

# KIC 010484808

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 010484808-01 | OBS      | No   | 0.693845      | 131.820053   | 14.4        | 5.040            | 11.6 | 11.0 | 2.63                        | 8402            | 1.07                   | 78773.77               |
| 010484808-02 | OBS      | No   | 15.710025     | 144.832853   | 295.9       | 1.262            | 13.2 | 14.6 | 2.63                        | 8402            | 4.62                   | 1229.79                |
| 010484808-03 | OBS      | No   | 24.837499     | 144.179579   | 286.0       | 1.523            | 11.0 | 12.3 | 2.63                        | 8402            | 4.67                   | 667.71                 |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments  |
|--------------|----------|------|-------|---|---|---|---|---|
| 010484808-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED  |
| 010484808-02 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED                                  |
| 010484808-03 | OBS      | FP   | 0.00  | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED—HALO_GHOST |

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

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

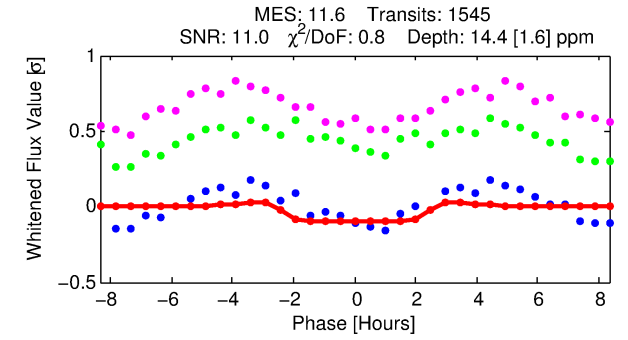
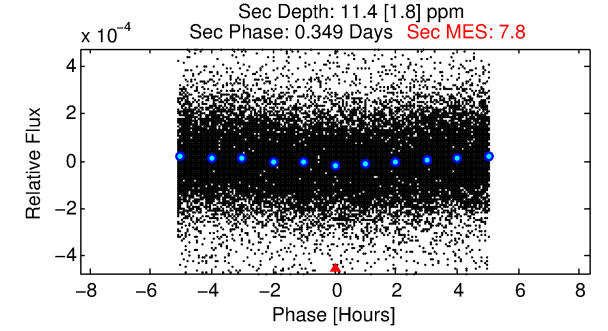
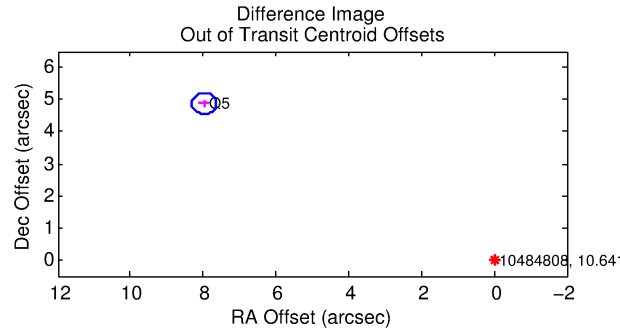
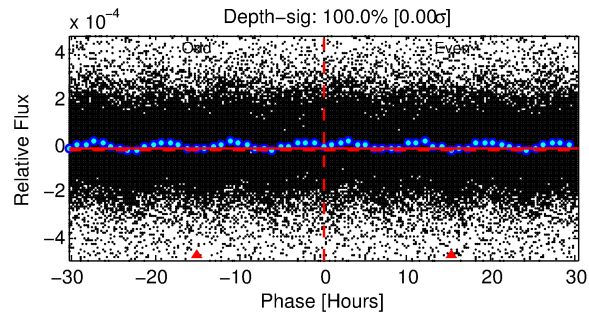
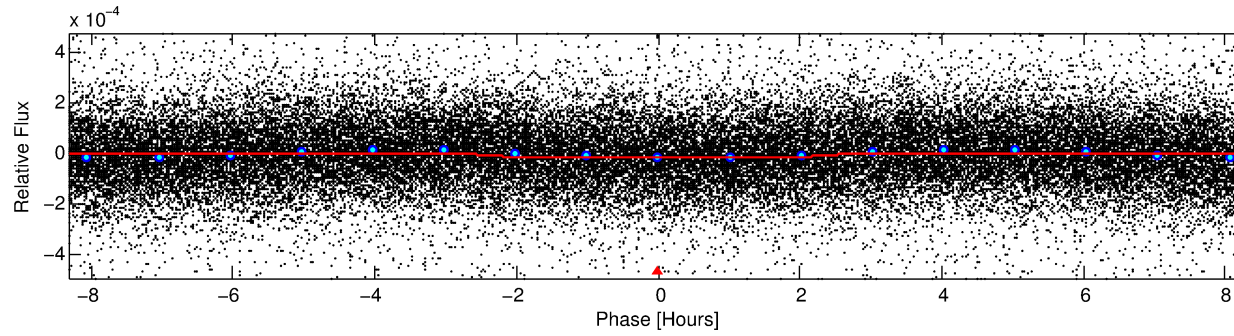
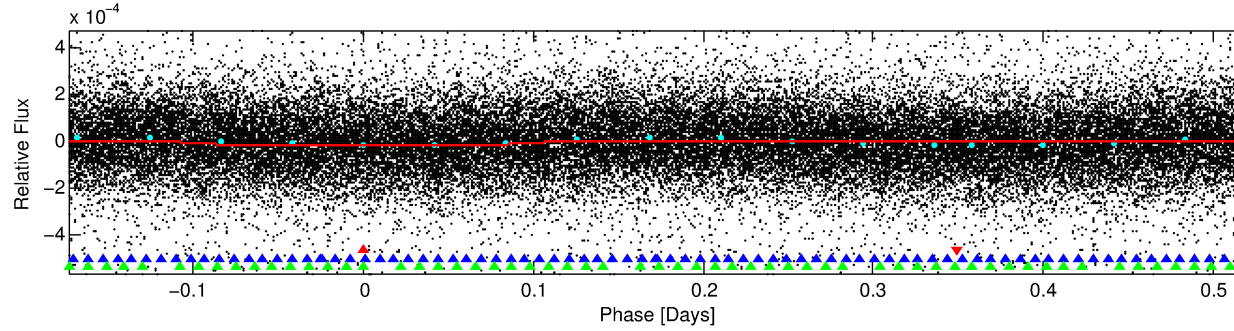
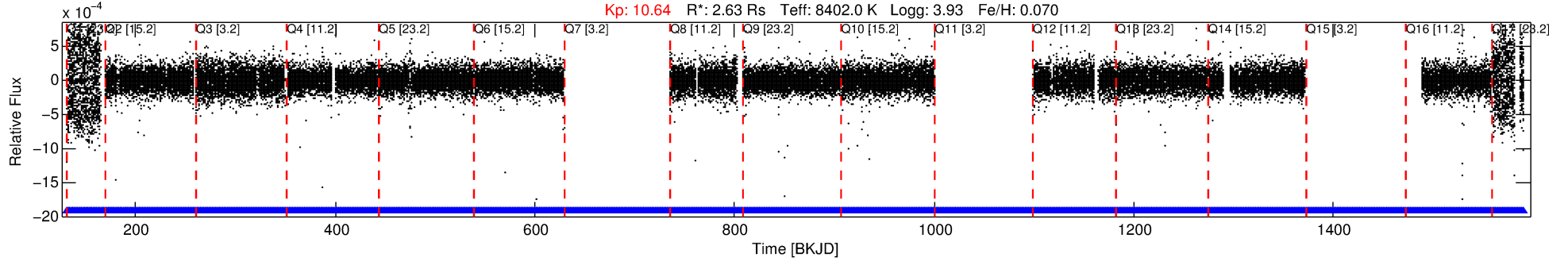
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 010484808-01

No Significant Match Found

# DV One-Page Summary

KIC: 10484808 Candidate: 1 of 3 Period: 0.694 d



## DV Fit Results:

Period = 0.69385 [0.00001] d  
Epoch = 131.8201 [0.0040] BKJD  
 $R_p/R^*$  = 0.0037 [0.0019]  
 $a/R^*$  = 1.13 [0.73]  
 $b$  = 0.70 [2.25]  
 $\text{Seff}$  = 78773.77 [38218.07]  
 $T_{\text{eq}}$  = 4272 [518] K  
 $R_p$  = 1.07 [0.66]  $R_e$   
 $a$  = 0.0198 [0.0060] AU  
 $A_g$  = 2.15 [2.39] [0.48 $\sigma$ ]  
 $T_{\text{eff}}$  = 7998 [2075] K [1.74 $\sigma$ ]

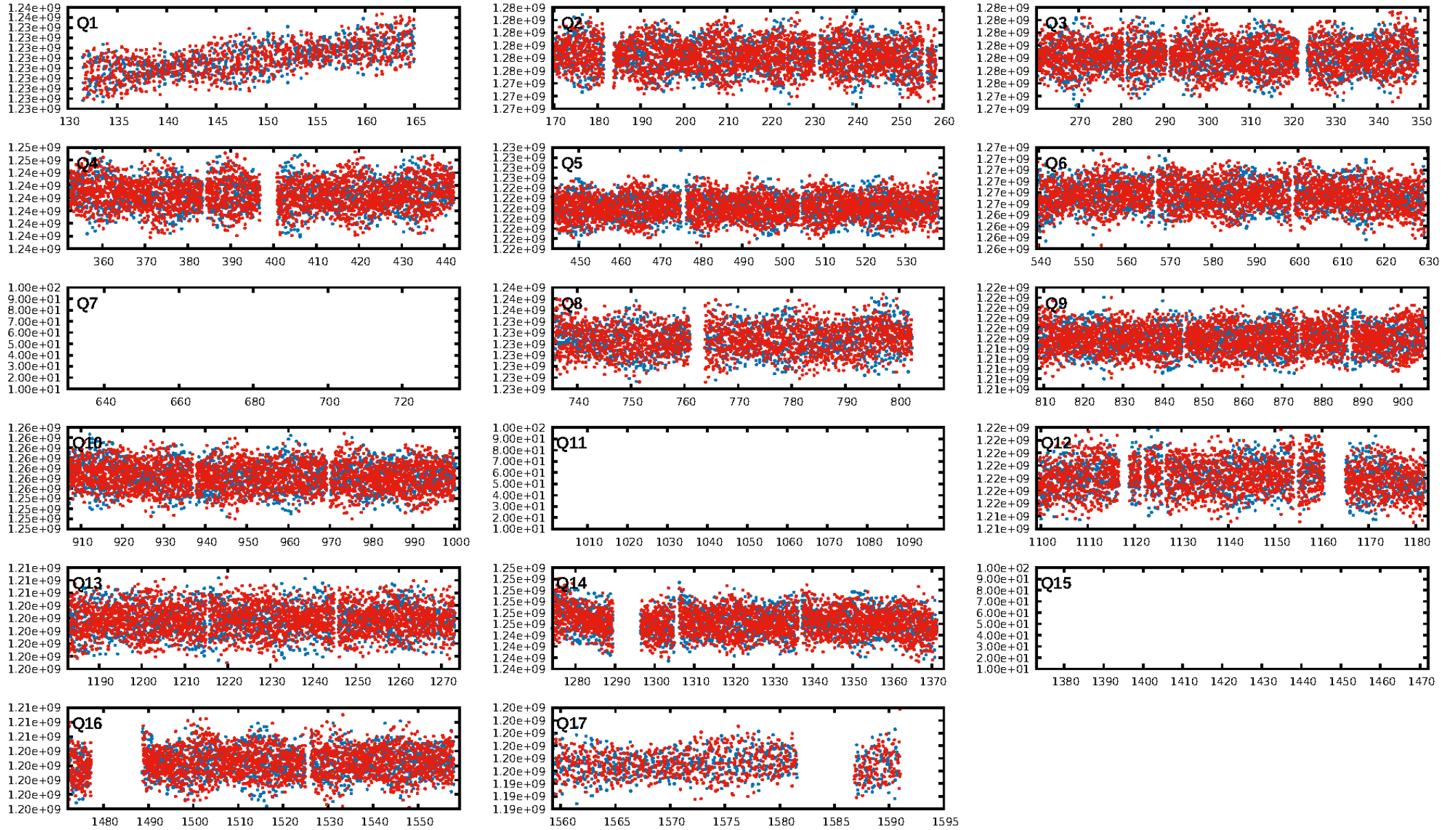
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [69.36 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.60e-13  
RollingBand-fgt: 1.00 [1458/1458]  
GhostDiagnostic-chr: 2.354  
Centroid-sig: 9.3%  
Centroid-so: 0.596 arcsec [1.21 $\sigma$ ]  
**OotOffset-rm: 9.353 arcsec [83.52 $\sigma$ ]**  
**KicOffset-rm: 8.198 arcsec [73.68 $\sigma$ ]**  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [14/14]

Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:46:52 Z

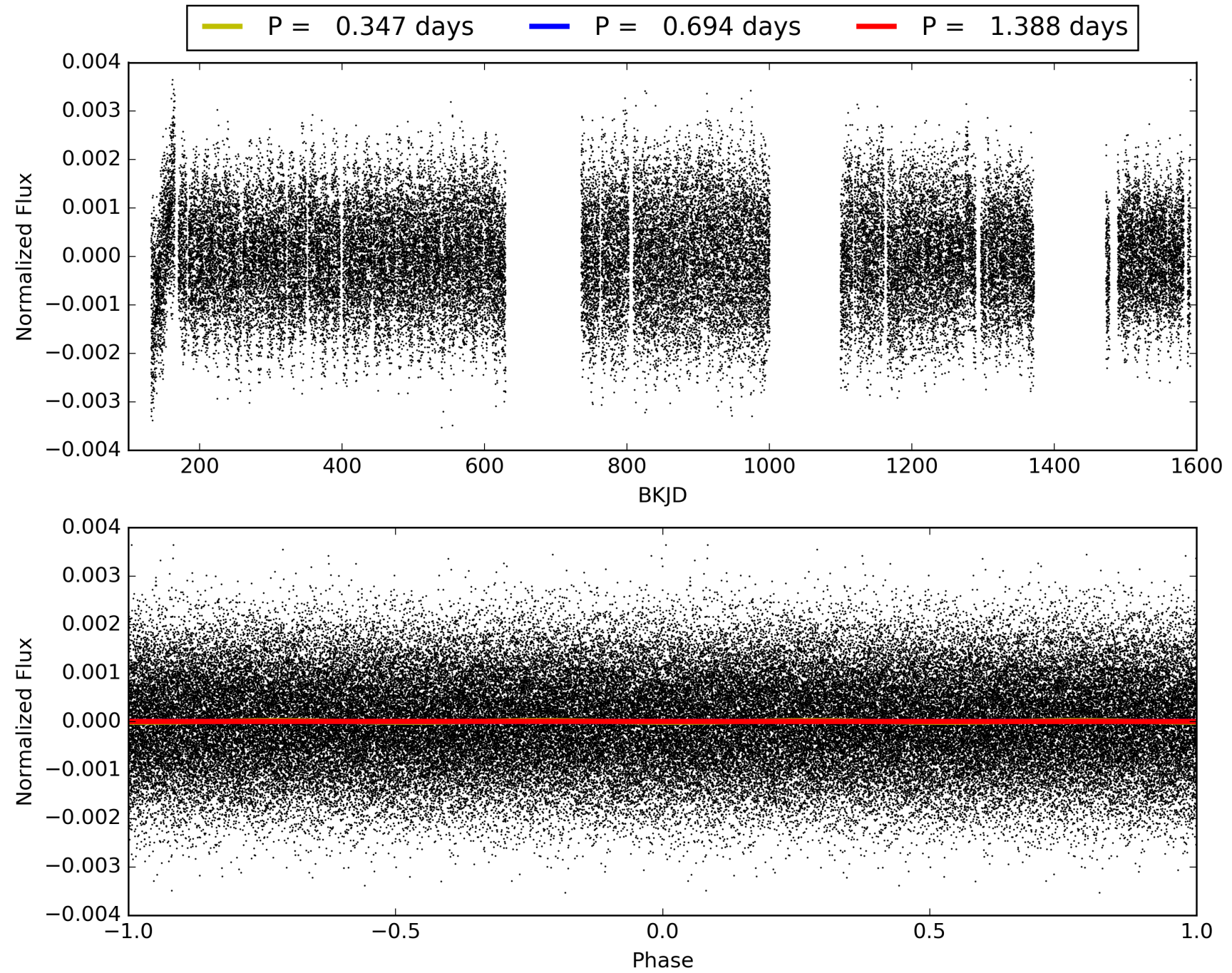
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 010484808-01, PDC Light Curves



