

KIC 007523340

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007523340-01 | OBS | No | 4.909220 | 131.619386 | 32.0 | 18.038 | 10.7 | 8.7 | 2.54 | 6591 | 1.63 | 2824.95 |
| 007523340-02 | OBS | No | 401.304766 | 449.187388 | 128.0 | 1.391 | 10.4 | 2.3 | 2.54 | 6591 | 3.37 | 7.96 |
| 007523340-03 | OBS | No | 9.290705 | 139.147263 | 46.5 | 13.764 | 8.0 | 7.9 | 2.54 | 6591 | 2.17 | 1206.78 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007523340-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV |
| 007523340-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—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 |
| 007523340-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV |

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

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

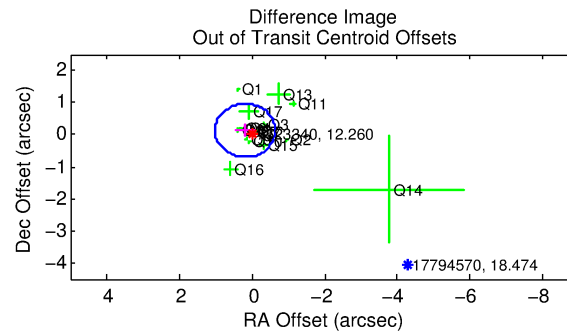
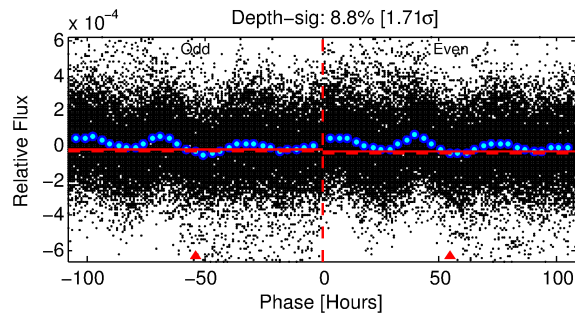
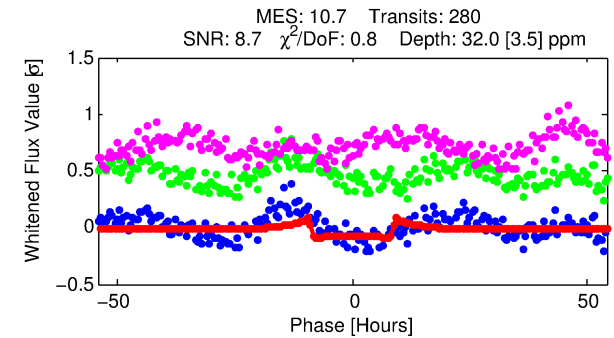
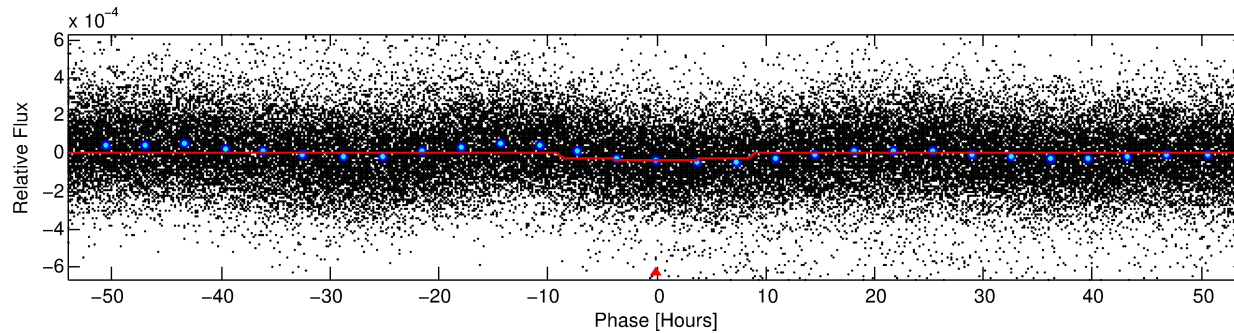
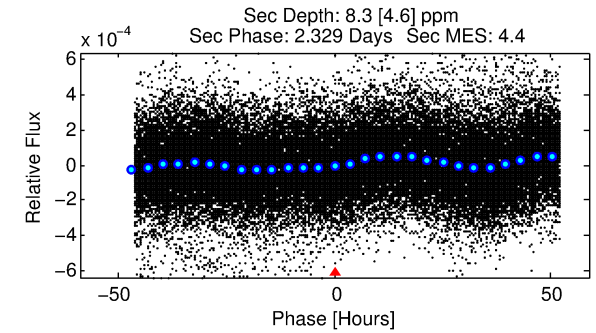
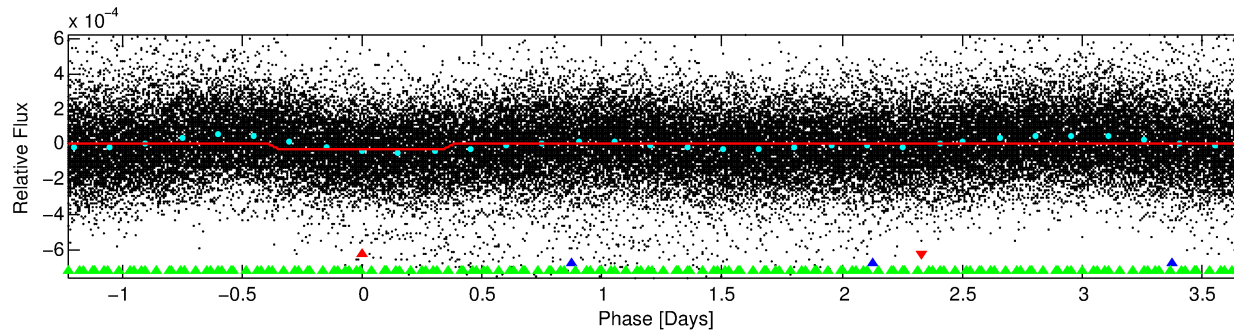
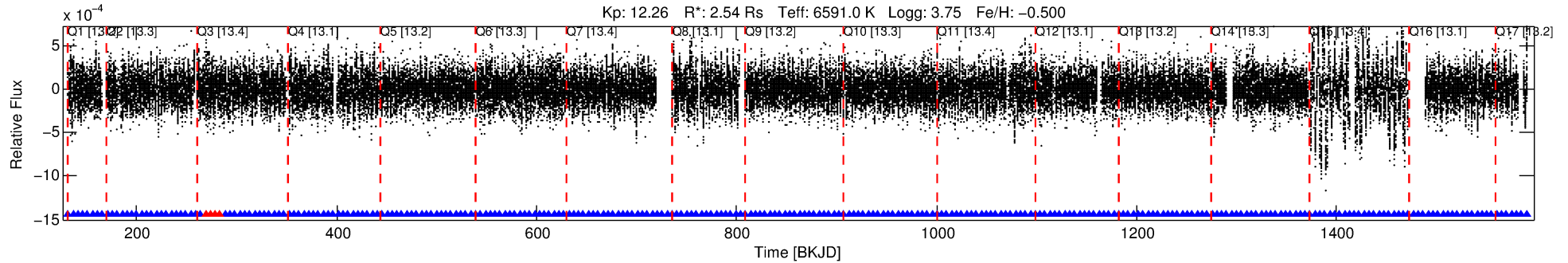
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007523340-01

No Significant Match Found

DV One-Page Summary

KIC: 7523340 Candidate: 1 of 3 Period: 4.909 d



DV Fit Results:

Period = 4.90922 [0.00006] d
Epoch = 131.6194 [0.0081] BKJD
Rp/R* = 0.0059 [0.0006]
a/R* = 1.42 [0.38]
b = 0.86 [0.16]
Seff = 2824.95 [1534.00]
Teq = 1859 [252] K
Rp = 1.63 [0.59] Re
a = 0.0621 [0.0207] AU
Ag = 6.62 [5.30] [1.06σ]
Teffp = 4611 [700] K [3.70σ]

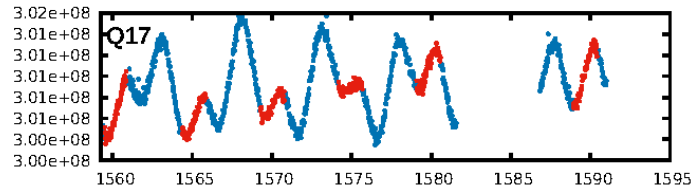
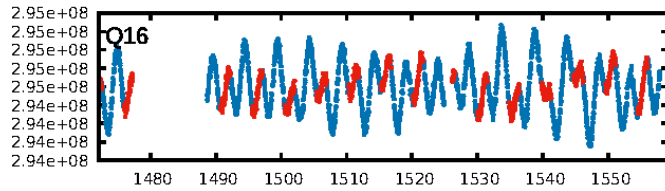
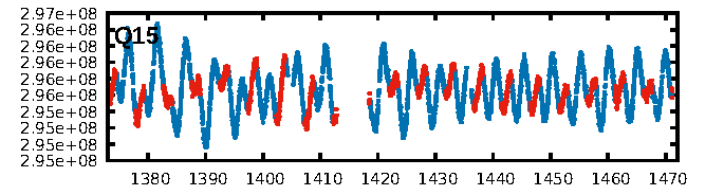
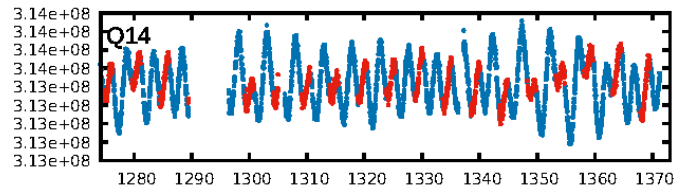
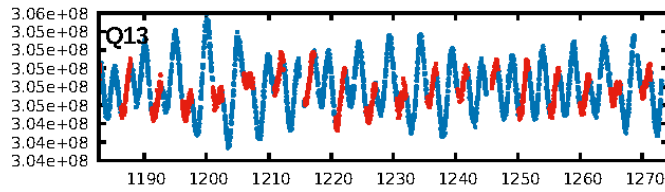
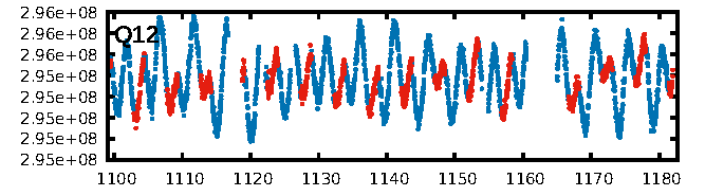
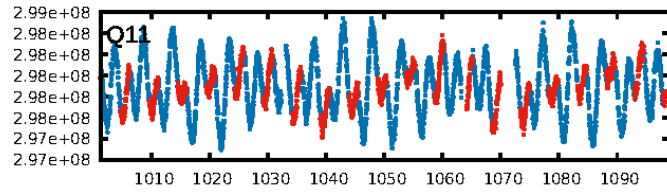
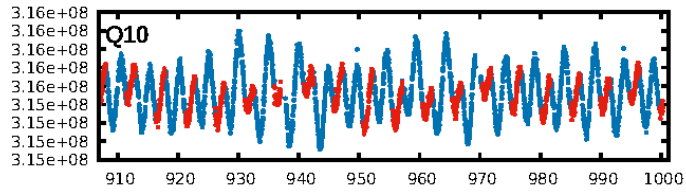
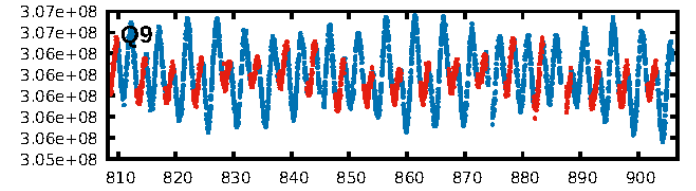
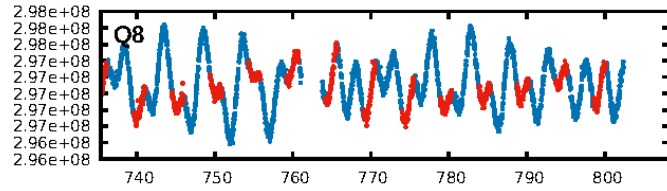
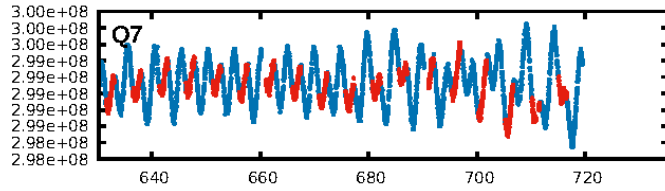
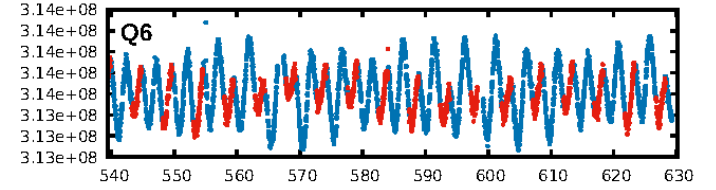
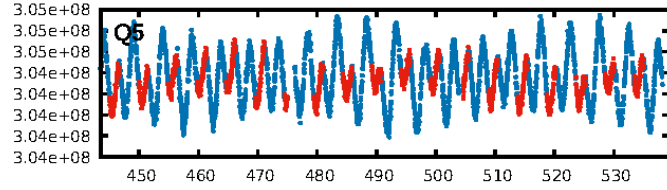
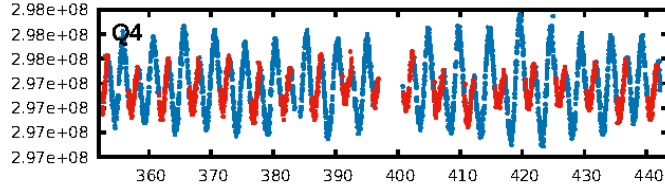
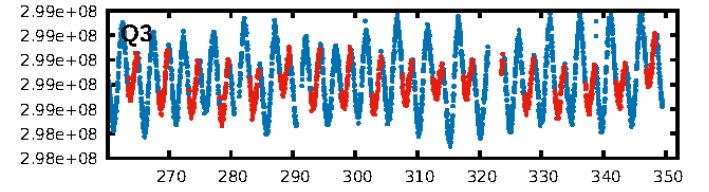
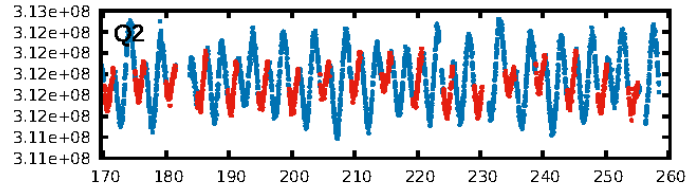
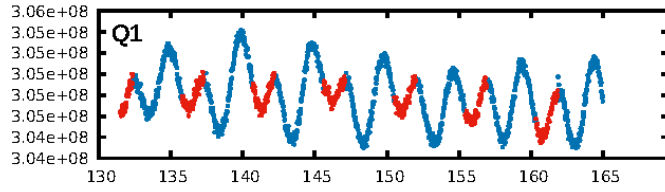
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [4.63σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.53e-17
RollingBand-fgt: 0.99 [263/267]
GhostDiagnostic-chr: 1.18
Centroid-sig: 17.9%
Centroid-so: 0.541 arcsec [1.03σ]
OotOffset-rm: 0.233 arcsec [0.84σ]
KicOffset-rm: 0.226 arcsec [0.94σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

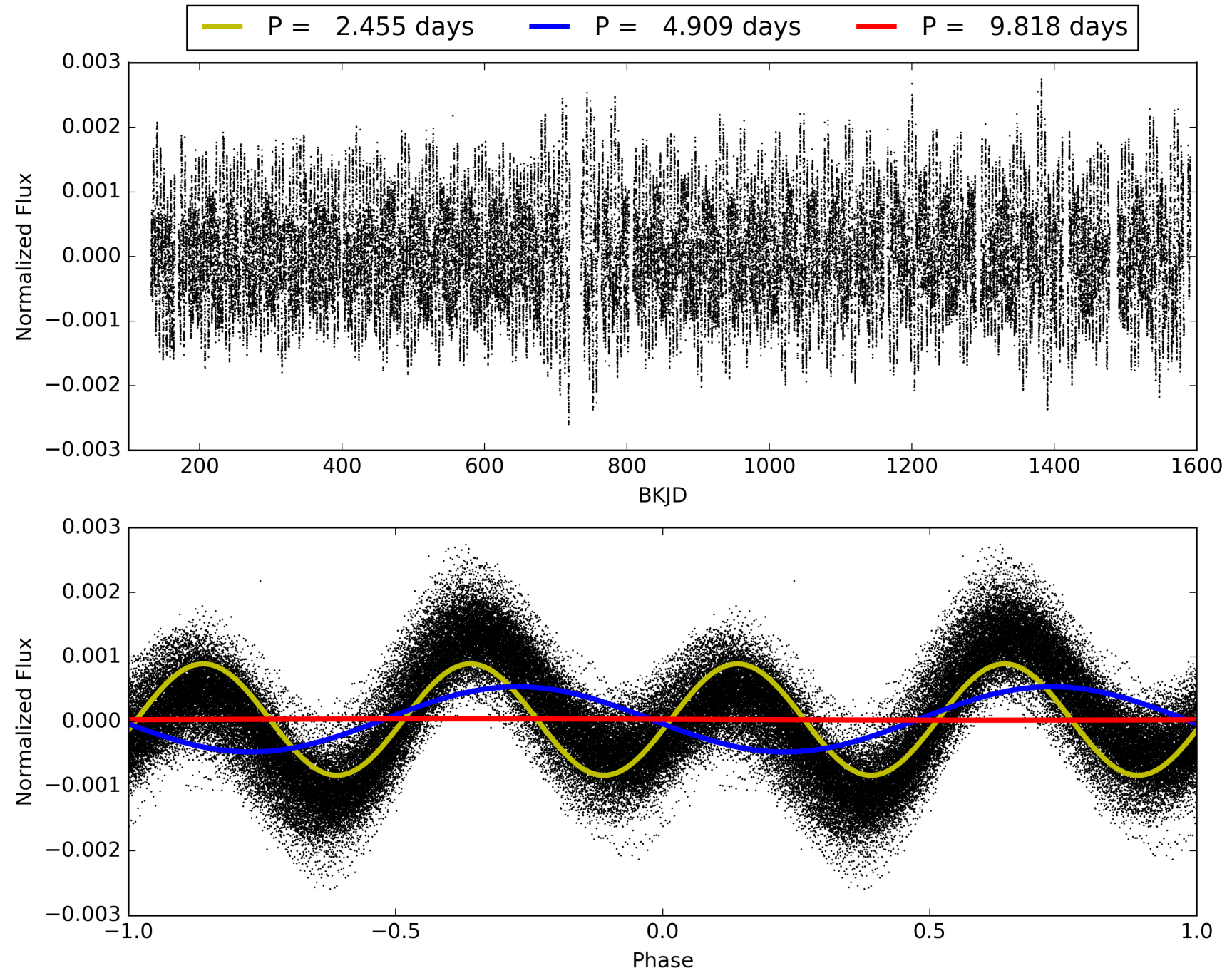
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007523340-01, PDC Light Curves

