

KIC 003002379

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 003002379-01 | OBS | No | 1.738915 | 131.598027 | 0.1 | 10.728 | 10.5 | 0.0 | 1.55 | 6937 | 0.04 | 5009.62 |
| 003002379-02 | OBS | No | 210.251733 | 198.091175 | 0.0 | 23.576 | 12.5 | 0.0 | 1.55 | 6937 | 0.01 | 8.38 |
| 003002379-03 | OBS | No | 75.909834 | 153.330921 | 1392.7 | 8.276 | 10.1 | 7.6 | 1.55 | 6937 | 10.73 | 32.59 |
| 003002379-04 | OBS | No | 300.749414 | 174.486154 | 1252.6 | 8.400 | 7.9 | 7.0 | 1.55 | 6937 | 8.68 | 5.20 |
| 003002379-06 | OBS | No | 28.925014 | 158.769492 | 381.0 | 4.347 | 7.6 | 7.0 | 1.55 | 6937 | 3.22 | 117.98 |
| 003002379-07 | OBS | No | 60.226325 | 144.321363 | 886.0 | 12.766 | 8.3 | 8.0 | 1.55 | 6937 | 5.24 | 44.37 |
| 003002379-08 | OBS | No | 75.034634 | 188.773199 | 560.6 | 9.755 | 8.1 | 6.0 | 1.55 | 6937 | 3.95 | 33.10 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003002379-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV |
| 003002379-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 003002379-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT |
| 003002379-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 003002379-06 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT |
| 003002379-07 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST |
| 003002379-08 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT |

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

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

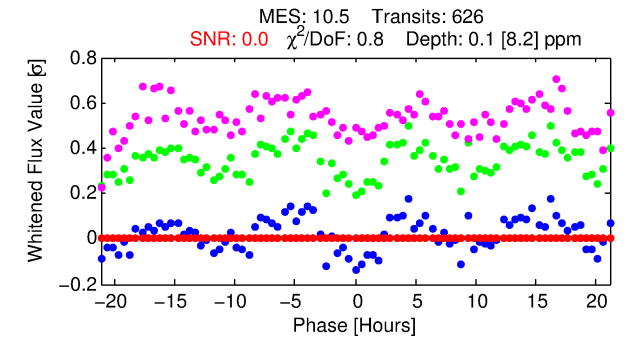
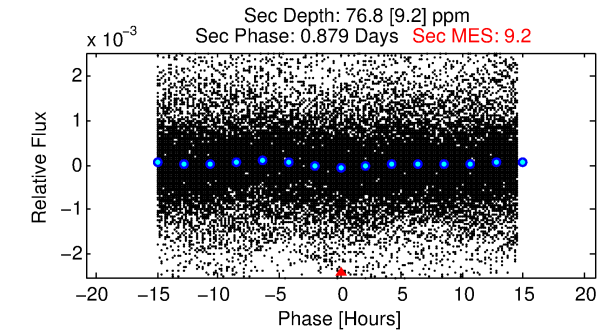
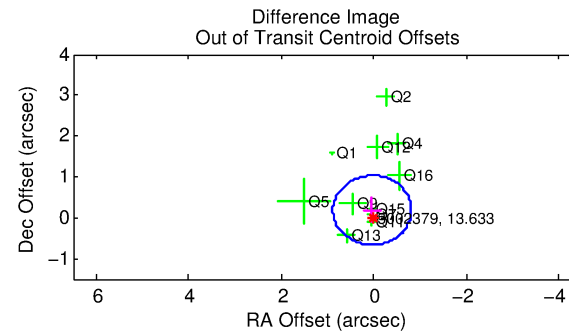
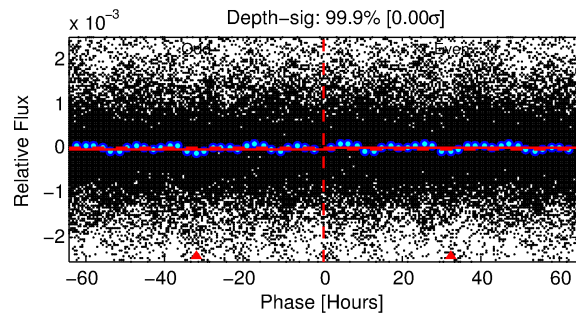
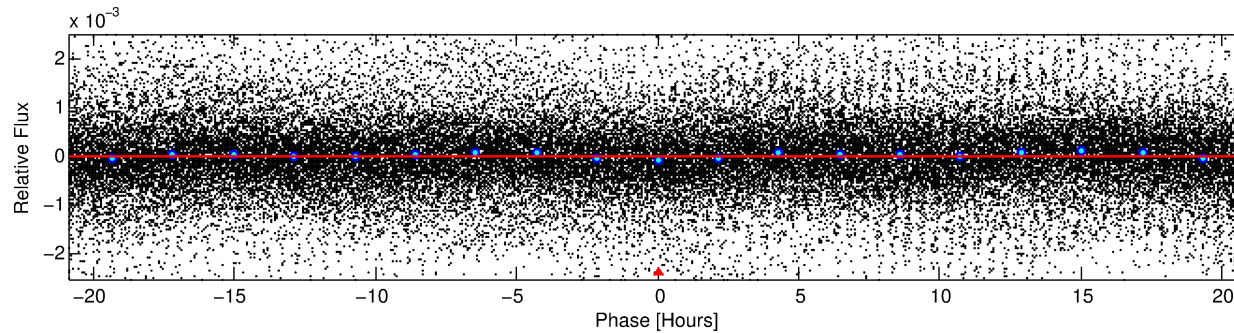
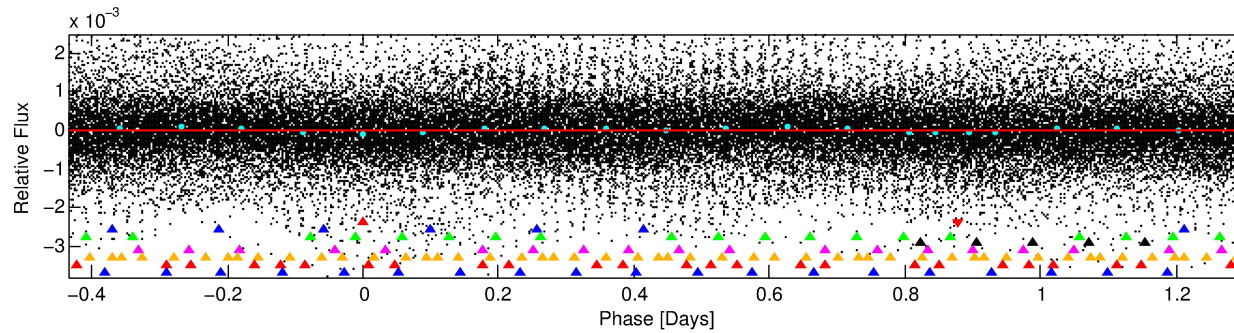
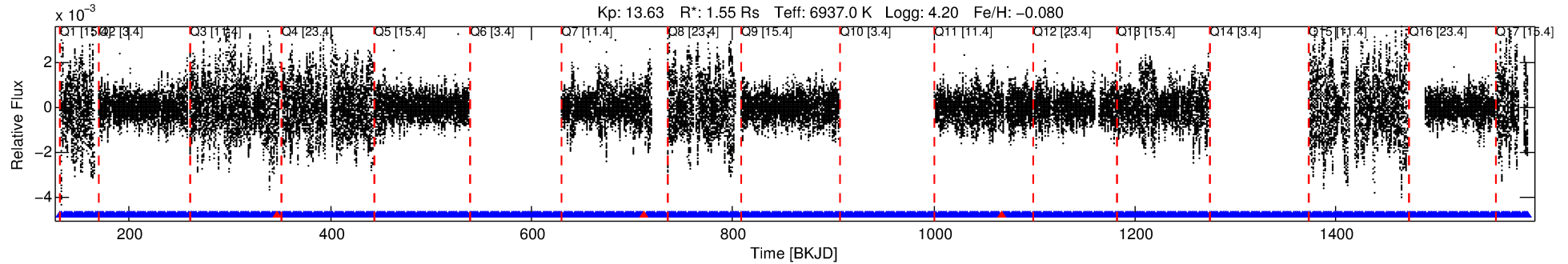
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003002379-01

No Significant Match Found

DV One-Page Summary

KIC: 3002379 Candidate: 1 of 8 Period: 1.739 d



DV Fit Results:

Period = 1.73892 [0.01964] d
Epoch = 131.5980 [4.0807] BKJD
Rp/R* = 0.0002 [0.0177]
a/R* = 1.20 [11.38]
b = 0.72 [21.83]
Seff = 5009.62 [2016.11]
Teq = 2145 [216] K
Rp = 0.04 [2.99] Re
a = 0.0316 [0.0081] AU
Ag = 28194.40 [4363642.67] [0.01 σ]
Teffp = 42979 [1663035] K [0.02 σ]

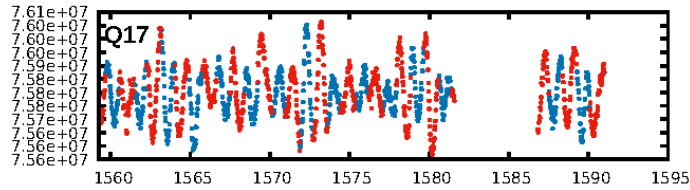
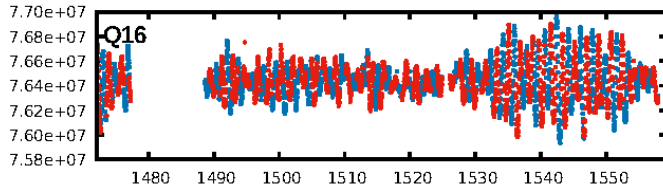
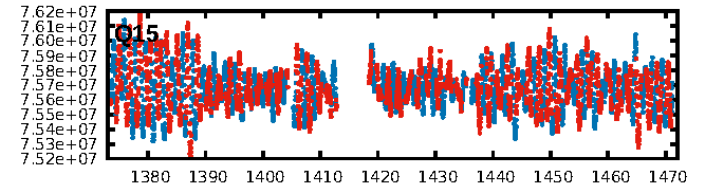
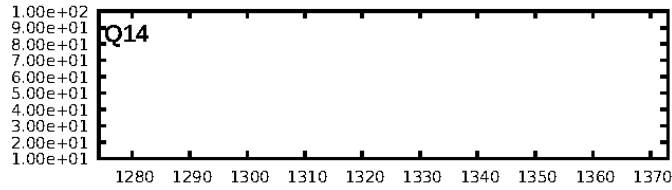
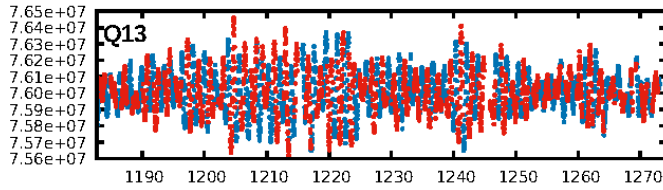
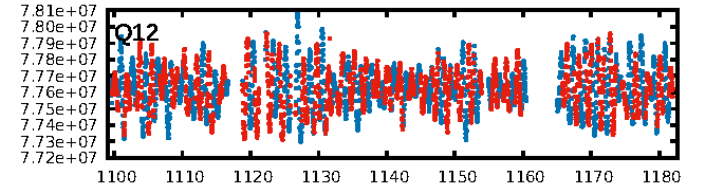
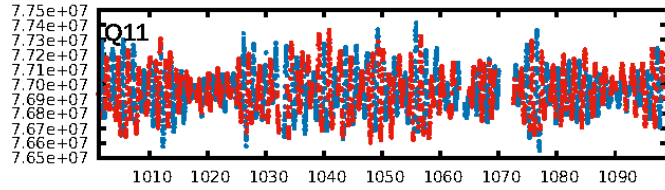
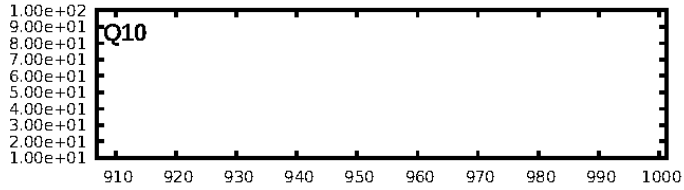
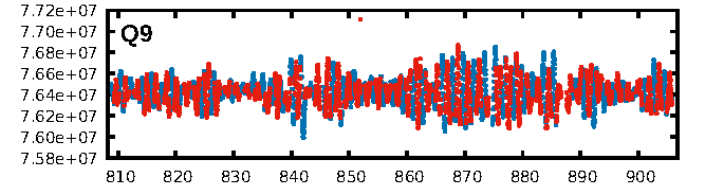
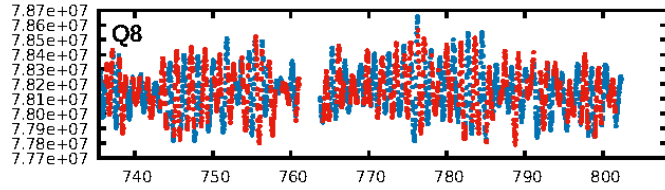
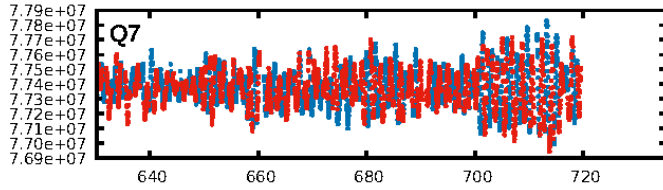
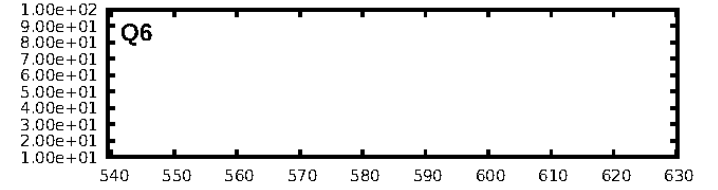
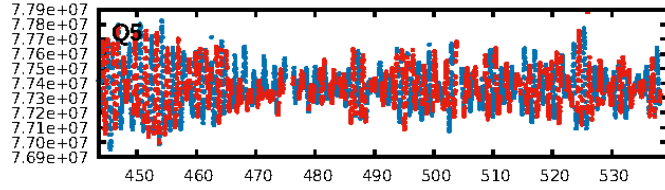
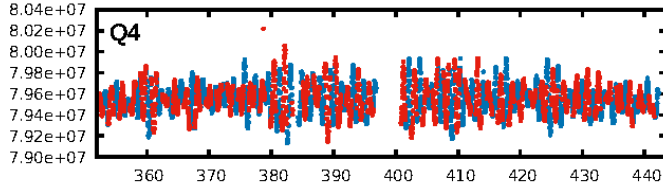
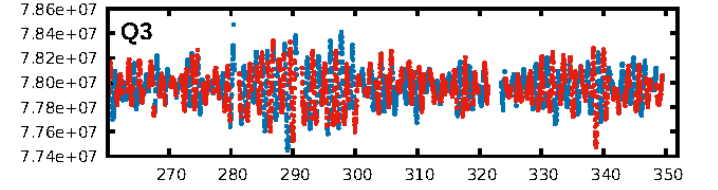
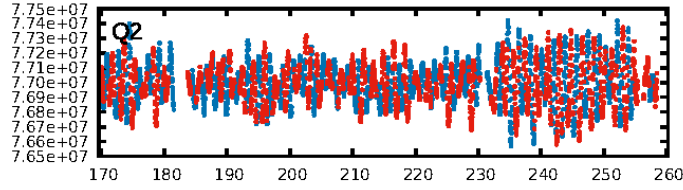
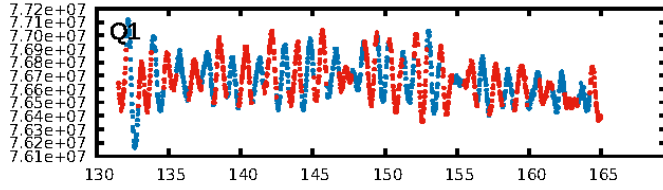
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [56.37 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.89e-15
RollingBand-fgt: 0.99 [587/590]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.187 arcsec [0.66 σ]
KicOffset-rm: 0.016 arcsec [0.06 σ]
OotOffset-st: 1/3/3/4 [11]
KicOffset-st: 1/3/3/4 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 1.00 [14/14]

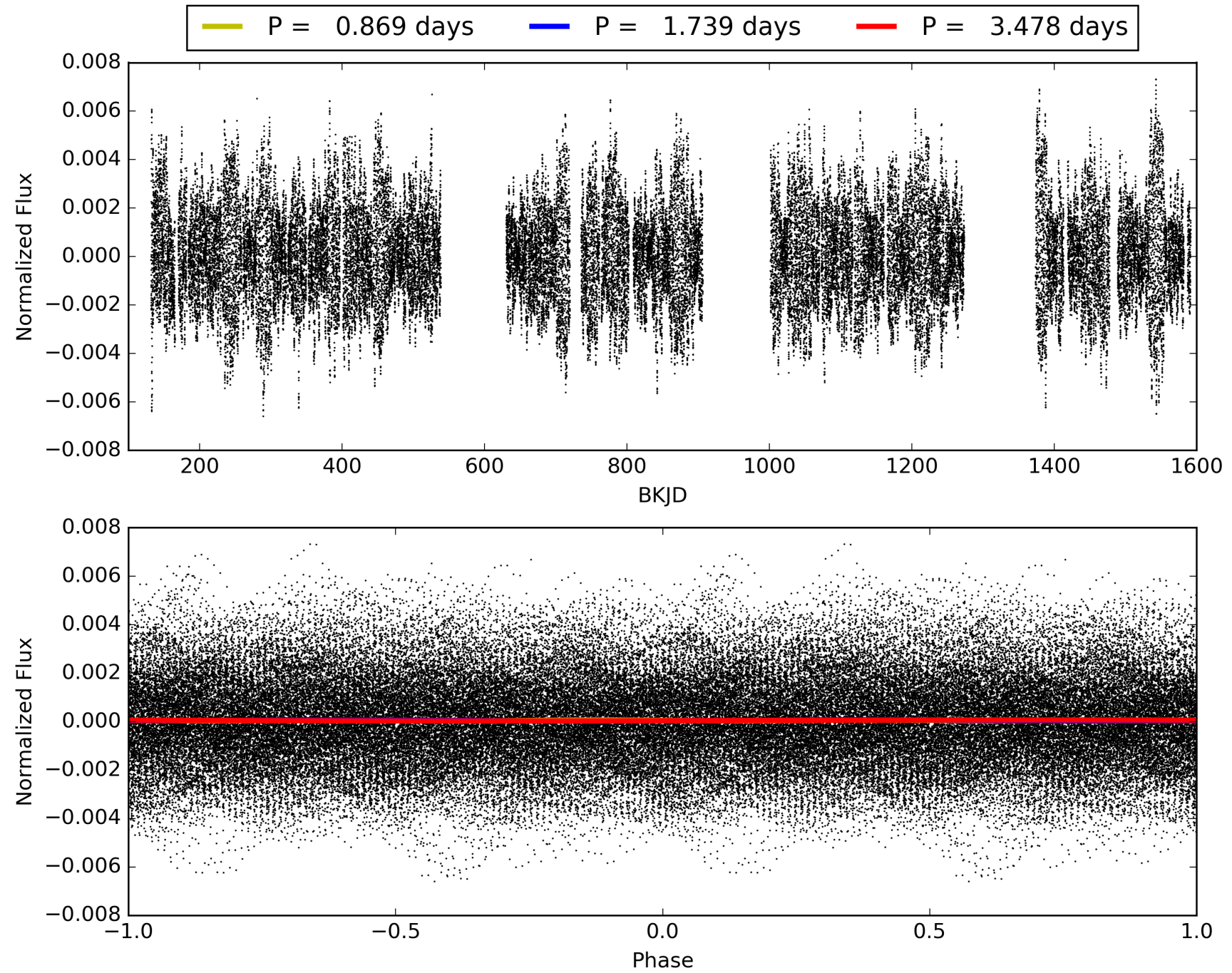
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:56:52 Z

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

TCE 003002379-01, PDC Light Curves

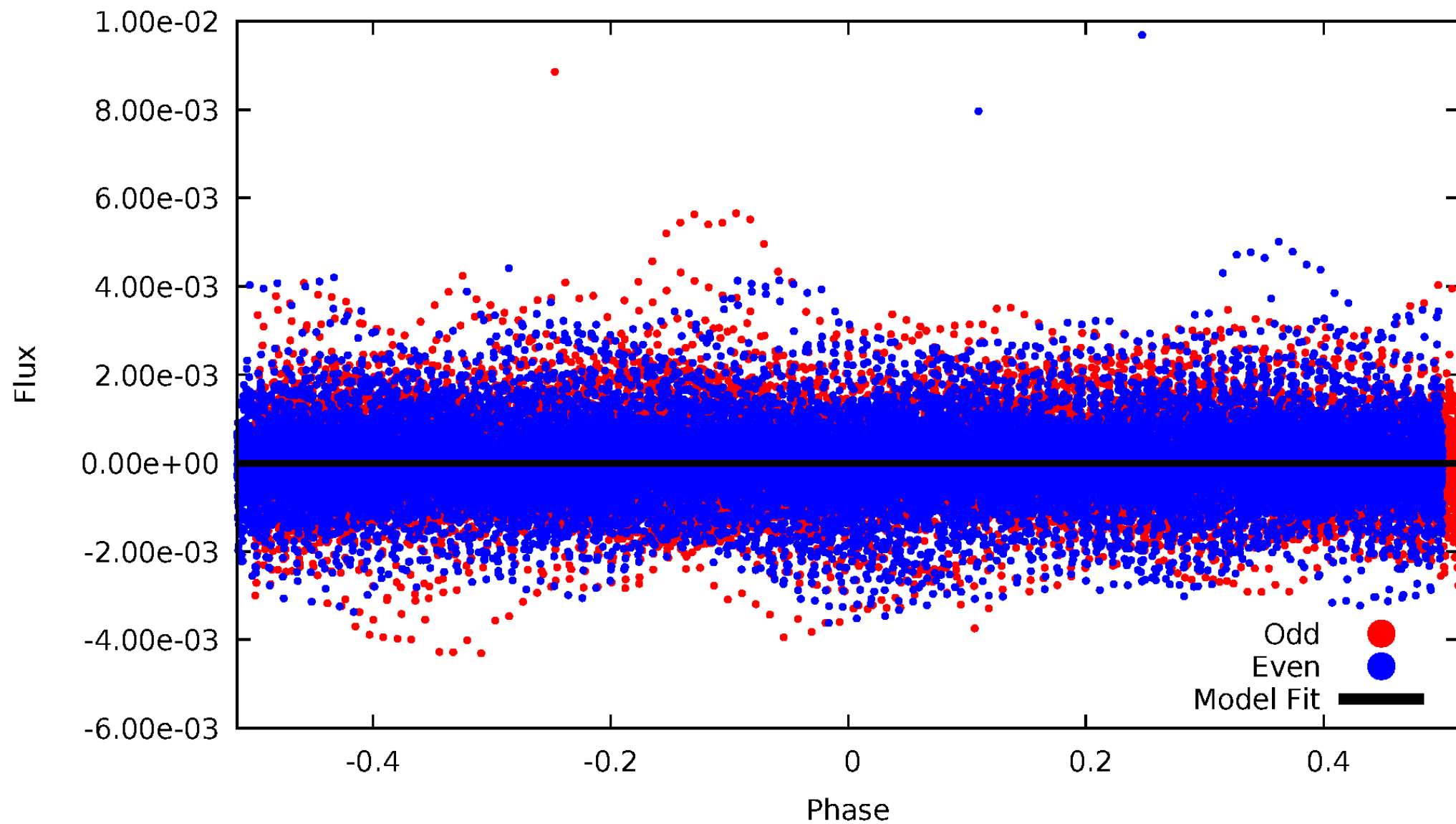


TCE 003002379-01



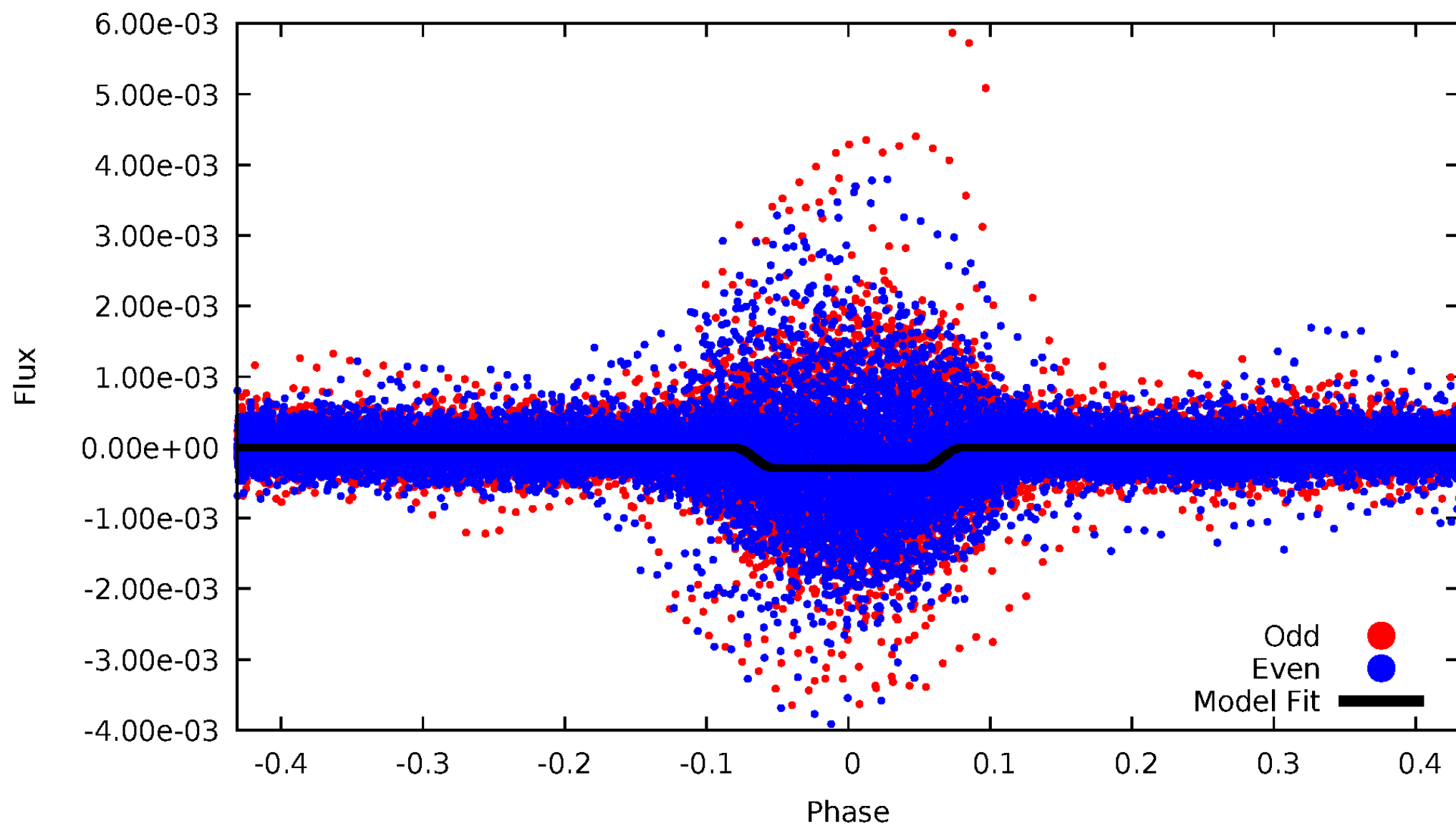
DV Odd/Even

TCE 003002379-01



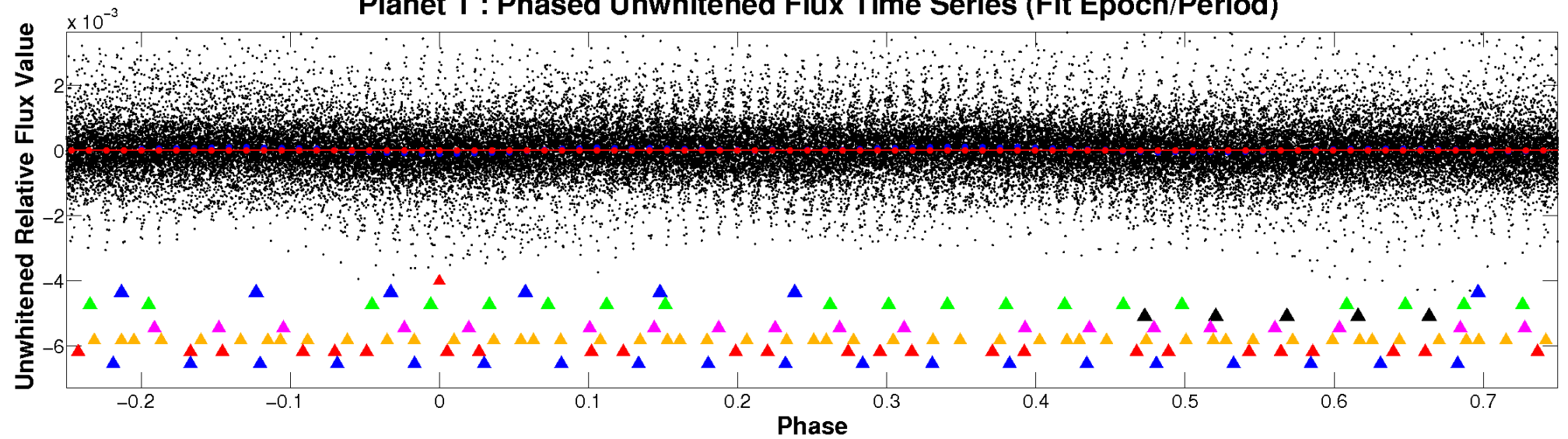
ALT Odd/Even

TCE 003002379-01

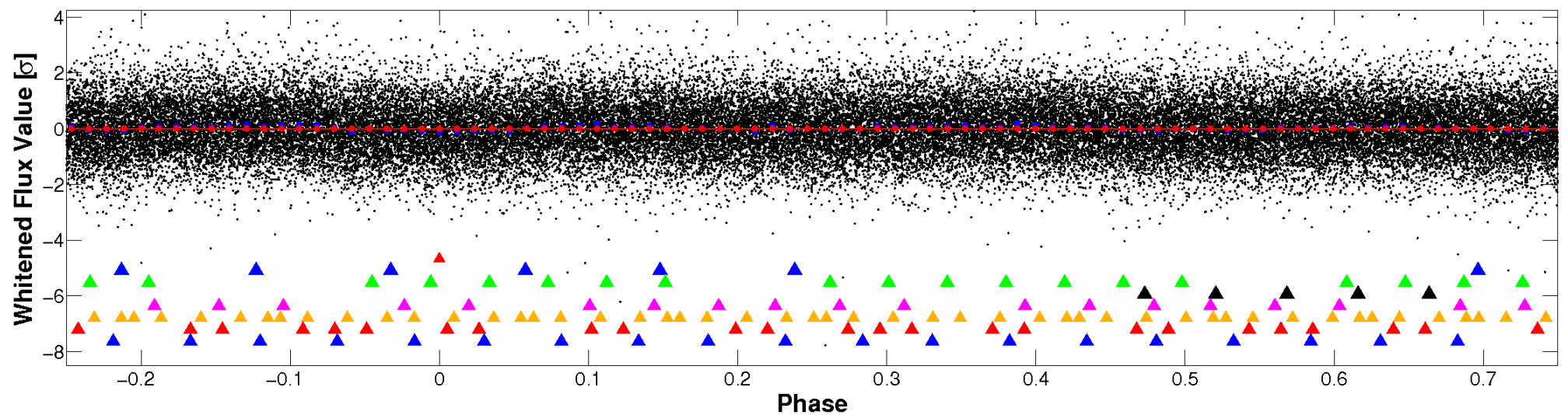


Non-Whitened Vs. Whitened Light Curve

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

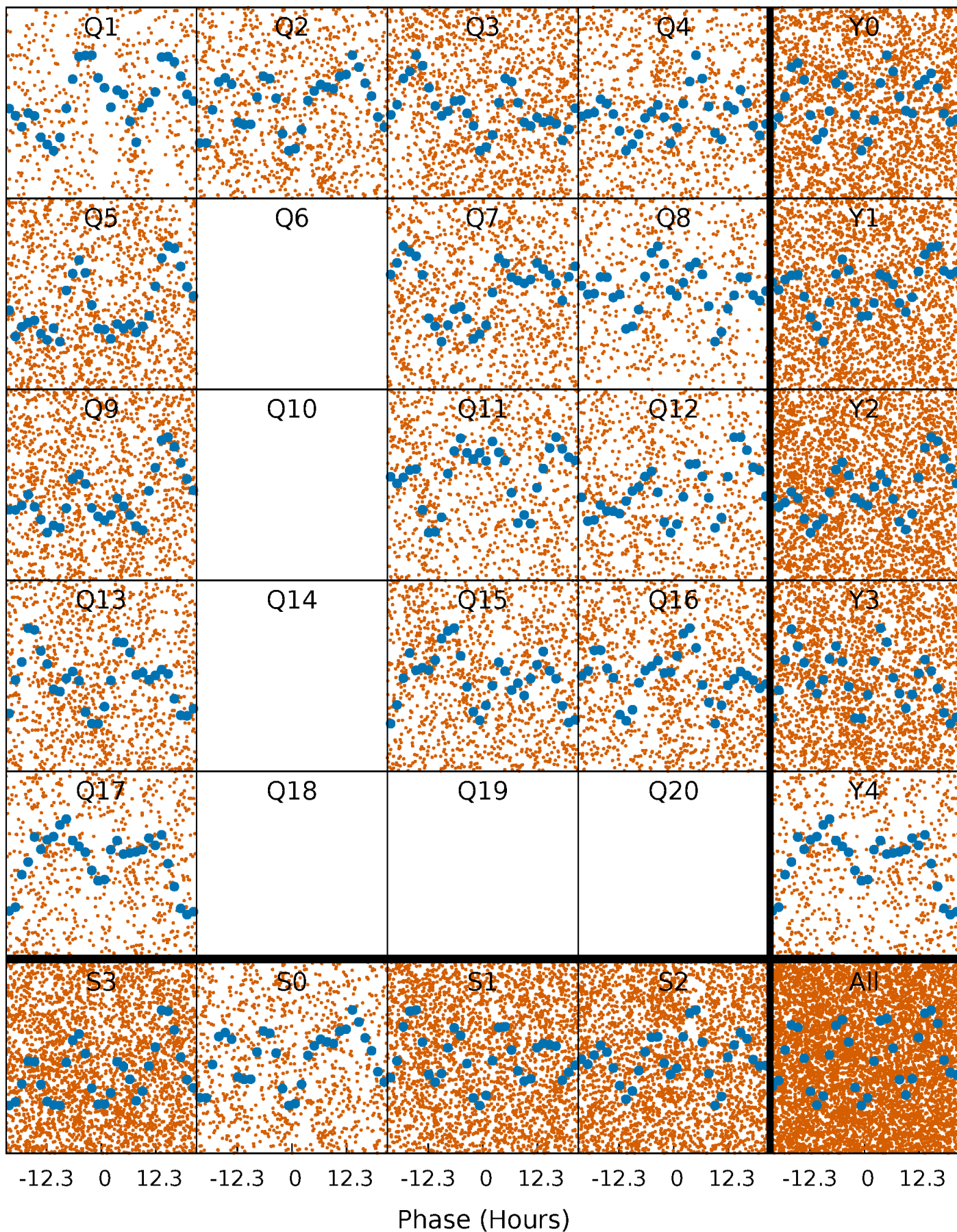


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



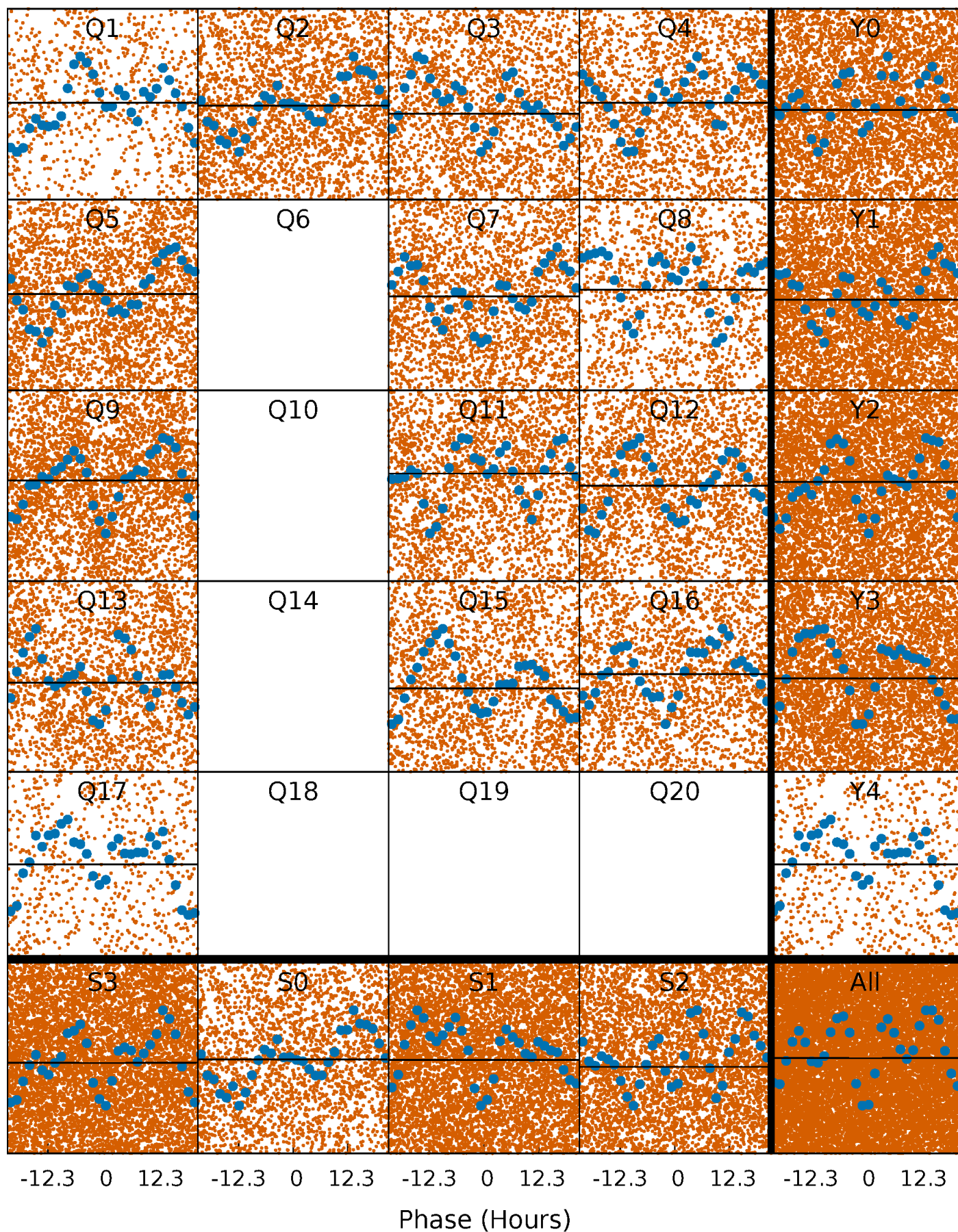
PDC Quarter-Phased Transit Curves

TCE 003002379-01 P= 1.738915 Days $T_0=131.598027$ (BKJD)



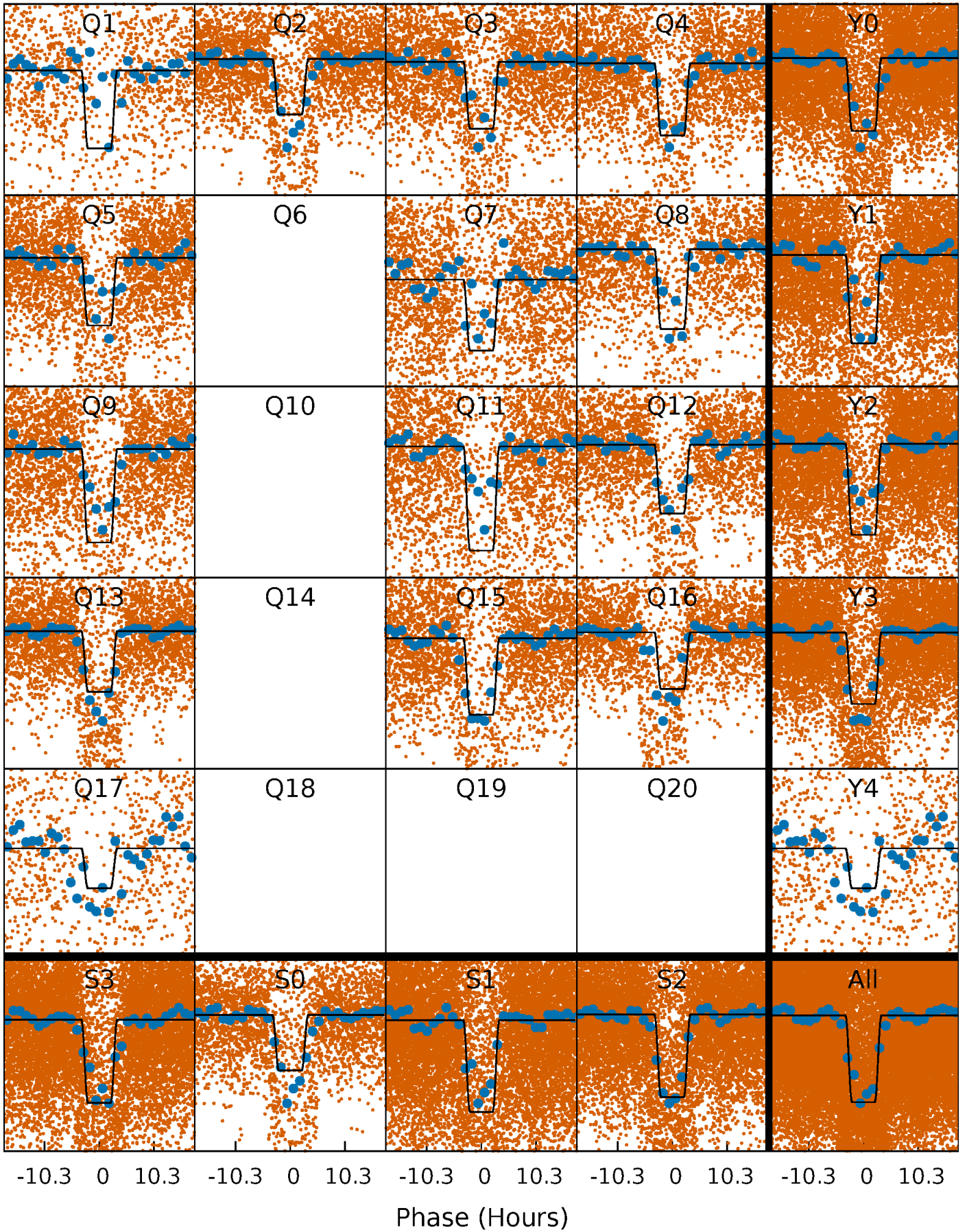
DV Quarter-Phased Transit Curves

TCE 003002379-01 P= 1.738915 Days $T_0=131.598027$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

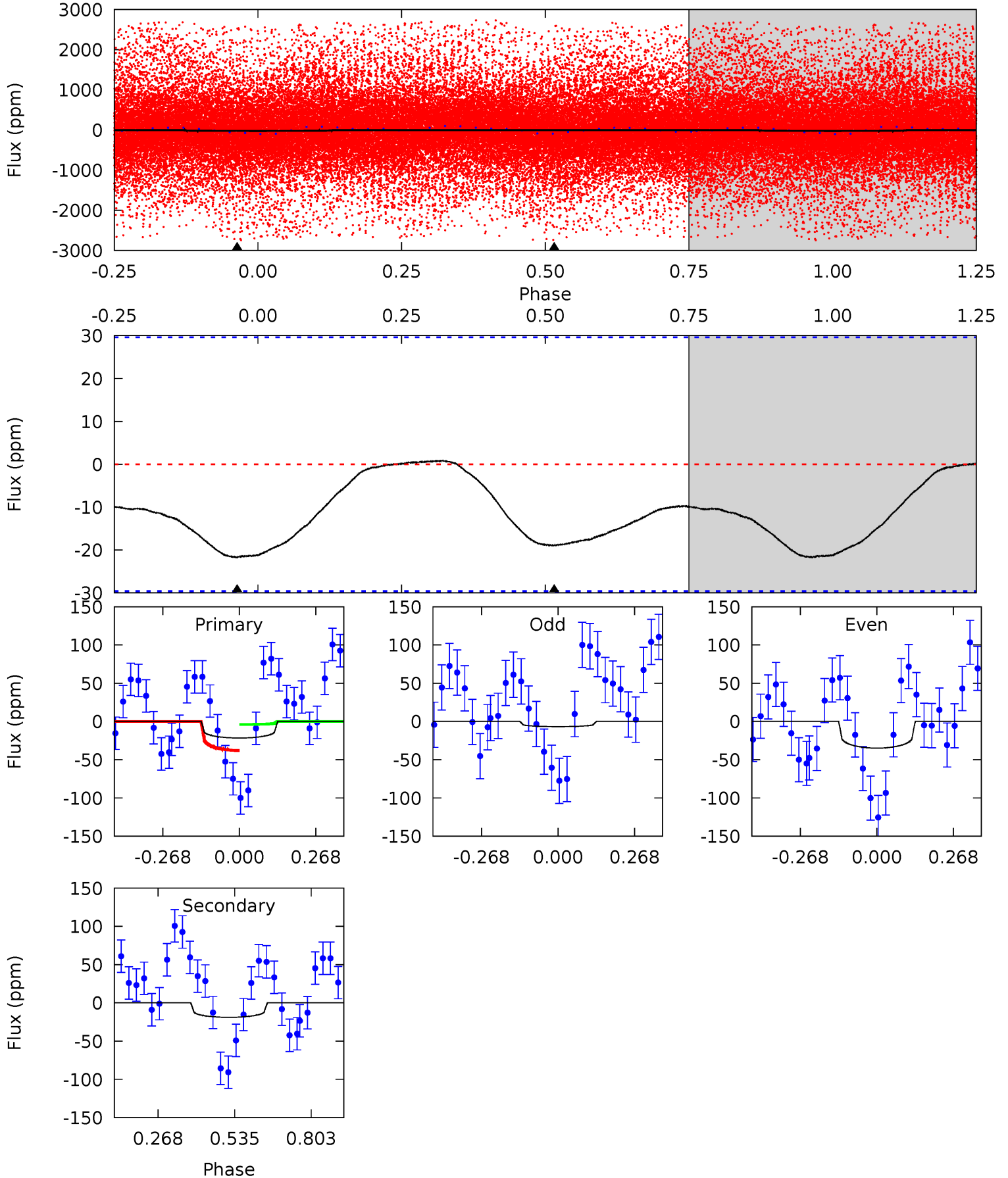
TCE 003002379-01 P= 1.738891 Days $T_0=131.599895$ (BKJD)



DV Model-Shift Uniqueness Test

003002379-01, P = 1.738915 Days, E = 129.859112 Days

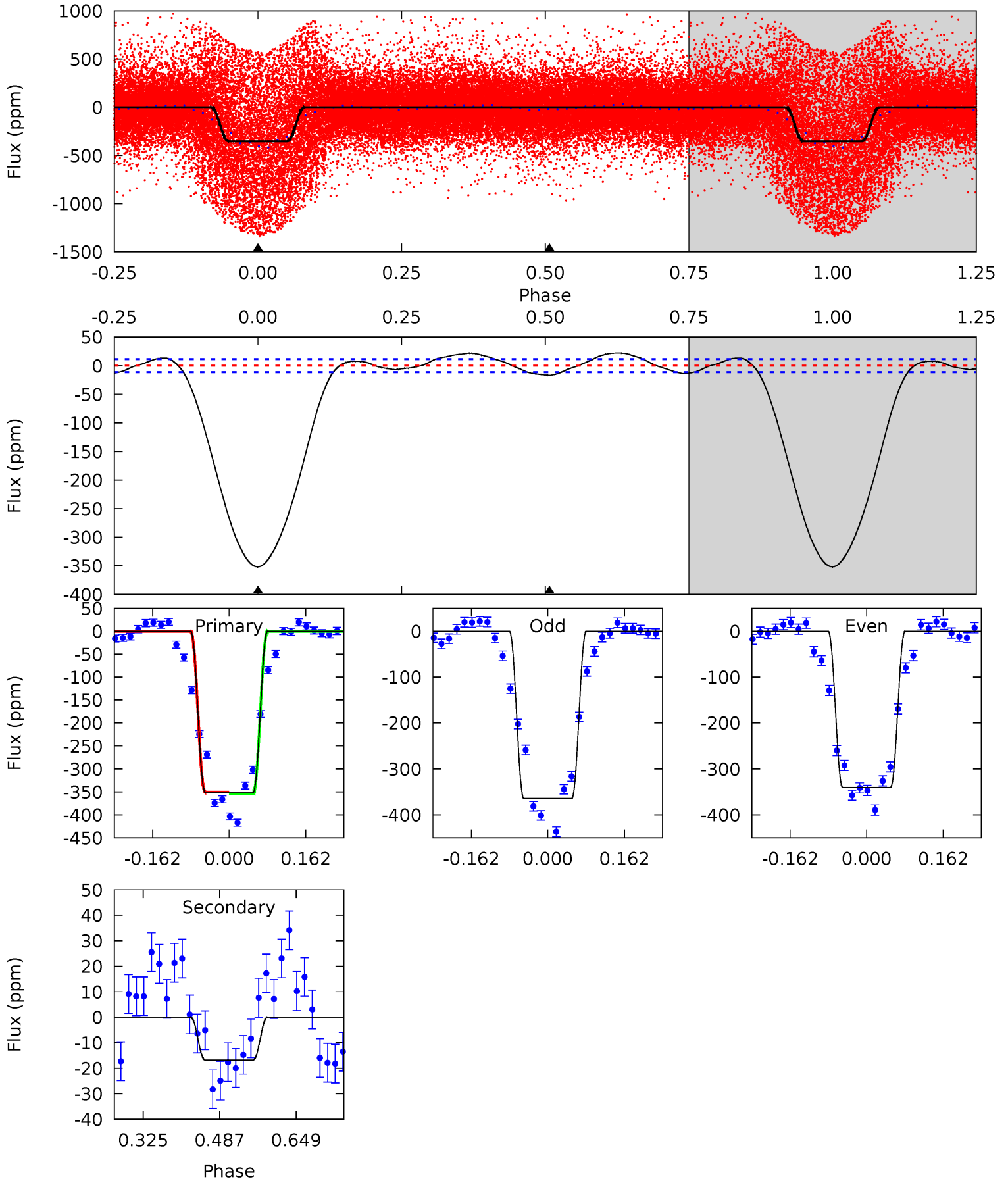
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 3.19 | 2.78 | 0 | 0 | 4.35 | 1.11 | 0.07 | 3.19 | 3.19 | 2.78 | 2.78 | 2.13 | 0.48 | 0.04 | 2.62 |



Alt Model-Shift Uniqueness Test

003002379-01, P = 1.738891 Days, E = 129.861004 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 137.4 | 6.55 | 0 | 0 | 4.46 | 1.40 | 3.34 | 137.4 | 137.4 | 6.55 | 6.55 | 4.66 | 0.78 | 0.06 | 0 |



Stellar Parameters For KIC 003002379

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6937^{+194}_{-305} | $4.199^{+0.128}_{-0.192}$ | $-0.080^{+0.250}_{-0.350}$ | $1.552^{+0.488}_{-0.285}$ | $1.397^{+0.216}_{-0.238}$ | $0.526^{+0.322}_{-0.266}$ |
| | +3%/-4% | +3%/-5% | +312%/-438% | +31%/-18% | +15%/-17% | +61%/-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 003002379-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|----------------------------|
| DV | -19 ± 7 | $2.07^{+2.38}_{-1.51}$ | 2995^{+226}_{-186} | 4166^{+3792}_{-1268} | $2.227^{+28.798}_{-1.754}$ |
| Alt. | -17 ± 3 | $3.73^{+2.60}_{-2.43}$ | 3007^{+243}_{-205} | 3149^{+1928}_{-5739} | $0.646^{+4.471}_{-0.422}$ |

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

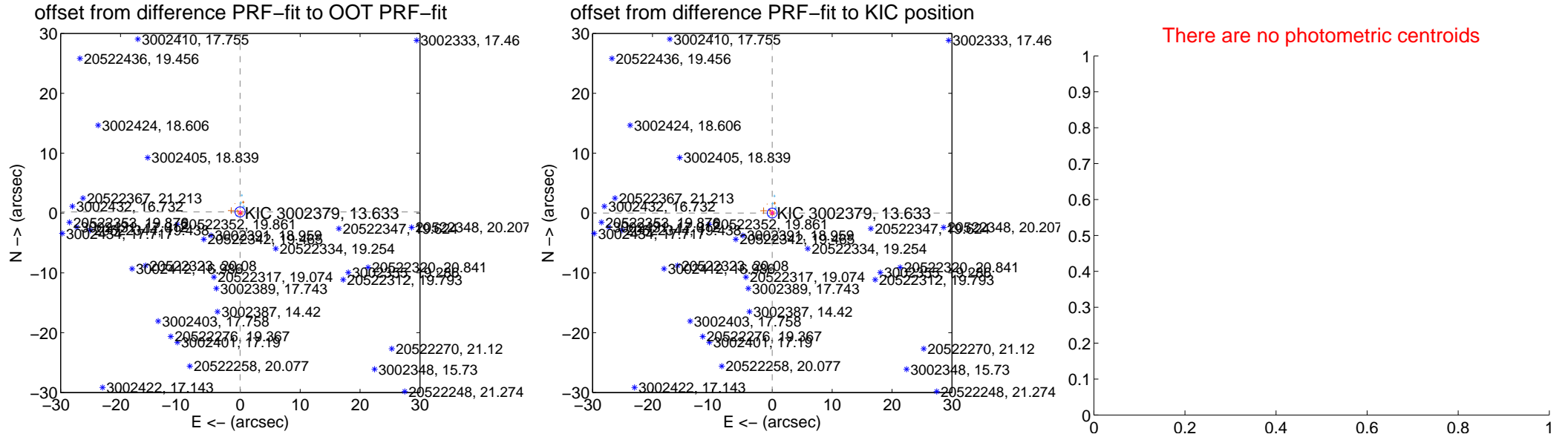
DV Centroid Data

Supplemental centroid analysis for 003002379-01. Kepler magnitude: 13.63. Transit SNR 0.01

There are 6 quarters with good PRF difference image offsets

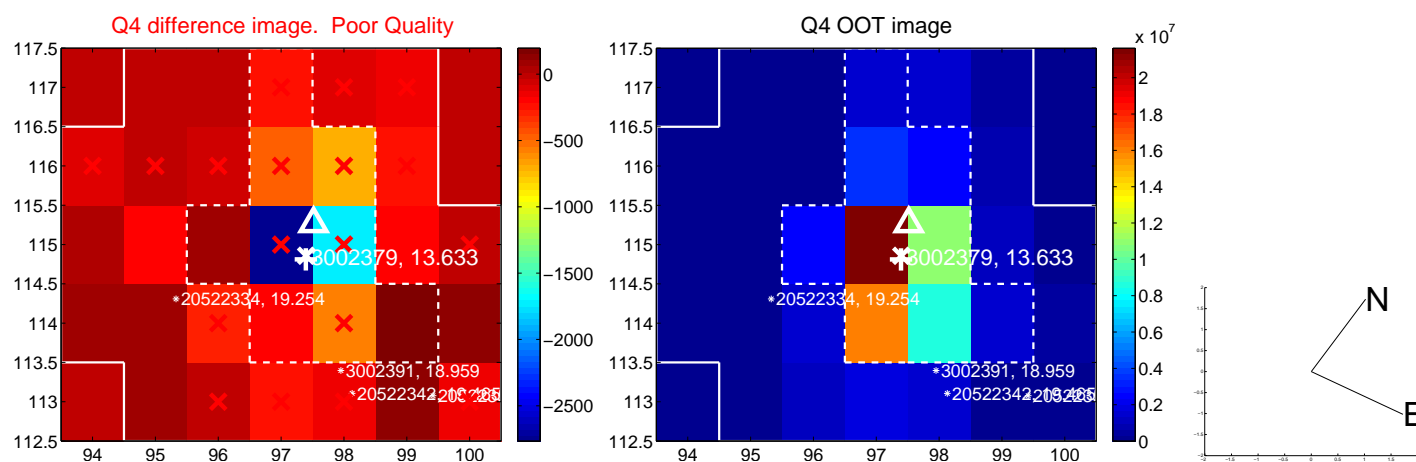
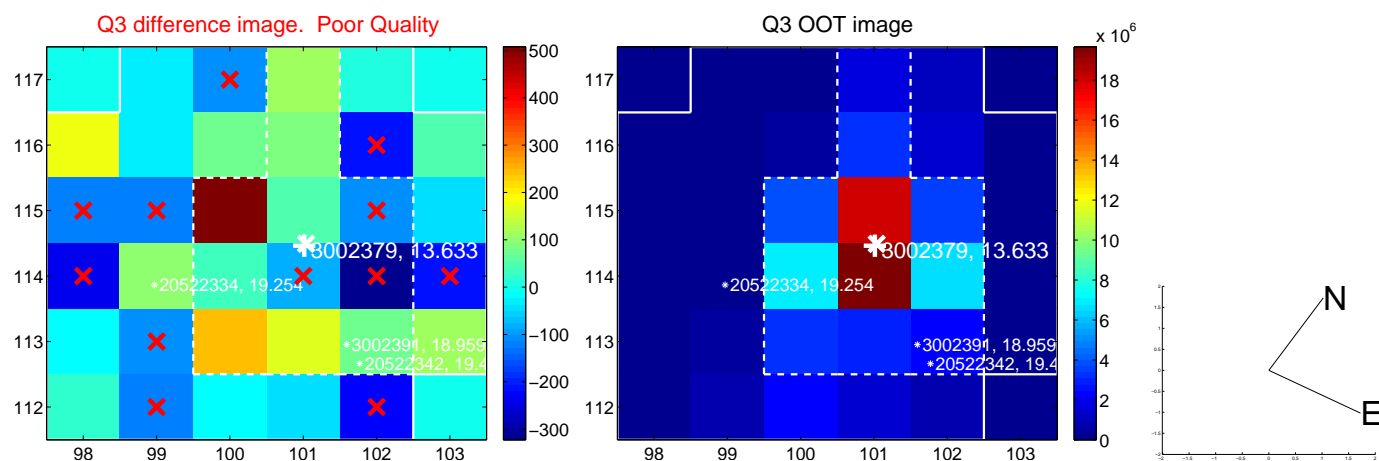
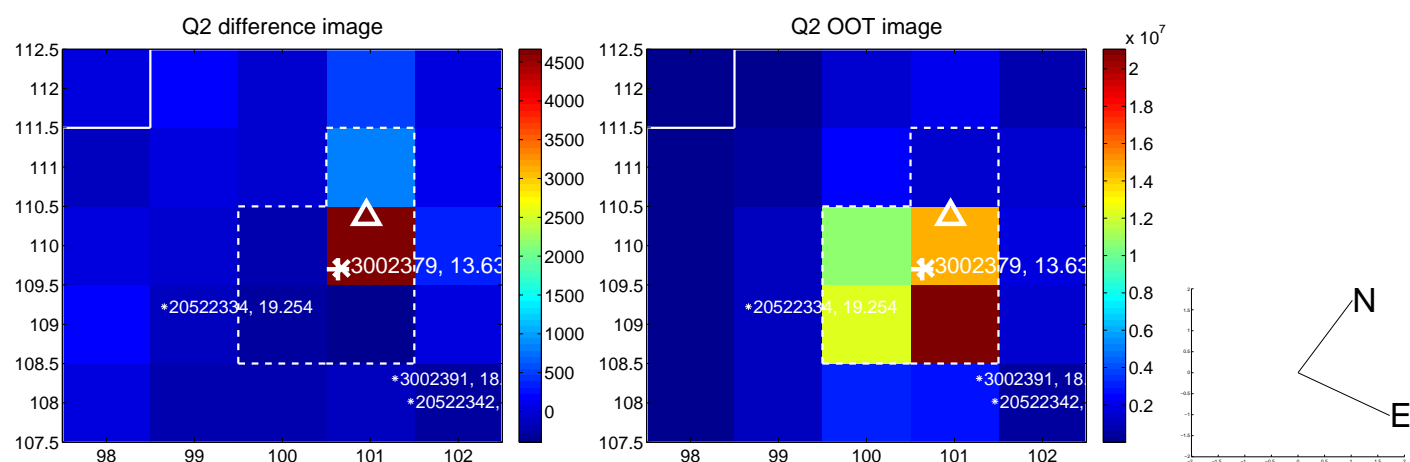
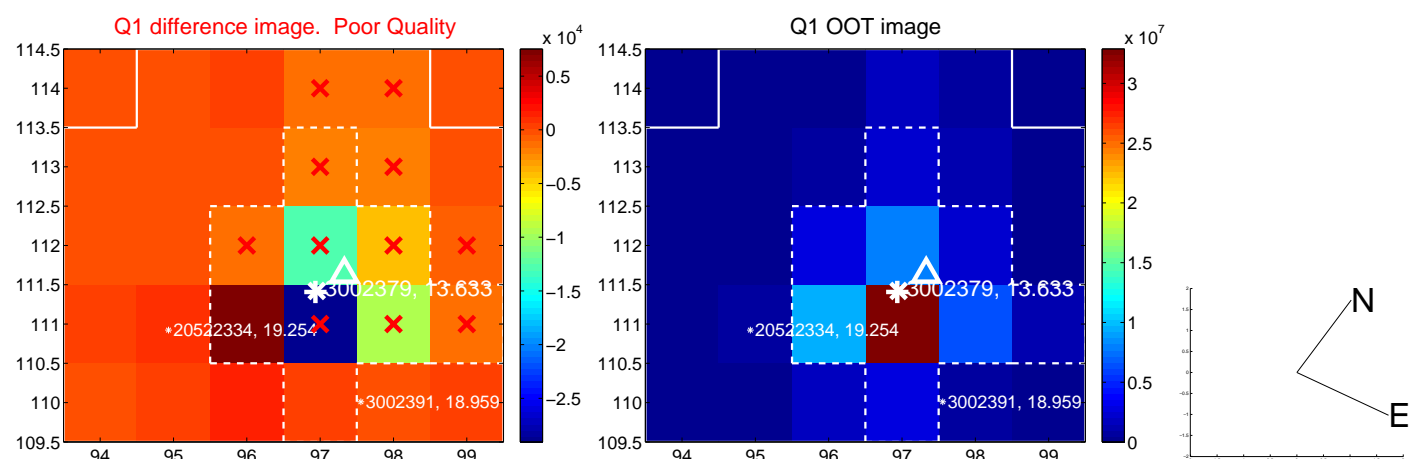
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.187 ± 0.282 | 0.66 | 0.036 ± 0.178 | 0.184 ± 0.297 |
| PRF-fit source offset from KIC position | 0.016 ± 0.274 | 0.06 | 0.012 ± 0.192 | -0.011 ± 0.299 |
| photometric centroid source offset | — | — | — | — |

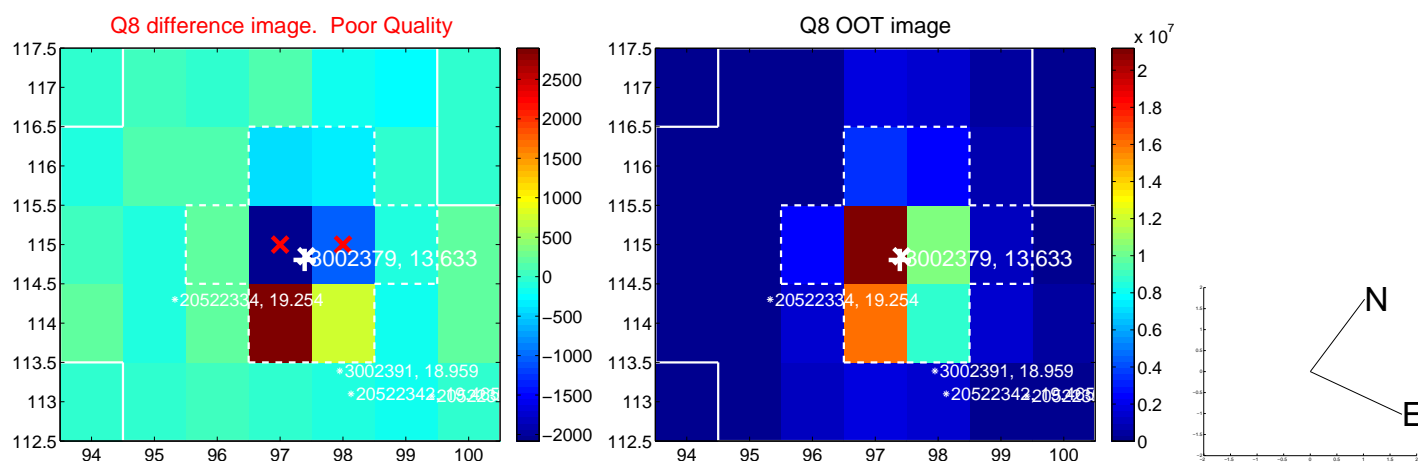
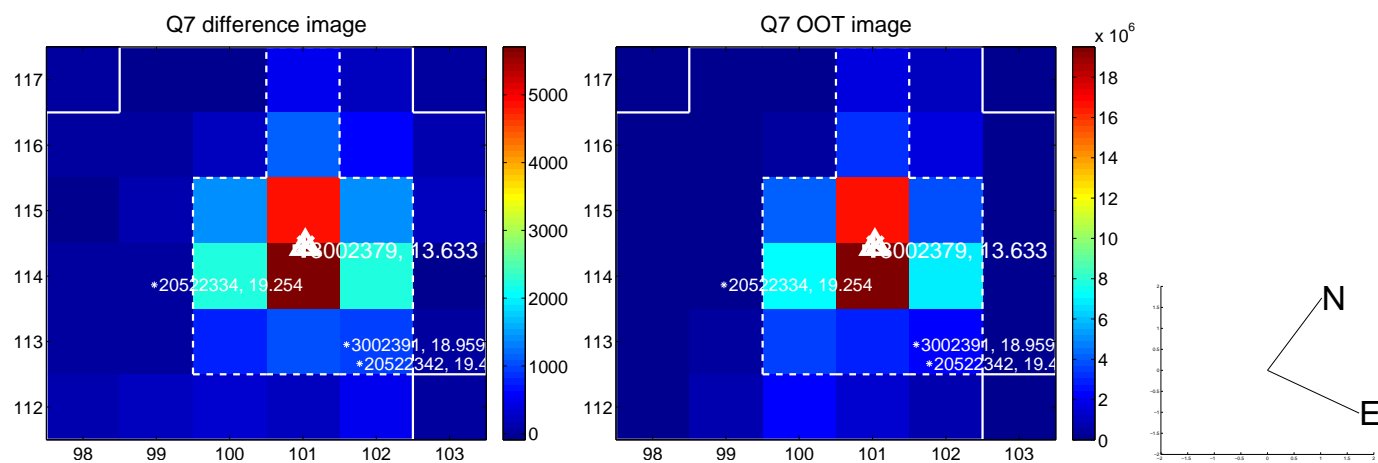
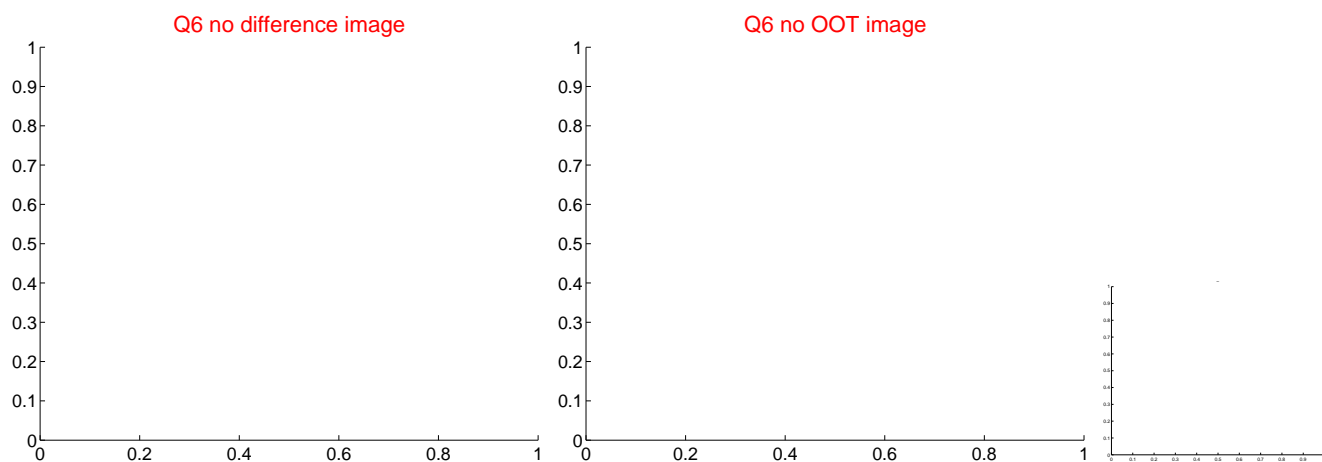
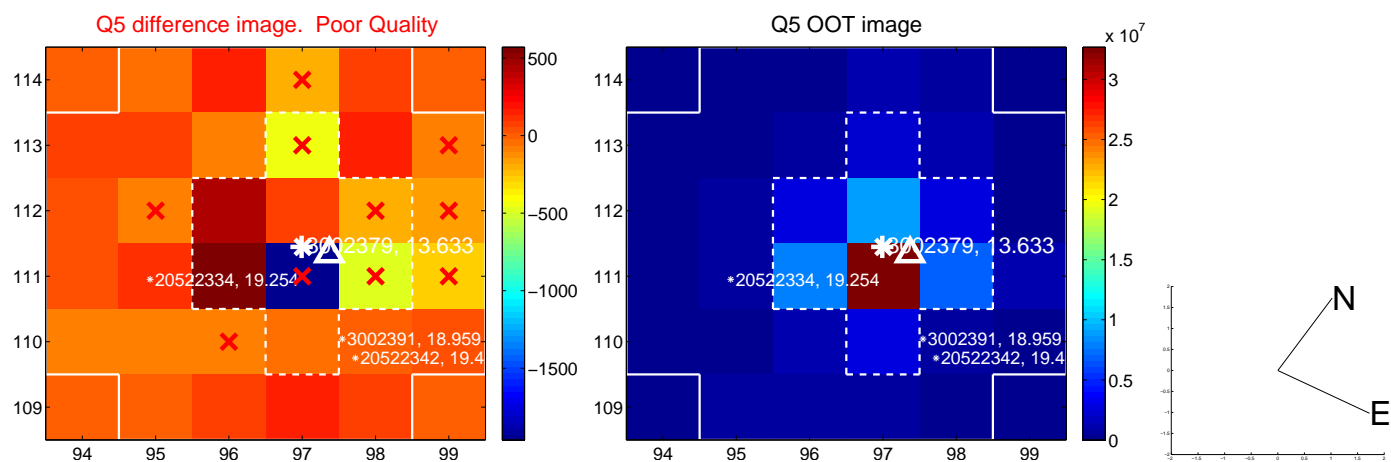


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

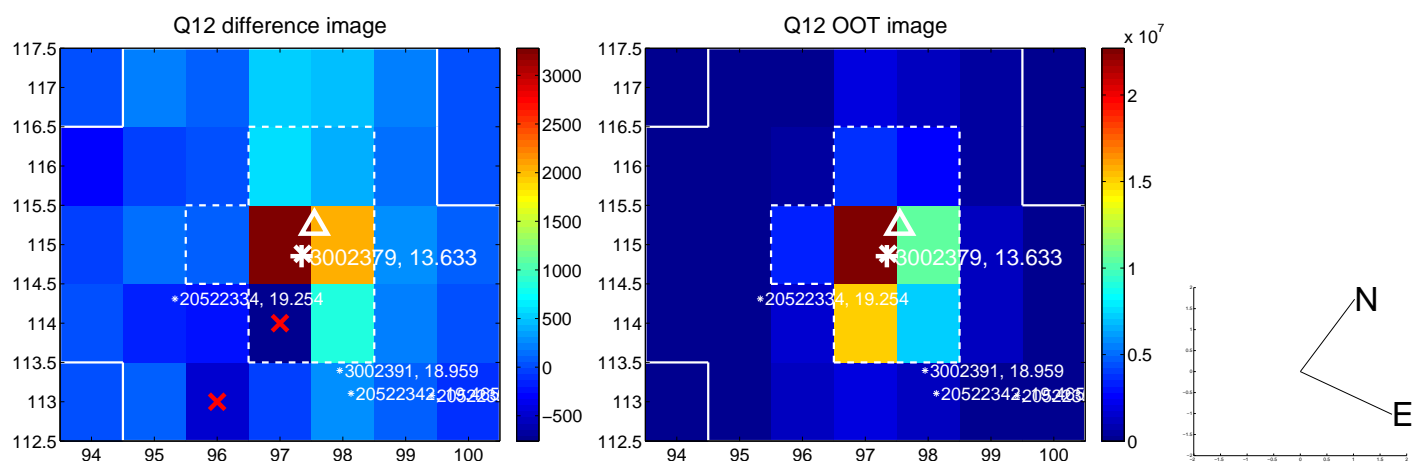
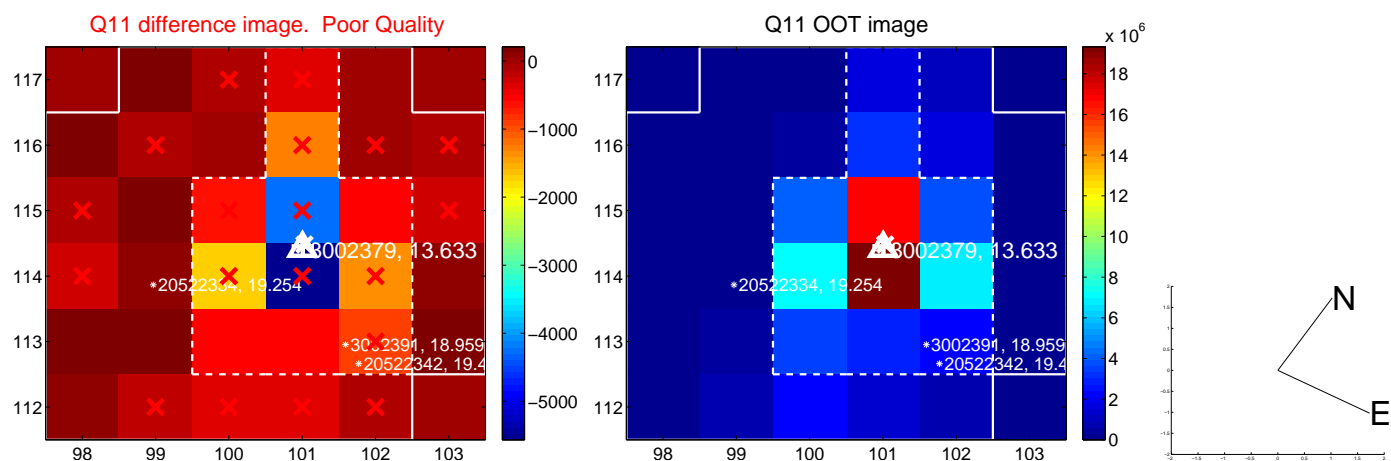
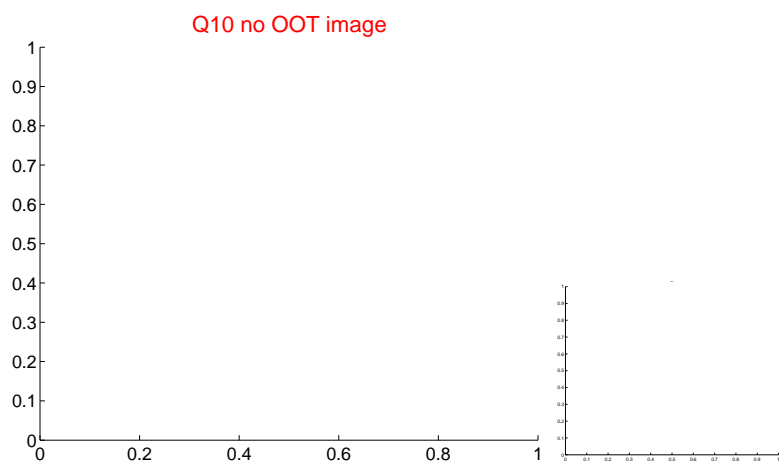
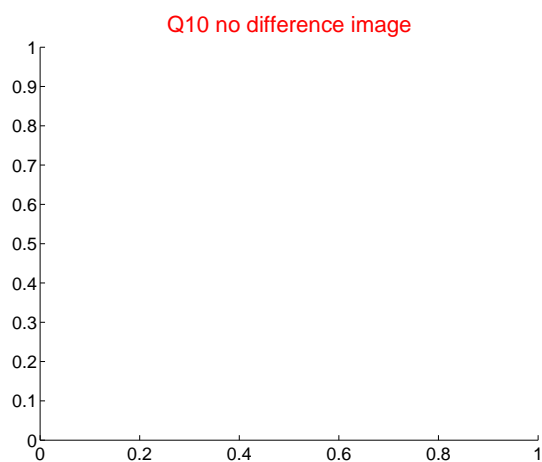
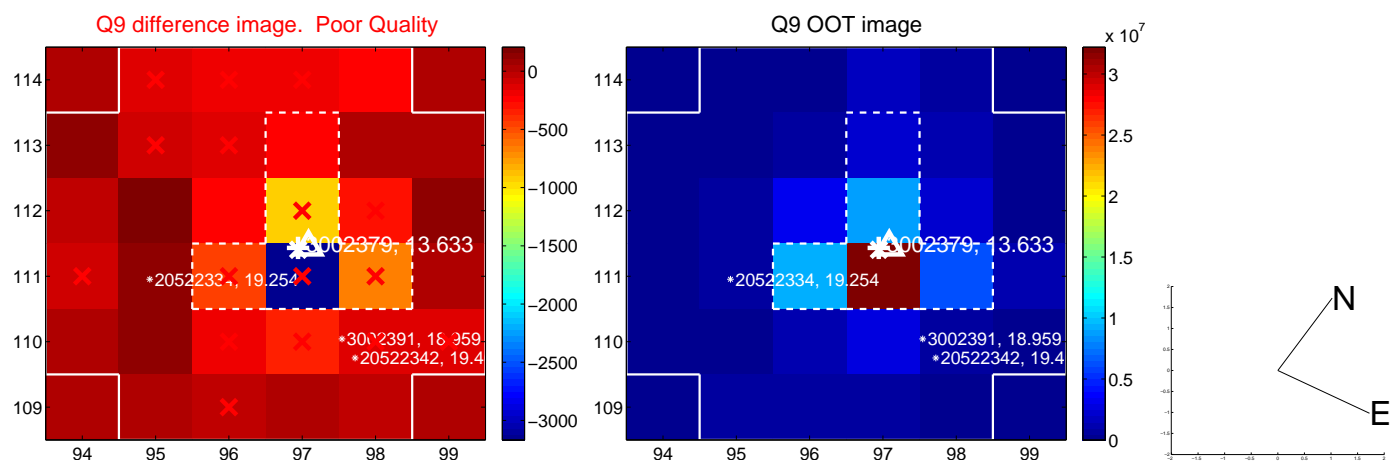
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



