

# KIC 010190075

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 010190075-01 | OBS      | 3007.01 | 11.191573     | 138.045023   | 168.0       | 2.141            | 10.3 | 11.7 | 0.96                        | 5646            | 1.46                   | 88.51                  |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments   |
|--------------|----------|------|-------|---|---|---|---|------------|
| 010190075-01 | OBS      | PC   | 0.95  | 0 | 0 | 0 | 0 | NO_COMMENT |

**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.

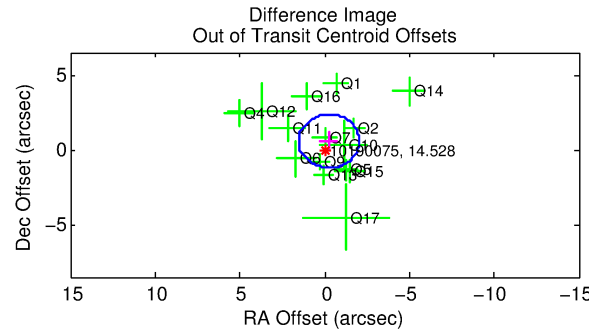
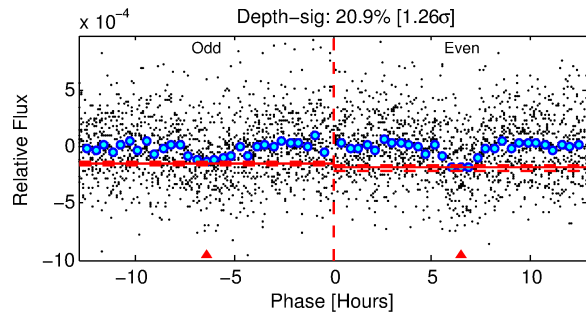
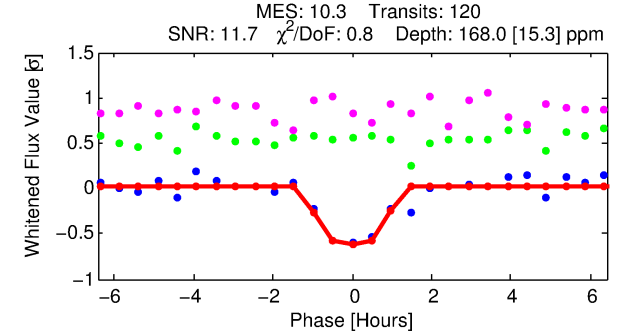
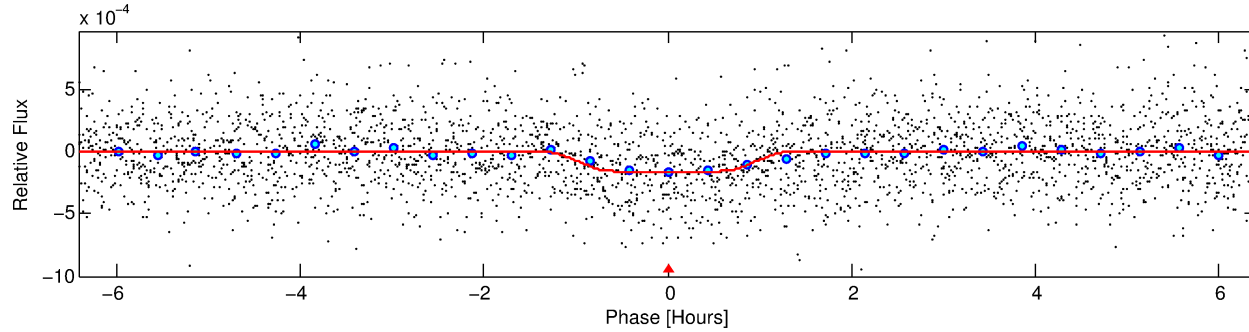
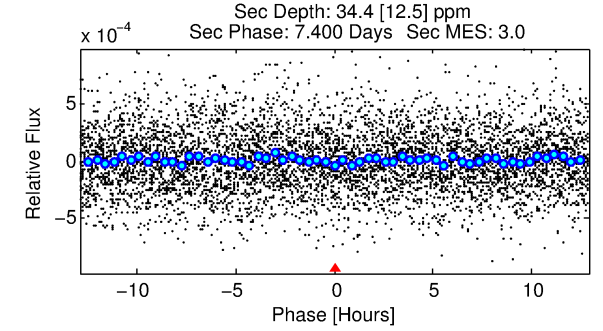
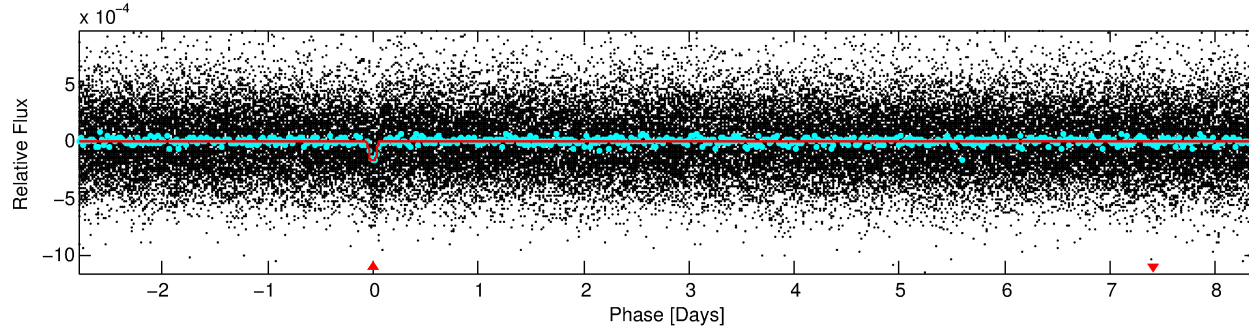
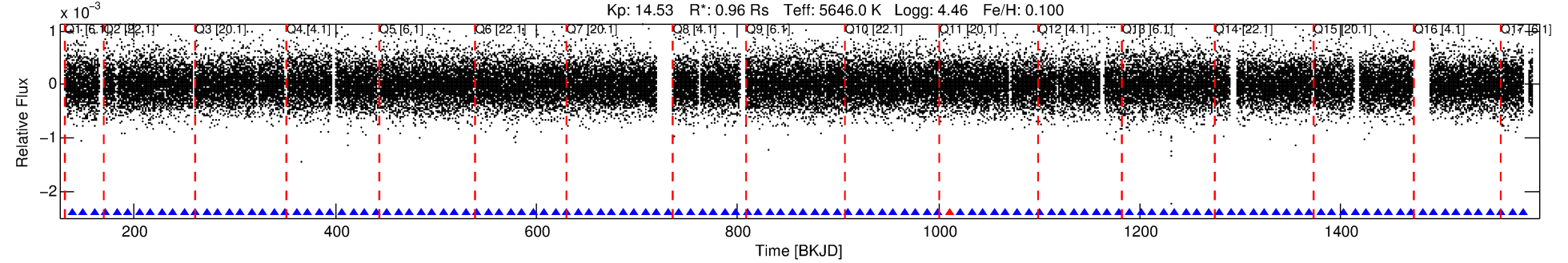
## Ephemeris Match Information For 010190075-01

No Significant Match Found

# DV One-Page Summary

KIC: 10190075 Candidate: 1 of 1 Period: 11.192 d

KOI: K03007.01 Corr: 0.938



## DV Fit Results:

Period = 11.19157 [0.00006] d  
Epoch = 138.0450 [0.0045] BKJD  
Rp/R\* = 0.0140 [0.0098]  
a/R\* = 19.83 [62.36]  
b = 0.88 [0.79]  
Seff = 88.51 [18.78]  
Teff = 782 [41] K  
Rp = 1.46 [1.04] Re  
a = 0.0970 [0.0124] AU  
Ag = 83.51 [121.49] [0.68σ]  
Teffp = 3655 [1318] K [2.18σ]

