

# KIC 003114811

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 003114811-01 | OBS      | 1117.01 | 11.089572     | 141.759751   | 148.1       | 6.617            | 24.7 | 26.2 | 2.87                        | 6353            | 4.09                   | 968.00                 |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments   |
|--------------|----------|------|-------|---|---|---|---|------------|
| 003114811-01 | OBS      | PC   | 1.00  | 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.

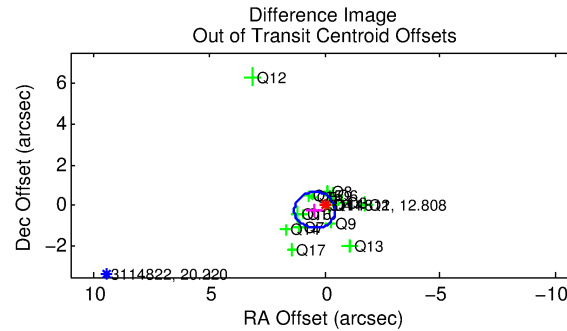
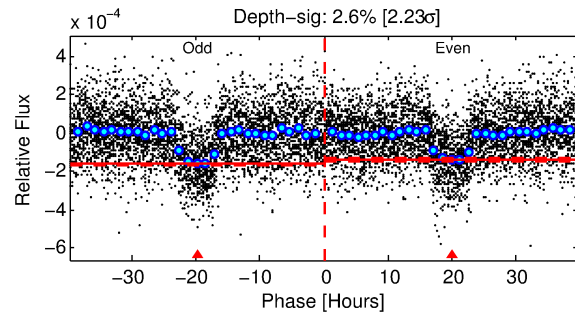
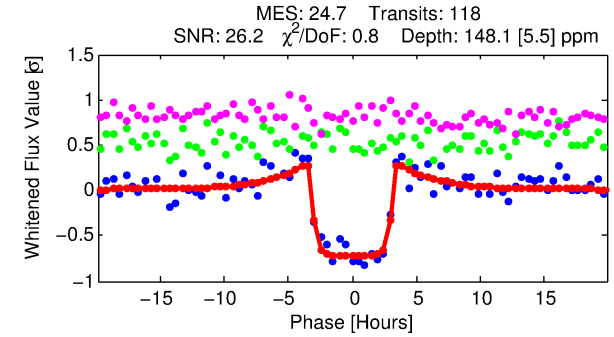
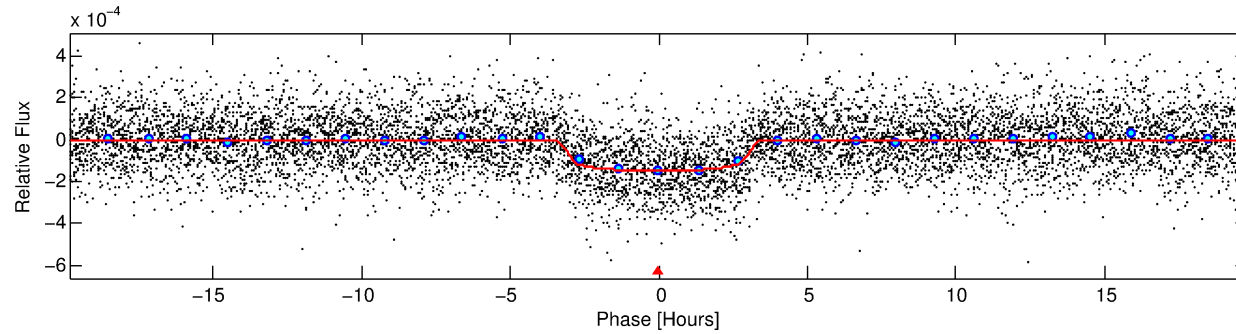
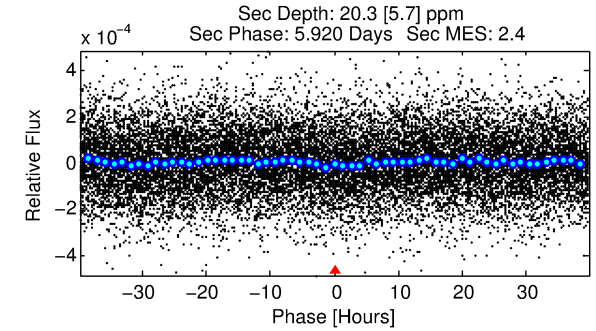
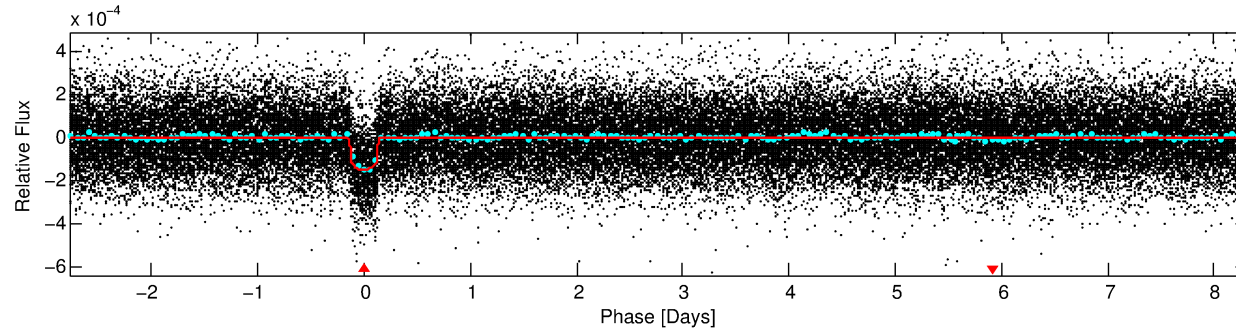
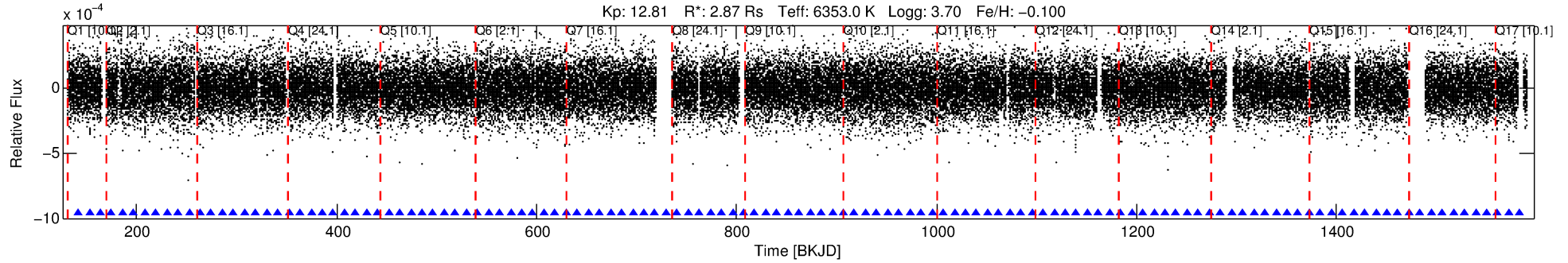
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003114811-01

No Significant Match Found

# DV One-Page Summary

KIC: 3114811 Candidate: 1 of 1 Period: 11.090 d  
KOI: K01117.01 Corr: 0.979



## DV Fit Results:

Period = 11.08957 [0.00004] d  
Epoch = 141.7598 [0.0031] BKJD  
Rp/R\* = 0.0131 [0.0008]  
a/R\* = 6.01 [1.92]  
b = 0.90 [0.07]  
Seff = 968.00 [420.07]  
Teq = 1422 [154] K  
Rp = 4.09 [1.21] Re  
a = 0.1113 [0.0301] AU  
Ag = 8.28 [4.36] [1.67σ]  
Teffp = 3731 [297] K [6.90σ]

