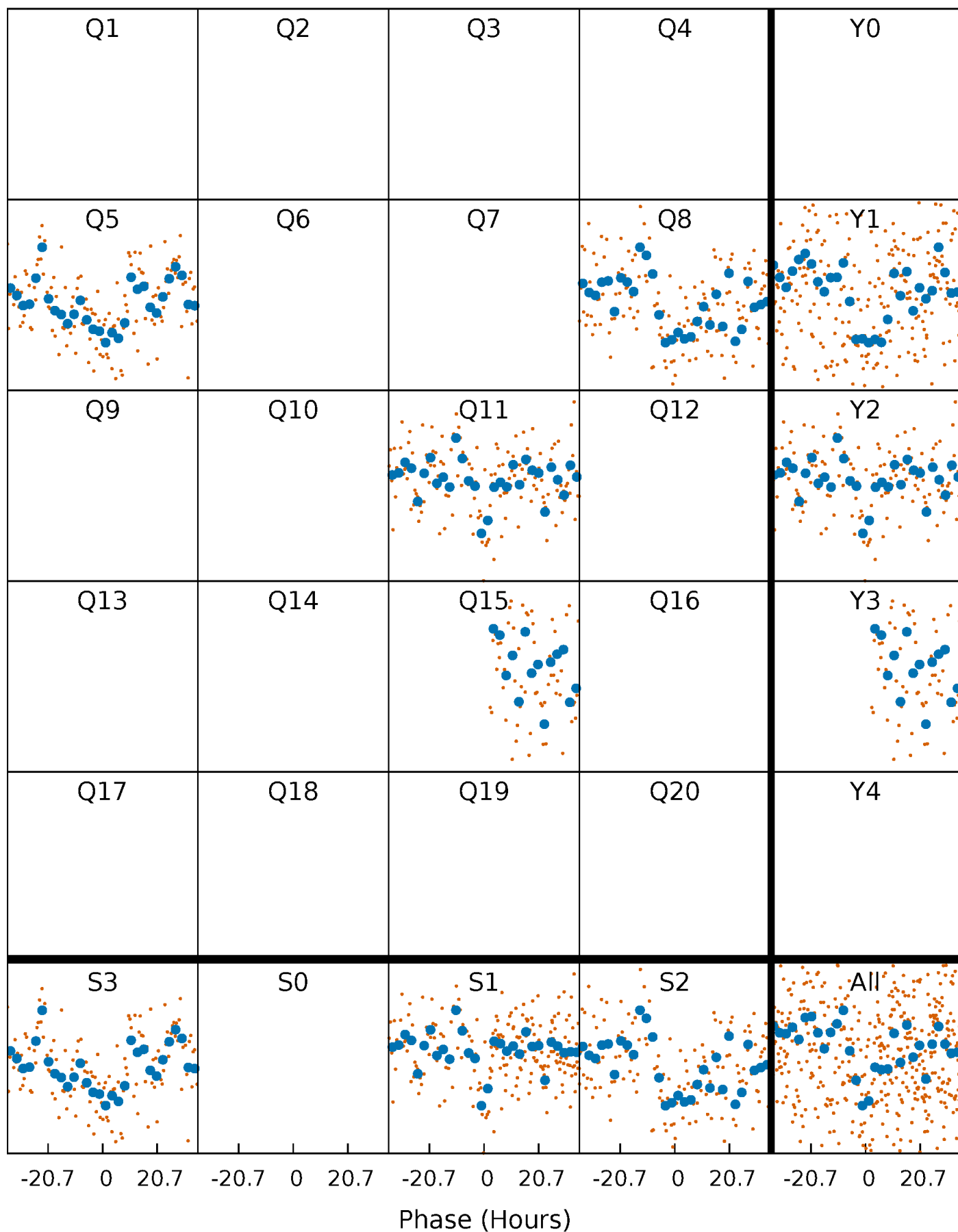


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

TCE 003347807-01 P=324.175292 Days  $T_0=445.835646$  (BKJD)





