

# KIC 007842286

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007842286-01 | OBS      | No   | 1.201833      | 131.538409   | 112.6       | 6.746            | 14.9 | 16.2 | 3.37                        | 7884            | 4.16                   | 49166.59               |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments              |
|--------------|----------|------|-------|---|---|---|---|-----------------------|
| 007842286-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | LPP_DV—CENT_SATURATED |

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

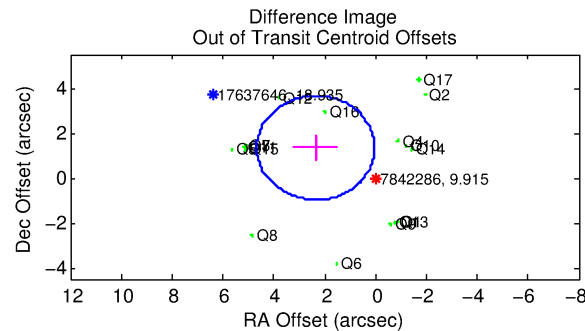
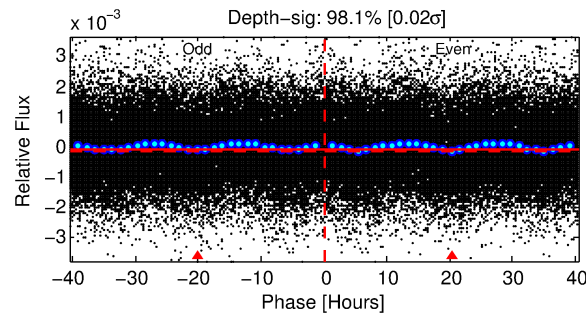
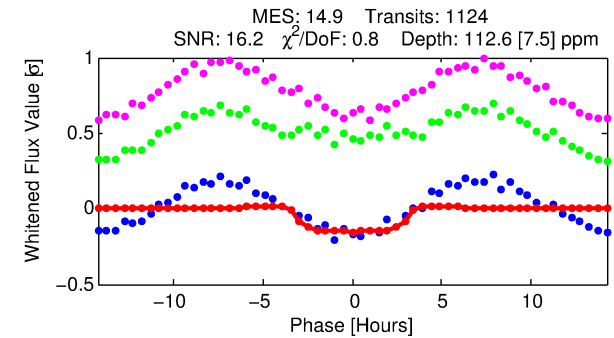
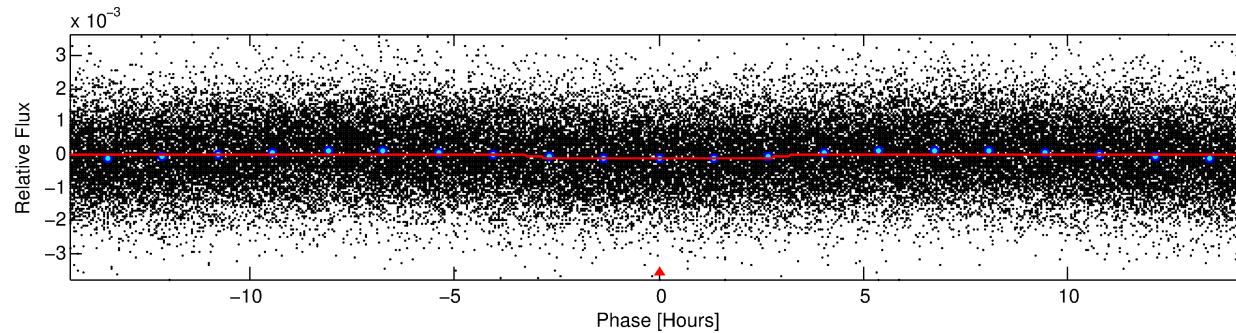
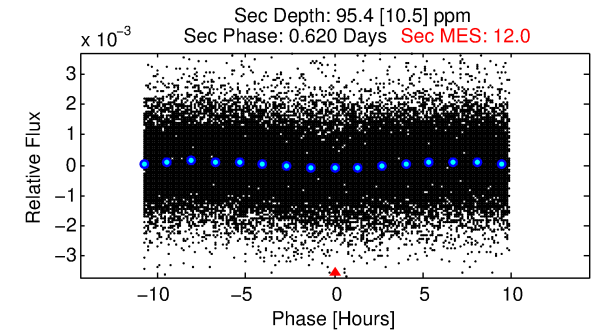
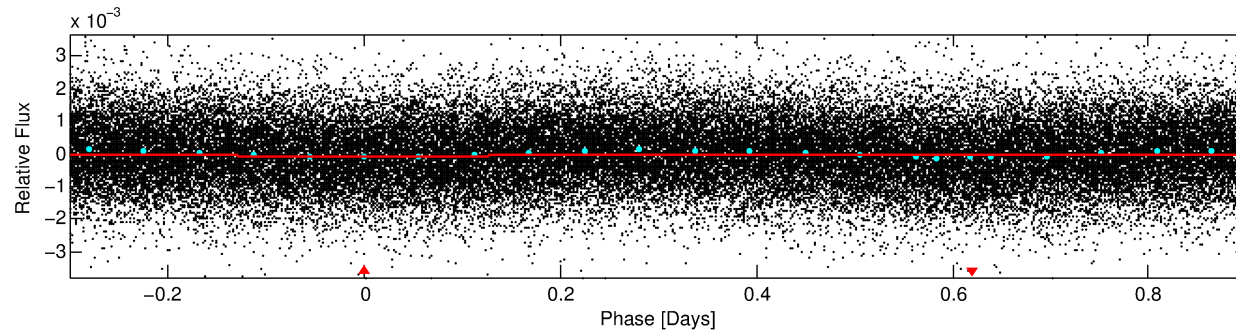
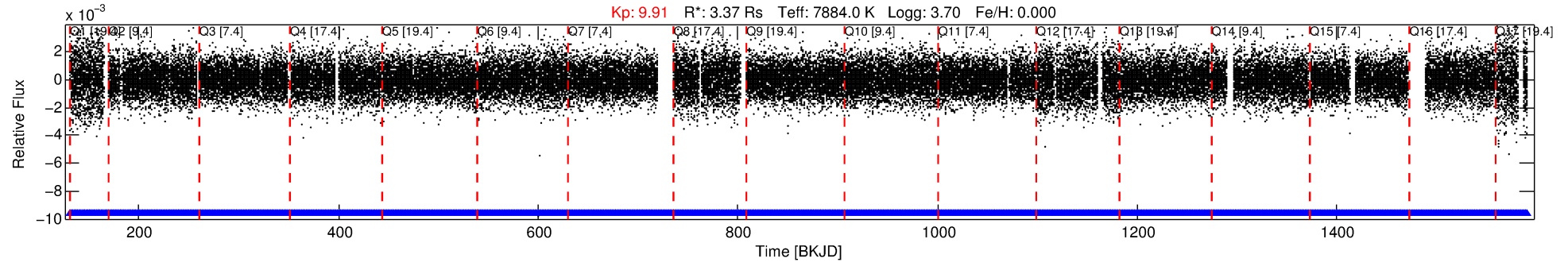
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007842286-01

No Significant Match Found

# DV One-Page Summary

KIC: 7842286 Candidate: 1 of 1 Period: 1.202 d



## DV Fit Results:

Period = 1.20183 [0.00001] d  
Epoch = 131.5384 [0.0052] BKJD  
Rp/R\* = 0.0113 [0.0026]  
a/R\* = 1.13 [0.34]  
b = 0.90 [0.29]  
Seff = 49166.59 [37096.09]  
Teq = 3797 [716] K  
Rp = 4.16 [2.20] Re  
a = 0.0283 [0.0130] AU  
Ag = 2.42 [2.11] [0.67σ]  
Teffp = 7322 [905] K [3.05σ]

