

KIC 008390667

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 008390667-01 | OBS | No | 1.671873 | 132.320110 | 17.9 | 2.580 | 9.7 | 10.7 | 2.14 | 9409 | 1.19 | 24729.11 |
| 008390667-02 | OBS | No | 313.312427 | 303.418788 | 69.0 | 6.940 | 16.6 | 3.4 | 2.14 | 9409 | 1.87 | 23.06 |
| 008390667-03 | OBS | No | 0.514441 | 131.526619 | 476.9 | 1.500 | 9.1 | -1.0 | 2.14 | 9409 | 4.80 | 119041.67 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 008390667-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT |
| 008390667-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 008390667-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS |

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

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

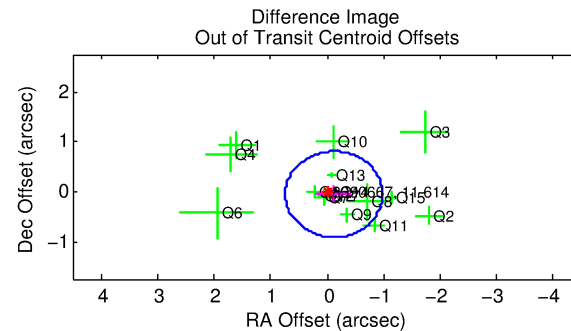
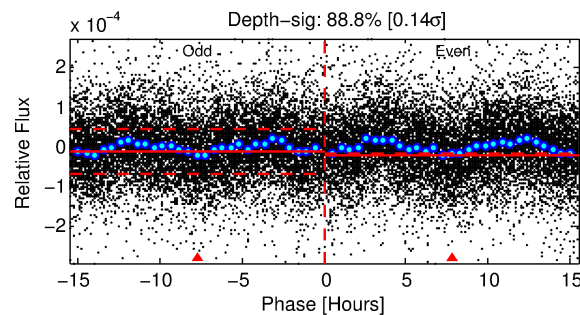
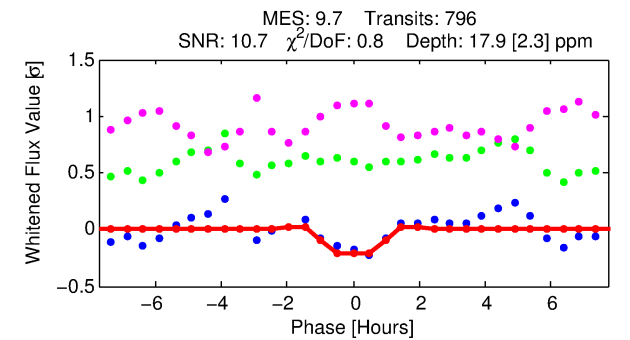
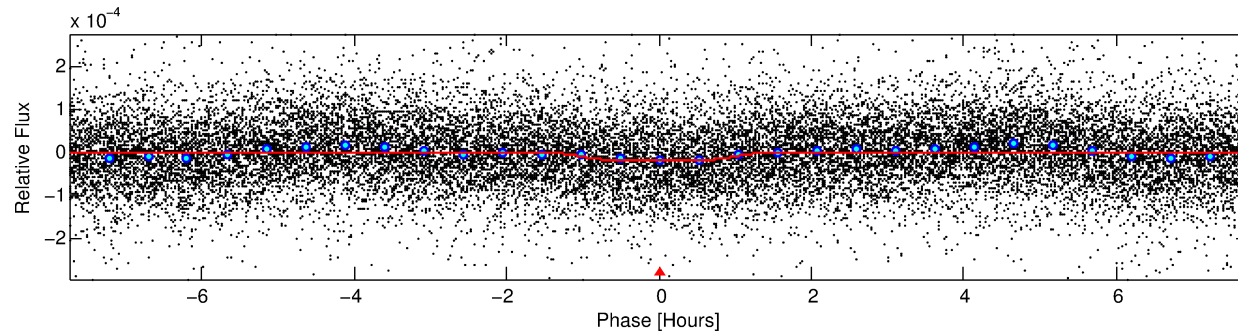
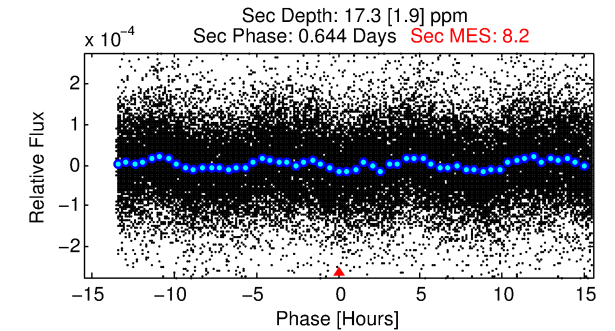
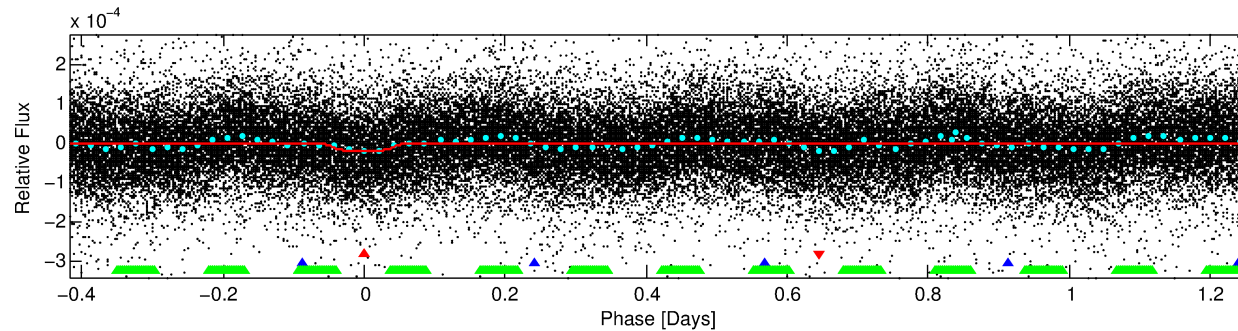
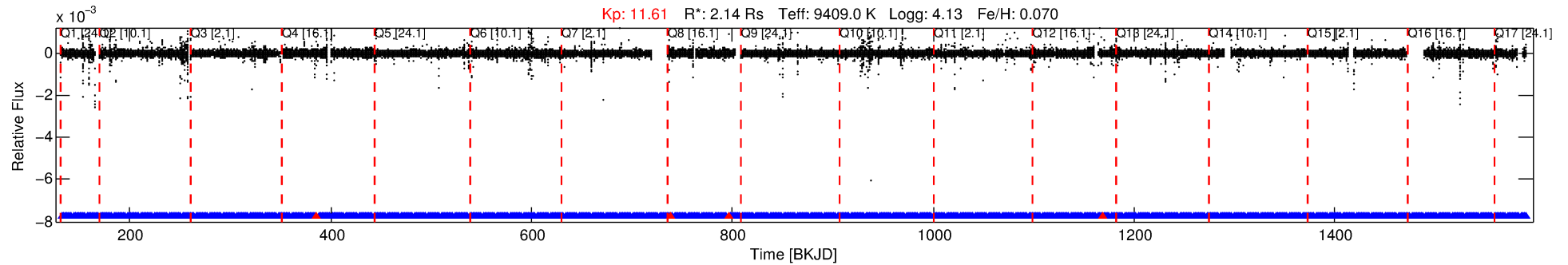
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008390667-01

No Significant Match Found

DV One-Page Summary

KIC: 8390667 Candidate: 1 of 3 Period: 1.672 d



DV Fit Results:

Period = 1.67187 [0.00001] d
Epoch = 132.3201 [0.0028] BKJD
Rp/R* = 0.0051 [0.0004]
a/R* = 1.31 [0.20]
b = 0.99 [0.01]
Seff = 24729.11 [11374.81]
Teq = 3198 [368] K
Rp = 1.19 [0.47] Re
a = 0.0361 [0.0111] AU
Ag = 8.81 [4.11] [1.90σ]
Teffp = 8517 [556] K [7.98σ]

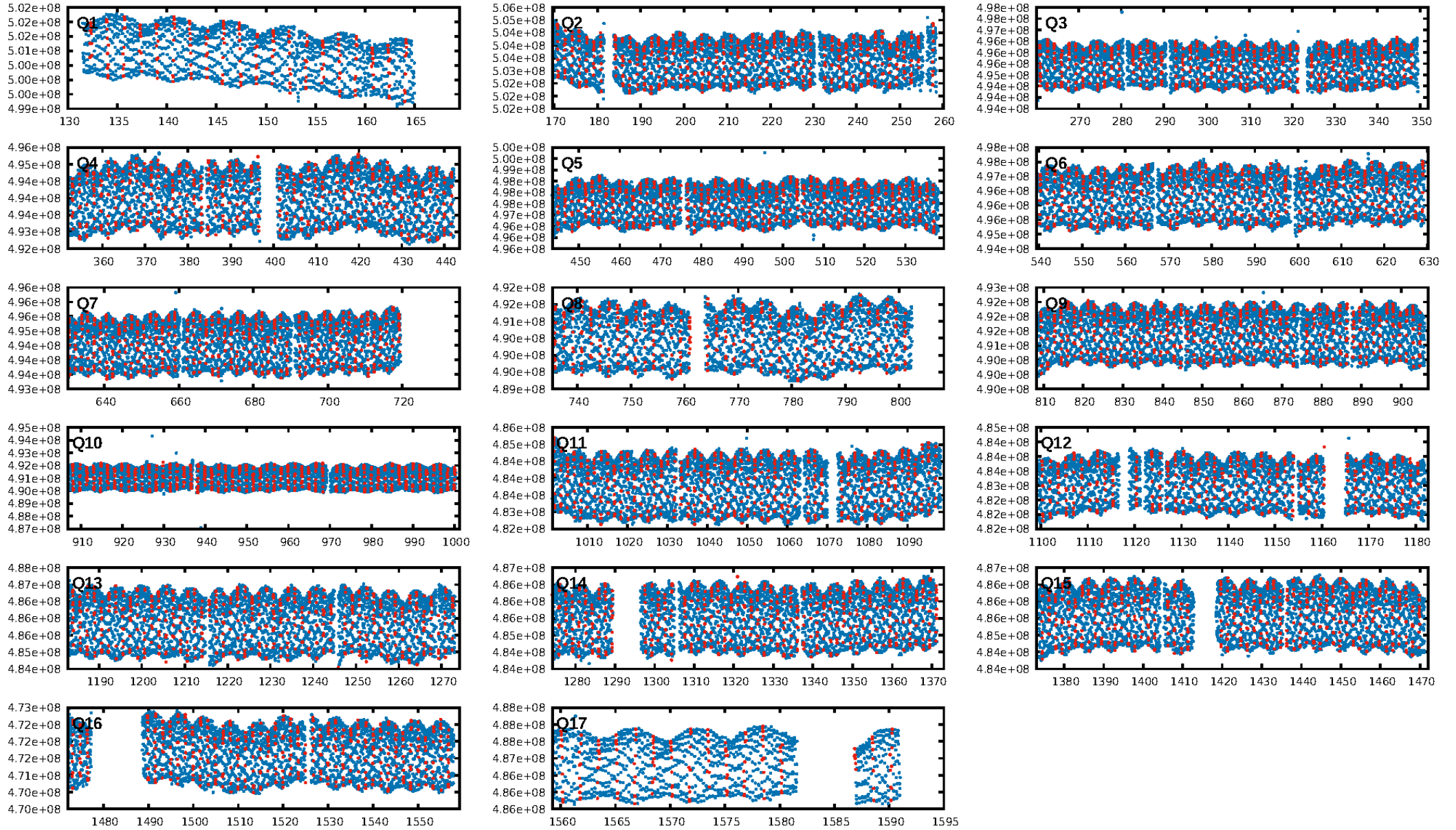
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.31σ]
LongPeriod-sig: 100.0% [1010.13σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [756/760]
GhostDiagnostic-chr: 1.008
Centroid-sig: 0.2%
Centroid-so: 1.747 arcsec [1.73σ]
OotOffset-rm: 0.131 arcsec [0.46σ]
KicOffset-rm: 0.322 arcsec [1.14σ]
OotOffset-st: 4/4/4 [16]
KicOffset-st: 4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
DiffImageOverlap-fno: 0.00 [0/17]

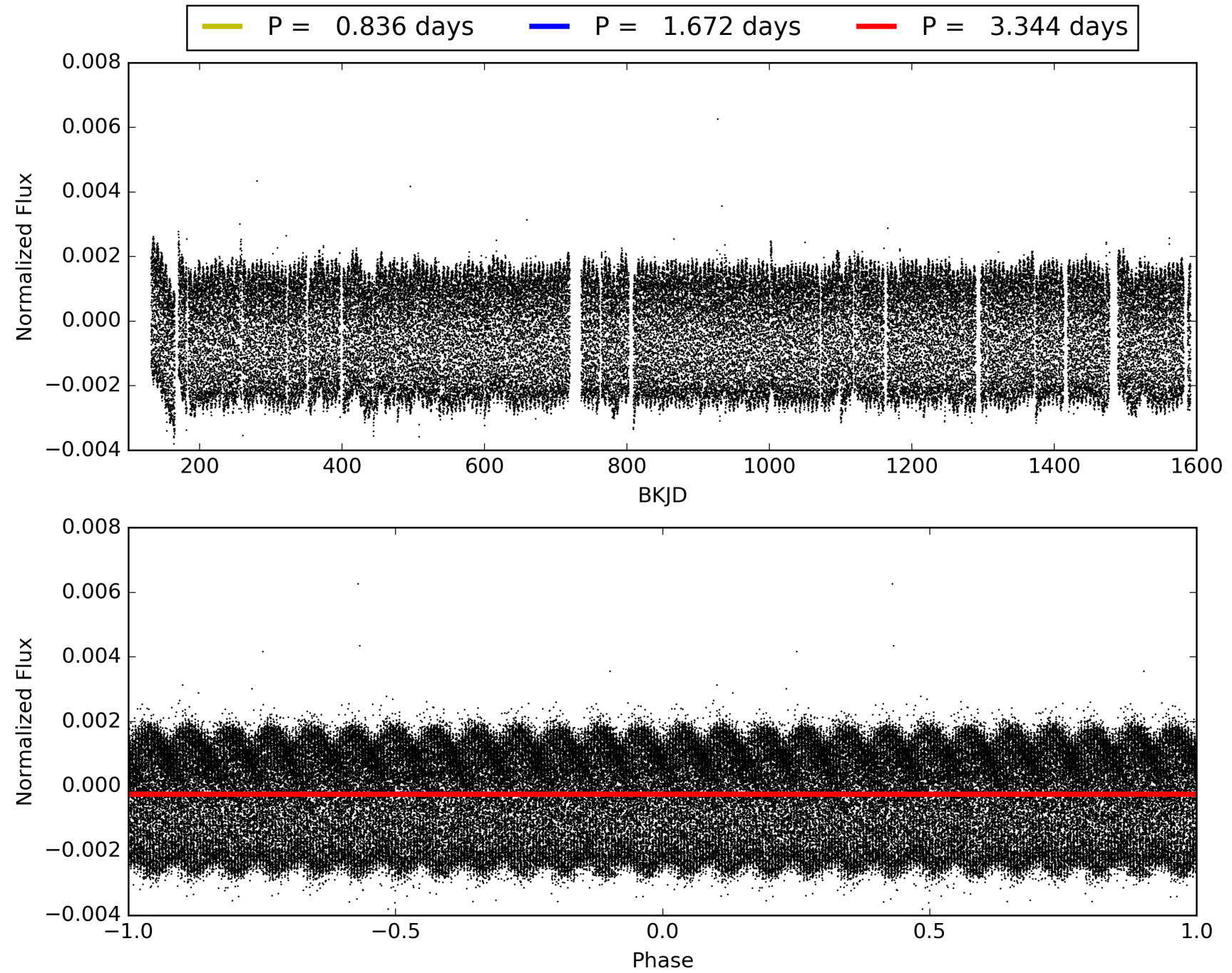
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:37:18 Z

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

TCE 008390667-01, PDC Light Curves

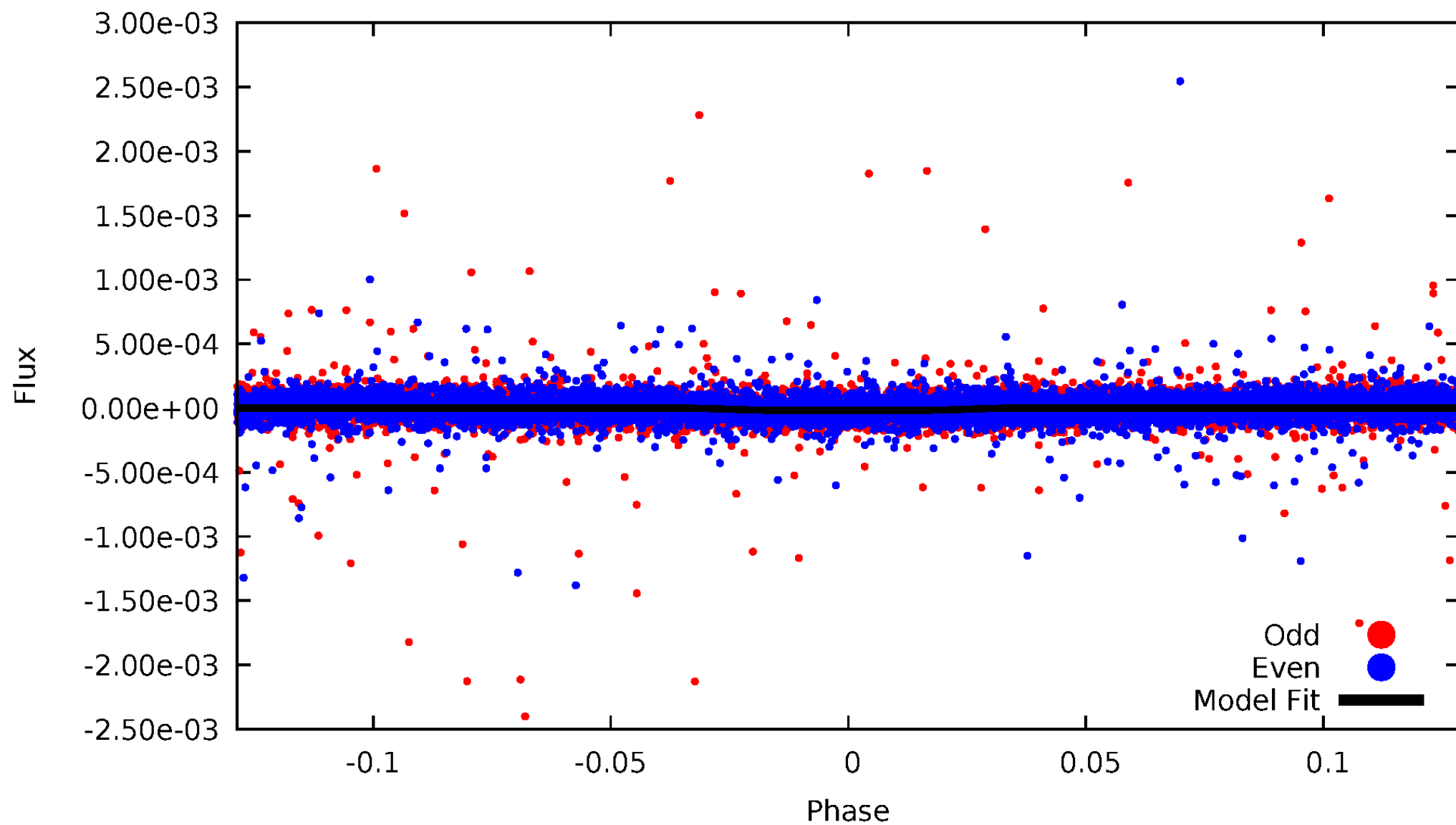


TCE 008390667-01



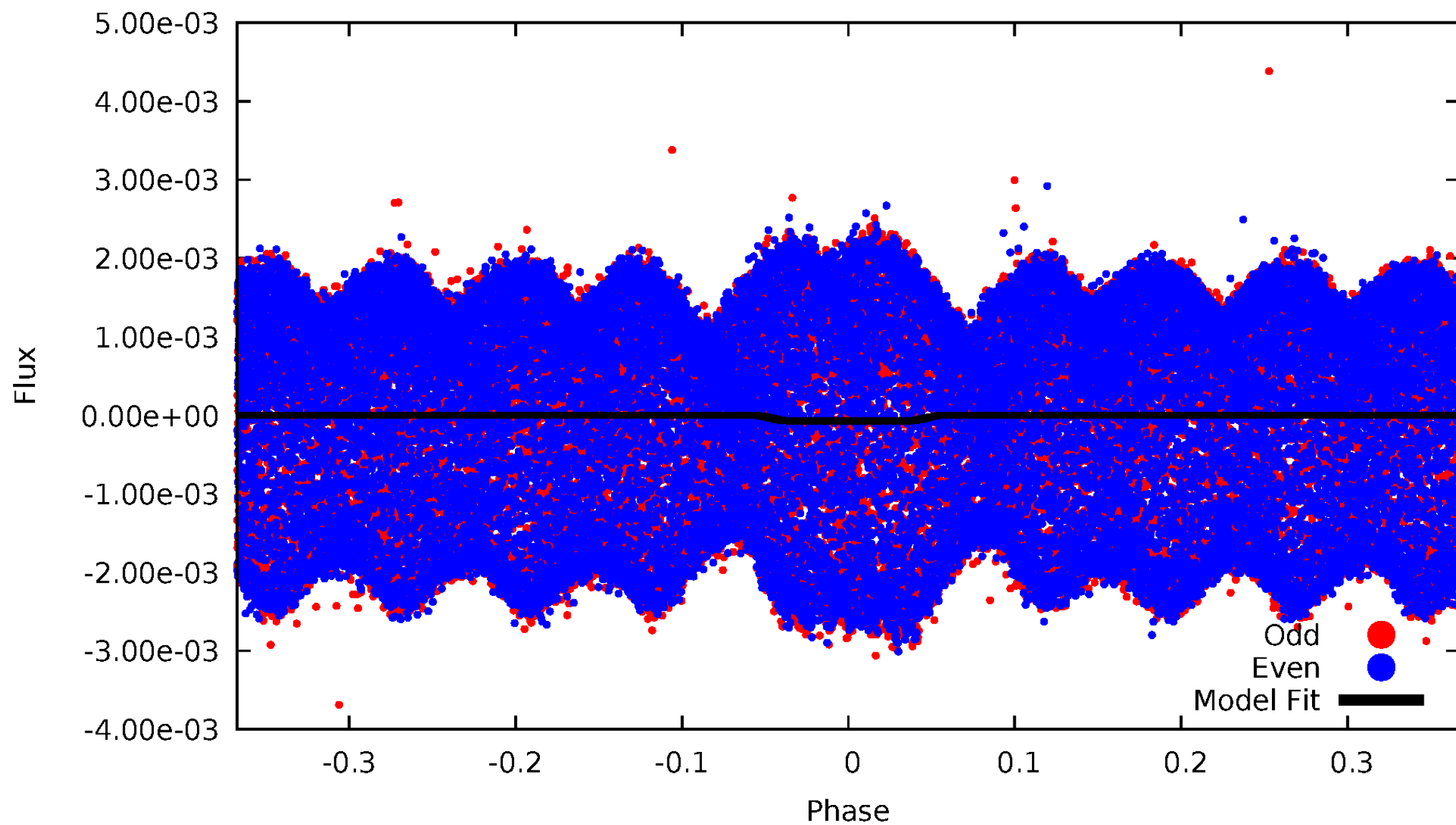
DV Odd/Even

TCE 008390667-01

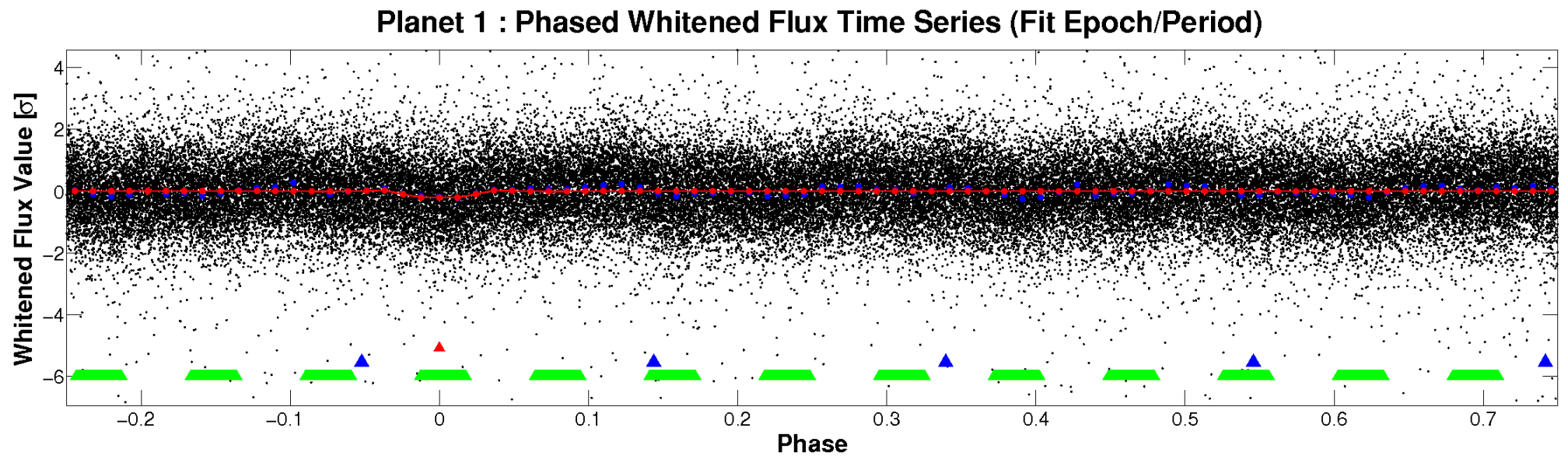
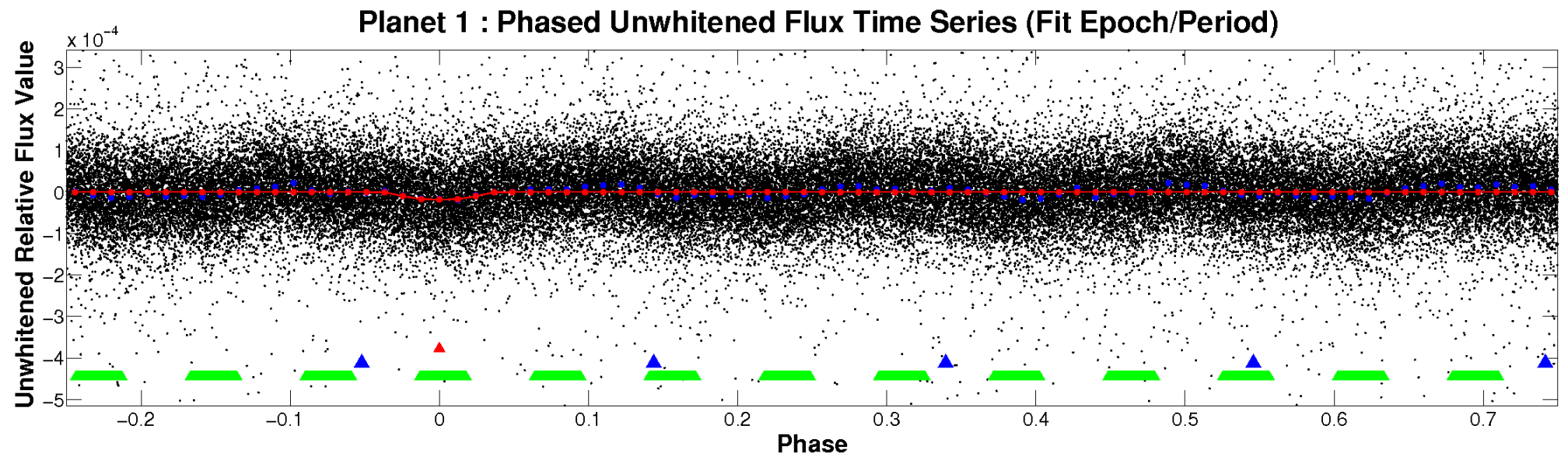


