

# KIC 006717185

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 006717185-01 | OBS      | No   | 1.579252      | 133.055174   | 20.6        | 3.936            | 8.6 | 5.2 | 1.31                        | 6098            | 0.68                   | 3167.94                |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments                                 |
|--------------|----------|------|-------|---|---|---|---|--|
| 006717185-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT |

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

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

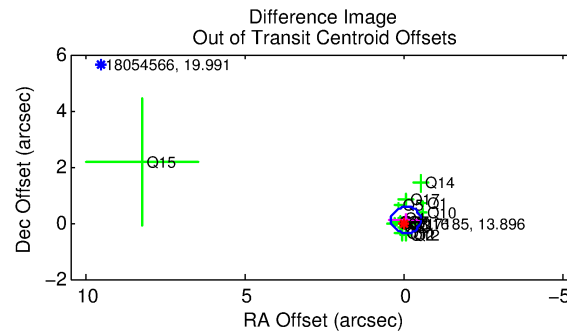
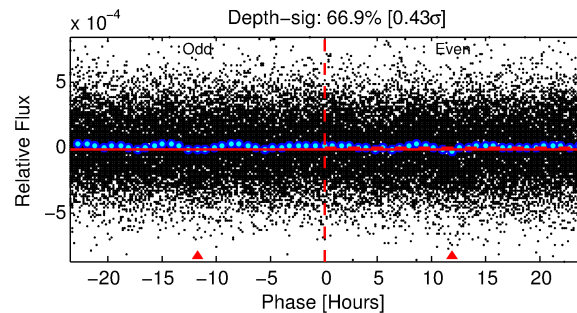
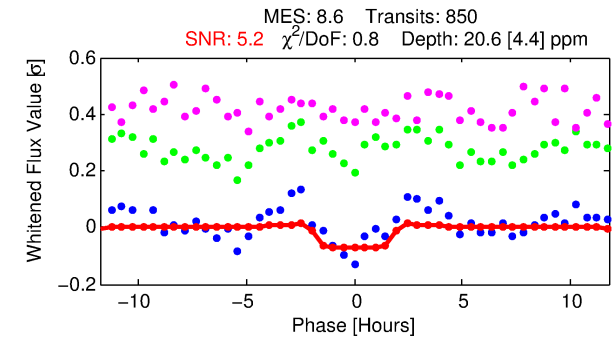
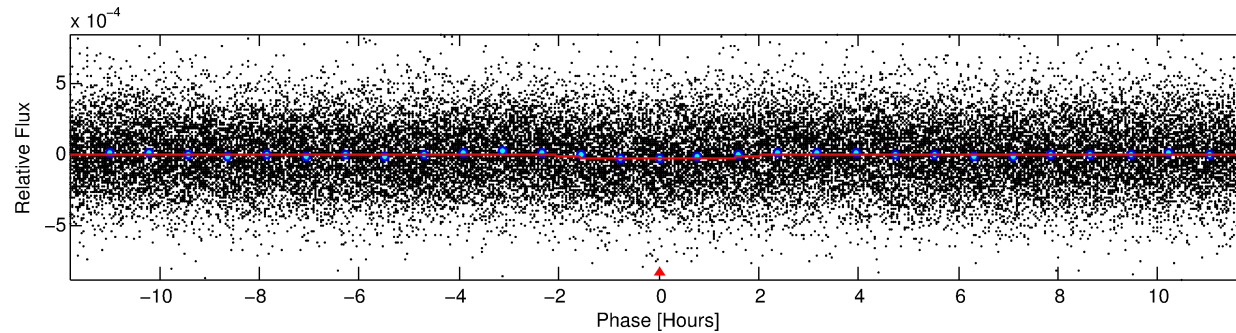
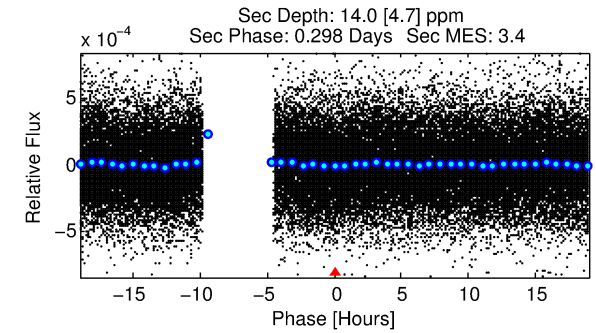
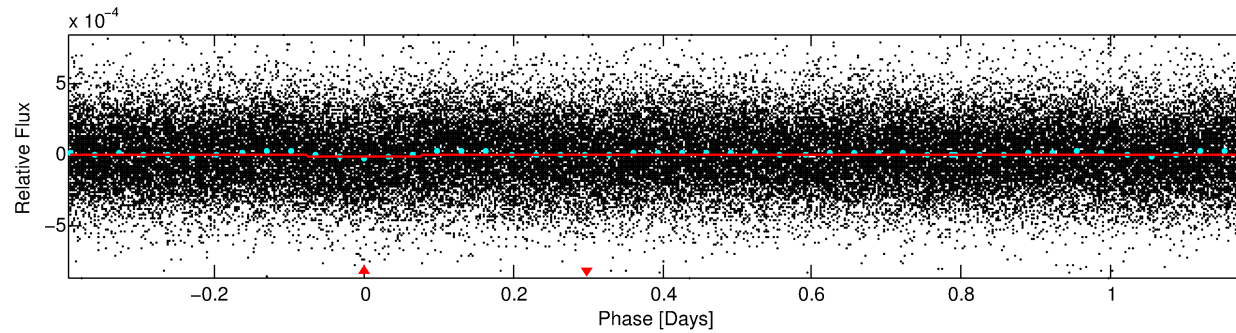
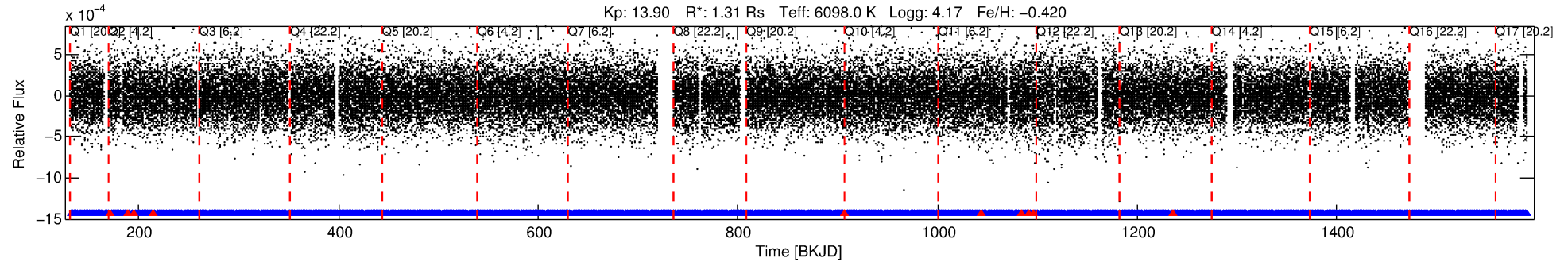
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006717185-01

No Significant Match Found

# DV One-Page Summary

KIC: 6717185 Candidate: 1 of 1 Period: 1.579 d



## DV Fit Results:

Period = 1.57925 [0.00003] d  
Epoch = 133.0552 [0.0076] BKJD  
Rp/R\* = 0.0048 [0.0023]  
a/R\* = 1.80 [3.19]  
b = 0.87 [0.73]  
Seff = 3167.94 [1528.02]  
Teq = 1913 [231] K  
Rp = 0.68 [0.38] Re  
a = 0.0259 [0.0074] AU  
Ag = 11.14 [12.48] [0.81σ]  
Teffp = 5403 [1390] K [2.48σ]

