

# KIC 005617255

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 005617255-01 | OBS      | No   | 444.859831    | 236.406793   | 459.8       | 17.289           | 17.3 | 9.4 | 1.29                        | 6575            | 3.61                   | 2.02                   |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments  |
|--------------|----------|------|-------|---|---|---|---|---|
| 005617255-01 | OBS      | FP   | 0.00  | 1 | 0 | 1 | 0 | INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

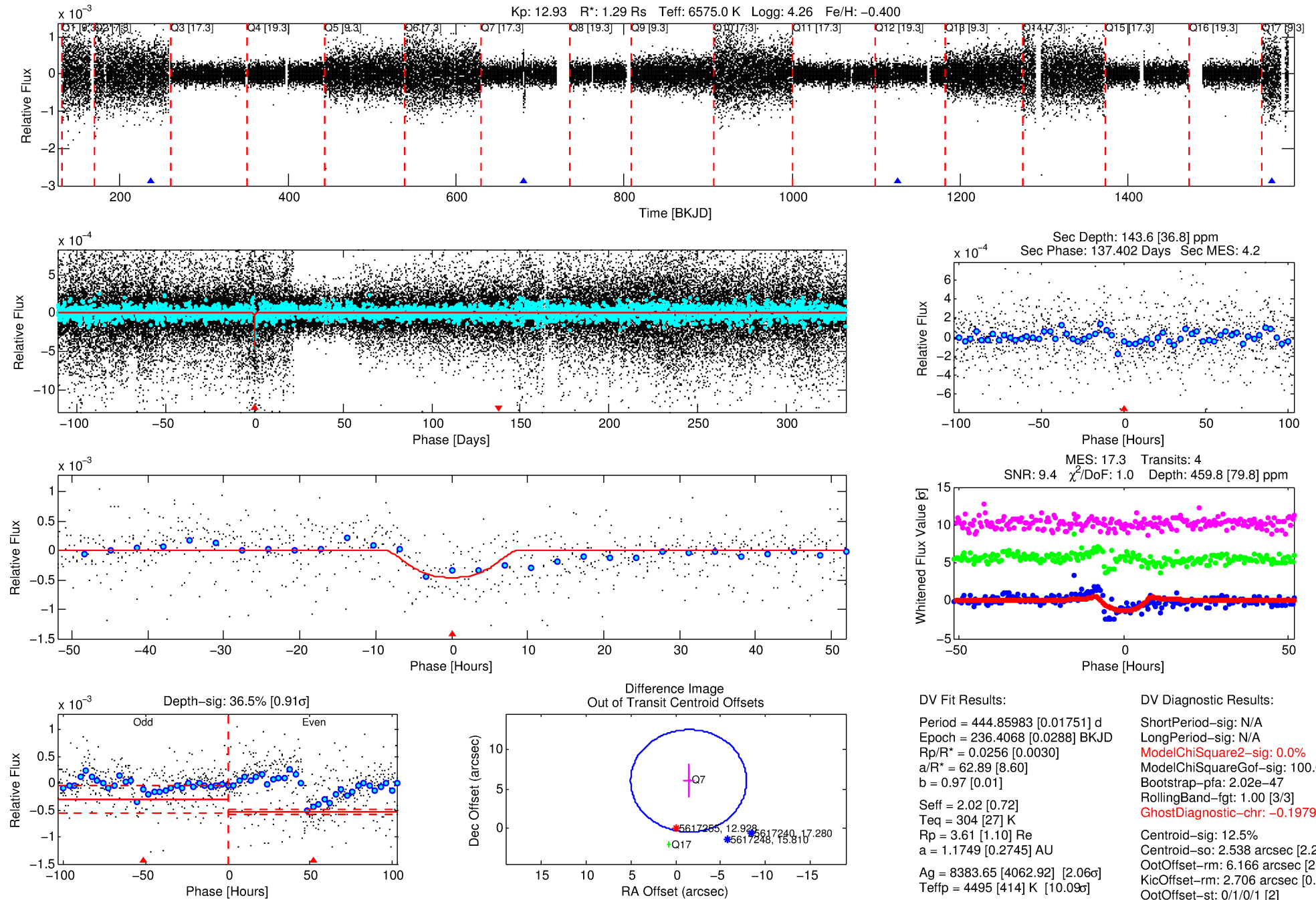
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005617255-01

No Significant Match Found

# DV One-Page Summary

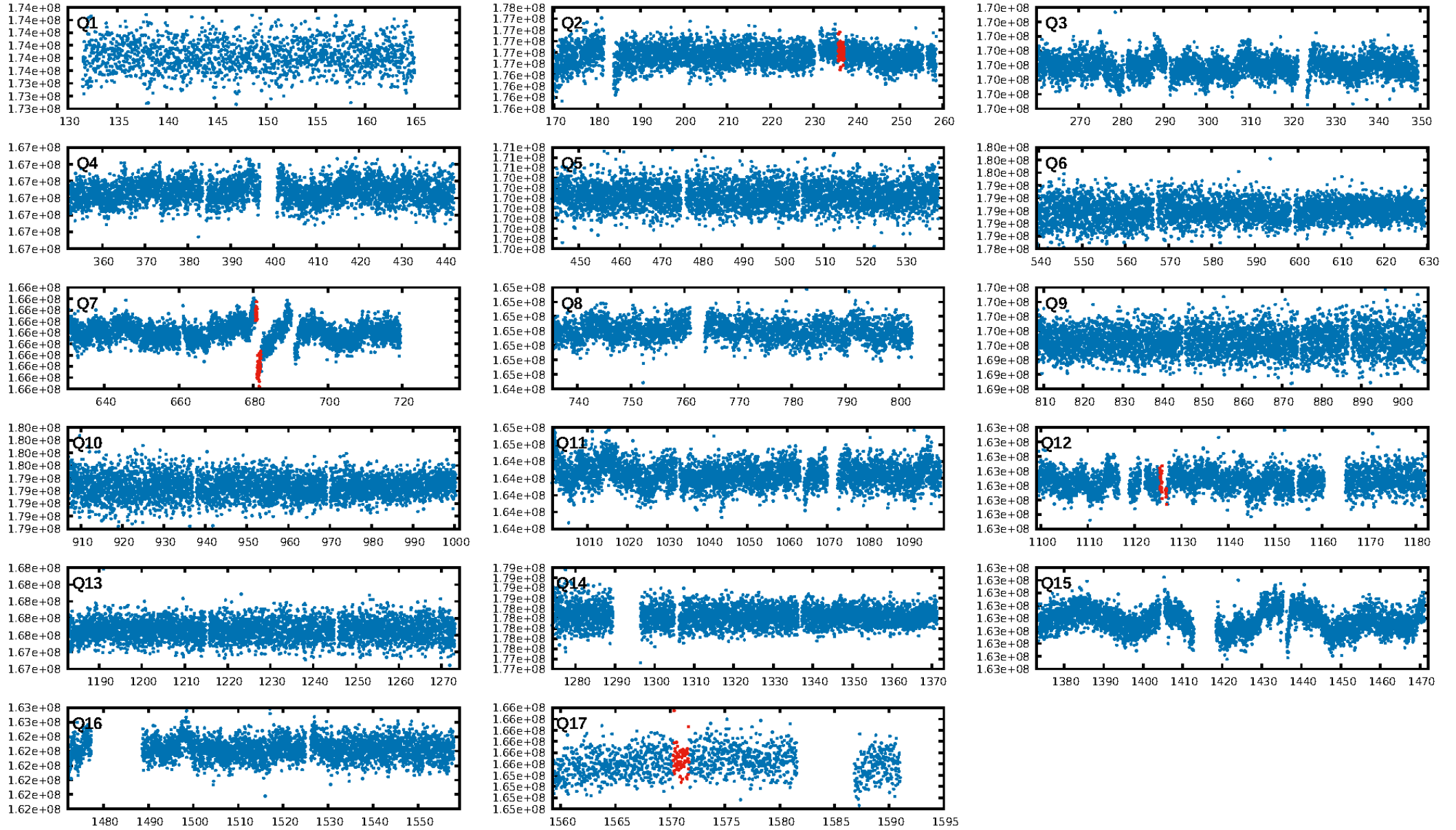
KIC: 5617255 Candidate: 1 of 1 Period: 444.860 d



