

KIC 005735762

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-------|-------|-----------------------------|-----------------|------------------------|------------------------|
| 005735762-01 | OBS | 0148.02 | 9.673938 | 135.015027 | 951.3 | 3.462 | 134.1 | 132.6 | 0.87 | 5192 | 3.04 | 69.63 |
| 005735762-02 | OBS | 0148.01 | 4.778009 | 133.616592 | 456.8 | 2.990 | 83.9 | 93.5 | 0.87 | 5192 | 2.30 | 178.34 |
| 005735762-03 | OBS | 0148.03 | 42.896279 | 146.063982 | 555.6 | 5.986 | 44.1 | 45.7 | 0.87 | 5192 | 2.36 | 9.56 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 005735762-01 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | NO_COMMENT |
| 005735762-02 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | NO_COMMENT |
| 005735762-03 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | NO_COMMENT |

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

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

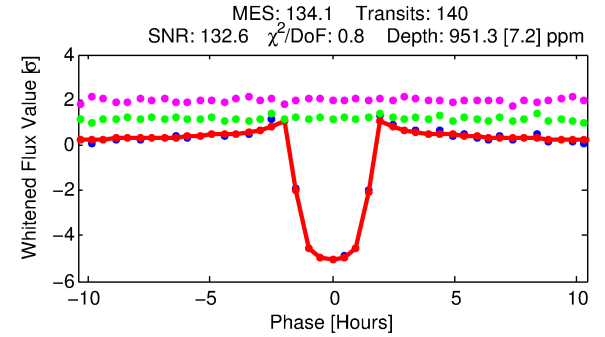
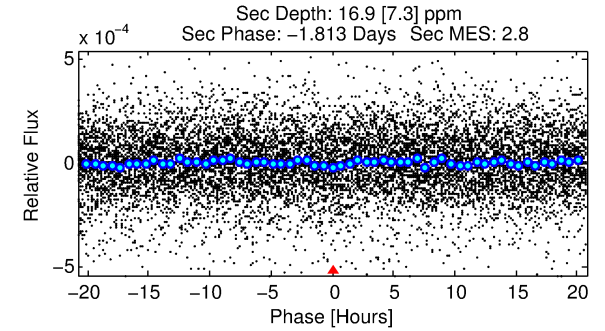
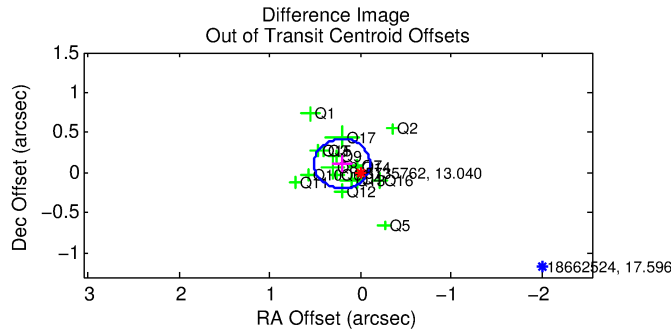
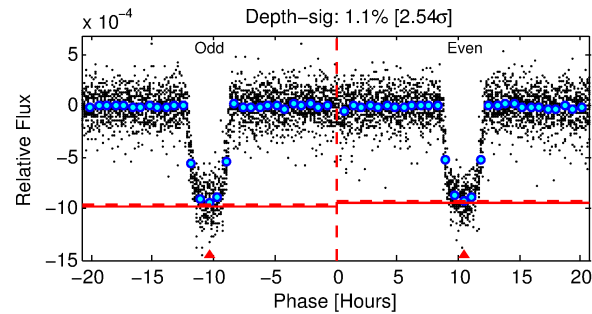
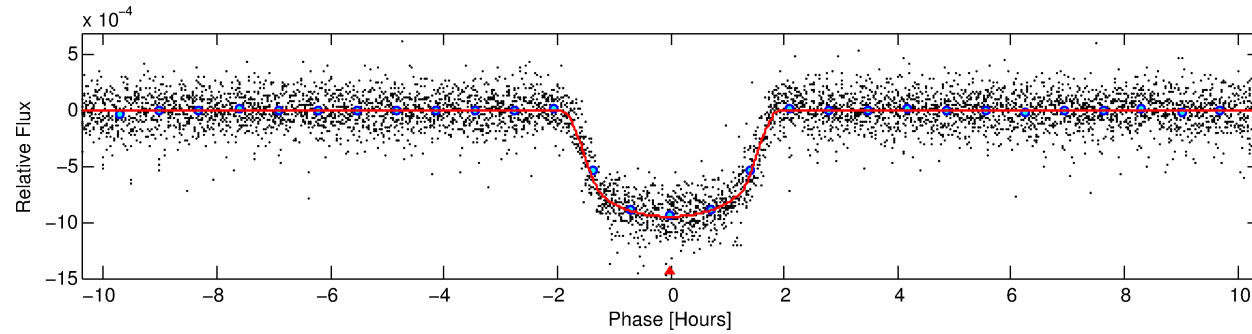
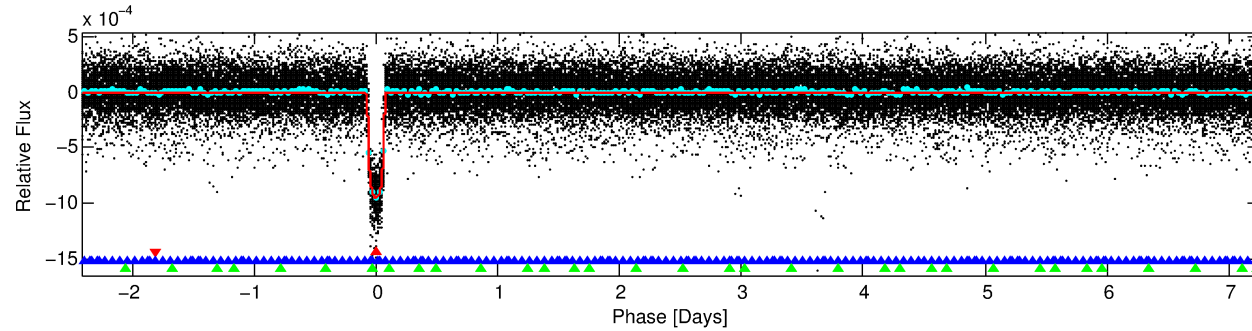
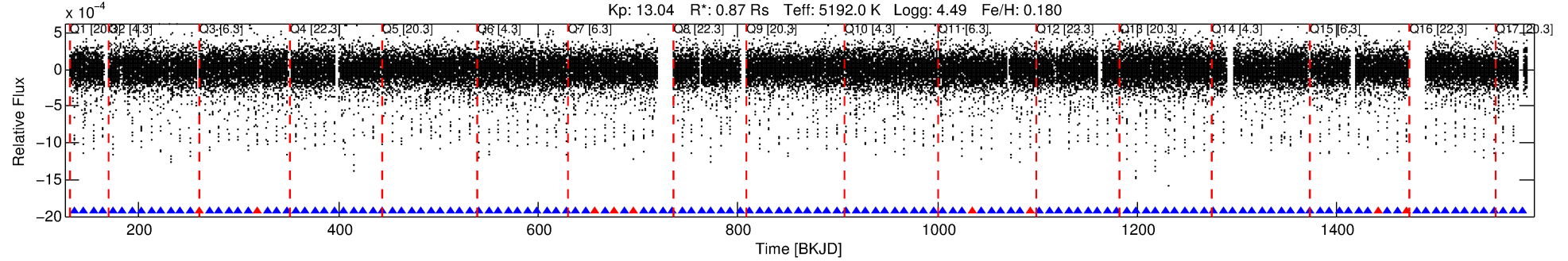
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005735762-01

No Significant Match Found

DV One-Page Summary

KIC: 5735762 Candidate: 1 of 3 Period: 9.674 d
KOI: K00148.02 Name: Kepler-48c Corr: 0.975



DV Fit Results:

Period = 9.67394 [0.00001] d
Epoch = 135.0150 [0.0005] BKJD
Rp/R* = 0.0320 [0.0012]
a/R* = 13.51 [1.90]
b = 0.82 [0.06]
Seff = 69.63 [9.60]
Teq = 737 [25] K
Rp = 3.04 [0.25] Re
a = 0.0844 [0.0060] AU
Ag = 7.16 [3.24] [1.90 σ]
Teffp = 1863 [207] K [5.39 σ]

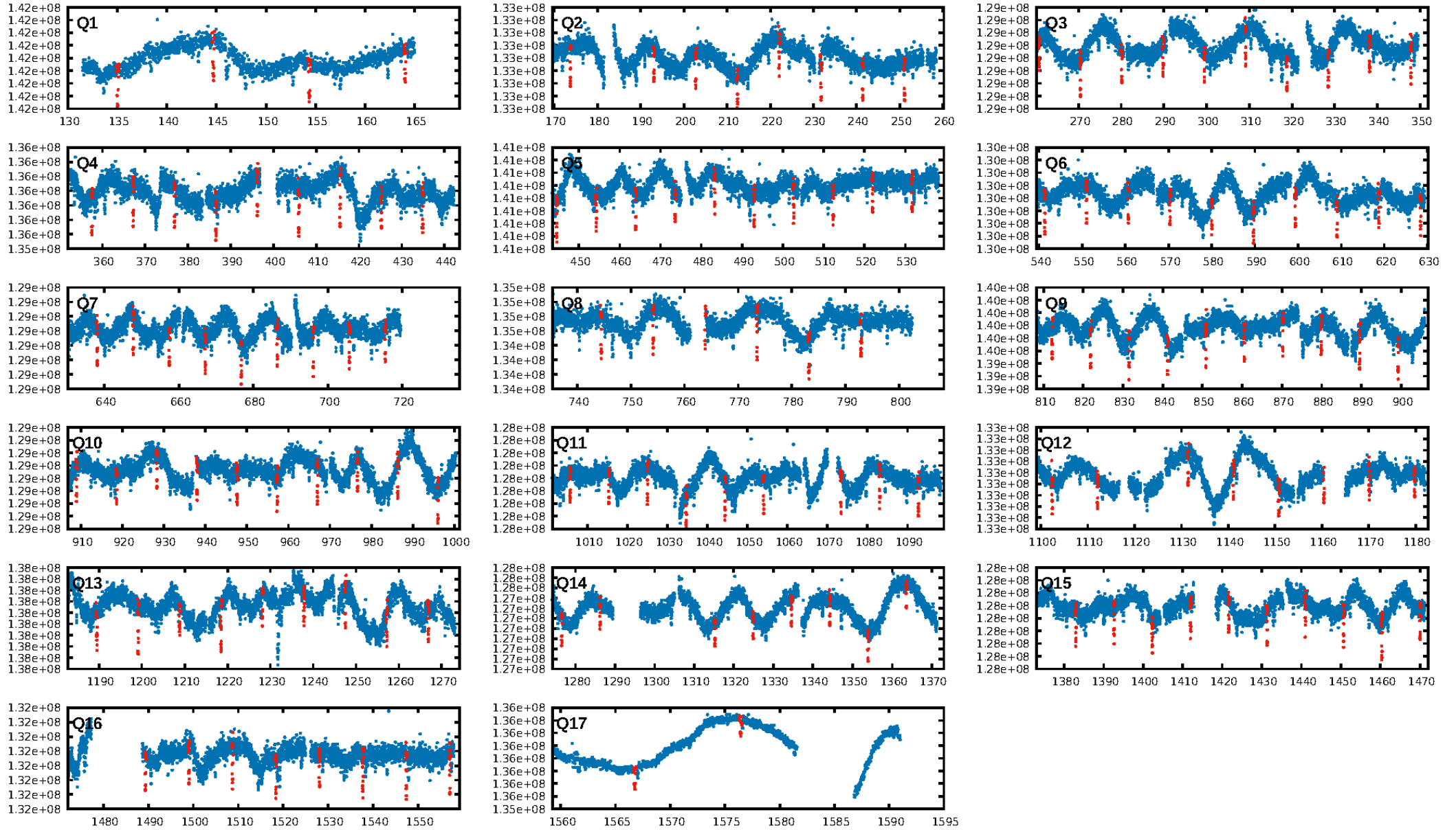
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [25.69 σ]
LongPeriod-sig: 100.0% [115.31 σ]
ModelChiSquare2-sig: 96.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.93 [125/134]
GhostDiagnostic-chr: 6.256
Centroid-sig: 0.0%
Centroid-so: 0.473 arcsec [5.59 σ]
OotOffset-rm: 0.232 arcsec [2.26 σ]
KicOffset-rm: 0.303 arcsec [3.06 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.94 [16/17]

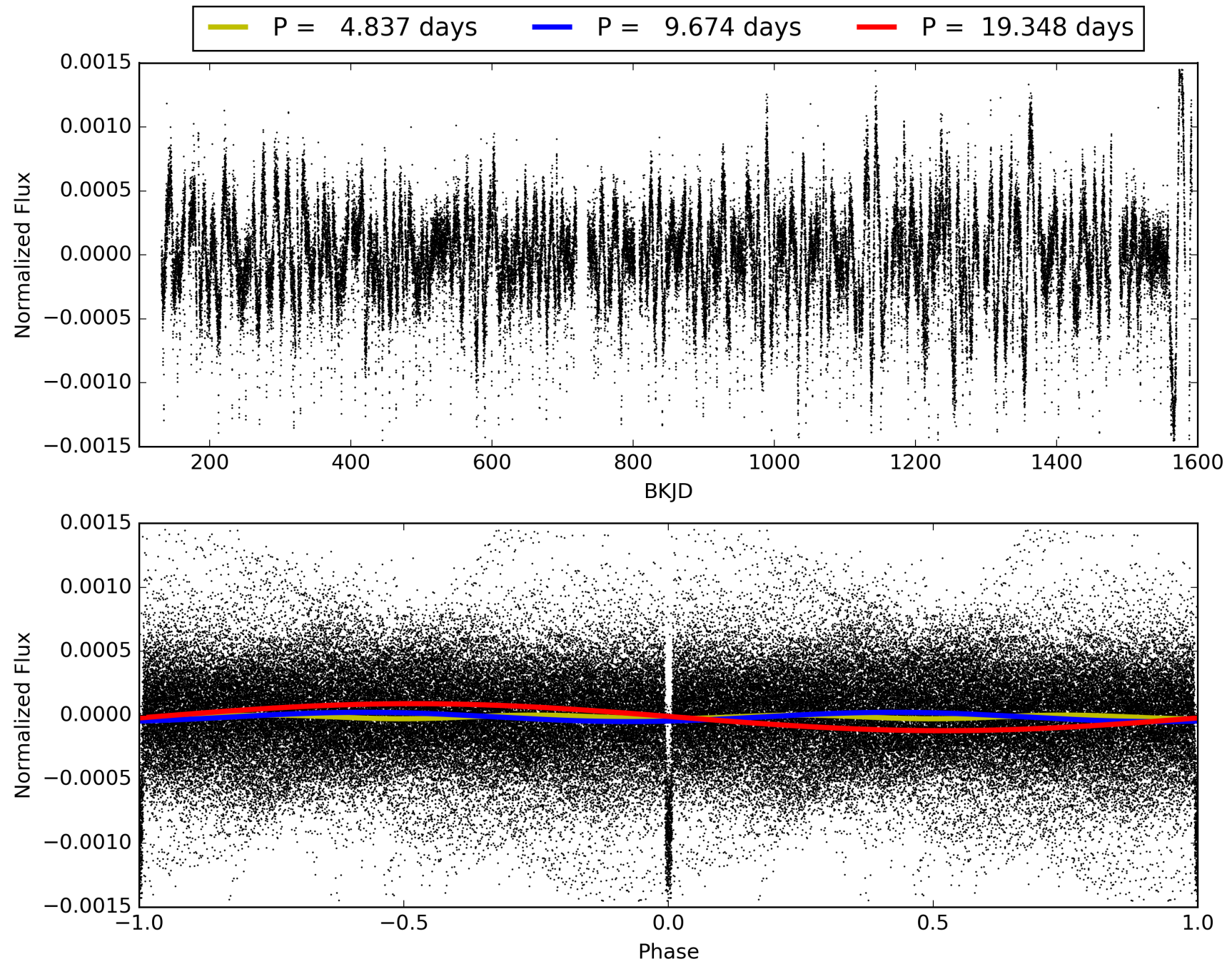
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:28:32 Z