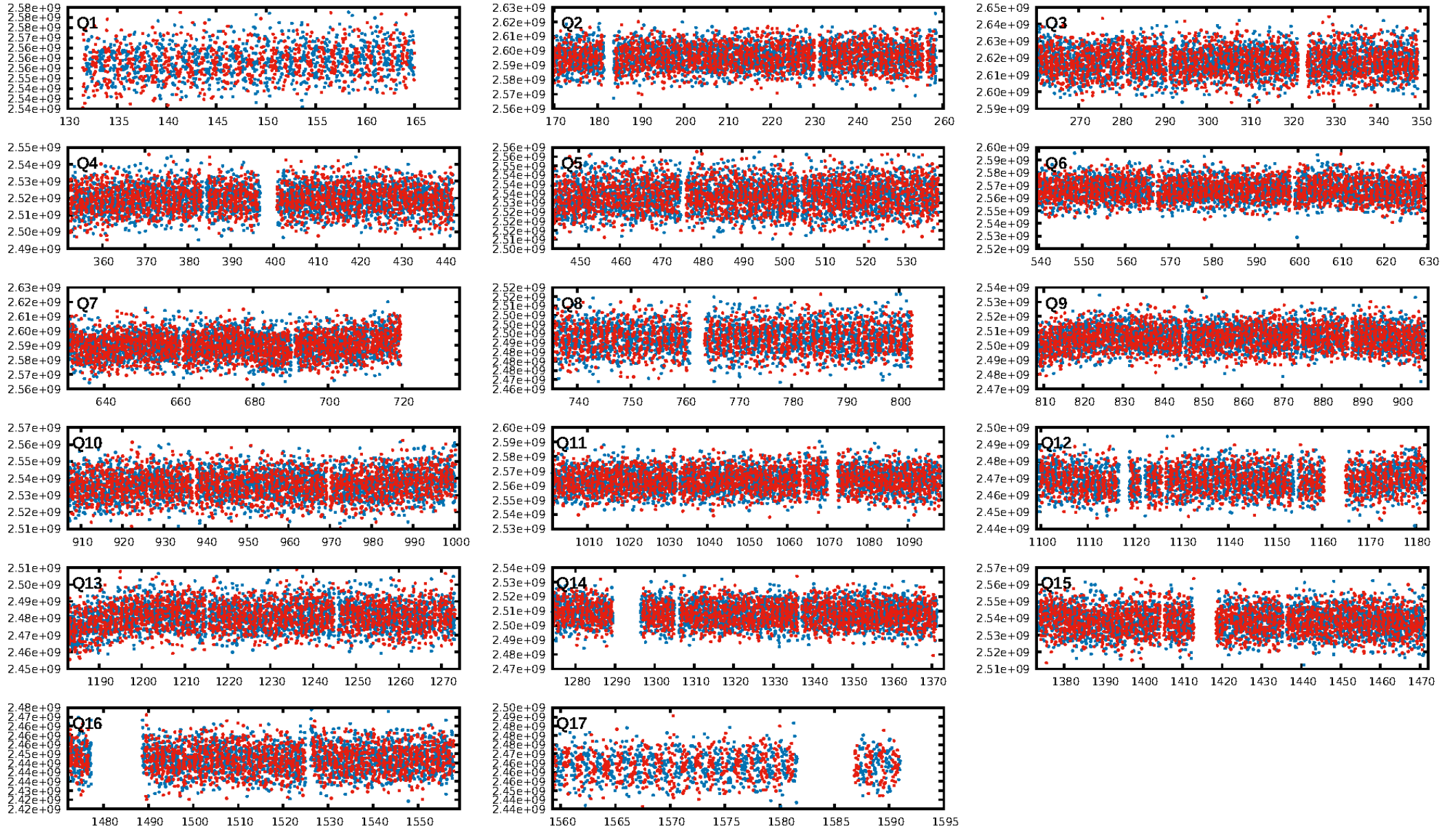
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.29e-44  
RollingBand-fgt: 1.00 [1073/1073]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 0.0%  
Centroid-so: 2.010 arcsec [10.78σ]  
OotOffset-rm: 2.708 arcsec [3.51σ]  
KicOffset-rm: 2.597 arcsec [3.03σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.00 [0/17]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:38:50 Z

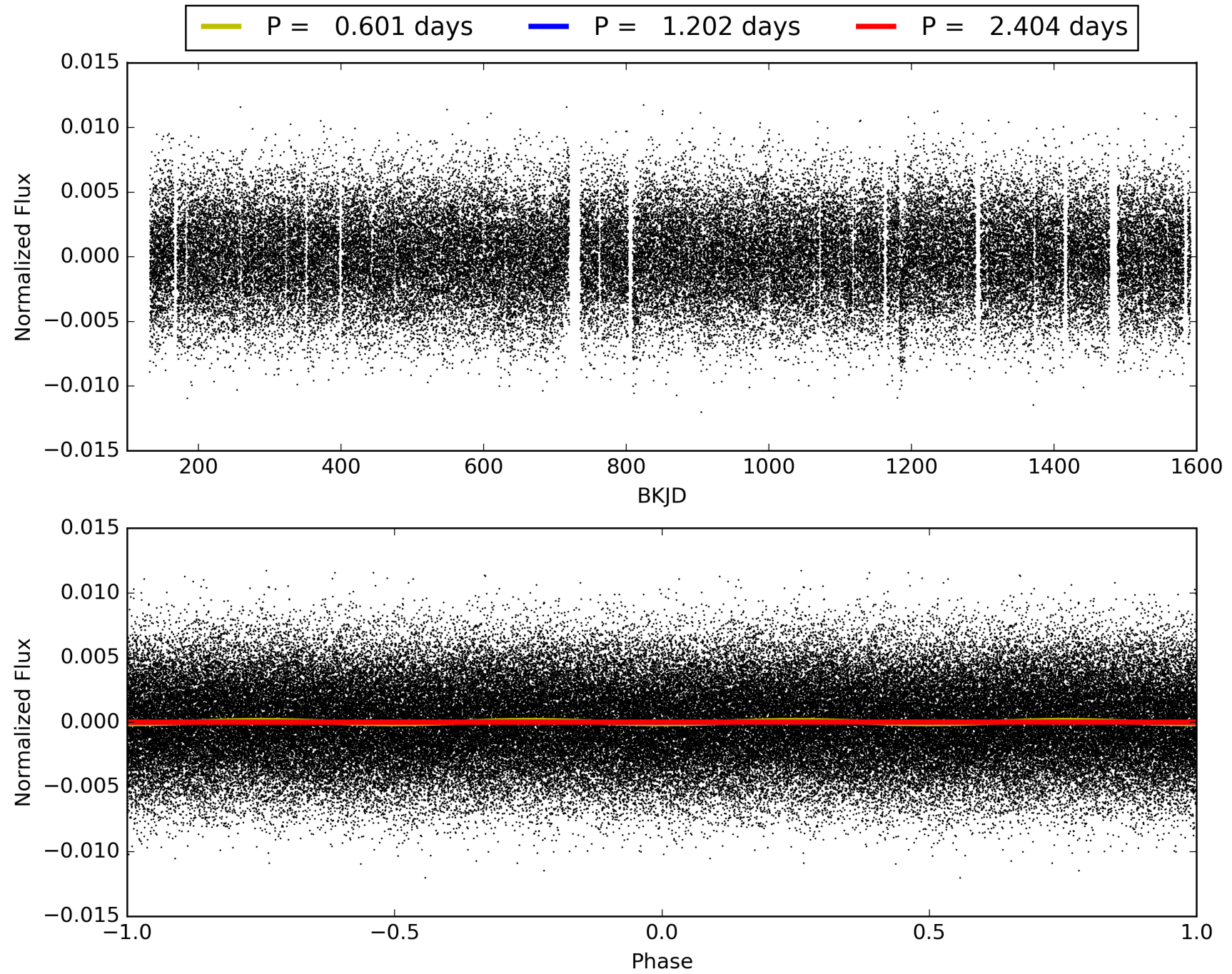
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007842286-01, PDC Light Curves