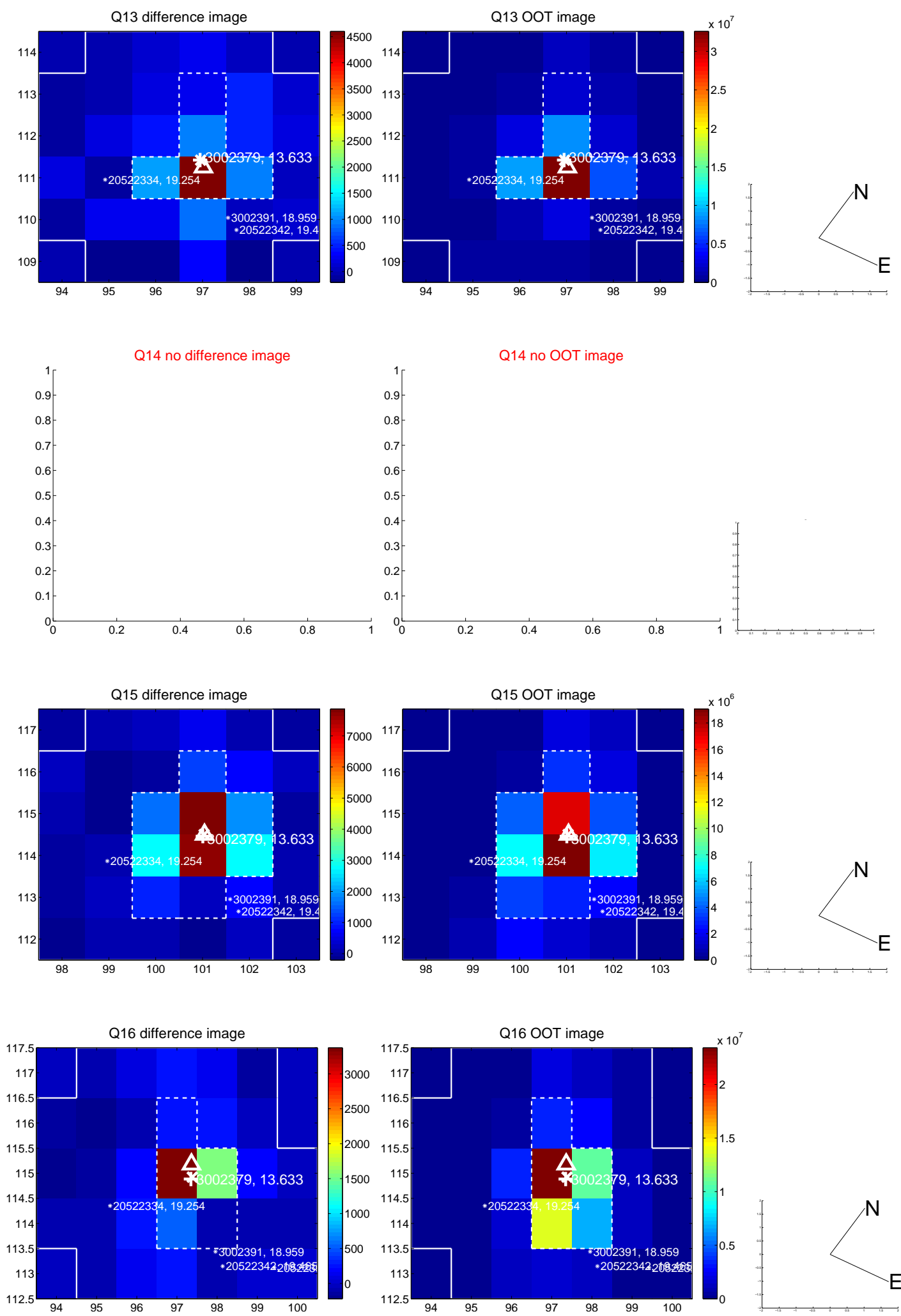
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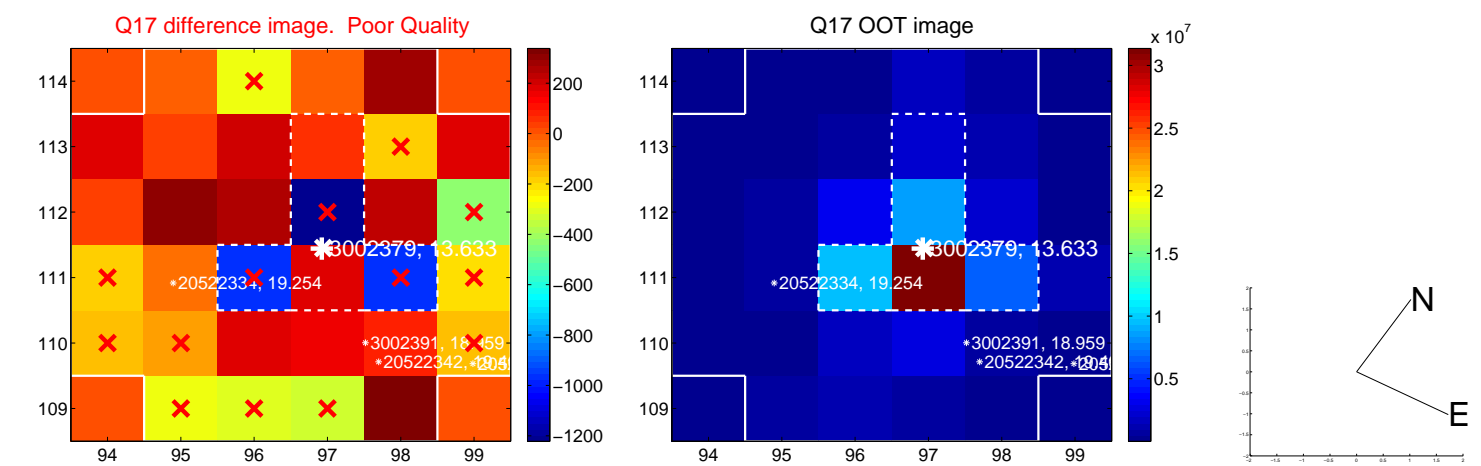
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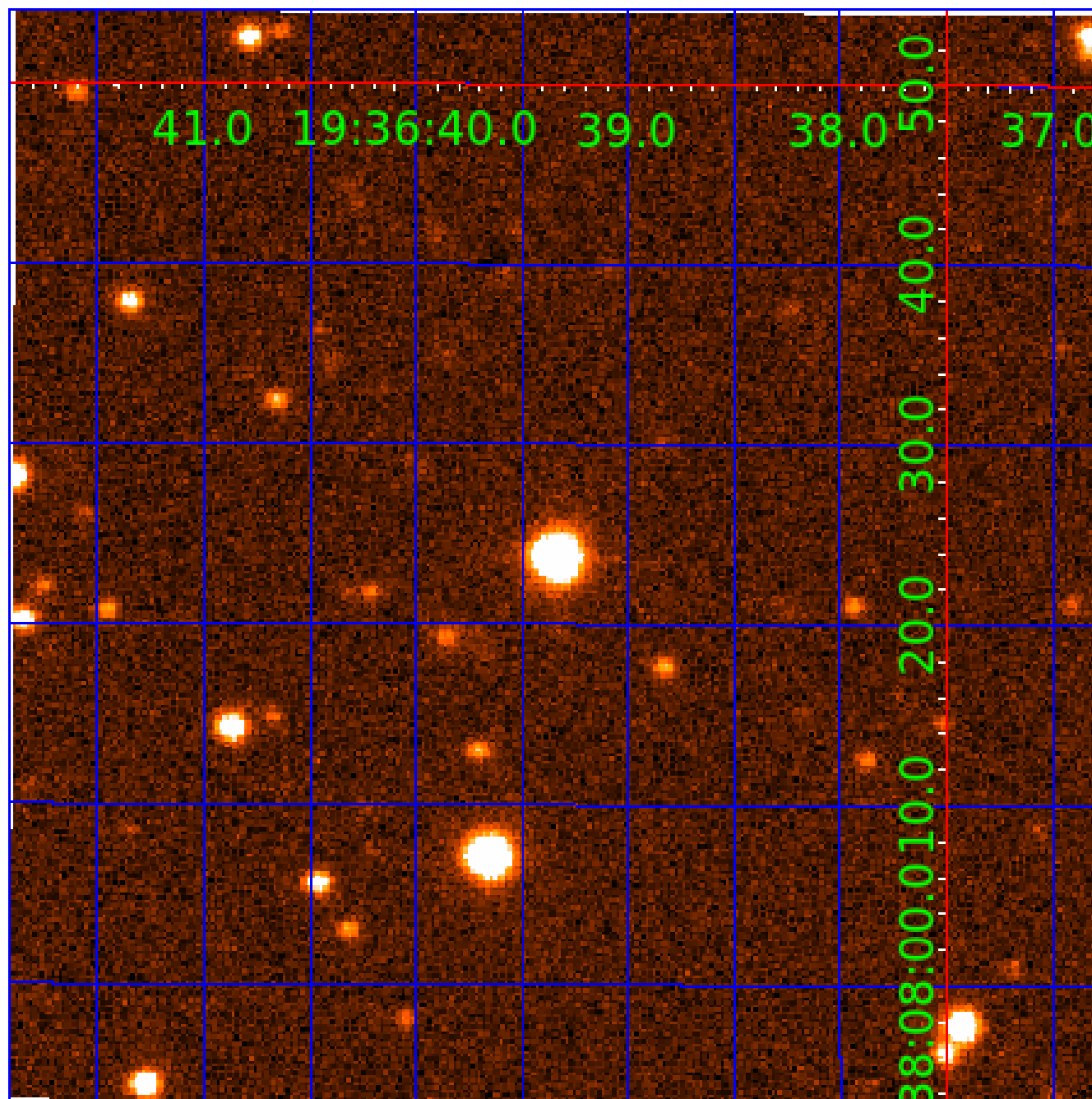
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 003002379

Q1-17 DR25 TCE Parameters

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|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
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Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003002379-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV |
| 003002379-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 003002379-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT |
| 003002379-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 003002379-06 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT |
| 003002379-07 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST |
| 003002379-08 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT |

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

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

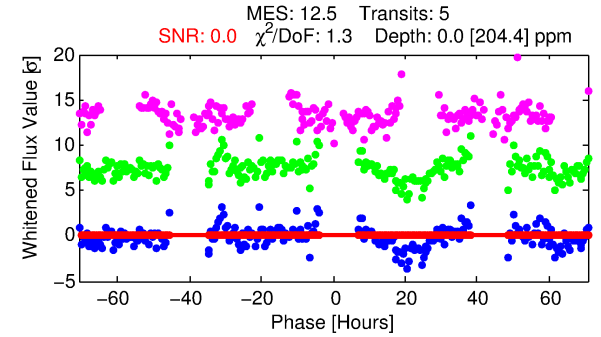
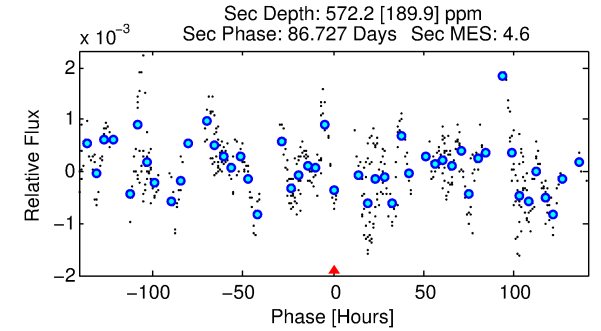
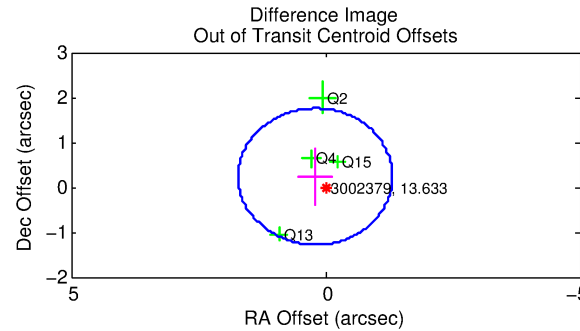
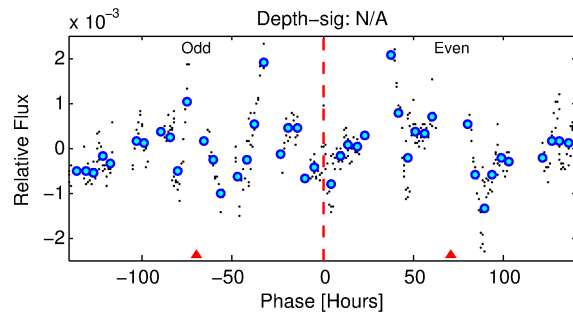
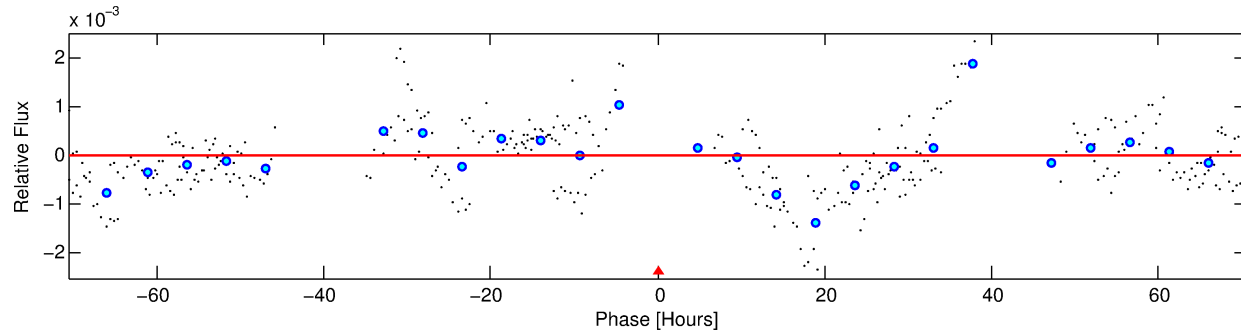
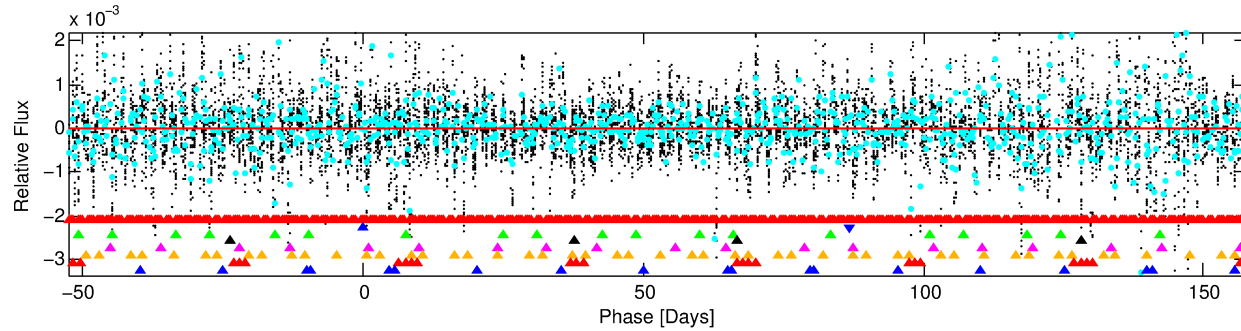
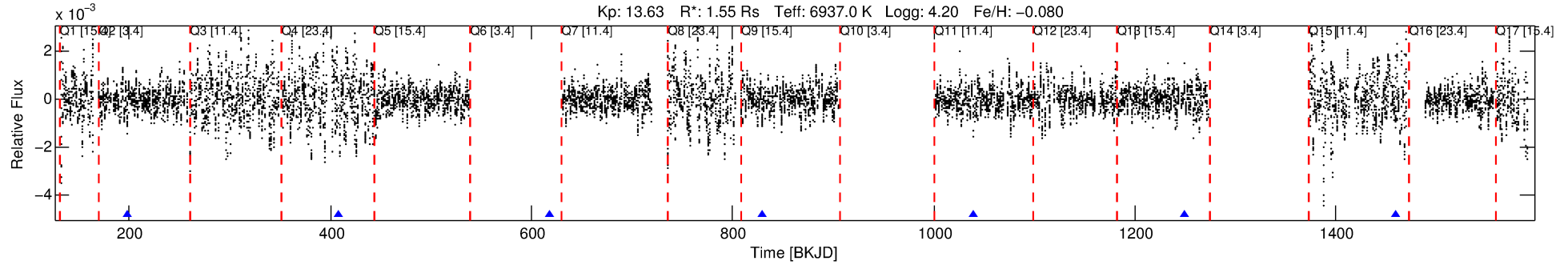
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003002379-02

No Significant Match Found

DV One-Page Summary

KIC: 3002379 Candidate: 2 of 8 Period: 210.252 d



DV Fit Results:

Period = 210.25173 [5524.21927] d
Epoch = 198.0912 [6074.3410] BKJD
Rp/R* = 0.0000 [2.2408]
a/R* = 48.90 [1600653.96]
b = 0.70 [31290.94]
Seff = 8.38 [293.55]
Teq = 434 [3800] K
Rp = 0.01 [379.50] Re
a = 0.7723 [13.5292] AU
Ag = 3561598502.07 [372316687908335.25] 10.0000
Teff = 163861 [4282509888] K [0.0000]

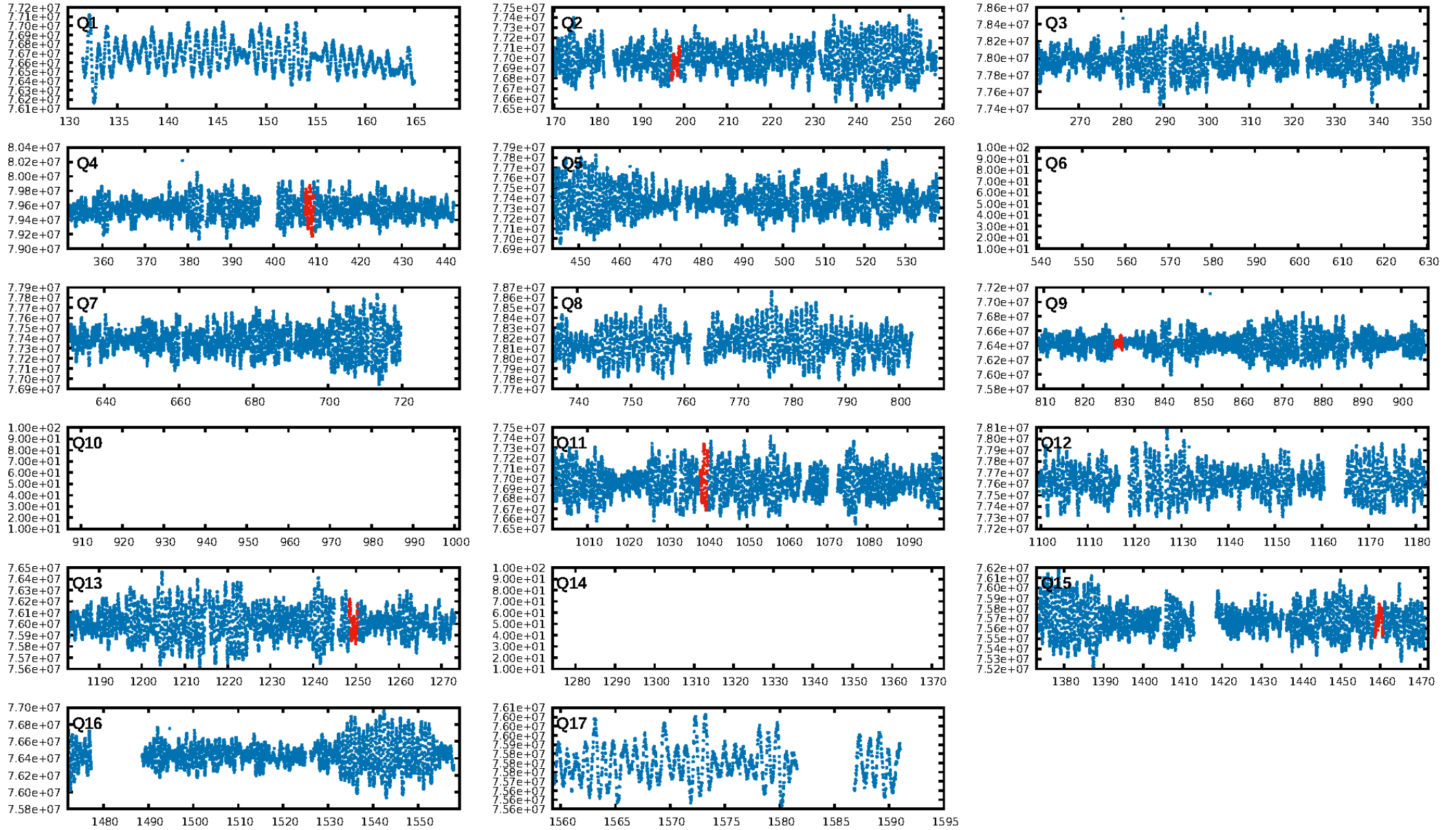
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [132.66σ]
LongPeriod-sig: 100.0% [86.78σ]
ModelChiSquare2-sig: 54.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.28e-13
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OptOffset-rm: 0.309 arcsec [0.61σ]
KicOffset-rm: 0.240 arcsec [0.68σ]
OptOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.00 [0/5]

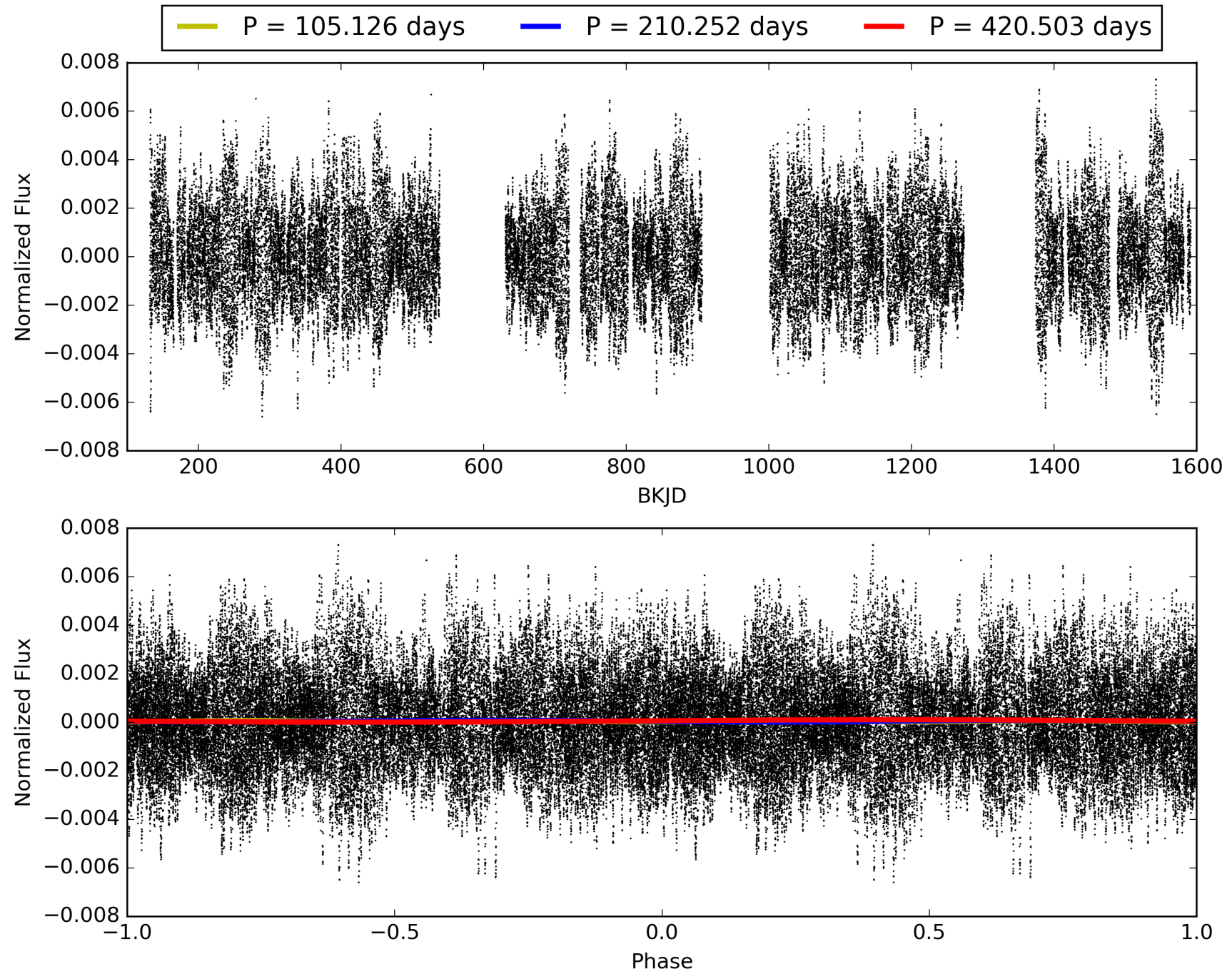
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:57:02 Z

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

TCE 003002379-02, PDC Light Curves

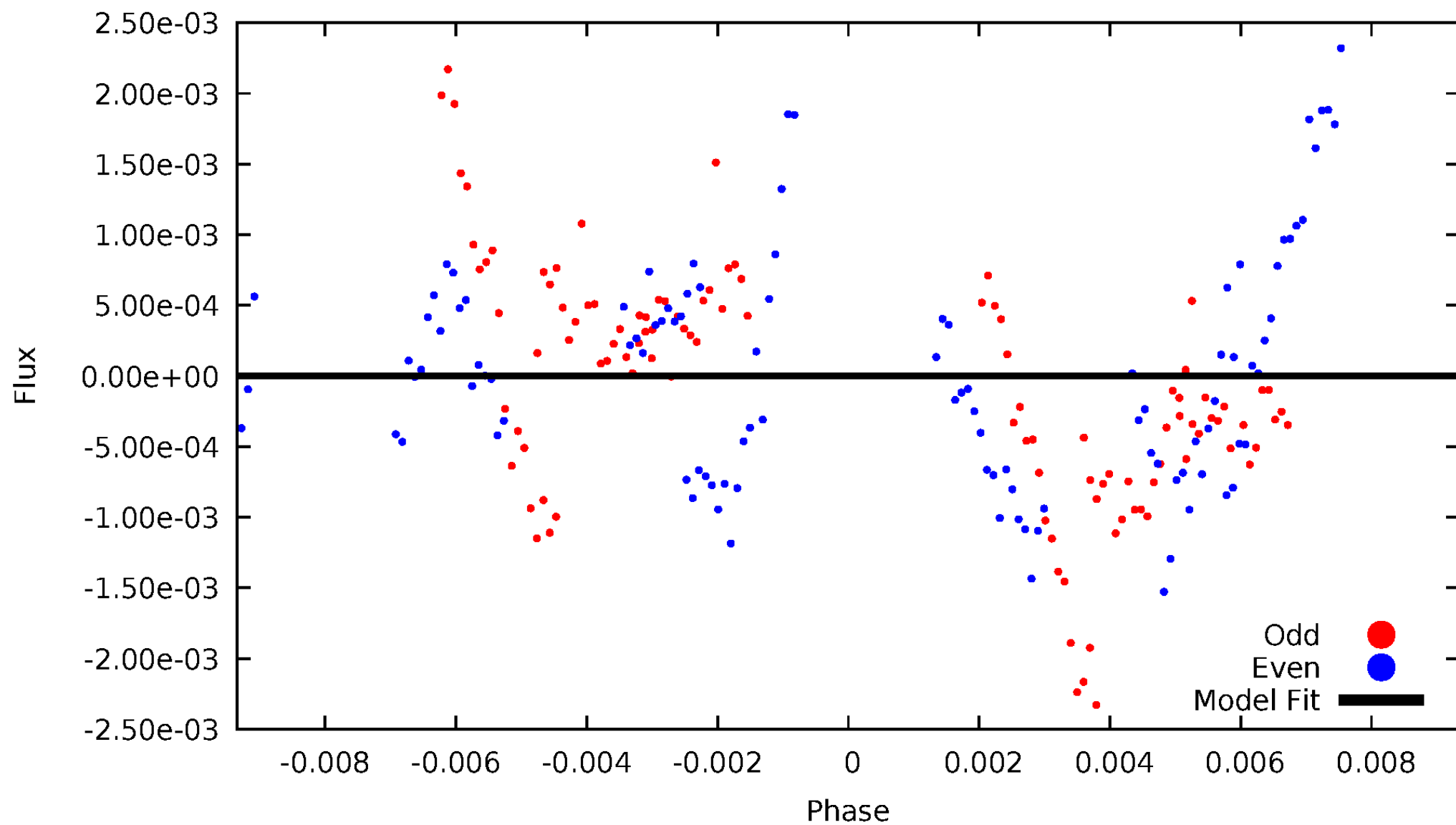


TCE 003002379-02



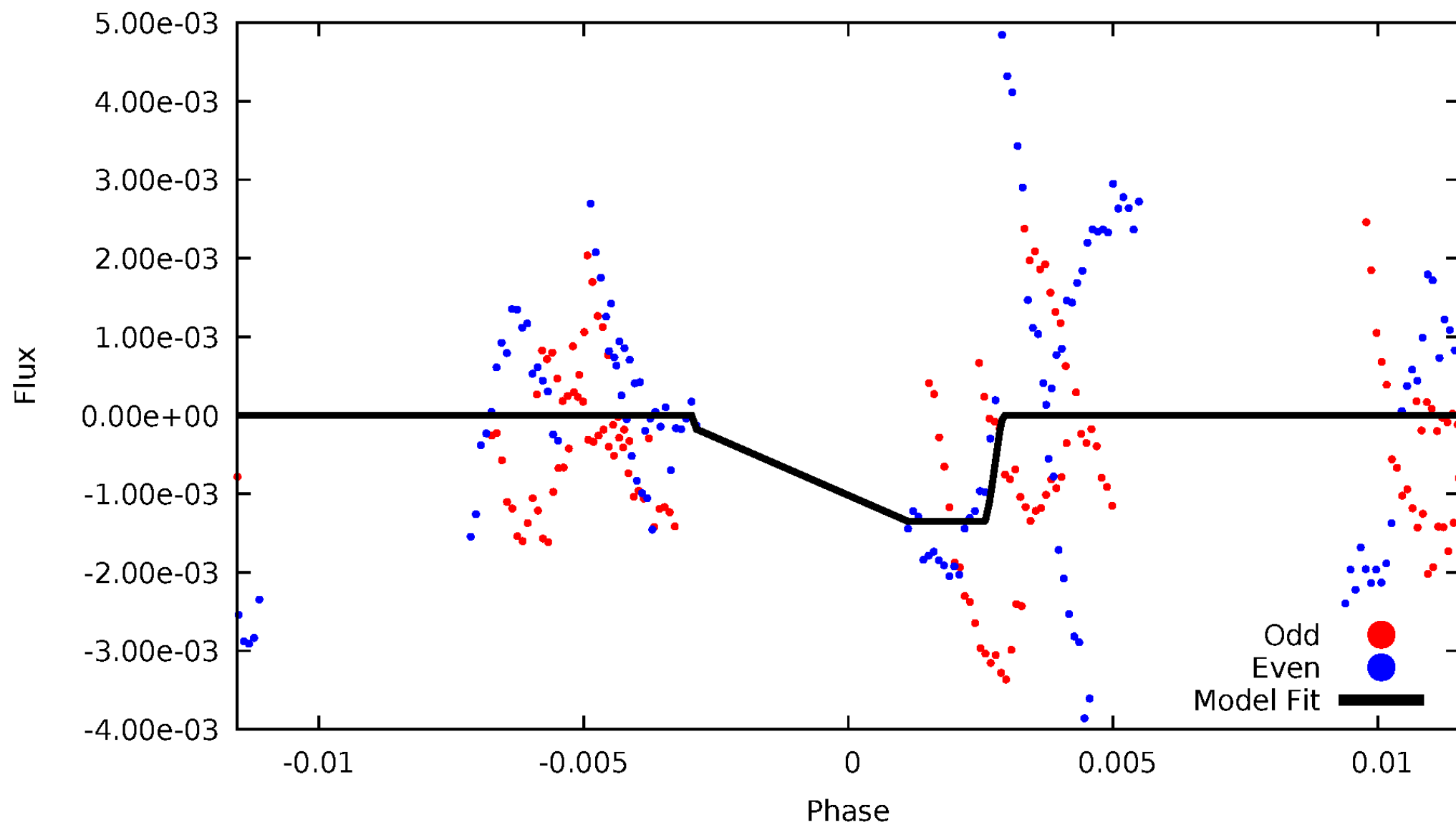
DV Odd/Even

TCE 003002379-02



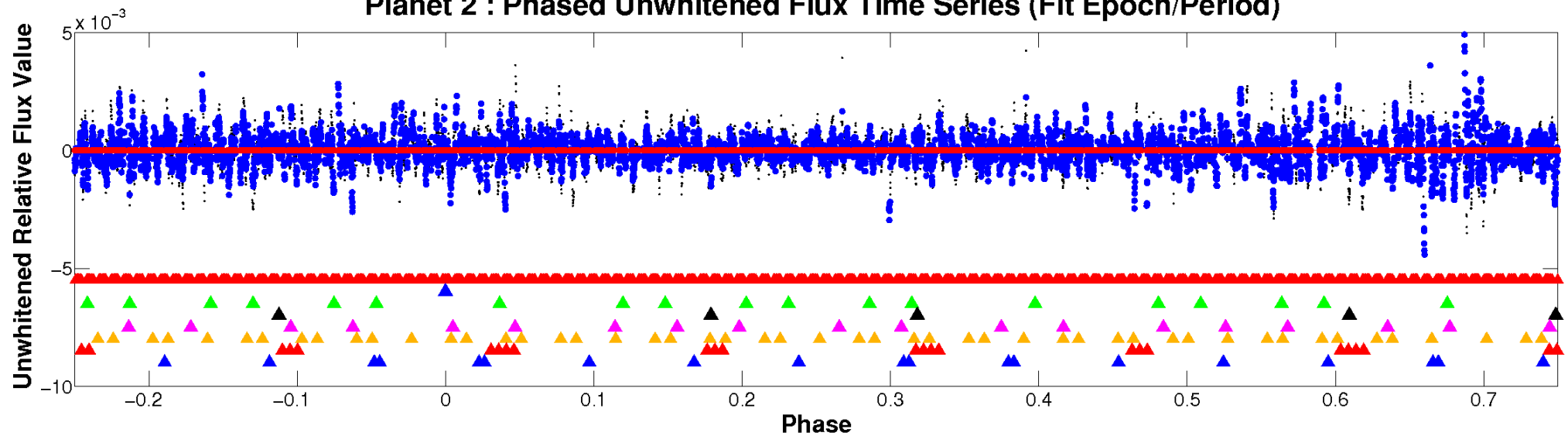
ALT Odd/Even

TCE 003002379-02

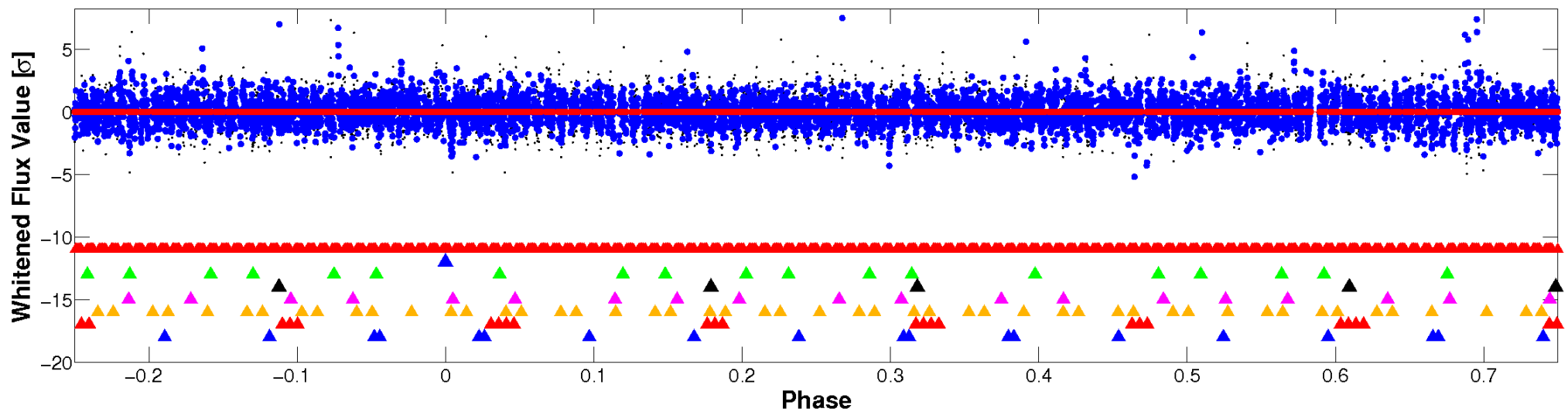


Non-Whitened Vs. Whitened Light Curve

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

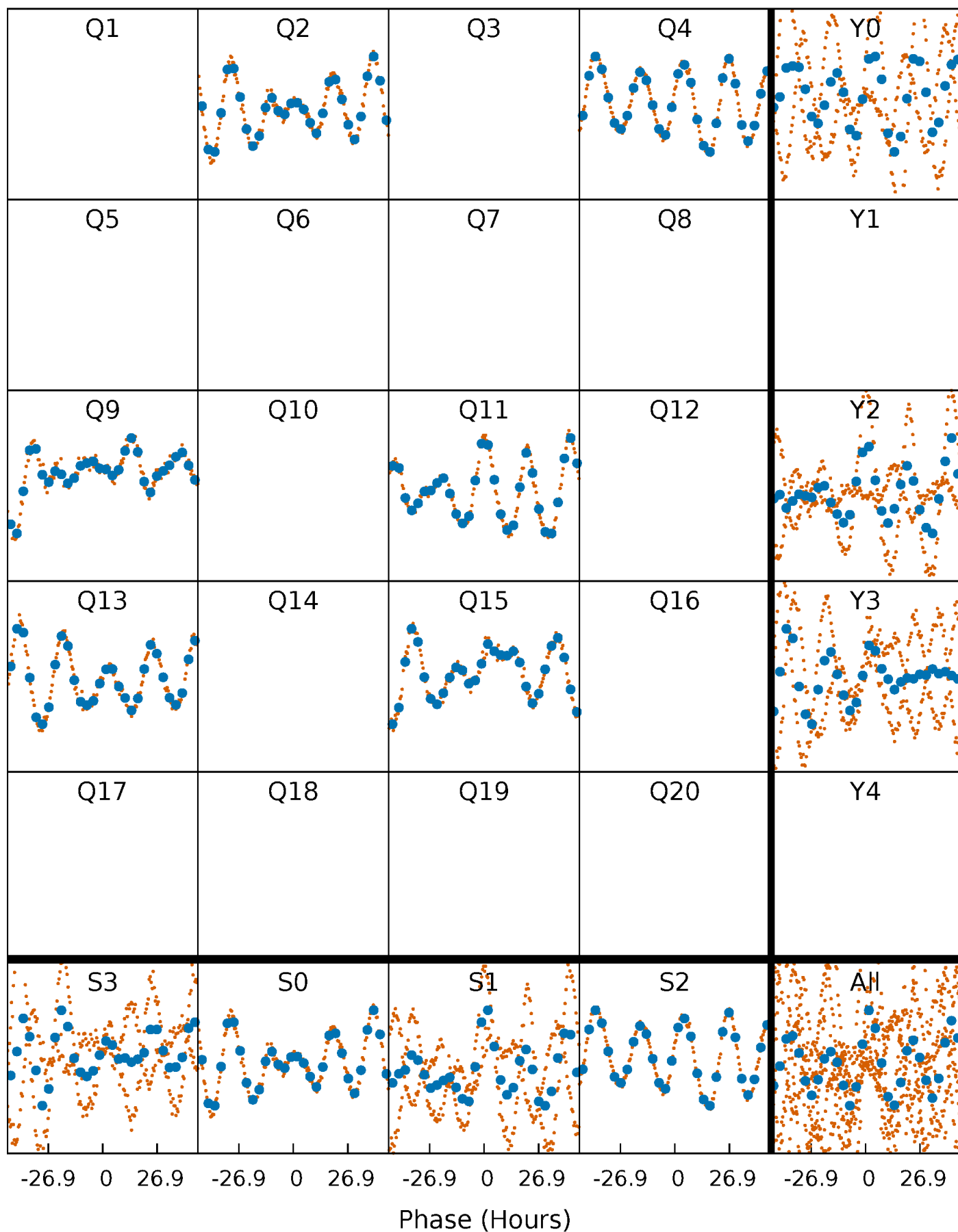


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



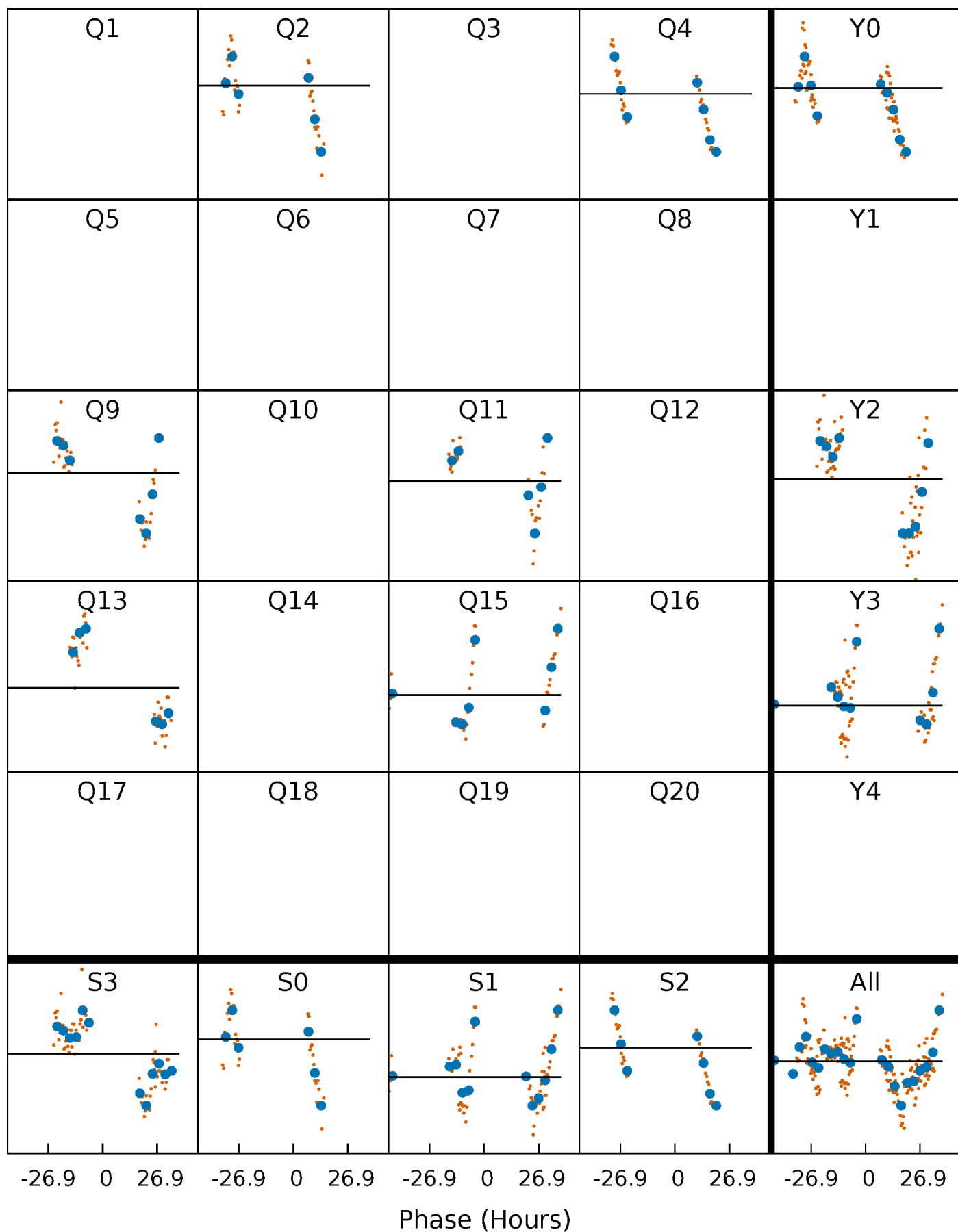
PDC Quarter-Phased Transit Curves

TCE 003002379-02 $P=210.251733$ Days $T_0=198.091175$ (BKJD)



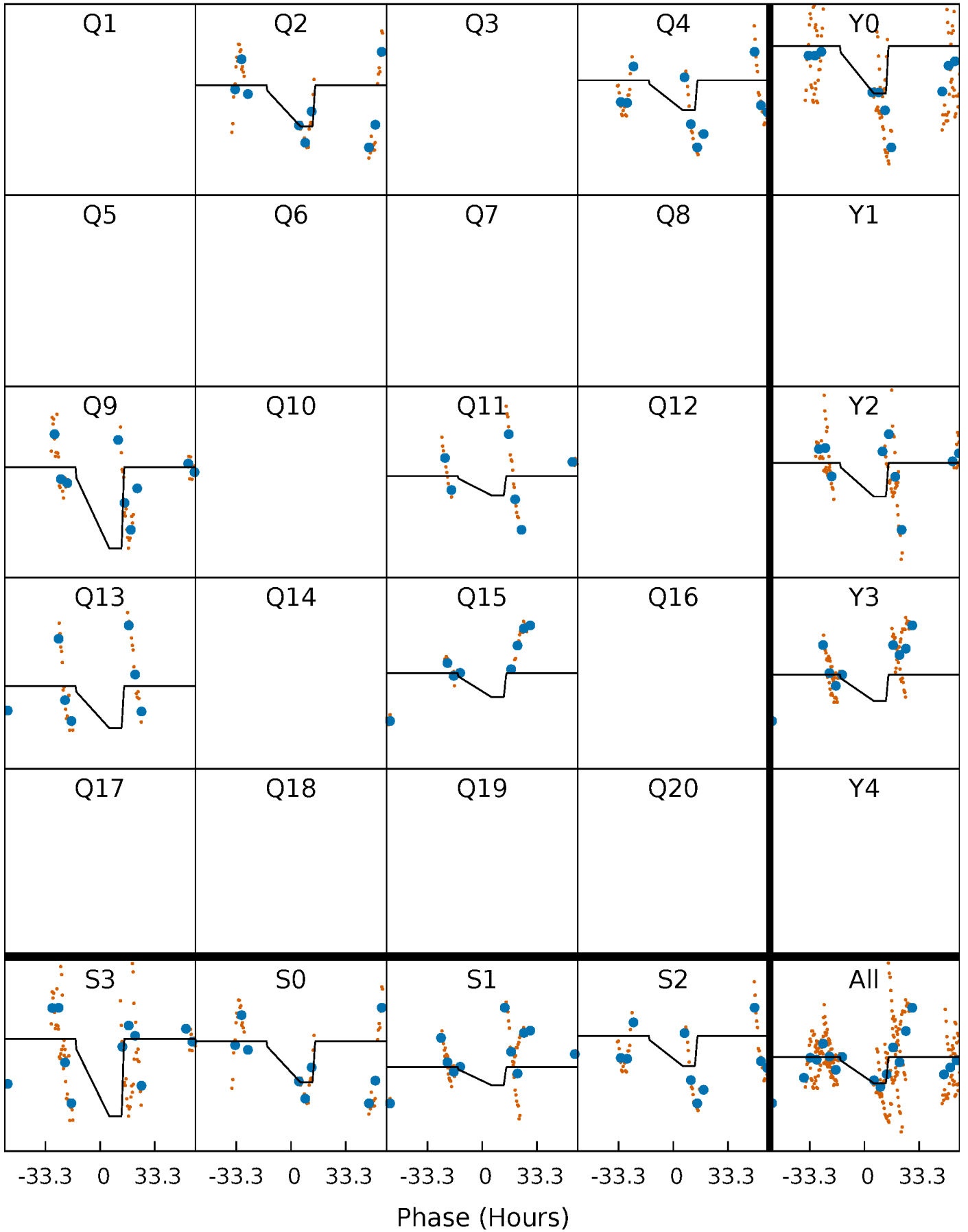
DV Quarter-Phased Transit Curves

TCE 003002379-02 P=210.251733 Days $T_0=198.091175$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

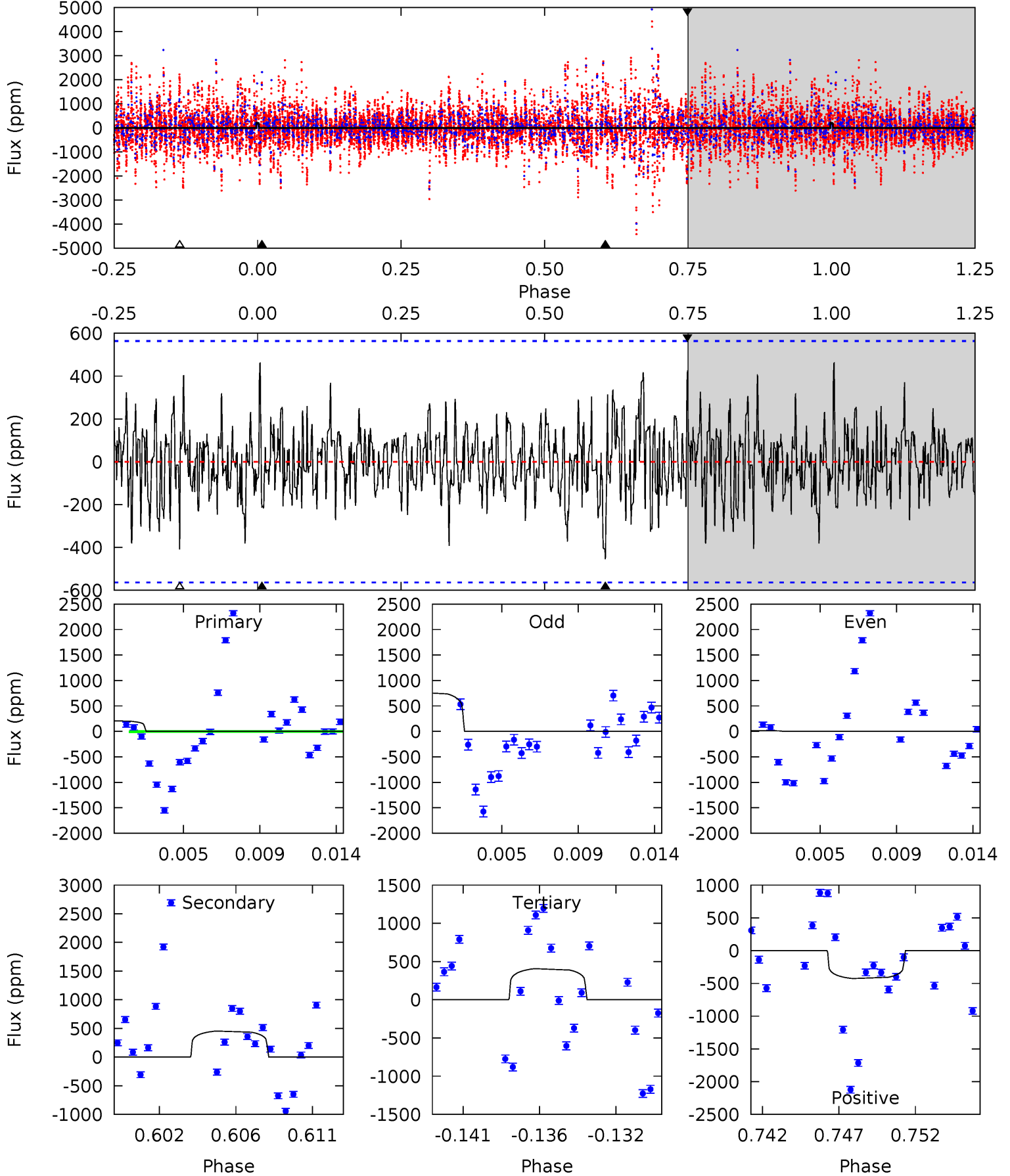
TCE 003002379-02 P=210.315822 Days $T_0=198.136407$ (BKJD)



DV Model-Shift Uniqueness Test

003002379-02, P = 210.251733 Days, E = 198.091175 Days

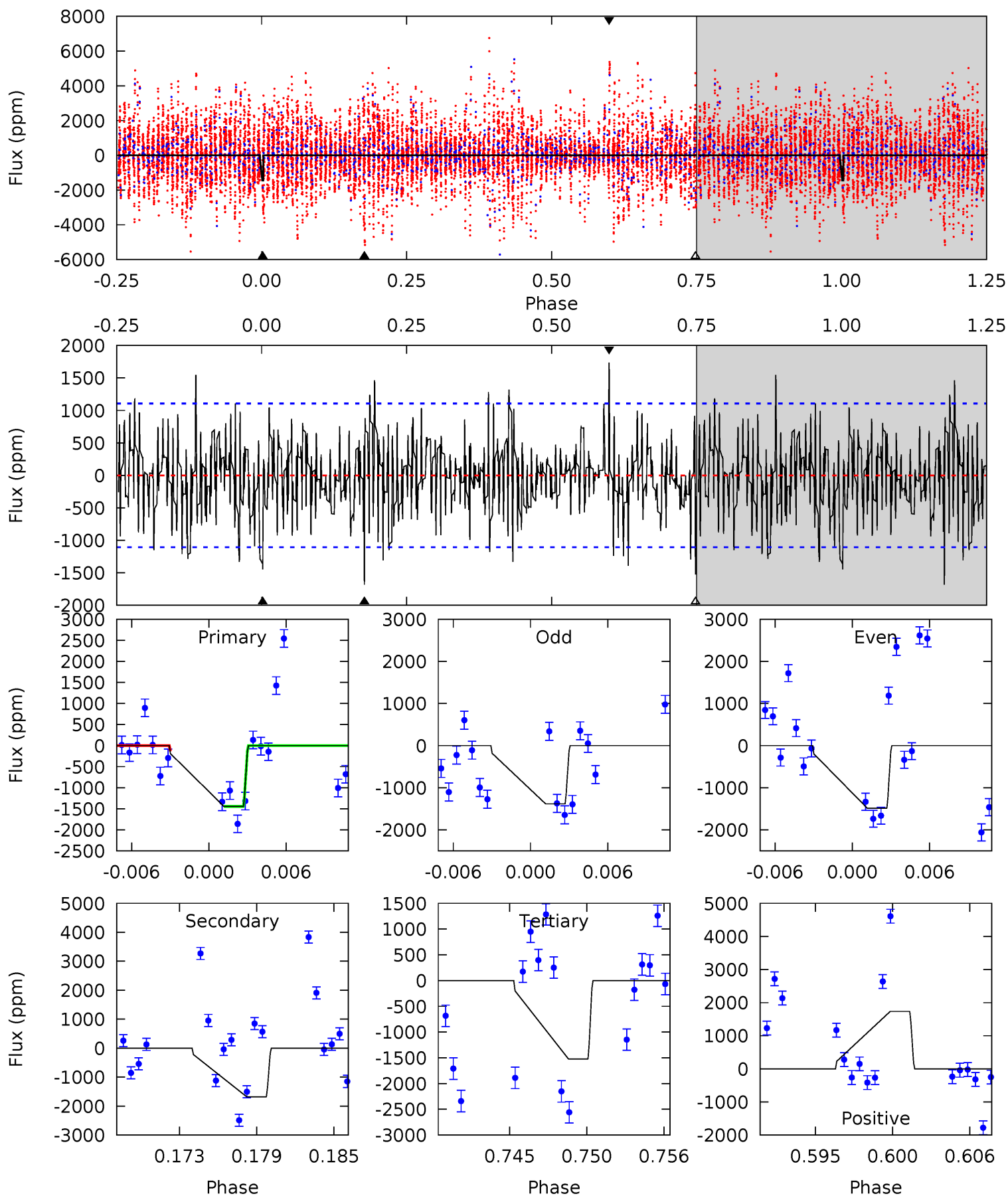
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 1.94 | 4.17 | 3.73 | 3.91 | 5.17 | 2.83 | 1.20 | -1.79 | -1.97 | 0.44 | 0.26 | 3.09 | 0.66 | 0.50 | 1.44 |



Alt Model-Shift Uniqueness Test

003002379-02, P = 210.315822 Days, E = 198.136407 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.70 | 7.80 | 7.07 | 8.05 | 5.13 | 2.76 | 2.15 | -0.37 | -1.35 | 0.73 | -0.25 | 0.24 | 0.66 | 0.51 | 0.00 |



Stellar Parameters For KIC 003002379

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6937^{+194}_{-305} | $4.199^{+0.128}_{-0.192}$ | $-0.080^{+0.250}_{-0.350}$ | $1.552^{+0.488}_{-0.285}$ | $1.397^{+0.216}_{-0.238}$ | $0.526^{+0.322}_{-0.266}$ |
| | +3%/-4% | +3%/-5% | +312%/-438% | +31%/-18% | +15%/-17% | +61%/-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 003002379-02 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-----------------|------------------------------|----------------------|----------------------|----------------------|
| DV | -454 ± 109 | $275.00^{+296.47}_{-194.36}$ | 239^{+114}_{-57} | 1834^{+519}_{-254} | 79^{+1118}_{-68} |
| Alt. | -1680 ± 215 | $261.75^{+318.78}_{-183.96}$ | 235^{+117}_{-53} | 2103^{+702}_{-312} | 333^{+4787}_{-295} |

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

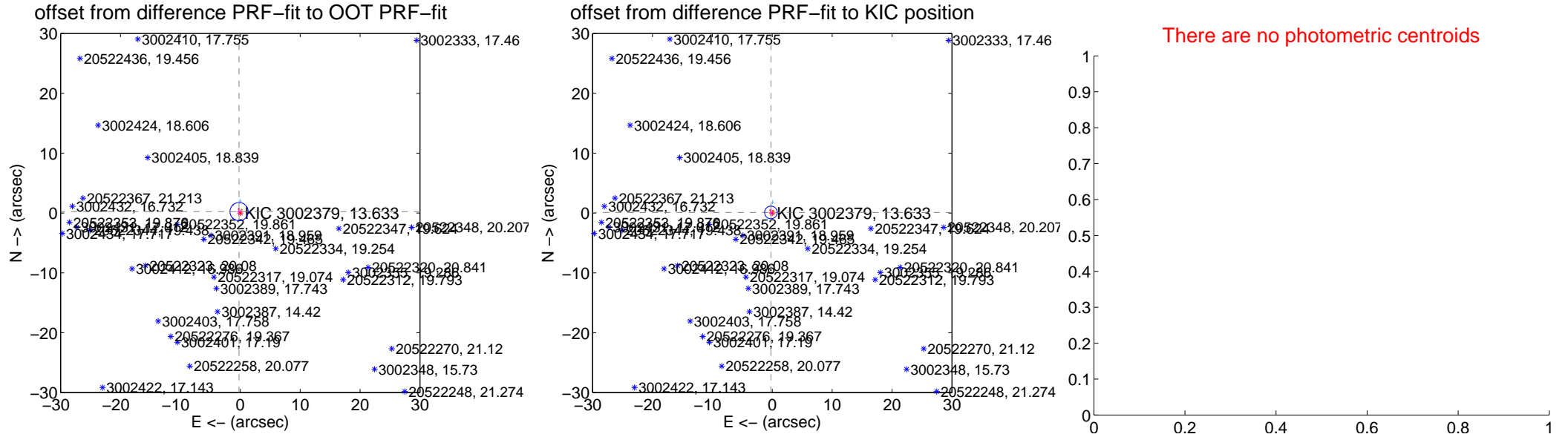
DV Centroid Data

Supplemental centroid analysis for 003002379-02. Kepler magnitude: 13.63. Transit SNR 0.00

There are 2 quarters with good PRF difference image offsets

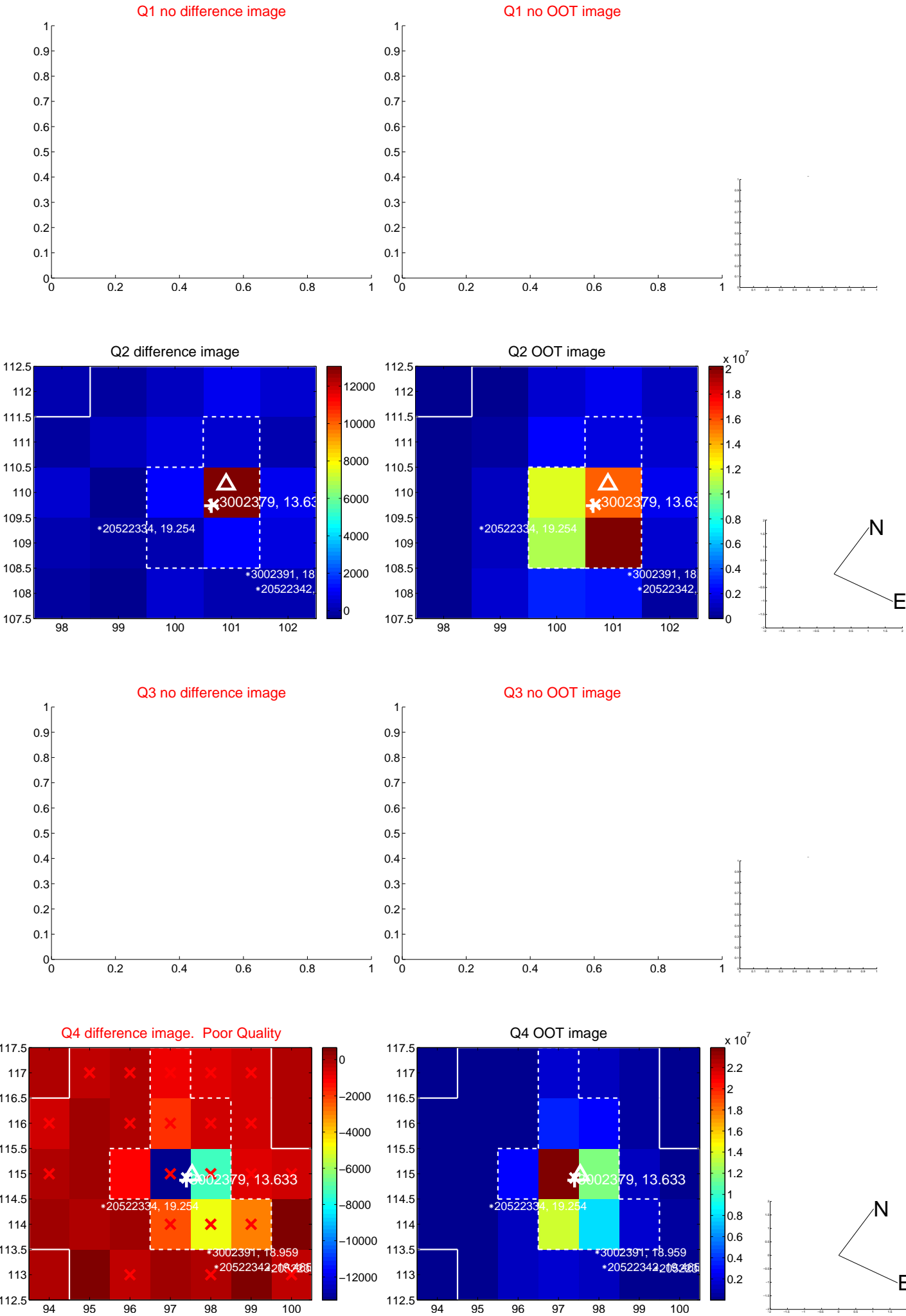
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.309 ± 0.506 | 0.61 | 0.202 ± 0.314 | 0.234 ± 0.611 |
| PRF-fit source offset from KIC position | 0.240 ± 0.352 | 0.68 | 0.221 ± 0.298 | 0.094 ± 0.566 |
| 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.

