

KIC 009532637

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|--------|------|-----------------------------|-----------------|------------------------|------------------------|
| 009532637-01 | OBS | No | 0.922444 | 132.328702 | 355554.6 | 2.500 | 1742.0 | -1.0 | 0.66 | 4509 | 25.10 | 626.57 |
| 009532637-02 | OBS | No | 0.614964 | 131.710994 | 366472.6 | 1.500 | 2134.2 | -1.0 | 0.66 | 4509 | 35.20 | 1075.87 |
| 009532637-03 | OBS | 3842.01 | 0.614964 | 132.020369 | 342564.3 | 1.500 | 1587.1 | -1.0 | 0.66 | 4509 | 28.64 | 1075.87 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 009532637-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS |
| 009532637-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—CENT_NOFITS |
| 009532637-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SAME_NTL_PERIOD—CENT_NOFITS |

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

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

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

Ephemeris Match Information For 009532637-01

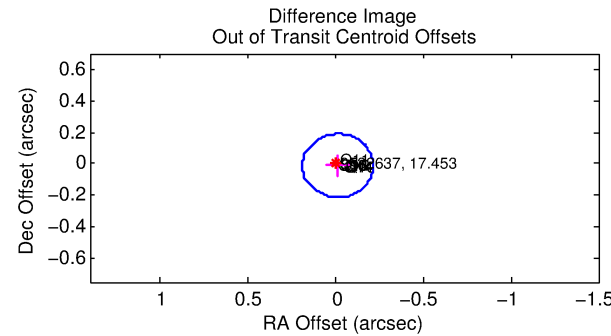
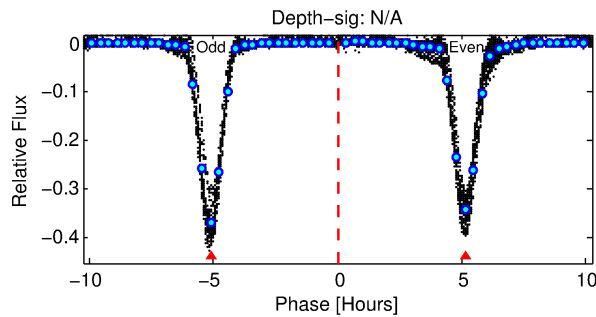
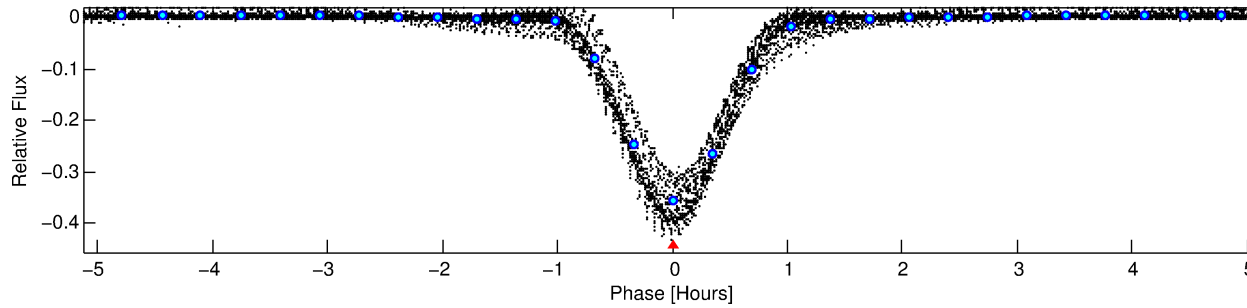
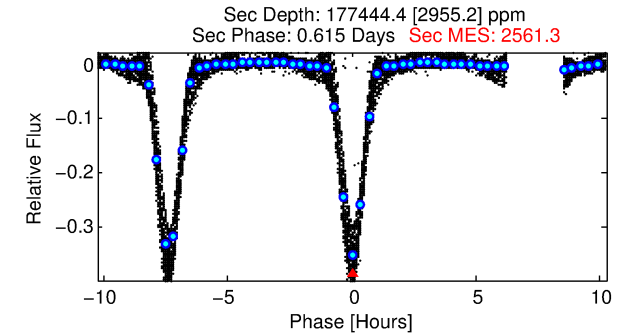
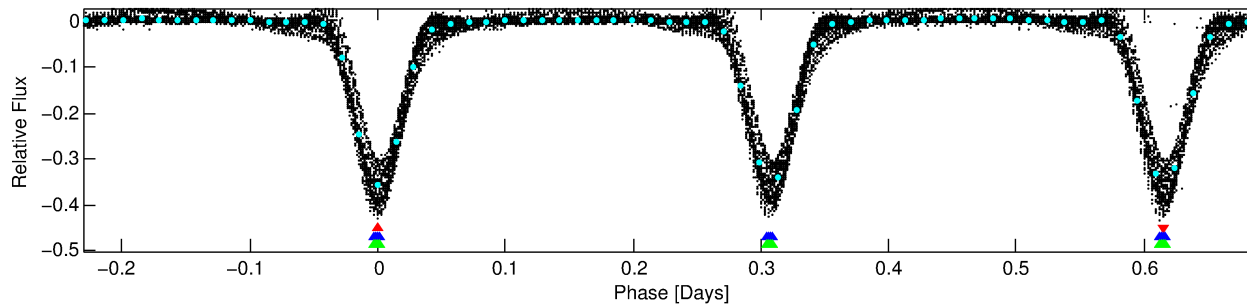
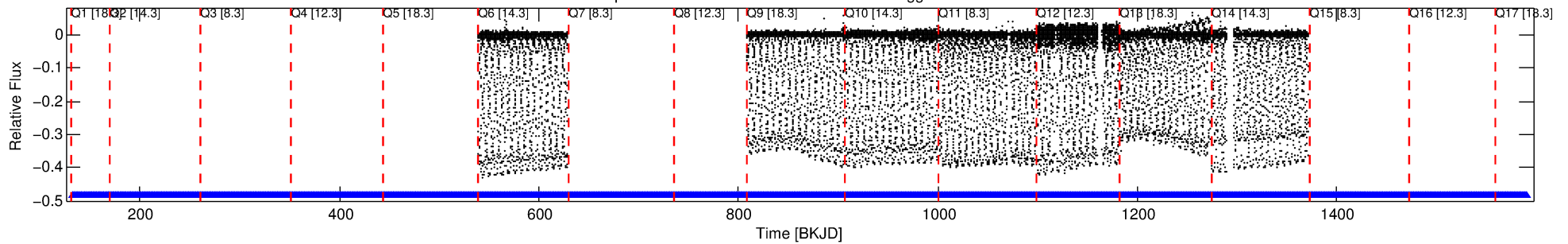
No Significant Match Found

DV One-Page Summary

KIC: 9532637 Candidate: 1 of 3 Period: 0.922 d

KOI: K03842 Corr: No Ephemeris Match

Kp: 17.45 R*: 0.66 Rs Teff: 4509.0 K Logg: 4.61 Fe/H: -0.160



TPS TCE Results:

Period = 0.92244 d
Epoch = 132.3287 BKJD

DV fit results are unavailable

DV Diagnostic Results:

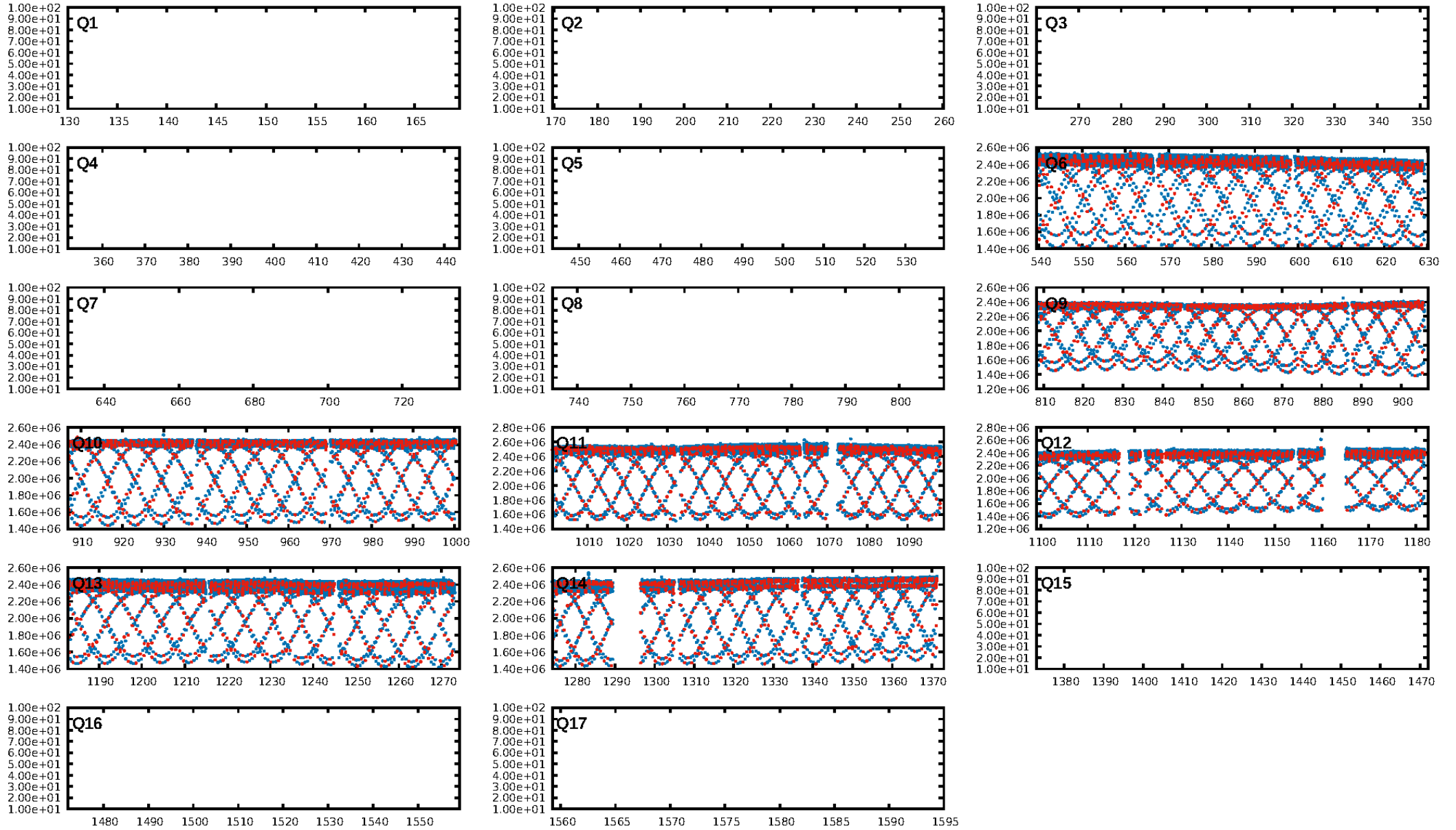
ShortPeriod-sig: 98.9% [2.53σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [669/669]
GhostDiagnostic-chr: N/A

Centroid-sig: N/A
Centroid-so: 0.467 arcsec [146.50σ]
OotOffset-rm: 0.017 arcsec [0.26σ]
KicOffset-rm: 0.286 arcsec [2.90σ]
OotOffset-st: 3/1/1/2 [7]
KicOffset-st: 3/1/1/2 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 0.00 [0/7]

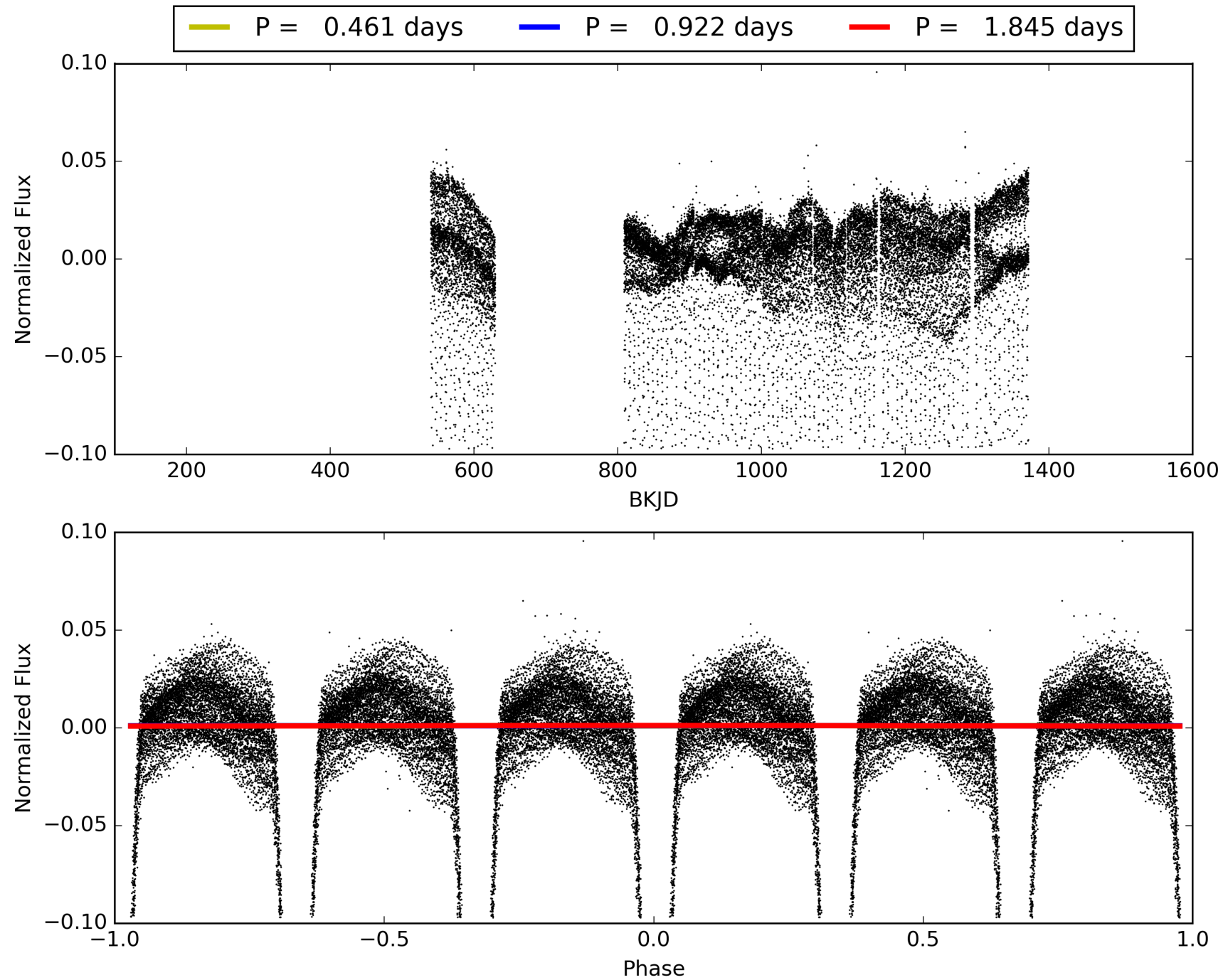
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:47:11 Z

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

TCE 009532637-01, PDC Light Curves

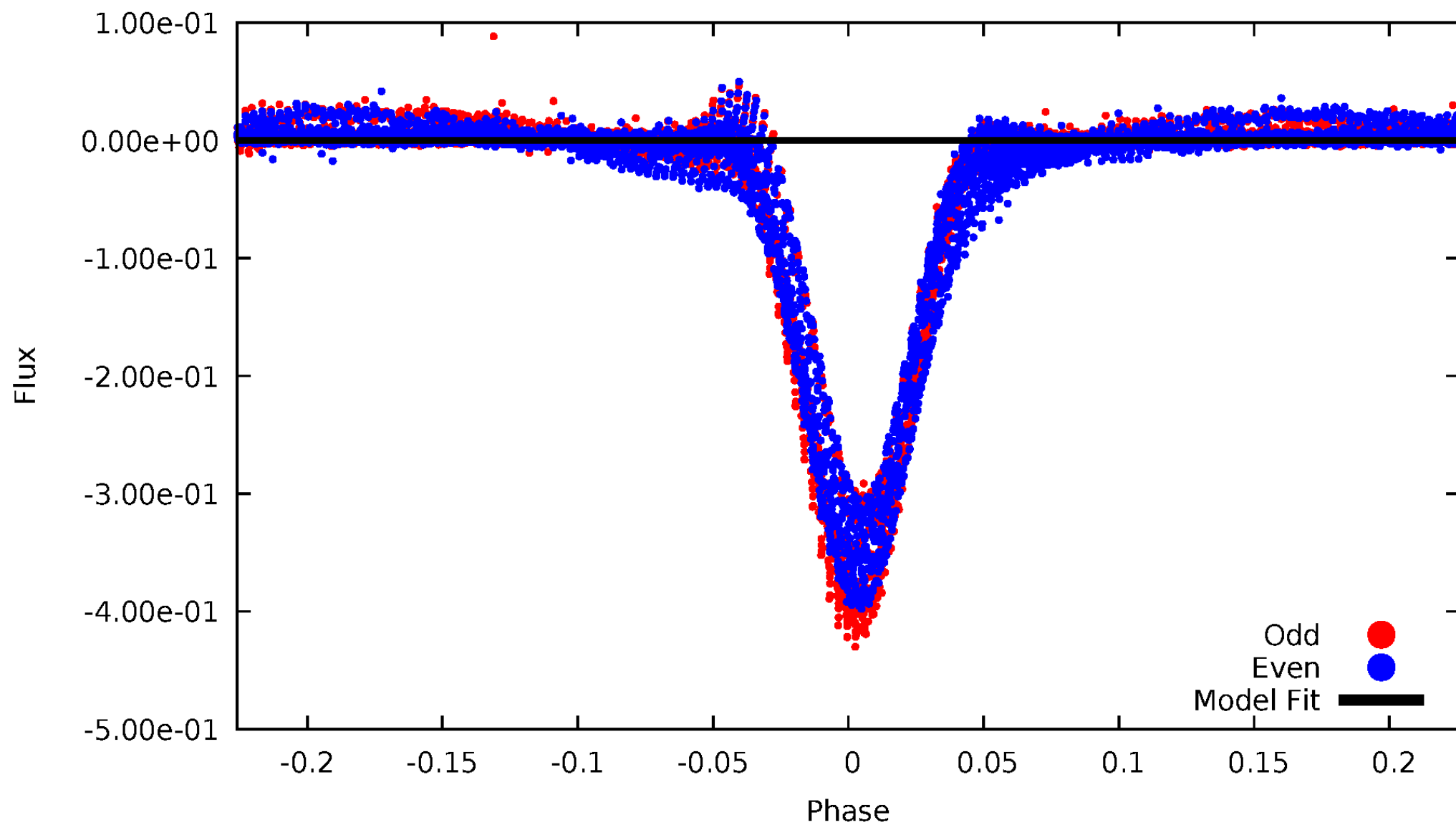


TCE 009532637-01



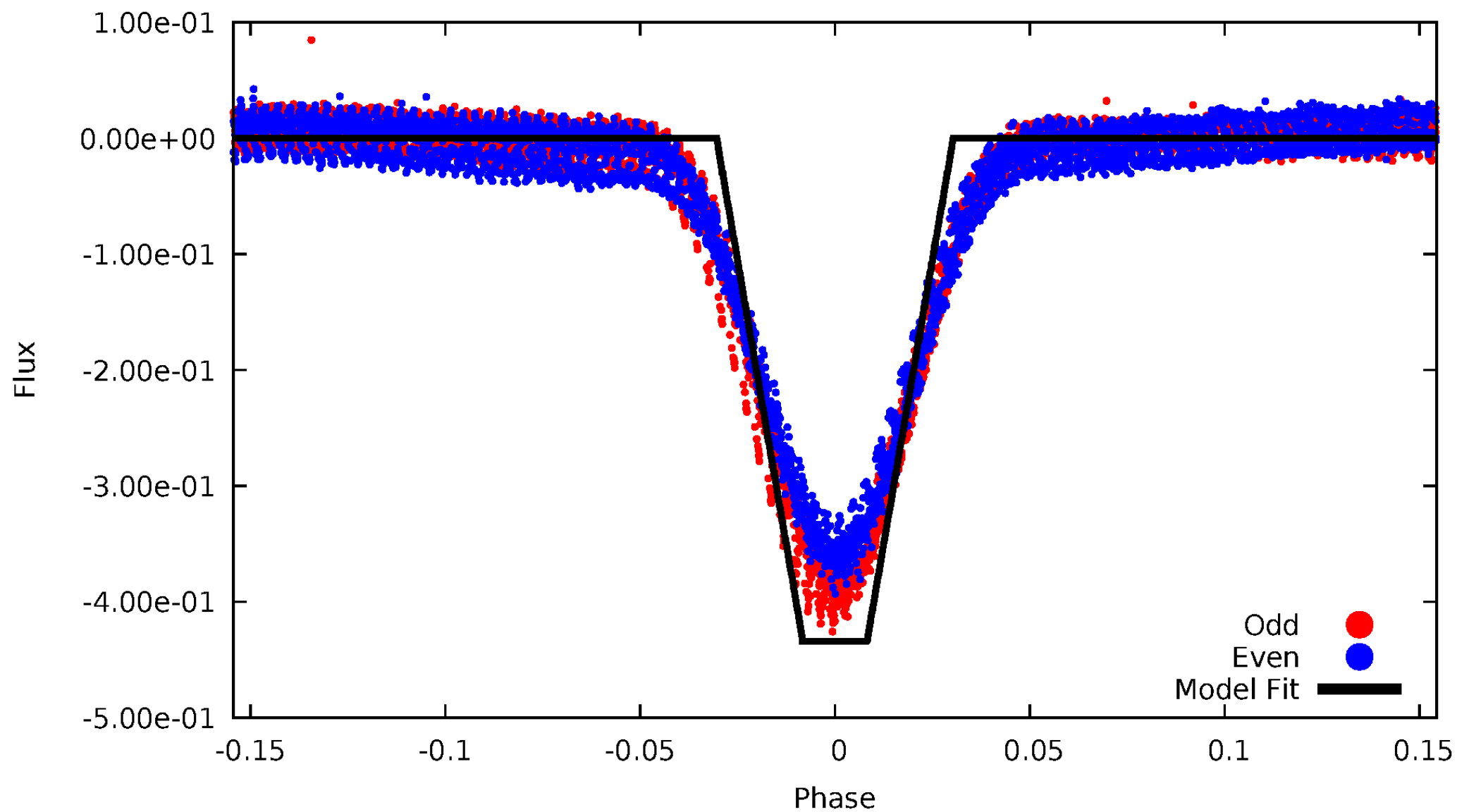
DV Odd/Even

TCE 009532637-01



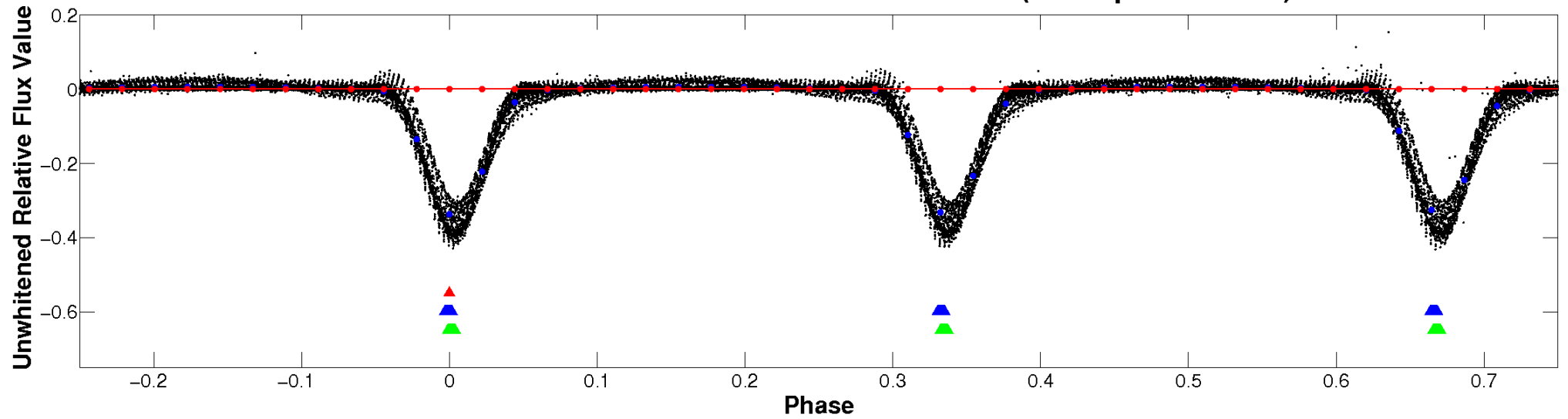
ALT Odd/Even

TCE 009532637-01

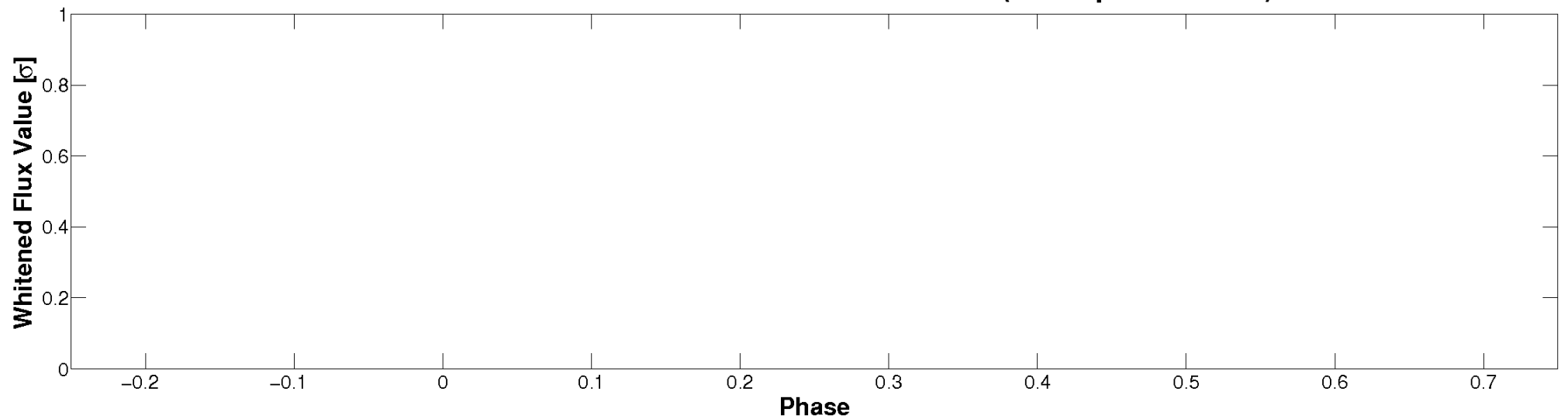


Non-Whitened Vs. Whitened Light Curve

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

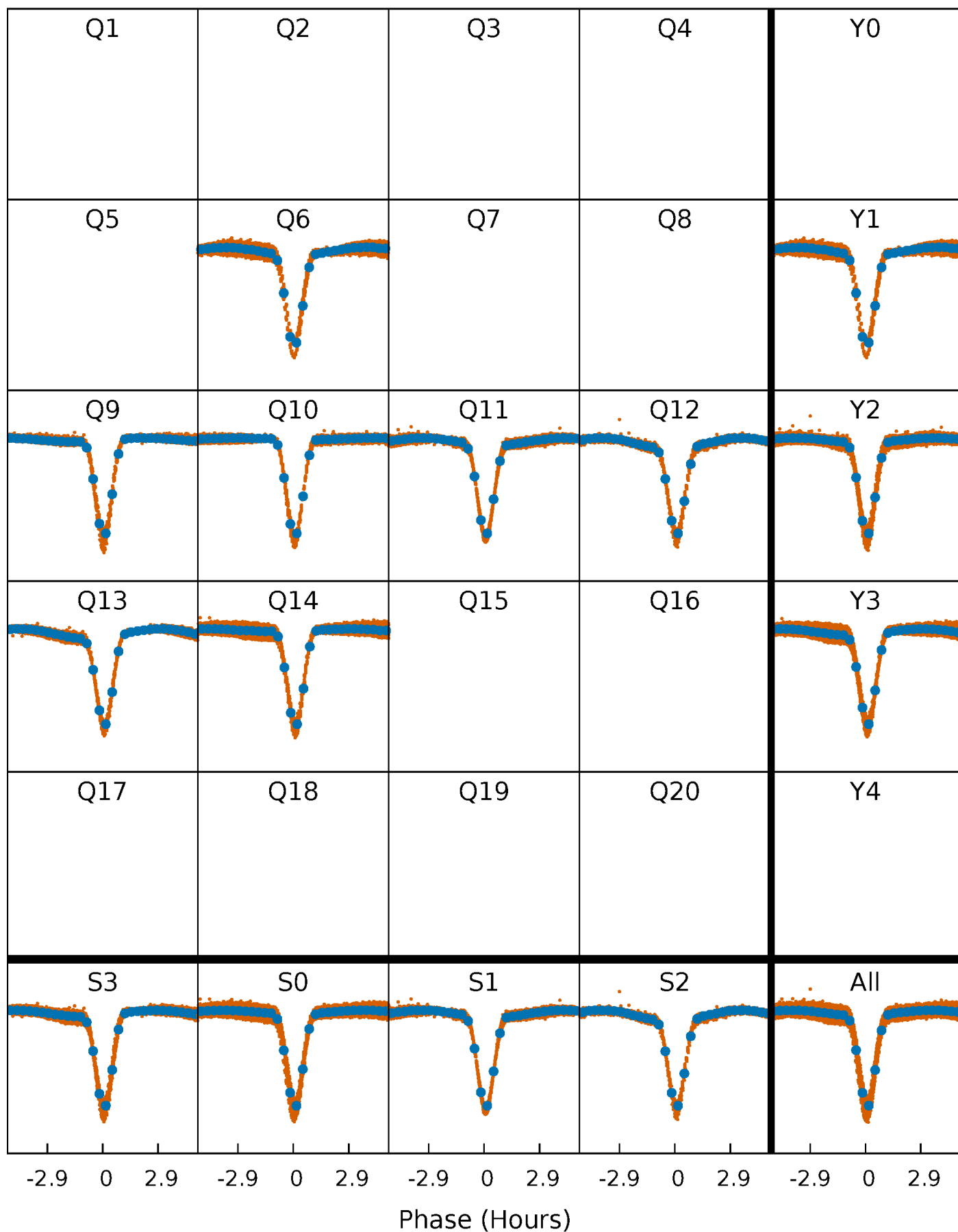


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



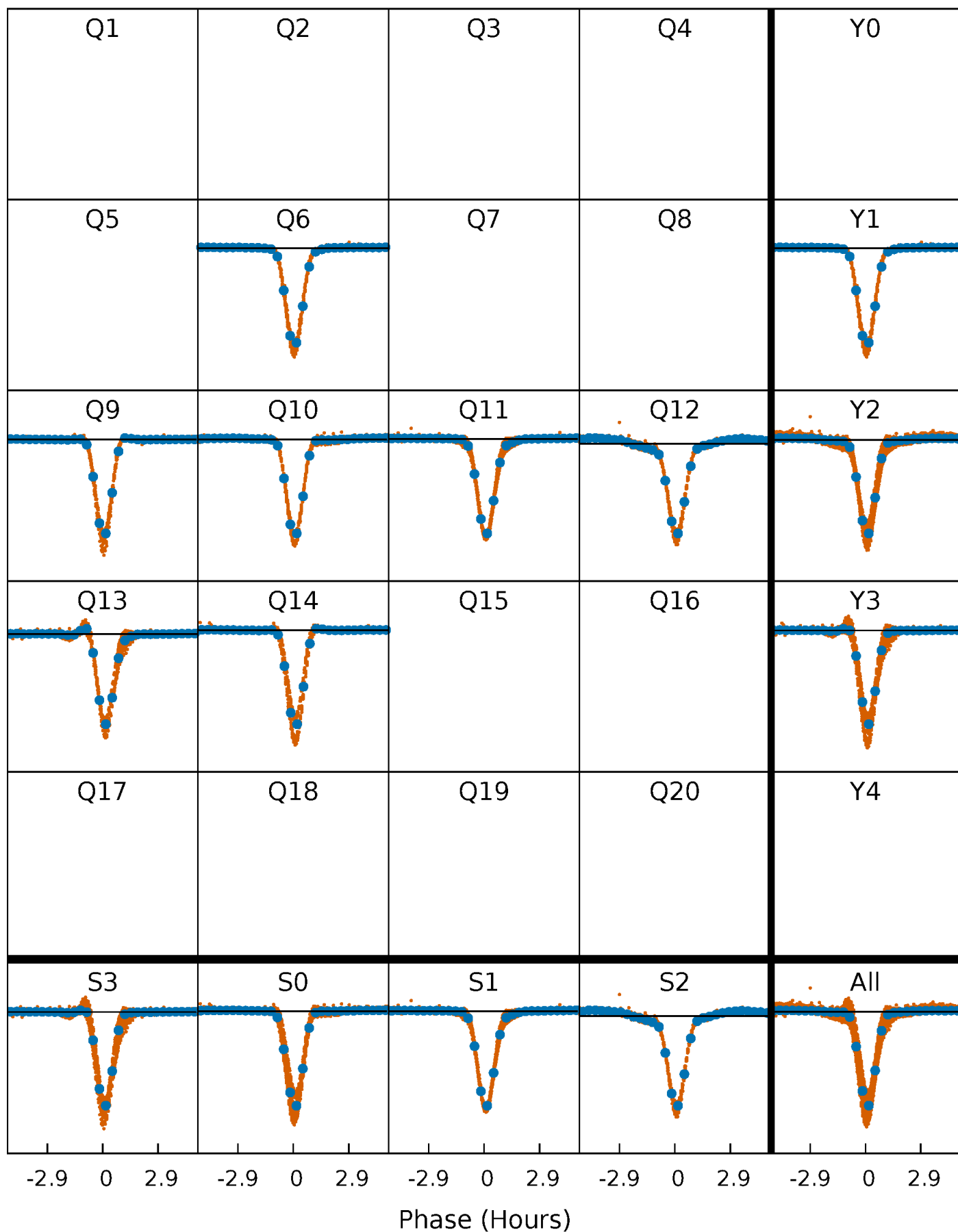
PDC Quarter-Phased Transit Curves

TCE 009532637-01 P= 0.922444 Days $T_0=132.328702$ (BKJD)



