

# KIC 008145762

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|------|-----------------------------|-----------------|------------------------|------------------------|
| 008145762-01 | OBS      | No   | 200.797067    | 323.852780   | 480.0       | 17.895           | 7.7 | 10.7 | 0.85                        | 4979            | 2.23                   | 1.01                   |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments  |
|--------------|----------|------|-------|---|---|---|---|---|
| 008145762-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_DV—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.

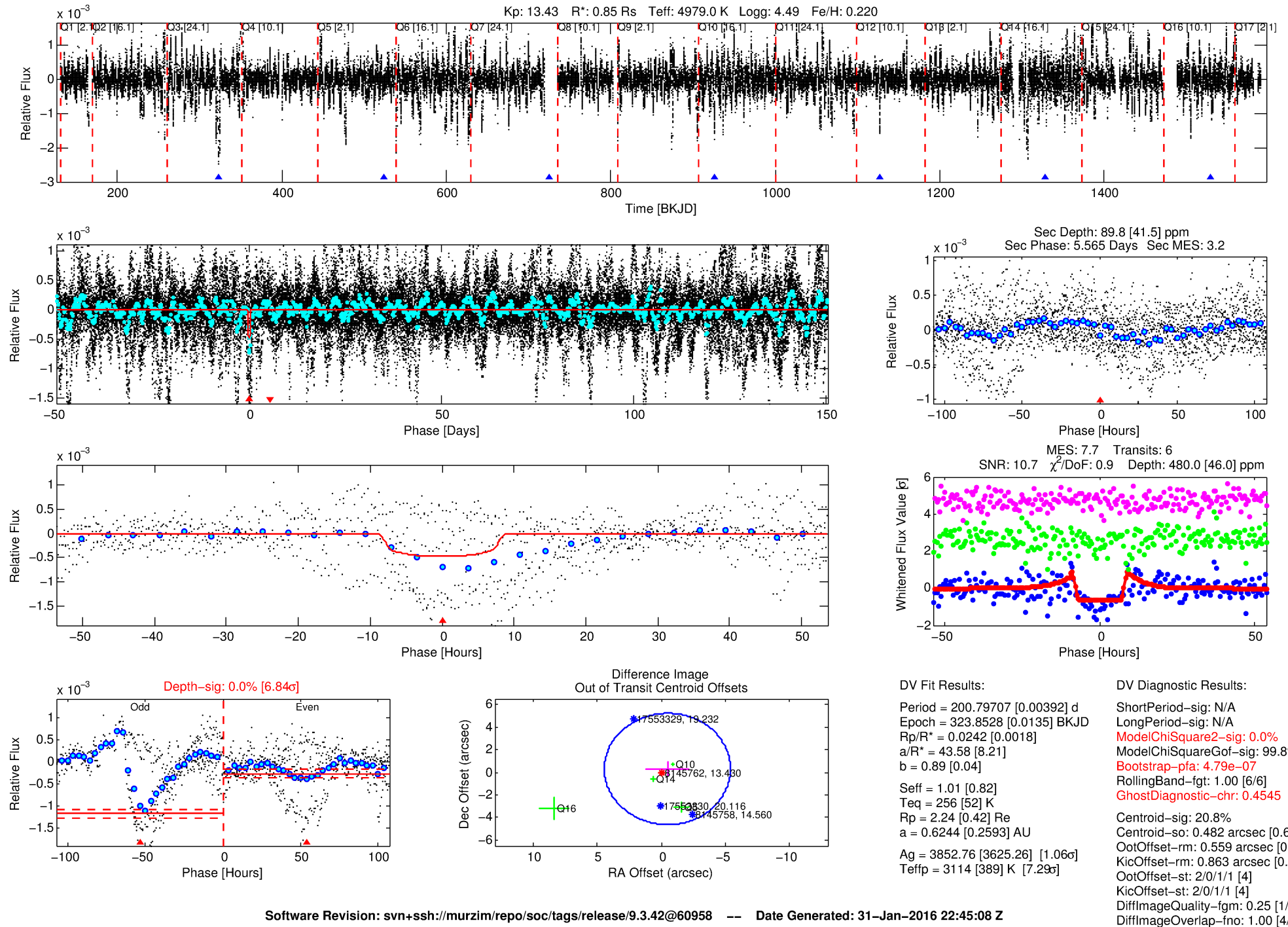
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008145762-01

No Significant Match Found

# DV One-Page Summary

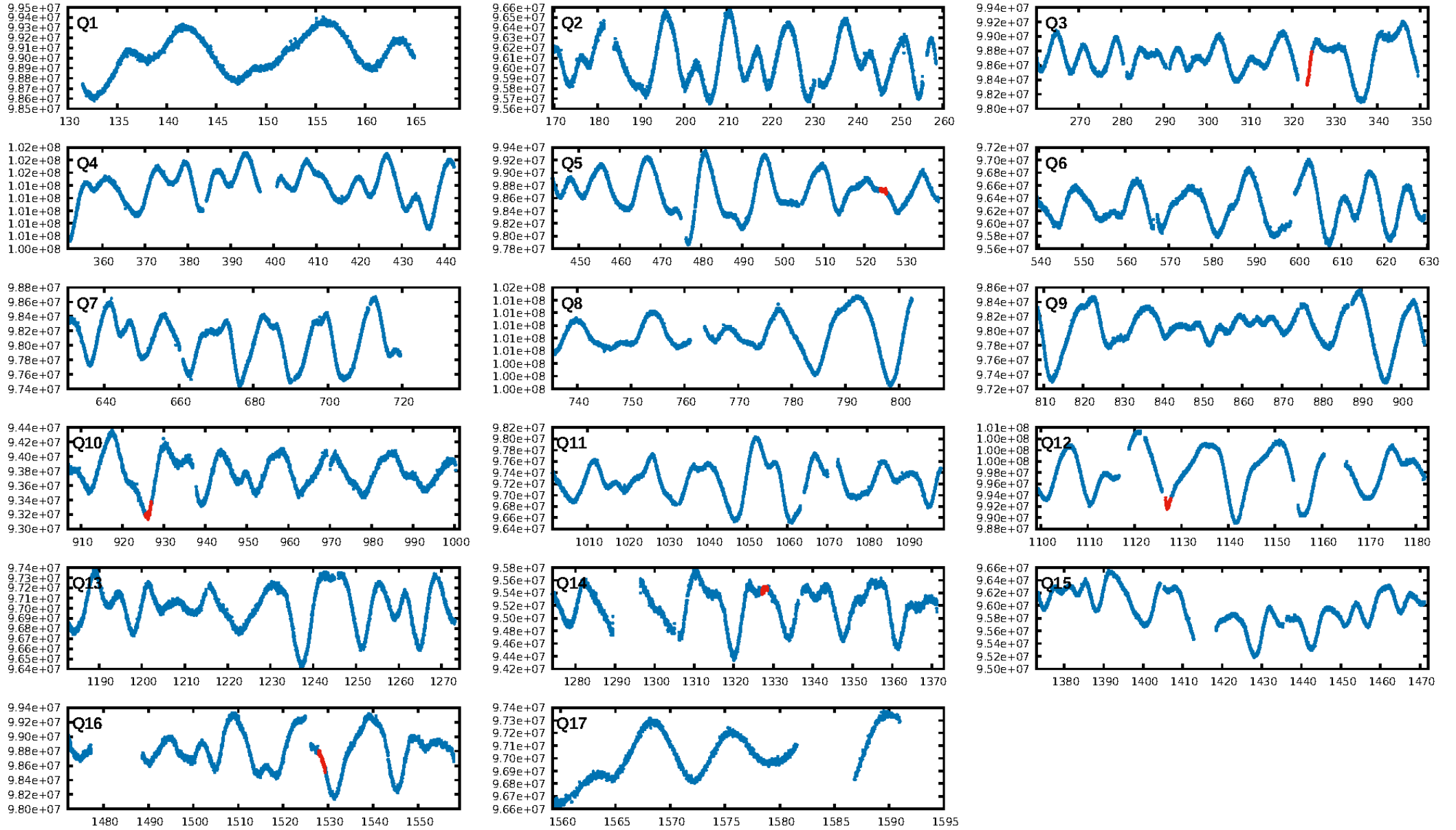
KIC: 8145762 Candidate: 1 of 1 Period: 200.797 d