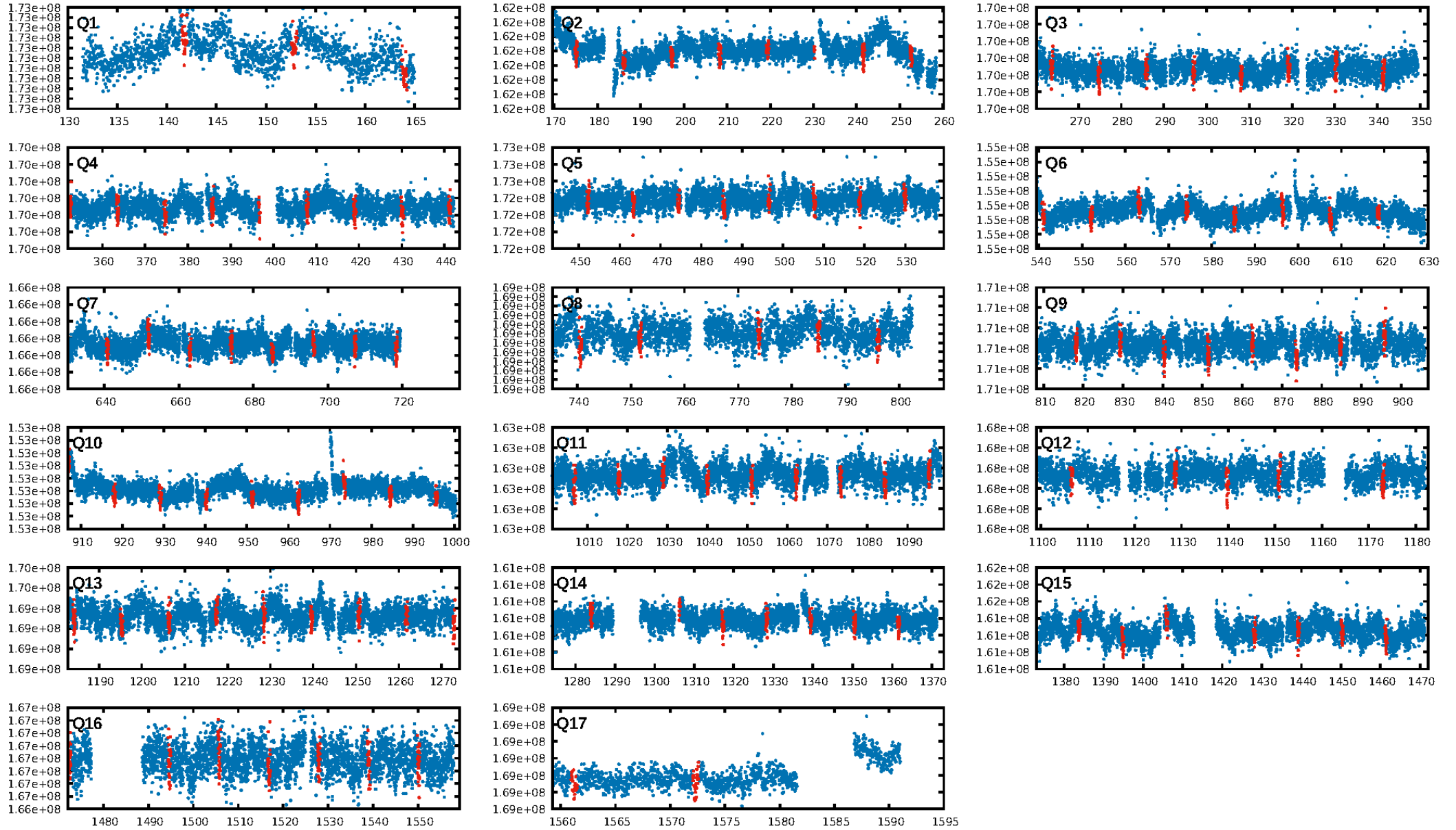
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.7%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 3.72e-122  
RollingBand-fgt: 1.00 [113/113]  
GhostDiagnostic-chr: 5.992  
Centroid-sig: 58.2%  
Centroid-so: 0.460 arcsec [1.52σ]  
OotOffset-rm: 0.485 arcsec [1.65σ]  
KicOffset-rm: 0.486 arcsec [1.51σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 0.88 [14/16]  
DiffImageOverlap-fno: 1.00 [17/17]

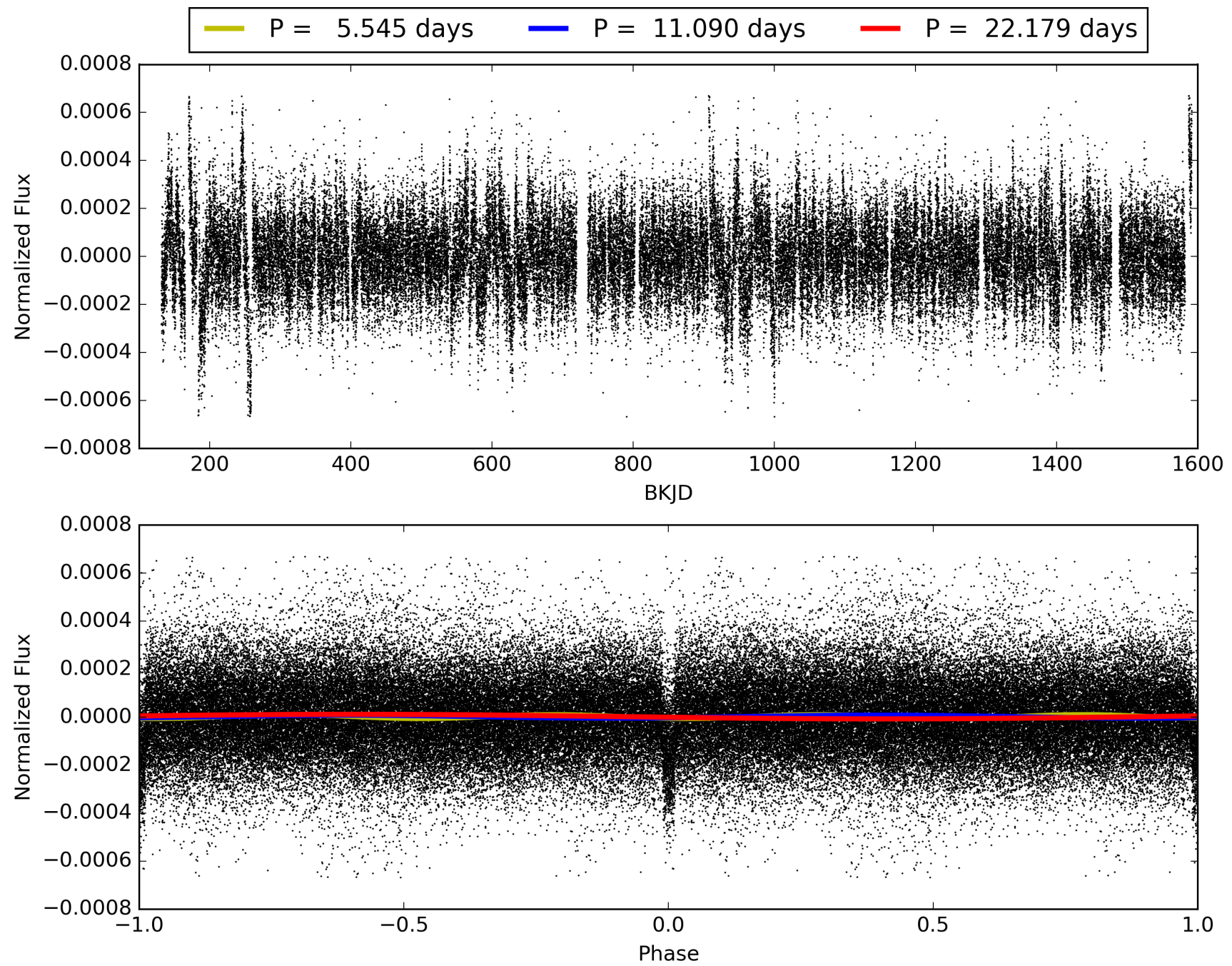
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:21:32 Z