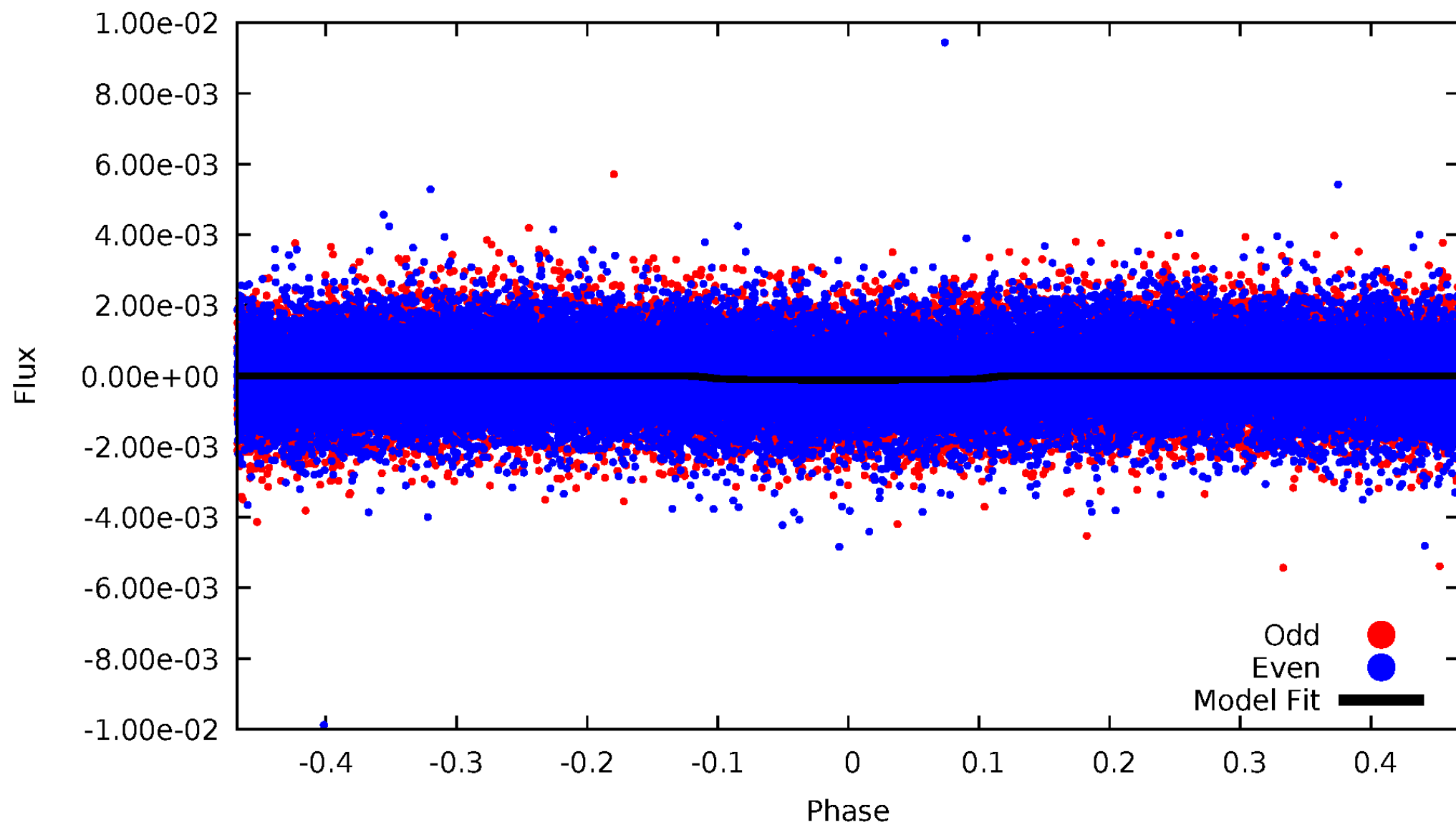


TCE 007842286-01



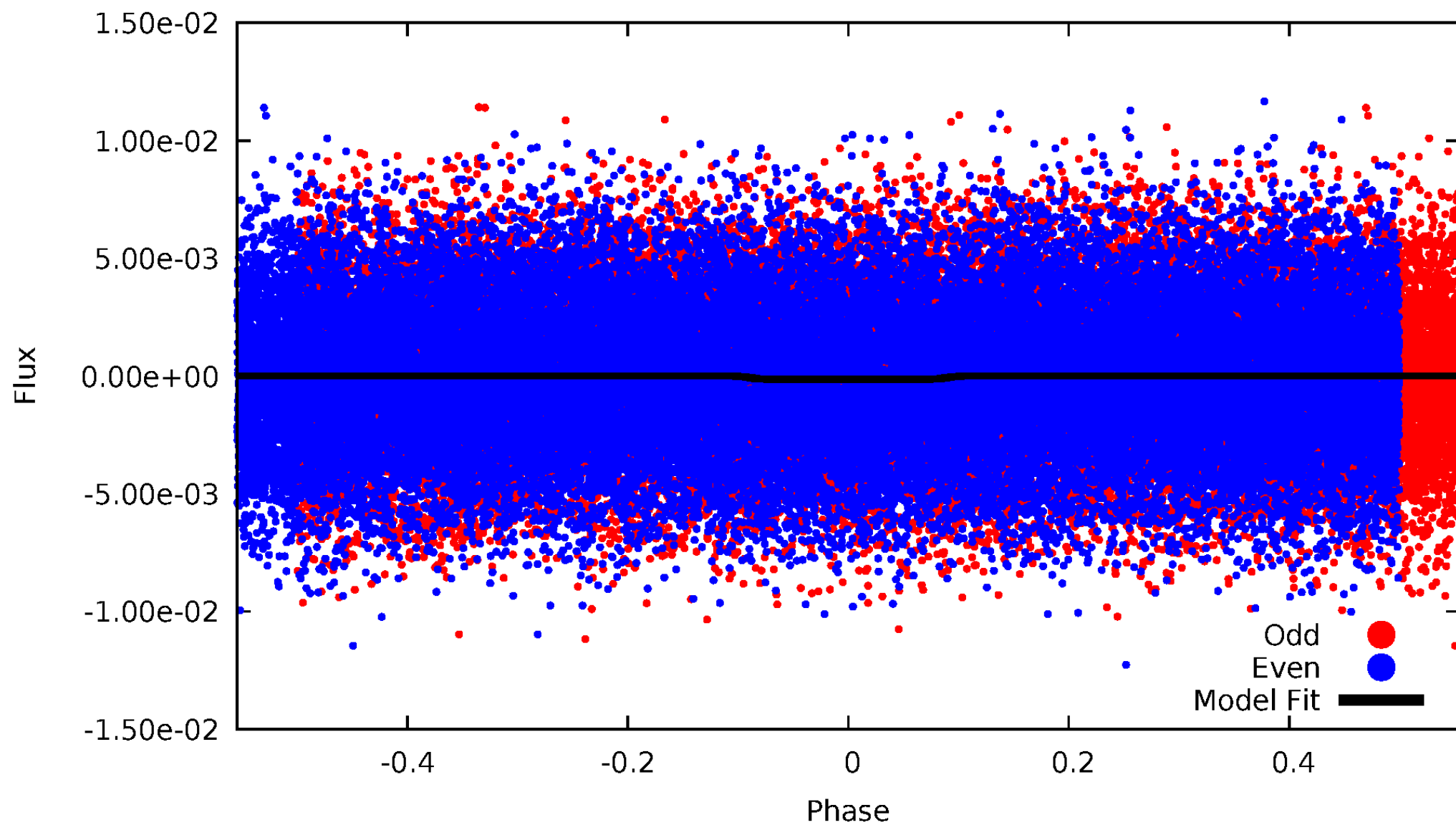
# DV Odd/Even

TCE 007842286-01



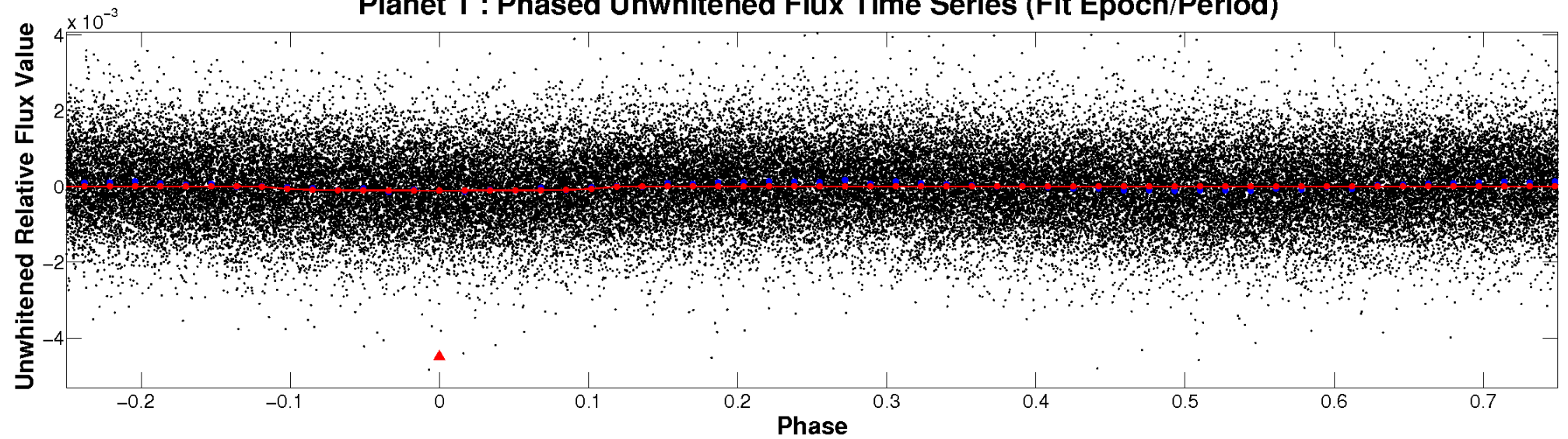
# ALT Odd/Even

TCE 007842286-01

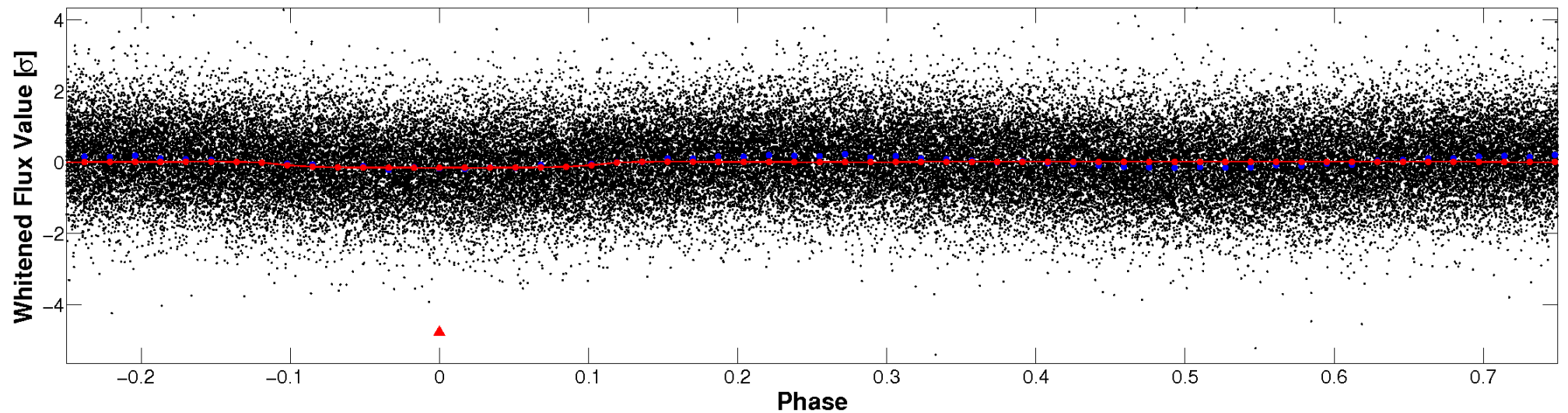