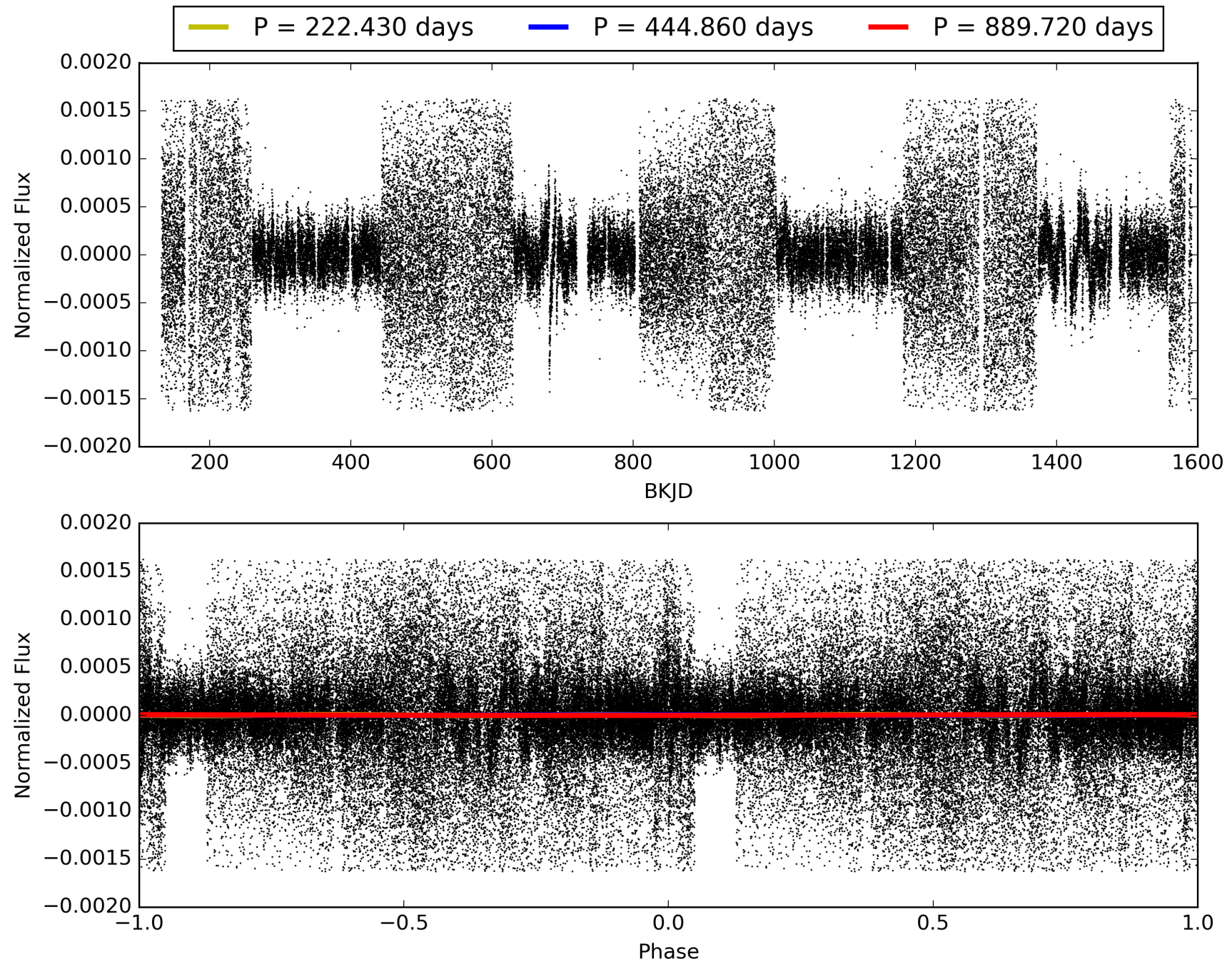
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:44:15 Z