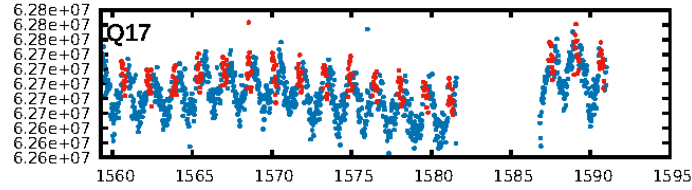
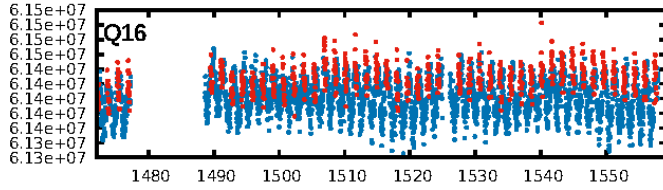
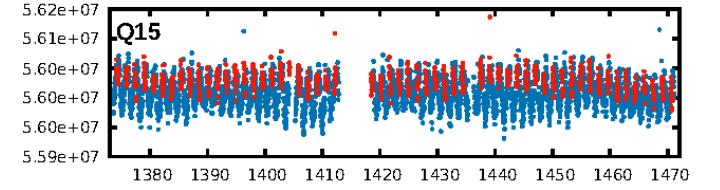
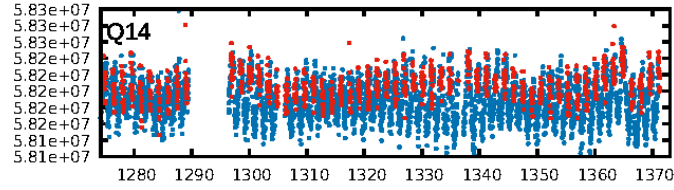
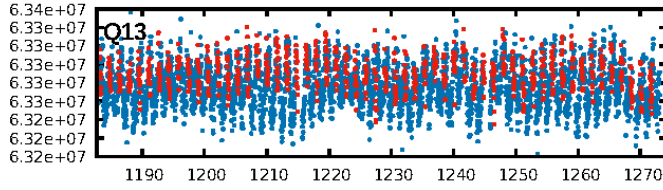
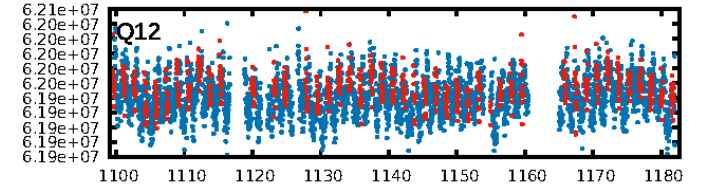
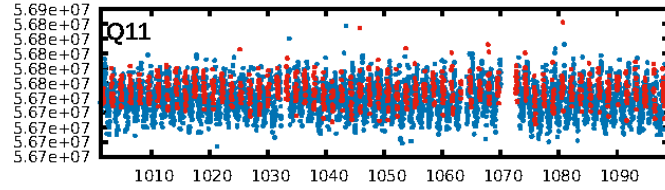
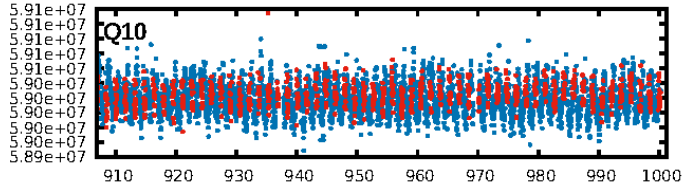
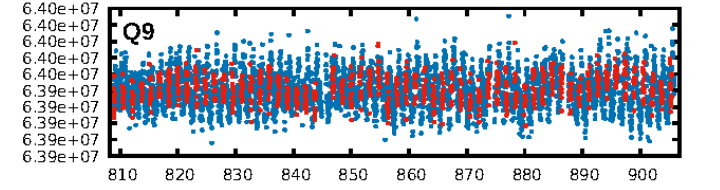
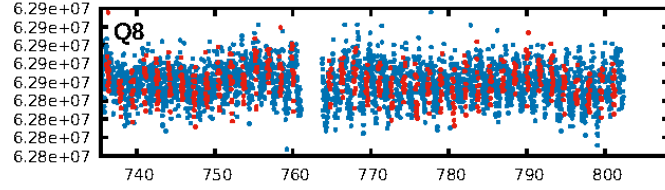
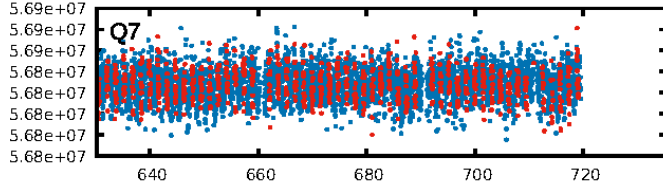
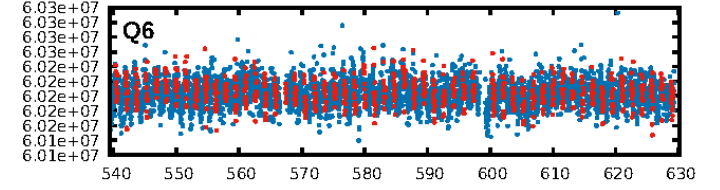
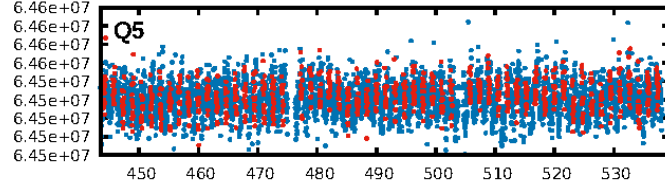
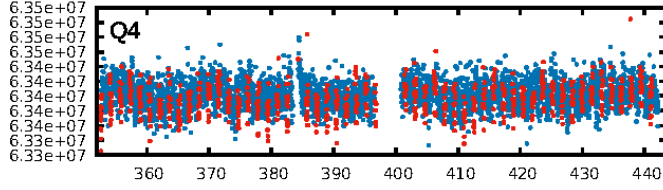
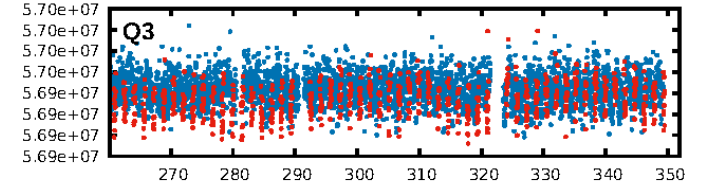
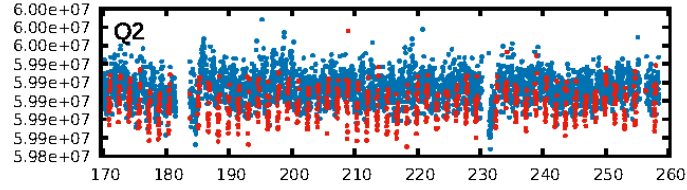
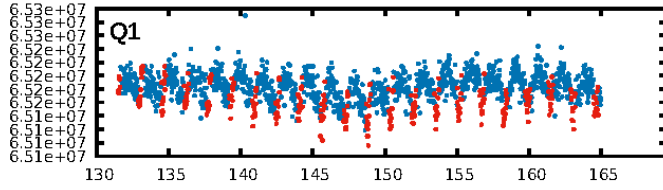
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: 3.47e-16  
RollingBand-fgt: 0.99 [801/811]  
GhostDiagnostic-chr: -3.146  
Centroid-sig: 1.1%  
Centroid-so: 3.432 arcsec [1.79σ]  
OotOffset-rm: 0.110 arcsec [0.70σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-rm: 0.099 arcsec [0.26σ]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.82 [14/17]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:11:51 Z

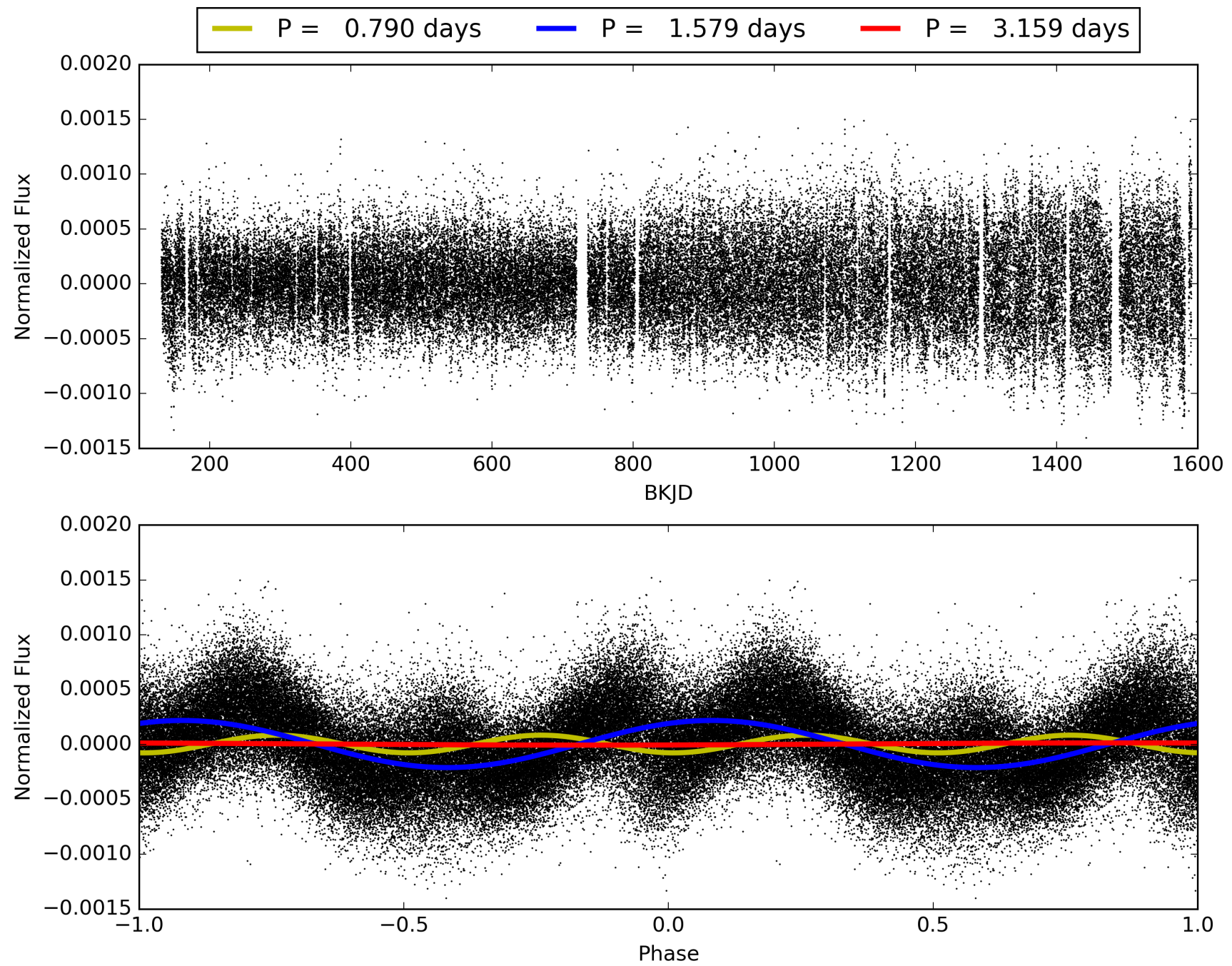
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006717185-01, PDC Light Curves



