

KIC 003128793

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-------|-------|-----------------------------|-----------------|------------------------|------------------------|
| 003128793-01 | OBS | 1786.01 | 24.678835 | 137.776644 | 7648.2 | 14.551 | 141.5 | 135.1 | 5.13 | 4648 | 45.08 | 413.41 |
| 003128793-02 | OBS | No | 176.628807 | 226.002816 | 1663.3 | 5.621 | 12.8 | 11.3 | 5.13 | 4648 | 22.12 | 29.97 |
| 003128793-03 | OBS | No | 372.332537 | 264.669463 | 988.4 | 8.002 | 11.7 | 6.1 | 5.13 | 4648 | 15.59 | 11.09 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003128793-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT |
| 003128793-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_MEAS |
| 003128793-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—INCONSISTENT_TRANS |

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

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

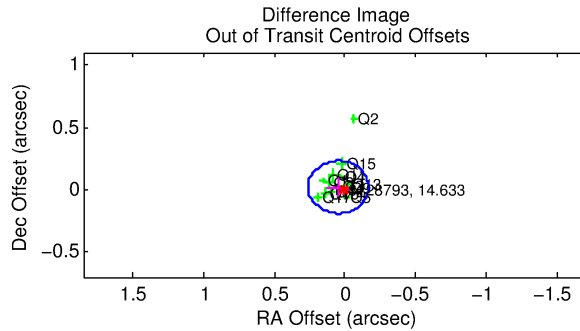
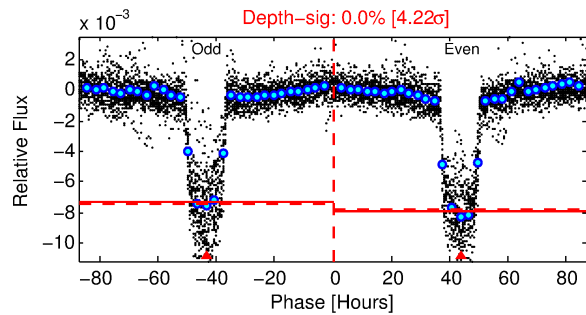
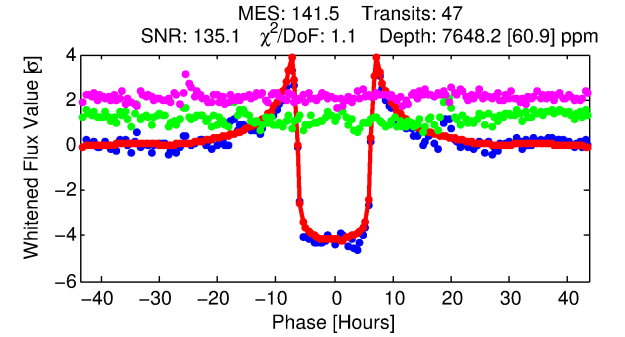
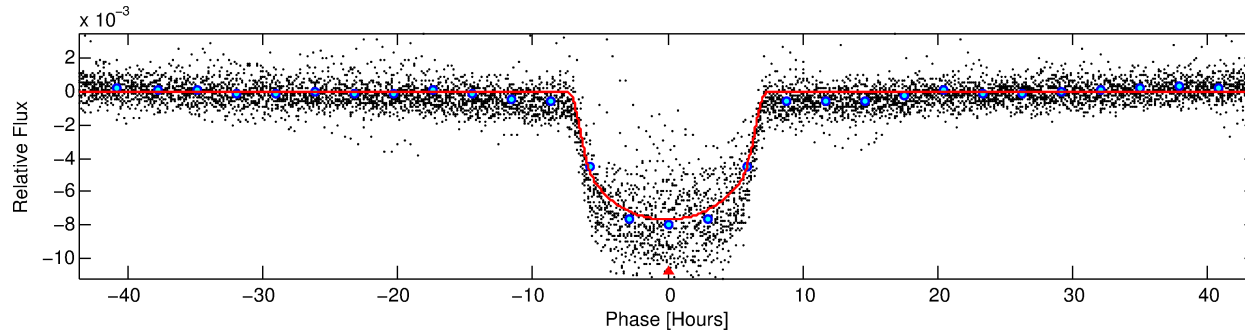
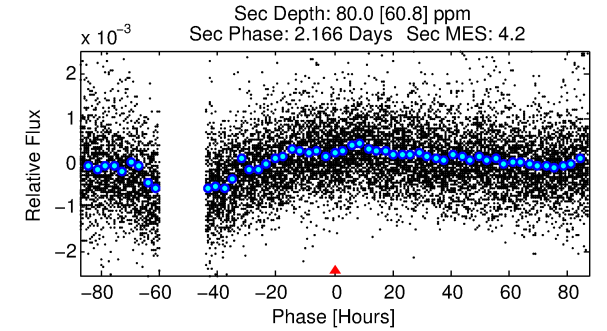
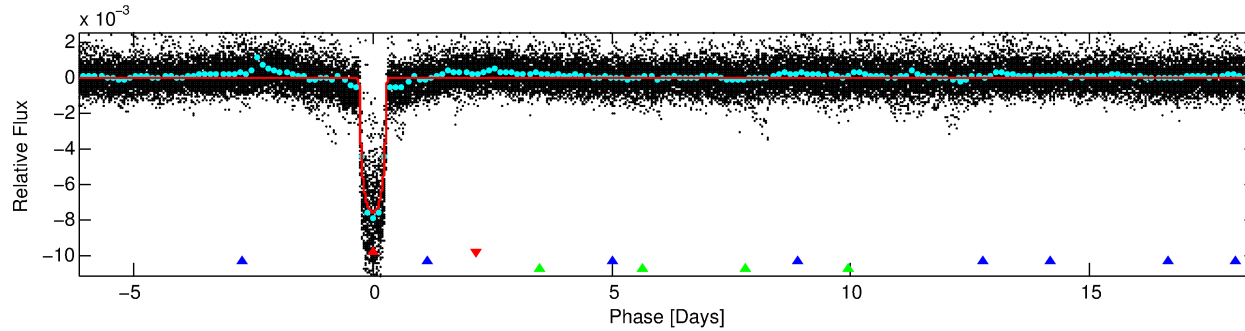
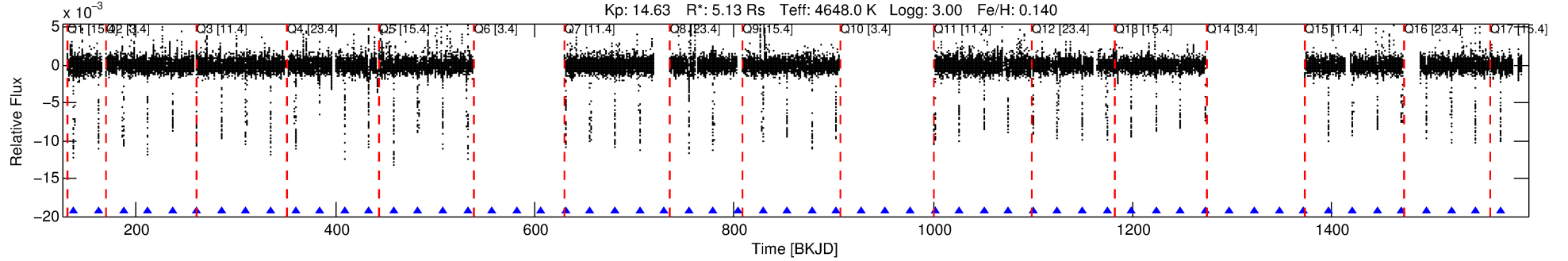
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003128793-01

No Significant Match Found

DV One-Page Summary

KIC: 3128793 Candidate: 1 of 3 Period: 24.679 d
KOI: K01786.01 Corr: 0.821



DV Fit Results:

Period = 24.67883 [0.00003] d
Epoch = 137.7766 [0.0011] BKJD
Rp/R* = 0.0805 [0.0007]
a/R* = 12.37 [0.28]
b = 0.51 [0.03]
Seff = 413.41 [119.24]
Teq = 1150 [83] K
Rp = 45.08 [11.74] Re
a = 0.1632 [0.0337] AU
Ag = 0.58 [0.47] [-0.90σ]
Teffp = 1549 [295] K [1.30σ]

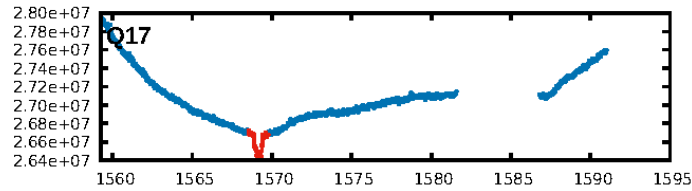
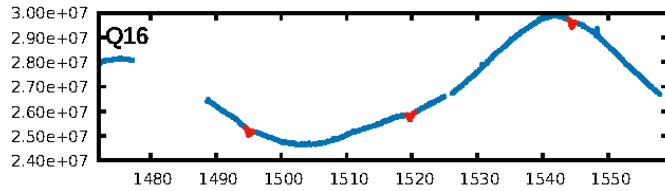
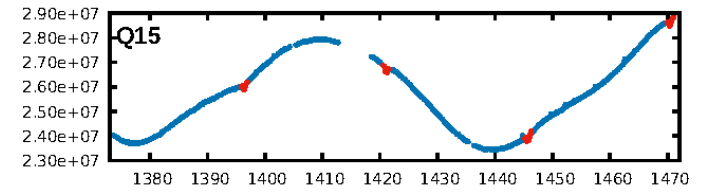
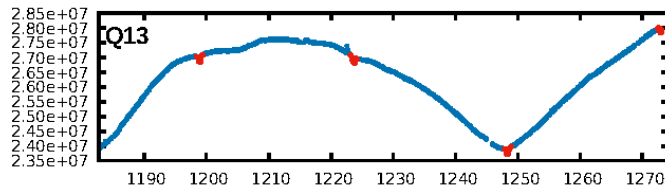
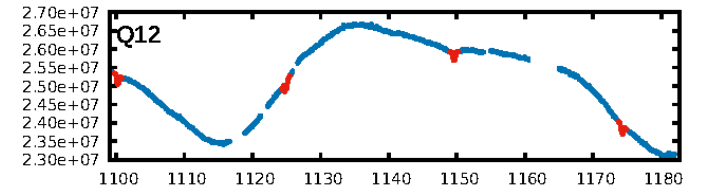
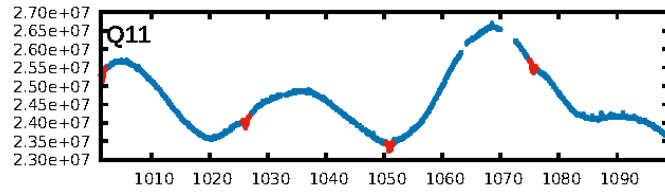
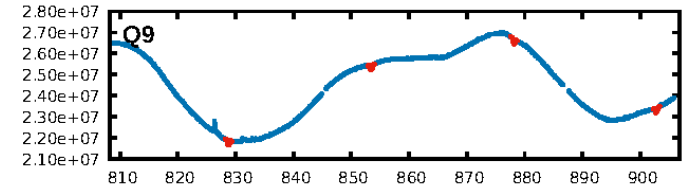
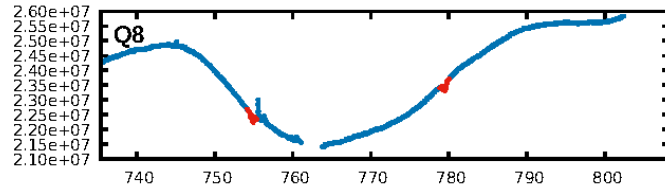
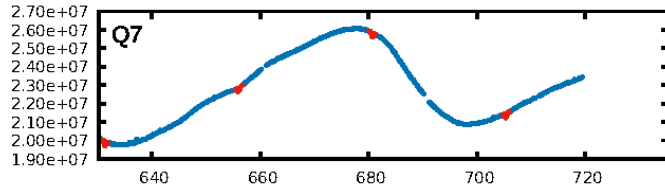
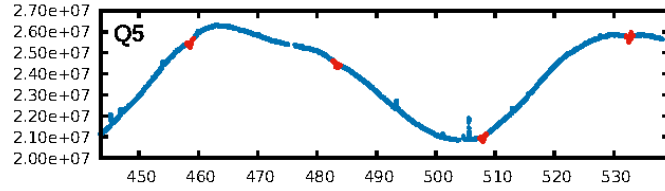
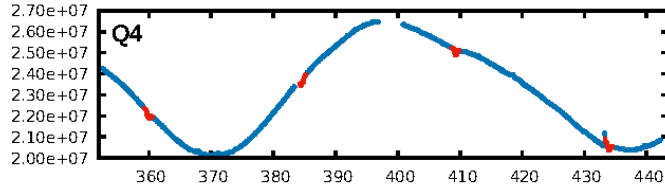
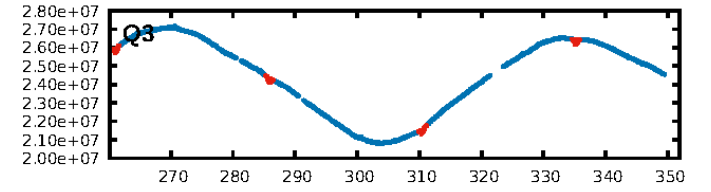
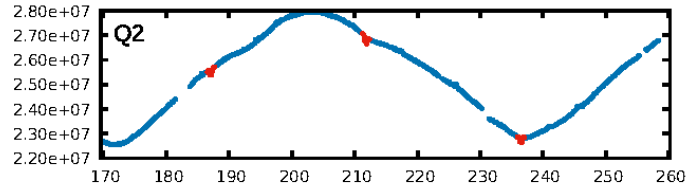
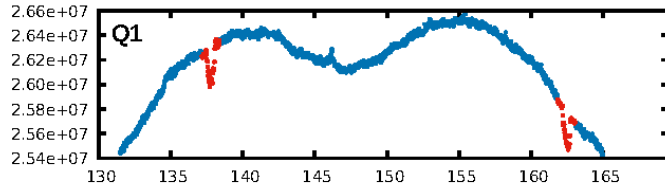
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [233.78σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 1.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [44/44]
GhostDiagnostic-chr: 2.303
Centroid-sig: 0.0%
Centroid-so: 0.672 arcsec [15.01σ]
OotOffset-rm: 0.051 arcsec [0.72σ]
KicOffset-rm: 0.118 arcsec [1.41σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

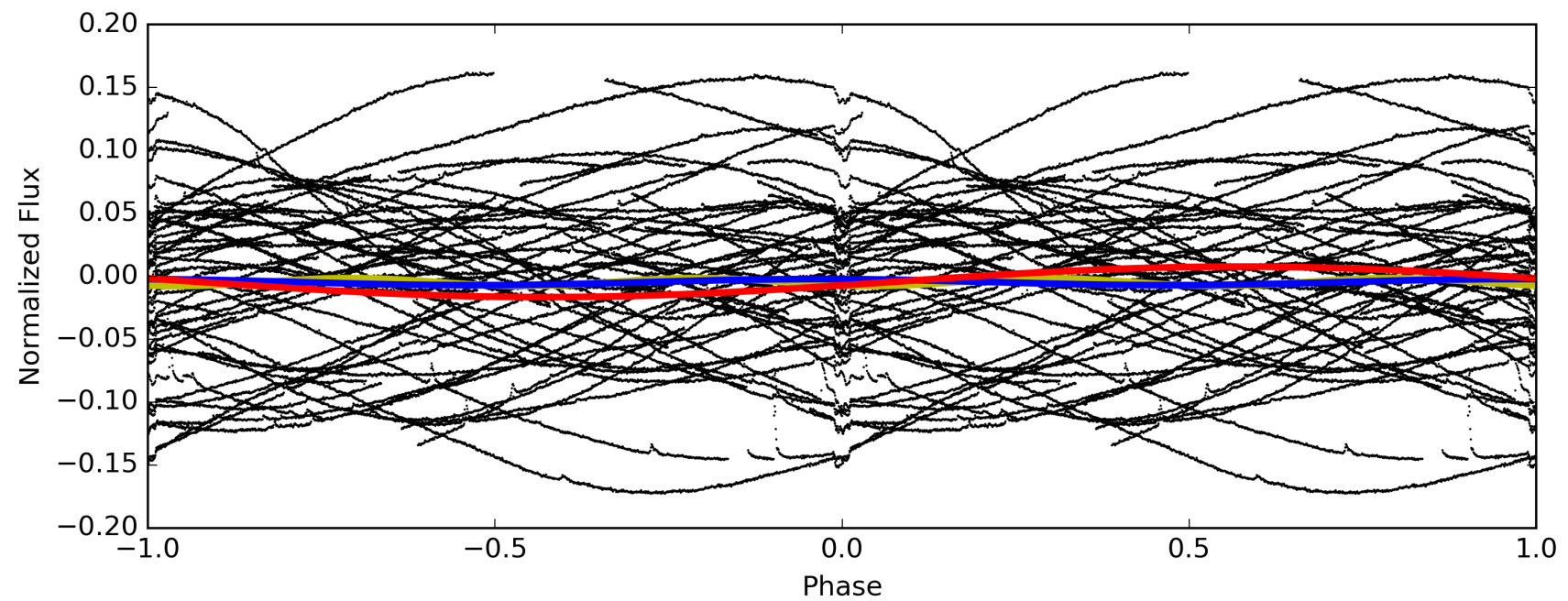
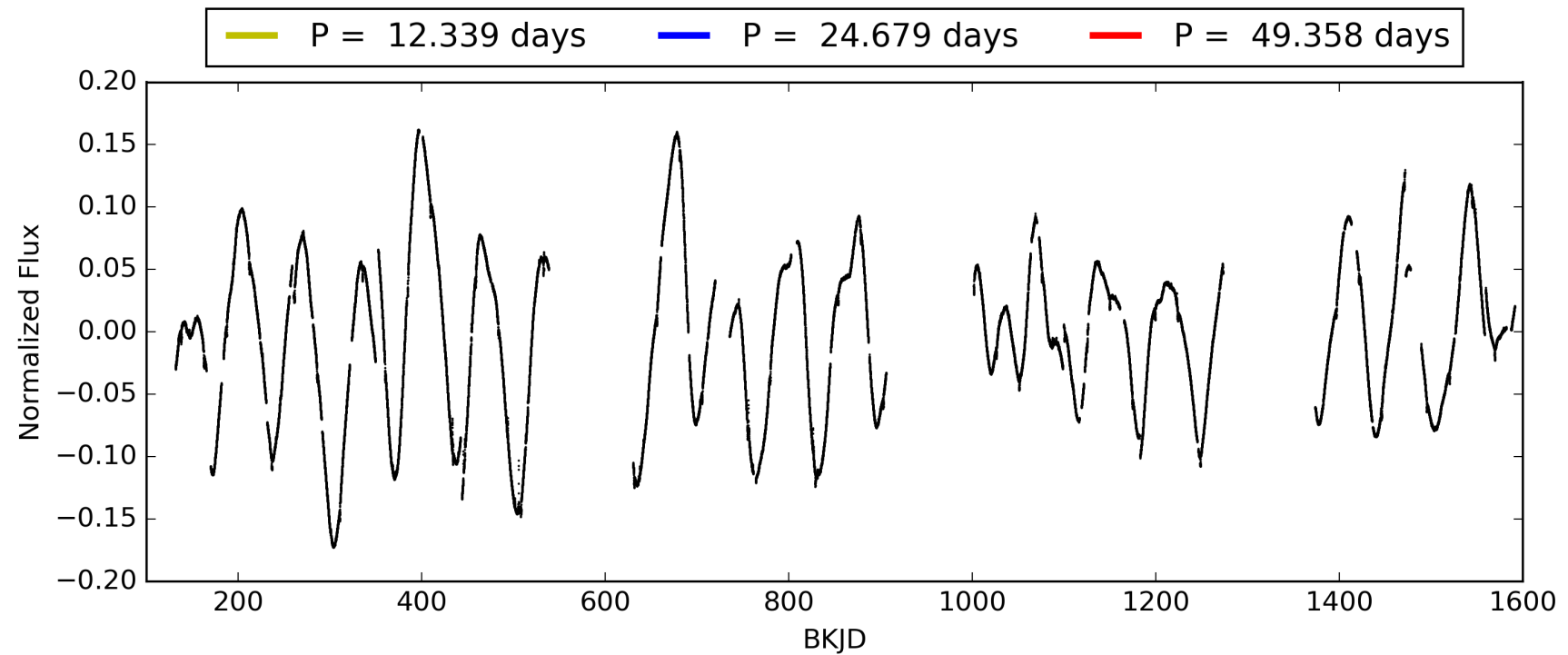
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:42:35 Z

