

# KIC 003344419

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 003344419-01 | OBS      | No      | 1.303571      | 132.456309   | 399.7       | 1.291            | 33.1 | 29.0 | 1.06                        | 5555            | 2.49                   | 1791.68                |
| 003344419-02 | OBS      | 1181.01 | 1.303569      | 131.807811   | 378.1       | 1.399            | 87.7 | 30.0 | 1.06                        | 5555            | 2.31                   | 1791.69                |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments  |
|--------------|----------|------|-------|---|---|---|---|---|
| 003344419-01 | OBS      | FP   | 0.00  | 1 | 0 | 1 | 1 | MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET—EPHEM_MATCH        |
| 003344419-02 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 1 | MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS—EPHEM_MATCH |

**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.

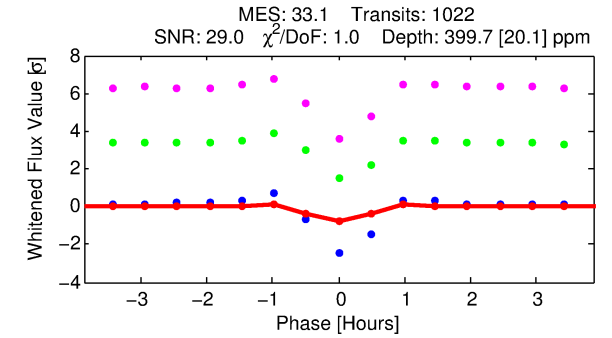
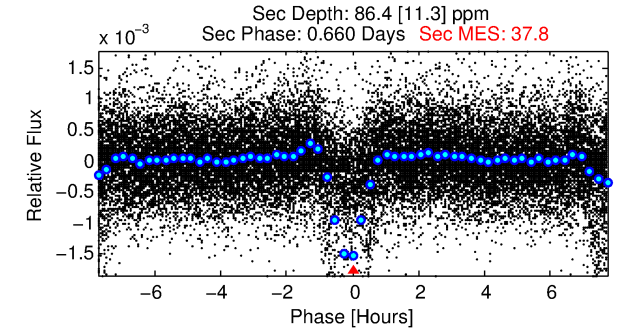
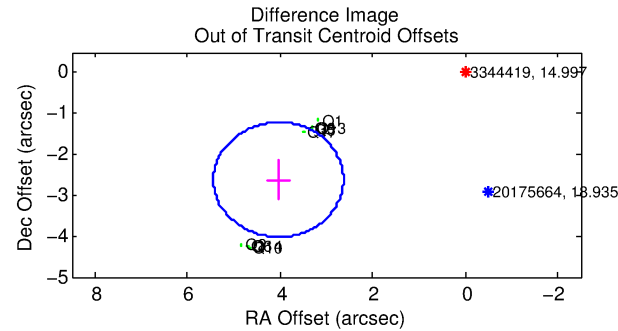
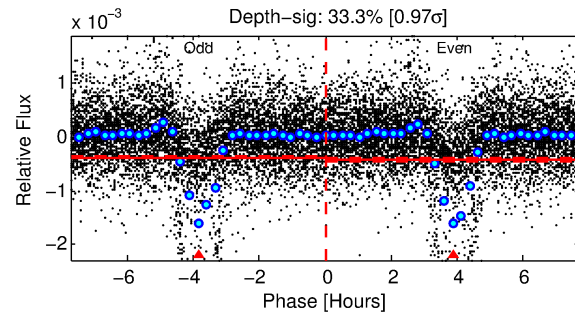
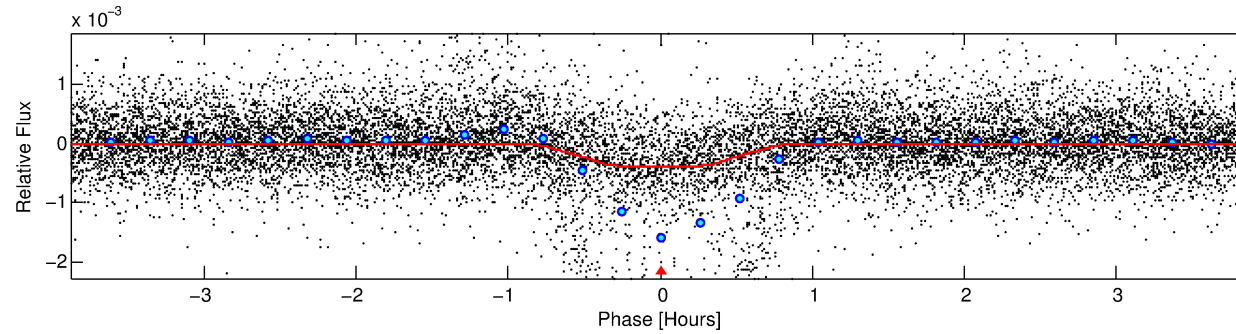
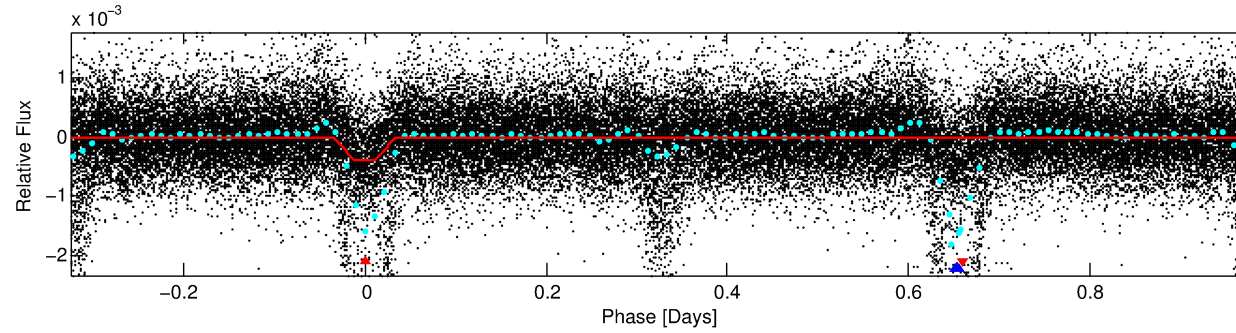
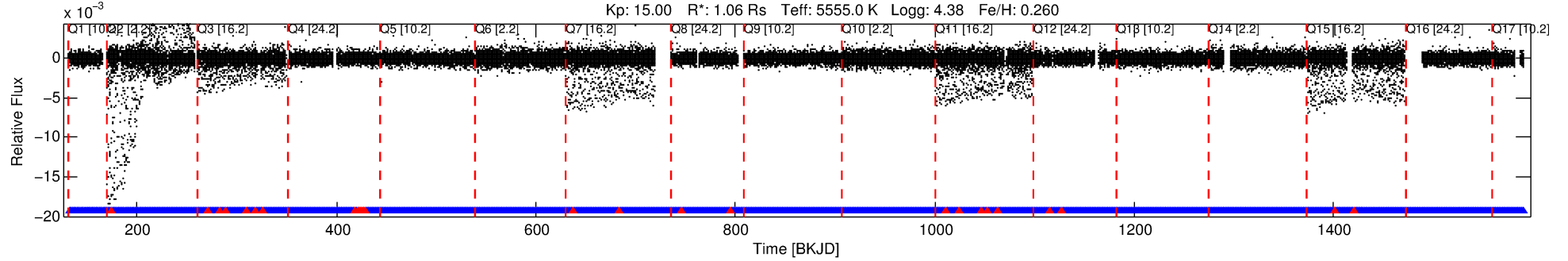
## Ephemeris Match Information For 003344419-01

| TCE (1)      | KIC     | Parent (2)    | Parent KIC | $P_1:P_2$ | Dist ( $''$ ) | $\Delta$ Row | $\Delta$ Col | $m_2$ | $m_1$ | $D_2/D_1$ | Mechanism  | Flag | $\sigma_P$ | $\sigma_T$ |
|--------------|---------|---------------|------------|-----------|---------------|--------------|--------------|-------|-------|-----------|------------|------|------------|------------|
| 003344419-01 | 3344419 | 003344427-pri | 3344427    | 2:1       | 11.4          | -3           | 0            | 15.83 | 14.99 | 850.50    | Direct-PRF | 0    | 0.18       | 0.19       |

**Notes:**  $P_1:P_2$  is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column.  $m_2$  and  $m_1$  are the magnitudes of the parent and child.  $D_2/D_1$  is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 3344419 Candidate: 1 of 2 Period: 1.304 d  
KOI: K01181 Corr: No Ephemeris Match



## DV Fit Results:

Period = 1.30357 [0.00000] d  
Epoch = 132.4563 [0.0007] BKJD  
Rp/R\* = 0.0215 [0.0077]  
a/R\* = 4.24 [6.03]  
b = 0.87 [0.43]  
Seff = 1791.68 [625.89]  
Teq = 1659 [145] K  
Rp = 2.49 [1.11] Re  
a = 0.0232 [0.0052] AU  
Ag = 4.11 [3.29] [0.95 $\sigma$ ]  
Teffp = 3651 [675] K [2.89 $\sigma$ ]

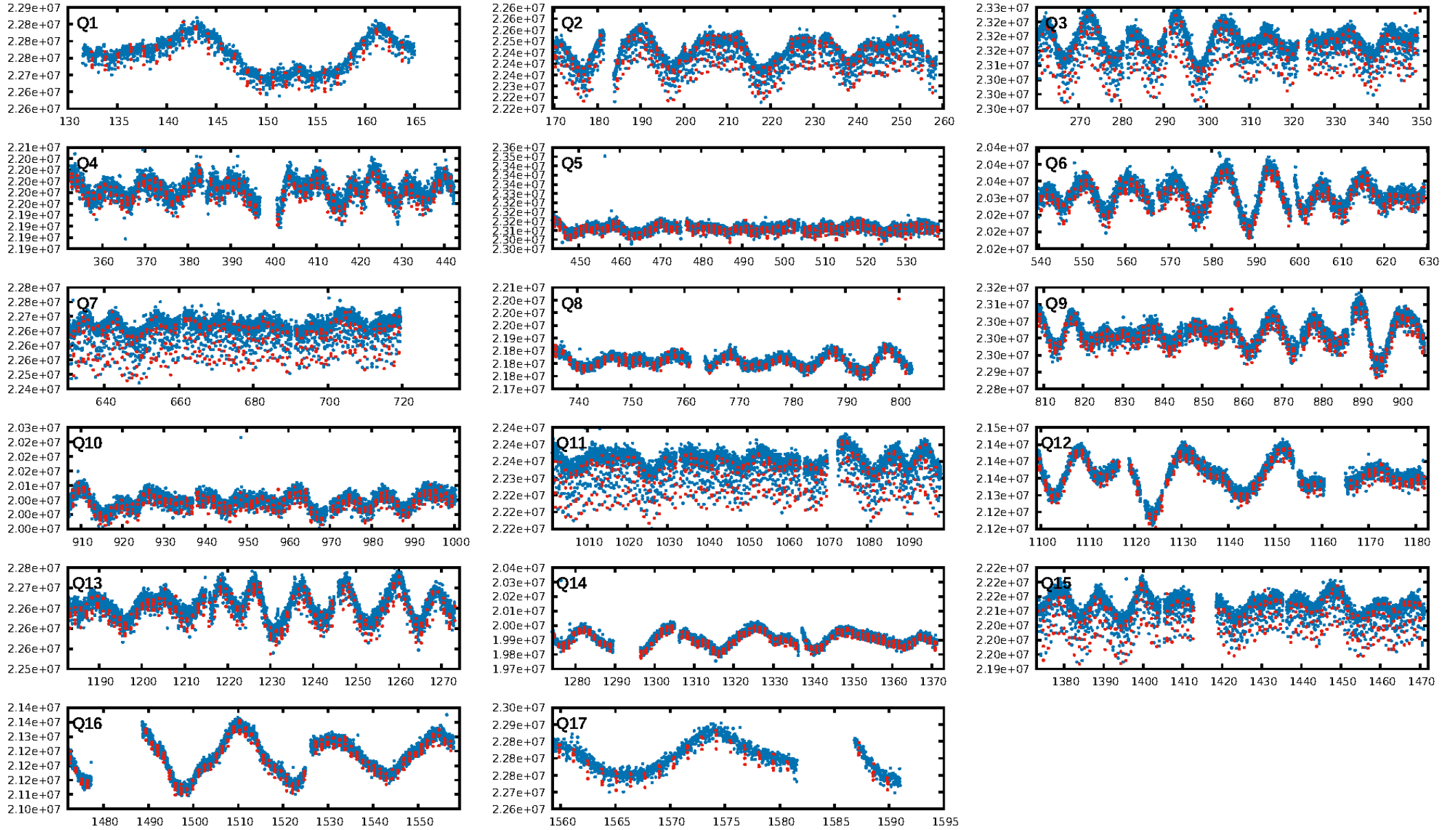
## DV Diagnostic Results:

**ShortPeriod-sig: 0.0% [0.00 $\sigma$ ]**  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.97 [949/977]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
**OotOffset-rm: 4.811 arcsec [10.28 $\sigma$ ]**  
**KicOffset-rm: 5.179 arcsec [11.73 $\sigma$ ]**  
OotOffset-st: 4/0/0/5 [9]  
KicOffset-st: 4/0/0/5 [9]  
DiffImageQuality-fgm: 1.00 [9/9]  
DiffImageOverlap-fno: 1.00 [17/17]

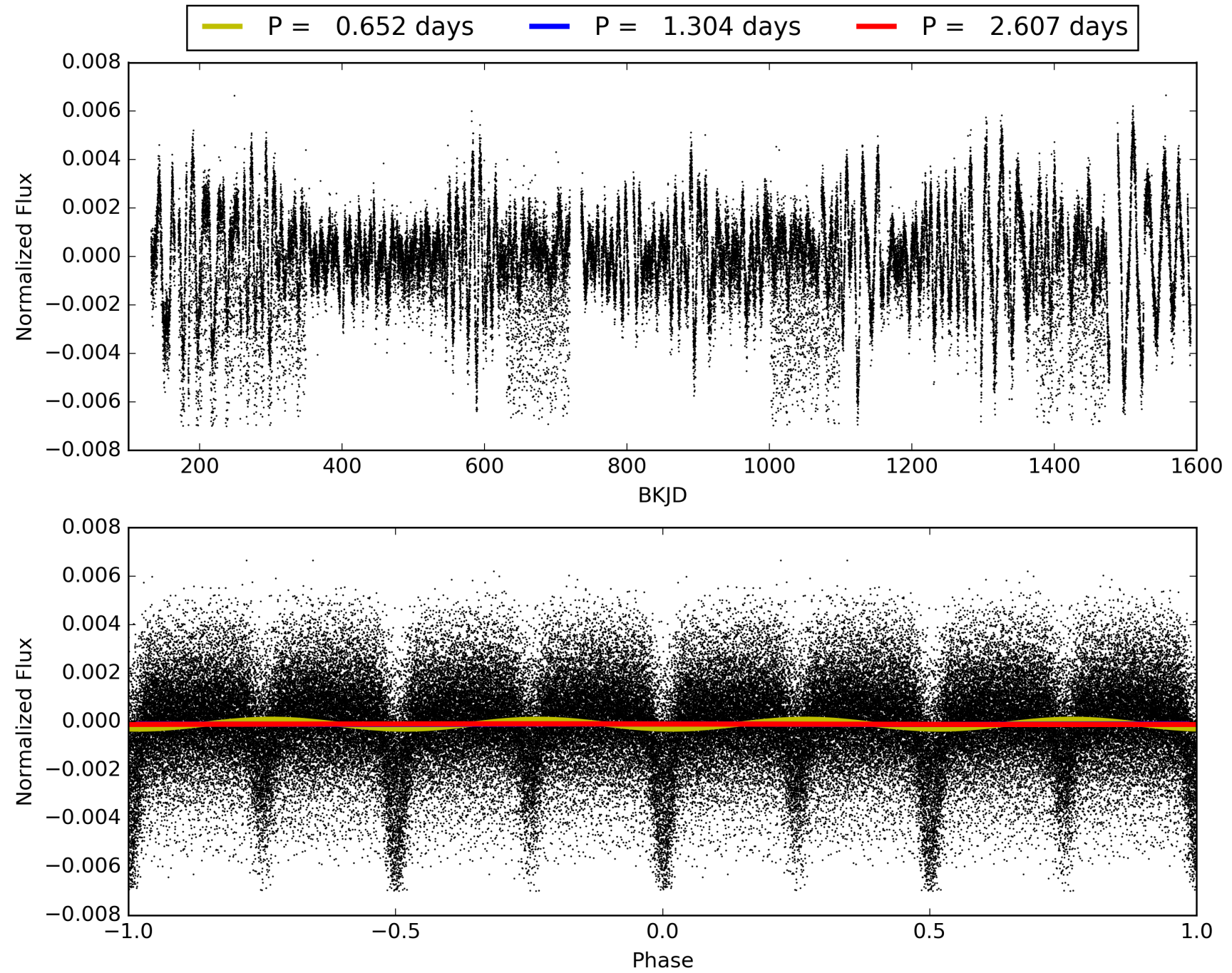
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 09:32:42 Z