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

# TCE 003114811-01, PDC Light Curves

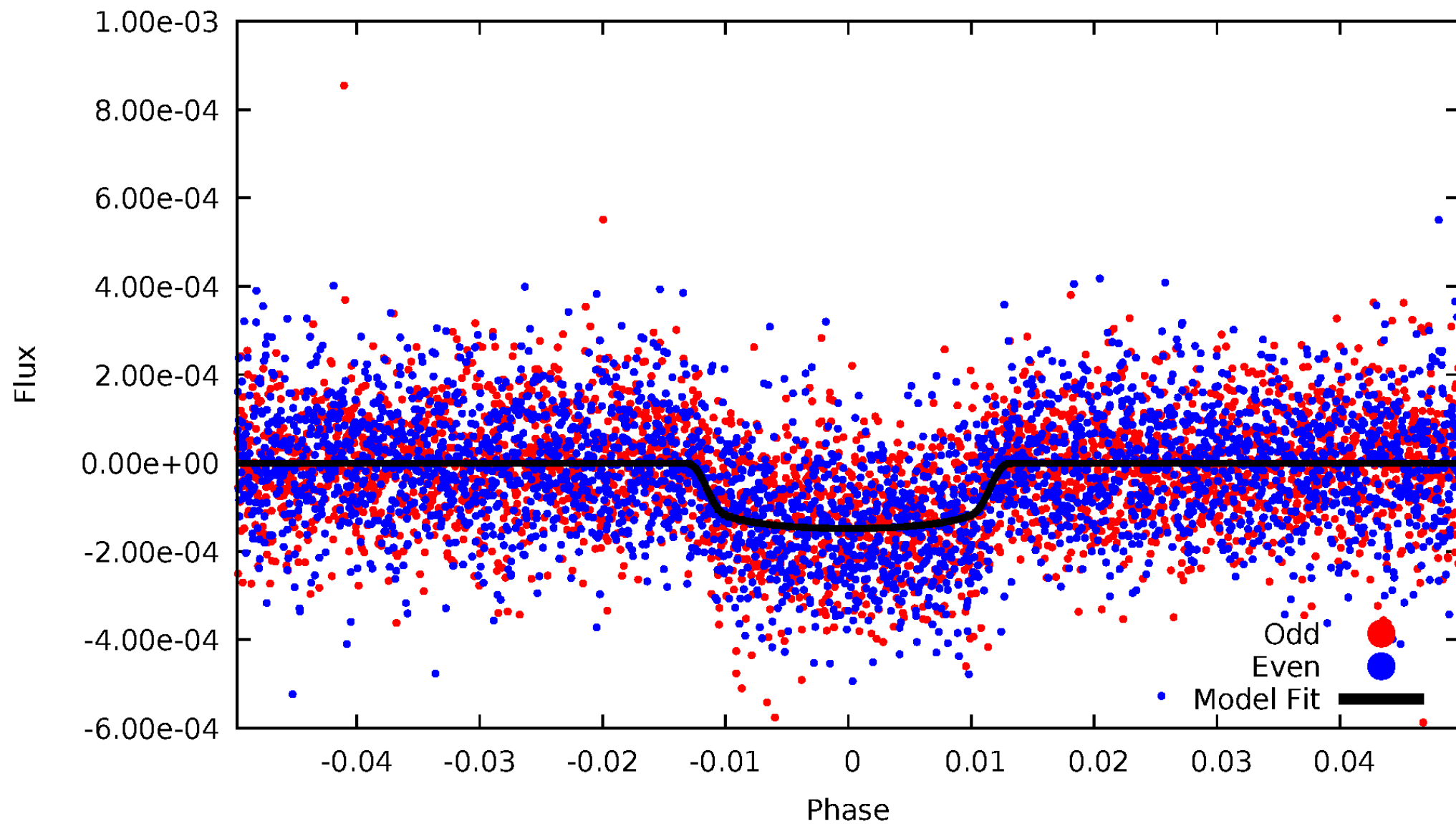


TCE 003114811-01



# DV Odd/Even

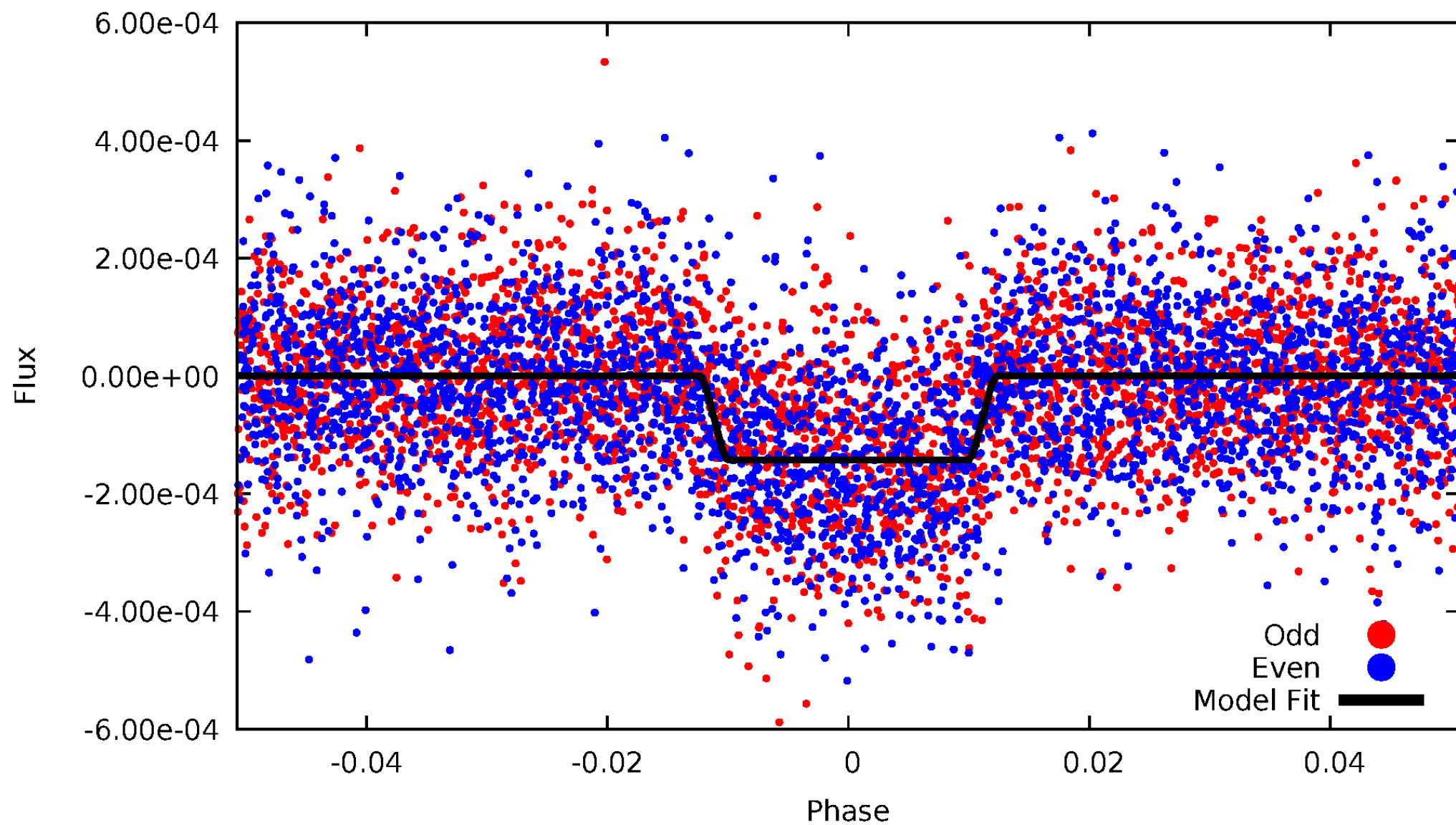
TCE 003114811-01





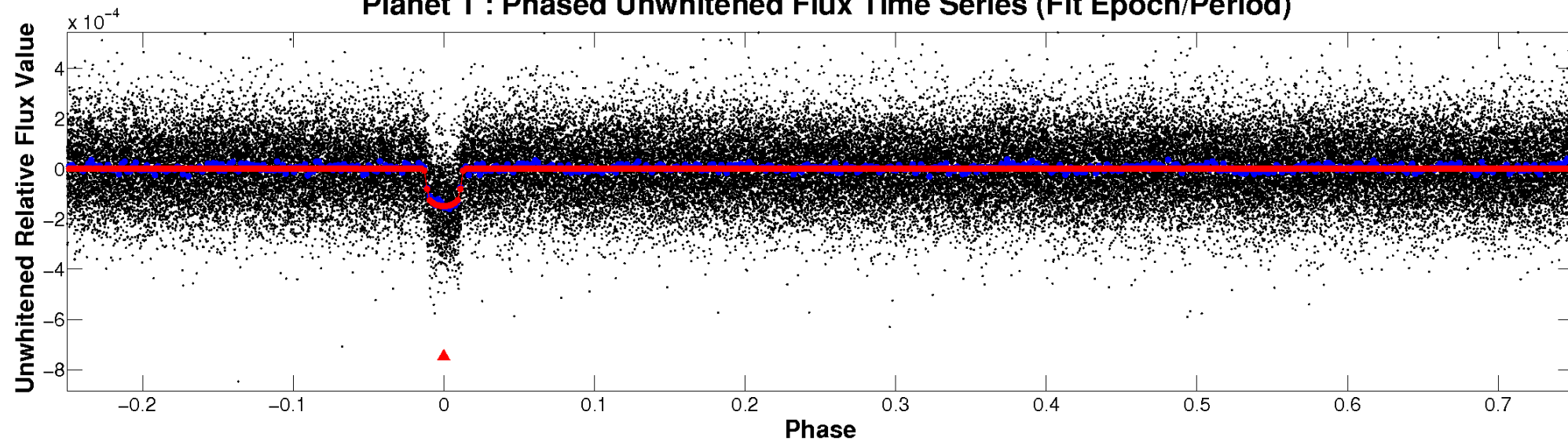
# ALT Odd/Even

TCE 003114811-01