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

# TCE 005617255-01, PDC Light Curves

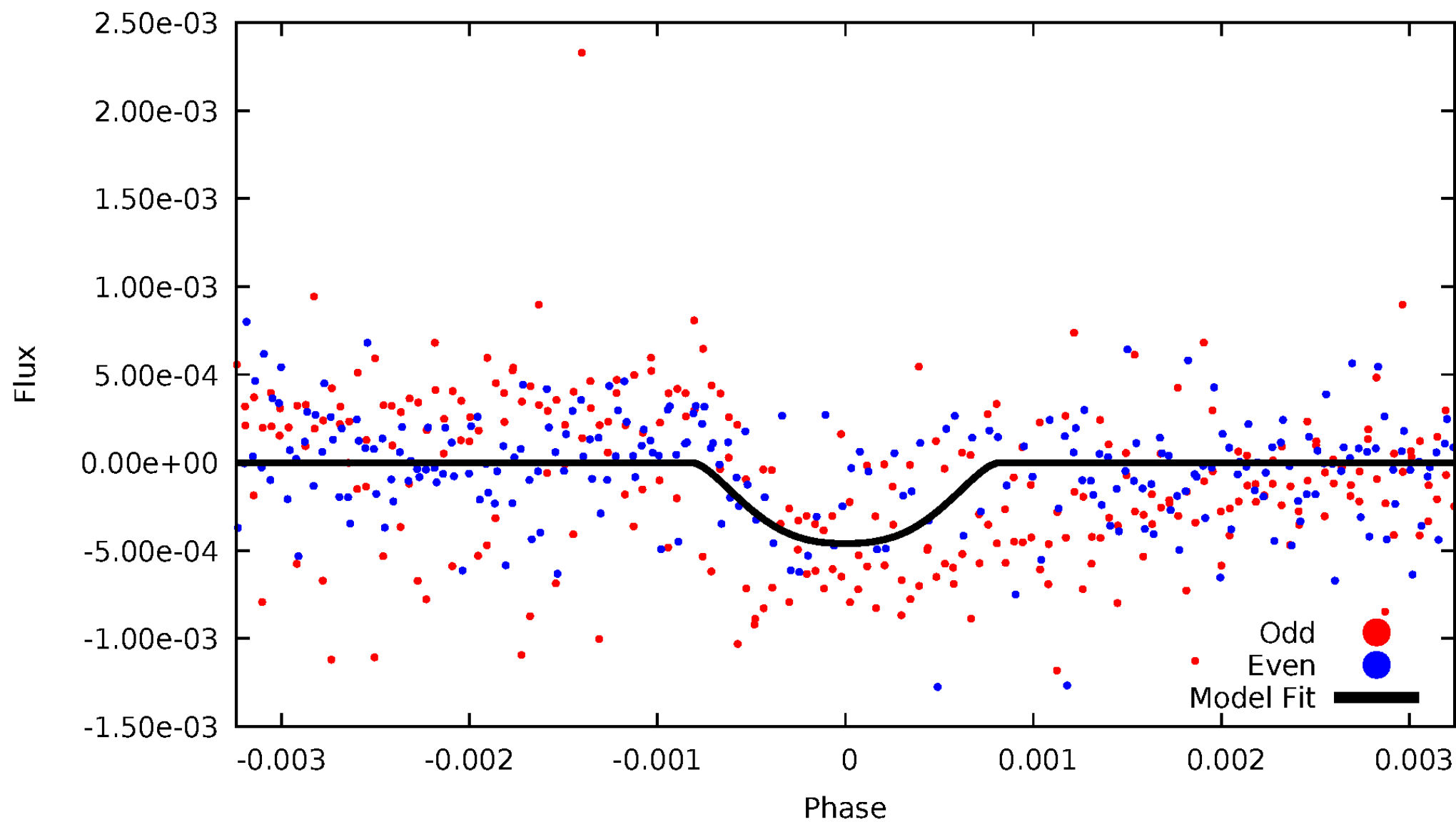


TCE 005617255-01



# DV Odd/Even

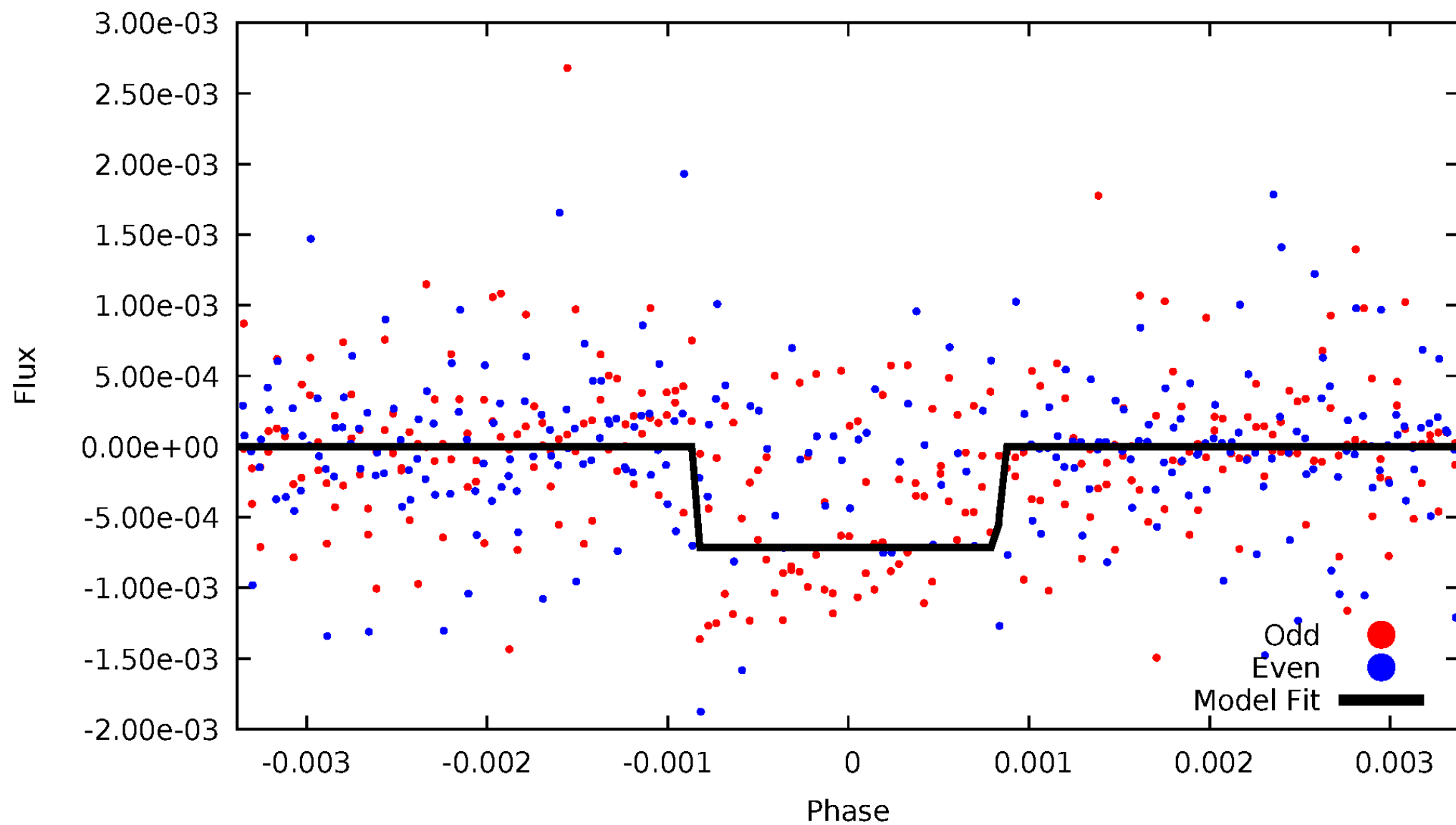
TCE 005617255-01





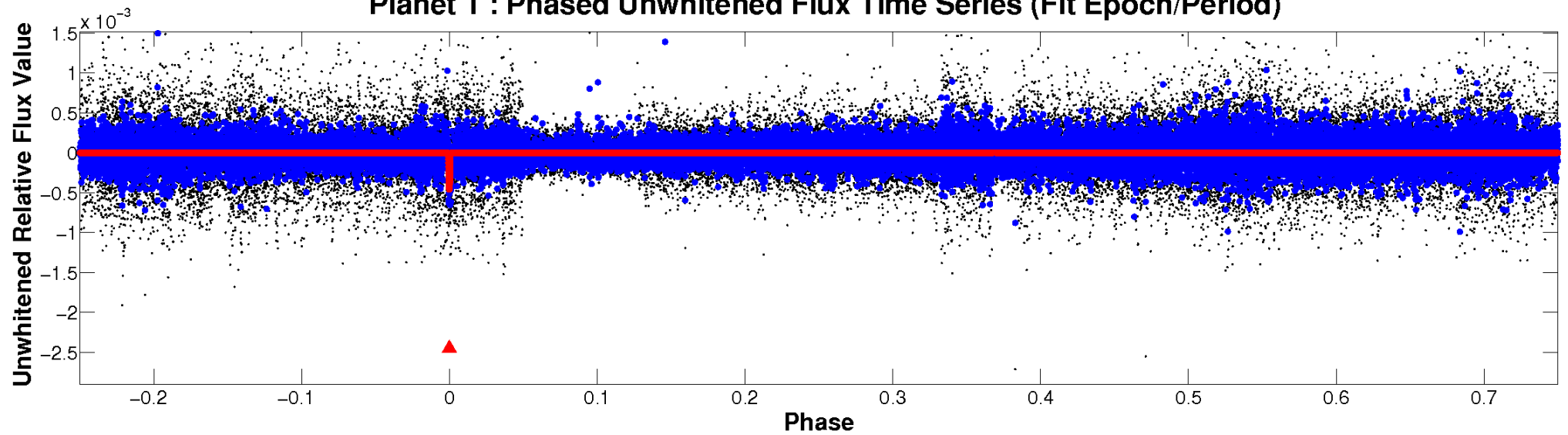
# ALT Odd/Even

TCE 005617255-01