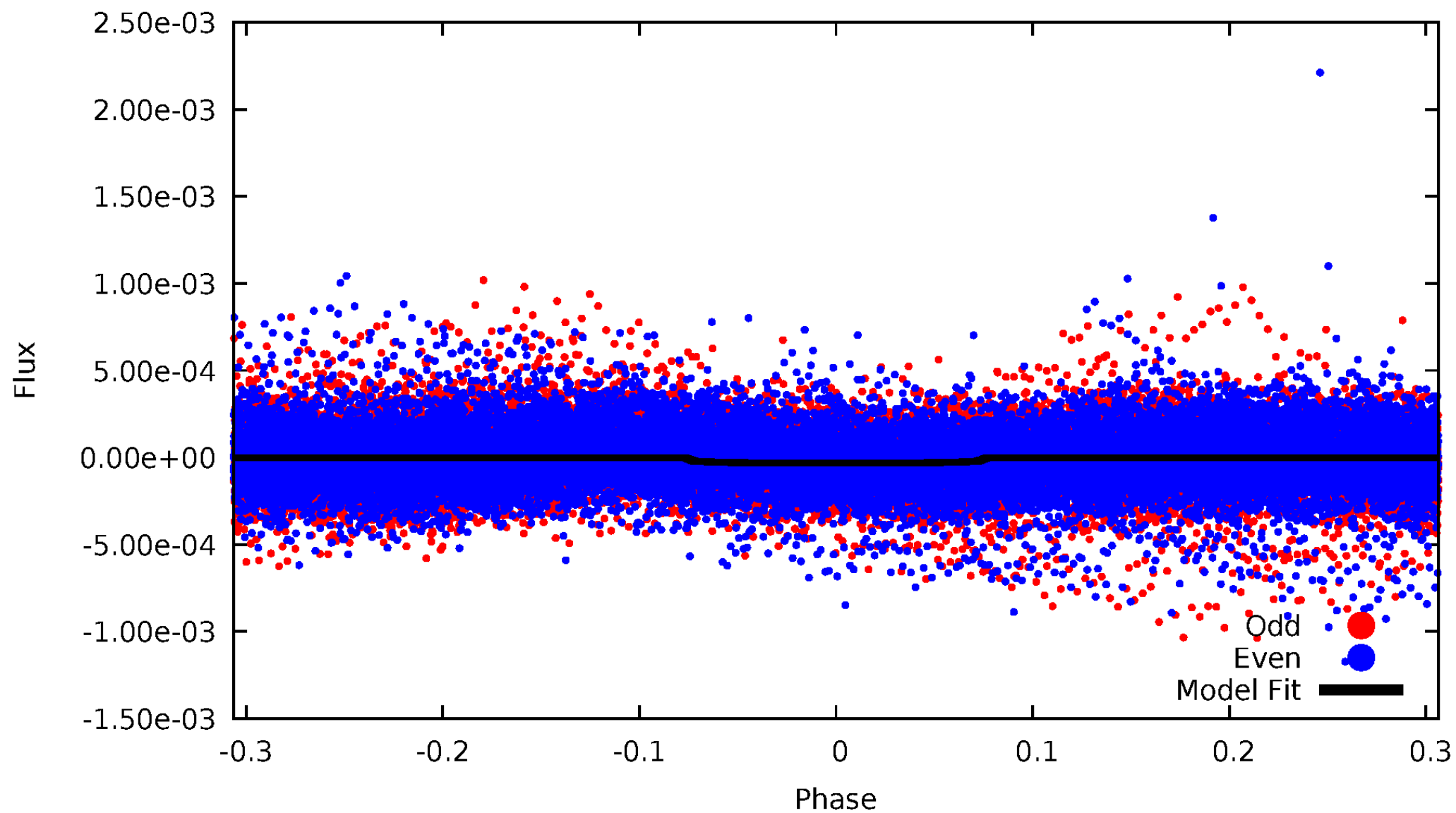


TCE 007523340-01



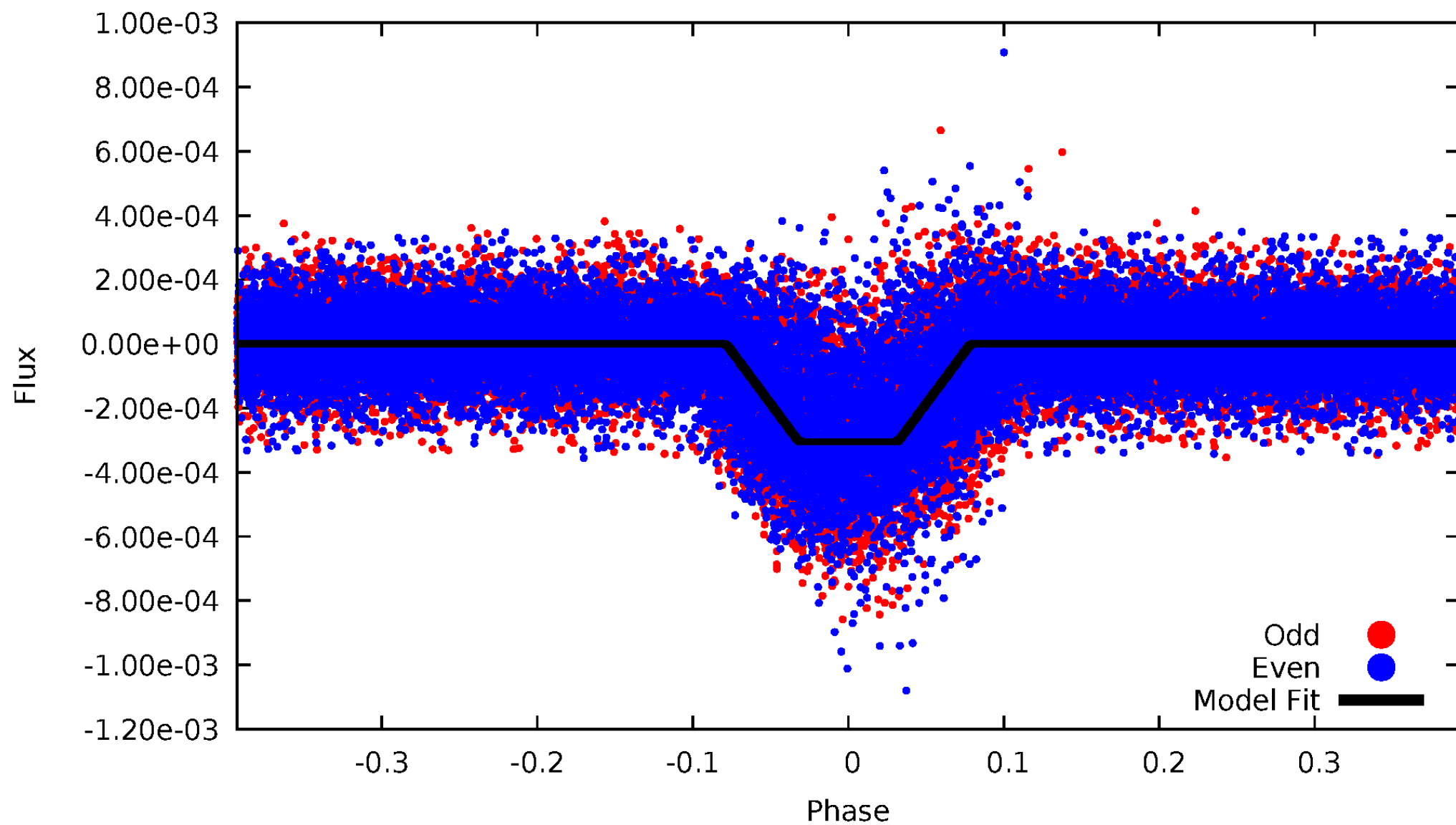
DV Odd/Even

TCE 007523340-01



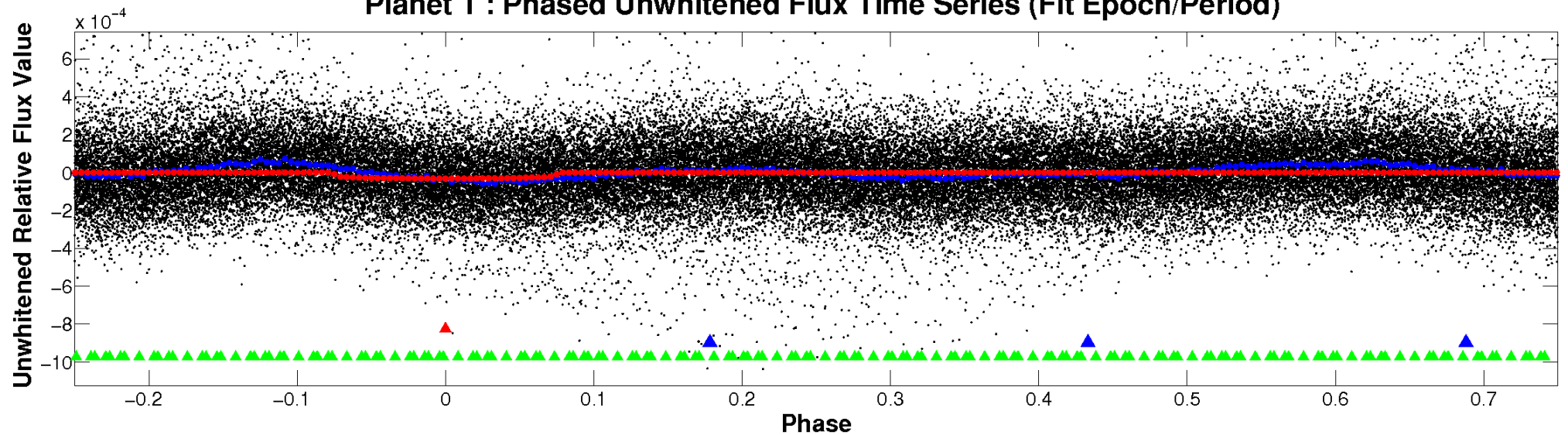
ALT Odd/Even

TCE 007523340-01

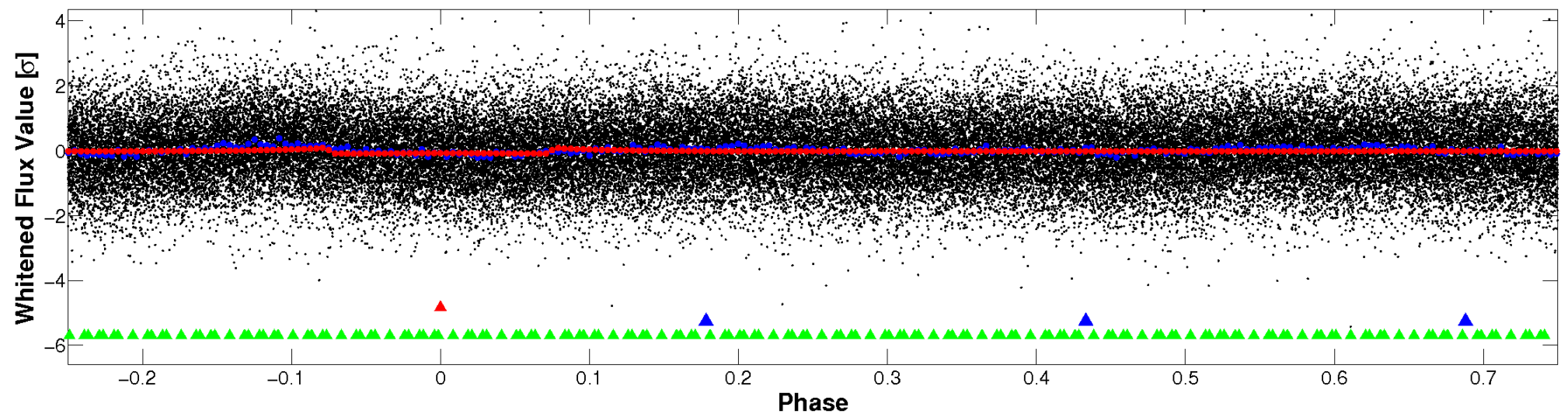


Non-Whitened Vs. Whitened Light Curve

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

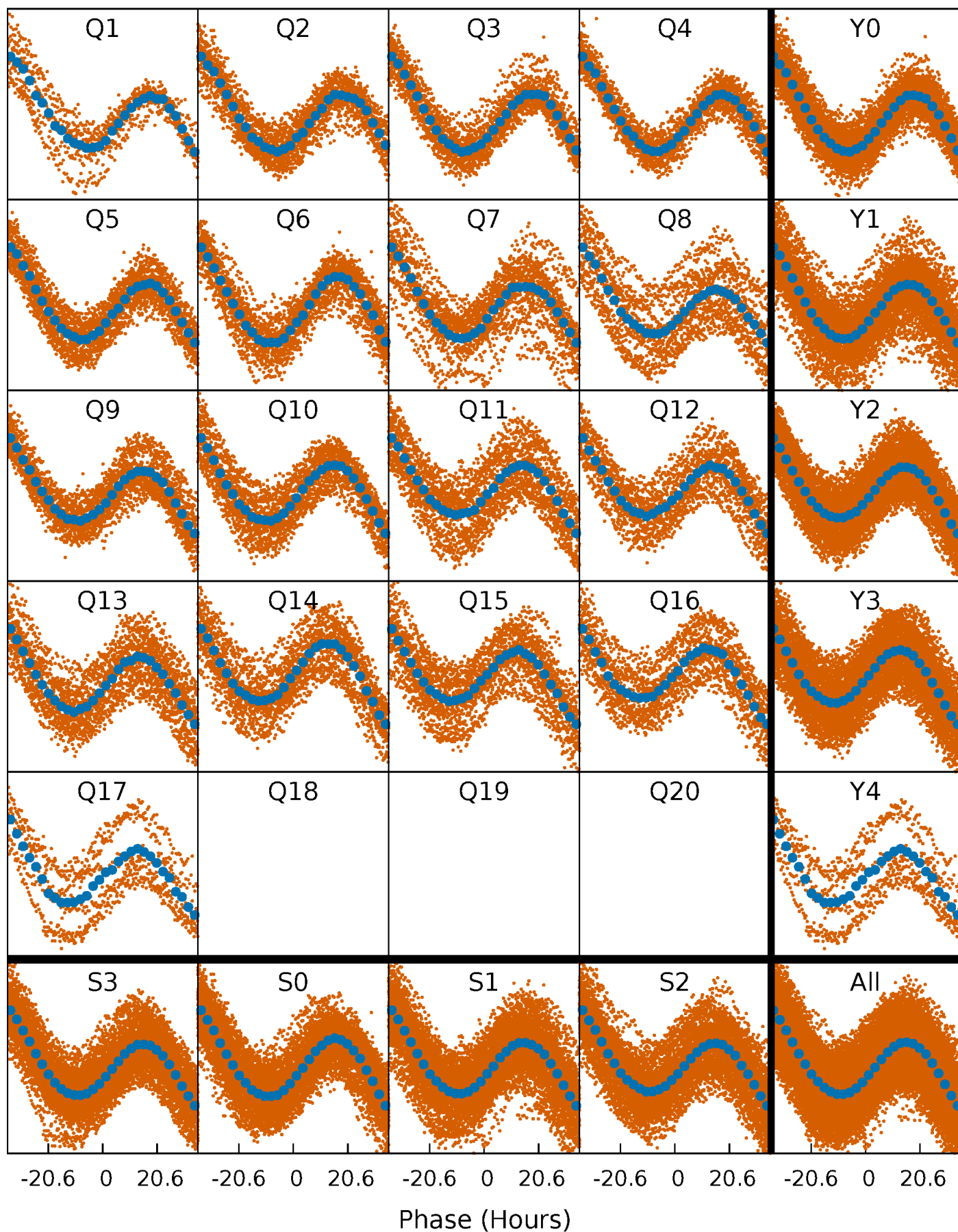


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



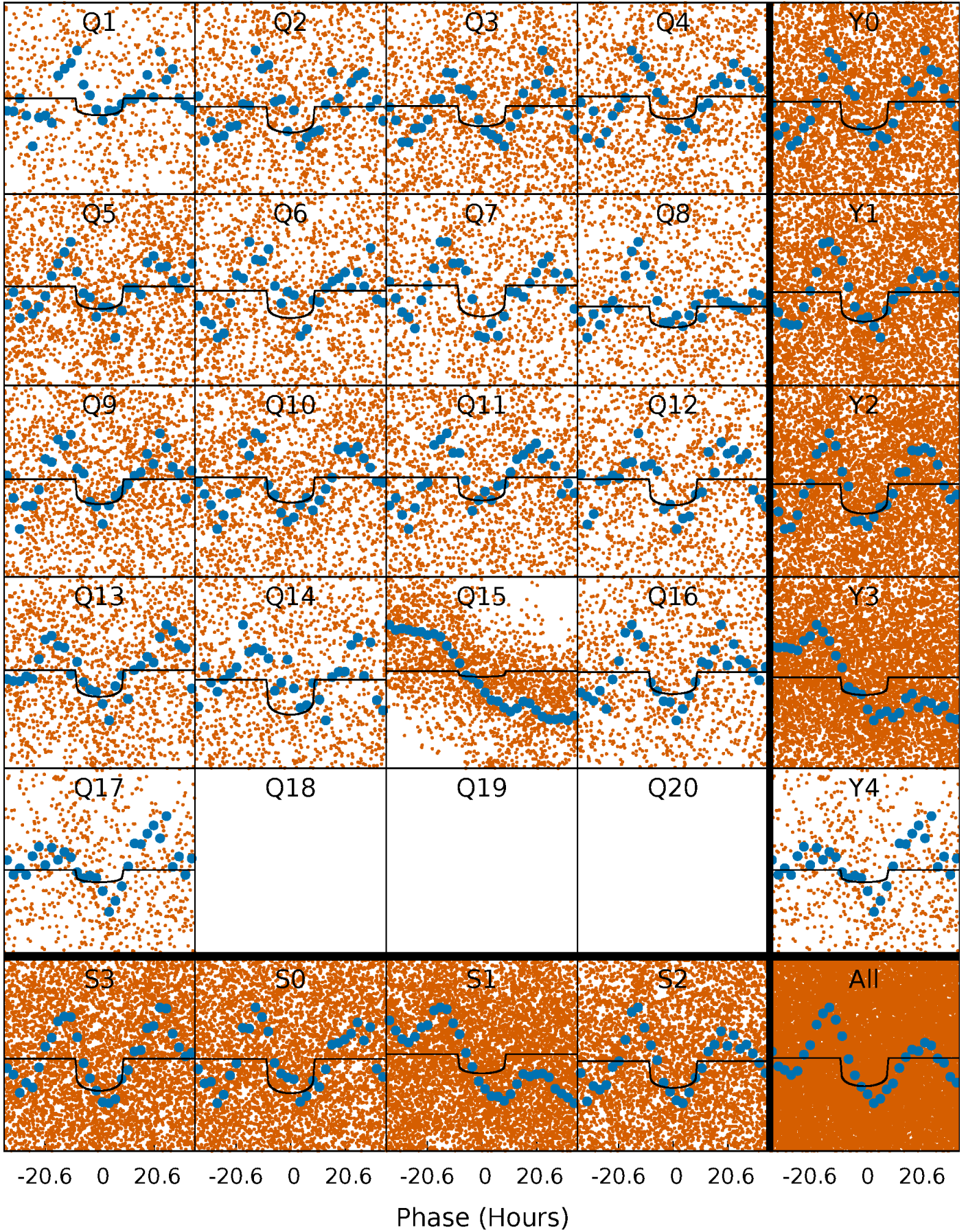
PDC Quarter-Phased Transit Curves

TCE 007523340-01 P= 4.909220 Days $T_0=131.619386$ (BKJD)



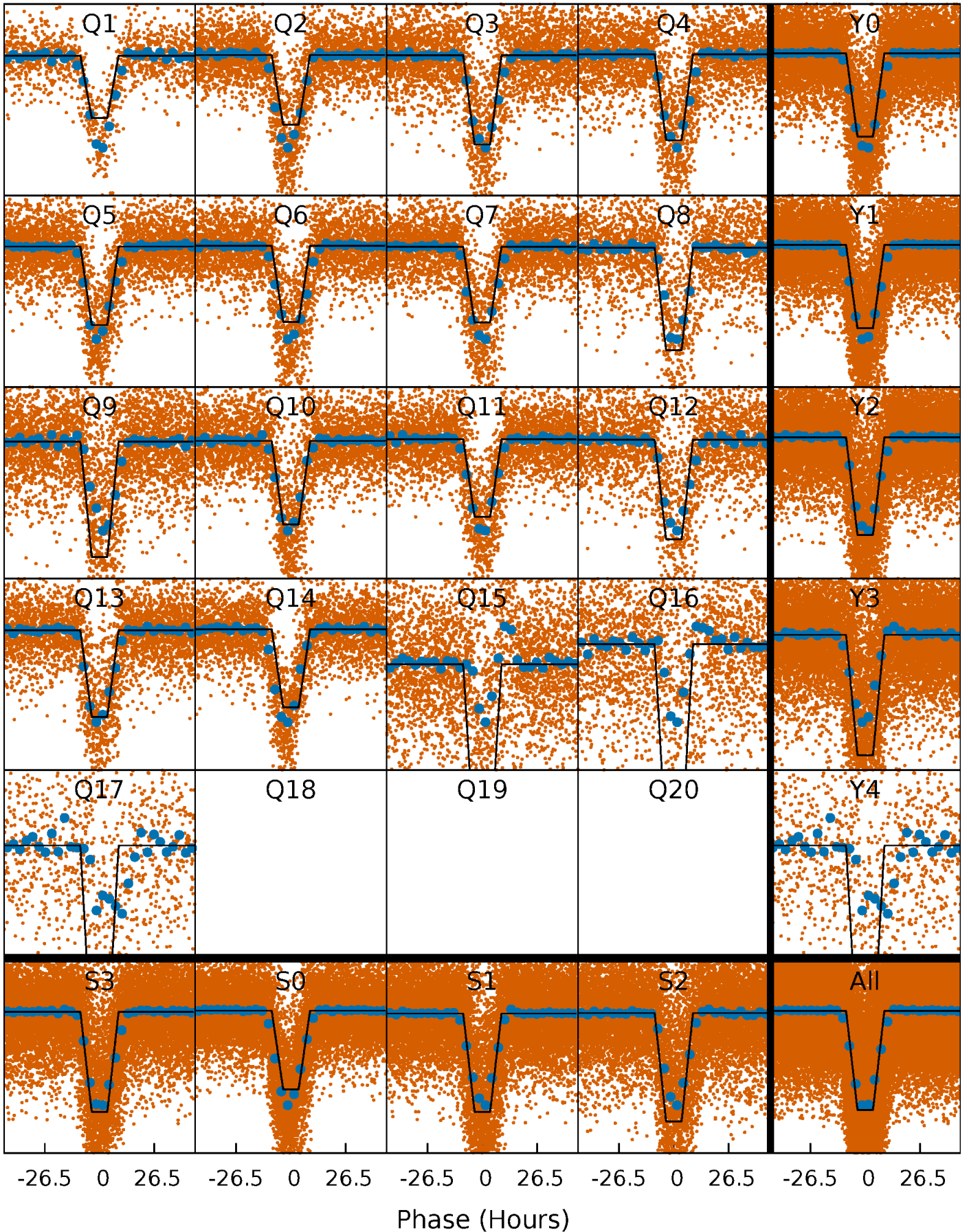
DV Quarter-Phased Transit Curves

TCE 007523340-01 P= 4.909220 Days $T_0=131.619386$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

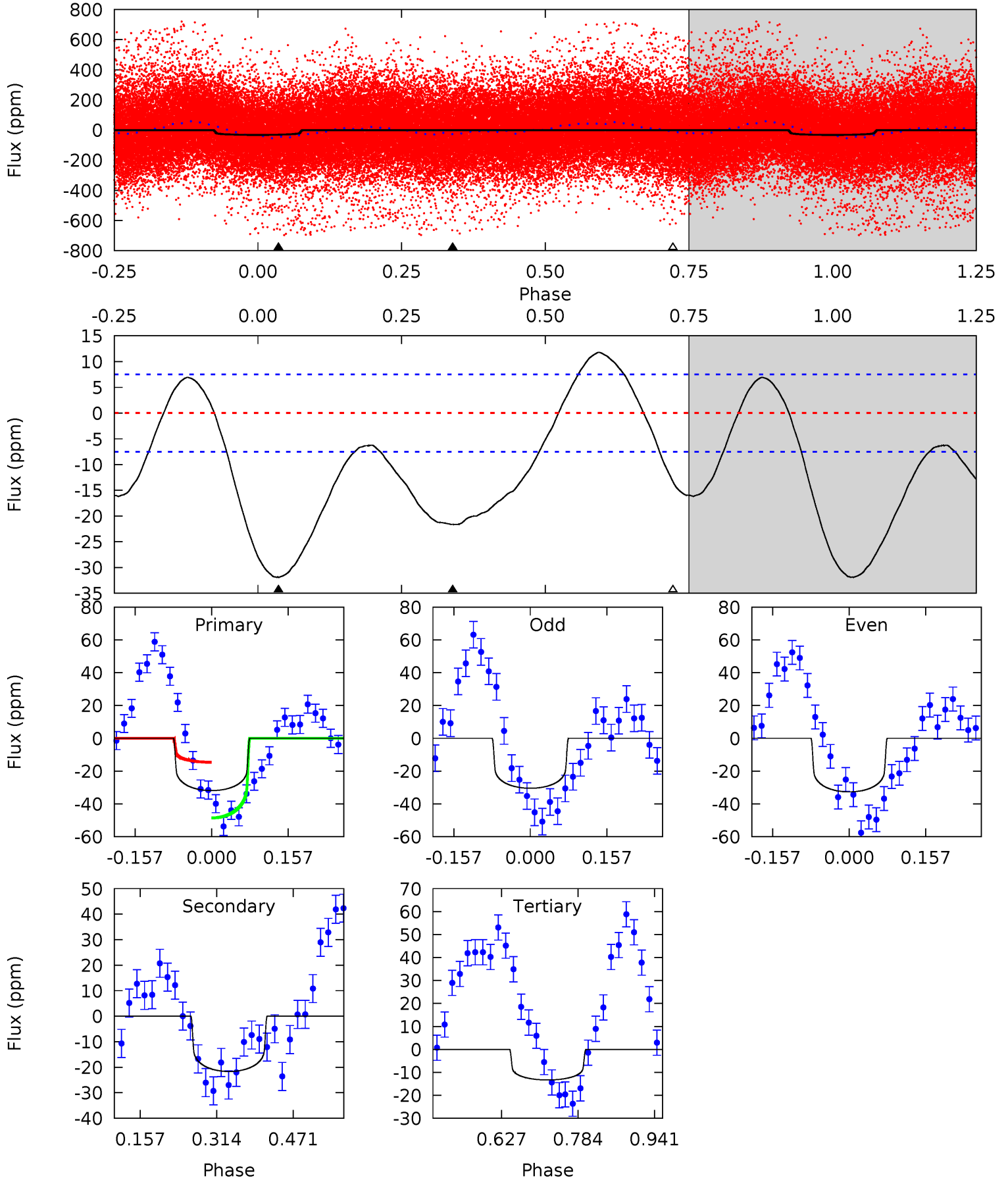
TCE 007523340-01 P= 4.908569 Days $T_0=131.555763$ (BKJD)



DV Model-Shift Uniqueness Test

007523340-01, P = 4.909220 Days, E = 126.710166 Days

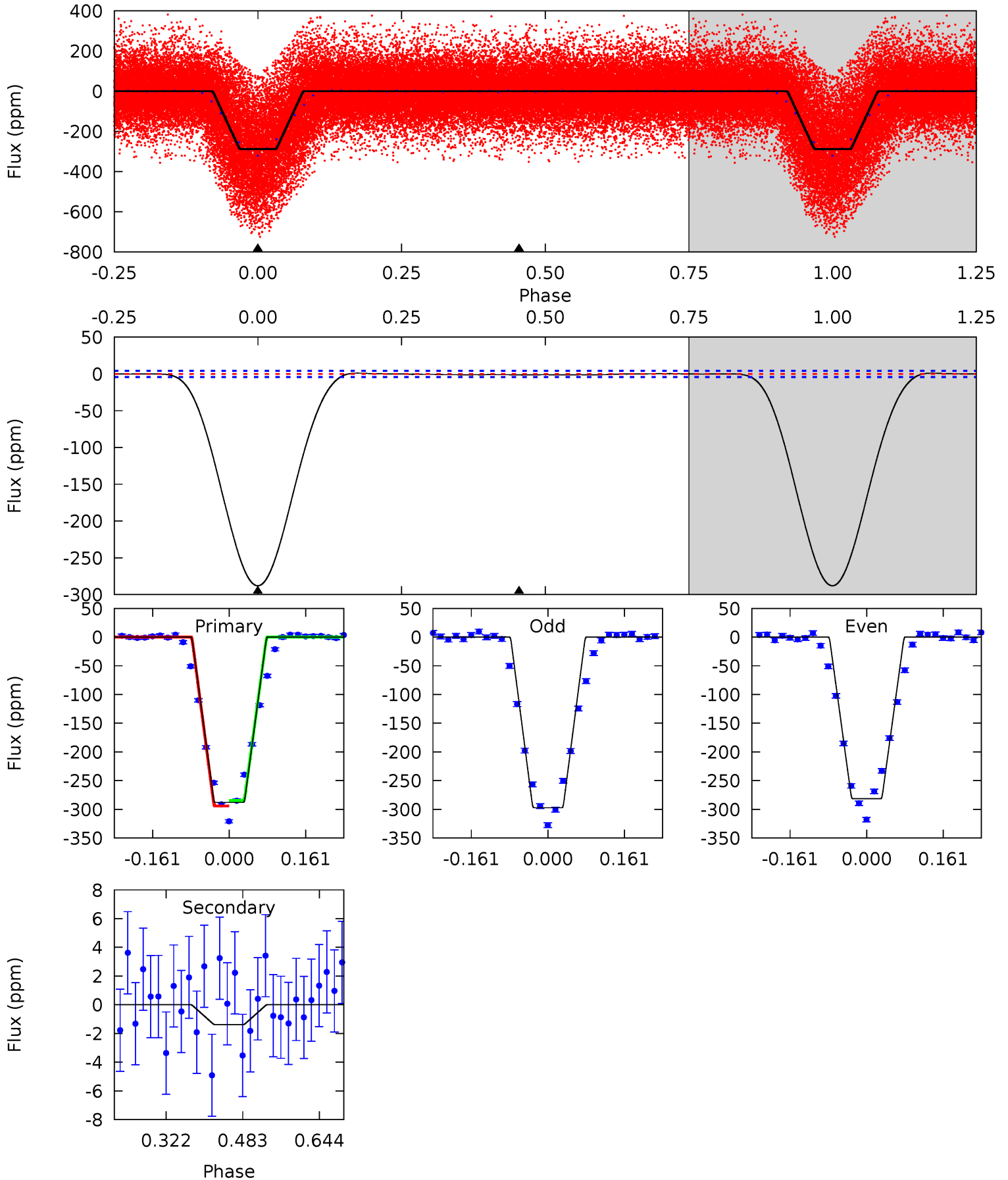
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 19.0 | 12.9 | 7.91 | 0 | 4.47 | 1.42 | 5.42 | 11.0 | 19.0 | 4.96 | 12.9 | 0.66 | 0.89 | 0.27 | 10.6 |



Alt Model-Shift Uniqueness Test

007523340-01, P = 4.908569 Days, E = 126.647194 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 310.4 | 1.49 | 0 | 0 | 4.46 | 1.40 | 0.40 | 310.4 | 310.4 | 1.49 | 1.49 | 8.45 | 0.95 | 0.00 | 5.16 |



Stellar Parameters For KIC 007523340

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6591^{+180}_{-180} | $3.751^{+0.312}_{-0.098}$ | $-0.500^{+0.350}_{-0.300}$ | $2.538^{+0.474}_{-0.881}$ | $1.325^{+0.226}_{-0.251}$ | $0.114^{+0.245}_{-0.037}$ |
| | +3%/-3% | +8%/-3% | +70%/-60% | +19%/-35% | +17%/-19% | +215%/-32% |
| Source | PHO1 | FLK73 | 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 007523340-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|-----------------------|---------------------------|
| DV | -22 ± 2 | $1.57^{+0.28}_{-0.33}$ | 2547^{+155}_{-220} | 5843^{+386}_{-341} | 19^{+11}_{-5} |
| Alt. | -1 ± 1 | $4.73^{+0.62}_{-0.90}$ | 2546^{+160}_{-216} | -2602^{+369}_{-184} | $0.136^{+0.110}_{-0.092}$ |

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 $A_{obs} \gg 1.0$

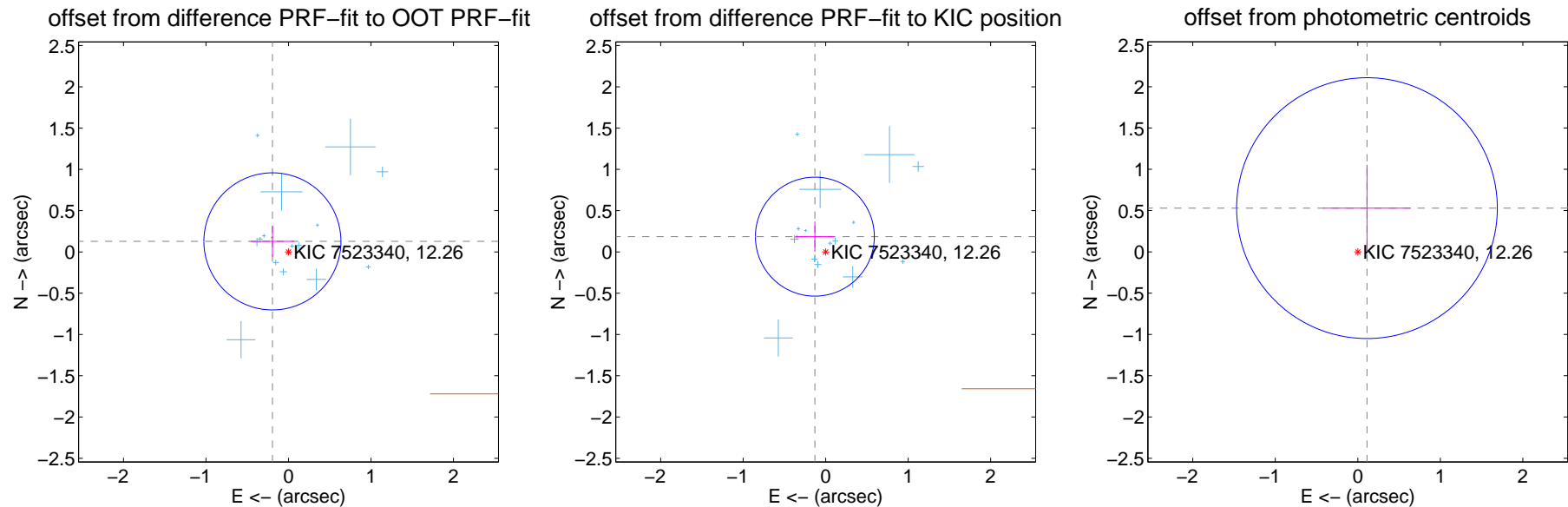
DV Centroid Data

Supplemental centroid analysis for 007523340-01. Kepler magnitude: 12.26. Transit SNR 8.69

There are 16 quarters with good PRF difference image offsets

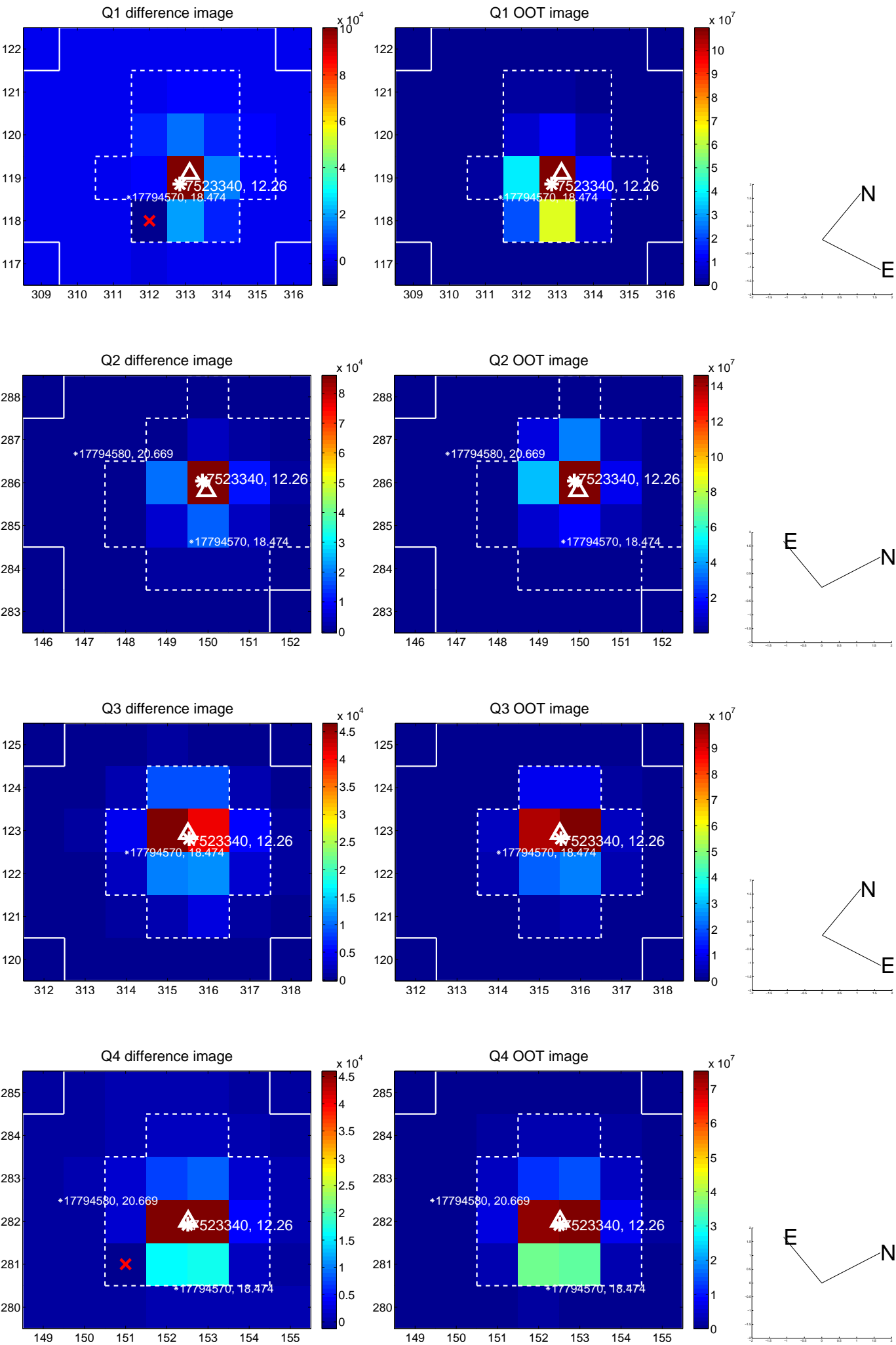
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.233 ± 0.277 | 0.84 | 0.195 ± 0.264 | 0.128 ± 0.186 |
| PRF-fit source offset from KIC position | 0.226 ± 0.240 | 0.94 | 0.131 ± 0.237 | 0.185 ± 0.184 |
| photometric centroid source offset | 0.54 ± 0.53 | 1.03 | -0.11 ± 0.53 | 0.53 ± 0.53 |