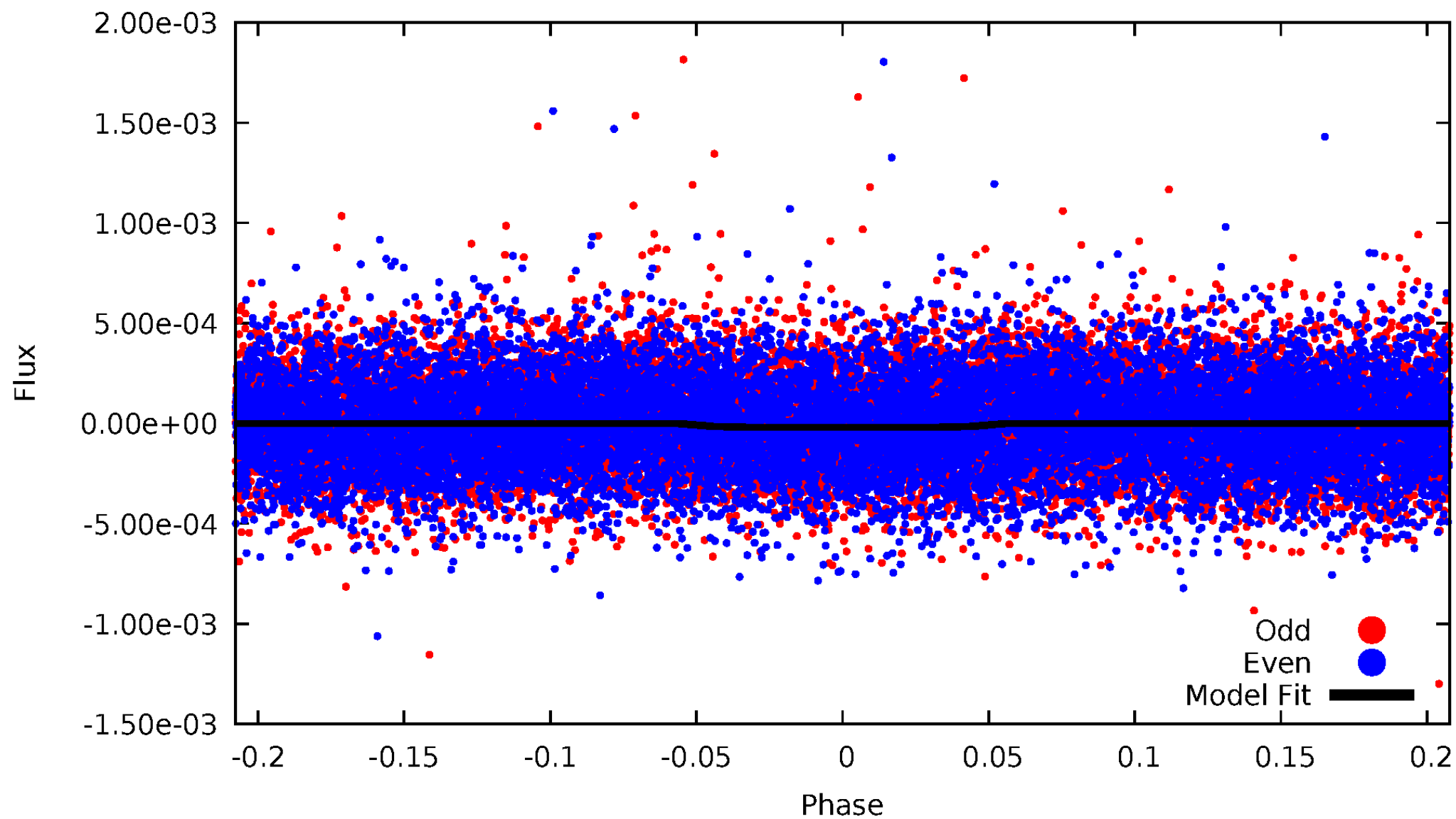


TCE 006717185-01



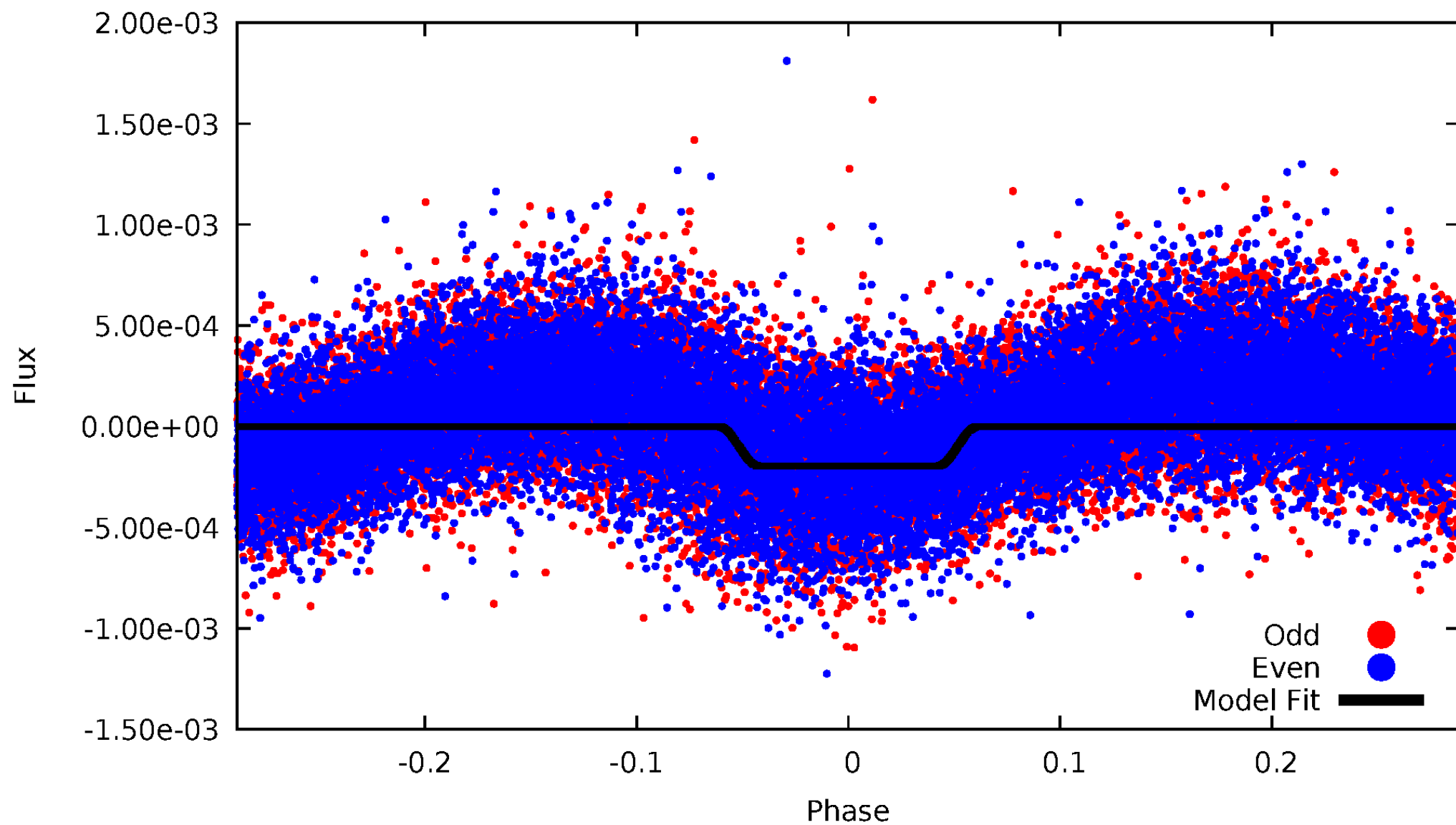
# DV Odd/Even

TCE 006717185-01



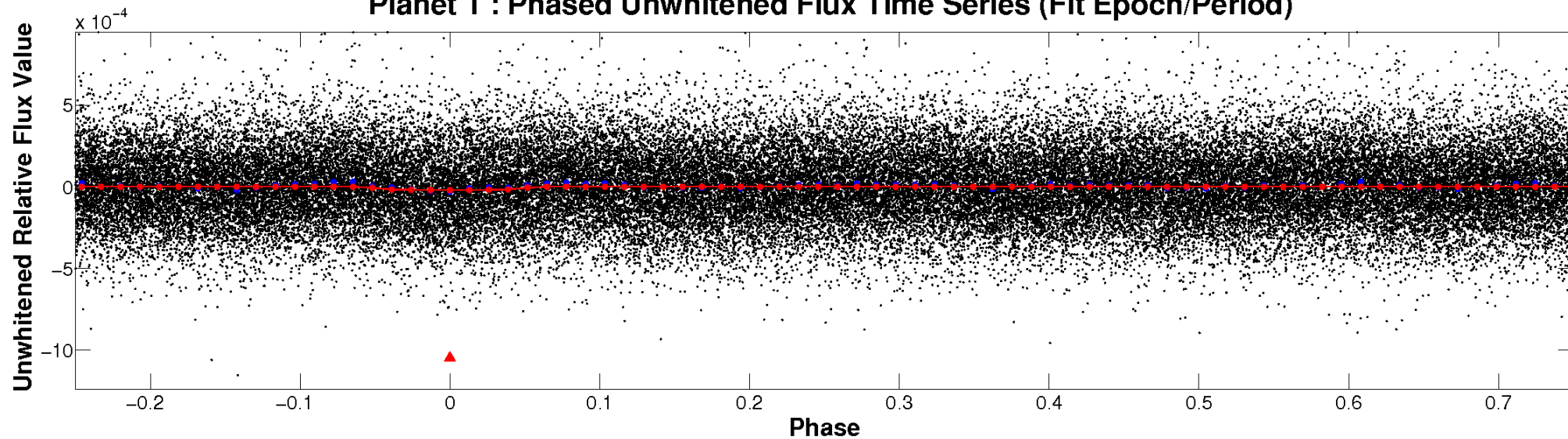
# ALT Odd/Even

TCE 006717185-01

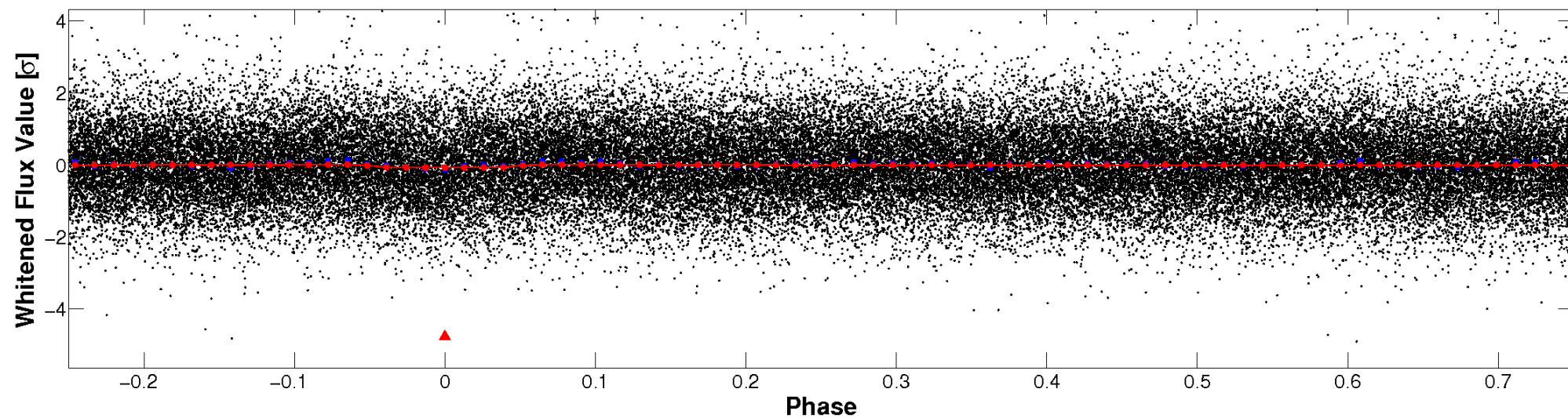


# Non-Whitened Vs. Whitened Light Curve

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



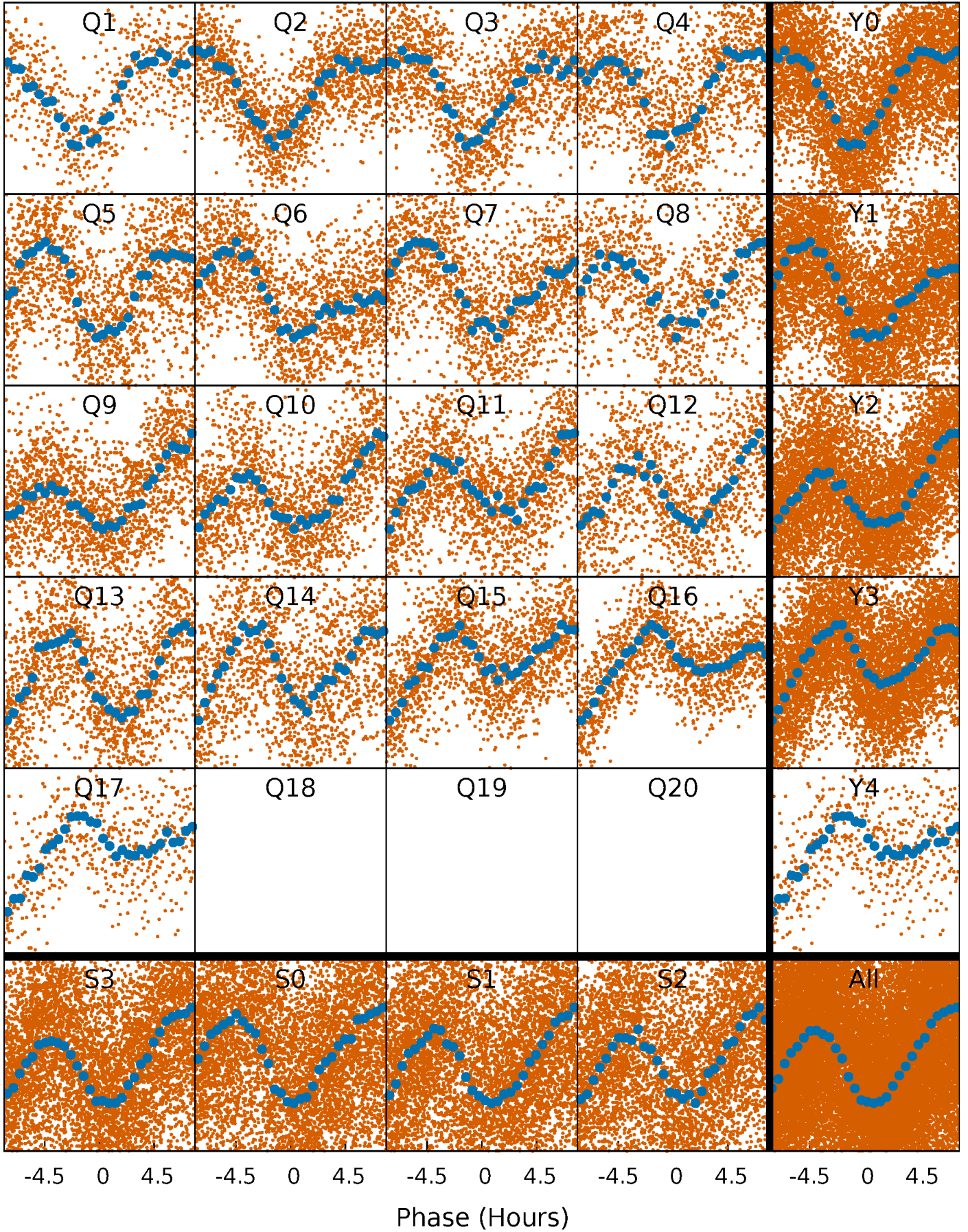
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