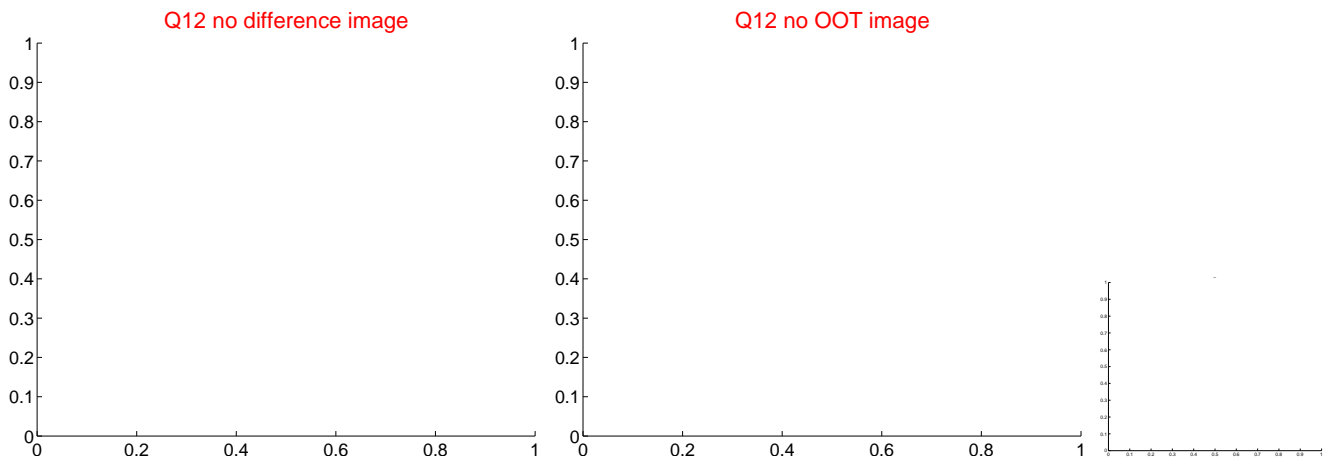
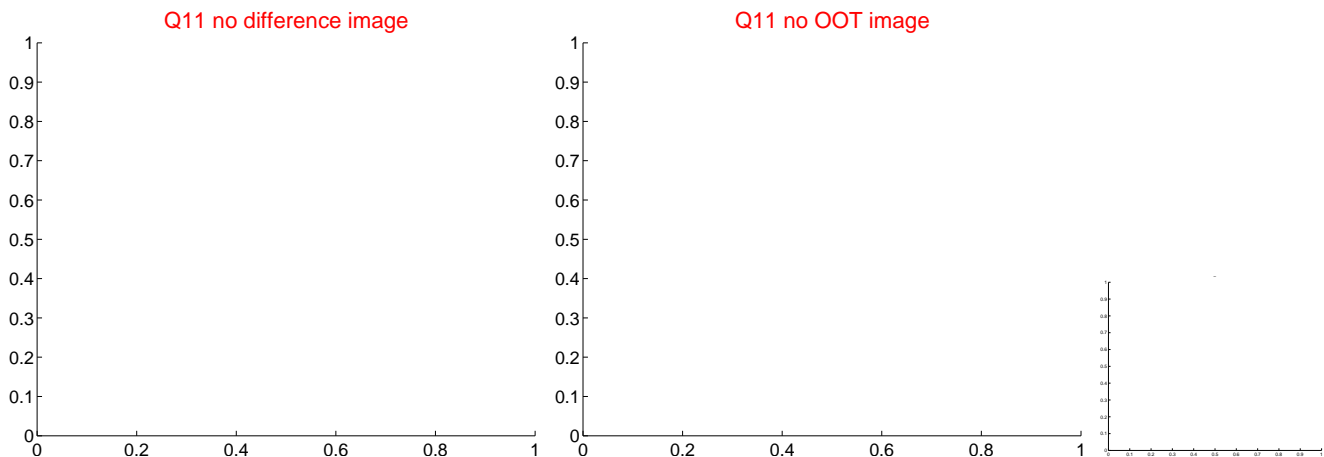
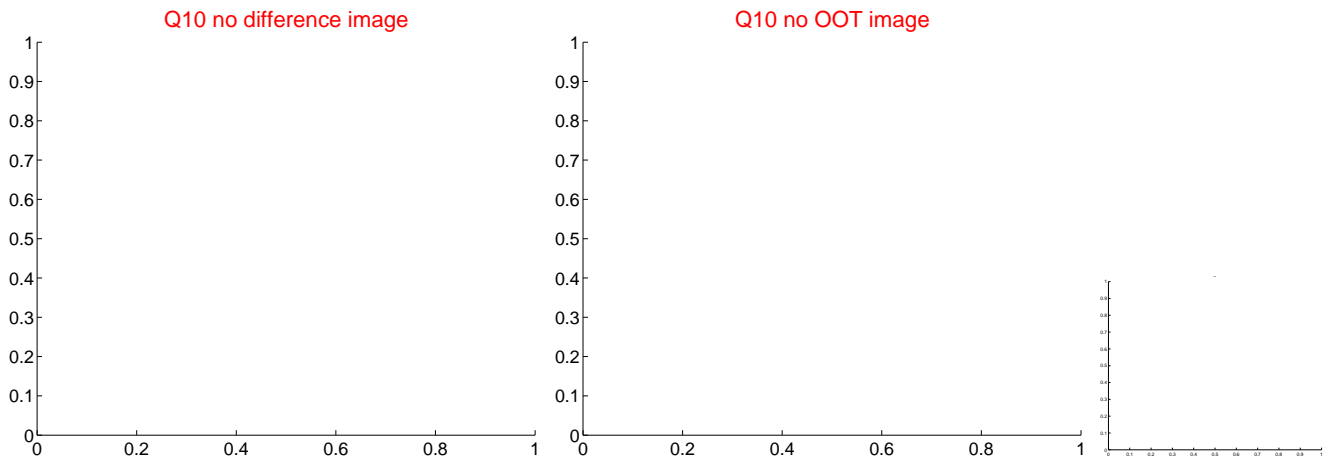
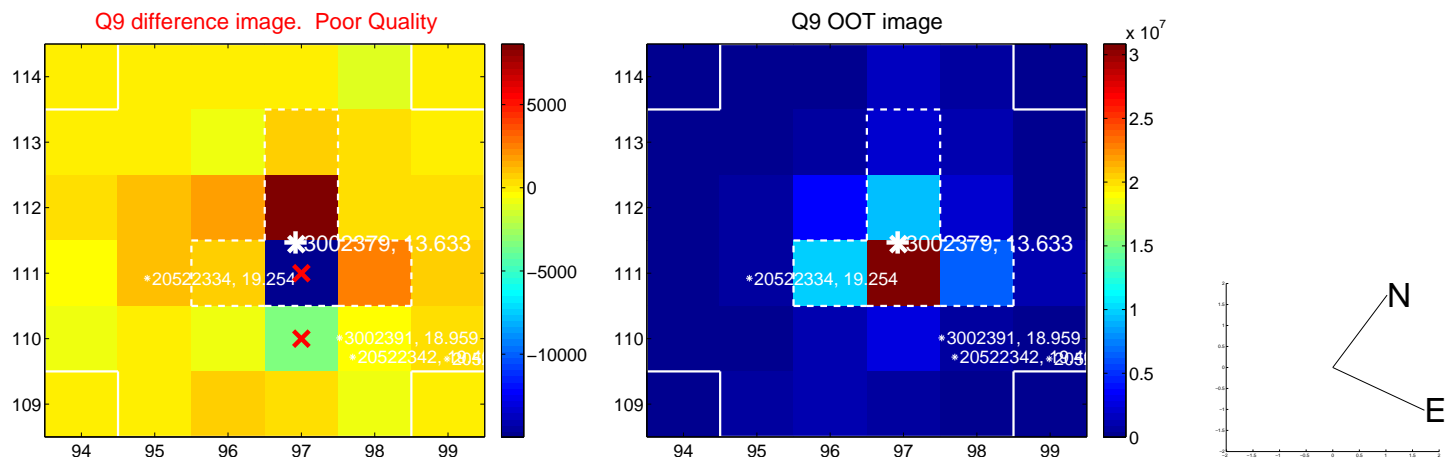
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



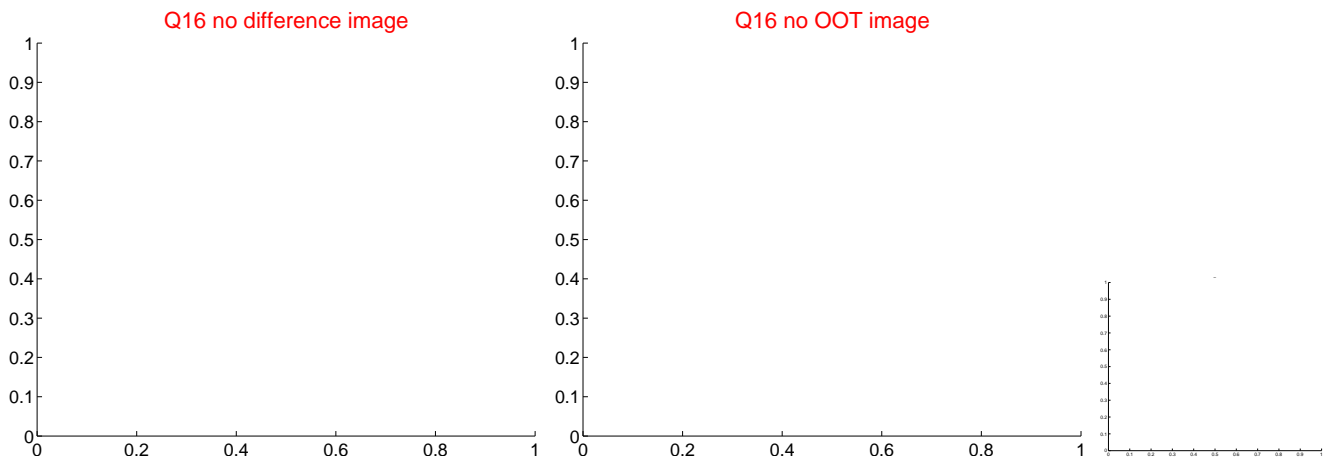
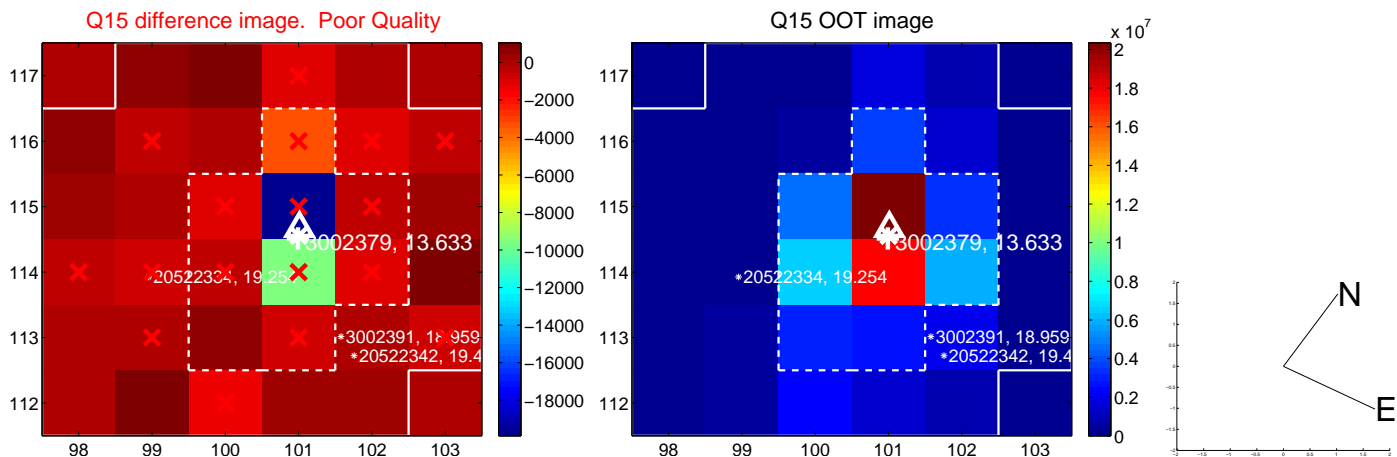
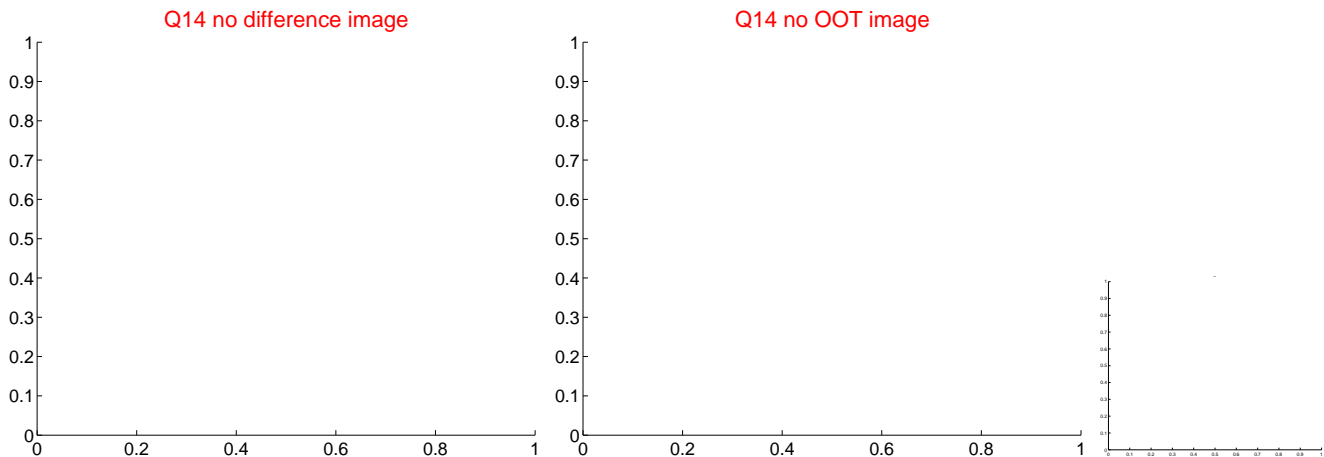
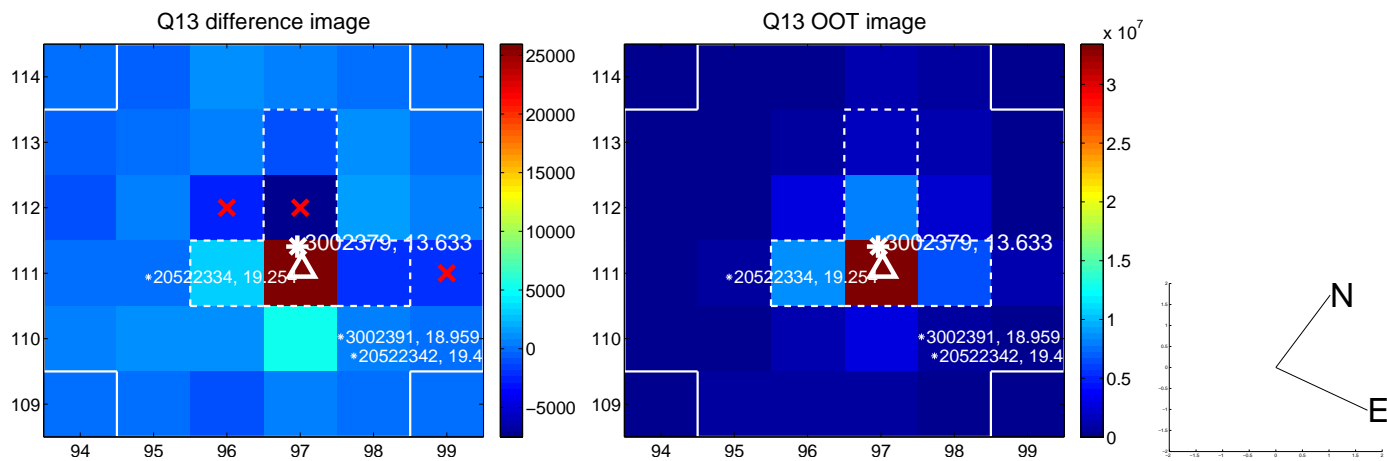
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



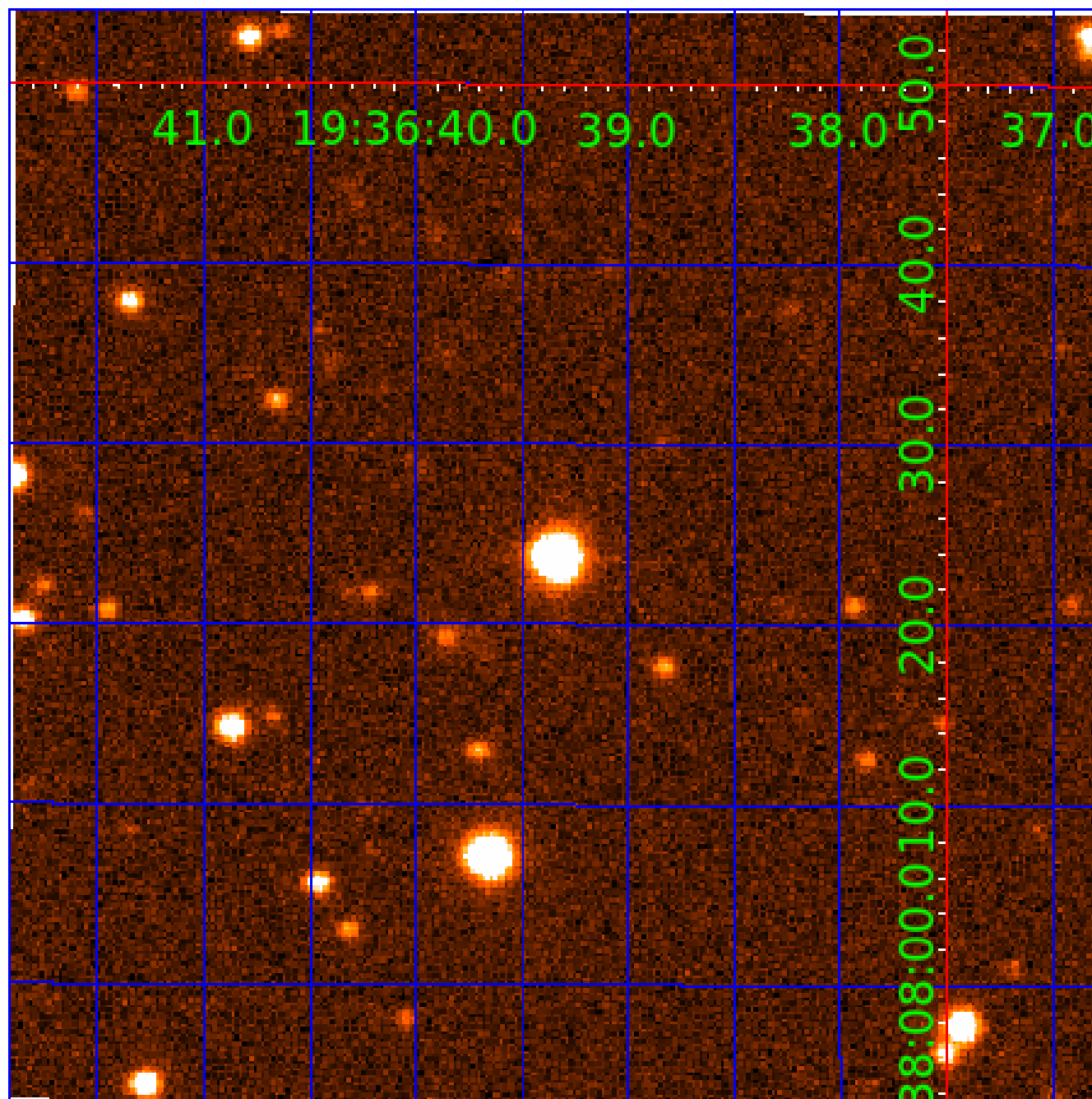
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 003002379

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 003002379-01 | OBS | No | 1.738915 | 131.598027 | 0.1 | 10.728 | 10.5 | 0.0 | 1.55 | 6937 | 0.04 | 5009.62 |
| 003002379-02 | OBS | No | 210.251733 | 198.091175 | 0.0 | 23.576 | 12.5 | 0.0 | 1.55 | 6937 | 0.01 | 8.38 |
| 003002379-03 | OBS | No | 75.909834 | 153.330921 | 1392.7 | 8.276 | 10.1 | 7.6 | 1.55 | 6937 | 10.73 | 32.59 |
| 003002379-04 | OBS | No | 300.749414 | 174.486154 | 1252.6 | 8.400 | 7.9 | 7.0 | 1.55 | 6937 | 8.68 | 5.20 |
| 003002379-06 | OBS | No | 28.925014 | 158.769492 | 381.0 | 4.347 | 7.6 | 7.0 | 1.55 | 6937 | 3.22 | 117.98 |
| 003002379-07 | OBS | No | 60.226325 | 144.321363 | 886.0 | 12.766 | 8.3 | 8.0 | 1.55 | 6937 | 5.24 | 44.37 |
| 003002379-08 | OBS | No | 75.034634 | 188.773199 | 560.6 | 9.755 | 8.1 | 6.0 | 1.55 | 6937 | 3.95 | 33.10 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003002379-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV |
| 003002379-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 003002379-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT |
| 003002379-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 003002379-06 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT |
| 003002379-07 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST |
| 003002379-08 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT |

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

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

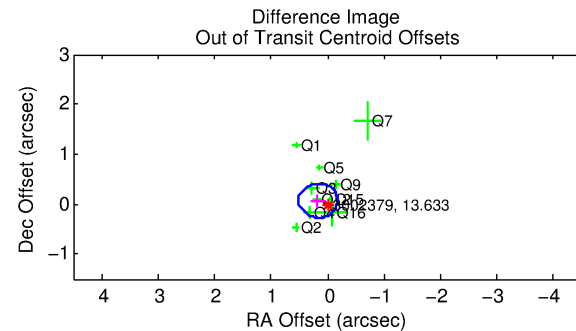
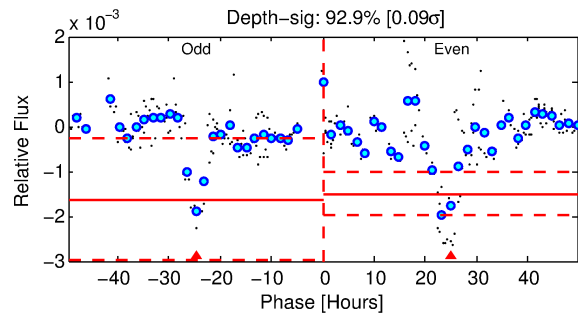
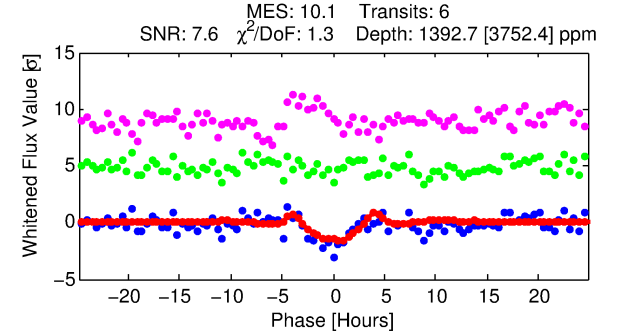
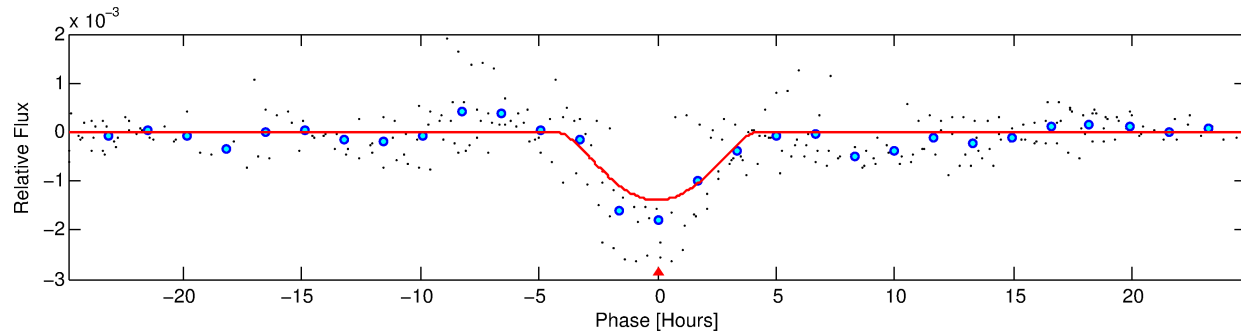
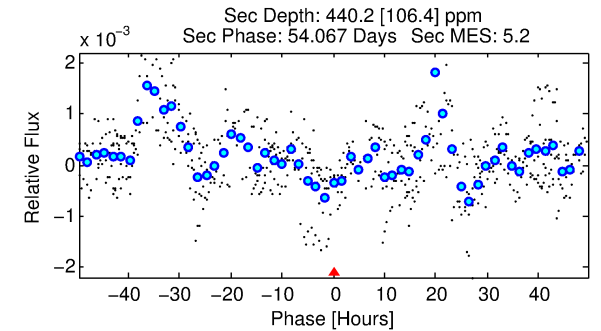
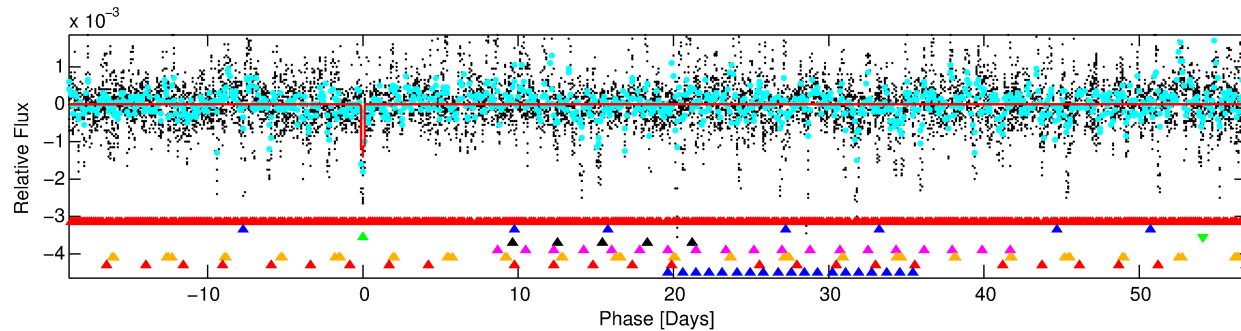
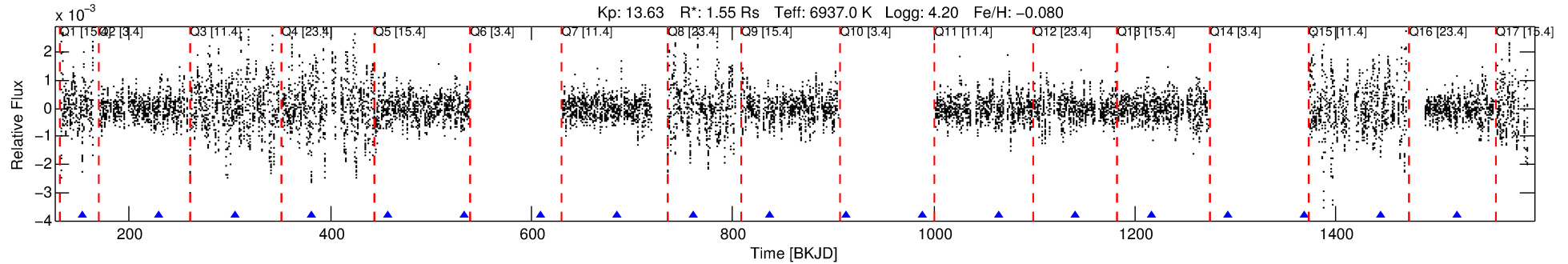
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003002379-03

No Significant Match Found

DV One-Page Summary

KIC: 3002379 Candidate: 3 of 8 Period: 75.910 d



DV Fit Results:

Period = 75.90983 [0.00141] d
Epoch = 153.3309 [0.0136] BKJD
Rp/R* = 0.0633 [0.1253]
a/R* = 25.35 [11.36]
b = 1.00 [0.06]
Seff = 32.59 [13.11]
Teq = 609 [61] K
Rp = 10.73 [21.49] Re
a = 0.3916 [0.1003] AU
Ag = 322.67 [1284.20] [0.25σ]
Teffp = 3992 [3960] K [0.85σ]

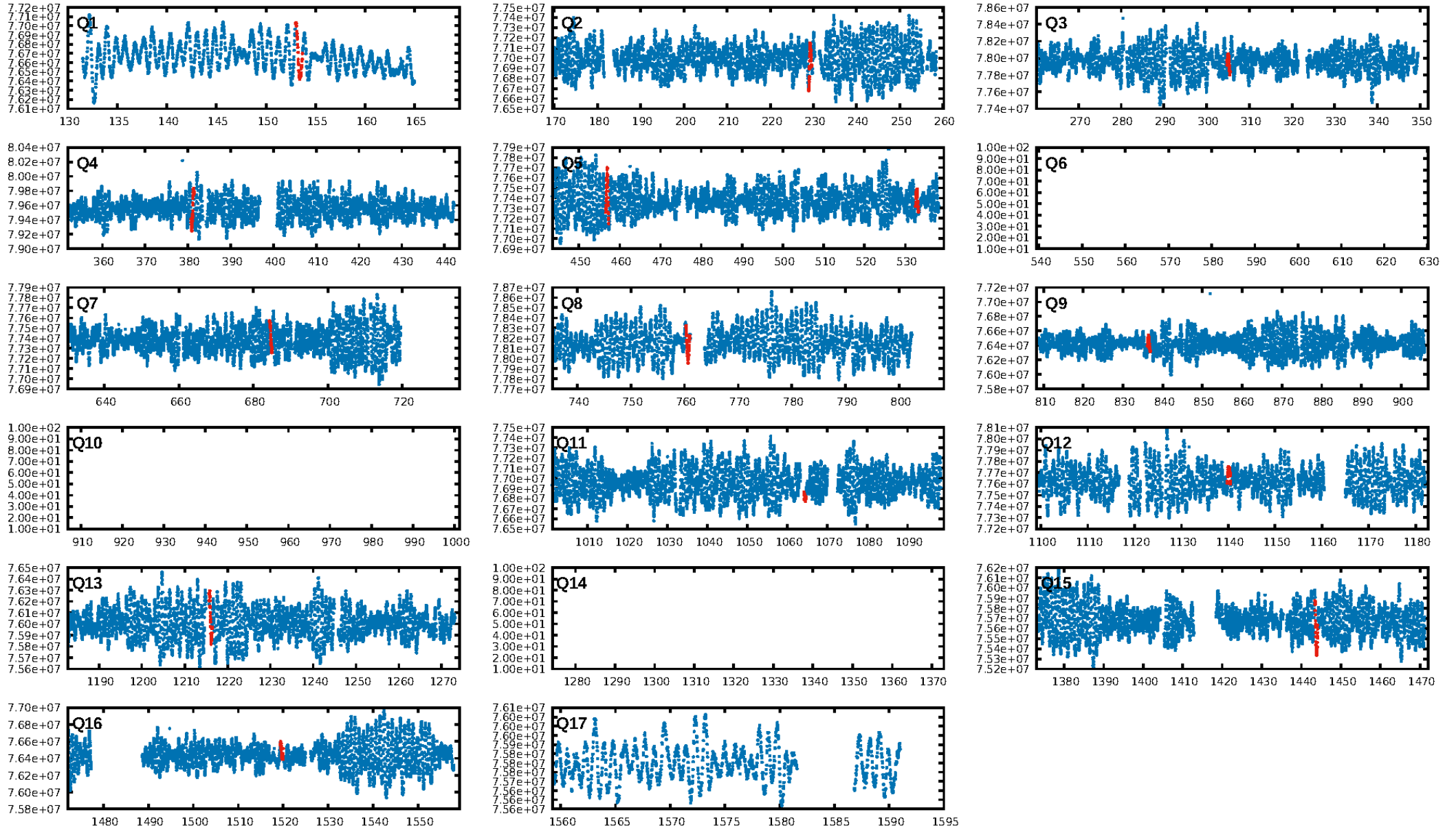
DV Diagnostic Results:

ShortPeriod-sig: 89.9% [1.64σ]
LongPeriod-sig: 100.0% [4.71σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.53e-11
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -22.89
Centroid-sig: 7.8%
Centroid-so: 0.348 arcsec [1.20σ]
OotOffset-rm: 0.183 arcsec [1.61σ]
OotOffset-st: 1/3/3/3 [10]
KicOffset-rm: 0.177 arcsec [0.92σ]
KicOffset-st: 1/3/3/3 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 0.00 [0/10]

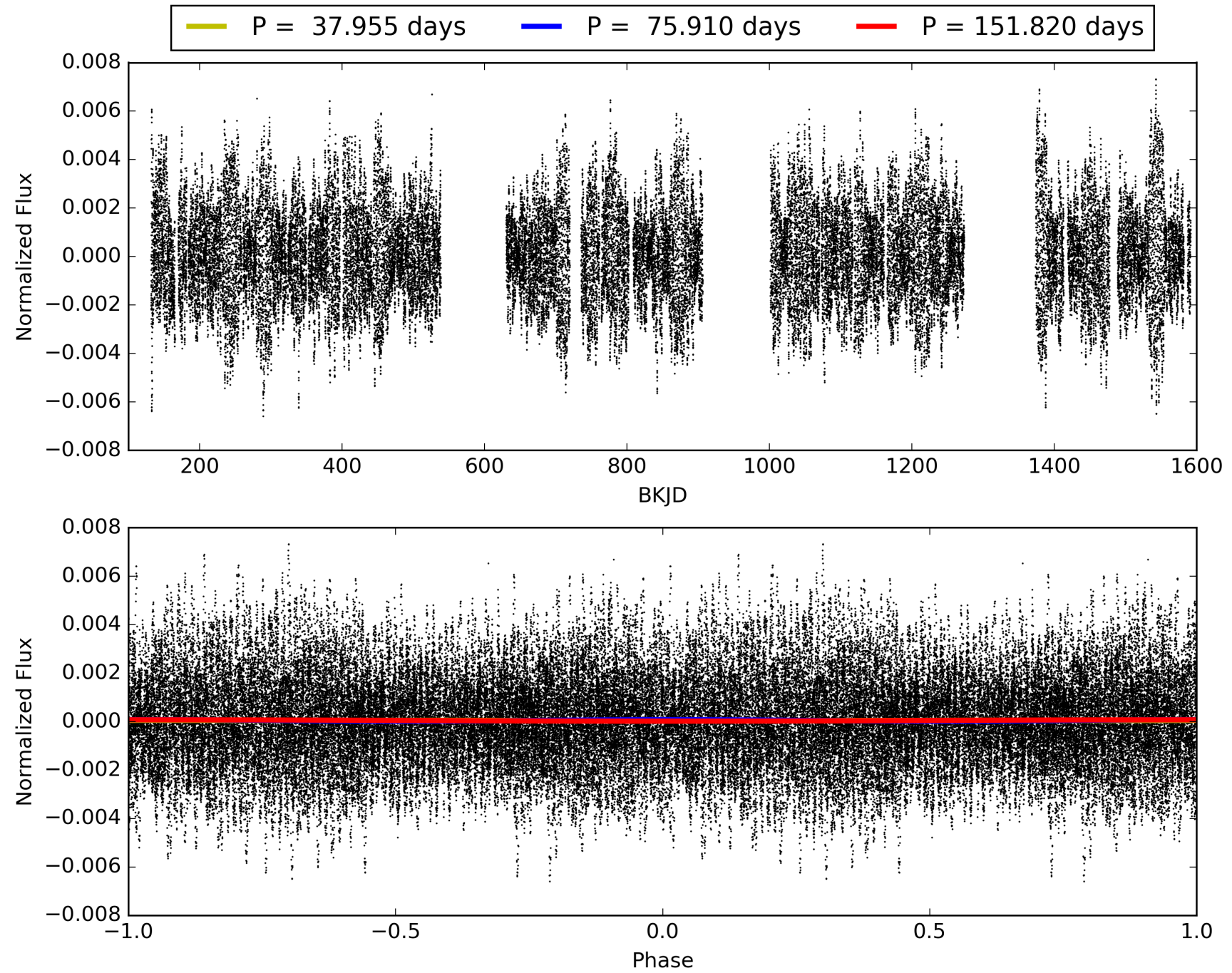
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:57:06 Z

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

TCE 003002379-03, PDC Light Curves

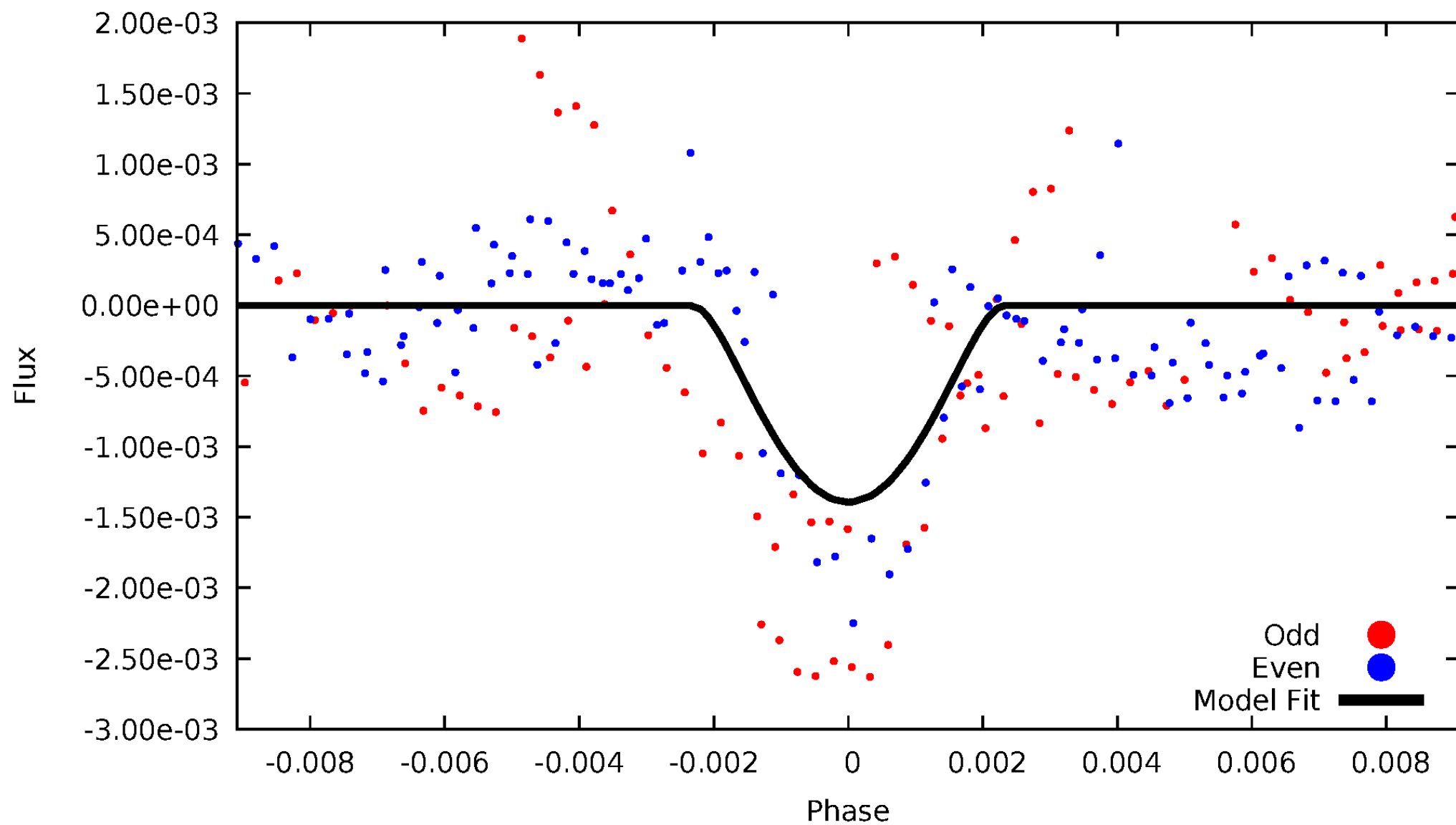


TCE 003002379-03



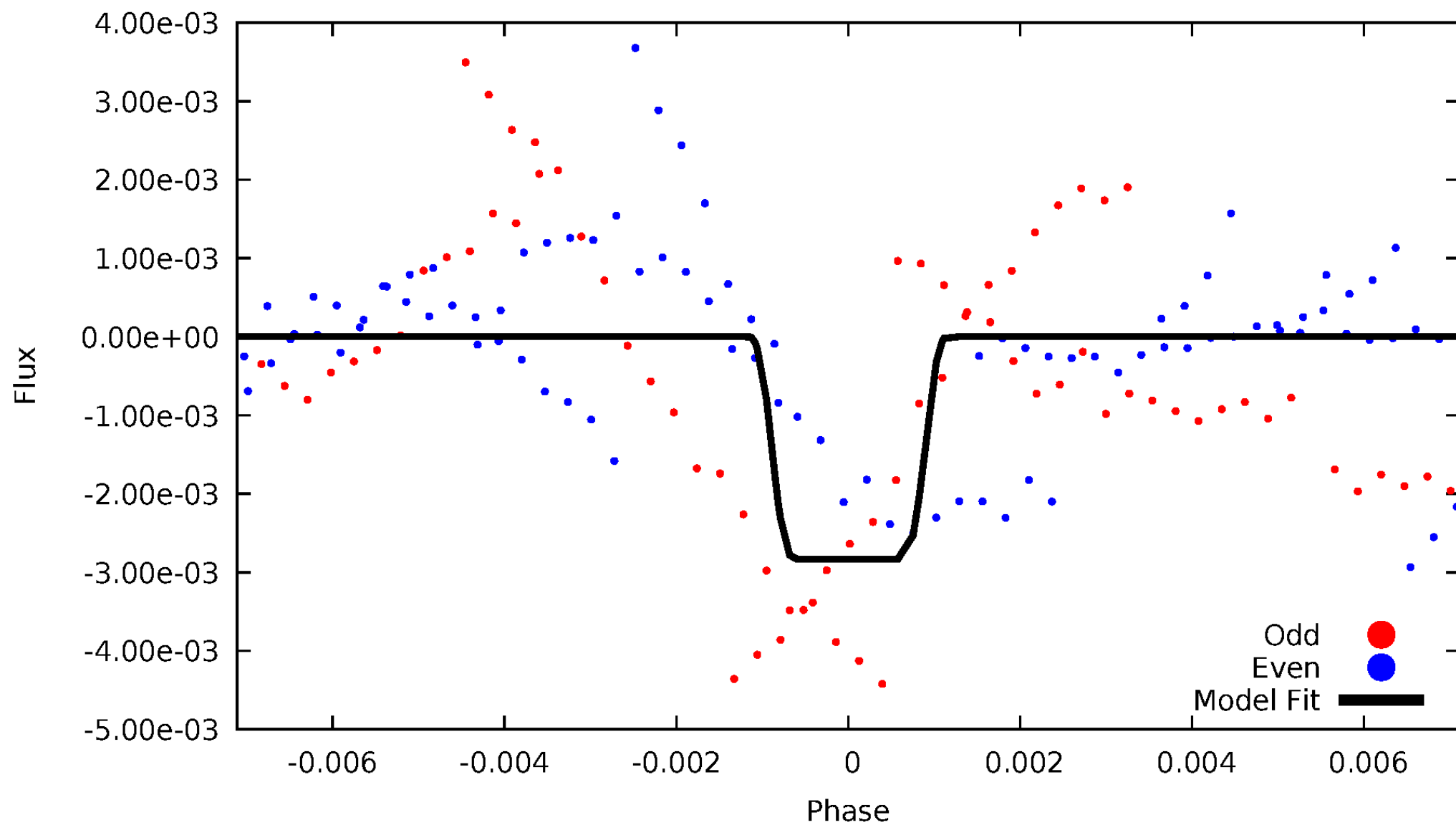
DV Odd/Even

TCE 003002379-03



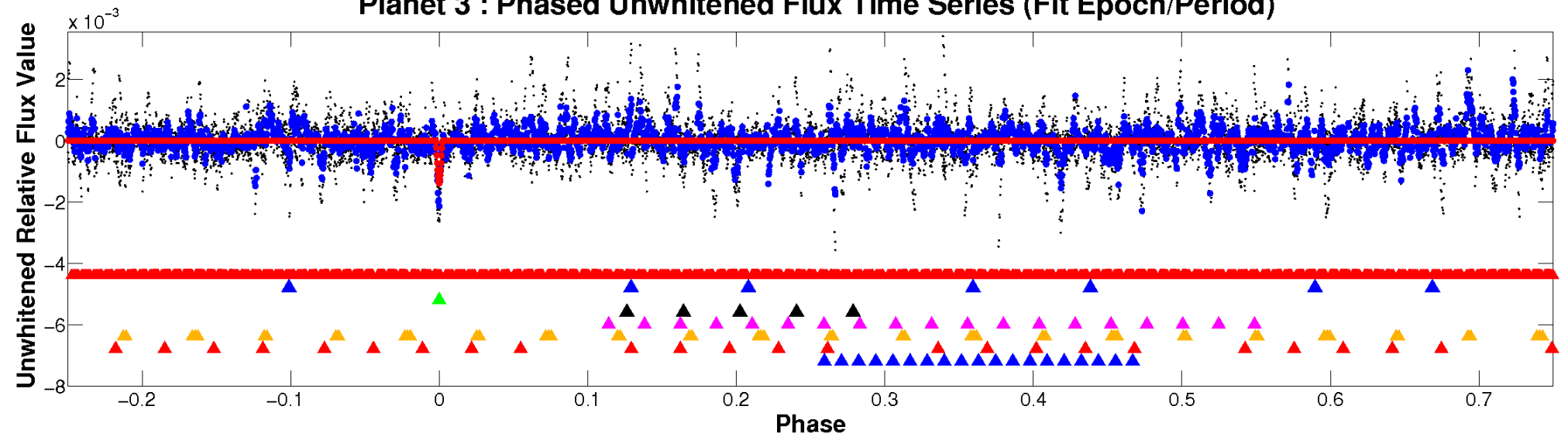
ALT Odd/Even

TCE 003002379-03

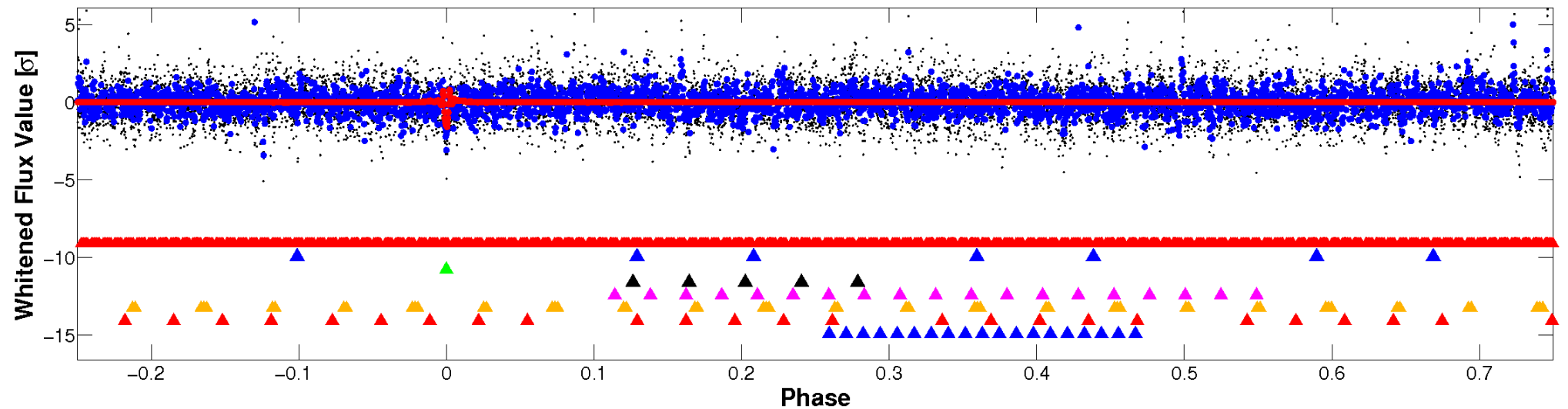


Non-Whitened Vs. Whitened Light Curve

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

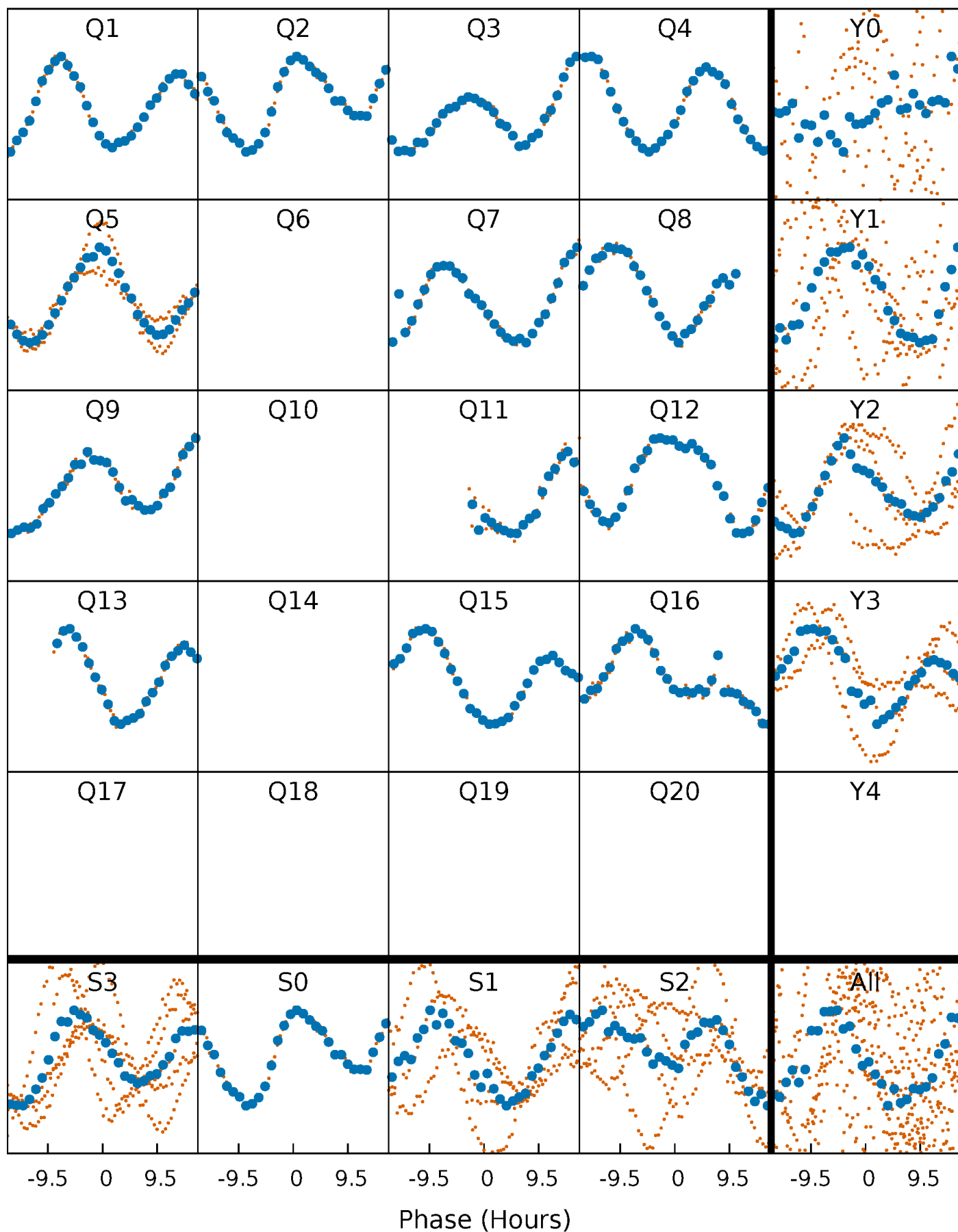


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



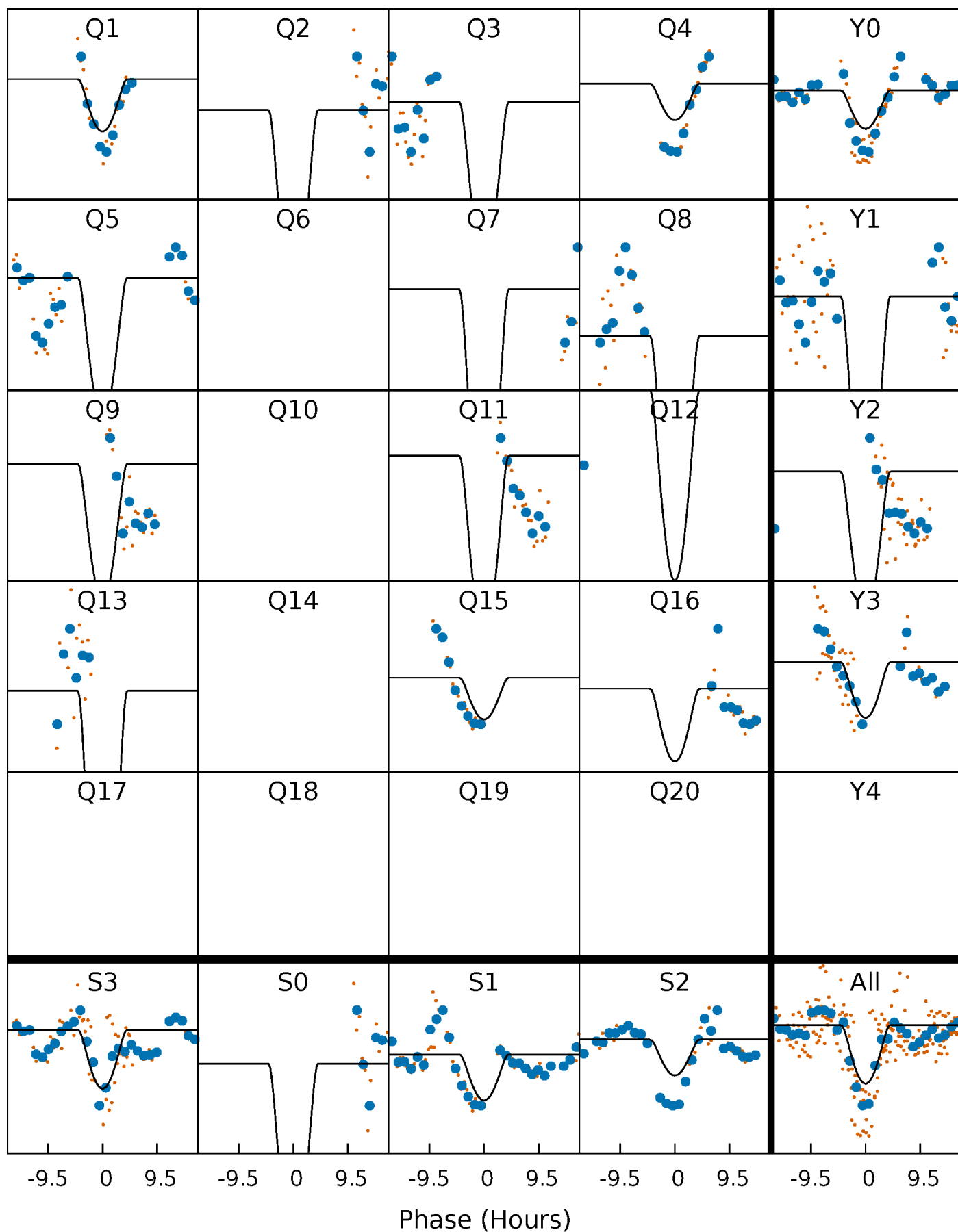
PDC Quarter-Phased Transit Curves

TCE 003002379-03 P= 75.909834 Days $T_0=153.330921$ (BKJD)



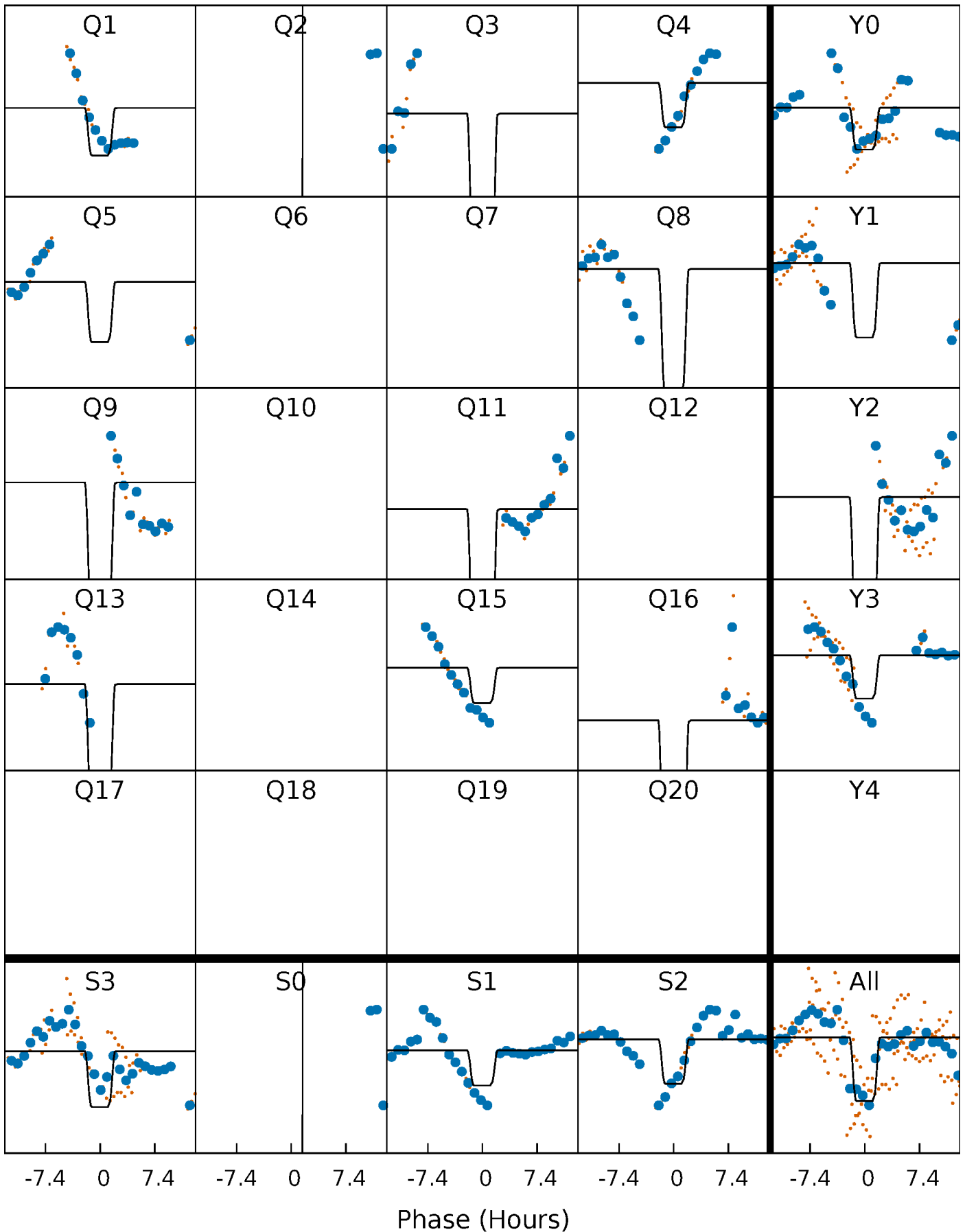
DV Quarter-Phased Transit Curves

TCE 003002379-03 P= 75.909834 Days $T_0=153.330921$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

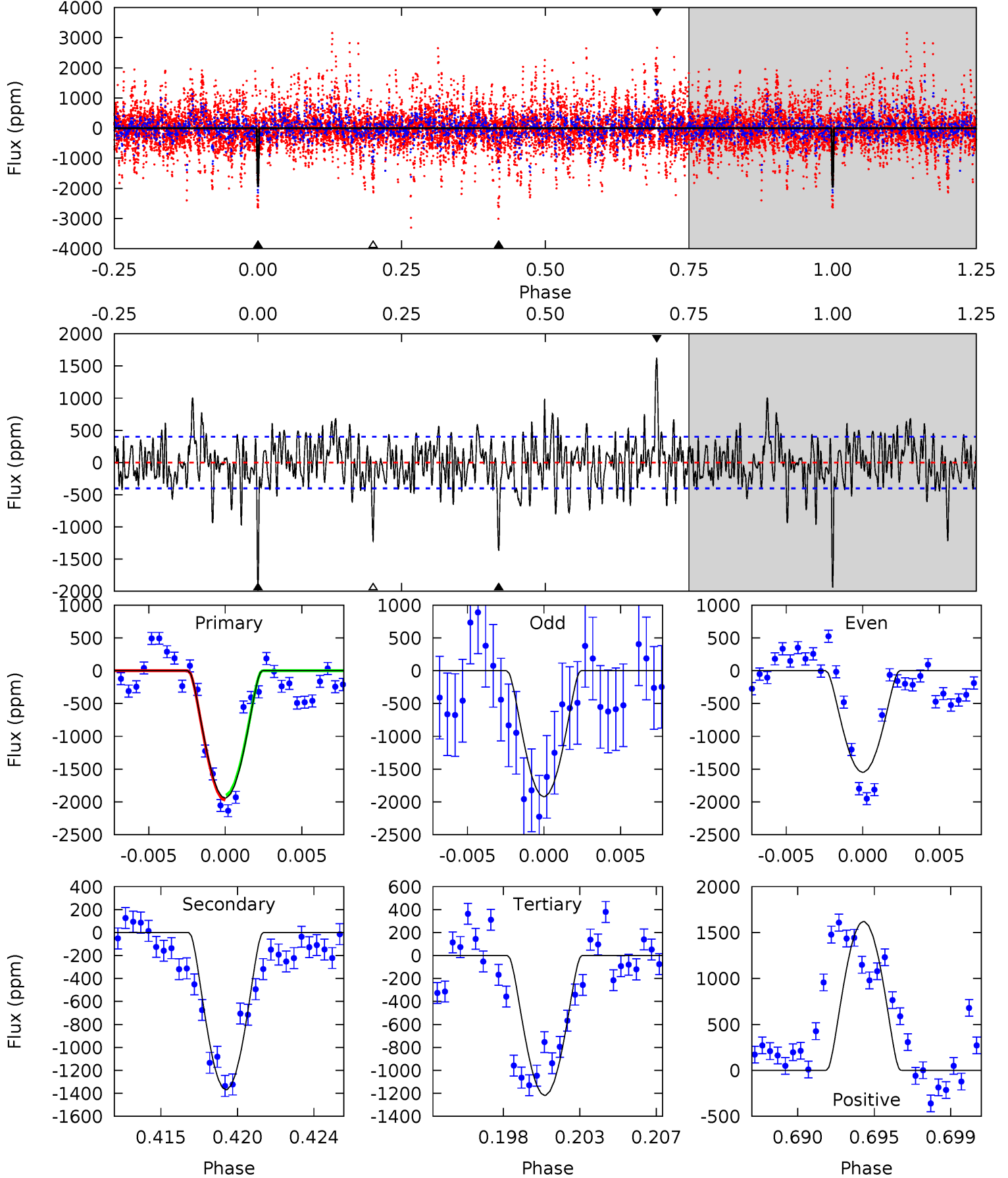
TCE 003002379-03 $P = 75.907458$ Days $T_0 = 153.340662$ (BKJD)



DV Model-Shift Uniqueness Test

003002379-03, P = 75.909834 Days, E = 77.421087 Days

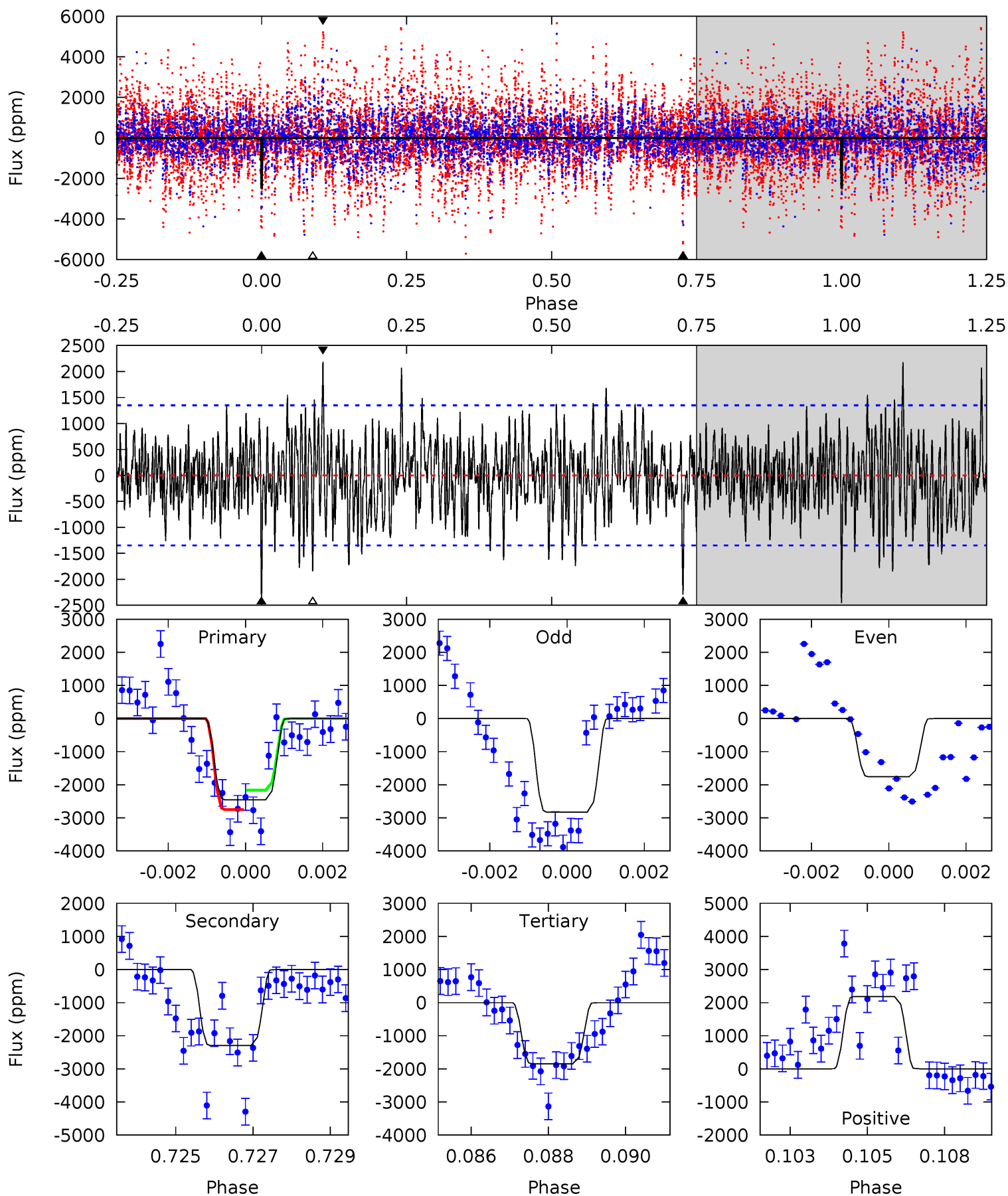
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 25.0 | 17.6 | 15.7 | 20.9 | 5.16 | 2.82 | 3.97 | 9.30 | 4.11 | 1.95 | -3.24 | 2.28 | 1.12 | 0.46 | 0.50 |



Alt Model-Shift Uniqueness Test

003002379-03, P = 75.907458 Days, E = 77.433204 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.66 | 9.03 | 7.26 | 8.59 | 5.31 | 3.06 | 2.28 | 2.40 | 1.07 | 1.77 | 0.43 | 1.95 | 0.95 | 0.47 | 1.16 |



Stellar Parameters For KIC 003002379

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6937^{+194}_{-305} | $4.199^{+0.128}_{-0.192}$ | $-0.080^{+0.250}_{-0.350}$ | $1.552^{+0.488}_{-0.285}$ | $1.397^{+0.216}_{-0.238}$ | $0.526^{+0.322}_{-0.266}$ |
| | +3%/-4% | +3%/-5% | +312%/-438% | +31%/-18% | +15%/-17% | +61%/-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 003002379-03 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|---------------------------|-------------------|------------------------|----------------------|
| DV | -1369 ± 78 | $18.32^{+18.66}_{-12.77}$ | 856^{+62}_{-56} | 4315^{+3193}_{-929} | 362^{+3292}_{-281} |
| Alt. | -2294 ± 254 | $17.93^{+18.44}_{-12.25}$ | 853^{+70}_{-51} | 4789^{+3858}_{-1126} | 612^{+5409}_{-466} |

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 $A_{obs} \gg 1.0$

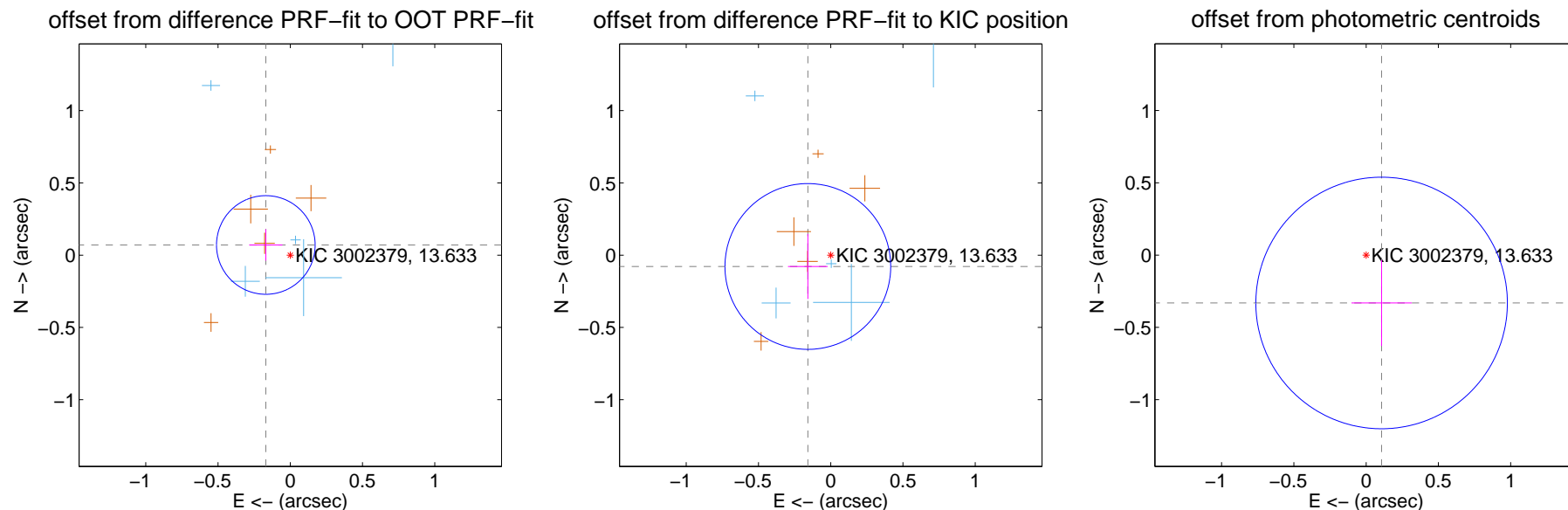
DV Centroid Data

Supplemental centroid analysis for 003002379-03. Kepler magnitude: 13.63. Transit SNR 7.57

There are 5 quarters with good PRF difference image offsets

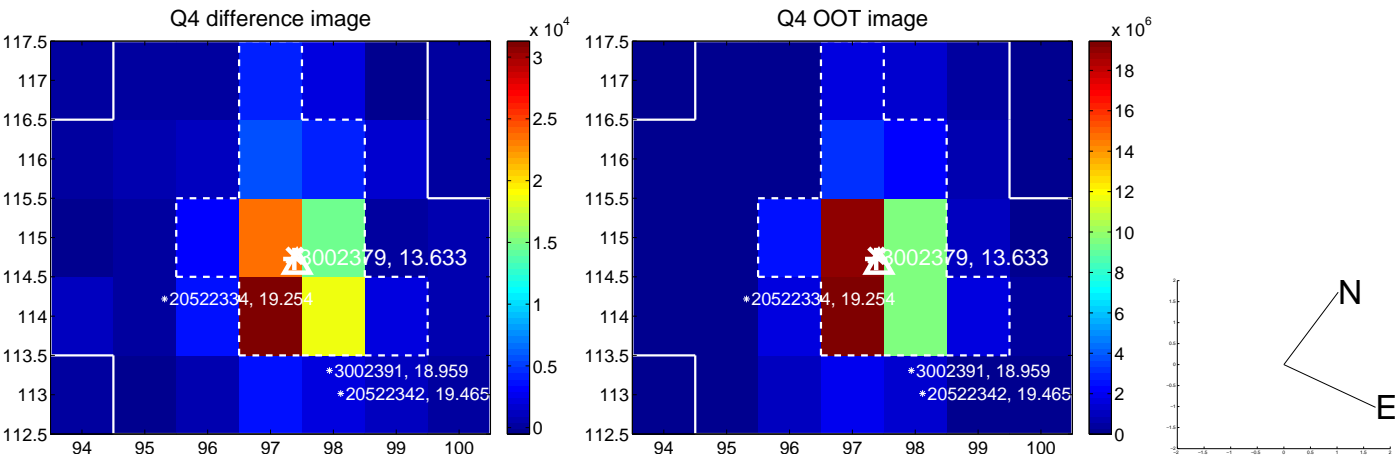
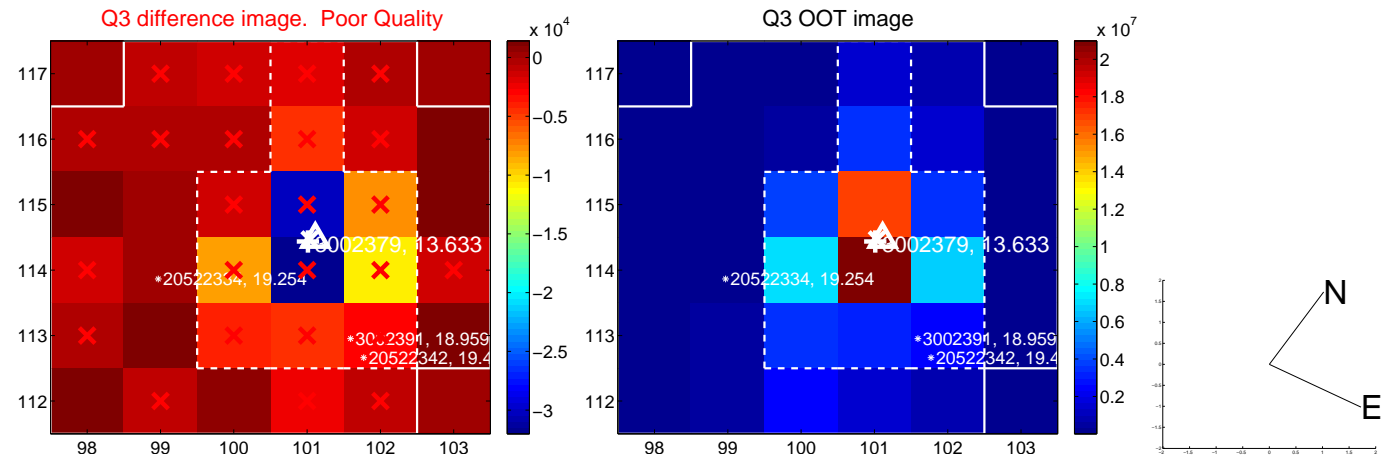
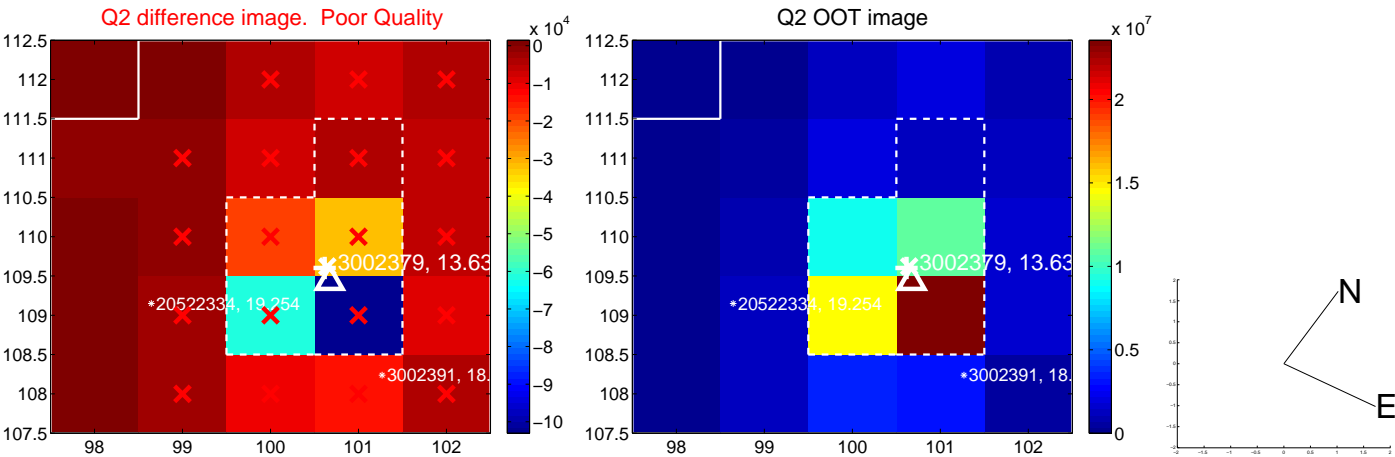
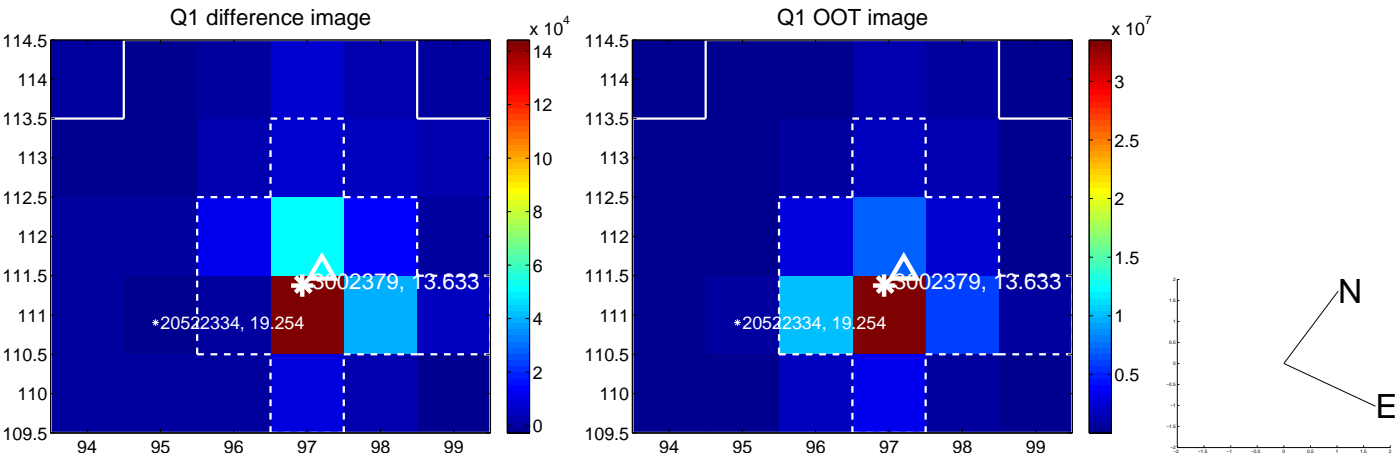
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.183 ± 0.114 | 1.61 | 0.169 ± 0.115 | 0.070 ± 0.108 |
| PRF-fit source offset from KIC position | 0.177 ± 0.191 | 0.92 | 0.158 ± 0.137 | -0.078 ± 0.225 |
| photometric centroid source offset | 0.35 ± 0.29 | 1.20 | -0.11 ± 0.21 | -0.33 ± 0.30 |

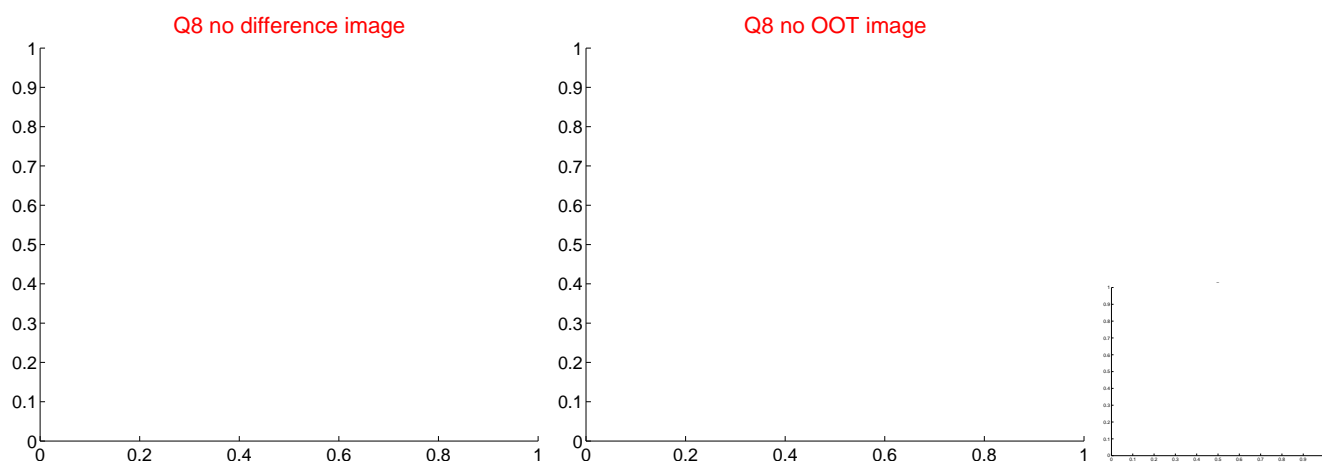
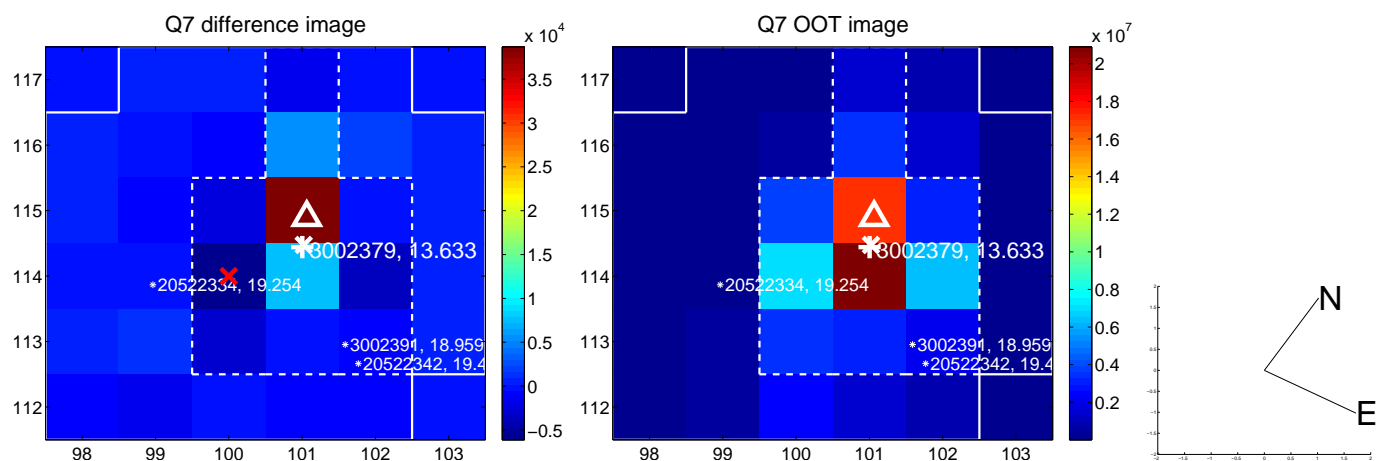
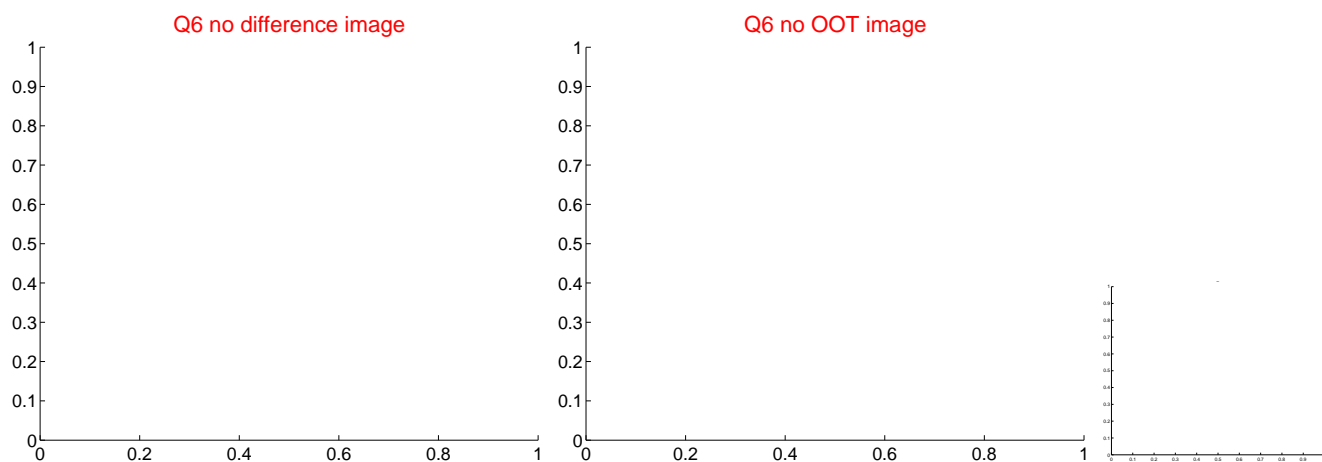
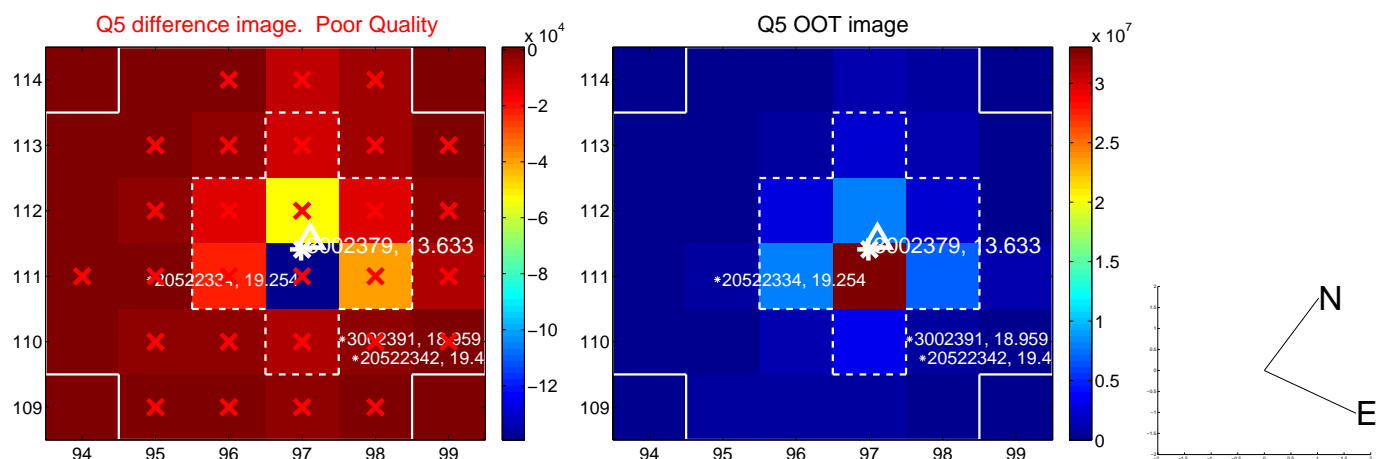