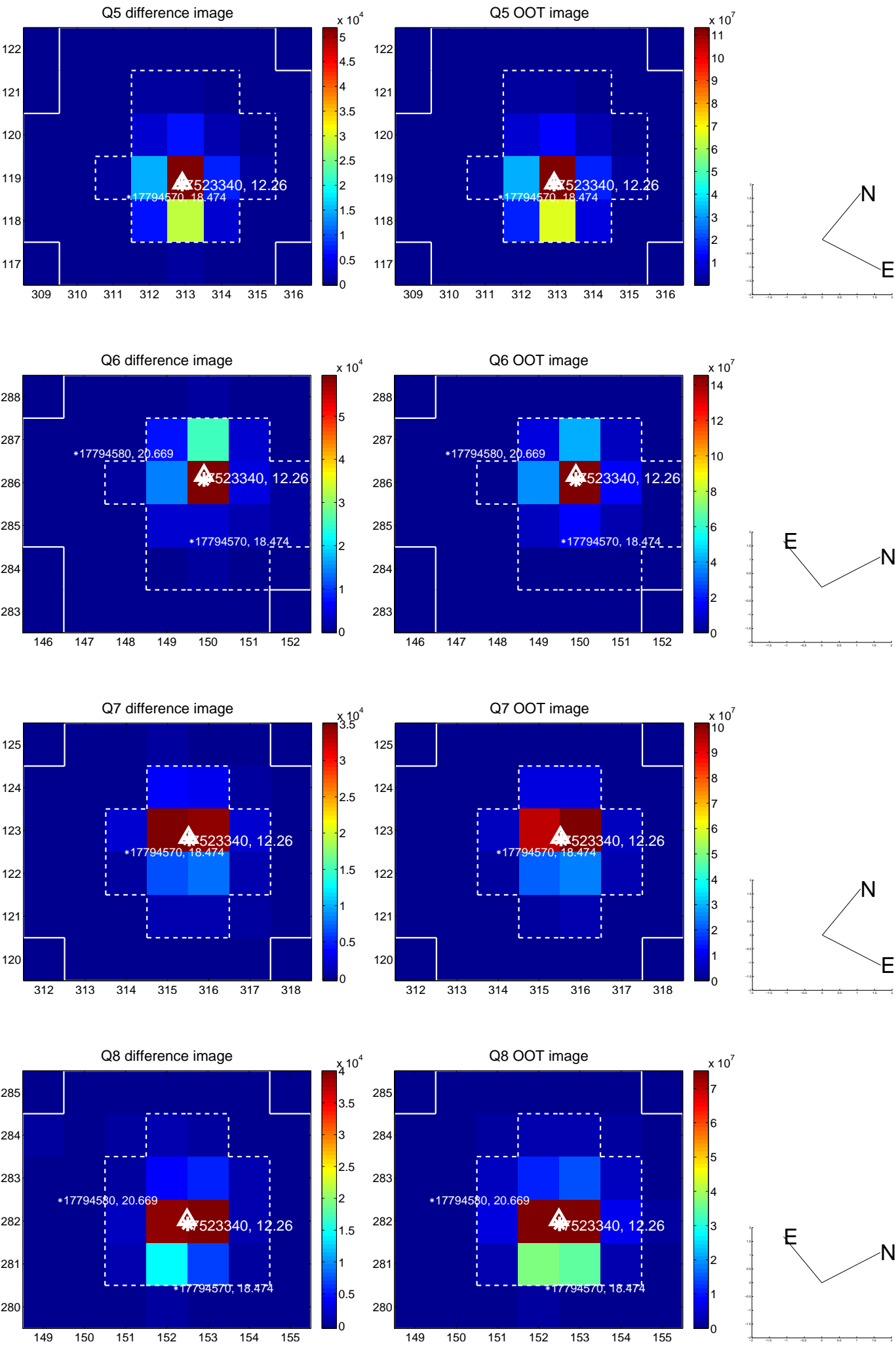


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

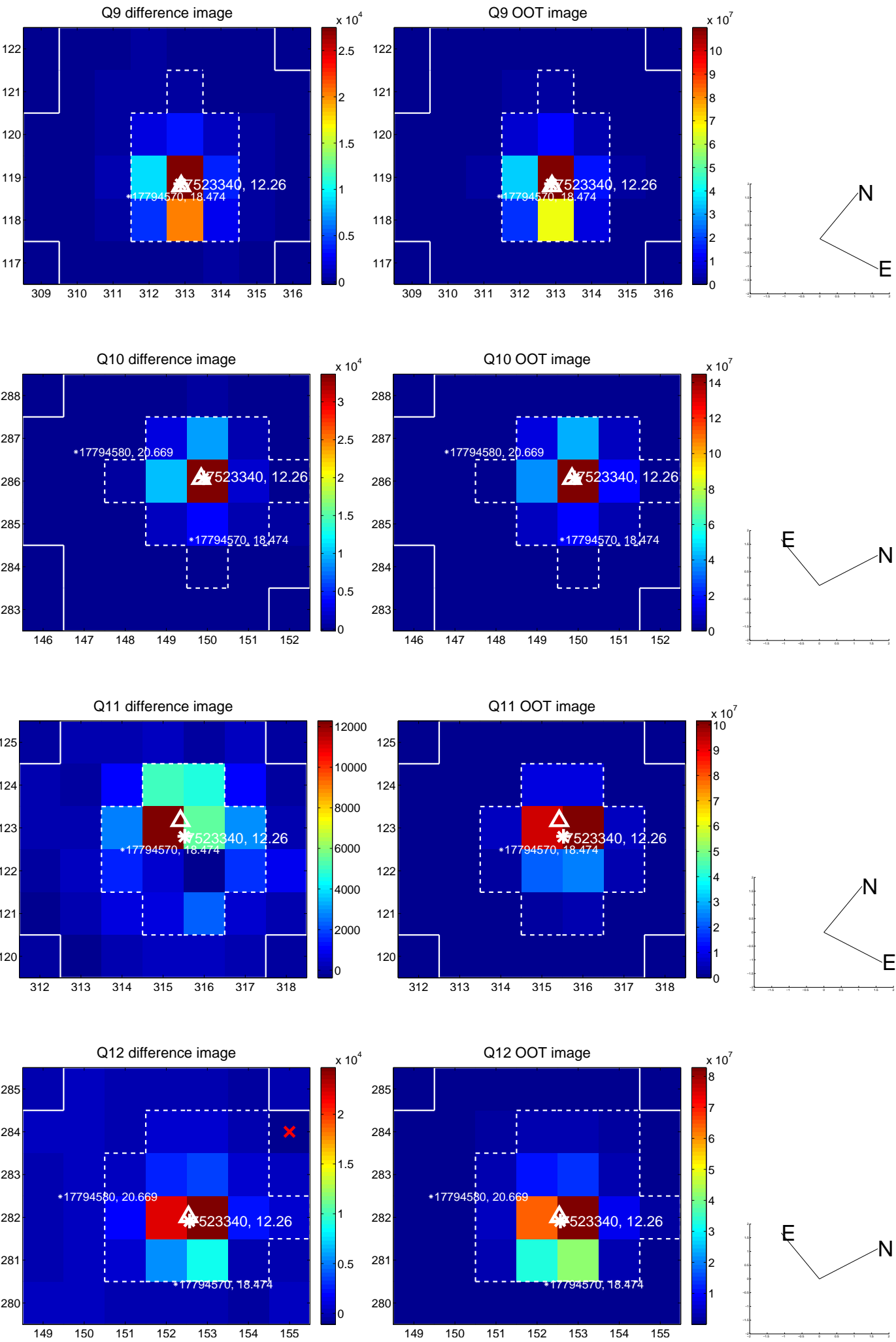
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



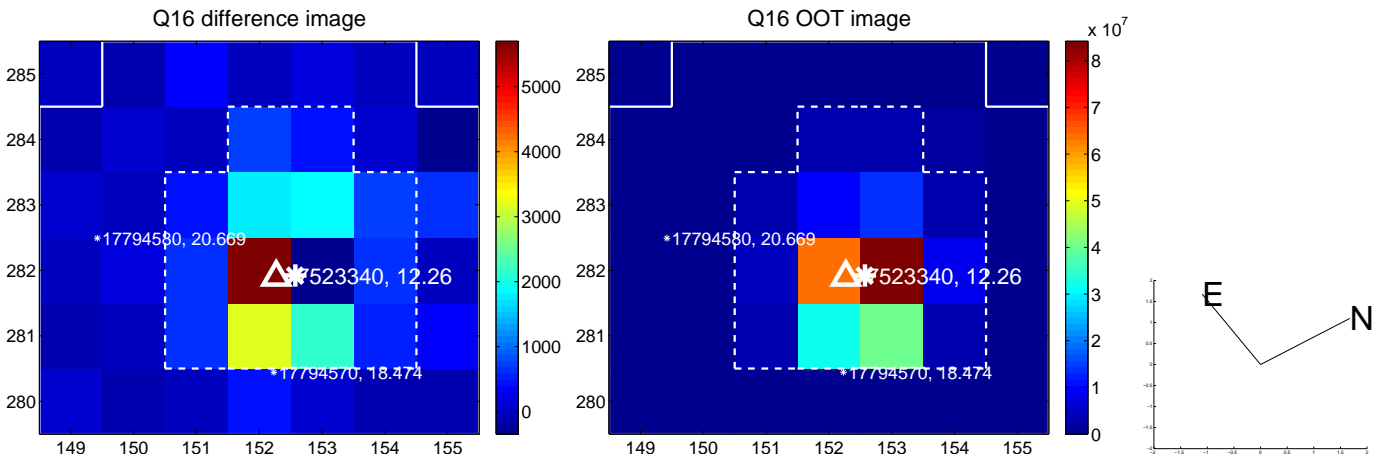
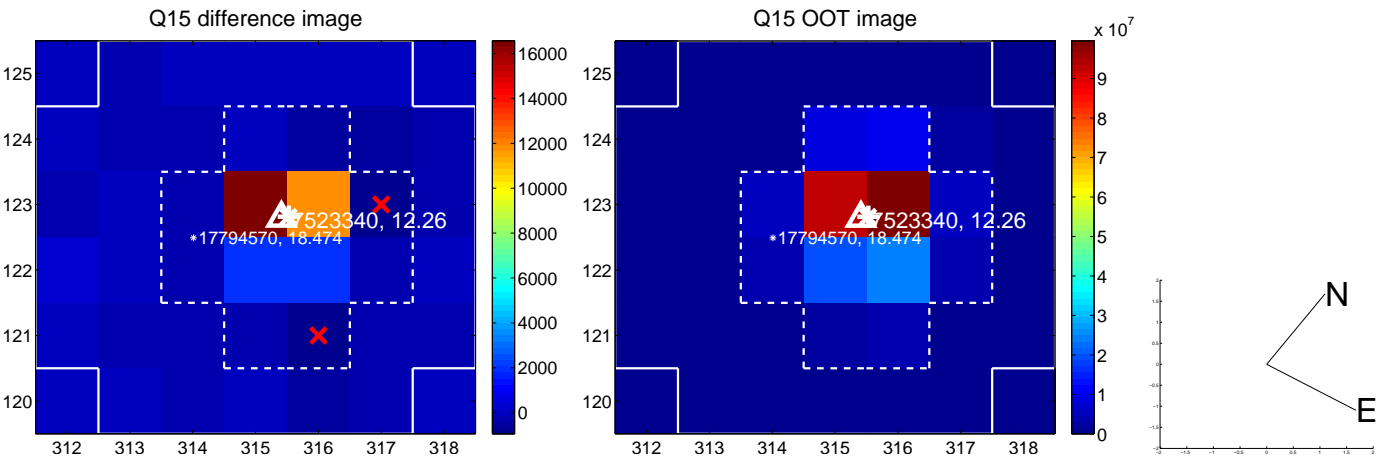
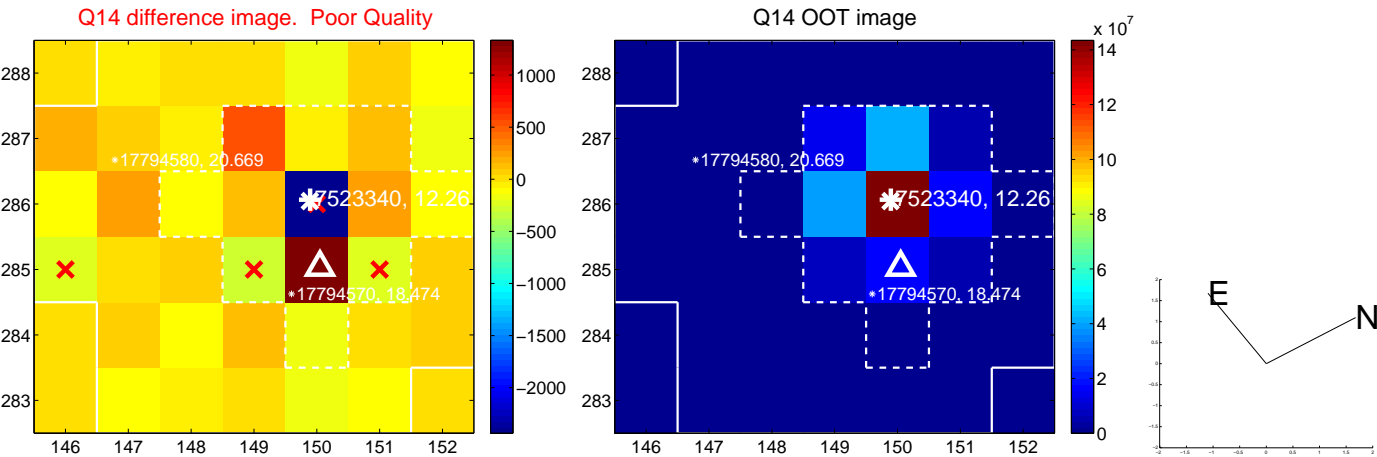
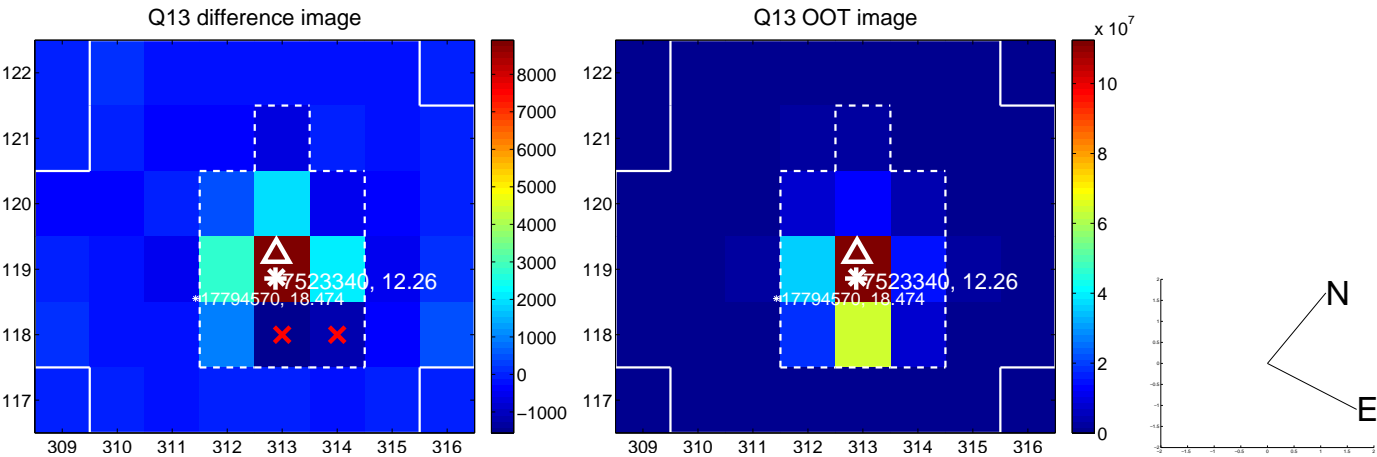
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



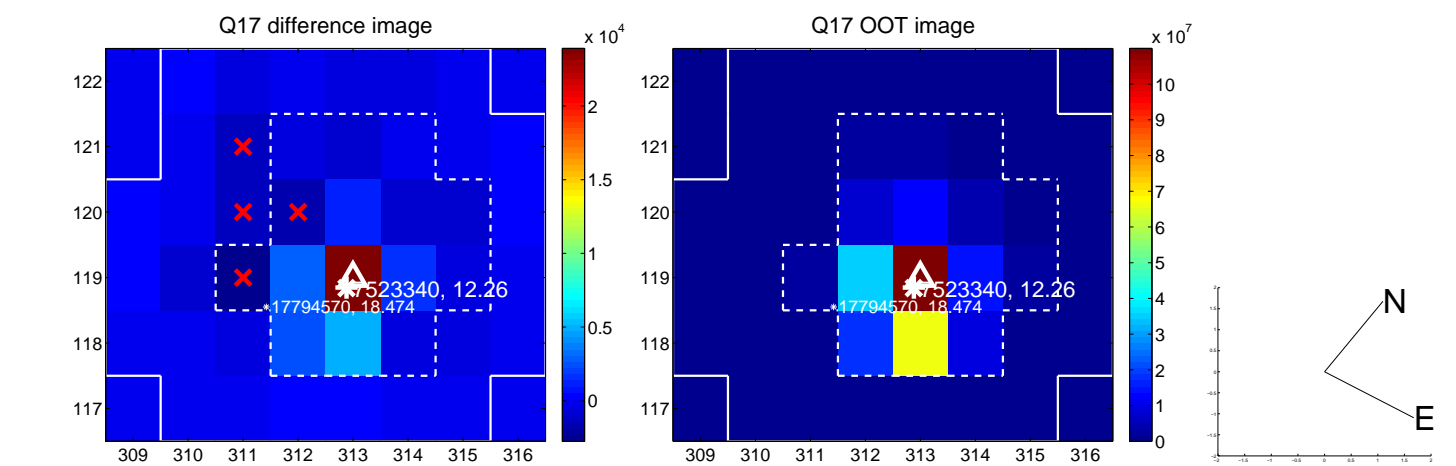
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



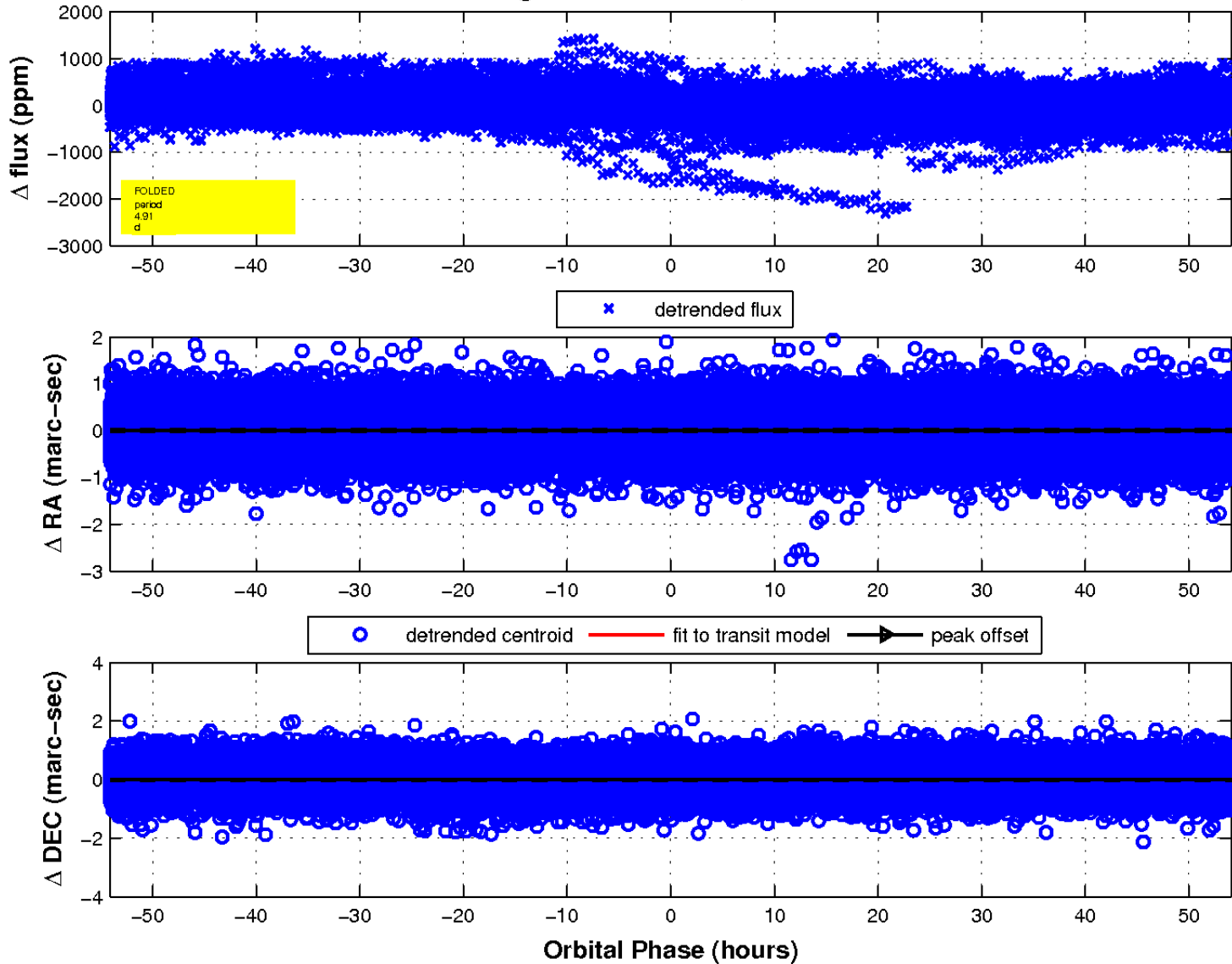
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



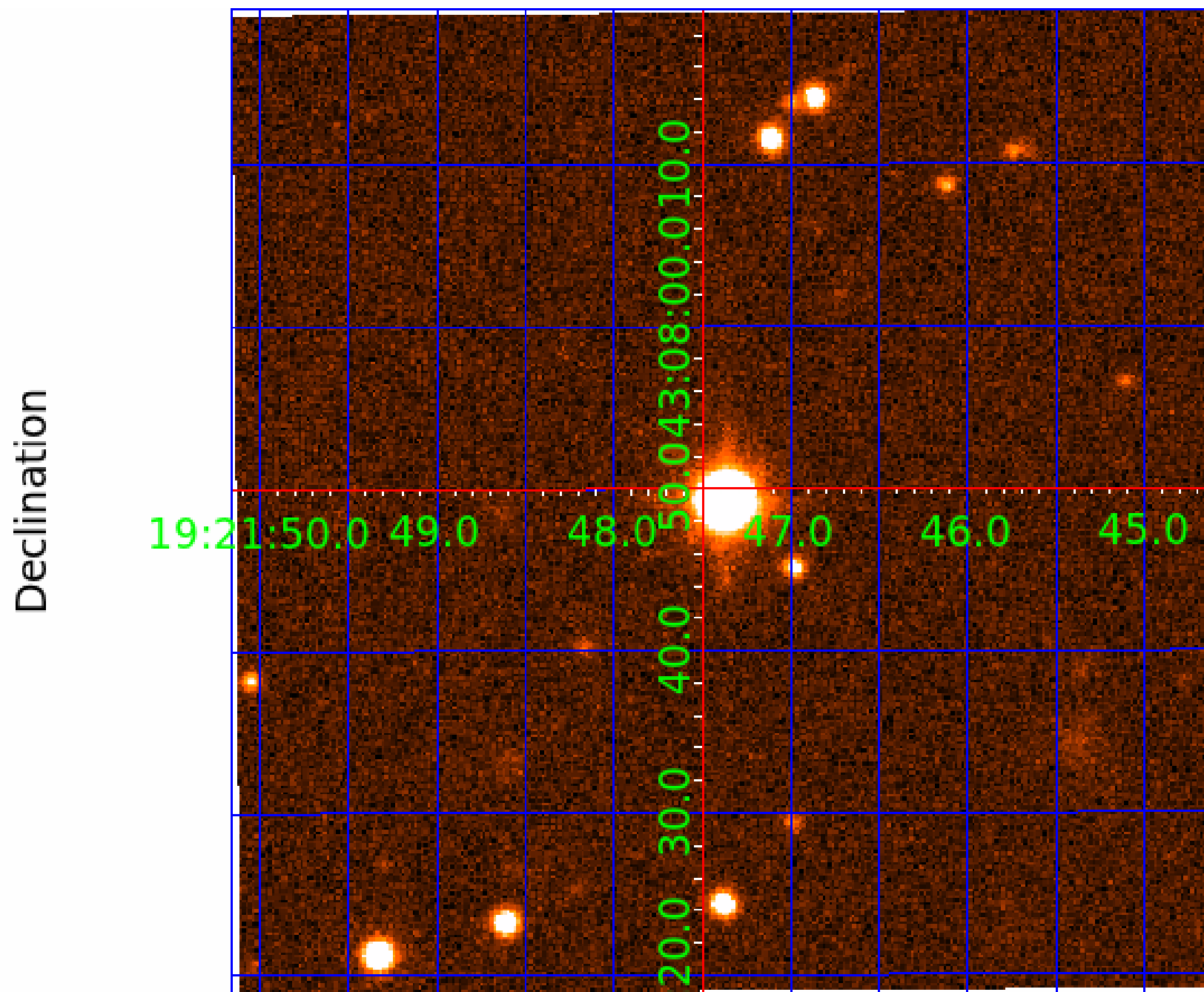
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 3



UKIRT Image



KIC 007523340

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007523340-01 | OBS | No | 4.909220 | 131.619386 | 32.0 | 18.038 | 10.7 | 8.7 | 2.54 | 6591 | 1.63 | 2824.95 |
| 007523340-02 | OBS | No | 401.304766 | 449.187388 | 128.0 | 1.391 | 10.4 | 2.3 | 2.54 | 6591 | 3.37 | 7.96 |
| 007523340-03 | OBS | No | 9.290705 | 139.147263 | 46.5 | 13.764 | 8.0 | 7.9 | 2.54 | 6591 | 2.17 | 1206.78 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007523340-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV |
| 007523340-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—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 |
| 007523340-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV |

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

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

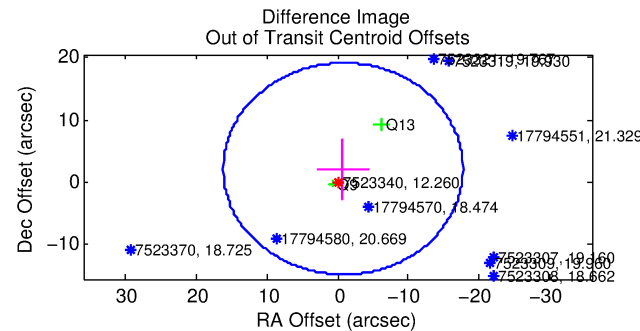
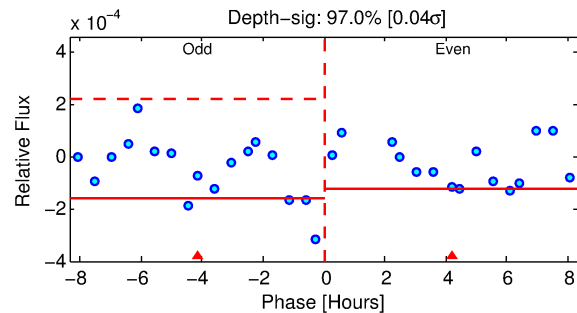
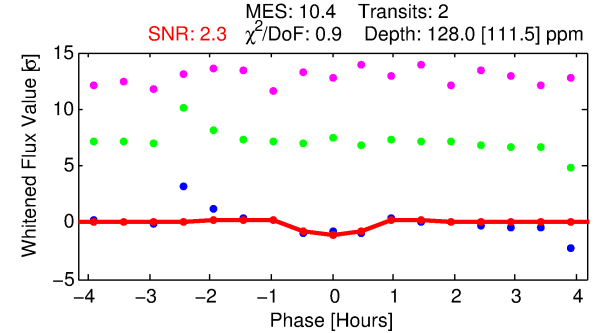
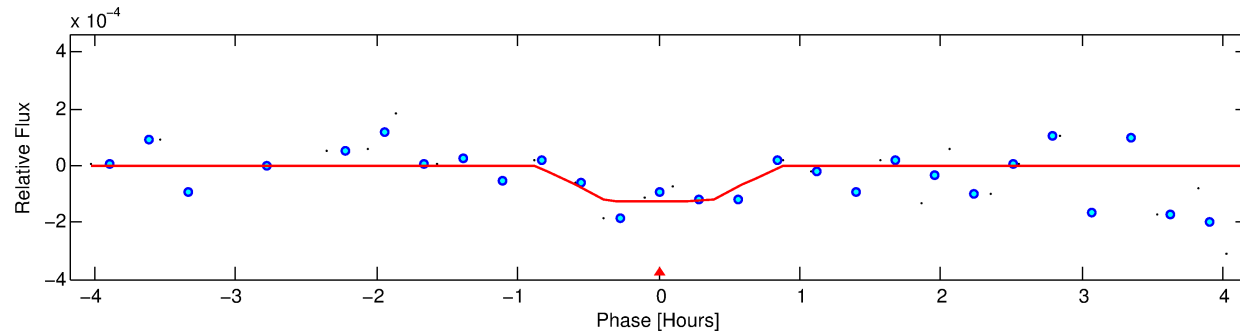
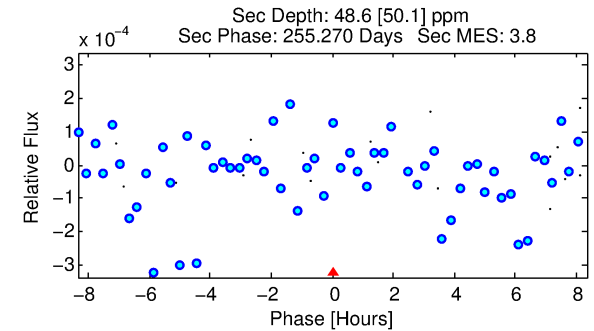
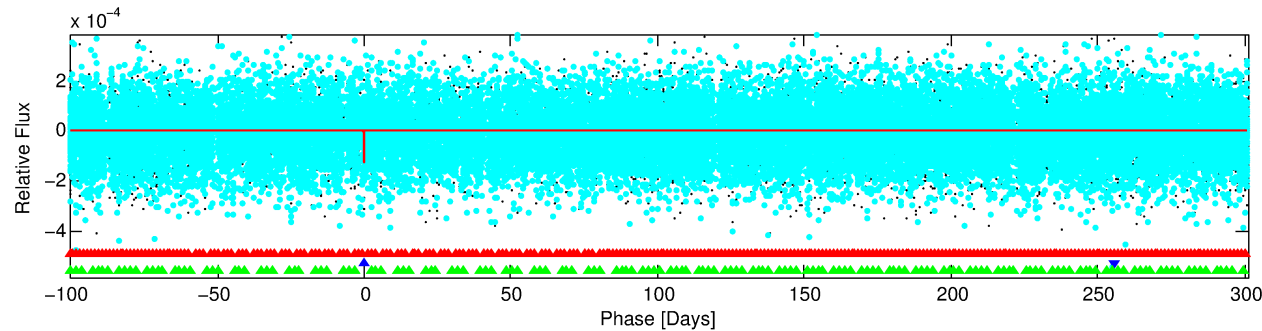
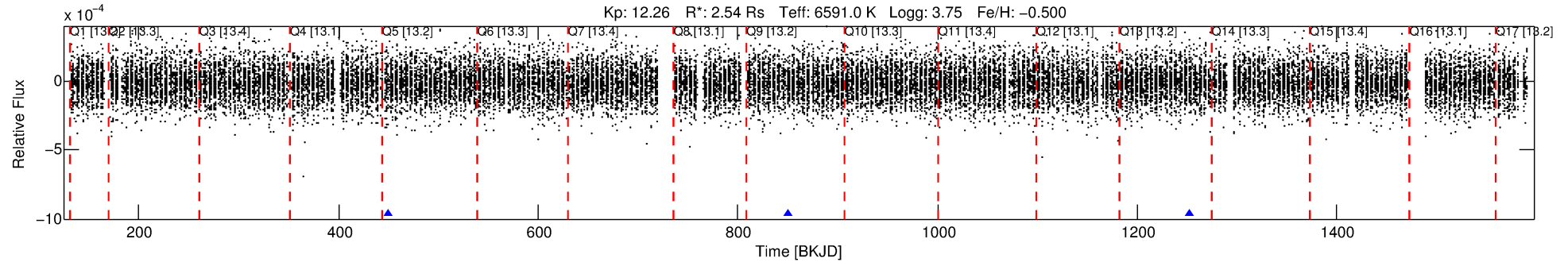
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007523340-02

