

# KIC 010817600

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 010817600-01 | OBS      | 5832.01 | 2.747076      | 131.782527   | 104.8       | 1.826            | 26.0 | 28.7 | 3.13                        | 8237            | 3.74                   | 17147.82               |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments             |
|--------------|----------|------|-------|---|---|---|---|----------------------|
| 010817600-01 | OBS      | FP   | 0.00  | 0 | 0 | 1 | 0 | CENT_RESOLVED_OFFSET |

**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 010817600-01

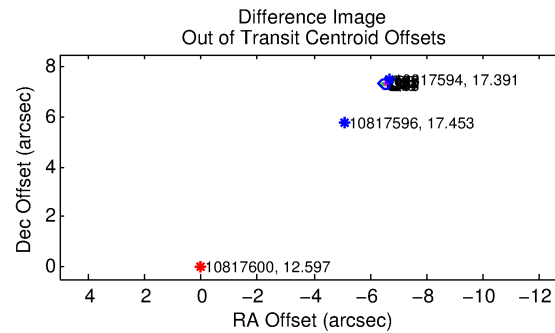
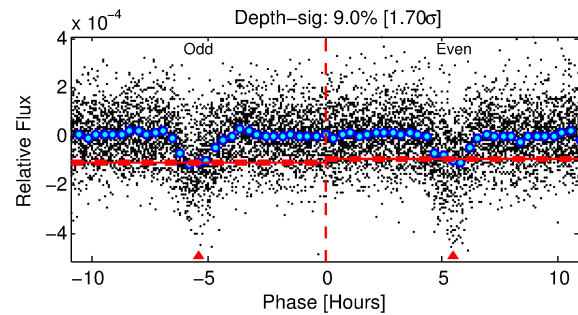
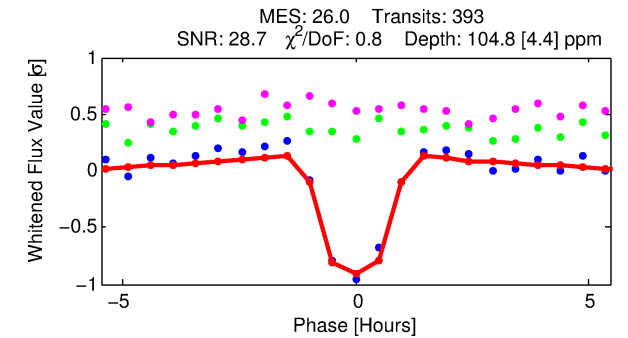
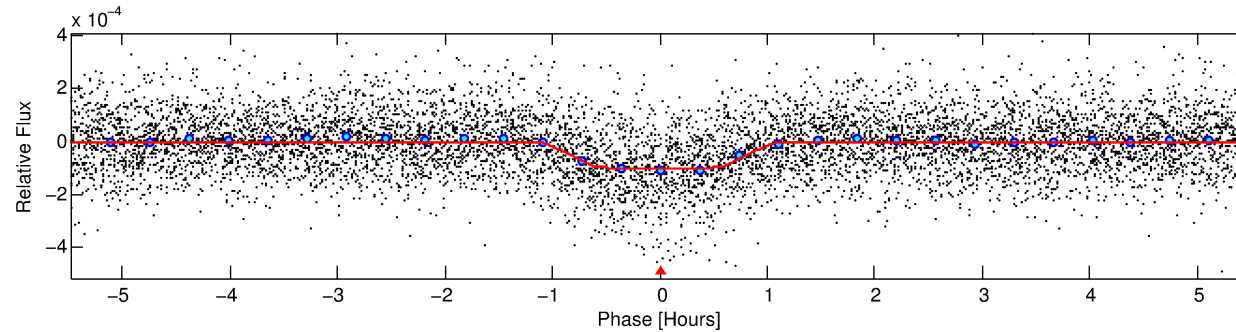
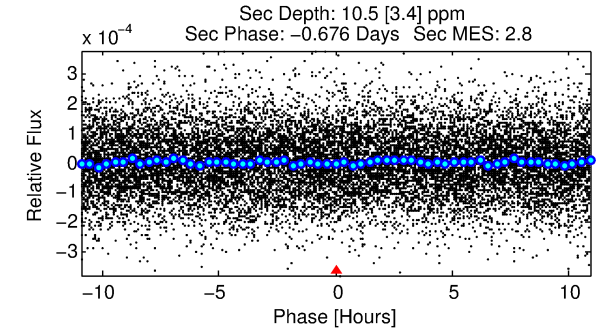
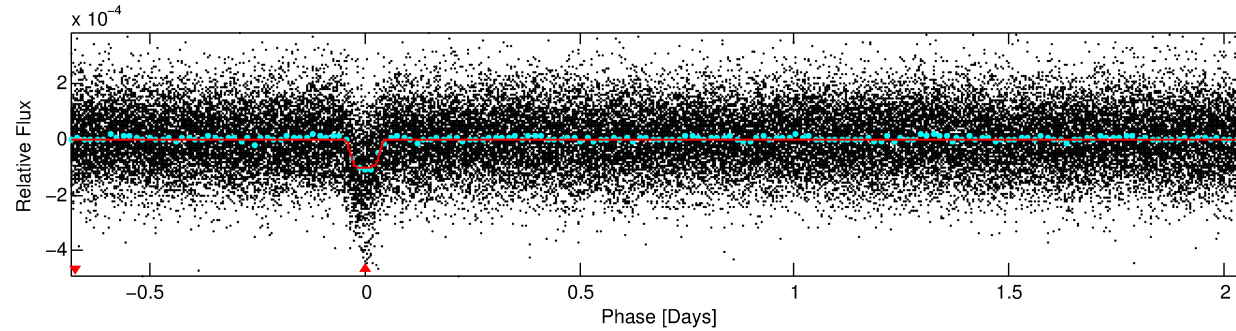
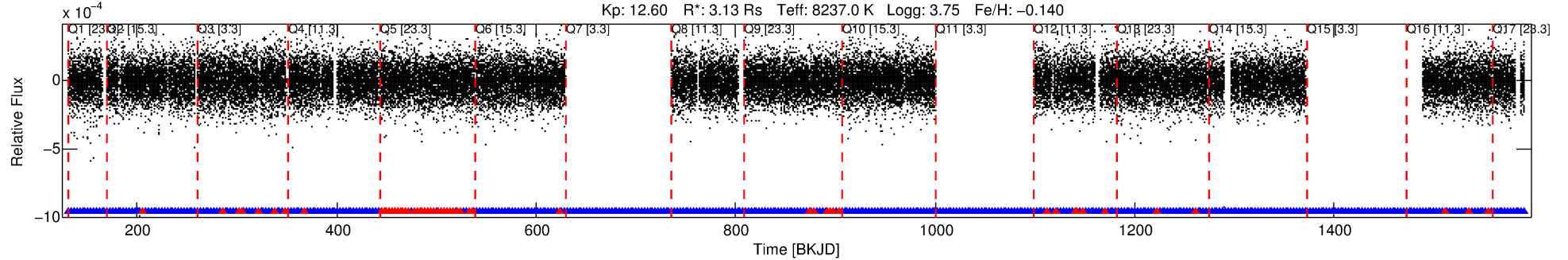
No Significant Match Found

# DV One-Page Summary

KIC: 10817600 Candidate: 1 of 1 Period: 2.747 d

KOI: K05832.01 Corr: 0.839

Kp: 12.60 R\*: 3.13 Rs Teff: 8237.0 K Logg: 3.75 Fe/H: -0.140



## DV Fit Results:

Period = 2.74708 [0.00001] d  
Epoch = 131.7825 [0.0010] BKJD  
Rp/R\* = 0.0109 [0.0020]  
a/R\* = 5.35 [5.84]  
b = 0.90 [0.24]  
Seff = 17147.82 [13396.67]  
Teq = 2918 [570] K  
Rp = 3.74 [1.89] Re  
a = 0.0486 [0.0227] AU  
Ag = 0.98 [0.88] [-0.03σ]  
Teff = 4484 [578] K [1.93σ]

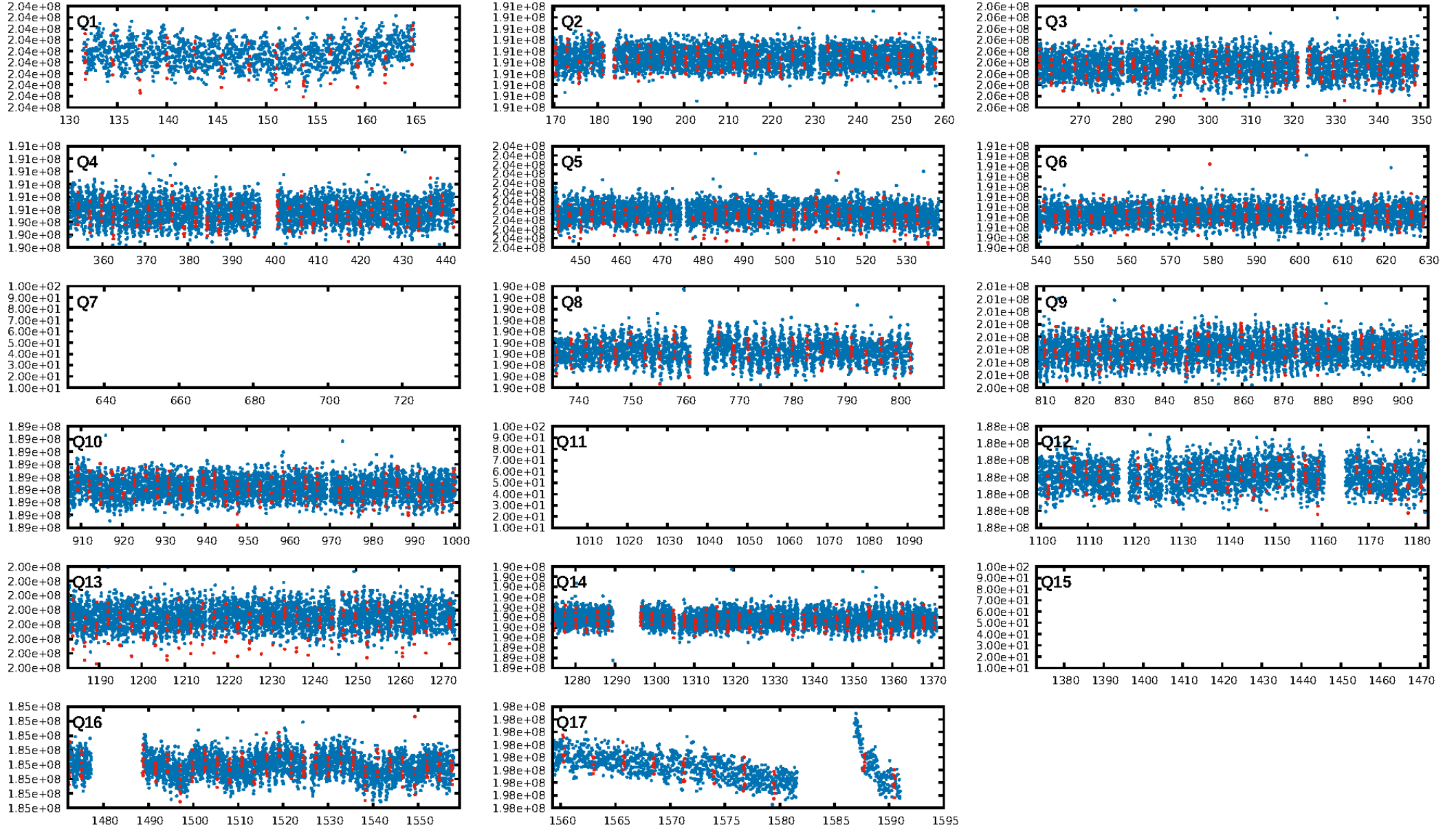
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.09e-144  
RollingBand-fgt: 0.85 [315/370]  
GhostDiagnostic-chr: -0.3594  
Centroid-sig: 0.0%  
Centroid-so: 68.602 arcsec [158.72σ]  
OotOffset-rm: 9.807 arcsec [140.10σ]  
KicOffset-rm: 9.806 arcsec [139.99σ]  
OotOffset-st: 4/1/4/5 [14]  
KicOffset-st: 4/1/4/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