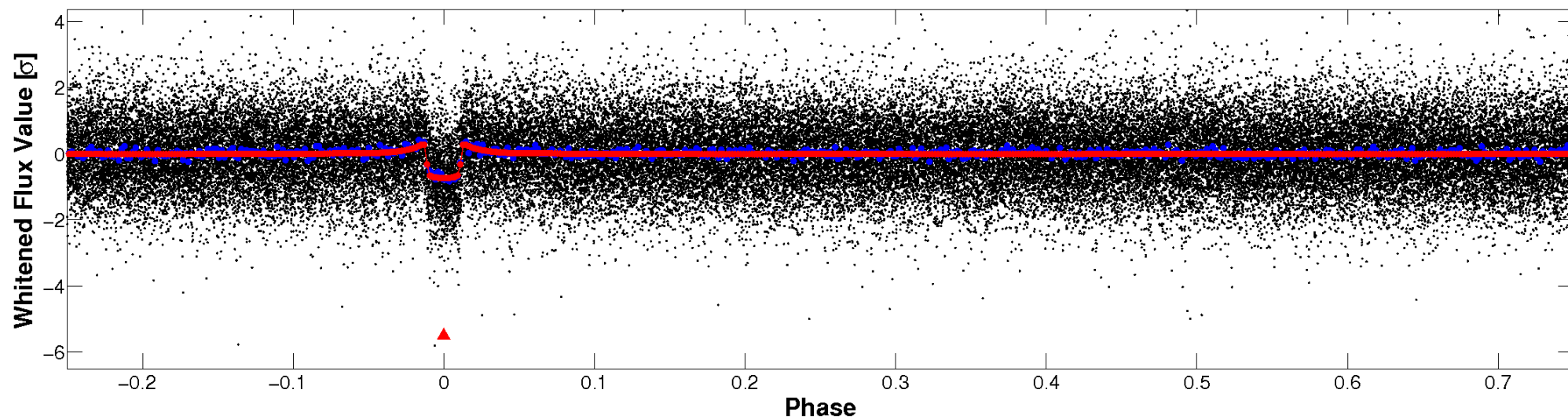


# Non-Whitened Vs. Whitened Light Curve

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

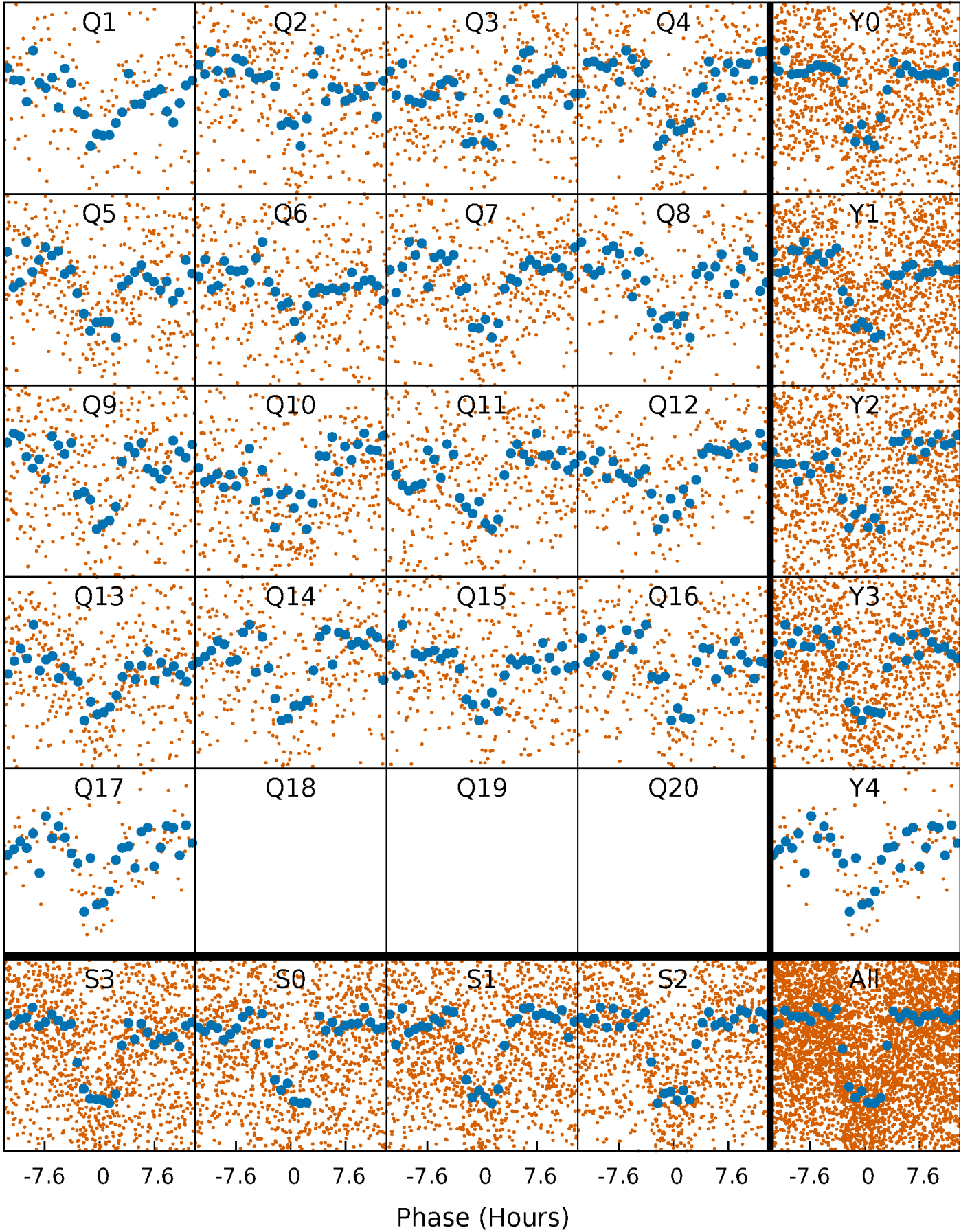


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

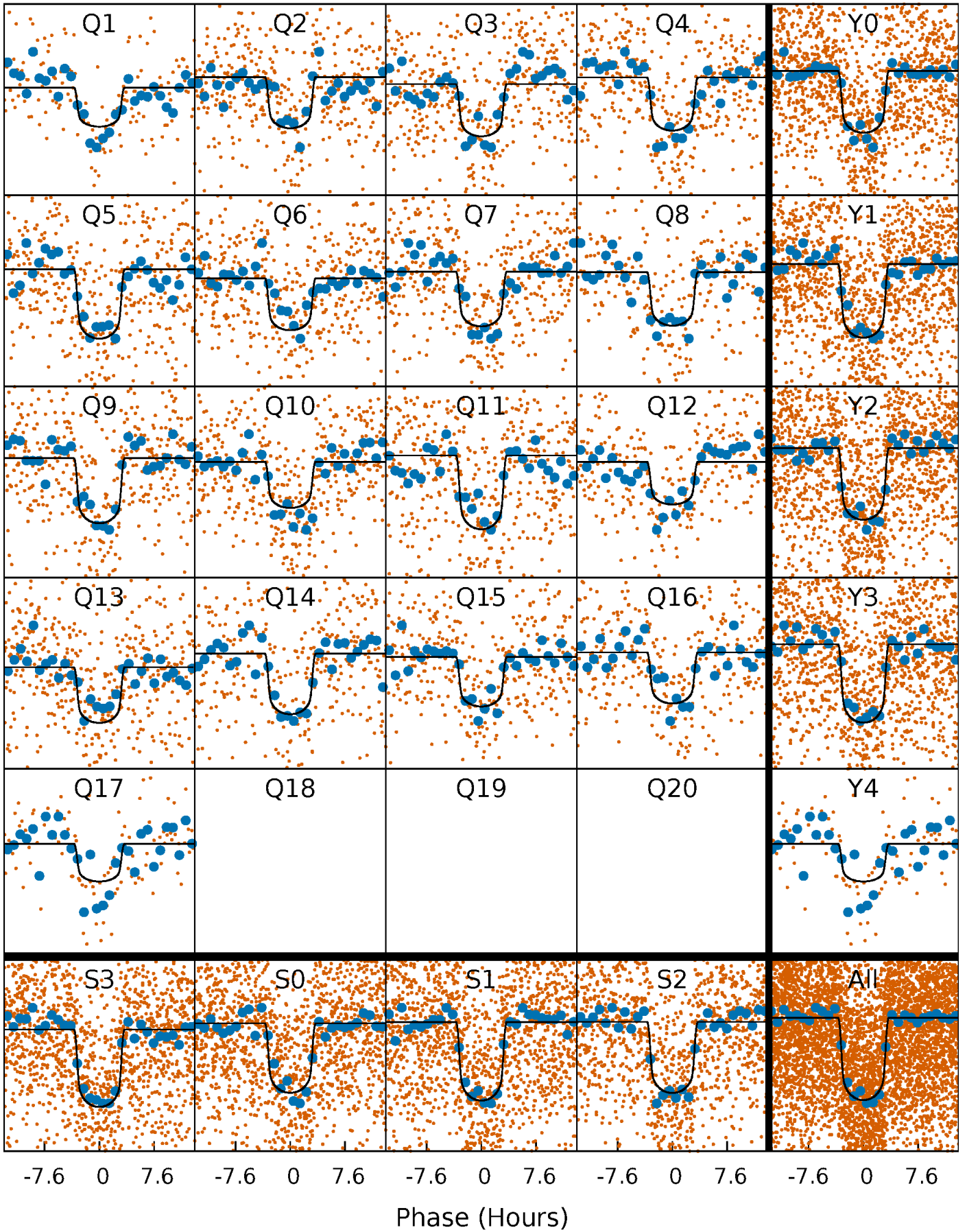
TCE 003114811-01 P= 11.089572 Days  $T_0=141.759751$  (BKJD)