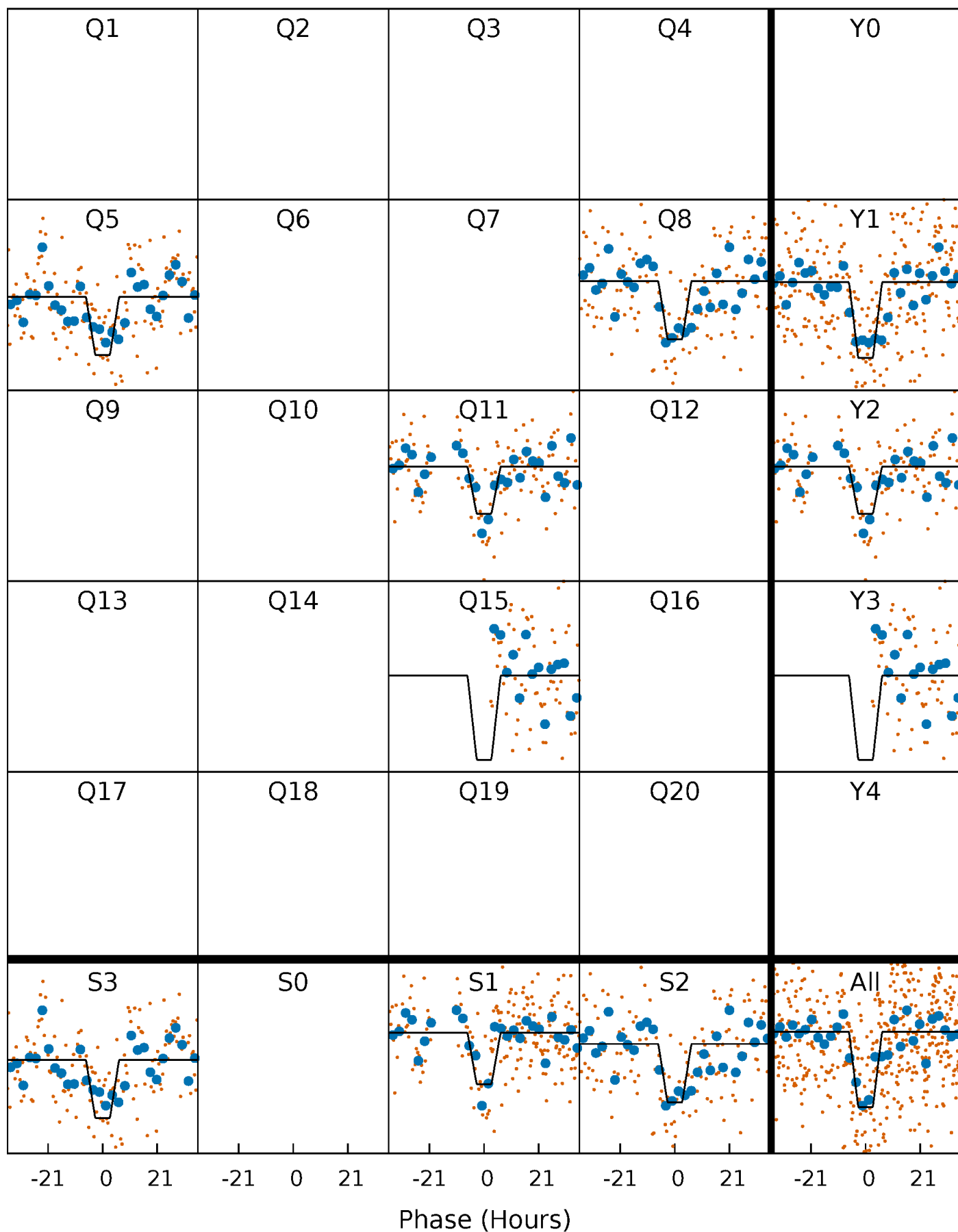
# DV Quarter-Phased Transit Curves

TCE 003347807-01     $P=324.175292$  Days     $T_0=445.835646$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