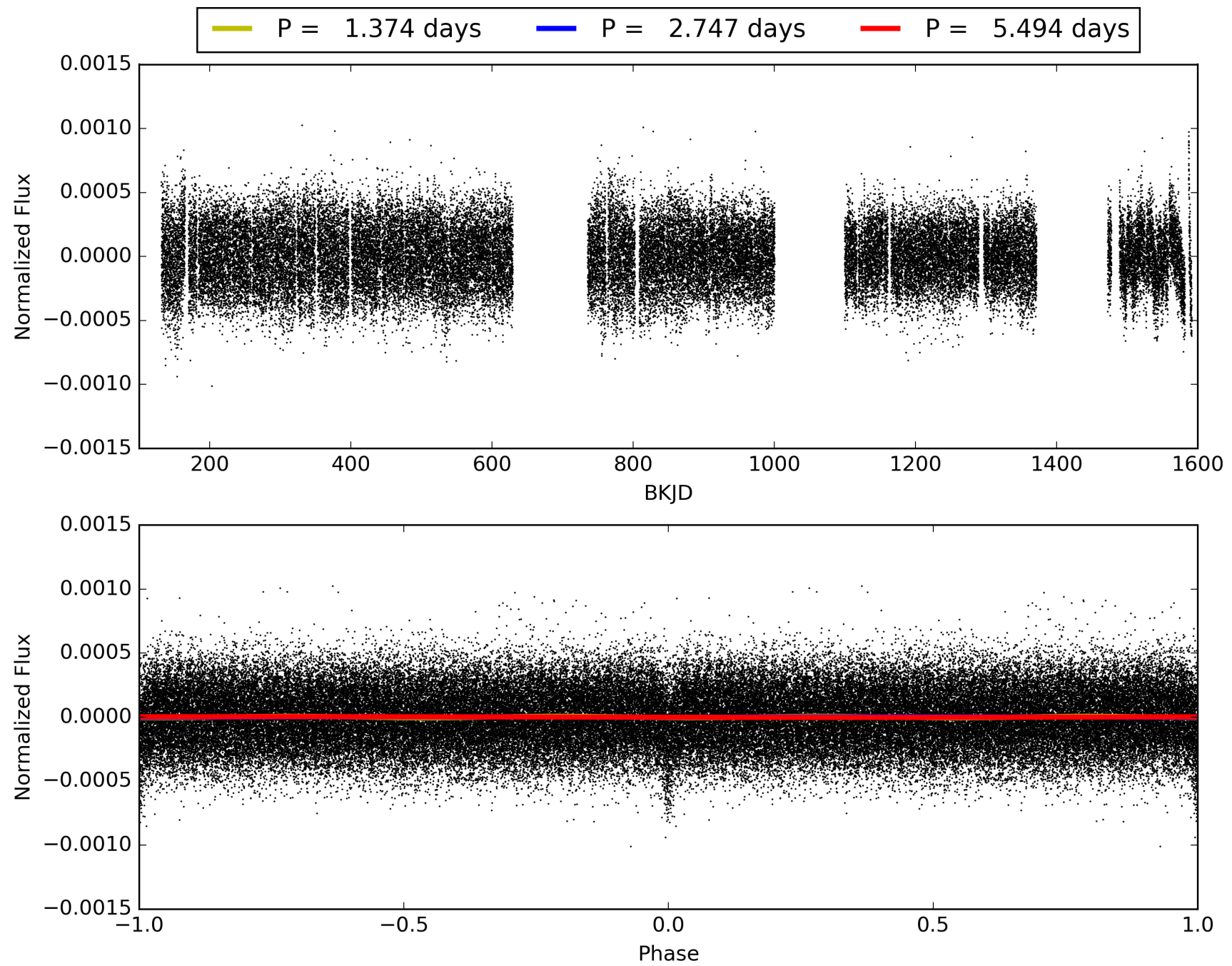
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:44:11 Z