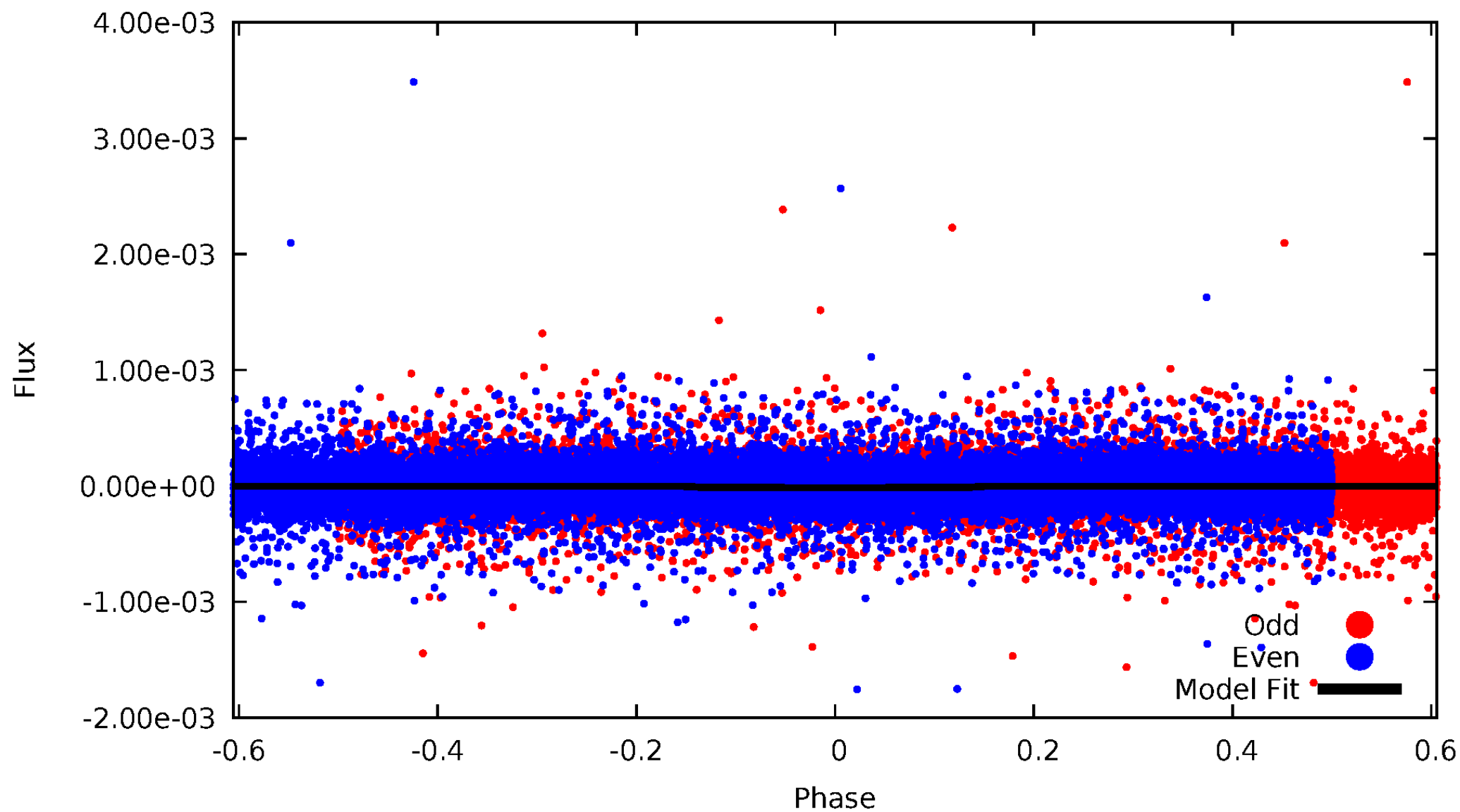


# TCE 010484808-01



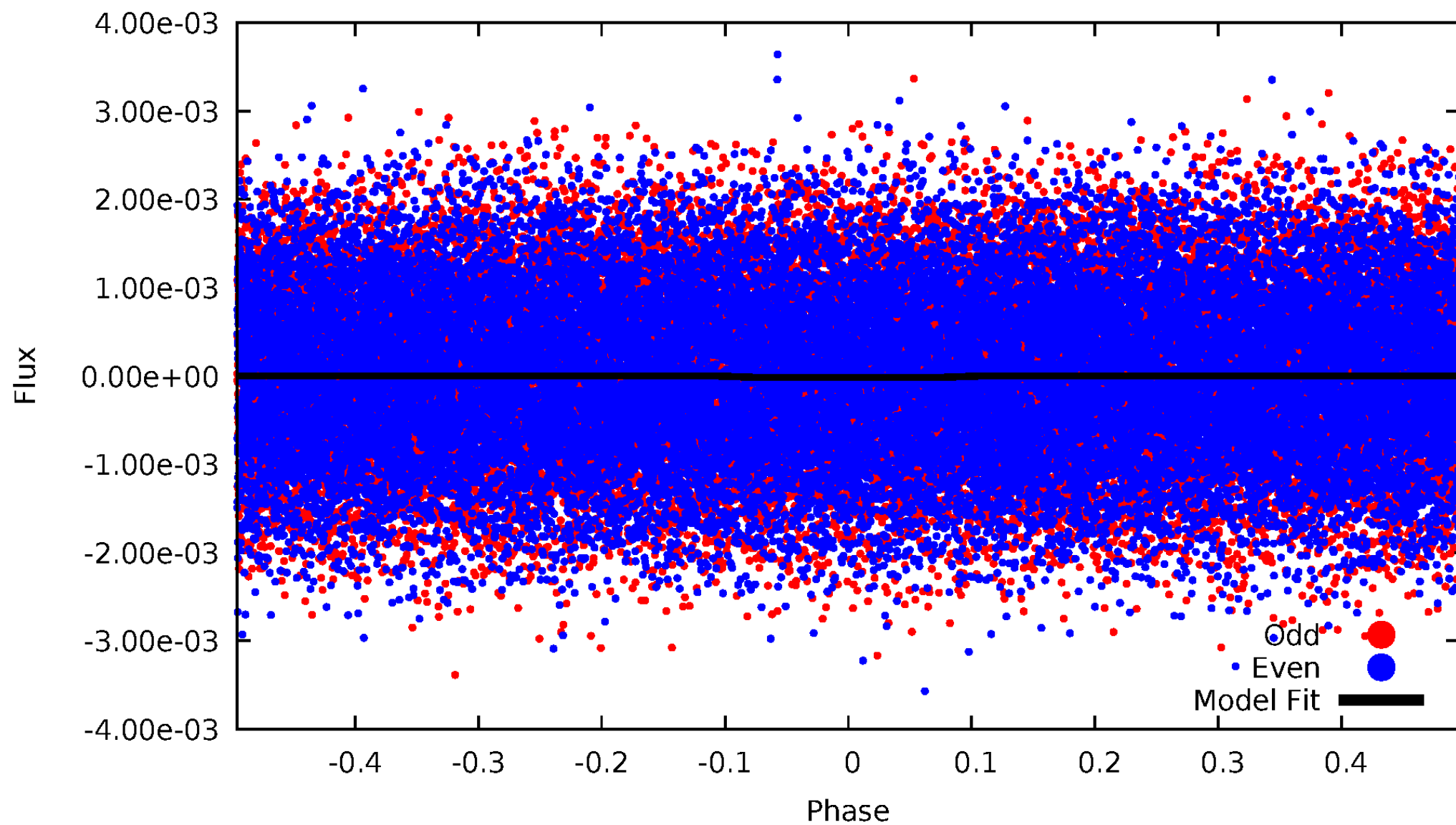
# DV Odd/Even

TCE 010484808-01



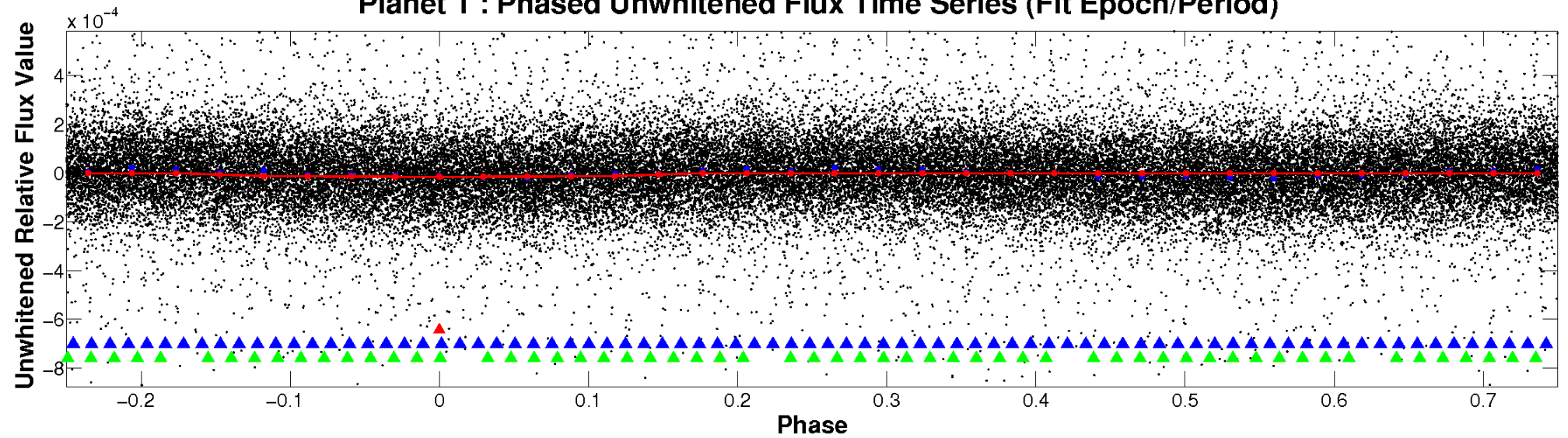
# ALT Odd/Even

TCE 010484808-01

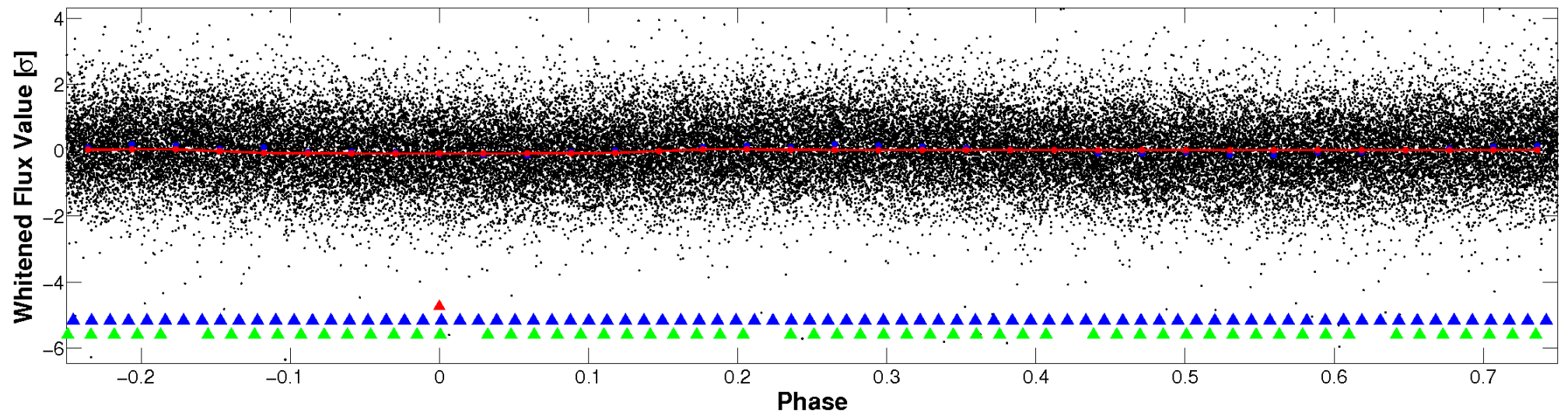


# Non-Whitened Vs. Whitened Light Curve

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



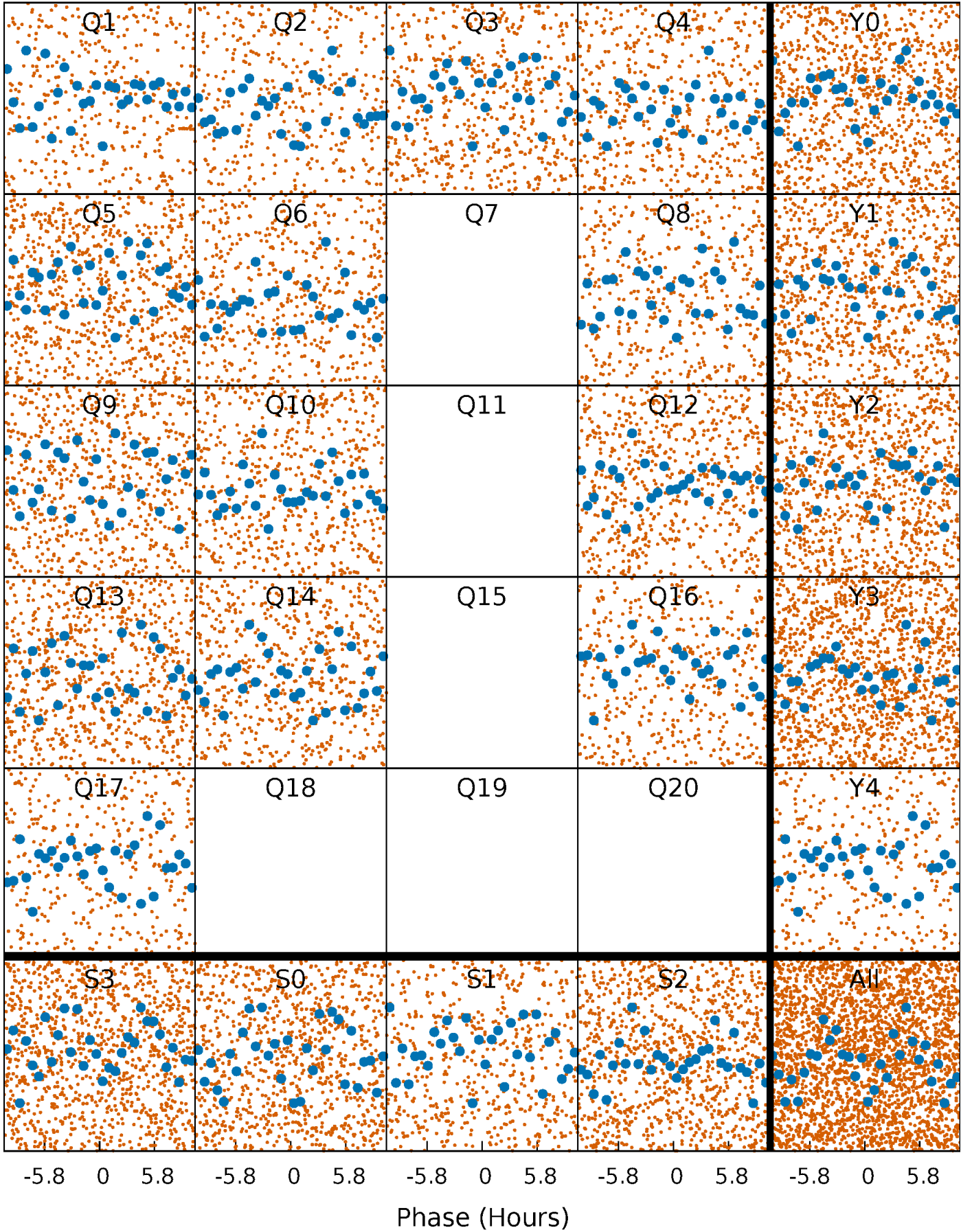
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

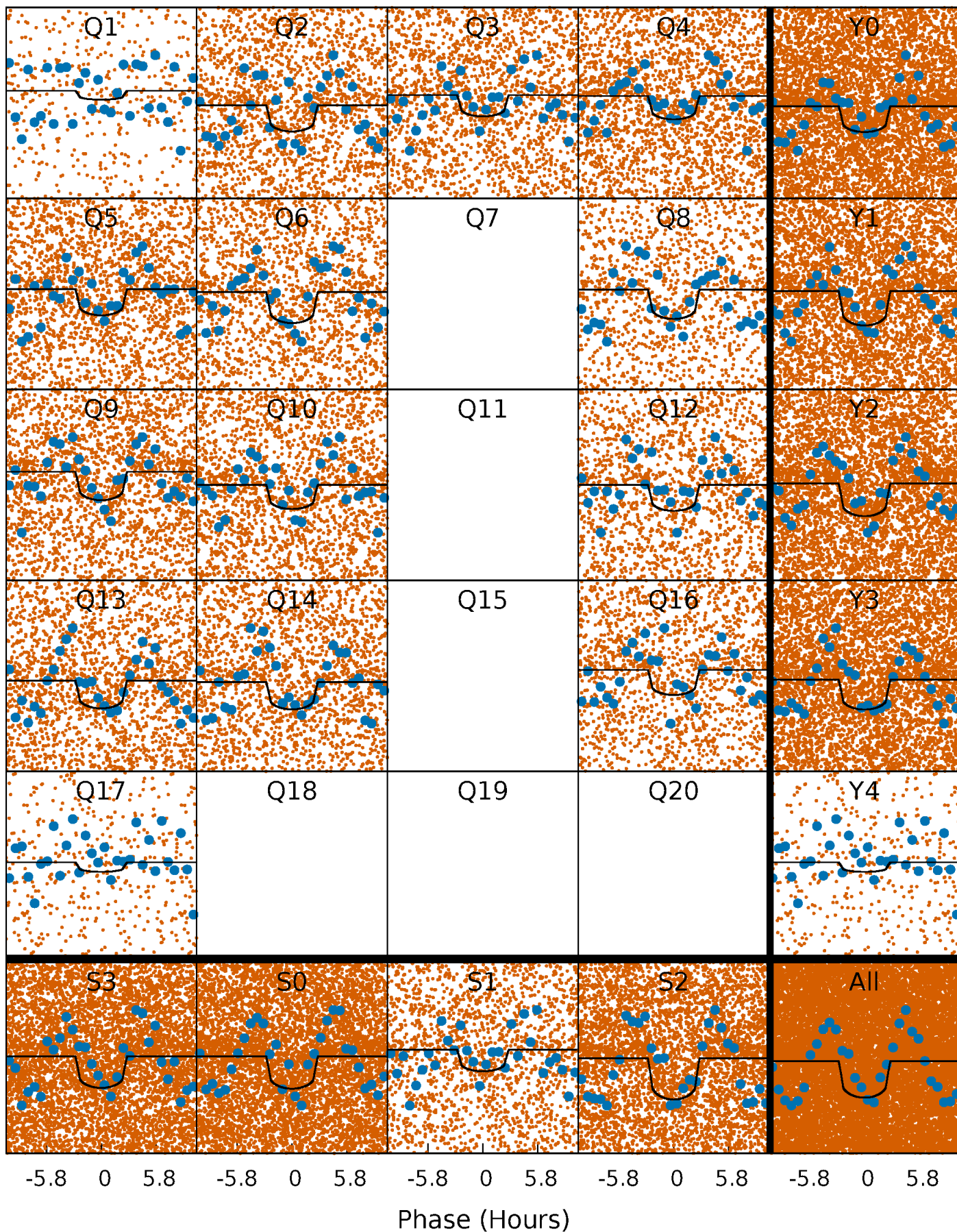
TCE 010484808-01   P= 0.693845 Days    $T_0=131.820053$  (BKJD)





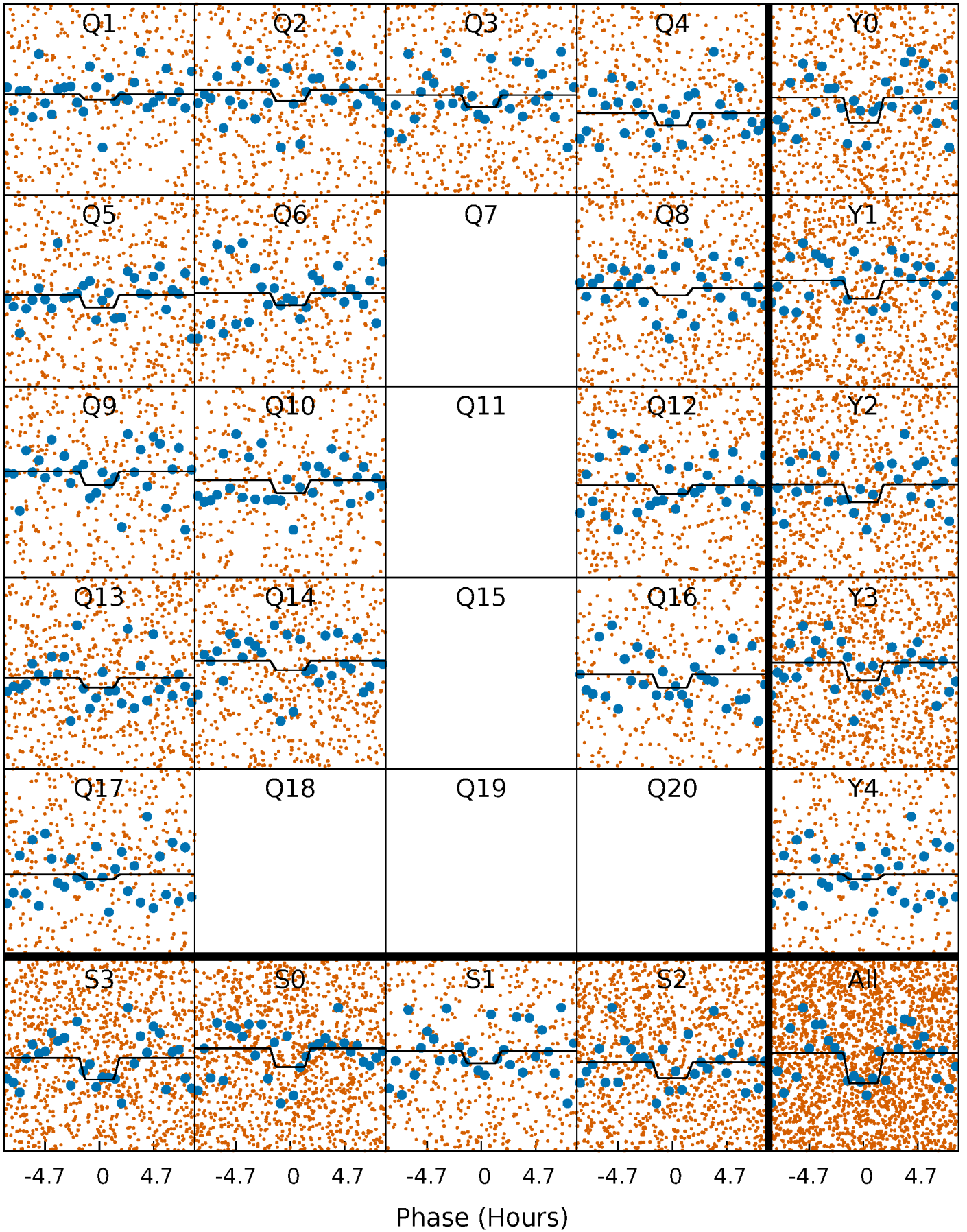
# DV Quarter-Phased Transit Curves

TCE 010484808-01 P= 0.693845 Days  $T_0=131.820053$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

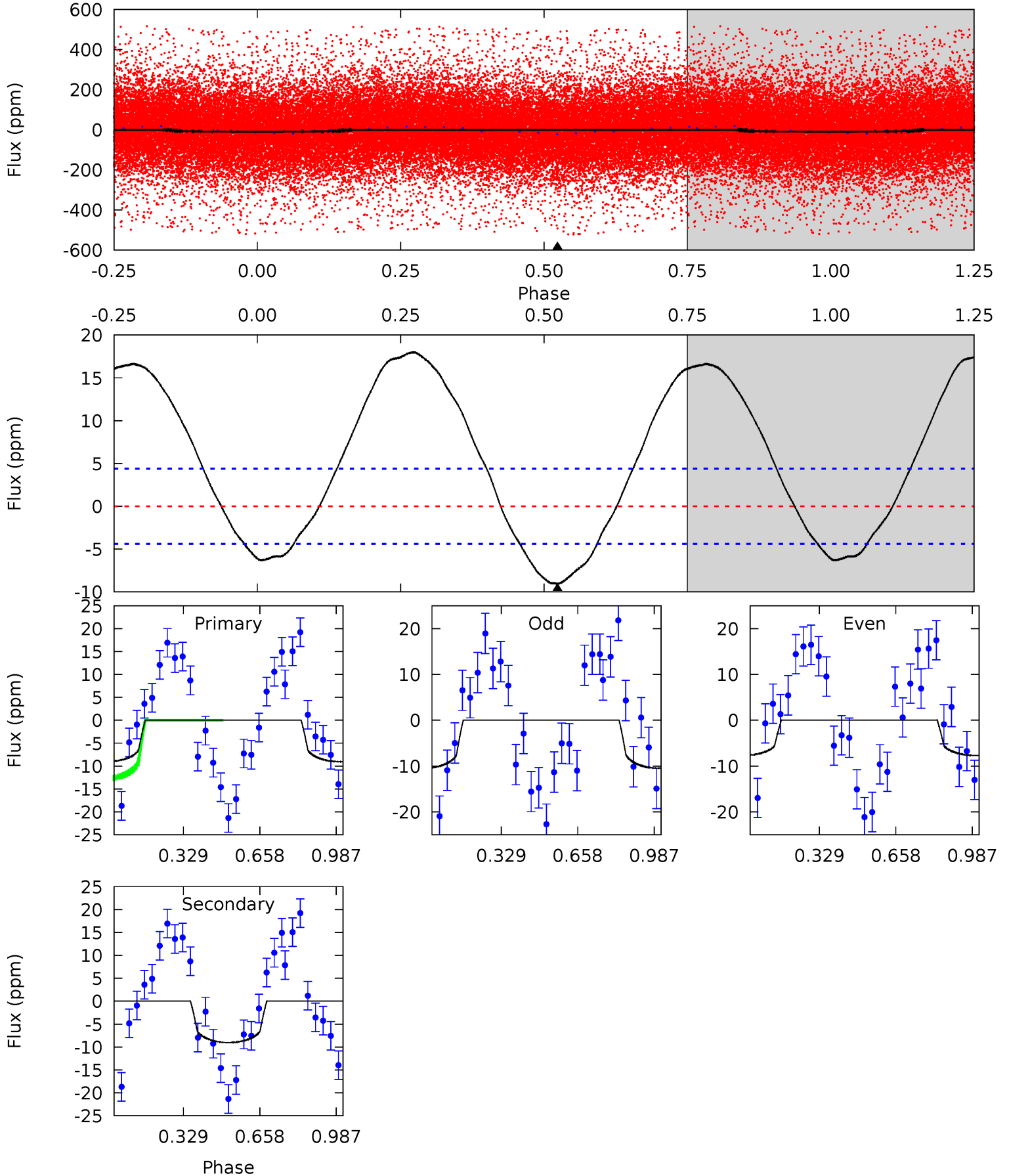
TCE 010484808-01 P= 0.693866 Days  $T_0=131.820345$  (BKJD)



# DV Model-Shift Uniqueness Test

010484808-01, P = 0.693845 Days, E = 131.126208 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  |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 8.88 | 8.88 | 0   | 0   | 4.31            | 0.98            | 5.78             | 8.88    | 8.88    | 8.88    | 8.88    | 1.37    | 0.79 | 0.67  | 3.75 |

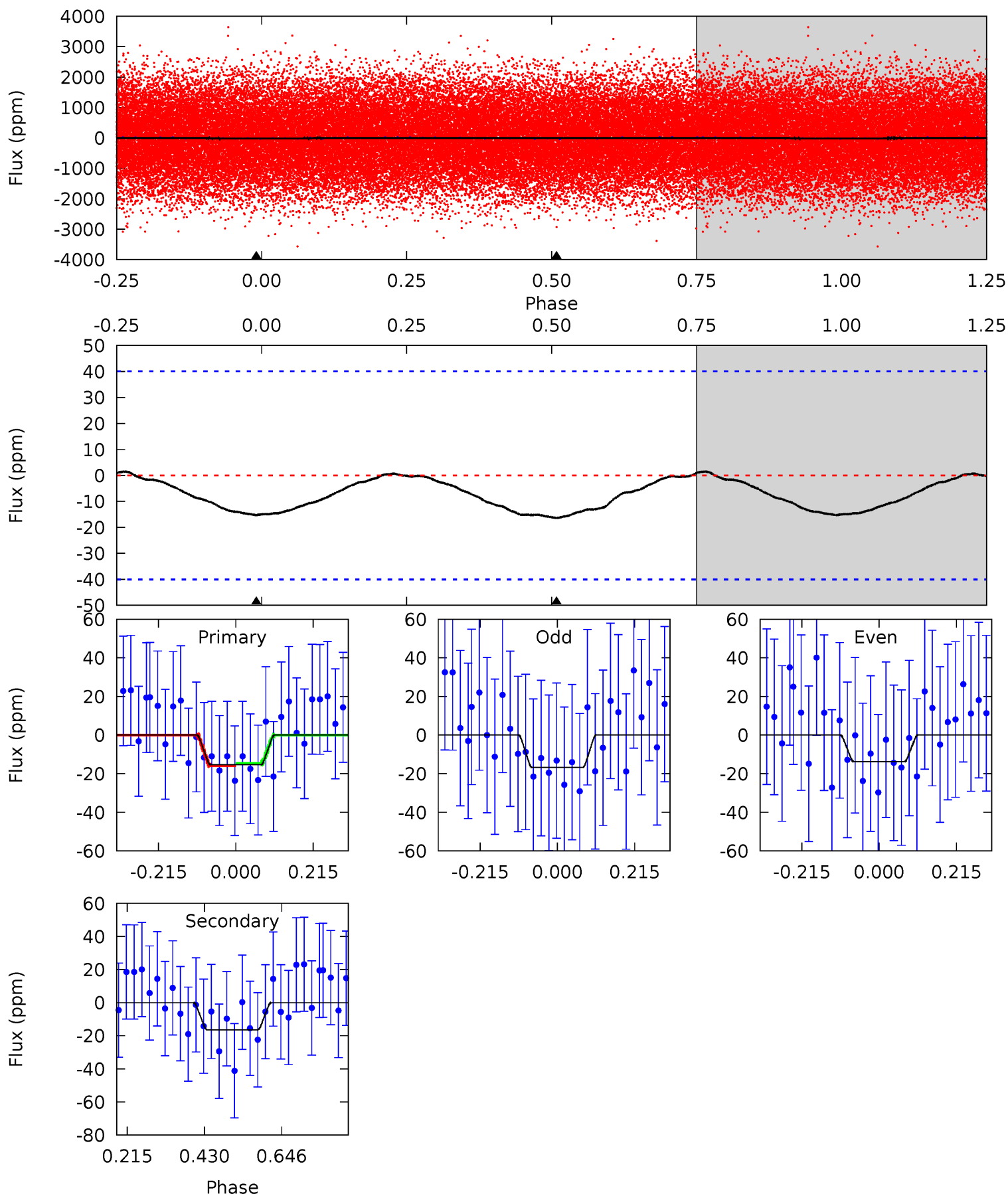




# Alt Model-Shift Uniqueness Test

010484808-01, P = 0.693866 Days, E = 131.126479 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  |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 1.68 | 1.80 | 0   | 0   | 4.40            | 1.24            | 0.07             | 1.68    | 1.68    | 1.80    | 1.80    | 0.17    | 0.90 | 0.08  | 0.06 |





### Stellar Parameters For KIC 010484808

|        | $T_{\text{eff}} (K)$ | $\log(g)$                 | $[\text{Fe}/\text{H}]$    | $R (R_{\odot})$           | $M (M_{\odot})$           | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
|        | $8402^{+202}_{-404}$ | $3.930^{+0.247}_{-0.133}$ | $0.070^{+0.250}_{-0.500}$ | $2.627^{+0.614}_{-0.921}$ | $2.140^{+0.294}_{-0.545}$ | $0.166^{+0.271}_{-0.067}$                 |
|        | +2%/-5%              | +6%/-3%                   | +357%/-714%               | +23%/-35%                 | +14%/-25%                 | +163%/-40%                                |
| 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 010484808-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$     | $T_{max} (K)$        | $T_{obs} (K)$          | $A_{obs}$                 |
|---------|-------------|------------------------|----------------------|------------------------|---------------------------|
| DV      | $-9 \pm 1$  | $1.04^{+0.56}_{-0.52}$ | $5857^{+444}_{-495}$ | $6876^{+4064}_{-1731}$ | $1.746^{+4.949}_{-1.015}$ |
| Alt.    | $-16 \pm 9$ | $1.10^{+0.56}_{-0.50}$ | $5882^{+416}_{-526}$ | $7906^{+4323}_{-2613}$ | $2.711^{+6.126}_{-1.930}$ |

$T_{max}$  = 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

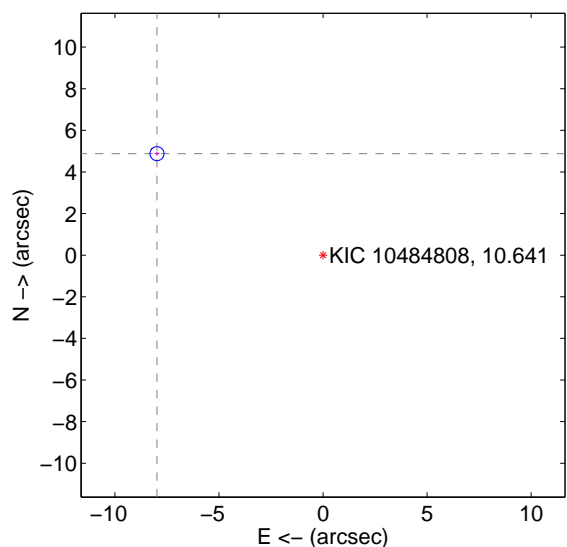
Supplemental centroid analysis for 010484808-01. **Kepler magnitude: 10.64.** Transit SNR 10.96

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

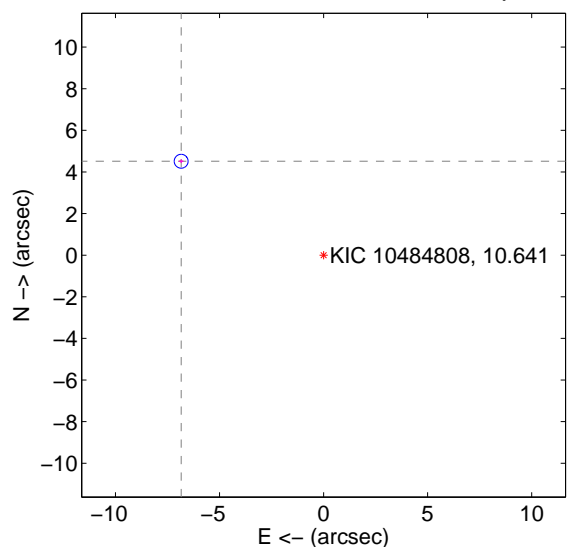
The direct PRF centroid is offset from the target star catalog position by about 1.19 arcsec

|   | Distance in arcsec                  | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec      |
|---|-------------------------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT          | <b>9.353 <math>\pm</math> 0.112</b> | <b>83.52</b>        | 7.980 $\pm$ 0.118 | 4.879 $\pm$ 0.094 |
| PRF-fit source offset from KIC position | <b>8.198 <math>\pm</math> 0.111</b> | <b>73.68</b>        | 6.844 $\pm$ 0.118 | 4.514 $\pm$ 0.094 |
| photometric centroid source offset      | 0.60 $\pm$ 0.49                     | 1.21                | 0.58 $\pm$ 0.50   | -0.14 $\pm$ 0.40  |

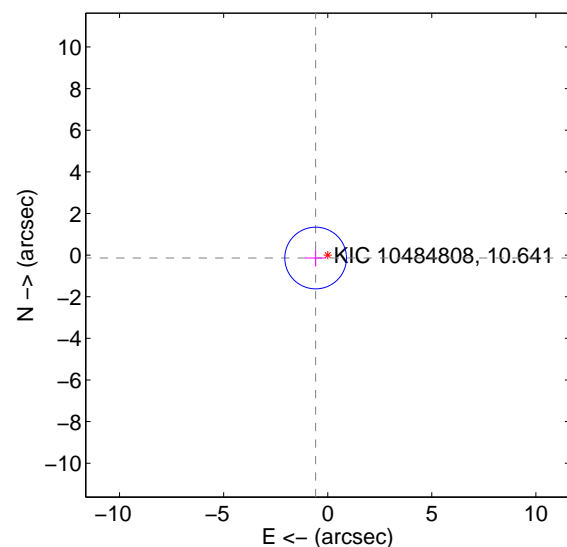
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