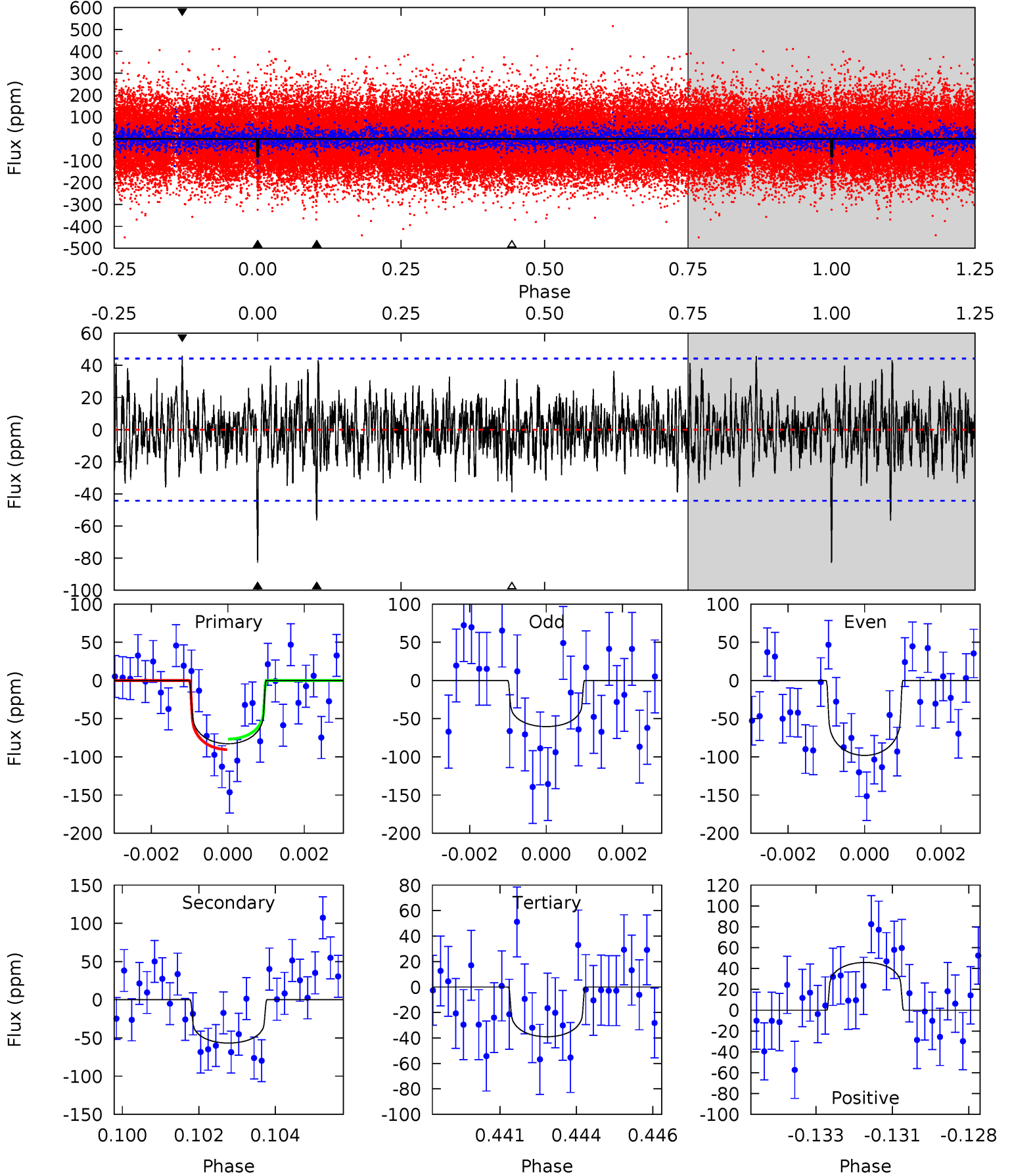
TCE 003347807-01 P=324.171618 Days  $T_0=445.834912$  (BKJD)



