

KIC 011246246

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 011246246-01 | OBS | No | 606.164144 | 215.616839 | 2276.6 | 9.262 | 18.9 | 8.5 | 0.71 | 4983 | 3.50 | 0.18 |
| 011246246-02 | OBS | No | 528.647630 | 483.045213 | 4023.2 | 22.471 | 12.4 | 5.5 | 0.71 | 4983 | 8.63 | 0.22 |
| 011246246-03 | OBS | No | 533.052084 | 210.321353 | 2940.9 | 5.664 | 15.9 | 11.8 | 0.71 | 4983 | 5.01 | 0.21 |
| 011246246-04 | OBS | No | 664.468436 | 174.301241 | 1151.6 | 2.060 | 13.1 | 6.5 | 0.71 | 4983 | 2.53 | 0.16 |
| 011246246-05 | OBS | No | 458.801534 | 460.695645 | 620.0 | 4.500 | 14.9 | -1.0 | 0.71 | 4983 | 1.73 | 0.26 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 011246246-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS |
| 011246246-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 011246246-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS |
| 011246246-04 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST |
| 011246246-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—CENT_NOFITS |

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

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

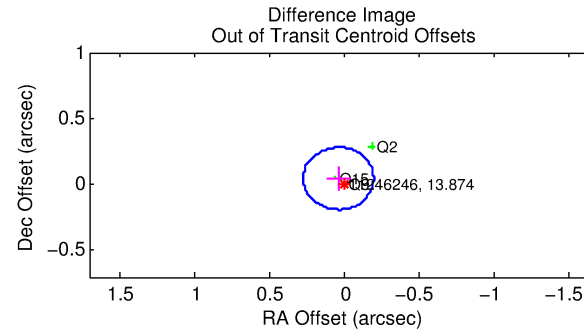
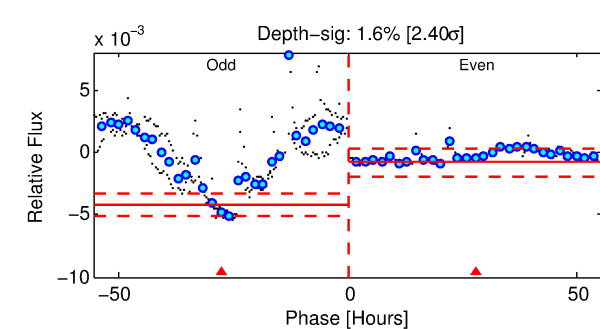
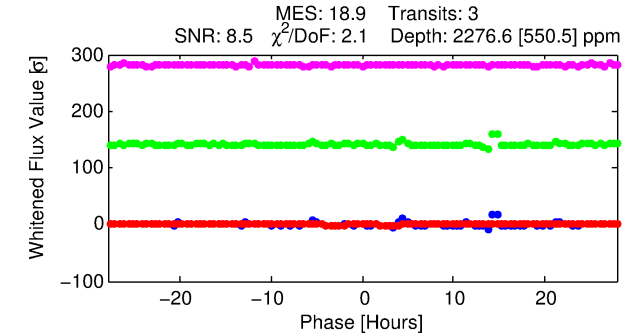
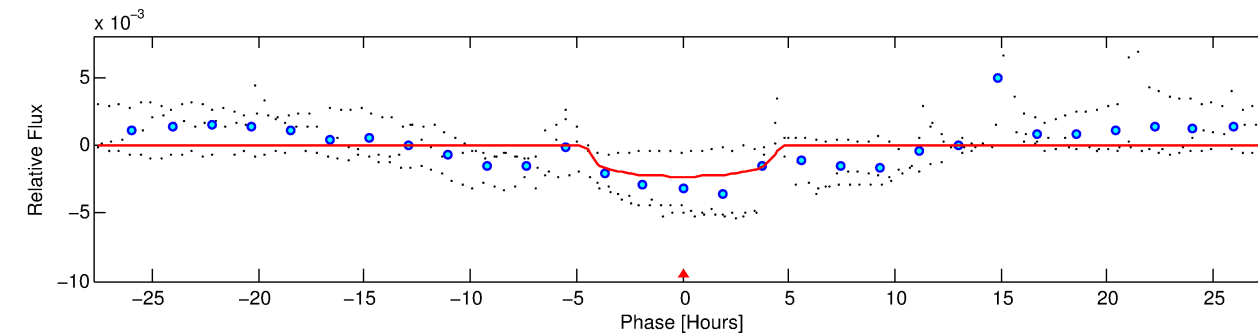
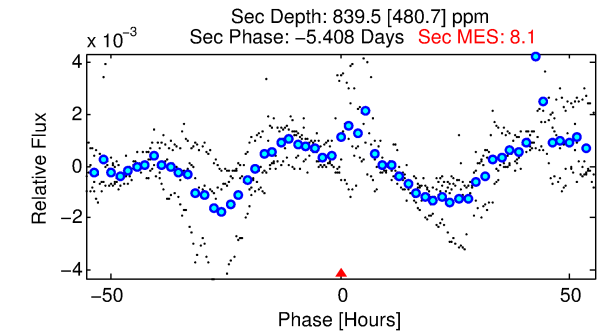
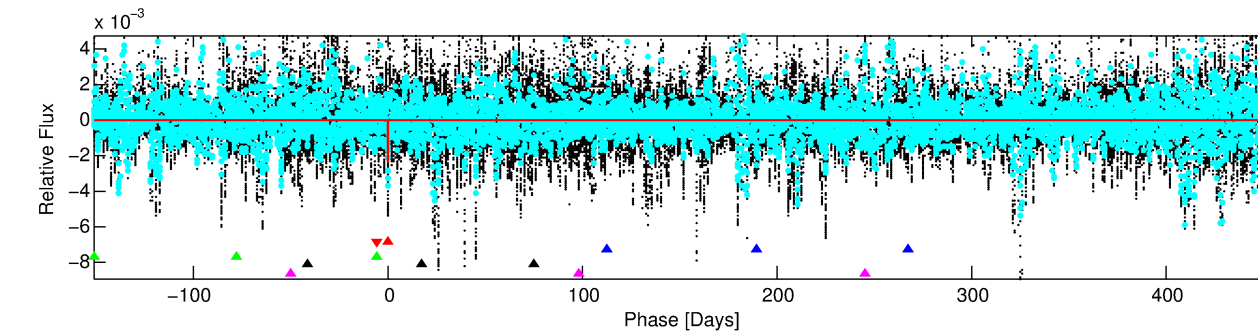
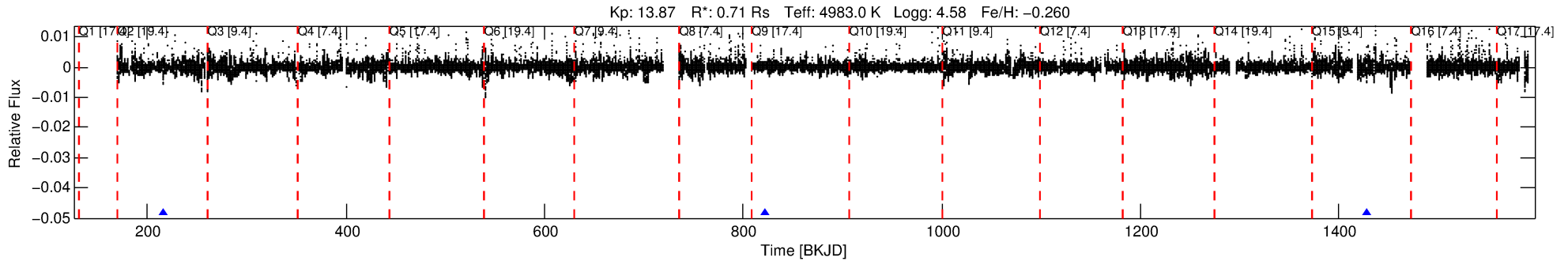
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011246246-01

No Significant Match Found

DV One-Page Summary

KIC: 11246246 Candidate: 1 of 5 Period: 606.164 d



DV Fit Results:

Period = 606.16414 [0.00701] d
Epoch = 215.6168 [0.0087] BKJD
Rp/R* = 0.0449 [0.0141]
a/R* = 436.21 [398.50]
b = 0.57 [1.10]
Seff = 0.18 [0.03]
Teq = 166 [7] K
Rp = 3.50 [1.15] Re
a = 1.2540 [0.0994] AU
Ag = 59267.42 [50776.35] [1.17 σ]
Teffp = 4004 [863] K [4.45 σ]

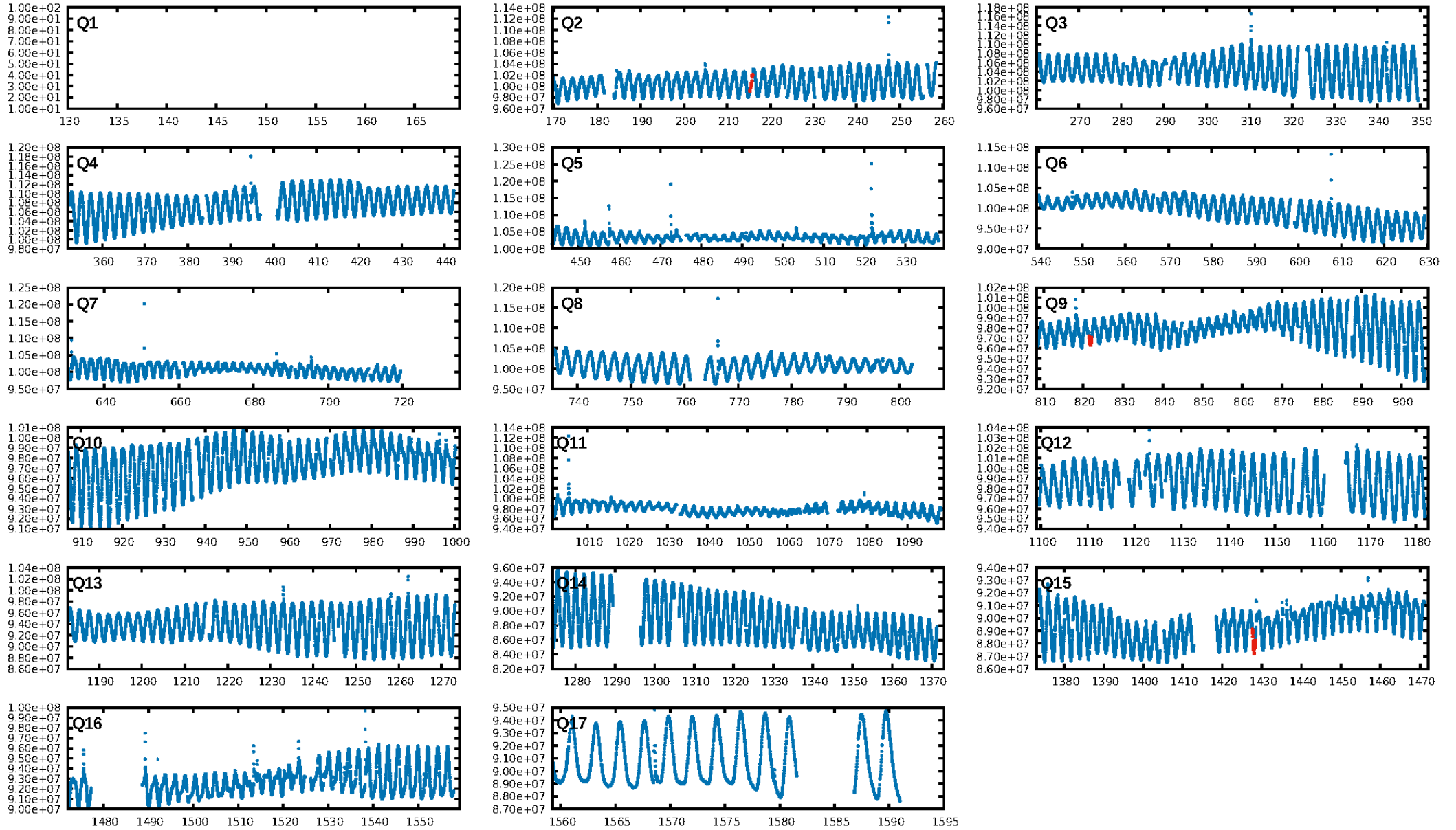
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [161.62 σ]
LongPeriod-sig: 100.0% [147.47 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 46.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -7.859
Centroid-sig: 37.4%
Centroid-so: 0.126 arcsec [0.79 σ]
OotOffset-rm: 0.057 arcsec [0.72 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 0.060 arcsec [0.60 σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

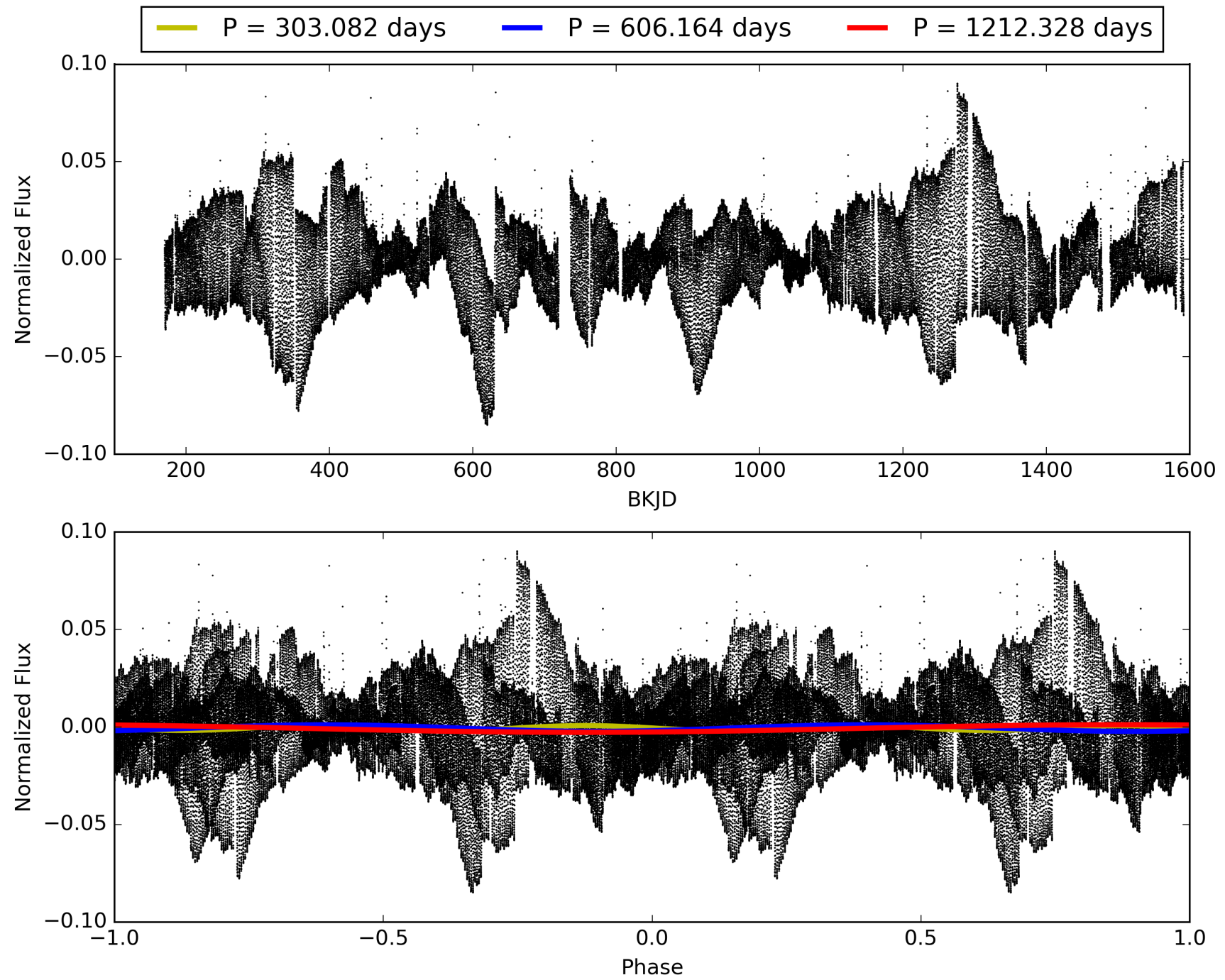
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:03:29 Z

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

TCE 011246246-01, PDC Light Curves

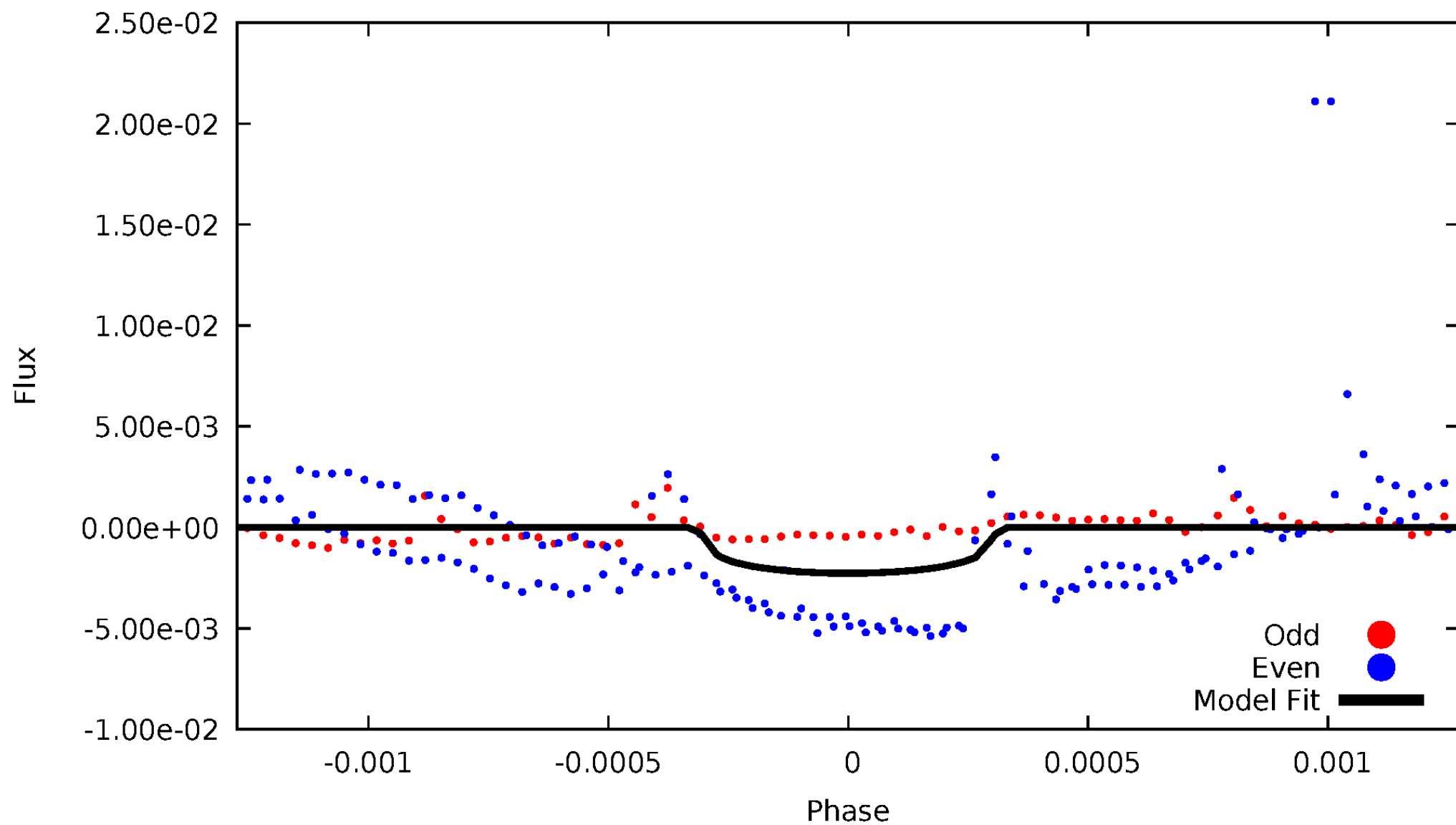


TCE 011246246-01



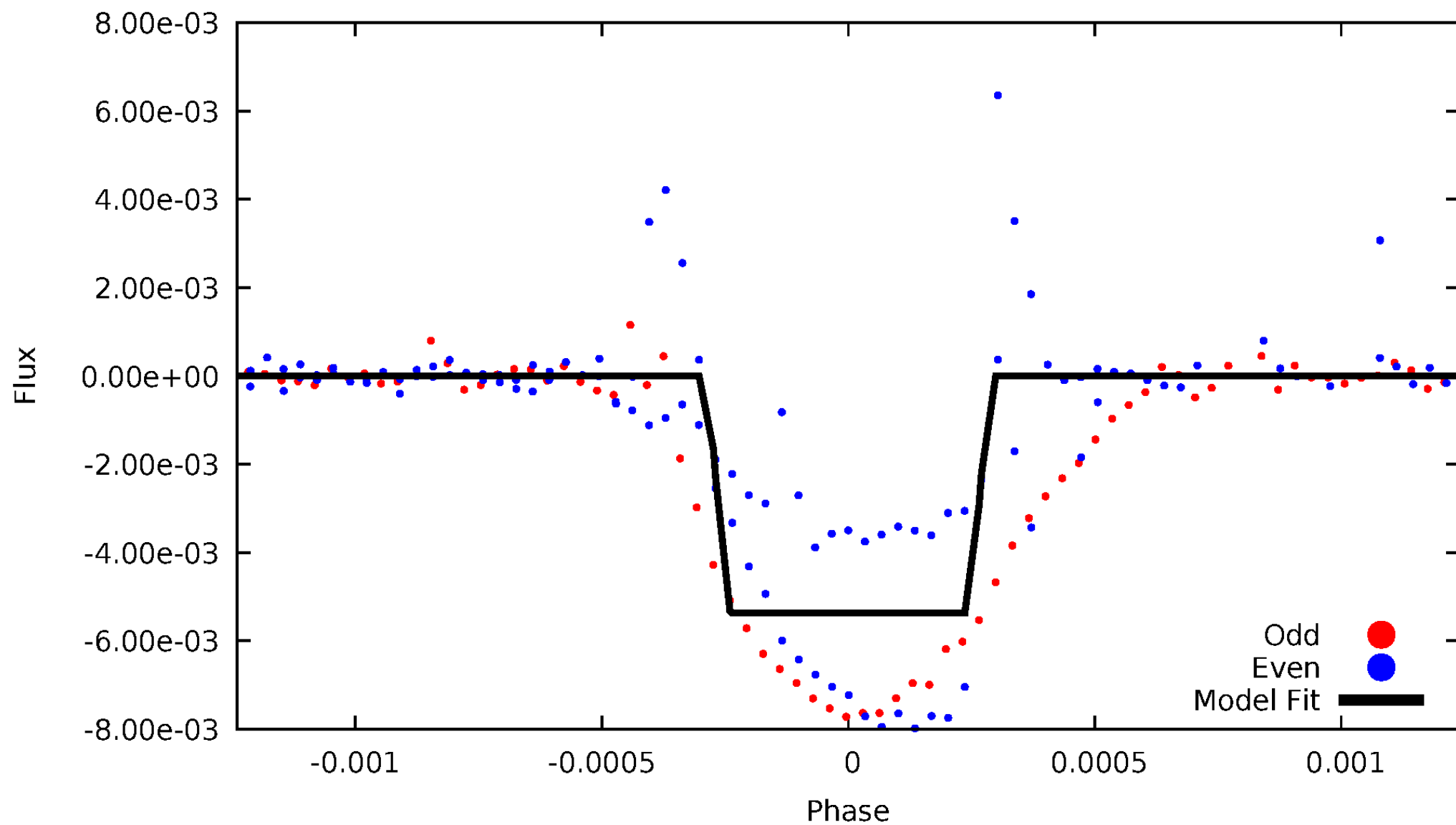
DV Odd/Even

TCE 011246246-01



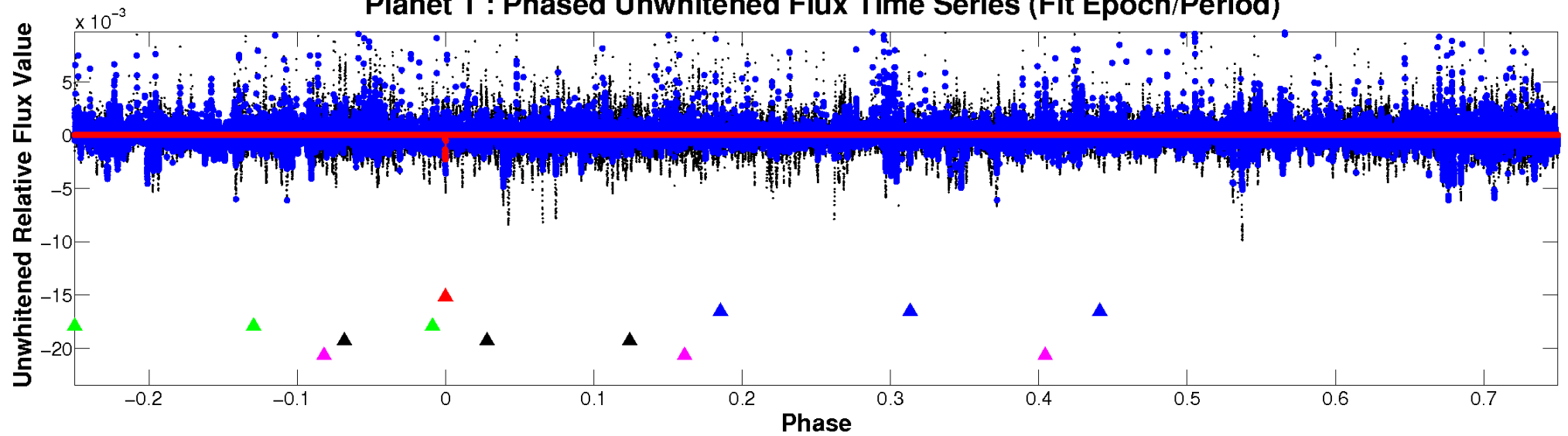
ALT Odd/Even

TCE 011246246-01

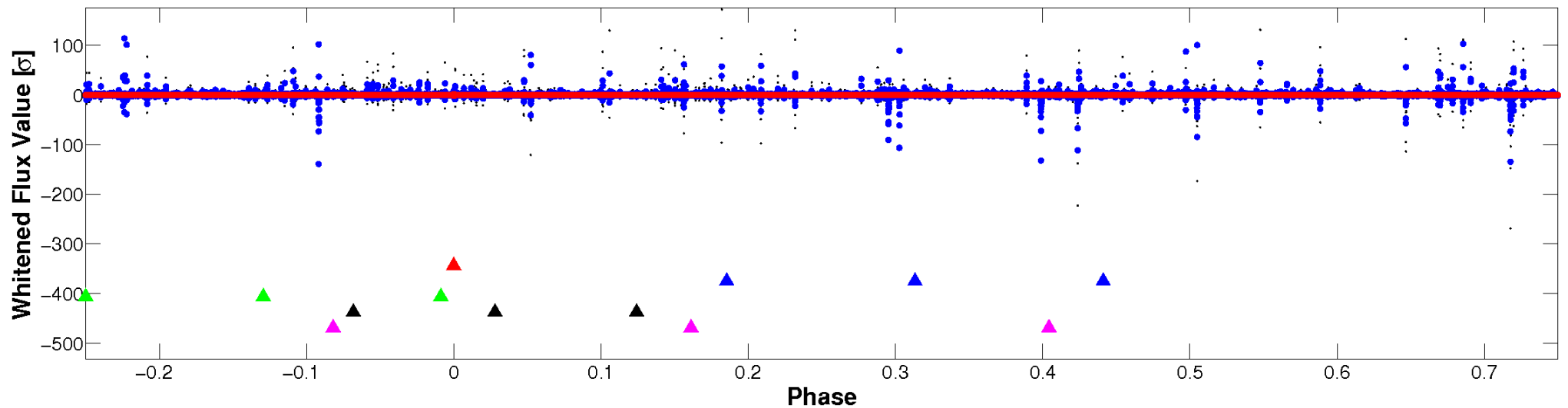


Non-Whitened Vs. Whitened Light Curve

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

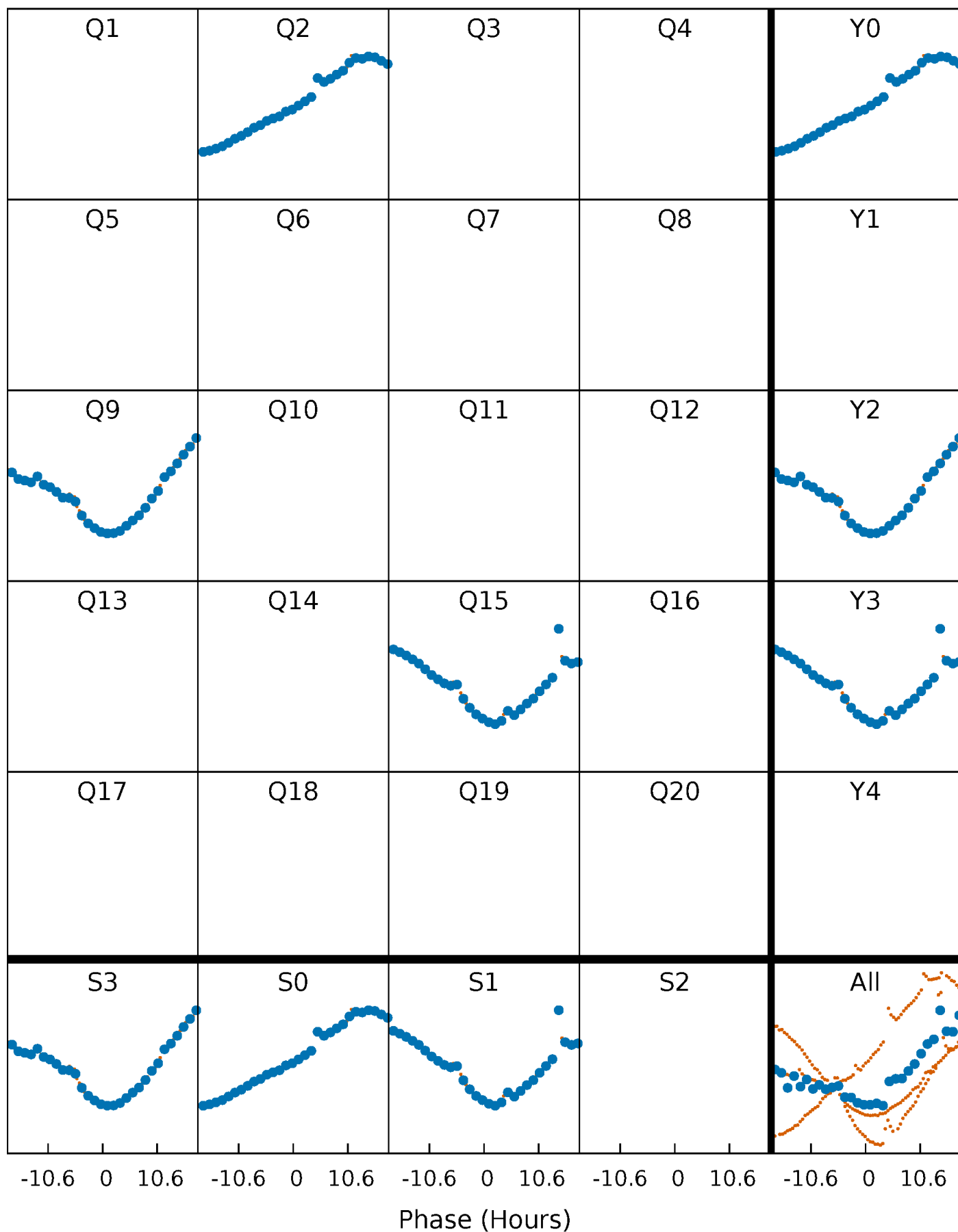


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



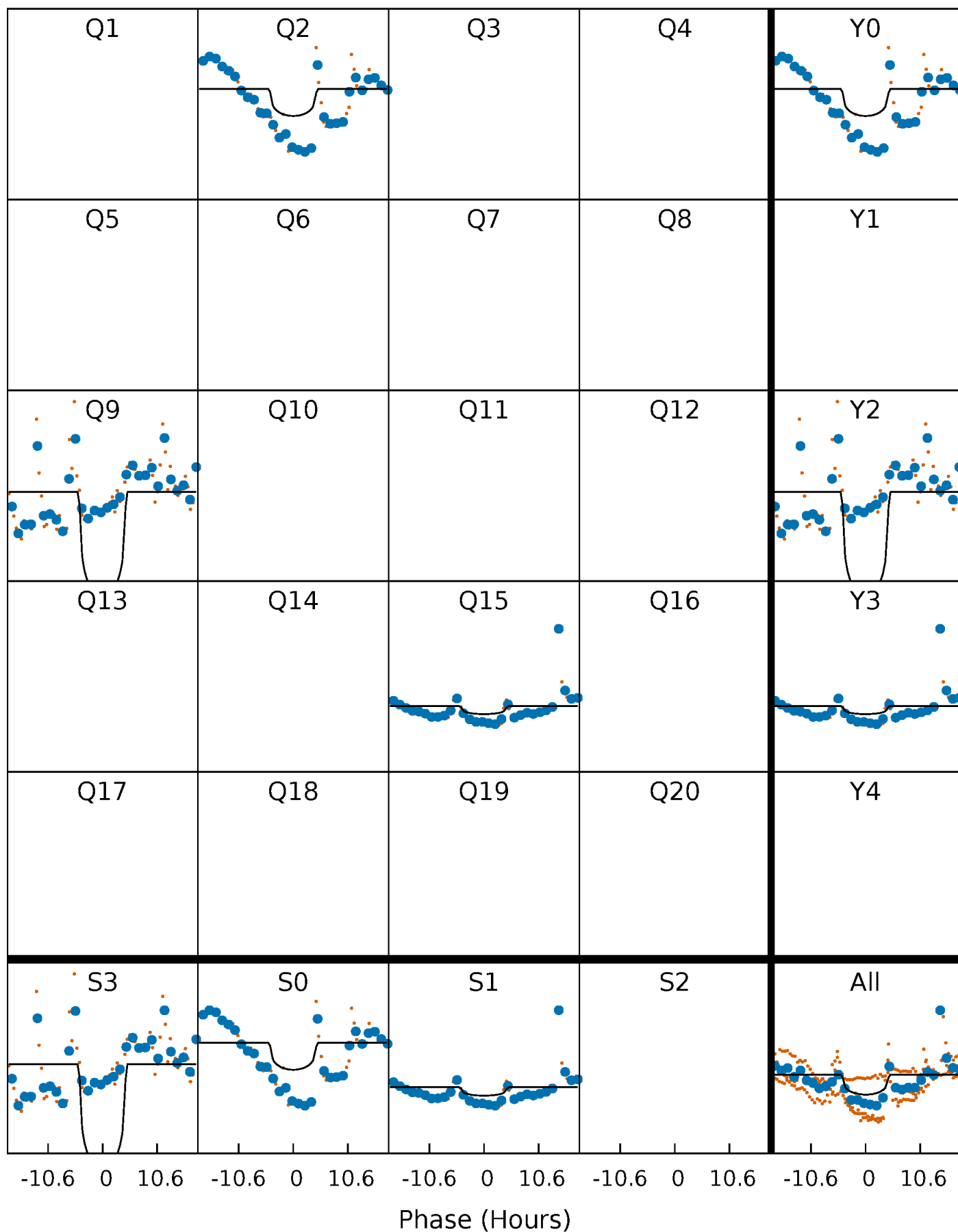
PDC Quarter-Phased Transit Curves

TCE 011246246-01 P=606.164144 Days $T_0=215.616839$ (BKJD)



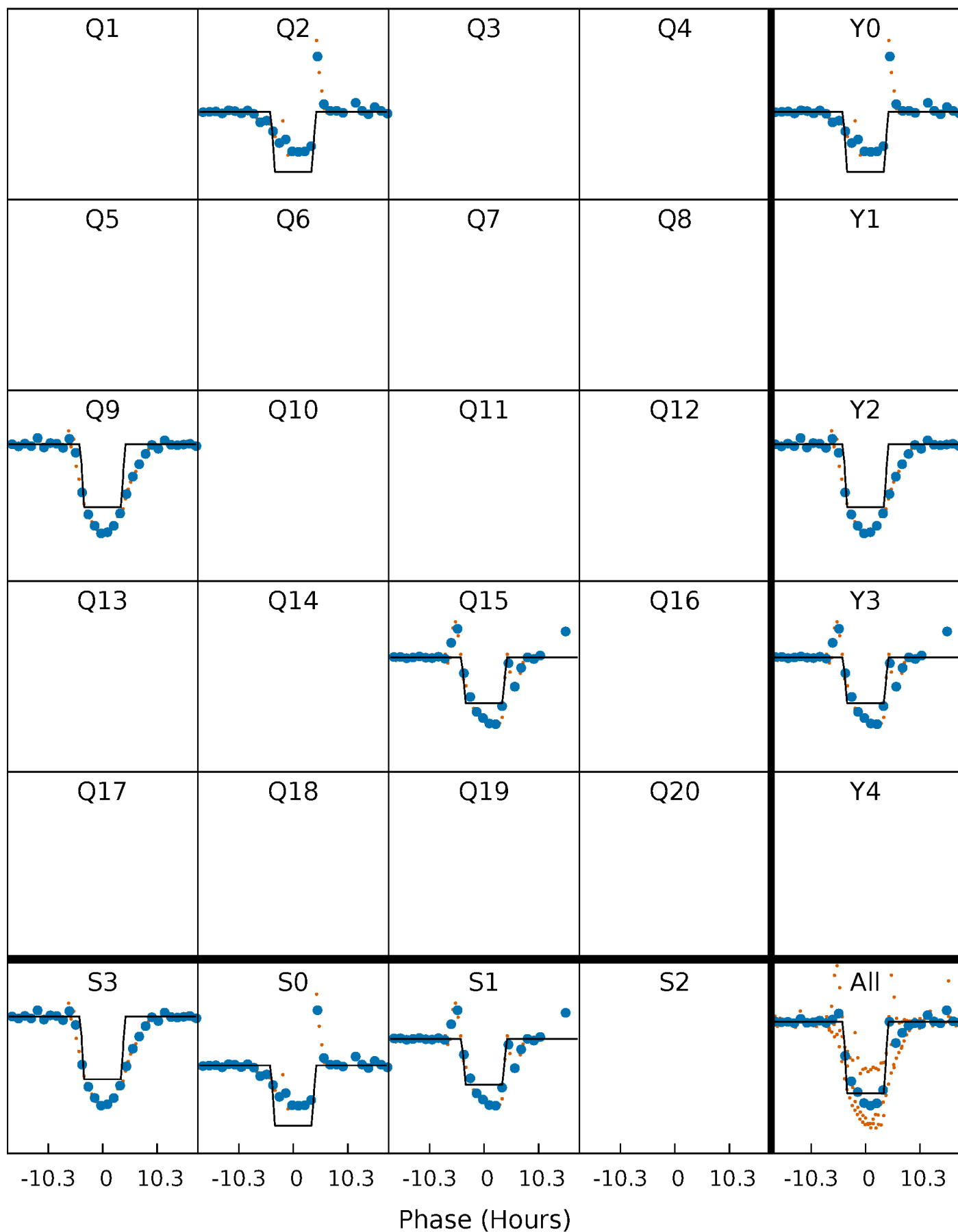
DV Quarter-Phased Transit Curves

TCE 011246246-01 P=606.164144 Days $T_0=215.616839$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