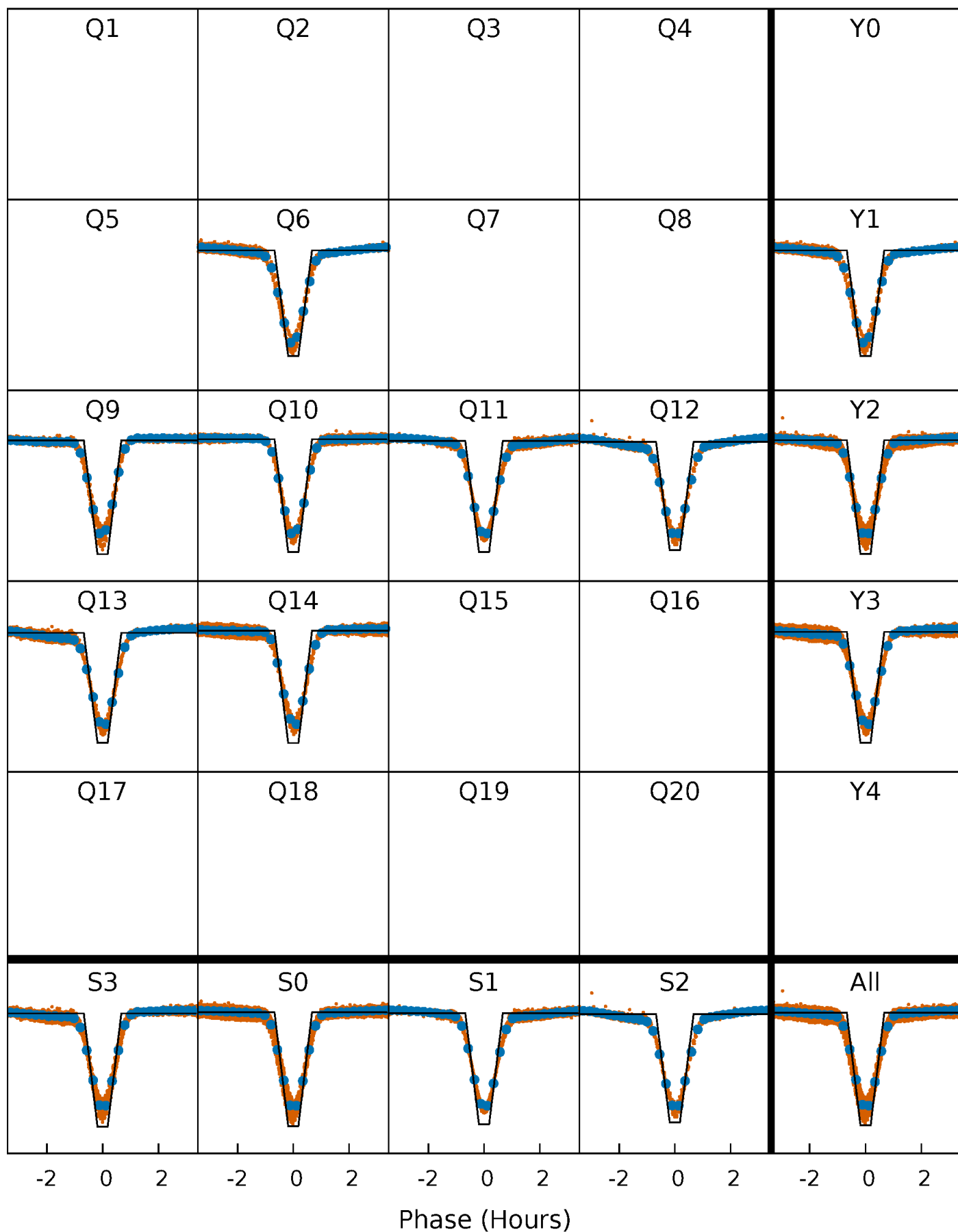
DV Quarter-Phased Transit Curves

TCE 009532637-01 P= 0.922444 Days $T_0=132.328702$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

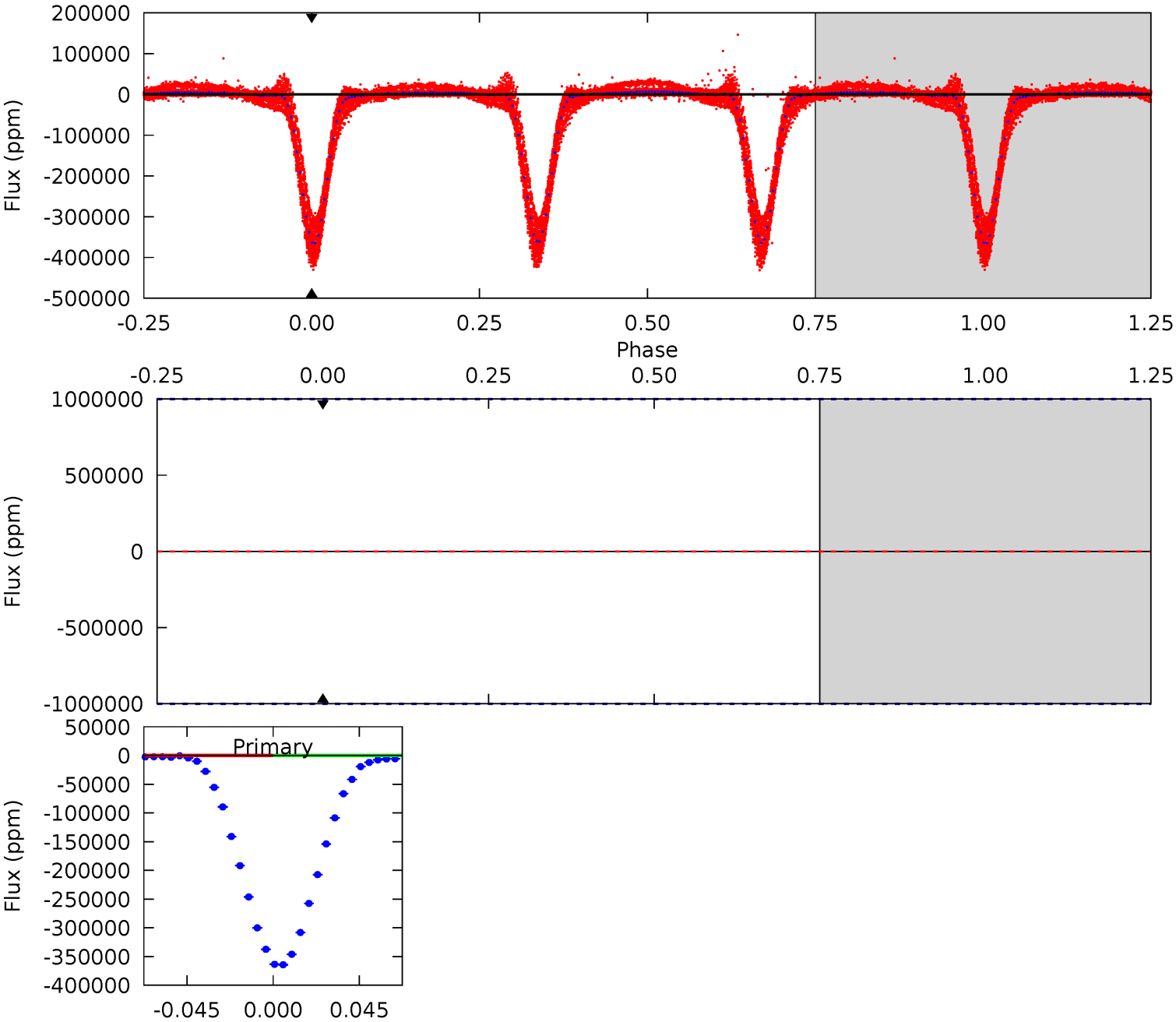
TCE 009532637-01 P= 0.922444 Days $T_0=132.331677$ (BKJD)



DV Model-Shift Uniqueness Test

009532637-01, P = 0.922444 Days, E = 132.328702 Days

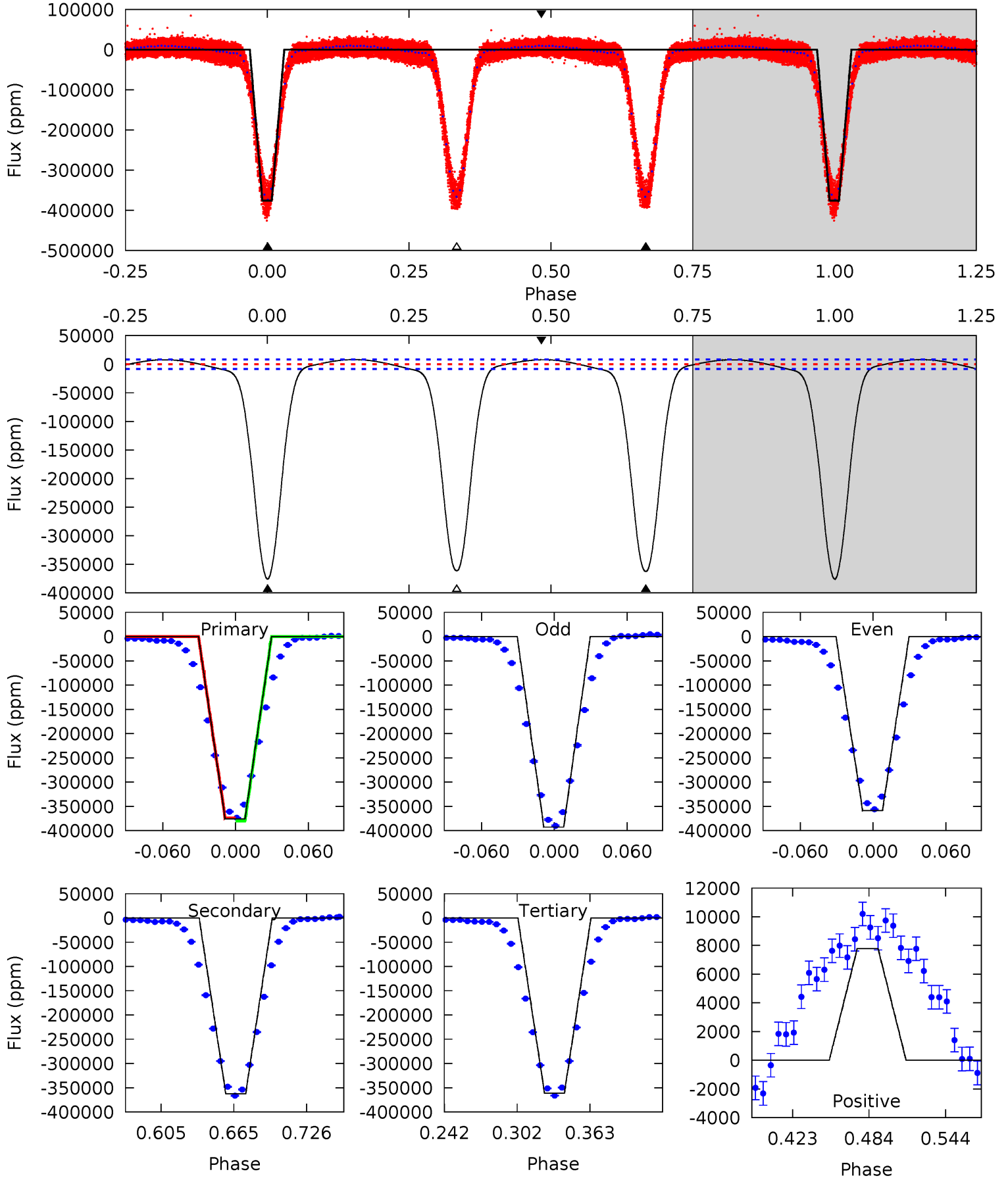
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00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



Alt Model-Shift Uniqueness Test

009532637-01, P = 0.922444 Days, E = 132.331677 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|-------|-------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 210.0 | 202.6 | 201.9 | 4.35 | 4.67 | 1.88 | 44.1 | 8.07 | 205.7 | 0.67 | 198.3 | 9.52 | 1.00 | 0.02 | 10.0 |



Stellar Parameters For KIC 009532637

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (g \cdot \text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--------------------------------------|
| | 4509^{+157}_{-157} | $4.612^{+0.052}_{-0.028}$ | $-0.160^{+0.300}_{-0.300}$ | $0.663^{+0.048}_{-0.058}$ | $0.656^{+0.072}_{-0.054}$ | $3.169^{+0.726}_{-0.359}$ |
| | +3%/-3% | +1%/-1% | +188%/-188% | +7%/-9% | +11%/-8% | +23%/-11% |
| Source | KIC0 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 009532637-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|--------------------|-------------------------|--------------------|------------------------|-----------------------------|
| DV | 0 ± 1000000 | $24.93^{+7.25}_{-7.63}$ | 1776^{+69}_{-72} | 2109^{+2495}_{-6408} | $0.436^{+29.382}_{-21.476}$ |
| Alt. | -362557 ± 1789 | $46.99^{+7.33}_{-6.75}$ | 1773^{+67}_{-69} | 4774^{+371}_{-328} | 37^{+13}_{-9} |

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 $A_{obs} \gg 1.0$

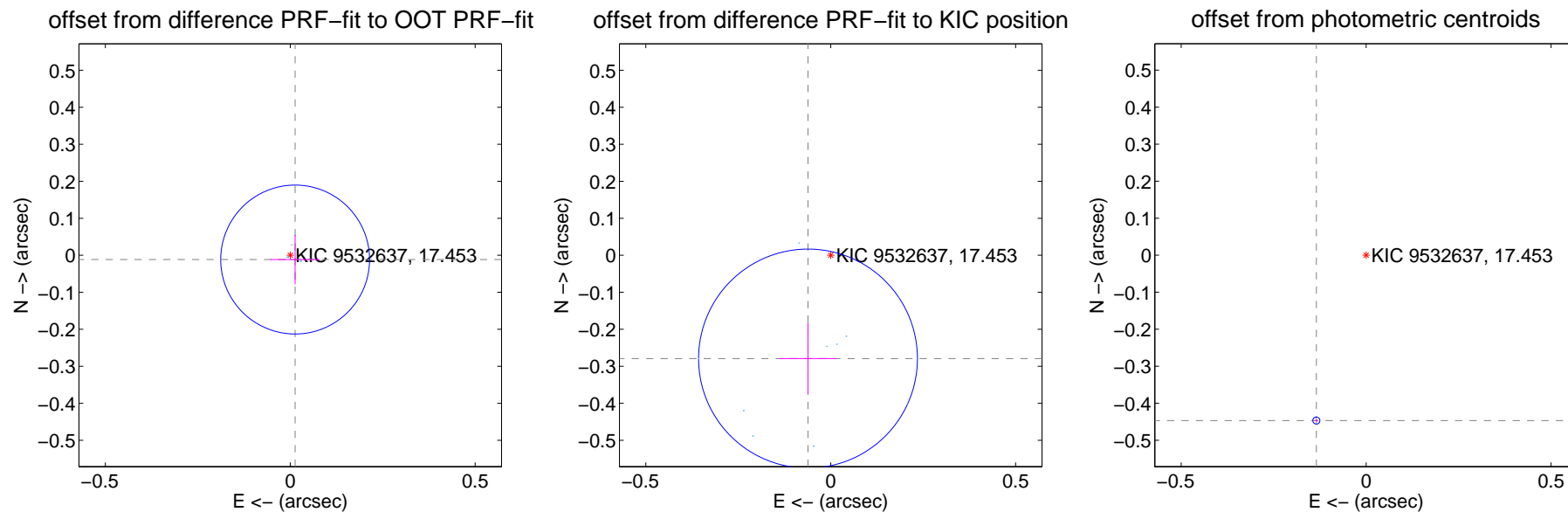
DV Centroid Data

Supplemental centroid analysis for 009532637-01. Kepler magnitude: 17.45. Transit SNR -1.00

There are 7 quarters with good PRF difference image offsets

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

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.017 ± 0.067 | 0.26 | -0.013 ± 0.067 | -0.012 ± 0.067 |
| PRF-fit source offset from KIC position | 0.286 ± 0.099 | 2.90 | 0.061 ± 0.077 | -0.279 ± 0.097 |
| photometric centroid source offset | 0.47 ± 0.00 | 146.50 | 0.13 ± 0.00 | -0.45 ± 0.00 |



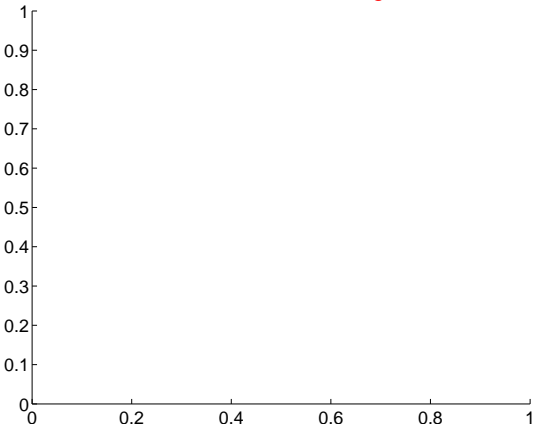
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

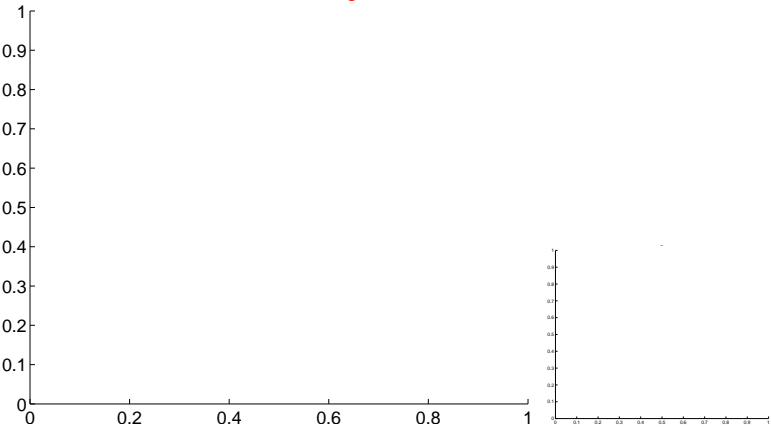


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

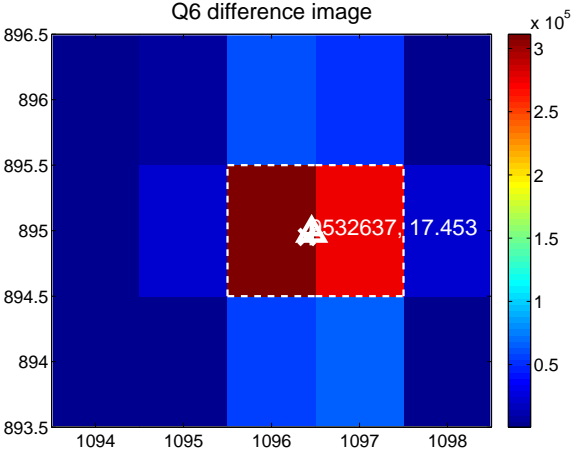
Q5 no difference image



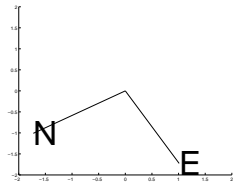
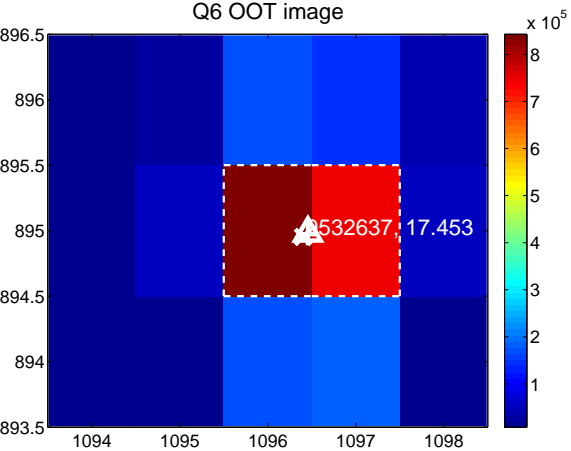
Q5 no OOT image



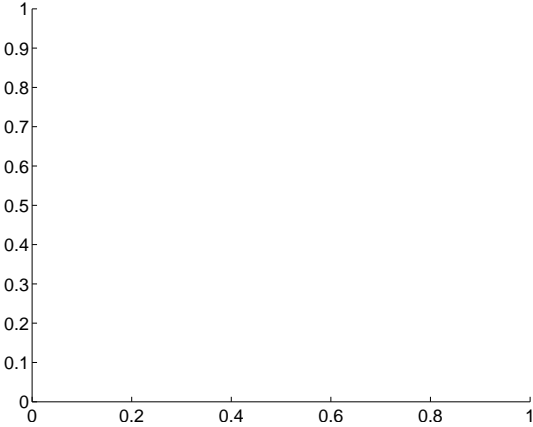
Q6 difference image



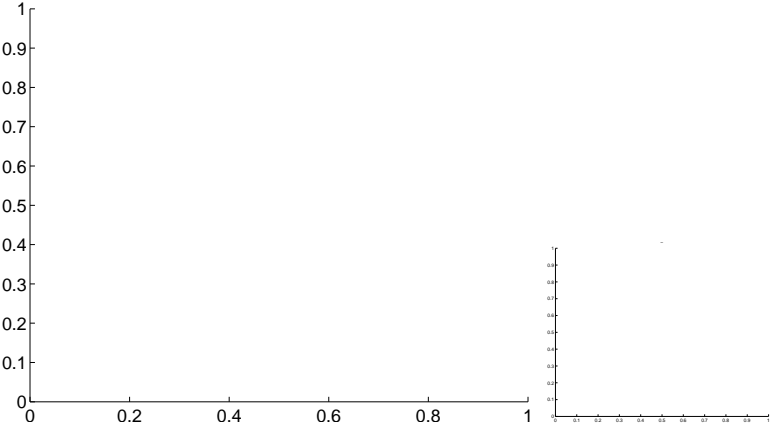
Q6 OOT image



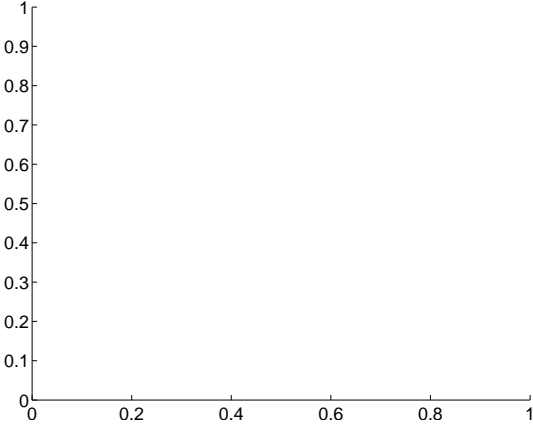
Q7 no difference image



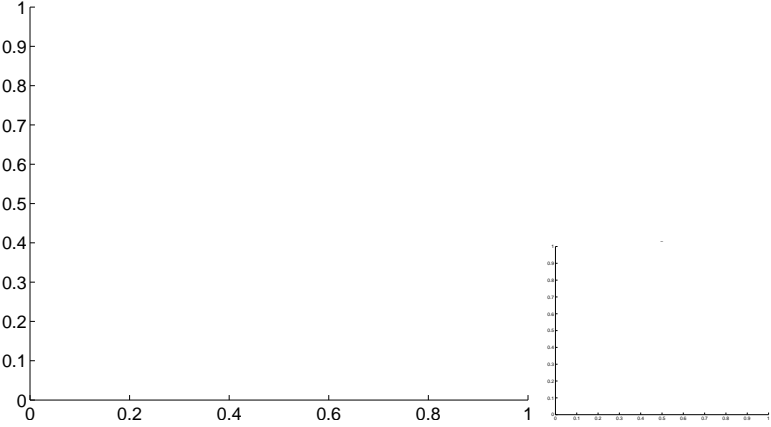
Q7 no OOT image



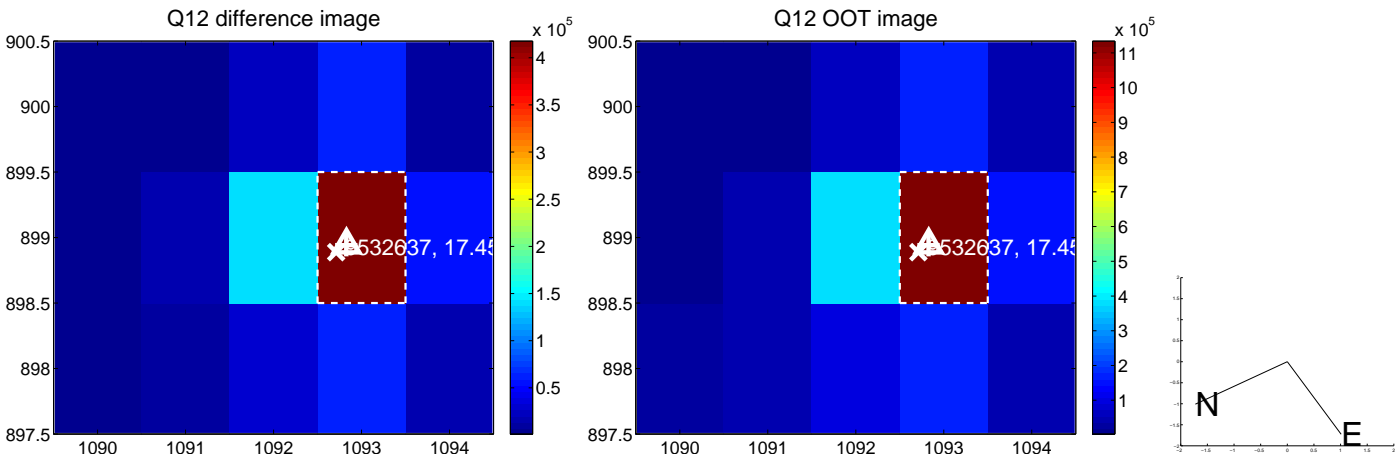
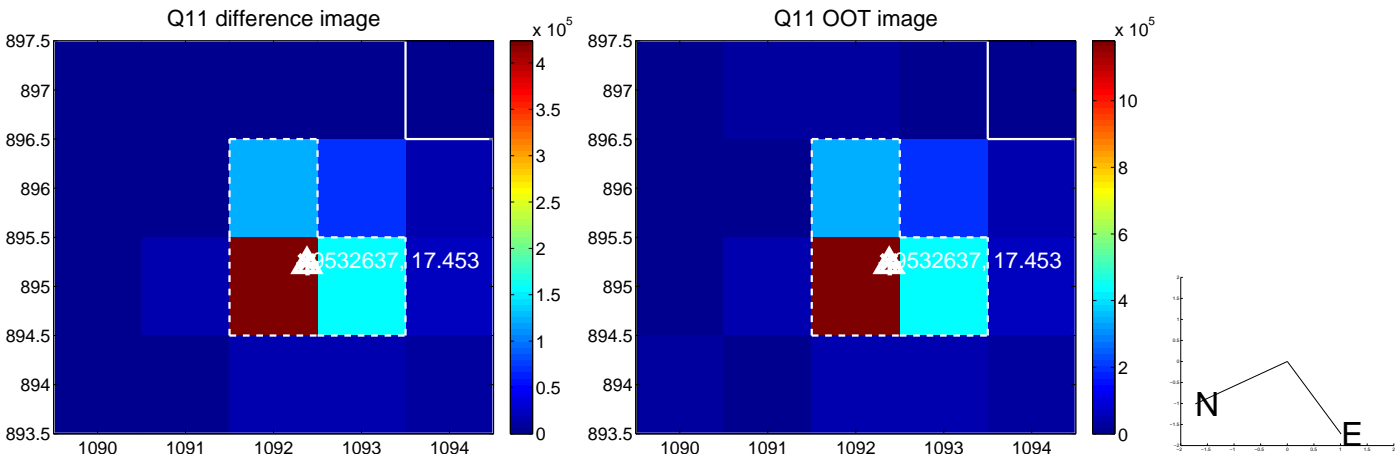
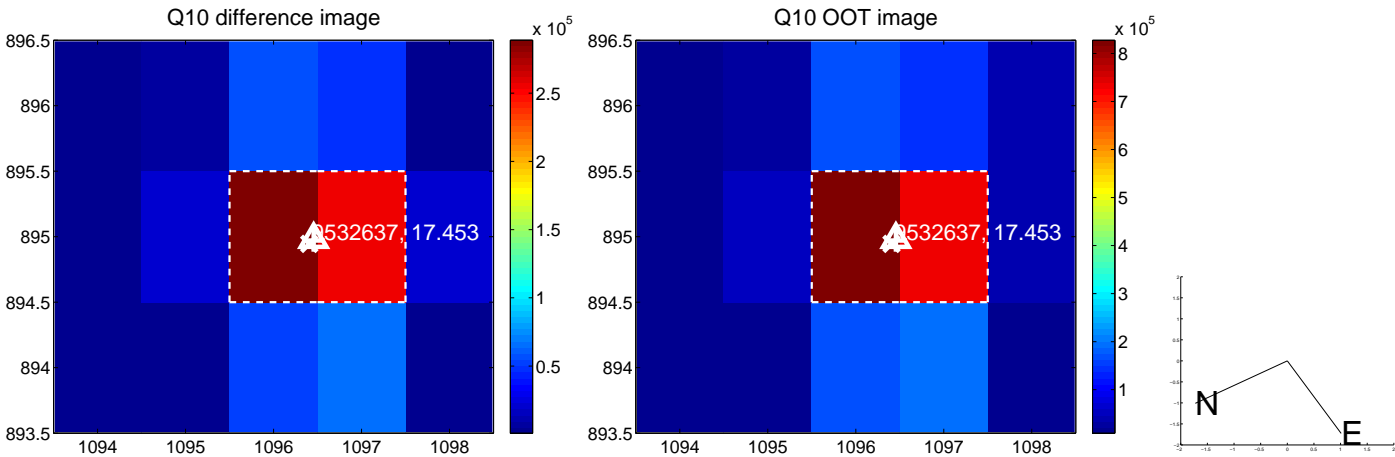
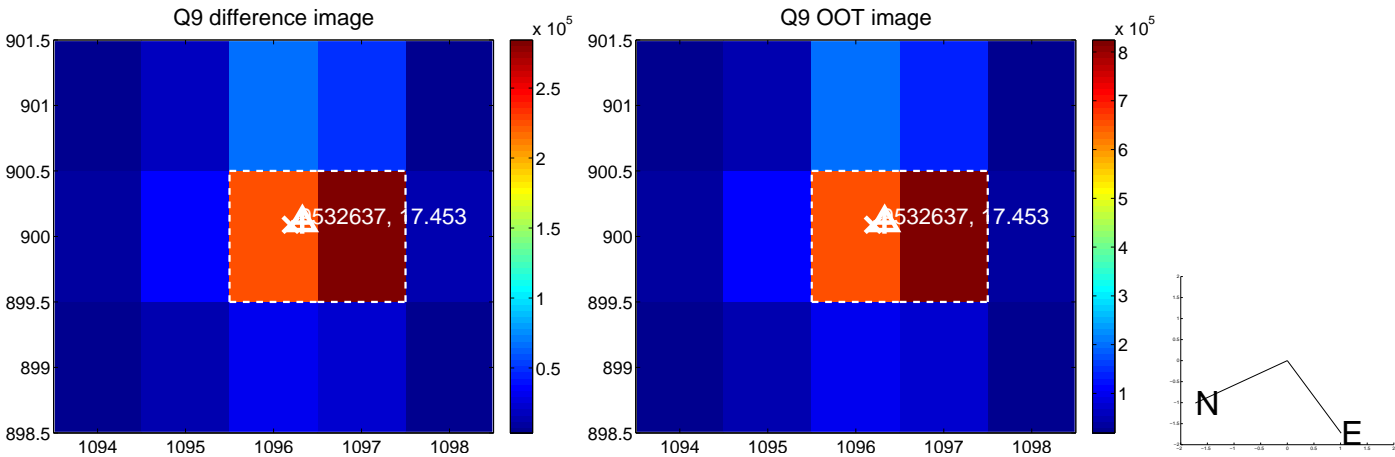
Q8 no difference image