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

TCE 005735762-01, PDC Light Curves

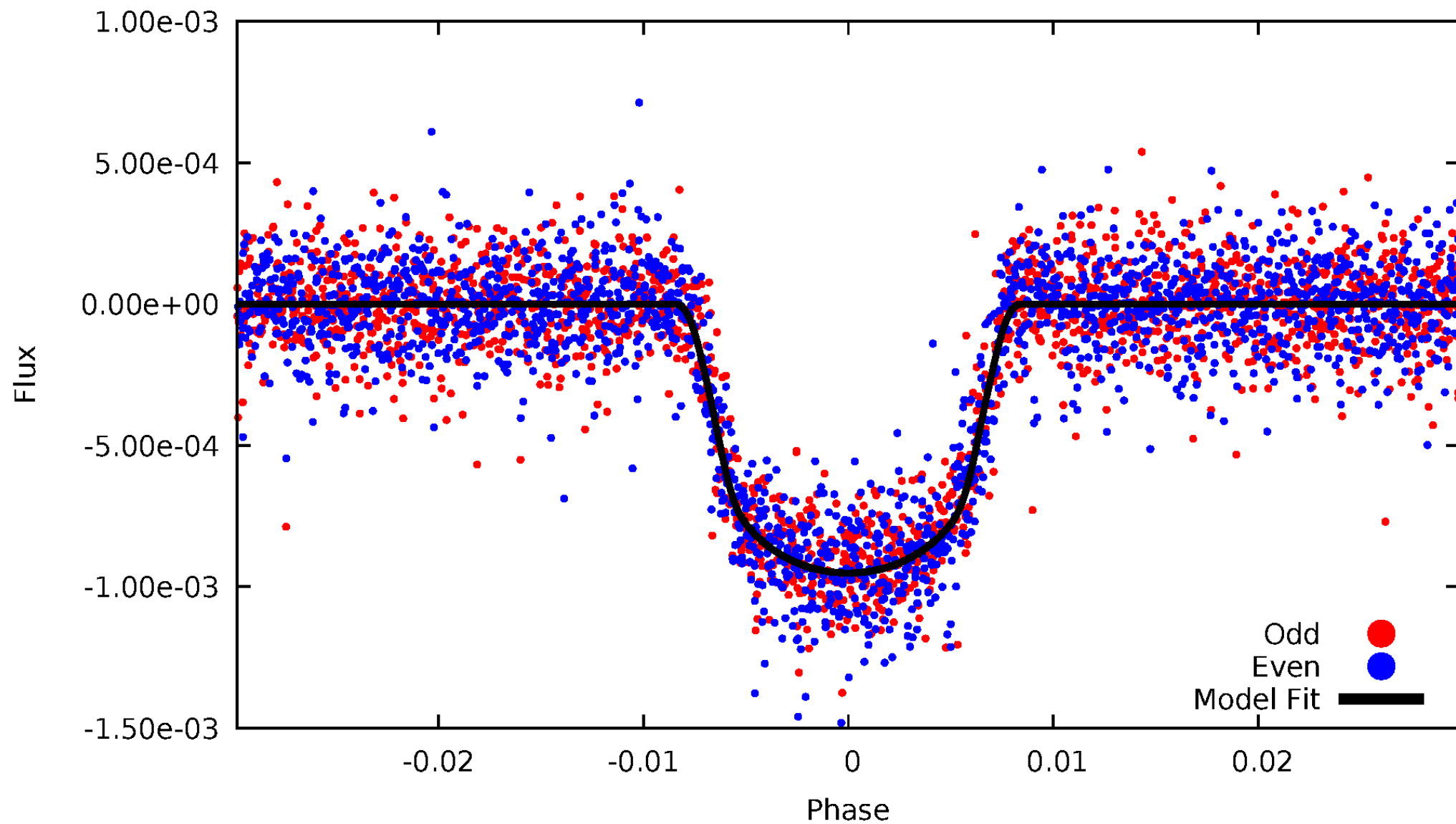


TCE 005735762-01



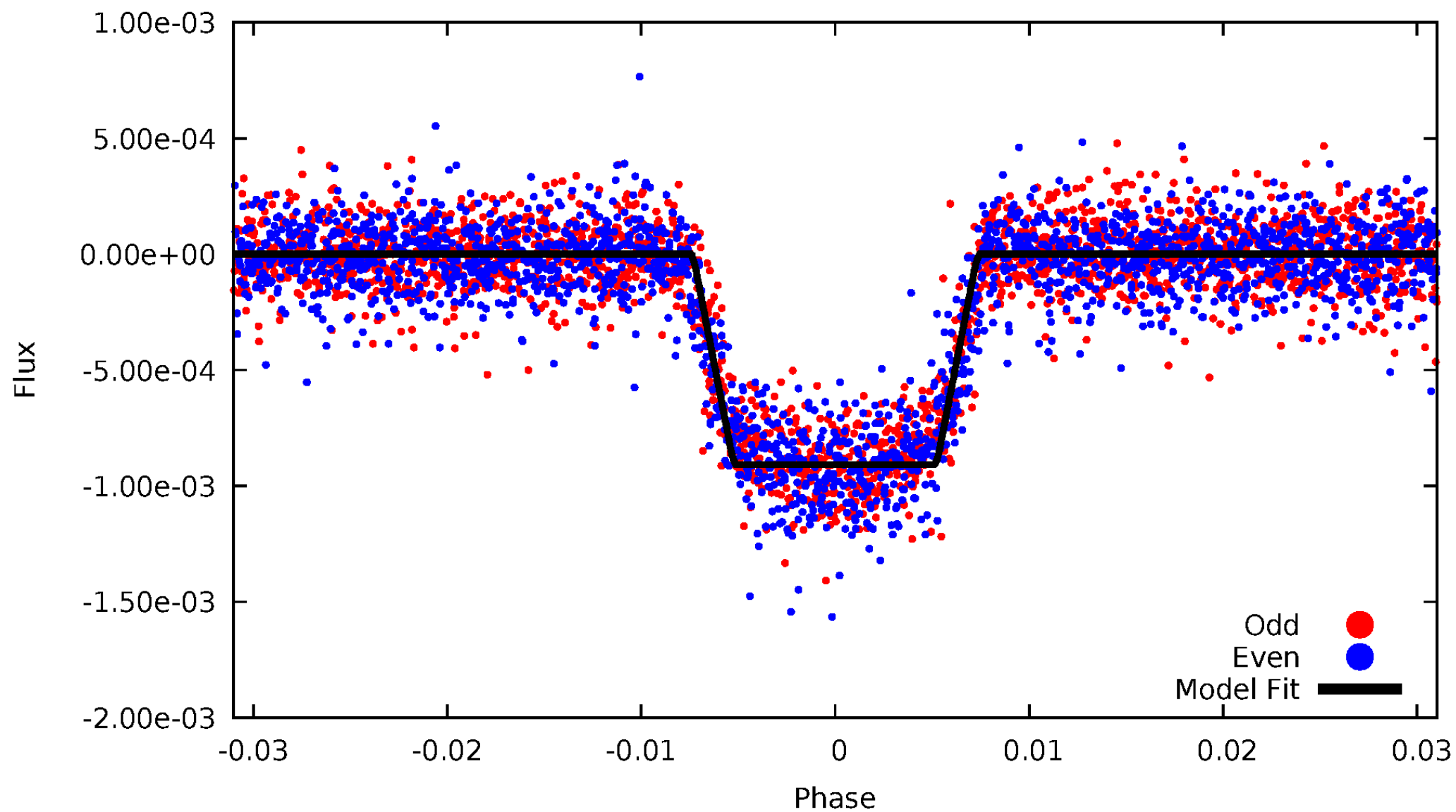
DV Odd/Even

TCE 005735762-01



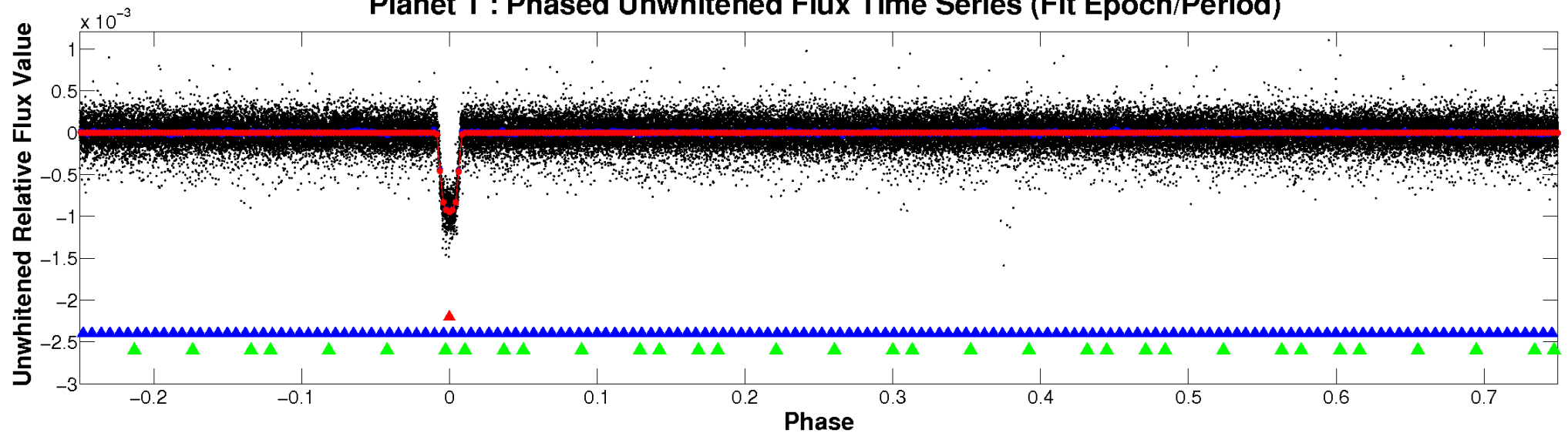
ALT Odd/Even

TCE 005735762-01

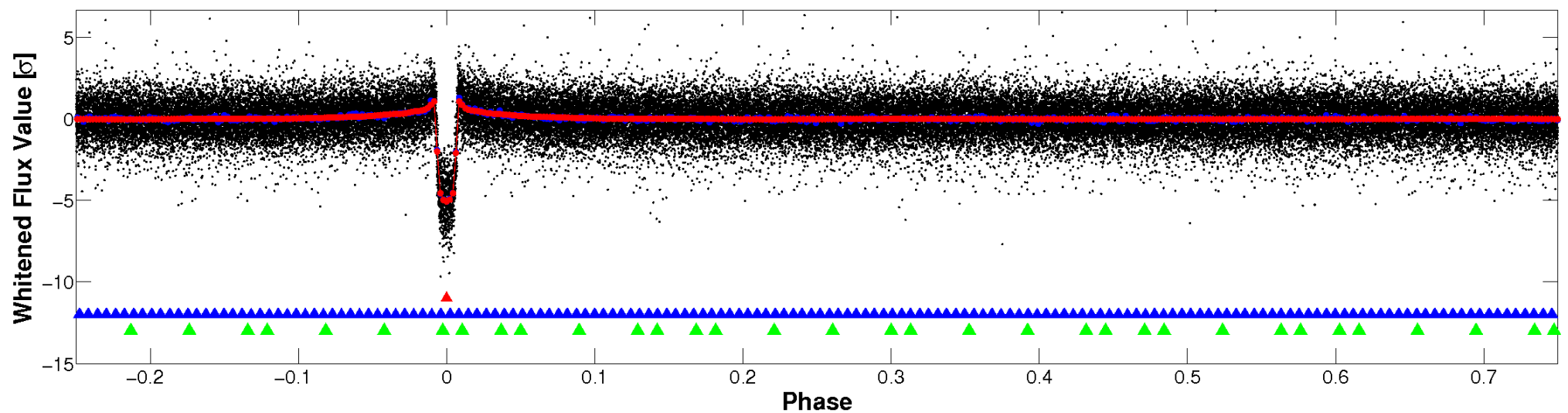


Non-Whitened Vs. Whitened Light Curve

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

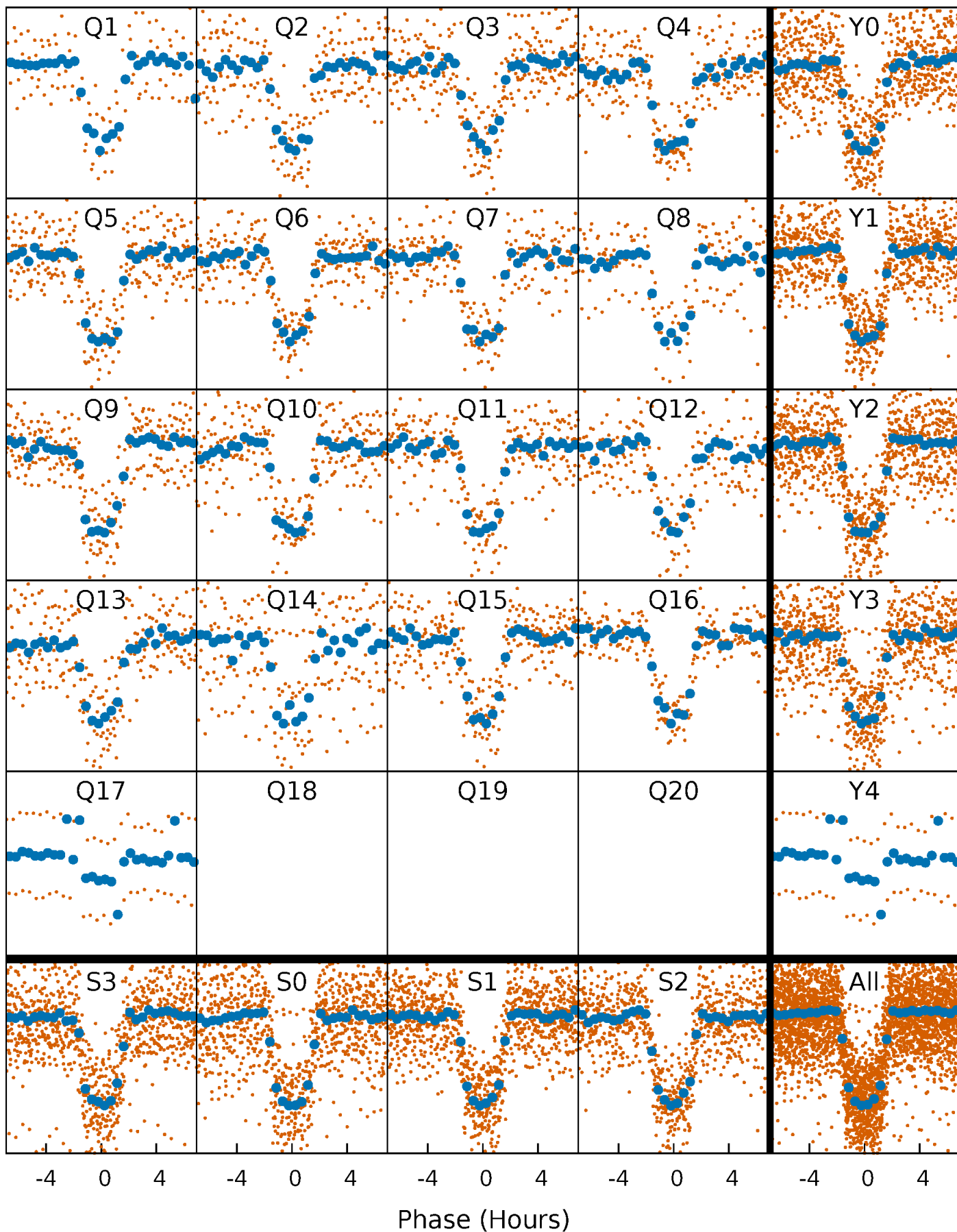


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



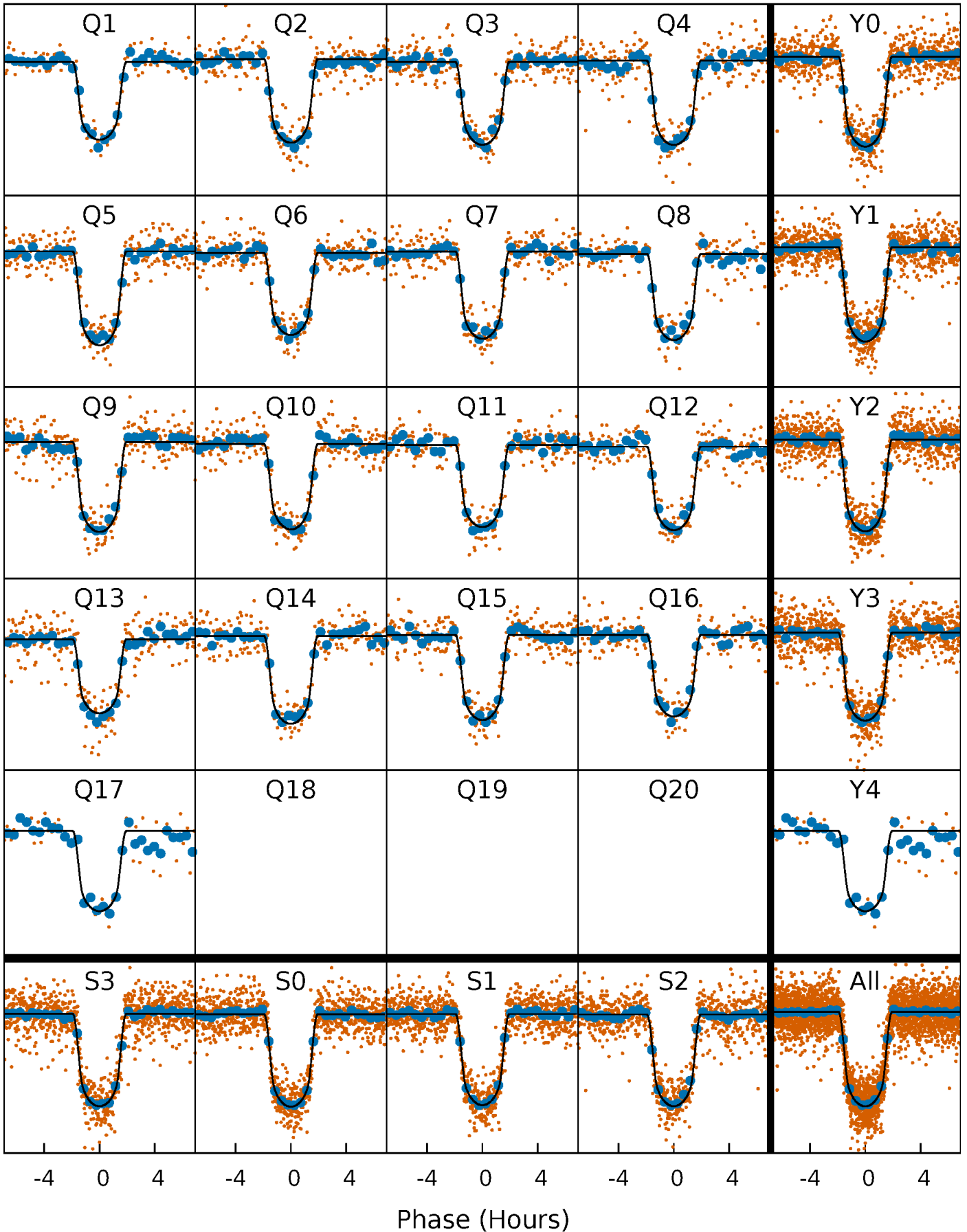
PDC Quarter-Phased Transit Curves

TCE 005735762-01 P= 9.673938 Days $T_0=135.015027$ (BKJD)



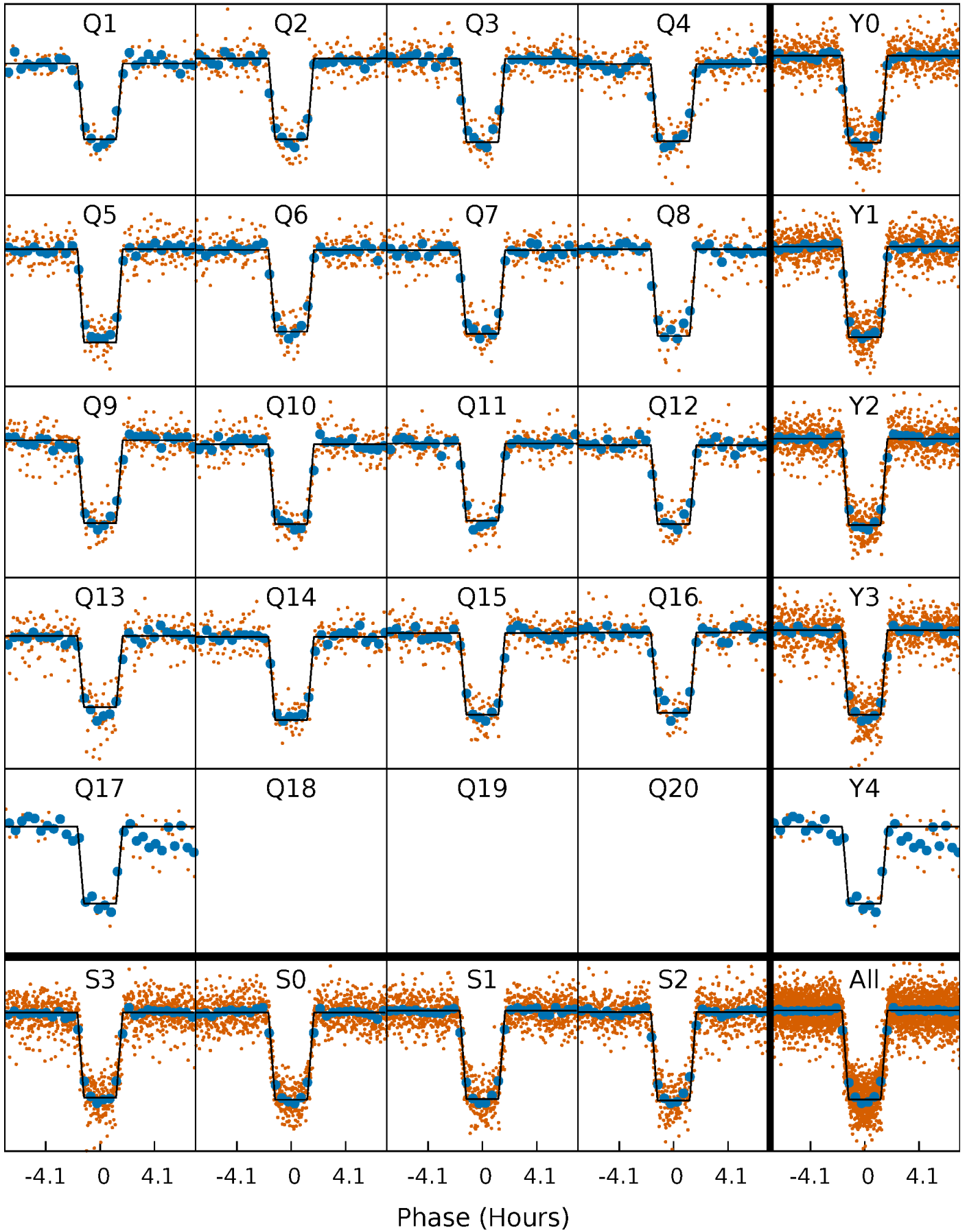
DV Quarter-Phased Transit Curves

TCE 005735762-01 P= 9.673938 Days $T_0=135.015027$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

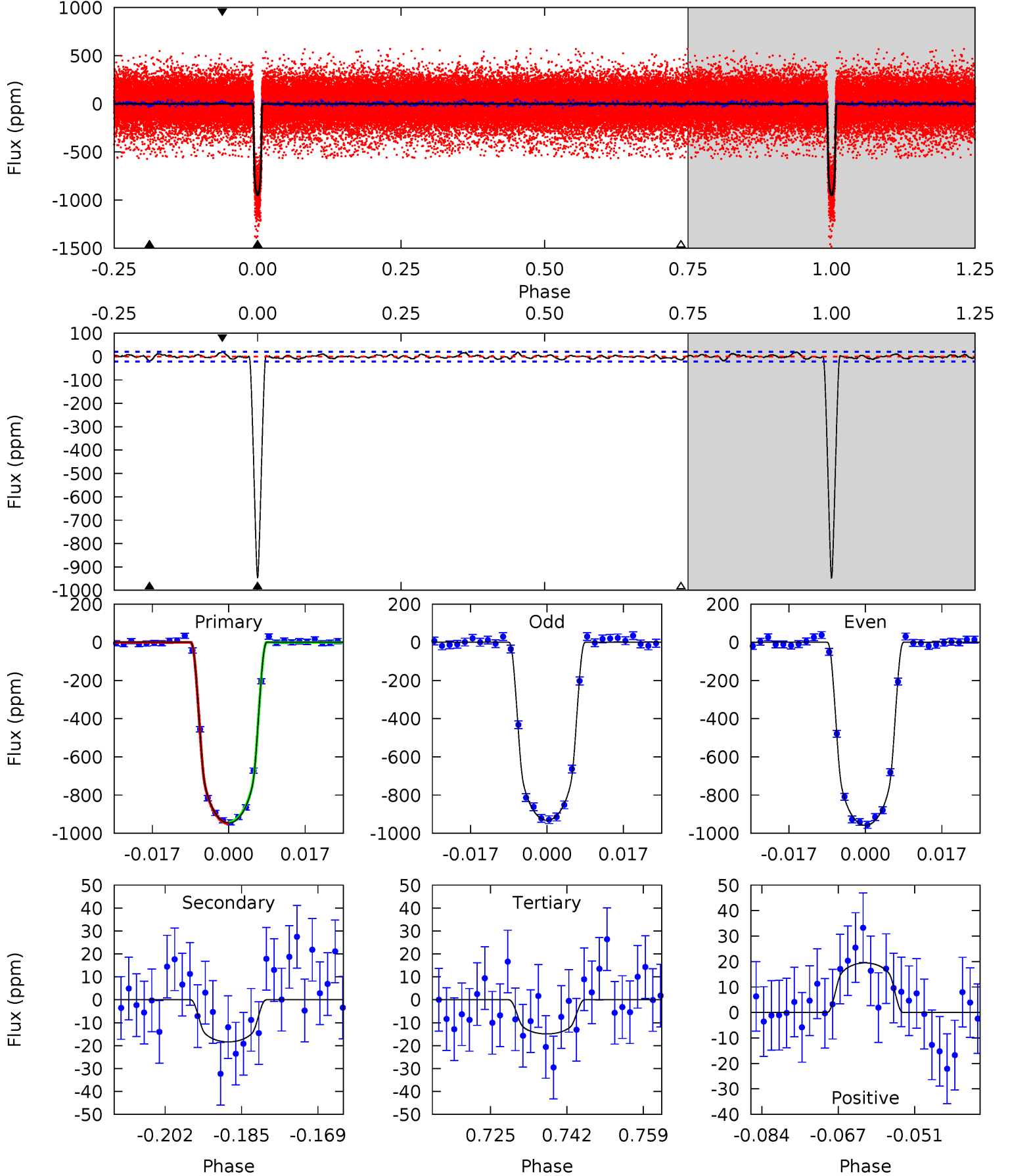
TCE 005735762-01 P= 9.673895 Days $T_0=135.017956$ (BKJD)



DV Model-Shift Uniqueness Test

005735762-01, P = 9.673938 Days, E = 125.341089 Days

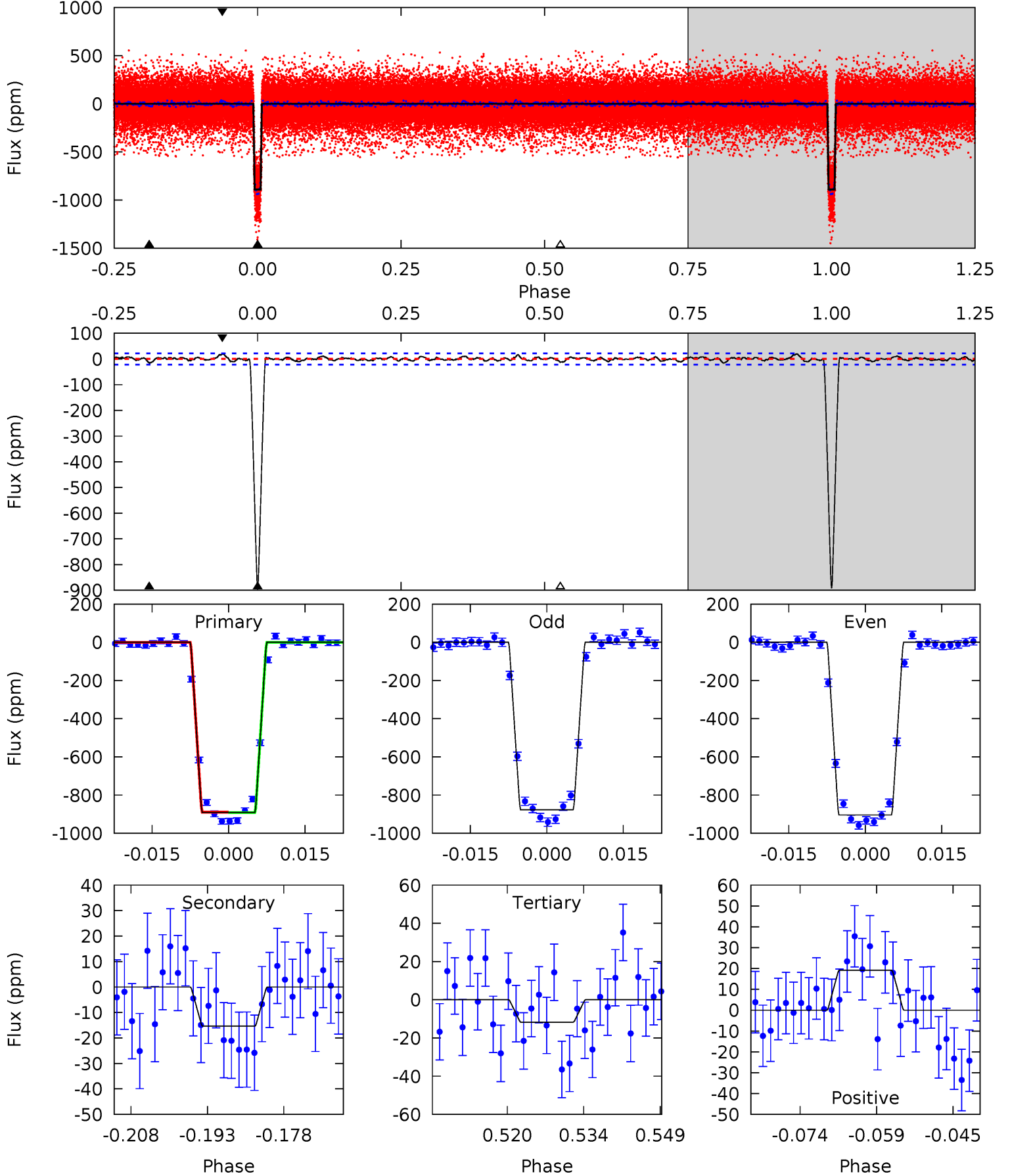
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 218.7 | 4.25 | 3.45 | 4.50 | 4.93 | 2.39 | 1.36 | 215.3 | 214.2 | 0.80 | -0.25 | 3.05 | 1.01 | 0.02 | 0.74 |



Alt Model-Shift Uniqueness Test

005735762-01, P = 9.673895 Days, E = 125.344061 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 200.9 | 3.45 | 2.64 | 4.31 | 4.95 | 2.44 | 1.16 | 198.3 | 196.6 | 0.81 | -0.86 | 2.99 | 1.01 | 0.02 | 0.23 |



Stellar Parameters For KIC 005735762

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5192^{+103}_{-103} | $4.489^{+0.066}_{-0.054}$ | $0.180^{+0.150}_{-0.150}$ | $0.873^{+0.065}_{-0.065}$ | $0.856^{+0.050}_{-0.041}$ | $1.814^{+0.468}_{-0.311}$ |
| | +2%/-2% | +1%/-1% | +83%/-83% | +7%/-7% | +6%/-5% | +26%/-17% |
| Source | SPE61 | SPE61 | SPE61 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005735762-01 / KOI 0148.02

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|---------------------------|
| DV | -18 ± 4 | $3.04^{+0.17}_{-0.17}$ | 1028^{+30}_{-28} | 2655^{+96}_{-100} | $7.706^{+2.254}_{-1.973}$ |
| Alt. | -15 ± 4 | $2.87^{+0.18}_{-0.18}$ | 1027^{+32}_{-29} | 2633^{+102}_{-123} | $7.338^{+2.490}_{-2.356}$ |

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

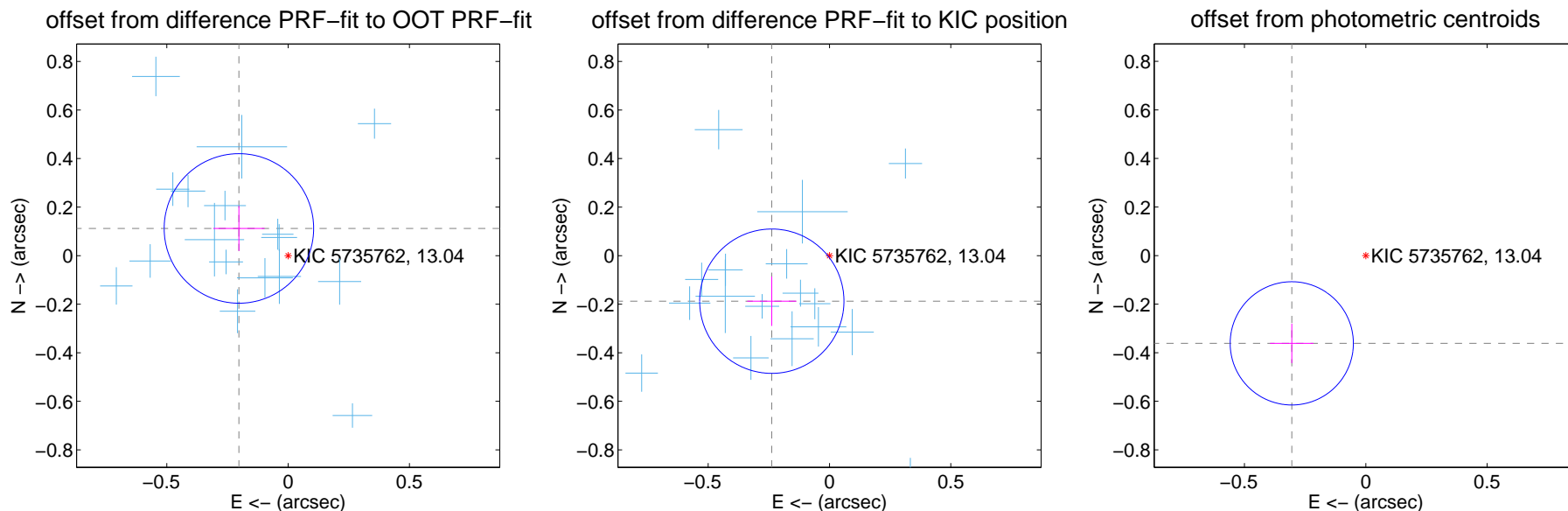
DV Centroid Data

Supplemental centroid analysis for 005735762-01. Kepler magnitude: 13.04. Transit SNR 132.59

There are 17 quarters with good PRF difference image offsets

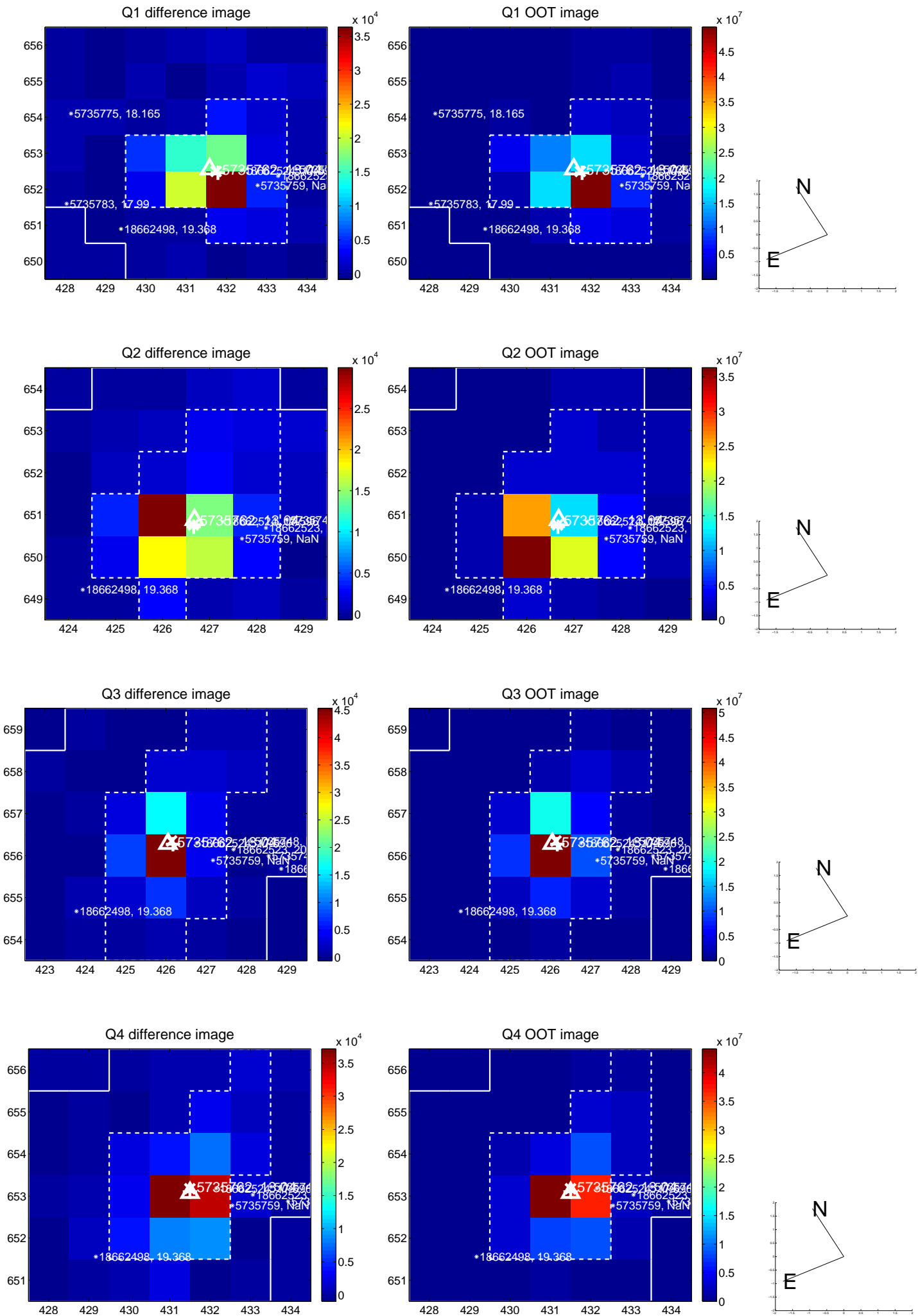
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.232 ± 0.103 | 2.26 | 0.203 ± 0.106 | 0.112 ± 0.092 |
| PRF-fit source offset from KIC position | 0.303 ± 0.099 | 3.06 | 0.238 ± 0.101 | -0.188 ± 0.102 |
| photometric centroid source offset | 0.47 ± 0.08 | 5.59 | 0.30 ± 0.09 | -0.36 ± 0.08 |