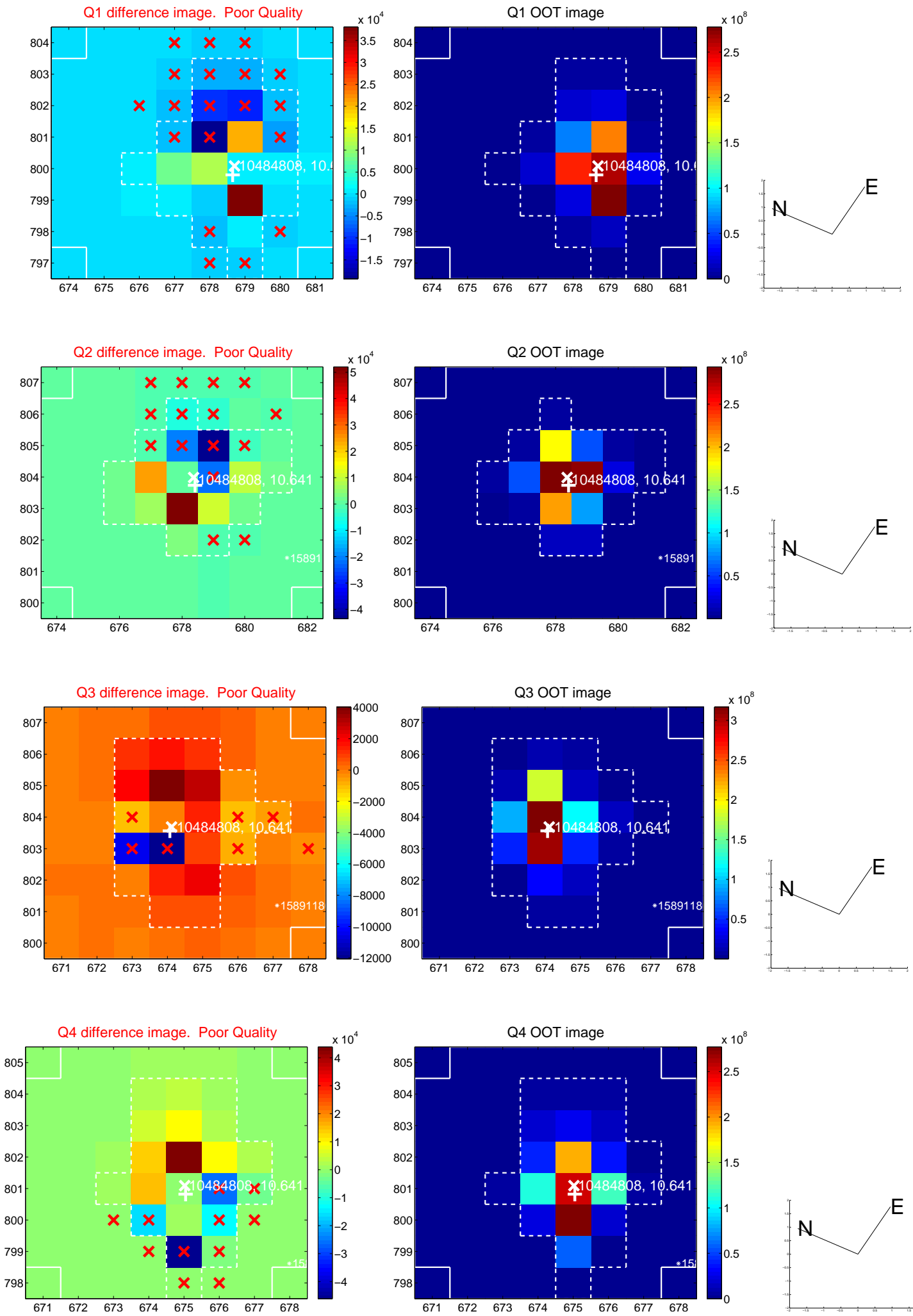


offset from photometric centroids

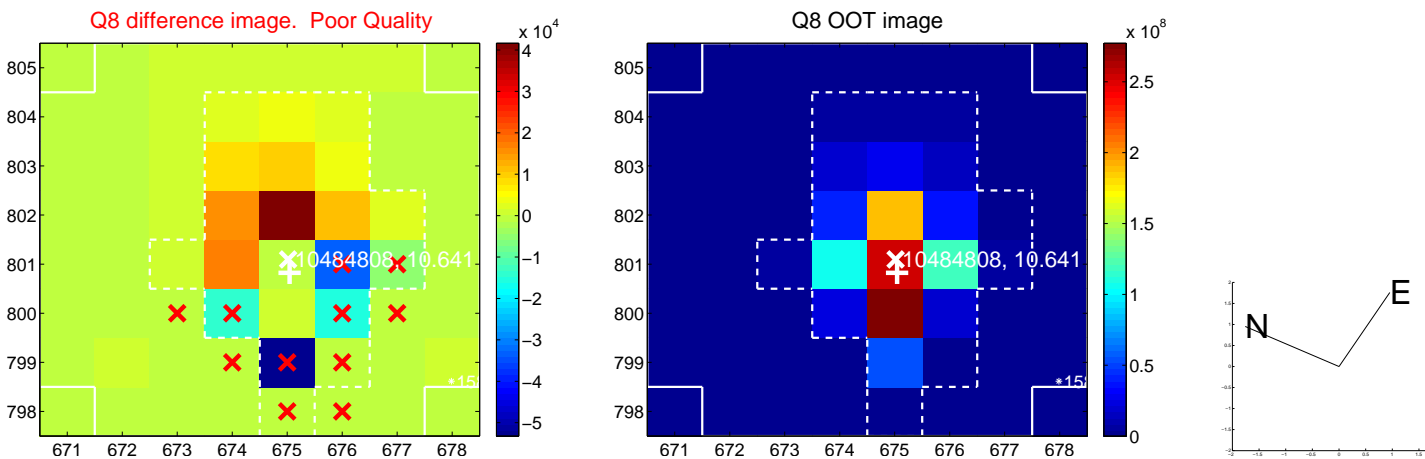
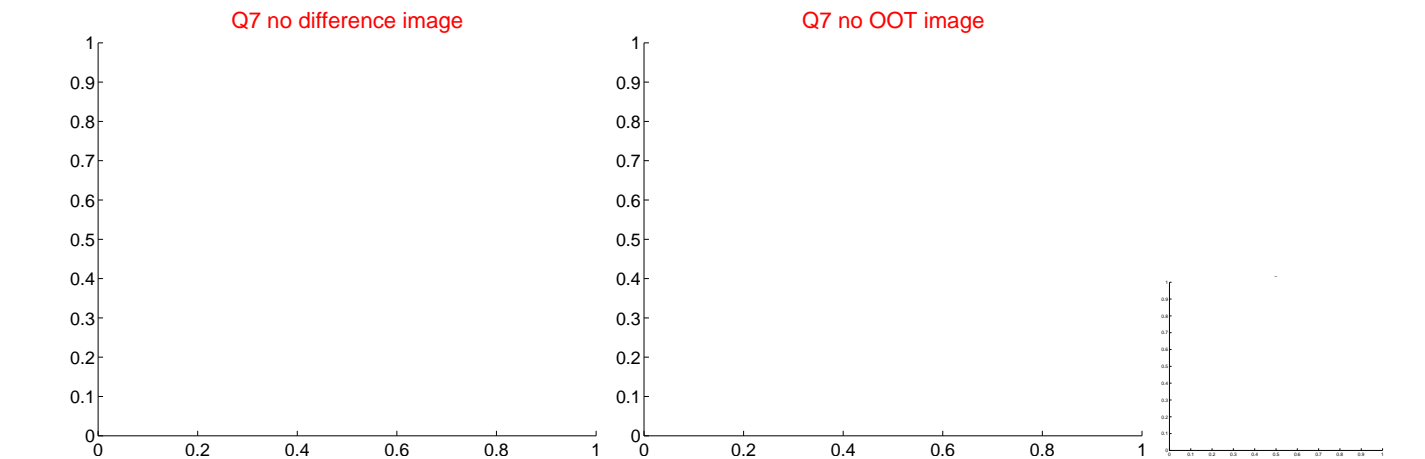
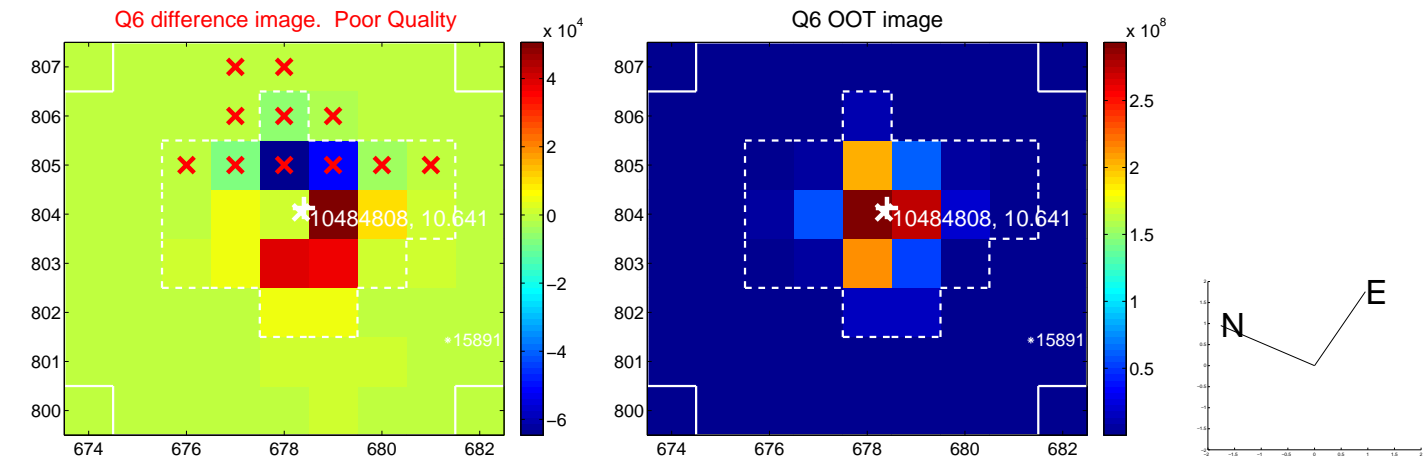
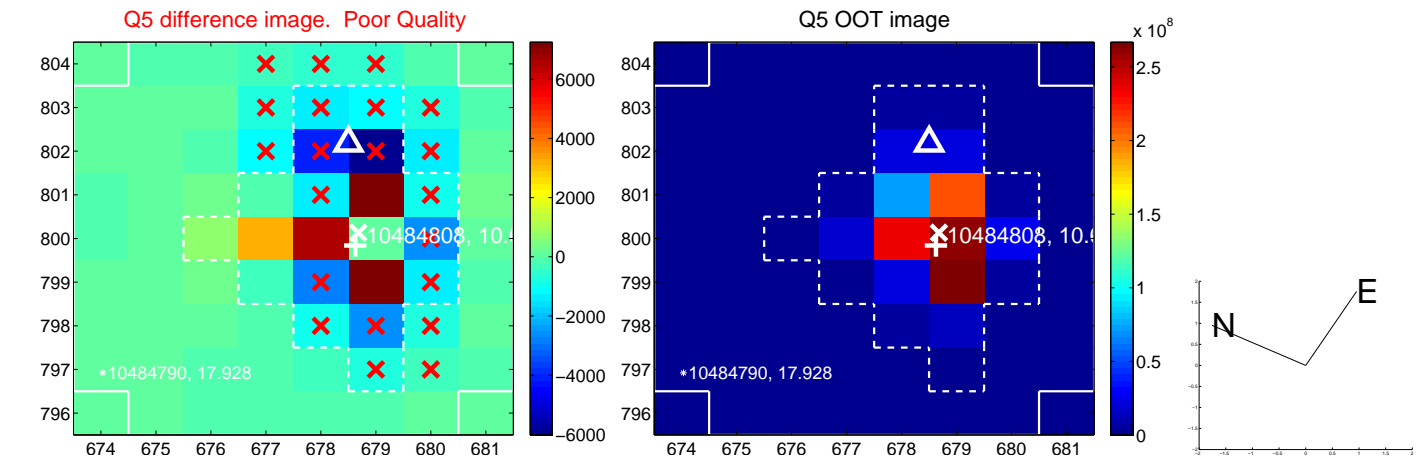


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

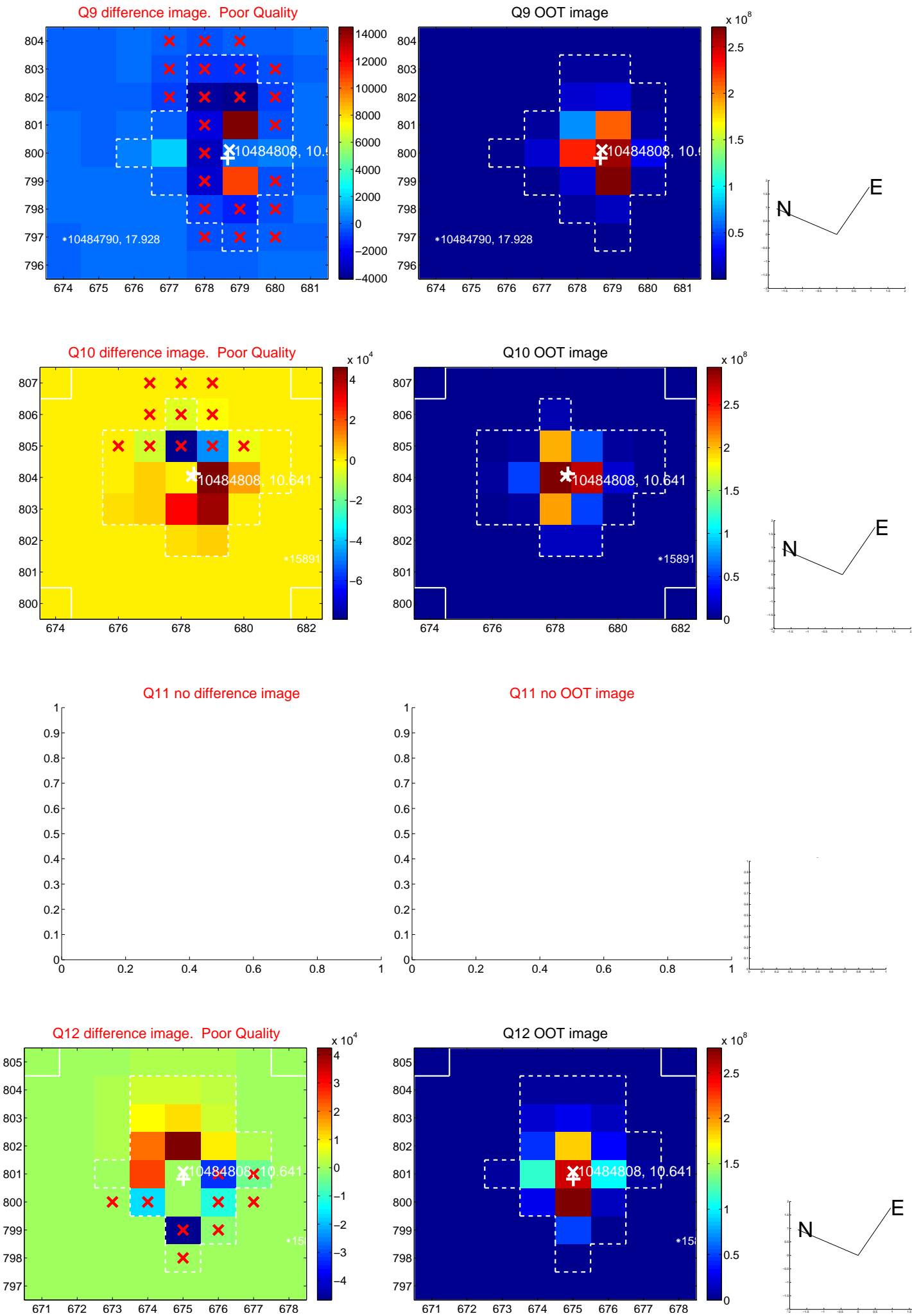


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

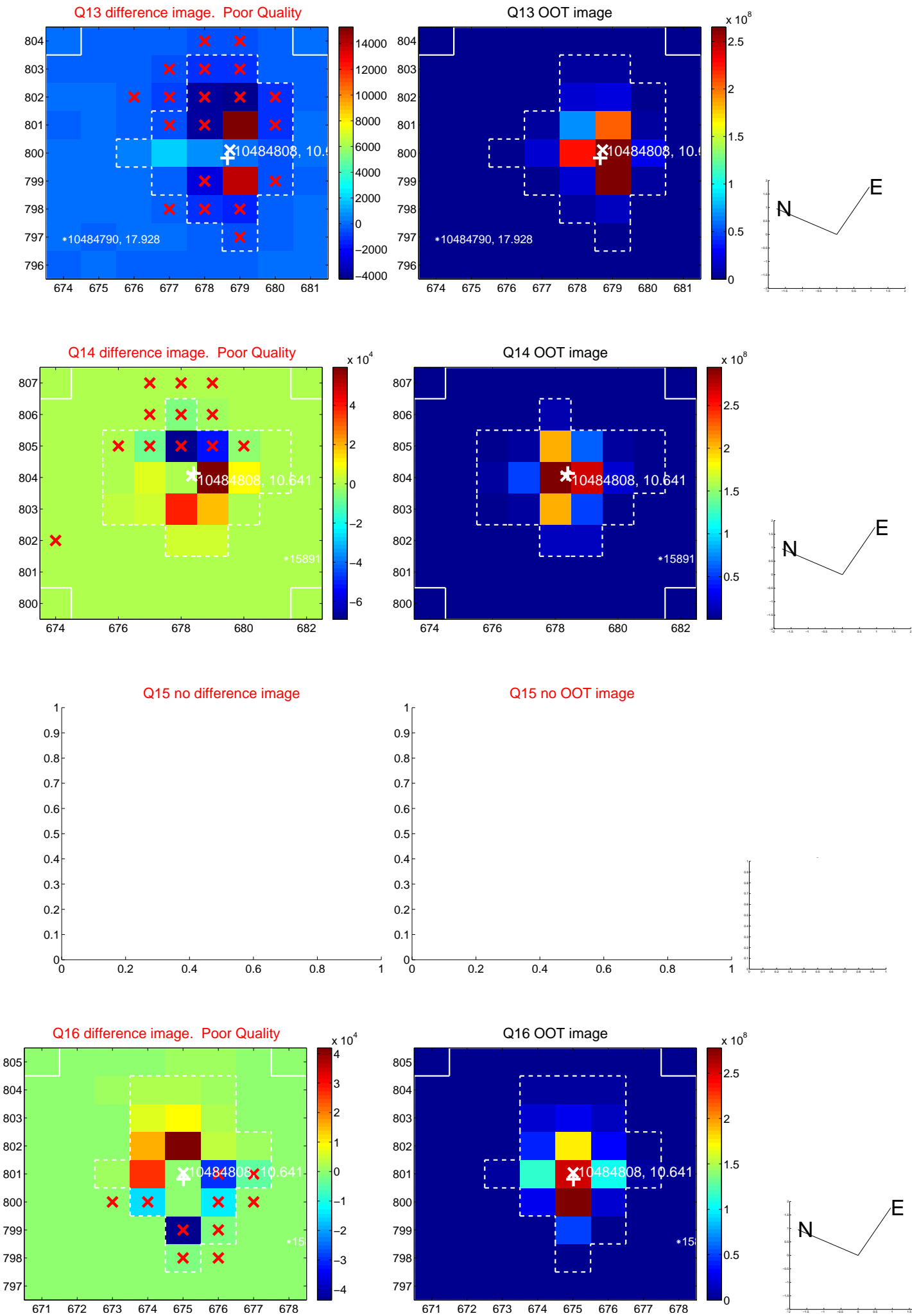




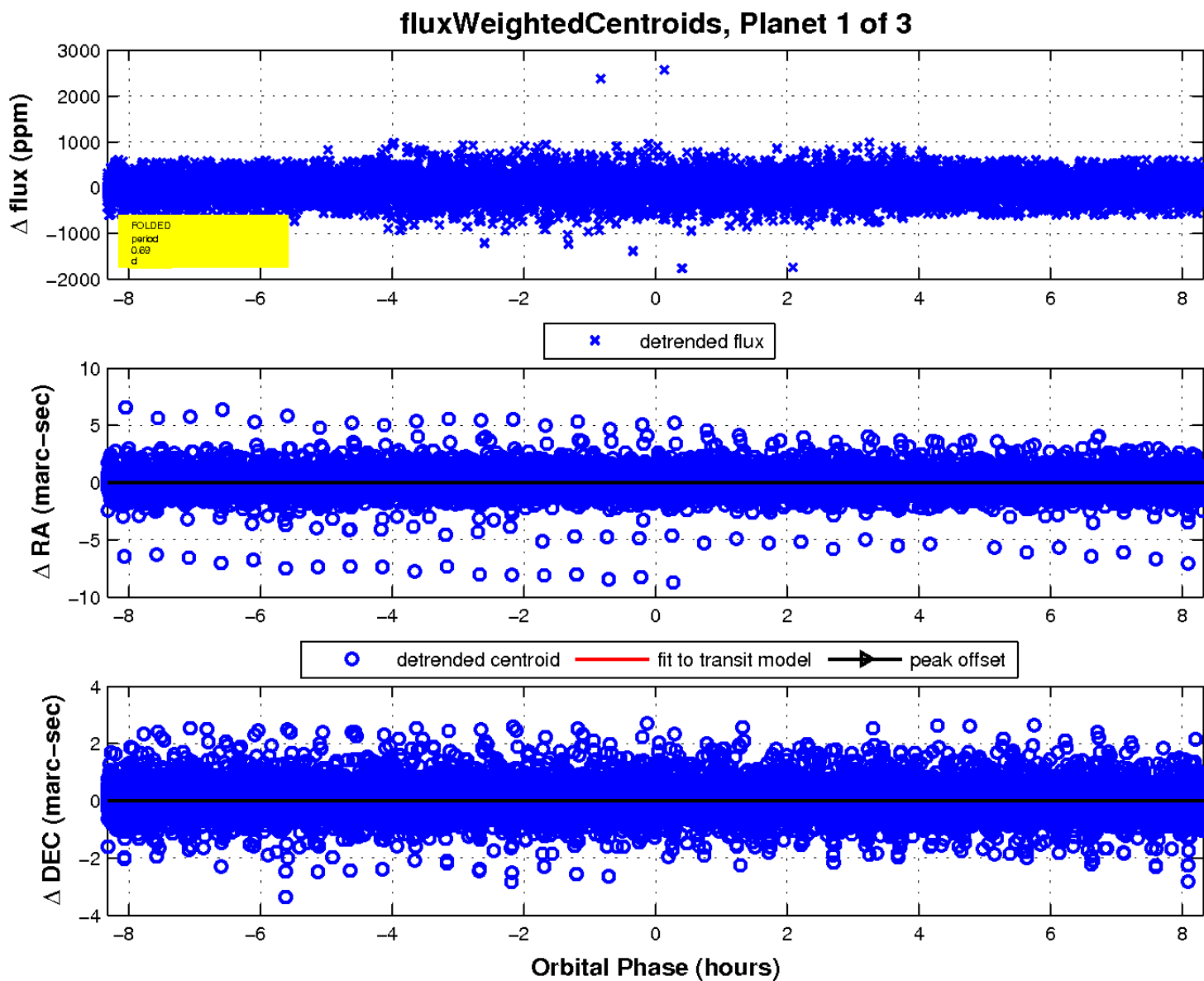
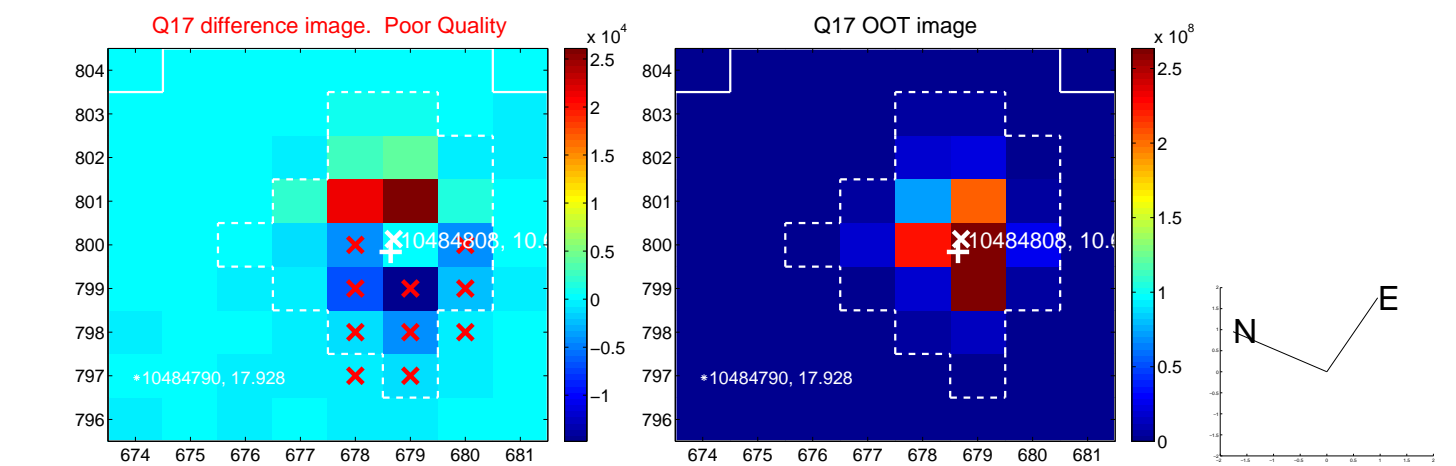
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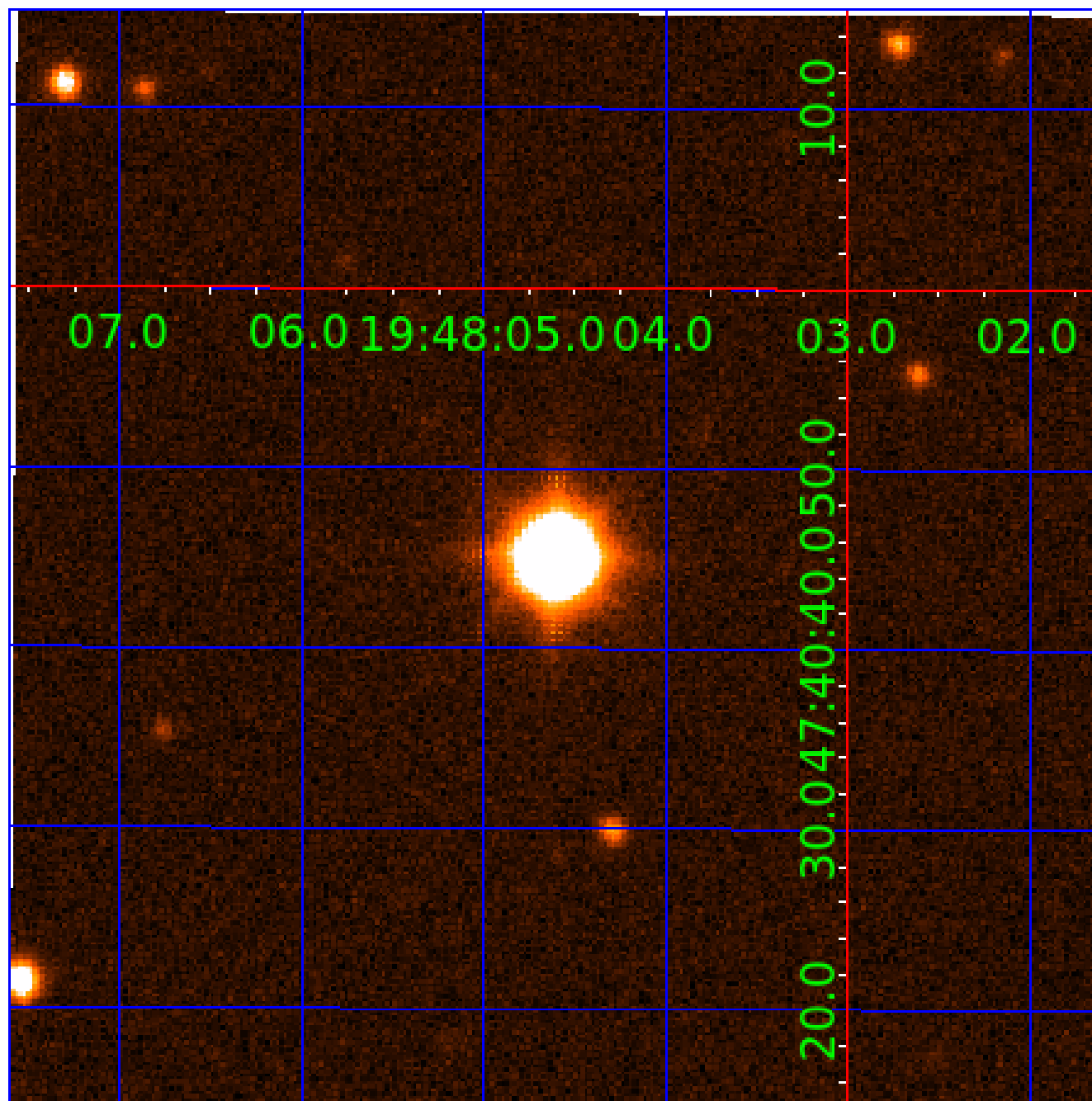