# DV Model-Shift Uniqueness Test

003347807-01, P = 324.175292 Days, E = 121.660354 Days

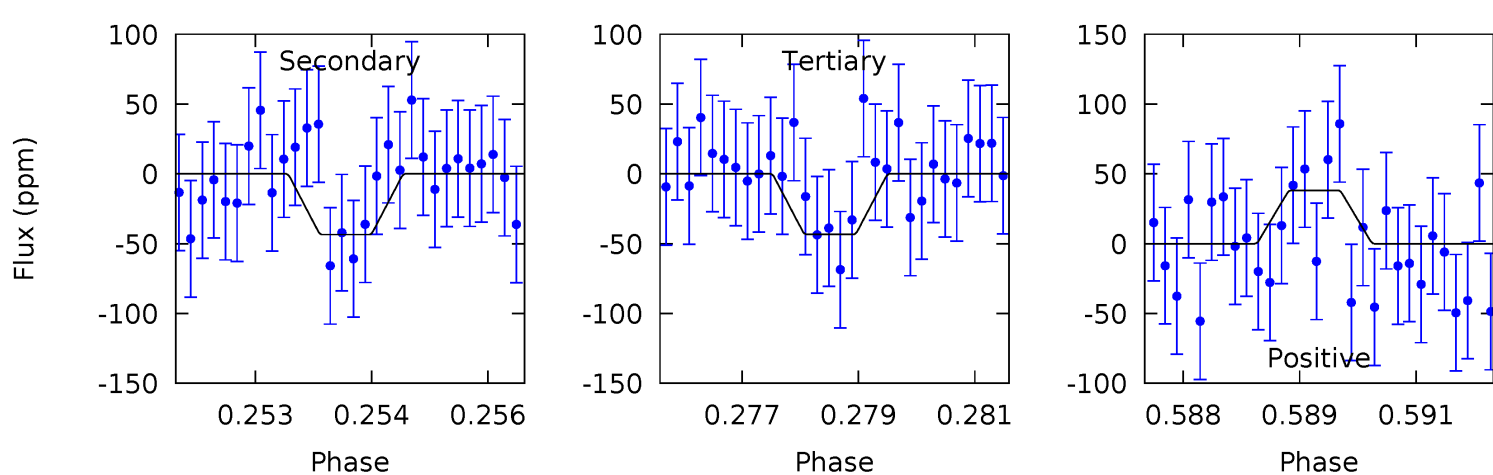
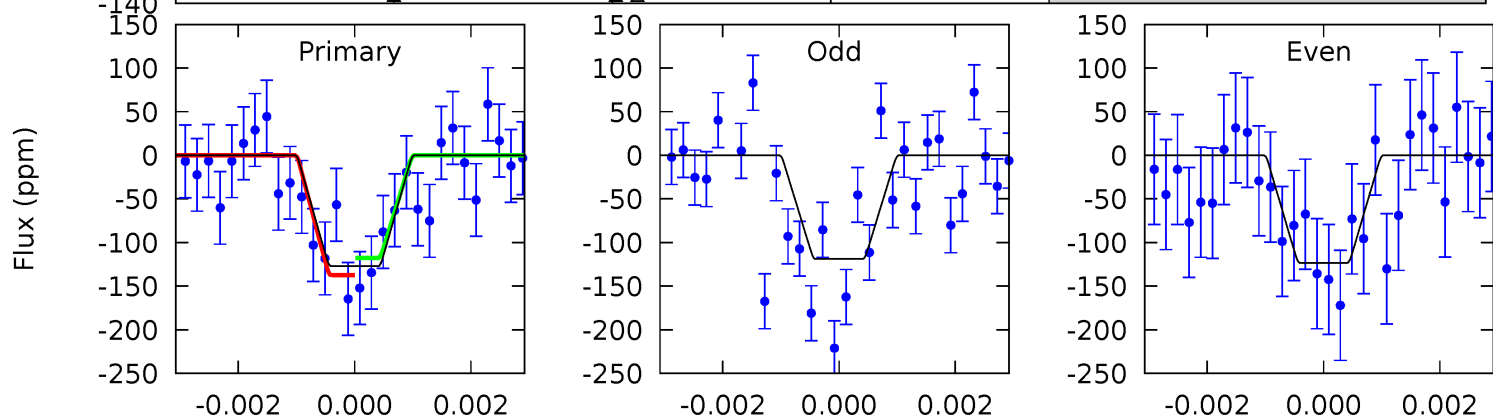
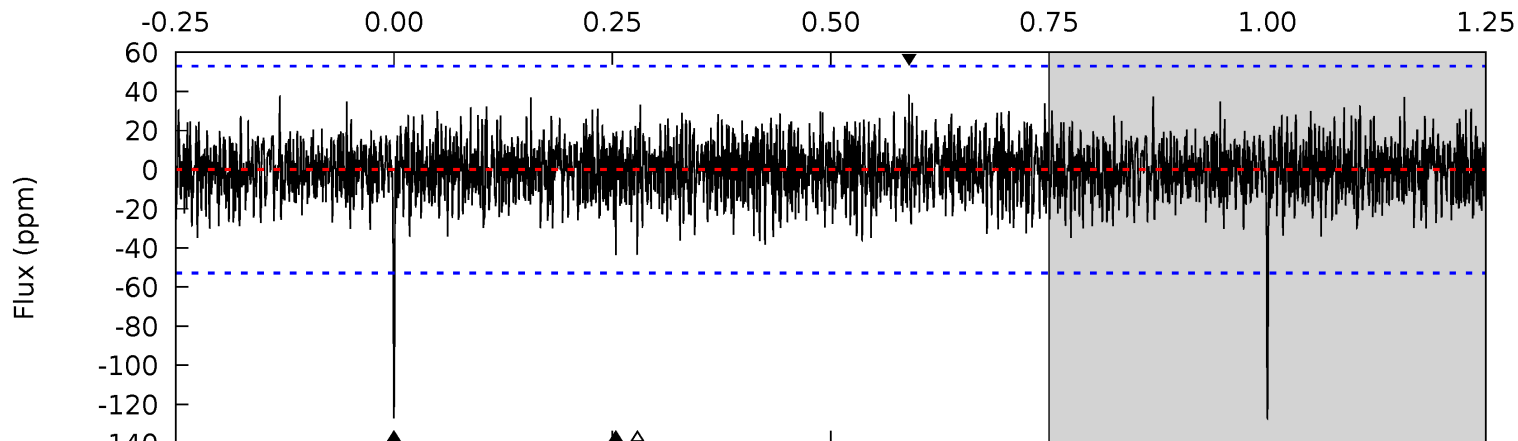