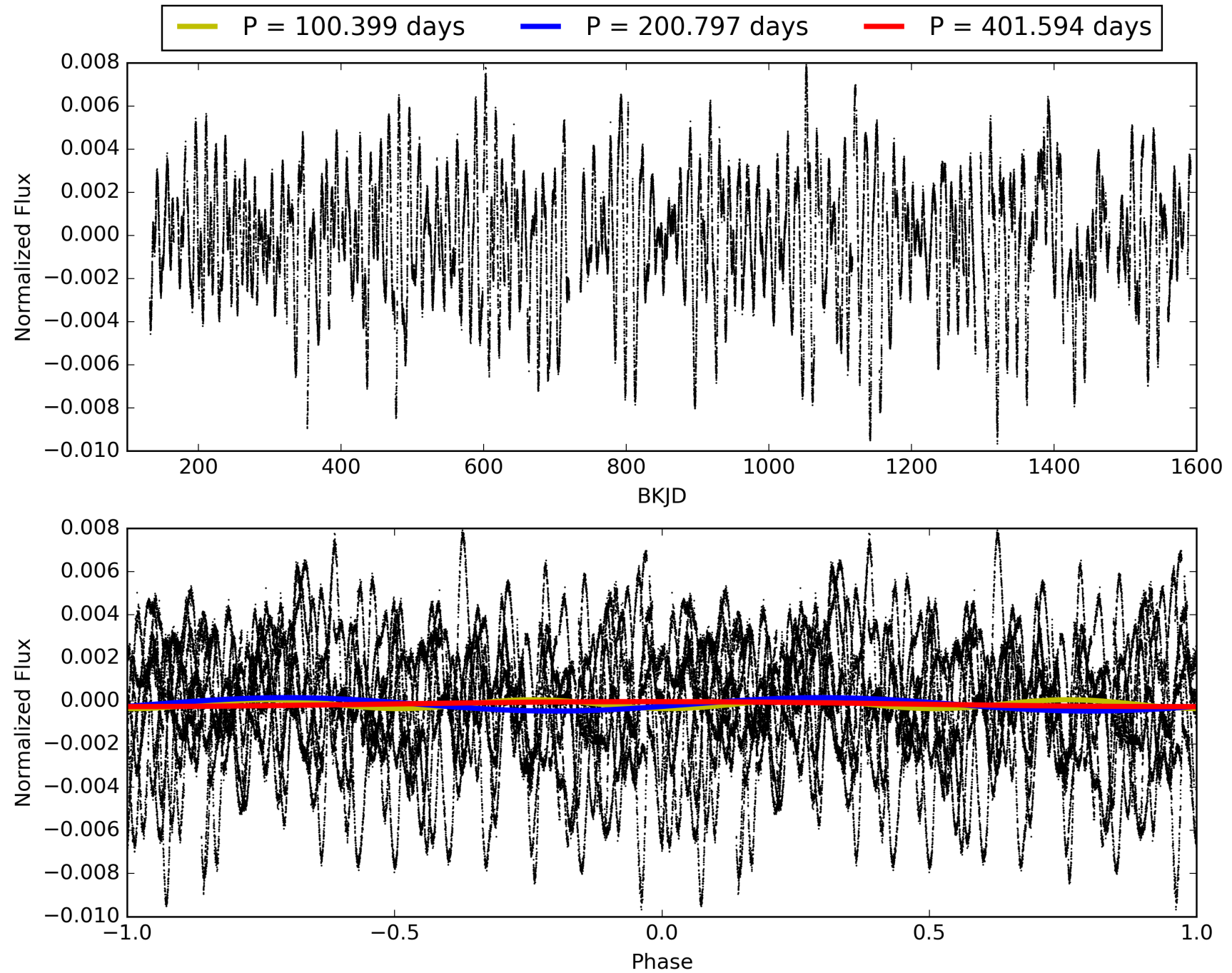
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:45:08 Z

