

KIC 007115878

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007115878-01 | OBS | 6825.01 | 0.566803 | 131.827966 | 30.4 | 3.878 | 10.3 | 9.3 | 1.09 | 6100 | 0.64 | 8280.39 |
| 007115878-02 | OBS | No | 39.707479 | 161.748280 | 980.8 | 1.645 | 12.6 | 9.0 | 1.09 | 6100 | 3.74 | 28.67 |
| 007115878-03 | OBS | No | 71.472015 | 178.220481 | 1269.1 | 1.701 | 10.5 | 10.7 | 1.09 | 6100 | 4.08 | 13.10 |
| 007115878-04 | OBS | No | 50.891633 | 170.724411 | 1316.5 | 1.213 | 10.2 | 9.3 | 1.09 | 6100 | 3.99 | 20.59 |
| 007115878-05 | OBS | No | 39.030600 | 146.535997 | 1427.7 | 1.500 | 10.4 | -1.0 | 1.09 | 6100 | 4.14 | 29.34 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007115878-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 1 | LPP_DV—HALO_GHOST—EPHEM_MATCH |
| 007115878-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS |
| 007115878-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 007115878-04 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST |
| 007115878-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS |

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.

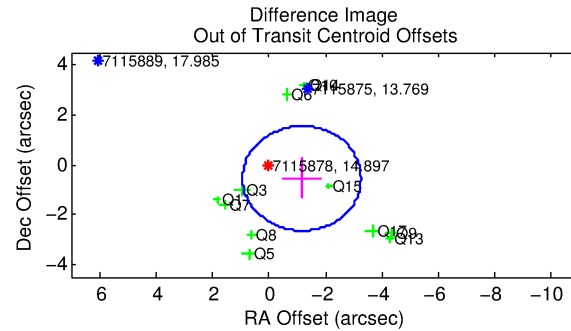
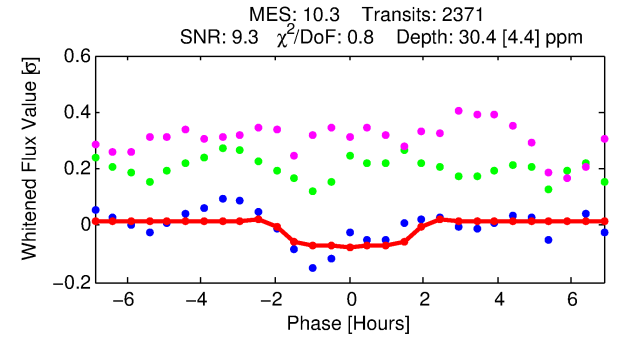
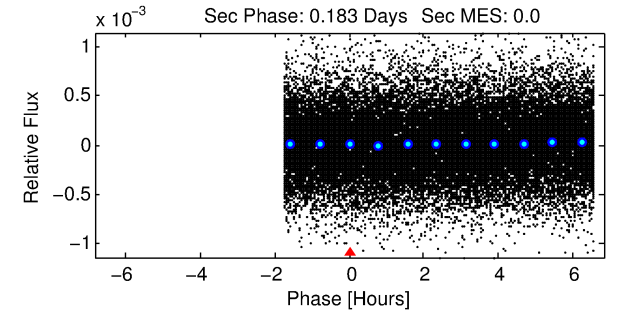
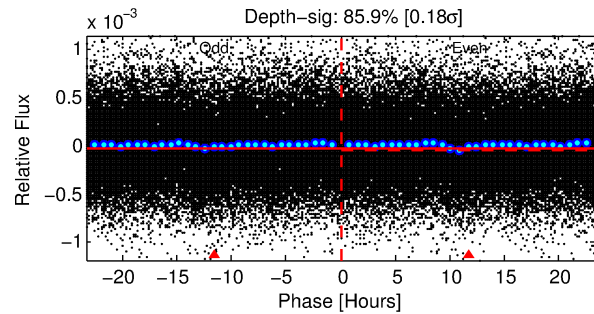
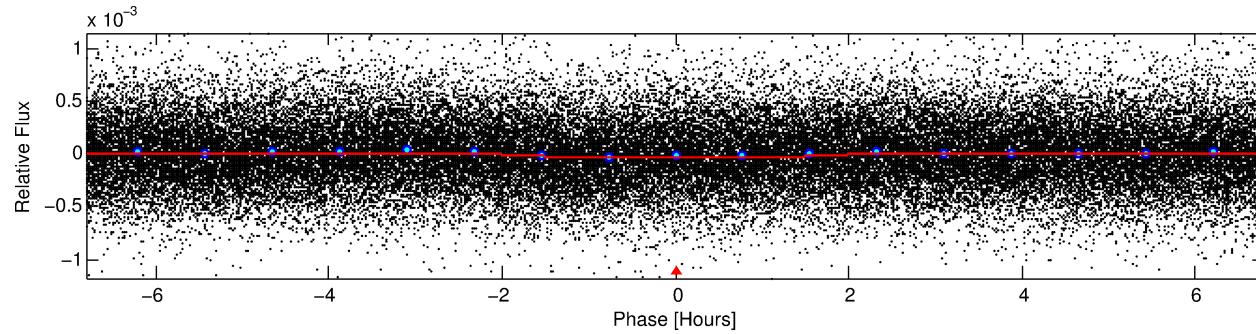
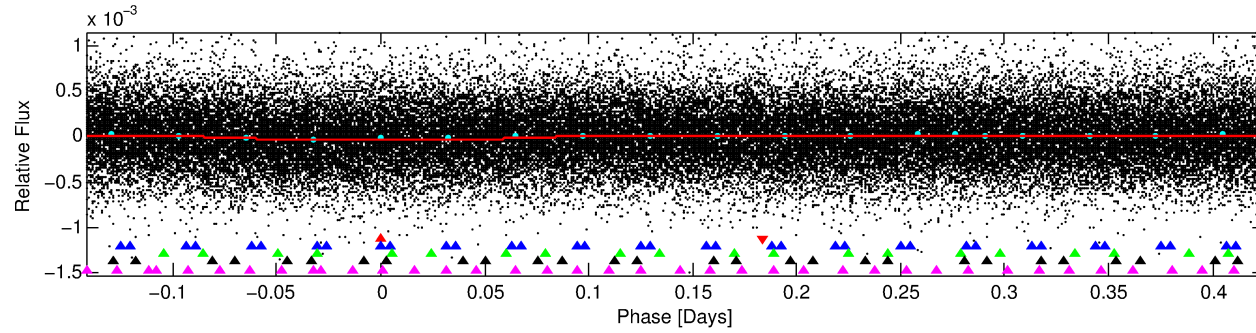
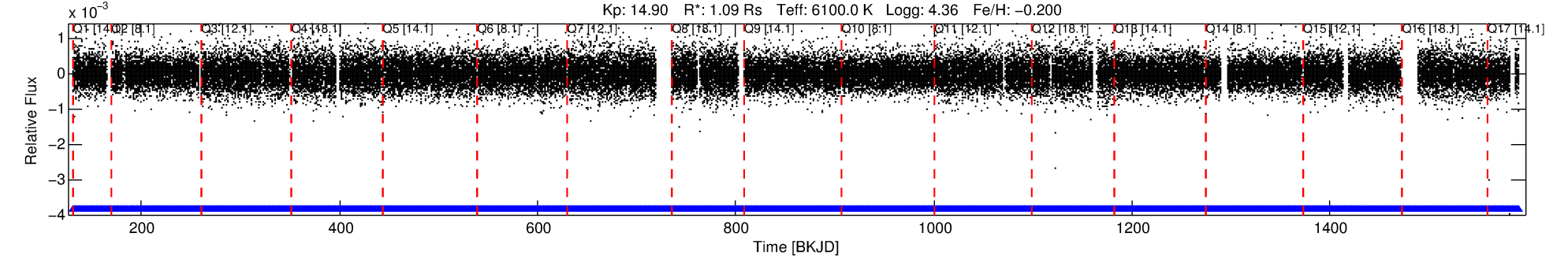
Ephemeris Match Information For 007115878-01

| TCE (1) | KIC | Parent (2) | Parent KIC | P ₁ :P ₂ | Dist ($''$) | Δ Row | Δ Col | m ₂ | m ₁ | D ₂ /D ₁ | Mechanism | Flag | σ_P | σ_T |
|--------------|---------|------------|------------|--------------------------------|---------------|--------------|--------------|----------------|----------------|--------------------------------|------------|------|------------|------------|
| 007115878-01 | 7115878 | RR-Lyr-pri | 7198959 | 1:1 | 563.9 | 15 | -142 | 7.86 | 14.90 | 20777.00 | Direct-PRF | 0 | 4.94 | 24.93 |

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_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 σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7115878 Candidate: 1 of 5 Period: 0.567 d
KOI: K06825.01 Corr: 0.909



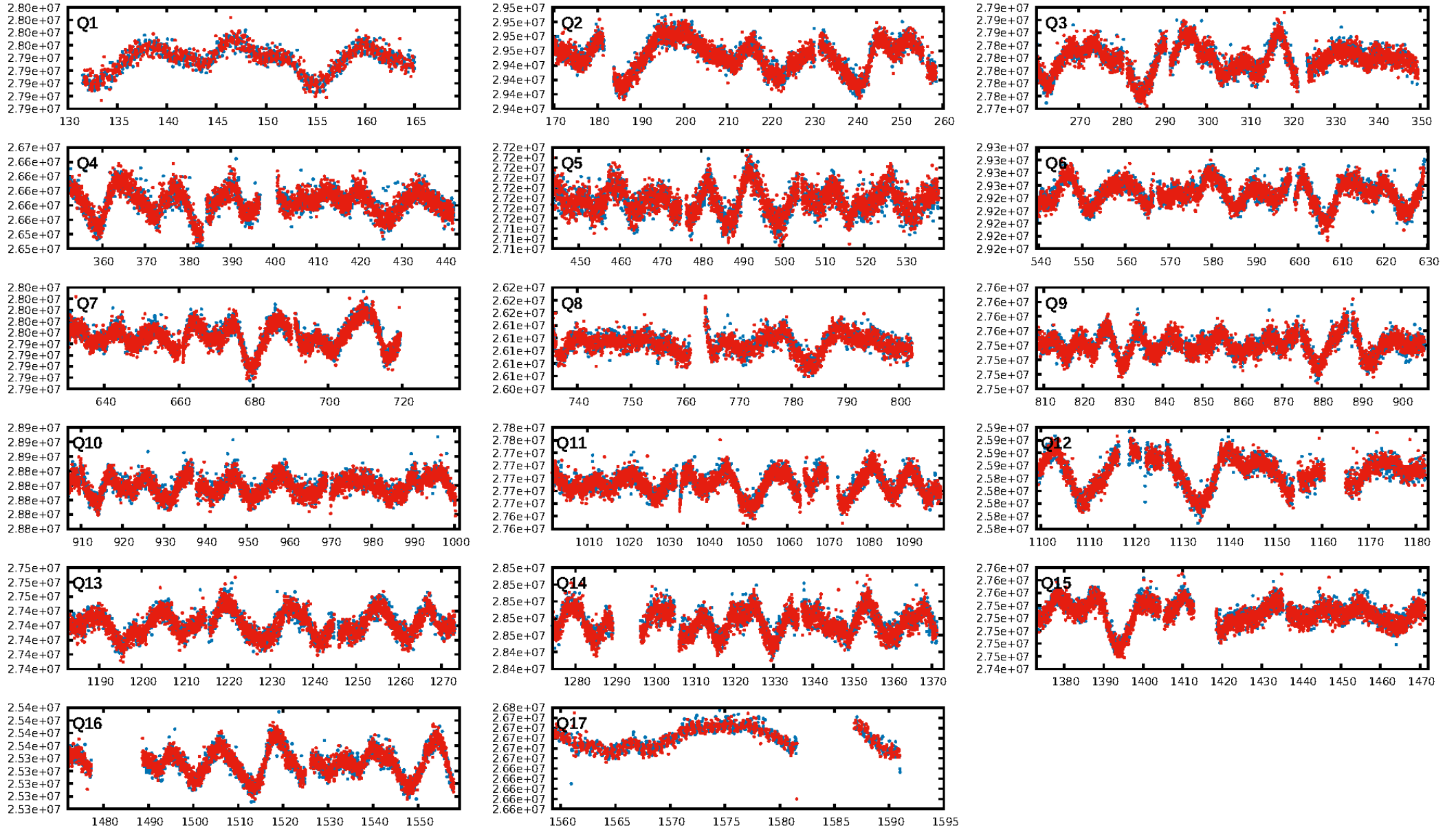
DV Fit Results:

Period = 0.56680 [0.00001] d
Epoch = 131.8280 [0.0040] BKJD
Rp/R* = 0.0053 [0.0041]
a/R* = 1.18 [1.29]
b = 0.64 [3.60]
Seff = 8280.39 [3127.31]
Teq = 2432 [230] K
Rp = 0.64 [0.53] Re
a = 0.0134 [0.0033] AU
Ag = N/A
Teffp = N/A

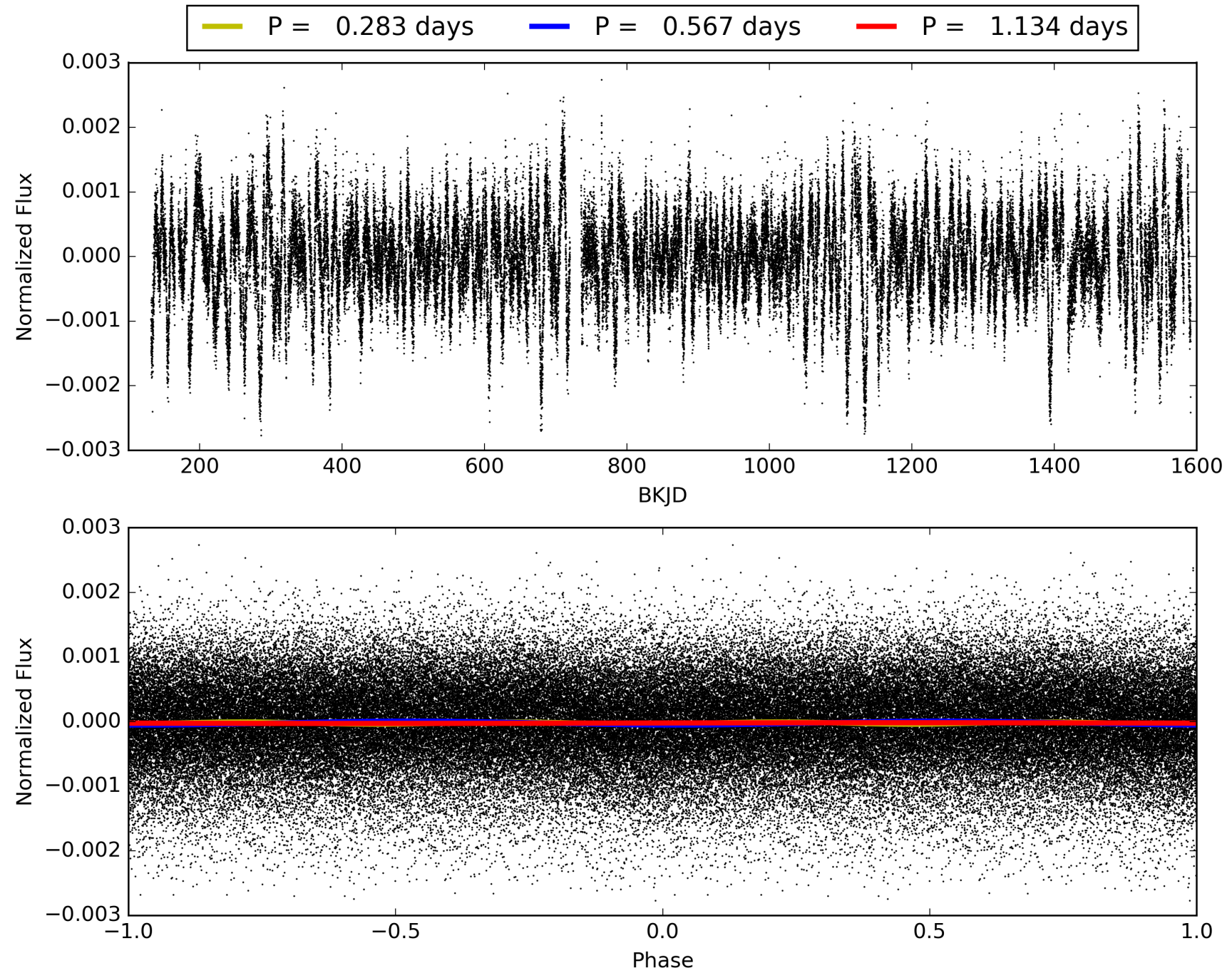
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [222.02 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.96e-23
RollingBand-fgt: 1.00 [2265/2265]
GhostDiagnostic-chr: 0.1908
Centroid-sig: N/A
Centroid-so: 5.882 arcsec [5.47 σ]
OotOffset-rm: 1.289 arcsec [1.84 σ]
KicOffset-rm: 1.338 arcsec [1.88 σ]
OotOffset-st: 3/4/1/4 [12]
KicOffset-st: 3/4/1/4 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007115878-01, PDC Light Curves

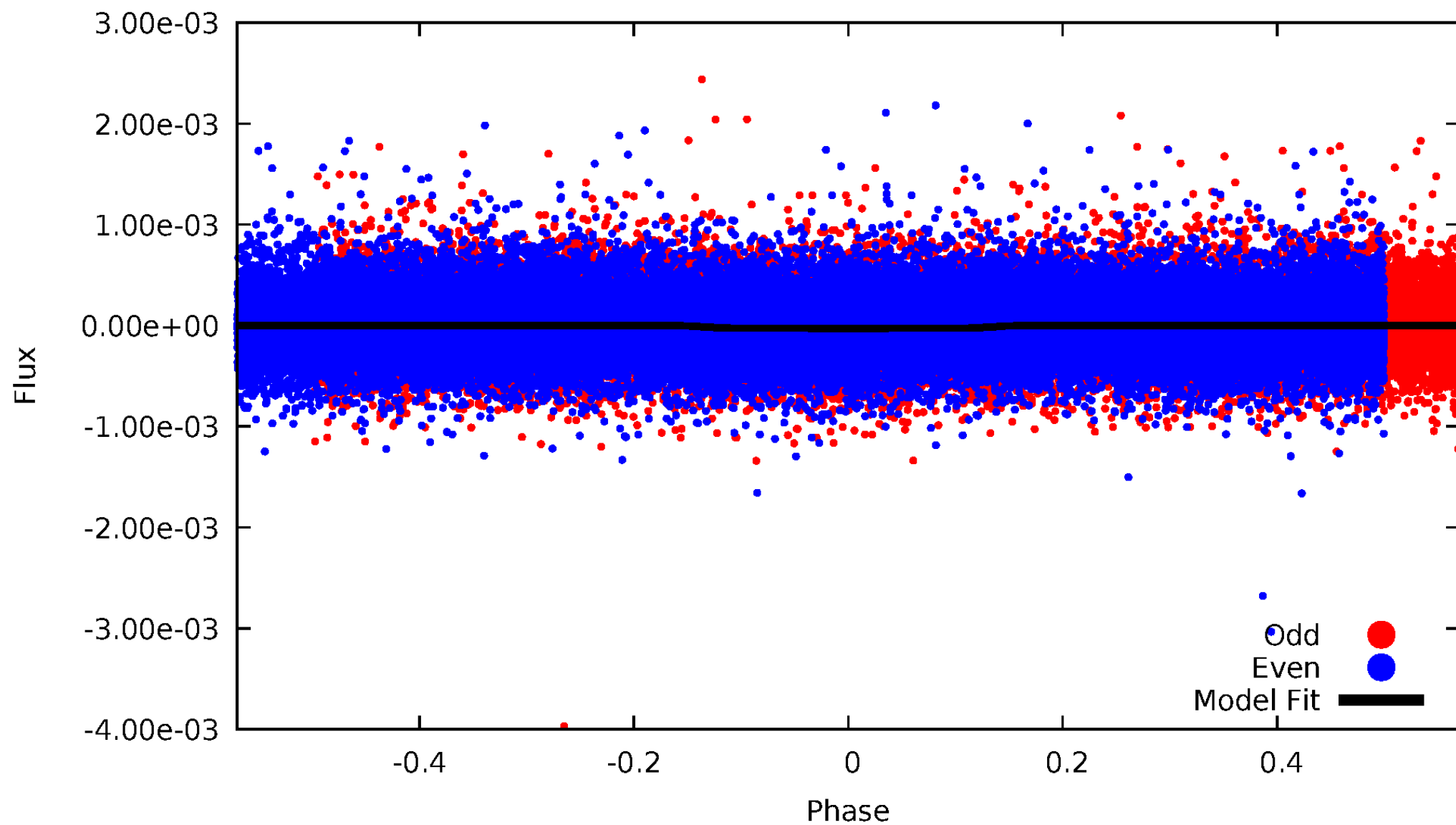


TCE 007115878-01



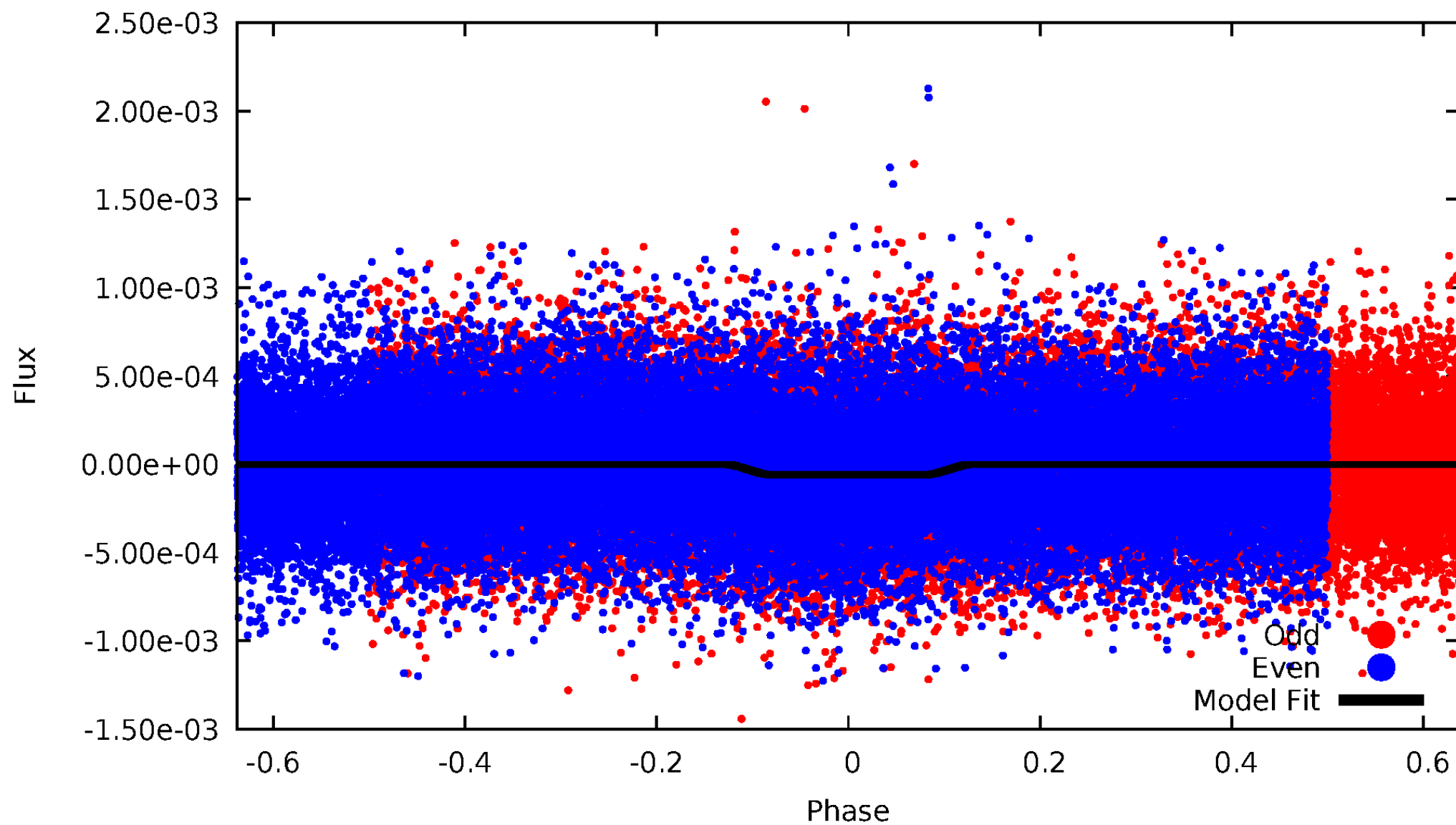
DV Odd/Even

TCE 007115878-01

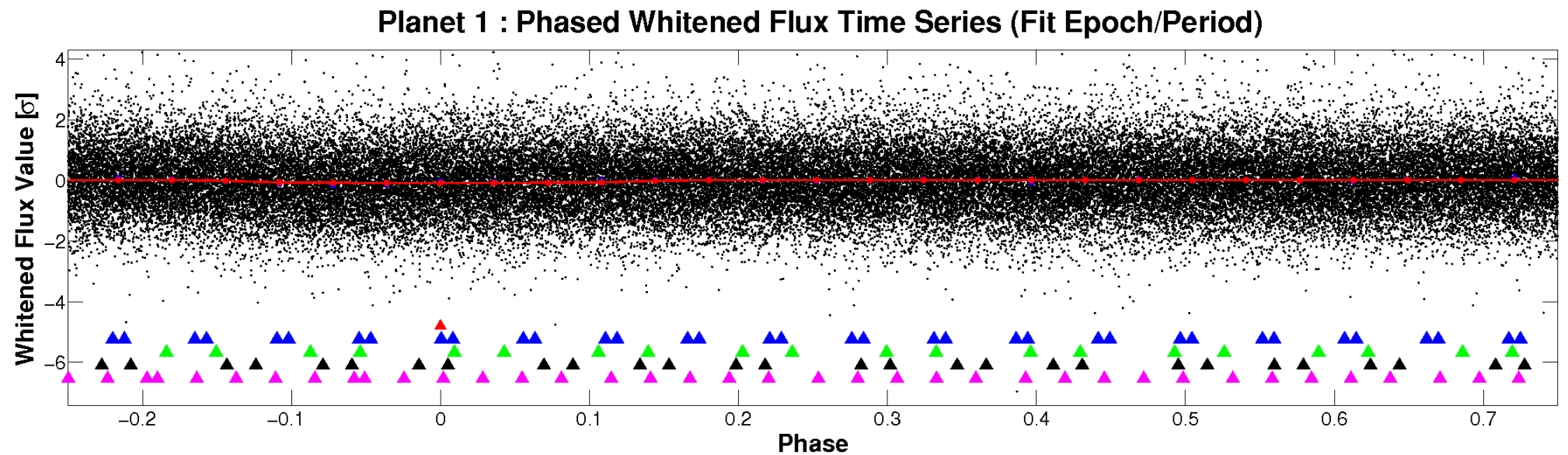
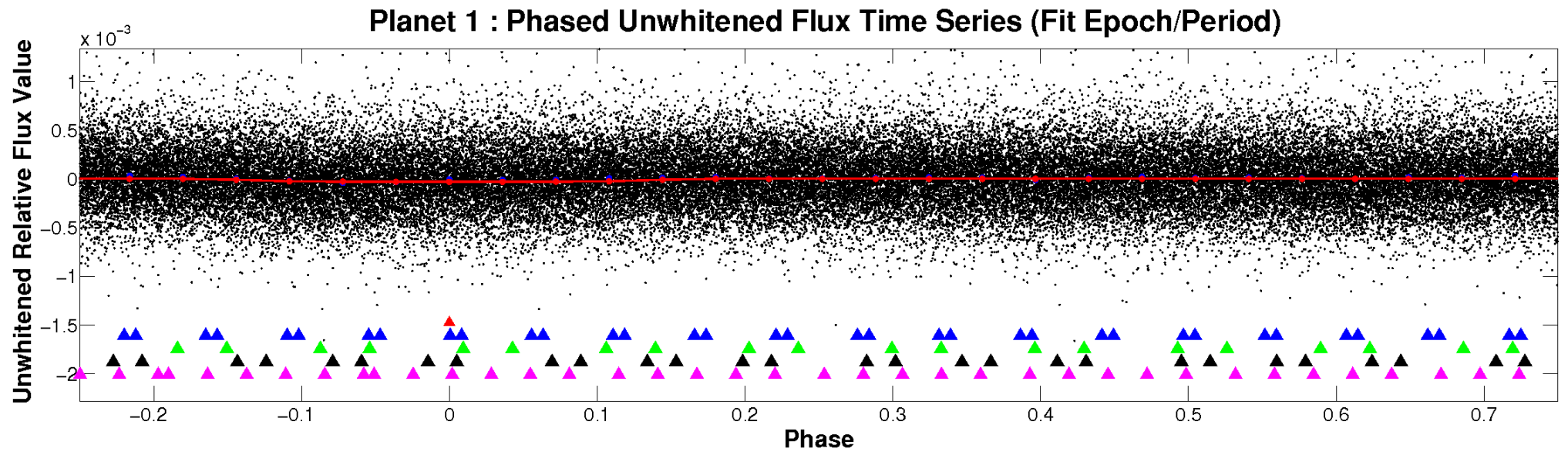


ALT Odd/Even

TCE 007115878-01

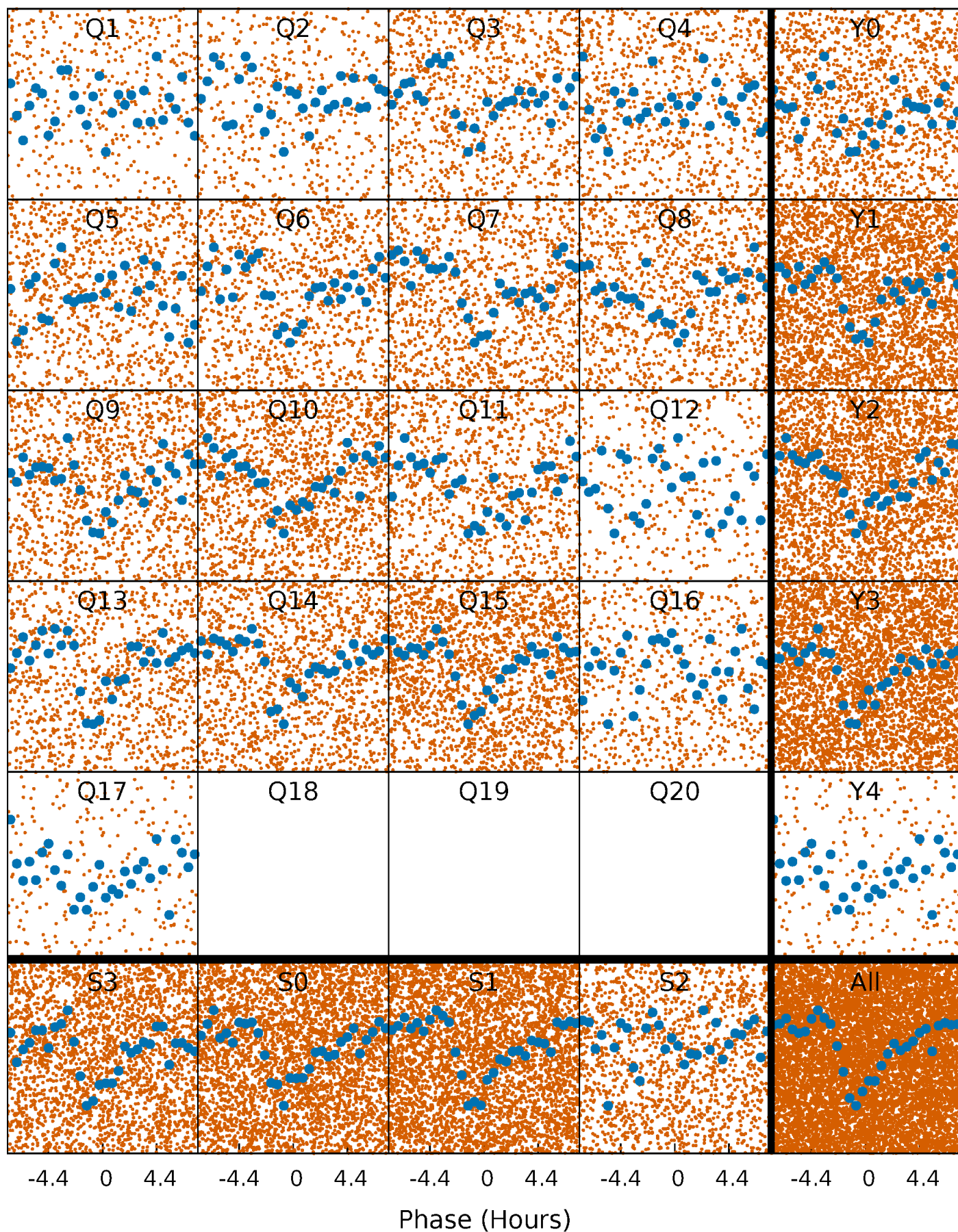


Non-Whitened Vs. Whitened Light Curve



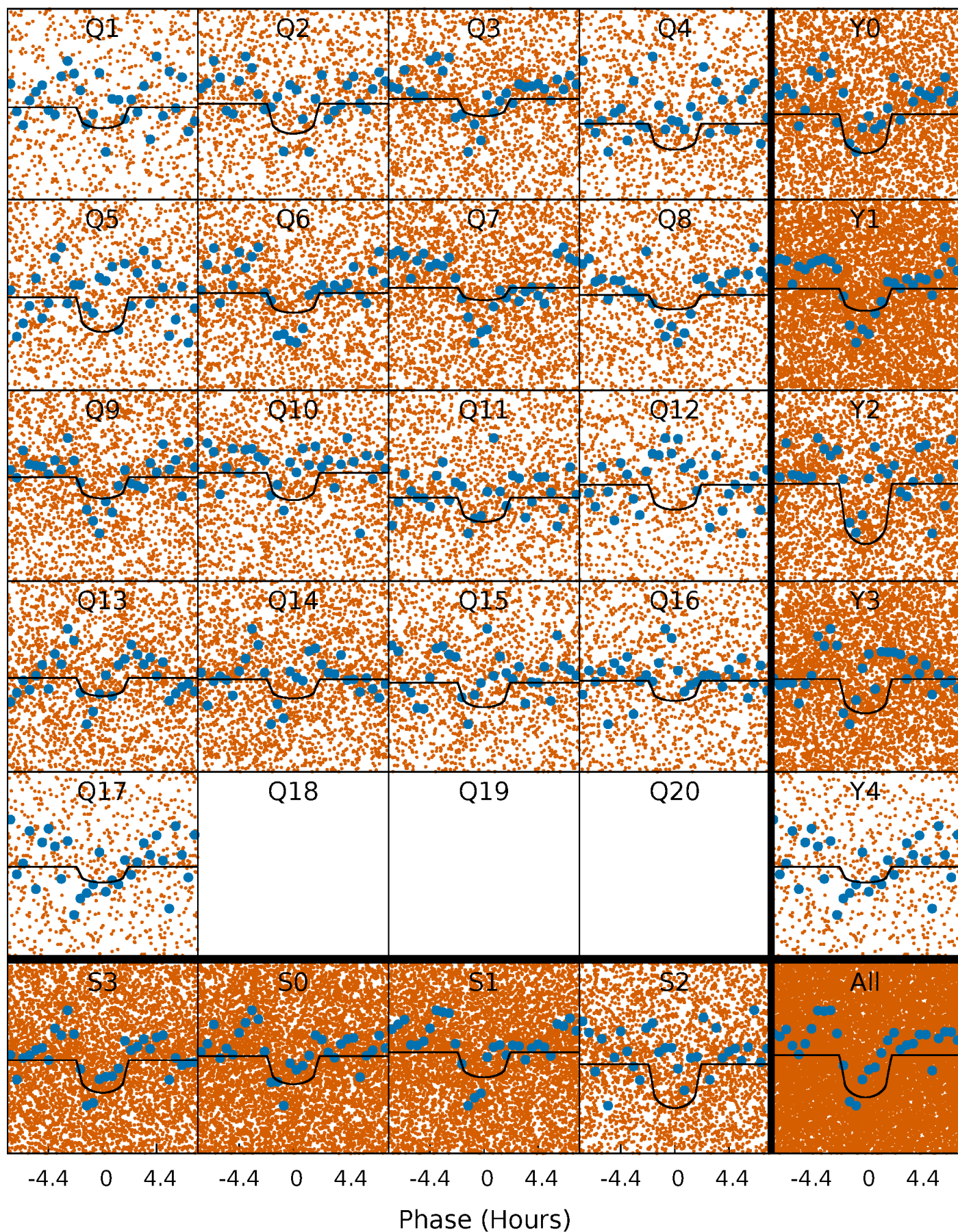
PDC Quarter-Phased Transit Curves

TCE 007115878-01 P= 0.566803 Days $T_0=131.827966$ (BKJD)



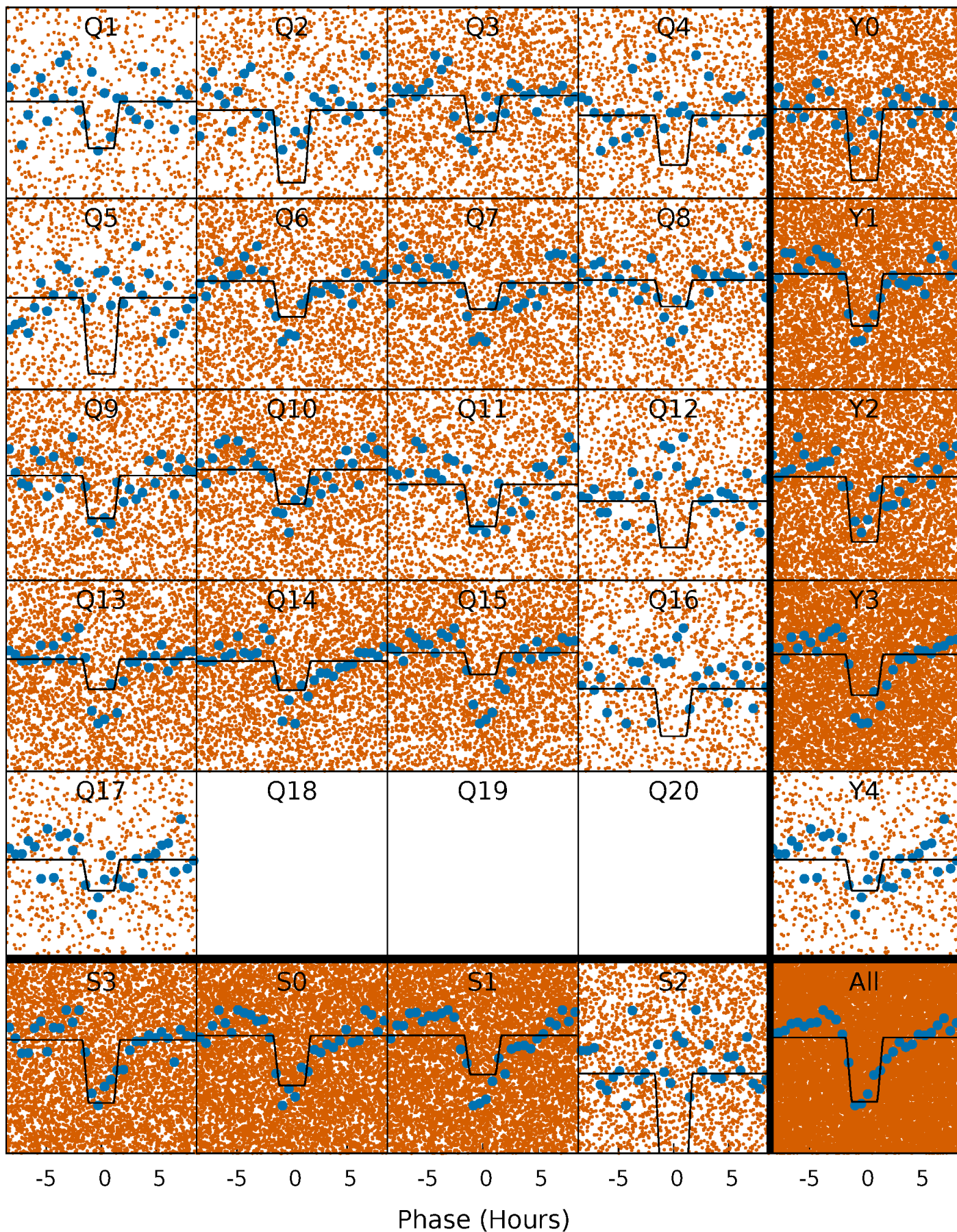
DV Quarter-Phased Transit Curves

TCE 007115878-01 P= 0.566803 Days $T_0=131.827966$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

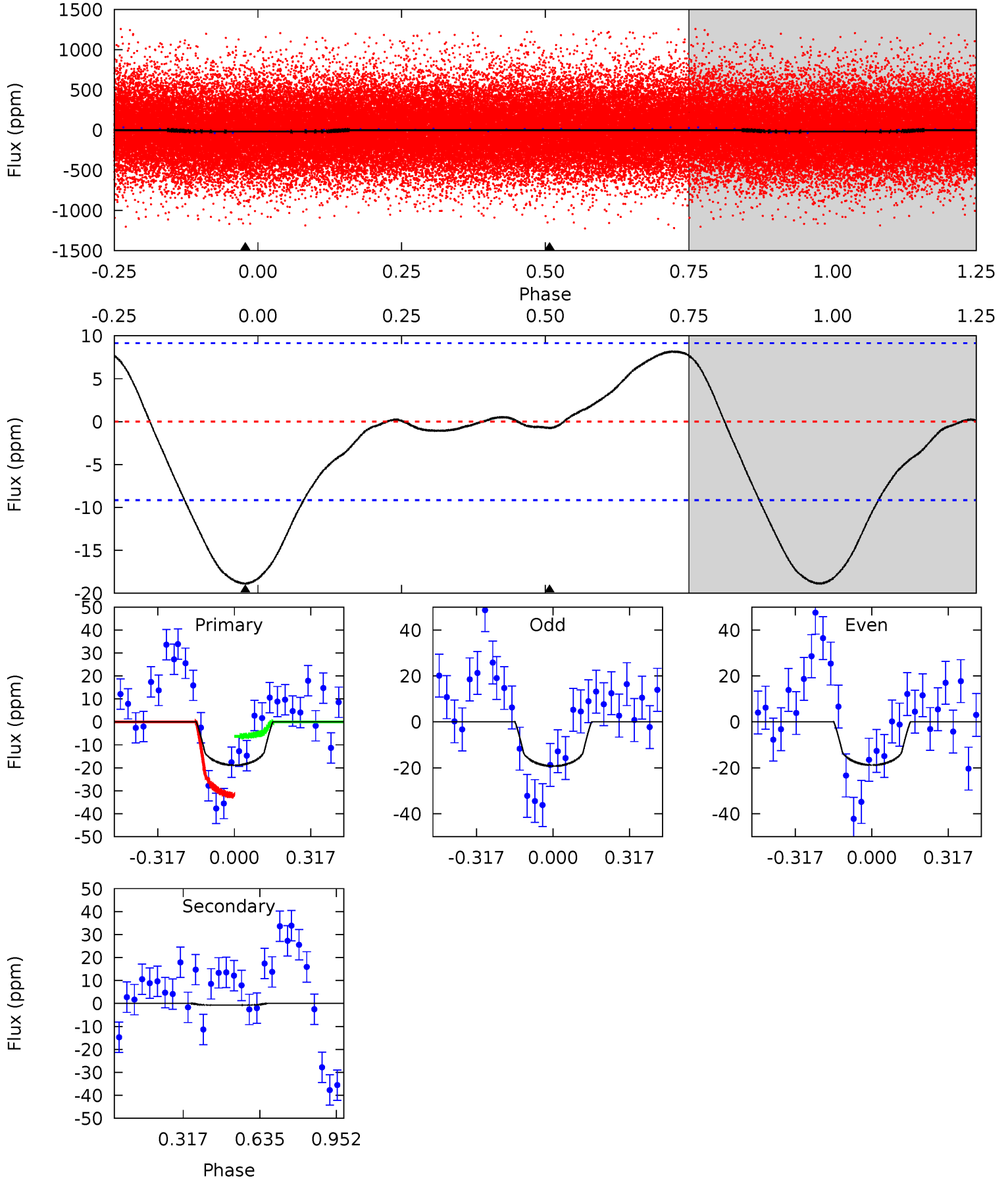
TCE 007115878-01 P= 0.566775 Days $T_0=131.851471$ (BKJD)