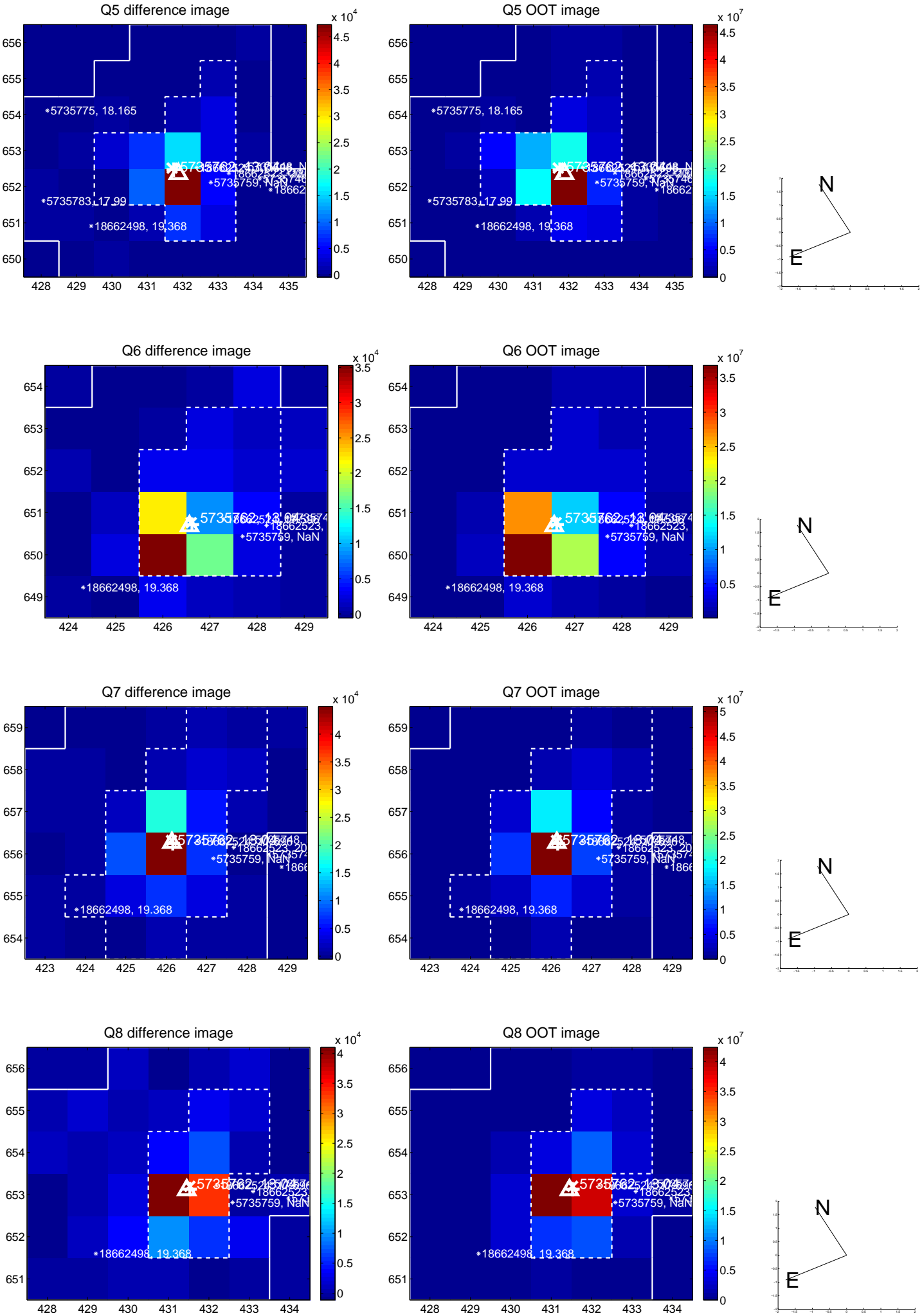


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

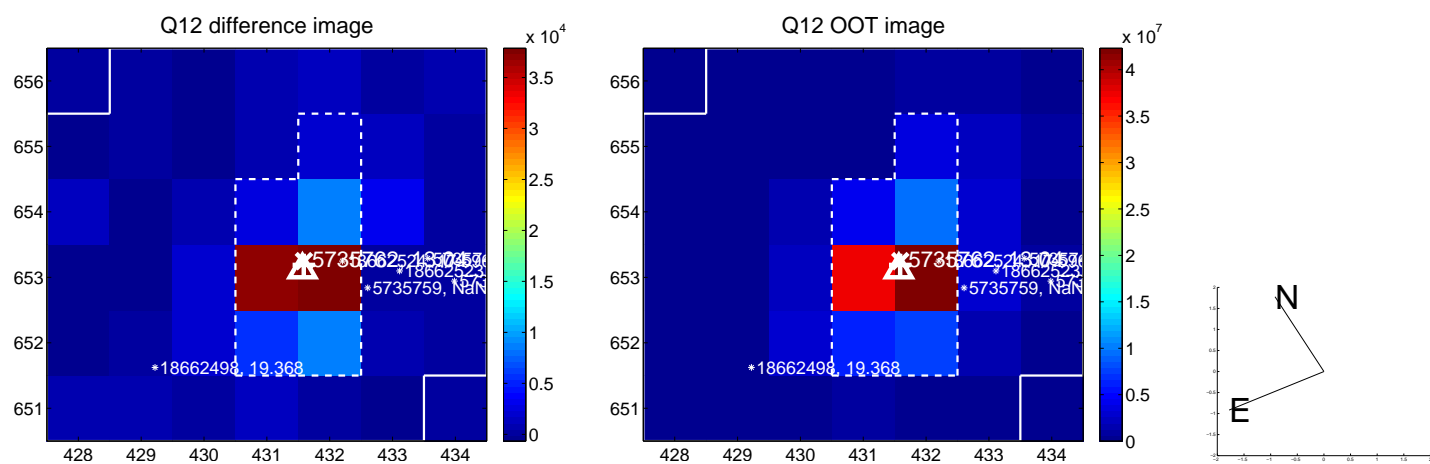
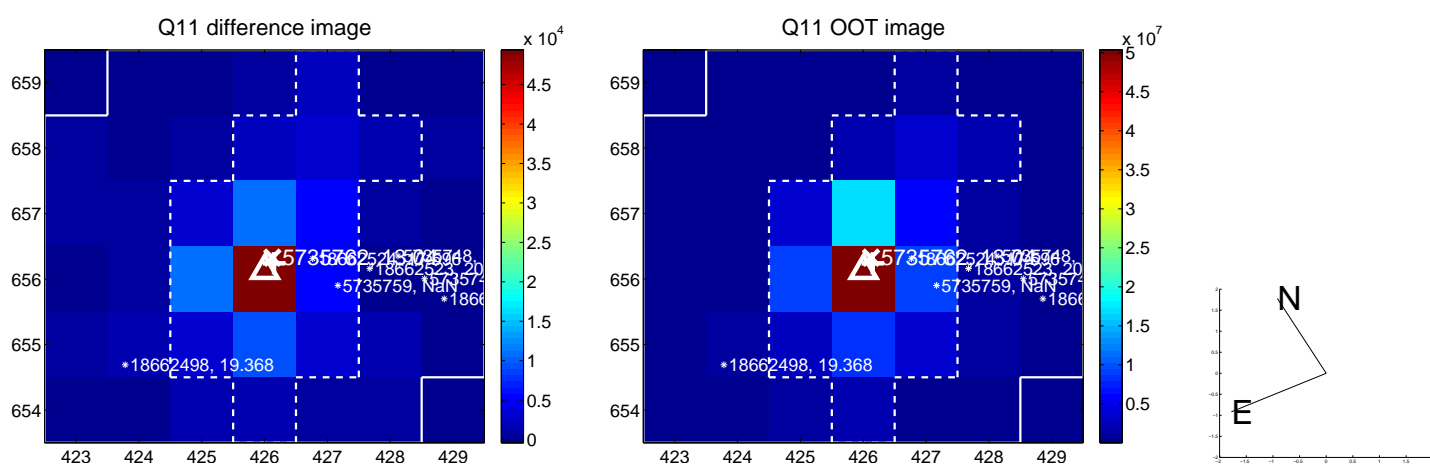
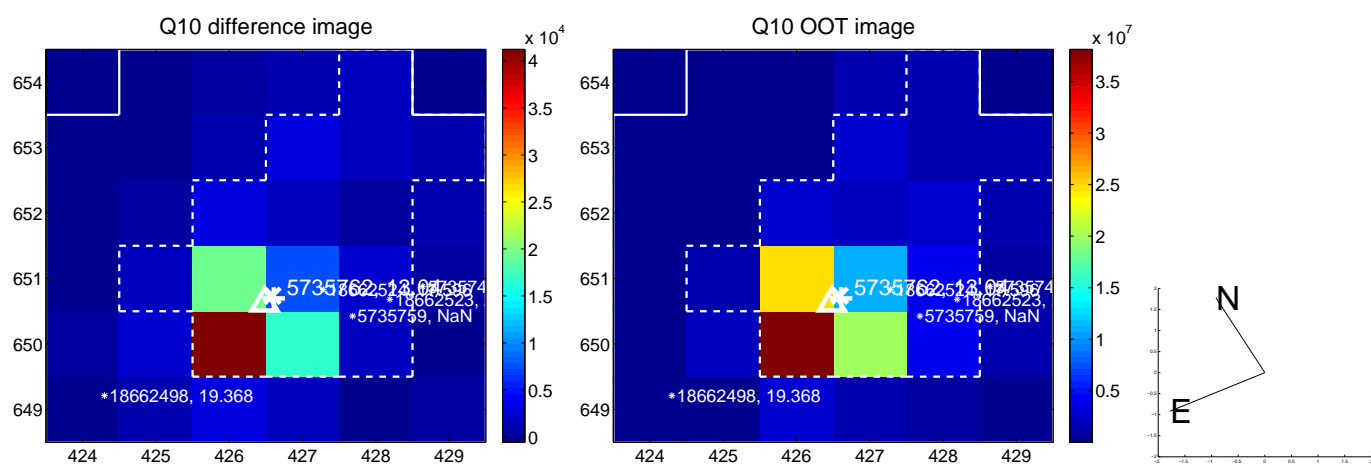
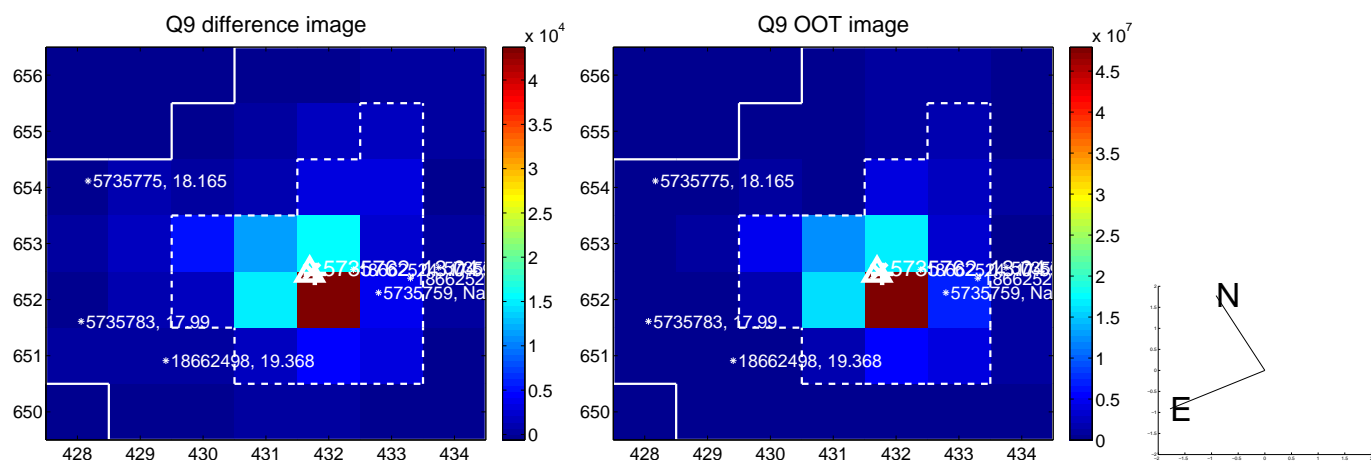
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



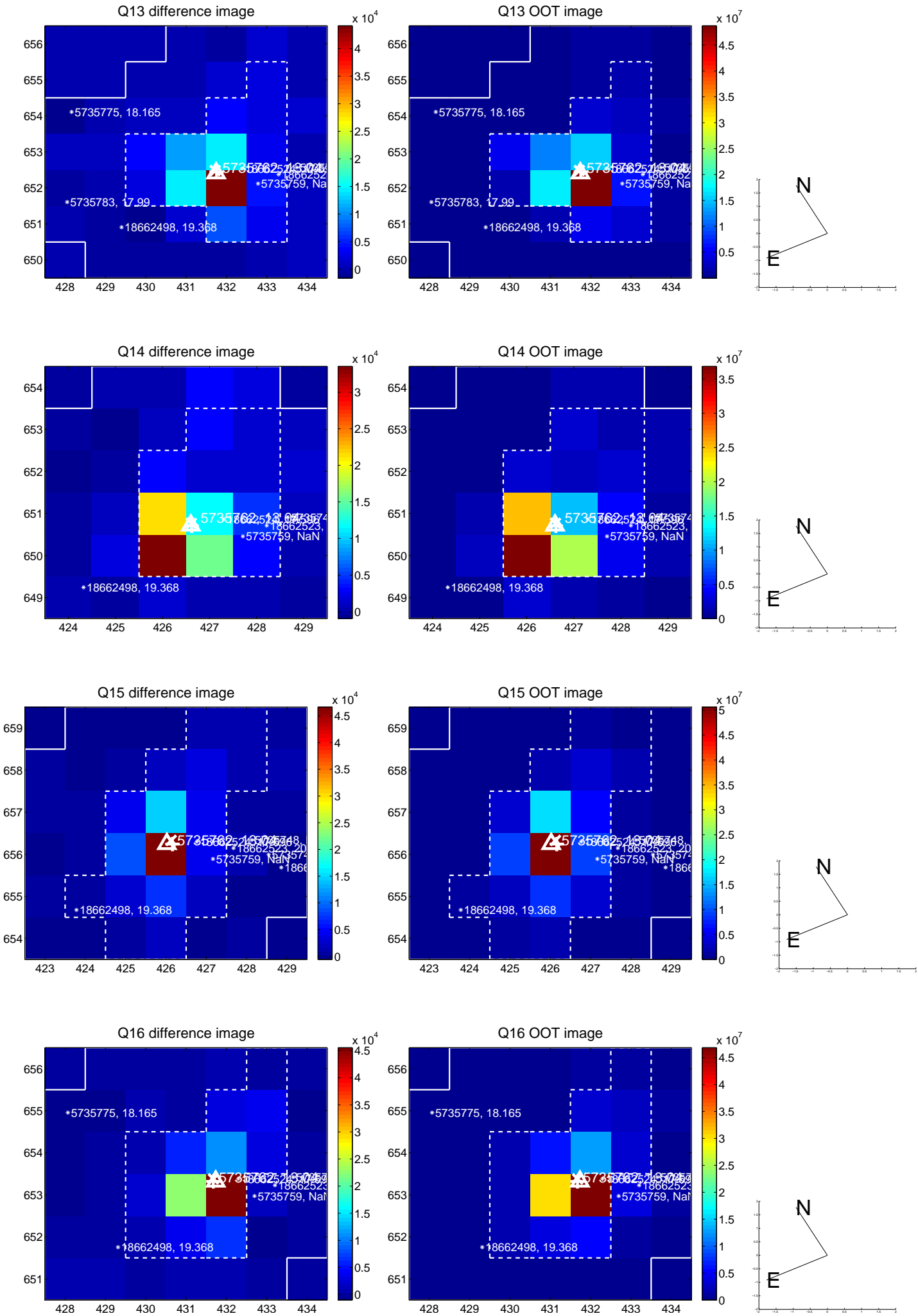
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



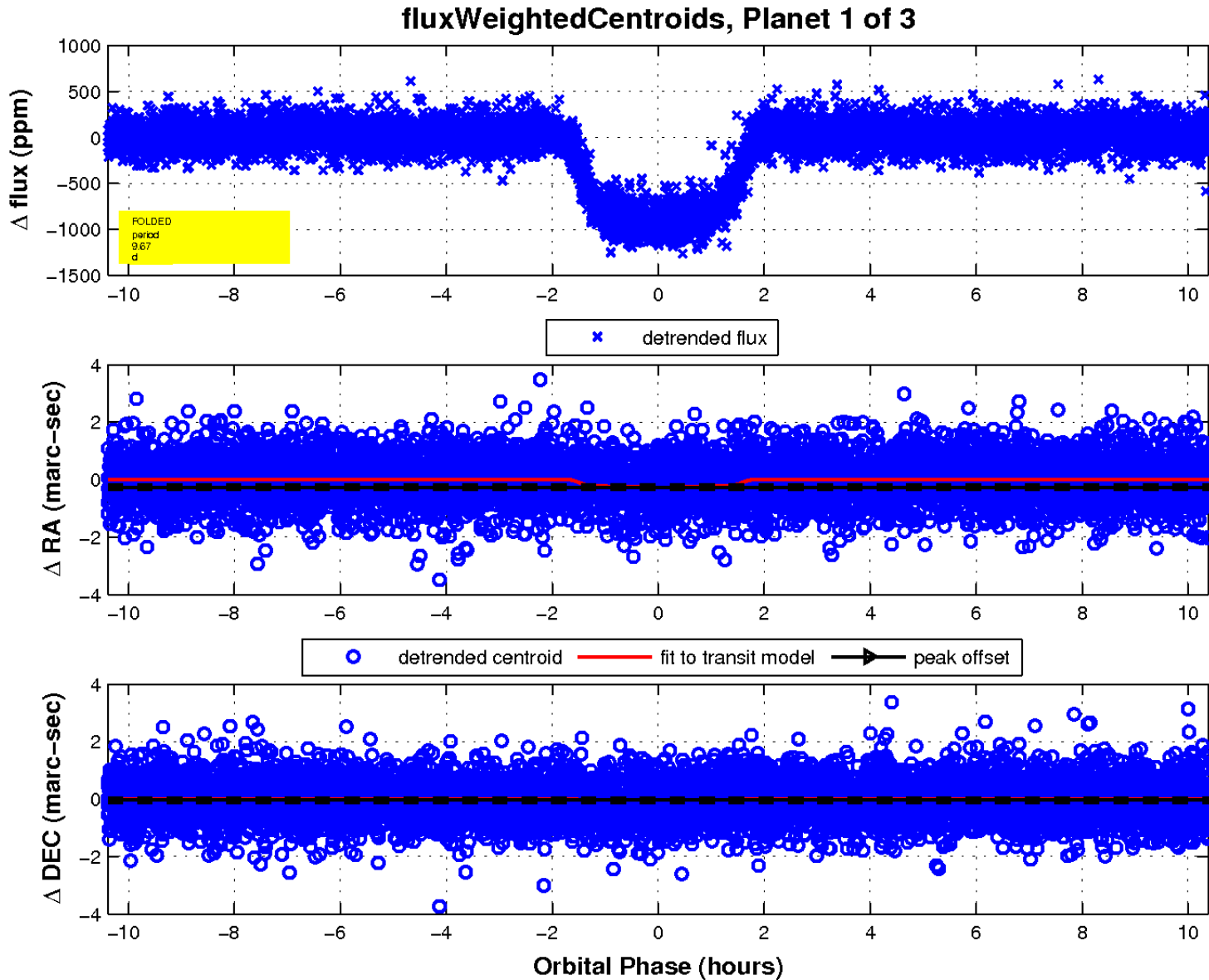
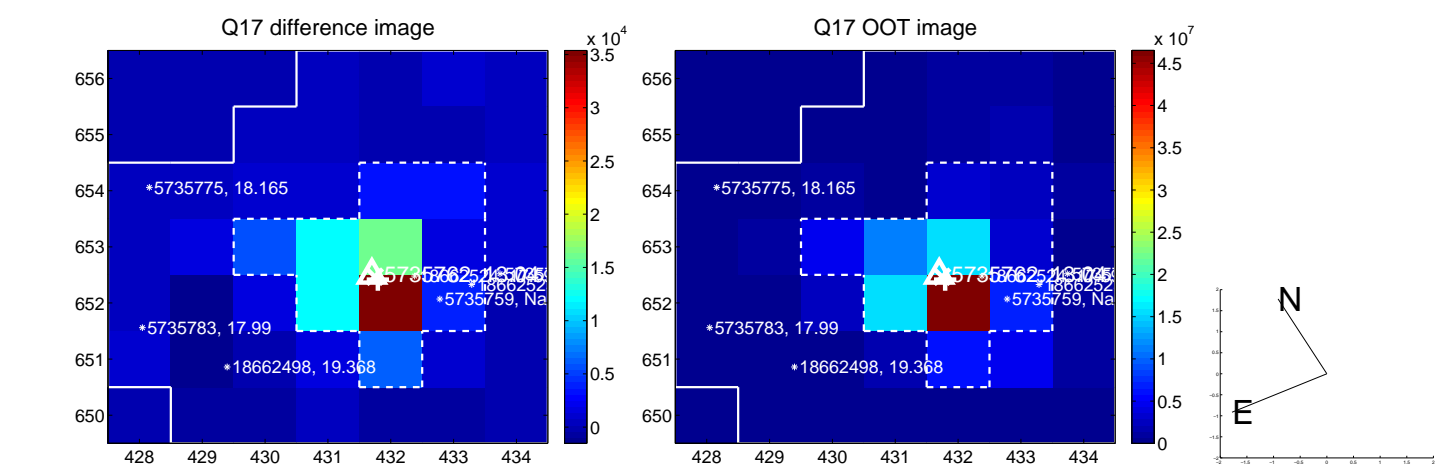
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



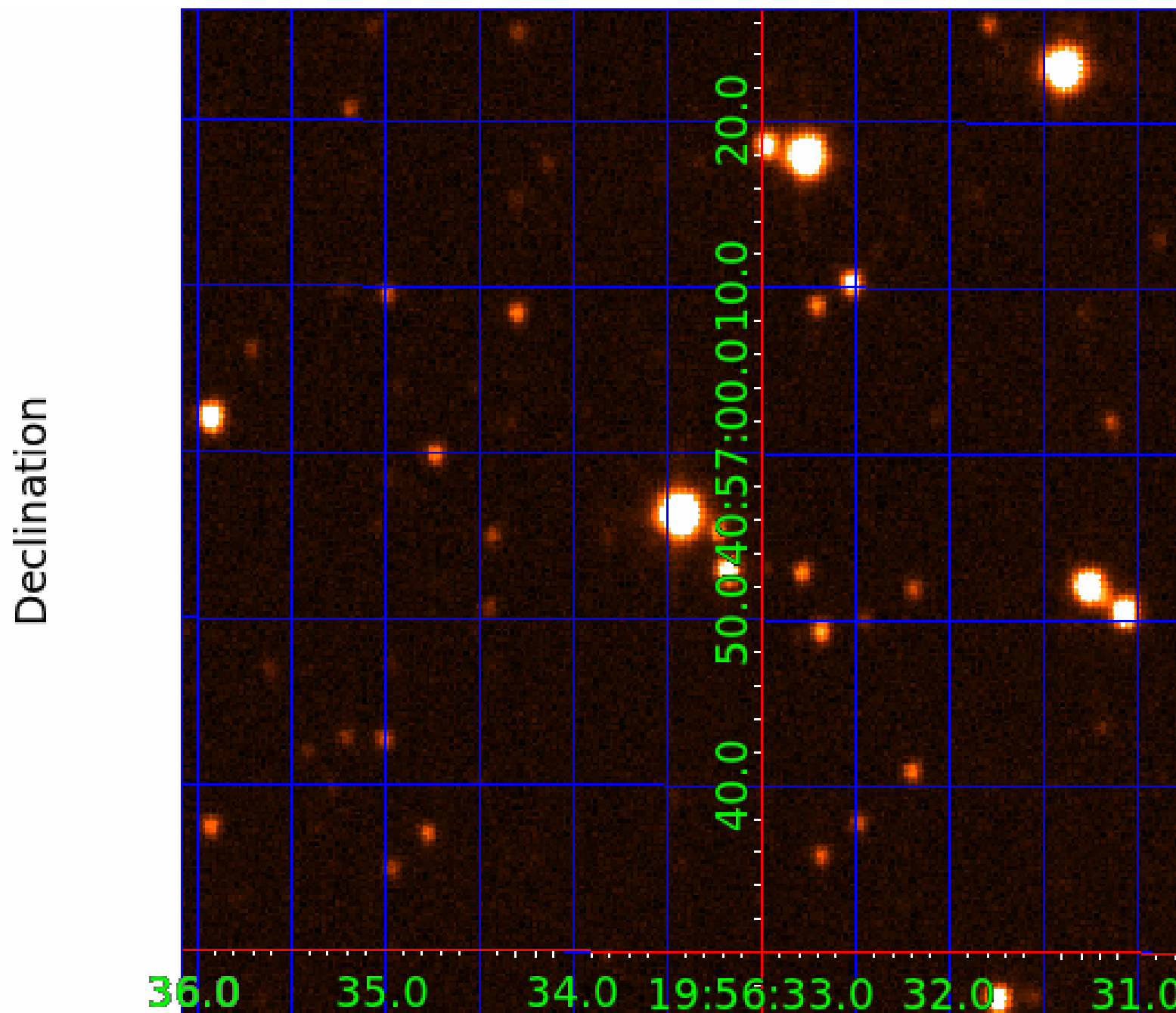
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005735762

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-------|-------|-----------------------------|-----------------|------------------------|------------------------|
| 005735762-01 | OBS | 0148.02 | 9.673938 | 135.015027 | 951.3 | 3.462 | 134.1 | 132.6 | 0.87 | 5192 | 3.04 | 69.63 |
| 005735762-02 | OBS | 0148.01 | 4.778009 | 133.616592 | 456.8 | 2.990 | 83.9 | 93.5 | 0.87 | 5192 | 2.30 | 178.34 |
| 005735762-03 | OBS | 0148.03 | 42.896279 | 146.063982 | 555.6 | 5.986 | 44.1 | 45.7 | 0.87 | 5192 | 2.36 | 9.56 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 005735762-01 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | NO_COMMENT |
| 005735762-02 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | NO_COMMENT |
| 005735762-03 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | NO_COMMENT |

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

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

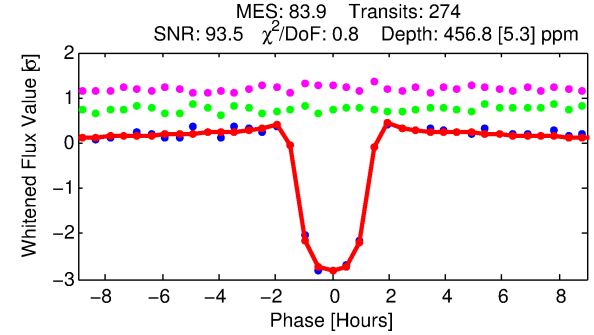
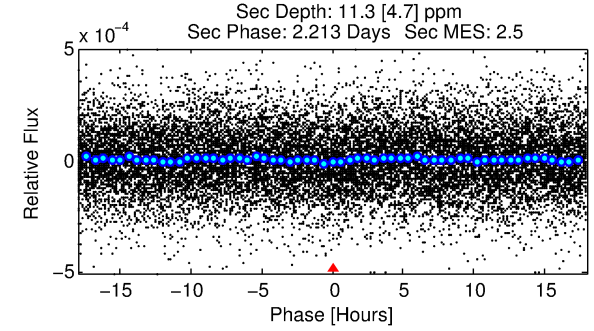
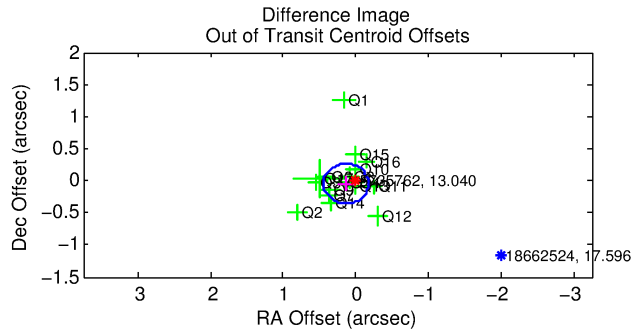
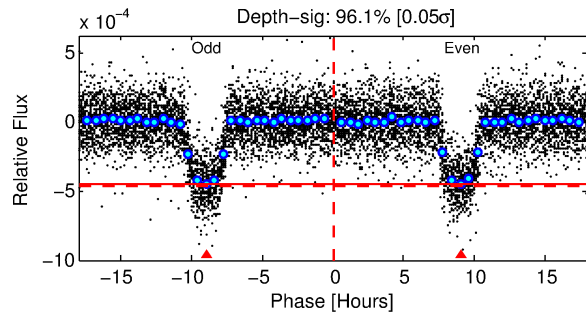
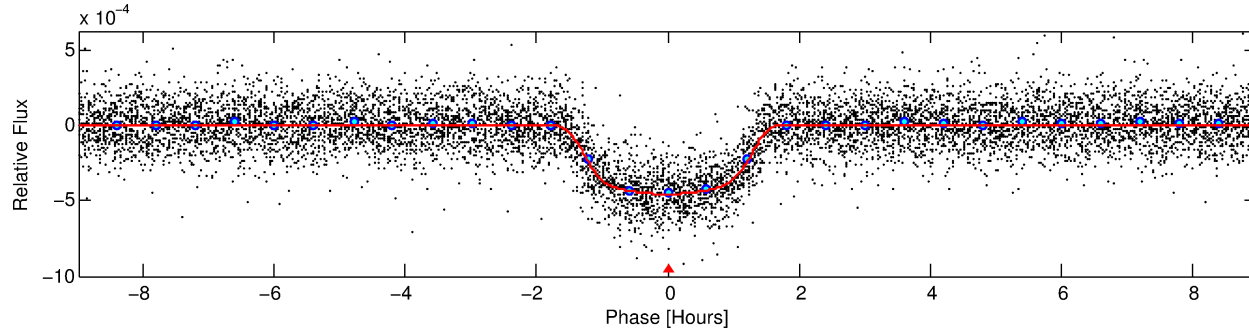
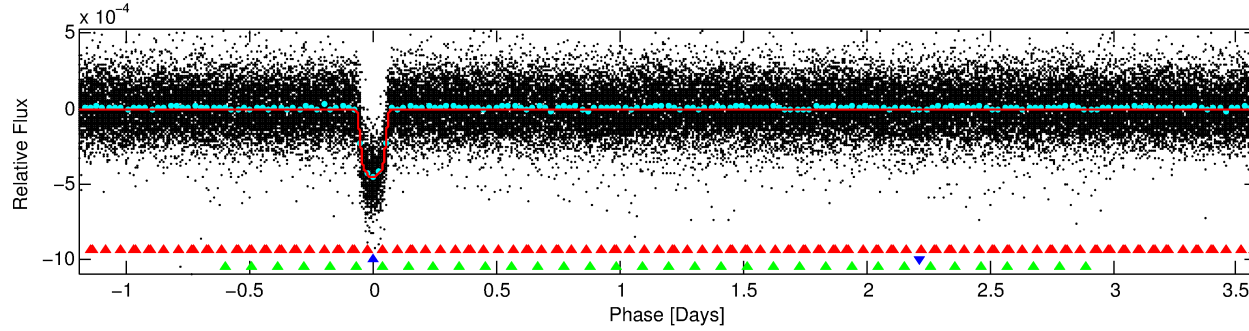
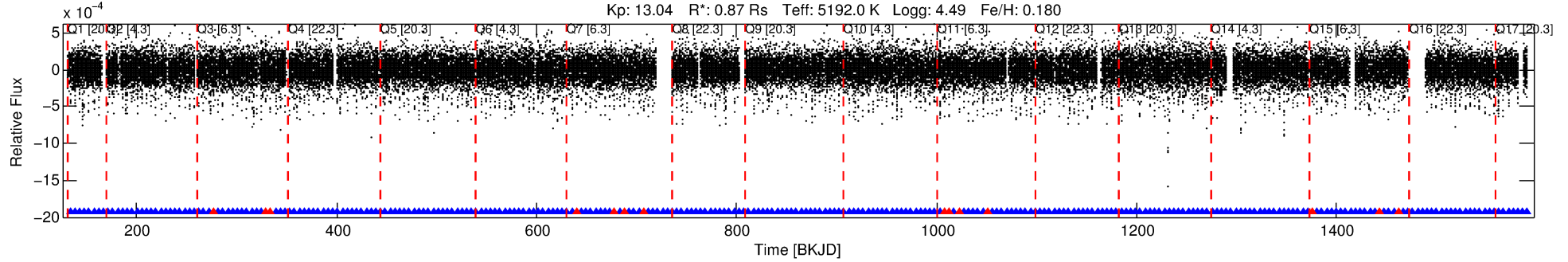
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005735762-02