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

# TCE 008145762-01, PDC Light Curves

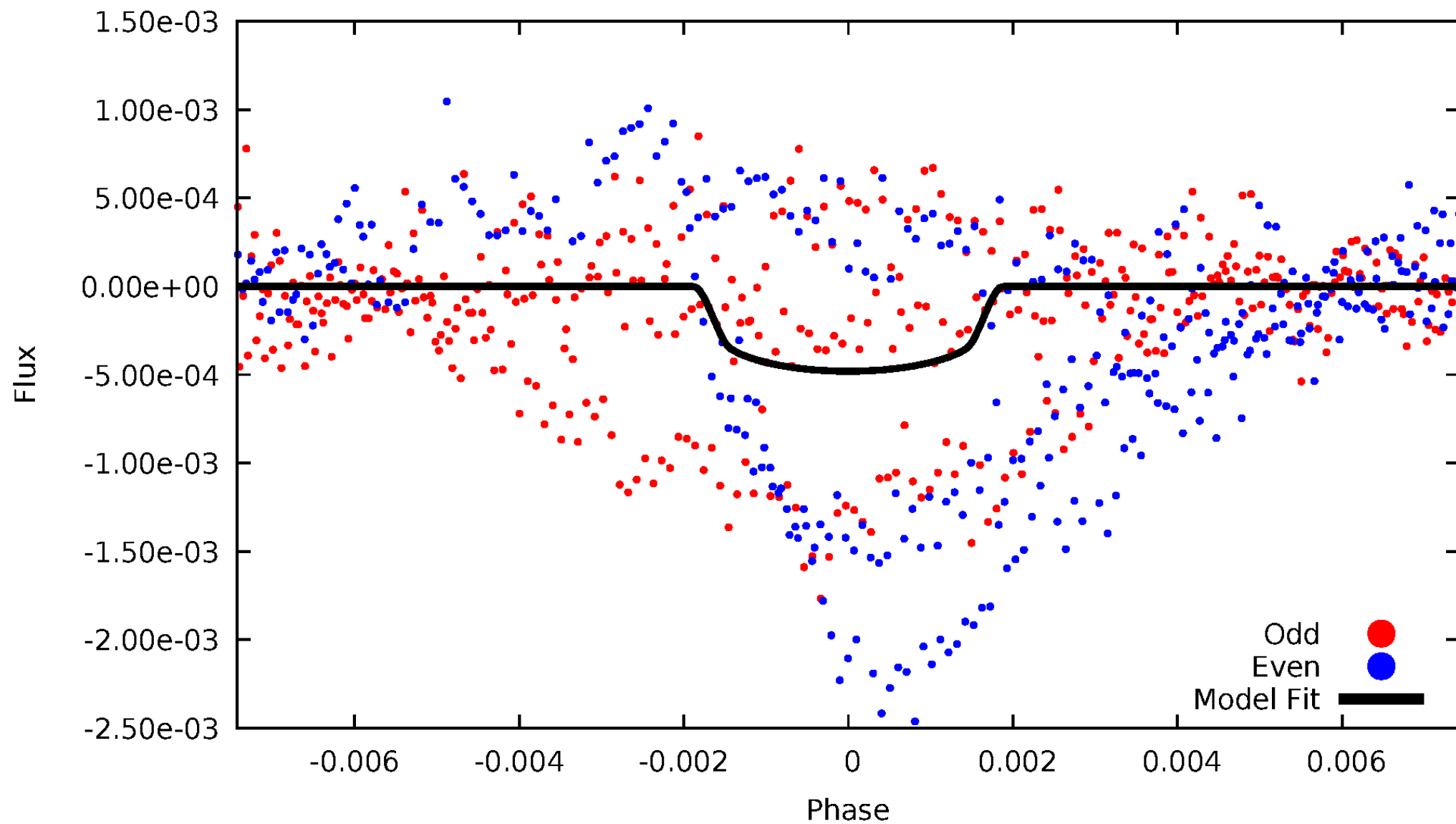


# TCE 008145762-01



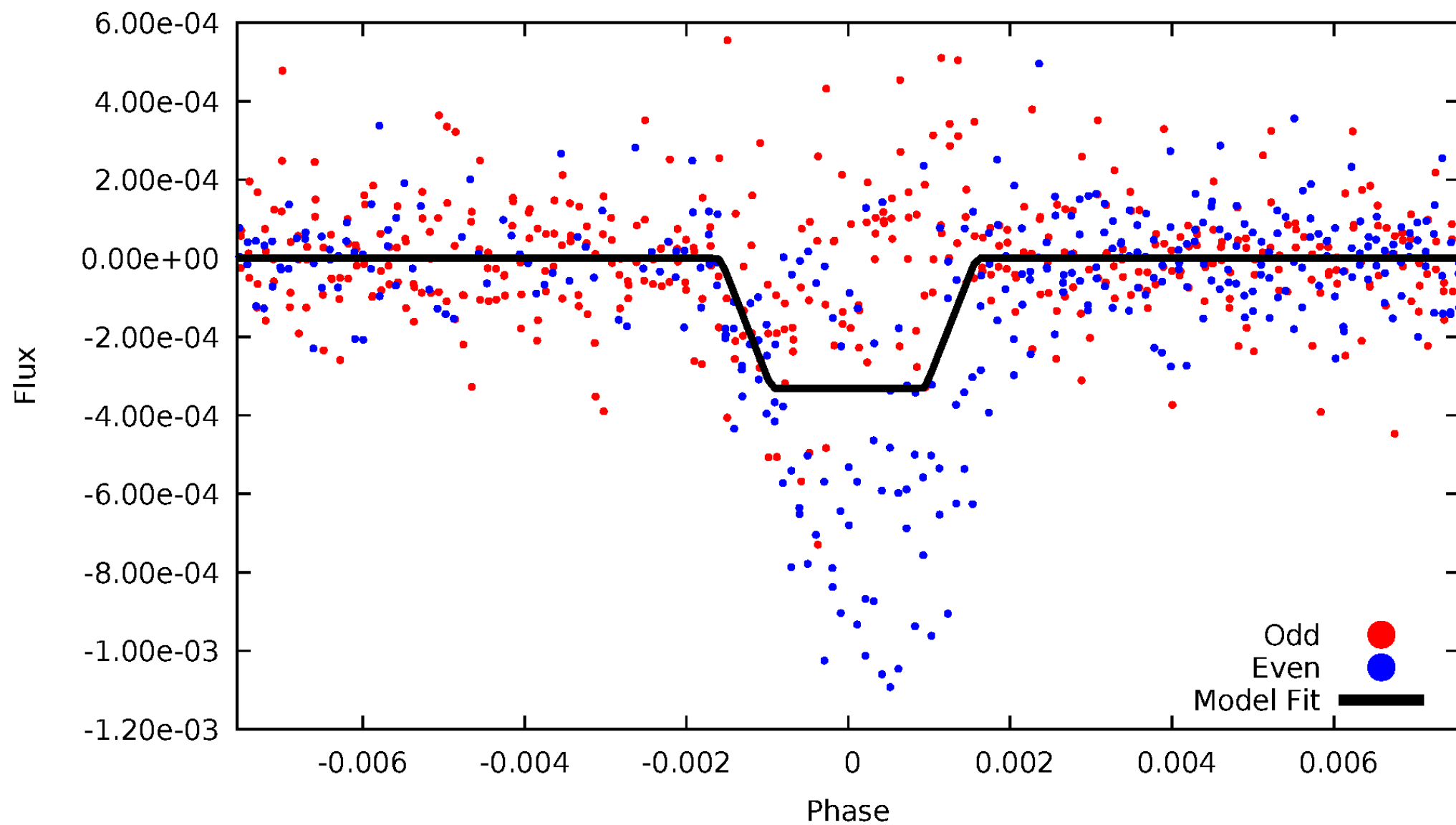
# DV Odd/Even

TCE 008145762-01



# ALT Odd/Even

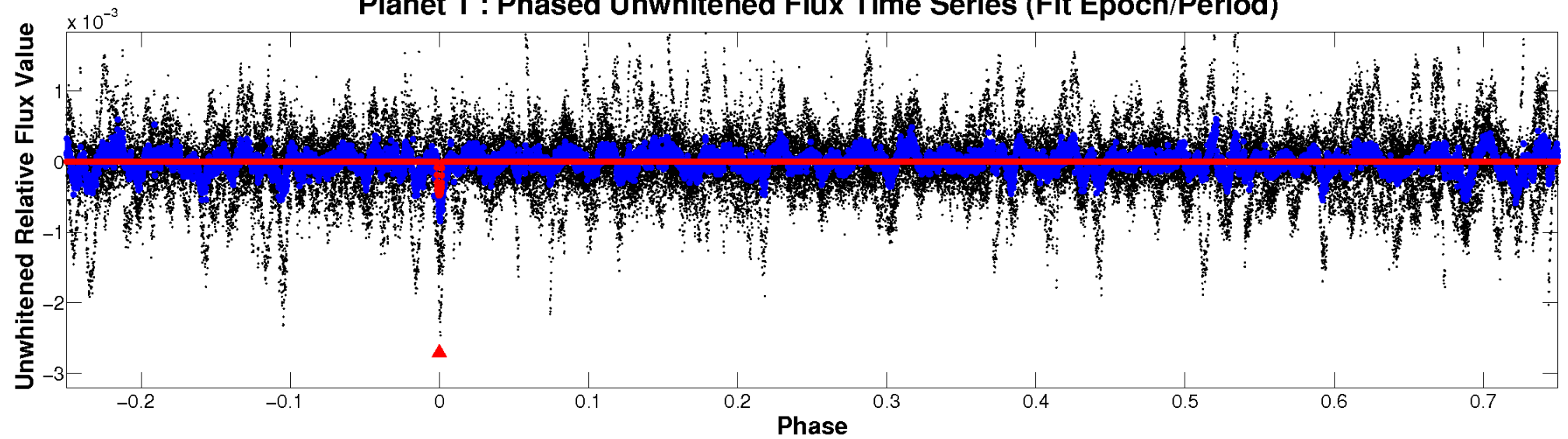