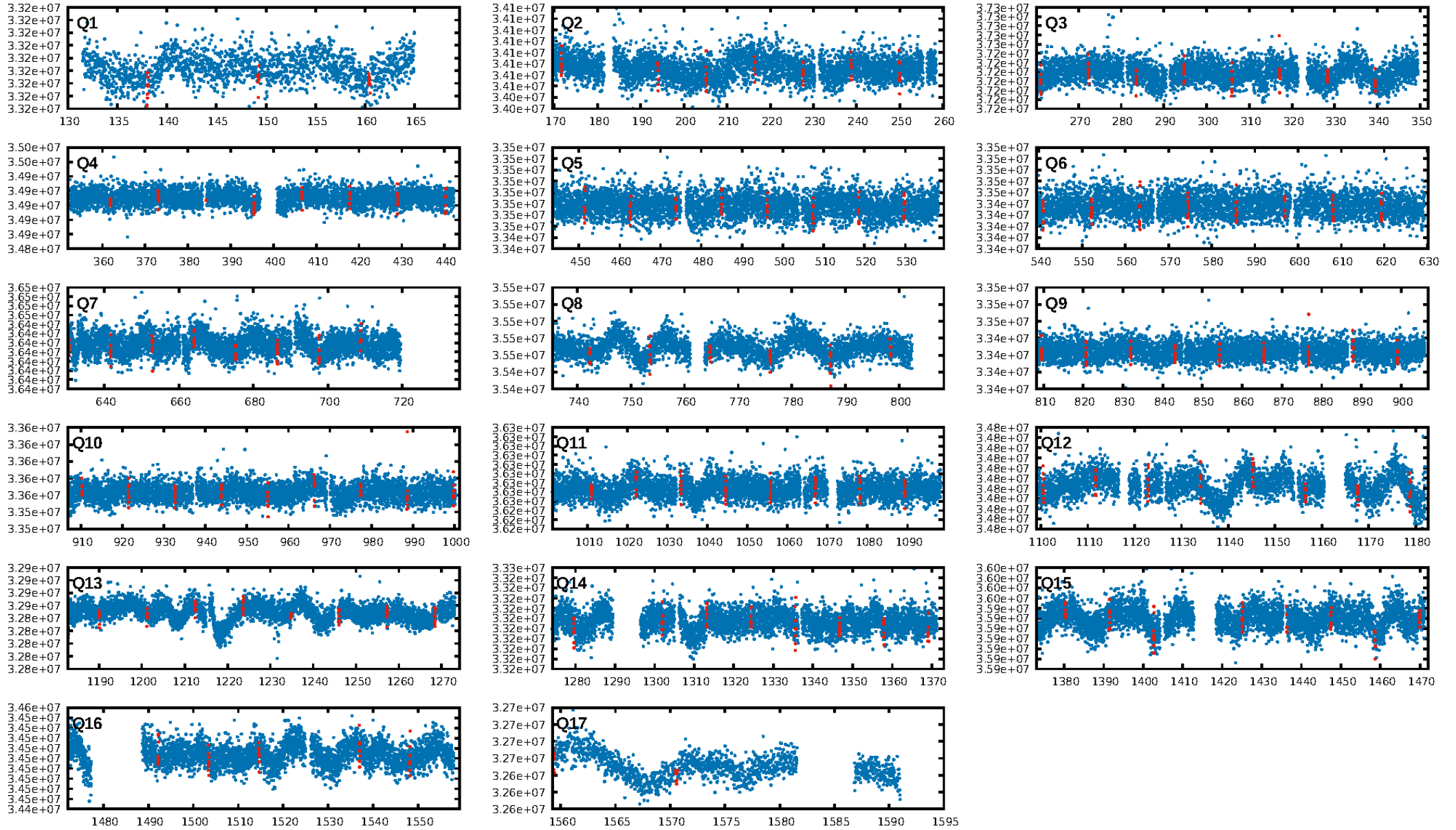
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 9.09e-25  
RollingBand-fgt: 0.99 [114/115]  
GhostDiagnostic-chr: -4.176  
Centroid-sig: 25.2%  
Centroid-so: 1.248 arcsec [1.04σ]  
OotOffset-rm: 0.623 arcsec [1.05σ]  
OotOffset-st: 4/3/3/5 [15]  
KicOffset-rm: 0.555 arcsec [0.91σ]  
KicOffset-st: 4/3/3/5 [15]  
DiffImageQuality-fgm: 0.47 [7/15]  
DiffImageOverlap-fno: 1.00 [17/17]

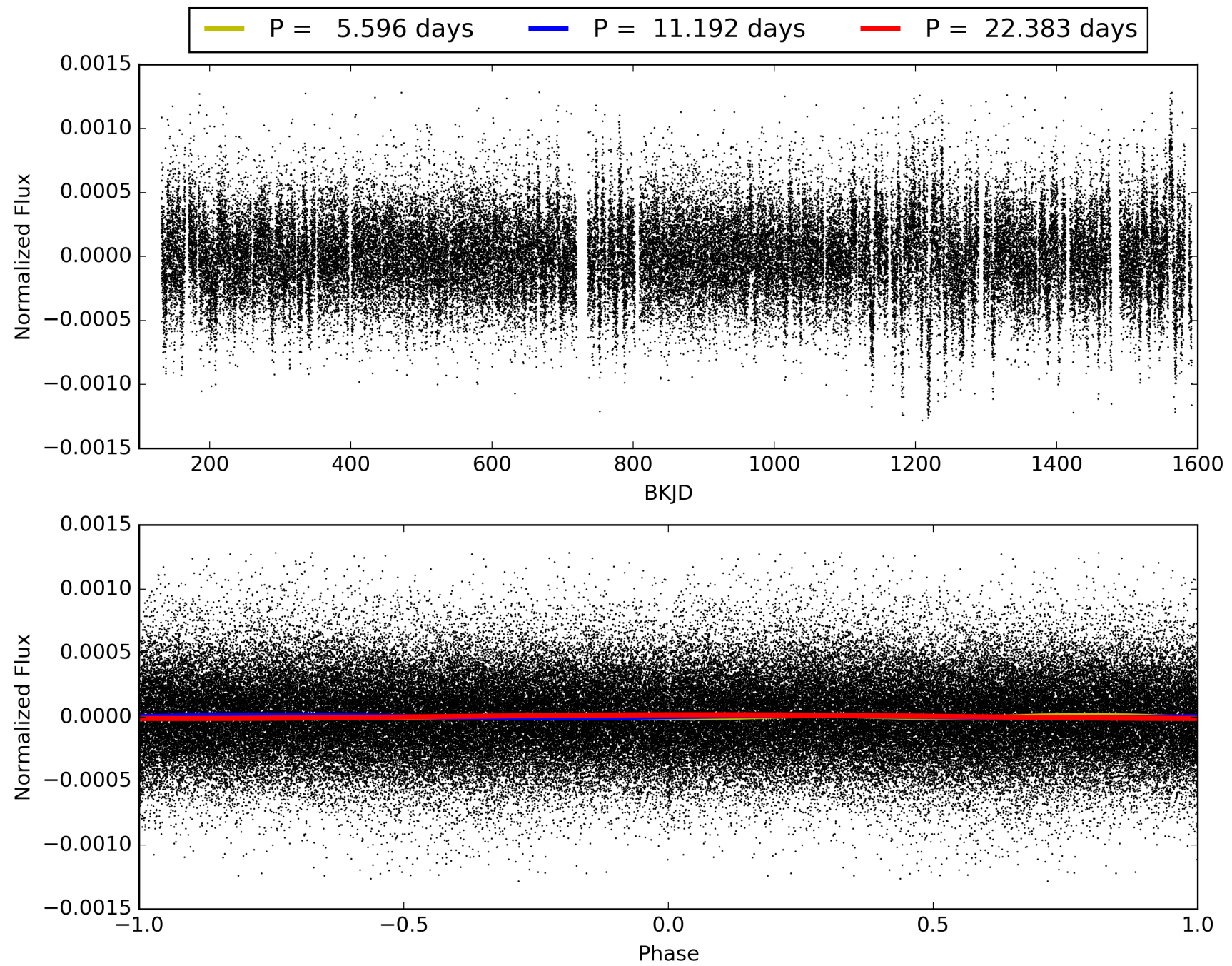
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:10:55 Z