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

# TCE 010817600-01, PDC Light Curves

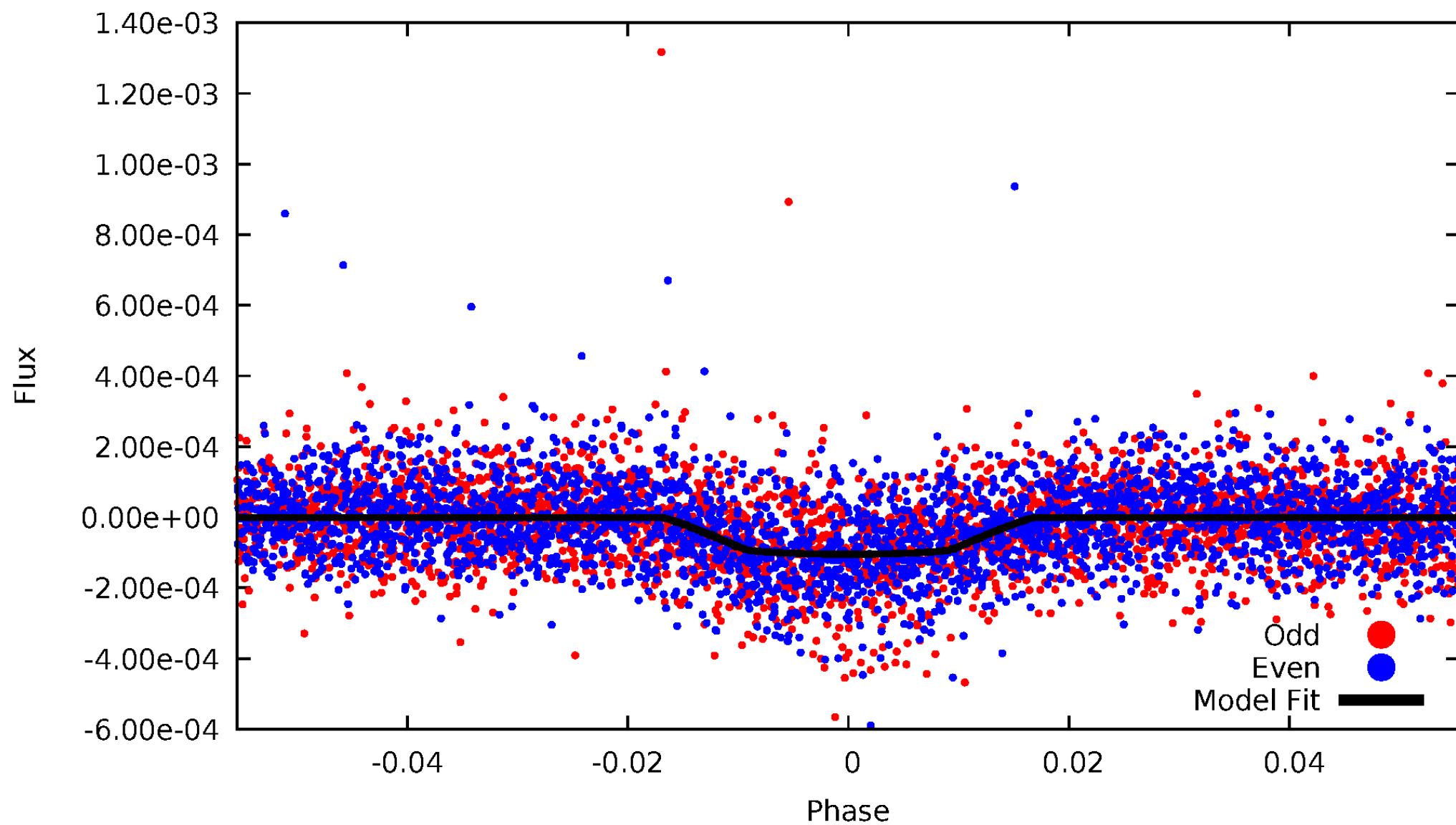


TCE 010817600-01



# DV Odd/Even

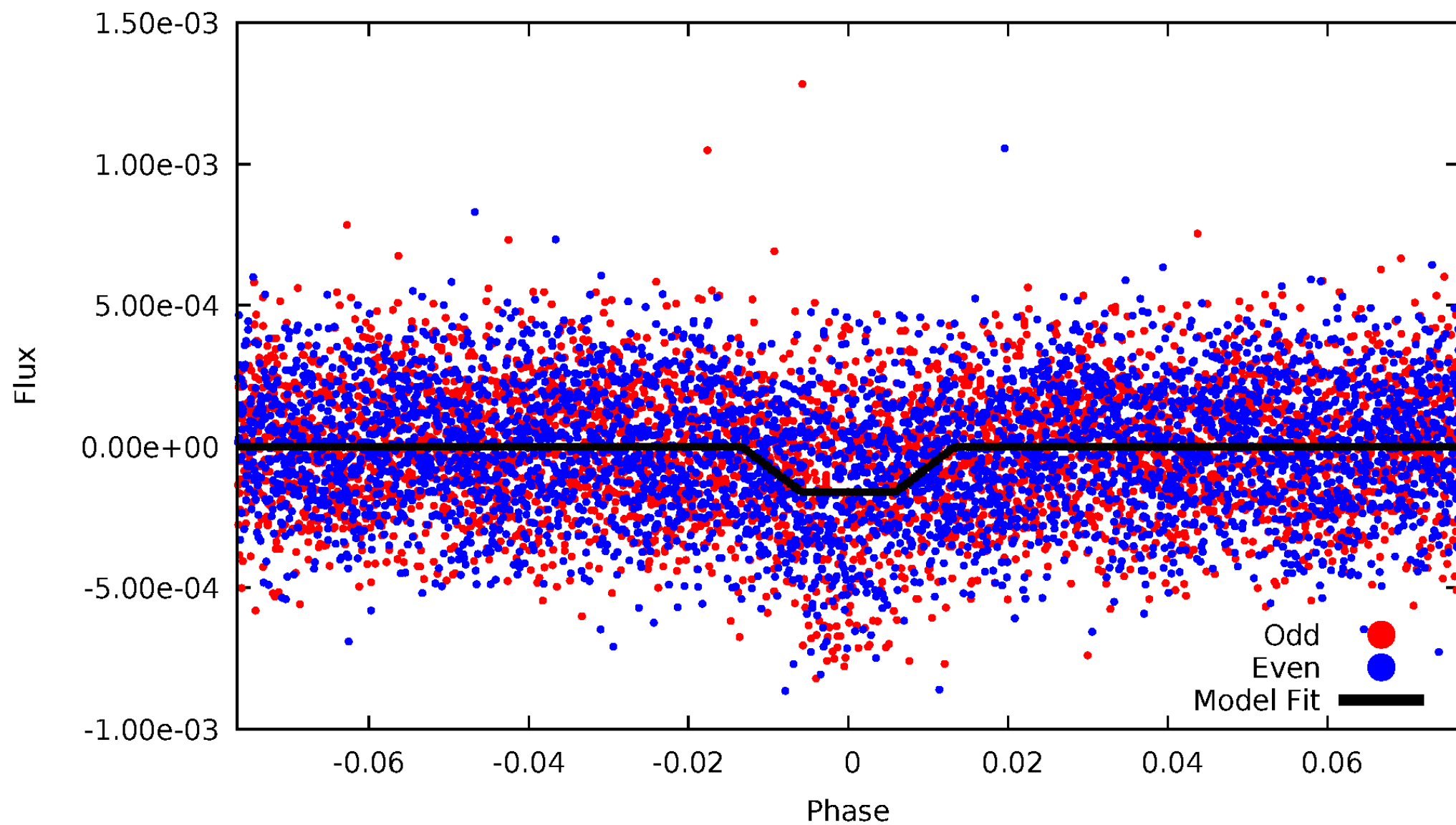
TCE 010817600-01





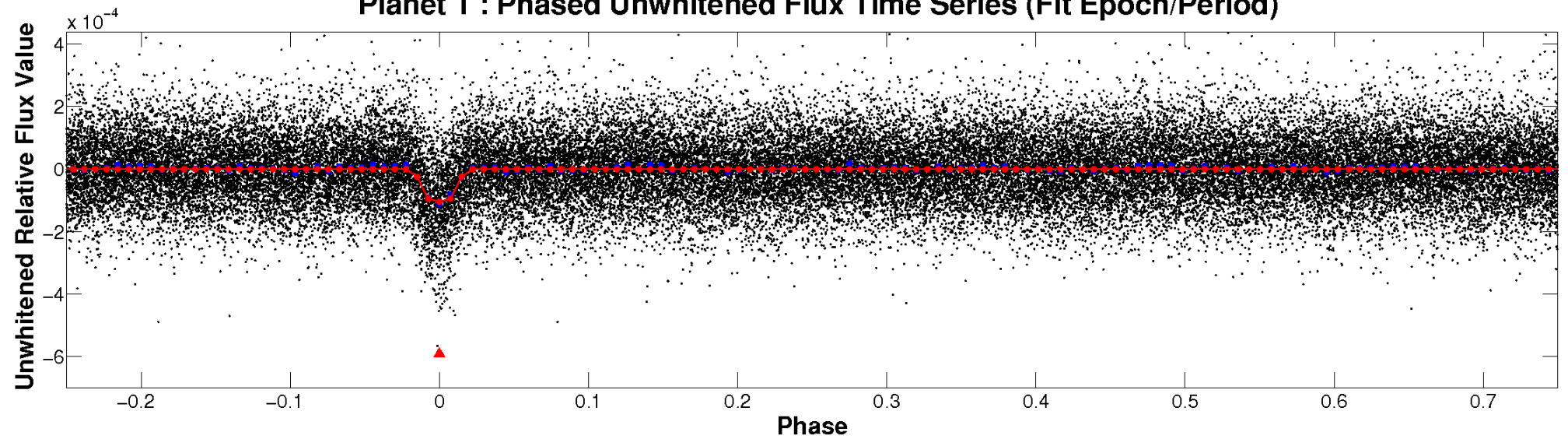
# ALT Odd/Even

TCE 010817600-01

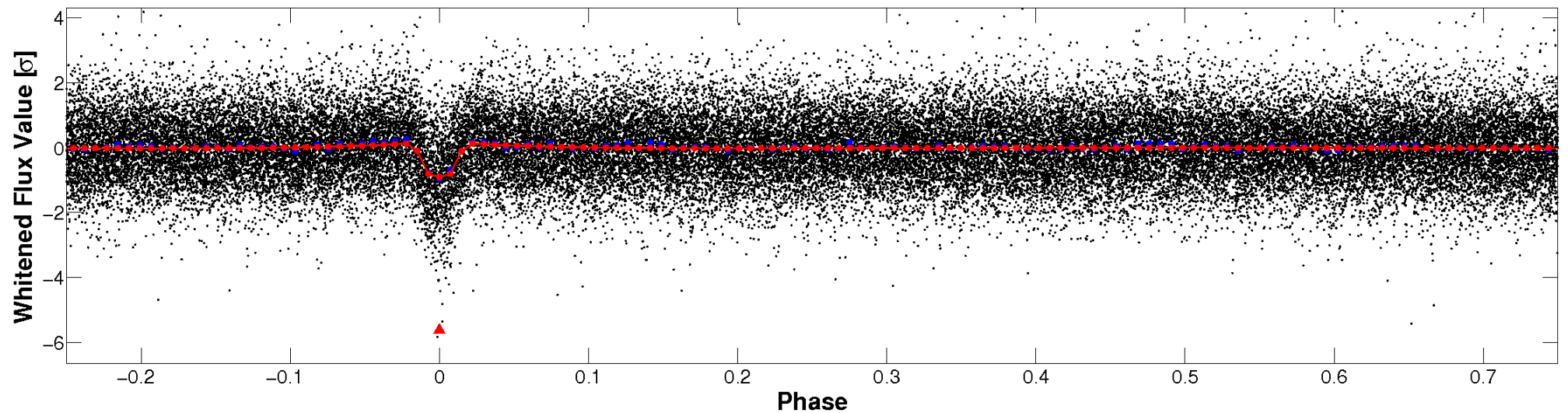


# Non-Whitened Vs. Whitened Light Curve

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

