

# KIC 008266004

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 008266004-01 | OBS      | No   | 1.169905      | 131.811137   | 103.6       | 2.520            | 7.6 | 8.0 | 1.01                        | 5675            | 1.24                   | 2099.89                |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments   |
|--------------|----------|------|-------|---|---|---|---|--|
| 008266004-01 | OBS      | FP   | 0.00  | 1 | 0 | 1 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—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.

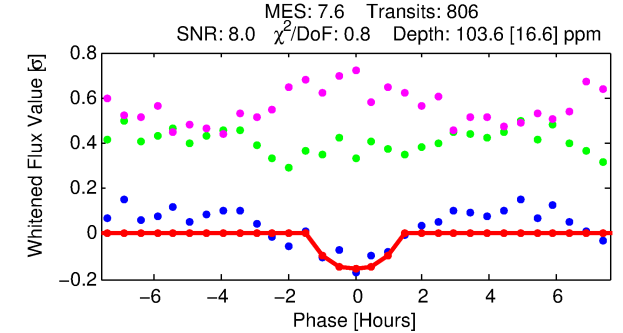
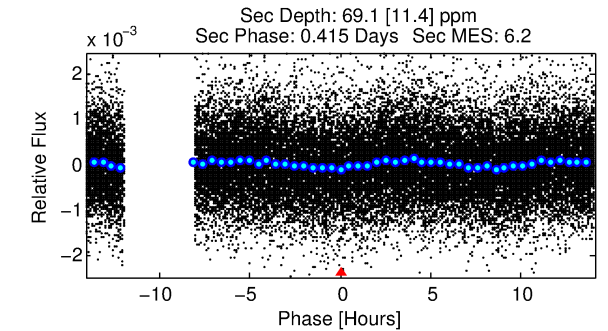
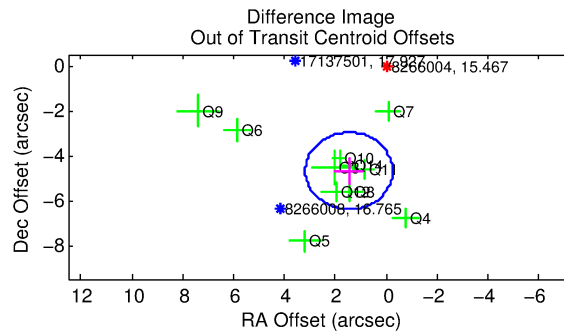
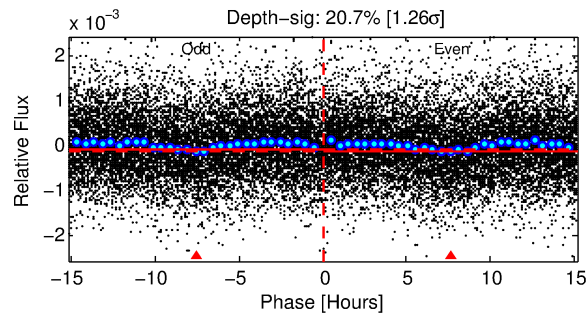
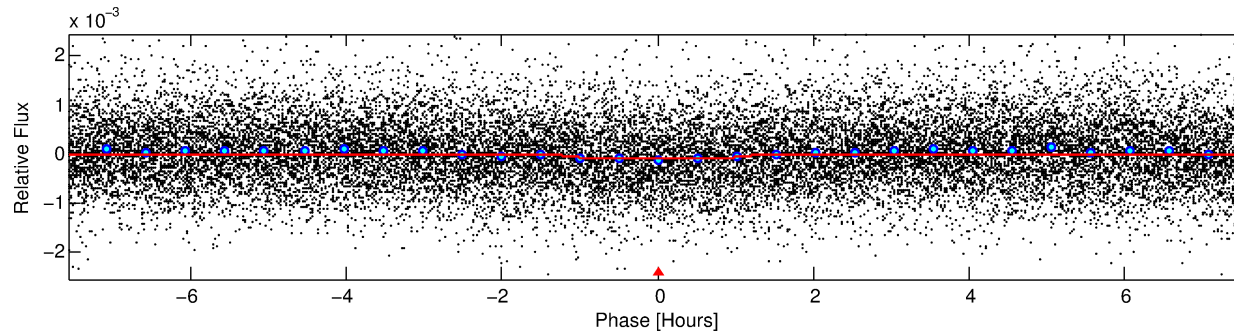
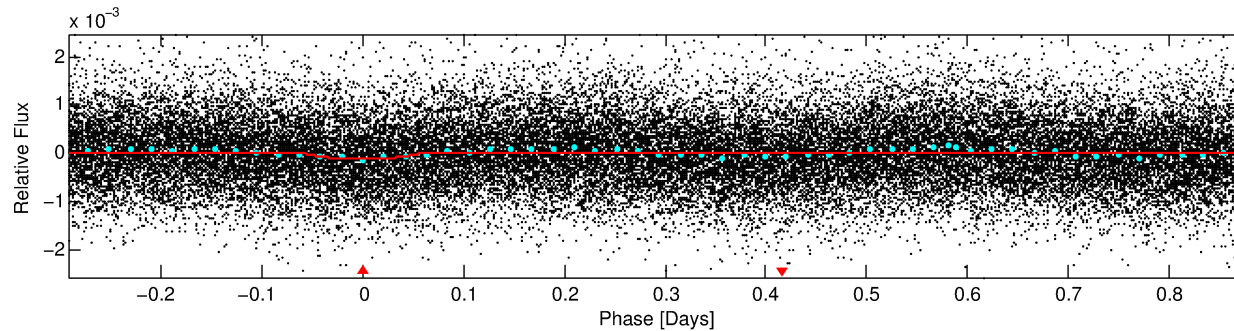
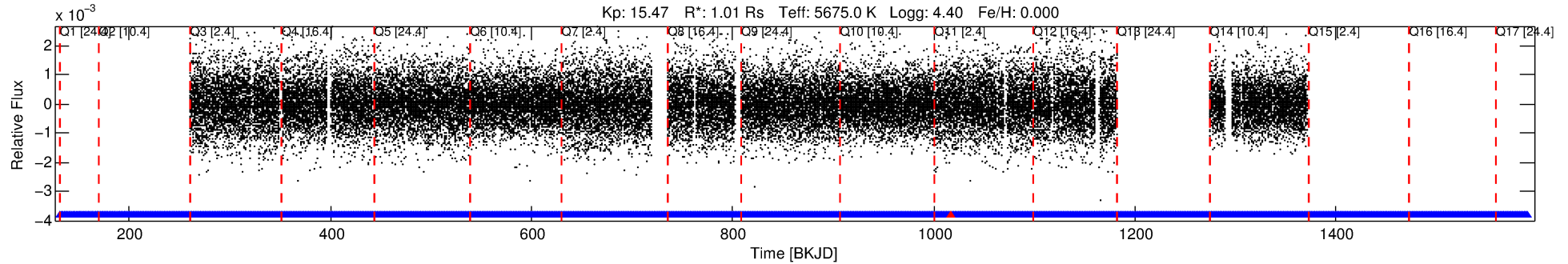
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008266004-01

No Significant Match Found

# DV One-Page Summary

KIC: 8266004 Candidate: 1 of 1 Period: 1.170 d



## DV Fit Results:

Period = 1.16990 [0.00001] d  
Epoch = 131.8111 [0.0044] BKJD  
Rp/R\* = 0.0113 [0.0101]  
a/R\* = 1.81 [5.41]  
b = 0.91 [0.81]  
Seff = 2099.89 [765.82]  
Teq = 1726 [157] K  
Rp = 1.24 [1.17] Re  
a = 0.0212 [0.0050] AU  
Ag = 11.11 [20.39] [0.50 $\sigma$ ]  
Teffp = 4873 [2202] K [1.43 $\sigma$ ]

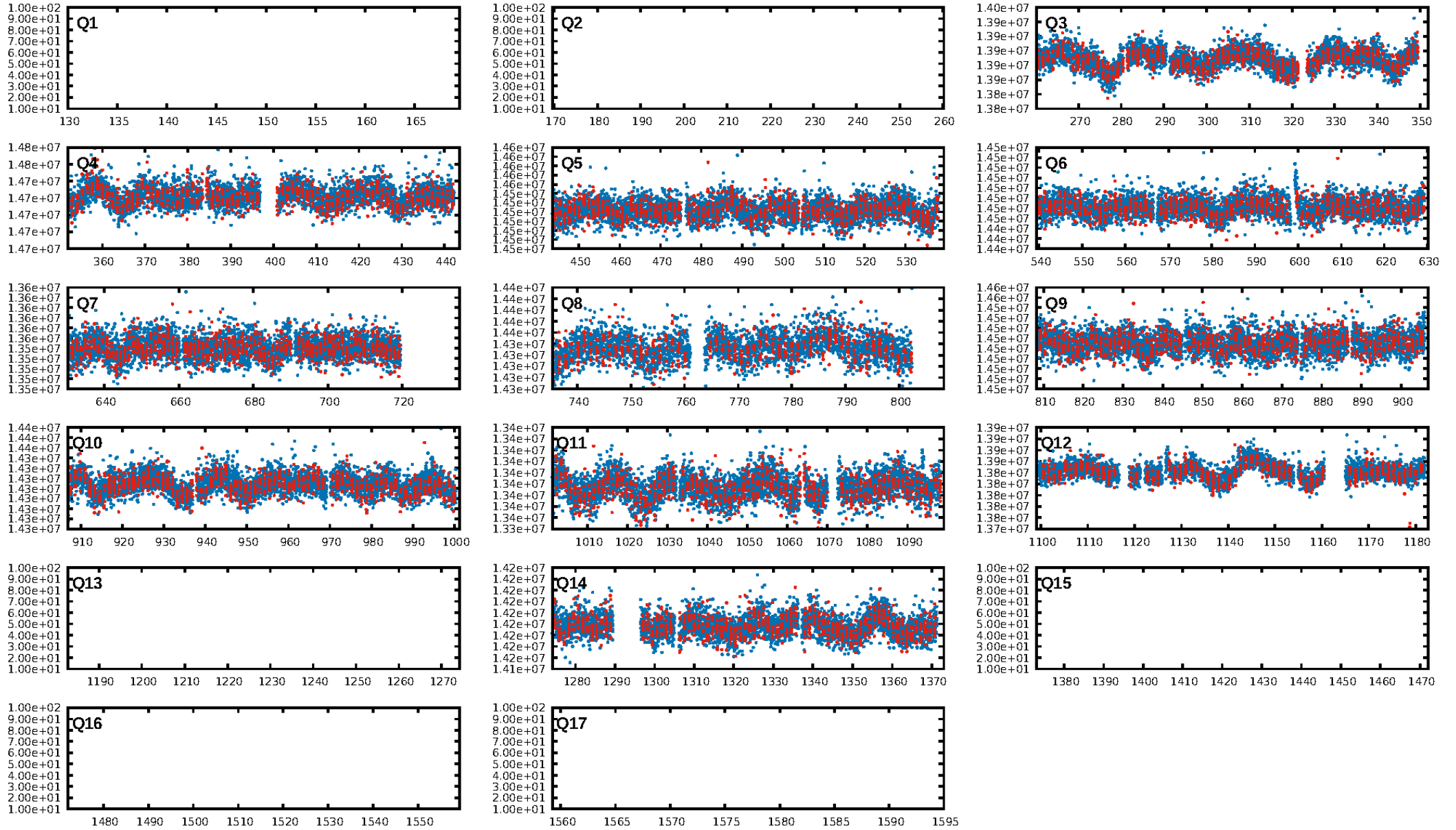
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.09e-14  
RollingBand-fgt: 1.00 [805/806]  
GhostDiagnostic-chr: 0.5309  
Centroid-sig: 0.0%  
Centroid-so: 6.655 arcsec [4.13 $\sigma$ ]  
OotOffset-rm: 4.913 arcsec [8.60 $\sigma$ ]  
KicOffset-rm: 5.226 arcsec [8.80 $\sigma$ ]  
OotOffset-st: 3/3/3/2 [11]  
KicOffset-st: 3/3/3/2 [11]  
DiffImageQuality-fgm: 0.18 [2/11]  
DiffImageOverlap-fno: 1.00 [11/11]