# Non-Whitened Vs. Whitened Light Curve

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



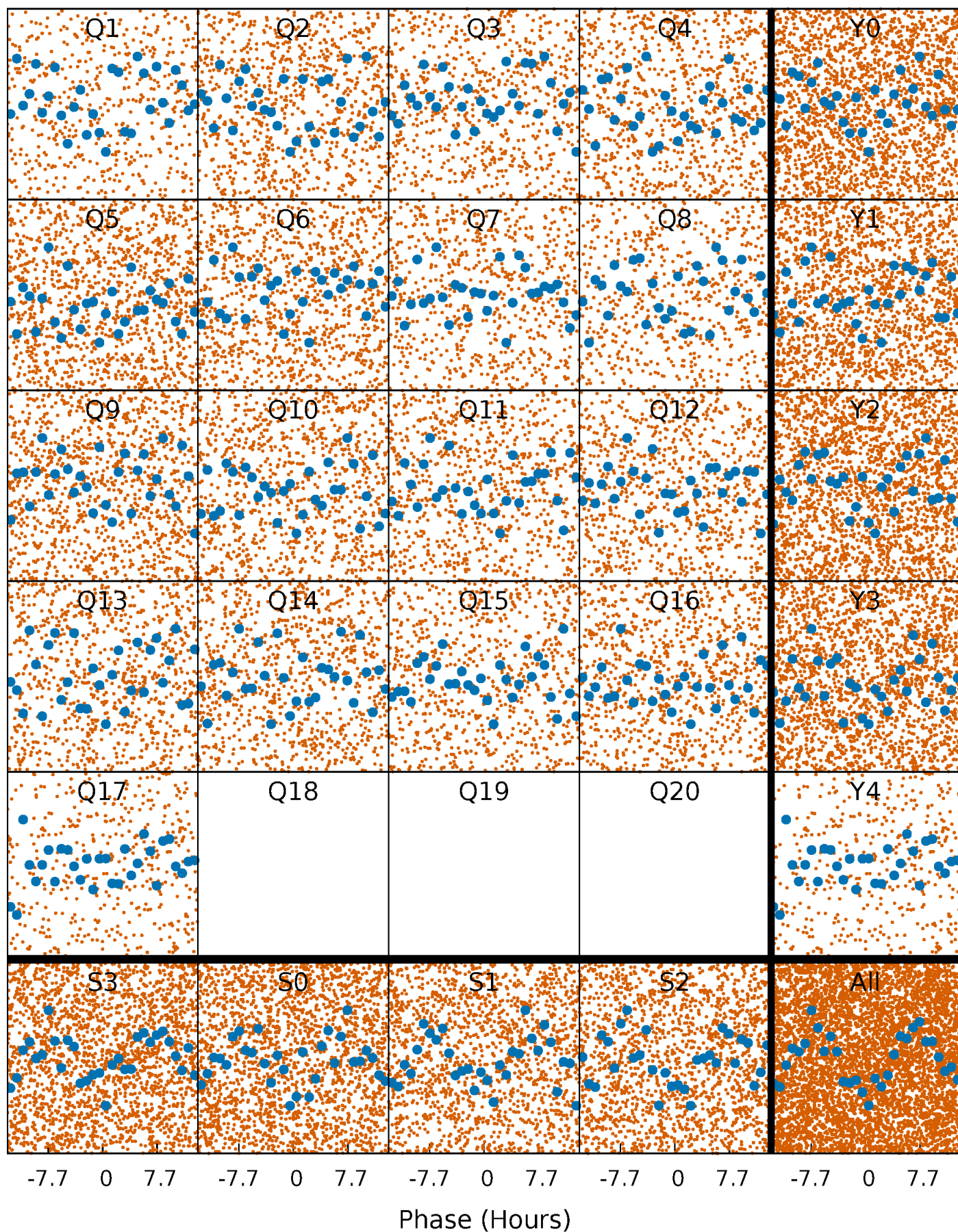
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

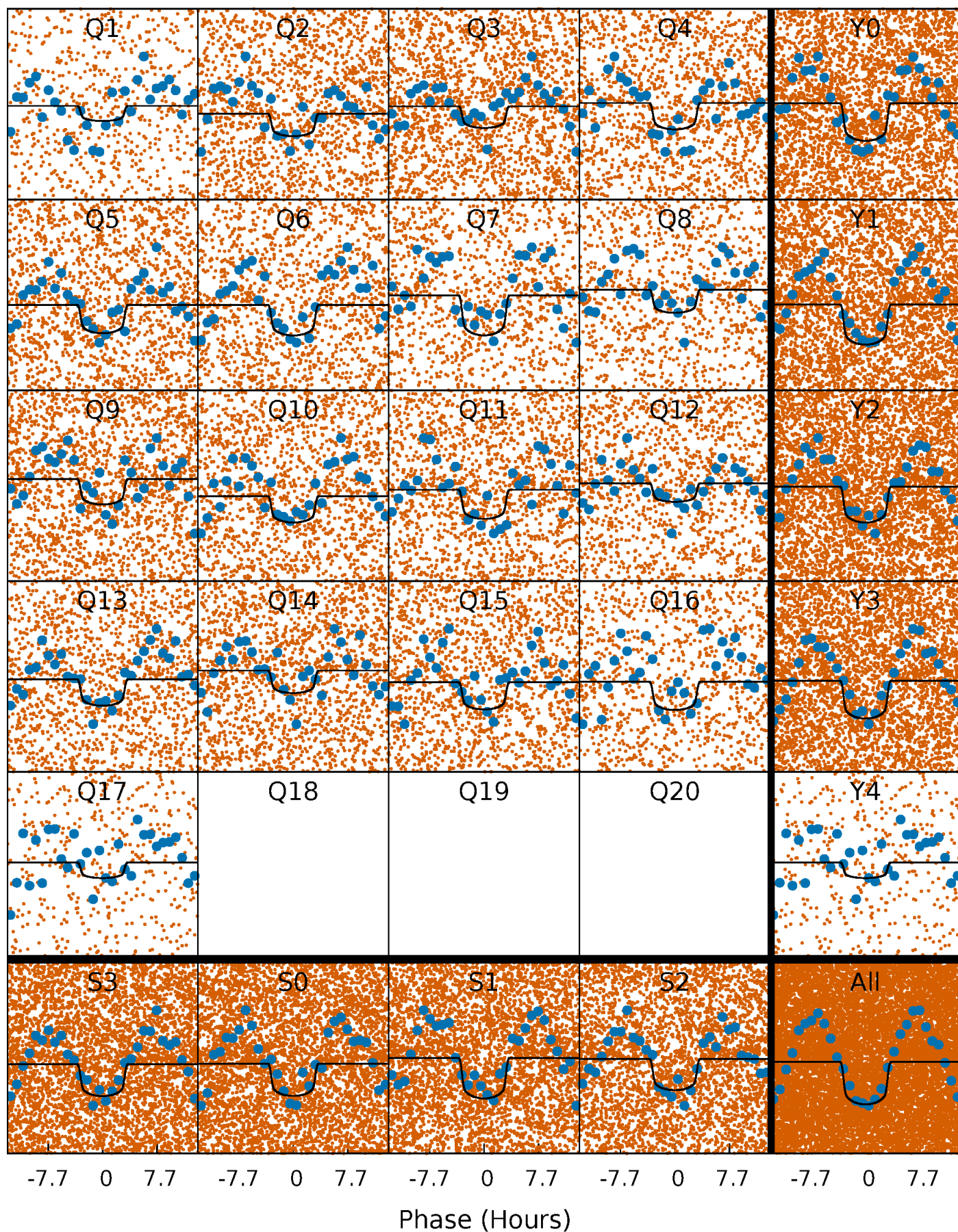
TCE 007842286-01 P= 1.201833 Days  $T_0=131.538409$  (BKJD)