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

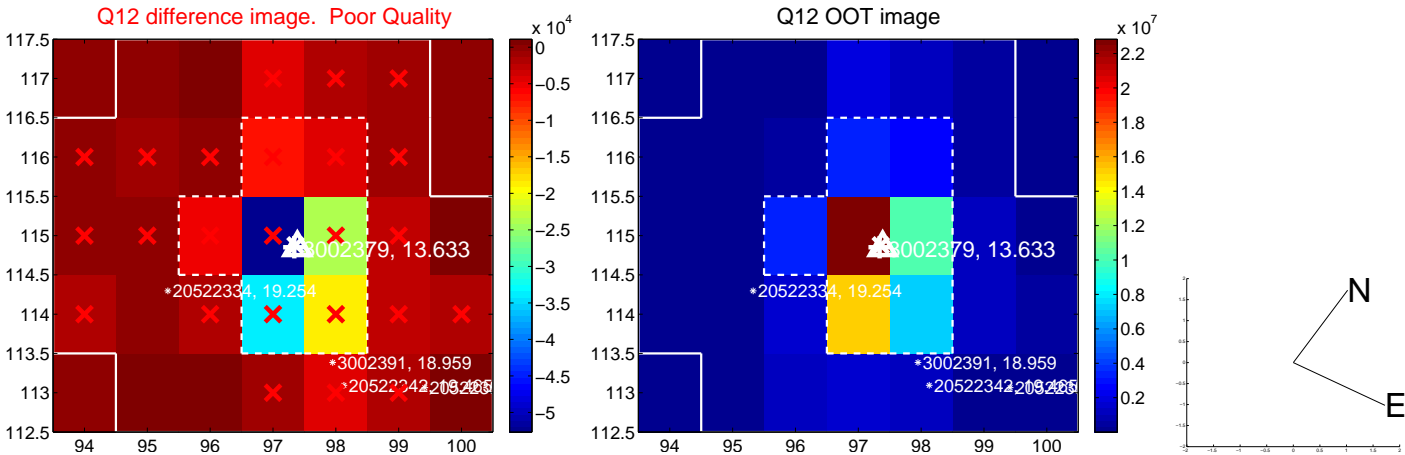
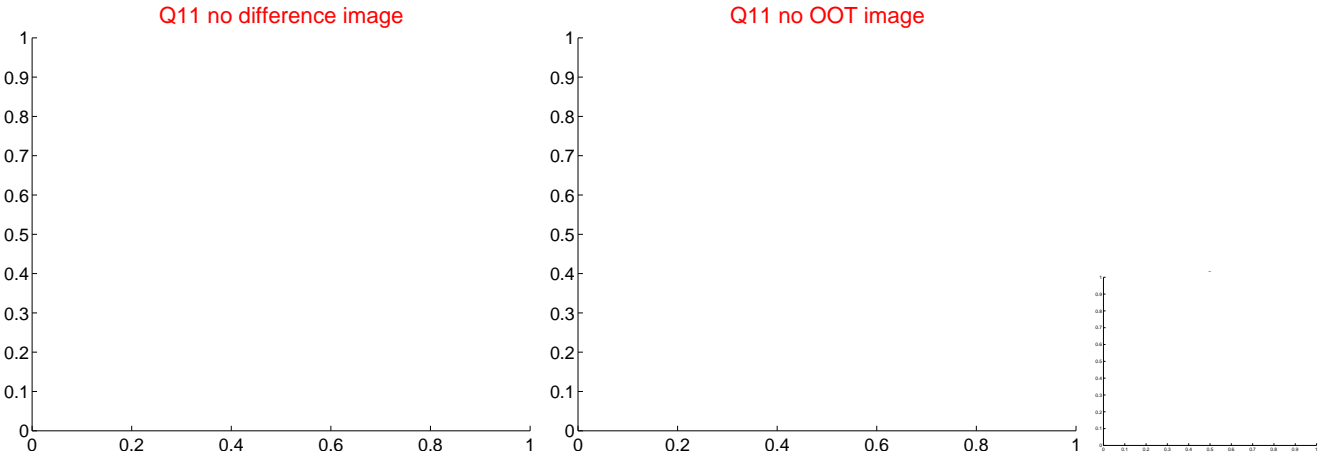
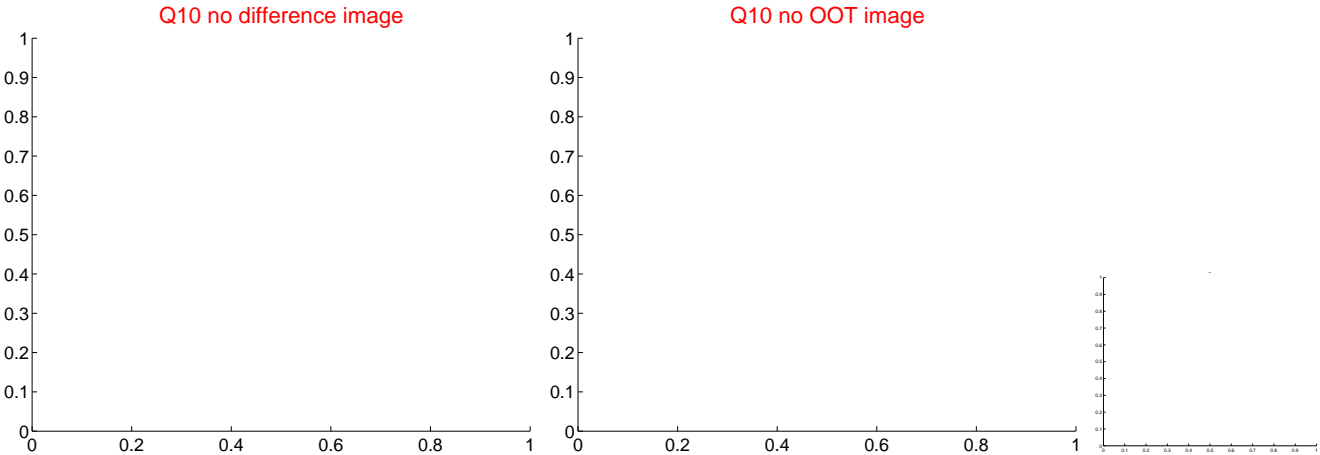
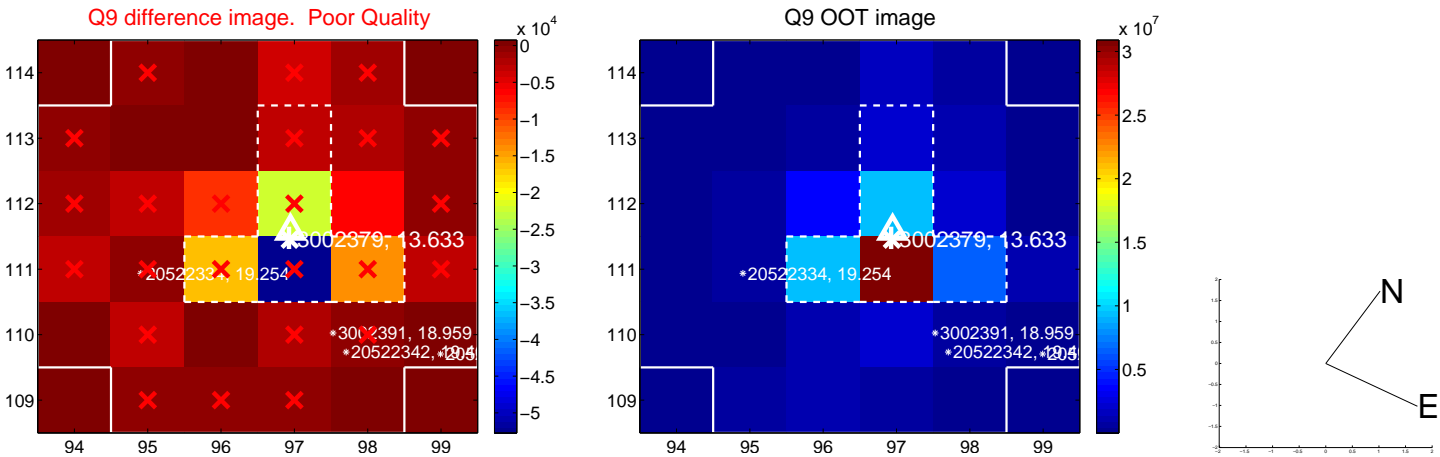
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



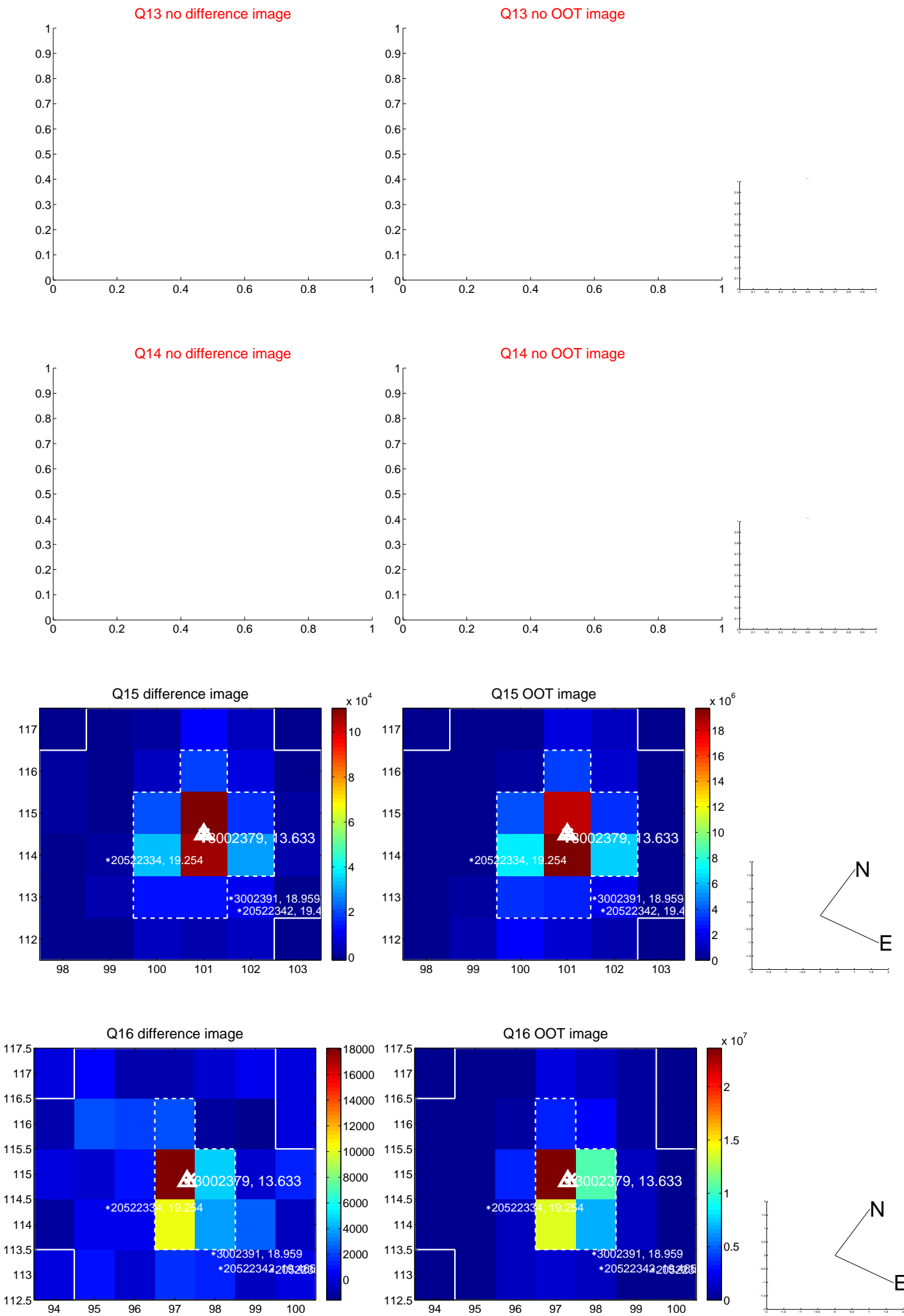
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



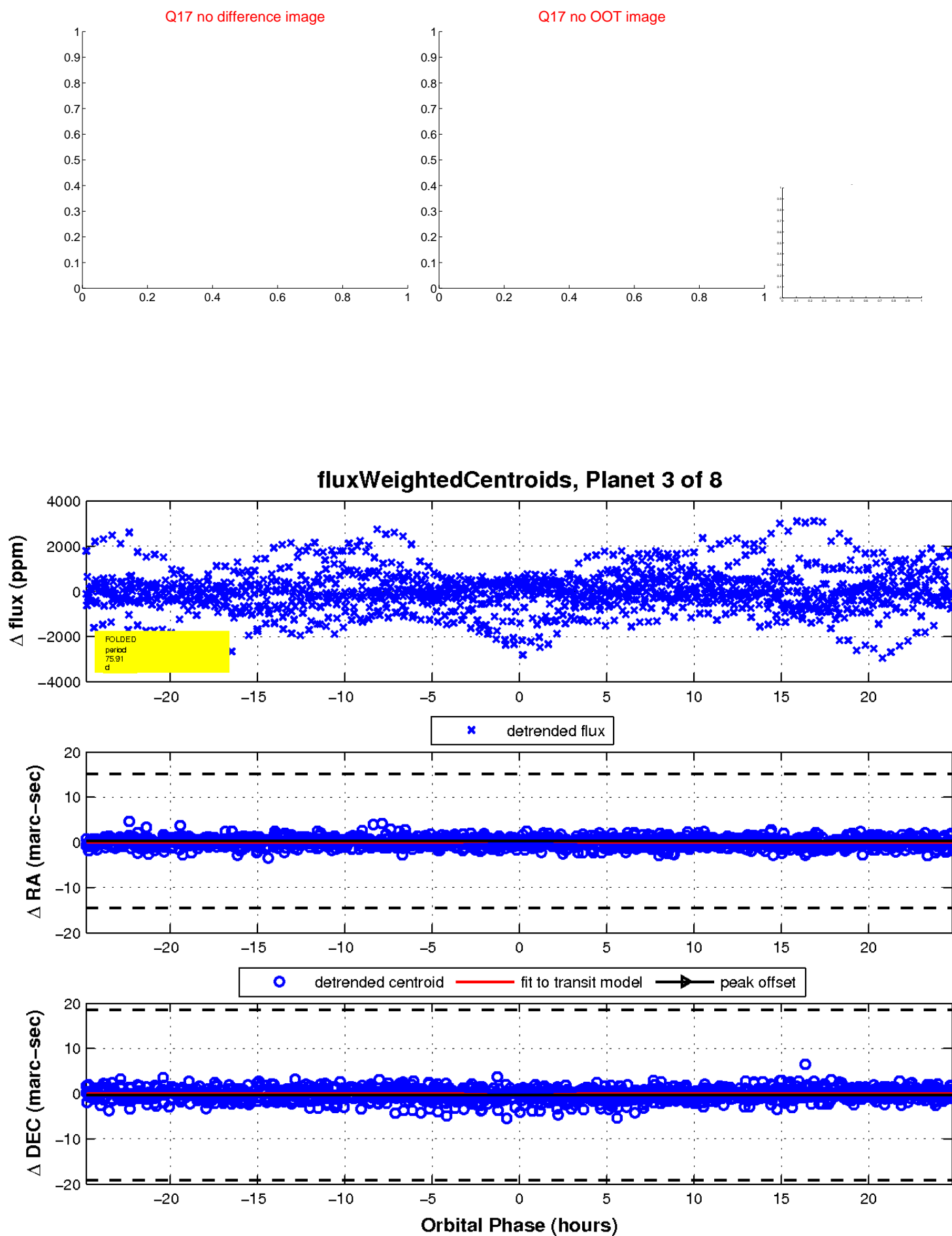
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

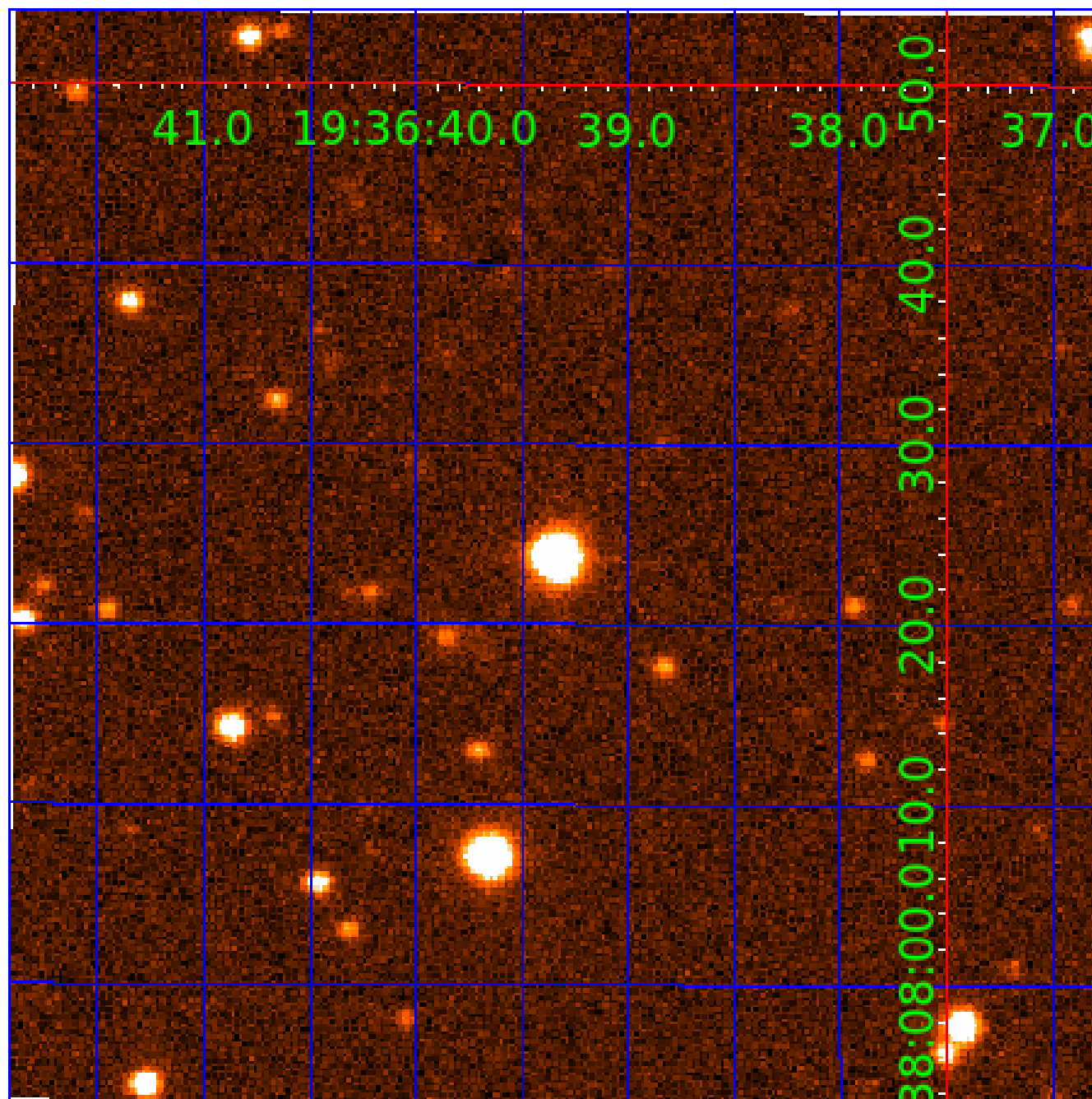


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003002379

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 003002379-01 | OBS | No | 1.738915 | 131.598027 | 0.1 | 10.728 | 10.5 | 0.0 | 1.55 | 6937 | 0.04 | 5009.62 |
| 003002379-02 | OBS | No | 210.251733 | 198.091175 | 0.0 | 23.576 | 12.5 | 0.0 | 1.55 | 6937 | 0.01 | 8.38 |
| 003002379-03 | OBS | No | 75.909834 | 153.330921 | 1392.7 | 8.276 | 10.1 | 7.6 | 1.55 | 6937 | 10.73 | 32.59 |
| 003002379-04 | OBS | No | 300.749414 | 174.486154 | 1252.6 | 8.400 | 7.9 | 7.0 | 1.55 | 6937 | 8.68 | 5.20 |
| 003002379-06 | OBS | No | 28.925014 | 158.769492 | 381.0 | 4.347 | 7.6 | 7.0 | 1.55 | 6937 | 3.22 | 117.98 |
| 003002379-07 | OBS | No | 60.226325 | 144.321363 | 886.0 | 12.766 | 8.3 | 8.0 | 1.55 | 6937 | 5.24 | 44.37 |
| 003002379-08 | OBS | No | 75.034634 | 188.773199 | 560.6 | 9.755 | 8.1 | 6.0 | 1.55 | 6937 | 3.95 | 33.10 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003002379-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV |
| 003002379-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 003002379-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT |
| 003002379-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 003002379-06 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT |
| 003002379-07 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST |
| 003002379-08 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT |

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

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

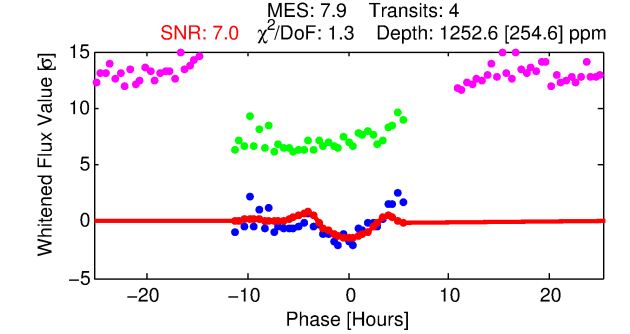
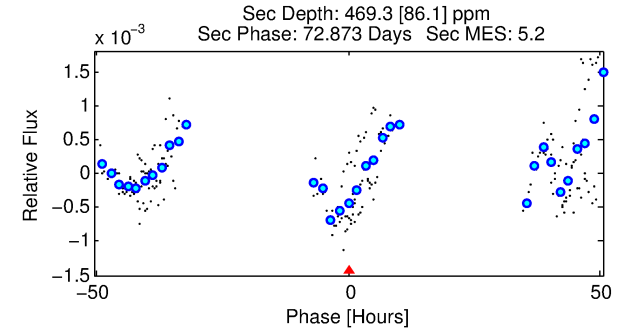
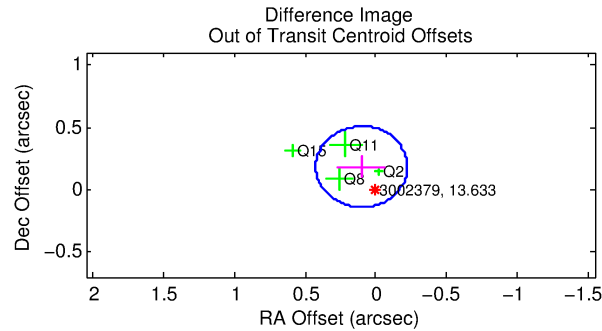
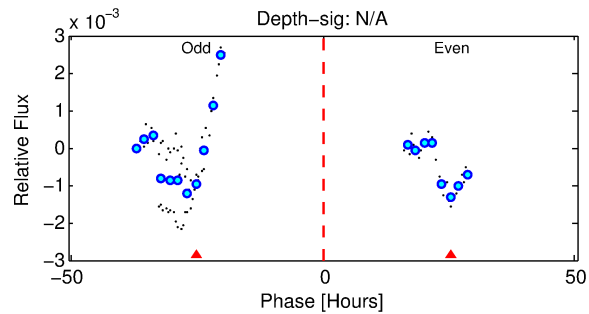
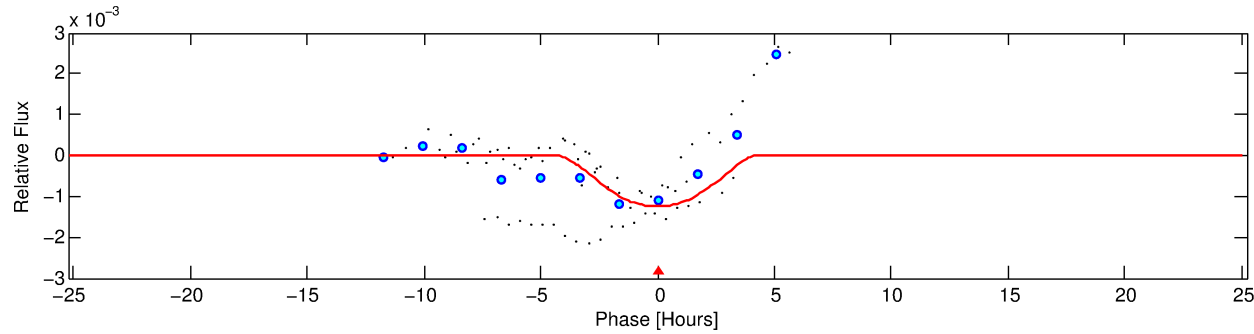
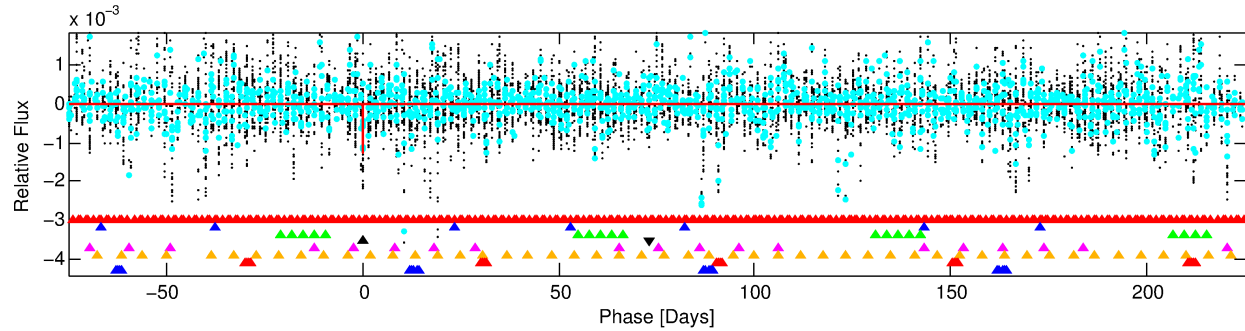
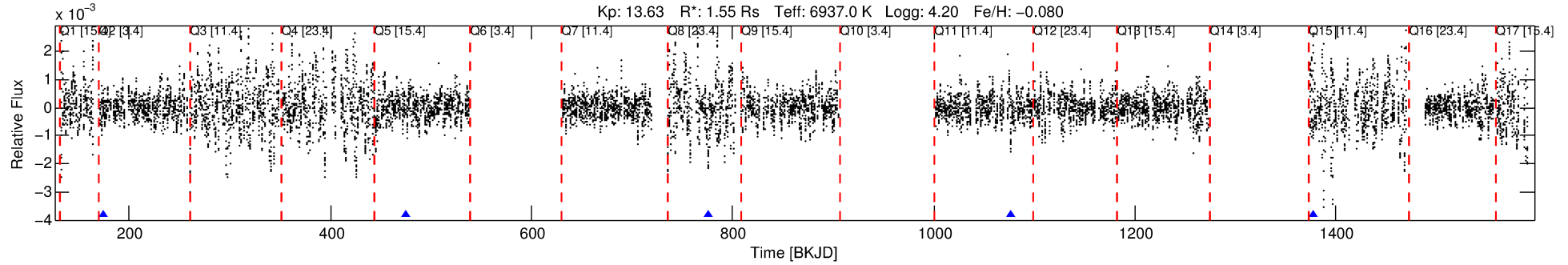
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003002379-04

No Significant Match Found

DV One-Page Summary

KIC: 3002379 Candidate: 4 of 8 Period: 300.749 d



DV Fit Results:

Period = 300.74941 [0.00835] d
Epoch = 174.4862 [0.0239] BKJD
Rp/R* = 0.0512 [0.0604]
a/R* = 100.00 [38.50]
b = 0.99 [0.10]
Seff = 5.20 [2.09]
Teq = 385 [39] K
Rp = 8.68 [10.58] Re
a = 0.9805 [0.2512] AU
Ag = 3295.57 [7878.53] [0.42σ]
Teffp = 4511 [2672] K [1.54σ]

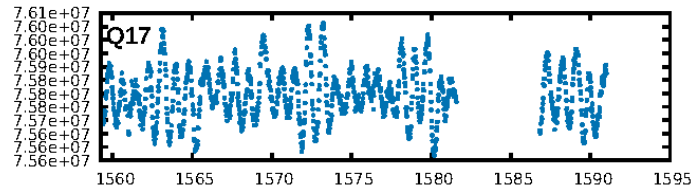
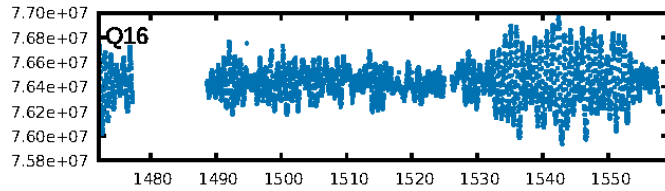
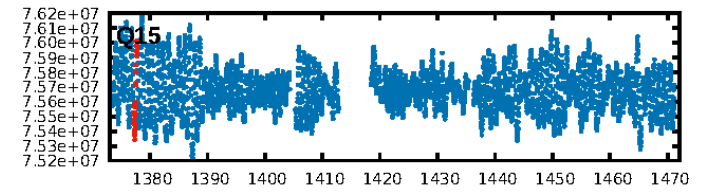
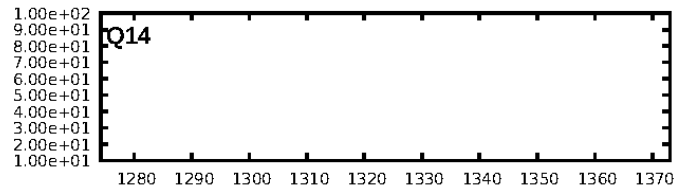
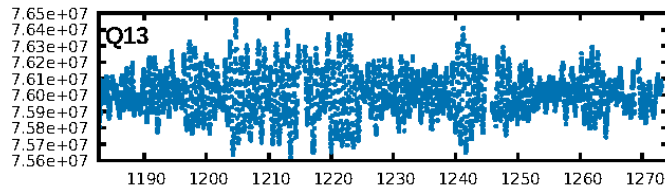
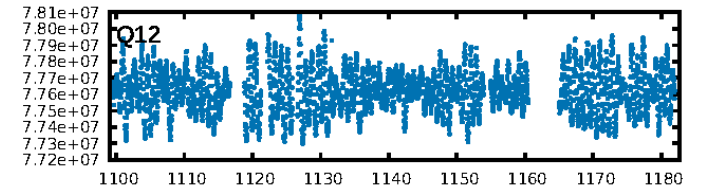
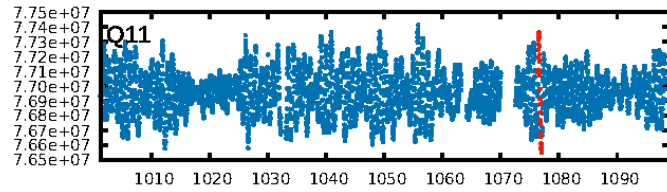
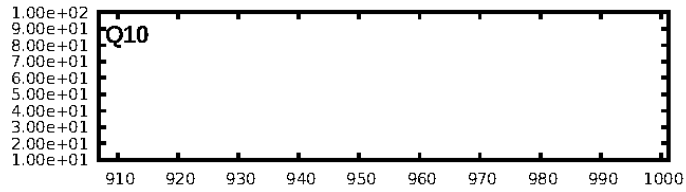
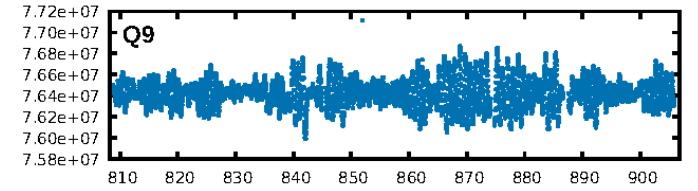
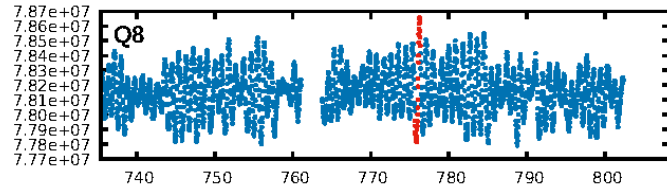
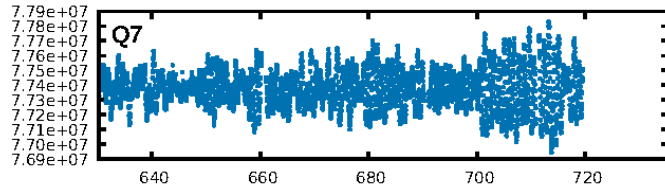
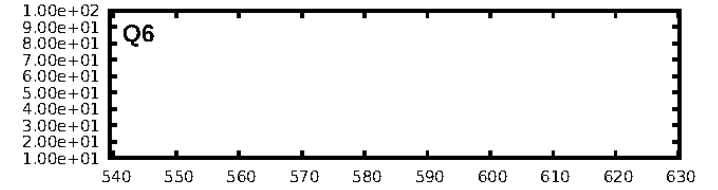
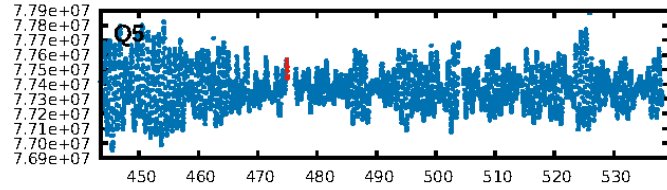
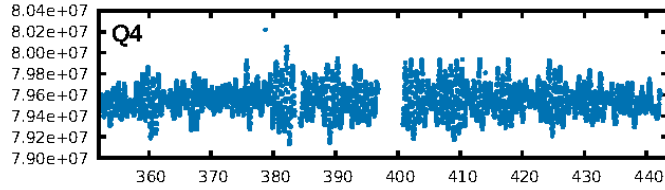
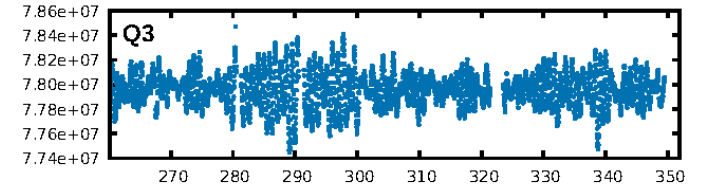
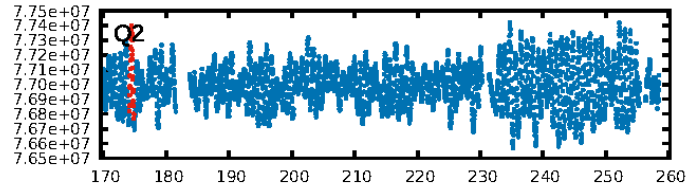
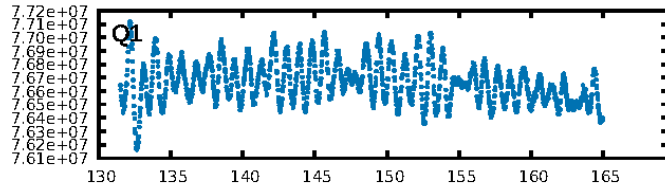
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [86.78σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 27.9%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 3.41e-08
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.437
Centroid-sig: 3.2%
Centroid-so: 1.209 arcsec [2.23σ]
OotOffset-rm: 0.209 arcsec [1.94σ]
OotOffset-st: 1/2/1/0 [4]
KicOffset-rm: 0.048 arcsec [0.31σ]
KicOffset-st: 1/2/1/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.00 [0/4]

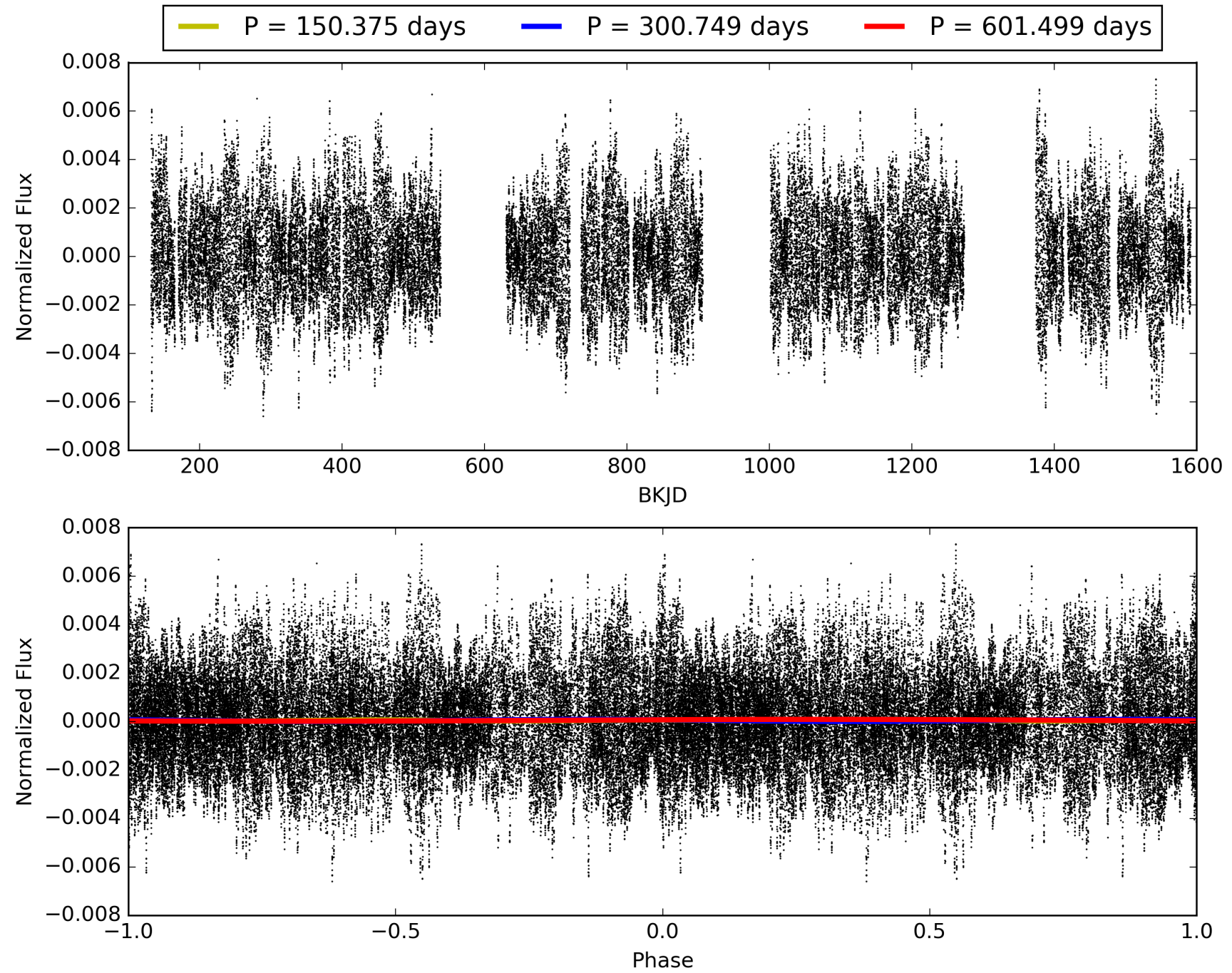
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:57:10 Z

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

TCE 003002379-04, PDC Light Curves

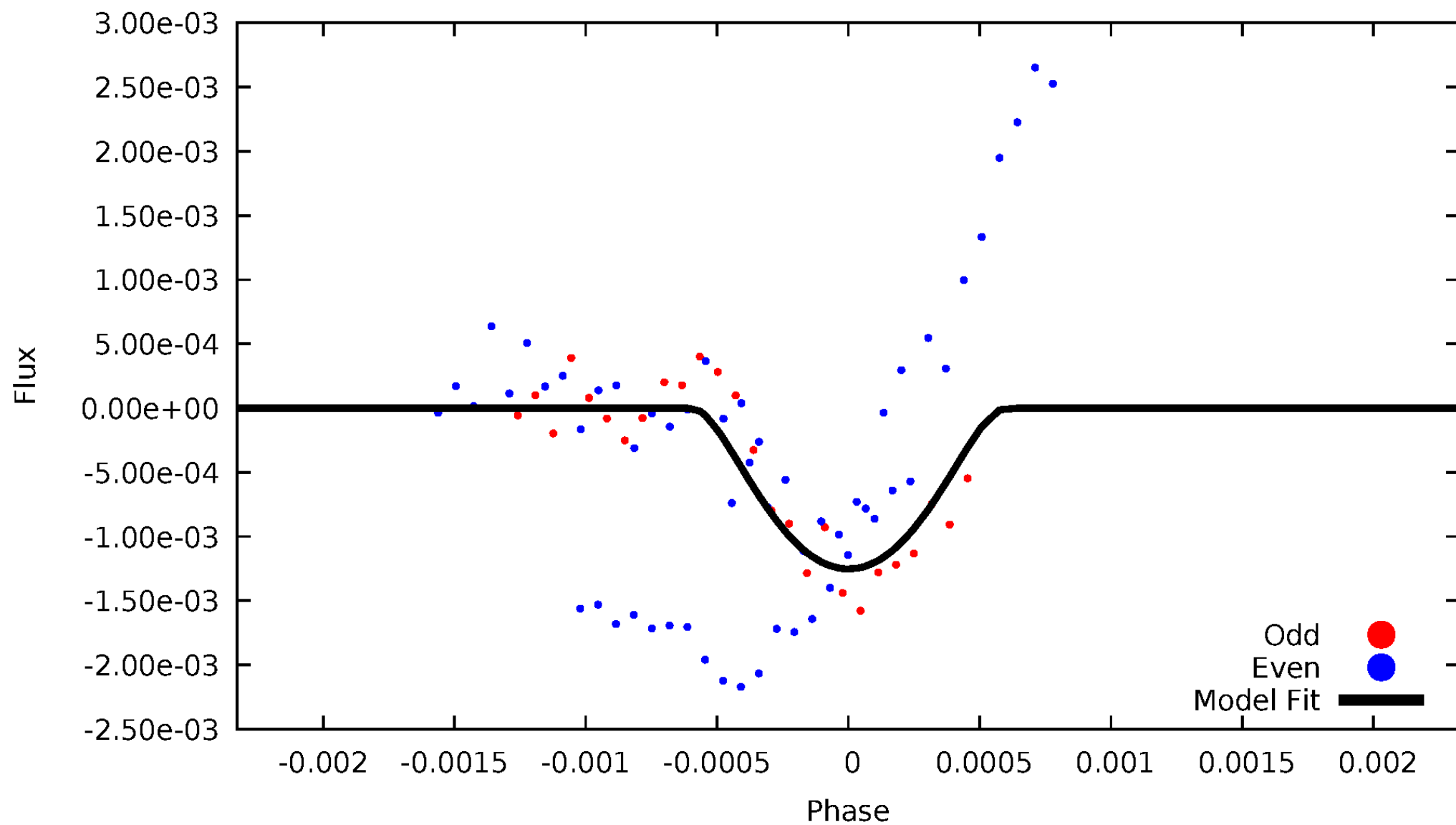


TCE 003002379-04



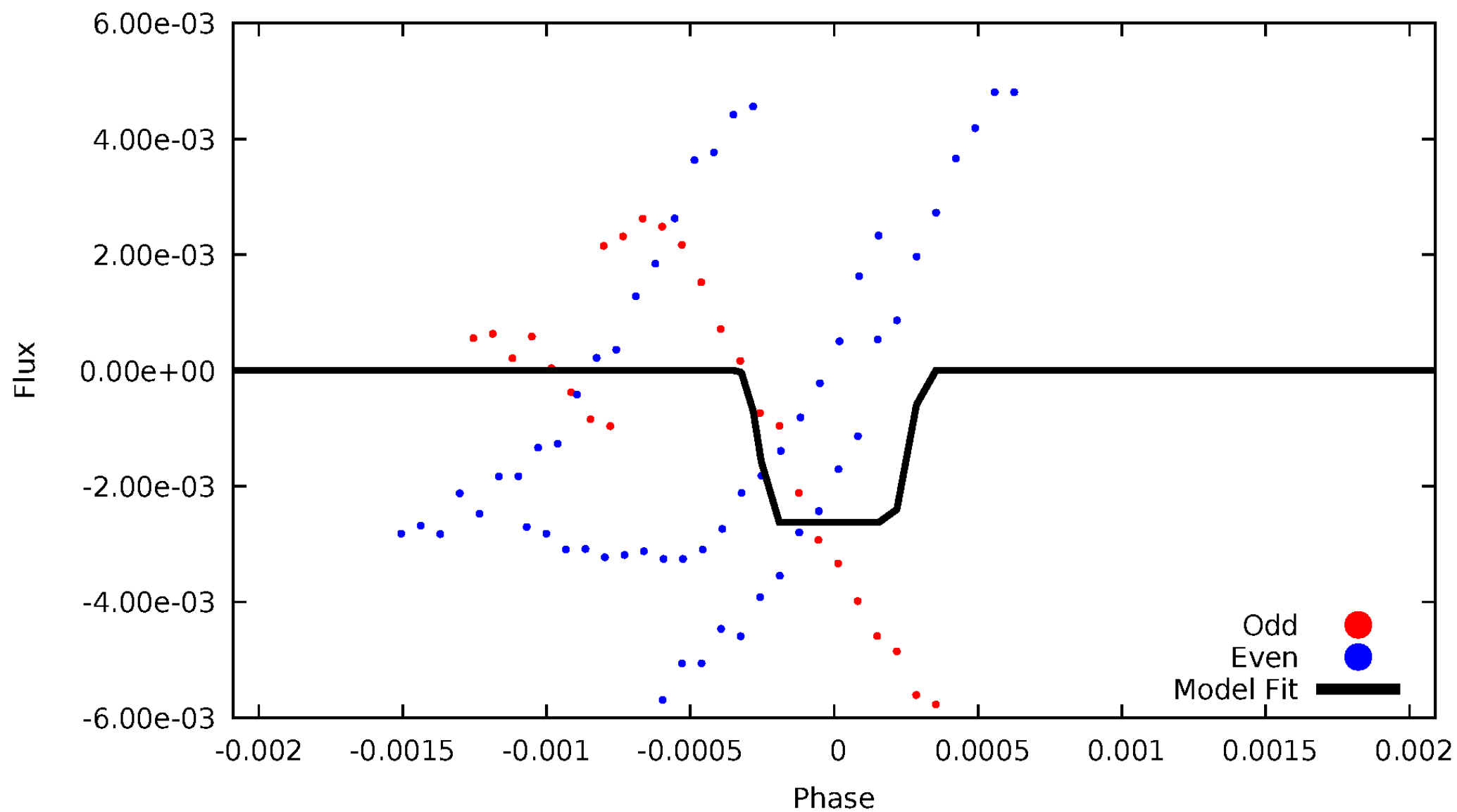
DV Odd/Even

TCE 003002379-04



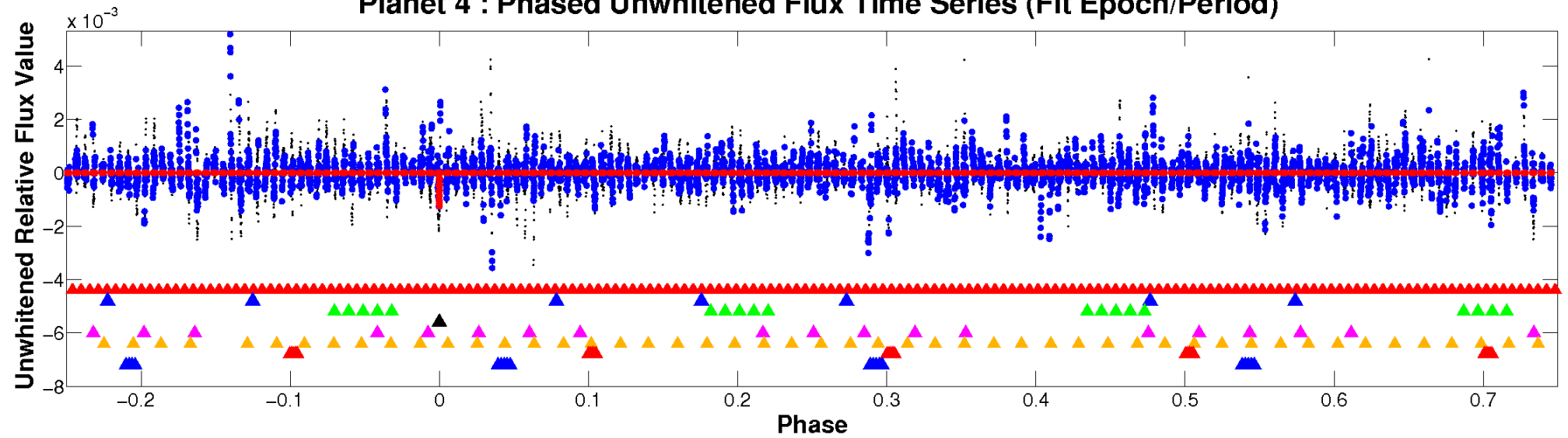
ALT Odd/Even

TCE 003002379-04

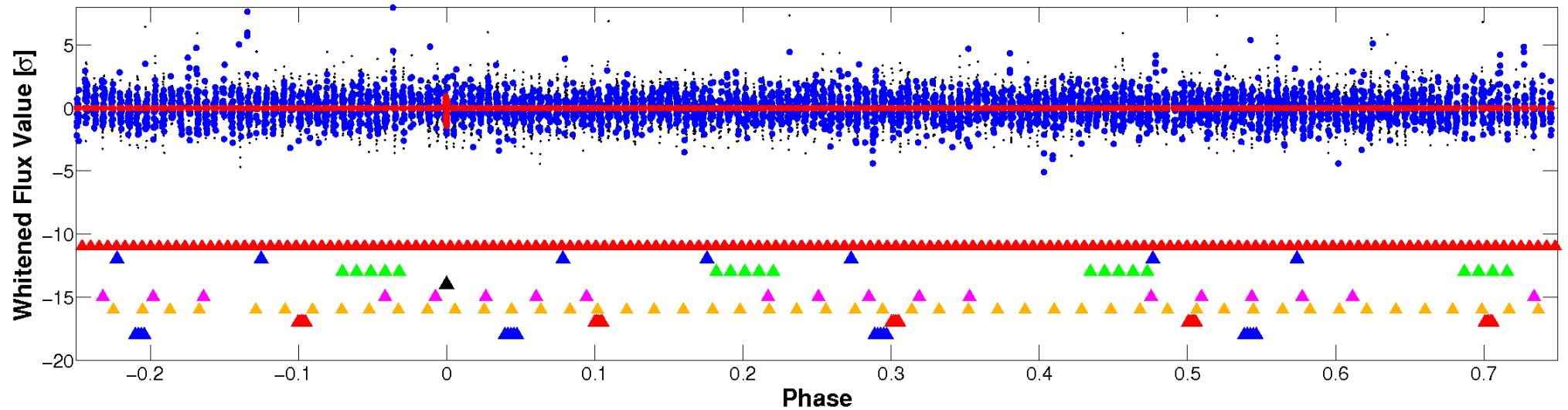


Non-Whitened Vs. Whitened Light Curve

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

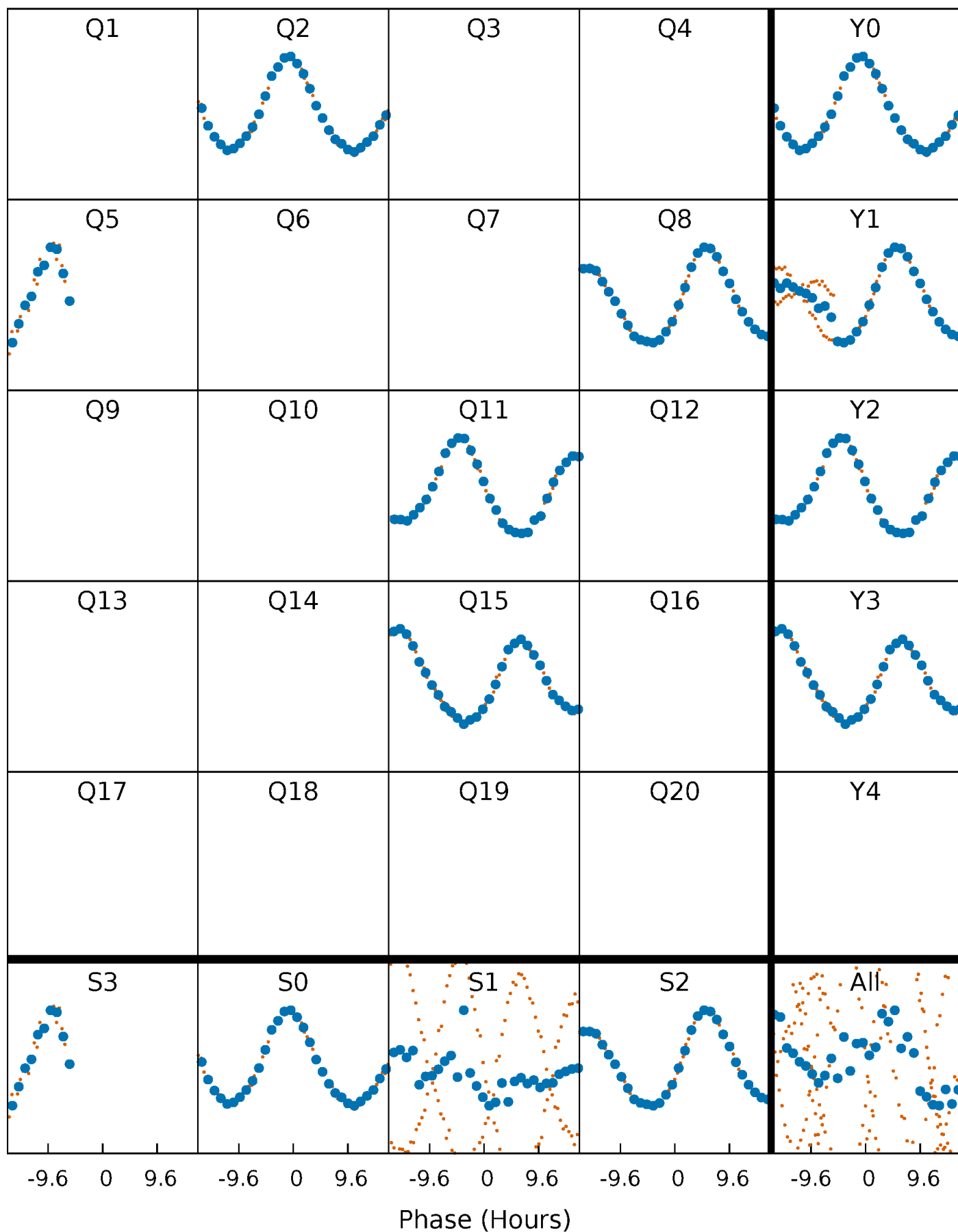


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



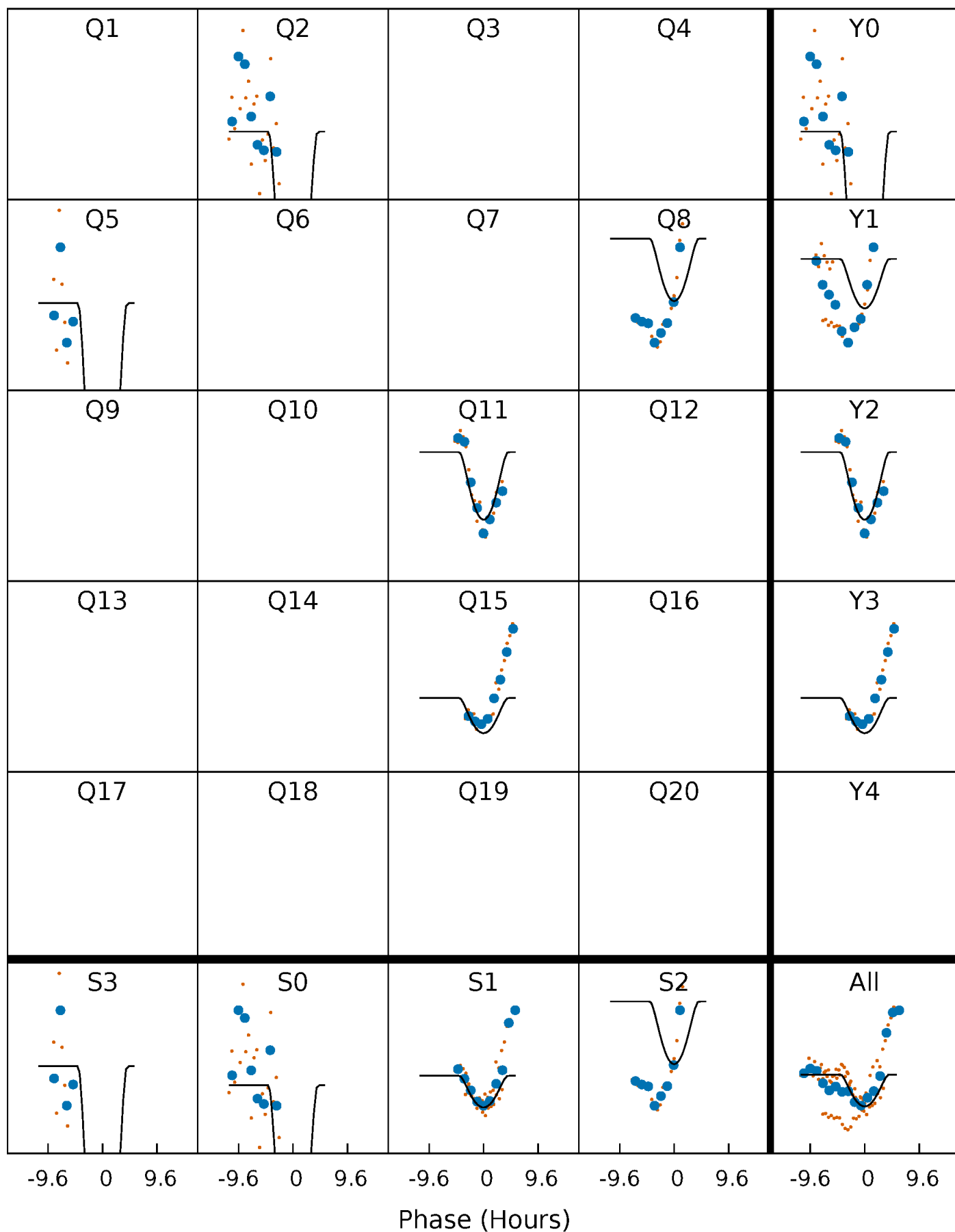
PDC Quarter-Phased Transit Curves

TCE 003002379-04 $P=300.749414$ Days $T_0=174.486154$ (BKJD)



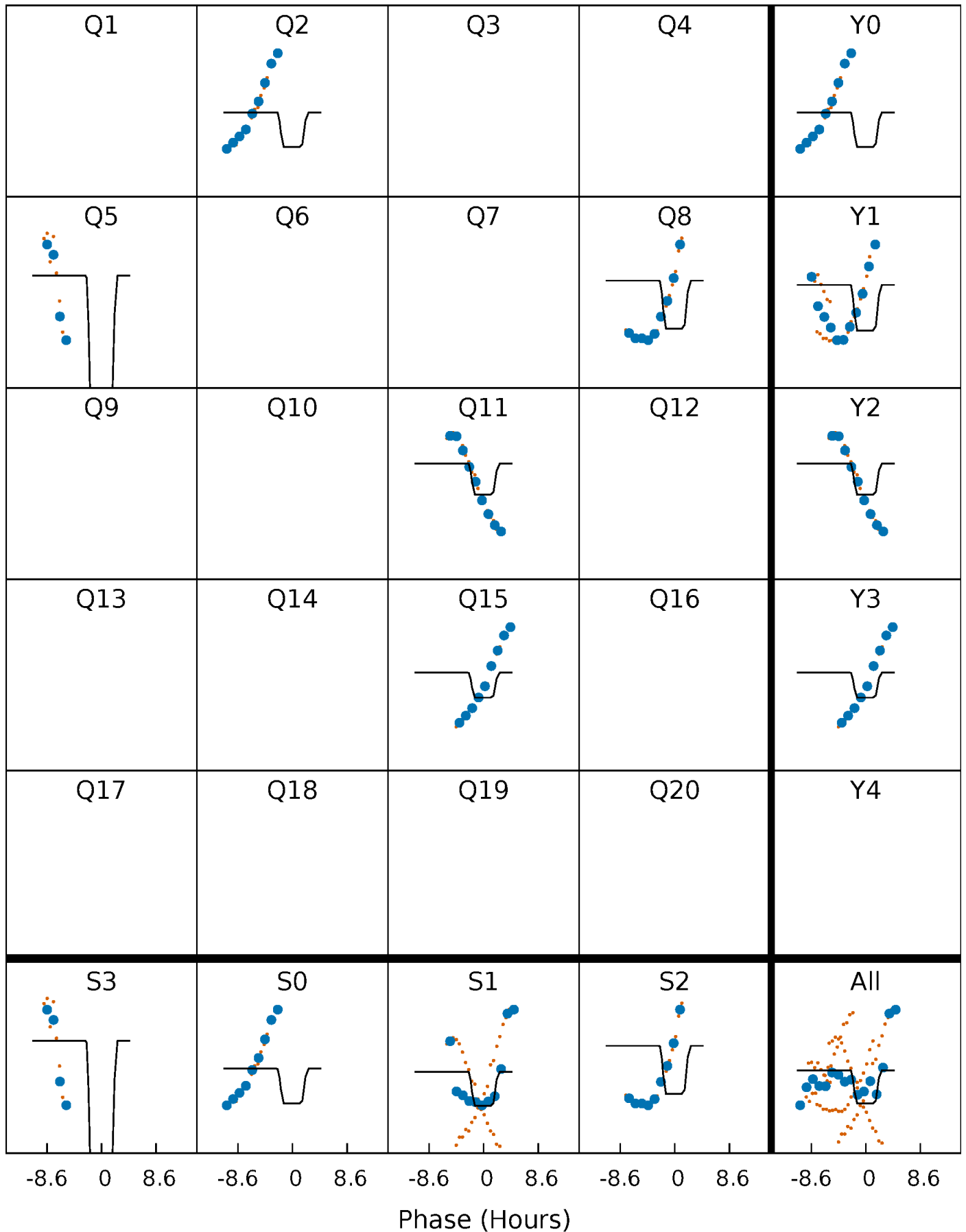
DV Quarter-Phased Transit Curves

TCE 003002379-04 P=300.749414 Days $T_0=174.486154$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

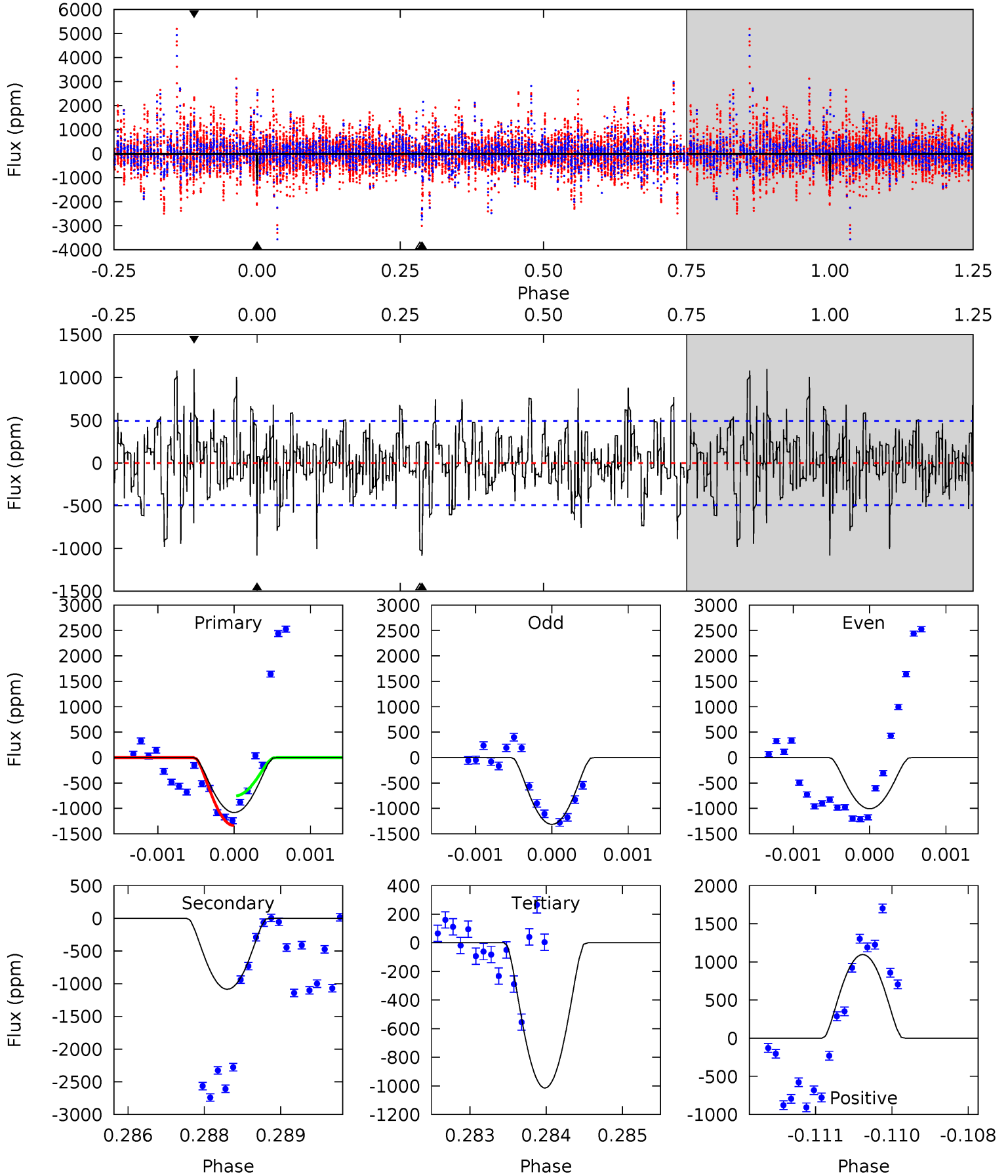
TCE 003002379-04 P=300.765300 Days $T_0=174.468717$ (BKJD)



DV Model-Shift Uniqueness Test

003002379-04, P = 300.749414 Days, E = 174.486154 Days

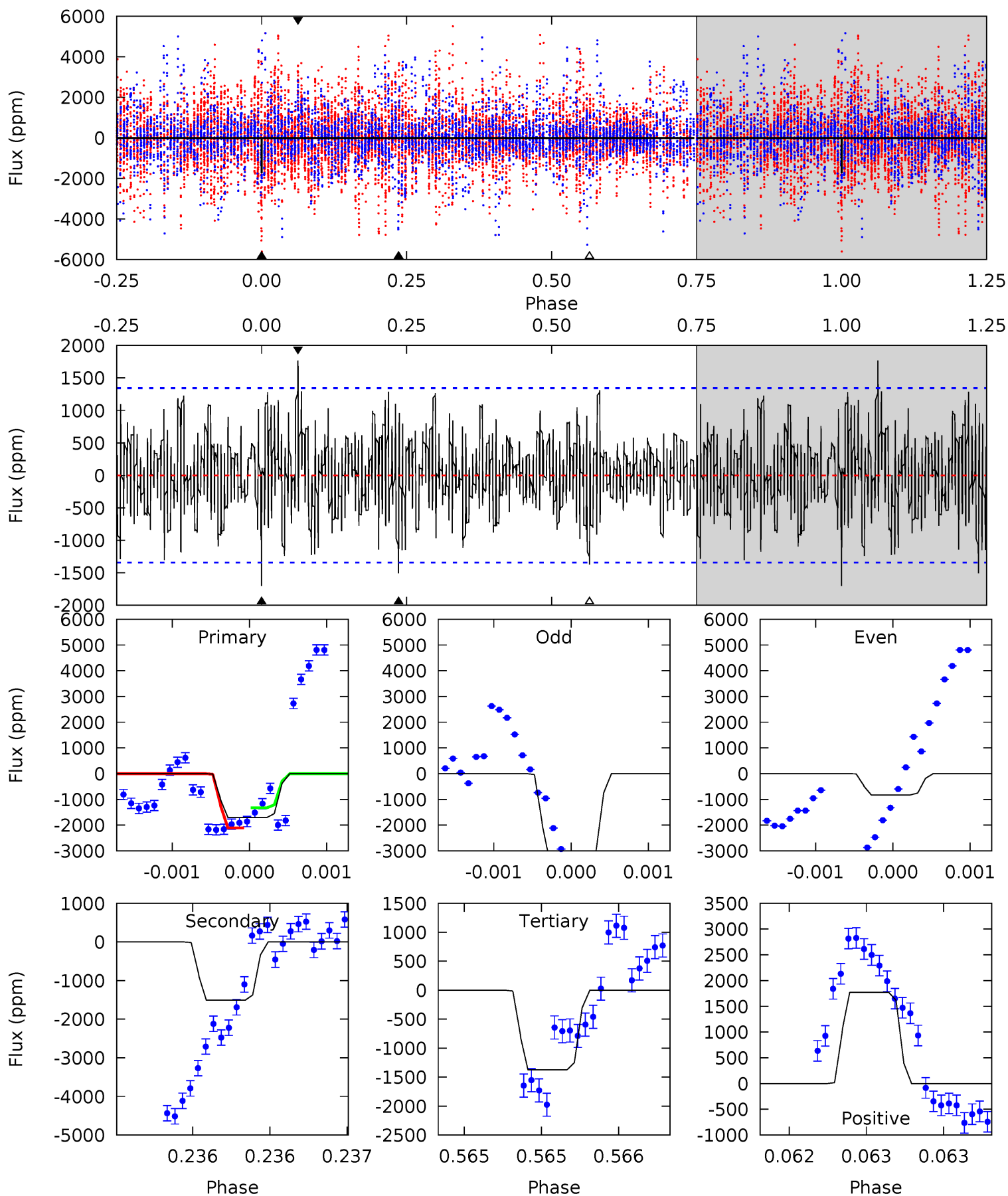
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.9 | 12.0 | 11.2 | 12.1 | 5.43 | 3.25 | 3.13 | 0.72 | -0.18 | 0.77 | -0.12 | 1.61 | 0.91 | 0.50 | 3.20 |



Alt Model-Shift Uniqueness Test

003002379-04, P = 300.765300 Days, E = 174.468717 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.99 | 6.19 | 5.64 | 7.27 | 5.52 | 3.40 | 1.75 | 1.35 | -0.28 | 0.54 | -1.09 | 4.92 | 0.97 | 0.51 | 1.61 |



Stellar Parameters For KIC 003002379

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6937^{+194}_{-305} | $4.199^{+0.128}_{-0.192}$ | $-0.080^{+0.250}_{-0.350}$ | $1.552^{+0.488}_{-0.285}$ | $1.397^{+0.216}_{-0.238}$ | $0.526^{+0.322}_{-0.266}$ |
| | +3%/-4% | +3%/-5% | +312%/-438% | +31%/-18% | +15%/-17% | +61%/-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 003002379-04 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|--------------------------|-------------------|------------------------|-------------------------|
| DV | -1085 ± 91 | $11.50^{+9.22}_{-7.43}$ | 539^{+43}_{-36} | 4919^{+3398}_{-996} | 4306^{+29871}_{-2995} |
| Alt. | -1505 ± 243 | $11.17^{+11.08}_{-7.46}$ | 541^{+38}_{-36} | 5294^{+4707}_{-1189} | 6148^{+53186}_{-4511} |