ALT Odd/Even

TCE 008390667-01

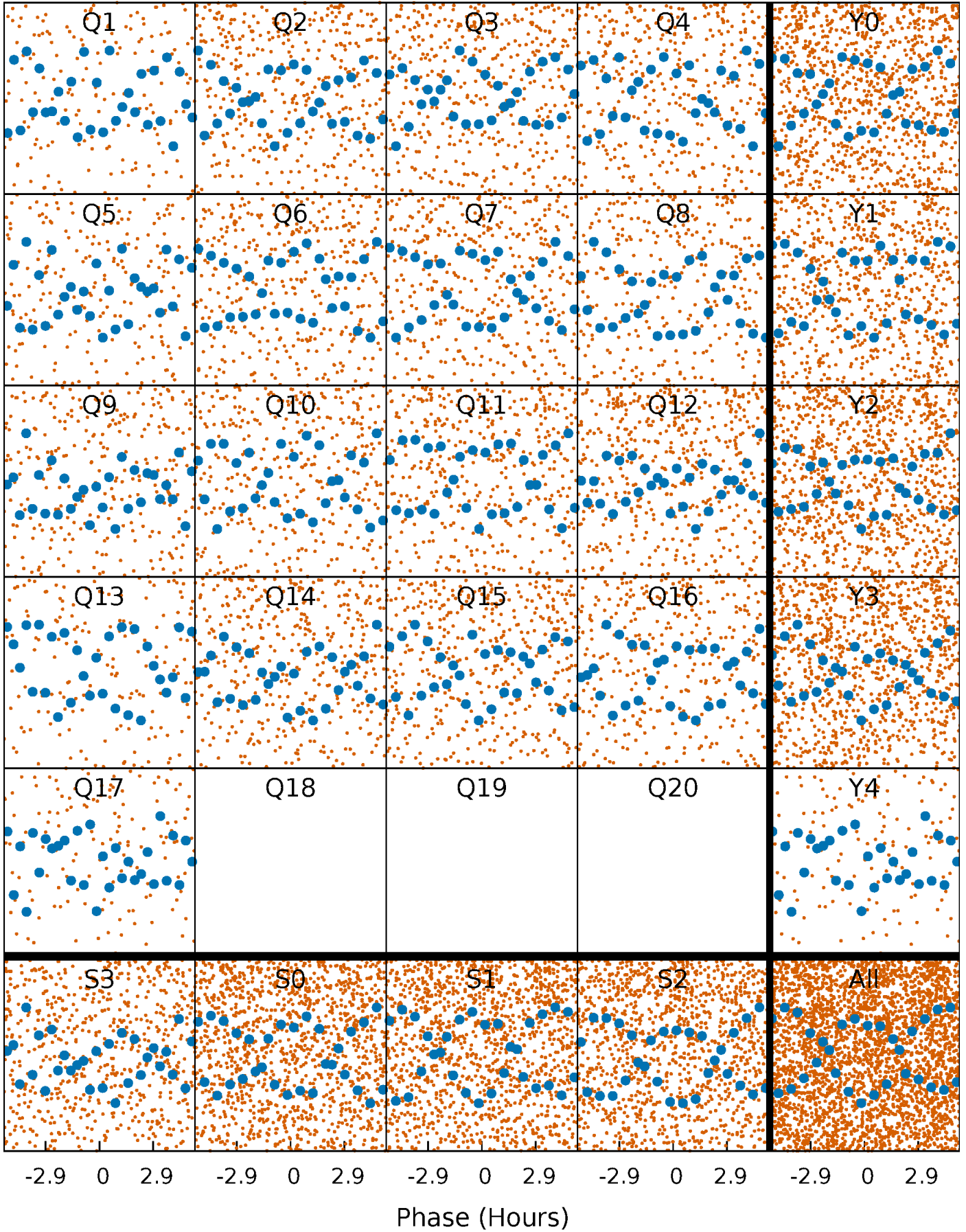


Non-Whitened Vs. Whitened Light Curve



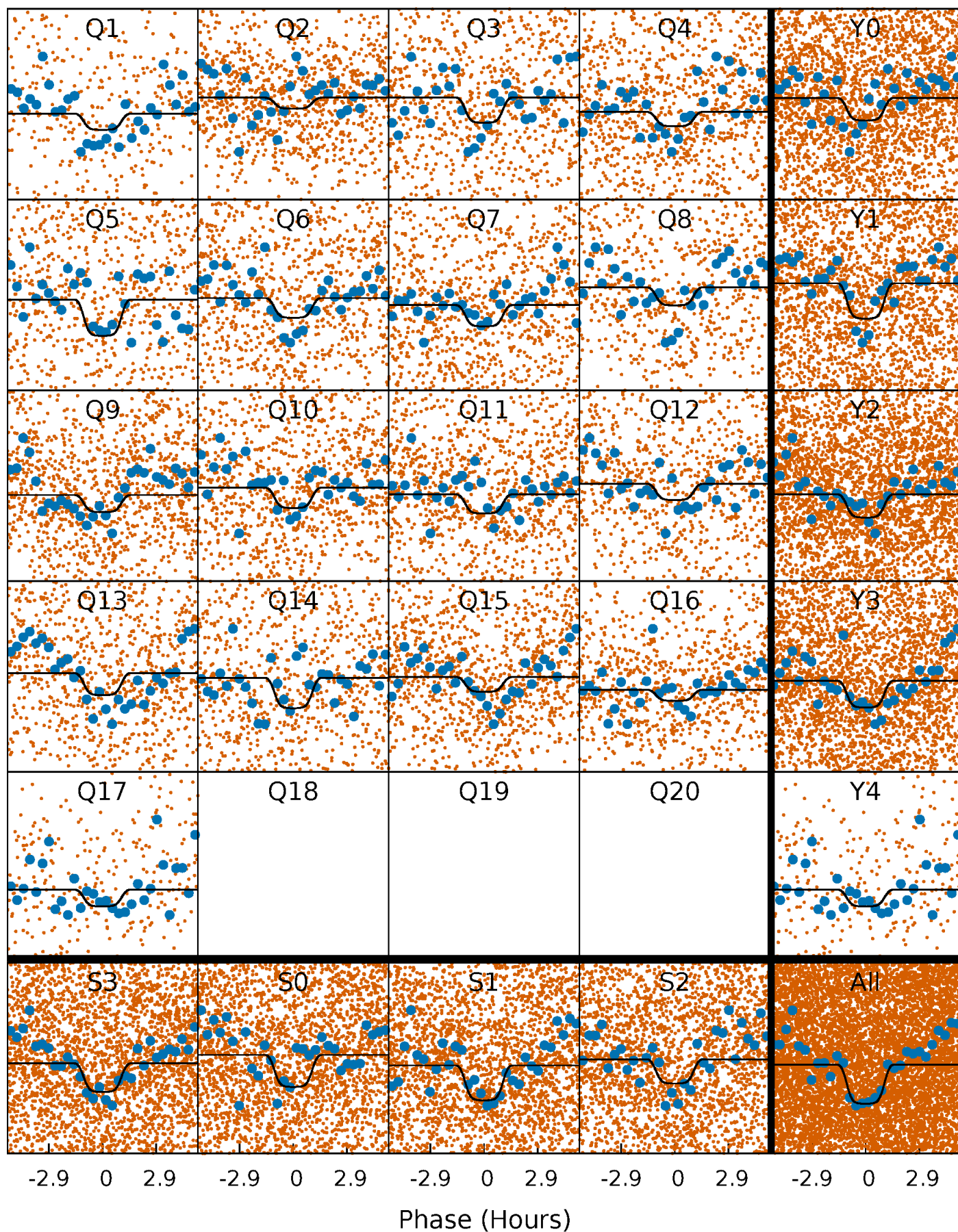
PDC Quarter-Phased Transit Curves

TCE 008390667-01 P= 1.671873 Days $T_0=132.320110$ (BKJD)



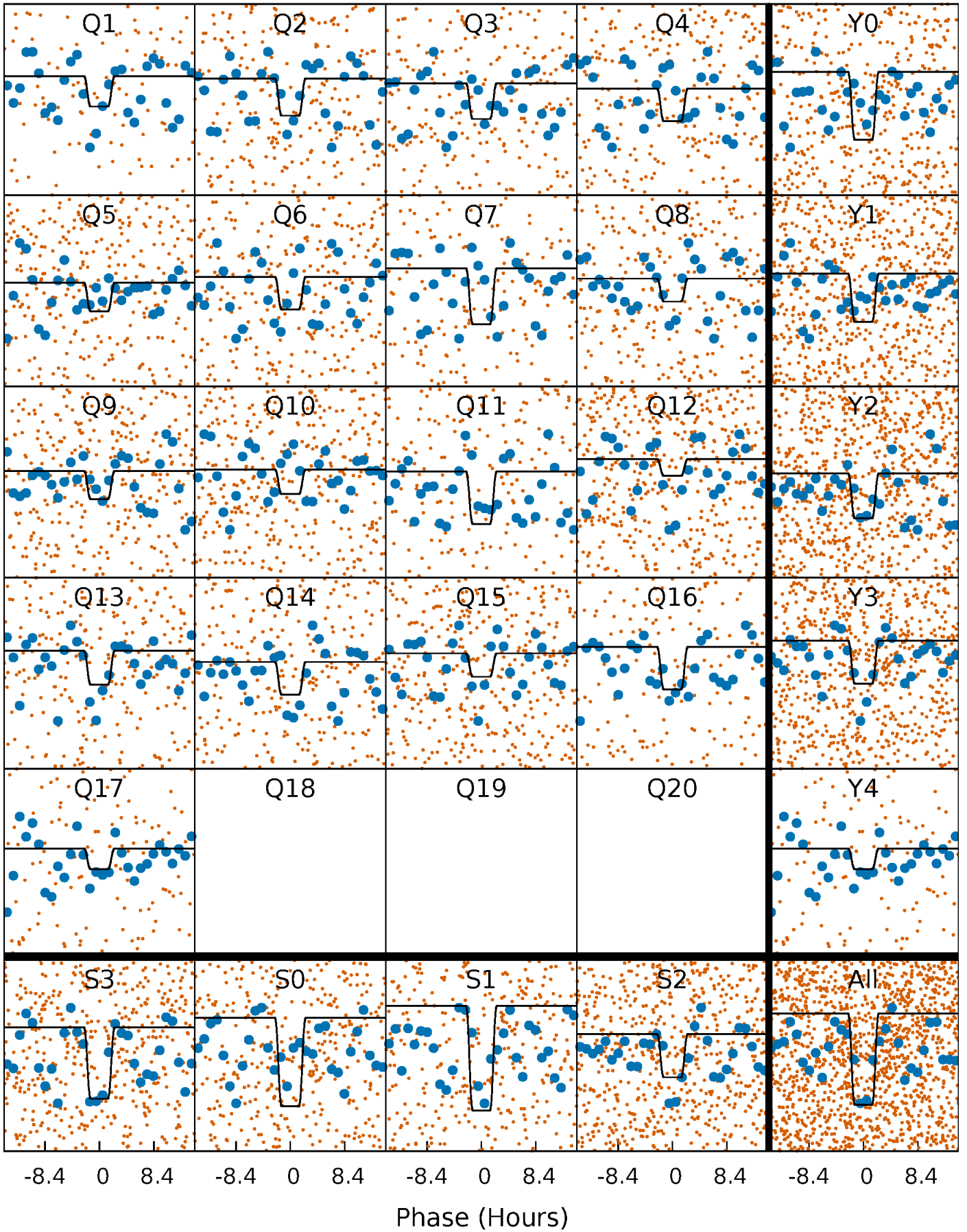
DV Quarter-Phased Transit Curves

TCE 008390667-01 P= 1.671873 Days $T_0=132.320110$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

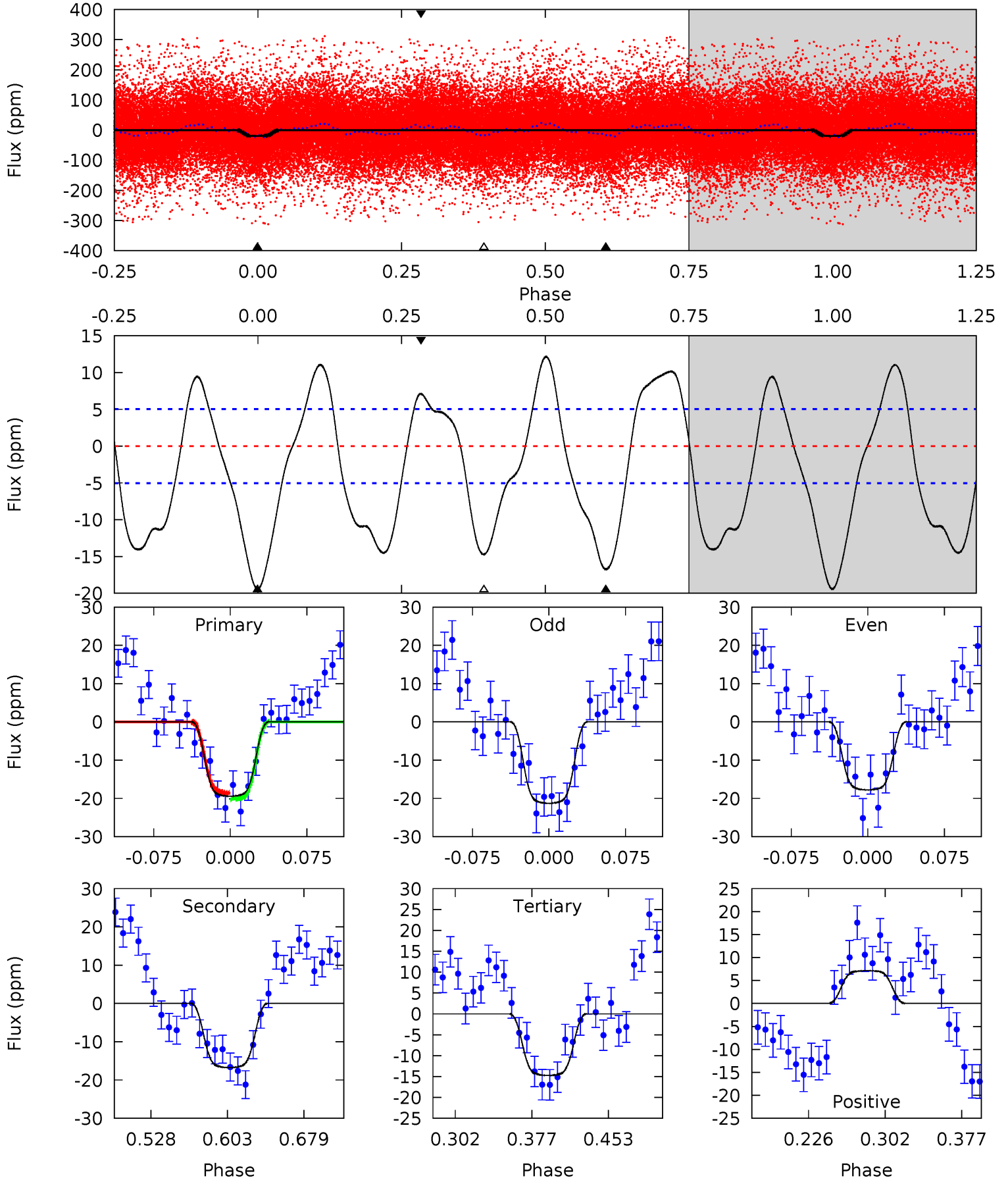
TCE 008390667-01 P= 1.671927 Days $T_0=132.305248$ (BKJD)



DV Model-Shift Uniqueness Test

008390667-01, P = 1.671873 Days, E = 130.648237 Days

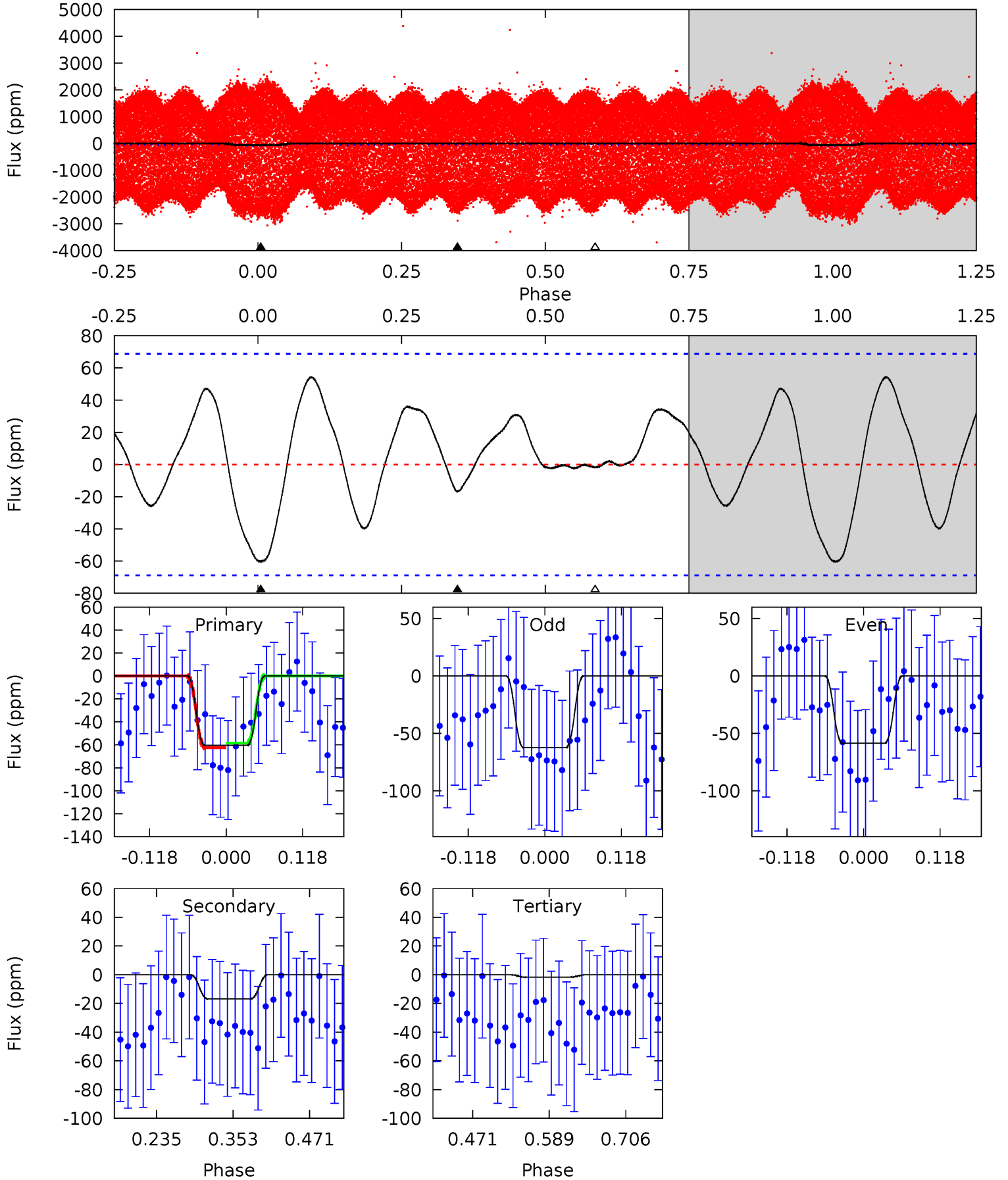
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 17.8 | 15.4 | 13.5 | 6.54 | 4.62 | 1.78 | 7.98 | 4.31 | 11.3 | 1.85 | 8.82 | 1.62 | 0.95 | 0.38 | 0.72 |



Alt Model-Shift Uniqueness Test

008390667-01, P = 1.671927 Days, E = 130.633321 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 3.98 | 1.11 | 0.11 | 0 | 4.53 | 1.56 | 1.18 | 3.86 | 3.98 | 0.99 | 1.11 | 0.13 | 0.66 | 0.47 | 0.13 |



Stellar Parameters For KIC 008390667

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 9409^{+301}_{-414} | $4.127^{+0.136}_{-0.221}$ | $0.070^{+0.150}_{-0.600}$ | $2.141^{+0.822}_{-0.548}$ | $2.242^{+0.444}_{-0.543}$ | $0.322^{+0.239}_{-0.180}$ |
| | +3%/-4% | +3%/-5% | +214%/-857% | +38%/-26% | +20%/-24% | +74%/-56% |
| Source | KIC0 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 008390667-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|--------------|------------------------|----------------------|------------------------|---------------------------|
| DV | -17 ± 1 | $1.22^{+0.25}_{-0.19}$ | 4537^{+395}_{-375} | 8035^{+478}_{-510} | $7.941^{+2.807}_{-2.288}$ |
| Alt. | -17 ± 15 | $2.06^{+0.46}_{-0.29}$ | 4536^{+414}_{-352} | 5800^{+1205}_{-9289} | $2.484^{+2.896}_{-2.352}$ |

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 $A_{obs} \gg 1.0$

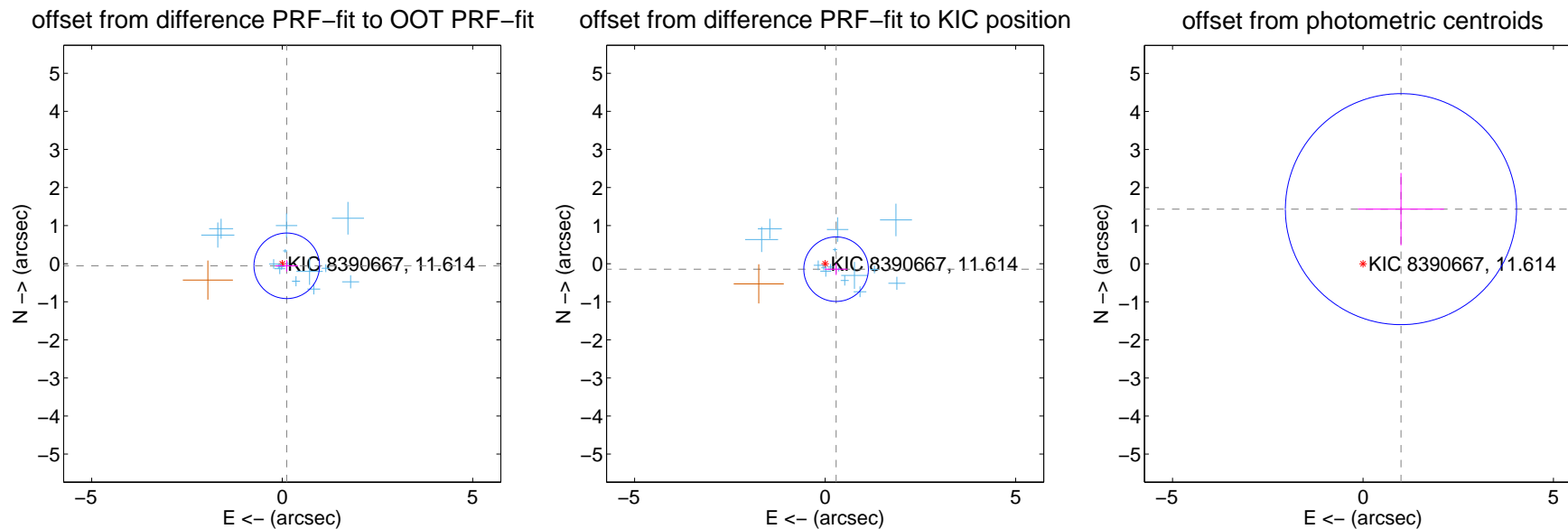
DV Centroid Data

Supplemental centroid analysis for 008390667-01. **Kepler magnitude: 11.61.** Transit SNR 10.67

There are 15 quarters with good PRF difference image offsets

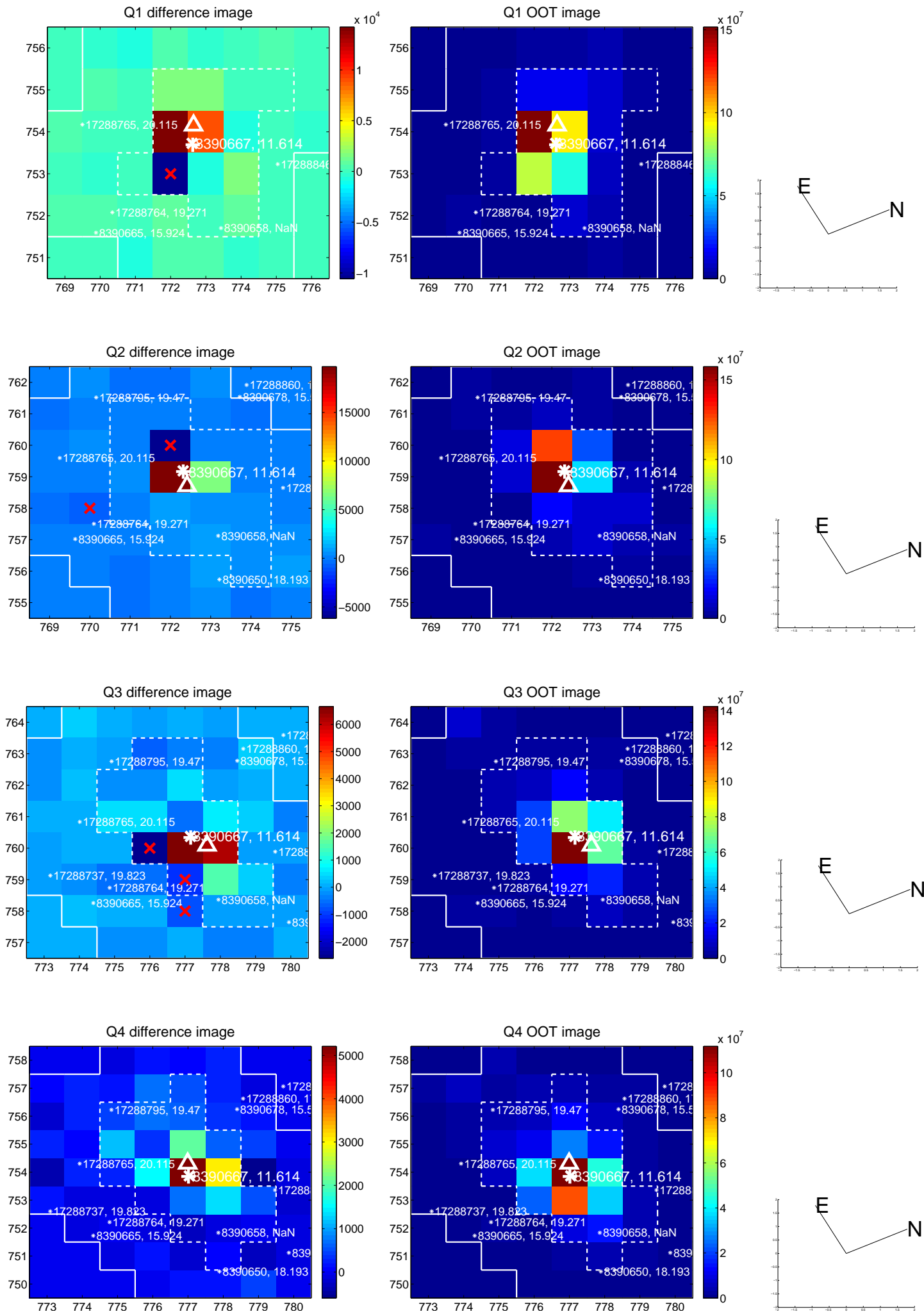
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.131 ± 0.287 | 0.46 | -0.119 ± 0.295 | -0.056 ± 0.149 |
| PRF-fit source offset from KIC position | 0.322 ± 0.282 | 1.14 | -0.288 ± 0.299 | -0.144 ± 0.153 |
| photometric centroid source offset | 1.75 ± 1.01 | 1.73 | -1.00 ± 1.13 | 1.43 ± 0.95 |