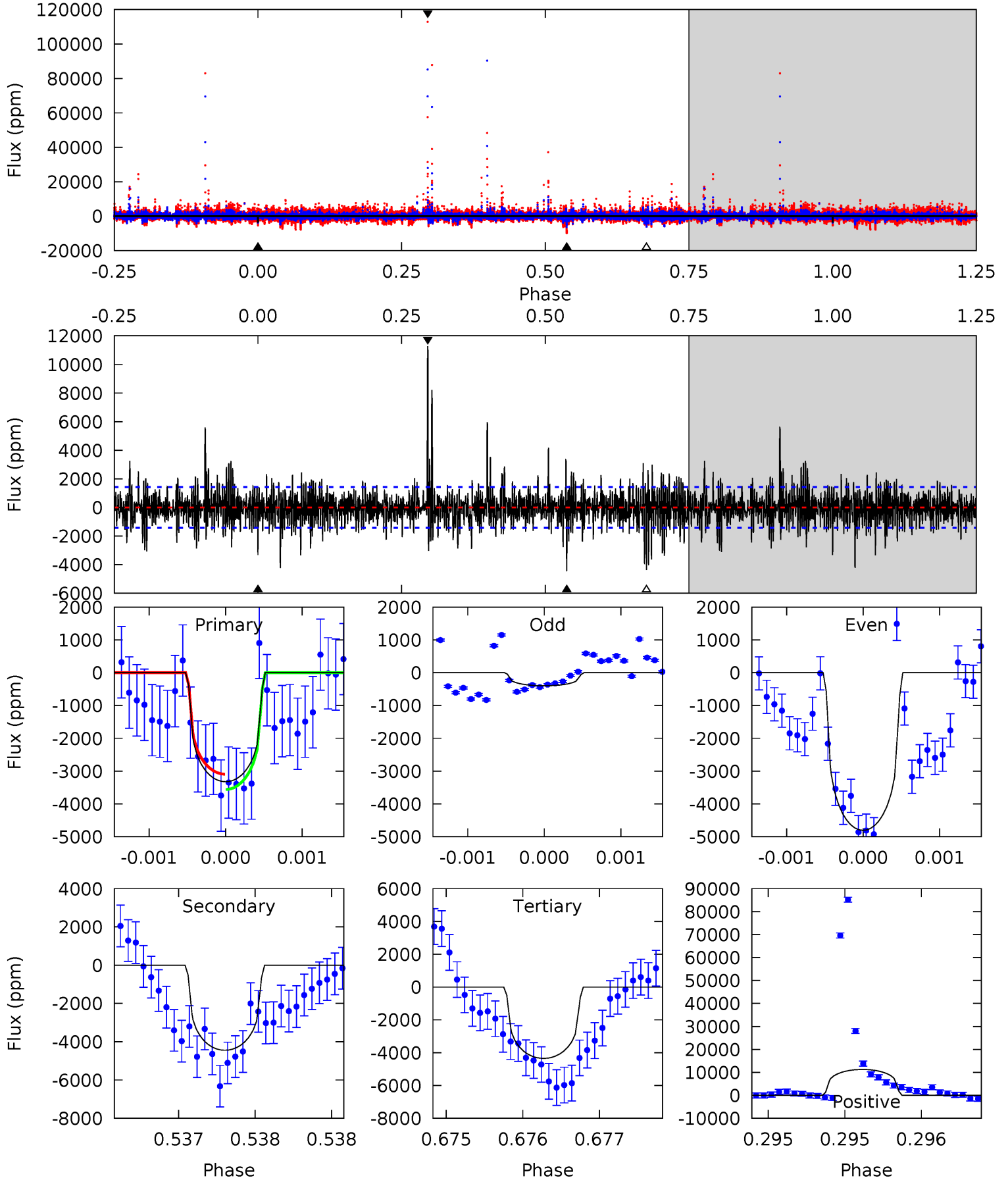
TCE 011246246-01 P=606.161557 Days $T_0=215.618635$ (BKJD)



DV Model-Shift Uniqueness Test

011246246-01, P = 606.164144 Days, E = 215.616839 Days

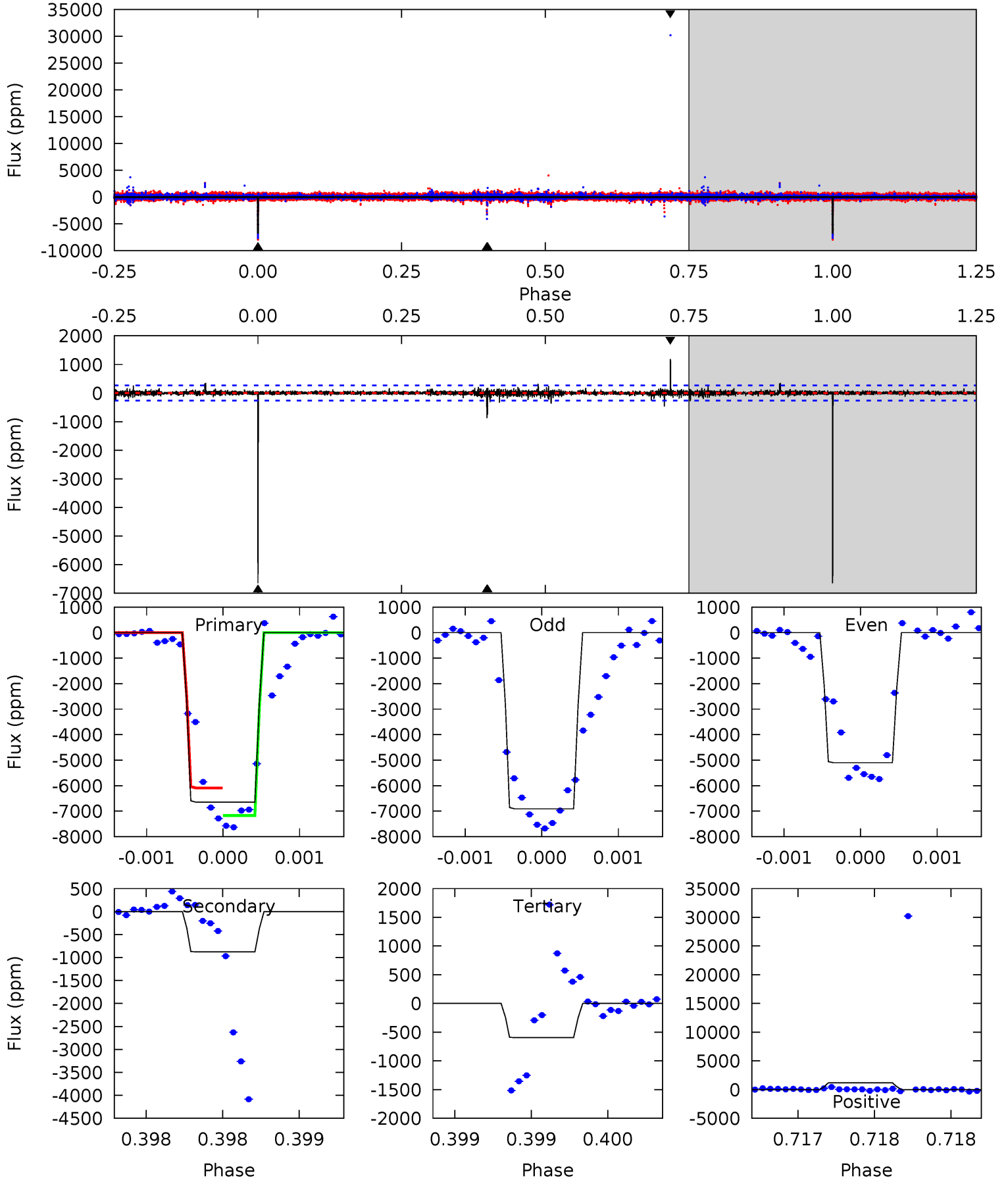
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.9 | 17.2 | 16.8 | 43.7 | 5.53 | 3.41 | 3.93 | -3.97 | -30.8 | 0.37 | -26.4 | 6.45 | 0.72 | 0.72 | 0.91 |



Alt Model-Shift Uniqueness Test

011246246-01, P = 606.161557 Days, E = 215.618635 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 138.6 | 18.3 | 12.4 | 24.7 | 5.55 | 3.45 | 1.00 | 126.2 | 113.9 | 5.89 | -6.39 | 18.7 | 0.84 | 0.15 | 0 |



Stellar Parameters For KIC 011246246

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 4983^{+176}_{-176} | $4.584^{+0.055}_{-0.050}$ | $-0.260^{+0.300}_{-0.300}$ | $0.715^{+0.072}_{-0.072}$ | $0.715^{+0.085}_{-0.057}$ | $2.761^{+0.668}_{-0.488}$ |
| | +4%/-4% | +1%/-1% | +115%/-115% | +10%/-10% | +12%/-8% | +24%/-18% |
| Source | PHO54 | PHO54 | PHO54 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 011246246-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-----------------|------------------------|----------------------|-----------------------|------------------------------|
| DV | -4445 ± 258 | $3.41^{+1.19}_{-1.07}$ | 232^{+10}_{-10} | 6026^{+1396}_{-791} | $336313^{+367539}_{-152393}$ |
| Alt. | -877 ± 48 | $5.75^{+1.12}_{-1.21}$ | 231^{+9}_{-8} | 3569^{+295}_{-216} | 23025^{+13907}_{-6820} |

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

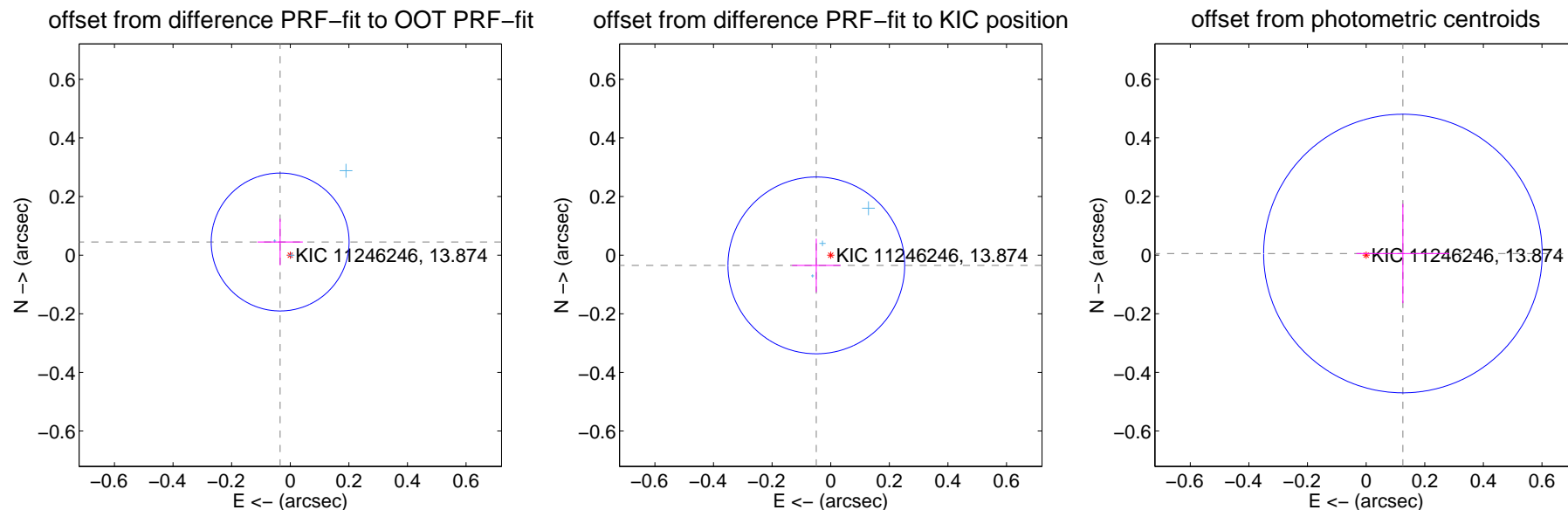
DV Centroid Data

Supplemental centroid analysis for 011246246-01. Kepler magnitude: 13.87. Transit SNR 8.48

There are 3 quarters with good PRF difference image offsets

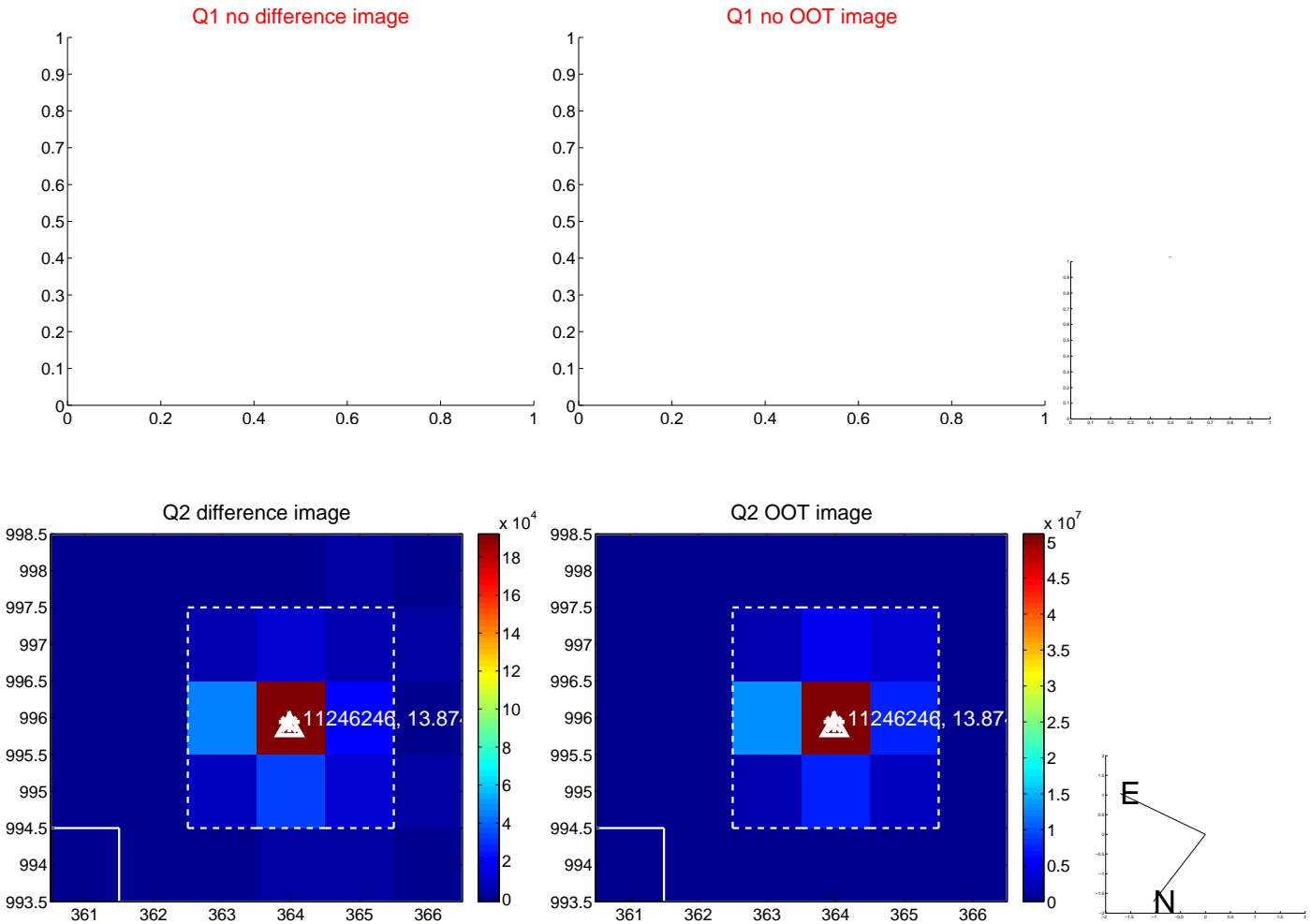
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.057 ± 0.078 | 0.72 | 0.035 ± 0.077 | 0.045 ± 0.079 |
| PRF-fit source offset from KIC position | 0.060 ± 0.101 | 0.60 | 0.049 ± 0.083 | -0.035 ± 0.091 |
| photometric centroid source offset | 0.13 ± 0.16 | 0.79 | -0.13 ± 0.16 | 0.01 ± 0.17 |



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.

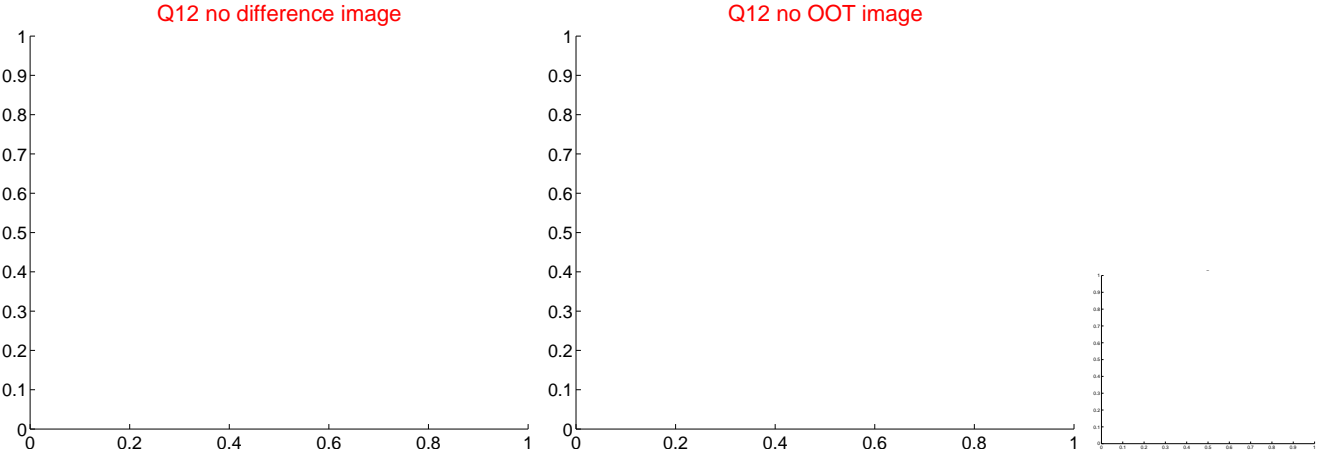
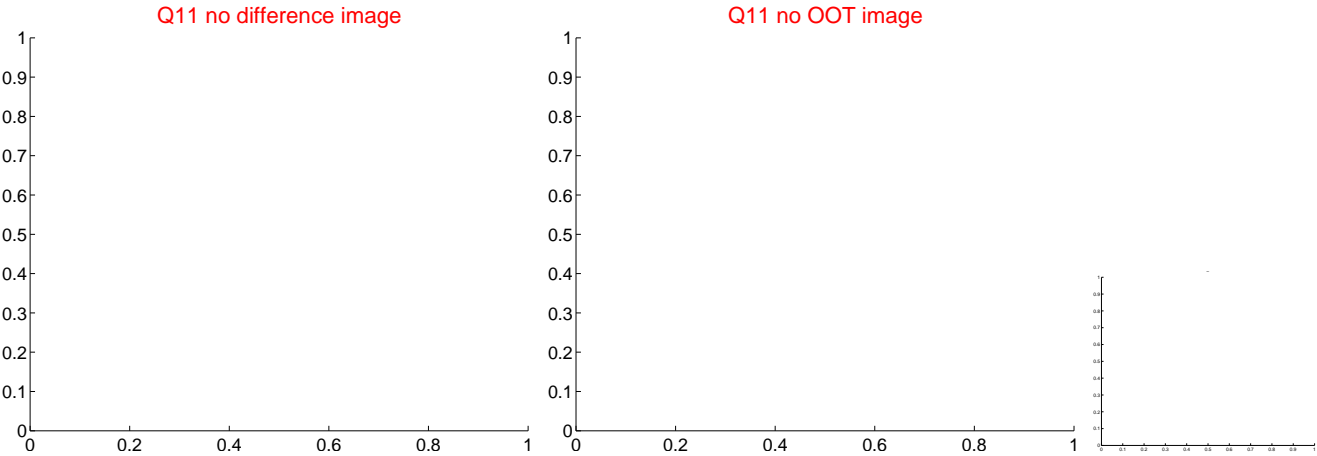
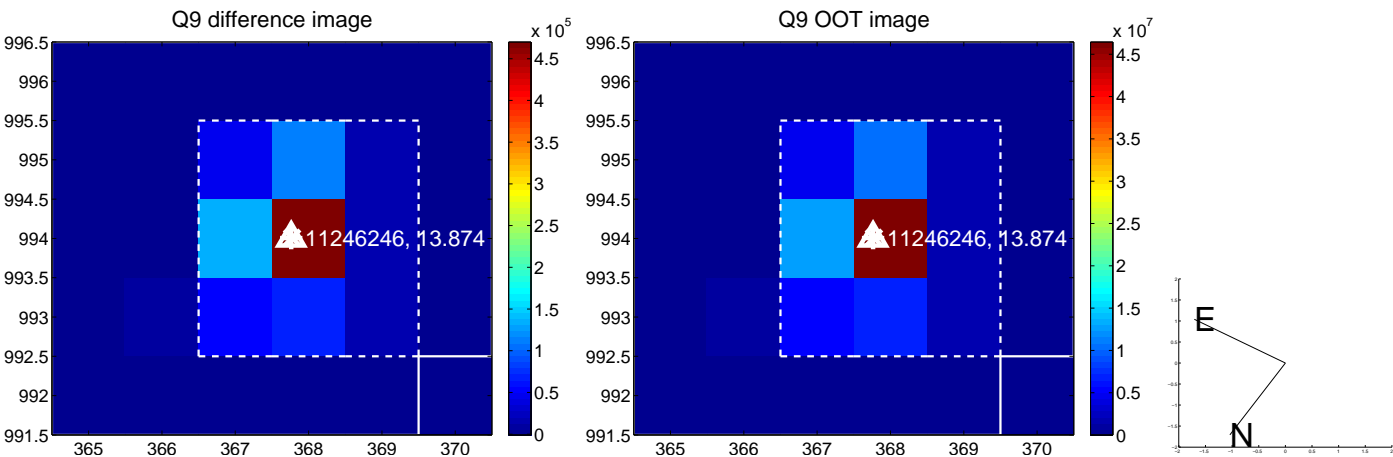
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



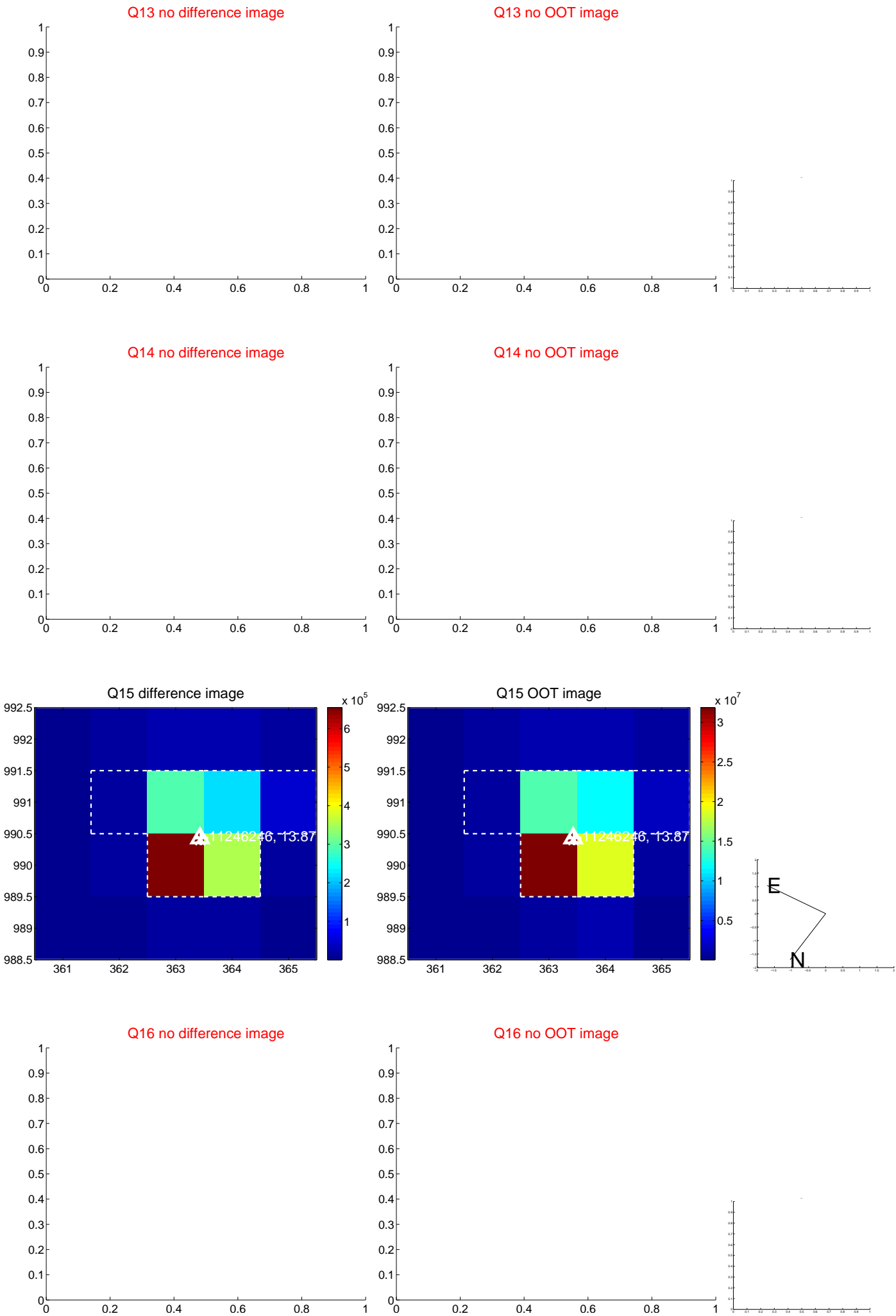
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



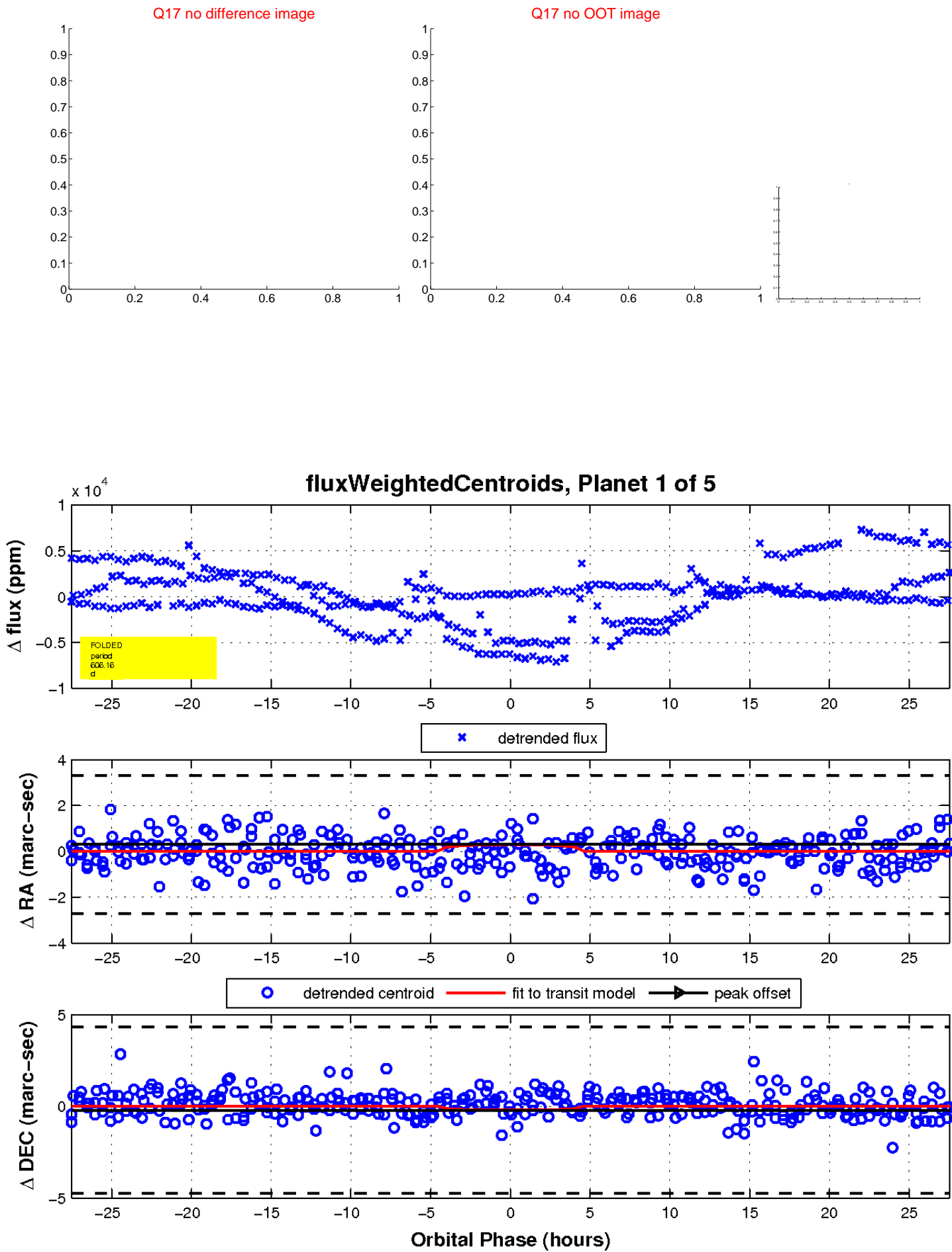
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



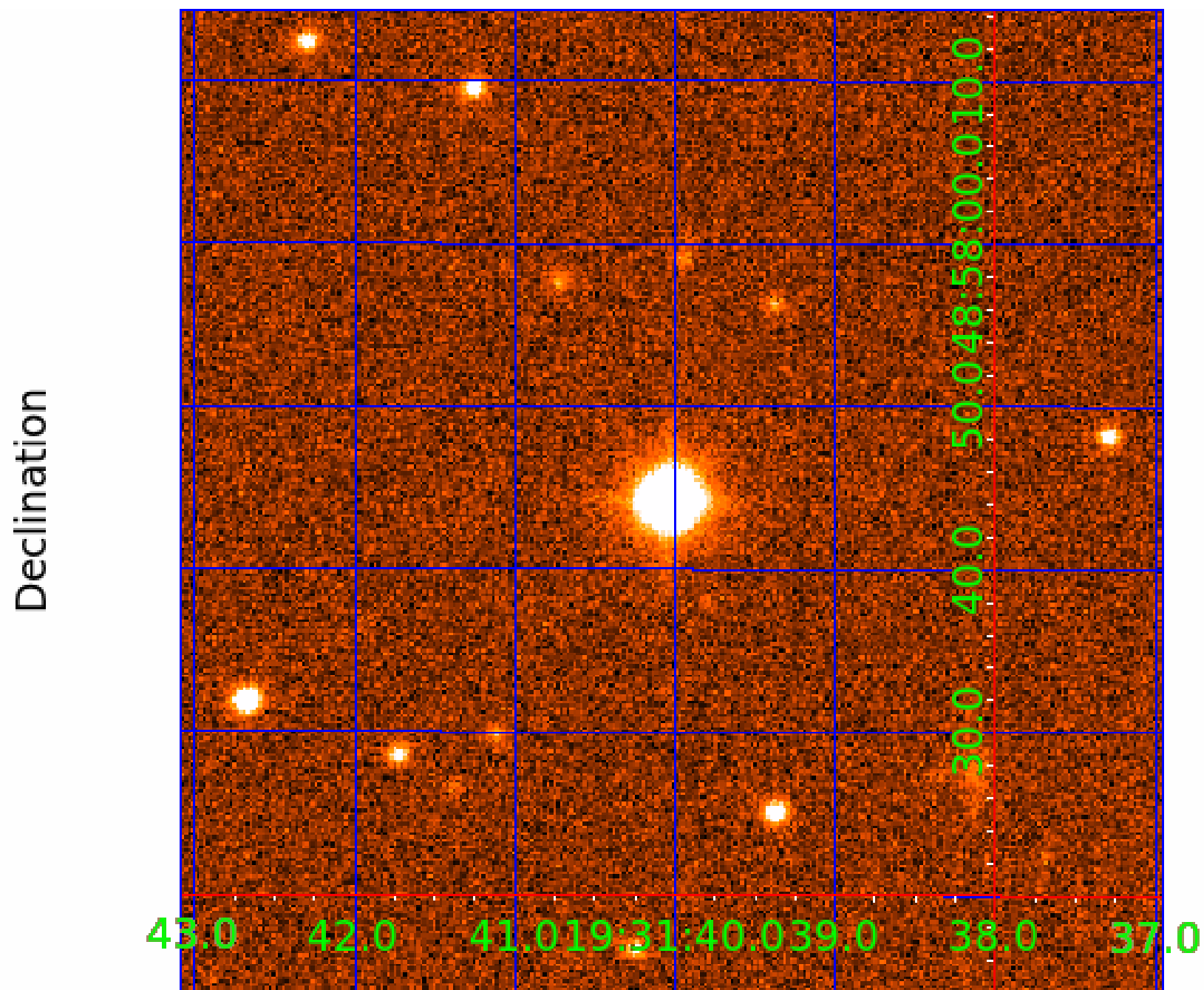
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image



KIC 011246246

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 011246246-01 | OBS | No | 606.164144 | 215.616839 | 2276.6 | 9.262 | 18.9 | 8.5 | 0.71 | 4983 | 3.50 | 0.18 |
| 011246246-02 | OBS | No | 528.647630 | 483.045213 | 4023.2 | 22.471 | 12.4 | 5.5 | 0.71 | 4983 | 8.63 | 0.22 |
| 011246246-03 | OBS | No | 533.052084 | 210.321353 | 2940.9 | 5.664 | 15.9 | 11.8 | 0.71 | 4983 | 5.01 | 0.21 |
| 011246246-04 | OBS | No | 664.468436 | 174.301241 | 1151.6 | 2.060 | 13.1 | 6.5 | 0.71 | 4983 | 2.53 | 0.16 |
| 011246246-05 | OBS | No | 458.801534 | 460.695645 | 620.0 | 4.500 | 14.9 | -1.0 | 0.71 | 4983 | 1.73 | 0.26 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 011246246-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS |
| 011246246-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 011246246-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS |
| 011246246-04 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST |
| 011246246-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—CENT_NOFITS |

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

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

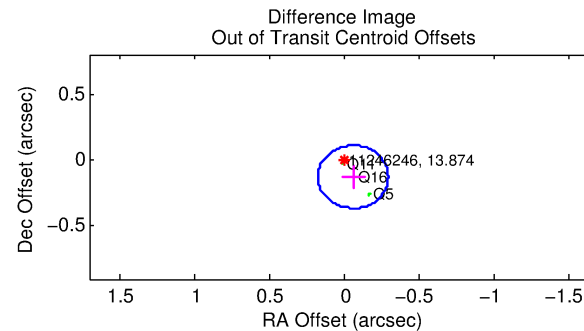
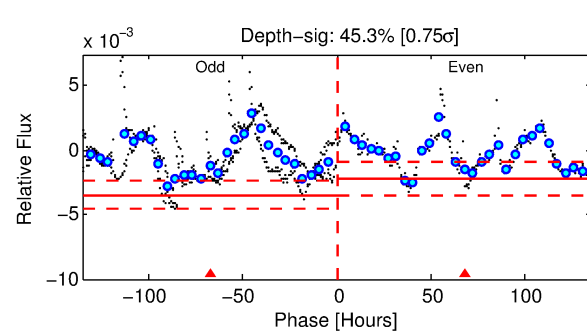
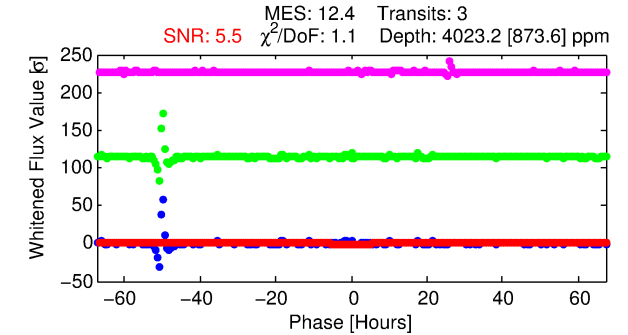
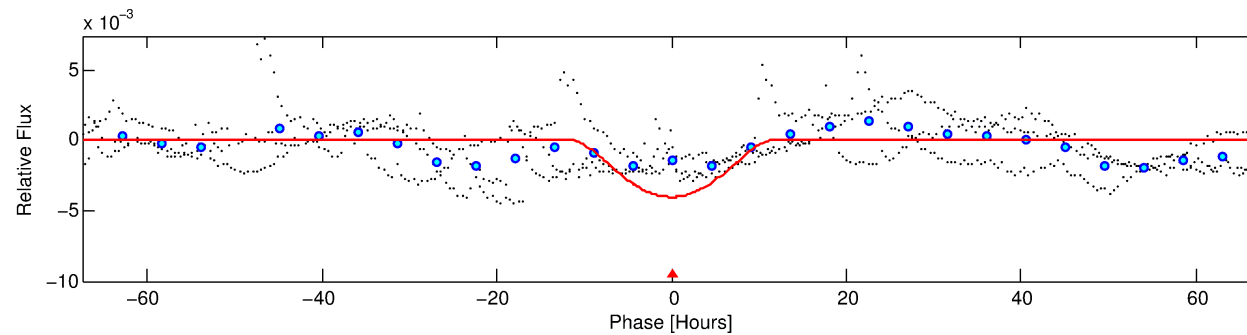
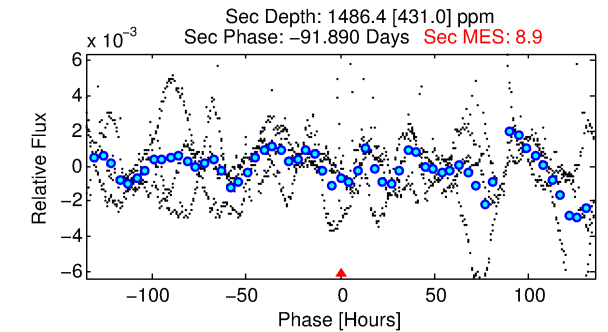
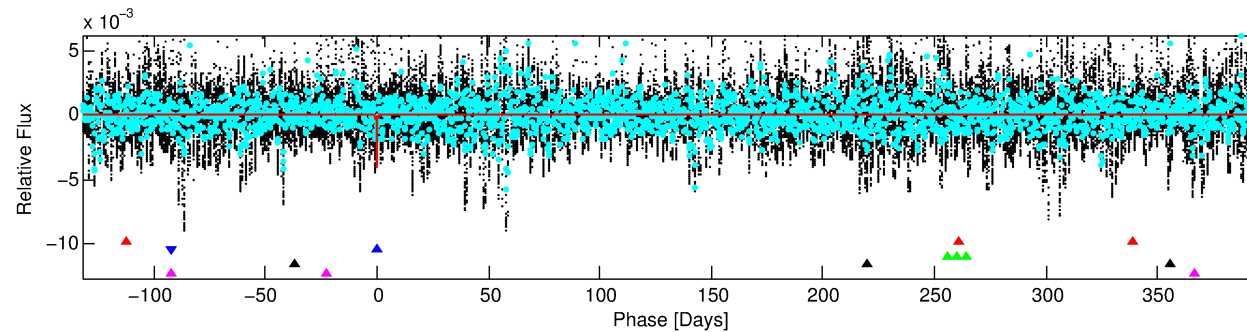
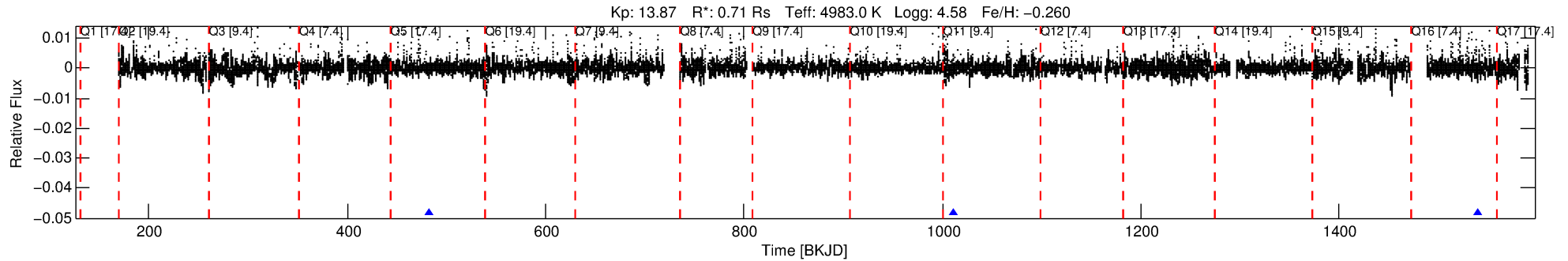
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011246246-02