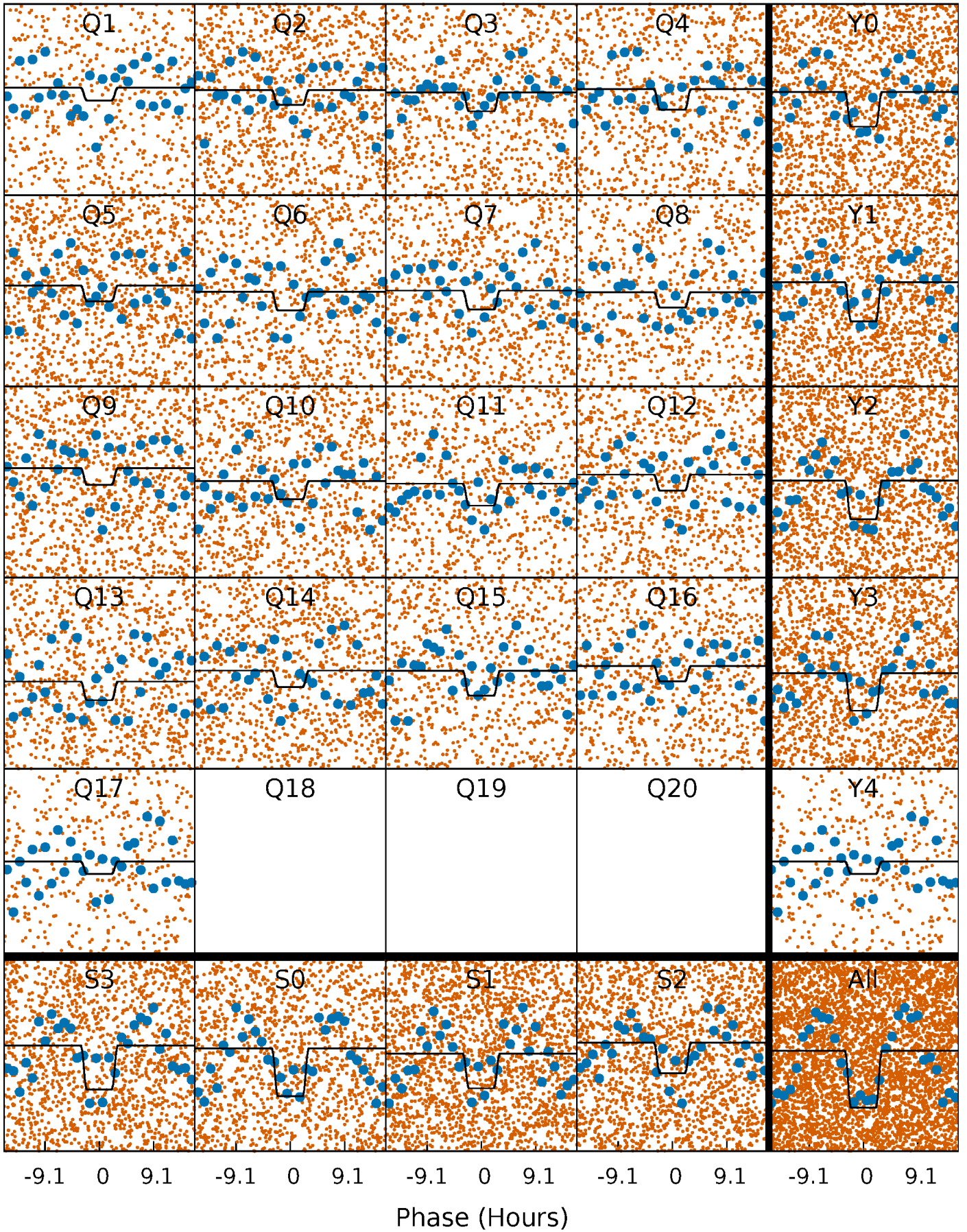
# DV Quarter-Phased Transit Curves

TCE 007842286-01 P= 1.201833 Days  $T_0=131.538409$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007842286-01 P= 1.201868 Days  $T_0=131.523312$  (BKJD)