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 $A_{obs} \gg 1.0$

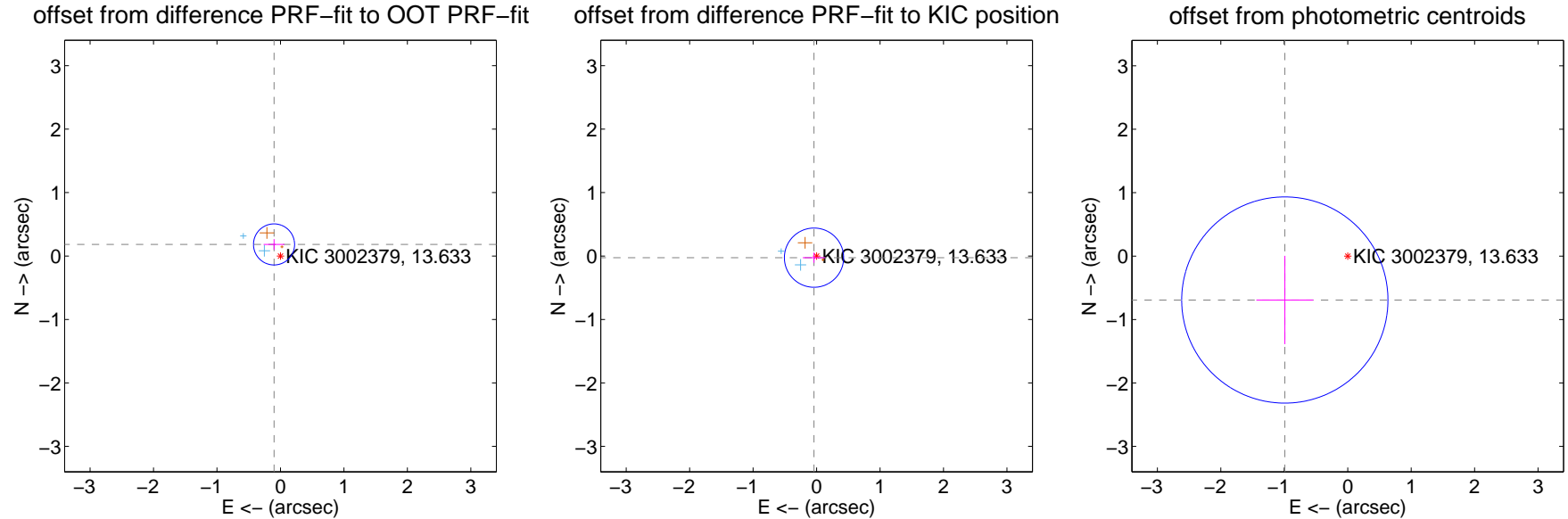
DV Centroid Data

Supplemental centroid analysis for 003002379-04. Kepler magnitude: 13.63. Transit SNR 7.01

There are 2 quarters with good PRF difference image offsets

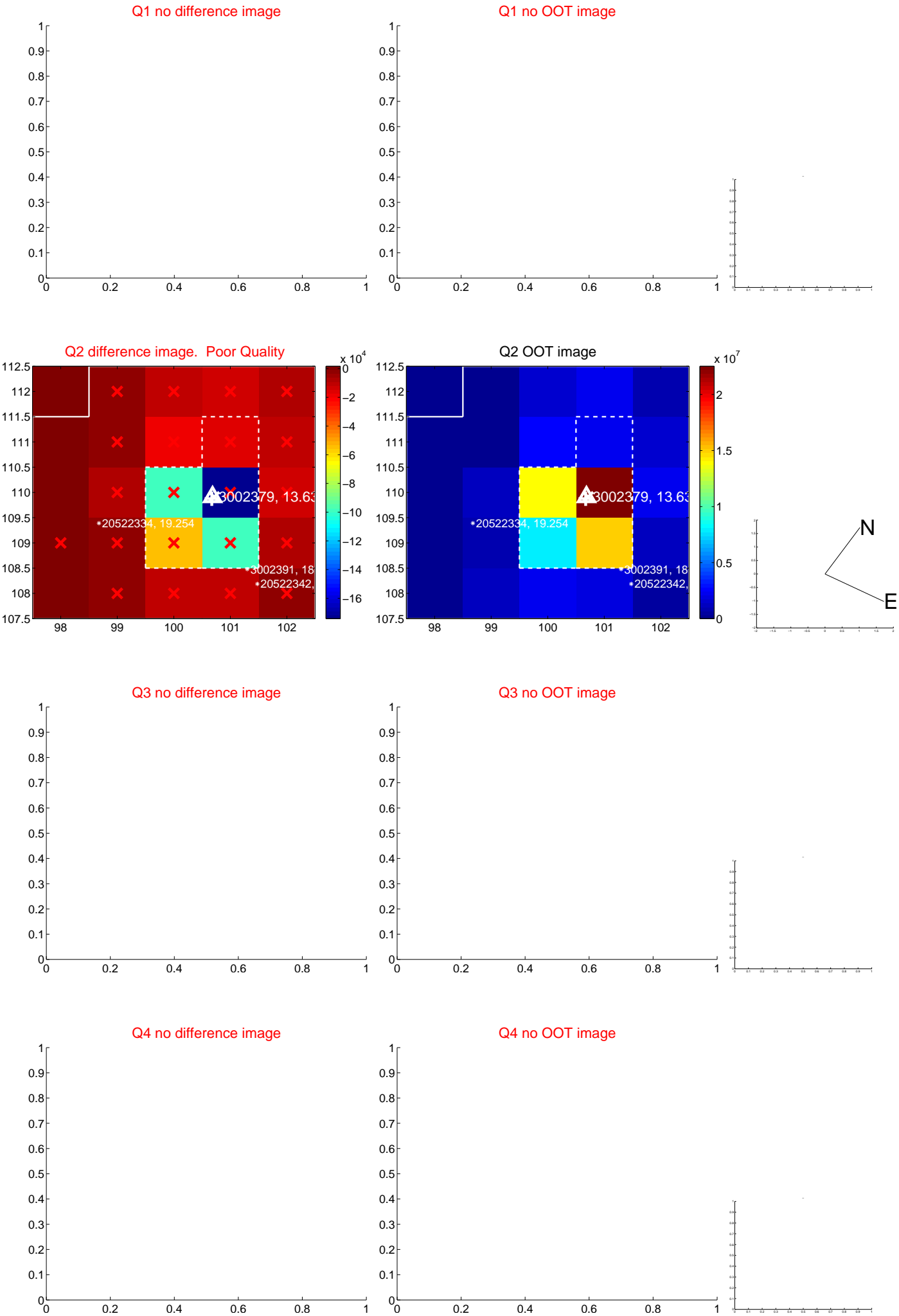
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.209 ± 0.108 | 1.94 | 0.101 ± 0.164 | 0.183 ± 0.084 |
| PRF-fit source offset from KIC position | 0.048 ± 0.156 | 0.31 | 0.040 ± 0.177 | -0.026 ± 0.082 |
| photometric centroid source offset | 1.21 ± 0.54 | 2.23 | 0.99 ± 0.45 | -0.69 ± 0.70 |

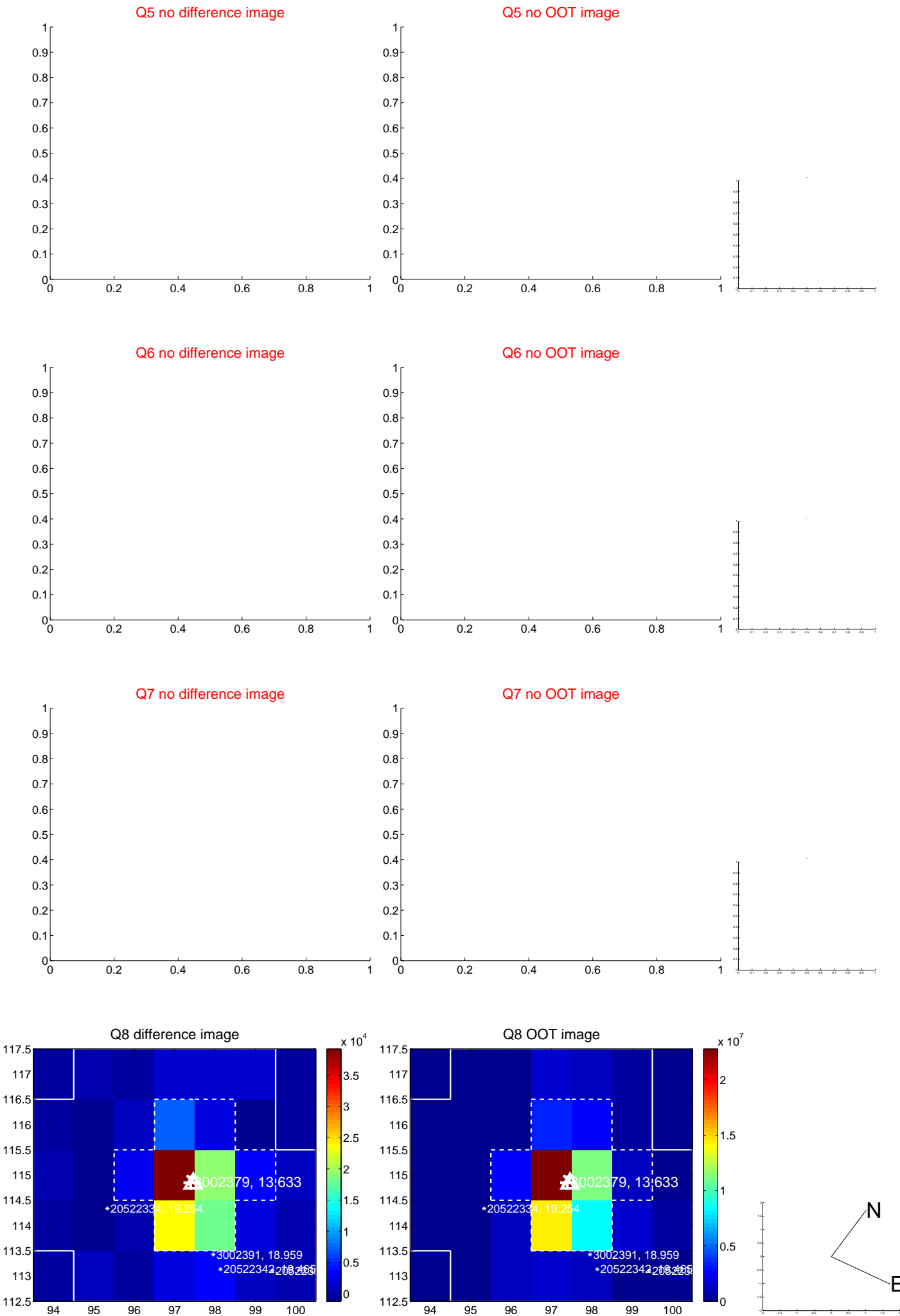


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

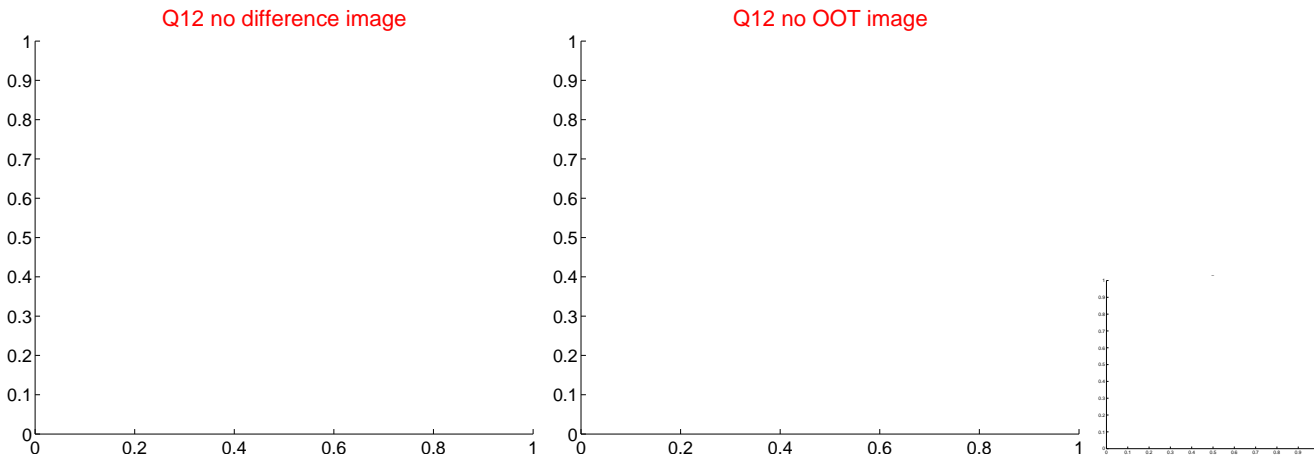
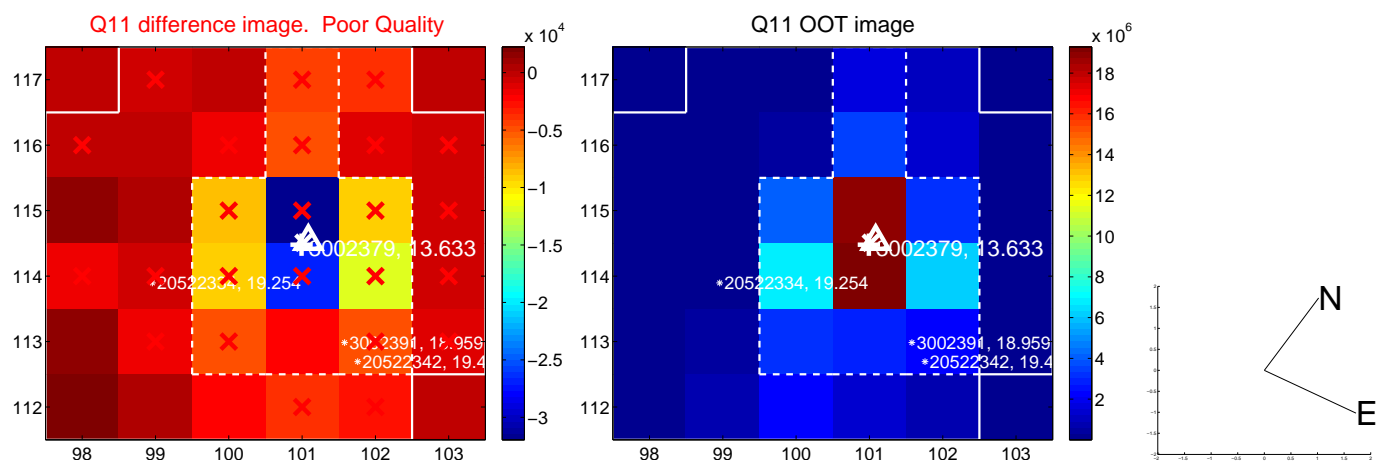
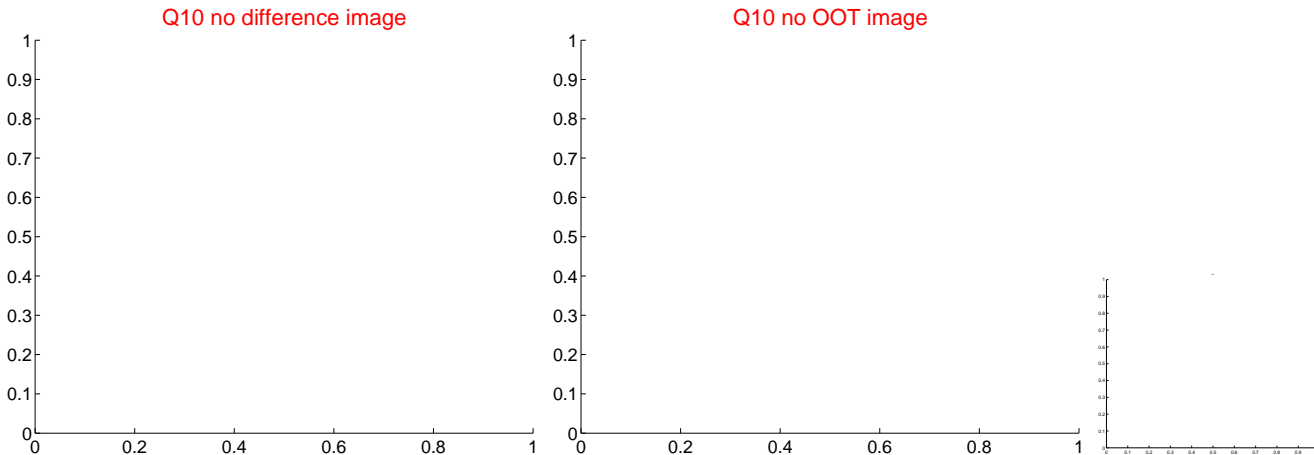
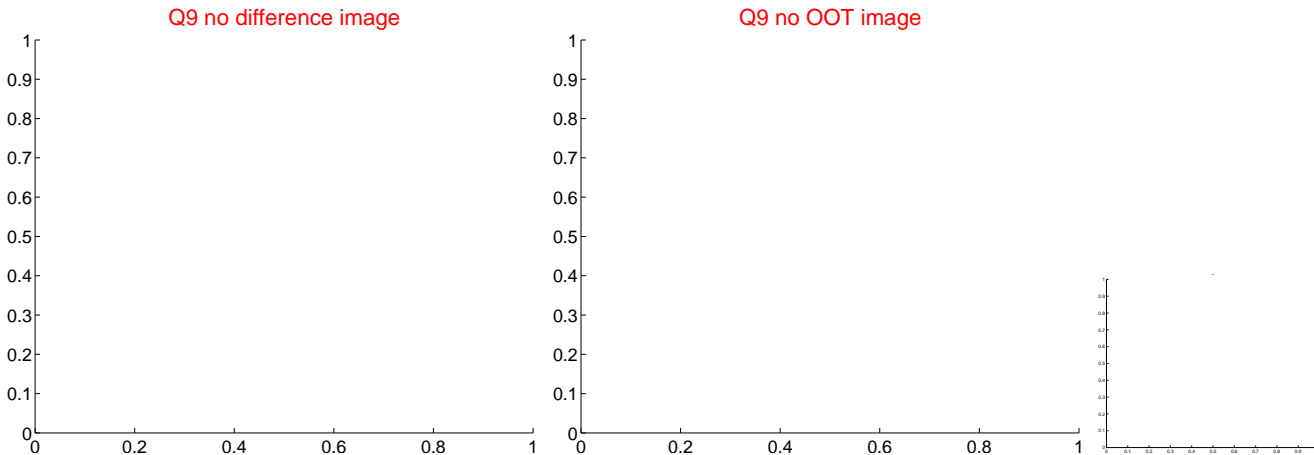
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



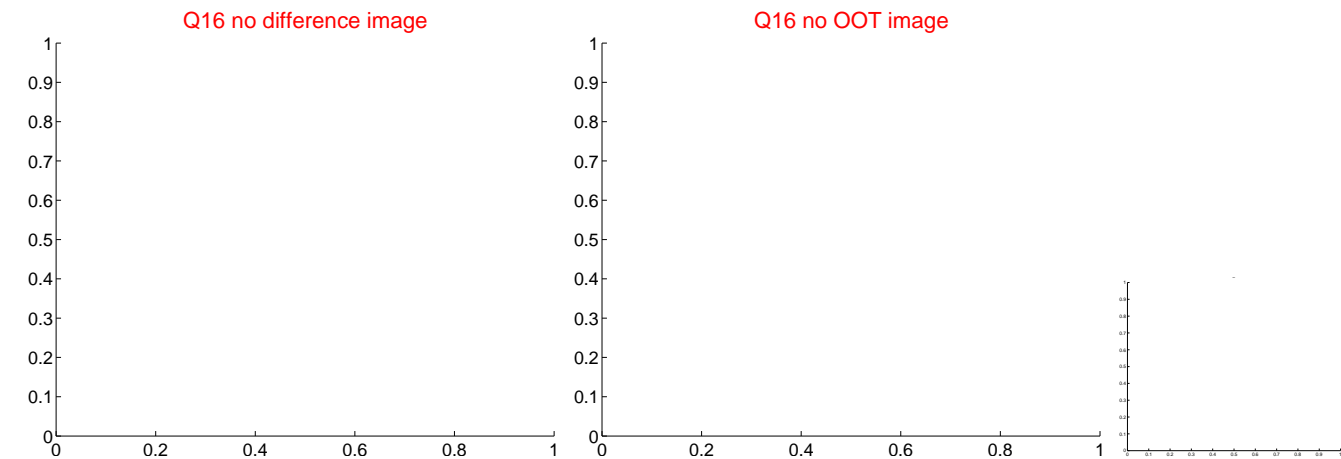
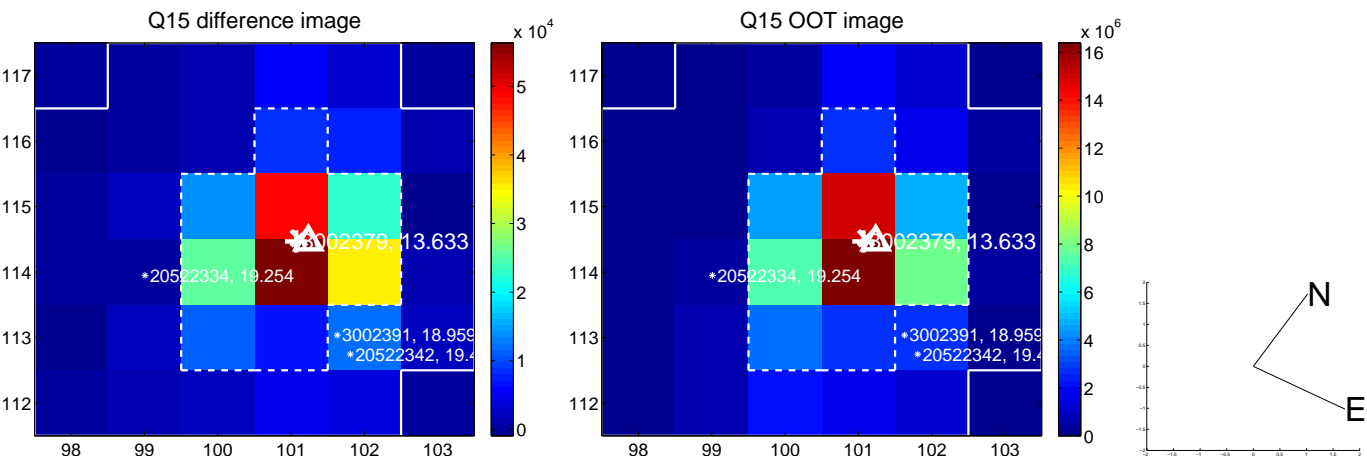
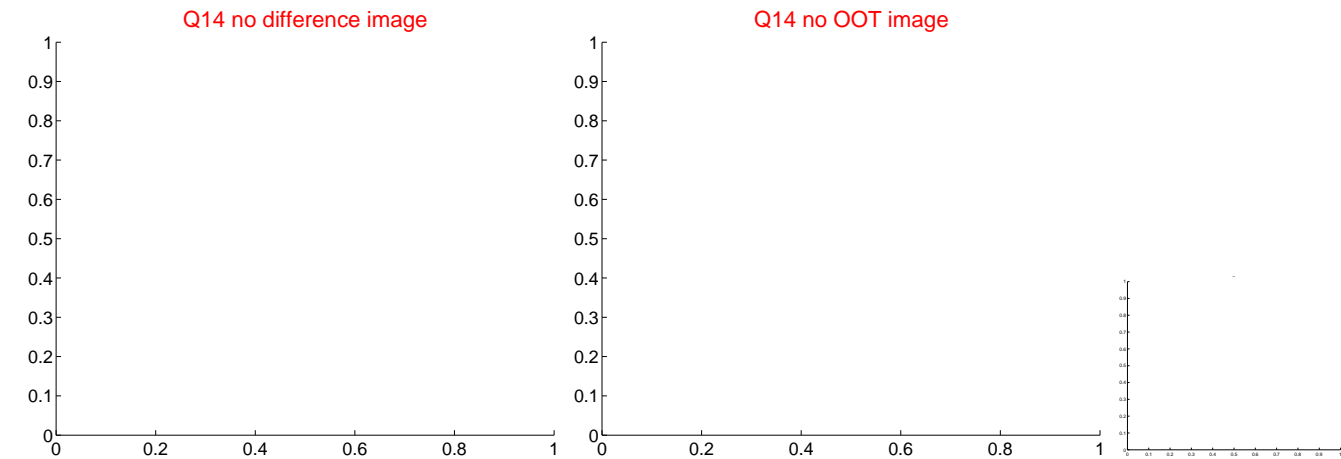
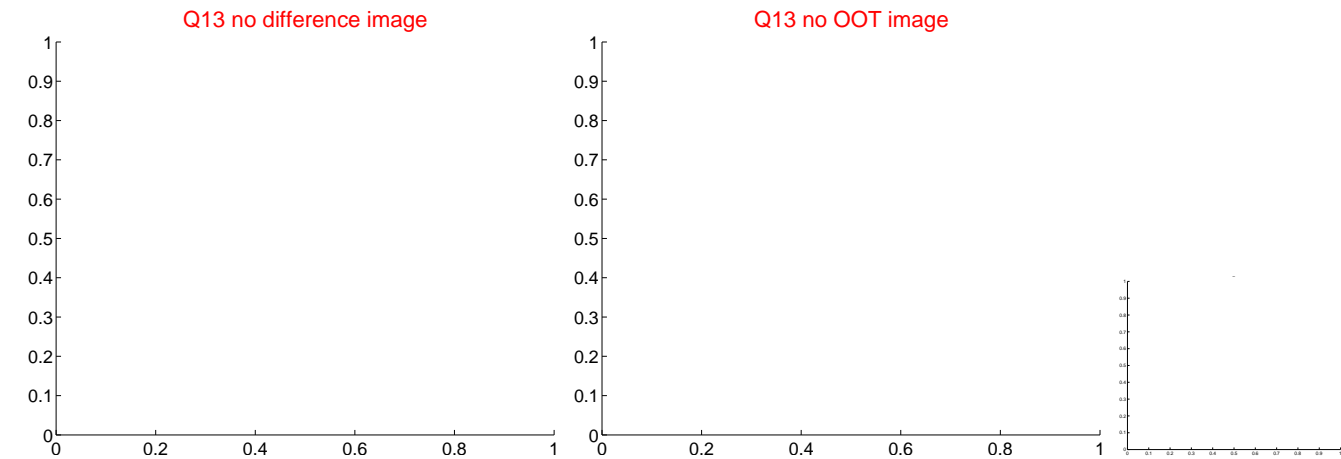
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



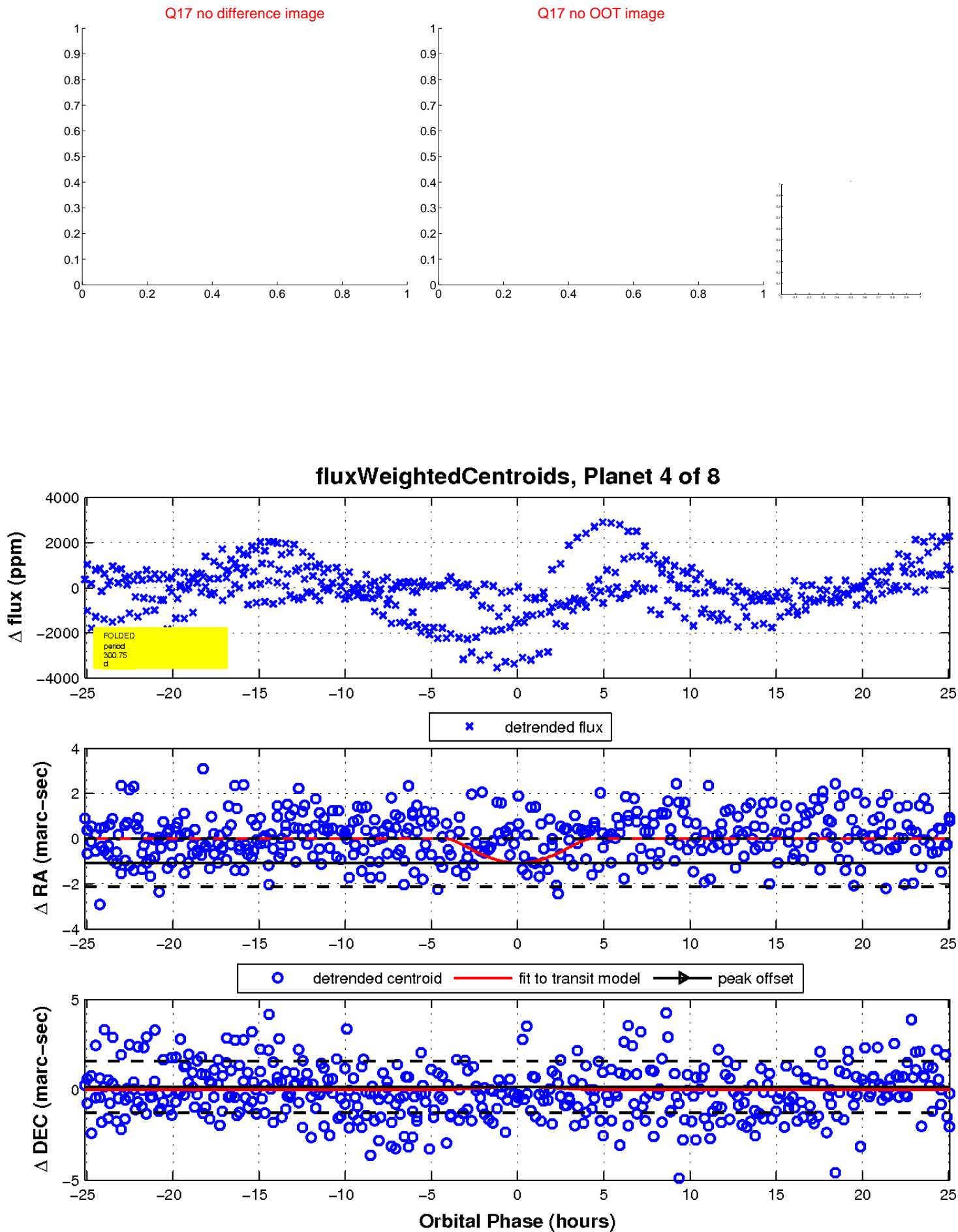
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

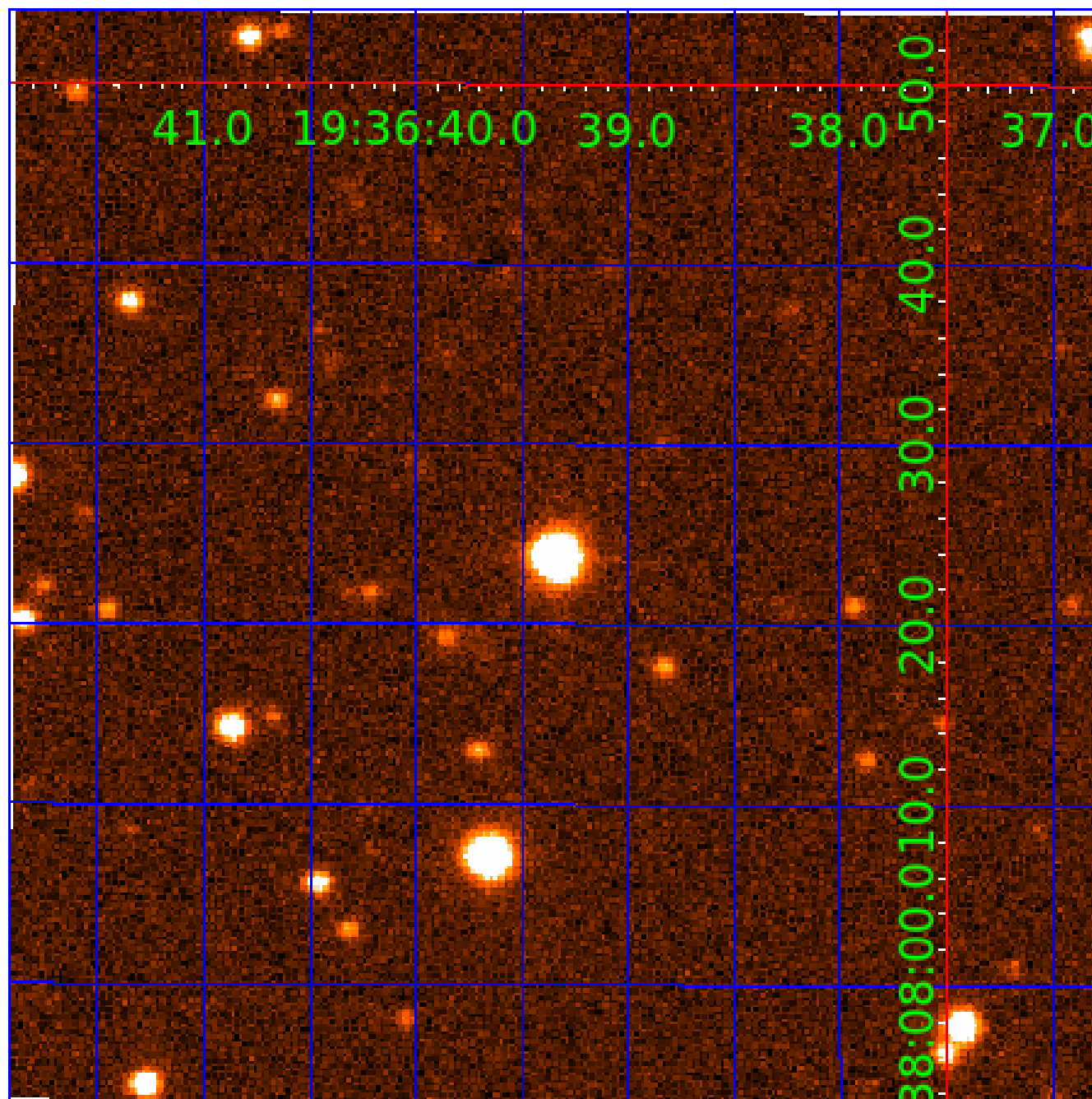


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003002379

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 003002379-01 | OBS | No | 1.738915 | 131.598027 | 0.1 | 10.728 | 10.5 | 0.0 | 1.55 | 6937 | 0.04 | 5009.62 |
| 003002379-02 | OBS | No | 210.251733 | 198.091175 | 0.0 | 23.576 | 12.5 | 0.0 | 1.55 | 6937 | 0.01 | 8.38 |
| 003002379-03 | OBS | No | 75.909834 | 153.330921 | 1392.7 | 8.276 | 10.1 | 7.6 | 1.55 | 6937 | 10.73 | 32.59 |
| 003002379-04 | OBS | No | 300.749414 | 174.486154 | 1252.6 | 8.400 | 7.9 | 7.0 | 1.55 | 6937 | 8.68 | 5.20 |
| 003002379-06 | OBS | No | 28.925014 | 158.769492 | 381.0 | 4.347 | 7.6 | 7.0 | 1.55 | 6937 | 3.22 | 117.98 |
| 003002379-07 | OBS | No | 60.226325 | 144.321363 | 886.0 | 12.766 | 8.3 | 8.0 | 1.55 | 6937 | 5.24 | 44.37 |
| 003002379-08 | OBS | No | 75.034634 | 188.773199 | 560.6 | 9.755 | 8.1 | 6.0 | 1.55 | 6937 | 3.95 | 33.10 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003002379-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV |
| 003002379-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 003002379-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT |
| 003002379-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 003002379-06 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT |
| 003002379-07 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST |
| 003002379-08 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT |

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

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

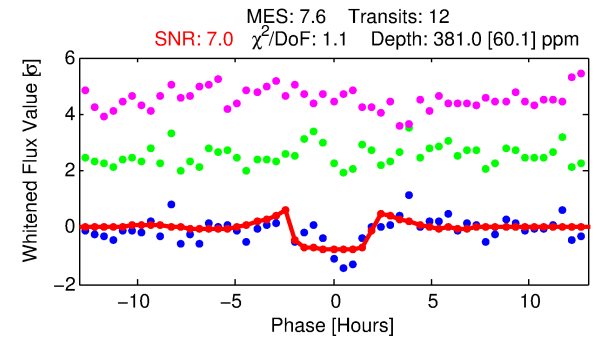
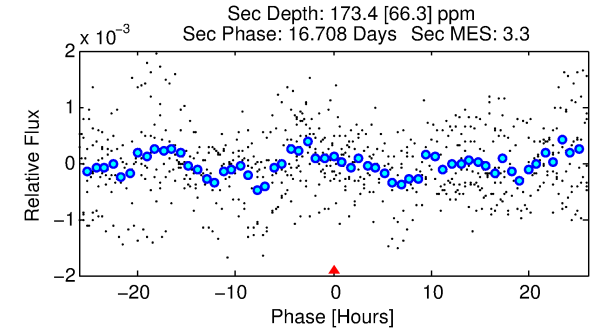
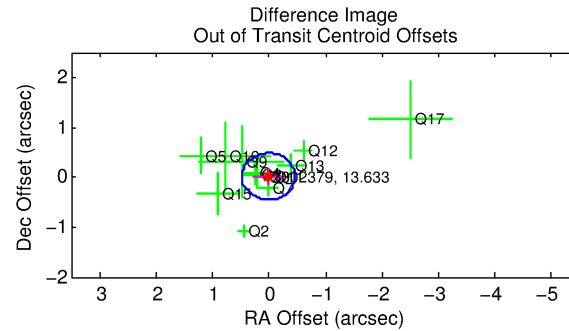
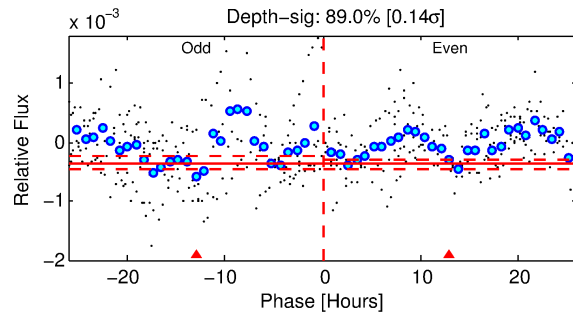
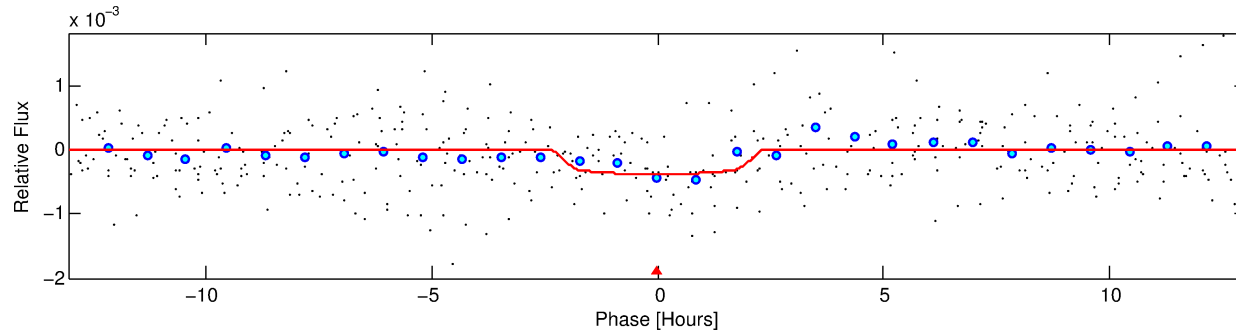
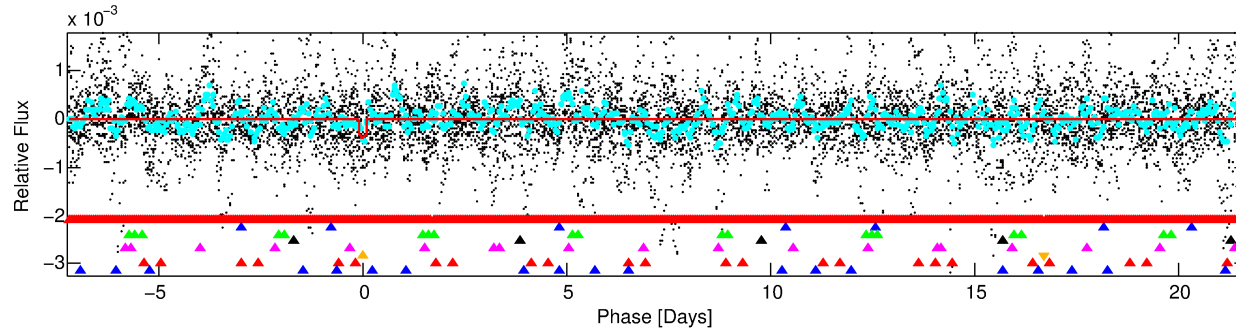
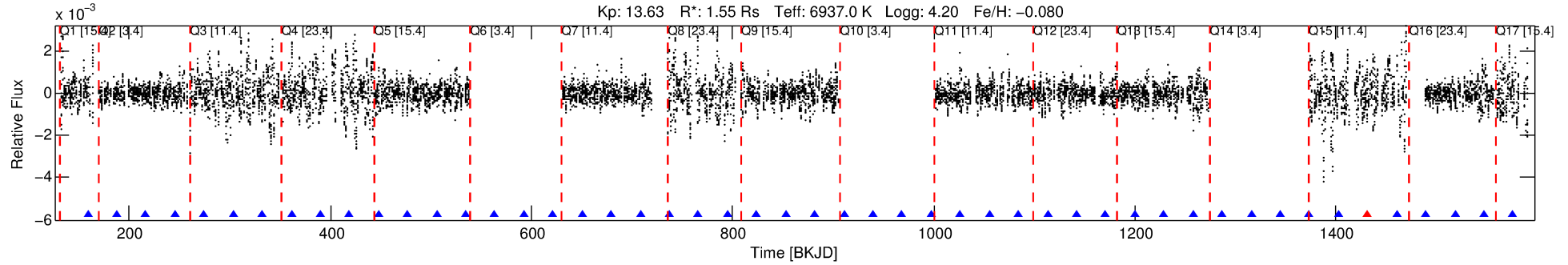
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003002379-06

No Significant Match Found

DV One-Page Summary

KIC: 3002379 Candidate: 6 of 8 Period: 28.925 d



DV Fit Results:

Period = 28.92501 [0.00027] d
Epoch = 158.7695 [0.0068] BKJD
Rp/R* = 0.0190 [0.0144]
a/R* = 39.17 [169.22]
b = 0.67 [3.62]
Seff = 117.98 [47.45]
Teq = 840 [84] K
Rp = 3.22 [2.64] Re
a = 0.2058 [0.0527] AU
Ag = 389.30 [624.45] [0.62 σ]
Teffp = 5772 [2269] K [2.17 σ]

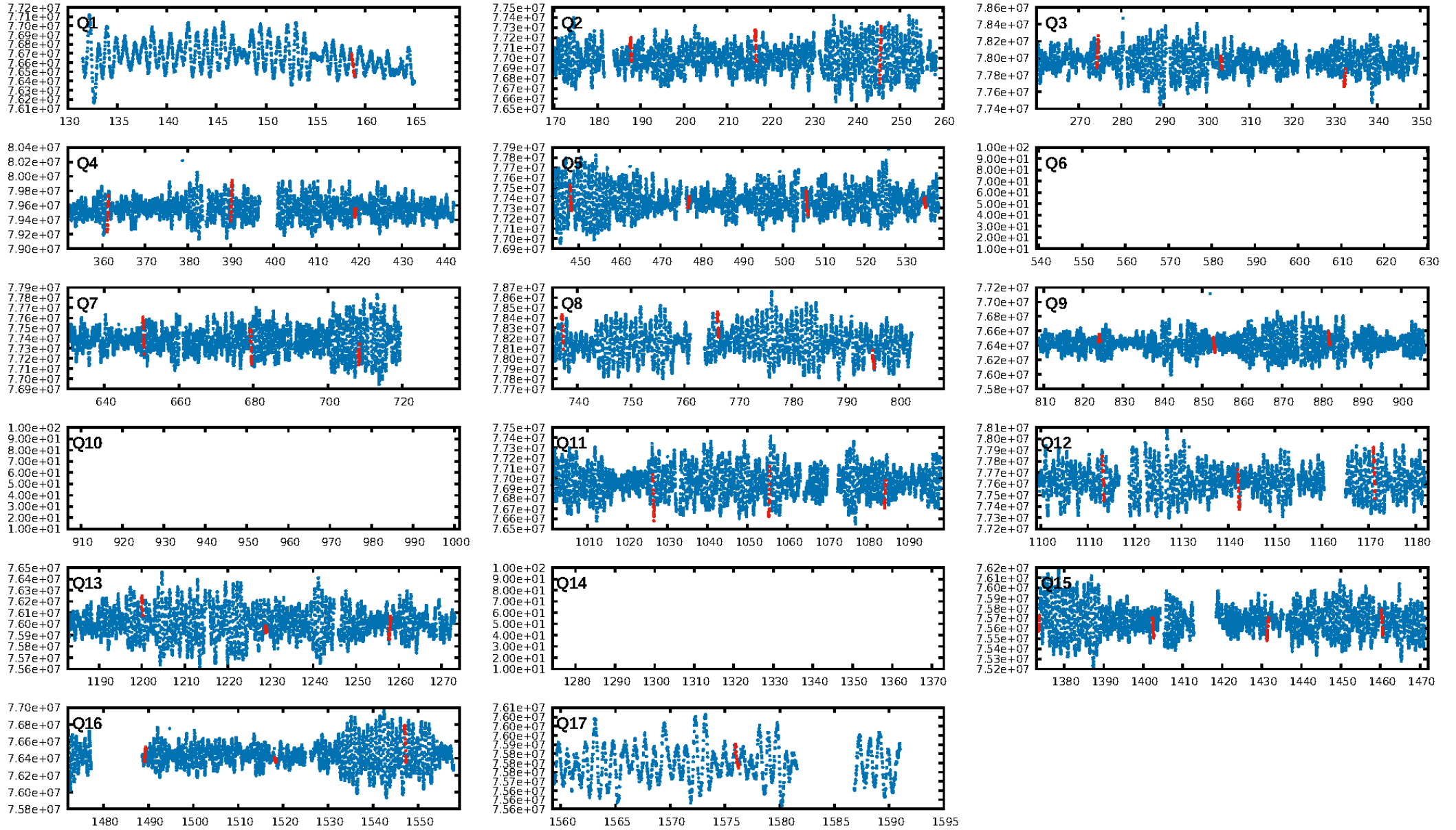
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [56.37 σ]
LongPeriod-sig: 100.0% [55.70 σ]
ModelChiSquare2-sig: 90.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.24e-11
RollingBand-fgt: 0.91 [10/11]
GhostDiagnostic-chr: 0.3514
Centroid-sig: 10.4%
Centroid-so: 1.265 arcsec [2.04 σ]
OotOffset-rm: 0.017 arcsec [0.11 σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-rm: 0.128 arcsec [0.94 σ]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 0.57 [8/14]

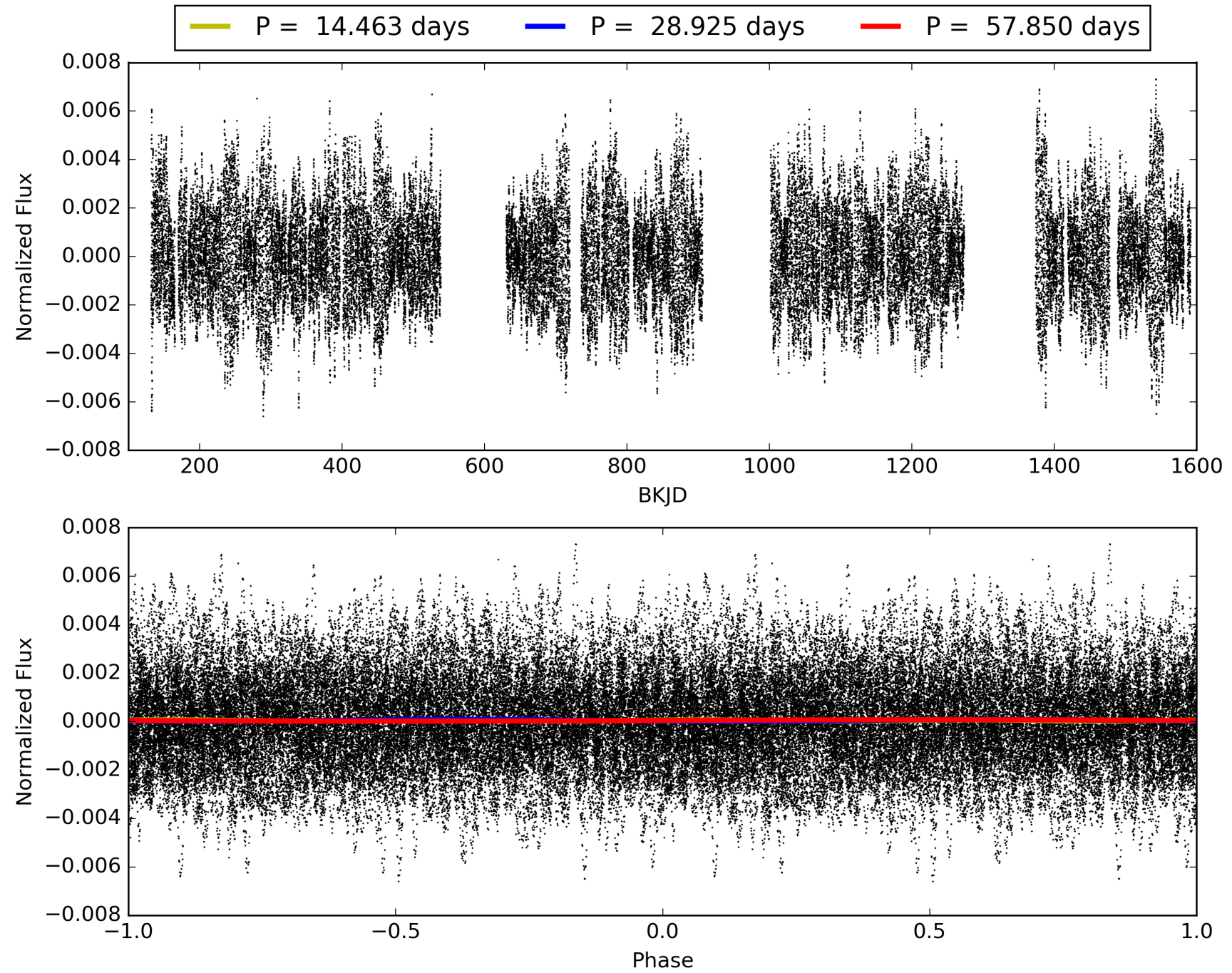
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:57:16 Z

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

TCE 003002379-06, PDC Light Curves

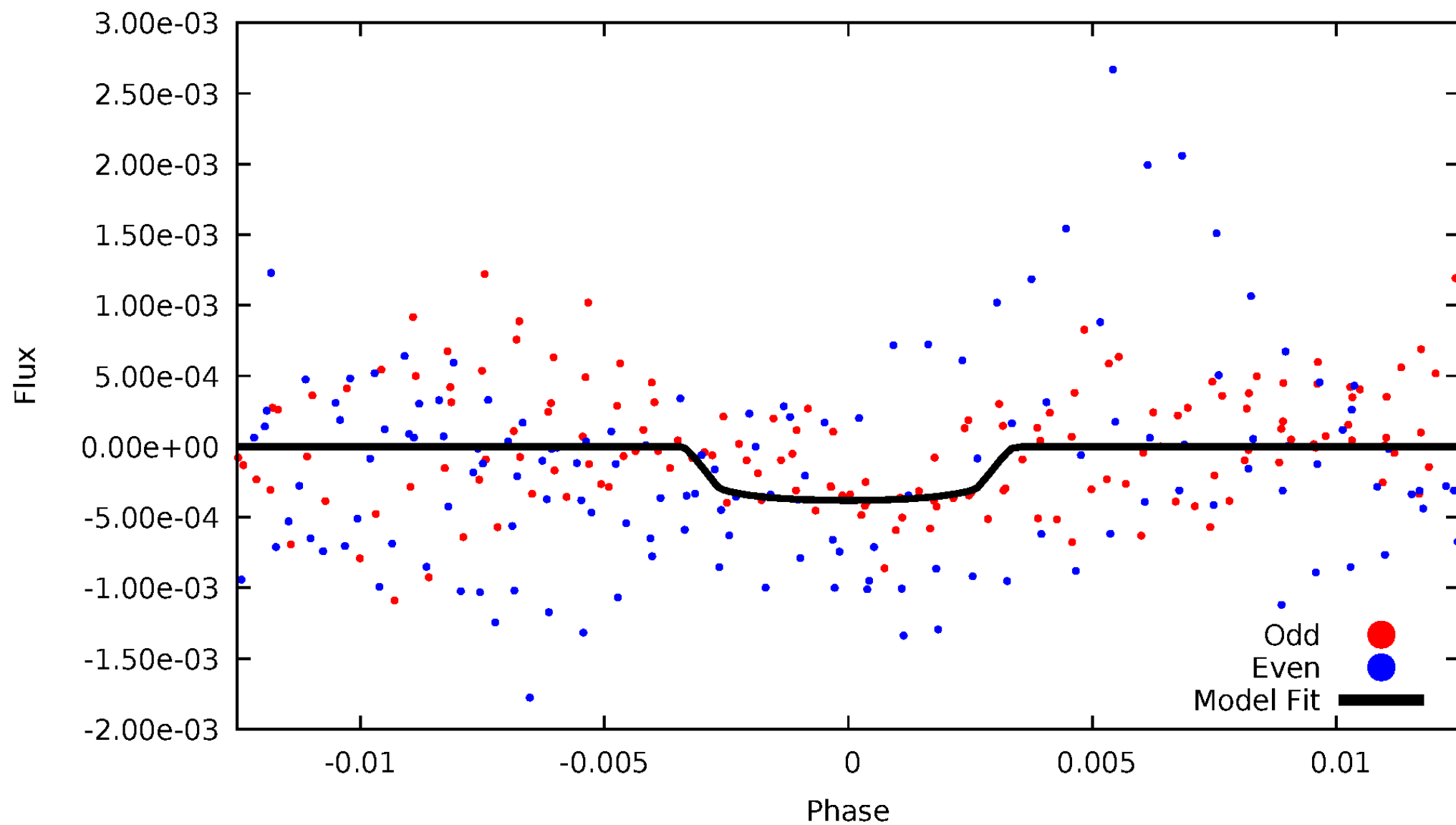


TCE 003002379-06



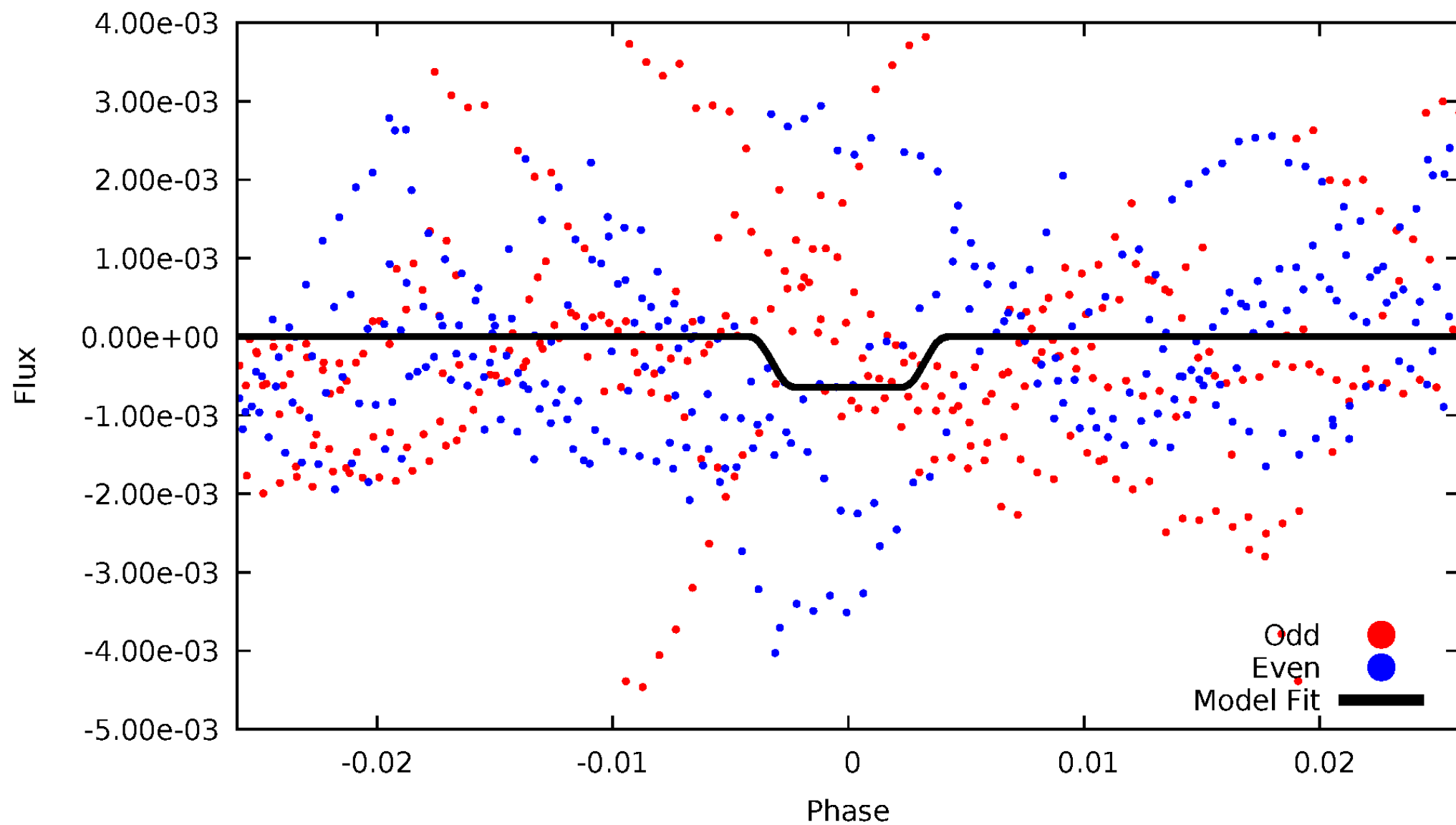
DV Odd/Even

TCE 003002379-06



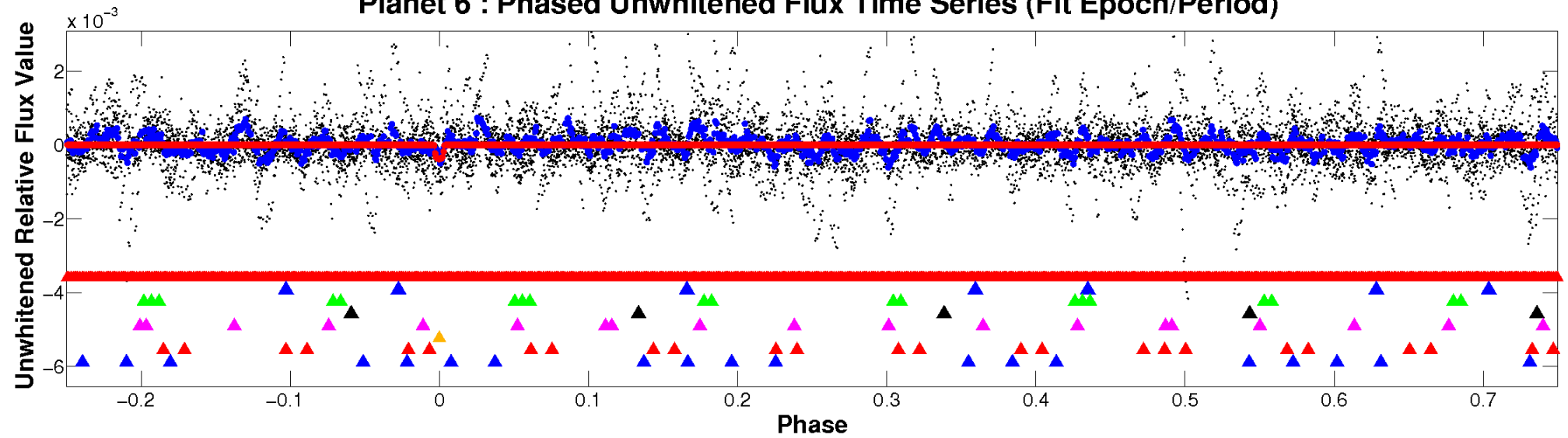
ALT Odd/Even

TCE 003002379-06

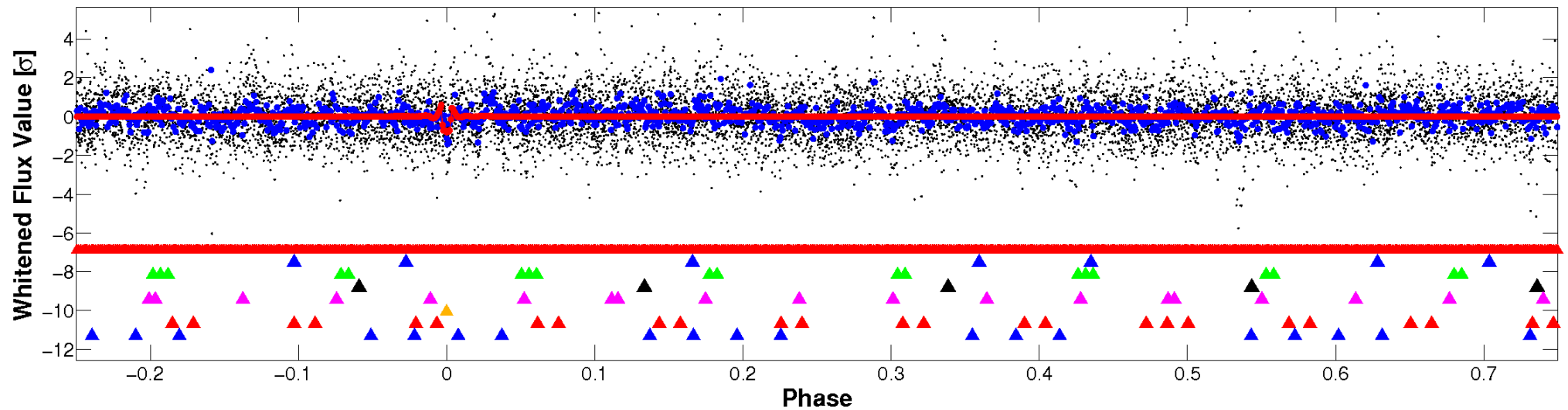


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

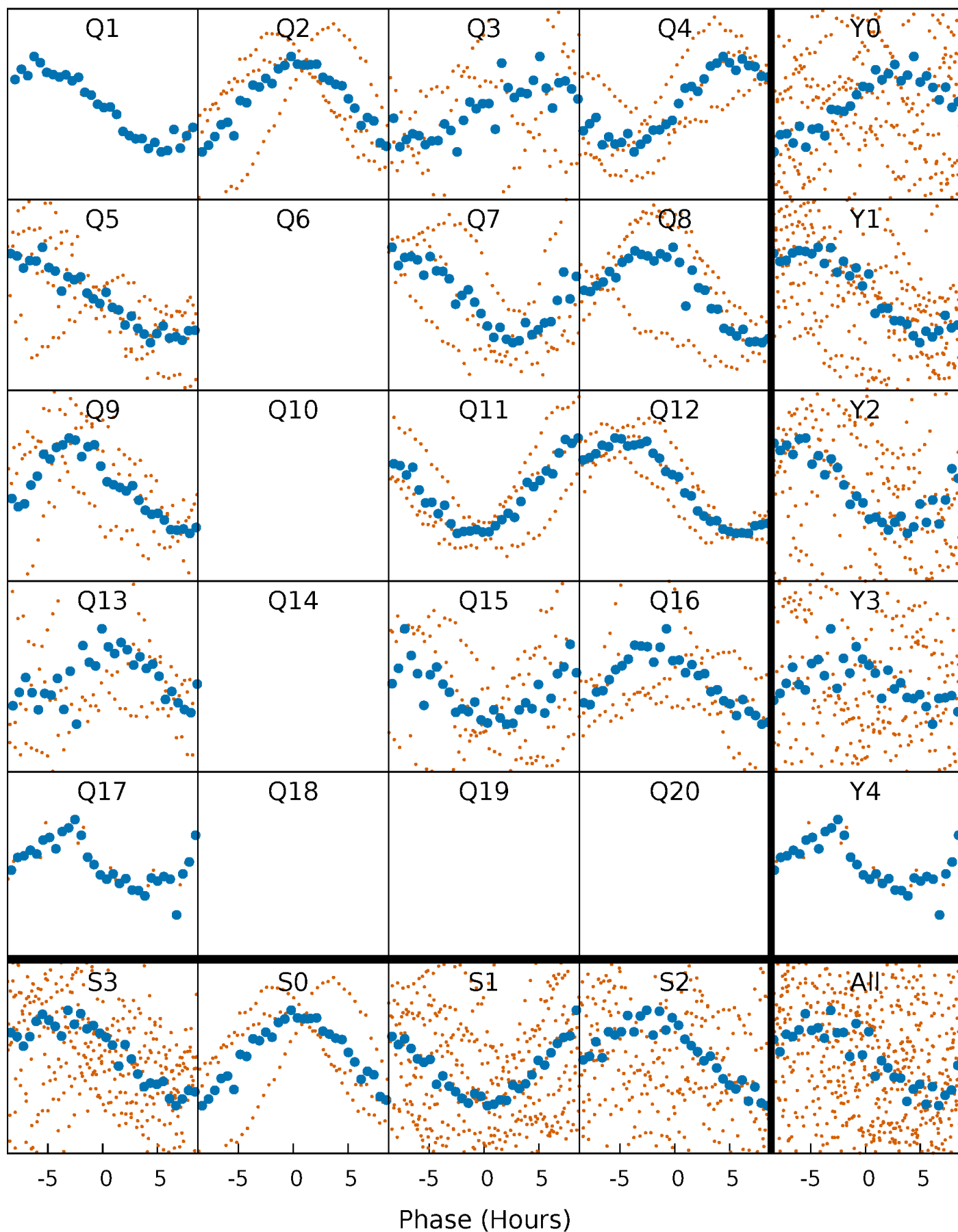


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



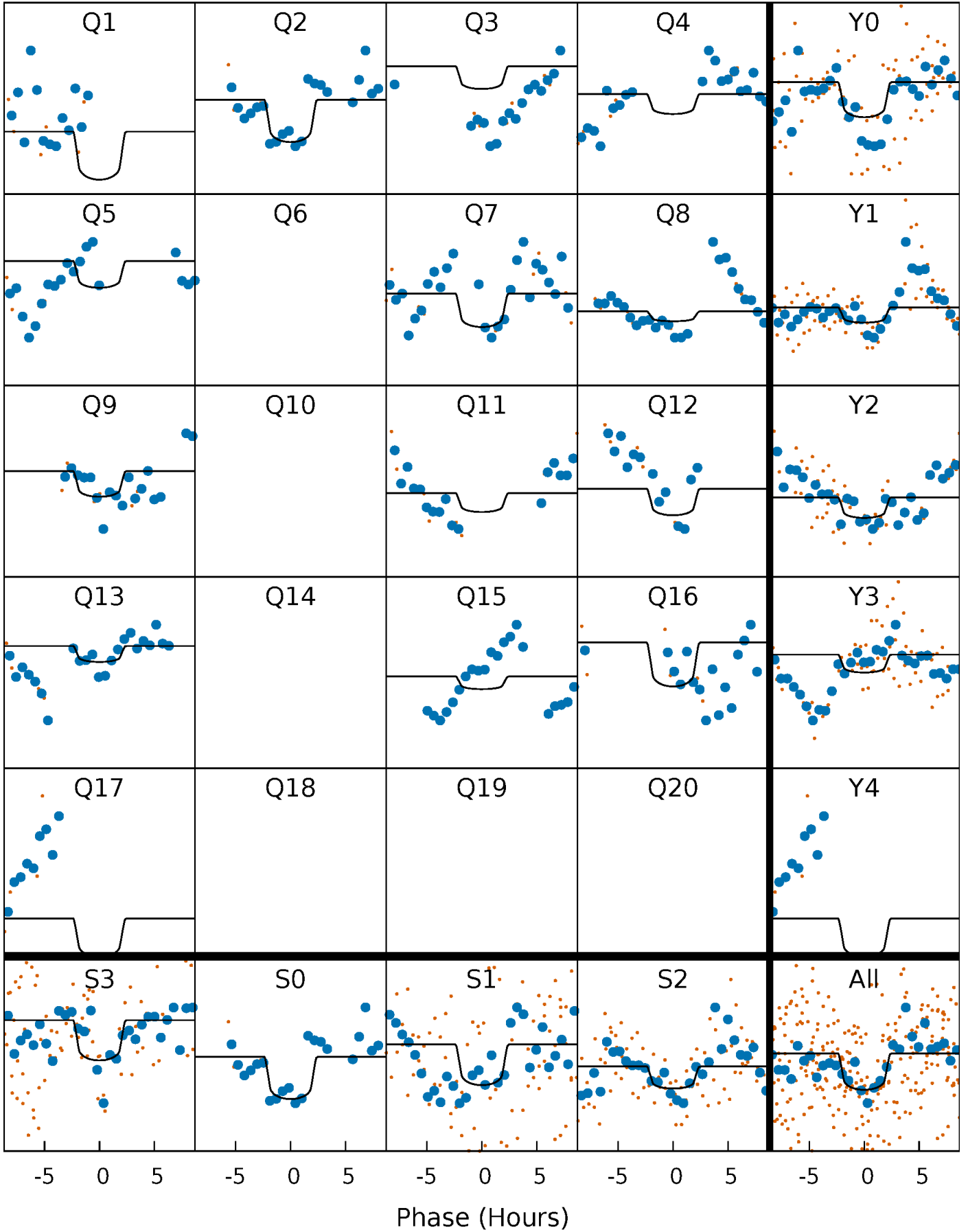
PDC Quarter-Phased Transit Curves

TCE 003002379-06 P= 28.925014 Days $T_0=158.769492$ (BKJD)



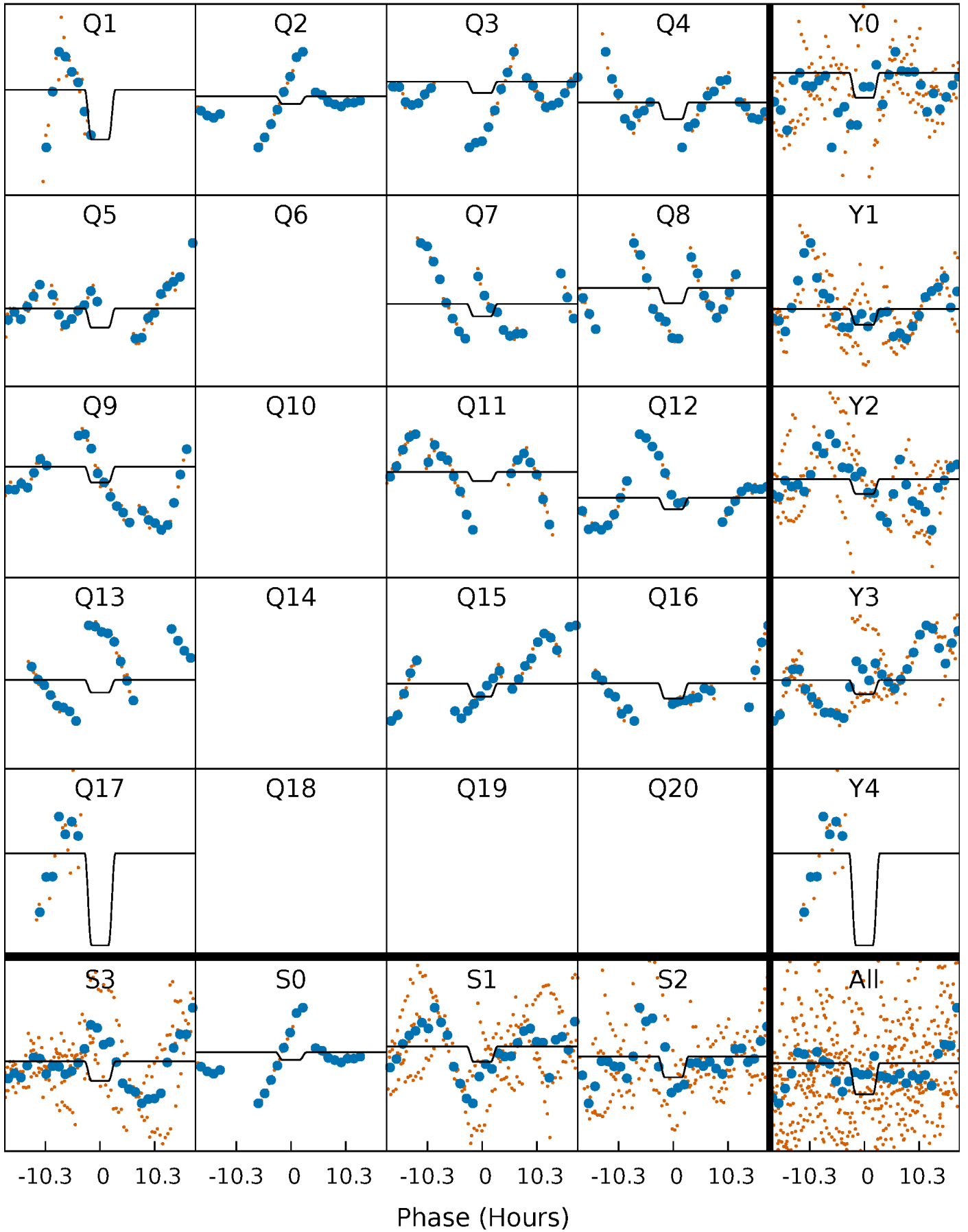
DV Quarter-Phased Transit Curves

TCE 003002379-06 P= 28.925014 Days $T_0=158.769492$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

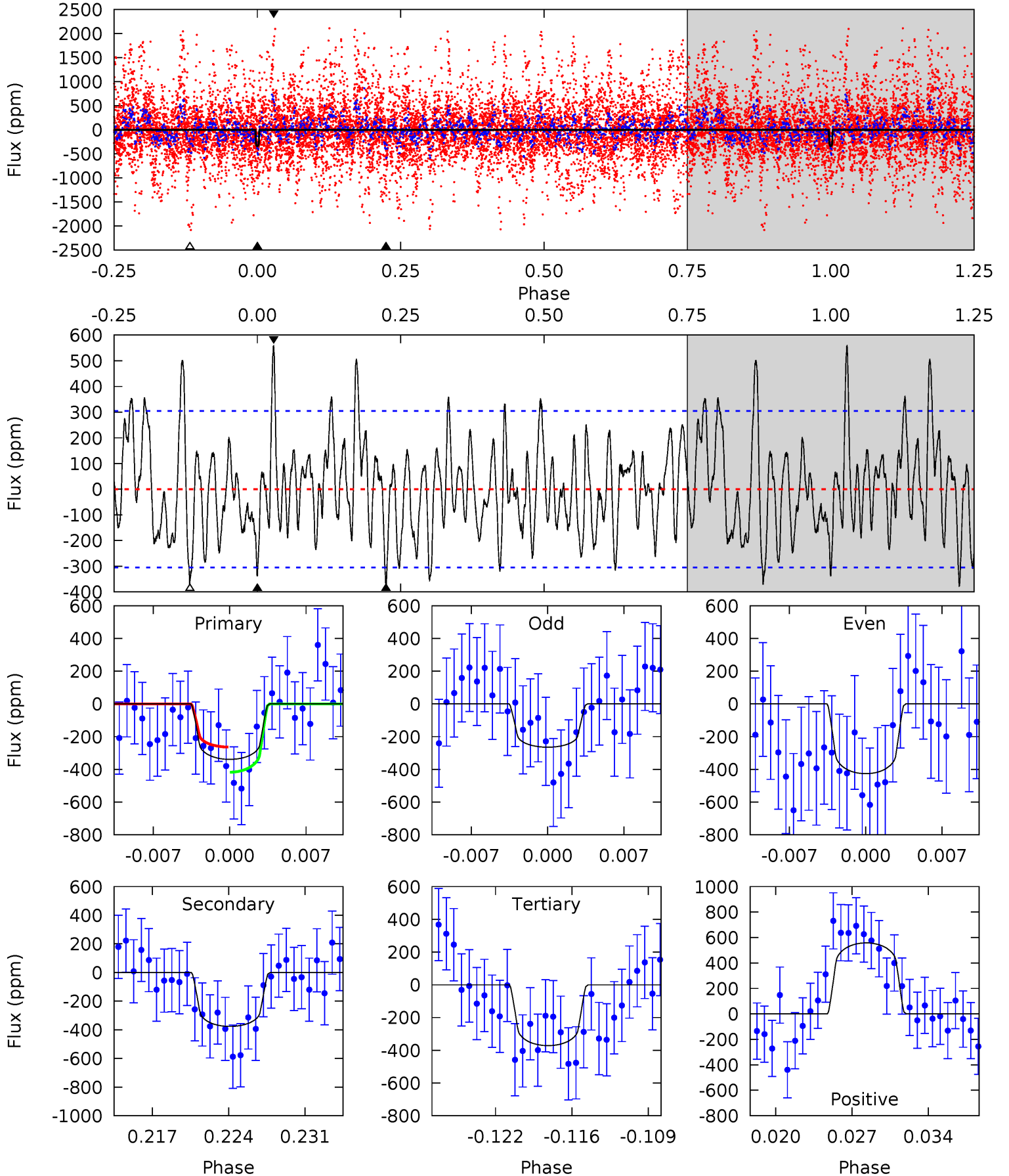
TCE 003002379-06 P= 28.924114 Days $T_0=158.809716$ (BKJD)