No Significant Match Found

DV One-Page Summary

KIC: 11246246 Candidate: 2 of 5 Period: 528.648 d



DV Fit Results:

Period = 528.64763 [0.02924] d
Epoch = 483.0452 [0.0325] BKJD
Rp/R* = 0.1106 [0.1925]
a/R* = 87.35 [24.66]
b = 1.00 [0.28]
Seff = 0.22 [0.04]
Teq = 174 [8] K
Rp = 8.63 [15.05] Re
a = 1.1447 [0.0908] AU
Ag = 14386.95 [50280.24] [0.29σ]
Teffp = 2942 [2571] K [1.08σ]

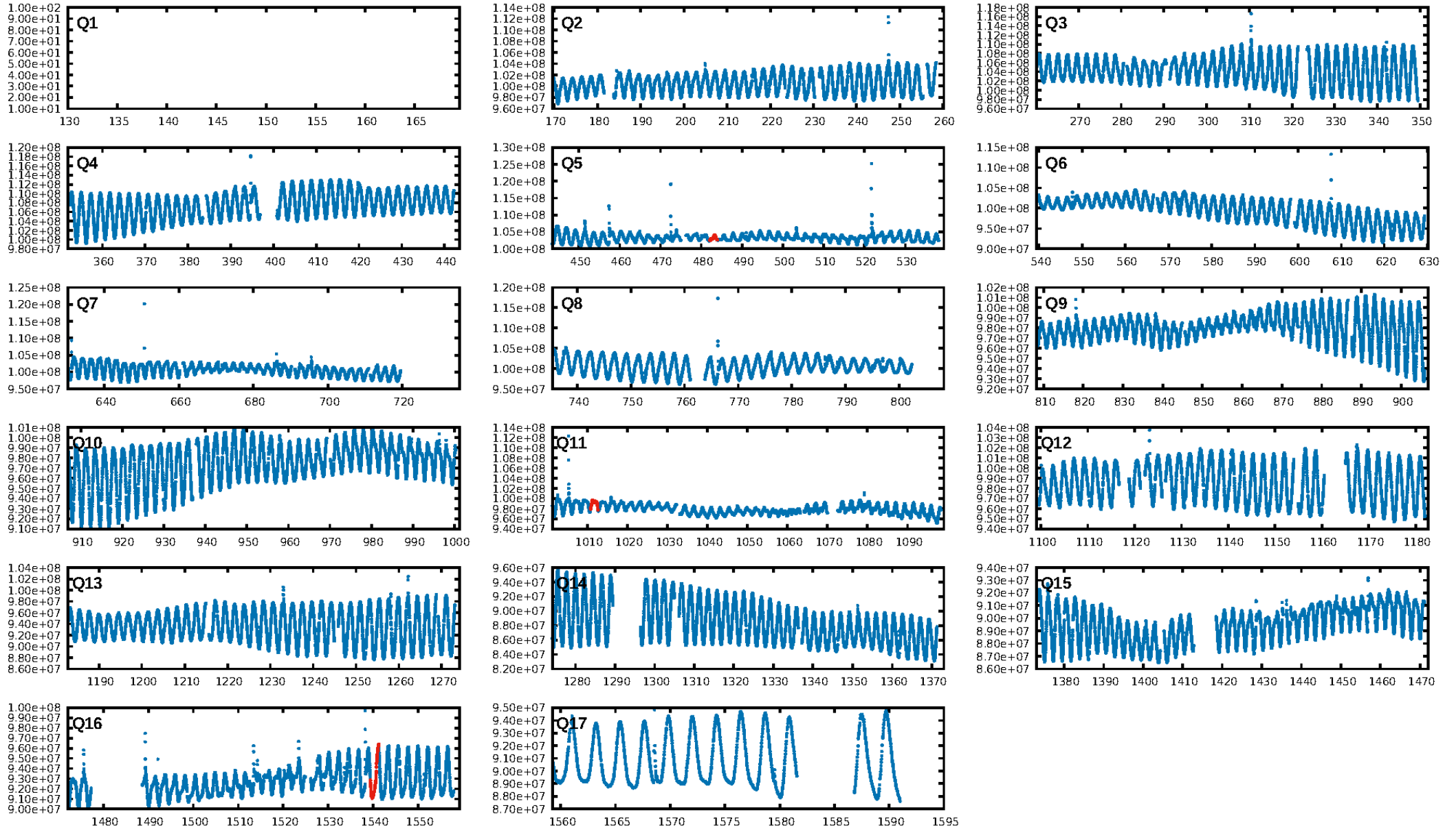
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [73.14σ]
LongPeriod-sig: 100.0% [4.56σ]
ModelChiSquare2-sig: 22.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.991
Centroid-sig: 2.3%
Centroid-so: 0.213 arcsec [2.60σ]
OotOffset-rm: 0.143 arcsec [1.81σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-rm: 0.284 arcsec [2.68σ]
KicOffset-st: 0/1/1/1 [3]
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DiffImageOverlap-fno: 1.00 [3/3]

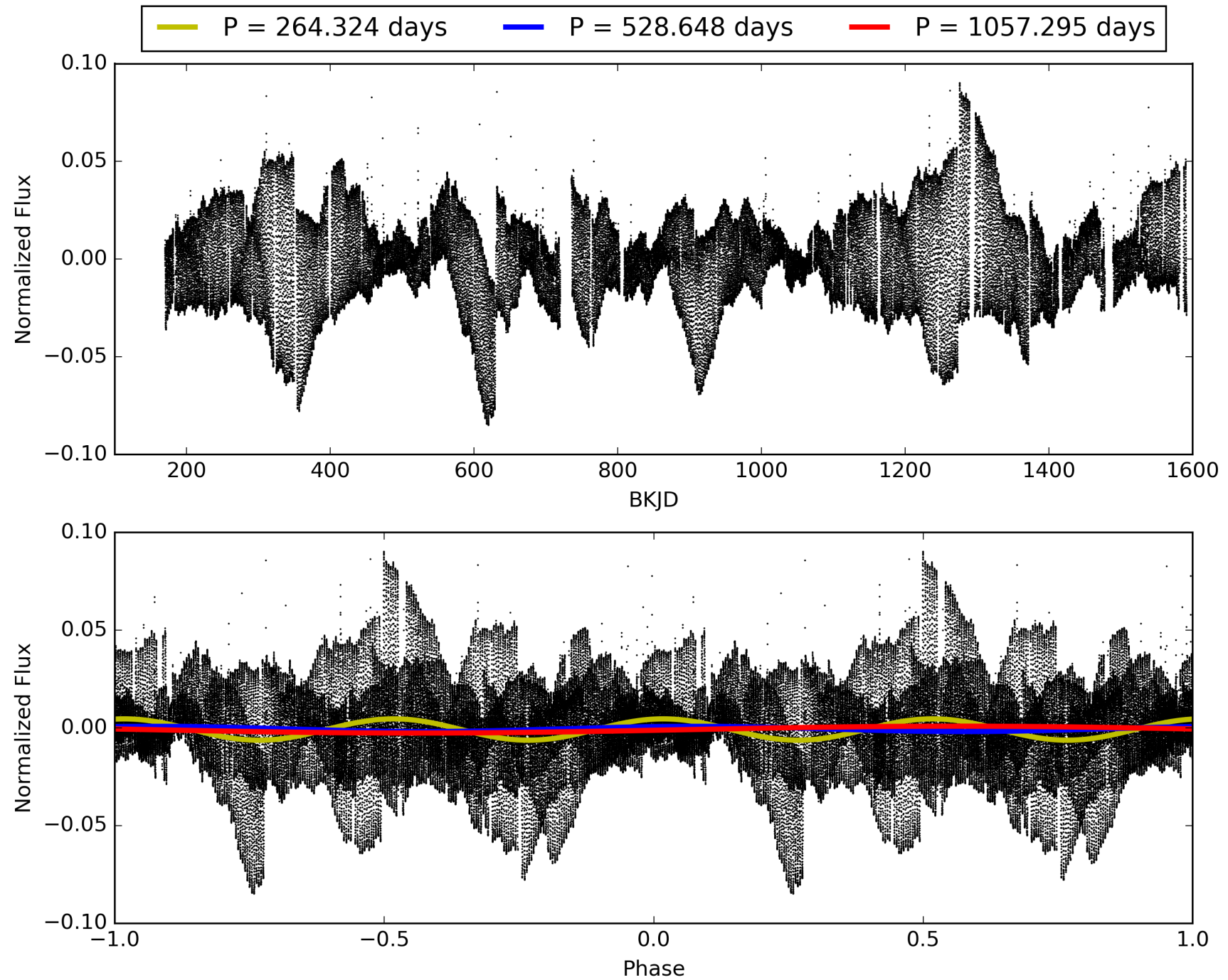
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:03:37 Z

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

TCE 011246246-02, PDC Light Curves

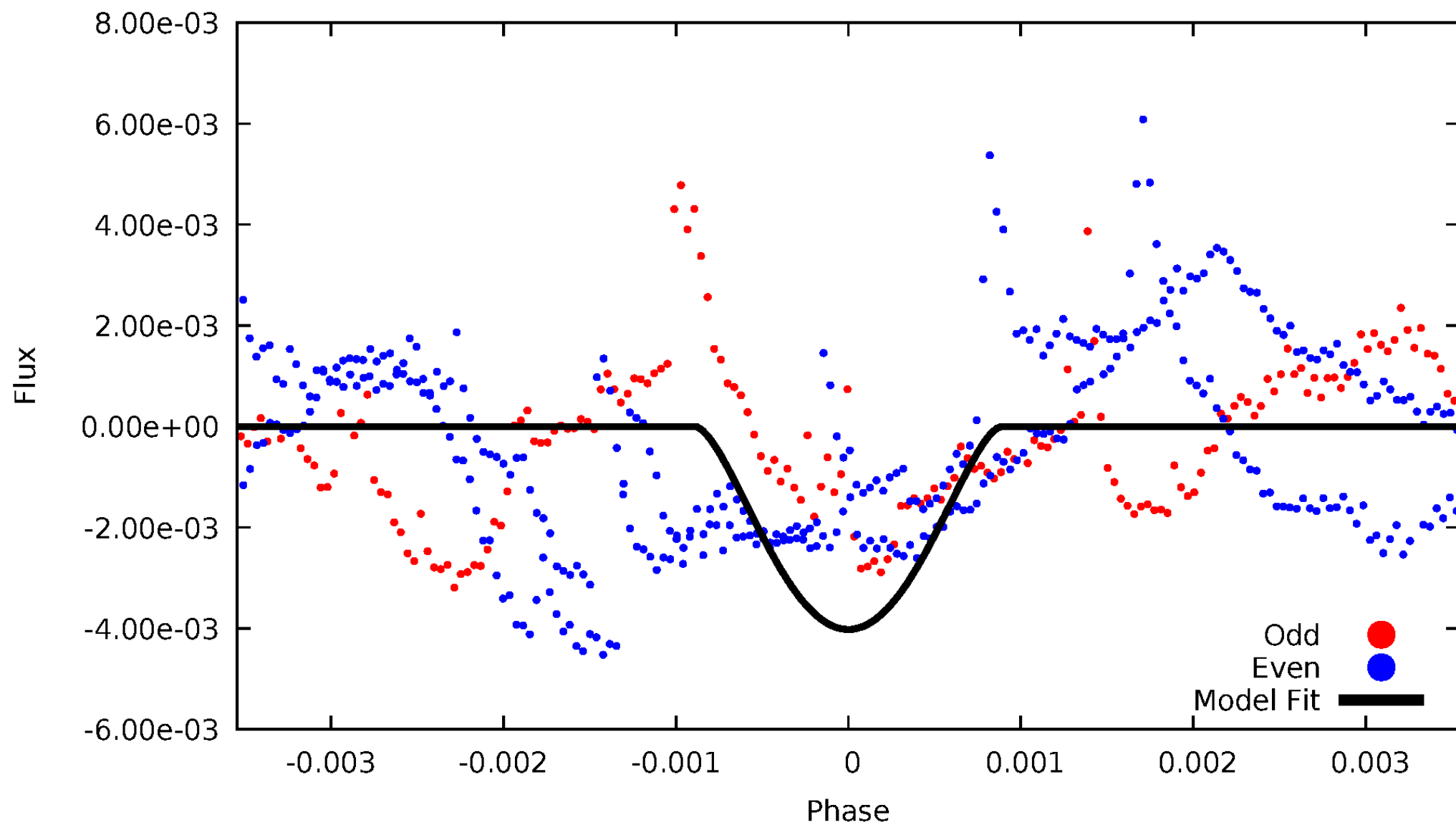


TCE 011246246-02



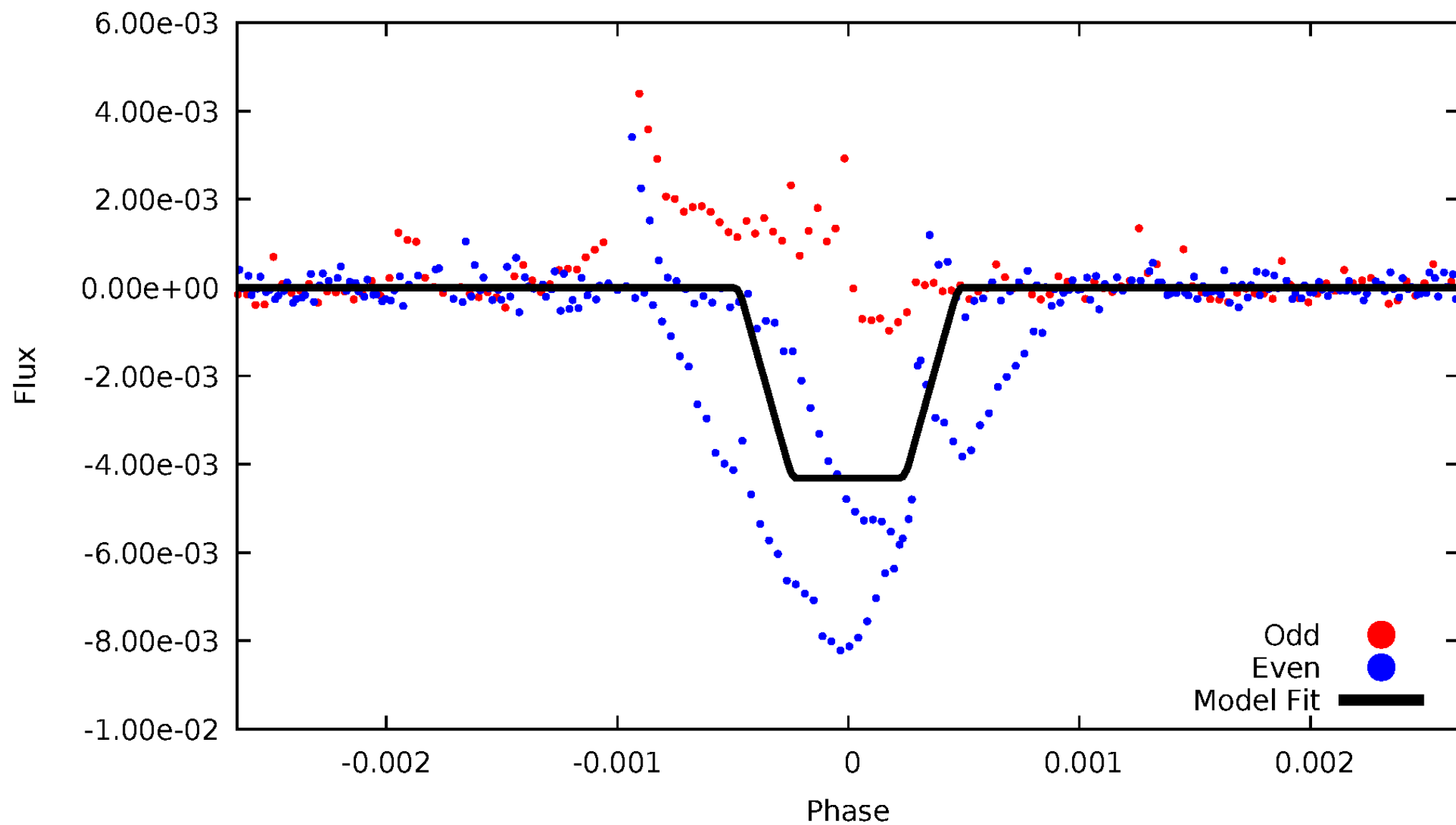
DV Odd/Even

TCE 011246246-02



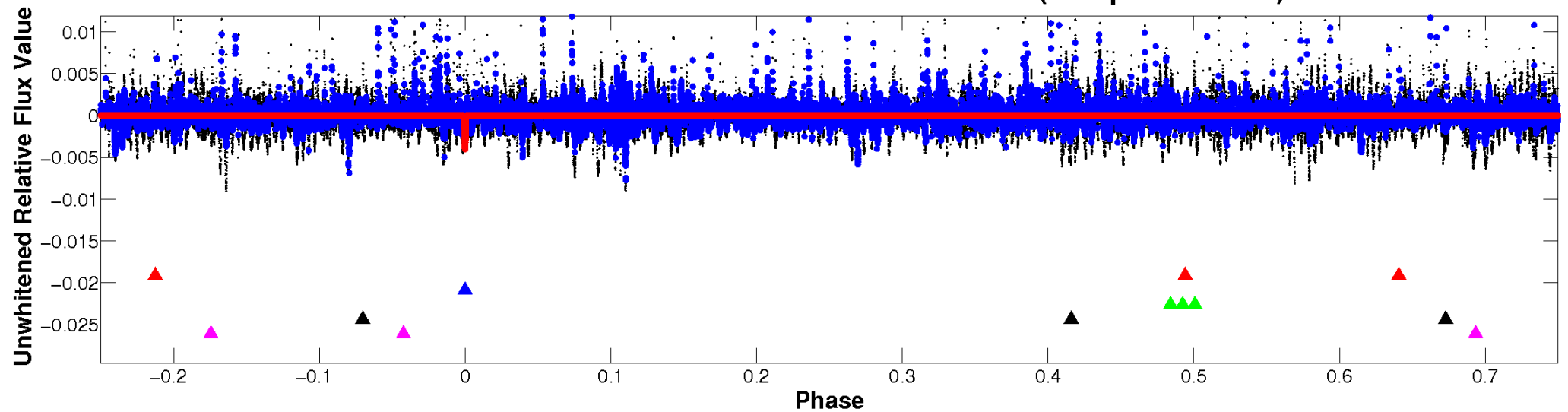
ALT Odd/Even

TCE 011246246-02

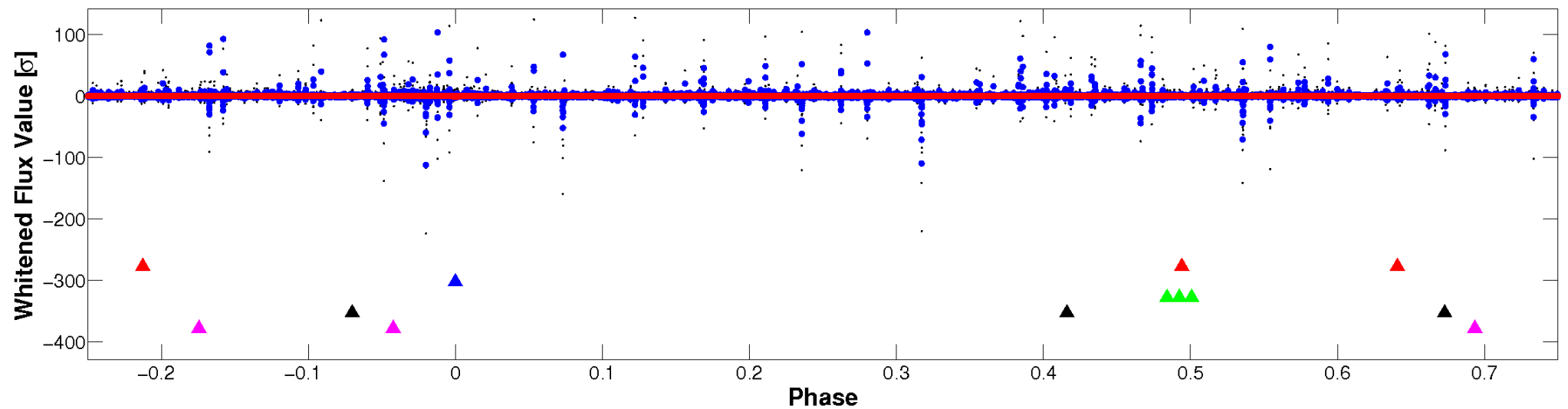


Non-Whitened Vs. Whitened Light Curve

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

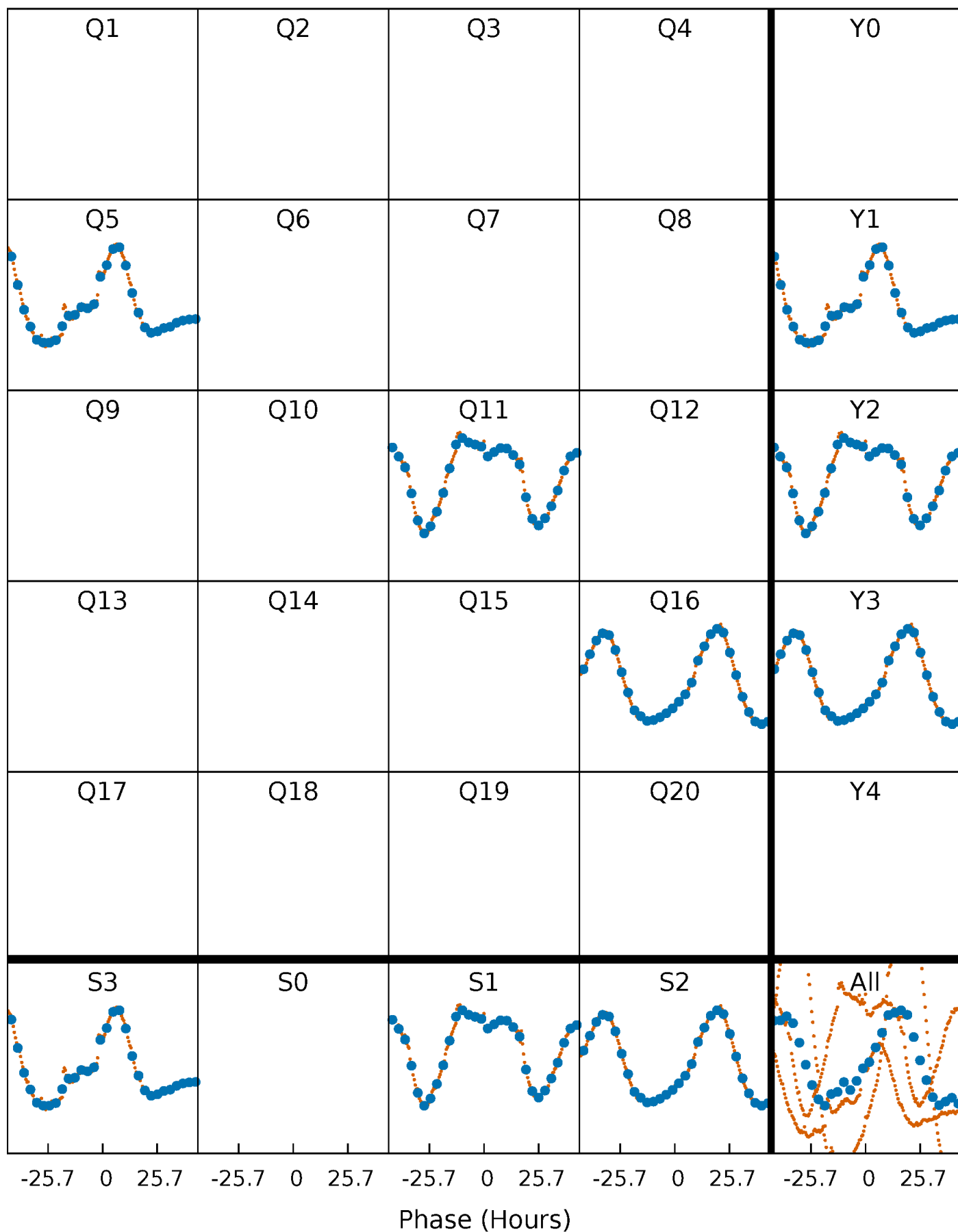


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



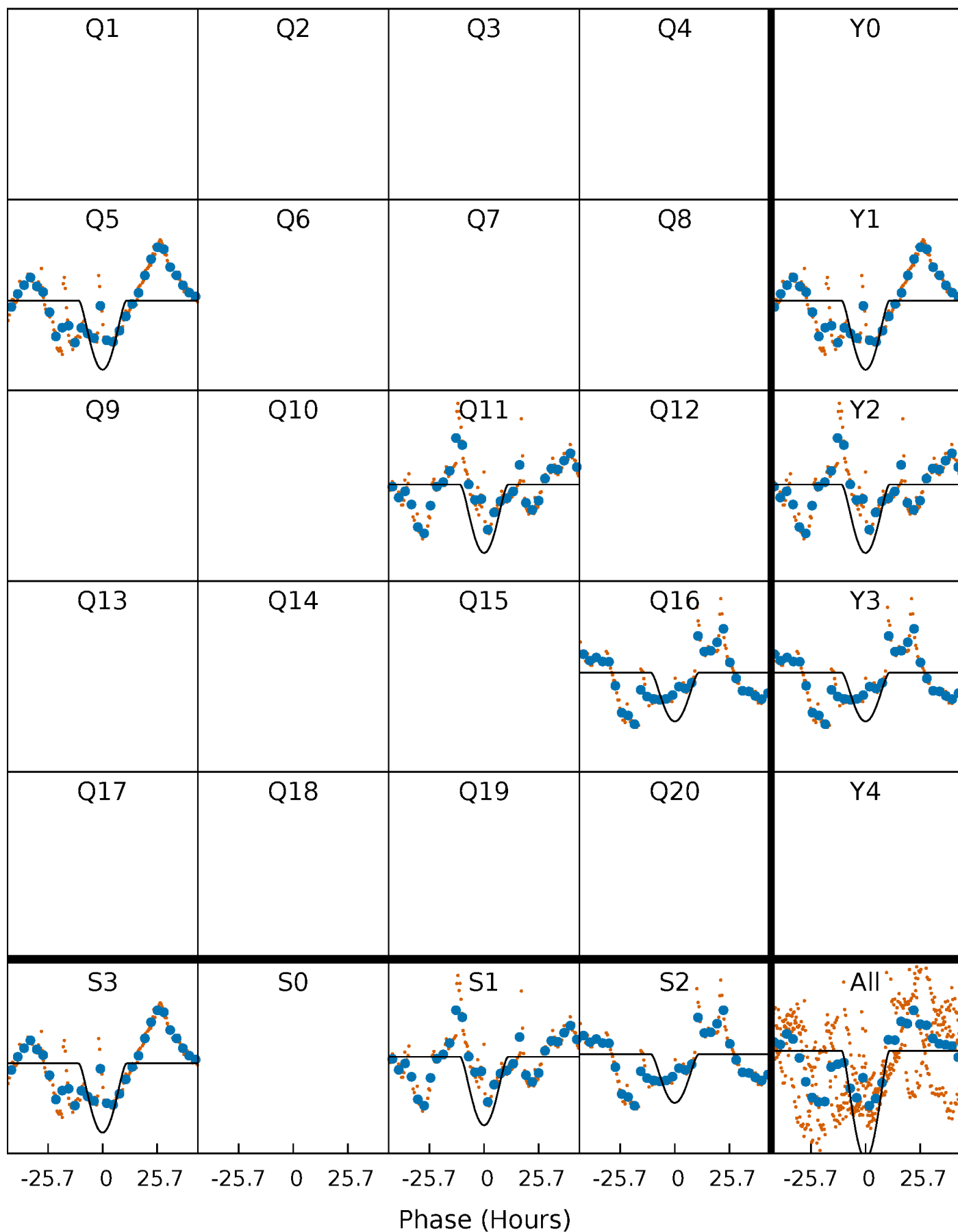
PDC Quarter-Phased Transit Curves

TCE 011246246-02 P=528.647630 Days $T_0=483.045213$ (BKJD)



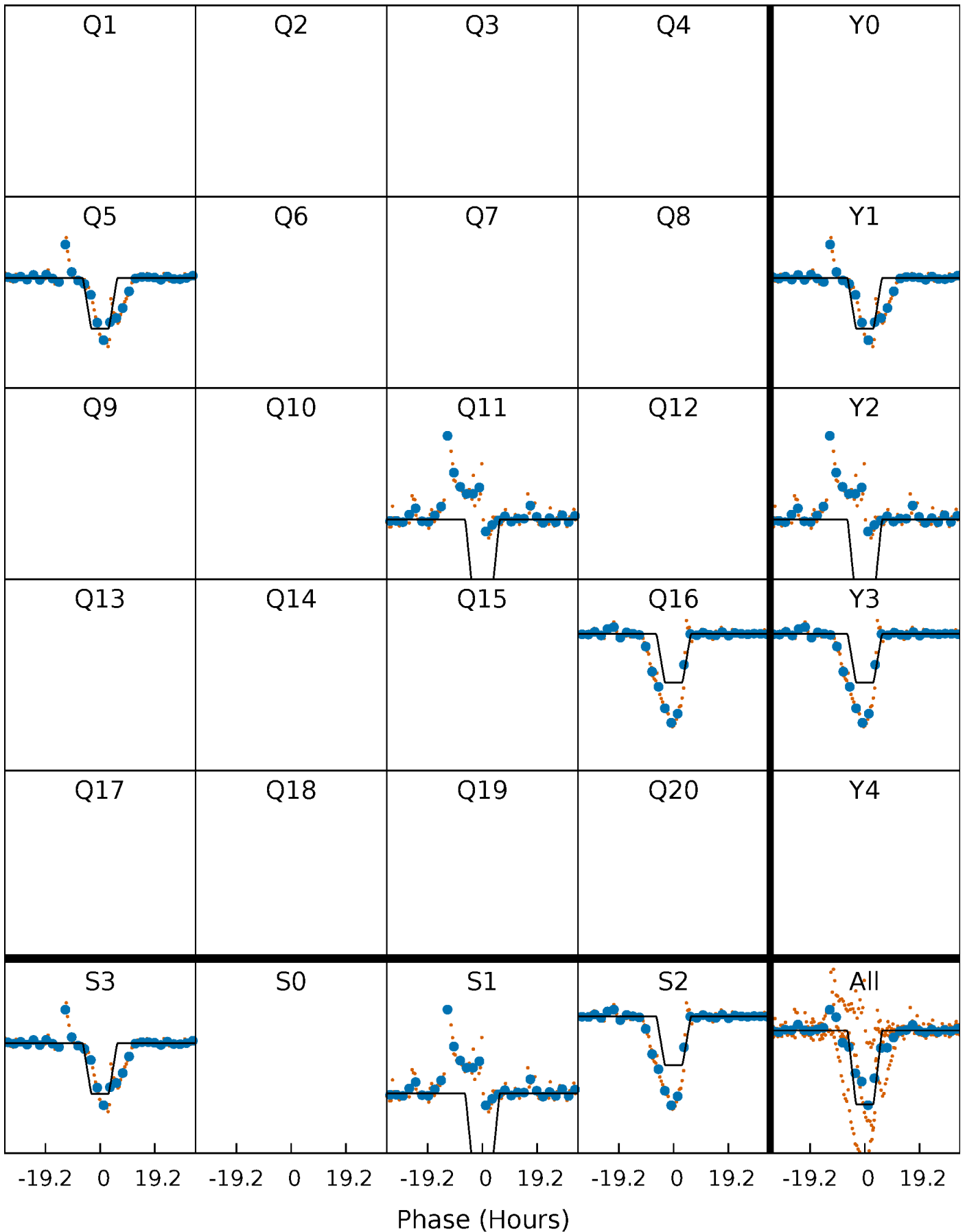
DV Quarter-Phased Transit Curves

TCE 011246246-02 P=528.647630 Days $T_0=483.045213$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

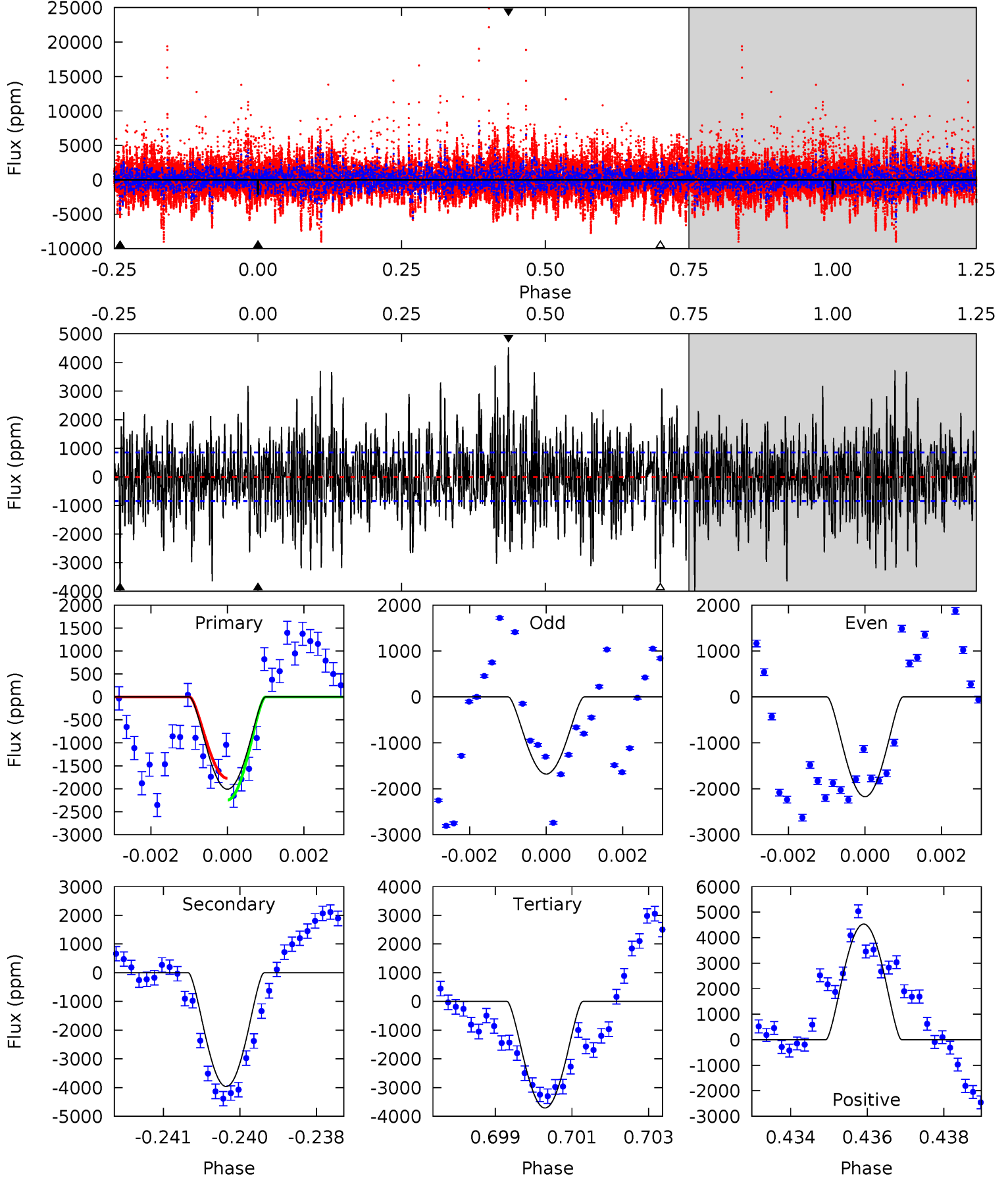
TCE 011246246-02 $P=528.888645$ Days $T_0=482.810728$ (BKJD)