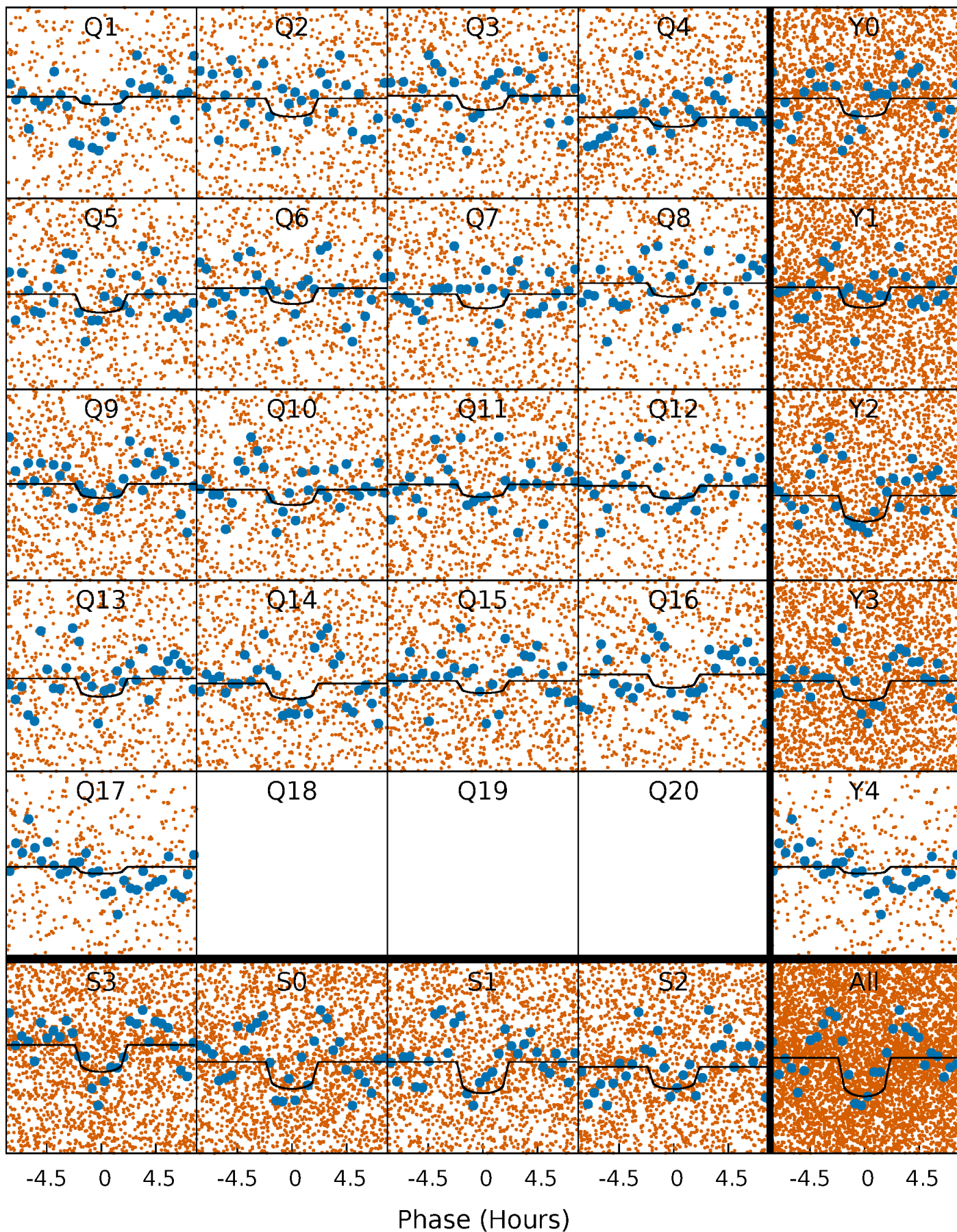
TCE 006717185-01   P= 1.579252 Days    $T_0=133.055174$  (BKJD)





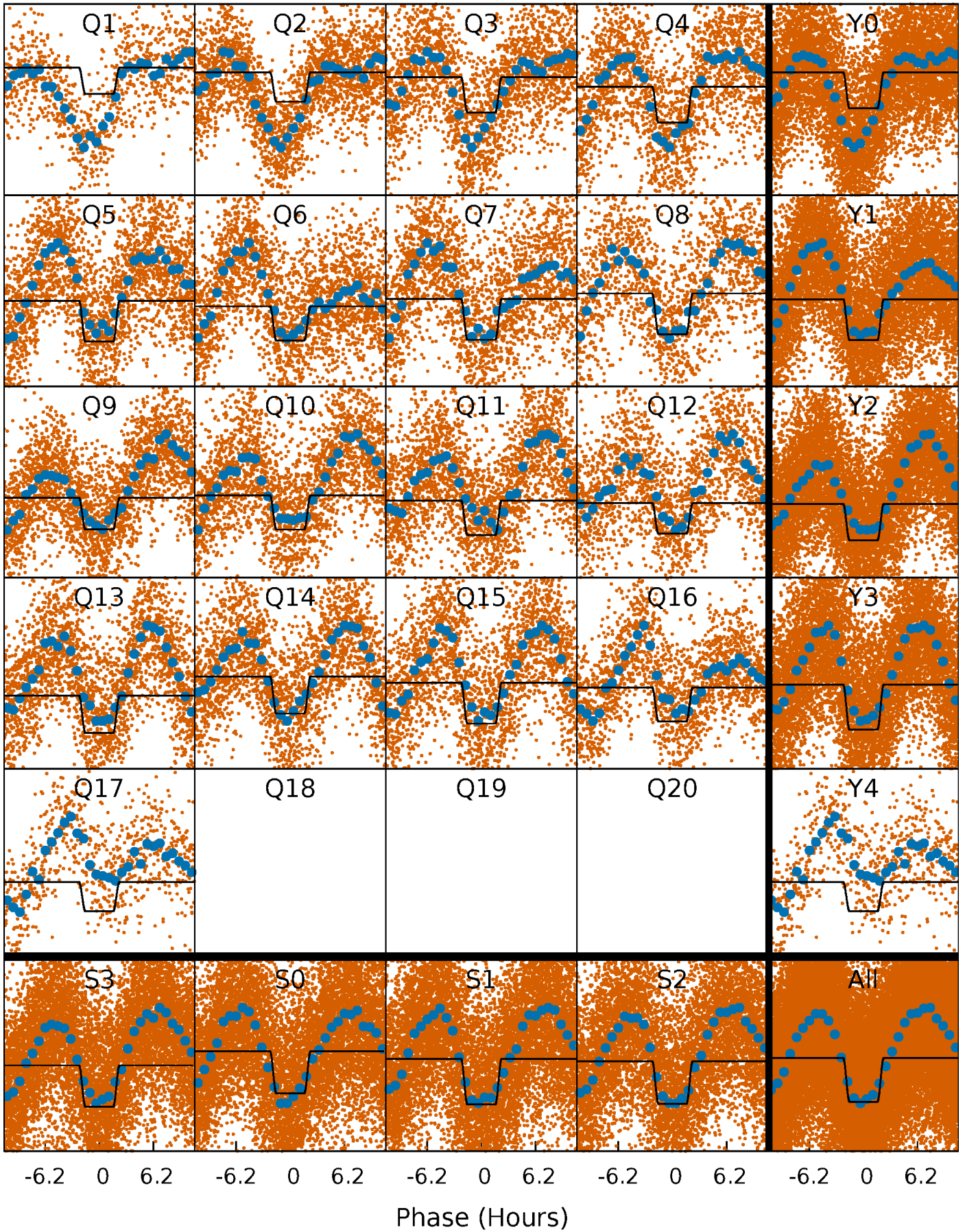
# DV Quarter-Phased Transit Curves

TCE 006717185-01 P= 1.579252 Days  $T_0=133.055174$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006717185-01 P= 1.579343 Days  $T_0=133.048067$  (BKJD)