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

# TCE 010190075-01, PDC Light Curves

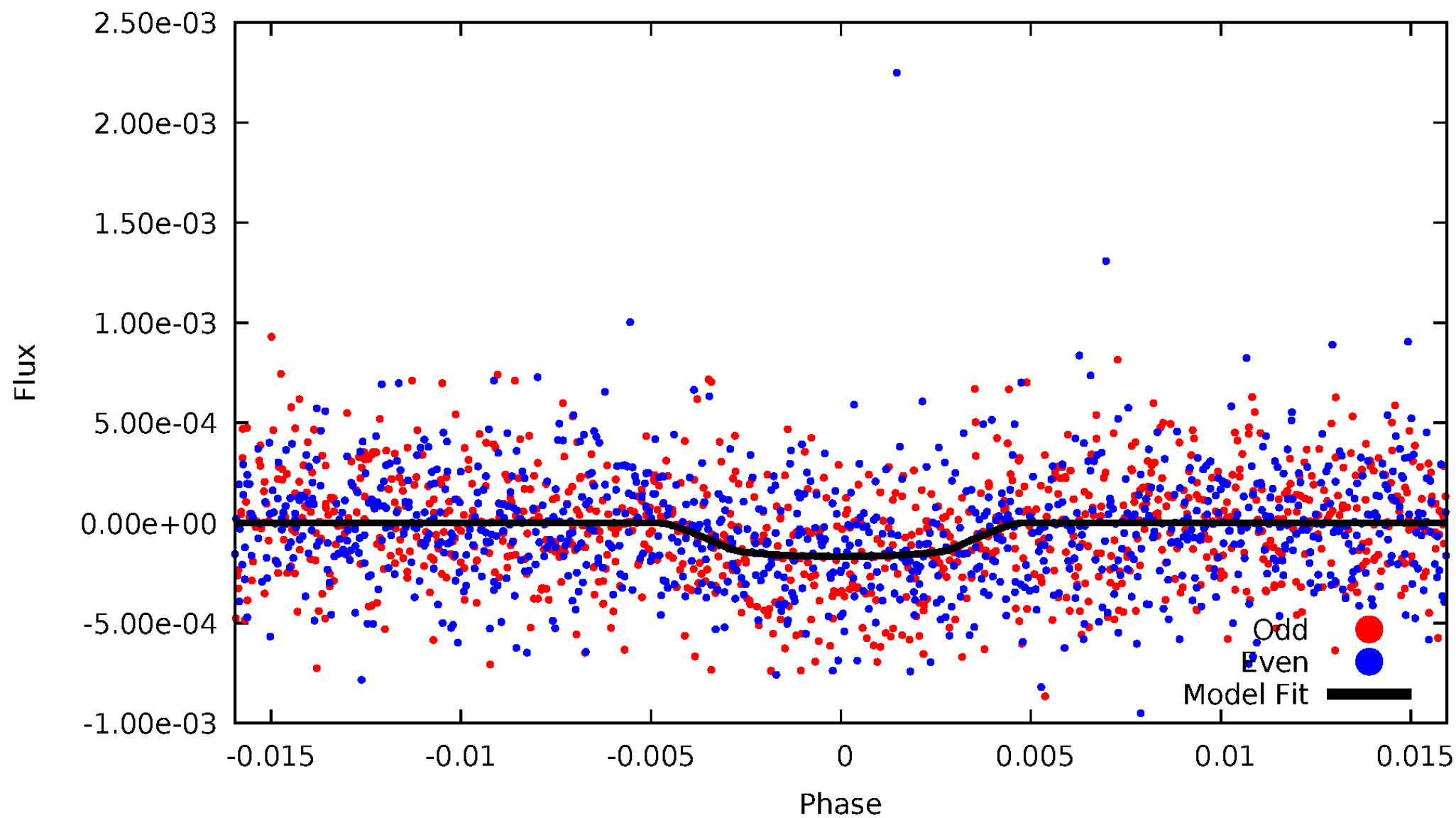


TCE 010190075-01



# DV Odd/Even

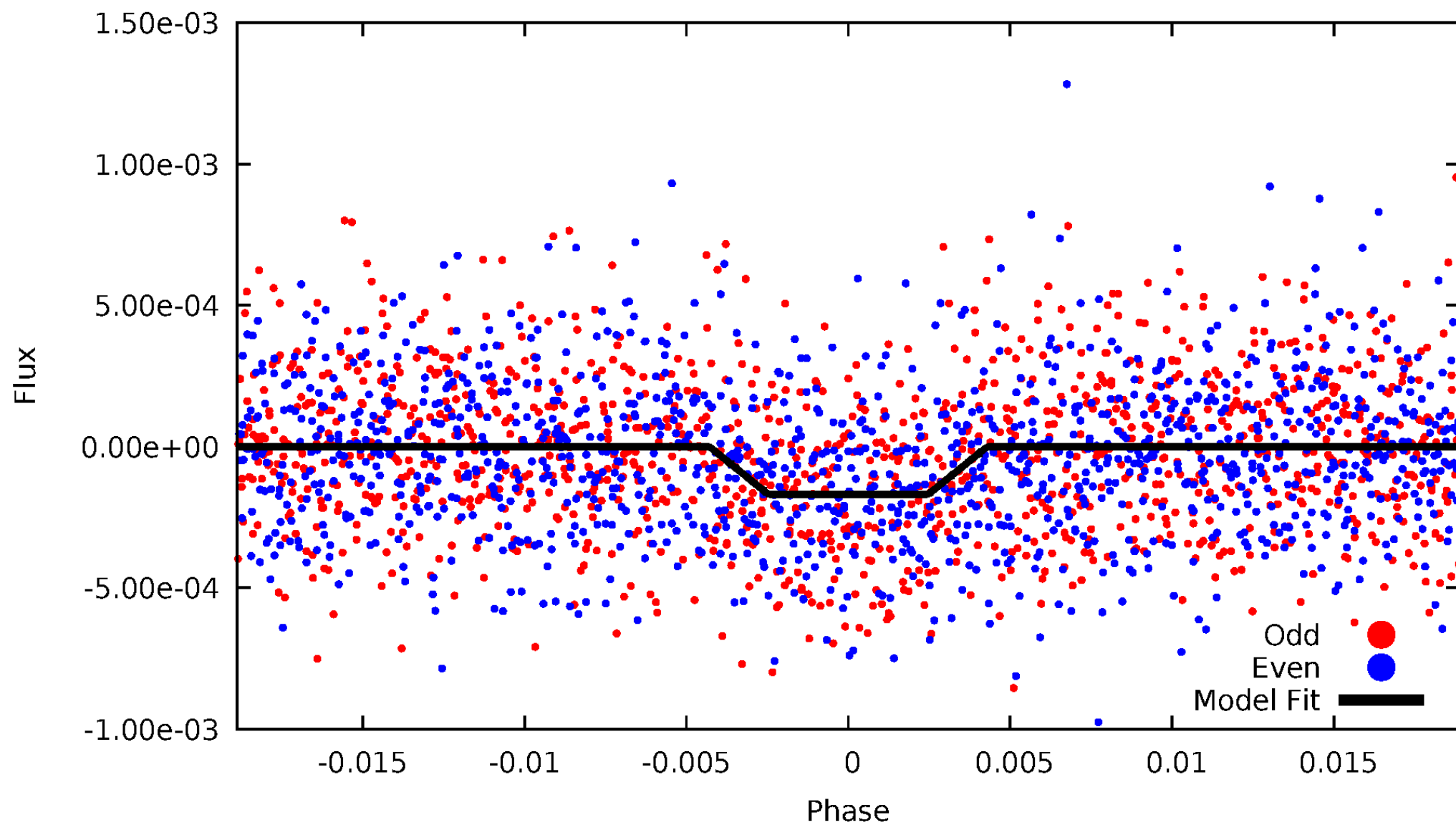
TCE 010190075-01



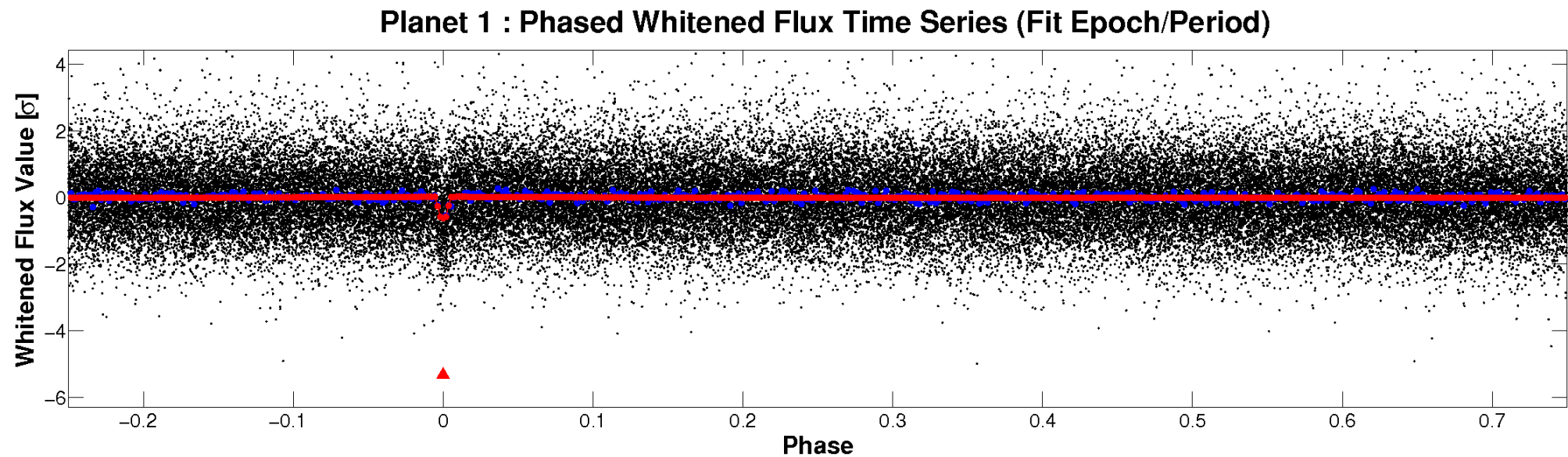
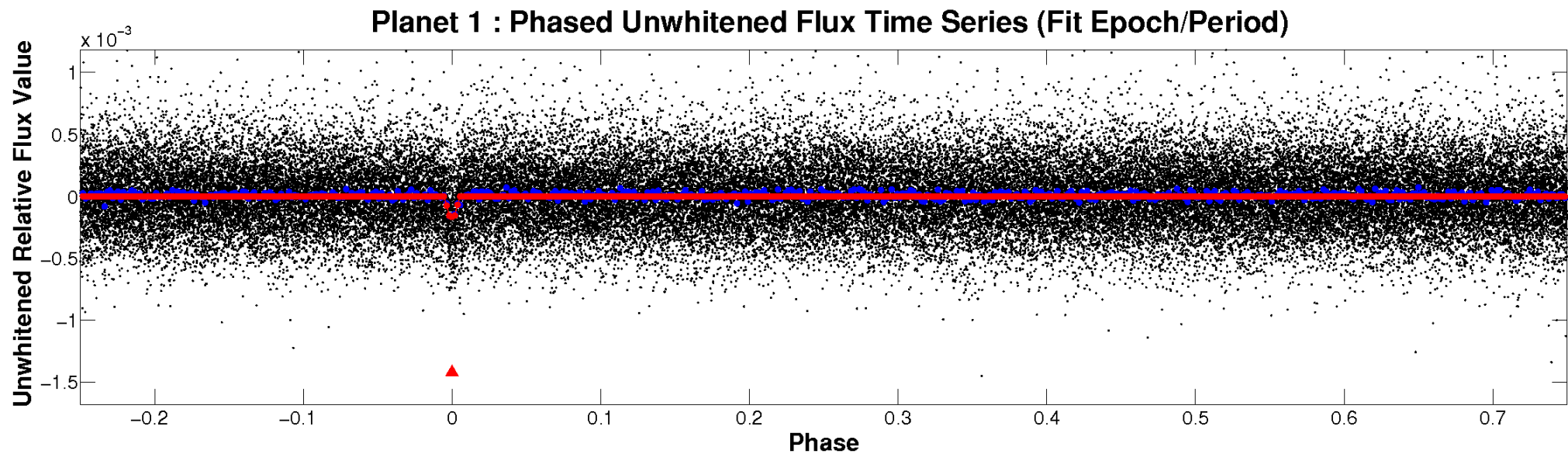