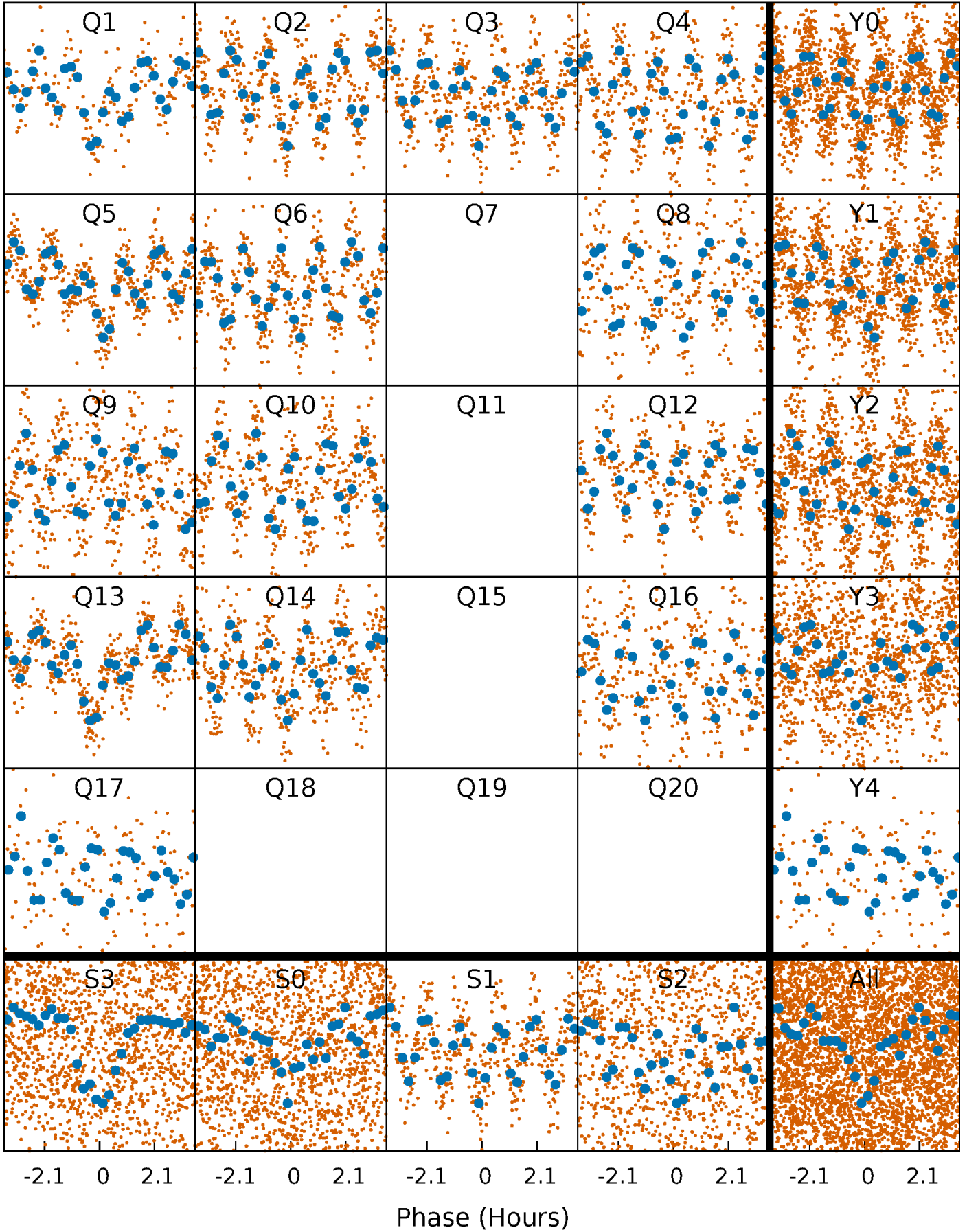


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

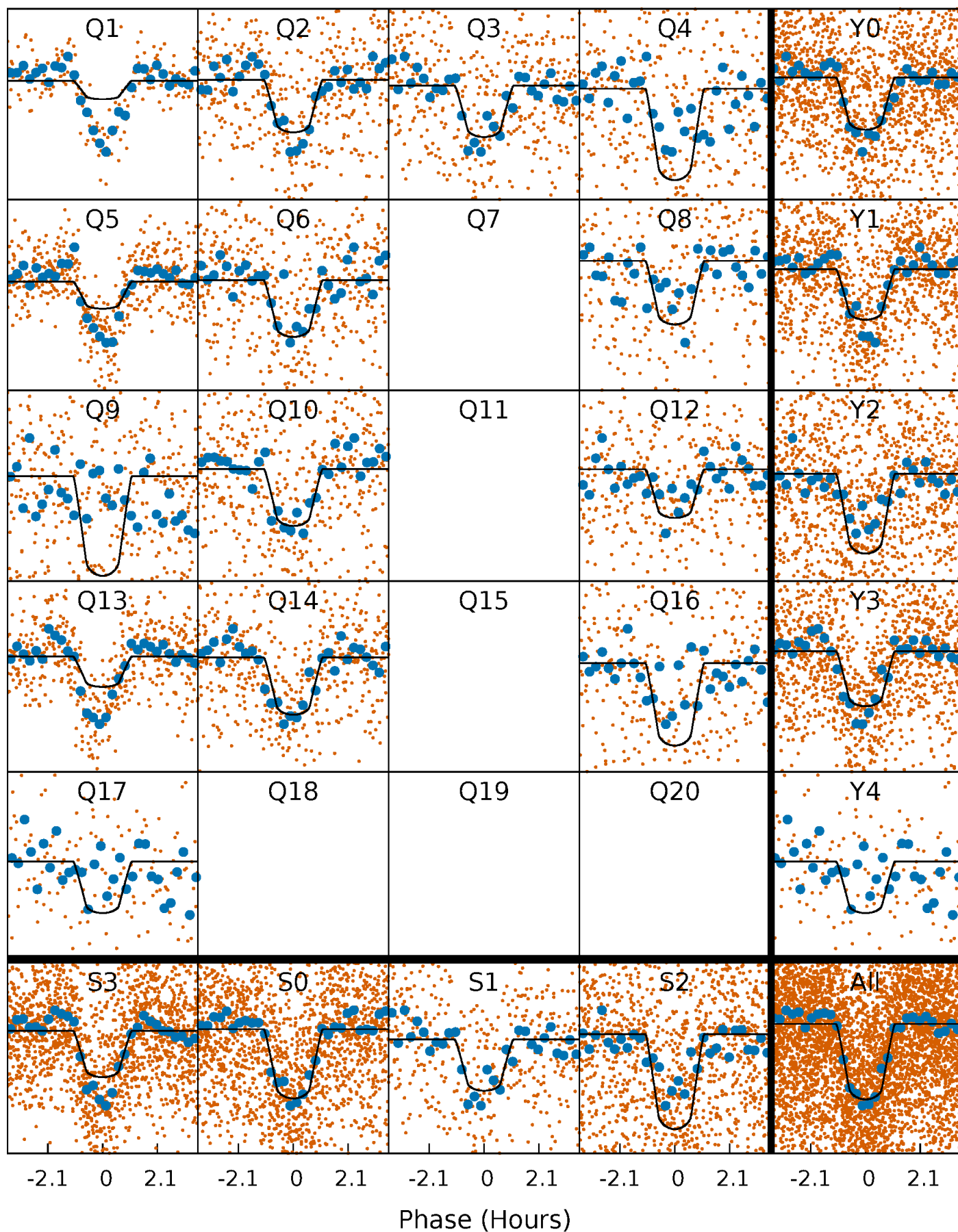
TCE 010817600-01 P= 2.747076 Days  $T_0=131.782526$  (BKJD)





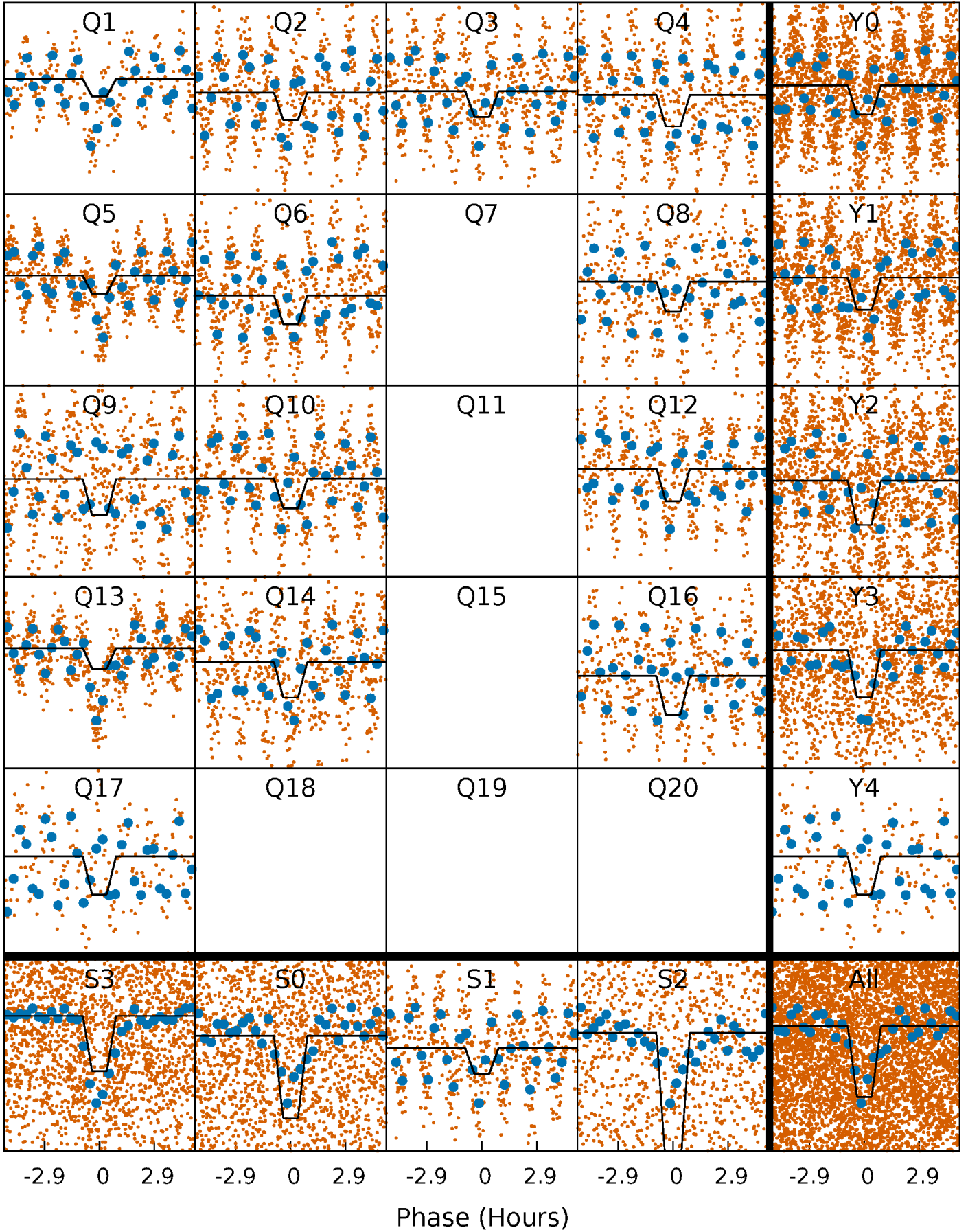
# DV Quarter-Phased Transit Curves

TCE 010817600-01 P= 2.747076 Days  $T_0=131.782526$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