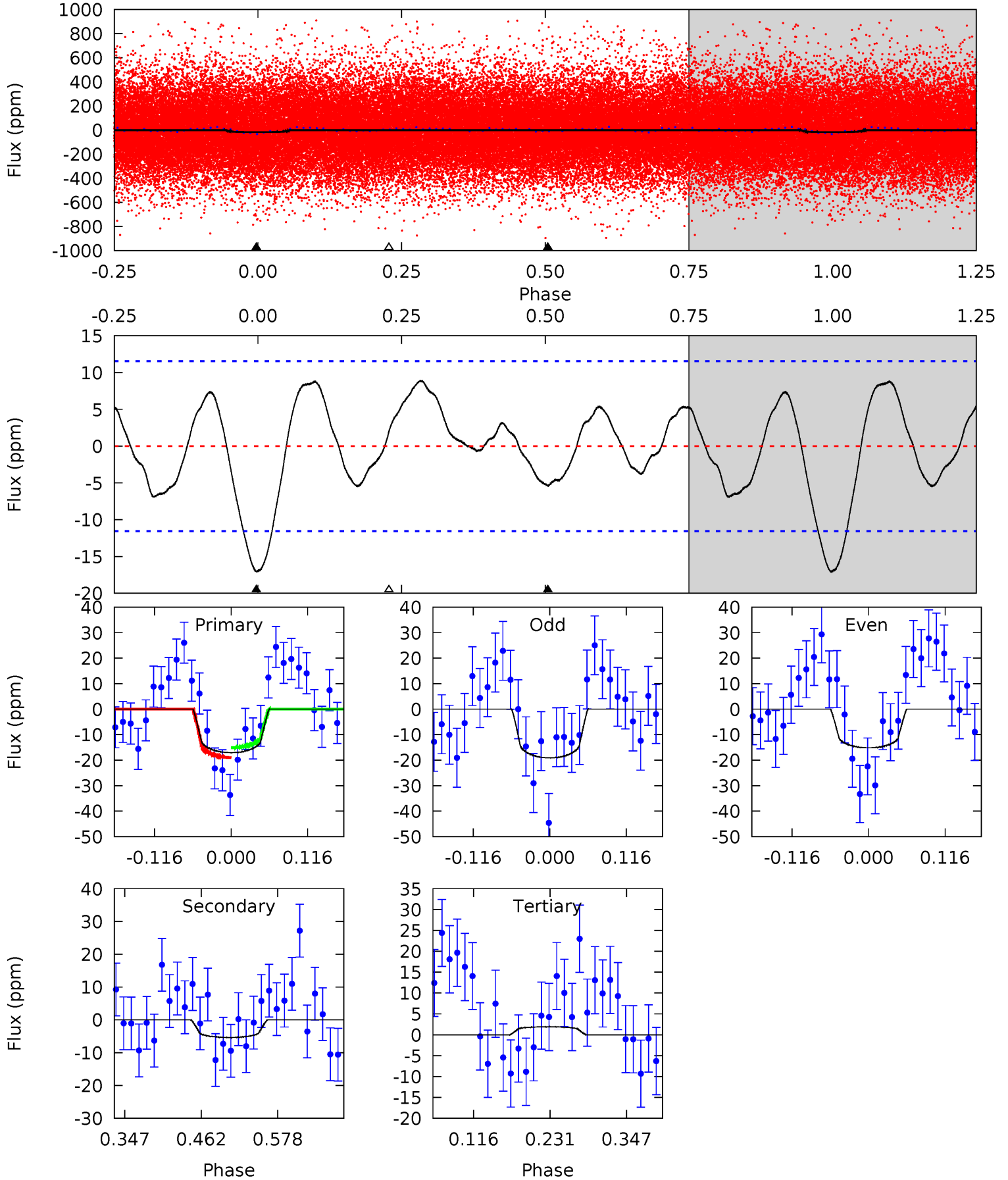




# DV Model-Shift Uniqueness Test

006717185-01, P = 1.579252 Days, E = 131.475922 Days

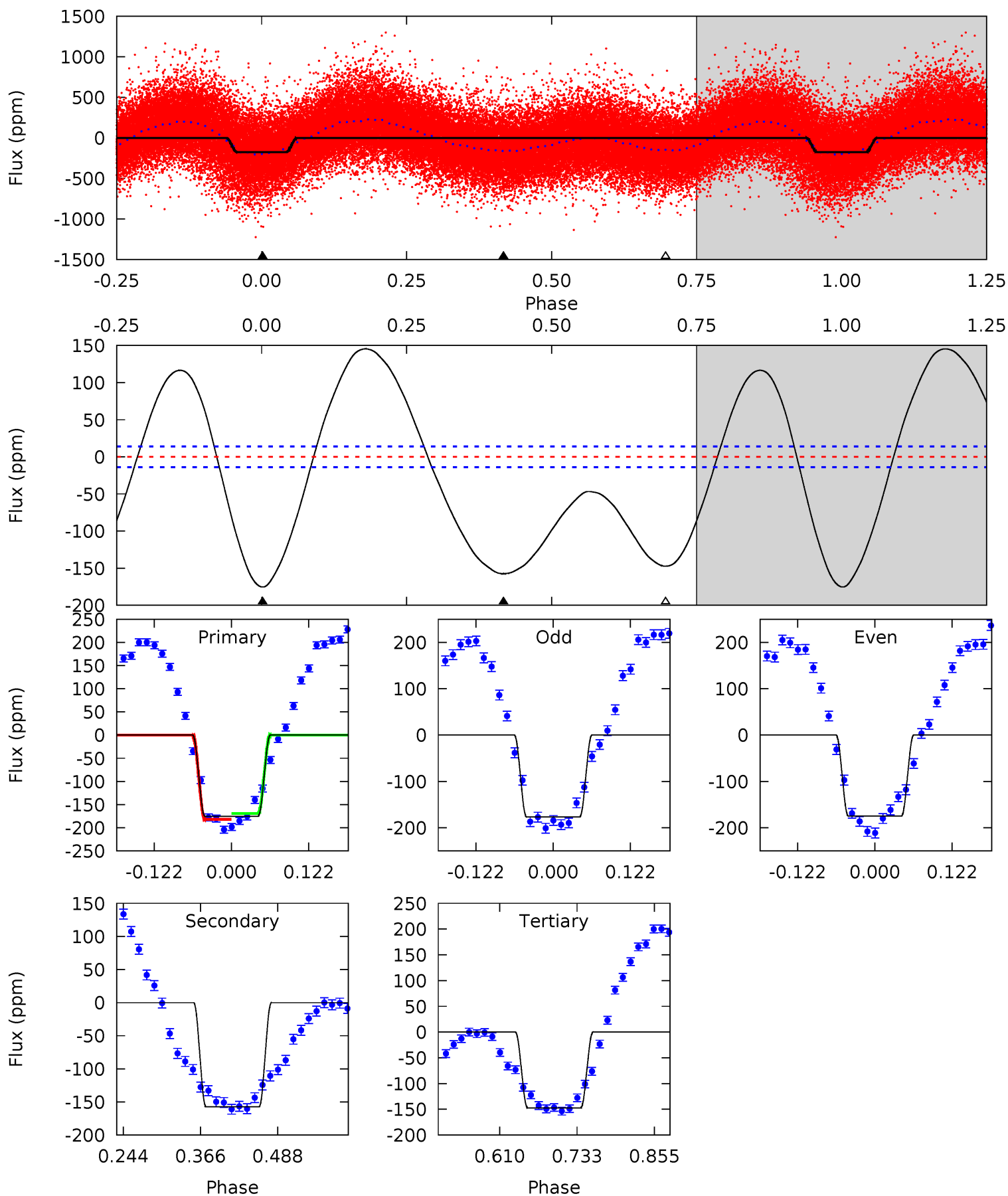
| Pri  | Sec  | Ter   | Pos | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|-------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.69 | 2.11 | -0.75 | 0   | 4.53            | 1.57            | 1.64             | 7.44    | 6.69    | 2.86    | 2.11    | 0.77    | 0.85 | 0.34  | 0.77 |



# Alt Model-Shift Uniqueness Test

006717185-01, P = 1.579343 Days, E = 131.468724 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  |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 56.8 | 51.0 | 47.7 | 0   | 4.52            | 1.55            | 32.5             | 9.07    | 56.8    | 3.27    | 51.0    | 0.32    | 1.08 | 0.45  | 2.06 |





### Stellar Parameters For KIC 006717185

|        | $T_{\text{eff}}(K)$  | $\log(g)$                 | [Fe/H]                     | $R$ ( $R_{\odot}$ )       | $M(M_{\odot})$            | $p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ ) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
|        | $6098^{+183}_{-202}$ | $4.172^{+0.276}_{-0.161}$ | $-0.420^{+0.300}_{-0.300}$ | $1.311^{+0.371}_{-0.371}$ | $0.931^{+0.141}_{-0.106}$ | $0.582^{+1.069}_{-0.271}$                     |
|        | +3%/-3%              | +7%/-4%                   | +71%/-71%                  | +28%/-28%                 | +15%/-11%                 | +184%/-47%                                    |
| 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 006717185-01 / KOI

| Detrend | Depth (ppm)  | $R_p$ ( $R_{\oplus}$ ) | $T_{max}$ (K)        | $T_{obs}$ (K)         | $A_{obs}$                  |
|---------|--------------|------------------------|----------------------|-----------------------|----------------------------|
| DV      | $-5 \pm 3$   | $0.65^{+0.39}_{-0.30}$ | $2648^{+200}_{-223}$ | $4324^{+1421}_{-837}$ | $4.099^{+11.320}_{-2.709}$ |
| Alt.    | $-157 \pm 3$ | $1.95^{+0.46}_{-0.41}$ | $2638^{+211}_{-214}$ | $5744^{+504}_{-433}$  | $15^{+9}_{-5}$             |

$T_{max}$  = 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

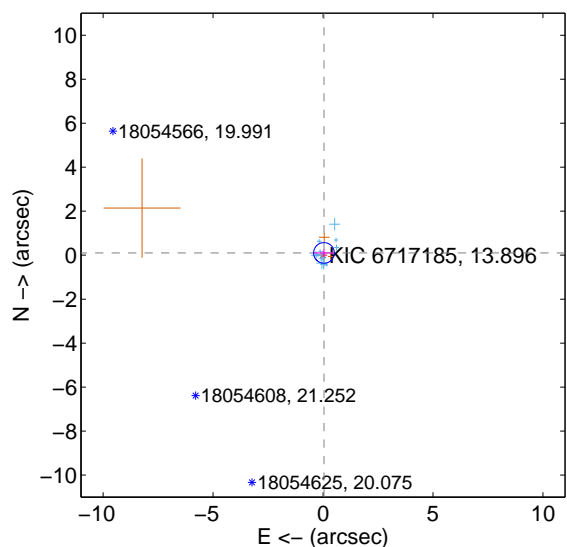
Supplemental centroid analysis for 006717185-01. Kepler magnitude: 13.90. Transit SNR 5.18

There are 14 quarters with good PRF difference image offsets

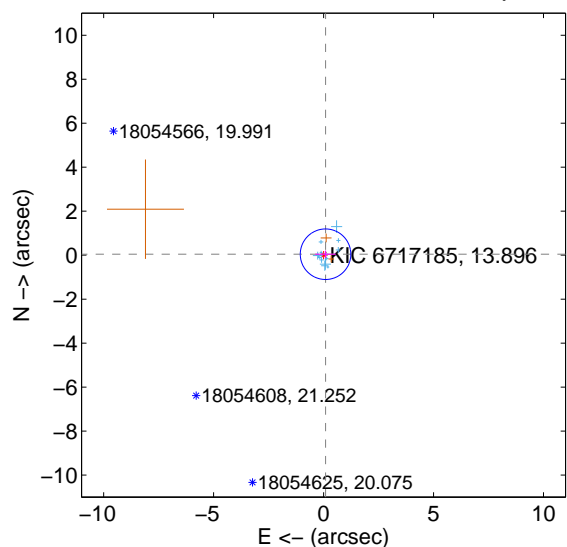
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA        | $\Delta$ Dec      |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT          | $0.110 \pm 0.157$  | 0.70                | $-0.042 \pm 0.491$ | $0.102 \pm 0.176$ |
| PRF-fit source offset from KIC position | $0.099 \pm 0.383$  | 0.26                | $-0.089 \pm 0.470$ | $0.044 \pm 0.169$ |
| photometric centroid source offset      | $3.43 \pm 1.91$    | 1.79                | $-2.19 \pm 2.08$   | $2.64 \pm 1.79$   |

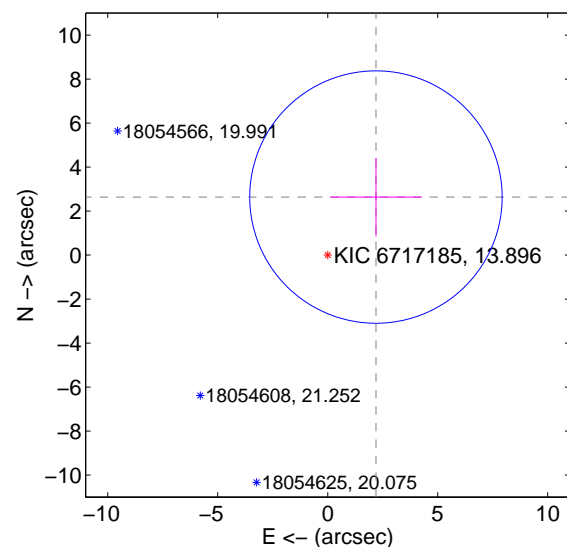
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