No Significant Match Found

DV One-Page Summary

KIC: 7523340 Candidate: 2 of 3 Period: 401.305 d



DV Fit Results:

Period = 401.30477 [0.03489] d
Epoch = 449.1874 [0.0224] BKJD
Rp/R* = 0.0122 [0.0474]
a/R* = 1007.55 [22534.37]
b = 0.90 [4.61]
Seff = 7.96 [4.32]
Teq = 428 [58] K
Rp = 3.37 [13.17] Re
a = 1.1695 [0.3895] AU
Ag = 3210.79 [25249.82] [0.13 σ]
Teffp = 4985 [9780] K [0.47 σ]

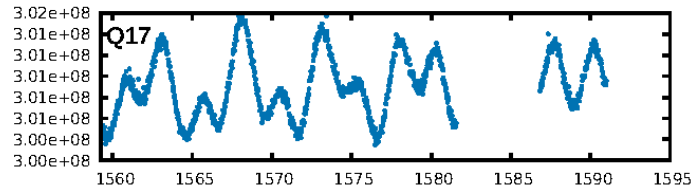
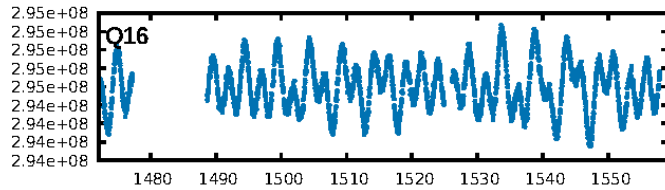
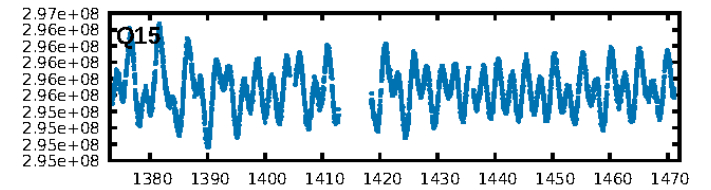
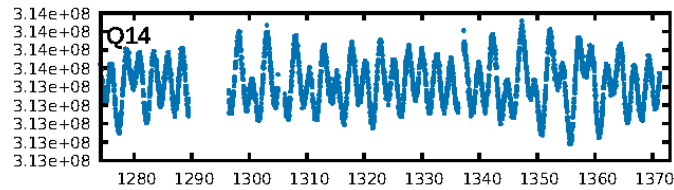
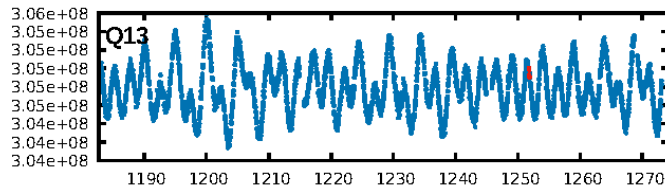
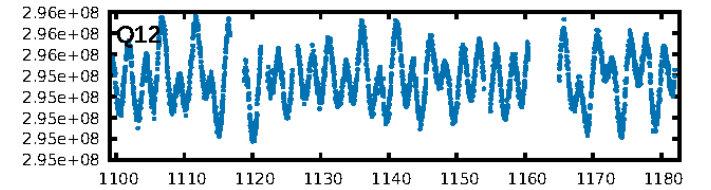
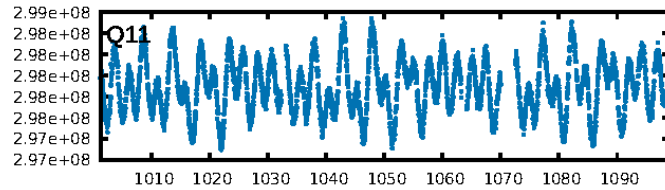
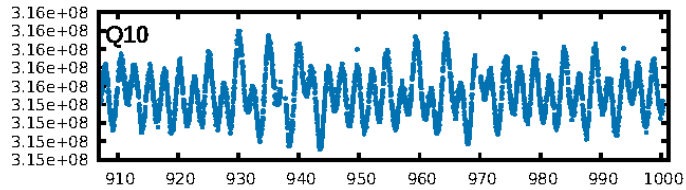
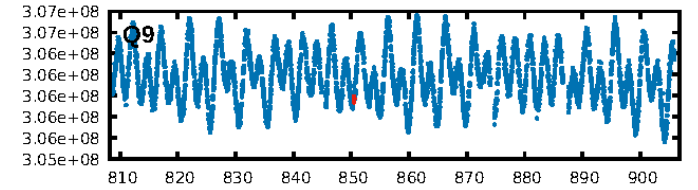
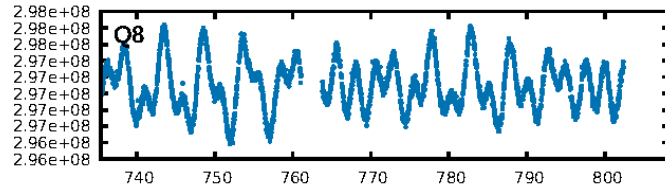
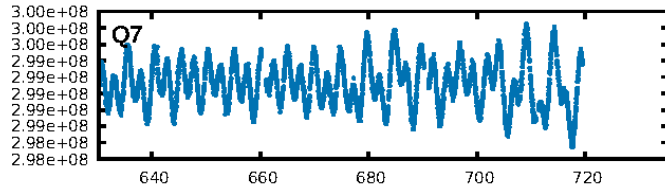
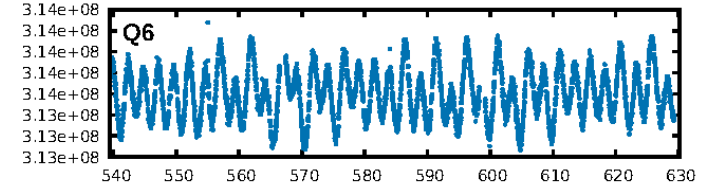
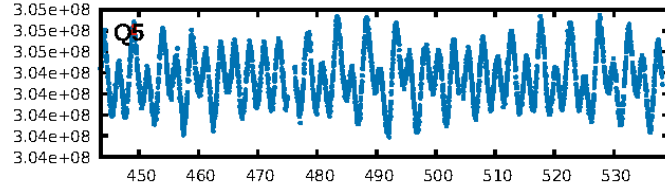
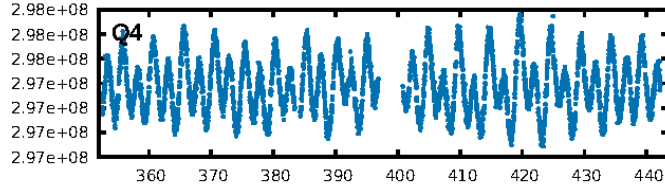
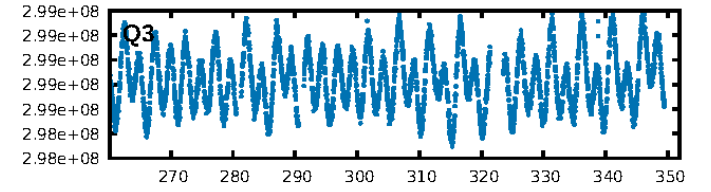
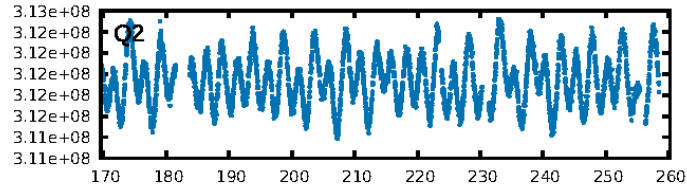
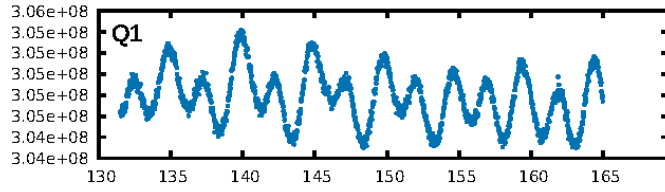
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [680.09 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.1%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 3.59e-12
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -2.49
Centroid-sig: 7.2%
Centroid-so: 3.355 arcsec [1.12 σ]
OotOffset-rm: 2.299 arcsec [0.41 σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-rm: 2.311 arcsec [0.50 σ]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

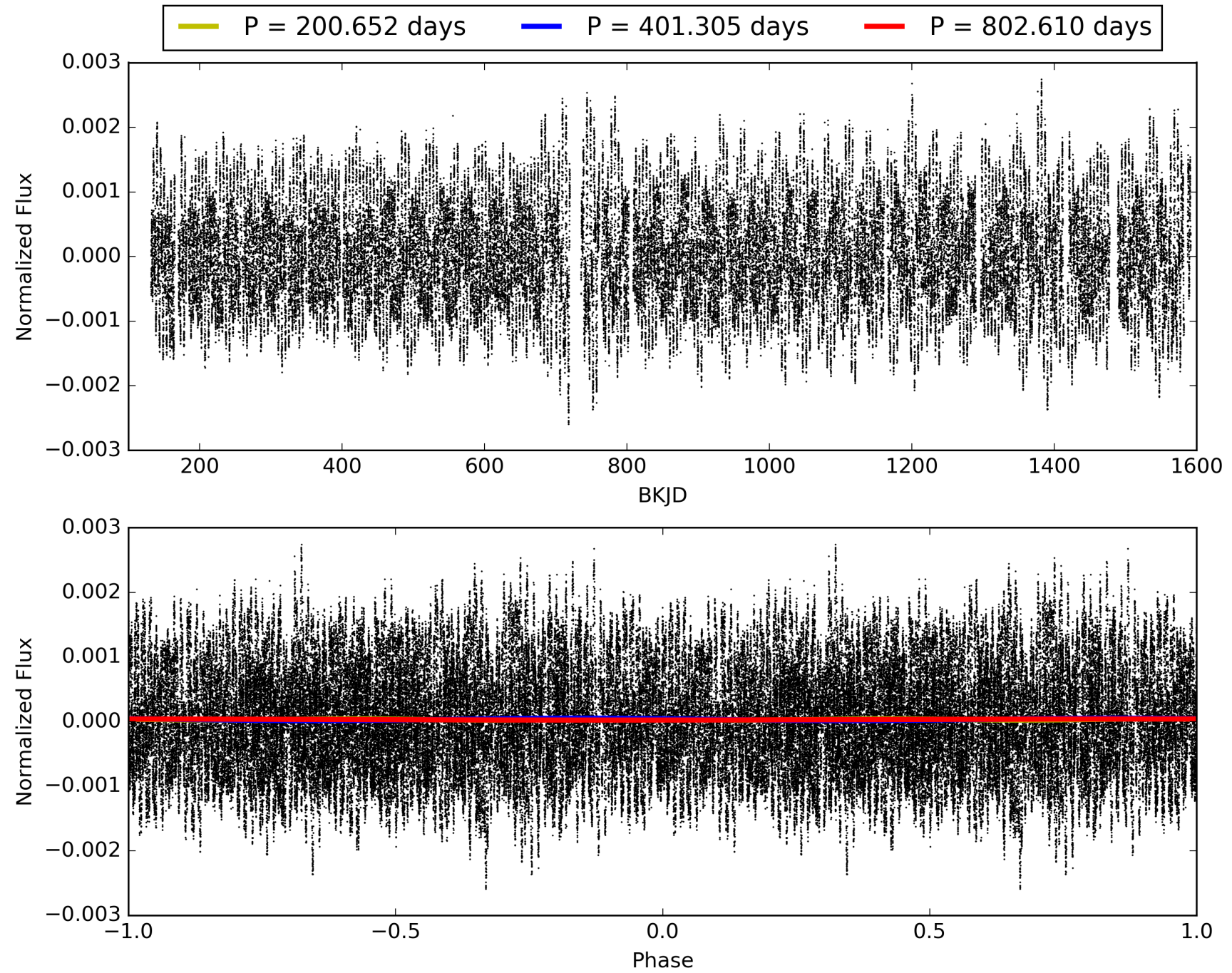
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:59:17 Z

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

TCE 007523340-02, PDC Light Curves

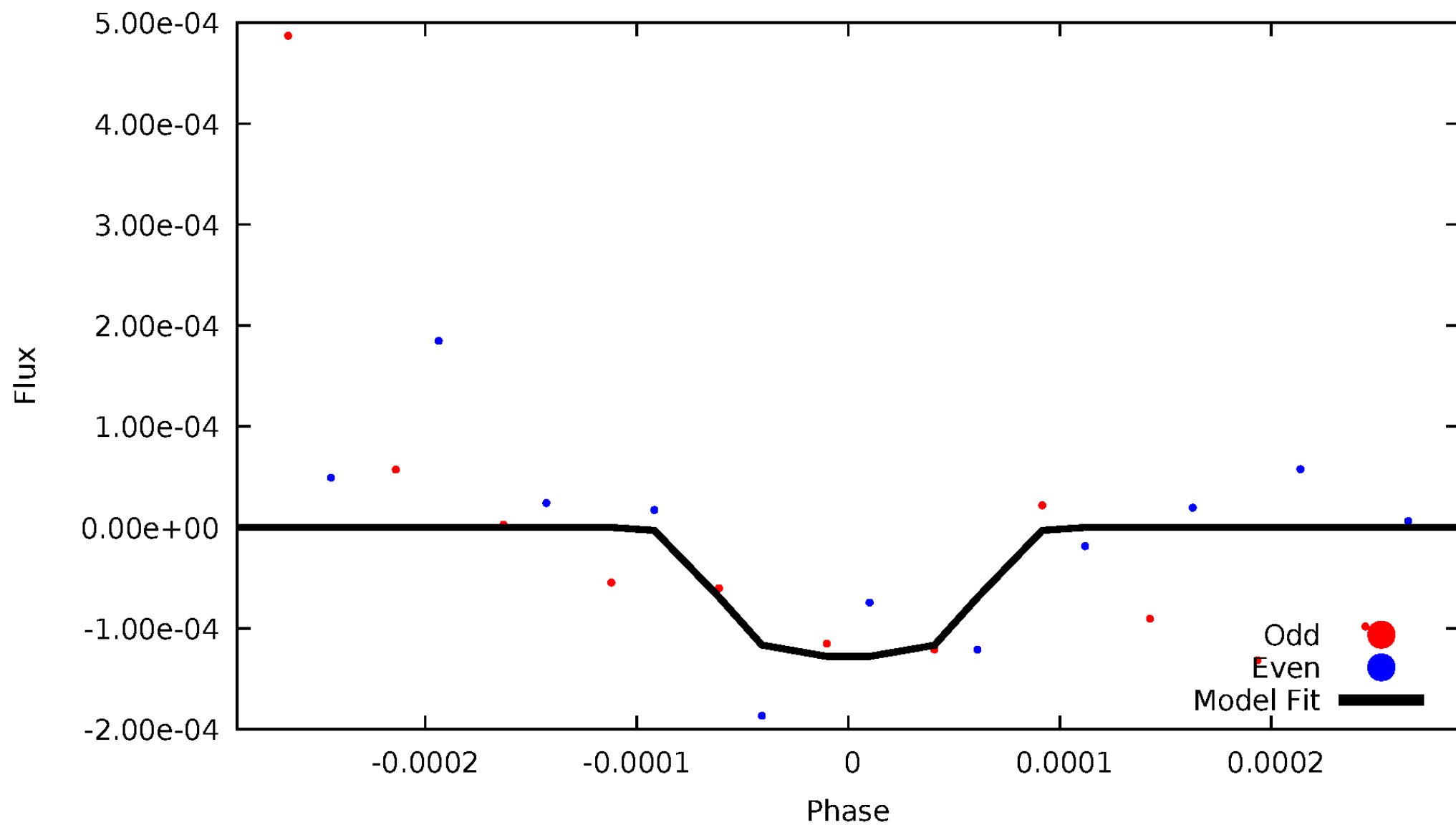


TCE 007523340-02



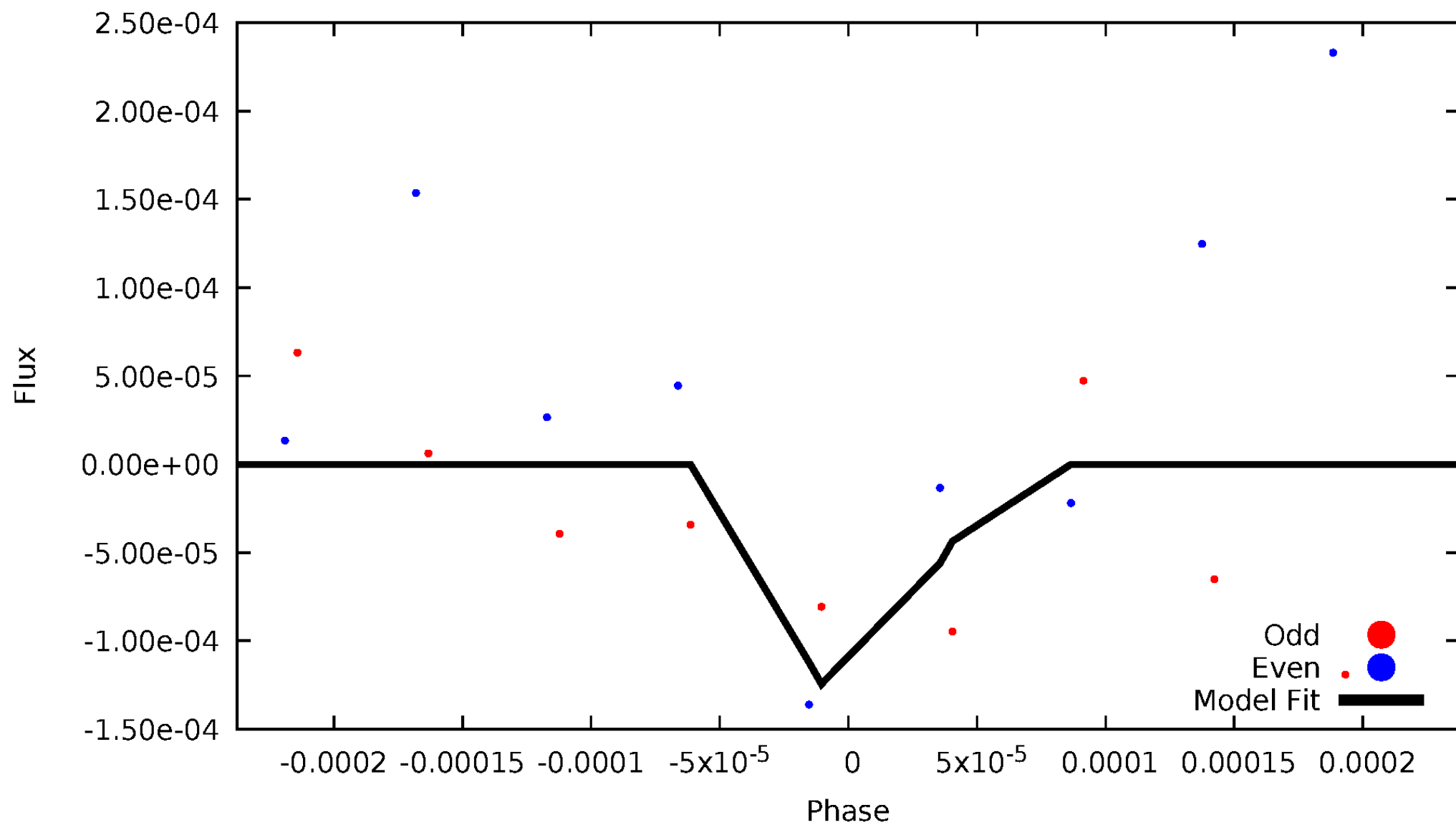
DV Odd/Even

TCE 007523340-02



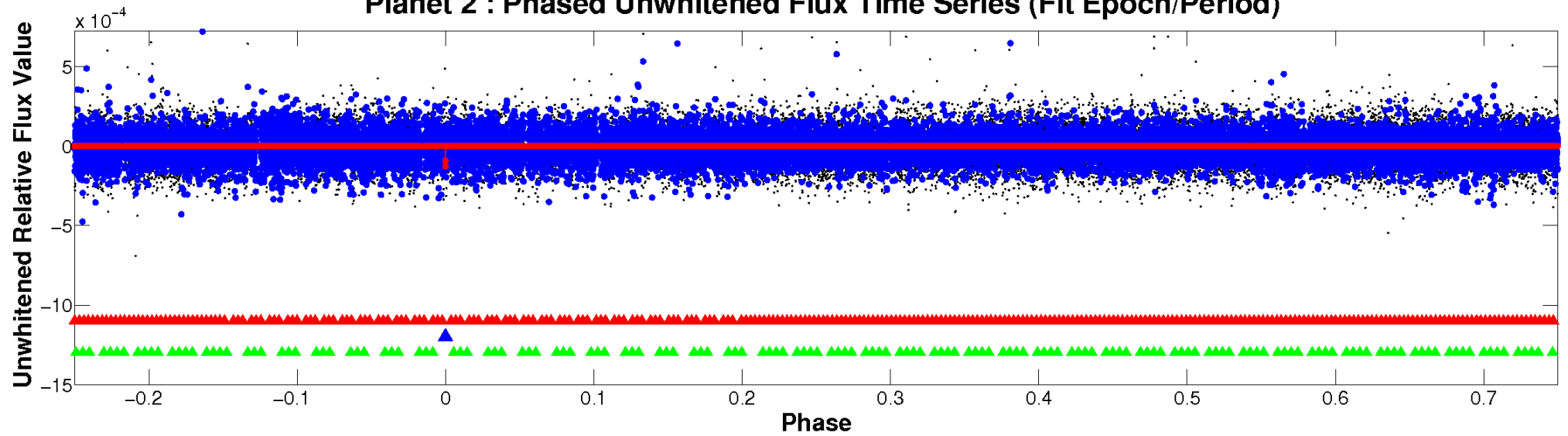
ALT Odd/Even

TCE 007523340-02

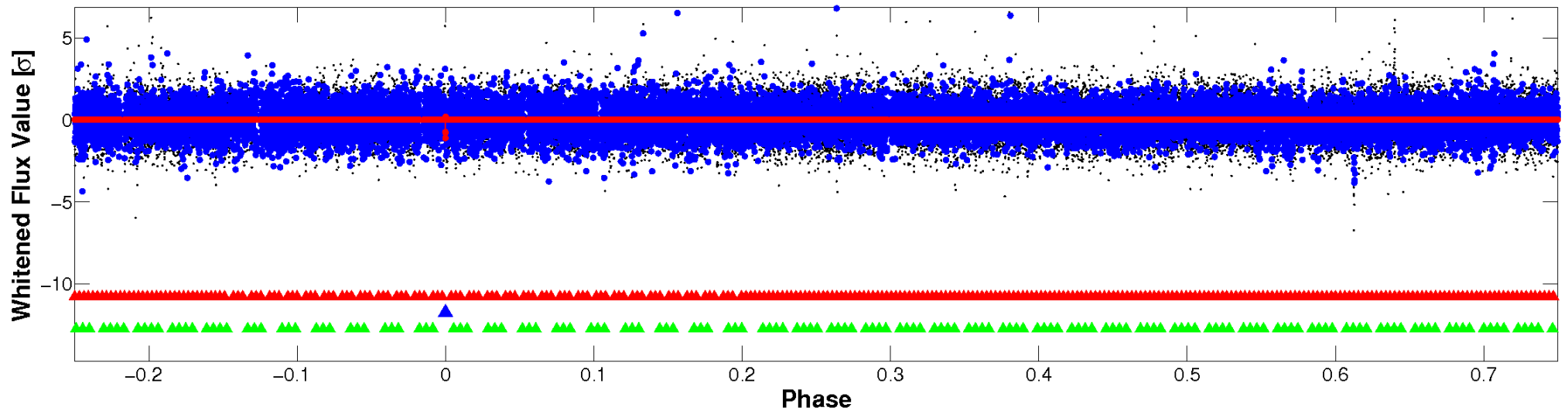


Non-Whitened Vs. Whitened Light Curve

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

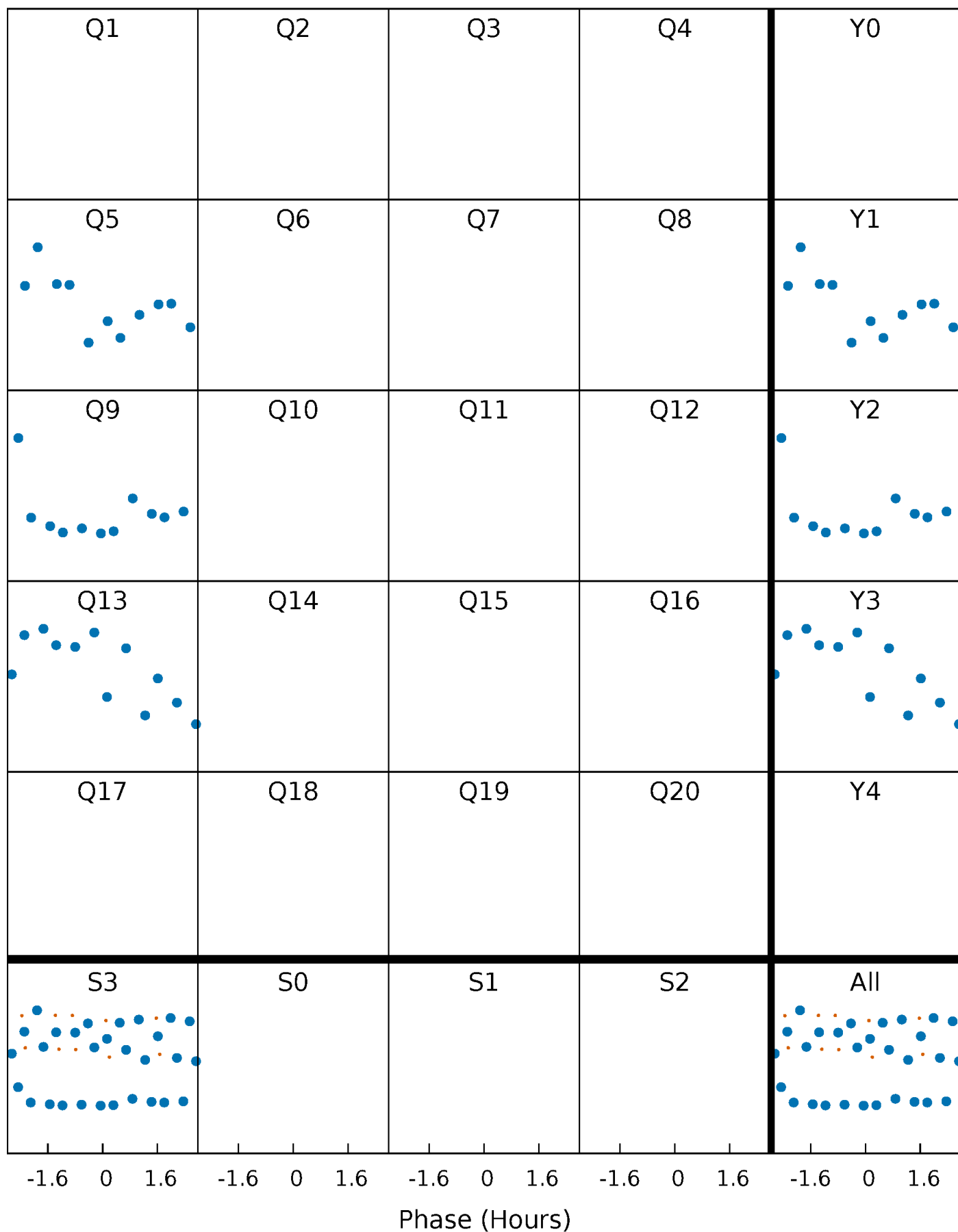


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



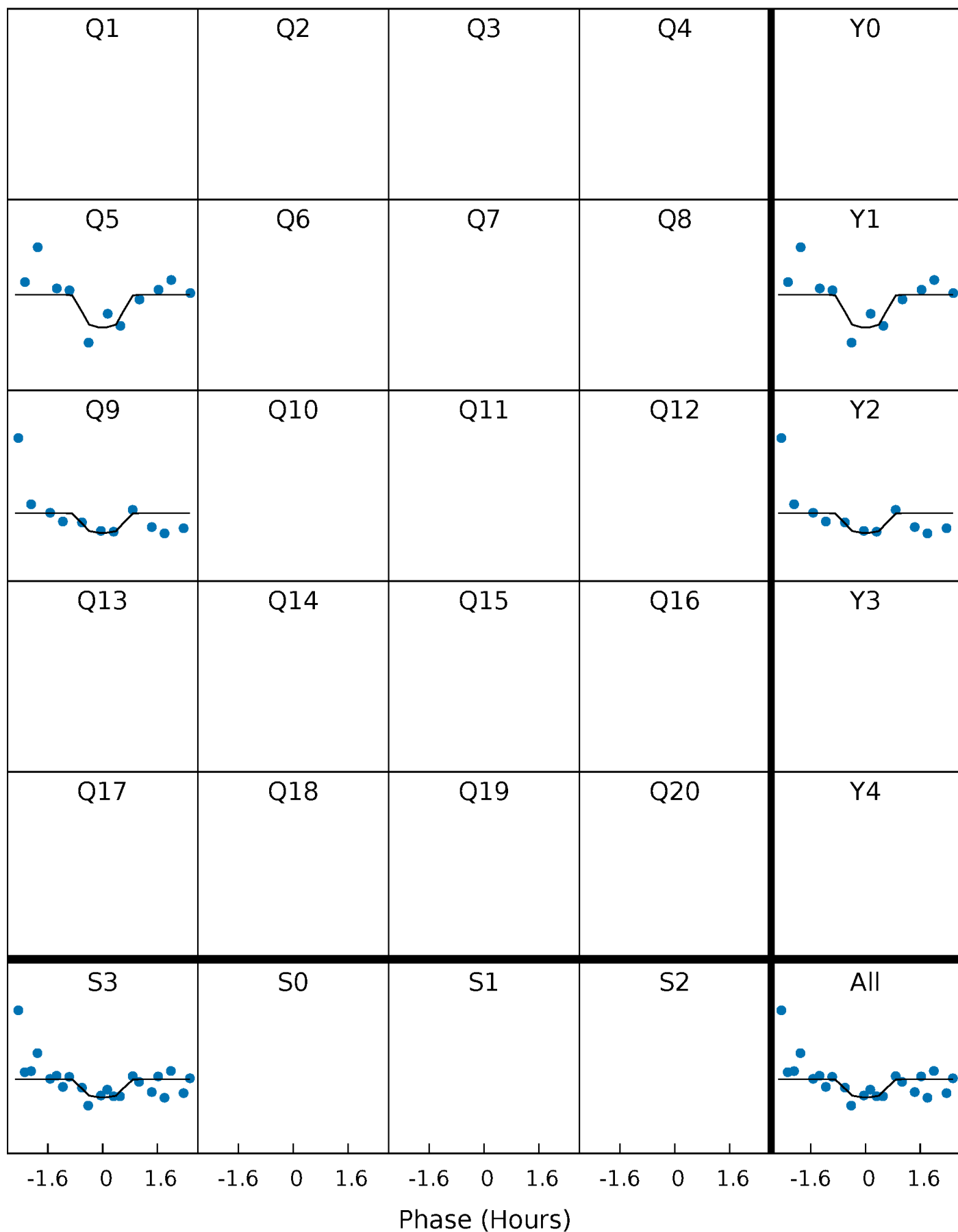
PDC Quarter-Phased Transit Curves

TCE 007523340-02 P=401.304766 Days $T_0=449.187388$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007523340-02 $P=401.304766$ Days $T_0=449.187388$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