No Significant Match Found

DV One-Page Summary

KIC: 5735762 Candidate: 2 of 3 Period: 4.778 d
KOI: K00148.01 Name: Kepler-48b Corr: 0.959



DV Fit Results:

Period = 4.77801 [0.00000] d
Epoch = 133.6166 [0.0005] BKJD
Rp/R* = 0.0241 [0.0008]
a/R* = 5.79 [0.74]
b = 0.91 [0.03]
Seff = 178.34 [24.60]
Teq = 932 [32] K
Rp = 2.30 [0.19] Re
a = 0.0527 [0.0037] AU
Ag = 3.28 [1.42] [1.61 σ]
Teffp = 1939 [206] K [4.83 σ]

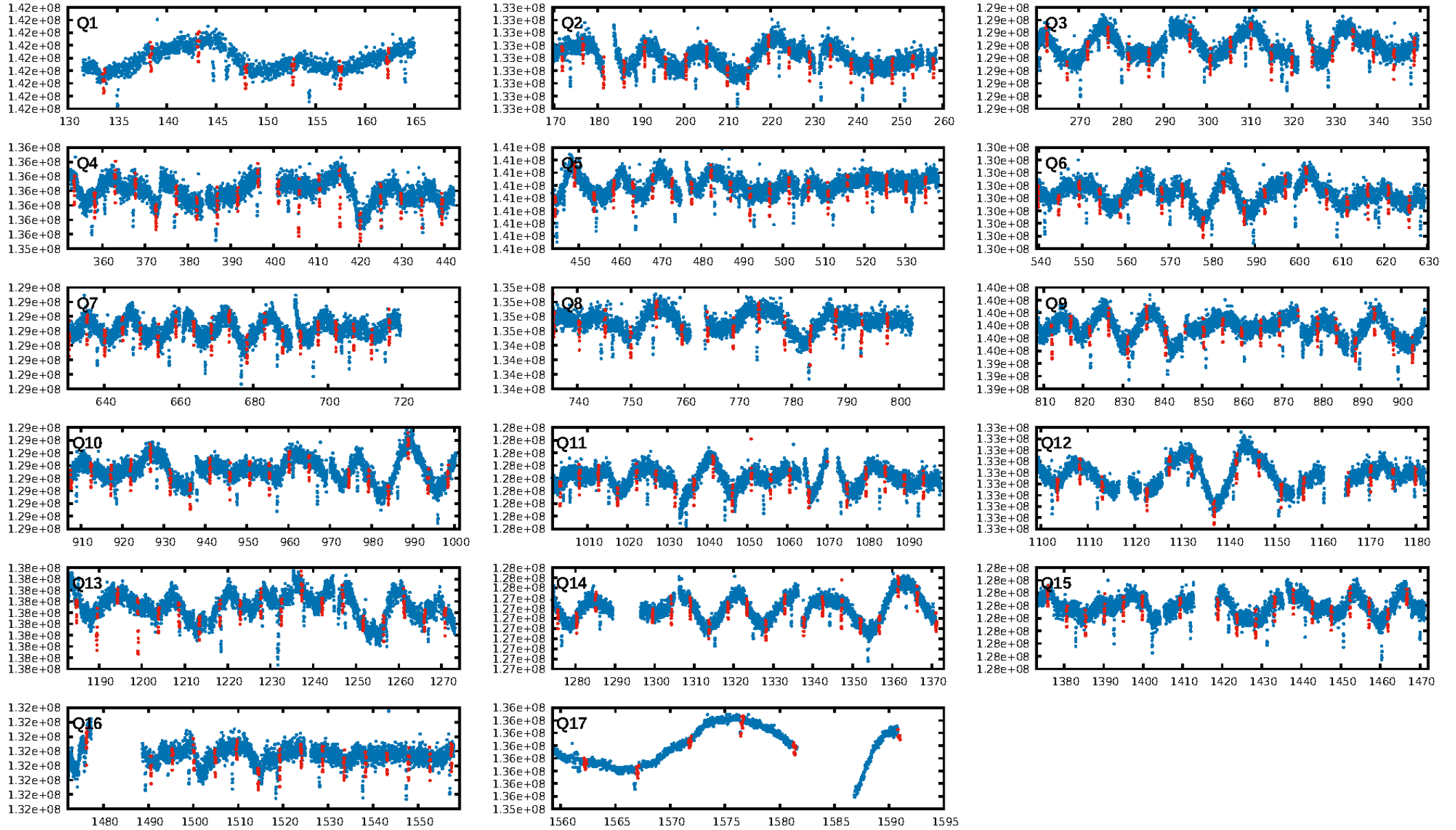
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [25.69 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.95 [248/262]
GhostDiagnostic-chr: 5.607
Centroid-sig: 37.3%
Centroid-so: 0.494 arcsec [3.85 σ]
OotOffset-rm: 0.147 arcsec [1.42 σ]
KicOffset-rm: 0.325 arcsec [2.78 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

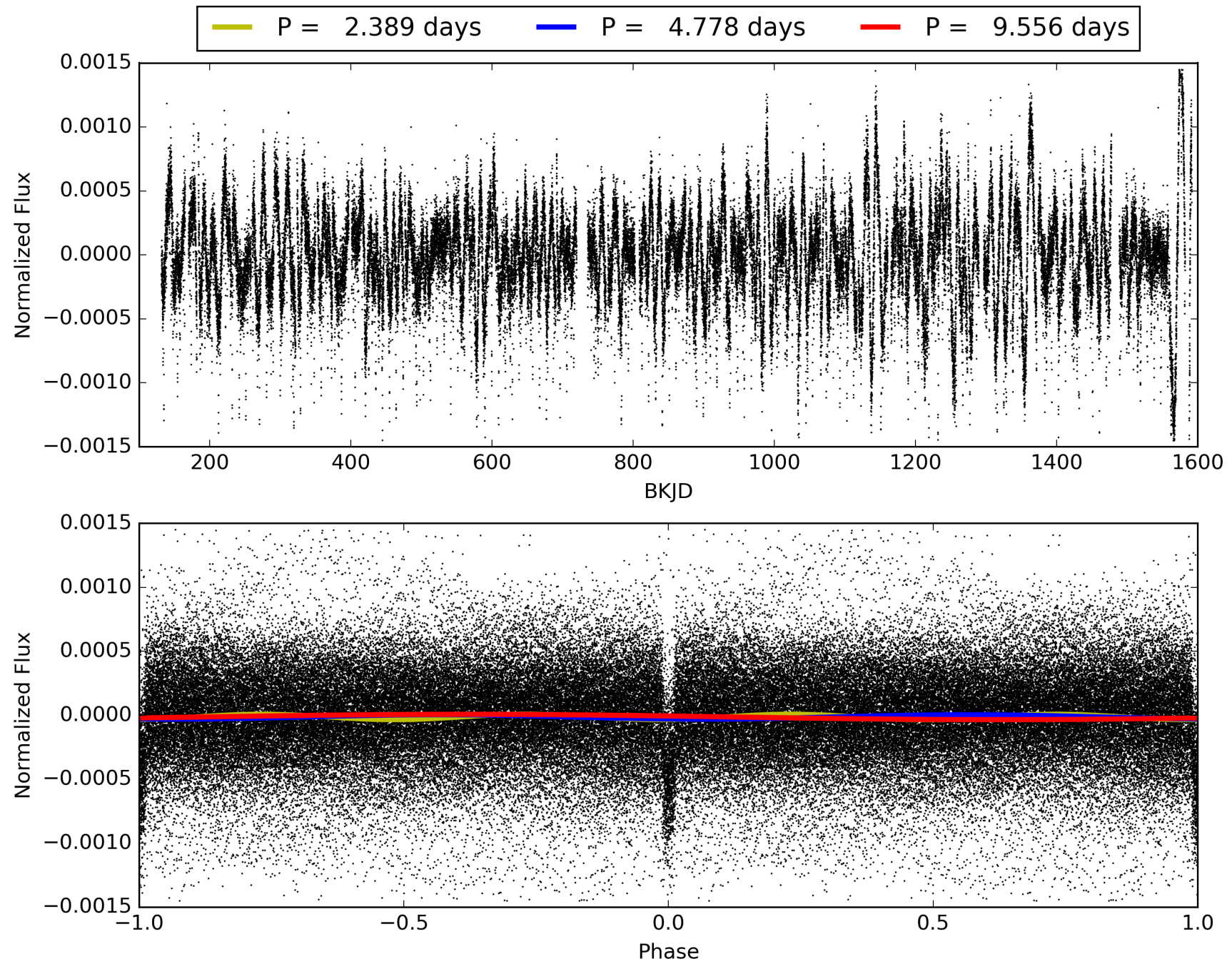
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:28:38 Z

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

TCE 005735762-02, PDC Light Curves

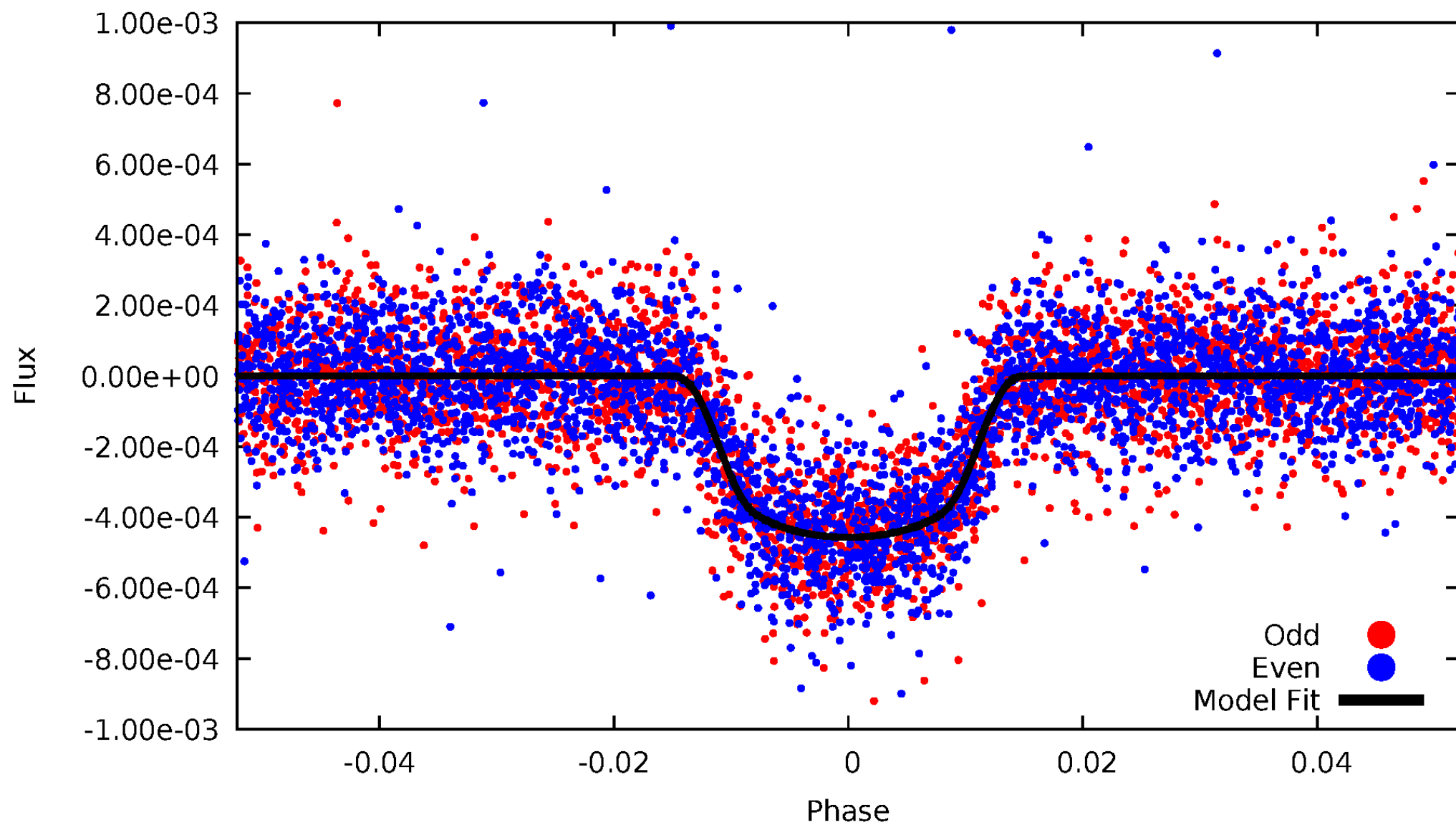


TCE 005735762-02



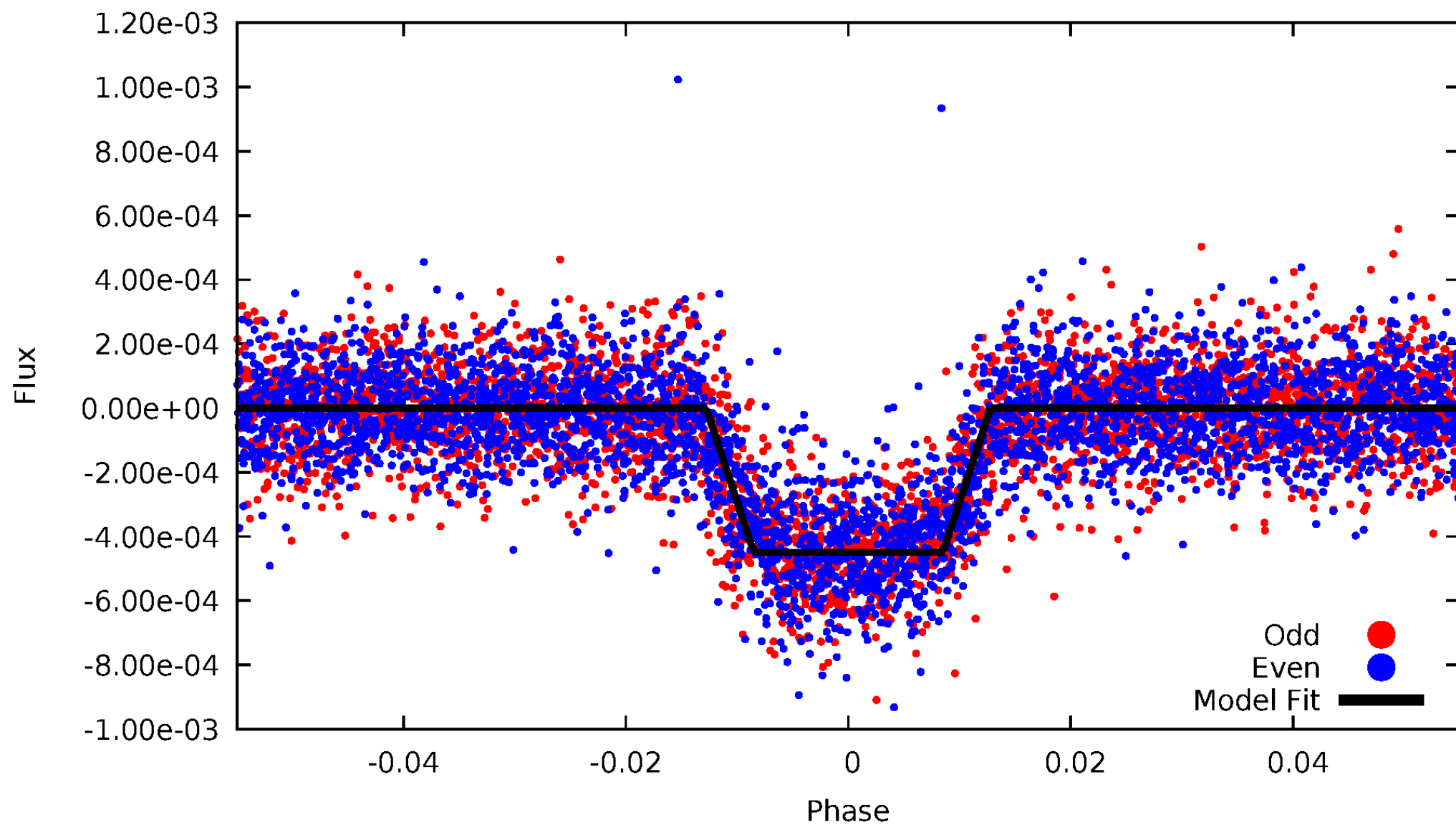
DV Odd/Even

TCE 005735762-02



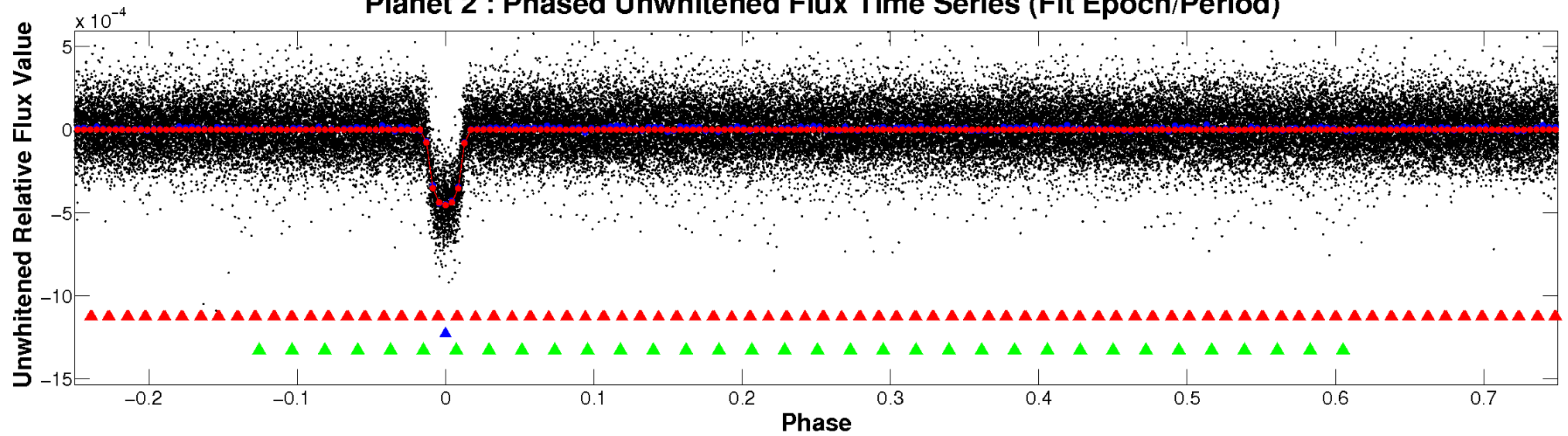
ALT Odd/Even

TCE 005735762-02

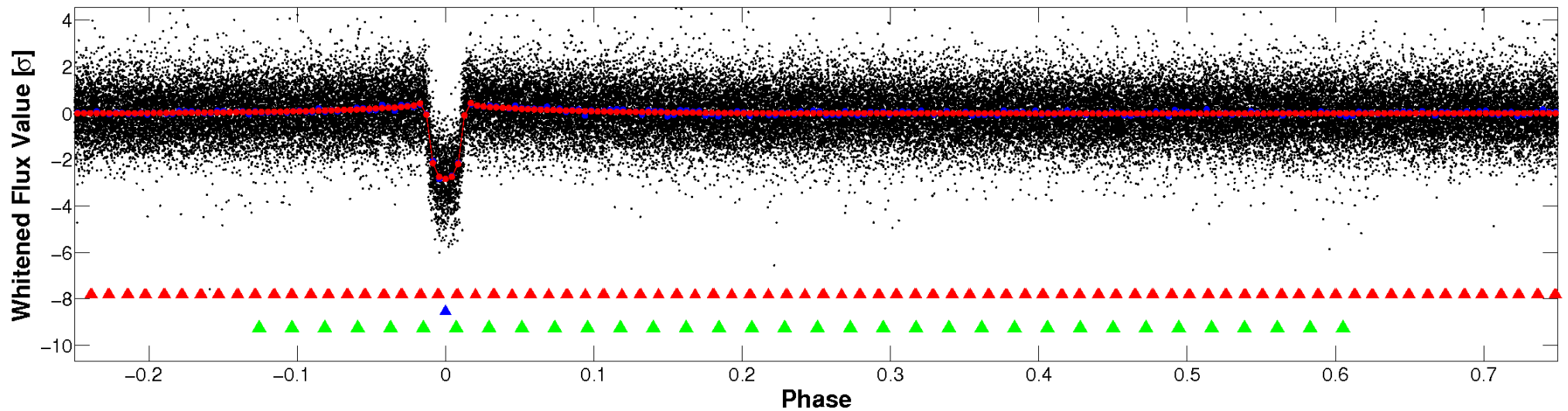


Non-Whitened Vs. Whitened Light Curve

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

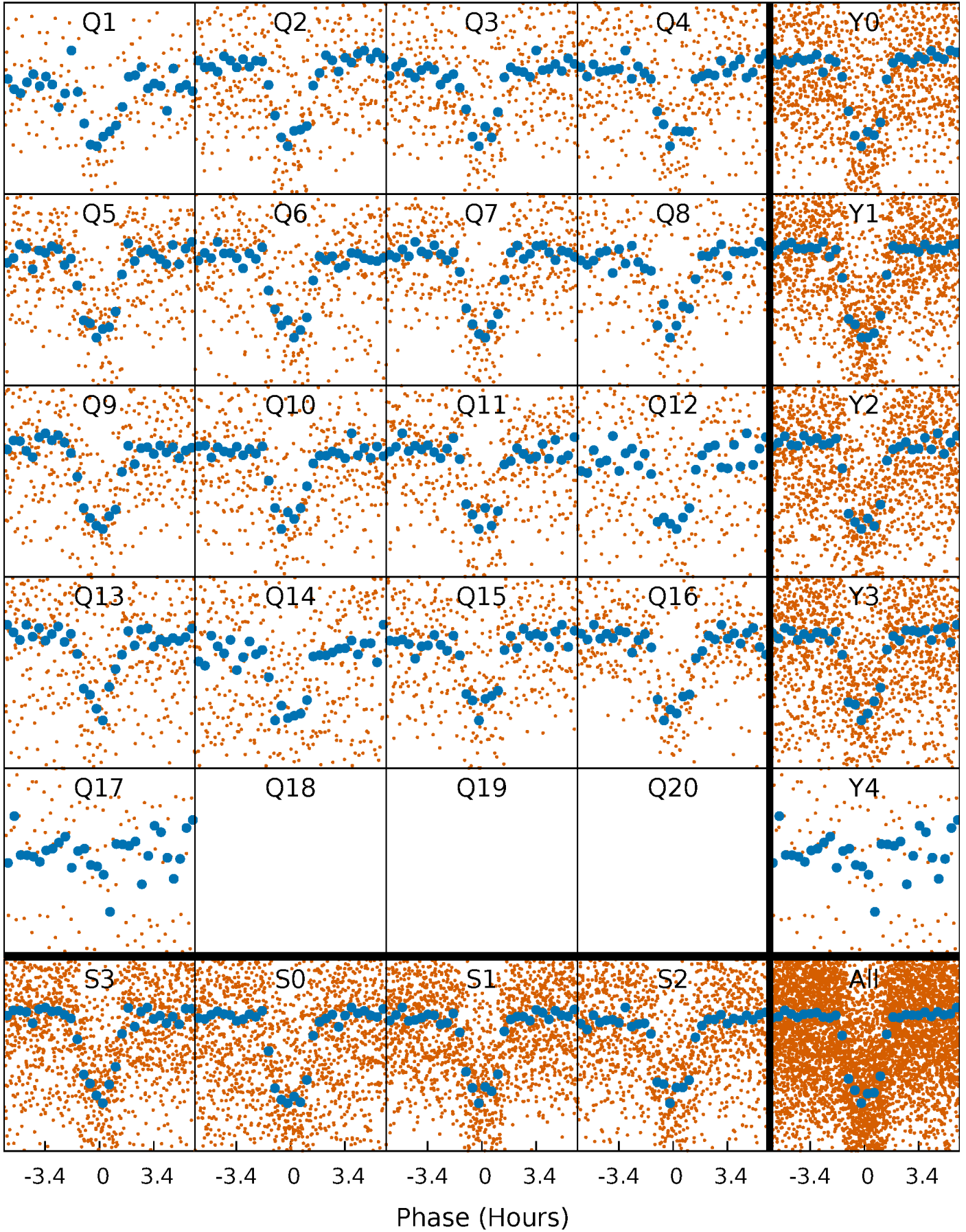


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



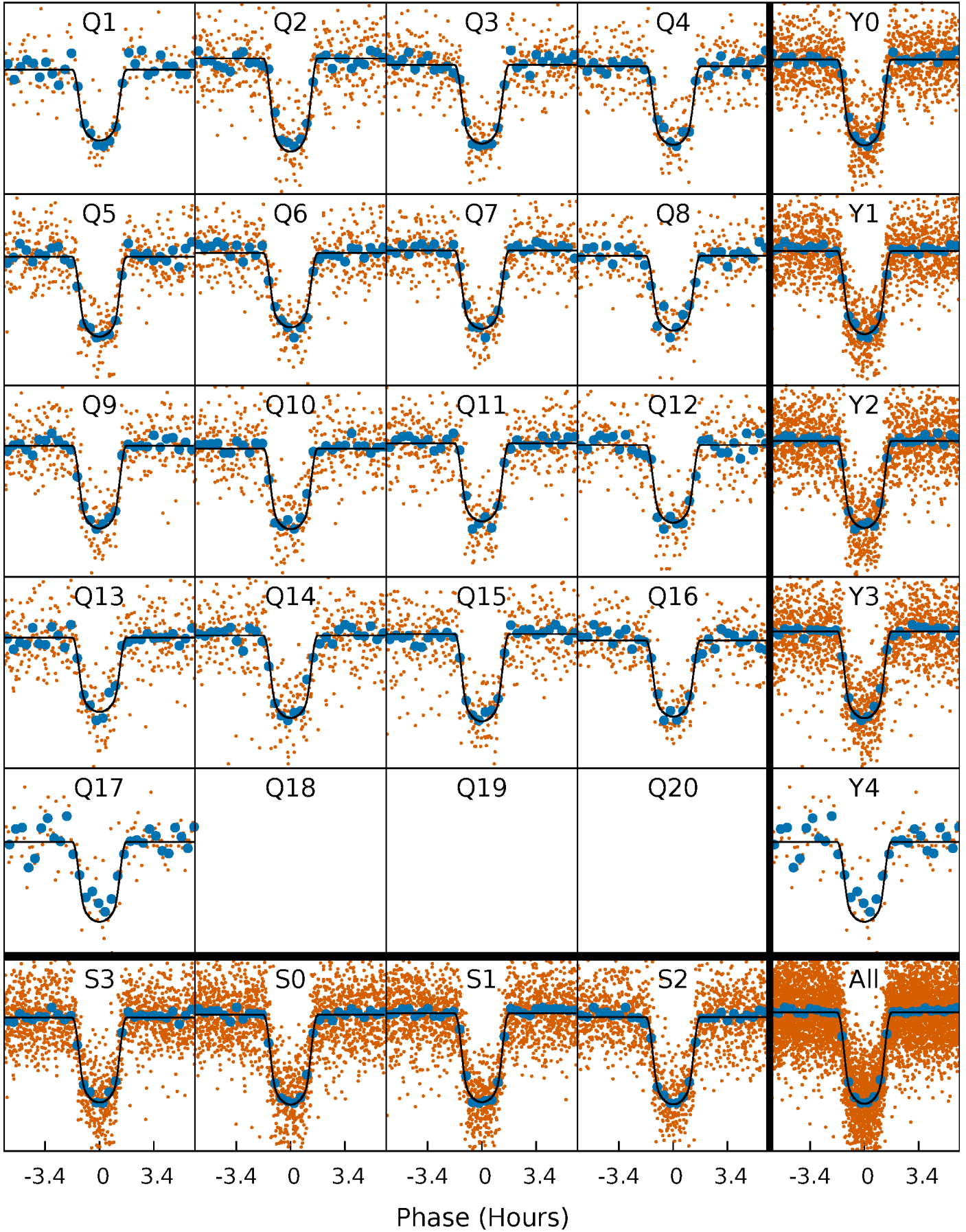
PDC Quarter-Phased Transit Curves

TCE 005735762-02 P= 4.778009 Days $T_0=133.616592$ (BKJD)