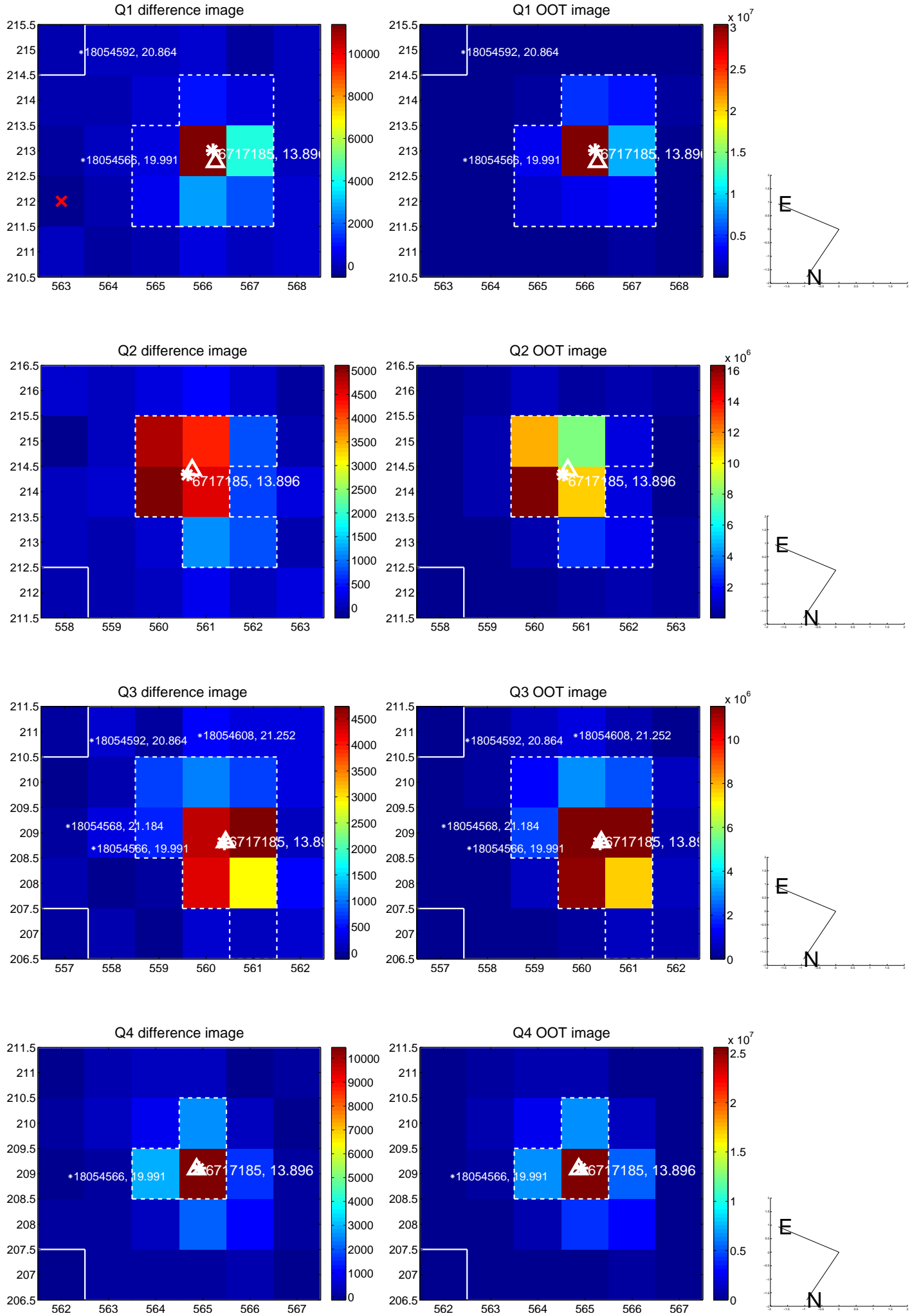


offset from photometric centroids

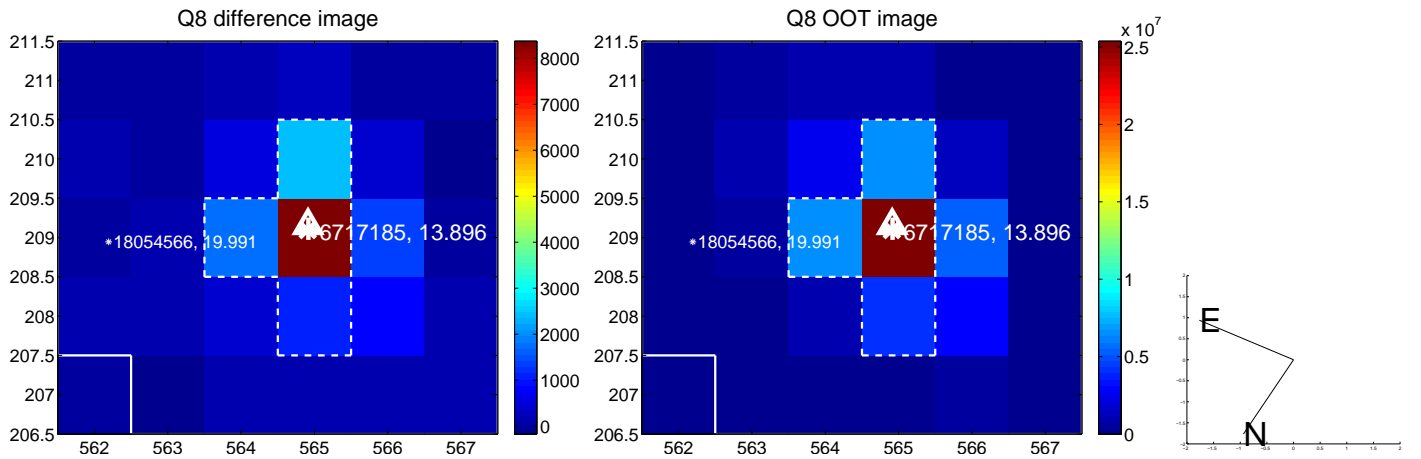
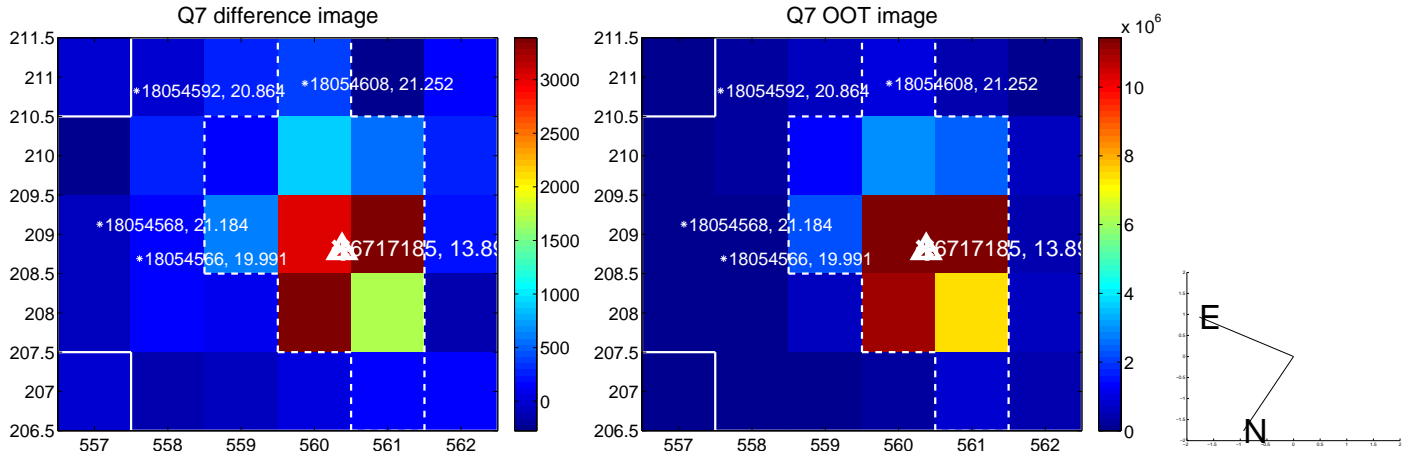
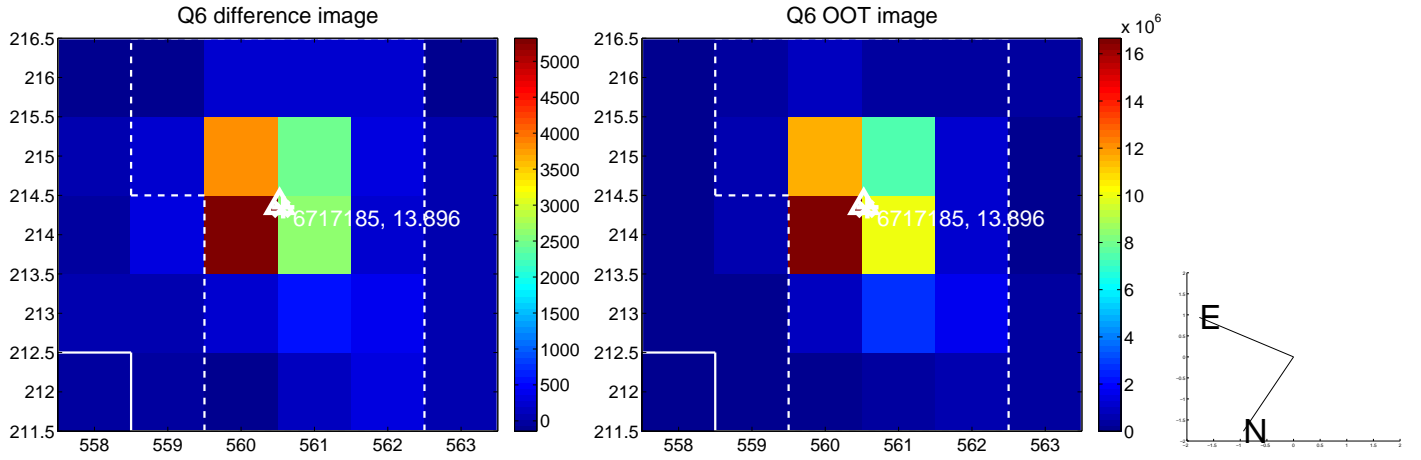
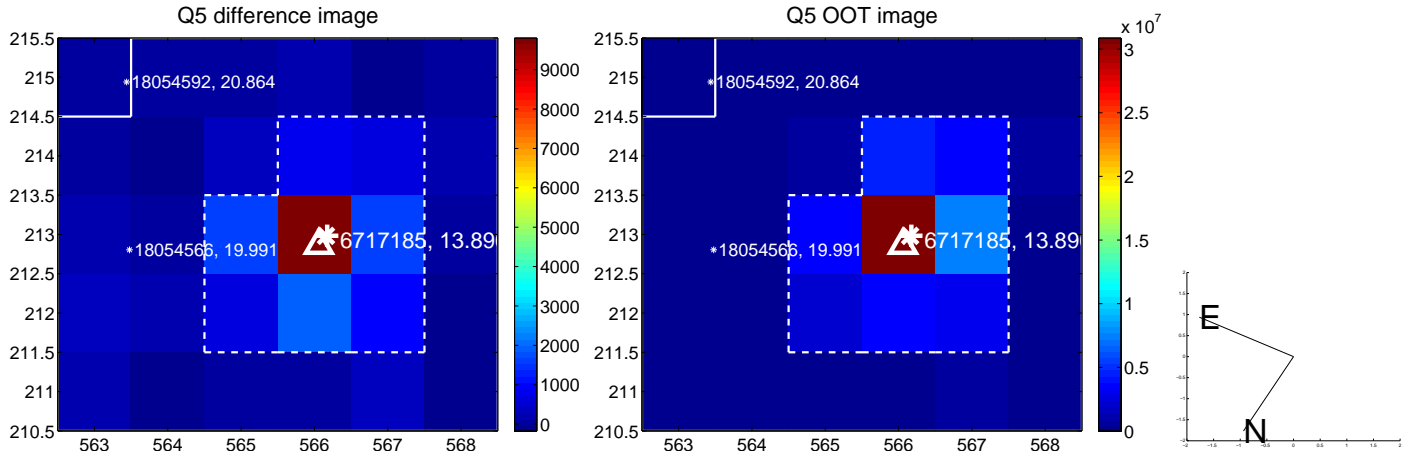