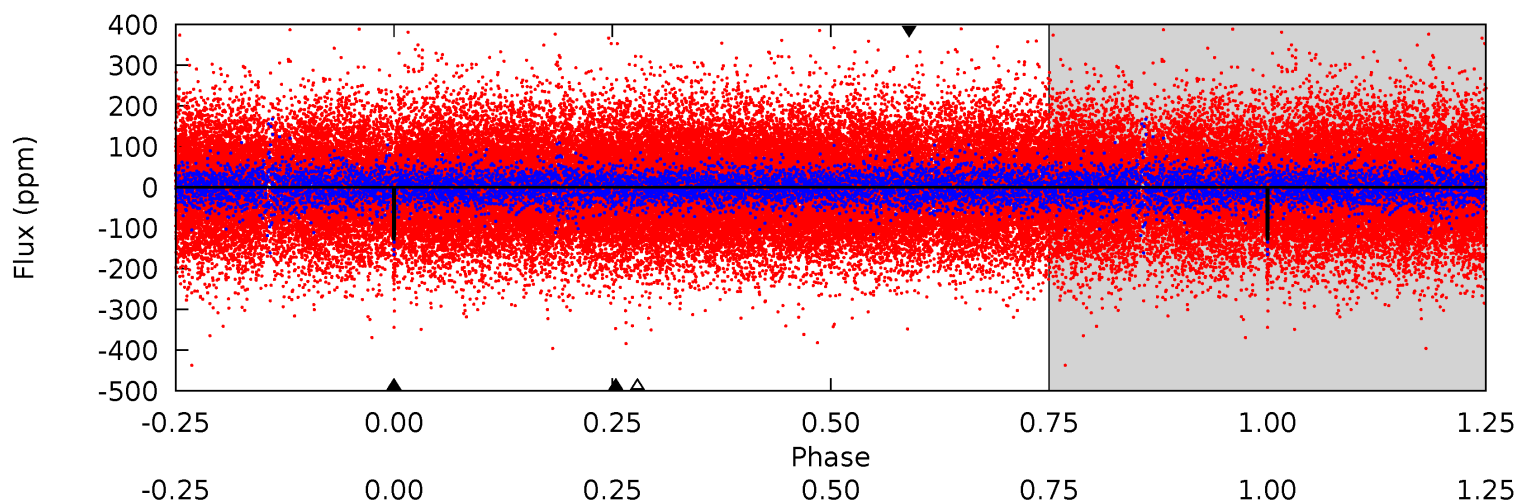
| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.91 | 6.78 | 4.67 | 5.48 | 5.30            | 3.04            | 1.52             | 5.23    | 4.43    | 2.11    | 1.30    | 2.23    | 0.76 | 0.36  | 0.81 |