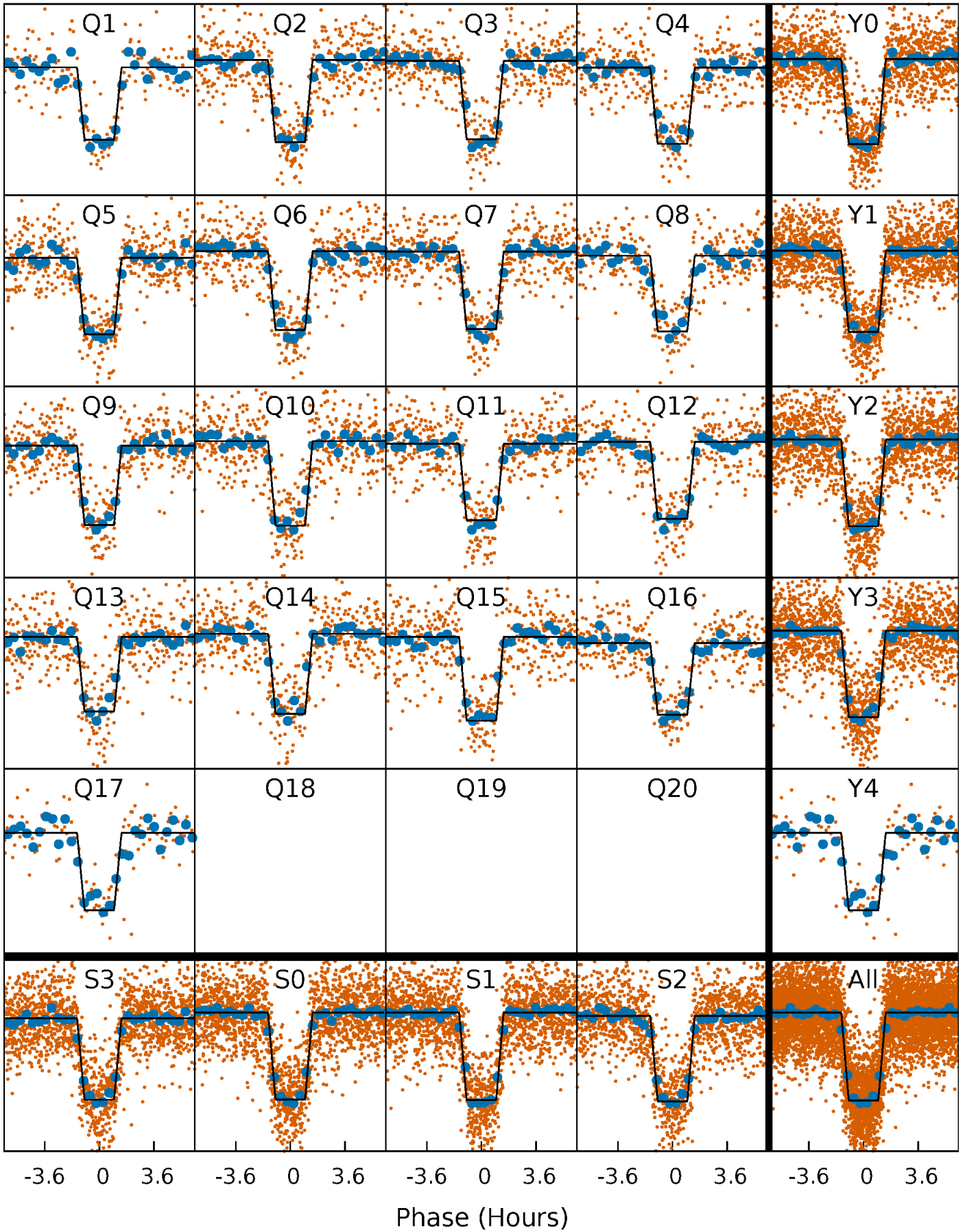
DV Quarter-Phased Transit Curves

TCE 005735762-02 P= 4.778009 Days $T_0=133.616592$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

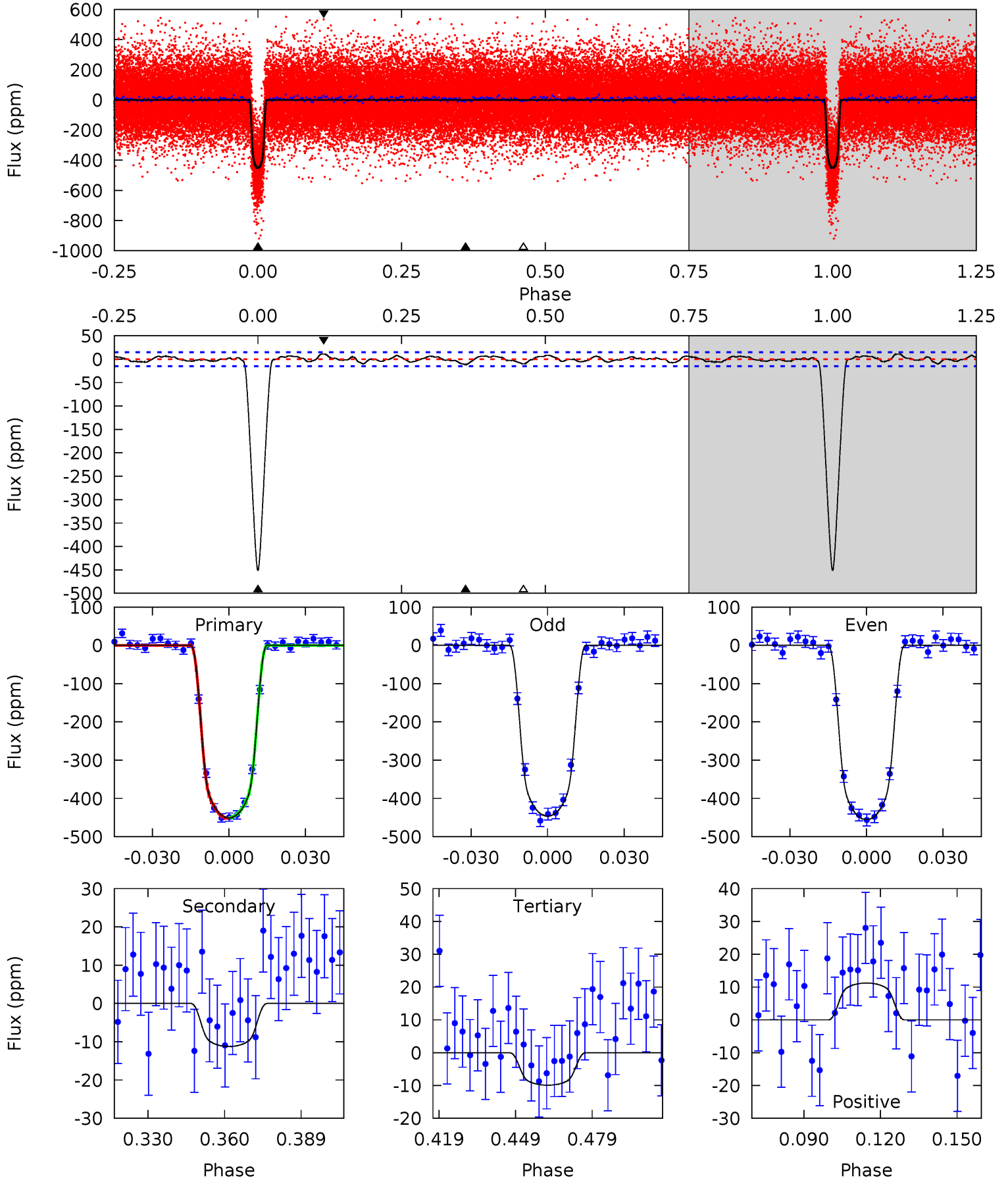
TCE 005735762-02 P= 4.778028 Days $T_0=133.613742$ (BKJD)



DV Model-Shift Uniqueness Test

005735762-02, P = 4.778009 Days, E = 128.838583 Days

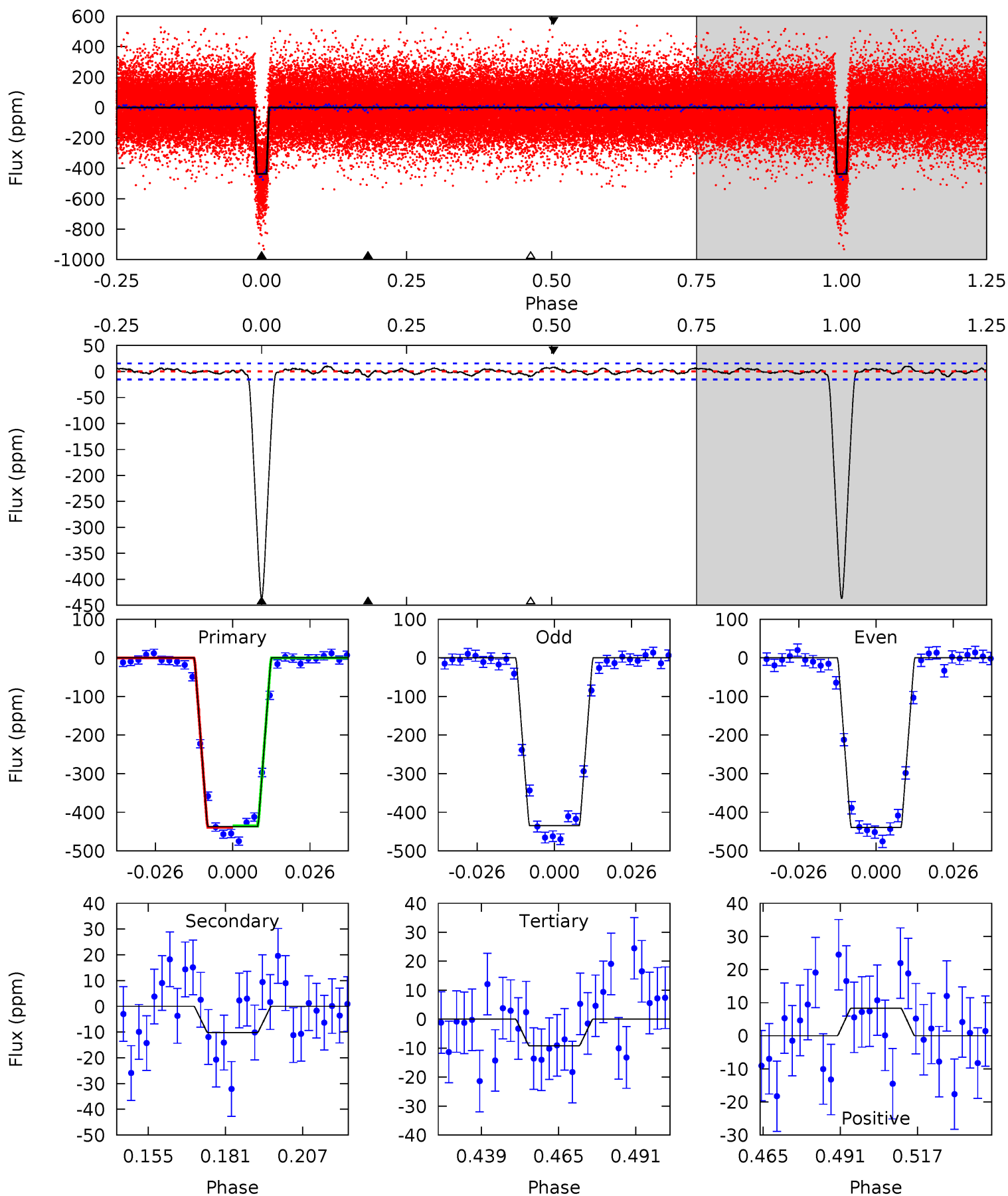
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 145.7 | 3.64 | 3.20 | 3.63 | 4.81 | 2.17 | 1.40 | 142.5 | 142.1 | 0.43 | 0.01 | 1.46 | 0.99 | 0.02 | 0.39 |



Alt Model-Shift Uniqueness Test

005735762-02, P = 4.778028 Days, E = 128.835714 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 136.1 | 3.17 | 2.86 | 2.59 | 4.84 | 2.23 | 1.16 | 133.3 | 133.5 | 0.31 | 0.58 | 0.80 | 1.00 | 0.02 | 0.52 |



Stellar Parameters For KIC 005735762

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5192^{+103}_{-103} | $4.489^{+0.066}_{-0.054}$ | $0.180^{+0.150}_{-0.150}$ | $0.873^{+0.065}_{-0.065}$ | $0.856^{+0.050}_{-0.041}$ | $1.814^{+0.468}_{-0.311}$ |
| | +2%/-2% | +1%/-1% | +83%/-83% | +7%/-7% | +6%/-5% | +26%/-17% |
| Source | SPE61 | SPE61 | SPE61 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005735762-02 / KOI 0148.01

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|---------------------------|
| DV | -11 ± 3 | $2.30^{+0.12}_{-0.13}$ | 1302^{+36}_{-38} | 2663^{+103}_{-138} | $3.215^{+1.044}_{-0.967}$ |
| Alt. | -10 ± 3 | $2.03^{+0.11}_{-0.12}$ | 1301^{+34}_{-39} | 2719^{+122}_{-147} | $3.773^{+1.310}_{-1.215}$ |

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

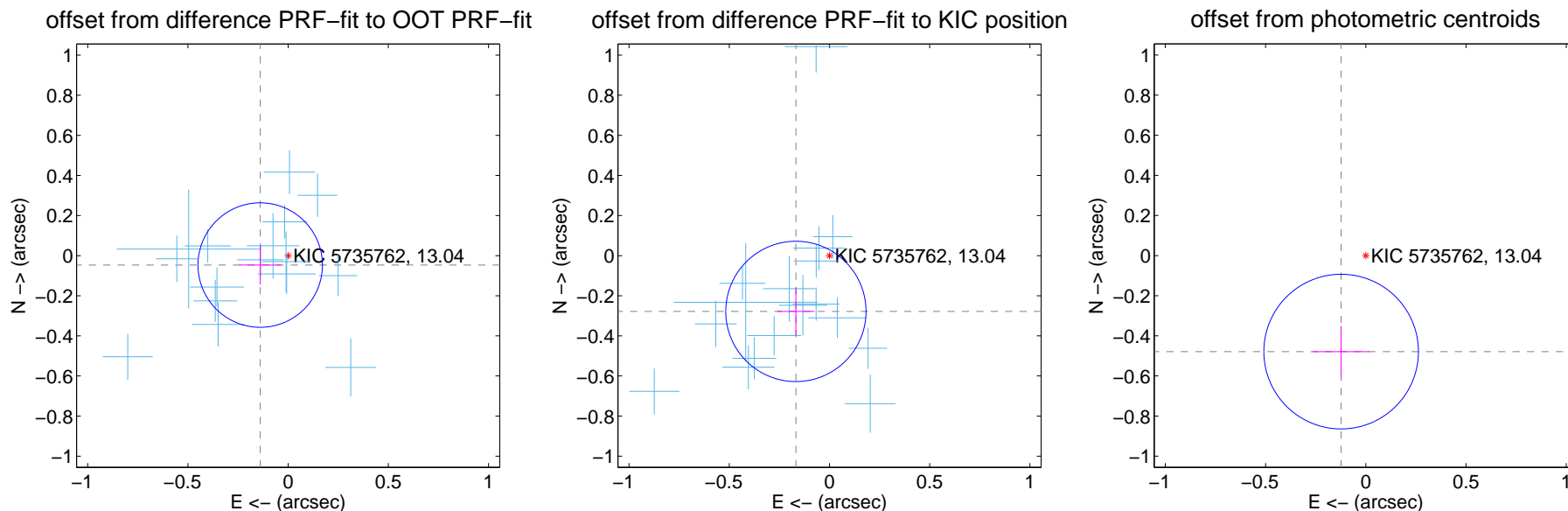
DV Centroid Data

Supplemental centroid analysis for 005735762-02. Kepler magnitude: 13.04. Transit SNR 93.46

There are 17 quarters with good PRF difference image offsets

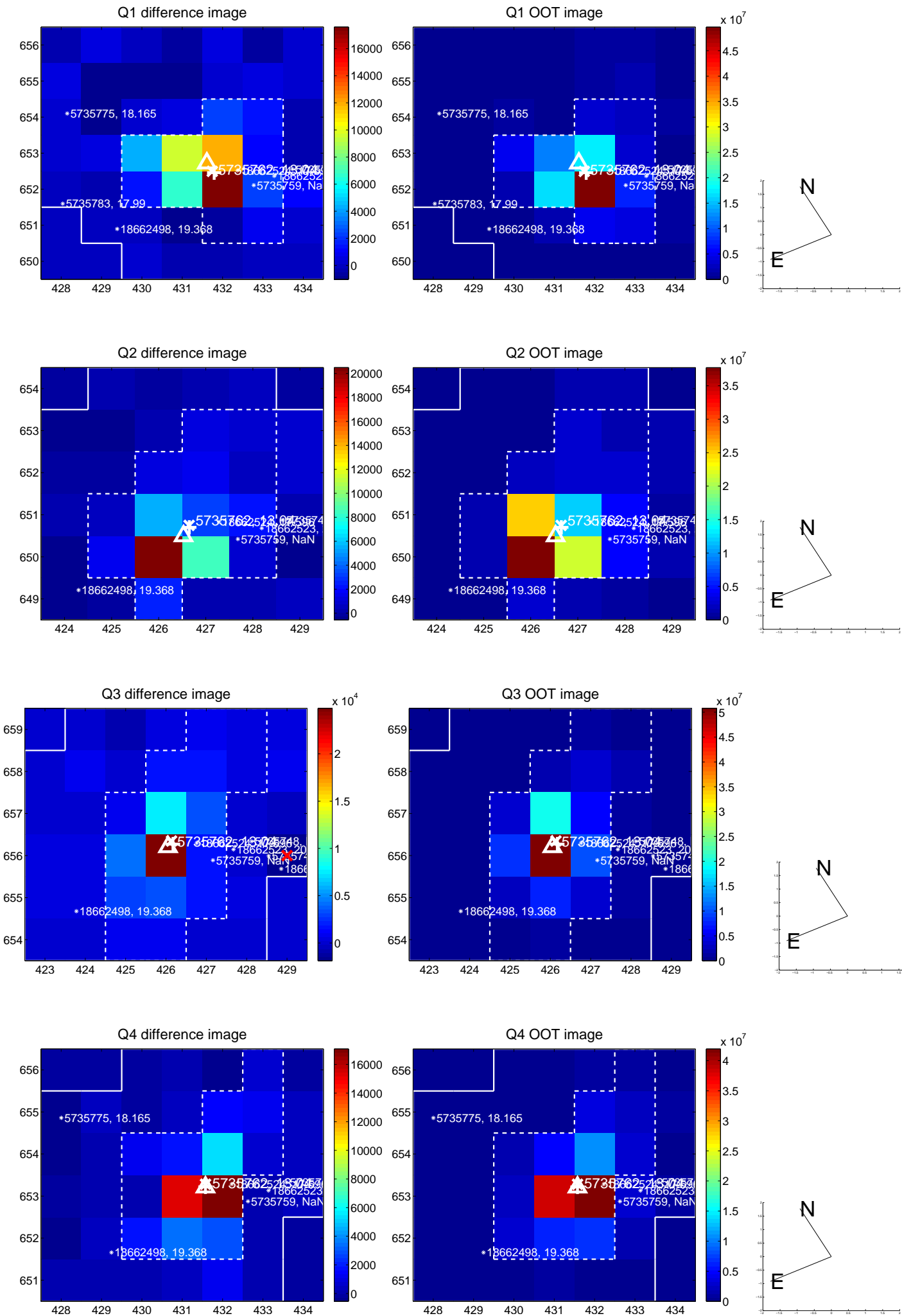
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.147 ± 0.103 | 1.42 | 0.139 ± 0.104 | -0.047 ± 0.097 |
| PRF-fit source offset from KIC position | 0.325 ± 0.117 | 2.78 | 0.168 ± 0.092 | -0.278 ± 0.119 |
| photometric centroid source offset | 0.49 ± 0.13 | 3.85 | 0.12 ± 0.14 | -0.48 ± 0.13 |

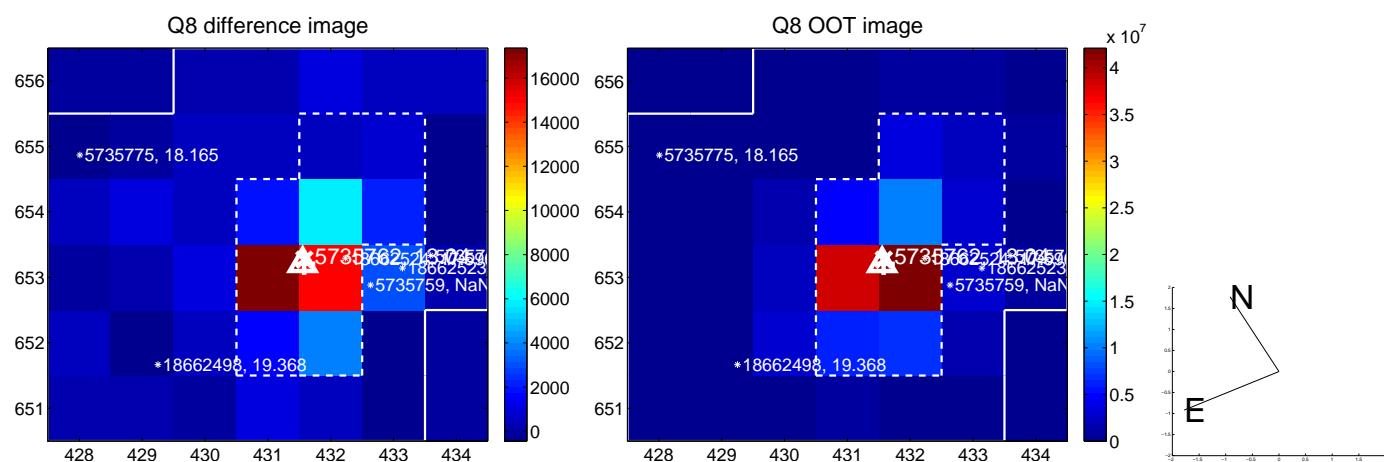
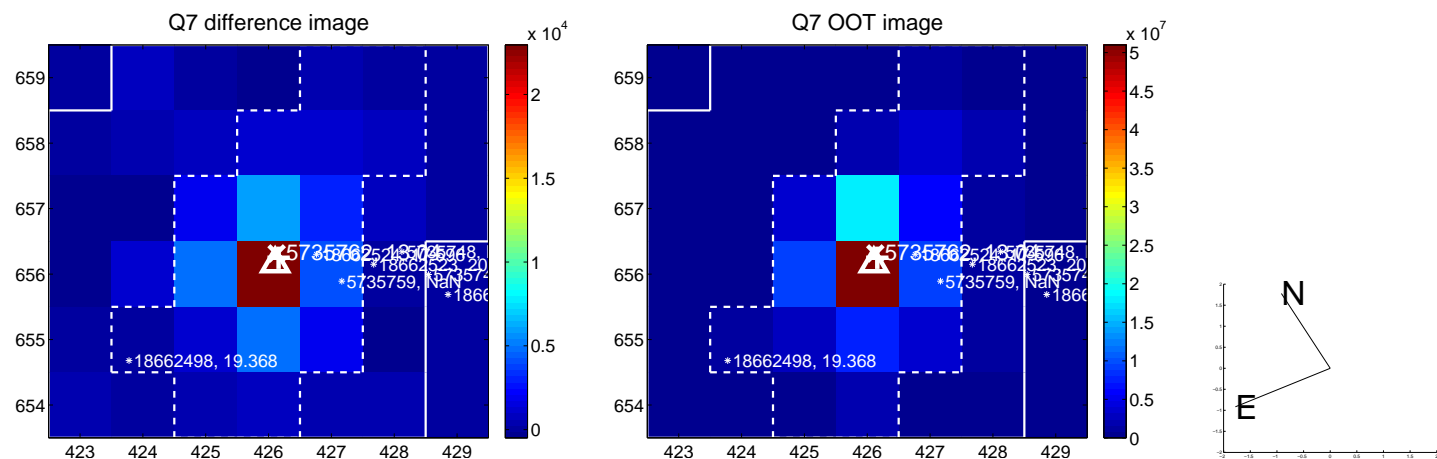
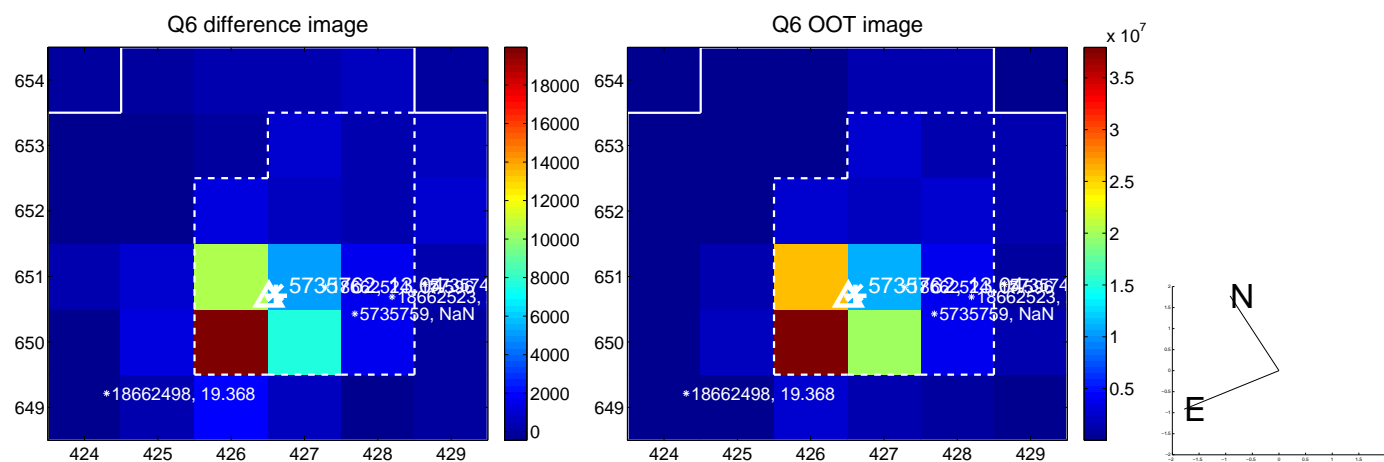
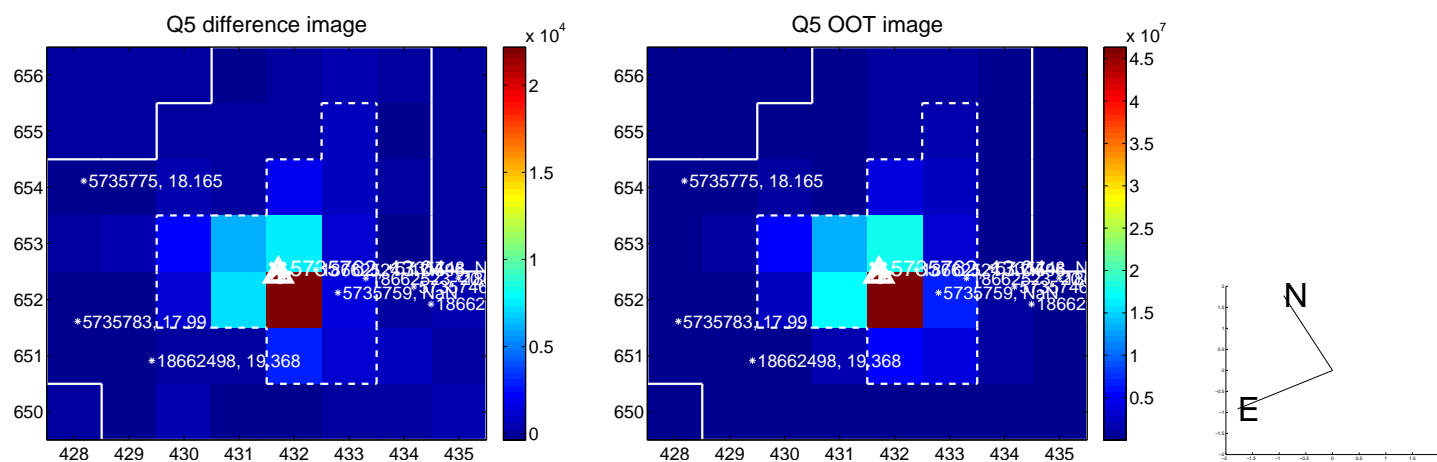