DV Model-Shift Uniqueness Test

007115878-01, P = 0.566803 Days, E = 131.261163 Days

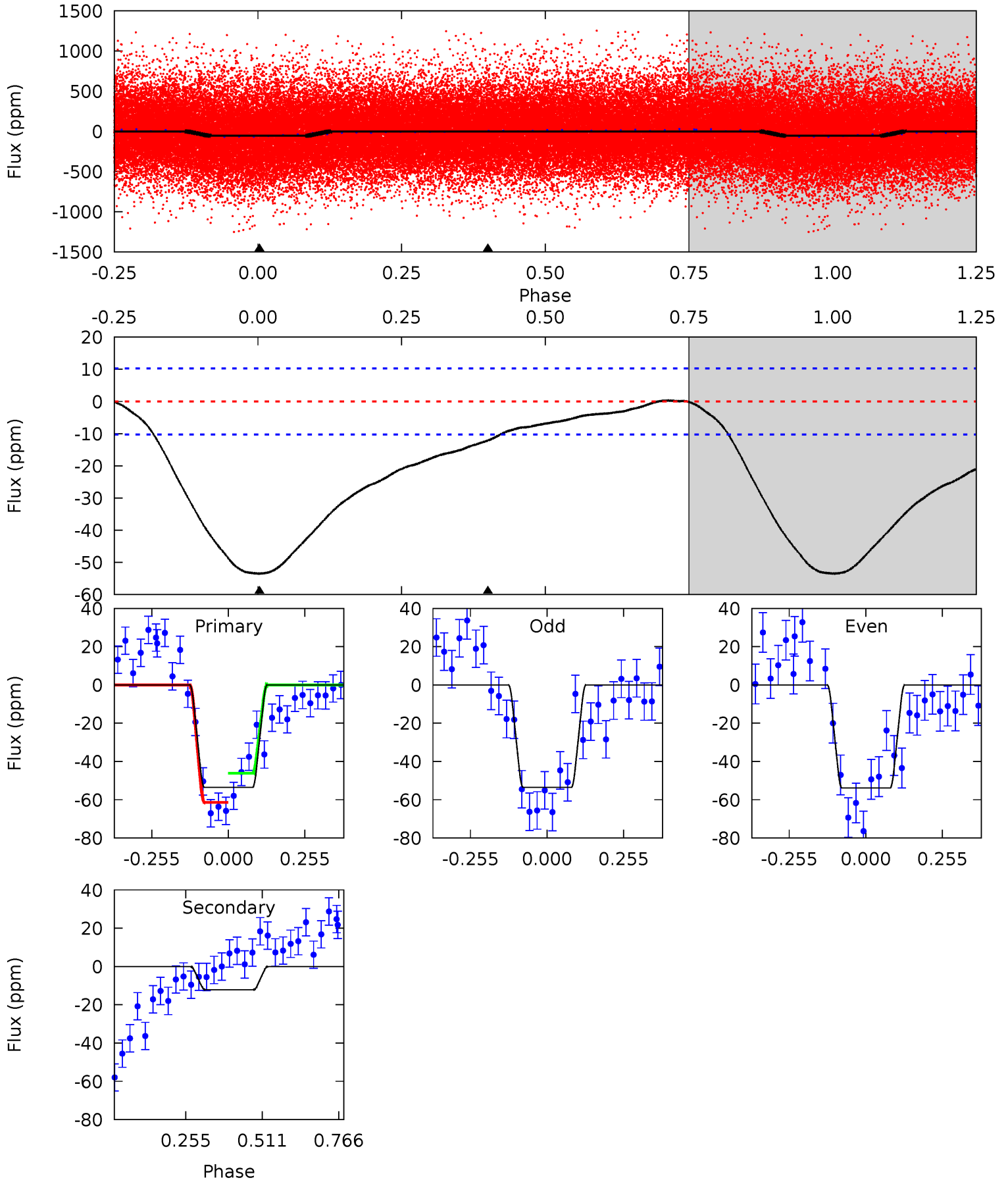
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 8.90 | 0.36 | 0 | 0 | 4.32 | 1.00 | 1.59 | 8.90 | 8.90 | 0.36 | 0.36 | 0.11 | 0.92 | 0.30 | 5.97 |



Alt Model-Shift Uniqueness Test

007115878-01, P = 0.566775 Days, E = 131.284696 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 22.8 | 5.16 | 0 | 0 | 4.36 | 1.14 | 0.36 | 22.8 | 22.8 | 5.16 | 5.16 | 0.07 | 0.91 | 0.01 | 3.28 |



Stellar Parameters For KIC 007115878

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6100^{+181}_{-200} | $4.358^{+0.128}_{-0.192}$ | $-0.200^{+0.250}_{-0.300}$ | $1.093^{+0.322}_{-0.174}$ | $0.993^{+0.153}_{-0.111}$ | $1.072^{+0.633}_{-0.540}$ |
| | +3%/-3% | +3%/-4% | +125%/-150% | +29%/-16% | +15%/-11% | +59%/-50% |
| 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 007115878-01 / KOI 6825.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|---------------------------|
| DV | -1 ± 2 | $0.70^{+0.48}_{-0.43}$ | 3426^{+263}_{-209} | -3056^{+7200}_{-674} | $0.131^{+1.265}_{-0.363}$ |
| Alt. | -12 ± 2 | $0.96^{+0.52}_{-0.46}$ | 3432^{+242}_{-197} | 4079^{+1462}_{-833} | $1.290^{+3.341}_{-0.756}$ |

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 $A_{obs} \gg 1.0$

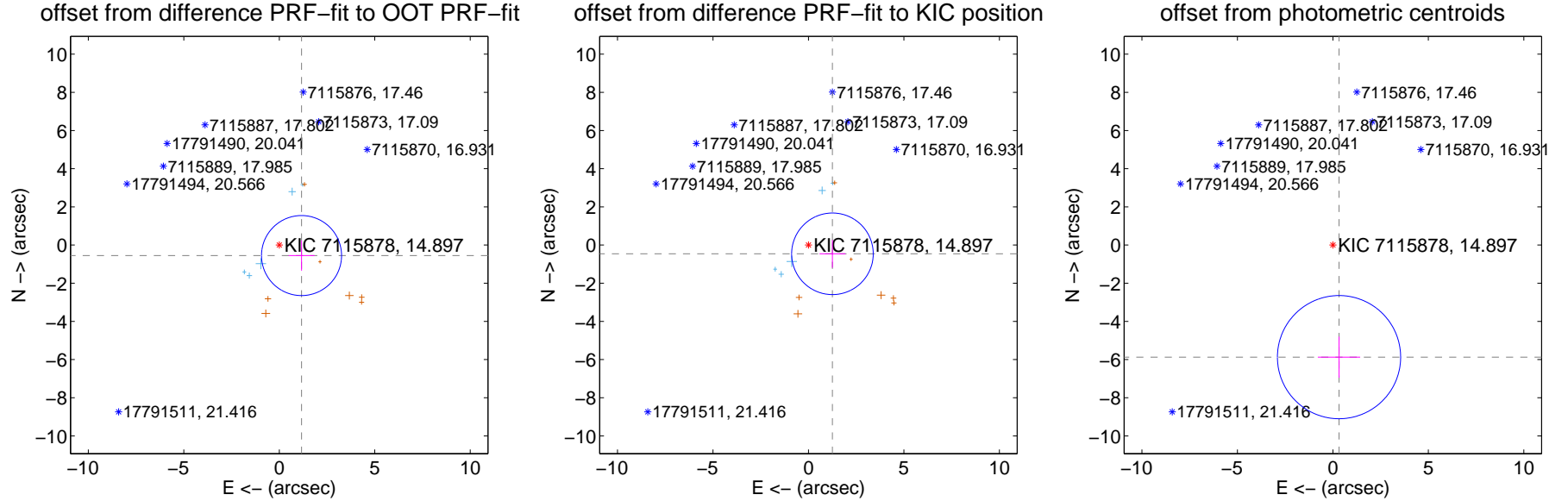
DV Centroid Data

Supplemental centroid analysis for 007115878-01. Kepler magnitude: 14.90. Transit SNR 9.31

There are 5 quarters with good PRF difference image offsets

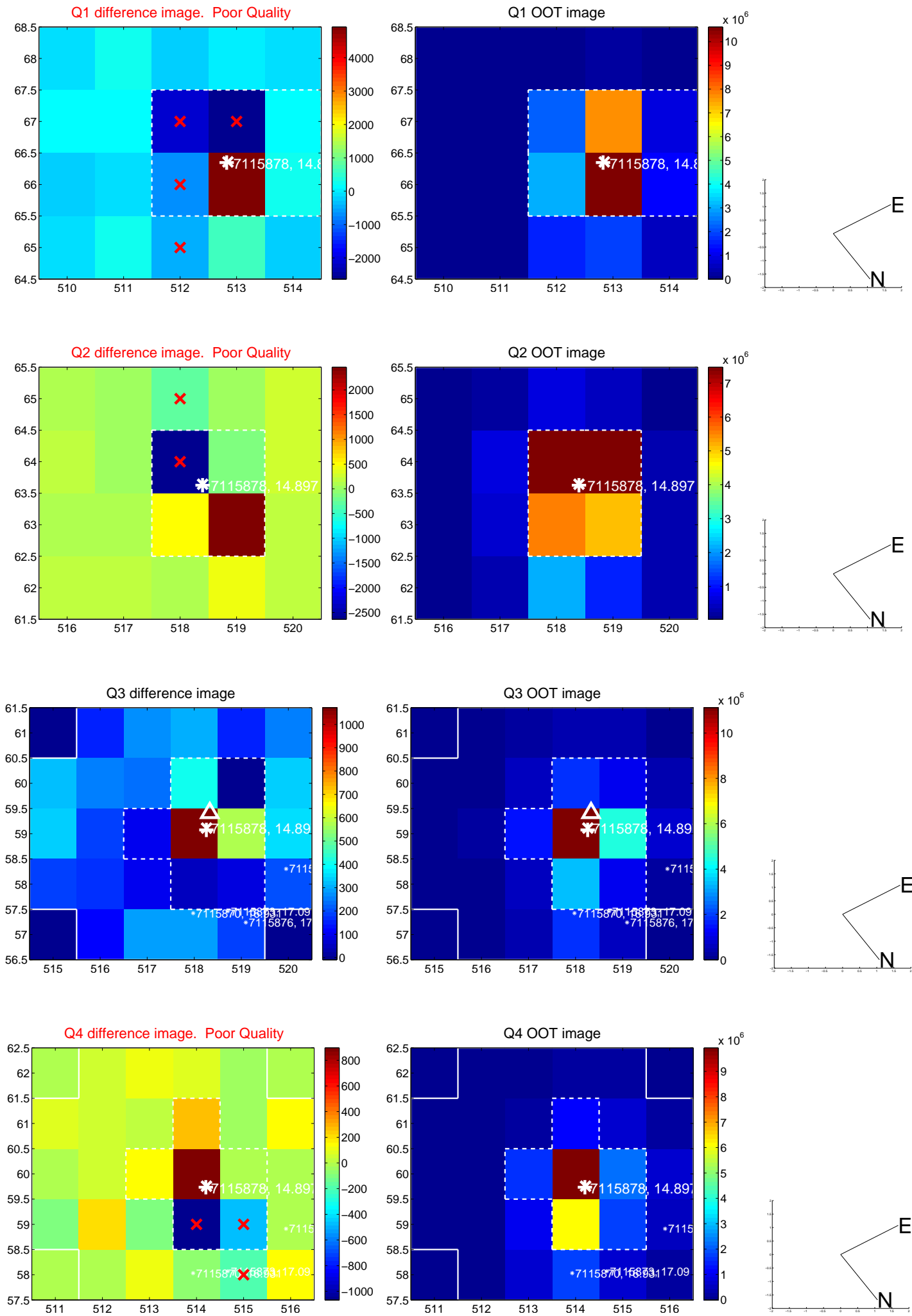
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 1.289 ± 0.699 | 1.84 | -1.166 ± 0.677 | -0.551 ± 0.790 |
| PRF-fit source offset from KIC position | 1.338 ± 0.712 | 1.88 | -1.256 ± 0.679 | -0.459 ± 0.727 |
| photometric centroid source offset | 5.88 ± 1.08 | 5.47 | -0.32 ± 1.11 | -5.87 ± 1.08 |

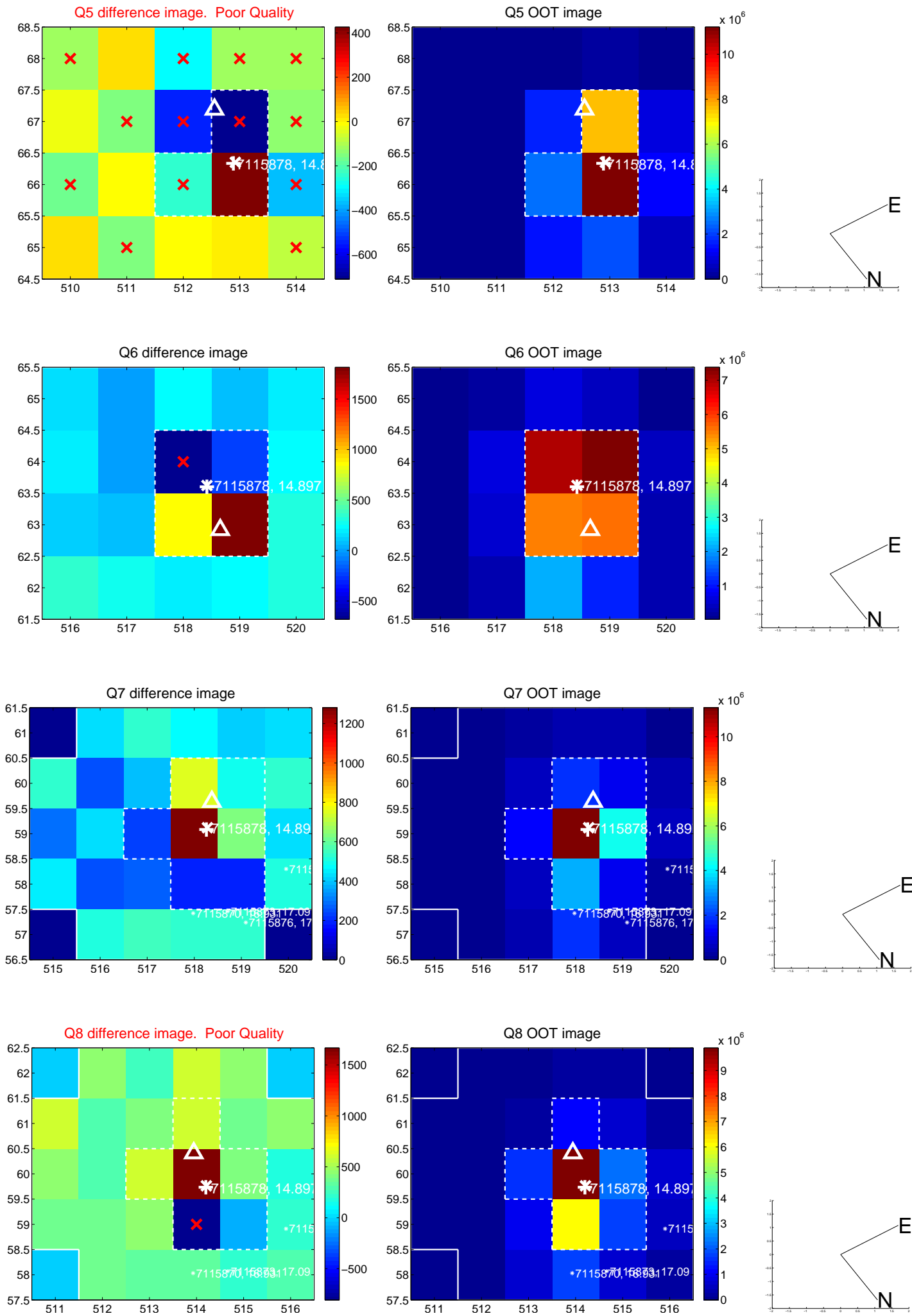


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

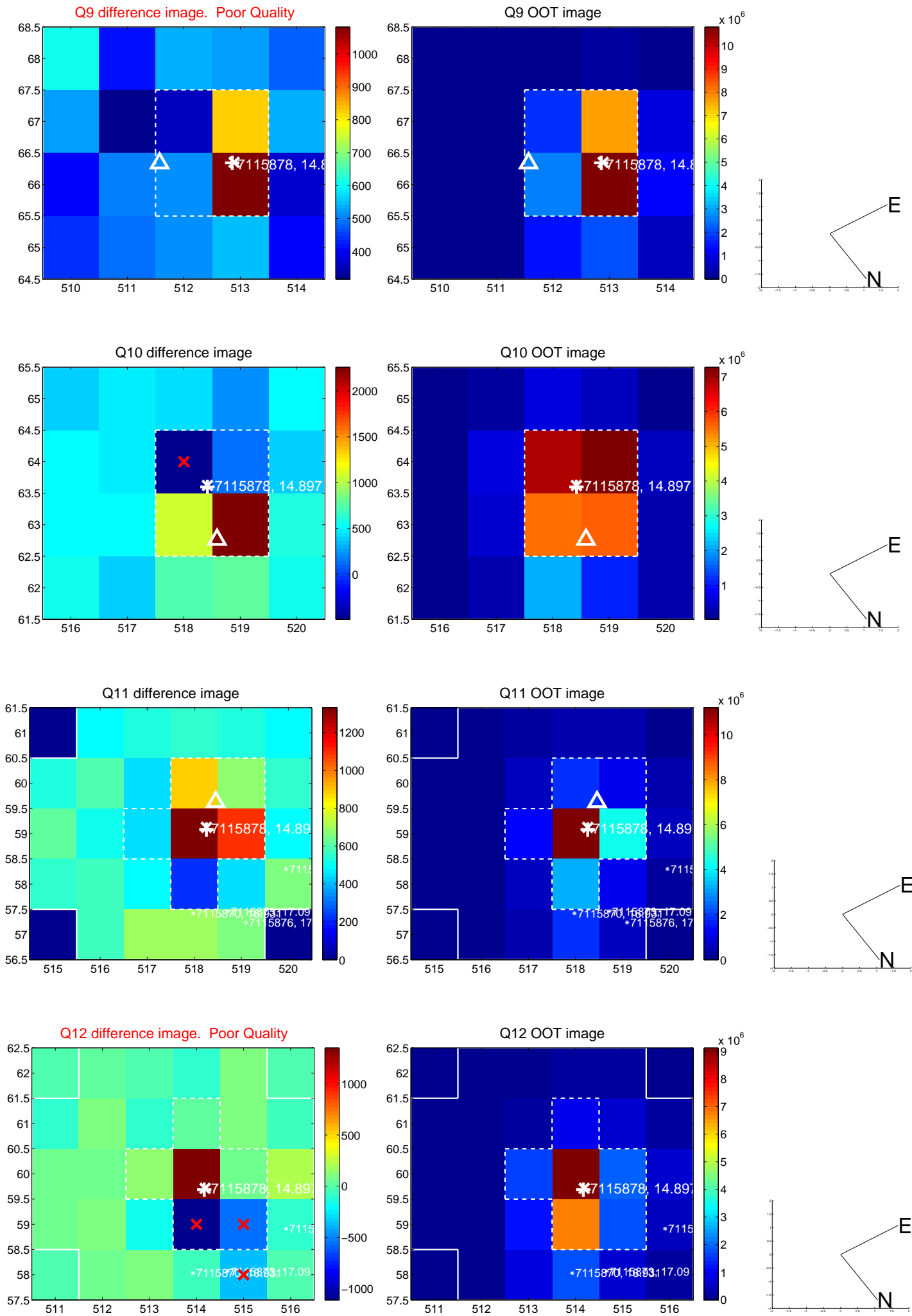
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



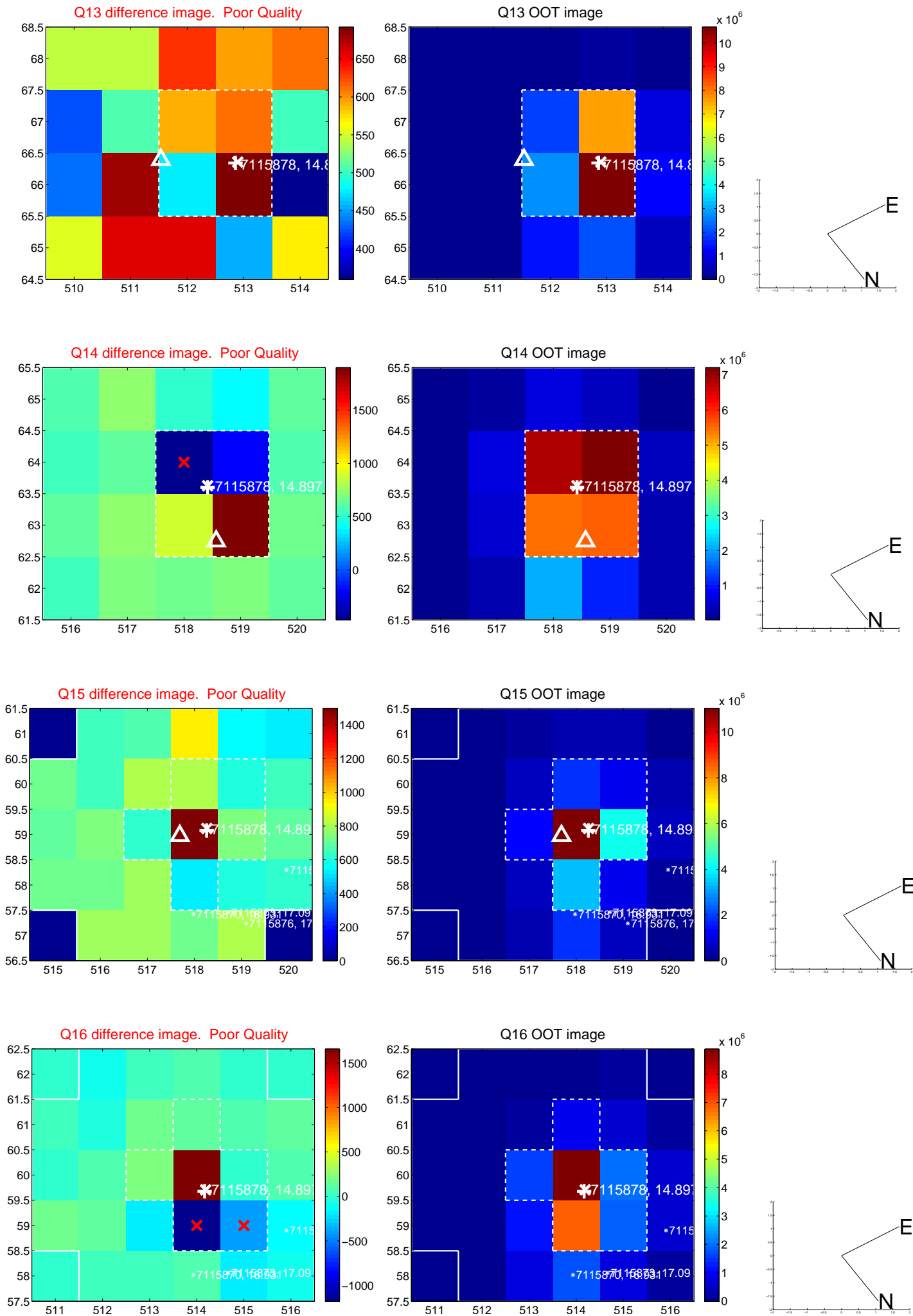
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



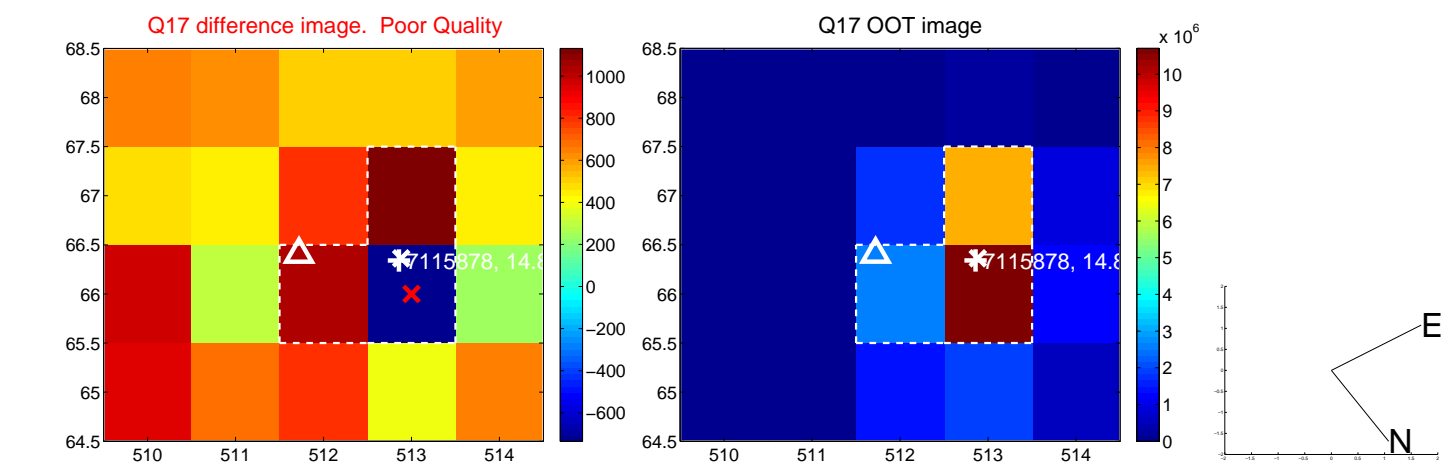
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



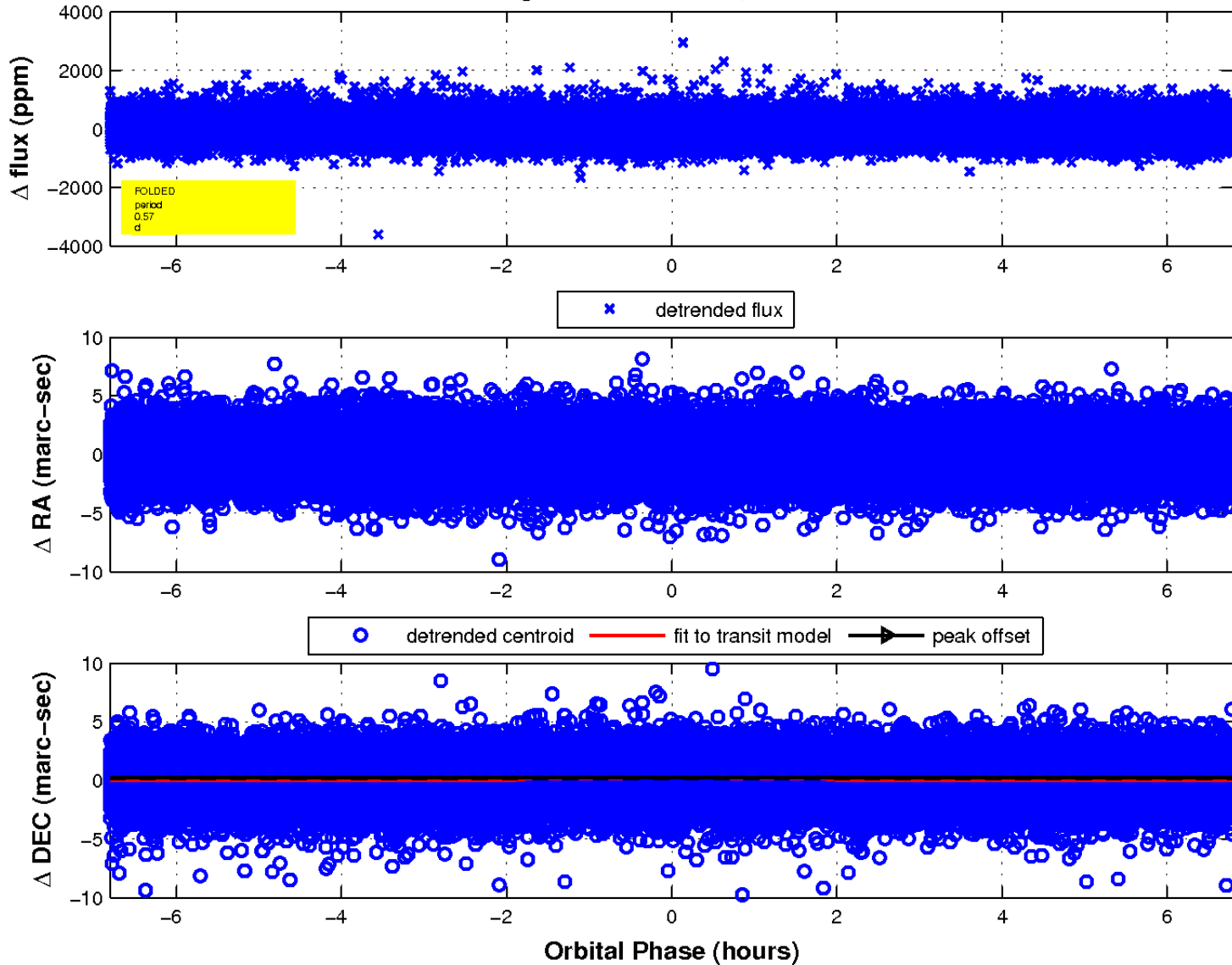
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

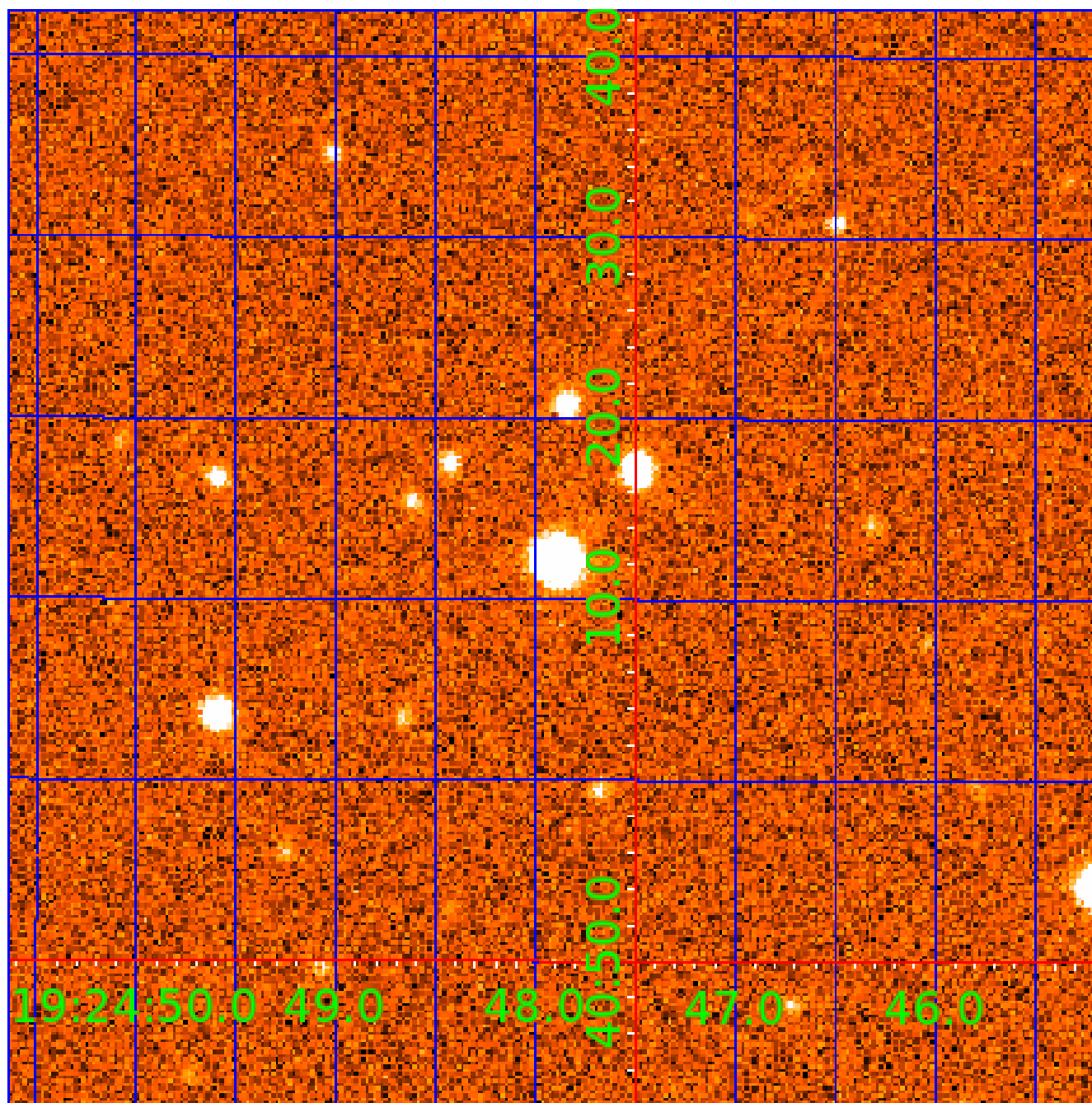


fluxWeightedCentroids, Planet 1 of 5



UKIRT Image

Declination



KIC 007115878

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007115878-01 | OBS | 6825.01 | 0.566803 | 131.827966 | 30.4 | 3.878 | 10.3 | 9.3 | 1.09 | 6100 | 0.64 | 8280.39 |
| 007115878-02 | OBS | No | 39.707479 | 161.748280 | 980.8 | 1.645 | 12.6 | 9.0 | 1.09 | 6100 | 3.74 | 28.67 |
| 007115878-03 | OBS | No | 71.472015 | 178.220481 | 1269.1 | 1.701 | 10.5 | 10.7 | 1.09 | 6100 | 4.08 | 13.10 |
| 007115878-04 | OBS | No | 50.891633 | 170.724411 | 1316.5 | 1.213 | 10.2 | 9.3 | 1.09 | 6100 | 3.99 | 20.59 |
| 007115878-05 | OBS | No | 39.030600 | 146.535997 | 1427.7 | 1.500 | 10.4 | -1.0 | 1.09 | 6100 | 4.14 | 29.34 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007115878-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 1 | LPP_DV—HALO_GHOST—EPHEM_MATCH |
| 007115878-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS |
| 007115878-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 007115878-04 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST |
| 007115878-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS |

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.

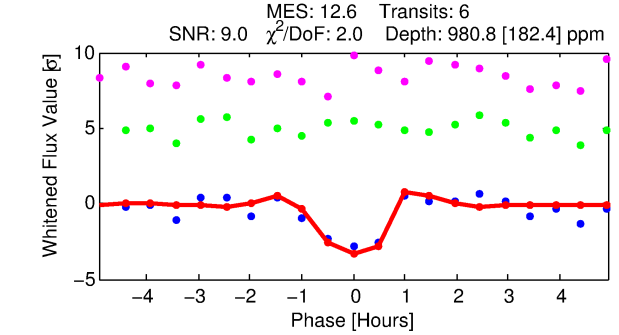
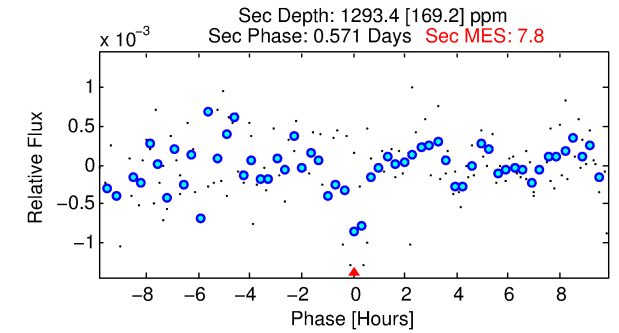
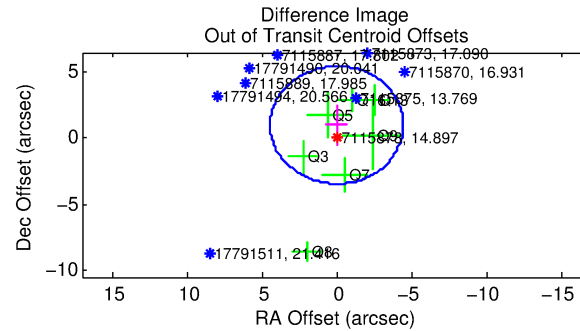
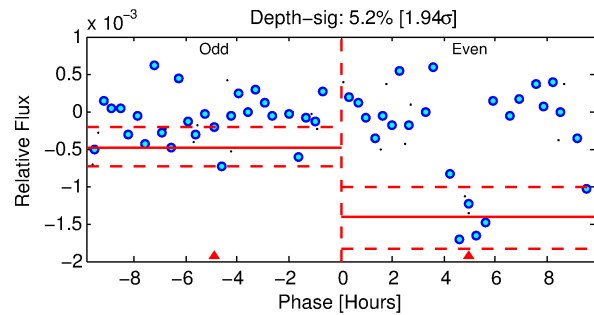
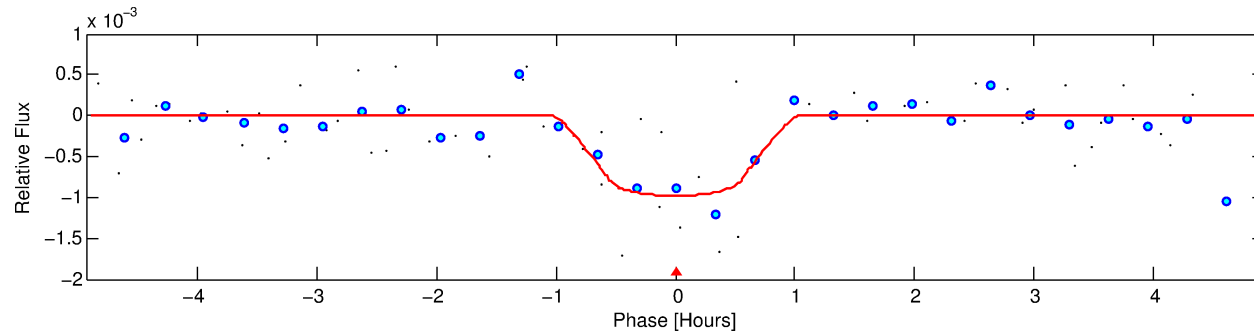
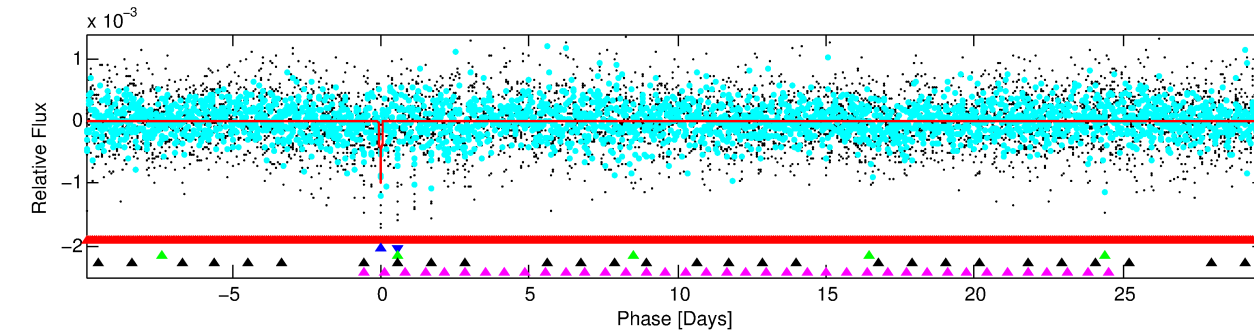
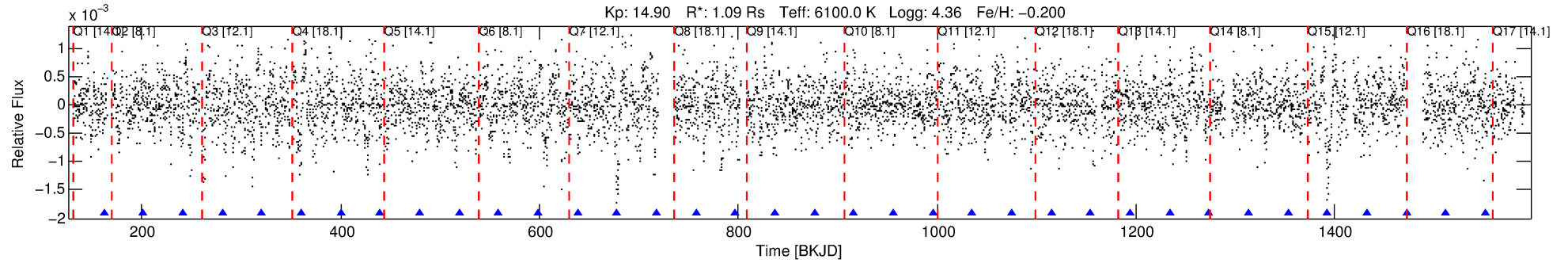
Ephemeris Match Information For 007115878-02

No Significant Match Found

DV One-Page Summary

KIC: 7115878 Candidate: 2 of 5 Period: 39.707 d

KOI: K06825 Corr: No Ephemeris Match



DV Fit Results:

Period = 39.70748 [0.00044] d
Epoch = 161.7483 [0.0105] BKJD
Rp/R* = 0.0314 [0.0370]
a/R* = 128.71 [732.56]
b = 0.76 [3.23]
Seff = 28.67 [10.83]
Teff = 590 [56] K
Rp = 3.74 [4.55] Re
a = 0.2273 [0.0558] AU
Ag = 2629.27 [6284.11] [0.42 σ]
Teffp = 6533 [3866] K [1.54 σ]

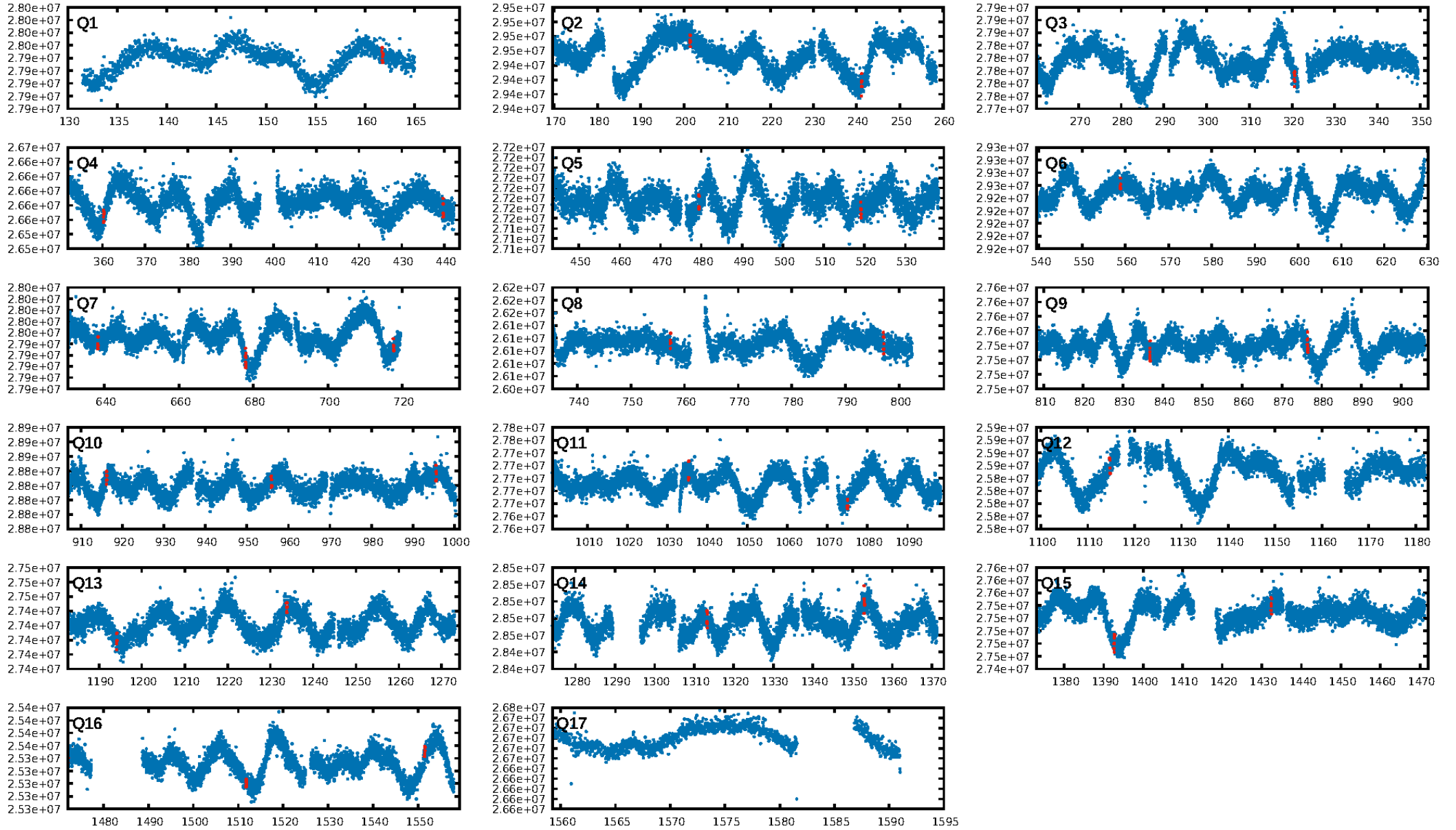
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.30 σ]
LongPeriod-sig: 100.0% [131.34 σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 82.7%
Bootstrap-pfa: 5.33e-19
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 2.609
Centroid-sig: N/A
Centroid-so: 0.192 arcsec [0.41 σ]
OotOffset-rm: 0.998 arcsec [0.67 σ]
KicOffset-rm: 1.048 arcsec [0.68 σ]
OotOffset-st: 0/2/2/3 [7]
KicOffset-st: 0/2/2/3 [7]
DiffImageQuality-fgm: 0.14 [1/7]
DiffImageOverlap-fno: 0.00 [0/16]