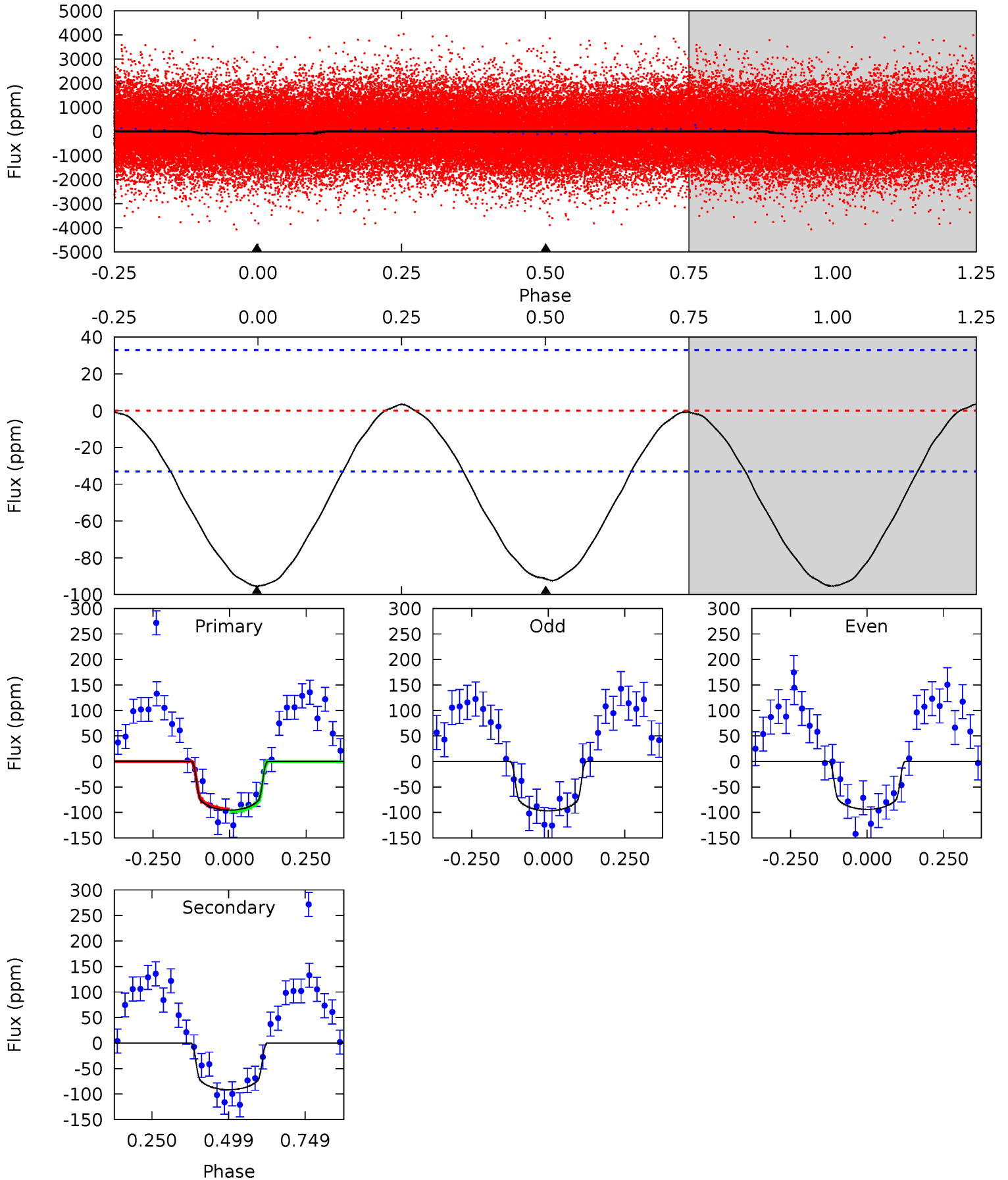




# DV Model-Shift Uniqueness Test

007842286-01, P = 1.201833 Days, E = 130.336576 Days

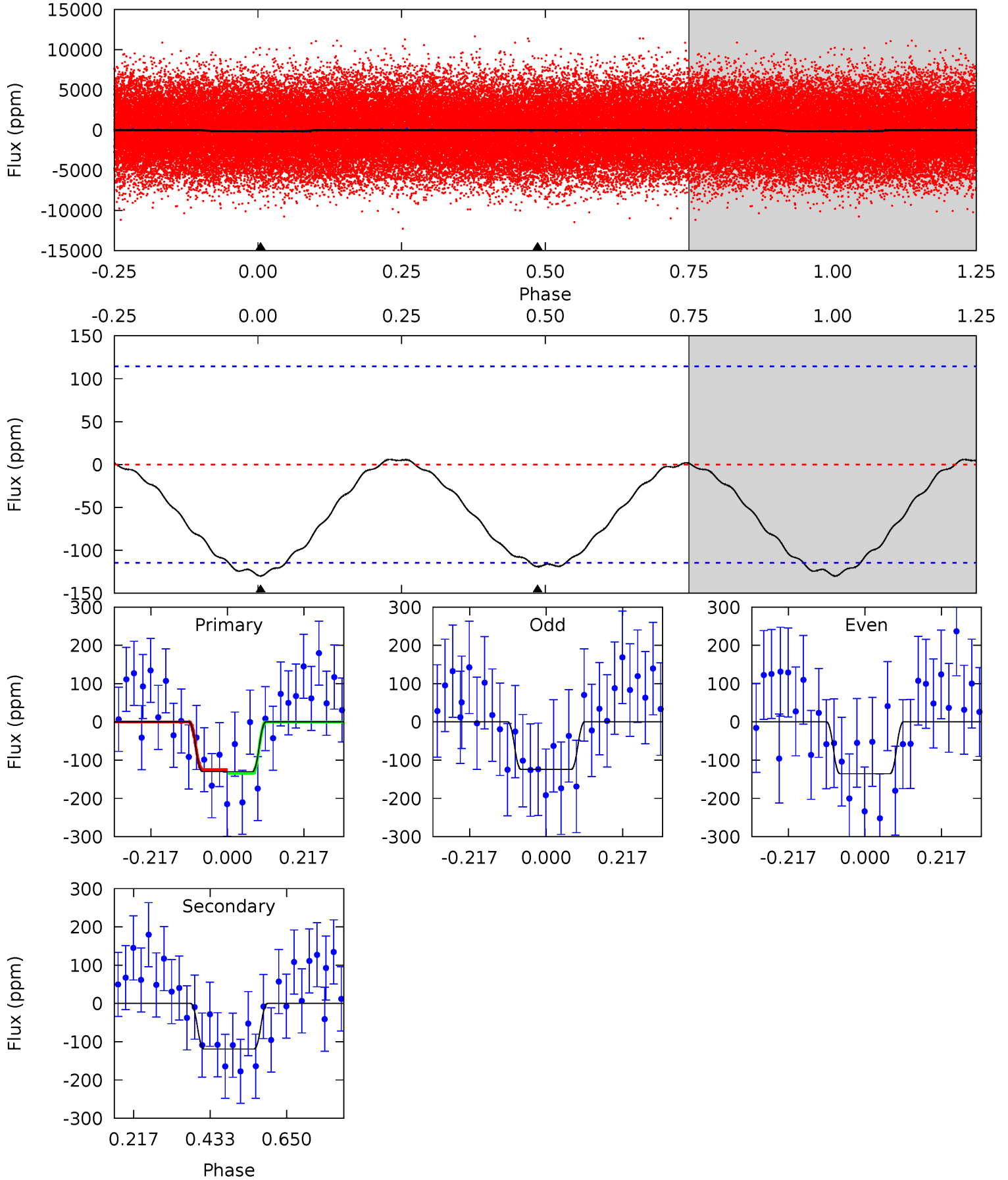
| Pri  | Sec  | Ter | Pos | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.6 | 12.1 | 0   | 0   | 4.37            | 1.15            | 0.26             | 12.6    | 12.6    | 12.1    | 12.1    | 0.19    | 1.00 | 0.04  | 0.31 |



# Alt Model-Shift Uniqueness Test

007842286-01, P = 1.201868 Days, E = 130.321444 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  |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 4.99 | 4.58 | 0   | 0   | 4.40            | 1.24            | 0.17             | 4.99    | 4.99    | 4.58    | 4.58    | 0.21    | 1.05 | 0.04  | 0.19 |





### Stellar Parameters For KIC 007842286

|        | $T_{\text{eff}}(K)$  | $\log(g)$                 | [Fe/H]                    | $R (R_{\odot})$           | $M(M_{\odot})$            | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
|        | $7884^{+219}_{-328}$ | $3.702^{+0.432}_{-0.108}$ | $0.000^{+0.200}_{-0.350}$ | $3.368^{+0.691}_{-1.612}$ | $2.081^{+0.324}_{-0.526}$ | $0.077^{+0.316}_{-0.025}$                 |
|        | +3%/-4%              | +12%/-3%                  | +inf%/-inf%               | +21%/-48%                 | +16%/-25%                 | +411%/-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 007842286-01 / KOI

| Detrend | Depth (ppm)   | $R_p (R_{\oplus})$     | $T_{max} (K)$        | $T_{obs} (K)$          | $A_{obs}$                 |
|---------|---------------|------------------------|----------------------|------------------------|---------------------------|
| DV      | $-91 \pm 8$   | $3.85^{+1.19}_{-1.17}$ | $5137^{+428}_{-648}$ | $6816^{+1206}_{-798}$  | $2.773^{+2.540}_{-1.166}$ |
| Alt.    | $-119 \pm 26$ | $4.11^{+1.11}_{-1.28}$ | $5145^{+395}_{-568}$ | $7240^{+1423}_{-1011}$ | $3.263^{+3.064}_{-1.411}$ |

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

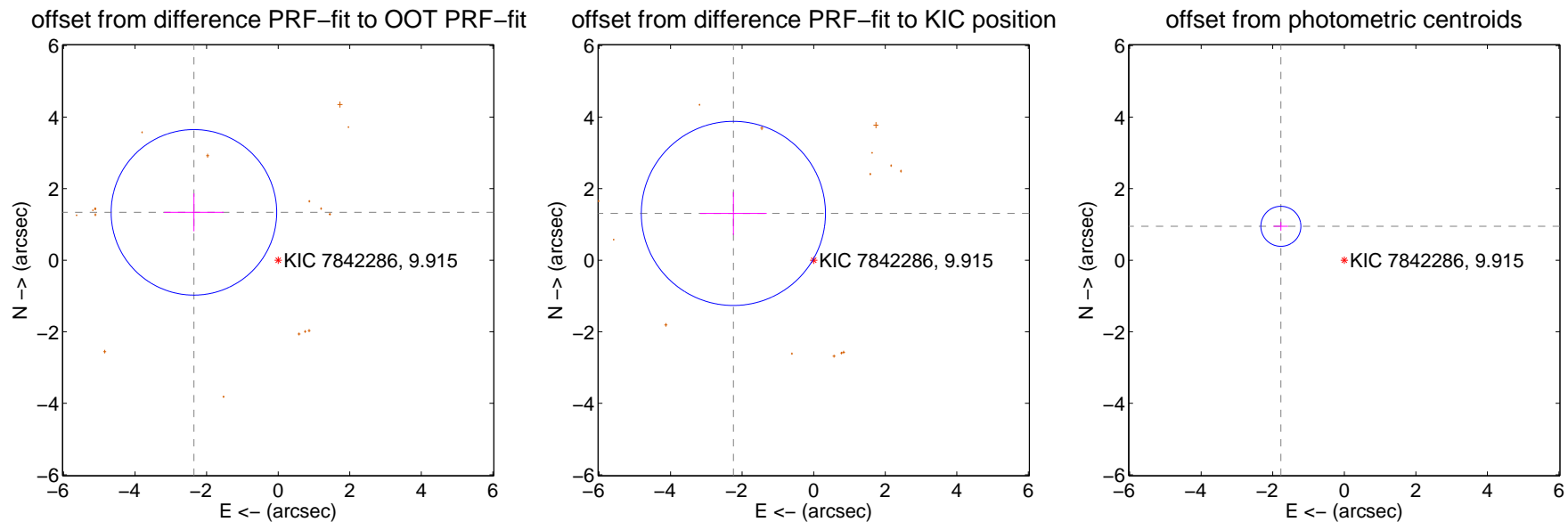
## DV Centroid Data

Supplemental centroid analysis for 007842286-01. **Kepler magnitude: 9.91.** Transit SNR 16.17