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

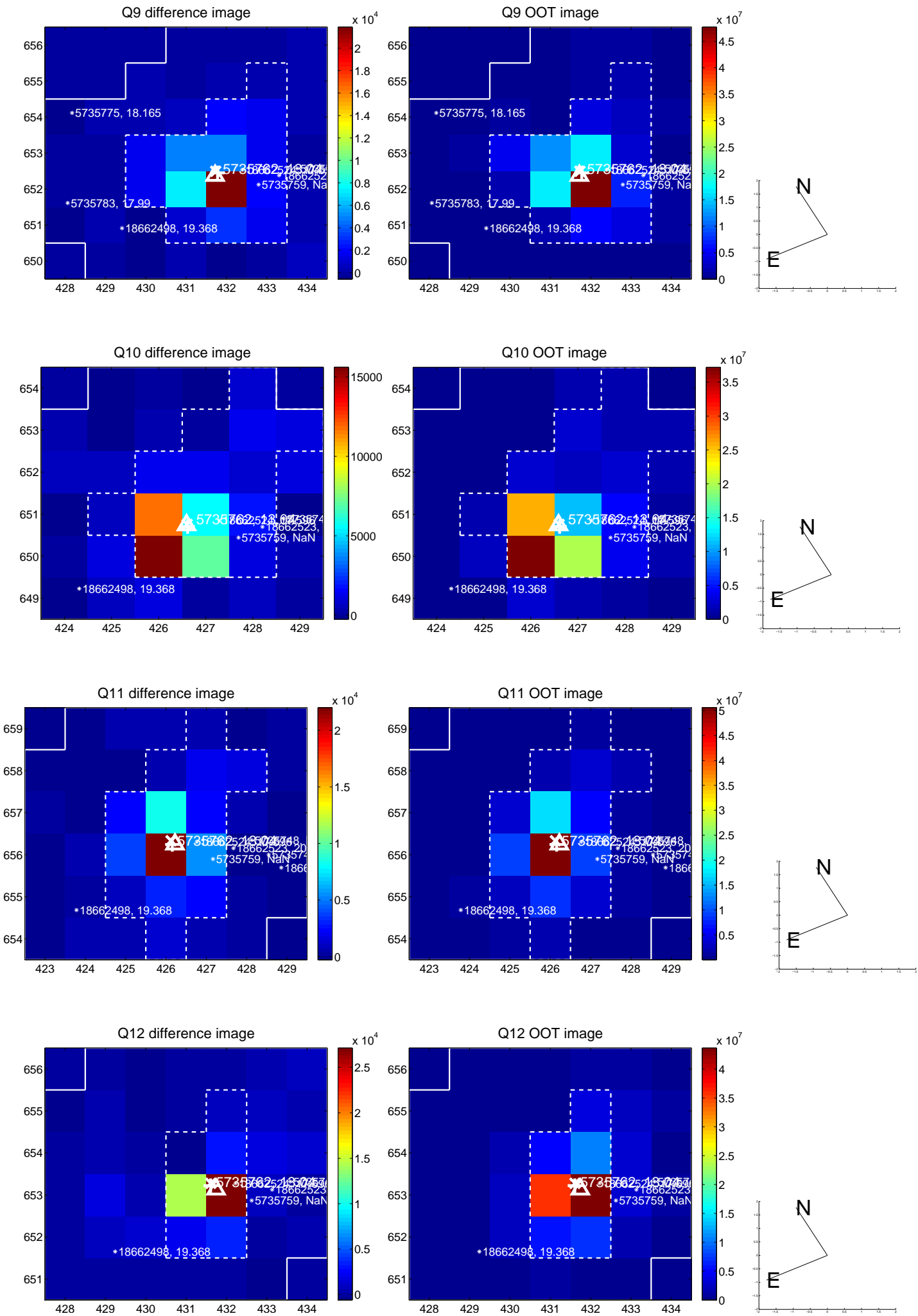
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



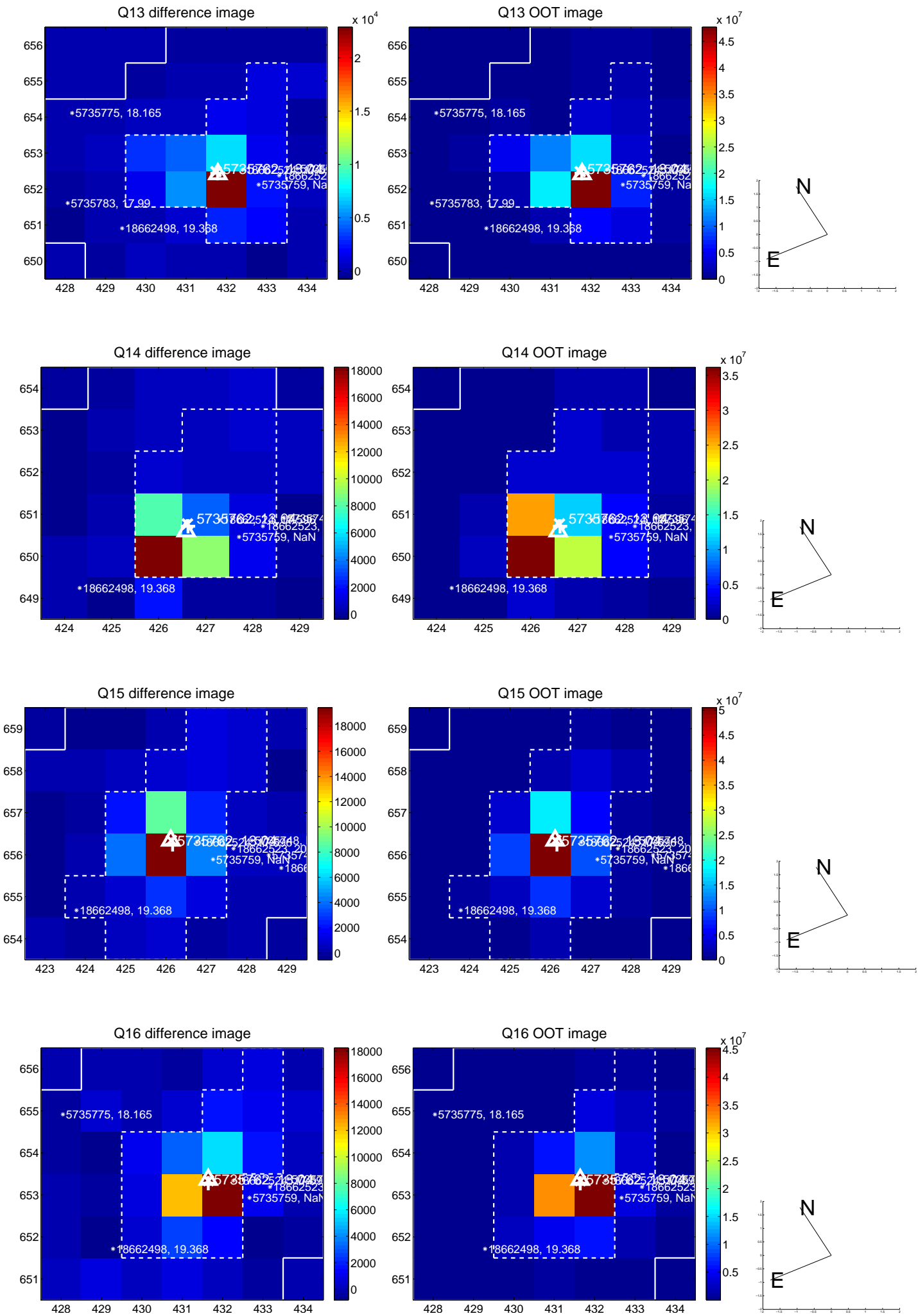
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



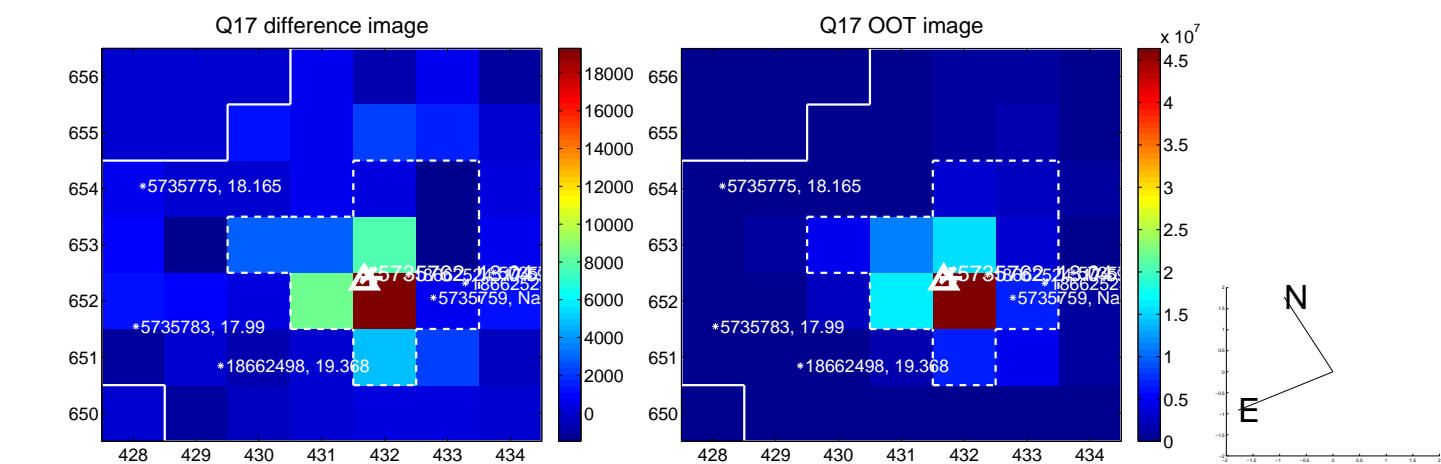
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



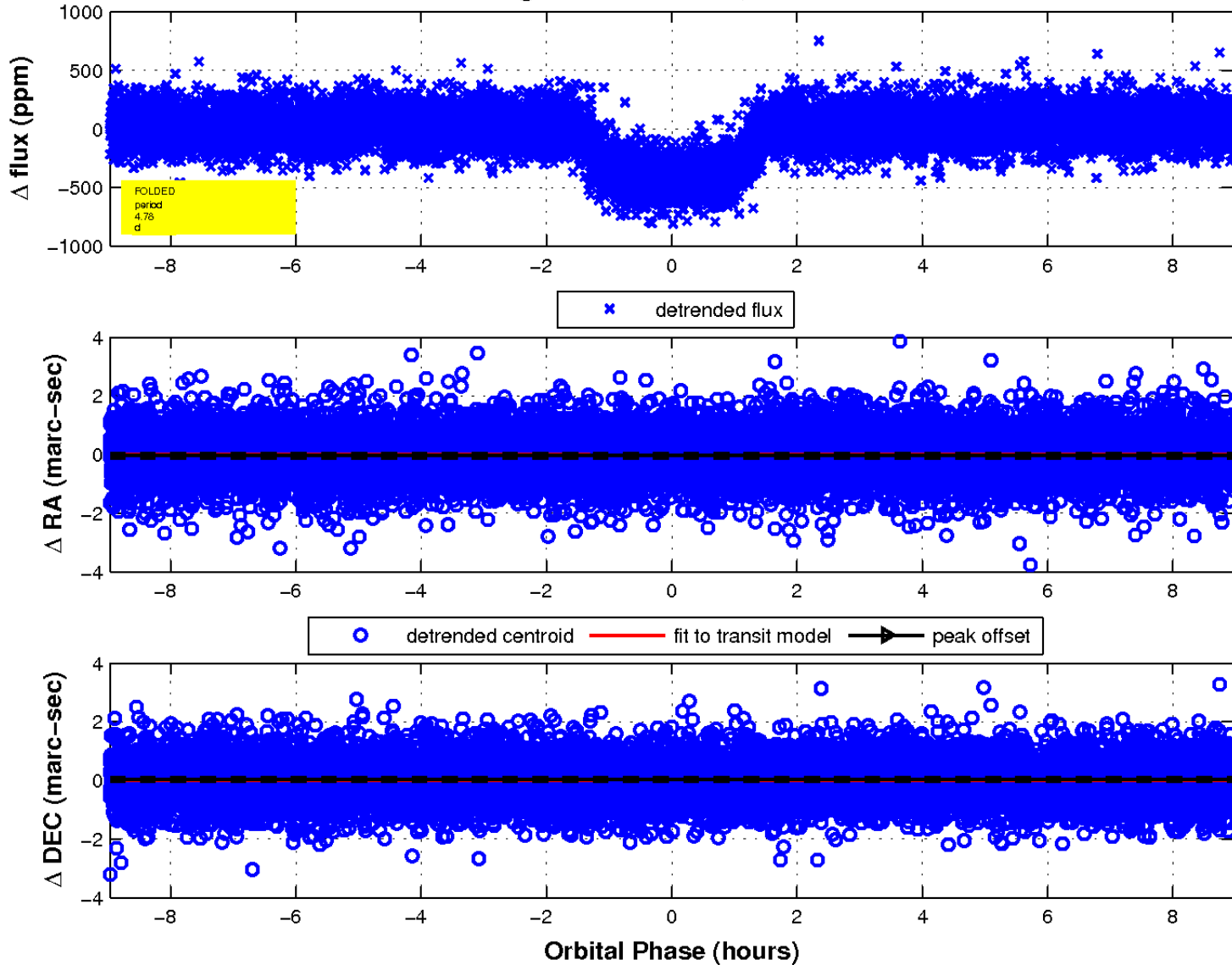
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



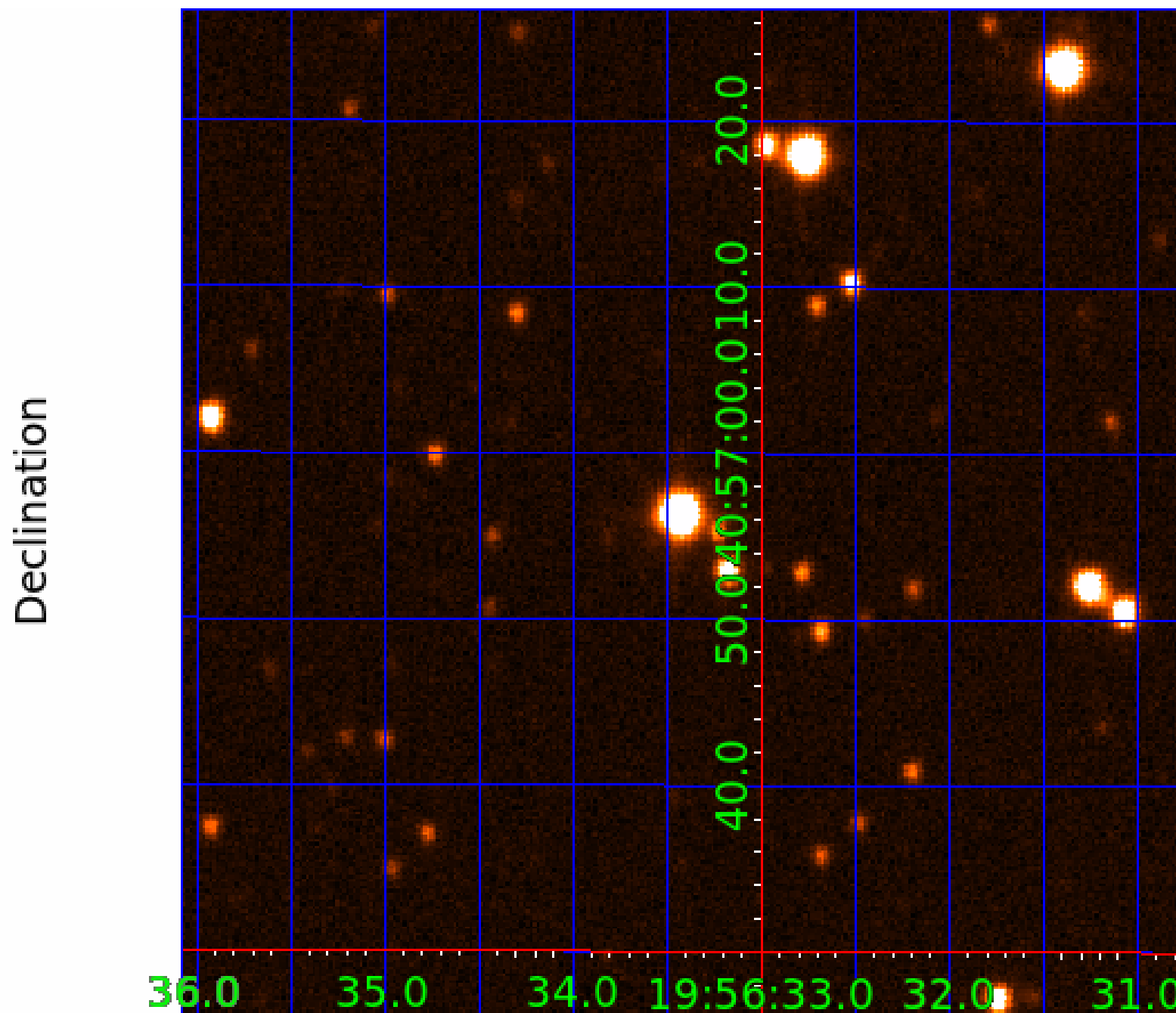
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 3



UKIRT Image



KIC 005735762

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-------|-------|-----------------------------|-----------------|------------------------|------------------------|
| 005735762-01 | OBS | 0148.02 | 9.673938 | 135.015027 | 951.3 | 3.462 | 134.1 | 132.6 | 0.87 | 5192 | 3.04 | 69.63 |
| 005735762-02 | OBS | 0148.01 | 4.778009 | 133.616592 | 456.8 | 2.990 | 83.9 | 93.5 | 0.87 | 5192 | 2.30 | 178.34 |
| 005735762-03 | OBS | 0148.03 | 42.896279 | 146.063982 | 555.6 | 5.986 | 44.1 | 45.7 | 0.87 | 5192 | 2.36 | 9.56 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 005735762-01 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | NO_COMMENT |
| 005735762-02 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | NO_COMMENT |
| 005735762-03 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | NO_COMMENT |

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

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

See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

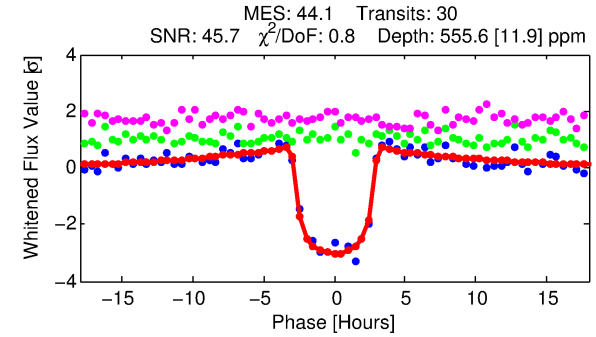
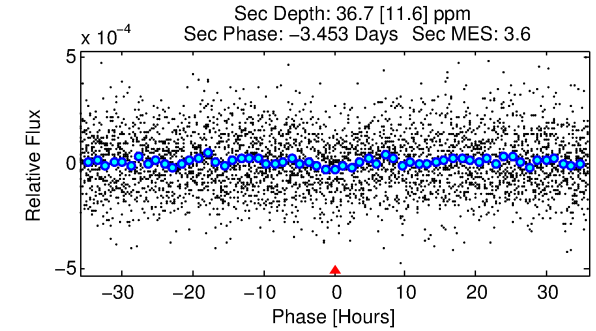
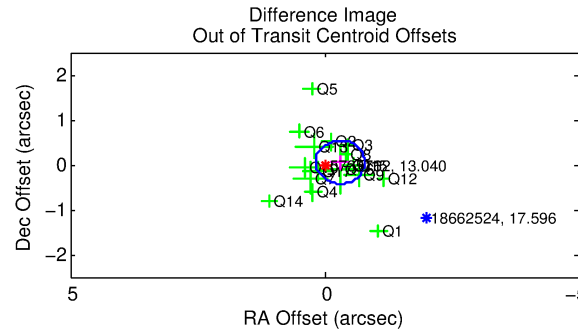
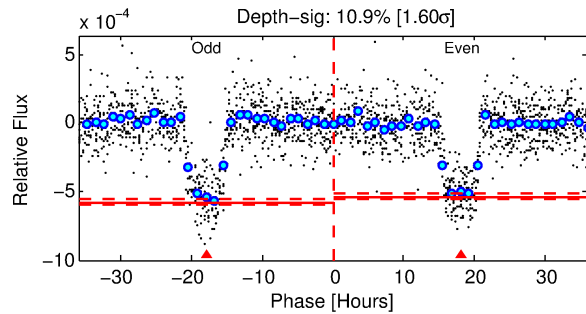
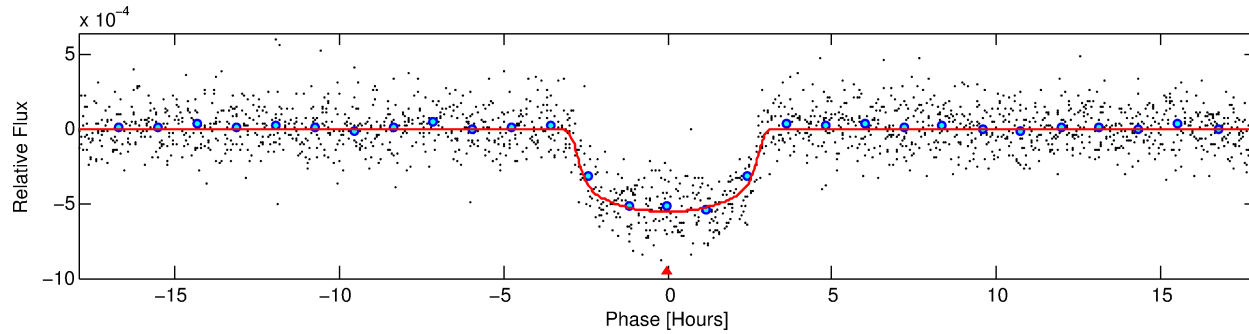
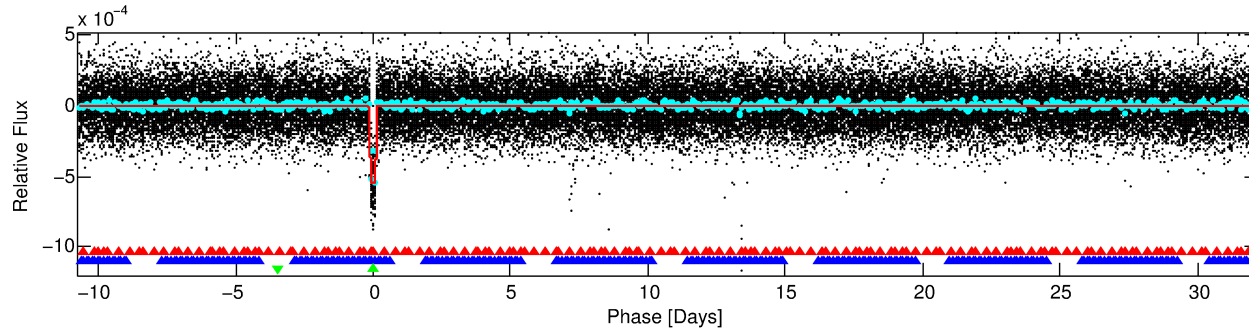
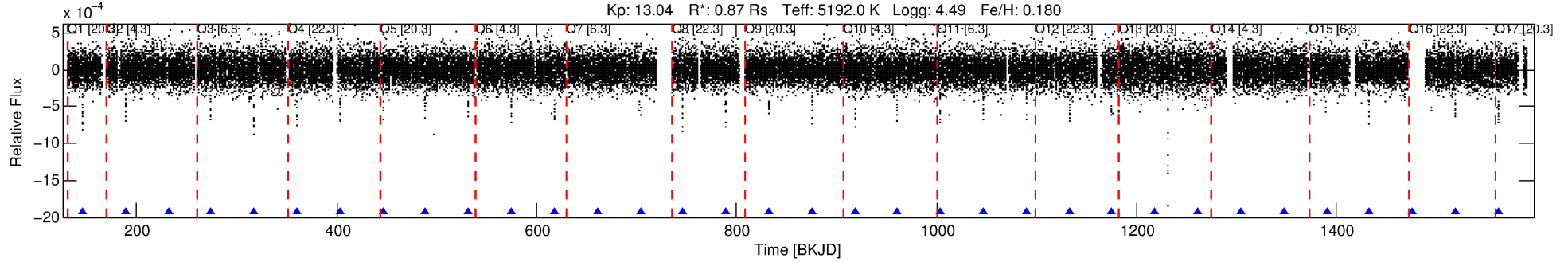
Ephemeris Match Information For 005735762-03

No Significant Match Found

DV One-Page Summary

KIC: 5735762 Candidate: 3 of 3 Period: 42.896 d
KOI: K00148.03 Name: Kepler-48d Corr: 0.969

Kp: 13.04 R*: 0.87 Rs Teff: 5192.0 K Logg: 4.49 Fe/H: 0.180



DV Fit Results:

Period = 42.89628 [0.00012] d
Epoch = 146.0640 [0.0021] BKJD
Rp/R* = 0.0248 [0.0017]
a/R* = 32.24 [8.40]
b = 0.84 [0.09]
Seff = 9.56 [1.32]
Teq = 448 [15] K
Rp = 2.36 [0.24] Re
a = 0.2279 [0.0162] AU
Ag = 188.02 [68.48] [2.73σ]
Teffp = 2567 [228] K [9.27σ]

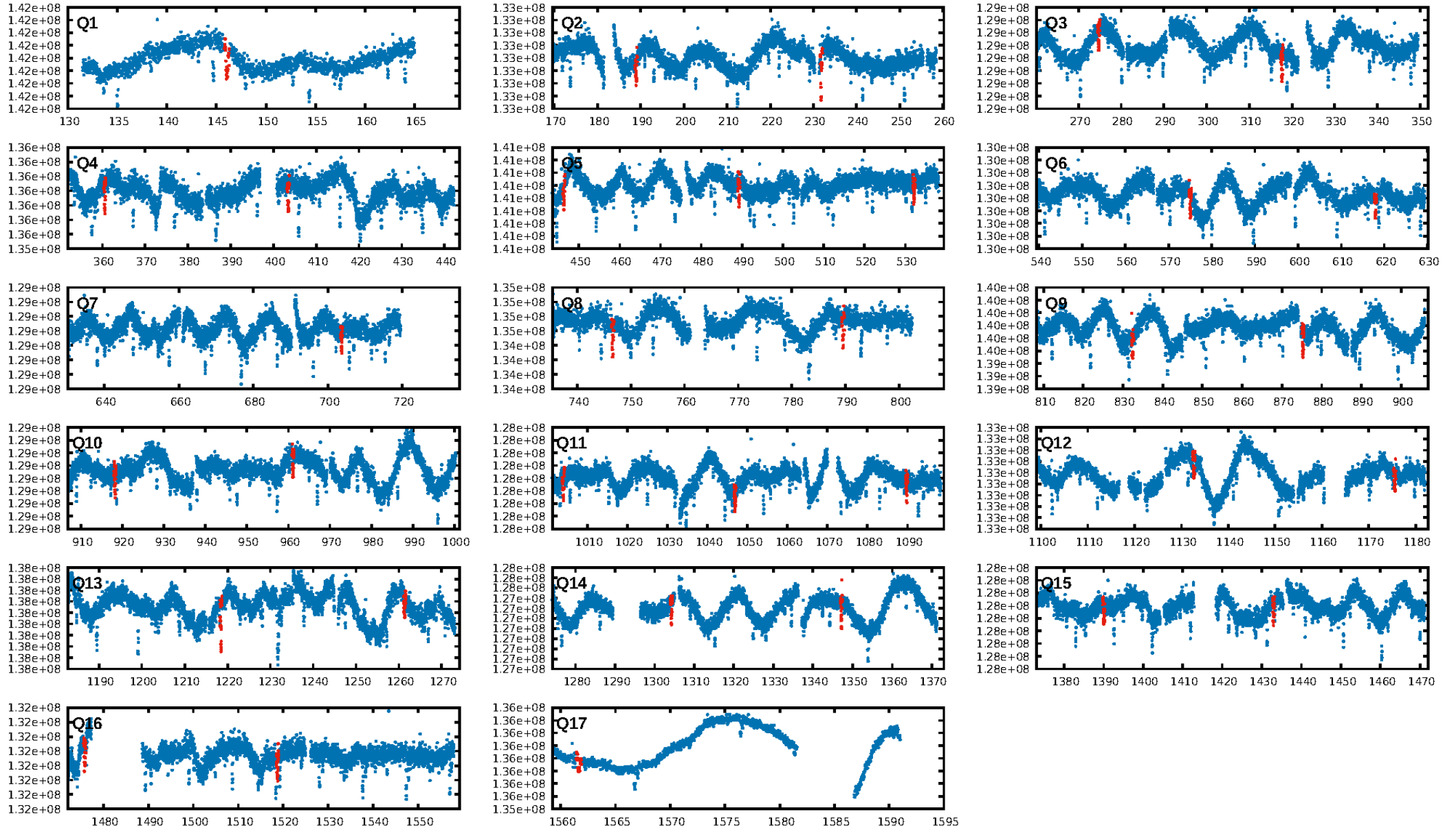
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [115.31σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 51.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [28/28]
GhostDiagnostic-chr: 14.17
Centroid-sig: 3.0%
Centroid-so: 0.167 arcsec [0.68σ]
OotOffset-rm: 0.307 arcsec [1.91σ]
KicOffset-rm: 0.344 arcsec [2.00σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.71 [12/17]