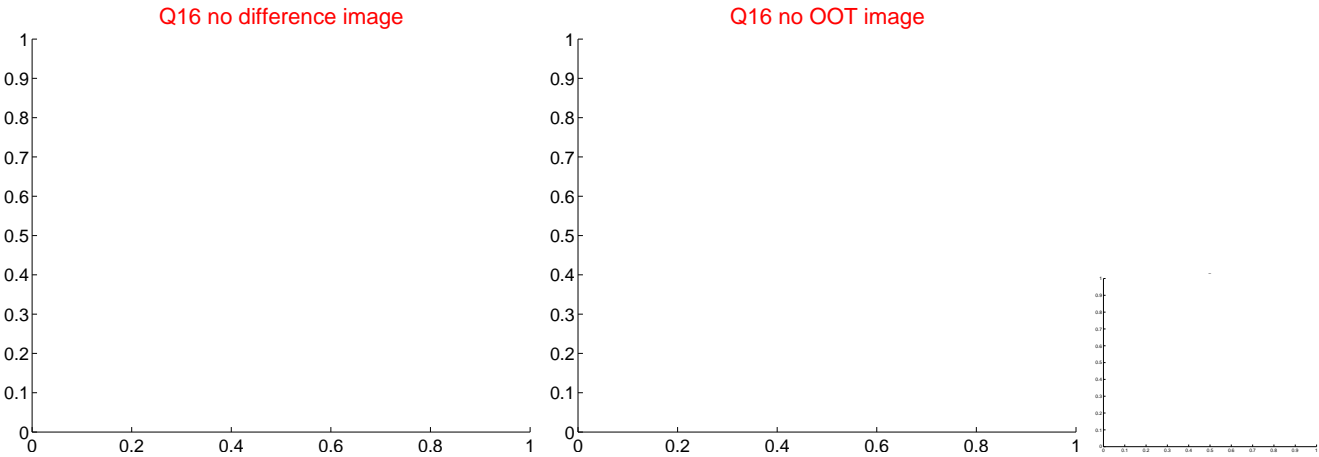
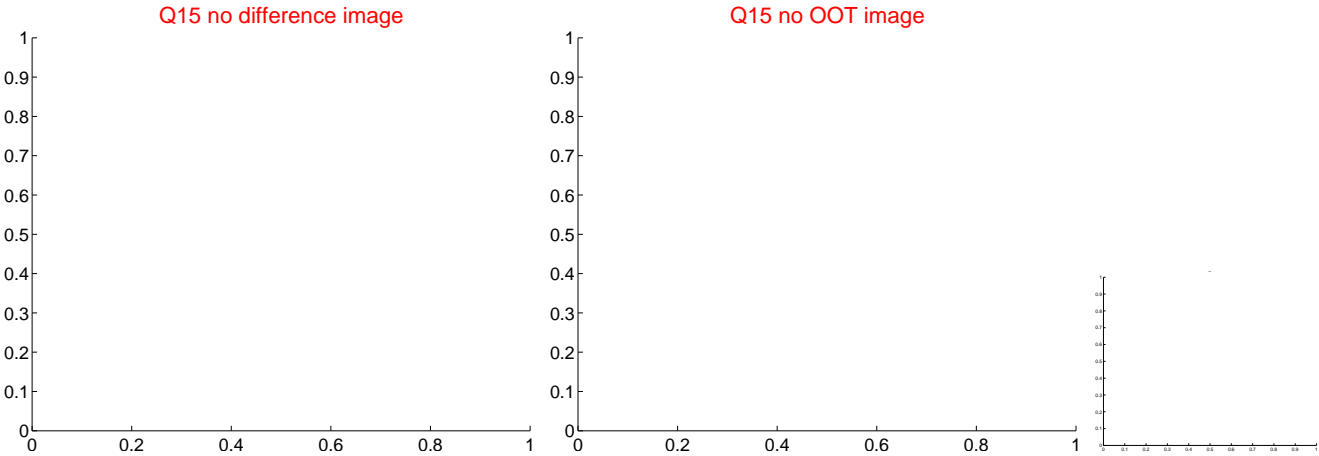
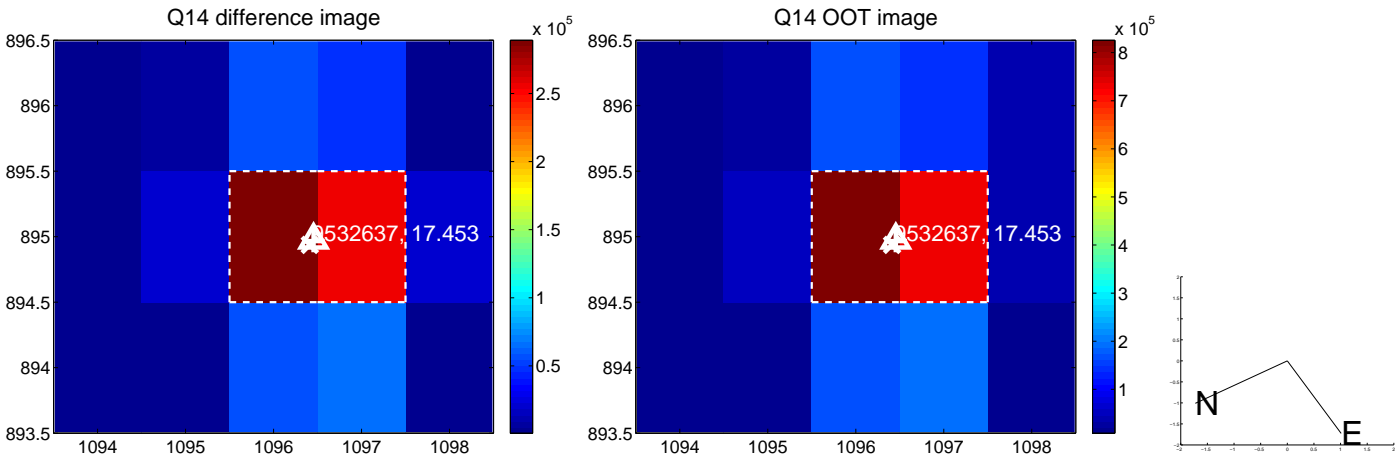
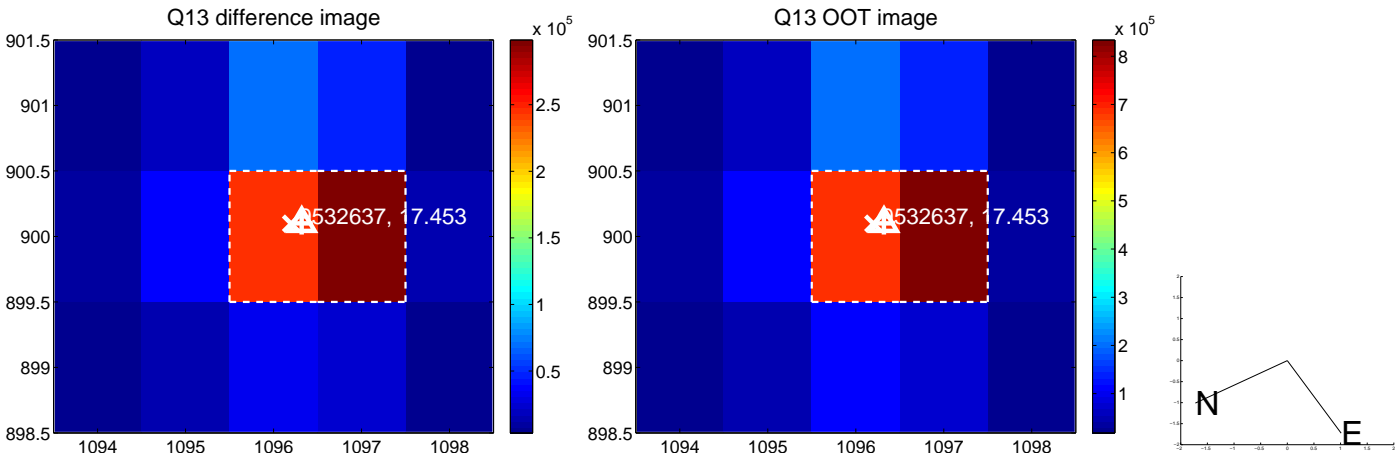
Q8 no OOT image



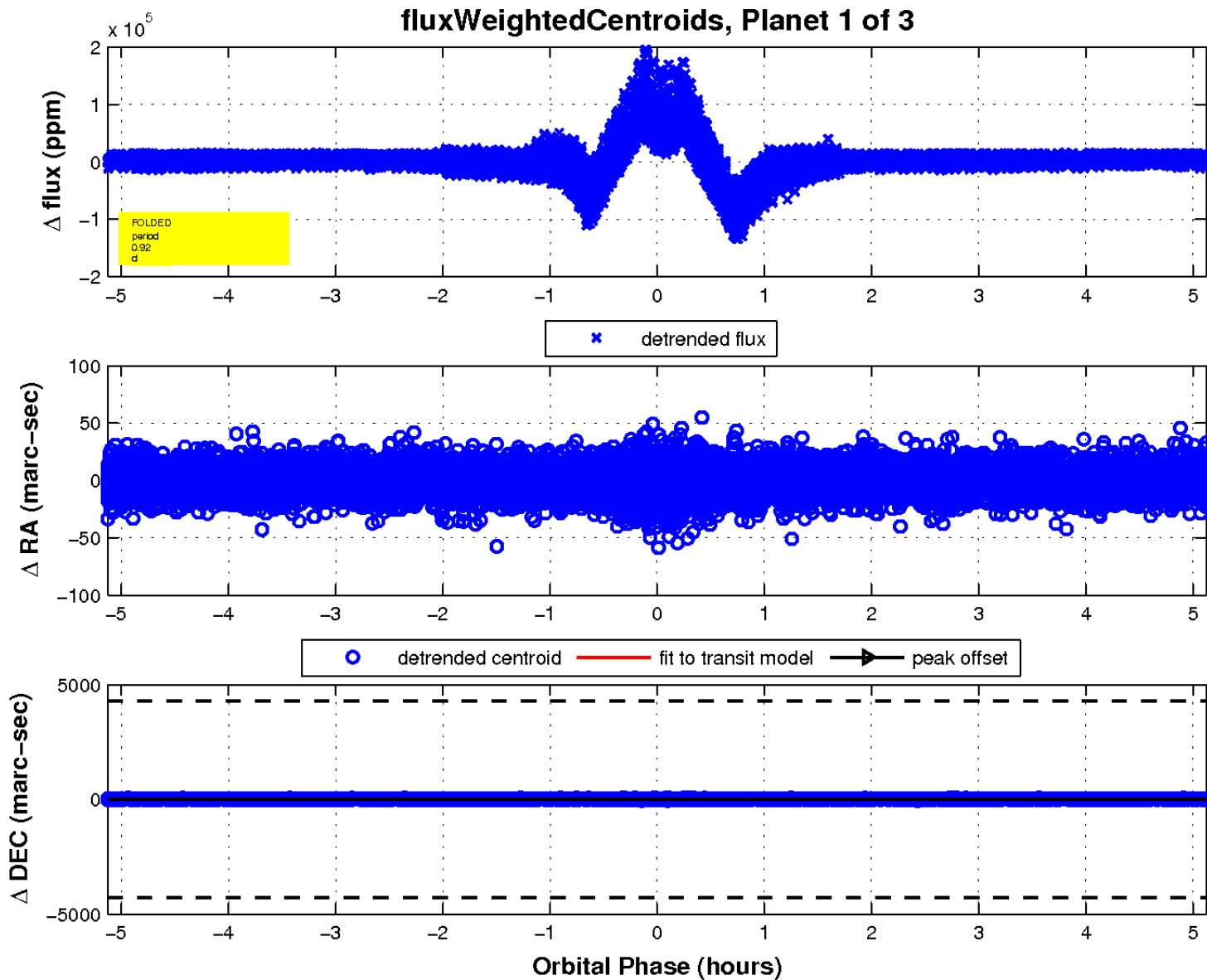
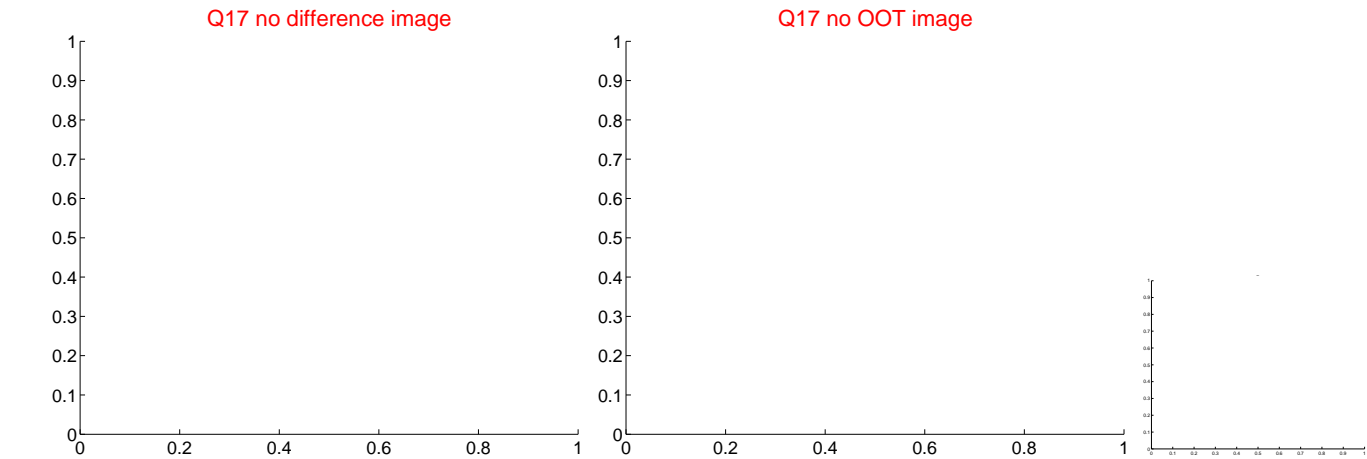
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

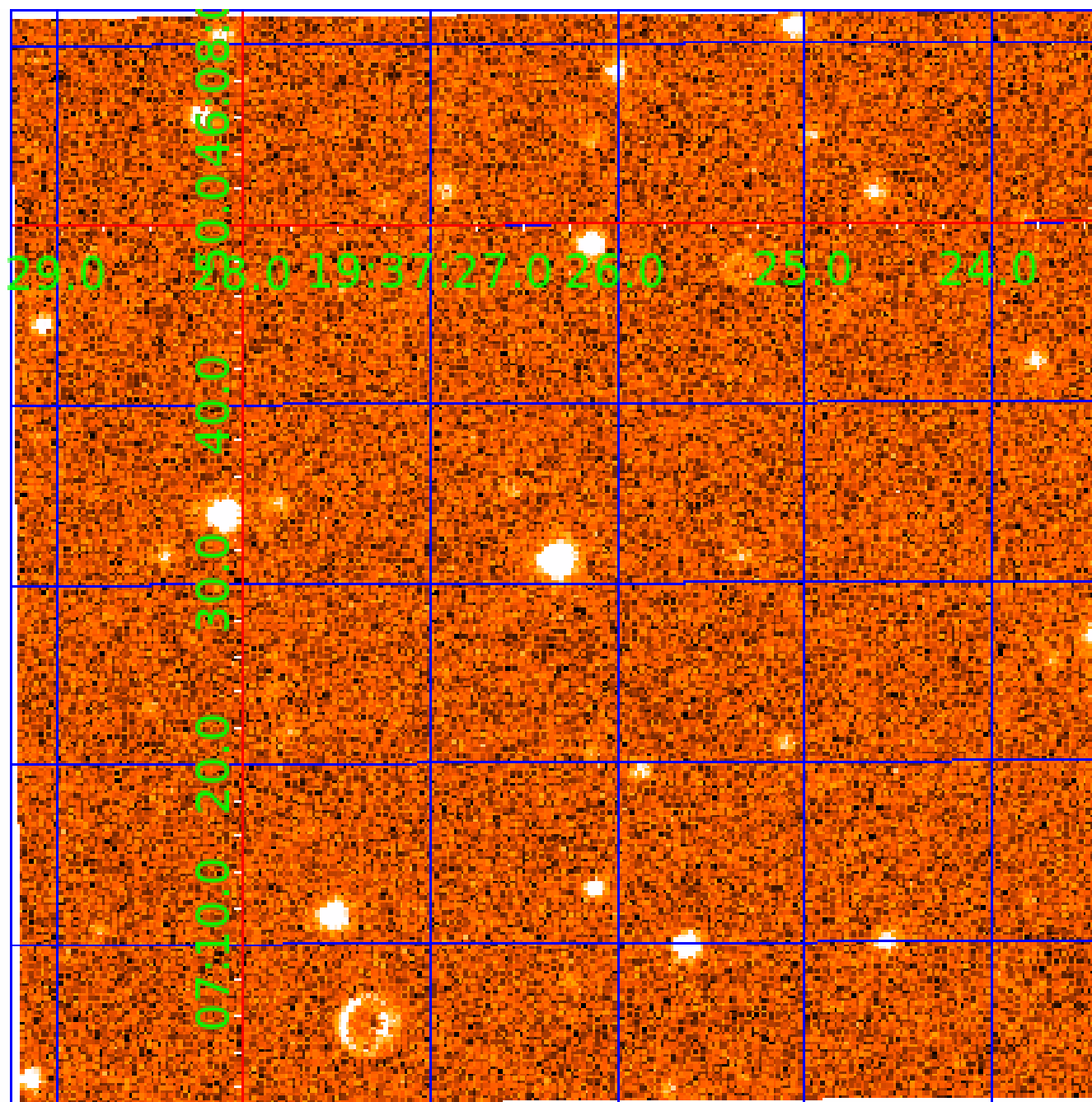


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009532637

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|--------|------|-----------------------------|-----------------|------------------------|------------------------|
| 009532637-01 | OBS | No | 0.922444 | 132.328702 | 355554.6 | 2.500 | 1742.0 | -1.0 | 0.66 | 4509 | 25.10 | 626.57 |
| 009532637-02 | OBS | No | 0.614964 | 131.710994 | 366472.6 | 1.500 | 2134.2 | -1.0 | 0.66 | 4509 | 35.20 | 1075.87 |
| 009532637-03 | OBS | 3842.01 | 0.614964 | 132.020369 | 342564.3 | 1.500 | 1587.1 | -1.0 | 0.66 | 4509 | 28.64 | 1075.87 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 009532637-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS |
| 009532637-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—CENT_NOFITS |
| 009532637-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SAME_NTL_PERIOD—CENT_NOFITS |

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

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

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

Ephemeris Match Information For 009532637-02

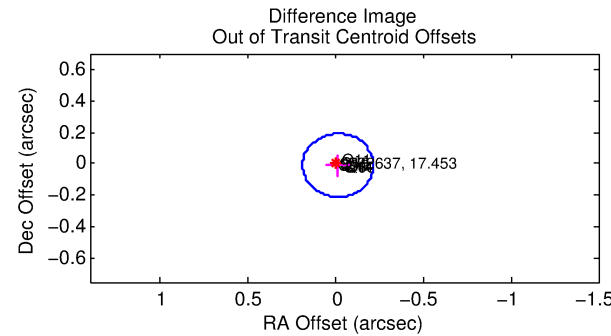
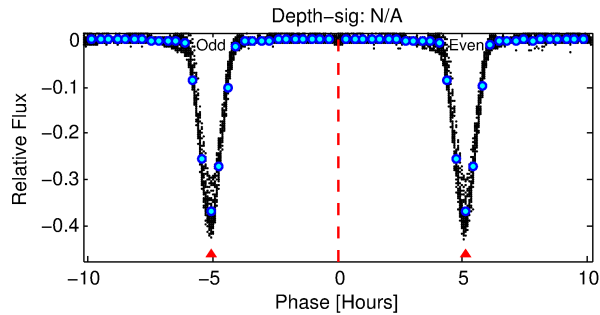
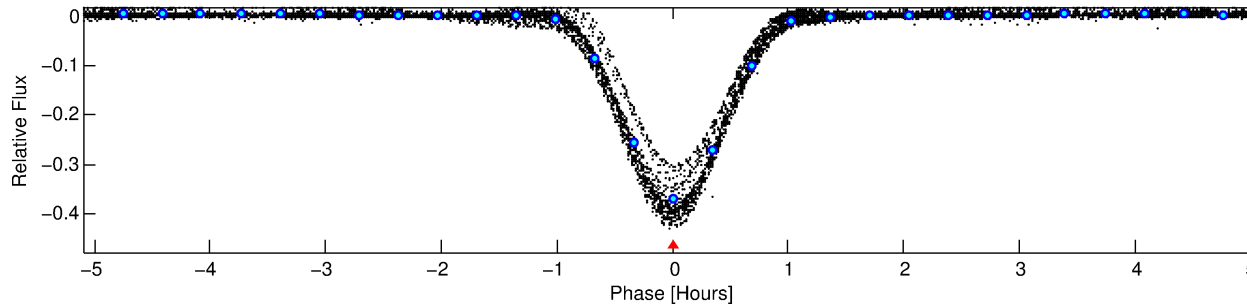
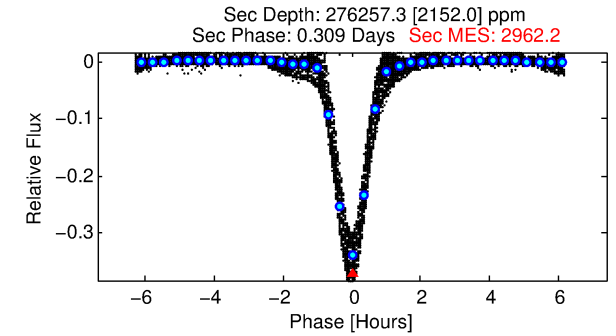
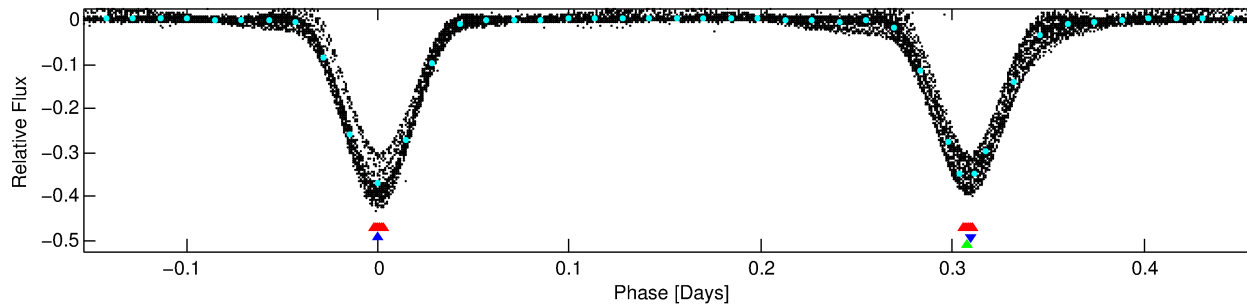
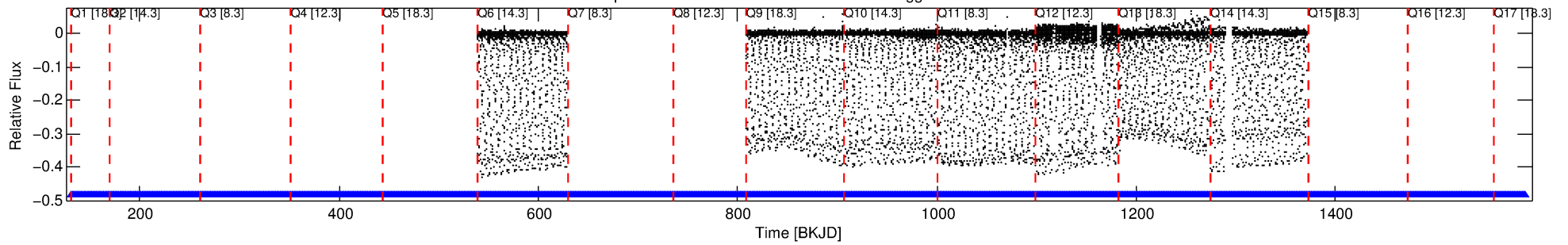
No Significant Match Found

DV One-Page Summary

KIC: 9532637 Candidate: 2 of 3 Period: 0.615 d

KOI: K03842 Corr: No Ephemeris Match

Kp: 17.45 R*: 0.66 Rs Teff: 4509.0 K Logg: 4.61 Fe/H: -0.160



TPS TCE Results:

Period = 0.61496 d
Epoch = 131.7110 BKJD

DV fit results are unavailable

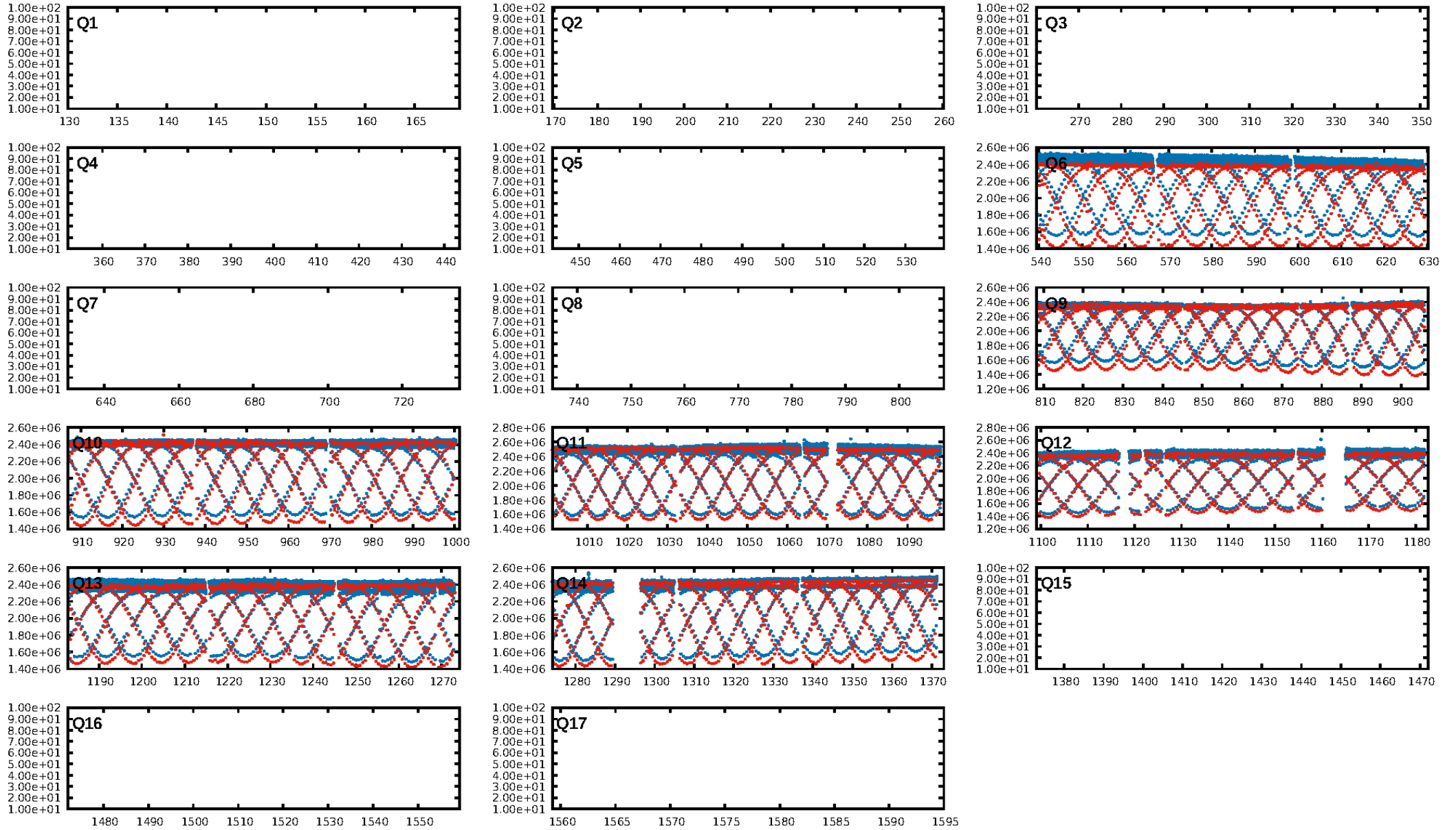
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [658/658]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.469 arcsec [179.24 σ]
OotOffset-rm: 0.017 arcsec [0.26 σ]
KicOffset-rm: 0.286 arcsec [2.89 σ]
OotOffset-st: 3/1/1/2 [7]
KicOffset-st: 3/1/1/2 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