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

TCE 003128793-01, PDC Light Curves

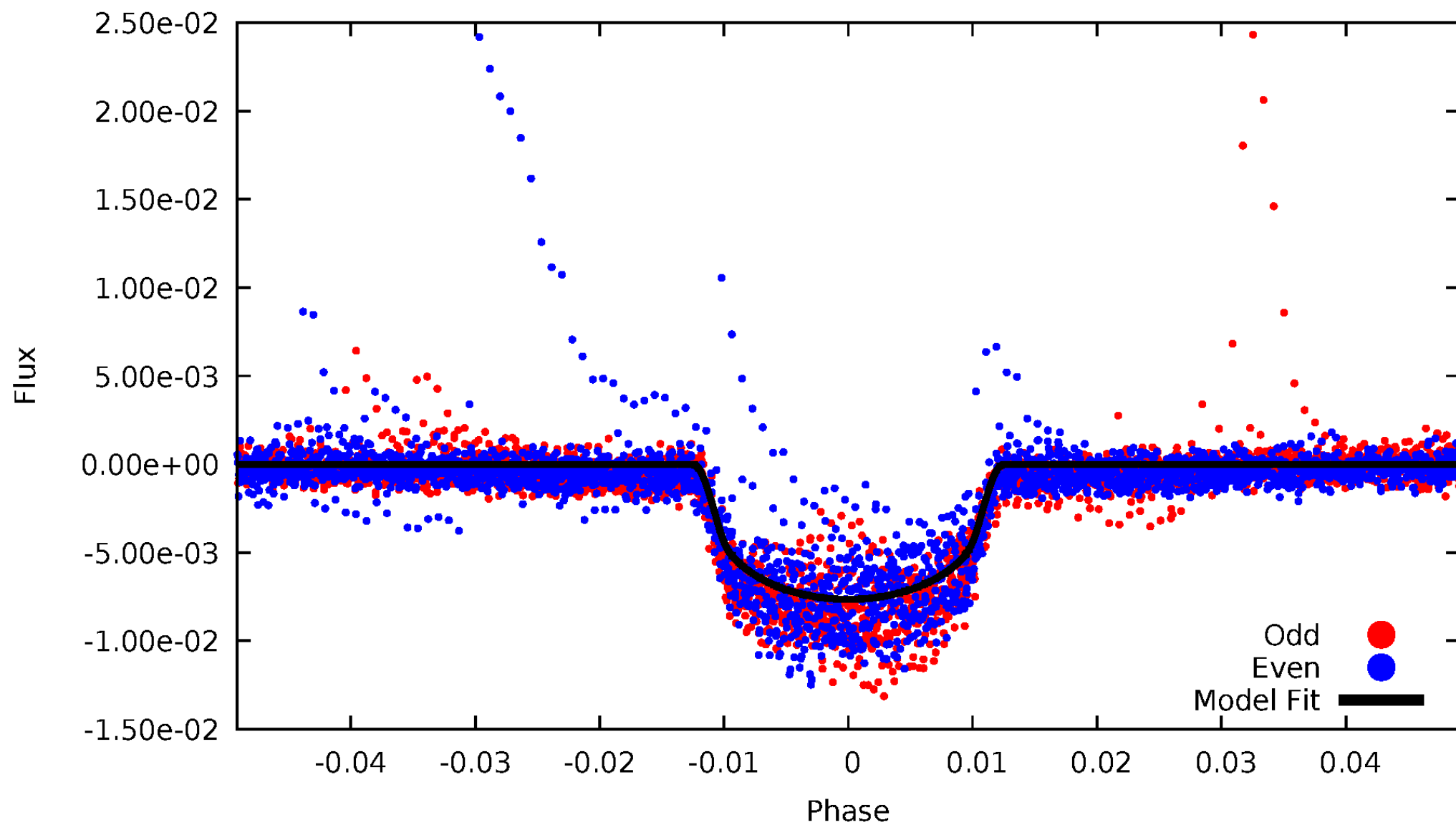


TCE 003128793-01



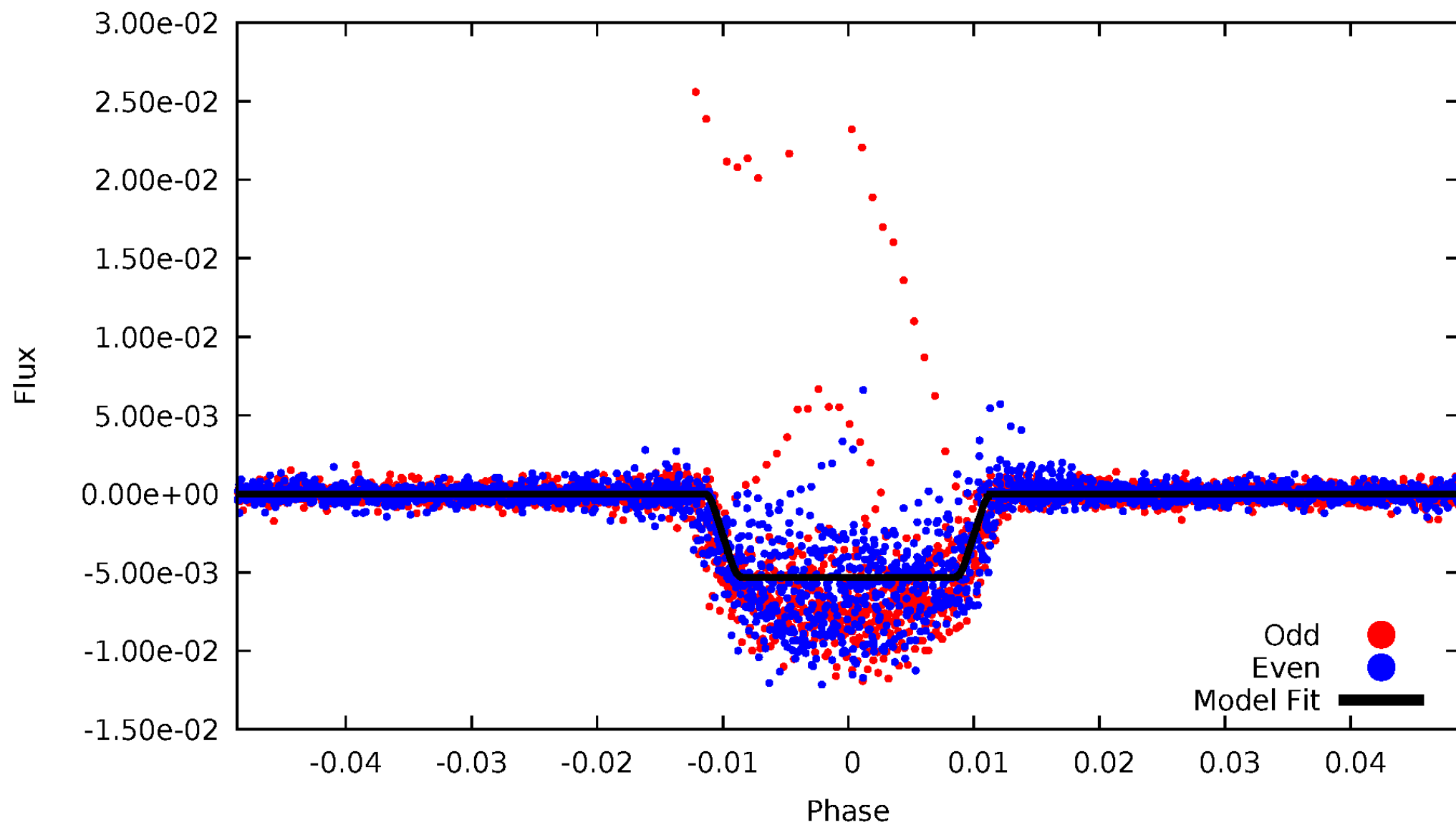
DV Odd/Even

TCE 003128793-01



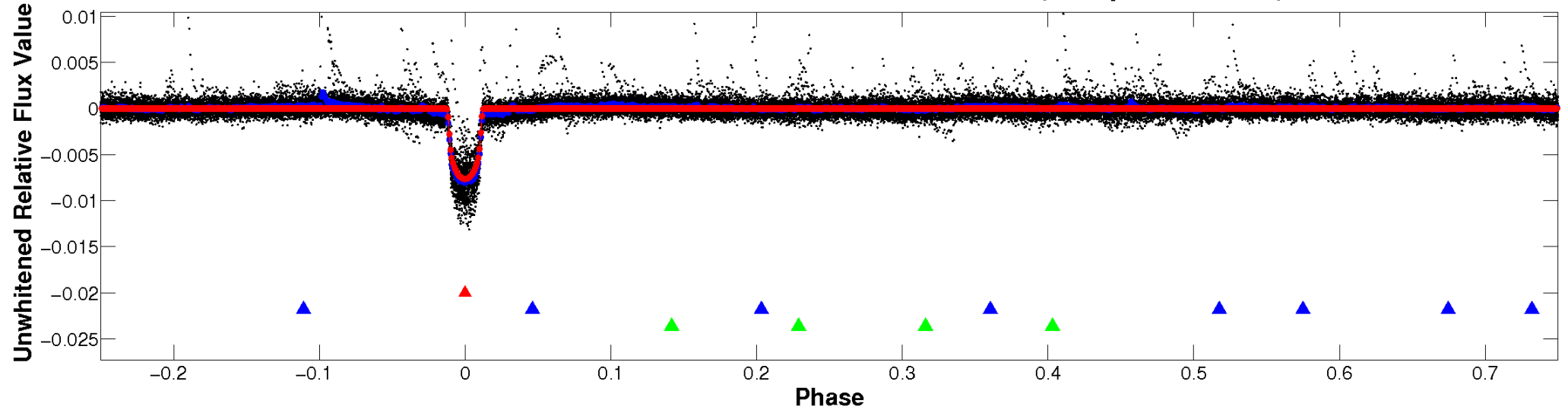
ALT Odd/Even

TCE 003128793-01

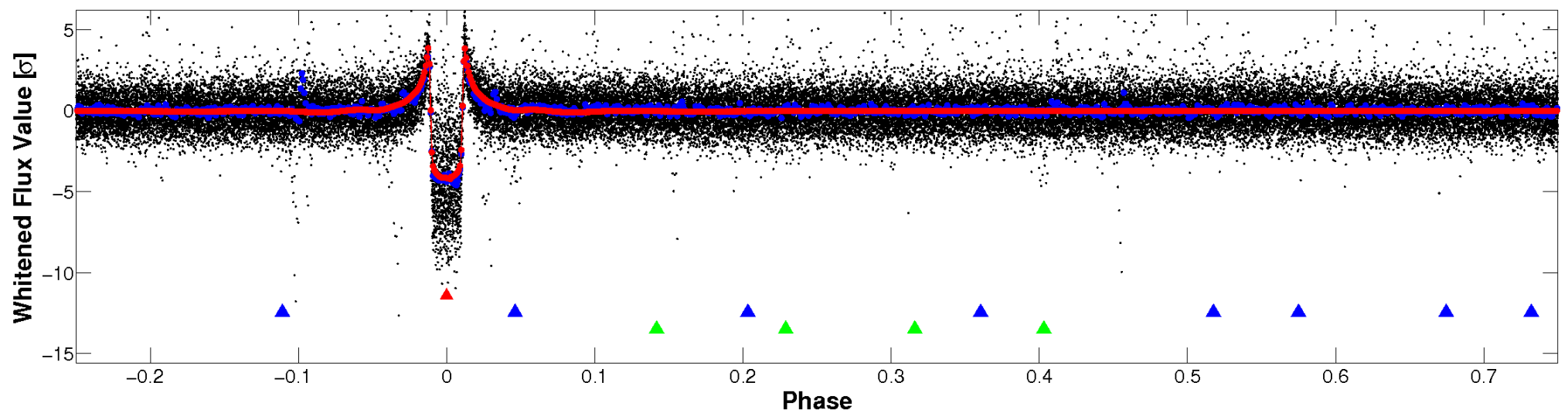


Non-Whitened Vs. Whitened Light Curve

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

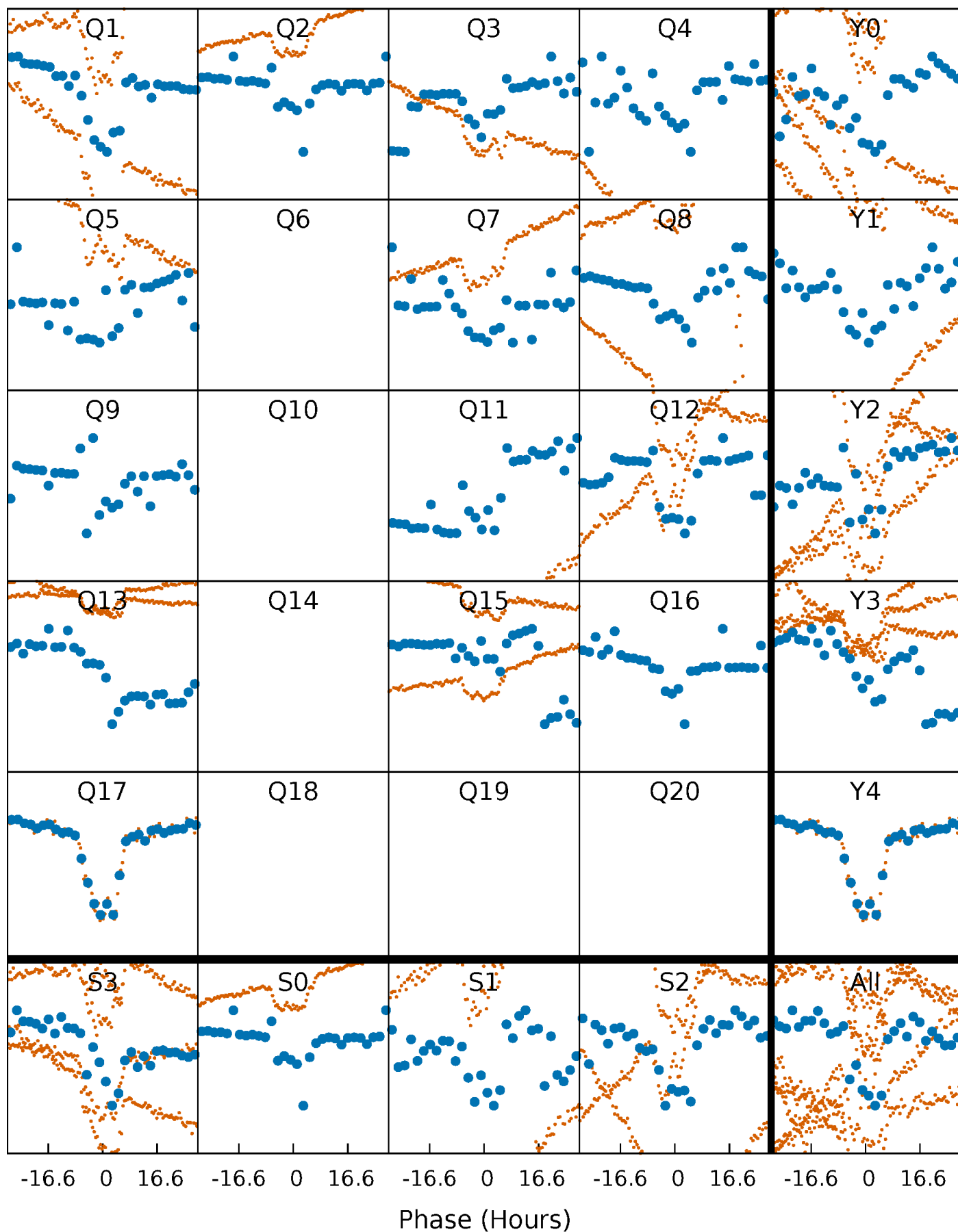


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



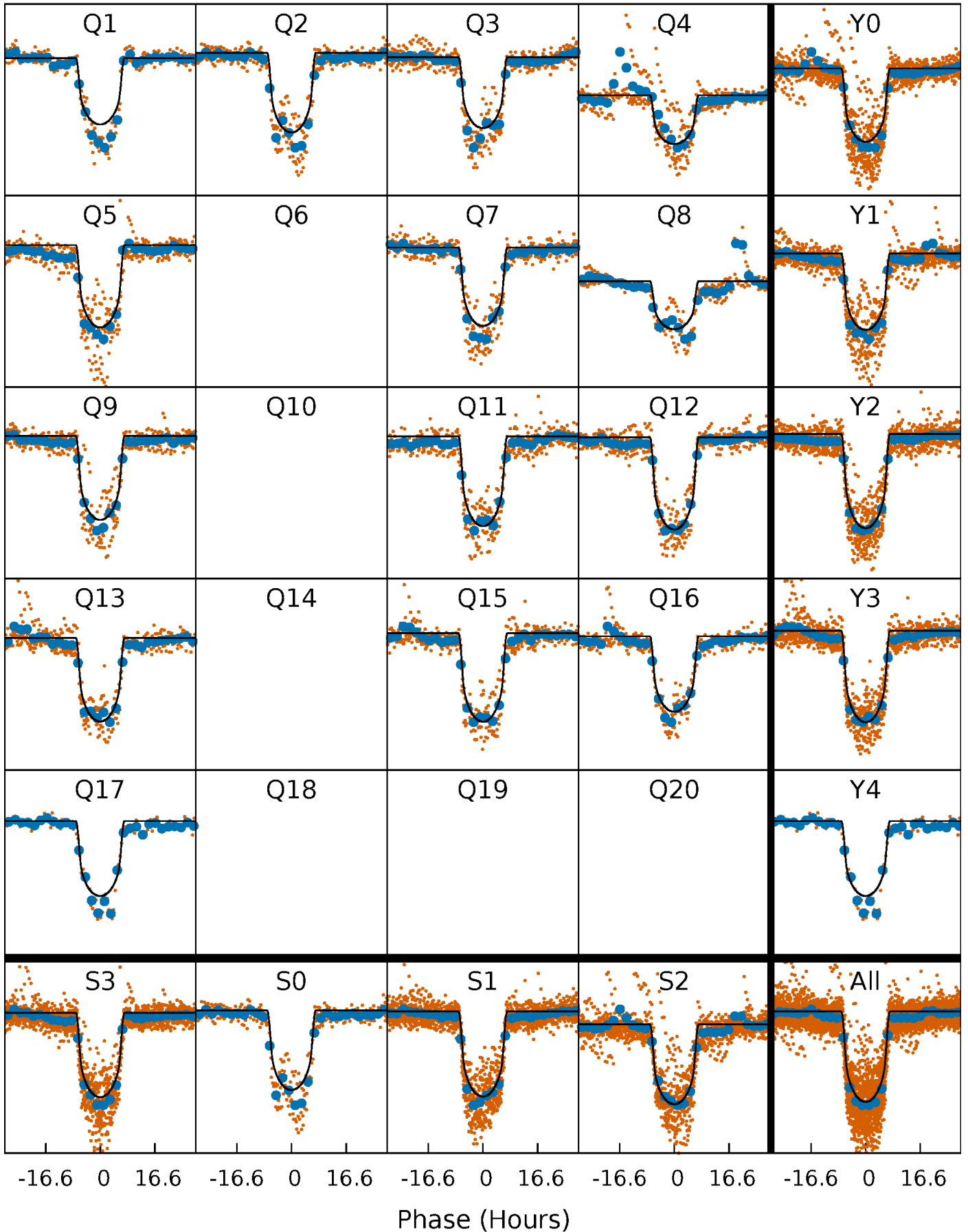
PDC Quarter-Phased Transit Curves

TCE 003128793-01 P= 24.678835 Days $T_0=137.776644$ (BKJD)



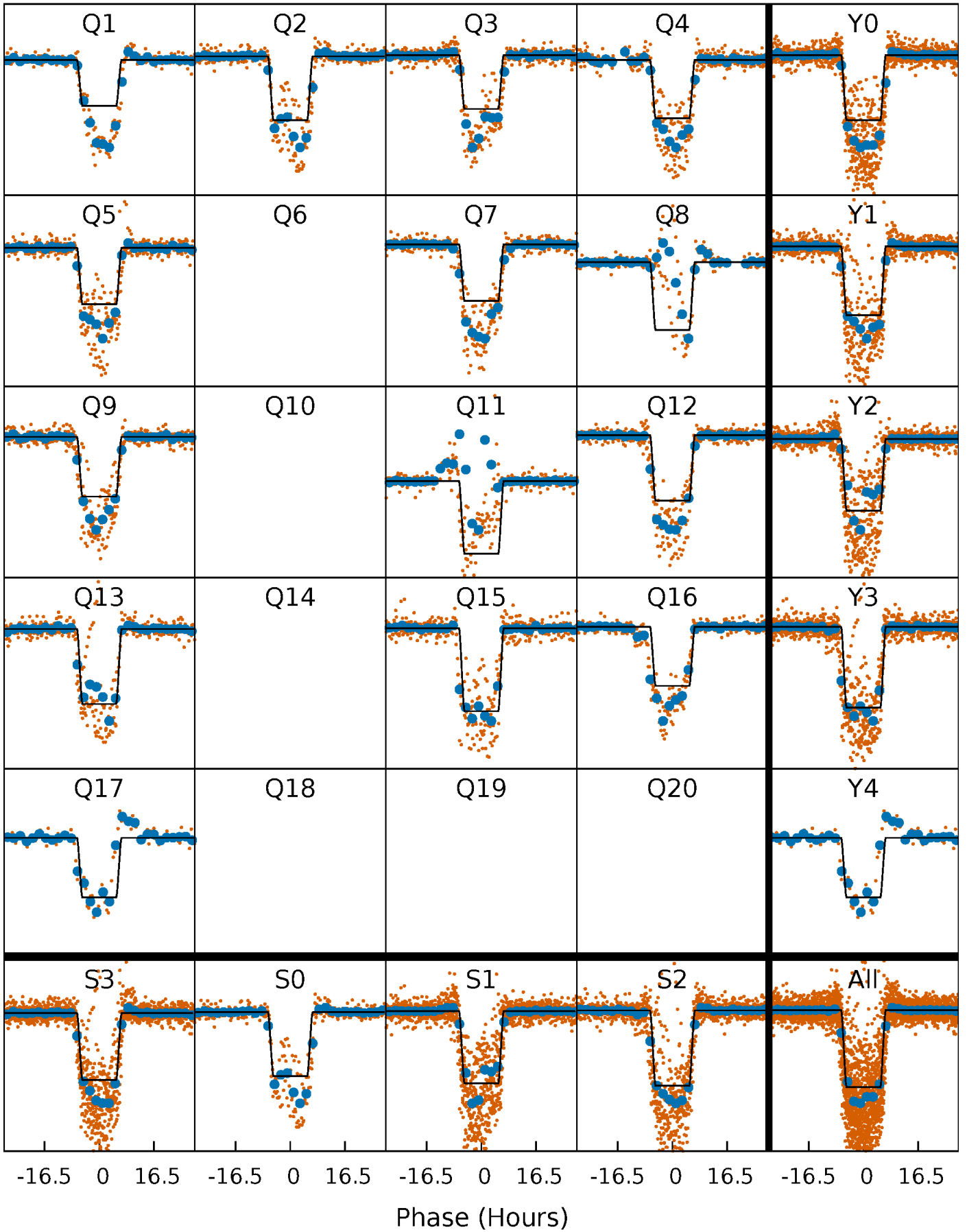
DV Quarter-Phased Transit Curves

TCE 003128793-01 P= 24.678835 Days $T_0=137.776644$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

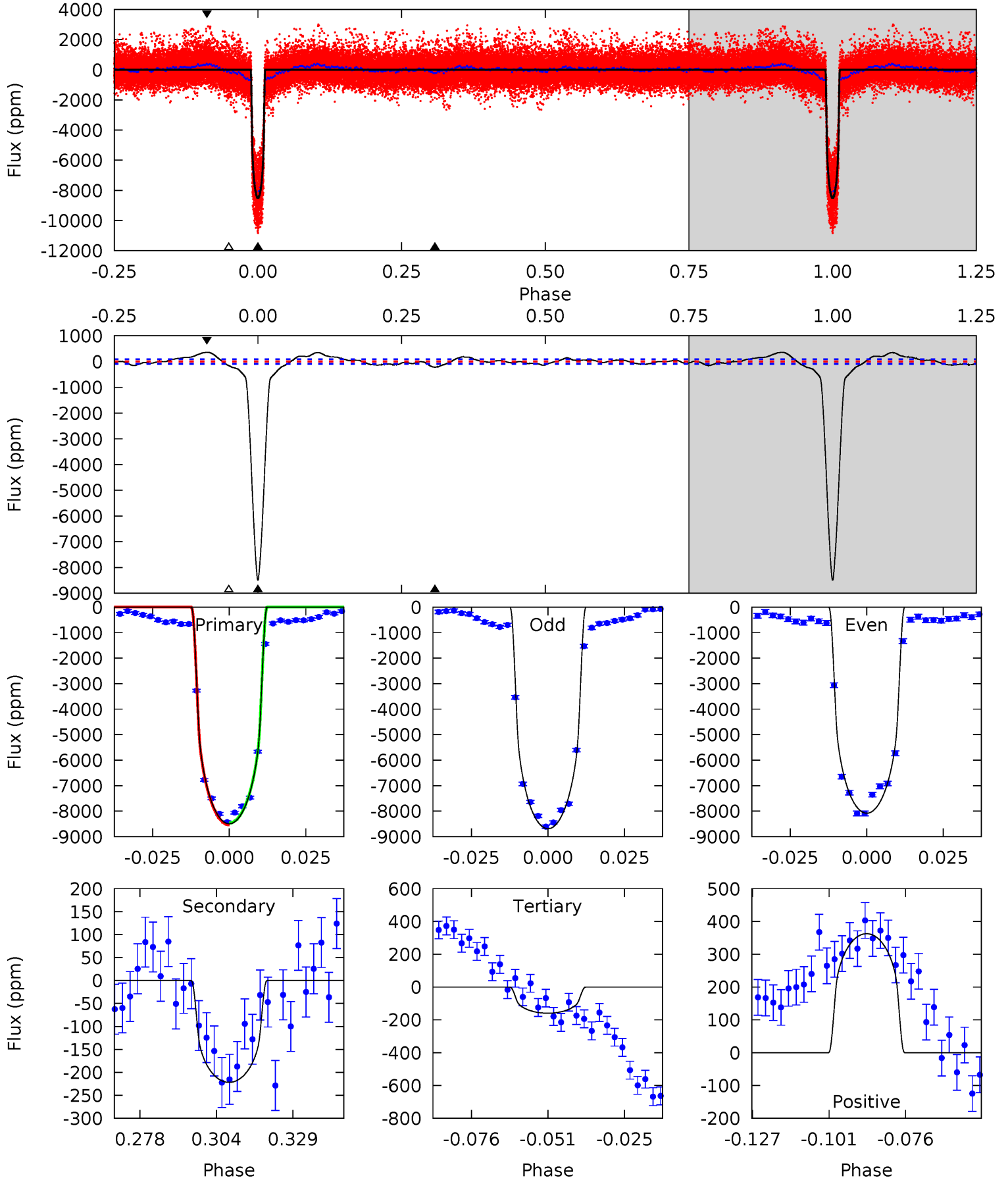
TCE 003128793-01 P= 24.679819 Days $T_0=137.755986$ (BKJD)



DV Model-Shift Uniqueness Test

003128793-01, $P = 24.678835$ Days, $E = 113.097809$ Days

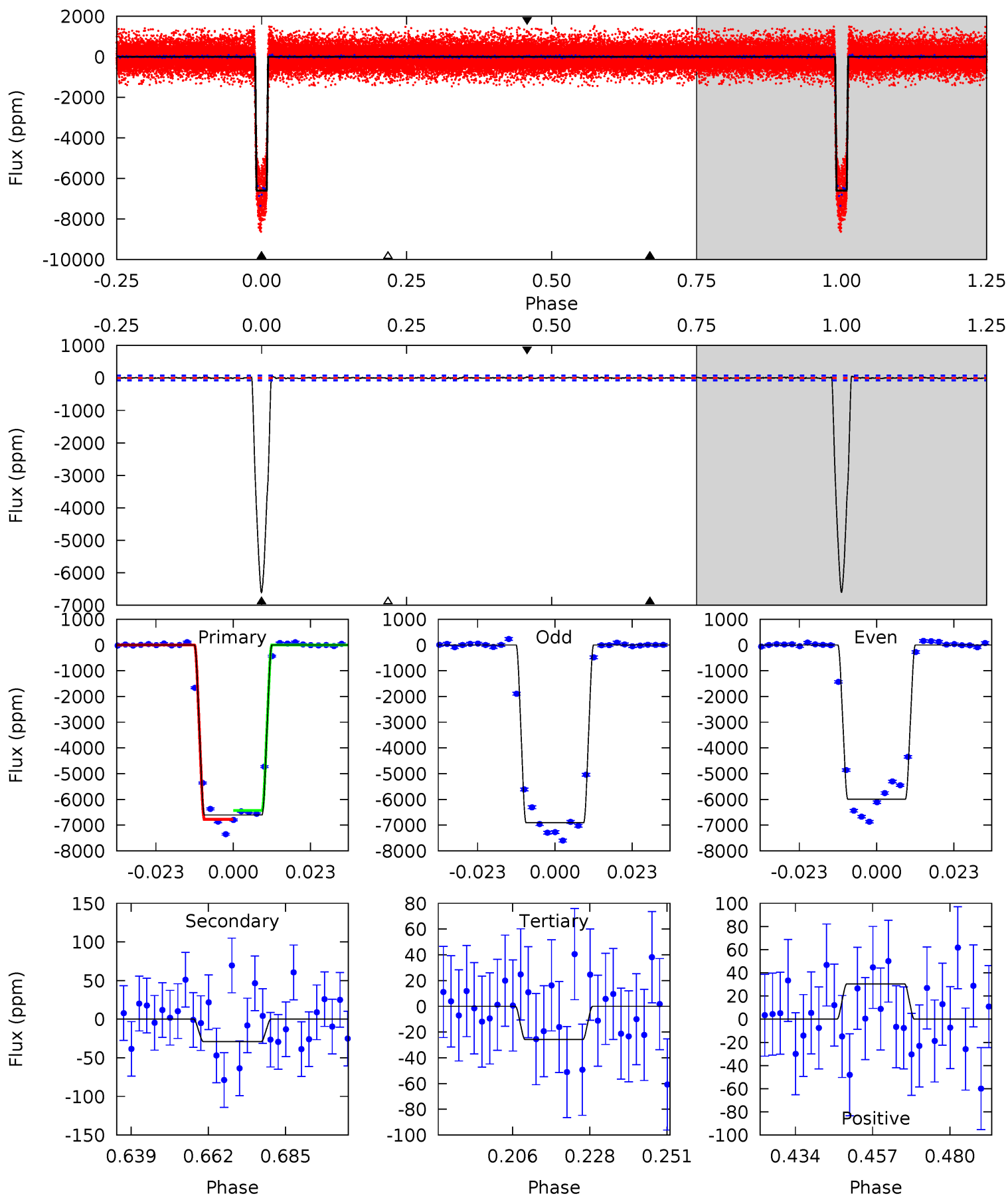
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 458.7 | 12.0 | 8.62 | 19.6 | 4.85 | 2.24 | 7.64 | 450.1 | 439.2 | 3.36 | -7.60 | 16.5 | 0.99 | 0.04 | 1.92 |



Alt Model-Shift Uniqueness Test

003128793-01, P = 24.679819 Days, E = 113.076167 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 439.9 | 1.94 | 1.72 | 2.03 | 4.87 | 2.28 | 0.53 | 438.2 | 437.9 | 0.22 | -0.09 | 30.8 | 0.87 | 0.01 | 11.3 |



Stellar Parameters For KIC 003128793

| | $T_{\text{eff}} (K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M (M_{\odot})$ | $\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|--|
| | 4648^{+69}_{-55} | $2.996^{+0.145}_{-0.145}$ | $0.140^{+0.150}_{-0.100}$ | $5.132^{+1.336}_{-0.719}$ | $0.950^{+0.201}_{-0.021}$ | $0.010^{+0.006}_{-0.004}$ |
| | +1%/-1% | +5%/-5% | +107%/-71% | +26%/-14% | +21%/-2% | +62%/-45% |
| Source | SPE74 | SPE74 | SPE74 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 003128793-01 / KOI 1786.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|-------------------------|----------------------|------------------------|---------------------------|
| DV | -222 ± 19 | $45.37^{+6.55}_{-3.69}$ | 1604^{+96}_{-74} | 2640^{+45}_{-47} | $1.594^{+0.379}_{-0.329}$ |
| Alt. | -29 ± 15 | $40.76^{+6.35}_{-3.58}$ | 1598^{+108}_{-82} | -1855^{+3841}_{-274} | $0.248^{+0.172}_{-0.133}$ |

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 $A_{\text{obs}} \gg 1.0$

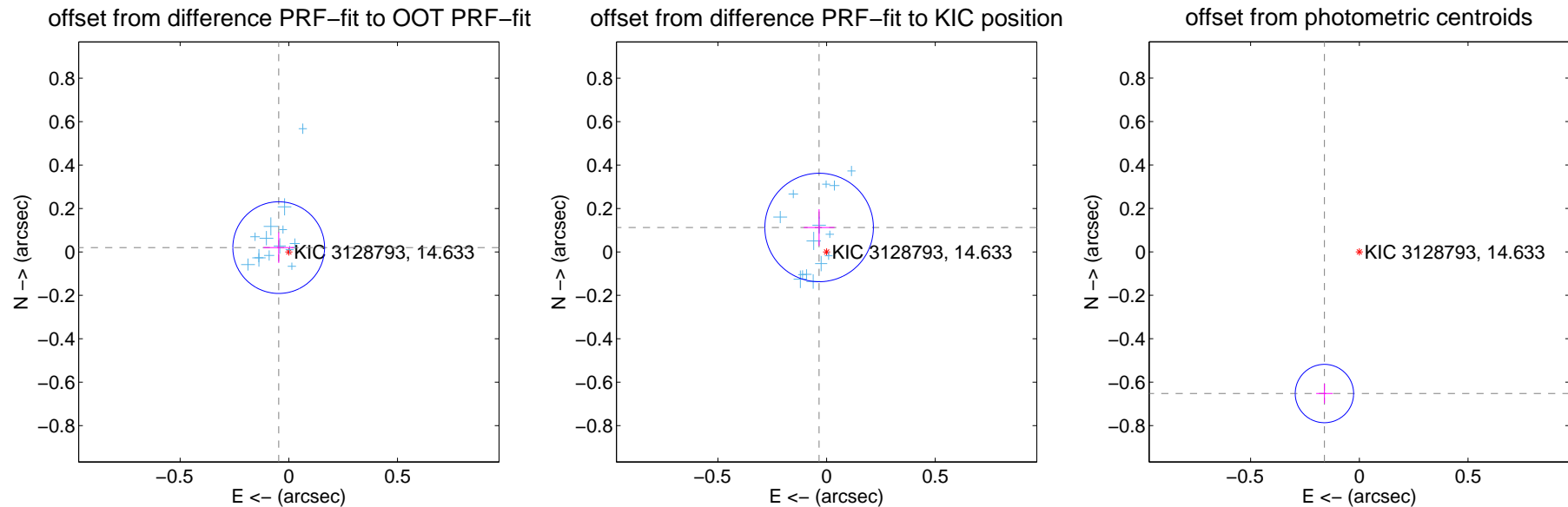
DV Centroid Data

Supplemental centroid analysis for 003128793-01. Kepler magnitude: 14.63. Transit SNR 135.11

There are 14 quarters with good PRF difference image offsets

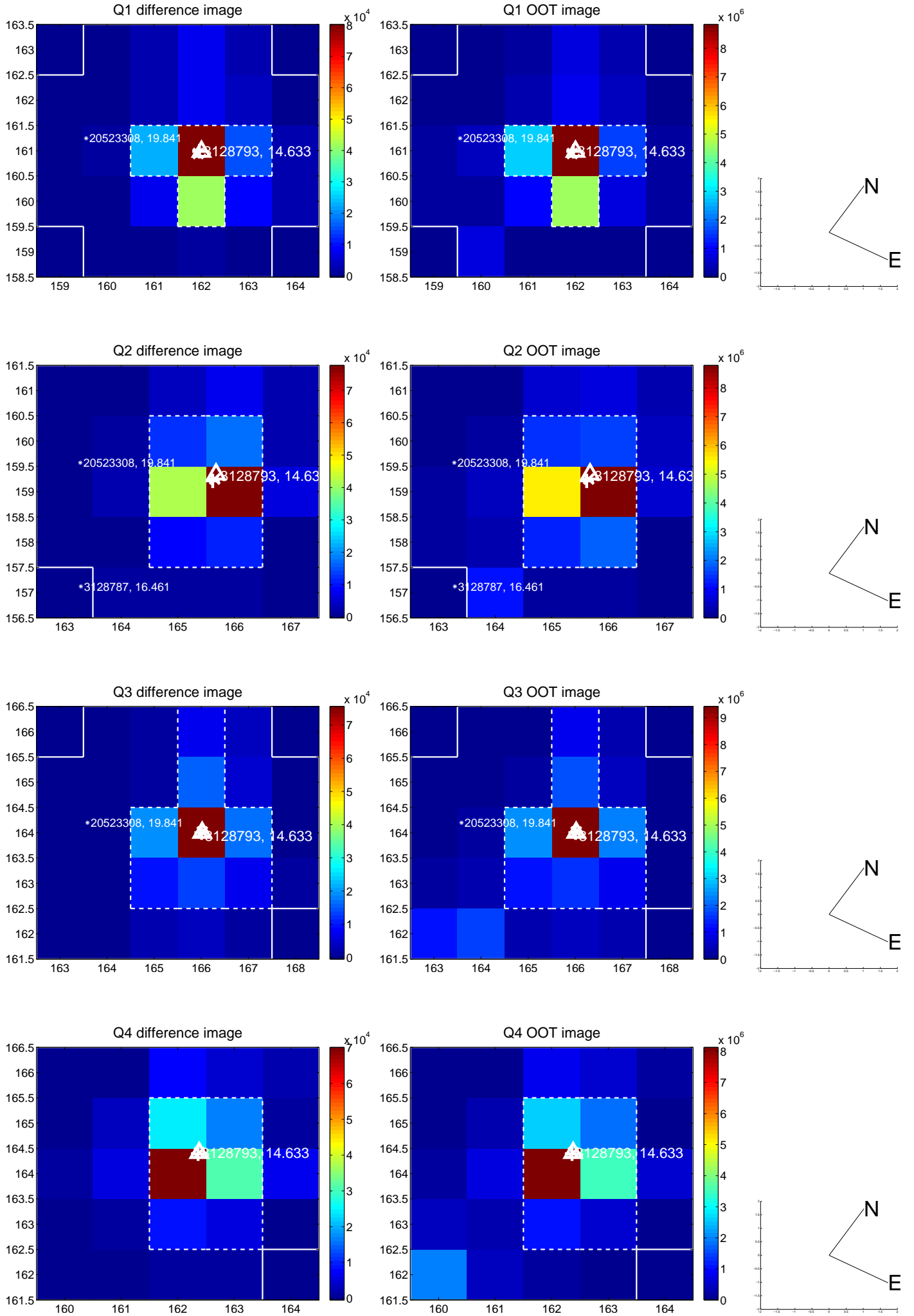
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.051 ± 0.070 | 0.72 | 0.046 ± 0.070 | 0.020 ± 0.070 |
| PRF-fit source offset from KIC position | 0.118 ± 0.083 | 1.41 | 0.034 ± 0.071 | 0.112 ± 0.084 |
| photometric centroid source offset | 0.67 ± 0.04 | 15.01 | 0.16 ± 0.04 | -0.65 ± 0.05 |