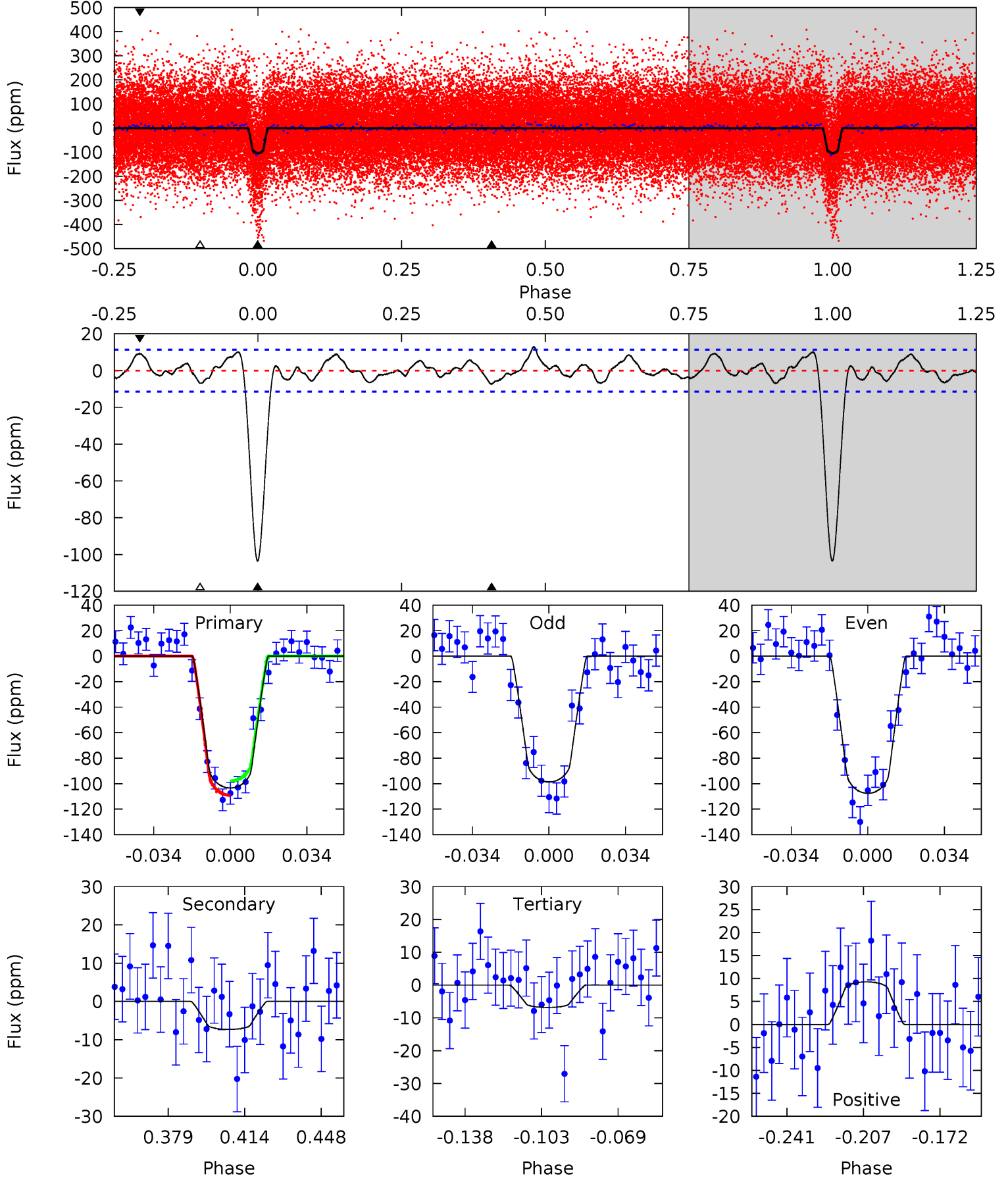
TCE 010817600-01 P= 2.747038 Days  $T_0=131.789636$  (BKJD)



# DV Model-Shift Uniqueness Test

010817600-01, P = 2.747076 Days, E = 129.035450 Days

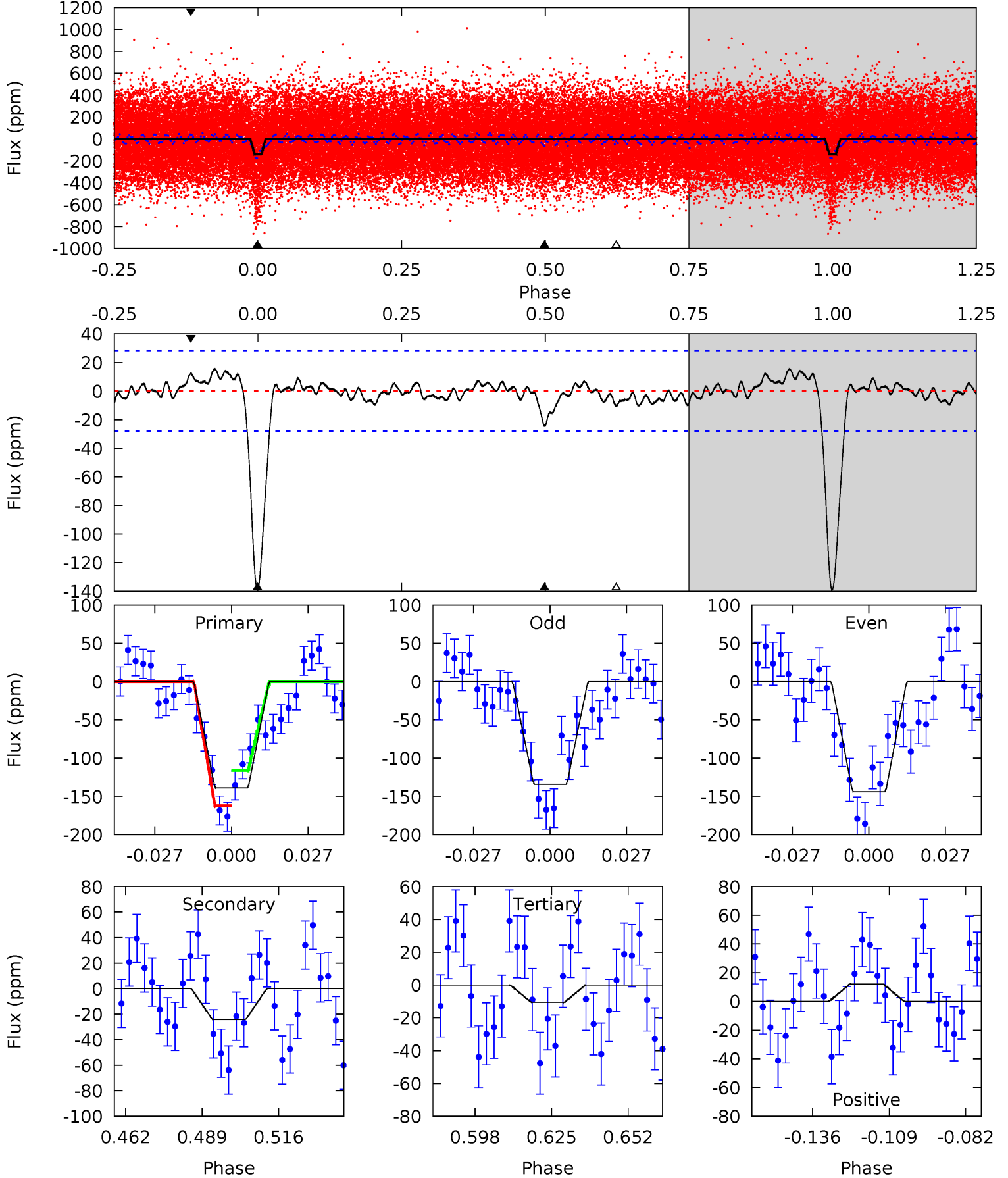
| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 43.5 | 3.07 | 2.87 | 3.90 | 4.78            | 2.11            | 1.70             | 40.6    | 39.6    | 0.20    | -0.83   | 1.87    | 1.05 | 0.11  | 2.38 |



# Alt Model-Shift Uniqueness Test

010817600-01, P = 2.747038 Days, E = 129.042598 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  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 23.9 | 4.18 | 1.81 | 2.09 | 4.83            | 2.21            | 0.90             | 22.1    | 21.8    | 2.37    | 2.09    | 0.83    | 1.02 | 0.10  | 3.97 |



### Stellar Parameters For KIC 010817600

|        | $T_{\text{eff}}(K)$  | $\log(g)$                 | [Fe/H]                     | $R$ ( $R_{\odot}$ )       | $M(M_{\odot})$            | $p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ ) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
|        | $8237^{+198}_{-368}$ | $3.753^{+0.451}_{-0.106}$ | $-0.140^{+0.250}_{-0.350}$ | $3.134^{+0.634}_{-1.480}$ | $2.032^{+0.333}_{-0.499}$ | $0.093^{+0.378}_{-0.031}$                     |
|        | +2%/-4%              | +12%/-3%                  | +179%/-250%                | +20%/-47%                 | +16%/-25%                 | +407%/-33%                                    |
| Source | KIC0                 | 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 010817600-01 / KOI 5832.01

| Detrend | Depth (ppm) | $R_p$ ( $R_{\oplus}$ ) | $T_{\text{max}}$ (K) | $T_{\text{obs}}$ (K) | $A_{\text{obs}}$          |
|---------|-------------|------------------------|----------------------|----------------------|---------------------------|
| DV      | $-7 \pm 2$  | $3.43^{+0.91}_{-0.95}$ | $3932^{+298}_{-439}$ | $3878^{+510}_{-679}$ | $0.792^{+0.758}_{-0.357}$ |
| Alt.    | $-24 \pm 6$ | $4.05^{+1.04}_{-1.02}$ | $3940^{+300}_{-477}$ | $4812^{+540}_{-436}$ | $1.935^{+1.608}_{-0.785}$ |