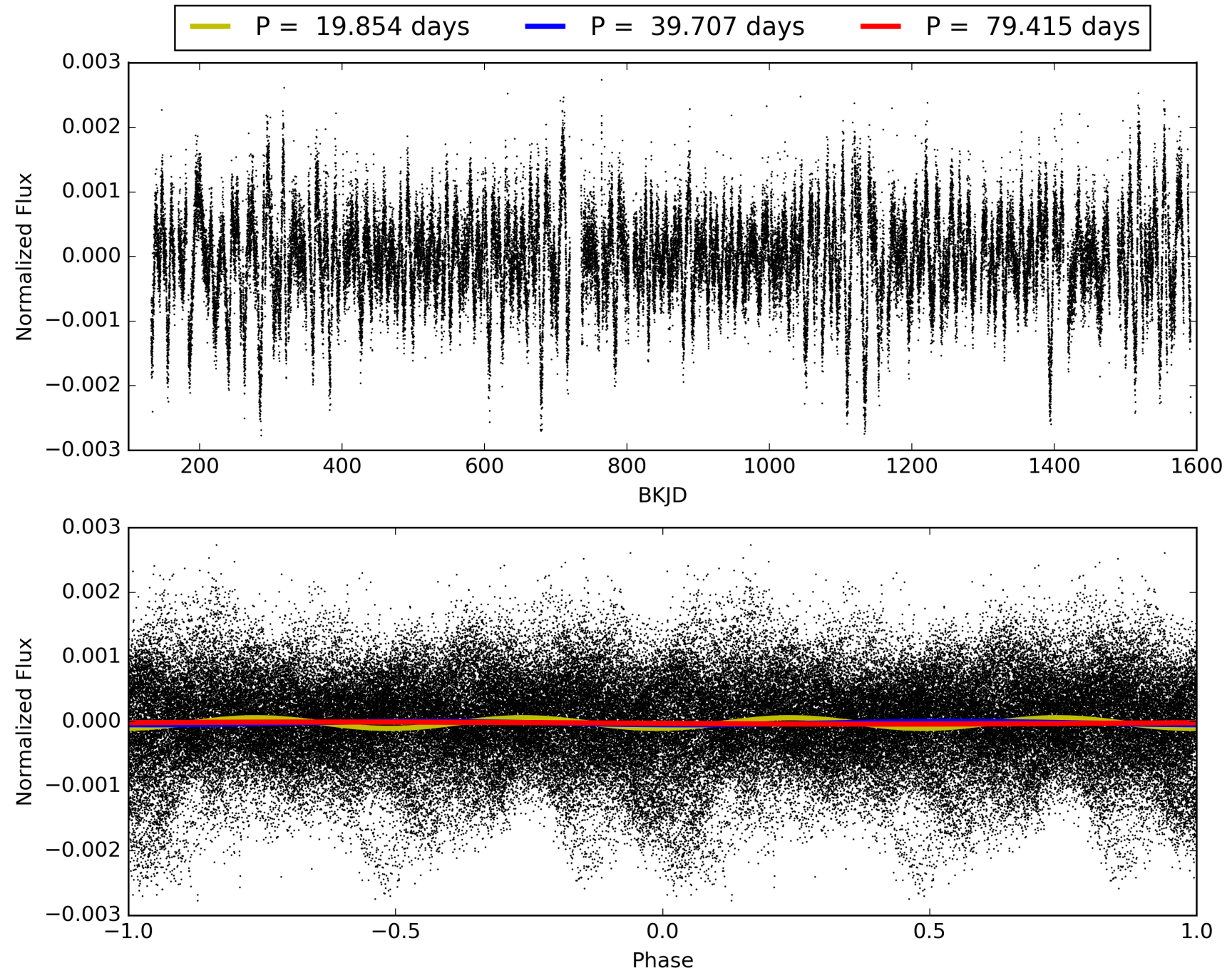
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:33:22 Z

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

TCE 007115878-02, PDC Light Curves

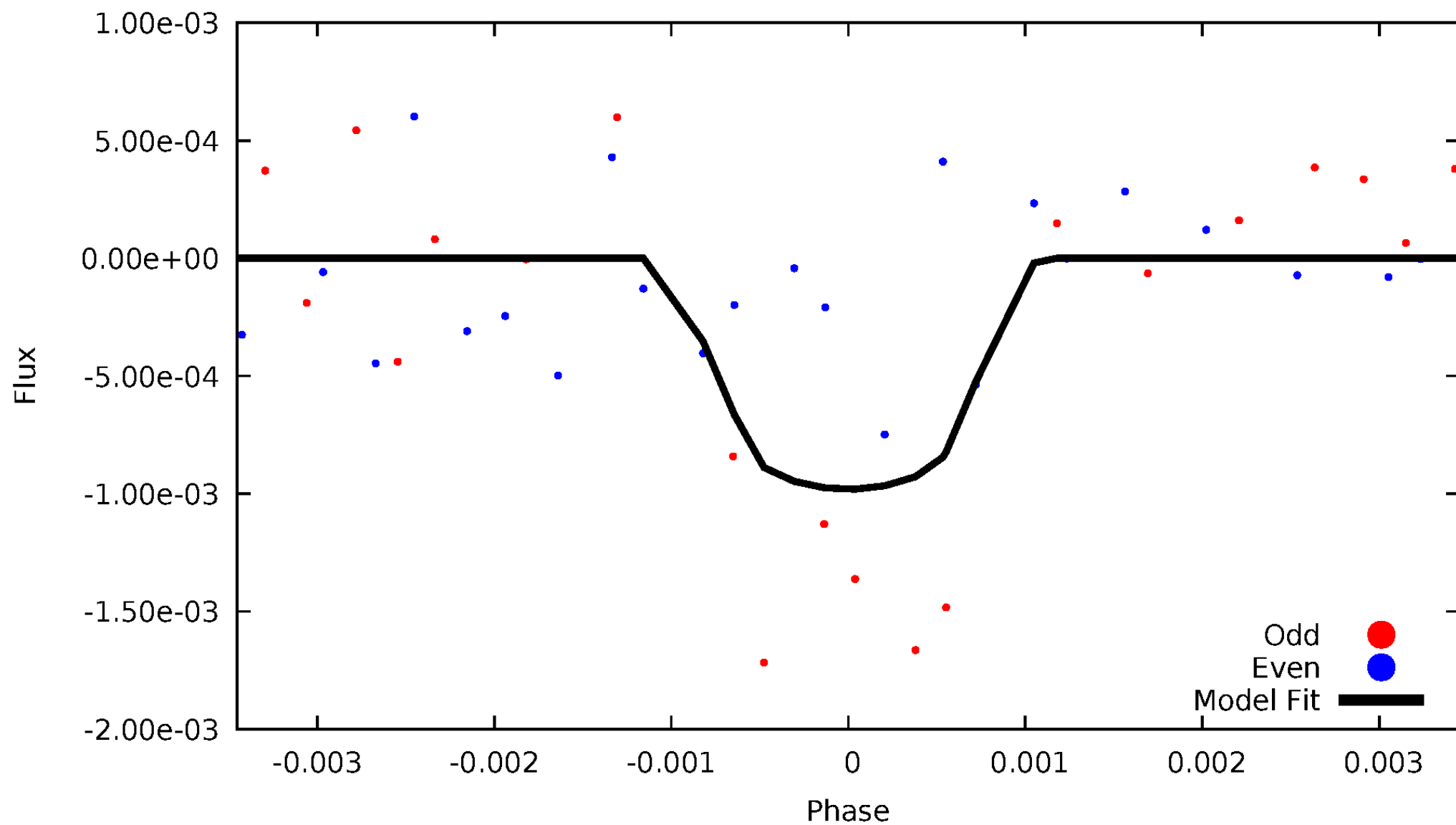


TCE 007115878-02



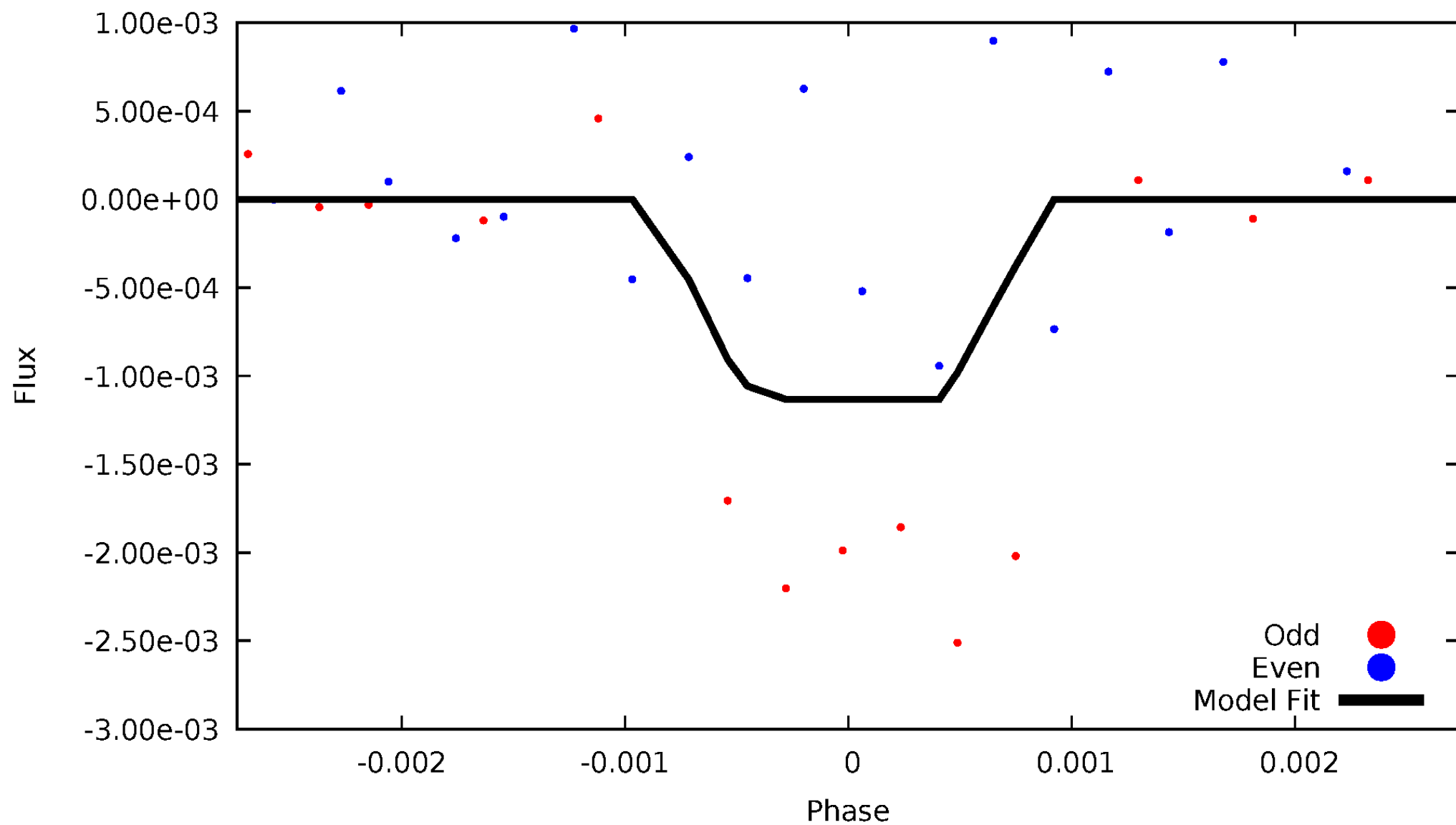
DV Odd/Even

TCE 007115878-02



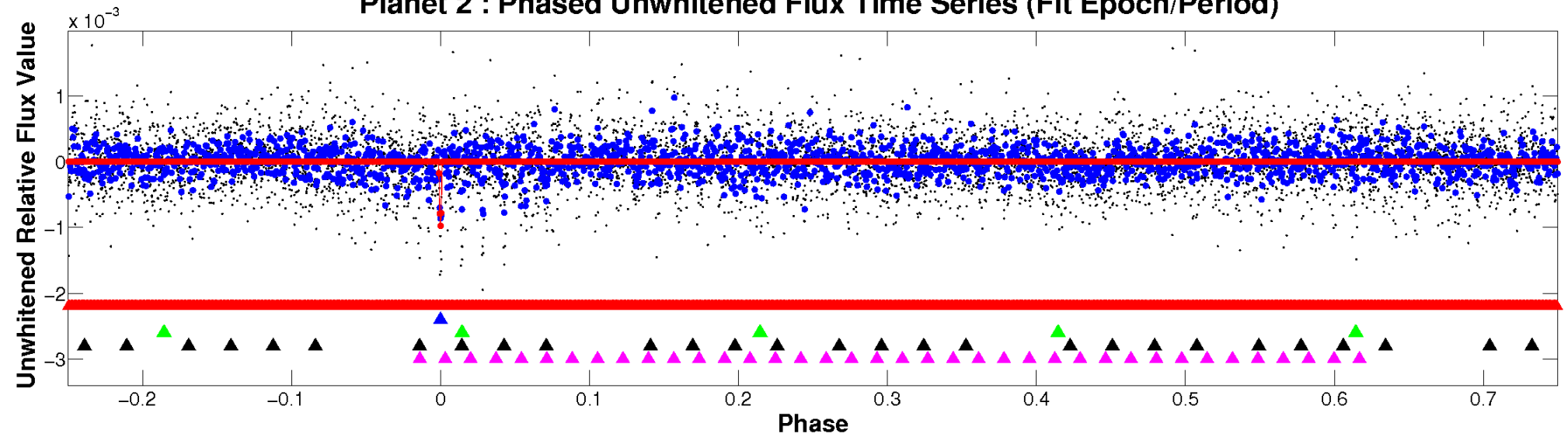
ALT Odd/Even

TCE 007115878-02

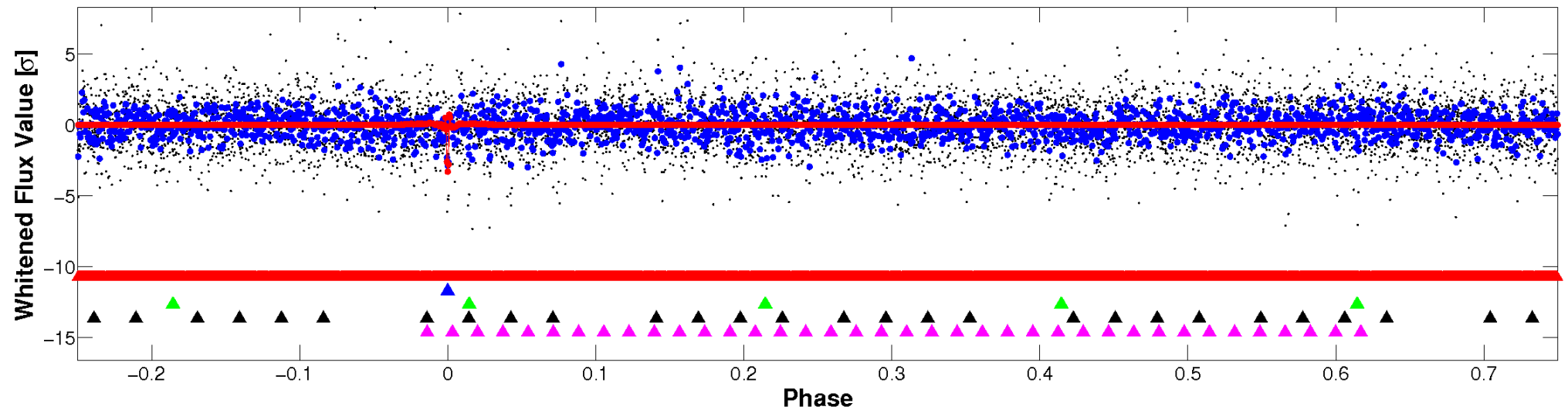


Non-Whitened Vs. Whitened Light Curve

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

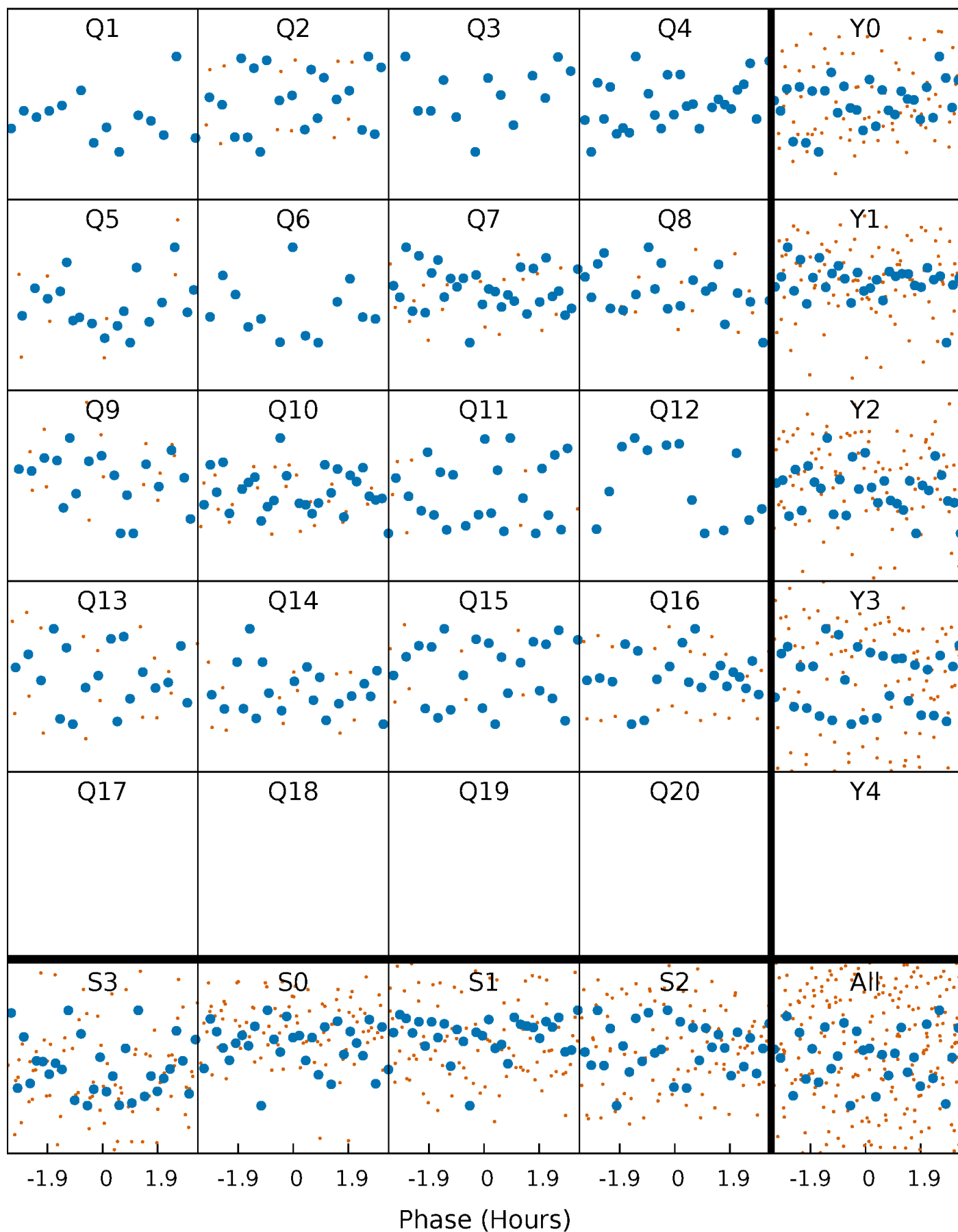


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



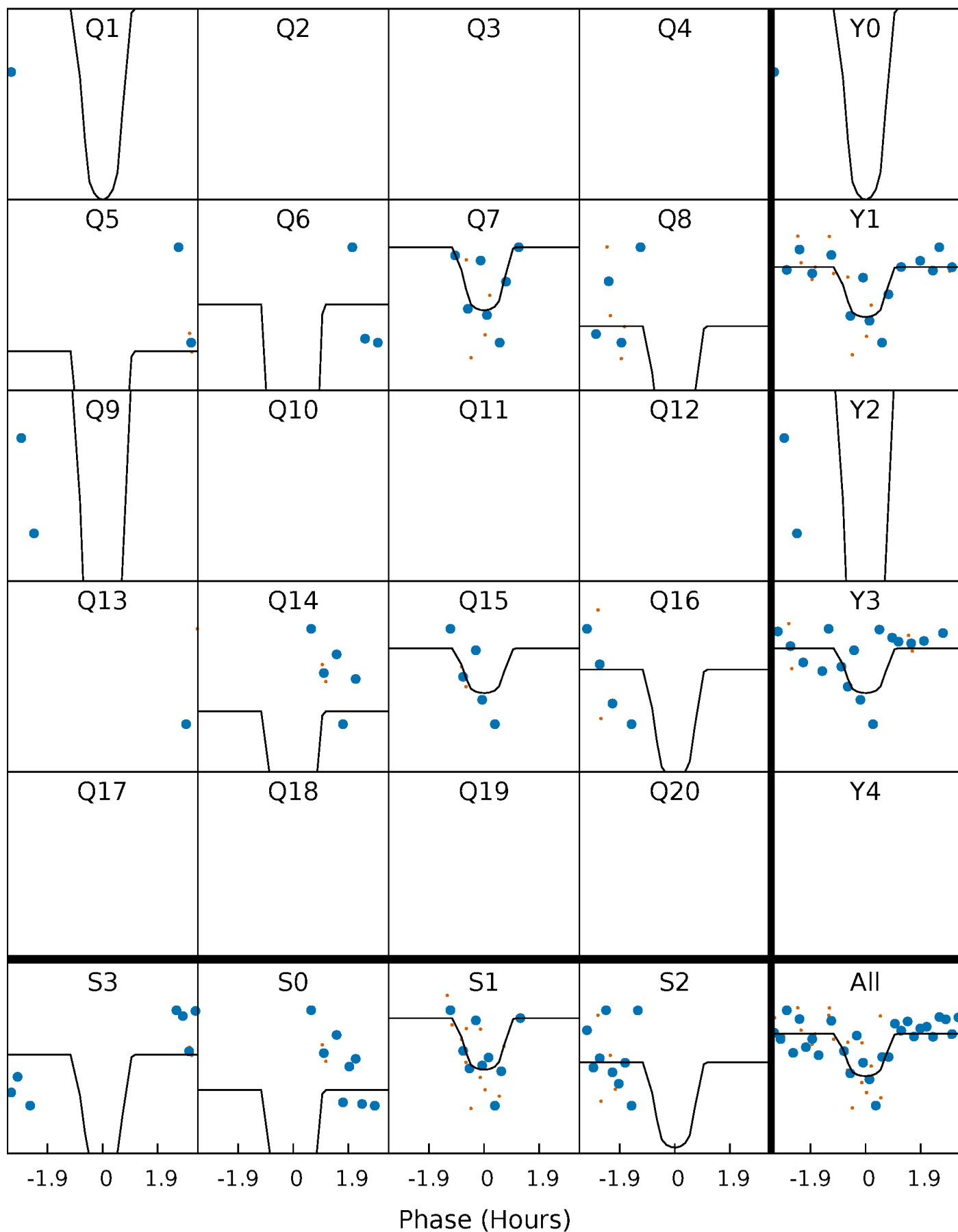
PDC Quarter-Phased Transit Curves

TCE 007115878-02 P= 39.707479 Days $T_0=161.748280$ (BKJD)



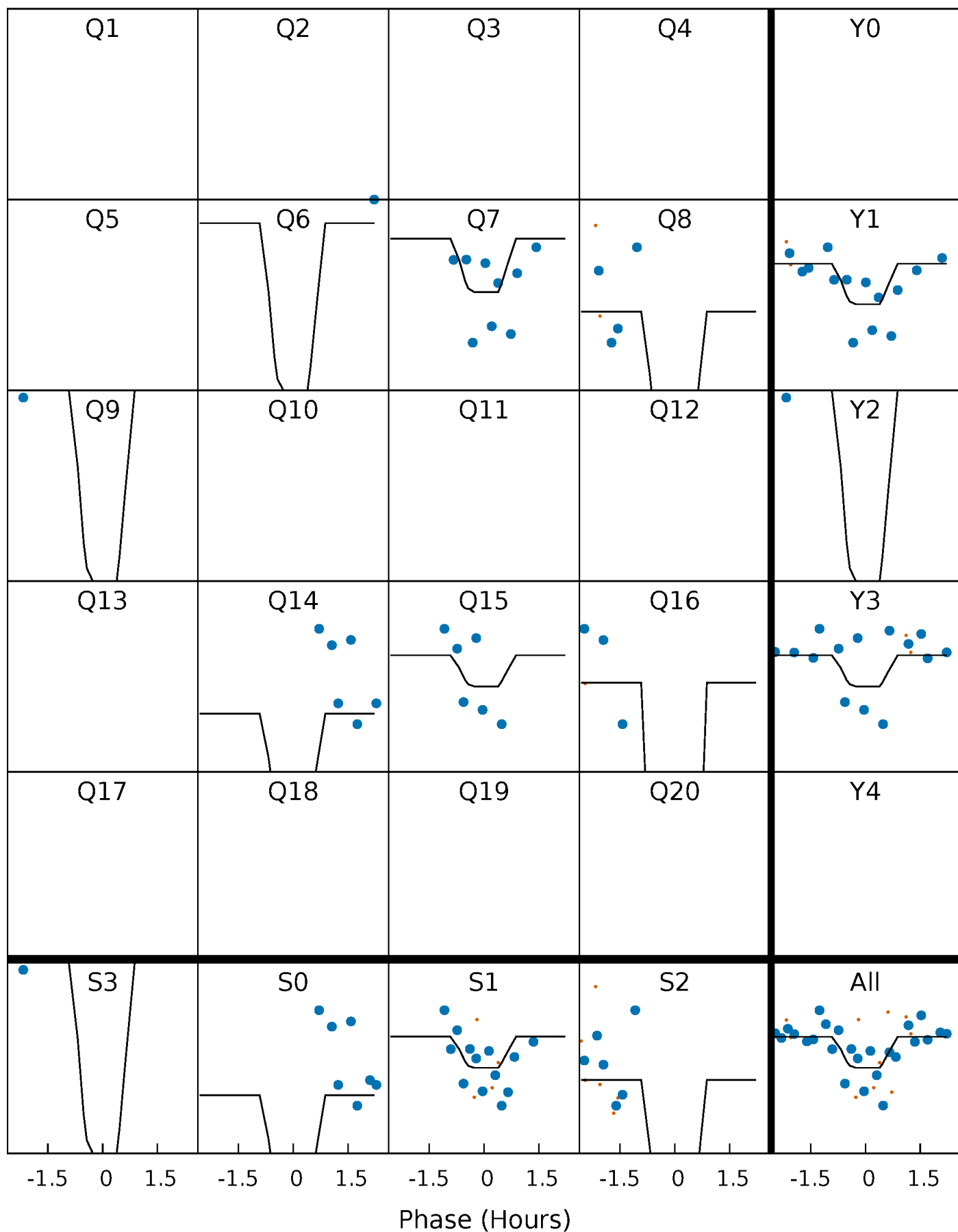
DV Quarter-Phased Transit Curves

TCE 007115878-02 P= 39.707479 Days $T_0=161.748280$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

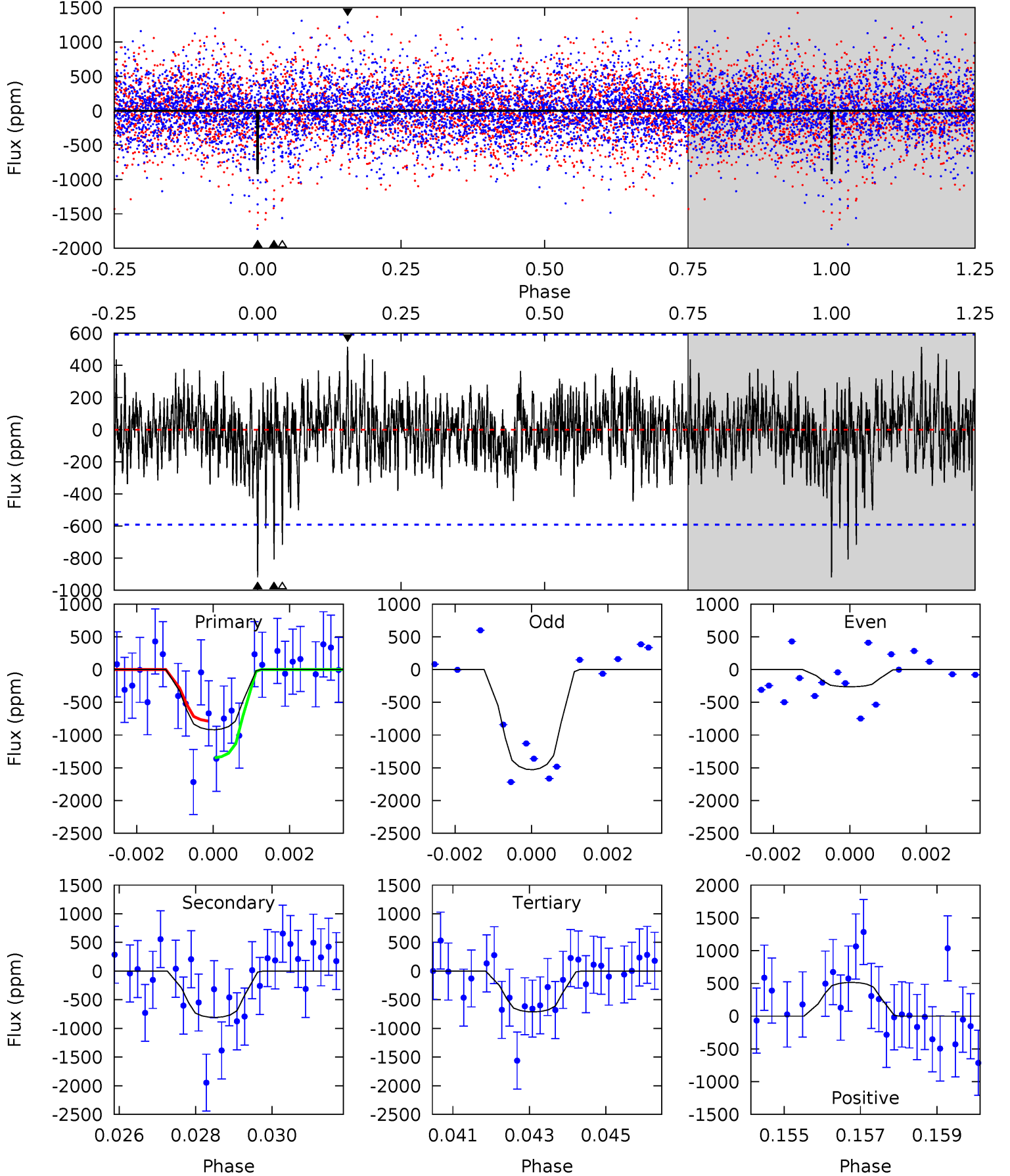
TCE 007115878-02 P= 39.707668 Days $T_0=161.738021$ (BKJD)



DV Model-Shift Uniqueness Test

007115878-02, P = 39.707479 Days, E = 122.040801 Days

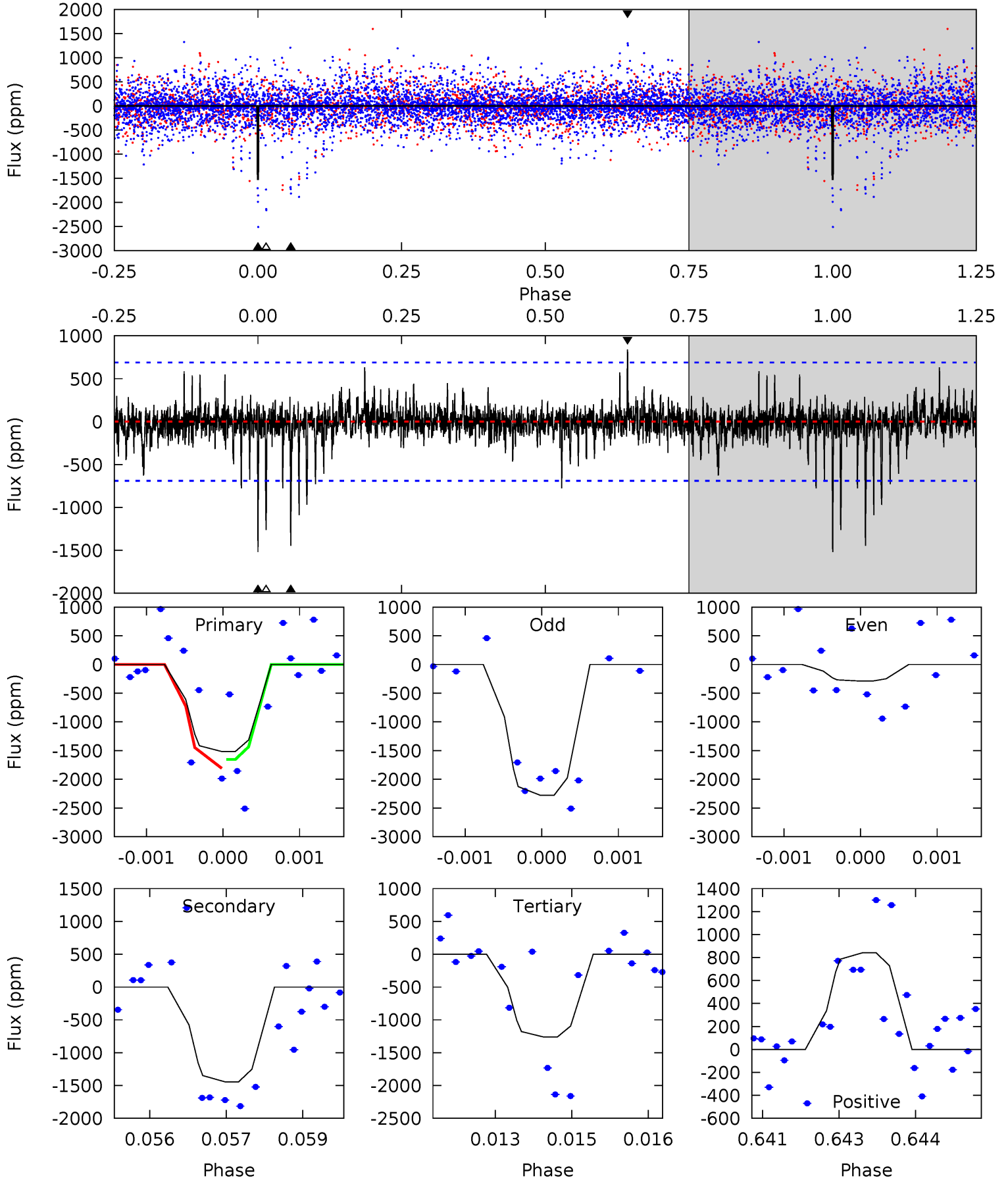
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 8.30 | 7.30 | 6.43 | 4.65 | 5.34 | 3.11 | 1.35 | 1.87 | 3.65 | 0.87 | 2.65 | 5.69 | 1.20 | 0.36 | 2.43 |



Alt Model-Shift Uniqueness Test

007115878-02, P = 39.707668 Days, E = 122.030353 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.8 | 11.3 | 9.84 | 6.56 | 5.38 | 3.18 | 1.12 | 1.99 | 5.27 | 1.43 | 4.71 | 8.64 | 0.81 | 0.36 | 0.55 |



Stellar Parameters For KIC 007115878

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6100^{+181}_{-200} | $4.358^{+0.128}_{-0.192}$ | $-0.200^{+0.250}_{-0.300}$ | $1.093^{+0.322}_{-0.174}$ | $0.993^{+0.153}_{-0.111}$ | $1.072^{+0.633}_{-0.540}$ |
| | +3%/-3% | +3%/-4% | +125%/-150% | +29%/-16% | +15%/-11% | +59%/-50% |
| 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 007115878-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|------------------------|-------------------|------------------------|-------------------------|
| DV | -808 ± 111 | $4.86^{+4.10}_{-3.04}$ | 827^{+59}_{-44} | 5173^{+3829}_{-1101} | 973^{+5764}_{-692} |
| Alt. | -1445 ± 128 | $5.18^{+4.29}_{-3.30}$ | 830^{+57}_{-48} | 5763^{+4774}_{-1267} | 1542^{+10595}_{-1078} |

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

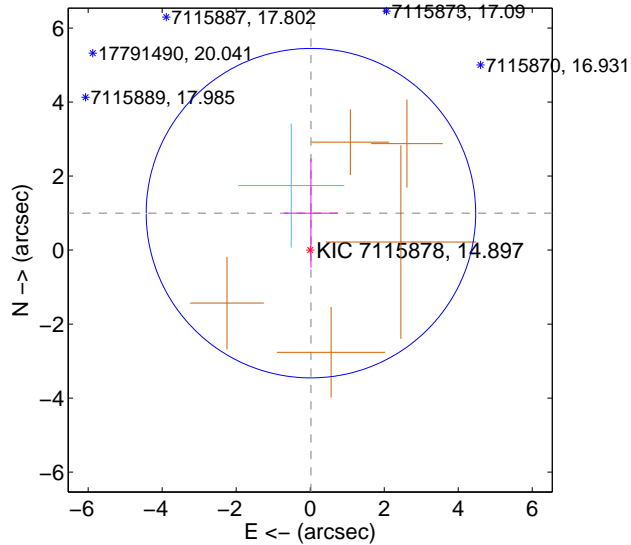
Supplemental centroid analysis for 007115878-02. Kepler magnitude: 14.90. Transit SNR 8.96

There are 1 quarters with good PRF difference image offsets

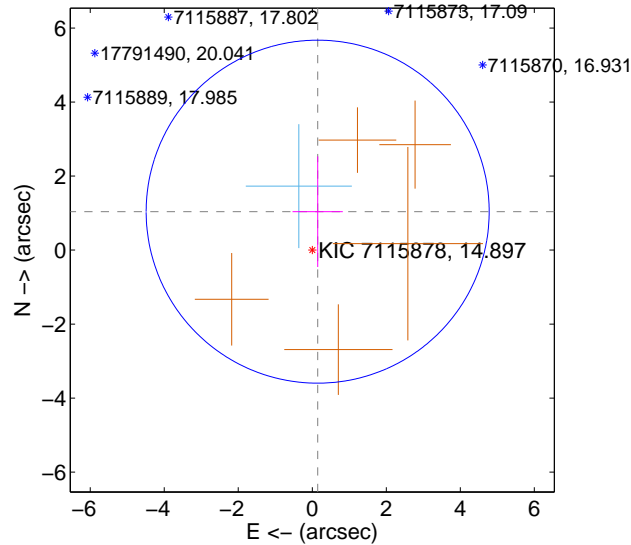
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.998 ± 1.484 | 0.67 | -0.020 ± 0.729 | 0.998 ± 1.475 |
| PRF-fit source offset from KIC position | 1.048 ± 1.545 | 0.68 | -0.146 ± 0.680 | 1.038 ± 1.494 |
| photometric centroid source offset | 0.19 ± 0.47 | 0.41 | -0.06 ± 0.49 | 0.18 ± 0.47 |

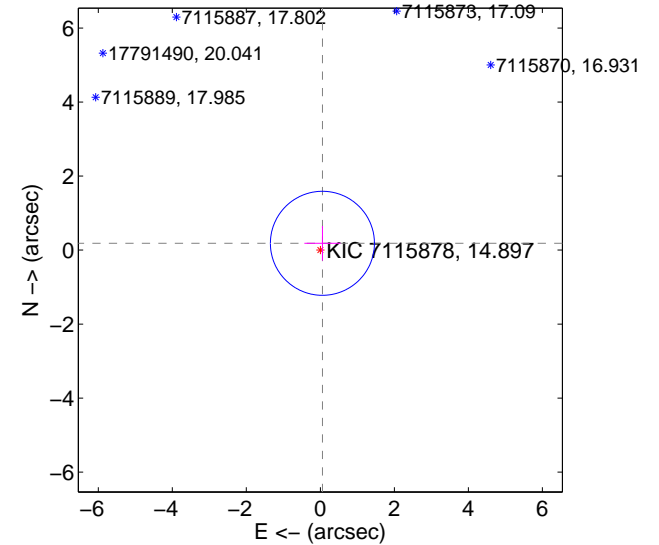
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