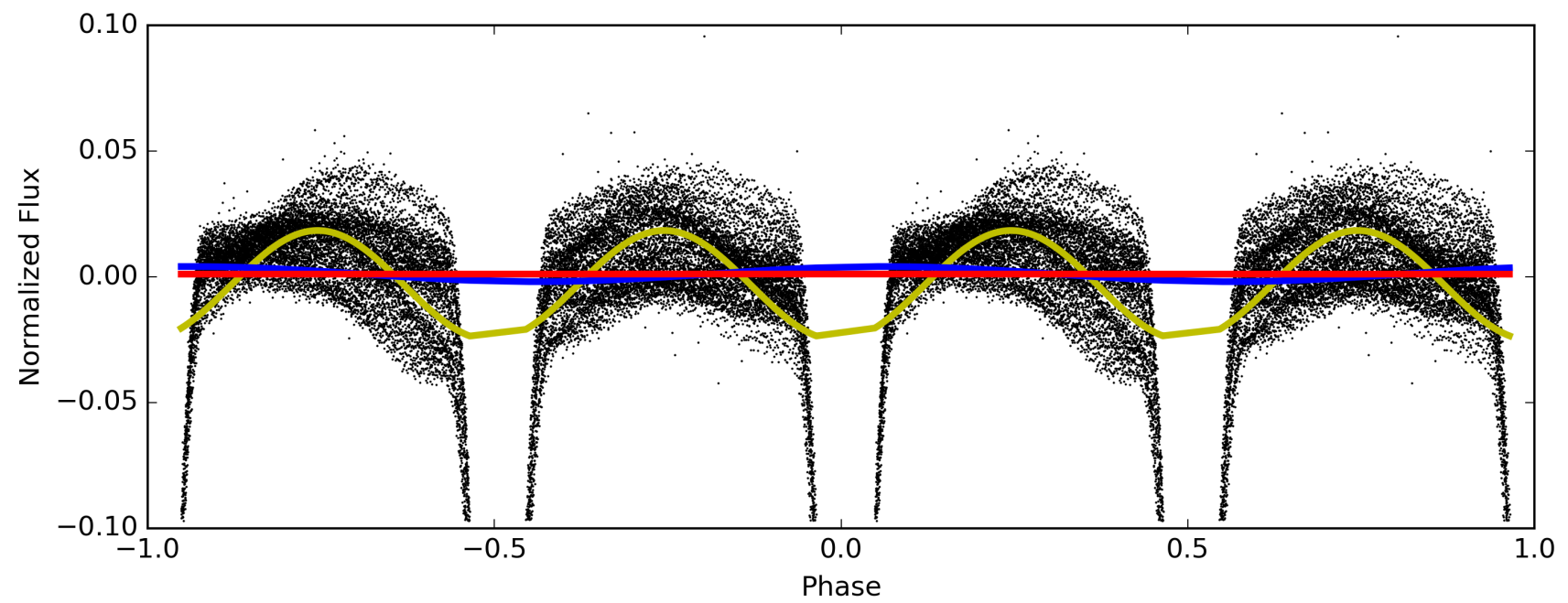
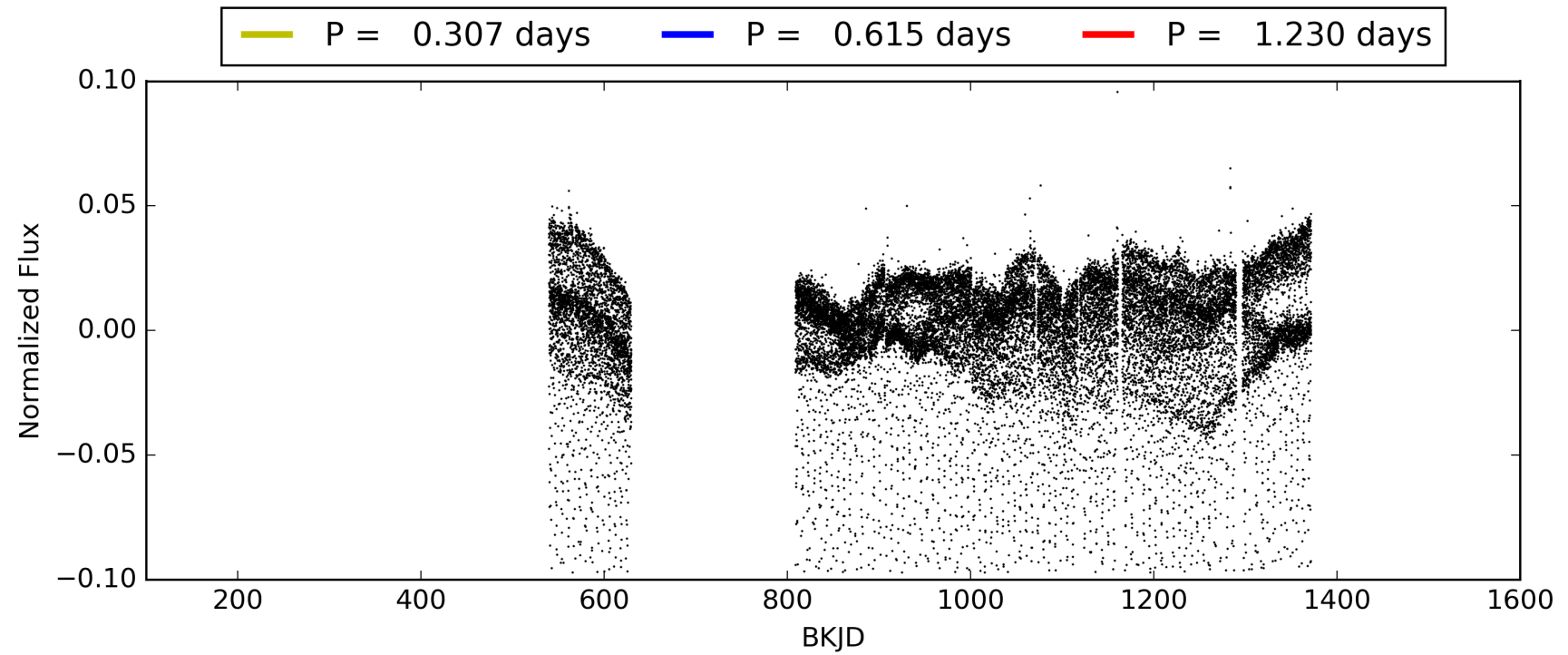
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:47:17 Z

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

TCE 009532637-02, PDC Light Curves

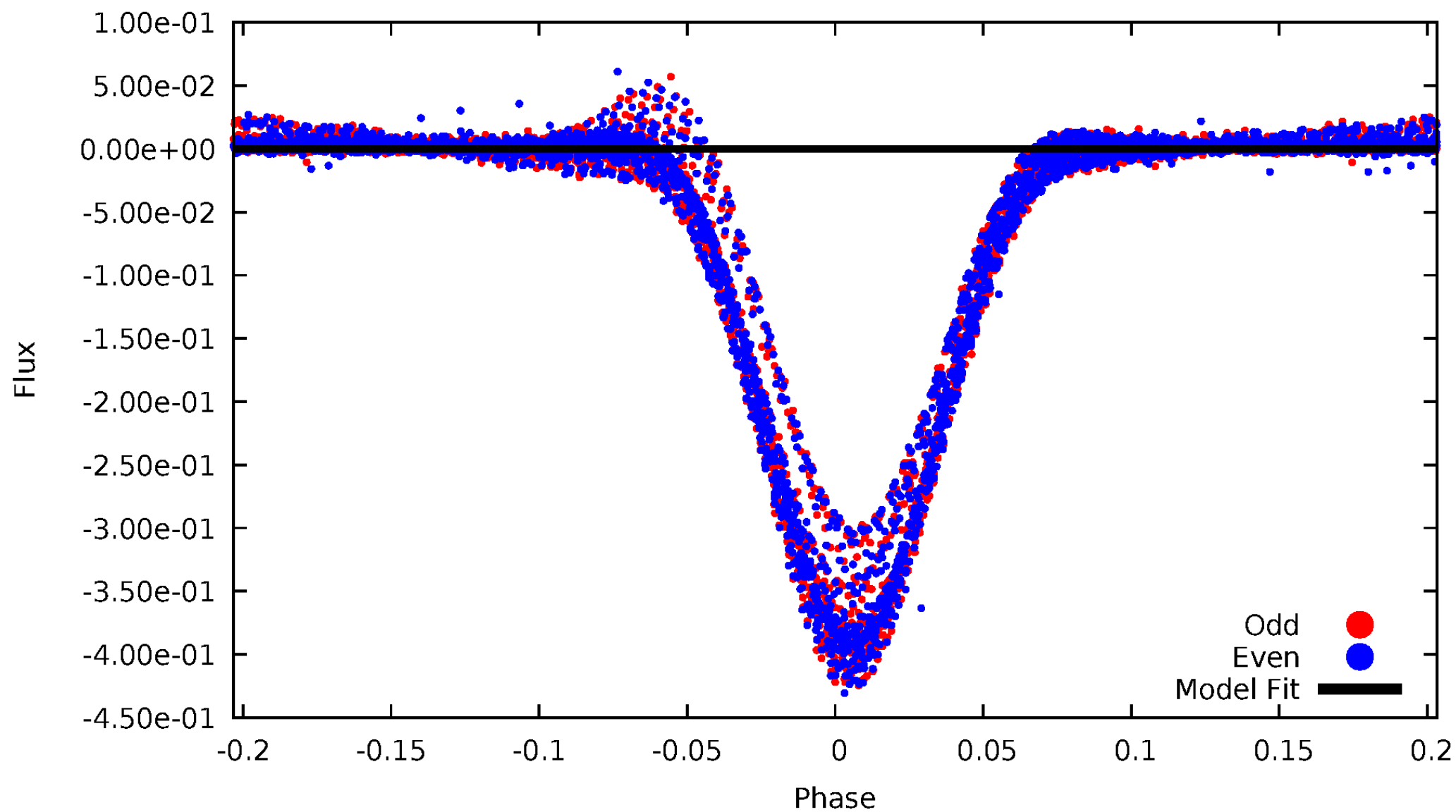


TCE 009532637-02



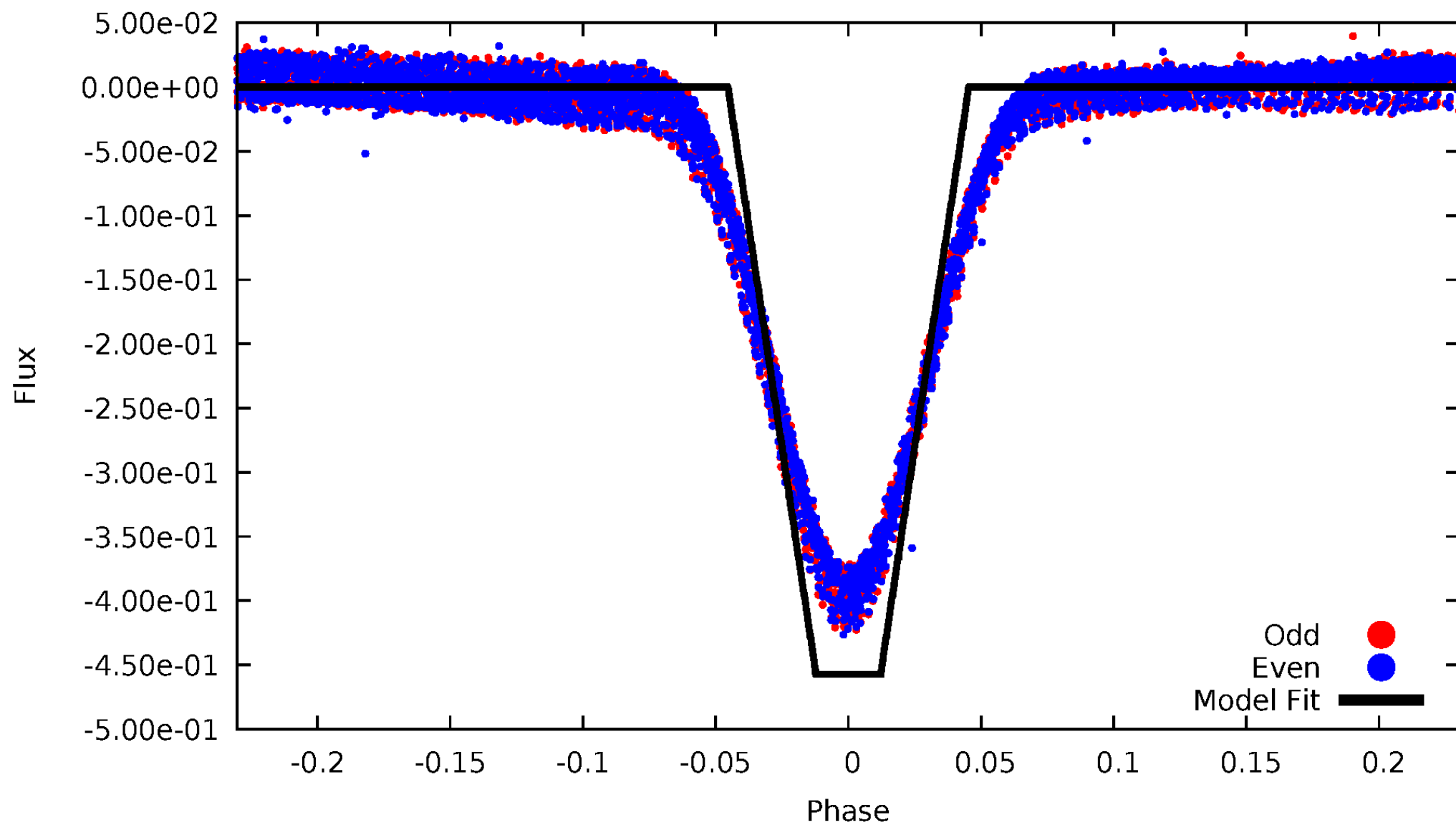
DV Odd/Even

TCE 009532637-02



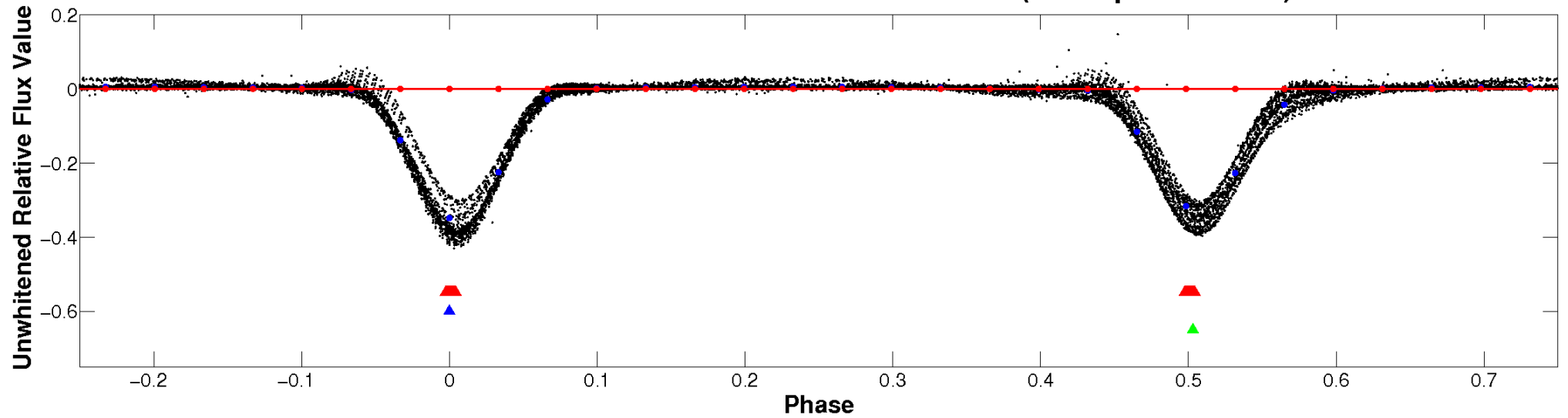
ALT Odd/Even

TCE 009532637-02

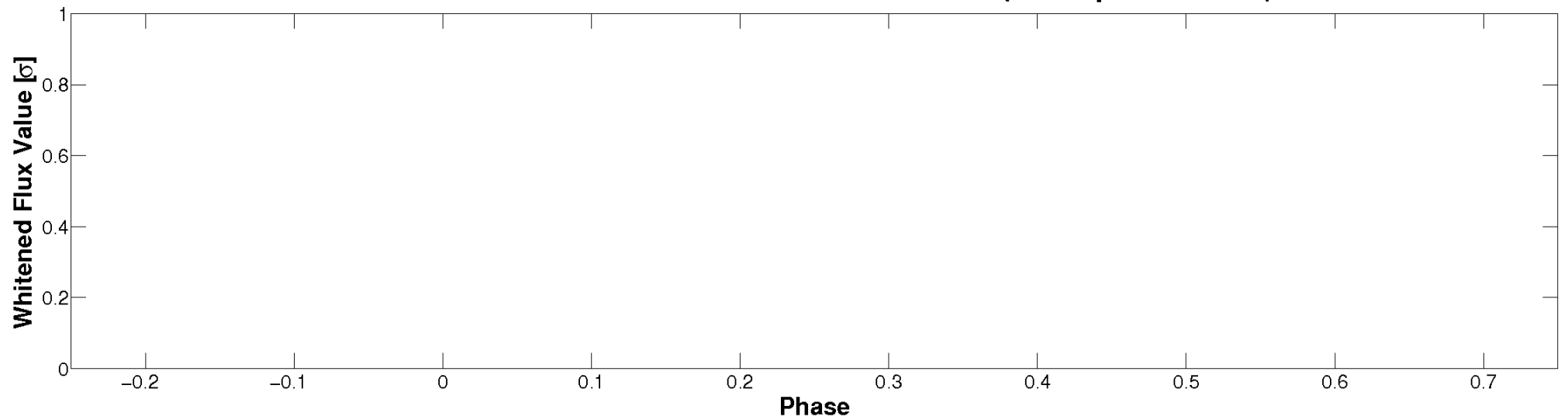


Non-Whitened Vs. Whitened Light Curve

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

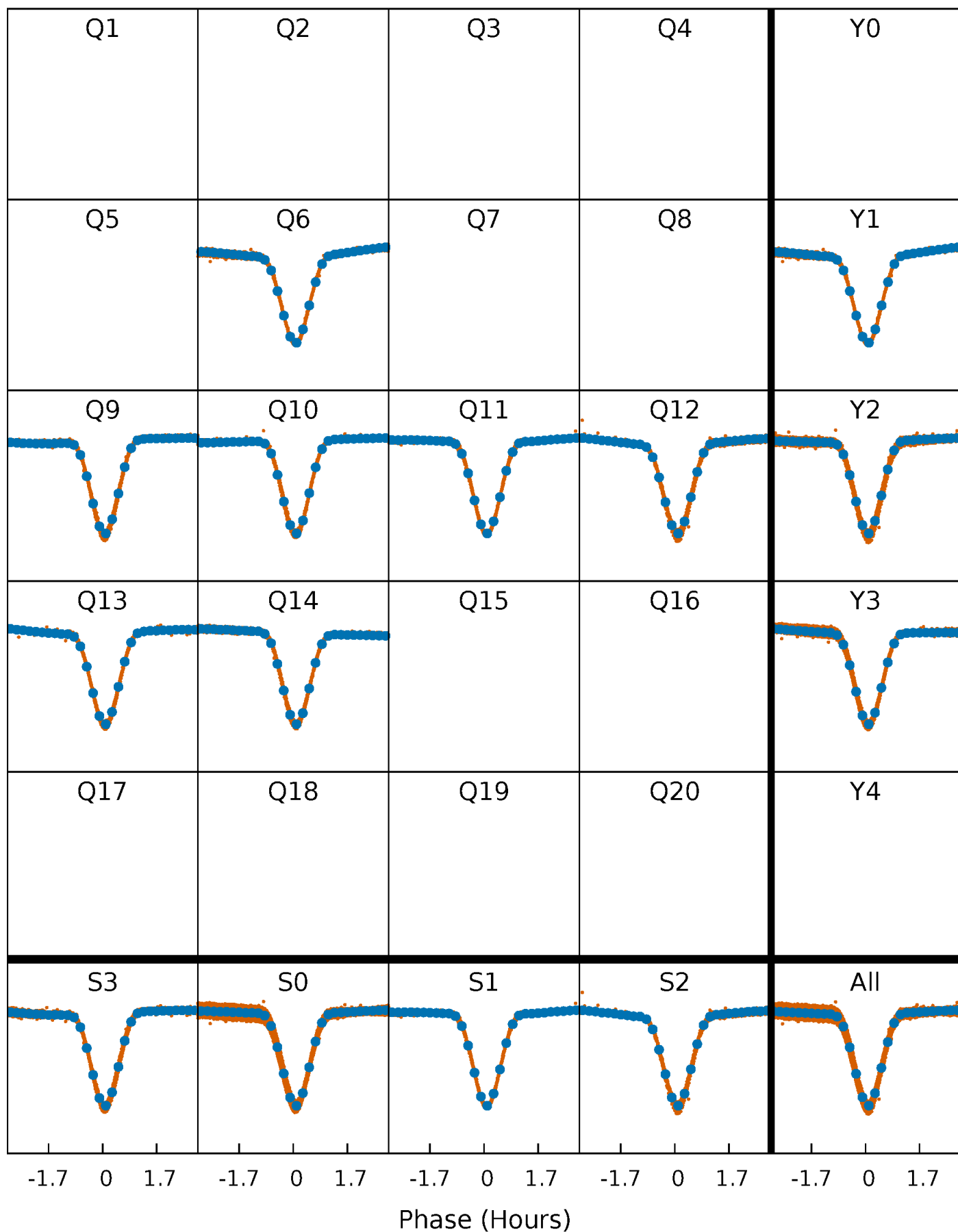


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



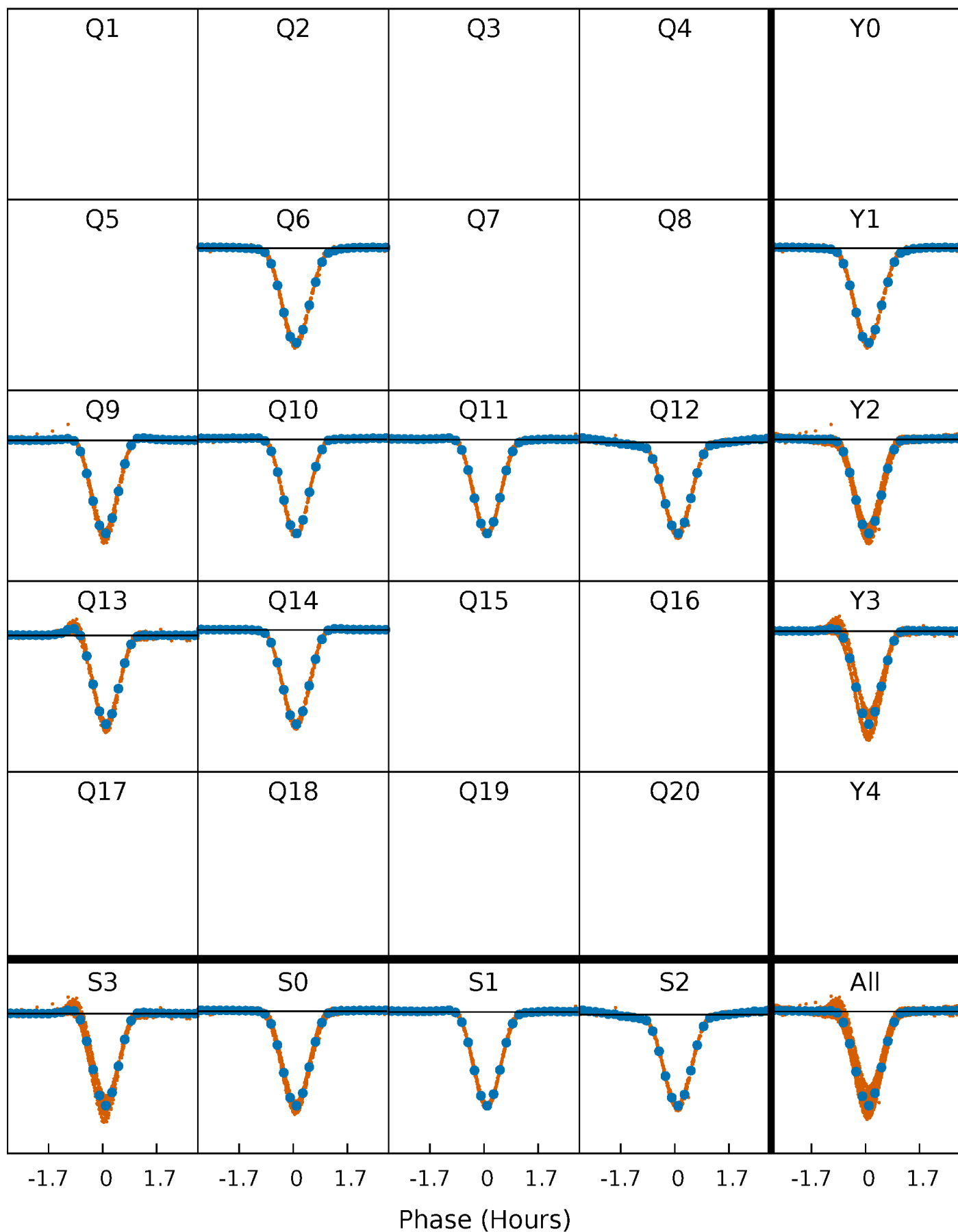
PDC Quarter-Phased Transit Curves

TCE 009532637-02 P= 0.614964 Days $T_0=131.710994$ (BKJD)



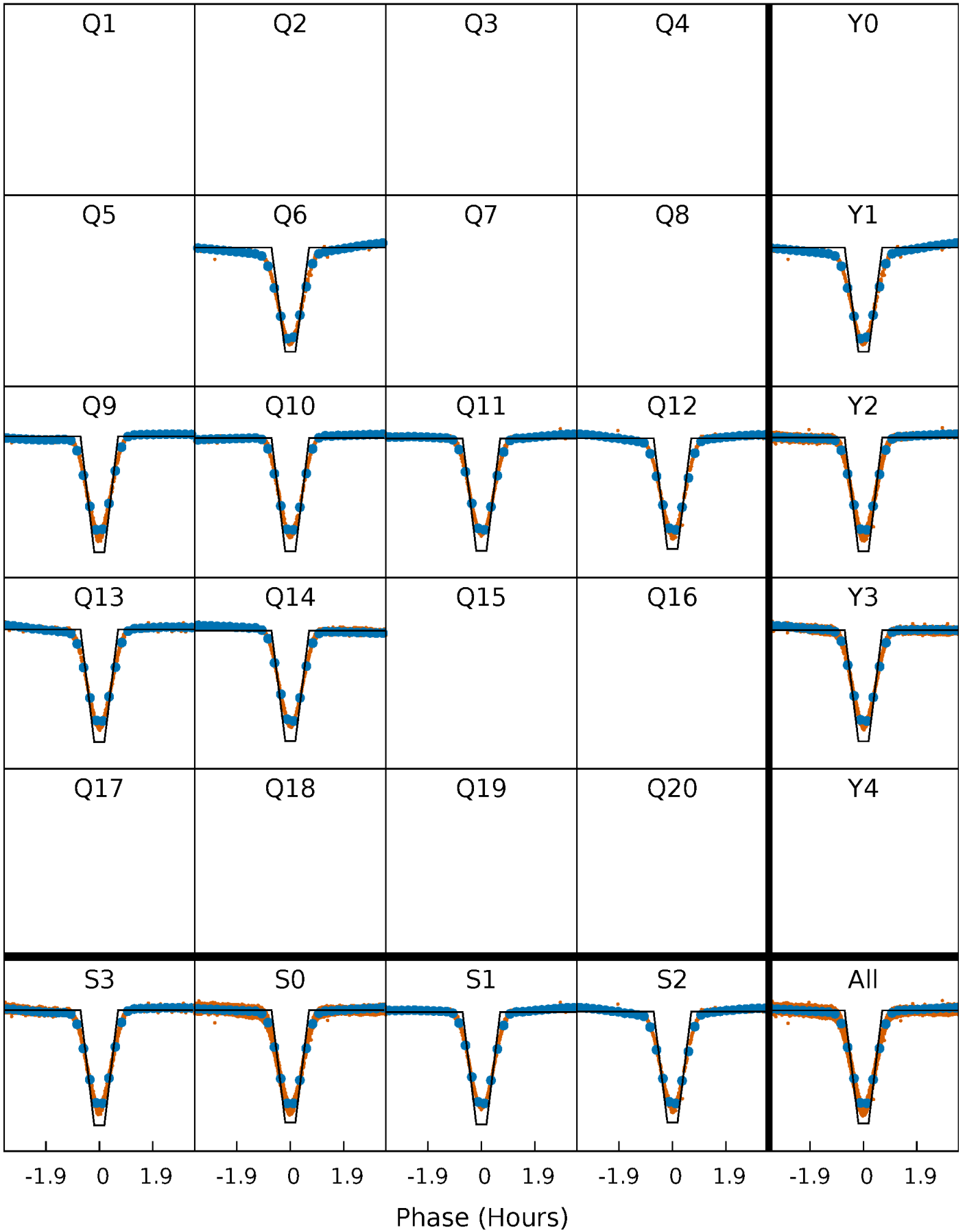
DV Quarter-Phased Transit Curves

TCE 009532637-02 P= 0.614964 Days $T_0=131.710994$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

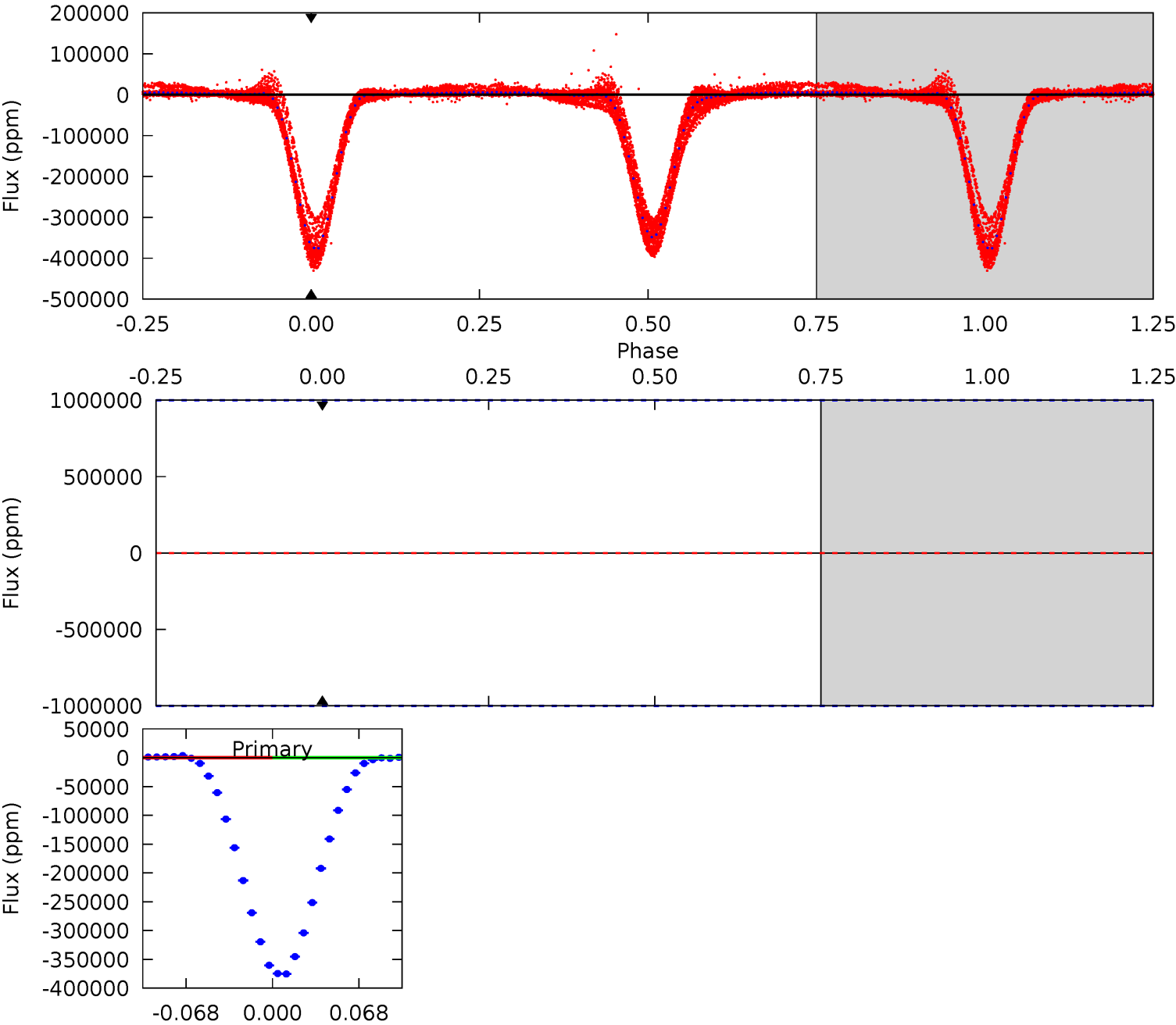
TCE 009532637-02 P= 0.614964 Days $T_0=131.714082$ (BKJD)