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



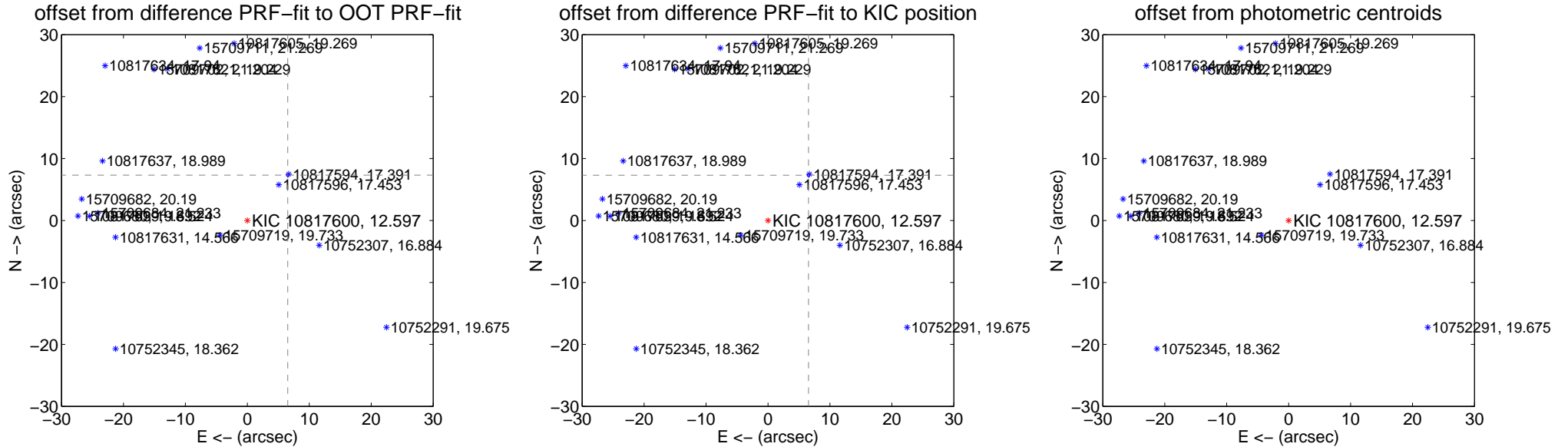
## DV Centroid Data

Supplemental centroid analysis for 010817600-01. Kepler magnitude: 12.60. Transit SNR 28.67

There are 14 quarters with good PRF difference image offsets

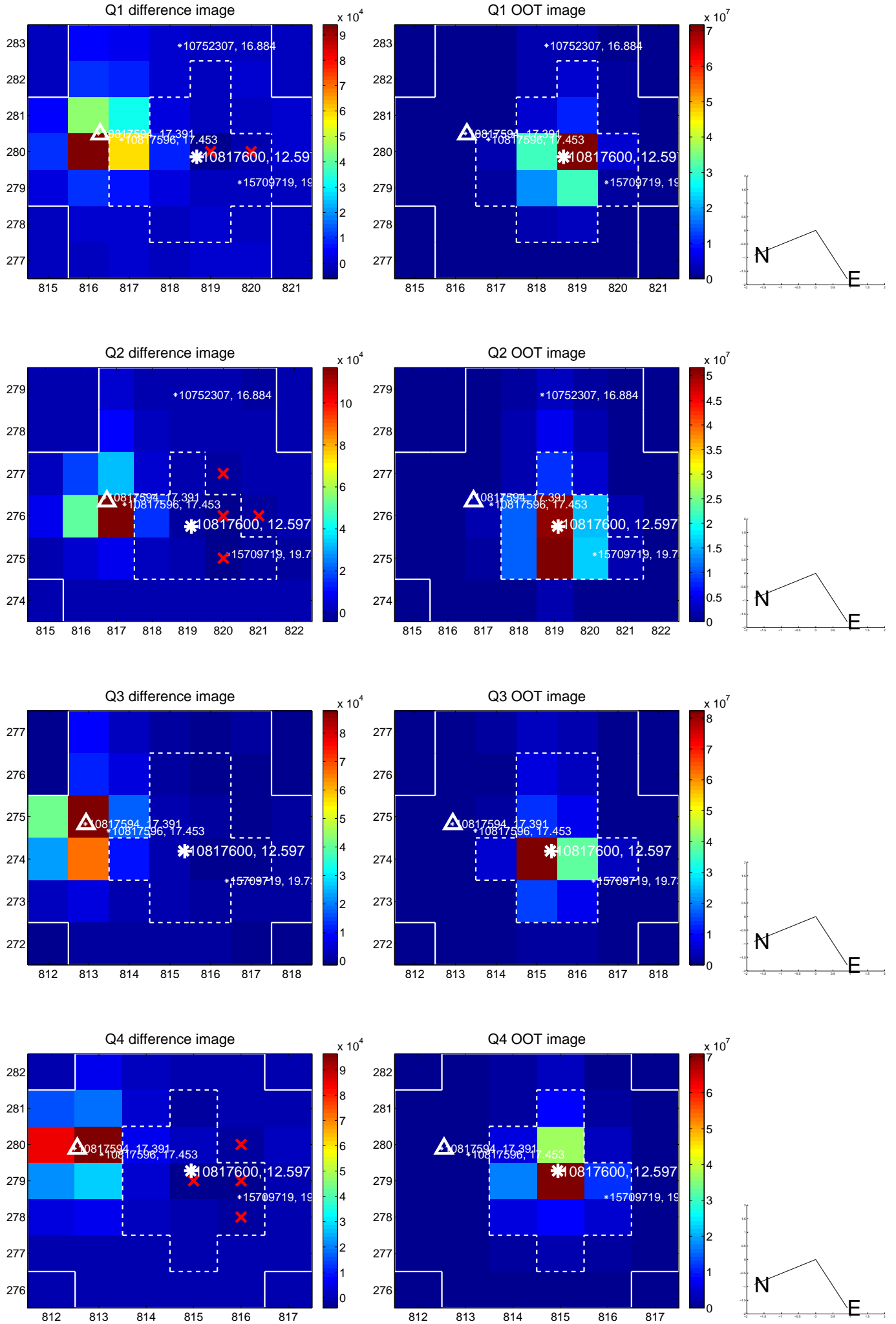
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

|   | Distance in arcsec                  | Distance / $\sigma$ | $\Delta$ RA        | $\Delta$ Dec      |
|---|-------------------------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT          | <b>9.807 <math>\pm</math> 0.070</b> | <b>140.10</b>       | -6.521 $\pm$ 0.069 | 7.325 $\pm$ 0.069 |
| PRF-fit source offset from KIC position | <b>9.806 <math>\pm</math> 0.070</b> | <b>139.99</b>       | -6.539 $\pm$ 0.069 | 7.308 $\pm$ 0.069 |
| photometric centroid source offset      | <b>68.59 <math>\pm</math> 0.43</b>  | <b>158.72</b>       | -45.15 $\pm$ 0.45  | 51.64 $\pm$ 0.41  |

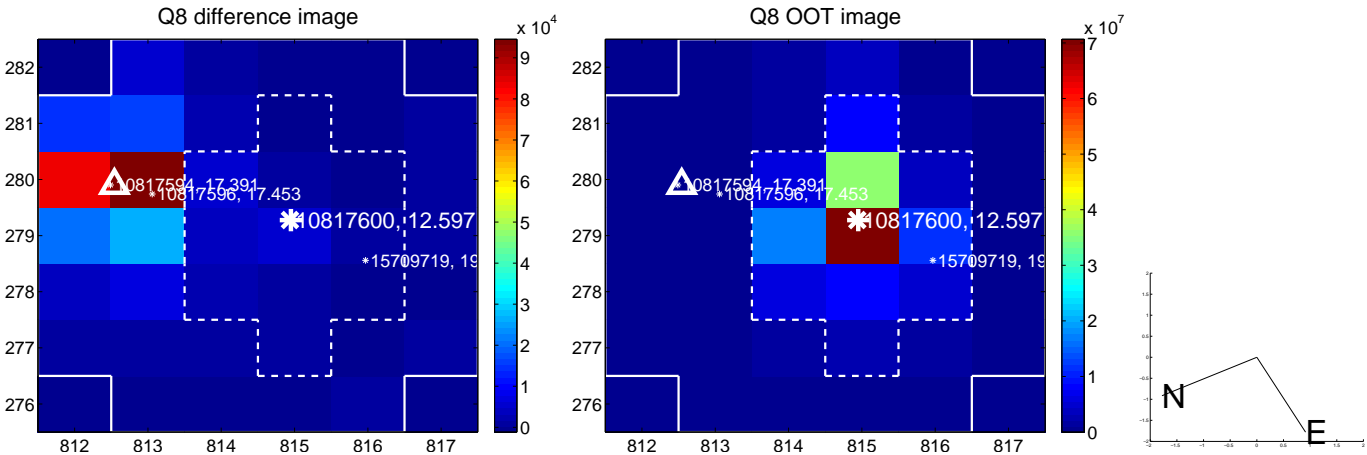
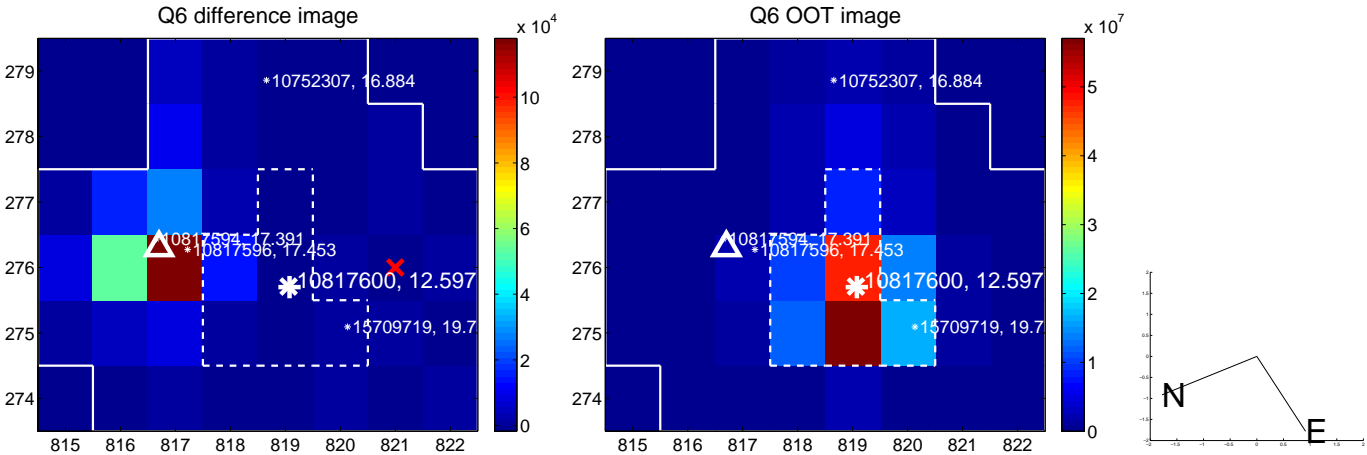
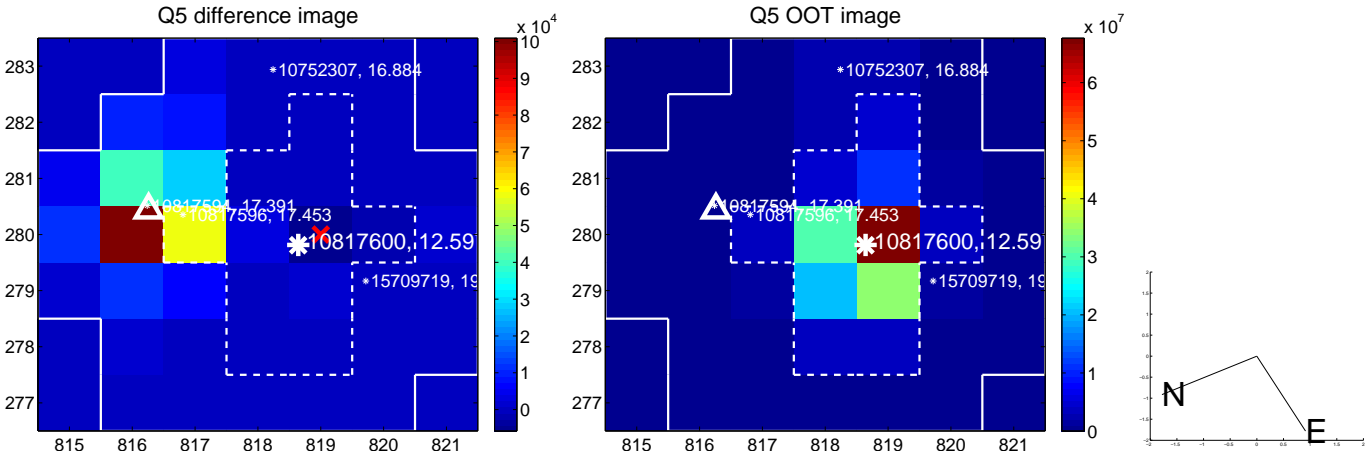