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 010484808

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 010484808-01 | OBS      | No   | 0.693845      | 131.820053   | 14.4        | 5.040            | 11.6 | 11.0 | 2.63                        | 8402            | 1.07                   | 78773.77               |
| 010484808-02 | OBS      | No   | 15.710025     | 144.832853   | 295.9       | 1.262            | 13.2 | 14.6 | 2.63                        | 8402            | 4.62                   | 1229.79                |
| 010484808-03 | OBS      | No   | 24.837499     | 144.179579   | 286.0       | 1.523            | 11.0 | 12.3 | 2.63                        | 8402            | 4.67                   | 667.71                 |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments  |
|--------------|----------|------|-------|---|---|---|---|---|
| 010484808-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED  |
| 010484808-02 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED                                  |
| 010484808-03 | OBS      | FP   | 0.00  | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED—HALO_GHOST |

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

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

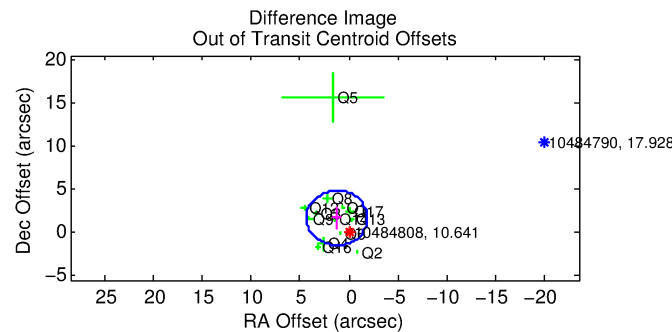
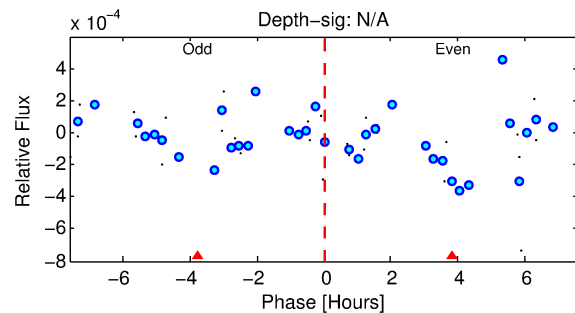
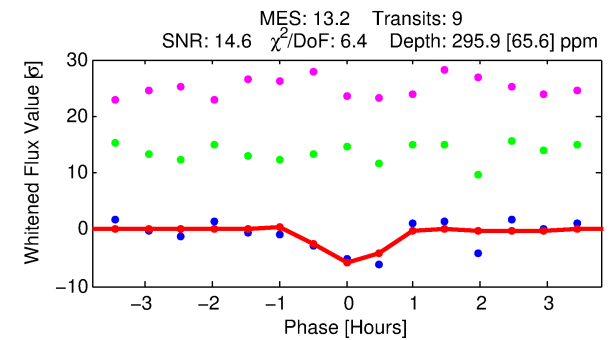
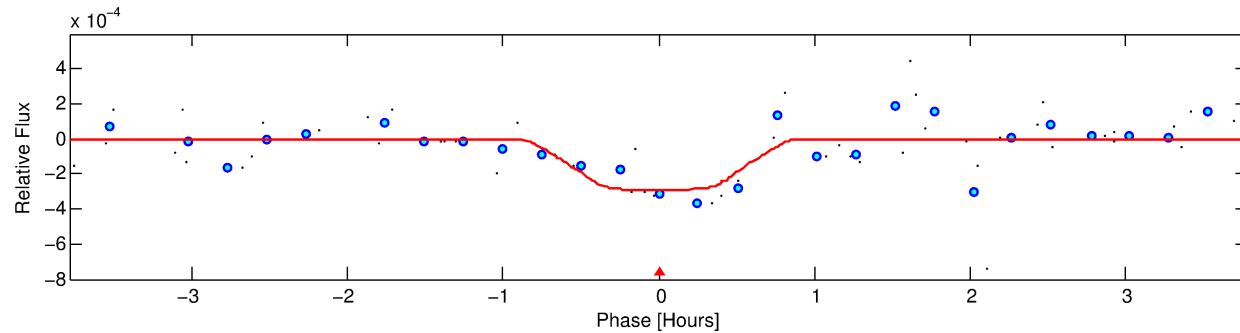
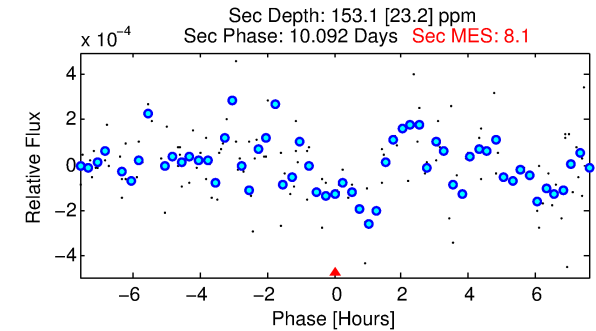
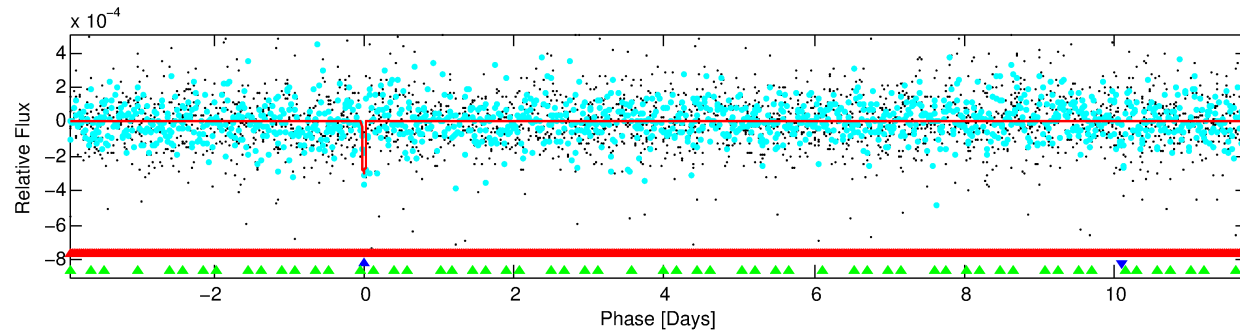
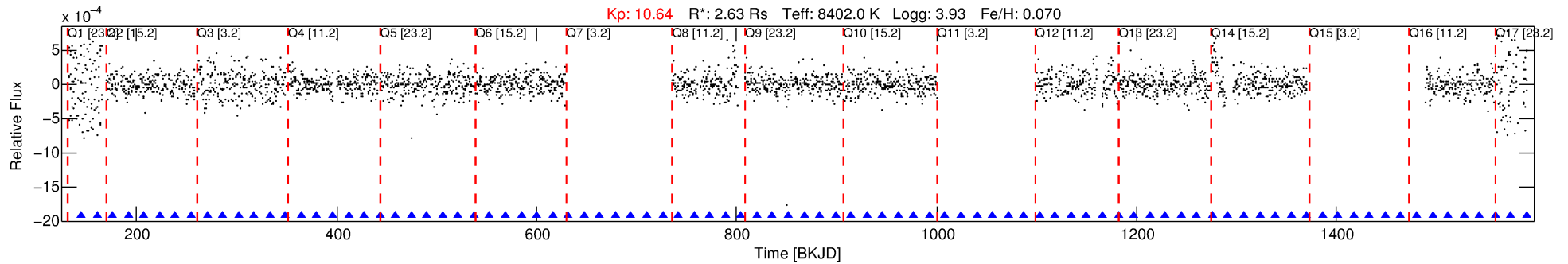
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010484808-02

No Significant Match Found

# DV One-Page Summary

KIC: 10484808 Candidate: 2 of 3 Period: 15.710 d



## DV Fit Results:

Period = 15.71003 [0.00022] d  
Epoch = 144.8329 [0.0096] BKJD  
Rp/R\* = 0.0161 [0.0350]  
a/R\* = 94.33 [1186.41]  
b = 0.22 [55.08]  
Seff = 1229.79 [596.65]  
Teq = 1510 [183] K  
Rp = 4.61 [10.17] Re  
a = 0.1583 [0.0476] AU  
Ag = 99.10 [433.85] [0.23σ]  
Teffp = 7366 [8028] K [0.73σ]

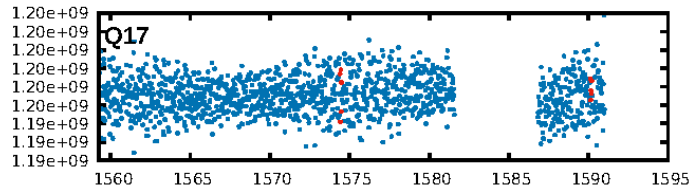
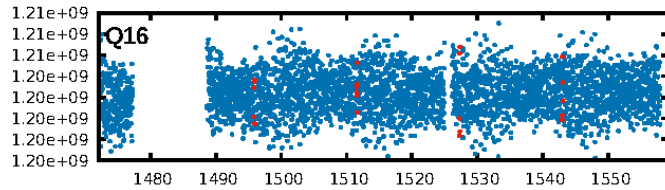
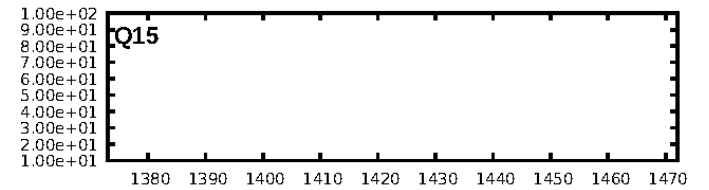
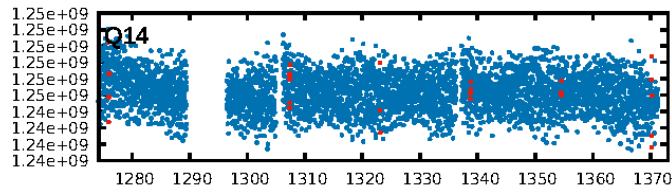
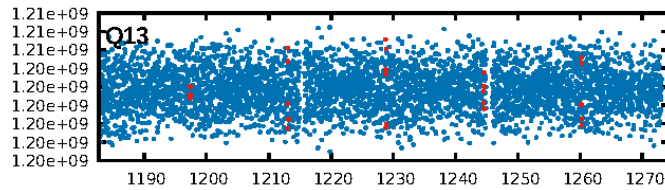
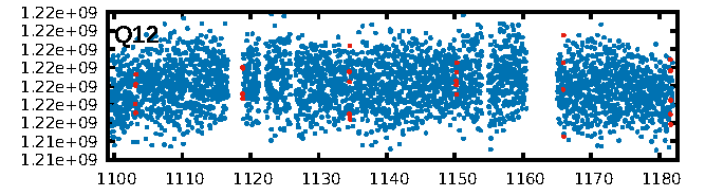
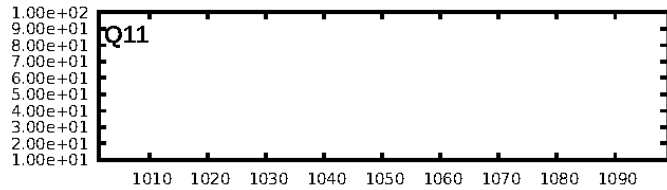
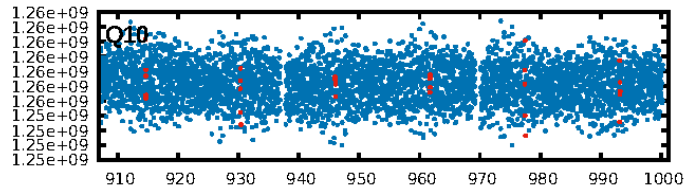
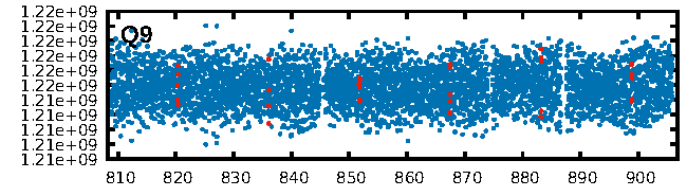
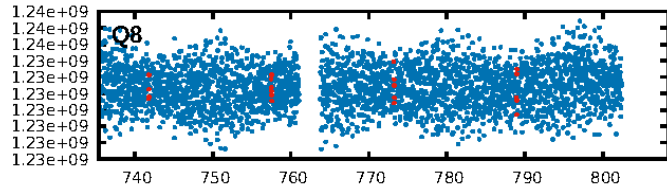
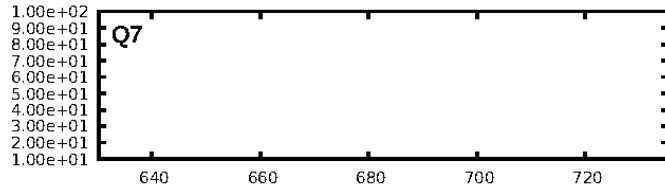
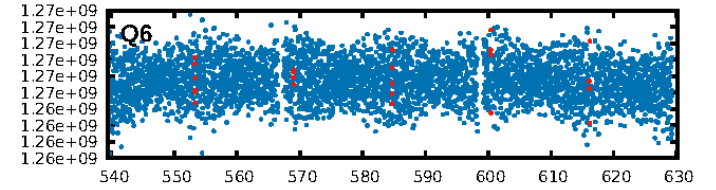
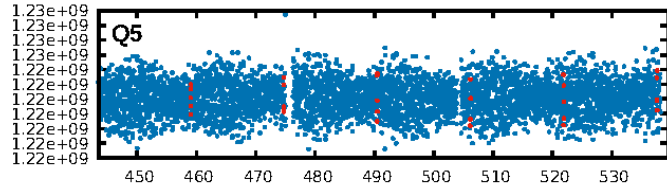
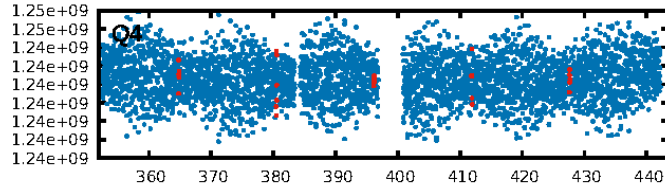
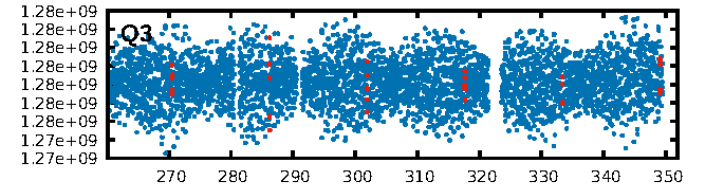
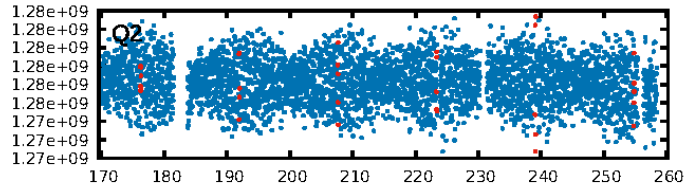
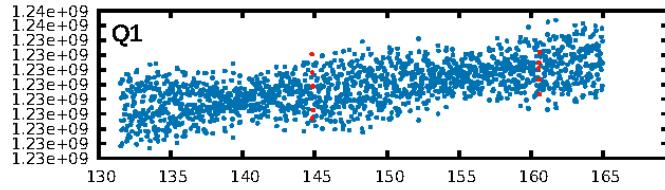
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [69.36σ]  
LongPeriod-sig: 100.0% [110.75σ]  
ModelChiSquare2-sig: 2.5%  
ModelChiSquareGof-sig: 66.1%  
Bootstrap-pfa: 1.69e-11  
RollingBand-fgt: 1.00 [9/9]  
GhostDiagnostic-chr: 1.02  
Centroid-sig: 45.2%  
Centroid-so: 0.183 arcsec [1.02σ]  
OotOffset-rm: 2.095 arcsec [2.00σ]  
KicOffset-rm: 1.648 arcsec [1.64σ]  
OotOffset-st: 3/1/4/5 [13]  
KicOffset-st: 3/1/4/5 [13]  
DiffImageQuality-fgm: 0.15 [2/13]  
DiffImageOverlap-fno: 0.07 [1/14]

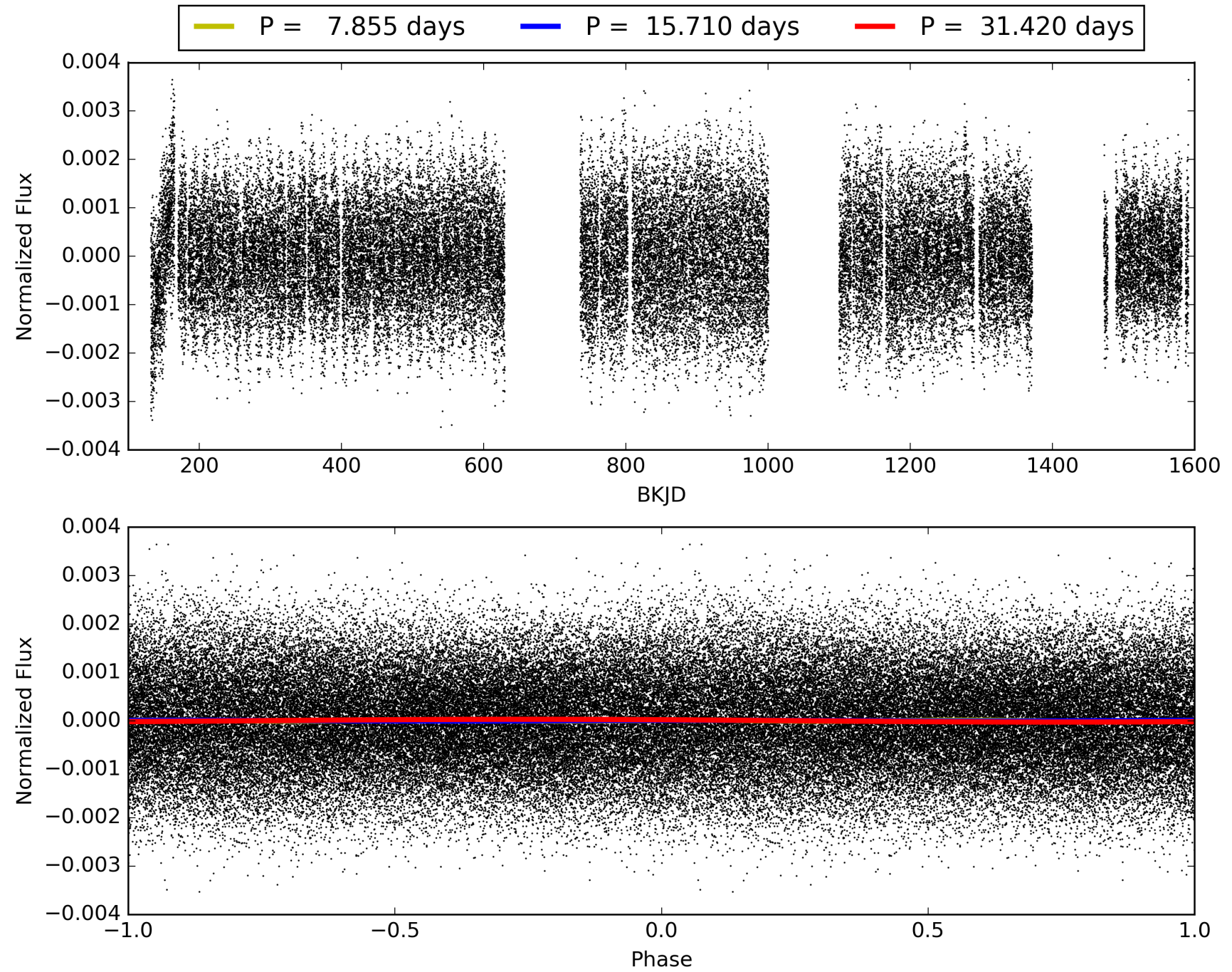
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:47:02 Z

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

## TCE 010484808-02, PDC Light Curves



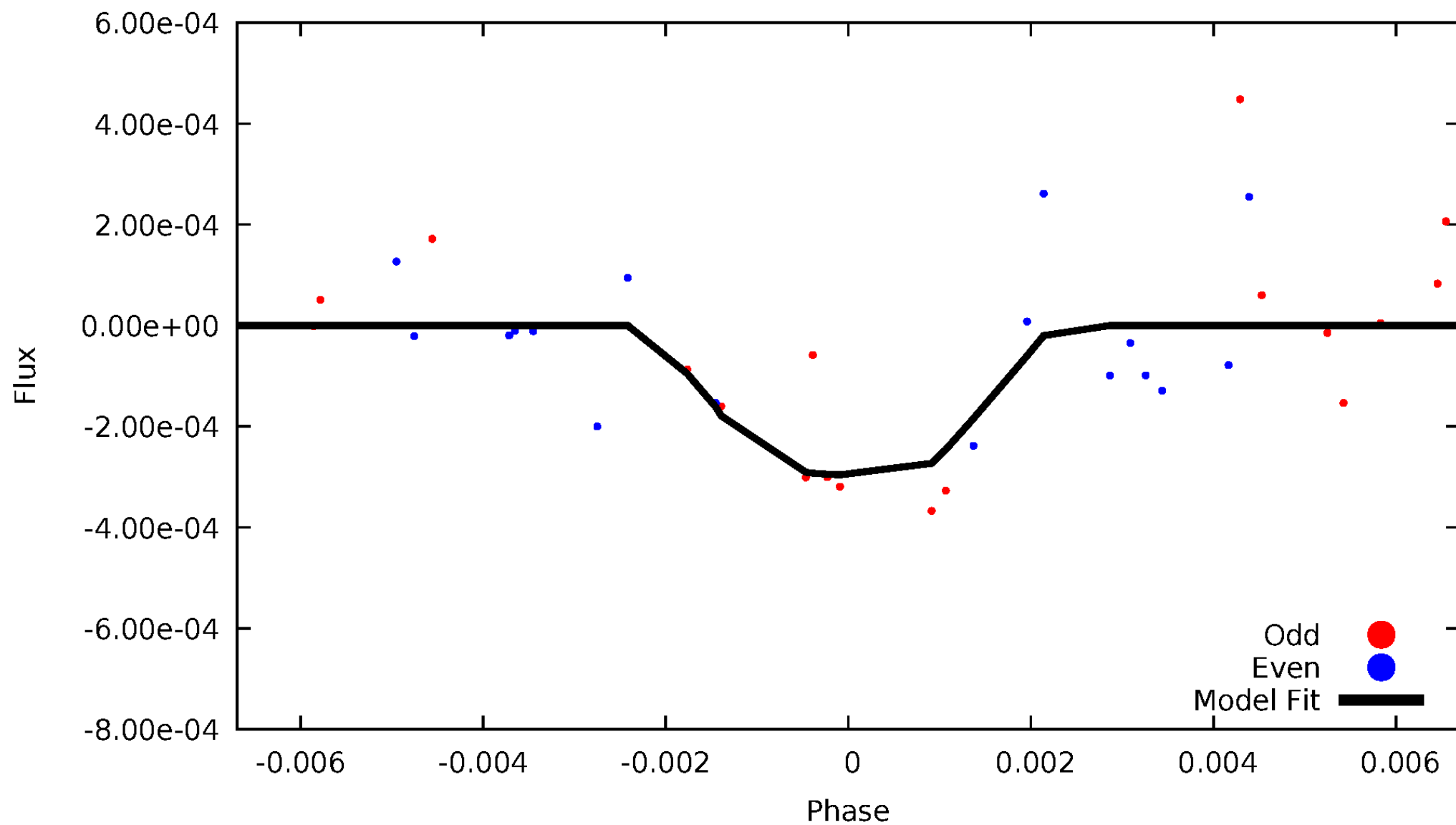
# TCE 010484808-02





# DV Odd/Even

TCE 010484808-02



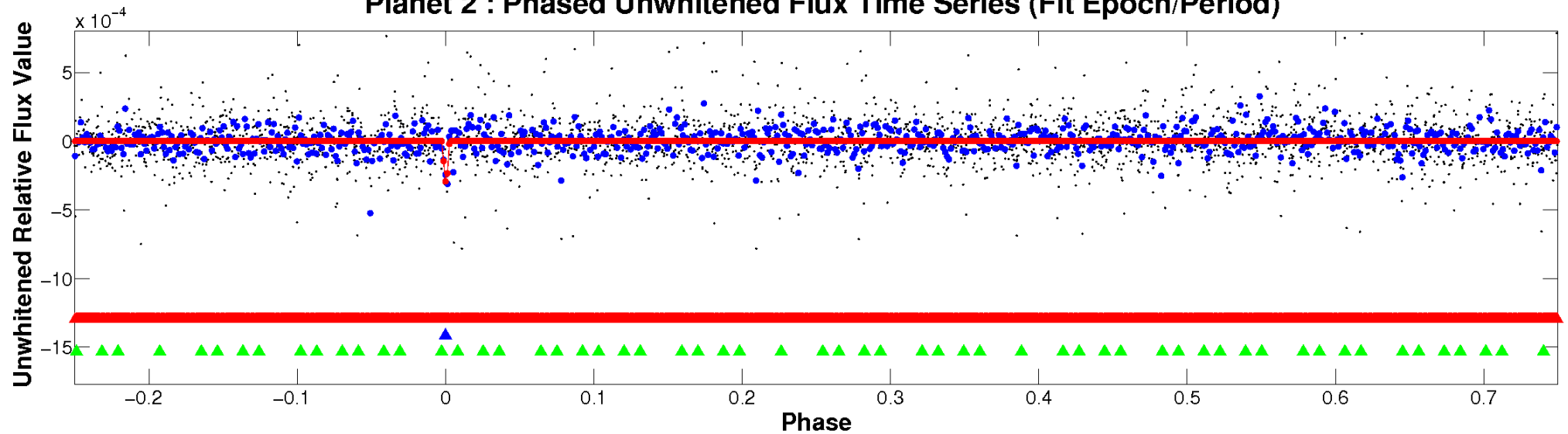


ALT Odd/Even

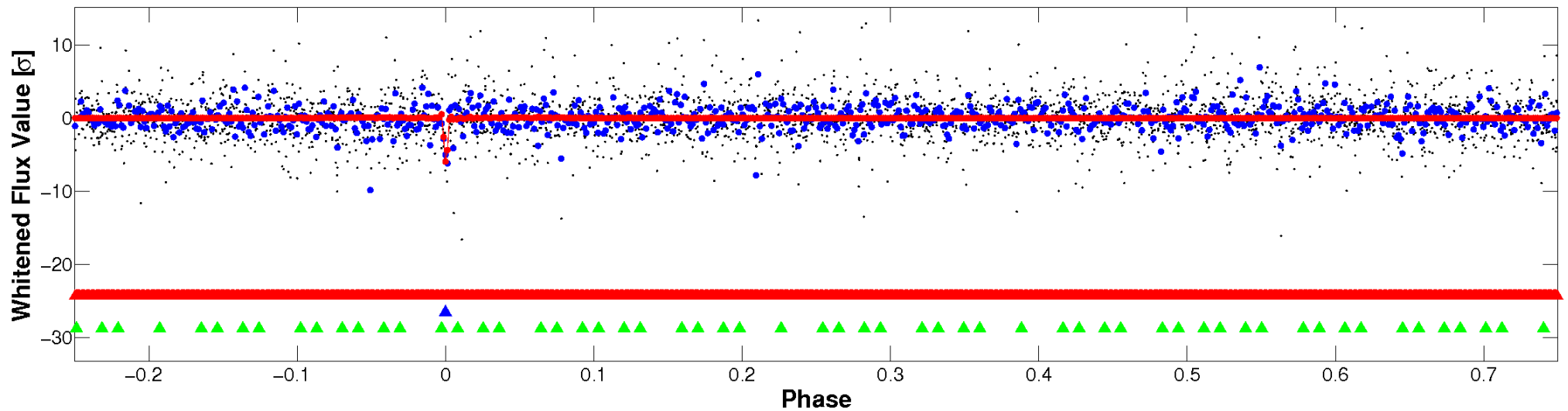
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

**Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

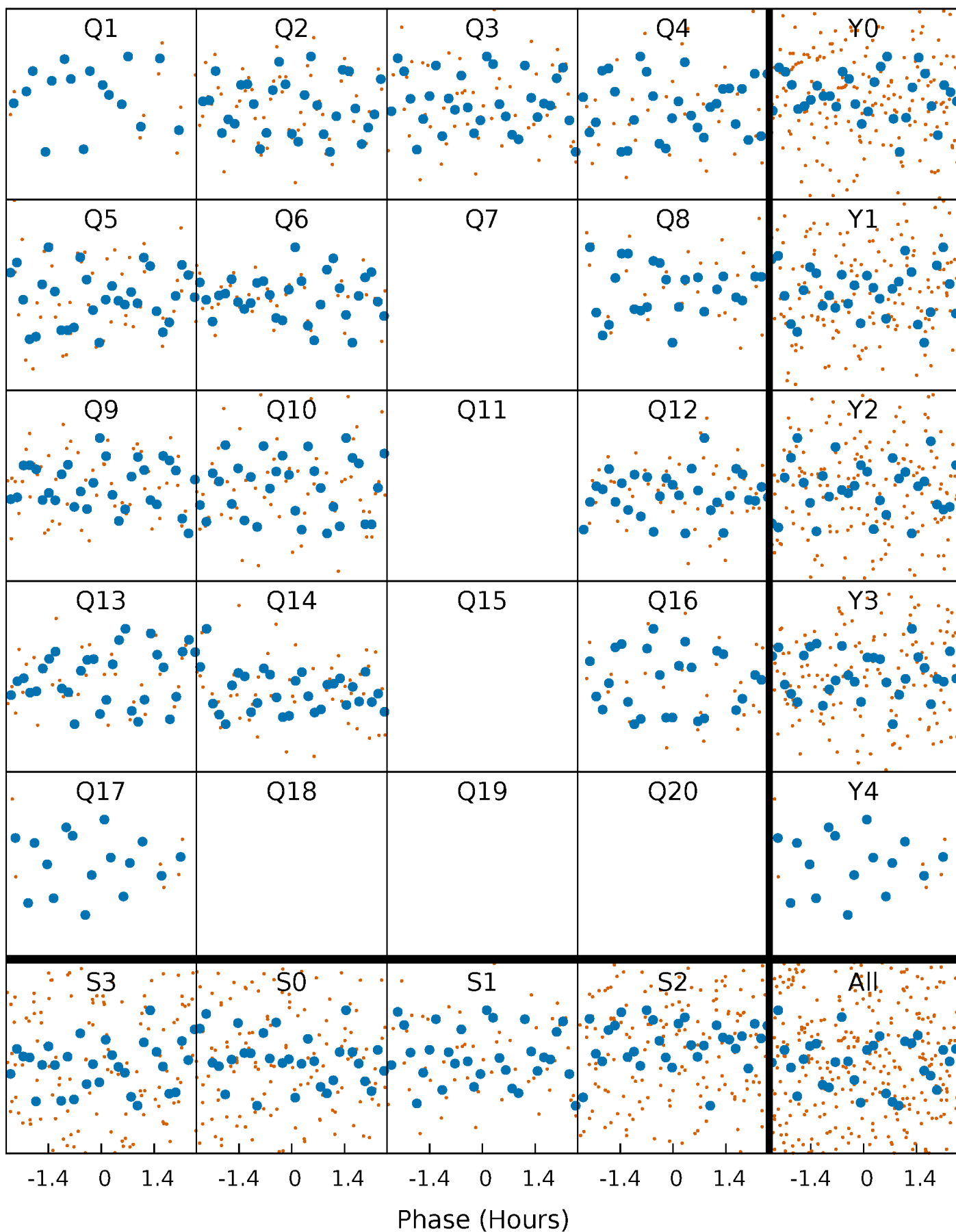


**Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



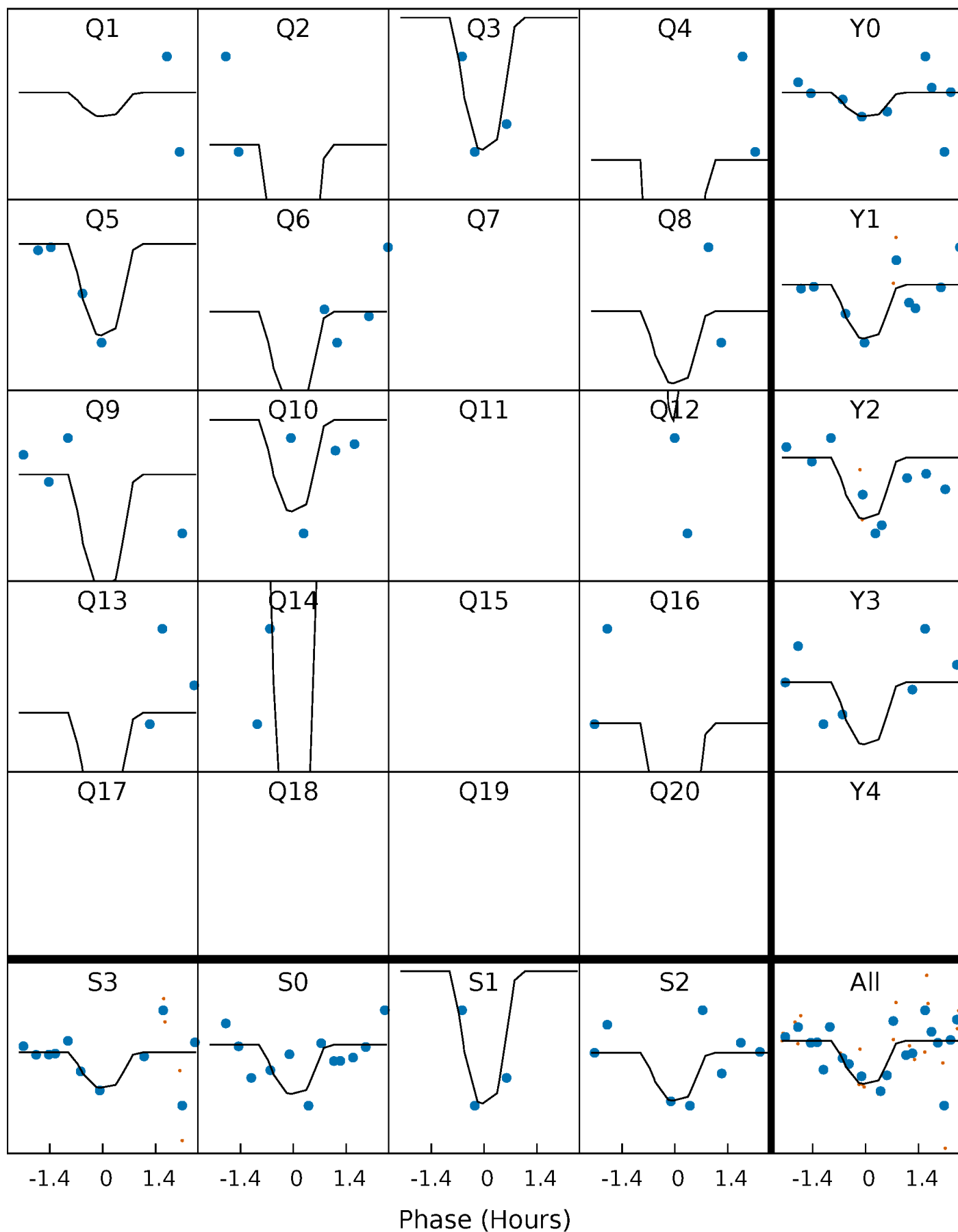
# PDC Quarter-Phased Transit Curves

TCE 010484808-02   P= 15.710025 Days    $T_0=144.832853$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 010484808-02 P= 15.710025 Days  $T_0=144.832853$  (BKJD)



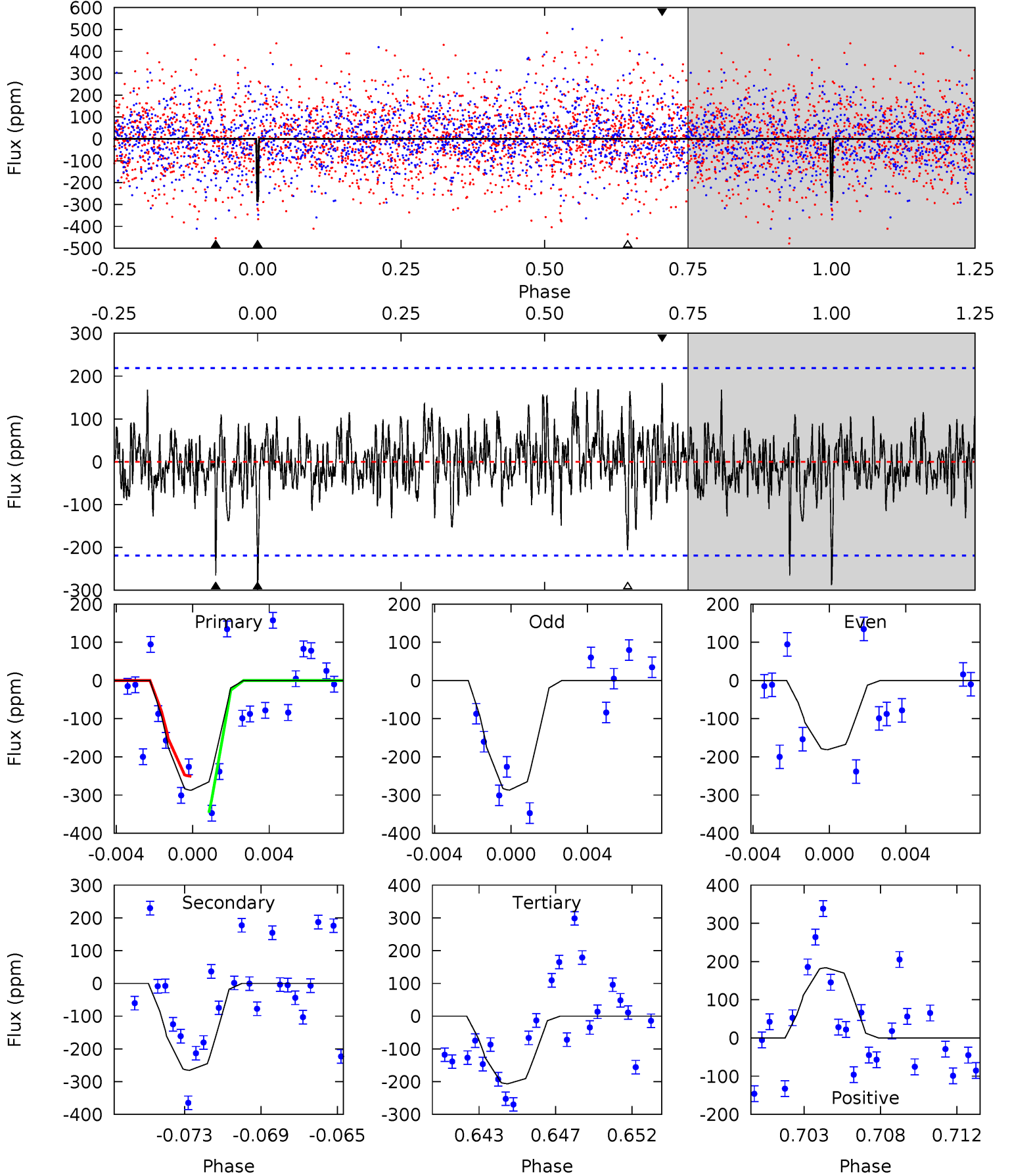


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

010484808-02, P = 15.710025 Days, E = 129.122828 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  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.81 | 6.29 | 4.89 | 4.35 | 5.19            | 2.85            | 1.30             | 1.92    | 2.46    | 1.40    | 1.94    | 1.12    | 0.96 | 0.39  | 1.13 |



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 010484808

|        | $T_{\text{eff}} (K)$ | $\log(g)$                 | $[\text{Fe}/\text{H}]$    | $R (R_{\odot})$           | $M (M_{\odot})$           | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
|        | $8402^{+202}_{-404}$ | $3.930^{+0.247}_{-0.133}$ | $0.070^{+0.250}_{-0.500}$ | $2.627^{+0.614}_{-0.921}$ | $2.140^{+0.294}_{-0.545}$ | $0.166^{+0.271}_{-0.067}$                 |
|        | +2%/-5%              | +6%/-3%                   | +357%/-714%               | +23%/-35%                 | +14%/-25%                 | +163%/-40%                                |
| 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 010484808-02 / KOI

| Detrend | Depth (ppm)   | $R_p (R_{\oplus})$     | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$   | $A_{\text{obs}}$  |
|---------|---------------|------------------------|----------------------|------------------------|-------------------|
| DV      | $-266 \pm 42$ | $8.45^{+7.99}_{-5.61}$ | $2071^{+149}_{-190}$ | $5798^{+5327}_{-1379}$ | $49^{+406}_{-35}$ |
| Alt.    | N/A           | N/A                    | N/A                  | N/A                    | N/A               |

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

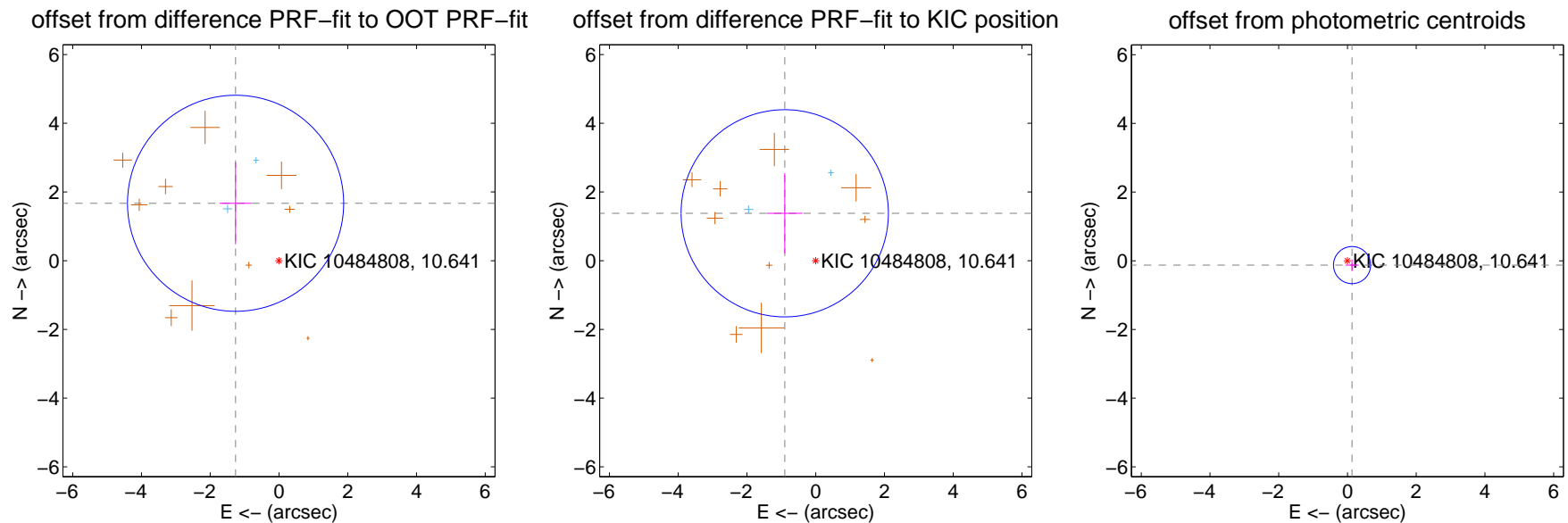
## DV Centroid Data

Supplemental centroid analysis for 010484808-02. **Kepler magnitude: 10.64.** Transit SNR 14.58

**There are 2 quarters with good PRF difference image offsets**

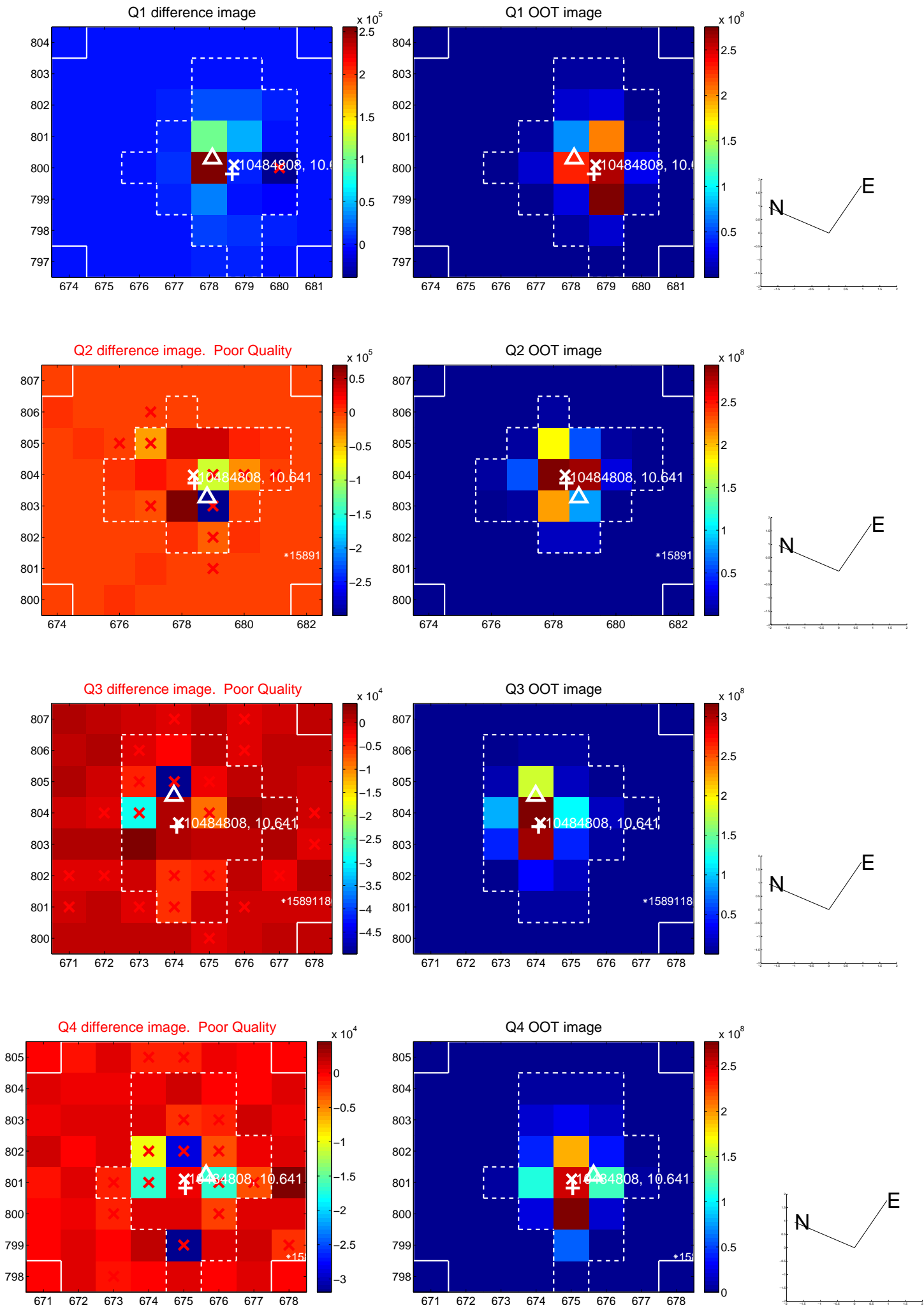
The direct PRF centroid is offset from the target star catalog position by about 1.16 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec      |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT          | $2.095 \pm 1.048$  | 2.00                | $1.263 \pm 0.469$ | $1.672 \pm 1.194$ |
| PRF-fit source offset from KIC position | $1.648 \pm 1.005$  | 1.64                | $0.901 \pm 0.517$ | $1.380 \pm 1.166$ |
| photometric centroid source offset      | $0.18 \pm 0.18$    | 1.02                | $-0.13 \pm 0.19$  | $-0.13 \pm 0.17$  |



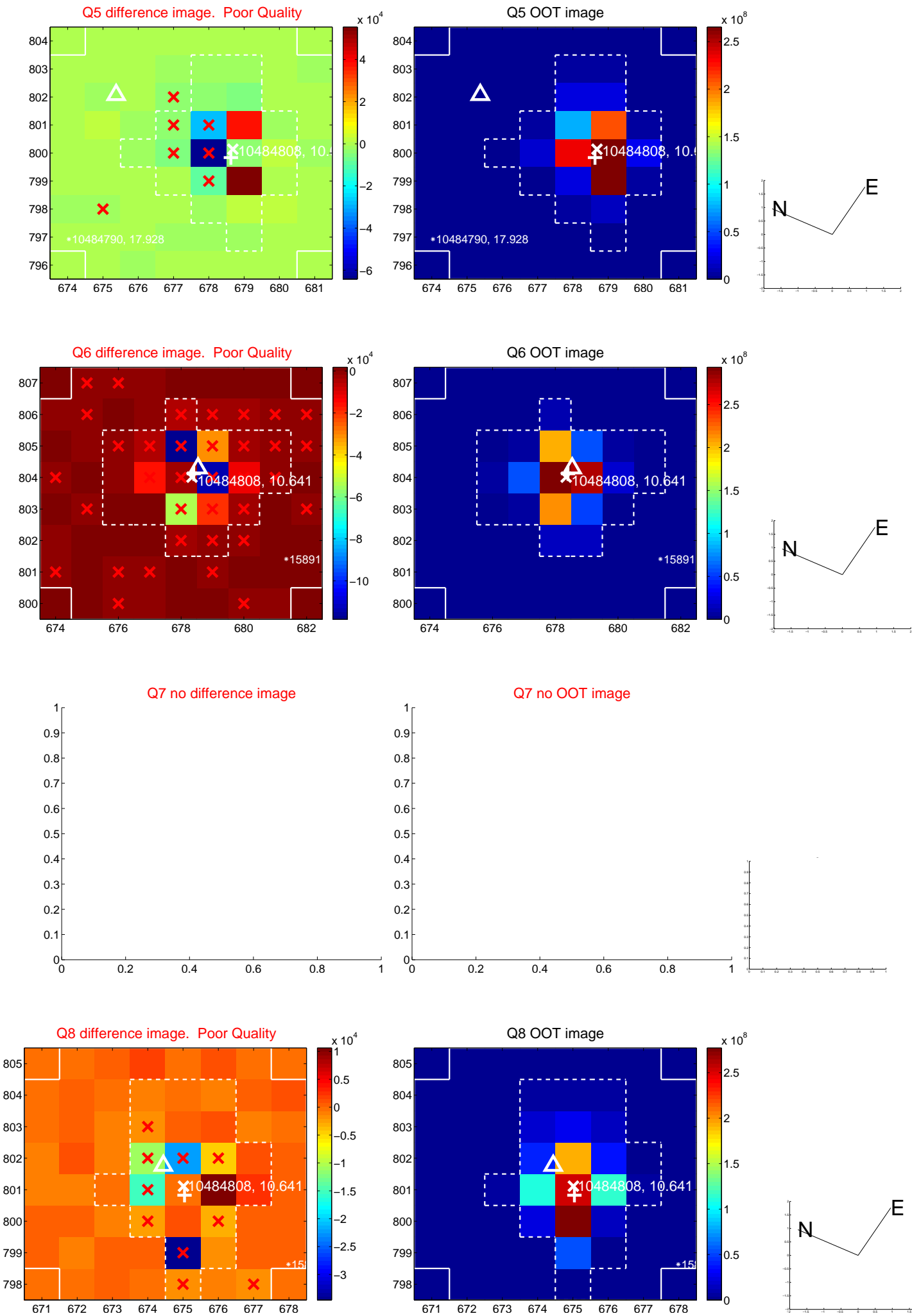
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