**There are 0 quarters with good PRF difference image offsets**

The direct PRF centroid is offset from the target star catalog position by about 0.58 arcsec

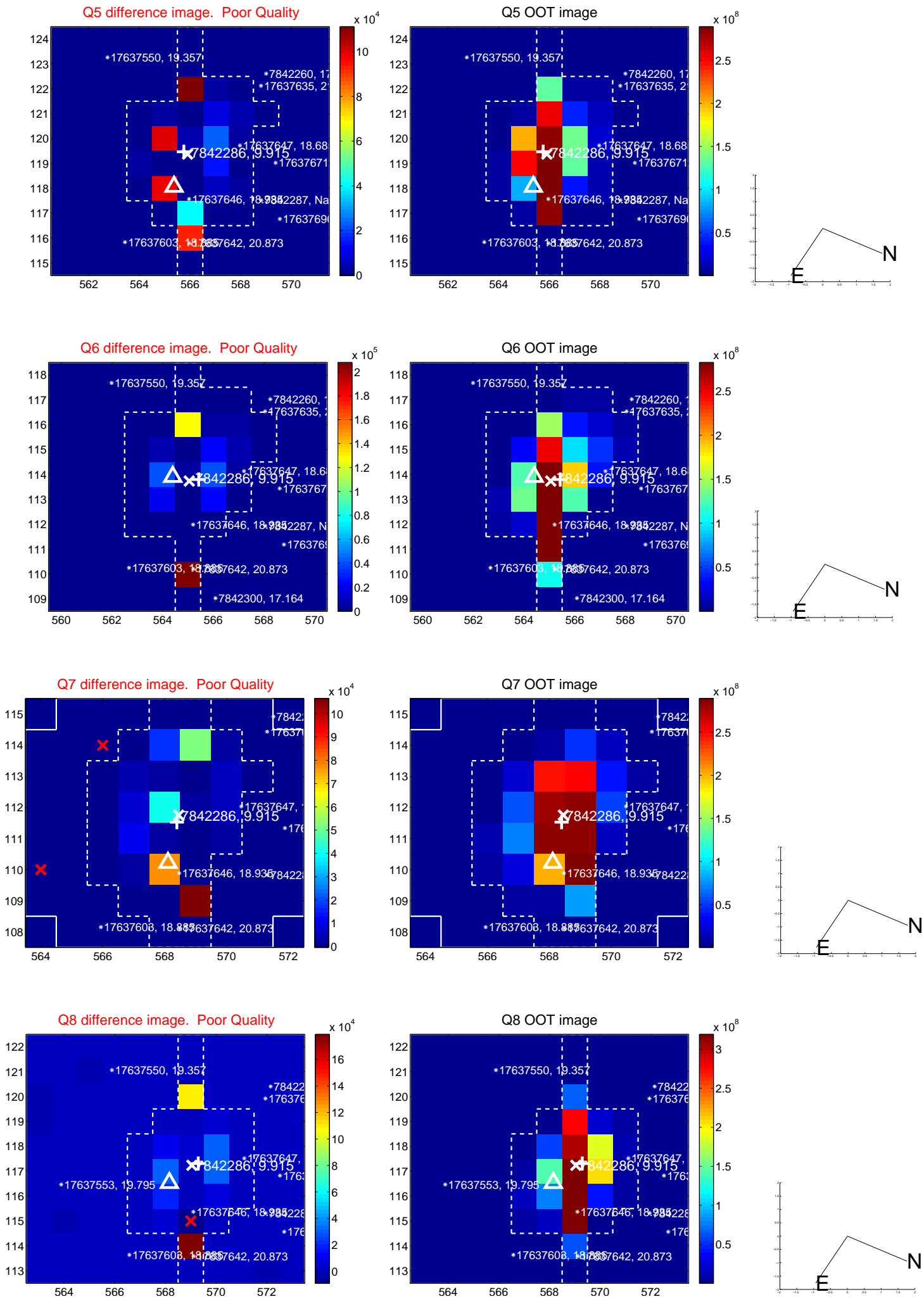
|   | Distance in arcsec                  | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec      |
|---|-------------------------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT          | <b><math>2.708 \pm 0.771</math></b> | <b>3.51</b>         | $2.355 \pm 0.835$ | $1.338 \pm 0.528$ |
| PRF-fit source offset from KIC position | <b><math>2.597 \pm 0.858</math></b> | <b>3.03</b>         | $2.244 \pm 0.930$ | $1.308 \pm 0.599$ |
| photometric centroid source offset      | <b><math>2.01 \pm 0.19</math></b>   | <b>10.78</b>        | $1.77 \pm 0.20$   | $0.95 \pm 0.12$   |



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.