DV Model-Shift Uniqueness Test

011246246-02, P = 528.647630 Days, E = 483.045213 Days

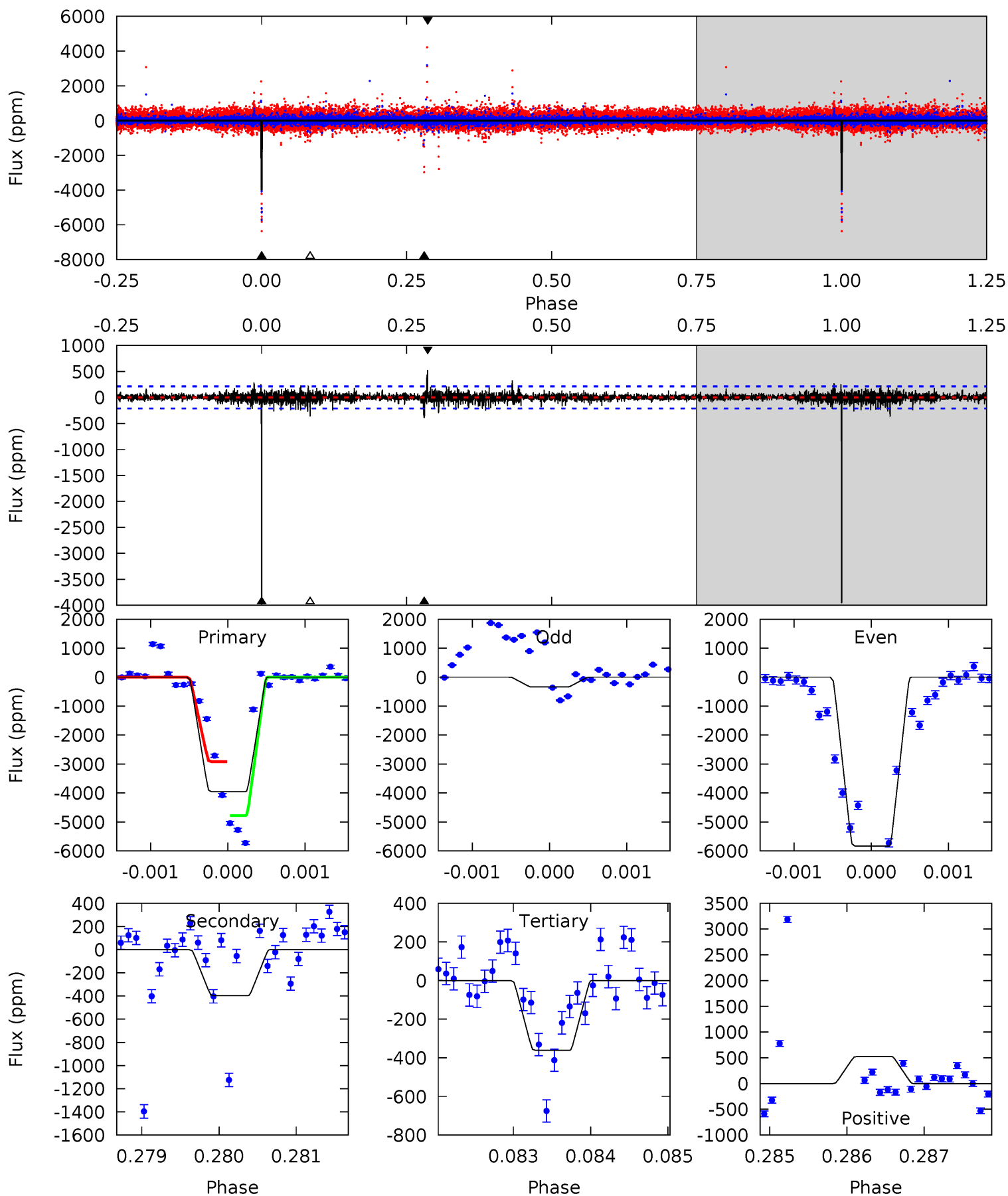
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.7 | 25.0 | 23.4 | 28.6 | 5.35 | 3.12 | 6.93 | -10.7 | -15.9 | 1.59 | -3.59 | 1.27 | 0.97 | 0.53 | 1.50 |



Alt Model-Shift Uniqueness Test

011246246-02, P = 528.888645 Days, E = 482.810728 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 101.5 | 10.2 | 9.26 | 13.4 | 5.46 | 3.30 | 1.24 | 92.2 | 88.0 | 0.91 | -3.27 | 79.4 | 0.86 | 0.12 | 23.6 |



Stellar Parameters For KIC 011246246

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 4983^{+176}_{-176} | $4.584^{+0.055}_{-0.050}$ | $-0.260^{+0.300}_{-0.300}$ | $0.715^{+0.072}_{-0.072}$ | $0.715^{+0.085}_{-0.057}$ | $2.761^{+0.668}_{-0.488}$ |
| | +4%/-4% | +1%/-1% | +115%/-115% | +10%/-10% | +12%/-8% | +24%/-18% |
| Source | PHO54 | PHO54 | PHO54 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 011246246-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|--------------------------|-------------------|-----------------------|---------------------------|
| DV | -3965 ± 159 | $14.37^{+12.84}_{-9.37}$ | 242^{+9}_{-10} | 3403^{+1521}_{-600} | $13898^{+100278}_{-9913}$ |
| Alt. | -397 ± 39 | $12.18^{+11.17}_{-8.27}$ | 242^{+11}_{-10} | 2577^{+1037}_{-371} | 1963^{+18241}_{-1432} |

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 $A_{obs} \gg 1.0$

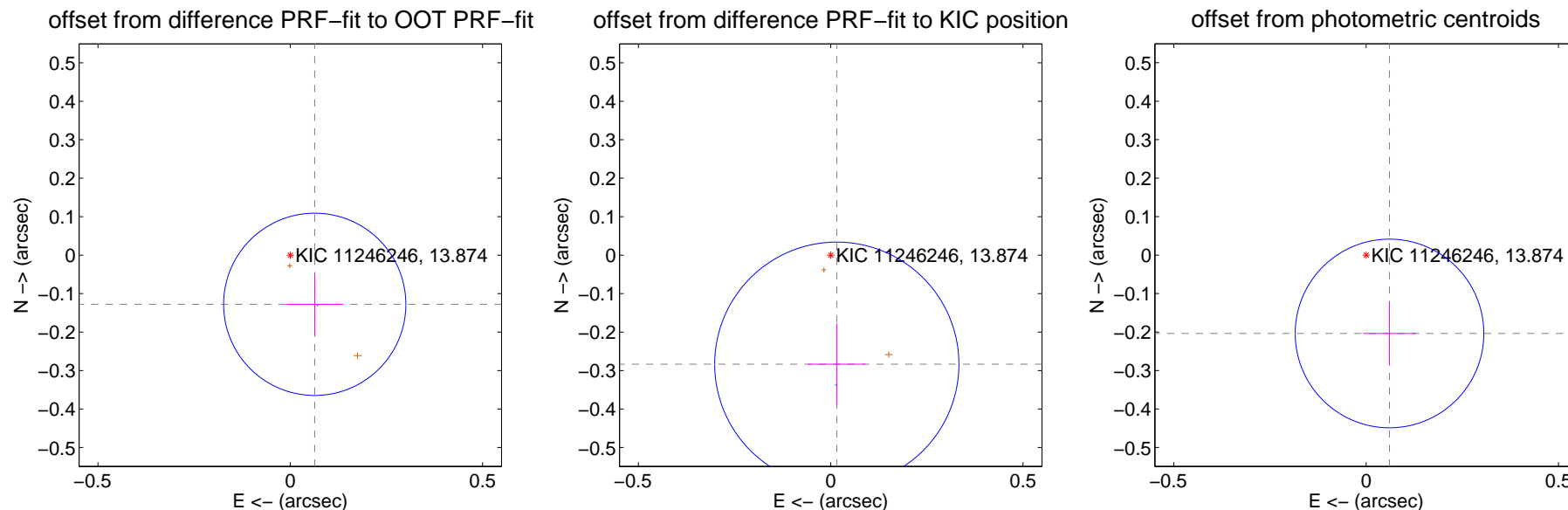
DV Centroid Data

Supplemental centroid analysis for 011246246-02. Kepler magnitude: 13.87. Transit SNR 5.51

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.143 ± 0.079 | 1.81 | -0.064 ± 0.075 | -0.128 ± 0.080 |
| PRF-fit source offset from KIC position | 0.284 ± 0.106 | 2.68 | -0.016 ± 0.075 | -0.283 ± 0.106 |
| photometric centroid source offset | 0.21 ± 0.08 | 2.60 | -0.06 ± 0.07 | -0.20 ± 0.08 |

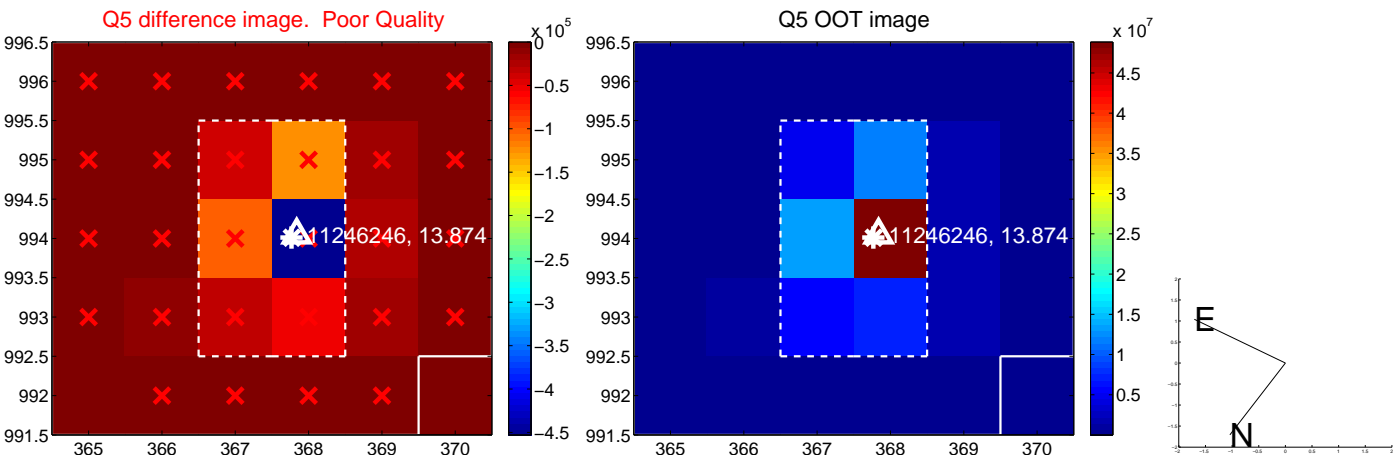


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

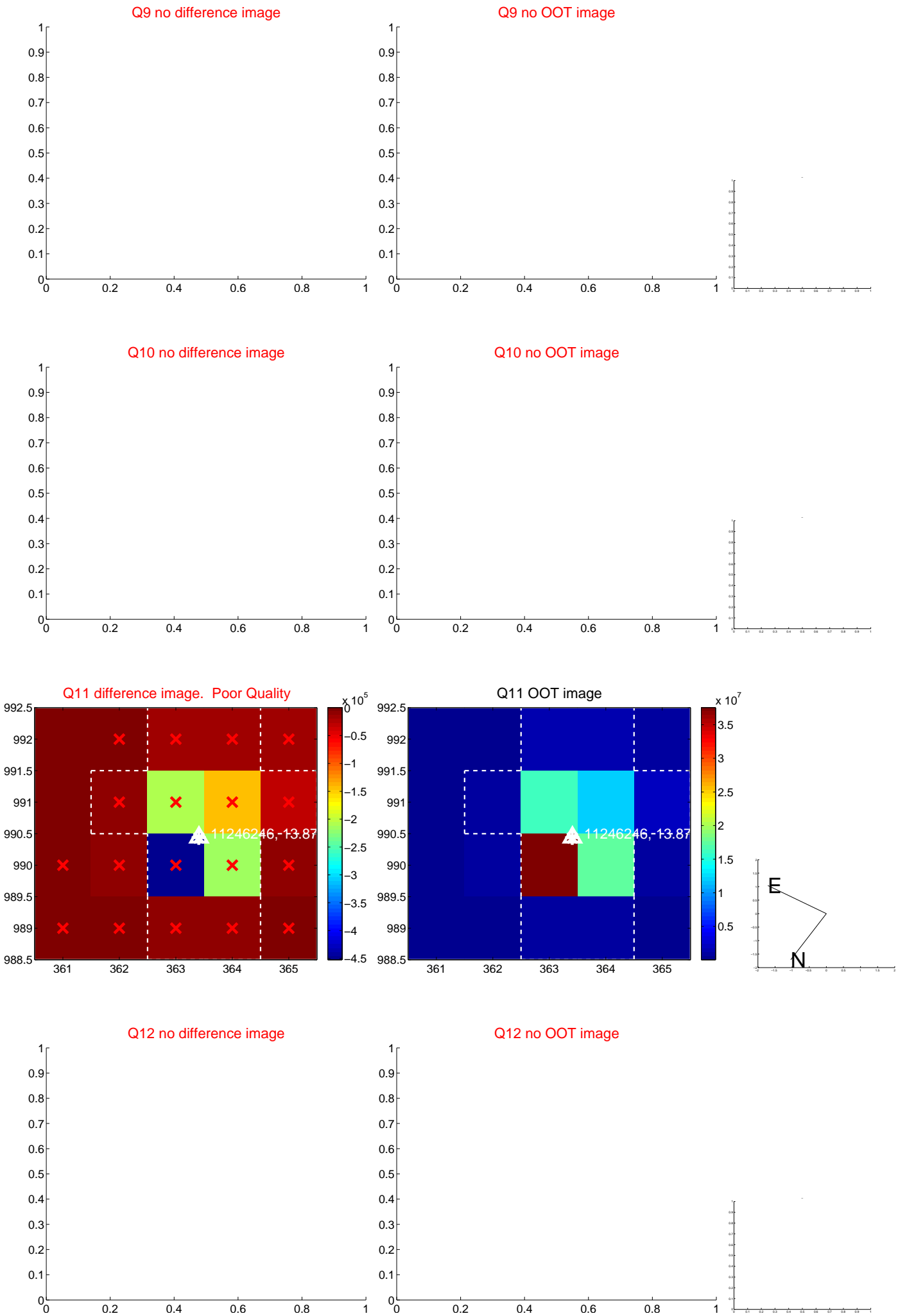
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



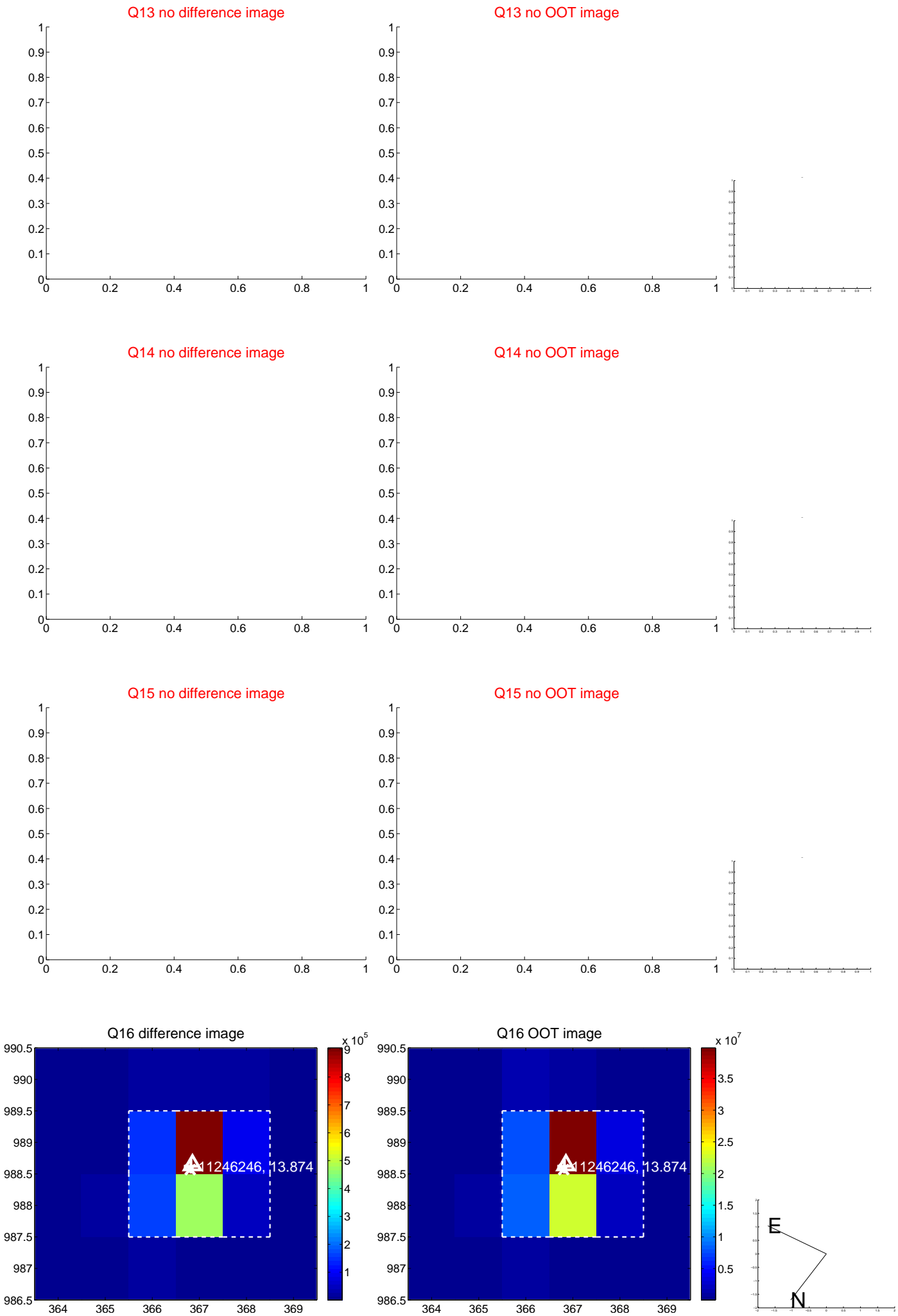
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



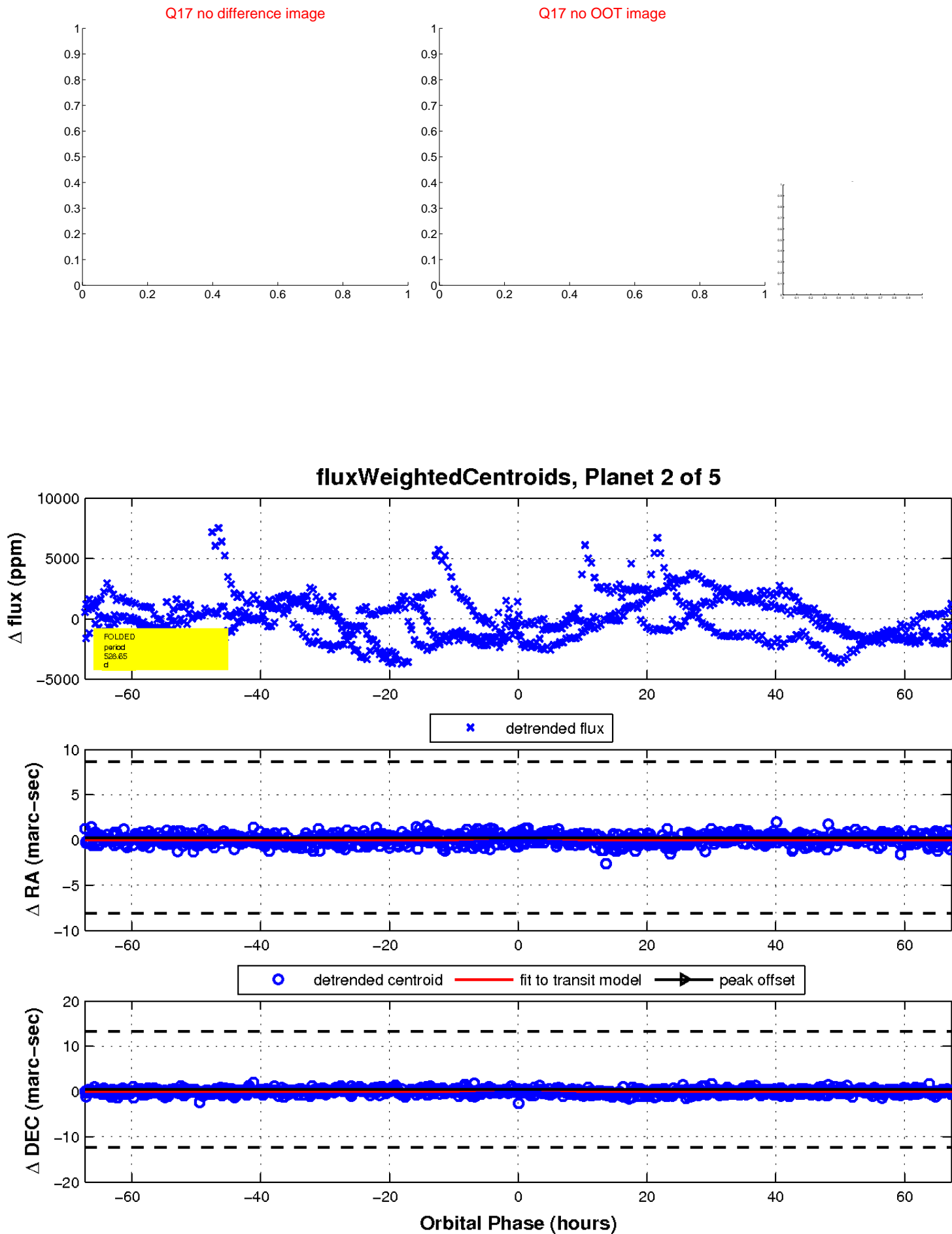
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



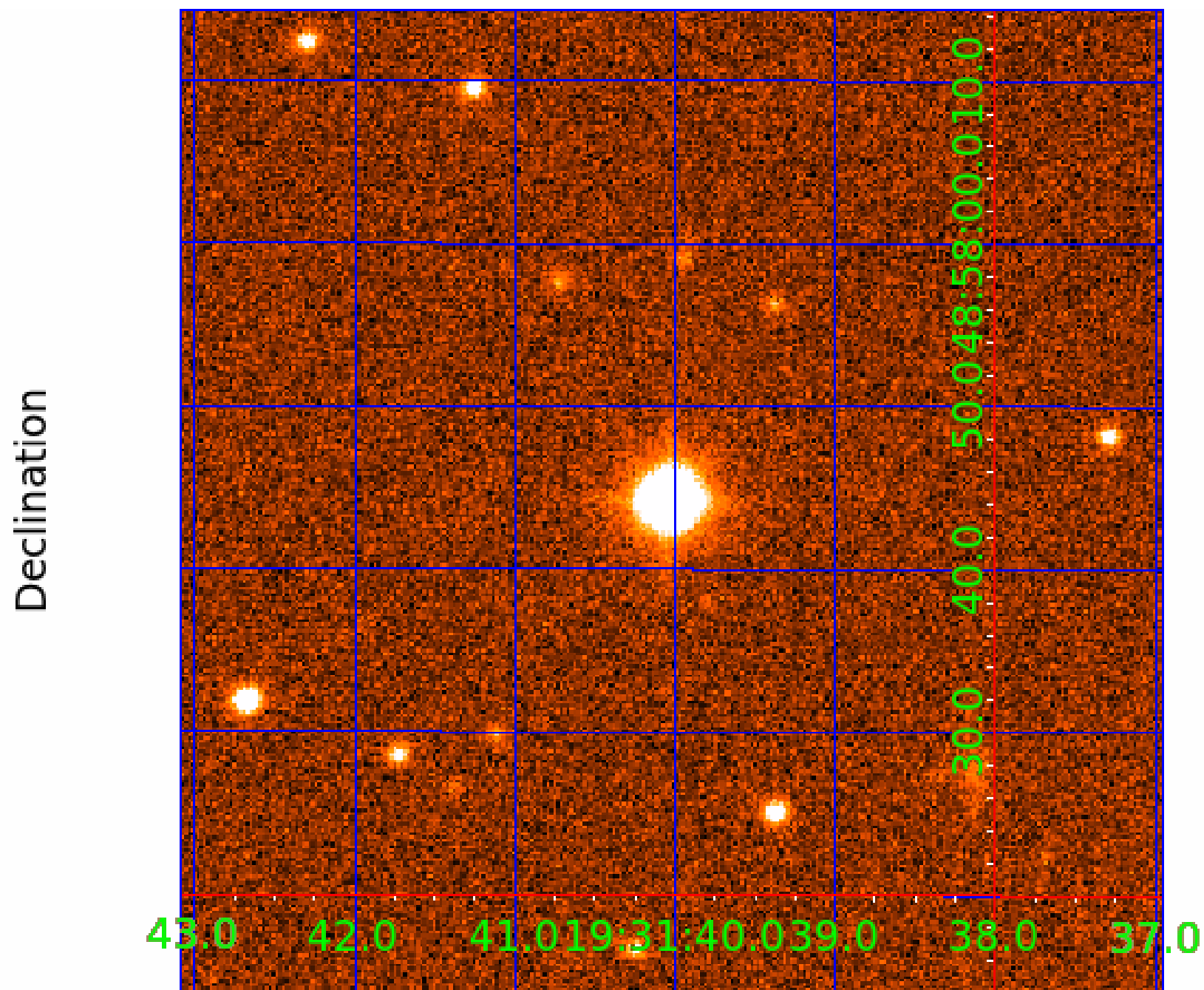
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



KIC 011246246

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 011246246-01 | OBS | No | 606.164144 | 215.616839 | 2276.6 | 9.262 | 18.9 | 8.5 | 0.71 | 4983 | 3.50 | 0.18 |
| 011246246-02 | OBS | No | 528.647630 | 483.045213 | 4023.2 | 22.471 | 12.4 | 5.5 | 0.71 | 4983 | 8.63 | 0.22 |
| 011246246-03 | OBS | No | 533.052084 | 210.321353 | 2940.9 | 5.664 | 15.9 | 11.8 | 0.71 | 4983 | 5.01 | 0.21 |
| 011246246-04 | OBS | No | 664.468436 | 174.301241 | 1151.6 | 2.060 | 13.1 | 6.5 | 0.71 | 4983 | 2.53 | 0.16 |
| 011246246-05 | OBS | No | 458.801534 | 460.695645 | 620.0 | 4.500 | 14.9 | -1.0 | 0.71 | 4983 | 1.73 | 0.26 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 011246246-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS |
| 011246246-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 011246246-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS |
| 011246246-04 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST |
| 011246246-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—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.

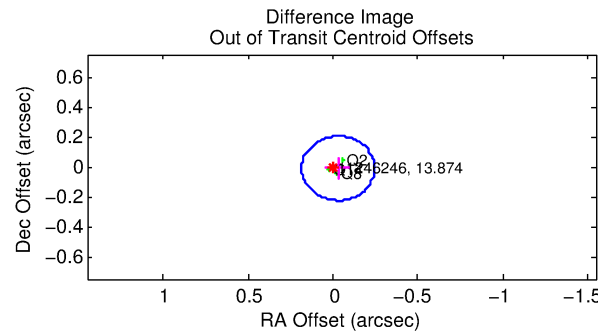
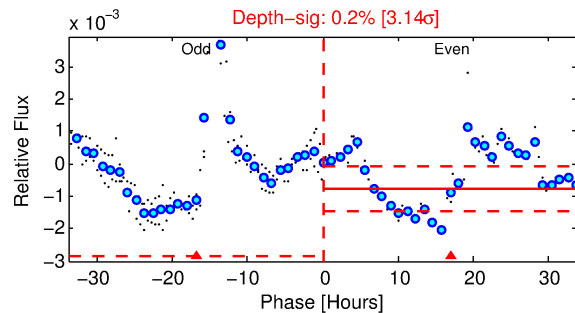
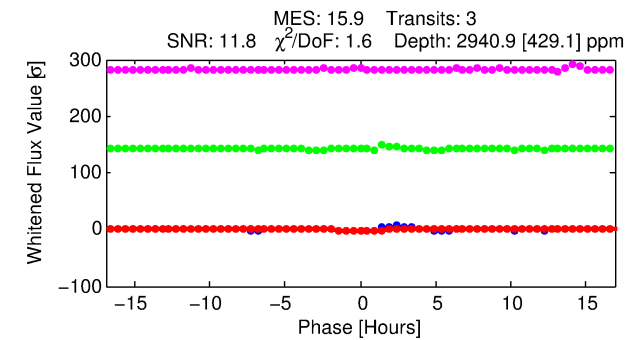
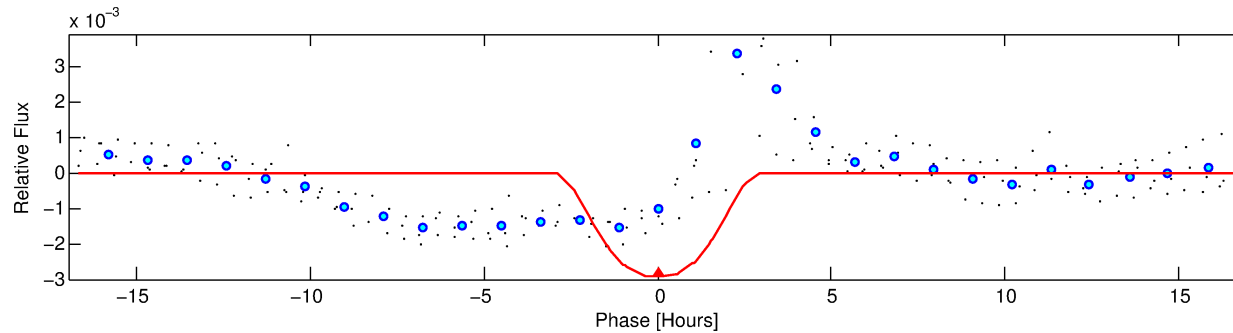
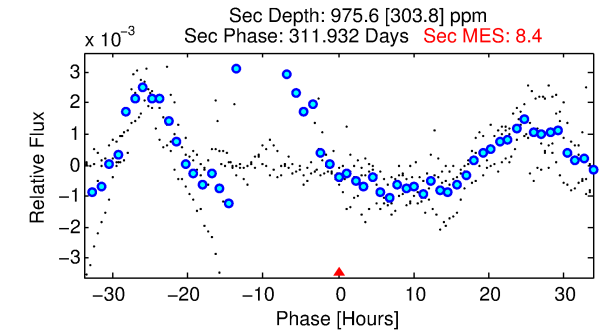
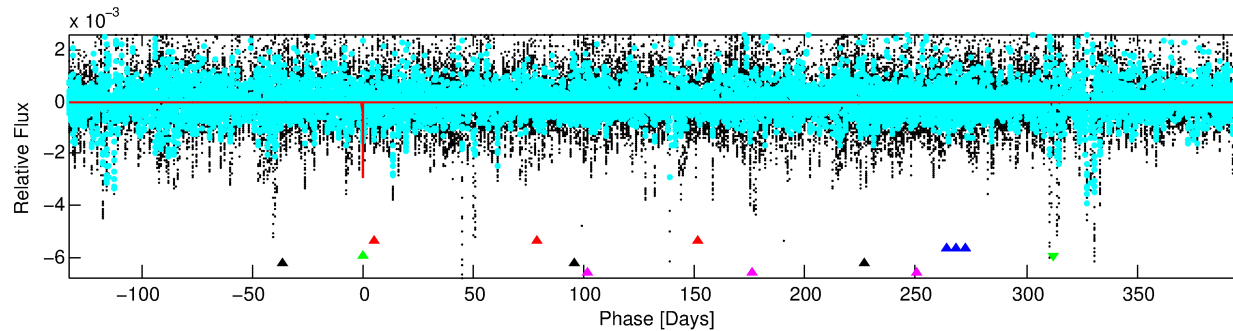
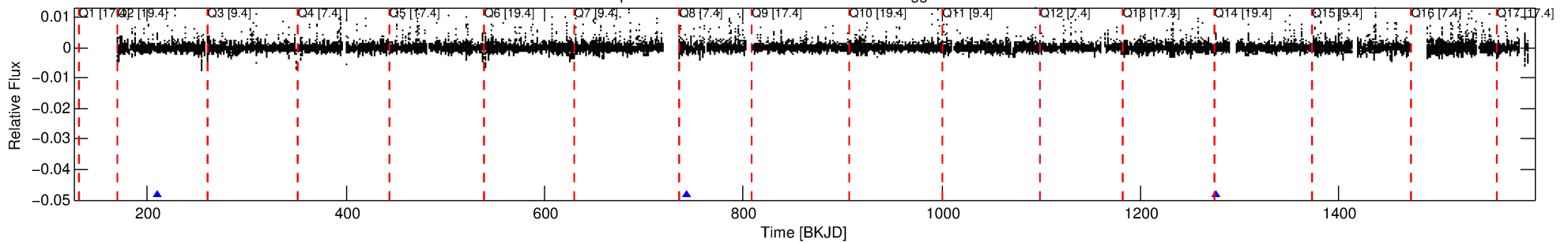
Ephemeris Match Information For 011246246-03

No Significant Match Found

DV One-Page Summary

KIC: 11246246 Candidate: 3 of 5 Period: 533.052 d

Kp: 13.87 R*: 0.71 Rs Teff: 4983.0 K Logg: 4.58 Fe/H: -0.260



DV Fit Results:

Period = 533.05208 [0.00495] d
Epoch = 210.3214 [0.0063] BKJD
Rp/R* = 0.0642 [0.0064]
a/R* = 364.44 [33.53]
b = 0.94 [0.02]
Seff = 0.21 [0.04]
Teq = 173 [8] K
Rp = 5.01 [0.71] Re
a = 1.1510 [0.0913] AU
Ag = 28347.41 [10918.78] [2.60σ]
Teffp = 3476 [344] K [9.60σ]

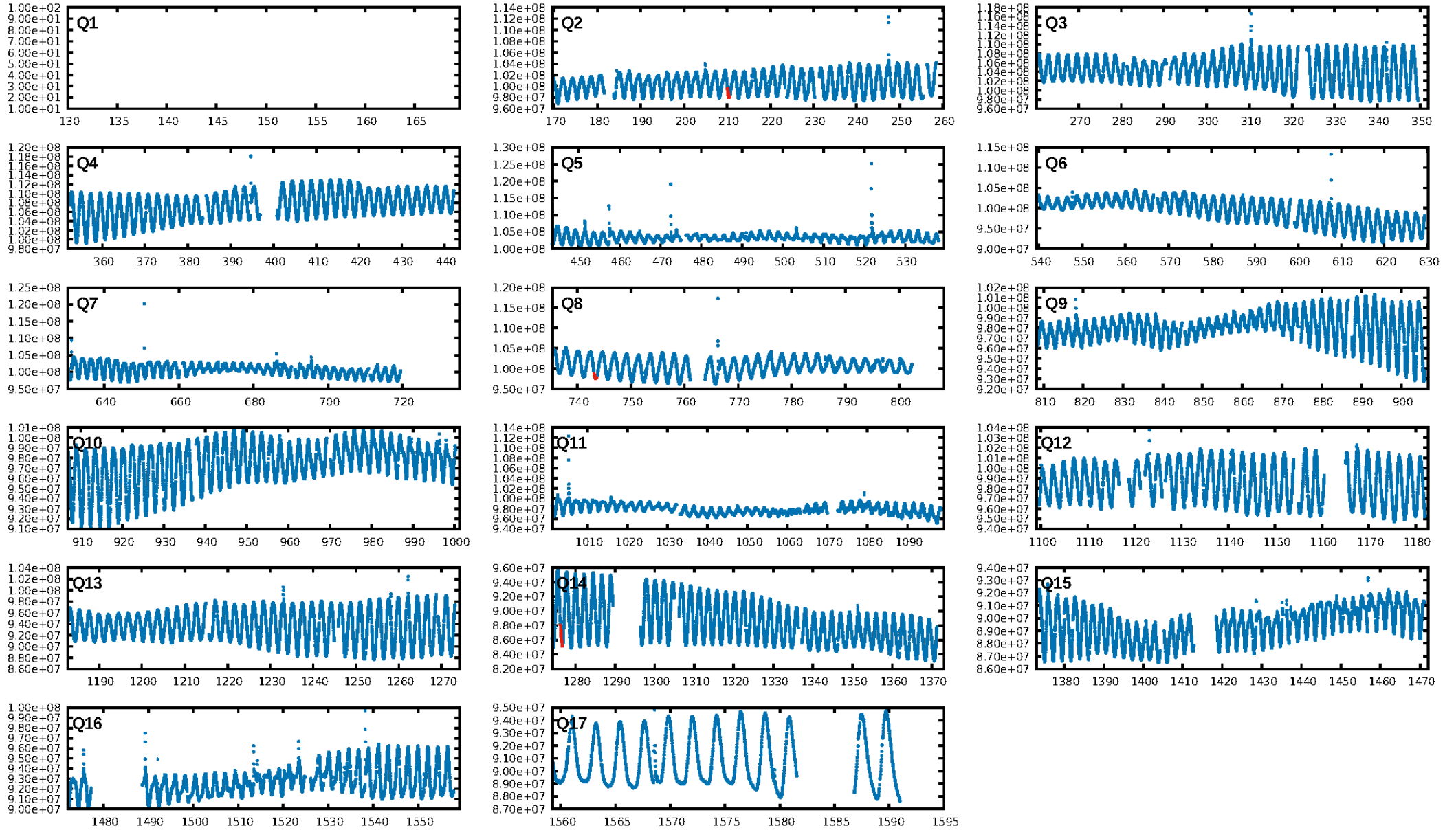
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.56σ]
LongPeriod-sig: 100.0% [161.62σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 17.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.9435
Centroid-sig: 74.5%
Centroid-so: 0.152 arcsec [0.90σ]
OotOffset-rm: 0.032 arcsec [0.45σ]
KicOffset-rm: 0.156 arcsec [2.00σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