# ALT Odd/Even

TCE 010190075-01

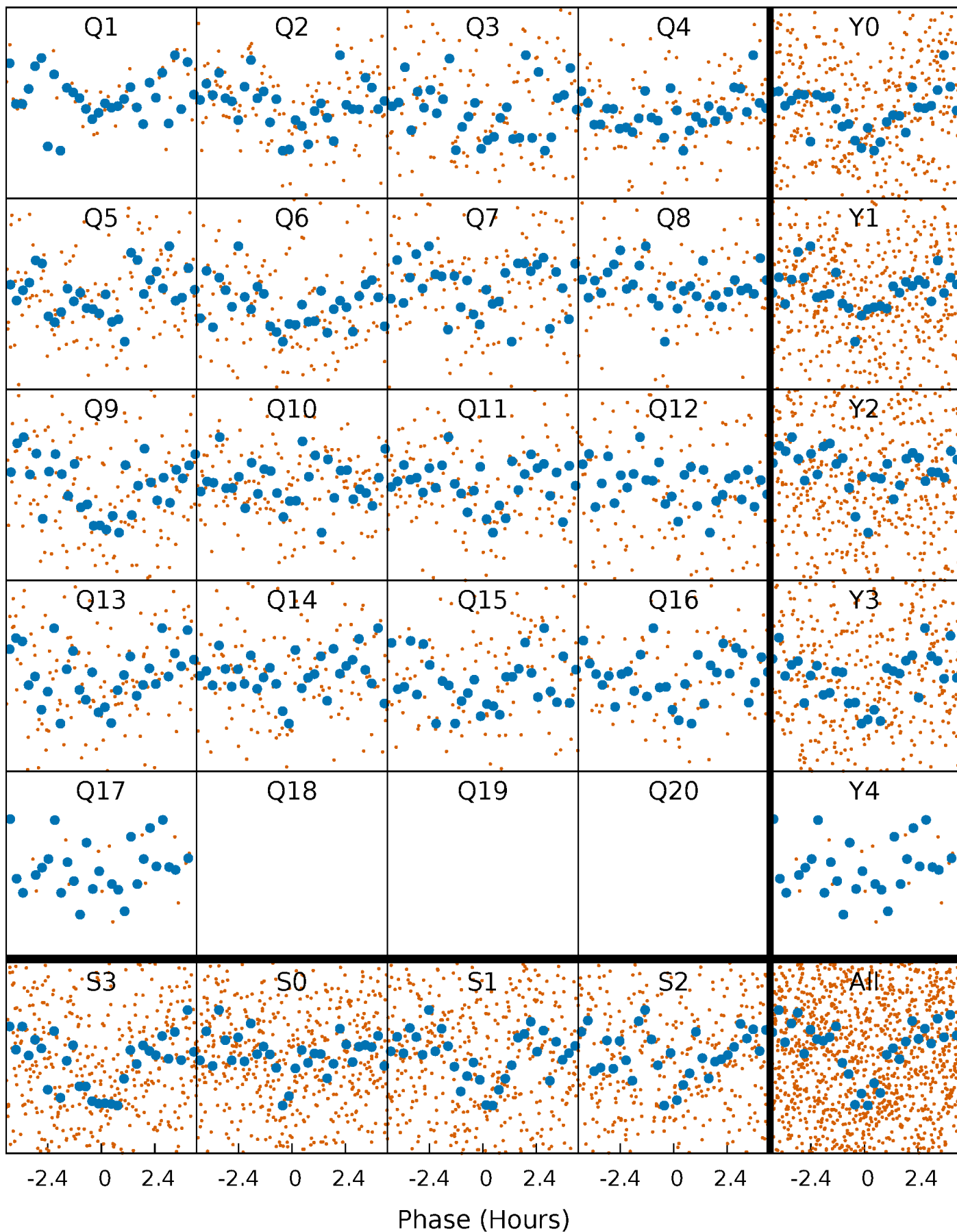


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

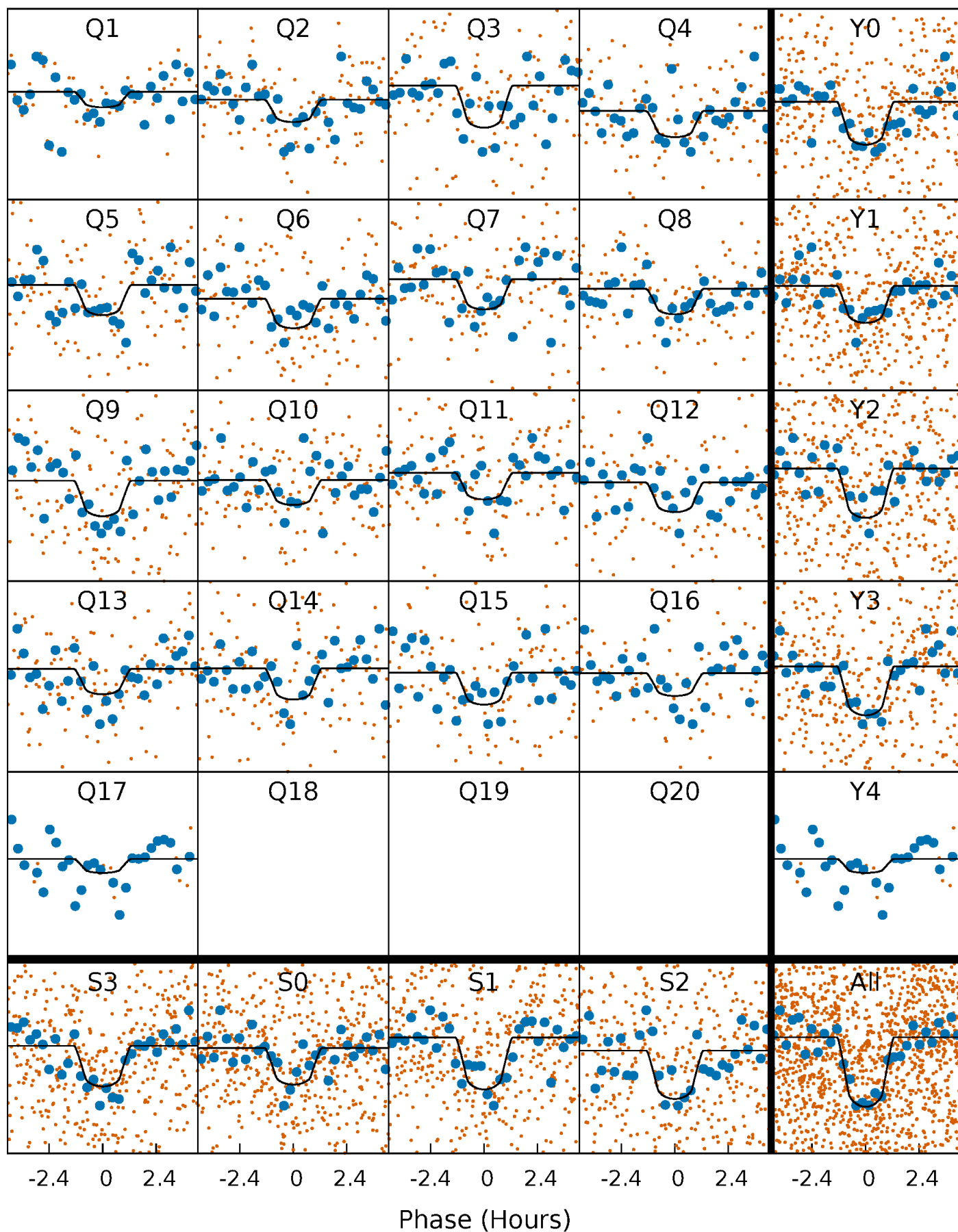
TCE 010190075-01 P= 11.191573 Days  $T_0=138.045023$  (BKJD)





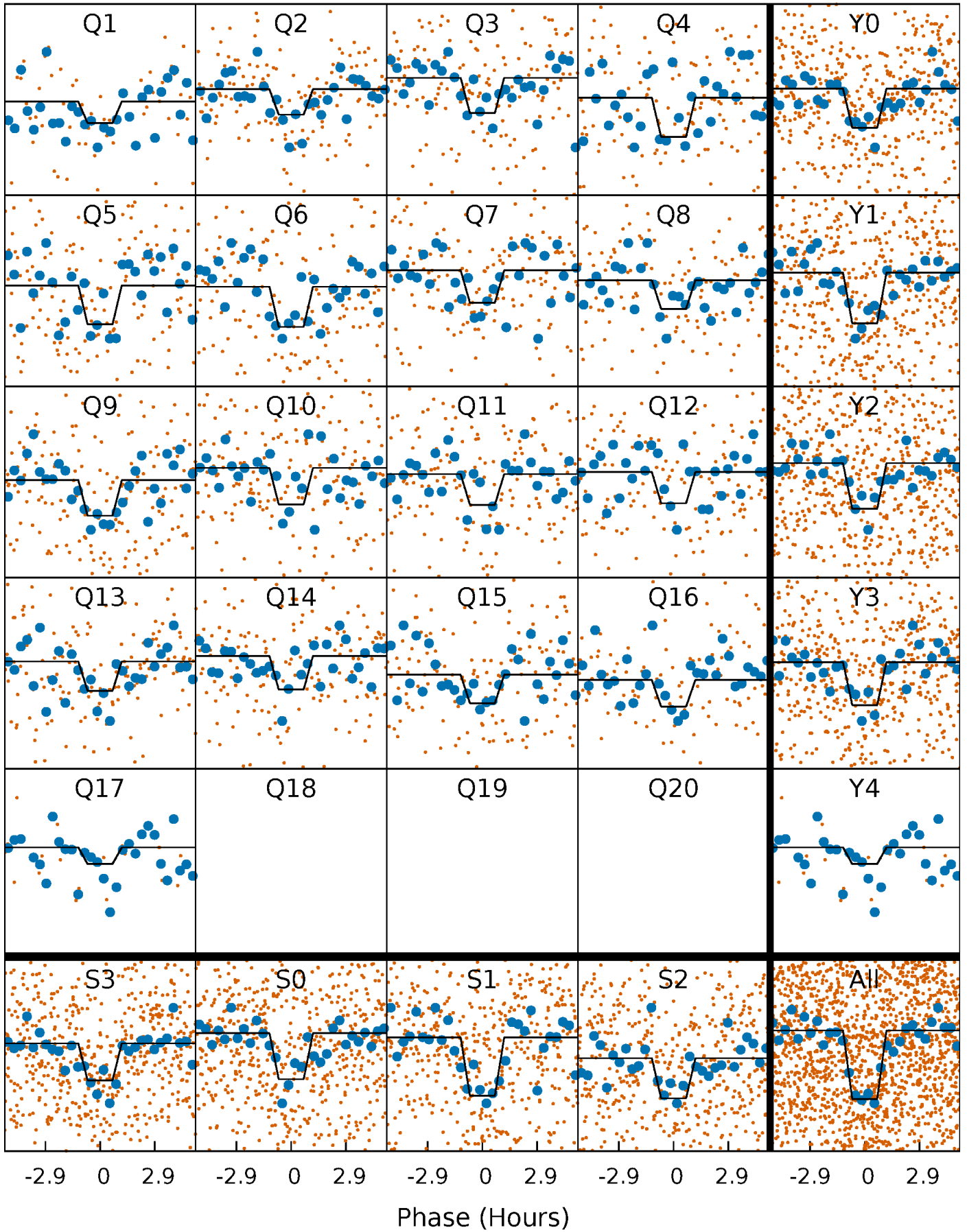
# DV Quarter-Phased Transit Curves

TCE 010190075-01 P= 11.191573 Days  $T_0=138.045023$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