DV Model-Shift Uniqueness Test

003002379-06, P = 28.925014 Days, E = 129.844478 Days

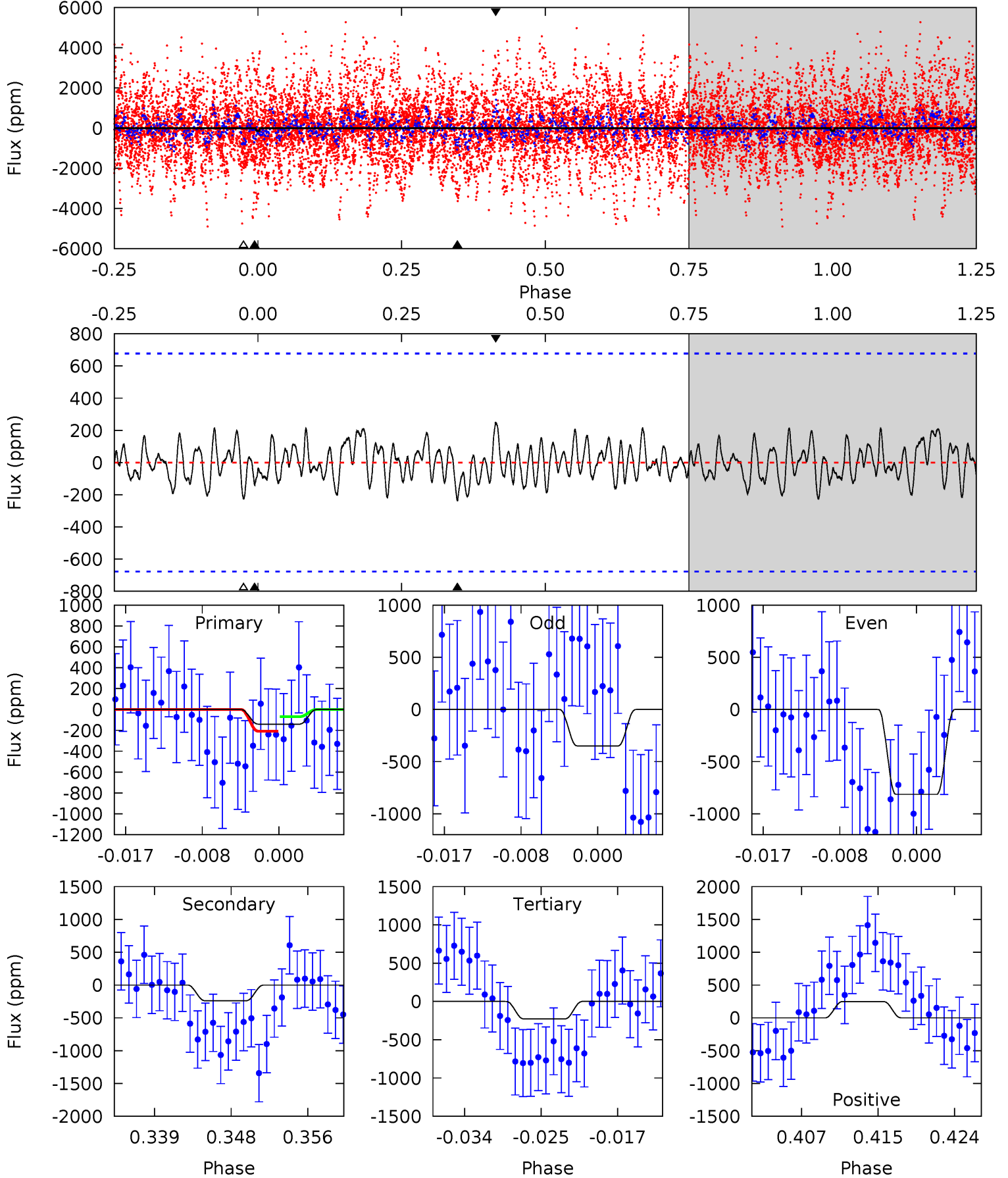
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 5.68 | 6.30 | 6.22 | 9.34 | 5.10 | 2.71 | 2.71 | -0.54 | -3.66 | 0.08 | -3.04 | 1.35 | 1.14 | 0.60 | 1.31 |



Alt Model-Shift Uniqueness Test

003002379-06, P = 28.924114 Days, E = 129.885602 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 1.05 | 1.78 | 1.70 | 1.86 | 5.06 | 2.63 | 0.71 | -0.65 | -0.80 | 0.08 | -0.07 | 1.72 | 1.73 | 0.51 | 0.52 |



Stellar Parameters For KIC 003002379

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6937^{+194}_{-305} | $4.199^{+0.128}_{-0.192}$ | $-0.080^{+0.250}_{-0.350}$ | $1.552^{+0.488}_{-0.285}$ | $1.397^{+0.216}_{-0.238}$ | $0.526^{+0.322}_{-0.266}$ |
| | +3%/-4% | +3%/-5% | +312%/-438% | +31%/-18% | +15%/-17% | +61%/-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 003002379-06 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|----------------|------------------------|--------------------|------------------------|----------------------|
| DV | -376 ± 60 | $3.71^{+2.33}_{-2.16}$ | 1177^{+99}_{-72} | 6520^{+5265}_{-1316} | 629^{+3174}_{-404} |
| Alt. | -239 ± 134 | $4.48^{+2.75}_{-2.50}$ | 1179^{+87}_{-80} | 5227^{+2553}_{-1158} | 249^{+969}_{-181} |

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 $A_{obs} \gg 1.0$

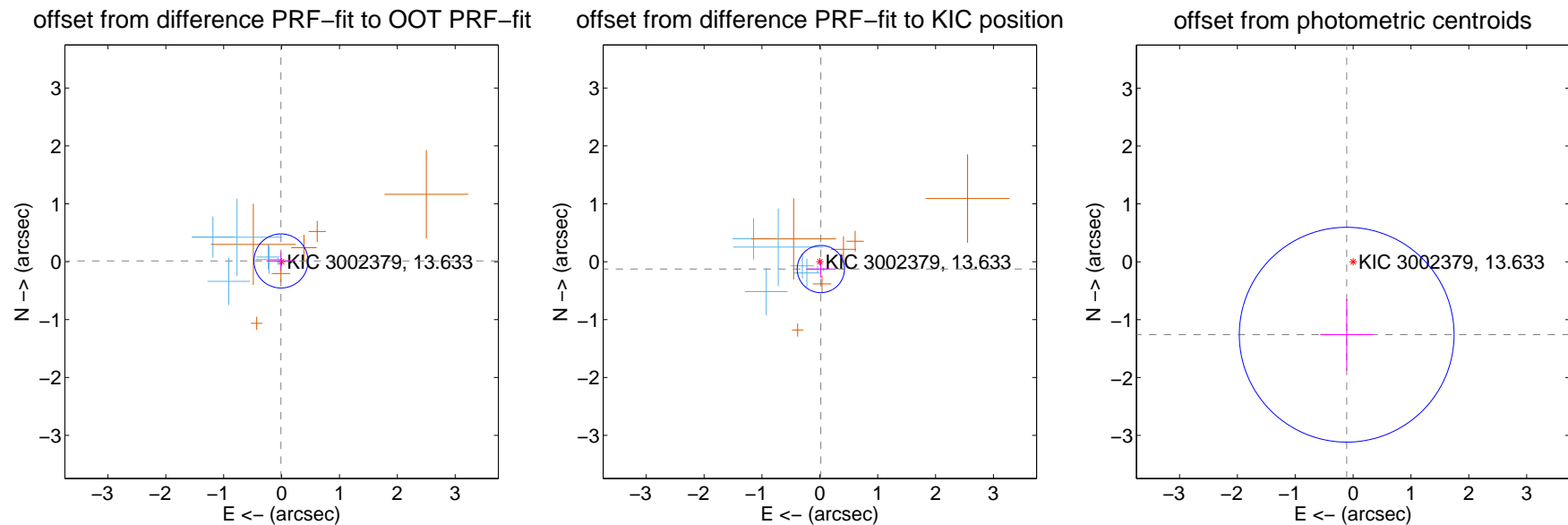
DV Centroid Data

Supplemental centroid analysis for 003002379-06. Kepler magnitude: 13.63. Transit SNR 7.05

There are 7 quarters with good PRF difference image offsets

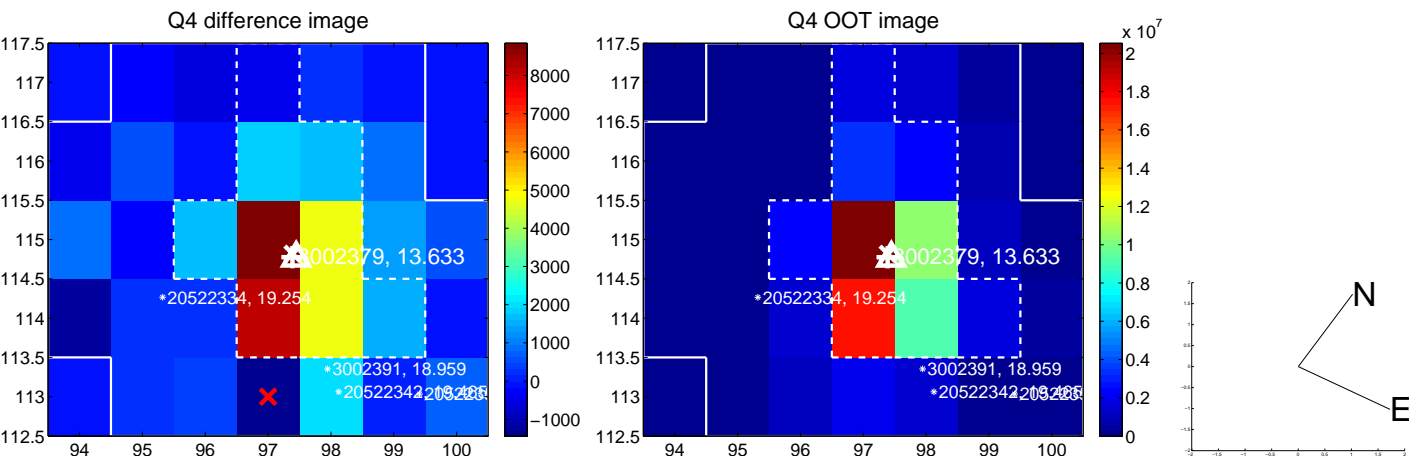
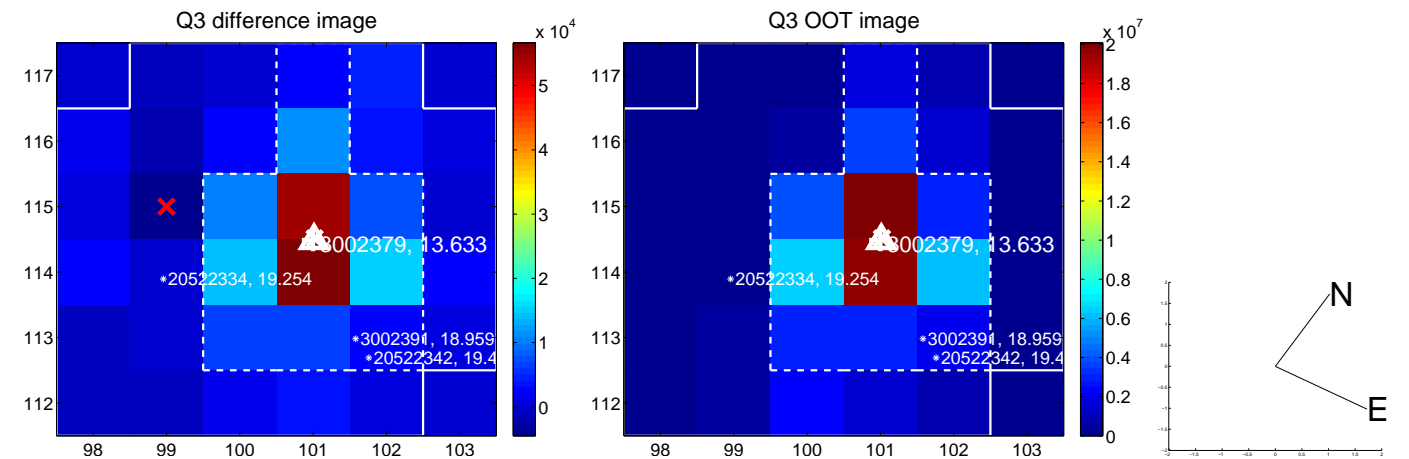
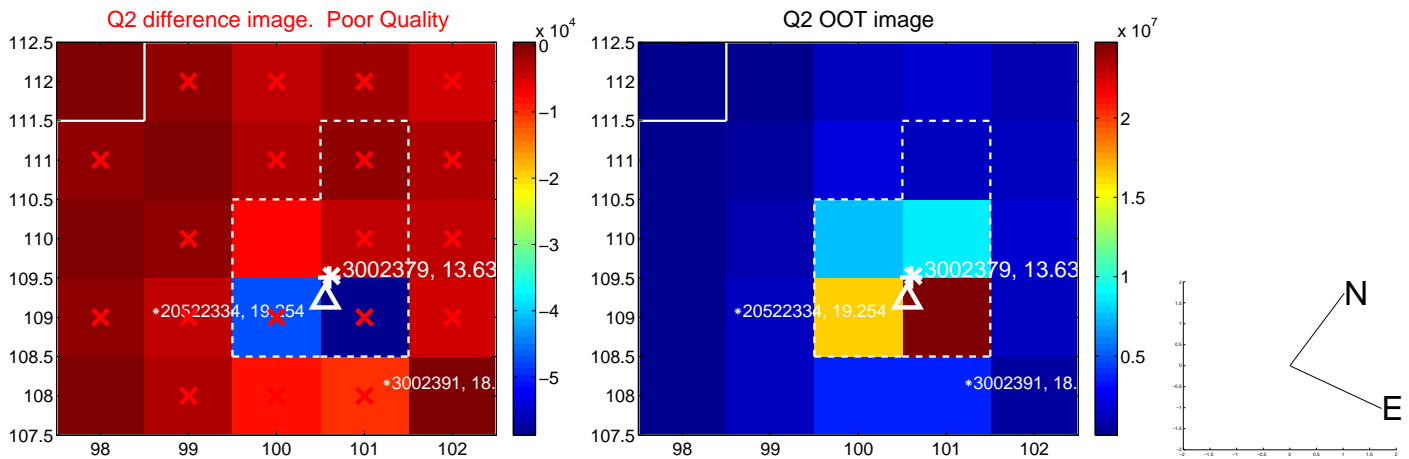
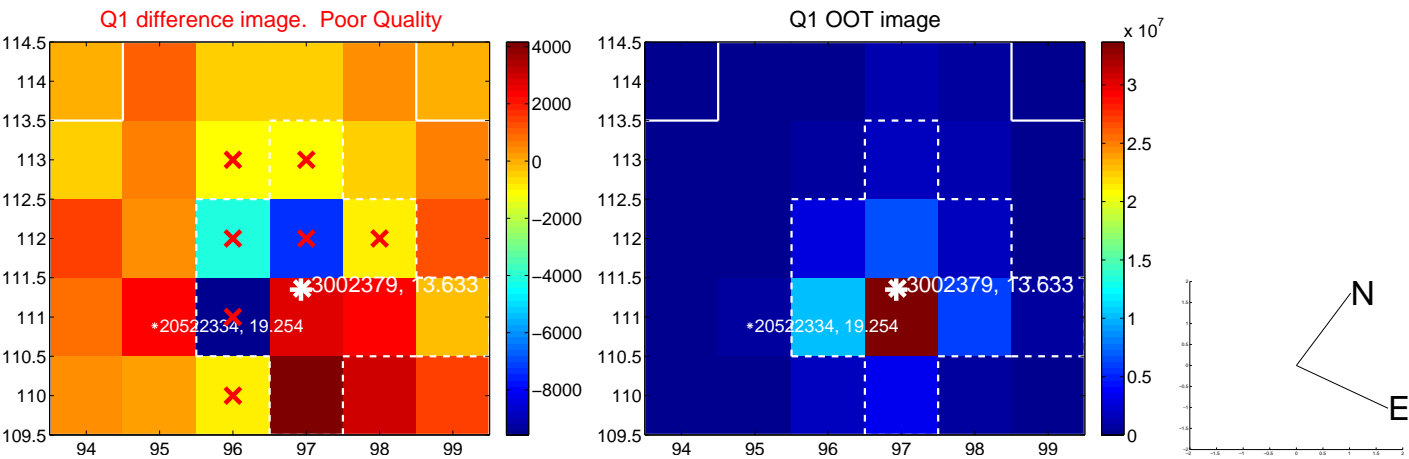
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.017 ± 0.156 | 0.11 | 0.011 ± 0.253 | 0.013 ± 0.153 |
| PRF-fit source offset from KIC position | 0.128 ± 0.136 | 0.94 | -0.017 ± 0.258 | -0.127 ± 0.149 |
| photometric centroid source offset | 1.27 ± 0.62 | 2.04 | 0.11 ± 0.46 | -1.26 ± 0.62 |

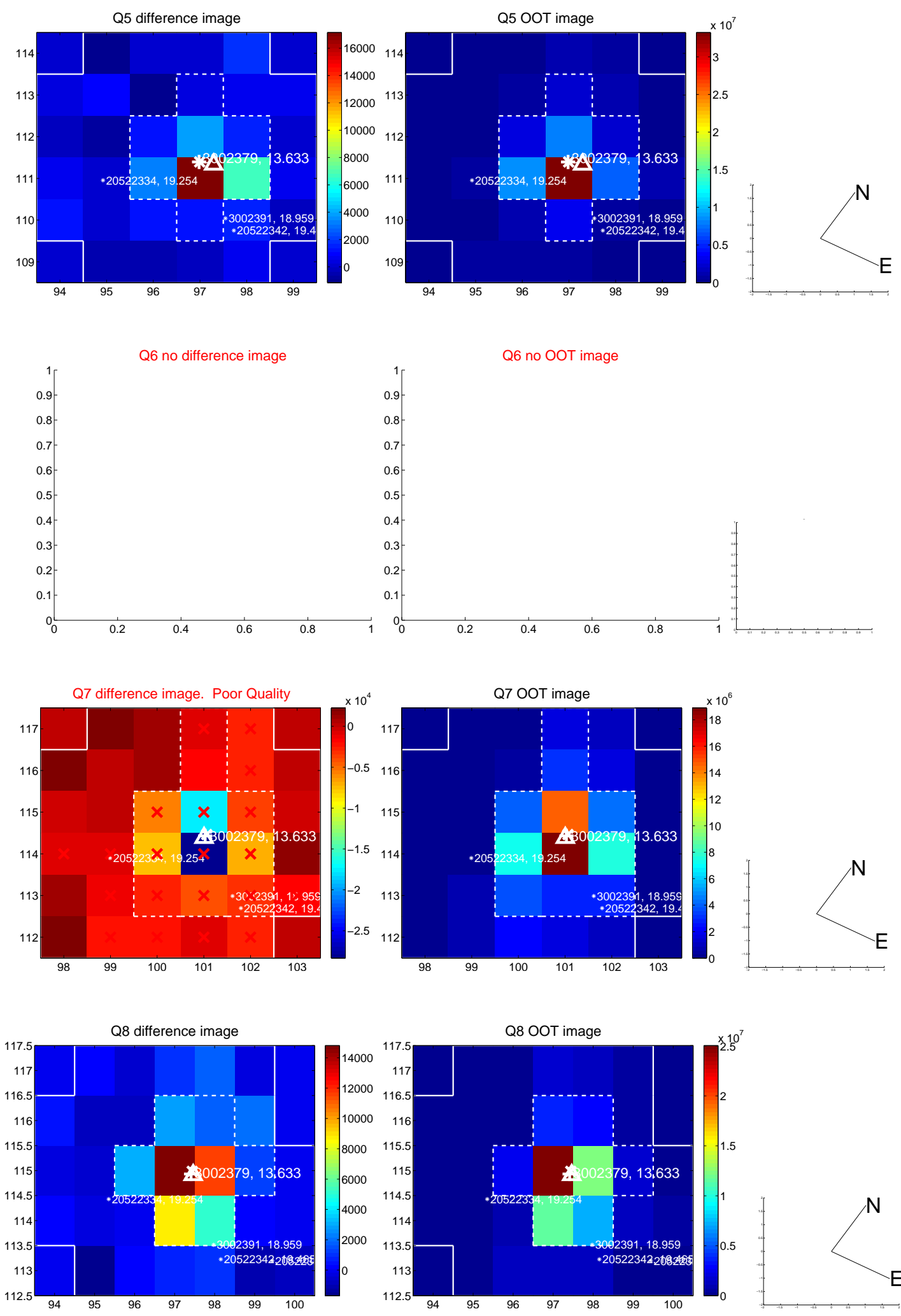


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

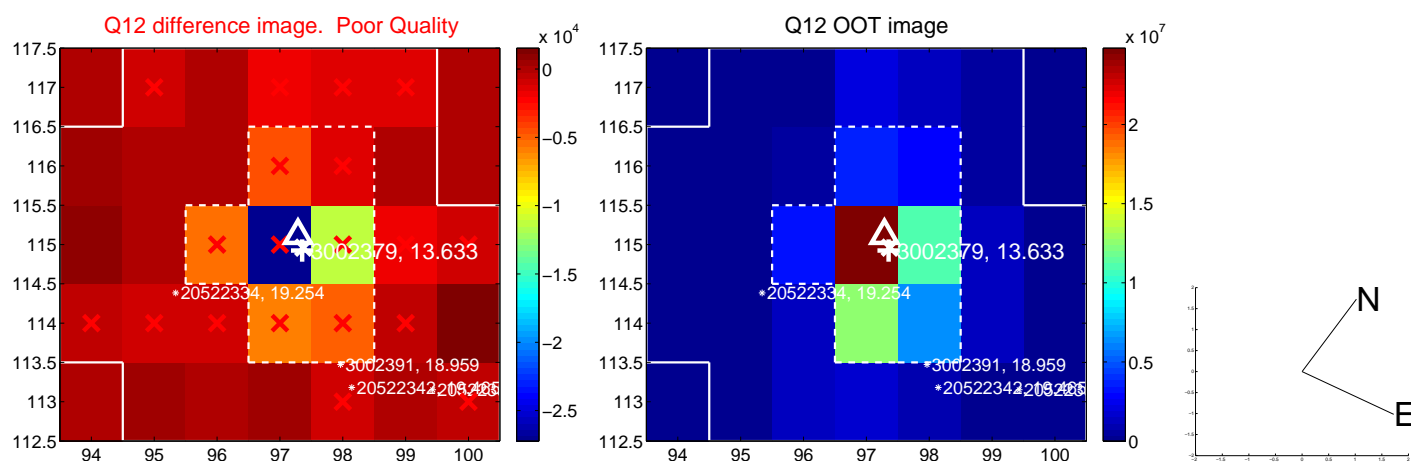
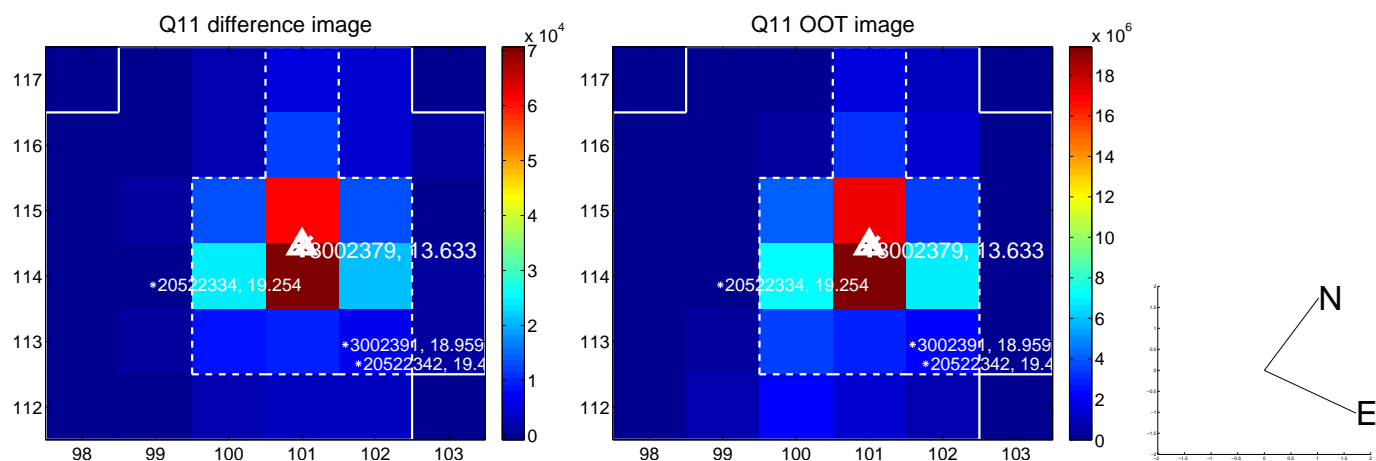
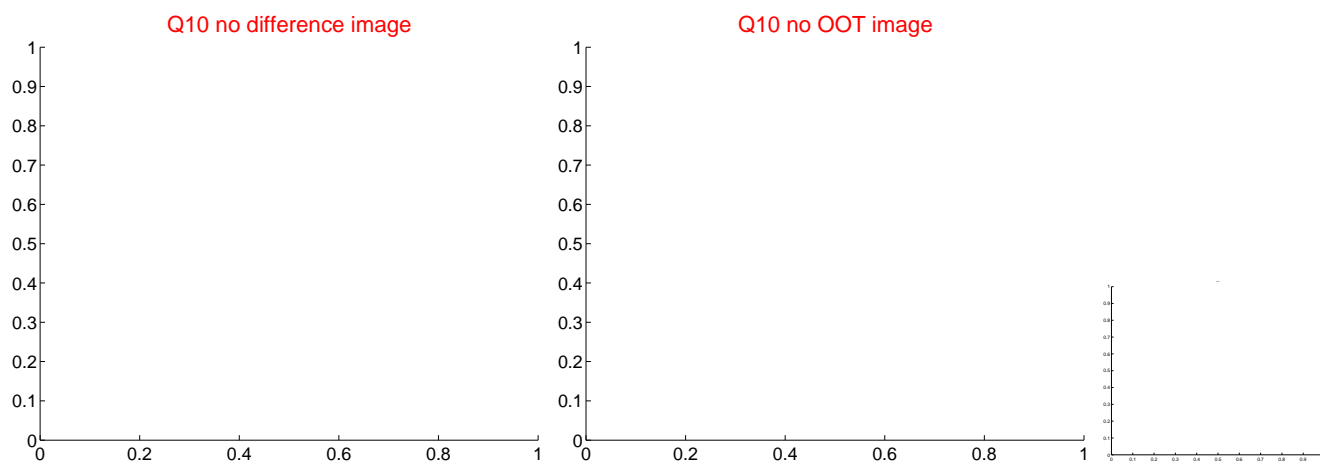
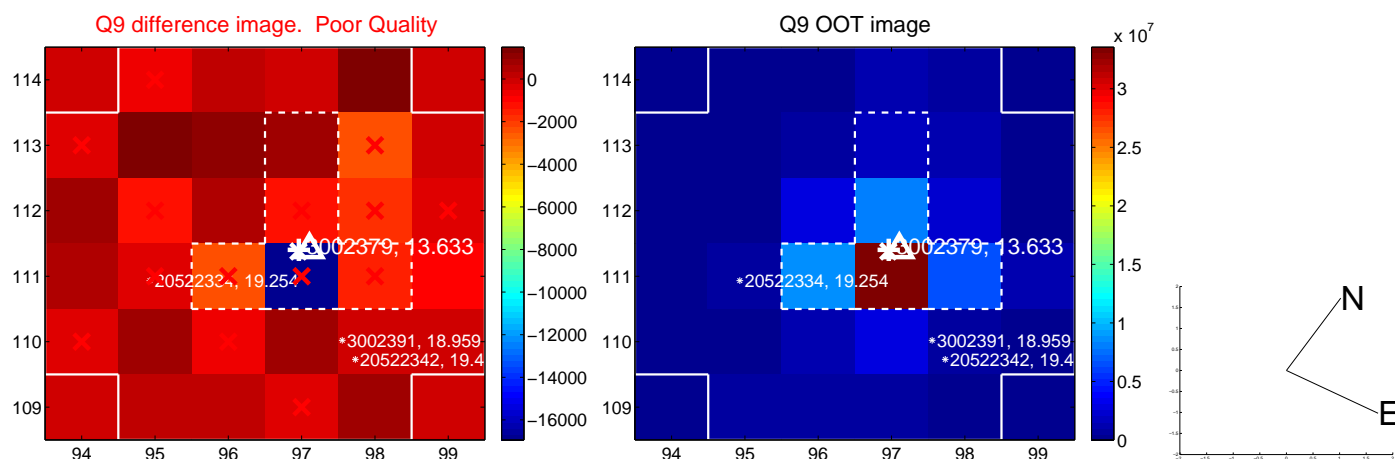
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



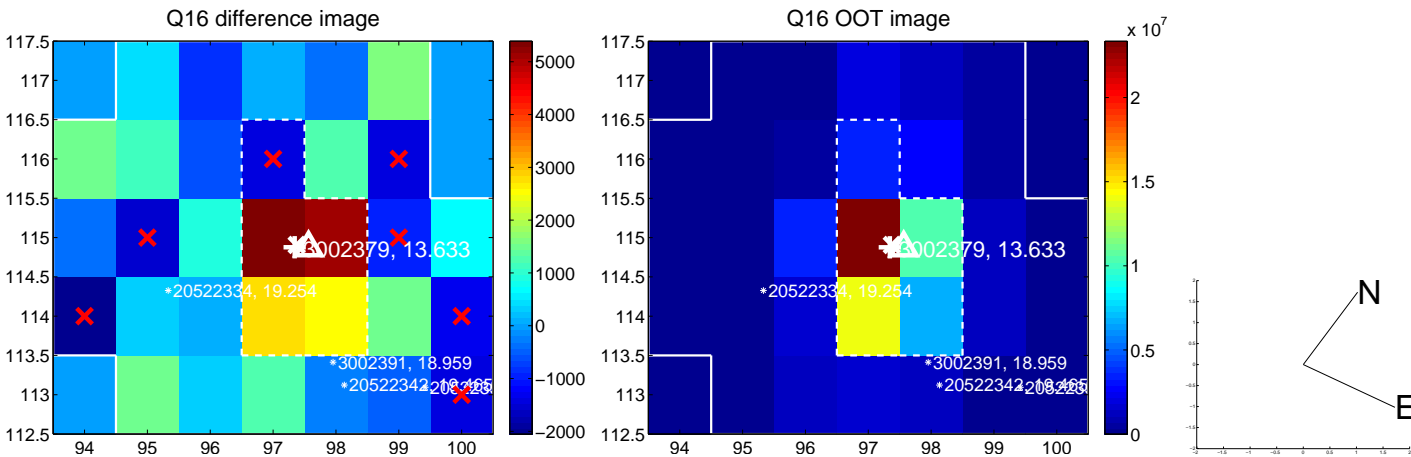
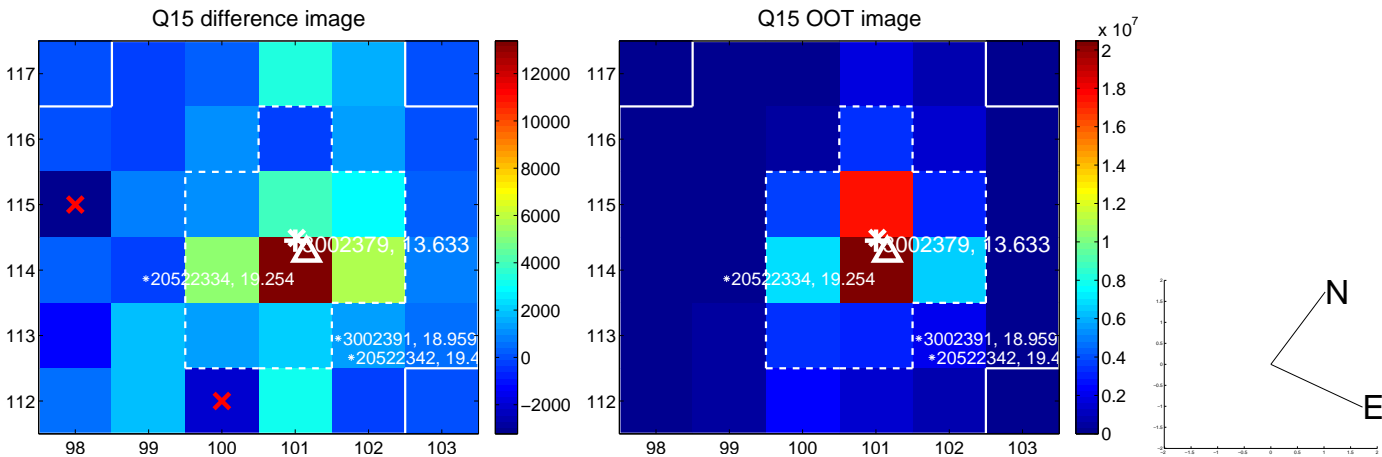
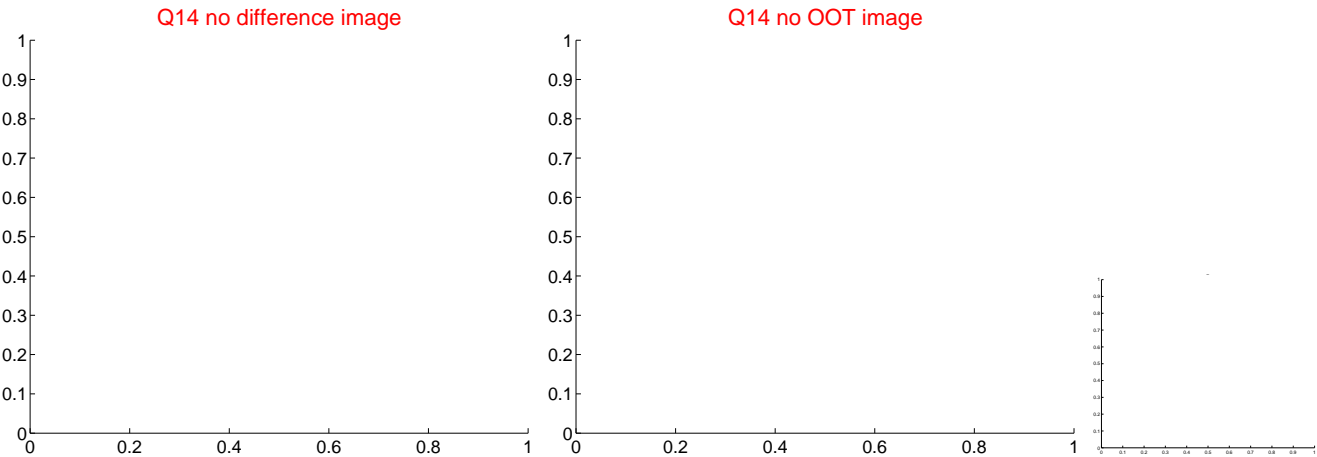
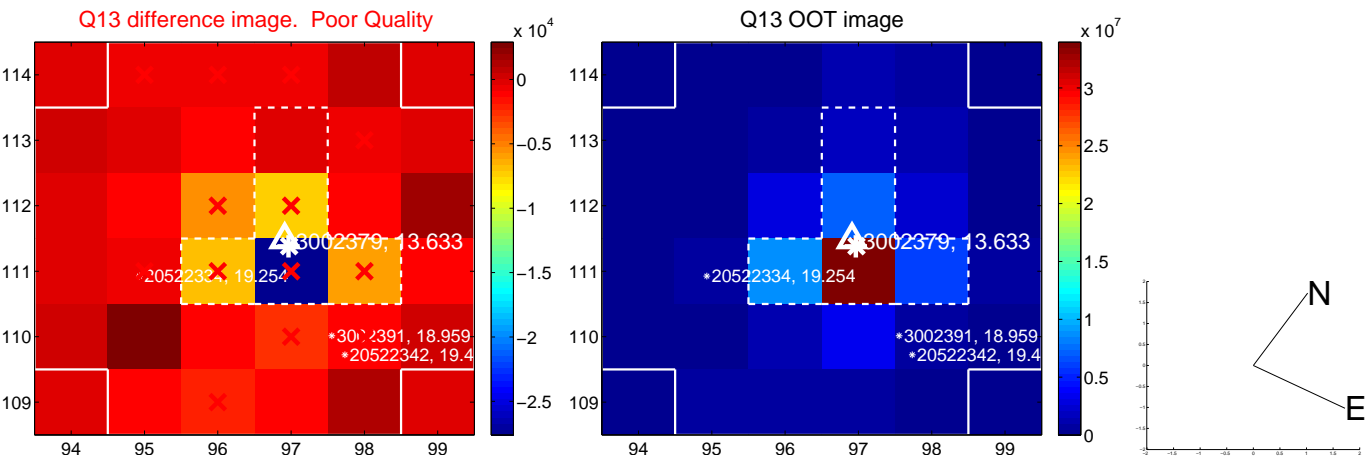
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



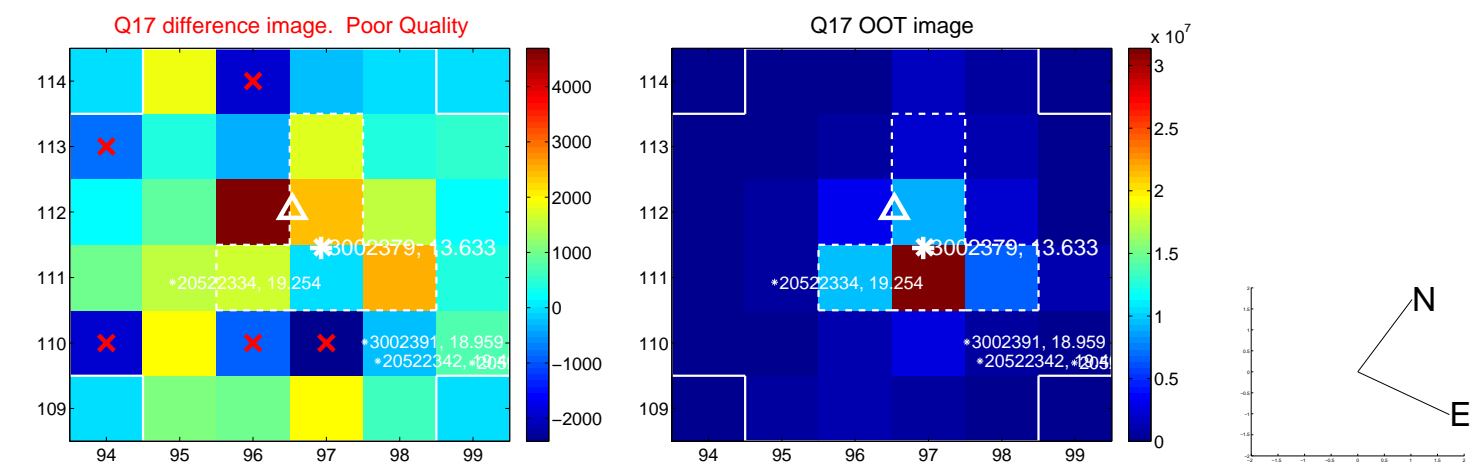
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



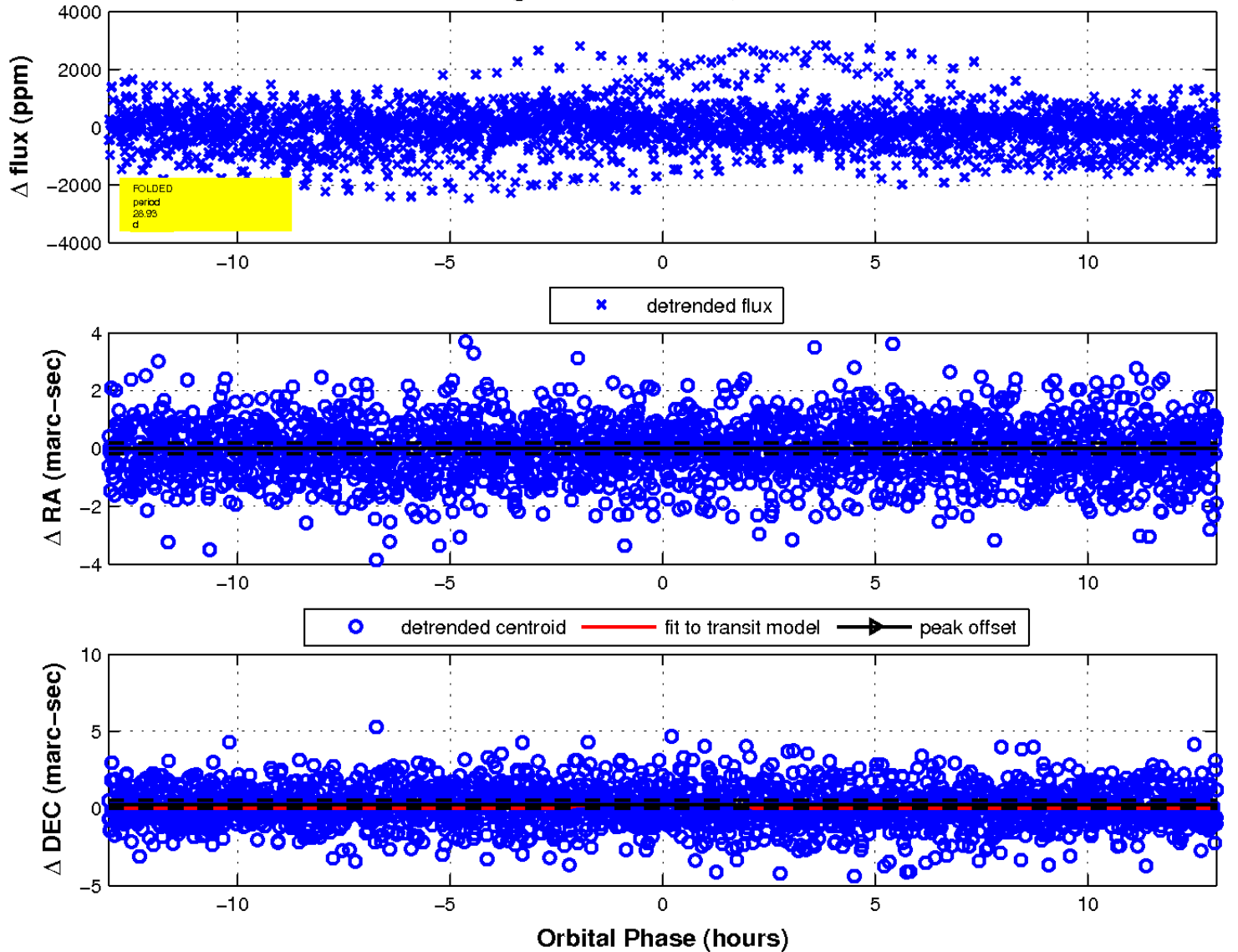
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

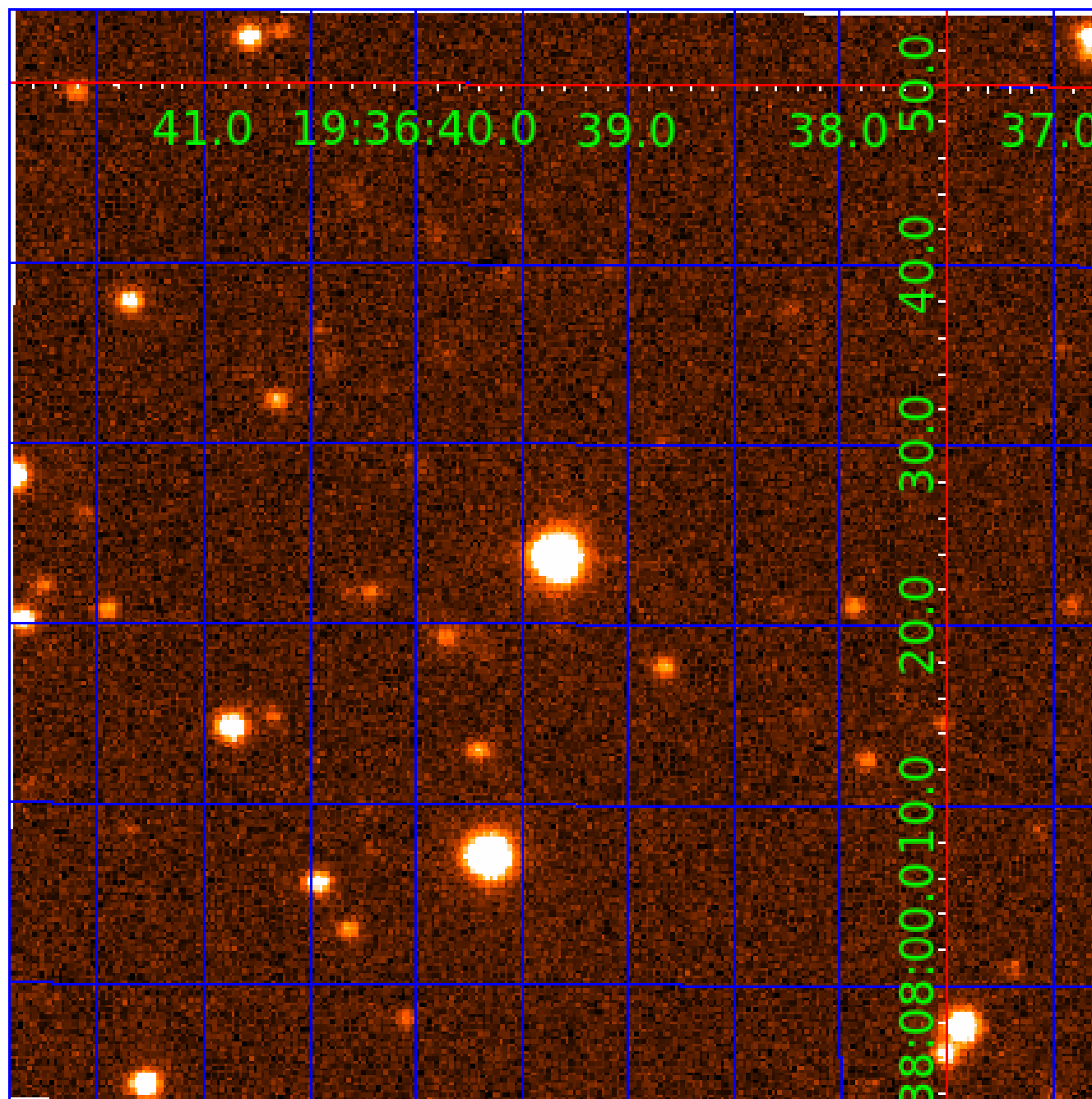


fluxWeightedCentroids, Planet 6 of 8



UKIRT Image

Declination



KIC 003002379

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 003002379-01 | OBS | No | 1.738915 | 131.598027 | 0.1 | 10.728 | 10.5 | 0.0 | 1.55 | 6937 | 0.04 | 5009.62 |
| 003002379-02 | OBS | No | 210.251733 | 198.091175 | 0.0 | 23.576 | 12.5 | 0.0 | 1.55 | 6937 | 0.01 | 8.38 |
| 003002379-03 | OBS | No | 75.909834 | 153.330921 | 1392.7 | 8.276 | 10.1 | 7.6 | 1.55 | 6937 | 10.73 | 32.59 |
| 003002379-04 | OBS | No | 300.749414 | 174.486154 | 1252.6 | 8.400 | 7.9 | 7.0 | 1.55 | 6937 | 8.68 | 5.20 |
| 003002379-06 | OBS | No | 28.925014 | 158.769492 | 381.0 | 4.347 | 7.6 | 7.0 | 1.55 | 6937 | 3.22 | 117.98 |
| 003002379-07 | OBS | No | 60.226325 | 144.321363 | 886.0 | 12.766 | 8.3 | 8.0 | 1.55 | 6937 | 5.24 | 44.37 |
| 003002379-08 | OBS | No | 75.034634 | 188.773199 | 560.6 | 9.755 | 8.1 | 6.0 | 1.55 | 6937 | 3.95 | 33.10 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003002379-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV |
| 003002379-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 003002379-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT |
| 003002379-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 003002379-06 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT |
| 003002379-07 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST |
| 003002379-08 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT |

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

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

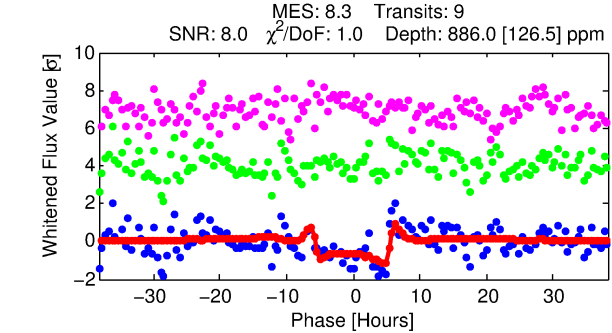
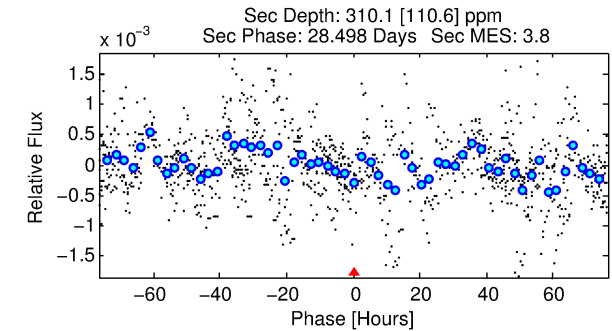
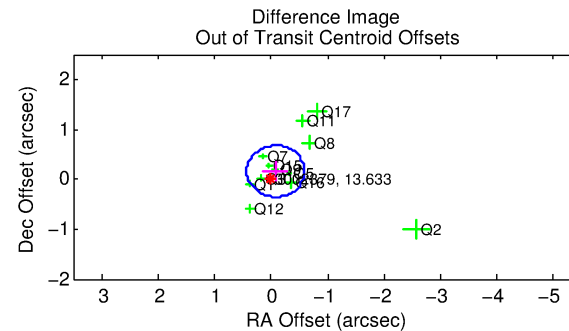
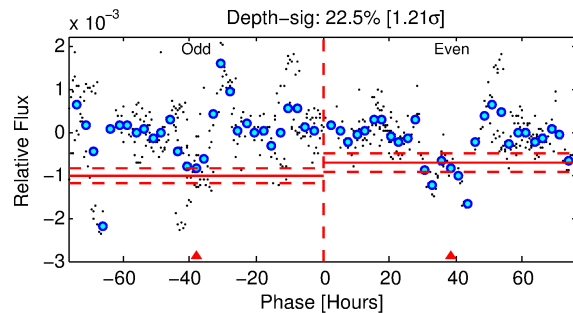
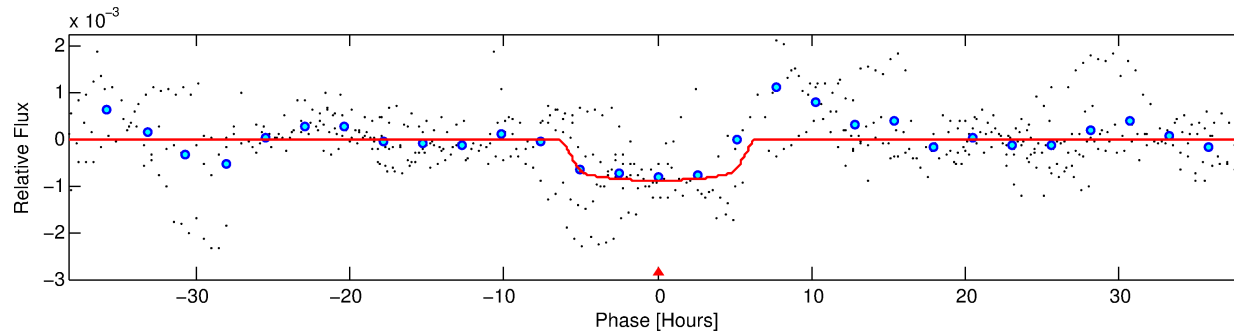
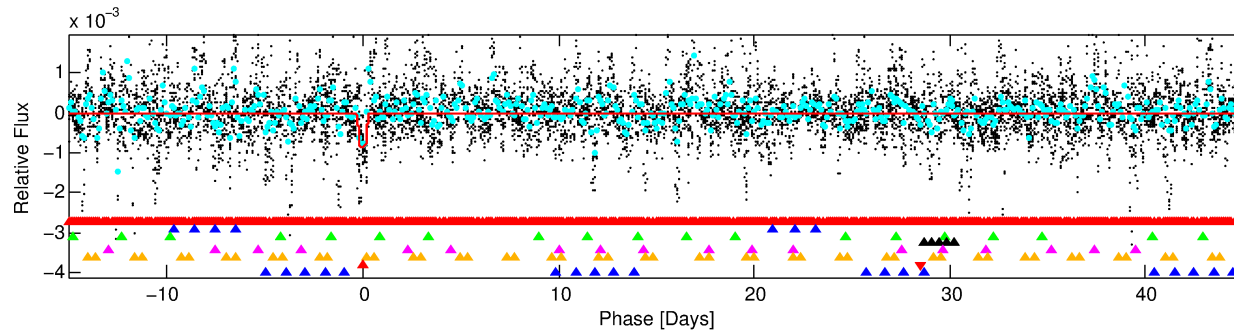
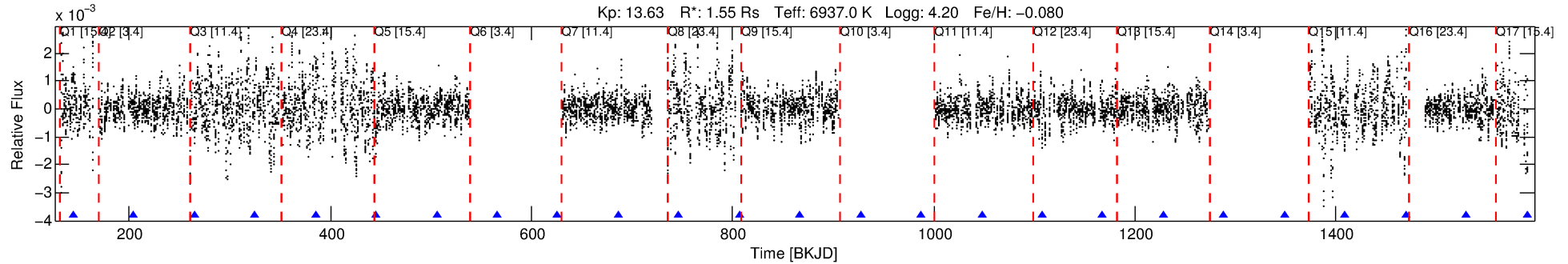
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003002379-07

No Significant Match Found

DV One-Page Summary

KIC: 3002379 Candidate: 7 of 8 Period: 60.226 d



DV Fit Results:

Period = 60.22632 [0.00079] d
Epoch = 144.3214 [0.0120] BKJD
Rp/R* = 0.0310 [0.0027]
a/R* = 20.35 [4.58]
b = 0.86 [0.07]
Seff = 44.37 [17.85]
Teq = 658 [66] K
Rp = 5.24 [1.71] Re
a = 0.3356 [0.0860] AU
Ag = 698.51 [374.95] [1.86 σ]
Teffp = 5231 [567] K [8.00 σ]

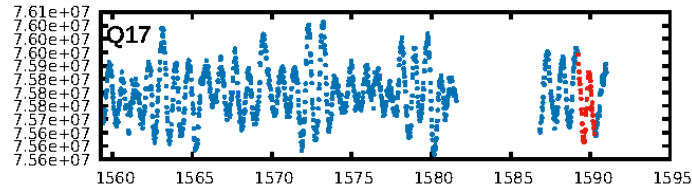
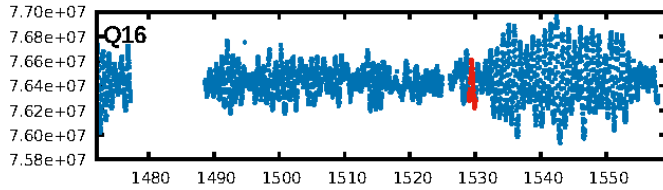
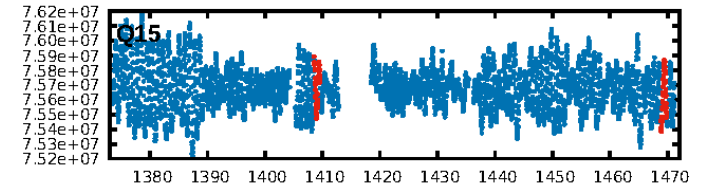
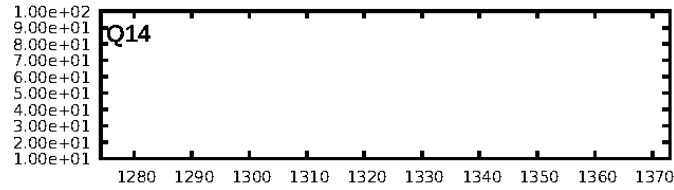
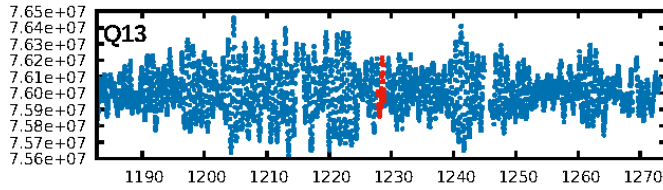
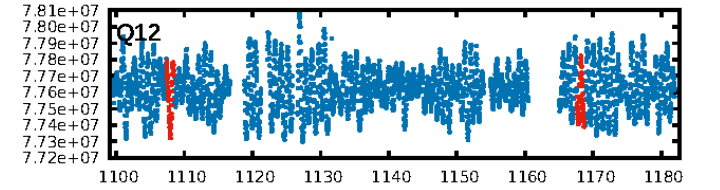
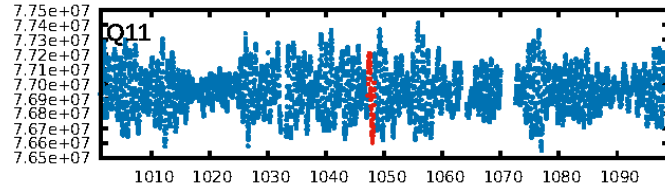
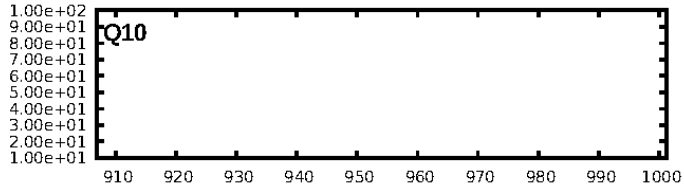
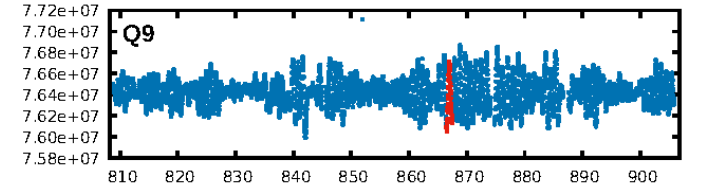
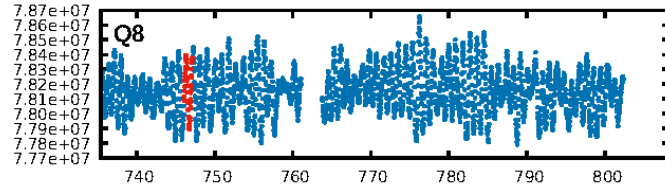
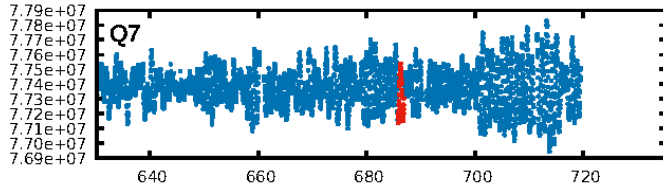
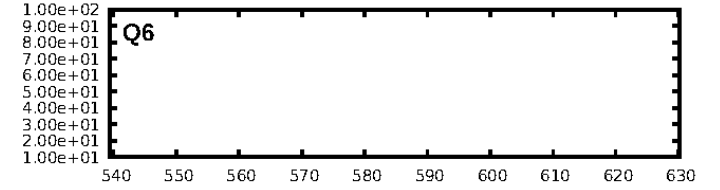
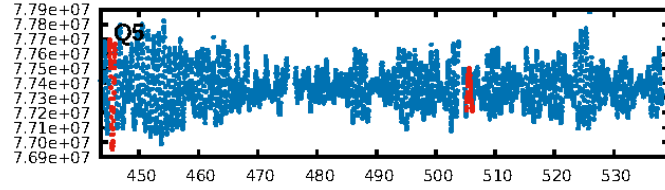
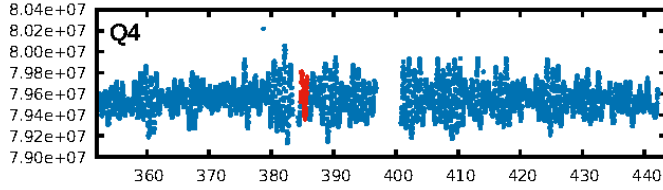
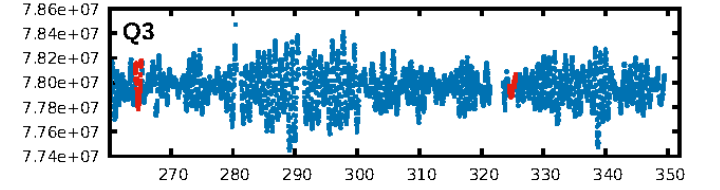
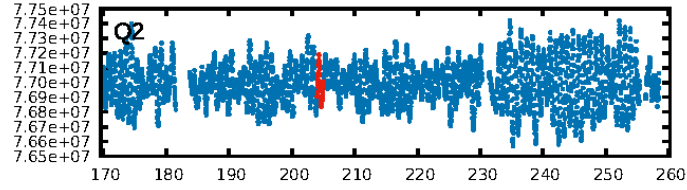
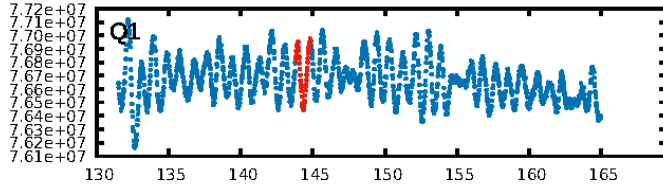
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [55.70 σ]
LongPeriod-sig: 100.0% [22.12 σ]
ModelChiSquare2-sig: 11.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.20e-11
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.2097
Centroid-sig: 3.3%
Centroid-so: 0.738 arcsec [2.72 σ]
OotOffset-rm: 0.177 arcsec [1.03 σ]
KicOffset-rm: 0.145 arcsec [0.73 σ]
OotOffset-st: 1/4/3/4 [12]
KicOffset-st: 1/4/3/4 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 0.00 [0/12]

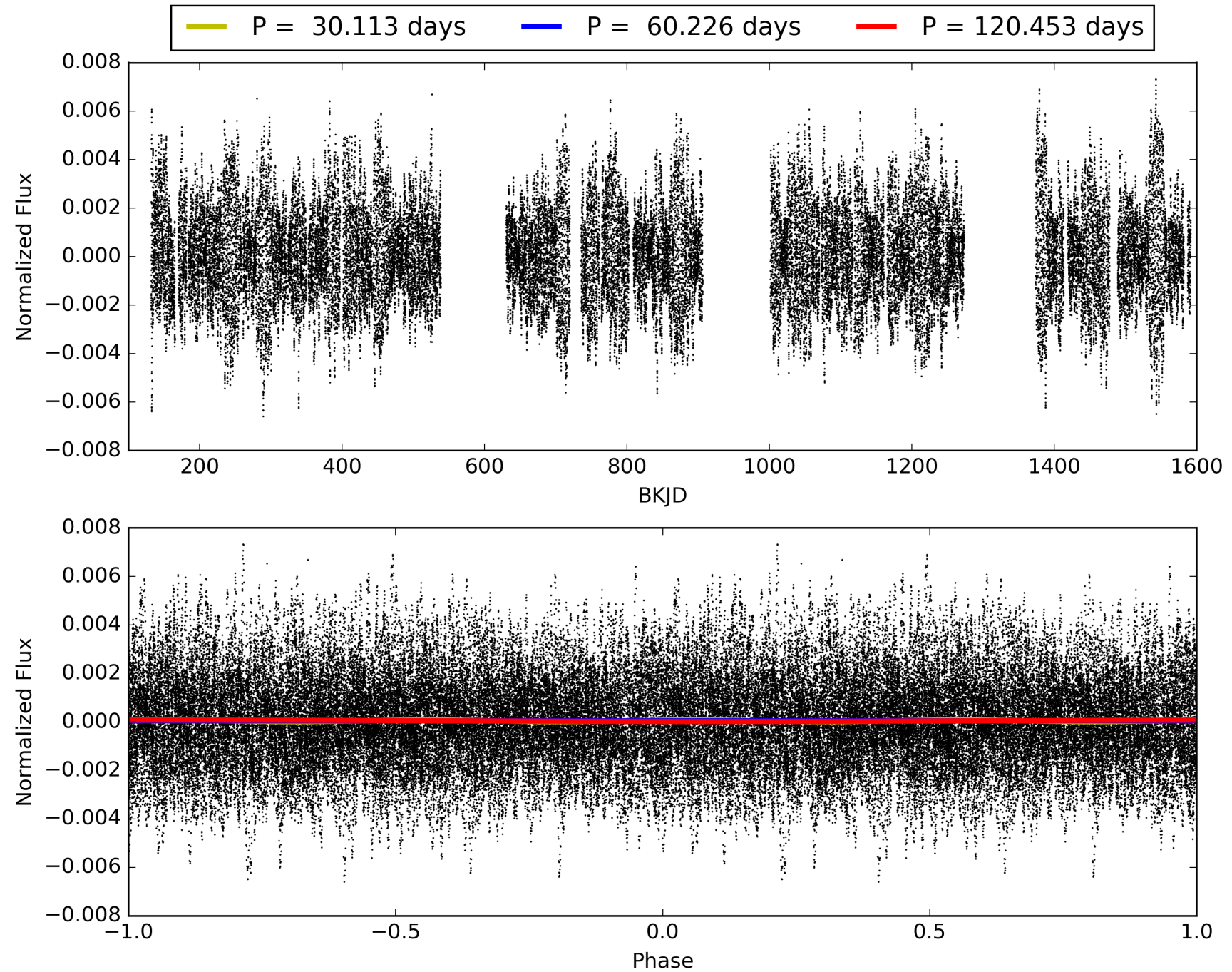
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:57:20 Z