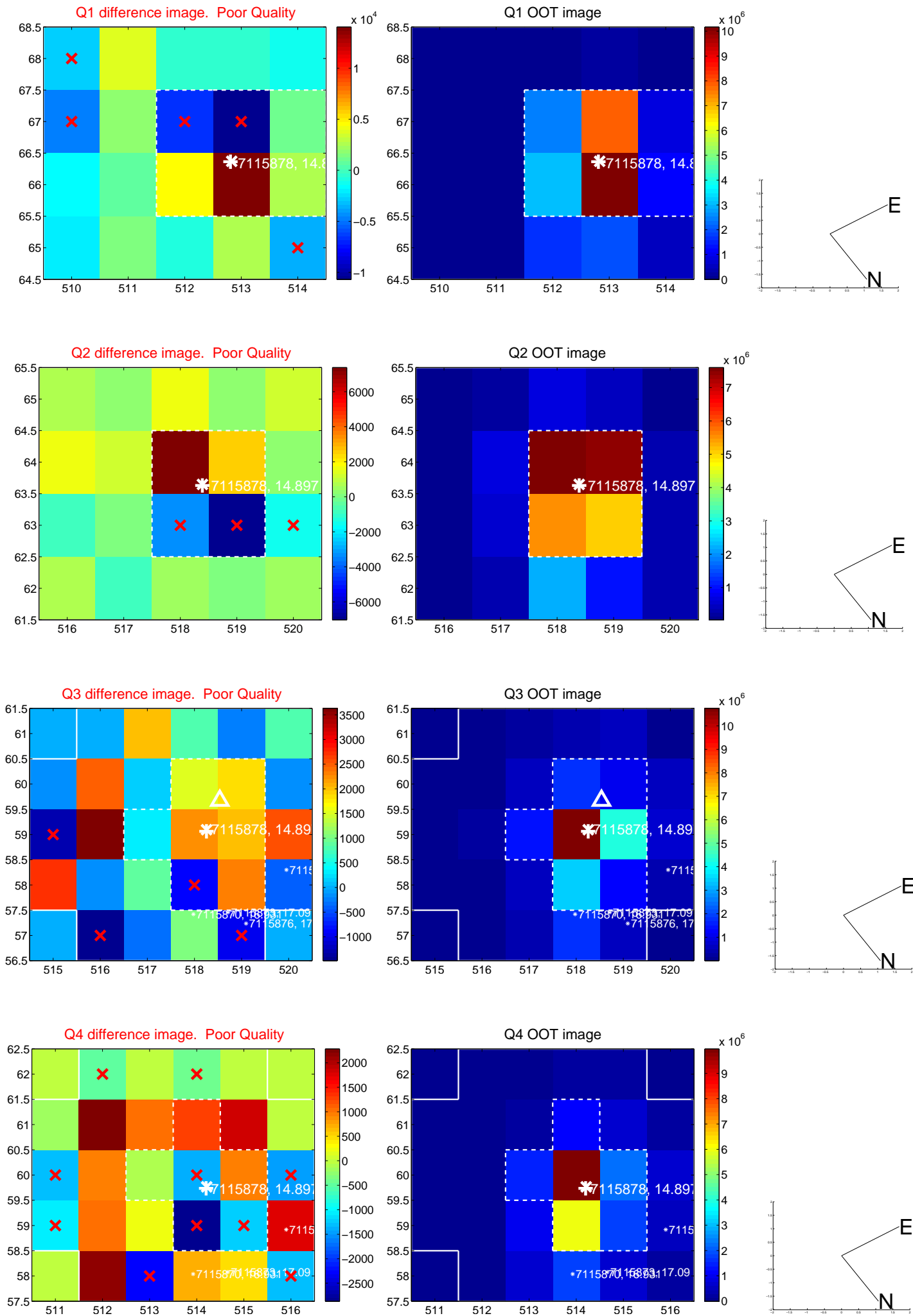


offset from photometric centroids

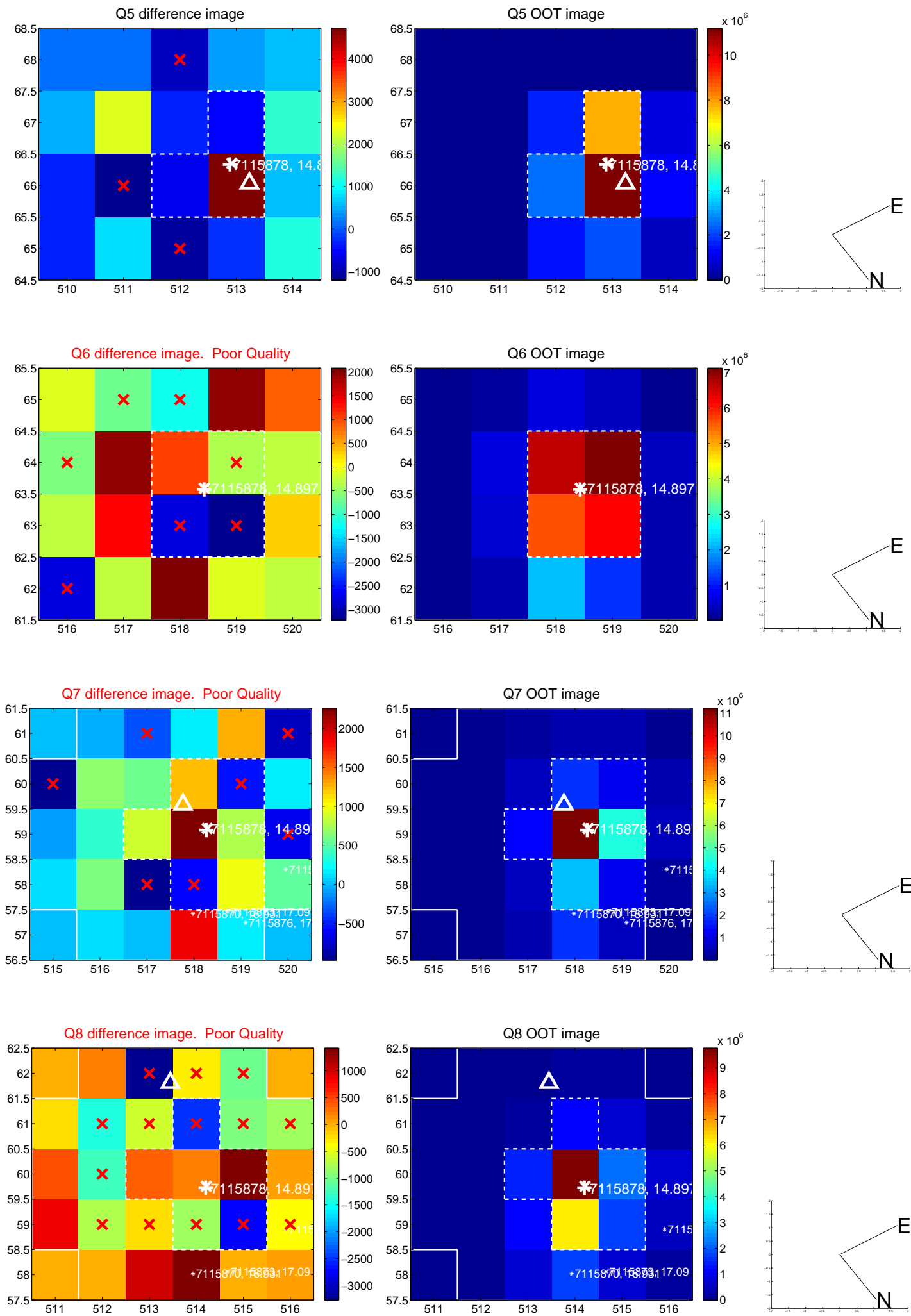


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

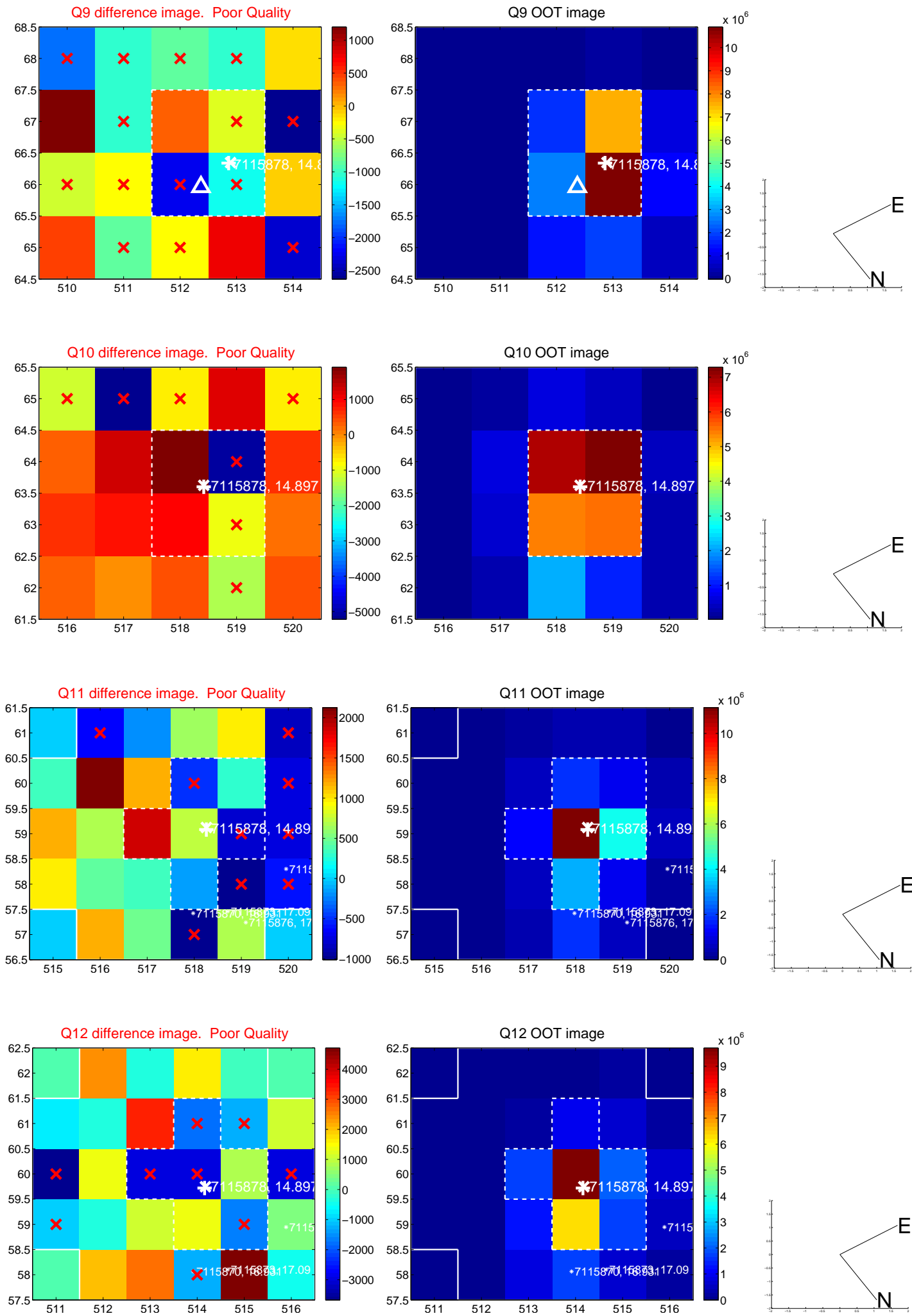
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



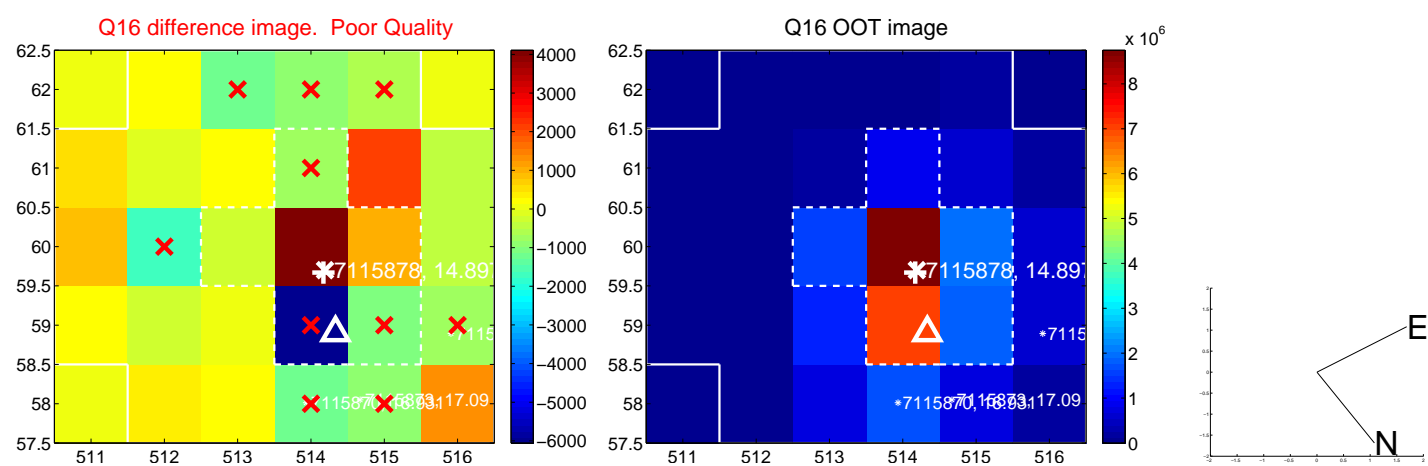
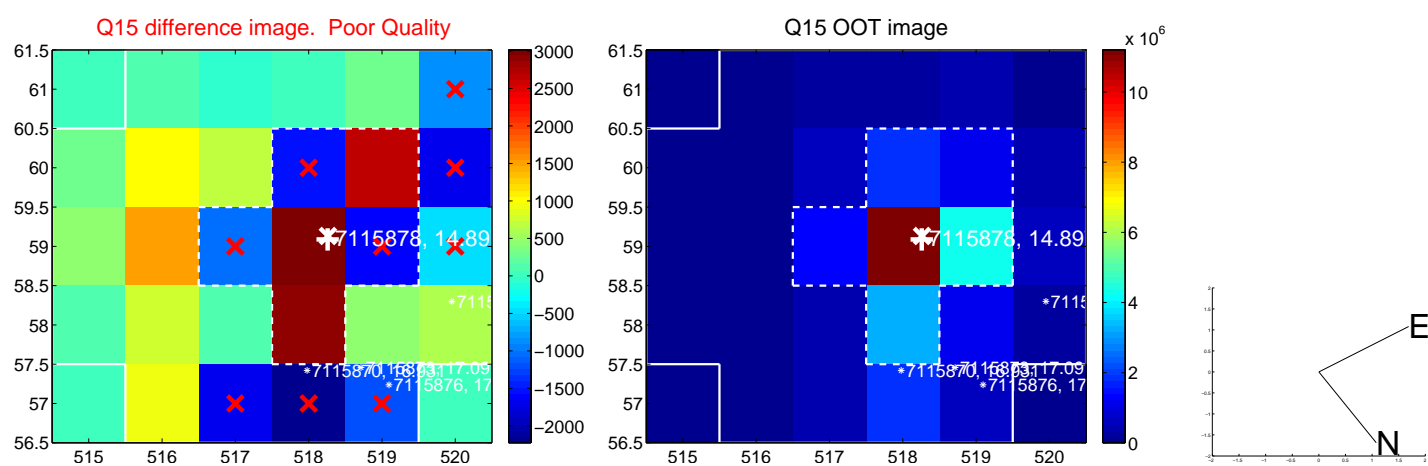
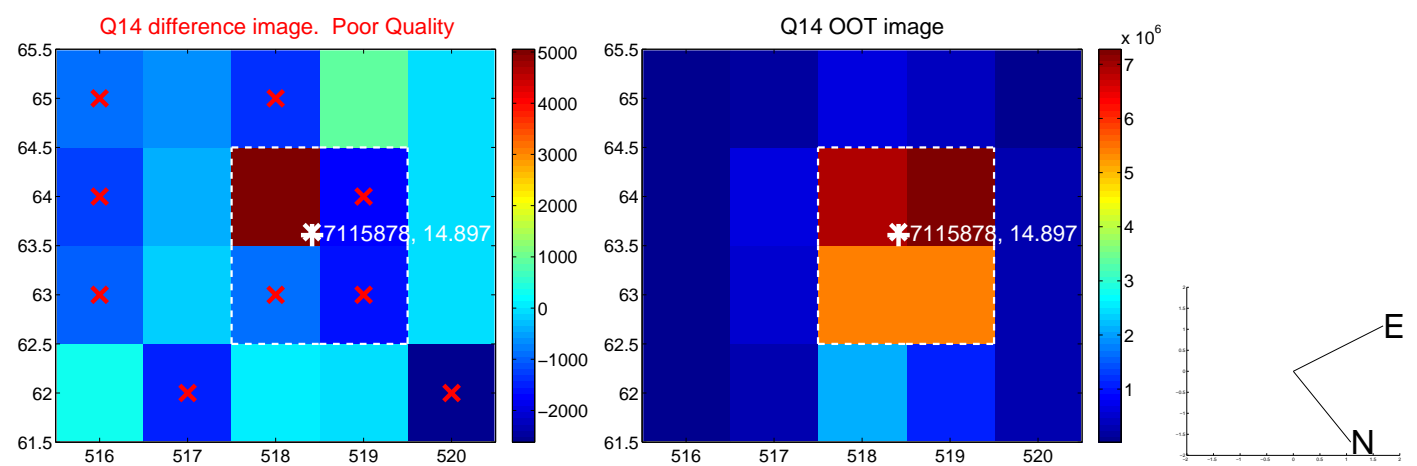
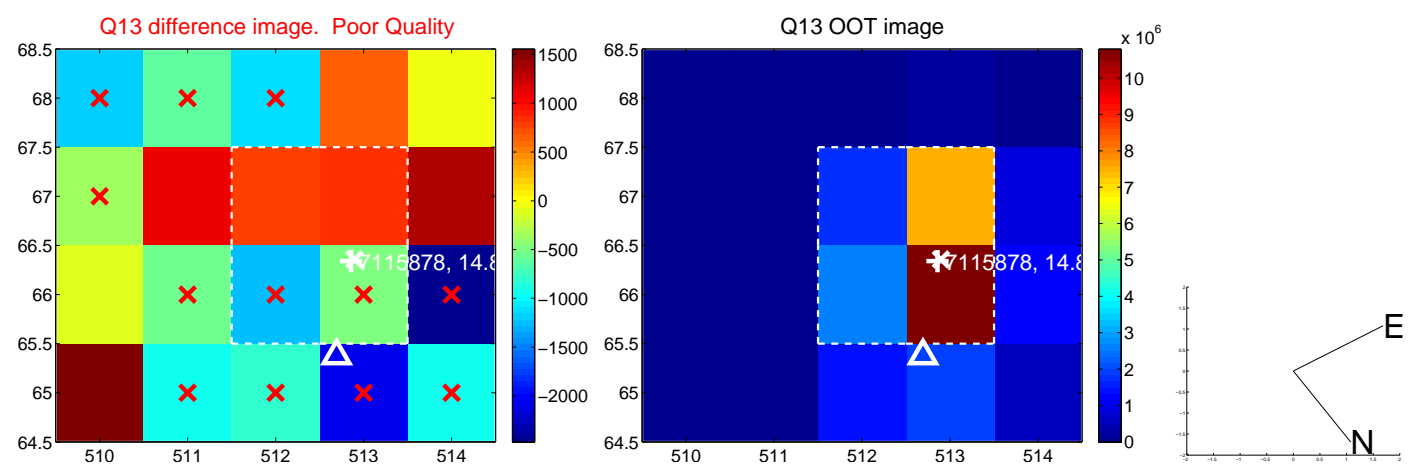
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



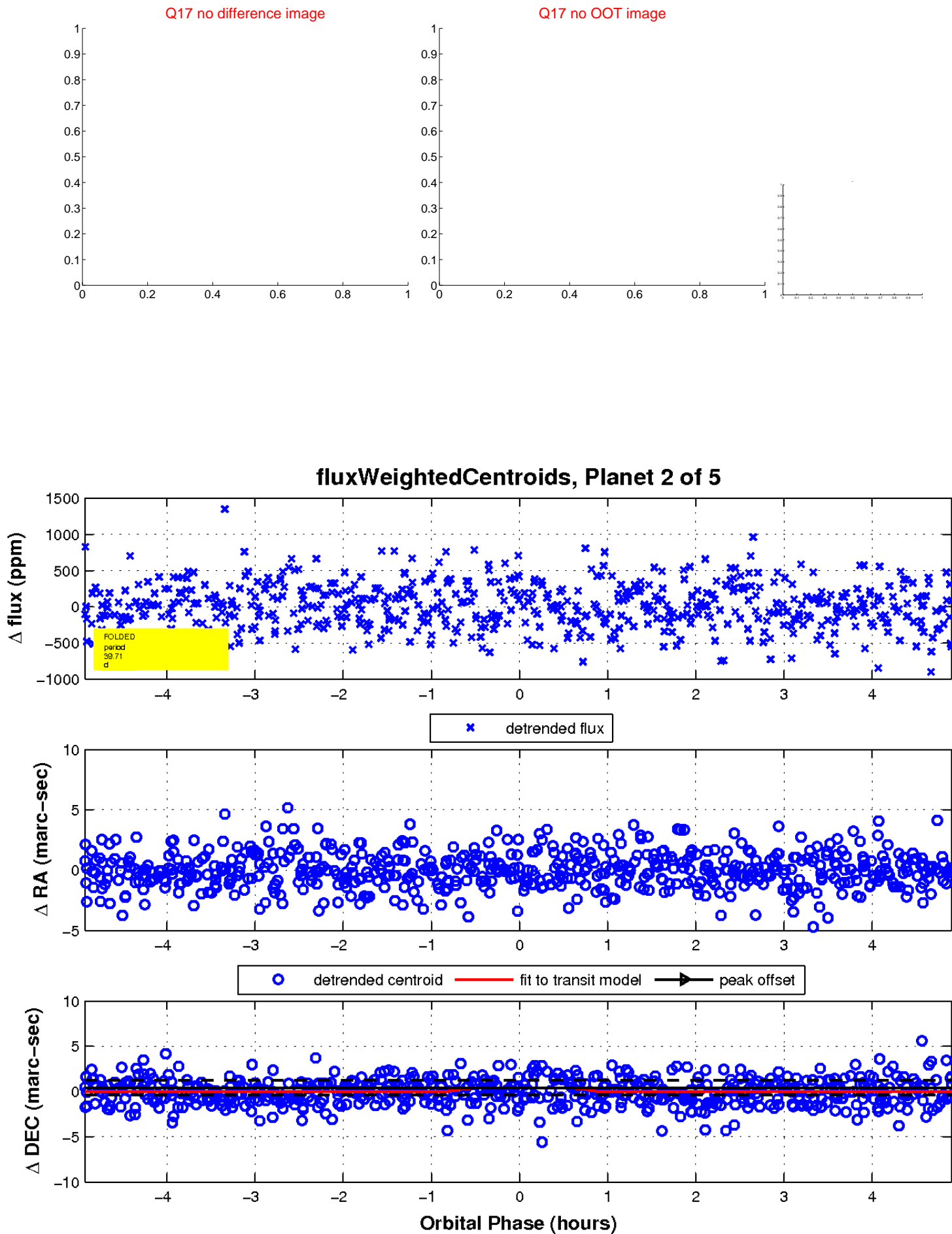
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

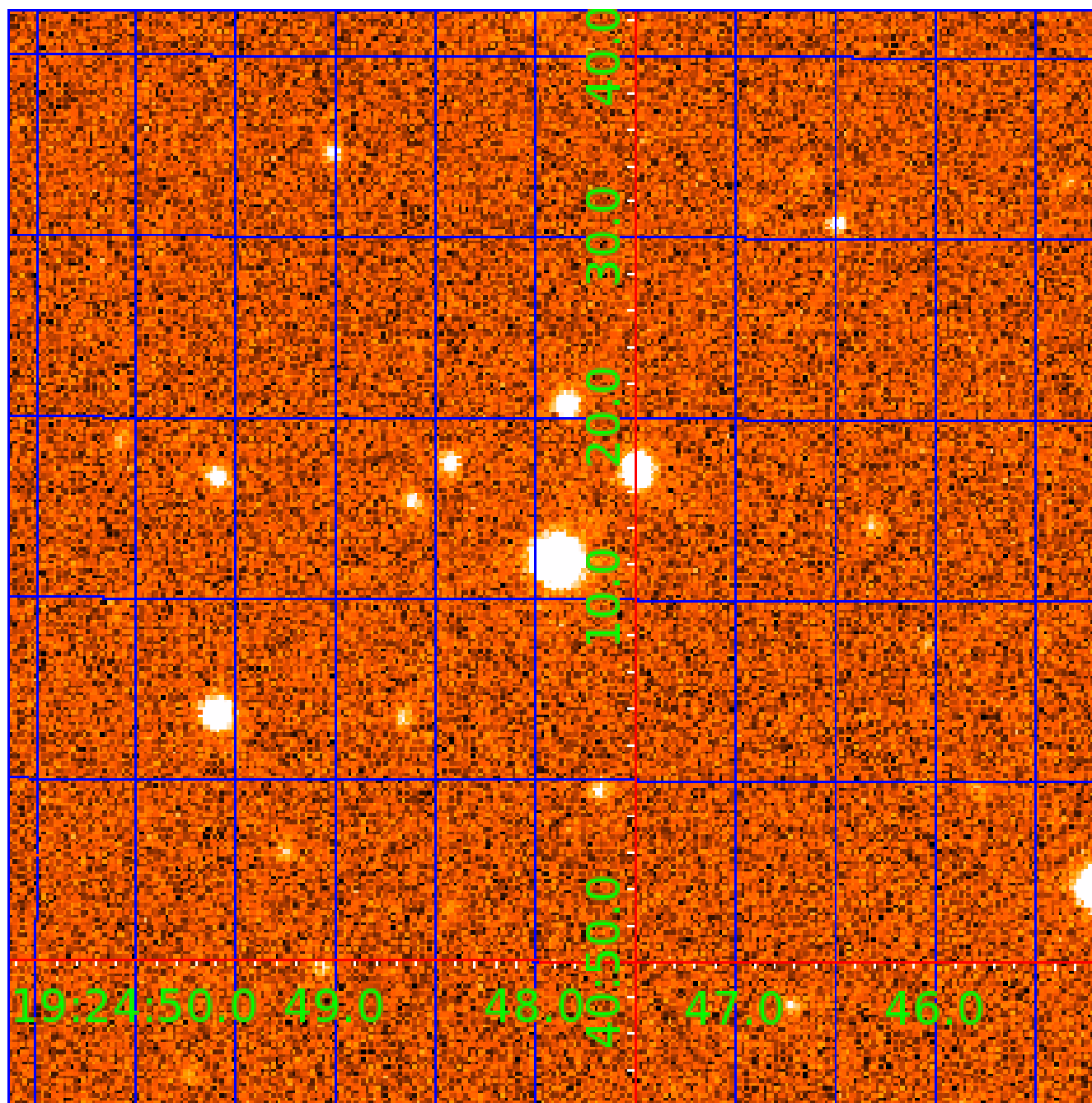


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007115878

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007115878-01 | OBS | 6825.01 | 0.566803 | 131.827966 | 30.4 | 3.878 | 10.3 | 9.3 | 1.09 | 6100 | 0.64 | 8280.39 |
| 007115878-02 | OBS | No | 39.707479 | 161.748280 | 980.8 | 1.645 | 12.6 | 9.0 | 1.09 | 6100 | 3.74 | 28.67 |
| 007115878-03 | OBS | No | 71.472015 | 178.220481 | 1269.1 | 1.701 | 10.5 | 10.7 | 1.09 | 6100 | 4.08 | 13.10 |
| 007115878-04 | OBS | No | 50.891633 | 170.724411 | 1316.5 | 1.213 | 10.2 | 9.3 | 1.09 | 6100 | 3.99 | 20.59 |
| 007115878-05 | OBS | No | 39.030600 | 146.535997 | 1427.7 | 1.500 | 10.4 | -1.0 | 1.09 | 6100 | 4.14 | 29.34 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007115878-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 1 | LPP_DV—HALO_GHOST—EPHEM_MATCH |
| 007115878-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS |
| 007115878-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 007115878-04 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST |
| 007115878-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS |

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

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

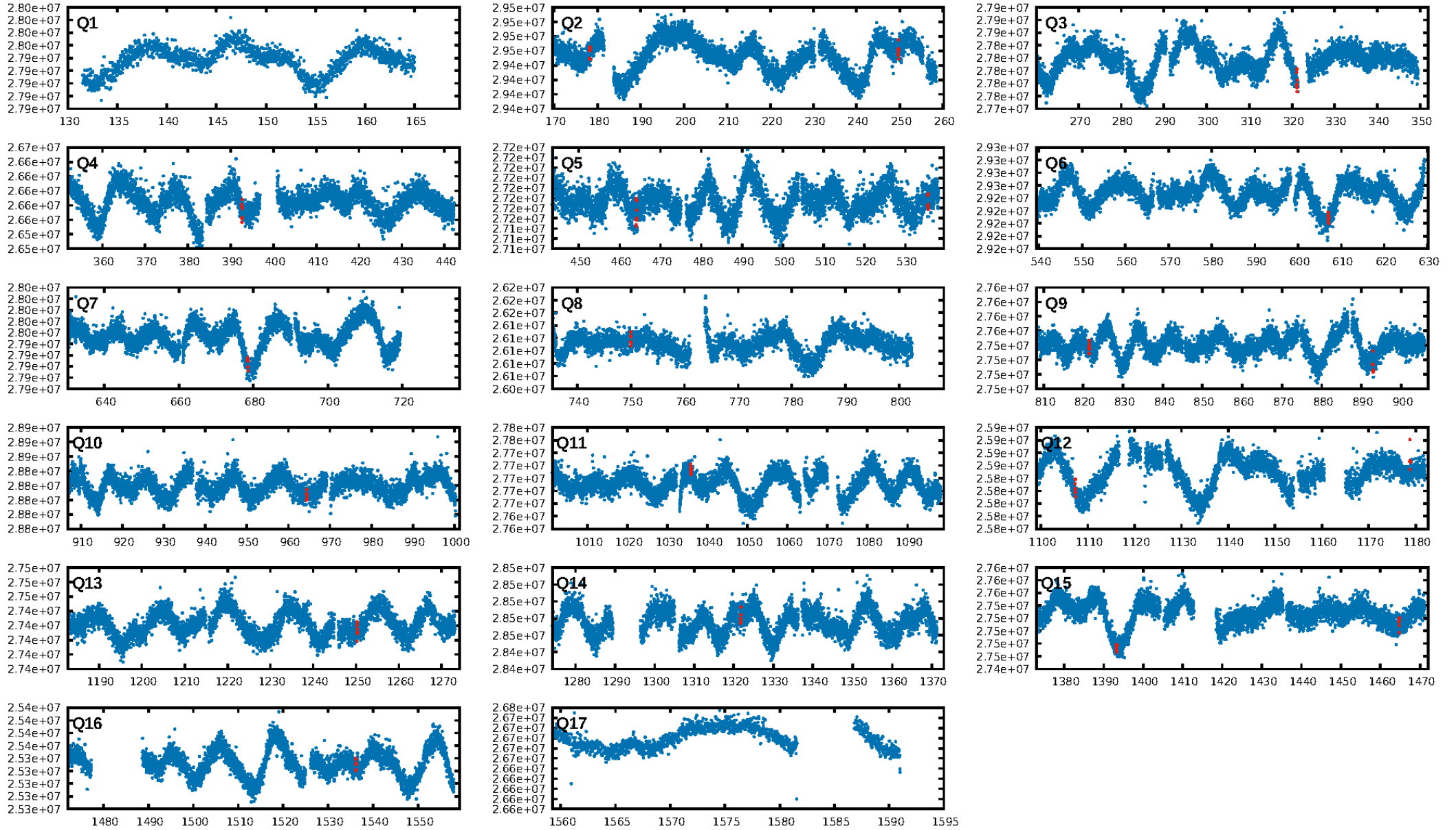
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007115878-03