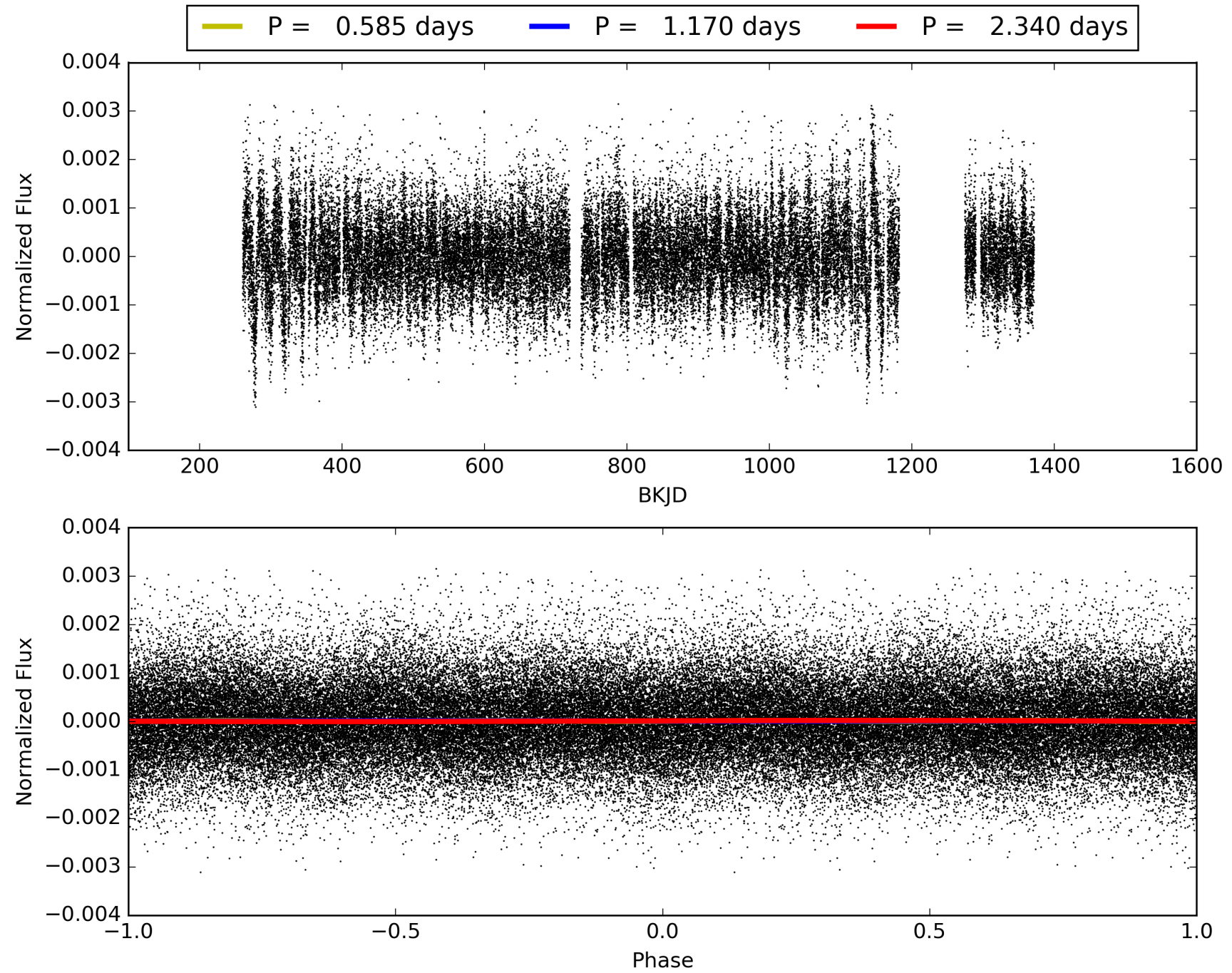
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:21:16 Z