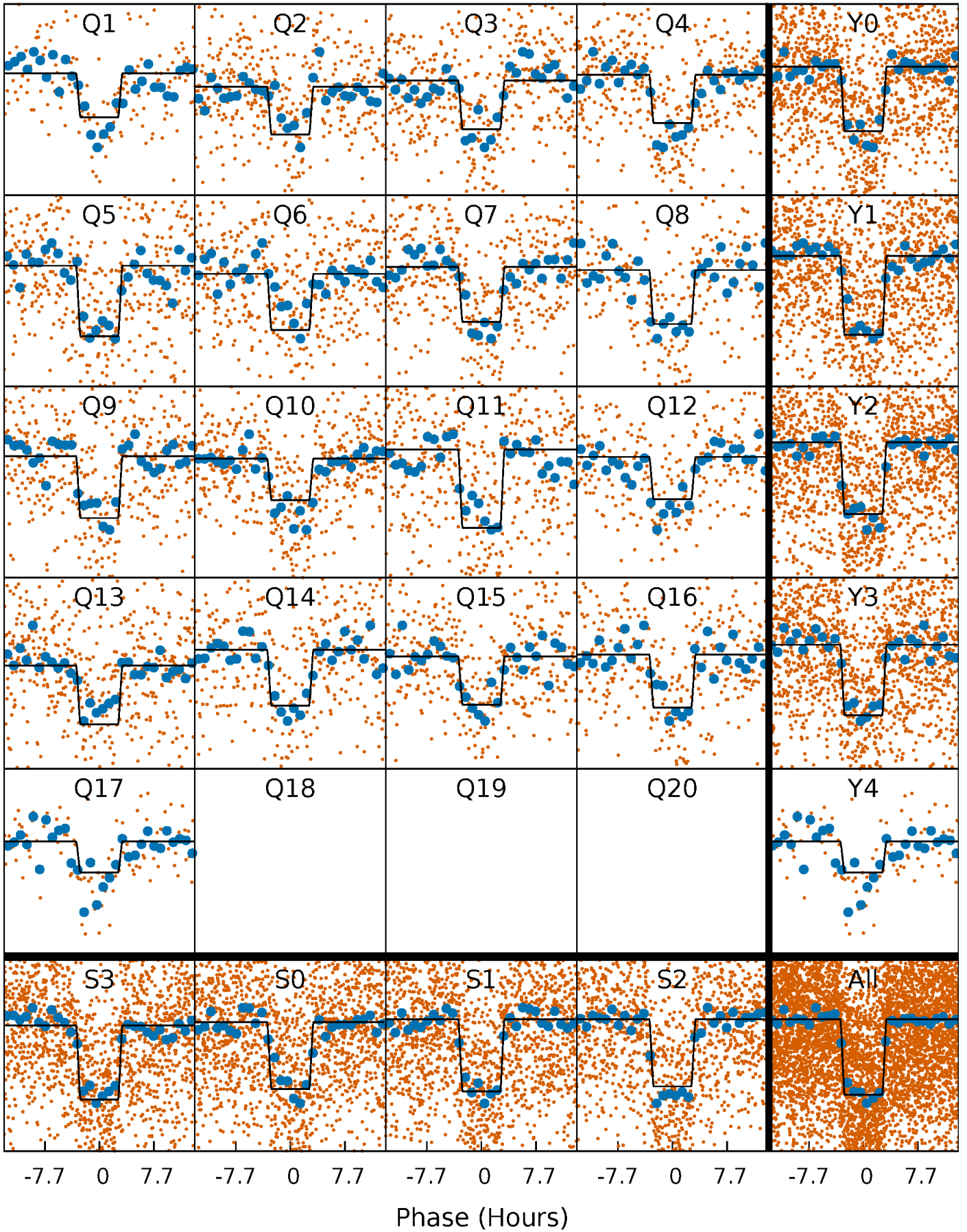
# DV Quarter-Phased Transit Curves

TCE 003114811-01 P= 11.089572 Days  $T_0=141.759751$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

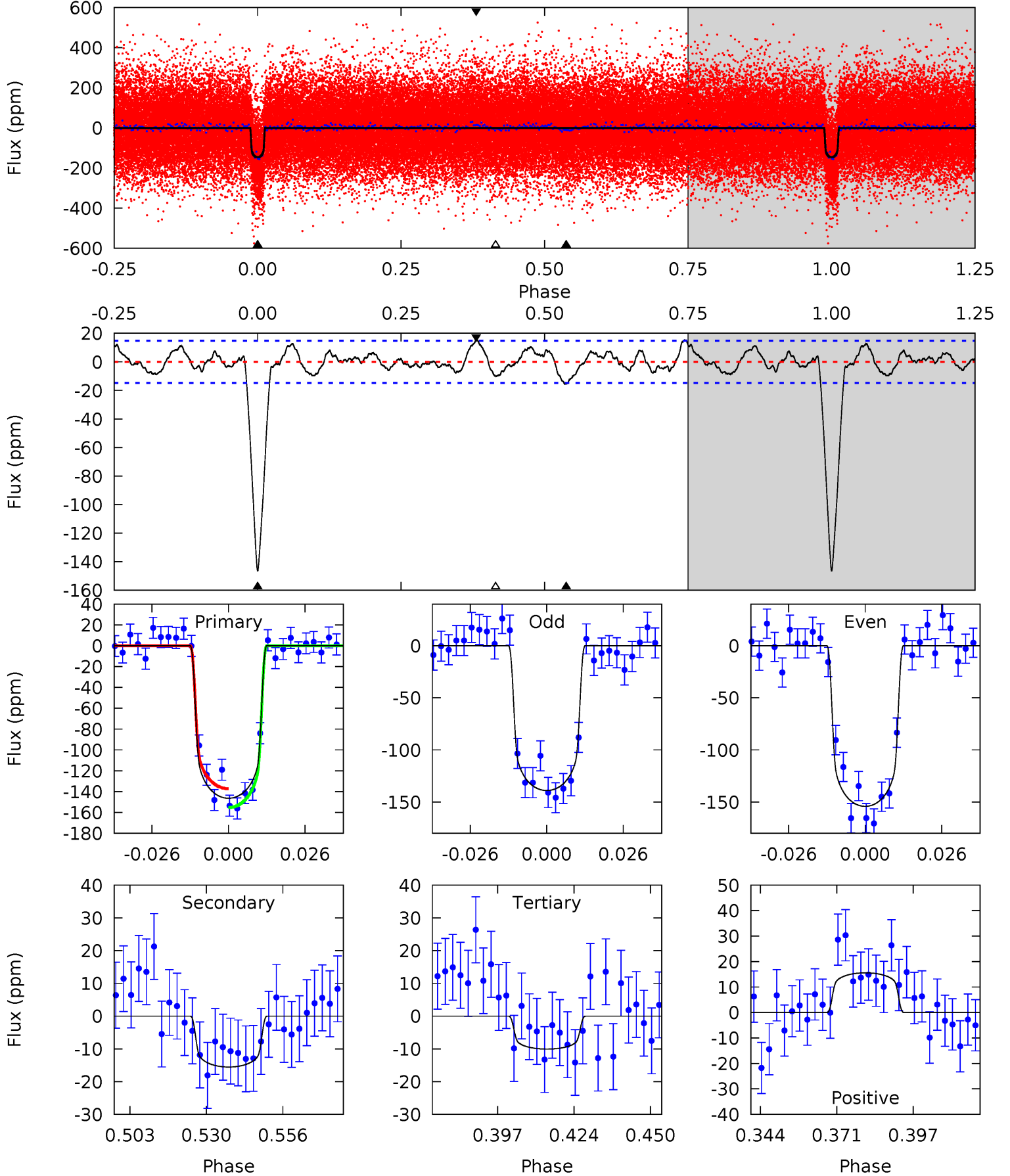
TCE 003114811-01 P= 11.089697 Days  $T_0=141.753419$  (BKJD)



# DV Model-Shift Uniqueness Test

003114811-01,  $P = 11.089572$  Days,  $E = 130.670179$  Days

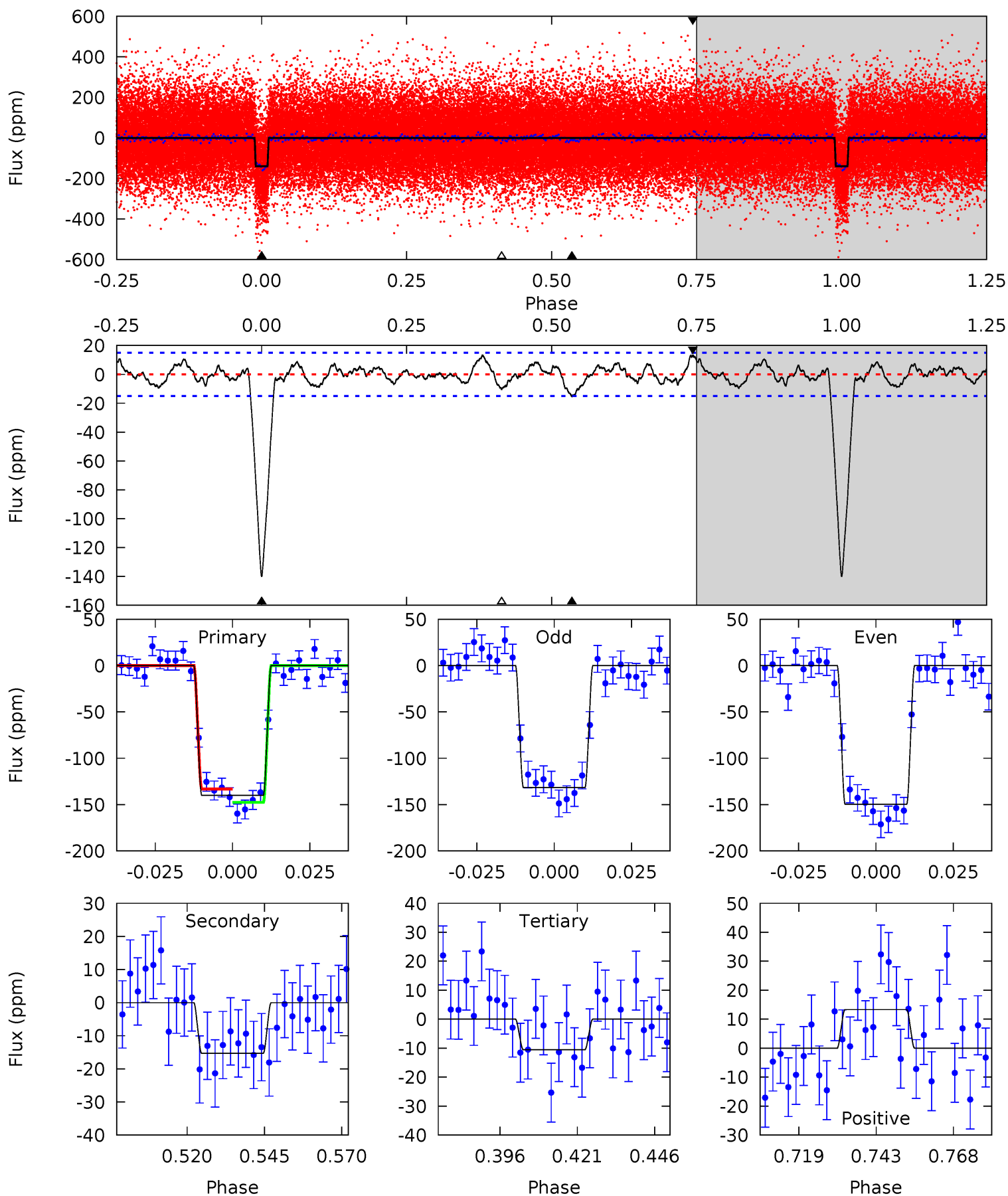
| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 47.8 | 5.07 | 3.28 | 5.08 | 4.84            | 2.22            | 1.84             | 44.5    | 42.7    | 1.79    | -0.01   | 2.48    | 1.01 | 0.10  | 2.96 |