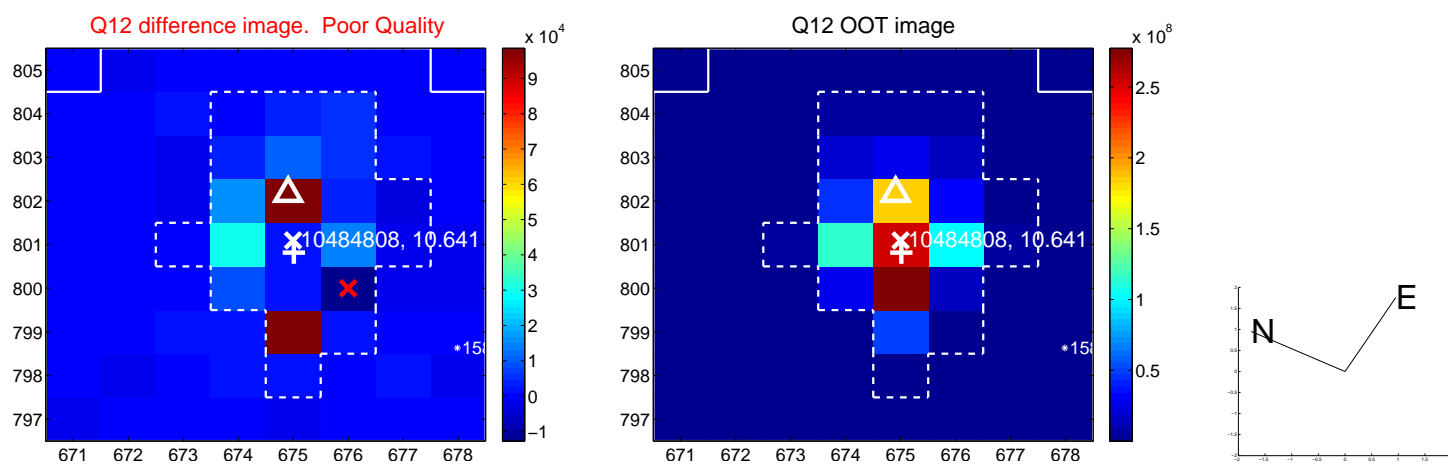
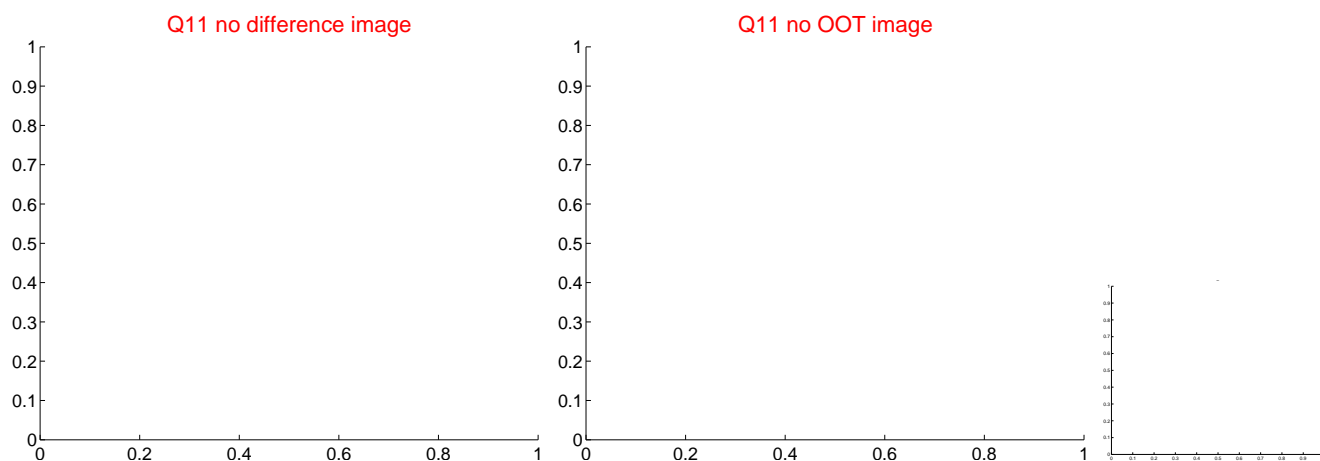
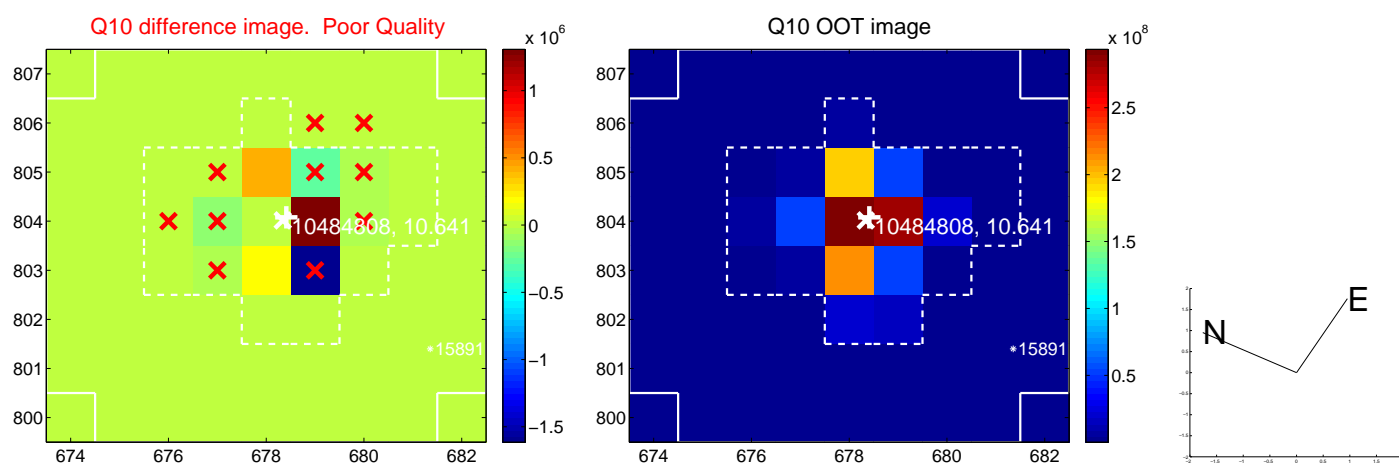
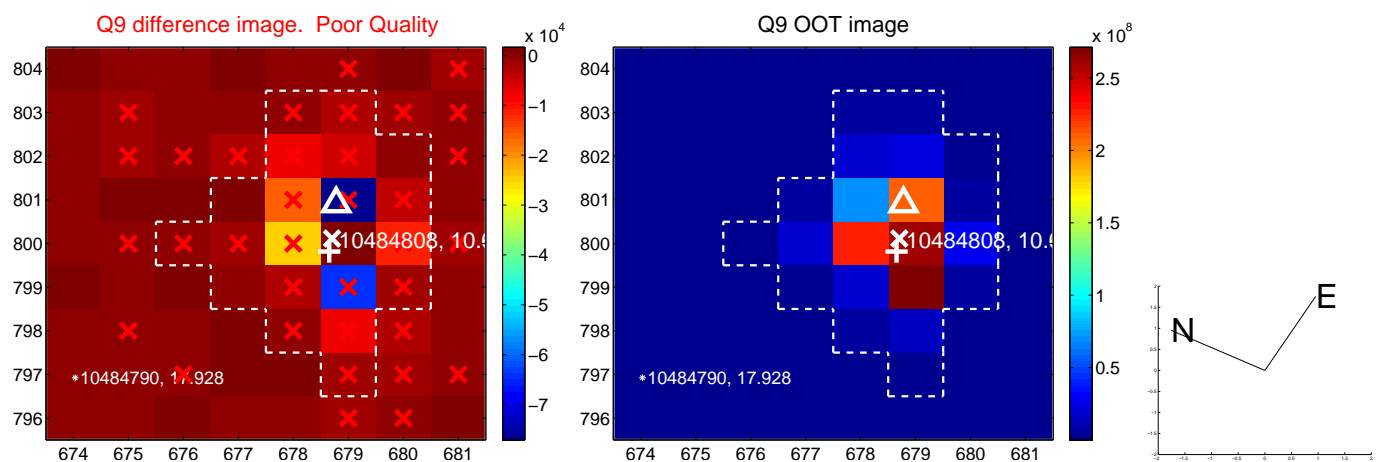




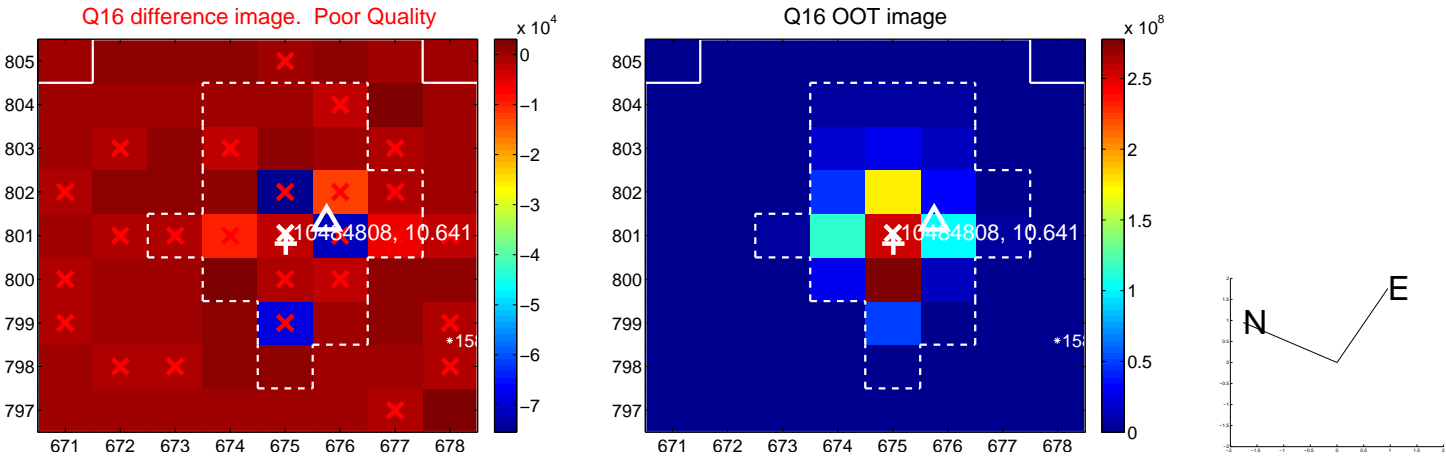
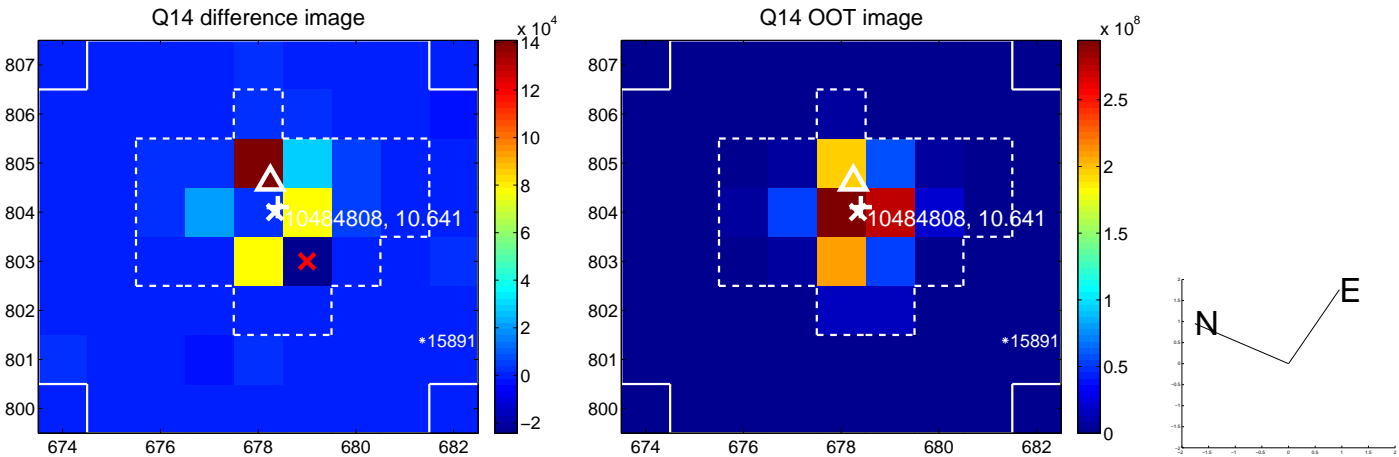
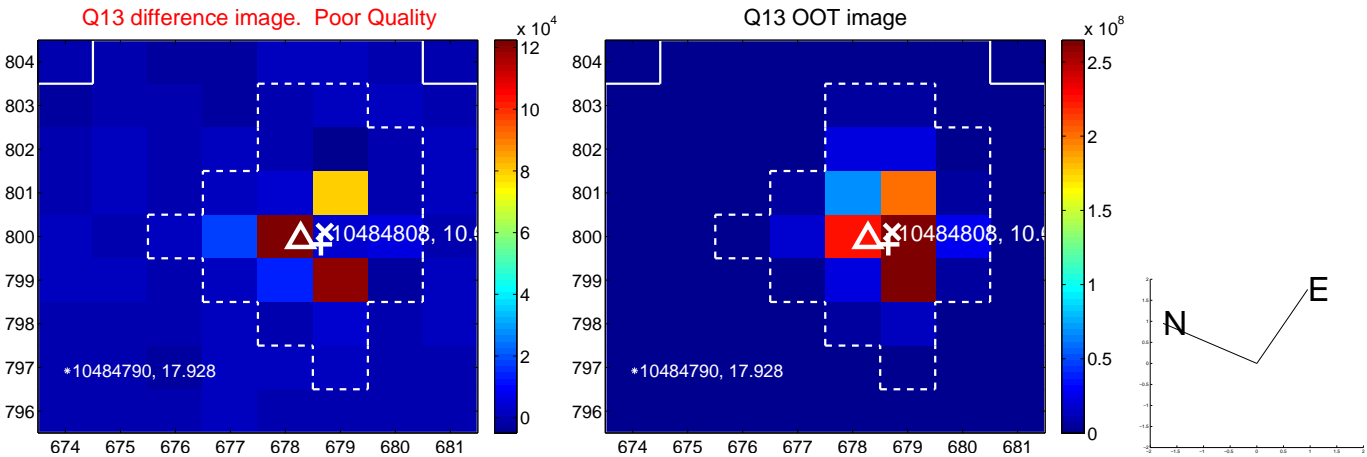
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



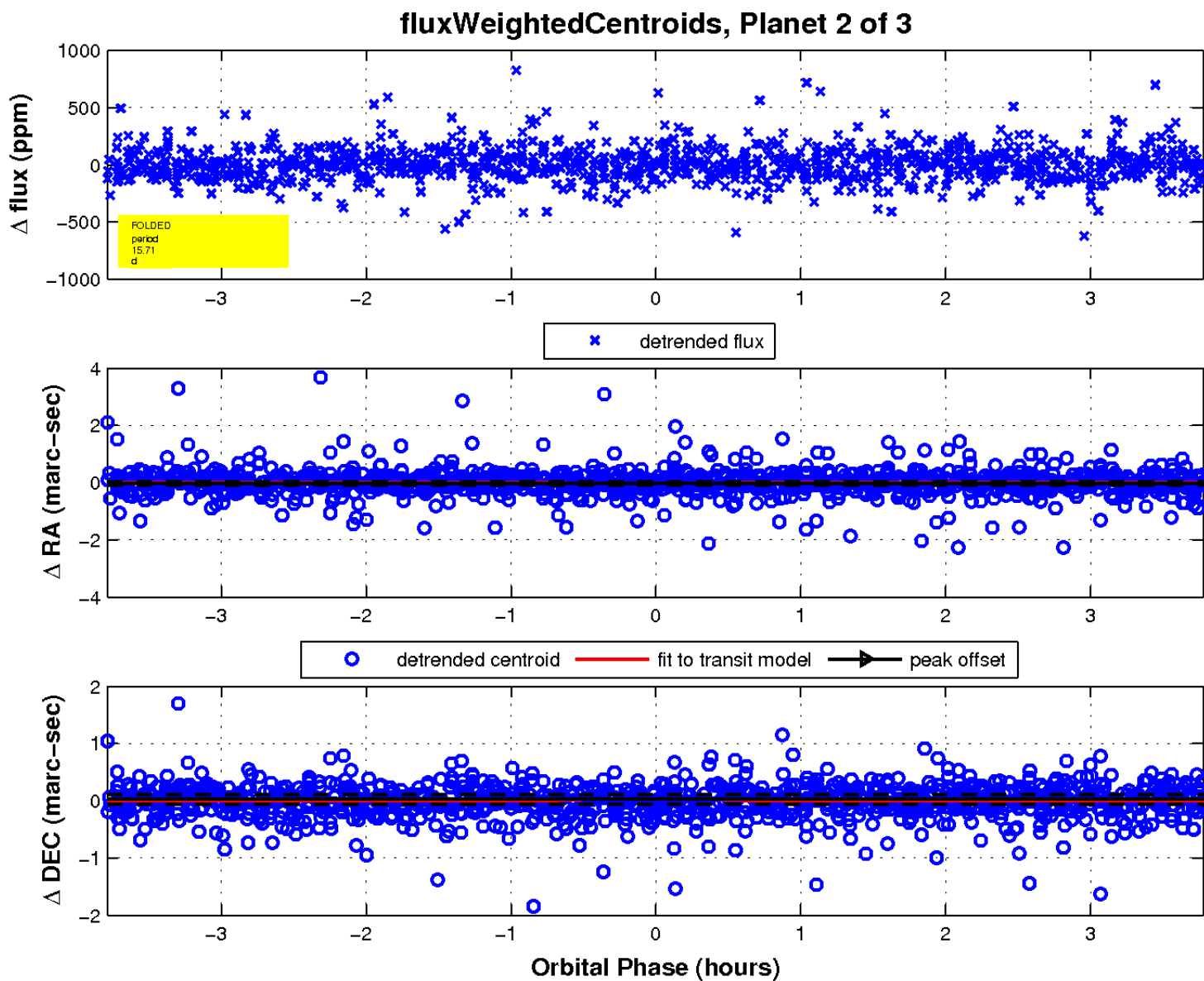
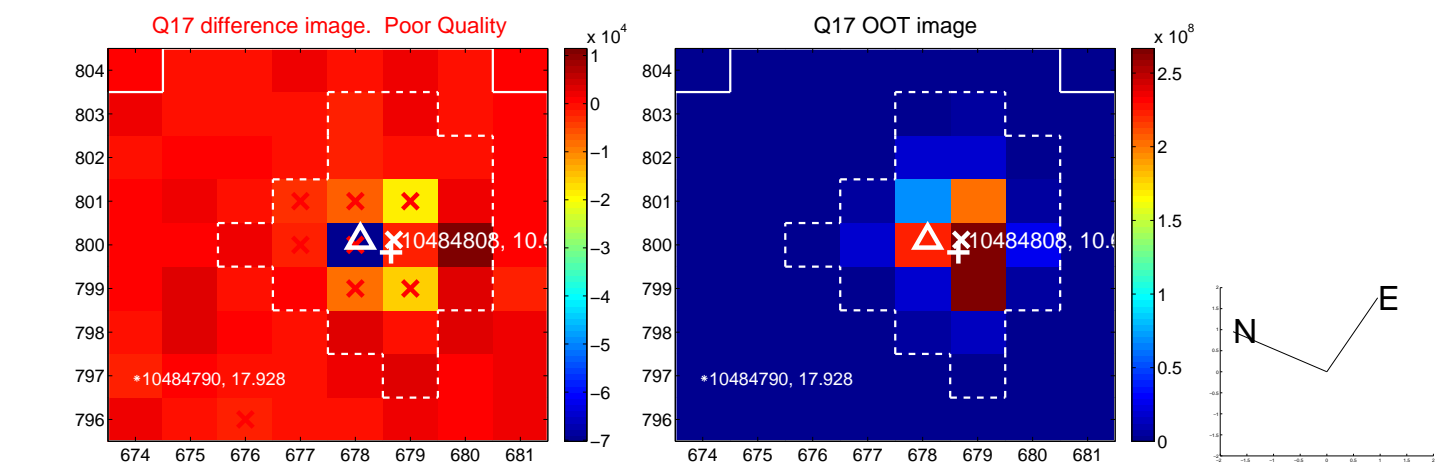
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

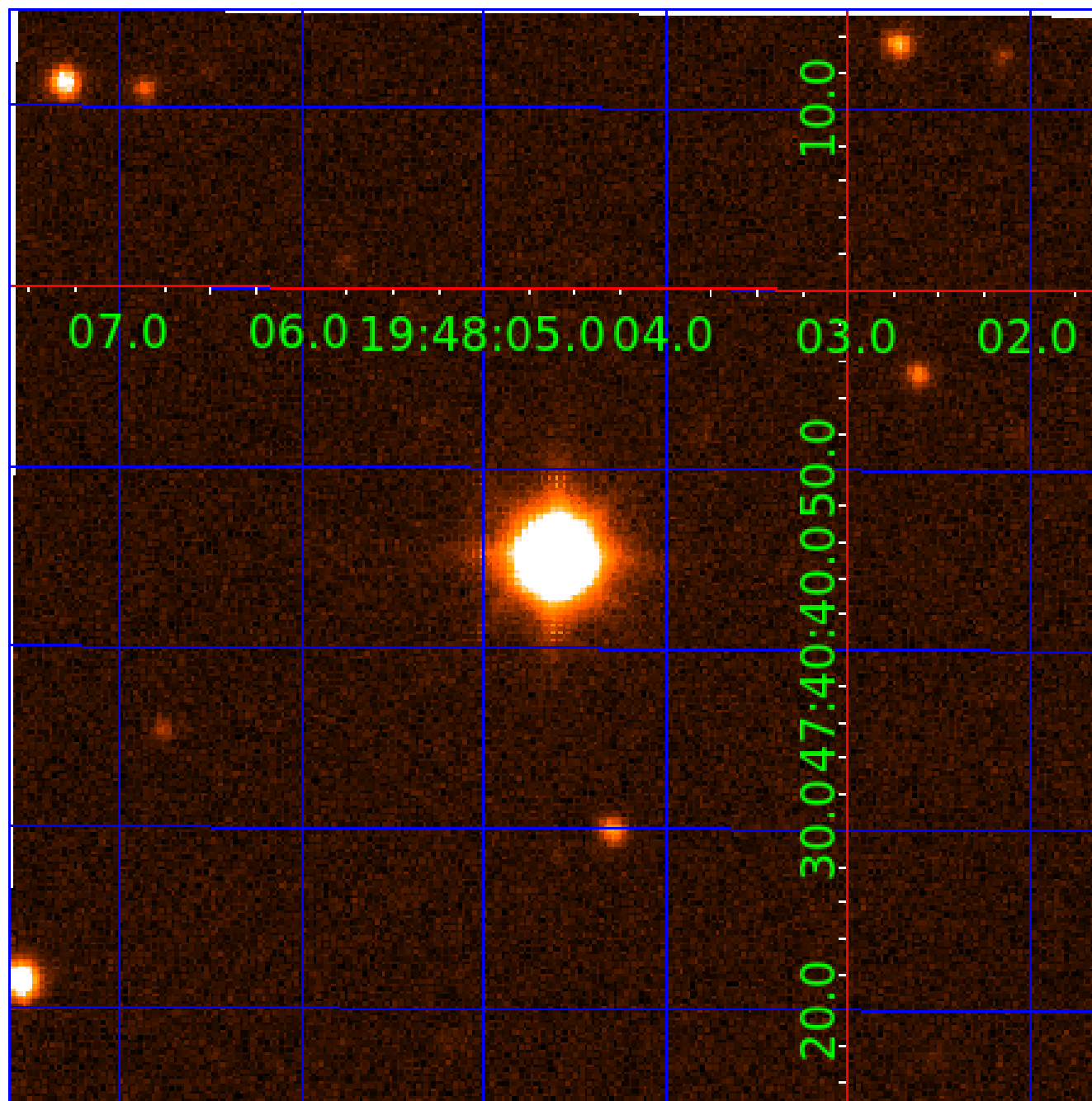


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 010484808

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 010484808-01 | OBS      | No   | 0.693845      | 131.820053   | 14.4        | 5.040            | 11.6 | 11.0 | 2.63                        | 8402            | 1.07                   | 78773.77               |
| 010484808-02 | OBS      | No   | 15.710025     | 144.832853   | 295.9       | 1.262            | 13.2 | 14.6 | 2.63                        | 8402            | 4.62                   | 1229.79                |
| 010484808-03 | OBS      | No   | 24.837499     | 144.179579   | 286.0       | 1.523            | 11.0 | 12.3 | 2.63                        | 8402            | 4.67                   | 667.71                 |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments  |
|--------------|----------|------|-------|---|---|---|---|---|
| 010484808-01 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED  |
| 010484808-02 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED                                  |
| 010484808-03 | OBS      | FP   | 0.00  | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED—HALO_GHOST |

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

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

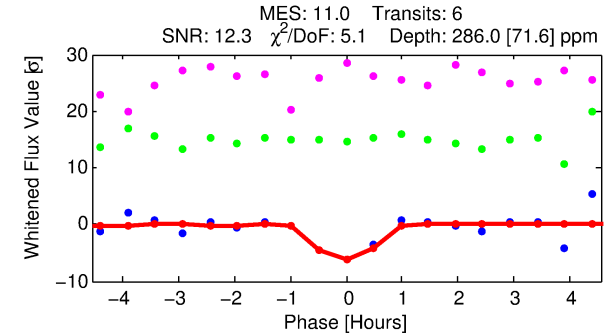
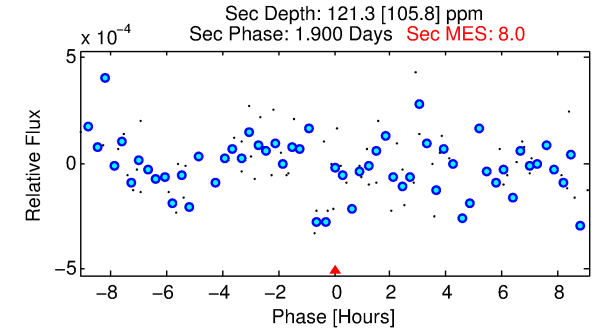
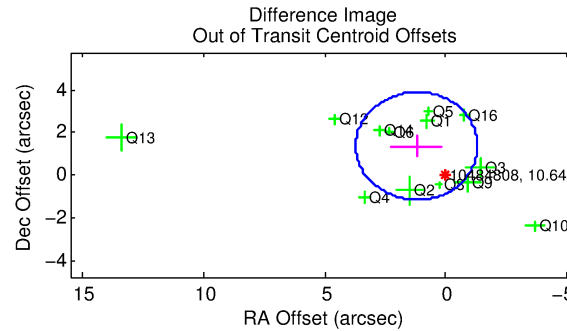
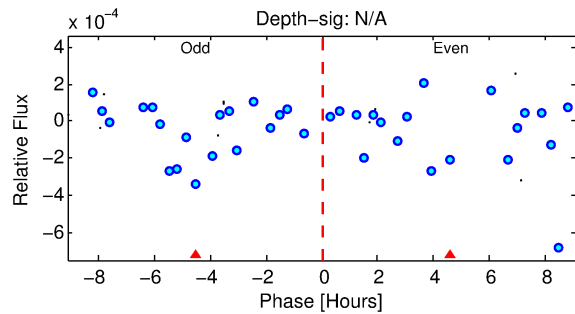
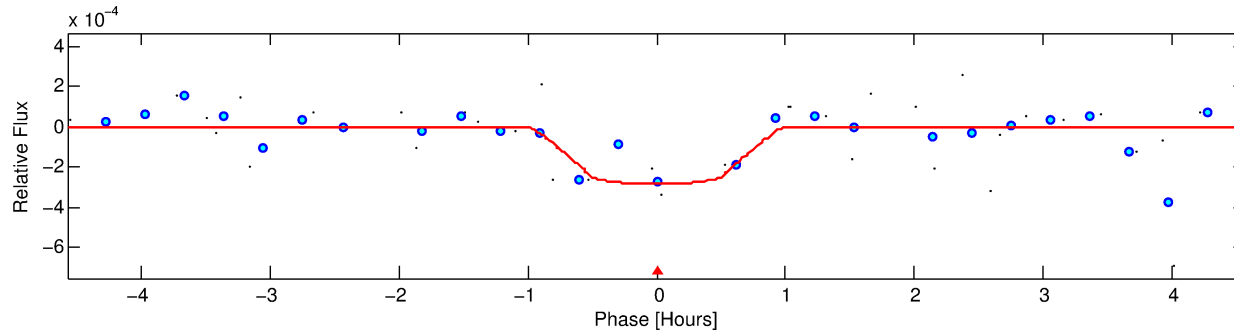
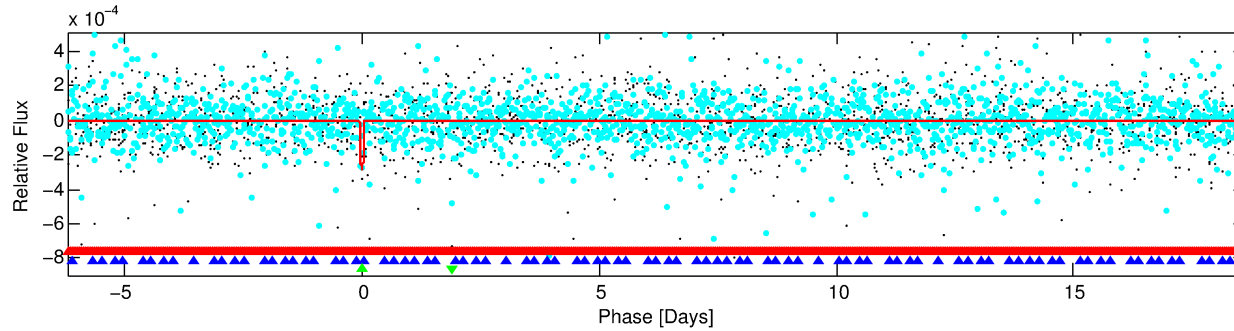
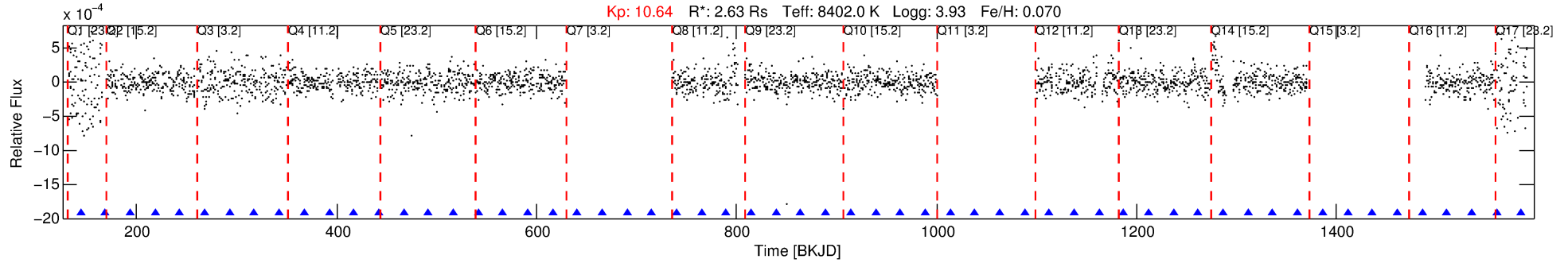
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010484808-03