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

# TCE 003344419-01, PDC Light Curves

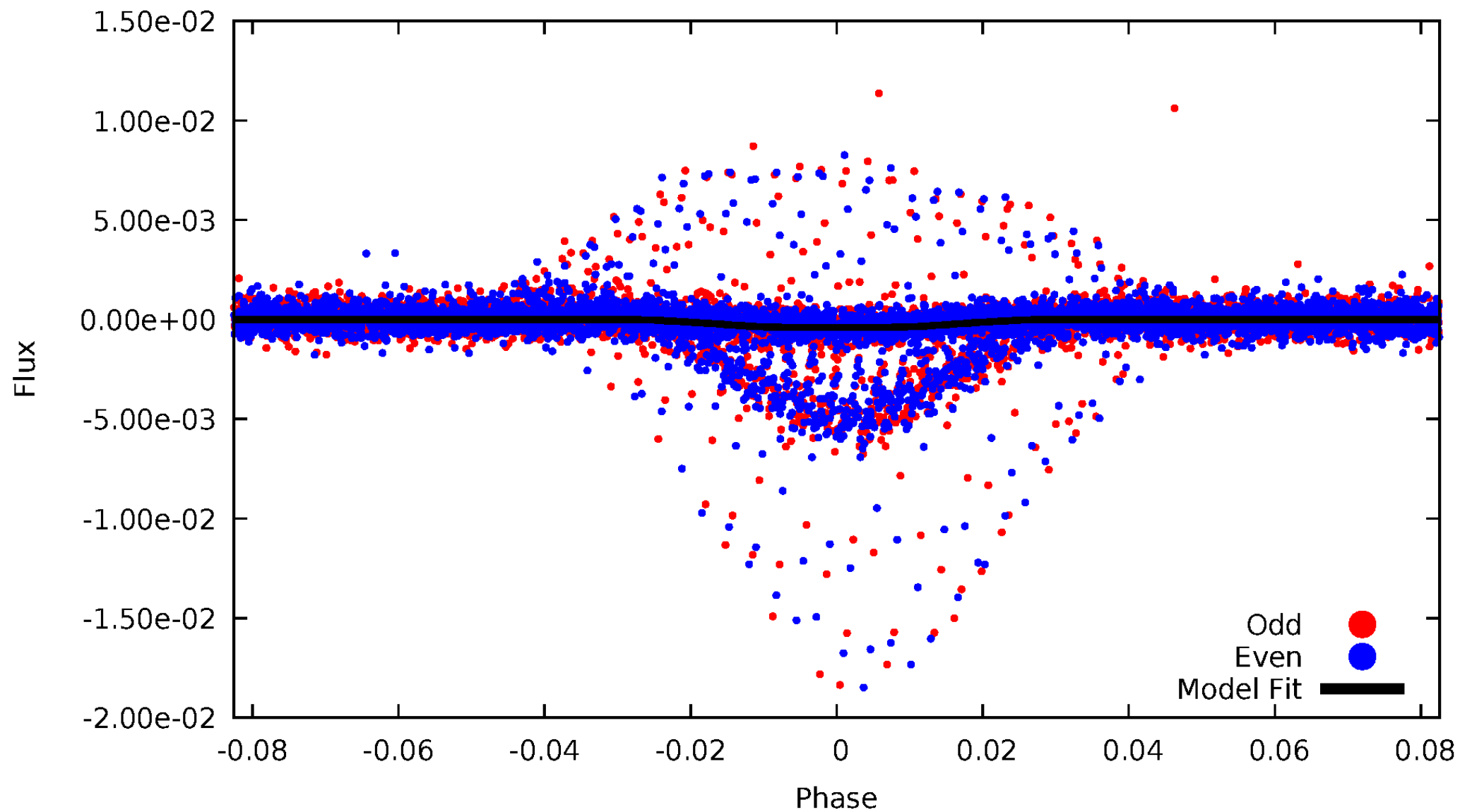


TCE 003344419-01



# DV Odd/Even

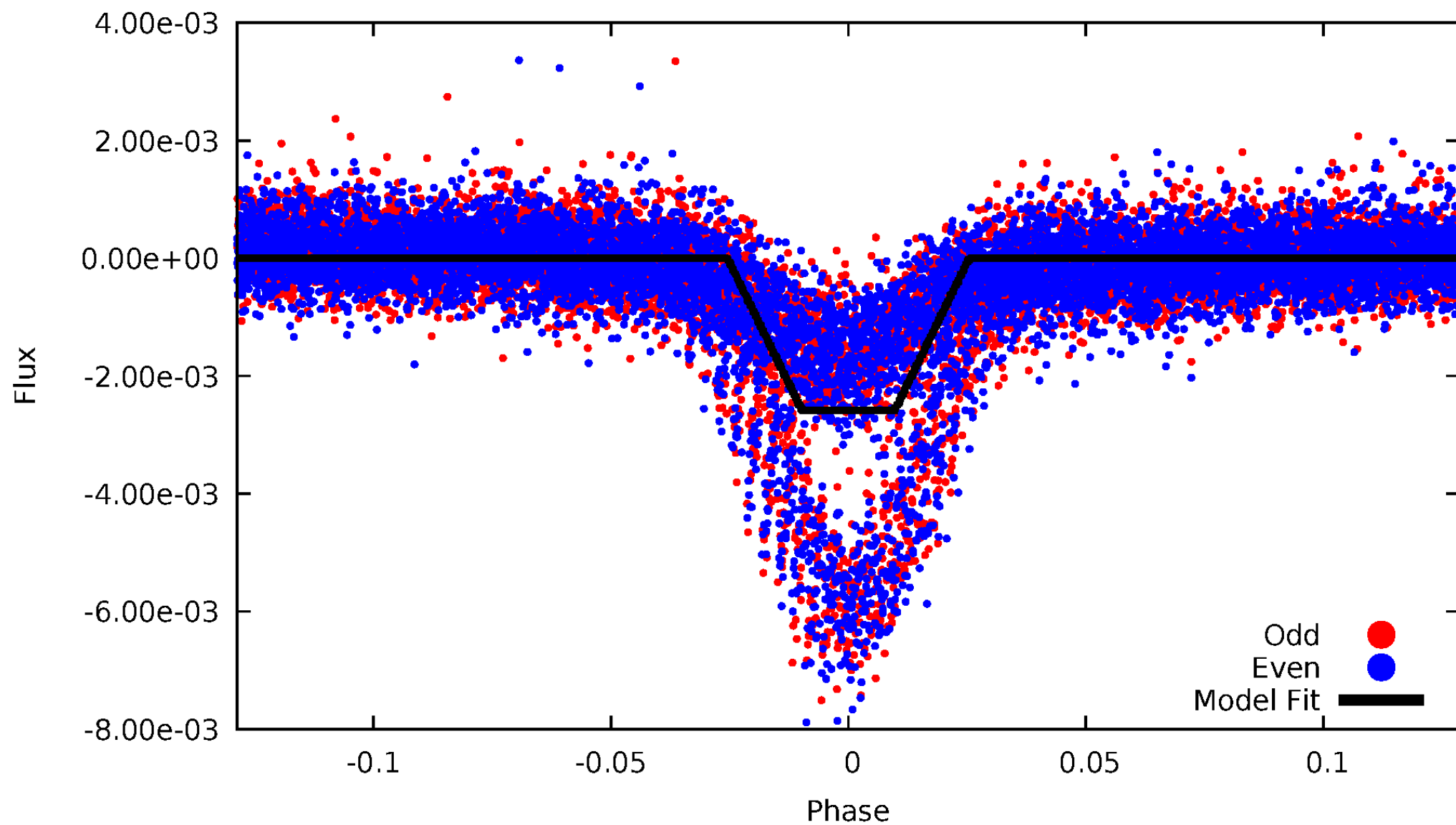
TCE 003344419-01





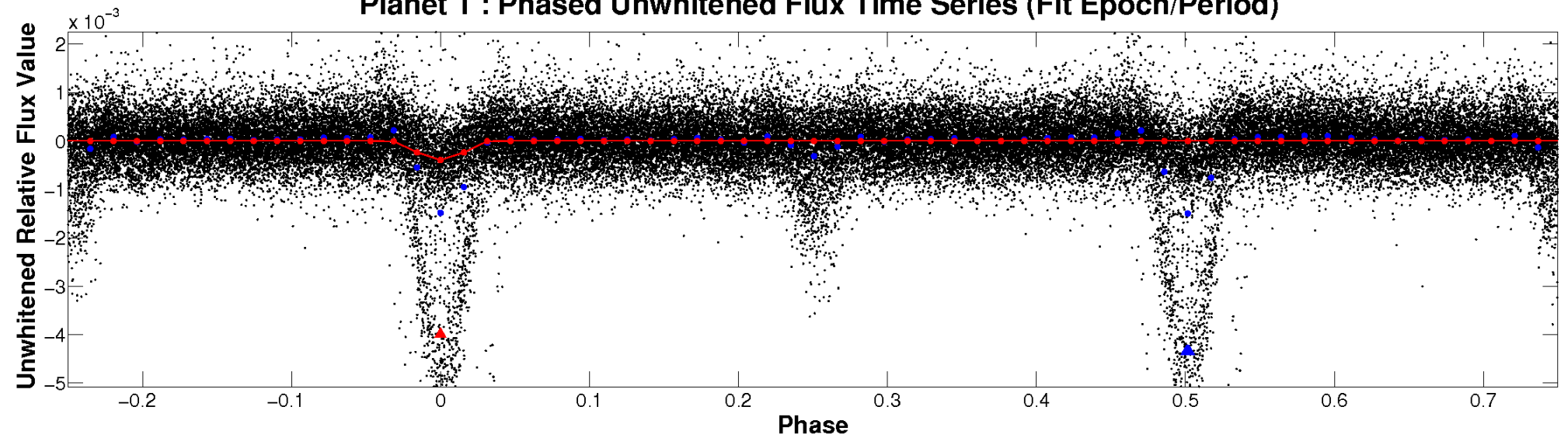
# ALT Odd/Even

TCE 003344419-01

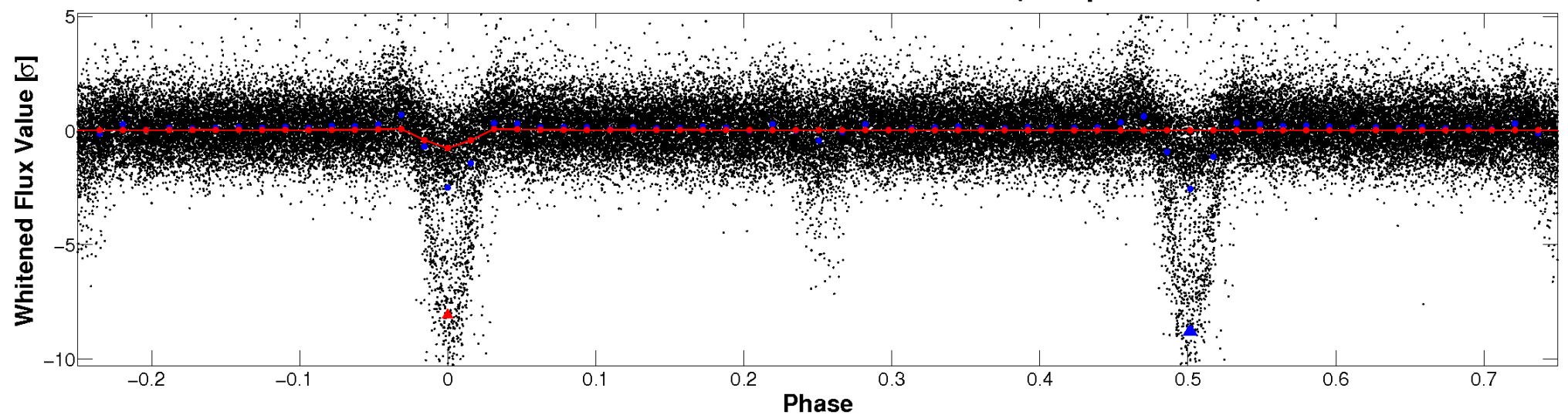


# Non-Whitened Vs. Whitened Light Curve

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

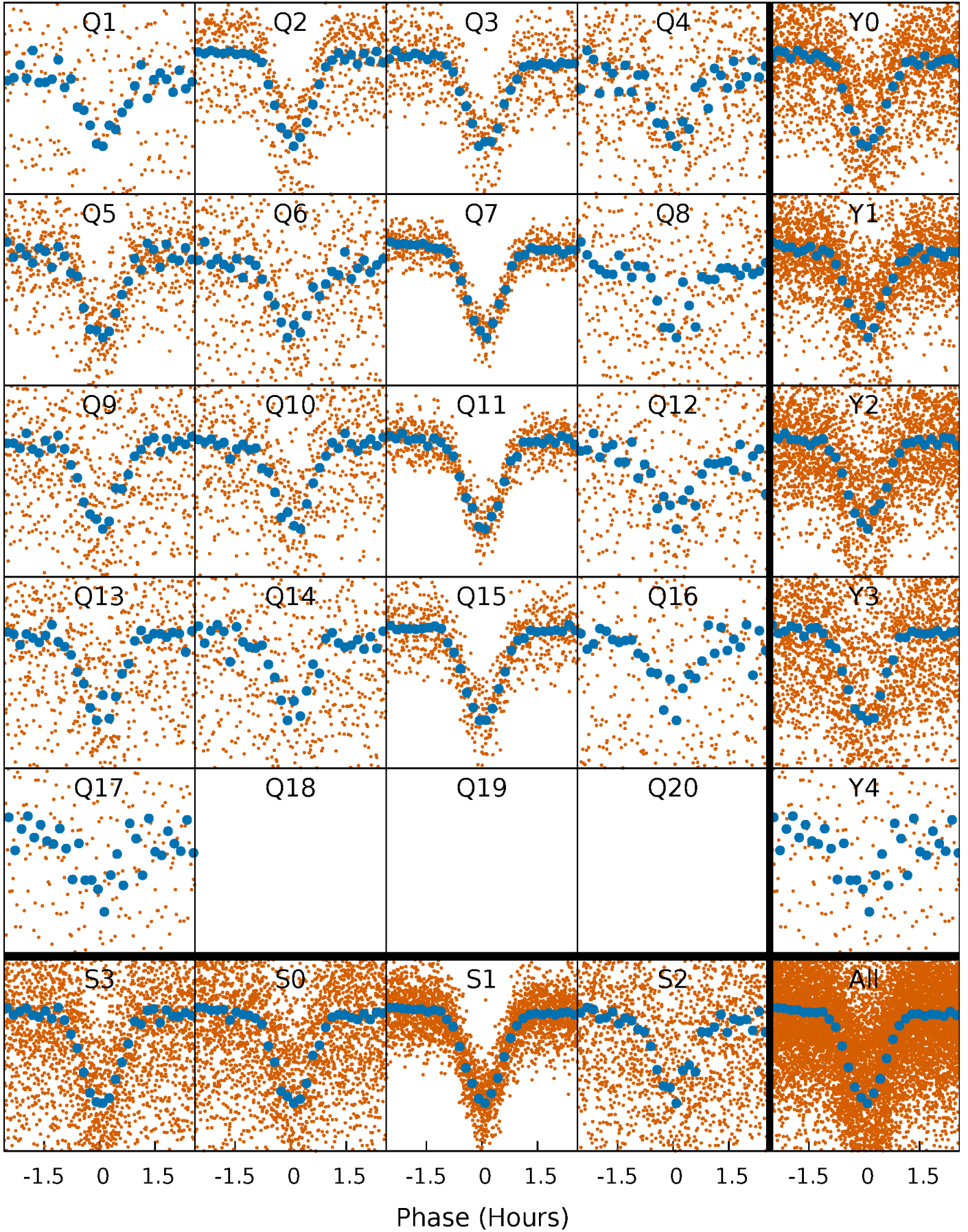


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

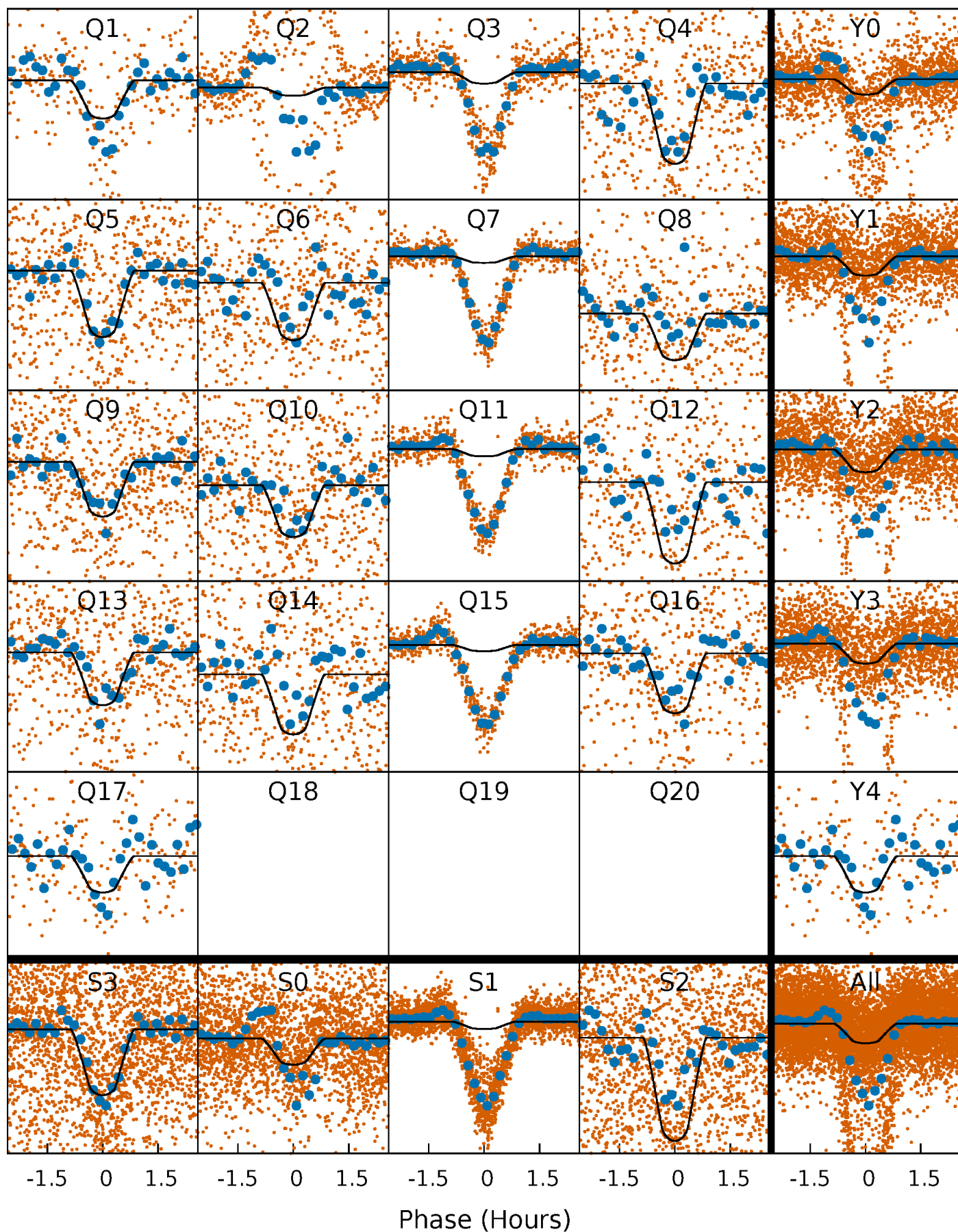
TCE 003344419-01   P= 1.303571 Days    $T_0=132.456309$  (BKJD)





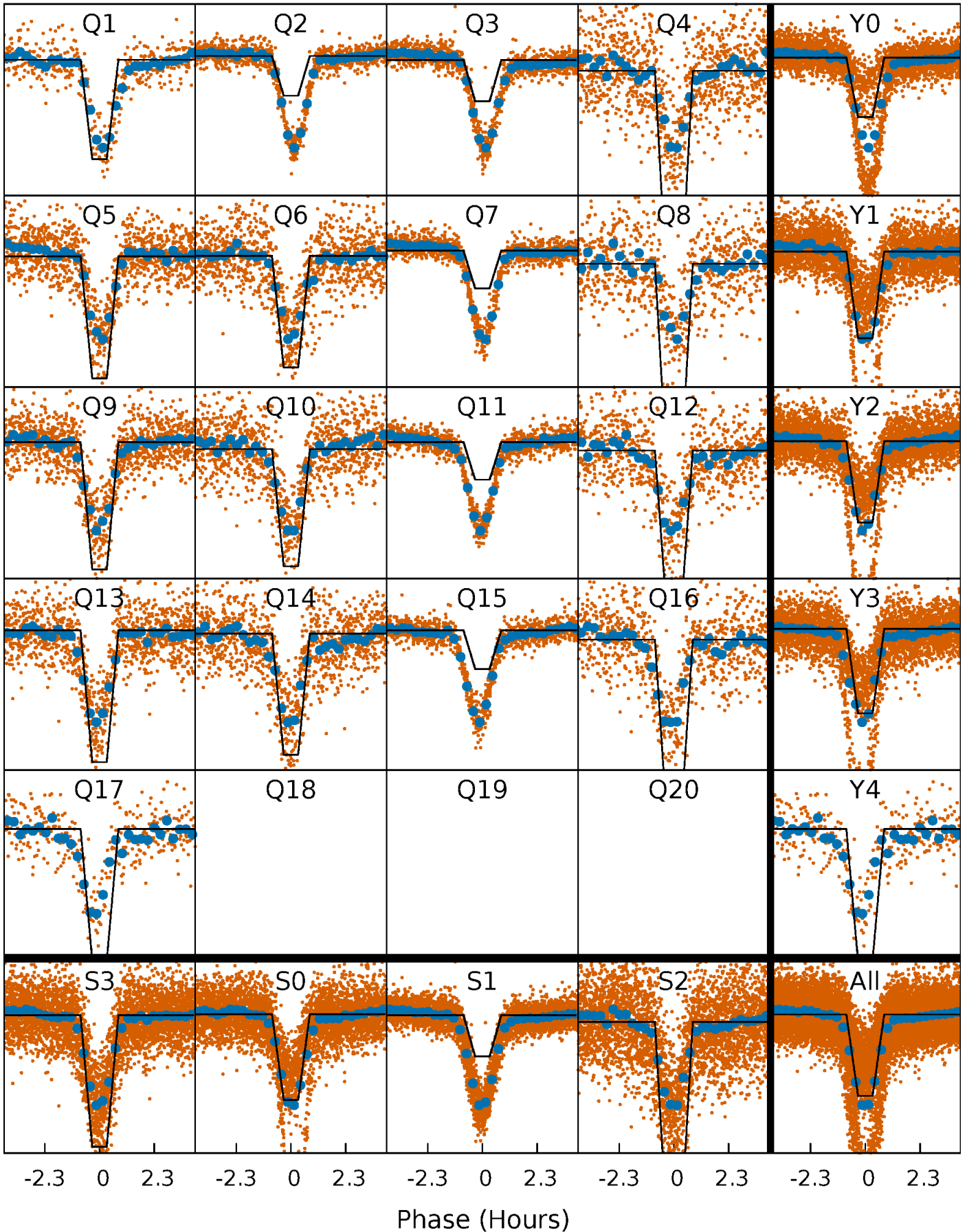
# DV Quarter-Phased Transit Curves

TCE 003344419-01 P= 1.303571 Days  $T_0=132.456309$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

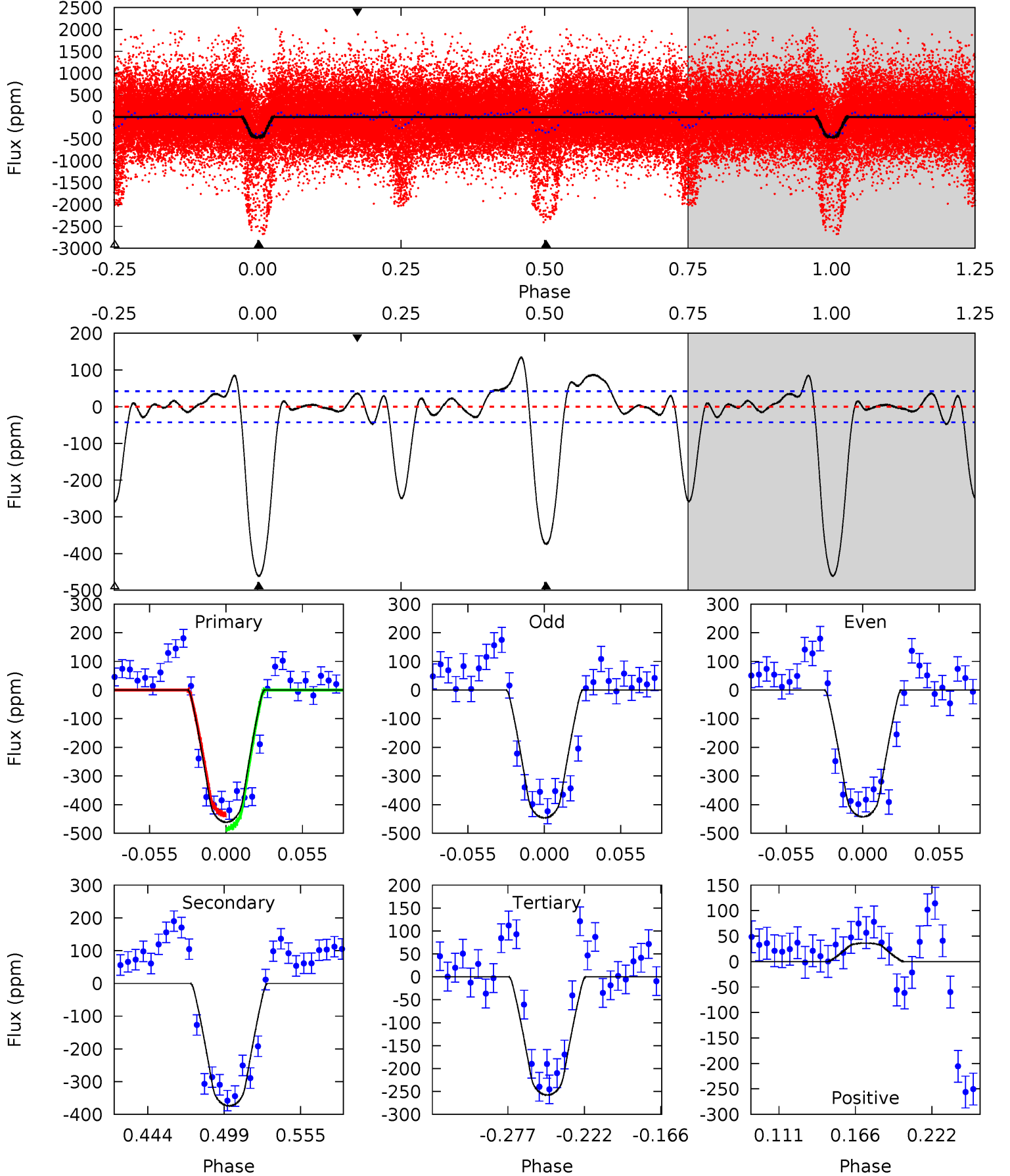
TCE 003344419-01 P= 1.303582 Days  $T_0=132.453443$  (BKJD)