# Alt Model-Shift Uniqueness Test

003347807-01, P = 324.171618 Days, E = 121.663294 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  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.9 | 4.41 | 4.40 | 3.87 | 5.36            | 3.15            | 1.20             | 8.49    | 9.02    | 0.02    | 0.55    | 0.22    | 0.67 | 0.23  | 0.99 |



### Stellar Parameters For KIC 003347807

|        | $T_{\text{eff}} (K)$ | $\log(g)$                 | $[\text{Fe}/\text{H}]$     | $R (R_{\odot})$           | $M (M_{\odot})$           | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
|        | $5792^{+159}_{-144}$ | $3.835^{+0.315}_{-0.105}$ | $-0.120^{+0.350}_{-0.250}$ | $2.183^{+0.354}_{-0.826}$ | $1.190^{+0.174}_{-0.232}$ | $0.161^{+0.362}_{-0.052}$                 |
|        | +3%/-2%              | +8%/-3%                   | +292%/-208%                | +16%/-38%                 | +15%/-19%                 | +225%/-32%                                |
| 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 003347807-01 / KOI 7653.01

| Detrend | Depth (ppm)  | $R_p (R_{\oplus})$     | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$  | $A_{\text{obs}}$        |
|---------|--------------|------------------------|----------------------|-----------------------|-------------------------|
| DV      | $-57 \pm 8$  | $2.19^{+0.88}_{-0.89}$ | $526^{+32}_{-45}$    | $5167^{+1369}_{-674}$ | $6350^{+11541}_{-3304}$ |
| Alt.    | $-44 \pm 10$ | $2.71^{+1.04}_{-0.96}$ | $524^{+33}_{-50}$    | $4483^{+756}_{-486}$  | $3122^{+4134}_{-1473}$  |

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

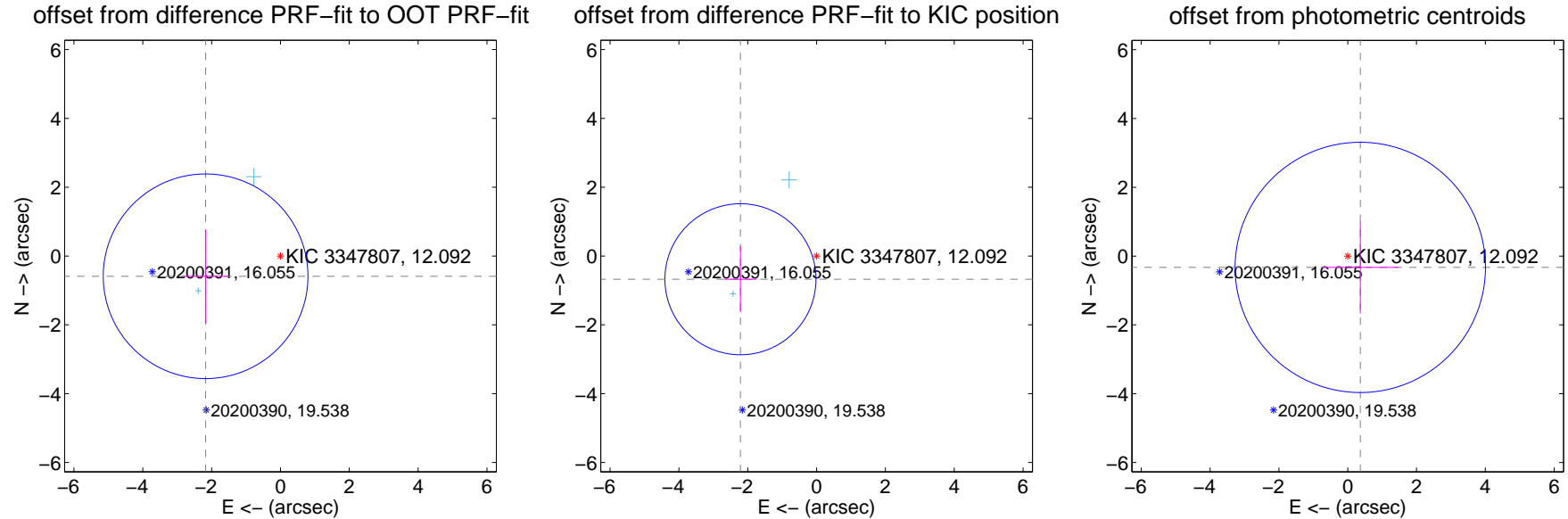
## DV Centroid Data

Supplemental centroid analysis for 003347807-01. Kepler magnitude: 12.09. Transit SNR 6.60