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

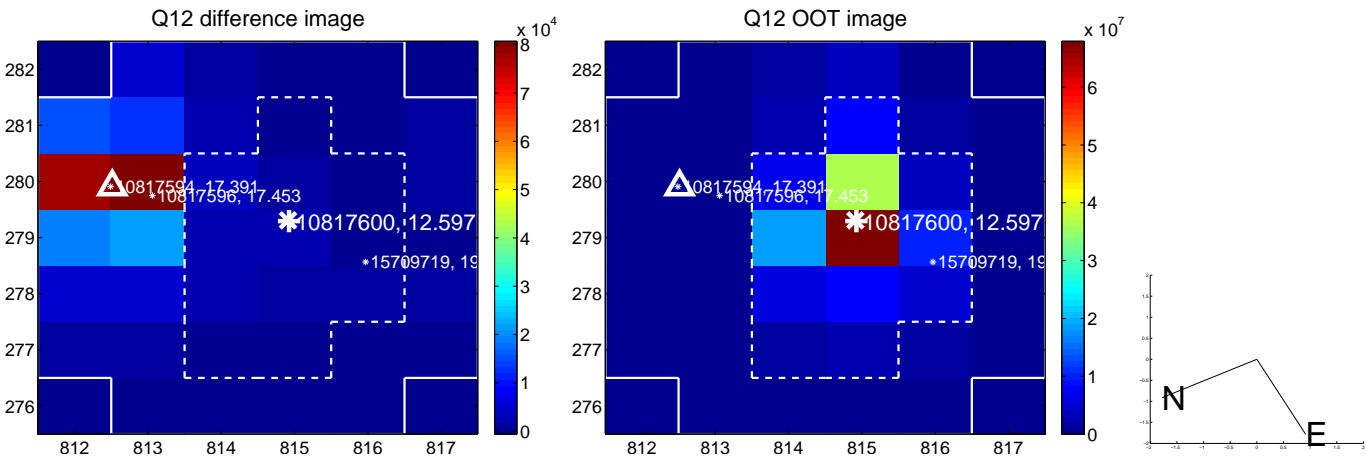
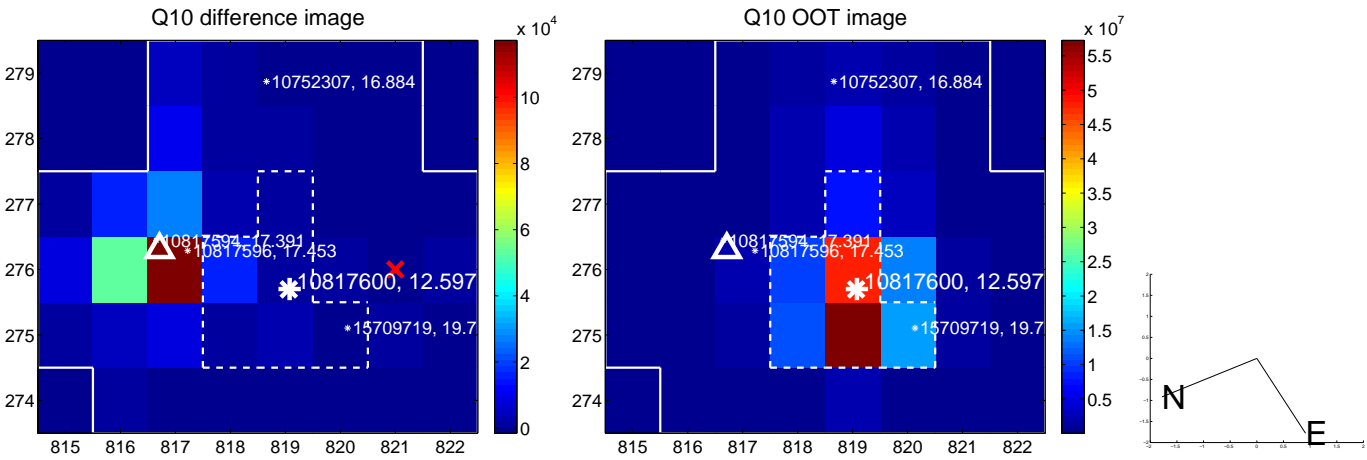
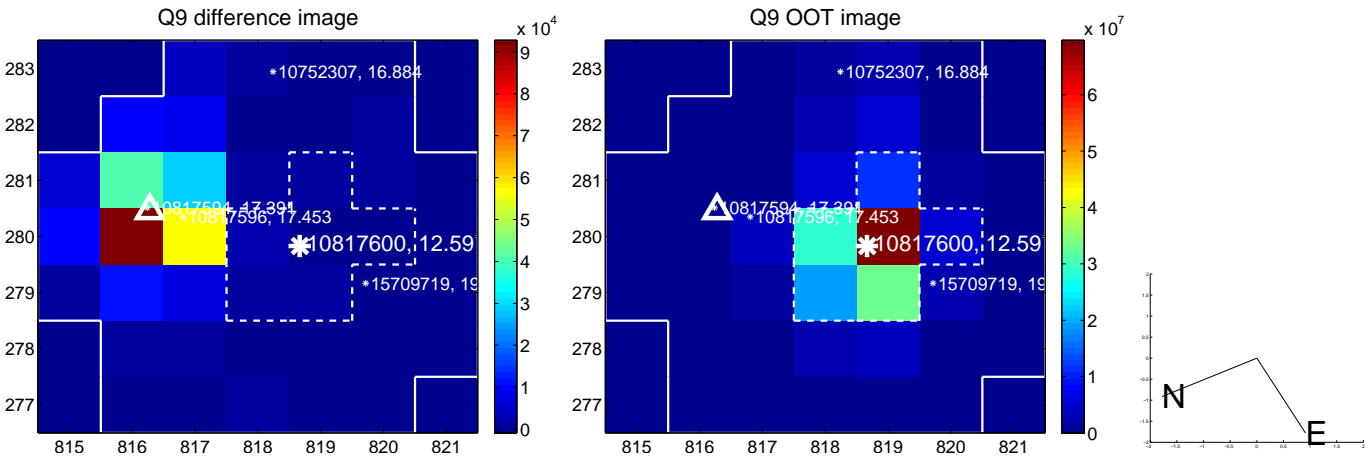
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