# DV Model-Shift Uniqueness Test

003344419-01, P = 1.303571 Days, E = 131.152738 Days

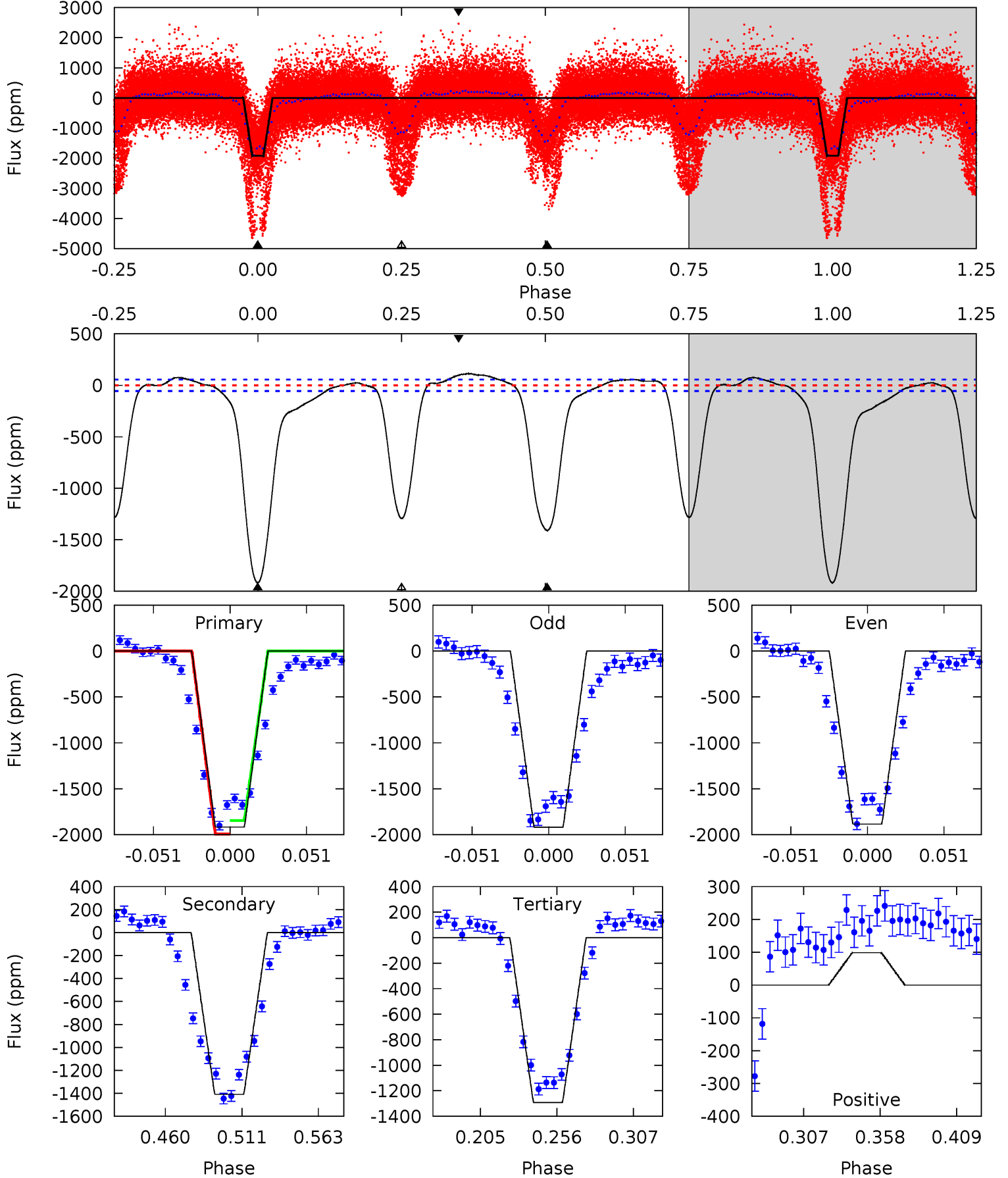
| Pri  | Sec  | Ter  | Pos  | FA <sub>1</sub> | FA <sub>2</sub> | F <sub>Red</sub> | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM  | Shape | TAT  |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 51.2 | 41.5 | 28.6 | 4.02 | 4.69            | 1.92            | 7.24             | 22.6    | 47.2    | 12.9    | 37.5    | 0.19    | 3.09 | 0.23  | 2.75 |



# Alt Model-Shift Uniqueness Test

003344419-01, P = 1.303582 Days, E = 131.149861 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 |
|-------|-------|-------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 163.4 | 120.1 | 110.2 | 8.40 | 4.70            | 1.95            | 29.1             | 53.2    | 155.0   | 9.91    | 111.7   | 1.45    | 1.50 | 0.06  | 0   |





### Stellar Parameters For KIC 003344419

|        | $T_{\text{eff}} (K)$ | $\log(g)$                 | [Fe/H]                    | $R (R_{\odot})$           | $M (M_{\odot})$           | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
|        | $5555^{+166}_{-166}$ | $4.375^{+0.135}_{-0.180}$ | $0.260^{+0.200}_{-0.300}$ | $1.061^{+0.282}_{-0.173}$ | $0.975^{+0.094}_{-0.085}$ | $1.148^{+0.652}_{-0.562}$                 |
|        | +3%/-3%              | +3%/-4%                   | +77%/-115%                | +27%/-16%                 | +10%/-9%                  | +57%/-49%                                 |
| Source | PHO1                 | 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 003344419-01 / KOI

| Detrend | Depth (ppm)    | $R_p (R_{\oplus})$     | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$  | $A_{\text{obs}}$ |
|---------|----------------|------------------------|----------------------|-----------------------|------------------|
| DV      | $-374 \pm 9$   | $2.46^{+0.95}_{-0.85}$ | $2331^{+148}_{-133}$ | $5326^{+1242}_{-681}$ | $18^{+24}_{-9}$  |
| Alt.    | $-1409 \pm 12$ | $5.90^{+1.18}_{-0.98}$ | $2338^{+153}_{-143}$ | $4871^{+372}_{-317}$  | $12^{+5}_{-4}$   |

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

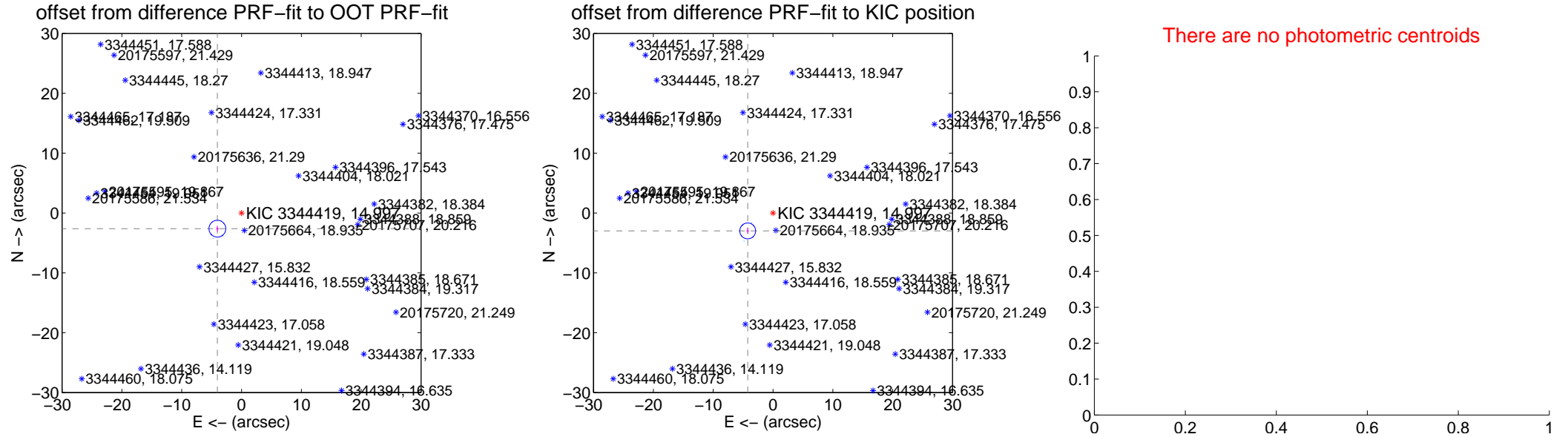
## DV Centroid Data

Supplemental centroid analysis for 003344419-01. Kepler magnitude: 15.00. Transit SNR 28.99

There are 9 quarters with good PRF difference image offsets

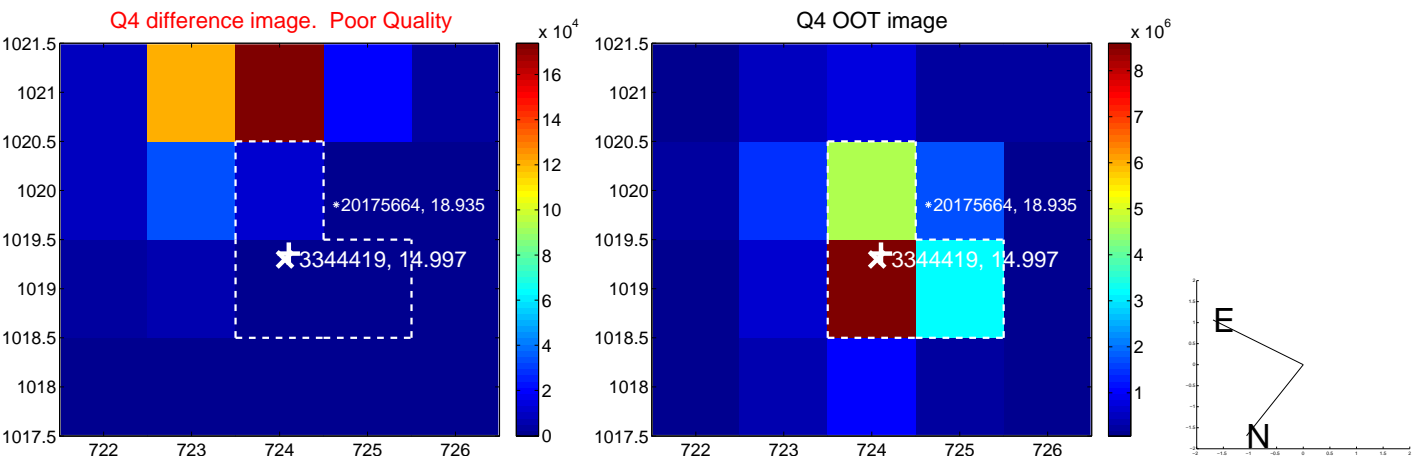
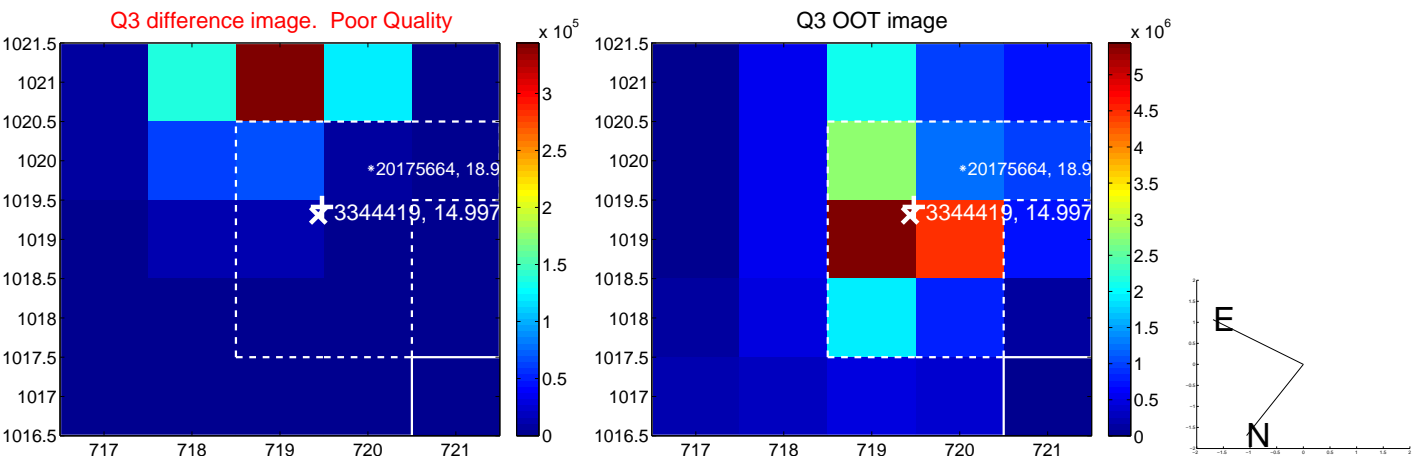
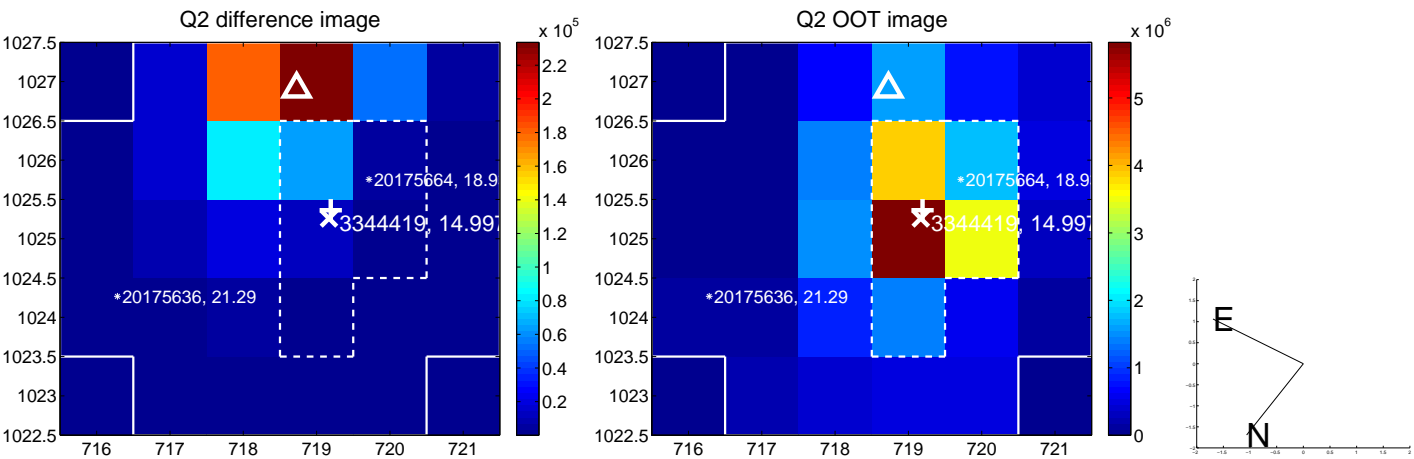
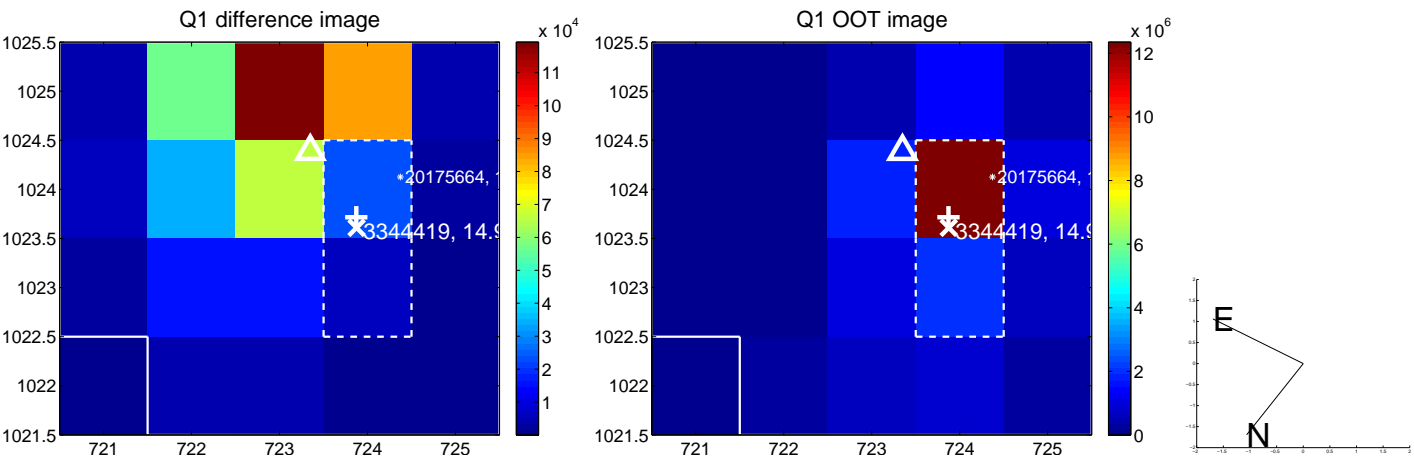
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec       |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT          | 4.811 $\pm$ 0.468  | 10.28               | 4.037 $\pm$ 0.248 | -2.619 $\pm$ 0.490 |
| PRF-fit source offset from KIC position | 5.179 $\pm$ 0.442  | 11.73               | 4.228 $\pm$ 0.212 | -2.990 $\pm$ 0.477 |
| photometric centroid source offset      | —                  | —                   | —                 | —                  |

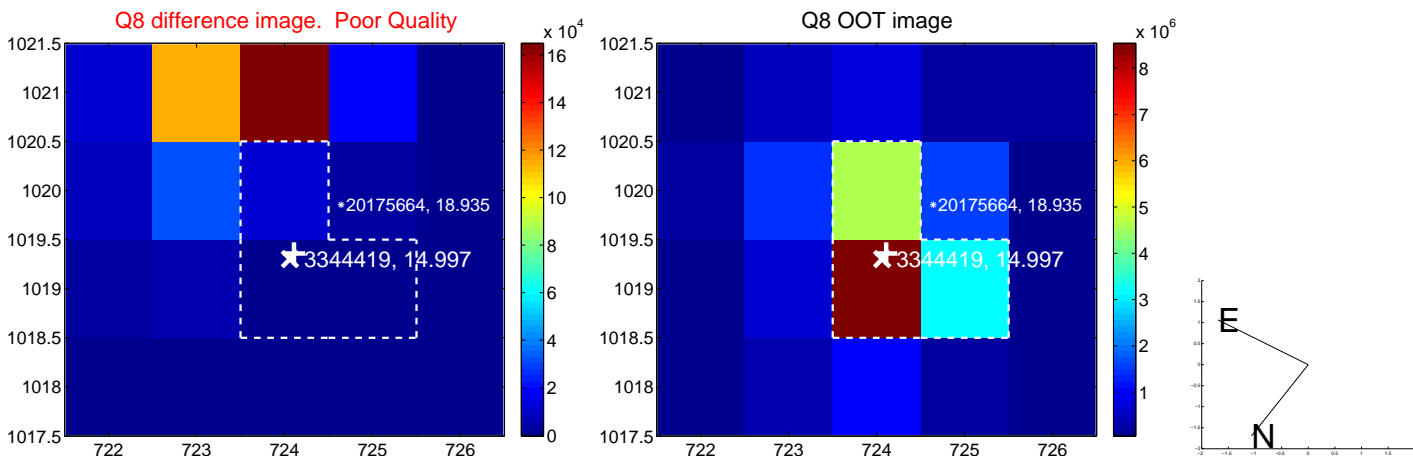
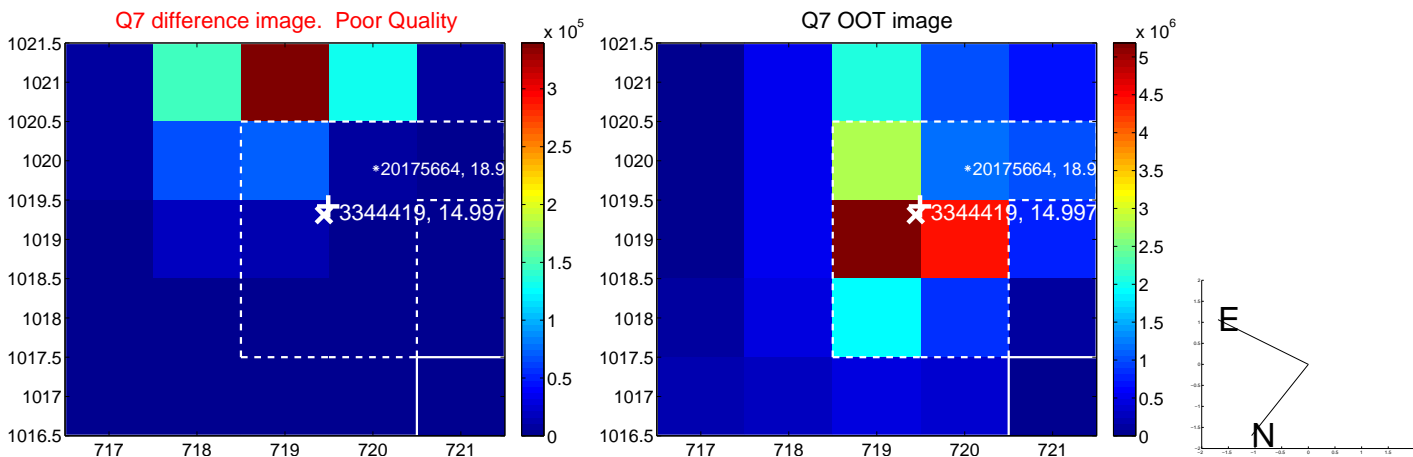
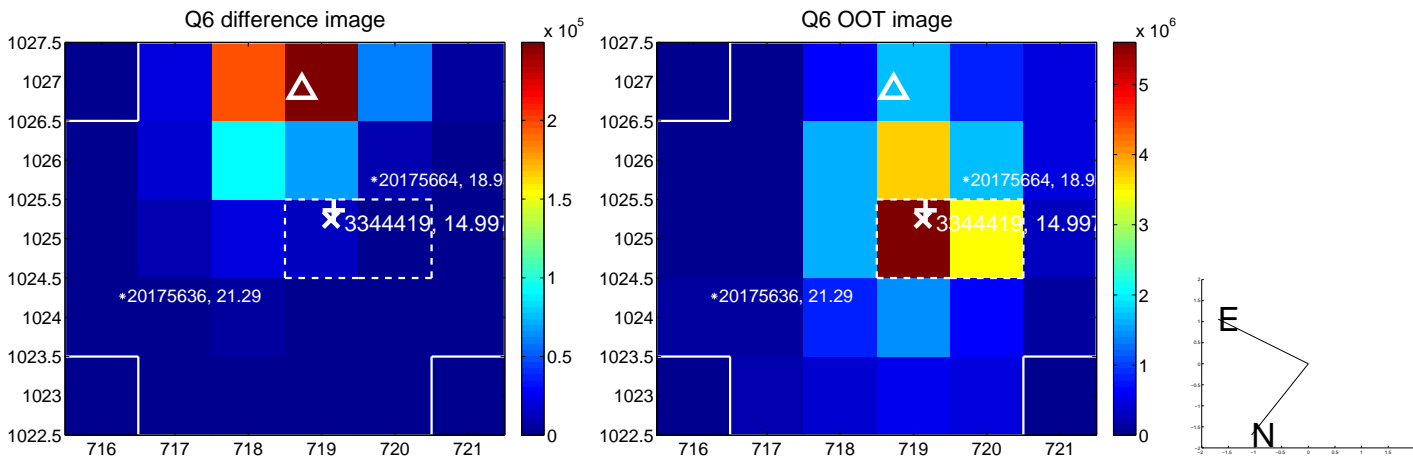
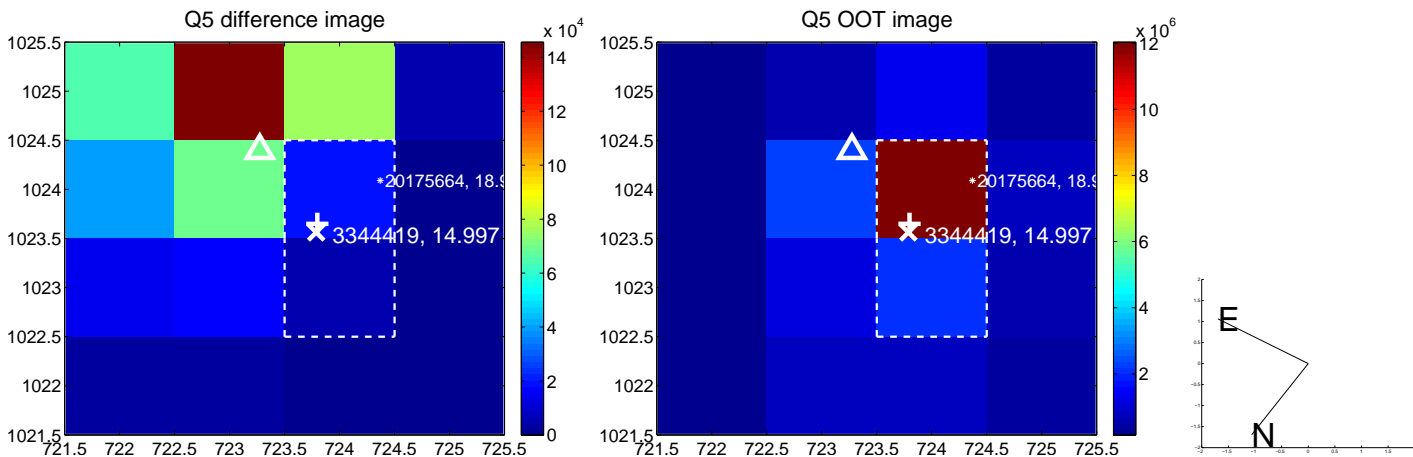