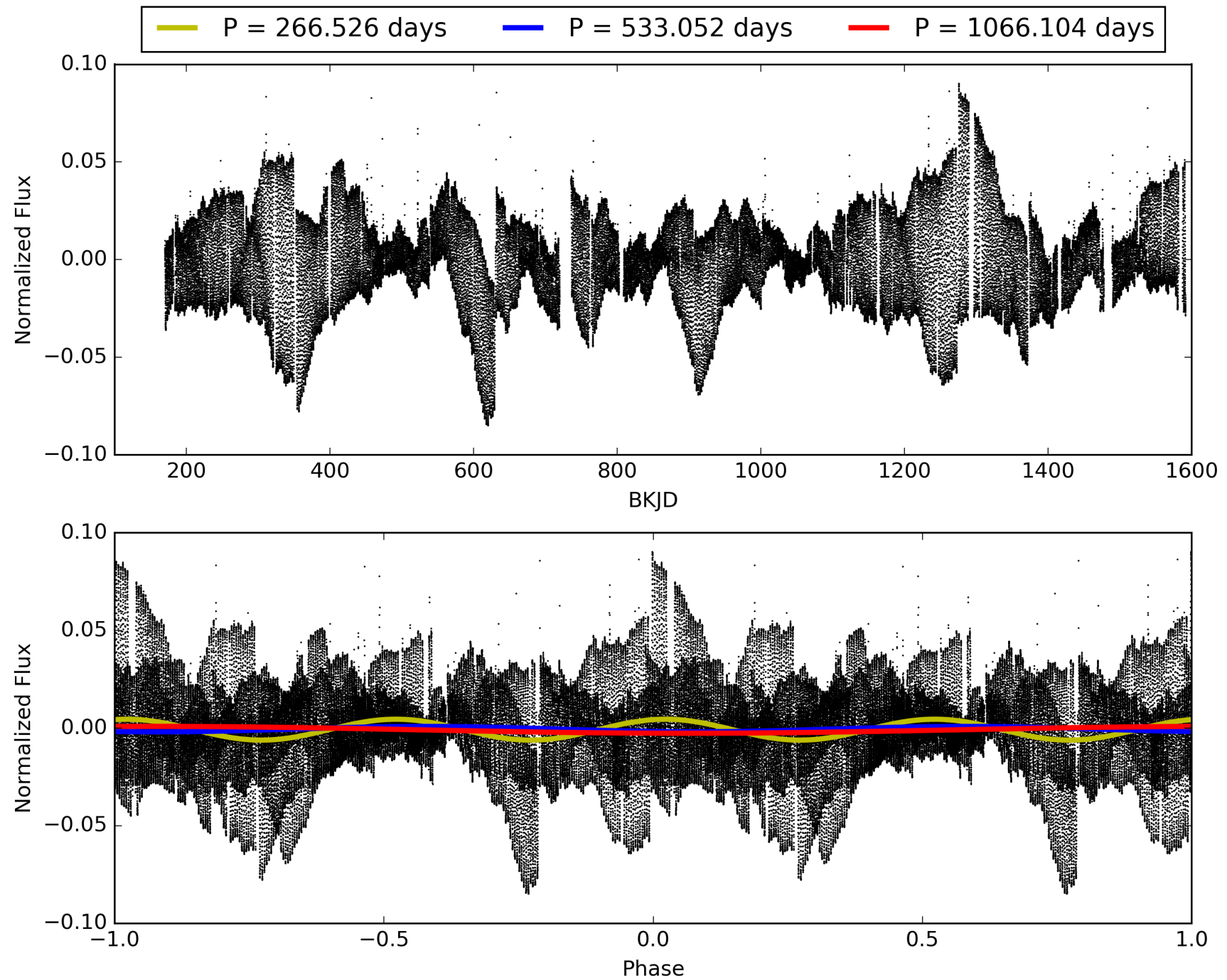
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:03:51 Z

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

TCE 011246246-03, PDC Light Curves

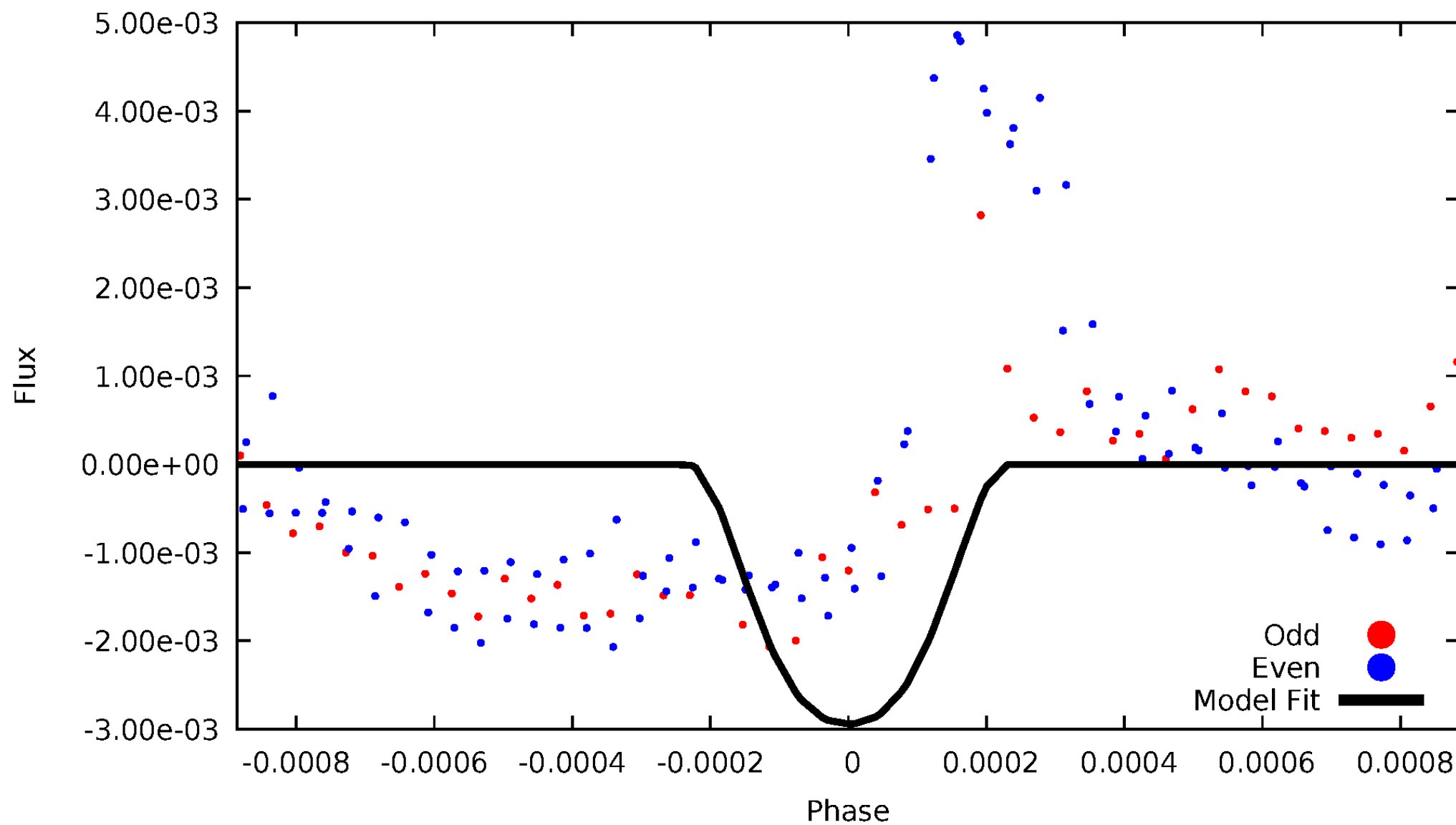


TCE 011246246-03



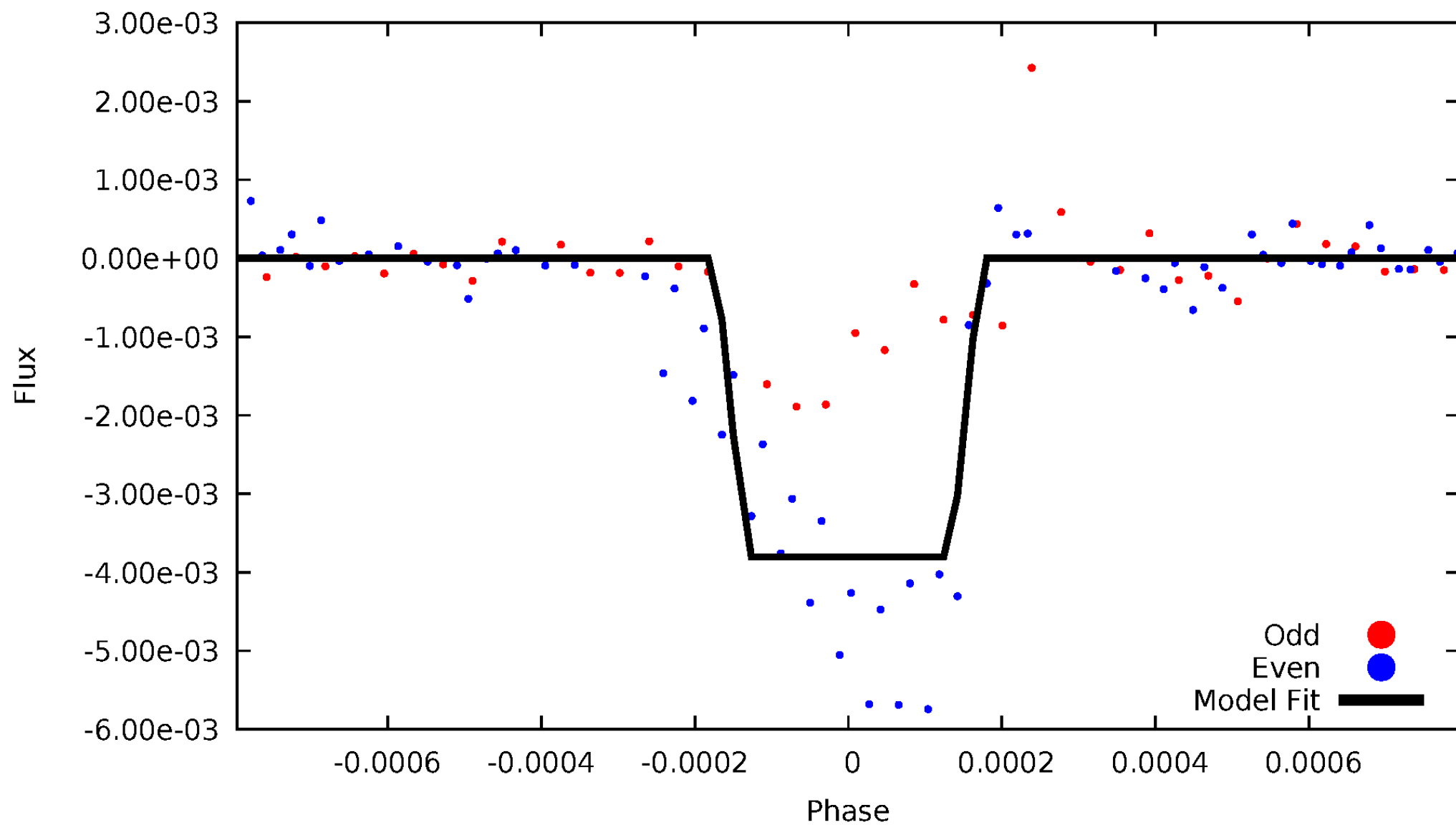
DV Odd/Even

TCE 011246246-03



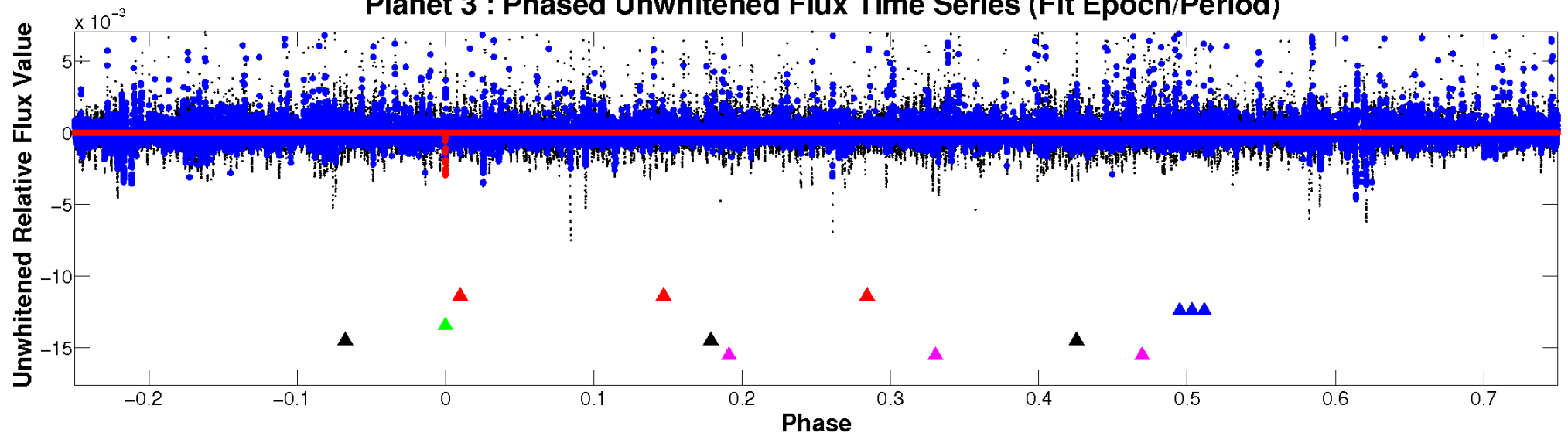
ALT Odd/Even

TCE 011246246-03

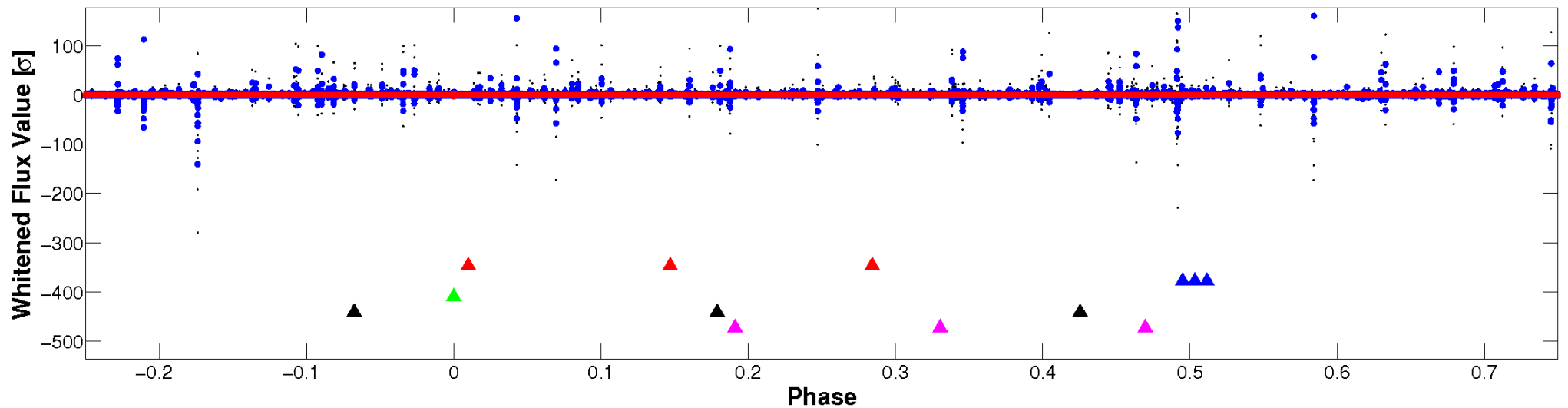


Non-Whitened Vs. Whitened Light Curve

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

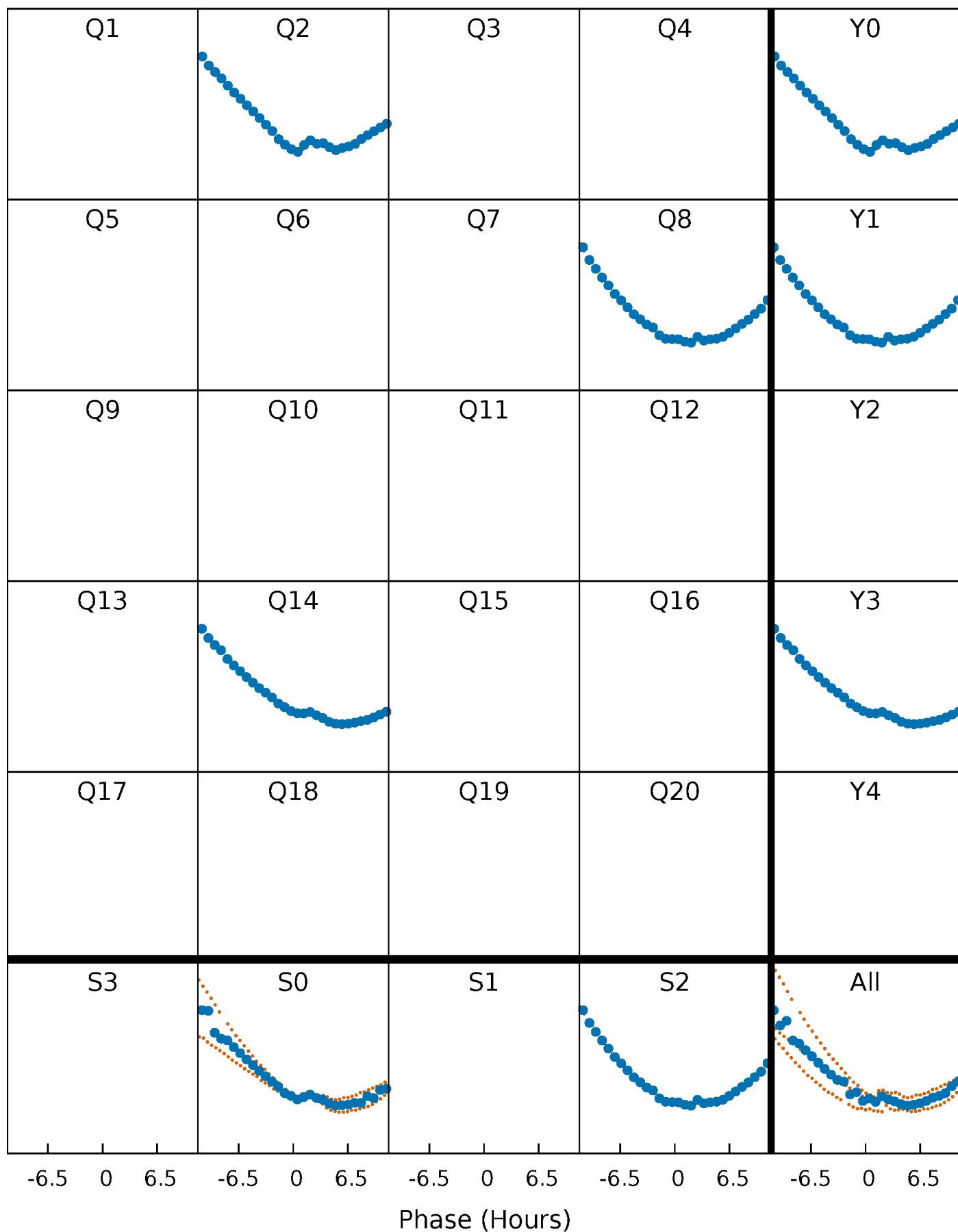


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



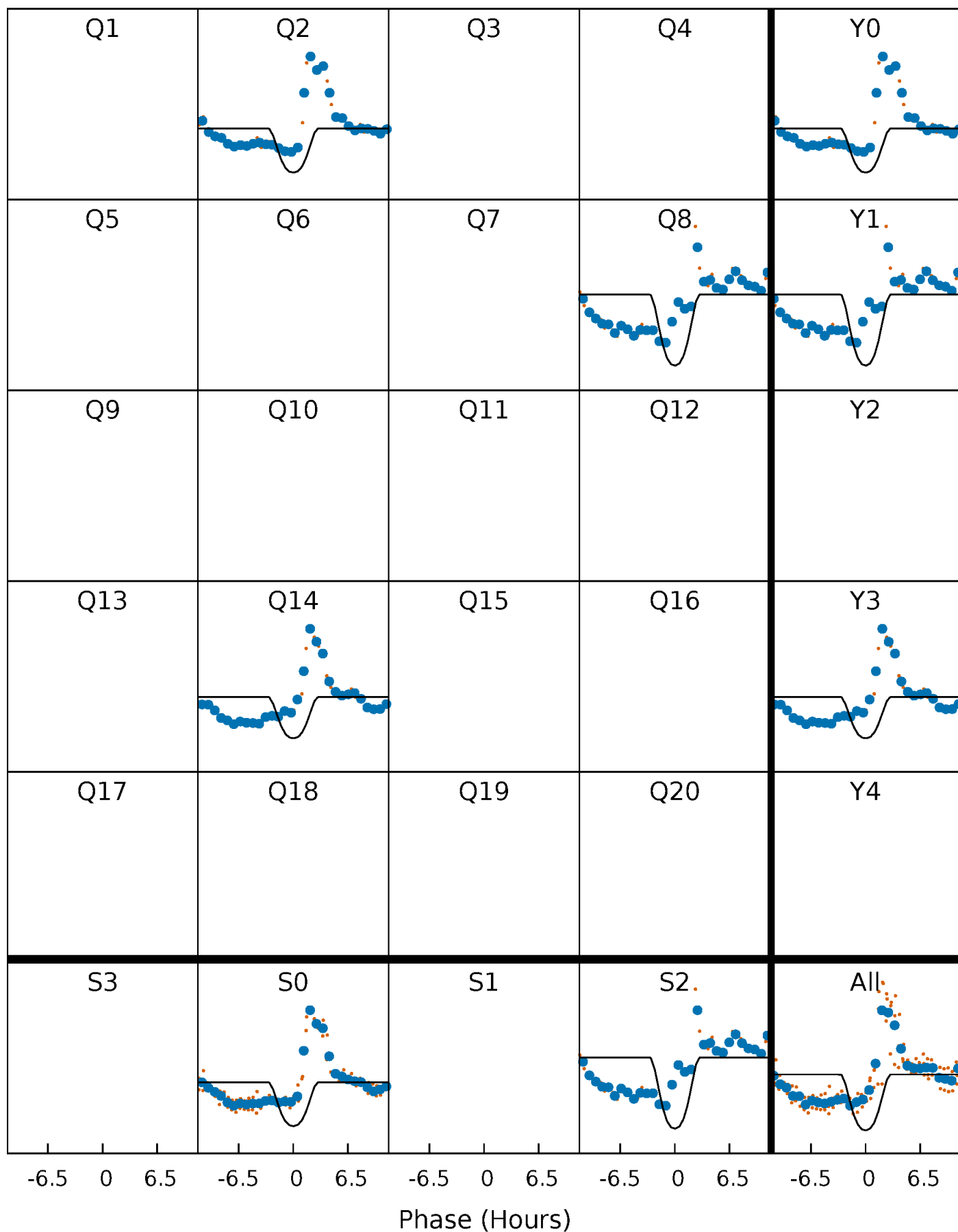
PDC Quarter-Phased Transit Curves

TCE 011246246-03 P=533.052084 Days $T_0=210.321353$ (BKJD)



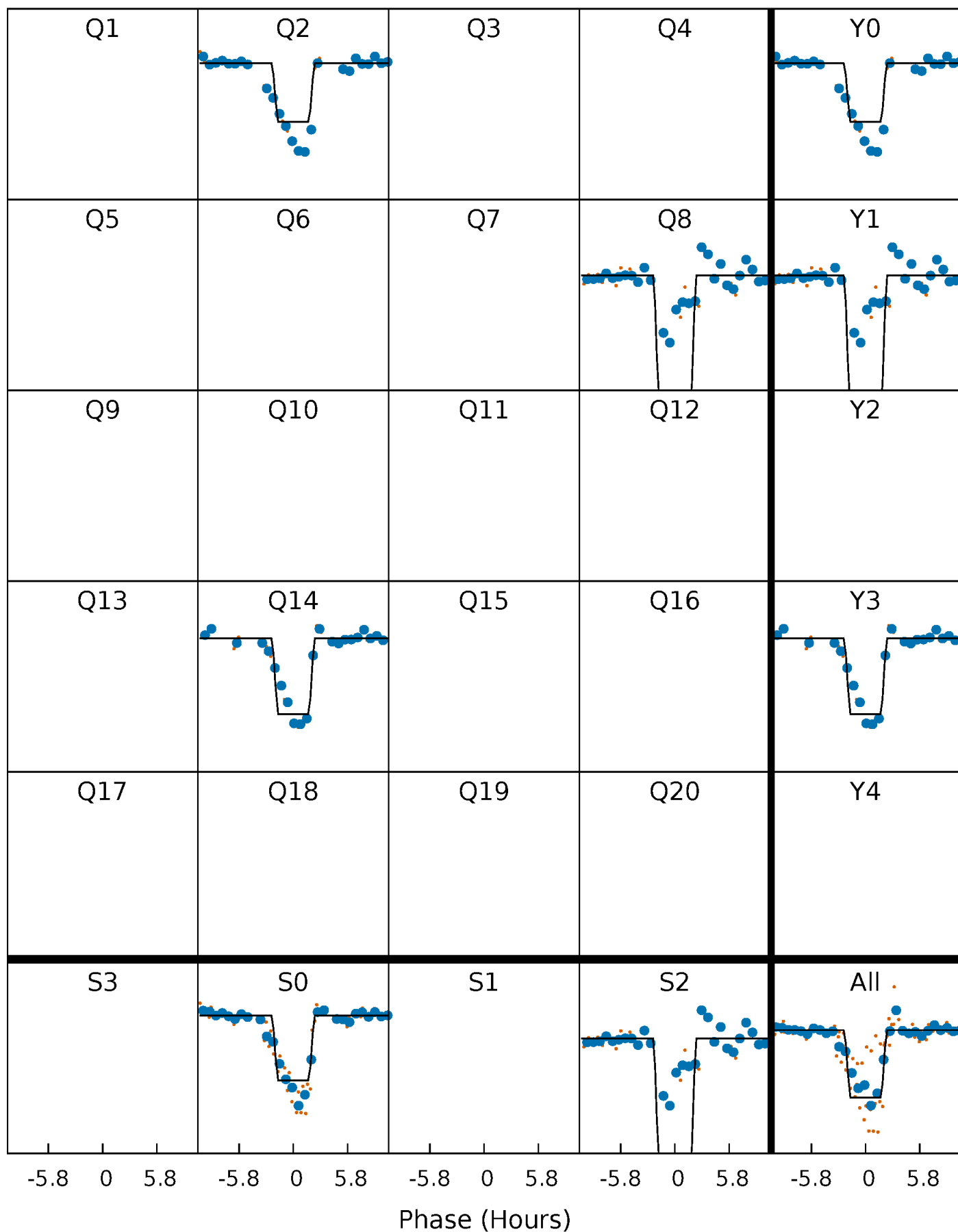
DV Quarter-Phased Transit Curves

TCE 011246246-03 P=533.052084 Days $T_0=210.321353$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

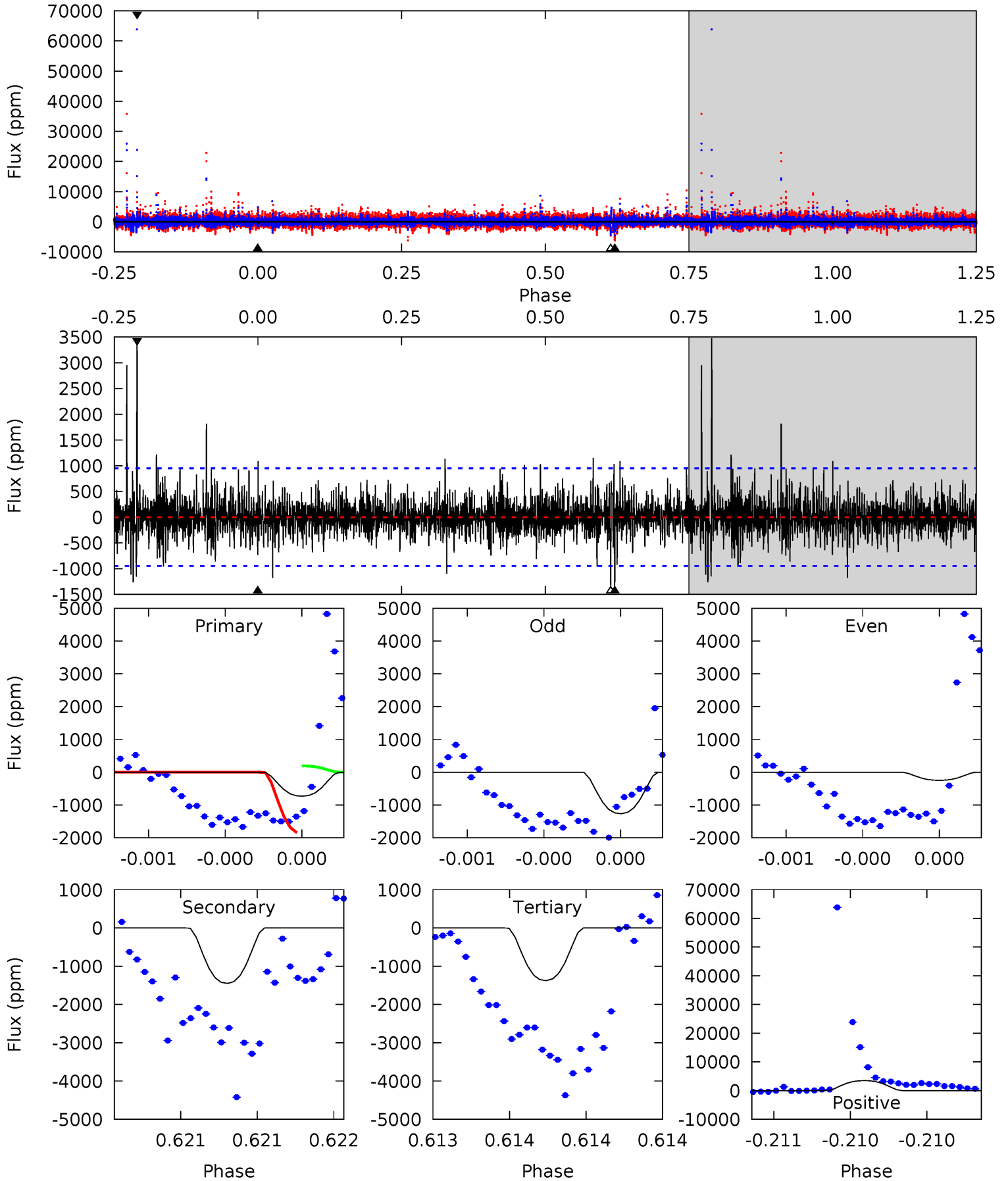
TCE 011246246-03 P=533.057091 Days $T_0=210.291381$ (BKJD)



DV Model-Shift Uniqueness Test

011246246-03, P = 533.052084 Days, E = 210.321353 Days

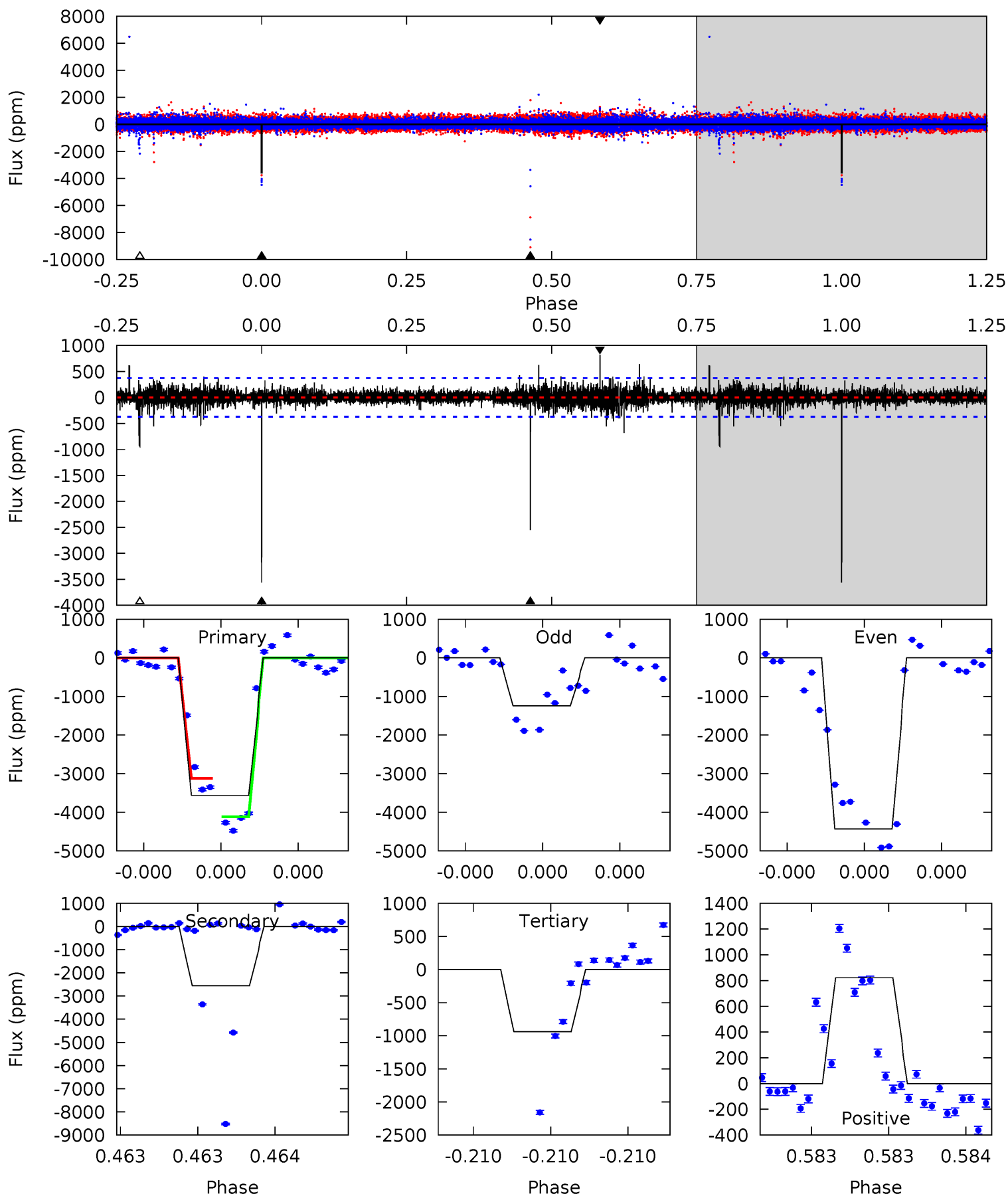
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 4.30 | 8.51 | 8.08 | 20.5 | 5.58 | 3.50 | 1.58 | -3.78 | -16.2 | 0.43 | -12.0 | 1.76 | 1.34 | 0.71 | 4.74 |



Alt Model-Shift Uniqueness Test

011246246-03, P = 533.057091 Days, E = 210.291381 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 54.1 | 38.8 | 14.3 | 12.5 | 5.65 | 3.59 | 1.22 | 39.8 | 41.6 | 24.5 | 26.3 | 27.3 | 0.90 | 0.19 | 0 |



Stellar Parameters For KIC 011246246

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 4983^{+176}_{-176} | $4.584^{+0.055}_{-0.050}$ | $-0.260^{+0.300}_{-0.300}$ | $0.715^{+0.072}_{-0.072}$ | $0.715^{+0.085}_{-0.057}$ | $2.761^{+0.668}_{-0.488}$ |
| | +4%/-4% | +1%/-1% | +115%/-115% | +10%/-10% | +12%/-8% | +24%/-18% |
| Source | PHO54 | PHO54 | PHO54 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 011246246-03 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|------------------------|-------------------|----------------------|---------------------------|
| DV | -1446 ± 170 | $5.01^{+0.56}_{-0.58}$ | 242^{+10}_{-10} | 4074^{+221}_{-191} | 42808^{+11737}_{-9376} |
| Alt. | -2552 ± 66 | $4.82^{+0.59}_{-0.59}$ | 242^{+10}_{-10} | 4606^{+247}_{-242} | 81808^{+20993}_{-16671} |

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 $A_{obs} \gg 1.0$

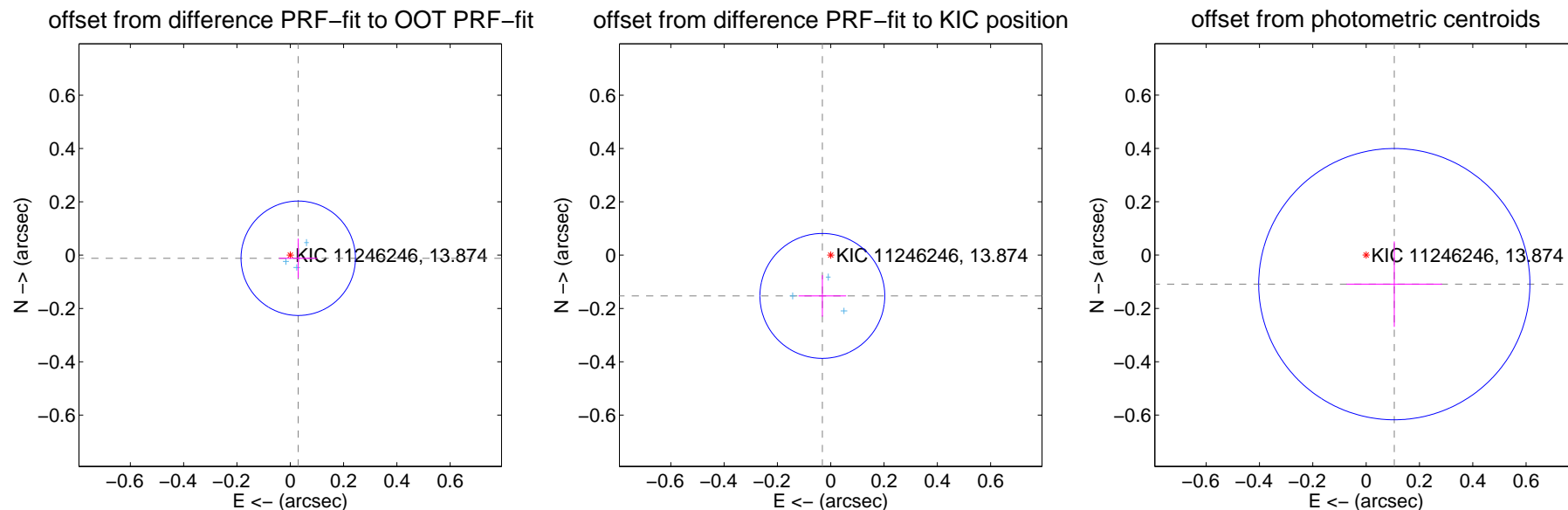
DV Centroid Data

Supplemental centroid analysis for 011246246-03. Kepler magnitude: 13.87. Transit SNR 11.79