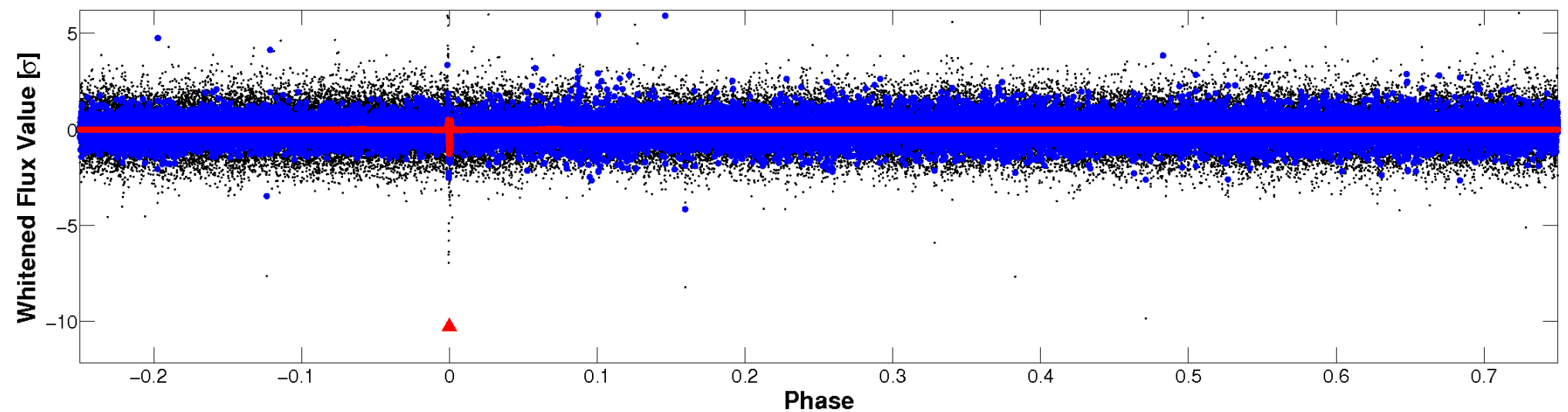


# Non-Whitened Vs. Whitened Light Curve

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

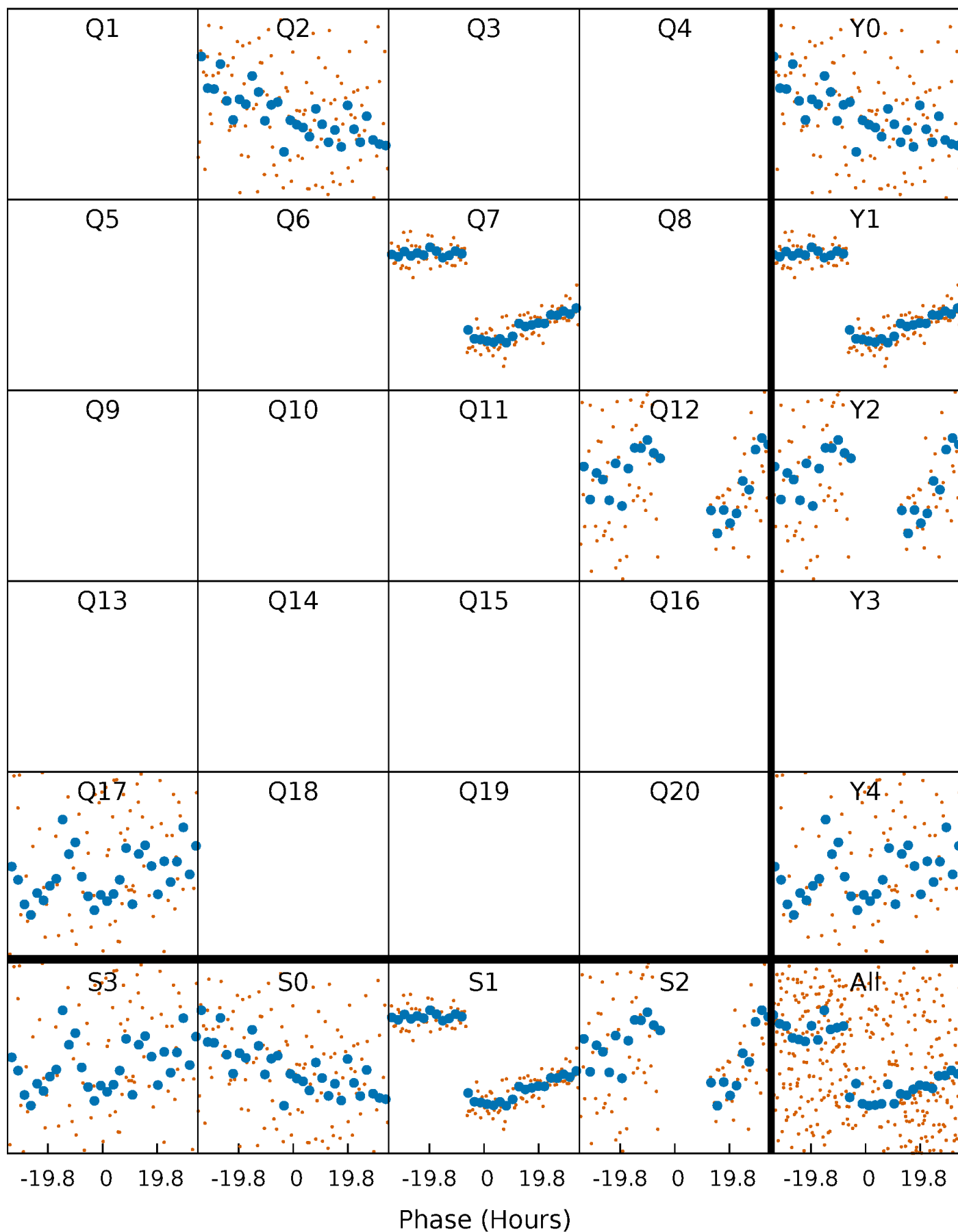


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

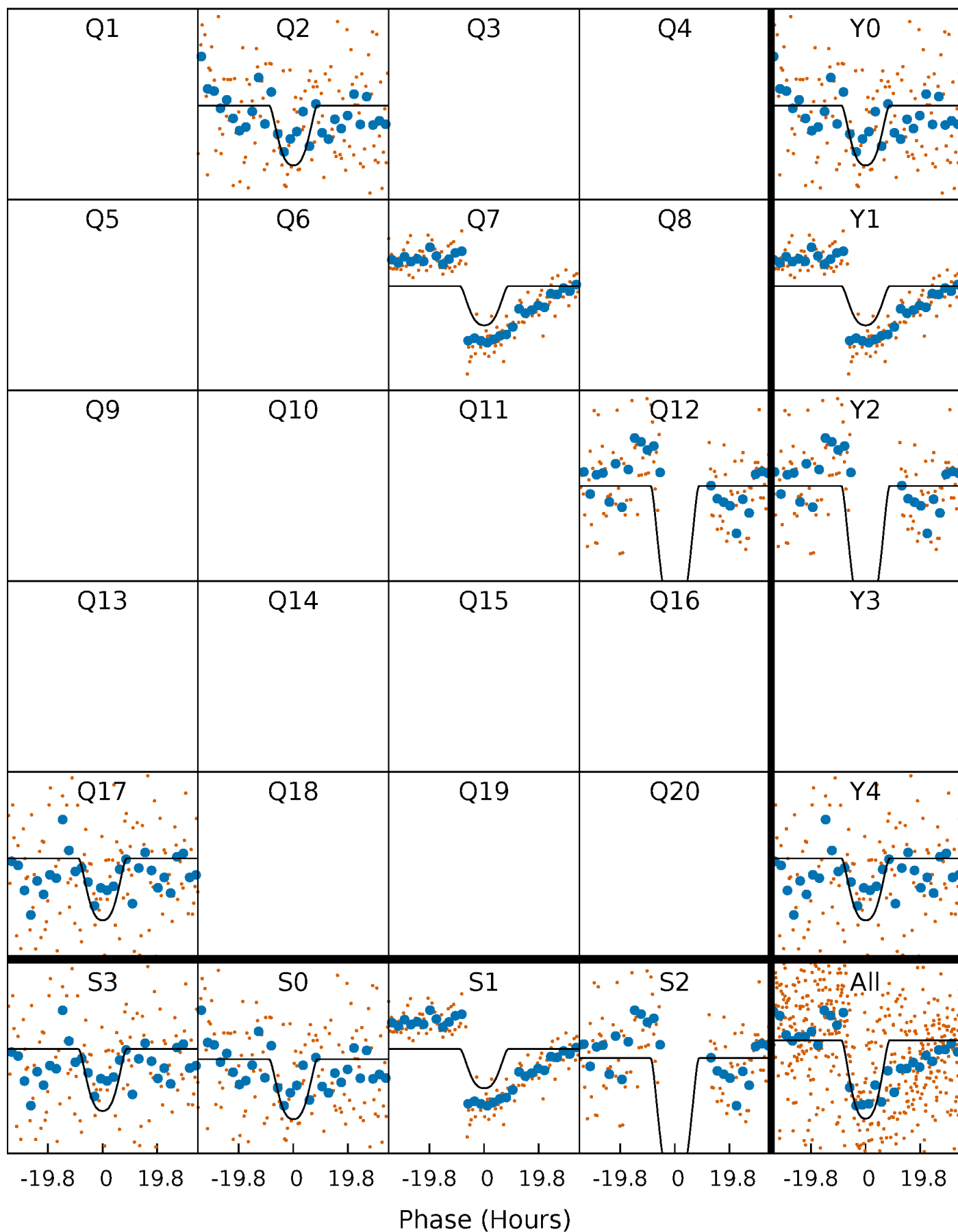
TCE 005617255-01 P=444.859831 Days  $T_0=236.406793$  (BKJD)