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

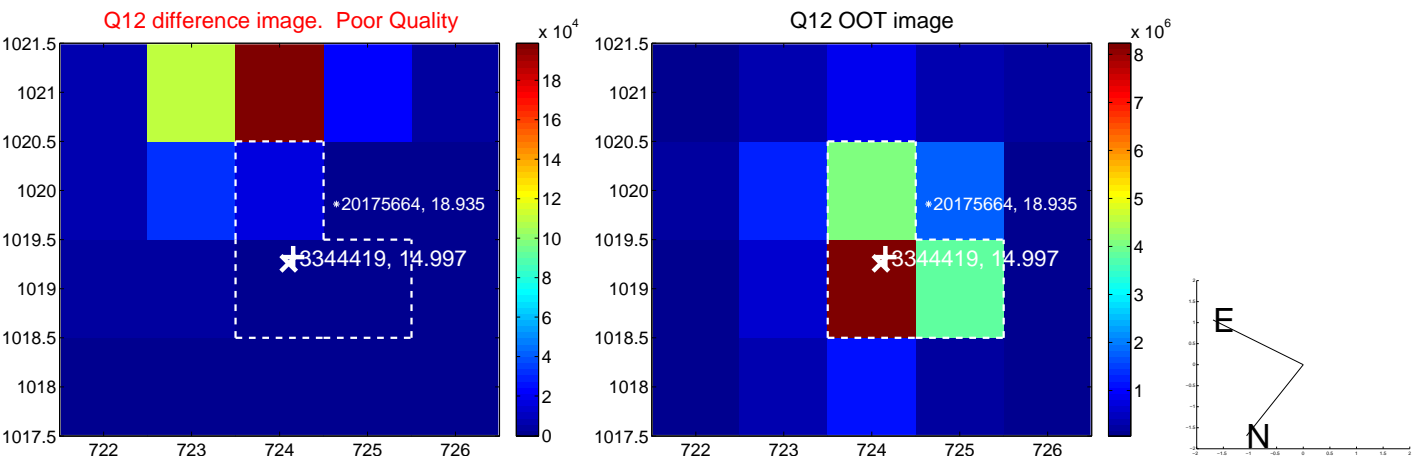
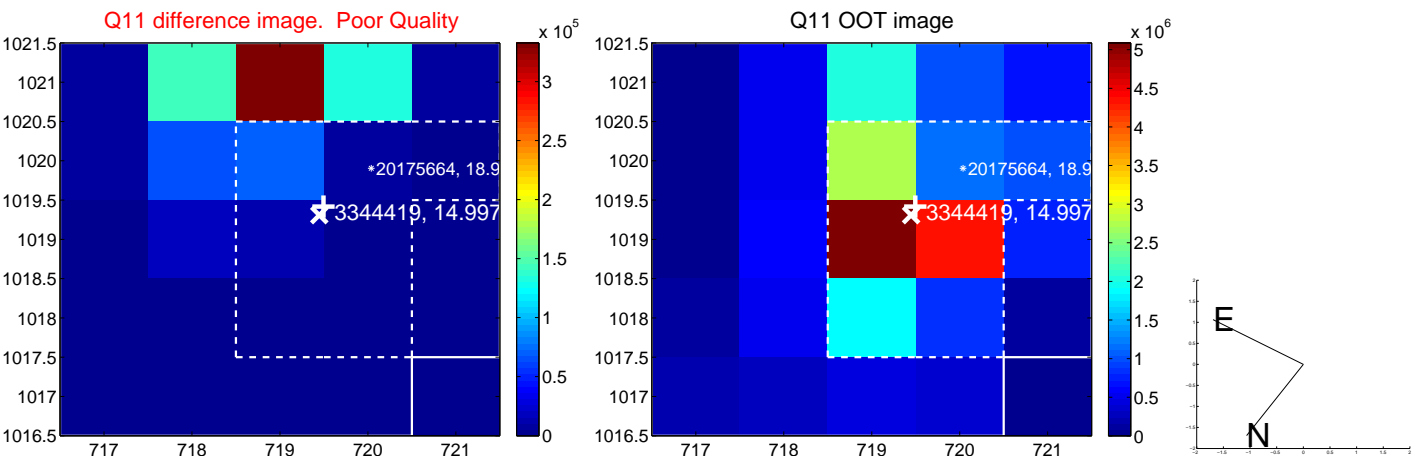
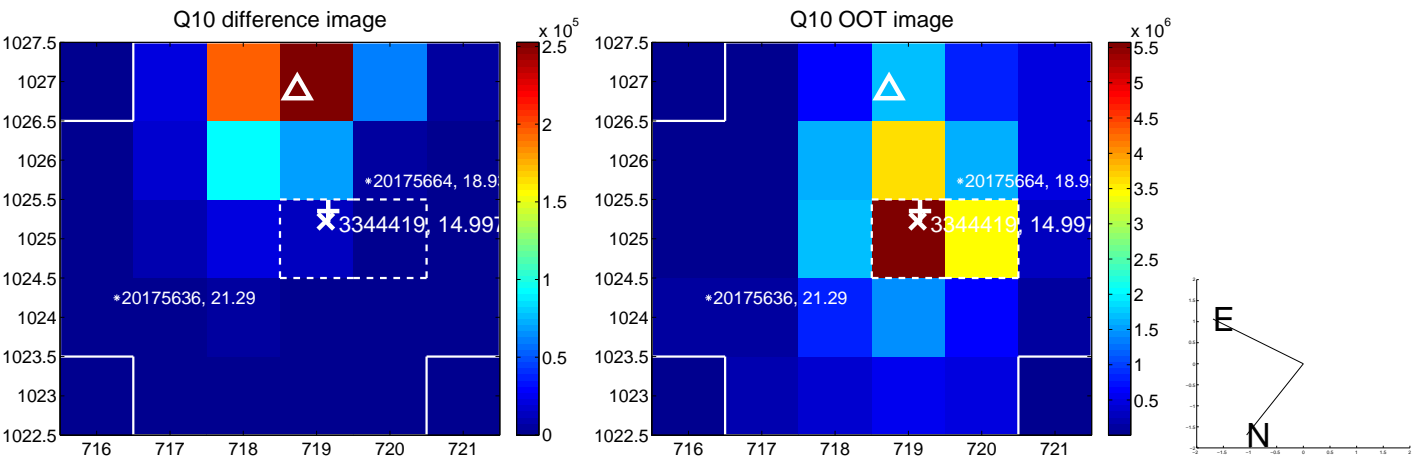
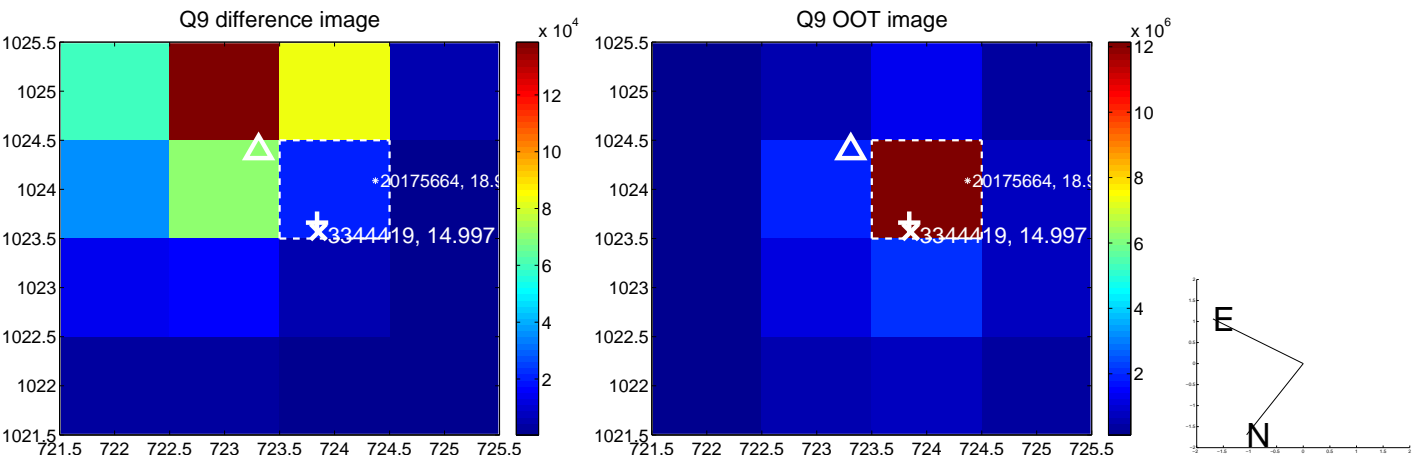


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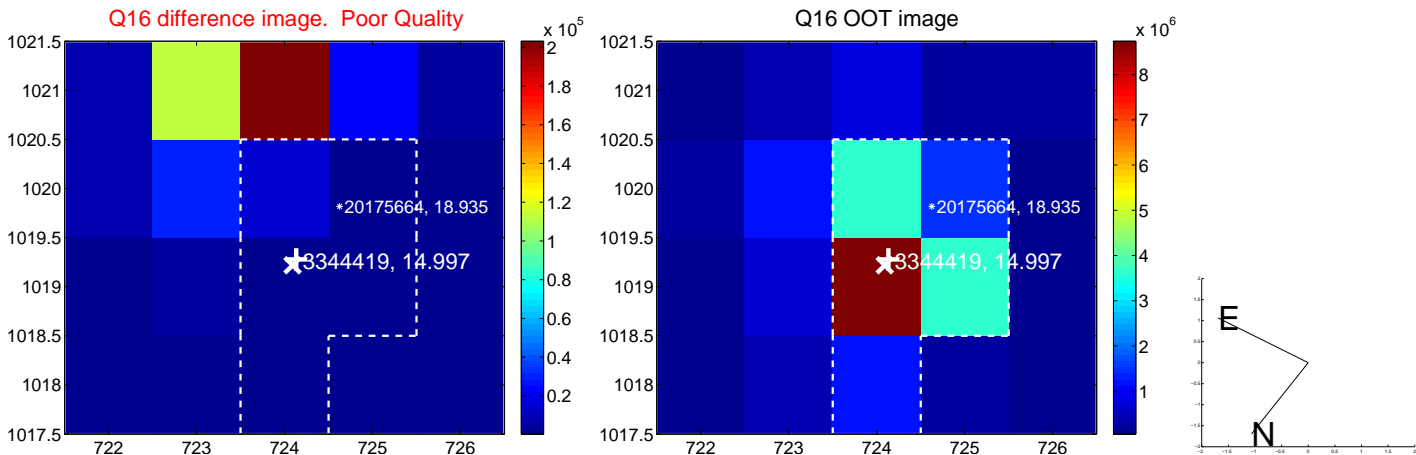
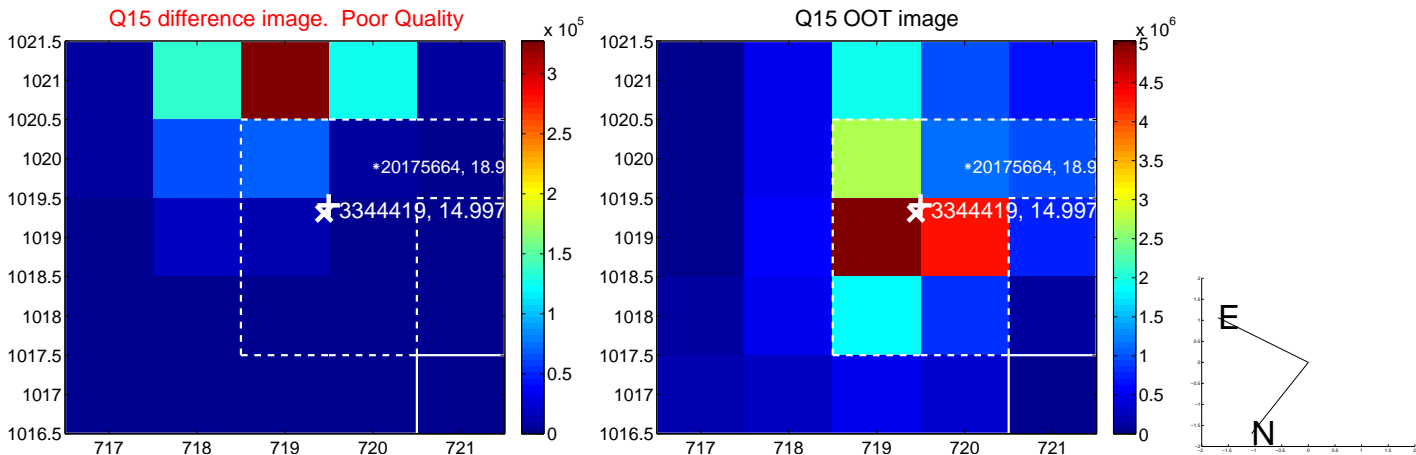
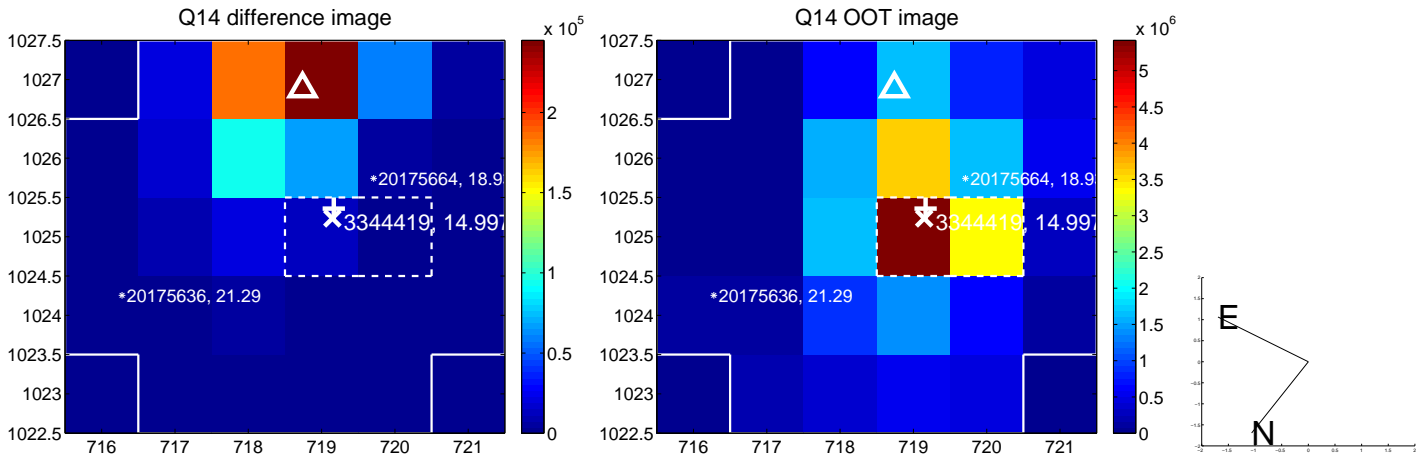
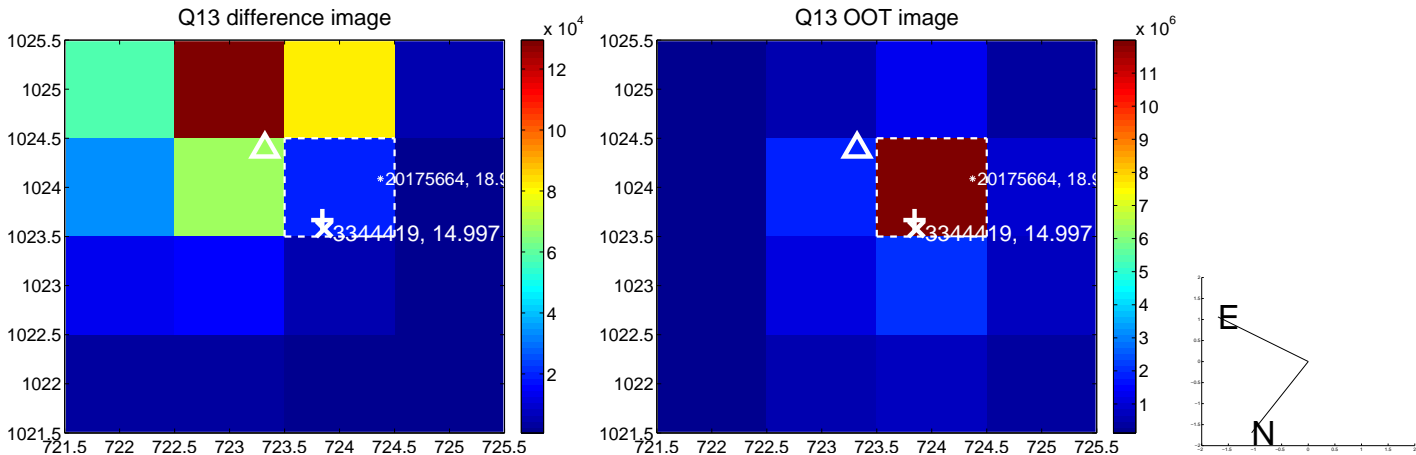




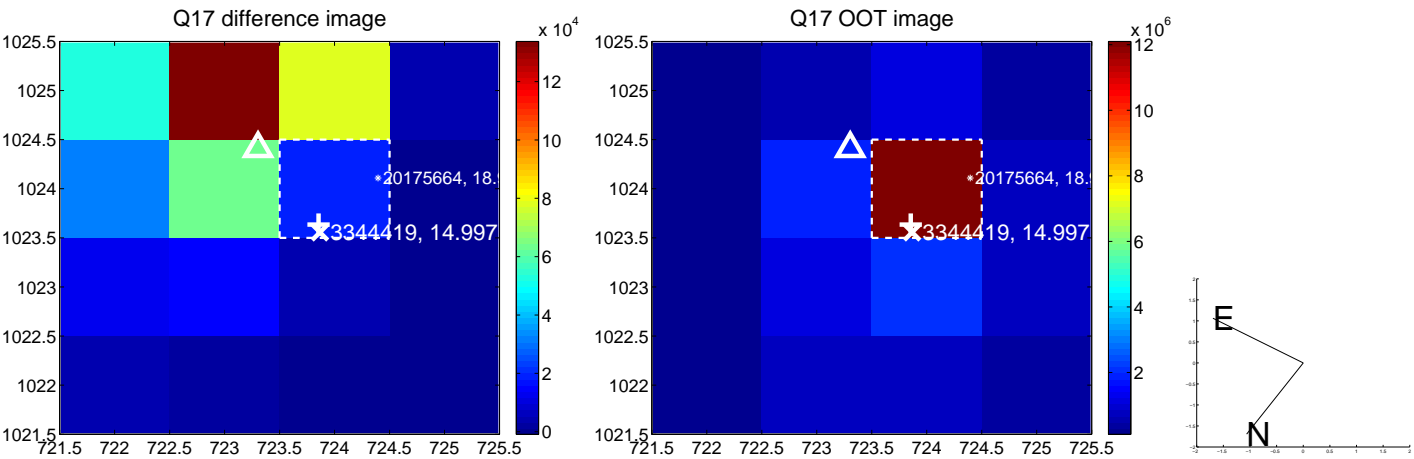
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

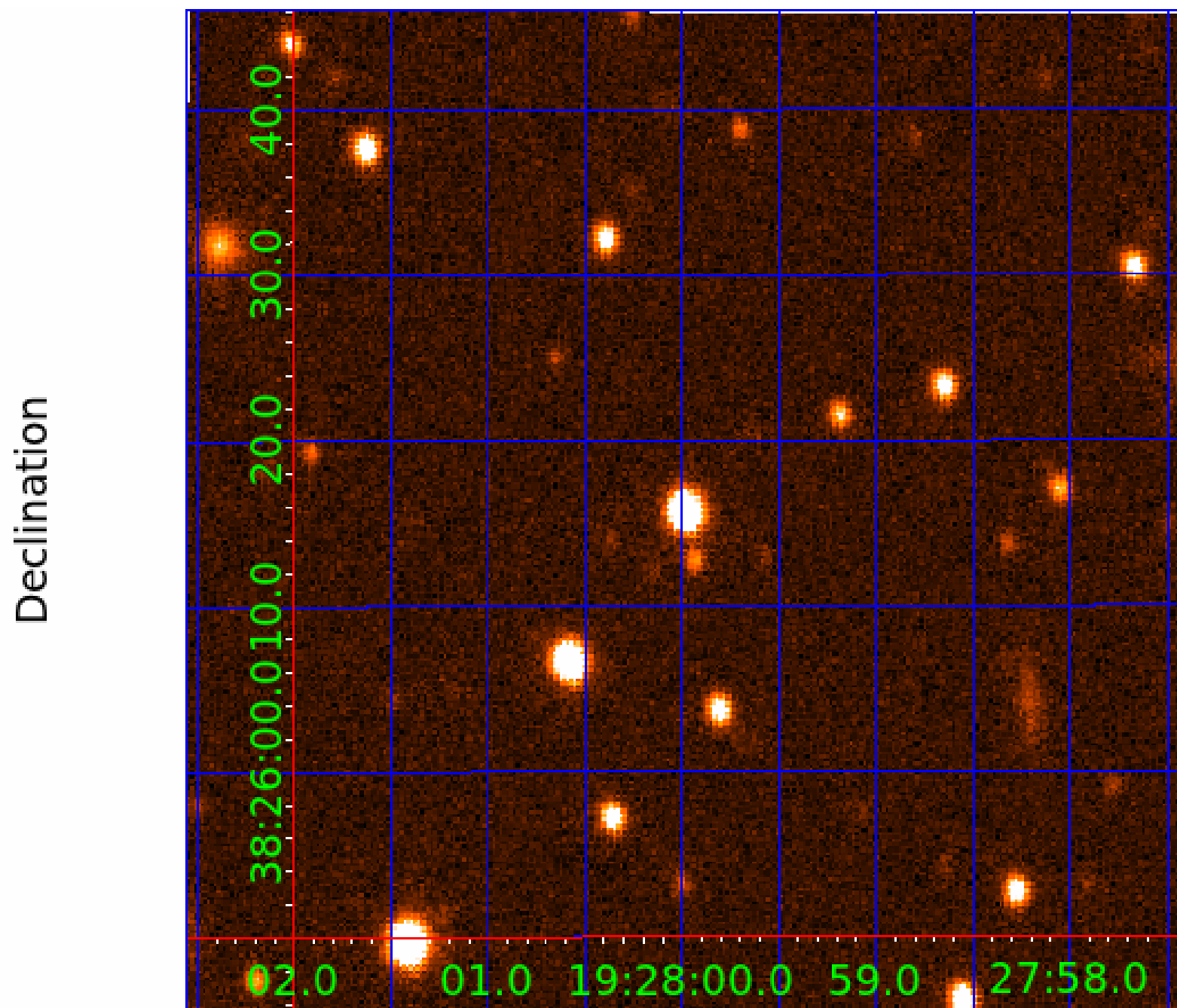


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image





# KIC 003344419

## 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) | $R_p$ ( $R_{\oplus}$ ) | $S_p$ ( $S_{\oplus}$ ) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 003344419-01 | OBS      | No      | 1.303571      | 132.456309   | 399.7       | 1.291            | 33.1 | 29.0 | 1.06                        | 5555            | 2.49                   | 1791.68                |
| 003344419-02 | OBS      | 1181.01 | 1.303569      | 131.807811   | 378.1       | 1.399            | 87.7 | 30.0 | 1.06                        | 5555            | 2.31                   | 1791.69                |

## Robovetter Results

| TCE          | Run Type | Disp | Score | N | S | C | E | Comments  |
|--------------|----------|------|-------|---|---|---|---|---|
| 003344419-01 | OBS      | FP   | 0.00  | 1 | 0 | 1 | 1 | MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET—EPHEM_MATCH        |
| 003344419-02 | OBS      | FP   | 0.00  | 1 | 0 | 0 | 1 | MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_NOFITS—EPHEM_MATCH |

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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.