DV Model-Shift Uniqueness Test

009532637-02, P = 0.614964 Days, E = 131.710994 Days

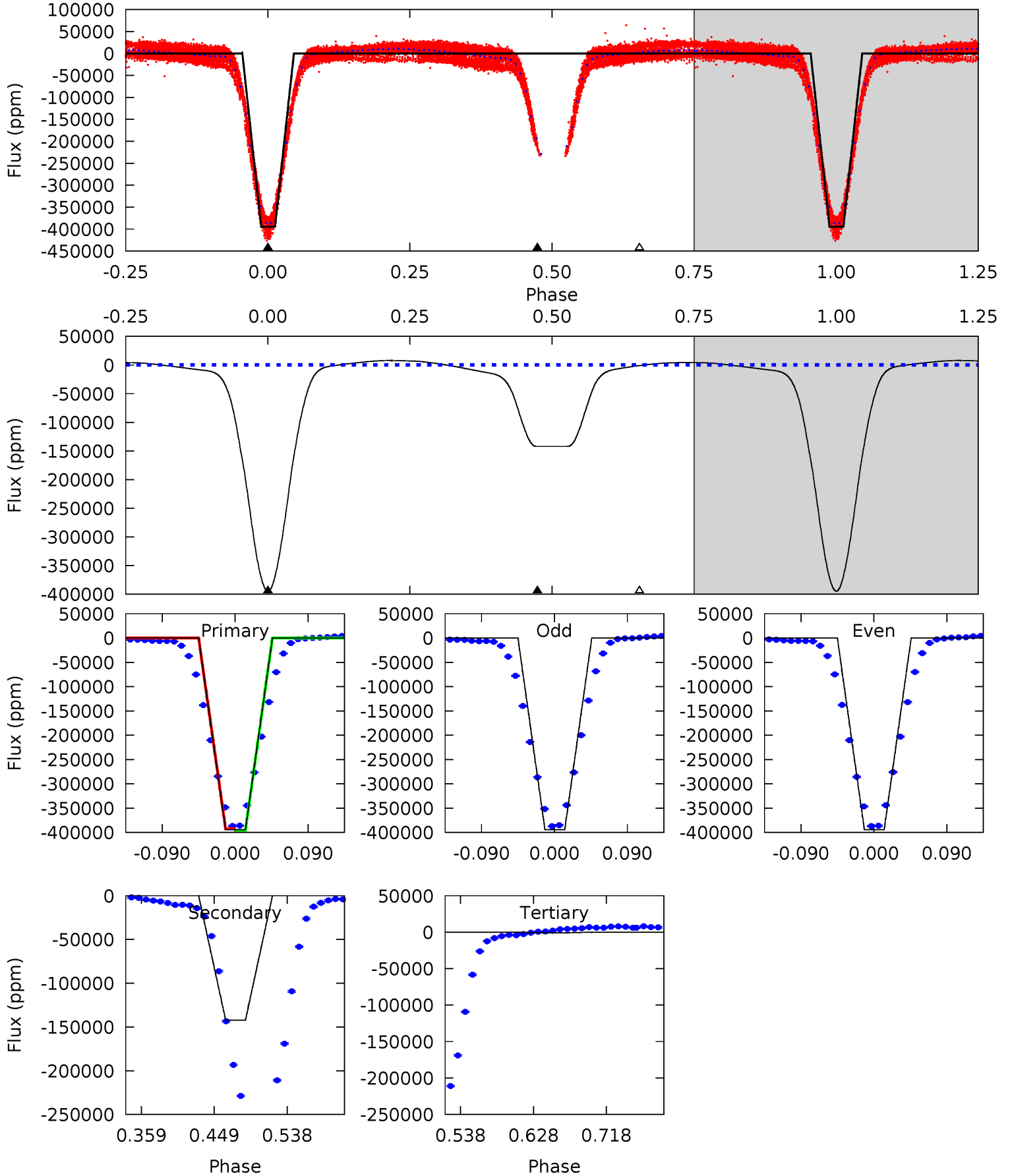
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00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



Alt Model-Shift Uniqueness Test

009532637-02, P = 0.614964 Days, E = 131.714082 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 1240 | 446.6 | 3.14 | 0 | 4.59 | 1.70 | 29.6 | 1237 | 1240 | 443.5 | 446.6 | 0.22 | 1.00 | 0.02 | 6.43 |



Stellar Parameters For KIC 009532637

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (g \cdot \text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--------------------------------------|
| | 4509^{+157}_{-157} | $4.612^{+0.052}_{-0.028}$ | $-0.160^{+0.300}_{-0.300}$ | $0.663^{+0.048}_{-0.058}$ | $0.656^{+0.072}_{-0.054}$ | $3.169^{+0.726}_{-0.359}$ |
| | +3%/-3% | +1%/-1% | +188%/-188% | +7%/-9% | +11%/-8% | +23%/-11% |
| Source | KIC0 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 009532637-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------------|-------------------------|--------------------|-------------------------|---------------------------|
| DV | 0 ± 1000000 | $34.67^{+7.55}_{-7.26}$ | 2028^{+83}_{-83} | -2239^{+6215}_{-1618} | $0.188^{+8.229}_{-7.001}$ |
| Alt. | -142121 ± 318 | $48.60^{+7.48}_{-7.74}$ | 2032^{+73}_{-79} | 3735^{+233}_{-217} | $5.895^{+2.329}_{-1.433}$ |

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 $A_{obs} \gg 1.0$

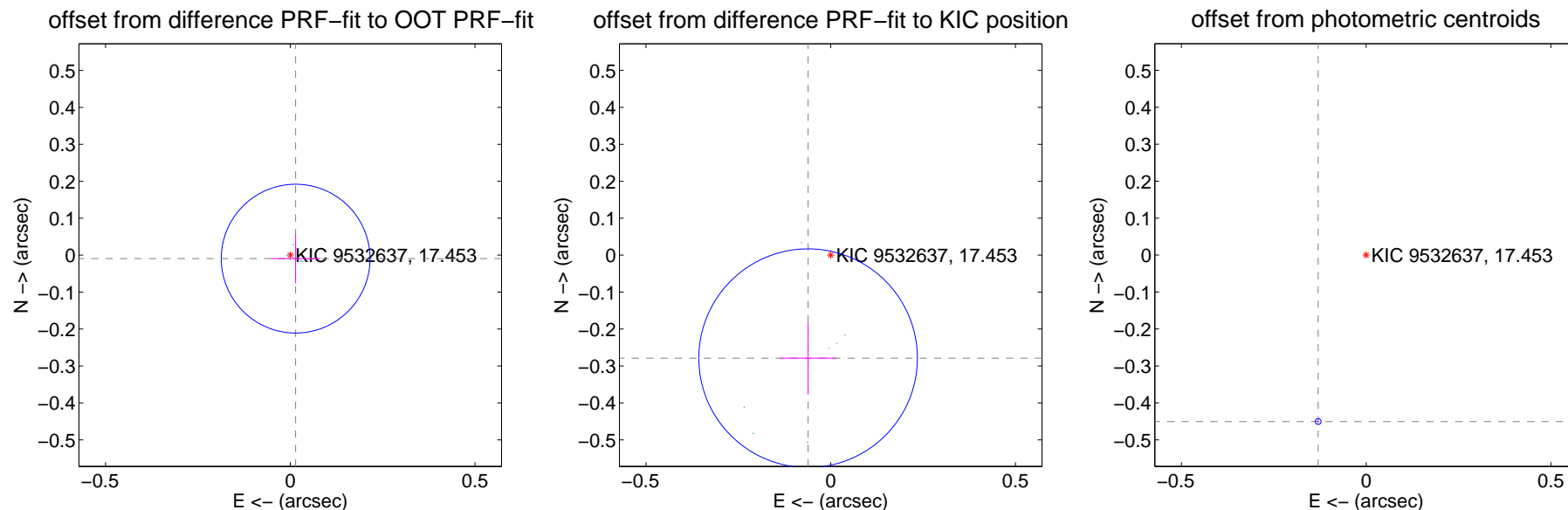
DV Centroid Data

Supplemental centroid analysis for 009532637-02. Kepler magnitude: 17.45. Transit SNR -1.00

There are 7 quarters with good PRF difference image offsets

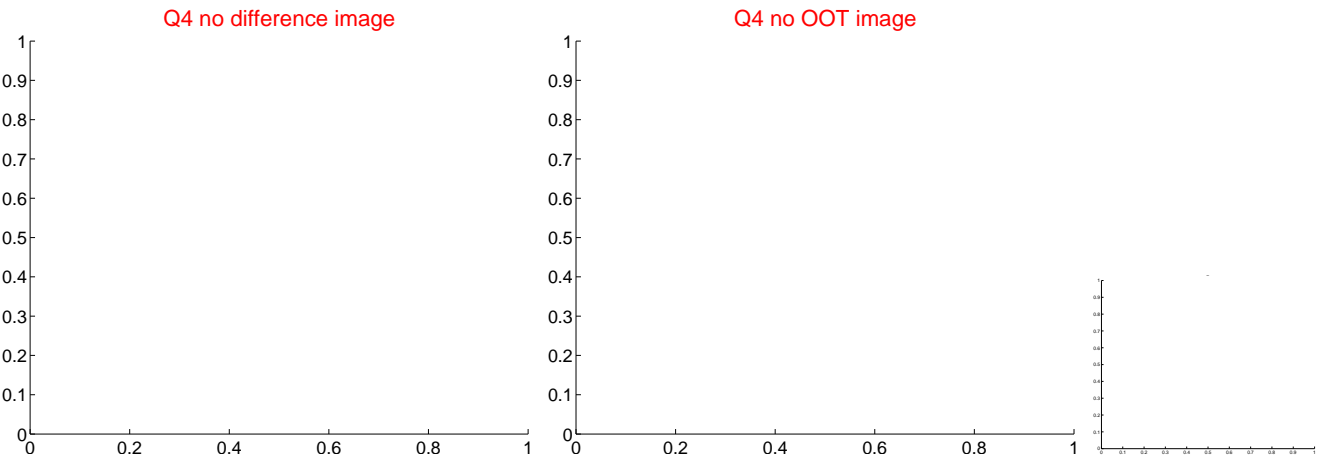
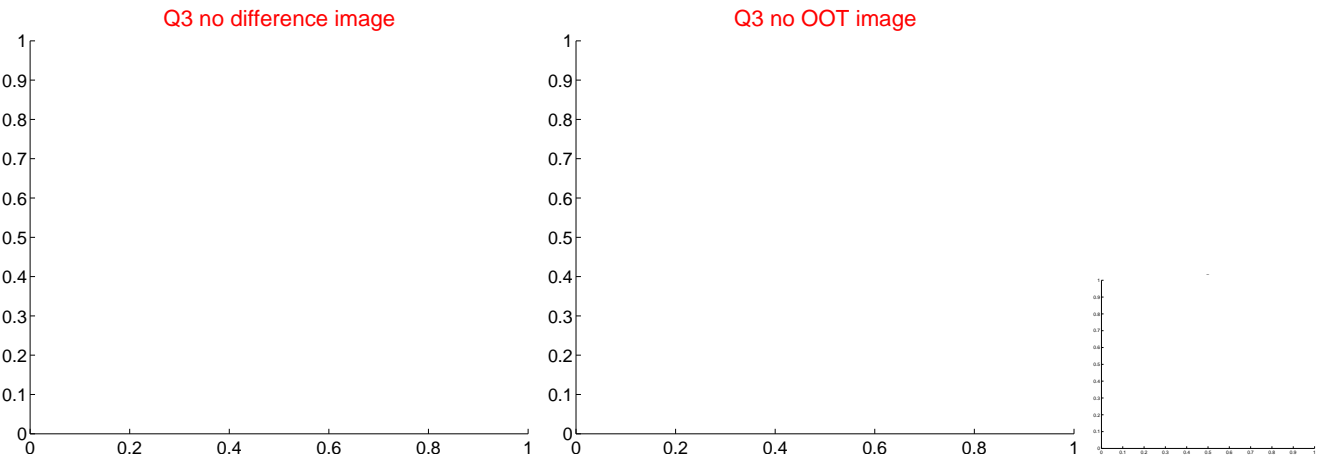
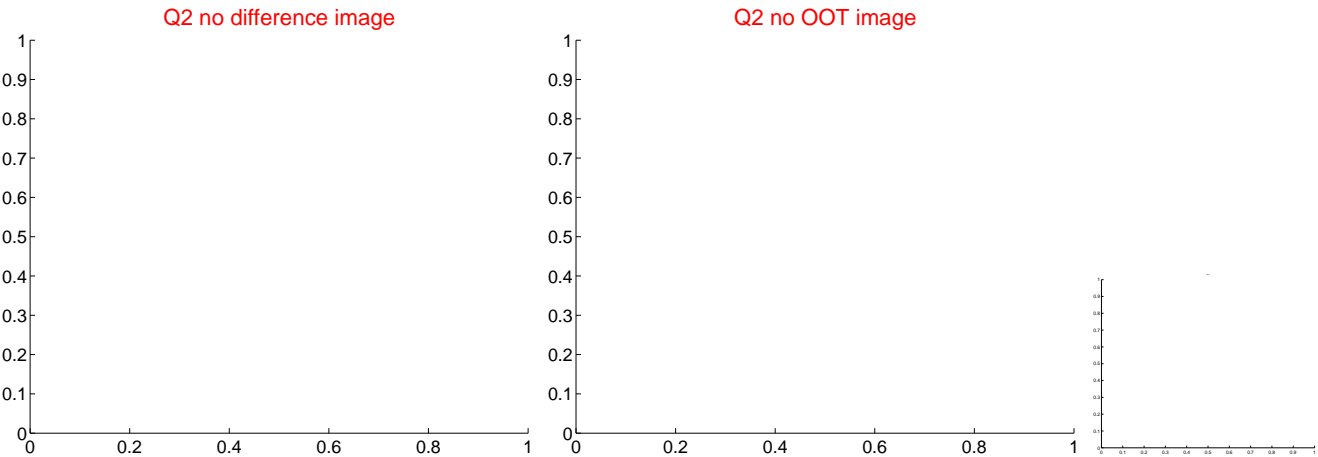
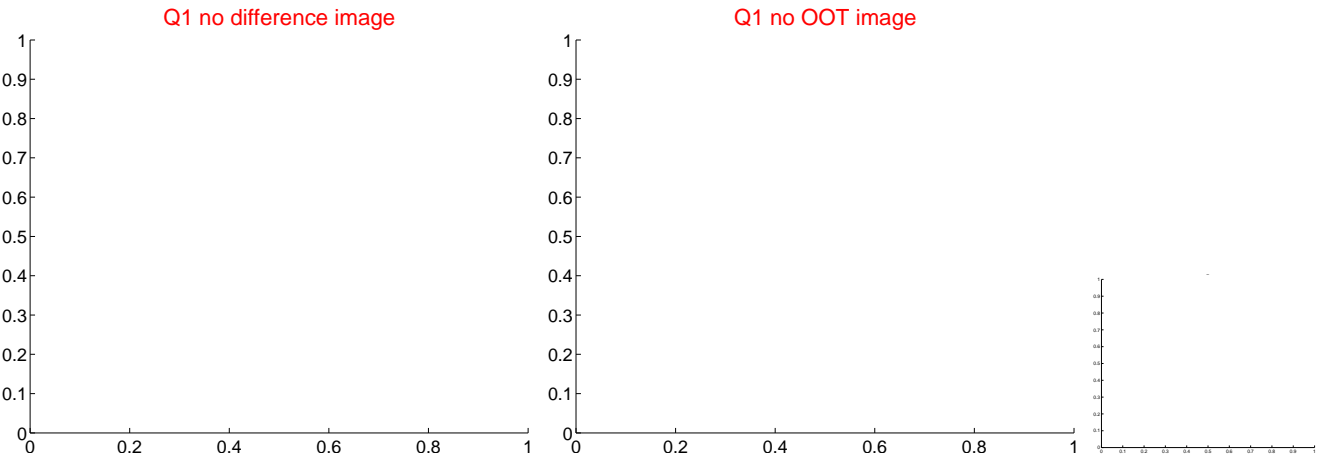
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.017 ± 0.067 | 0.26 | -0.015 ± 0.067 | -0.009 ± 0.067 |
| PRF-fit source offset from KIC position | 0.286 ± 0.099 | 2.89 | 0.061 ± 0.076 | -0.279 ± 0.097 |
| photometric centroid source offset | 0.47 ± 0.00 | 179.24 | 0.13 ± 0.00 | -0.45 ± 0.00 |

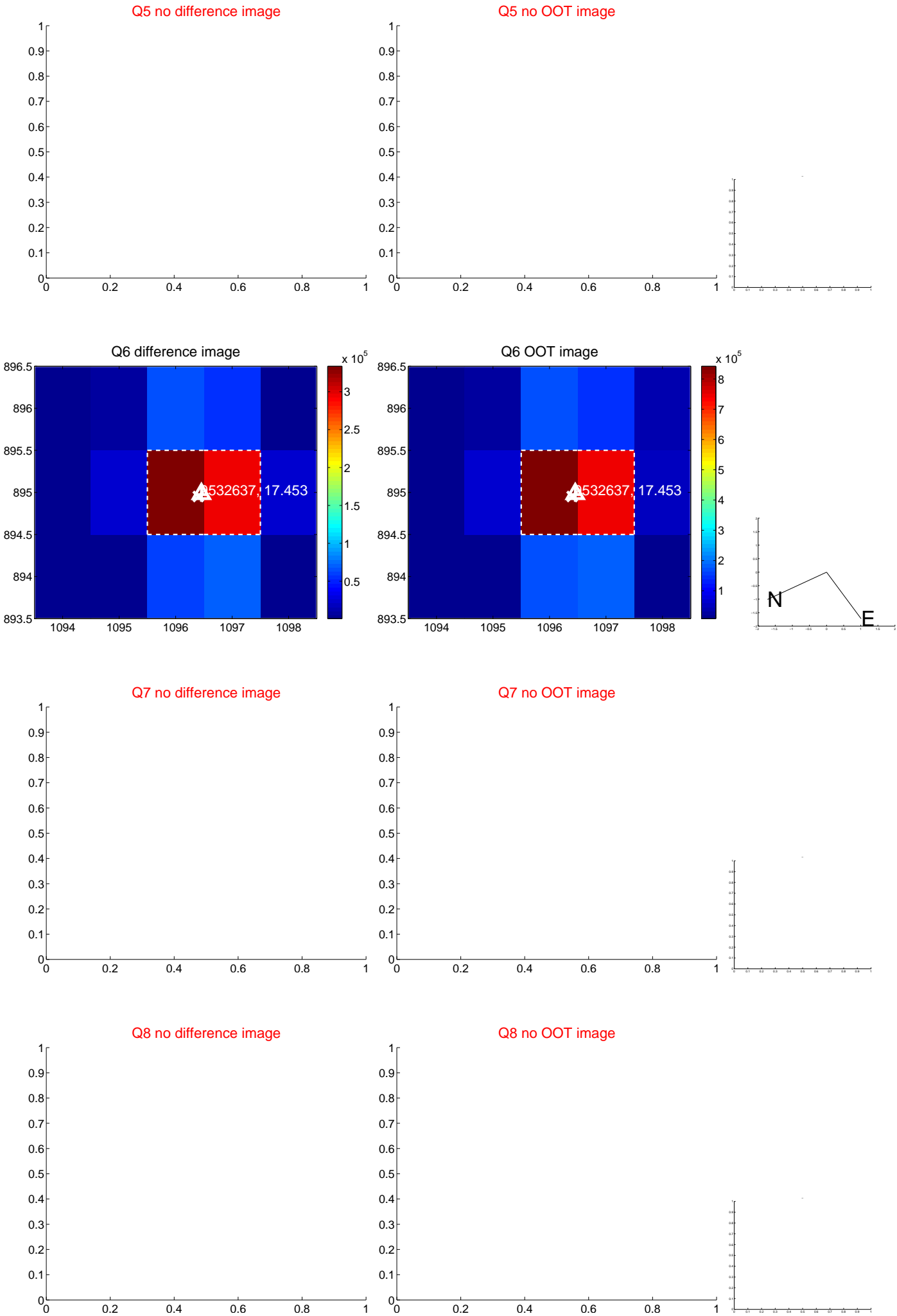


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

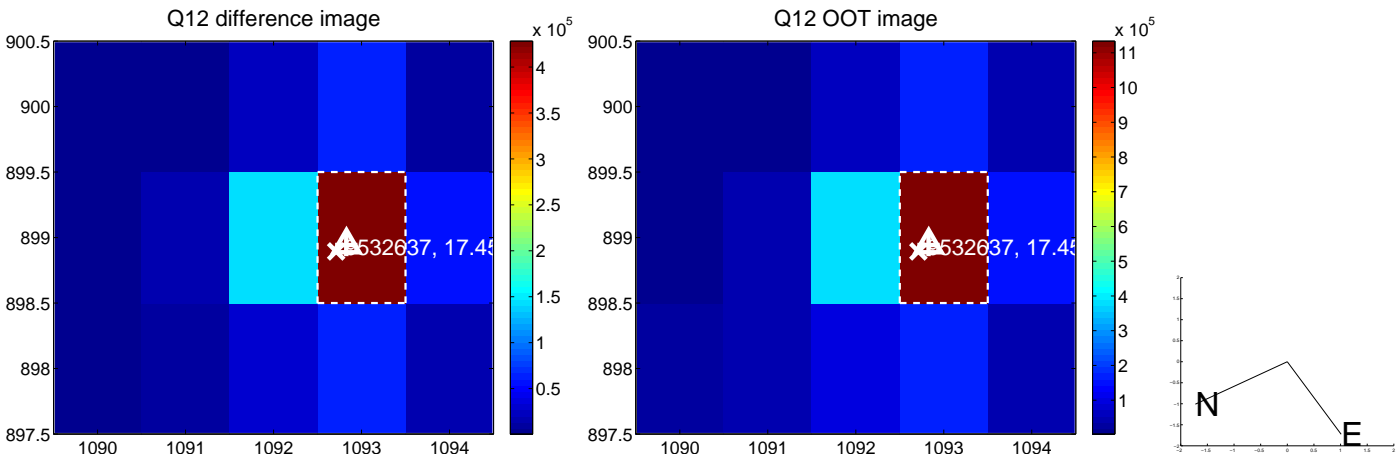
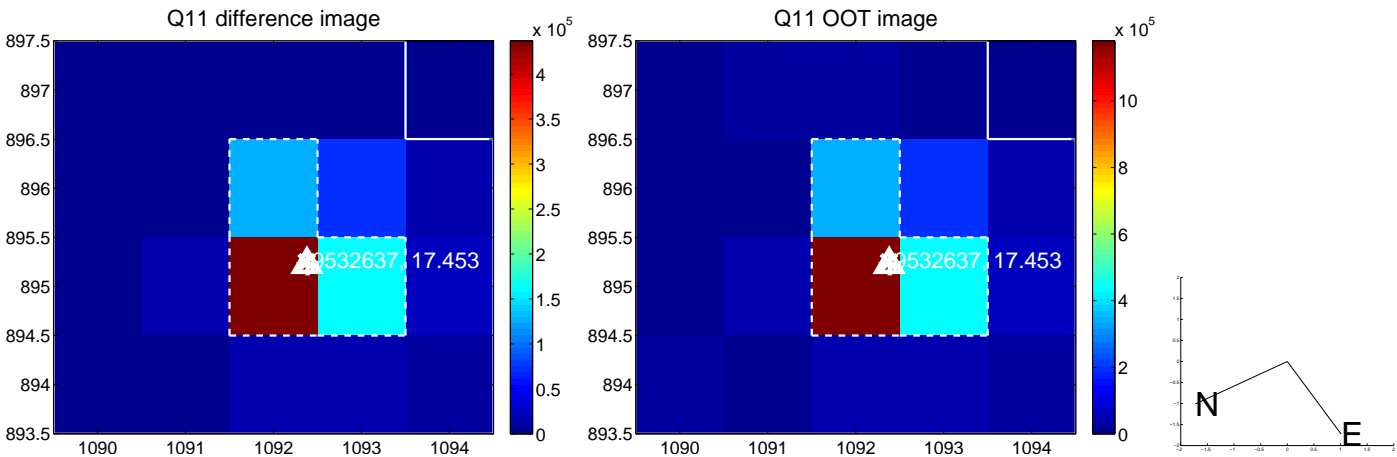
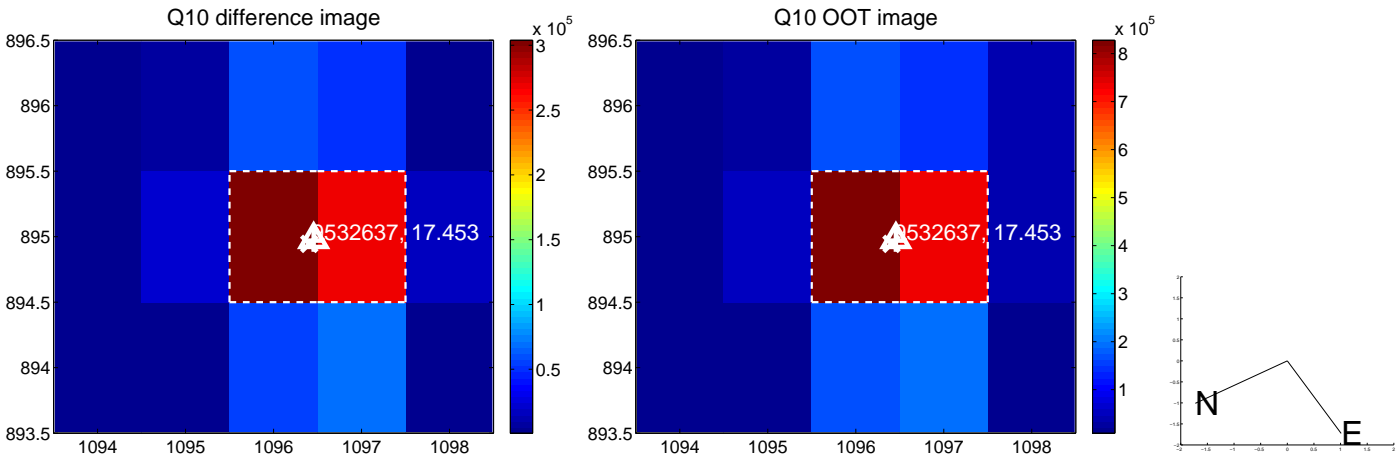
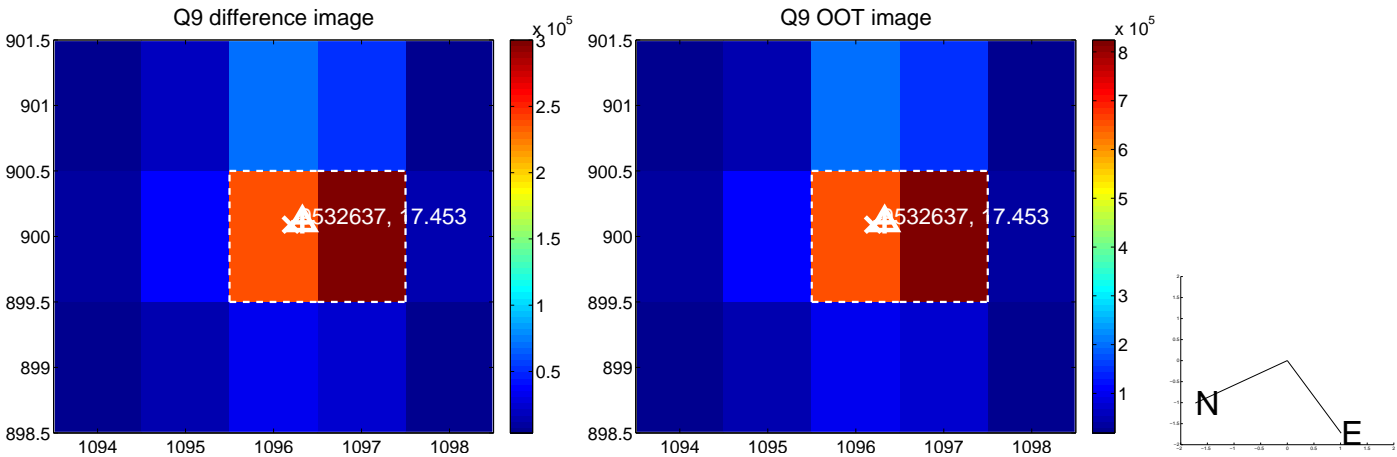
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