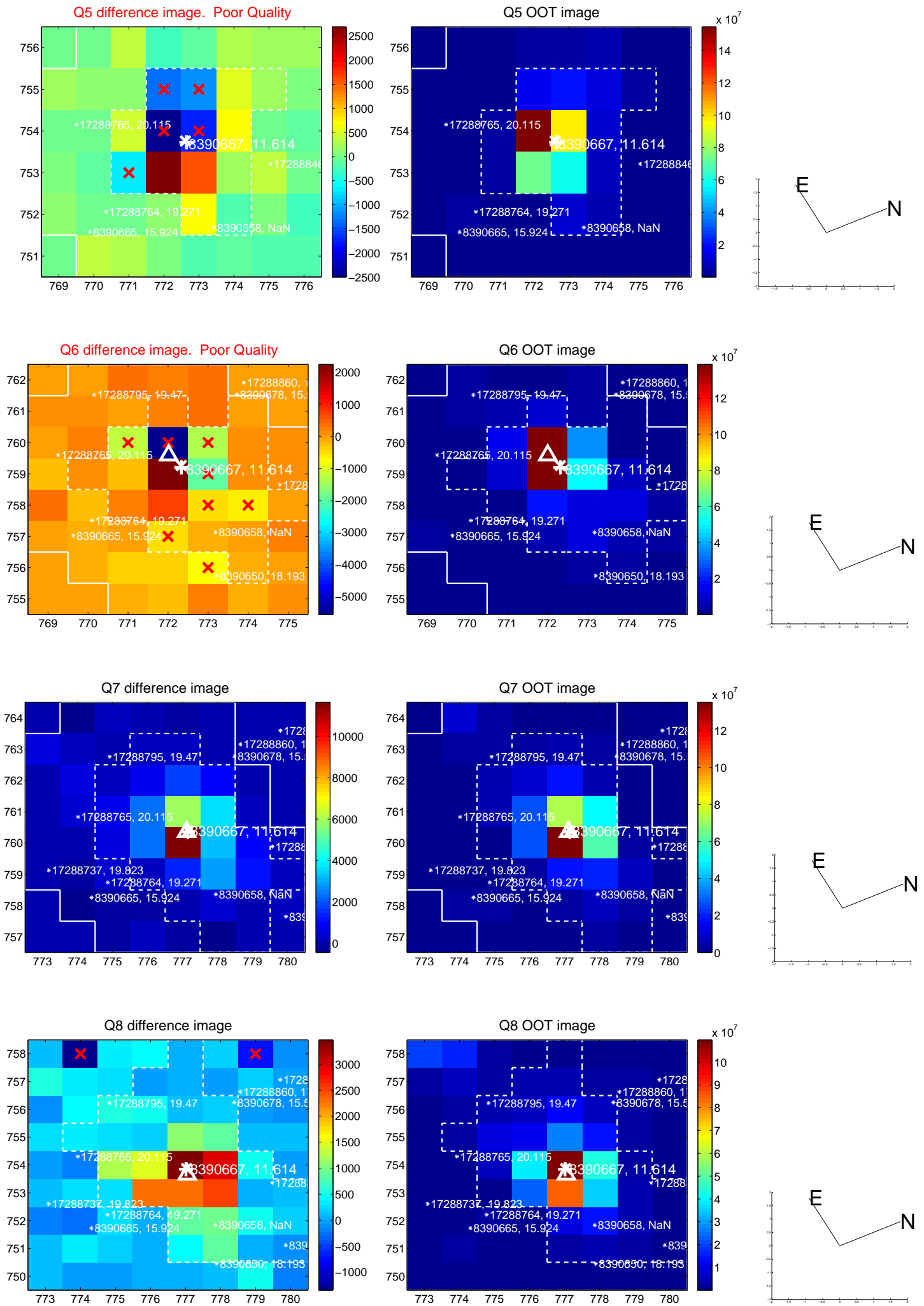


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

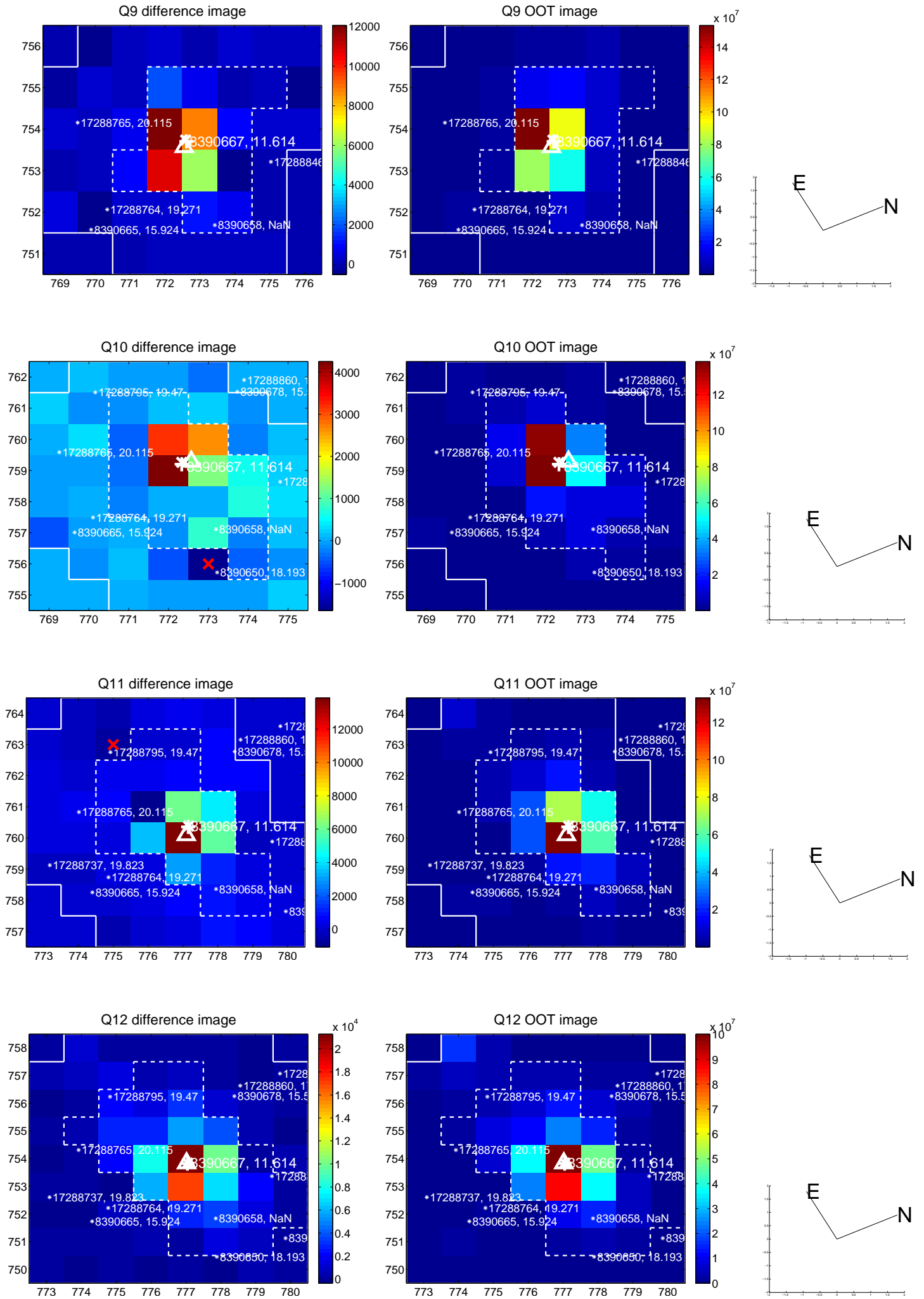
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



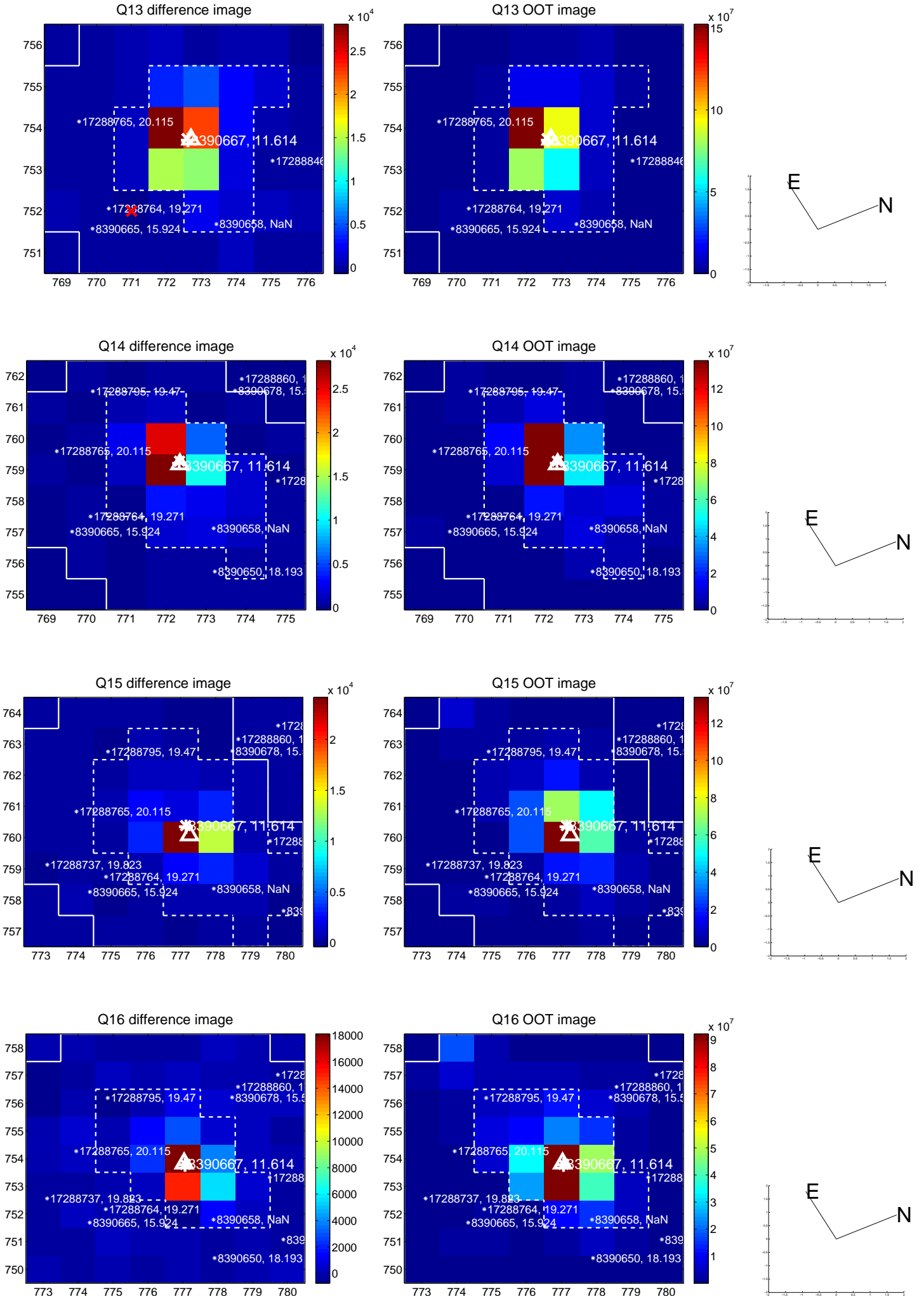
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



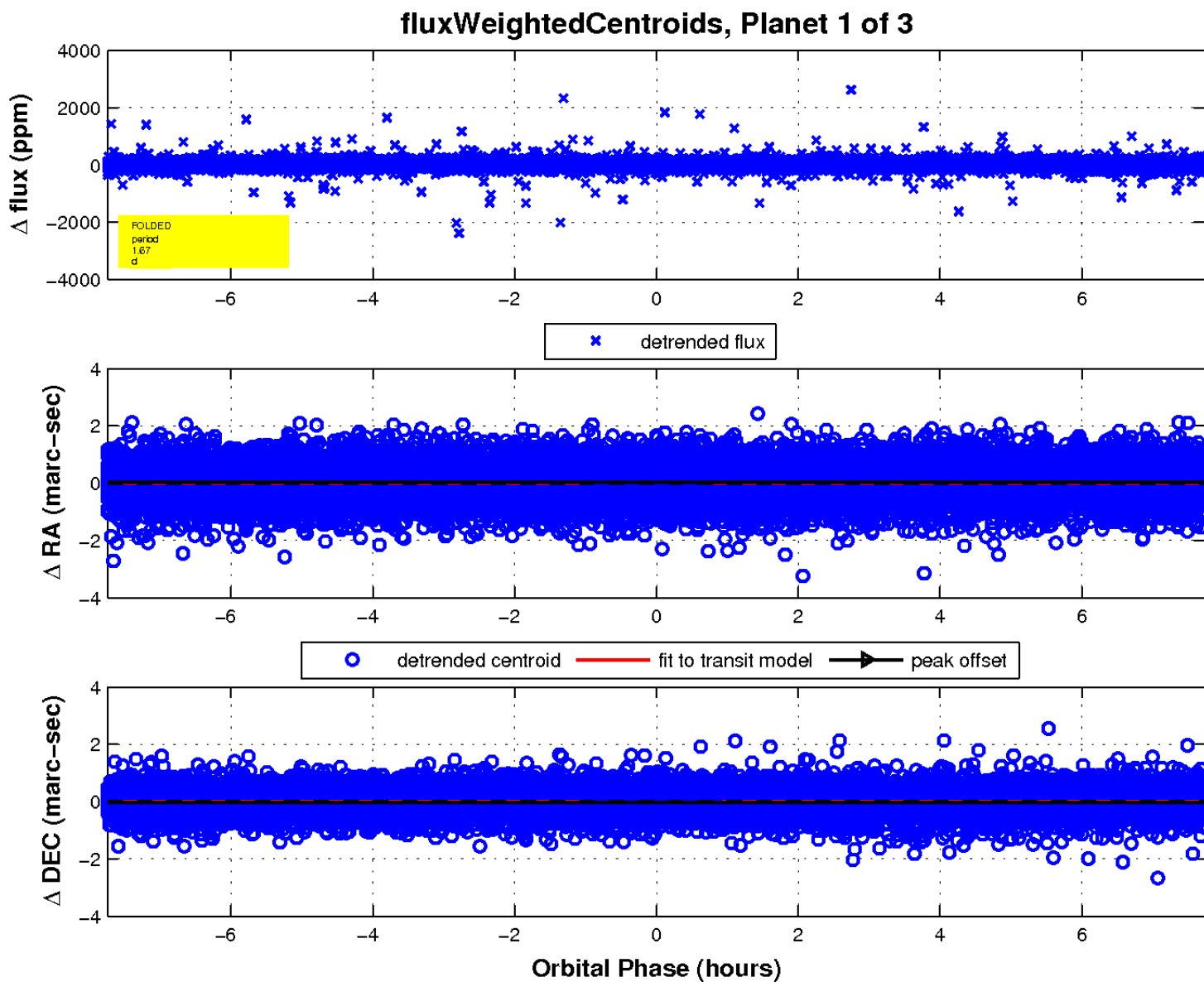
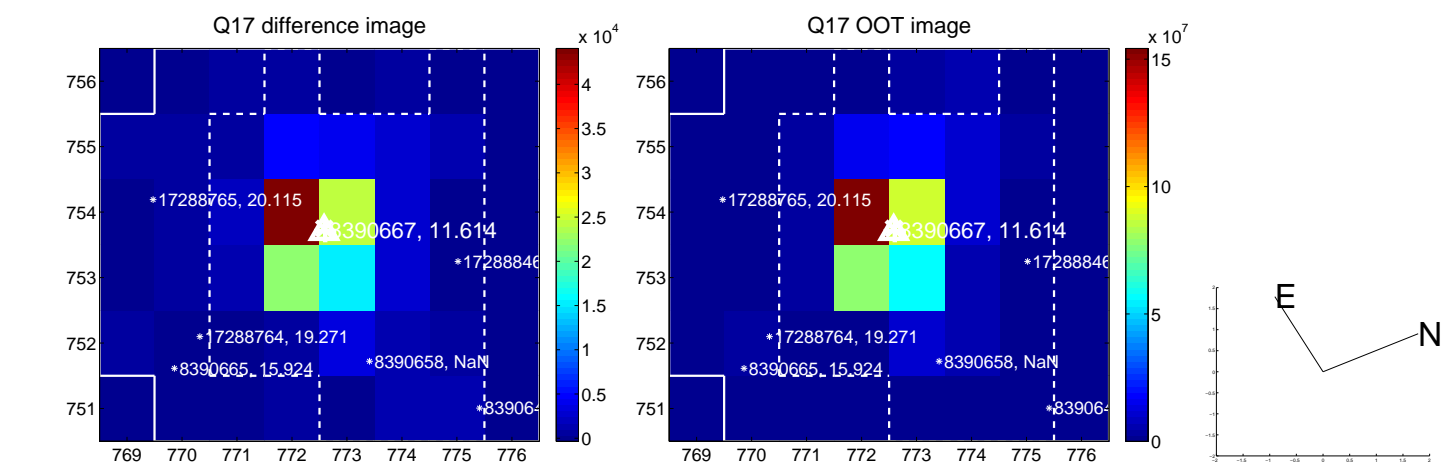
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

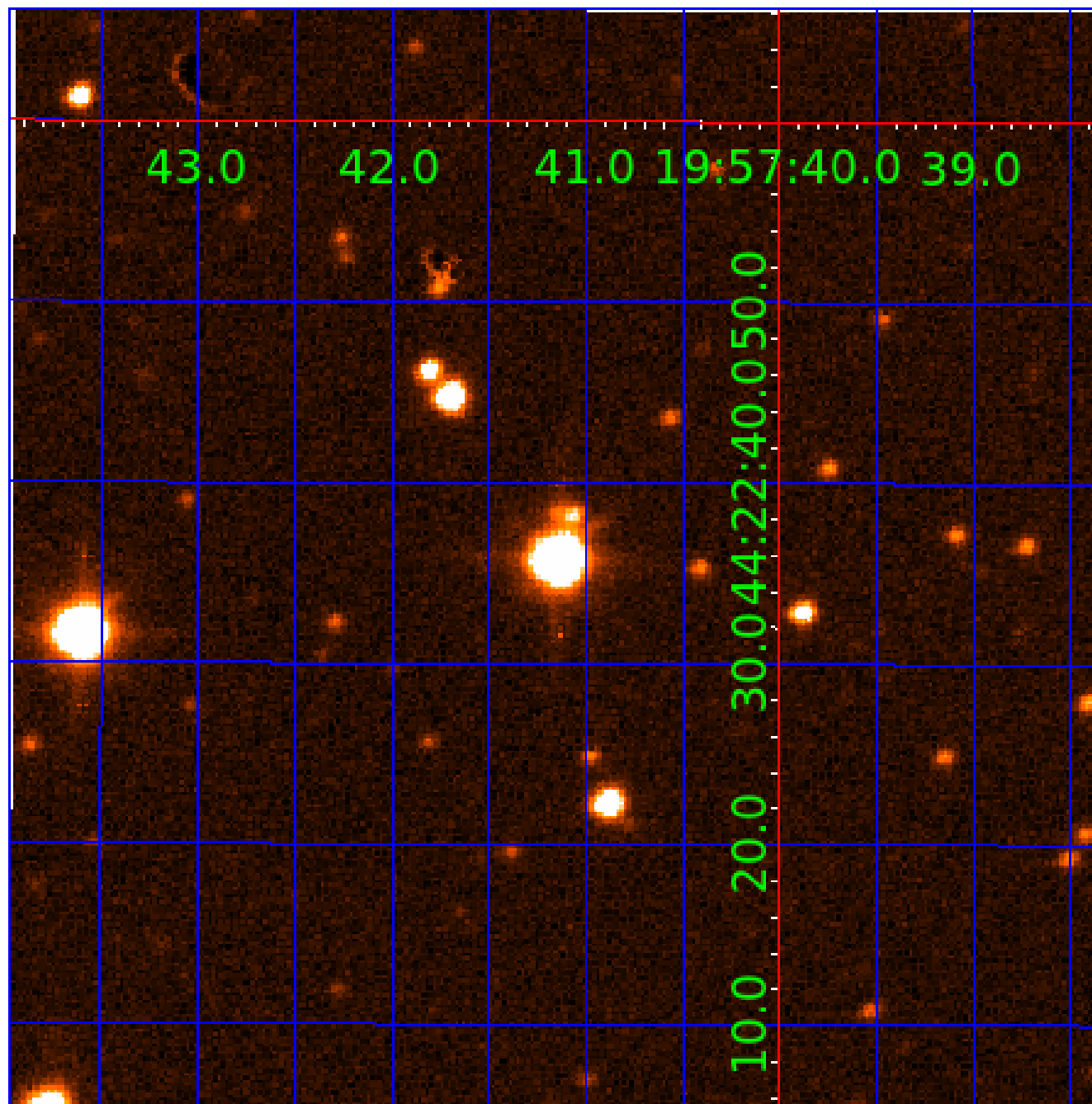


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008390667

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 008390667-01 | OBS | No | 1.671873 | 132.320110 | 17.9 | 2.580 | 9.7 | 10.7 | 2.14 | 9409 | 1.19 | 24729.11 |
| 008390667-02 | OBS | No | 313.312427 | 303.418788 | 69.0 | 6.940 | 16.6 | 3.4 | 2.14 | 9409 | 1.87 | 23.06 |
| 008390667-03 | OBS | No | 0.514441 | 131.526619 | 476.9 | 1.500 | 9.1 | -1.0 | 2.14 | 9409 | 4.80 | 119041.67 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 008390667-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT |
| 008390667-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 008390667-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS |

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

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

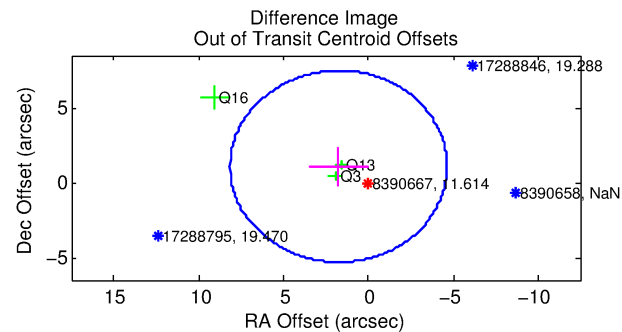
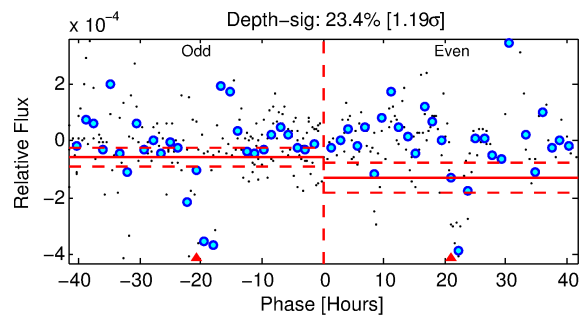
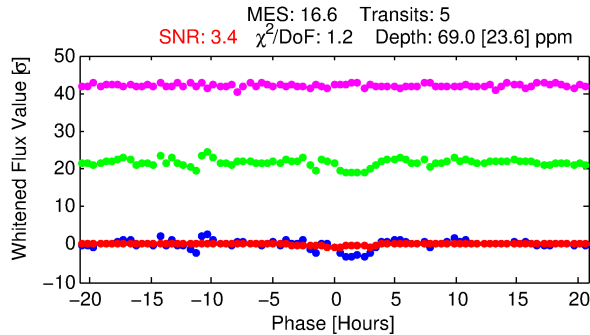
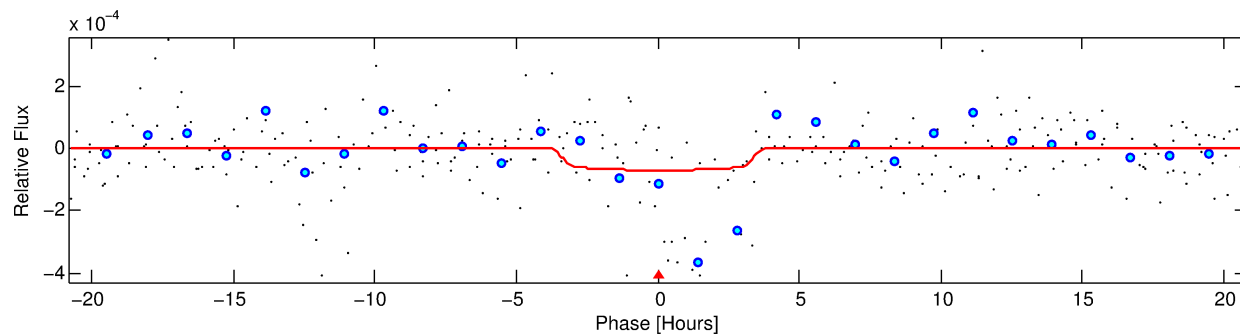
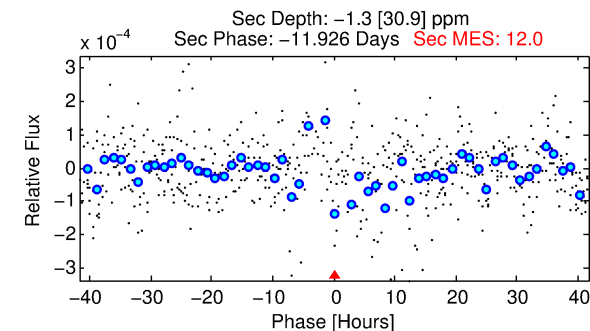
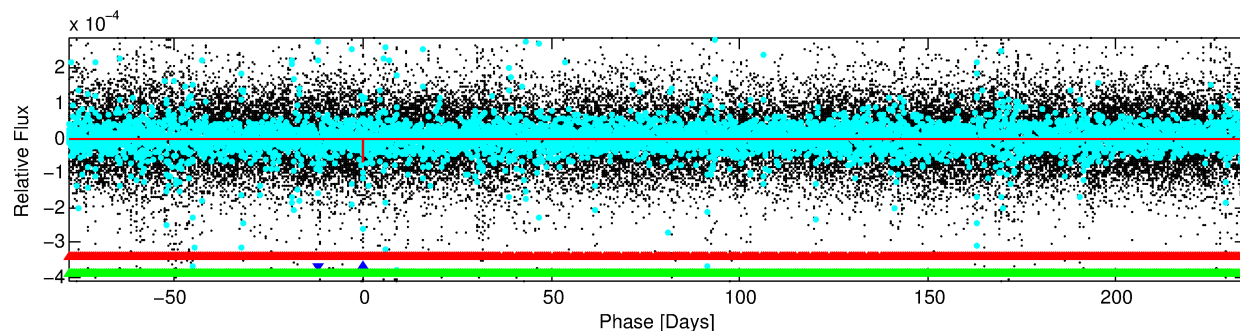
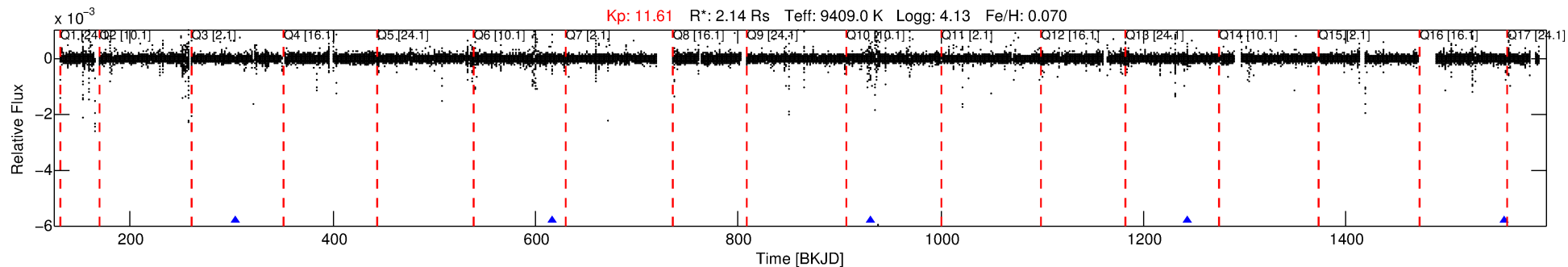
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008390667-02

No Significant Match Found

DV One-Page Summary

KIC: 8390667 Candidate: 2 of 3 Period: 313.312 d



DV Fit Results:

Period = 313.31243 [0.00986] d
Epoch = 303.4188 [0.0229] BKJD
Rp/R* = 0.0080 [0.0132]
a/R* = 286.84 [3314.28]
b = 0.57 [13.71]
Seff = 23.06 [10.61]
Teff = 559 [64] K
Rp = 1.87 [3.17] Re
a = 1.1815 [0.3628] AU
Ag = N/A
Teffp = N/A

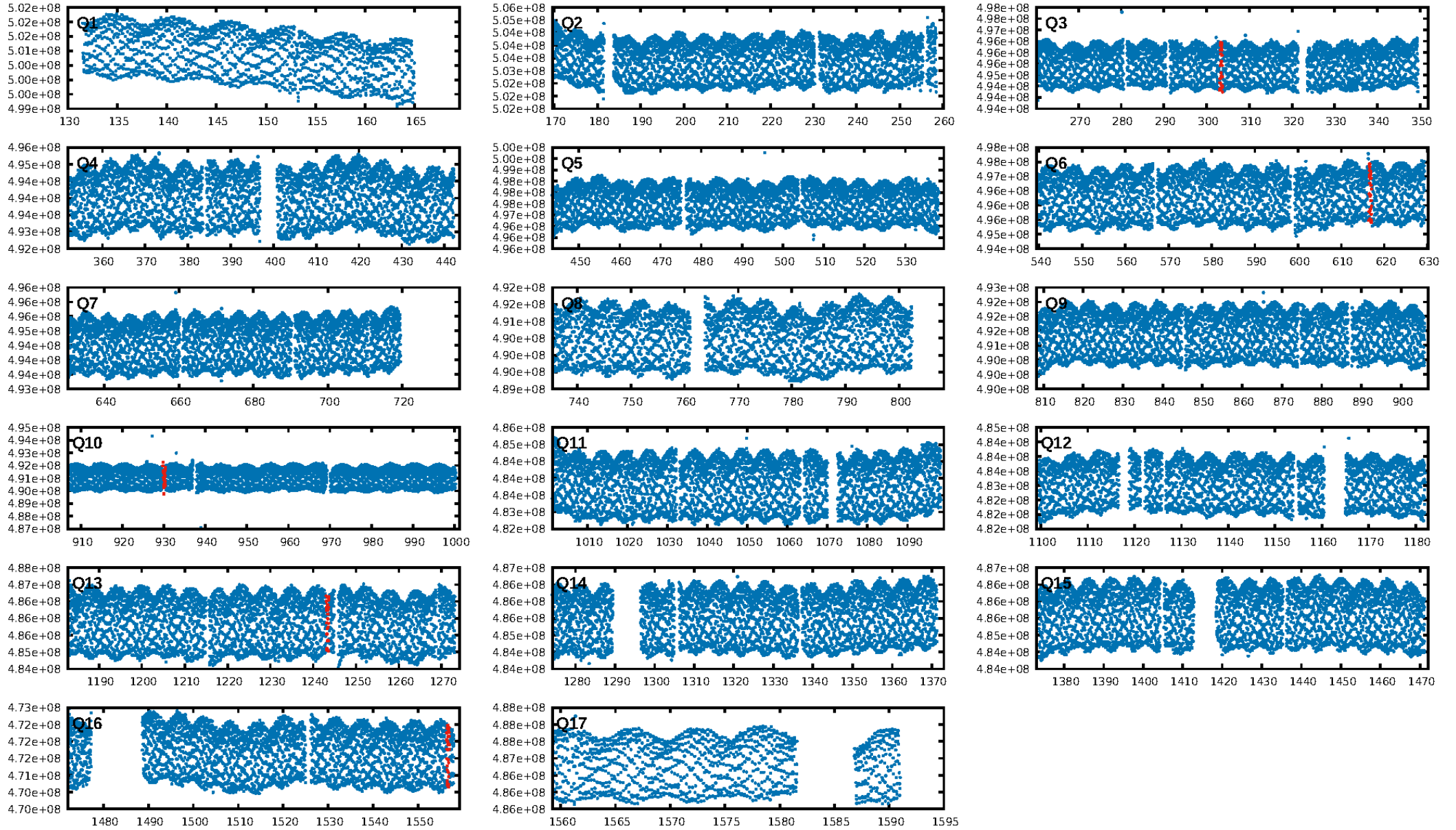
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1010.13σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.1%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 15.88
Centroid-sig: 48.5%
Centroid-so: 1.291 arcsec [0.68σ]
OotOffset-rm: 2.057 arcsec [0.96σ]
KicOffset-rm: 1.941 arcsec [0.76σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/4]