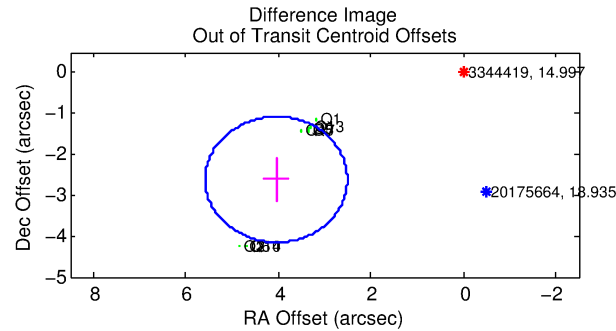
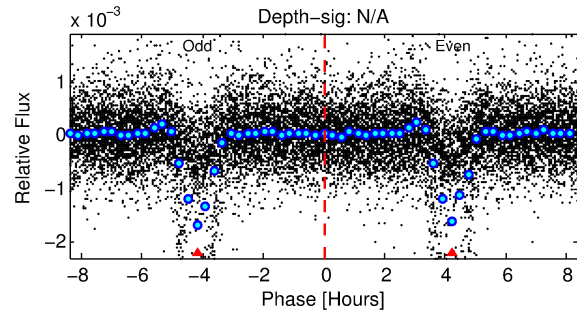
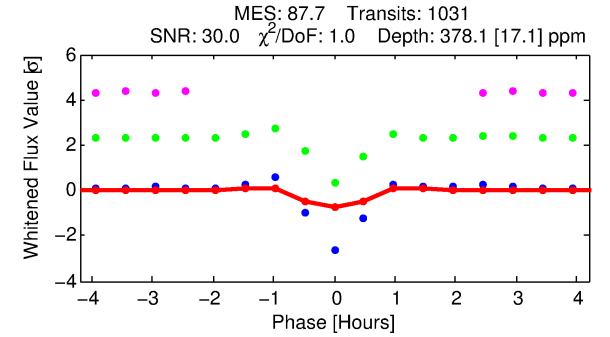
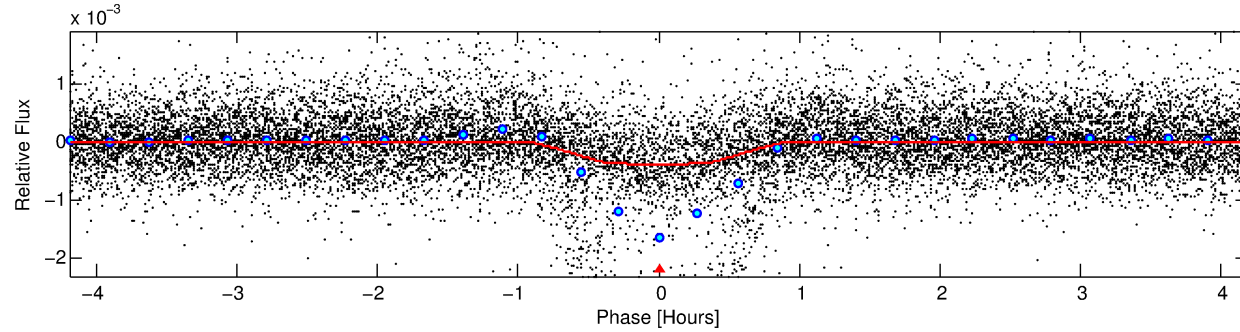
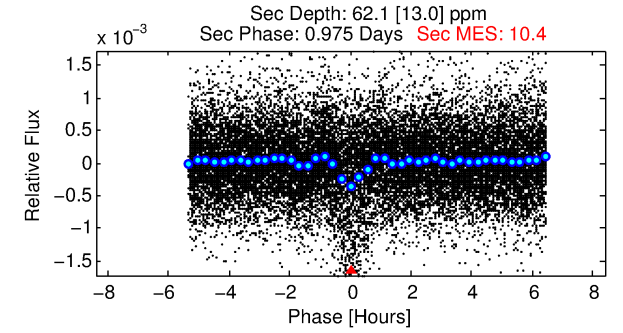
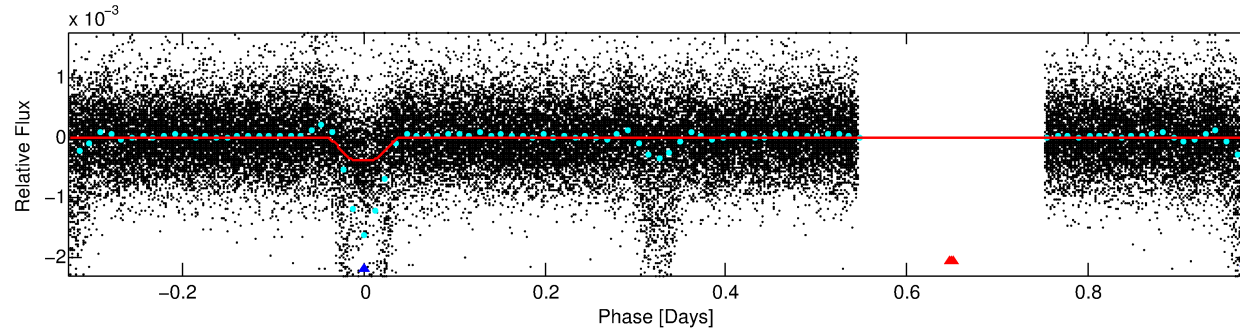
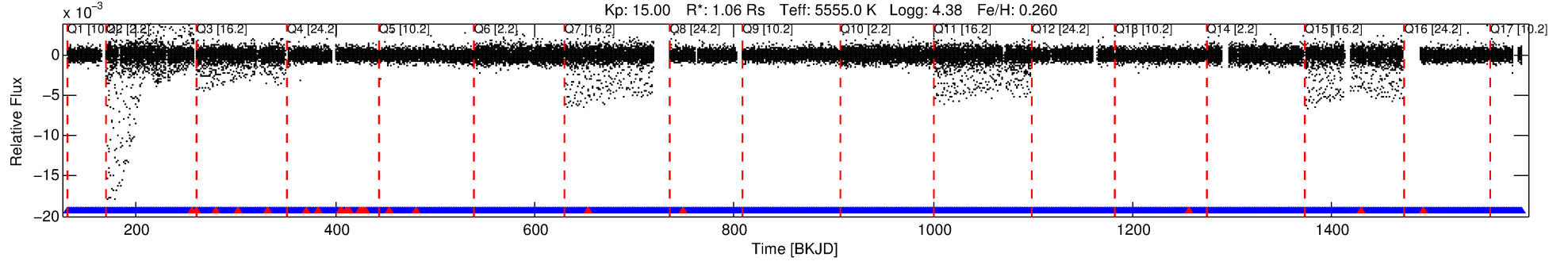
## Ephemeris Match Information For 003344419-02

| TCE (1)      | KIC     | Parent (2) | Parent KIC | $P_1:P_2$ | Dist ( $''$ ) | $\Delta$ Row | $\Delta$ Col | $m_2$ | $m_1$ | $D_2/D_1$ | Mechanism  | Flag | $\sigma_P$ | $\sigma_T$ |
|--------------|---------|------------|------------|-----------|---------------|--------------|--------------|-------|-------|-----------|------------|------|------------|------------|
| 003344419-02 | 3344419 | 3764.01    | 3344427    | 1:1       | 11.4          | -3           | 0            | 15.83 | 14.99 | 1002.80   | Direct-PRF | 0    | 0.09       | 0.07       |

**Notes:**  $P_1:P_2$  is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column.  $m_2$  and  $m_1$  are the magnitudes of the parent and child.  $D_2/D_1$  is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 3344419 Candidate: 2 of 2 Period: 1.304 d  
KOI: K01181 Corr: No Ephemeris Match



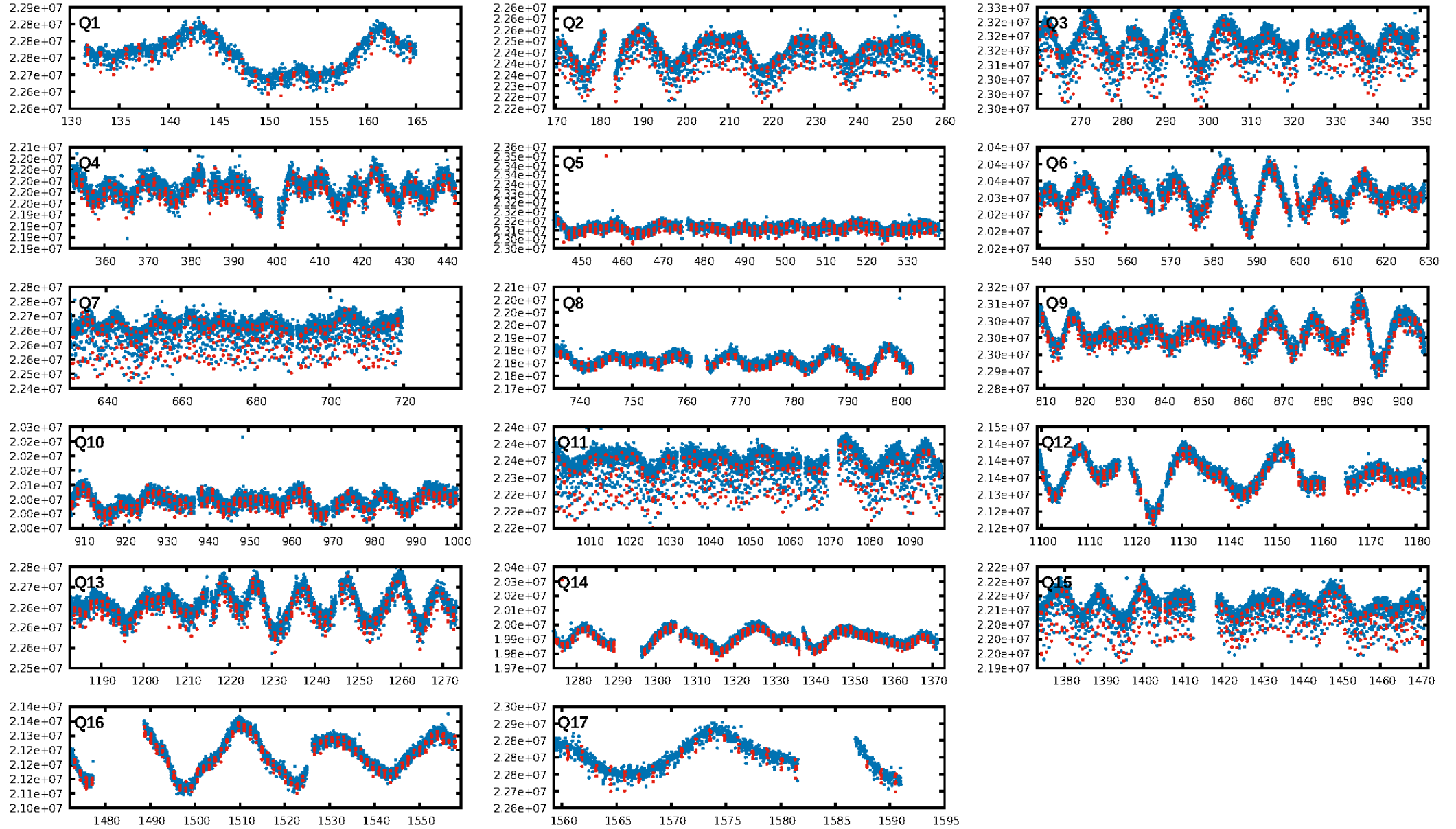
## DV Fit Results:

Period = 1.30357 [0.00000] d  
Epoch = 131.8078 [0.0007] BKJD  
Rp/R\* = 0.0200 [0.0086]  
a/R\* = 4.58 [7.58]  
b = 0.80 [0.80]  
Seff = 1791.69 [625.89]  
Teq = 1659 [145] K  
Rp = 2.31 [1.17] Re  
a = 0.0232 [0.0052] AU  
Ag = 3.43 [3.23] [0.75σ]  
Teffp = 3491 [777] K [2.32σ]

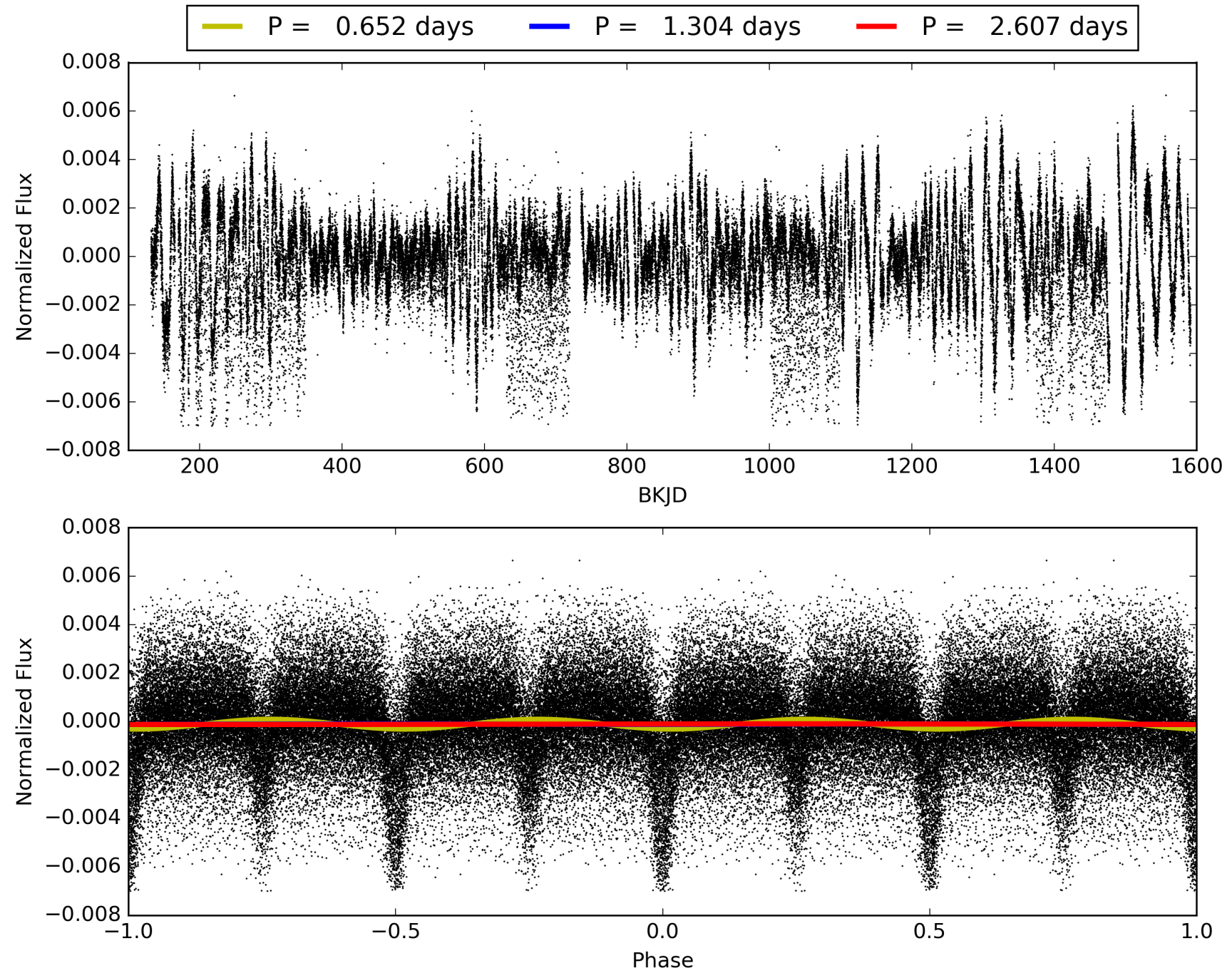
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
**LongPeriod-sig: 0.0% [0.00σ]**  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.97 [959/984]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
**OotOffset-rm: 4.816 arcsec [9.40σ]**  
**KicOffset-rm: 5.181 arcsec [9.96σ]**  
OotOffset-st: 4/0/0/5 [9]  
KicOffset-st: 4/0/0/5 [9]  
DiffImageQuality-fgm: 1.00 [9/9]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 003344419-02, PDC Light Curves