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

# TCE 008266004-01, PDC Light Curves



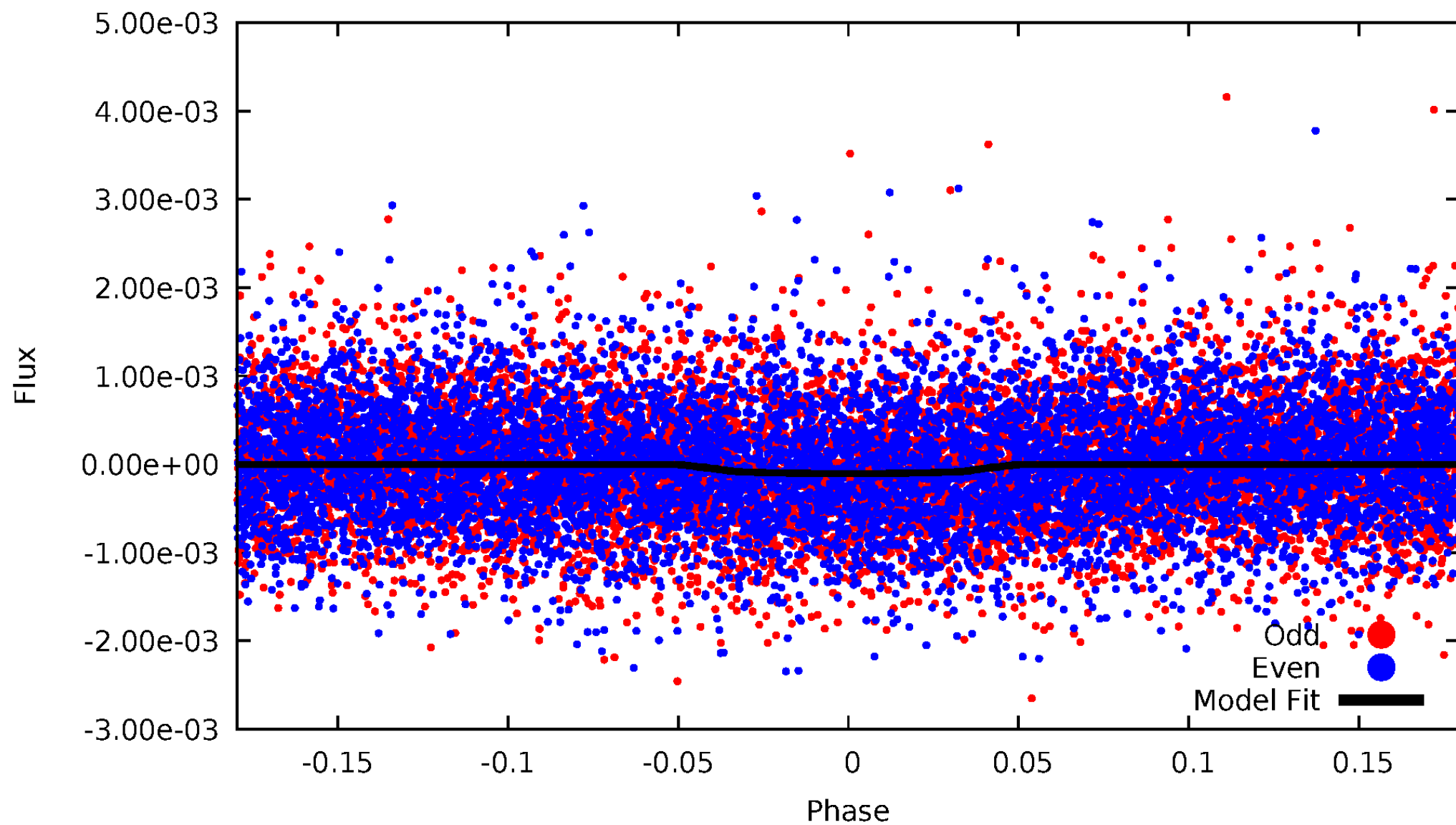
TCE 008266004-01





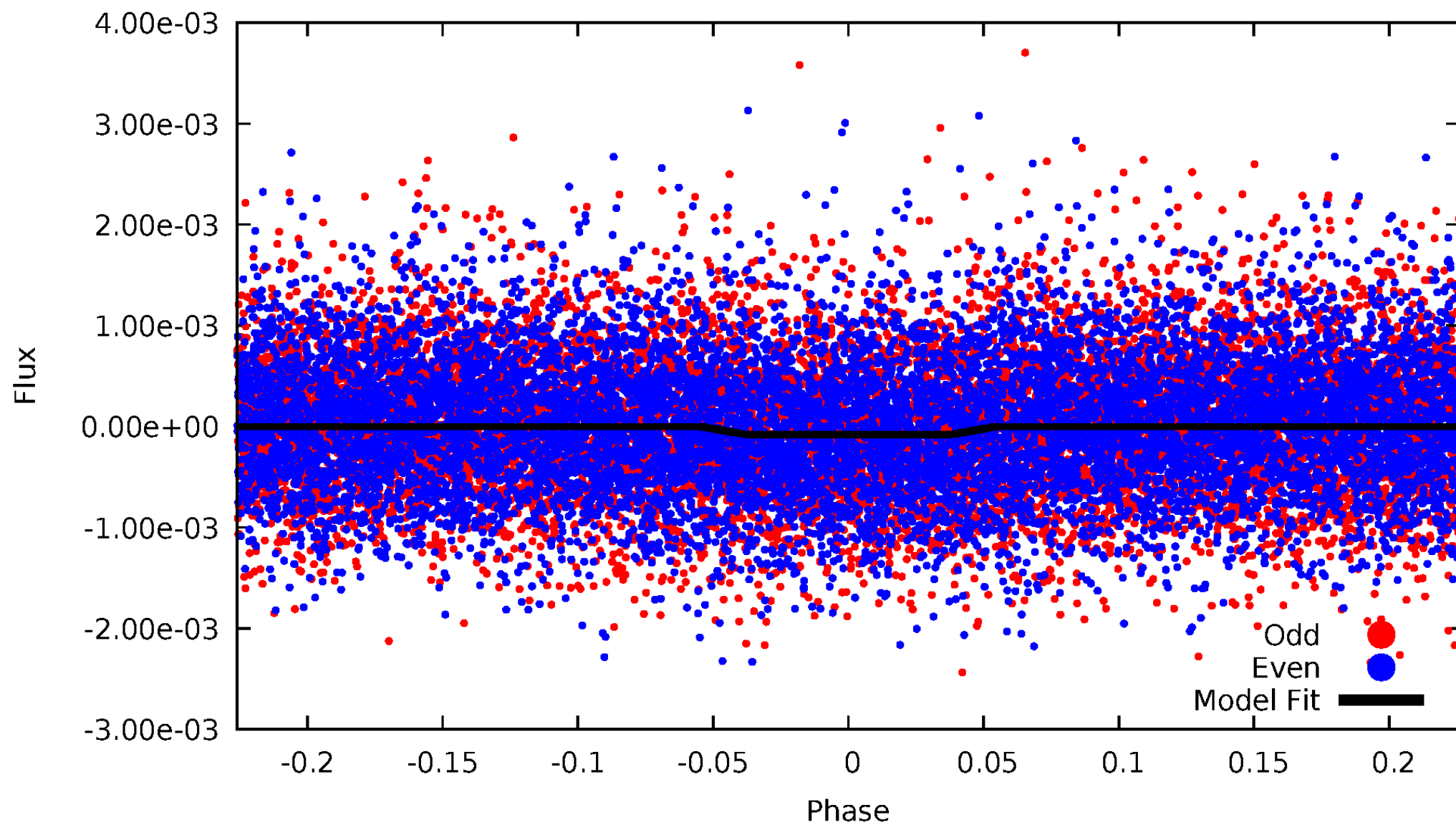
# DV Odd/Even

TCE 008266004-01



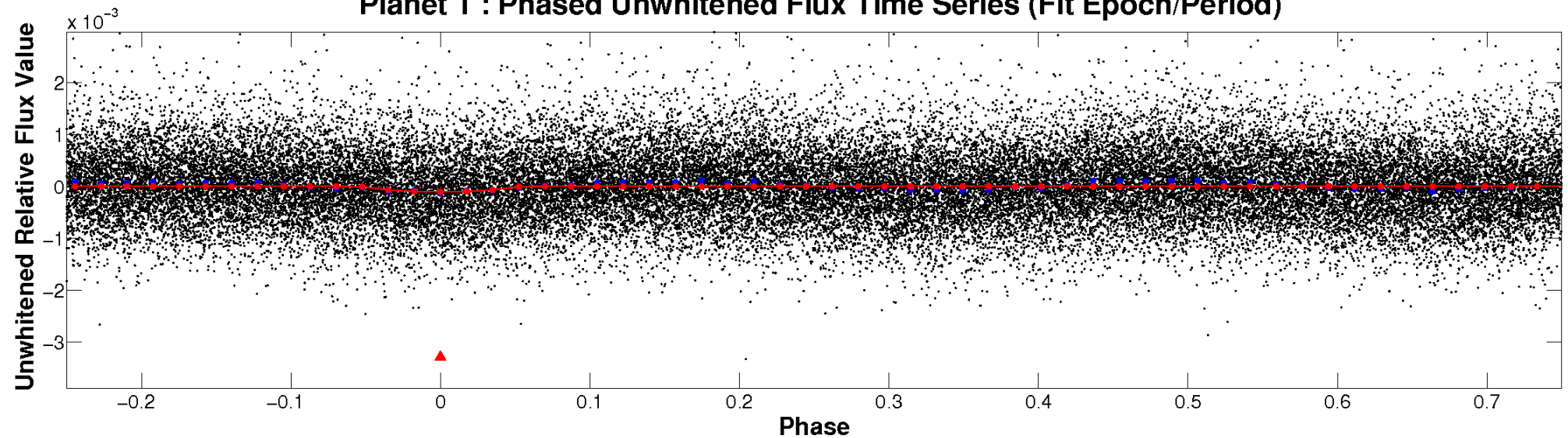
# ALT Odd/Even

TCE 008266004-01

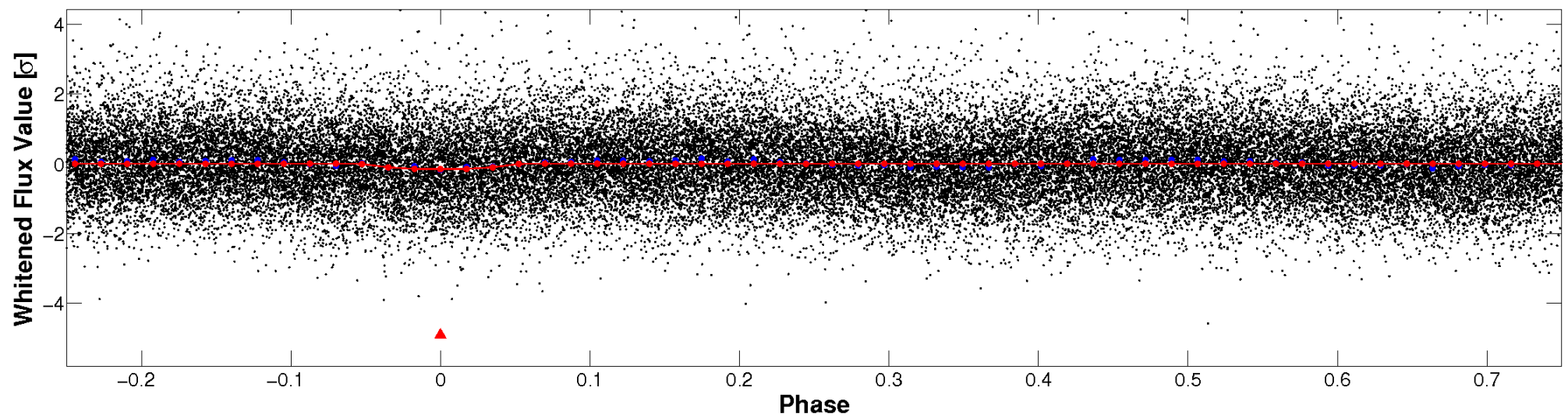


# Non-Whitened Vs. Whitened Light Curve

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

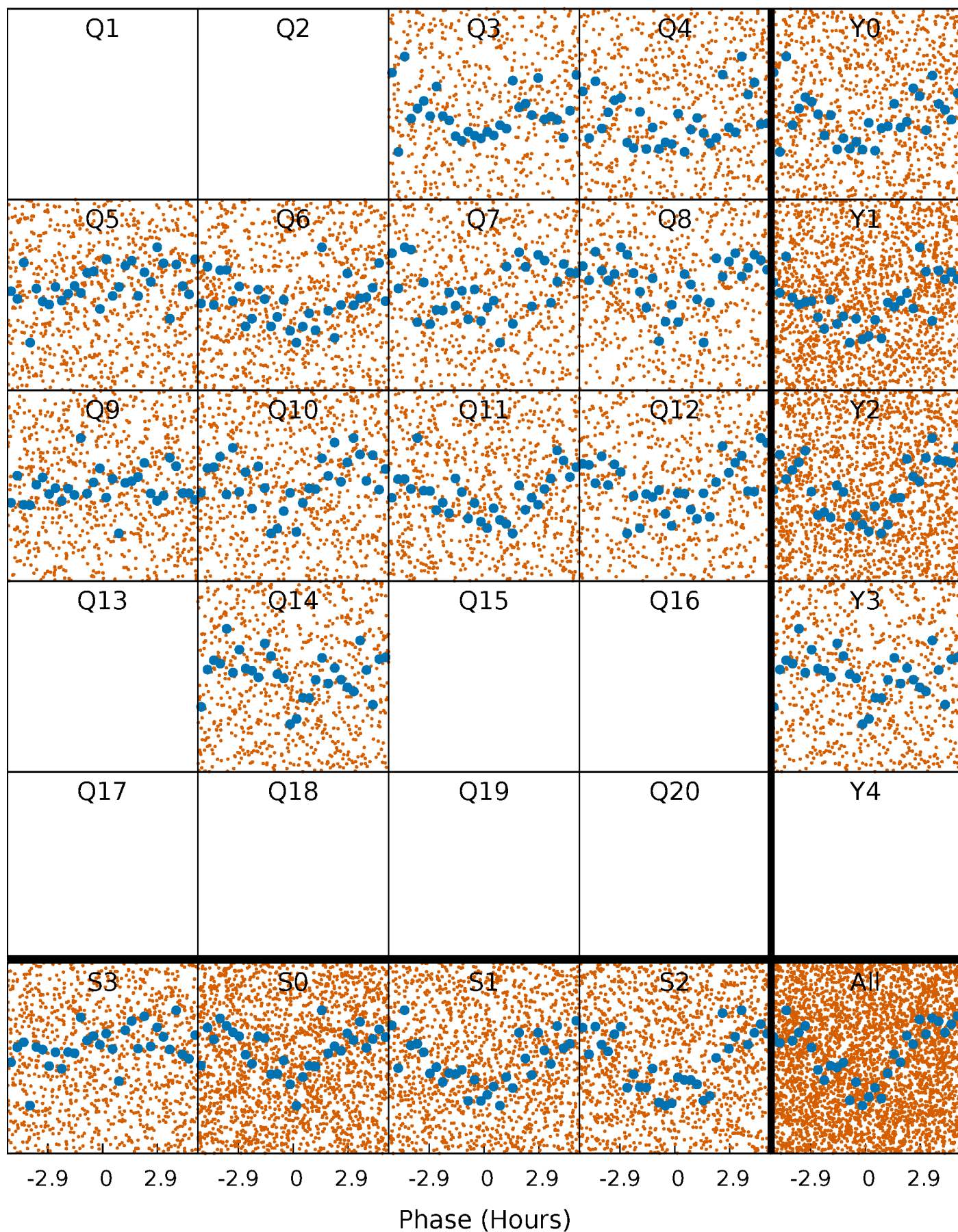