There are 3 quarters with good PRF difference image offsets

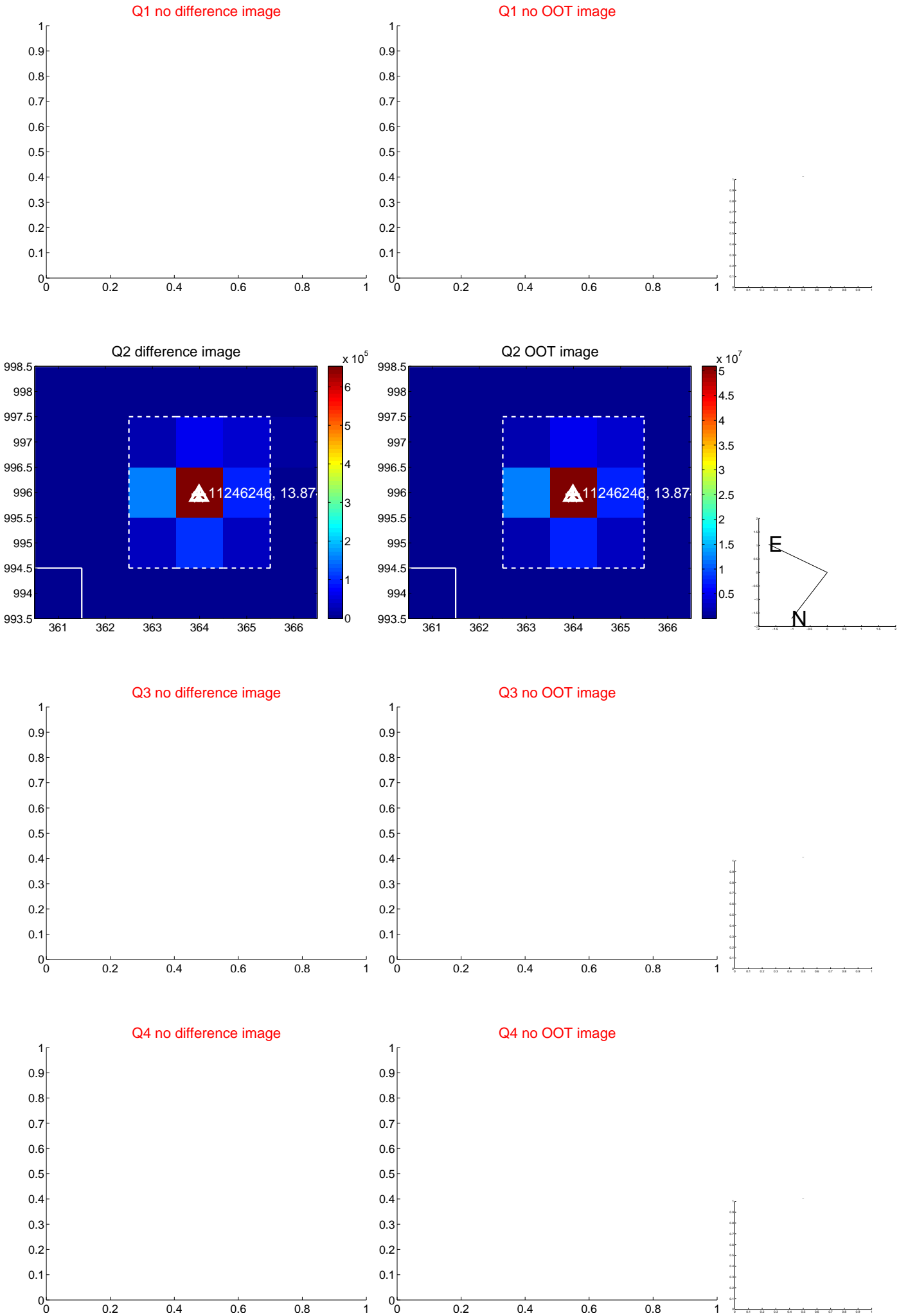
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.032 ± 0.072 | 0.45 | -0.030 ± 0.071 | -0.012 ± 0.074 |
| PRF-fit source offset from KIC position | 0.156 ± 0.078 | 2.00 | 0.031 ± 0.089 | -0.153 ± 0.078 |
| photometric centroid source offset | 0.15 ± 0.17 | 0.90 | -0.11 ± 0.18 | -0.11 ± 0.16 |

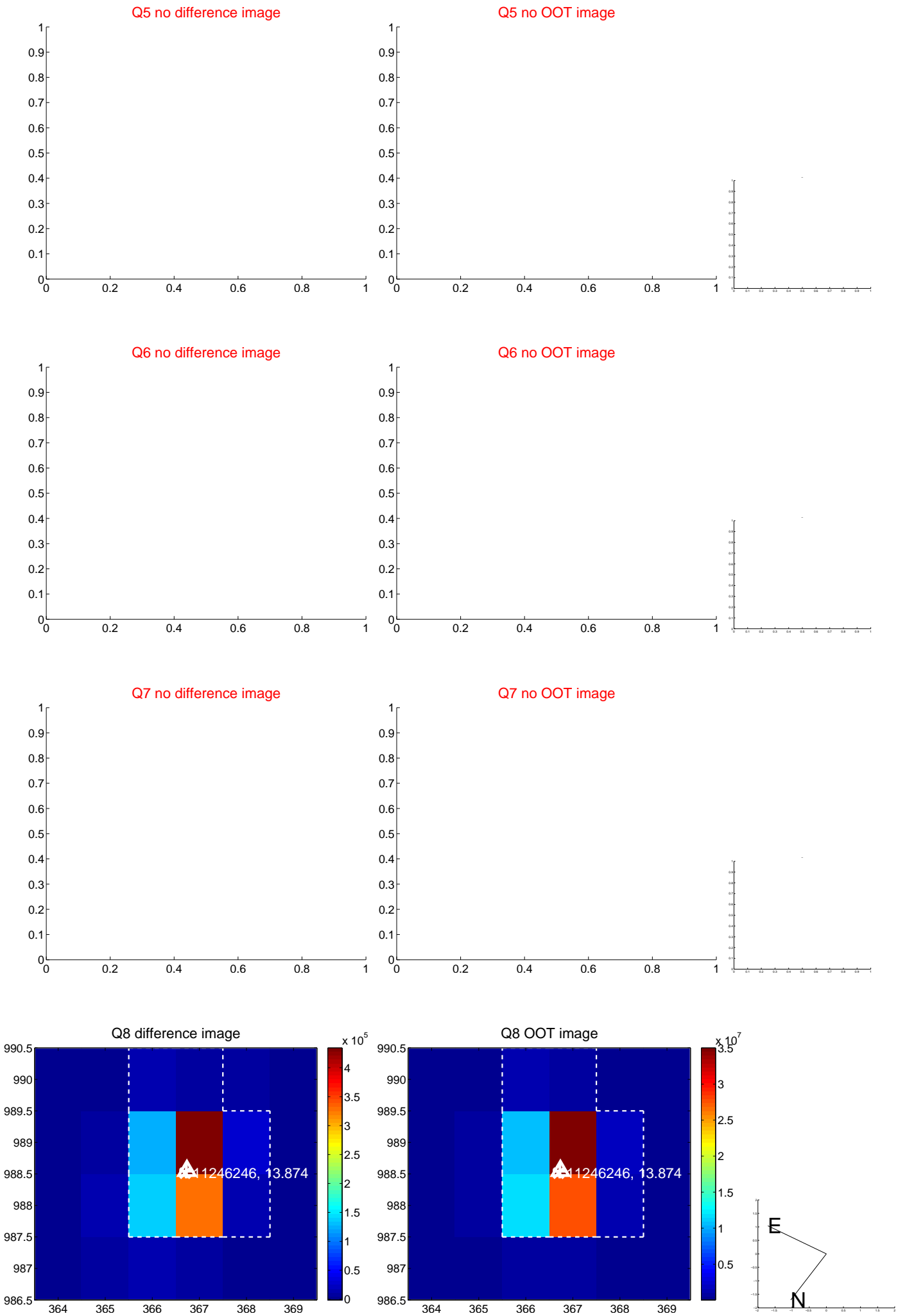


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

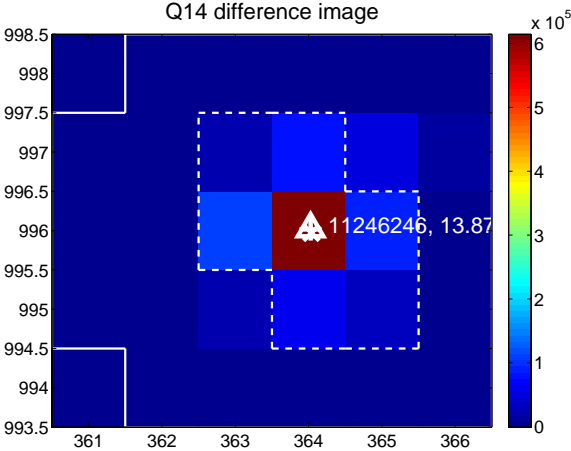
Q13 no difference image



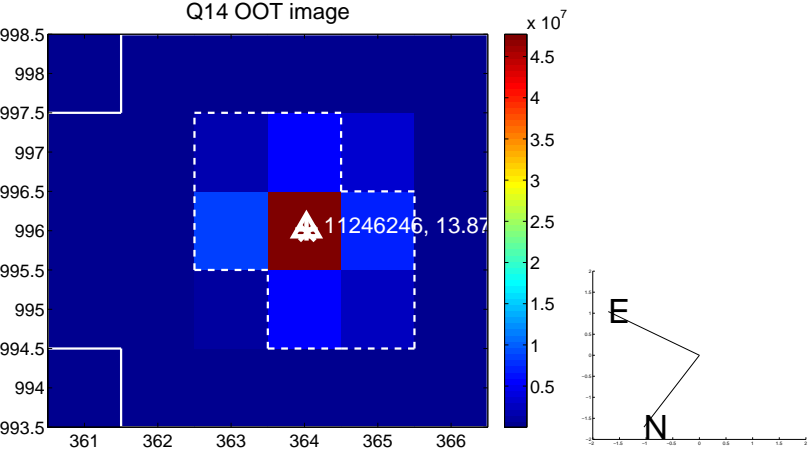
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



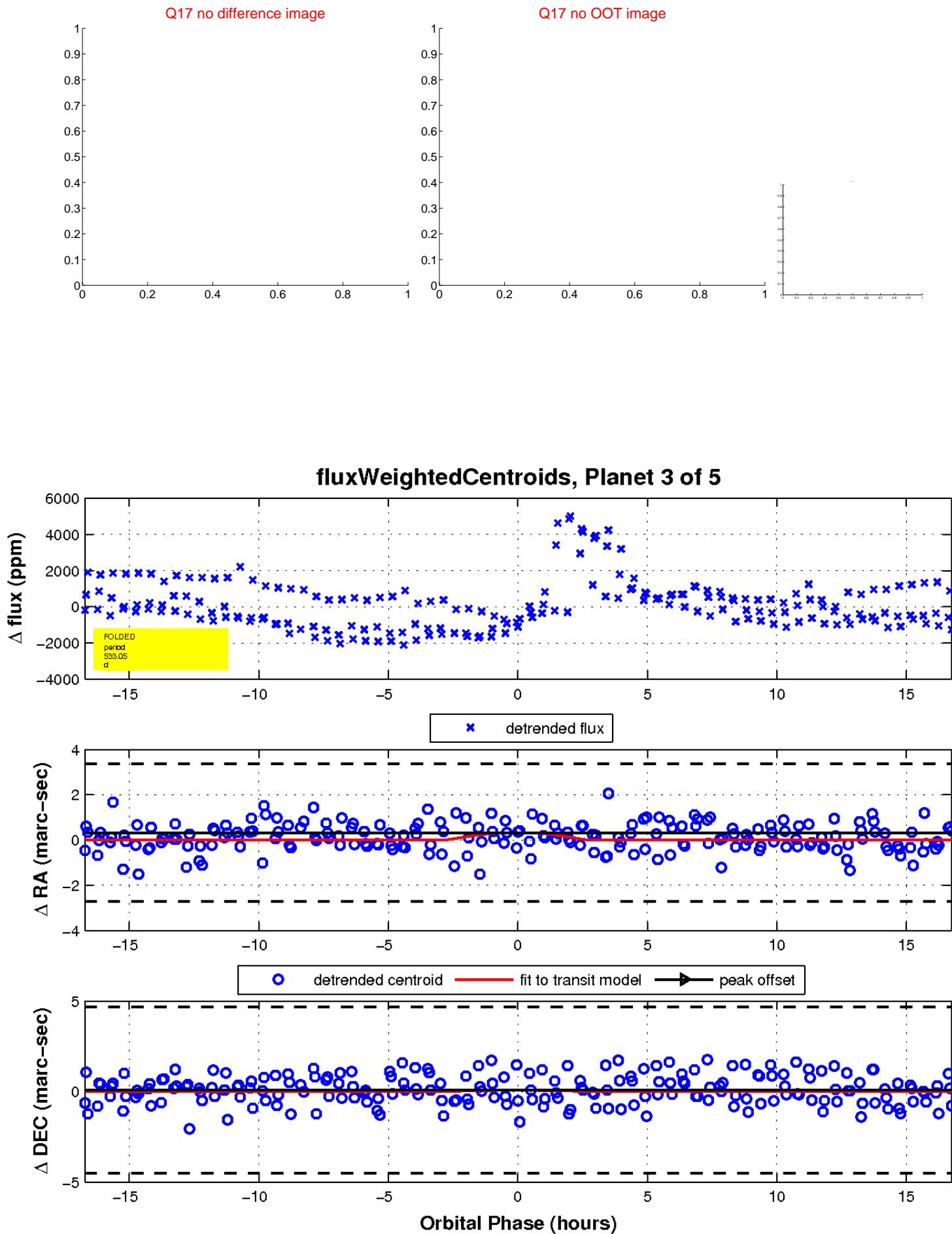
Q16 no difference image



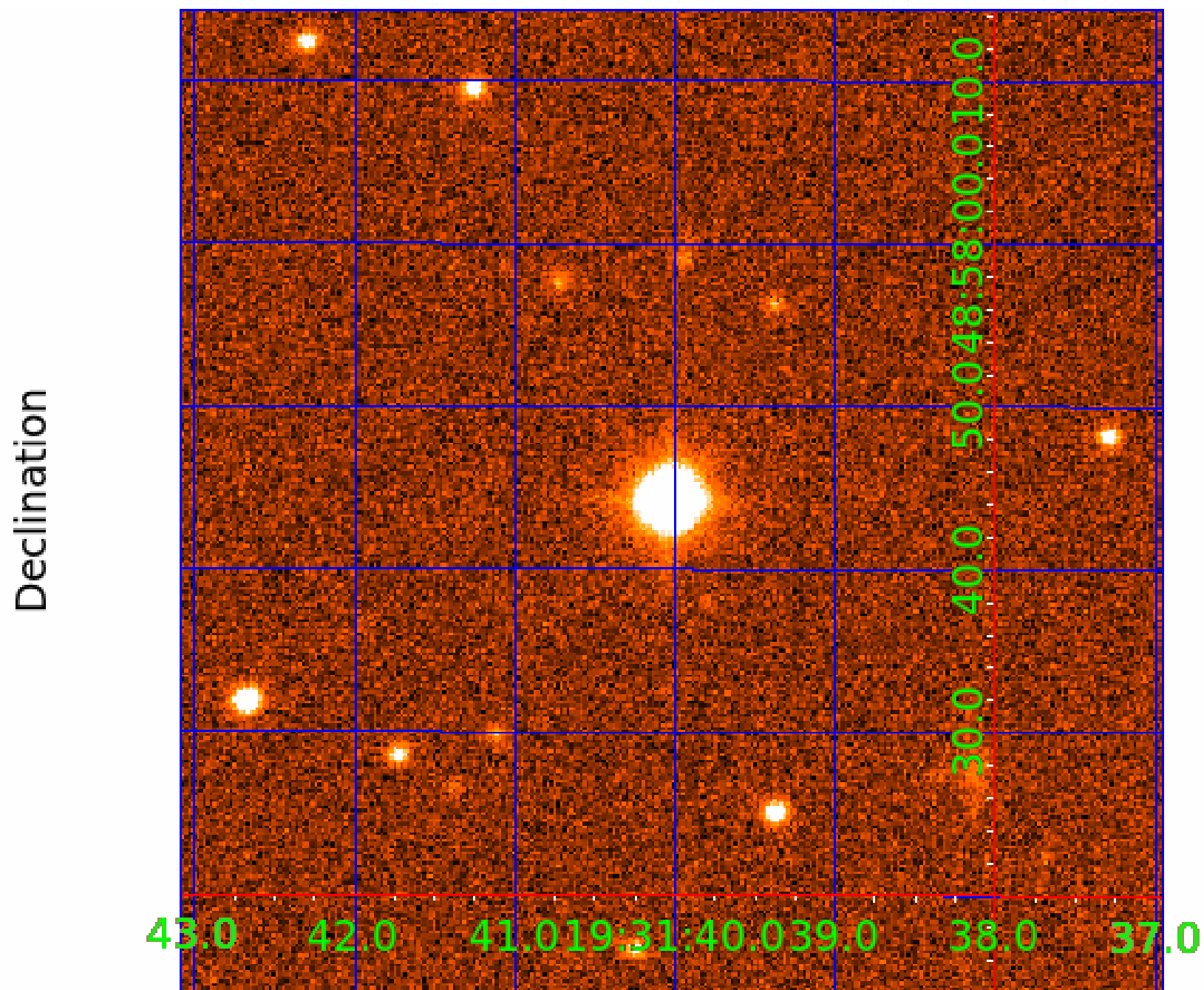
Q16 no OOT image



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



UKIRT Image



KIC 011246246

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 011246246-01 | OBS | No | 606.164144 | 215.616839 | 2276.6 | 9.262 | 18.9 | 8.5 | 0.71 | 4983 | 3.50 | 0.18 |
| 011246246-02 | OBS | No | 528.647630 | 483.045213 | 4023.2 | 22.471 | 12.4 | 5.5 | 0.71 | 4983 | 8.63 | 0.22 |
| 011246246-03 | OBS | No | 533.052084 | 210.321353 | 2940.9 | 5.664 | 15.9 | 11.8 | 0.71 | 4983 | 5.01 | 0.21 |
| 011246246-04 | OBS | No | 664.468436 | 174.301241 | 1151.6 | 2.060 | 13.1 | 6.5 | 0.71 | 4983 | 2.53 | 0.16 |
| 011246246-05 | OBS | No | 458.801534 | 460.695645 | 620.0 | 4.500 | 14.9 | -1.0 | 0.71 | 4983 | 1.73 | 0.26 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 011246246-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS |
| 011246246-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 011246246-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS |
| 011246246-04 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST |
| 011246246-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—CENT_NOFITS |

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

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

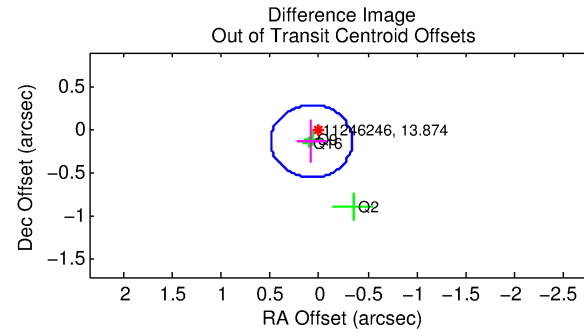
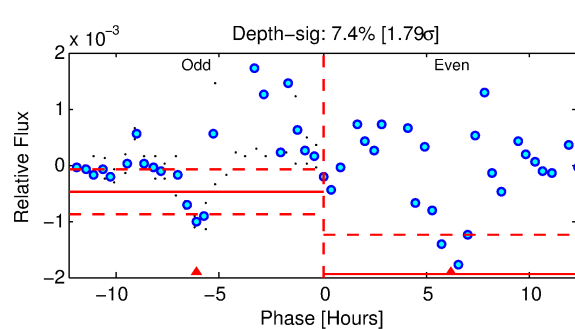
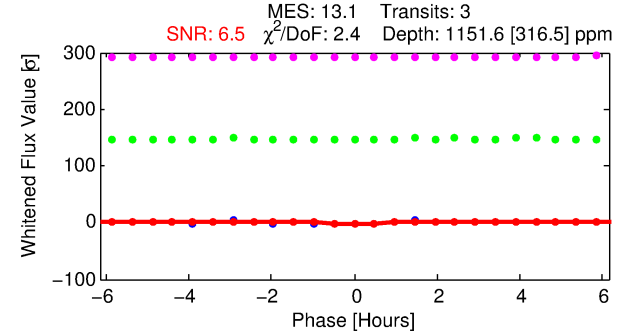
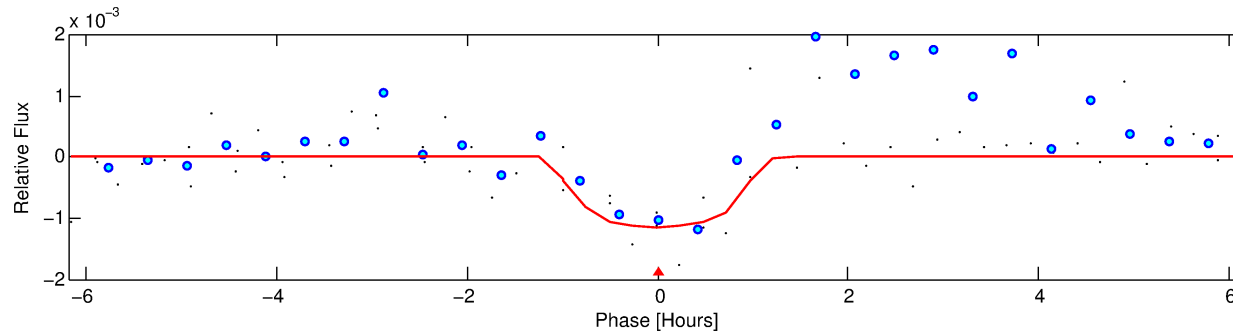
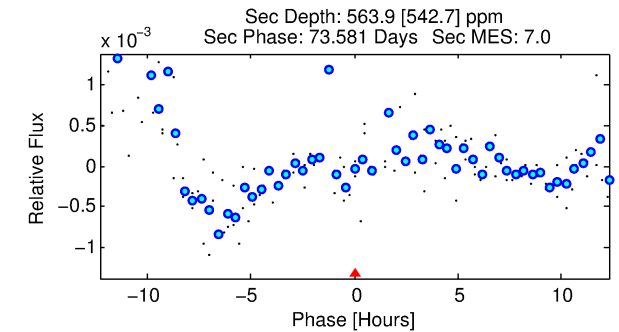
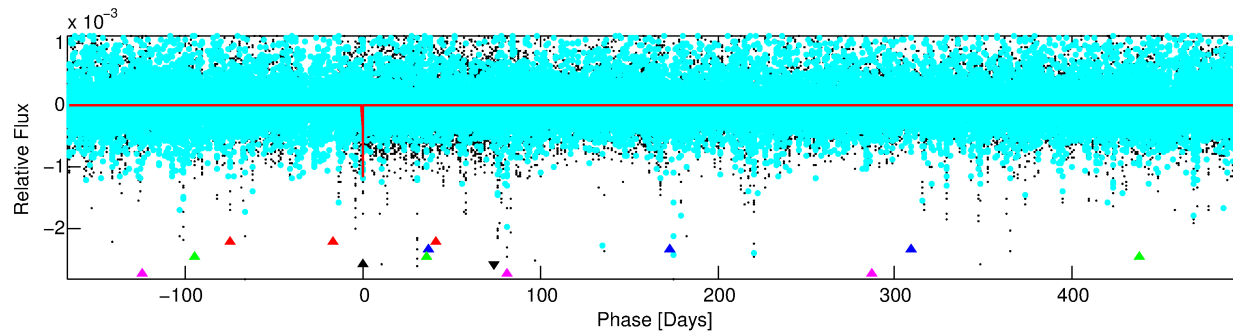
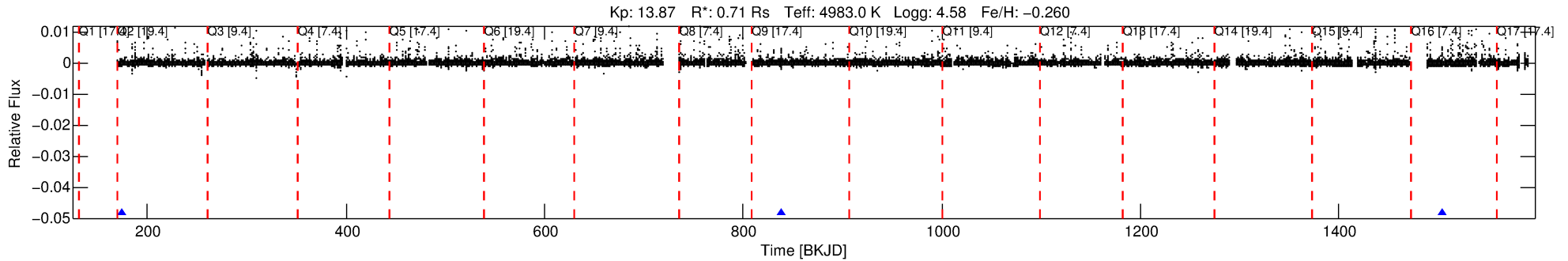
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011246246-04

No Significant Match Found

DV One-Page Summary

KIC: 11246246 Candidate: 4 of 5 Period: 664.468 d



DV Fit Results:

Period = 664.46844 [0.00556] d
Epoch = 174.3012 [0.0070] BKJD
Rp/R* = 0.0324 [0.0979]
a/R* = 2026.03 [21006.94]
b = 0.62 [10.37]
Seff = 0.16 [0.03]
Teq = 161 [7] K
Rp = 2.53 [7.65] Re
a = 1.3332 [0.1057] AU
Ag = 86190.71 [527459.47] [0.16 σ]
Teffp = 4265 [6526] K [0.63 σ]

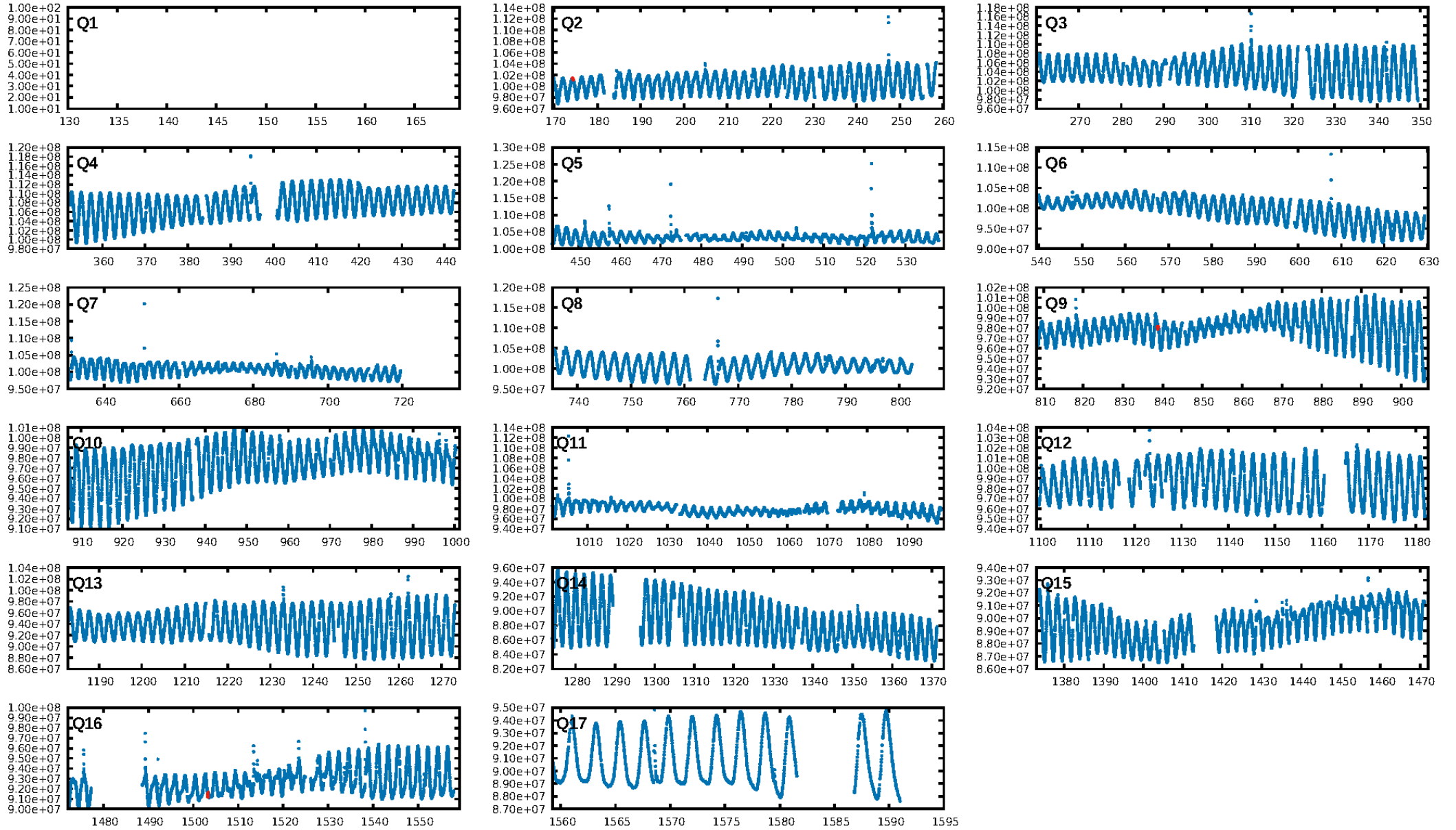
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [147.47 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 6.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.1723
Centroid-sig: 1.4%
Centroid-so: 0.813 arcsec [1.55 σ]
OotOffset-rm: 0.150 arcsec [1.08 σ]
KicOffset-rm: 0.322 arcsec [1.60 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

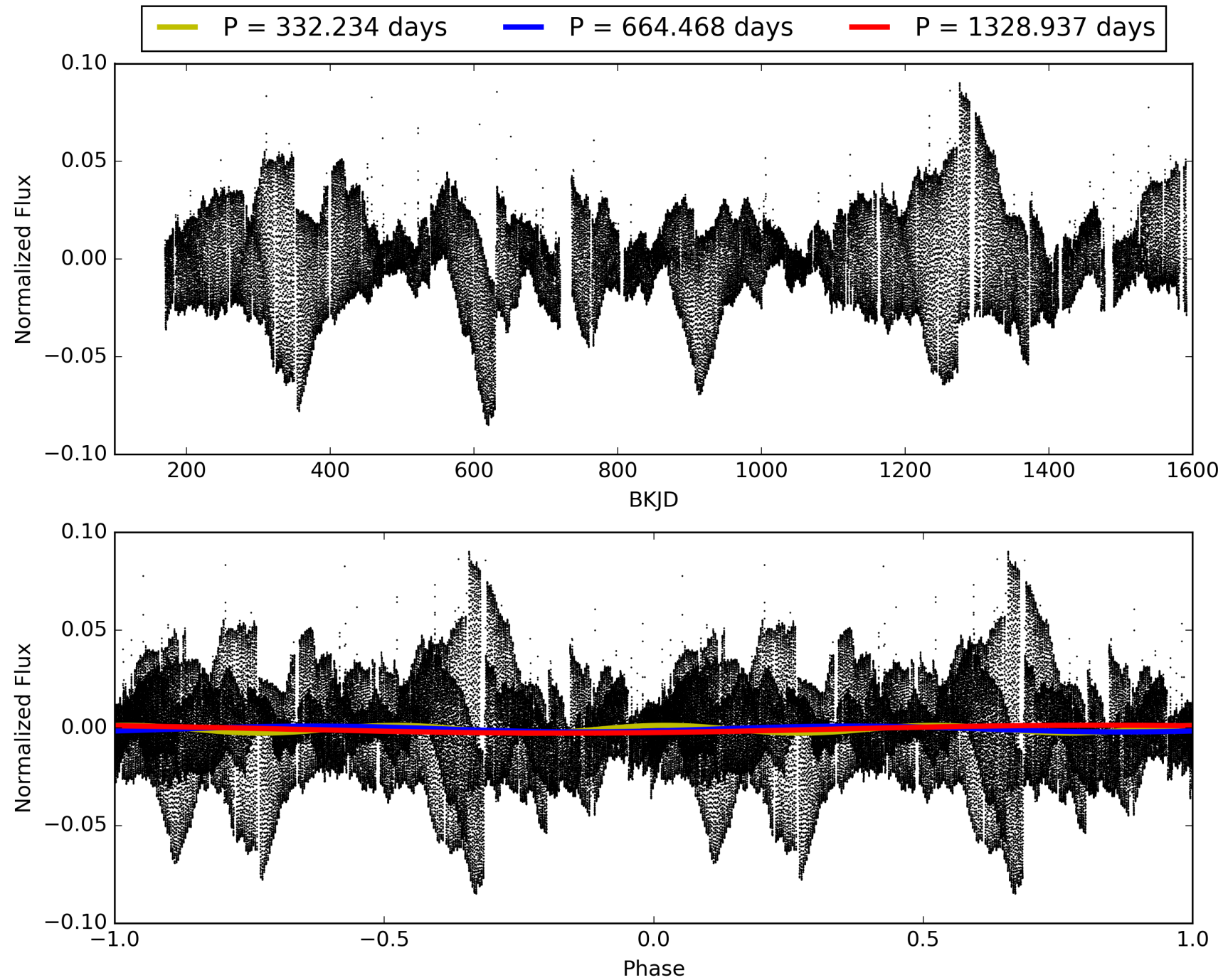
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:04:26 Z