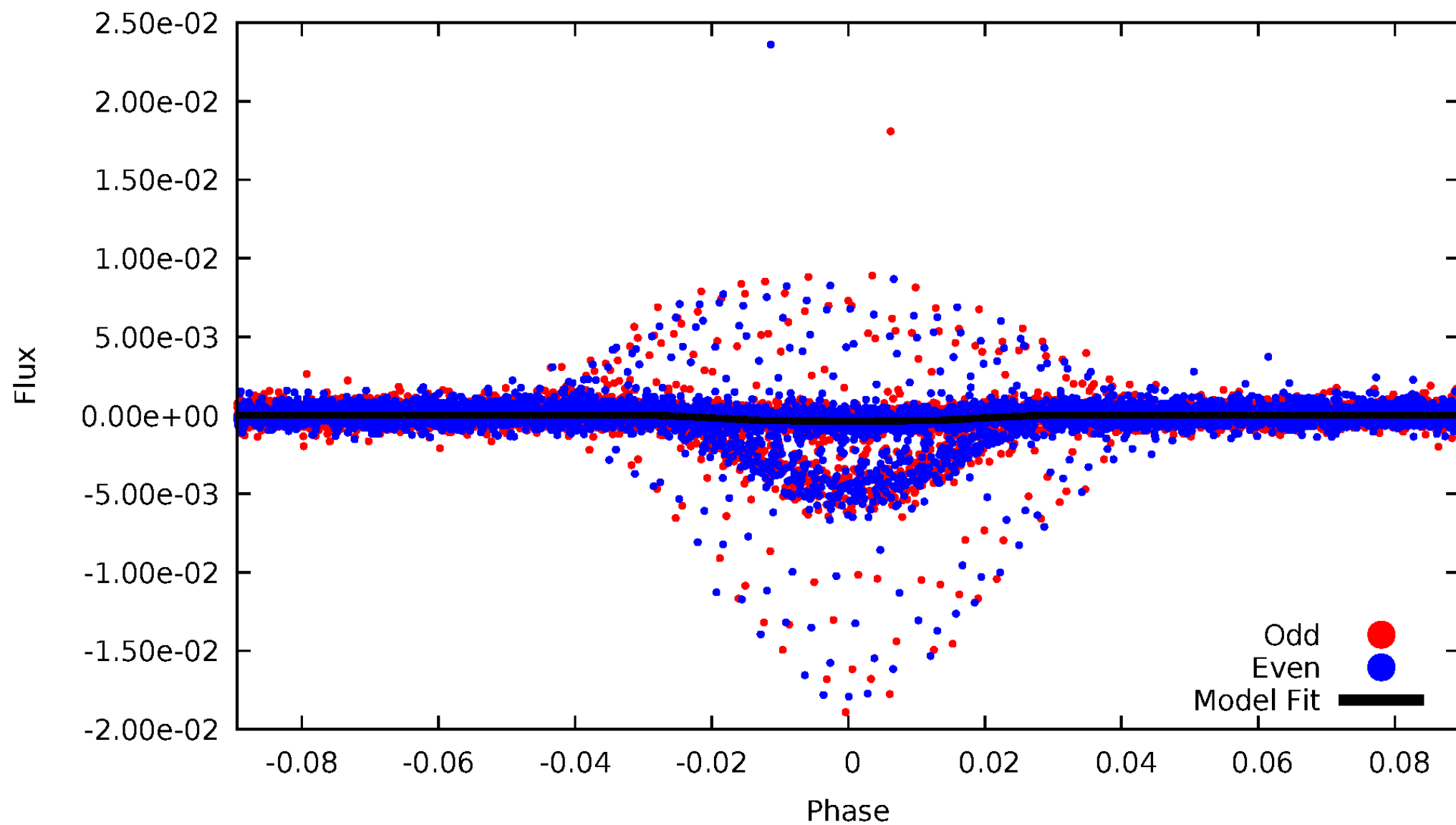
# TCE 003344419-02





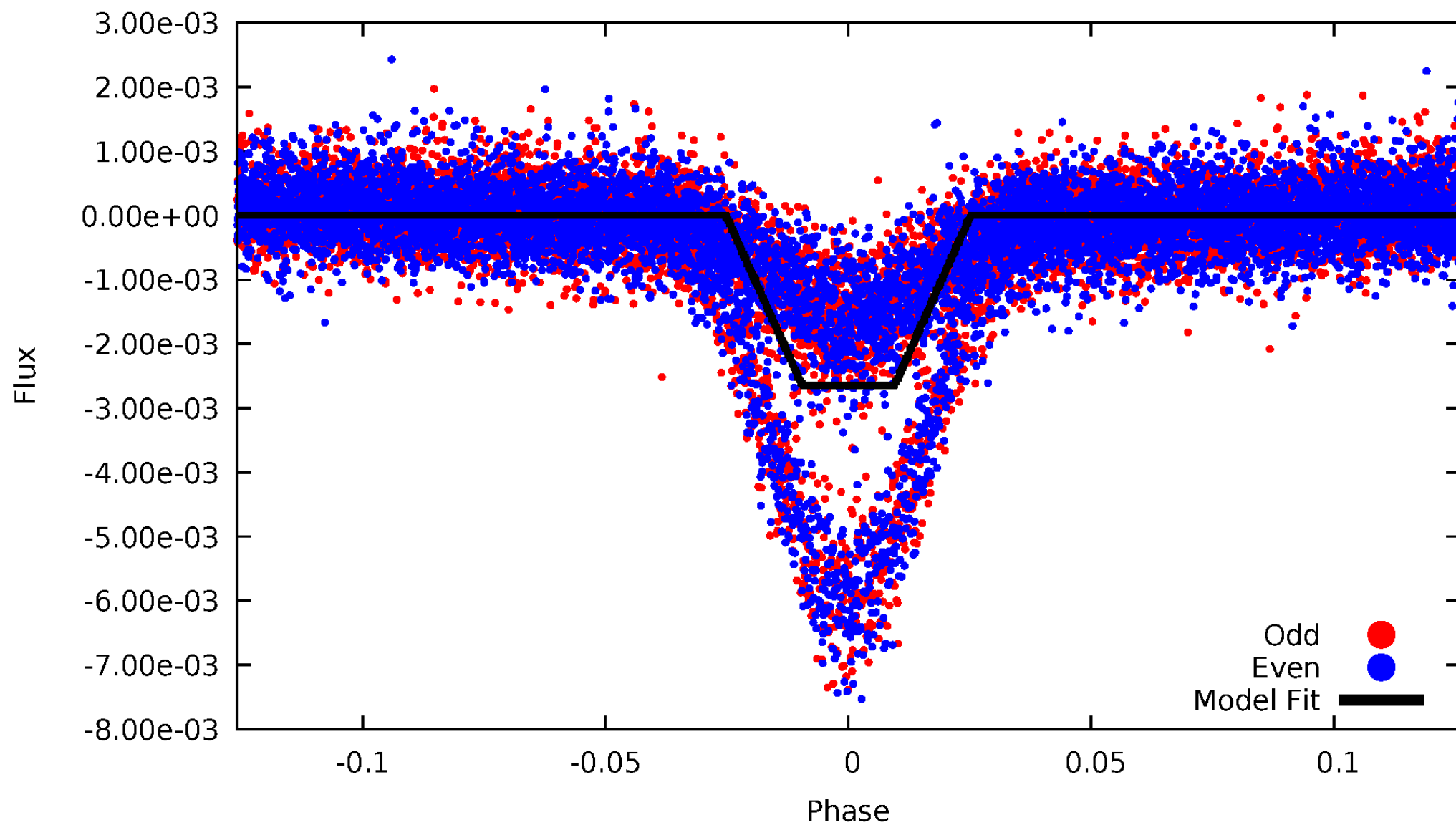
# DV Odd/Even

TCE 003344419-02



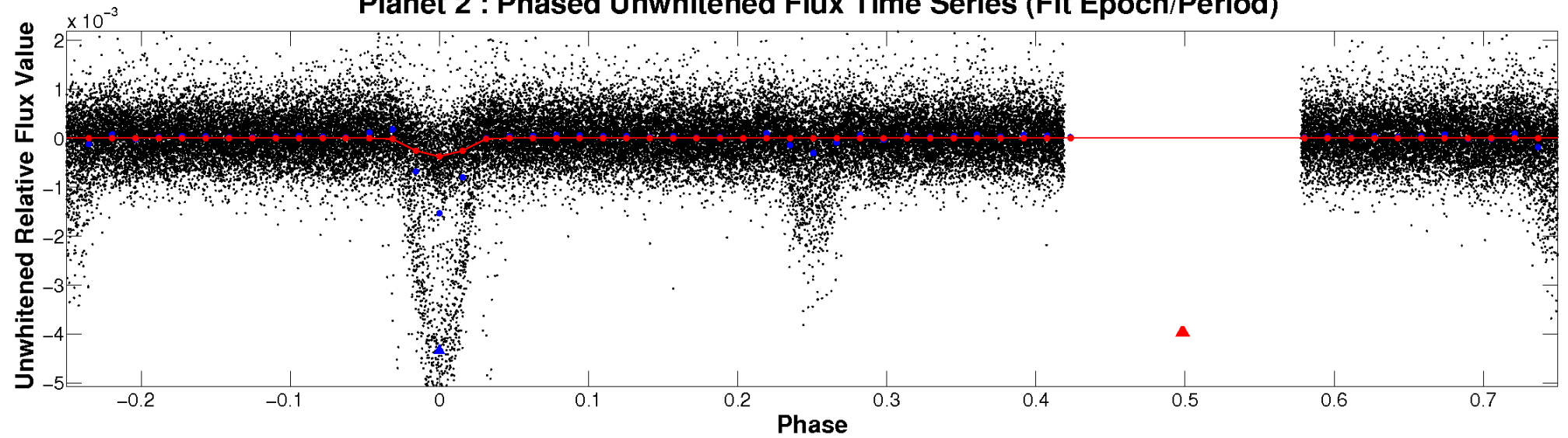
# ALT Odd/Even

TCE 003344419-02

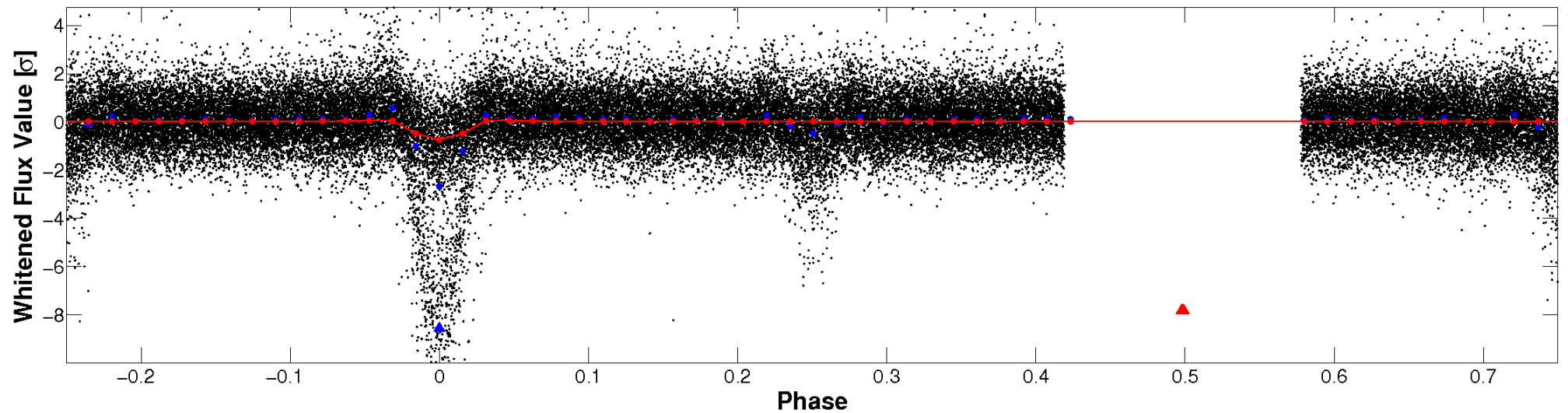


# Non-Whitened Vs. Whitened Light Curve

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

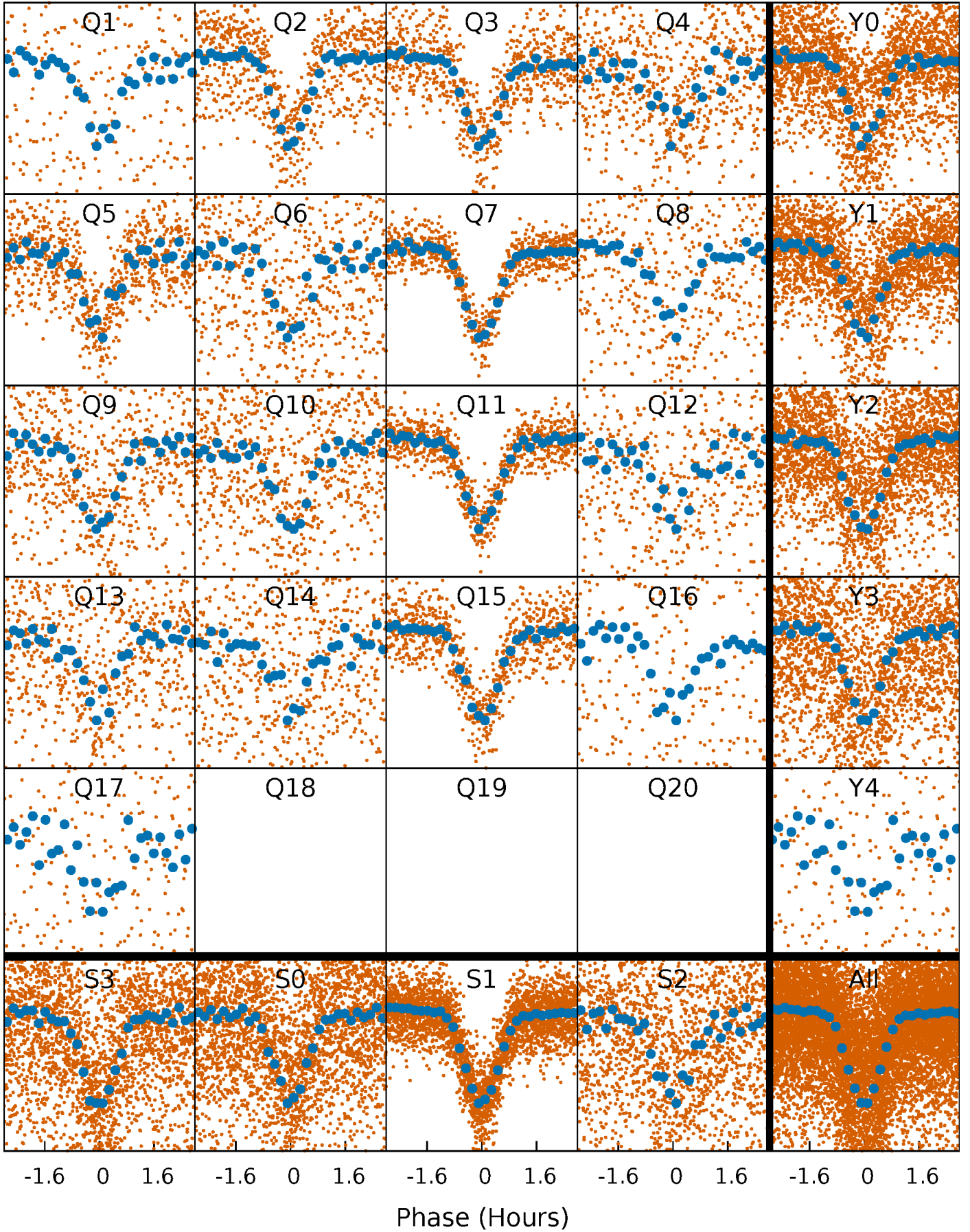


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



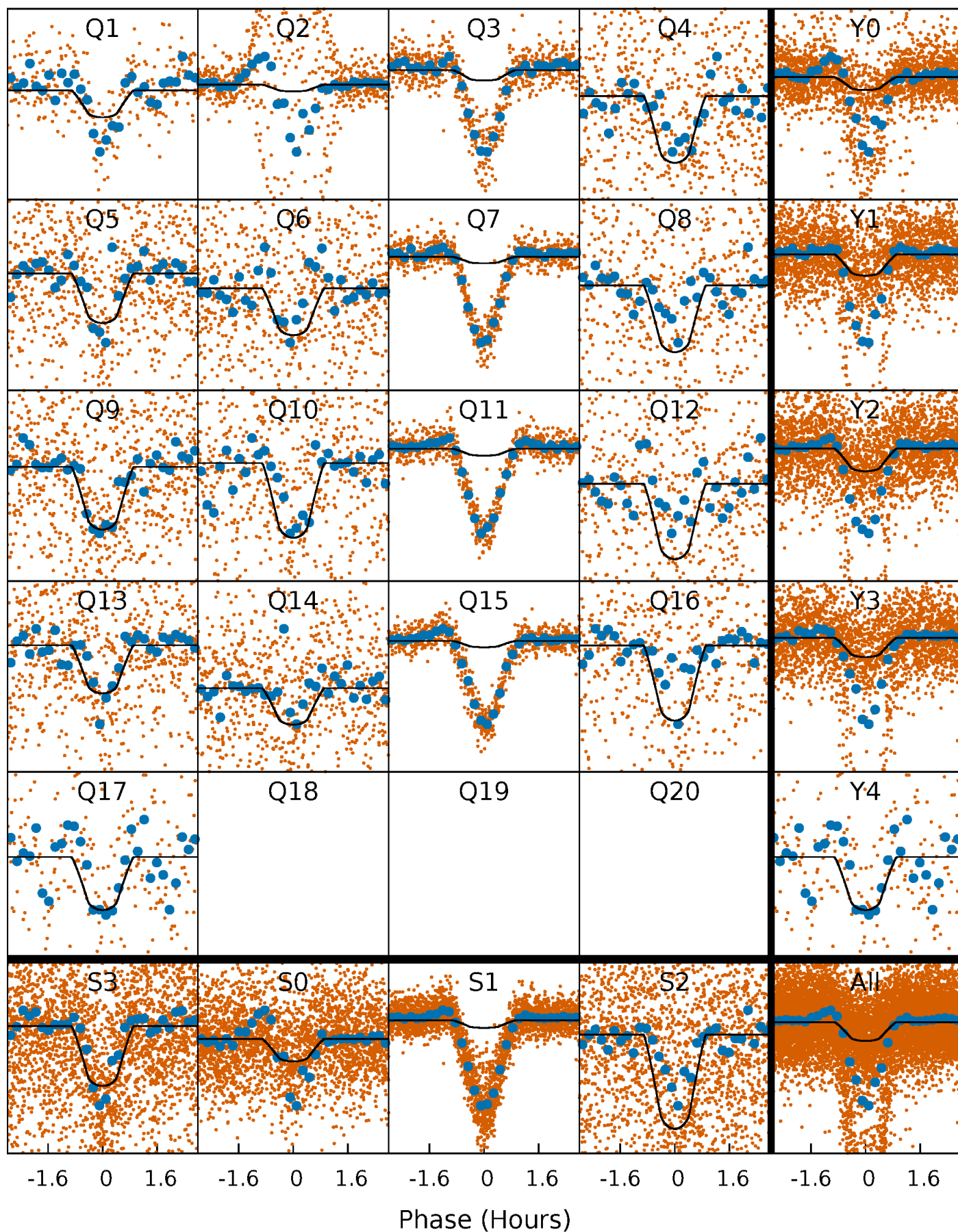
# PDC Quarter-Phased Transit Curves

TCE 003344419-02   P= 1.303569 Days    $T_0=131.807811$  (BKJD)



# DV Quarter-Phased Transit Curves

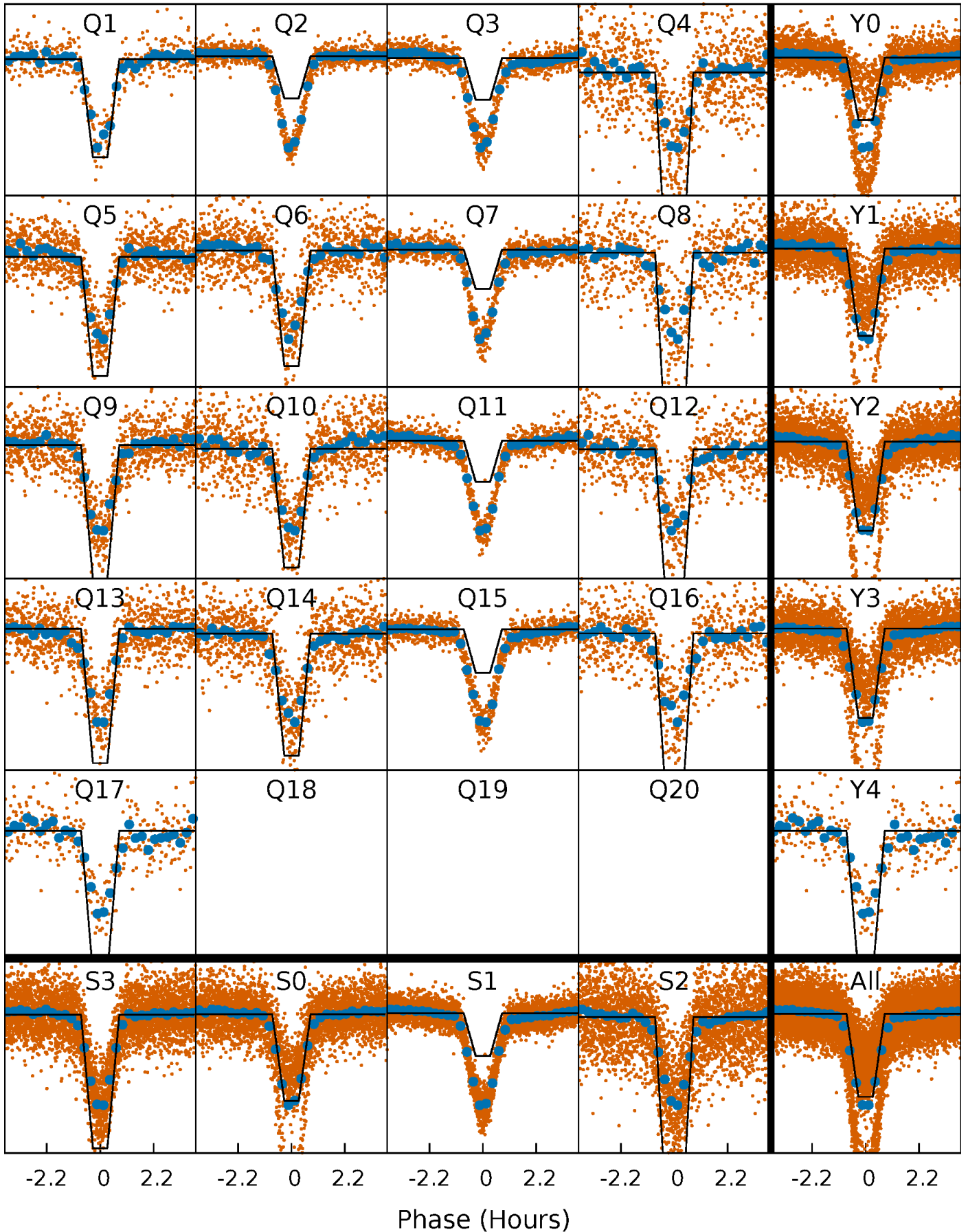
TCE 003344419-02   P= 1.303569 Days    $T_0=131.807811$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

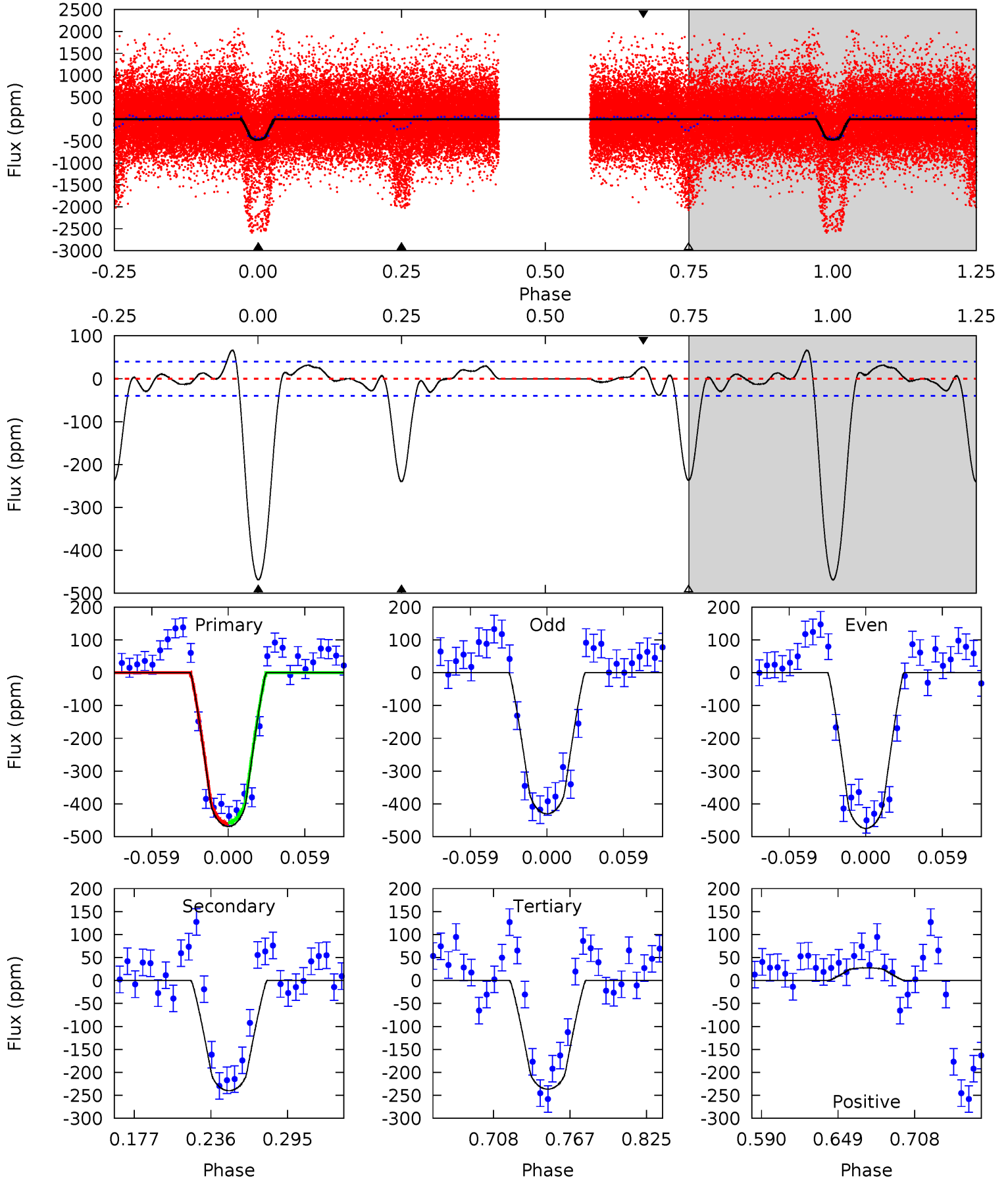
TCE 003344419-02 P= 1.303568 Days  $T_0=131.808653$  (BKJD)