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

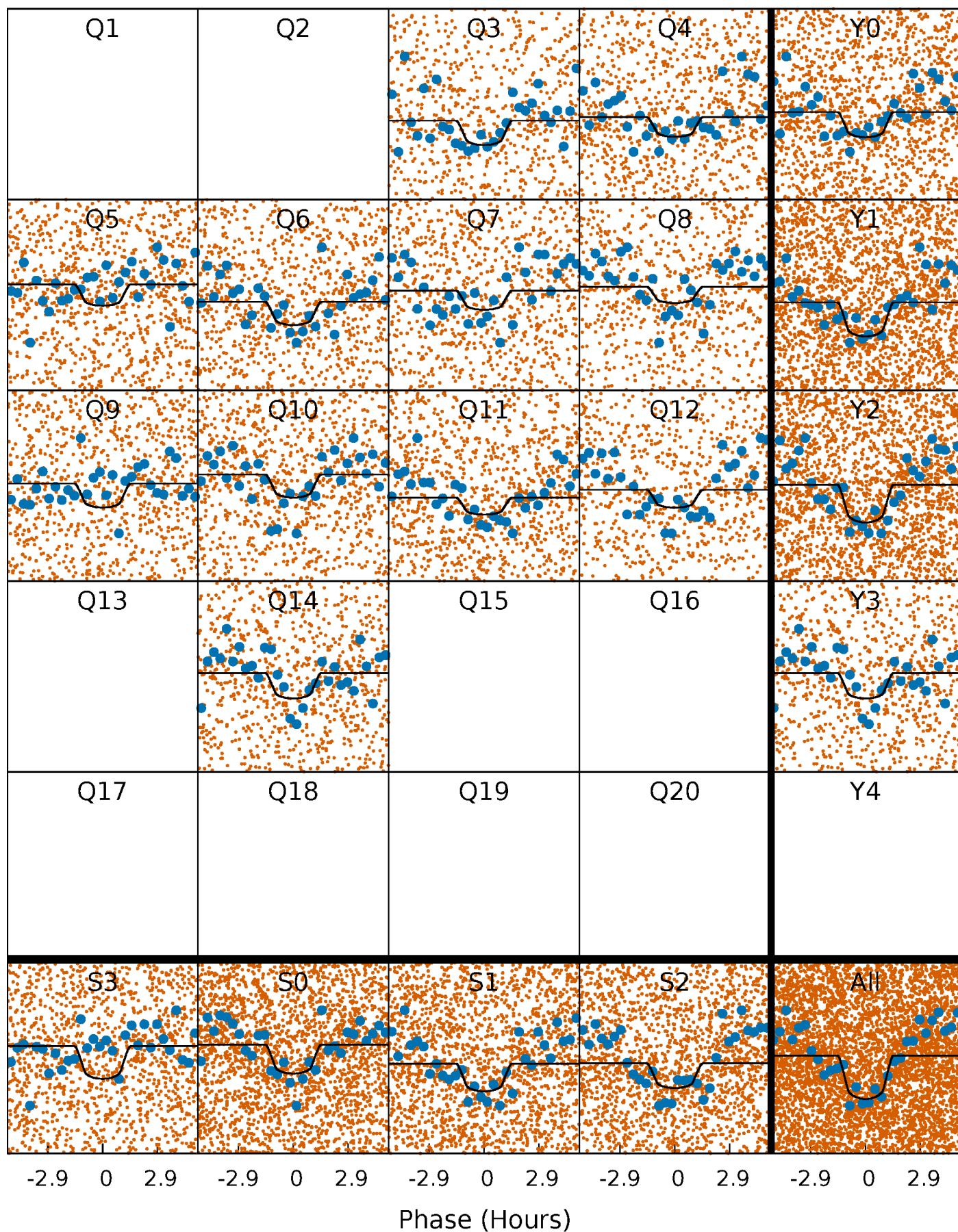
TCE 008266004-01 P= 1.169905 Days  $T_0=131.811137$  (BKJD)





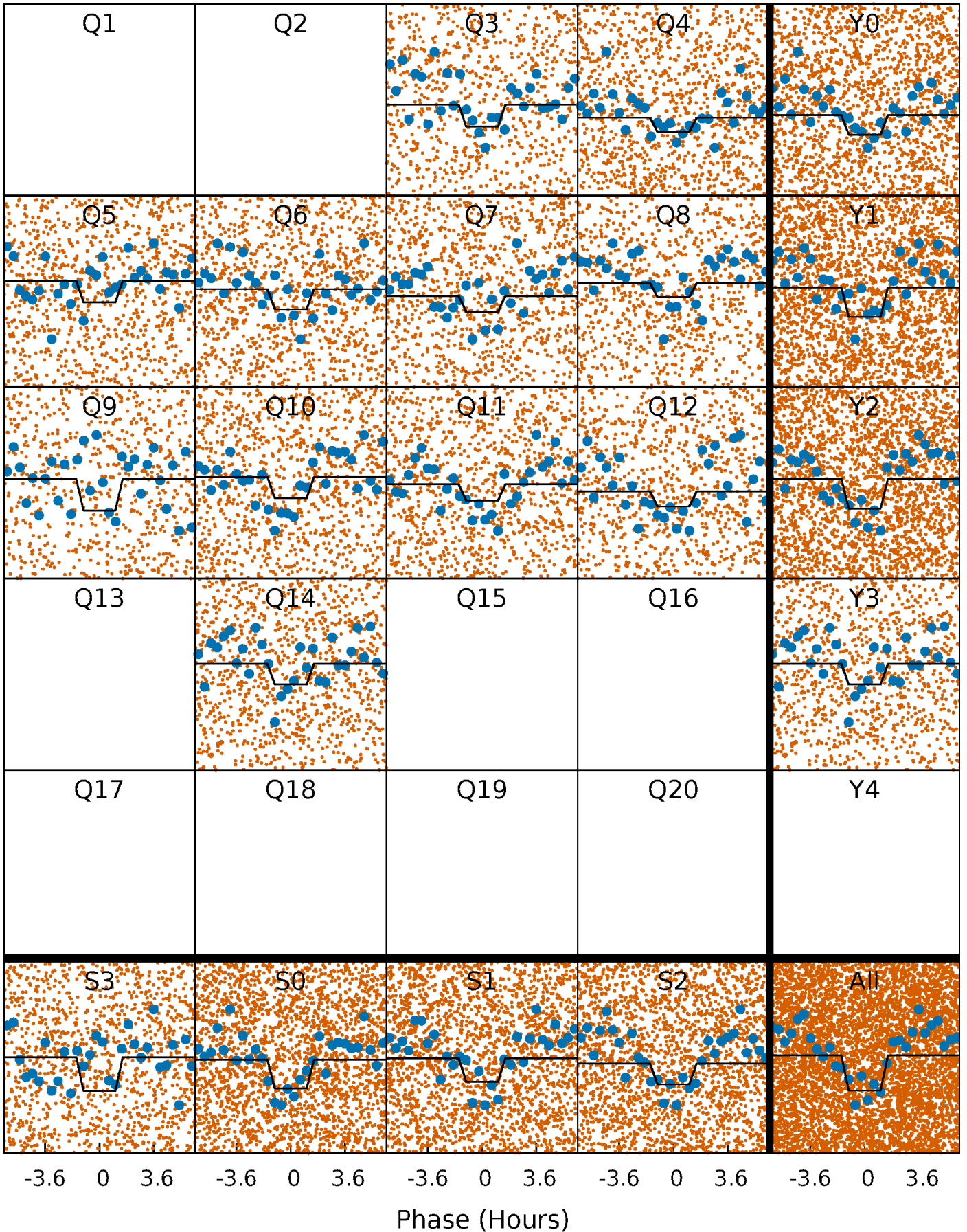
# DV Quarter-Phased Transit Curves

TCE 008266004-01 P= 1.169905 Days  $T_0=131.811137$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

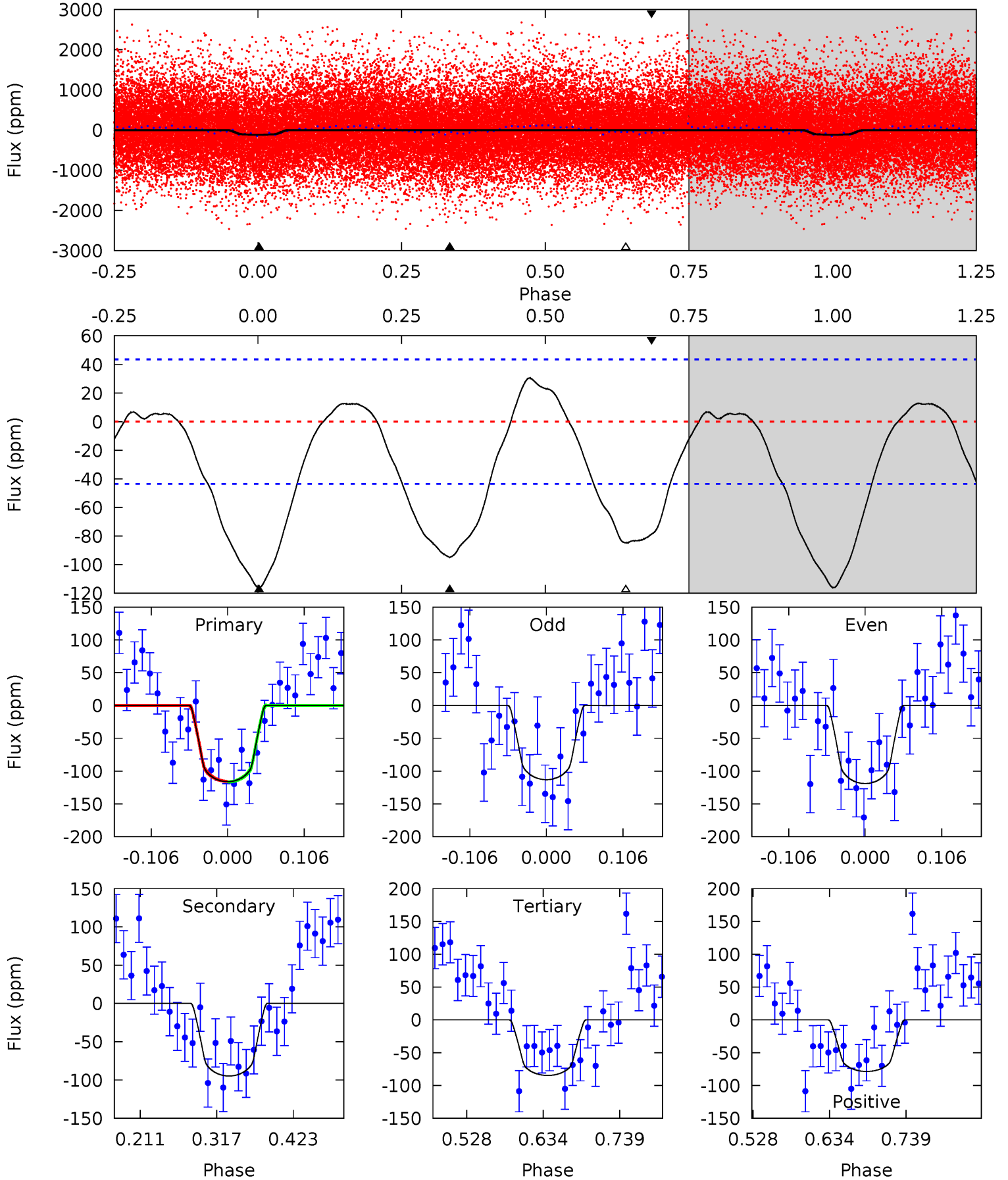
TCE 008266004-01     $P = 1.169994$  Days     $T_0 = 131.756247$  (BKJD)