TCE 008145762-01



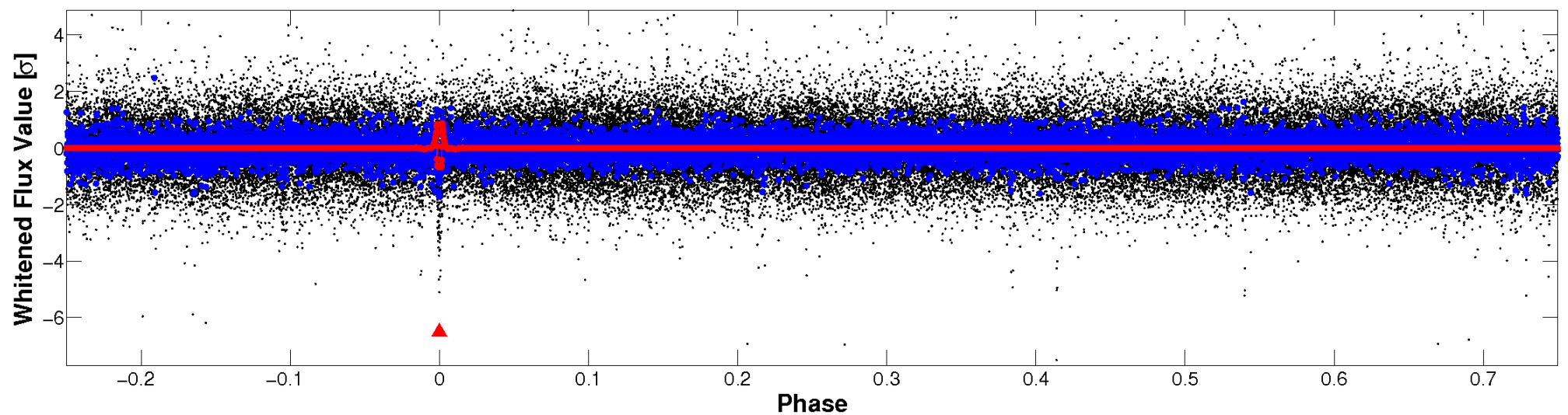


# Non-Whitened Vs. Whitened Light Curve

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

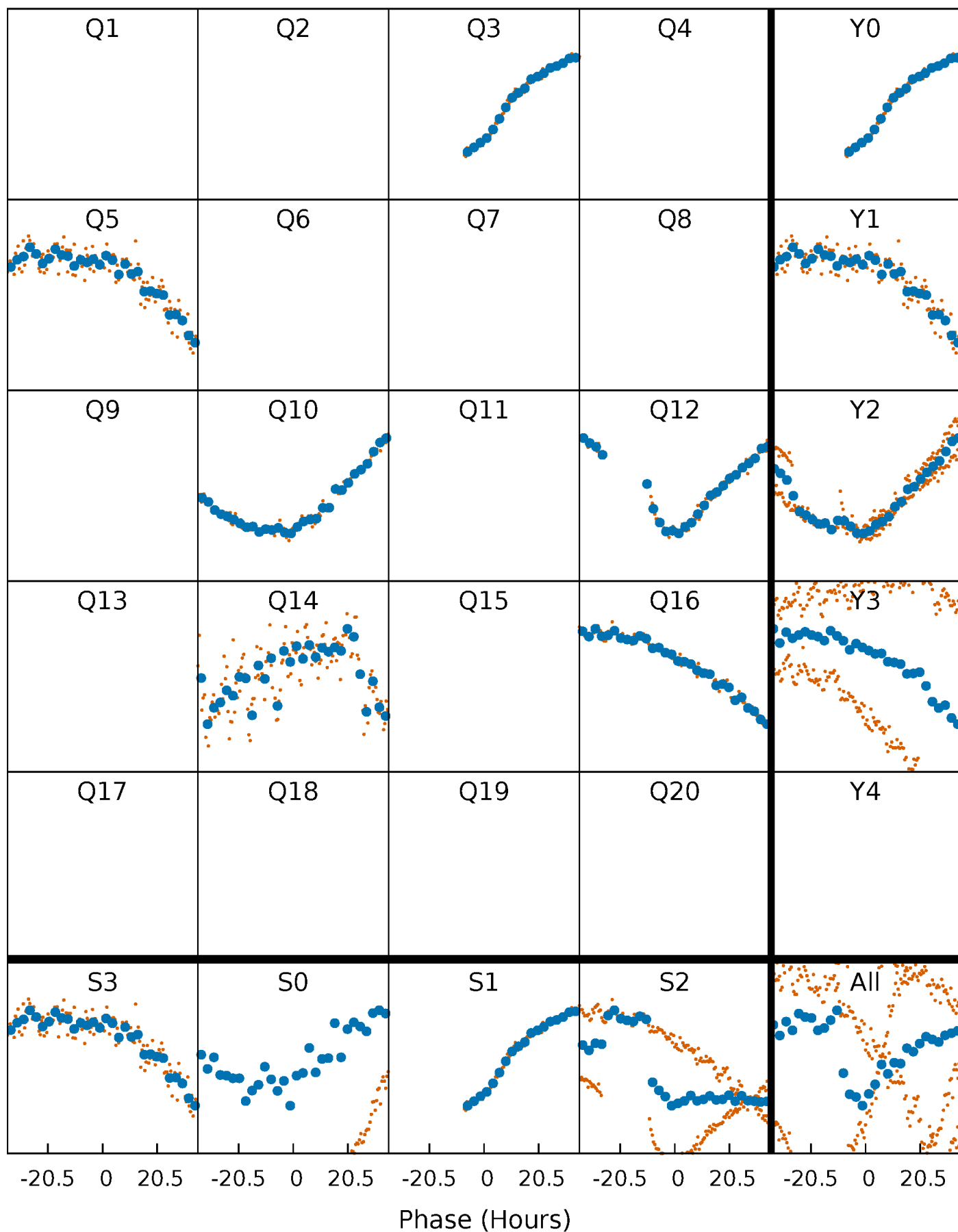


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