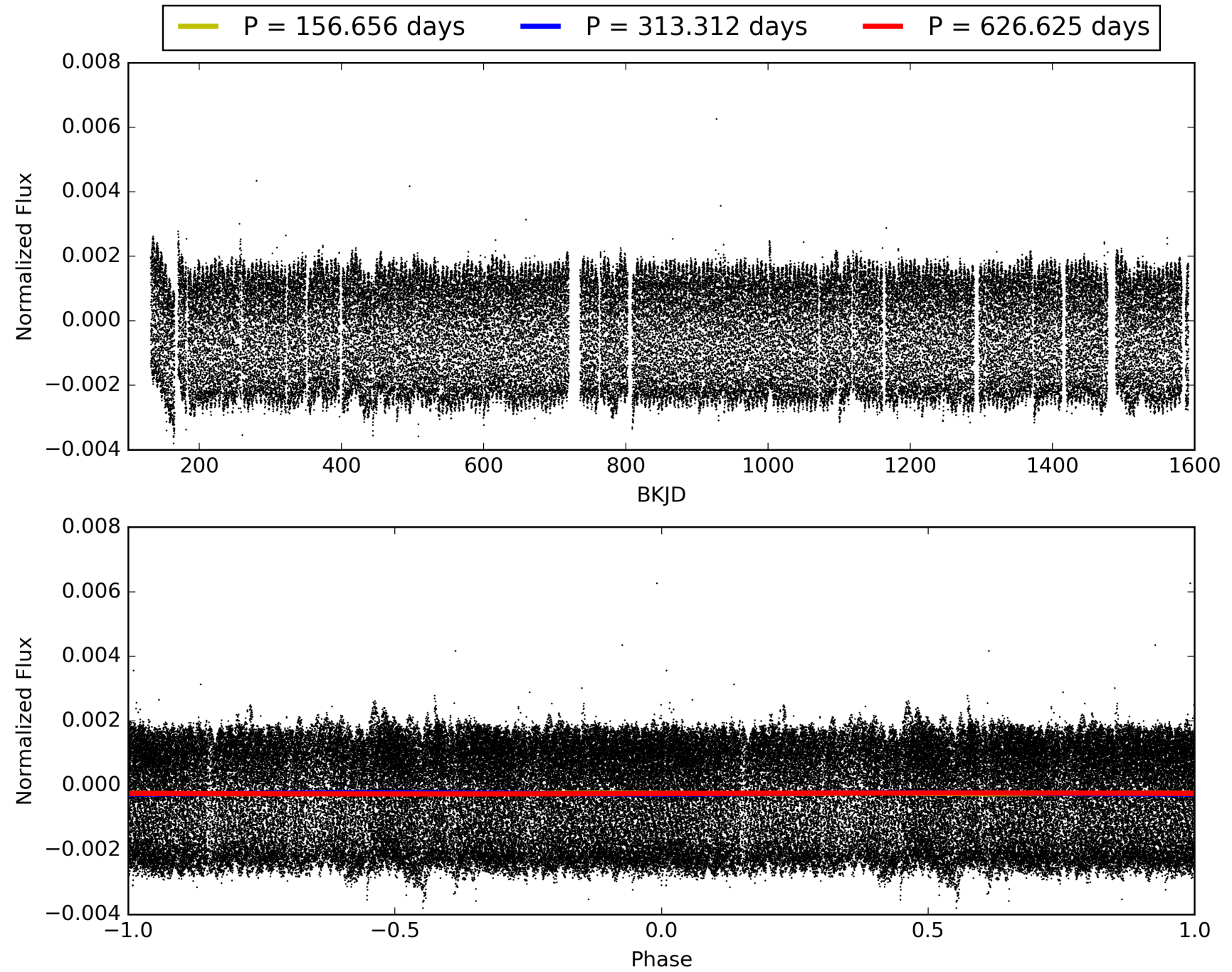
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:37:30 Z

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

TCE 008390667-02, PDC Light Curves

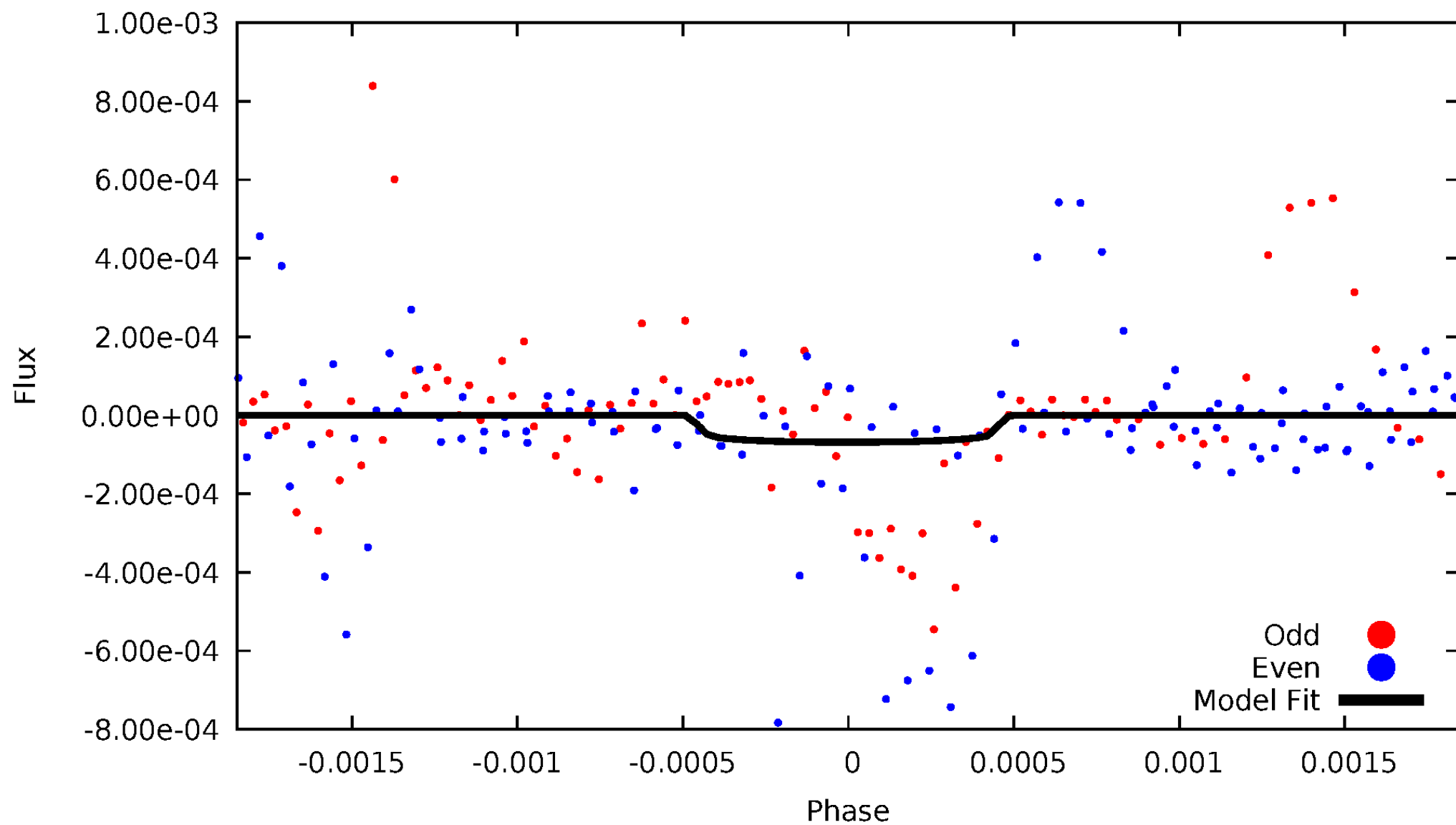


TCE 008390667-02



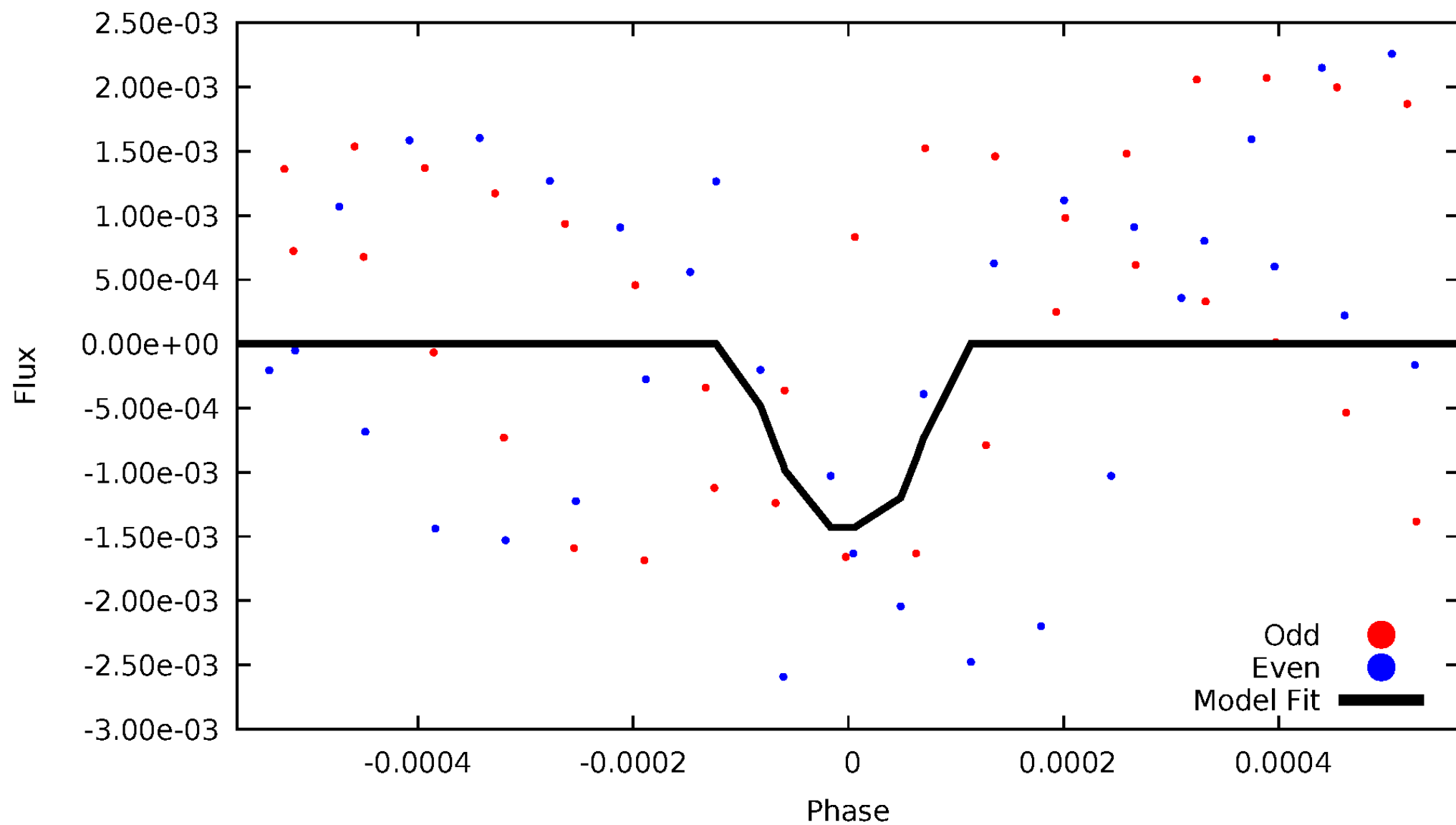
DV Odd/Even

TCE 008390667-02



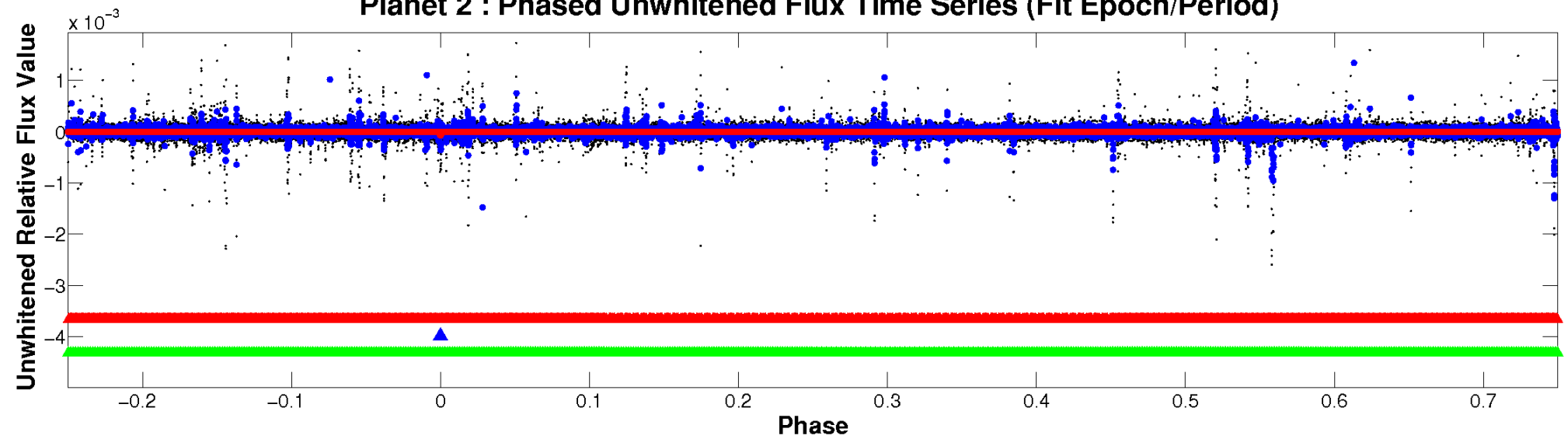
ALT Odd/Even

TCE 008390667-02

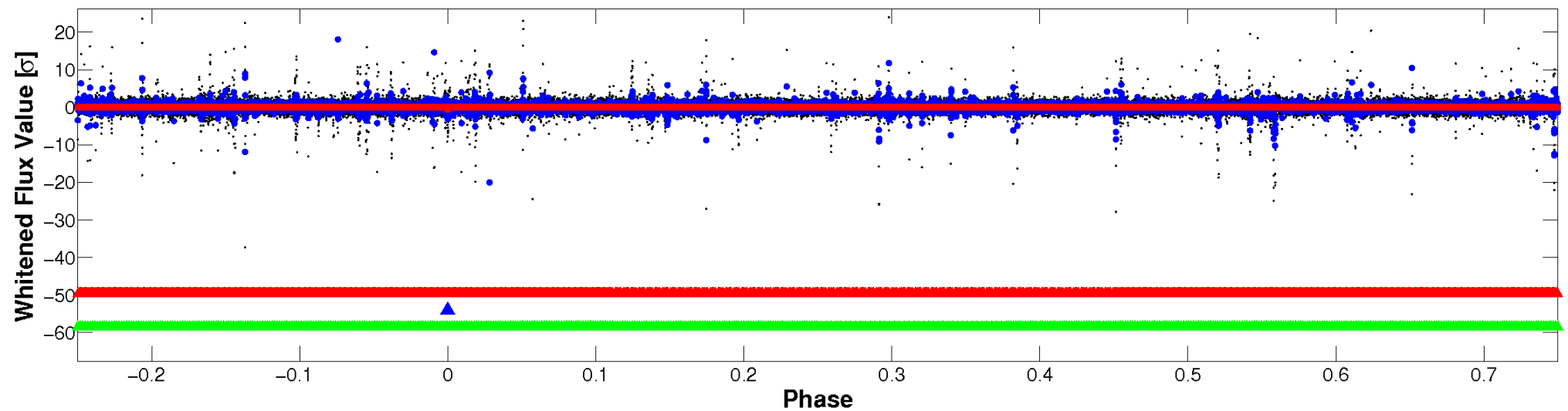


Non-Whitened Vs. Whitened Light Curve

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

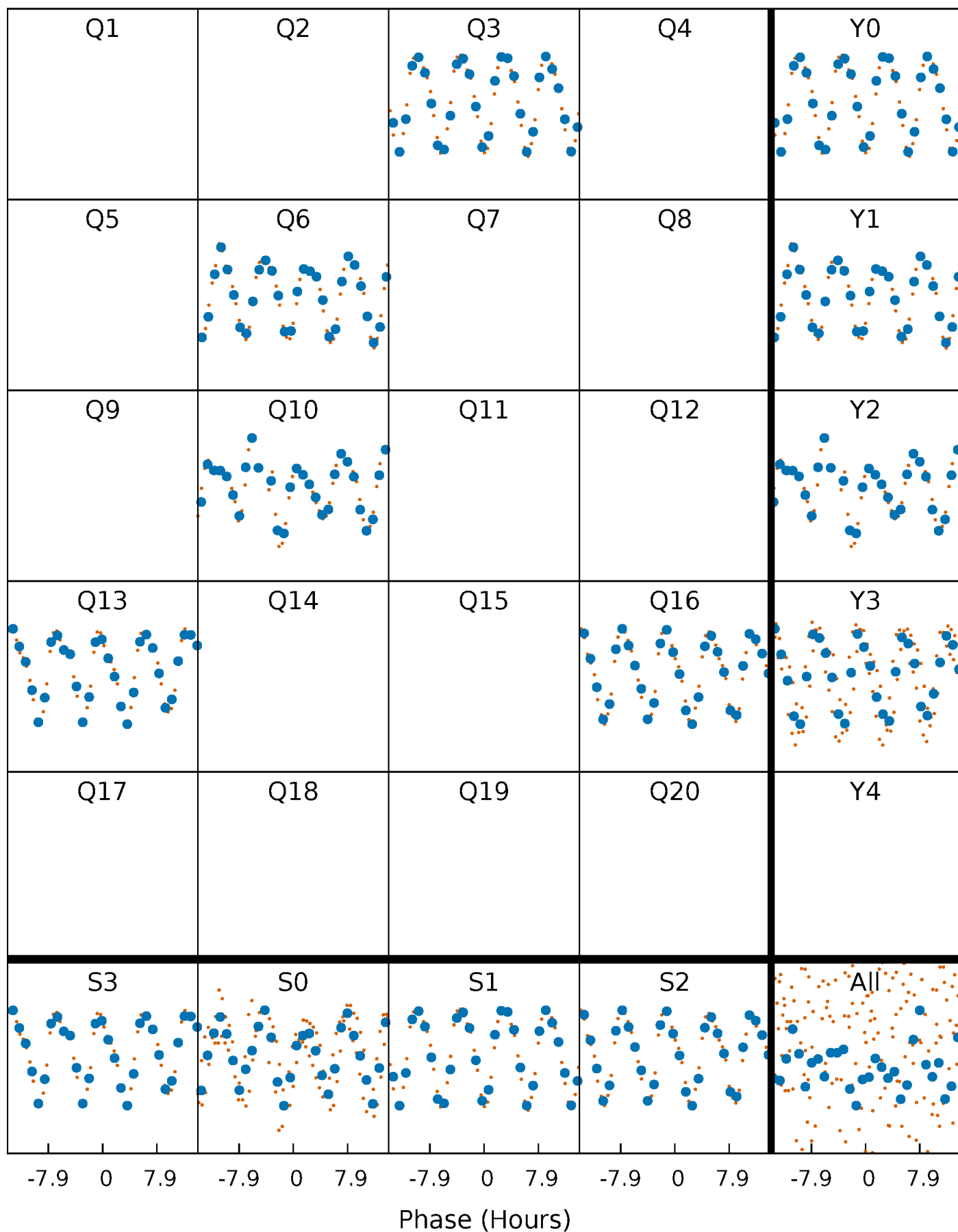


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



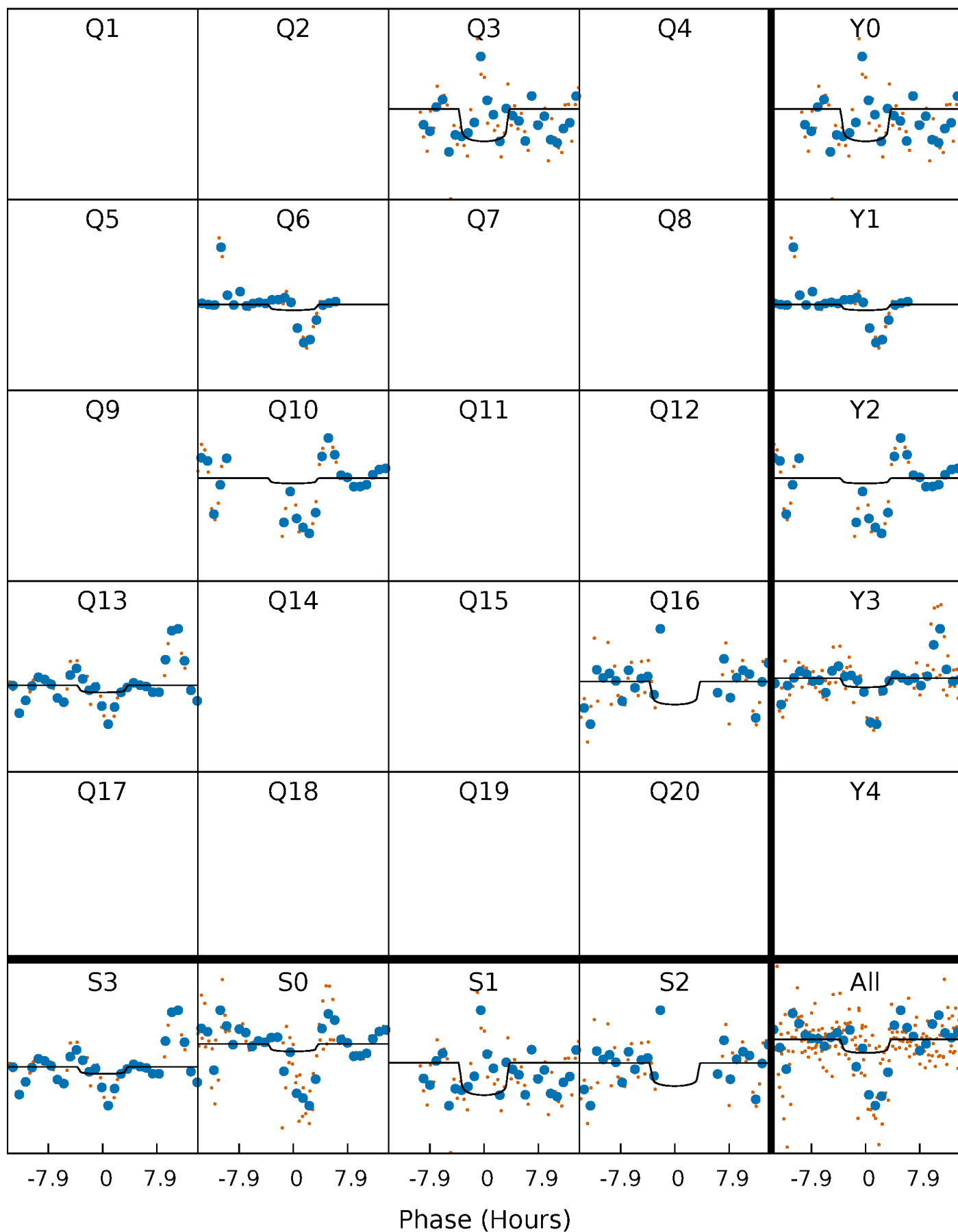
PDC Quarter-Phased Transit Curves

TCE 008390667-02 P=313.312427 Days $T_0=303.418788$ (BKJD)



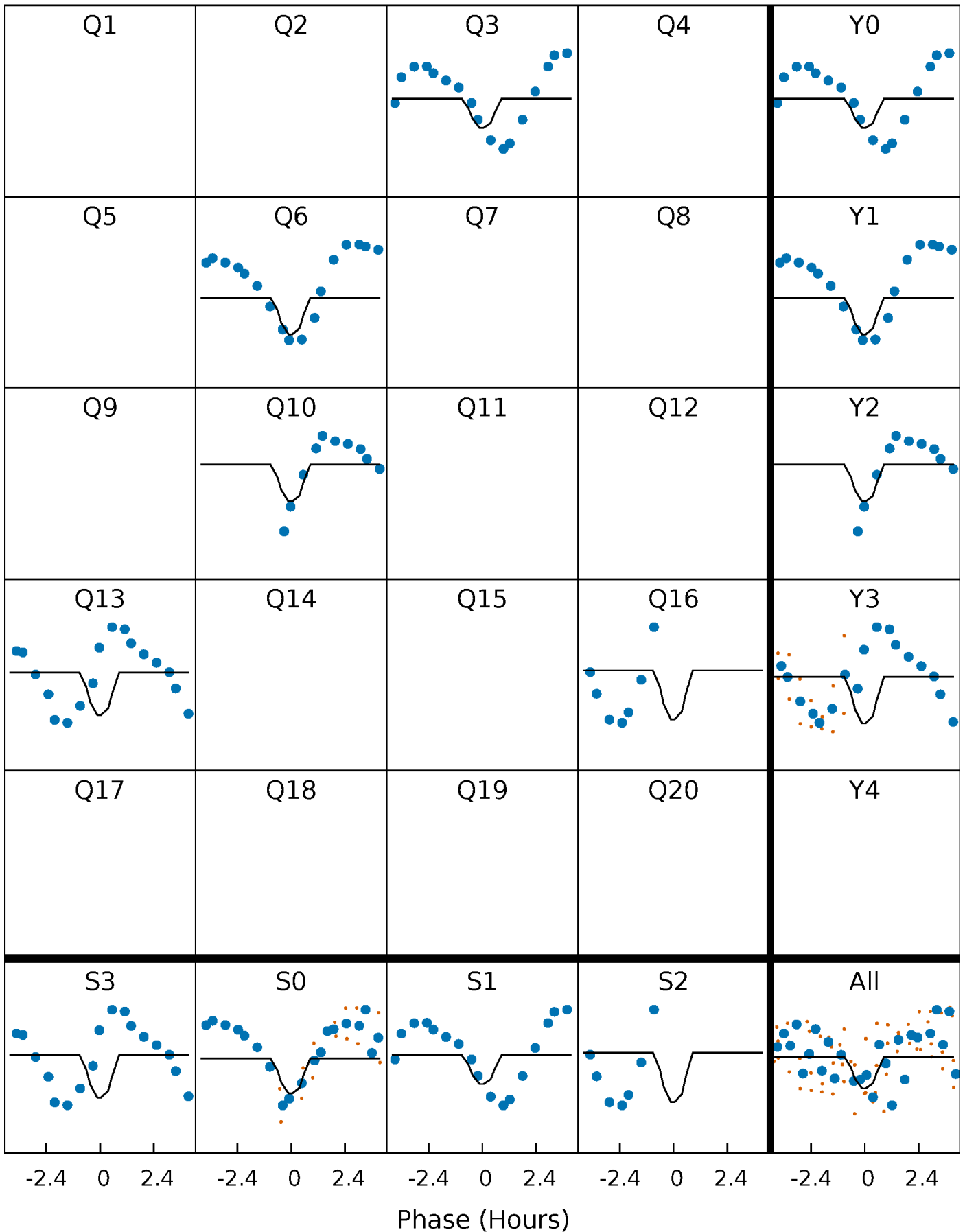
DV Quarter-Phased Transit Curves

TCE 008390667-02 P=313.312427 Days $T_0=303.418788$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

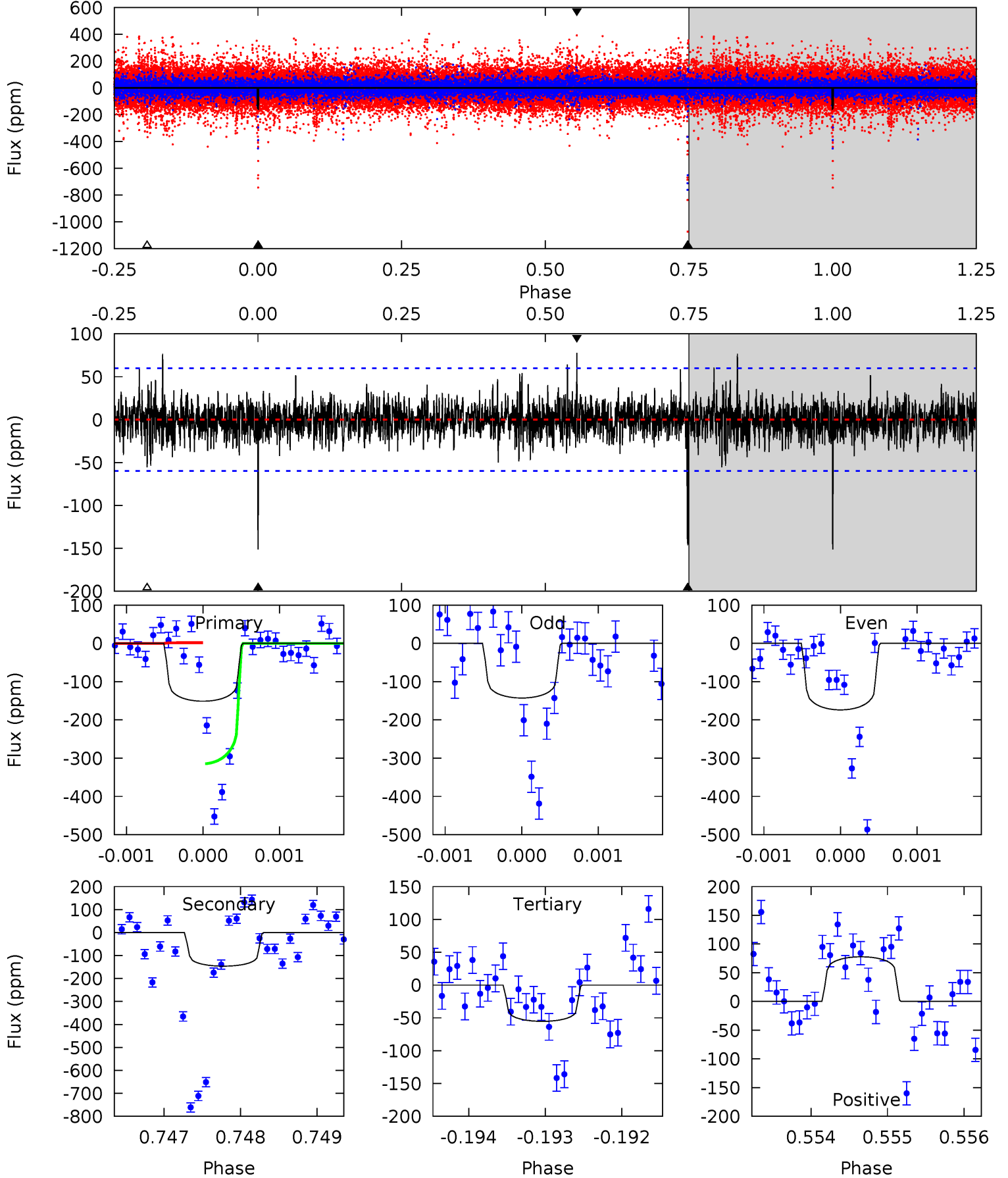
TCE 008390667-02 P=313.305735 Days $T_0=303.384661$ (BKJD)