No Significant Match Found

# DV One-Page Summary

KIC: 10484808 Candidate: 3 of 3 Period: 24.837 d



## DV Fit Results:

Period = 24.83750 [0.00053] d  
Epoch = 144.1796 [0.0182] BKJD  
Rp/R\* = 0.0163 [0.0212]  
a/R\* = 103.66 [763.57]  
b = 0.58 [8.59]  
Seff = 667.71 [323.95]  
Teq = 1296 [157] K  
Rp = 4.67 [6.29] Re  
a = 0.2148 [0.0646] AU  
Ag = 140.92 [391.45] [0.36 $\sigma$ ]  
Teffp = 6905 [4745] K [1.18 $\sigma$ ]

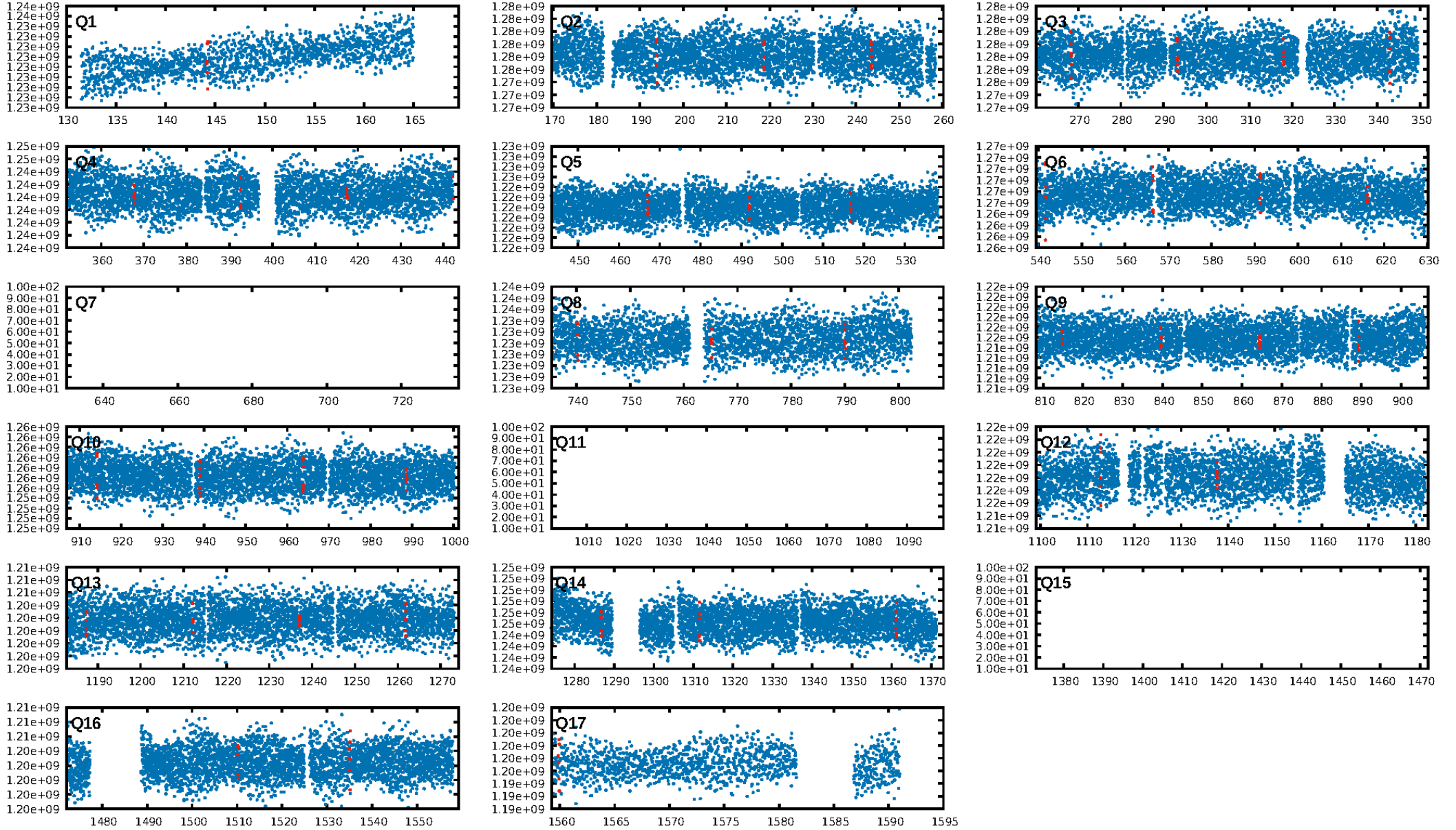
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [110.75 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 11.8%  
Bootstrap-pfa: 1.99e-08  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: 0.02558  
Centroid-sig: 0.1%  
Centroid-so: 0.324 arcsec [1.63 $\sigma$ ]  
OotOffset-rm: 1.826 arcsec [2.18 $\sigma$ ]  
KicOffset-rm: 1.605 arcsec [2.23 $\sigma$ ]  
OotOffset-st: 4/1/4/4 [13]  
KicOffset-st: 4/1/4/4 [13]  
DiffImageQuality-fgm: 0.15 [2/13]  
DiffImageOverlap-fno: 0.00 [0/13]

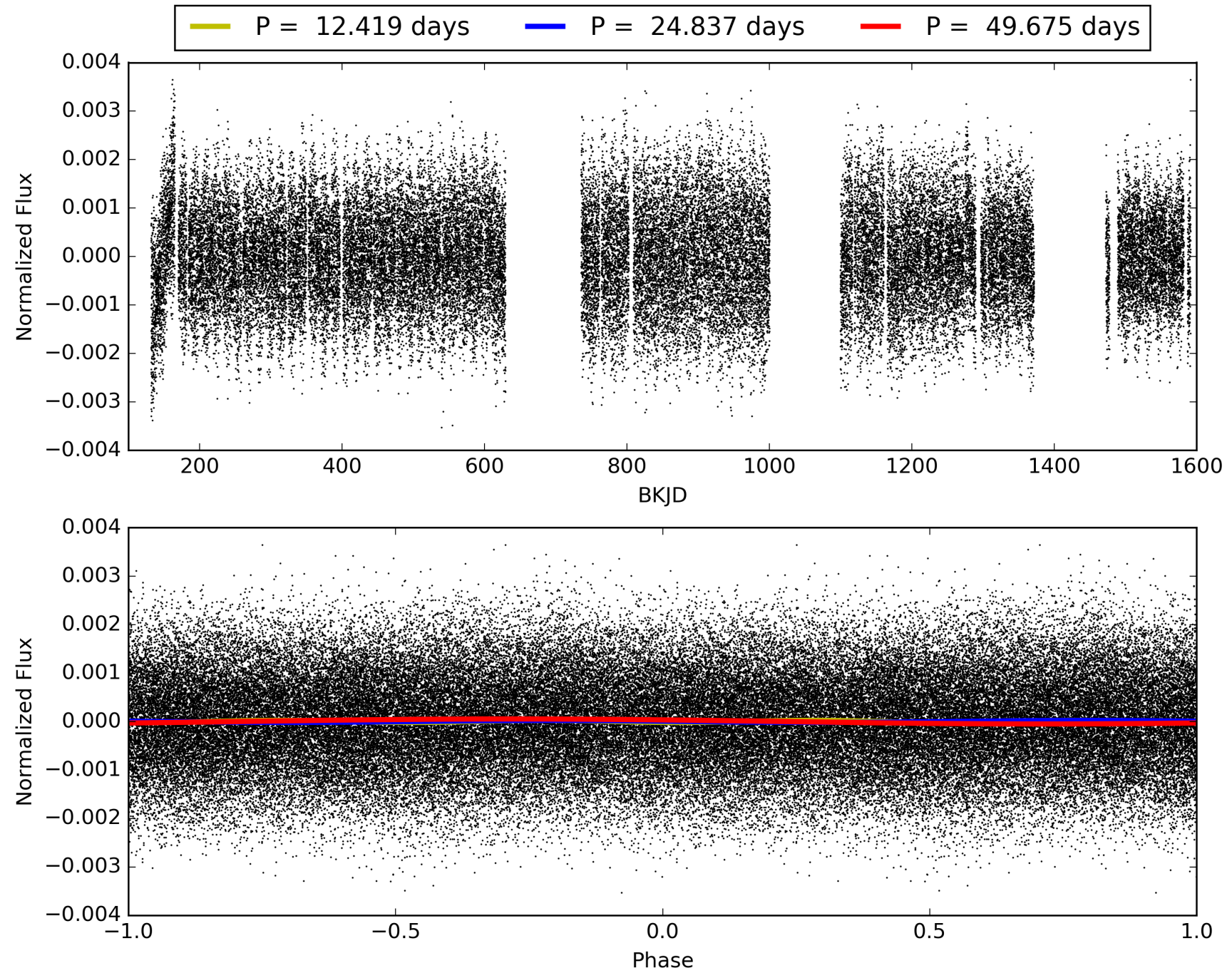
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:47:04 Z

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

# TCE 010484808-03, PDC Light Curves

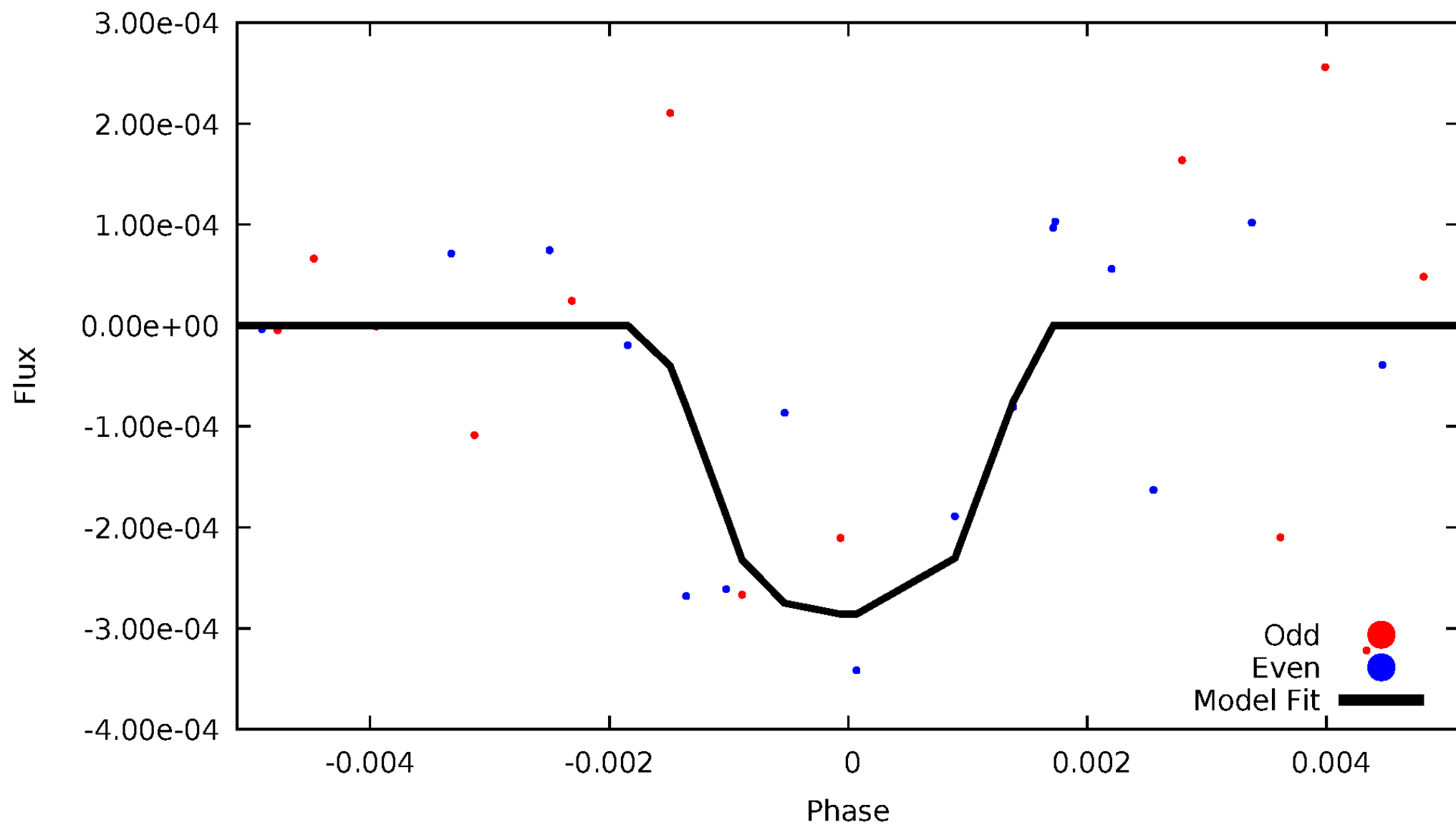


TCE 010484808-03



# DV Odd/Even

TCE 010484808-03





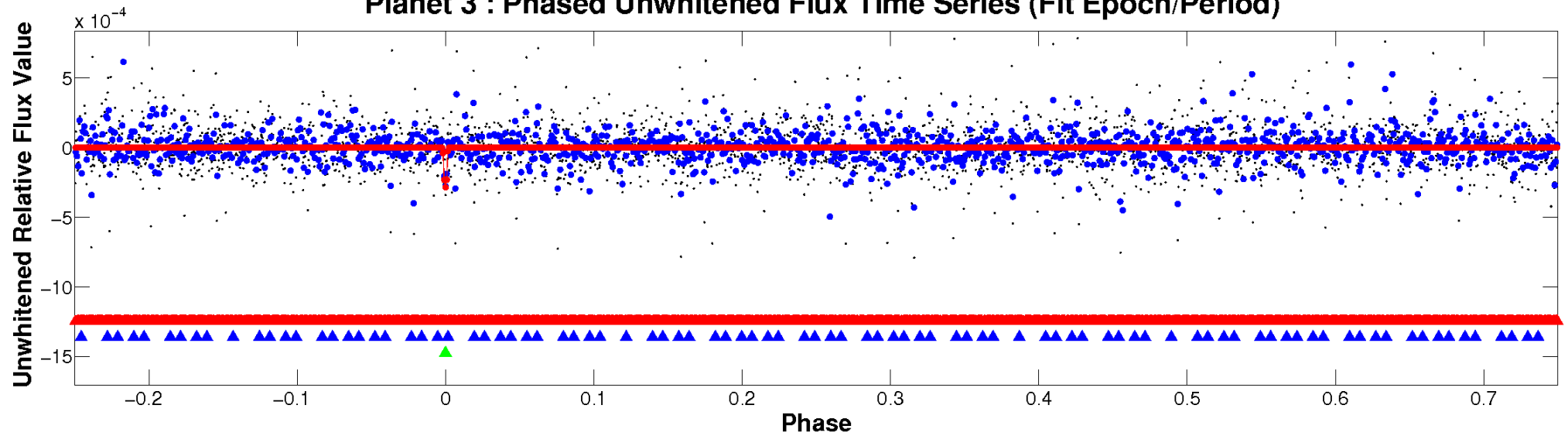
ALT Odd/Even

This plot does not exist for this TCE.

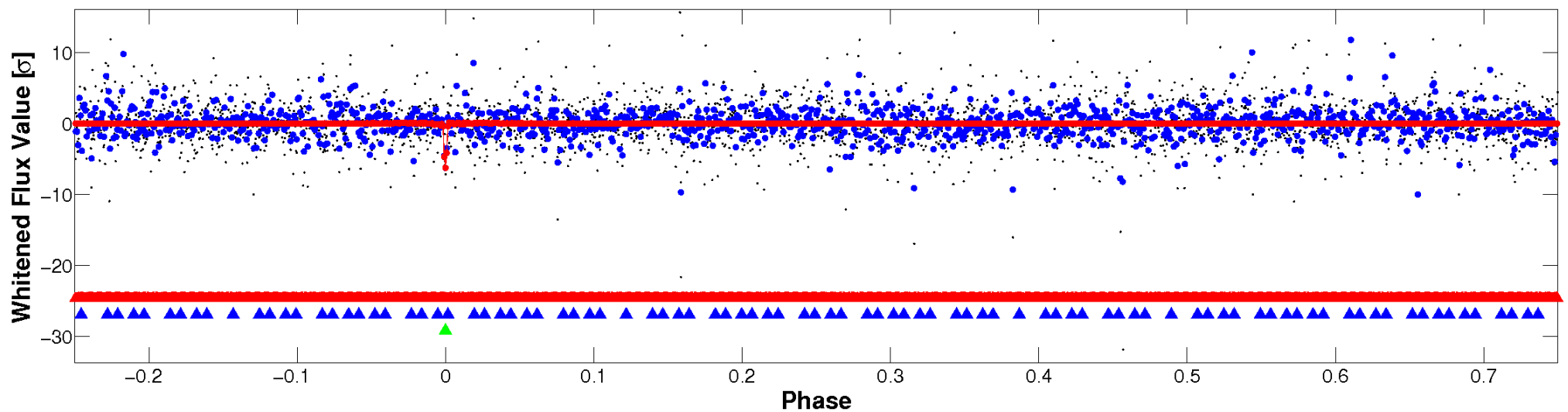


# Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

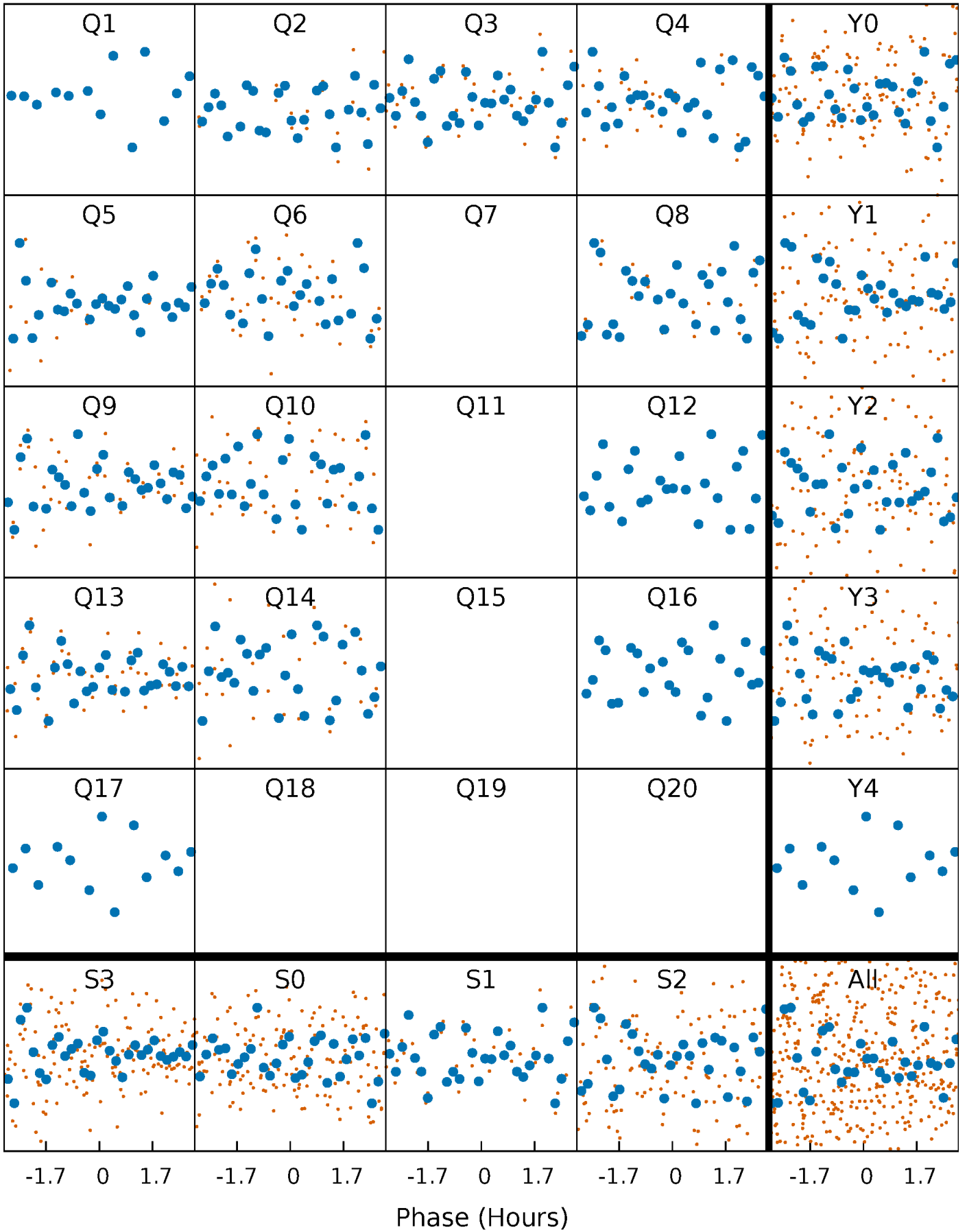


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



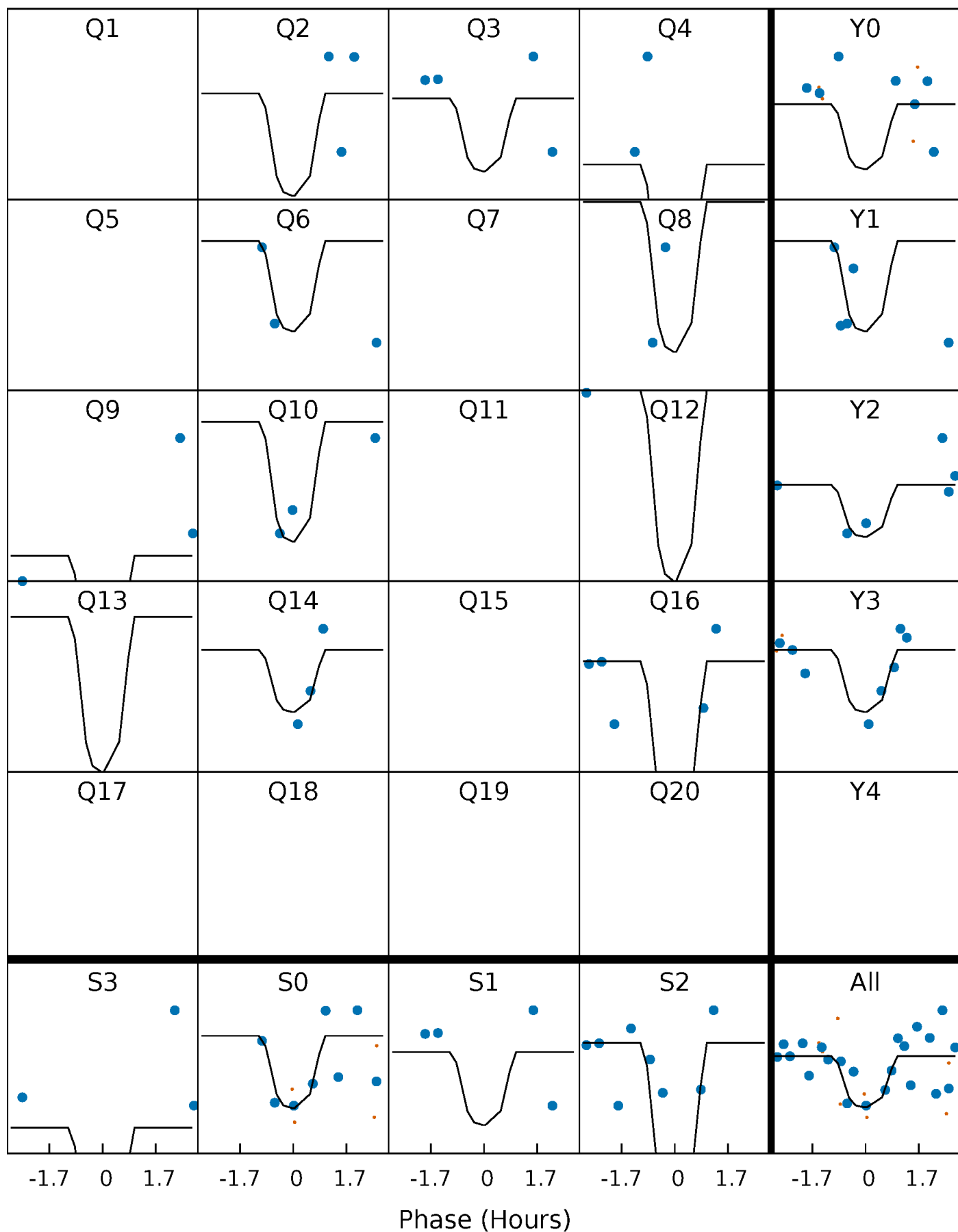
# PDC Quarter-Phased Transit Curves

TCE 010484808-03   P= 24.837499 Days    $T_0=144.179579$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 010484808-03 P= 24.837499 Days  $T_0=144.179579$  (BKJD)

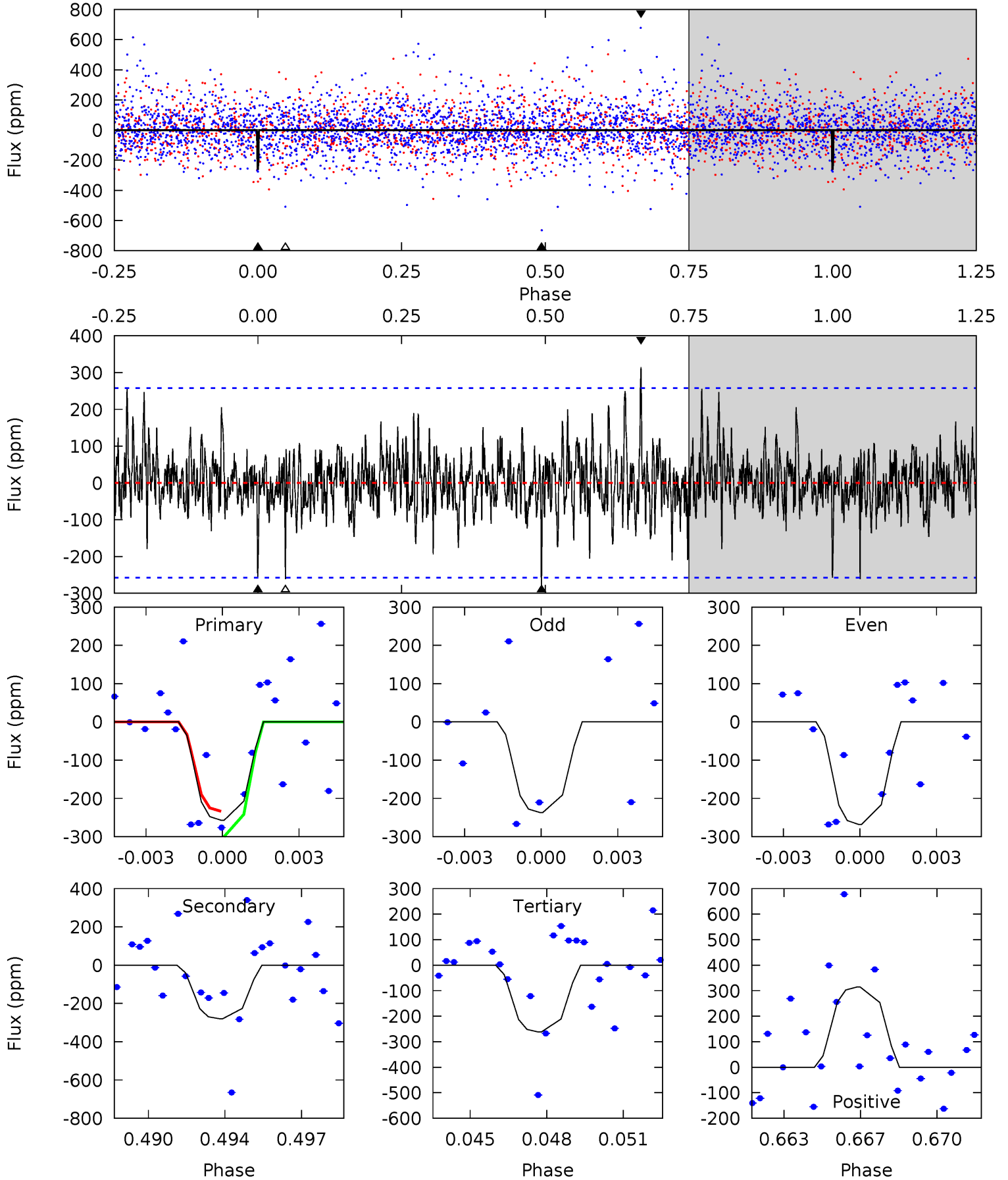


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

010484808-03, P = 24.837499 Days, E = 119.342080 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  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 5.23 | 5.70 | 5.32 | 6.40 | 5.24            | 2.95            | 1.34             | -0.09   | -1.17   | 0.37    | -0.70   | 0.28    | 0.93 | 0.53  | 0.67 |