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

TCE 003002379-07, PDC Light Curves

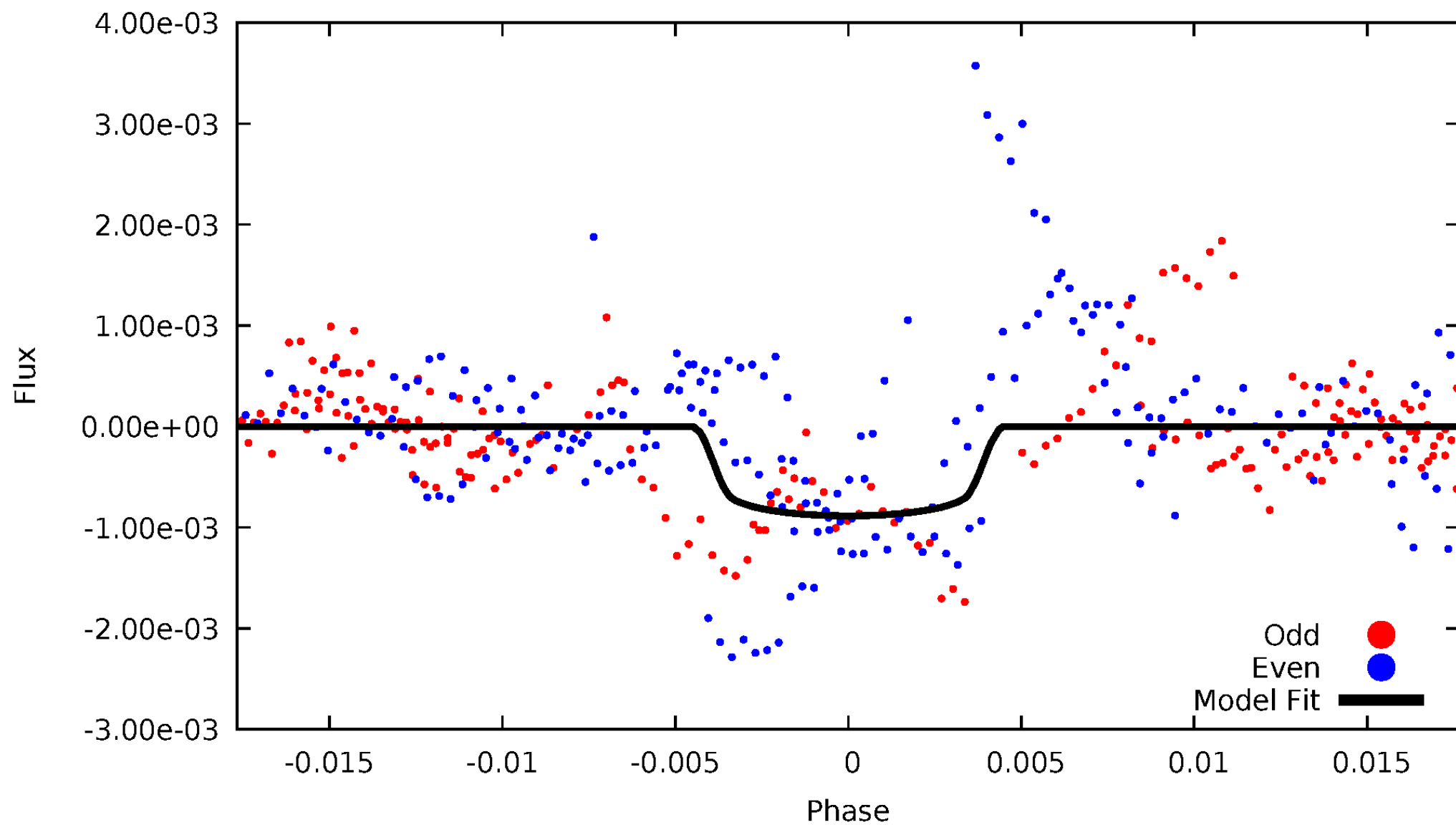


TCE 003002379-07



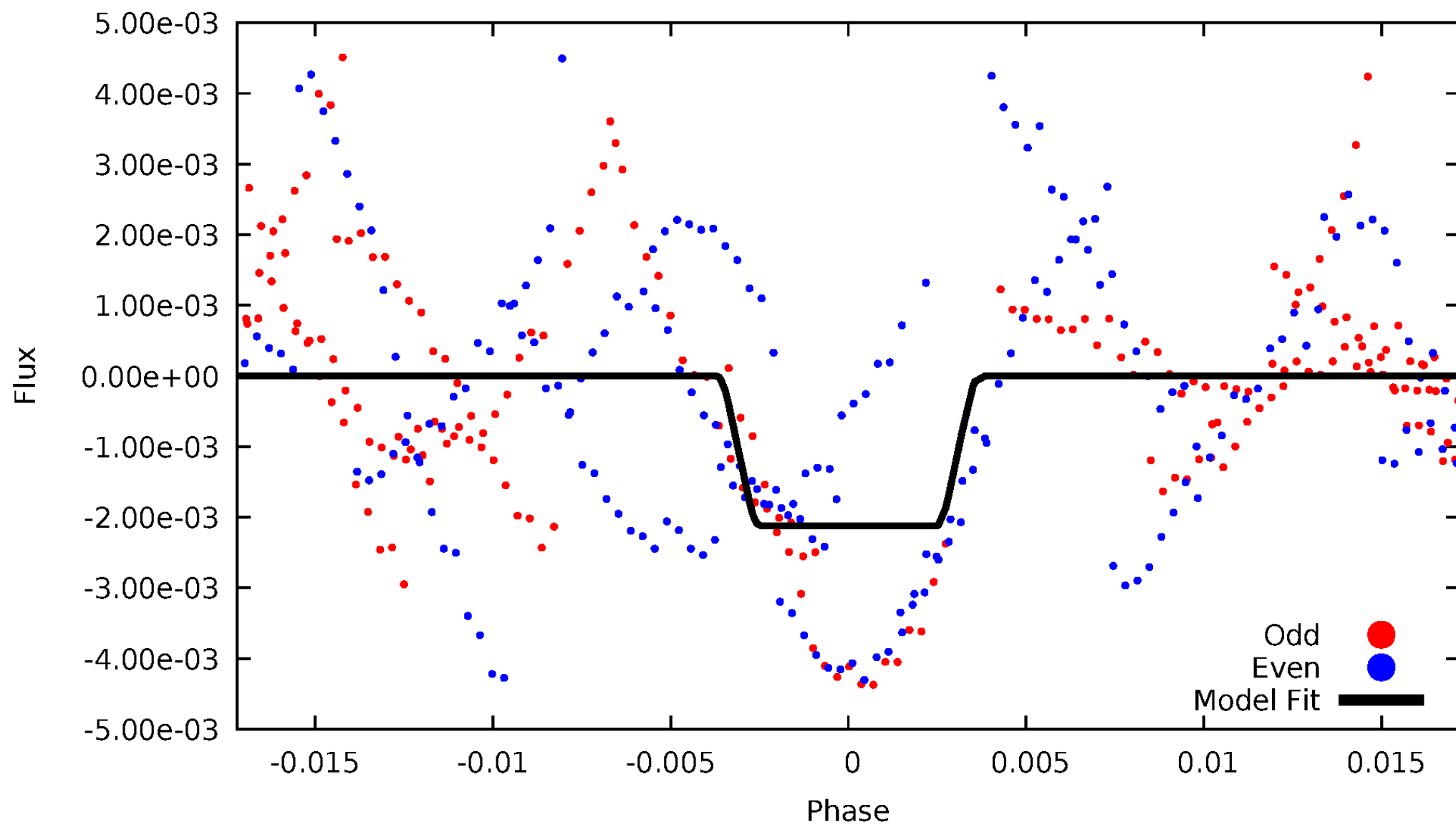
DV Odd/Even

TCE 003002379-07



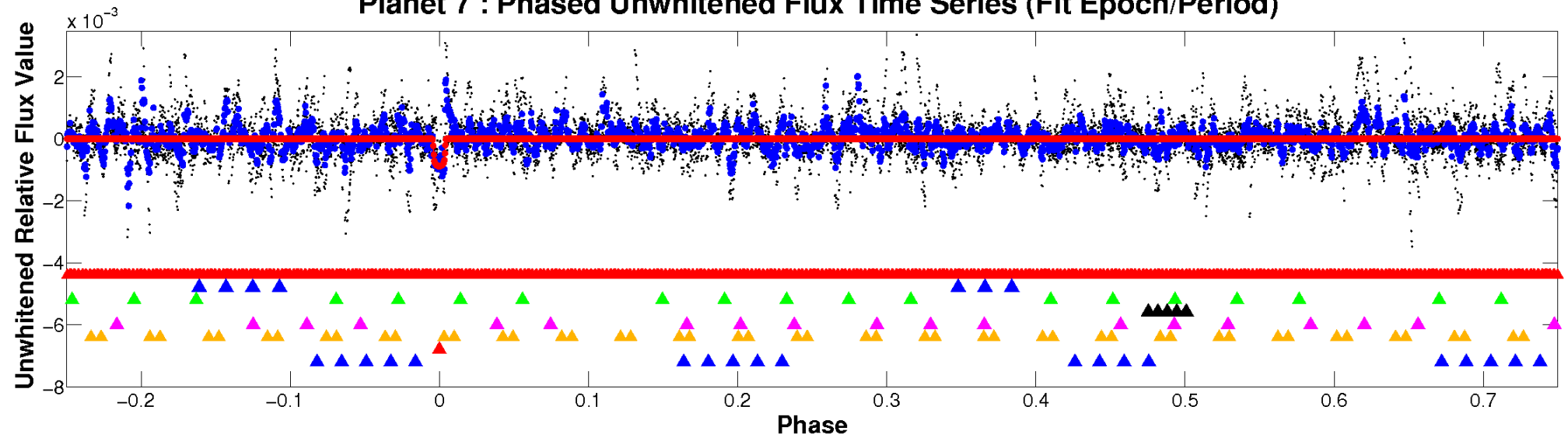
ALT Odd/Even

TCE 003002379-07

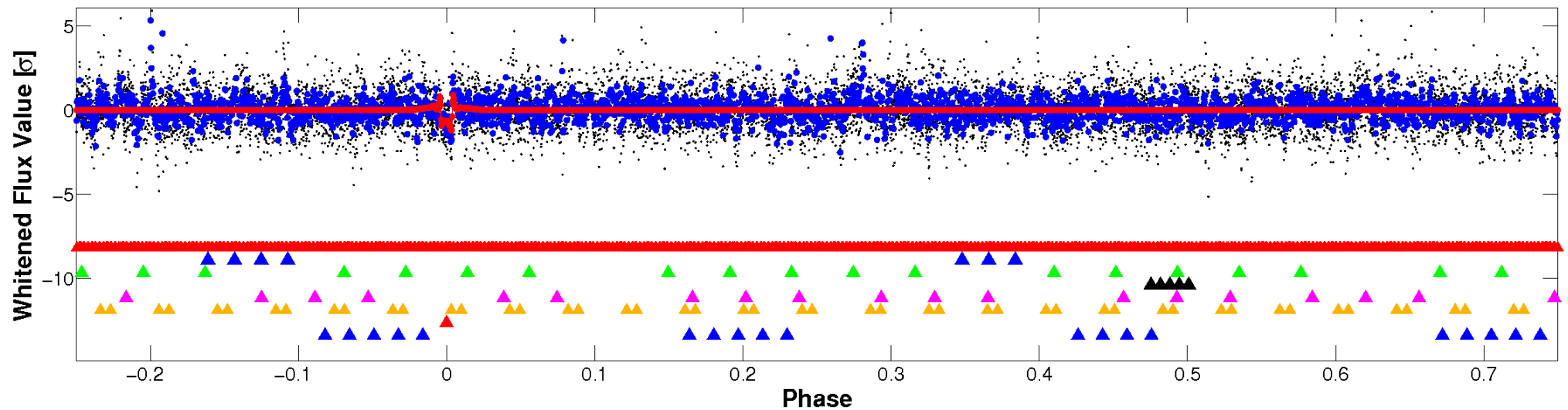


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

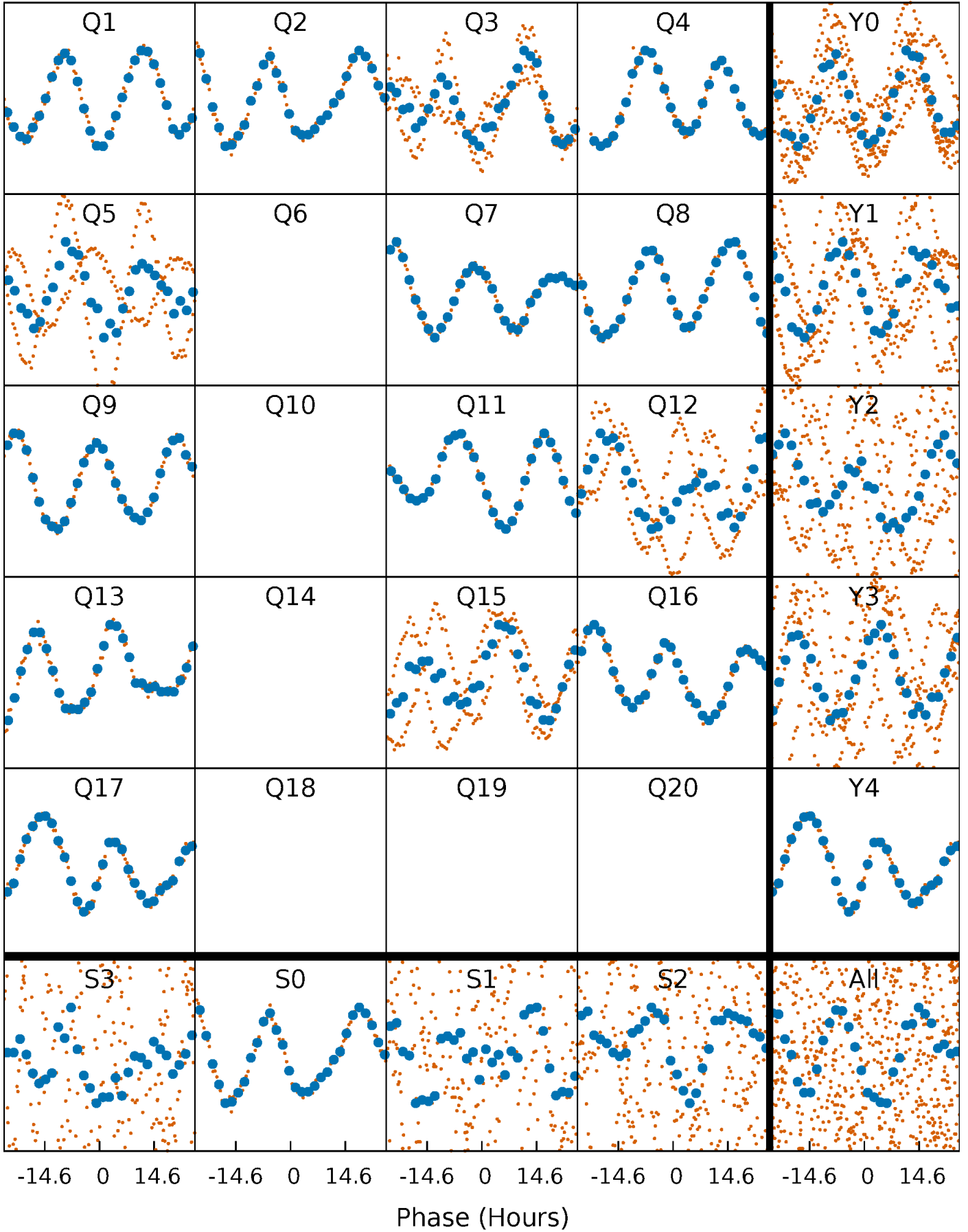


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



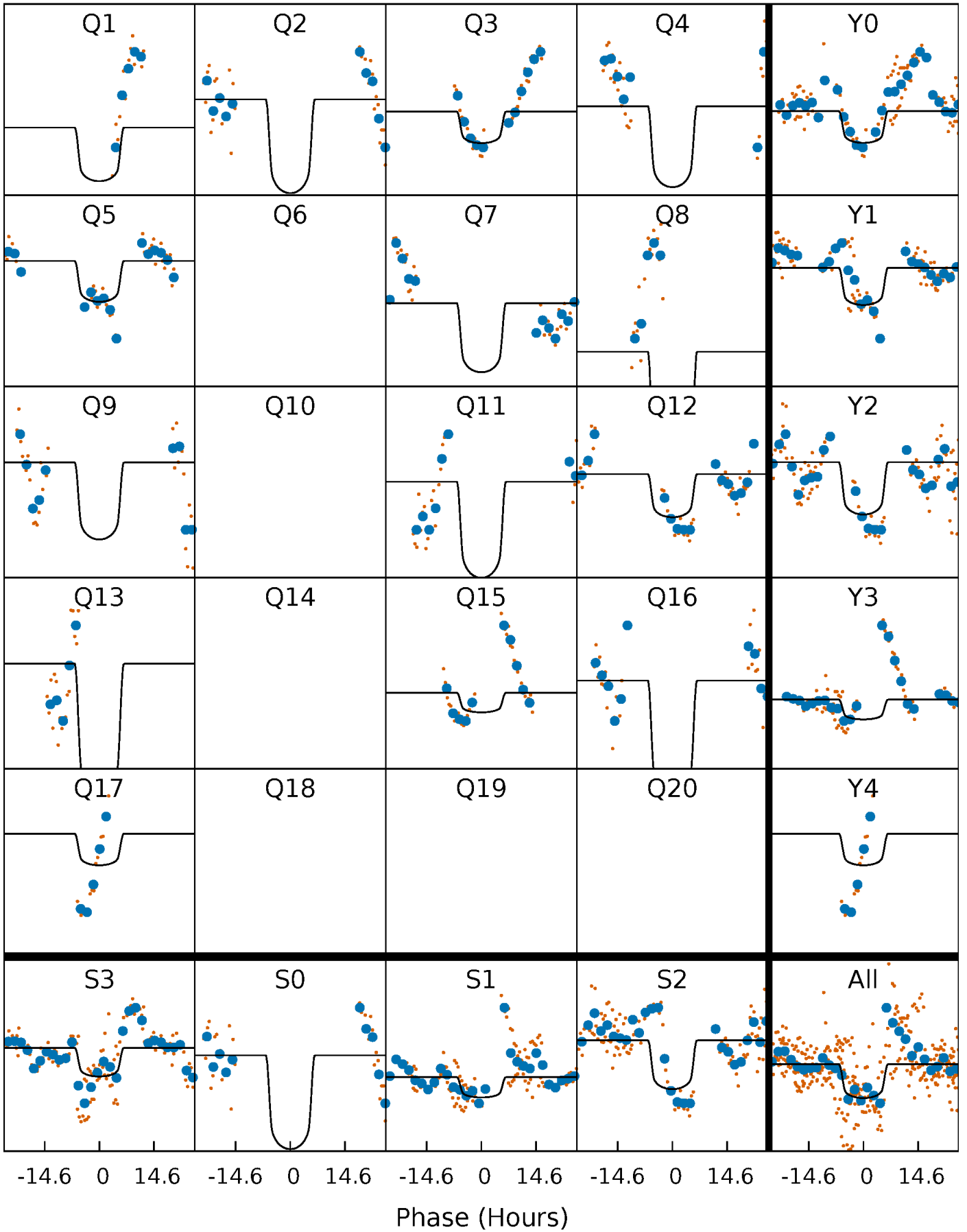
PDC Quarter-Phased Transit Curves

TCE 003002379-07 $P = 60.226325$ Days $T_0 = 144.321363$ (BKJD)



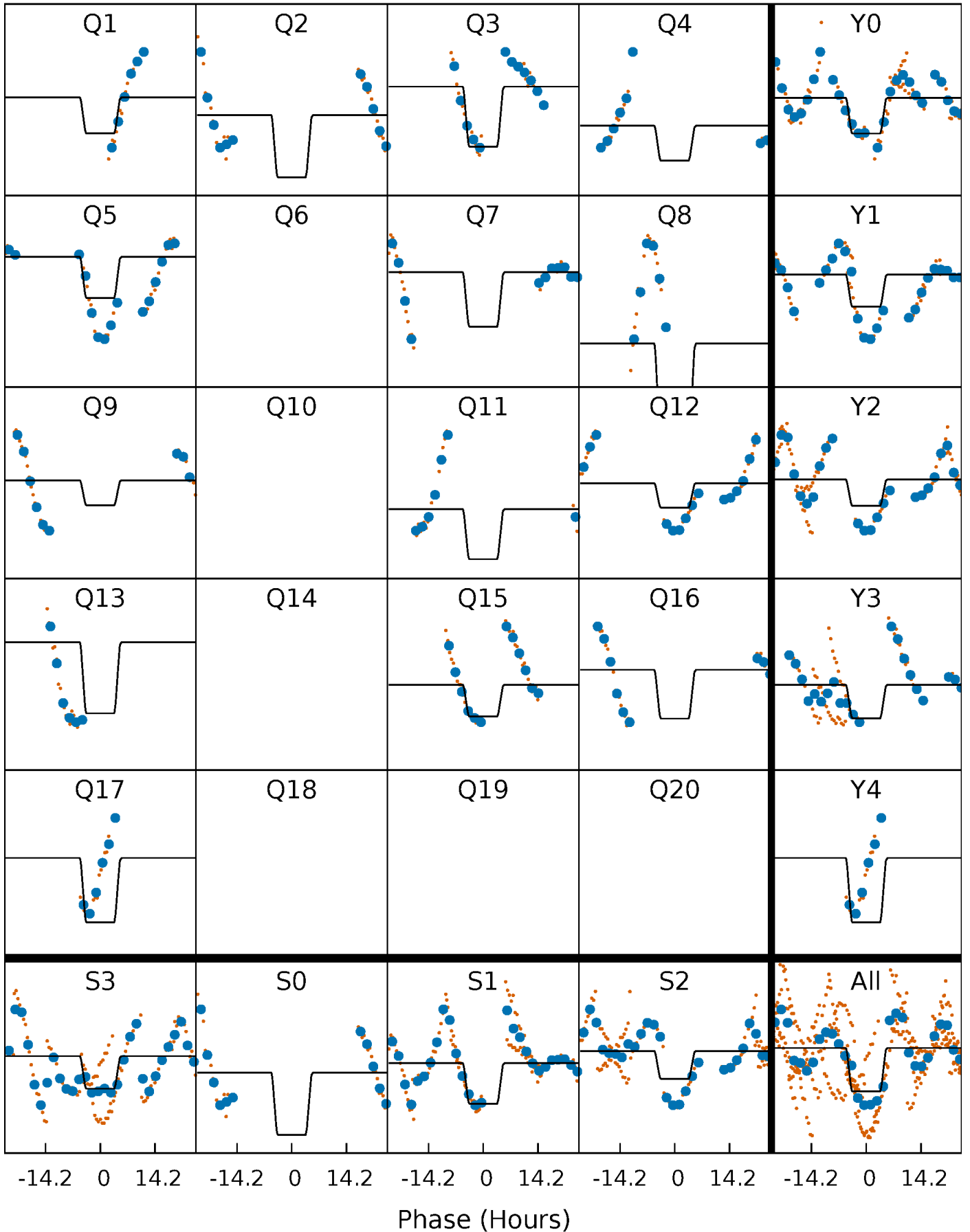
DV Quarter-Phased Transit Curves

TCE 003002379-07 $P = 60.226325$ Days $T_0 = 144.321363$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

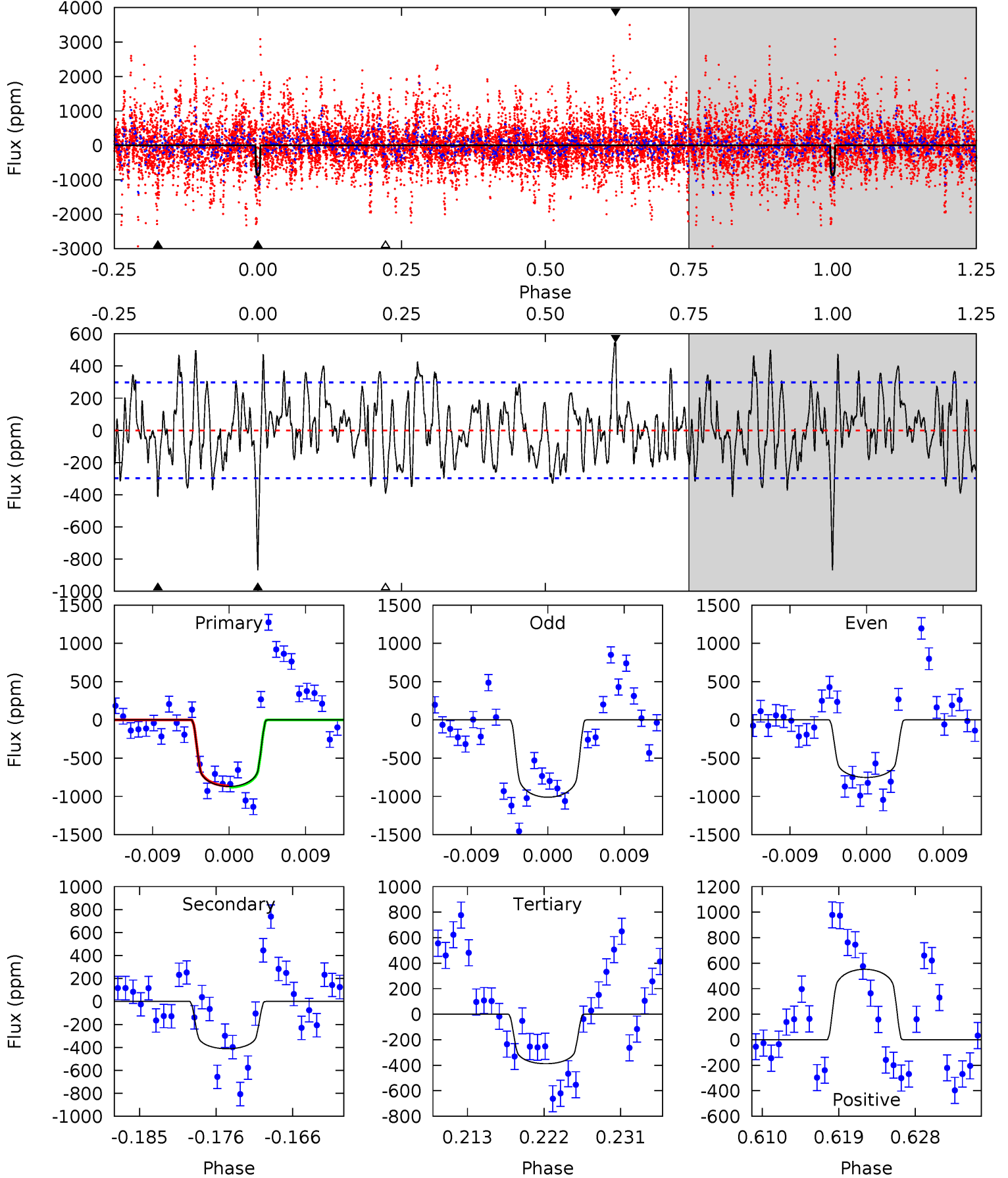
TCE 003002379-07 $P = 60.222863$ Days $T_0 = 144.376597$ (BKJD)



DV Model-Shift Uniqueness Test

003002379-07, P = 60.226325 Days, E = 84.095038 Days

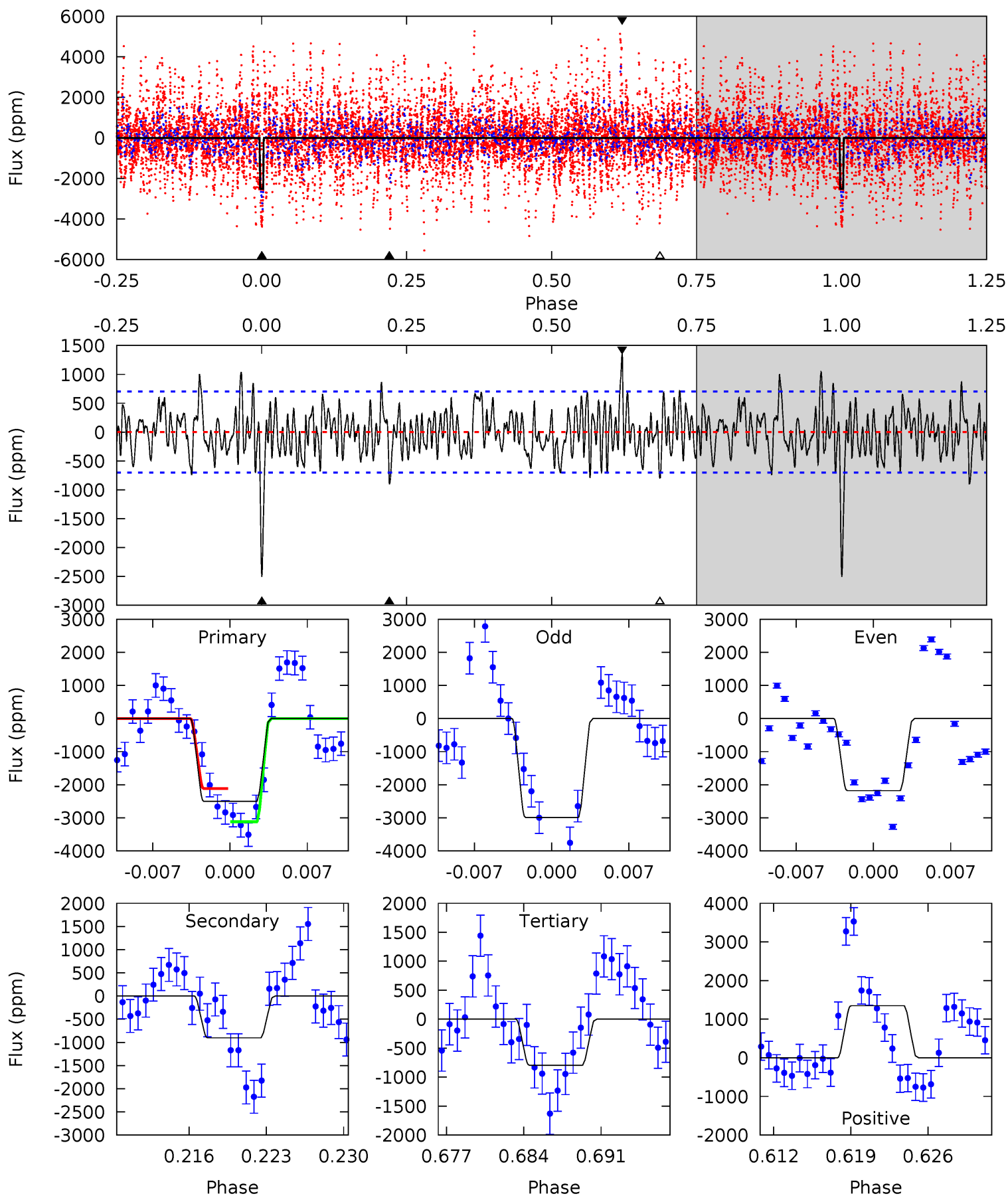
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-------|-------|------|
| 14.7 | 6.97 | 6.57 | 9.35 | 5.04 | 2.60 | 2.89 | 8.15 | 5.37 | 0.40 | -2.38 | 1.91 | -0.42 | 0.39 | 0.14 |



Alt Model-Shift Uniqueness Test

003002379-07, P = 60.222863 Days, E = 84.153734 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 18.2 | 6.55 | 5.76 | 9.78 | 5.09 | 2.69 | 2.44 | 12.4 | 8.37 | 0.79 | -3.23 | 2.79 | 0.89 | 0.35 | 3.51 |



Stellar Parameters For KIC 003002379

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6937^{+194}_{-305} | $4.199^{+0.128}_{-0.192}$ | $-0.080^{+0.250}_{-0.350}$ | $1.552^{+0.488}_{-0.285}$ | $1.397^{+0.216}_{-0.238}$ | $0.526^{+0.322}_{-0.266}$ |
| | +3%/-4% | +3%/-5% | +312%/-438% | +31%/-18% | +15%/-17% | +61%/-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 003002379-07 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|----------------|------------------------|----------------------|----------------------|---------------------|
| DV | -412 ± 59 | $5.30^{+0.93}_{-0.74}$ | 918^{+70}_{-57} | 5583^{+341}_{-346} | 887^{+338}_{-250} |
| Alt. | -903 ± 138 | $7.92^{+1.24}_{-1.04}$ | 919^{+71}_{-55} | 5533^{+316}_{-274} | 873^{+315}_{-229} |

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

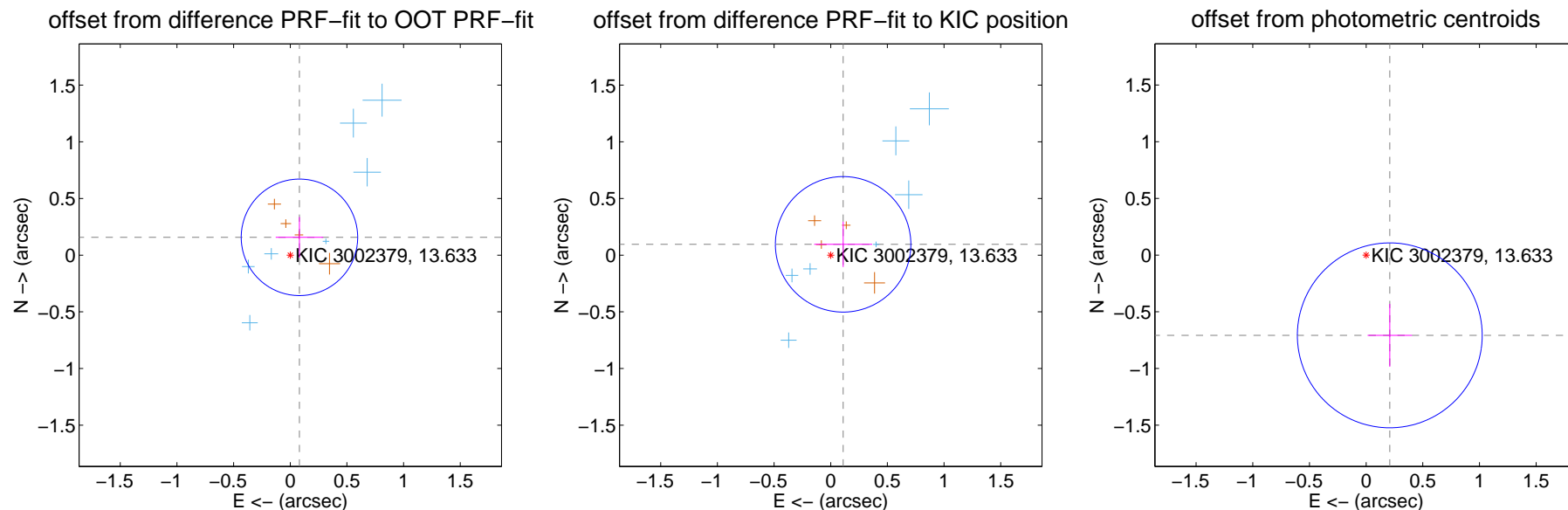
DV Centroid Data

Supplemental centroid analysis for 003002379-07. Kepler magnitude: 13.63. Transit SNR 7.98

There are 8 quarters with good PRF difference image offsets

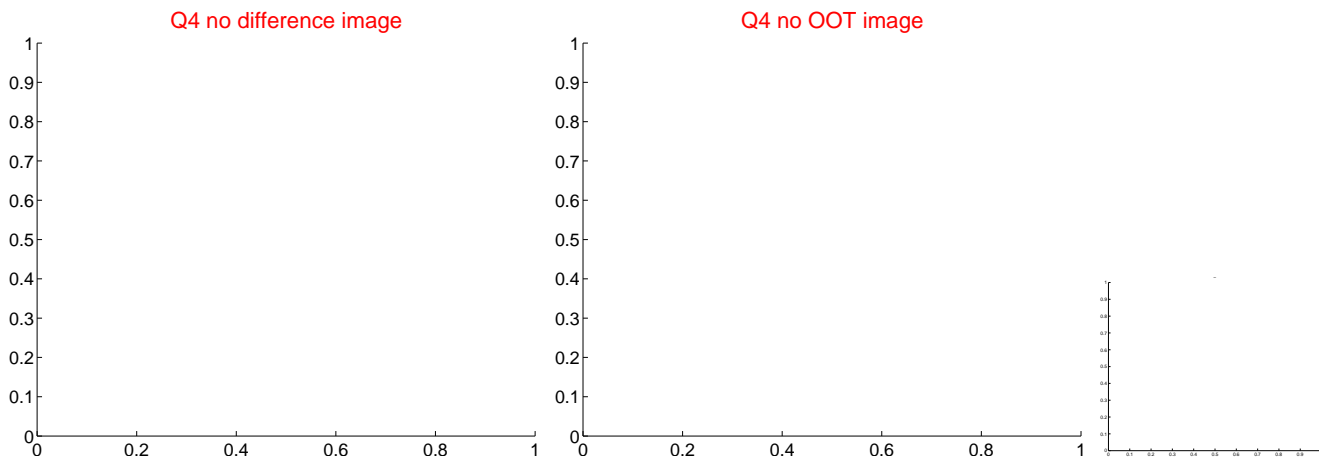
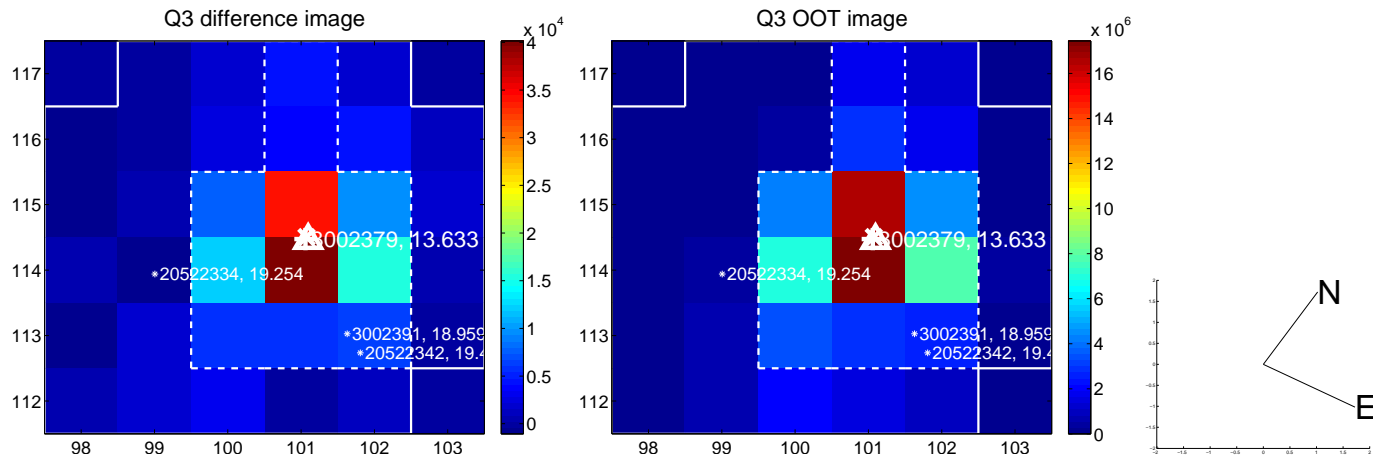
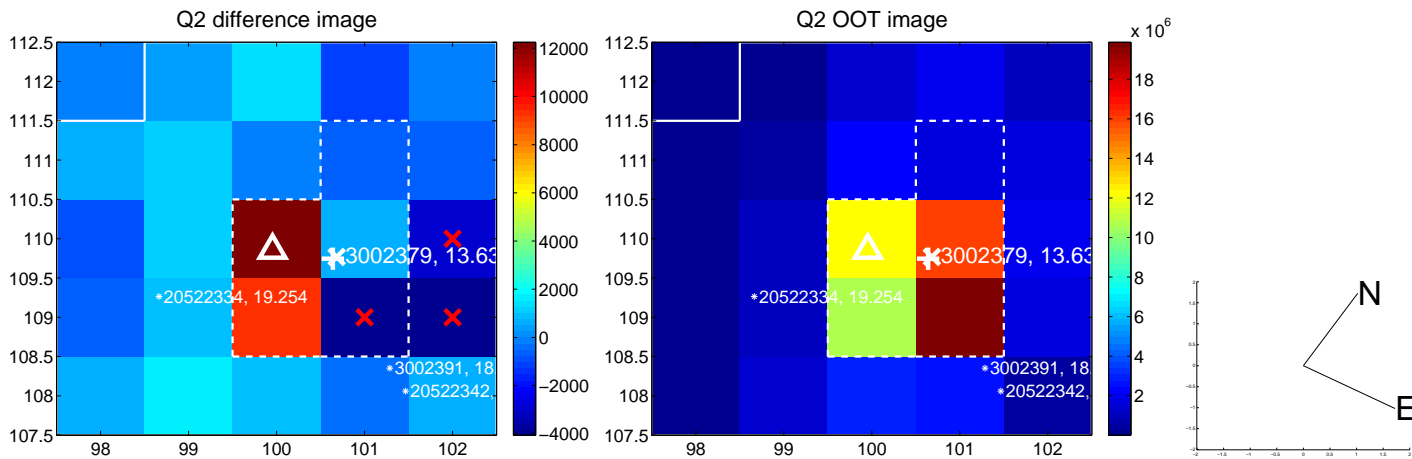
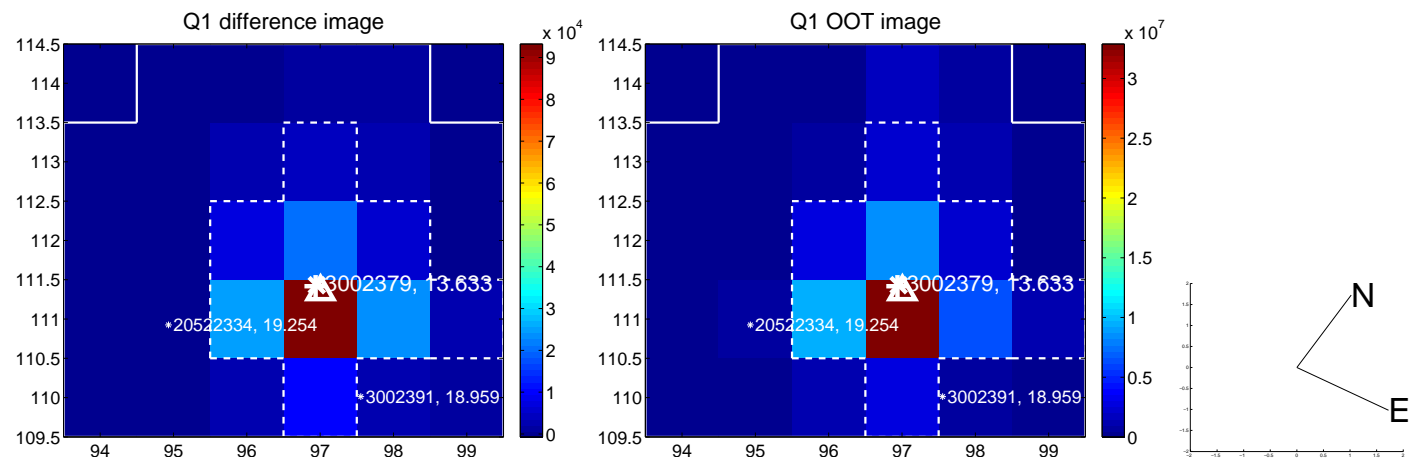
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.177 ± 0.171 | 1.03 | -0.081 ± 0.210 | 0.157 ± 0.180 |
| PRF-fit source offset from KIC position | 0.145 ± 0.199 | 0.73 | -0.109 ± 0.256 | 0.095 ± 0.200 |
| photometric centroid source offset | 0.74 ± 0.27 | 2.72 | -0.21 ± 0.20 | -0.71 ± 0.28 |

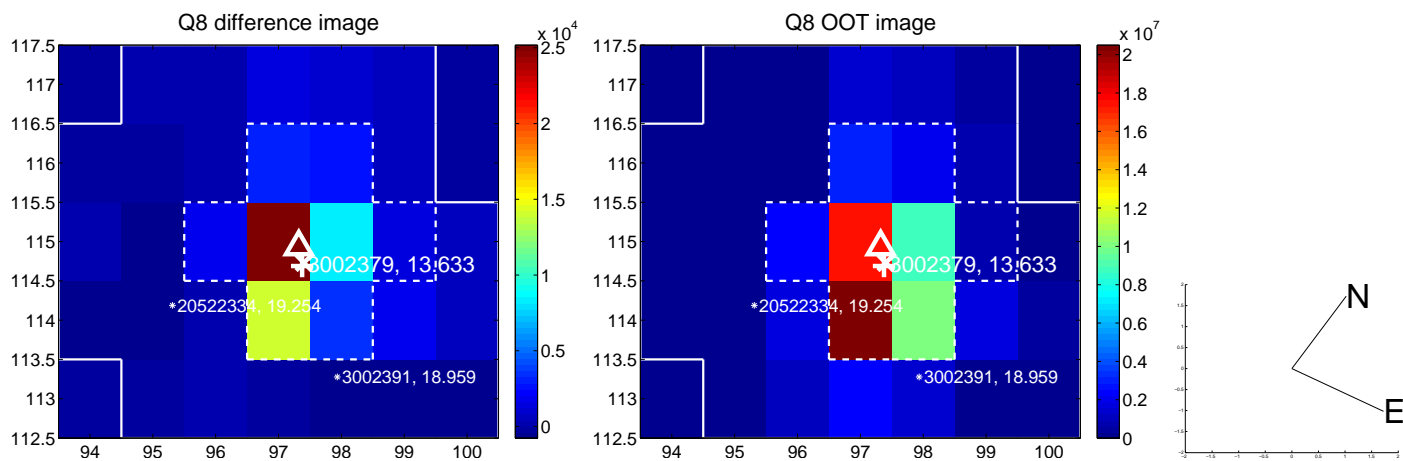
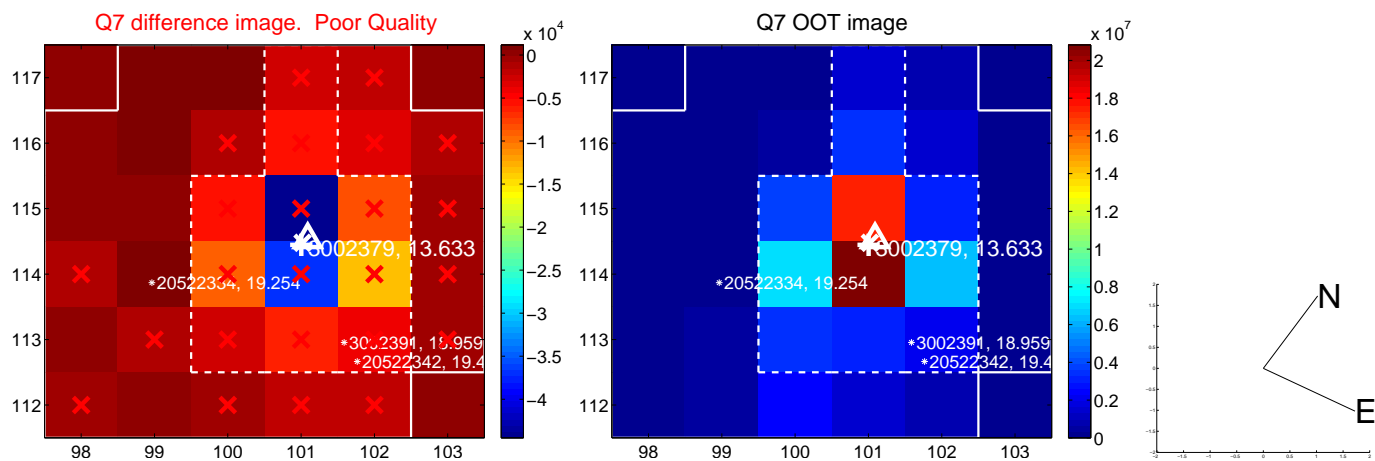
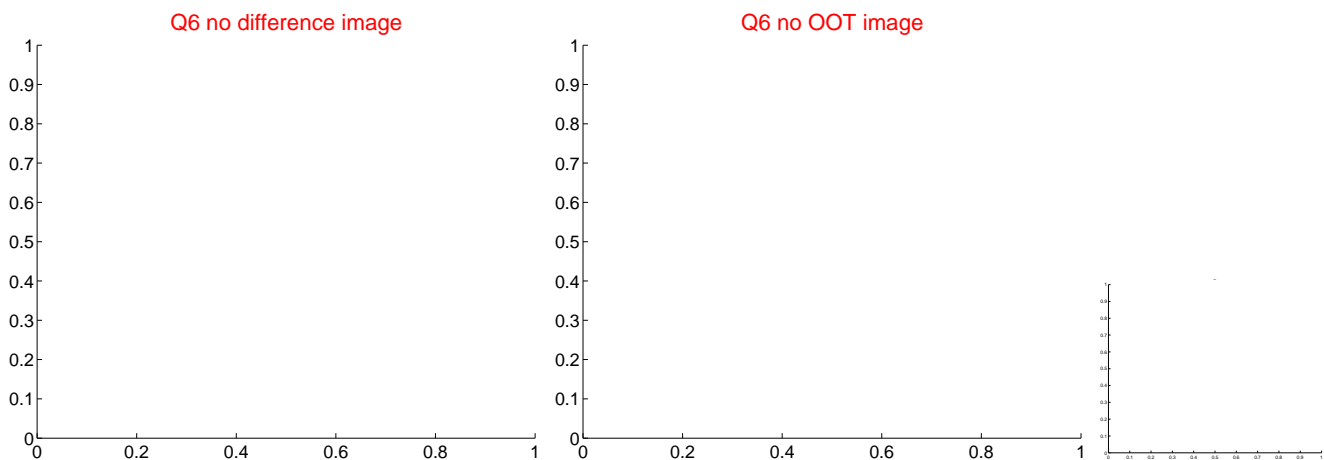
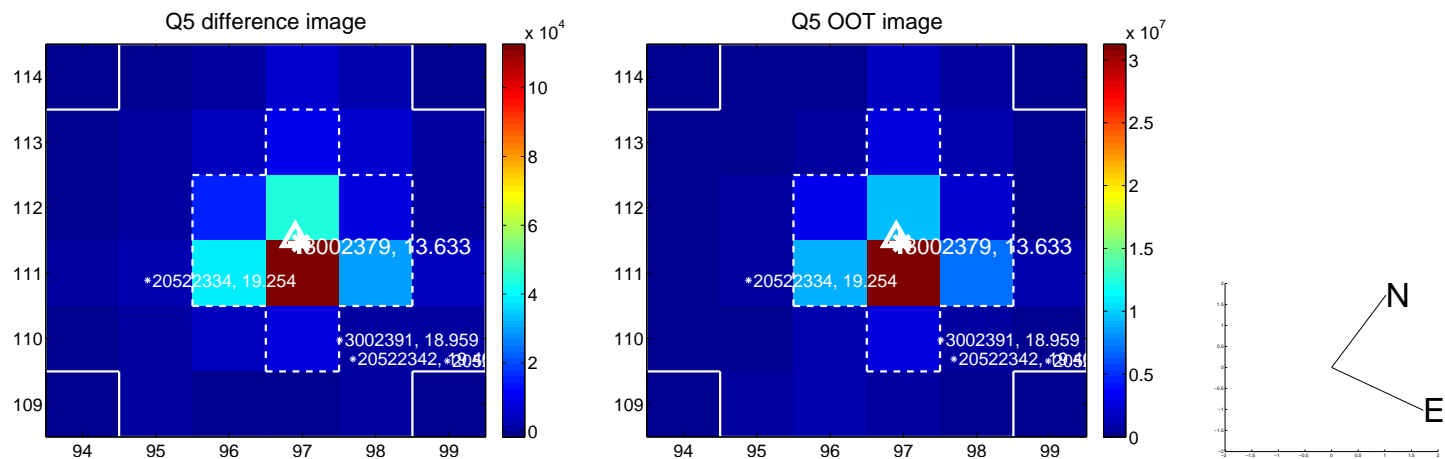


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

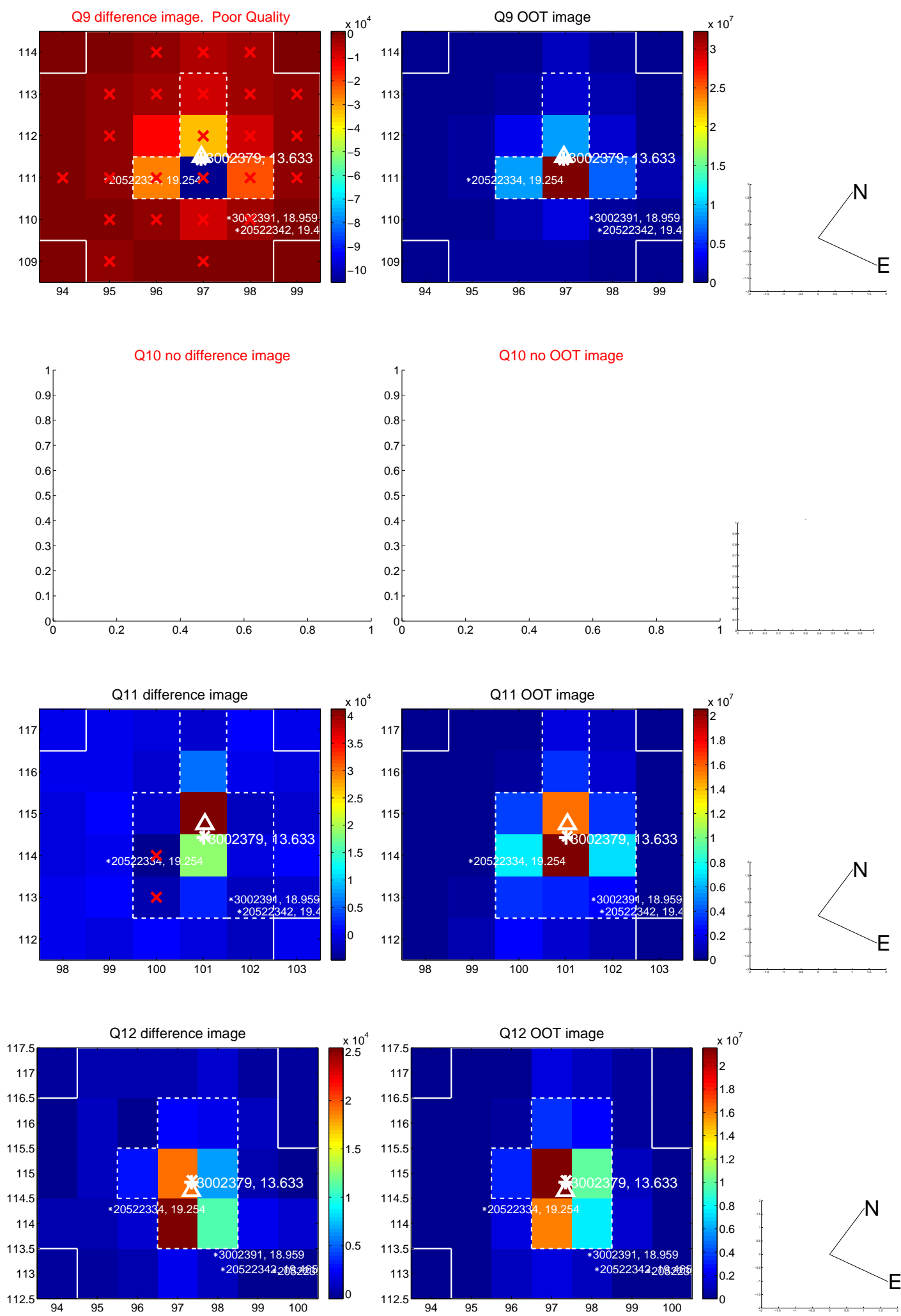
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



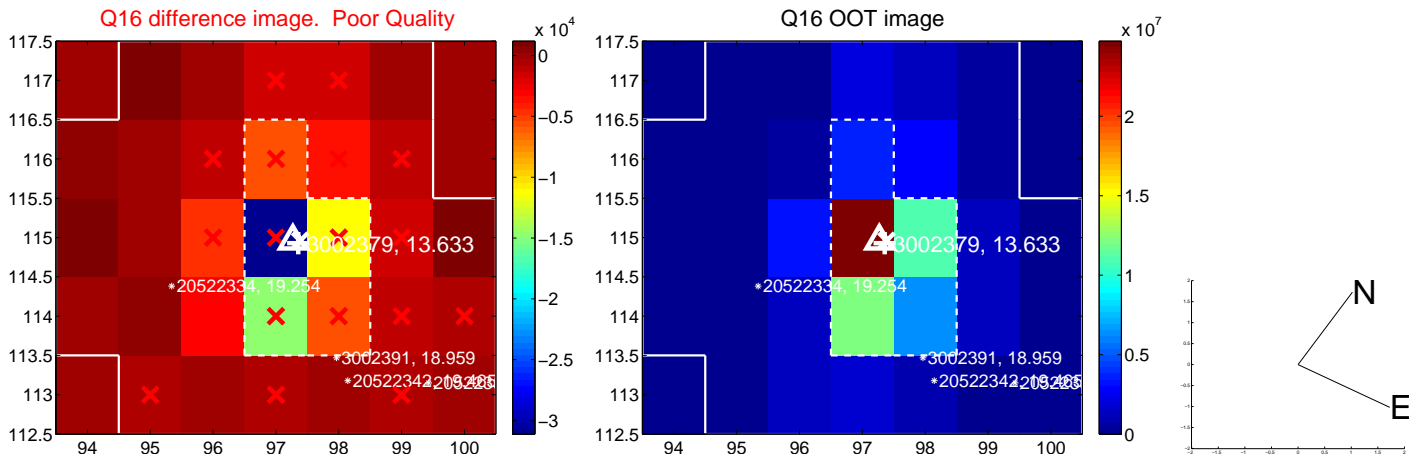
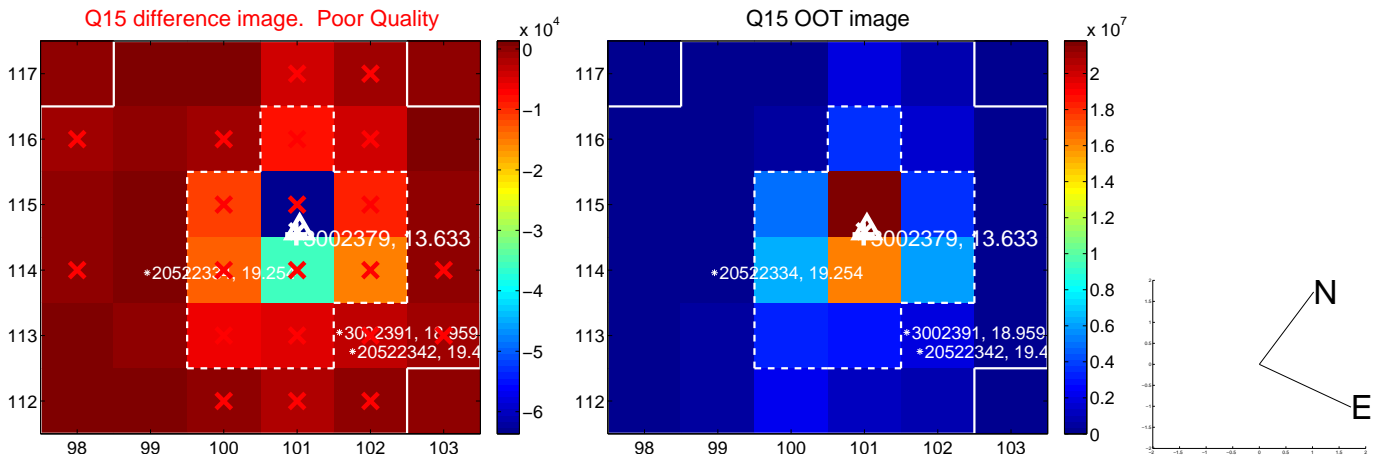
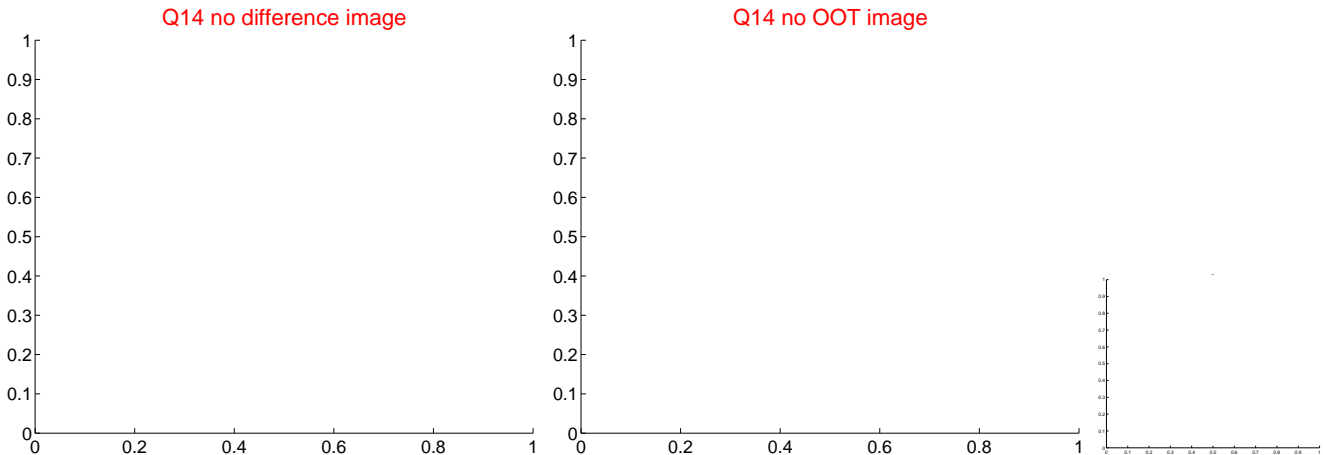
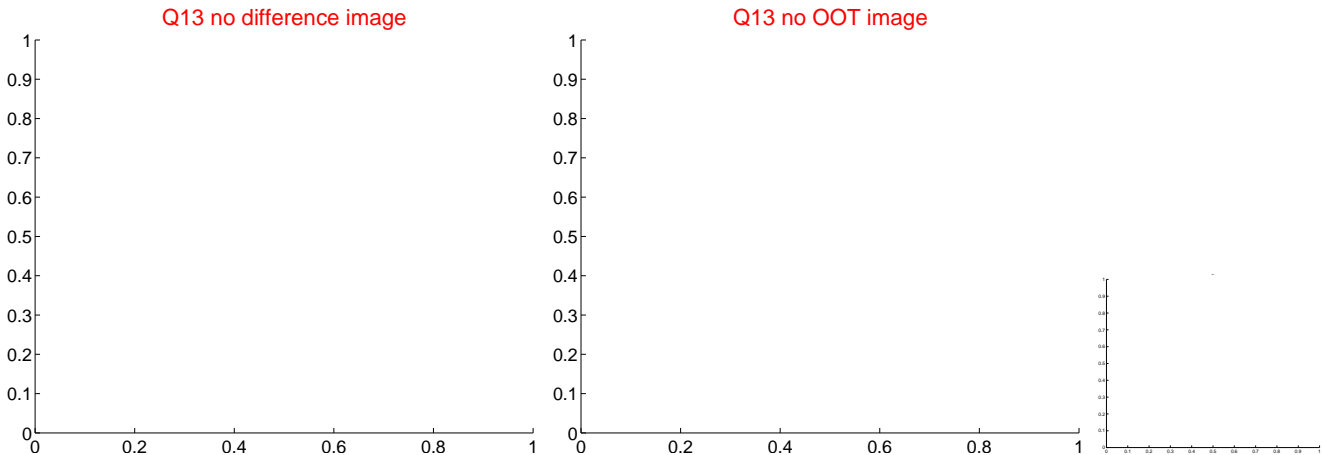
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



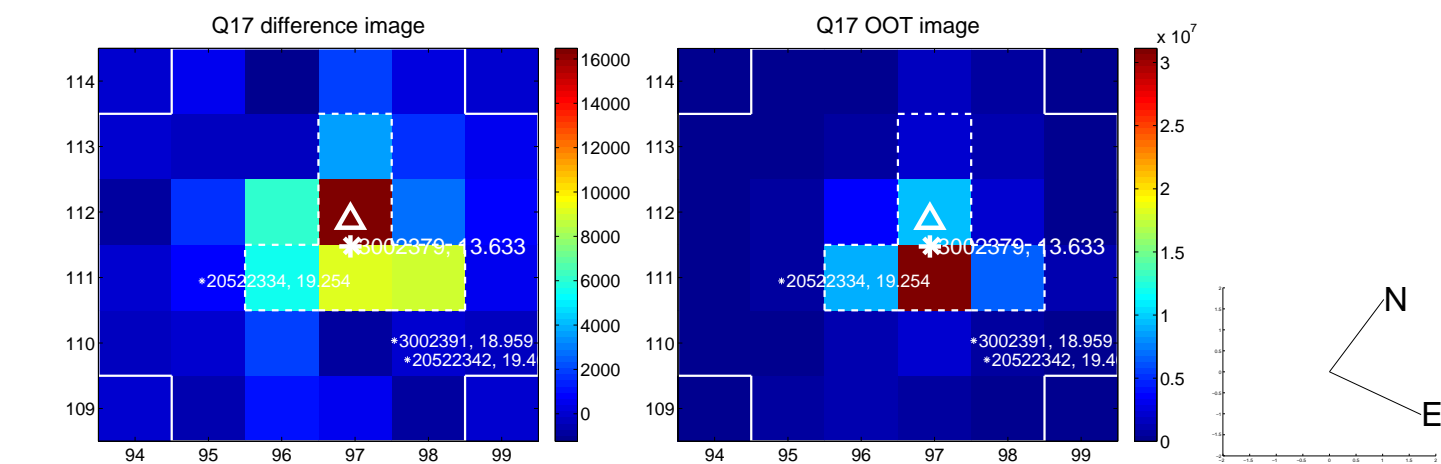
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



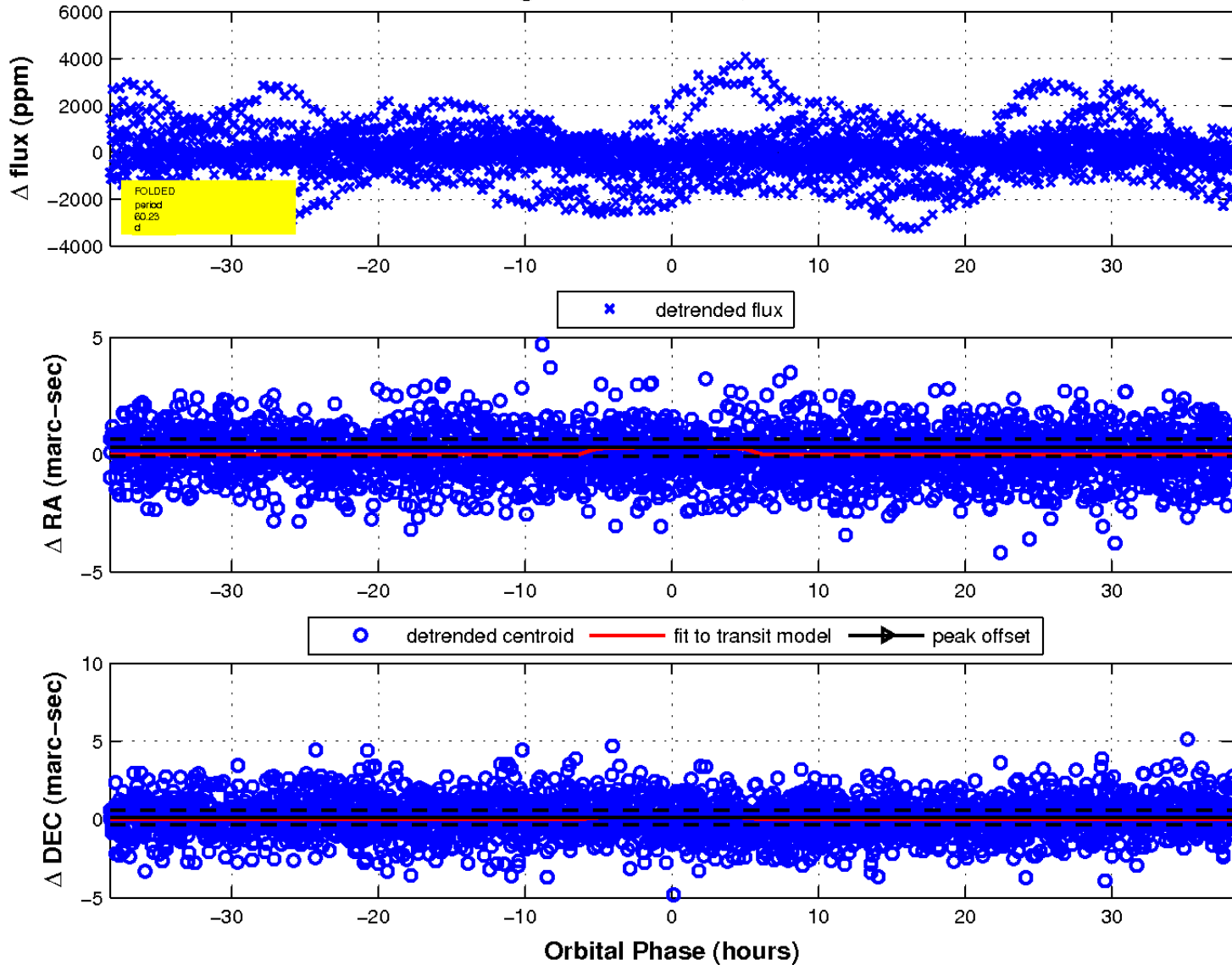
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

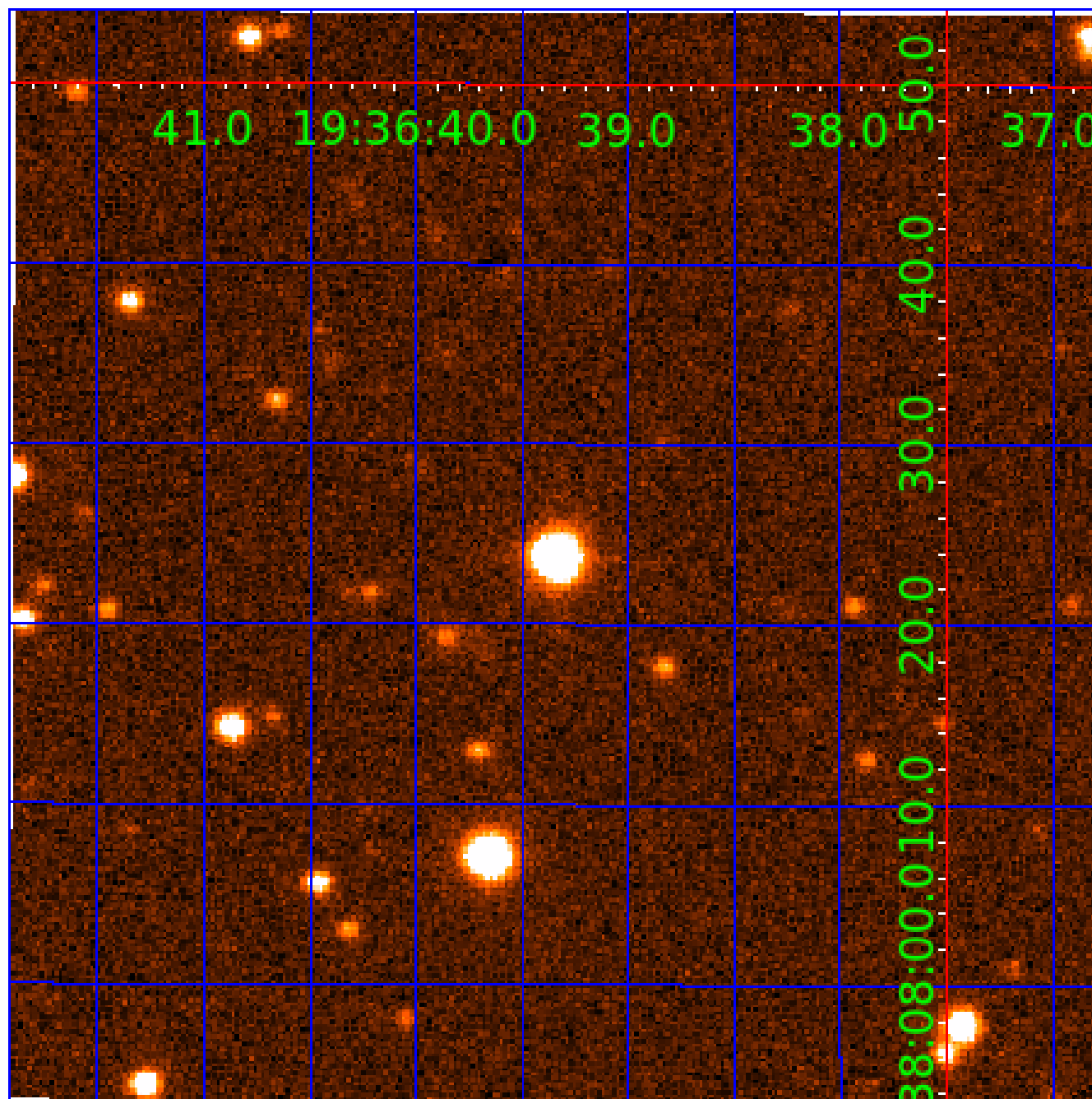


fluxWeightedCentroids, Planet 7 of 8



UKIRT Image

Declination



KIC 003002379

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 003002379-01 | OBS | No | 1.738915 | 131.598027 | 0.1 | 10.728 | 10.5 | 0.0 | 1.55 | 6937 | 0.04 | 5009.62 |
| 003002379-02 | OBS | No | 210.251733 | 198.091175 | 0.0 | 23.576 | 12.5 | 0.0 | 1.55 | 6937 | 0.01 | 8.38 |
| 003002379-03 | OBS | No | 75.909834 | 153.330921 | 1392.7 | 8.276 | 10.1 | 7.6 | 1.55 | 6937 | 10.73 | 32.59 |
| 003002379-04 | OBS | No | 300.749414 | 174.486154 | 1252.6 | 8.400 | 7.9 | 7.0 | 1.55 | 6937 | 8.68 | 5.20 |
| 003002379-06 | OBS | No | 28.925014 | 158.769492 | 381.0 | 4.347 | 7.6 | 7.0 | 1.55 | 6937 | 3.22 | 117.98 |
| 003002379-07 | OBS | No | 60.226325 | 144.321363 | 886.0 | 12.766 | 8.3 | 8.0 | 1.55 | 6937 | 5.24 | 44.37 |
| 003002379-08 | OBS | No | 75.034634 | 188.773199 | 560.6 | 9.755 | 8.1 | 6.0 | 1.55 | 6937 | 3.95 | 33.10 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 003002379-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV |
| 003002379-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 003002379-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT |
| 003002379-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 003002379-06 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT |
| 003002379-07 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST |
| 003002379-08 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT |

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

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

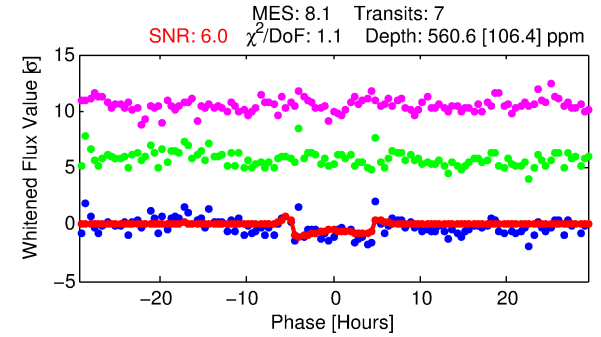
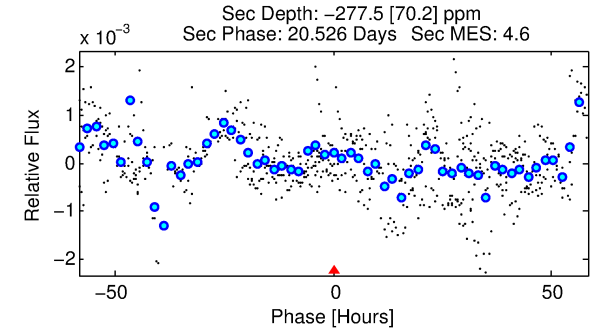
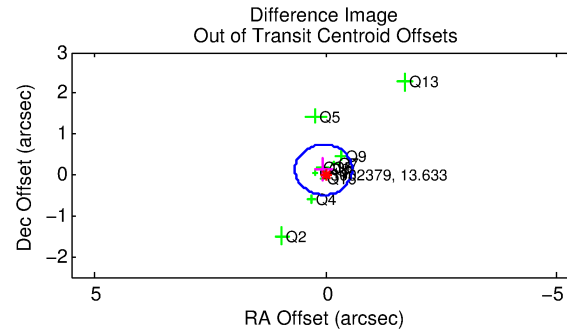
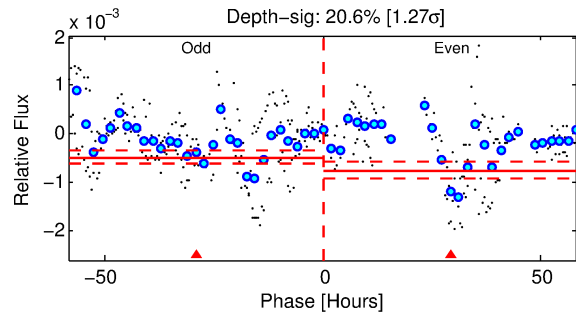
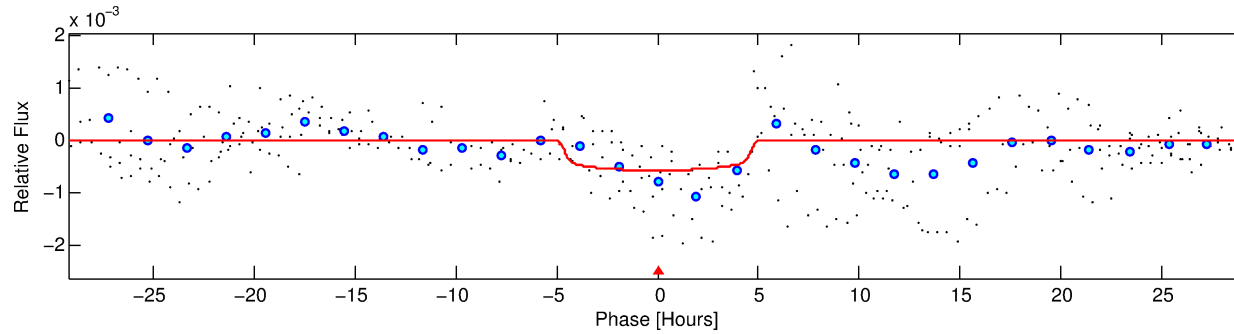
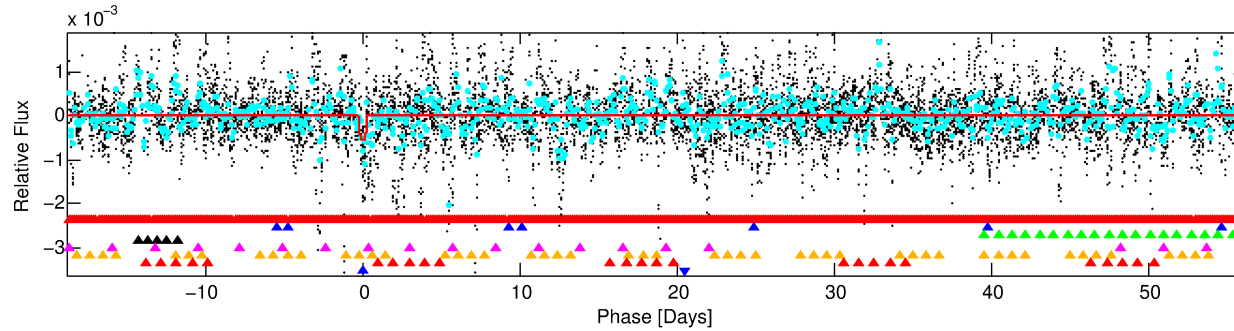
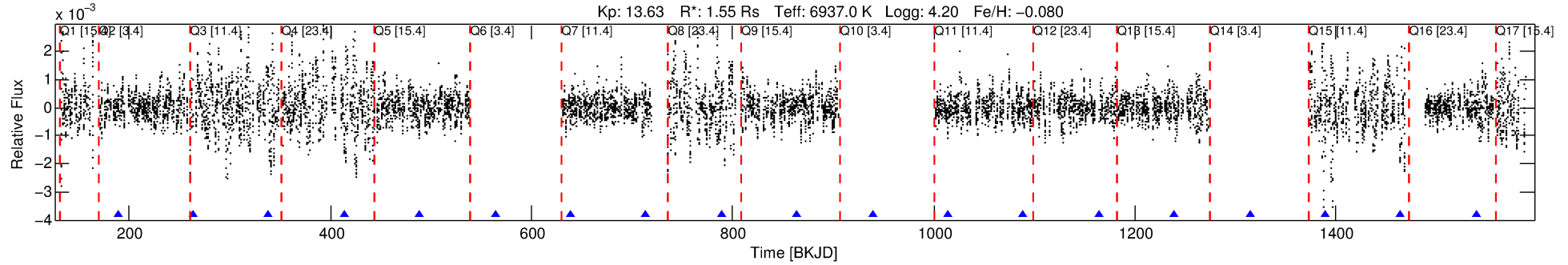
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003002379-08

No Significant Match Found

DV One-Page Summary

KIC: 3002379 Candidate: 8 of 8 Period: 75.035 d



DV Fit Results:

Period = 75.03463 [0.00156] d
Epoch = 188.7732 [0.0217] BKJD
Rp/R* = 0.0233 [0.0059]
a/R* = 42.96 [54.64]
b = 0.72 [0.87]
Seff = 33.10 [13.31]
Teff = 612 [61] K
Rp = 3.95 [1.59] Re
a = 0.3886 [0.0996] AU
Ag = N/A
Teffp = N/A