DV Model-Shift Uniqueness Test

008390667-02, P = 313.312427 Days, E = 303.418788 Days

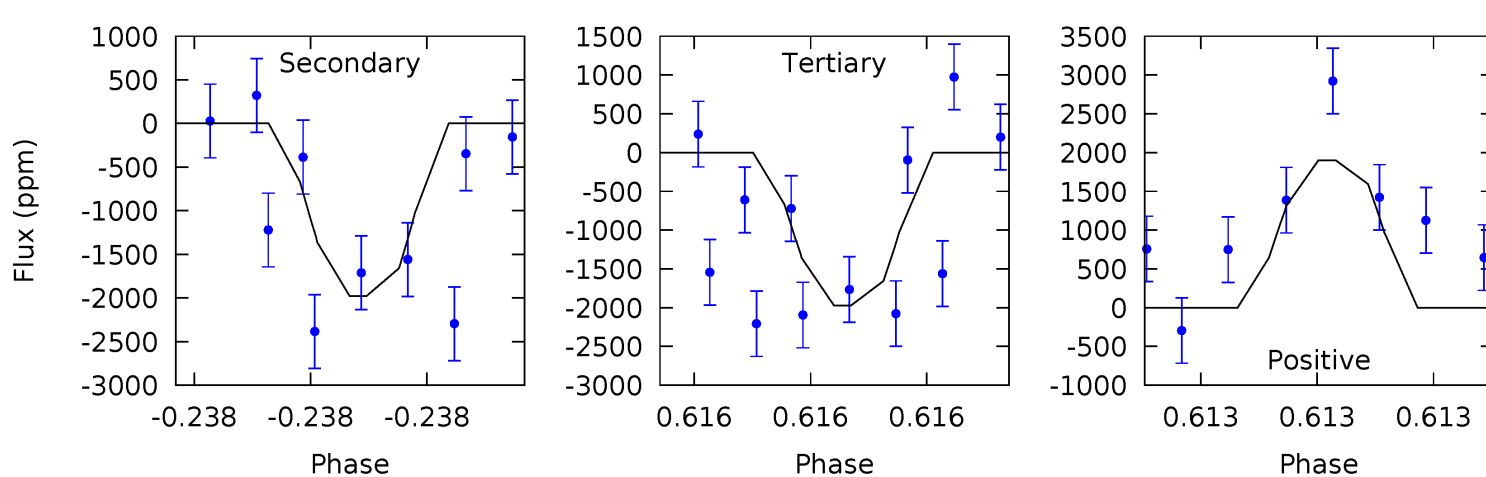
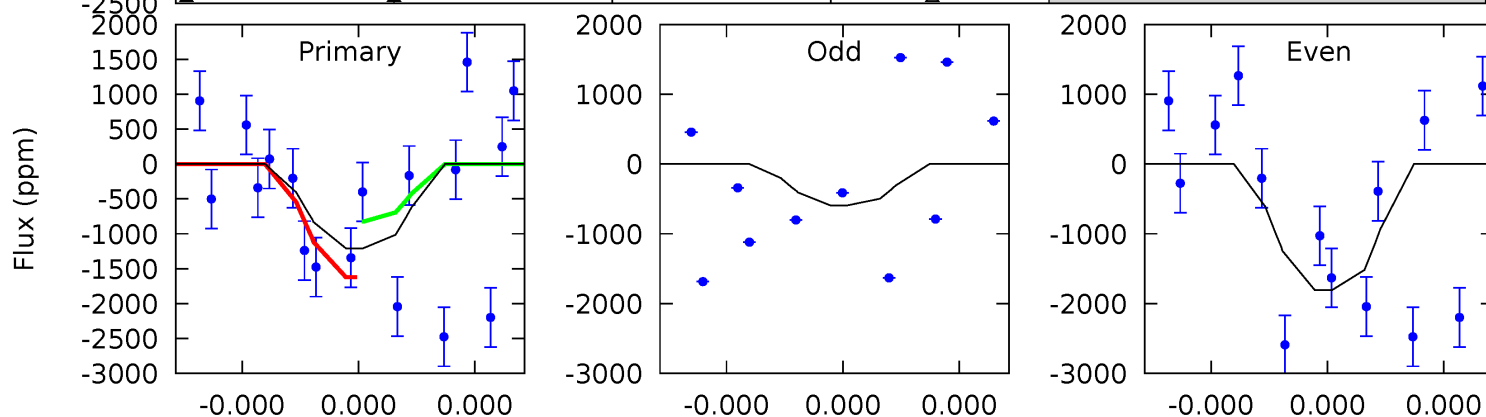
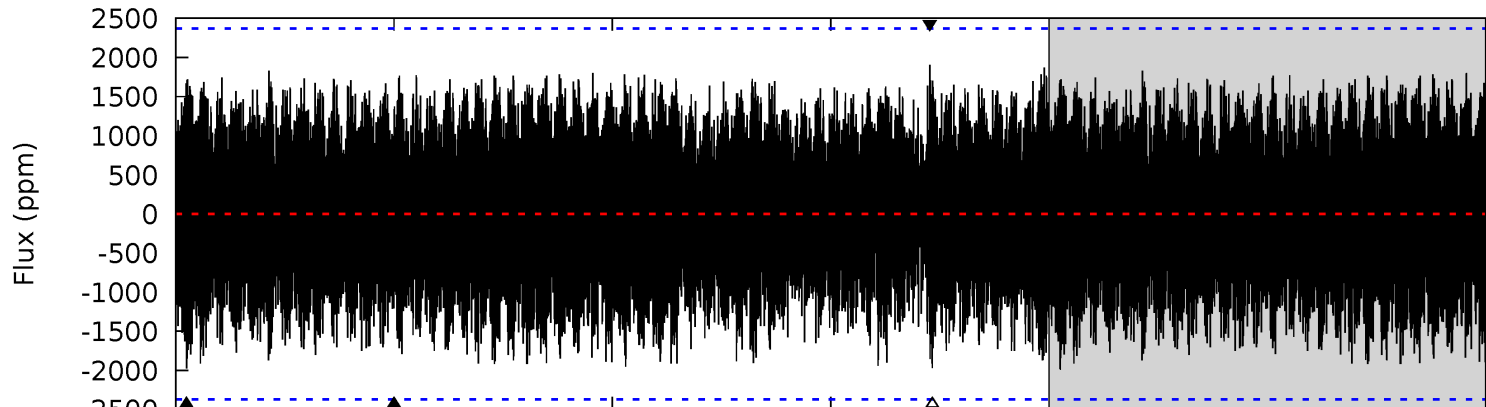
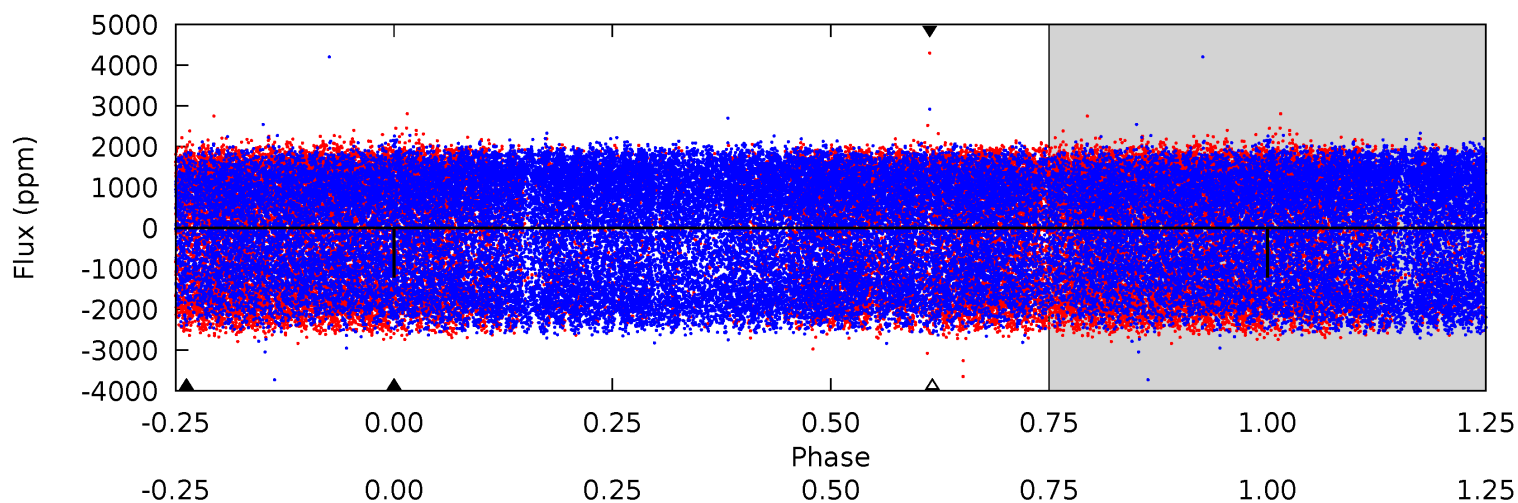
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 13.8 | 13.3 | 5.05 | 7.10 | 5.46 | 3.30 | 1.31 | 8.75 | 6.70 | 8.30 | 6.25 | 1.30 | 1.15 | 0.34 | 14.0 |



Alt Model-Shift Uniqueness Test

008390667-02, P = 313.305735 Days, E = 303.384661 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 2.95 | 4.82 | 4.81 | 4.63 | 5.78 | 3.79 | 1.98 | -1.86 | -1.69 | 0.01 | 0.18 | 1.55 | 0.69 | 0.49 | 0.97 |



Stellar Parameters For KIC 008390667

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 9409^{+301}_{-414} | $4.127^{+0.136}_{-0.221}$ | $0.070^{+0.150}_{-0.600}$ | $2.141^{+0.822}_{-0.548}$ | $2.242^{+0.444}_{-0.543}$ | $0.322^{+0.239}_{-0.180}$ |
| | +3%/-4% | +3%/-5% | +214%/-857% | +38%/-26% | +20%/-24% | +74%/-56% |
| Source | KIC0 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 008390667-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-----------------|------------------------|----------------------|-------------------------|--------------------------|
| DV | -146 ± 11 | $3.05^{+2.76}_{-2.01}$ | 789^{+66}_{-54} | 9104^{+15227}_{-2952} | 11948^{+91080}_{-8640} |
| Alt. | -1976 ± 410 | $9.10^{+3.62}_{-3.33}$ | 789^{+69}_{-57} | 10424^{+4868}_{-2082} | 17594^{+27786}_{-8692} |

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

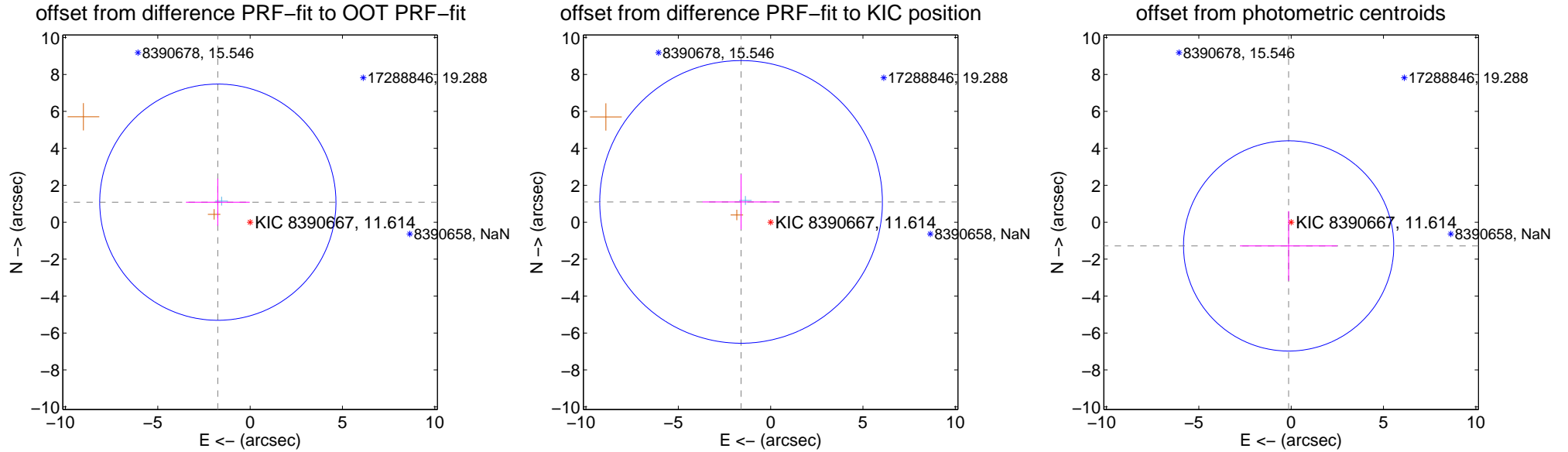
DV Centroid Data

Supplemental centroid analysis for 008390667-02. **Kepler magnitude: 11.61.** Transit SNR 3.40

There are 1 quarters with good PRF difference image offsets

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

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 2.057 ± 2.132 | 0.96 | 1.747 ± 1.724 | 1.084 ± 1.274 |
| PRF-fit source offset from KIC position | 1.941 ± 2.551 | 0.76 | 1.600 ± 2.088 | 1.099 ± 1.484 |
| photometric centroid source offset | 1.29 ± 1.90 | 0.68 | 0.14 ± 2.64 | -1.28 ± 1.89 |



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

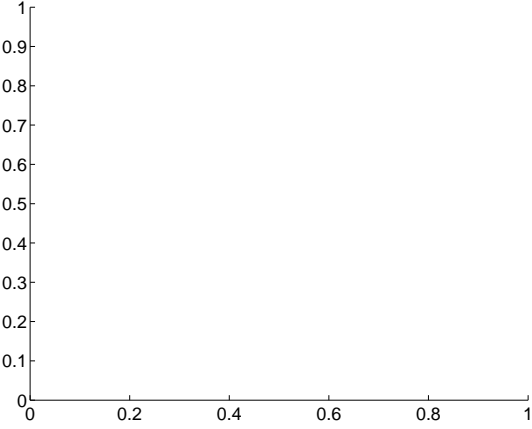
Q1 no difference image



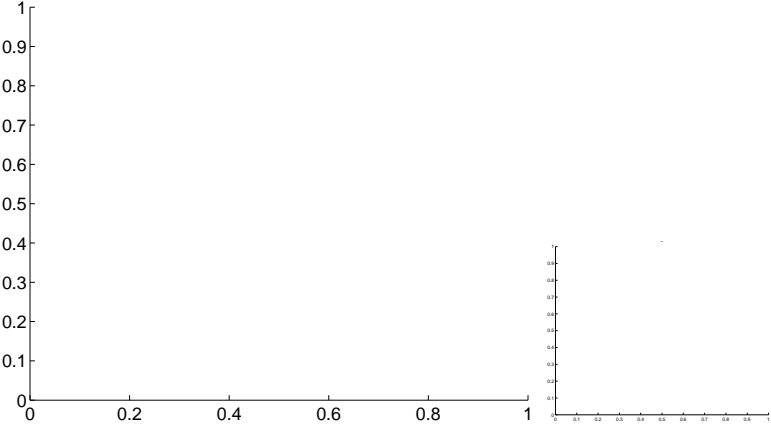
Q1 no OOT image



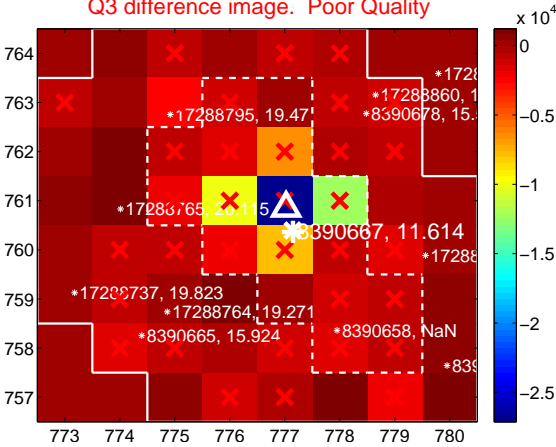
Q2 no difference image



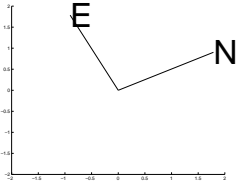
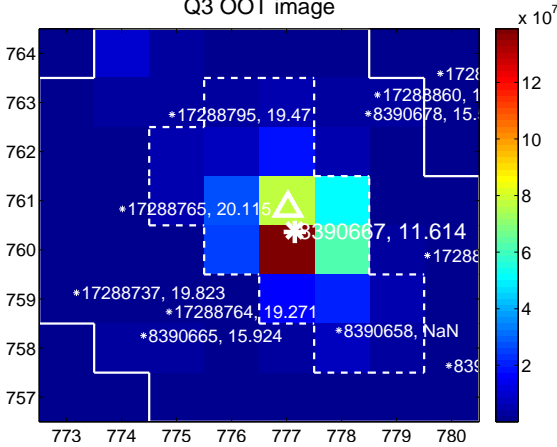
Q2 no OOT image



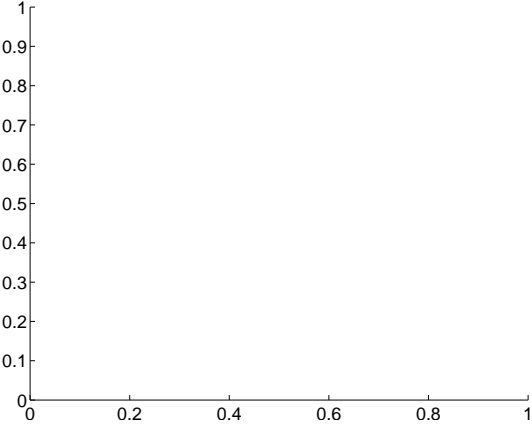
Q3 difference image. Poor Quality



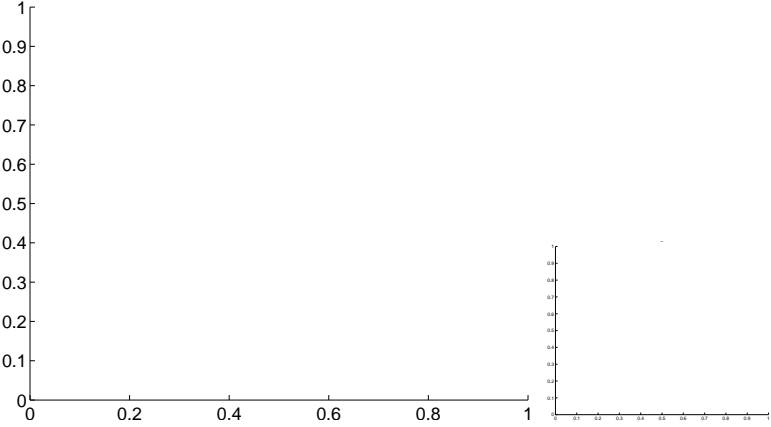
Q3 OOT image



Q4 no difference image



Q4 no OOT image

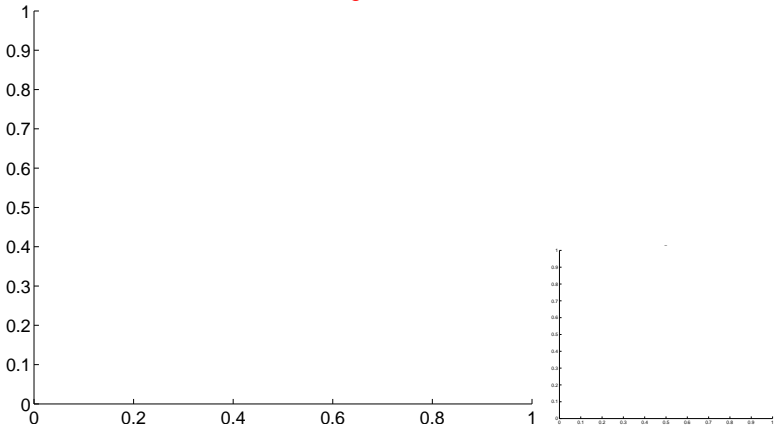


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

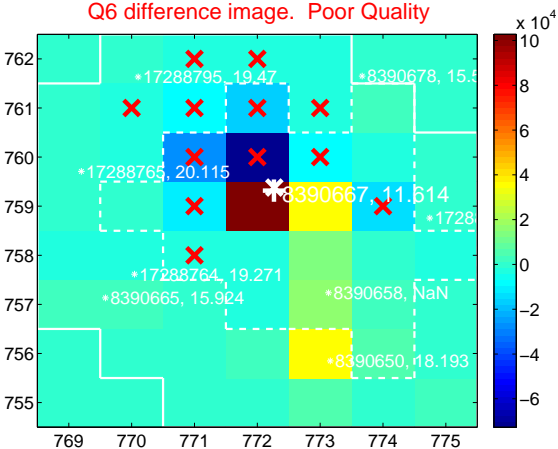
Q5 no difference image



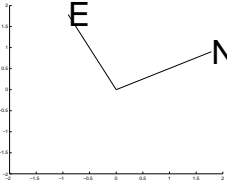
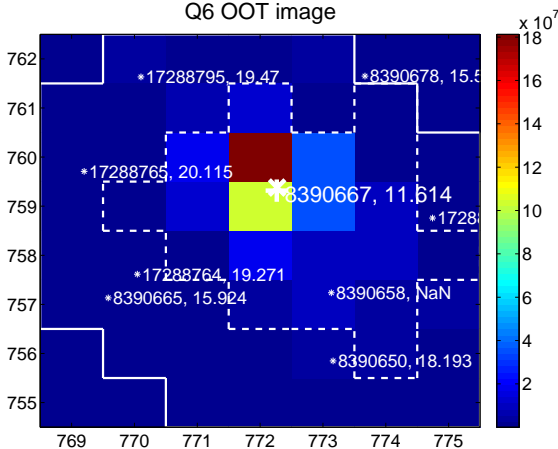
Q5 no OOT image



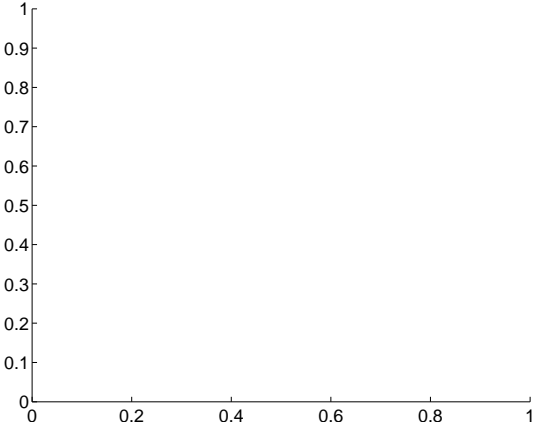
Q6 difference image. Poor Quality



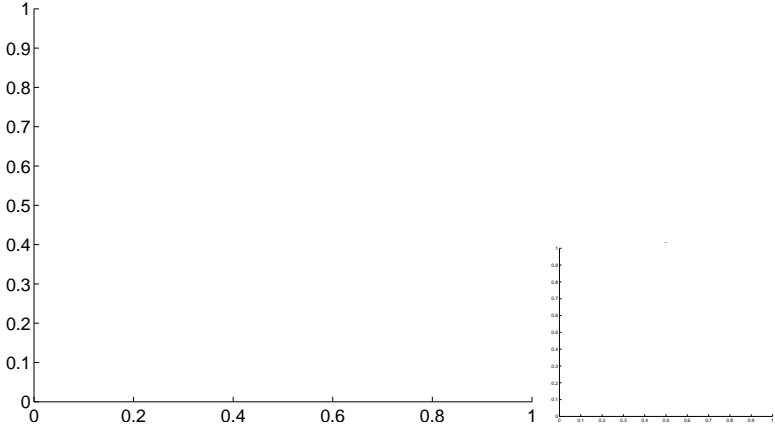
Q6 OOT image



Q7 no difference image



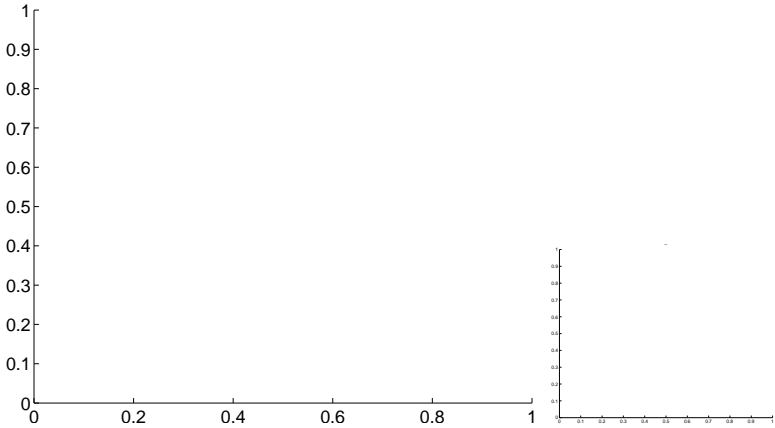
Q7 no OOT image



Q8 no difference image



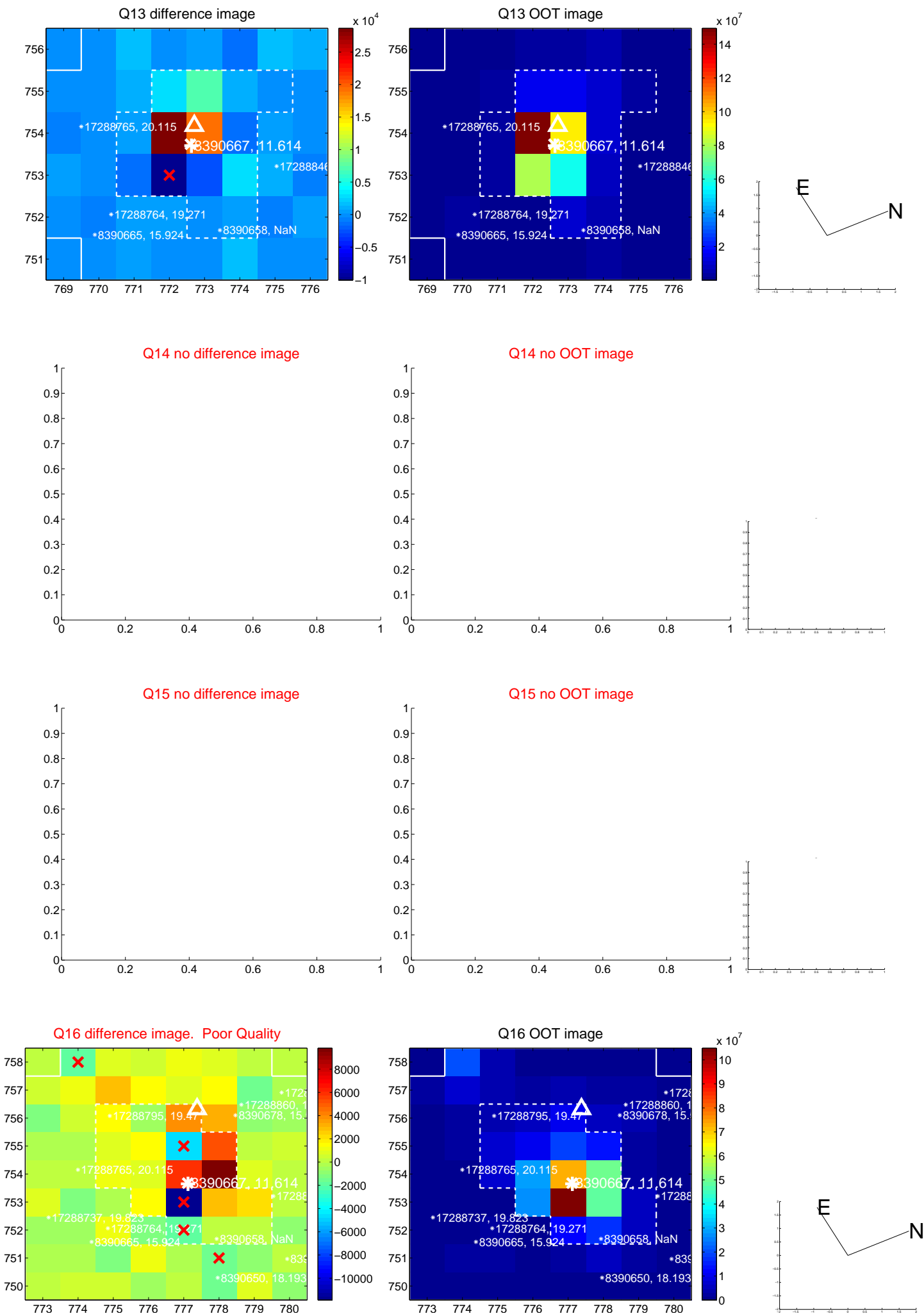
Q8 no OOT image



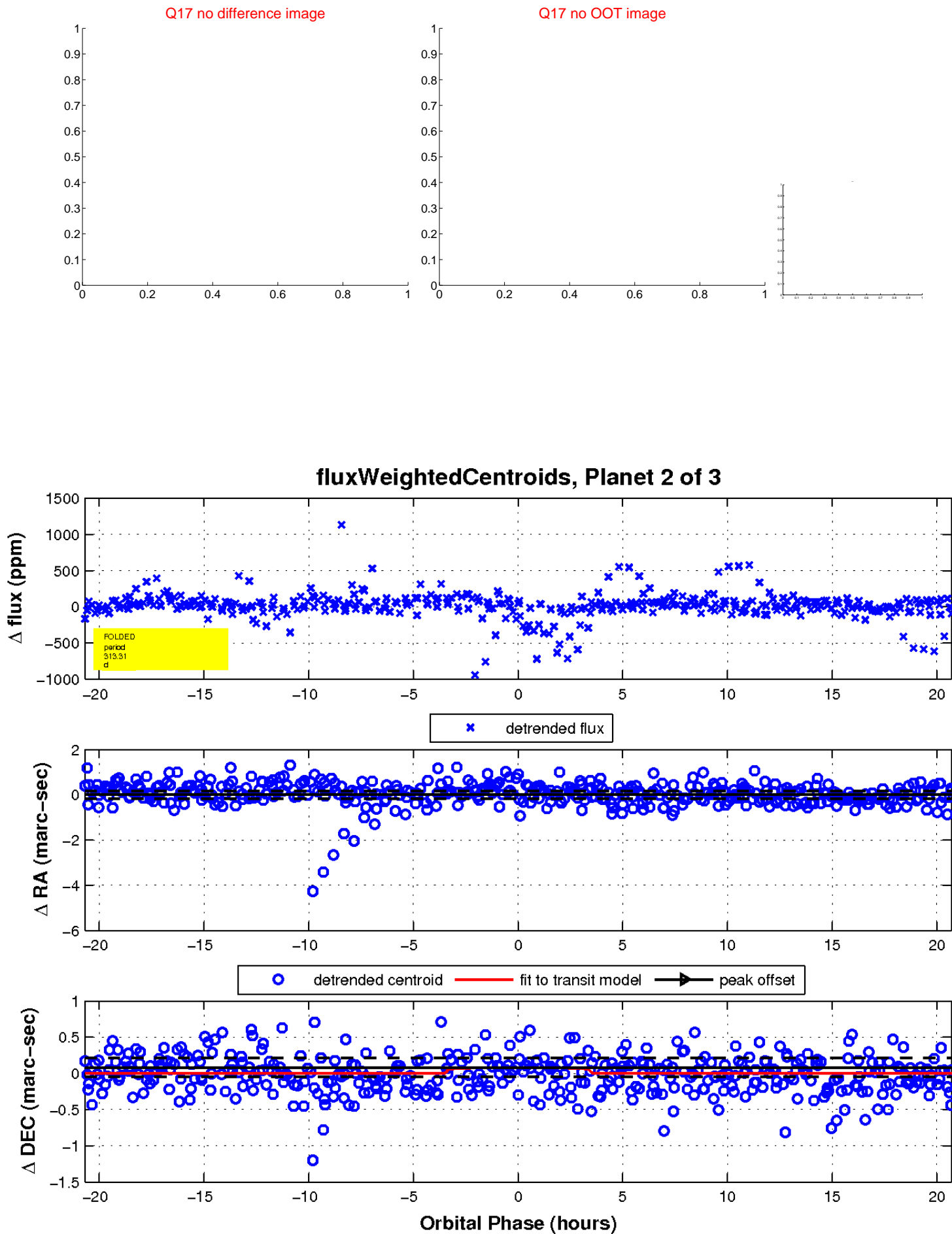
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