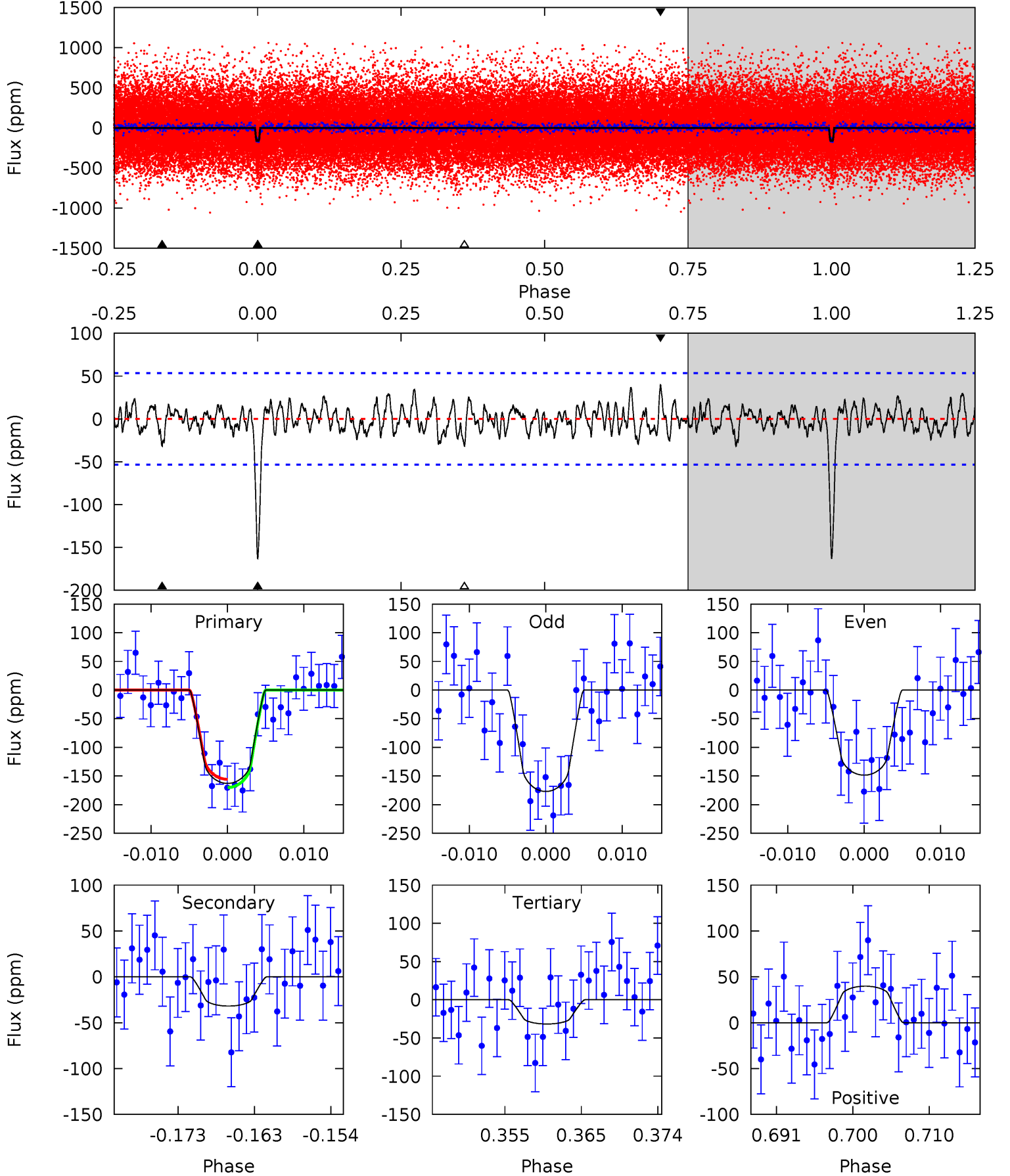
TCE 010190075-01 P= 11.191648 Days  $T_0=138.042659$  (BKJD)



# DV Model-Shift Uniqueness Test

010190075-01, P = 11.191573 Days, E = 126.853450 Days

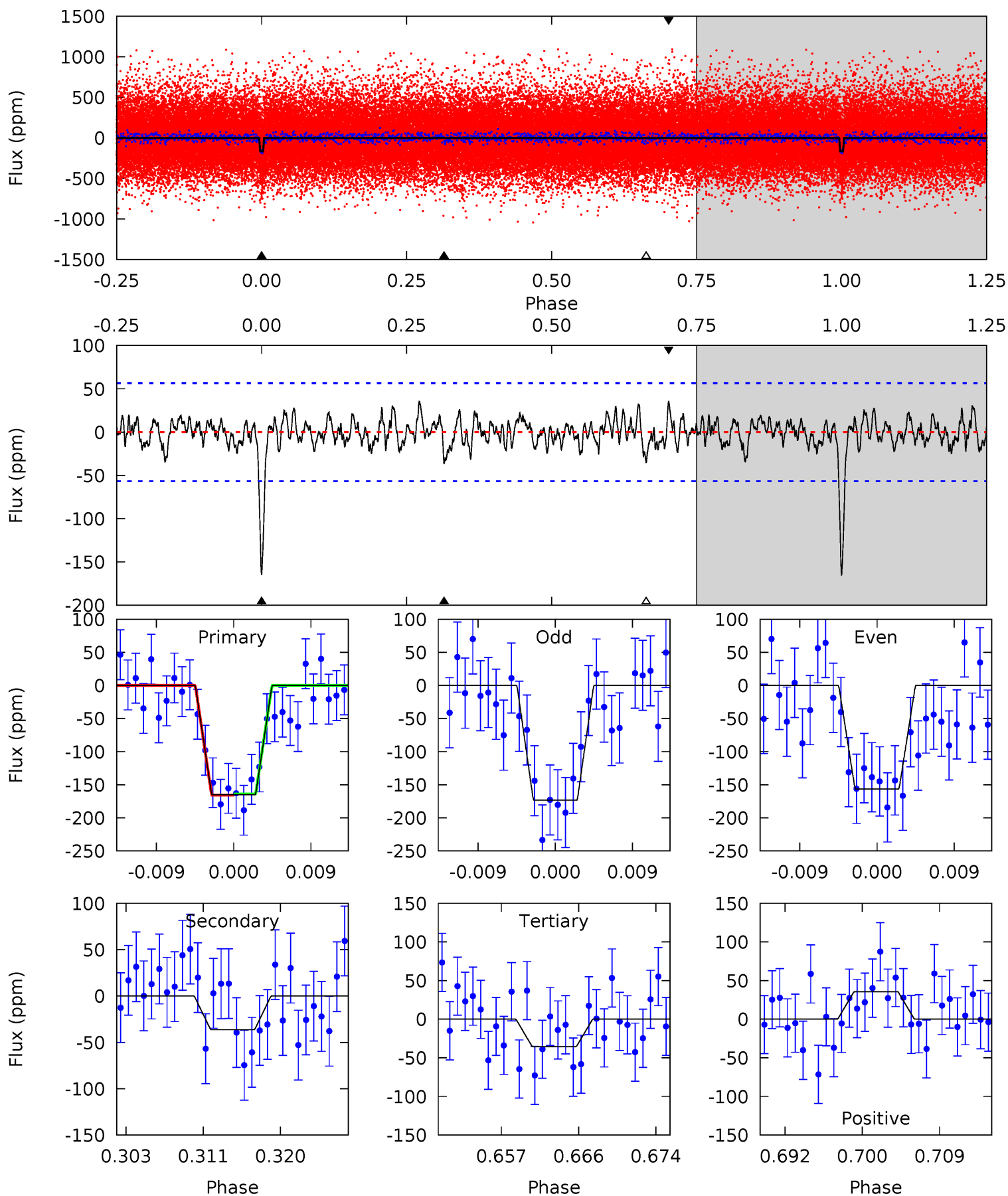
| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.4 | 3.01 | 3.00 | 3.76 | 5.03            | 2.59            | 1.16             | 12.4    | 11.6    | 0.01    | -0.75   | 1.35    | 1.01 | 0.20  | 0.68 |



# Alt Model-Shift Uniqueness Test

010190075-01, P = 11.191648 Days, E = 126.851011 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  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 14.7 | 3.24 | 3.18 | 3.18 | 5.05            | 2.63            | 1.10             | 11.5    | 11.5    | 0.06    | 0.06    | 0.75    | 0.95 | 0.18  | 0.08 |



### Stellar Parameters For KIC 010190075

|        | $T_{\text{eff}}(K)$ | $\log(g)$                 | [Fe/H]                    | $R (R_{\odot})$           | $M(M_{\odot})$            | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
|        | $5646^{+67}_{-84}$  | $4.464^{+0.051}_{-0.119}$ | $0.100^{+0.150}_{-0.150}$ | $0.956^{+0.129}_{-0.070}$ | $0.970^{+0.054}_{-0.060}$ | $1.565^{+0.350}_{-0.520}$                 |
|        | +1%/-1%             | +1%/-3%                   | +150%/-150%               | +13%/-7%                  | +6%/-6%                   | +22%/-33%                                 |
| Source | SPE90               | SPE90                     | SPE90                     | DSEP                      |                           |   |