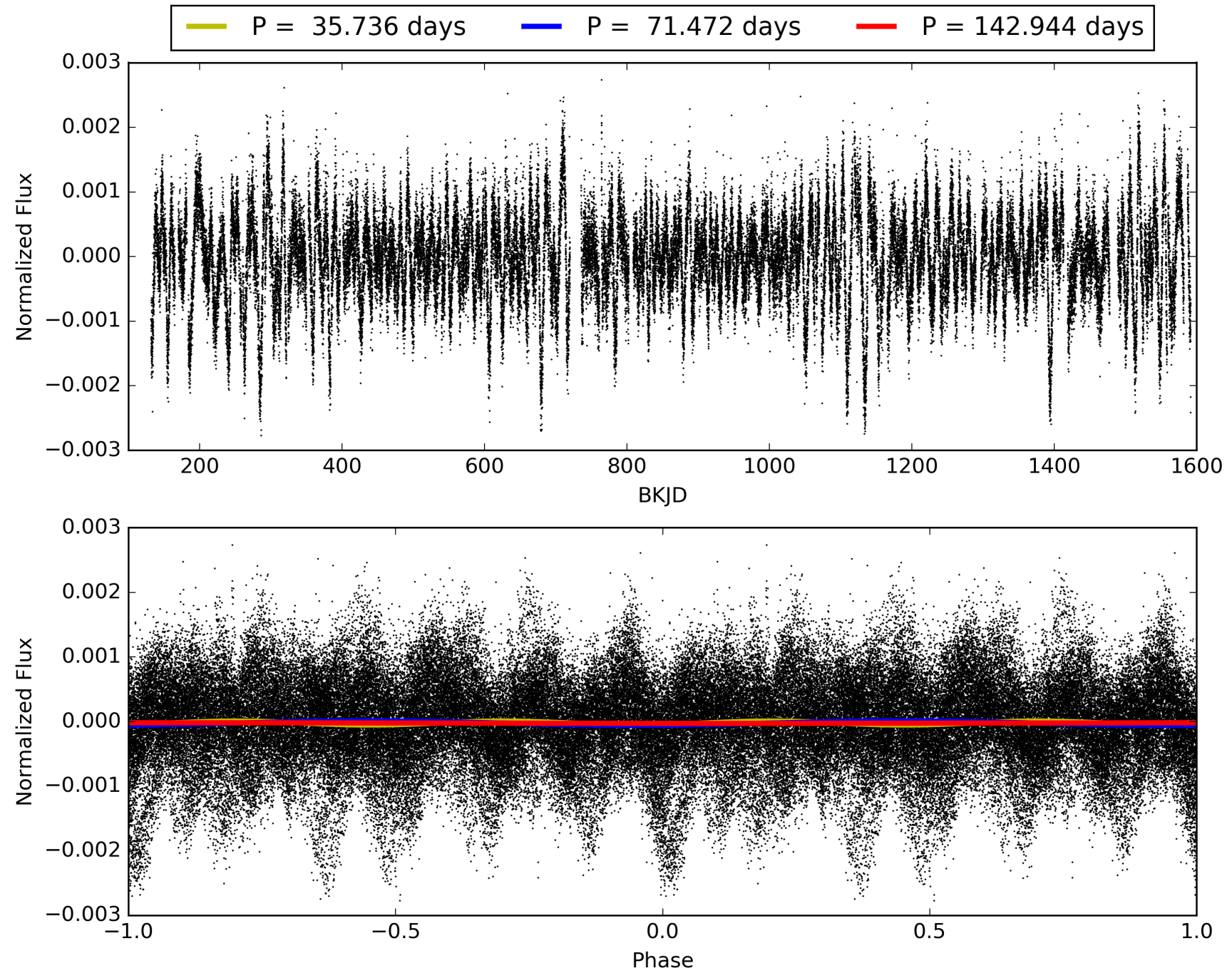
No Significant Match Found

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

TCE 007115878-03, PDC Light Curves

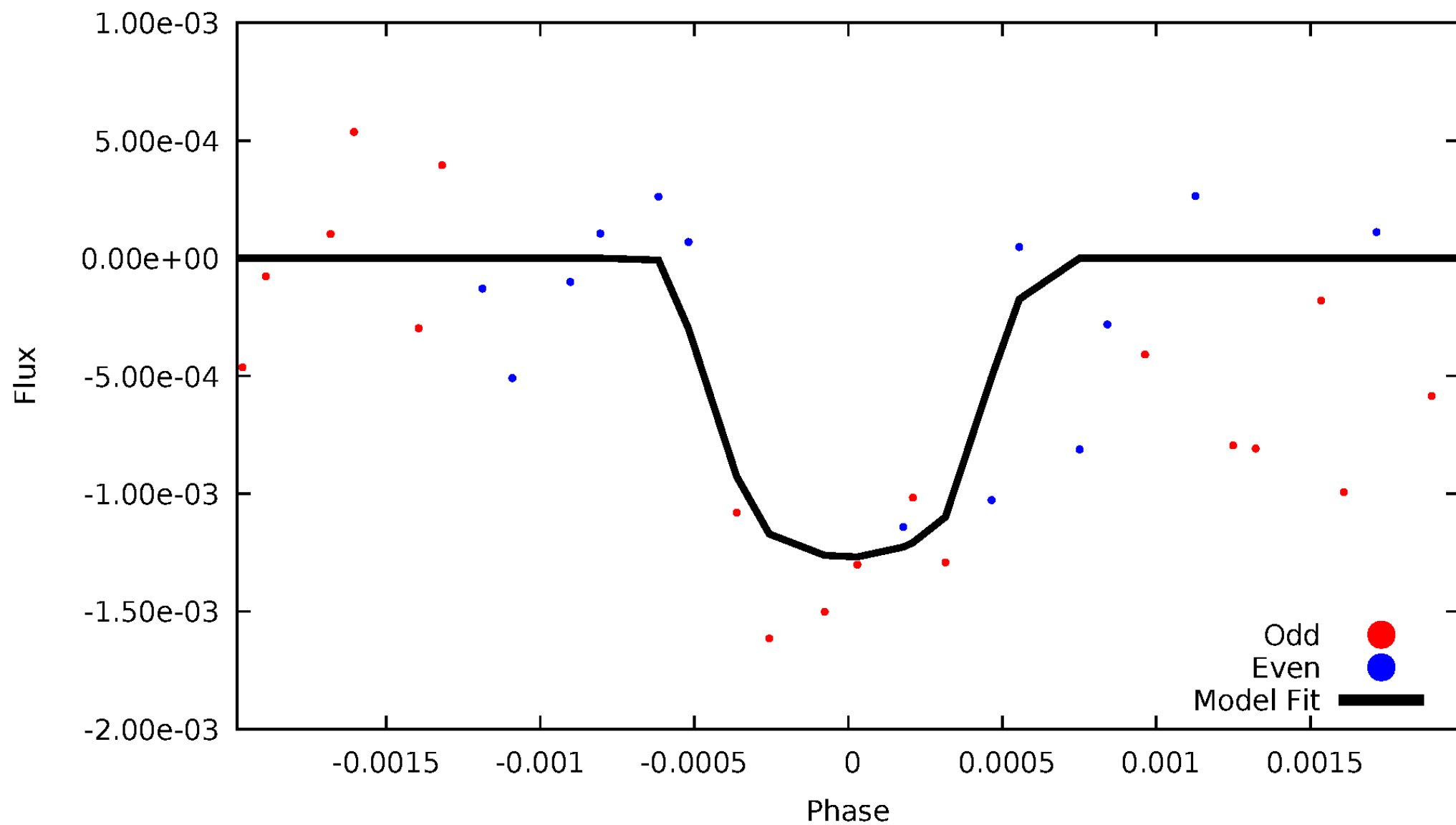


TCE 007115878-03



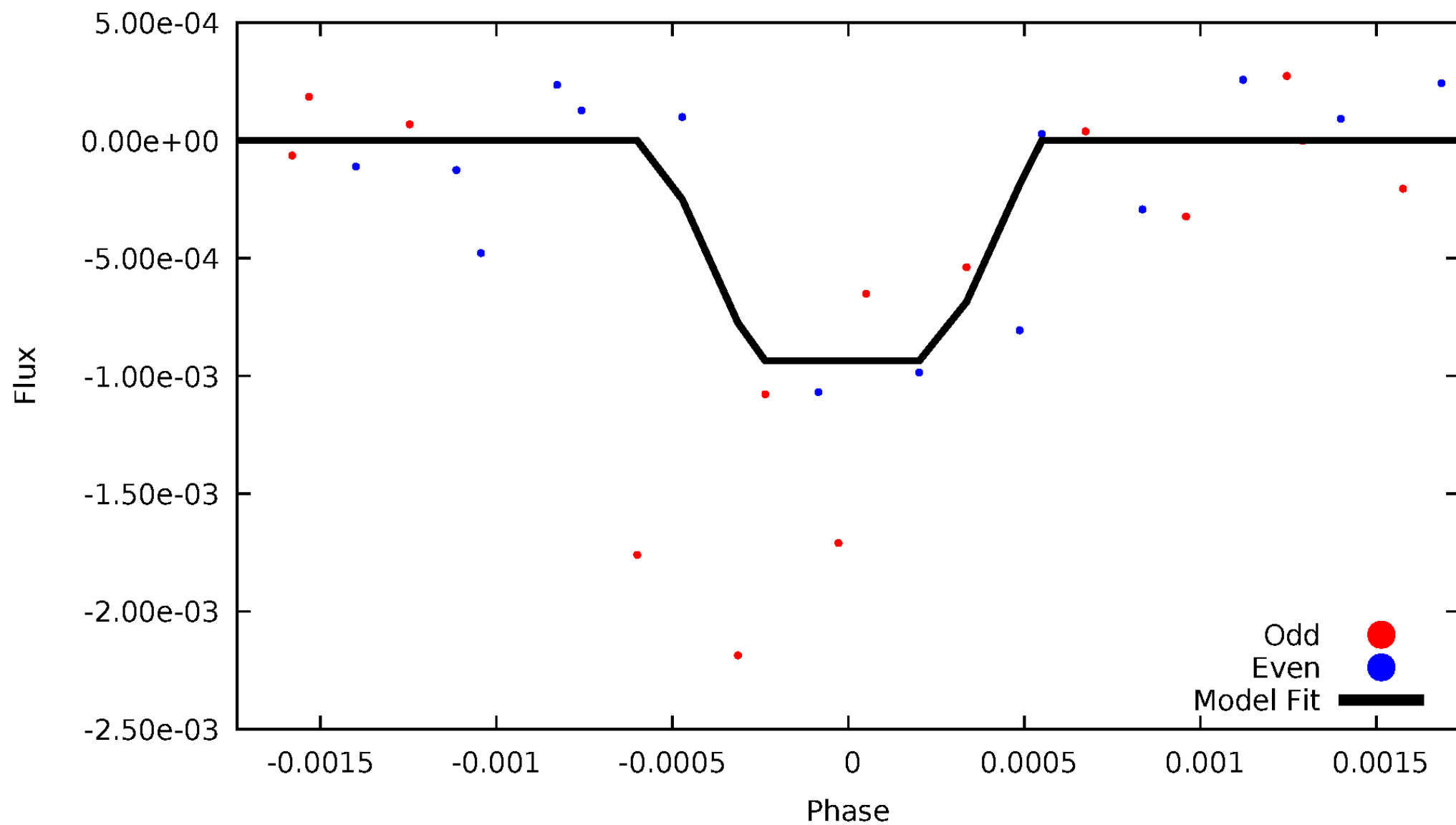
DV Odd/Even

TCE 007115878-03



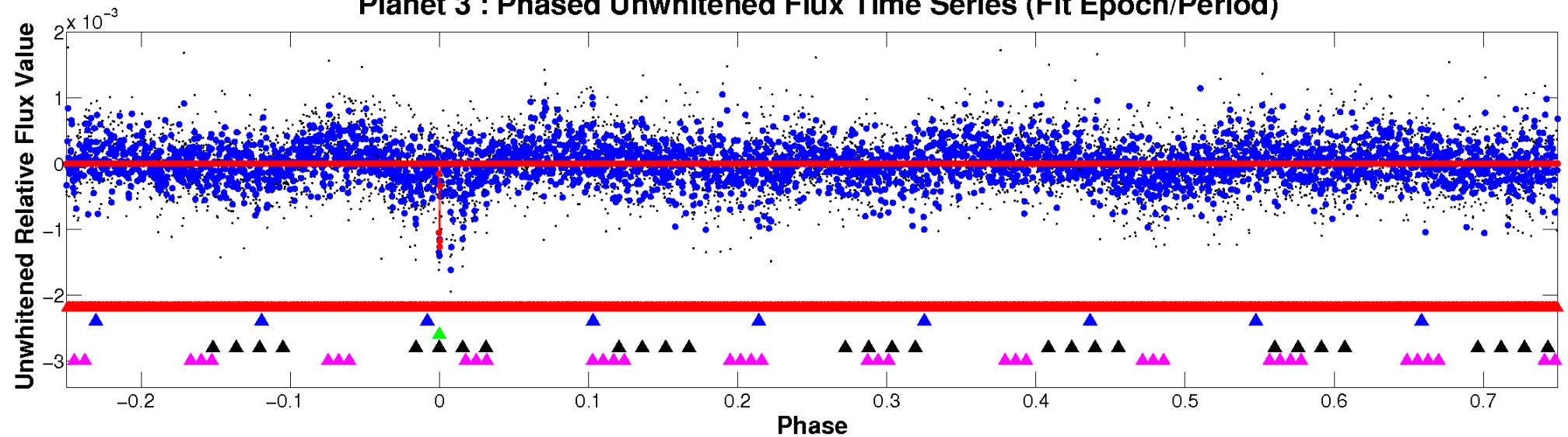
ALT Odd/Even

TCE 007115878-03

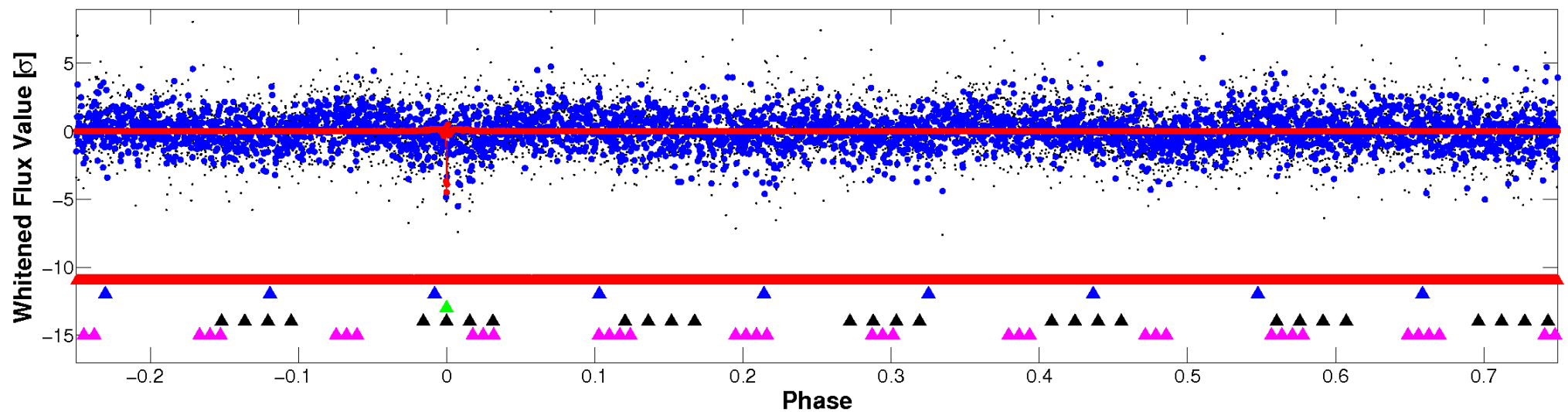


Non-Whitened Vs. Whitened Light Curve

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

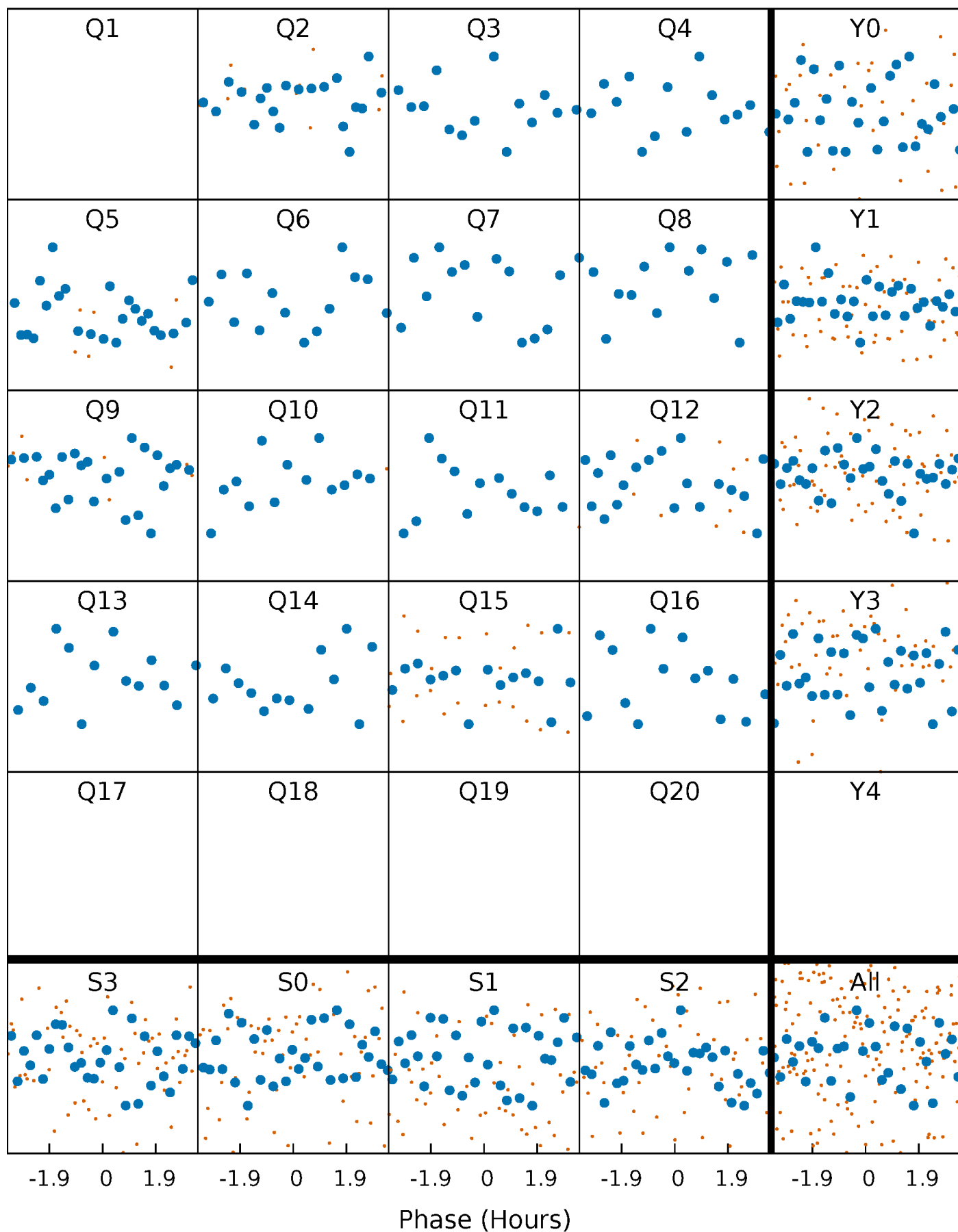


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



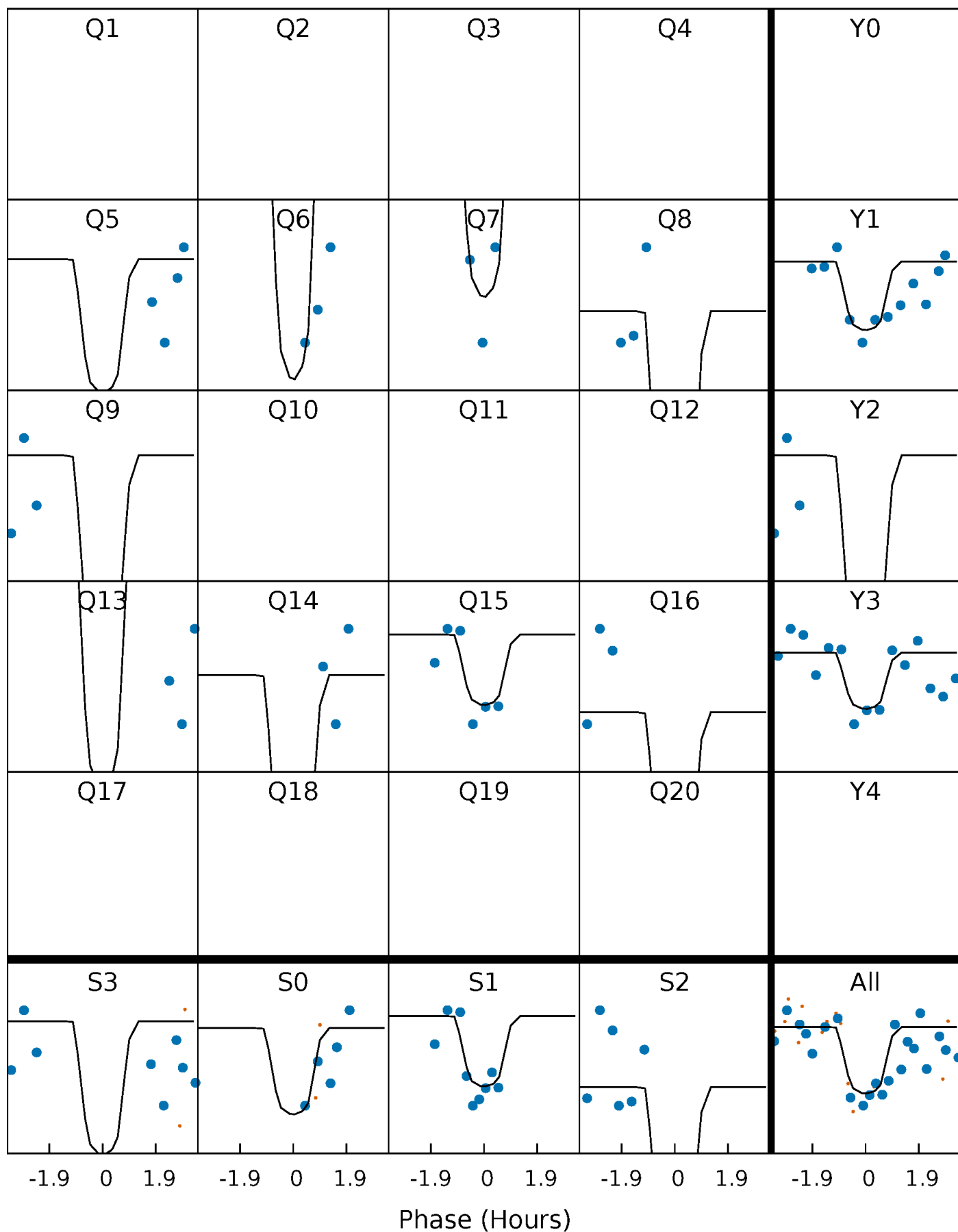
PDC Quarter-Phased Transit Curves

TCE 007115878-03 P= 71.472015 Days $T_0=178.220482$ (BKJD)



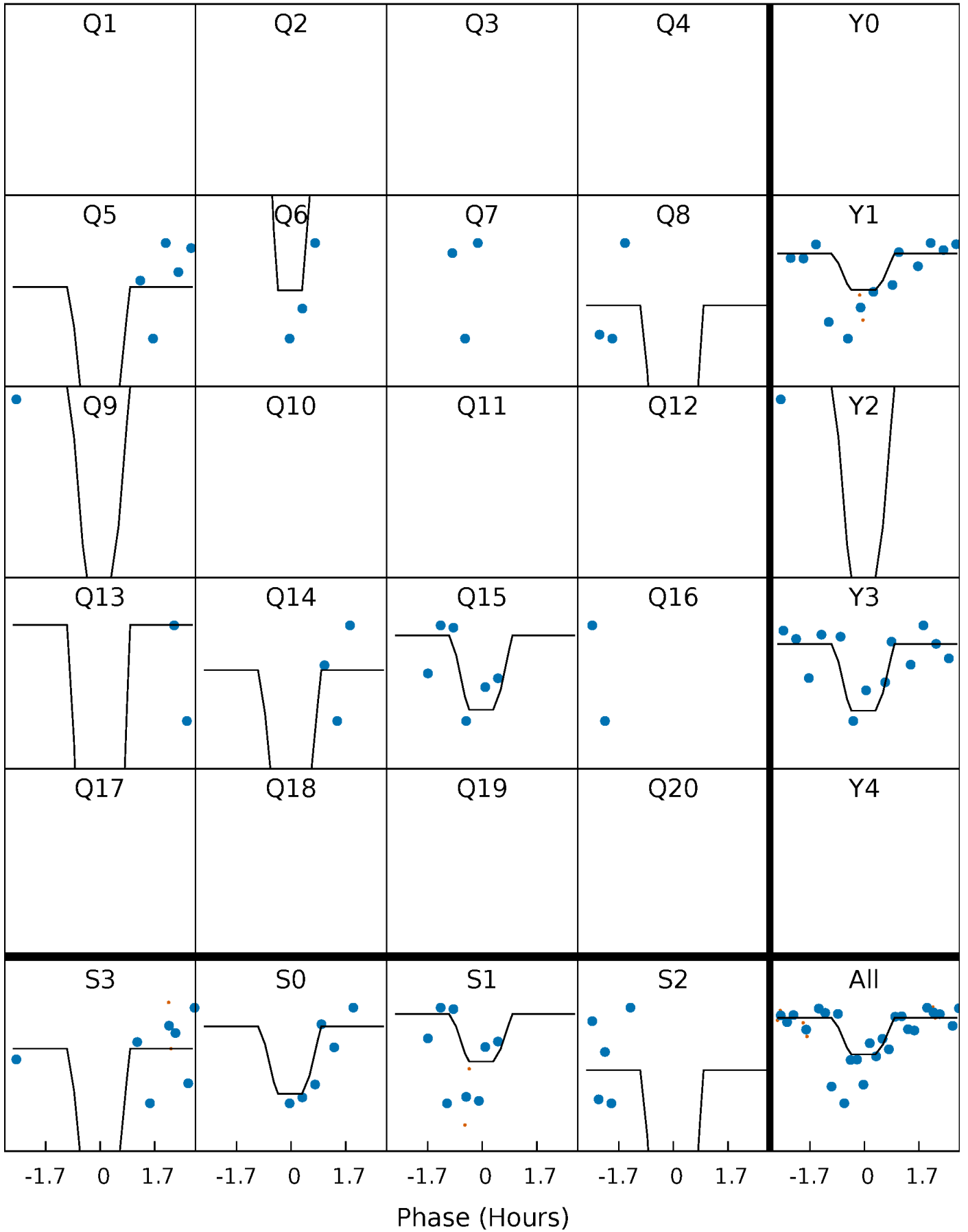
DV Quarter-Phased Transit Curves

TCE 007115878-03 P= 71.472015 Days $T_0=178.220482$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

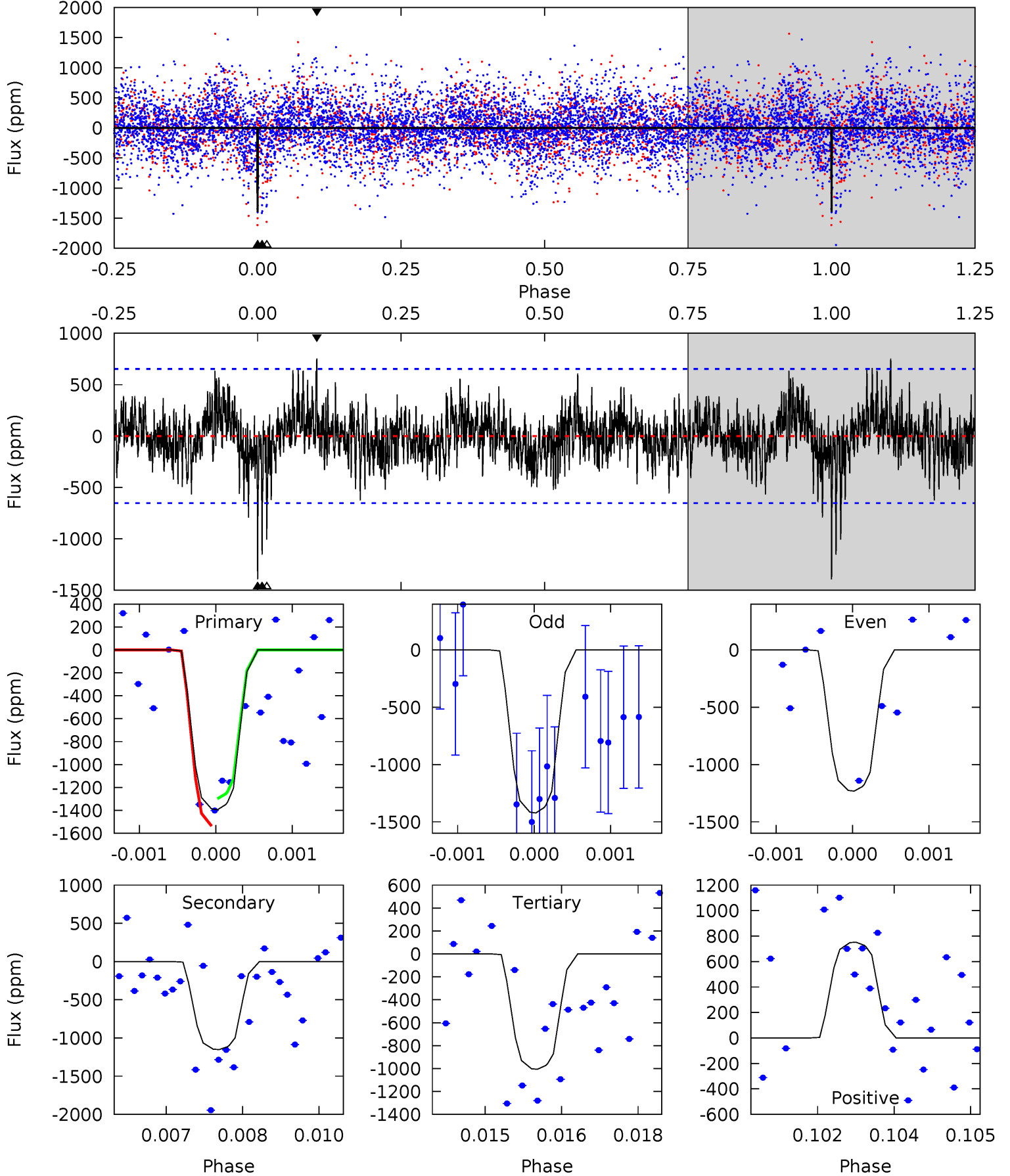
TCE 007115878-03 P= 71.470170 Days $T_0=178.250376$ (BKJD)



DV Model-Shift Uniqueness Test

007115878-03, P = 71.472015 Days, E = 106.748467 Days

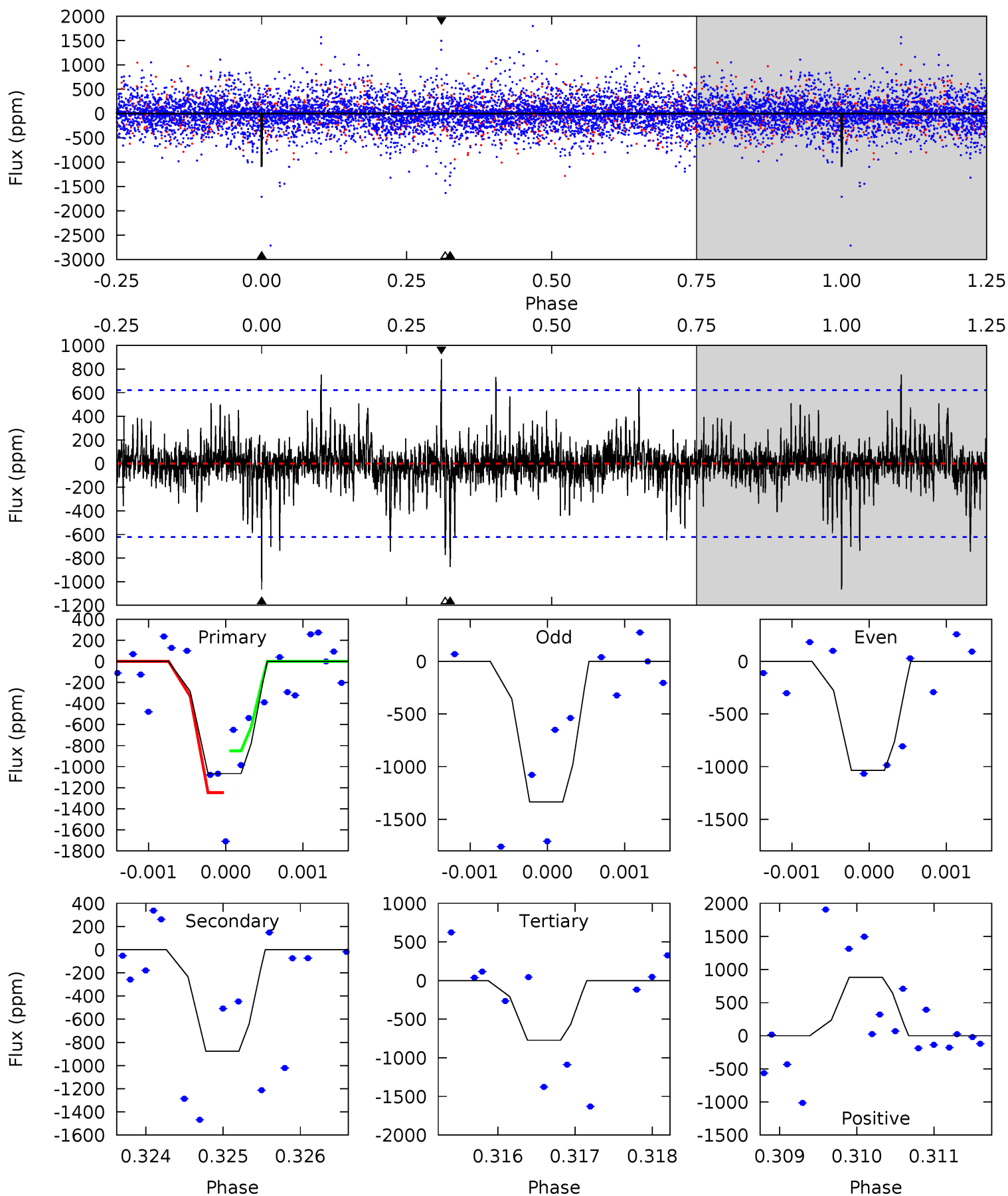
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.5 | 9.53 | 8.32 | 6.22 | 5.40 | 3.20 | 1.64 | 3.21 | 5.31 | 1.21 | 3.31 | 0.82 | 1.02 | 0.35 | 0.96 |



Alt Model-Shift Uniqueness Test

007115878-03, P = 71.470170 Days, E = 106.780206 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.33 | 7.67 | 6.76 | 7.74 | 5.45 | 3.28 | 1.19 | 2.57 | 1.59 | 0.91 | -0.07 | 1.40 | 1.23 | 0.45 | 1.73 |



Stellar Parameters For KIC 007115878

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6100^{+181}_{-200} | $4.358^{+0.128}_{-0.192}$ | $-0.200^{+0.250}_{-0.300}$ | $1.093^{+0.322}_{-0.174}$ | $0.993^{+0.153}_{-0.111}$ | $1.072^{+0.633}_{-0.540}$ |
| | +3%/-3% | +3%/-4% | +125%/-150% | +29%/-16% | +15%/-11% | +59%/-50% |
| 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 007115878-03 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|------------------------|-------------------|-----------------------|------------------------|
| DV | -1152 ± 121 | $7.95^{+7.34}_{-5.39}$ | 681^{+49}_{-41} | 4556^{+3569}_{-958} | 1157^{+9748}_{-849} |
| Alt. | -876 ± 114 | $7.44^{+7.50}_{-5.21}$ | 684^{+47}_{-41} | 4479^{+3493}_{-960} | 1010^{+10260}_{-767} |

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

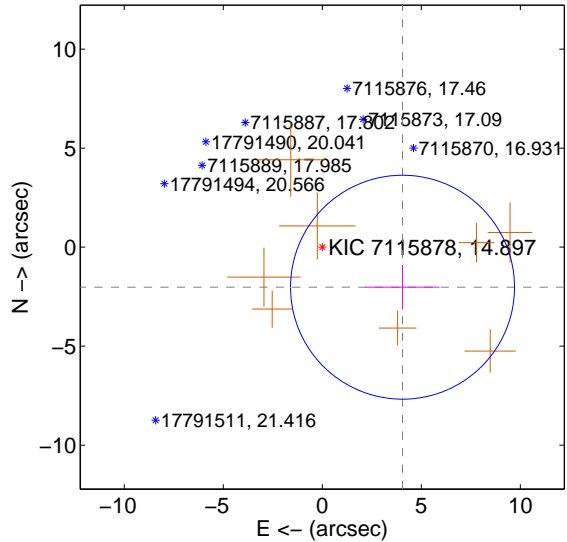
Supplemental centroid analysis for 007115878-03. Kepler magnitude: 14.90. Transit SNR 10.70

There are 0 quarters with good PRF difference image offsets

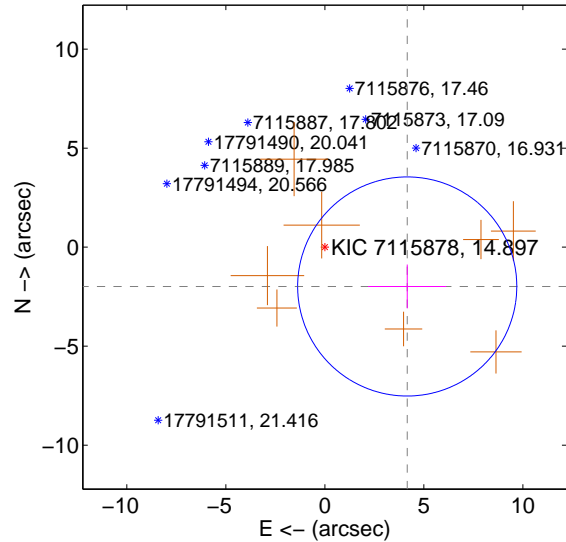
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 4.527 ± 1.885 | 2.40 | -4.051 ± 1.865 | -2.022 ± 1.122 |
| PRF-fit source offset from KIC position | 4.608 ± 1.844 | 2.50 | -4.159 ± 1.974 | -1.984 ± 1.106 |
| photometric centroid source offset | 0.67 ± 0.44 | 1.53 | -0.17 ± 0.46 | 0.65 ± 0.44 |

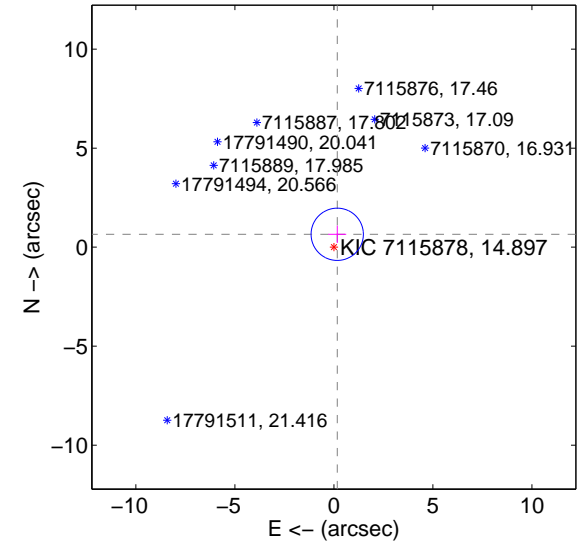
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

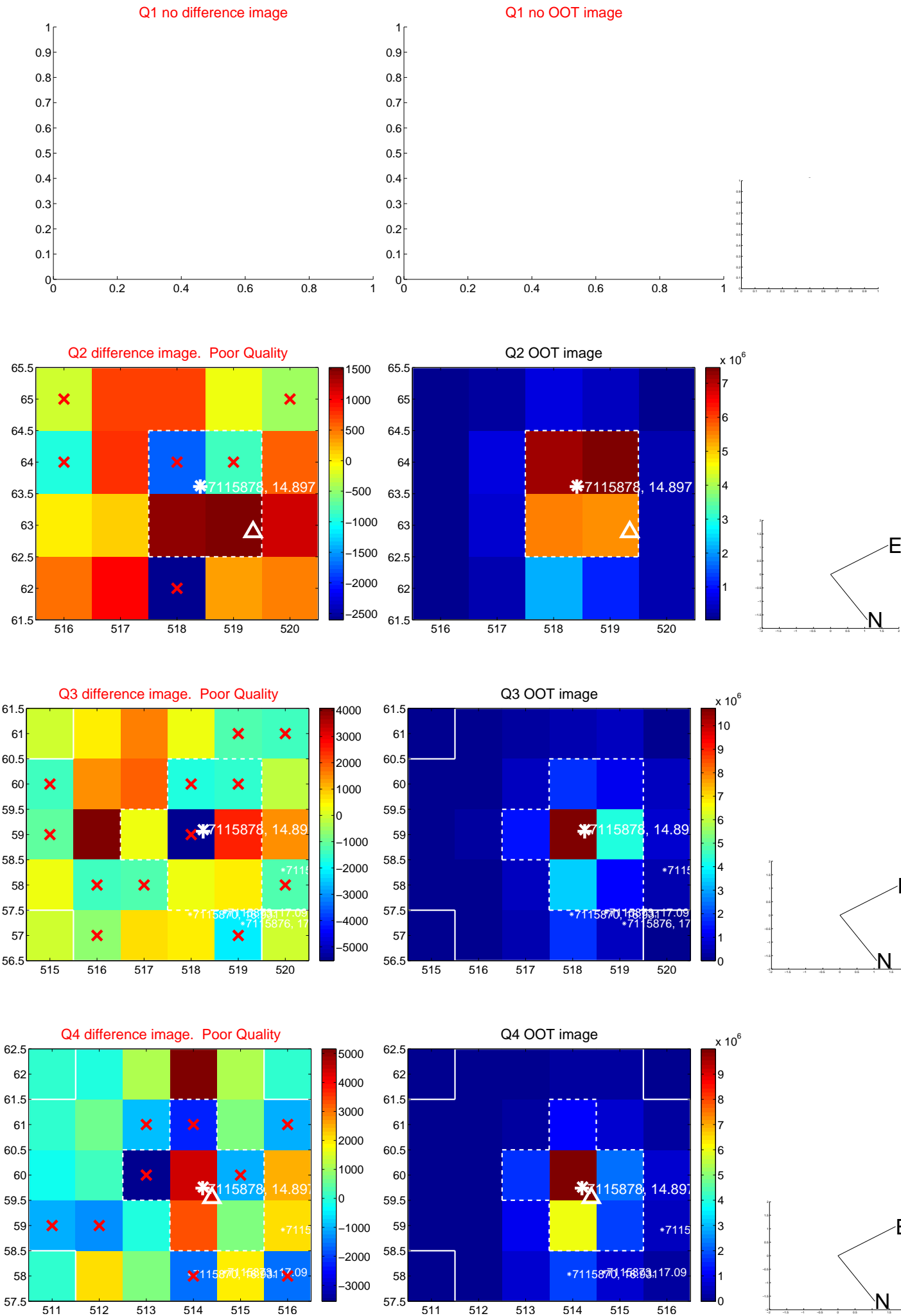


offset from photometric centroids

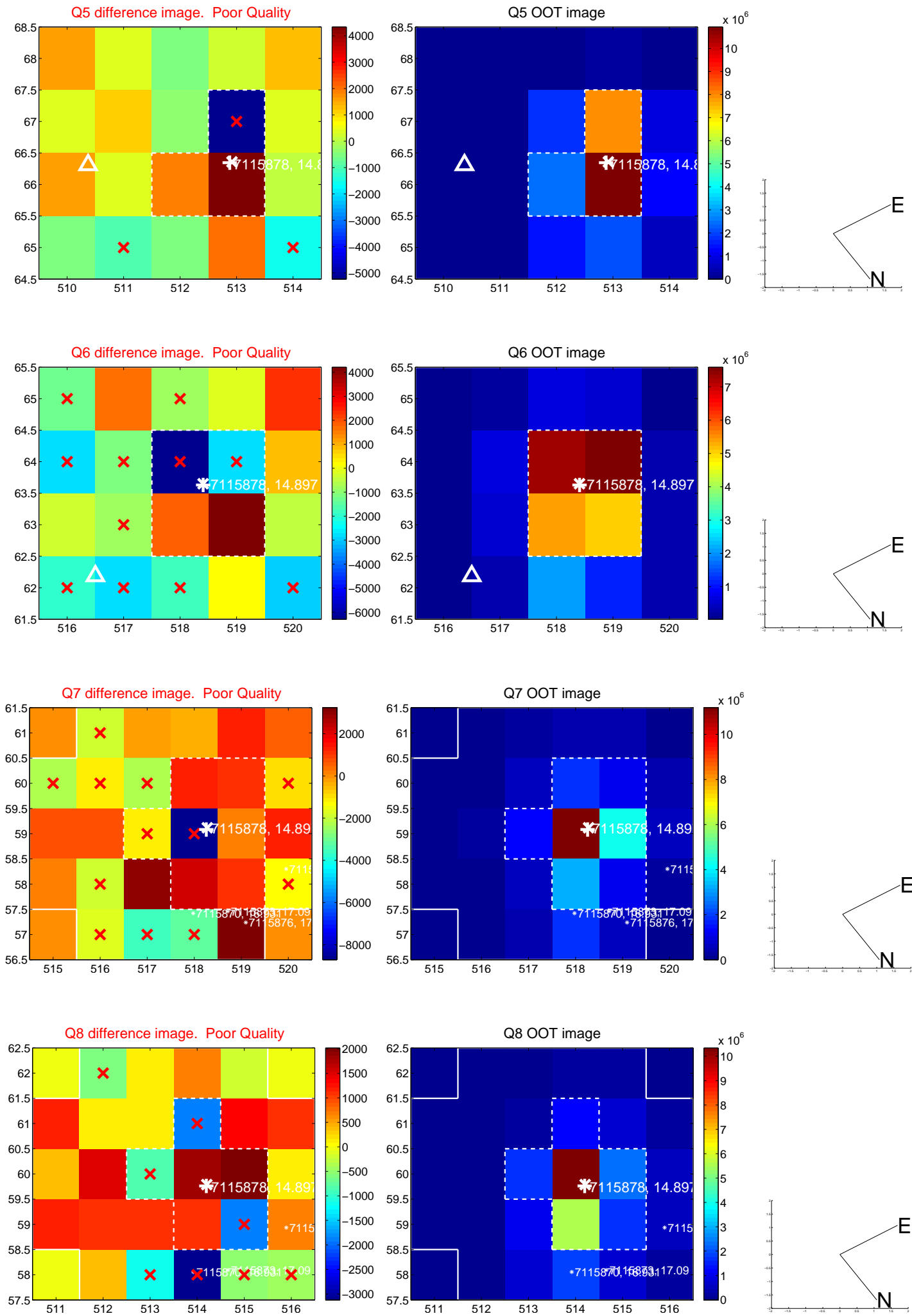


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

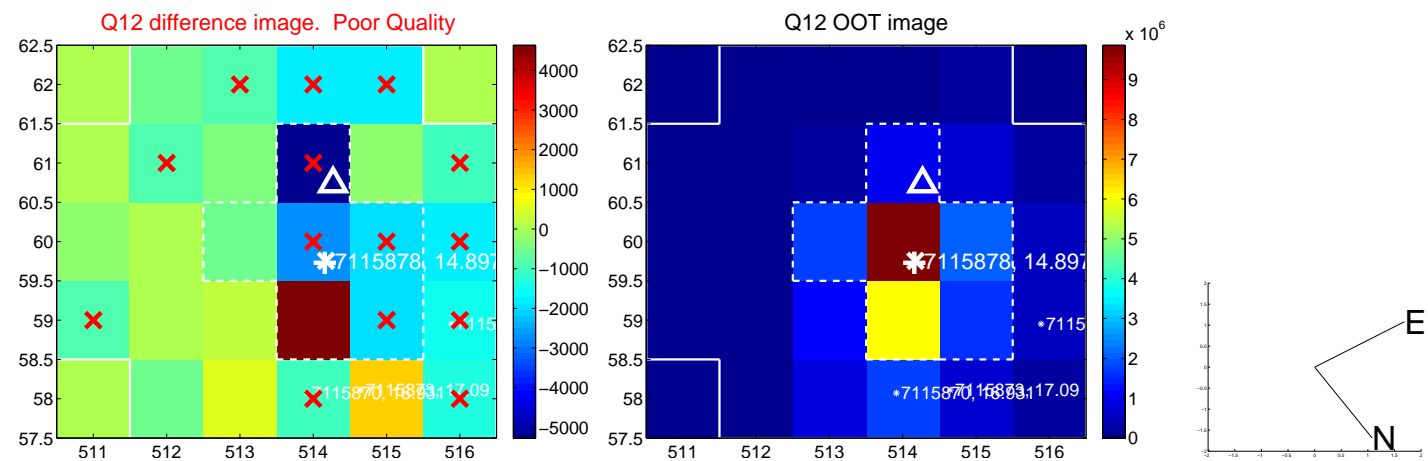
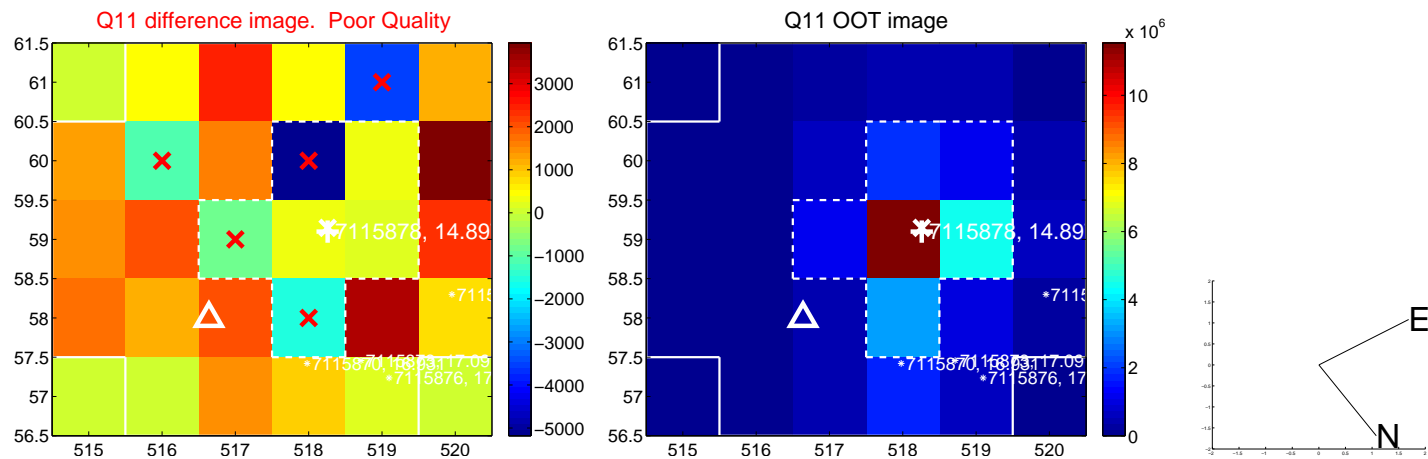
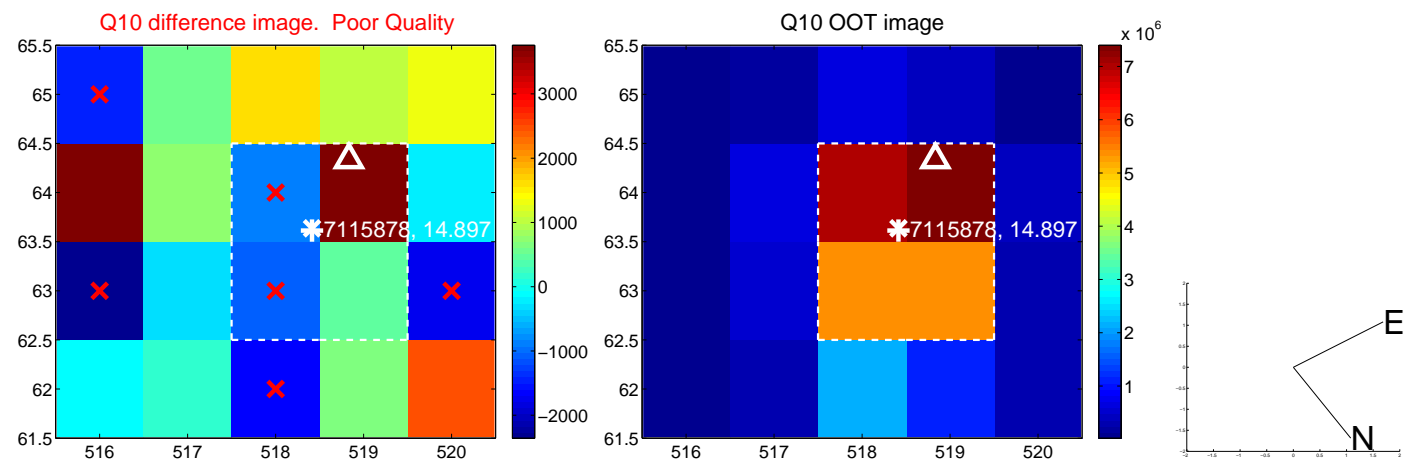
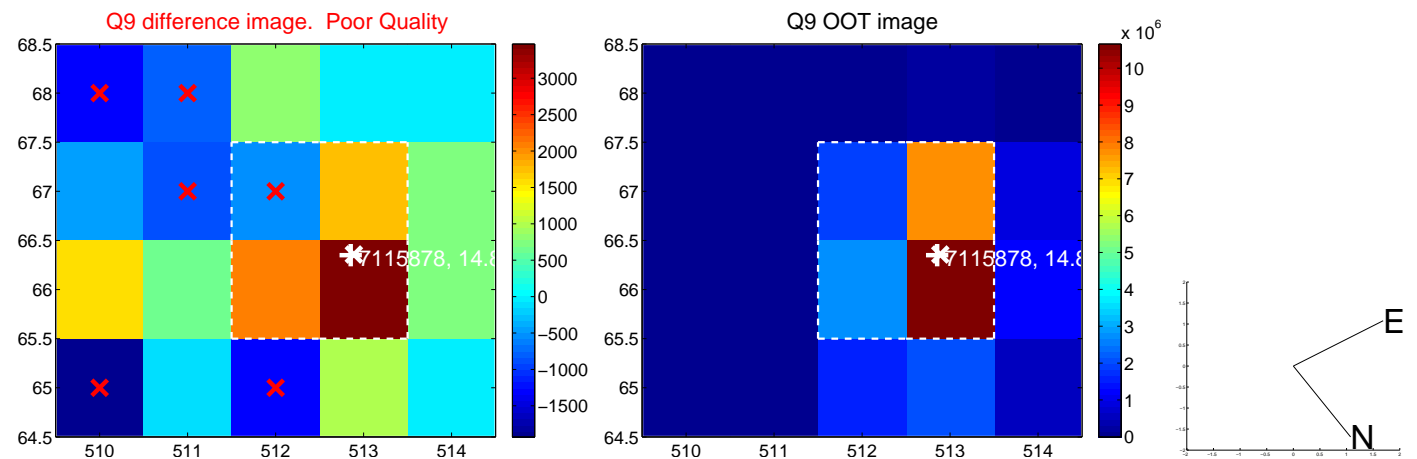
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



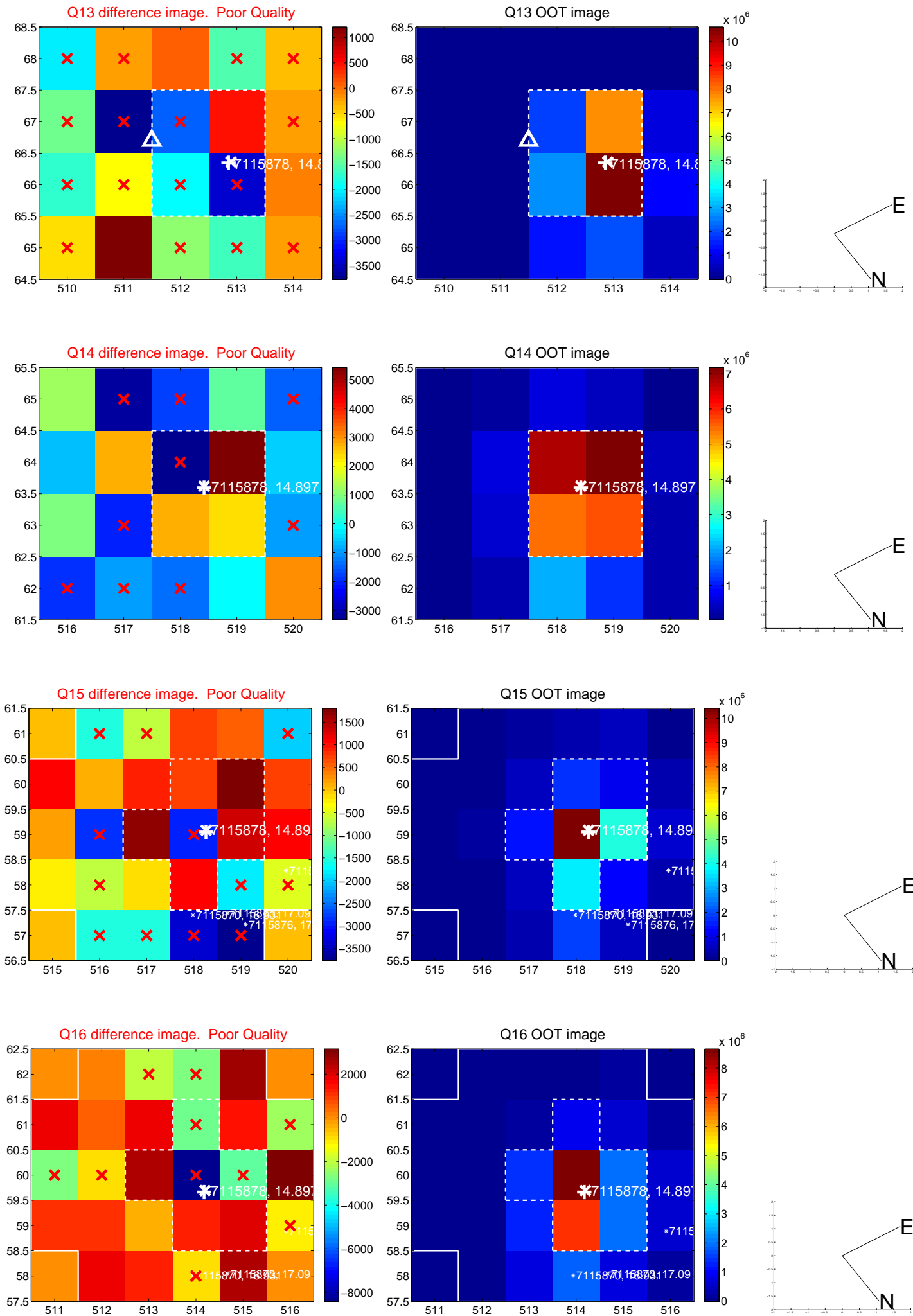
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