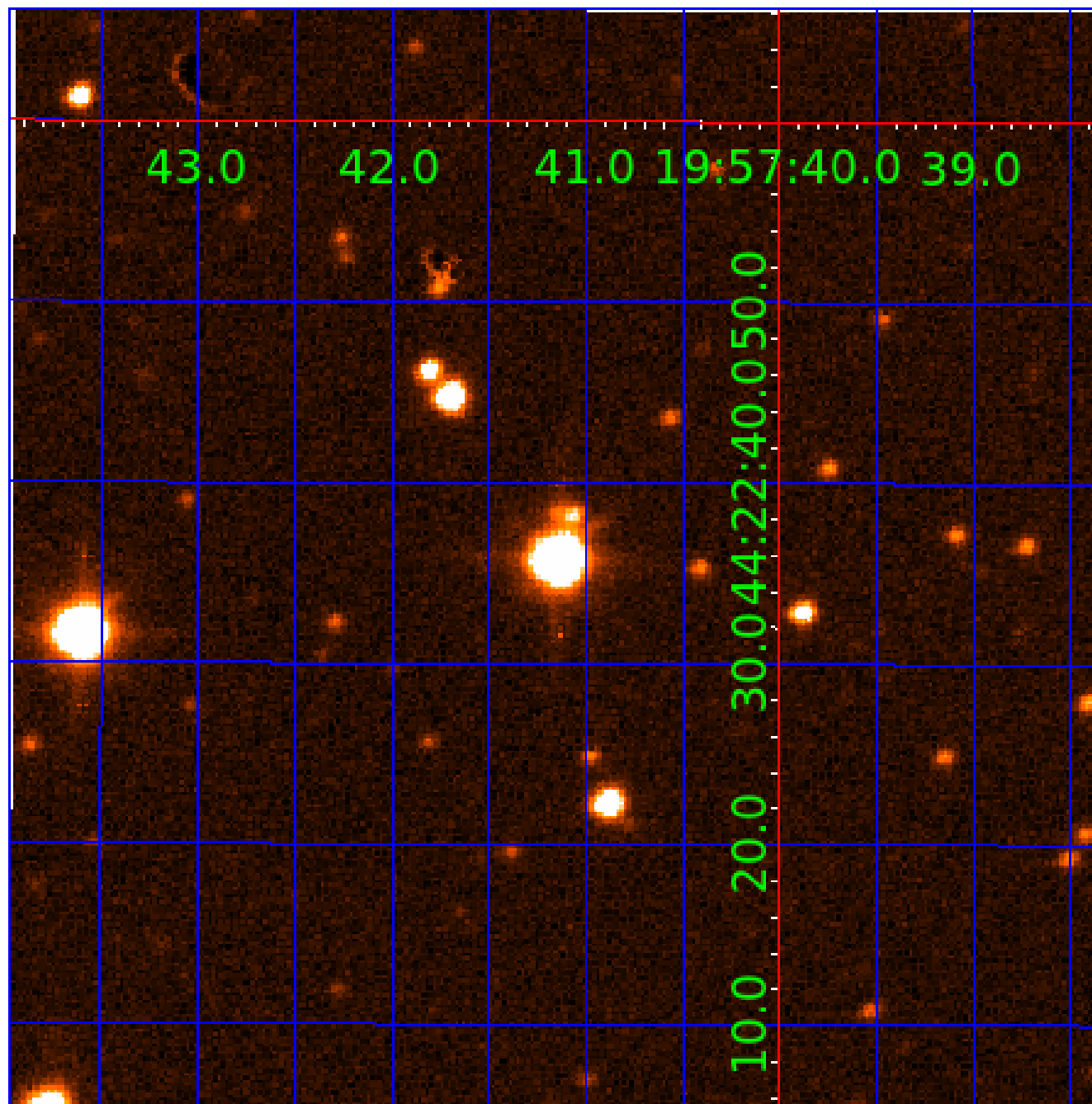


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008390667

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 008390667-01 | OBS | No | 1.671873 | 132.320110 | 17.9 | 2.580 | 9.7 | 10.7 | 2.14 | 9409 | 1.19 | 24729.11 |
| 008390667-02 | OBS | No | 313.312427 | 303.418788 | 69.0 | 6.940 | 16.6 | 3.4 | 2.14 | 9409 | 1.87 | 23.06 |
| 008390667-03 | OBS | No | 0.514441 | 131.526619 | 476.9 | 1.500 | 9.1 | -1.0 | 2.14 | 9409 | 4.80 | 119041.67 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 008390667-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT |
| 008390667-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 008390667-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS |

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

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

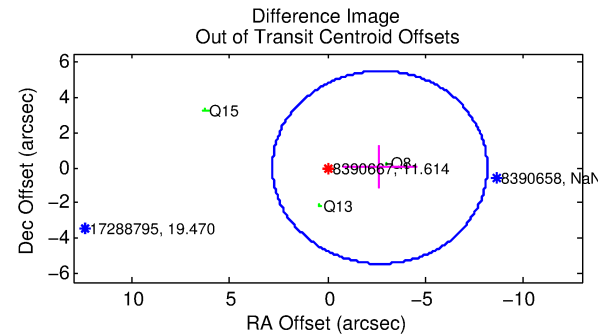
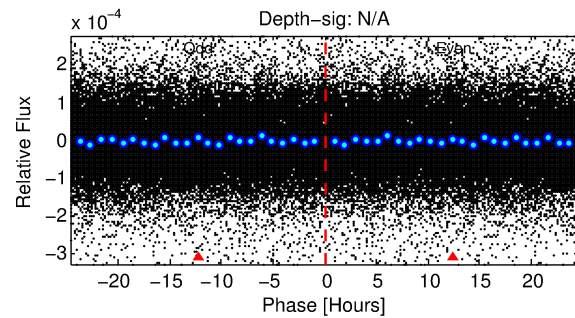
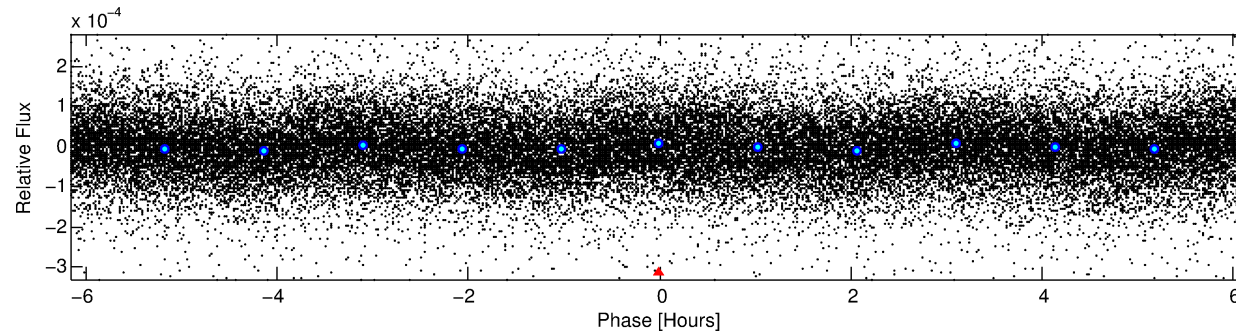
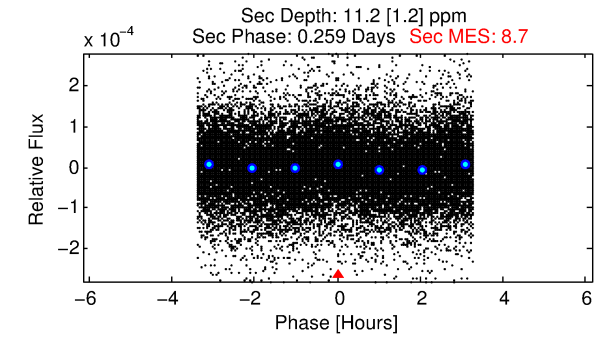
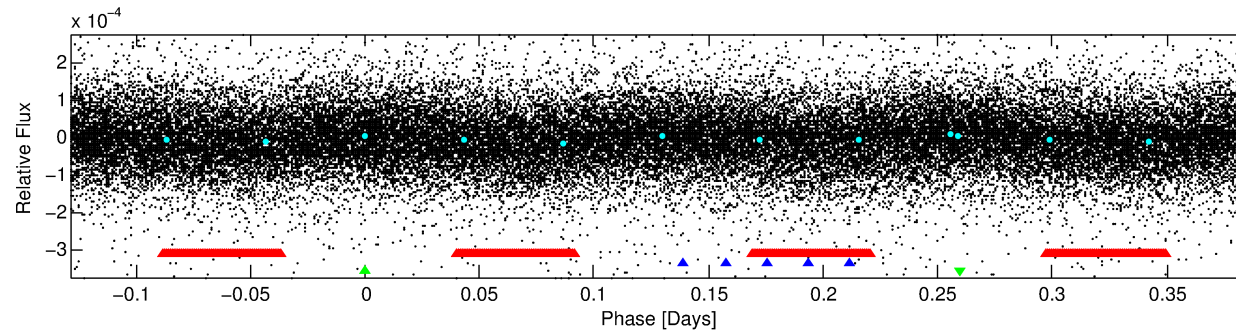
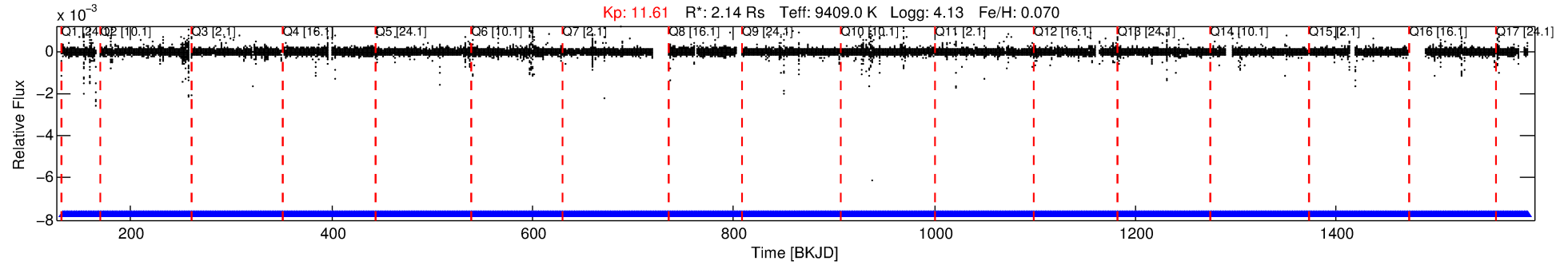
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008390667-03

No Significant Match Found

DV One-Page Summary

KIC: 8390667 Candidate: 3 of 3 Period: 0.514 d



TPS TCE Results:

Period = 0.51444 d
Epoch = 131.5266 BKJD

DV fit results are unavailable

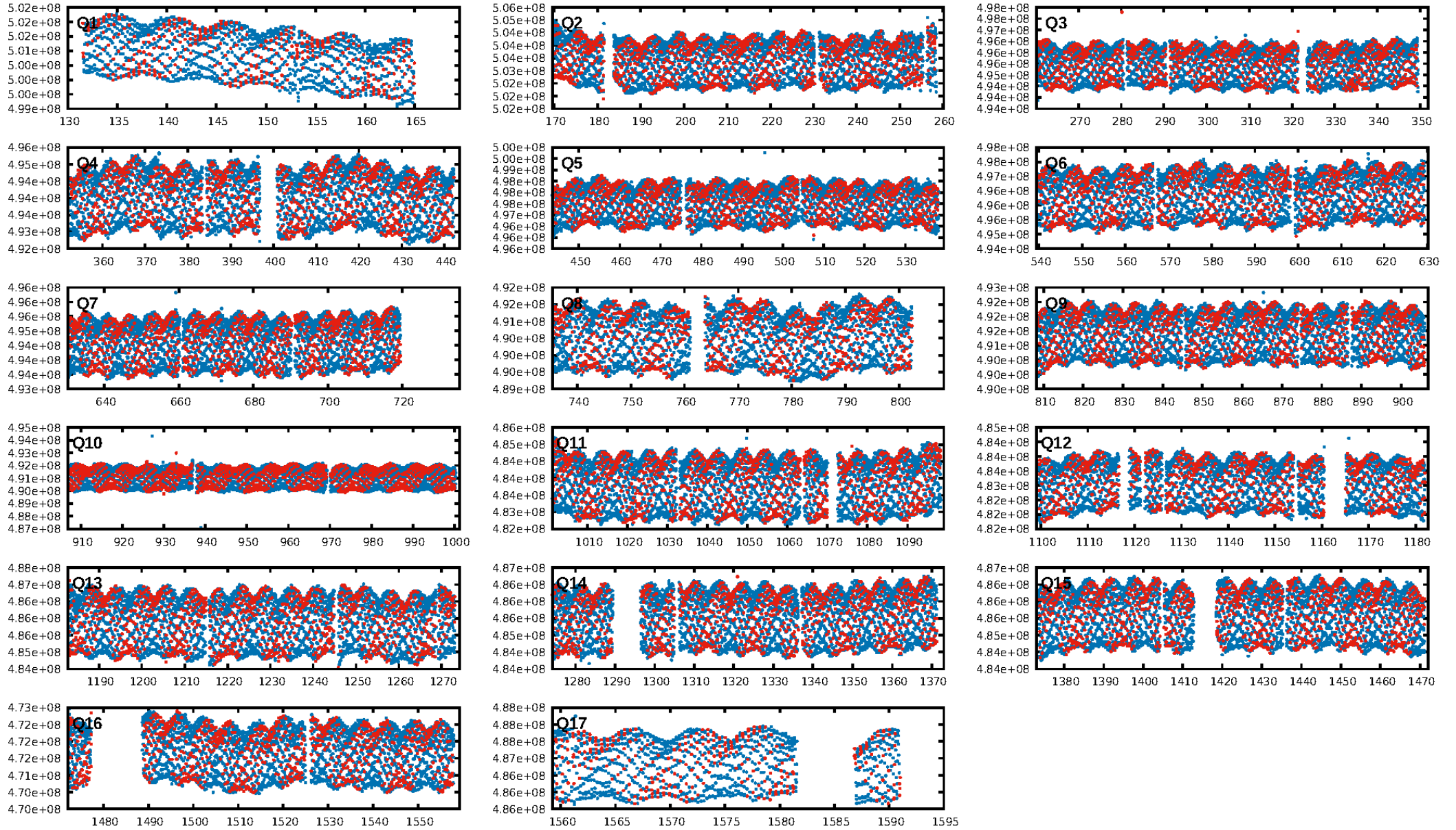
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [9.31 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2304/2304]
GhostDiagnostic-chr: -30.39
Centroid-sig: 2.7%
Centroid-so: 0.371 arcsec [2.62 σ]
OotOffset-rm: 2.674 arcsec [1.46 σ]
KicOffset-rm: 2.739 arcsec [1.66 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [17/17]

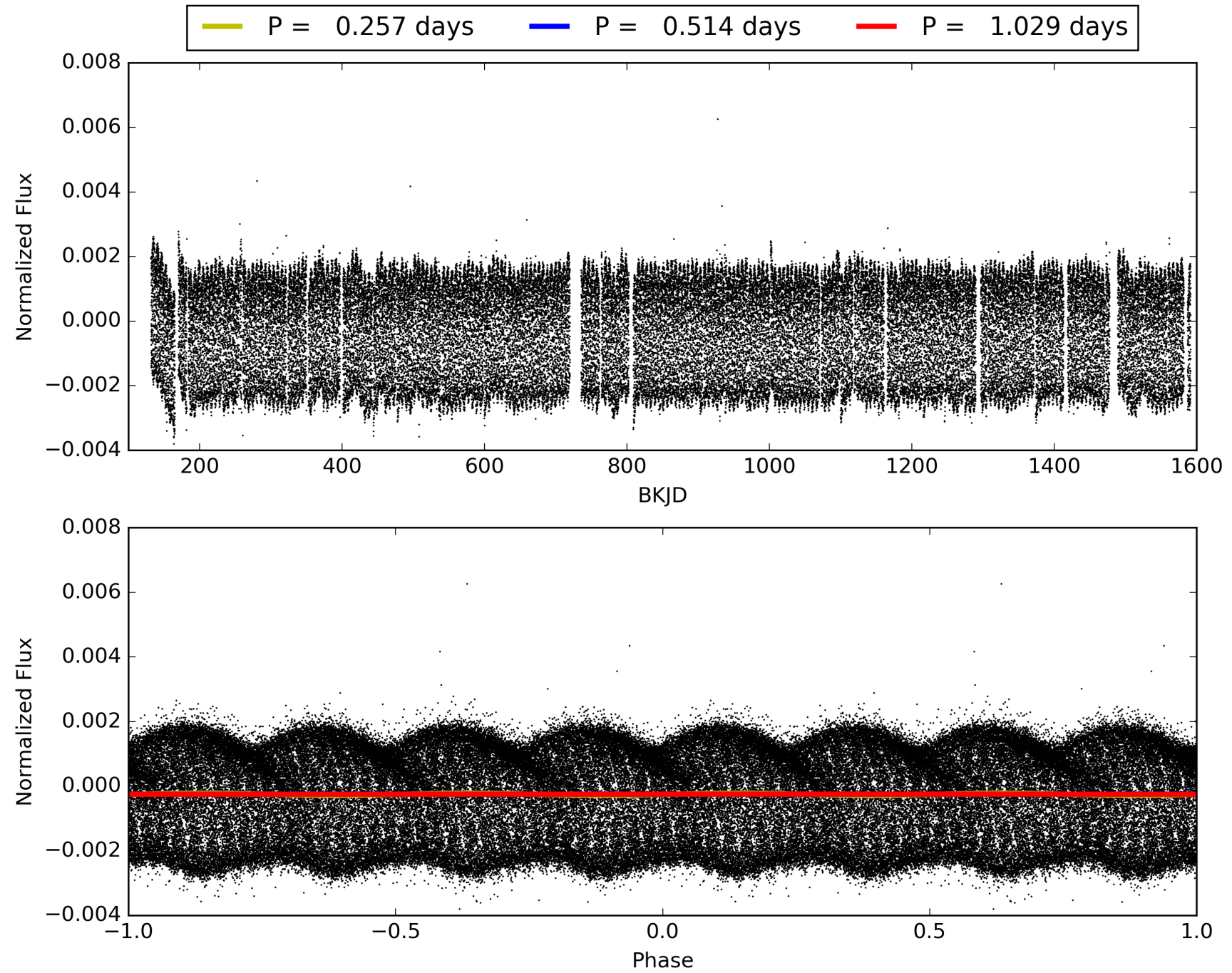
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:37:40 Z