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

TCE 011246246-04, PDC Light Curves

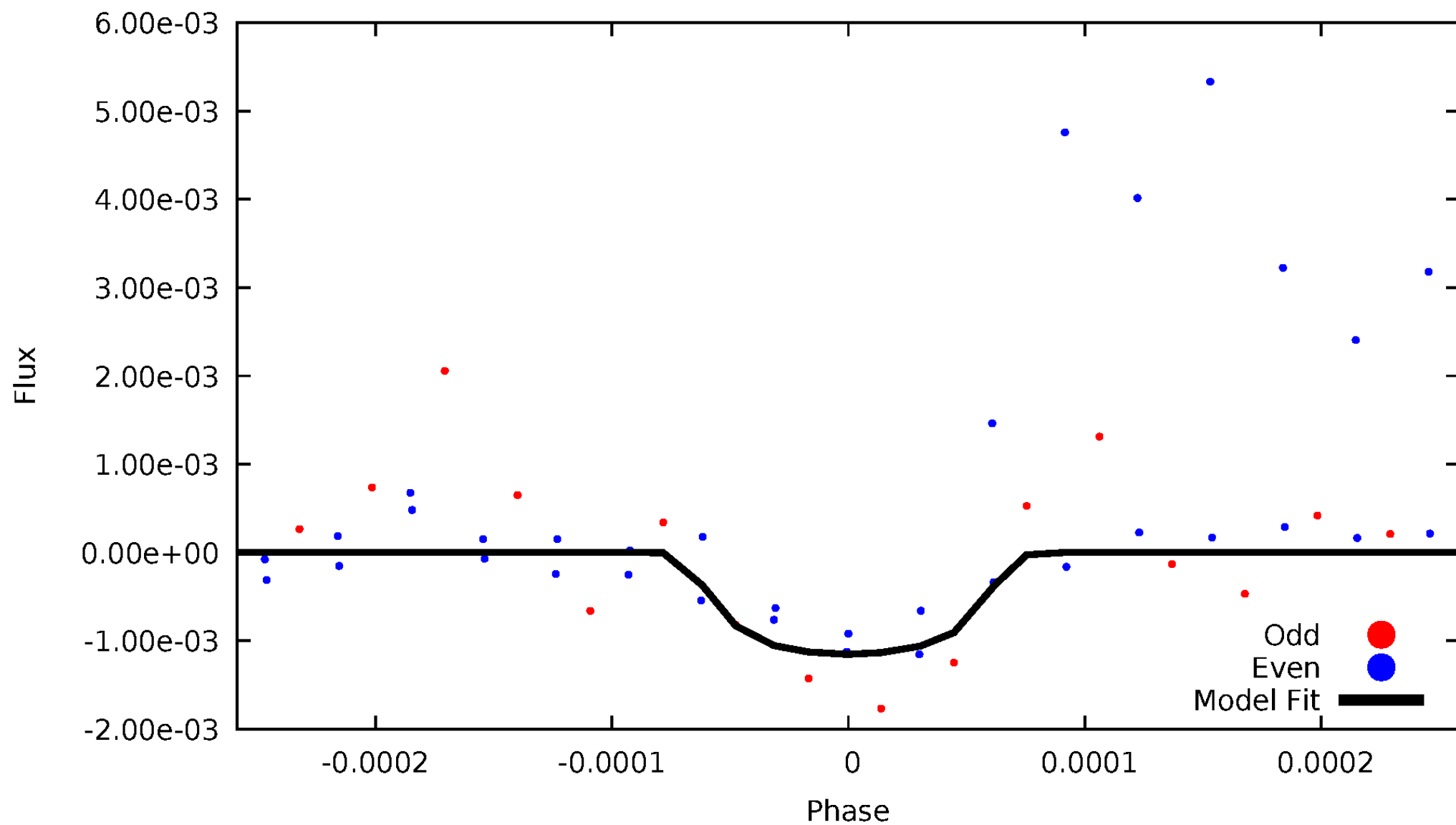


TCE 011246246-04



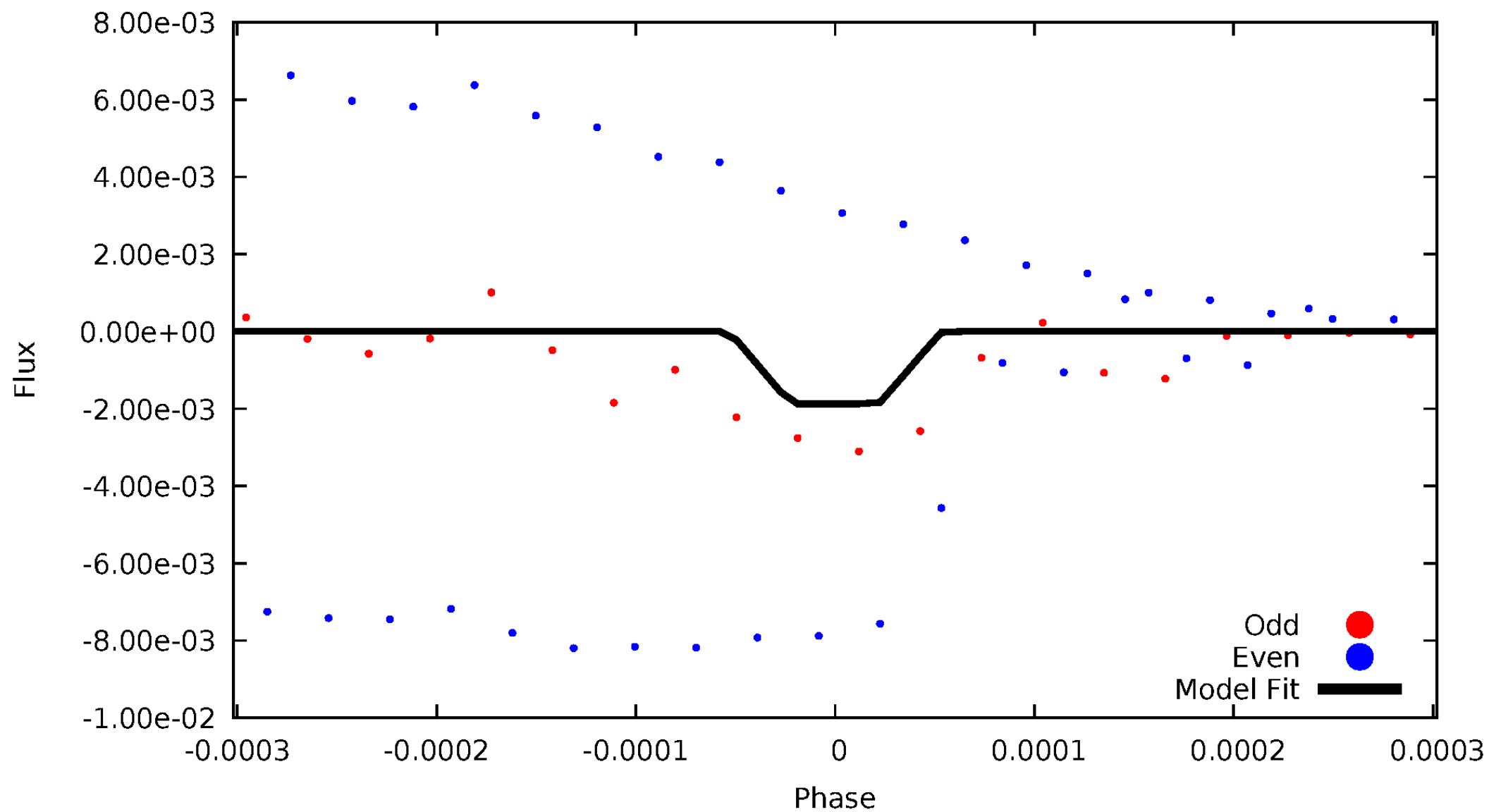
DV Odd/Even

TCE 011246246-04



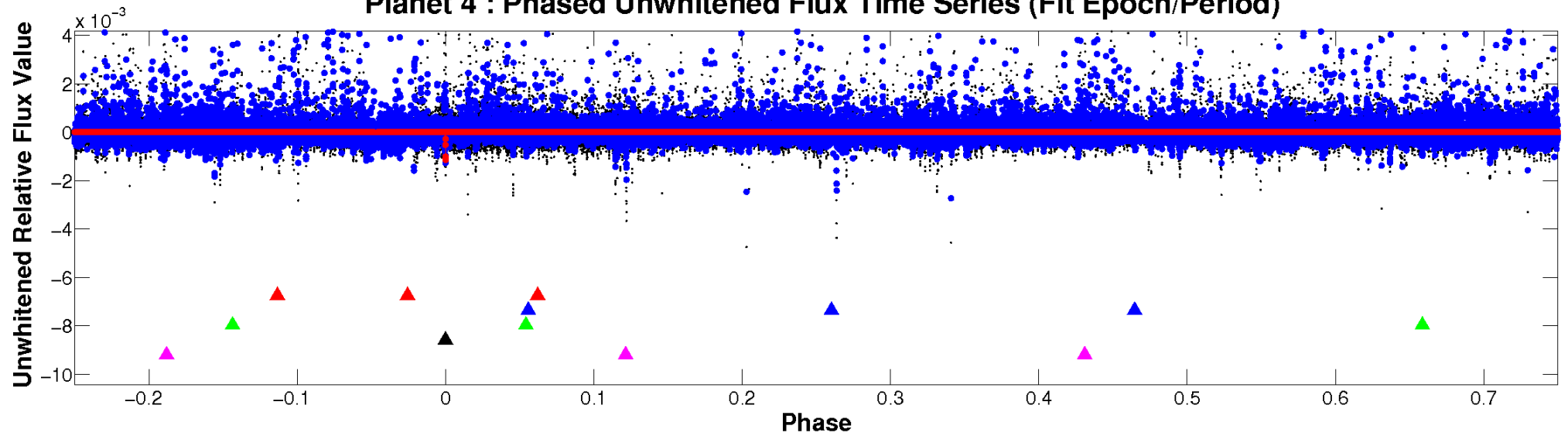
ALT Odd/Even

TCE 011246246-04

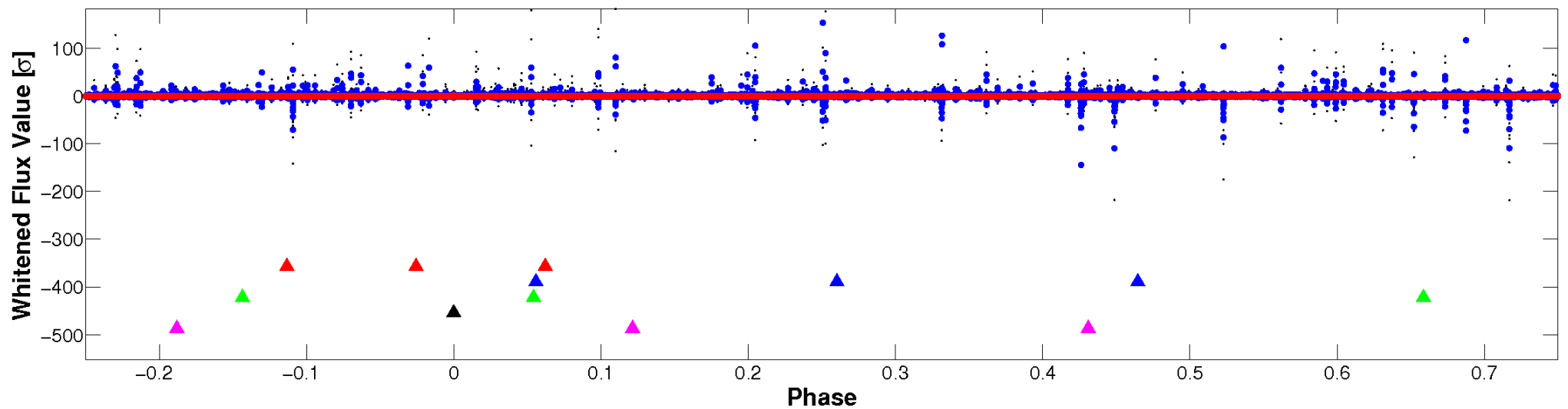


Non-Whitened Vs. Whitened Light Curve

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

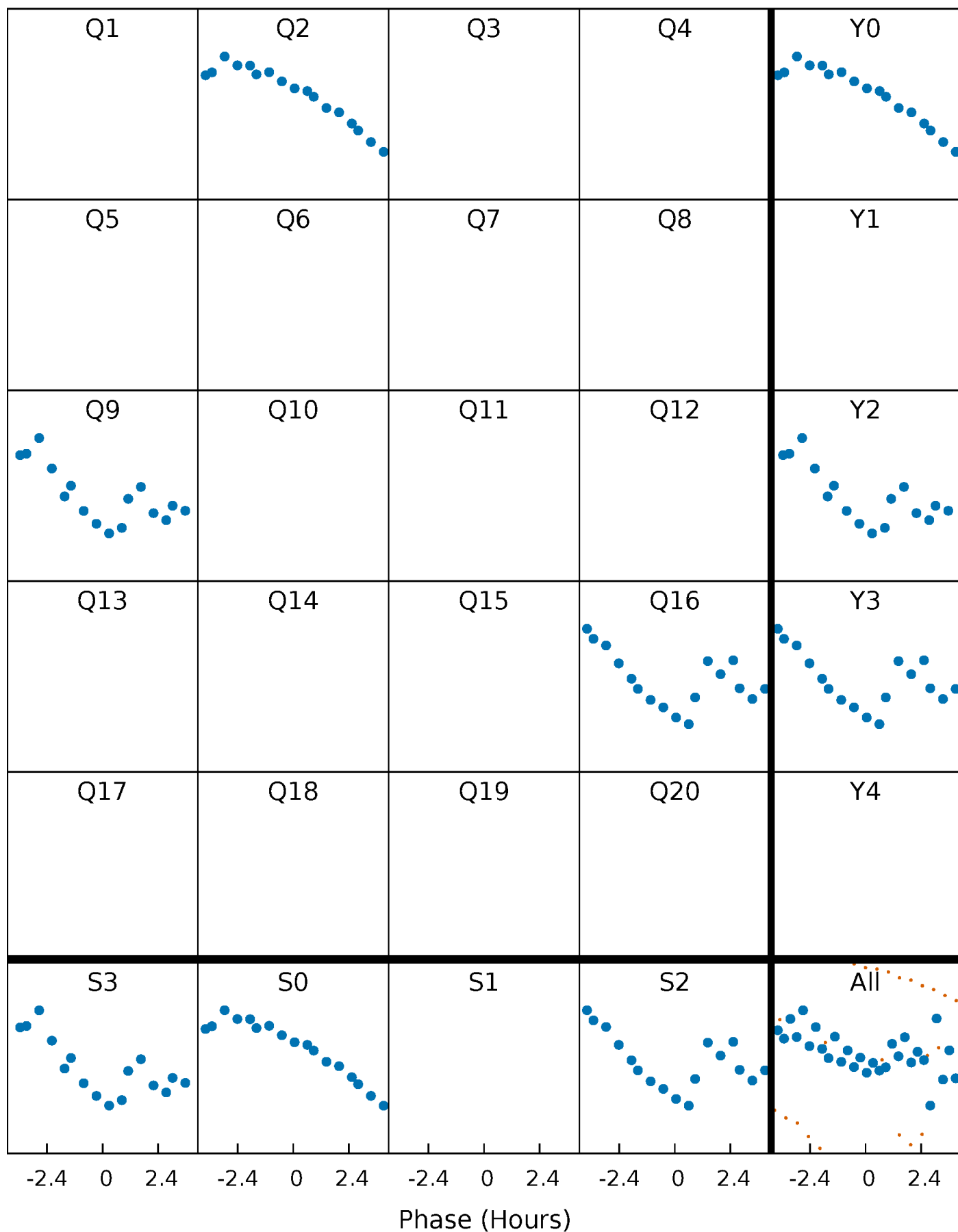


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



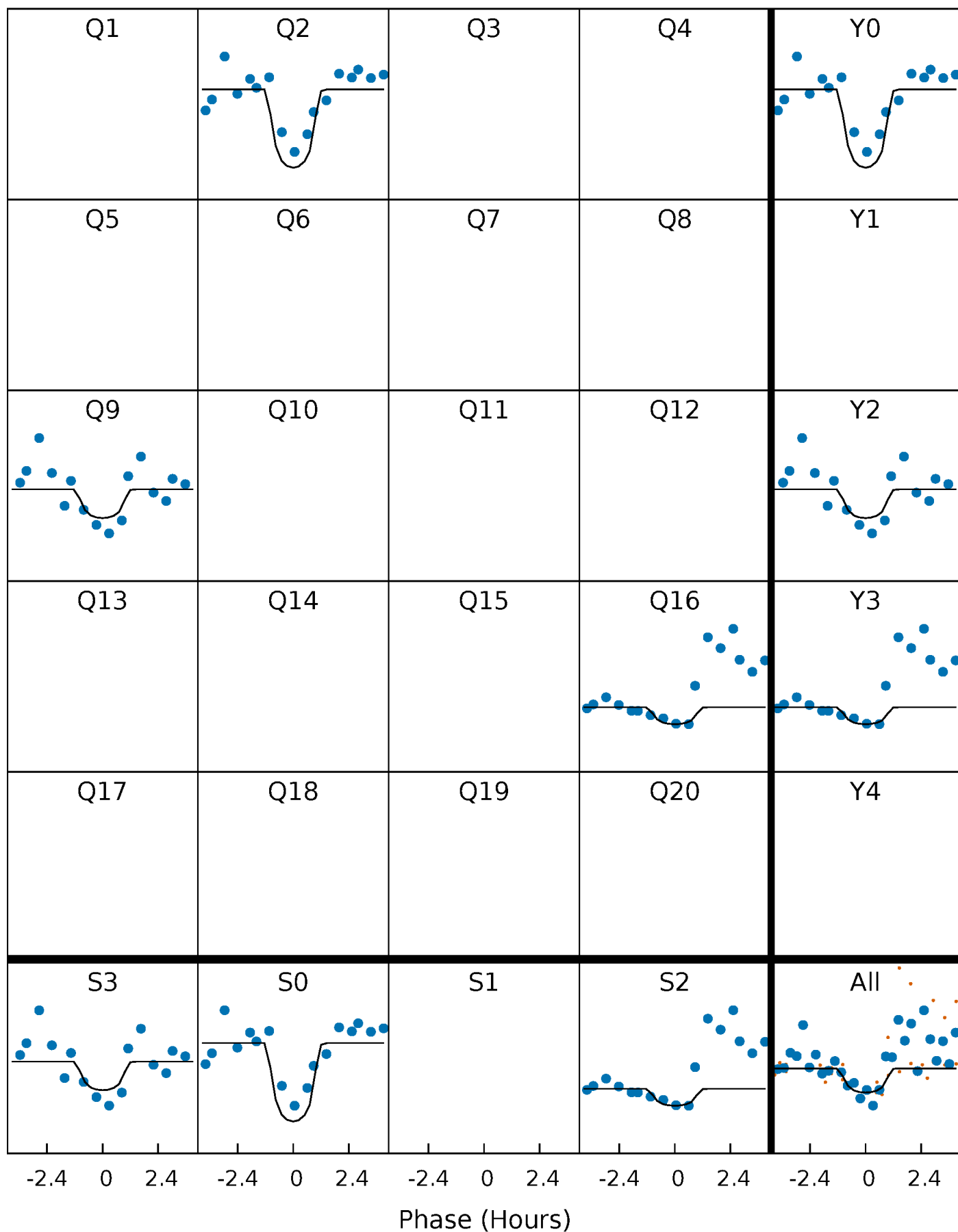
PDC Quarter-Phased Transit Curves

TCE 011246246-04 P=664.468436 Days $T_0=174.301241$ (BKJD)



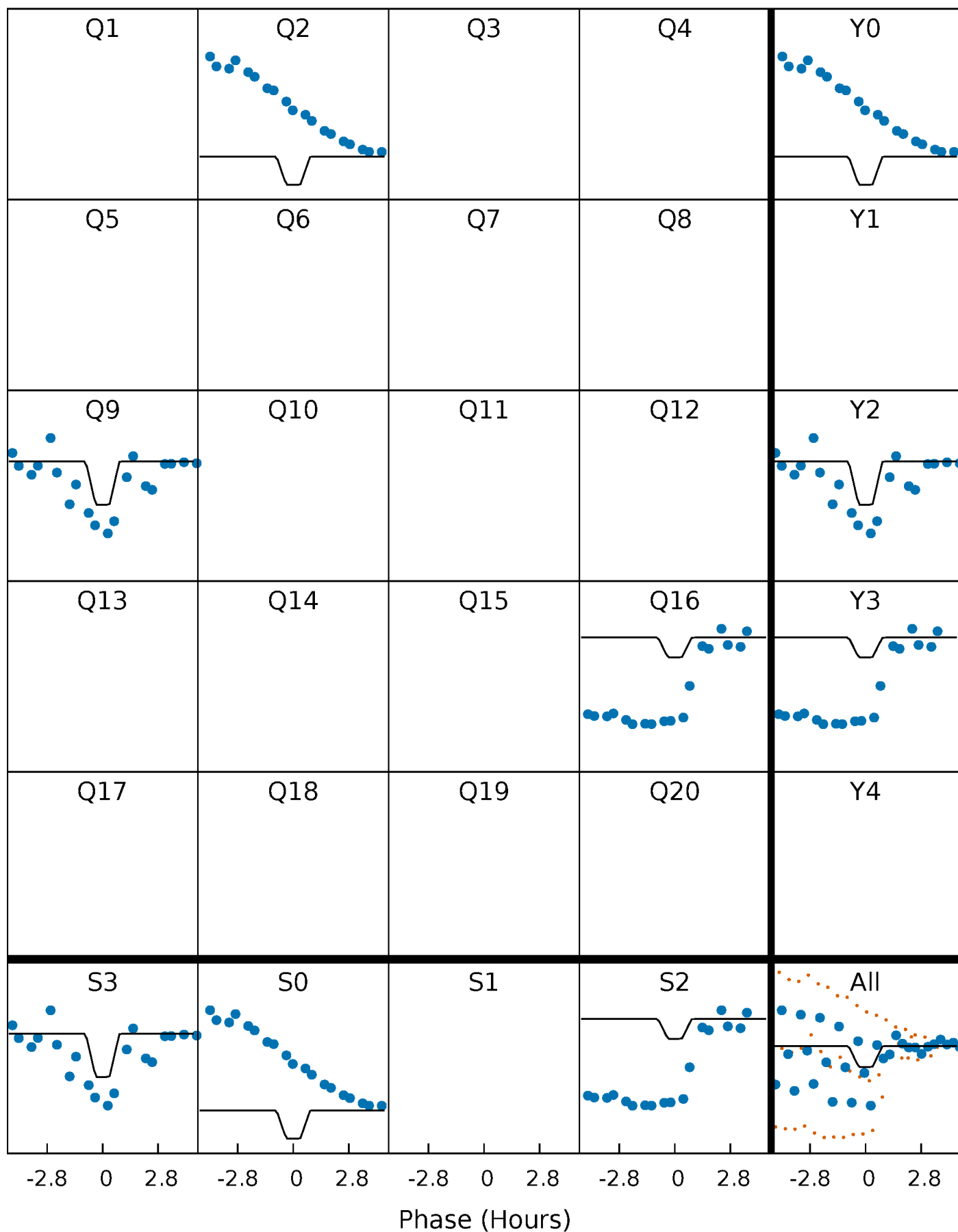
DV Quarter-Phased Transit Curves

TCE 011246246-04 P=664.468436 Days $T_0=174.301241$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

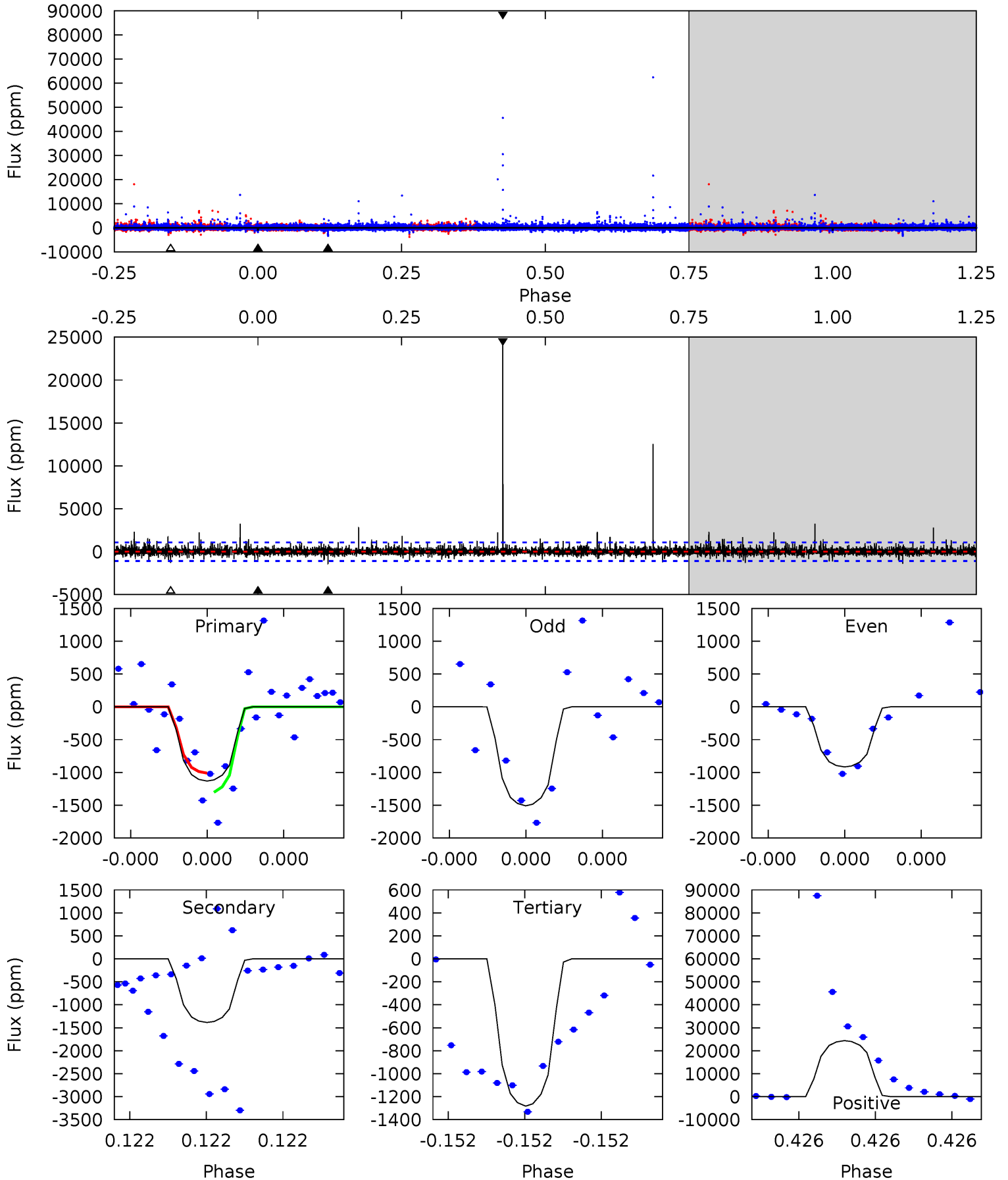
TCE 011246246-04 P=664.472126 Days $T_0=174.298840$ (BKJD)



DV Model-Shift Uniqueness Test

011246246-04, P = 664.468436 Days, E = 174.301241 Days

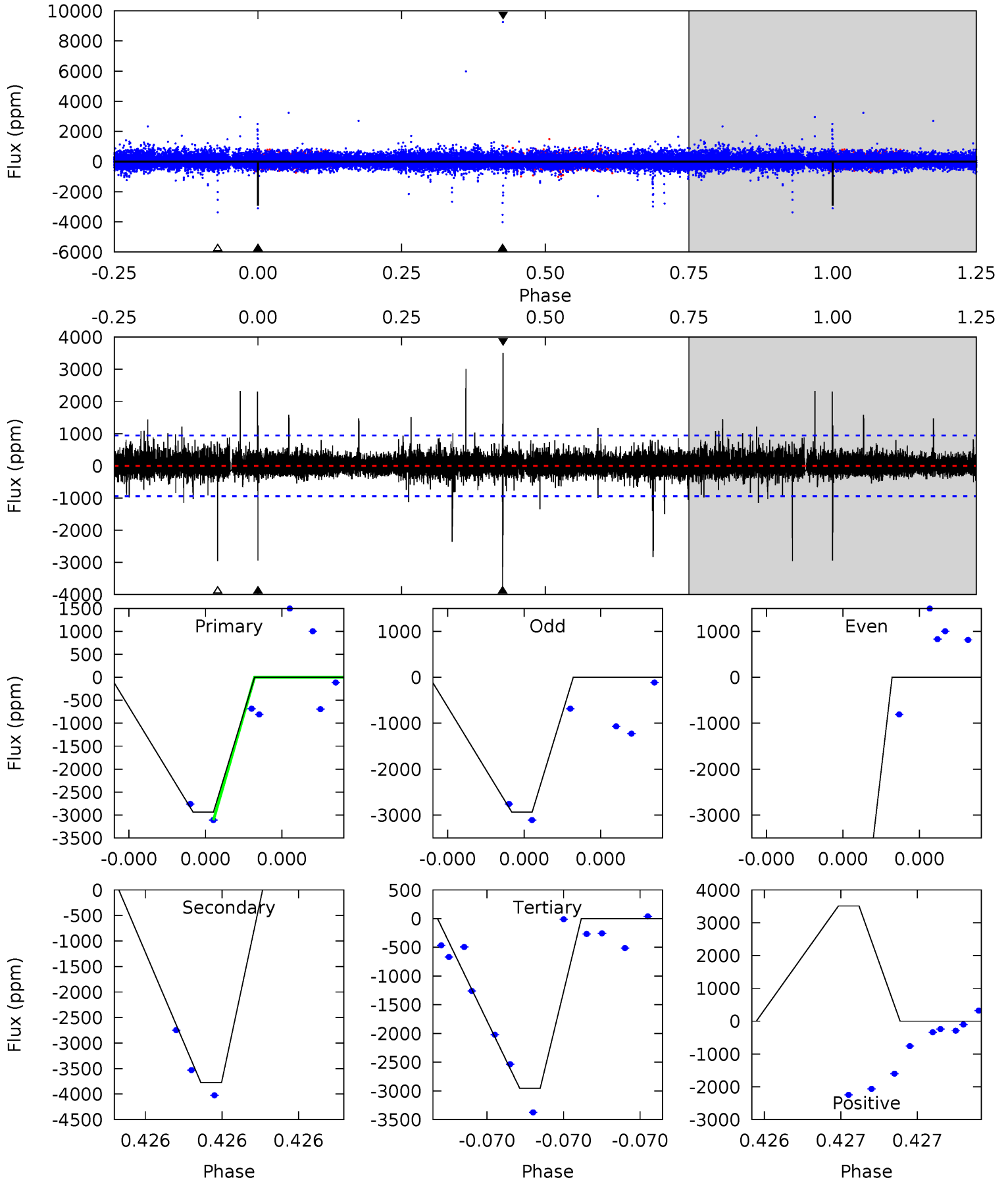
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.00 | 7.34 | 6.79 | 129.1 | 5.78 | 3.78 | 2.14 | -0.80 | -123.1 | 0.55 | -121.7 | 0.63 | 1.20 | 0.95 | 0.78 |



Alt Model-Shift Uniqueness Test

011246246-04, P = 664.472126 Days, E = 174.298840 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 18.1 | 23.3 | 18.3 | 21.7 | 5.82 | 3.86 | 1.04 | -0.13 | -3.58 | 5.09 | 1.64 | 13.2 | 0.84 | 0.48 | 0 |



Stellar Parameters For KIC 011246246

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 4983^{+176}_{-176} | $4.584^{+0.055}_{-0.050}$ | $-0.260^{+0.300}_{-0.300}$ | $0.715^{+0.072}_{-0.072}$ | $0.715^{+0.085}_{-0.057}$ | $2.761^{+0.668}_{-0.488}$ |
| | +4%/-4% | +1%/-1% | +115%/-115% | +10%/-10% | +12%/-8% | +24%/-18% |
| Source | PHO54 | PHO54 | PHO54 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 011246246-04 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|------------------------|------------------|-----------------------|----------------------------|
| DV | -1386 ± 189 | $6.44^{+6.01}_{-4.54}$ | 225^{+9}_{-10} | 3715^{+2313}_{-707} | $33312^{+364746}_{-24354}$ |
| Alt. | -3777 ± 162 | $6.74^{+6.18}_{-4.85}$ | 225^{+9}_{-9} | 4367^{+3681}_{-900} | $85261^{+970382}_{-62817}$ |

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 $A_{obs} \gg 1.0$

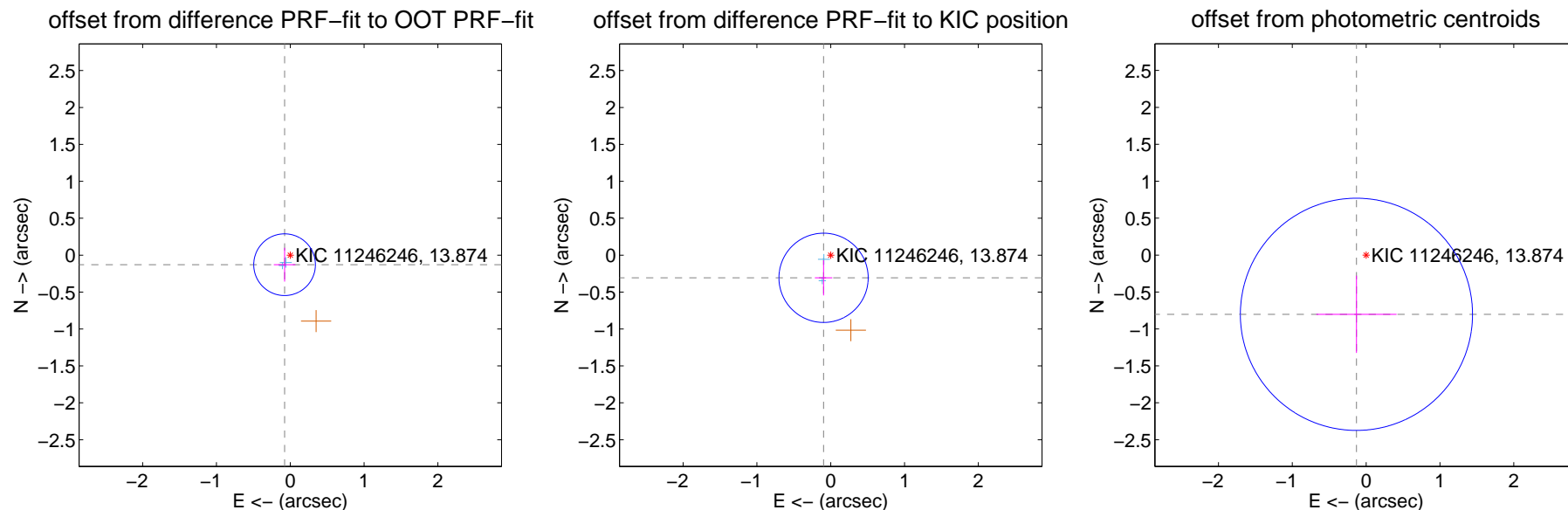
DV Centroid Data

Supplemental centroid analysis for 011246246-04. Kepler magnitude: 13.87. Transit SNR 6.53

There are 2 quarters with good PRF difference image offsets

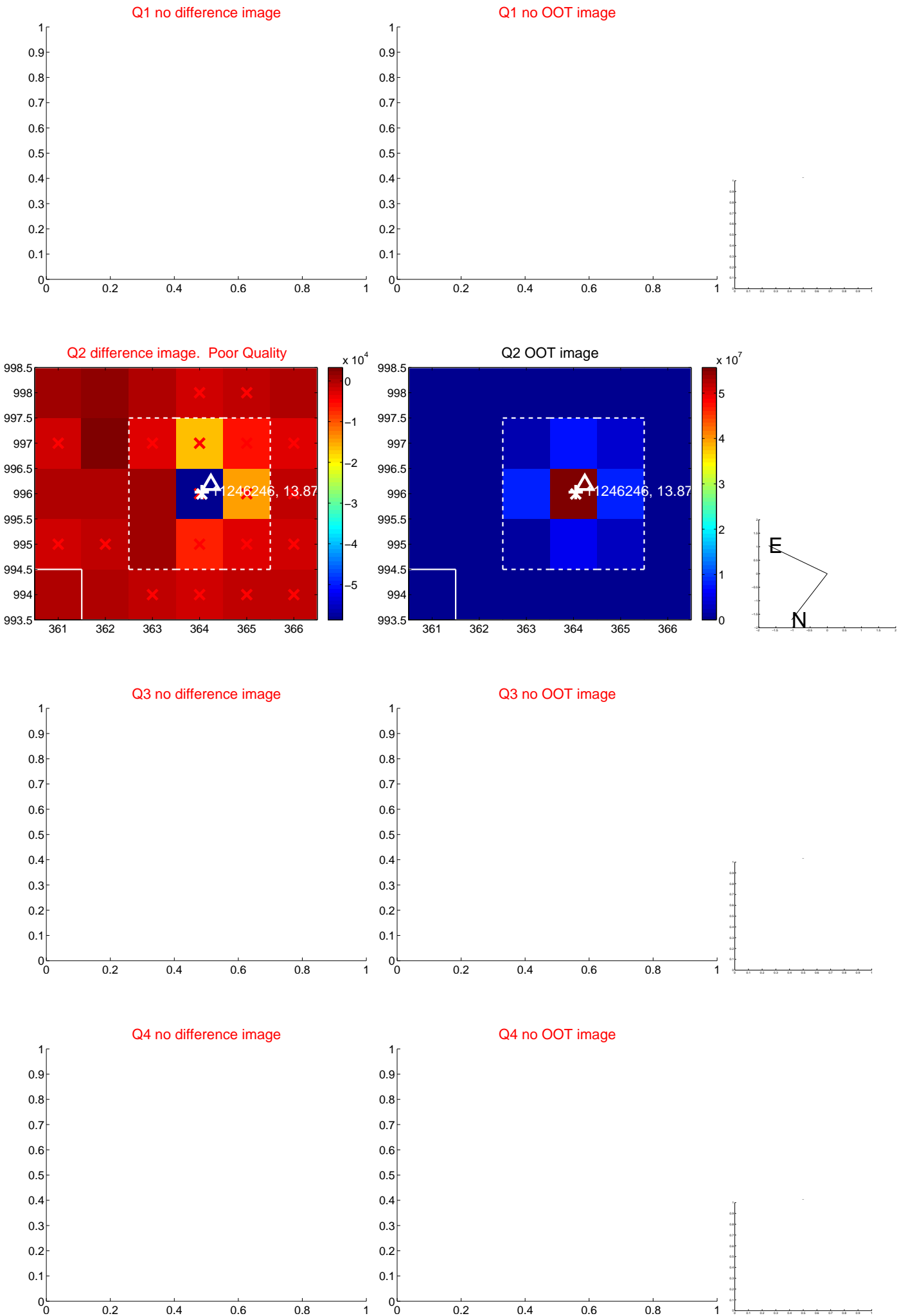
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.150 ± 0.139 | 1.08 | 0.077 ± 0.146 | -0.129 ± 0.229 |
| PRF-fit source offset from KIC position | 0.322 ± 0.202 | 1.60 | 0.097 ± 0.118 | -0.307 ± 0.238 |
| photometric centroid source offset | 0.81 ± 0.52 | 1.55 | 0.13 ± 0.54 | -0.80 ± 0.52 |



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.

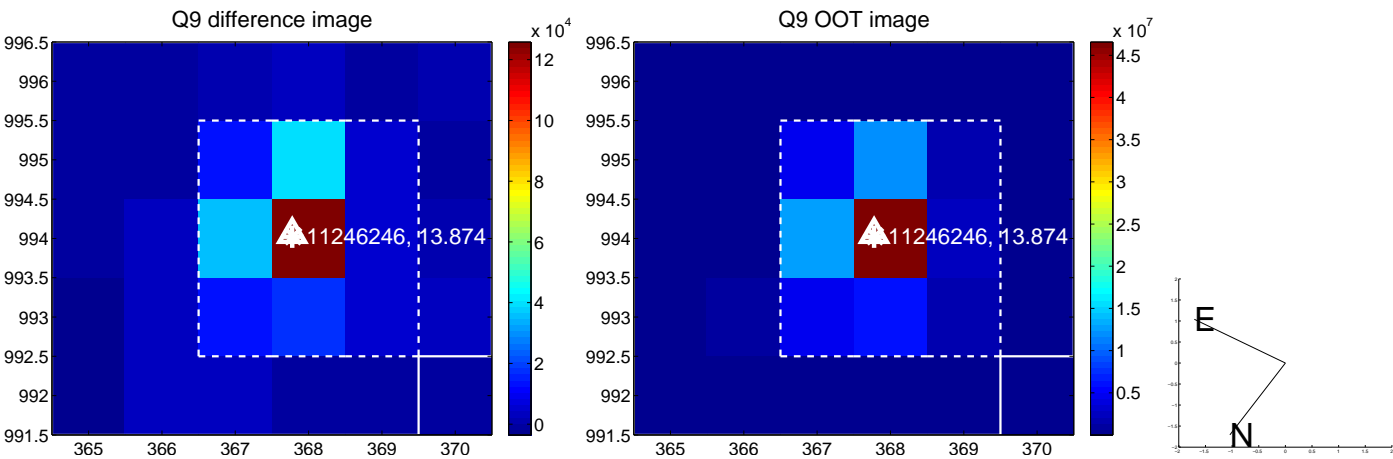
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



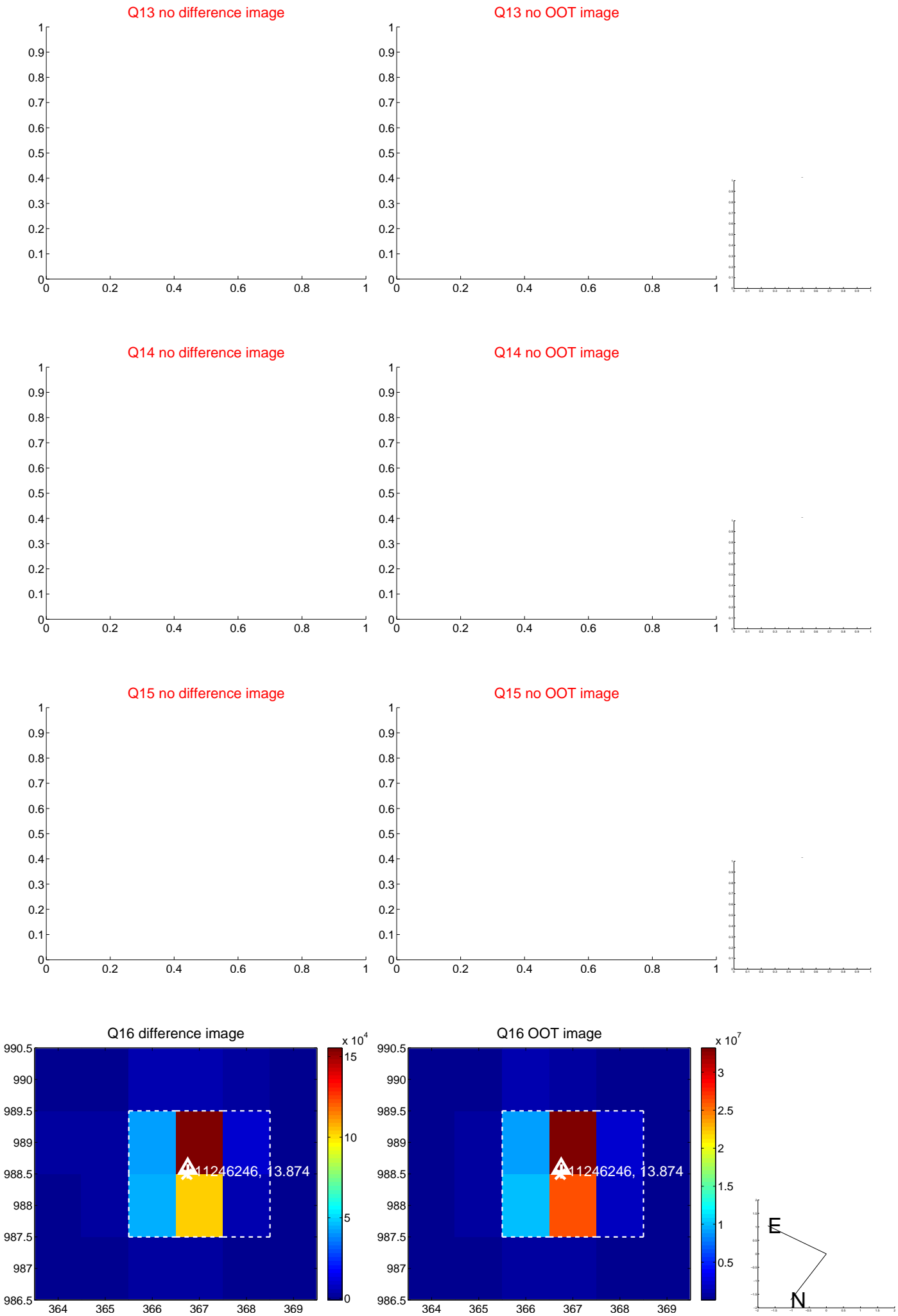
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