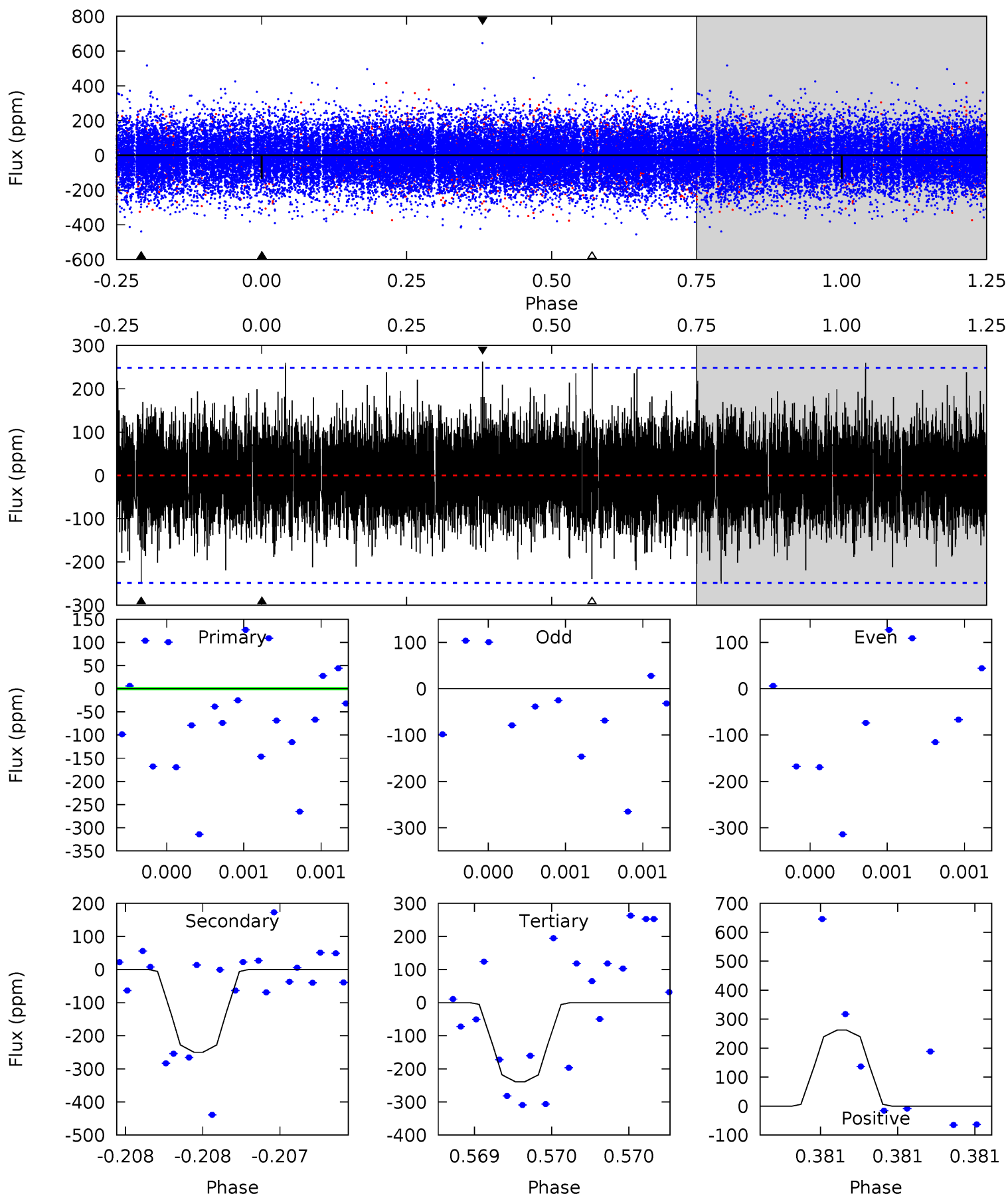
TCE 007523340-02 P=401.315118 Days T₀=449.177124 (BKJD)



DV Model-Shift Uniqueness Test

007523340-02, P = 401.304766 Days, E = 47.882622 Days

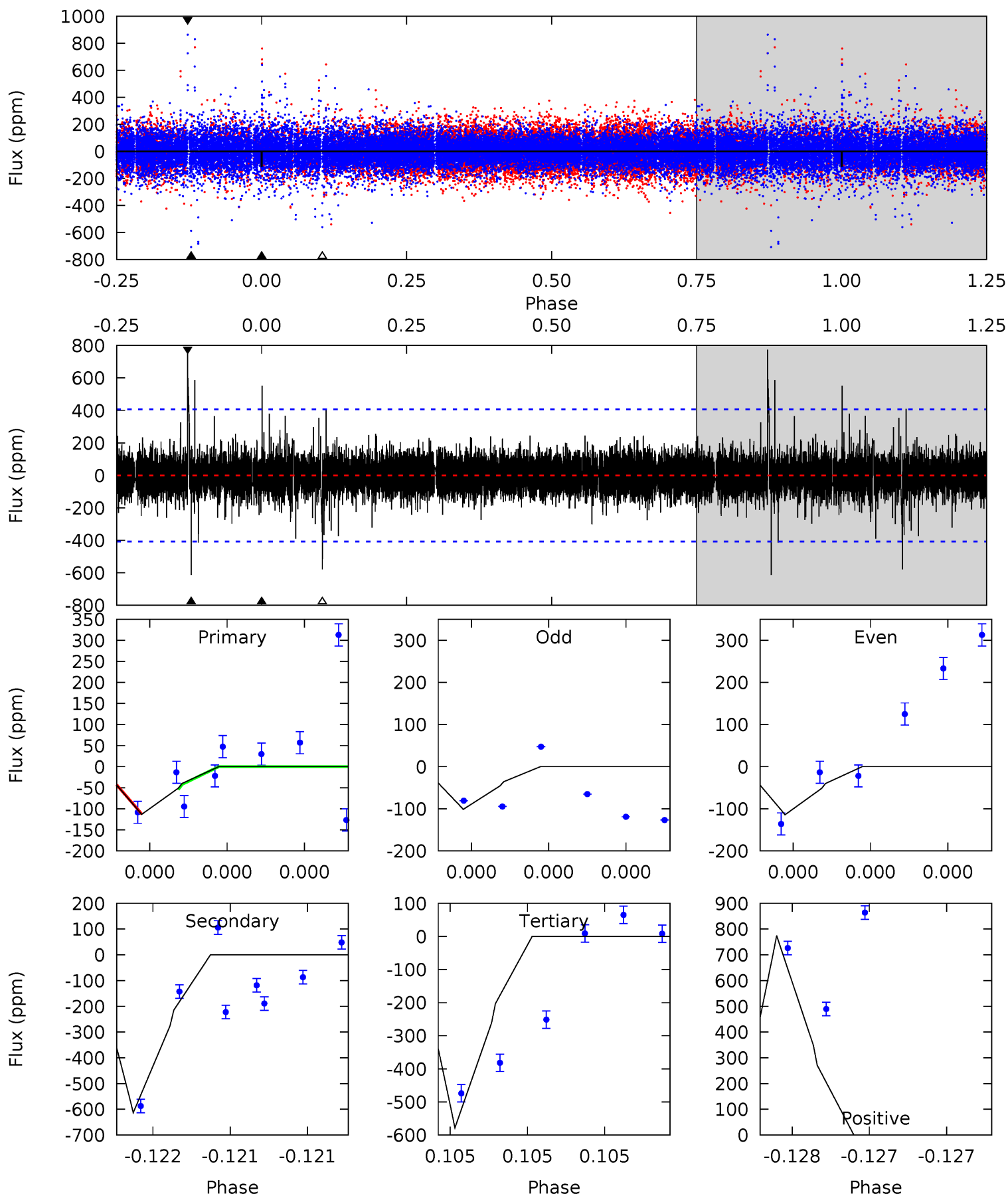
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 3.10 | 5.79 | 5.55 | 6.09 | 5.76 | 3.76 | 1.34 | -2.45 | -2.99 | 0.24 | -0.30 | 0.28 | 1.00 | 0.51 | 0.35 |



Alt Model-Shift Uniqueness Test

007523340-02, P = 401.315118 Days, E = 47.862006 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 1.63 | 8.82 | 8.31 | 11.1 | 5.85 | 3.90 | 0.97 | -6.68 | -9.50 | 0.50 | -2.31 | 0.09 | 1.00 | 0.56 | 0.00 |



Stellar Parameters For KIC 007523340

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6591^{+180}_{-180} | $3.751^{+0.312}_{-0.098}$ | $-0.500^{+0.350}_{-0.300}$ | $2.538^{+0.474}_{-0.881}$ | $1.325^{+0.226}_{-0.251}$ | $0.114^{+0.245}_{-0.037}$ |
| | +3%/-3% | +8%/-3% | +70%/-60% | +19%/-35% | +17%/-19% | +215%/-32% |
| Source | PHO1 | FLK73 | 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 007523340-02 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|---------------|-------------------------|-------------------|------------------------|-------------------------|
| DV | -250 ± 43 | $9.41^{+10.81}_{-6.56}$ | 586^{+38}_{-51} | 4554^{+3325}_{-1045} | 2117^{+20314}_{-1645} |
| Alt. | -613 ± 70 | $9.67^{+9.28}_{-6.84}$ | 588^{+34}_{-56} | 5406^{+5373}_{-1310} | 5030^{+53060}_{-3707} |

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 $A_{obs} \gg 1.0$

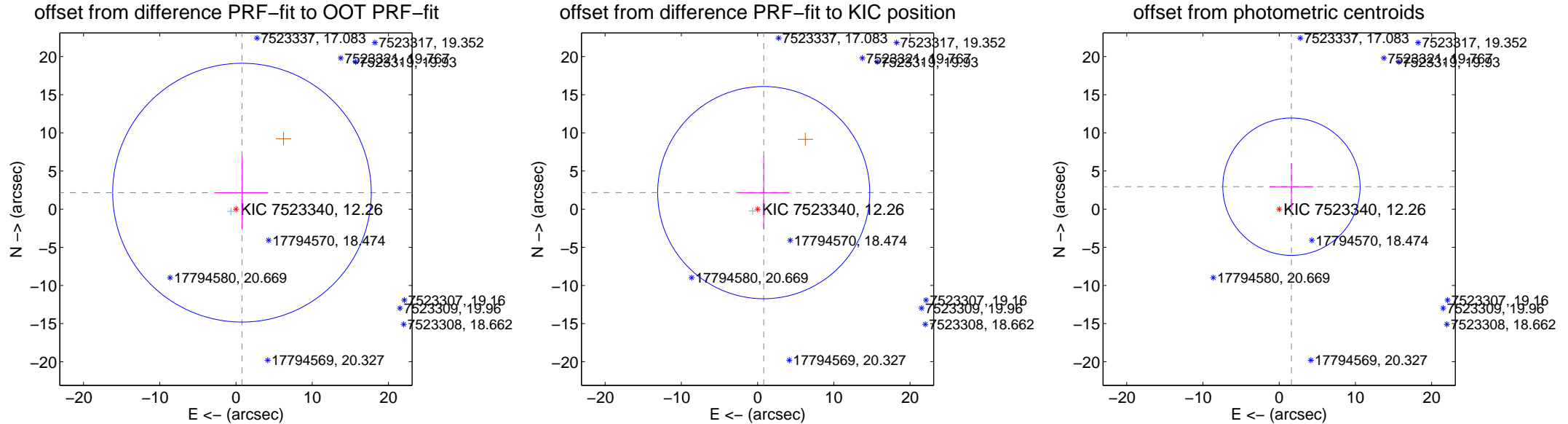
DV Centroid Data

Supplemental centroid analysis for 007523340-02. Kepler magnitude: 12.26. Transit SNR 2.29

There are 1 quarters with good PRF difference image offsets

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

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 2.299 ± 5.653 | 0.41 | -0.784 ± 3.454 | 2.161 ± 4.761 |
| PRF-fit source offset from KIC position | 2.311 ± 4.636 | 0.50 | -0.802 ± 3.289 | 2.168 ± 4.791 |
| photometric centroid source offset | 3.35 ± 3.00 | 1.12 | -1.61 ± 2.87 | 2.95 ± 3.04 |

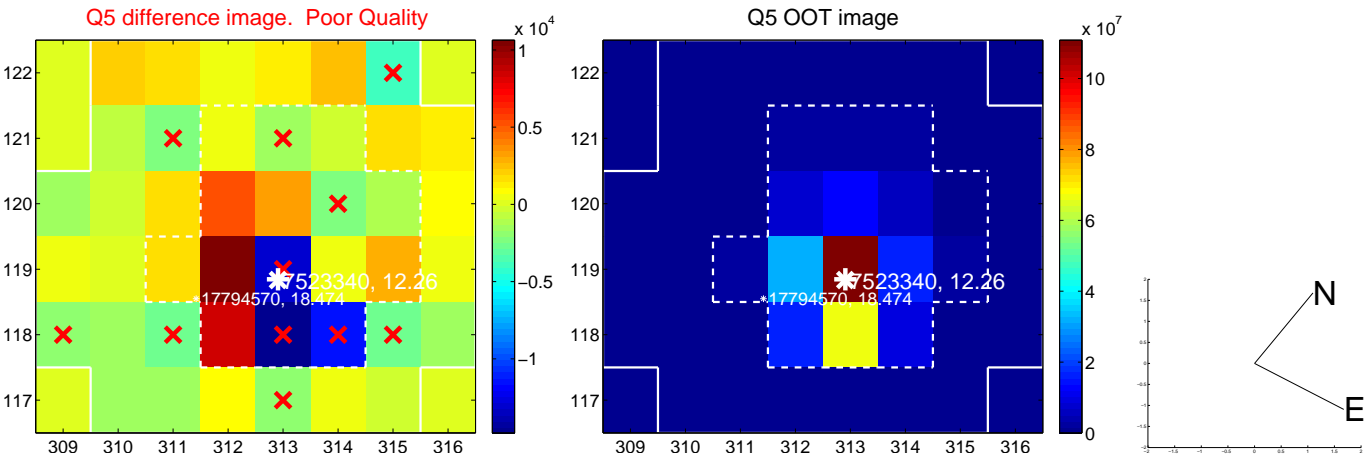


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

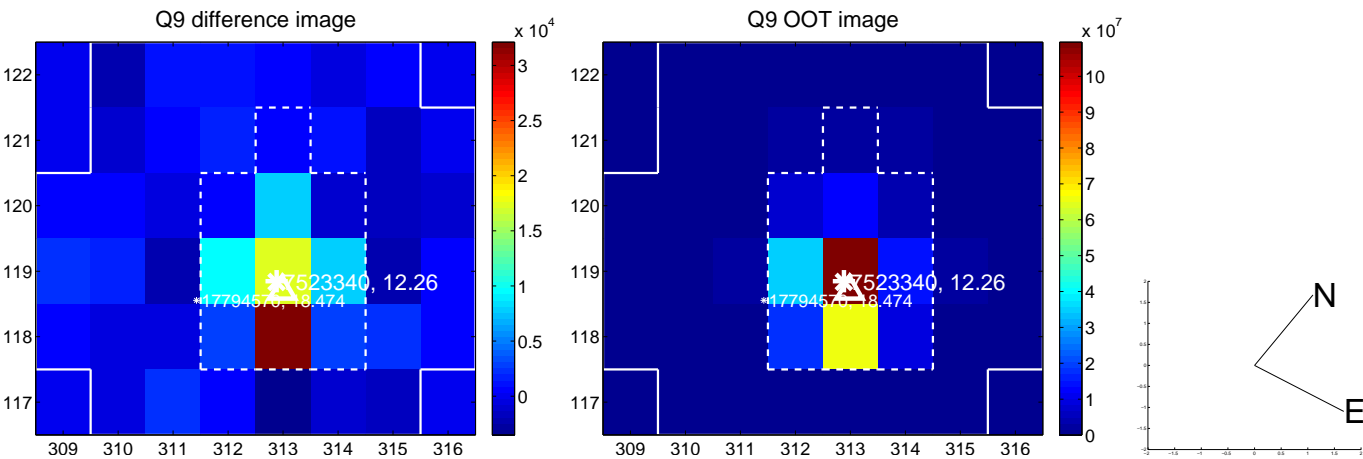
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



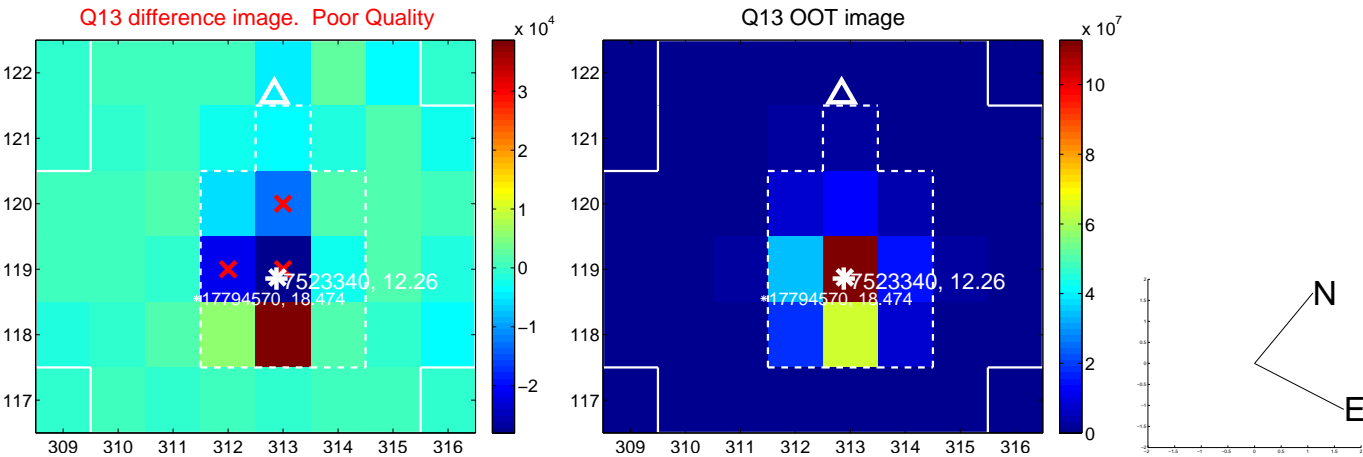
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



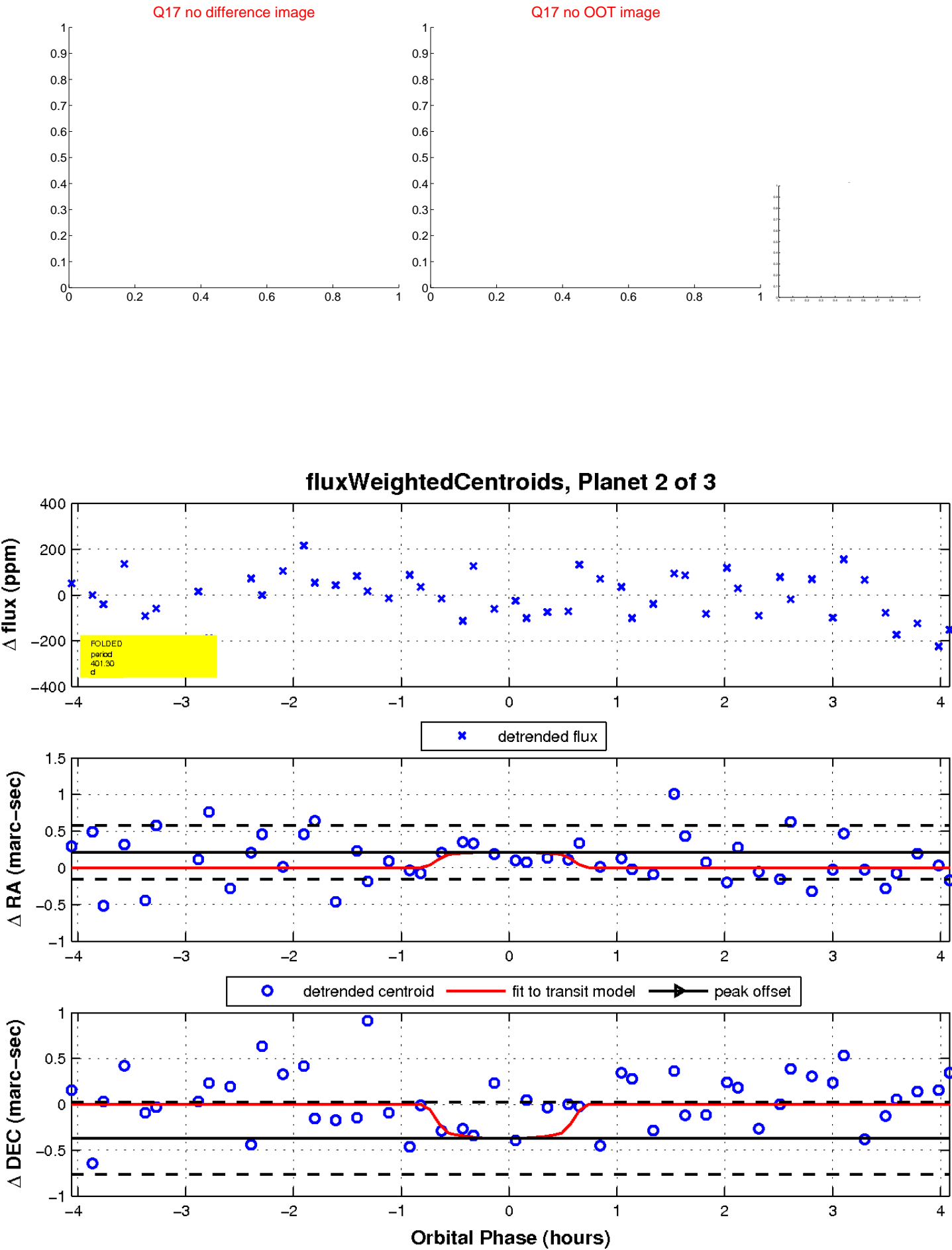
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



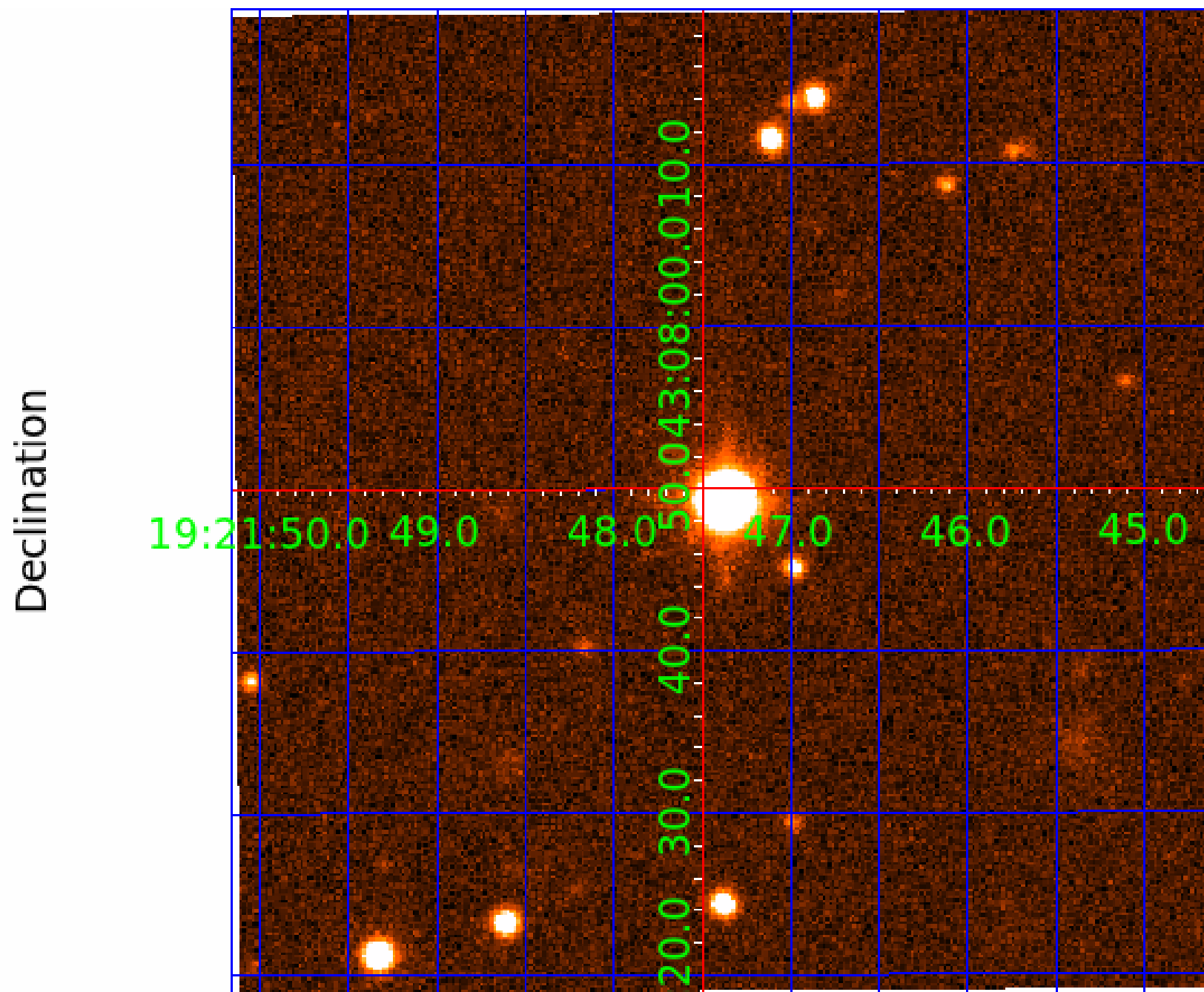
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007523340

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007523340-01 | OBS | No | 4.909220 | 131.619386 | 32.0 | 18.038 | 10.7 | 8.7 | 2.54 | 6591 | 1.63 | 2824.95 |
| 007523340-02 | OBS | No | 401.304766 | 449.187388 | 128.0 | 1.391 | 10.4 | 2.3 | 2.54 | 6591 | 3.37 | 7.96 |
| 007523340-03 | OBS | No | 9.290705 | 139.147263 | 46.5 | 13.764 | 8.0 | 7.9 | 2.54 | 6591 | 2.17 | 1206.78 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007523340-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV |
| 007523340-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—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 |
| 007523340-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV |