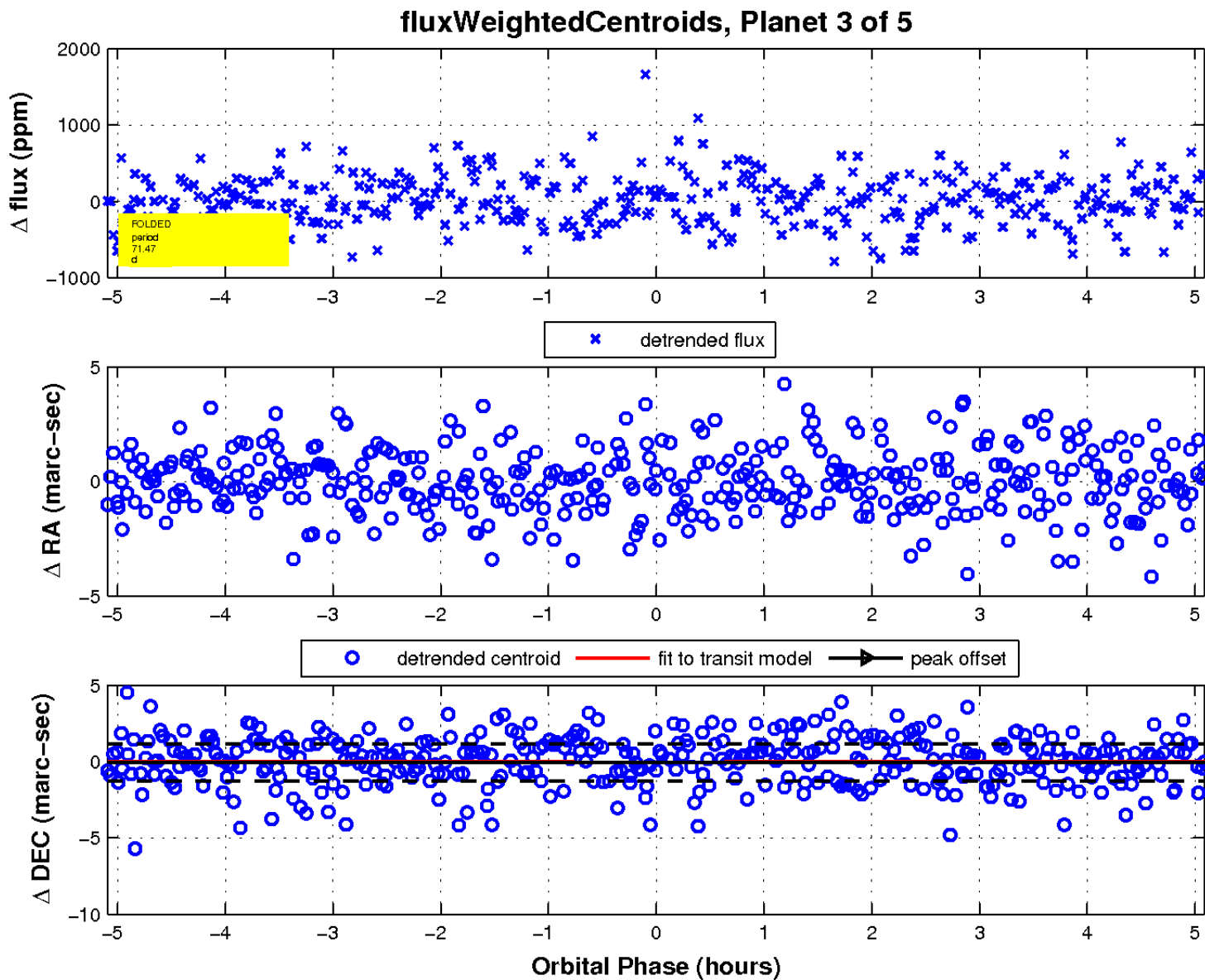
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

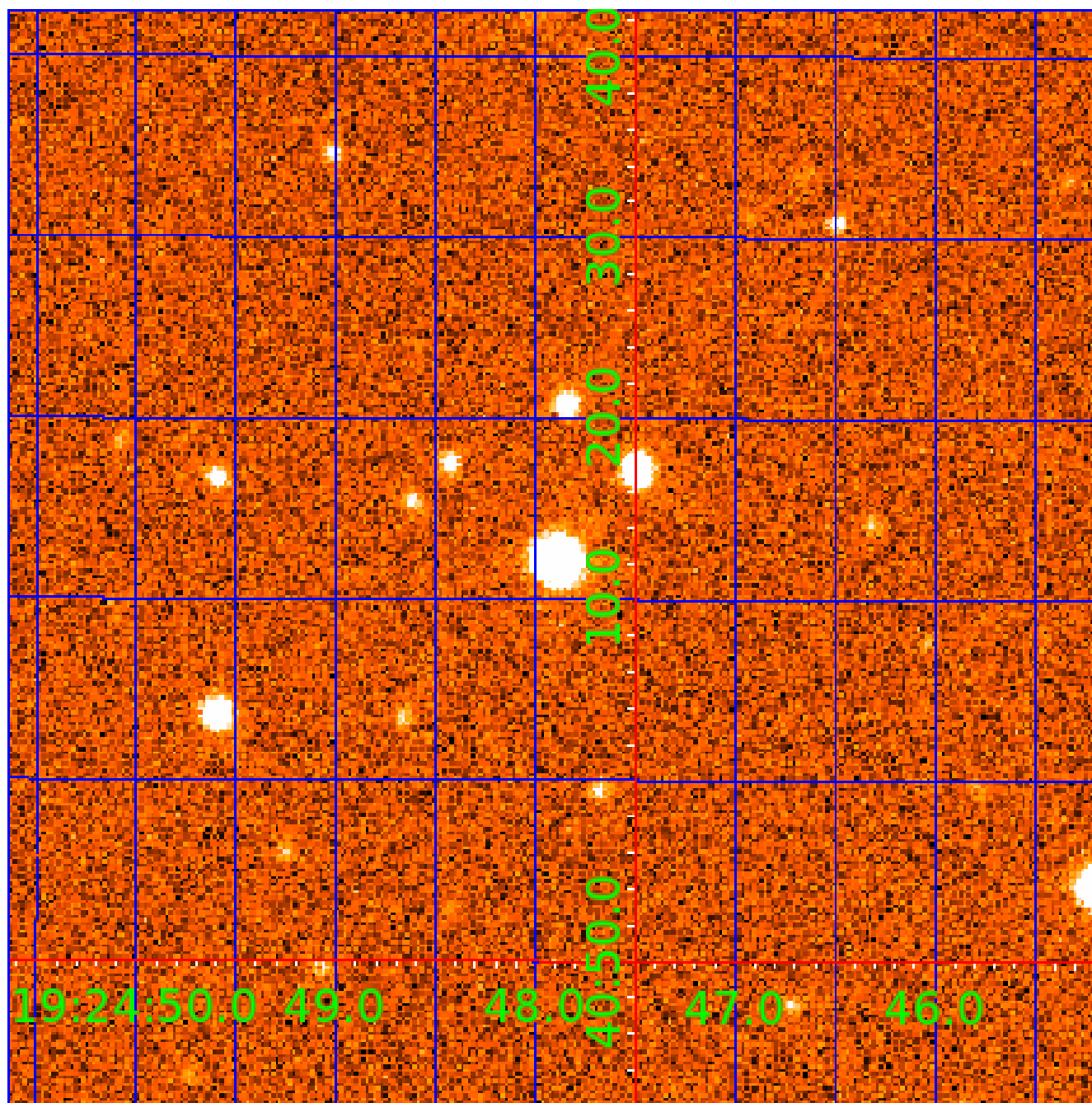


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007115878

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007115878-01 | OBS | 6825.01 | 0.566803 | 131.827966 | 30.4 | 3.878 | 10.3 | 9.3 | 1.09 | 6100 | 0.64 | 8280.39 |
| 007115878-02 | OBS | No | 39.707479 | 161.748280 | 980.8 | 1.645 | 12.6 | 9.0 | 1.09 | 6100 | 3.74 | 28.67 |
| 007115878-03 | OBS | No | 71.472015 | 178.220481 | 1269.1 | 1.701 | 10.5 | 10.7 | 1.09 | 6100 | 4.08 | 13.10 |
| 007115878-04 | OBS | No | 50.891633 | 170.724411 | 1316.5 | 1.213 | 10.2 | 9.3 | 1.09 | 6100 | 3.99 | 20.59 |
| 007115878-05 | OBS | No | 39.030600 | 146.535997 | 1427.7 | 1.500 | 10.4 | -1.0 | 1.09 | 6100 | 4.14 | 29.34 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007115878-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 1 | LPP_DV—HALO_GHOST—EPHEM_MATCH |
| 007115878-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS |
| 007115878-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 007115878-04 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST |
| 007115878-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS |

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 007115878-04

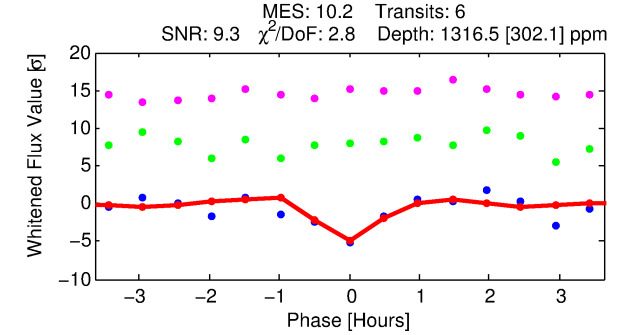
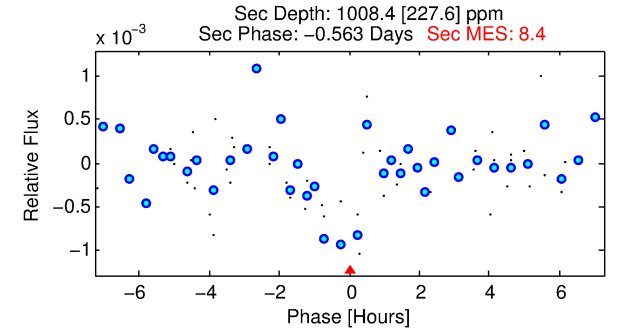
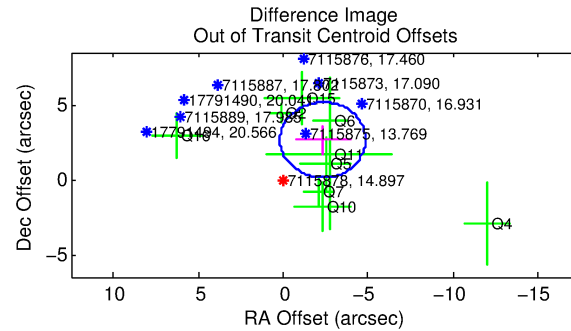
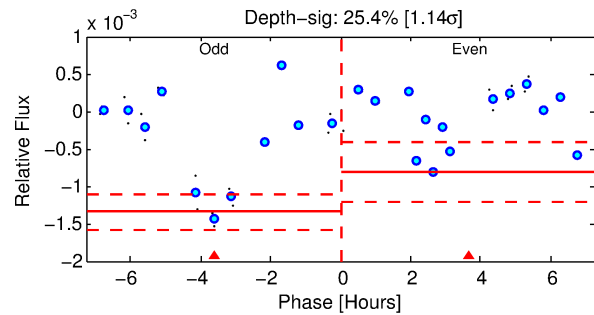
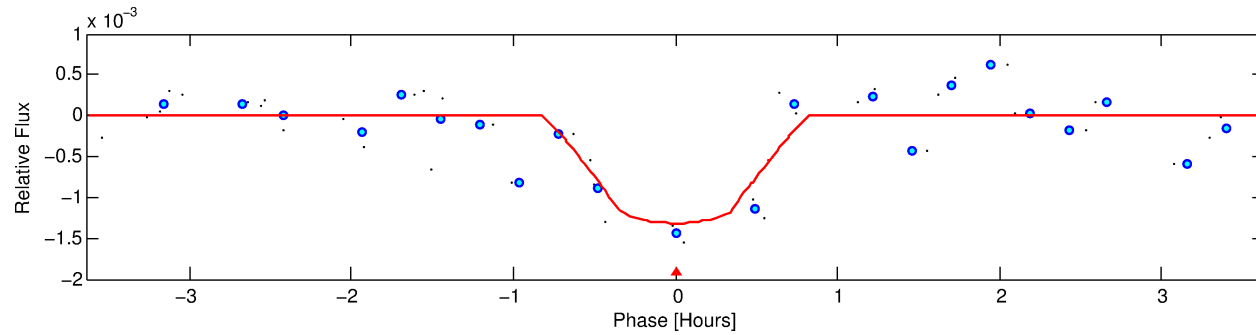
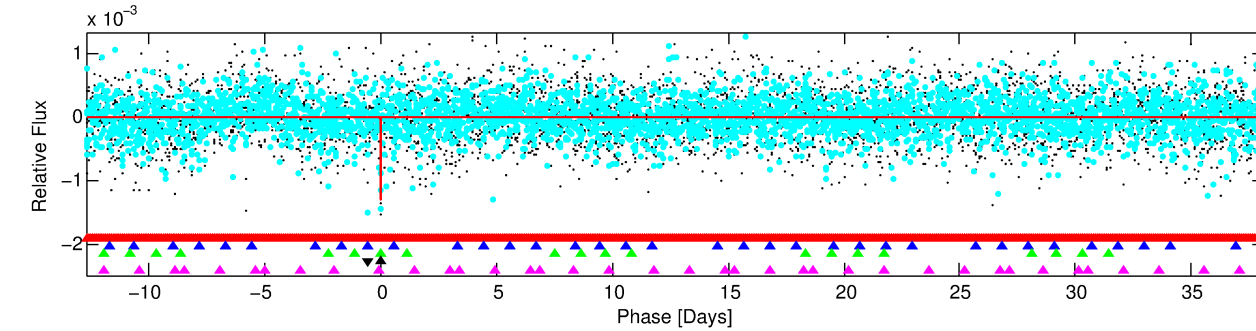
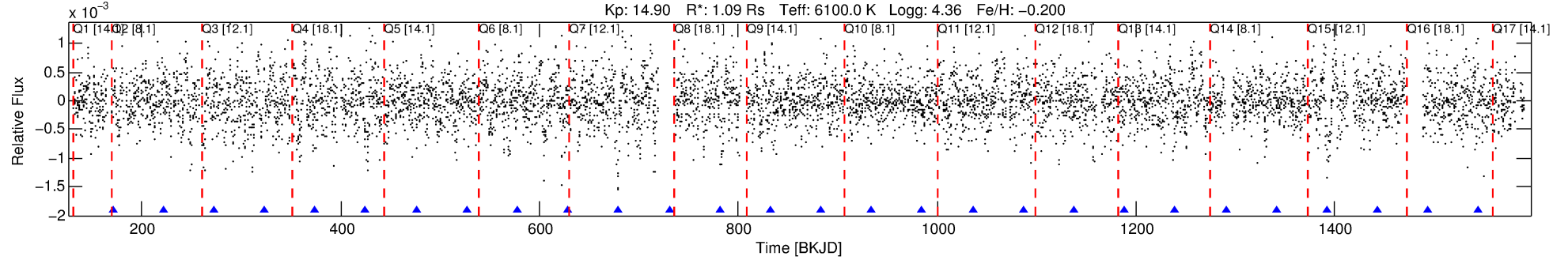
No Significant Match Found

DV One-Page Summary

KIC: 7115878 Candidate: 4 of 5 Period: 50.892 d

KOI: K06825 Corr: No Ephemeris Match

Kp: 14.90 R*: 1.09 Rs Teff: 6100.0 K Logg: 4.36 Fe/H: -0.200



DV Fit Results:

Period = 50.89163 [0.00039] d
Epoch = 170.7244 [0.0064] BKJD
Rp/R* = 0.0334 [0.0492]
a/R* = 330.12 [2334.28]
b = 0.09 [79.86]
Seff = 20.60 [7.78]
Teff = 543 [51] K
Rp = 3.99 [5.99] Re
a = 0.2683 [0.0659] AU
Ag = 2511.02 [7467.26] [0.34σ]
Teffp = 5945 [4393] K [1.23σ]

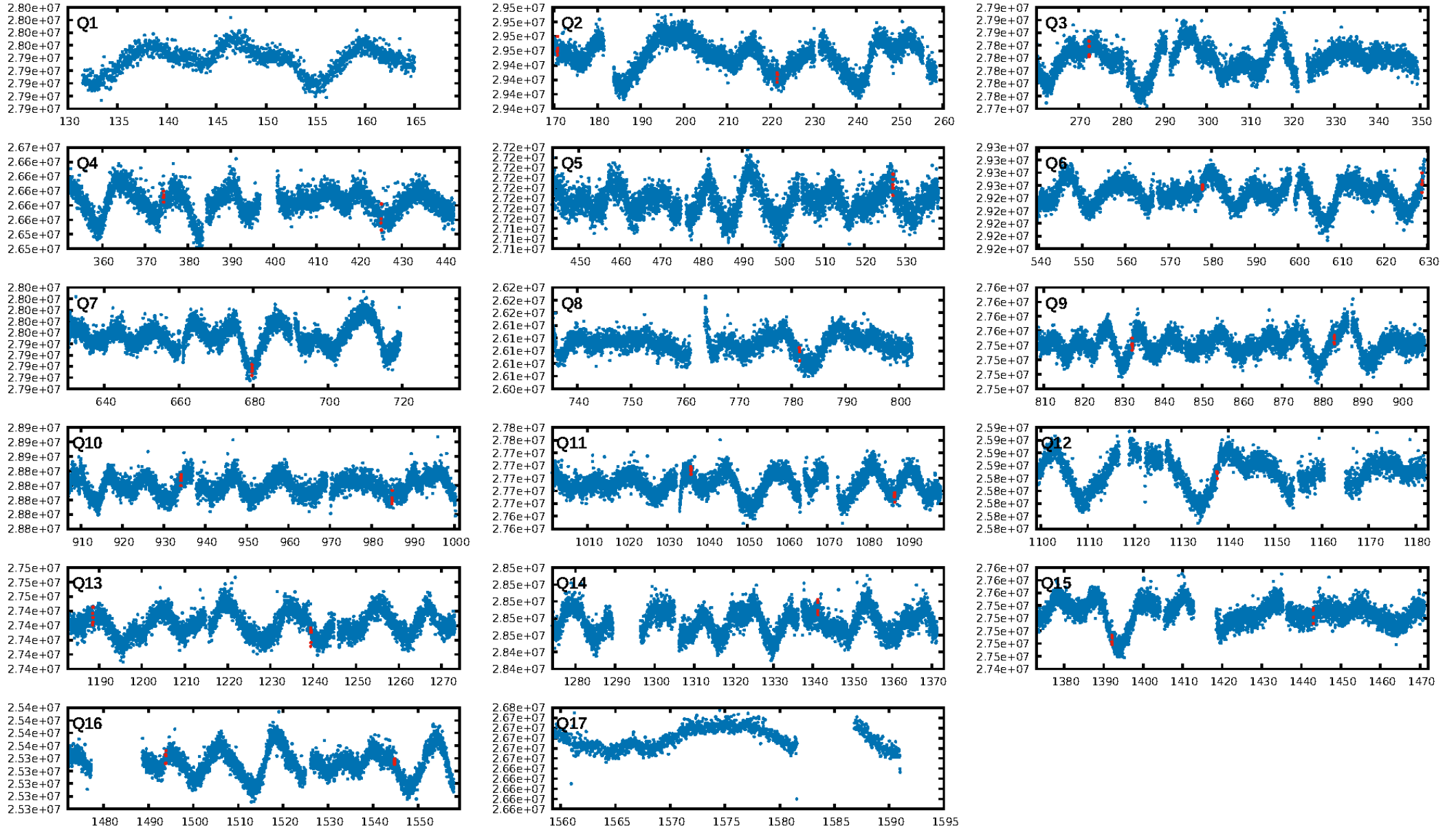
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [131.34σ]
LongPeriod-sig: 100.0% [236.46σ]
ModelChiSquare2-sig: 32.3%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 5.32e-13
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.2378
Centroid-sig: N/A
Centroid-so: 0.686 arcsec [1.53σ]
OotOffset-rm: 3.538 arcsec [4.22σ]
KicOffset-rm: 3.660 arcsec [4.54σ]
OotOffset-st: 3/3/2/1 [9]
KicOffset-st: 3/3/2/1 [9]
DiffImageQuality-fgm: 0.11 [1/9]
DiffImageOverlap-fno: 0.00 [0/15]

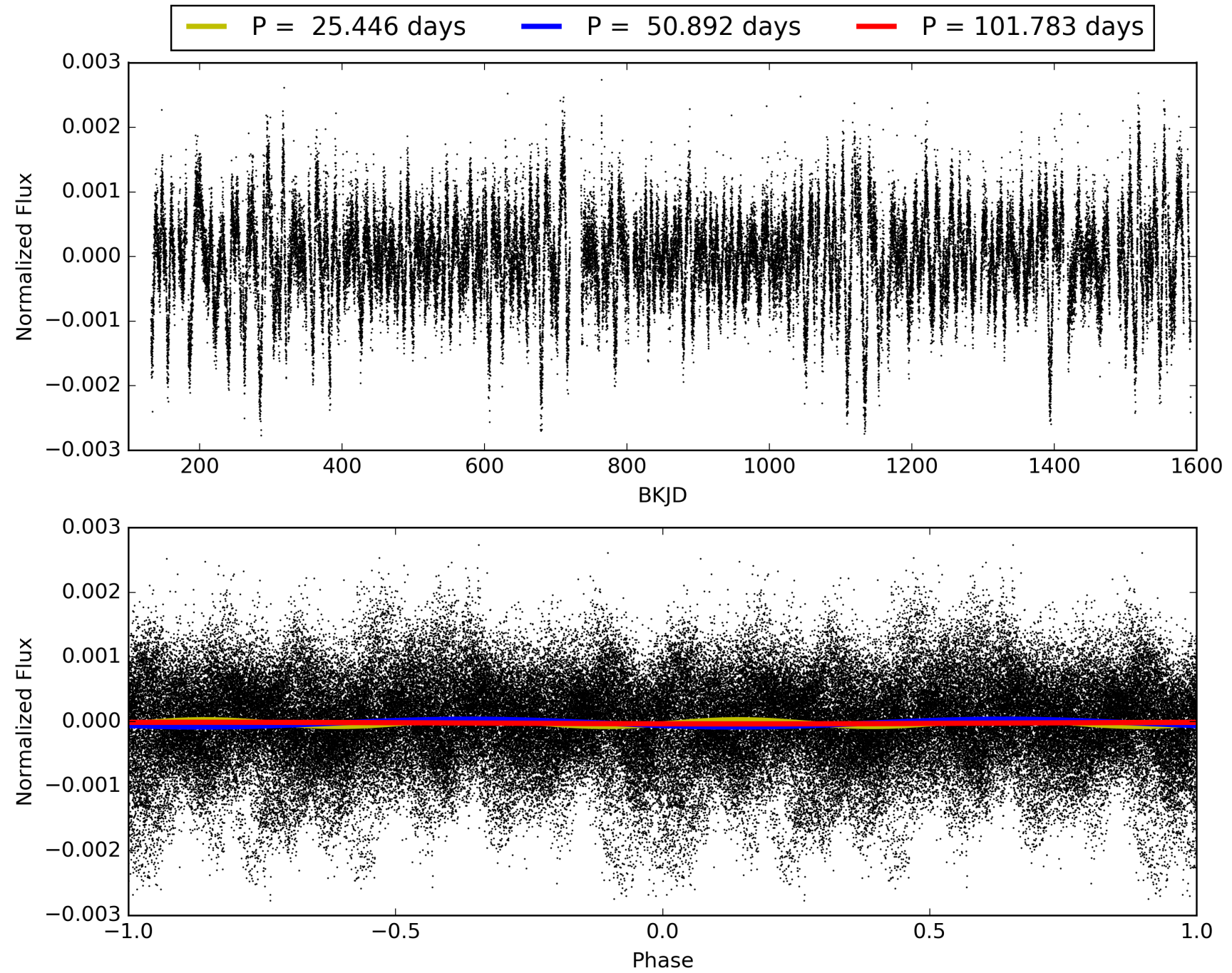
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:33:30 Z

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

TCE 007115878-04, PDC Light Curves

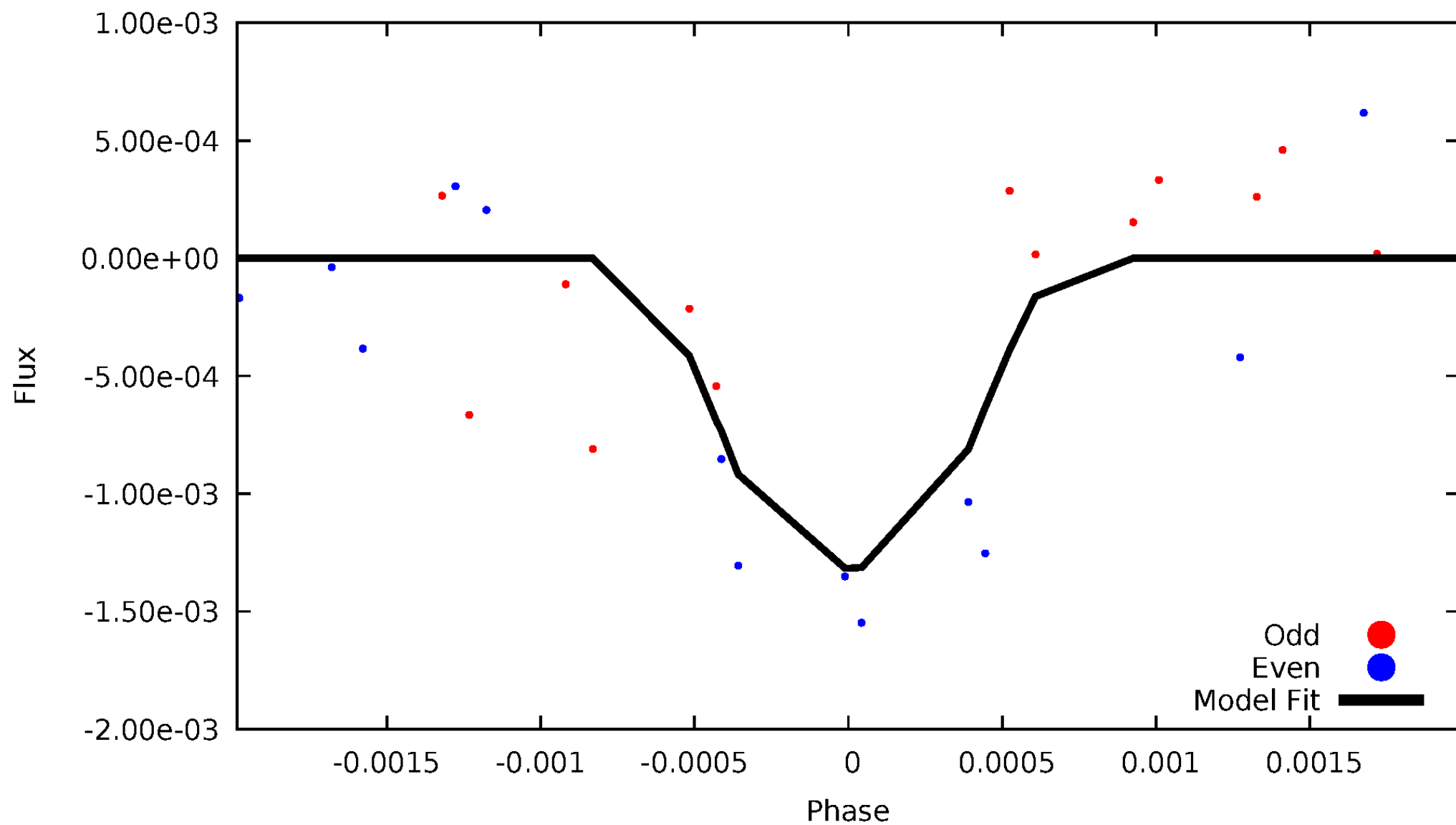


TCE 007115878-04



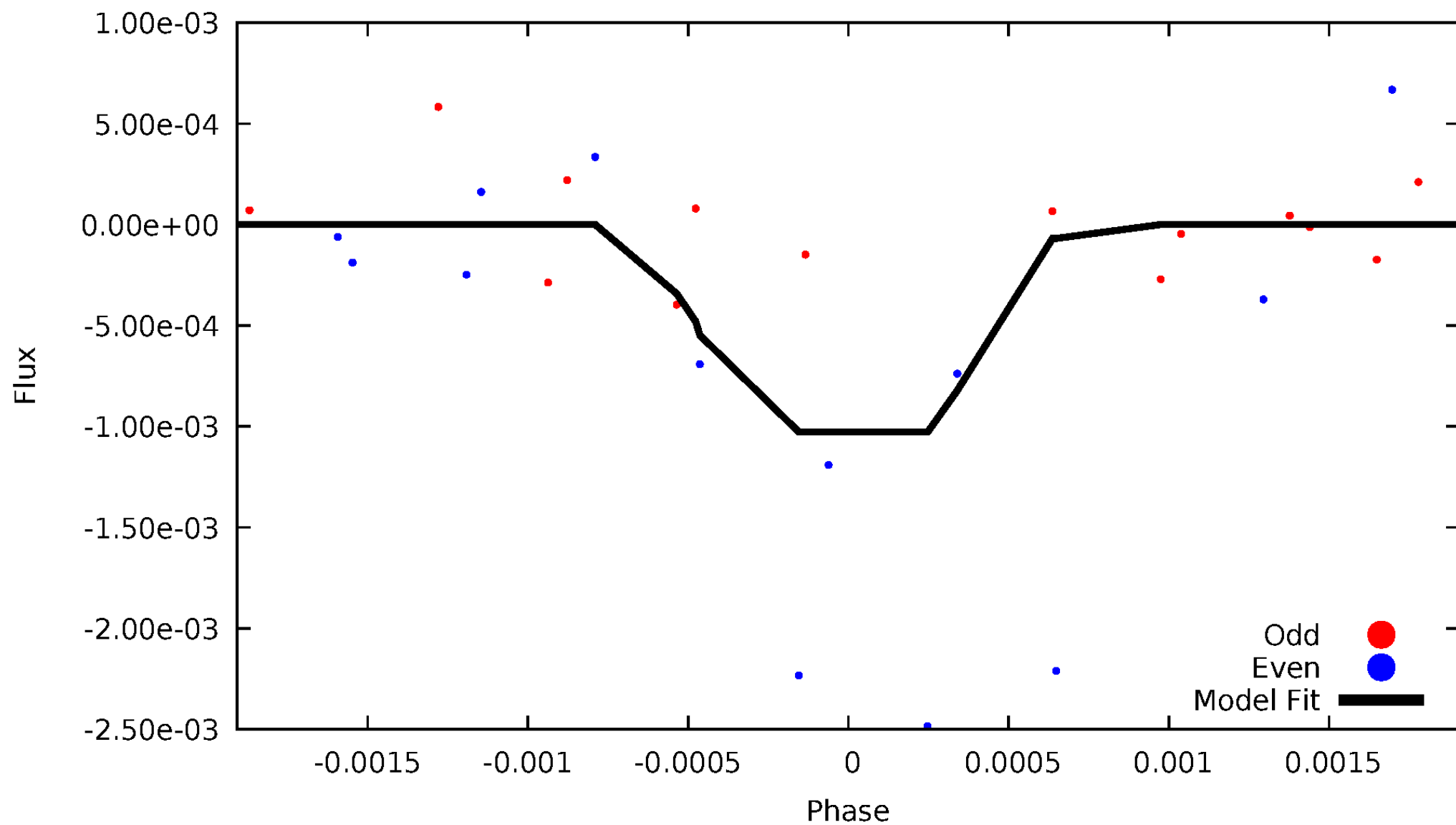
DV Odd/Even

TCE 007115878-04



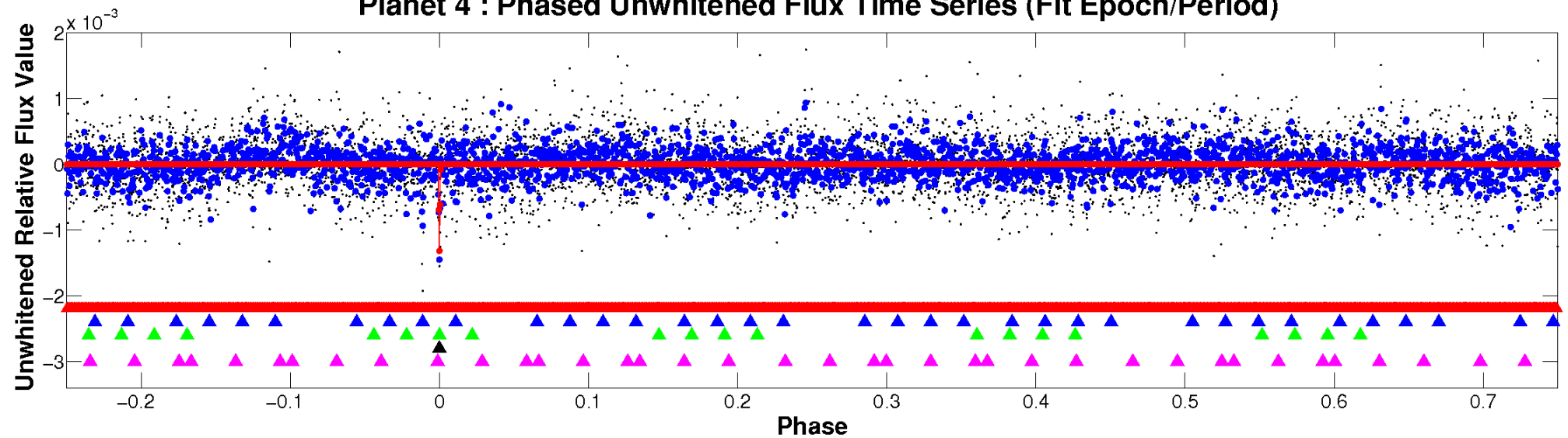
ALT Odd/Even

TCE 007115878-04

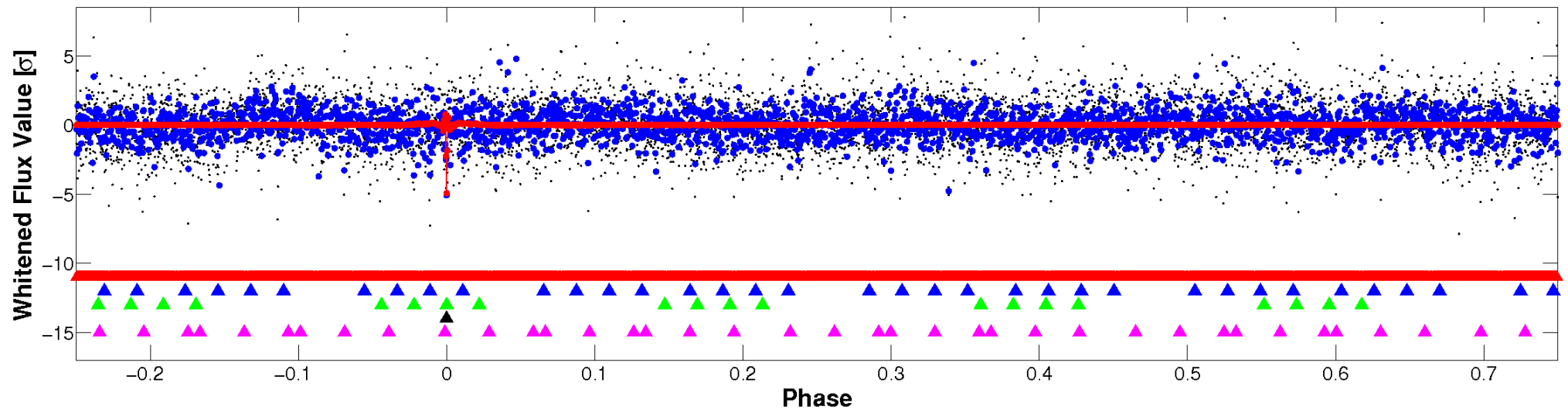


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

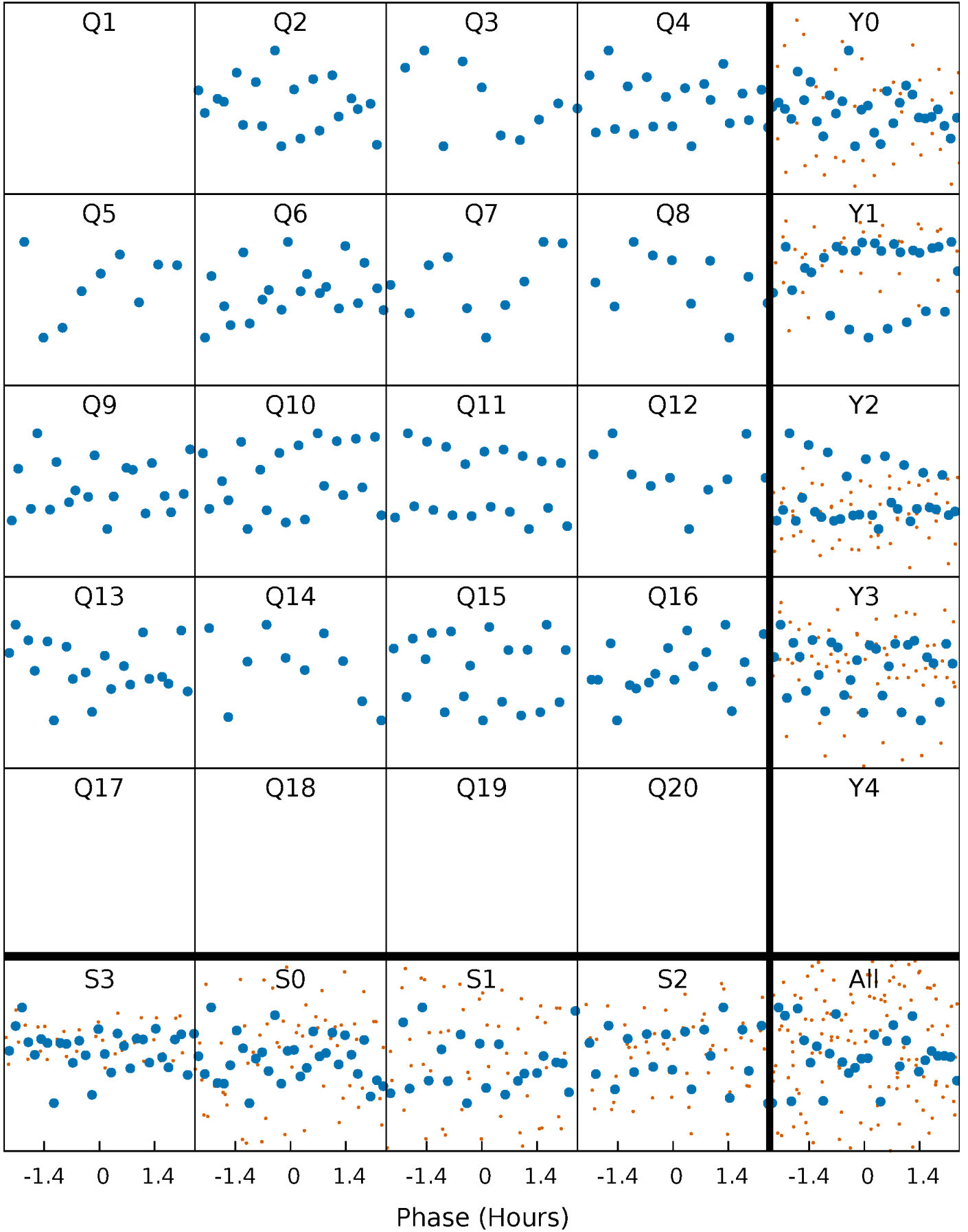


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



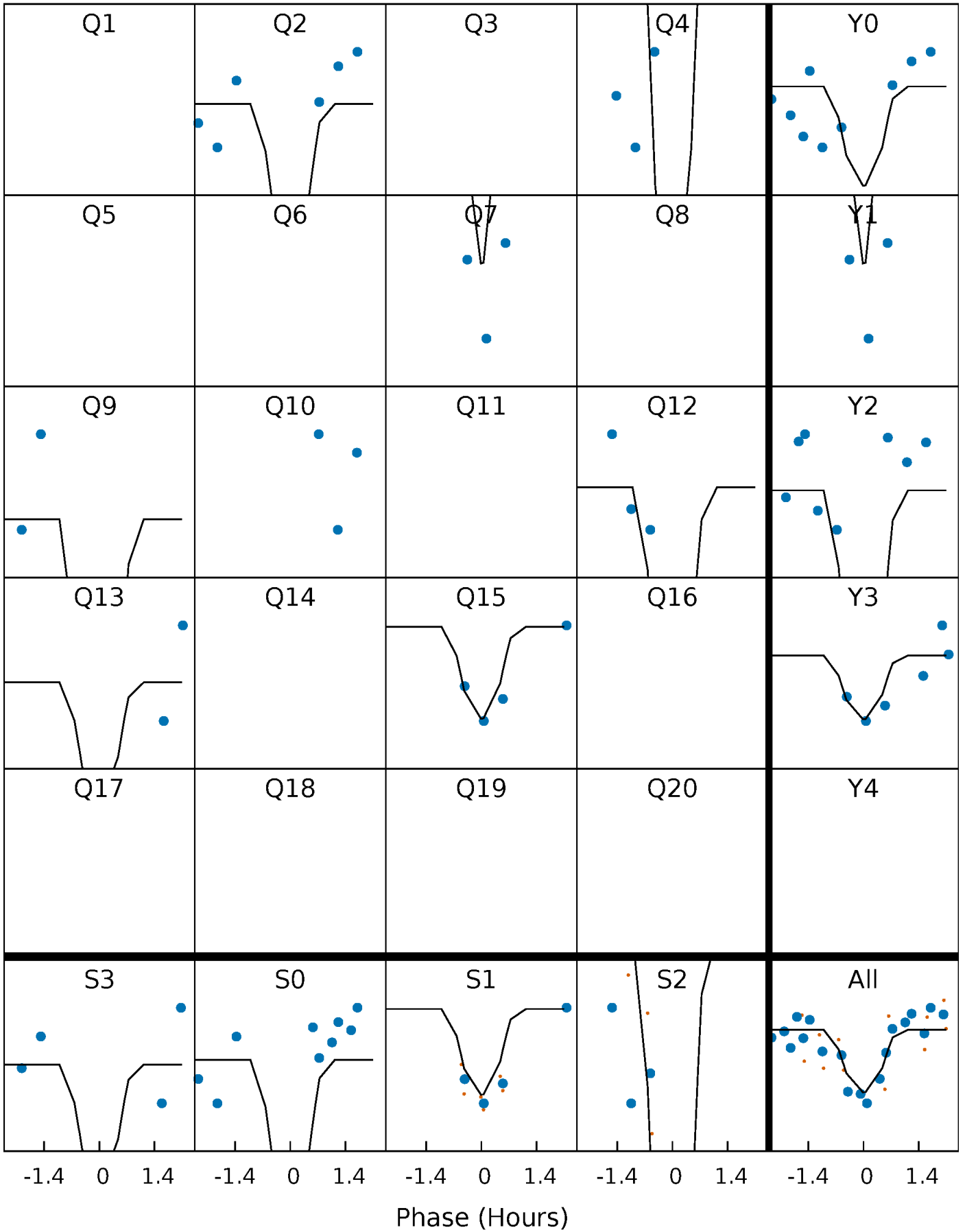
PDC Quarter-Phased Transit Curves

TCE 007115878-04 P= 50.891633 Days $T_0=170.724411$ (BKJD)