# DV Model-Shift Uniqueness Test

008266004-01, P = 1.169905 Days, E = 131.811137 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  |
|------|------|------|-------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.1 | 9.91 | 8.86 | -8.23 | 4.55            | 1.62            | 3.60             | 3.28    | 20.4    | 1.05    | 18.1    | 0.31    | 1.00 | 0.21  | 0.04 |

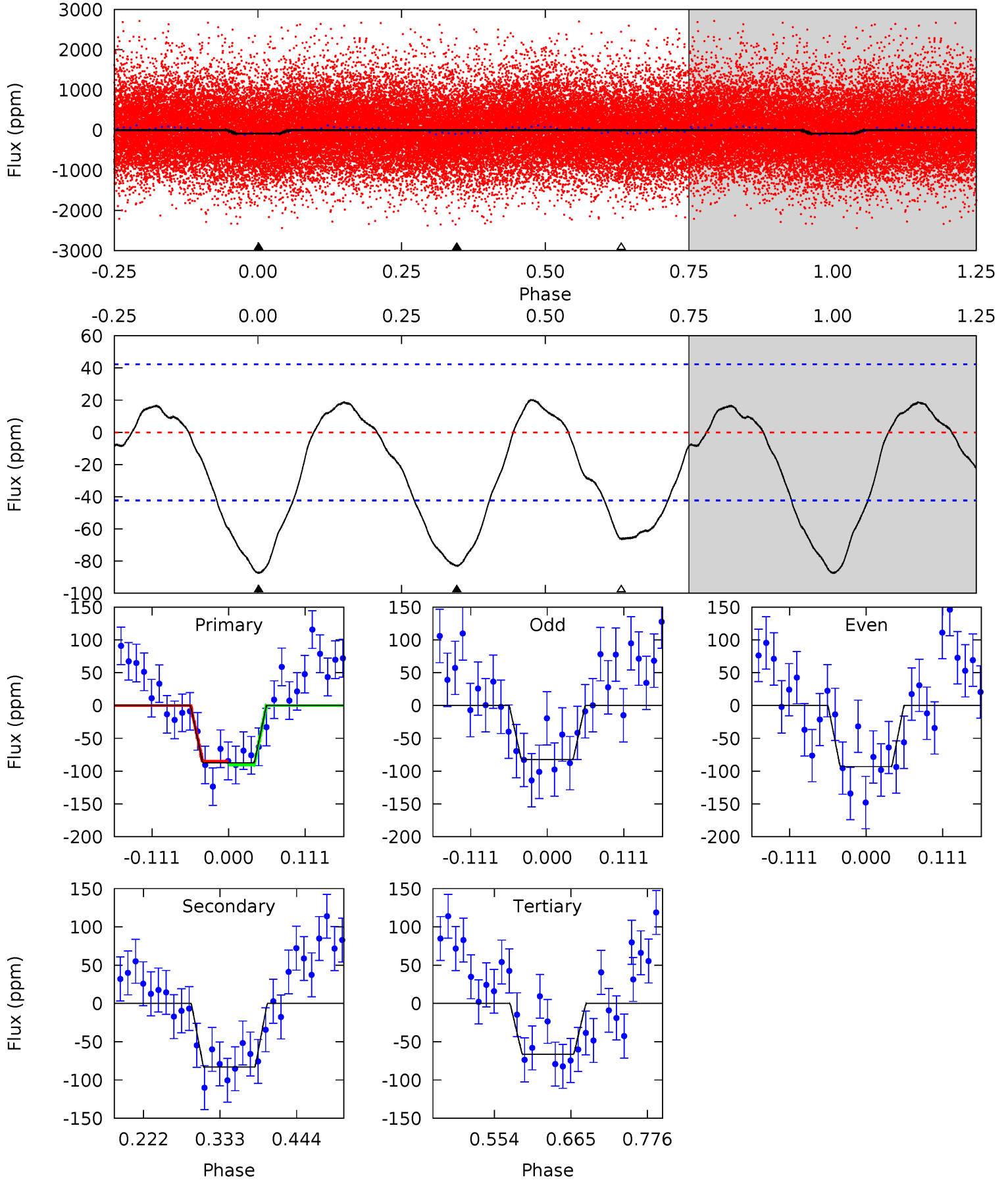




# Alt Model-Shift Uniqueness Test

008266004-01, P = 1.169994 Days, E = 131.756247 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  |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.38 | 8.91 | 7.11 | 0   | 4.54            | 1.59            | 3.01             | 2.27    | 9.38    | 1.80    | 8.91    | 0.58    | 0.98 | 0.19  | 0.29 |





### Stellar Parameters For KIC 008266004

|        | $T_{\text{eff}}(K)$  | $\log(g)$                 | [Fe/H]                    | $R (R_{\odot})$           | $M(M_{\odot})$            | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
|        | $5675^{+169}_{-186}$ | $4.399^{+0.124}_{-0.186}$ | $0.000^{+0.250}_{-0.300}$ | $1.008^{+0.280}_{-0.151}$ | $0.930^{+0.115}_{-0.094}$ | $1.279^{+0.714}_{-0.623}$                 |
|        | +3%/-3%              | +3%/-4%                   | +inf%/-inf%               | +28%/-15%                 | +12%/-10%                 | +56%/-49%                                 |
| 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 008266004-01 / KOI

| Detrend | Depth (ppm)  | $R_p (R_{\oplus})$     | $T_{max} (K)$        | $T_{obs} (K)$          | $A_{obs}$       |
|---------|--------------|------------------------|----------------------|------------------------|-----------------|
| DV      | $-95 \pm 10$ | $1.41^{+1.04}_{-0.88}$ | $2422^{+179}_{-134}$ | $5060^{+3360}_{-1044}$ | $12^{+67}_{-8}$ |
| Alt.    | $-83 \pm 9$  | $1.31^{+1.06}_{-0.83}$ | $2437^{+169}_{-150}$ | $5061^{+3474}_{-1119}$ | $12^{+77}_{-8}$ |

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

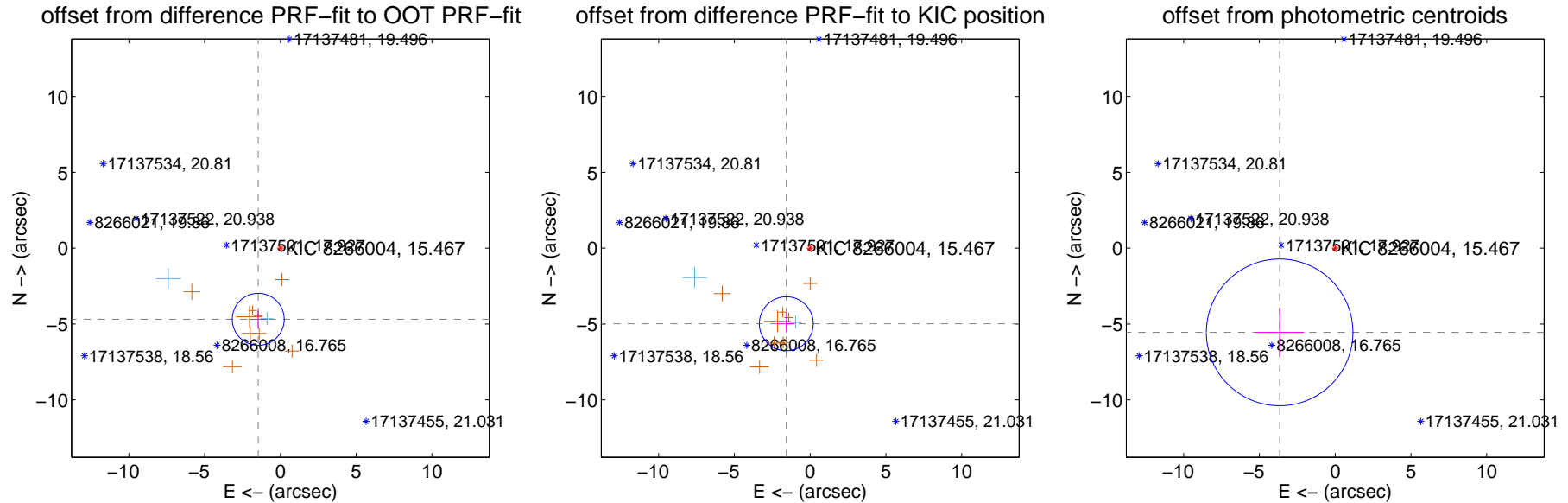
## DV Centroid Data

Supplemental centroid analysis for 008266004-01. Kepler magnitude: 15.47. Transit SNR 8.00