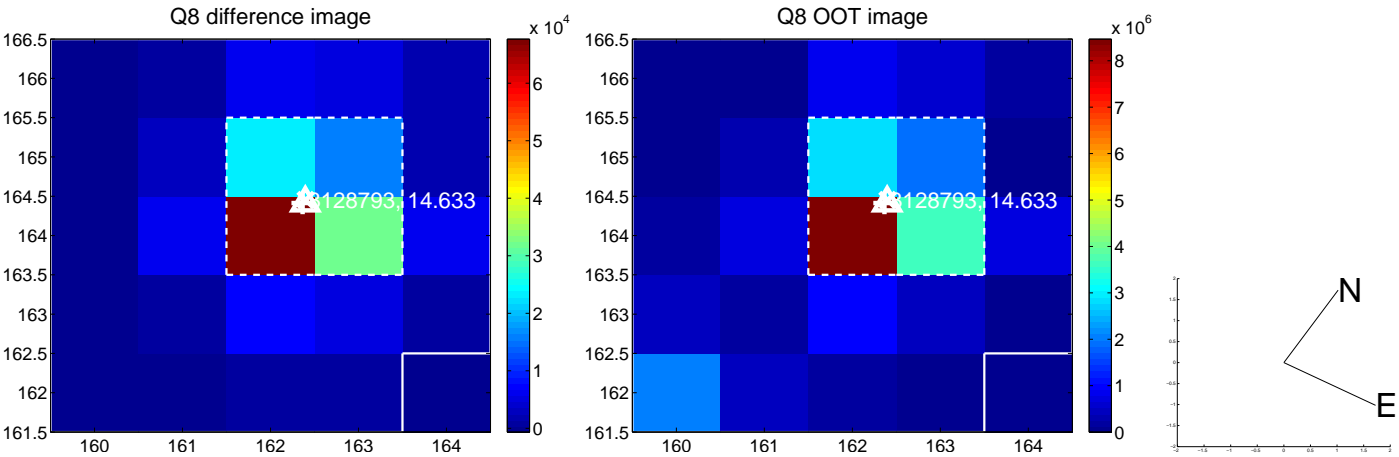
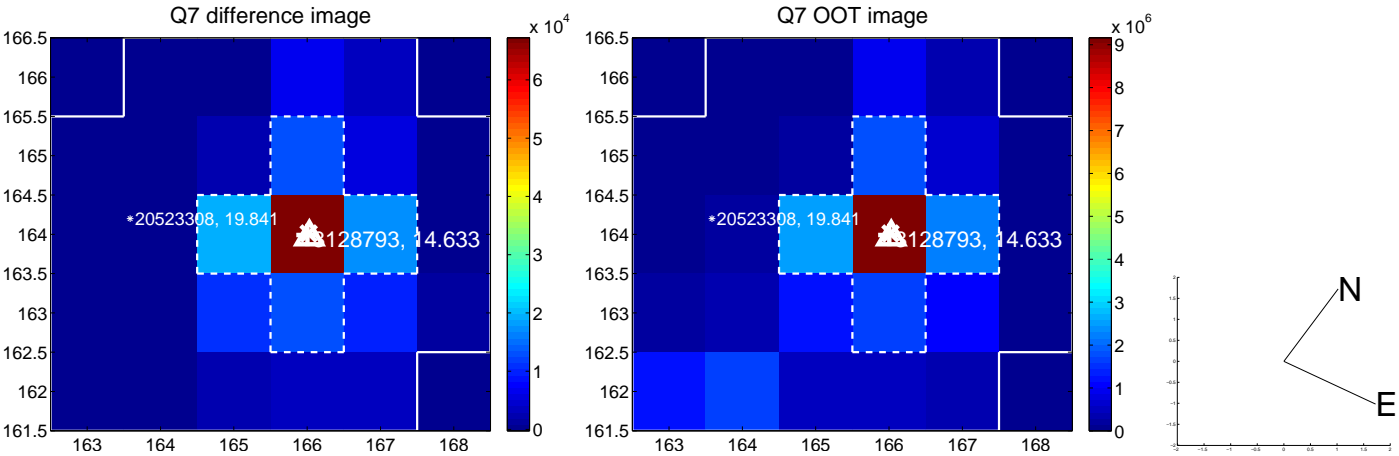
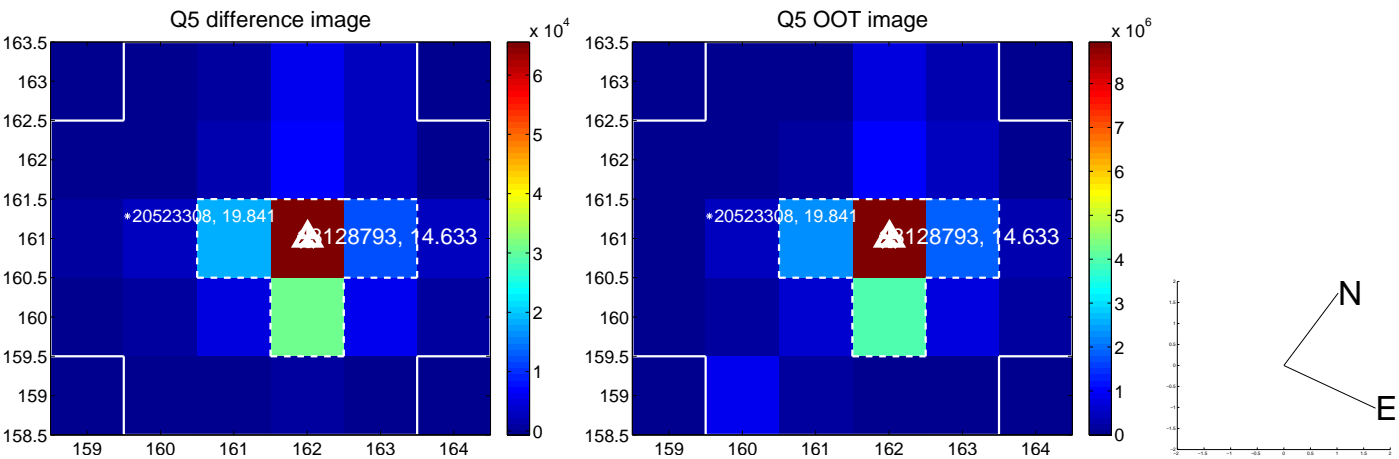


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

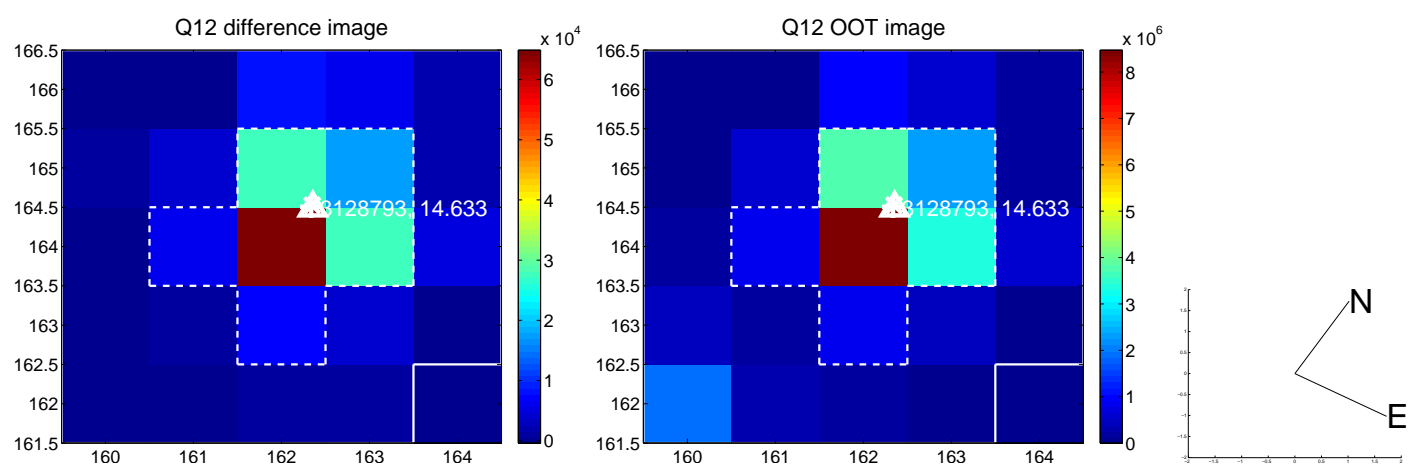
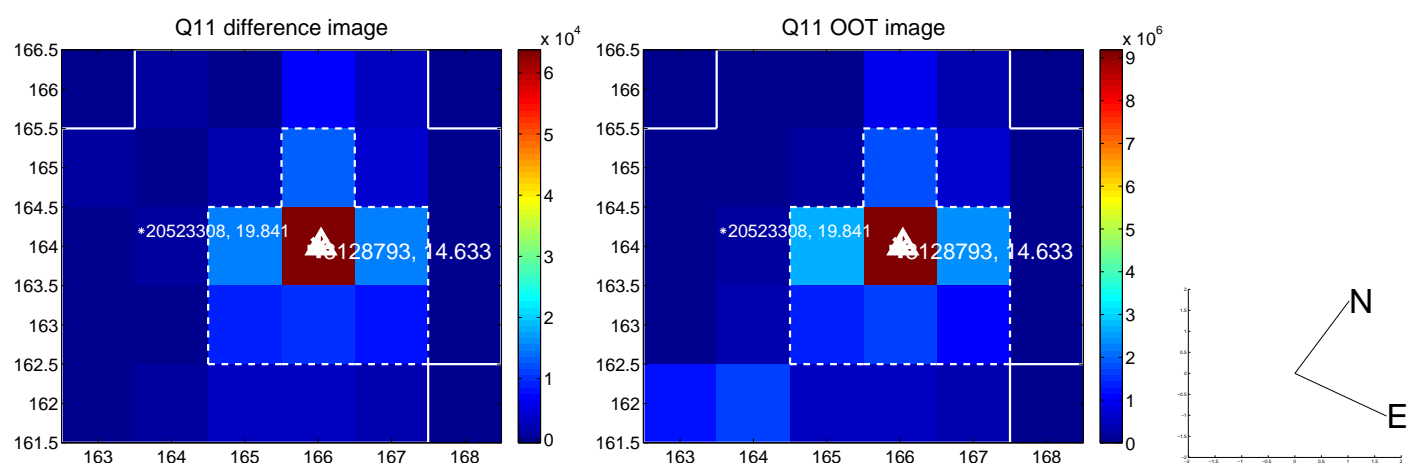
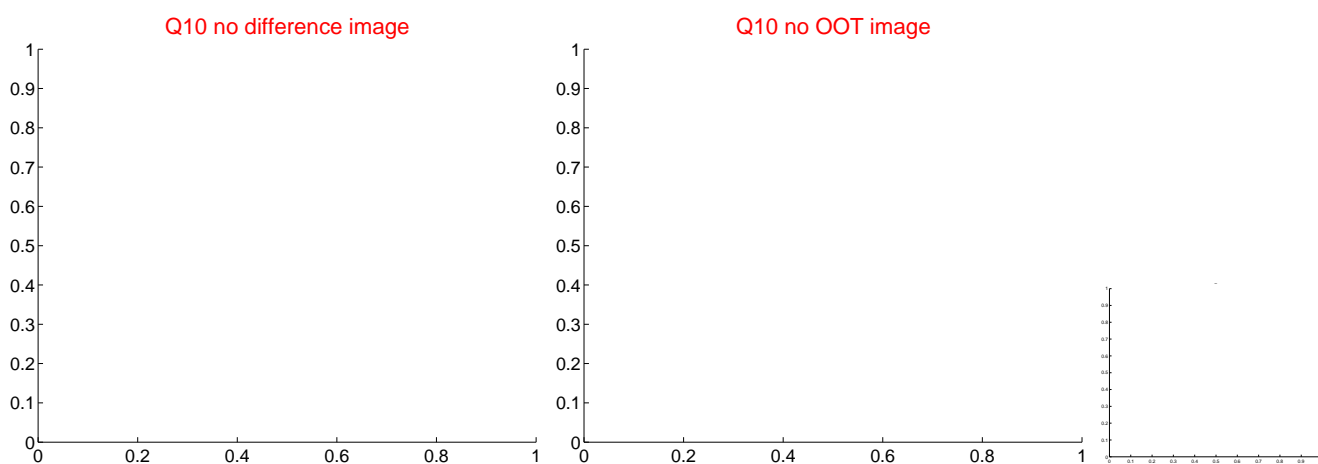
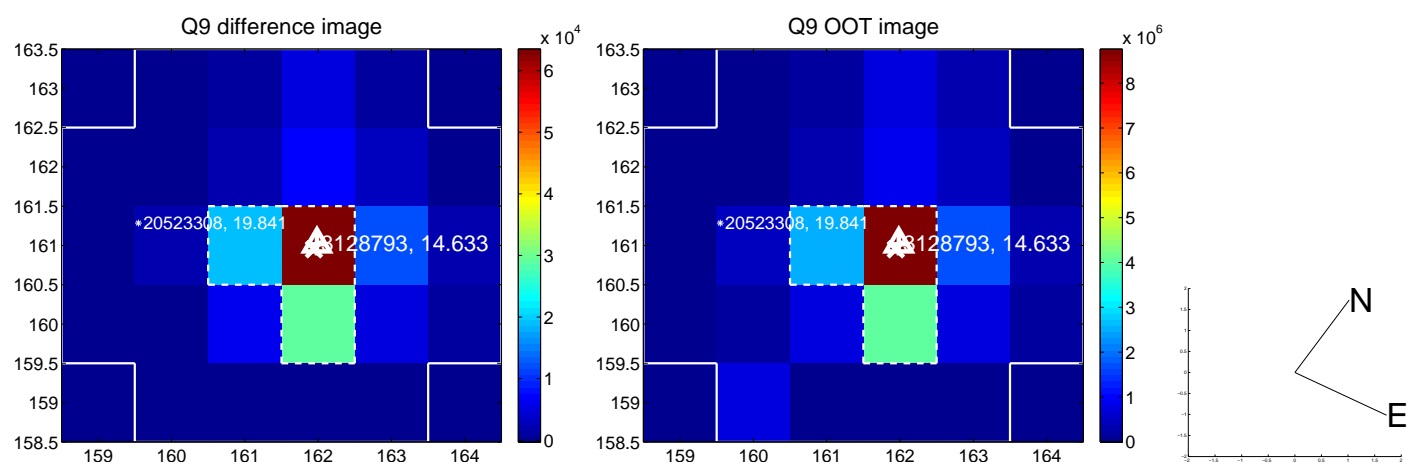
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



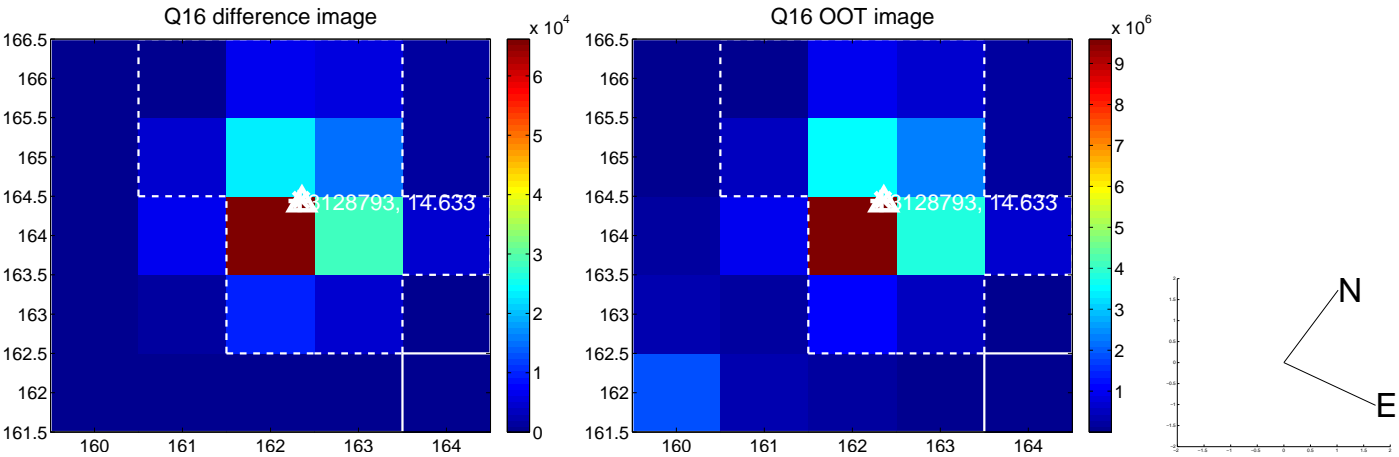
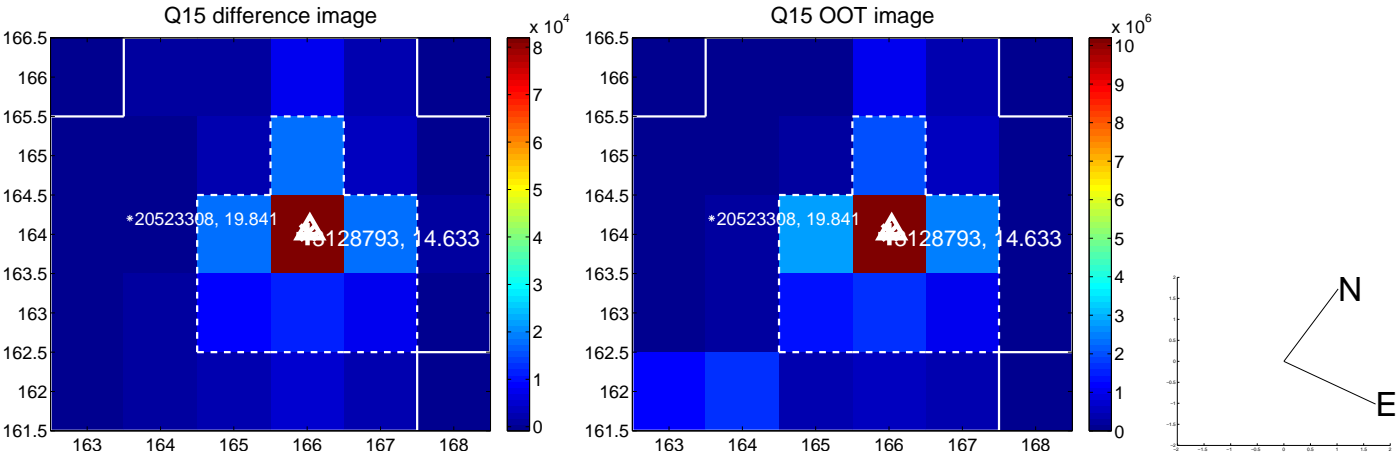
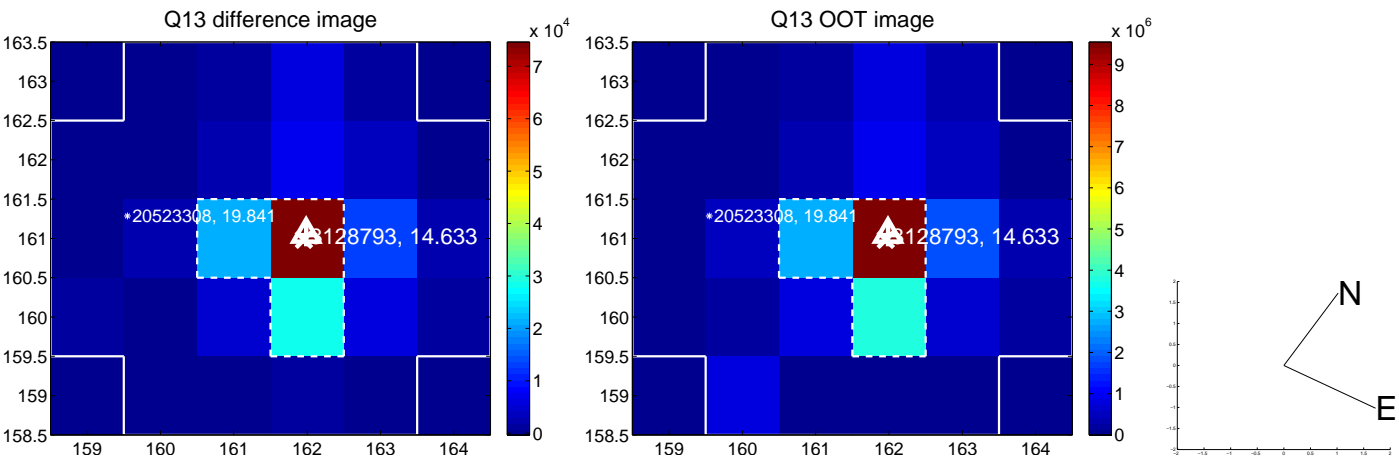
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



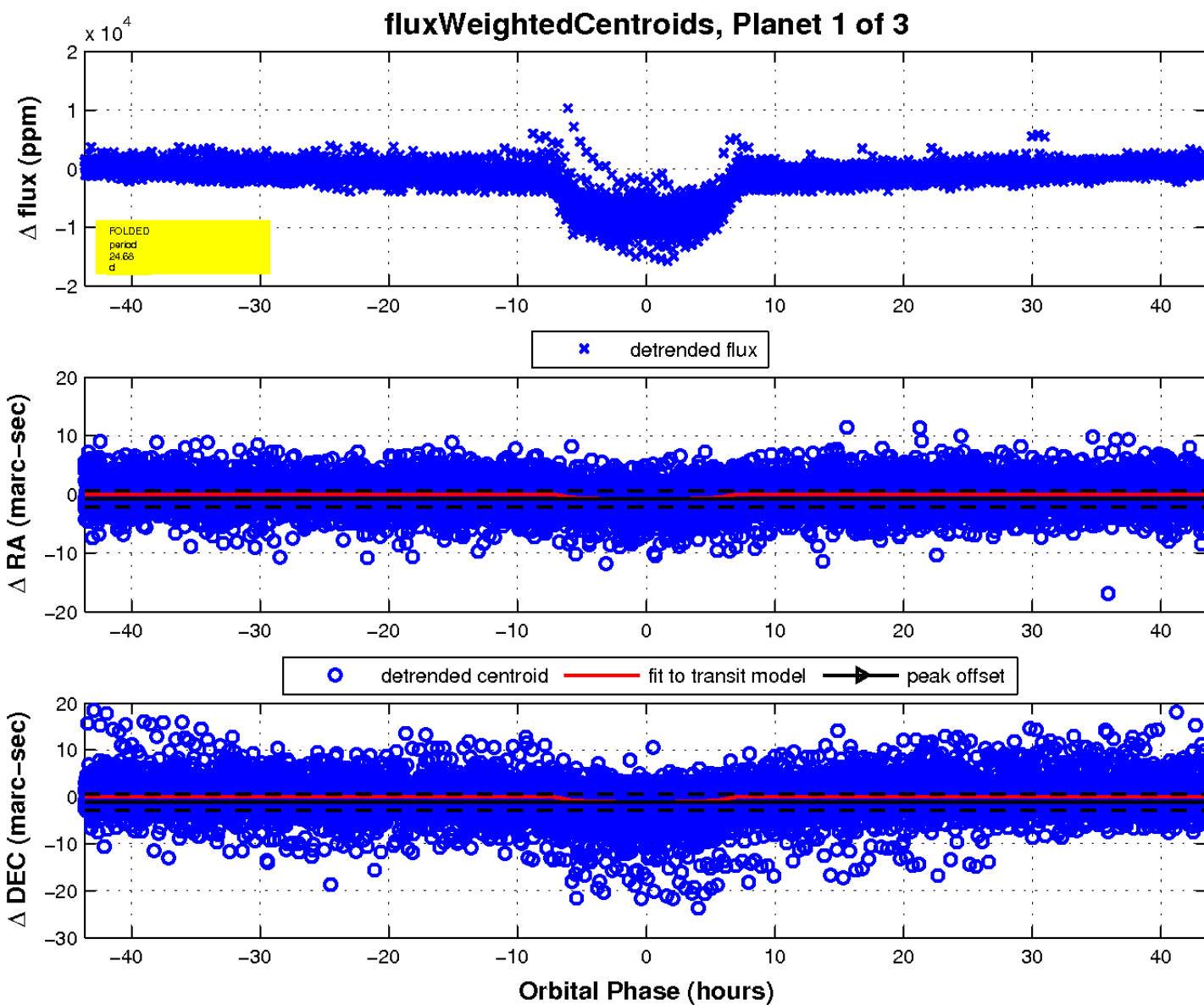
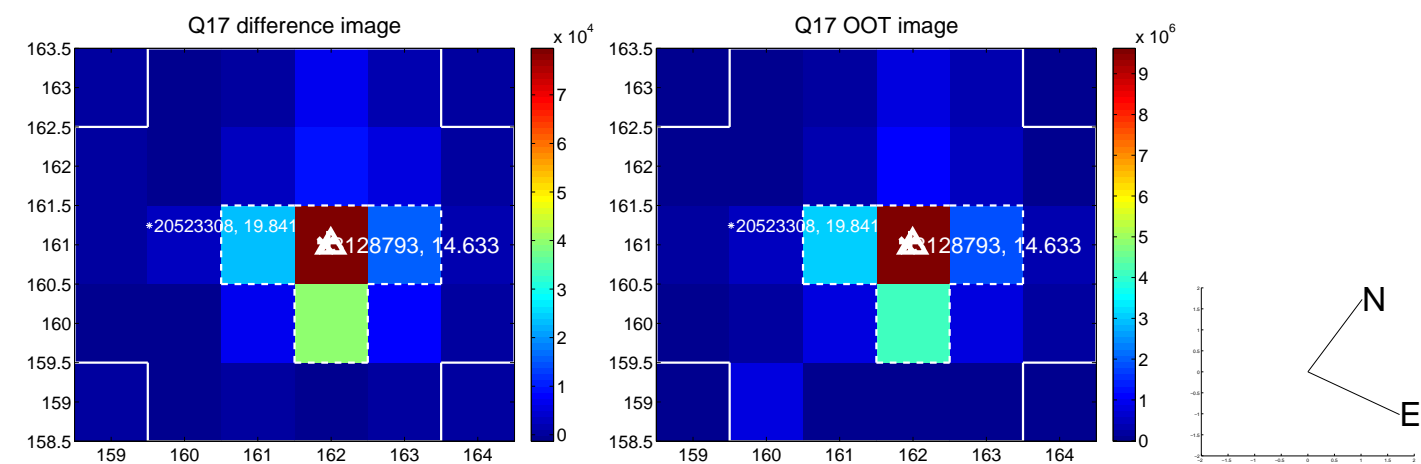
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