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

TCE 008390667-03, PDC Light Curves

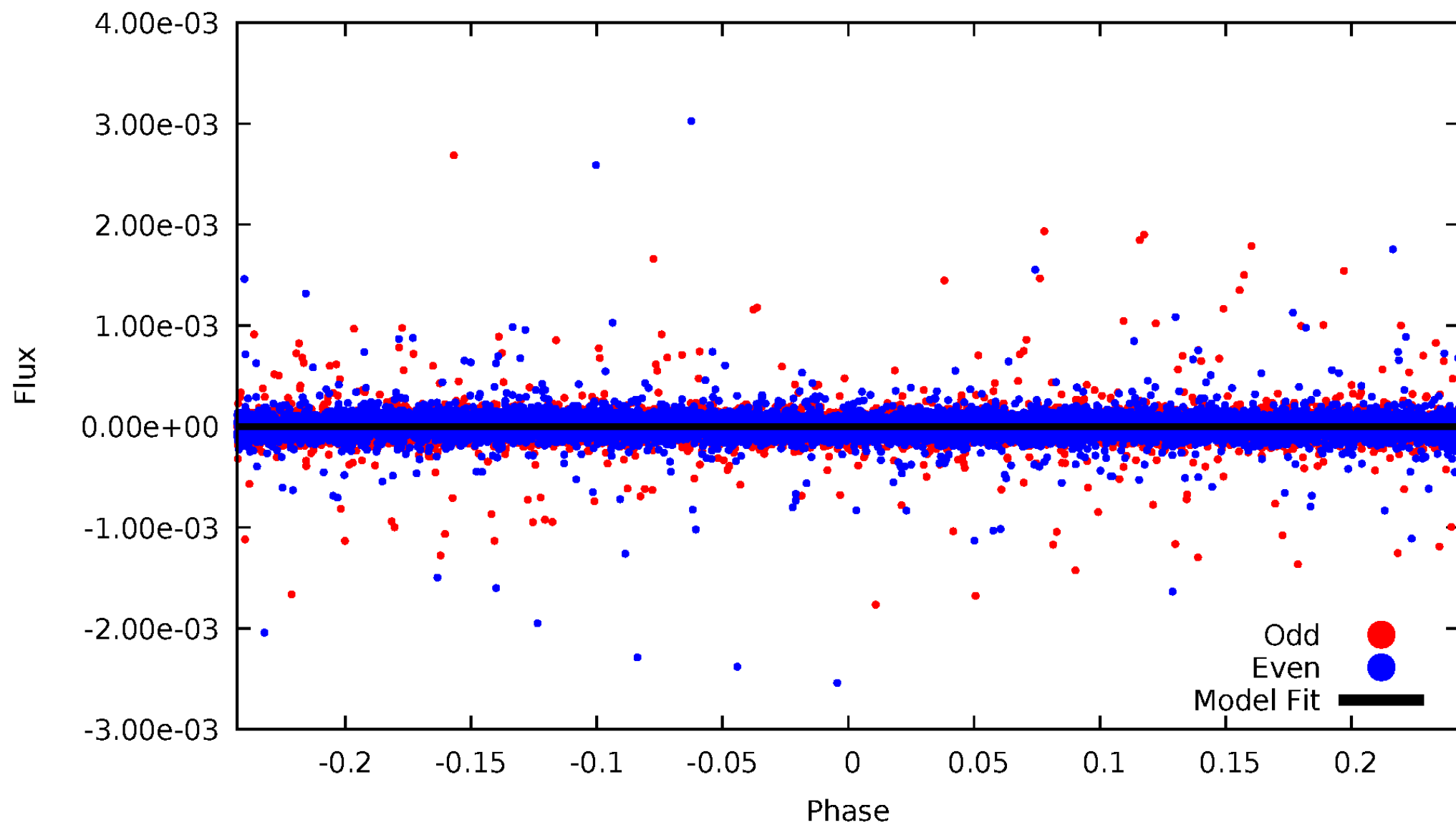


TCE 008390667-03



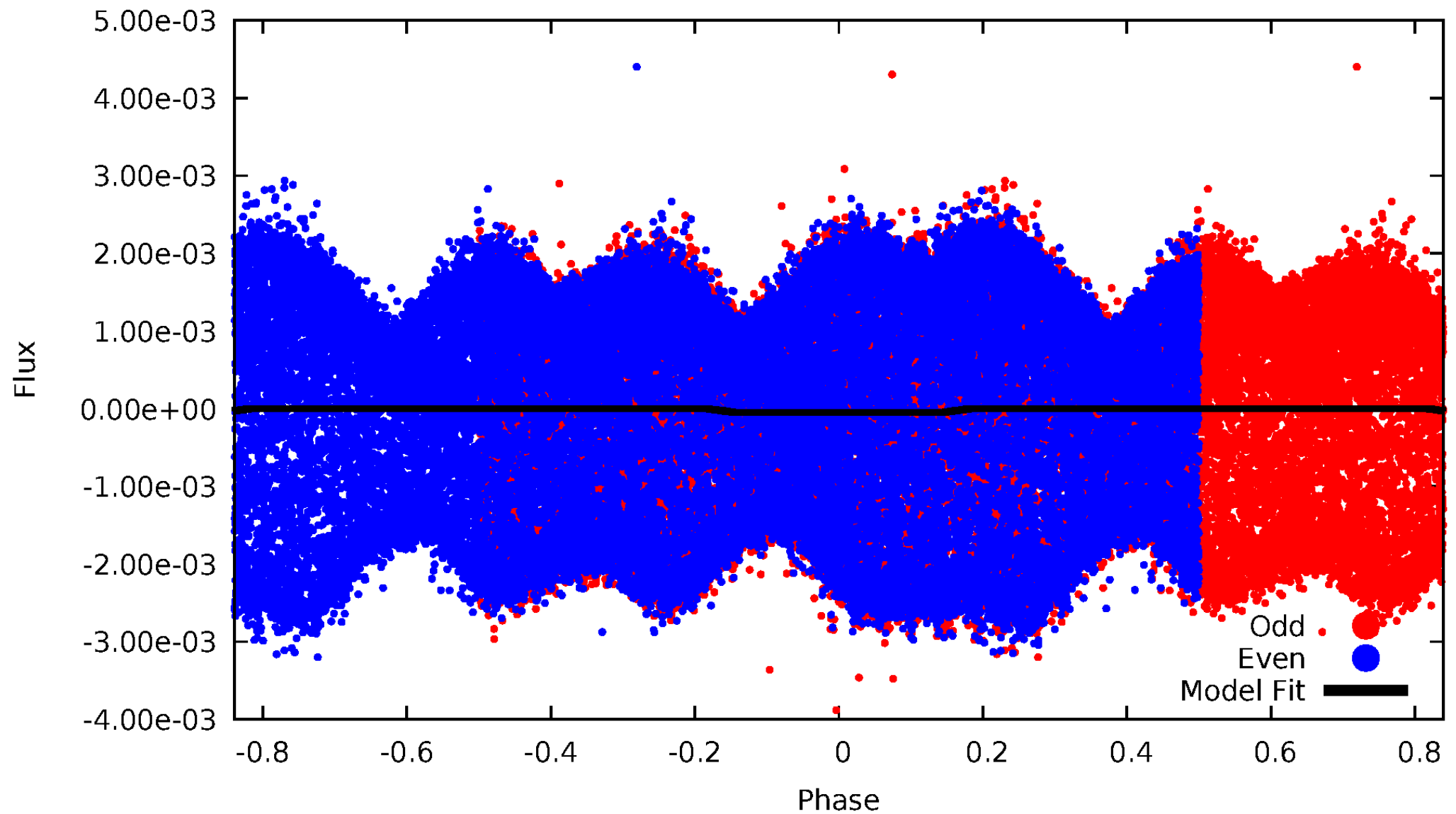
DV Odd/Even

TCE 008390667-03



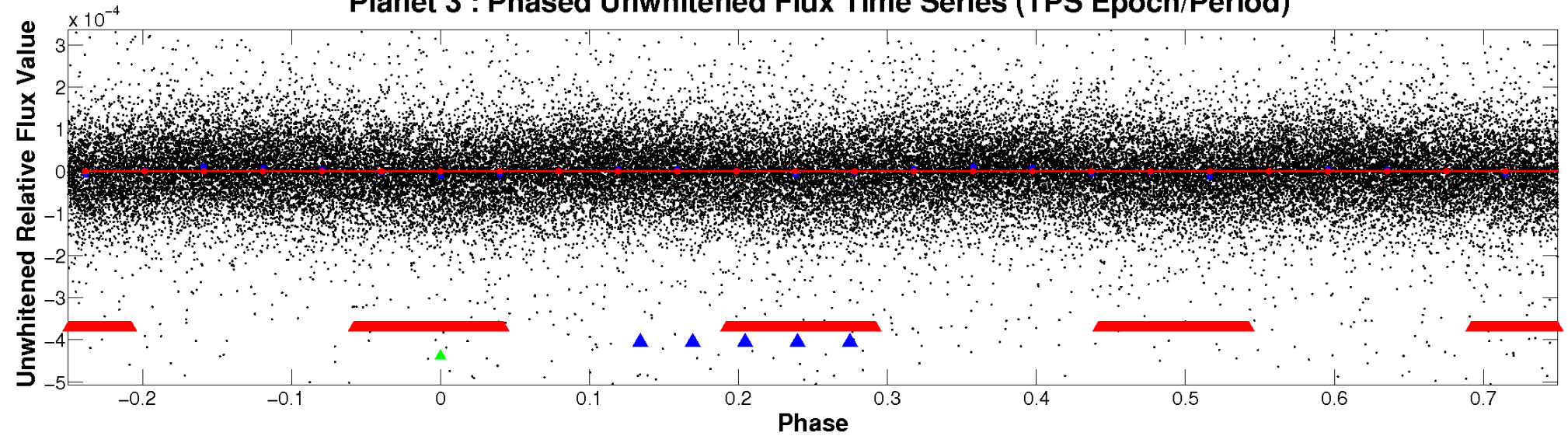
ALT Odd/Even

TCE 008390667-03

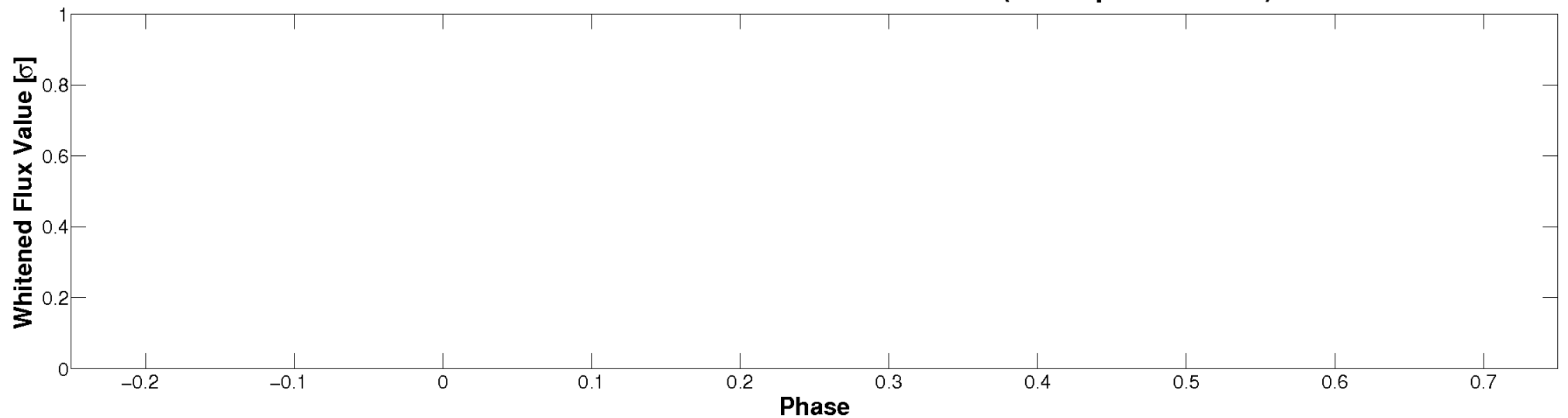


Non-Whitened Vs. Whitened Light Curve

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

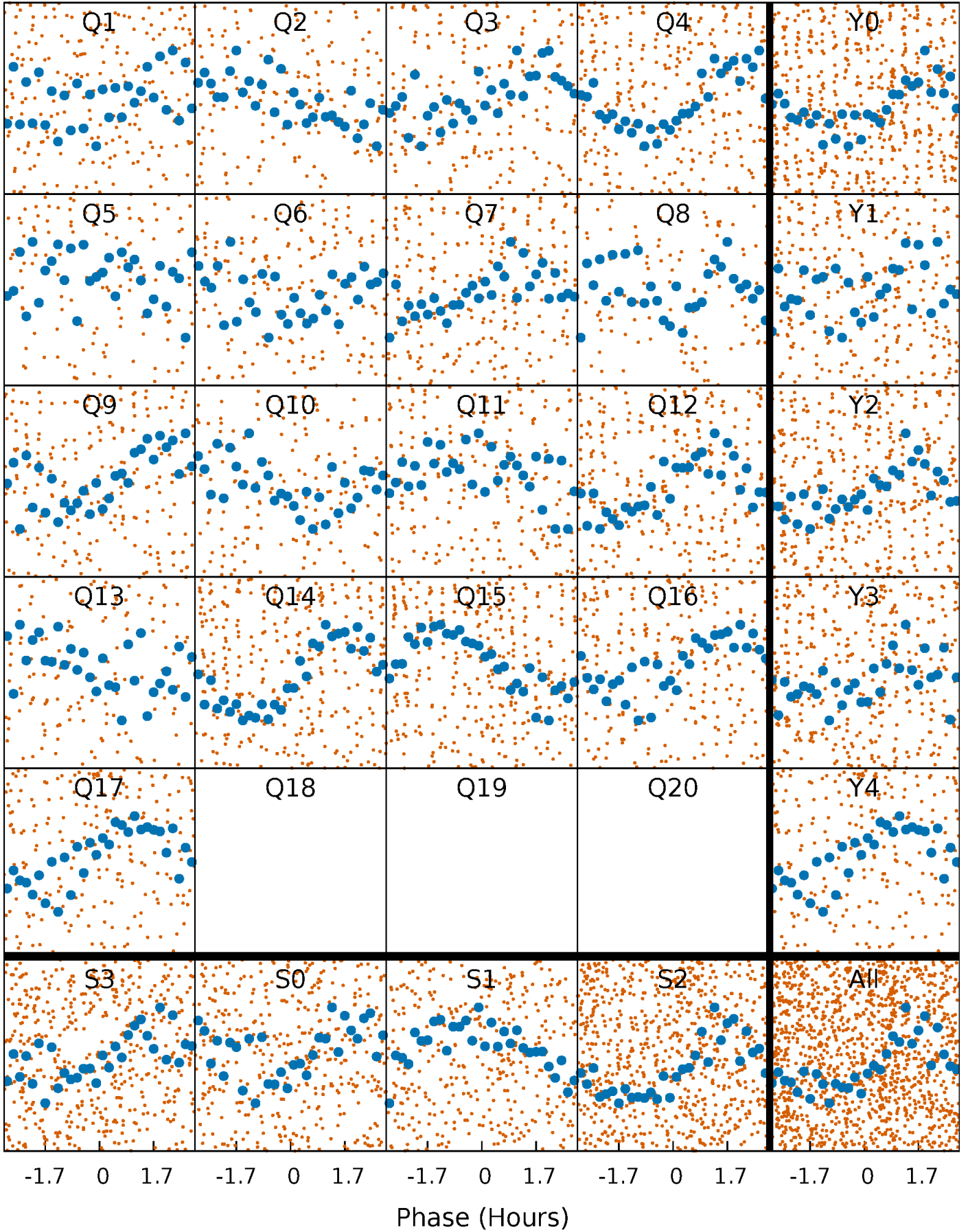


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



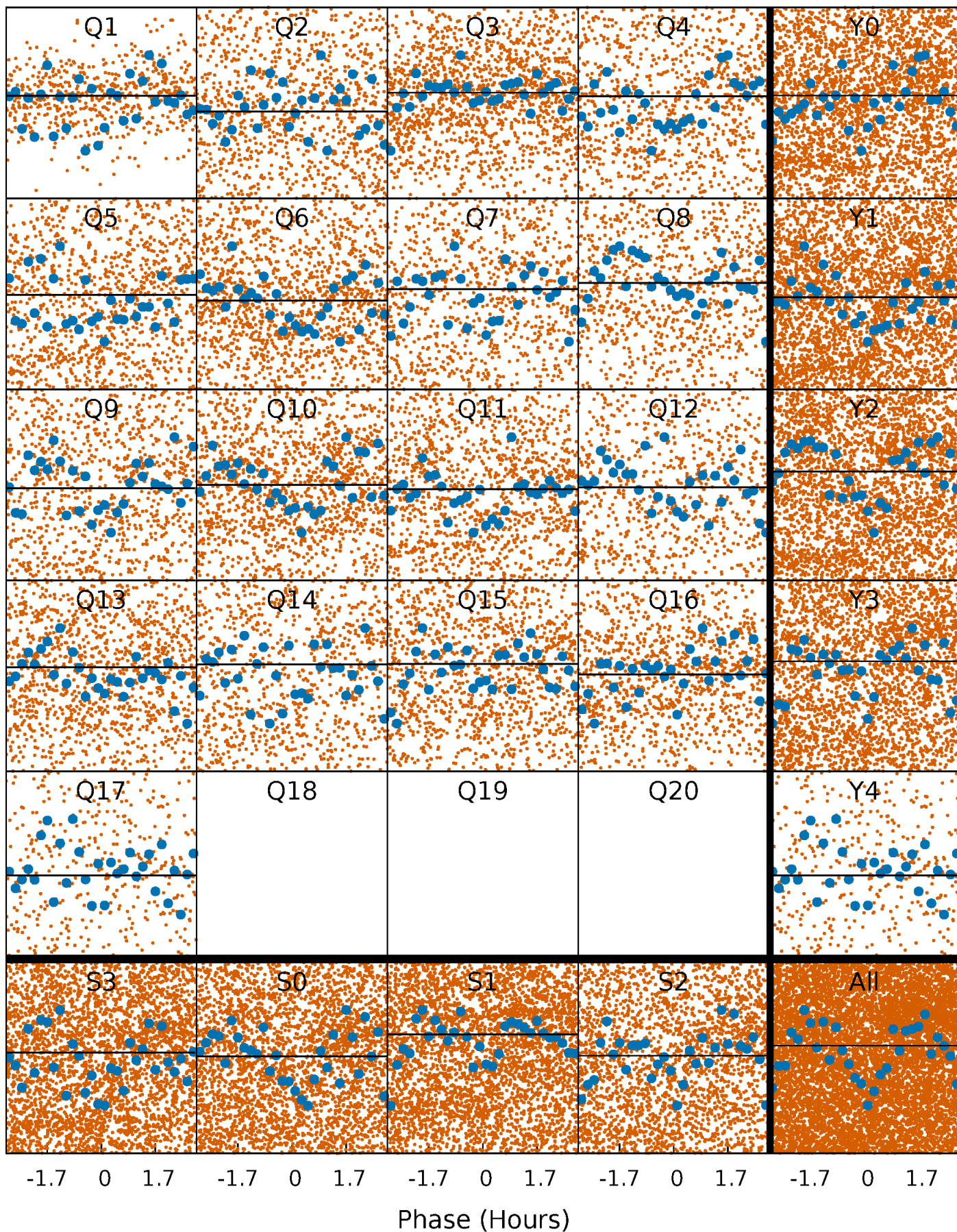
PDC Quarter-Phased Transit Curves

TCE 008390667-03 P= 0.514441 Days $T_0=131.526619$ (BKJD)



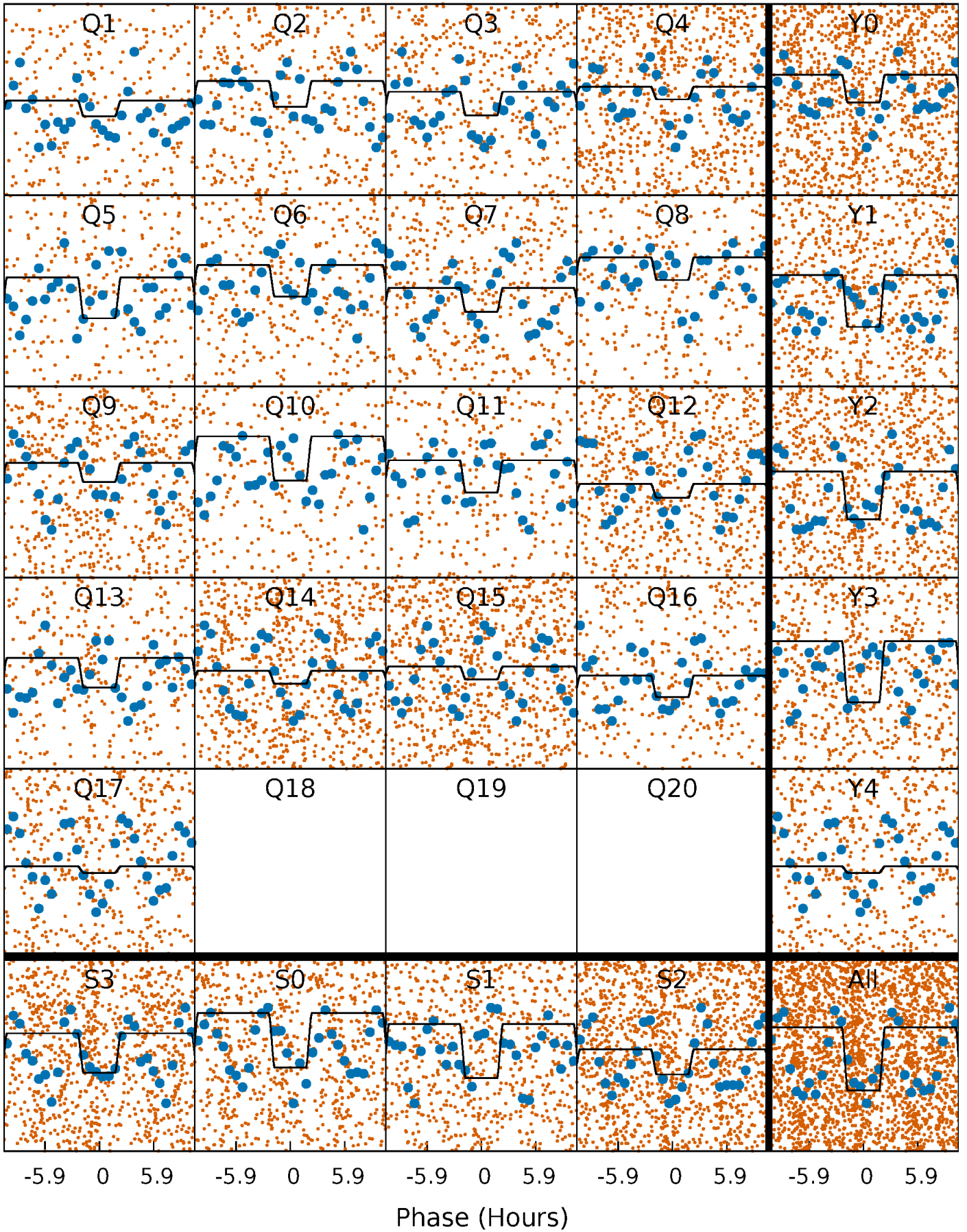
DV Quarter-Phased Transit Curves

TCE 008390667-03 P= 0.514441 Days $T_0=131.526619$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

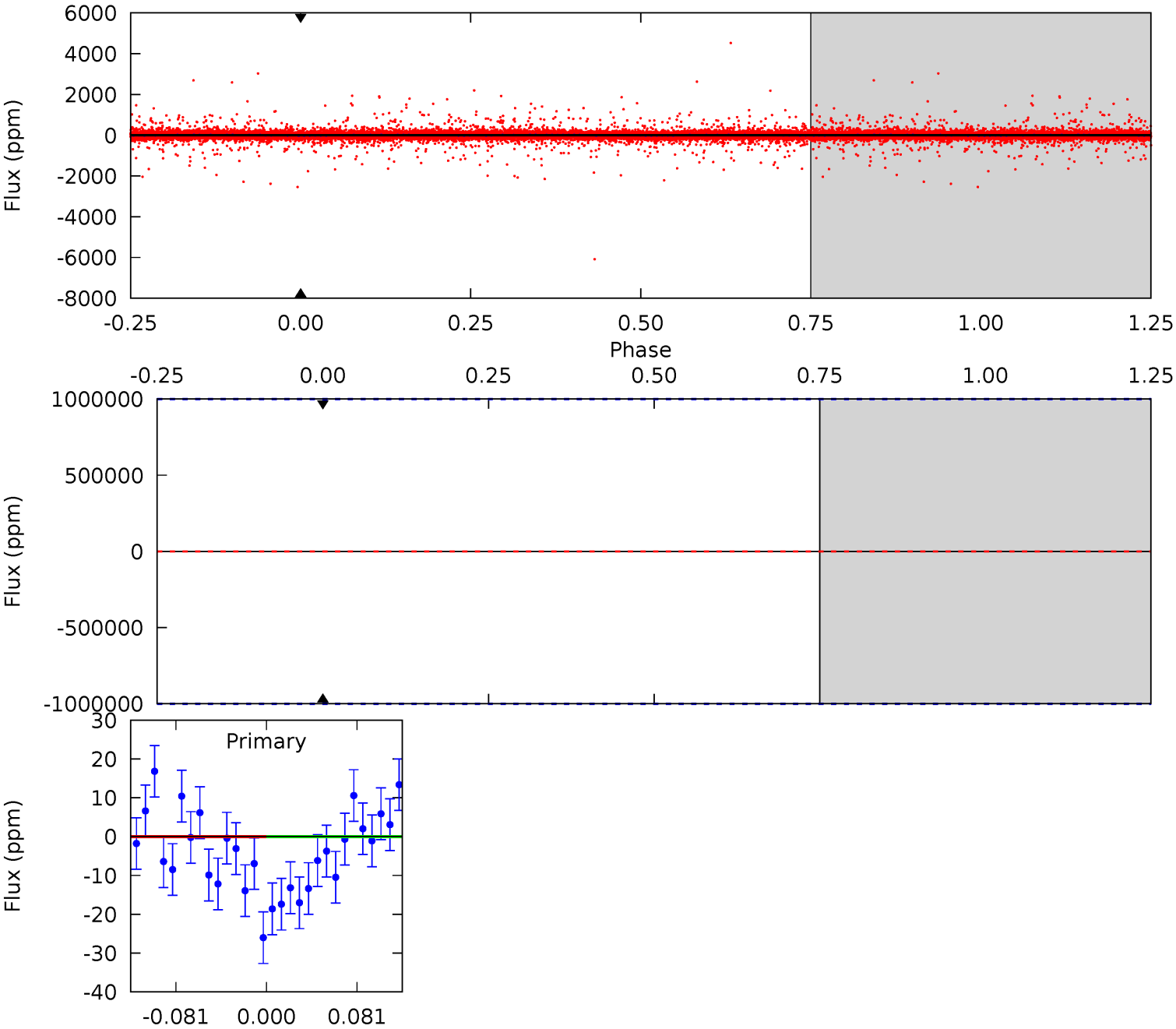
TCE 008390667-03 P= 0.514441 Days $T_0=131.970960$ (BKJD)



DV Model-Shift Uniqueness Test

008390667-03, P = 0.514441 Days, E = 131.012178 Days

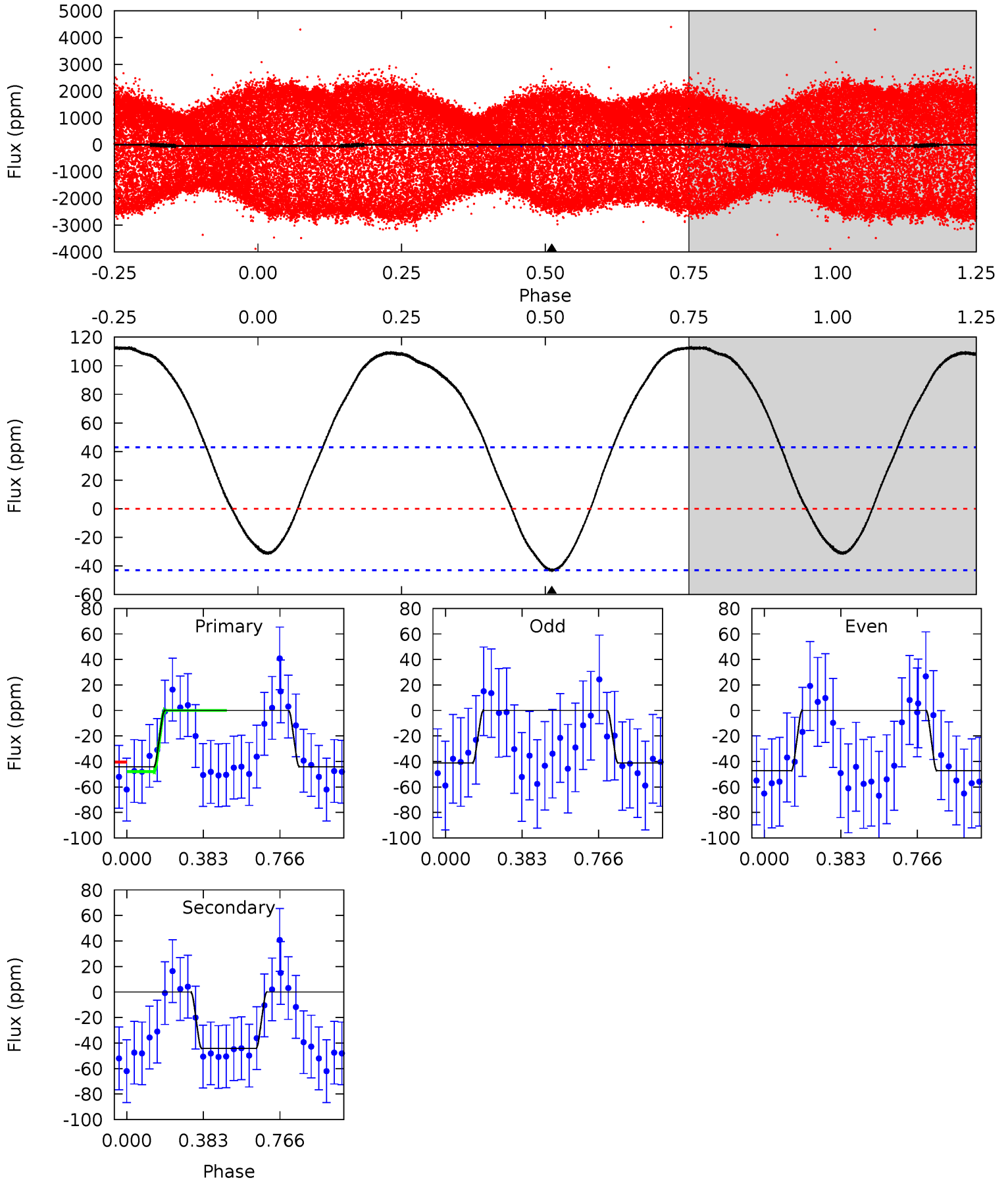
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00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



Alt Model-Shift Uniqueness Test

008390667-03, P = 0.514441 Days, E = 131.456519 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 4.40 | 4.40 | 0 | 0 | 4.27 | 0.87 | 2.77 | 4.40 | 4.40 | 4.40 | 4.40 | 0.30 | 1.94 | 0.72 | 0.36 |



Stellar Parameters For KIC 008390667

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 9409^{+301}_{-414} | $4.127^{+0.136}_{-0.221}$ | $0.070^{+0.150}_{-0.600}$ | $2.141^{+0.822}_{-0.548}$ | $2.242^{+0.444}_{-0.543}$ | $0.322^{+0.239}_{-0.180}$ |
| | +3%/-4% | +3%/-5% | +214%/-857% | +38%/-26% | +20%/-24% | +74%/-56% |
| Source | KIC0 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 008390667-03 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-----------------|---------------------------|----------------------|---------------------------|-------------------------------|
| DV | 0 ± 1000000 | $18.03^{+19.65}_{-12.44}$ | 6721^{+583}_{-536} | -6212^{+67958}_{-76001} | $-0.416^{+74.344}_{-102.164}$ |
| Alt. | -44 ± 10 | $15.30^{+18.95}_{-10.93}$ | 6694^{+605}_{-527} | -4946^{+7769}_{-476} | $0.029^{+0.278}_{-0.024}$ |

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

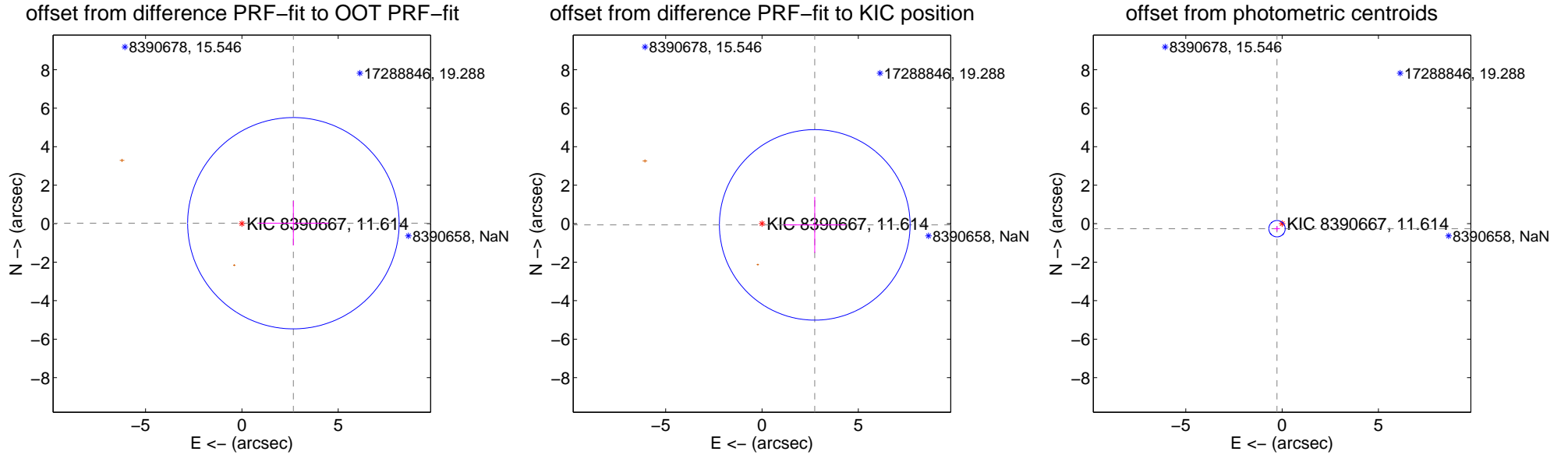
DV Centroid Data

Supplemental centroid analysis for 008390667-03. **Kepler magnitude: 11.61.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