There are 2 quarters with good PRF difference image offsets

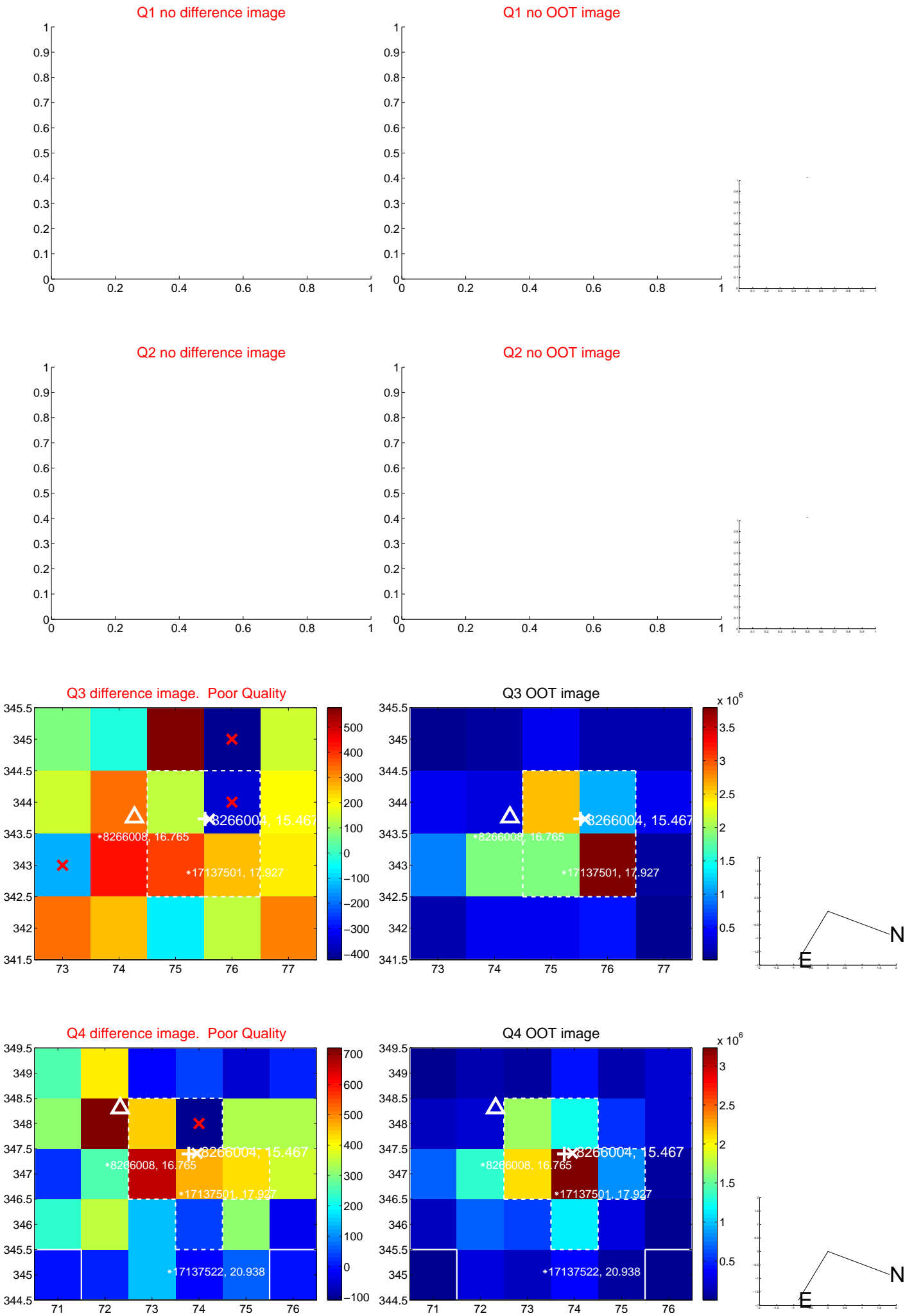
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec       |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT          | $4.913 \pm 0.572$  | 8.60                | $1.463 \pm 0.565$ | $-4.690 \pm 0.572$ |
| PRF-fit source offset from KIC position | $5.226 \pm 0.594$  | 8.80                | $1.576 \pm 0.566$ | $-4.983 \pm 0.596$ |
| photometric centroid source offset      | $6.65 \pm 1.61$    | 4.13                | $3.67 \pm 1.61$   | $-5.55 \pm 1.61$   |

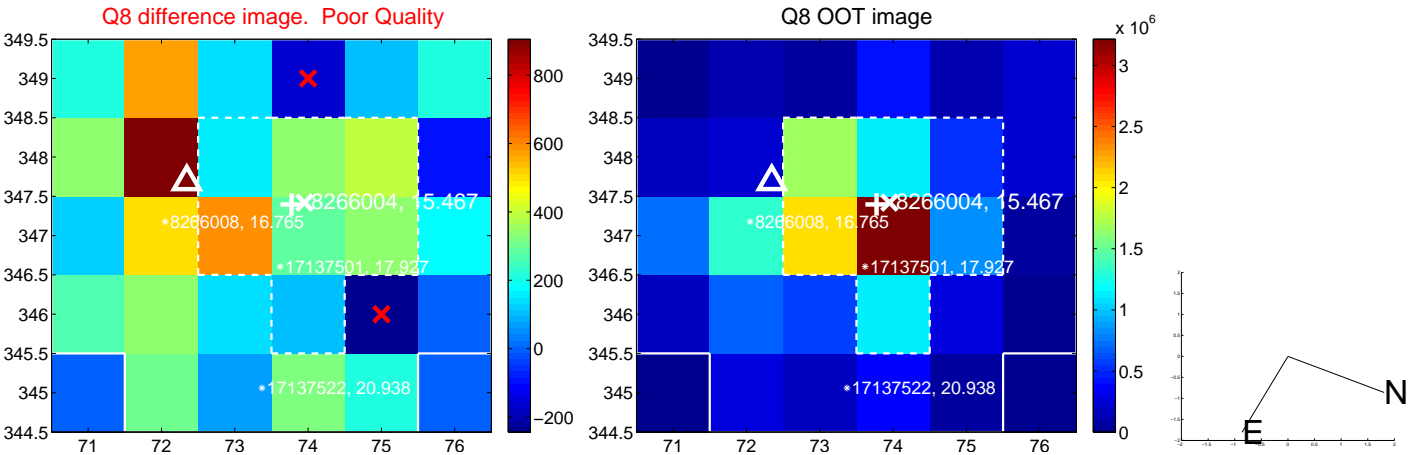
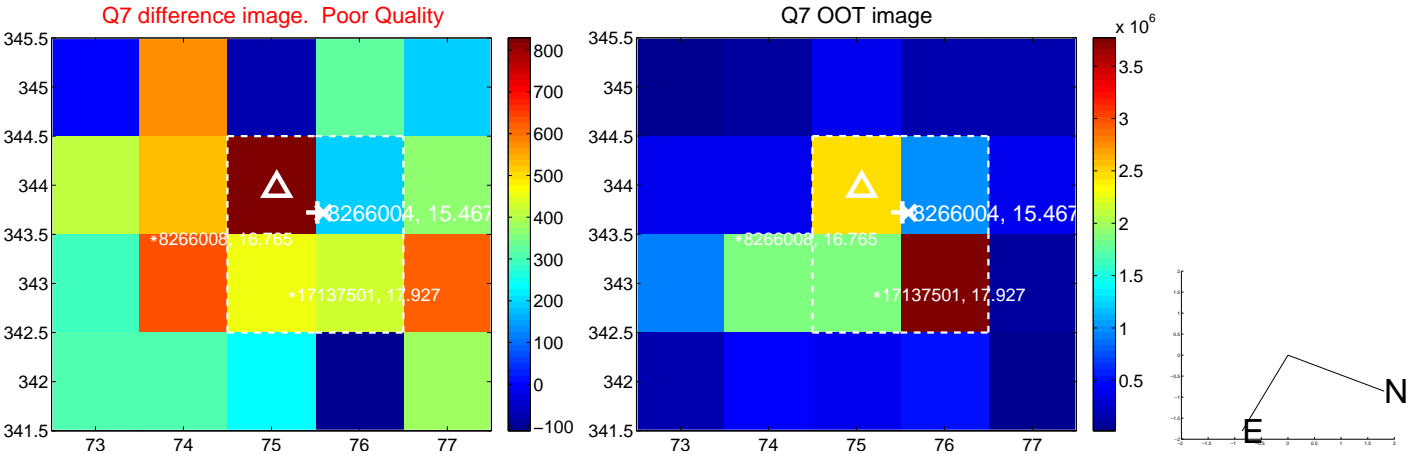
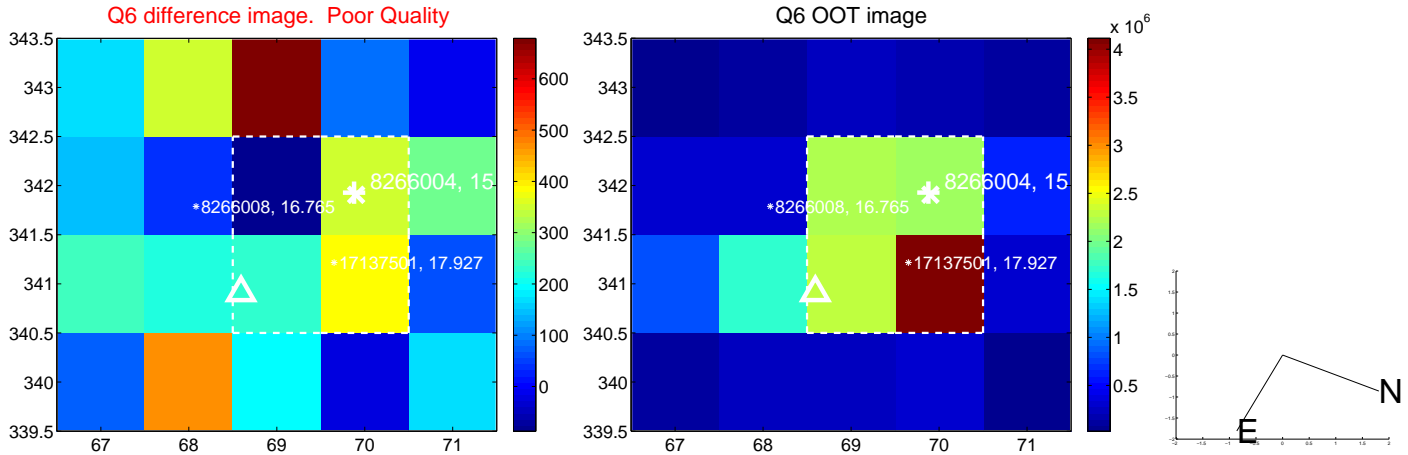
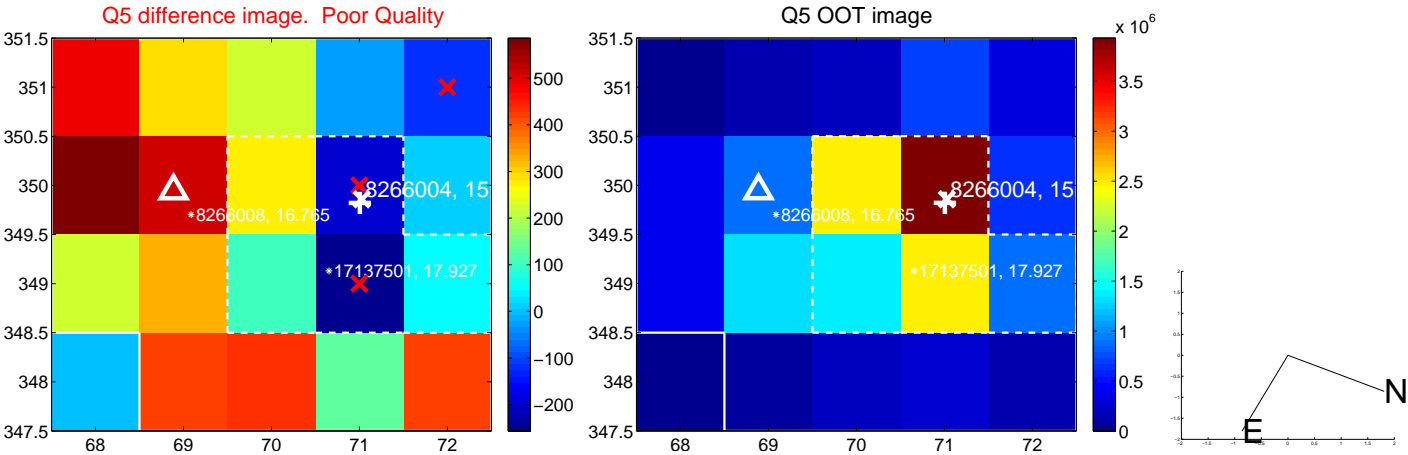