# DV Model-Shift Uniqueness Test

003344419-02, P = 1.303569 Days, E = 130.504242 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 |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 54.9 | 28.1 | 27.7 | 3.23 | 4.67            | 1.89            | 5.56             | 27.2    | 51.7    | 0.39    | 24.9    | 2.61    | 3.09 | 0.12  | 0   |

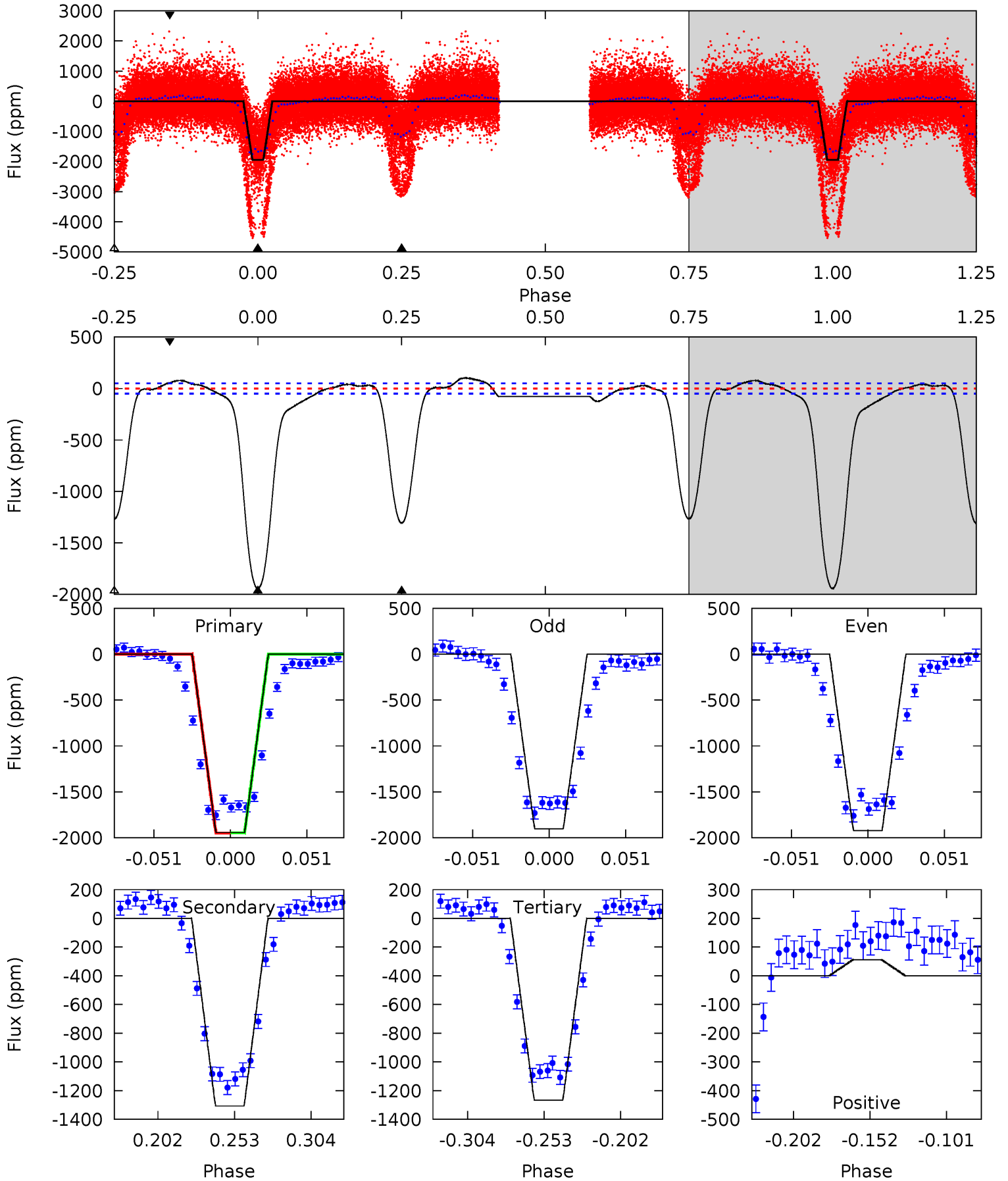




# Alt Model-Shift Uniqueness Test

003344419-02, P = 1.303568 Days, E = 130.505085 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  |
|-------|-------|-------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 183.0 | 123.1 | 119.3 | 5.28 | 4.71            | 1.95            | 25.7             | 63.8    | 177.8   | 3.84    | 117.8   | 0.93    | 1.51 | 0.05  | 0.16 |



### Stellar Parameters For KIC 003344419

|        | $T_{\text{eff}} (K)$ | $\log(g)$                 | [Fe/H]                    | $R (R_{\odot})$           | $M (M_{\odot})$           | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
|        | $5555^{+166}_{-166}$ | $4.375^{+0.135}_{-0.180}$ | $0.260^{+0.200}_{-0.300}$ | $1.061^{+0.282}_{-0.173}$ | $0.975^{+0.094}_{-0.085}$ | $1.148^{+0.652}_{-0.562}$                 |
|        | +3%/-3%              | +3%/-4%                   | +77%/-115%                | +27%/-16%                 | +10%/-9%                  | +57%/-49%                                 |
| Source | PHO1                 | 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 003344419-02 / KOI 1181.01

| Detrend | Depth (ppm)    | $R_p (R_{\oplus})$     | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$  | $A_{\text{obs}}$ |
|---------|----------------|------------------------|----------------------|-----------------------|------------------|
| DV      | $-240 \pm 9$   | $2.37^{+1.14}_{-0.98}$ | $2328^{+167}_{-136}$ | $4920^{+1308}_{-688}$ | $12^{+24}_{-7}$  |
| Alt.    | $-1307 \pm 11$ | $6.06^{+1.25}_{-1.19}$ | $2329^{+160}_{-133}$ | $4736^{+399}_{-320}$  | $11^{+6}_{-3}$   |

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

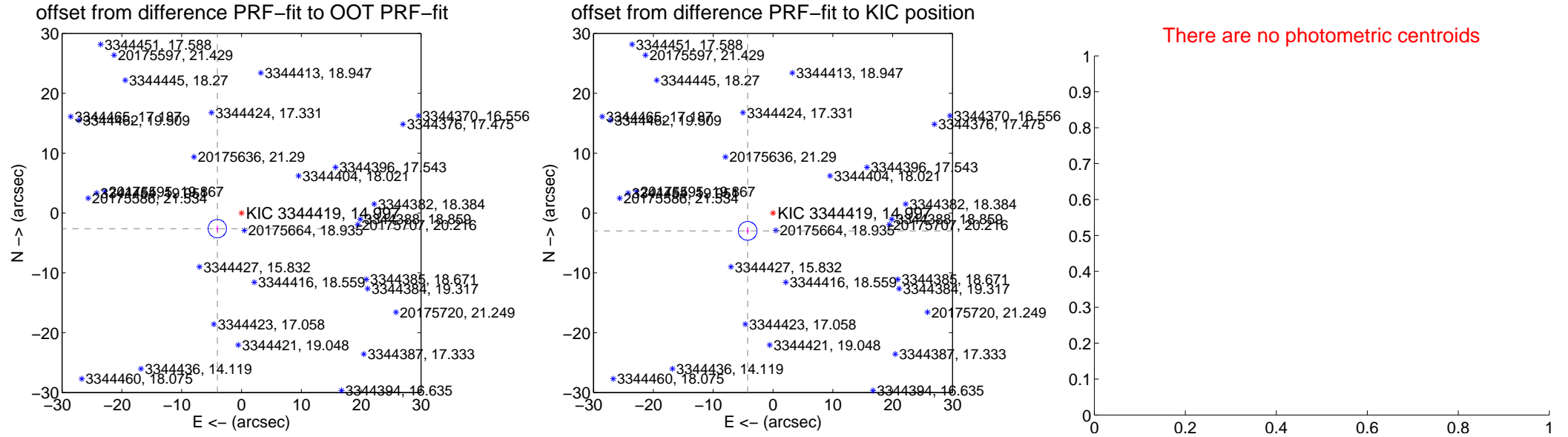
## DV Centroid Data

Supplemental centroid analysis for 003344419-02. Kepler magnitude: 15.00. Transit SNR 29.99

There are 9 quarters with good PRF difference image offsets

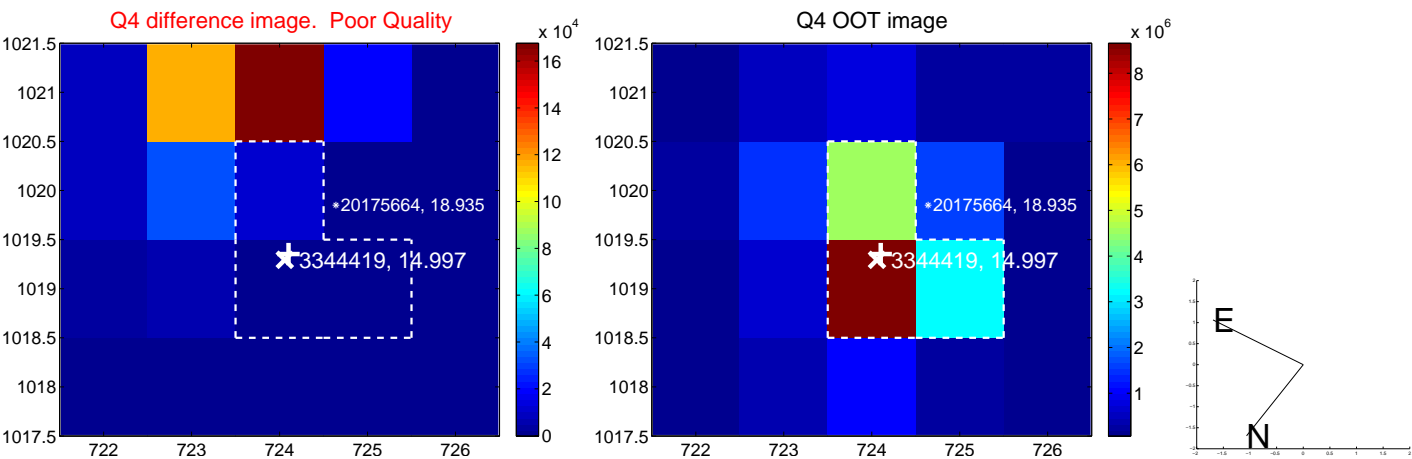
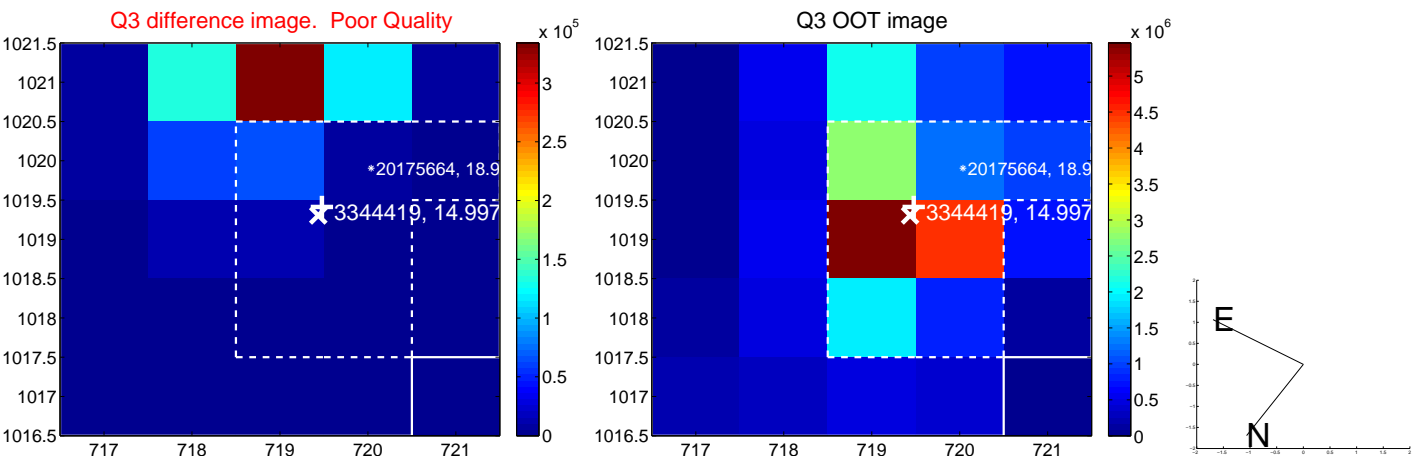
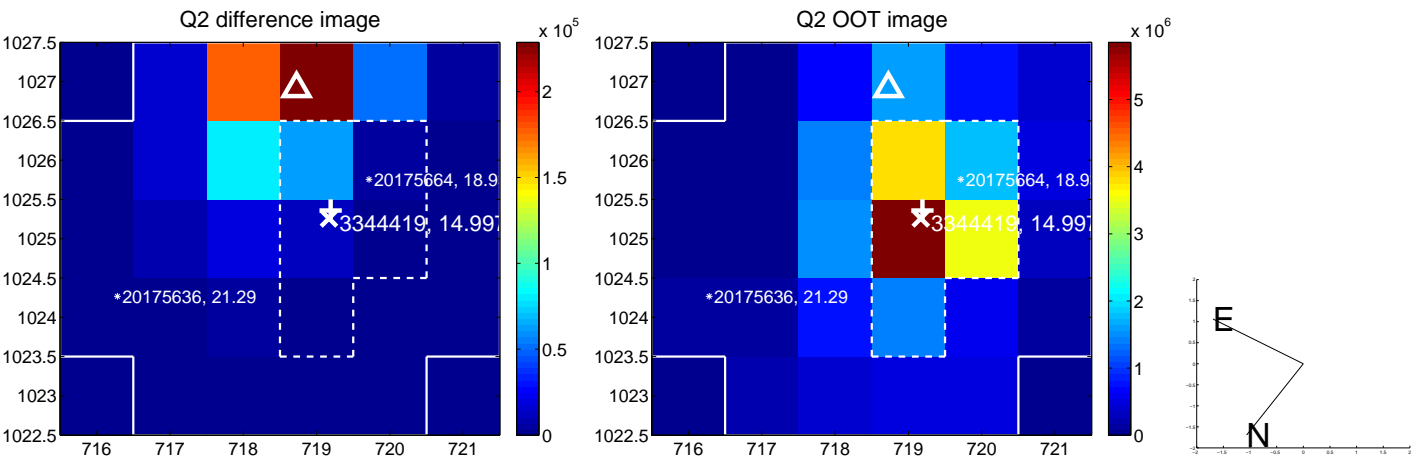
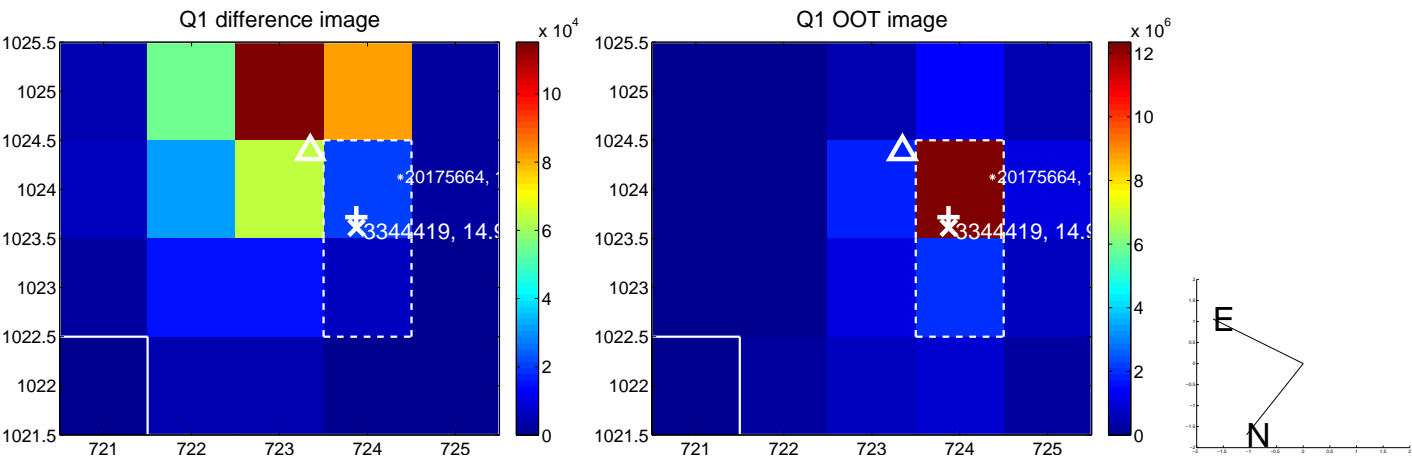
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

|   | Distance in arcsec | Distance / $\sigma$ | $\Delta$ RA       | $\Delta$ Dec       |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT          | $4.816 \pm 0.512$  | <b>9.40</b>         | $4.046 \pm 0.266$ | $-2.614 \pm 0.542$ |
| PRF-fit source offset from KIC position | $5.181 \pm 0.520$  | <b>9.96</b>         | $4.237 \pm 0.253$ | $-2.983 \pm 0.555$ |
| photometric centroid source offset      | —                  | —                   | —                 | —                  |

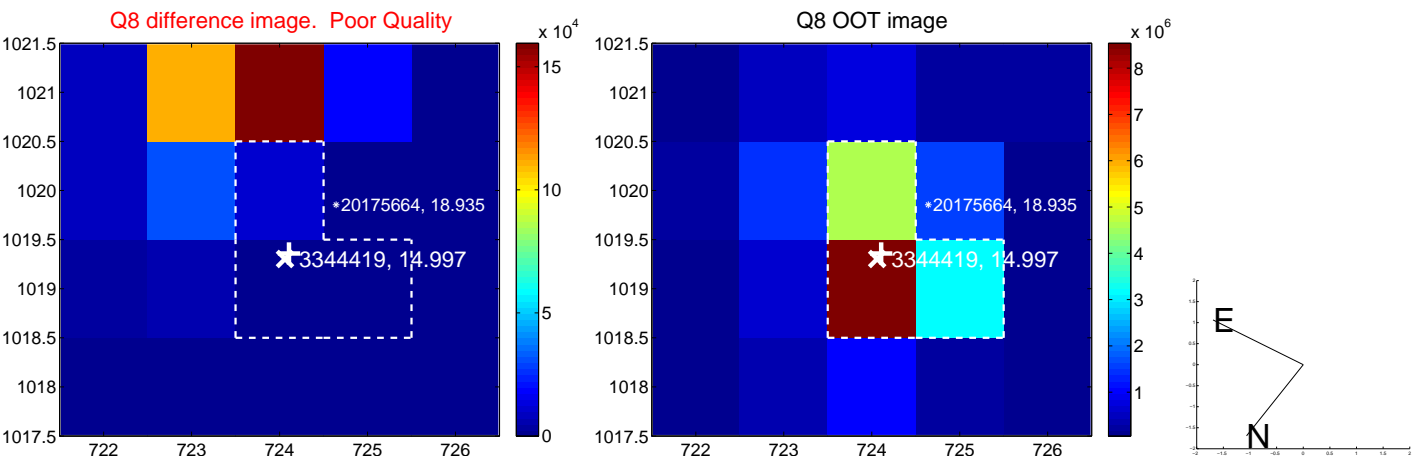
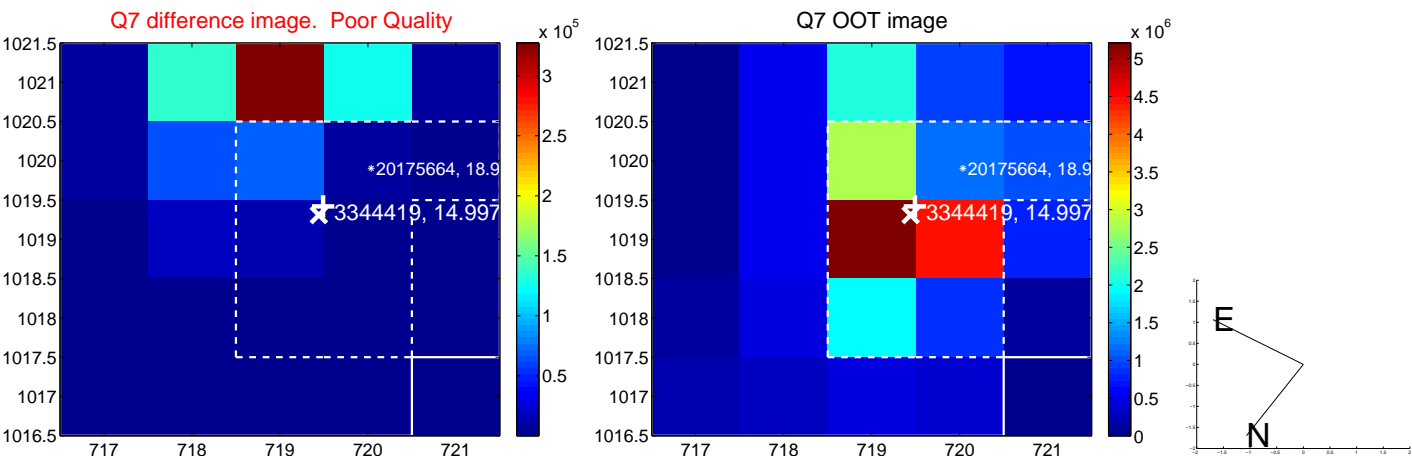
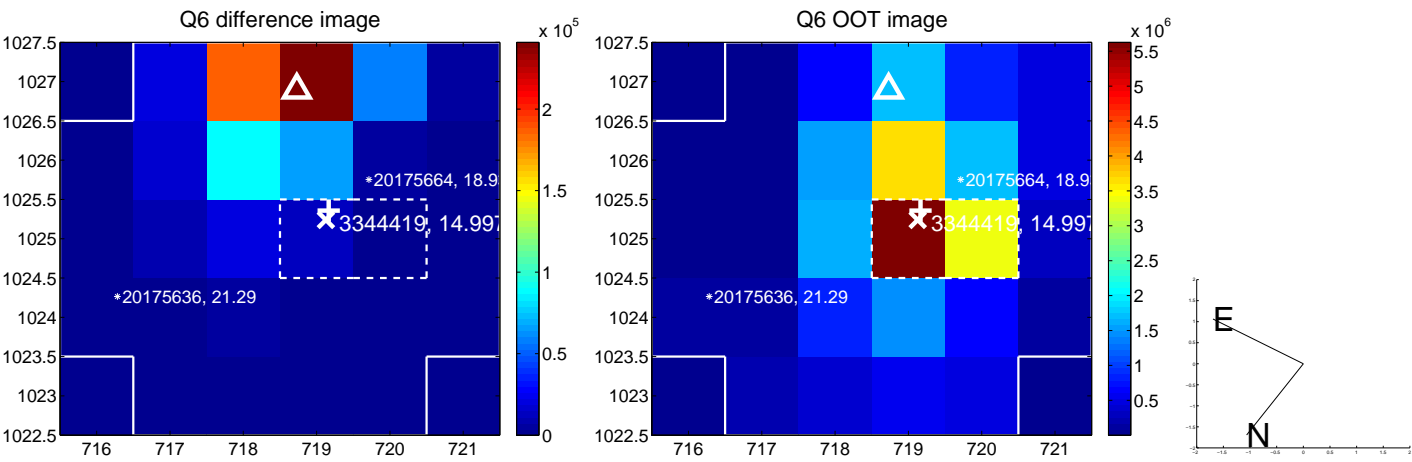
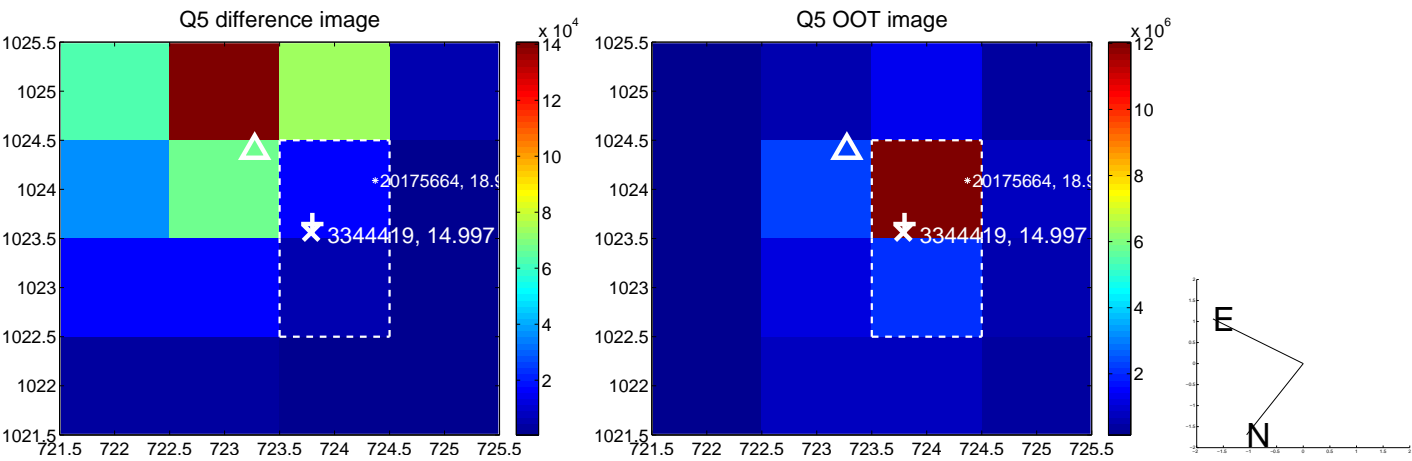