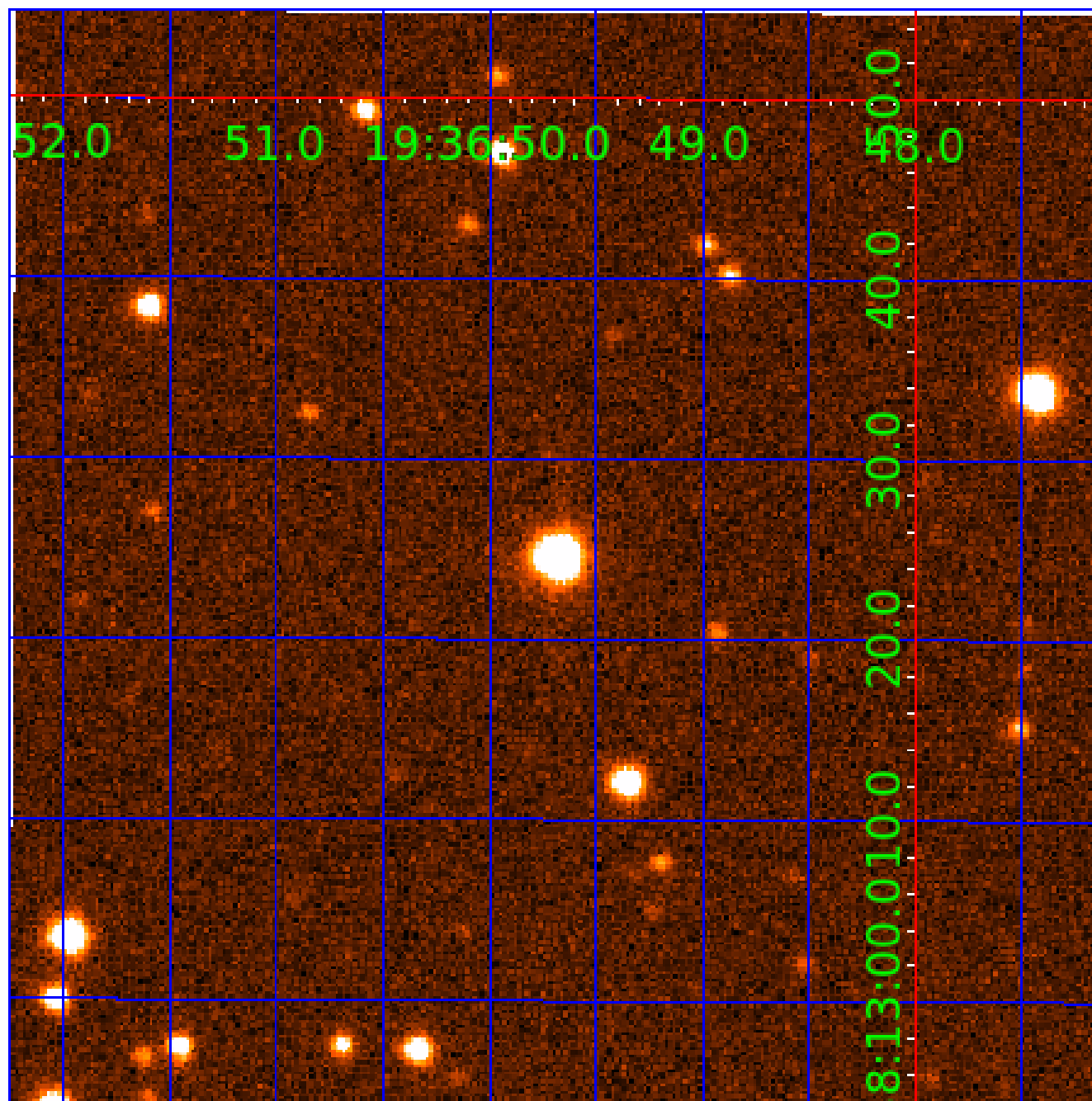


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003128793

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-------|-------|-----------------------------|-----------------|------------------------|------------------------|
| 003128793-01 | OBS | 1786.01 | 24.678835 | 137.776644 | 7648.2 | 14.551 | 141.5 | 135.1 | 5.13 | 4648 | 45.08 | 413.41 |
| 003128793-02 | OBS | No | 176.628807 | 226.002816 | 1663.3 | 5.621 | 12.8 | 11.3 | 5.13 | 4648 | 22.12 | 29.97 |
| 003128793-03 | OBS | No | 372.332537 | 264.669463 | 988.4 | 8.002 | 11.7 | 6.1 | 5.13 | 4648 | 15.59 | 11.09 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003128793-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT |
| 003128793-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_MEAS |
| 003128793-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—INCONSISTENT_TRANS |

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 003128793-02

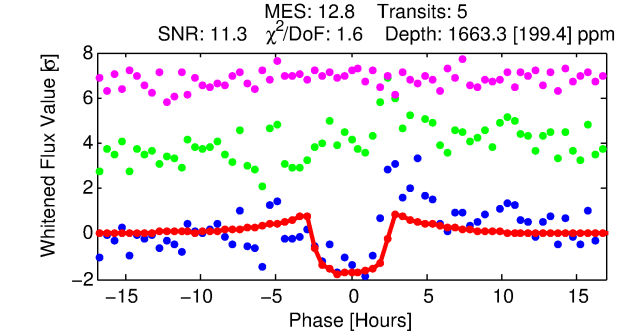
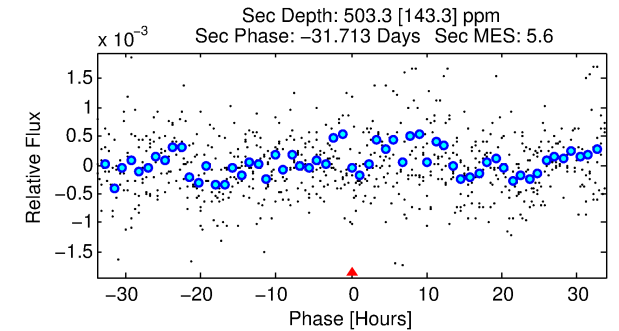
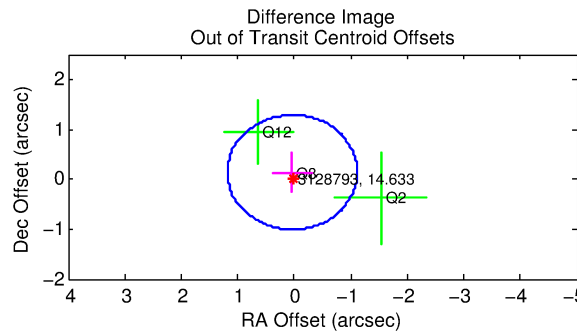
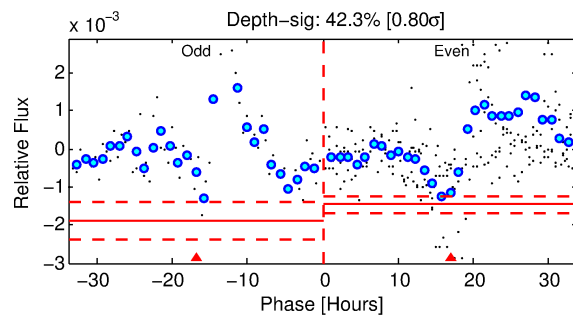
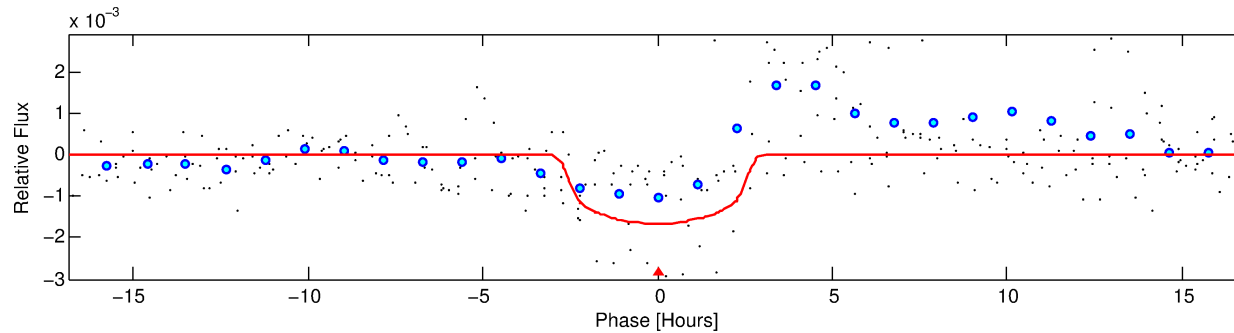
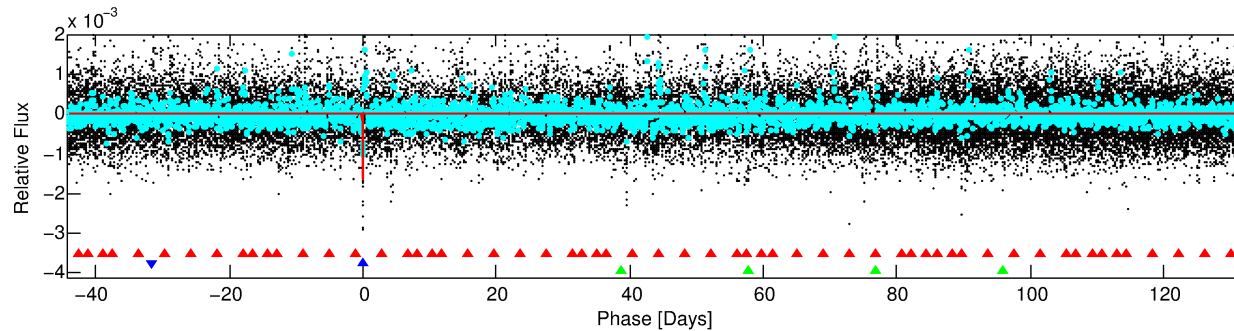
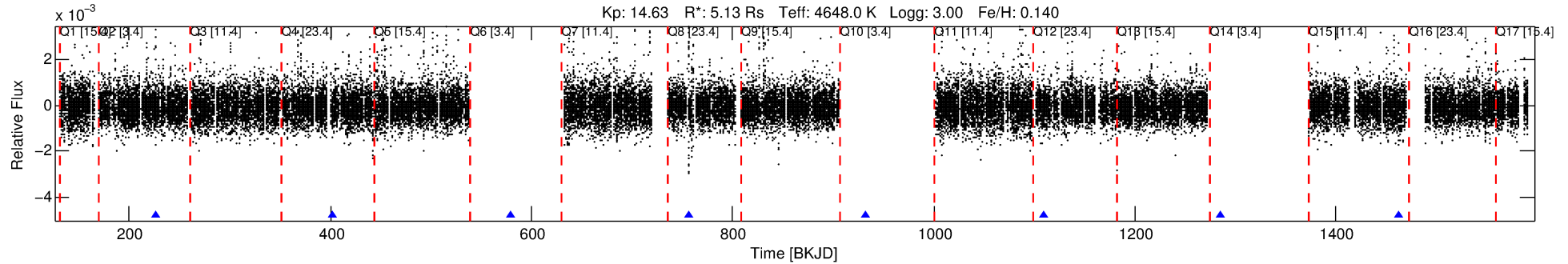
No Significant Match Found

DV One-Page Summary

KIC: 3128793 Candidate: 2 of 3 Period: 176.629 d

KOI: K01786 Corr: No Ephemeris Match

Kp: 14.63 R*: 5.13 Rs Teff: 4648.0 K Logg: 3.00 Fe/H: 0.140



DV Fit Results:

Period = 176.62881 [0.00185] d
Epoch = 226.0028 [0.0074] BKJD
Rp/R* = 0.0395 [0.0285]
a/R* = 189.28 [420.98]
b = 0.68 [1.83]
Seff = 29.97 [8.65]
Teq = 597 [43] K
Rp = 22.12 [16.98] Re
a = 0.6062 [0.1250] AU
Ag = 207.98 [311.81] [0.66σ]
Teffp = 3503 [1291] K [2.25σ]

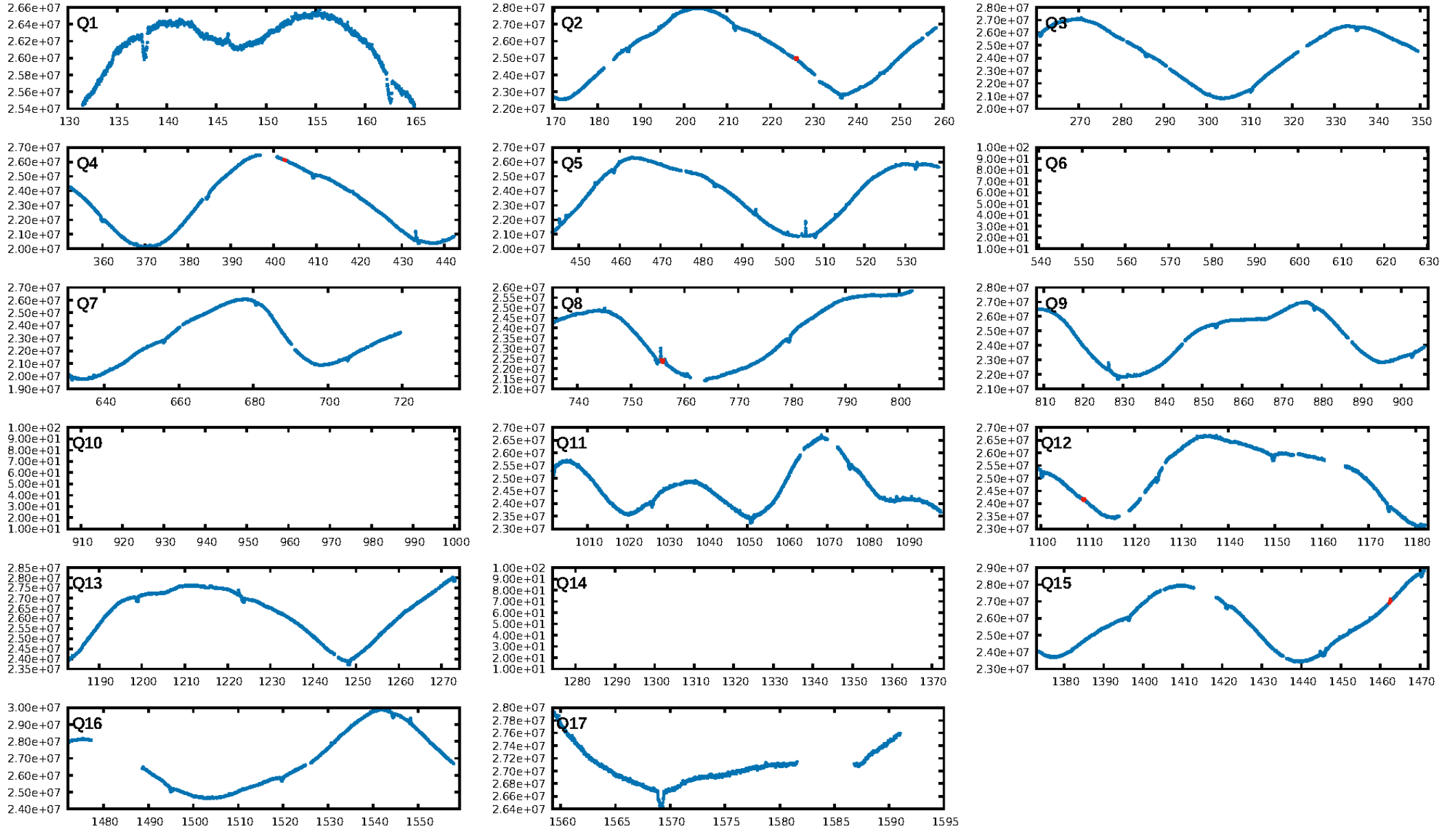
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [233.78σ]
LongPeriod-sig: 100.0% [480.31σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 4.5%
Bootstrap-pfa: 4.79e-19
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.933
Centroid-sig: 69.0%
Centroid-so: 1.047 arcsec [1.25σ]
OotOffset-rm: 0.142 arcsec [0.37σ]
OotOffset-st: 1/0/2/0 [3]
KicOffset-rm: 0.080 arcsec [0.18σ]
KicOffset-st: 1/0/2/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [5/5]

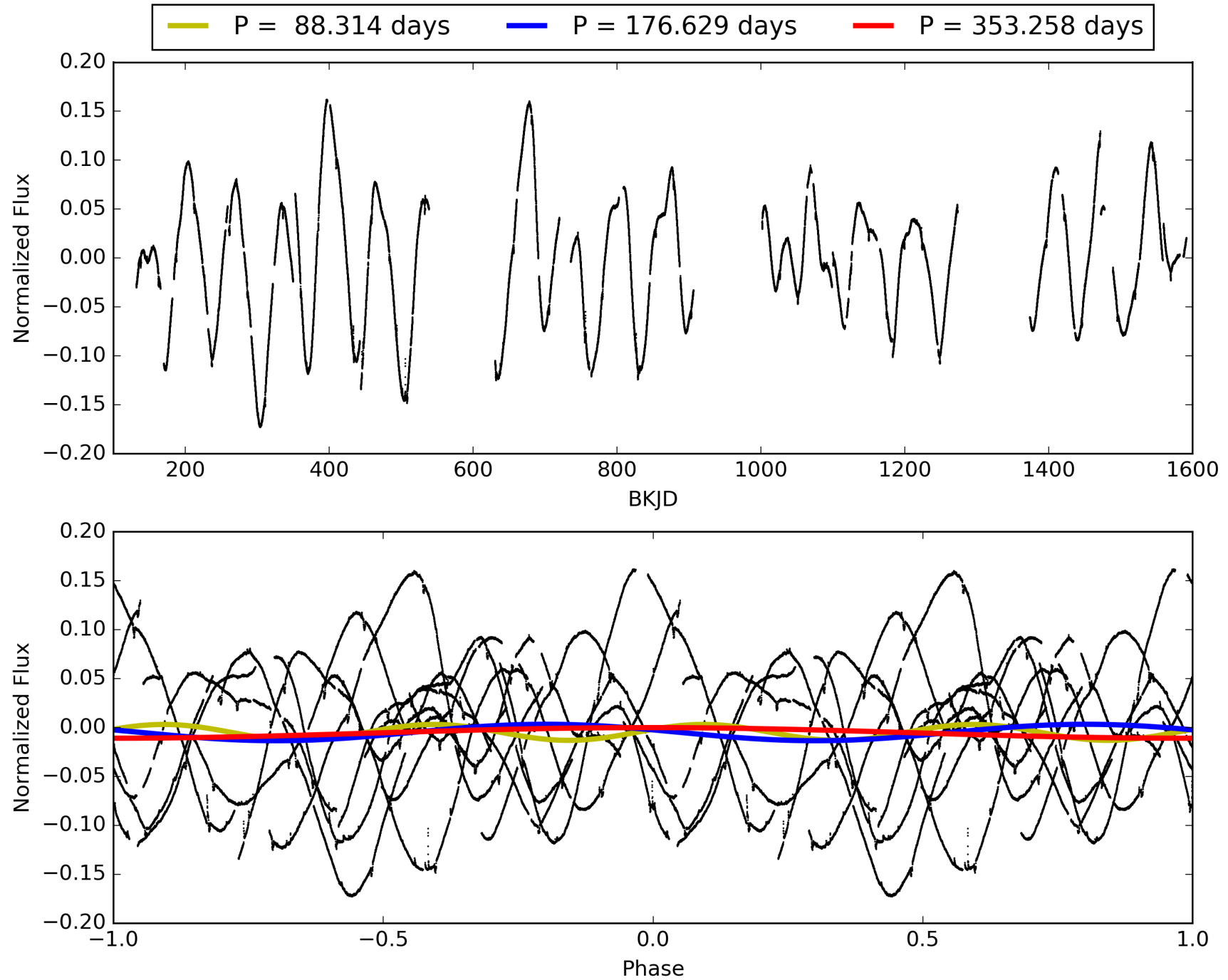
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:42:43 Z