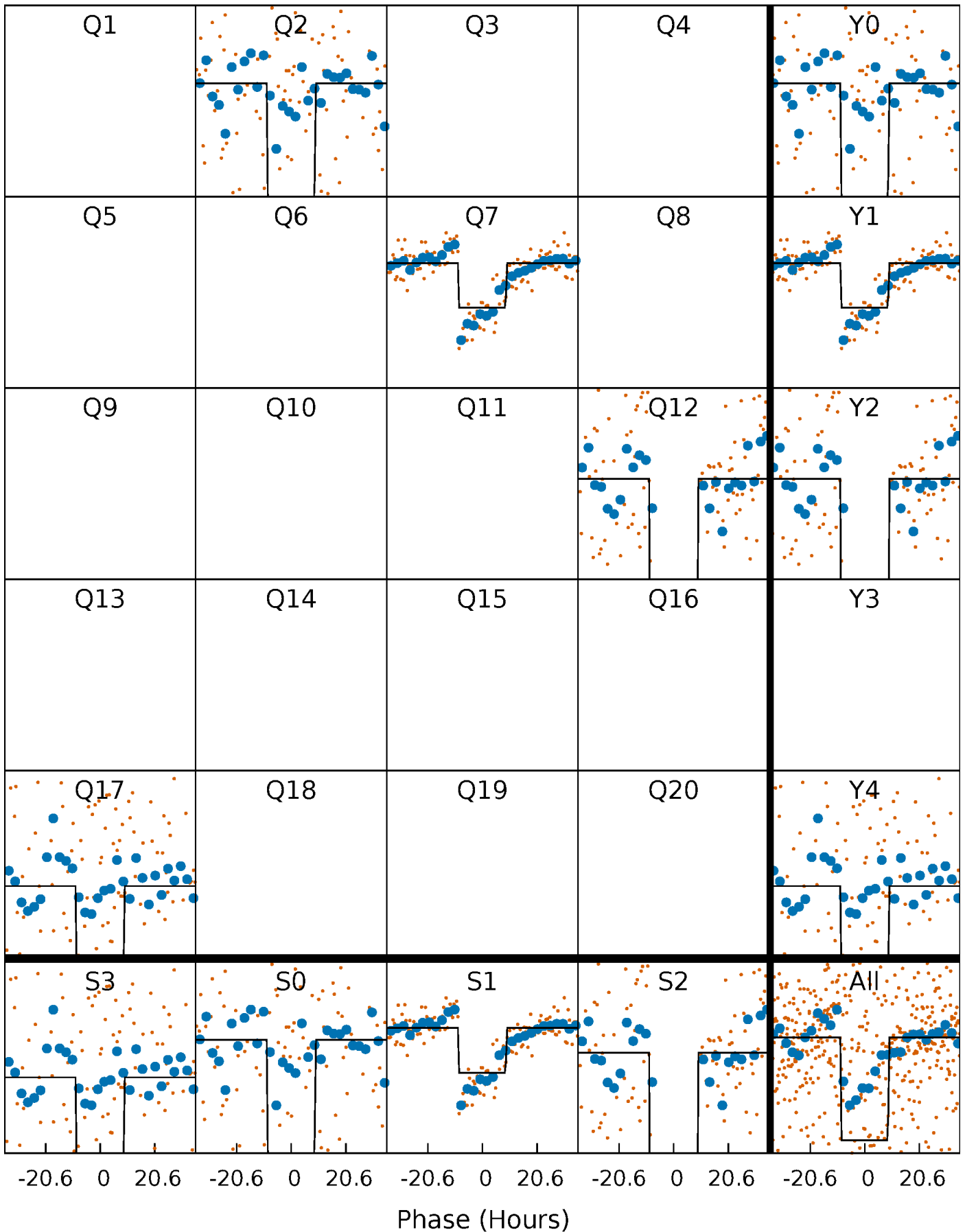
# DV Quarter-Phased Transit Curves

TCE 005617255-01 P=444.859831 Days  $T_0=236.406793$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

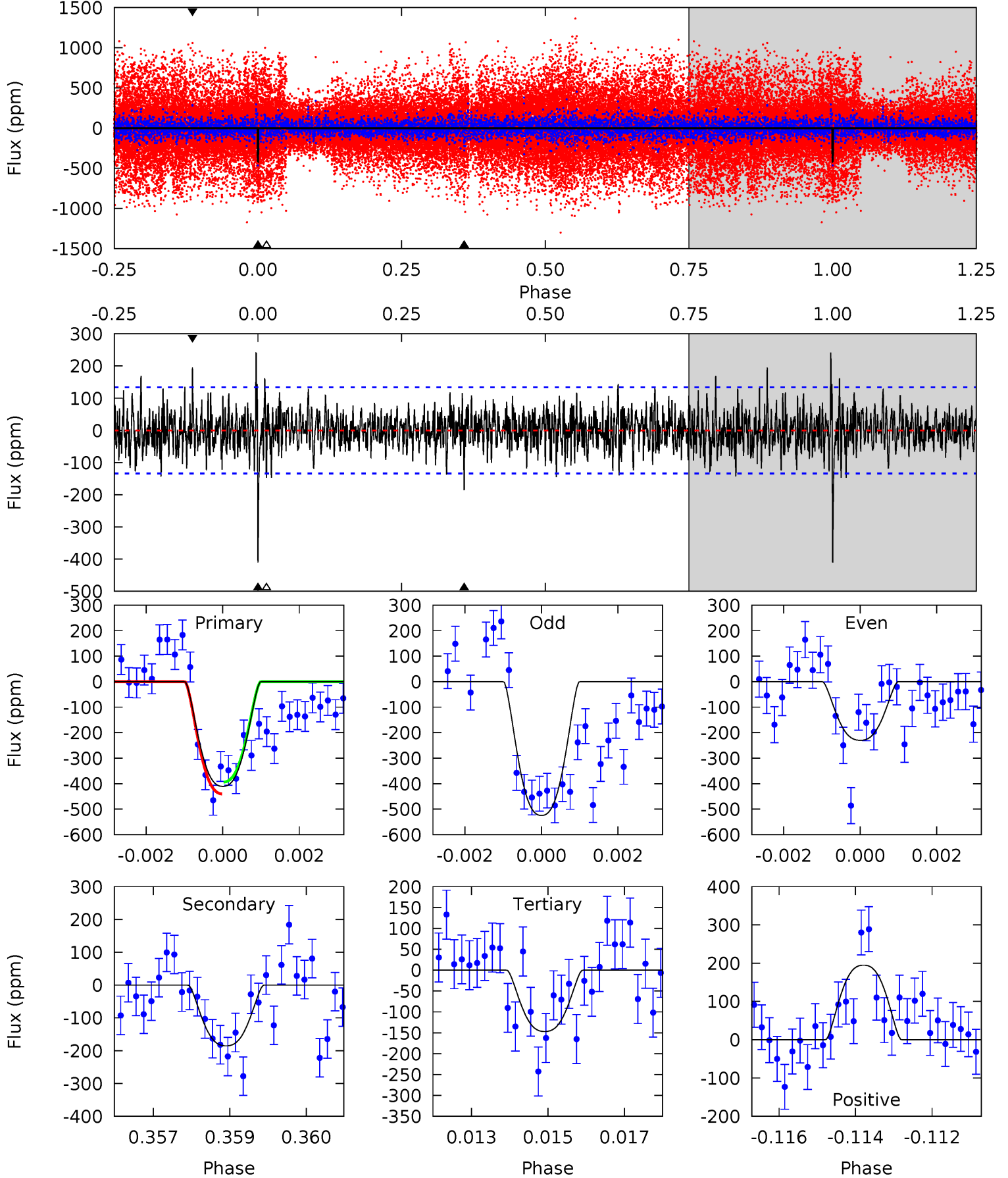
TCE 005617255-01 P=444.838601 Days  $T_0=236.538746$  (BKJD)