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

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

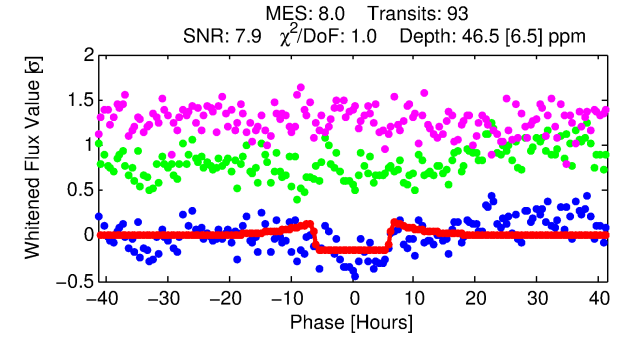
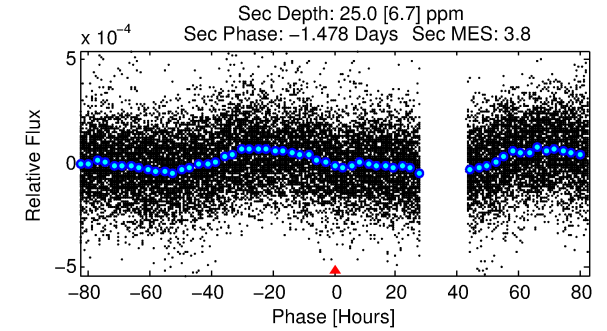
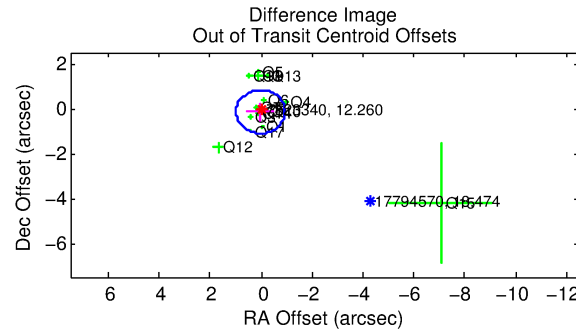
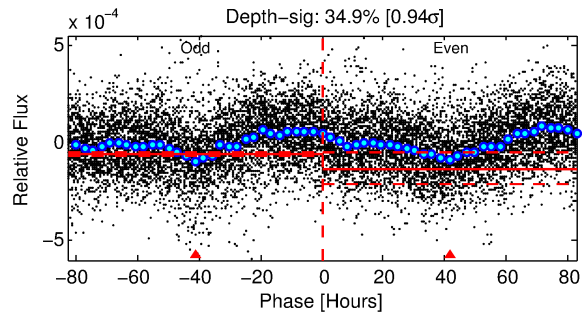
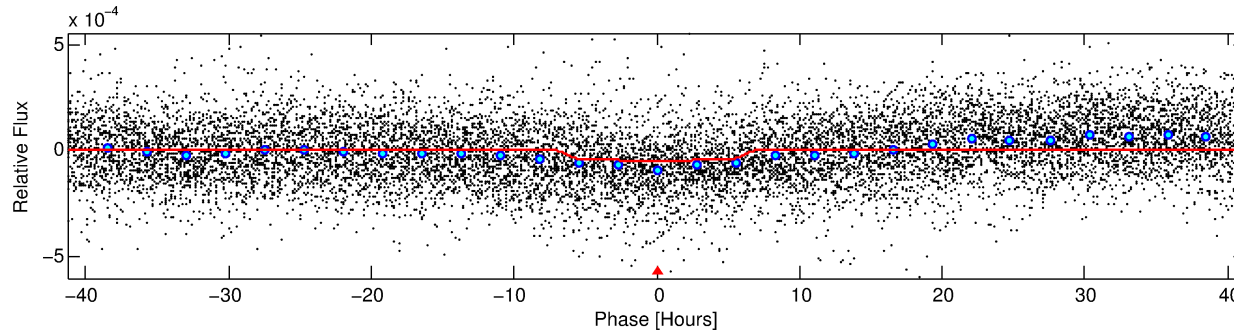
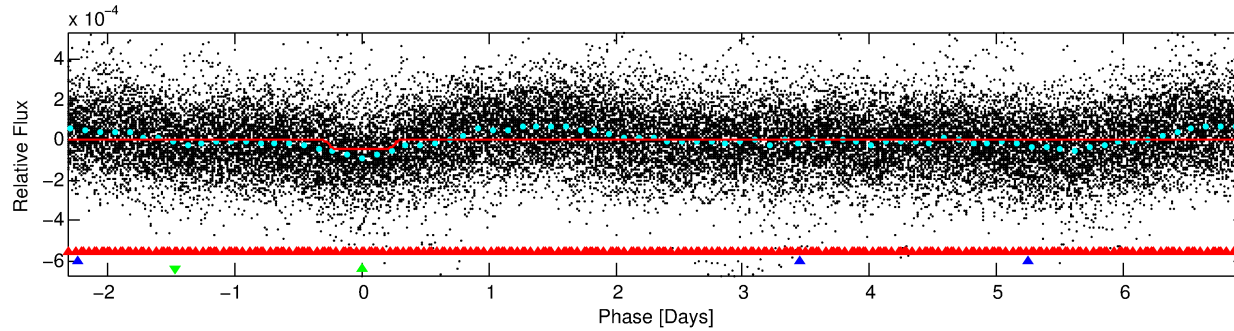
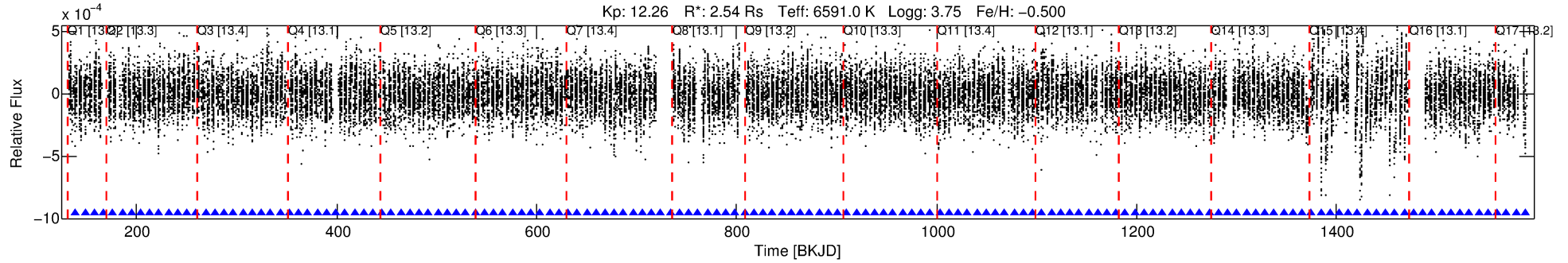
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007523340-03

No Significant Match Found

DV One-Page Summary

KIC: 7523340 Candidate: 3 of 3 Period: 9.291 d



DV Fit Results:

Period = 9.29070 [0.00020] d
Epoch = 139.1473 [0.0178] BKJD
Rp/R* = 0.0078 [0.0007]
a/R* = 1.84 [0.44]
b = 0.96 [0.03]
Seff = 1206.78 [655.30]
Teq = 1503 [204] K
Rp = 2.17 [0.78] Re
a = 0.0950 [0.0316] AU
Ag = 26.32 [16.43] [1.54 σ]
Teffp = 5263 [453] K [7.56 σ]

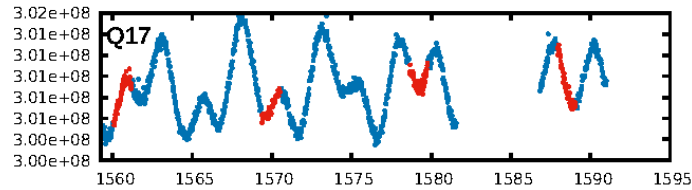
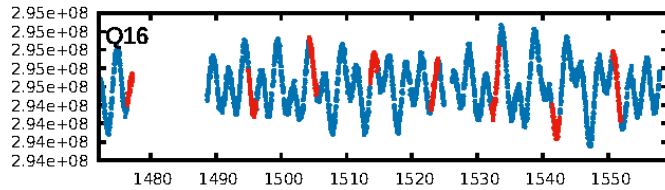
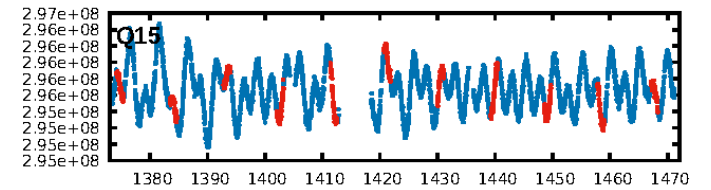
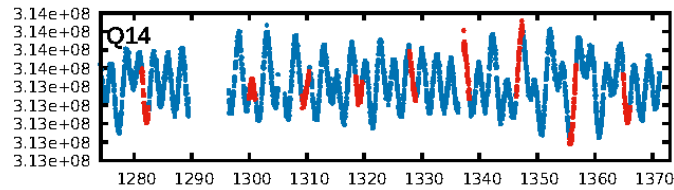
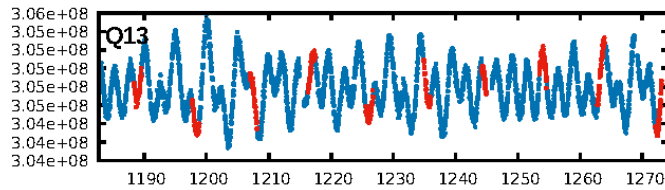
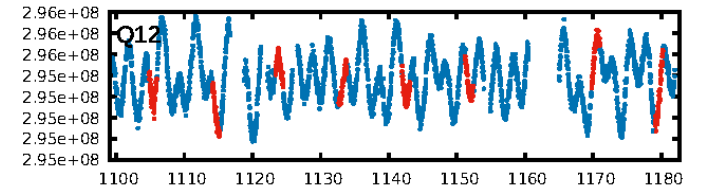
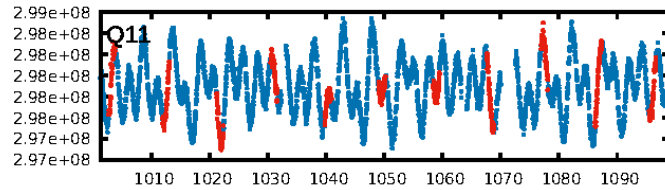
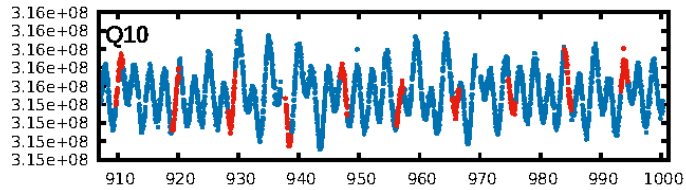
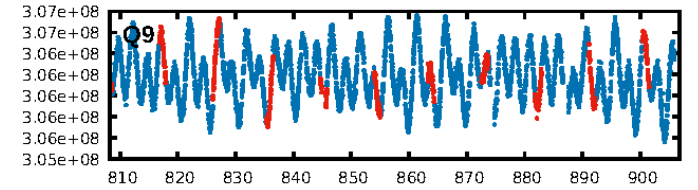
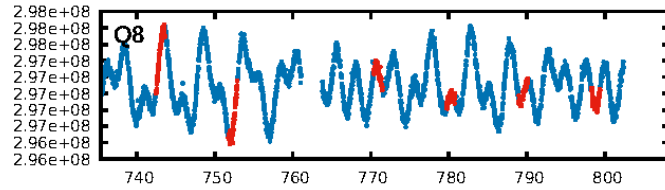
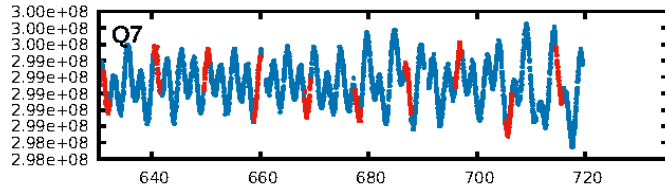
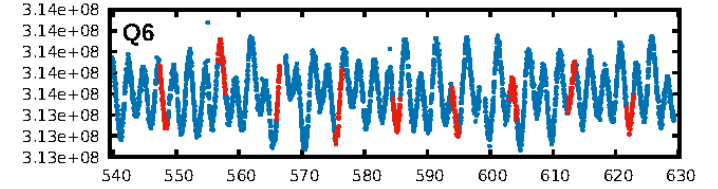
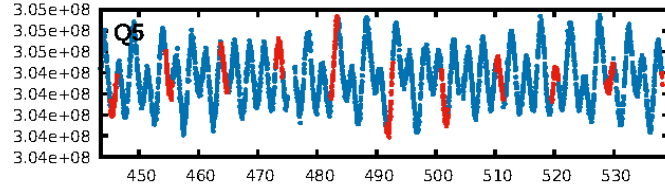
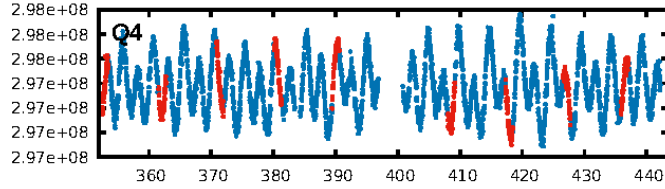
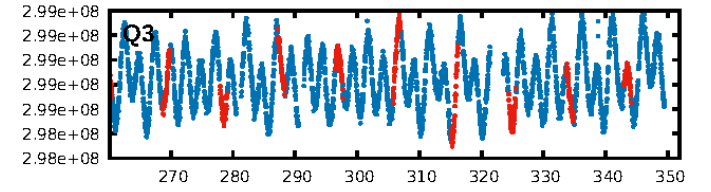
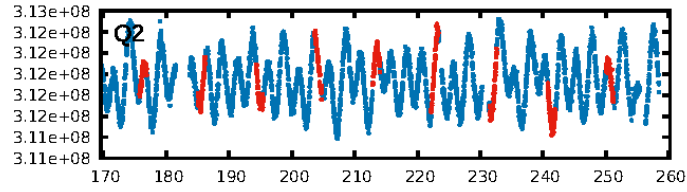
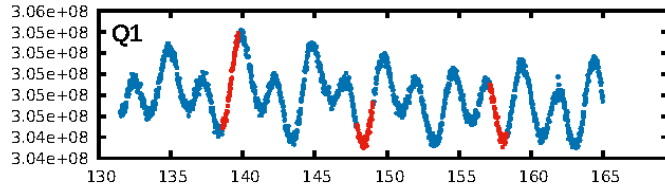
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.63 σ]
LongPeriod-sig: 100.0% [680.09 σ]
ModelChiSquare2-sig: 30.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.39e-10
RollingBand-fgt: 1.00 [89/89]
GhostDiagnostic-chr: 1.938
Centroid-sig: 22.3%
Centroid-so: 0.713 arcsec [1.25 σ]
OotOffset-rm: 0.150 arcsec [0.47 σ]
KicOffset-rm: 0.091 arcsec [0.32 σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.53 [8/15]
DiffImageOverlap-fno: 0.94 [16/17]

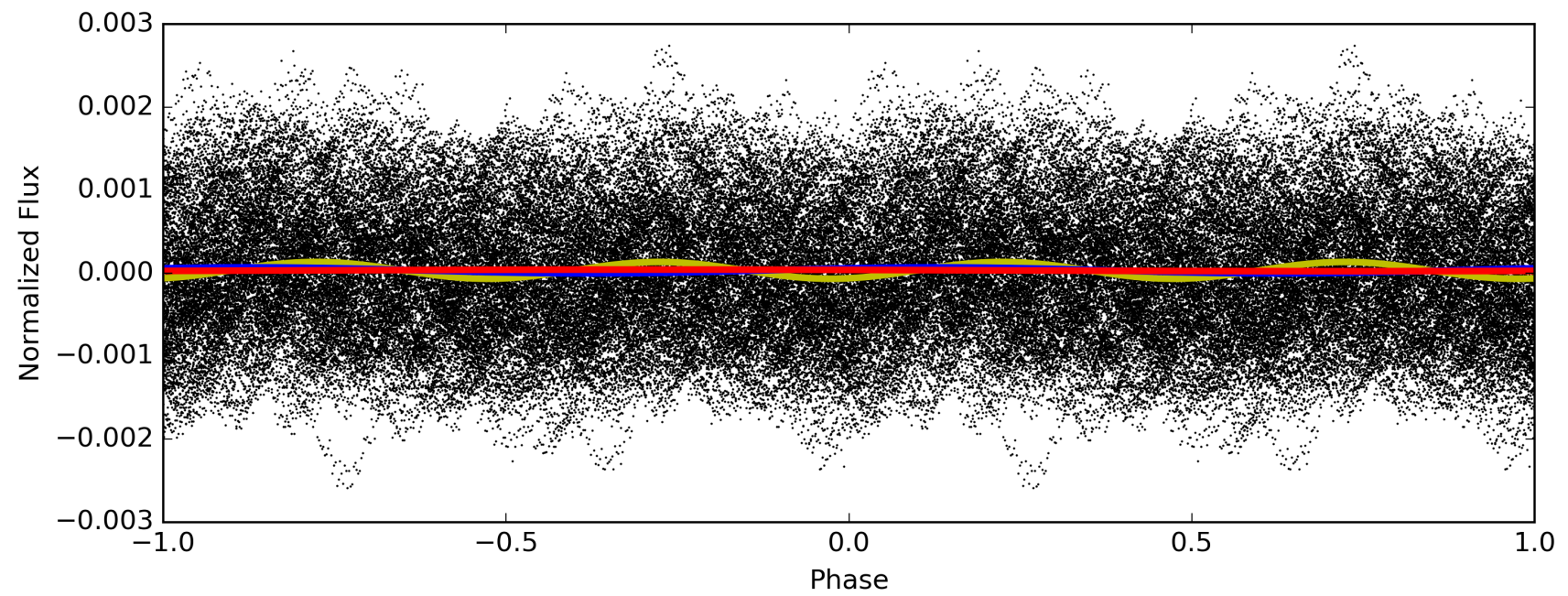
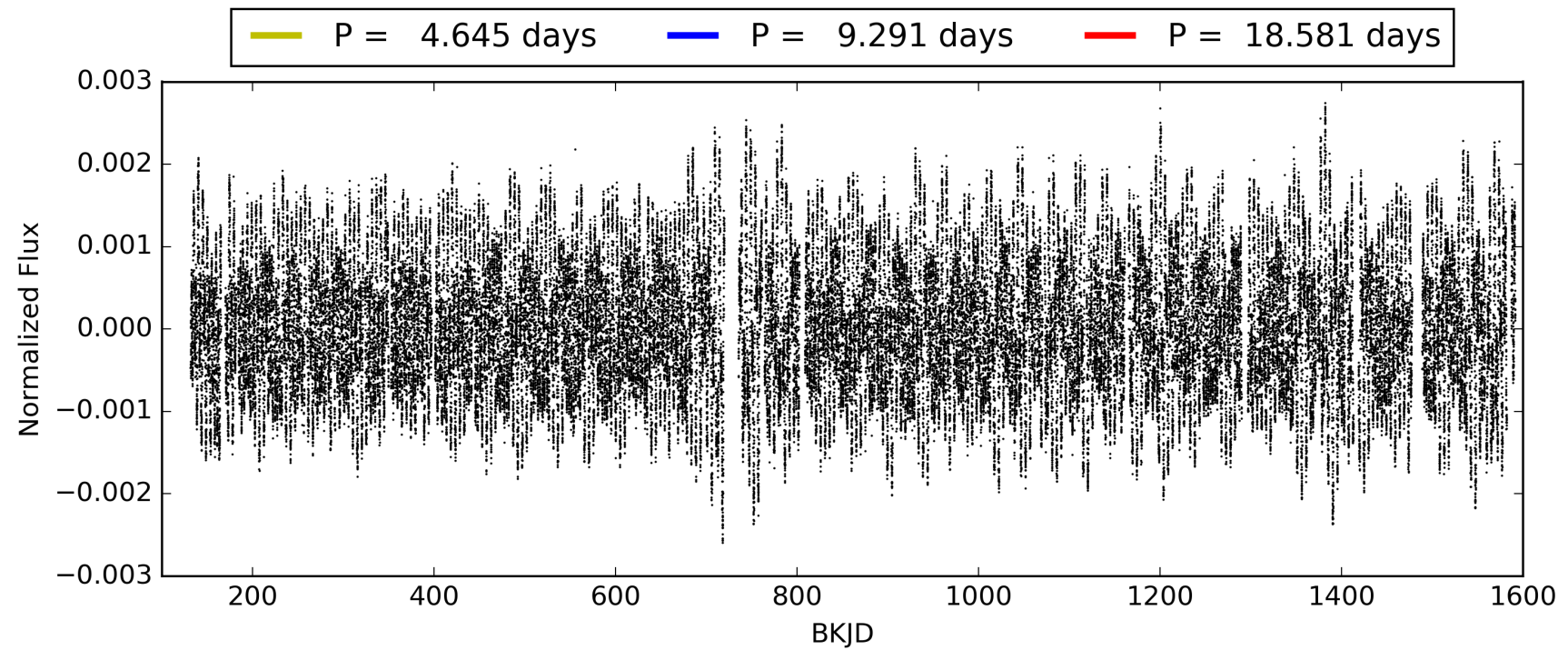
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:59:24 Z