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

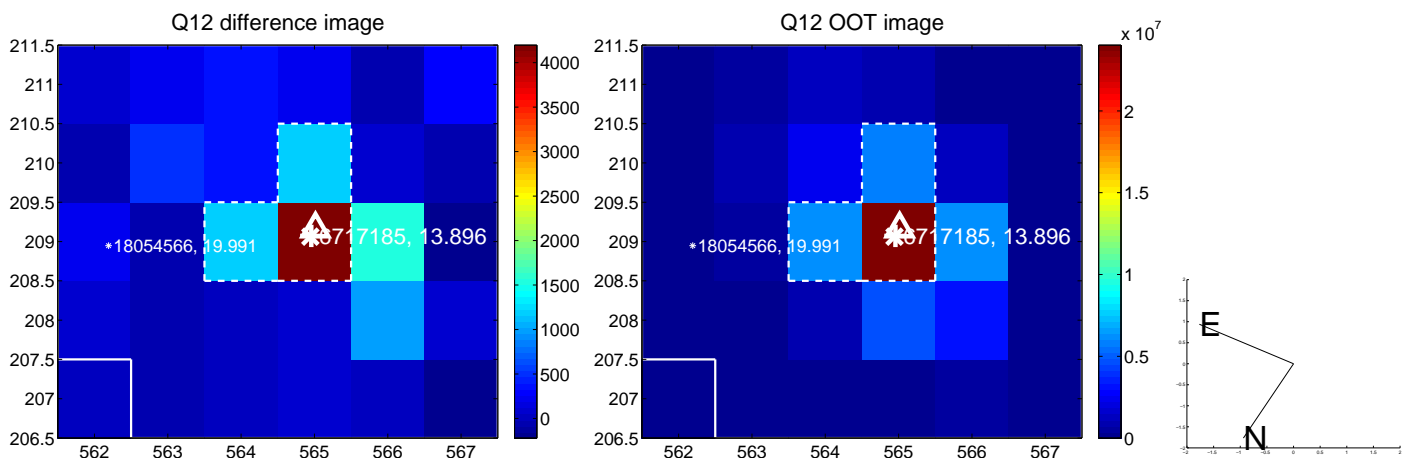
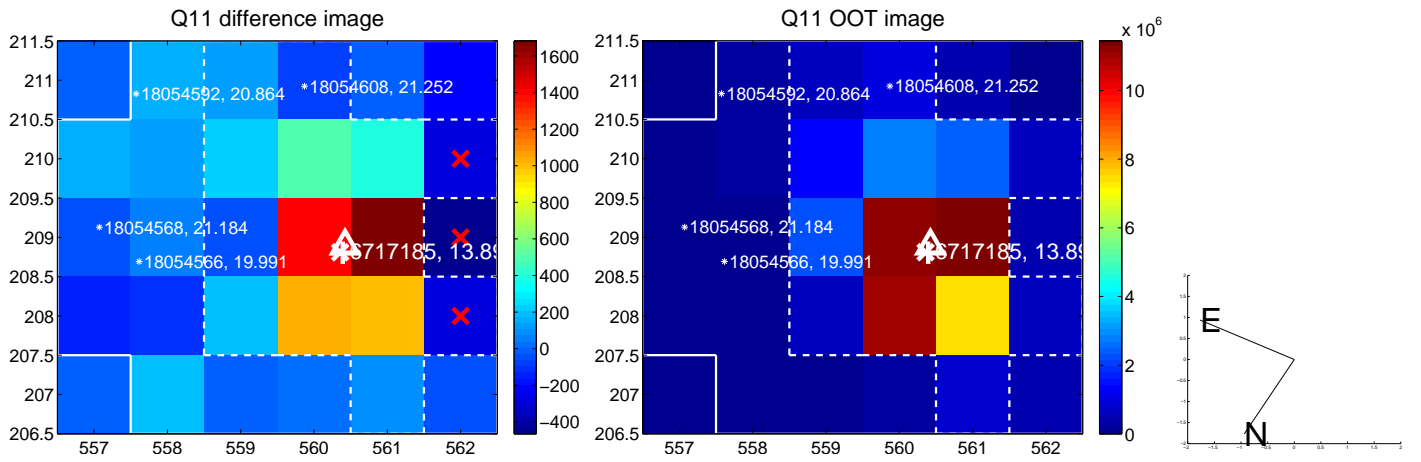
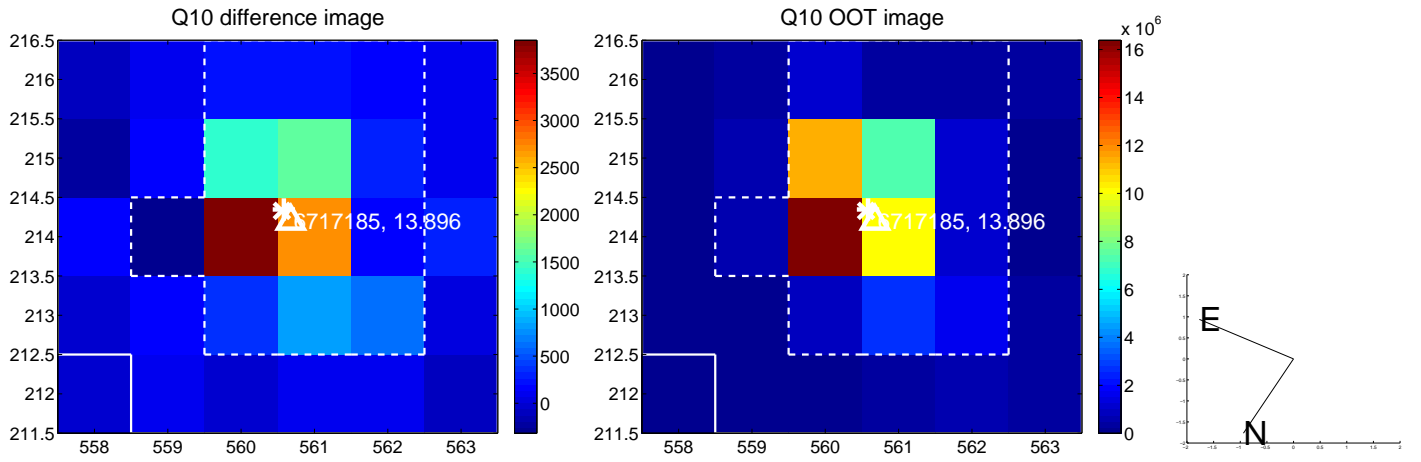
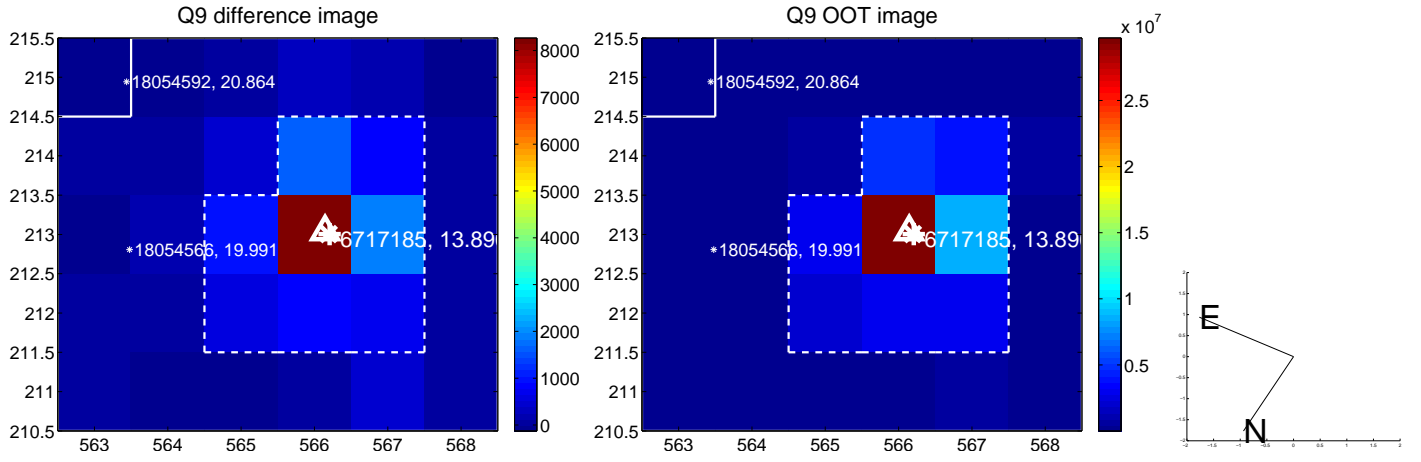