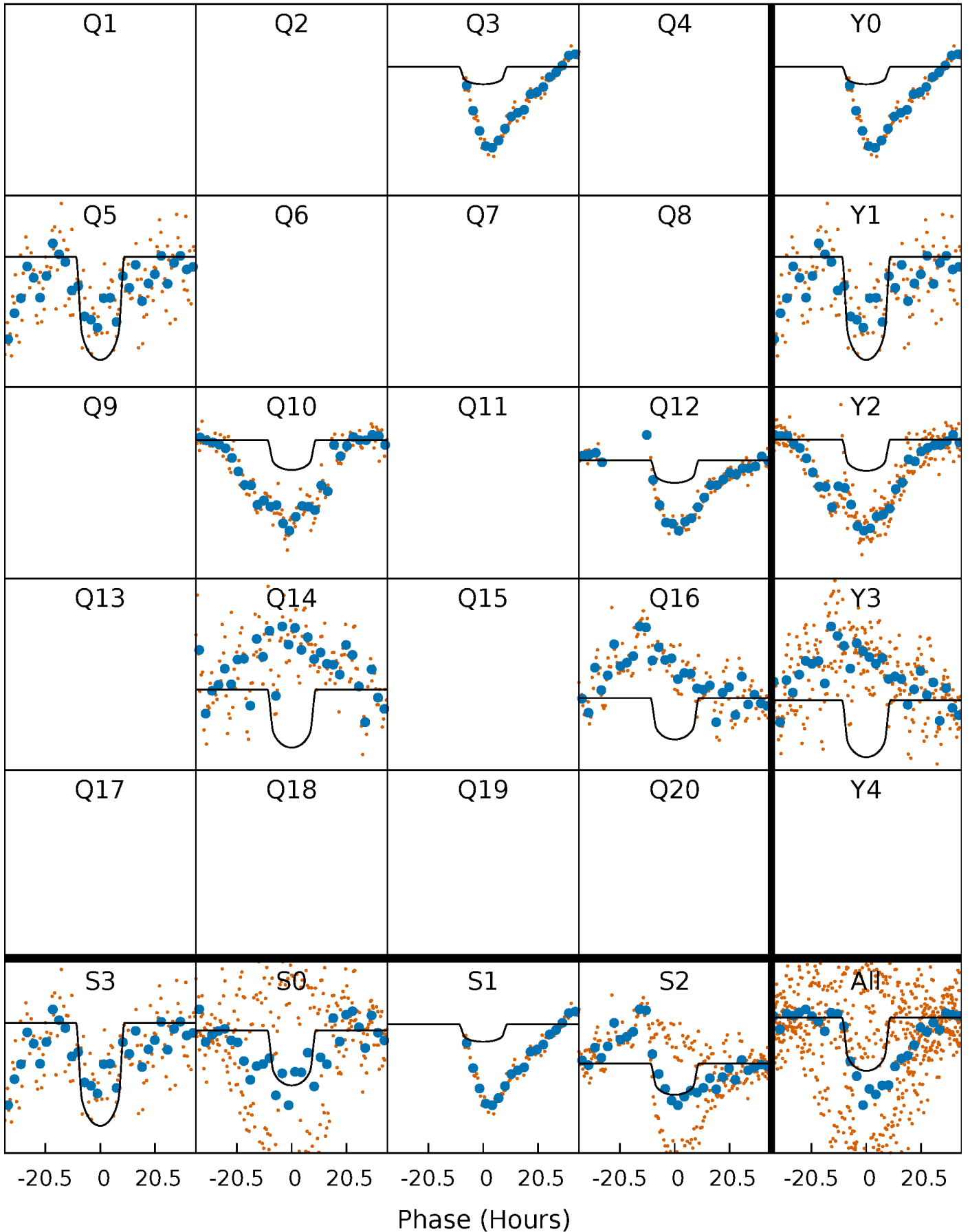
TCE 008145762-01 P=200.797067 Days  $T_0=323.852780$  (BKJD)





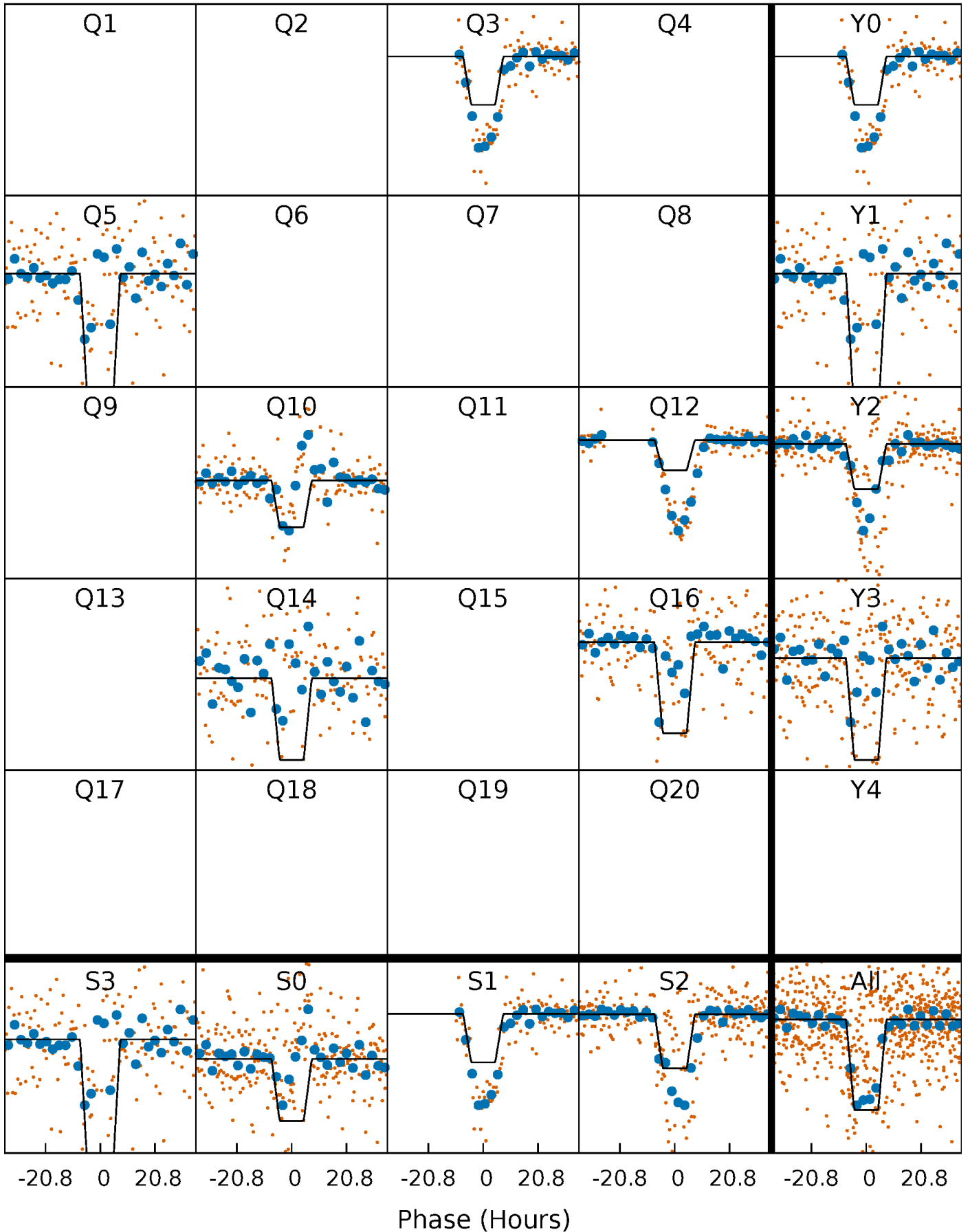
# DV Quarter-Phased Transit Curves

TCE 008145762-01 P=200.797067 Days  $T_0=323.852780$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