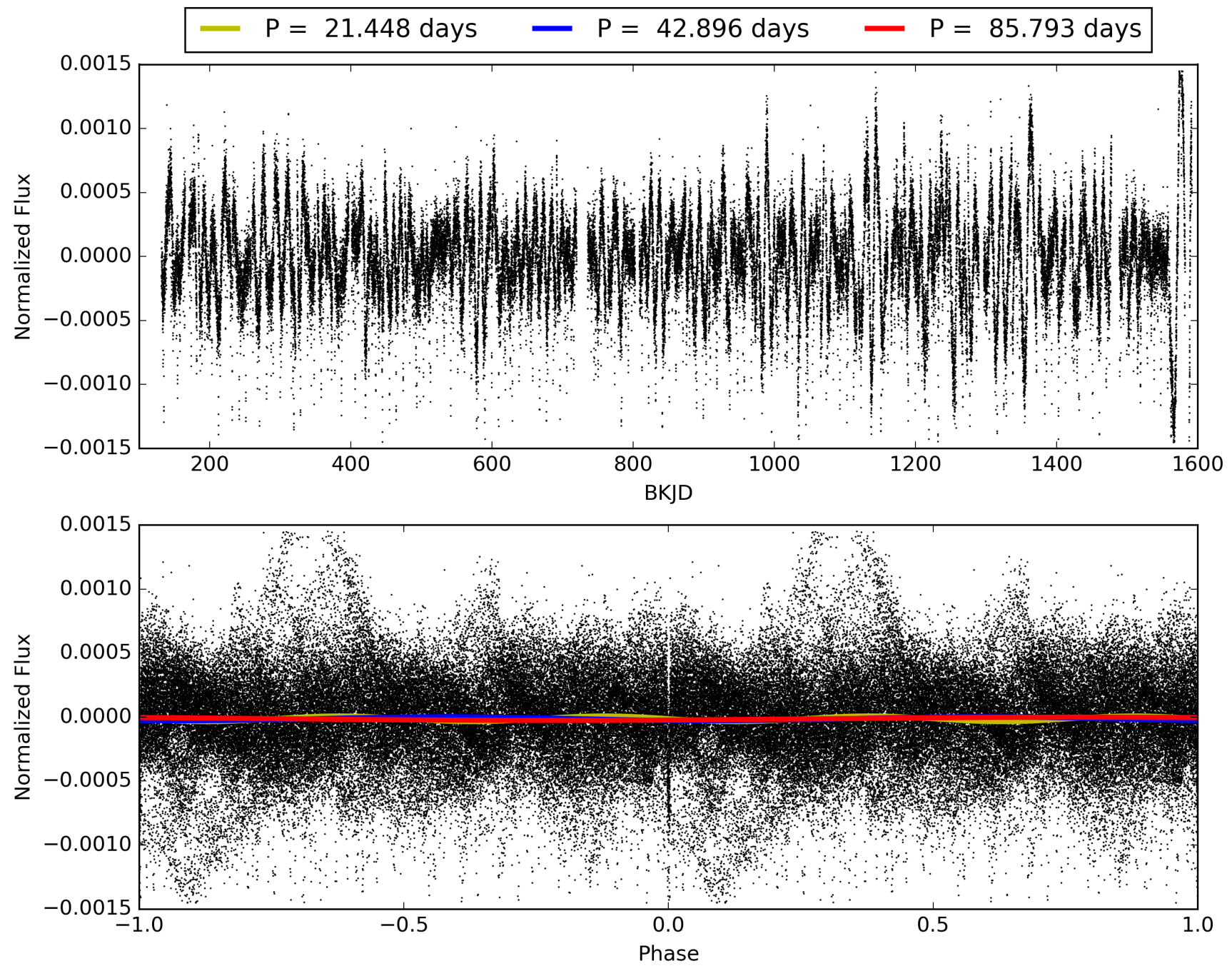
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:28:46 Z

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

TCE 005735762-03, PDC Light Curves

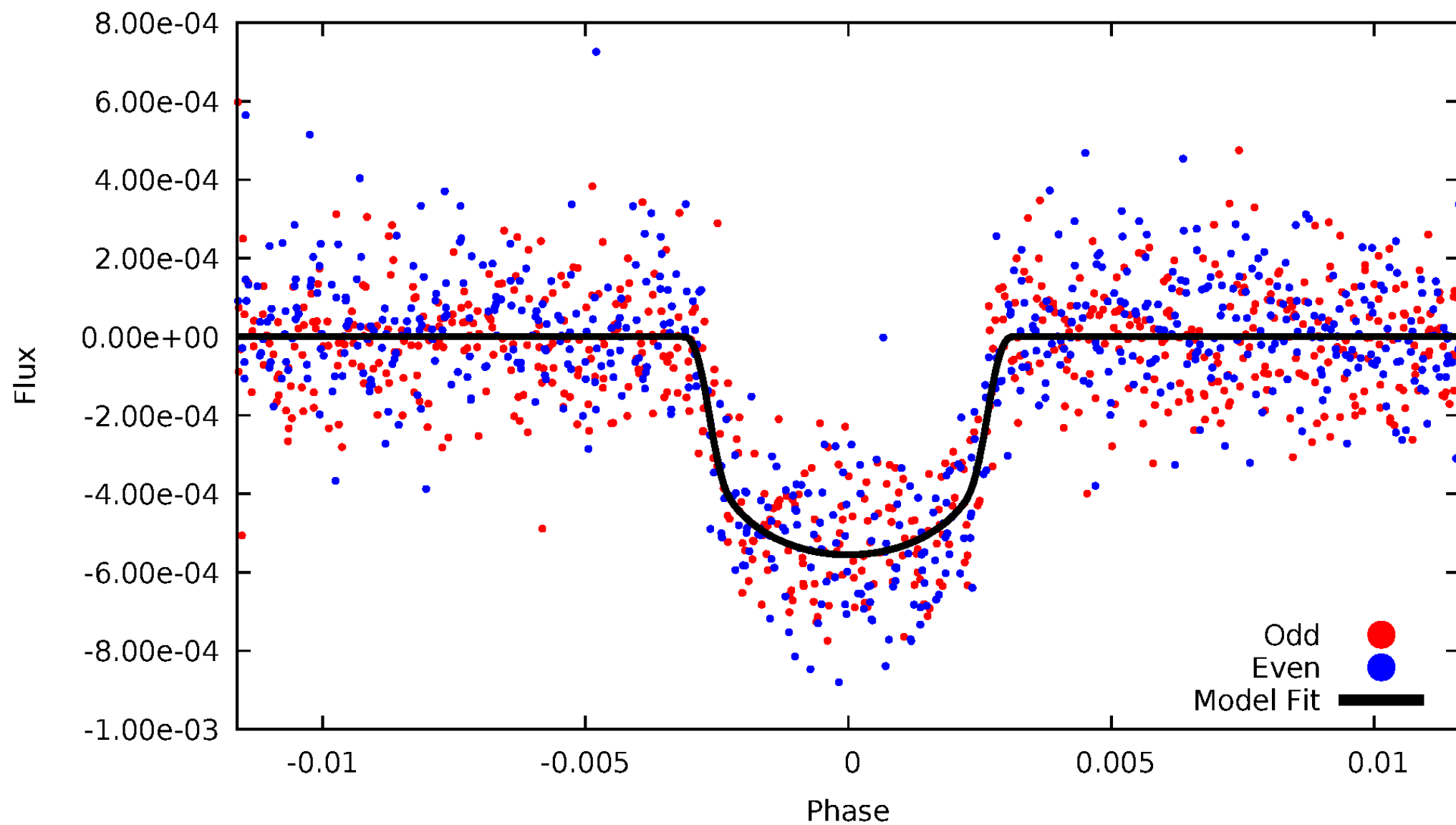


TCE 005735762-03



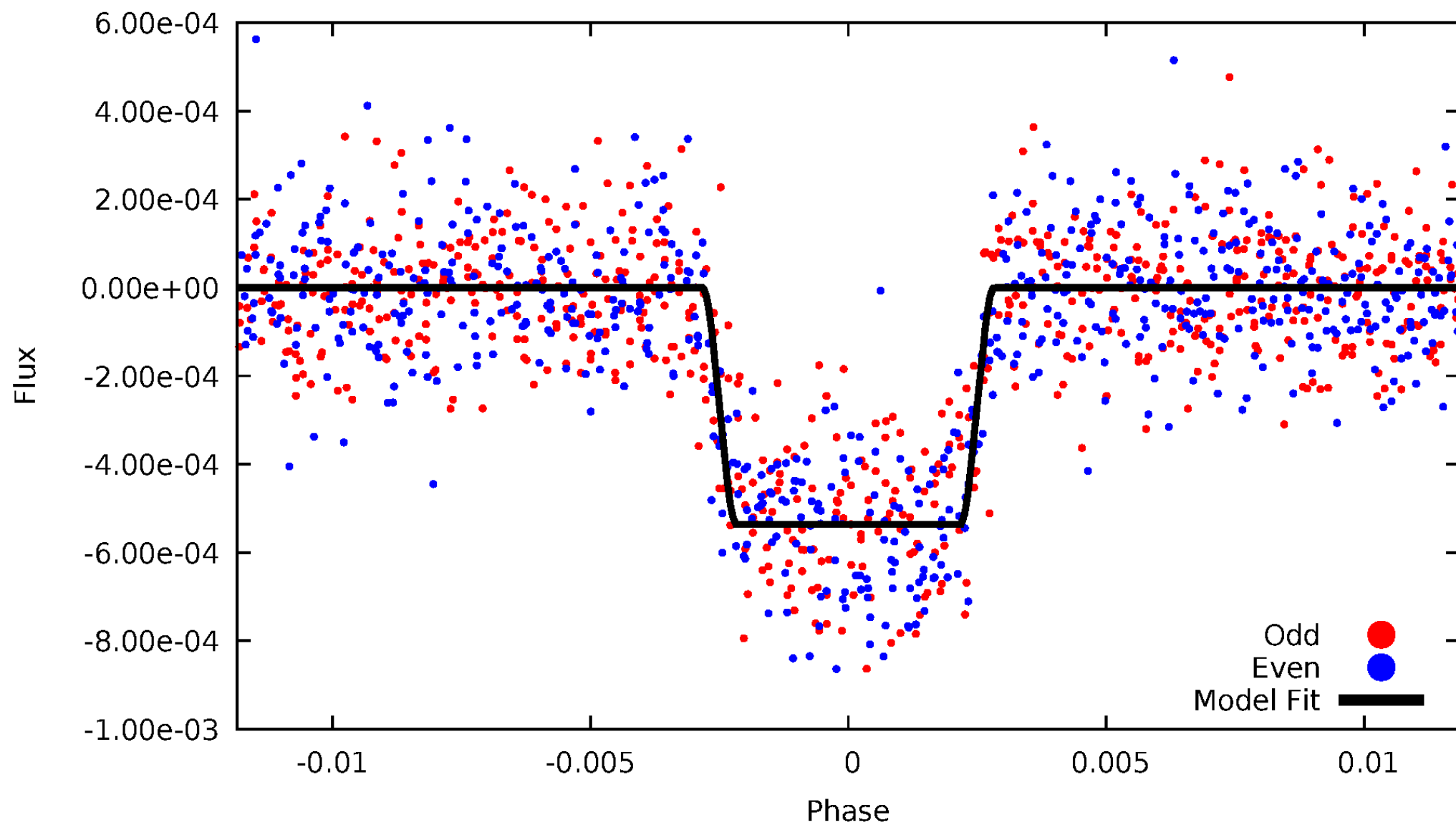
DV Odd/Even

TCE 005735762-03



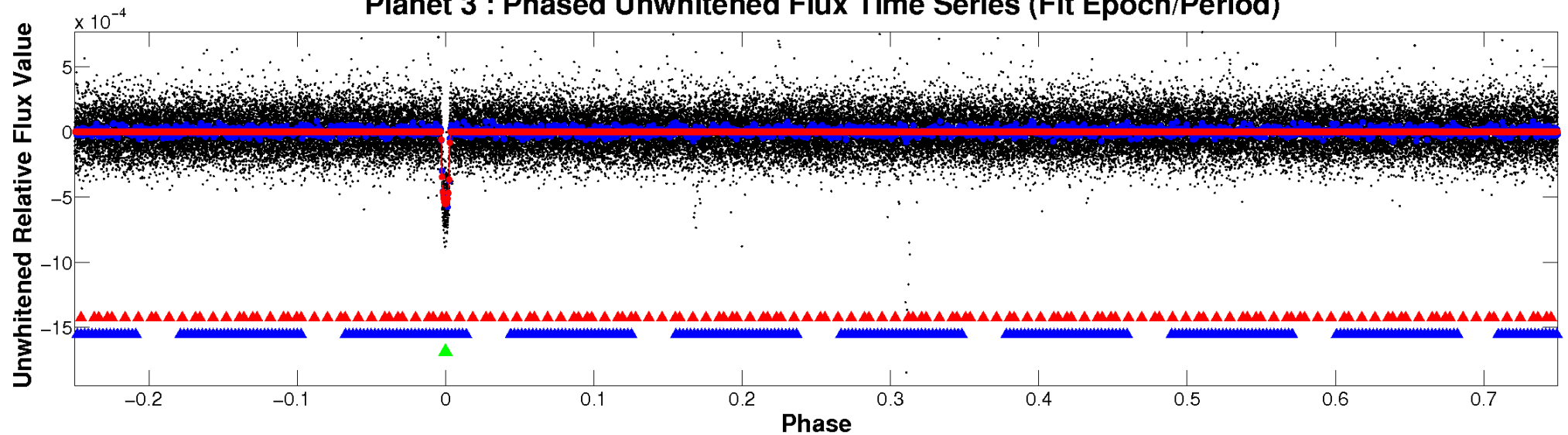
ALT Odd/Even

TCE 005735762-03

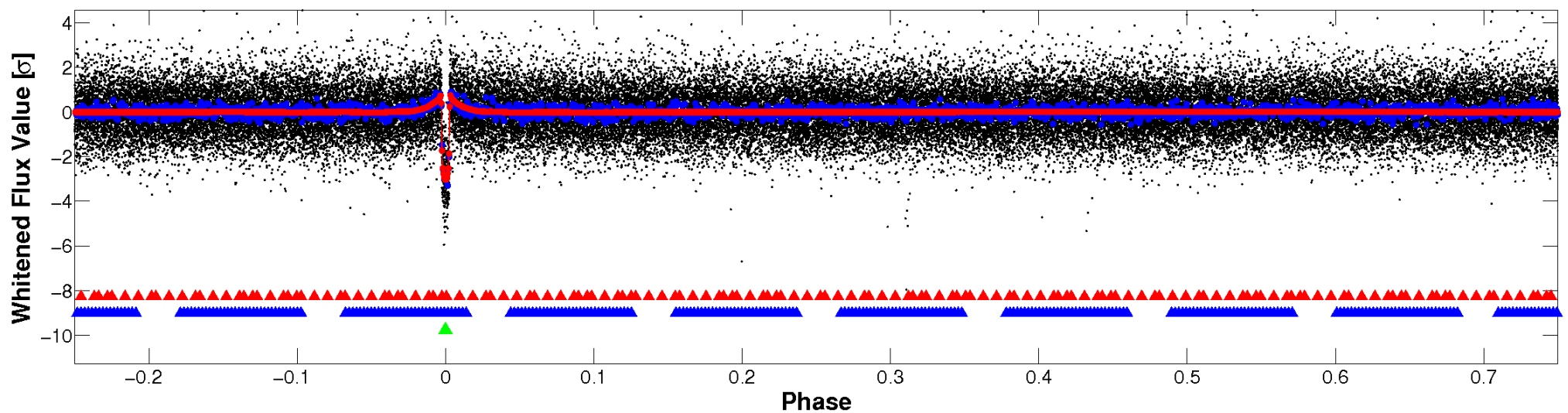


Non-Whitened Vs. Whitened Light Curve

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

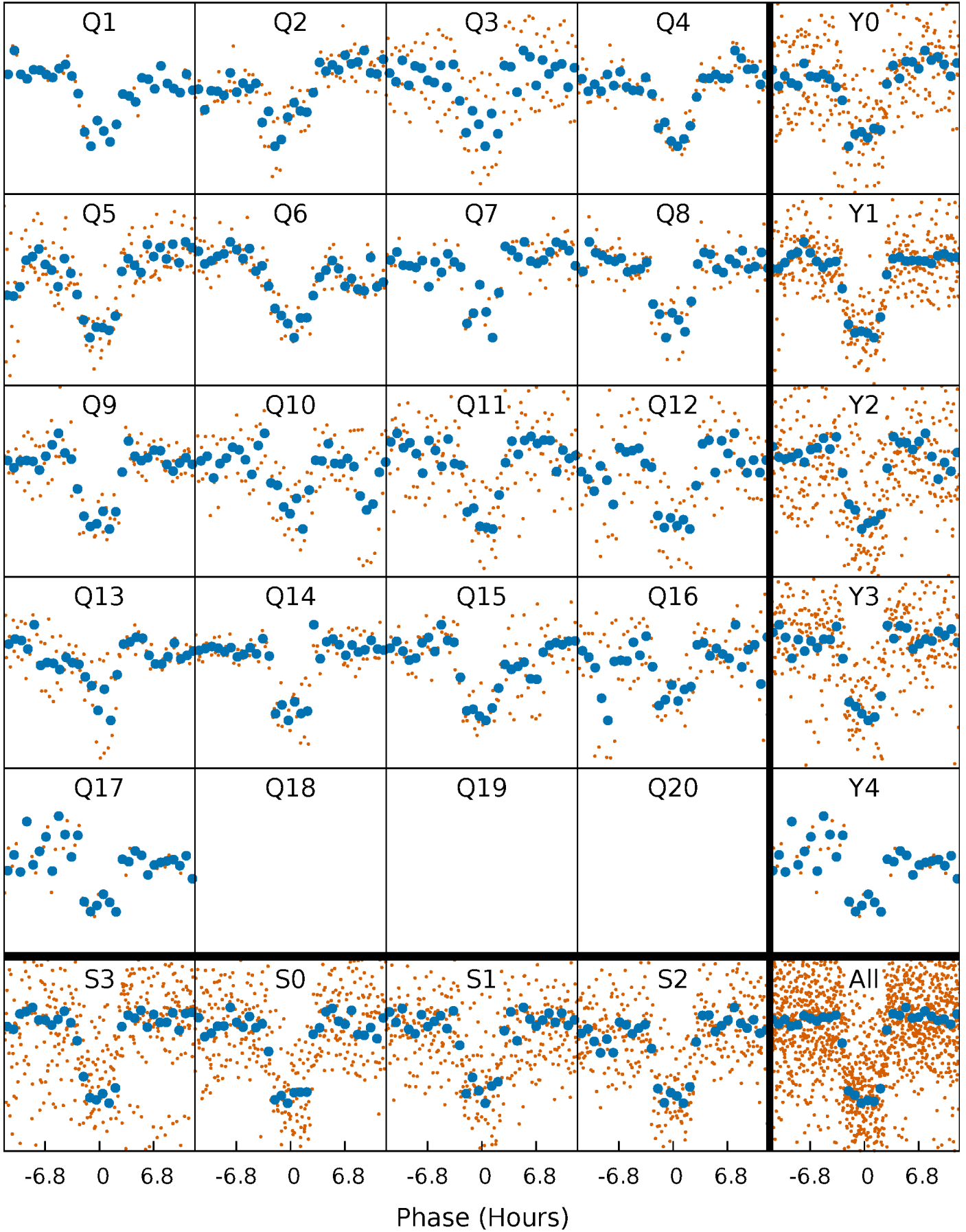


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



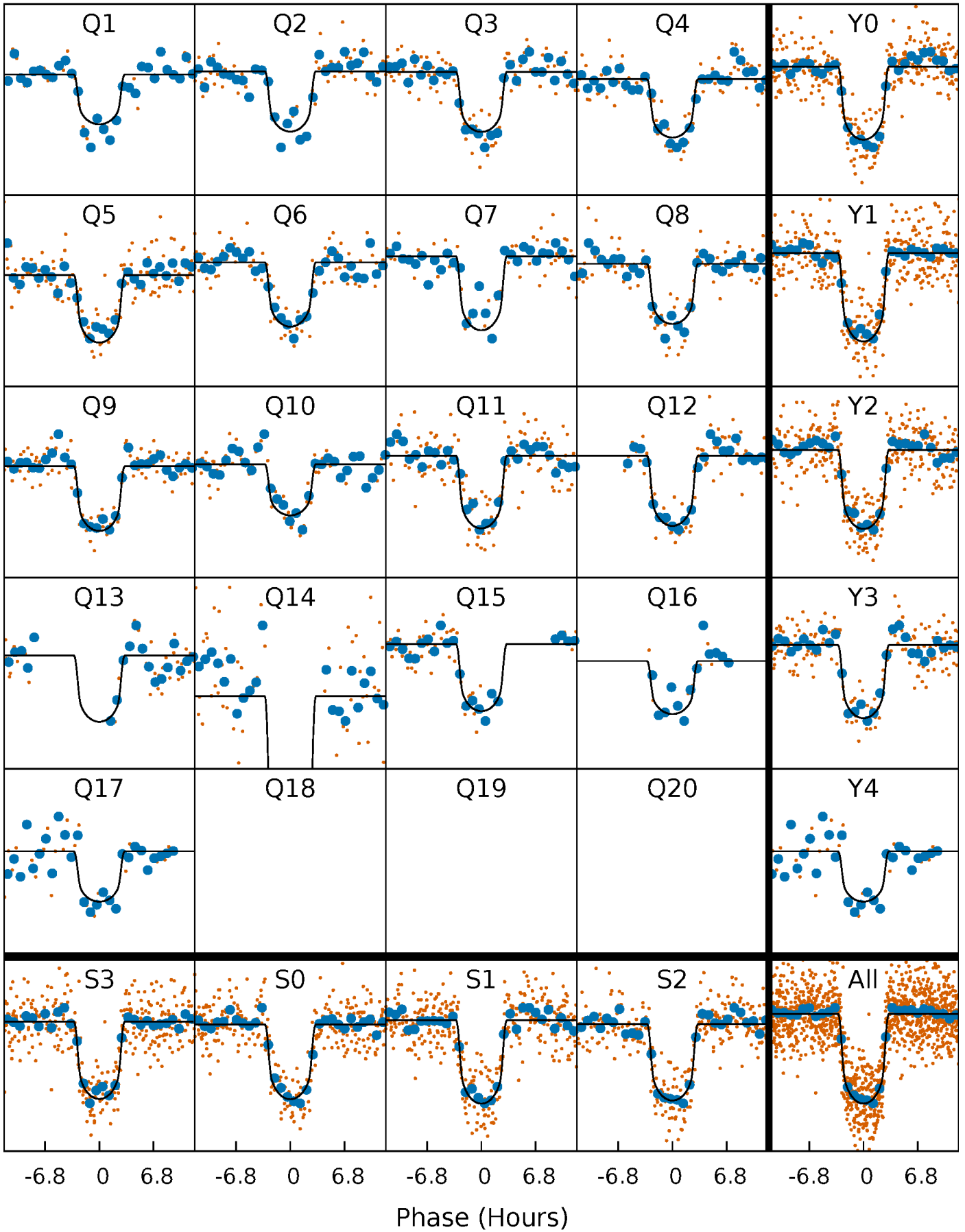
PDC Quarter-Phased Transit Curves

TCE 005735762-03 P= 42.896279 Days $T_0=146.063982$ (BKJD)



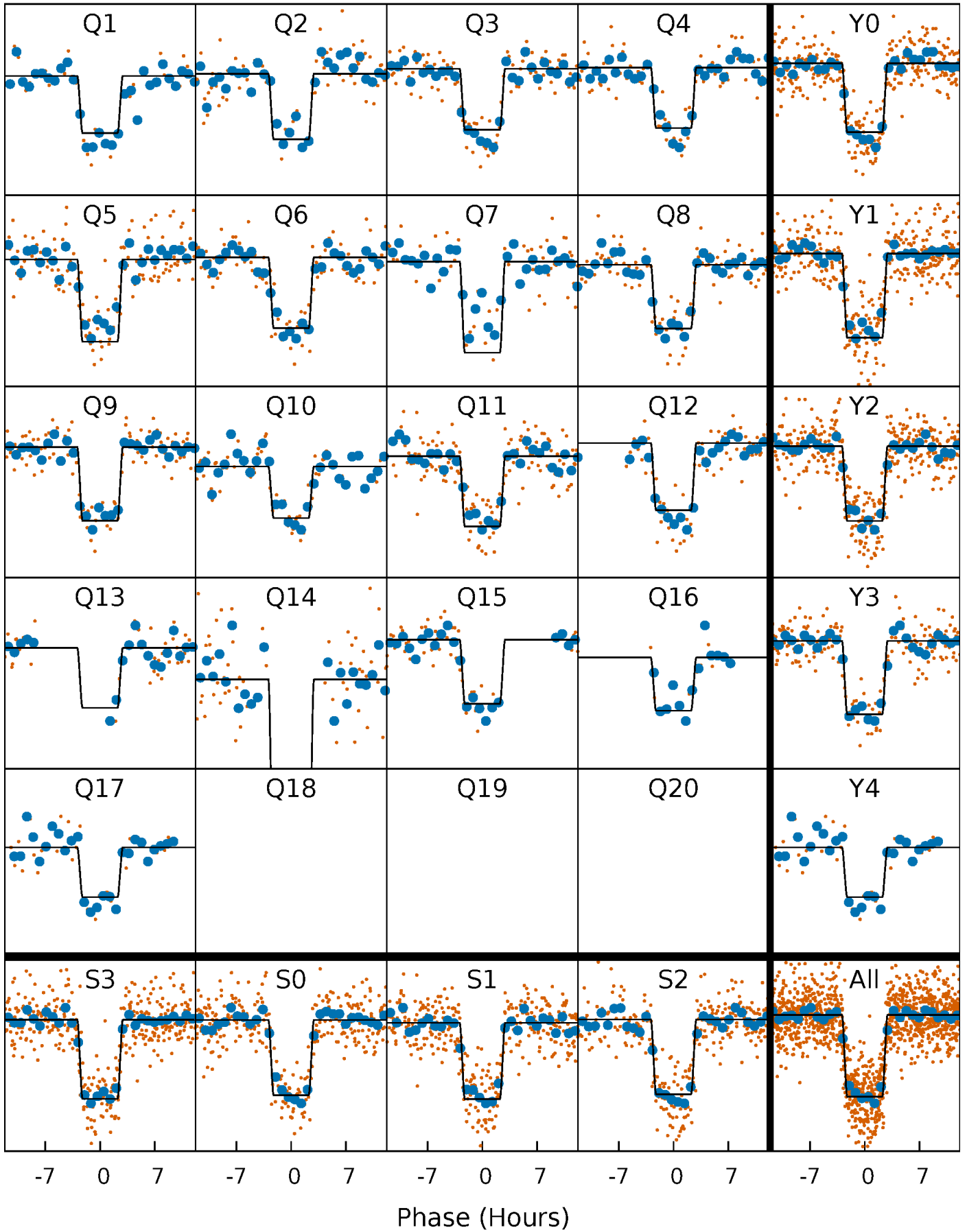
DV Quarter-Phased Transit Curves

TCE 005735762-03 P= 42.896279 Days $T_0=146.063982$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

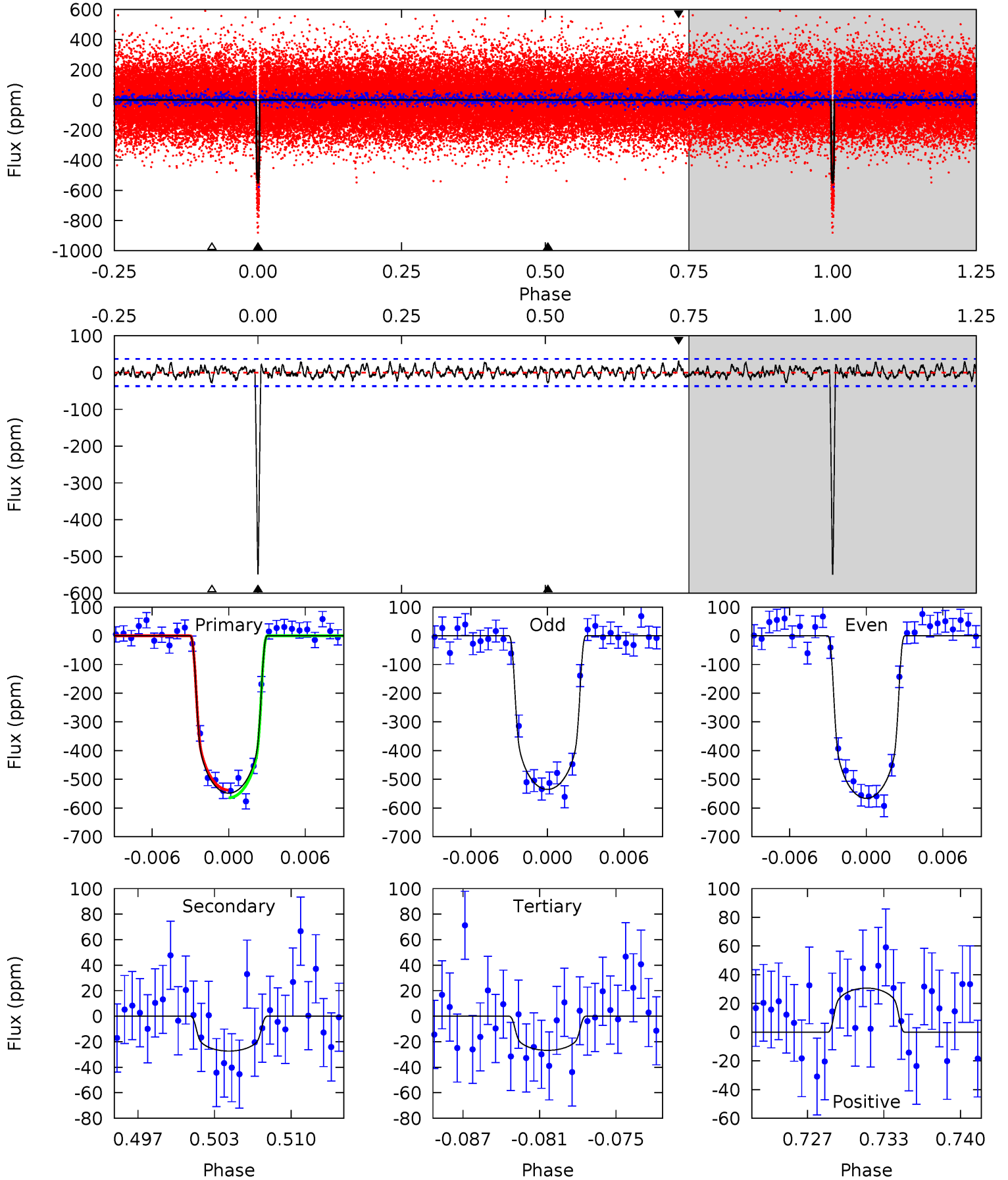
TCE 005735762-03 P= 42.896181 Days $T_0=146.066565$ (BKJD)