# DV Model-Shift Uniqueness Test

005617255-01, P = 444.859831 Days, E = 236.406793 Days

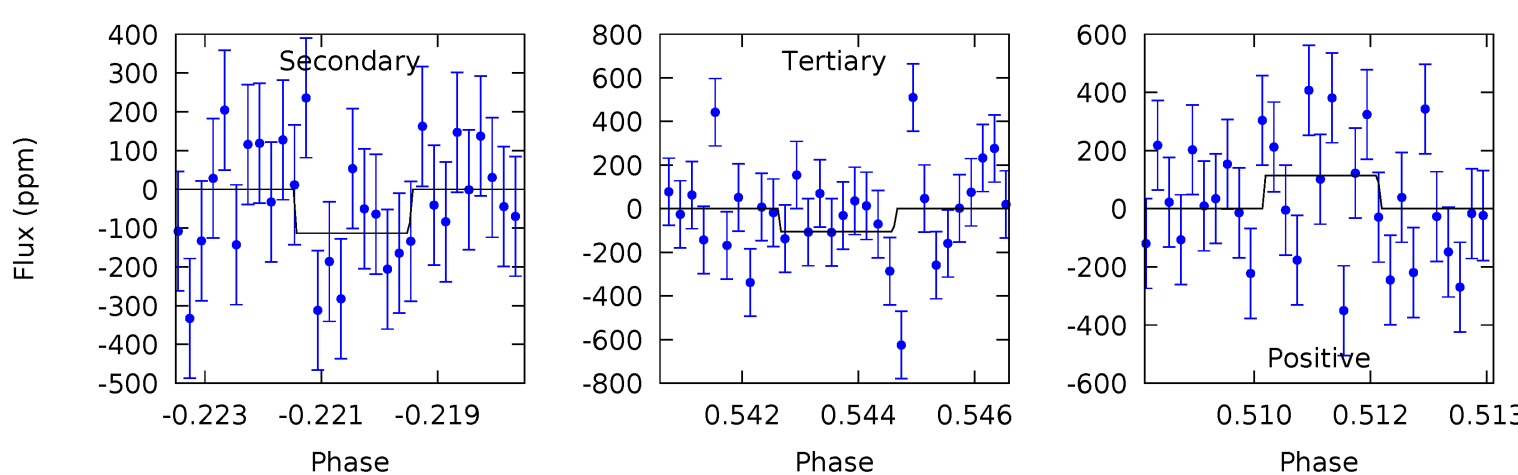
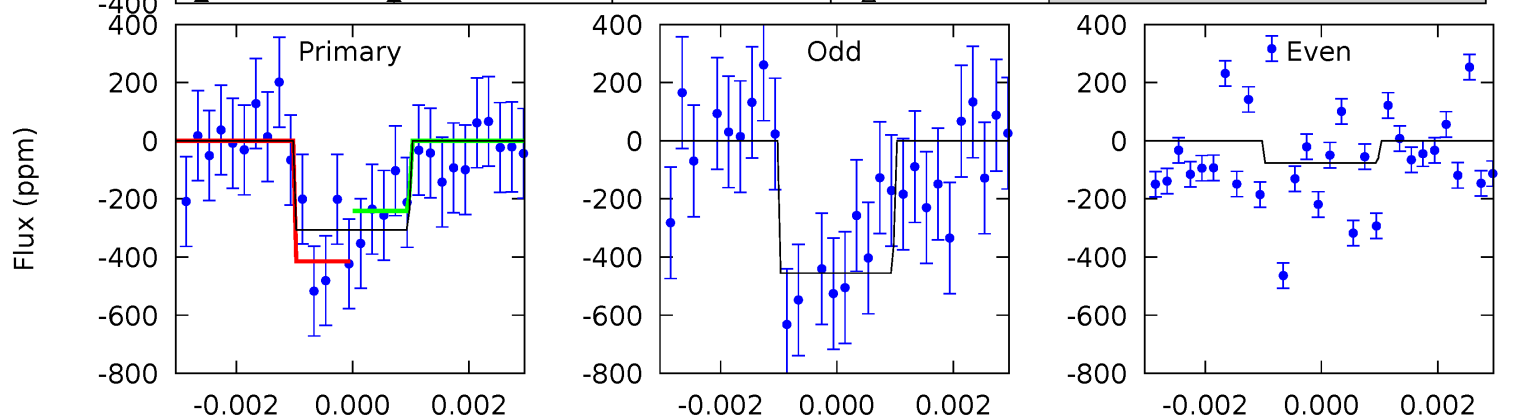
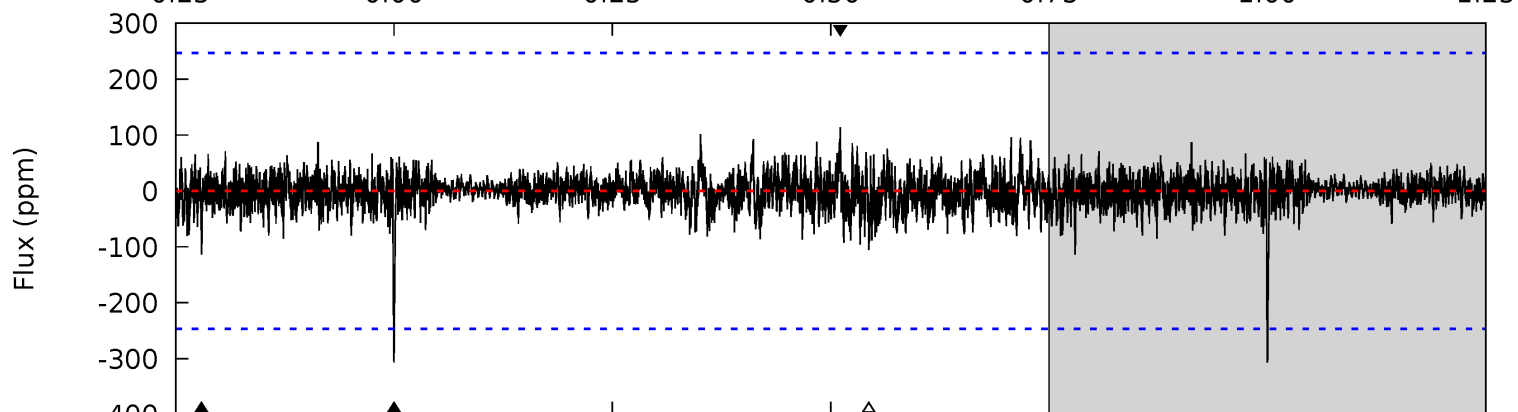
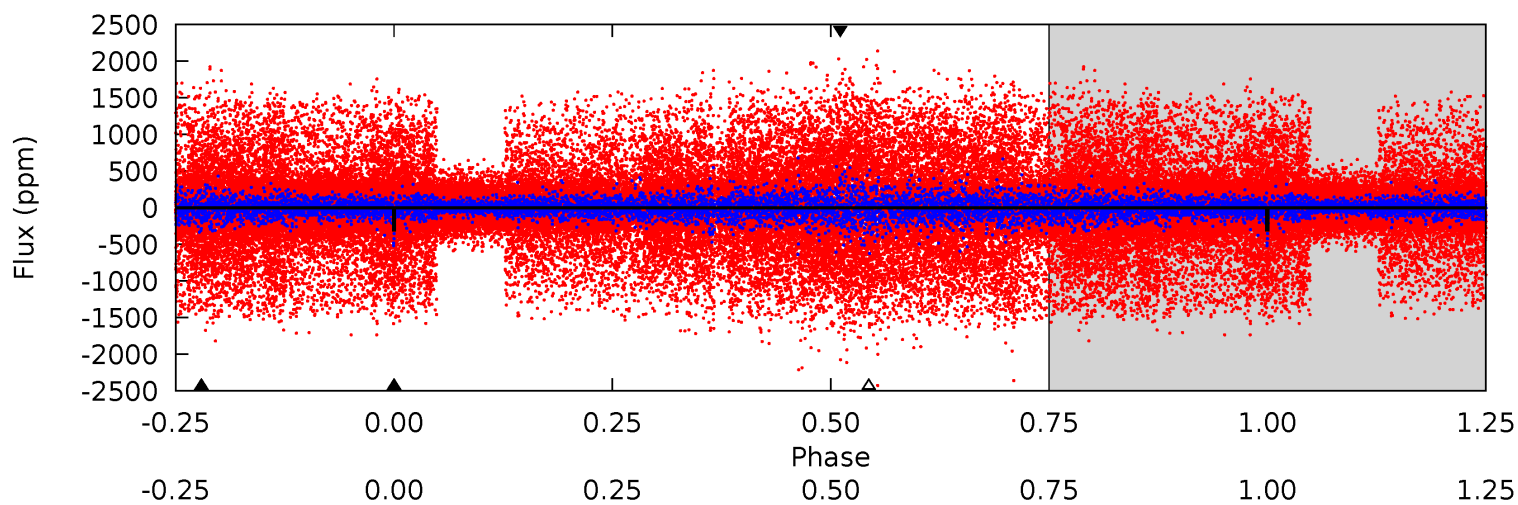
| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 16.5 | 7.43 | 5.90 | 7.82 | 5.36            | 3.15            | 1.88             | 10.6    | 8.65    | 1.54    | -0.38   | 5.60    | 1.02 | 0.37  | 0.95 |