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

|   | Distance in arcsec                  | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec       |
|---|-------------------------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT          | $2.252 \pm 0.991$                   | 2.27                | $2.174 \pm 0.662$ | $-0.588 \pm 1.355$ |
| PRF-fit source offset from KIC position | <b><math>2.312 \pm 0.731</math></b> | <b>3.16</b>         | $2.212 \pm 0.475$ | $-0.675 \pm 0.957$ |
| photometric centroid source offset      | $0.49 \pm 1.21$                     | 0.41                | $-0.37 \pm 1.10$  | $-0.33 \pm 1.33$   |



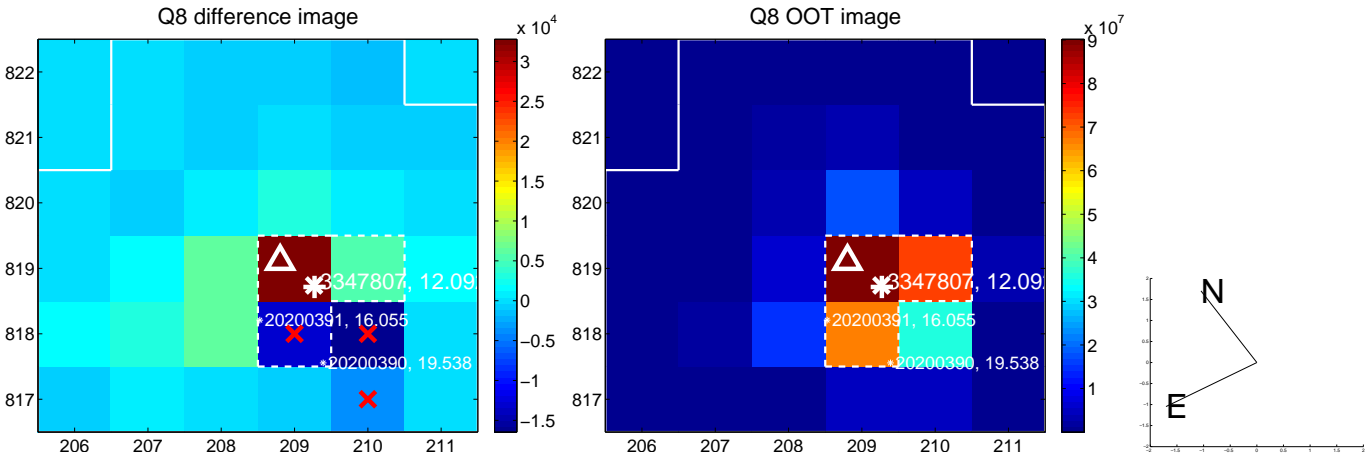
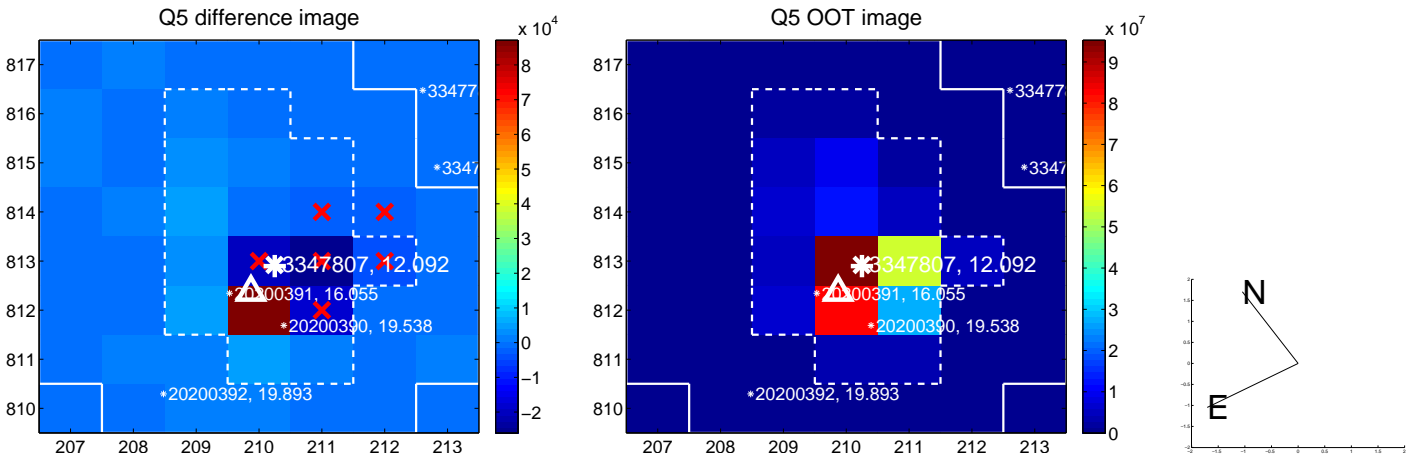
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