# Alt Model-Shift Uniqueness Test

003114811-01, P = 11.089697 Days, E = 130.663722 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  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 45.3 | 4.95 | 3.40 | 4.31 | 4.85            | 2.24            | 1.54             | 41.9    | 41.0    | 1.55    | 0.64    | 2.91    | 0.99 | 0.09  | 2.34 |





### Stellar Parameters For KIC 003114811

|        | $T_{\text{eff}} (K)$ | $\log(g)$                 | $[\text{Fe}/\text{H}]$     | $R (R_{\odot})$           | $M (M_{\odot})$           | $\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--|
|        | $6353^{+128}_{-115}$ | $3.698^{+0.248}_{-0.078}$ | $-0.100^{+0.150}_{-0.150}$ | $2.867^{+0.295}_{-0.826}$ | $1.497^{+0.172}_{-0.229}$ | $0.089^{+0.134}_{-0.018}$                    |
|        | +2%/-2%              | +7%/-2%                   | +150%/-150%                | +10%/-29%                 | +11%/-15%                 | +149%/-20%                                   |
| Source | SPE59                | SPE59                     | SPE59                      | DSEP                      |                           |  |

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

### Secondary Eclipse Parameters for KIC 003114811-01 / KOI 1117.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$     | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | $A_{\text{obs}}$          |
|---------|-------------|------------------------|----------------------|----------------------|---------------------------|
| DV      | $-16 \pm 3$ | $4.01^{+0.44}_{-0.57}$ | $1966^{+88}_{-116}$  | $3827^{+170}_{-164}$ | $6.600^{+2.618}_{-1.551}$ |
| Alt.    | $-15 \pm 3$ | $3.64^{+0.44}_{-0.58}$ | $1963^{+84}_{-144}$  | $3942^{+178}_{-185}$ | $8.002^{+3.561}_{-2.157}$ |

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

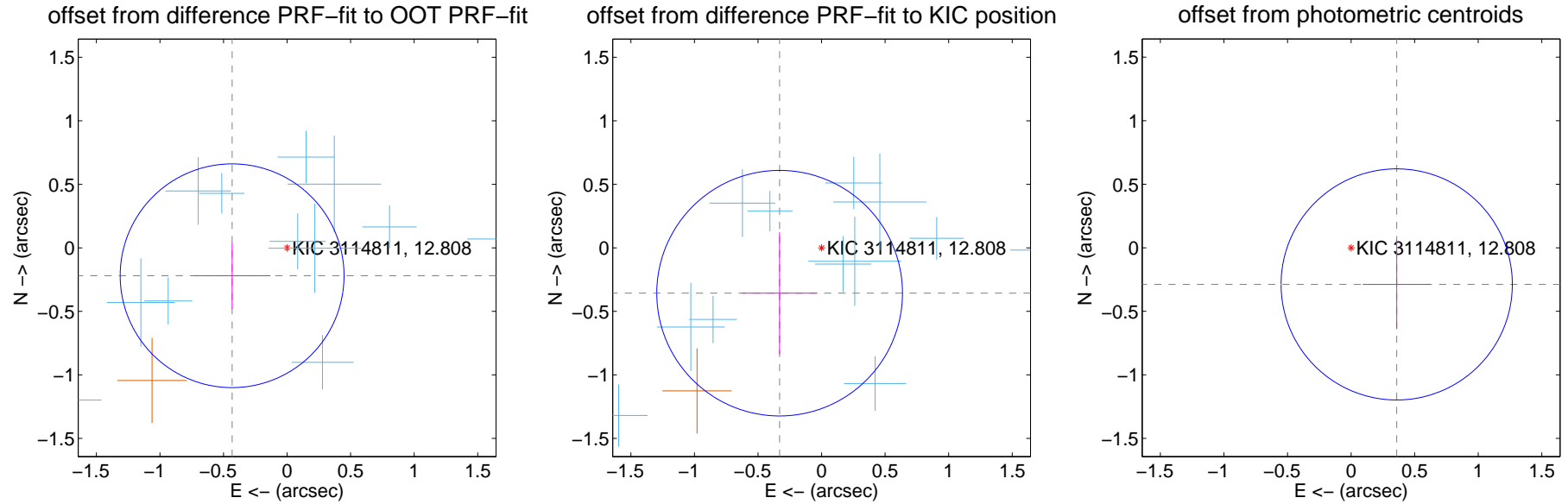
## DV Centroid Data

Supplemental centroid analysis for 003114811-01. Kepler magnitude: 12.81. Transit SNR 26.23

There are 14 quarters with good PRF difference image offsets

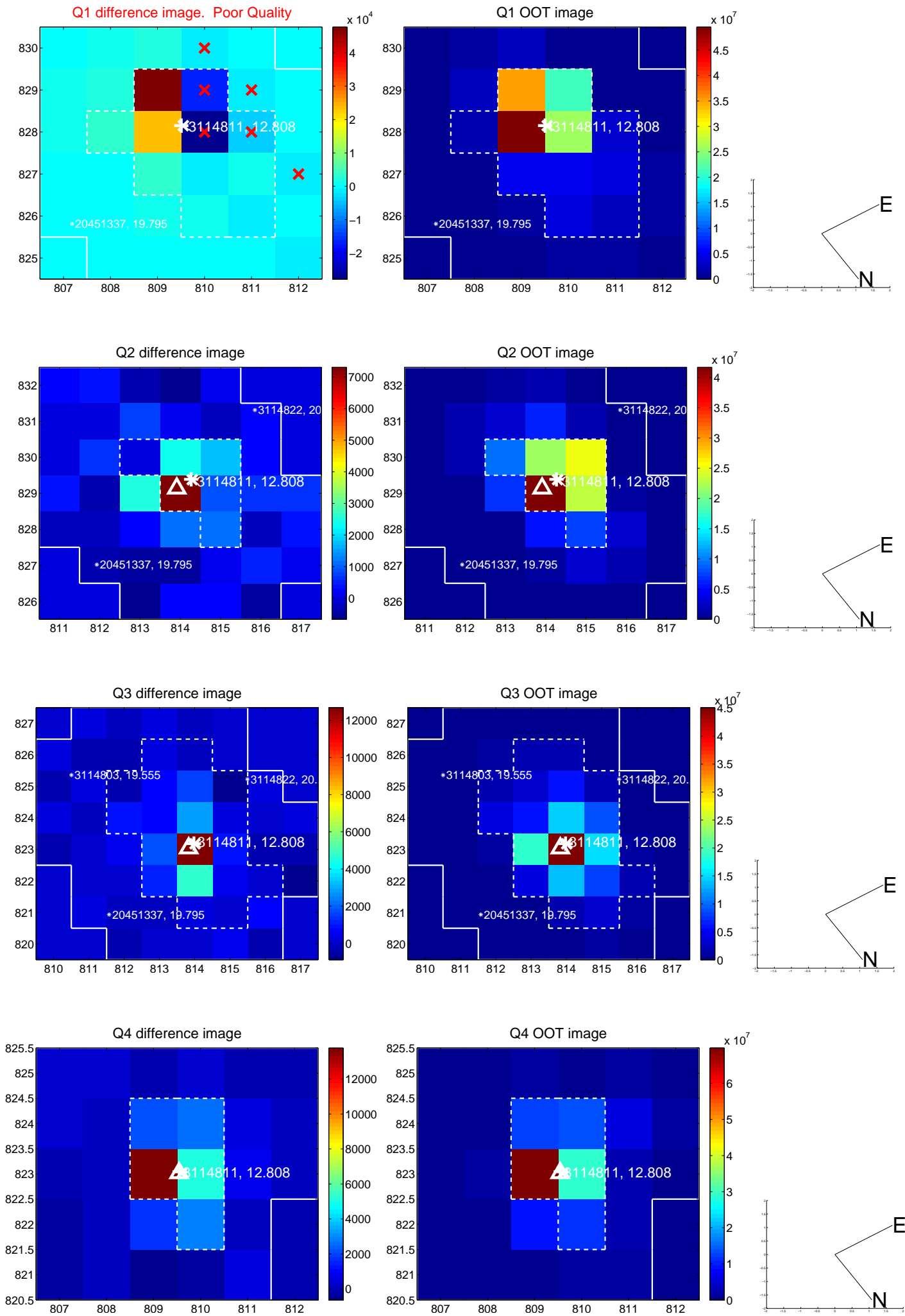
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec       |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT          | $0.485 \pm 0.294$  | 1.65                | $0.432 \pm 0.302$ | $-0.220 \pm 0.259$ |
| PRF-fit source offset from KIC position | $0.486 \pm 0.322$  | 1.51                | $0.330 \pm 0.297$ | $-0.357 \pm 0.480$ |
| photometric centroid source offset      | $0.46 \pm 0.30$    | 1.52                | $-0.36 \pm 0.27$  | $-0.29 \pm 0.35$   |