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

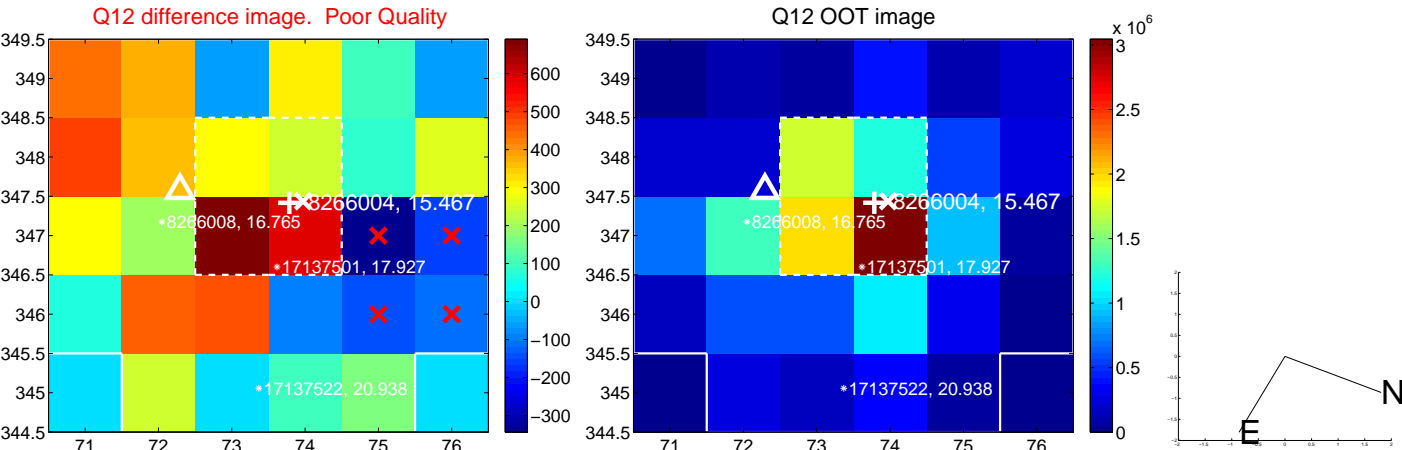
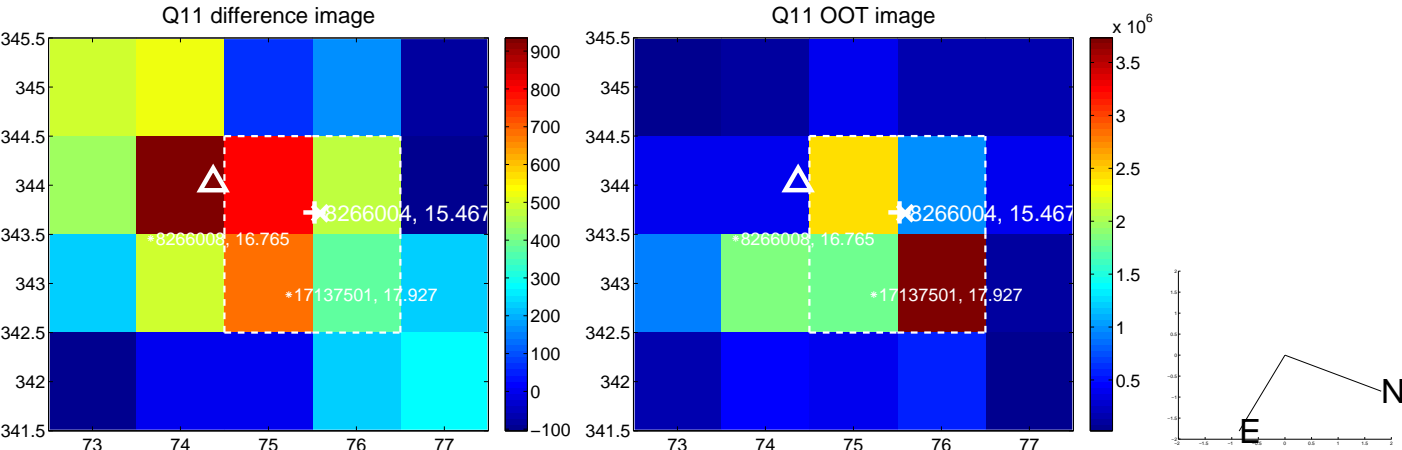
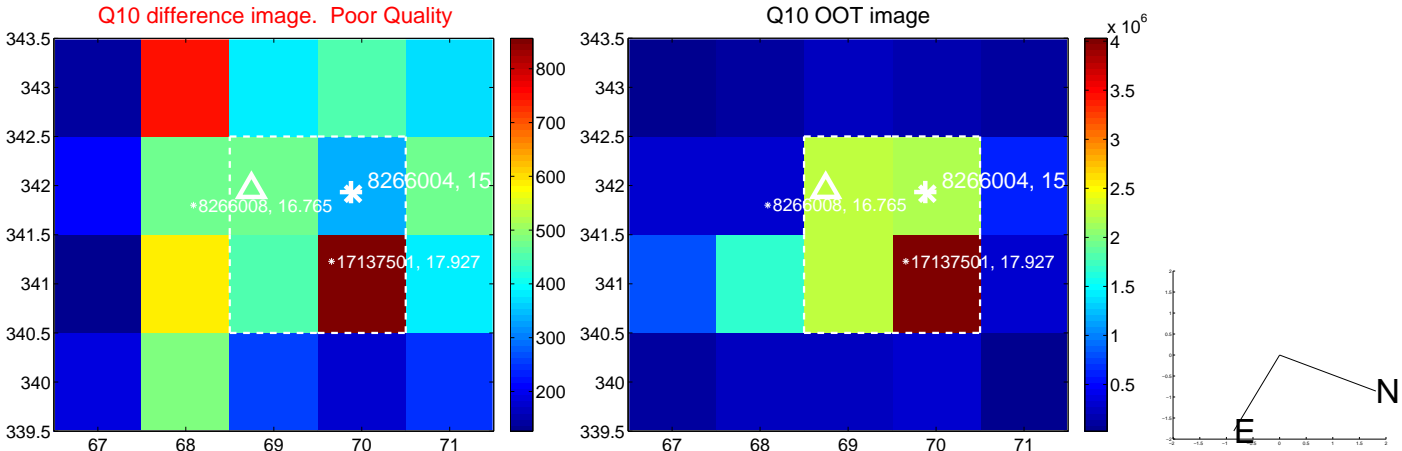
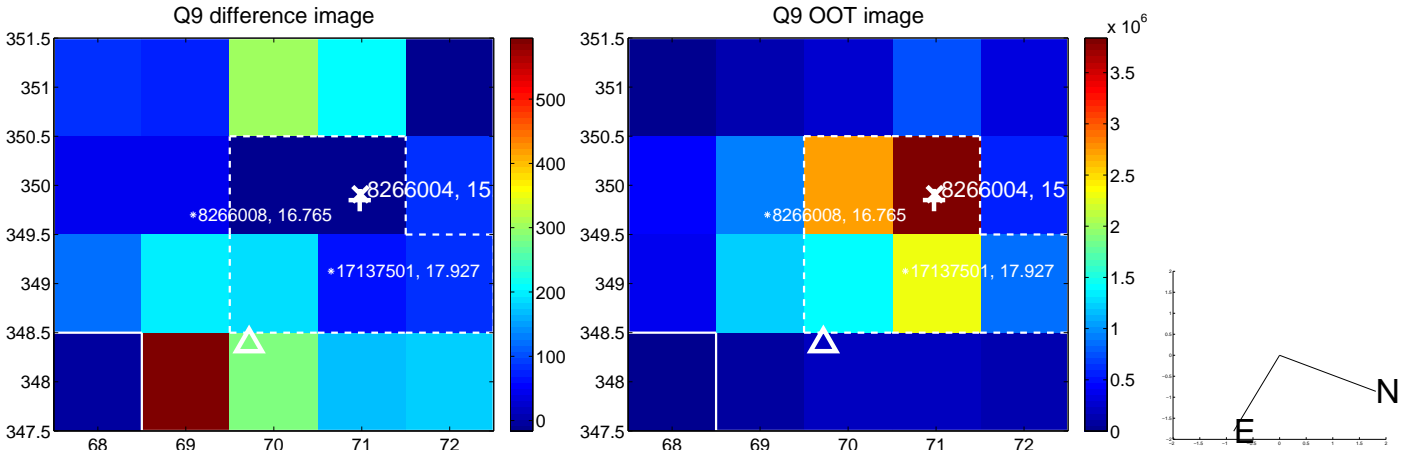