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 010484808

|        | $T_{\text{eff}} (K)$ | $\log(g)$                 | $[\text{Fe}/\text{H}]$    | $R (R_{\odot})$           | $M (M_{\odot})$           | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
|        | $8402^{+202}_{-404}$ | $3.930^{+0.247}_{-0.133}$ | $0.070^{+0.250}_{-0.500}$ | $2.627^{+0.614}_{-0.921}$ | $2.140^{+0.294}_{-0.545}$ | $0.166^{+0.271}_{-0.067}$                 |
|        | +2%/-5%              | +6%/-3%                   | +357%/-714%               | +23%/-35%                 | +14%/-25%                 | +163%/-40%                                |
| 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 010484808-03 / KOI

| Detrend | Depth (ppm)   | $R_p (R_{\oplus})$     | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$   | $A_{\text{obs}}$     |
|---------|---------------|------------------------|----------------------|------------------------|----------------------|
| DV      | $-280 \pm 49$ | $6.09^{+5.27}_{-3.96}$ | $1777^{+131}_{-153}$ | $6944^{+7594}_{-1736}$ | $189^{+1321}_{-137}$ |
| Alt.    | N/A           | N/A                    | N/A                  | N/A                    | N/A                  |

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



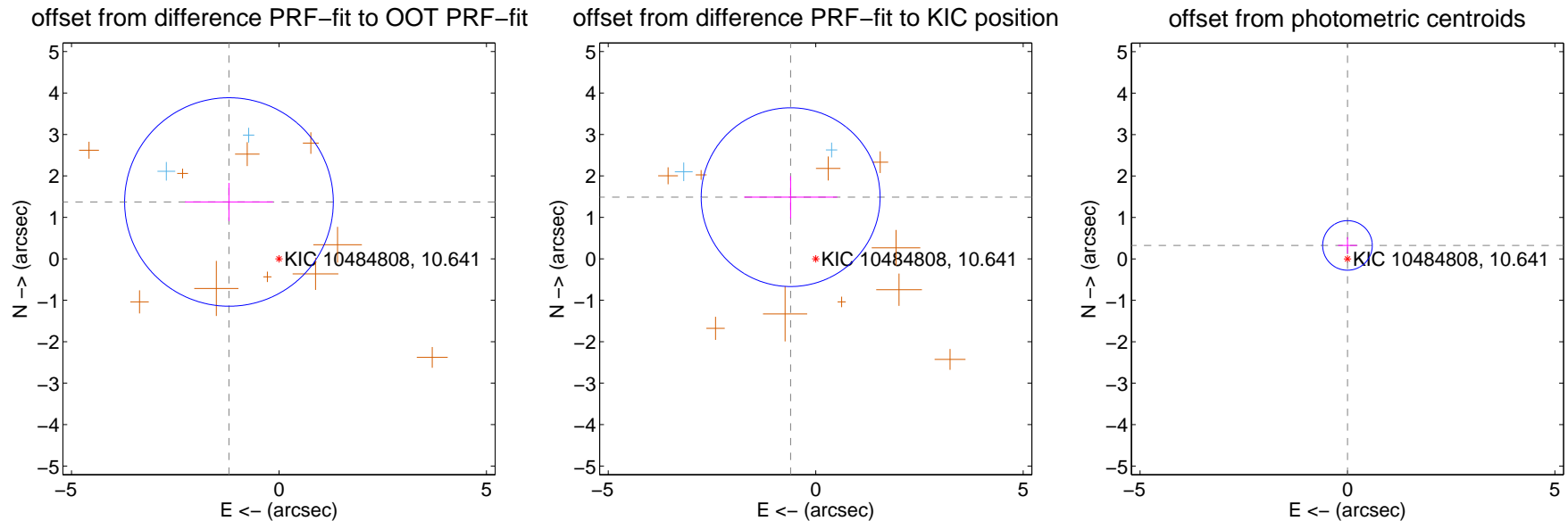
## DV Centroid Data

Supplemental centroid analysis for 010484808-03. **Kepler magnitude: 10.64.** Transit SNR 12.29

**There are 2 quarters with good PRF difference image offsets**

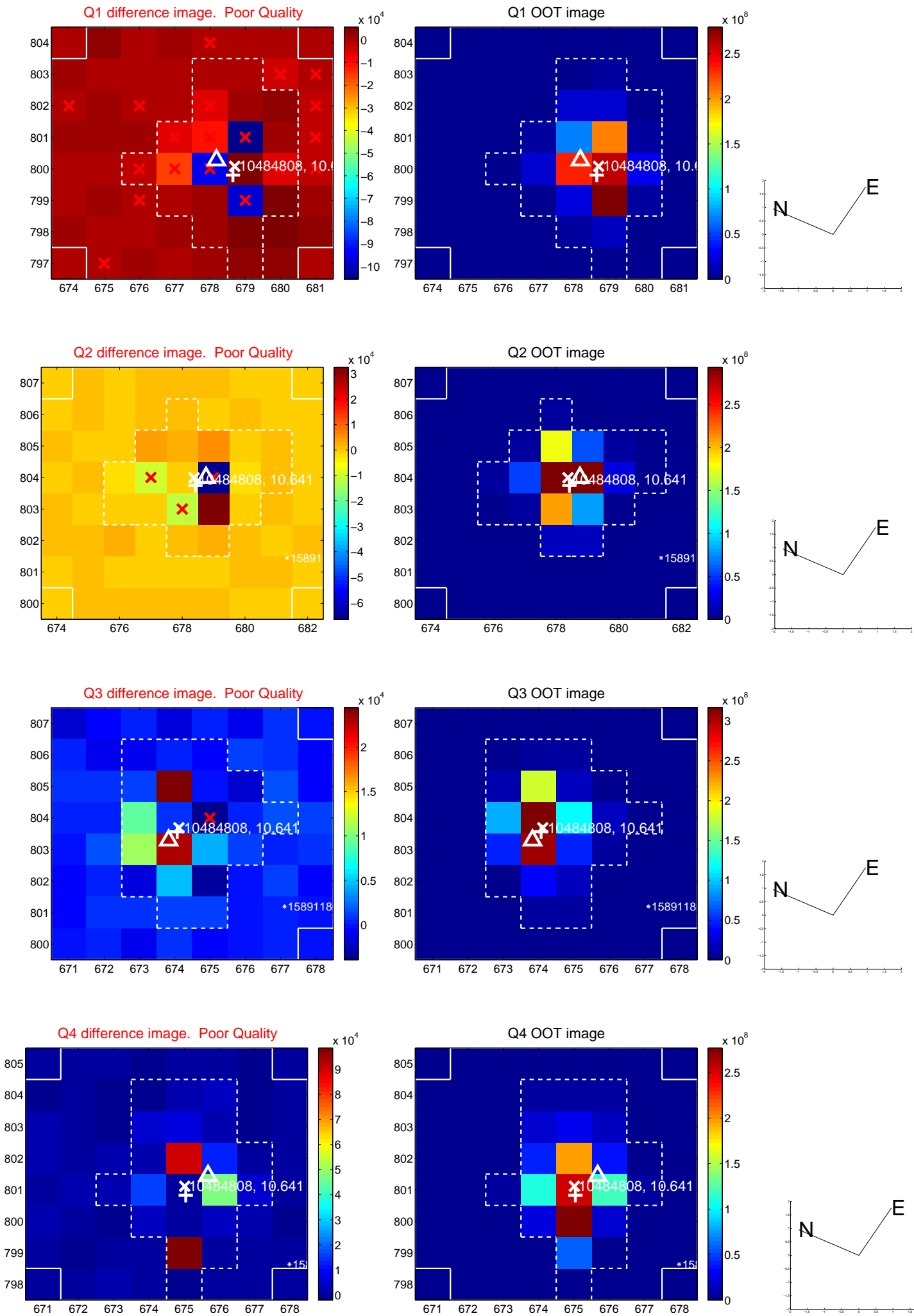
The direct PRF centroid is offset from the target star catalog position by about 0.91 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec      |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT          | $1.826 \pm 0.838$  | 2.18                | $1.206 \pm 1.061$ | $1.371 \pm 0.459$ |
| PRF-fit source offset from KIC position | $1.605 \pm 0.719$  | 2.23                | $0.605 \pm 1.123$ | $1.487 \pm 0.506$ |
| photometric centroid source offset      | $0.32 \pm 0.20$    | 1.63                | $-0.00 \pm 0.23$  | $0.32 \pm 0.20$   |

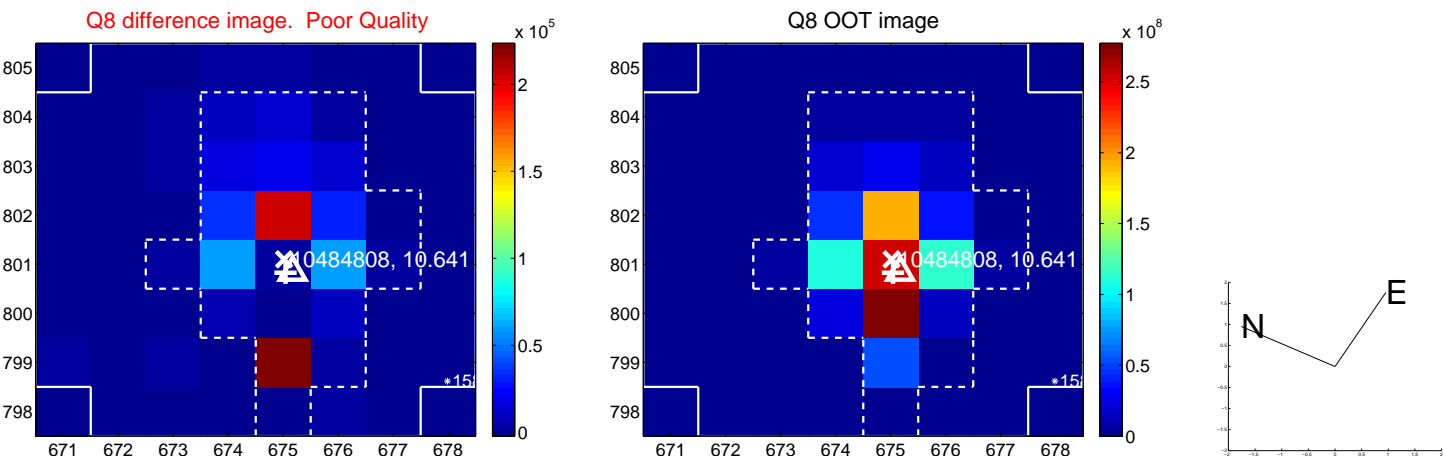
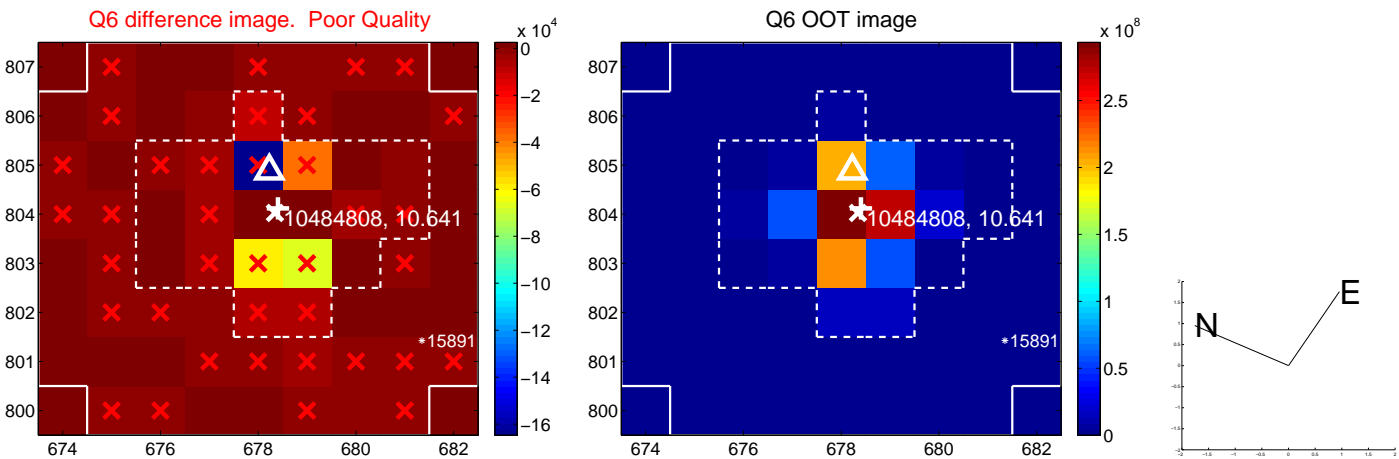
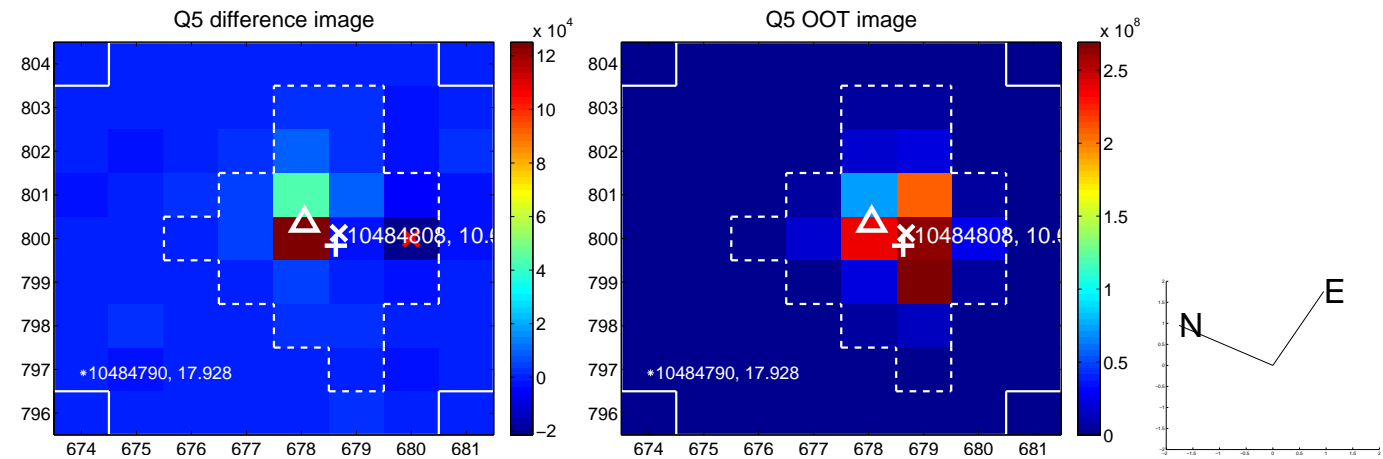


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

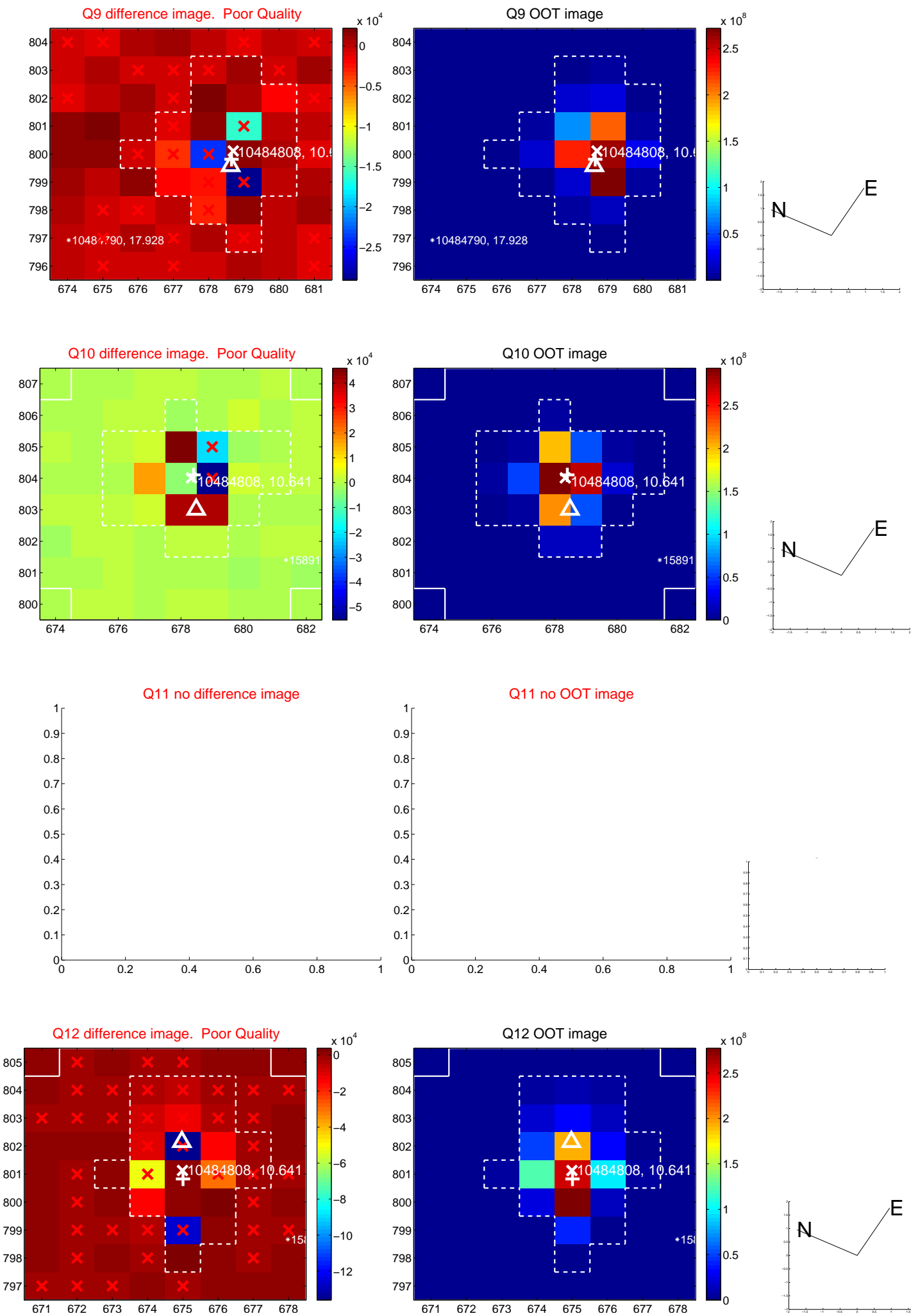
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



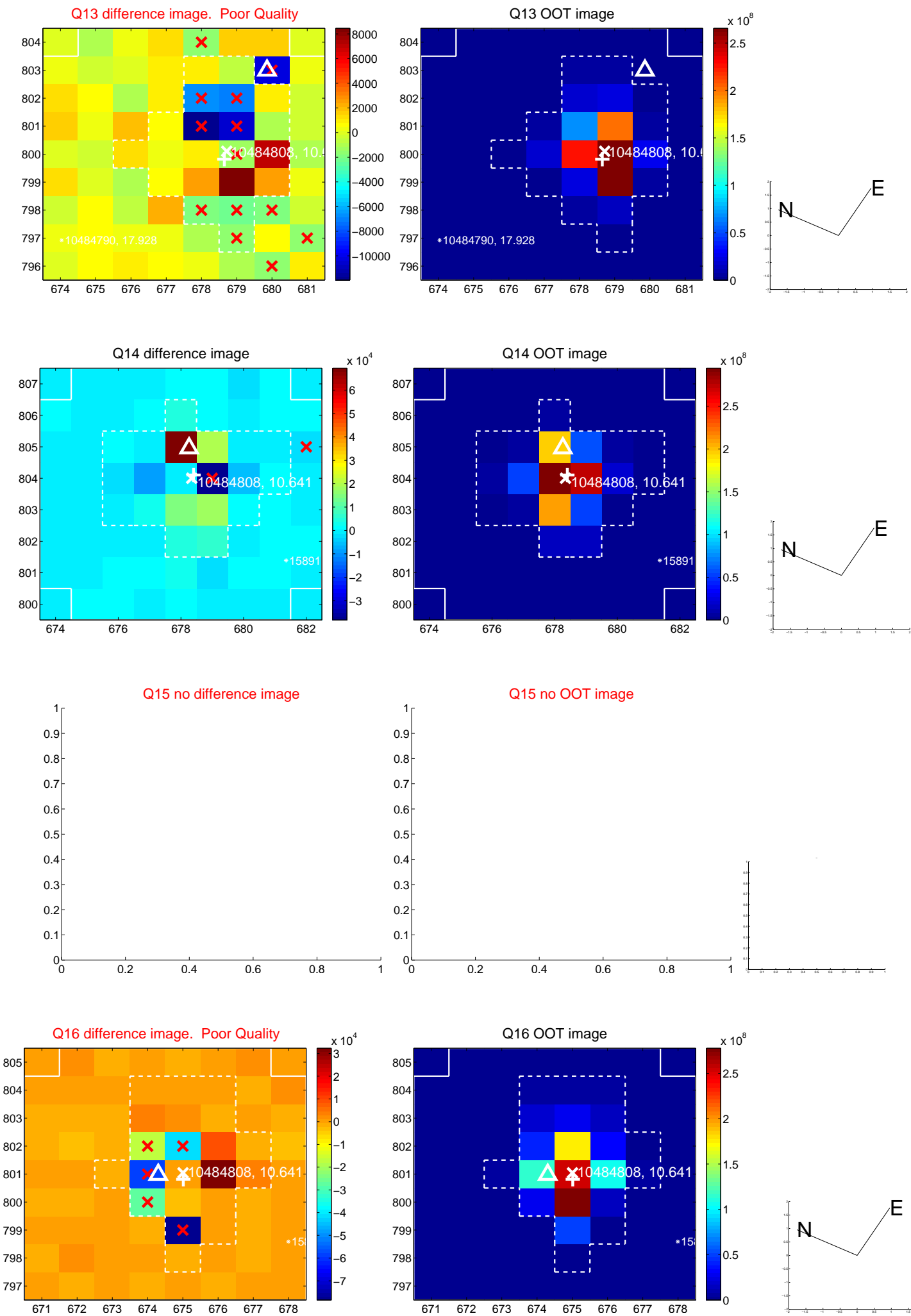
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



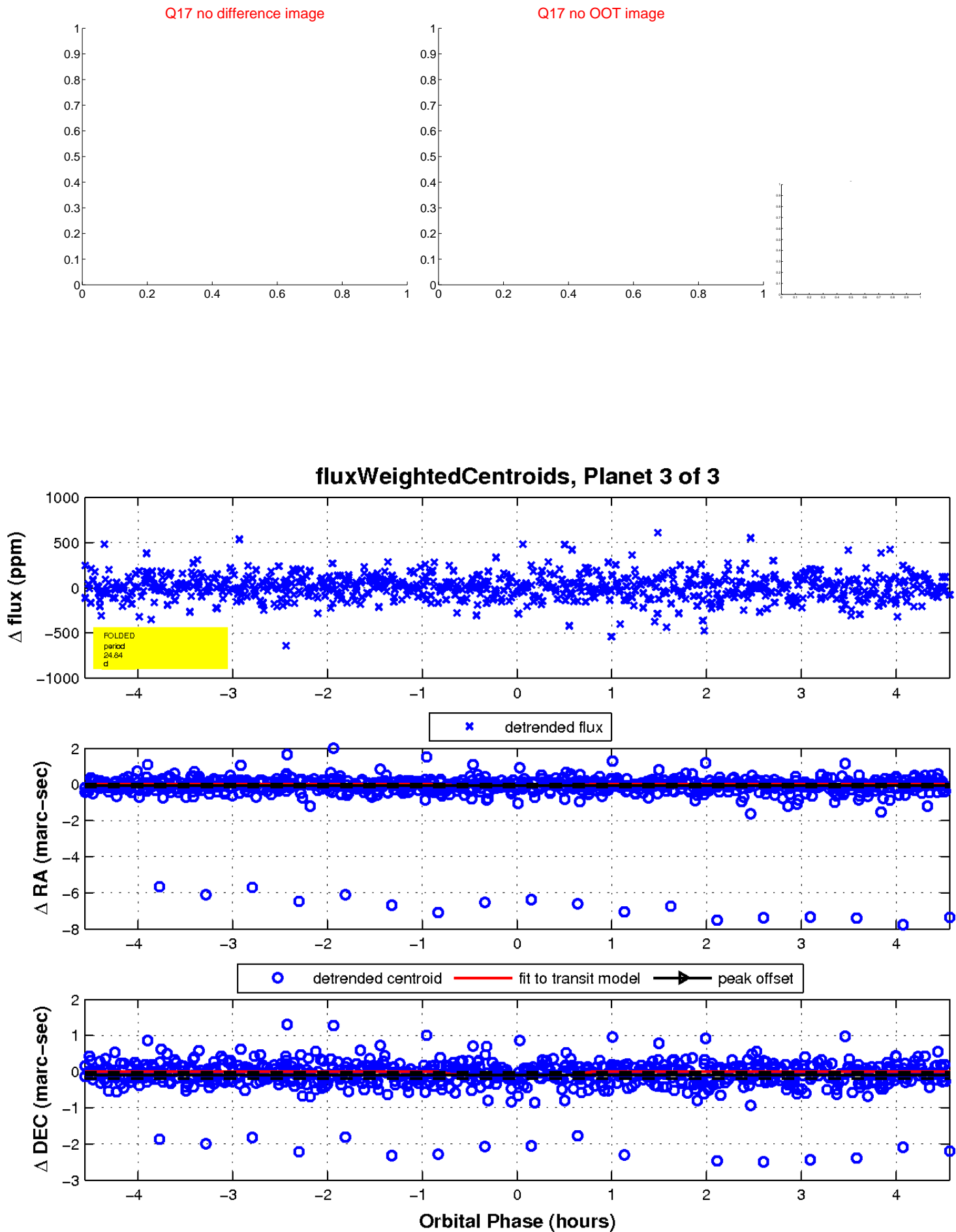
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