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

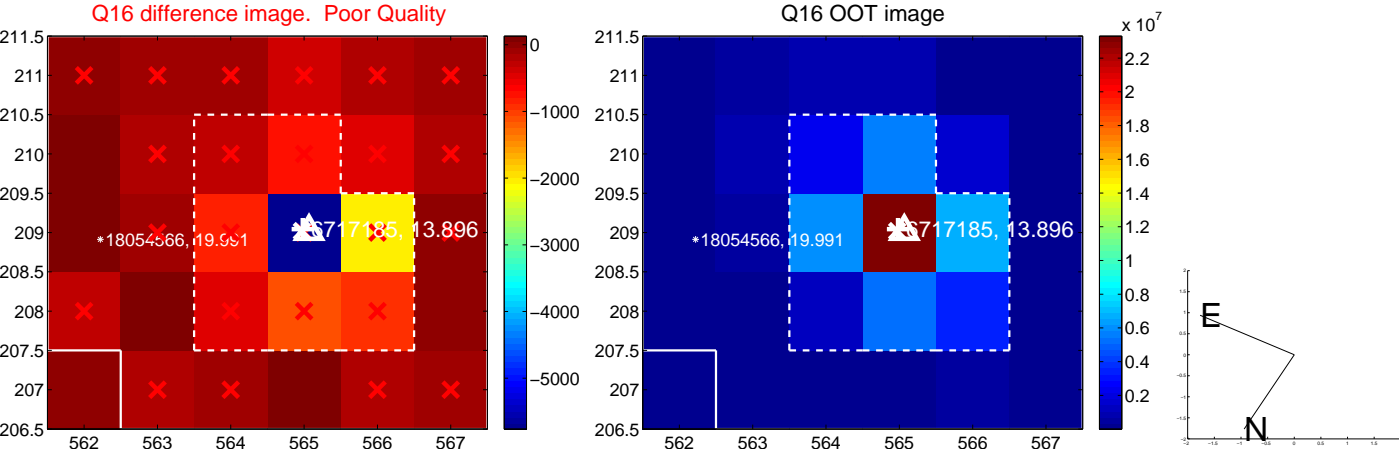
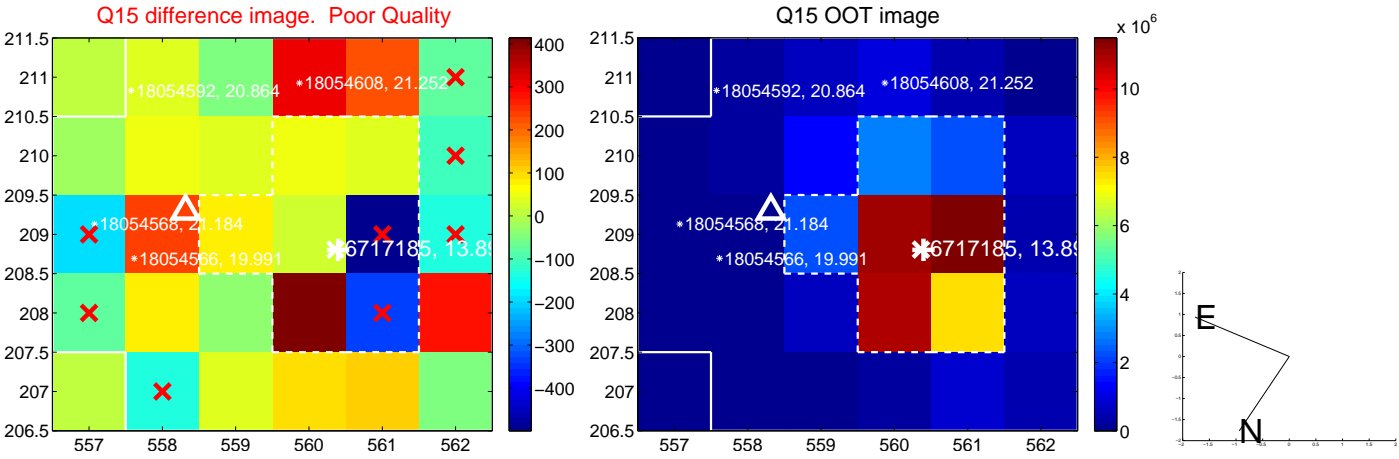
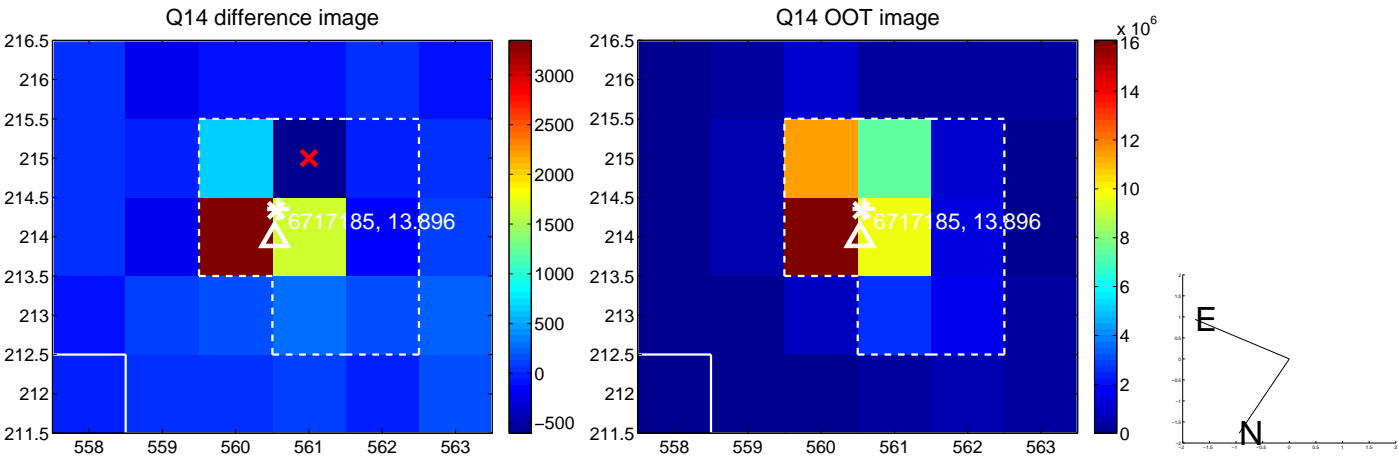
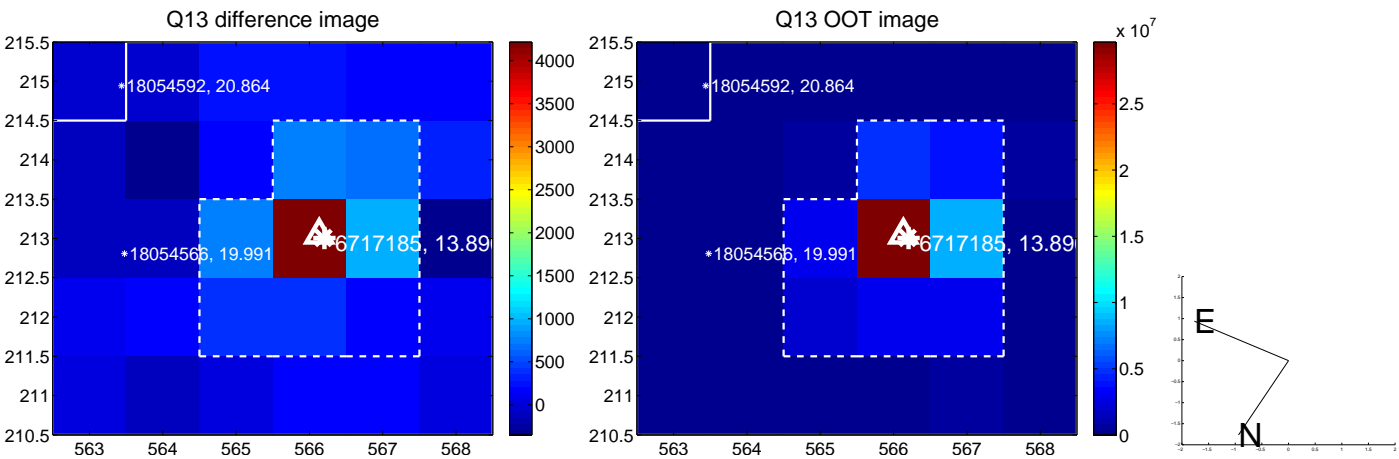




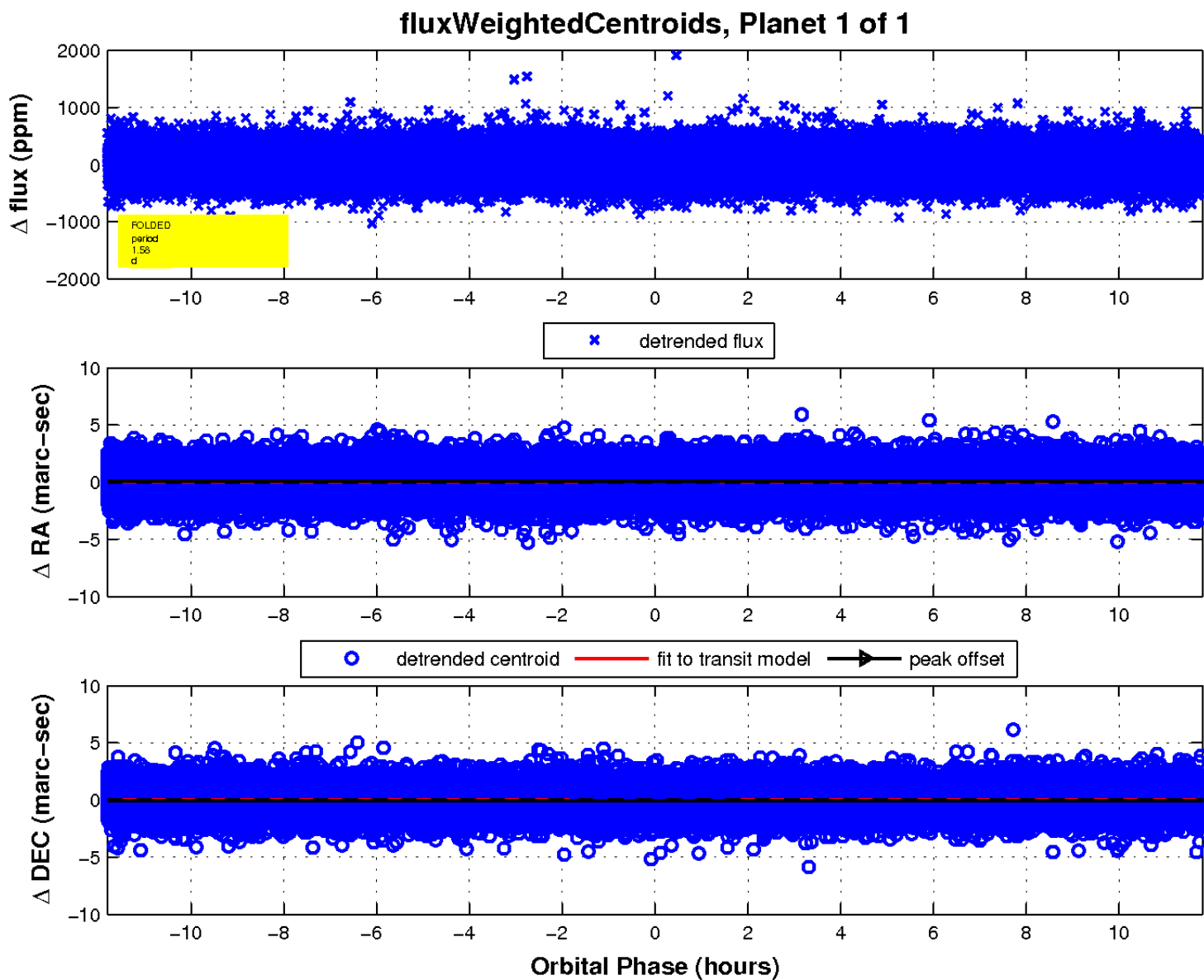
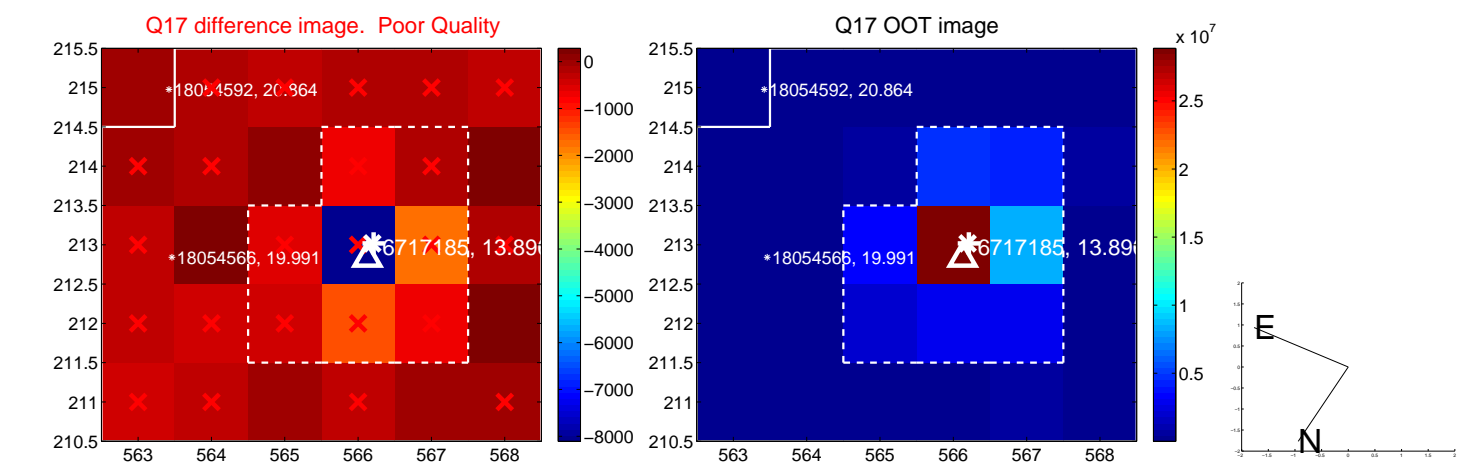
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