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

TCE 003128793-02, PDC Light Curves

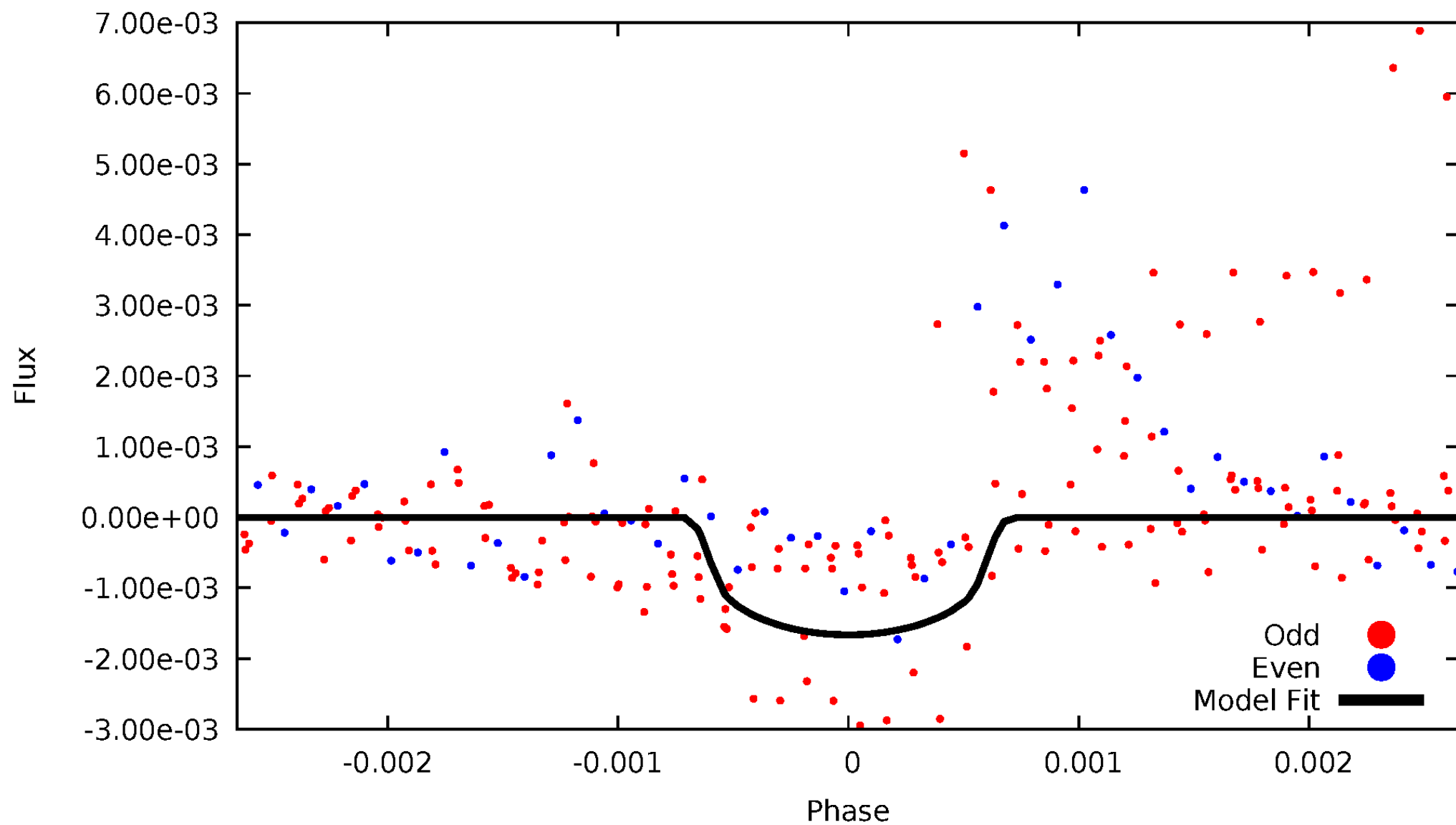


TCE 003128793-02



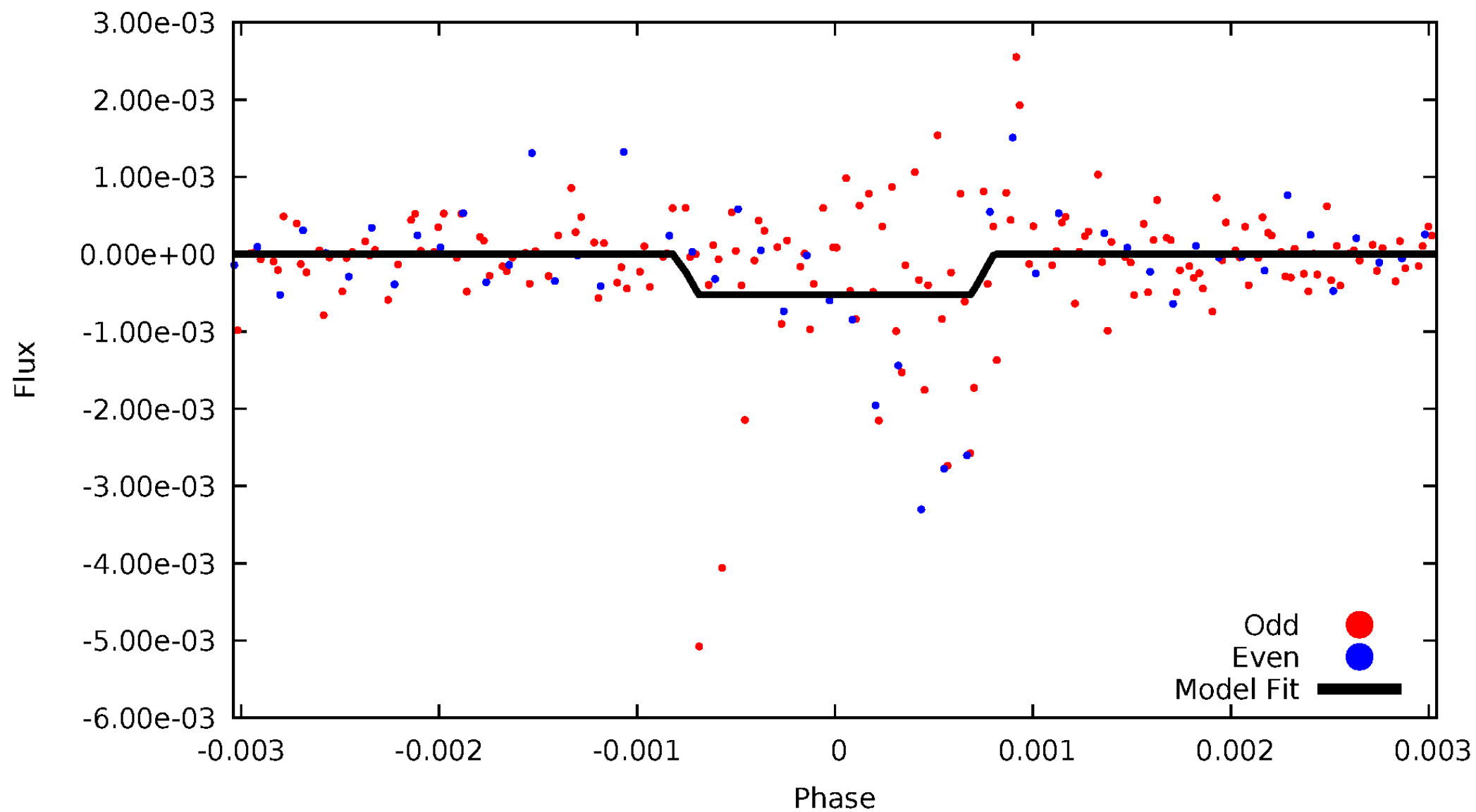
DV Odd/Even

TCE 003128793-02



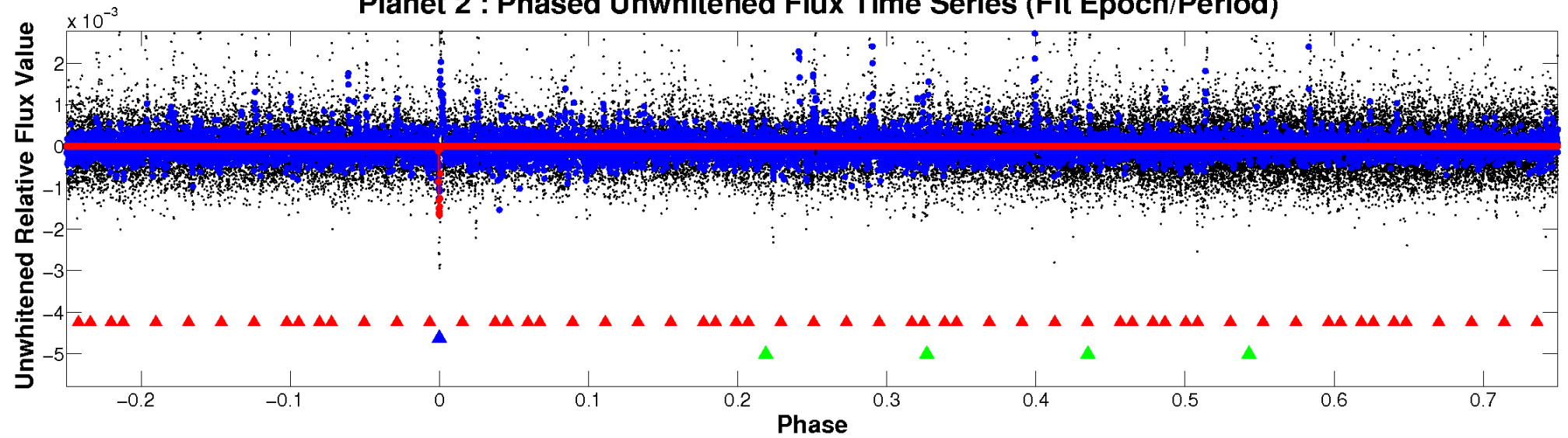
ALT Odd/Even

TCE 003128793-02

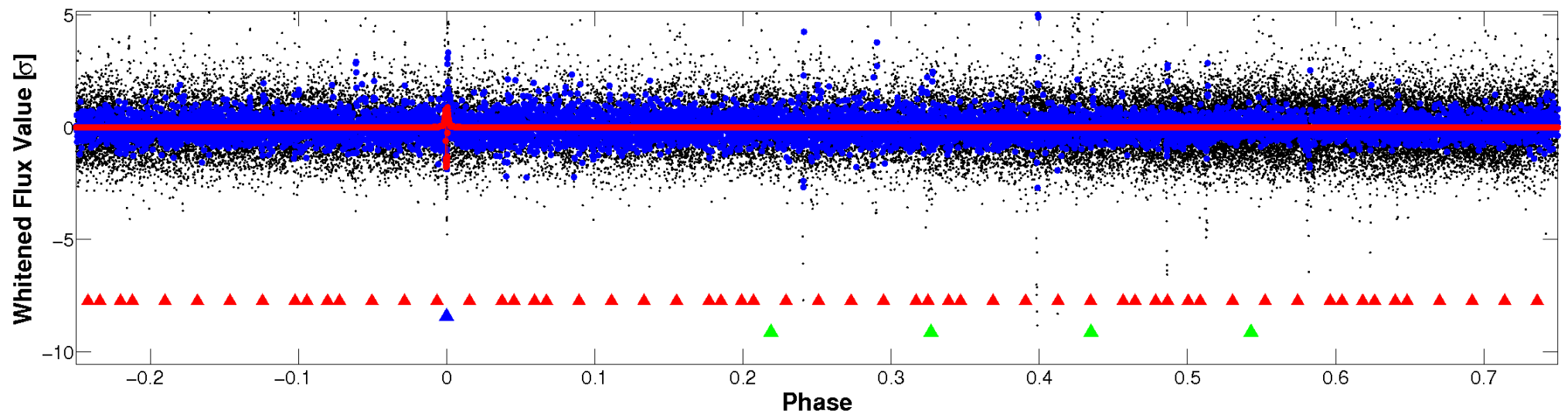


Non-Whitened Vs. Whitened Light Curve

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

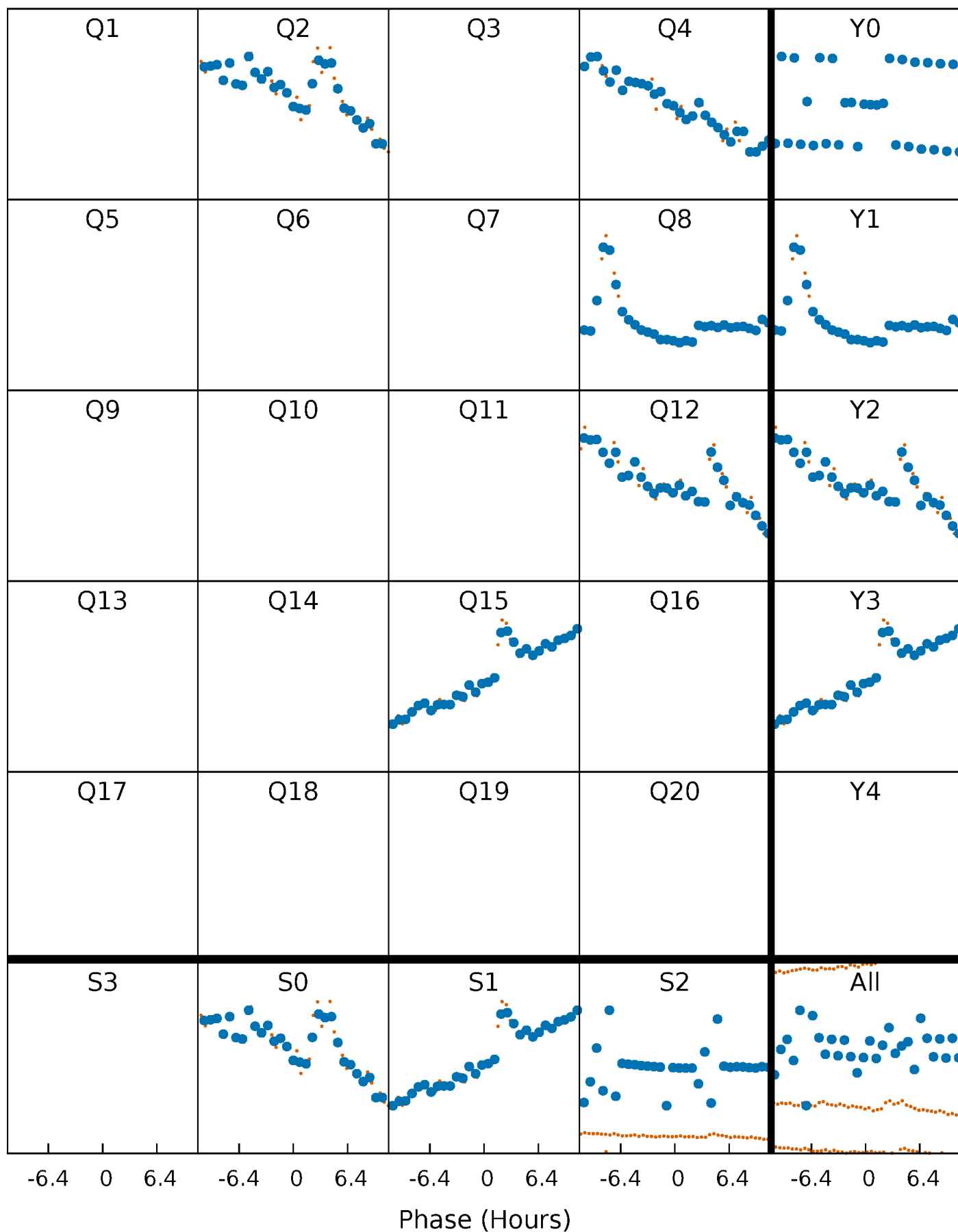


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



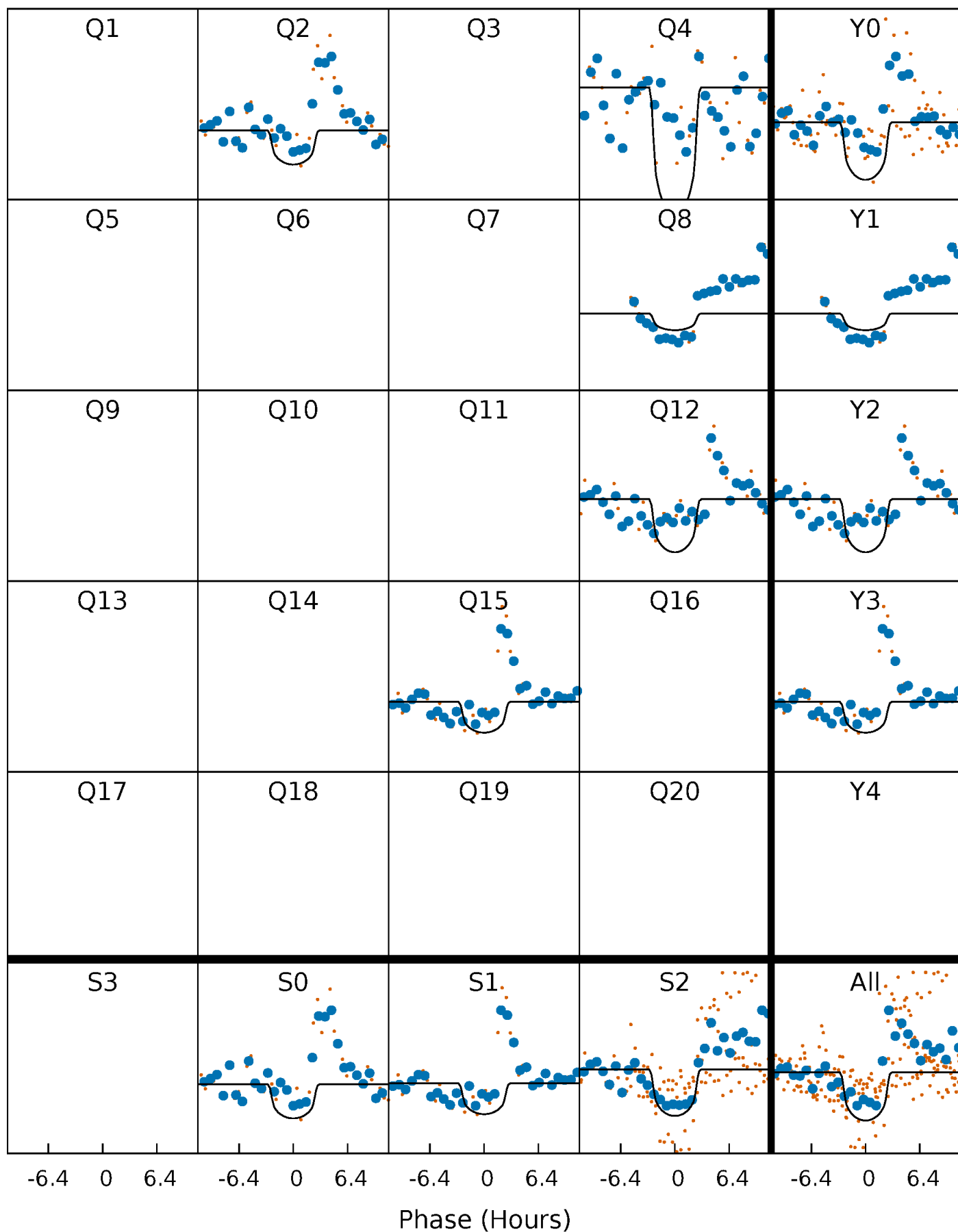
PDC Quarter-Phased Transit Curves

TCE 003128793-02 P=176.628807 Days $T_0=226.002816$ (BKJD)



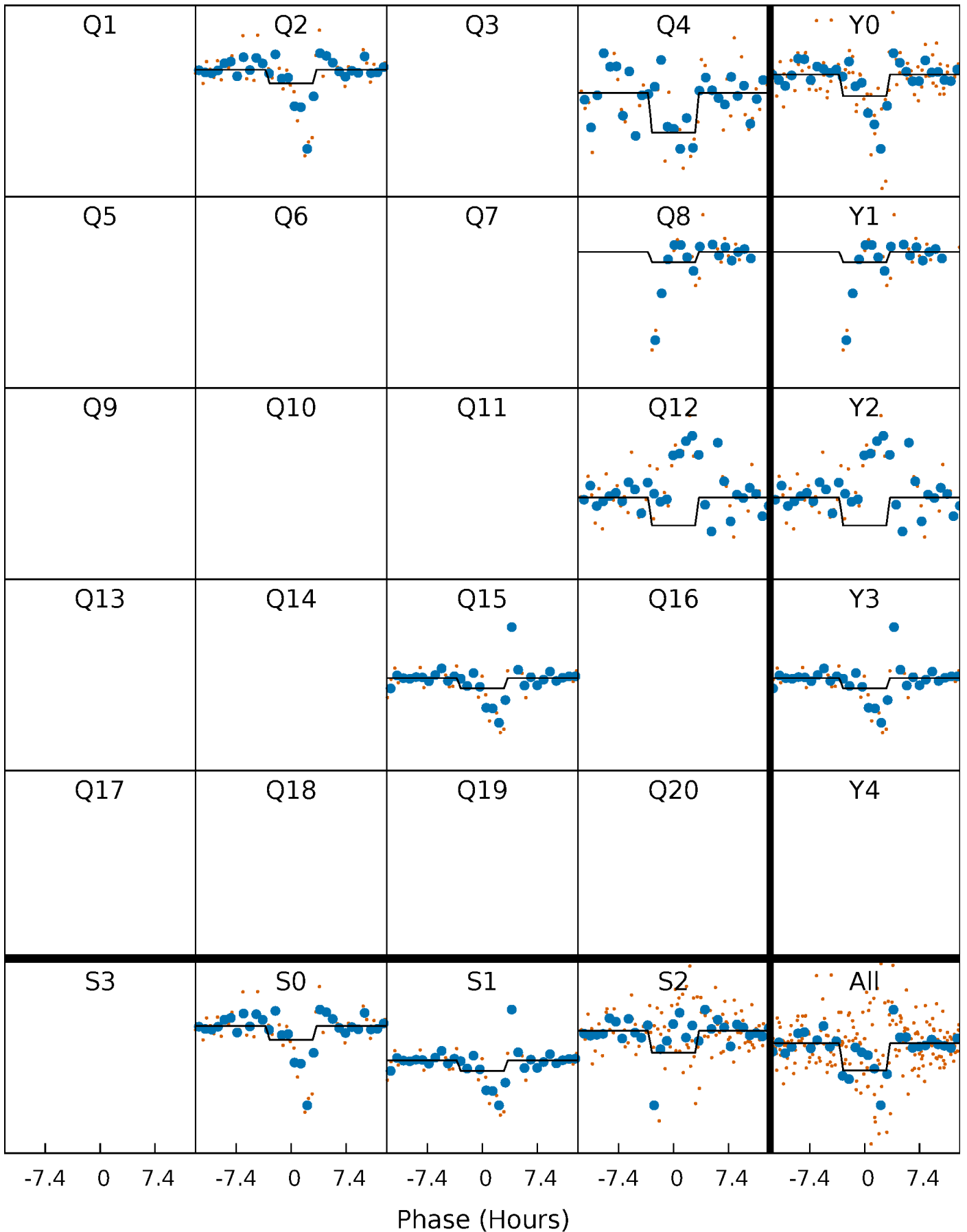
DV Quarter-Phased Transit Curves

TCE 003128793-02 P=176.628807 Days $T_0=226.002816$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

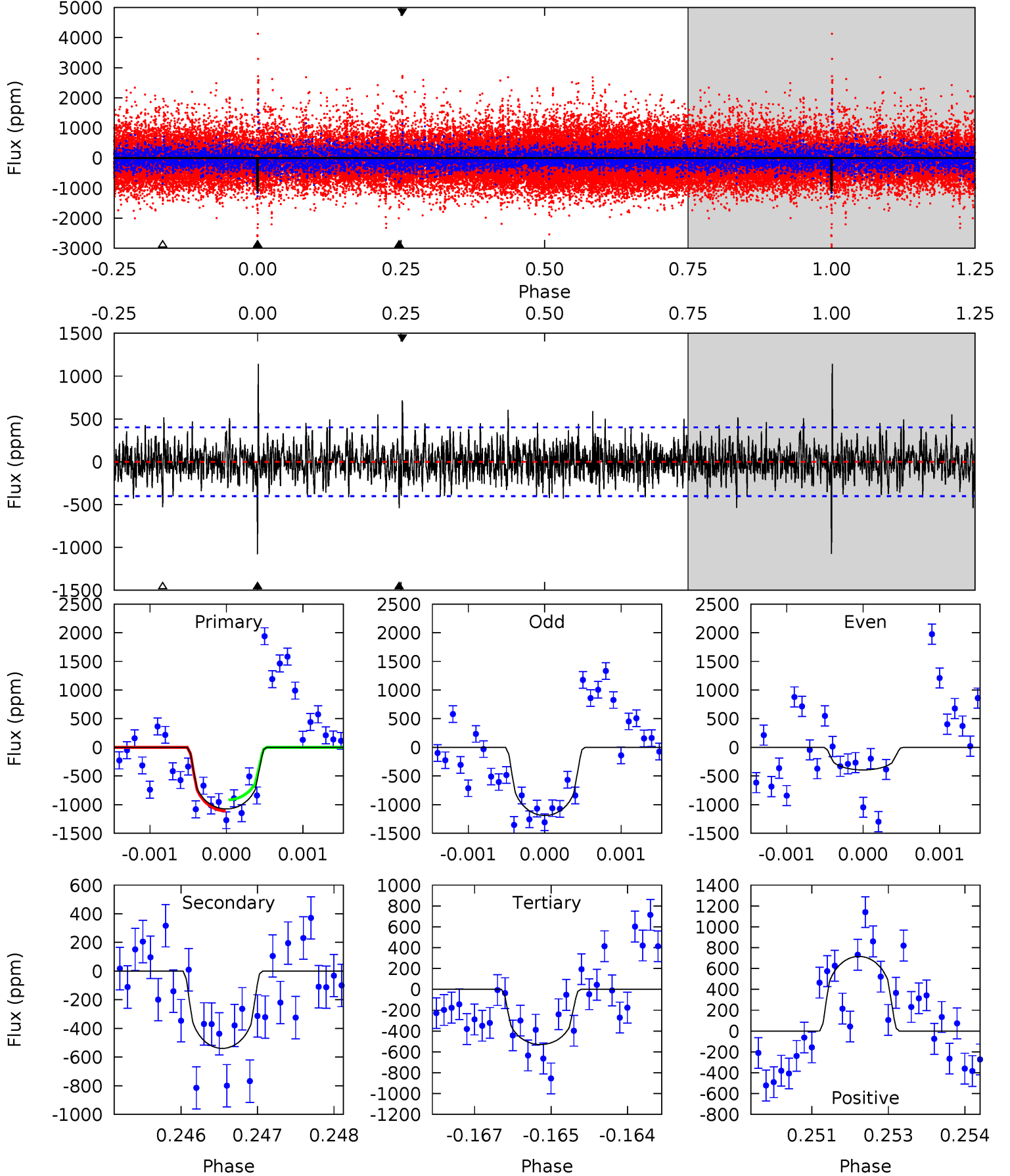
TCE 003128793-02 P=176.623975 Days $T_0=225.963602$ (BKJD)



DV Model-Shift Uniqueness Test

003128793-02, P = 176.628807 Days, E = 49.374009 Days

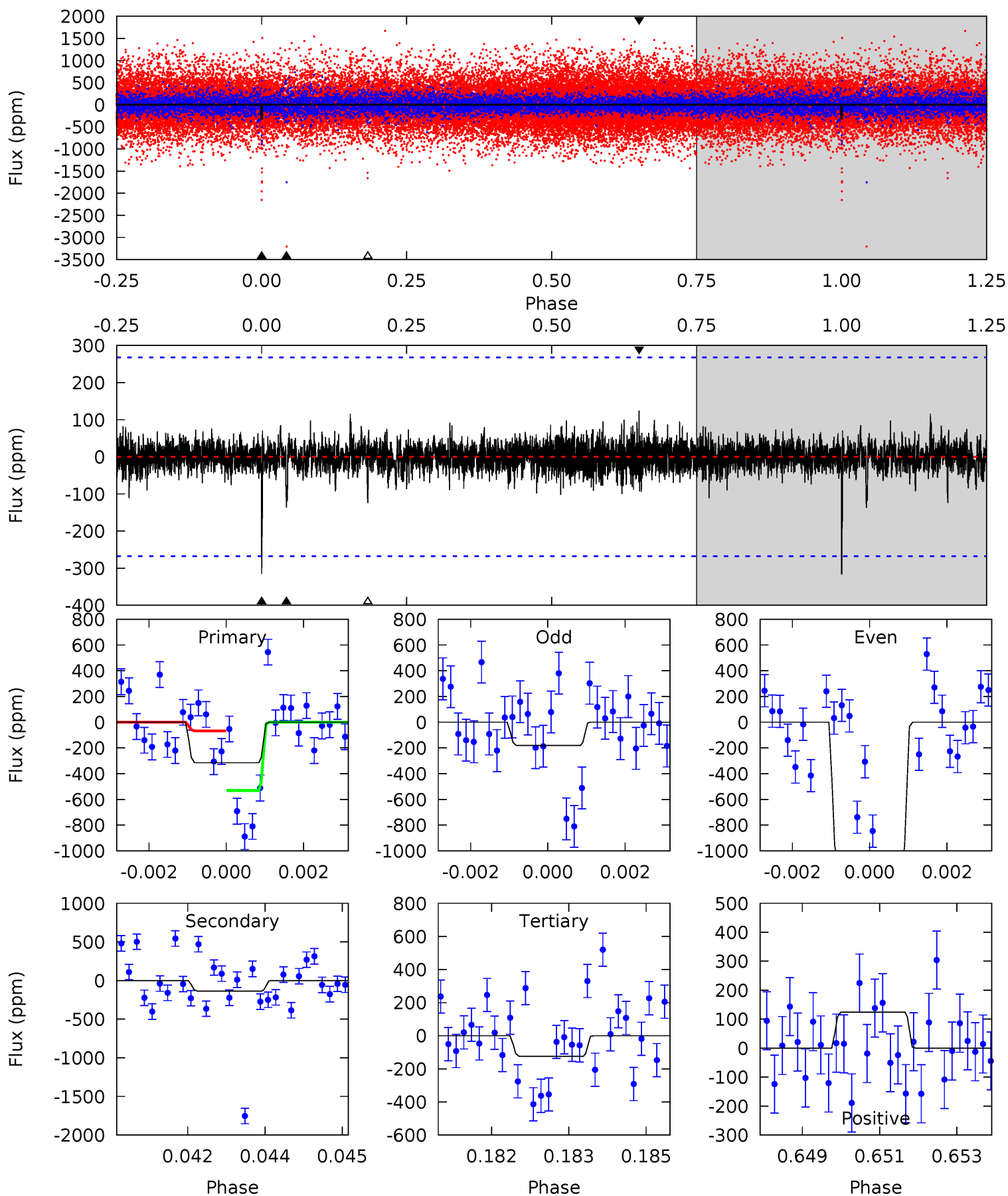
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 14.4 | 7.24 | 7.11 | 9.62 | 5.39 | 3.20 | 1.98 | 7.32 | 4.82 | 0.13 | -2.37 | 4.41 | 1.47 | 0.51 | 1.28 |



Alt Model-Shift Uniqueness Test

003128793-02, P = 176.623975 Days, E = 49.339627 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.32 | 2.74 | 2.49 | 2.49 | 5.37 | 3.16 | 0.53 | 3.83 | 3.83 | 0.25 | 0.25 | 8.55 | 0.63 | 0.28 | 4.62 |



Stellar Parameters For KIC 003128793

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 4648^{+69}_{-55} | $2.996^{+0.145}_{-0.145}$ | $0.140^{+0.150}_{-0.100}$ | $5.132^{+1.336}_{-0.719}$ | $0.950^{+0.201}_{-0.021}$ | $0.010^{+0.006}_{-0.004}$ |
| | +1%/-1% | +5%/-5% | +107%/-71% | +26%/-14% | +21%/-2% | +62%/-45% |
| Source | SPE74 | SPE74 | SPE74 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 003128793-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|---------------------------|----------------------|-----------------------|---------------------|
| DV | -539 ± 74 | $22.81^{+16.28}_{-13.19}$ | 830^{+51}_{-39} | 3788^{+1361}_{-571} | 219^{+920}_{-147} |
| Alt. | -136 ± 50 | $17.13^{+14.72}_{-10.64}$ | 830^{+53}_{-40} | 3302^{+1326}_{-550} | 93^{+579}_{-68} |

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 $A_{\text{obs}} \gg 1.0$

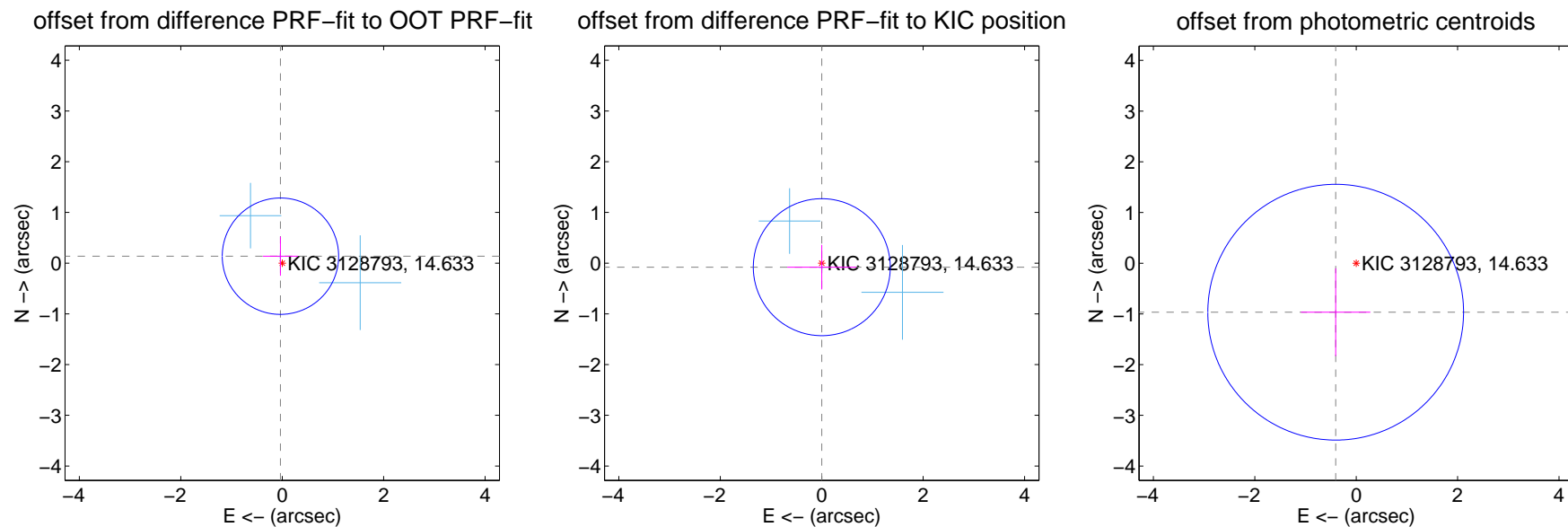
DV Centroid Data

Supplemental centroid analysis for 003128793-02. Kepler magnitude: 14.63. Transit SNR 11.34

There are 3 quarters with good PRF difference image offsets

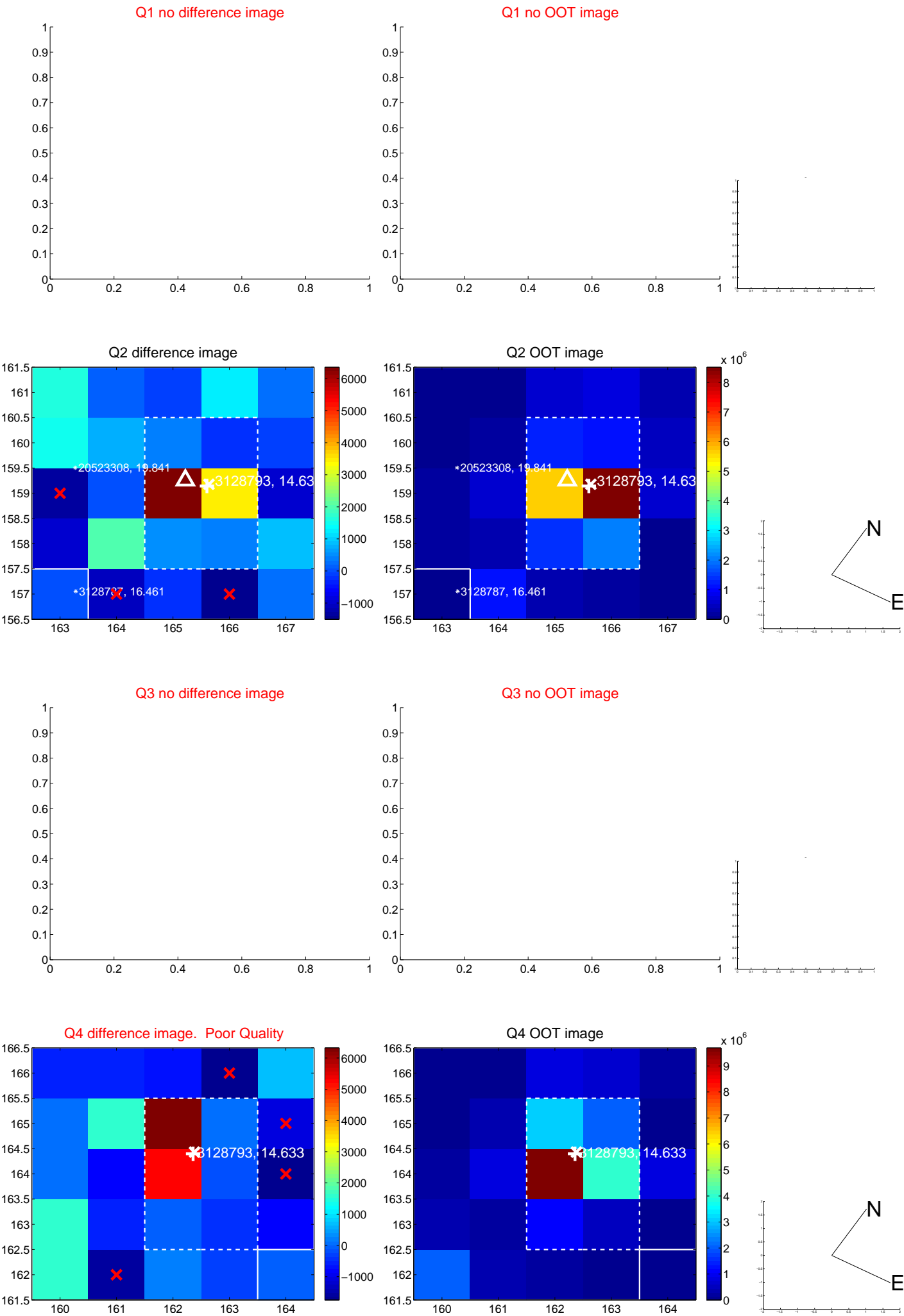
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.142 ± 0.382 | 0.37 | 0.035 ± 0.344 | 0.137 ± 0.385 |
| PRF-fit source offset from KIC position | 0.080 ± 0.450 | 0.18 | -0.001 ± 0.681 | -0.080 ± 0.439 |
| photometric centroid source offset | 1.05 ± 0.84 | 1.25 | 0.40 ± 0.68 | -0.97 ± 0.87 |