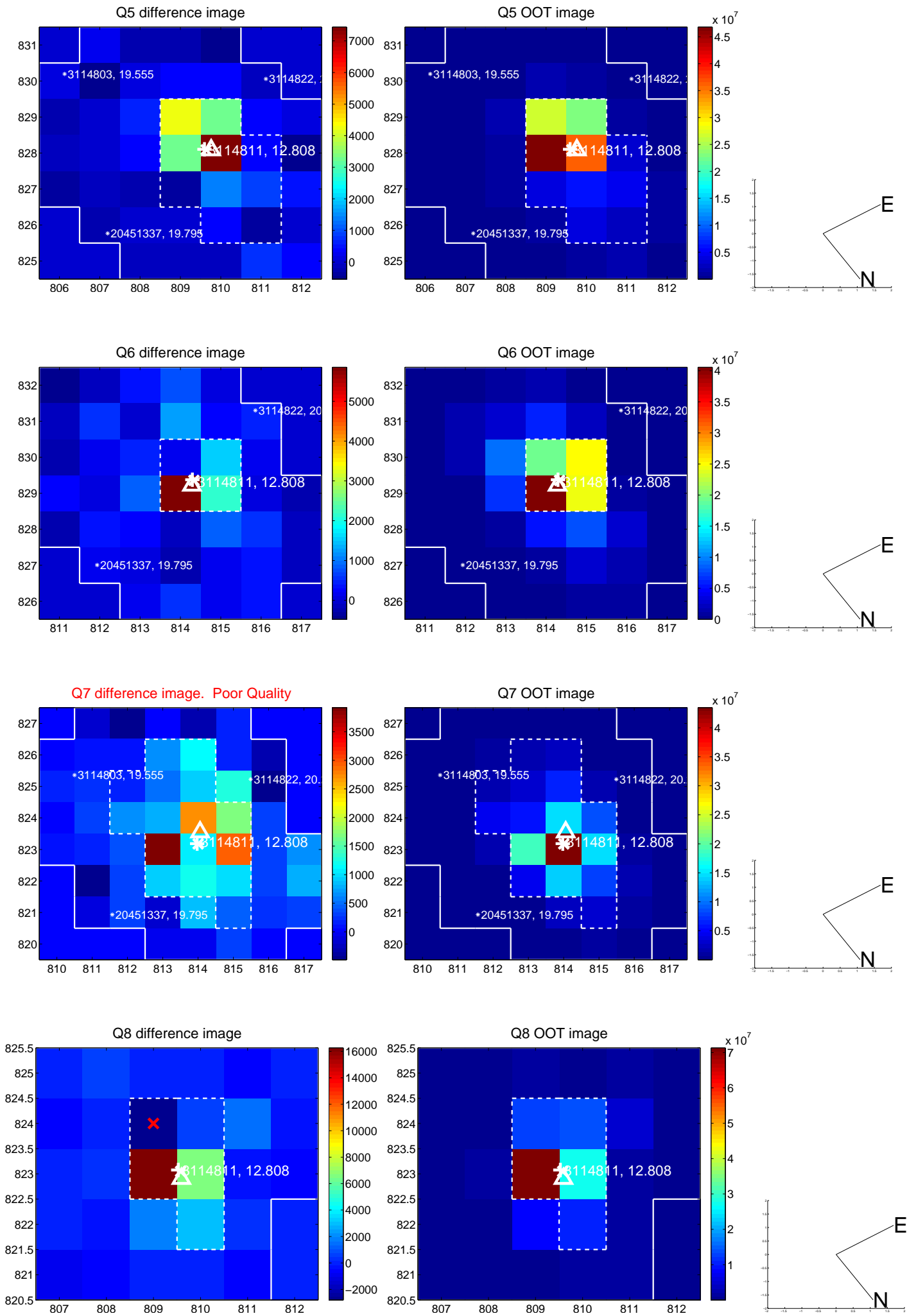


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

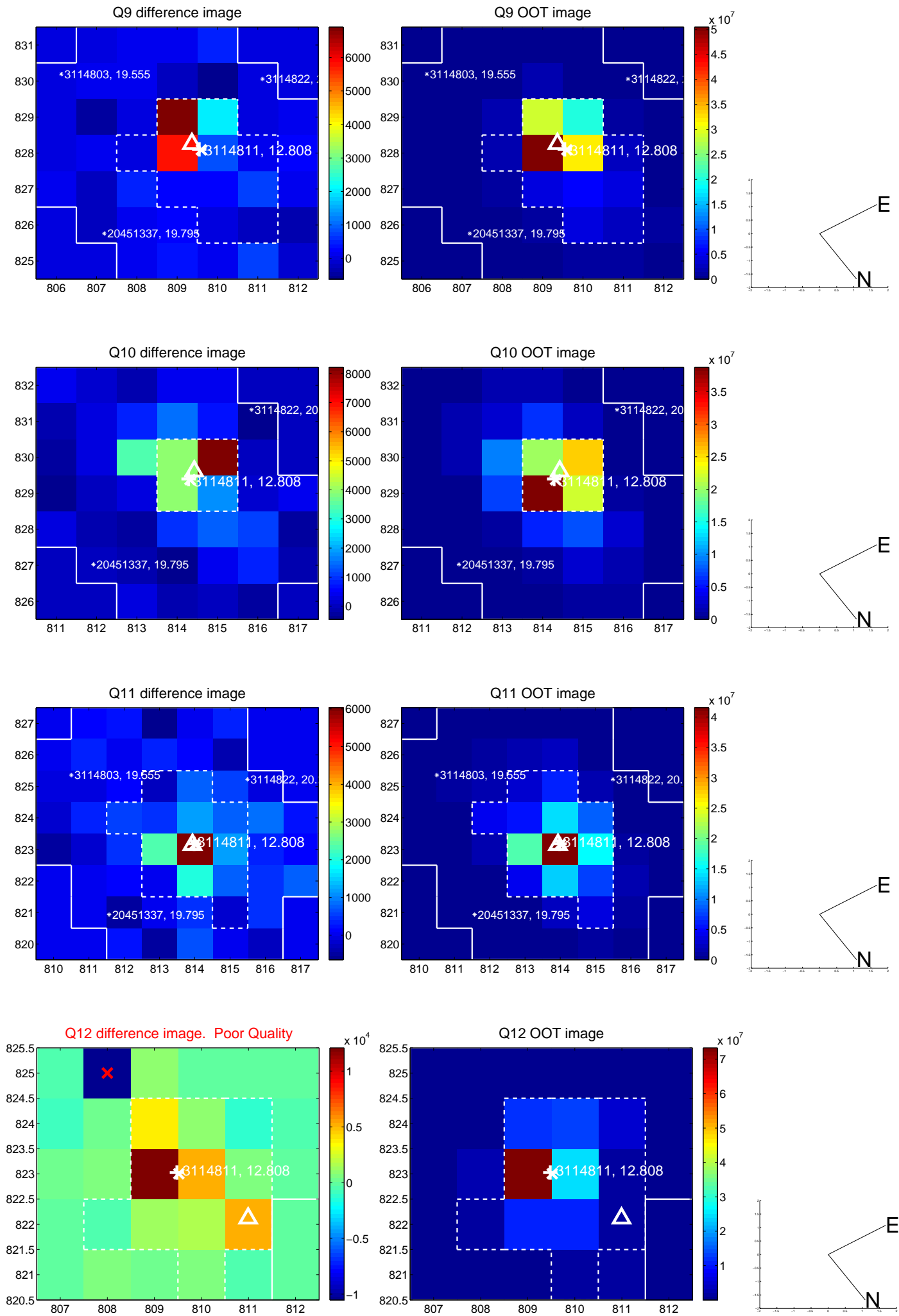


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