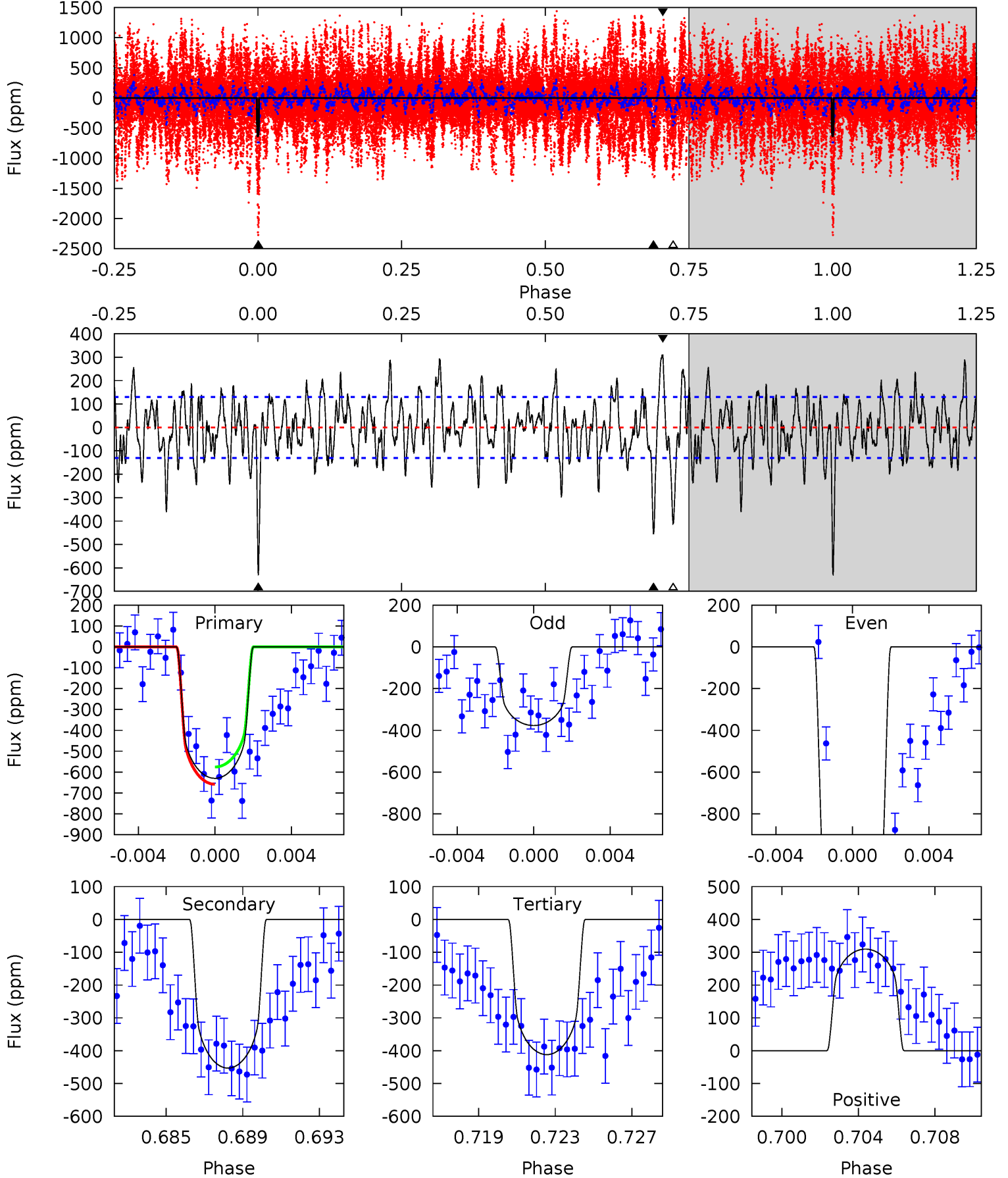
TCE 008145762-01 P=200.759727 Days  $T_0=323.973375$  (BKJD)



# DV Model-Shift Uniqueness Test

008145762-01, P = 200.797067 Days, E = 123.055713 Days

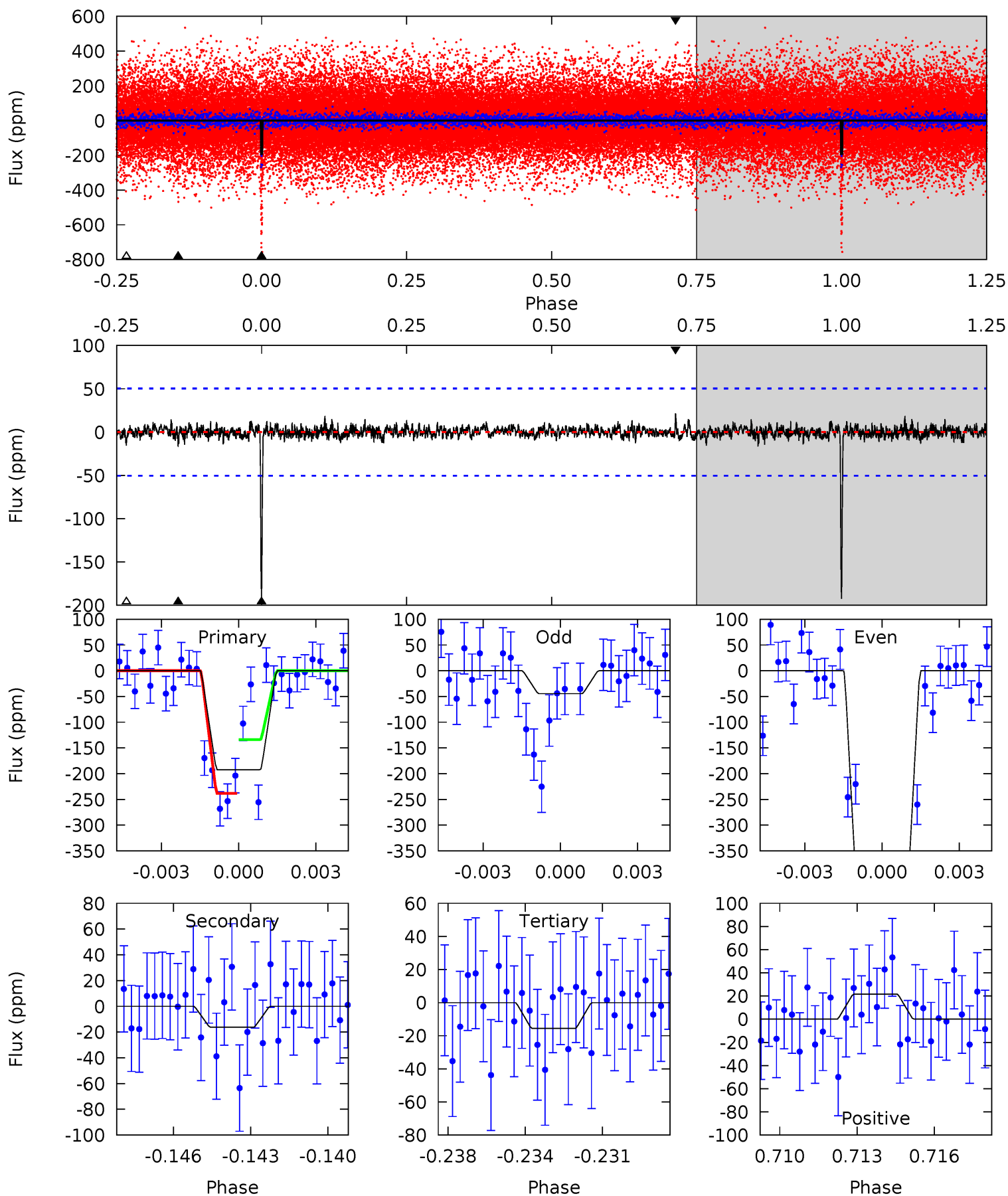
| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 25.2 | 18.1 | 16.5 | 12.4 | 5.21            | 2.90            | 4.40             | 8.70    | 12.8    | 1.64    | 5.73    | 20.4    | 0.83 | 0.33  | 1.63 |



# Alt Model-Shift Uniqueness Test

008145762-01, P = 200.759727 Days, E = 123.213648 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  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 20.0 | 1.69 | 1.62 | 2.25 | 5.24            | 2.94            | 0.45             | 18.4    | 17.8    | 0.08    | -0.56   | 27.5    | 2.64 | 0.10  | 5.41 |



### Stellar Parameters For KIC 008145762

|        | $T_{\text{eff}} (K)$ | $\log(g)$                 | $[\text{Fe}/\text{H}]$    | $R (R_{\odot})$           | $M (M_{\odot})$           | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
|        | $4979^{+149}_{-149}$ | $4.489^{+0.097}_{-0.520}$ | $0.220^{+0.200}_{-0.300}$ | $0.846^{+0.146}_{-0.093}$ | $0.804^{+0.074}_{-0.055}$ | $1.869^{+0.721}_{-1.610}$                 |
|        | +3%/-3%              | +2%/-12%                  | +91%/-136%                | +17%/-11%                 | +9%/-7%                   | +39%/-86%                                 |
| 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 008145762-01 / KOI

| Detrend | Depth (ppm)   | $R_p (R_{\oplus})$     | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | $A_{\text{obs}}$        |
|---------|---------------|------------------------|----------------------|----------------------|-------------------------|
| DV      | $-453 \pm 25$ | $2.34^{+0.35}_{-0.26}$ | $365^{+25}_{-20}$    | $4711^{+211}_{-205}$ | $17769^{+4569}_{-4359}$ |
| Alt.    | $-16 \pm 10$  | $1.76^{+0.28}_{-0.23}$ | $364^{+27}_{-20}$    | $2954^{+265}_{-332}$ | $1082^{+828}_{-641}$    |