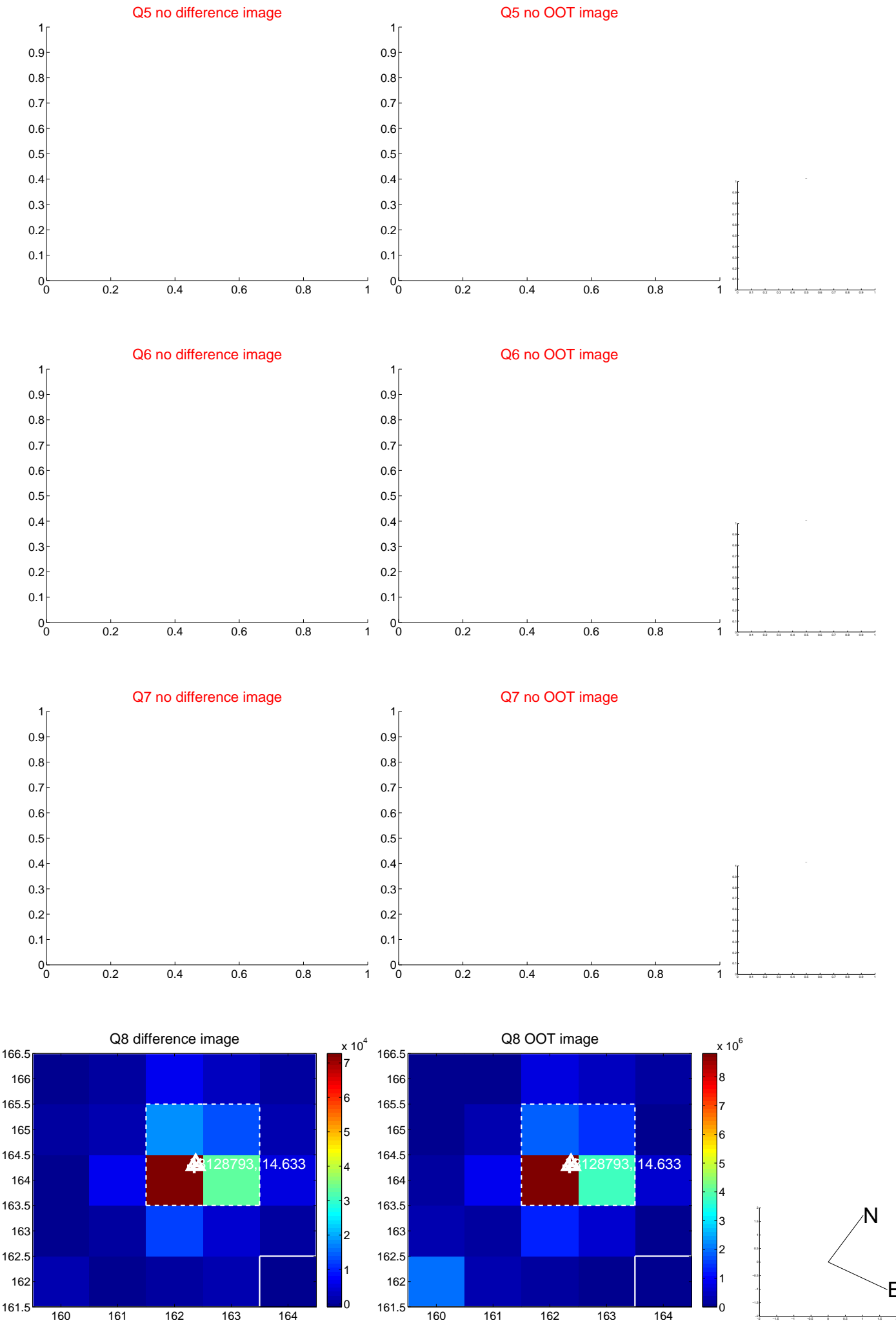


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

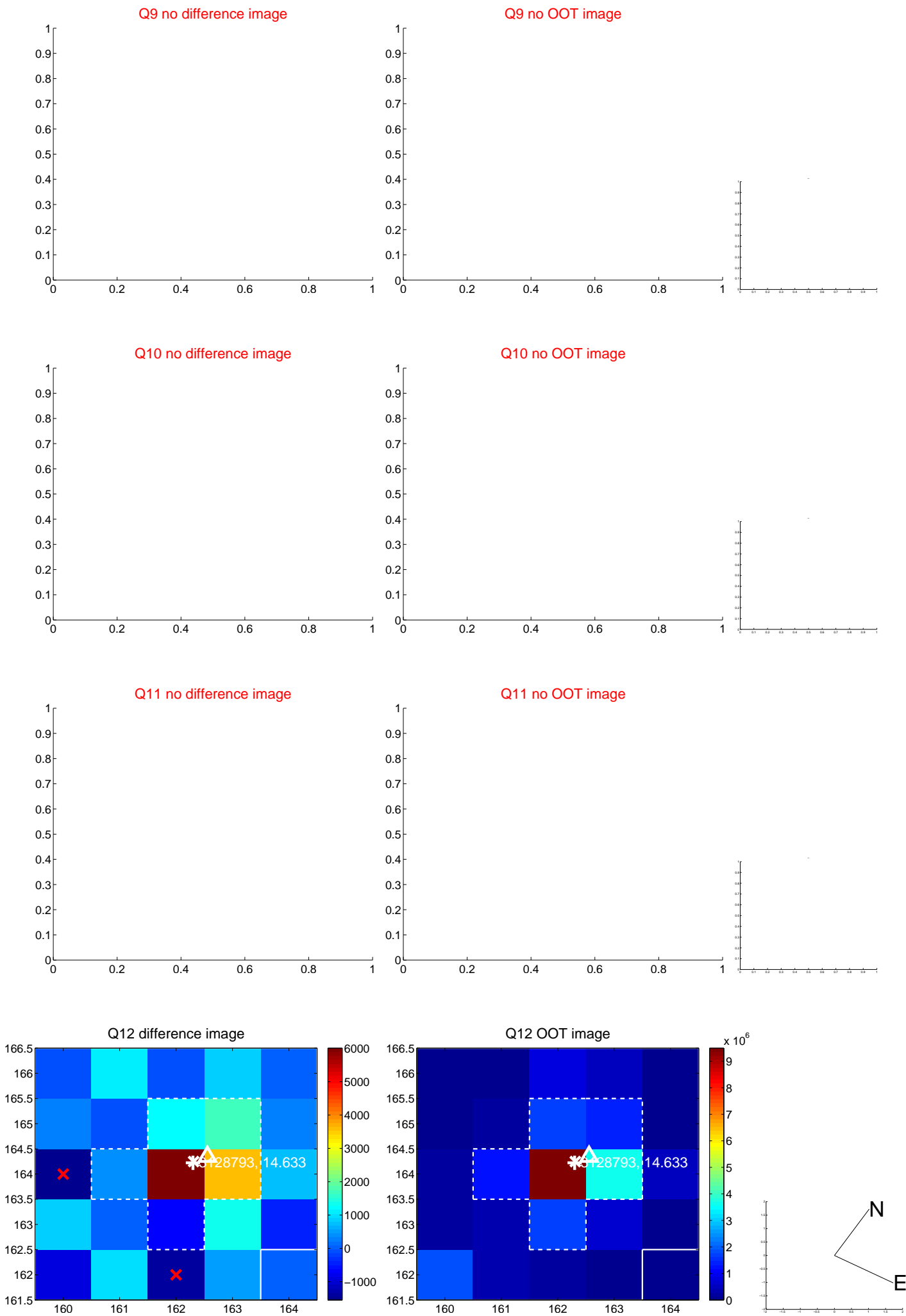
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



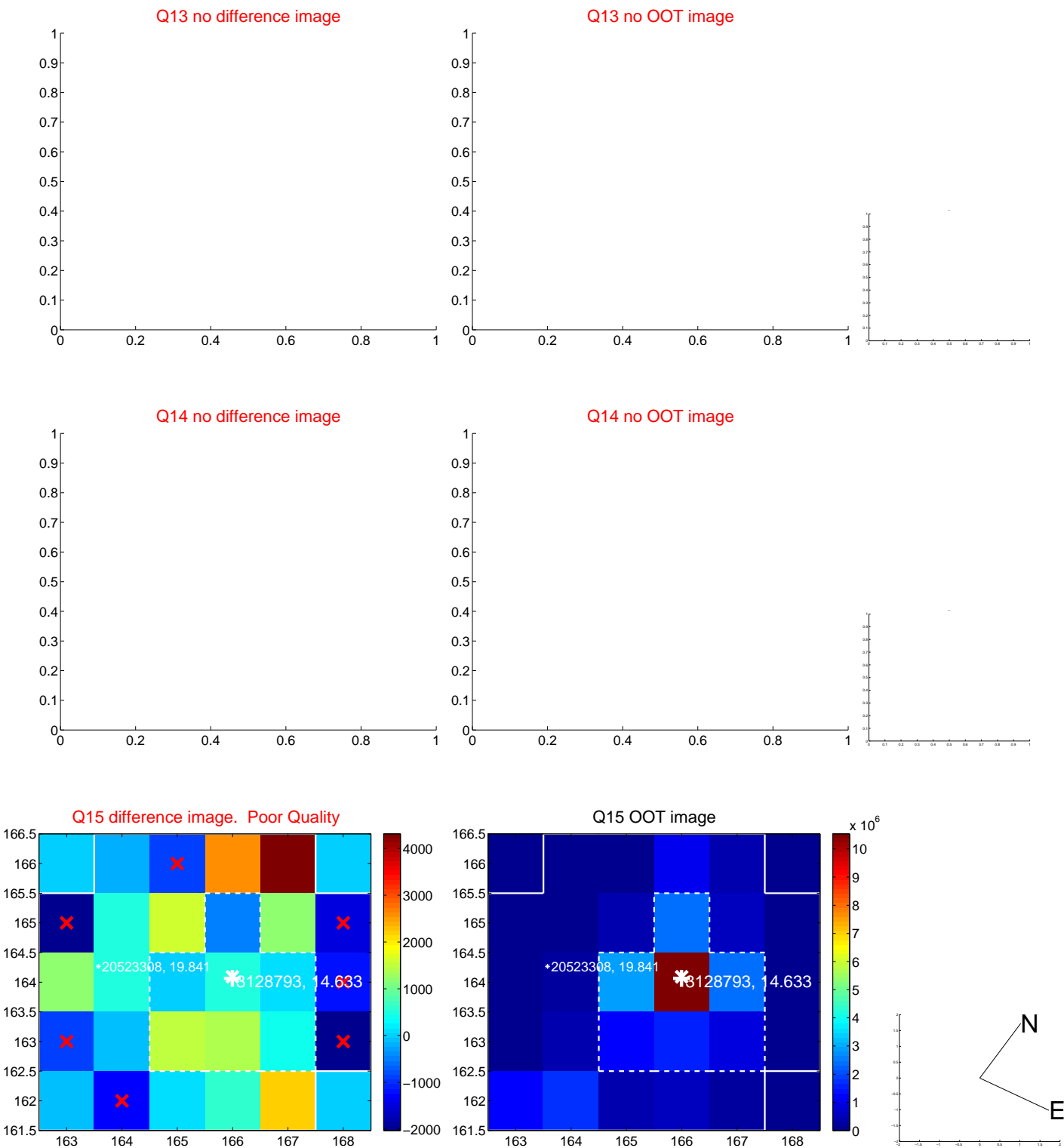
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



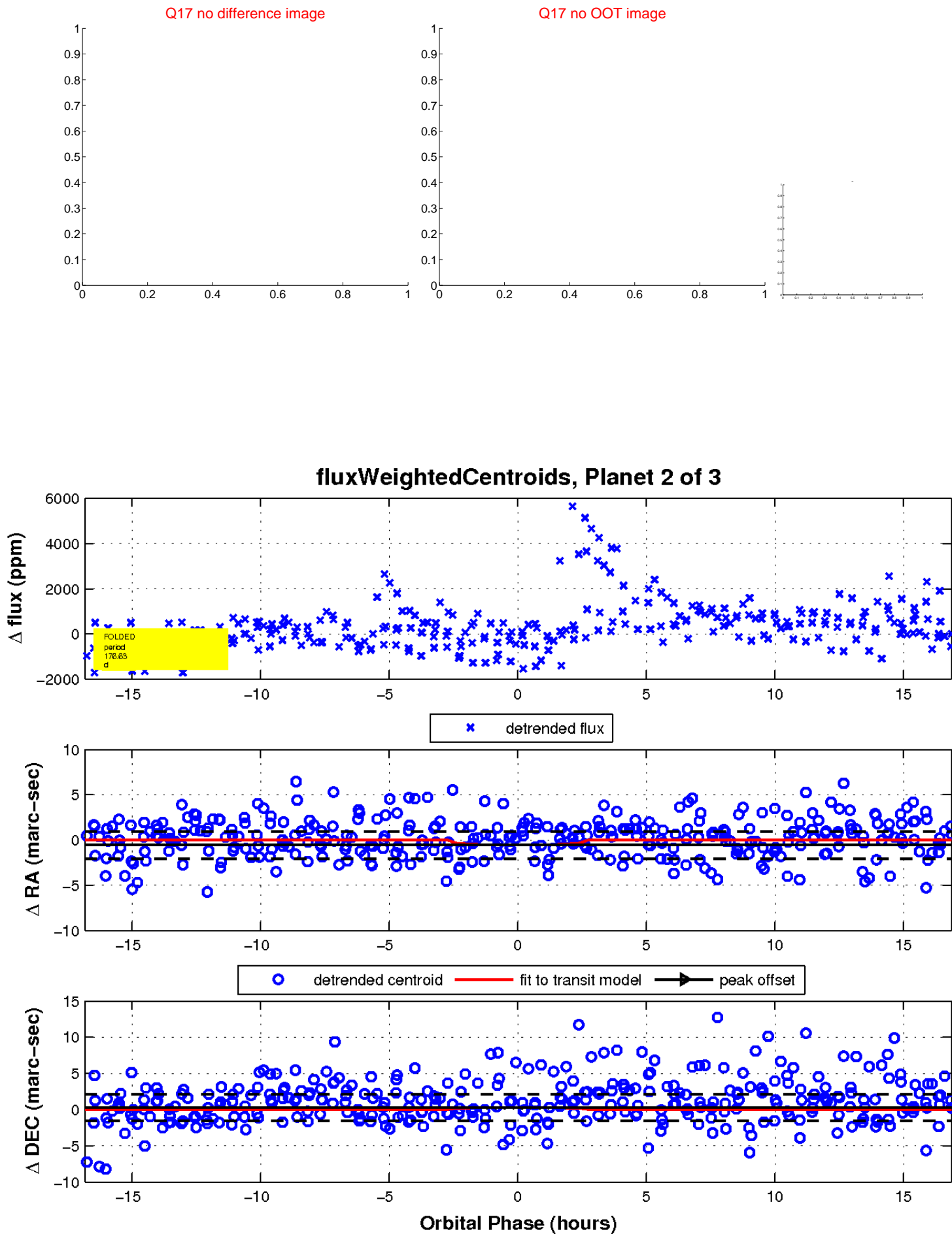
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

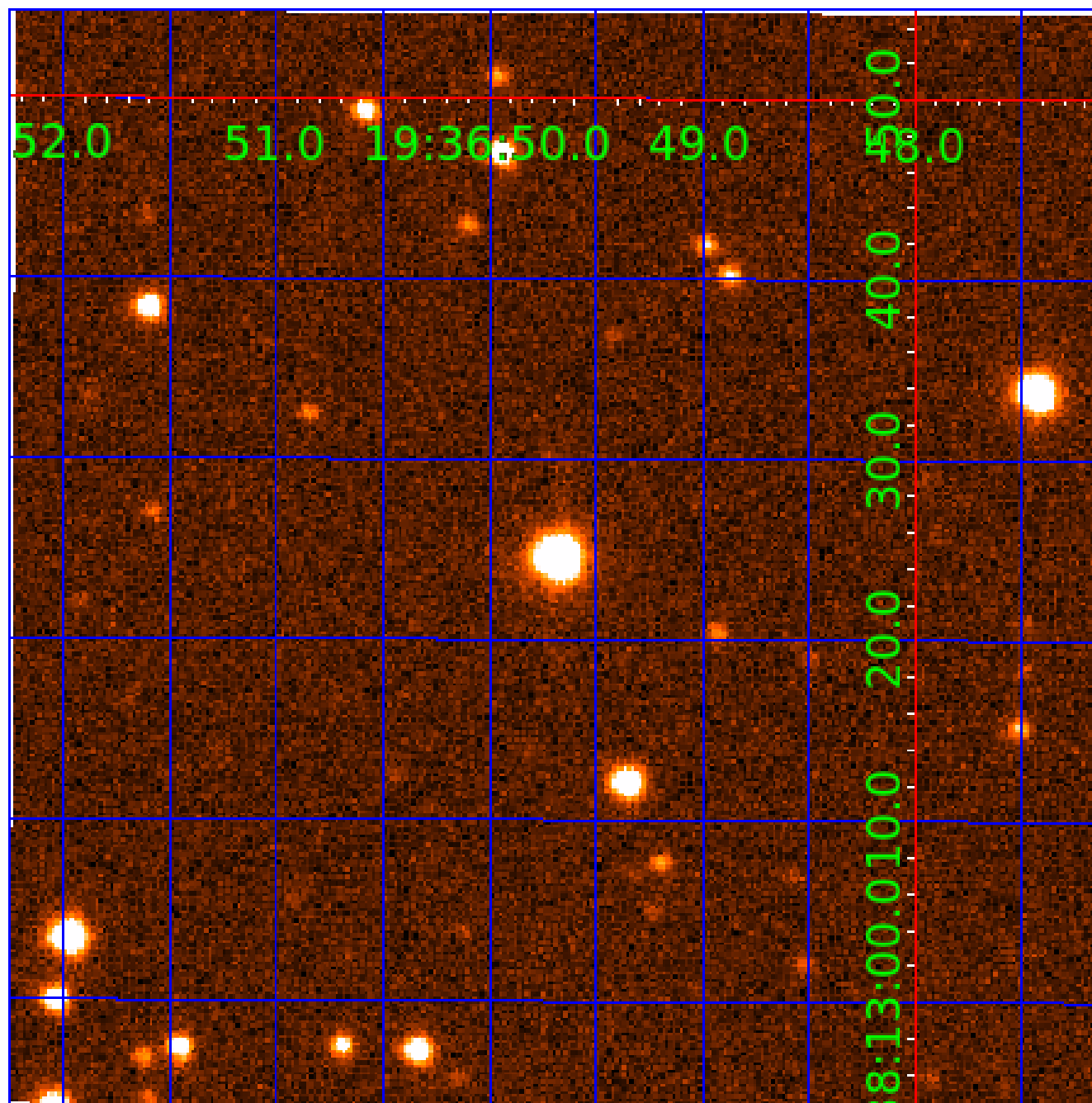


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003128793

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-------|-------|-----------------------------|-----------------|------------------------|------------------------|
| 003128793-01 | OBS | 1786.01 | 24.678835 | 137.776644 | 7648.2 | 14.551 | 141.5 | 135.1 | 5.13 | 4648 | 45.08 | 413.41 |
| 003128793-02 | OBS | No | 176.628807 | 226.002816 | 1663.3 | 5.621 | 12.8 | 11.3 | 5.13 | 4648 | 22.12 | 29.97 |
| 003128793-03 | OBS | No | 372.332537 | 264.669463 | 988.4 | 8.002 | 11.7 | 6.1 | 5.13 | 4648 | 15.59 | 11.09 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003128793-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT |
| 003128793-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_MEAS |
| 003128793-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL_TRACKER—LPP_DV—INCONSISTENT_TRANS |

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.

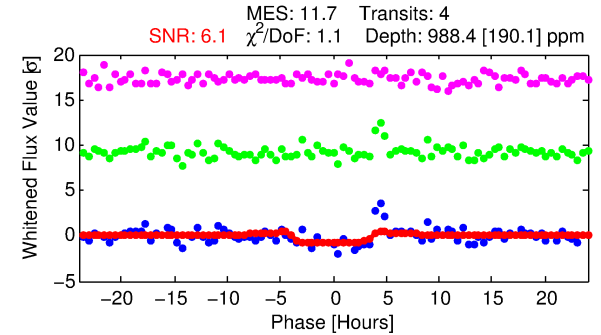
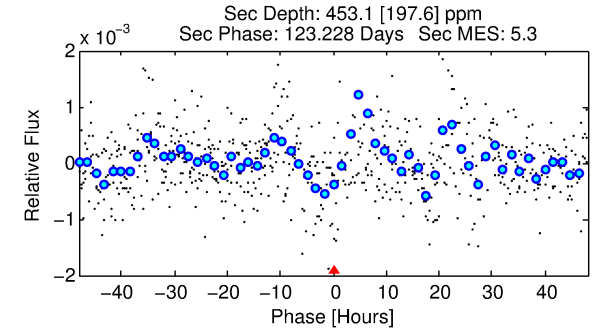
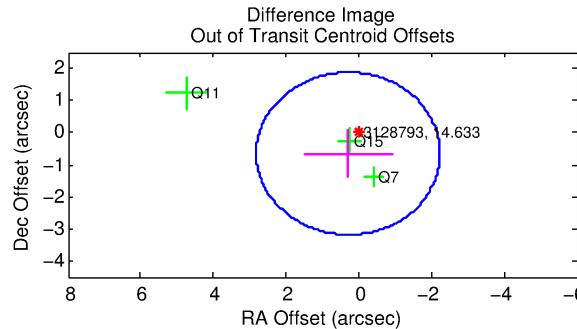
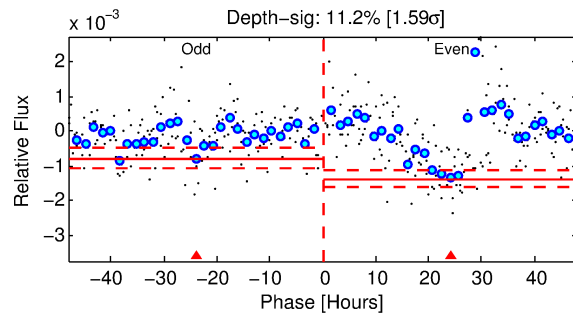
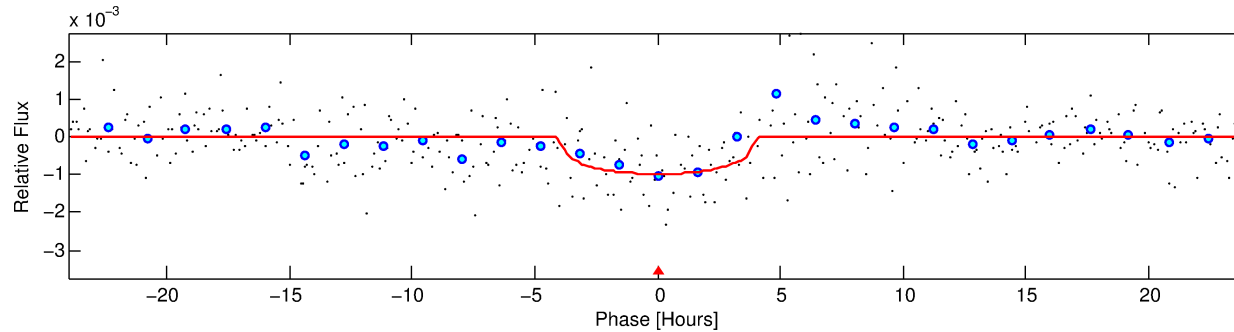
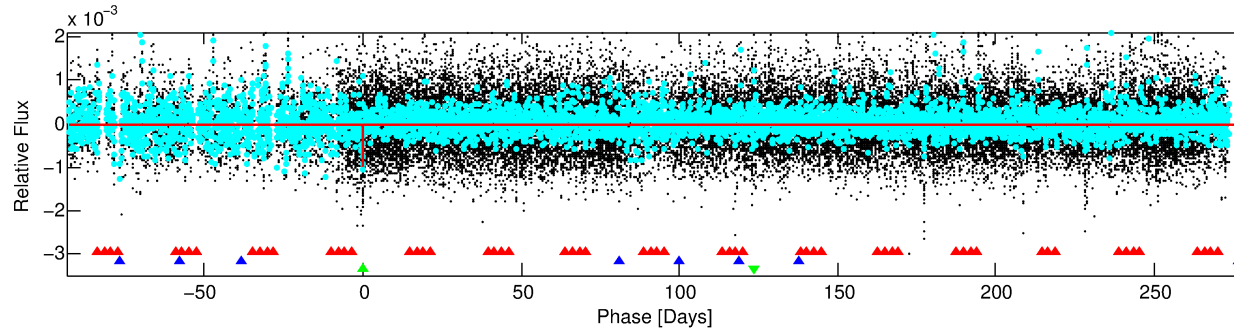
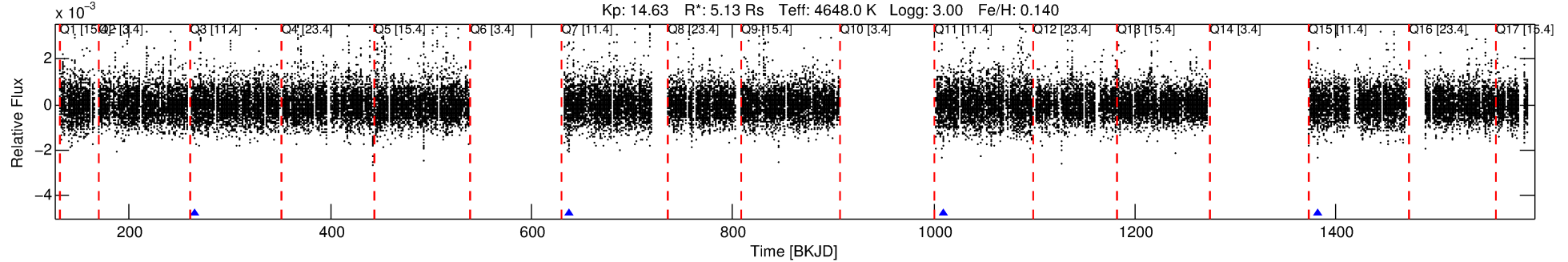
Ephemeris Match Information For 003128793-03

No Significant Match Found

DV One-Page Summary

KIC: 3128793 Candidate: 3 of 3 Period: 372.333 d
KOI: K01786 Corr: No Ephemeris Match

Kp: 14.63 R*: 5.13 Rs Teff: 4648.0 K Logg: 3.00 Fe/H: 0.140



DV Fit Results:

Period = 372.33254 [0.00743] d
Epoch = 264.6695 [0.0141] BKJD
Rp/R* = 0.0278 [0.0419]
a/R* = 353.42 [1598.42]
b = 0.26 [16.45]
Seff = 11.09 [3.20]
Teq = 465 [34] K
Rp = 15.59 [23.83] Re
a = 0.9966 [0.2055] AU
Ag = 1018.04 [3111.56] [0.33σ]
Teffp = 4064 [3093] K [1.16σ]