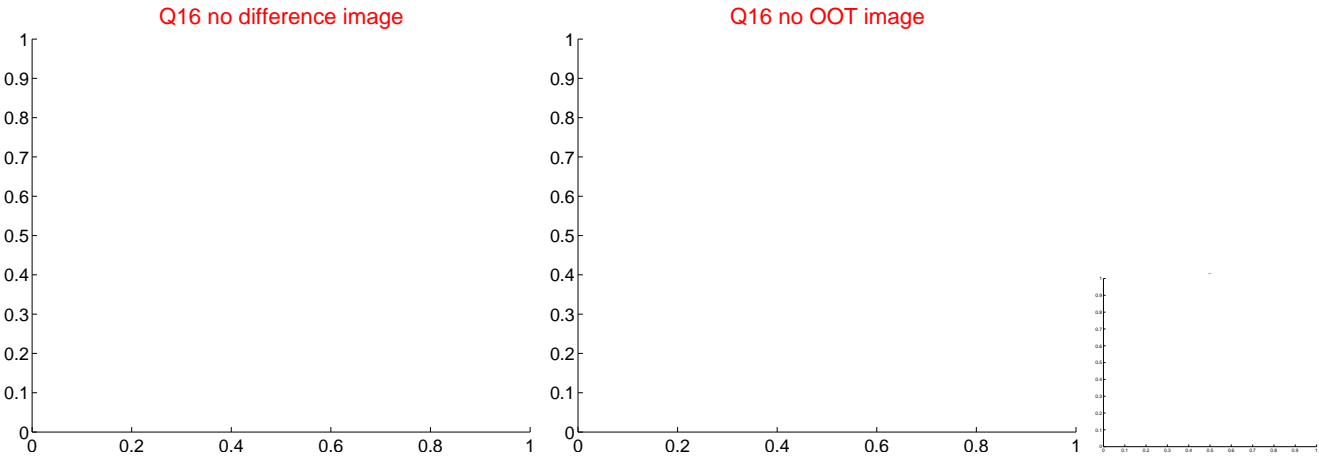
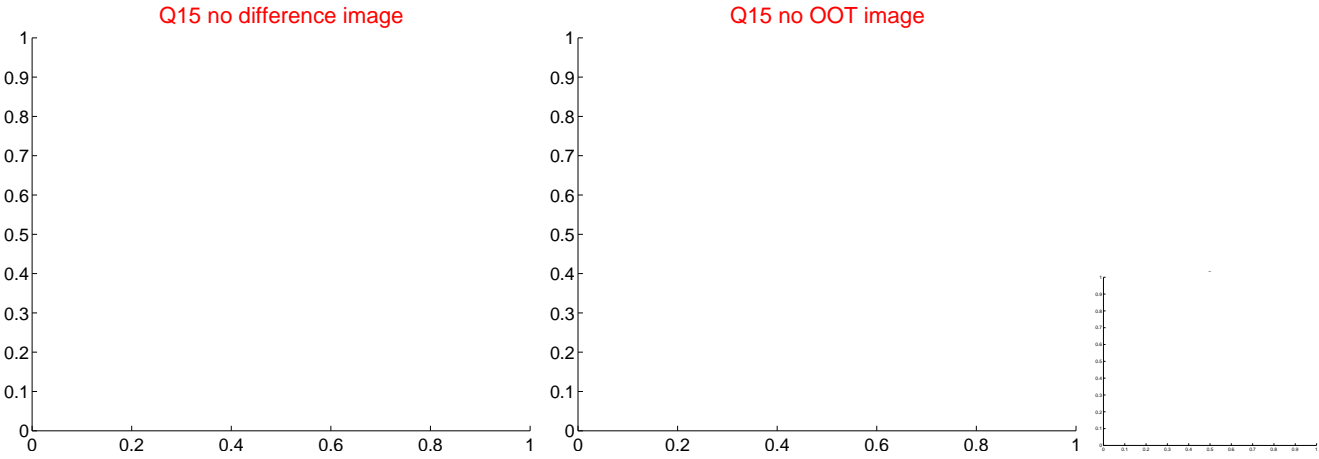
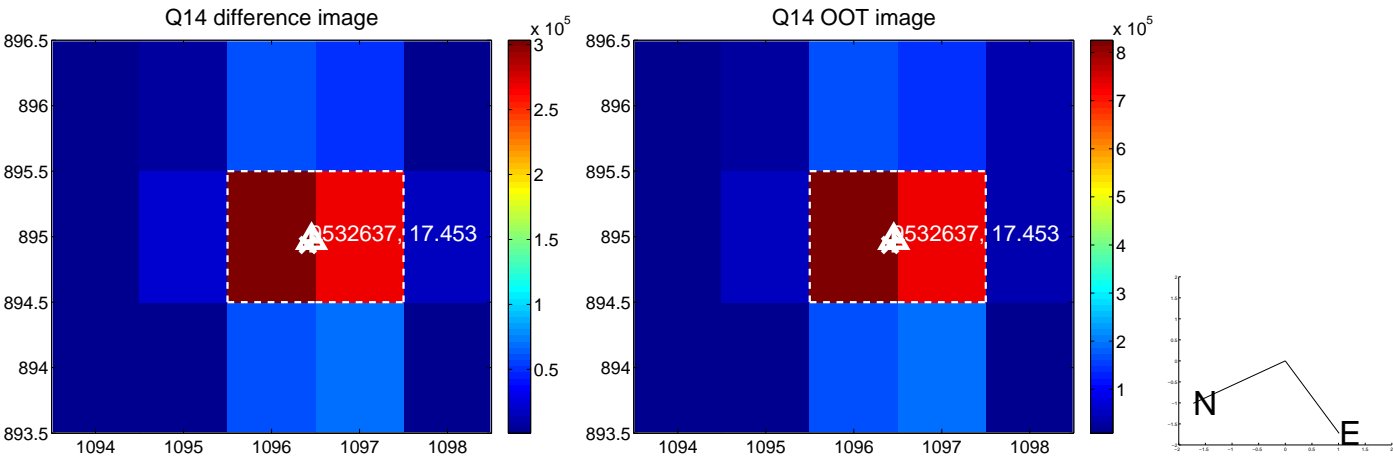
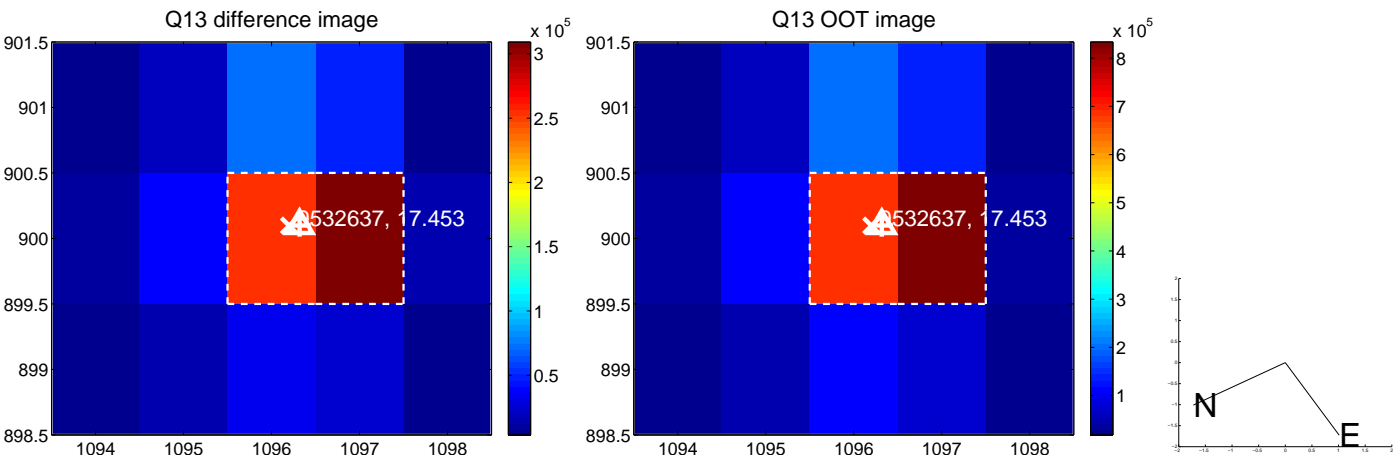
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



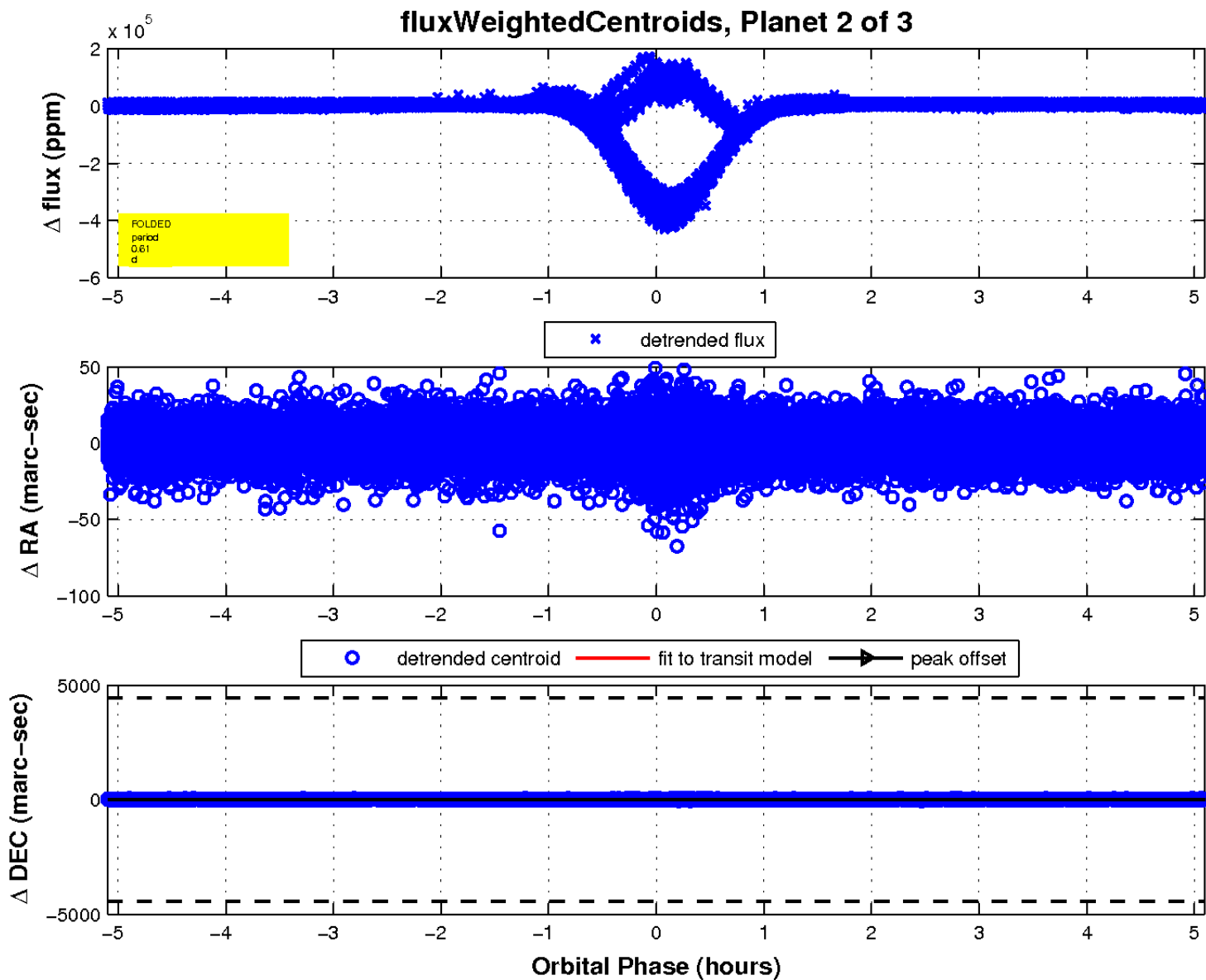
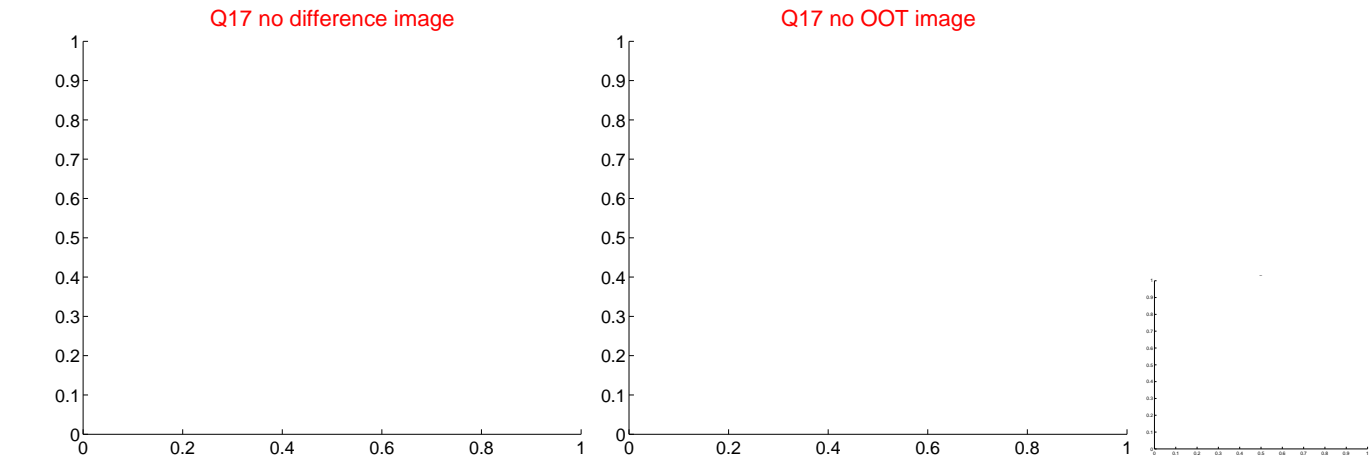
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

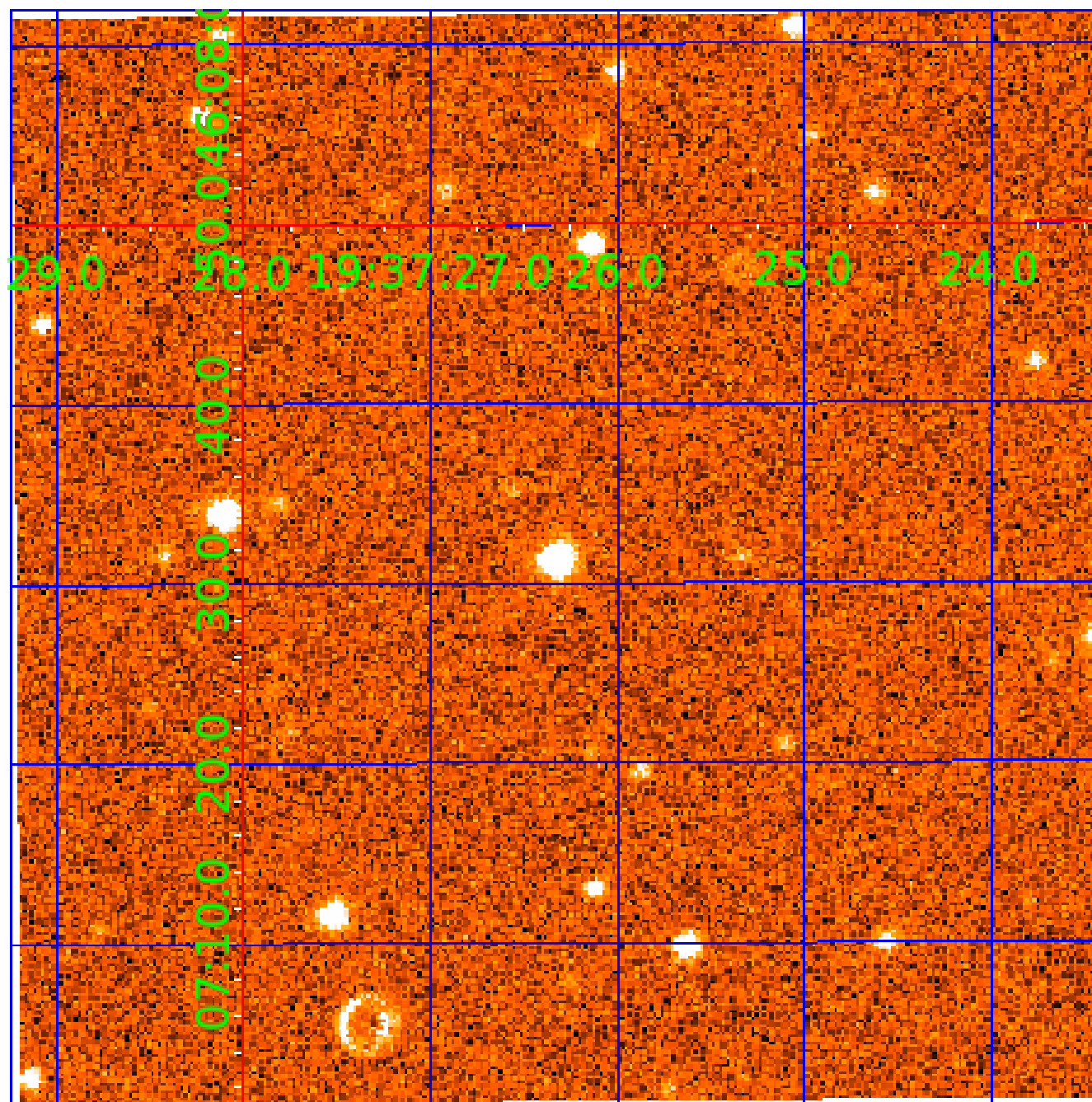


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009532637

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|--------|------|-----------------------------|-----------------|------------------------|------------------------|
| 009532637-01 | OBS | No | 0.922444 | 132.328702 | 355554.6 | 2.500 | 1742.0 | -1.0 | 0.66 | 4509 | 25.10 | 626.57 |
| 009532637-02 | OBS | No | 0.614964 | 131.710994 | 366472.6 | 1.500 | 2134.2 | -1.0 | 0.66 | 4509 | 35.20 | 1075.87 |
| 009532637-03 | OBS | 3842.01 | 0.614964 | 132.020369 | 342564.3 | 1.500 | 1587.1 | -1.0 | 0.66 | 4509 | 28.64 | 1075.87 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 009532637-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS |
| 009532637-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—CENT_NOFITS |
| 009532637-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SAME_NTL_PERIOD—CENT_NOFITS |

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

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

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

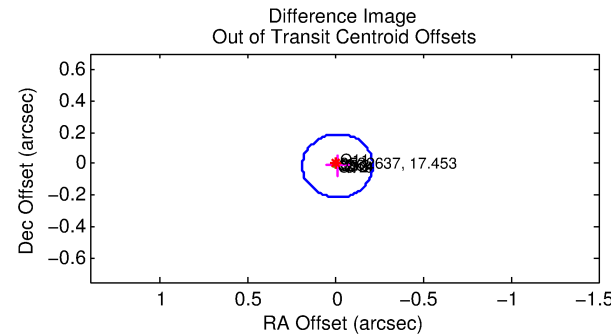
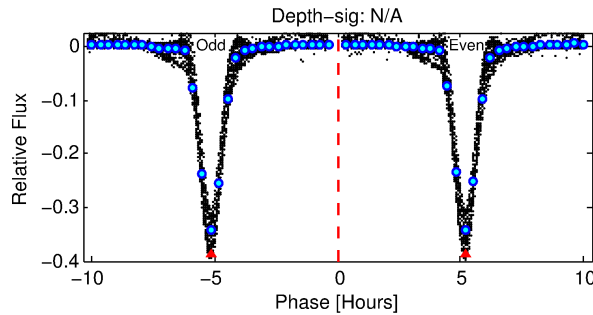
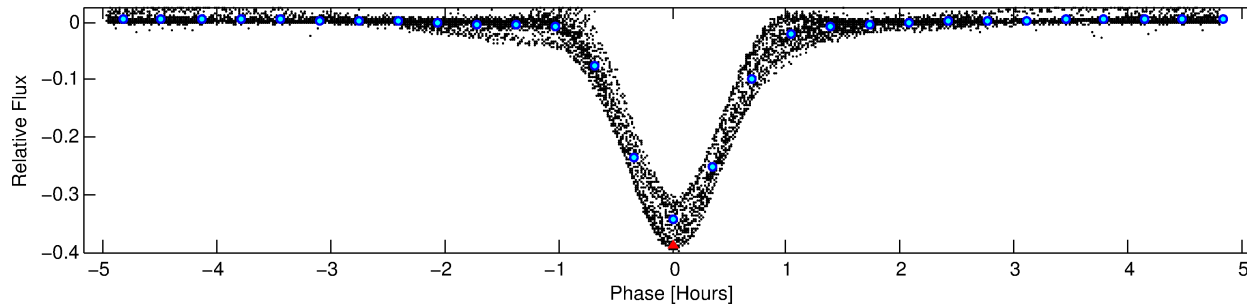
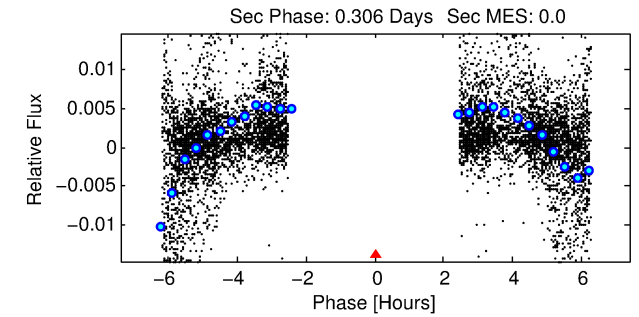
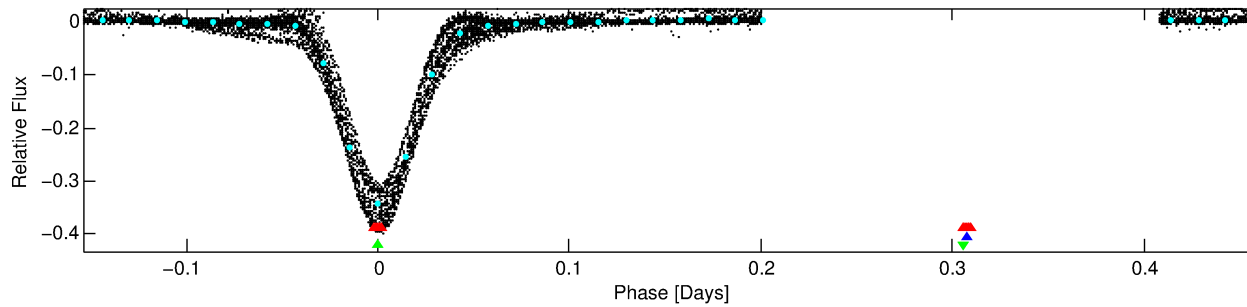
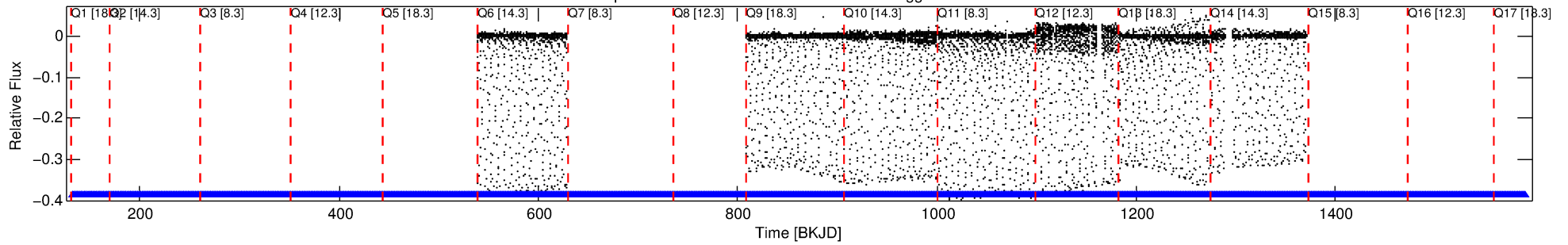
Ephemeris Match Information For 009532637-03

No Significant Match Found

DV One-Page Summary

KIC: 9532637 Candidate: 3 of 3 Period: 0.615 d
KOI: K03842.01 Corr: 0.859

Kp: 17.45 R*: 0.66 Rs Teff: 4509.0 K Logg: 4.61 Fe/H: -0.160



TPS TCE Results:

Period = 0.61496 d
Epoch = 132.0204 BKJD

DV fit results are unavailable

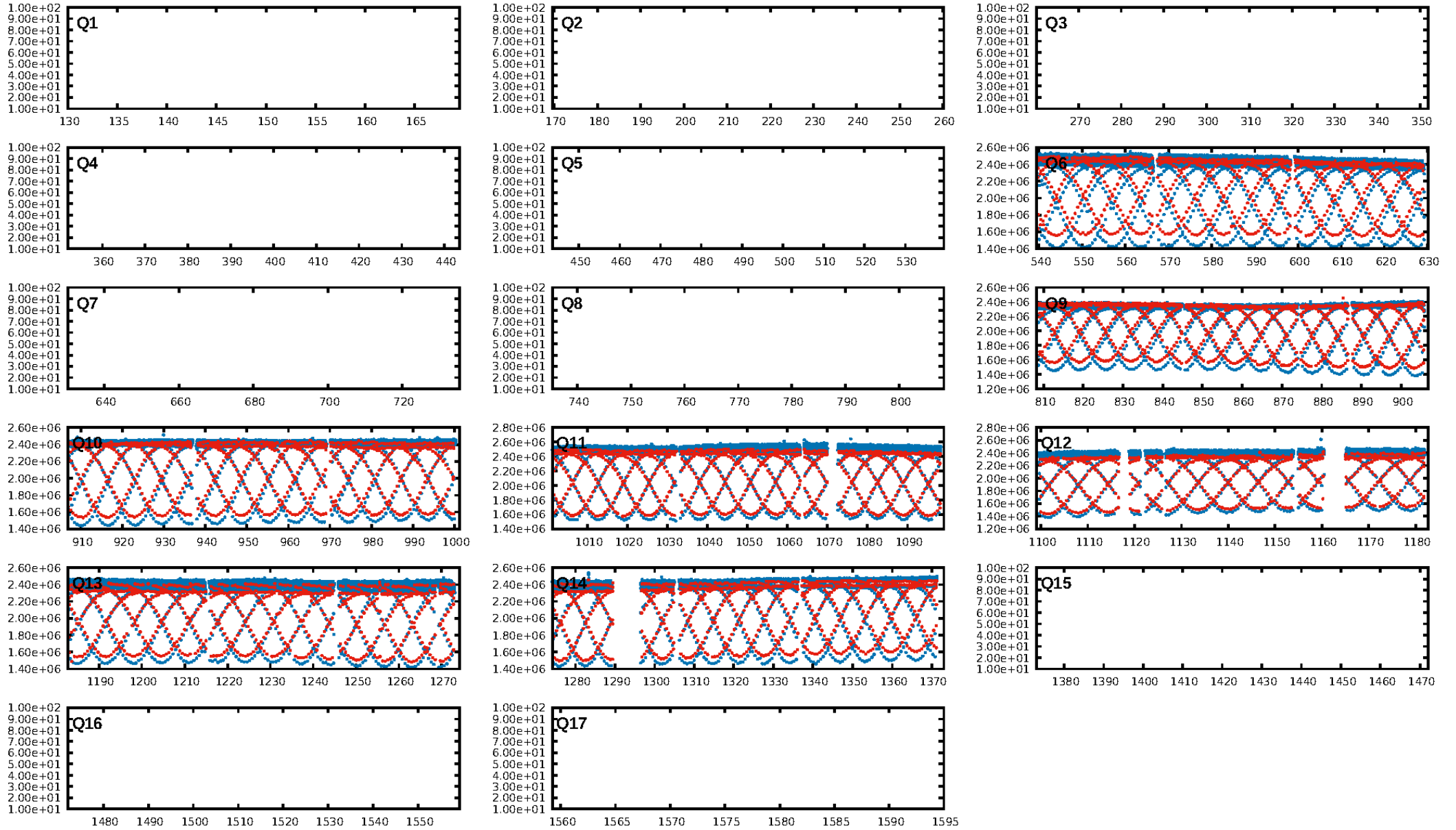
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 98.9% [2.53 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [651/651]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.475 arcsec [172.38 σ]
OotOffset-rm: 0.017 arcsec [0.25 σ]
KicOffset-rm: 0.282 arcsec [2.90 σ]
OotOffset-st: 3/1/1/2 [7]
KicOffset-st: 3/1/1/2 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [7/7]

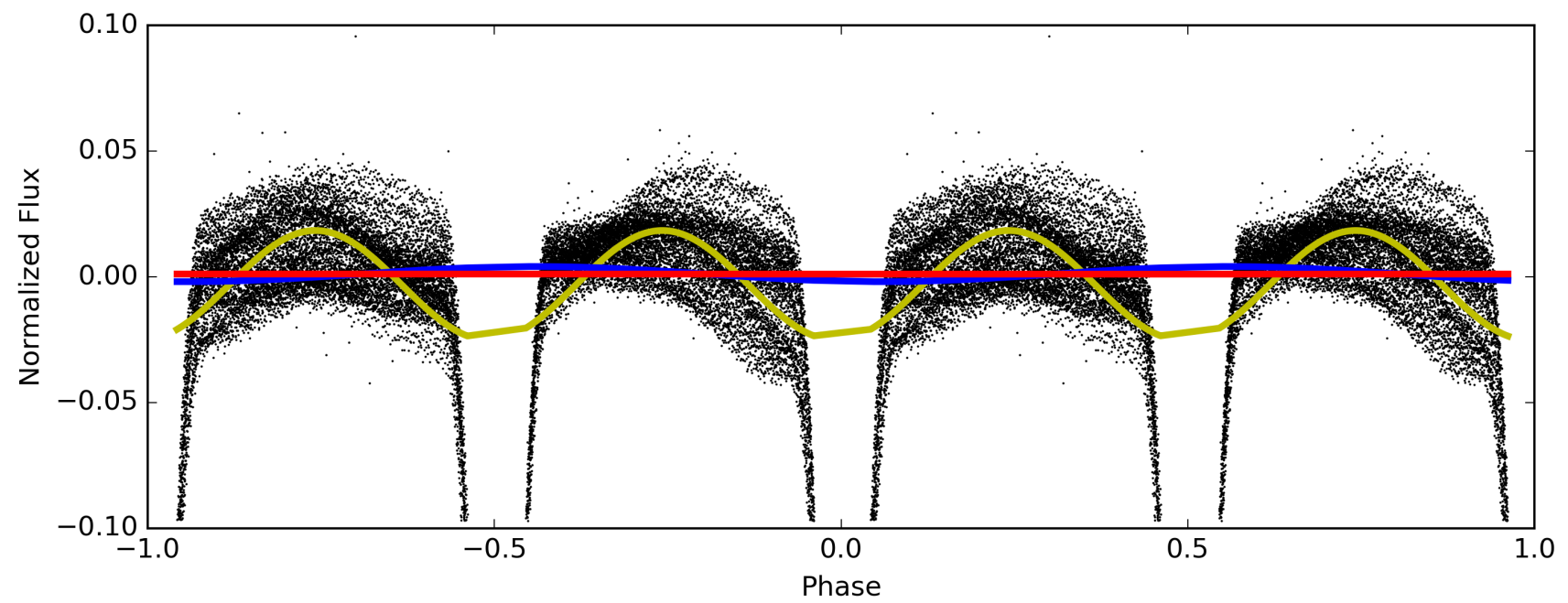
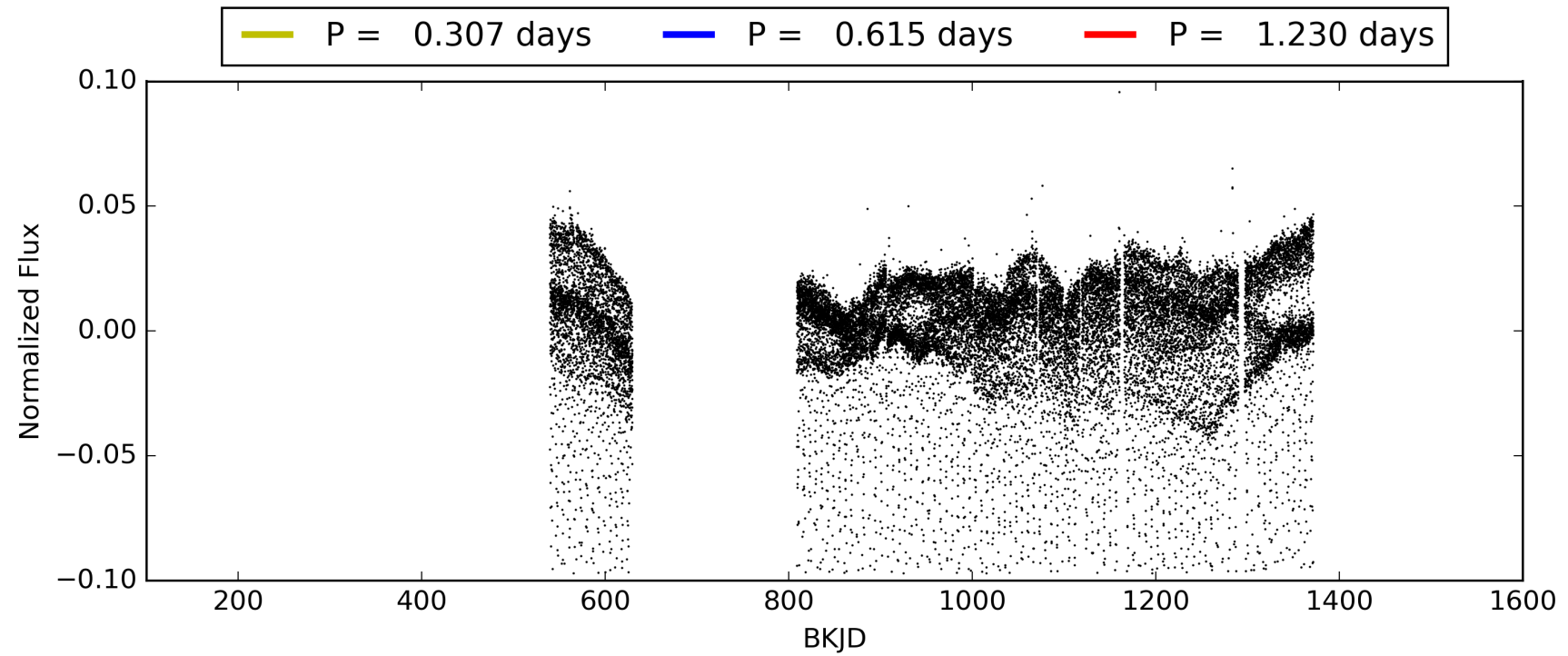
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:47:22 Z