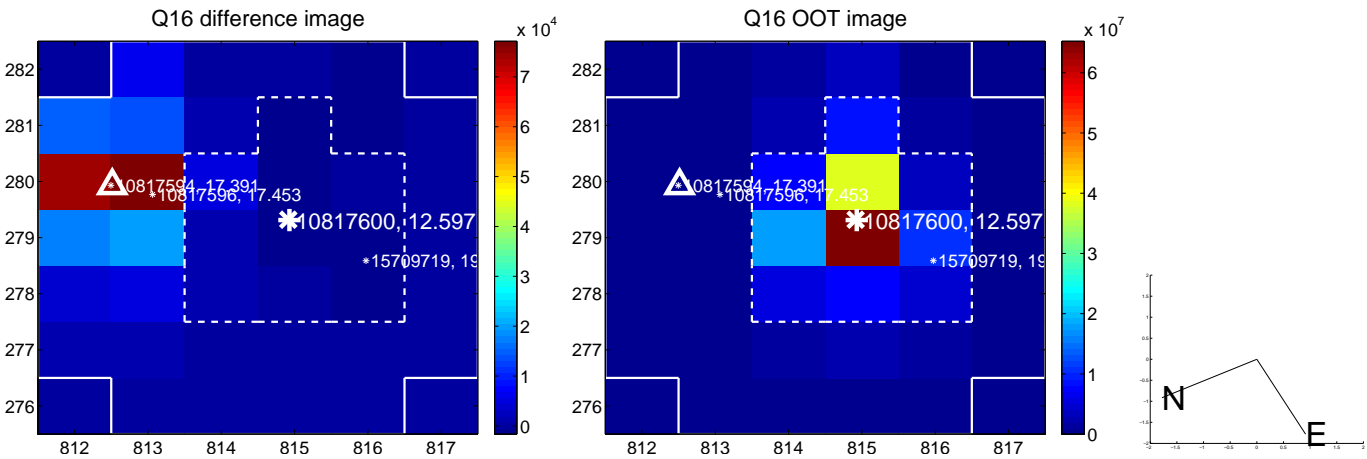
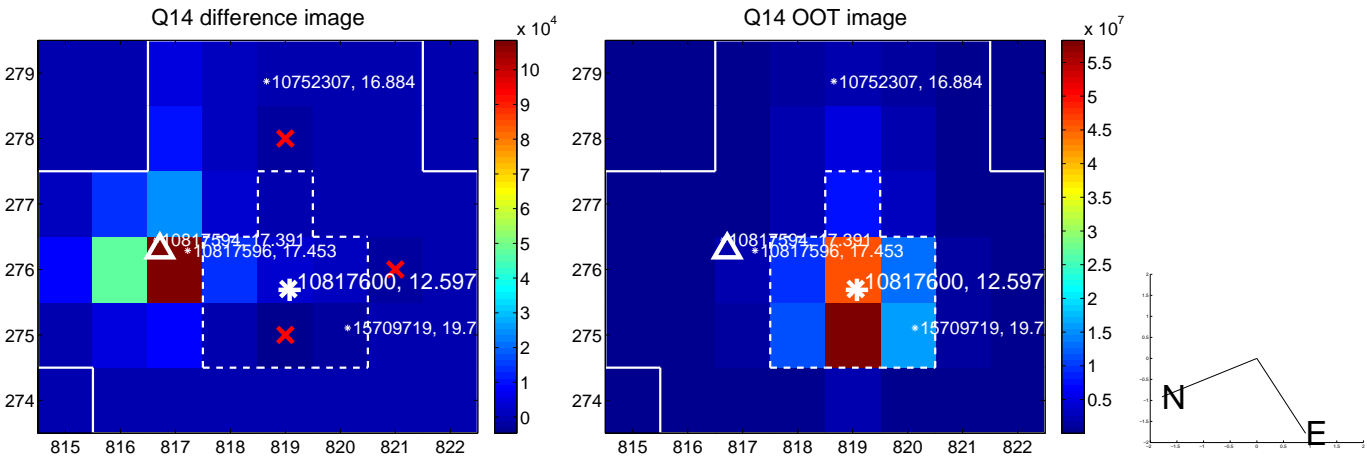
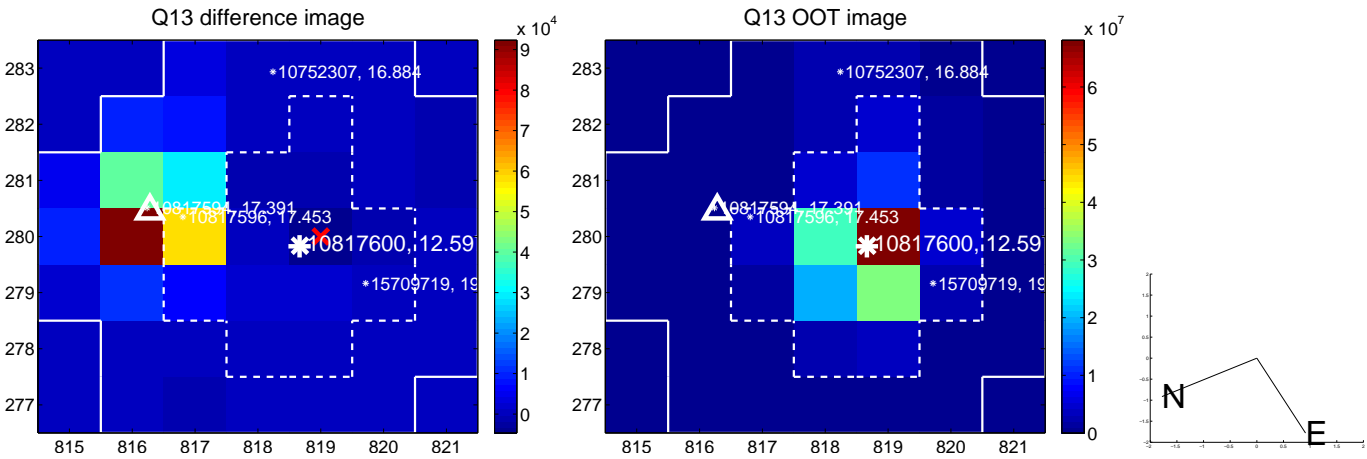
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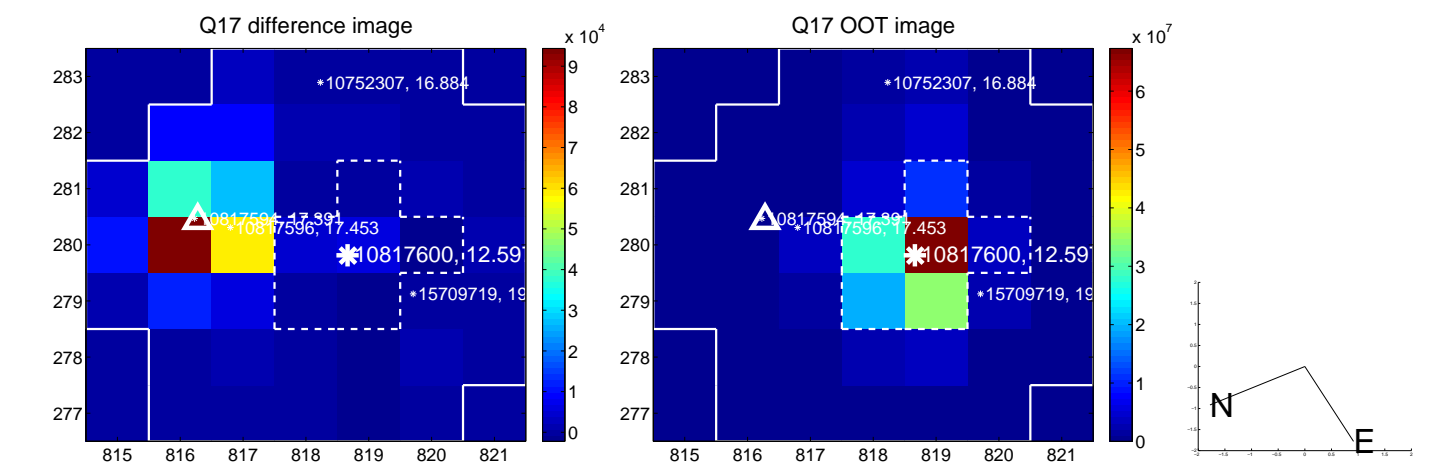


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

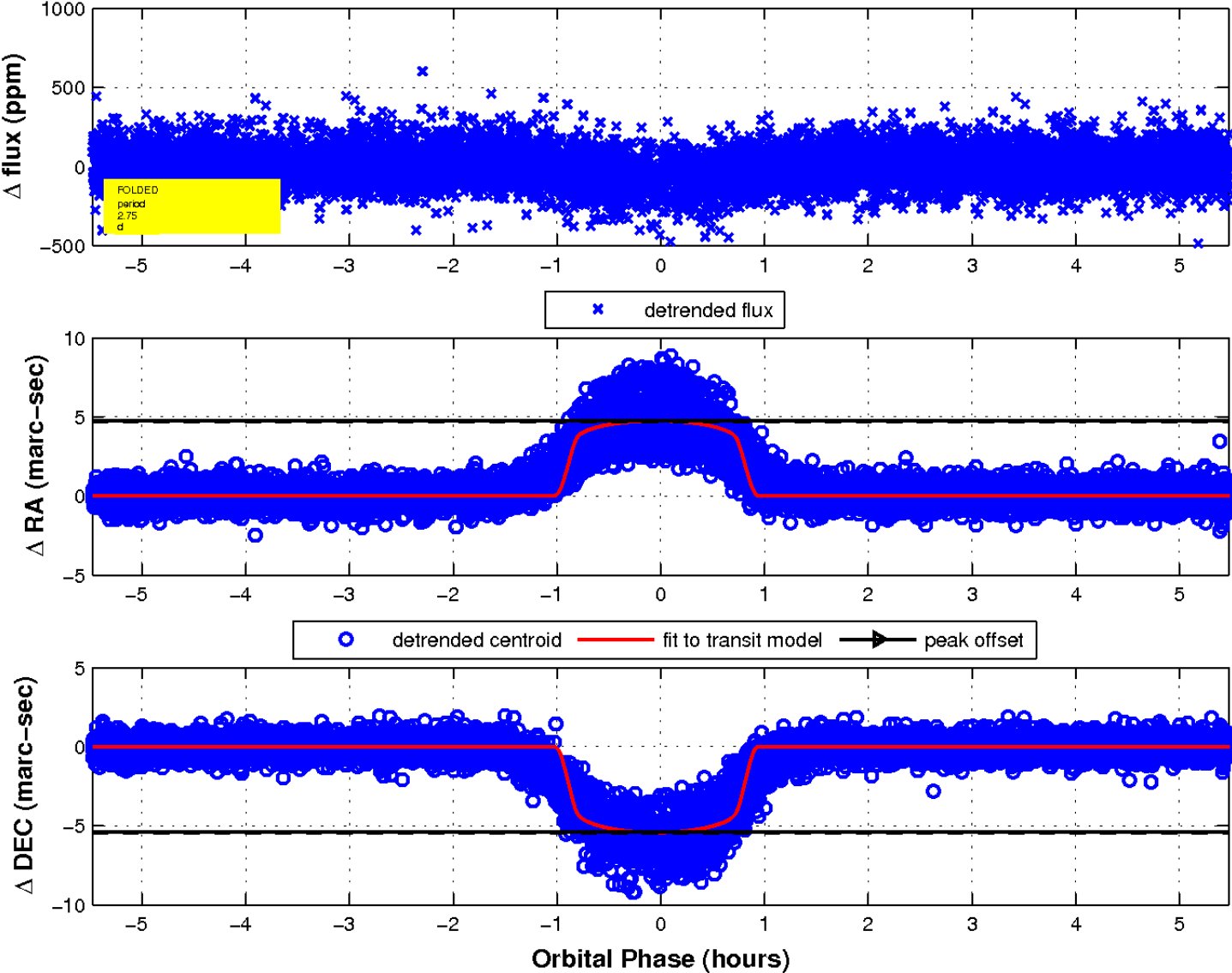




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