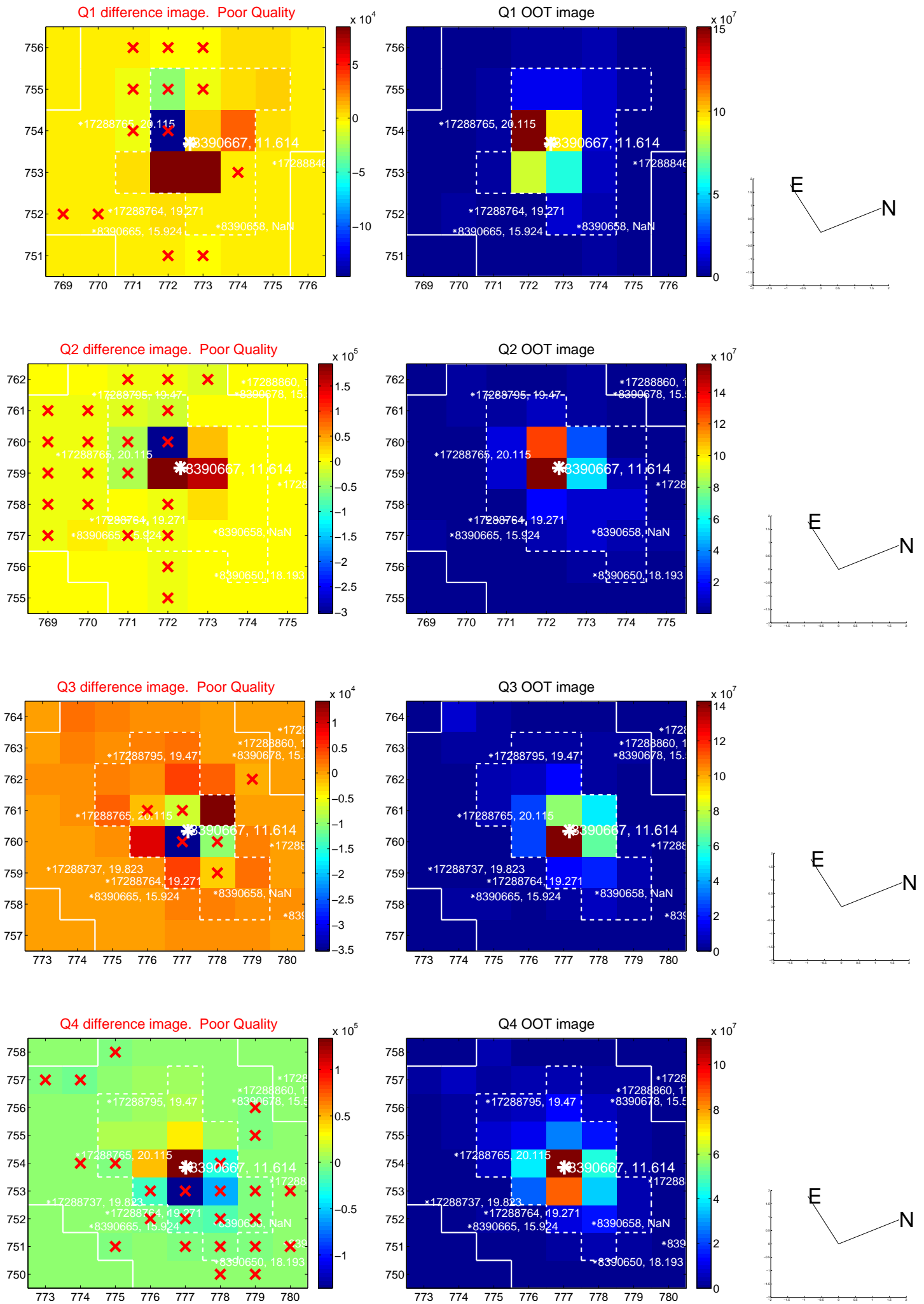
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 2.674 ± 1.830 | 1.46 | -2.674 ± 1.837 | 0.024 ± 1.154 |
| PRF-fit source offset from KIC position | 2.739 ± 1.650 | 1.66 | -2.739 ± 1.623 | -0.062 ± 1.454 |
| photometric centroid source offset | 0.37 ± 0.14 | 2.62 | 0.26 ± 0.15 | -0.26 ± 0.13 |

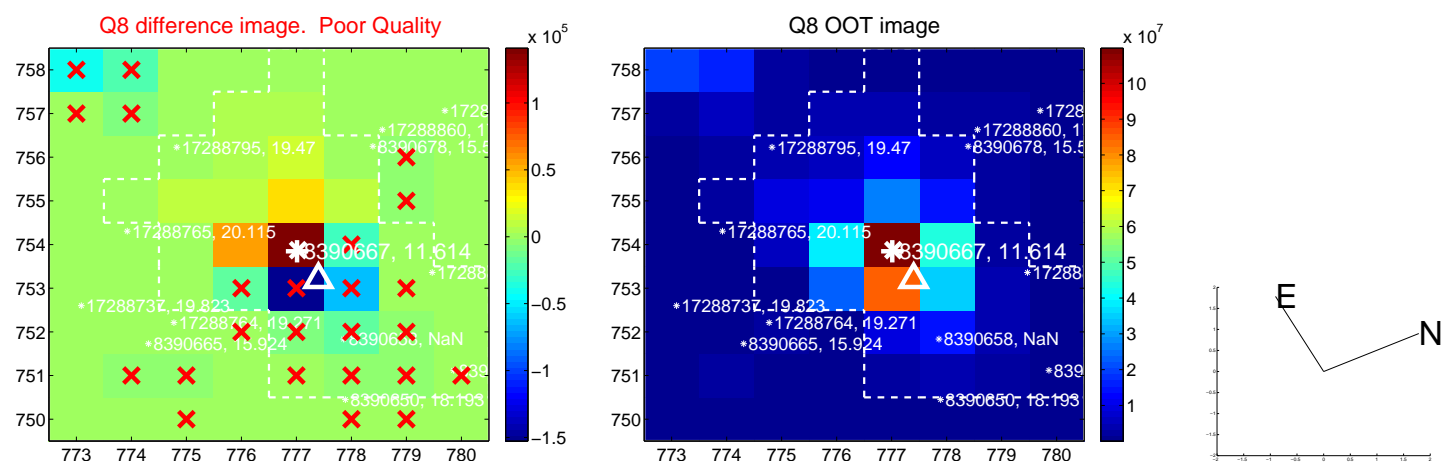
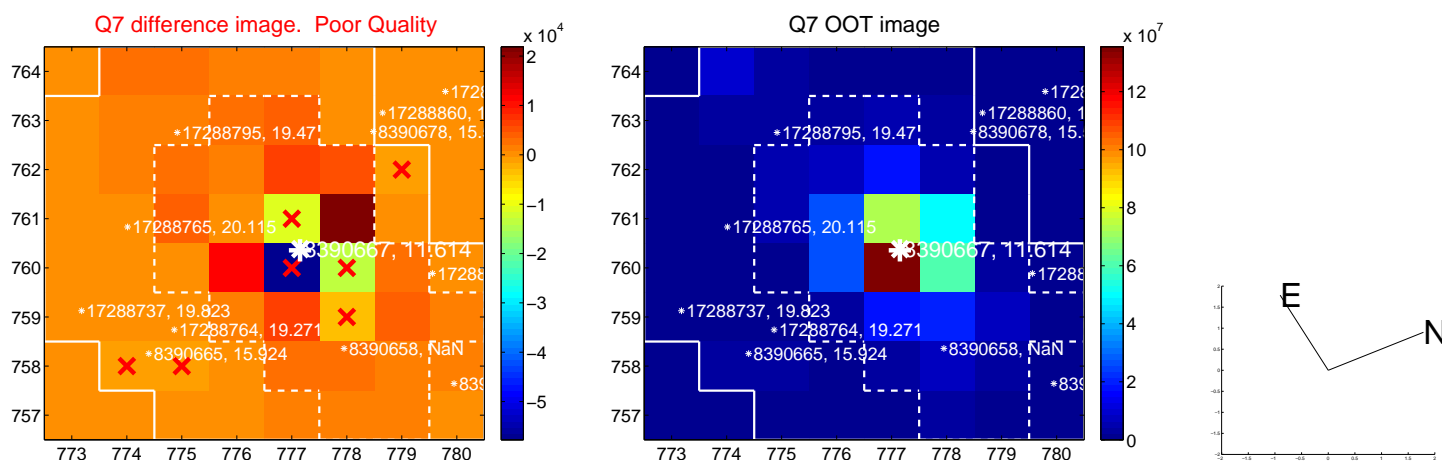
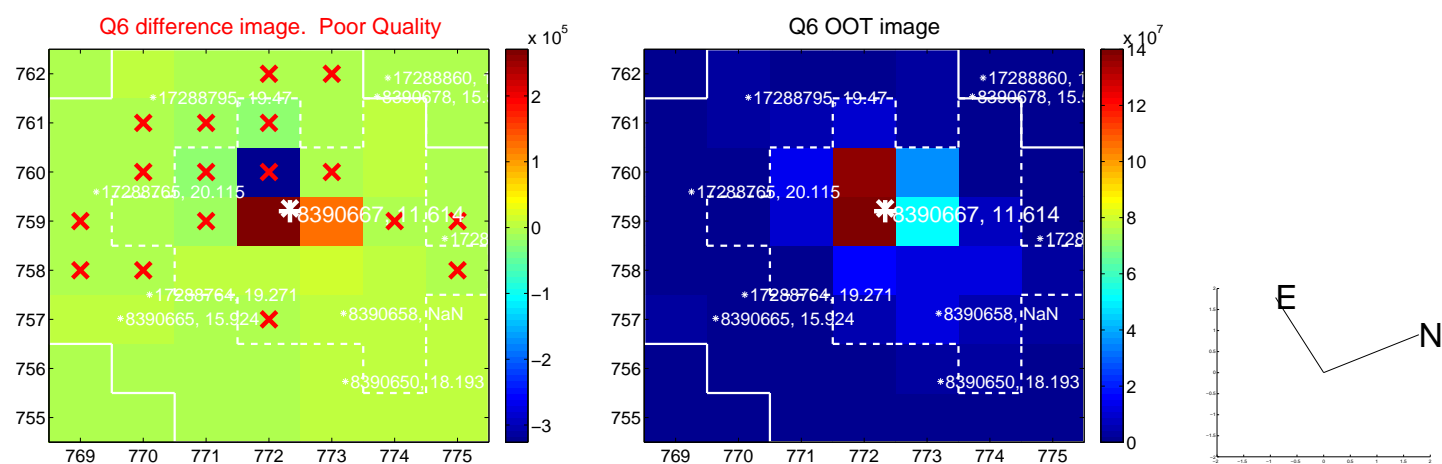
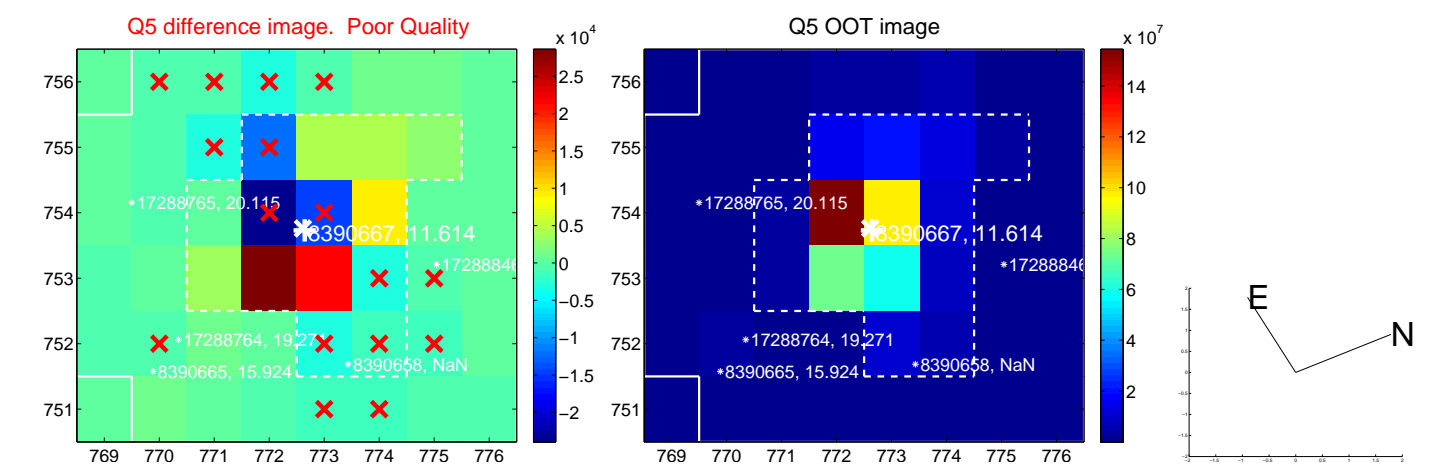


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

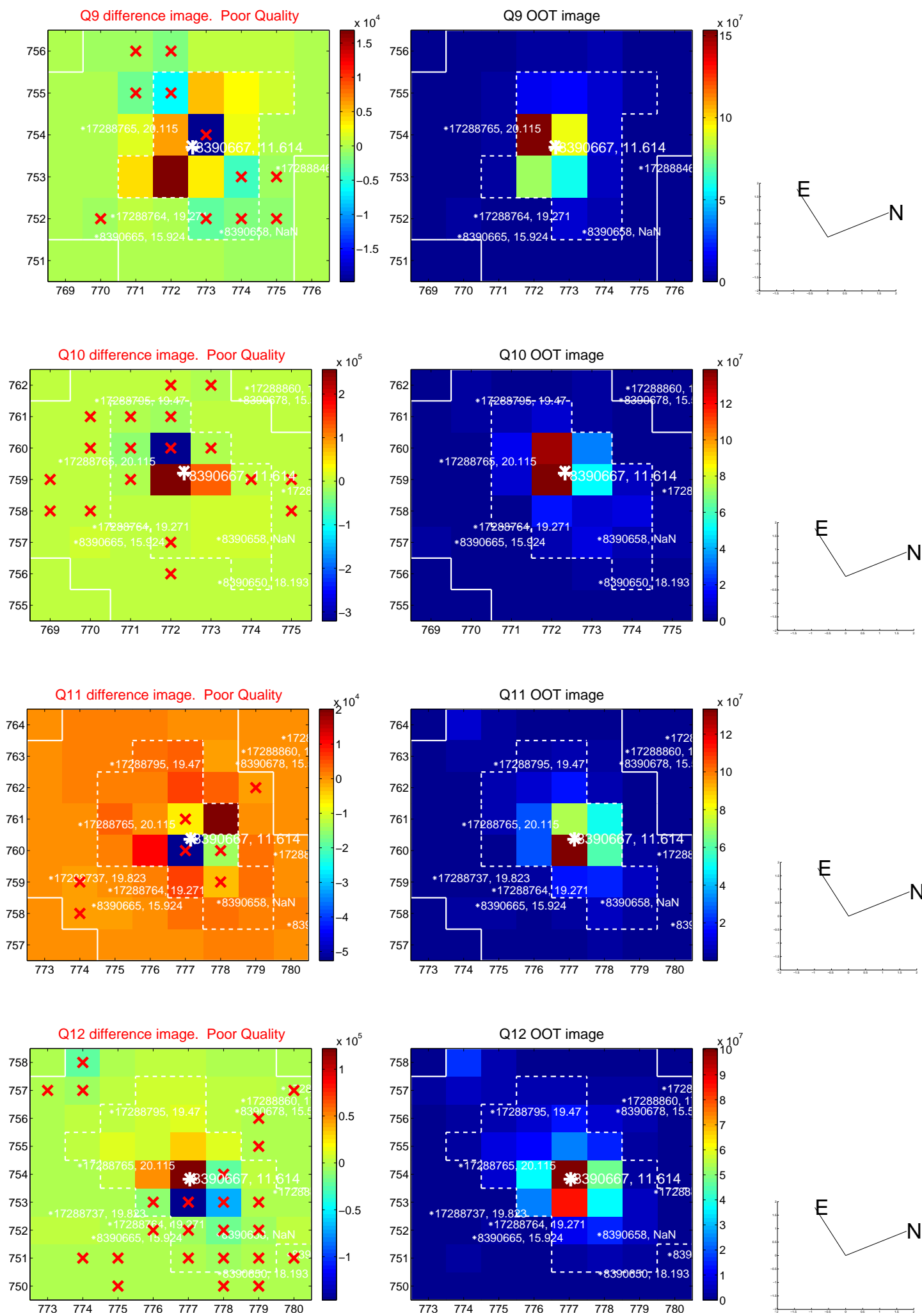
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



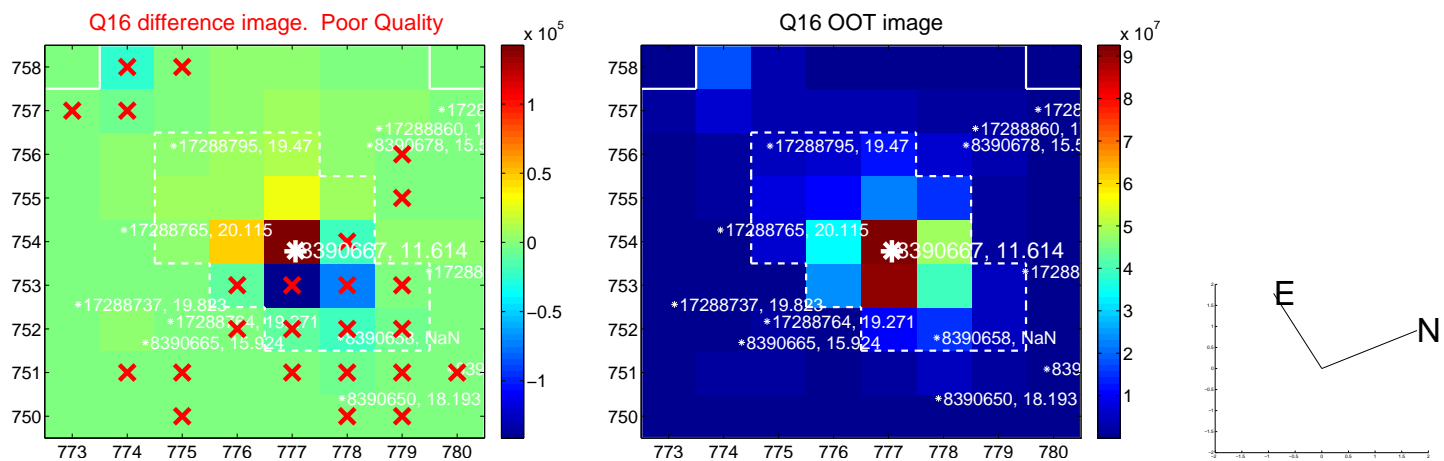
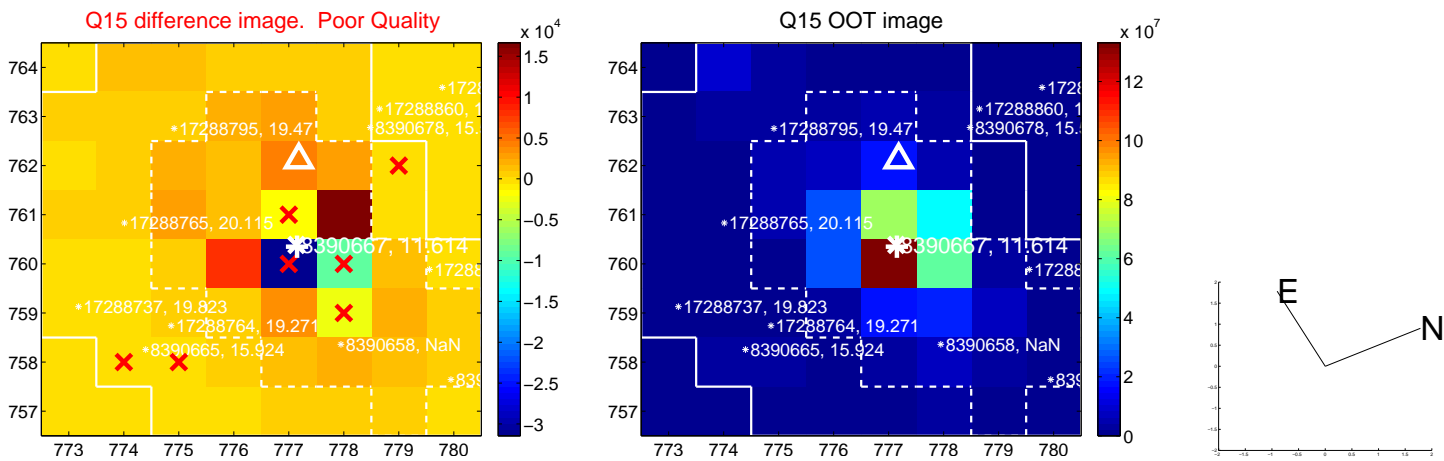
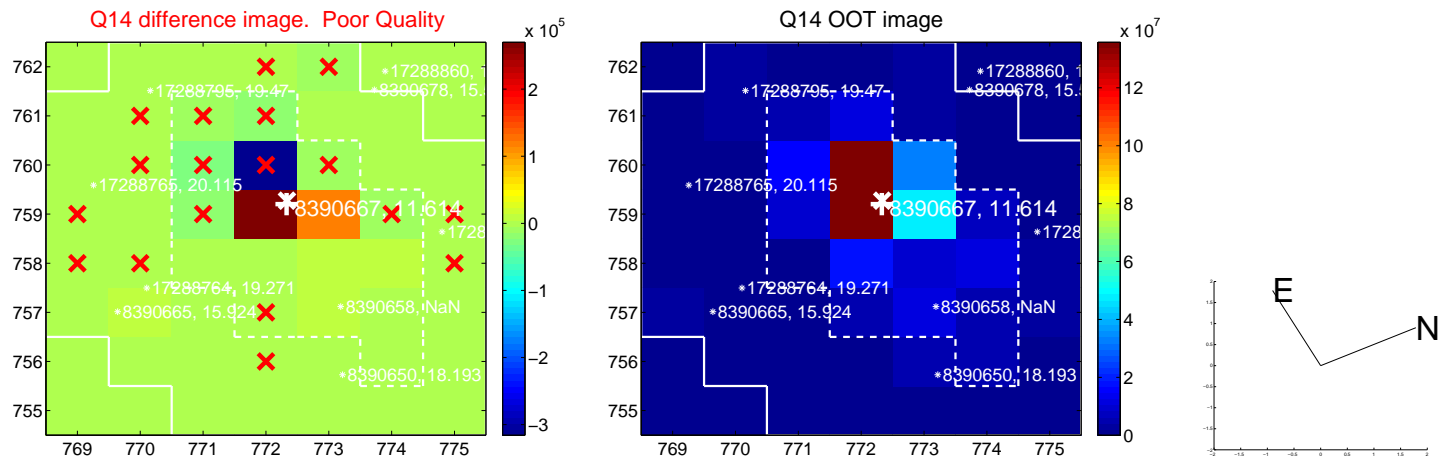
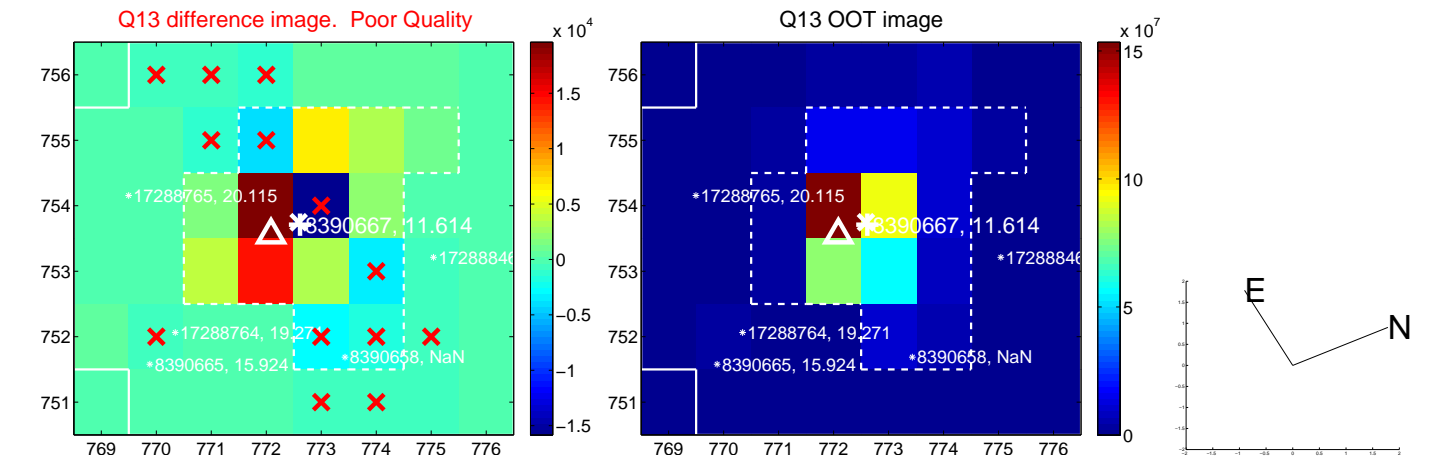
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



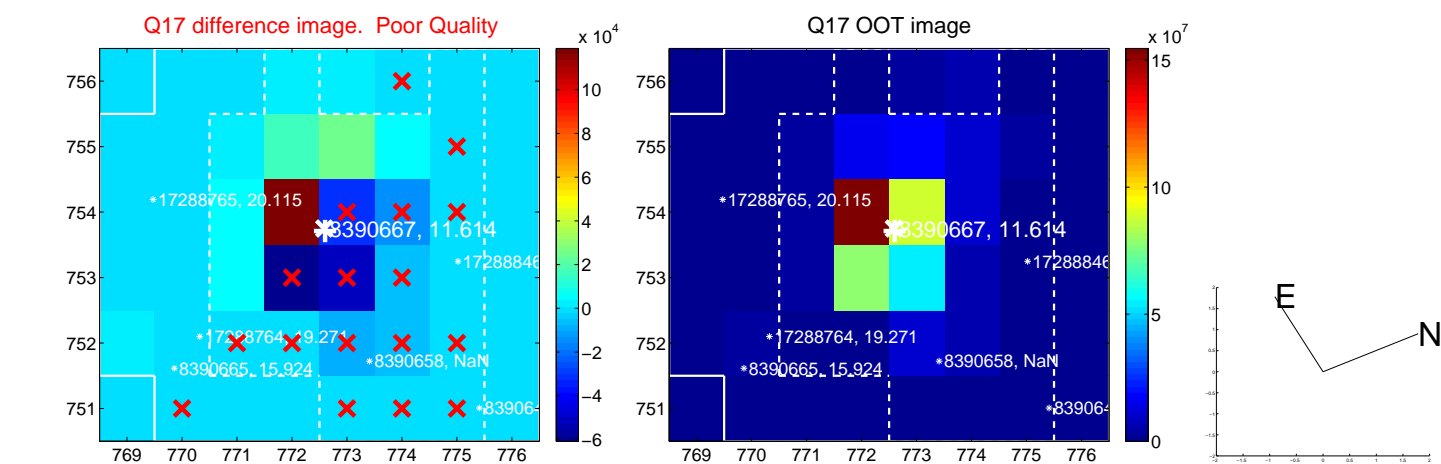
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



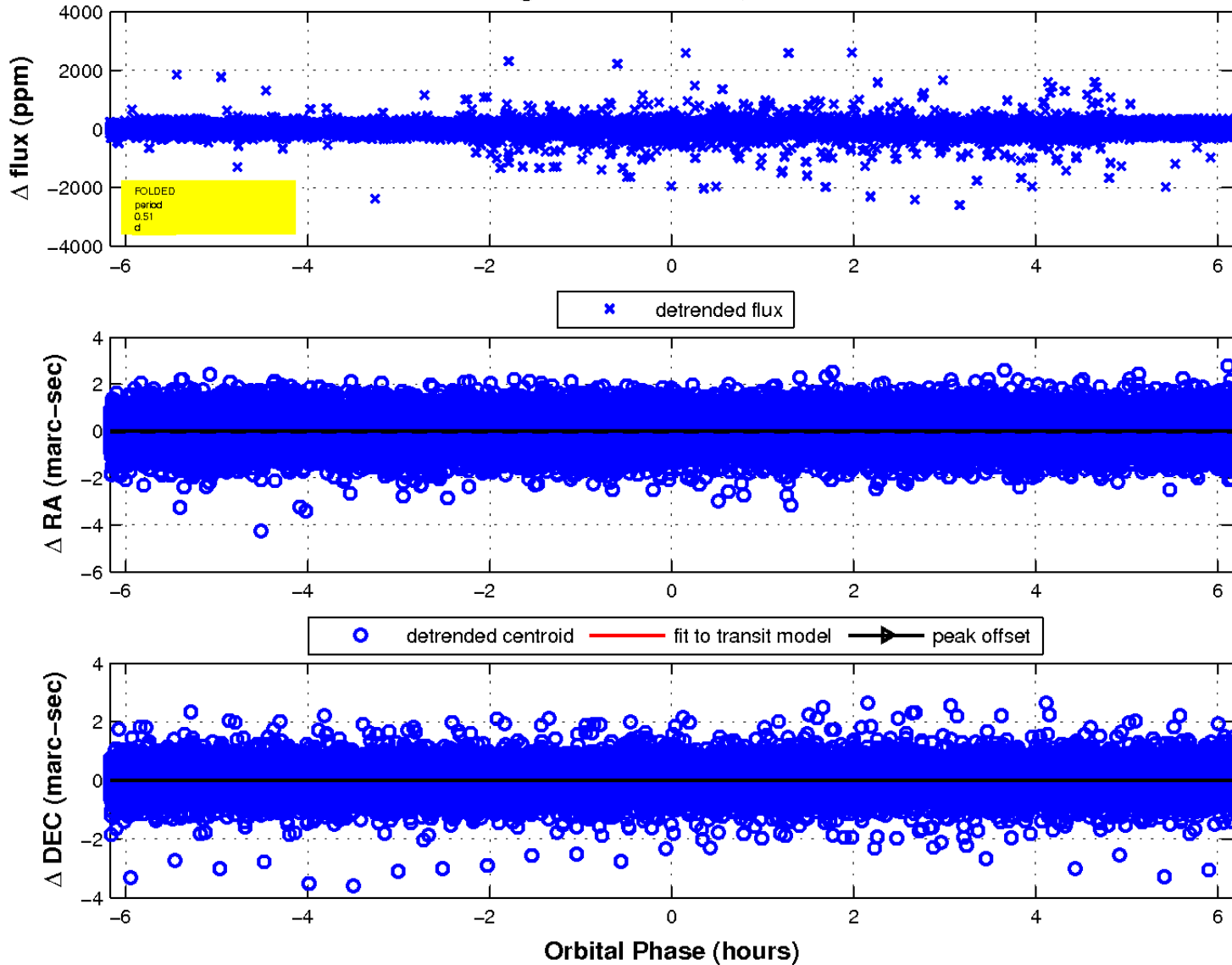
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