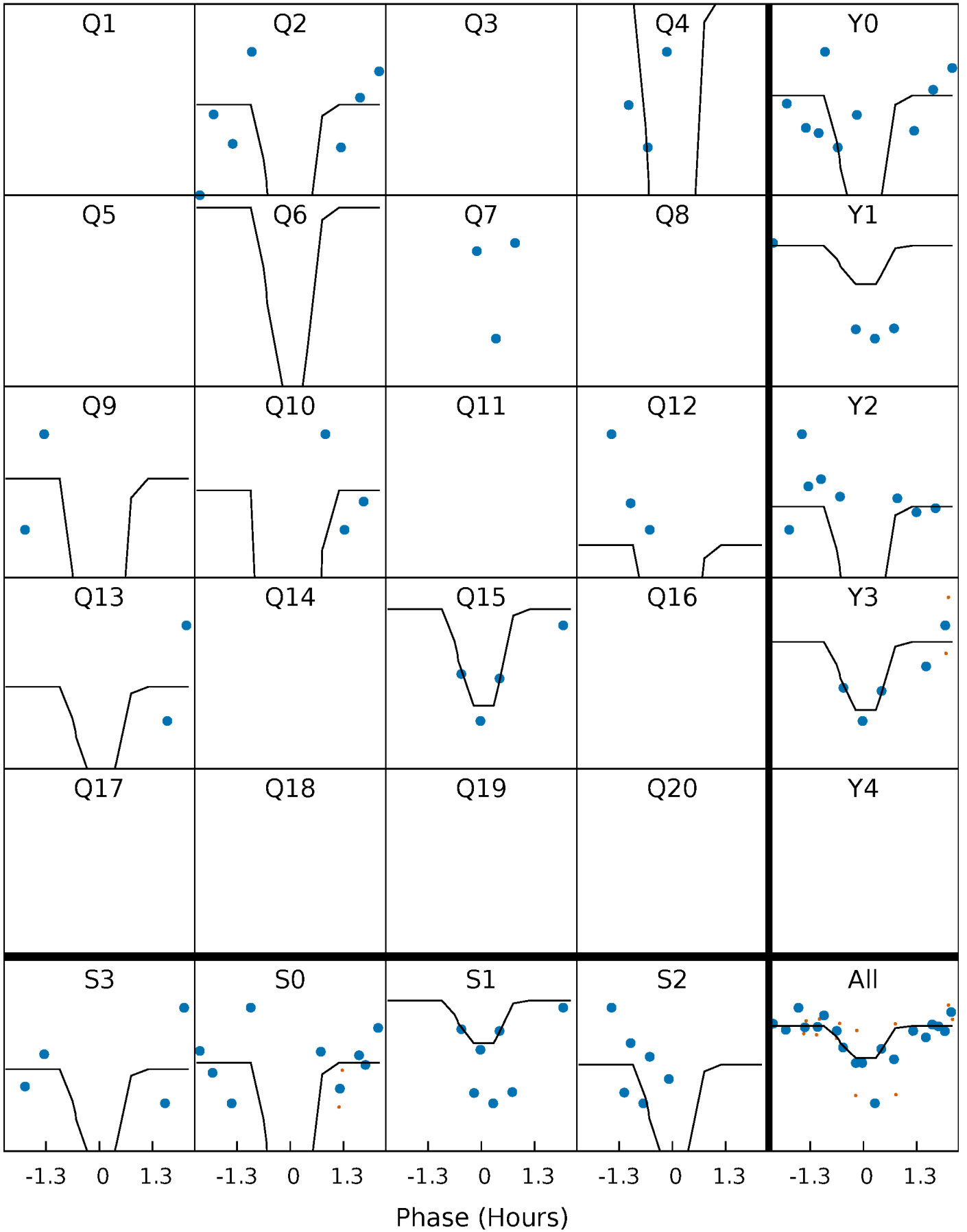
DV Quarter-Phased Transit Curves

TCE 007115878-04 P= 50.891633 Days $T_0=170.724411$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

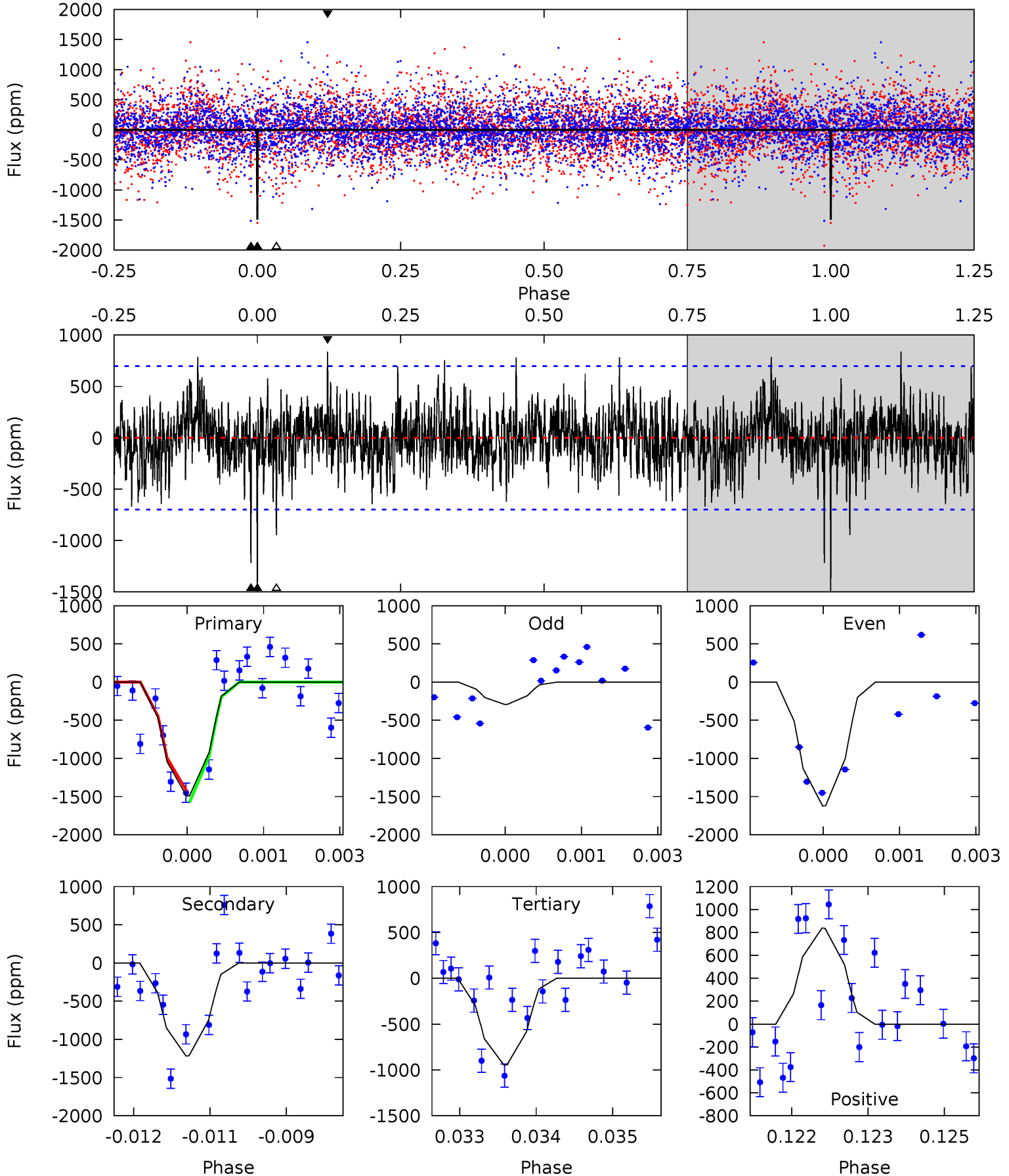
TCE 007115878-04 P= 50.892558 Days $T_0=170.704785$ (BKJD)



DV Model-Shift Uniqueness Test

007115878-04, P = 50.891633 Days, E = 119.832778 Days

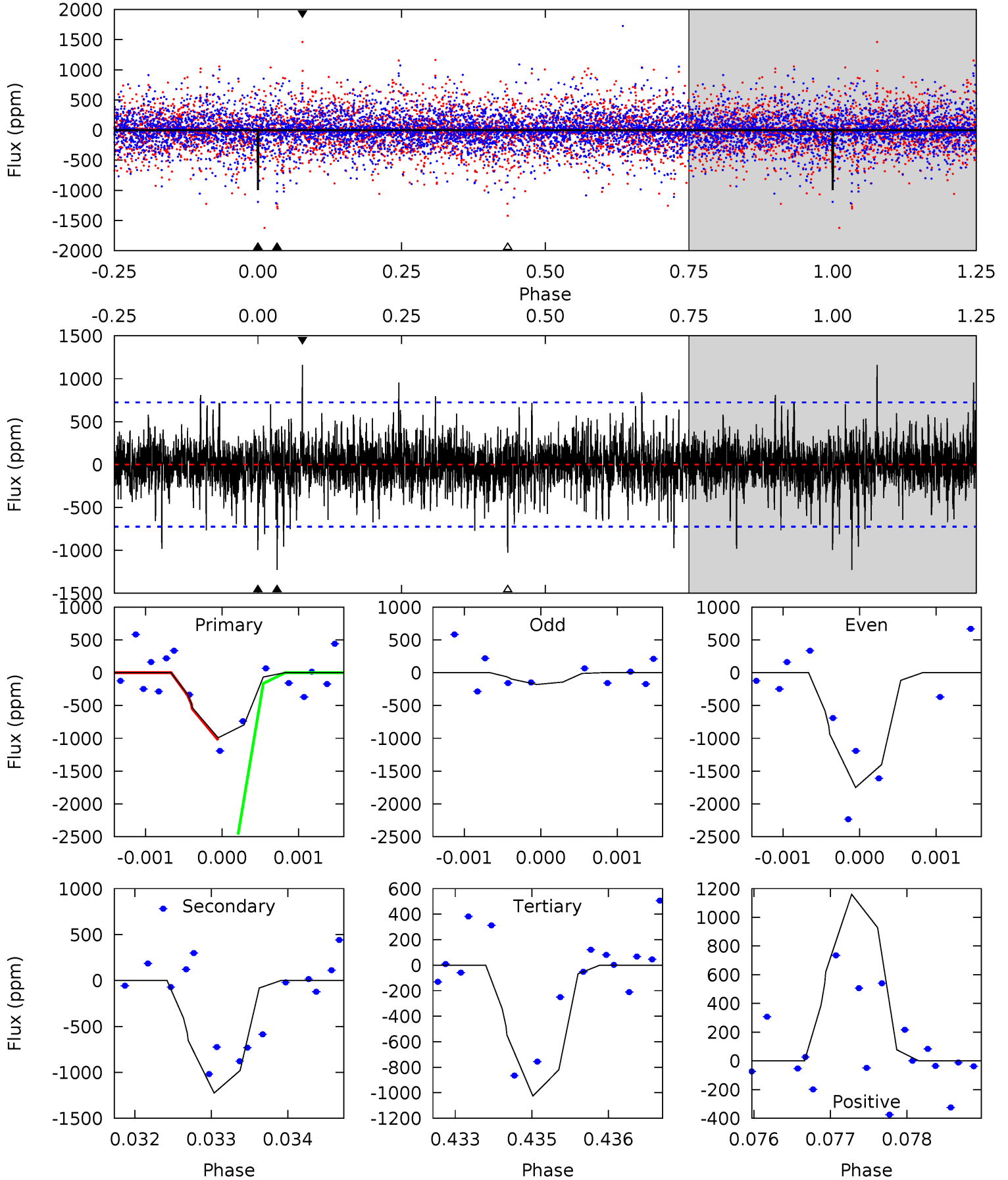
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.5 | 9.41 | 7.32 | 6.48 | 5.40 | 3.20 | 1.66 | 4.22 | 5.05 | 2.09 | 2.93 | 4.48 | 1.00 | 0.36 | 0.57 |



Alt Model-Shift Uniqueness Test

007115878-04, P = 50.892558 Days, E = 119.812227 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 7.44 | 9.17 | 7.68 | 8.69 | 5.42 | 3.24 | 1.56 | -0.24 | -1.25 | 1.49 | 0.48 | 6.79 | 1.13 | 0.49 | 5.35 |



Stellar Parameters For KIC 007115878

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6100^{+181}_{-200} | $4.358^{+0.128}_{-0.192}$ | $-0.200^{+0.250}_{-0.300}$ | $1.093^{+0.322}_{-0.174}$ | $0.993^{+0.153}_{-0.111}$ | $1.072^{+0.633}_{-0.540}$ |
| | +3%/-3% | +3%/-4% | +125%/-150% | +29%/-16% | +15%/-11% | +59%/-50% |
| 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 007115878-04 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|------------------------|-------------------|------------------------|-------------------------|
| DV | -1217 ± 129 | $6.03^{+5.43}_{-3.97}$ | 766^{+56}_{-47} | 5174^{+4086}_{-1151} | 1286^{+11066}_{-924} |
| Alt. | -1225 ± 134 | $5.71^{+5.32}_{-3.97}$ | 764^{+59}_{-43} | 5345^{+5044}_{-1246} | 1484^{+15365}_{-1084} |

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 $A_{obs} \gg 1.0$

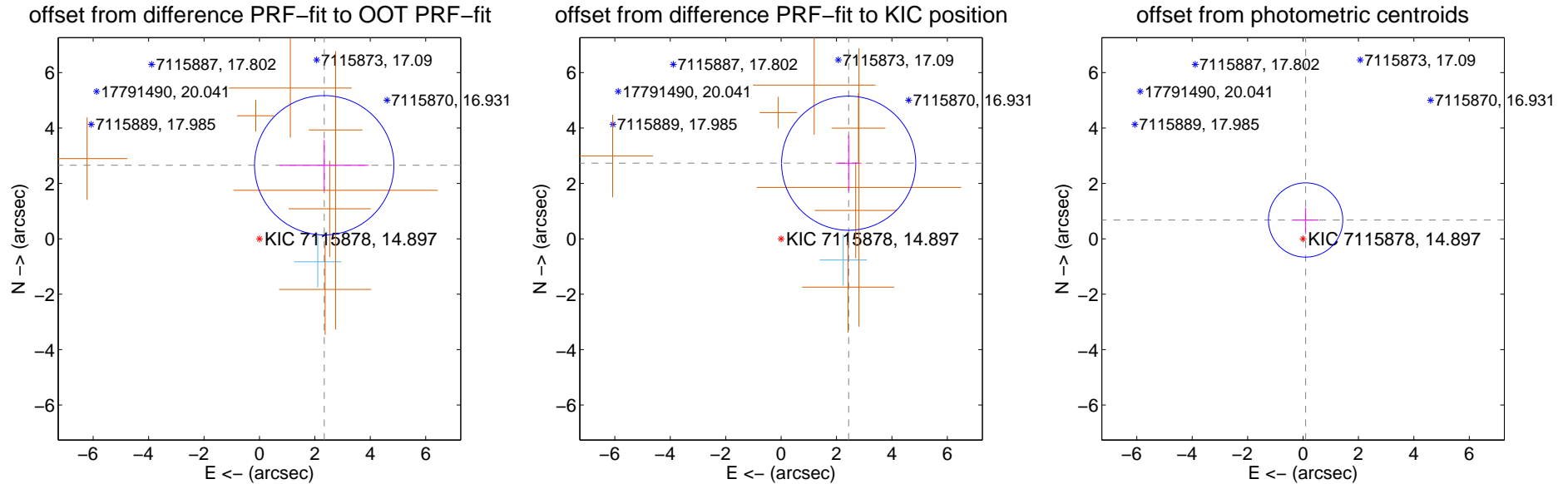
DV Centroid Data

Supplemental centroid analysis for 007115878-04. Kepler magnitude: 14.90. Transit SNR 9.30

There are 1 quarters with good PRF difference image offsets

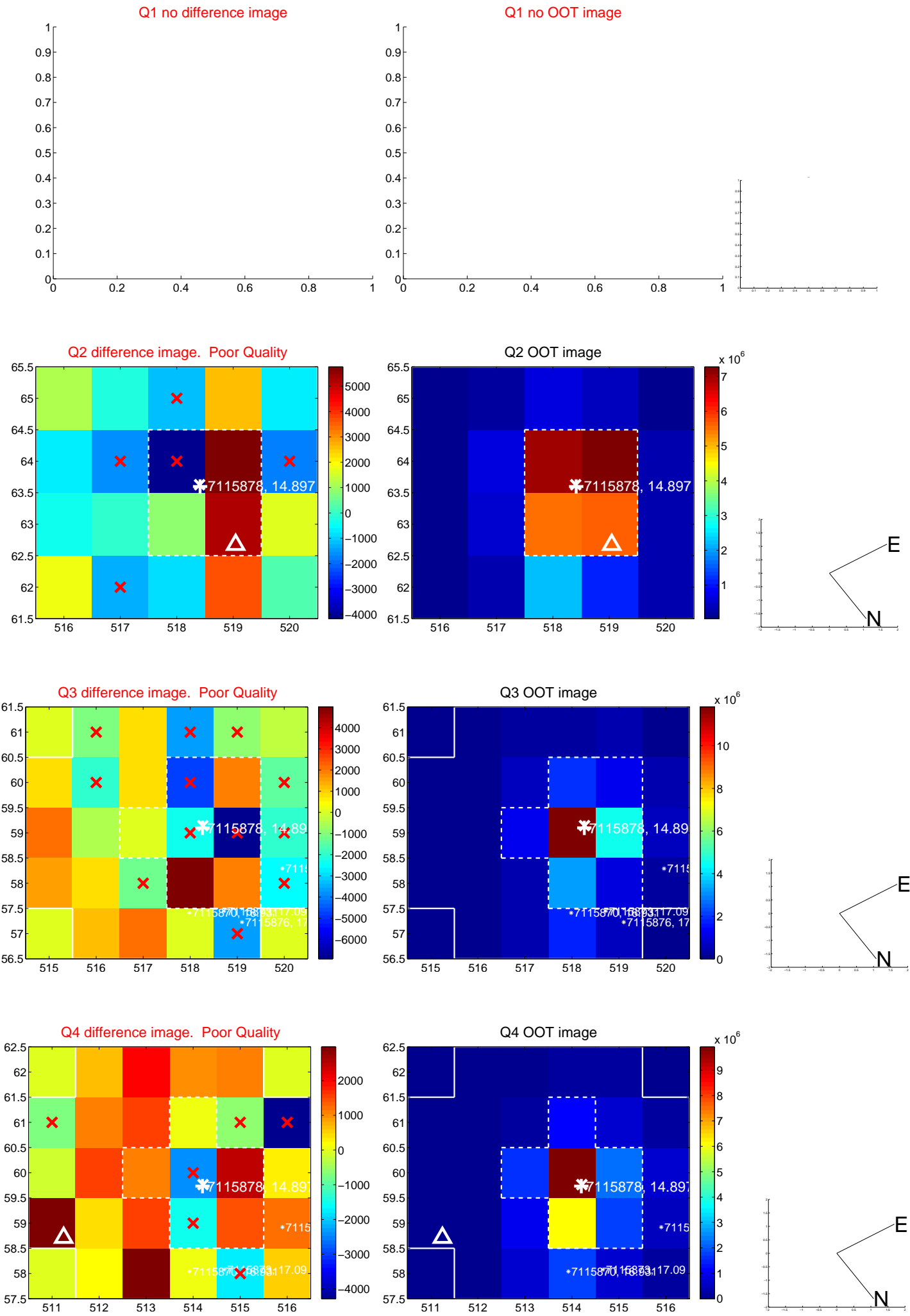
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 3.538 ± 0.838 | 4.22 | -2.338 ± 1.601 | 2.655 ± 0.911 |
| PRF-fit source offset from KIC position | 3.660 ± 0.807 | 4.54 | -2.439 ± 0.459 | 2.730 ± 1.001 |
| photometric centroid source offset | 0.69 ± 0.45 | 1.53 | -0.09 ± 0.46 | 0.68 ± 0.45 |

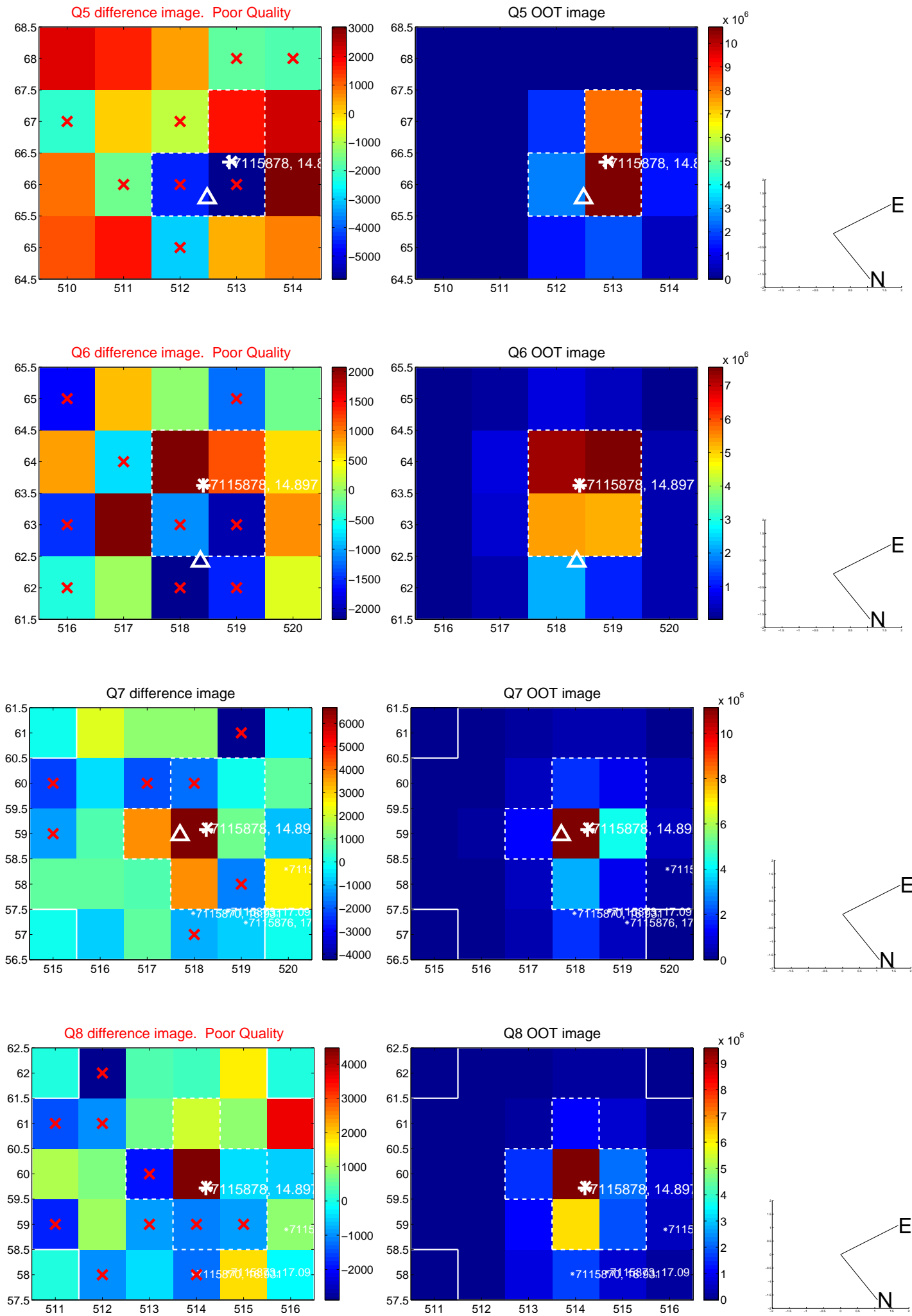


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

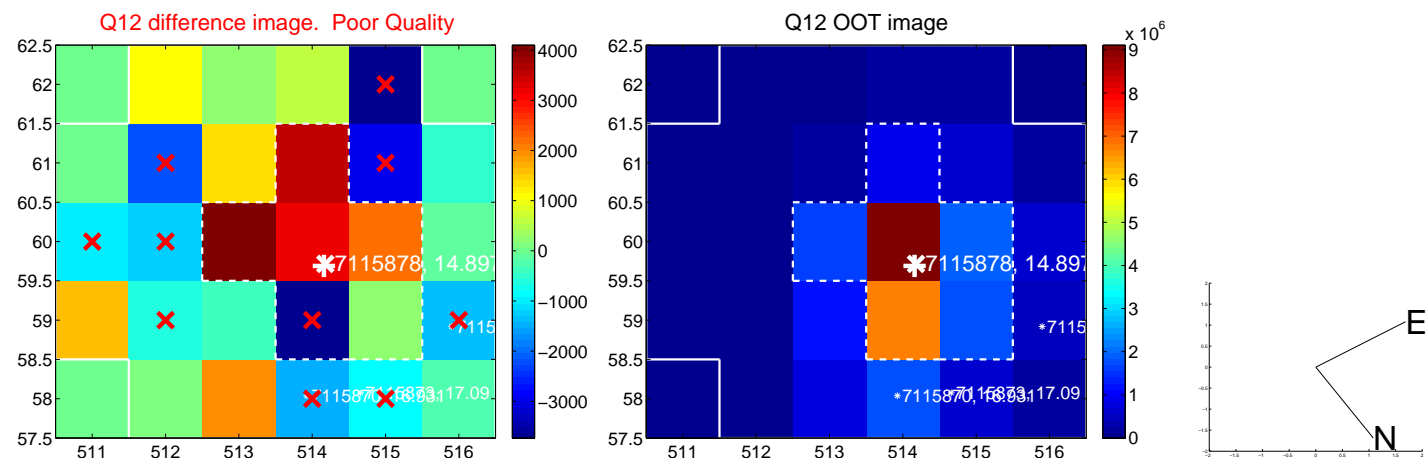
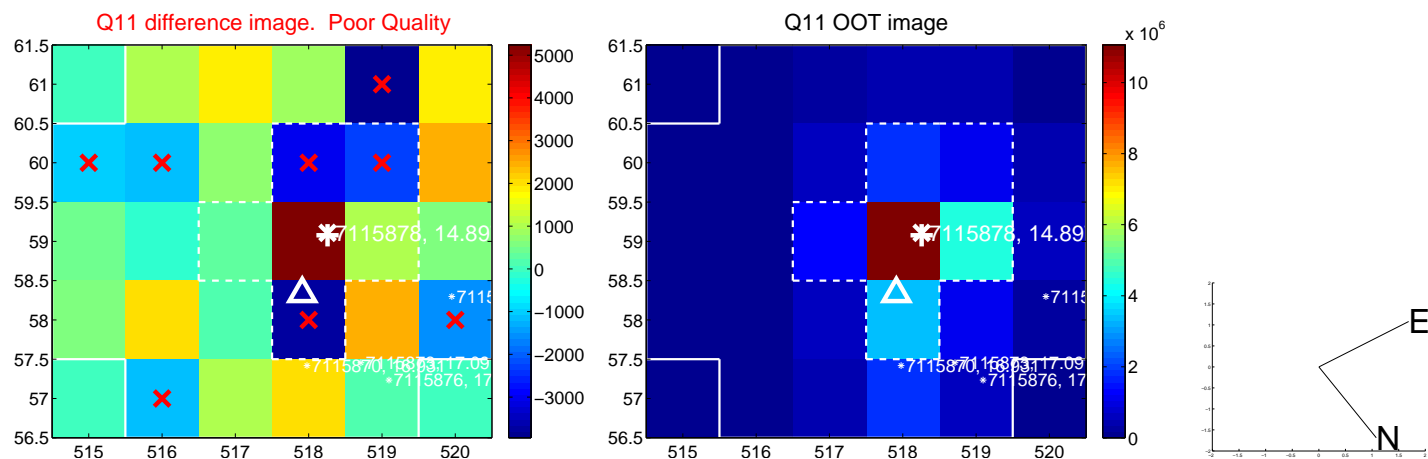
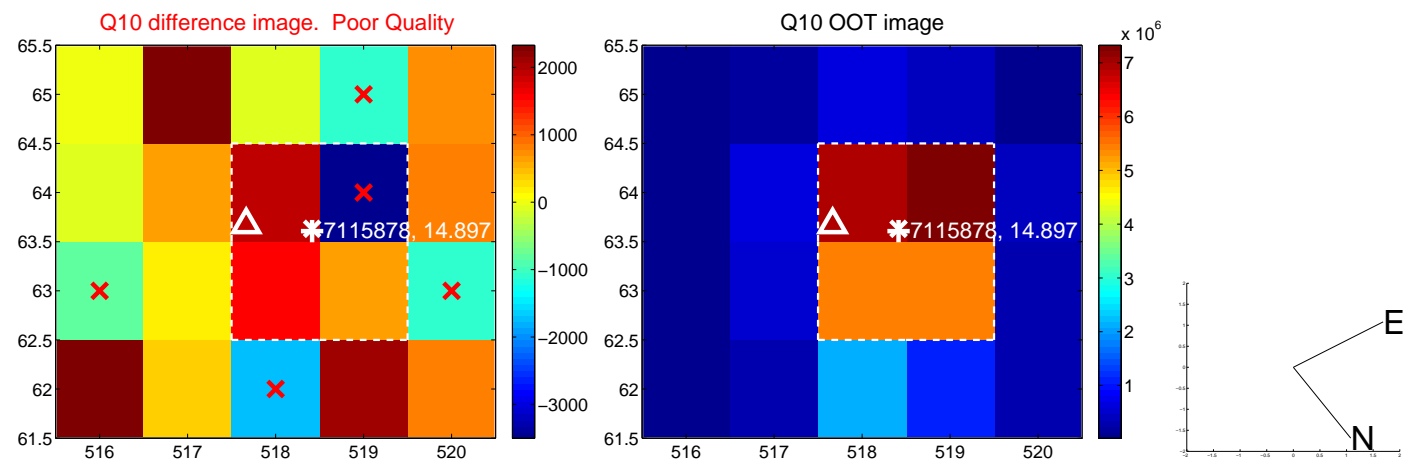
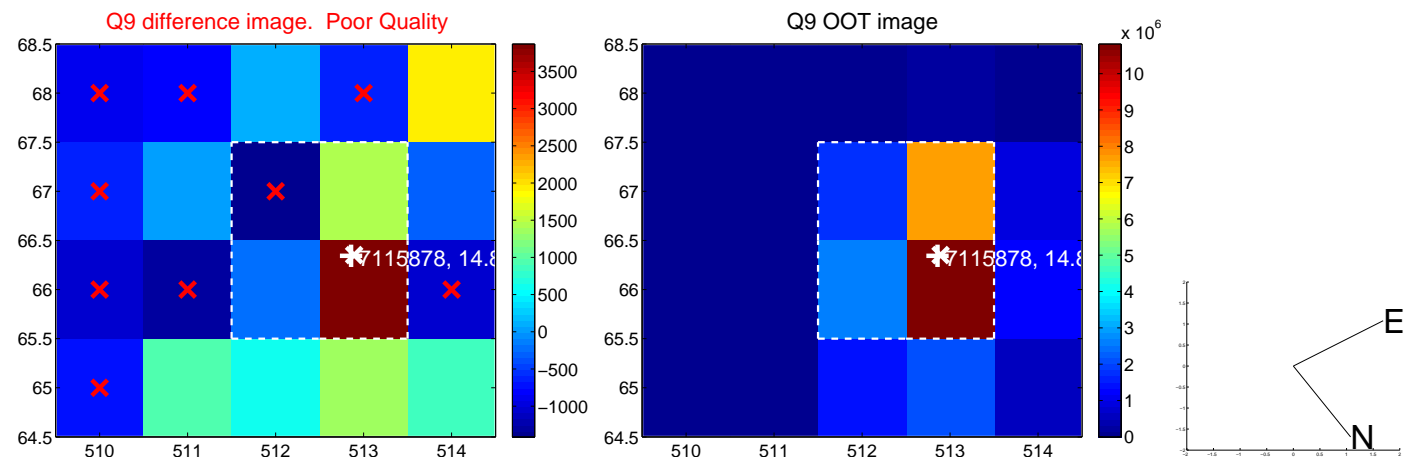
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



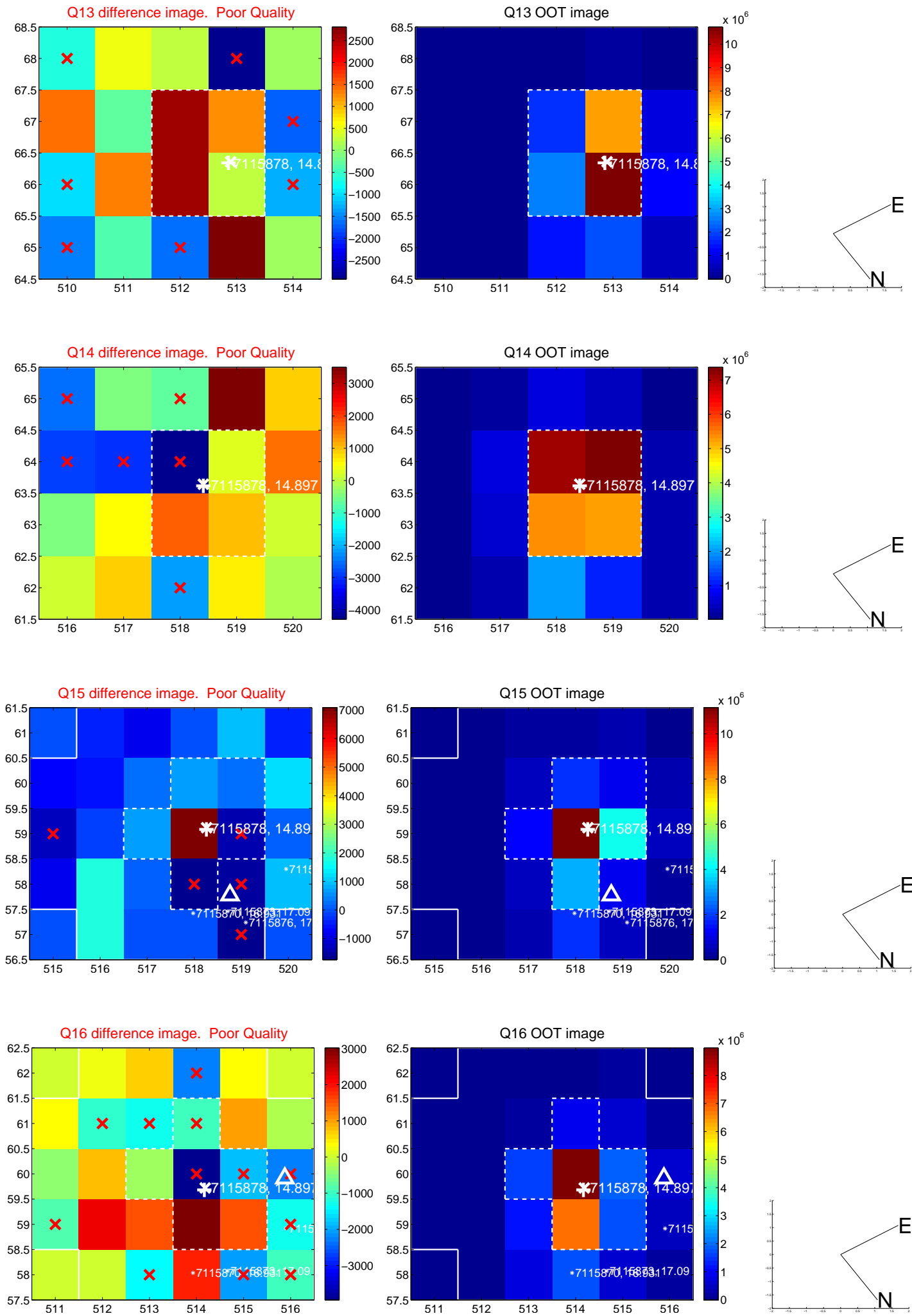
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



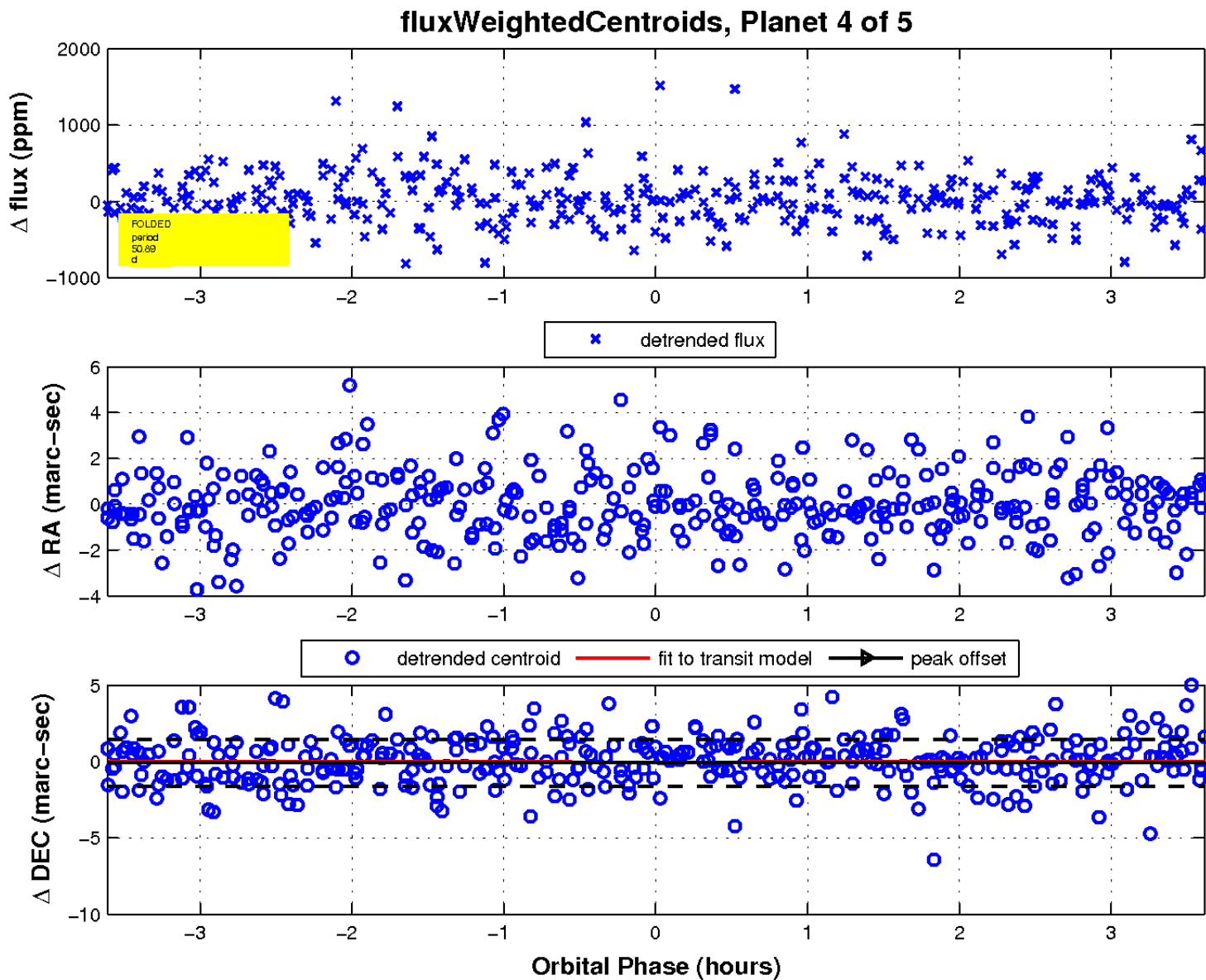
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

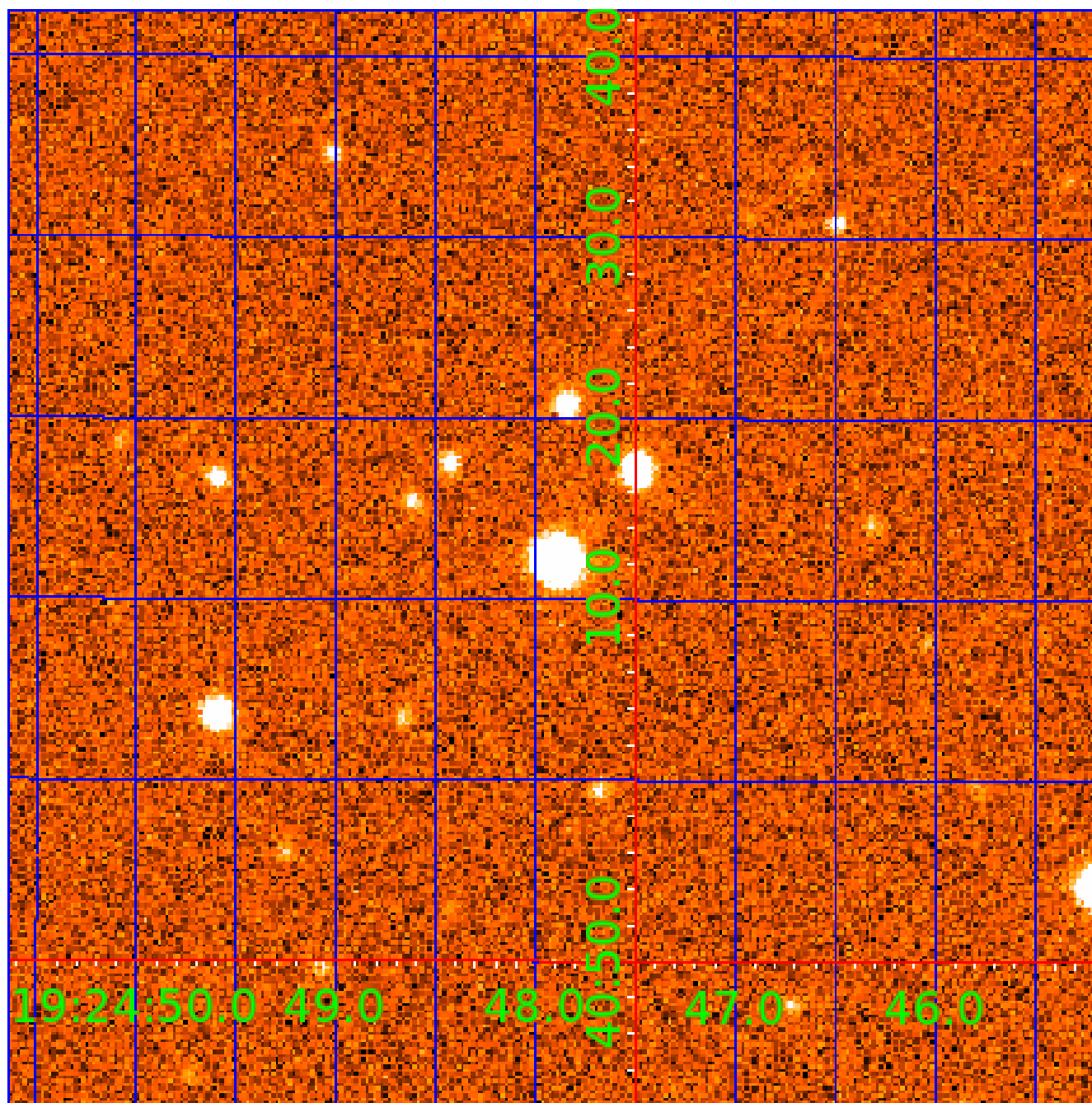


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007115878

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007115878-01 | OBS | 6825.01 | 0.566803 | 131.827966 | 30.4 | 3.878 | 10.3 | 9.3 | 1.09 | 6100 | 0.64 | 8280.39 |
| 007115878-02 | OBS | No | 39.707479 | 161.748280 | 980.8 | 1.645 | 12.6 | 9.0 | 1.09 | 6100 | 3.74 | 28.67 |
| 007115878-03 | OBS | No | 71.472015 | 178.220481 | 1269.1 | 1.701 | 10.5 | 10.7 | 1.09 | 6100 | 4.08 | 13.10 |
| 007115878-04 | OBS | No | 50.891633 | 170.724411 | 1316.5 | 1.213 | 10.2 | 9.3 | 1.09 | 6100 | 3.99 | 20.59 |
| 007115878-05 | OBS | No | 39.030600 | 146.535997 | 1427.7 | 1.500 | 10.4 | -1.0 | 1.09 | 6100 | 4.14 | 29.34 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007115878-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 1 | LPP_DV—HALO_GHOST—EPHEM_MATCH |
| 007115878-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS |
| 007115878-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 007115878-04 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST |
| 007115878-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS |

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 007115878-05

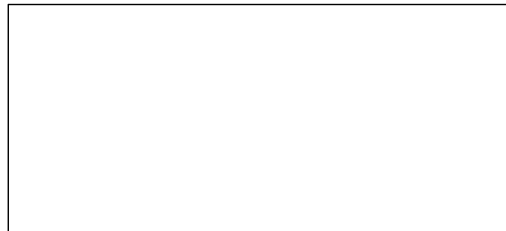
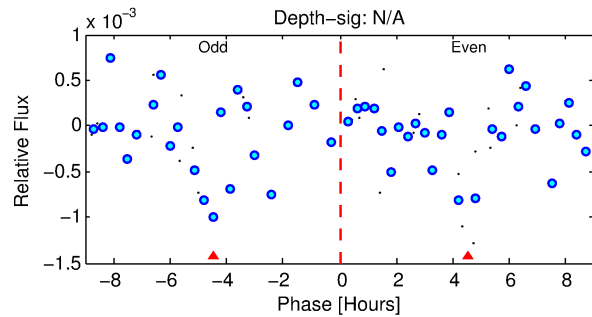
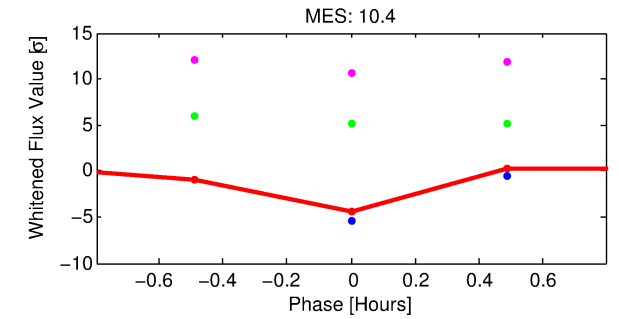
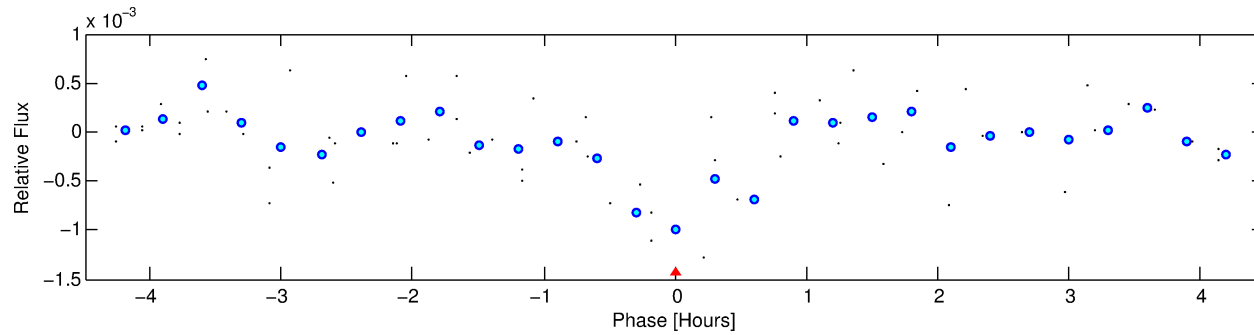
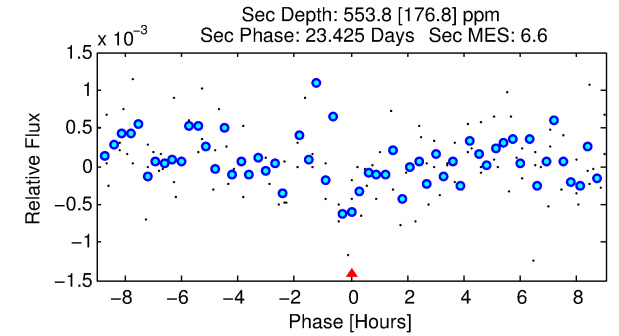
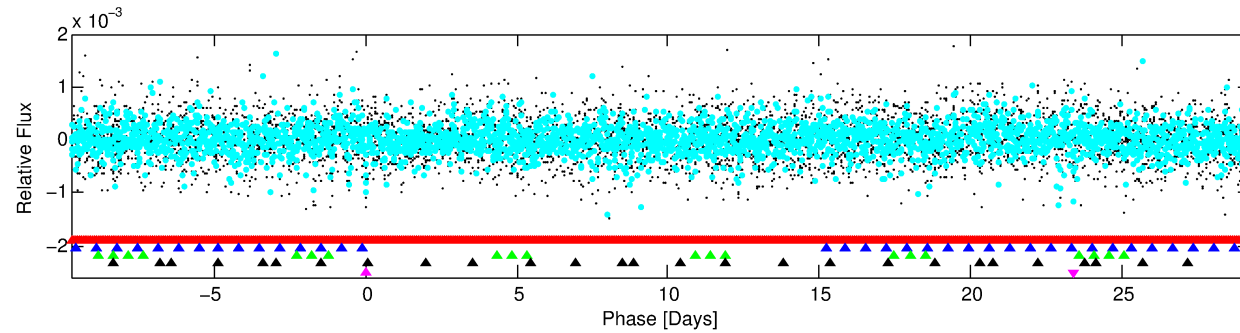
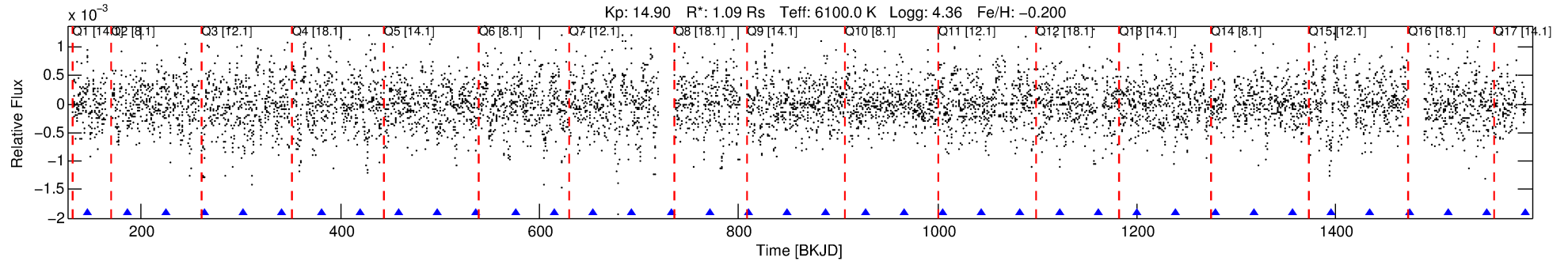
No Significant Match Found

DV One-Page Summary

KIC: 7115878 Candidate: 5 of 5 Period: 39.031 d

KOI: K06825 Corr: No Ephemeris Match

Kp: 14.90 R*: 1.09 Rs Teff: 6100.0 K Logg: 4.36 Fe/H: -0.200



TPS TCE Results:

Period = 39.03060 d
Epoch = 146.5360 BKJD

DV fit results are unavailable

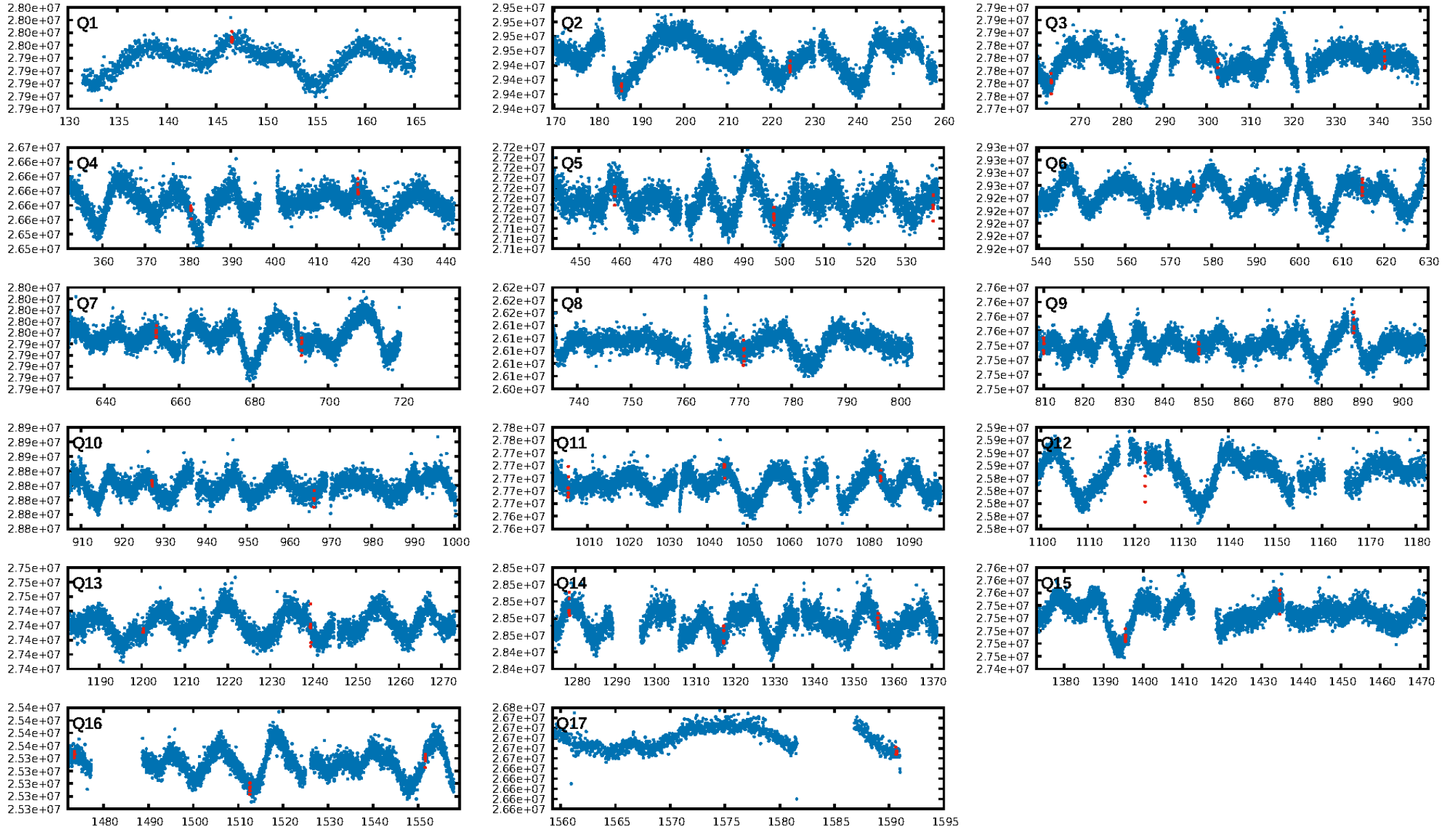
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [222.02σ]
LongPeriod-sig: 100.0% [7.30σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.49e-11
RollingBand-fgt: N/A
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

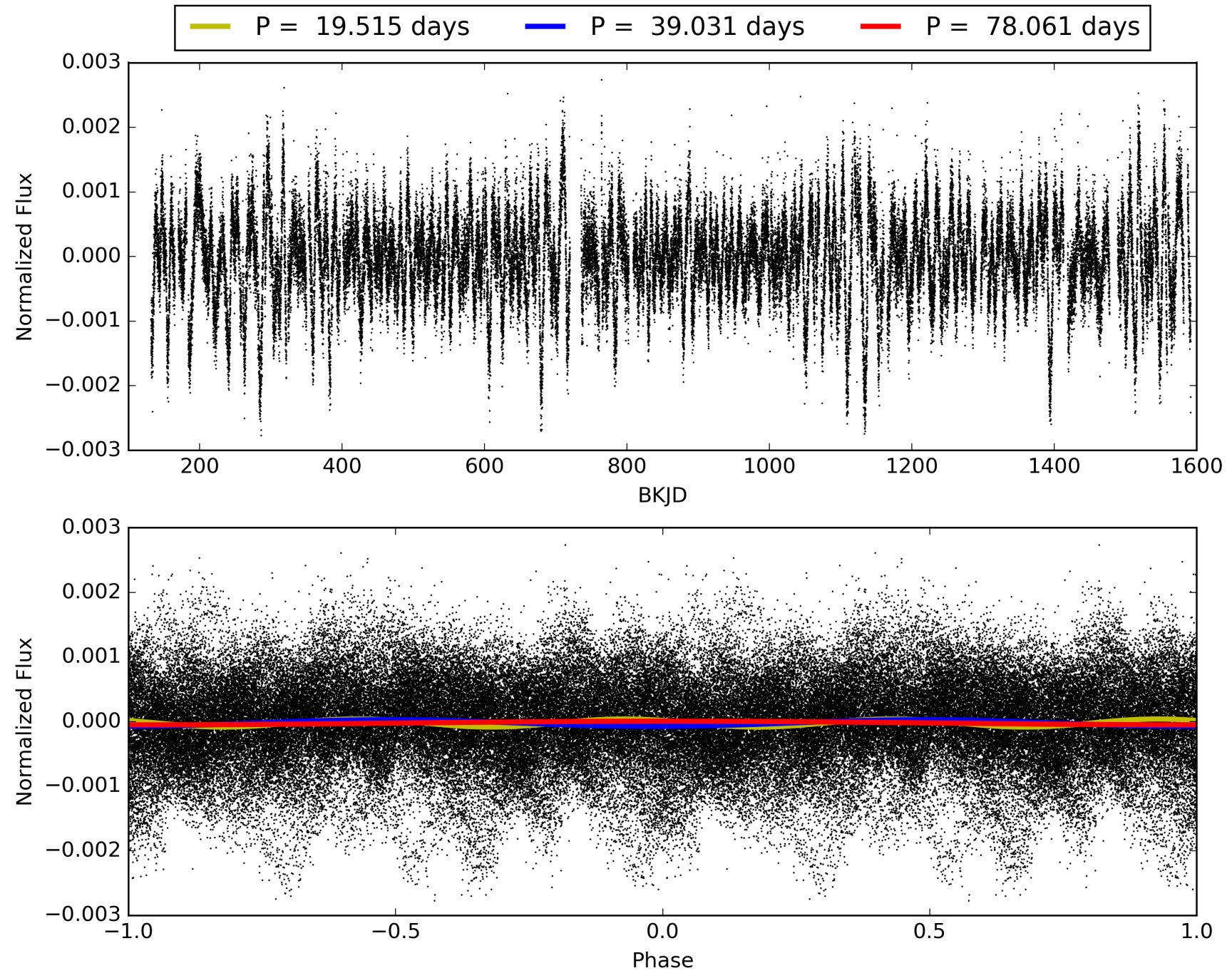
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:33:34 Z

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

TCE 007115878-05, PDC Light Curves

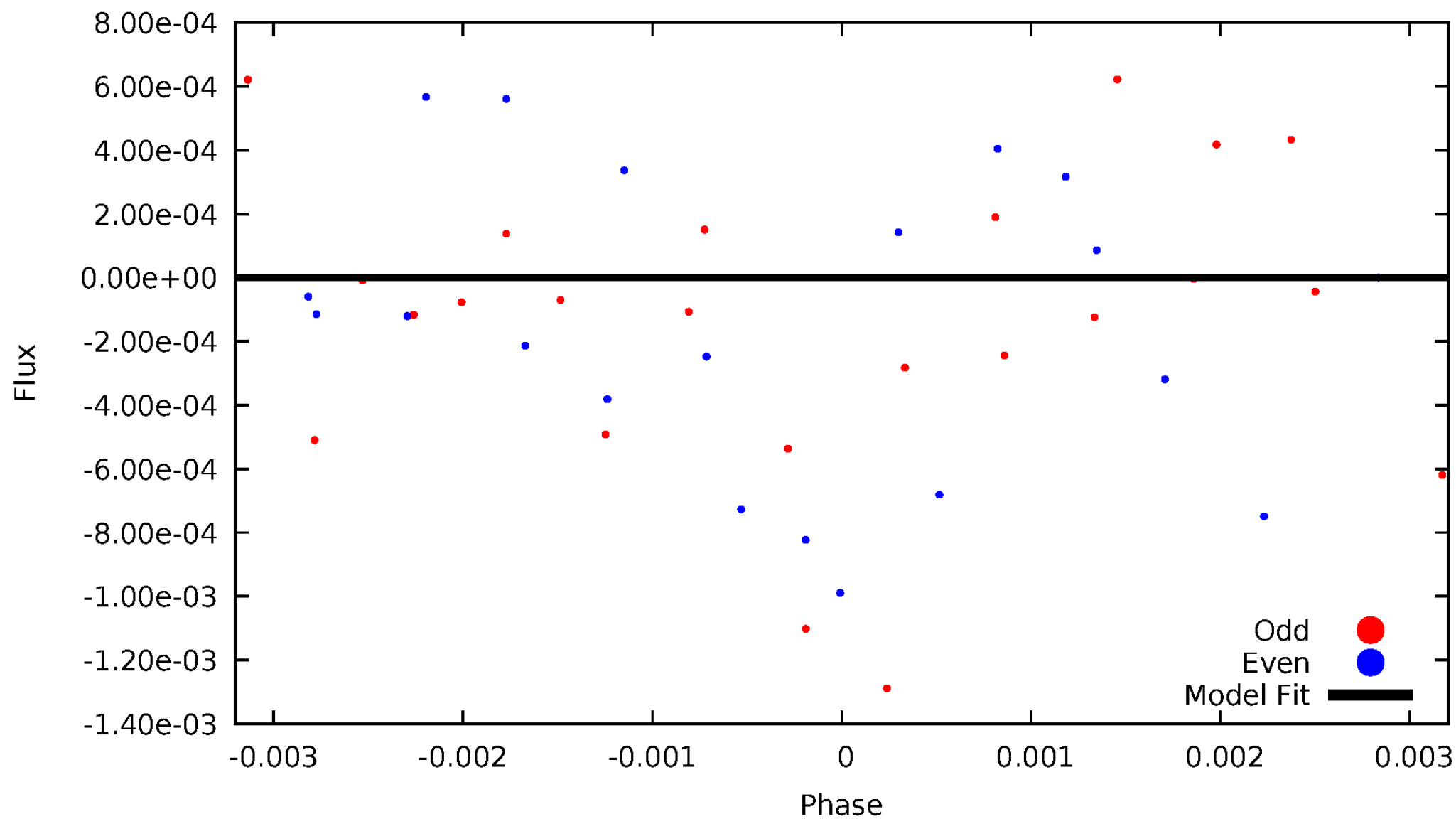


TCE 007115878-05



DV Odd/Even

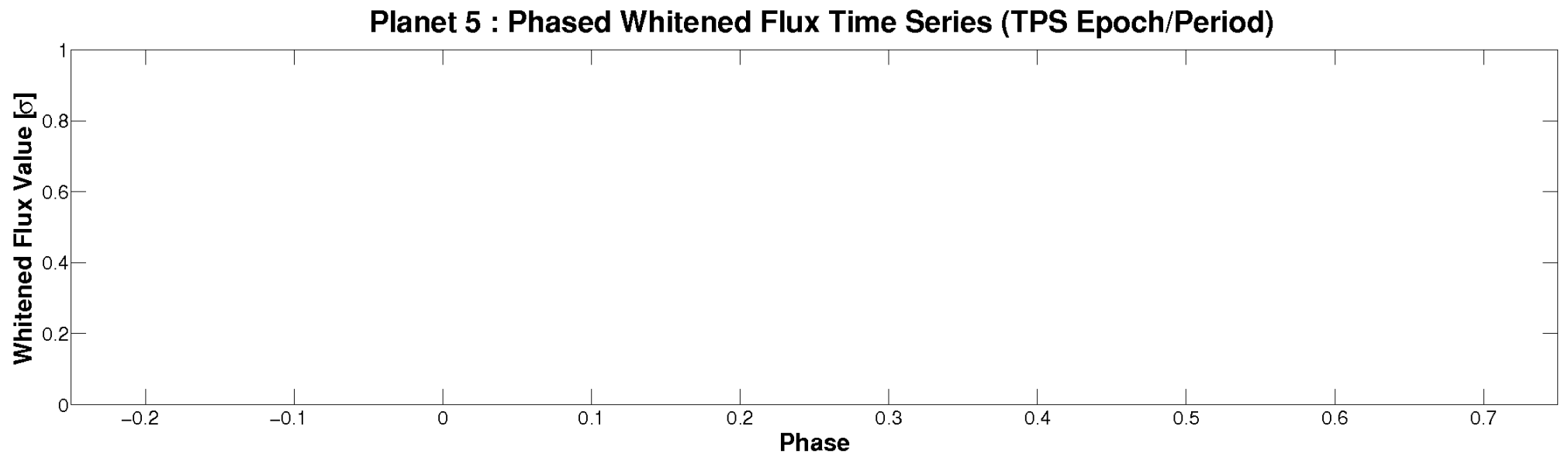
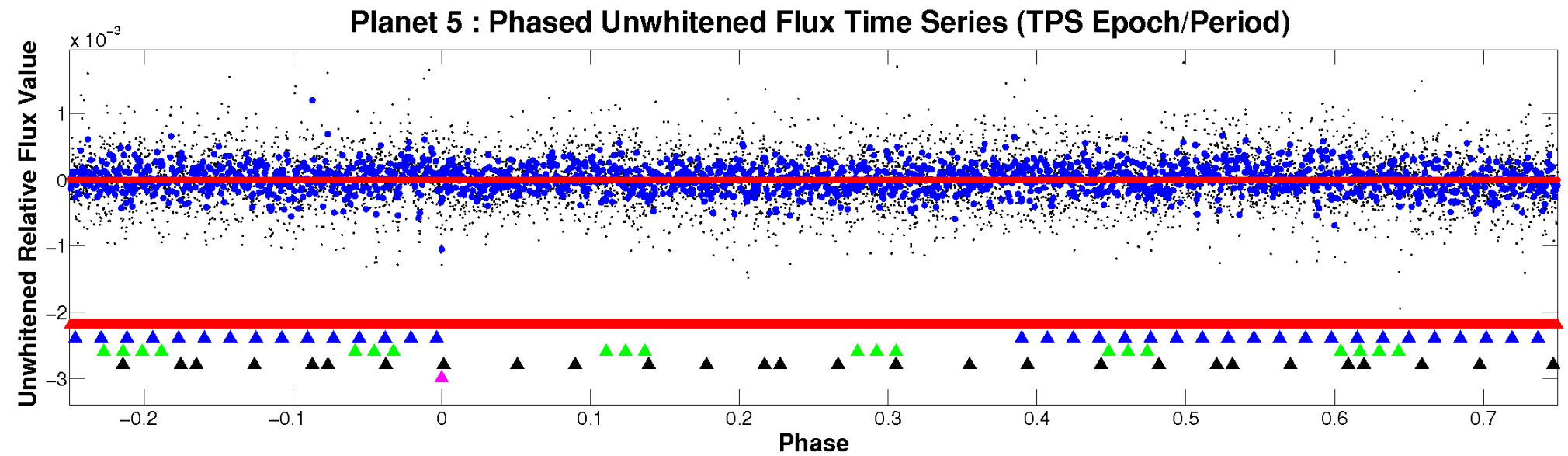
TCE 007115878-05



ALT Odd/Even

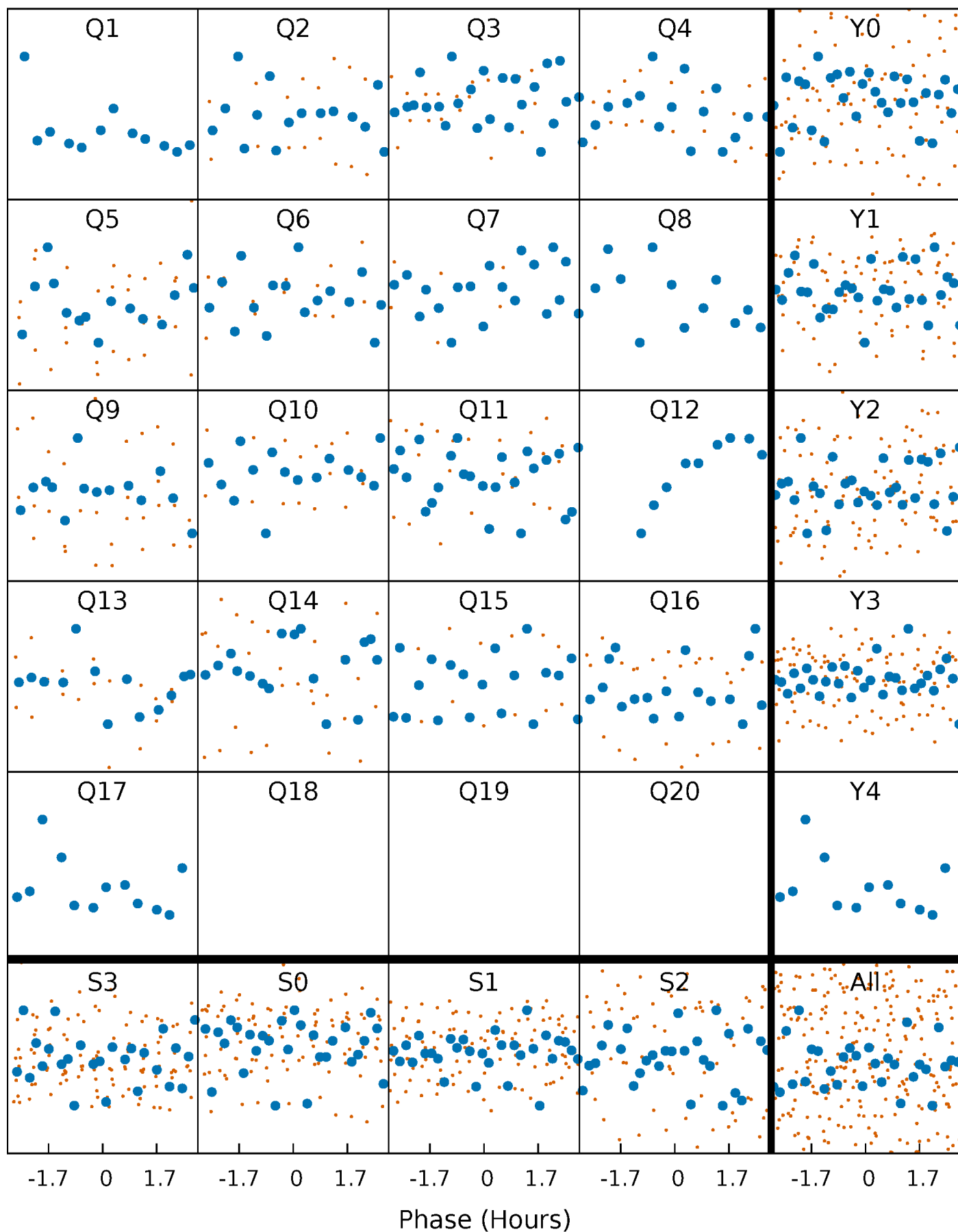
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 007115878-05 $P = 39.030600$ Days $T_0 = 146.535997$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007115878-05 P= 39.030600 Days $T_0=146.535997$ (BKJD)

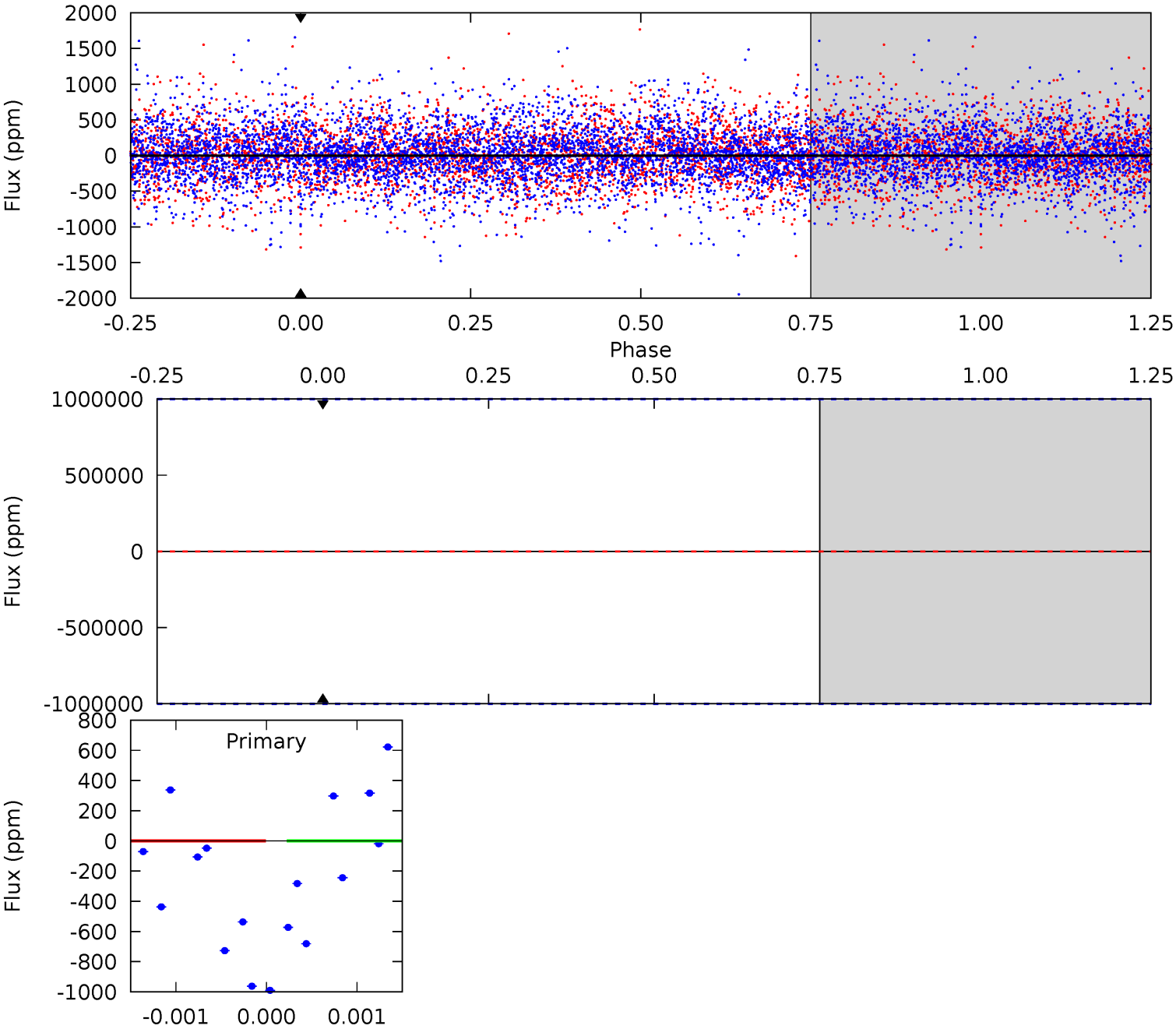


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007115878-05, P = 39.030600 Days, E = 107.505397 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00 | 1.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007115878

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6100^{+181}_{-200} | $4.358^{+0.128}_{-0.192}$ | $-0.200^{+0.250}_{-0.300}$ | $1.093^{+0.322}_{-0.174}$ | $0.993^{+0.153}_{-0.111}$ | $1.072^{+0.633}_{-0.540}$ |
| | +3%/-3% | +3%/-4% | +125%/-150% | +29%/-16% | +15%/-11% | +59%/-50% |
| 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 007115878-05 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|------------------------|-------------------|--------------------------|-------------------------|
| DV | 0 ± 1000000 | $9.92^{+9.96}_{-6.78}$ | 833^{+58}_{-51} | 4589^{+20889}_{-23650} | 481^{+67600}_{-44615} |
| Alt. | N/A | N/A | N/A | N/A | N/A |

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 $A_{obs} \gg 1.0$

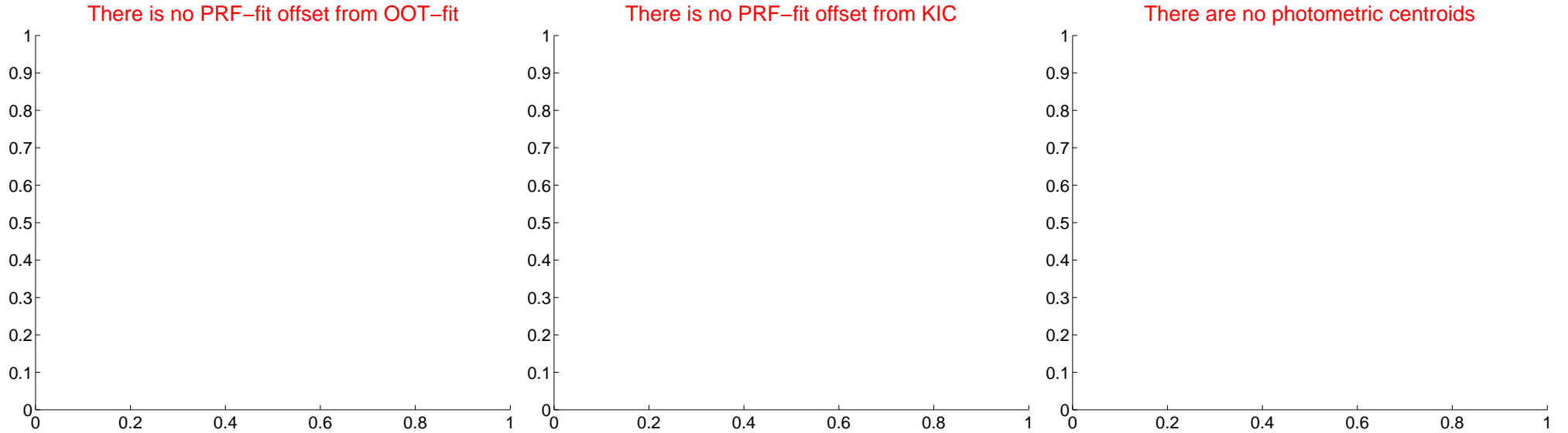
DV Centroid Data

Supplemental centroid analysis for 007115878-05. Kepler magnitude: 14.90. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

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

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------|--------------|
| PRF-fit source offset from OOT | — | — | — | — |
| PRF-fit source offset from KIC position | — | — | — | — |
| 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- 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.

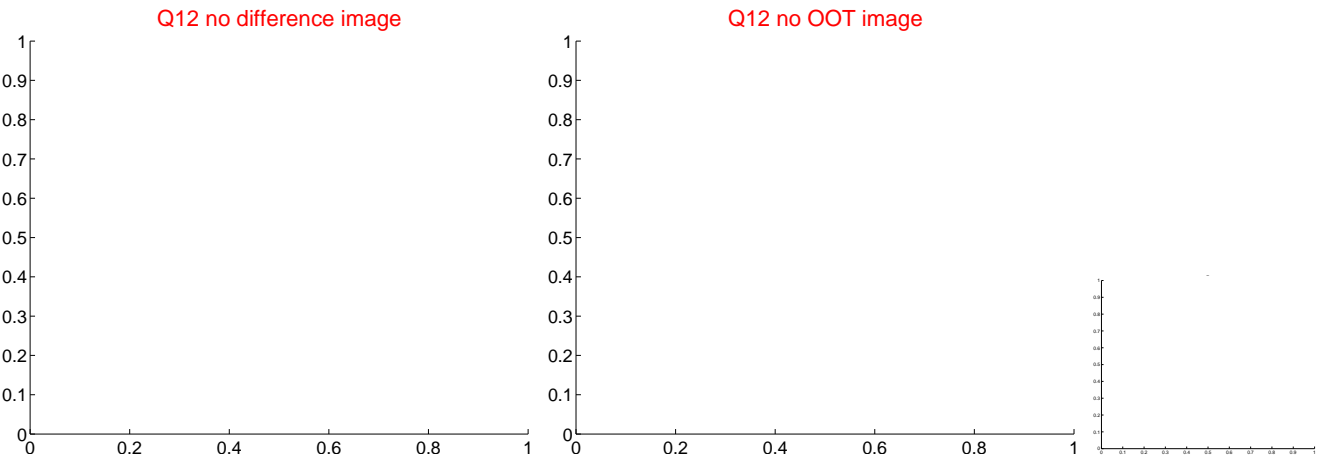
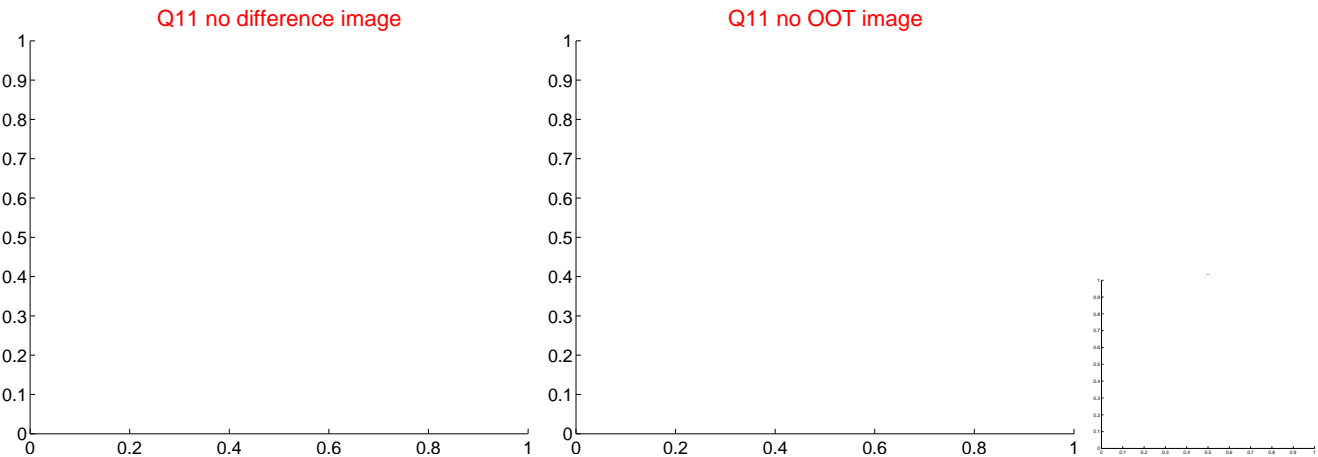
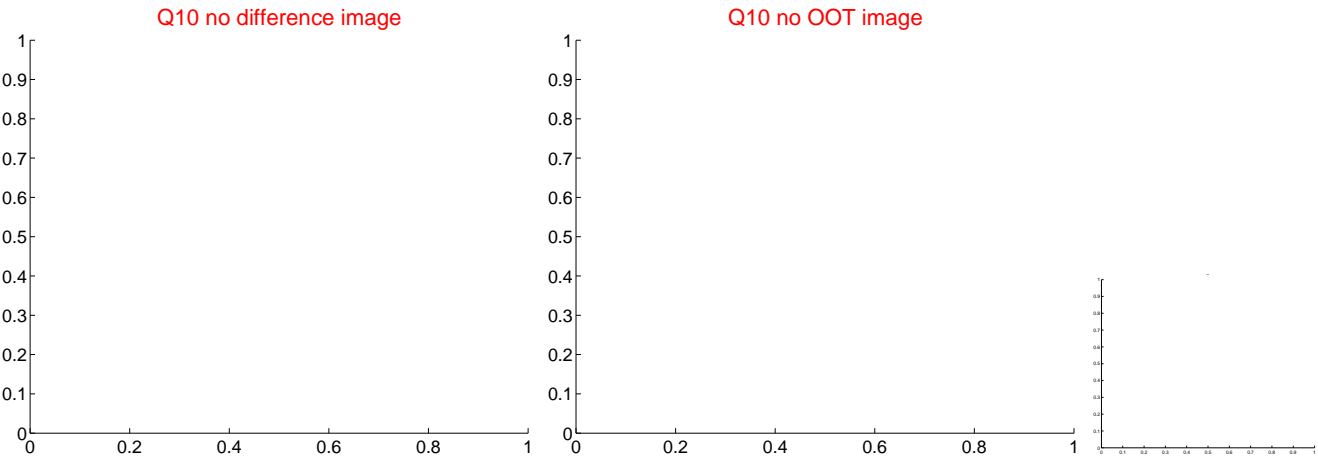
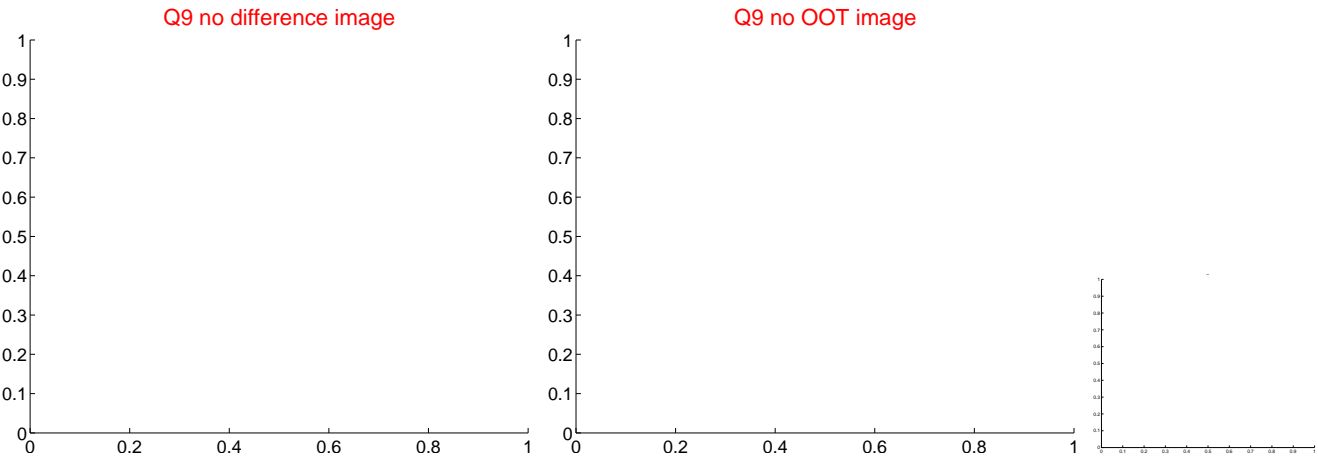
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



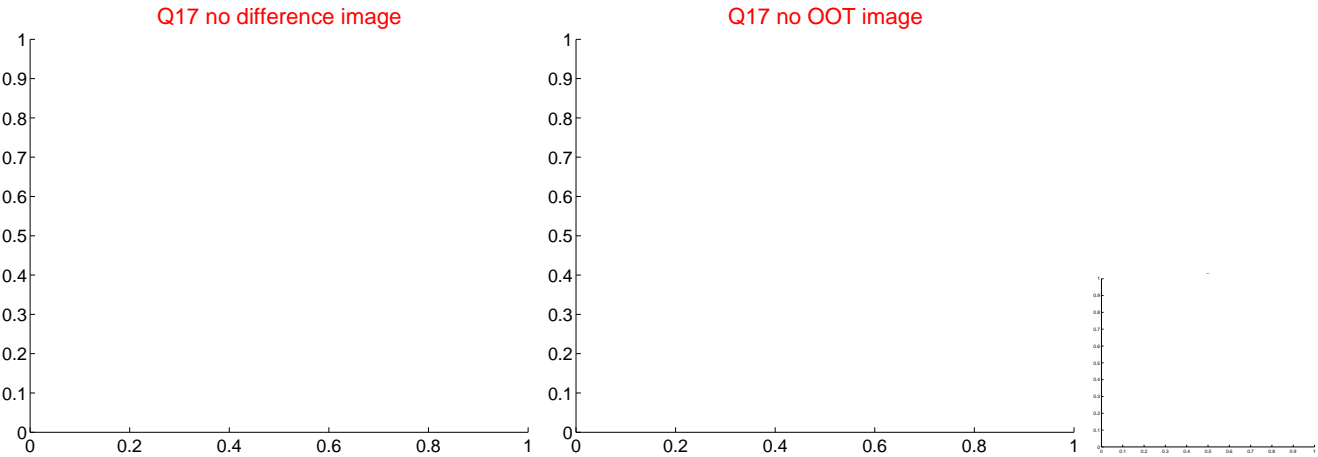
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