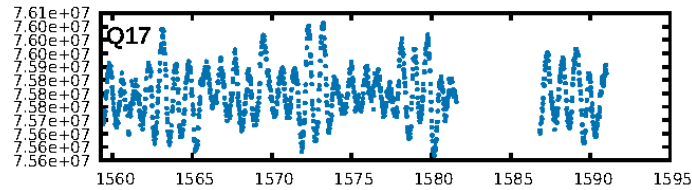
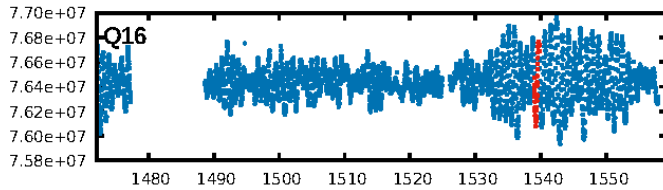
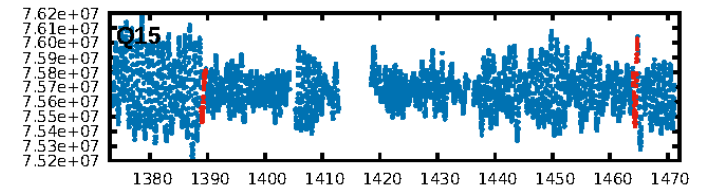
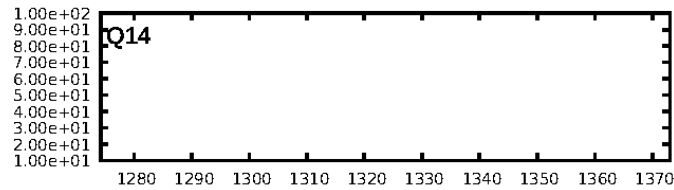
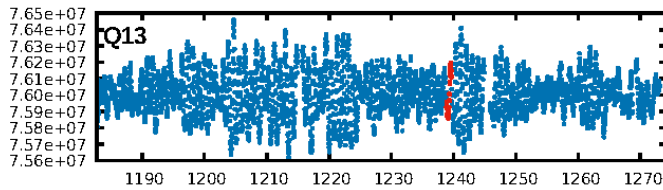
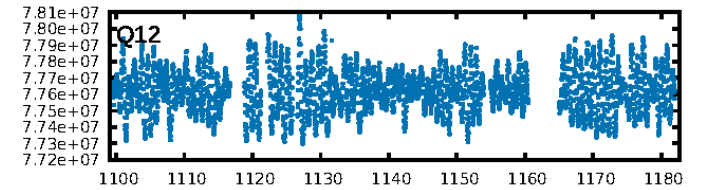
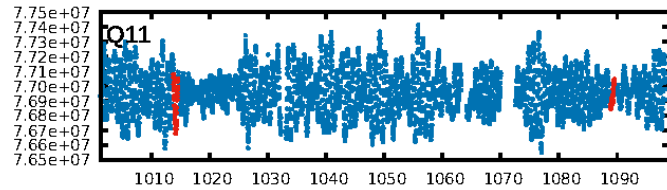
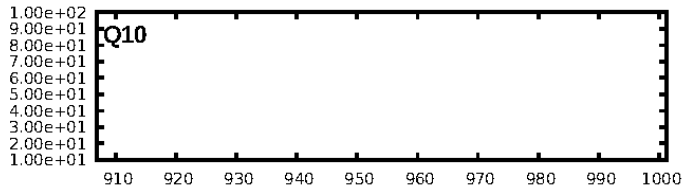
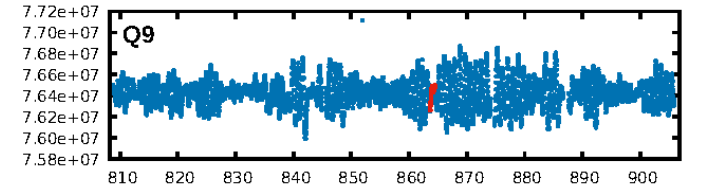
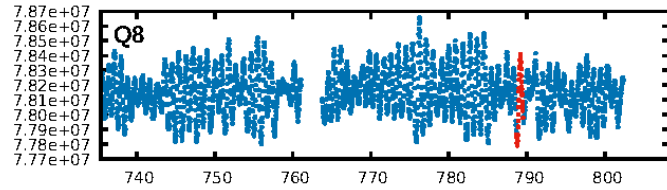
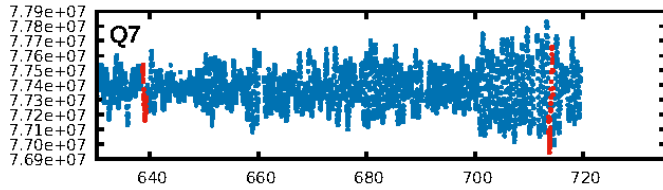
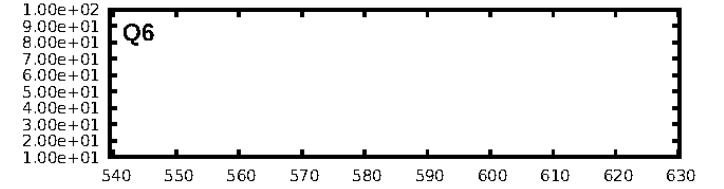
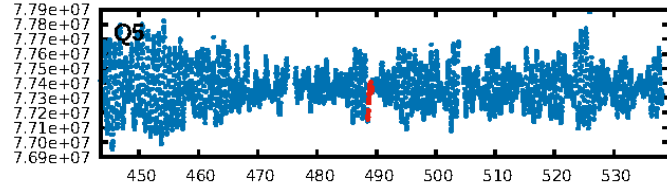
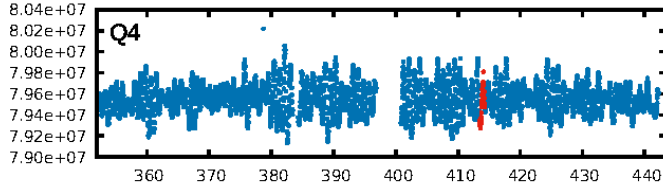
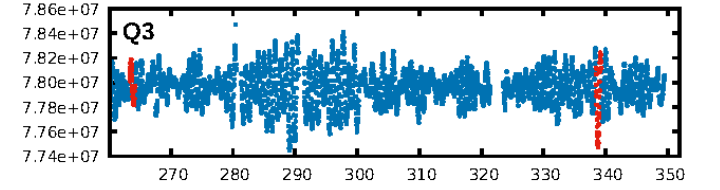
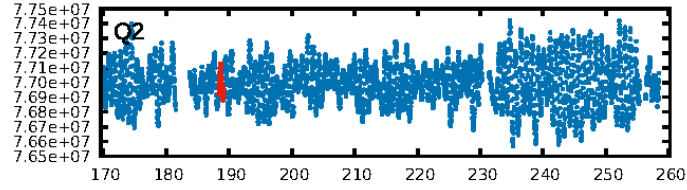
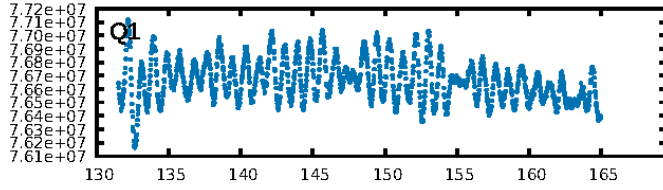
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [22.12 σ]
LongPeriod-sig: 89.9% [1.64 σ]
ModelChiSquare2-sig: 10.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.69e-08
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.4374
Centroid-sig: 0.2%
Centroid-so: 0.466 arcsec [0.83 σ]
OotOffset-rm: 0.134 arcsec [0.65 σ]
KicOffset-rm: 0.047 arcsec [0.14 σ]
OotOffset-st: 1/4/3/3 [11]
KicOffset-st: 1/4/3/3 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.00 [0/11]

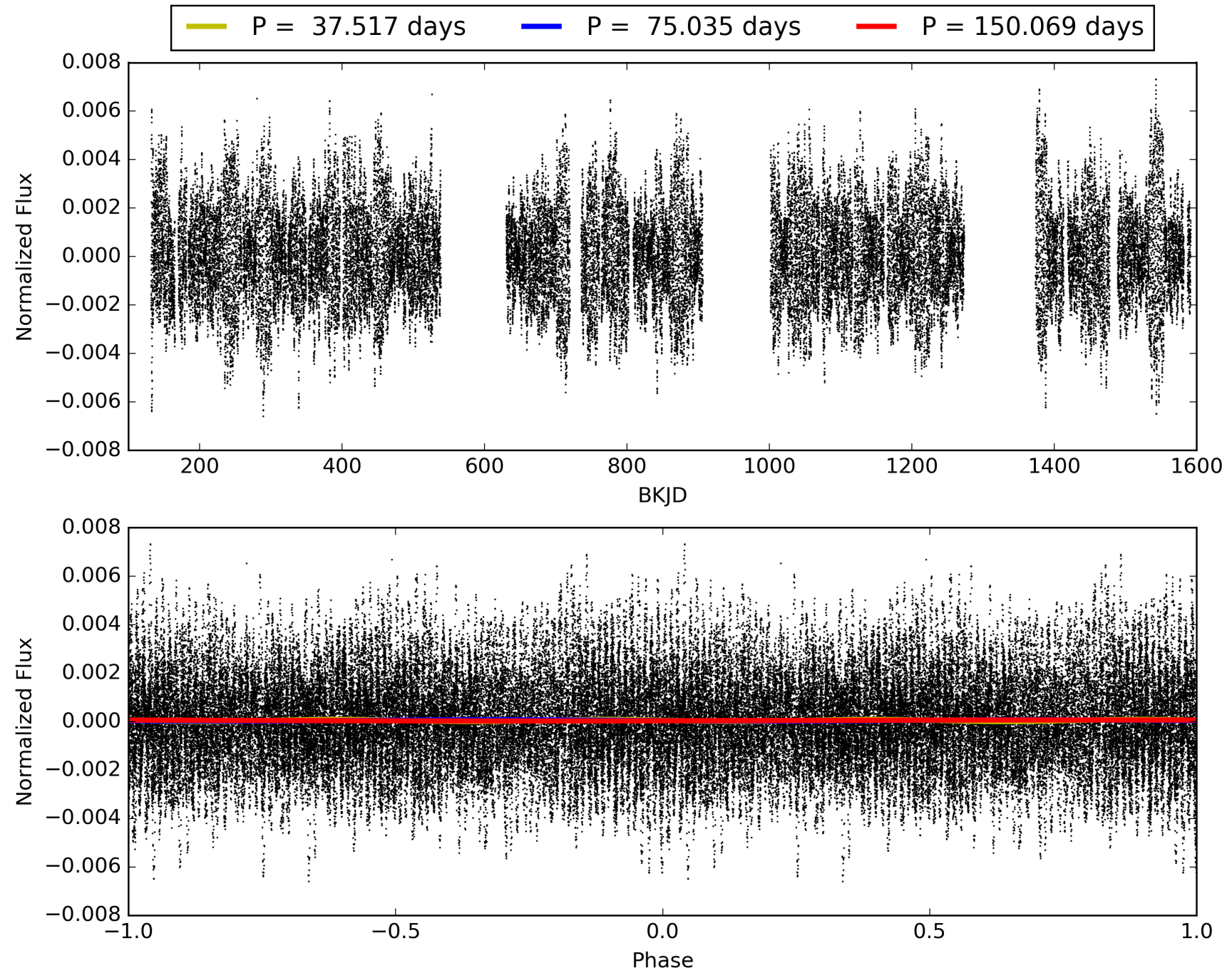
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:57:23 Z

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

TCE 003002379-08, PDC Light Curves

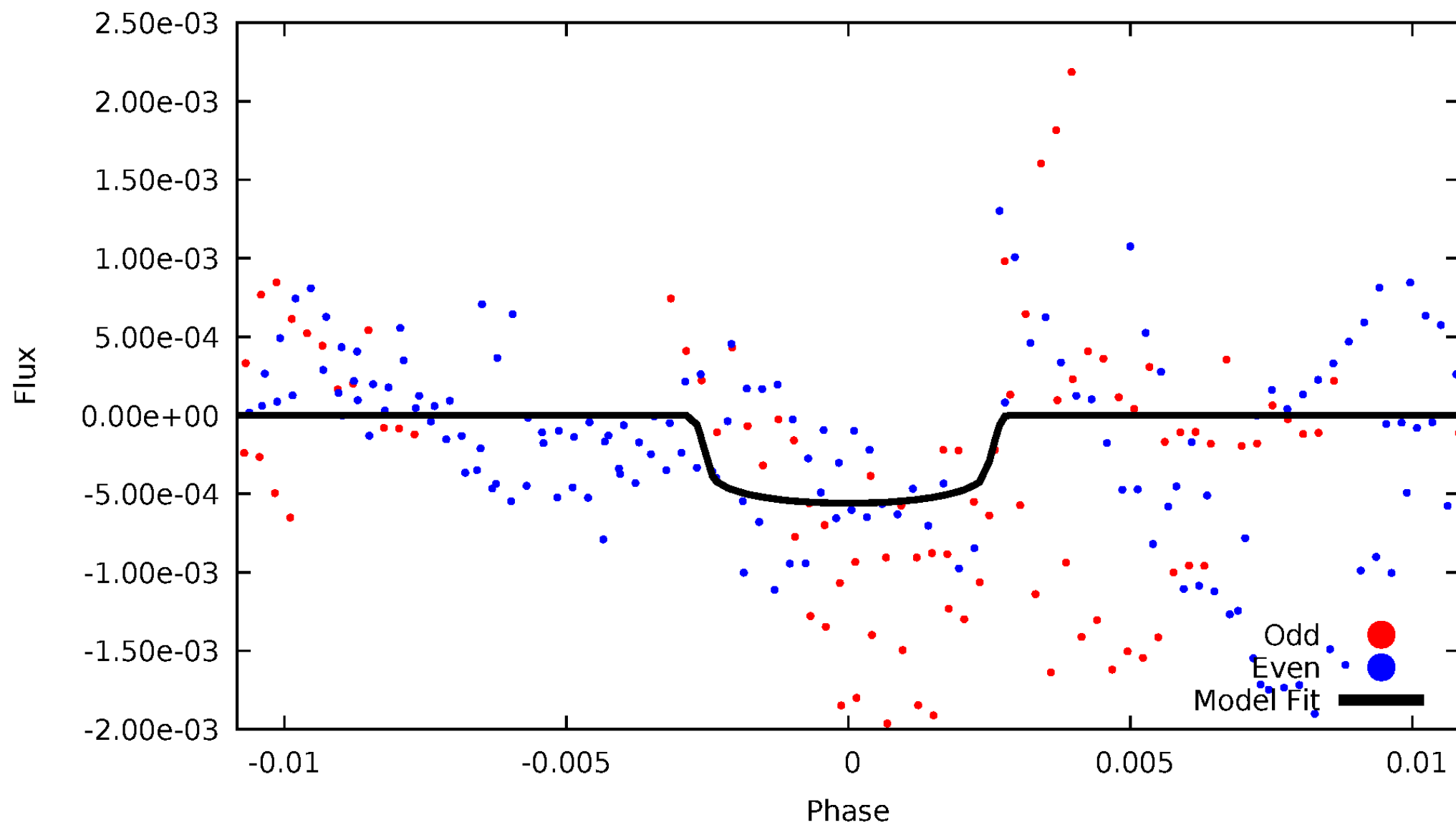


TCE 003002379-08



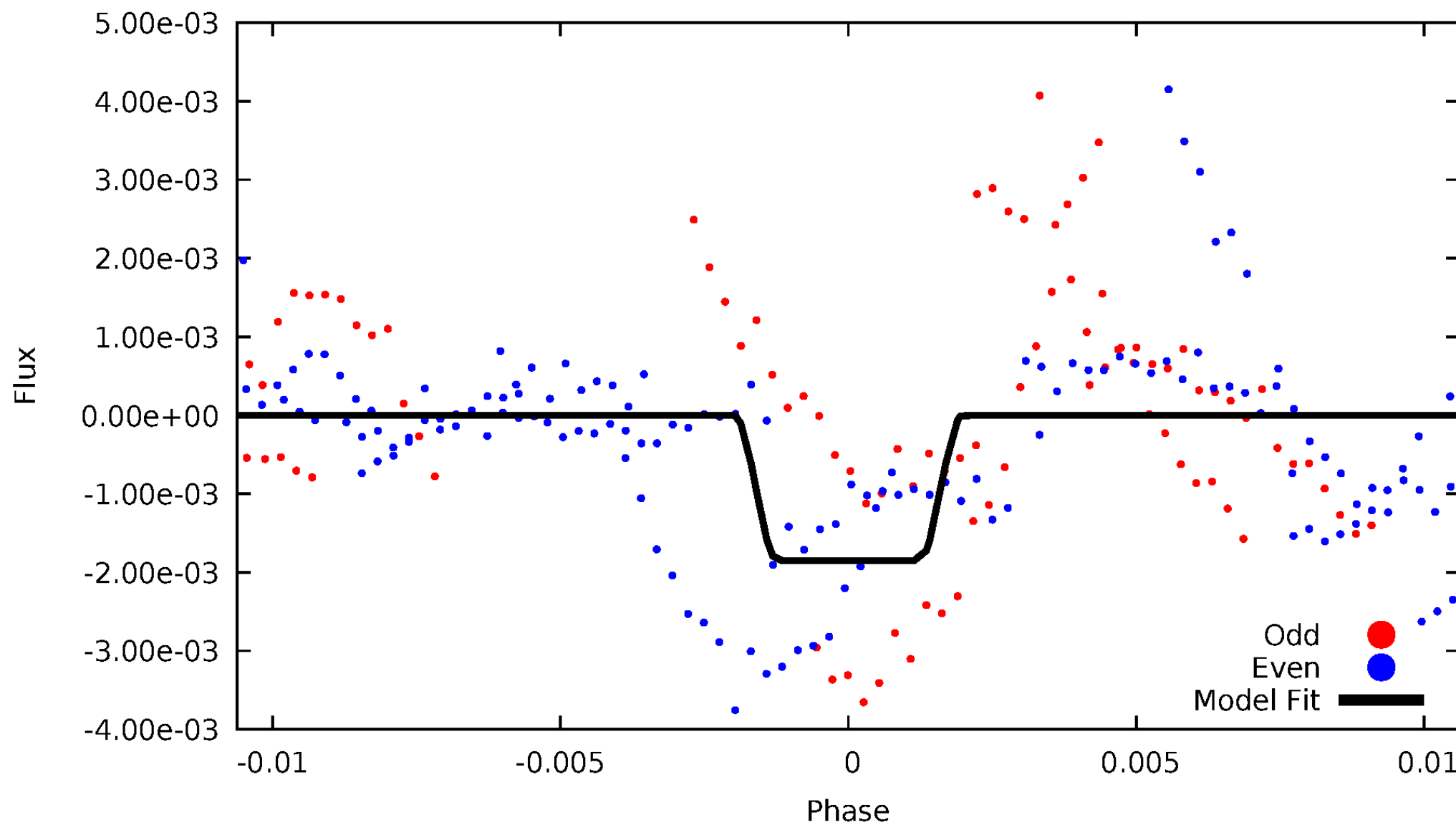
DV Odd/Even

TCE 003002379-08



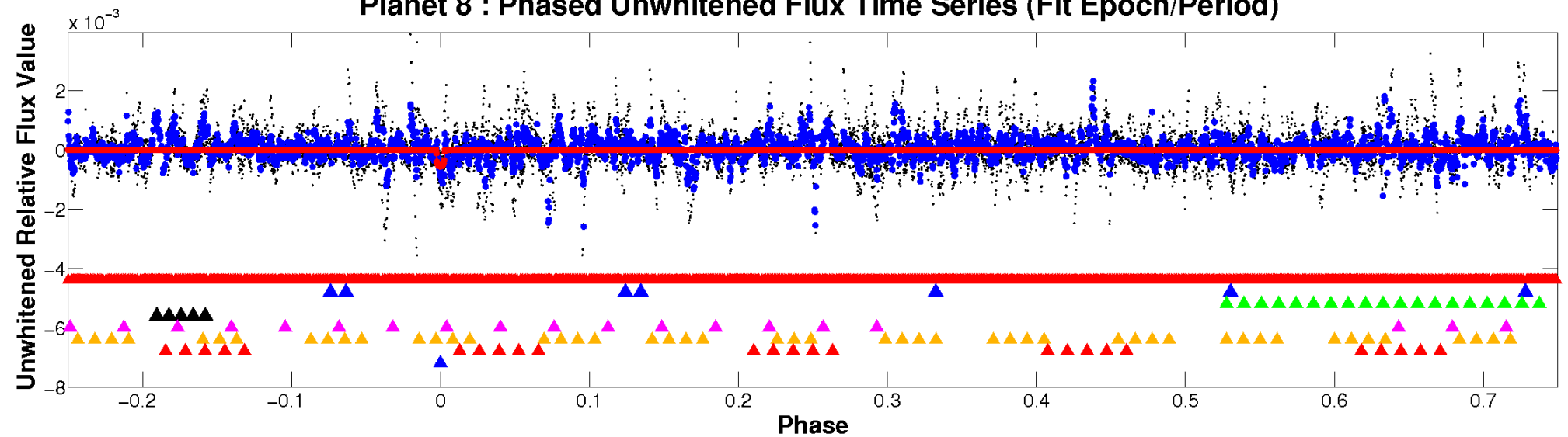
ALT Odd/Even

TCE 003002379-08

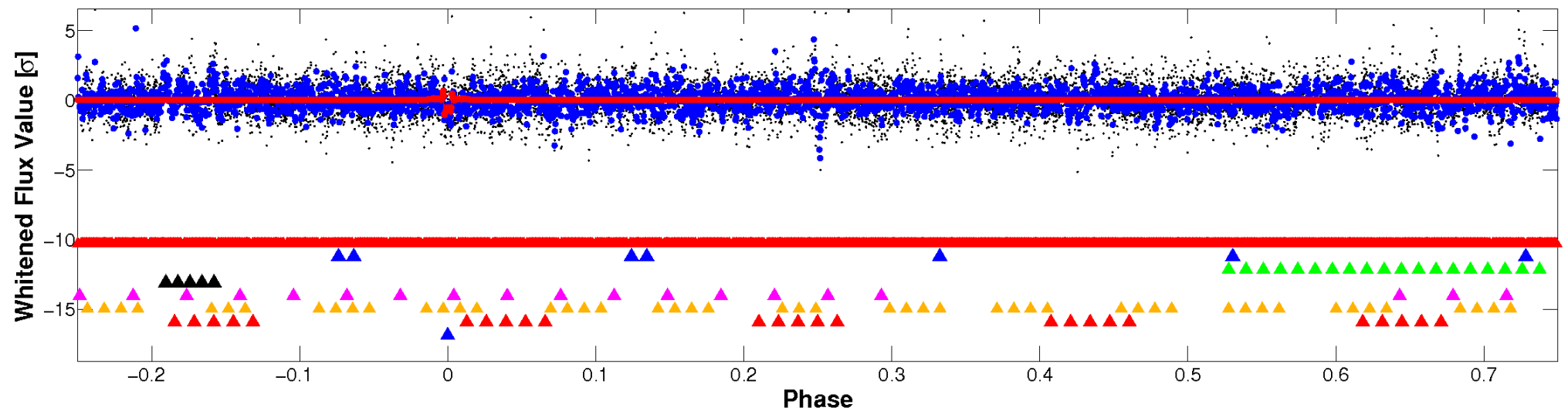


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

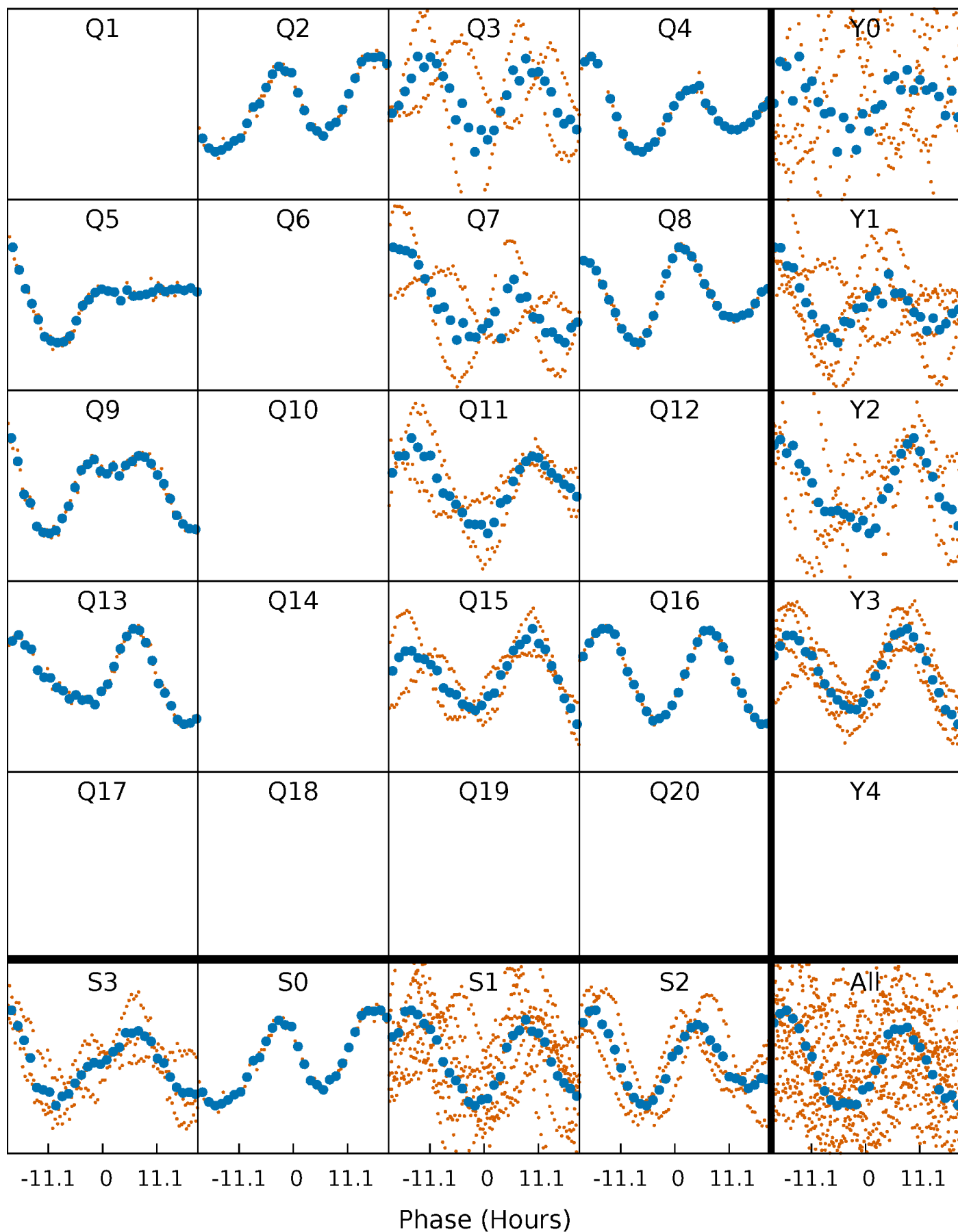


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



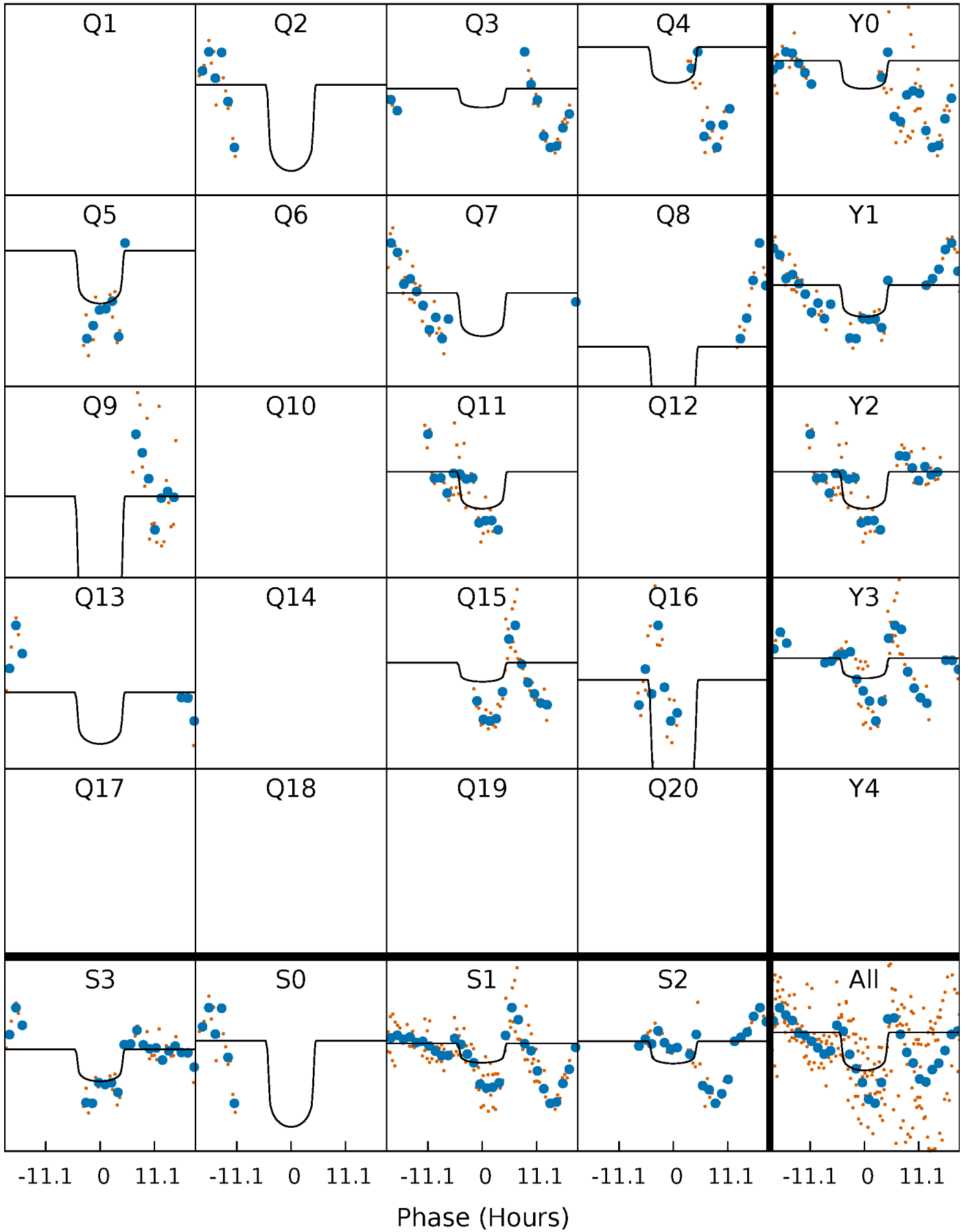
PDC Quarter-Phased Transit Curves

TCE 003002379-08 P= 75.034634 Days $T_0=188.773199$ (BKJD)



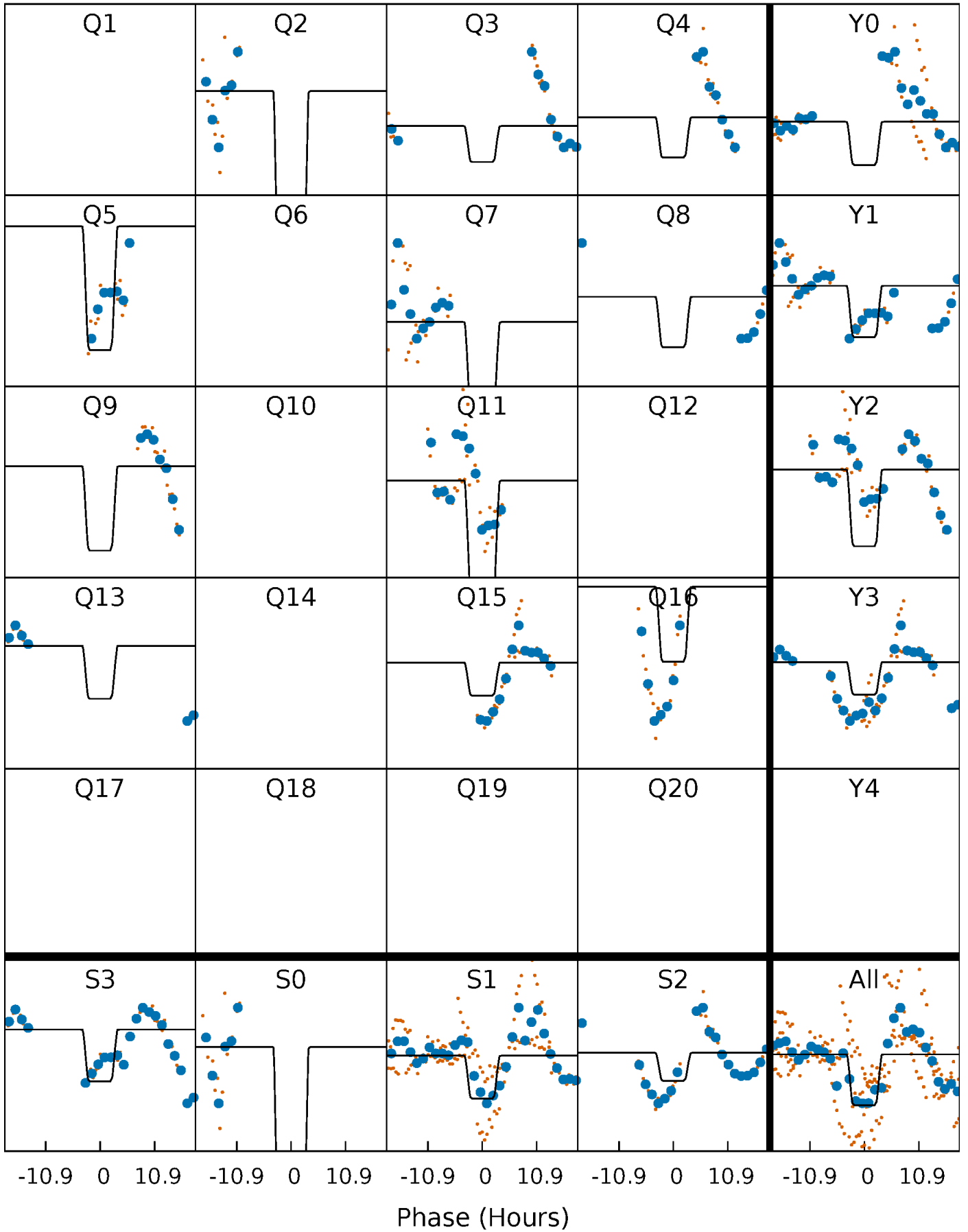
DV Quarter-Phased Transit Curves

TCE 003002379-08 P= 75.034634 Days $T_0=188.773199$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

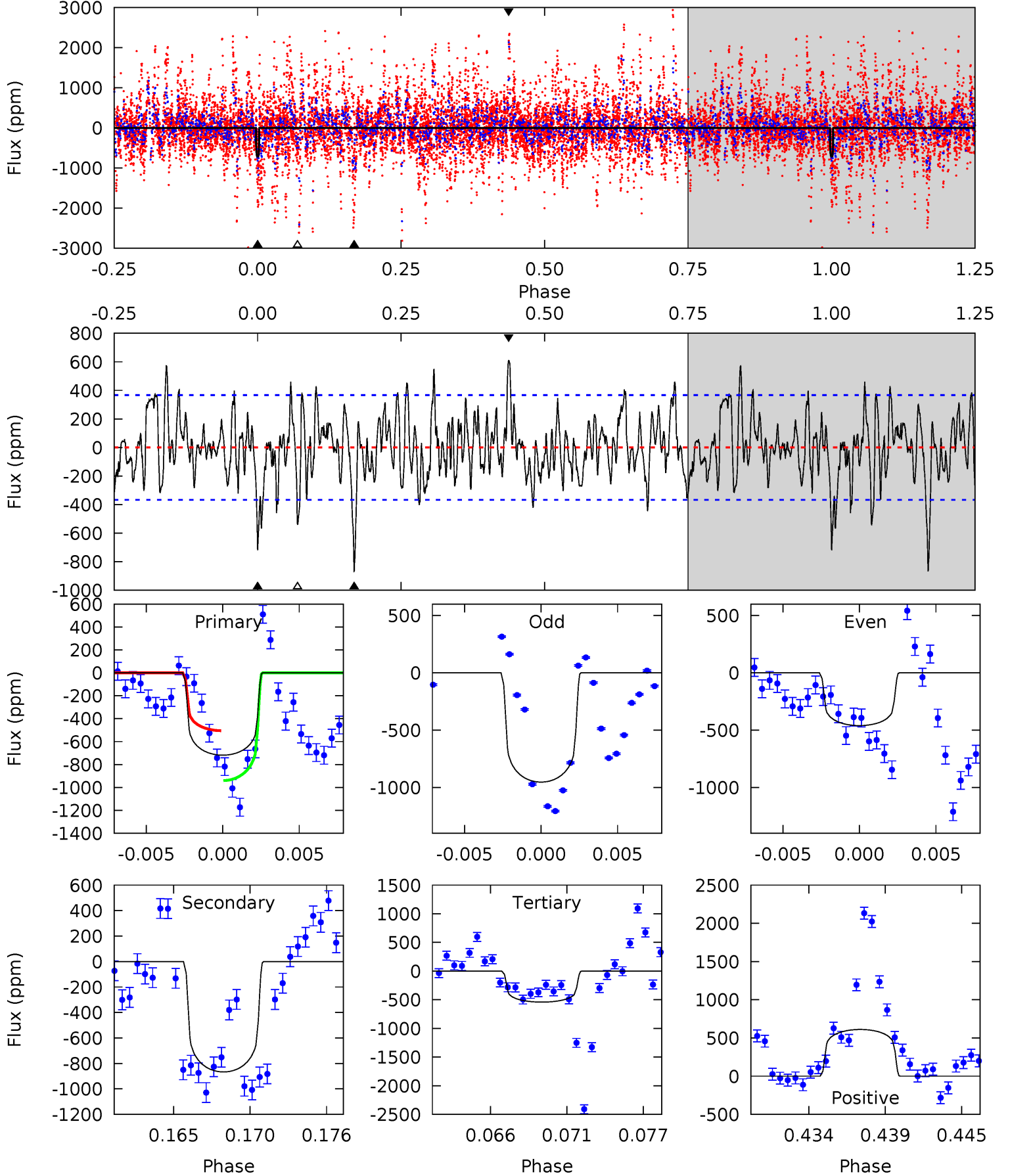
TCE 003002379-08 P= 75.035501 Days $T_0=188.729110$ (BKJD)



DV Model-Shift Uniqueness Test

003002379-08, P = 75.034634 Days, E = 113.738565 Days

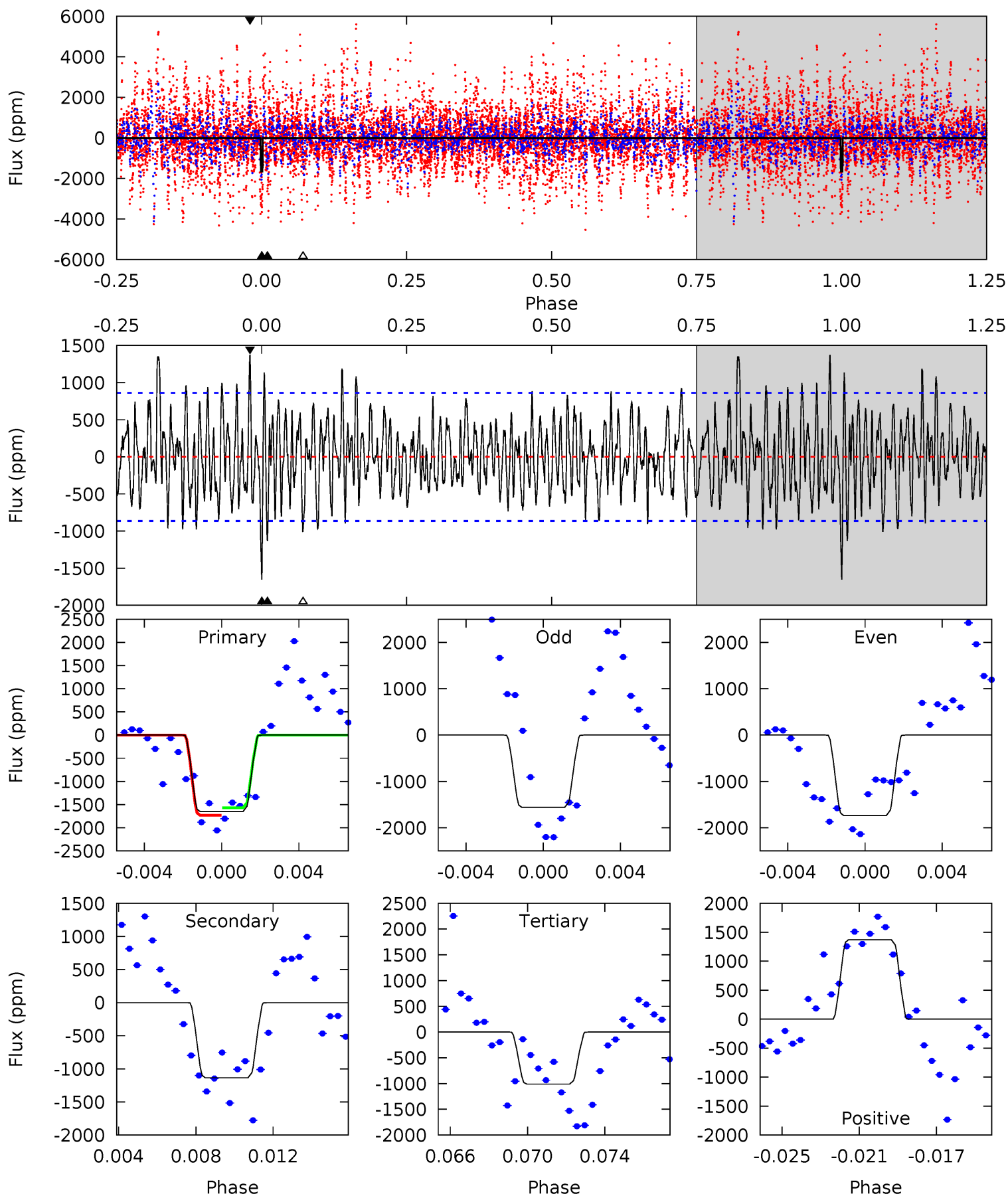
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.1 | 12.1 | 7.57 | 8.55 | 5.14 | 2.78 | 2.53 | 2.48 | 1.50 | 4.56 | 3.58 | 3.29 | 1.26 | 0.41 | 3.08 |



Alt Model-Shift Uniqueness Test

003002379-08, P = 75.035501 Days, E = 113.693609 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.95 | 6.84 | 6.09 | 8.26 | 5.19 | 2.87 | 2.45 | 3.86 | 1.68 | 0.75 | -1.43 | 0.51 | 1.13 | 0.45 | 0.50 |



Stellar Parameters For KIC 003002379

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6937^{+194}_{-305} | $4.199^{+0.128}_{-0.192}$ | $-0.080^{+0.250}_{-0.350}$ | $1.552^{+0.488}_{-0.285}$ | $1.397^{+0.216}_{-0.238}$ | $0.526^{+0.322}_{-0.266}$ |
| | +3%/-4% | +3%/-5% | +312%/-438% | +31%/-18% | +15%/-17% | +61%/-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 003002379-08 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|------------------------|-------------------|------------------------|------------------------|
| DV | -867 ± 71 | $4.01^{+1.23}_{-1.11}$ | 857^{+67}_{-56} | 7913^{+1681}_{-1085} | 4433^{+3847}_{-1821} |
| Alt. | -1135 ± 166 | $7.46^{+1.52}_{-1.29}$ | 859^{+73}_{-56} | 6057^{+552}_{-466} | 1656^{+817}_{-532} |

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 $A_{obs} \gg 1.0$

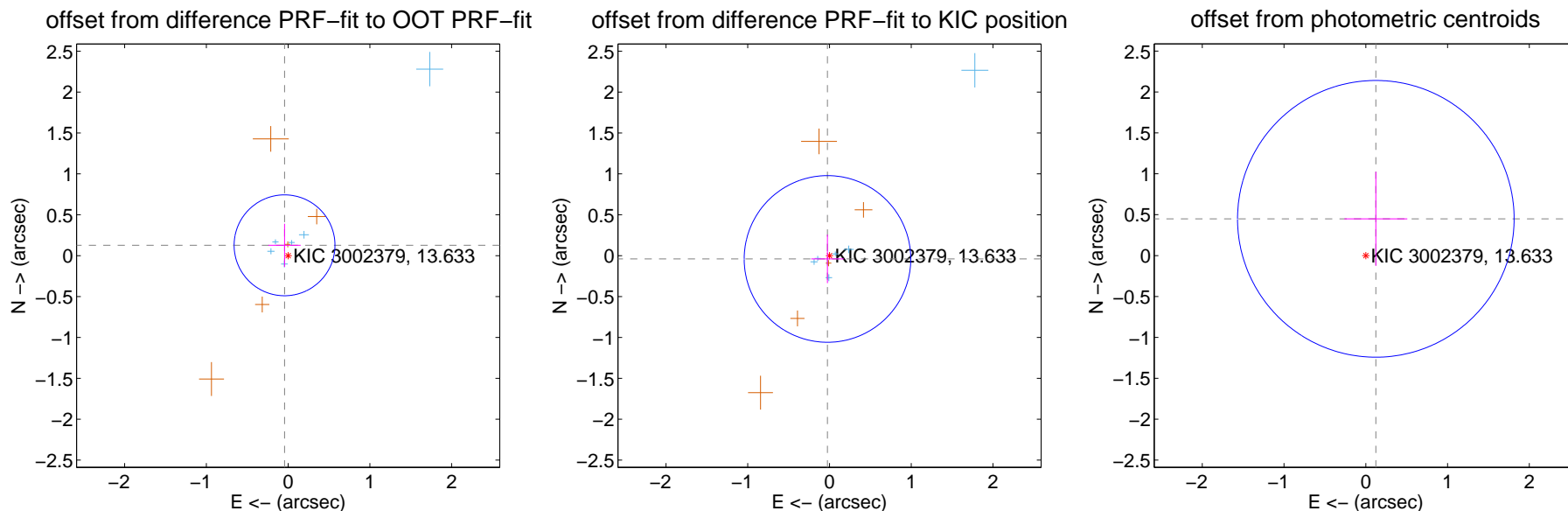
DV Centroid Data

Supplemental centroid analysis for 003002379-08. Kepler magnitude: 13.63. Transit SNR 6.01

There are 6 quarters with good PRF difference image offsets

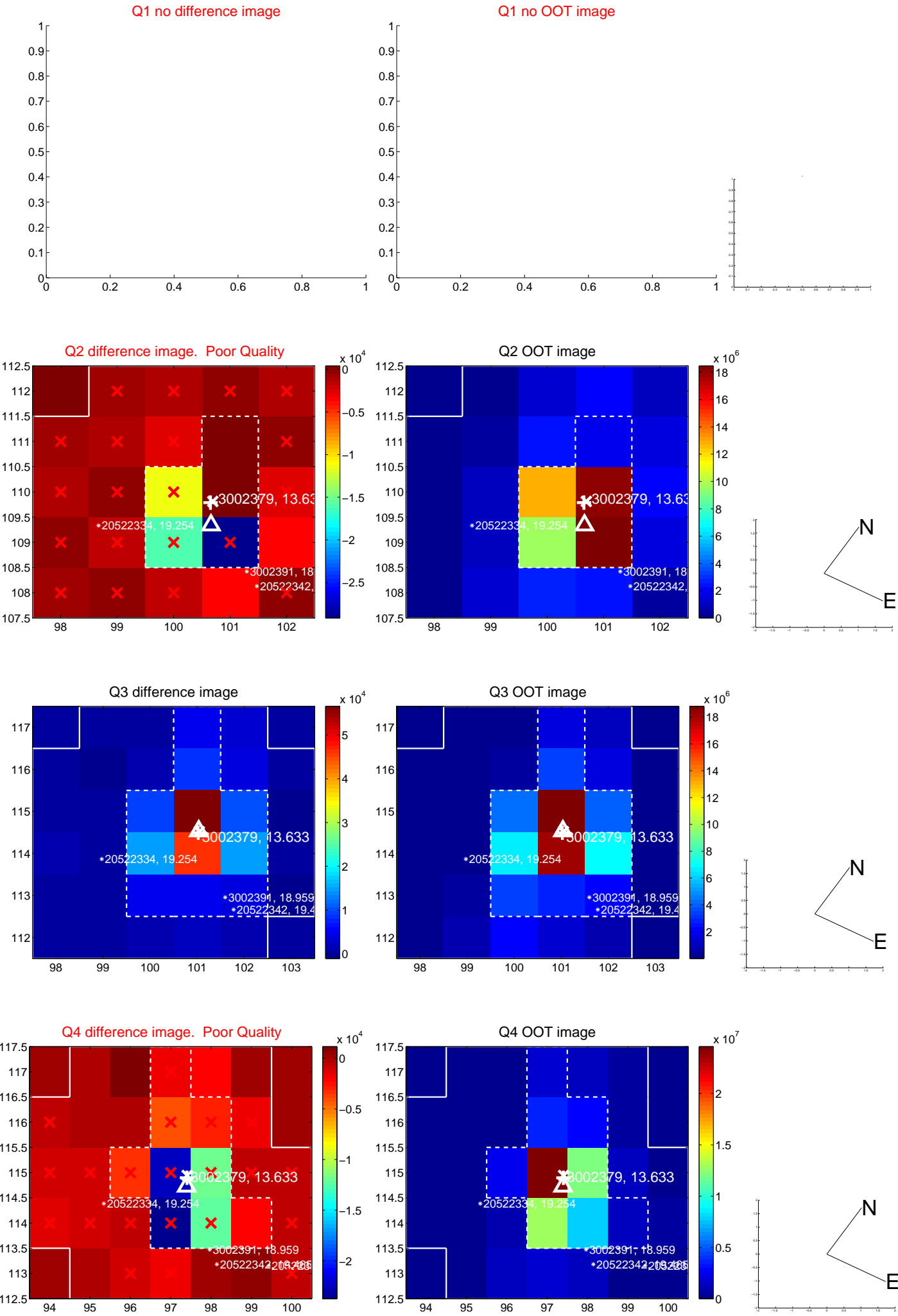
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.134 ± 0.206 | 0.65 | 0.044 ± 0.198 | 0.127 ± 0.263 |
| PRF-fit source offset from KIC position | 0.047 ± 0.340 | 0.14 | 0.025 ± 0.199 | -0.040 ± 0.296 |
| photometric centroid source offset | 0.47 ± 0.56 | 0.83 | -0.12 ± 0.38 | 0.45 ± 0.57 |

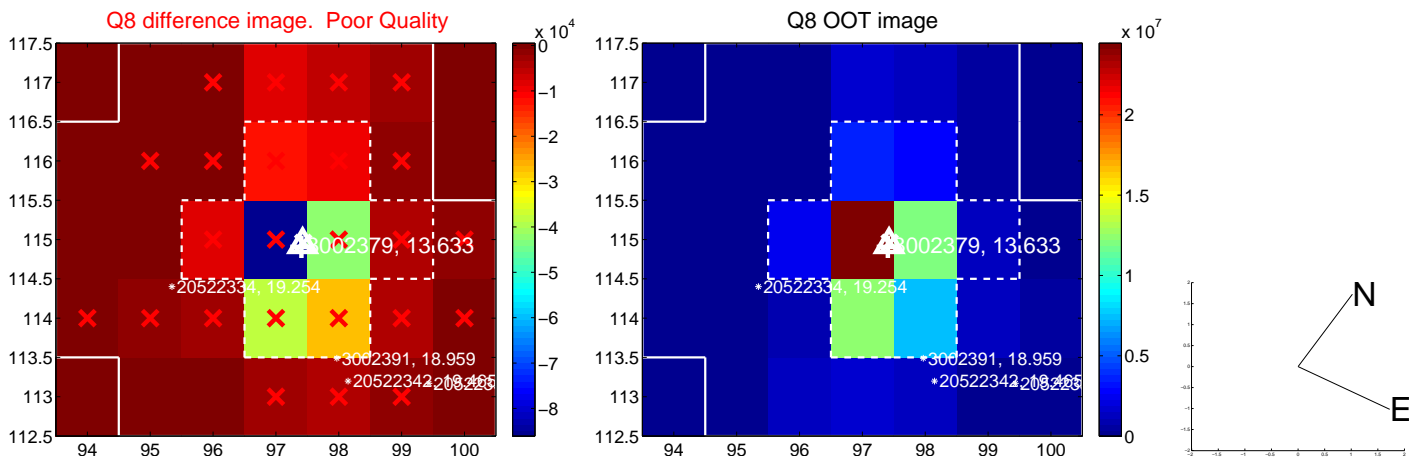
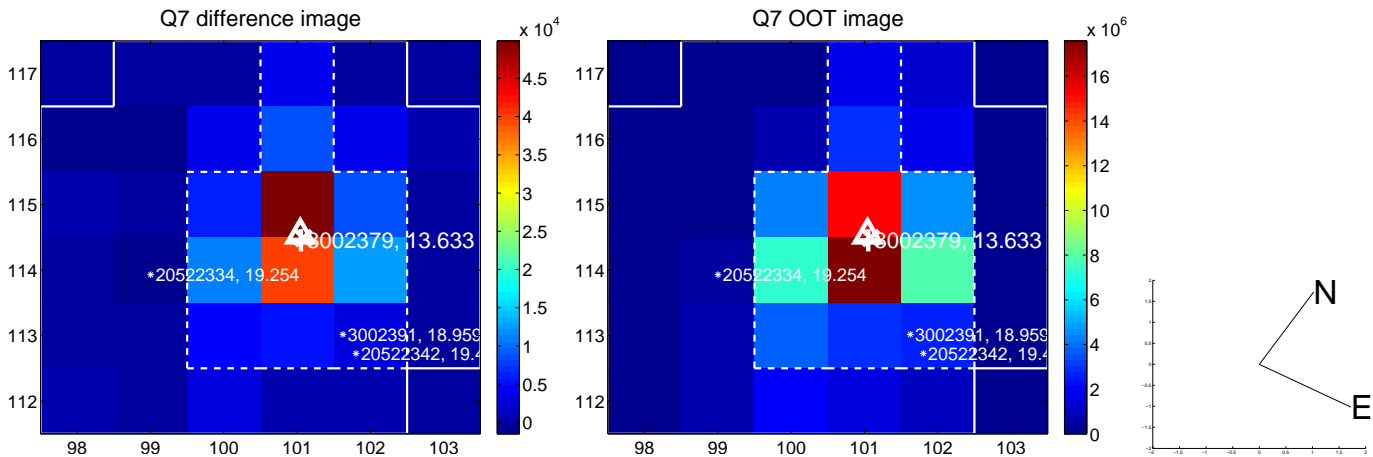
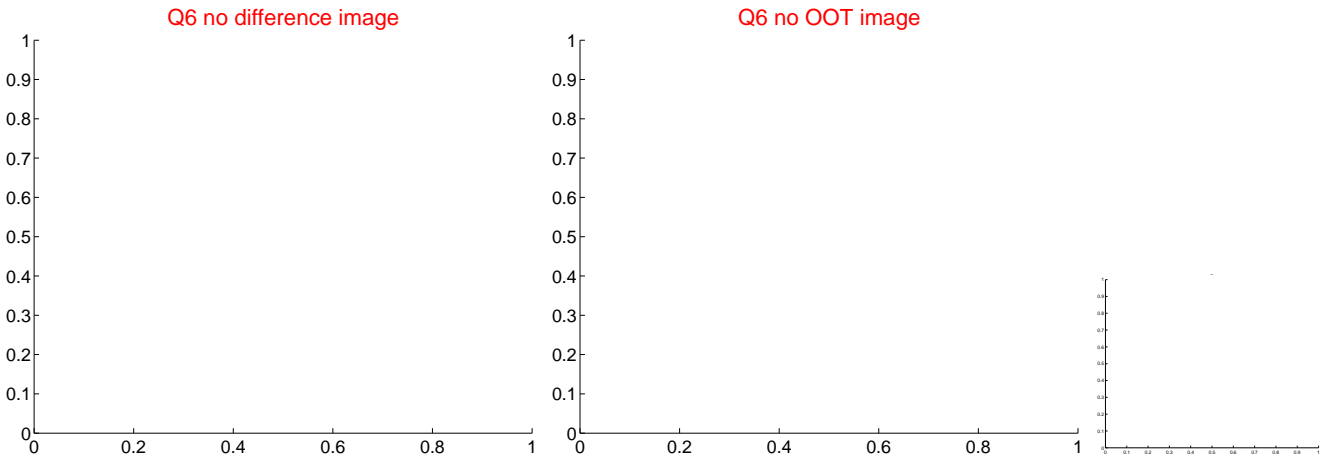
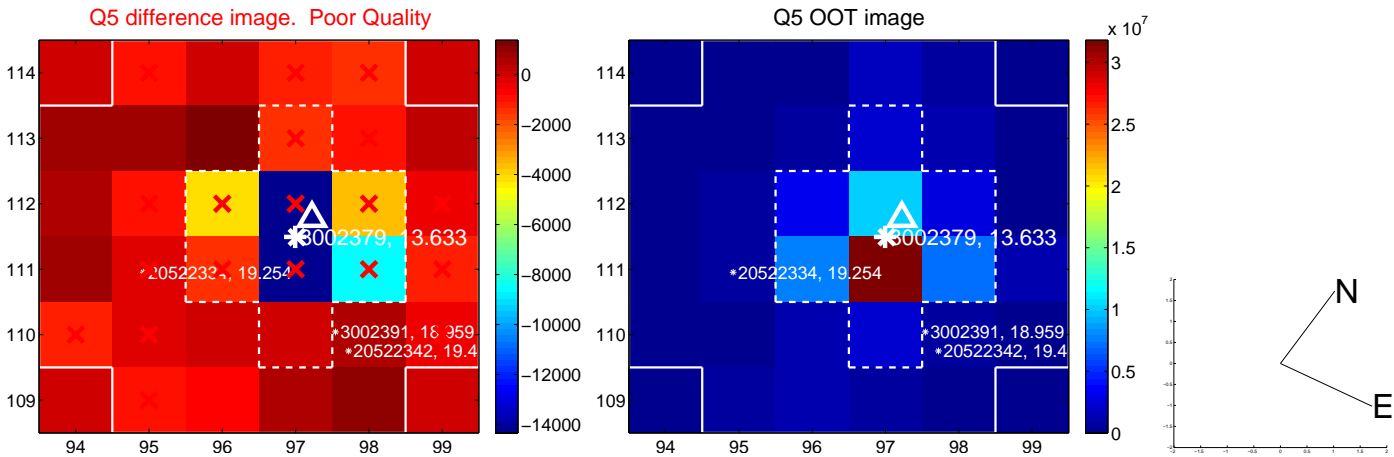


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

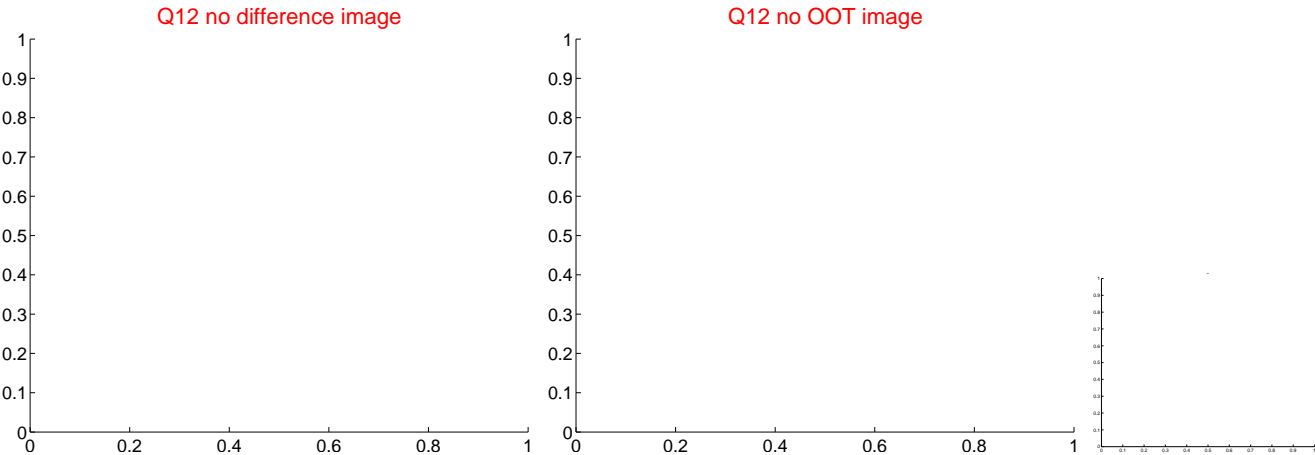
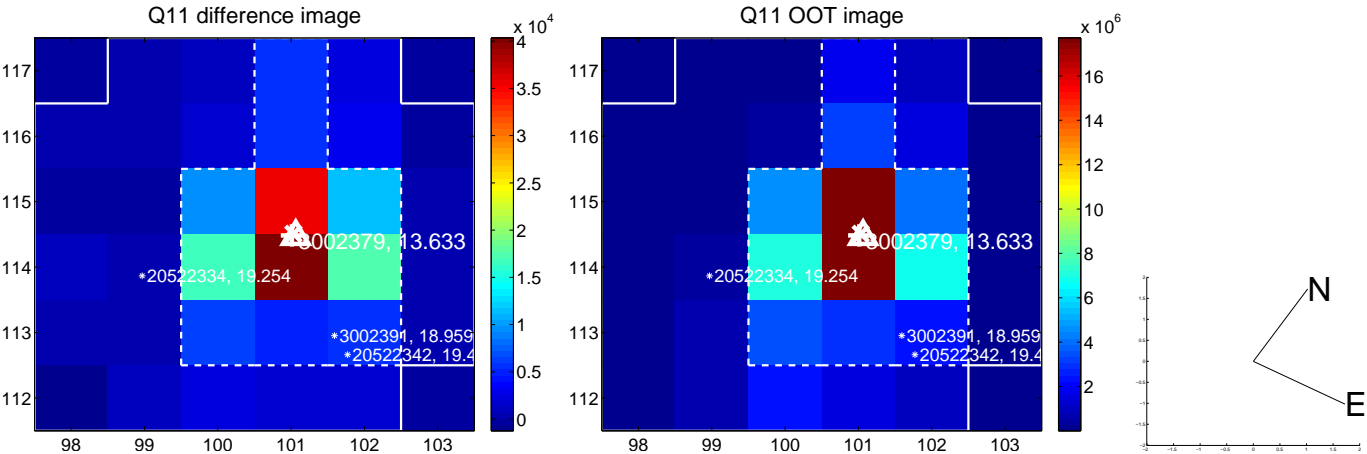
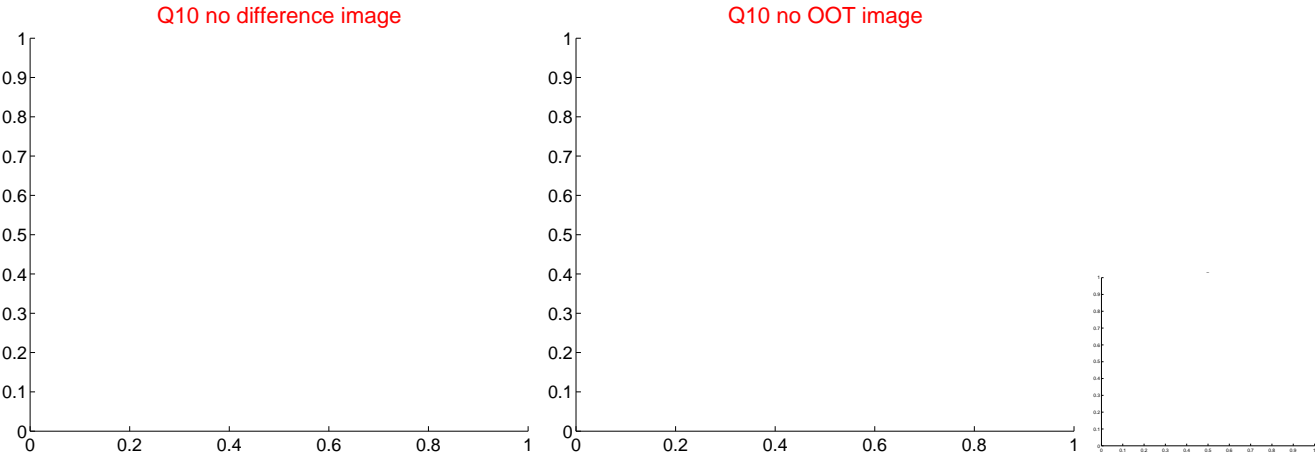
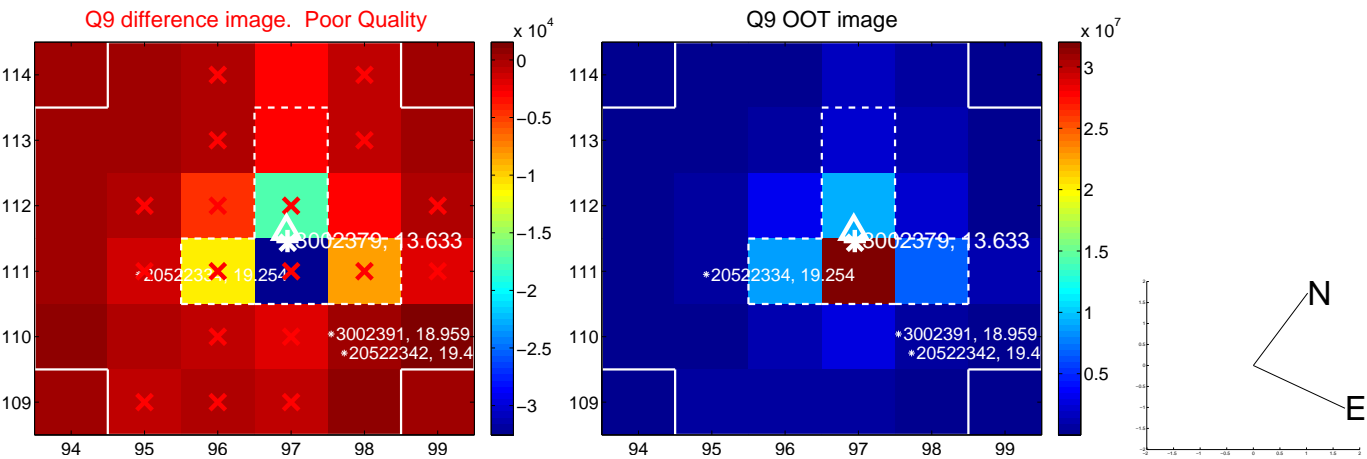
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



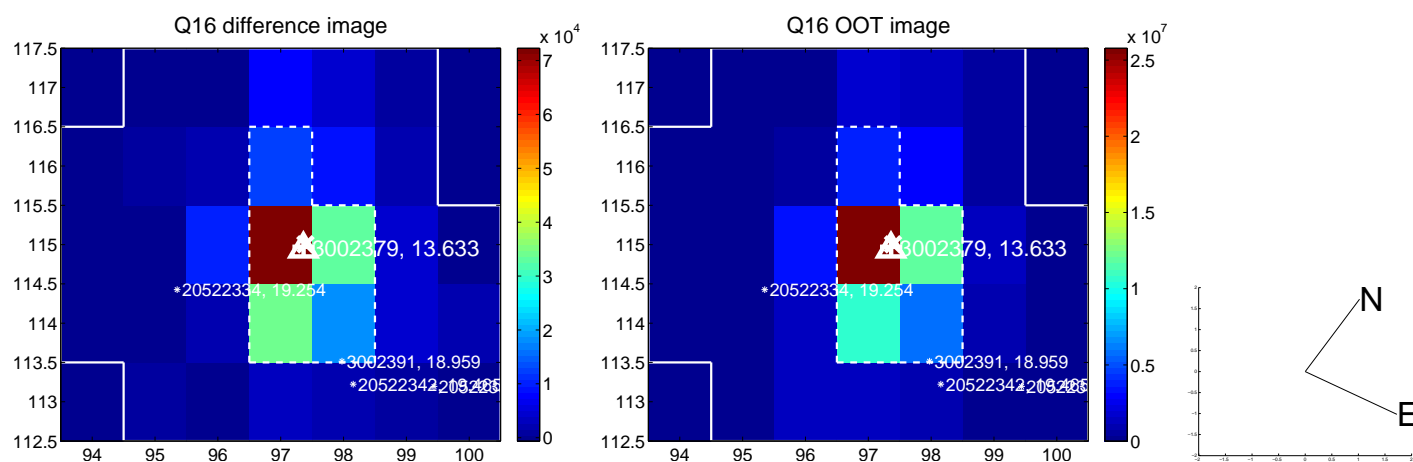
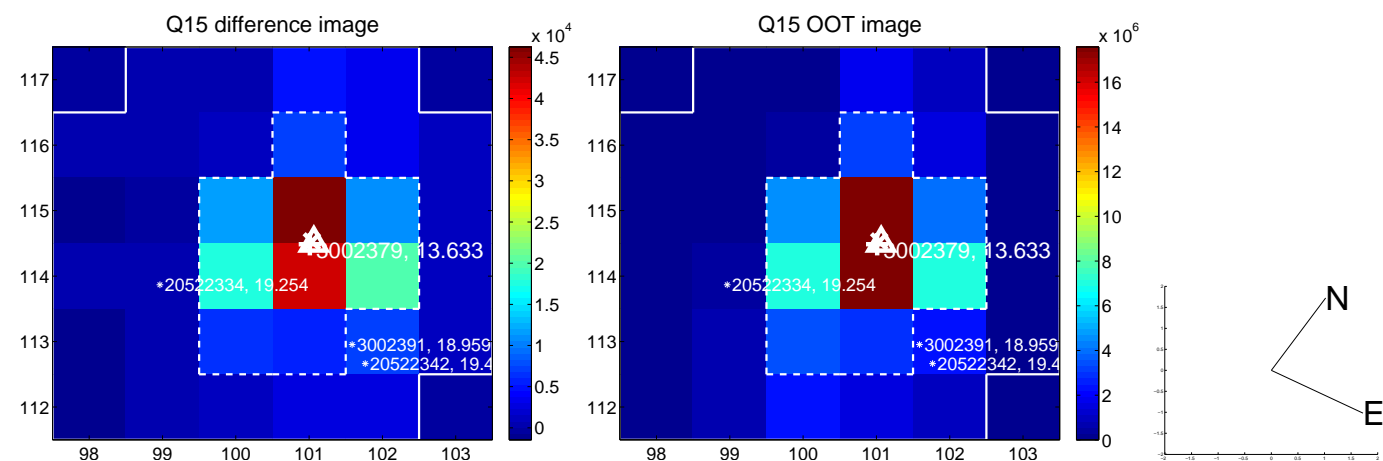
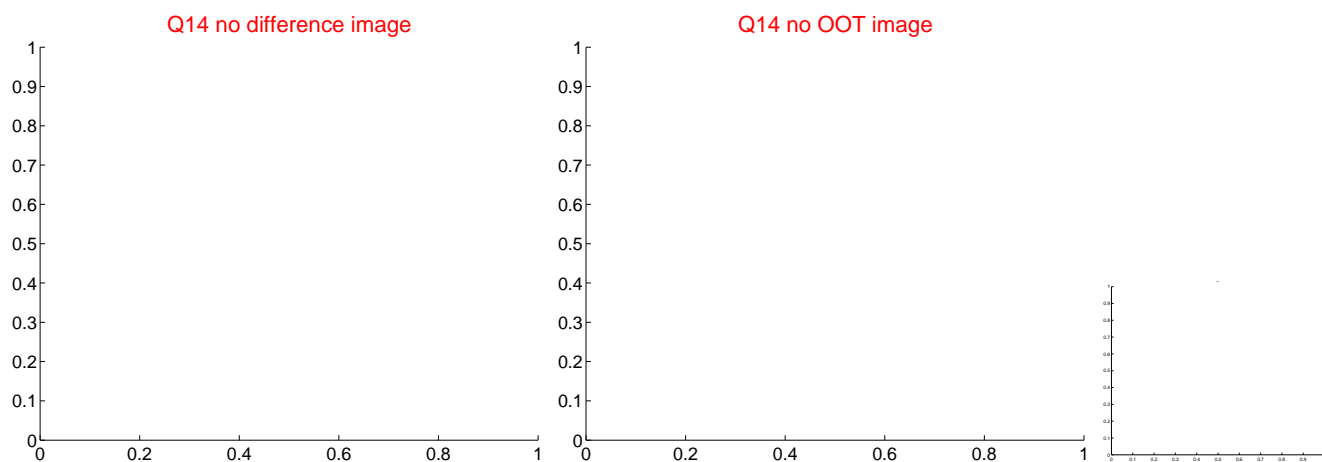
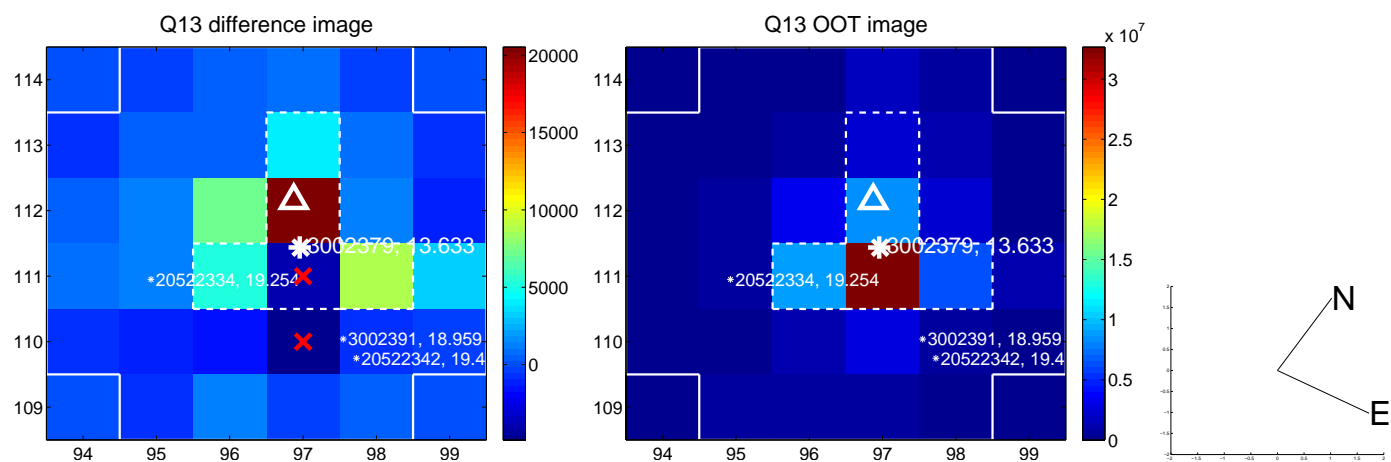
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



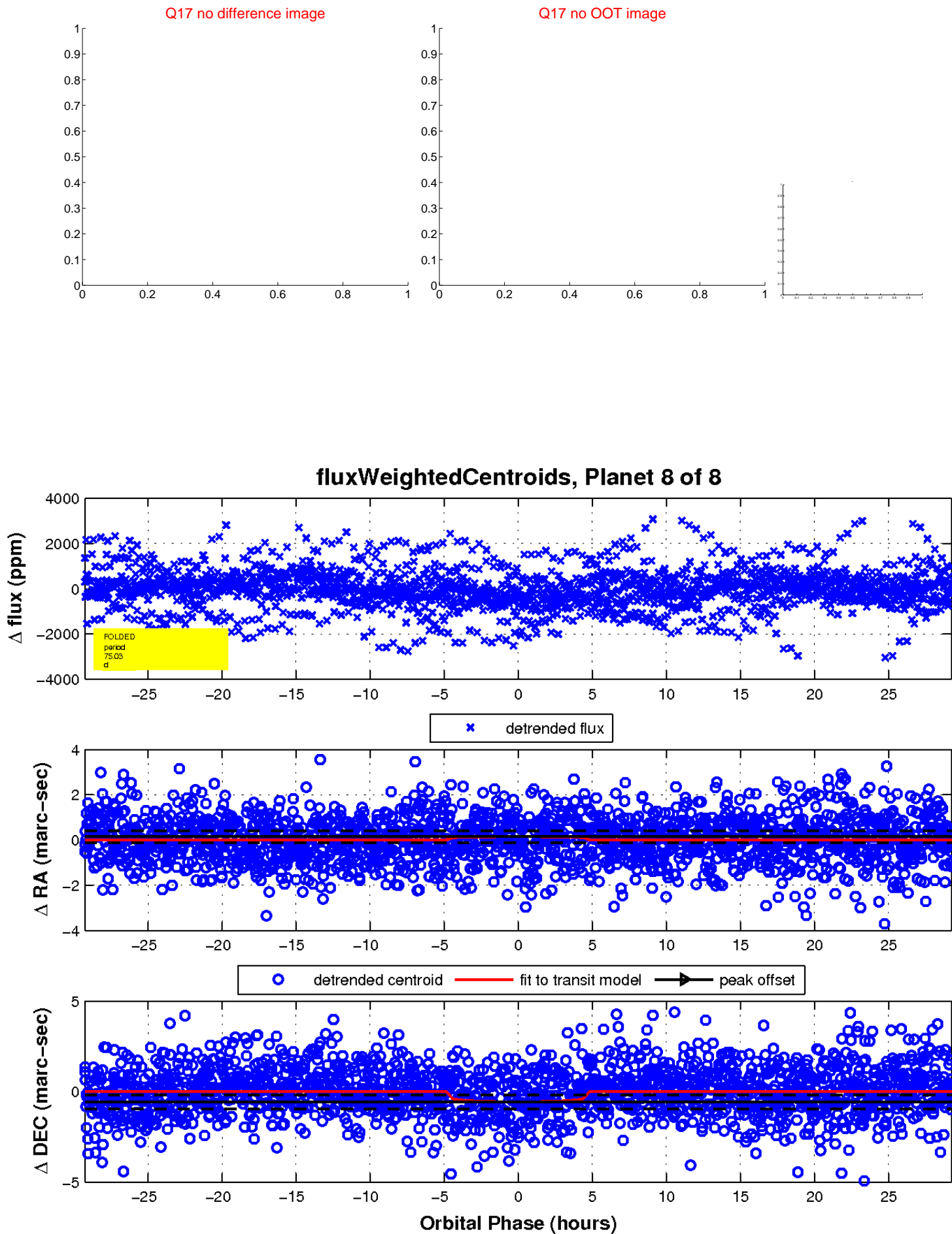
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