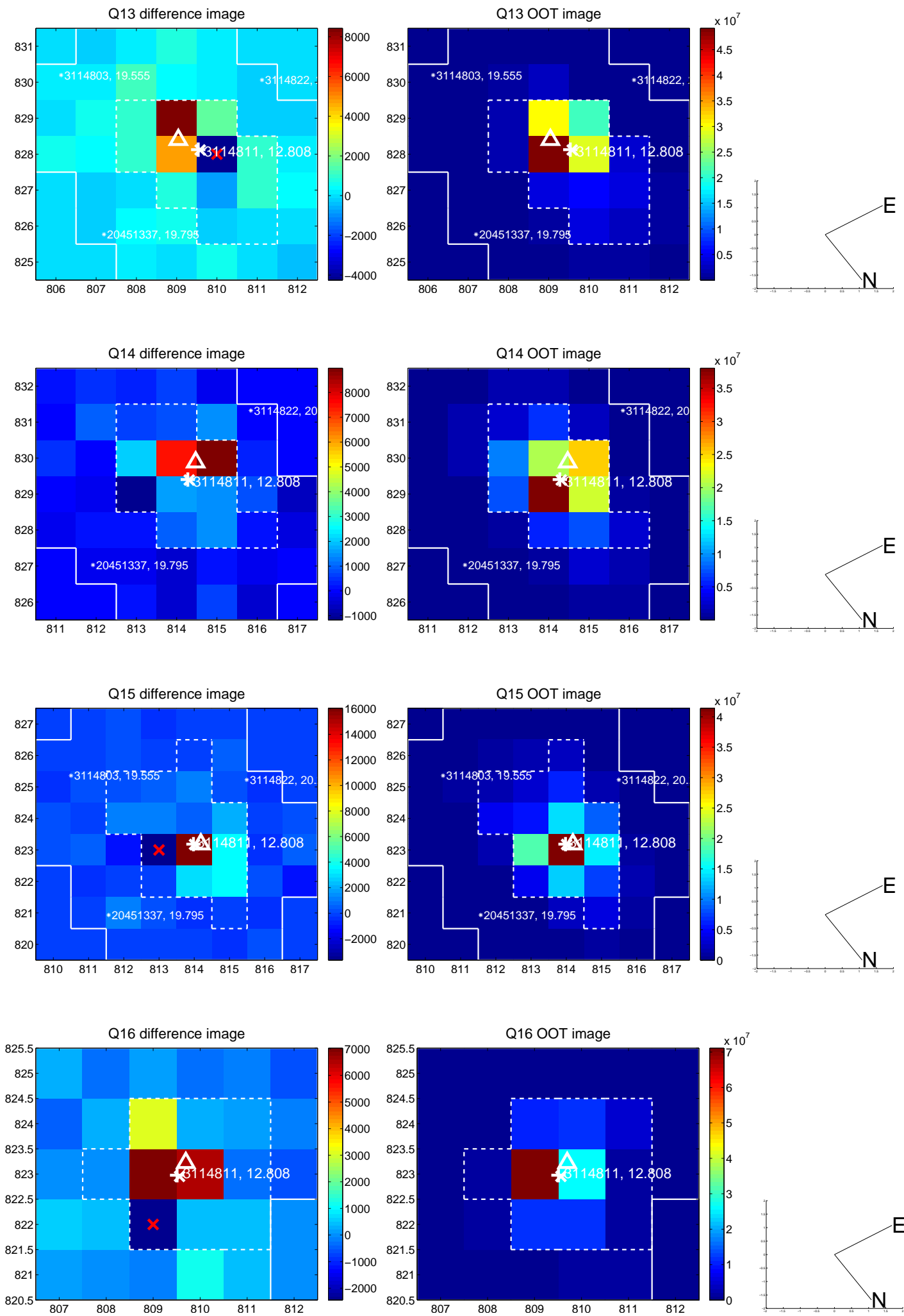




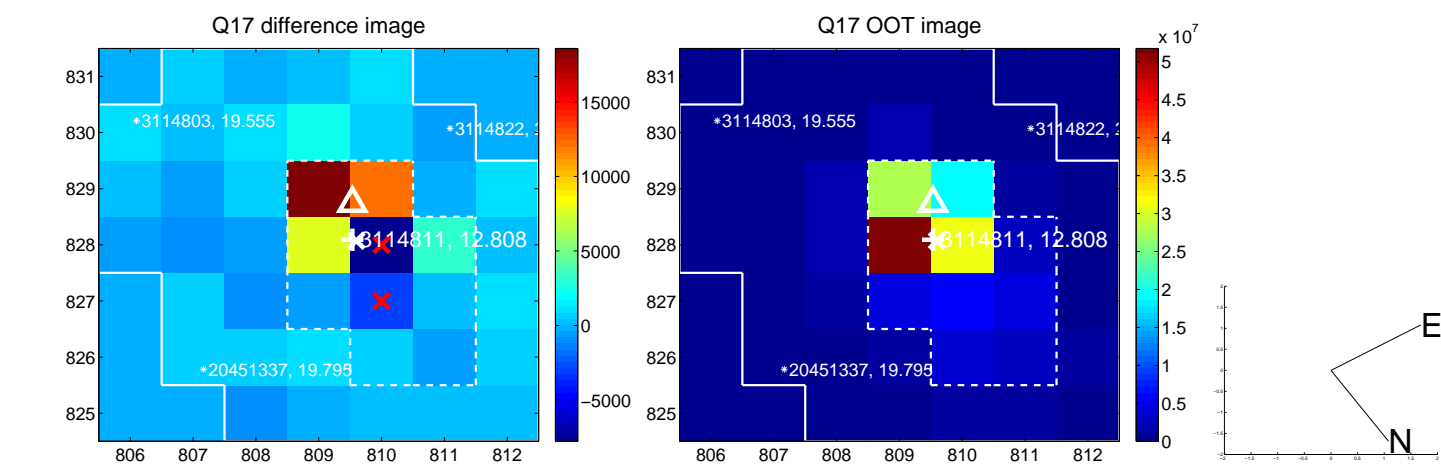
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



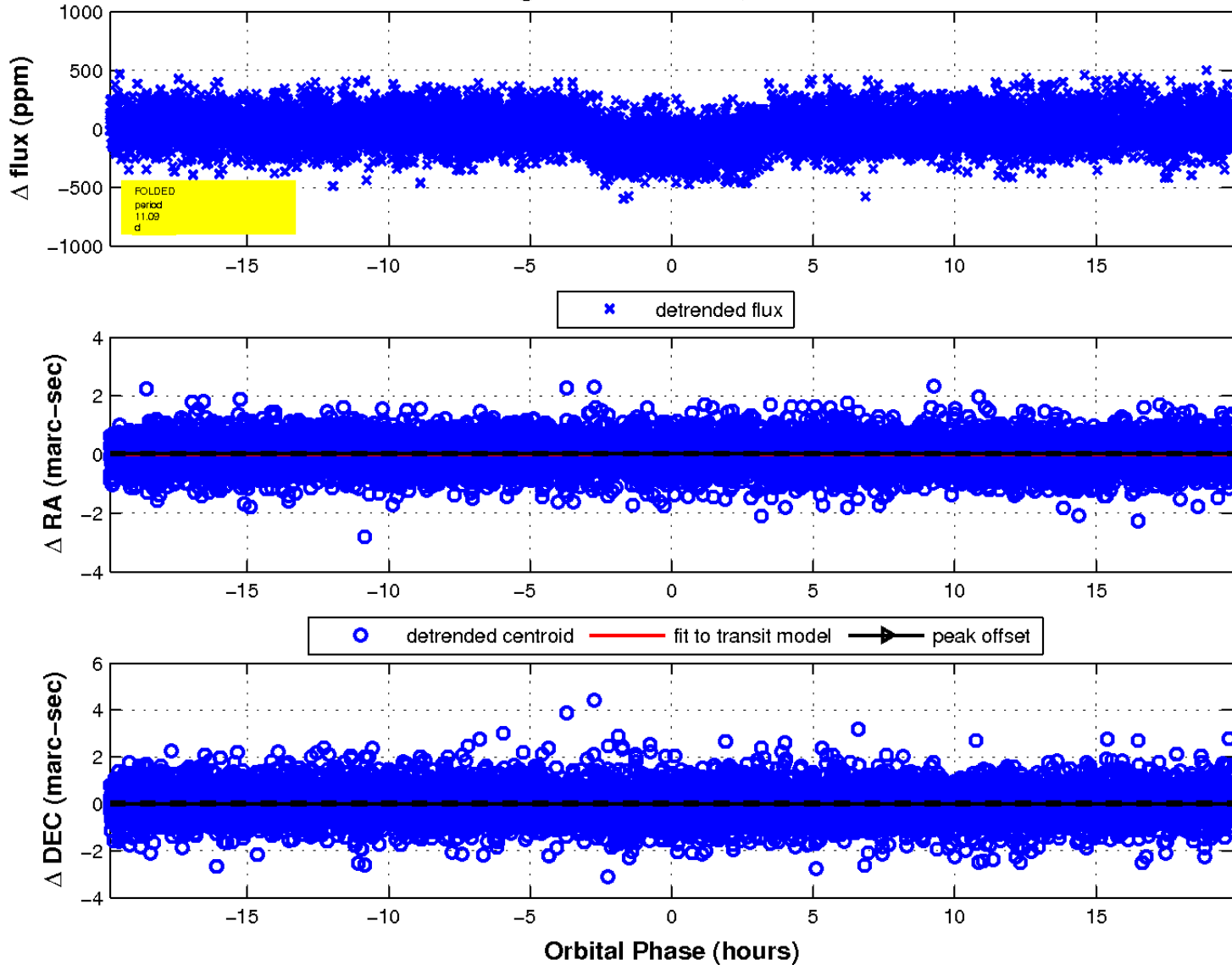
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