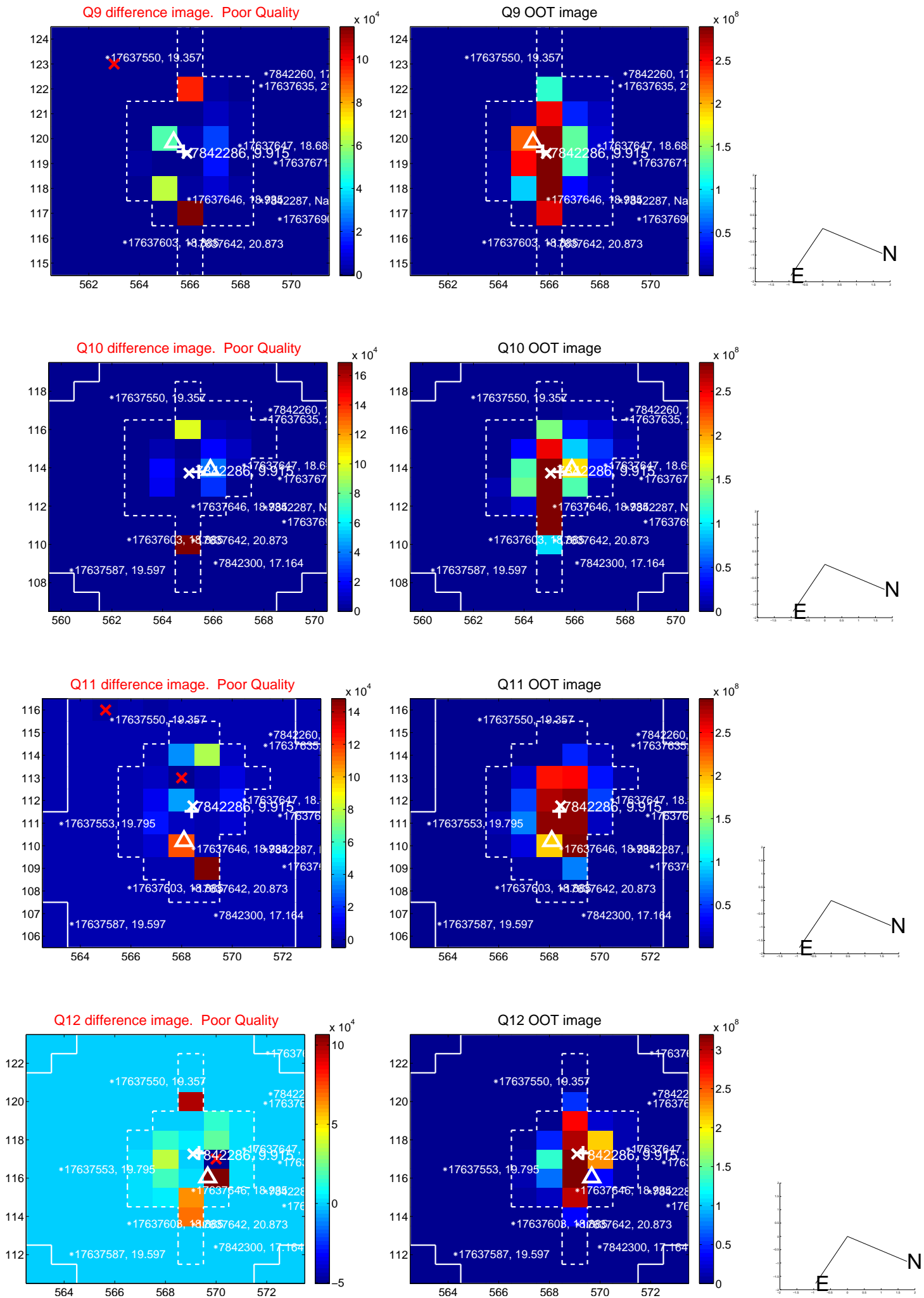


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

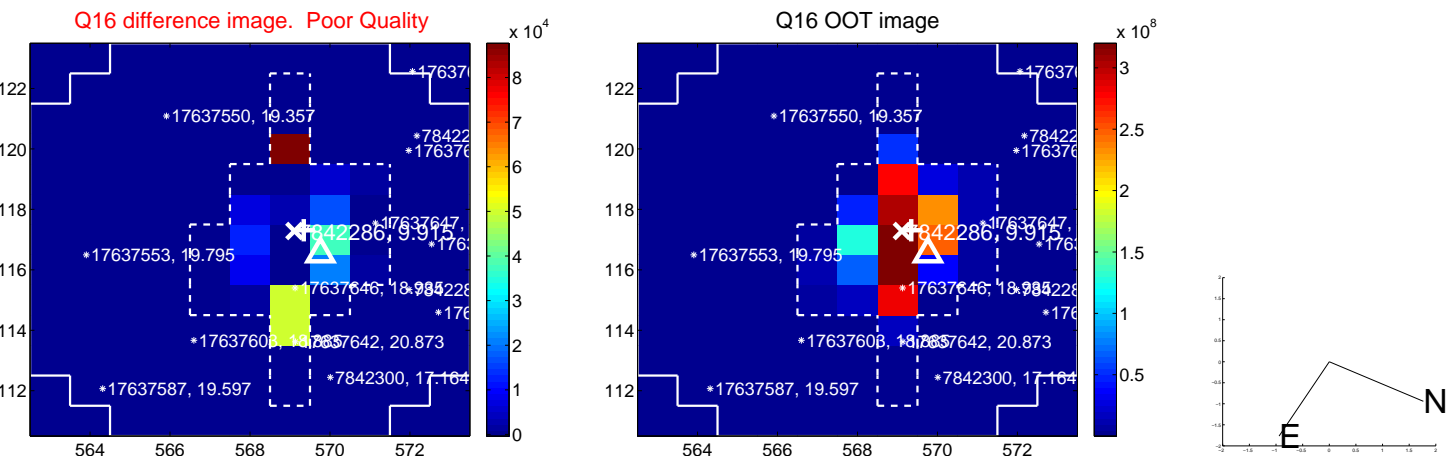
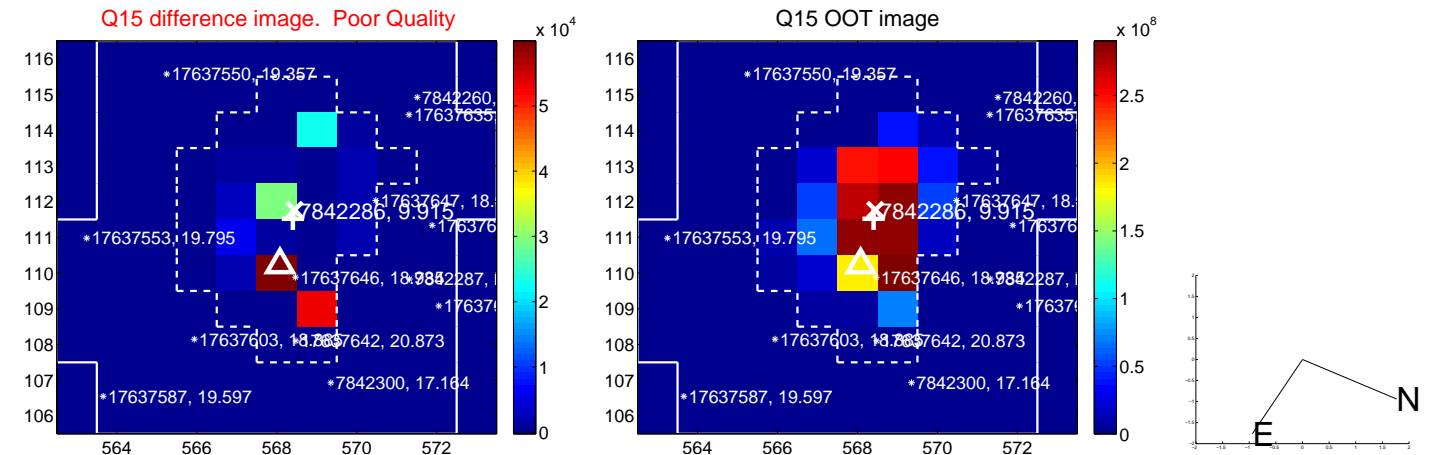
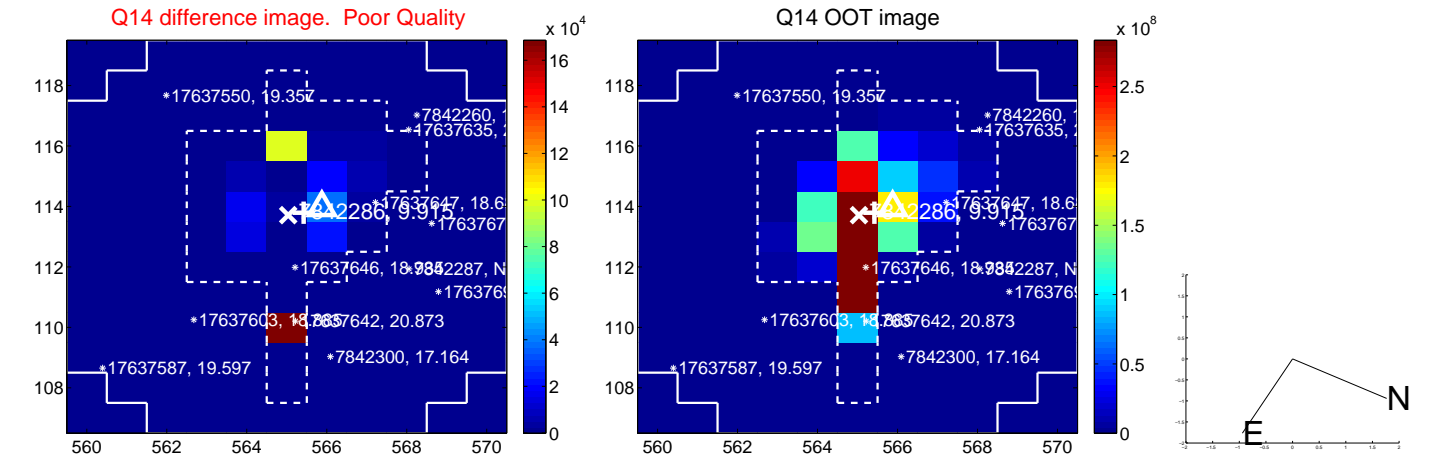
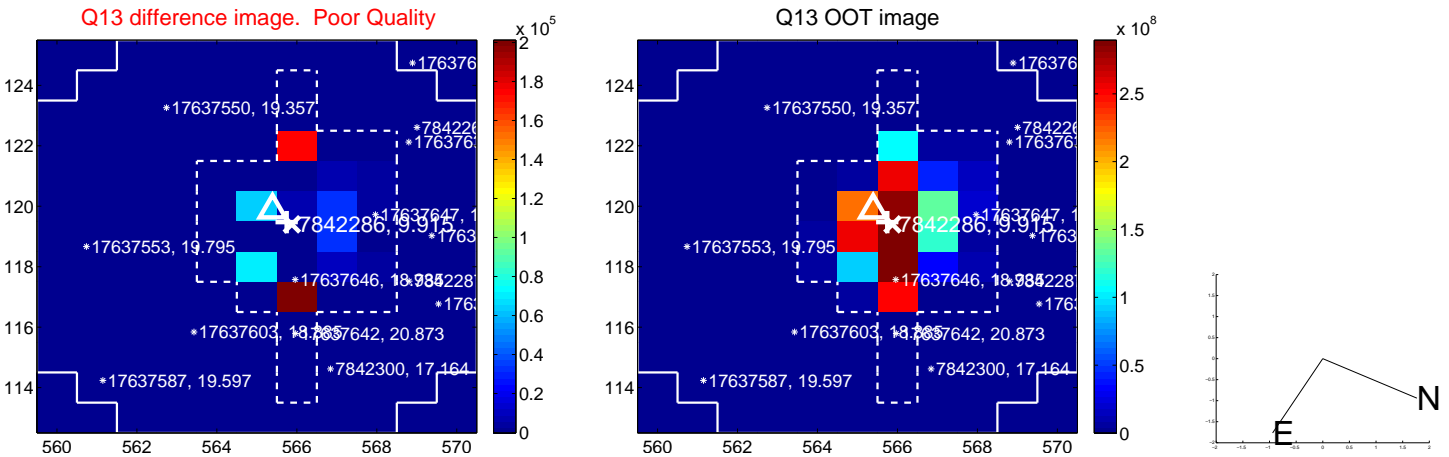




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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





UKIRT Image

Declination