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

TCE 007523340-03, PDC Light Curves

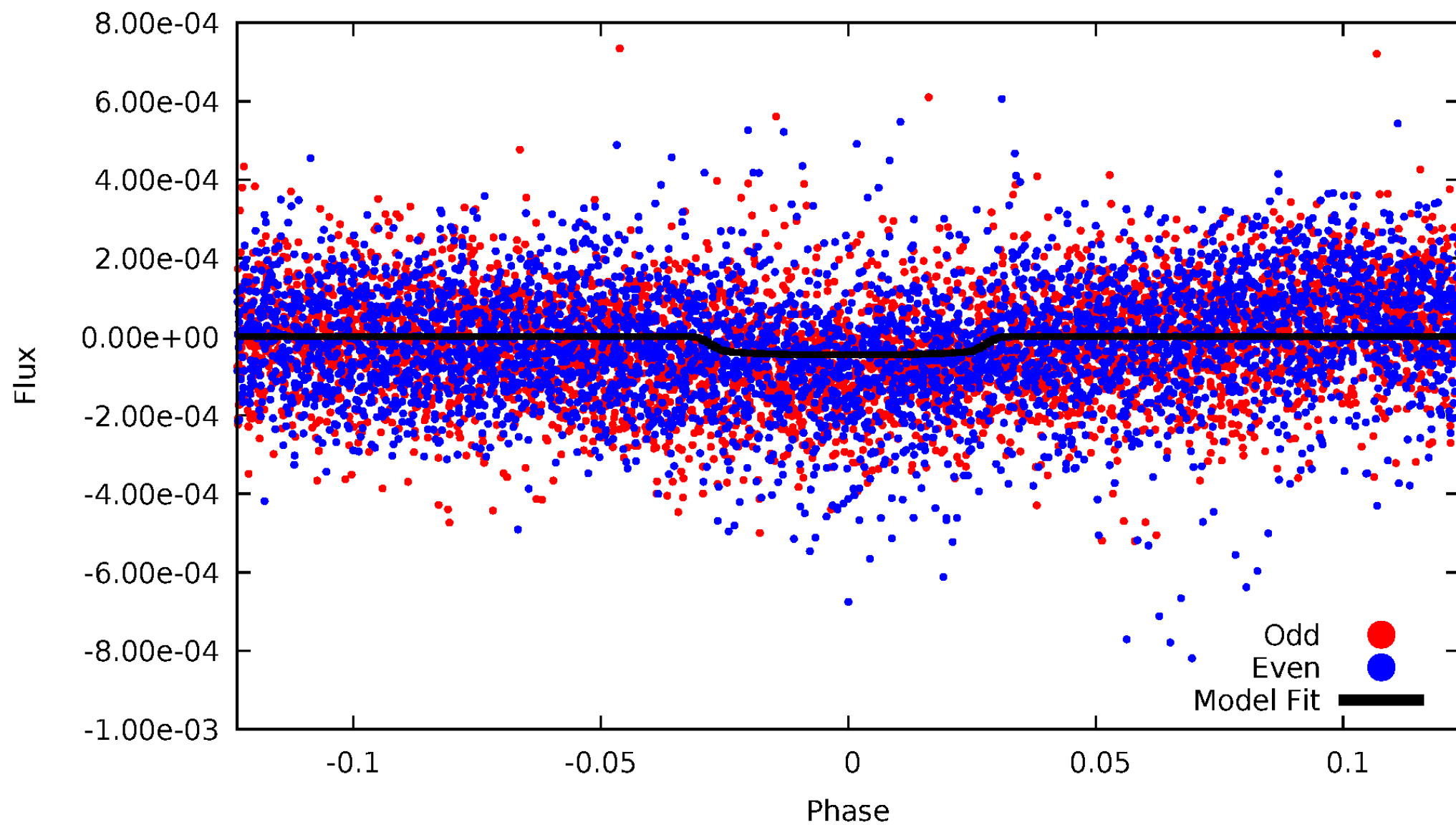


TCE 007523340-03



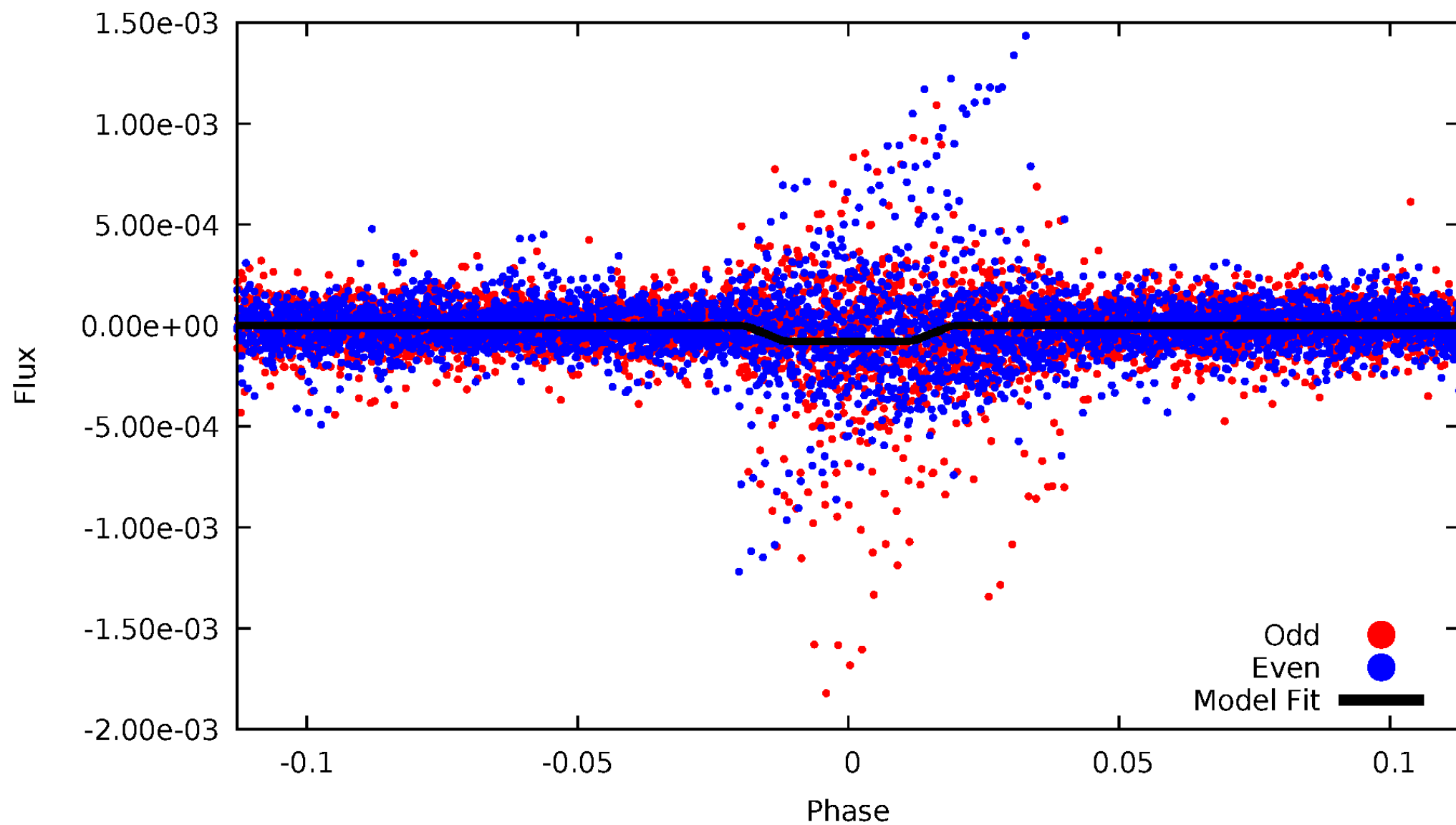
DV Odd/Even

TCE 007523340-03



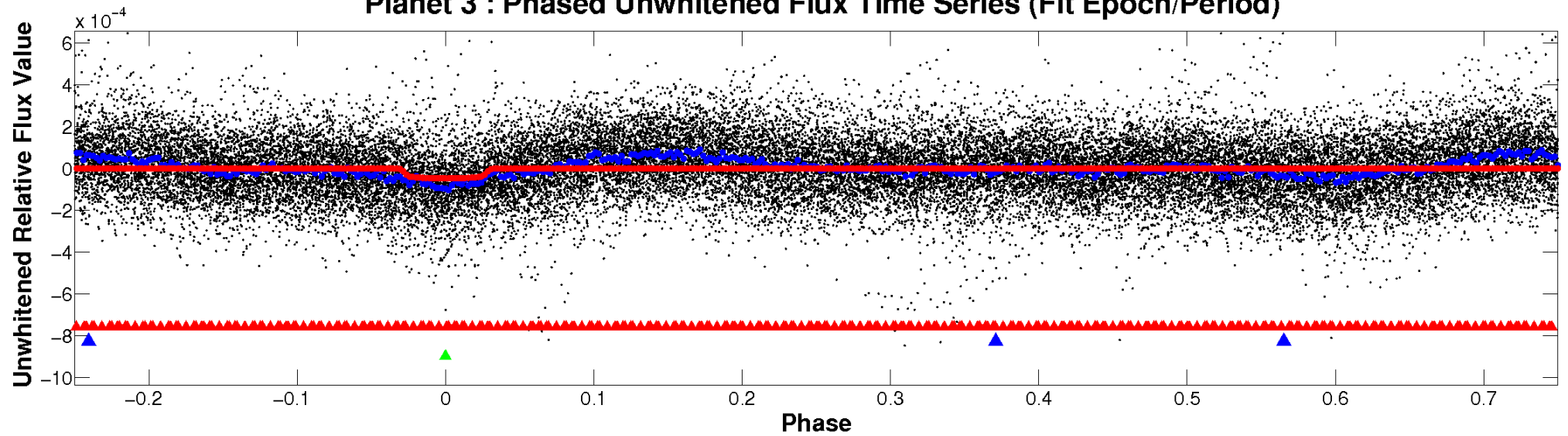
ALT Odd/Even

TCE 007523340-03

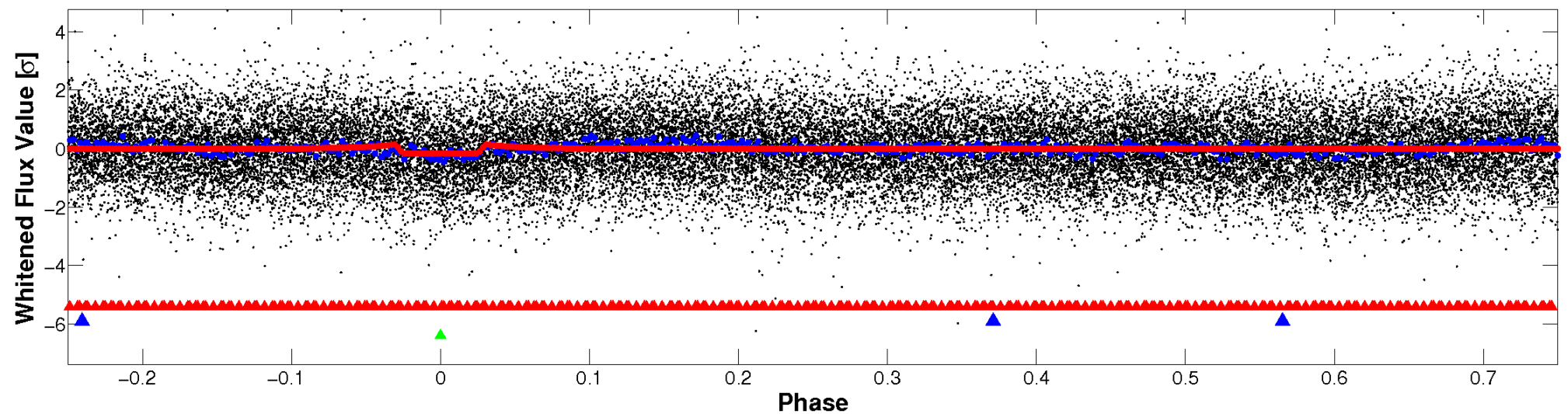


Non-Whitened Vs. Whitened Light Curve

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

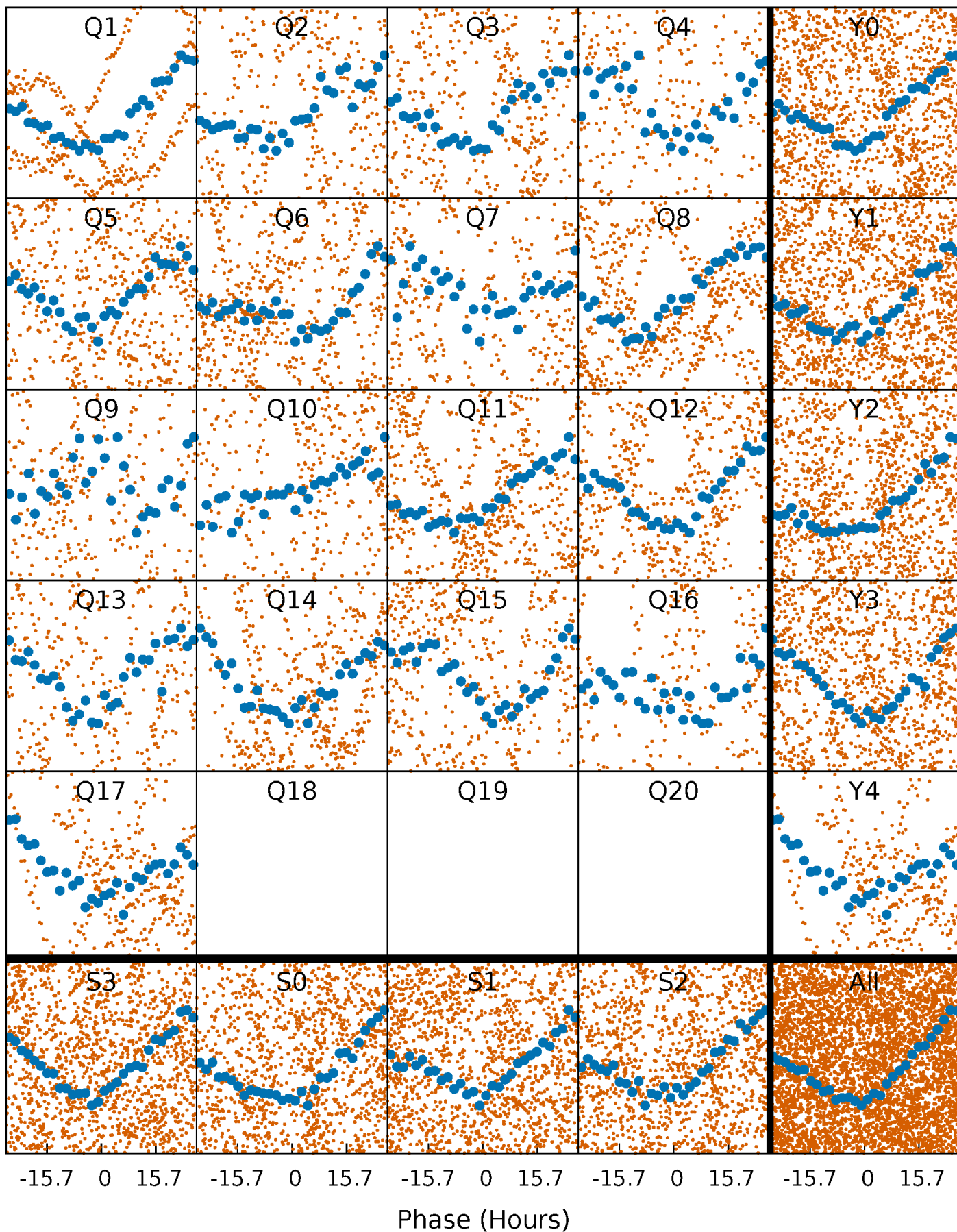


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



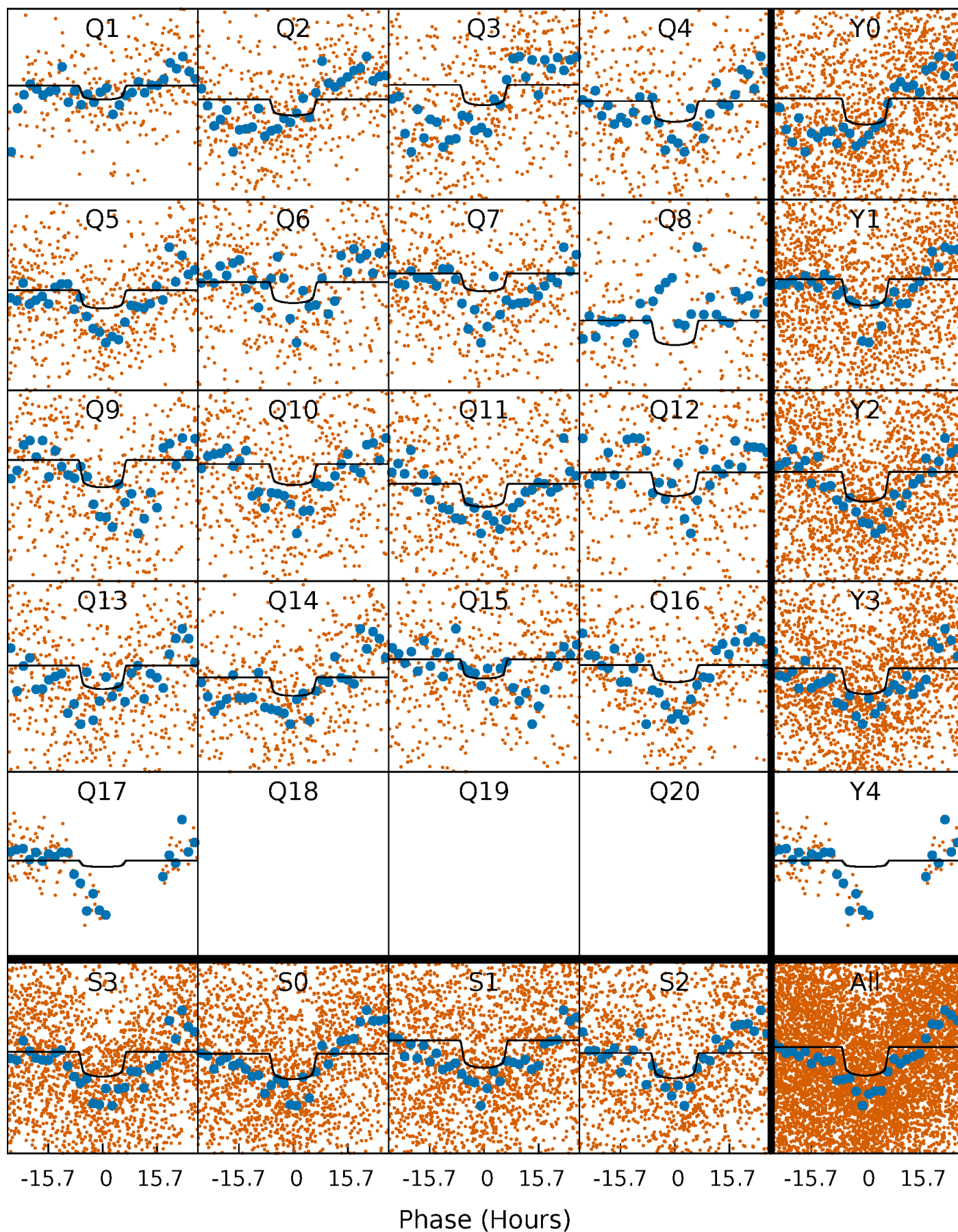
PDC Quarter-Phased Transit Curves

TCE 007523340-03 P= 9.290705 Days $T_0=139.147263$ (BKJD)



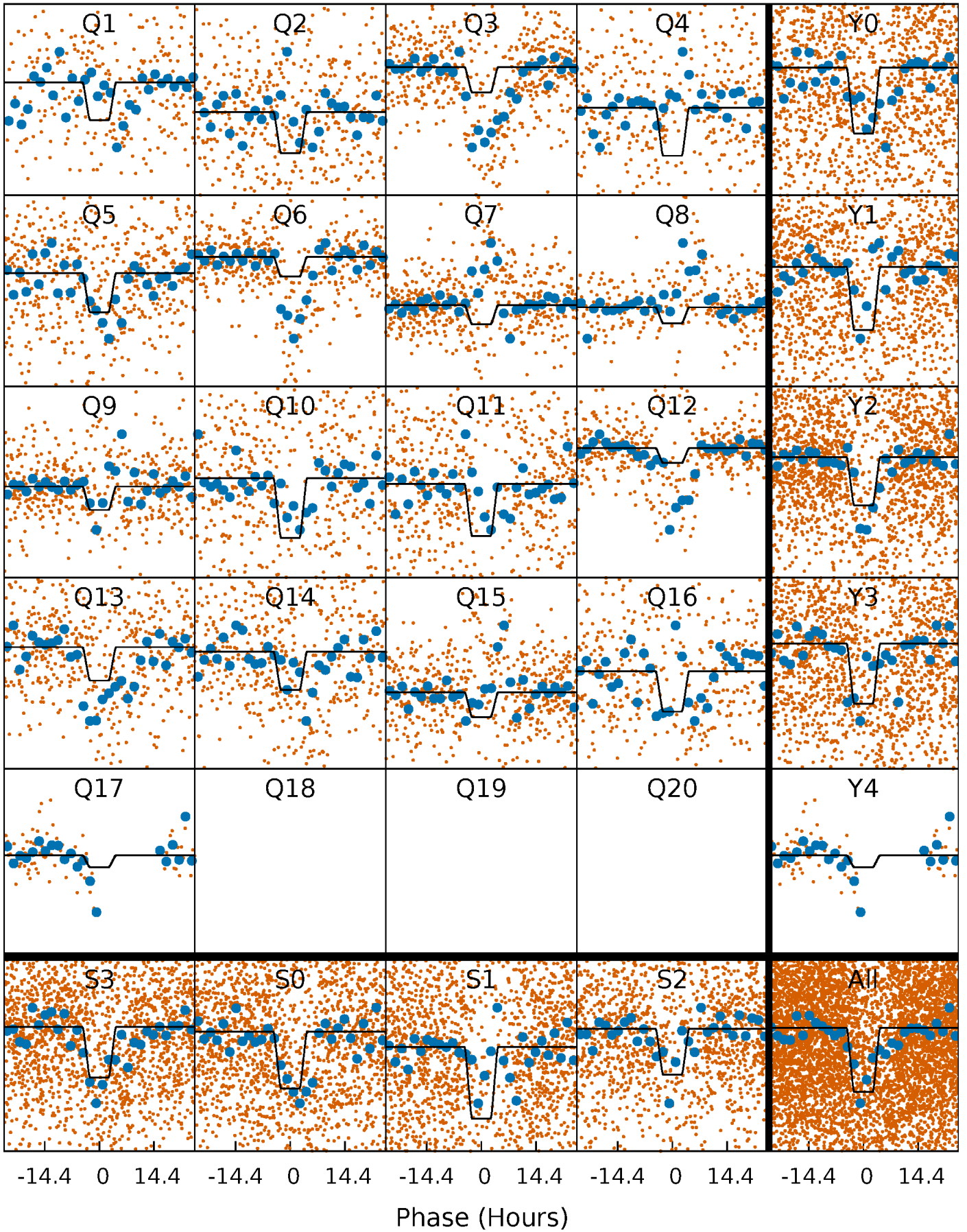
DV Quarter-Phased Transit Curves

TCE 007523340-03 P= 9.290705 Days $T_0=139.147263$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

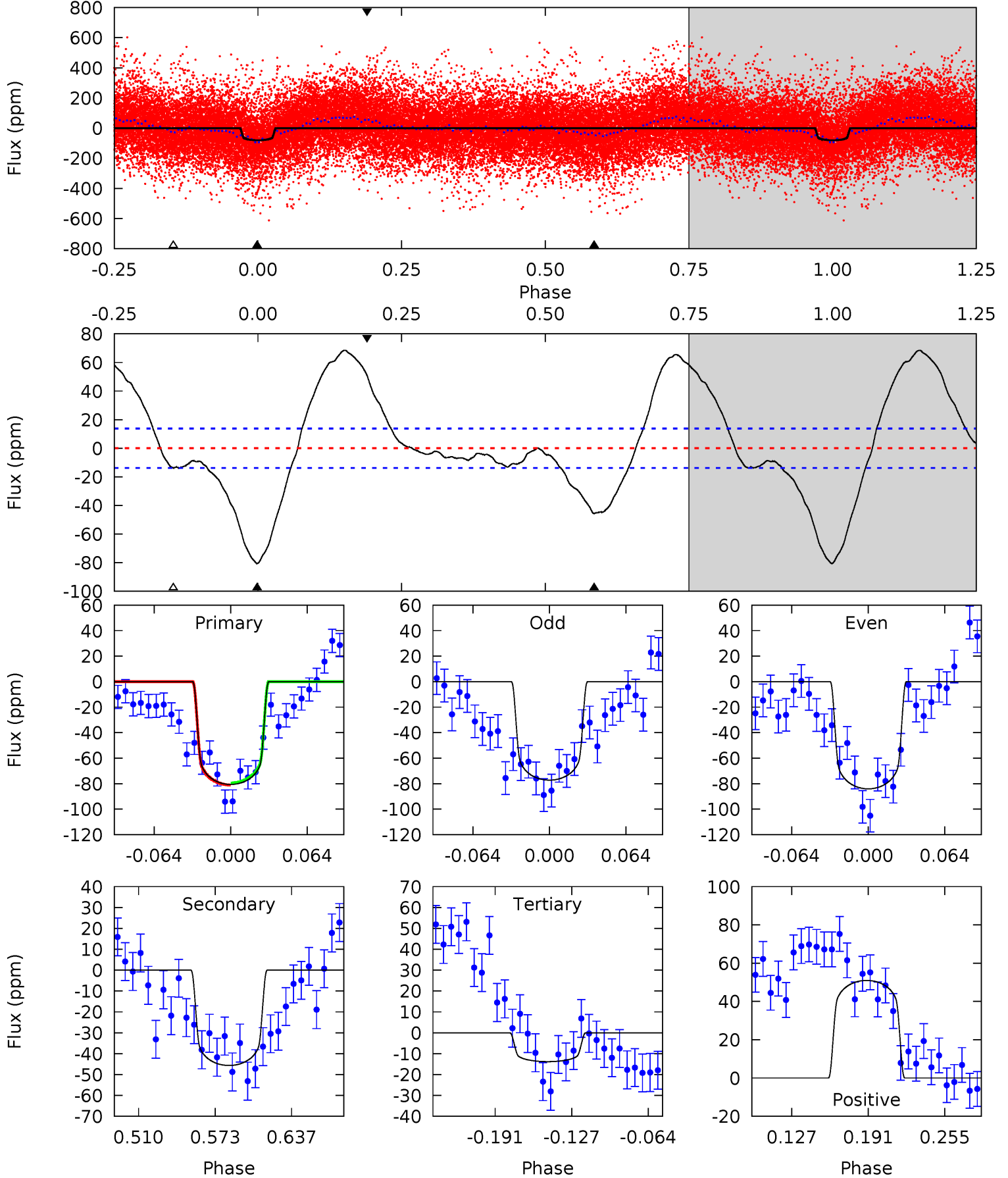
TCE 007523340-03 $P = 9.291310$ Days $T_0 = 139.081638$ (BKJD)



DV Model-Shift Uniqueness Test

007523340-03, P = 9.290705 Days, E = 129.856558 Days

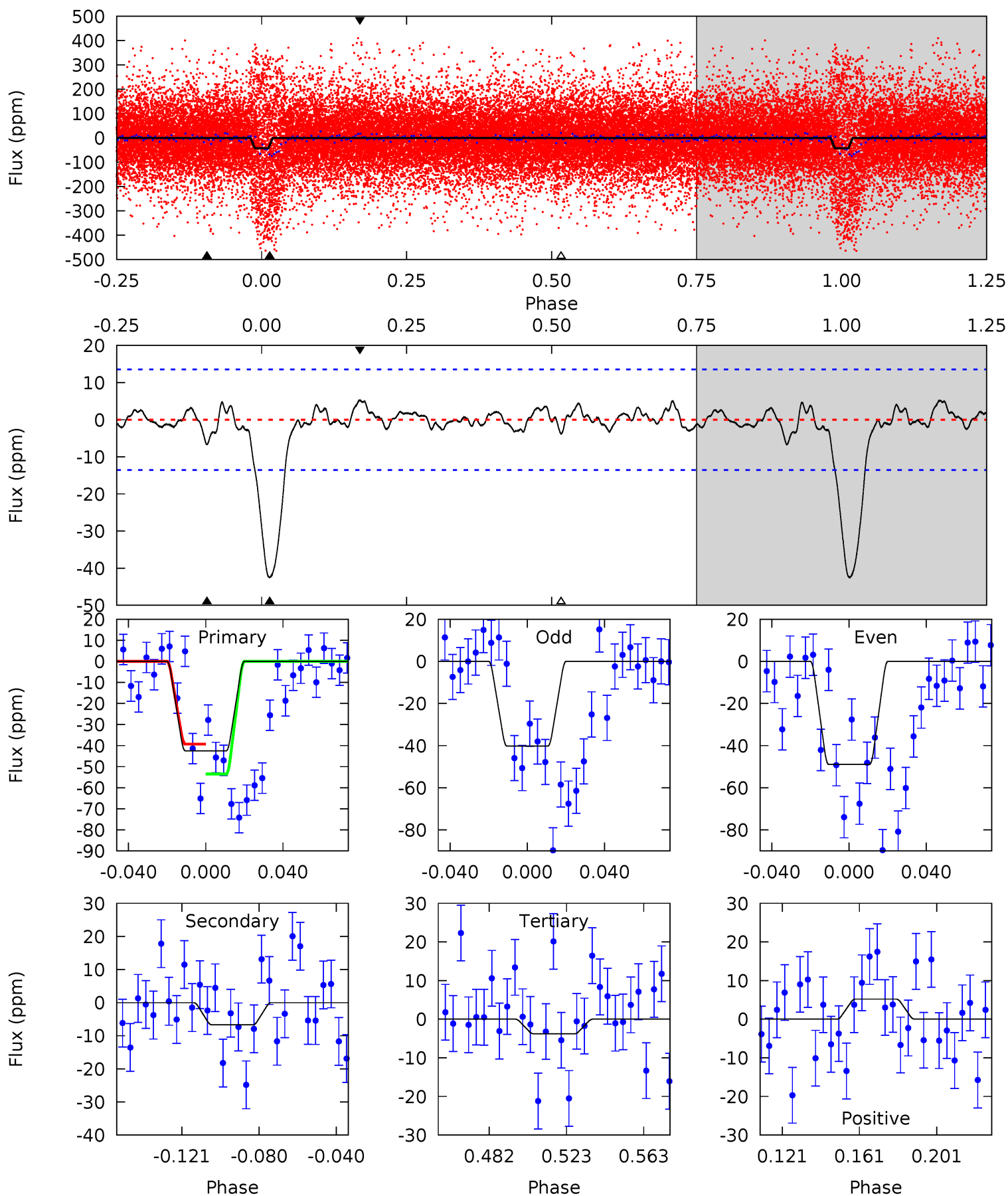
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 27.2 | 15.4 | 4.66 | 17.2 | 4.66 | 1.85 | 9.46 | 22.5 | 9.99 | 10.7 | -1.79 | 1.15 | 1.07 | 0.46 | 0 |



Alt Model-Shift Uniqueness Test

007523340-03, P = 9.291310 Days, E = 129.790328 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 14.9 | 2.35 | 1.32 | 1.82 | 4.75 | 2.05 | 0.68 | 13.6 | 13.1 | 1.03 | 0.53 | 1.52 | 1.25 | 0.11 | 2.48 |



Stellar Parameters For KIC 007523340

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6591^{+180}_{-180} | $3.751^{+0.312}_{-0.098}$ | $-0.500^{+0.350}_{-0.300}$ | $2.538^{+0.474}_{-0.881}$ | $1.325^{+0.226}_{-0.251}$ | $0.114^{+0.245}_{-0.037}$ |
| | +3%/-3% | +8%/-3% | +70%/-60% | +19%/-35% | +17%/-19% | +215%/-32% |
| Source | PHO1 | FLK73 | 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 007523340-03 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|---------------------------|
| DV | -46 ± 3 | $2.08^{+0.36}_{-0.42}$ | 2056^{+131}_{-179} | 6109^{+343}_{-326} | 53^{+27}_{-14} |
| Alt. | -7 ± 3 | $2.38^{+0.38}_{-0.46}$ | 2052^{+136}_{-182} | 3848^{+309}_{-373} | $5.957^{+3.718}_{-2.740}$ |

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 $A_{obs} \gg 1.0$

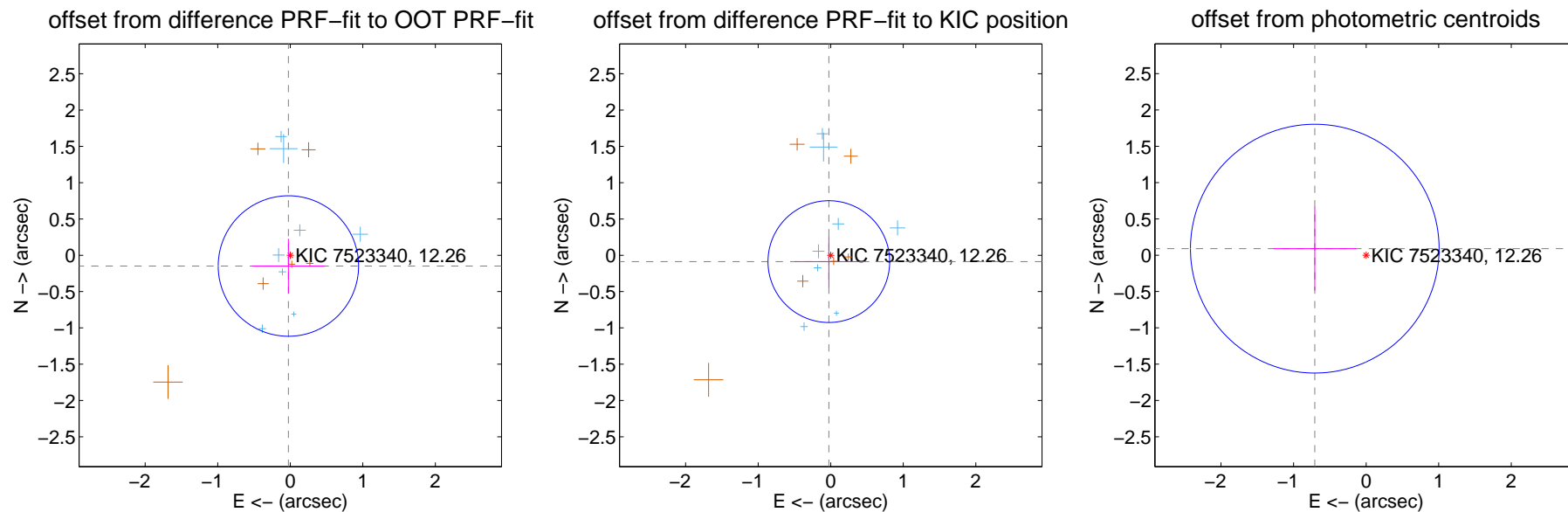
DV Centroid Data

Supplemental centroid analysis for 007523340-03. Kepler magnitude: 12.26. Transit SNR 7.87

There are 8 quarters with good PRF difference image offsets

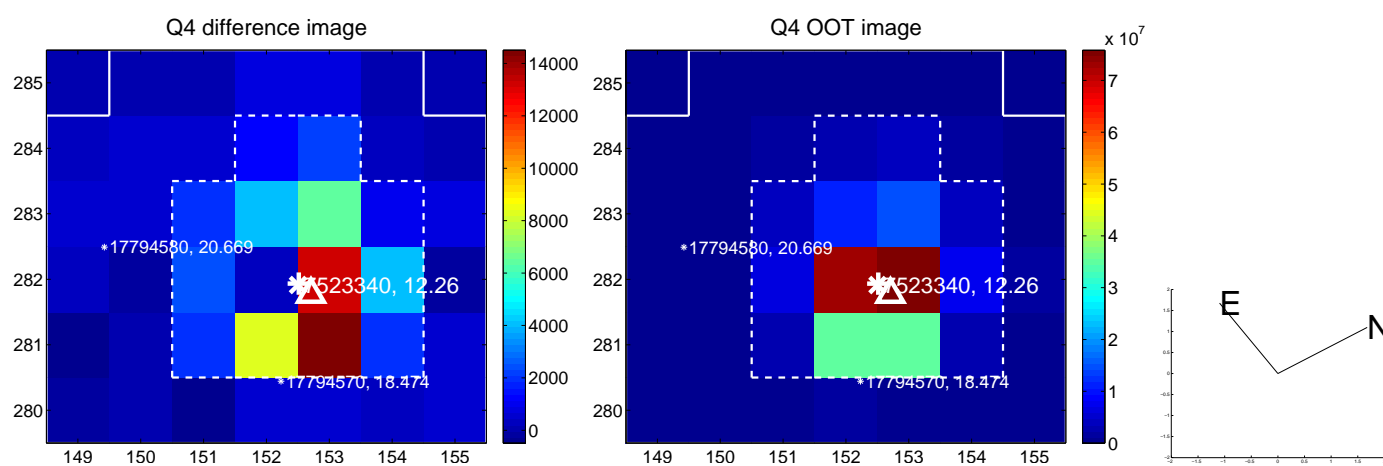
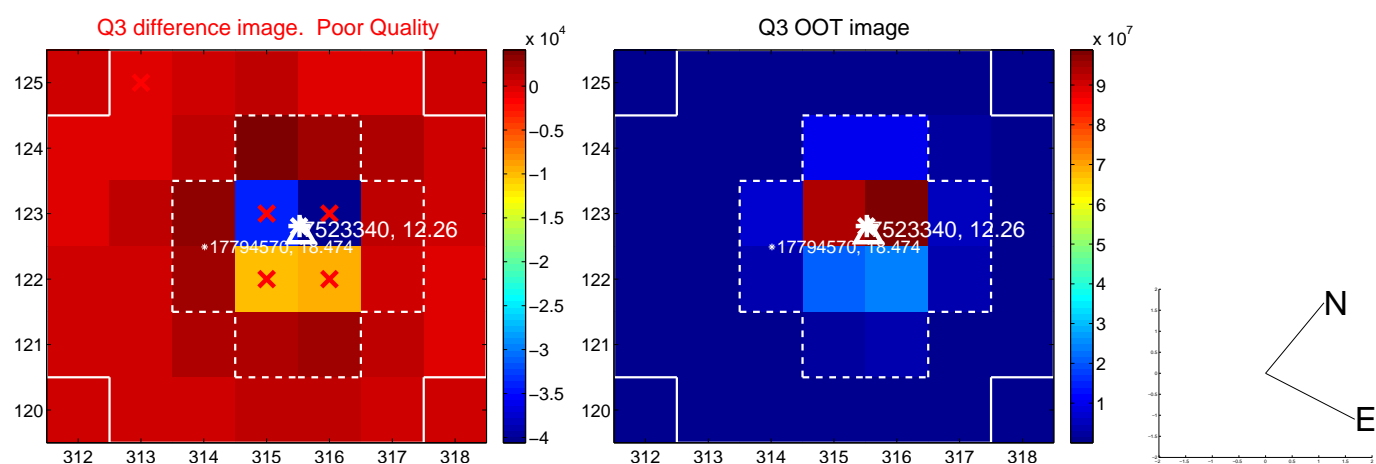
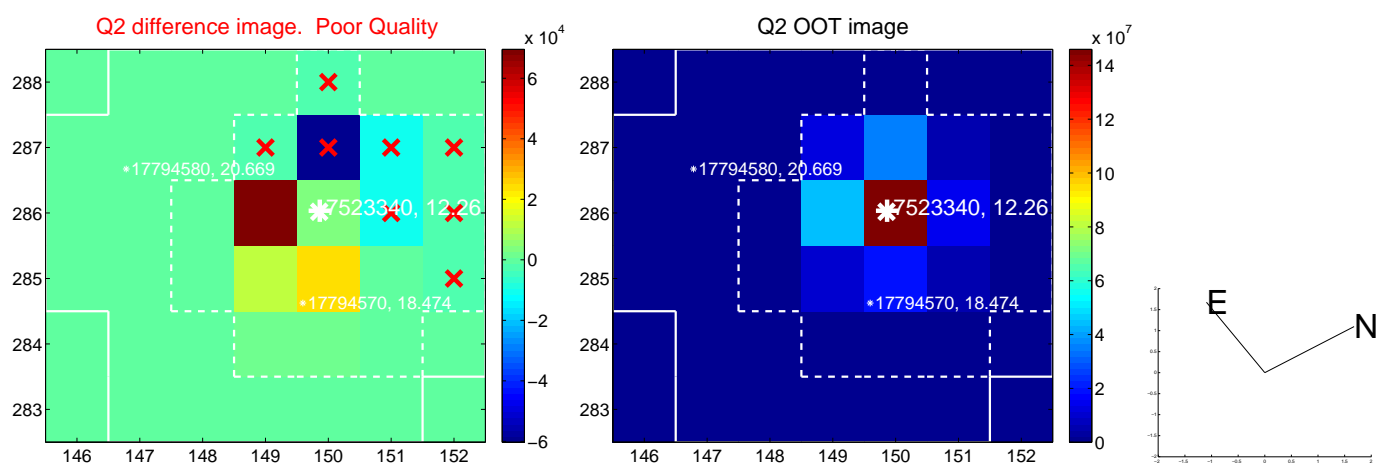
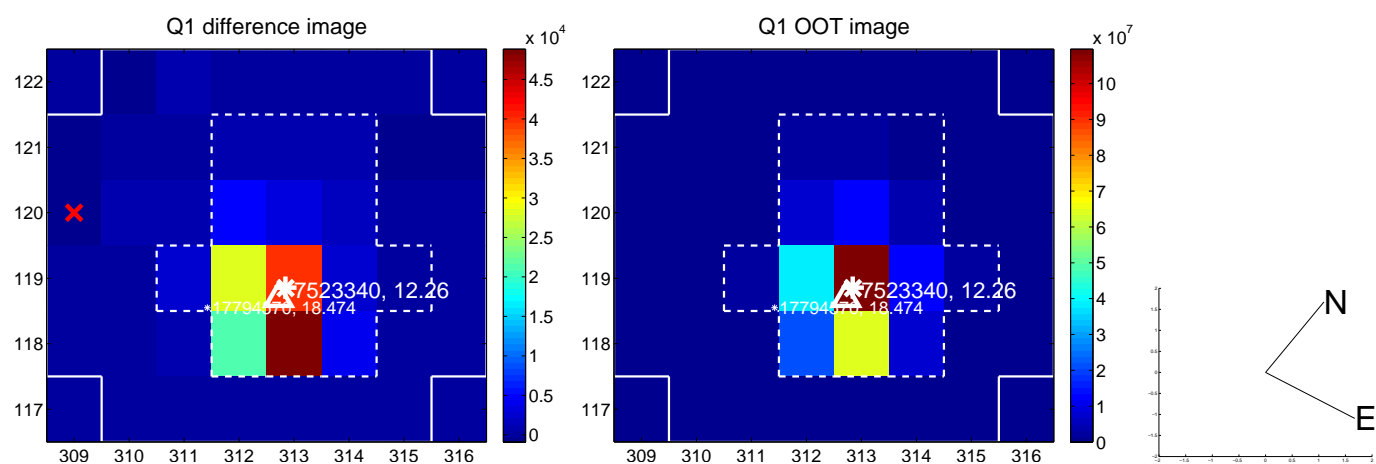
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.150 ± 0.322 | 0.47 | 0.026 ± 0.502 | -0.148 ± 0.376 |
| PRF-fit source offset from KIC position | 0.091 ± 0.279 | 0.32 | 0.026 ± 0.469 | -0.087 ± 0.351 |
| photometric centroid source offset | 0.71 ± 0.57 | 1.25 | 0.71 ± 0.57 | 0.09 ± 0.58 |