# Alt Model-Shift Uniqueness Test

005617255-01, P = 444.838601 Days, E = 236.538746 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  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.67 | 2.46 | 2.29 | 2.48 | 5.36            | 3.14            | 0.52             | 4.38    | 4.19    | 0.17    | -0.02   | 3.76    | 2.64 | 0.27  | 1.91 |



### Stellar Parameters For KIC 005617255

|        | $T_{\text{eff}} (K)$ | $\log(g)$                 | $[\text{Fe}/\text{H}]$     | $R (R_{\odot})$           | $M (M_{\odot})$           | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
|        | $6575^{+147}_{-196}$ | $4.256^{+0.149}_{-0.182}$ | $-0.400^{+0.250}_{-0.300}$ | $1.289^{+0.362}_{-0.241}$ | $1.093^{+0.160}_{-0.131}$ | $0.719^{+0.512}_{-0.346}$                 |
|        | +2%/-3%              | +4%/-4%                   | +62%/-75%                  | +28%/-19%                 | +15%/-12%                 | +71%/-48%                                 |
| 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 005617255-01 / KOI

| Detrend | Depth (ppm)   | $R_p (R_{\oplus})$     | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | $A_{\text{obs}}$        |
|---------|---------------|------------------------|----------------------|----------------------|-------------------------|
| DV      | $-185 \pm 25$ | $3.64^{+0.65}_{-0.58}$ | $425^{+27}_{-25}$    | $4884^{+329}_{-283}$ | $10615^{+4961}_{-3044}$ |
| Alt.    | $-113 \pm 46$ | $3.82^{+0.70}_{-0.55}$ | $426^{+30}_{-25}$    | $4347^{+379}_{-440}$ | $5727^{+3500}_{-2618}$  |

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

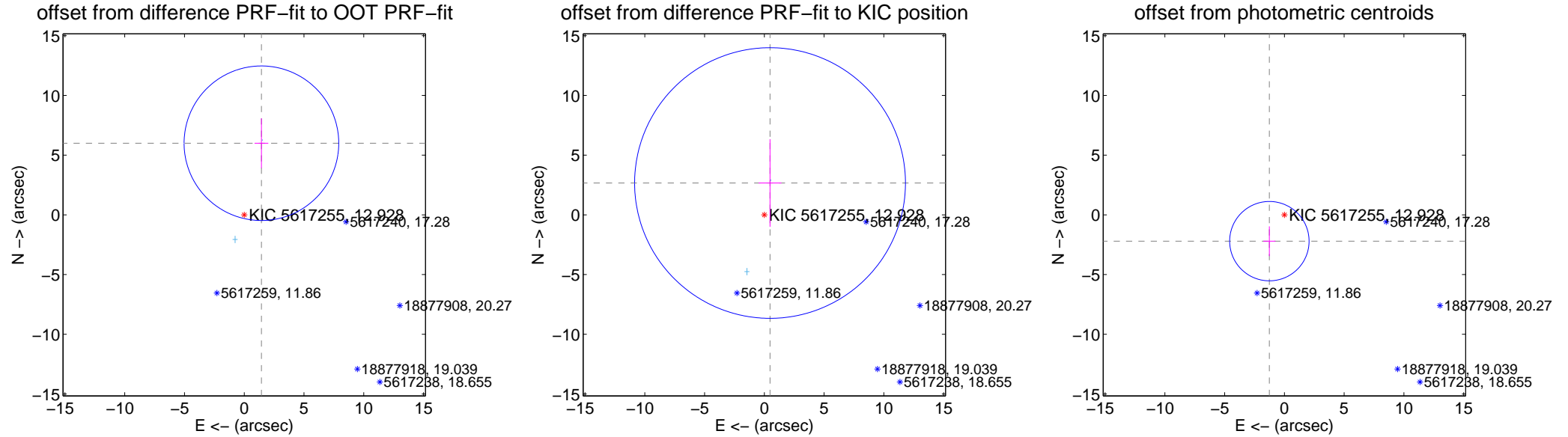
## DV Centroid Data

Supplemental centroid analysis for 005617255-01. Kepler magnitude: 12.93. Transit SNR 9.45

There are 2 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 2.77 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

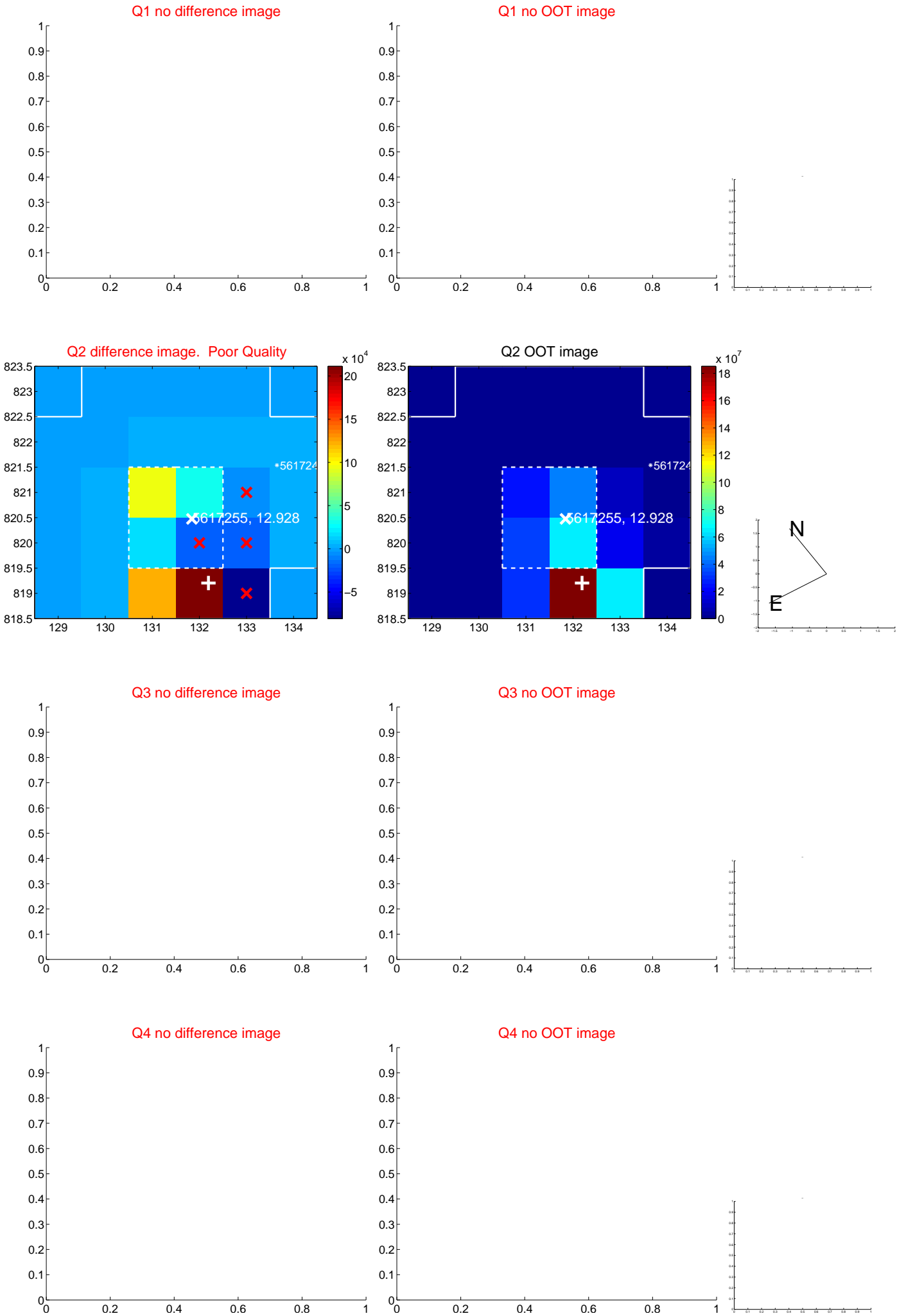
|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA        | $\Delta$ Dec      |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT          | $6.166 \pm 2.157$  | 2.86                | $-1.437 \pm 0.573$ | $5.996 \pm 2.082$ |
| PRF-fit source offset from KIC position | $2.706 \pm 3.777$  | 0.72                | $-0.478 \pm 0.956$ | $2.664 \pm 3.666$ |
| photometric centroid source offset      | $2.54 \pm 1.11$    | 2.29                | $1.26 \pm 0.51$    | $-2.20 \pm 1.24$  |



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.