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

TCE 009532637-03, PDC Light Curves

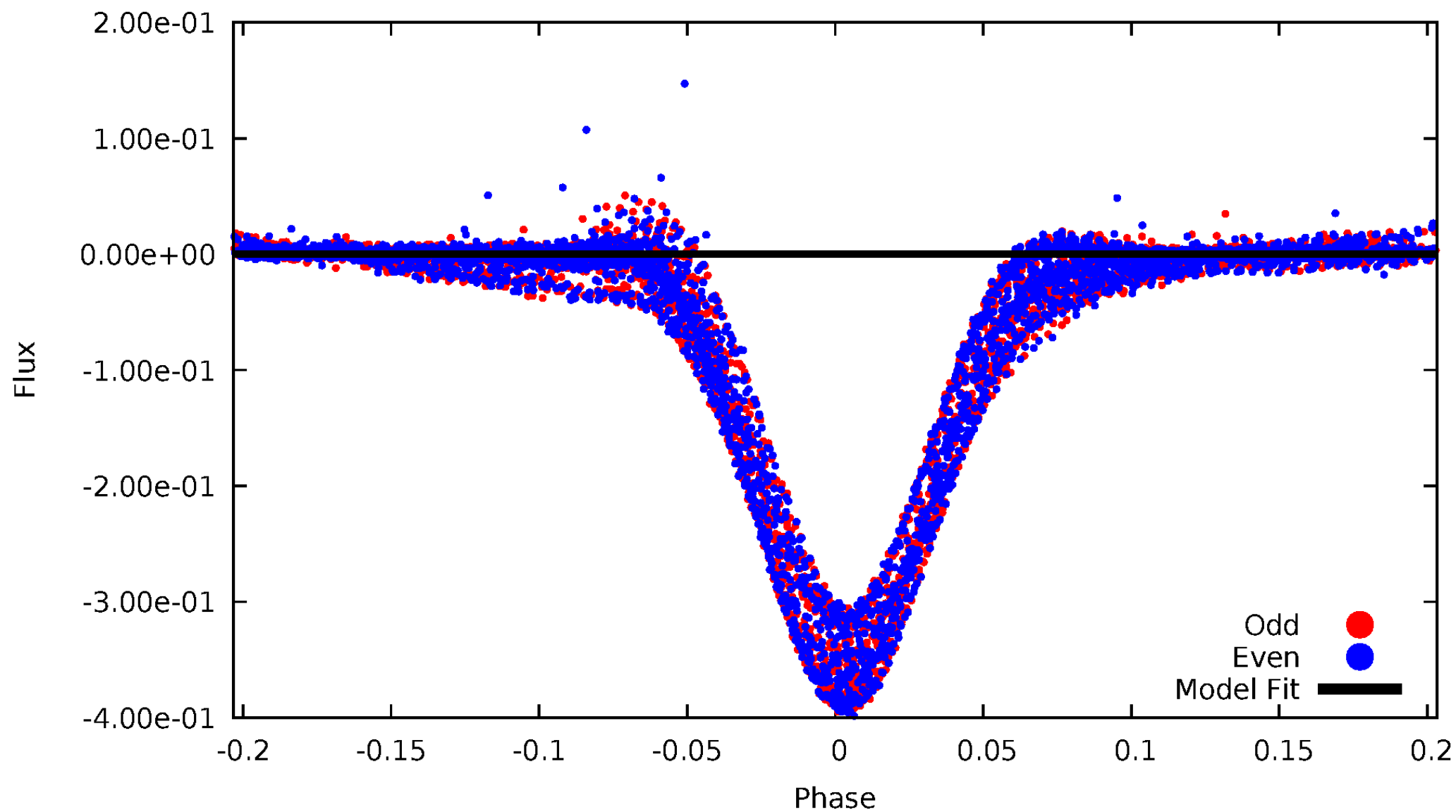


TCE 009532637-03



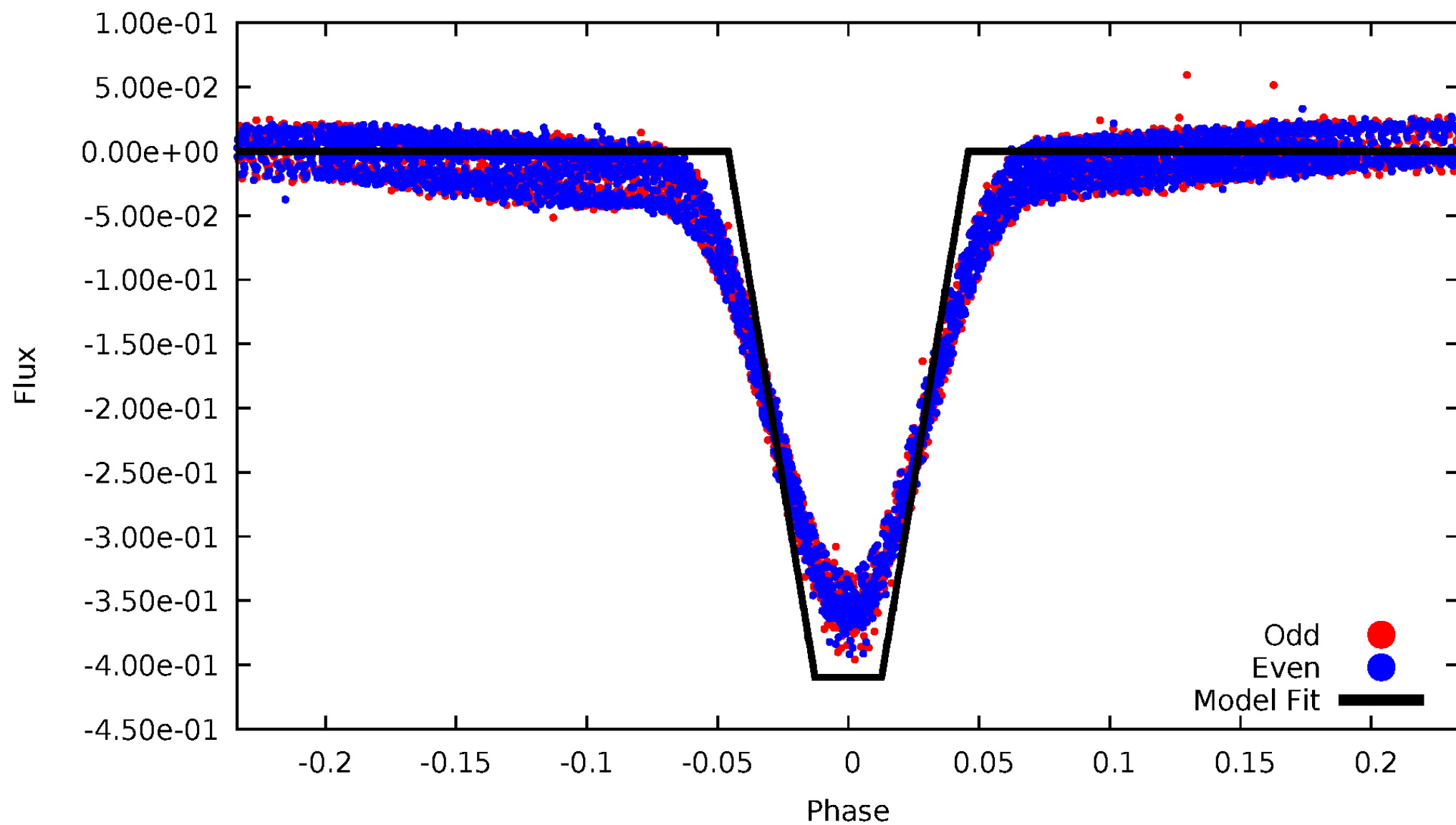
DV Odd/Even

TCE 009532637-03



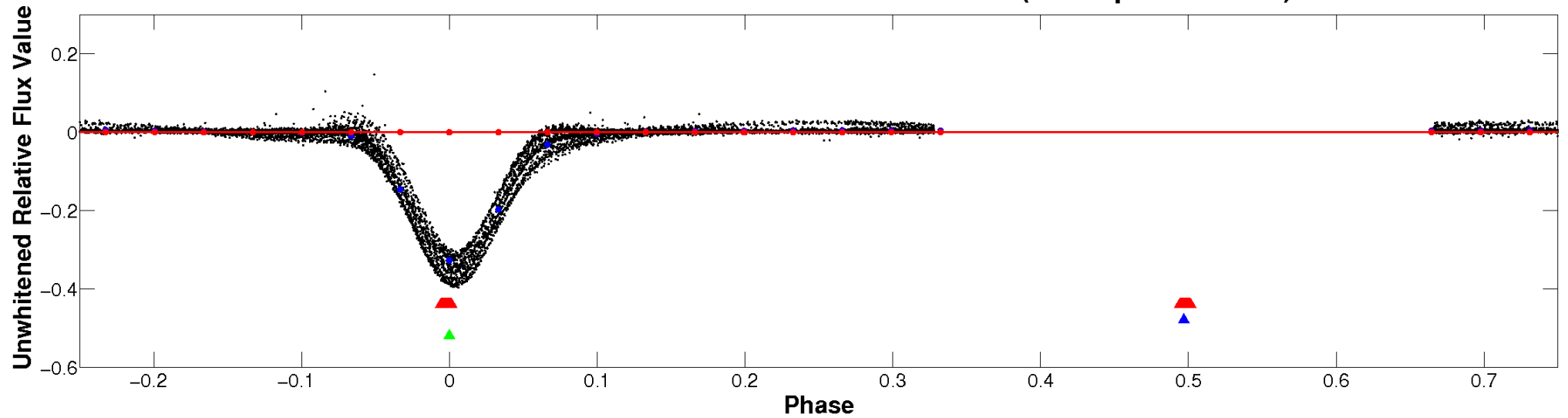
ALT Odd/Even

TCE 009532637-03

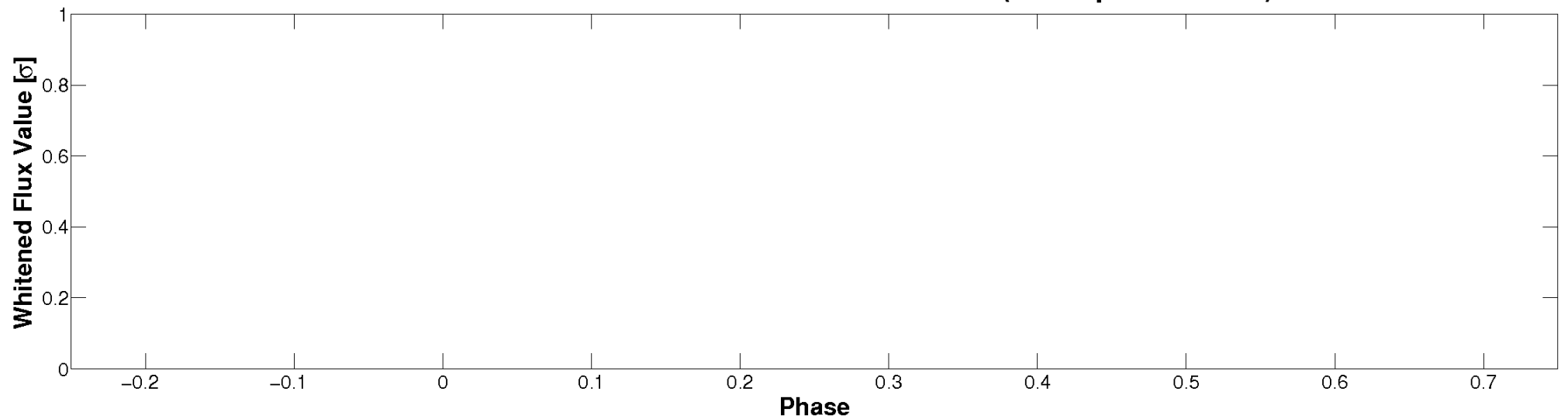


Non-Whitened Vs. Whitened Light Curve

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

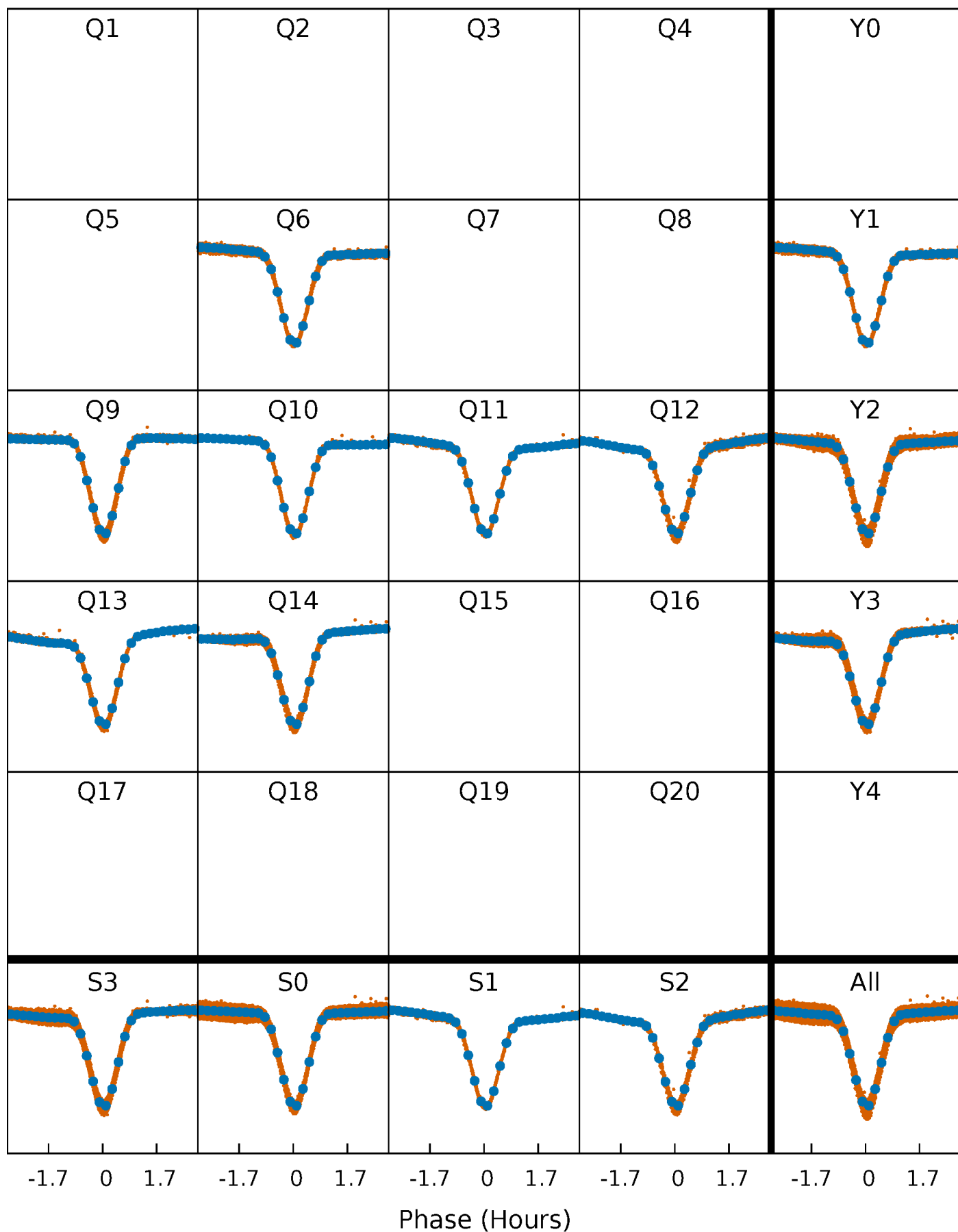


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



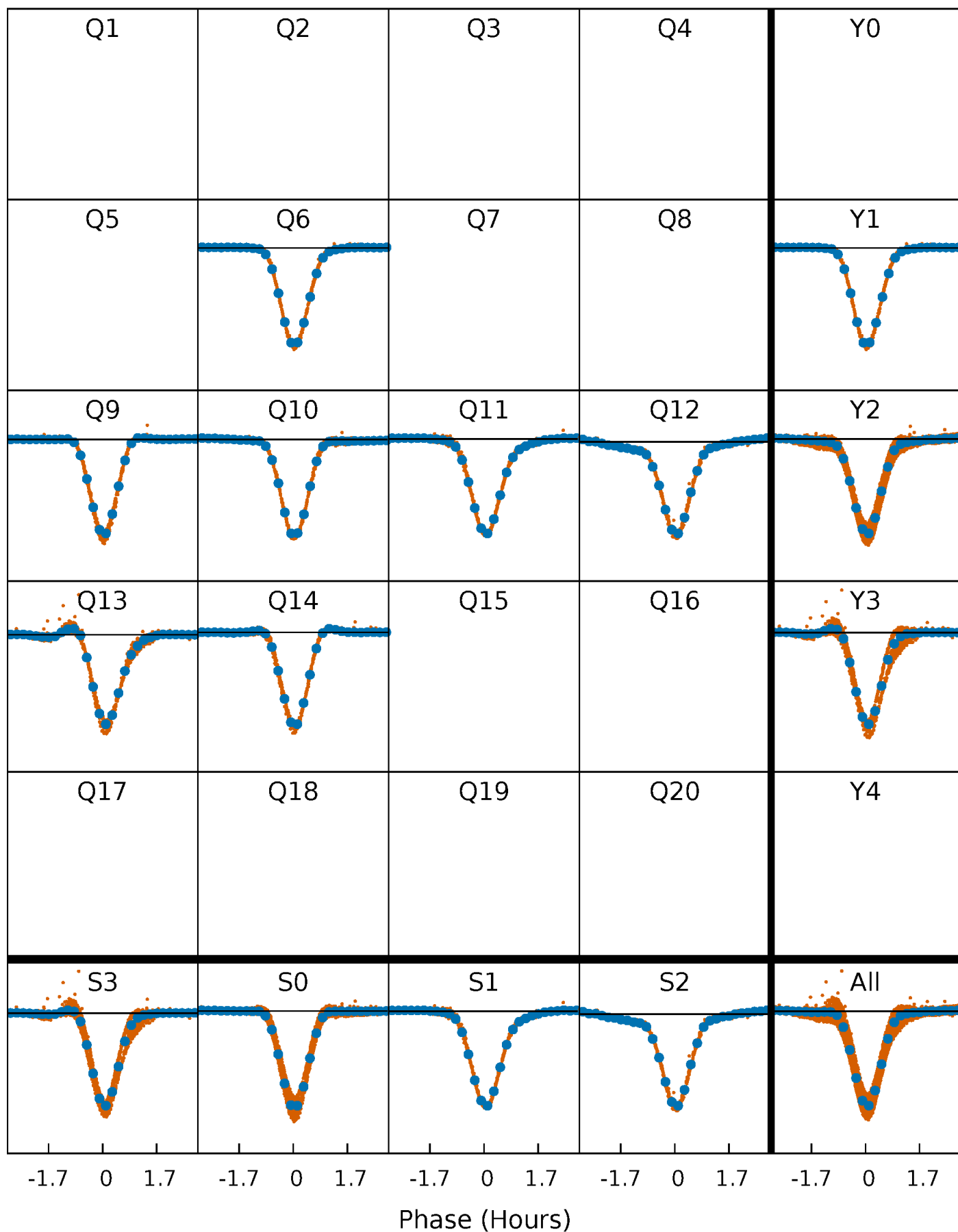
PDC Quarter-Phased Transit Curves

TCE 009532637-03 P= 0.614964 Days $T_0=132.020369$ (BKJD)



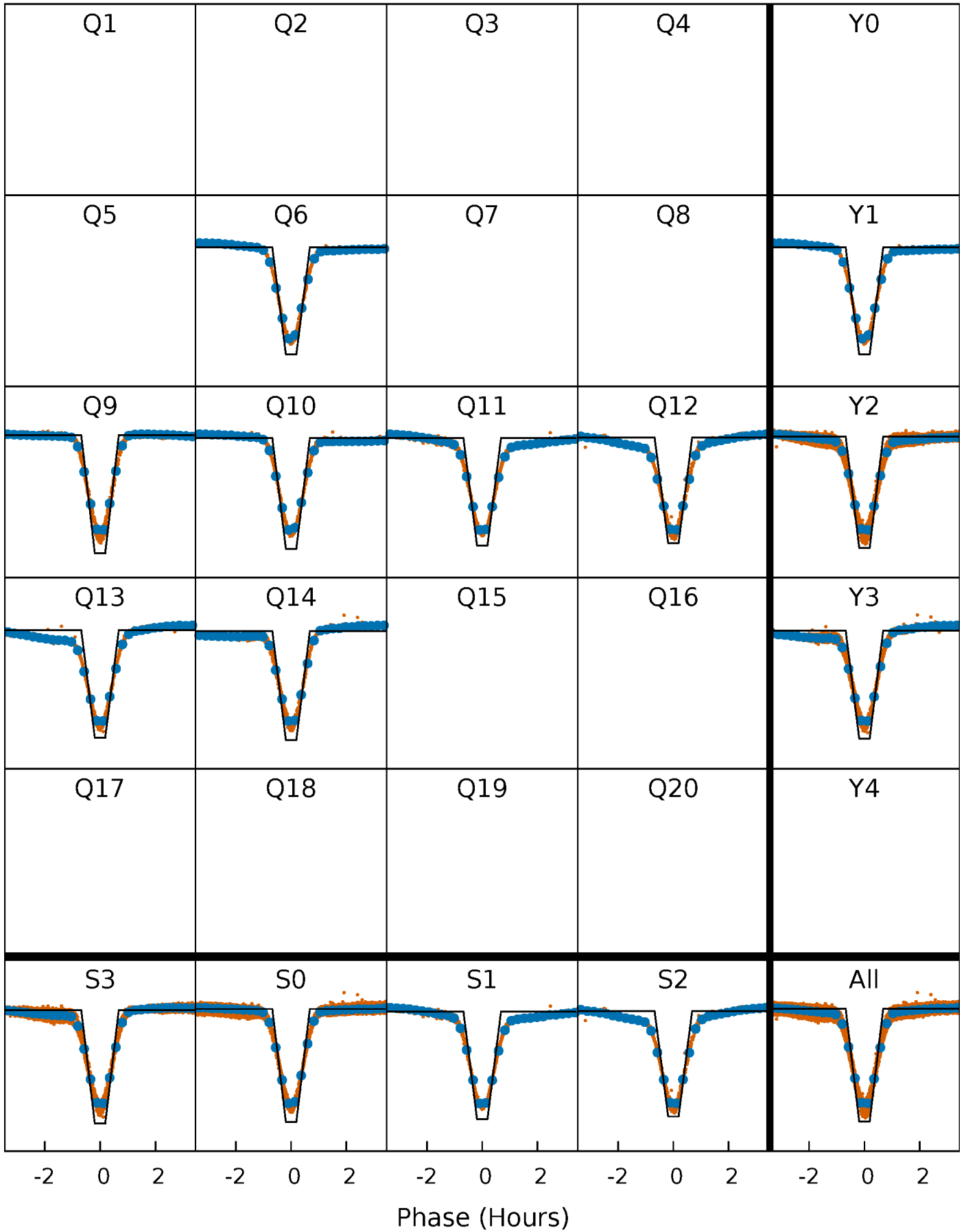
DV Quarter-Phased Transit Curves

TCE 009532637-03 P= 0.614964 Days $T_0=132.020369$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

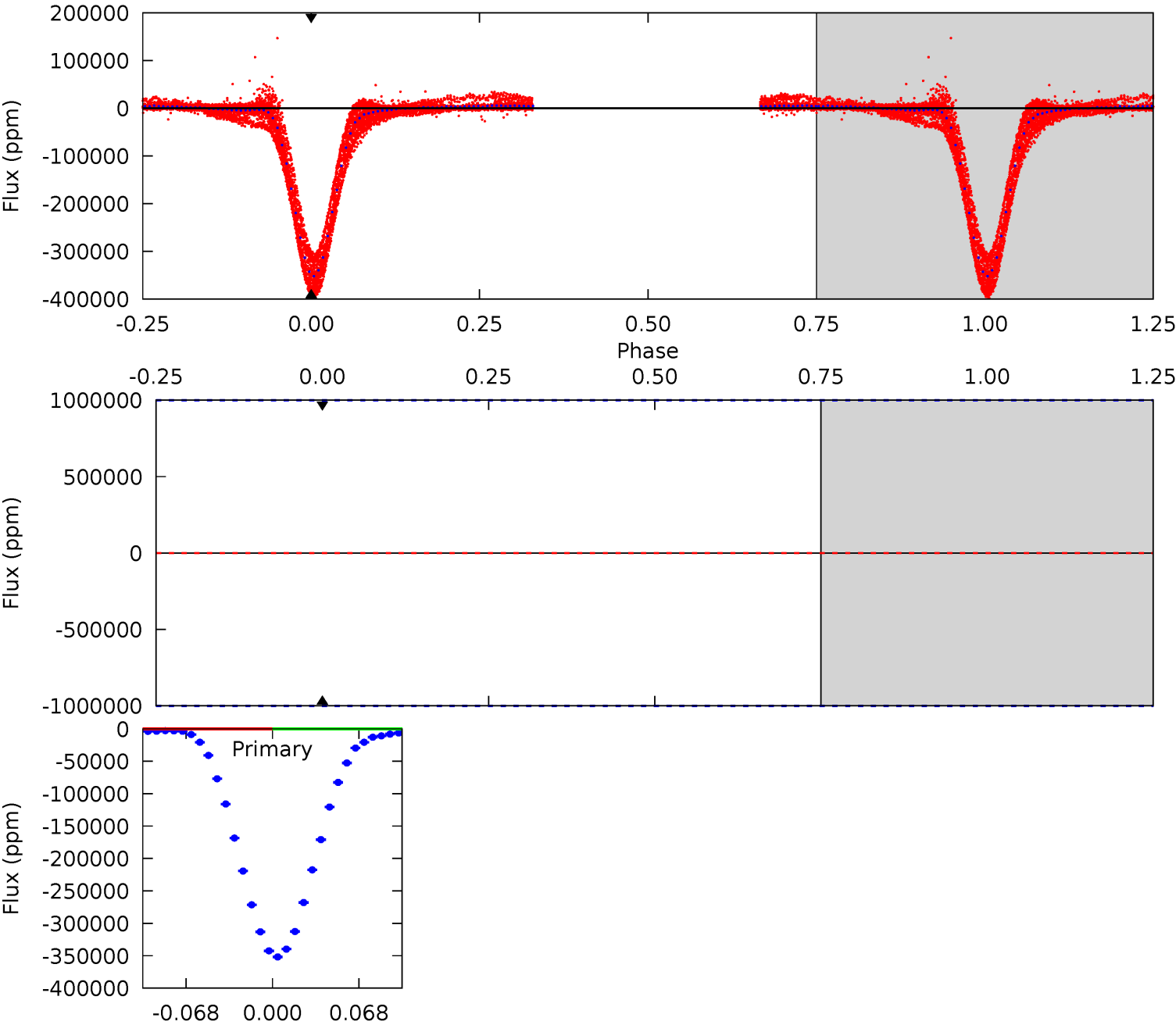
TCE 009532637-03 P= 0.614964 Days $T_0=132.021798$ (BKJD)



DV Model-Shift Uniqueness Test

009532637-03, P = 0.614964 Days, E = 132.020369 Days

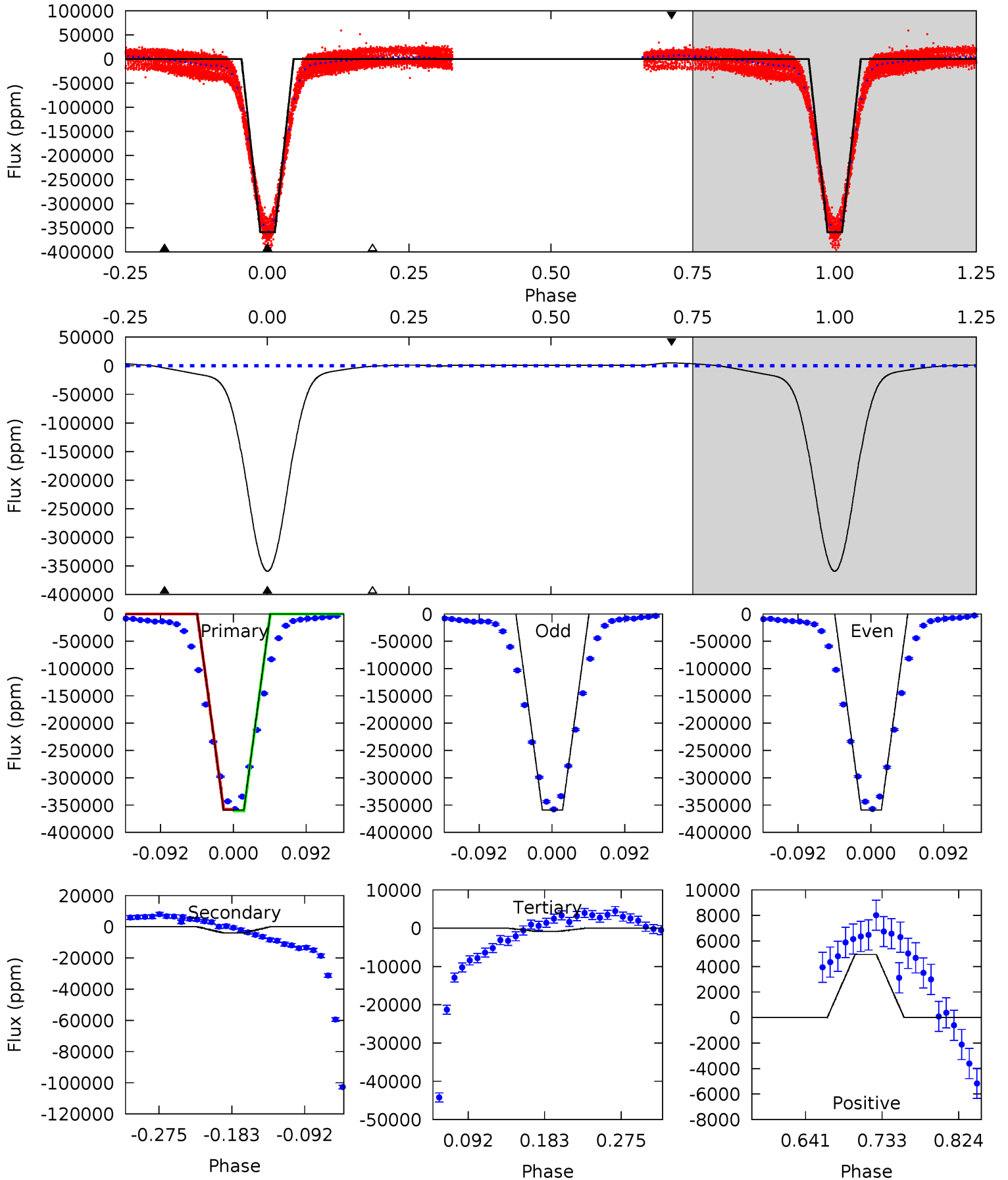
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00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