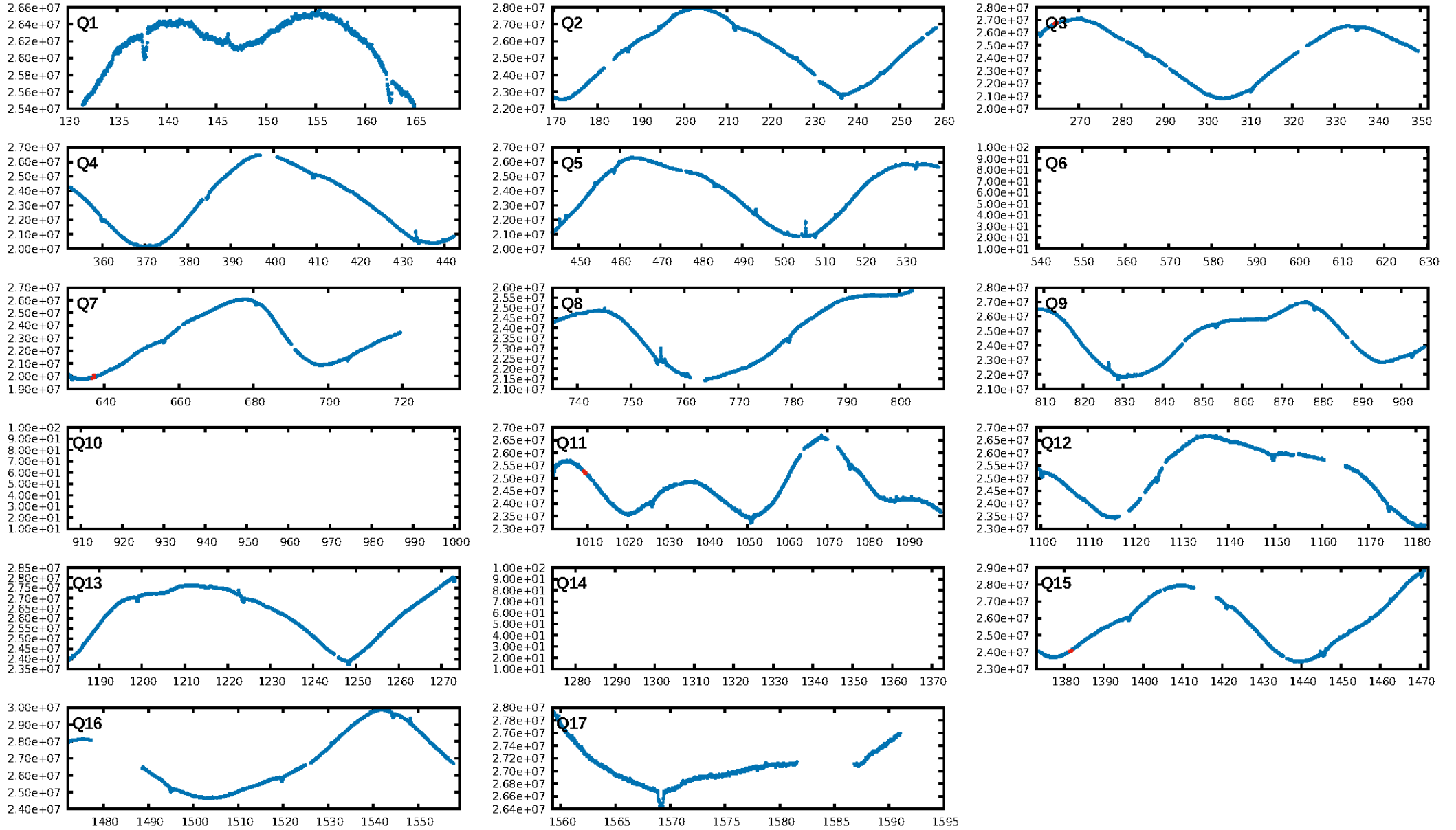
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [480.31σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.1%
ModelChiSquareGof-sig: 86.8%
Bootstrap-pfa: 1.87e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.447
Centroid-sig: 55.8%
Centroid-so: 0.248 arcsec [0.12σ]
OotOffset-rm: 0.718 arcsec [0.85σ]
KicOffset-rm: 0.844 arcsec [0.98σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

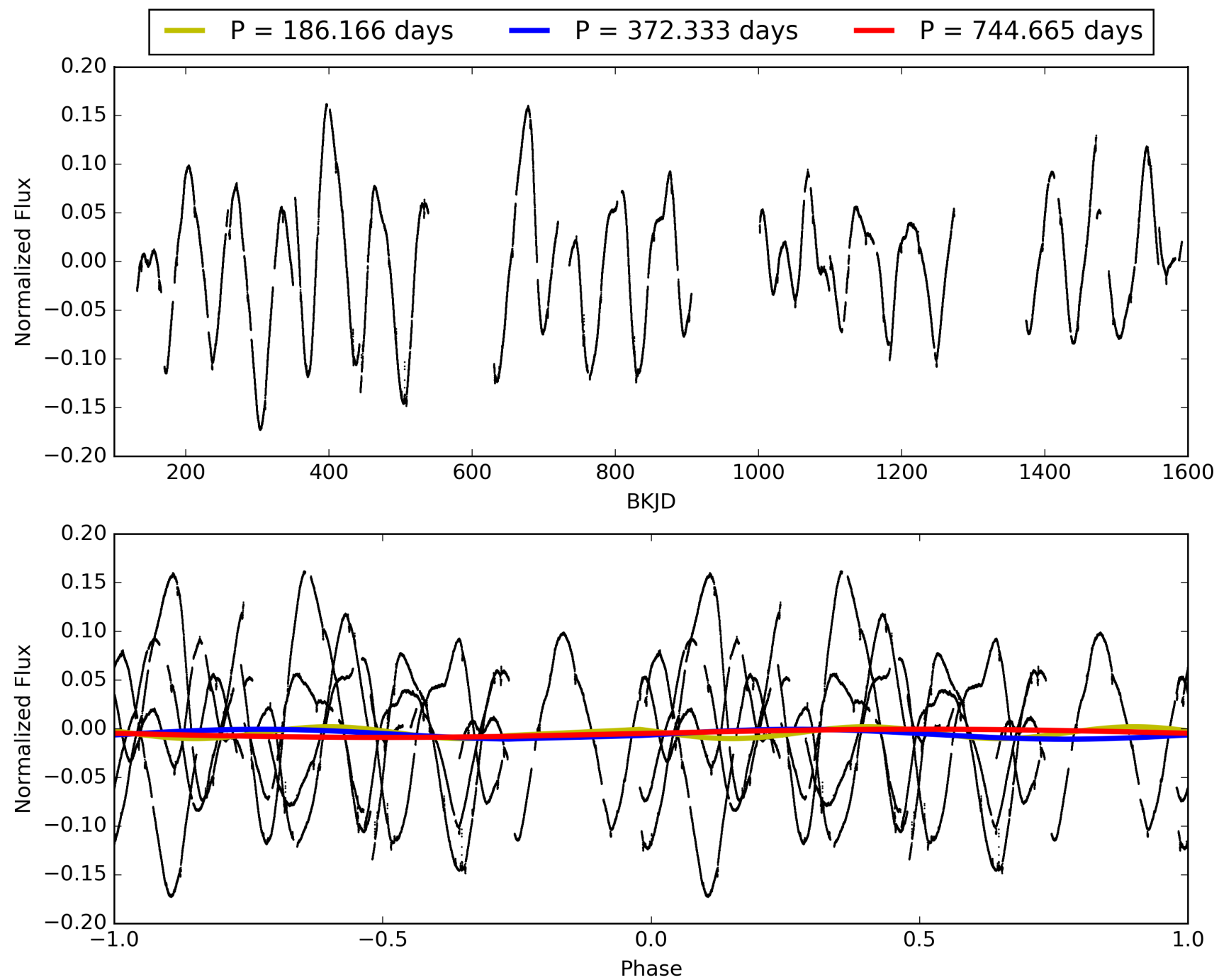
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:42:51 Z

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

TCE 003128793-03, PDC Light Curves

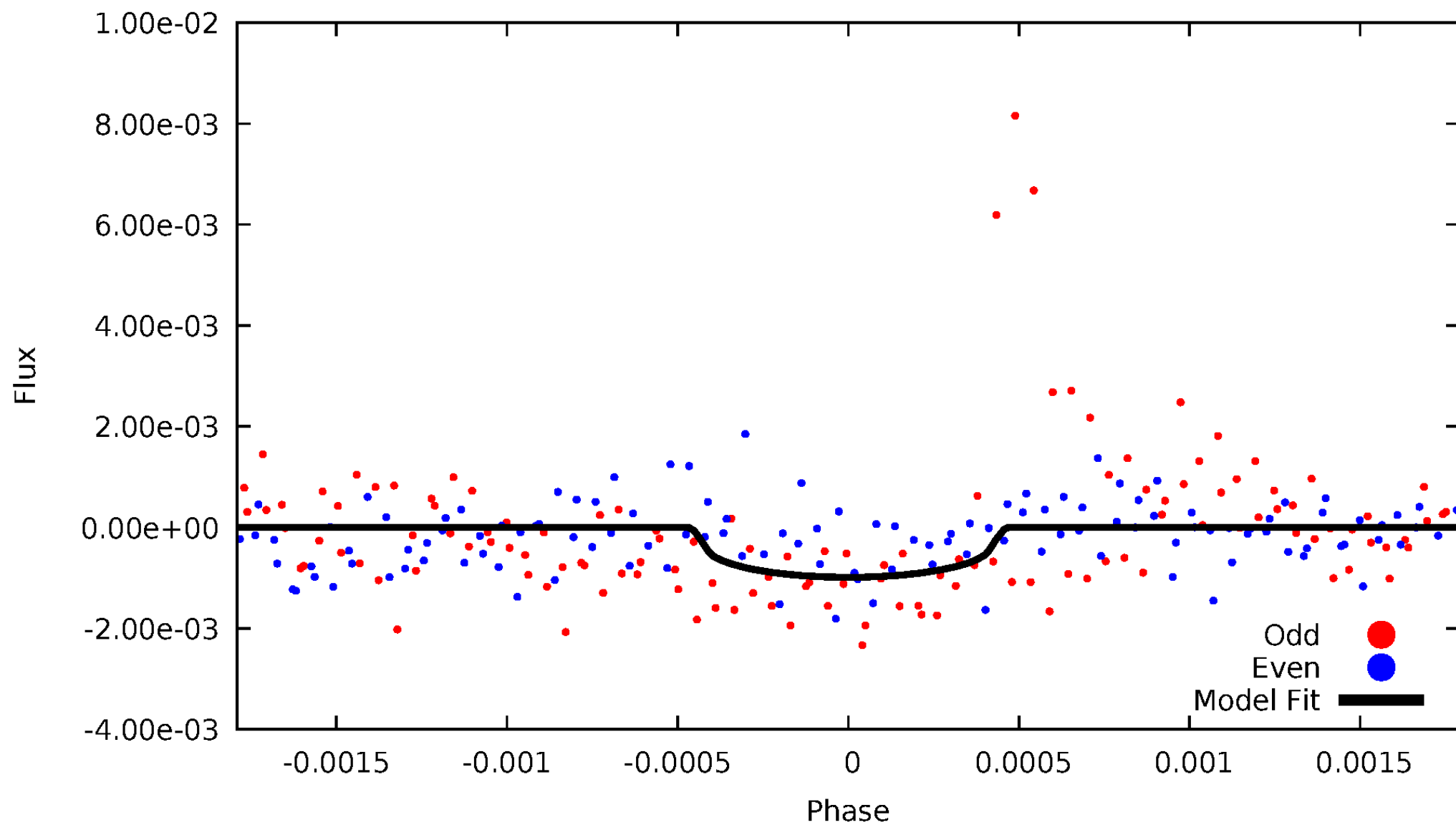


TCE 003128793-03



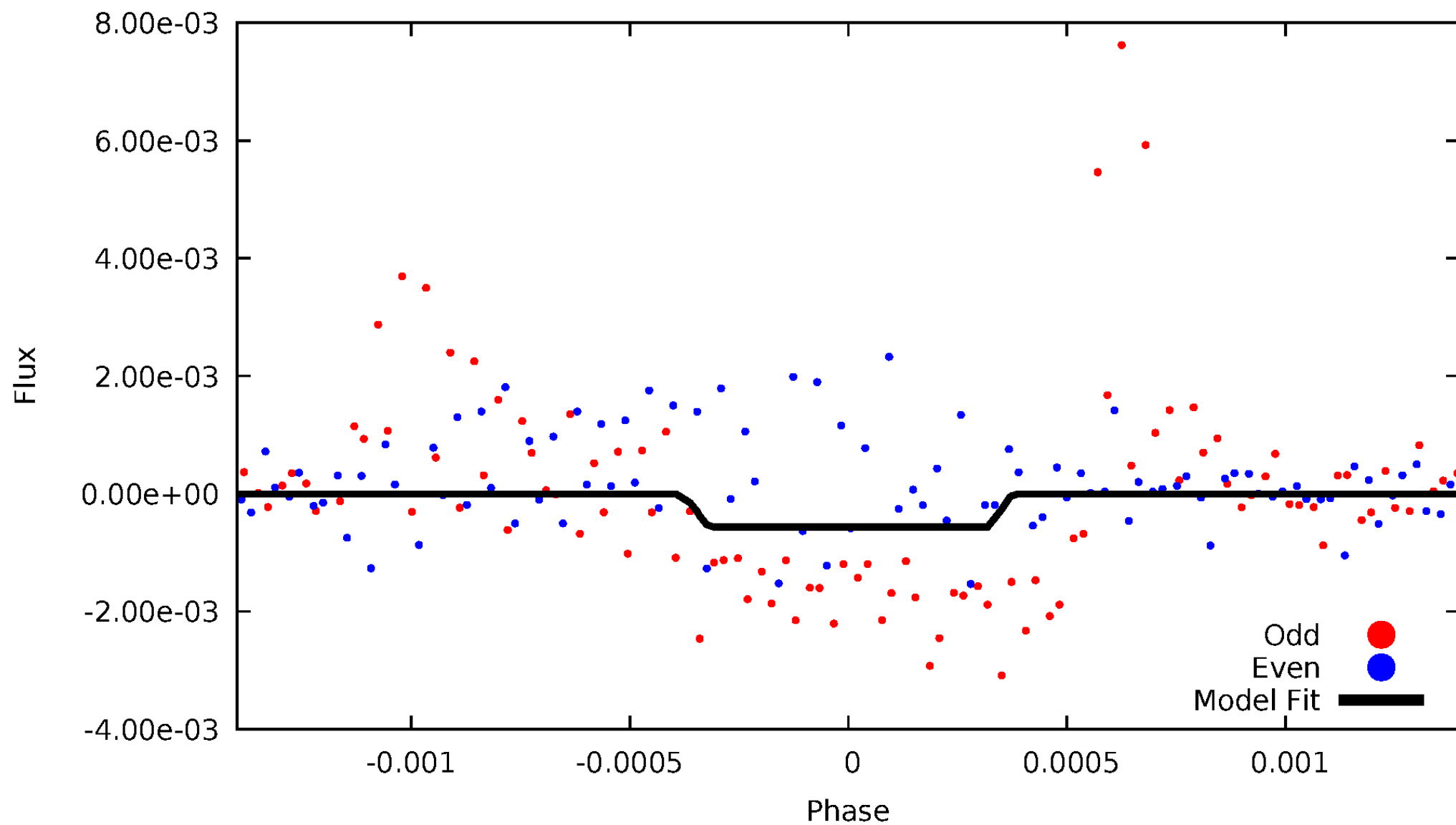
DV Odd/Even

TCE 003128793-03



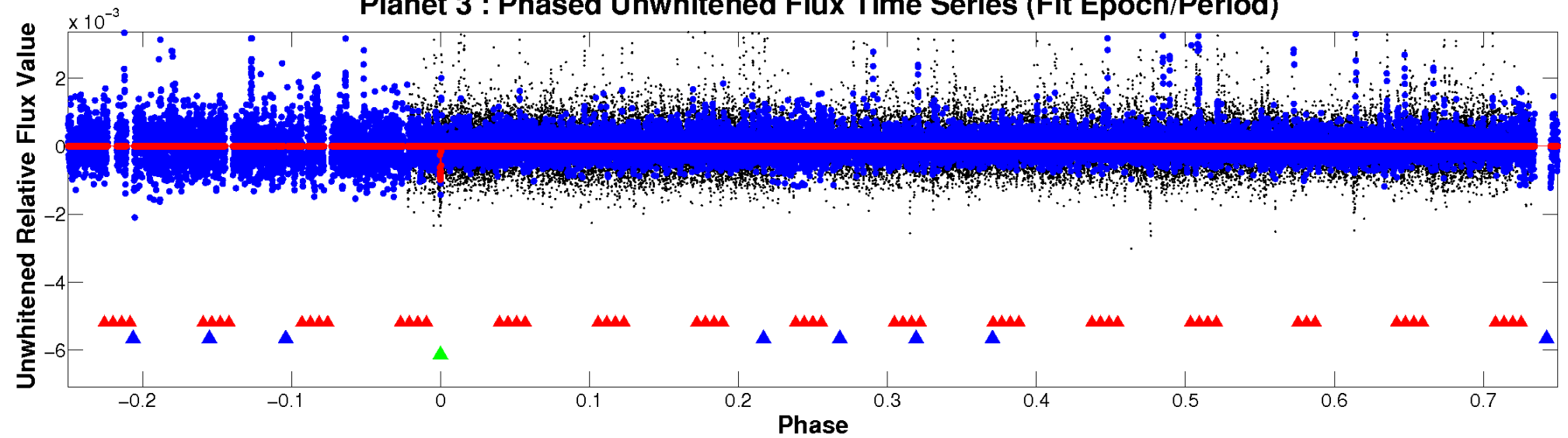
ALT Odd/Even

TCE 003128793-03

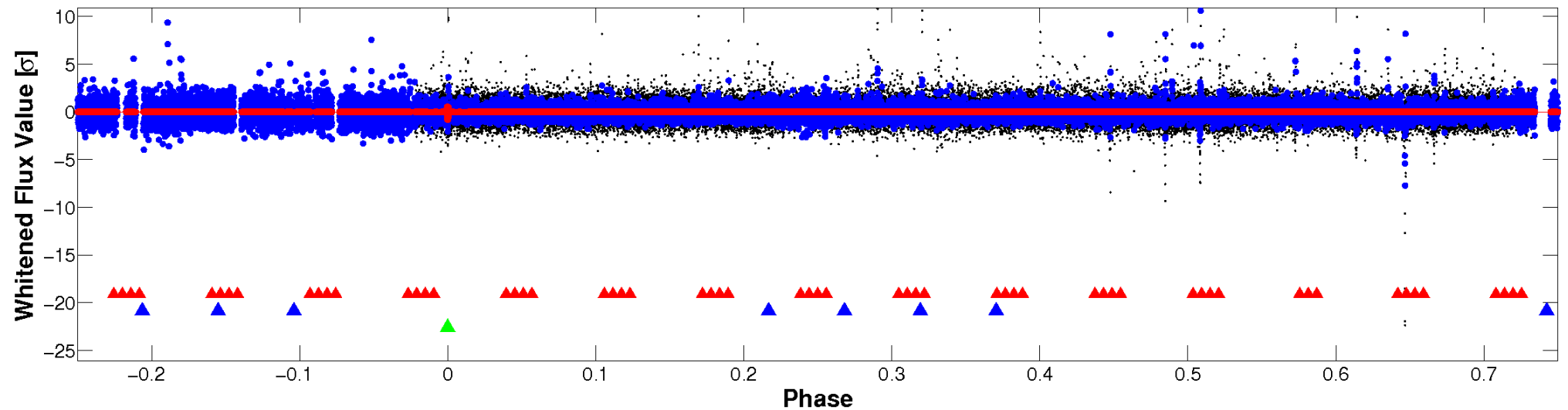


Non-Whitened Vs. Whitened Light Curve

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

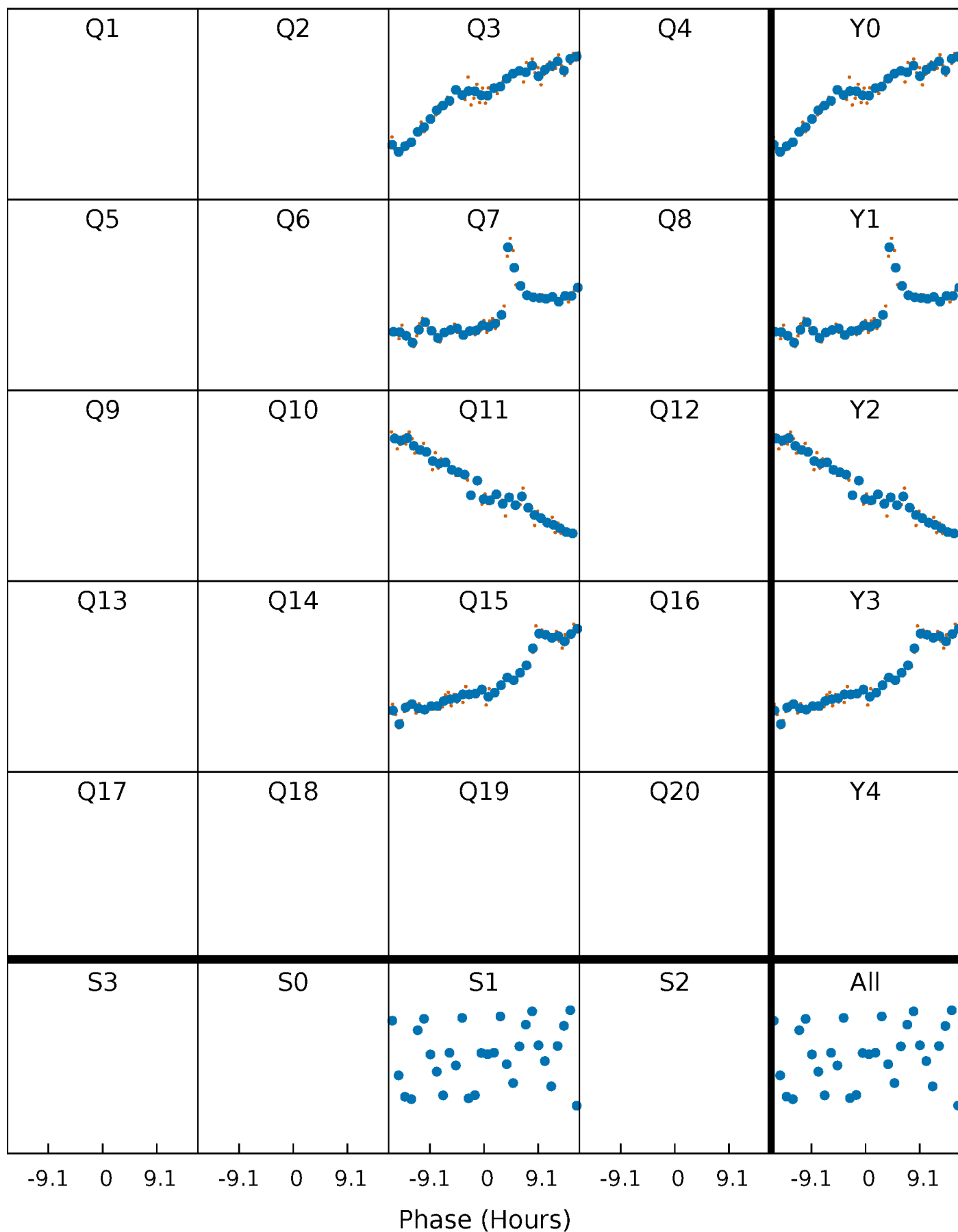


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



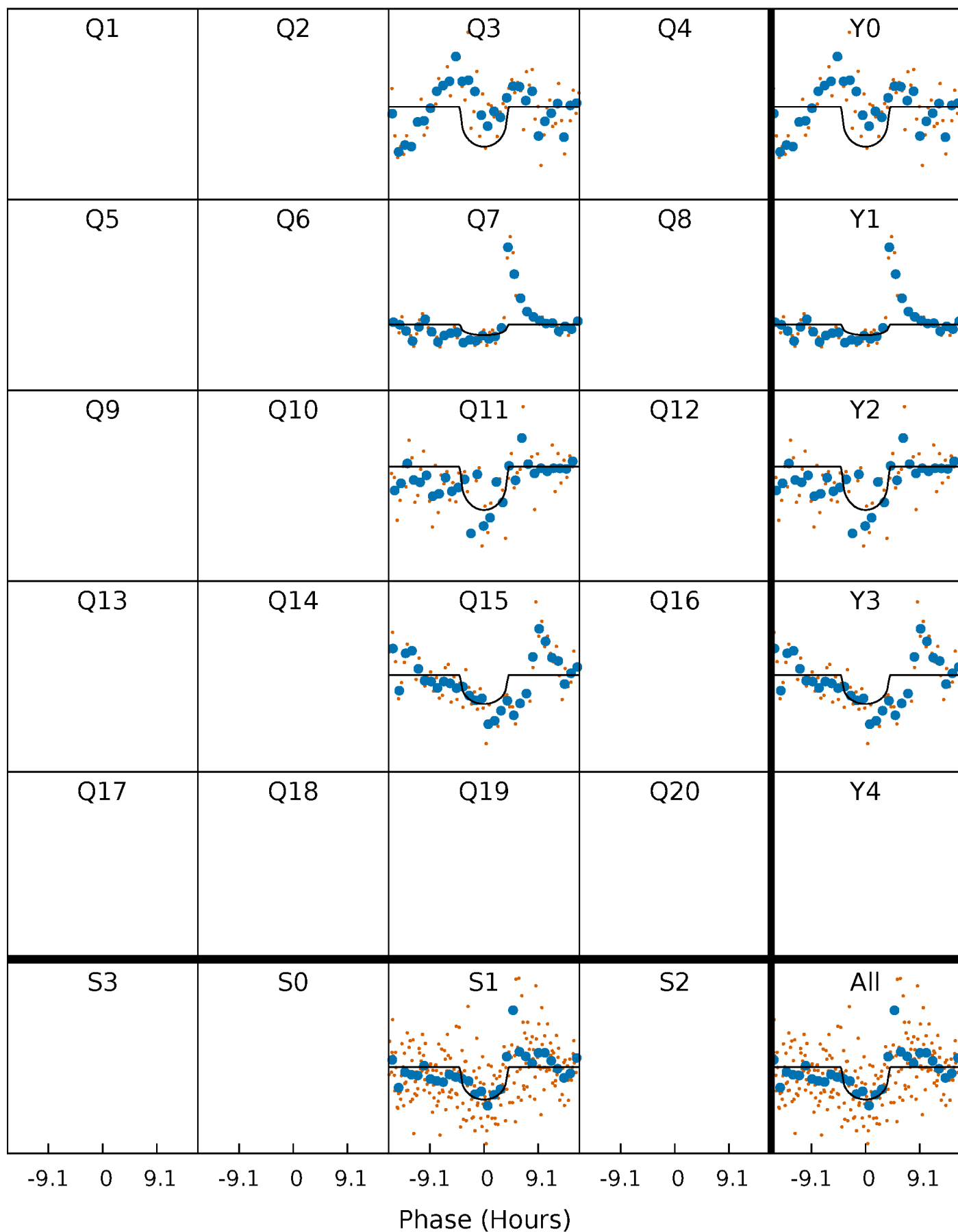
PDC Quarter-Phased Transit Curves

TCE 003128793-03 $P=372.332538$ Days $T_0=264.669463$ (BKJD)



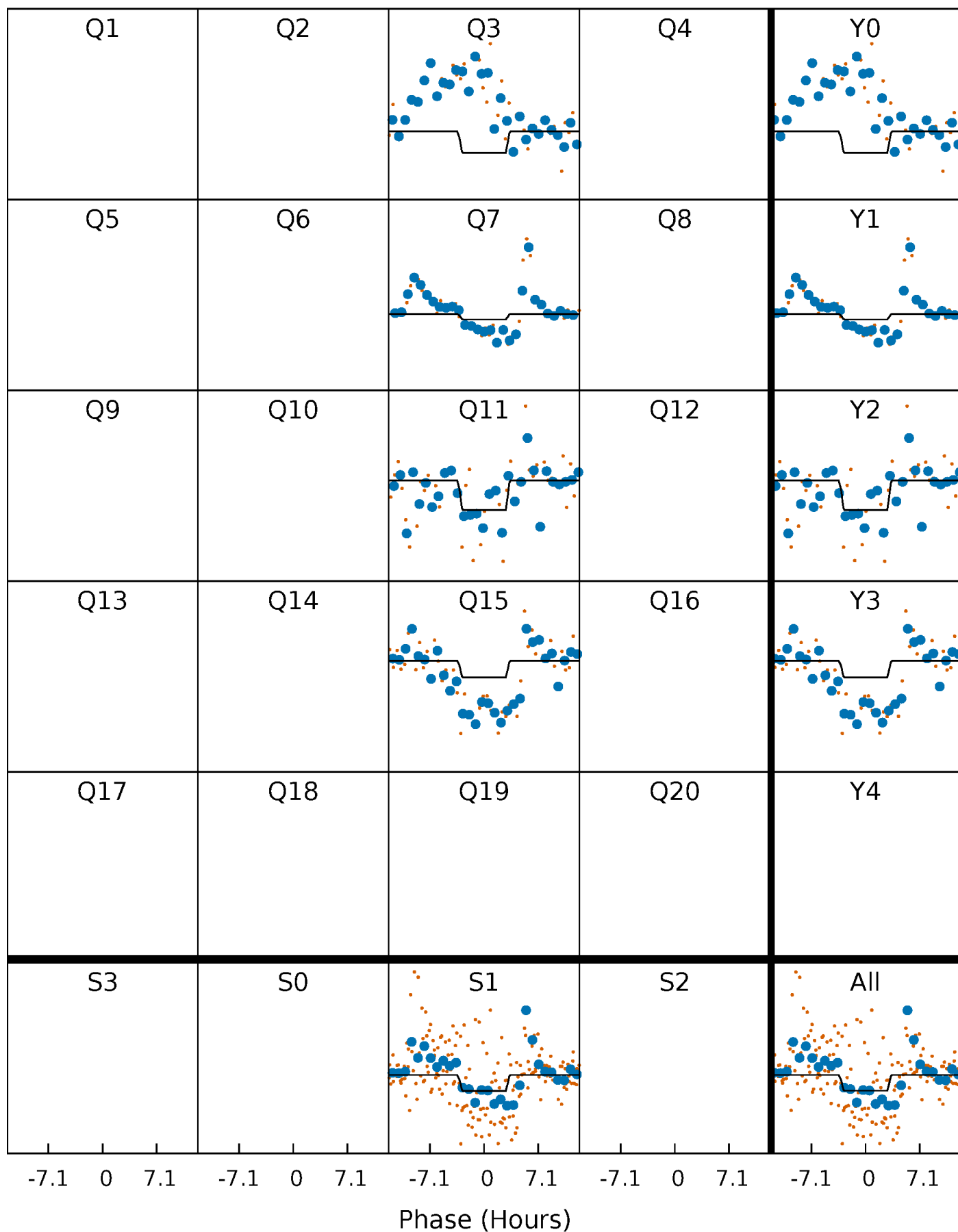
DV Quarter-Phased Transit Curves

TCE 003128793-03 $P=372.332538$ Days $T_0=264.669463$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