Q5 no difference image



Q5 no OOT image



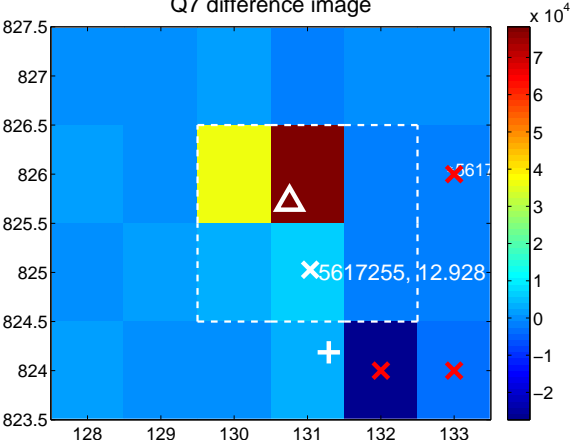
Q6 no difference image



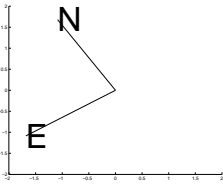
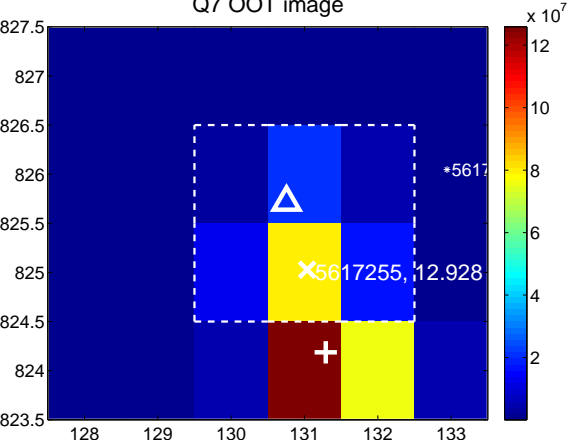
Q6 no OOT image



Q7 difference image



Q7 OOT image



Q8 no difference image



Q8 no OOT image



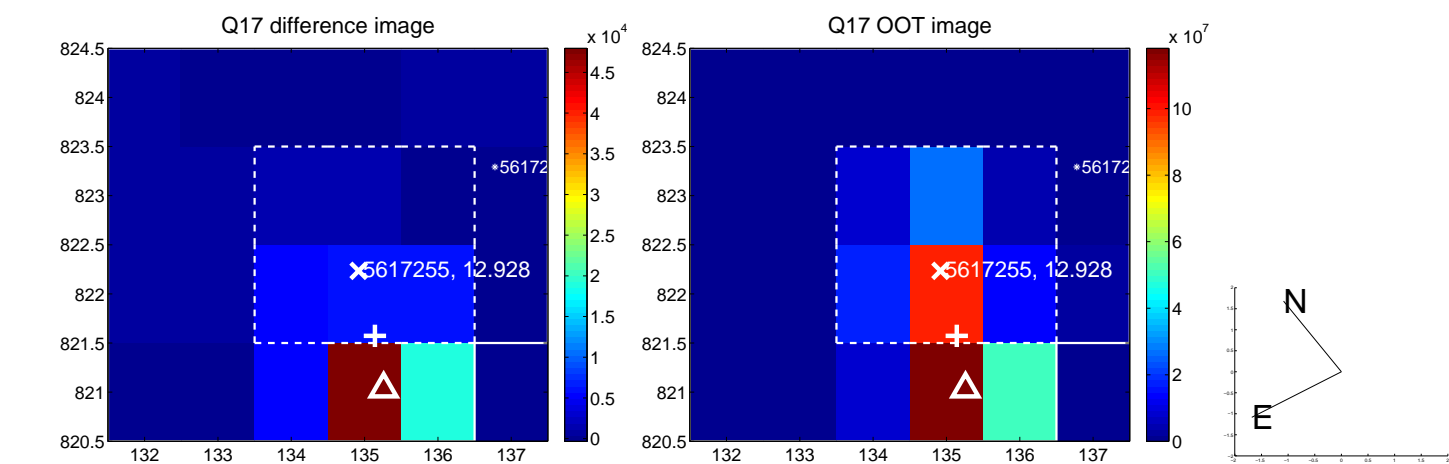
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



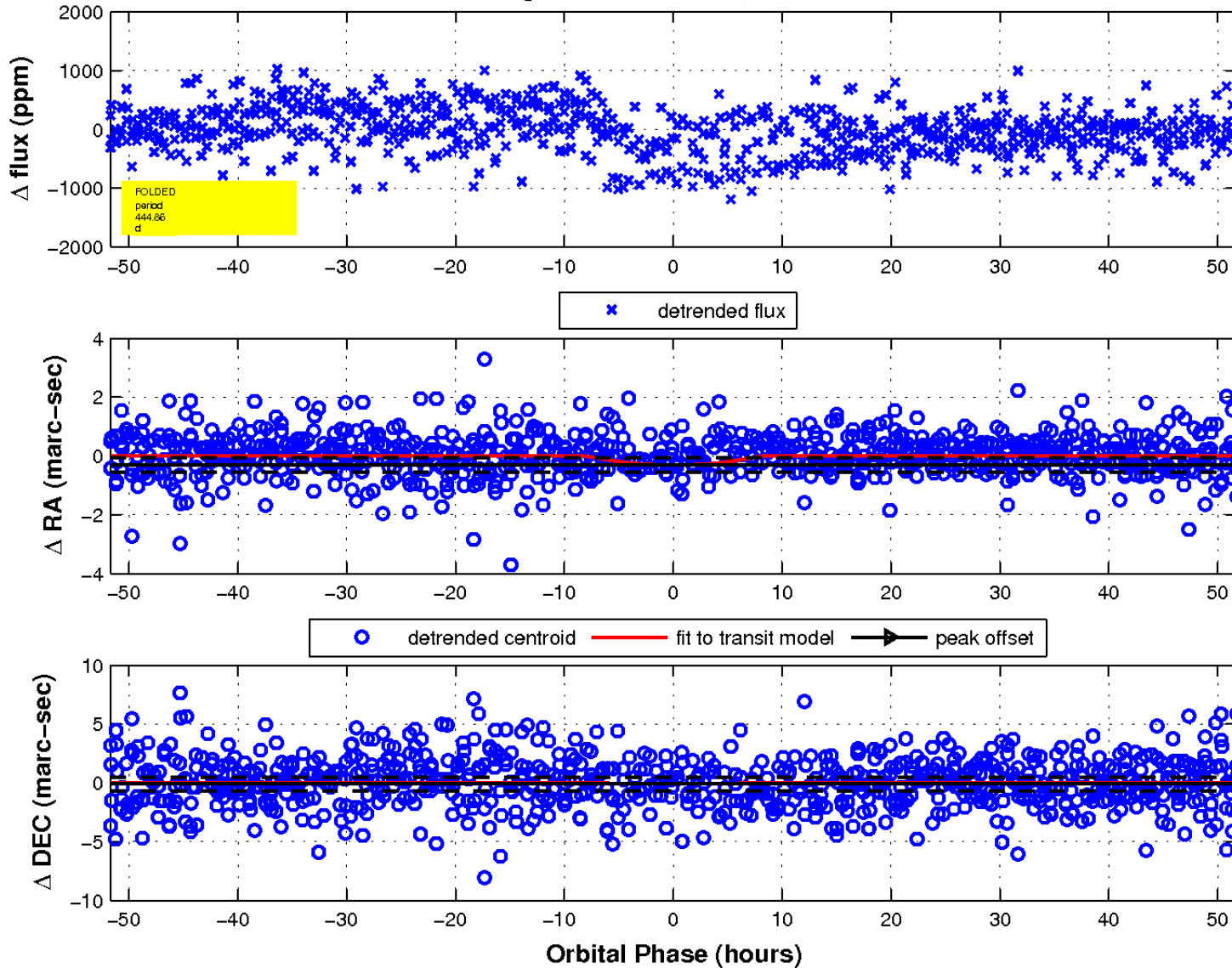
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