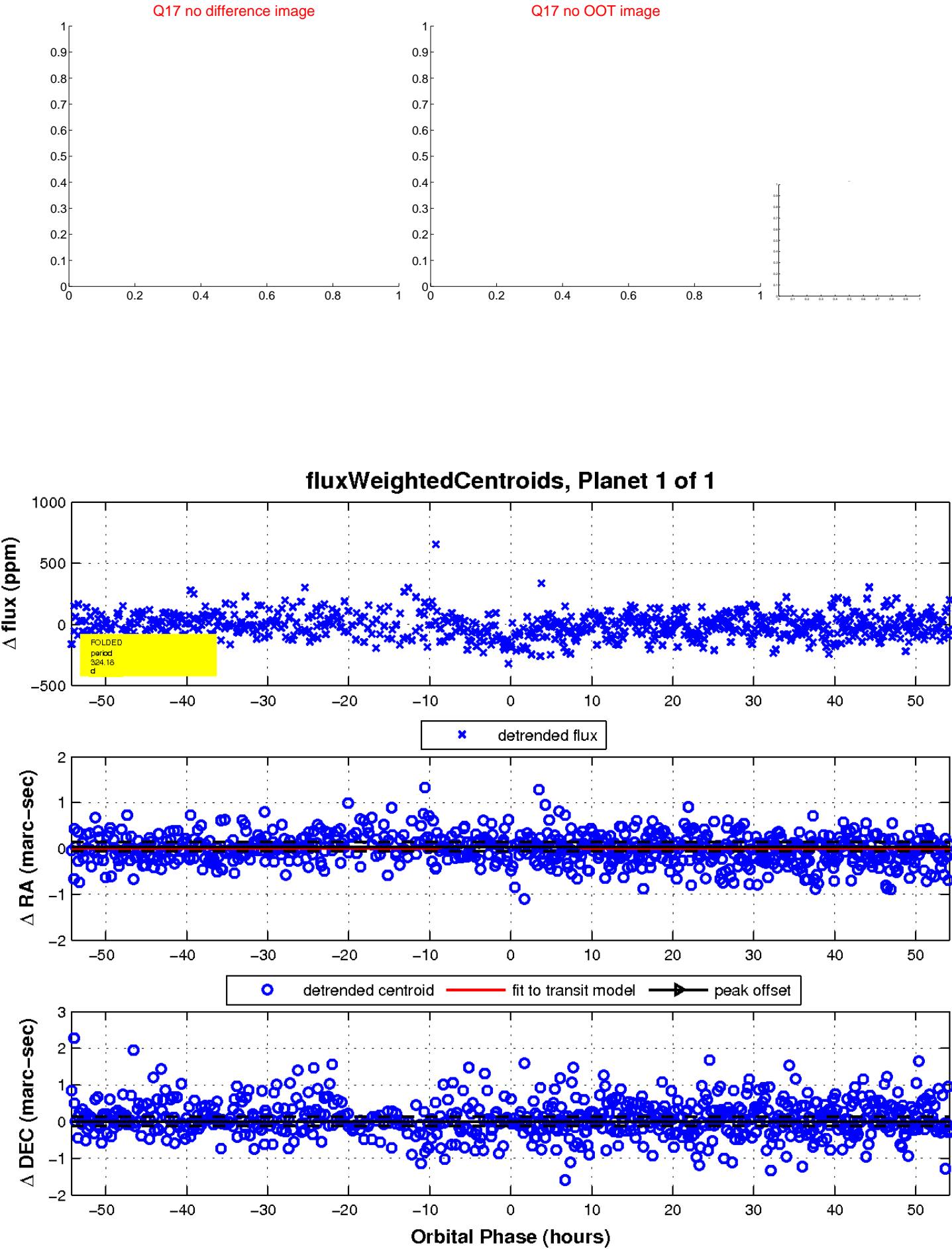
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