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 010190075-01 / KOI 3007.01

| Detrend | Depth (ppm)  | $R_p (R_{\oplus})$     | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$  | $A_{\text{obs}}$  |
|---------|--------------|------------------------|----------------------|-----------------------|-------------------|
| DV      | $-32 \pm 11$ | $1.62^{+0.98}_{-0.90}$ | $1100^{+43}_{-30}$   | $3797^{+1362}_{-590}$ | $60^{+249}_{-38}$ |
| Alt.    | $-36 \pm 11$ | $1.52^{+0.96}_{-0.89}$ | $1102^{+41}_{-31}$   | $3993^{+1644}_{-674}$ | $81^{+373}_{-53}$ |

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



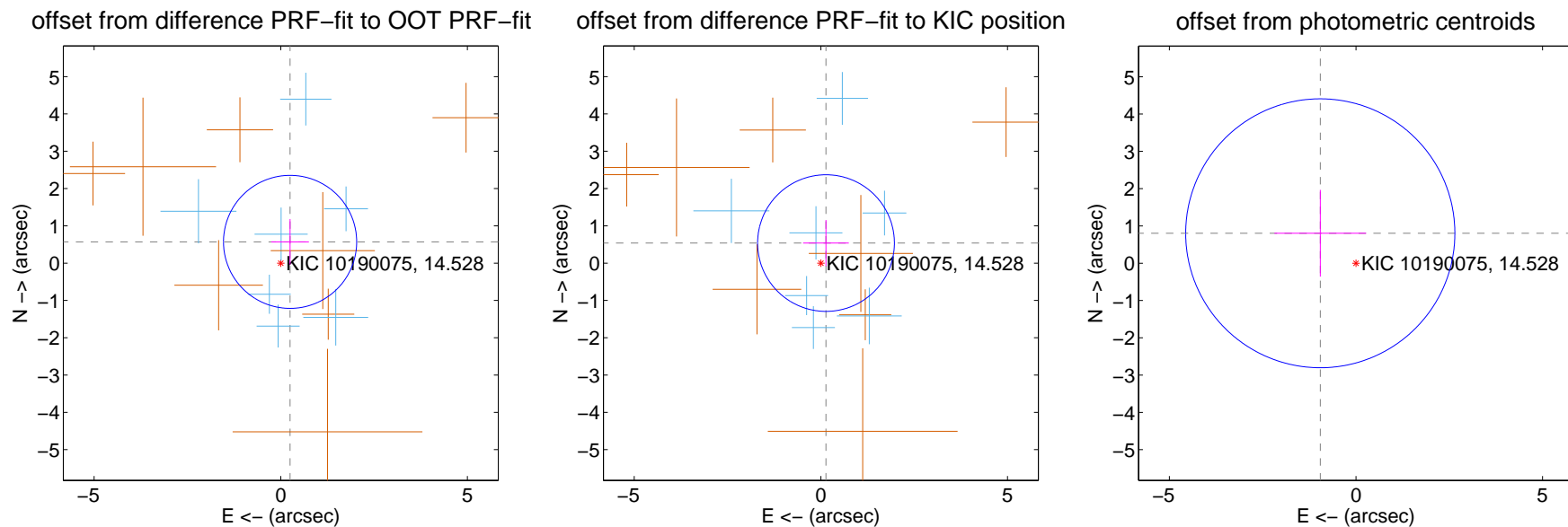
## DV Centroid Data

Supplemental centroid analysis for 010190075-01. Kepler magnitude: 14.53. Transit SNR 11.69

There are 7 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

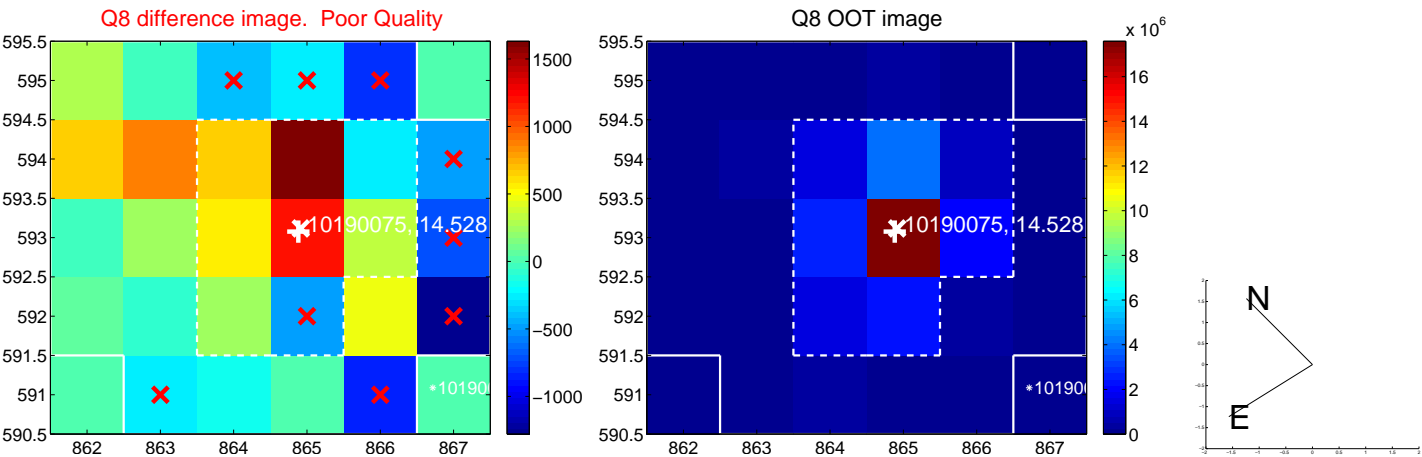
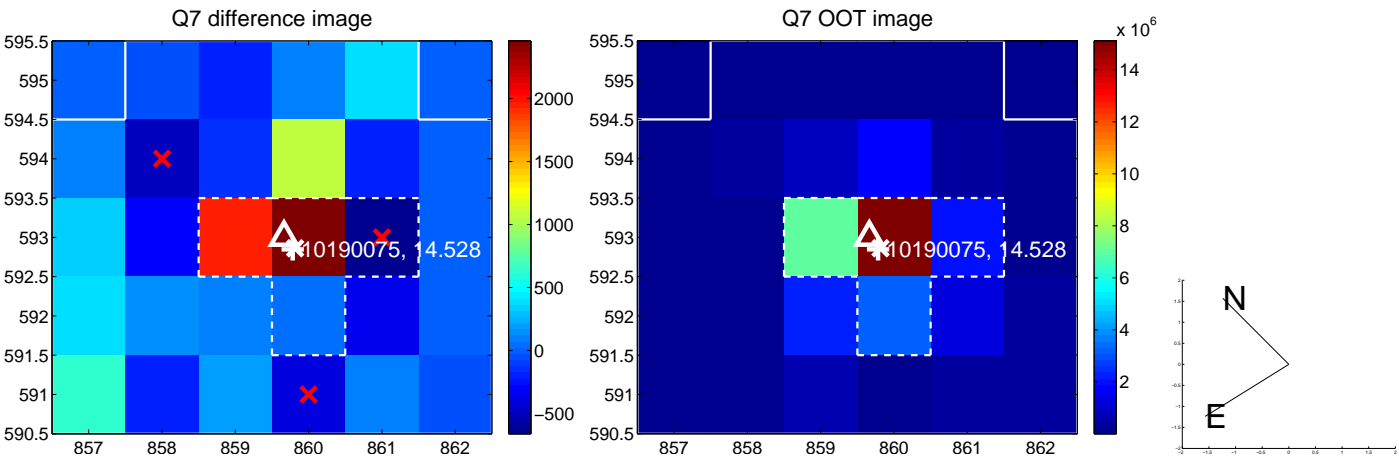
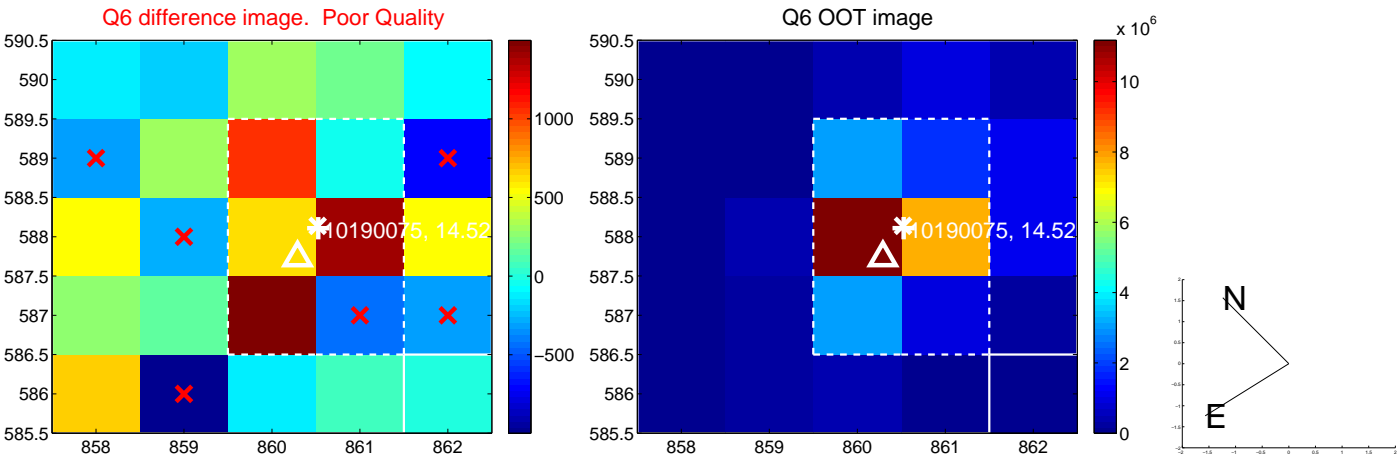
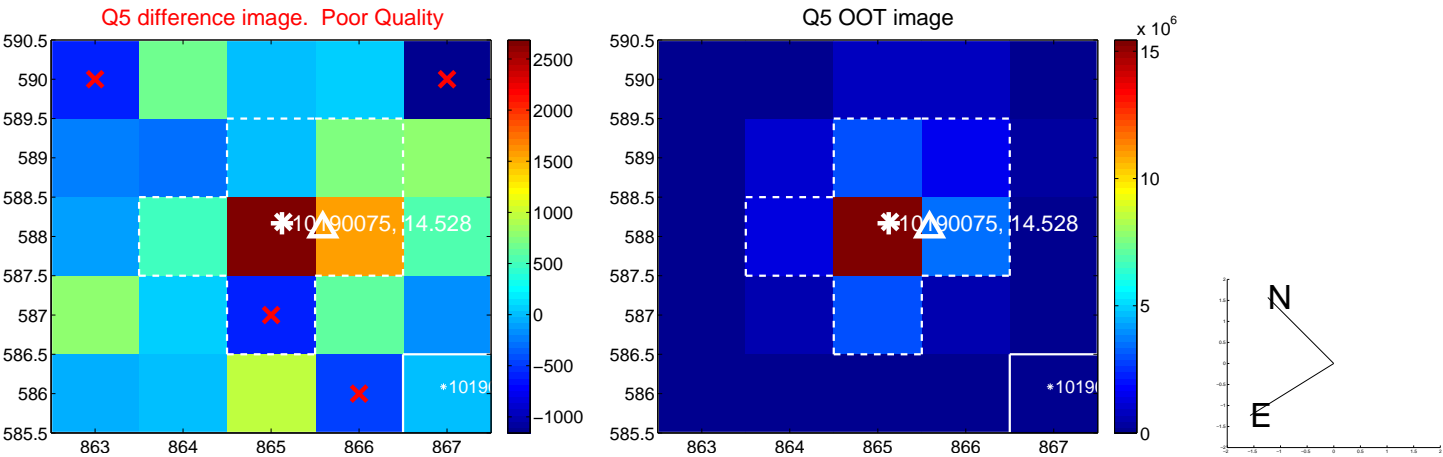
|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA        | $\Delta$ Dec      |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT          | $0.623 \pm 0.594$  | 1.05                | $-0.250 \pm 0.503$ | $0.570 \pm 0.610$ |
| PRF-fit source offset from KIC position | $0.555 \pm 0.610$  | 0.91                | $-0.137 \pm 0.612$ | $0.538 \pm 0.619$ |
| photometric centroid source offset      | $1.25 \pm 1.20$    | 1.04                | $0.96 \pm 1.23$    | $0.80 \pm 1.16$   |