$T_{\text{max}}$  = 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

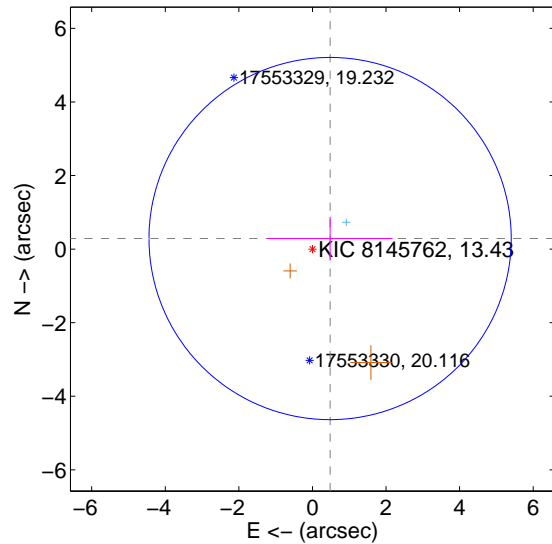
Supplemental centroid analysis for 008145762-01. Kepler magnitude: 13.43. Transit SNR 10.67

There are 1 quarters with good PRF difference image offsets

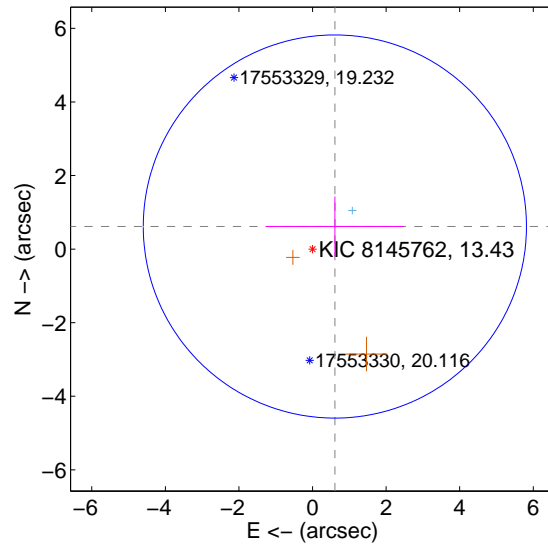
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA        | $\Delta$ Dec      |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT          | $0.559 \pm 1.641$  | 0.34                | $-0.480 \pm 1.697$ | $0.287 \pm 0.594$ |
| PRF-fit source offset from KIC position | $0.863 \pm 1.736$  | 0.50                | $-0.607 \pm 1.878$ | $0.614 \pm 0.815$ |
| photometric centroid source offset      | $0.48 \pm 0.77$    | 0.63                | $0.28 \pm 0.72$    | $0.40 \pm 0.79$   |

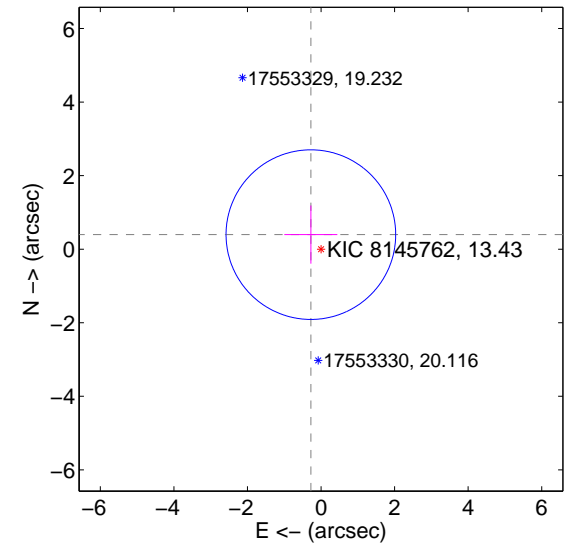
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



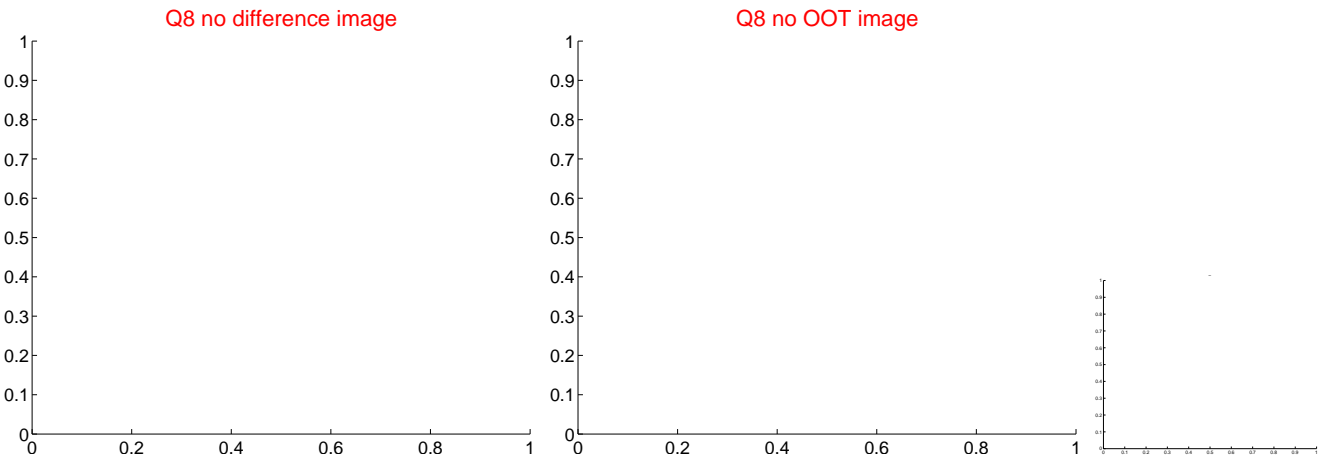
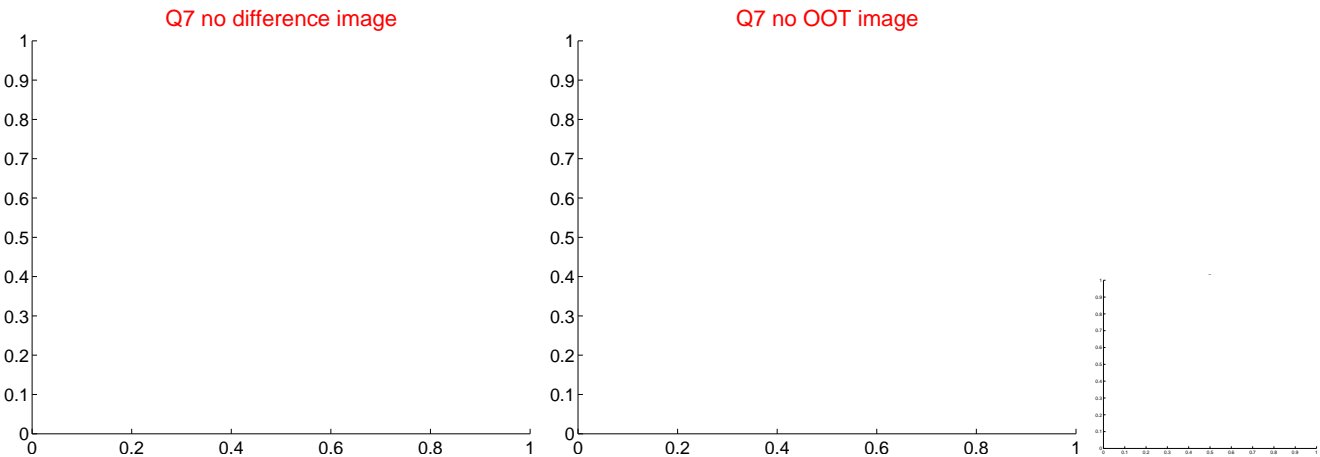
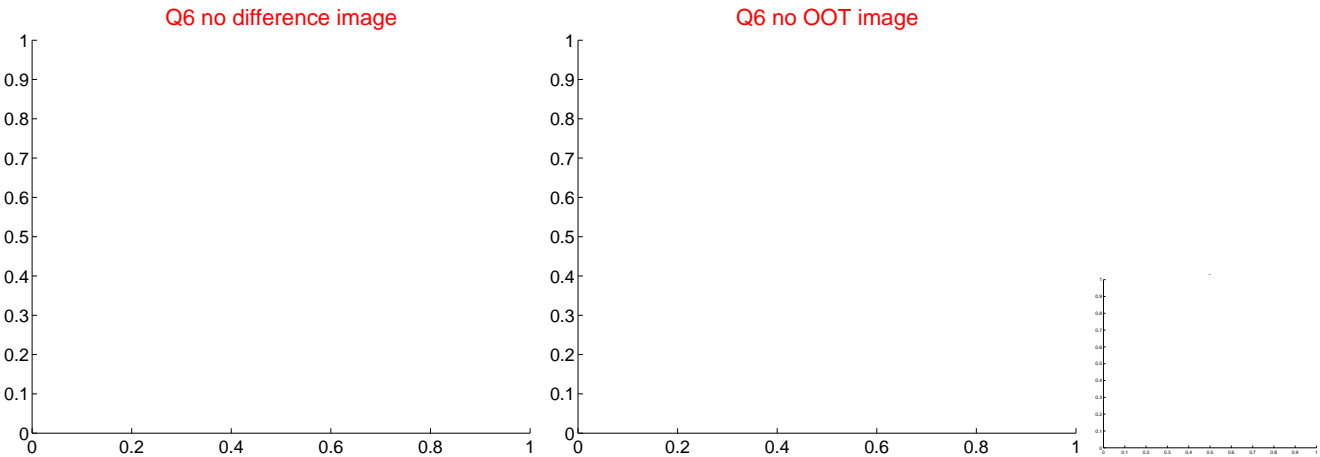
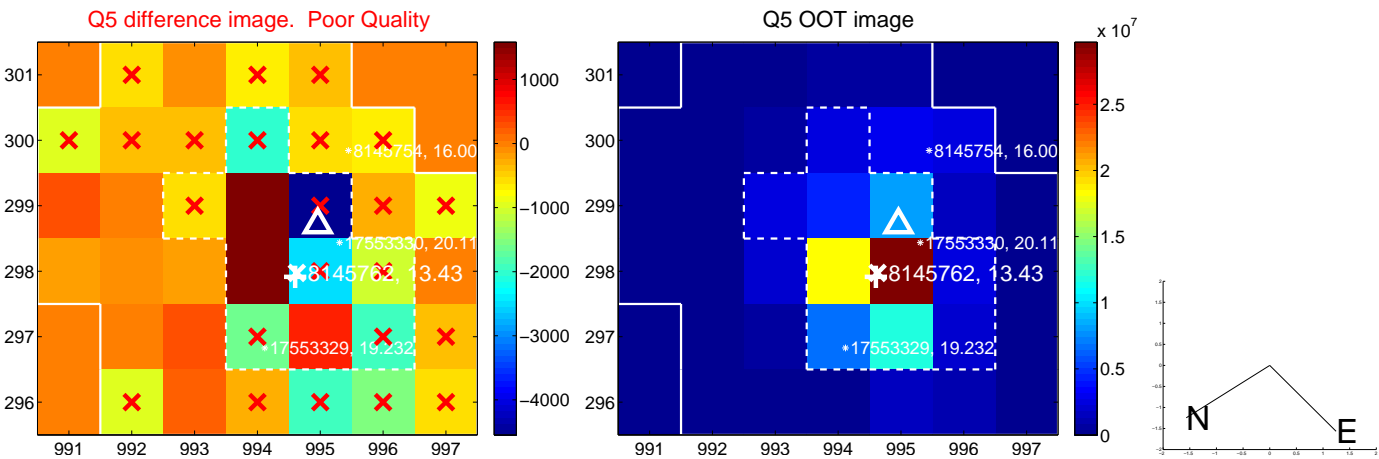
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