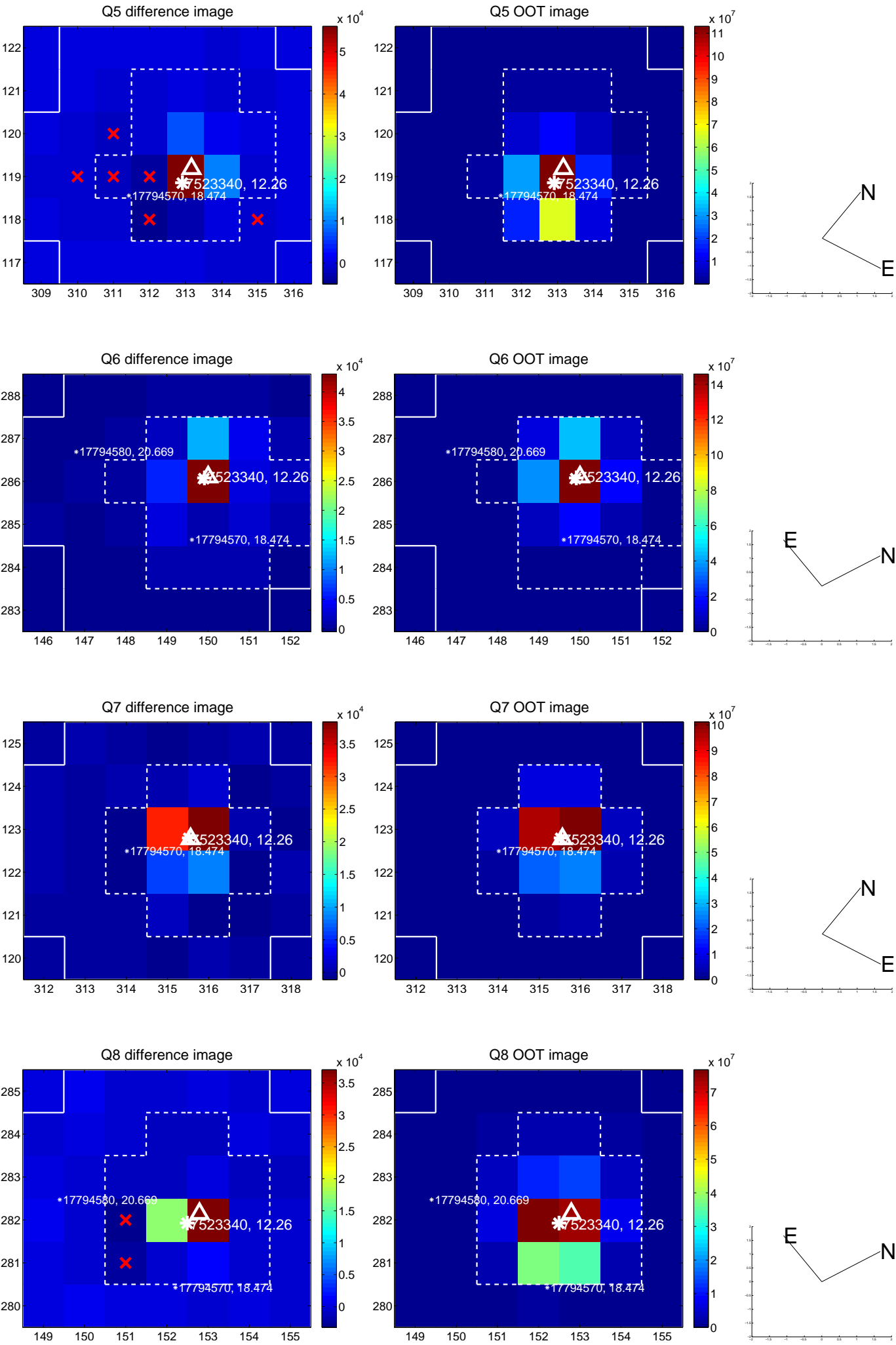


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

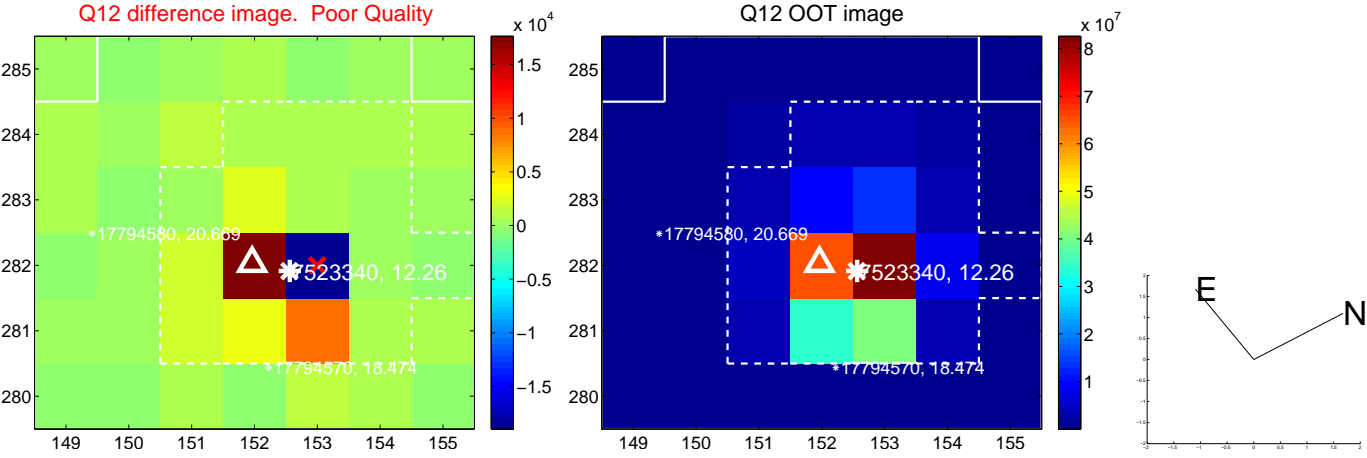
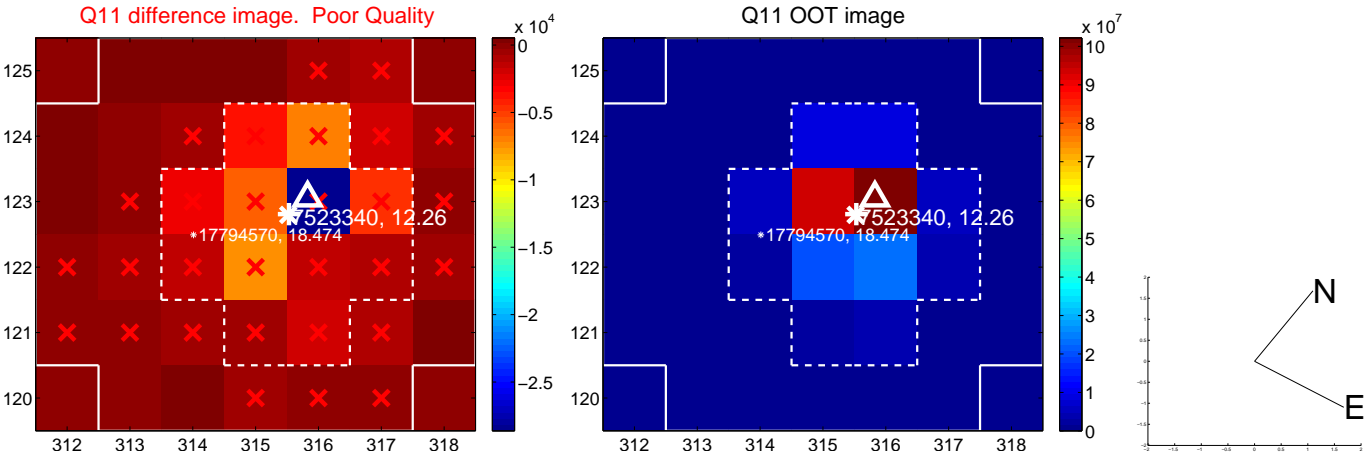
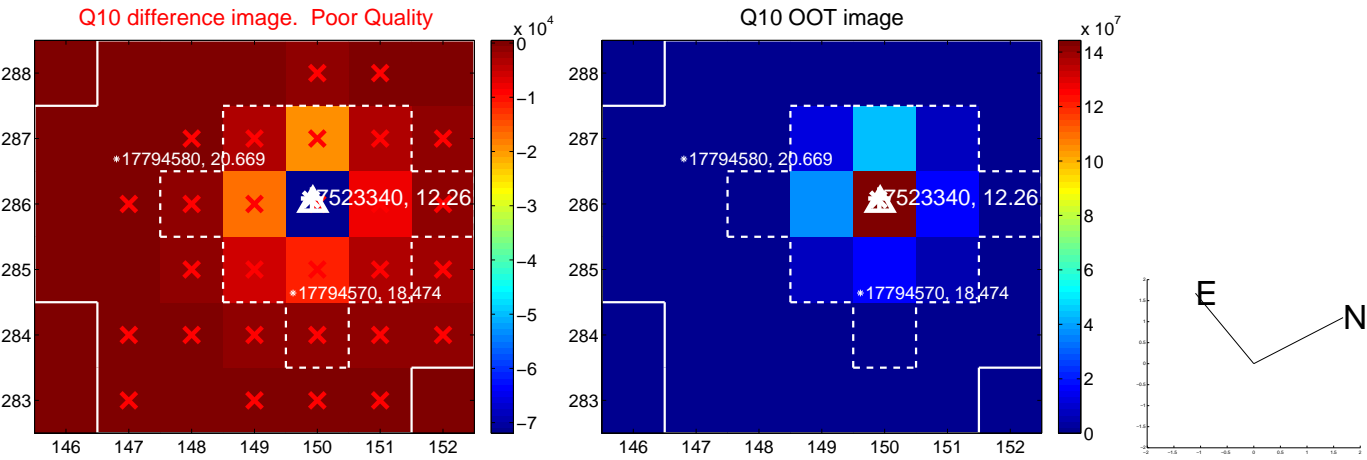
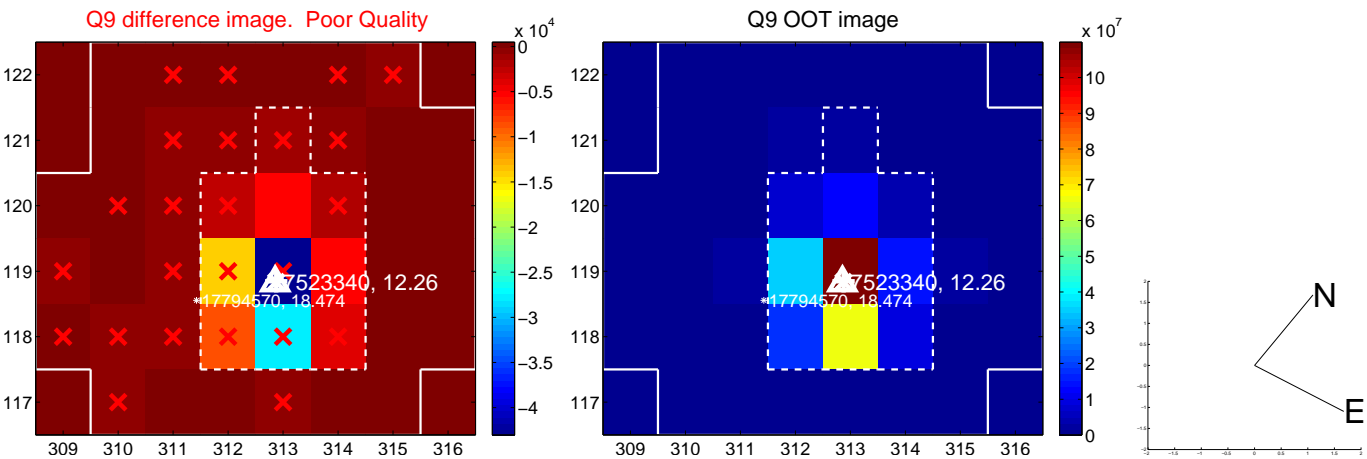
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



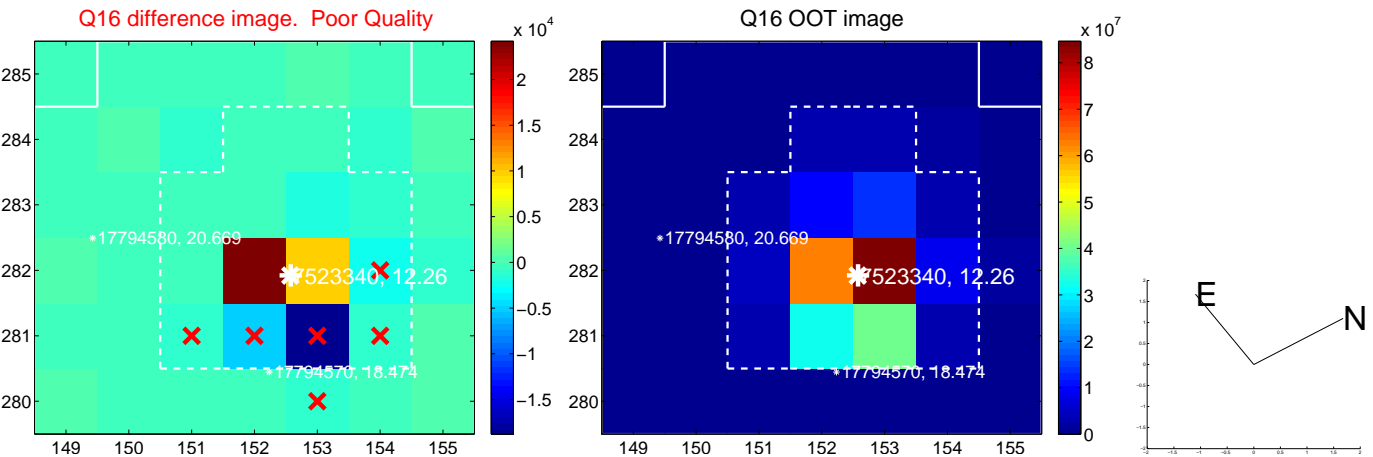
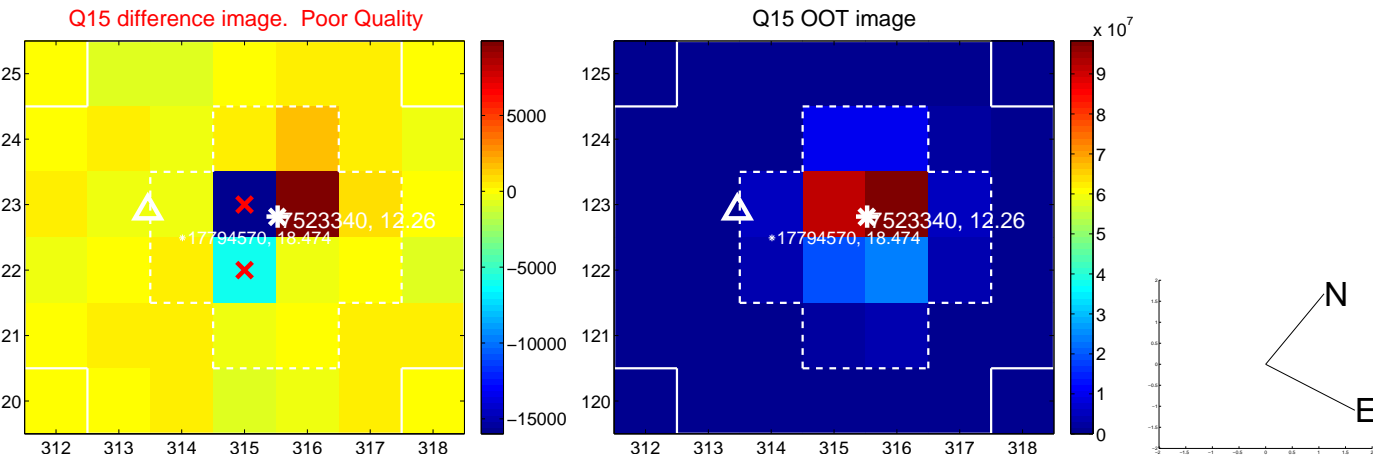
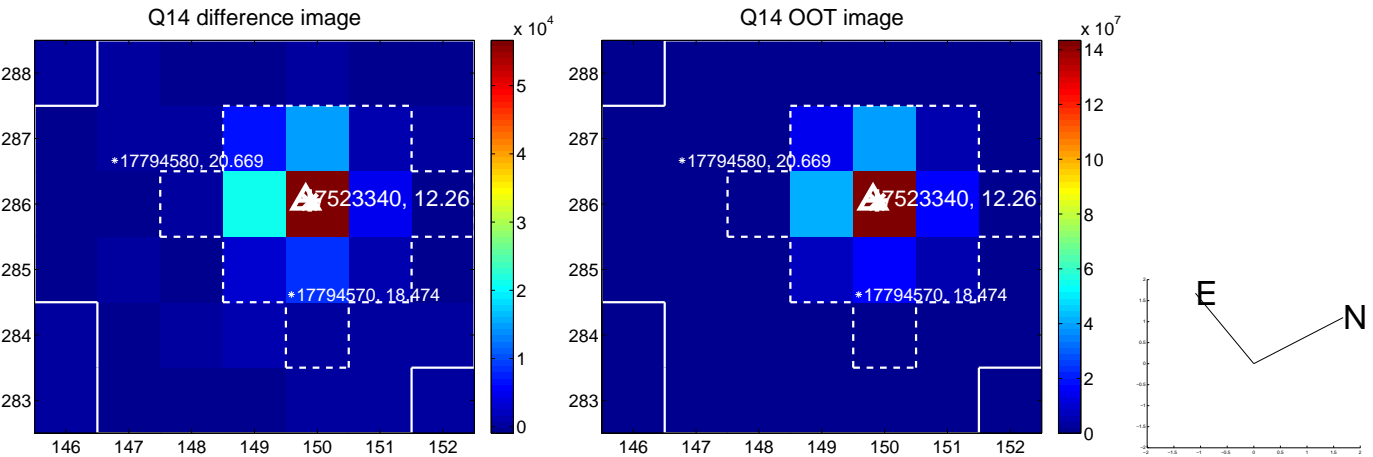
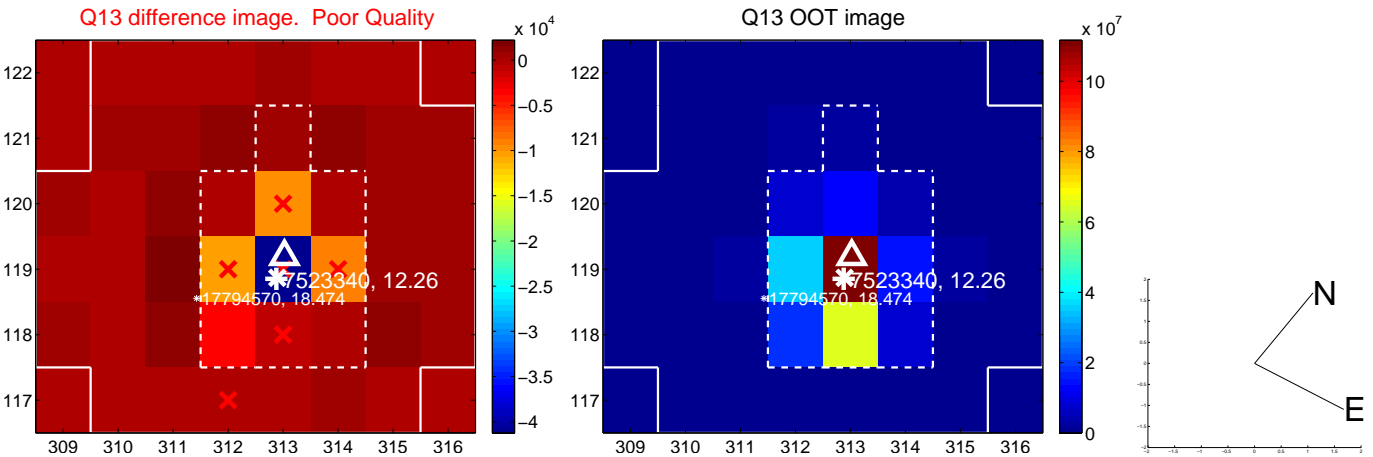
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



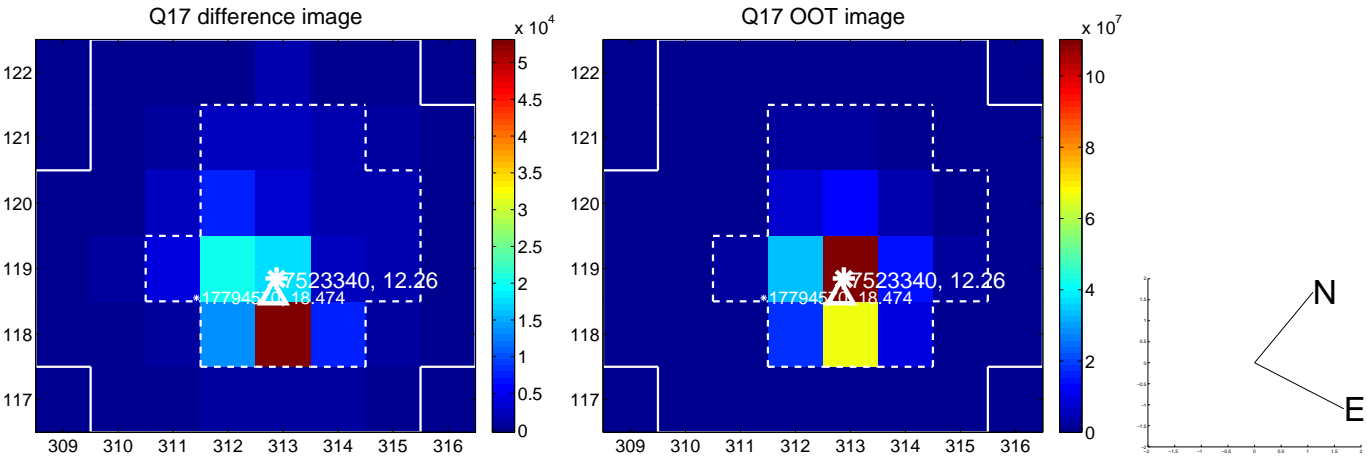
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



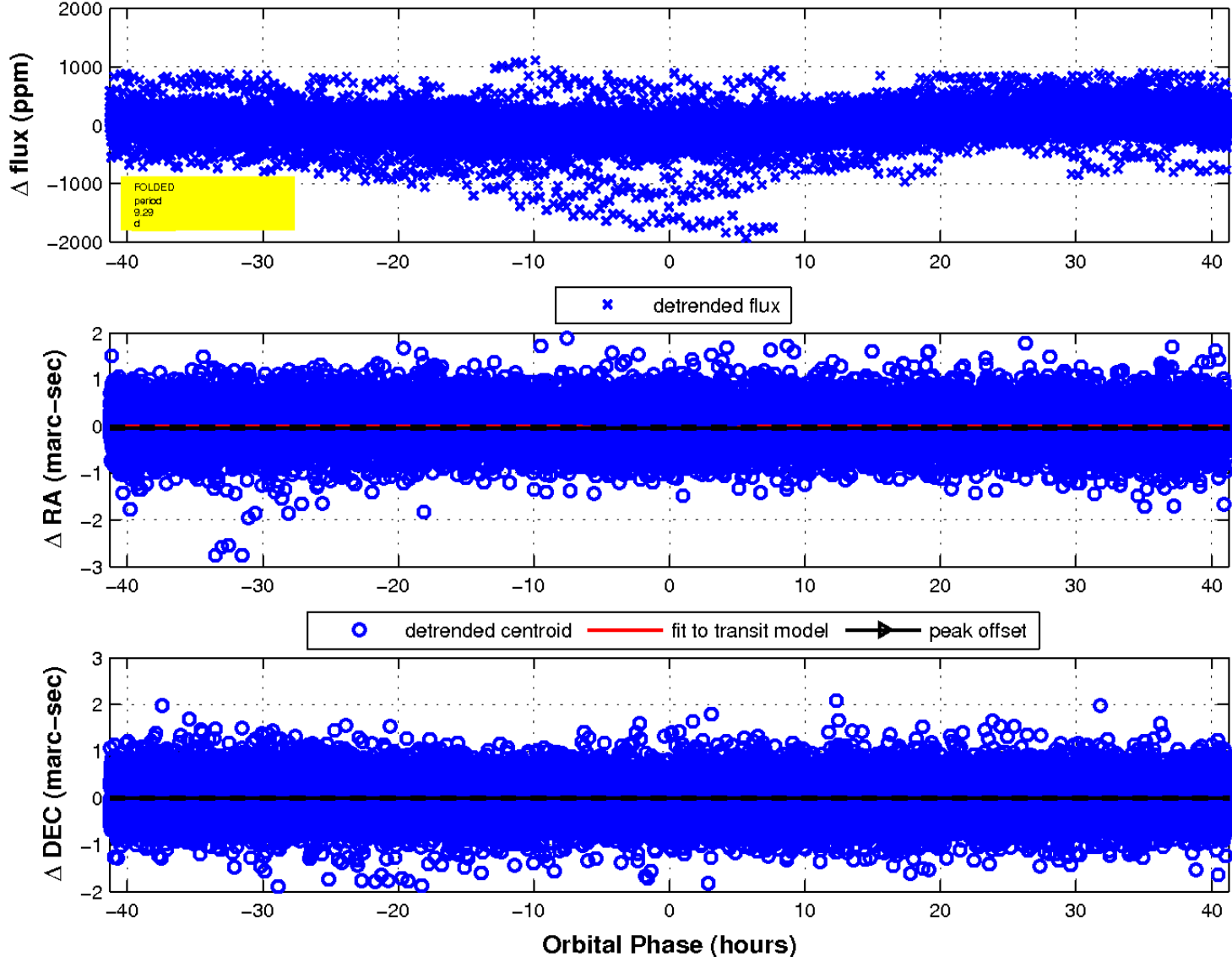
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