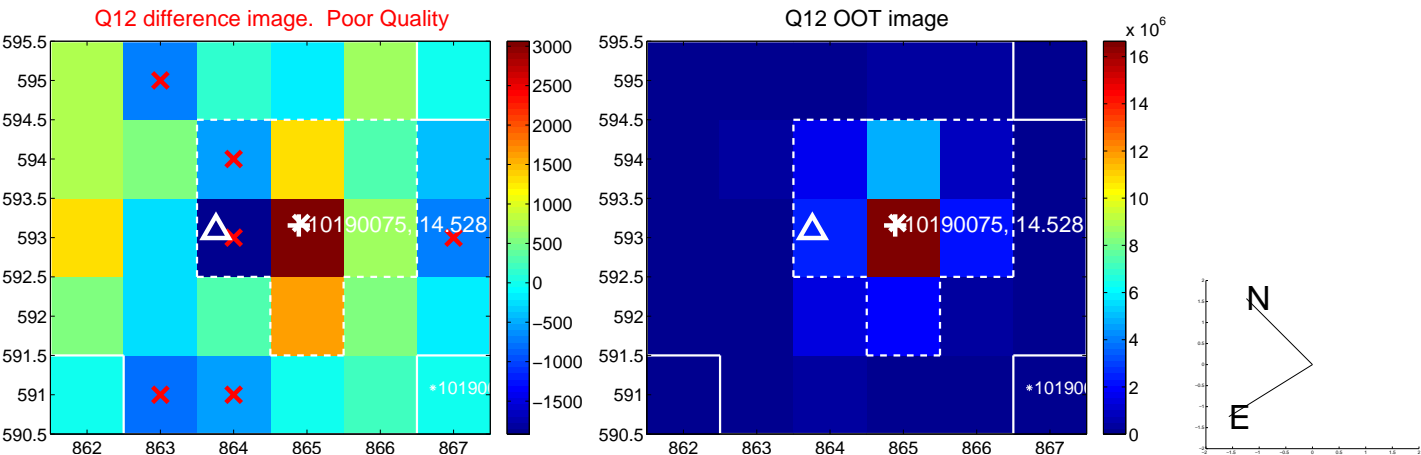
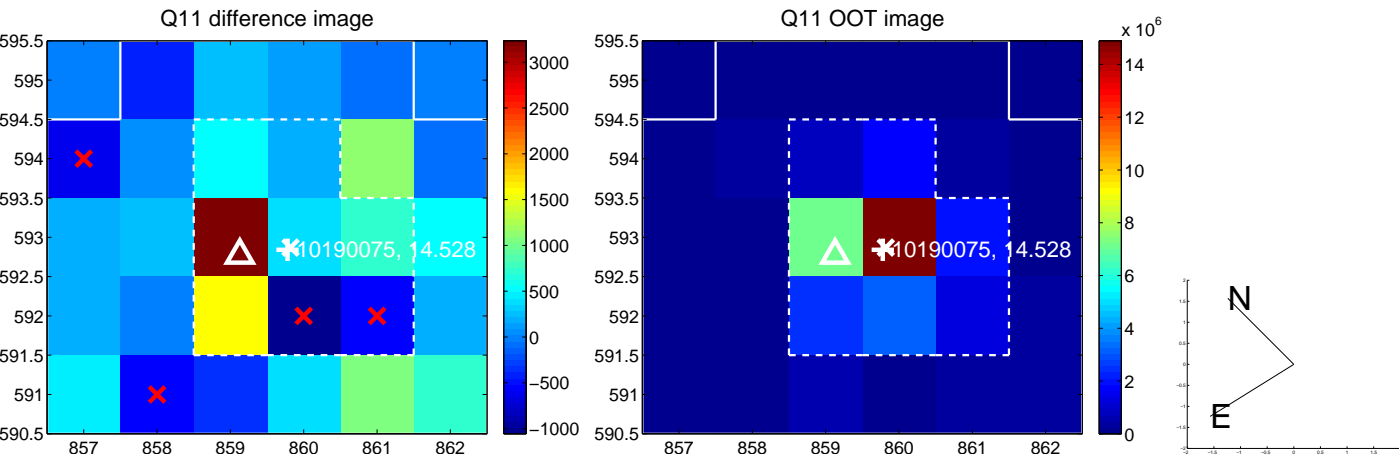
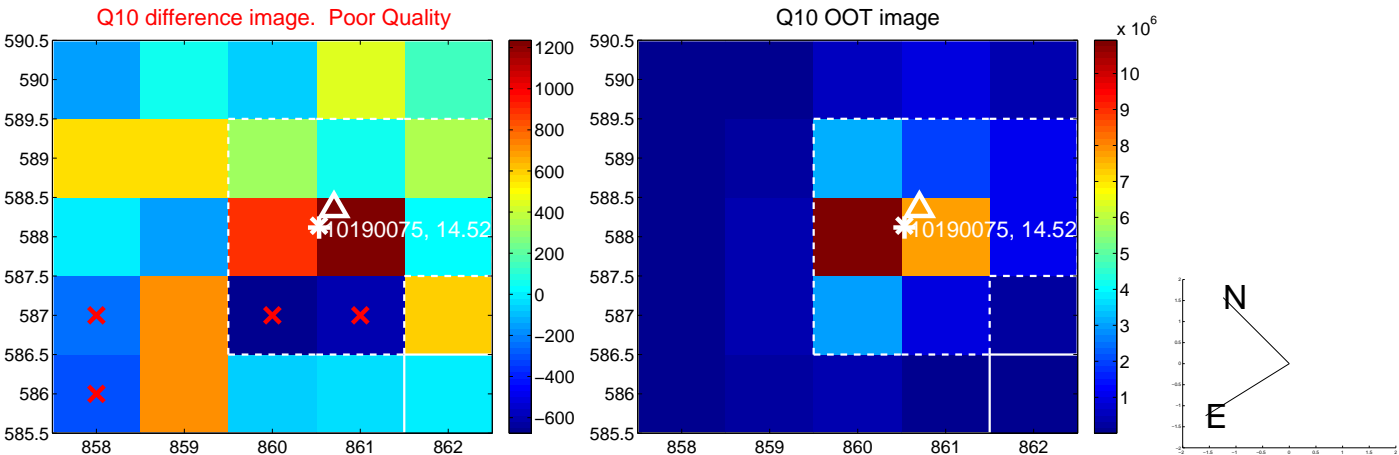
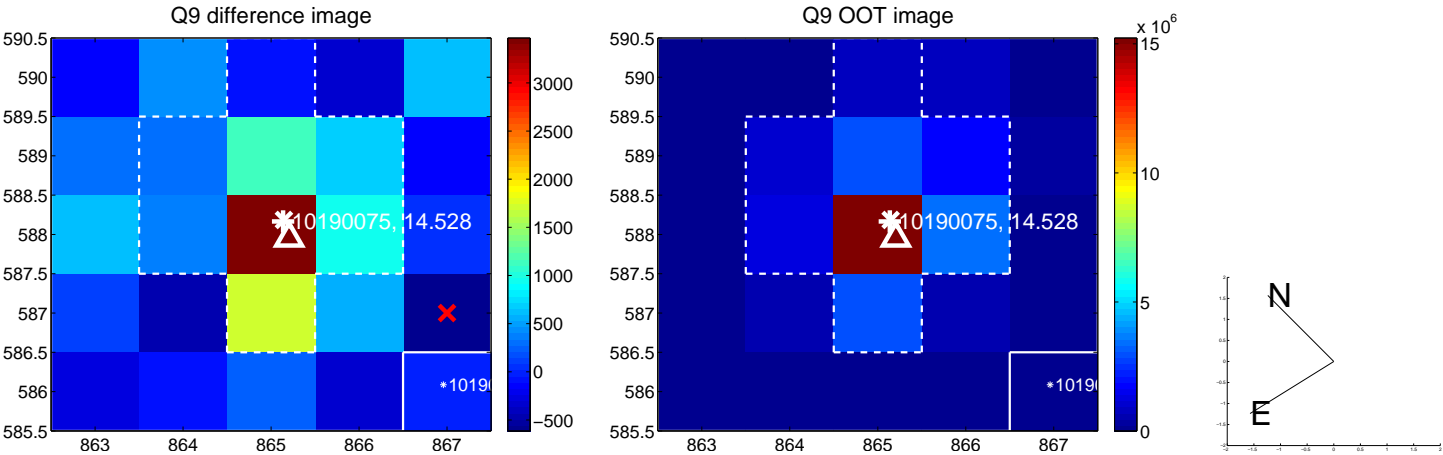
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