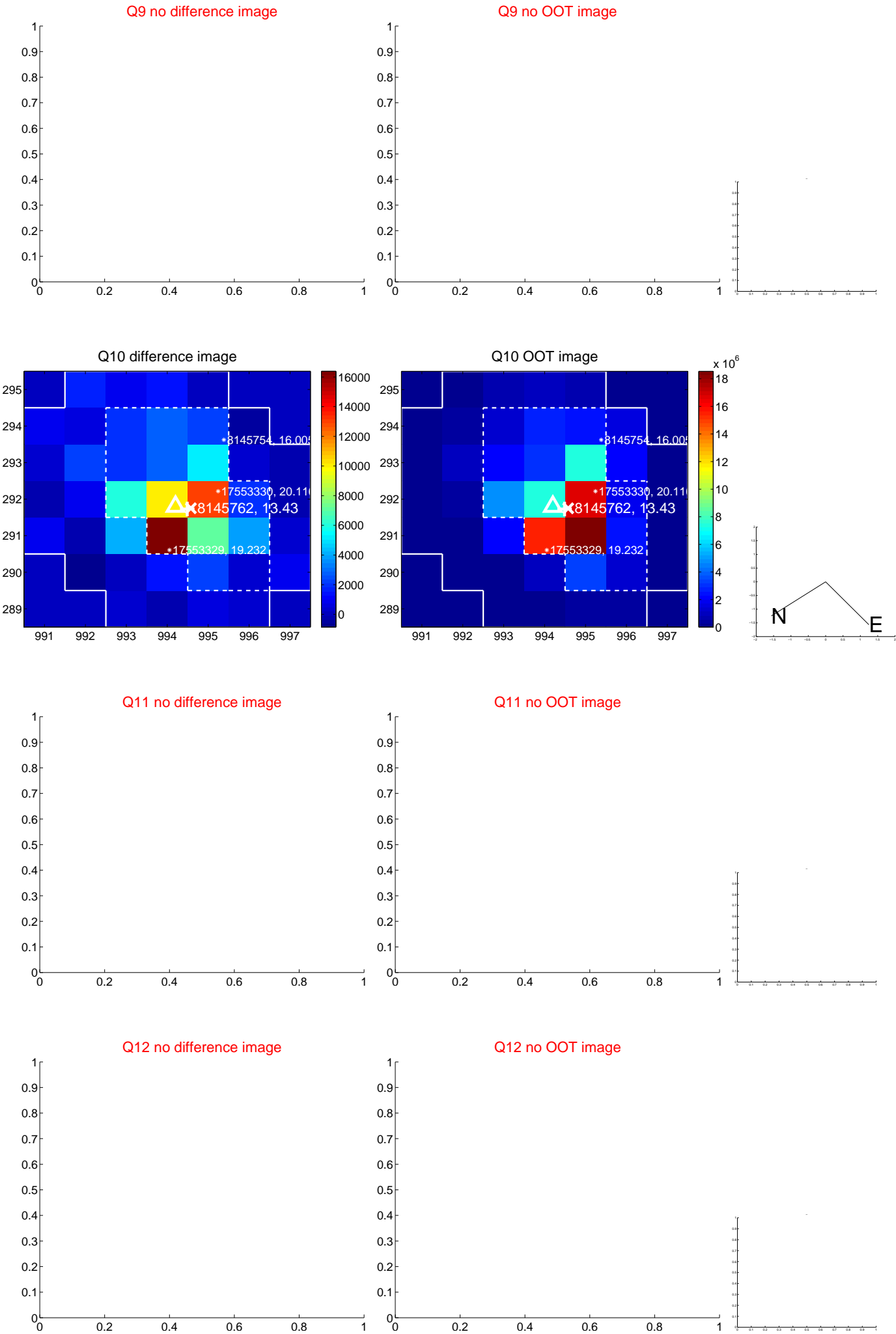




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

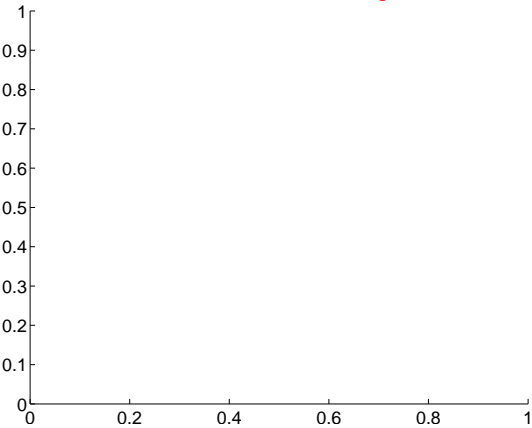


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

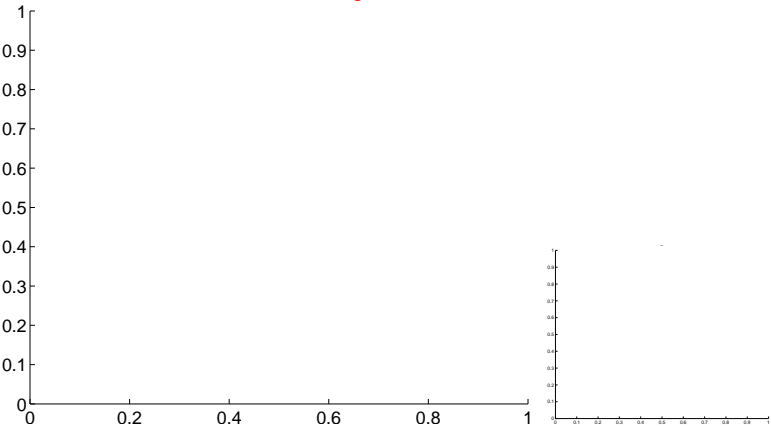


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

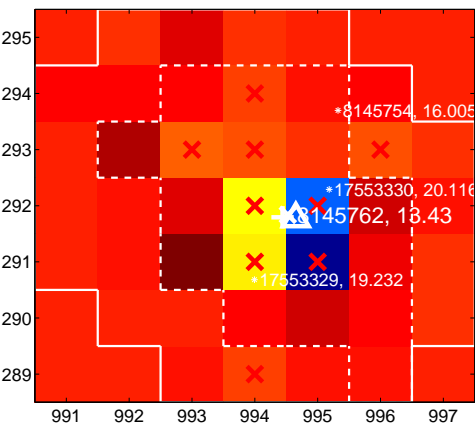
Q13 no difference image



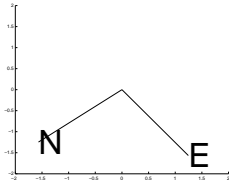
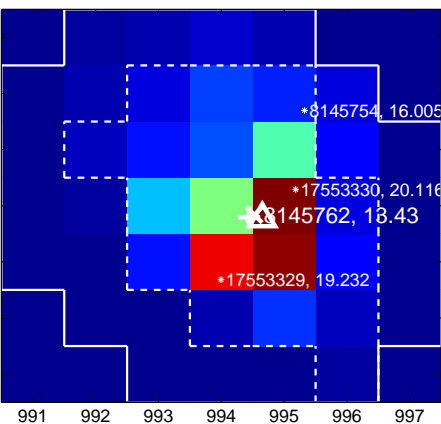
Q13 no OOT image



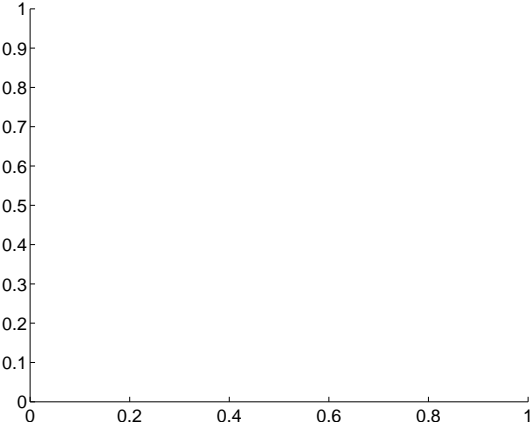
Q14 difference image. Poor Quality



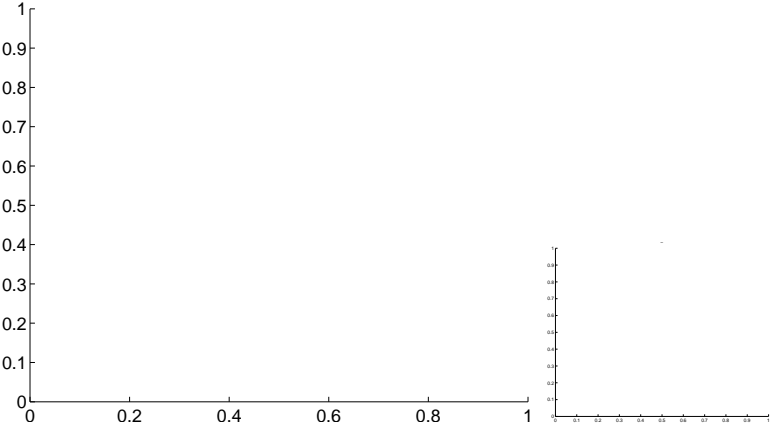
Q14 OOT image



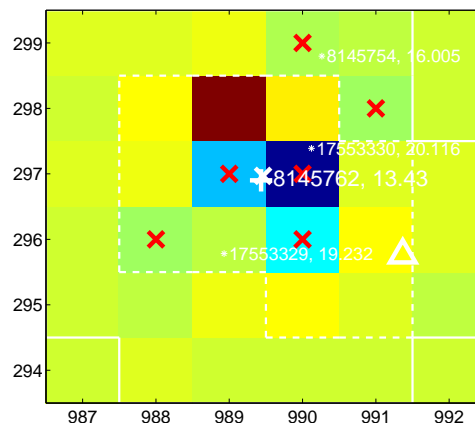
Q15 no difference image



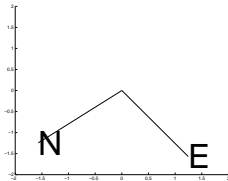
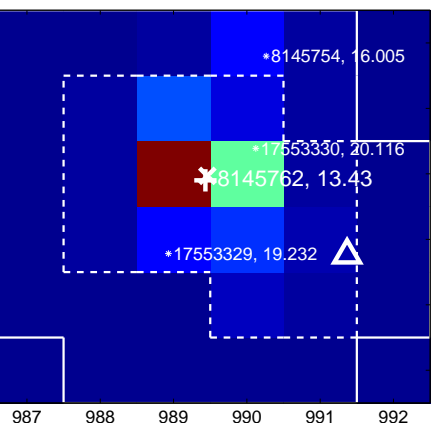
Q15 no OOT image



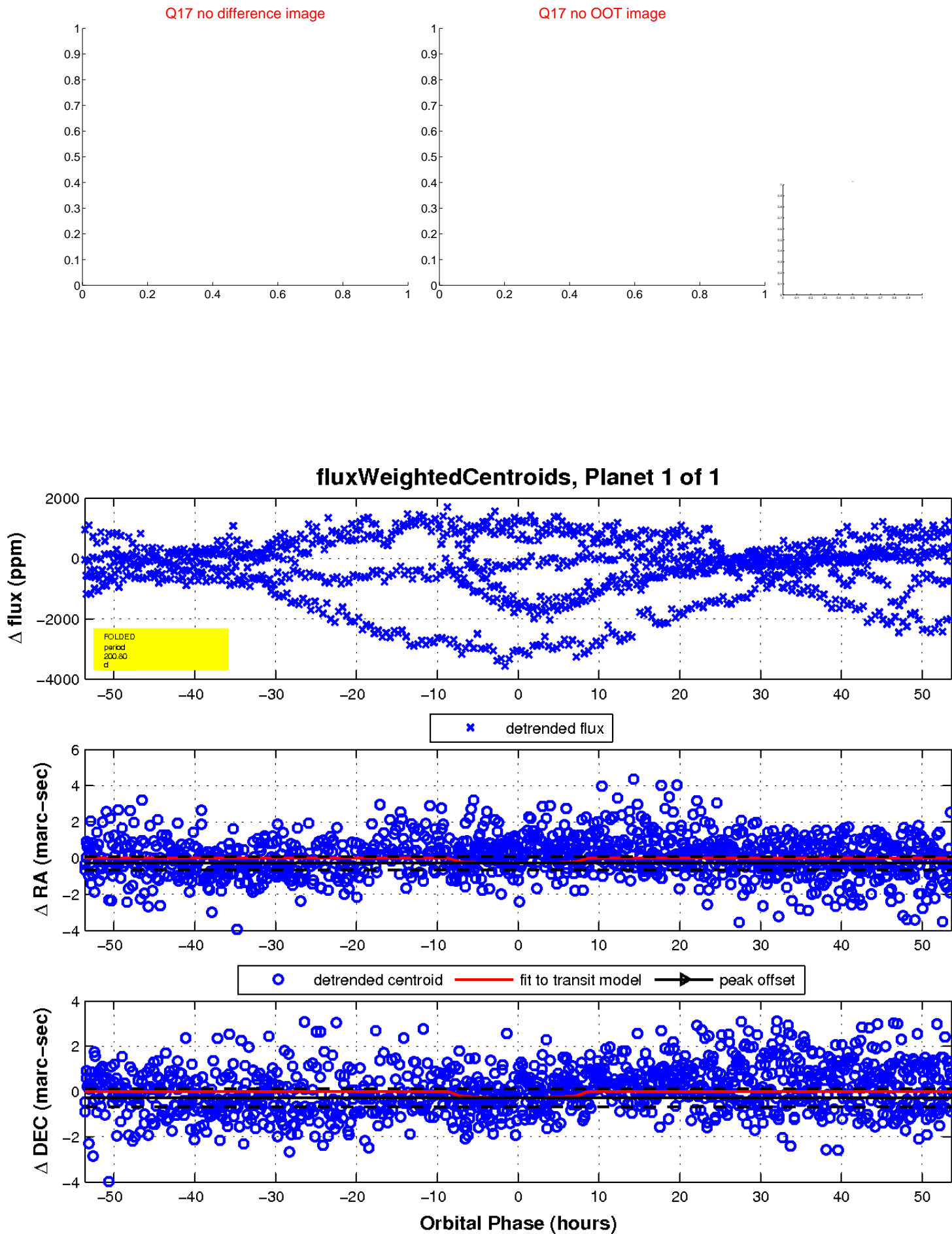
Q16 difference image. Poor Quality



Q16 OOT image



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



UKIRT Image

Declination