Alt Model-Shift Uniqueness Test

009532637-03, P = 0.614964 Days, E = 132.021798 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 1233 | 13.7 | 2.87 | 17.0 | 4.58 | 1.69 | 17.0 | 1230 | 1216 | 10.8 | -3.28 | 0.07 | 1.01 | 0.01 | 4.16 |



Stellar Parameters For KIC 009532637

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} \text{ (g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--|
| | 4509^{+157}_{-157} | $4.612^{+0.052}_{-0.028}$ | $-0.160^{+0.300}_{-0.300}$ | $0.663^{+0.048}_{-0.058}$ | $0.656^{+0.072}_{-0.054}$ | $3.169^{+0.726}_{-0.359}$ |
| | +3%/-3% | +1%/-1% | +188%/-188% | +7%/-9% | +11%/-8% | +23%/-11% |
| Source | KIC0 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 009532637-03 / KOI 3842.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|-------------------------|--------------------|-------------------------|-----------------------------|
| DV | 0 ± 1000000 | $28.43^{+7.64}_{-7.62}$ | 2029^{+74}_{-79} | -2276^{+6529}_{-1847} | $0.083^{+12.742}_{-10.094}$ |
| Alt. | -3984 ± 291 | $46.18^{+7.42}_{-7.69}$ | 2032^{+75}_{-81} | -2247^{+166}_{-96} | $0.160^{+0.071}_{-0.043}$ |

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 $A_{obs} \gg 1.0$

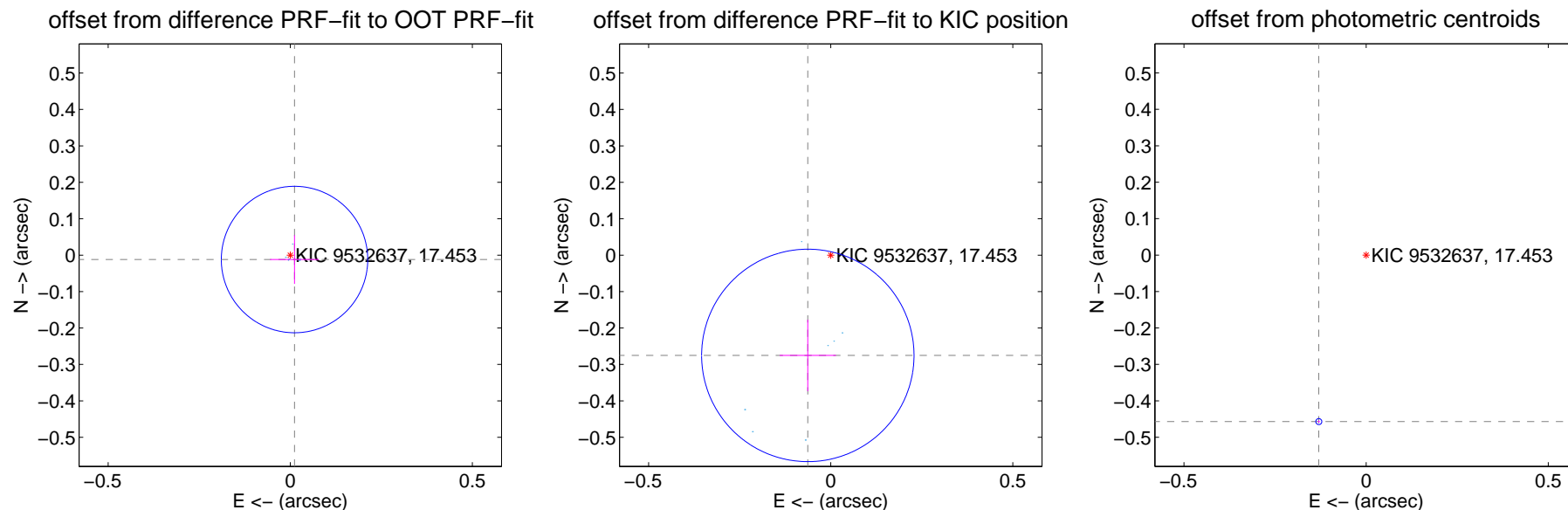
DV Centroid Data

Supplemental centroid analysis for 009532637-03. Kepler magnitude: 17.45. Transit SNR -1.00

There are 7 quarters with good PRF difference image offsets

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

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.017 ± 0.067 | 0.25 | -0.012 ± 0.067 | -0.012 ± 0.067 |
| PRF-fit source offset from KIC position | 0.282 ± 0.097 | 2.90 | 0.063 ± 0.077 | -0.275 ± 0.098 |
| photometric centroid source offset | 0.48 ± 0.00 | 172.38 | 0.13 ± 0.00 | -0.46 ± 0.00 |

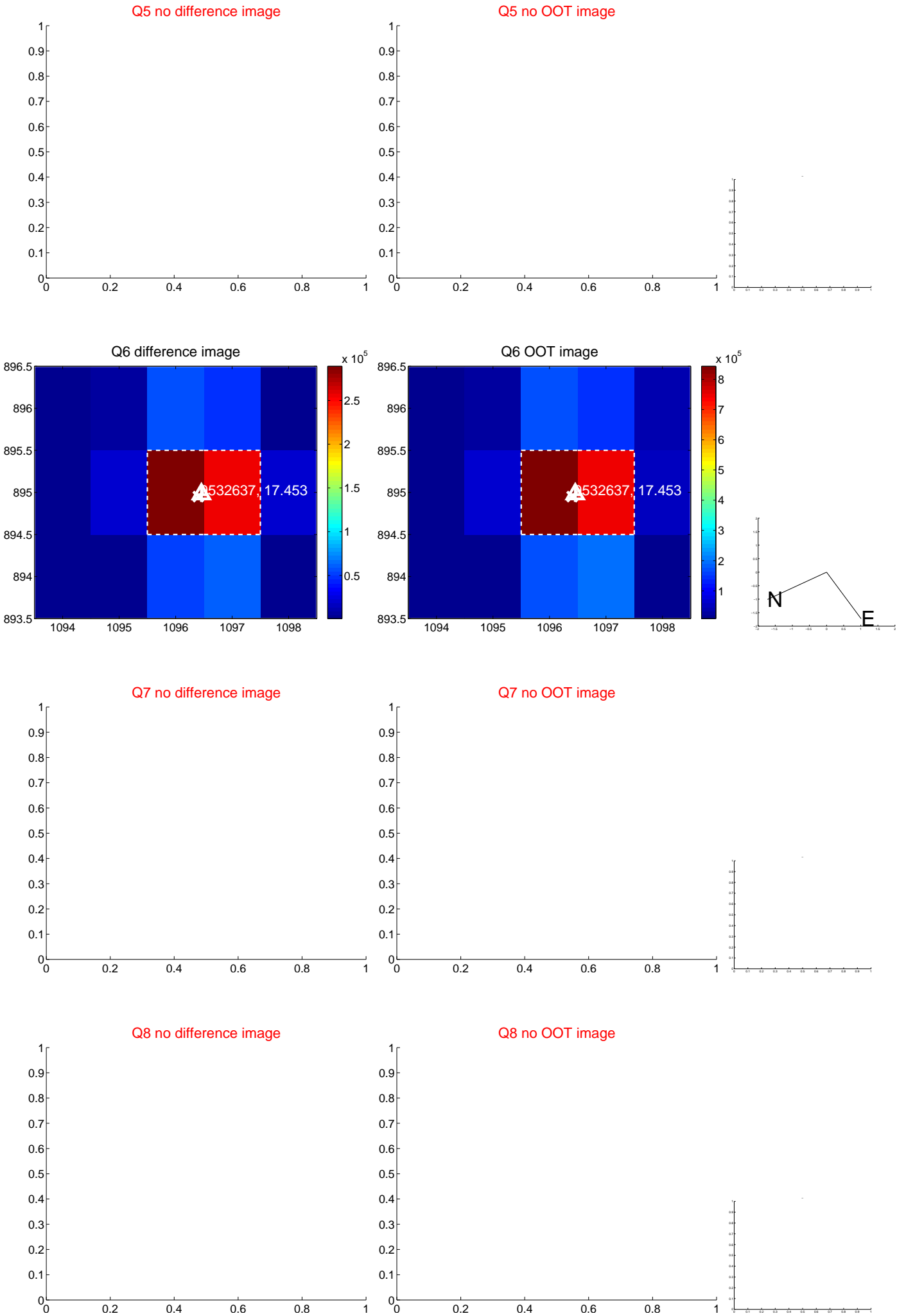


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

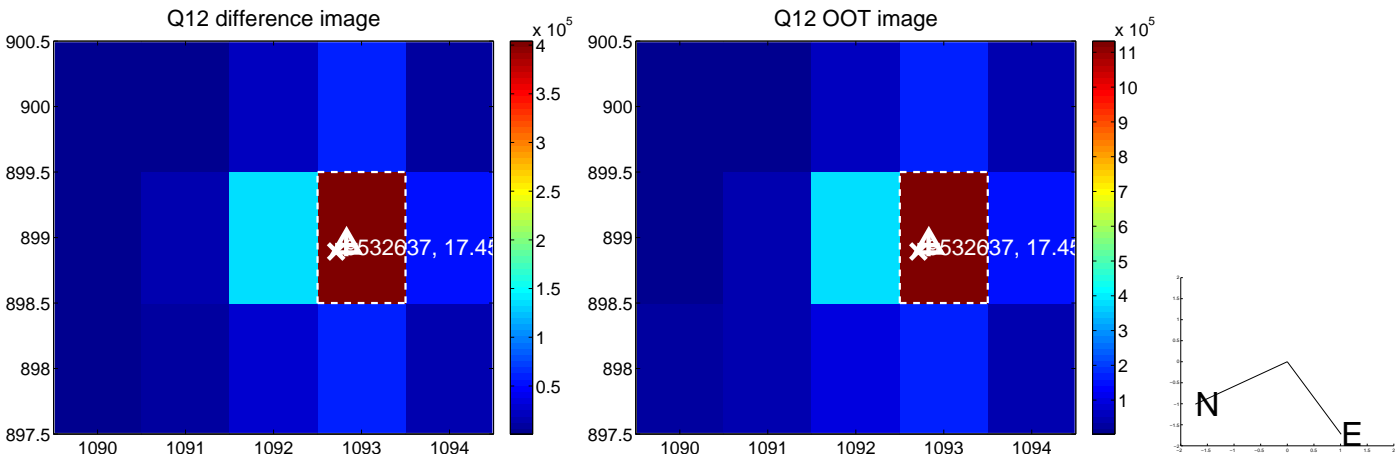
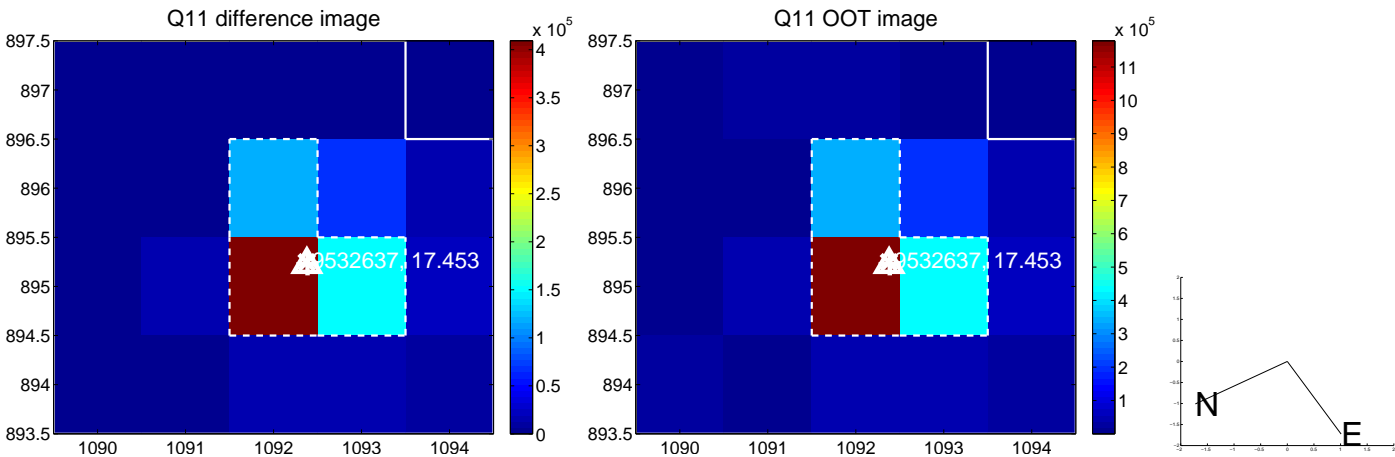
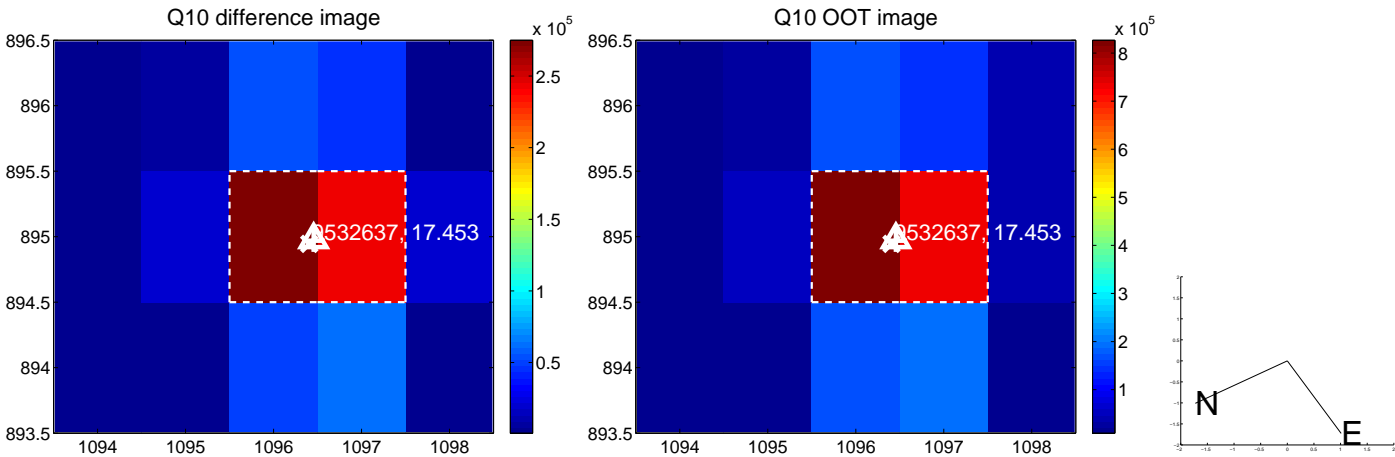
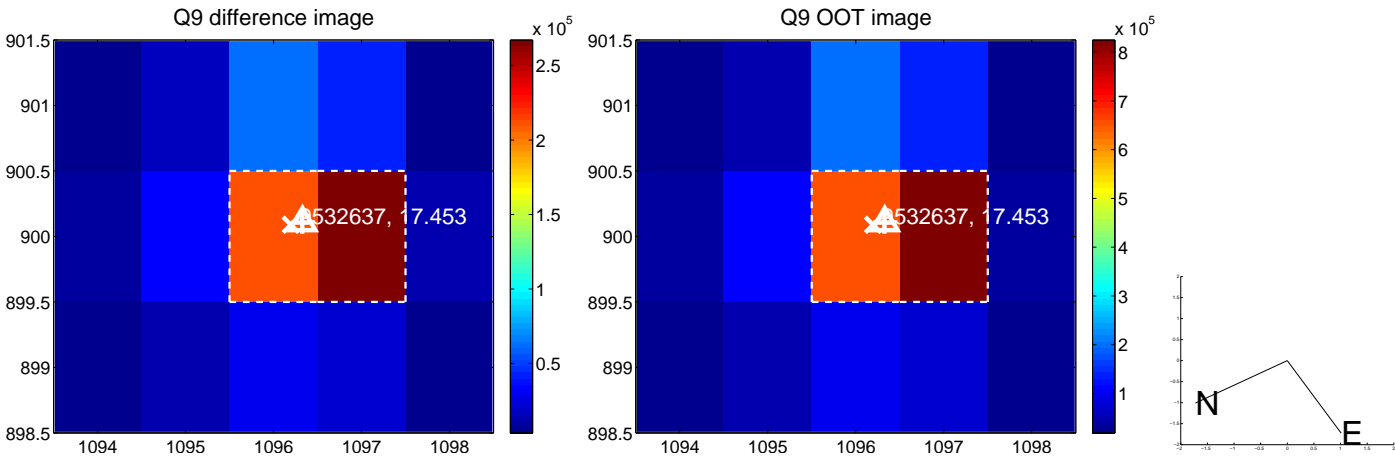
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



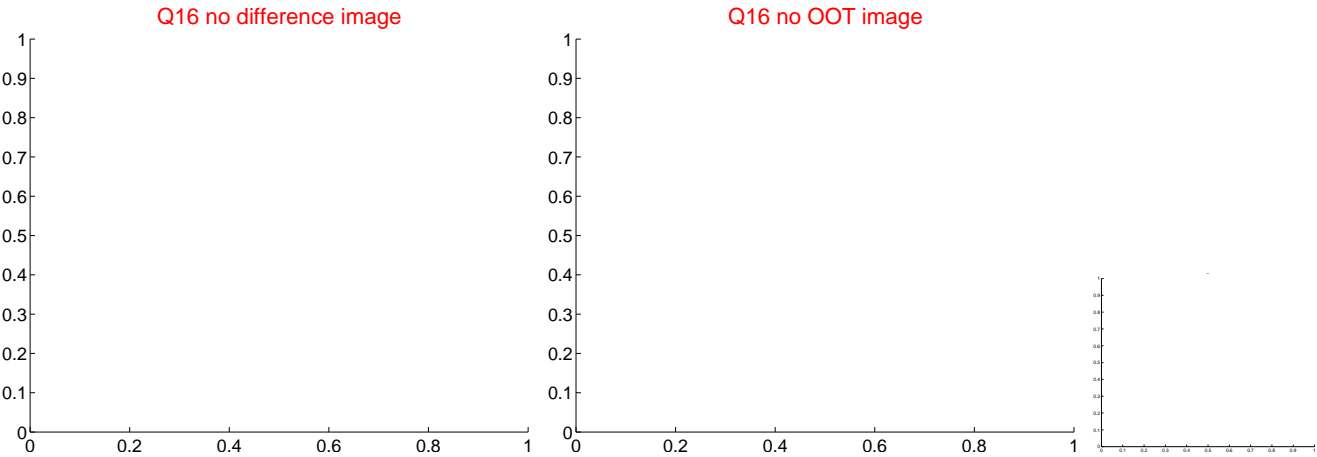
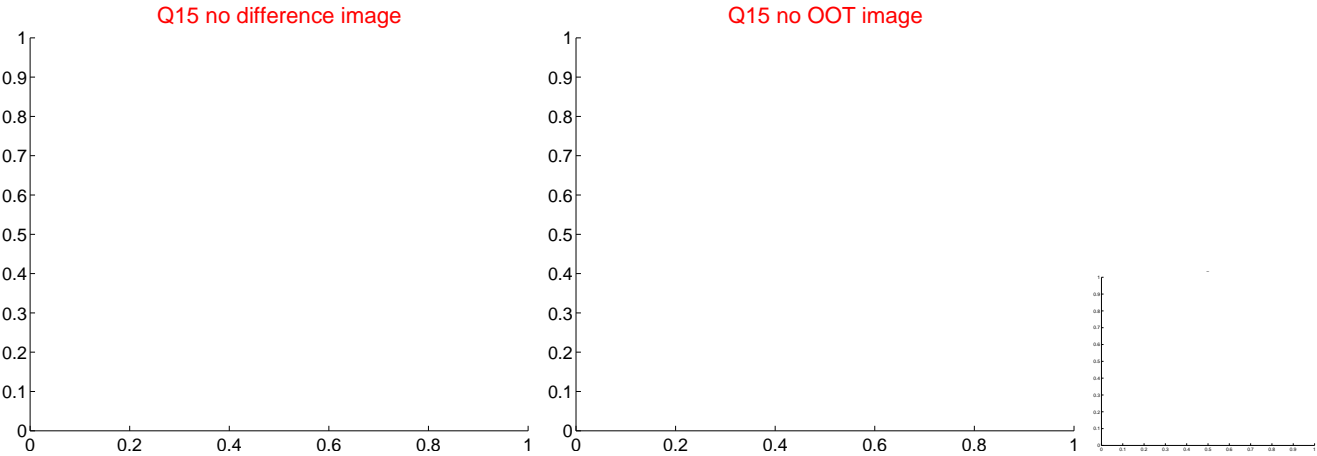
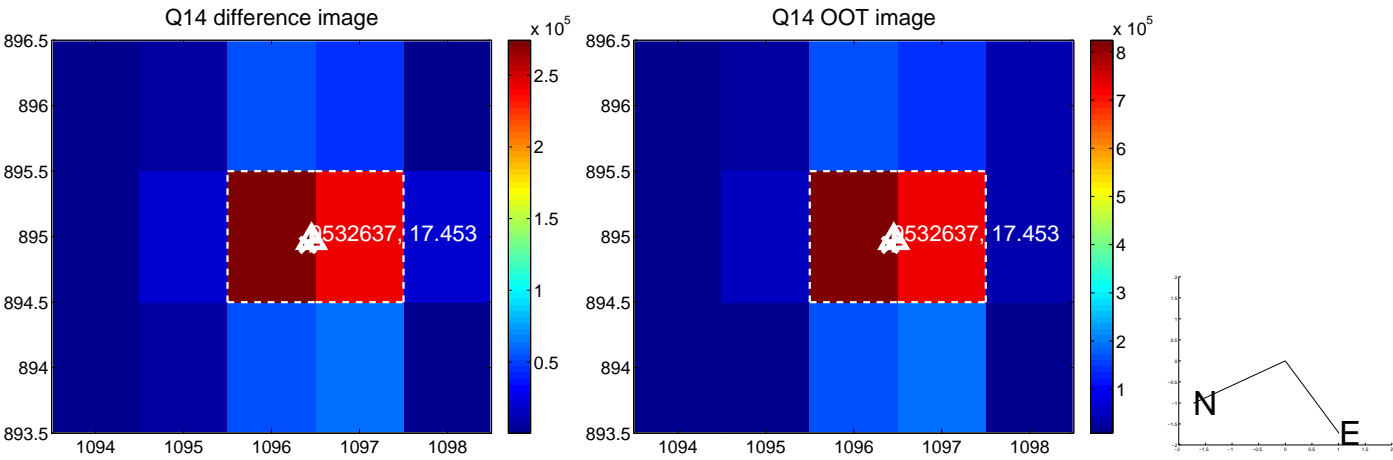
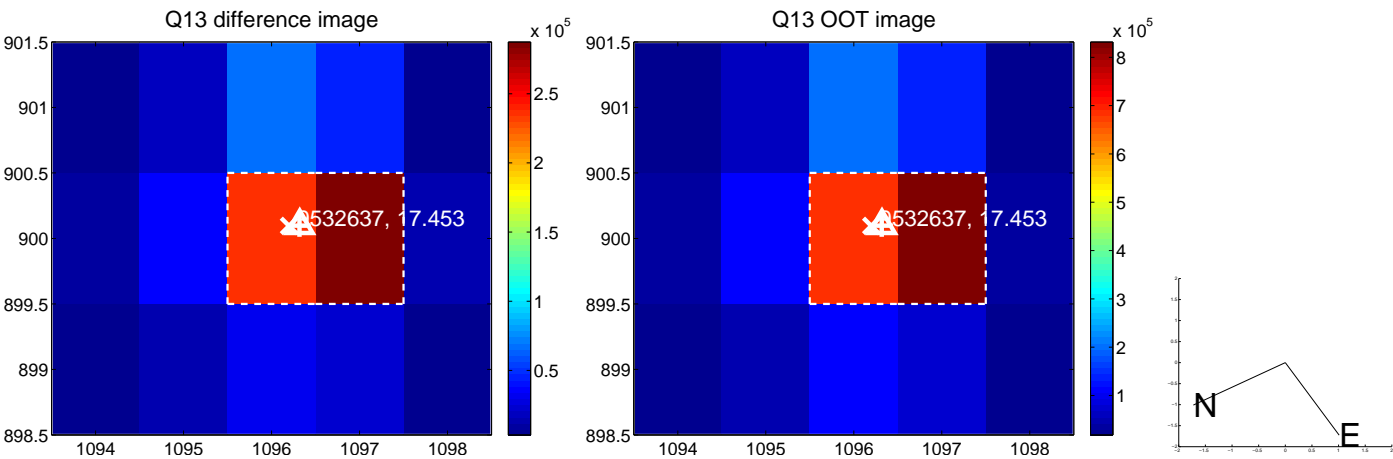
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



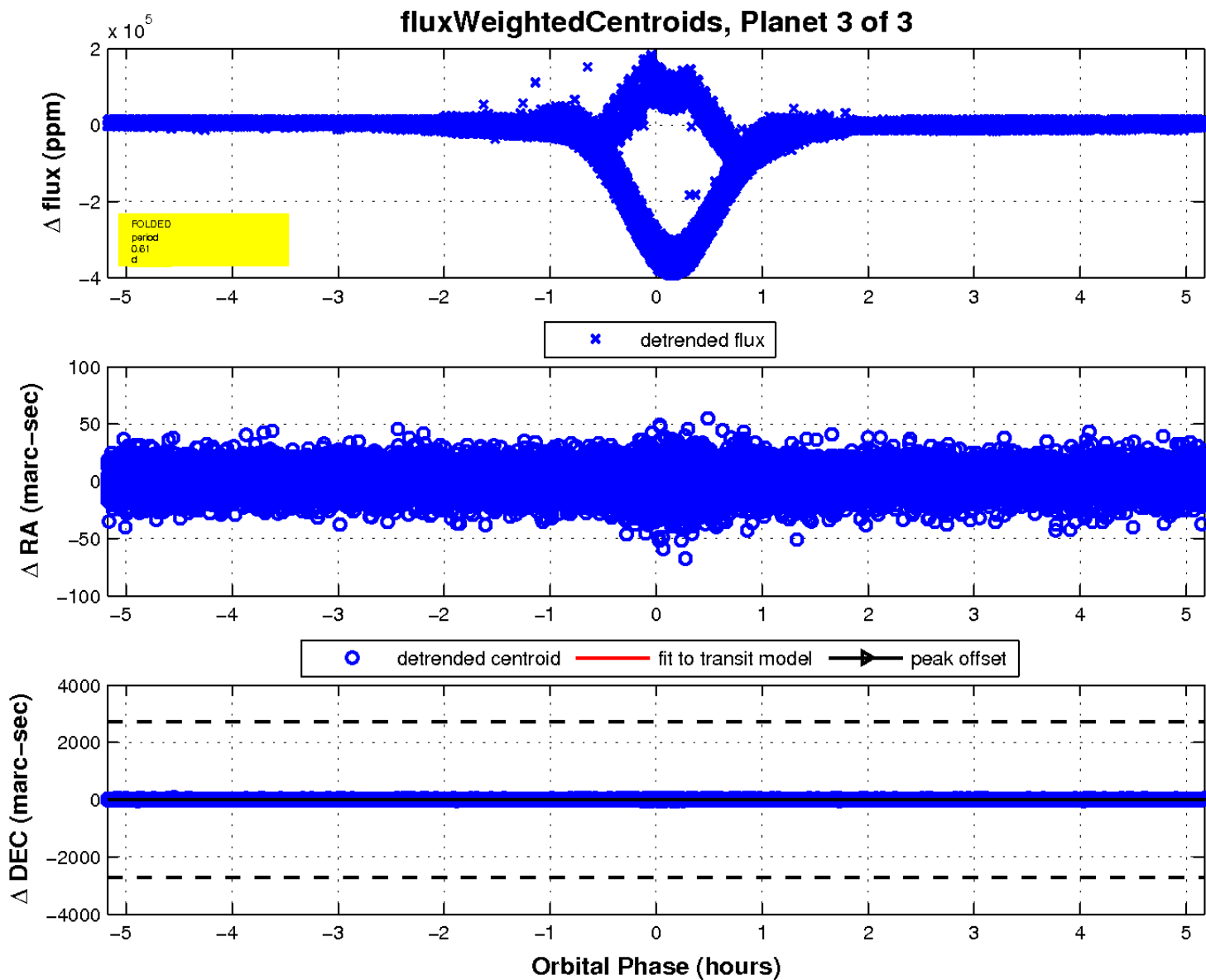
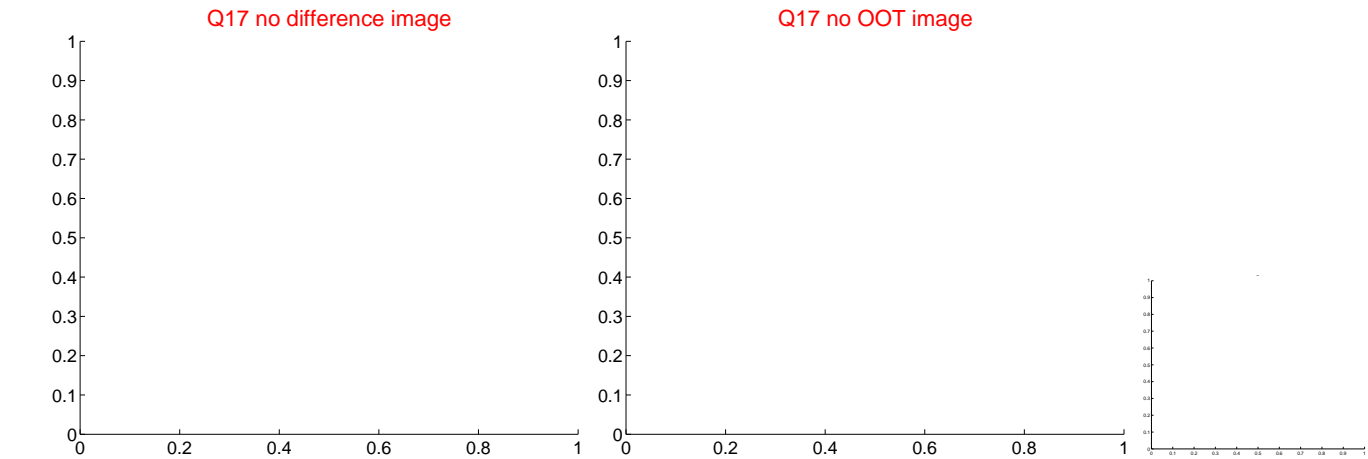
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