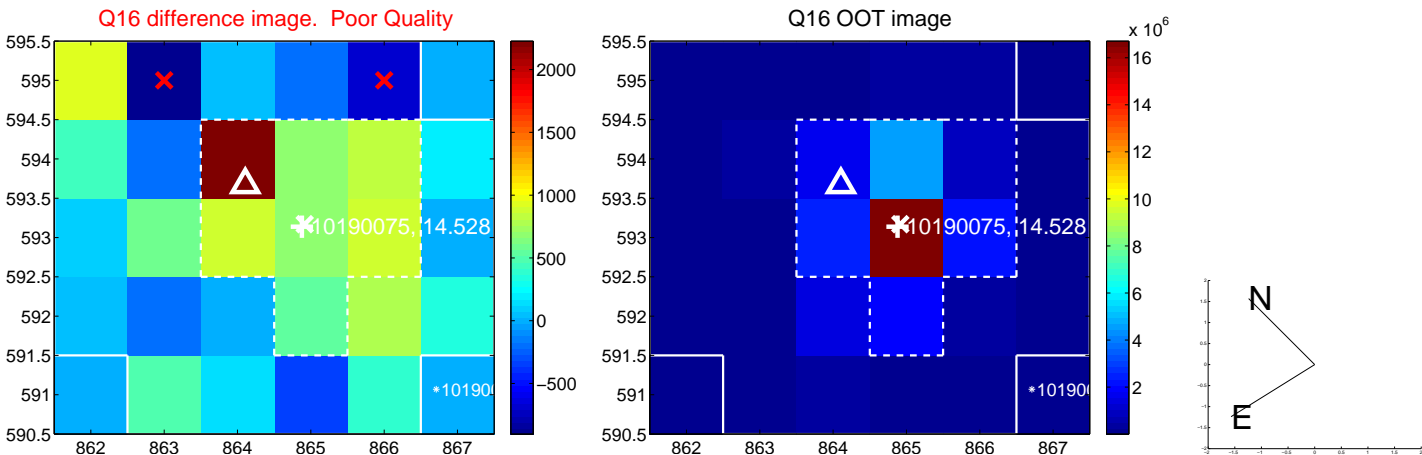
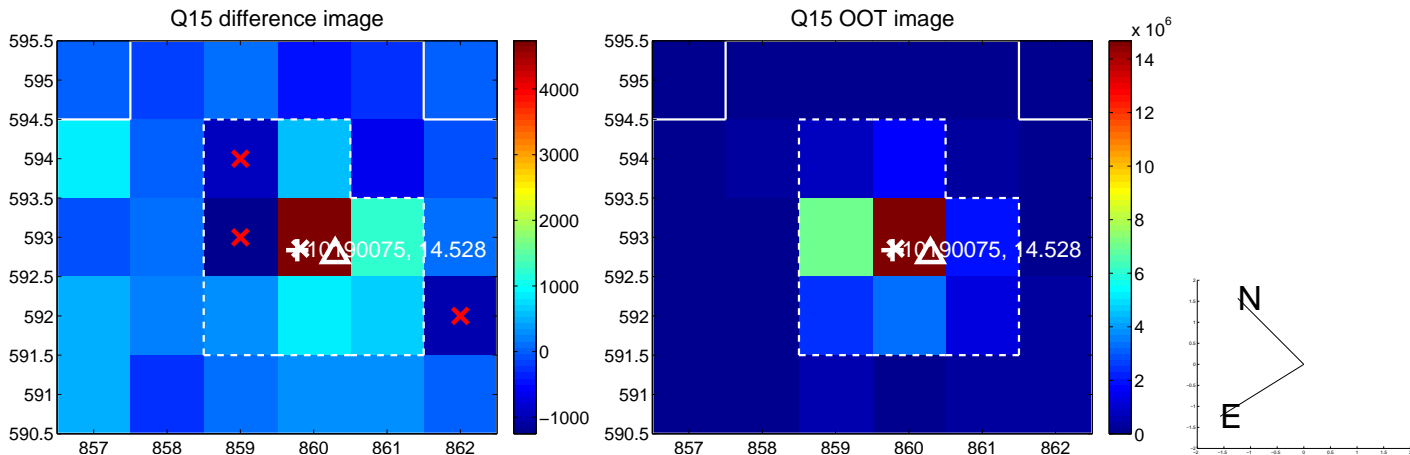
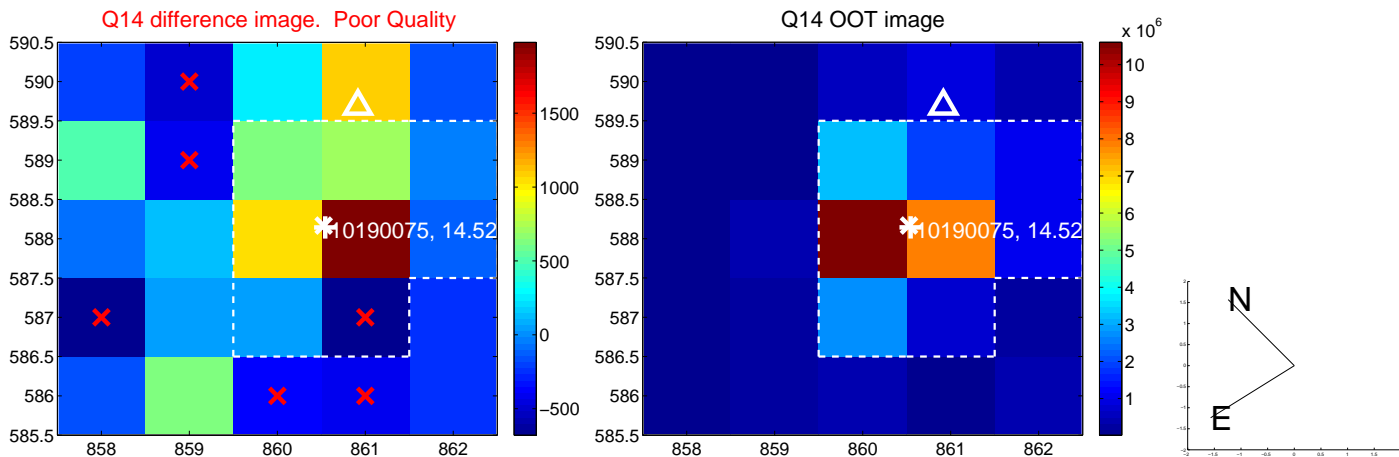
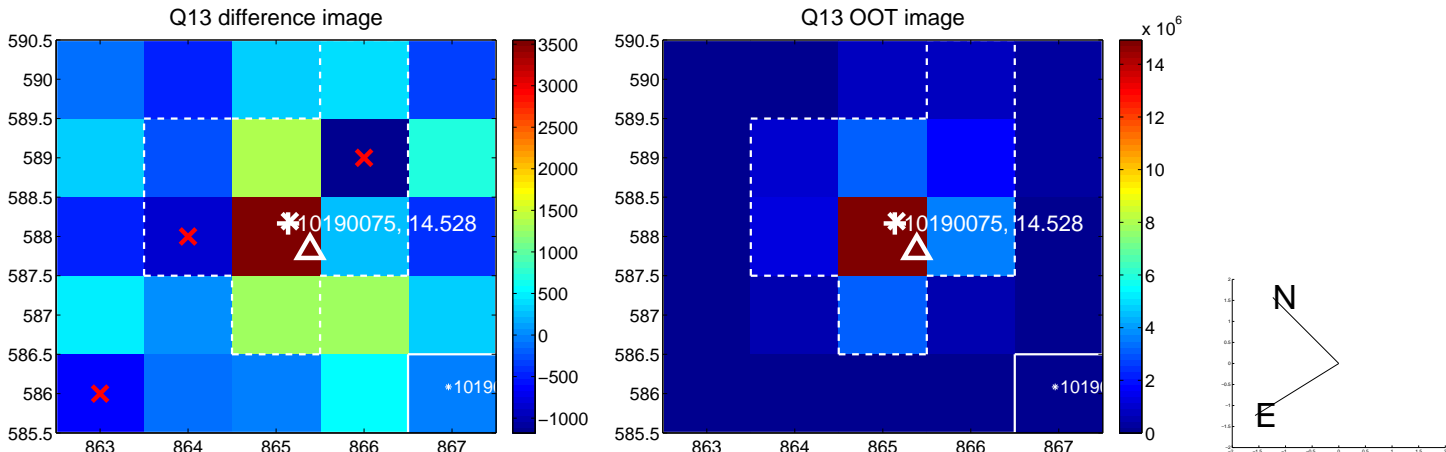
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.







UKIRT Image