DV Model-Shift Uniqueness Test

005735762-03, P = 42.896279 Days, E = 103.167703 Days

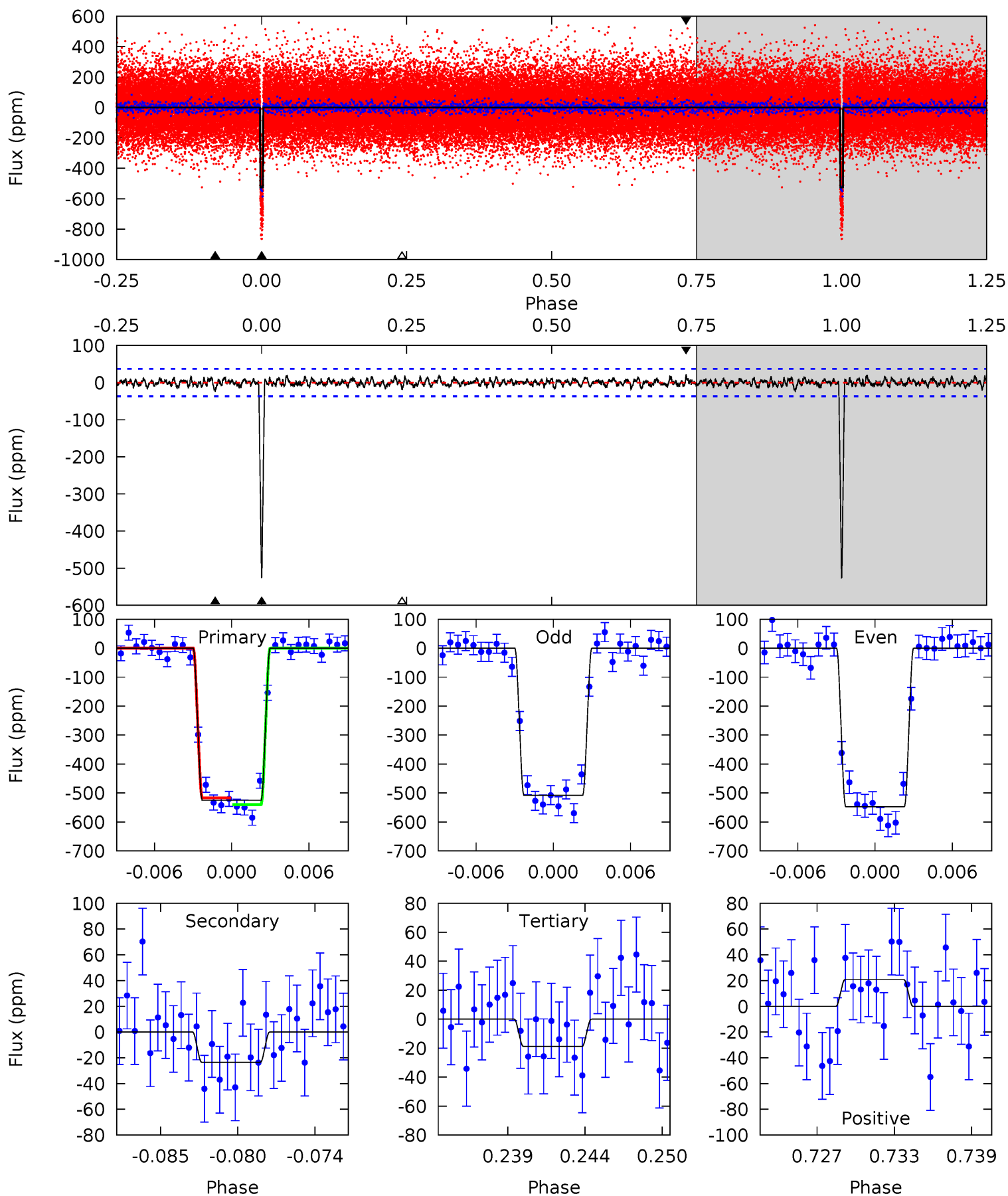
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 75.8 | 3.78 | 3.70 | 4.24 | 5.12 | 2.74 | 1.39 | 72.1 | 71.5 | 0.08 | -0.47 | 2.14 | 1.00 | 0.05 | 1.85 |



Alt Model-Shift Uniqueness Test

005735762-03, P = 42.896181 Days, E = 103.170384 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 72.8 | 3.25 | 2.61 | 2.88 | 5.13 | 2.77 | 0.90 | 70.2 | 69.9 | 0.64 | 0.37 | 2.71 | 1.00 | 0.04 | 1.62 |



Stellar Parameters For KIC 005735762

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5192^{+103}_{-103} | $4.489^{+0.066}_{-0.054}$ | $0.180^{+0.150}_{-0.150}$ | $0.873^{+0.065}_{-0.065}$ | $0.856^{+0.050}_{-0.041}$ | $1.814^{+0.468}_{-0.311}$ |
| | +2%/-2% | +1%/-1% | +83%/-83% | +7%/-7% | +6%/-5% | +26%/-17% |
| Source | SPE61 | SPE61 | SPE61 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005735762-03 / KOI 0148.03

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|-------------------|
| DV | -27 ± 7 | $2.36^{+0.20}_{-0.20}$ | 626^{+18}_{-18} | 3015^{+131}_{-143} | 139^{+47}_{-41} |
| Alt. | -23 ± 7 | $2.20^{+0.19}_{-0.18}$ | 626^{+19}_{-18} | 3015^{+134}_{-168} | 138^{+49}_{-45} |

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

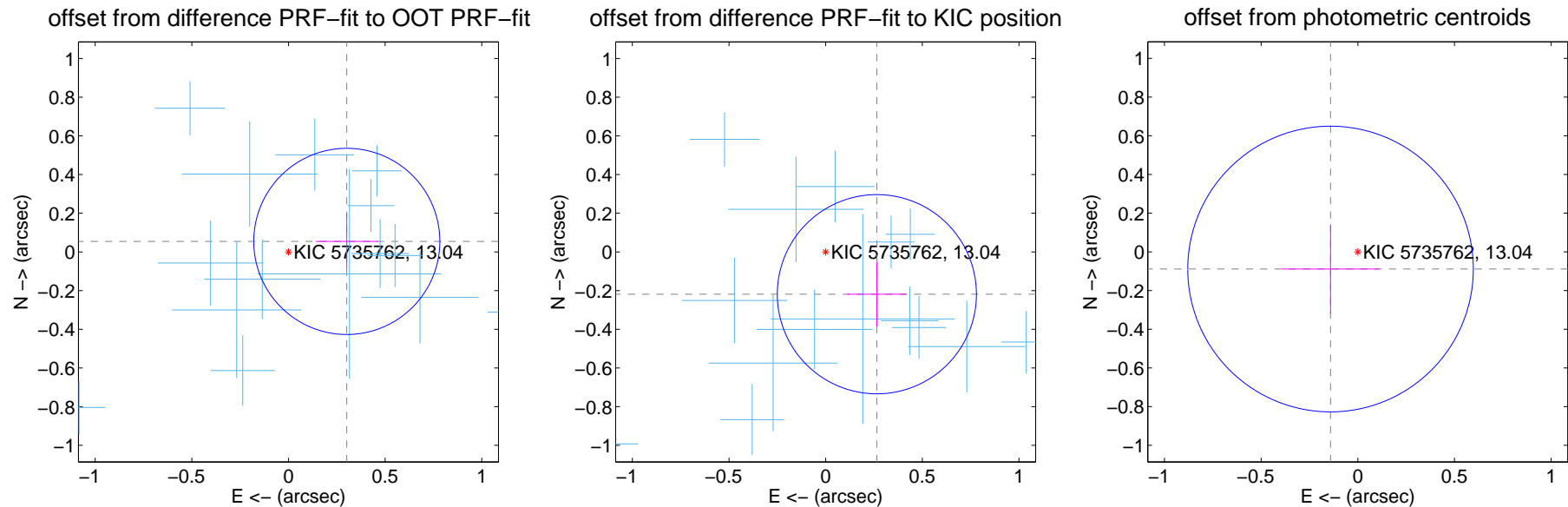
DV Centroid Data

Supplemental centroid analysis for 005735762-03. Kepler magnitude: 13.04. Transit SNR 45.72

There are 17 quarters with good PRF difference image offsets

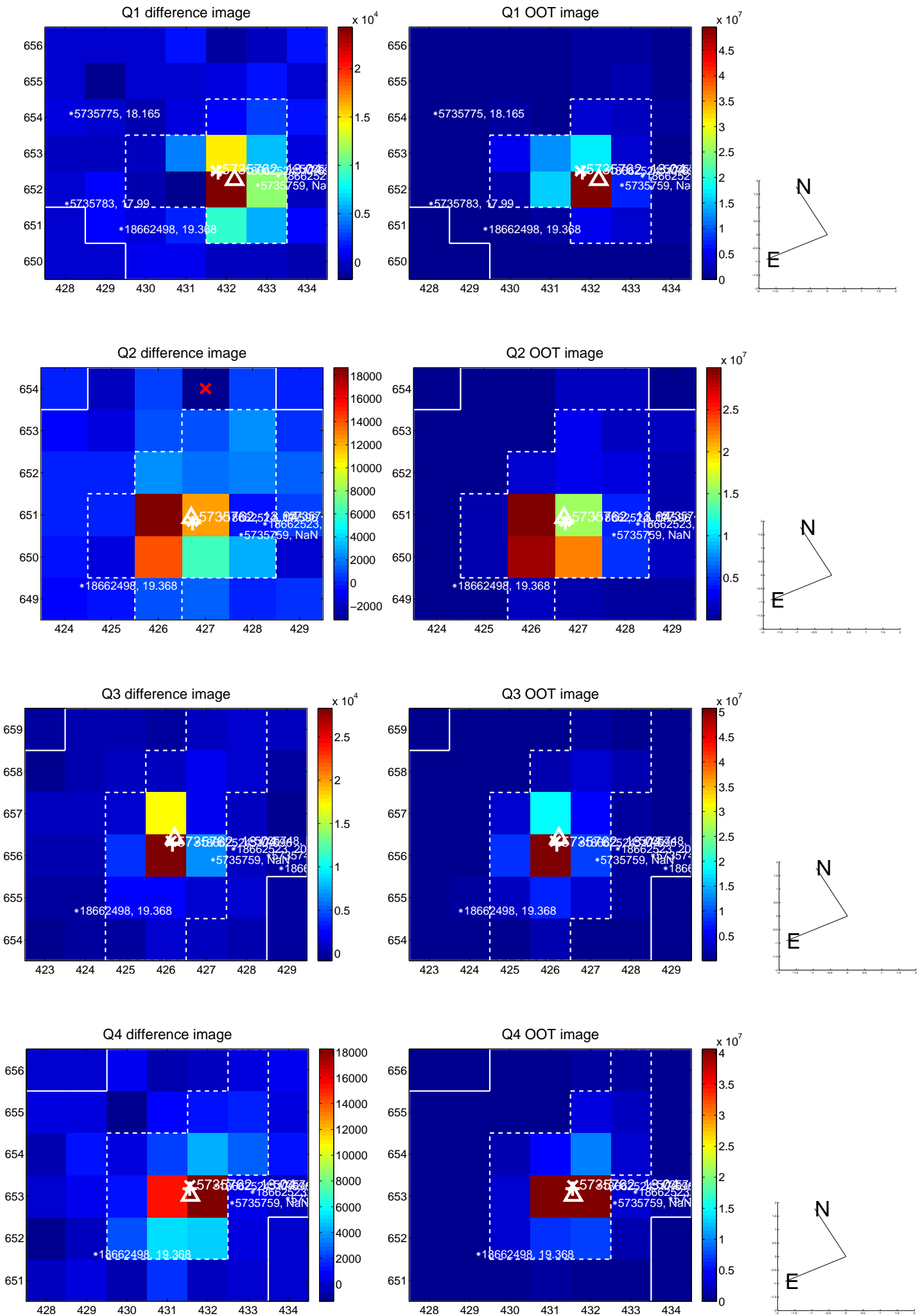
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.307 ± 0.160 | 1.91 | -0.302 ± 0.161 | 0.054 ± 0.141 |
| PRF-fit source offset from KIC position | 0.344 ± 0.172 | 2.00 | -0.265 ± 0.153 | -0.219 ± 0.168 |
| photometric centroid source offset | 0.17 ± 0.25 | 0.68 | 0.14 ± 0.25 | -0.09 ± 0.23 |

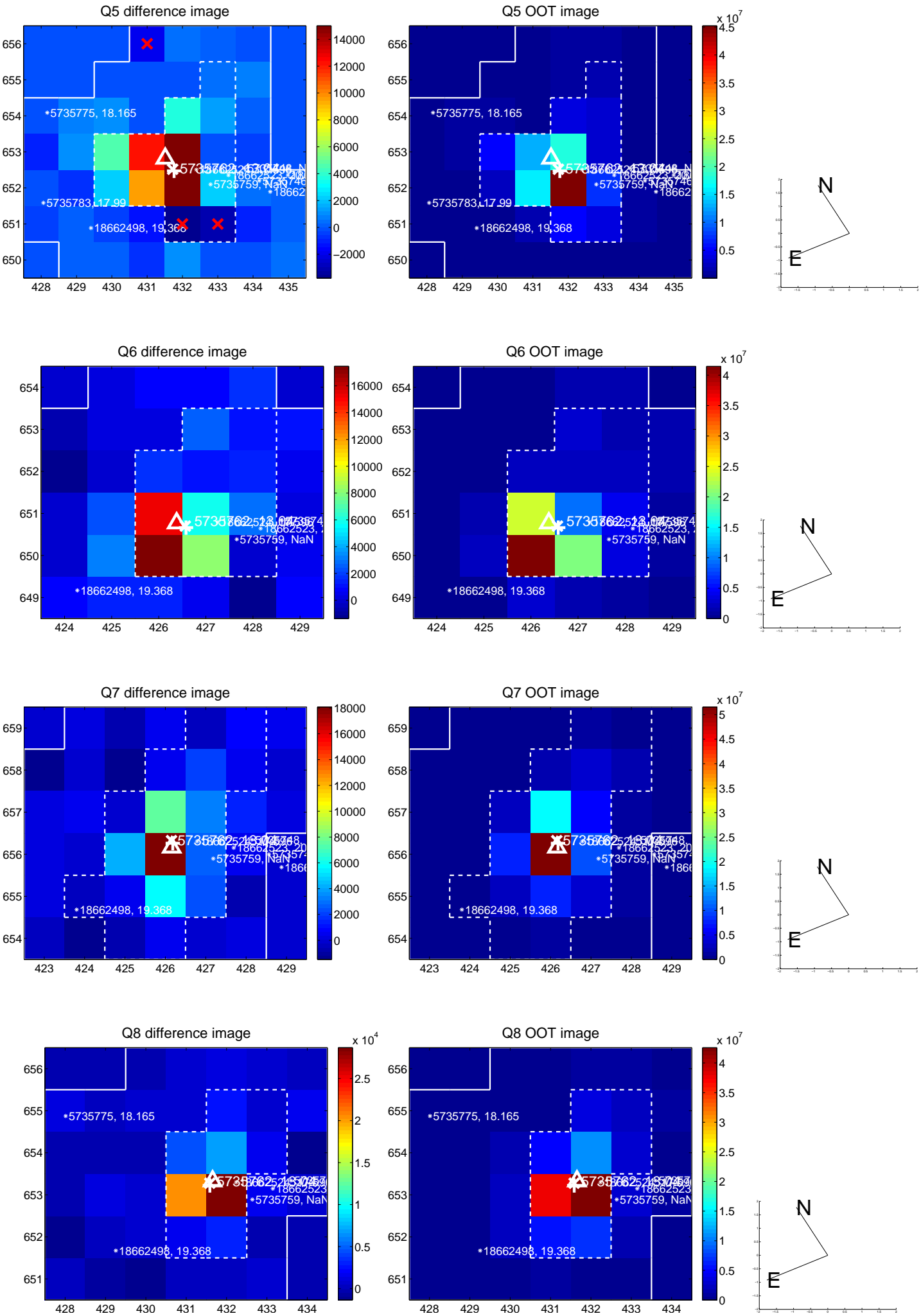


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

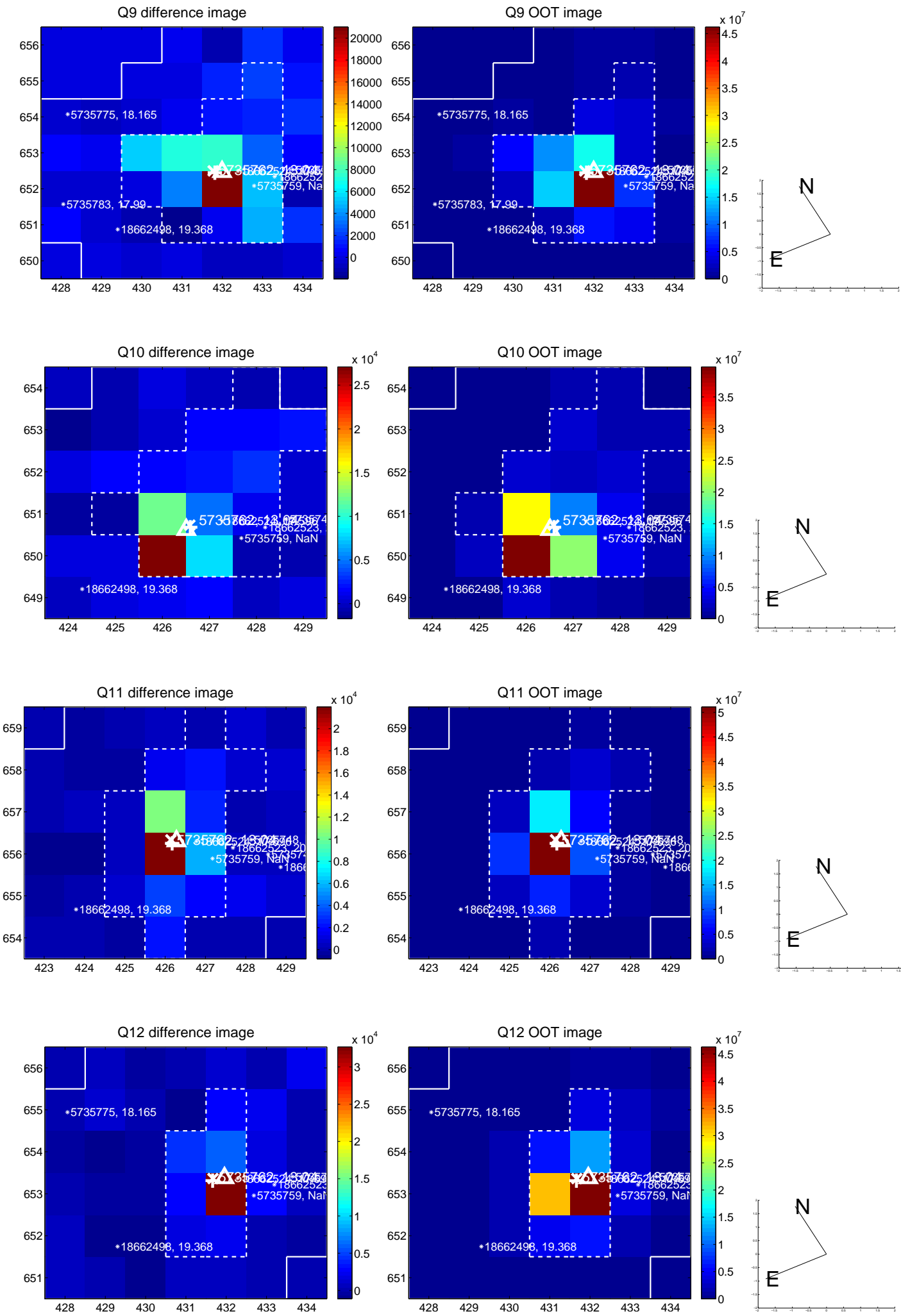
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



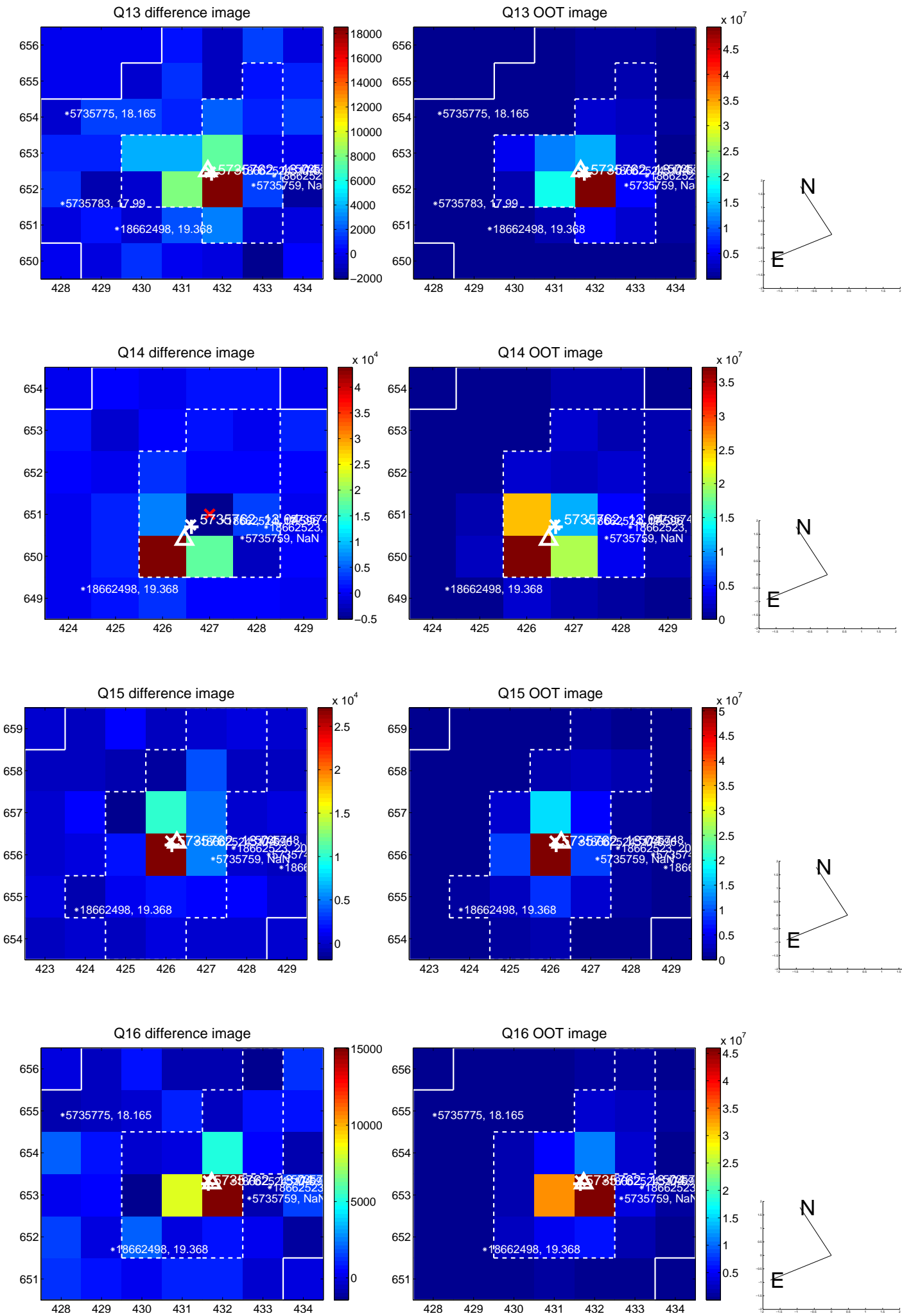
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



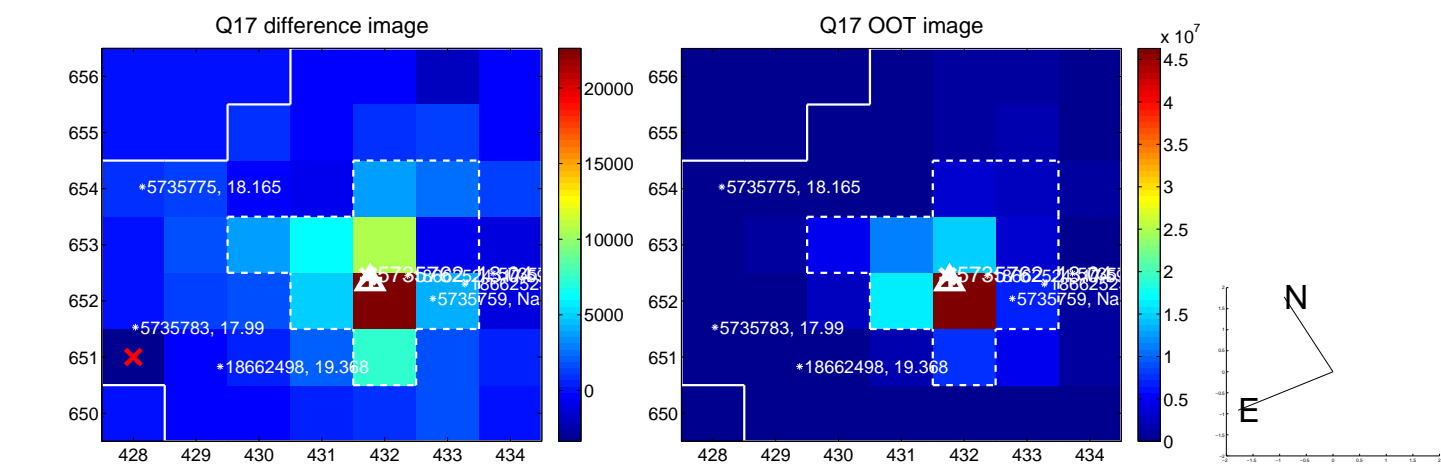
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



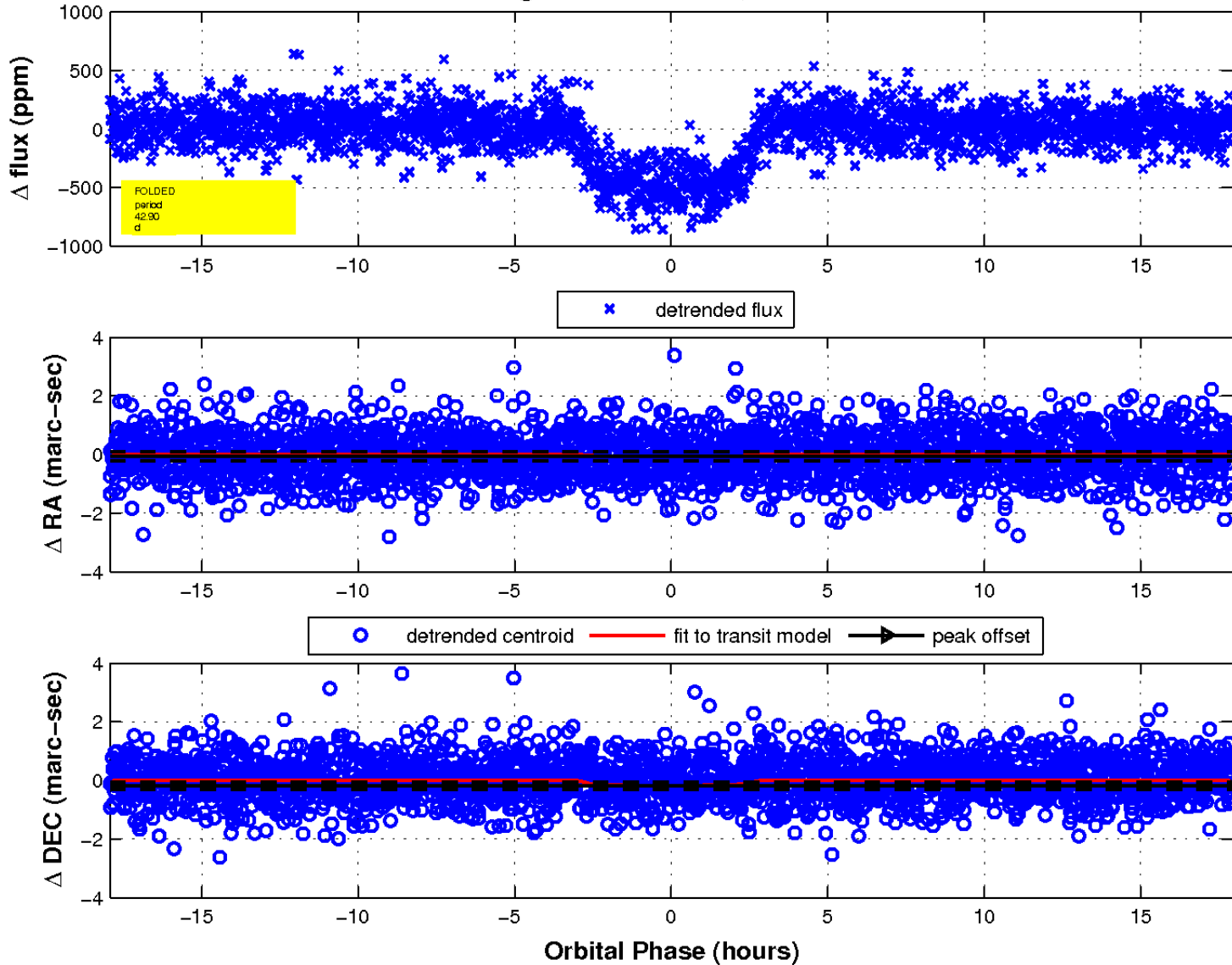
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