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

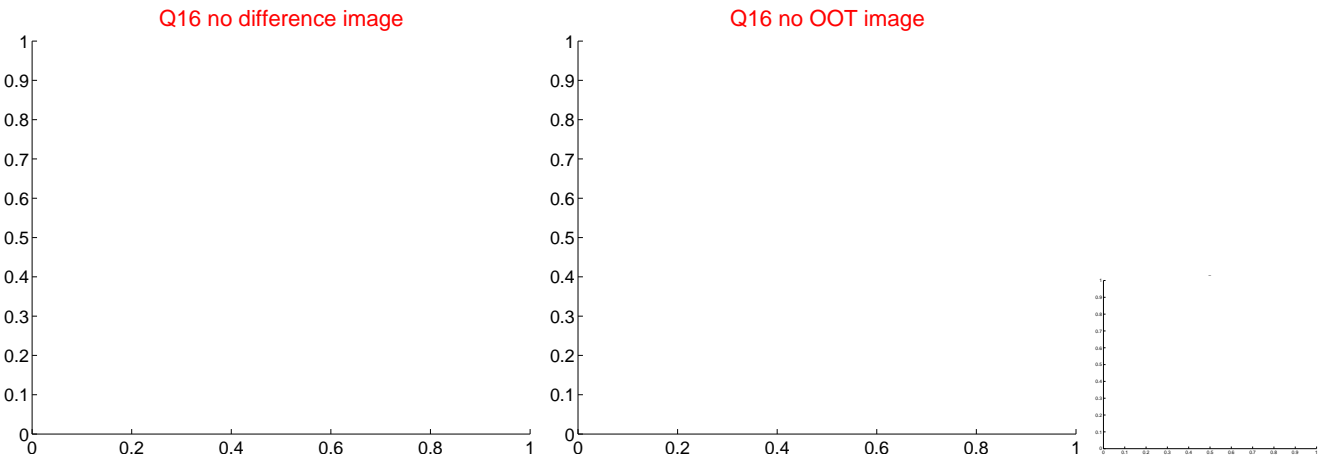
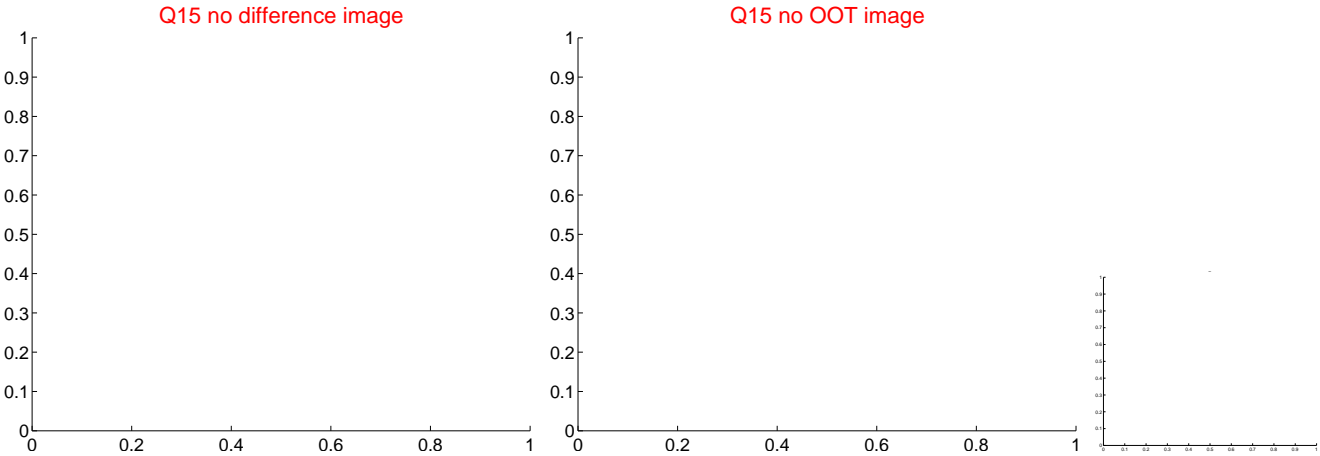
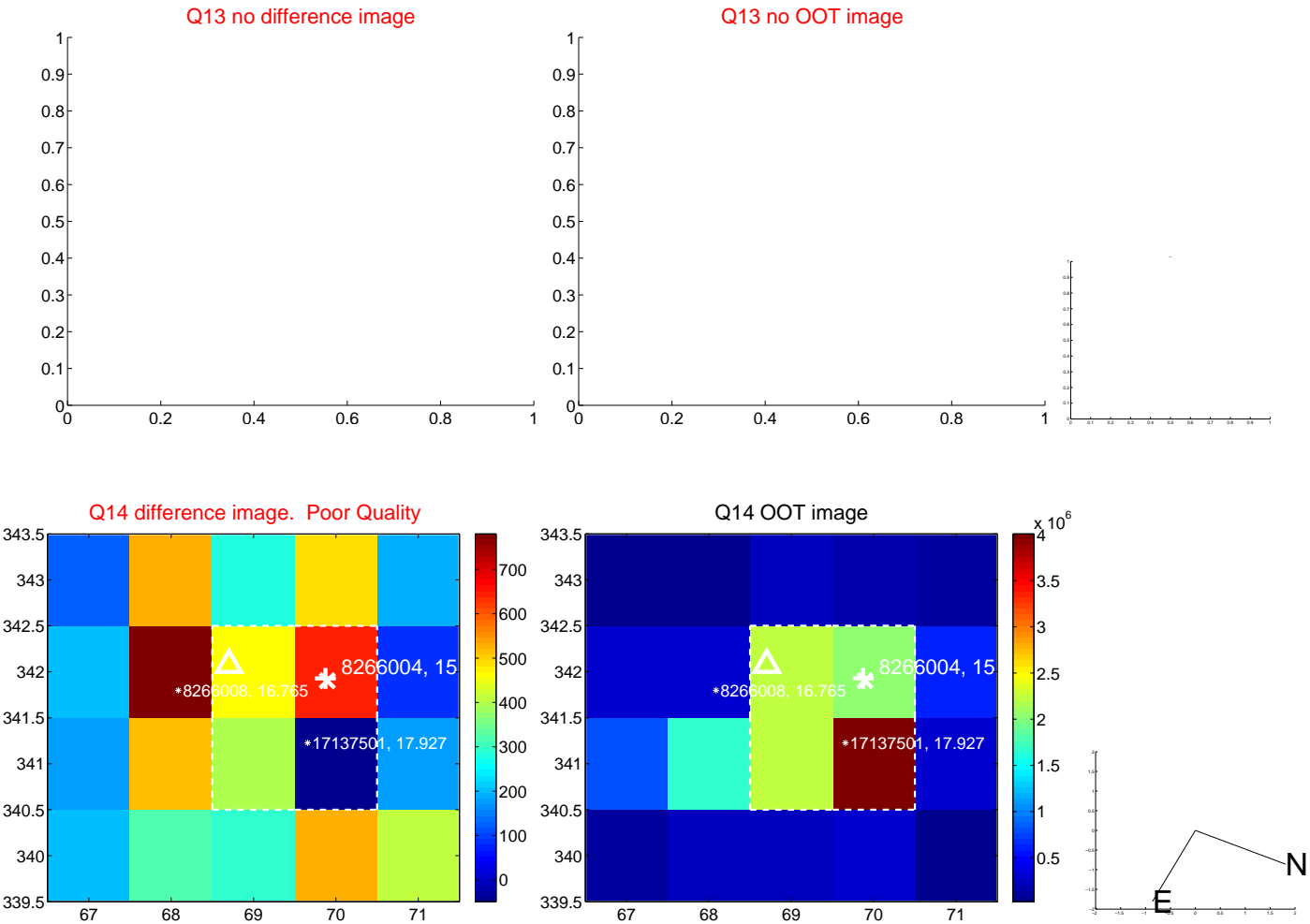




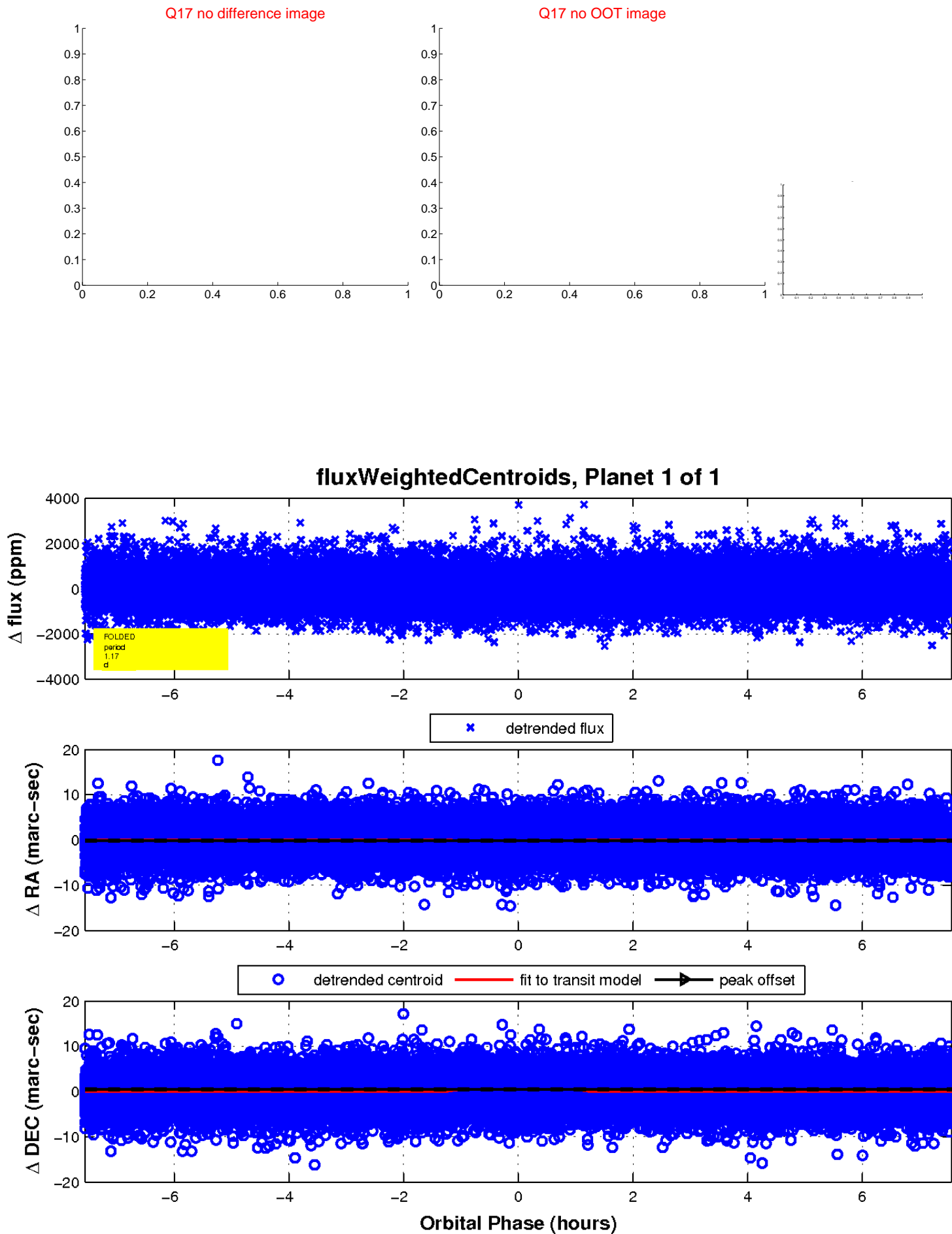
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