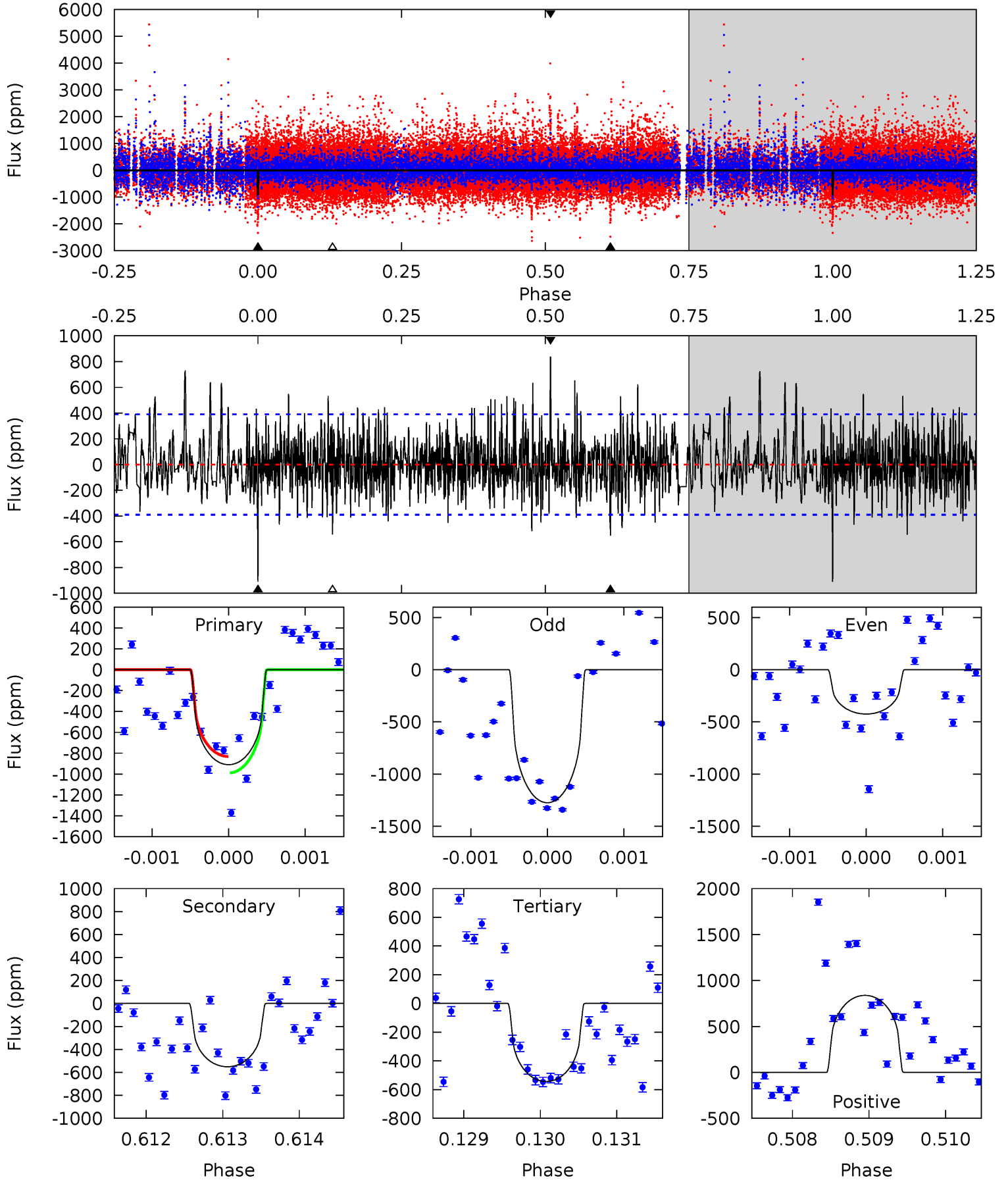
TCE 003128793-03 $P=372.428876$ Days $T_0=264.522276$ (BKJD)



DV Model-Shift Uniqueness Test

003128793-03, P = 372.332538 Days, E = 264.669463 Days

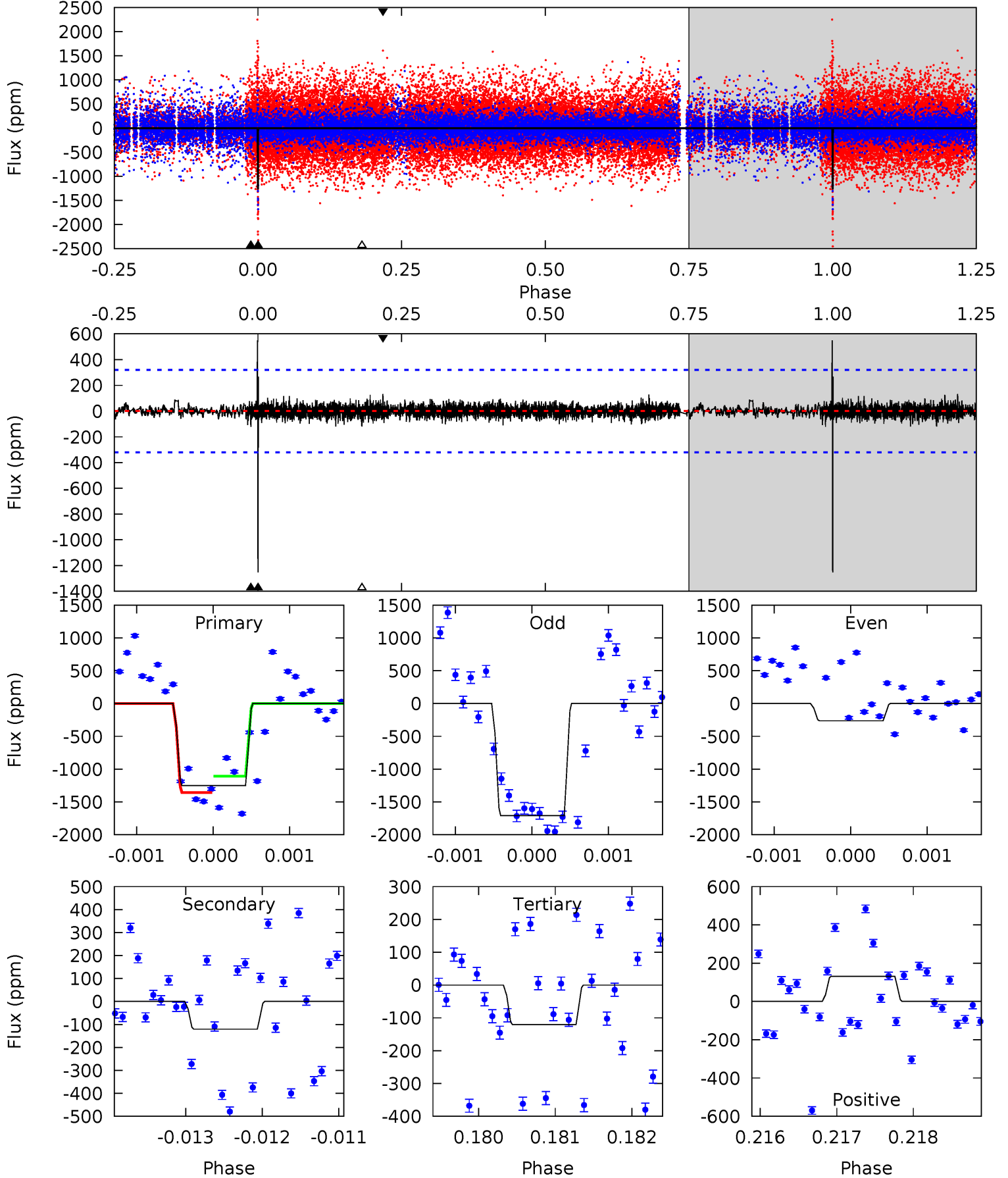
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.7 | 7.70 | 7.60 | 11.7 | 5.46 | 3.31 | 2.36 | 5.12 | 1.00 | 0.11 | -4.01 | 5.48 | 0.79 | 0.48 | 1.10 |



Alt Model-Shift Uniqueness Test

003128793-03, P = 372.428876 Days, E = 264.522276 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 21.5 | 2.07 | 2.07 | 2.26 | 5.50 | 3.37 | 0.53 | 19.4 | 19.2 | 0.01 | -0.19 | 13.6 | 0.62 | 0.31 | 2.22 |



Stellar Parameters For KIC 003128793

| | $T_{\text{eff}} (K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 4648^{+69}_{-55} | $2.996^{+0.145}_{-0.145}$ | $0.140^{+0.150}_{-0.100}$ | $5.132^{+1.336}_{-0.719}$ | $0.950^{+0.201}_{-0.021}$ | $0.010^{+0.006}_{-0.004}$ |
| | +1%/-1% | +5%/-5% | +107%/-71% | +26%/-14% | +21%/-2% | +62%/-45% |
| Source | SPE74 | SPE74 | SPE74 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 003128793-03 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|---------------------------|-------------------|-----------------------|----------------------|
| DV | -551 ± 72 | $23.18^{+20.87}_{-15.00}$ | 647^{+39}_{-30} | 3797^{+1928}_{-698} | 595^{+4094}_{-435} |
| Alt. | -121 ± 58 | $22.13^{+21.10}_{-14.99}$ | 649^{+35}_{-32} | 3027^{+1317}_{-544} | 136^{+1144}_{-105} |

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 $A_{obs} \gg 1.0$

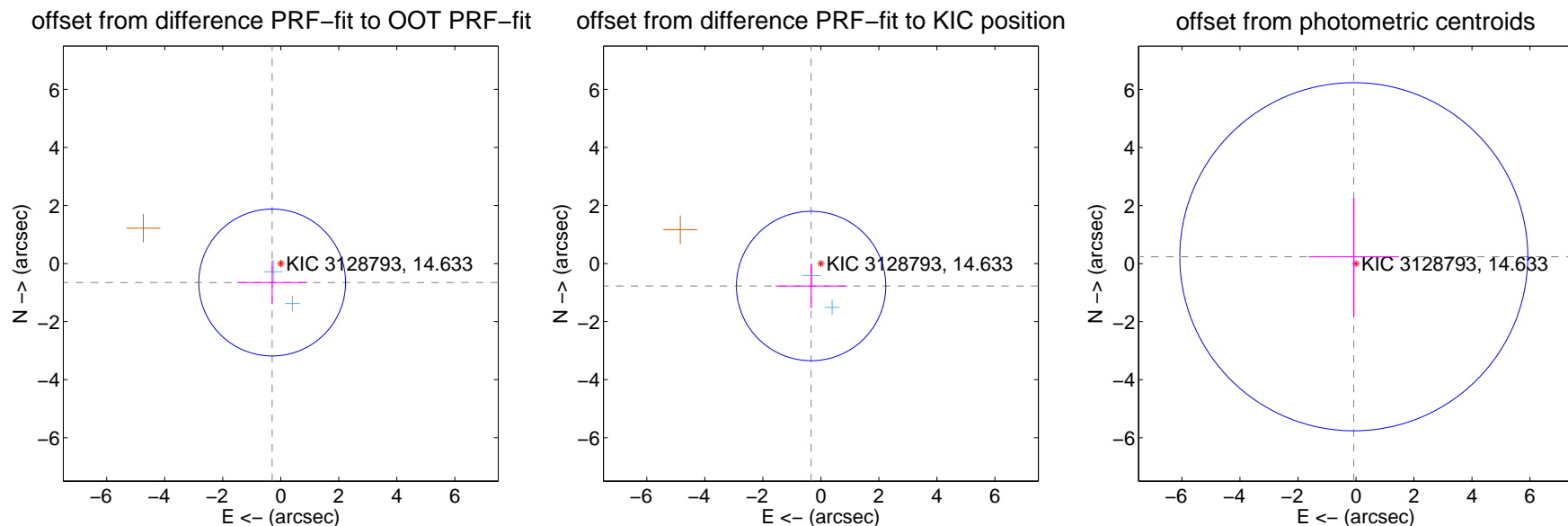
DV Centroid Data

Supplemental centroid analysis for 003128793-03. Kepler magnitude: 14.63. Transit SNR 6.06

There are 2 quarters with good PRF difference image offsets

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

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.718 ± 0.843 | 0.85 | 0.296 ± 1.213 | -0.654 ± 0.745 |
| PRF-fit source offset from KIC position | 0.844 ± 0.858 | 0.98 | 0.337 ± 1.231 | -0.774 ± 0.767 |
| photometric centroid source offset | 0.25 ± 2.00 | 0.12 | 0.08 ± 1.55 | 0.24 ± 2.04 |



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.

Q1 no difference image



Q1 no OOT image



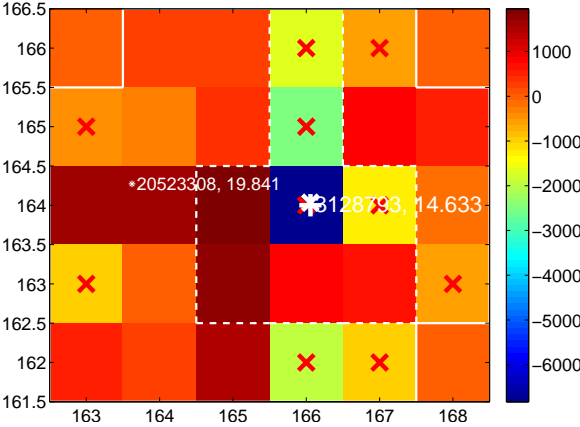
Q2 no difference image



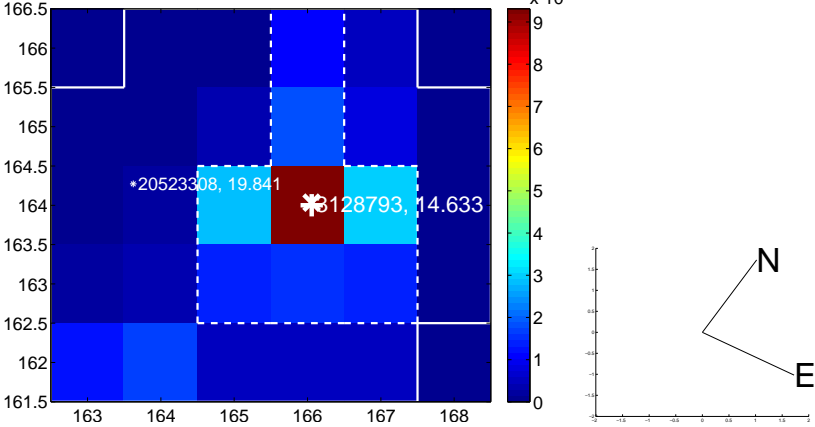
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



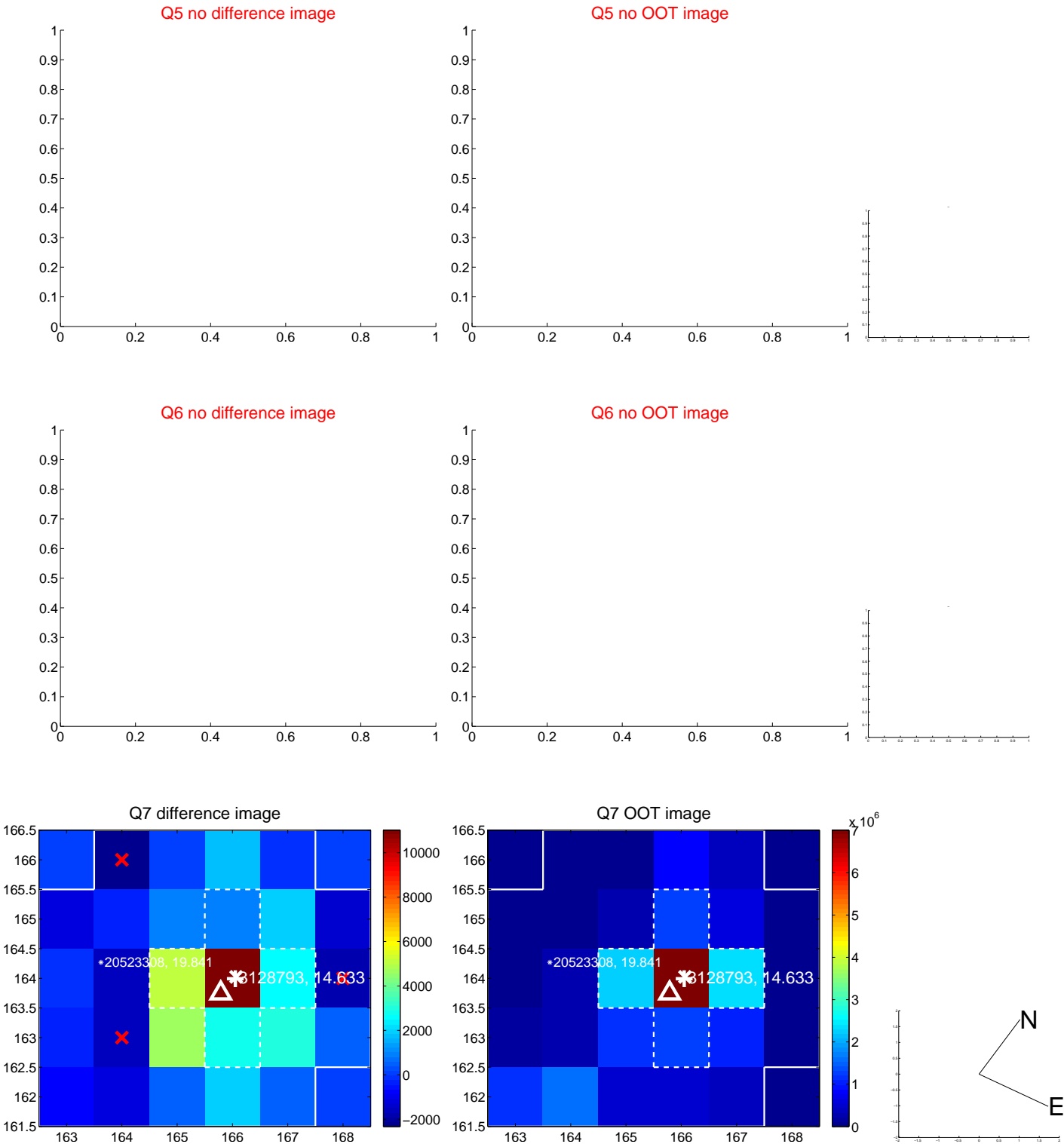
Q4 no difference image



Q4 no OOT image



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



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

Q9 no difference image



Q9 no OOT image



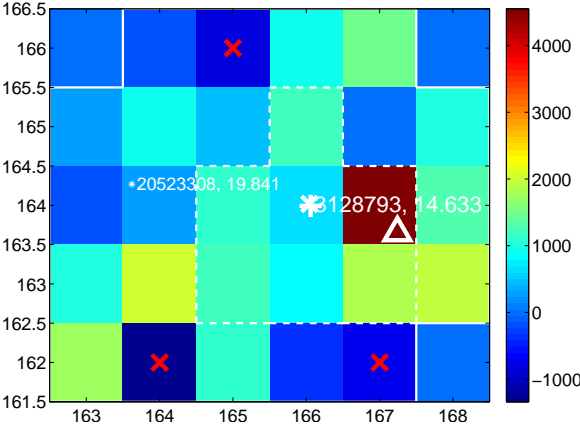
Q10 no difference image



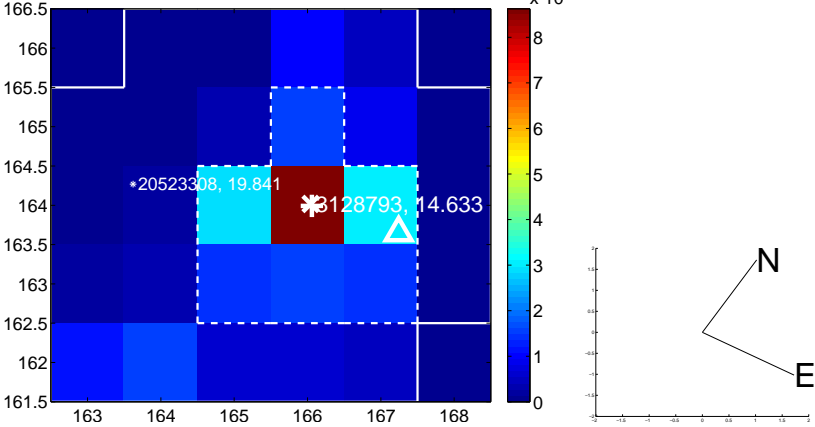
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



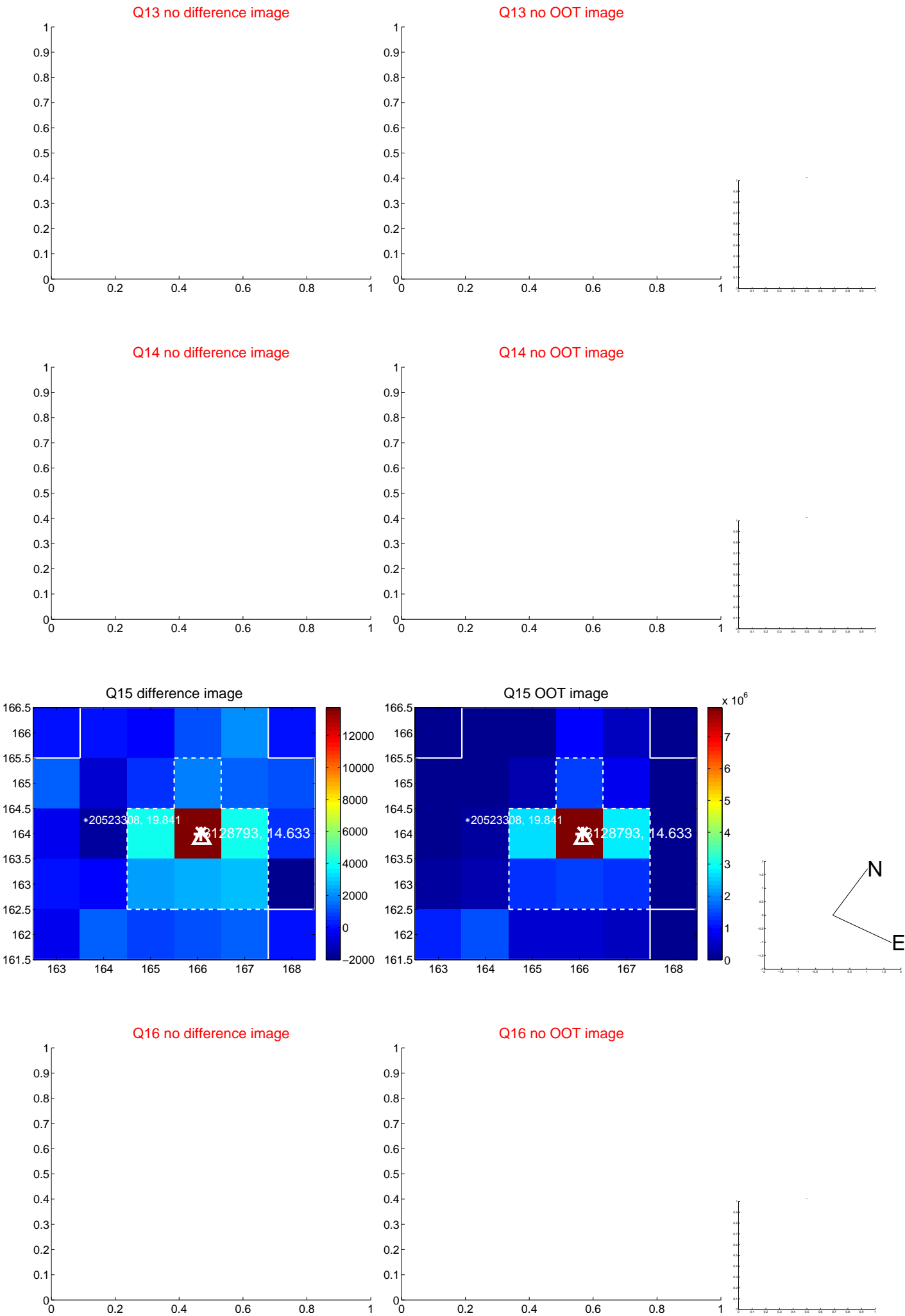
Q12 no difference image



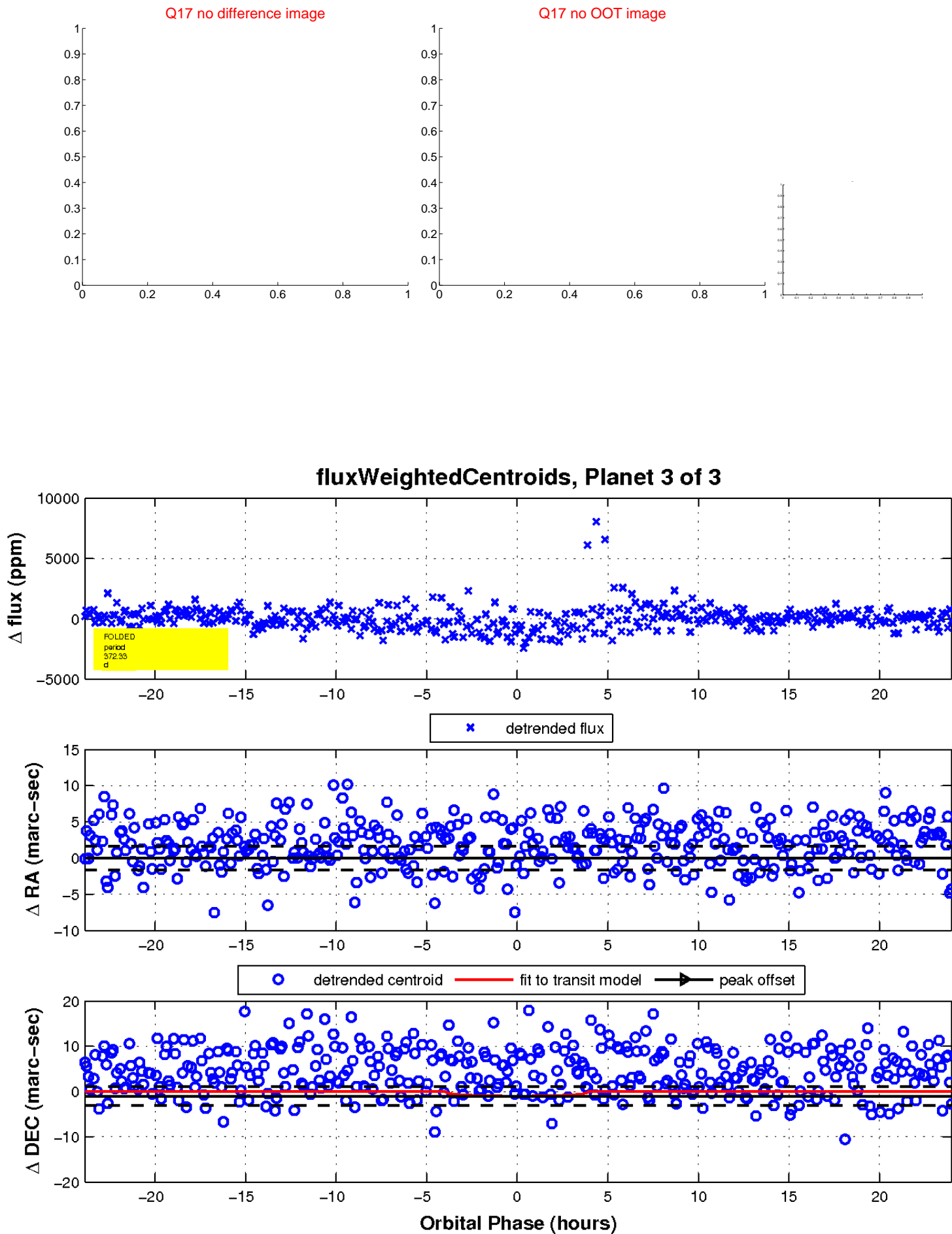
Q12 no OOT image



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