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

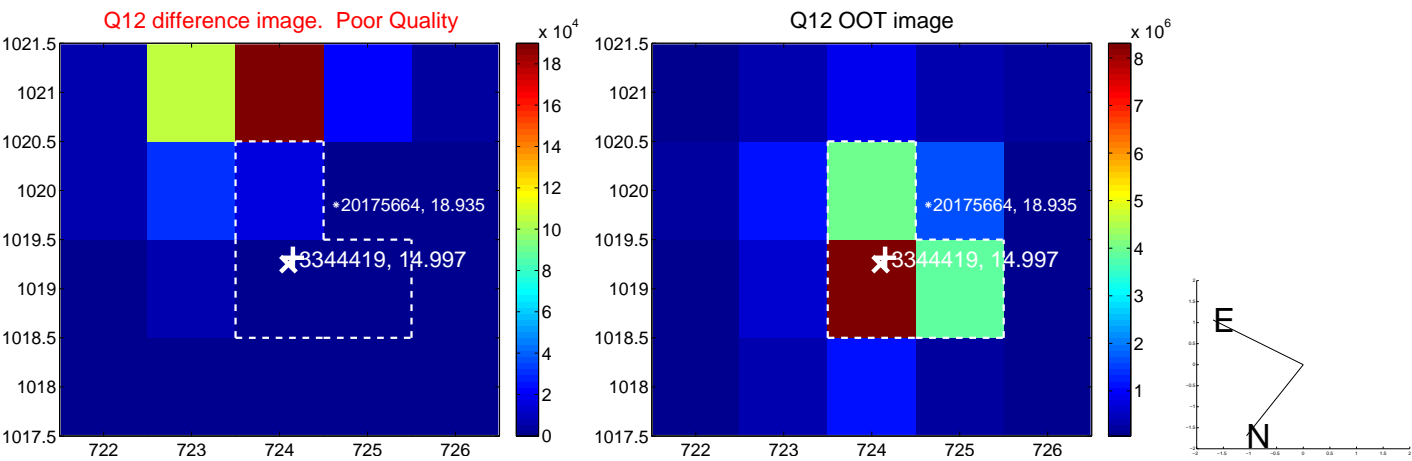
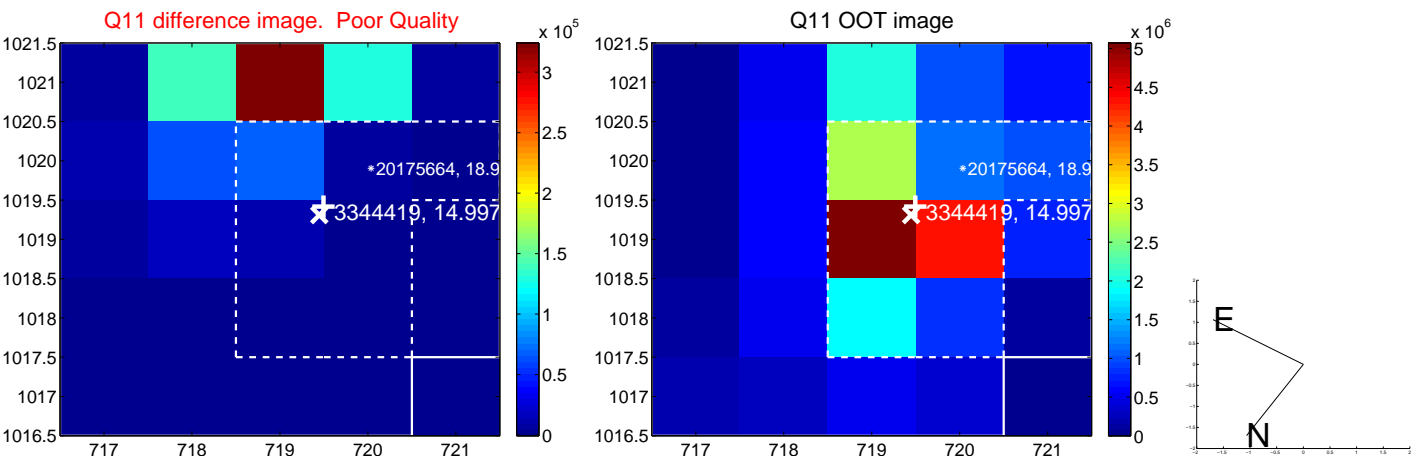
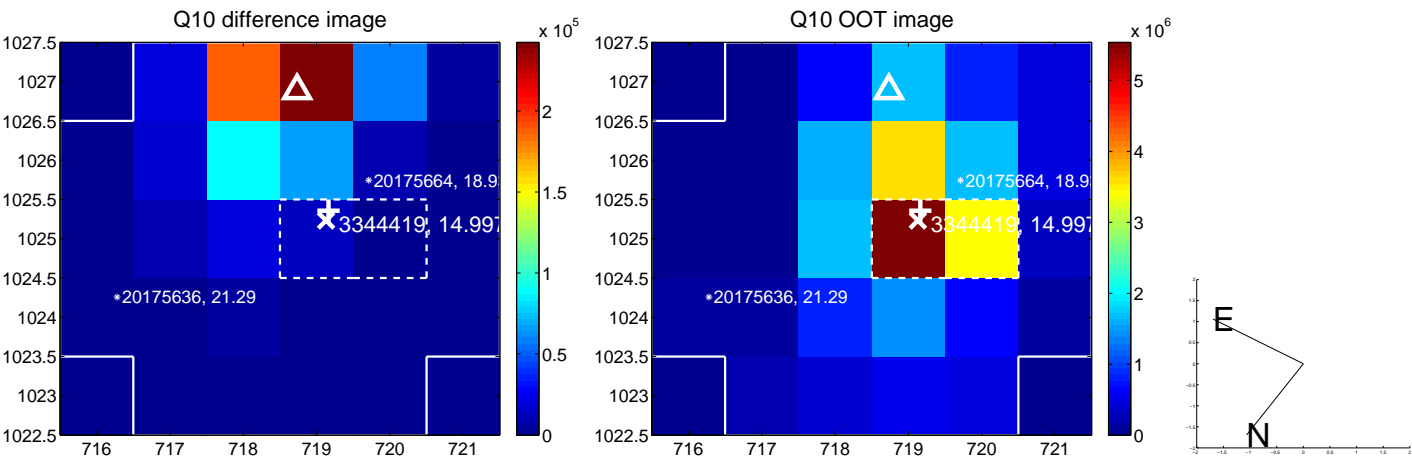
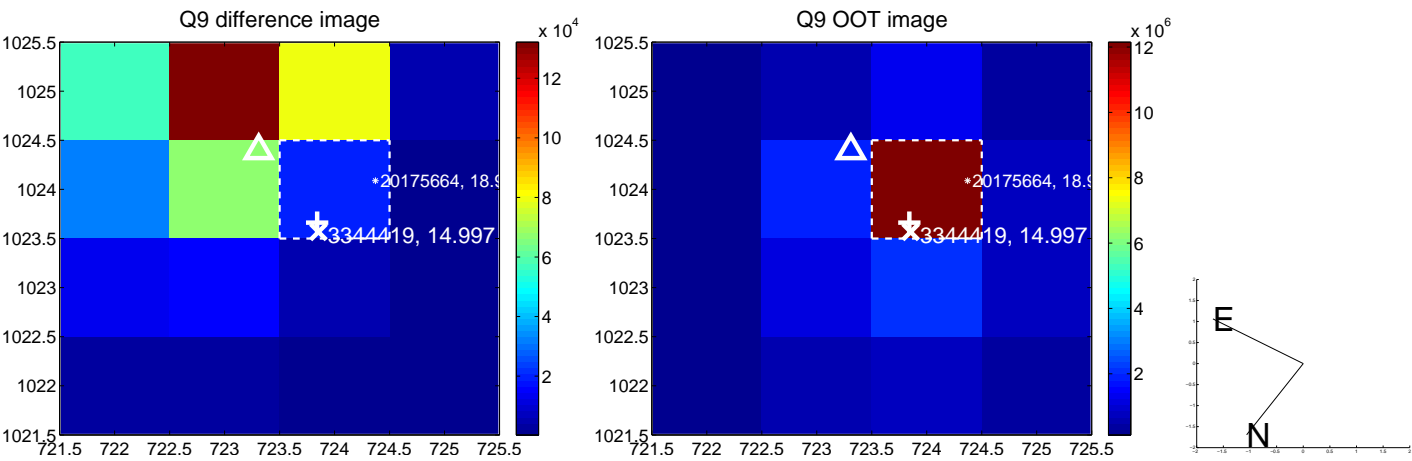
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



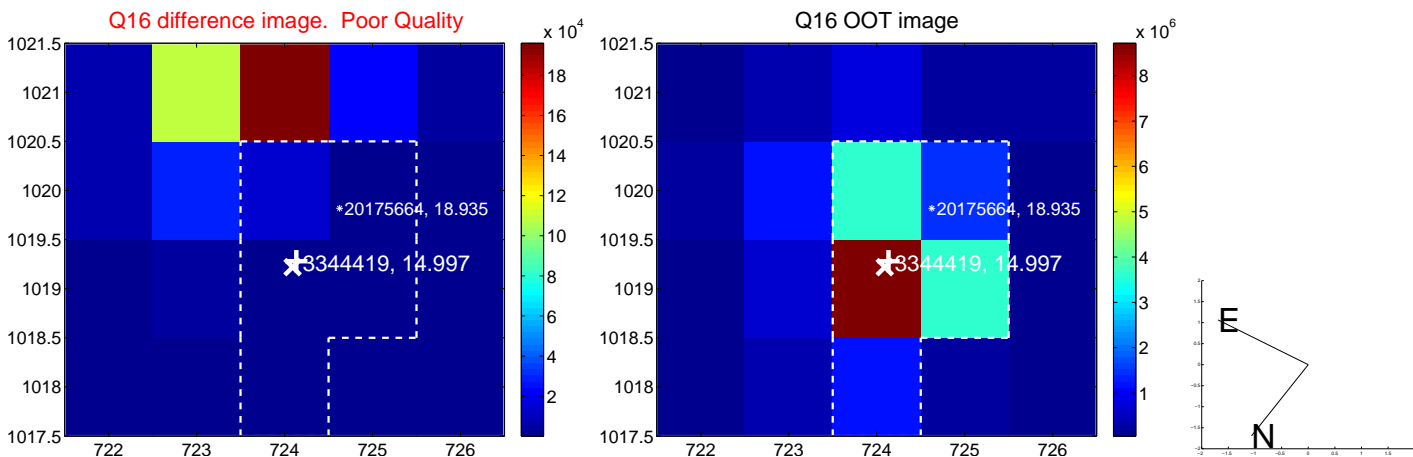
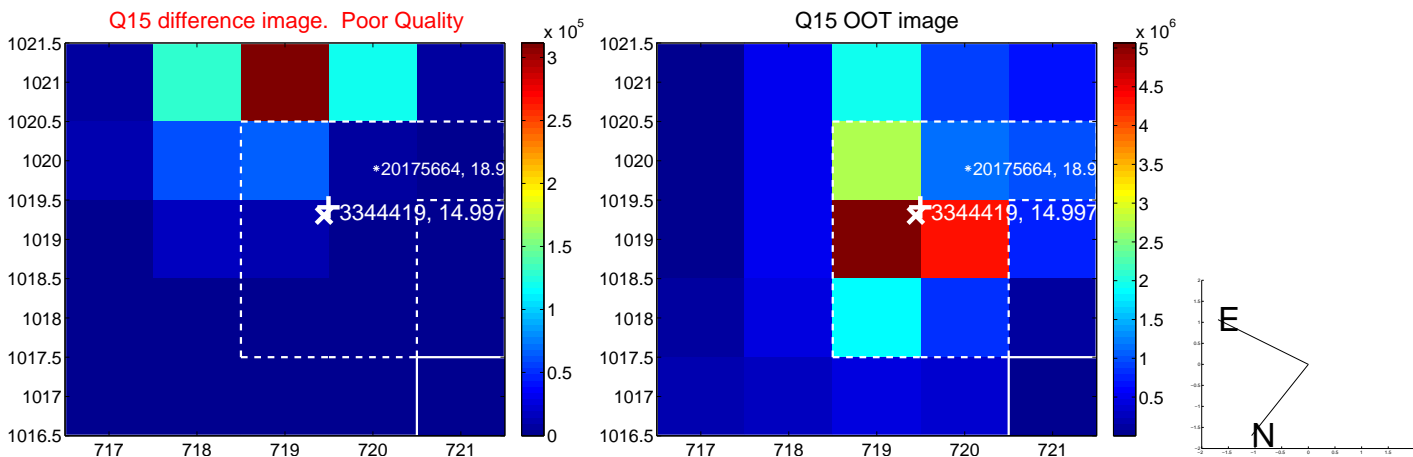
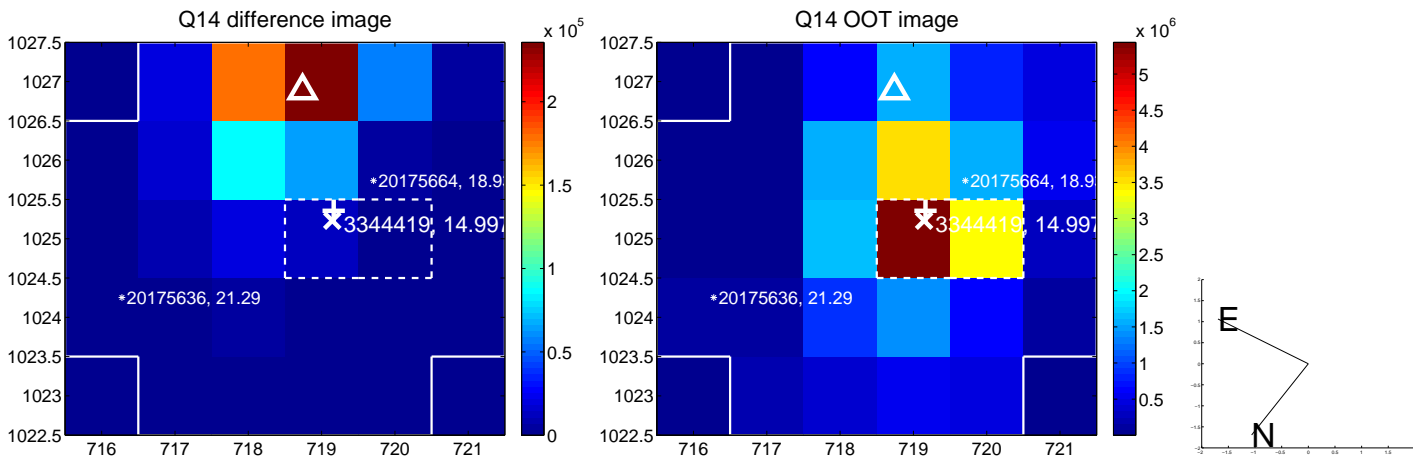
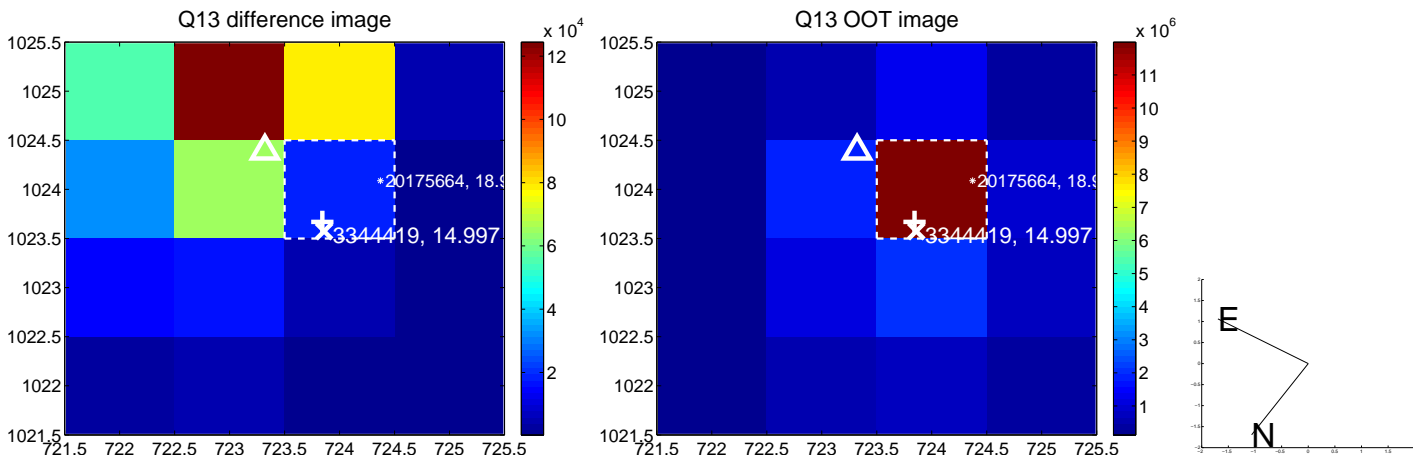
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

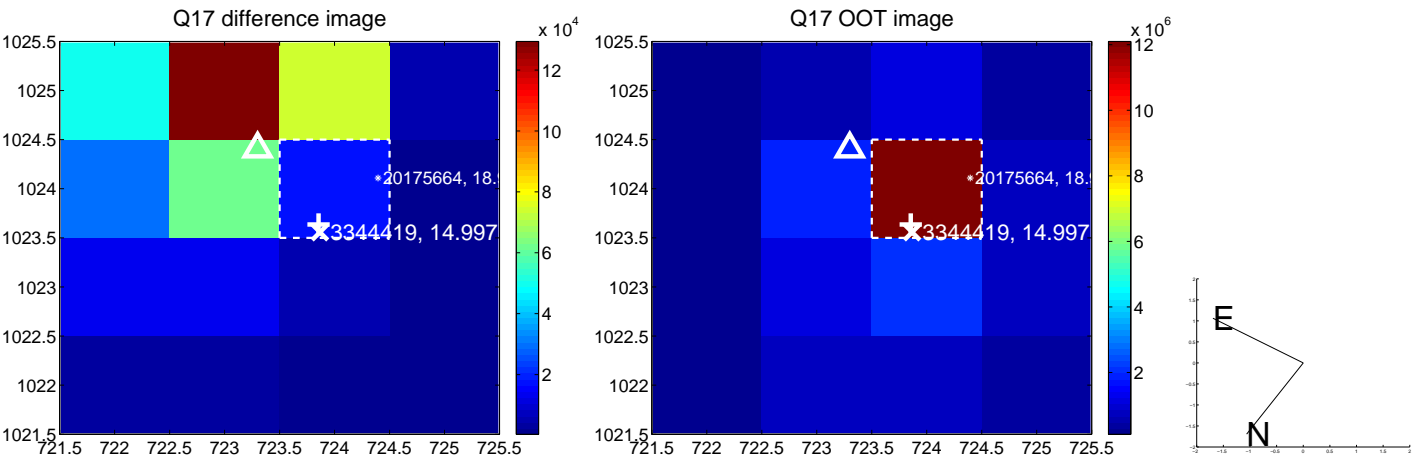


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



folded centroid time series figure for this object.

UKIRT Image