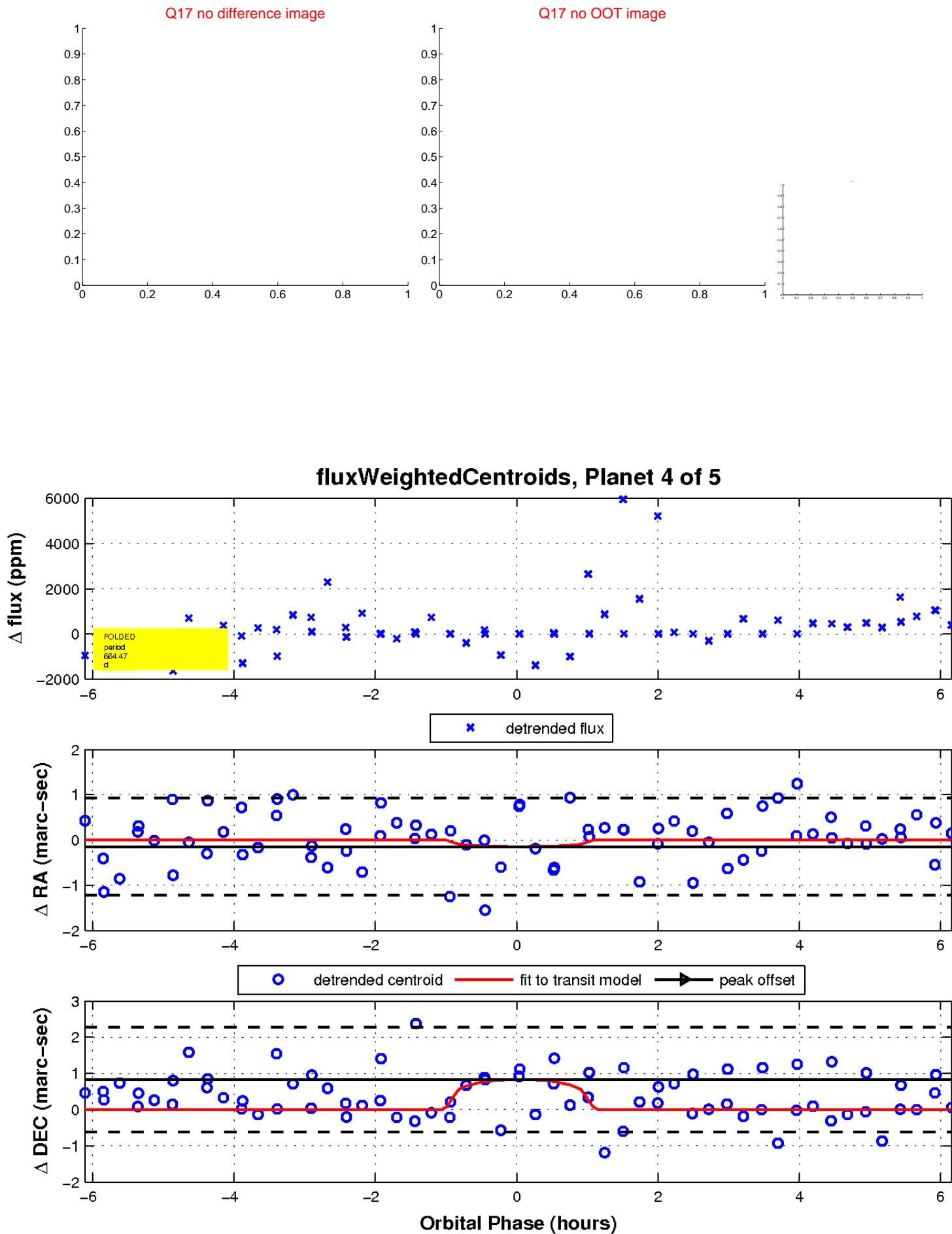
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



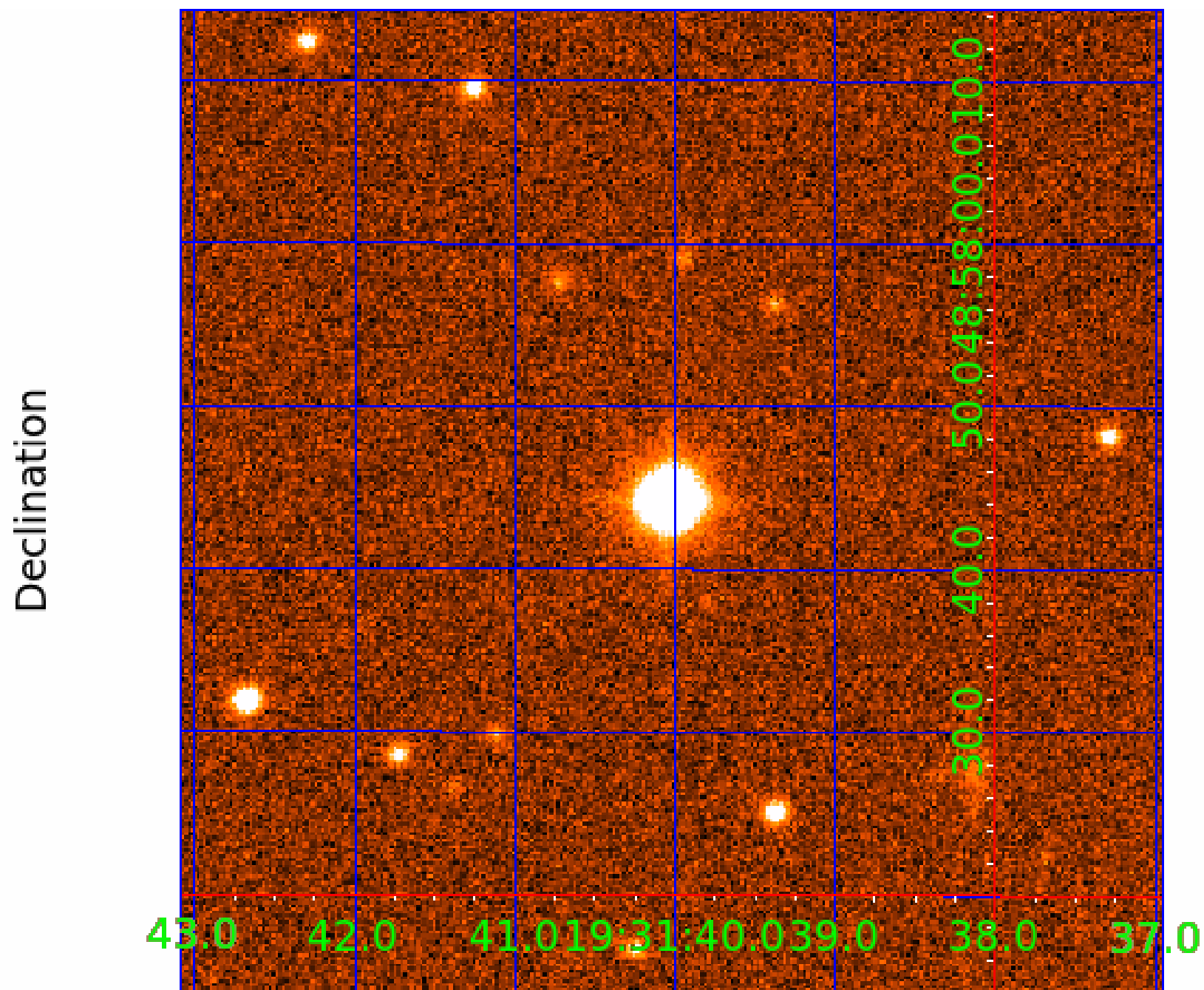
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011246246

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 011246246-01 | OBS | No | 606.164144 | 215.616839 | 2276.6 | 9.262 | 18.9 | 8.5 | 0.71 | 4983 | 3.50 | 0.18 |
| 011246246-02 | OBS | No | 528.647630 | 483.045213 | 4023.2 | 22.471 | 12.4 | 5.5 | 0.71 | 4983 | 8.63 | 0.22 |
| 011246246-03 | OBS | No | 533.052084 | 210.321353 | 2940.9 | 5.664 | 15.9 | 11.8 | 0.71 | 4983 | 5.01 | 0.21 |
| 011246246-04 | OBS | No | 664.468436 | 174.301241 | 1151.6 | 2.060 | 13.1 | 6.5 | 0.71 | 4983 | 2.53 | 0.16 |
| 011246246-05 | OBS | No | 458.801534 | 460.695645 | 620.0 | 4.500 | 14.9 | -1.0 | 0.71 | 4983 | 1.73 | 0.26 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 011246246-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS |
| 011246246-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 011246246-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS |
| 011246246-04 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST |
| 011246246-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—CENT_NOFITS |

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

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

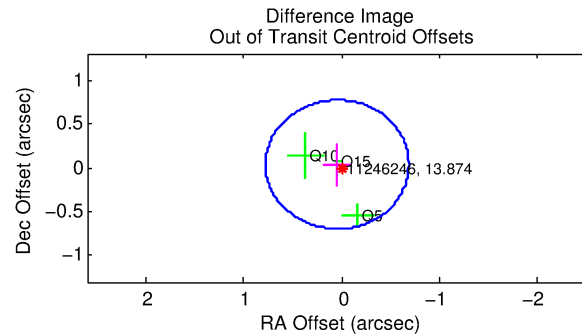
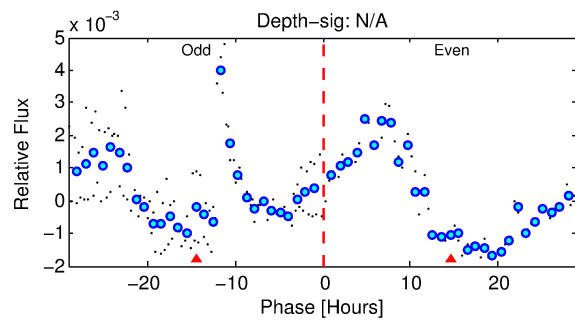
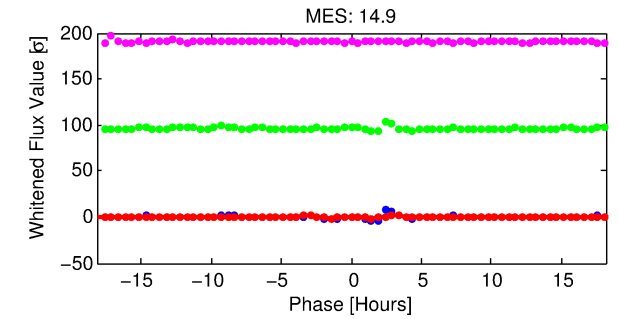
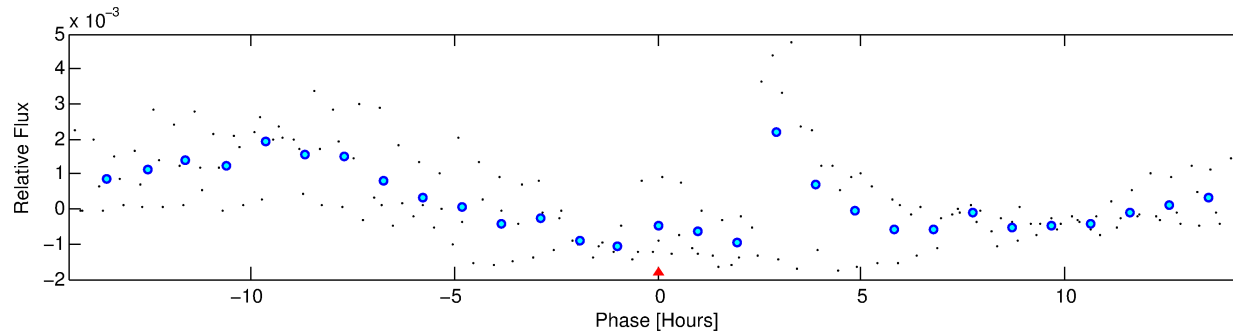
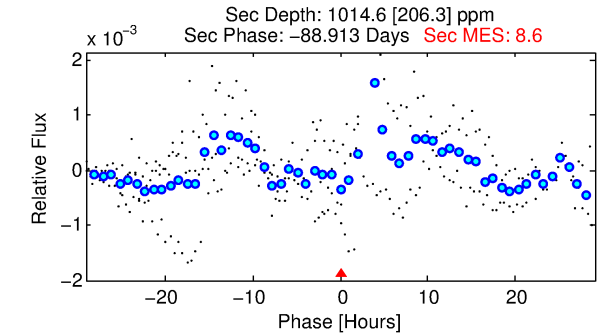
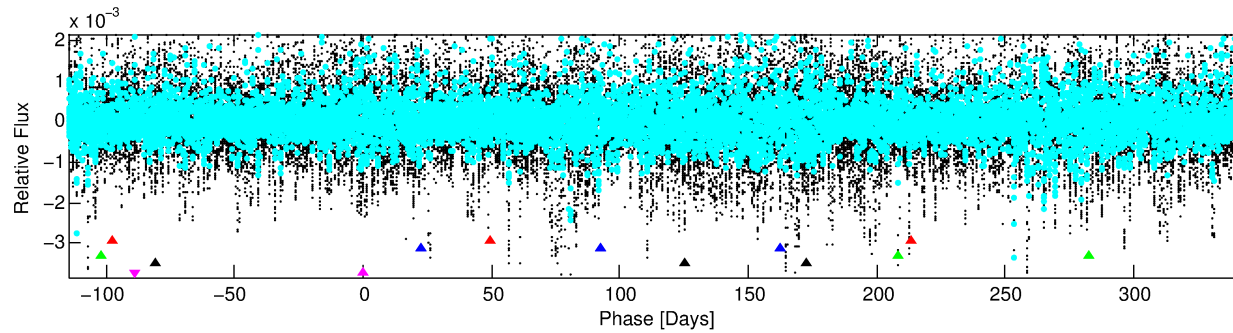
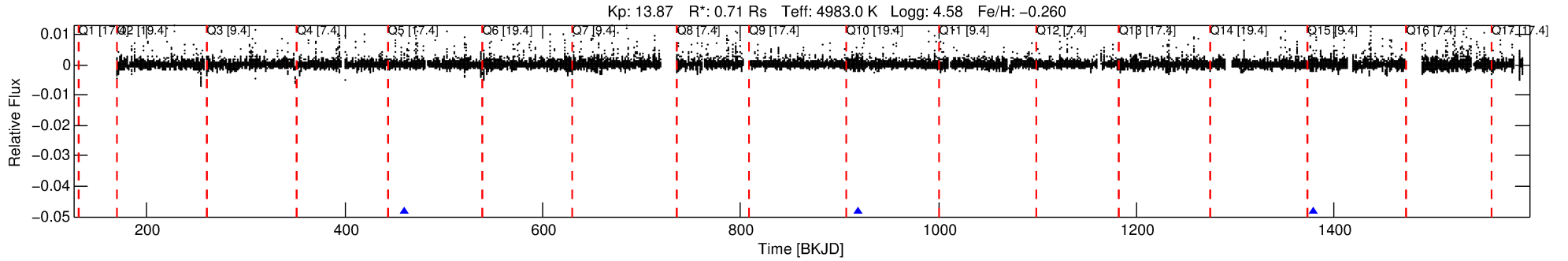
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011246246-05

No Significant Match Found

DV One-Page Summary

KIC: 11246246 Candidate: 5 of 5 Period: 458.802 d



TPS TCE Results:

Period = 458.80153 d
Epoch = 460.6956 BKJD

DV fit results are unavailable

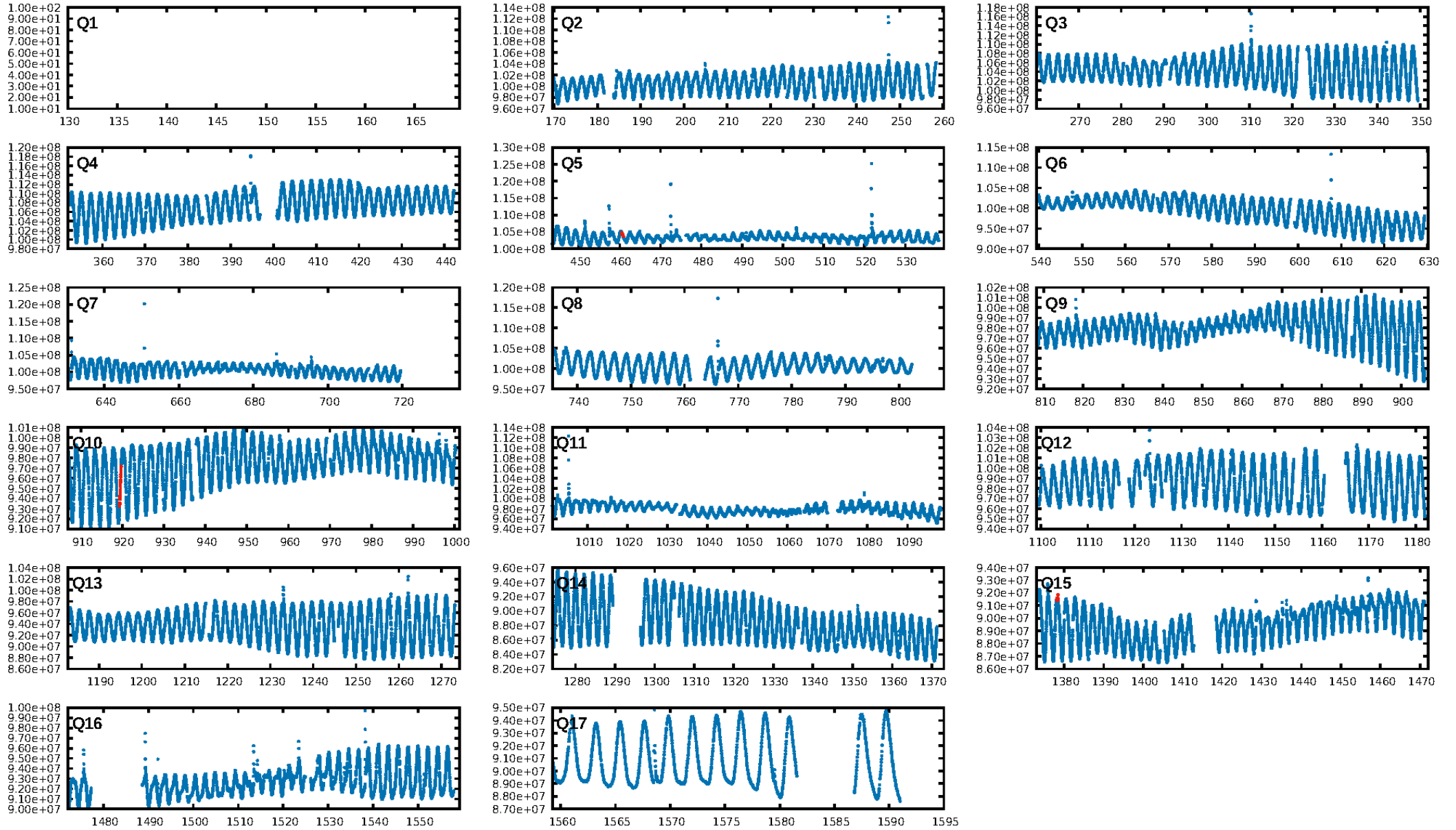
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [73.14σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.4608
Centroid-sig: 79.0%
Centroid-so: 0.240 arcsec [0.59σ]
OotOffset-rm: 0.058 arcsec [0.24σ]
KicOffset-rm: 0.074 arcsec [0.61σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

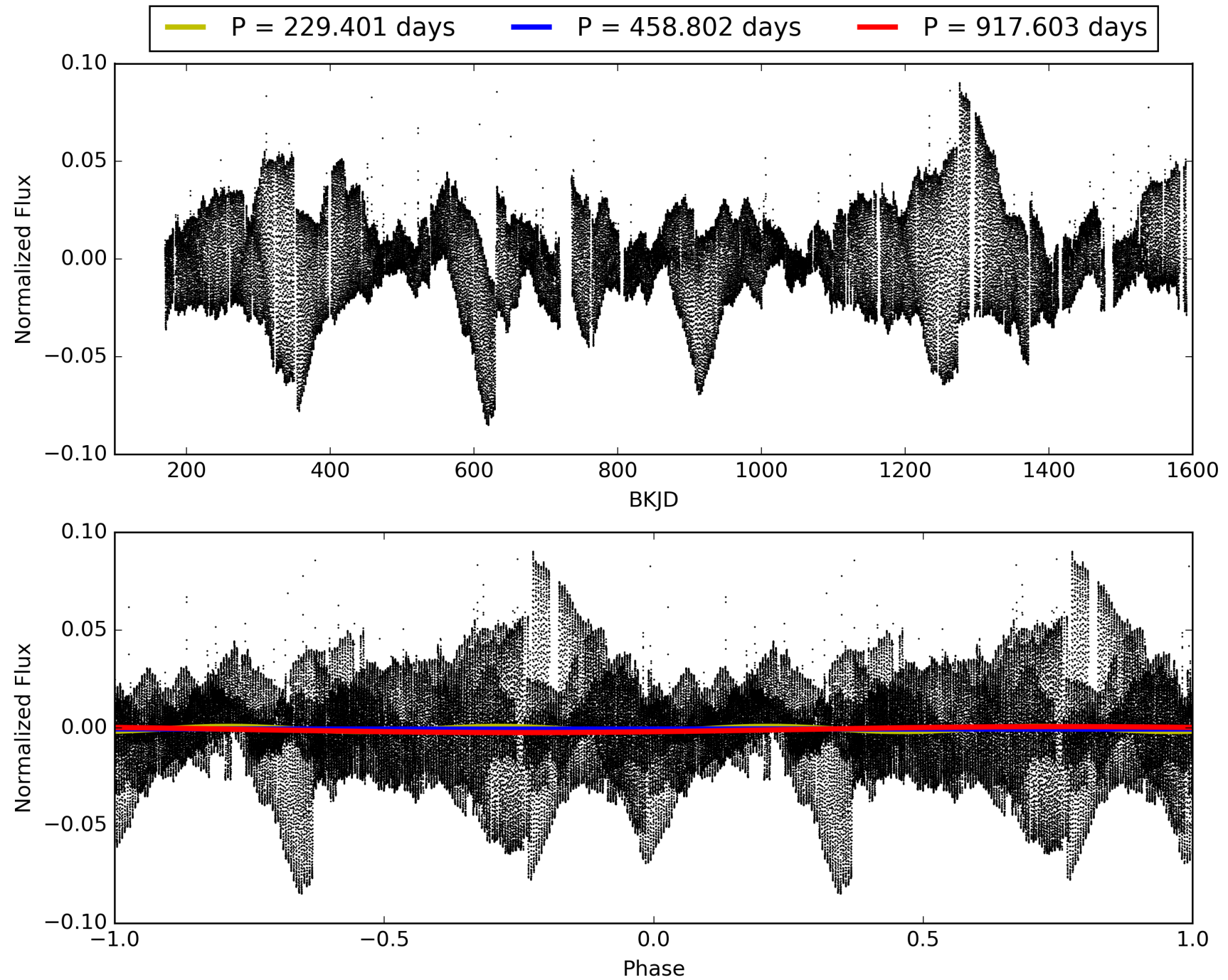
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:04:42 Z

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

TCE 011246246-05, PDC Light Curves

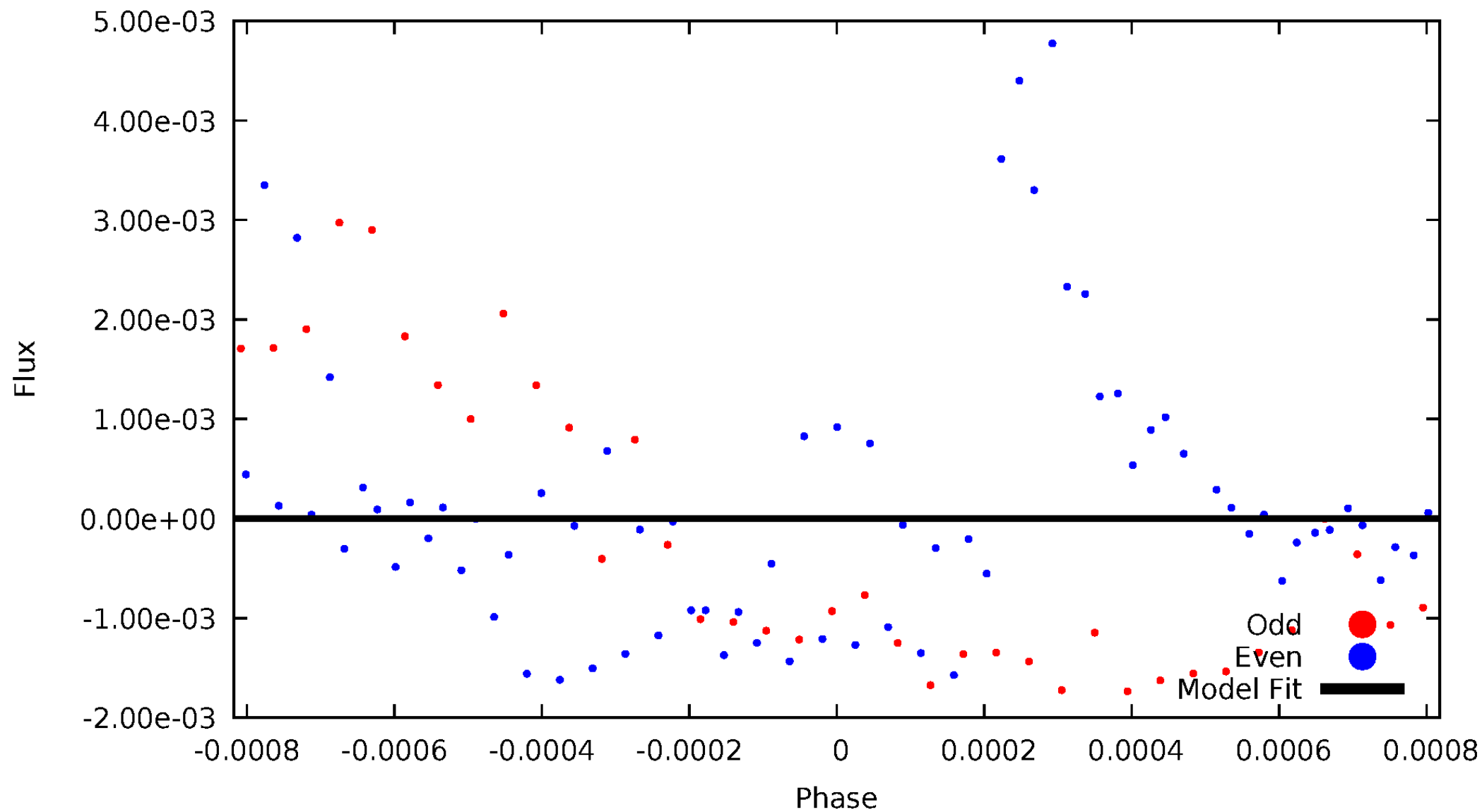


TCE 011246246-05



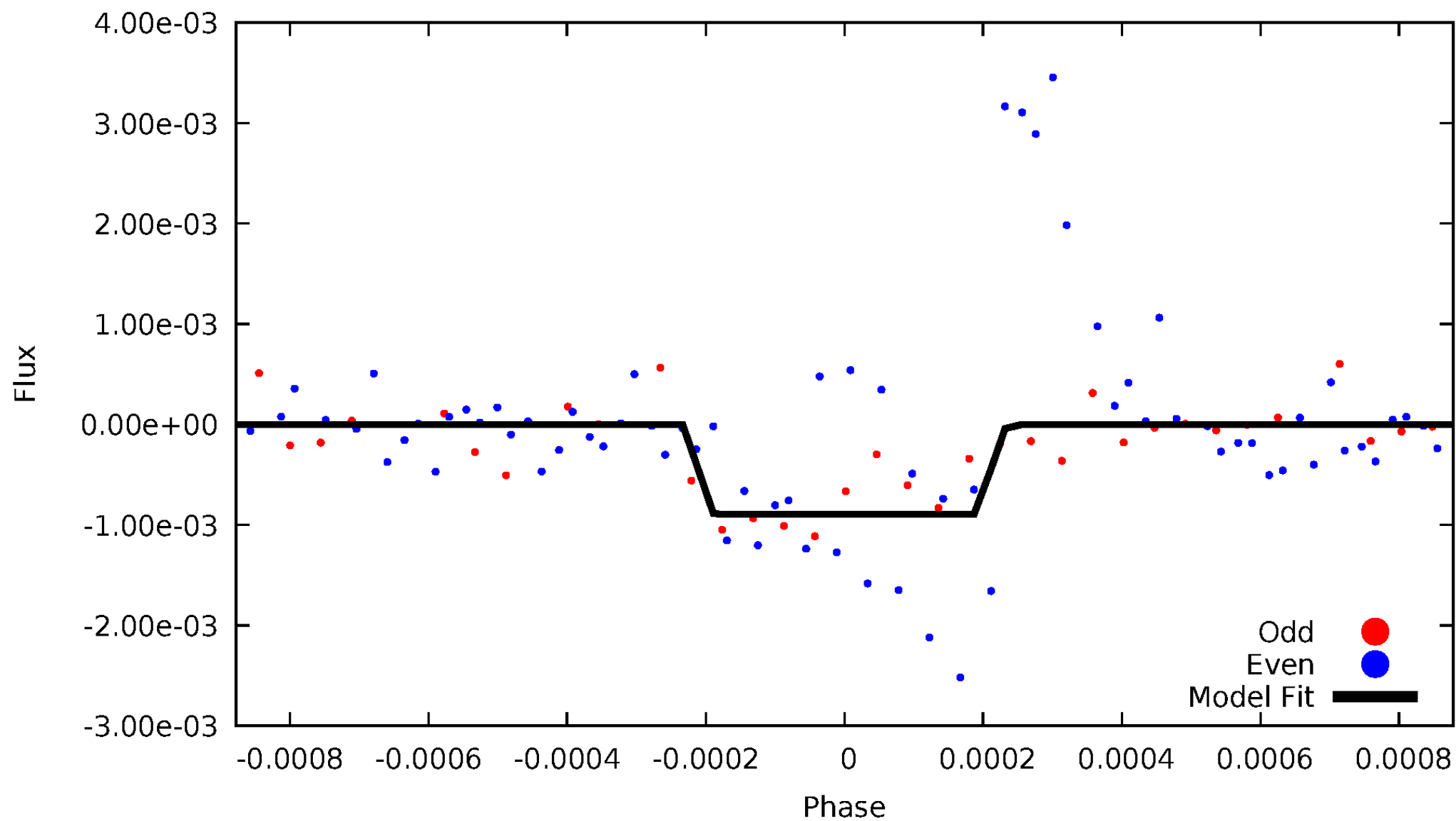
DV Odd/Even

TCE 011246246-05

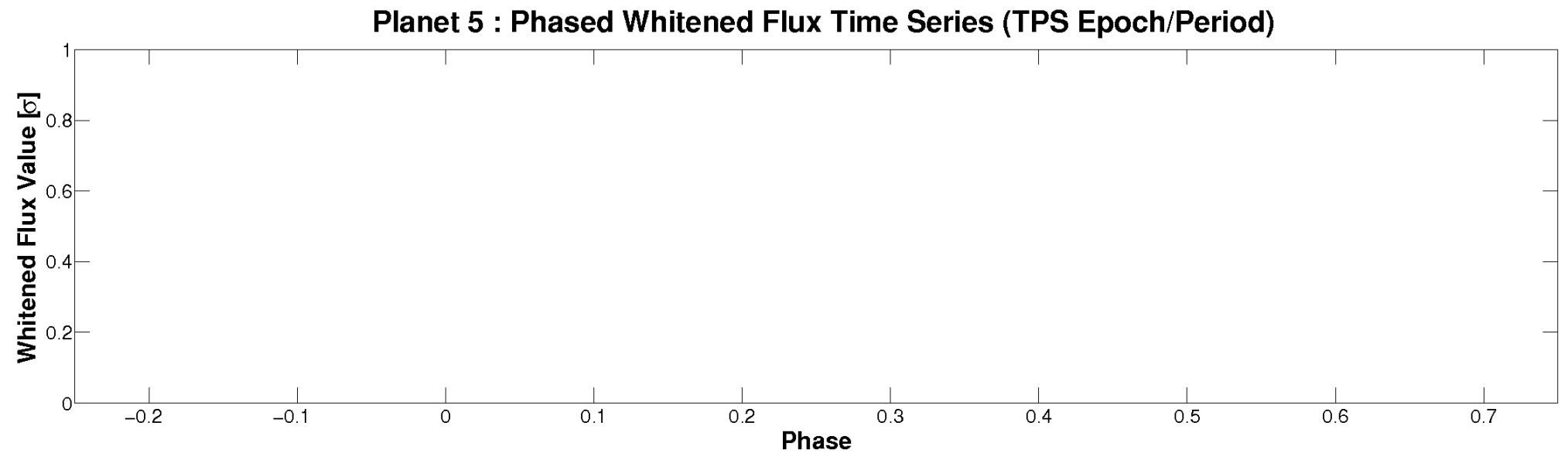
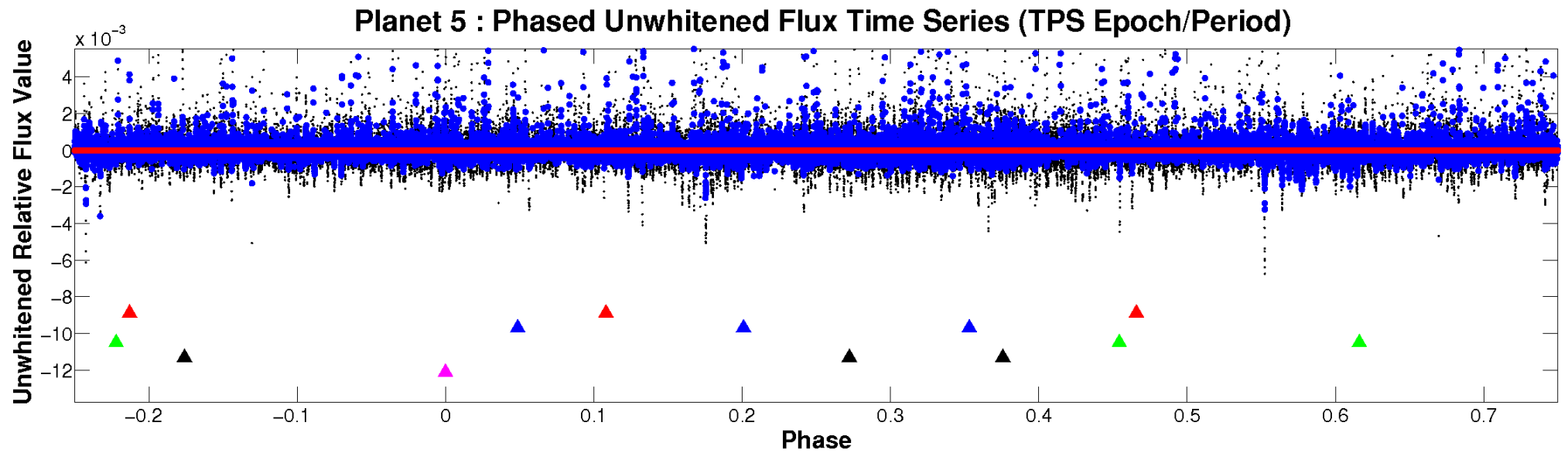


ALT Odd/Even

TCE 011246246-05

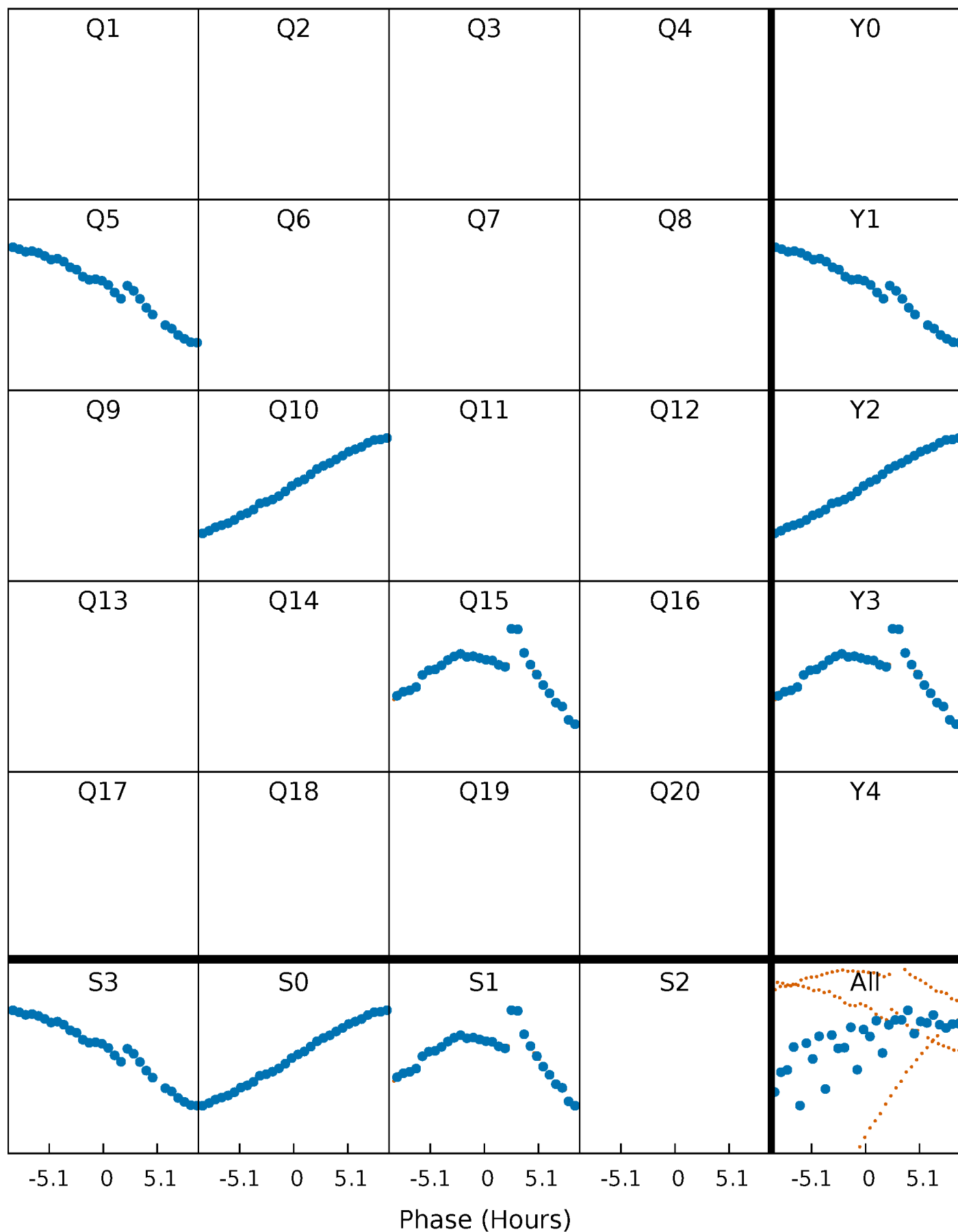


Non-Whitened Vs. Whitened Light Curve



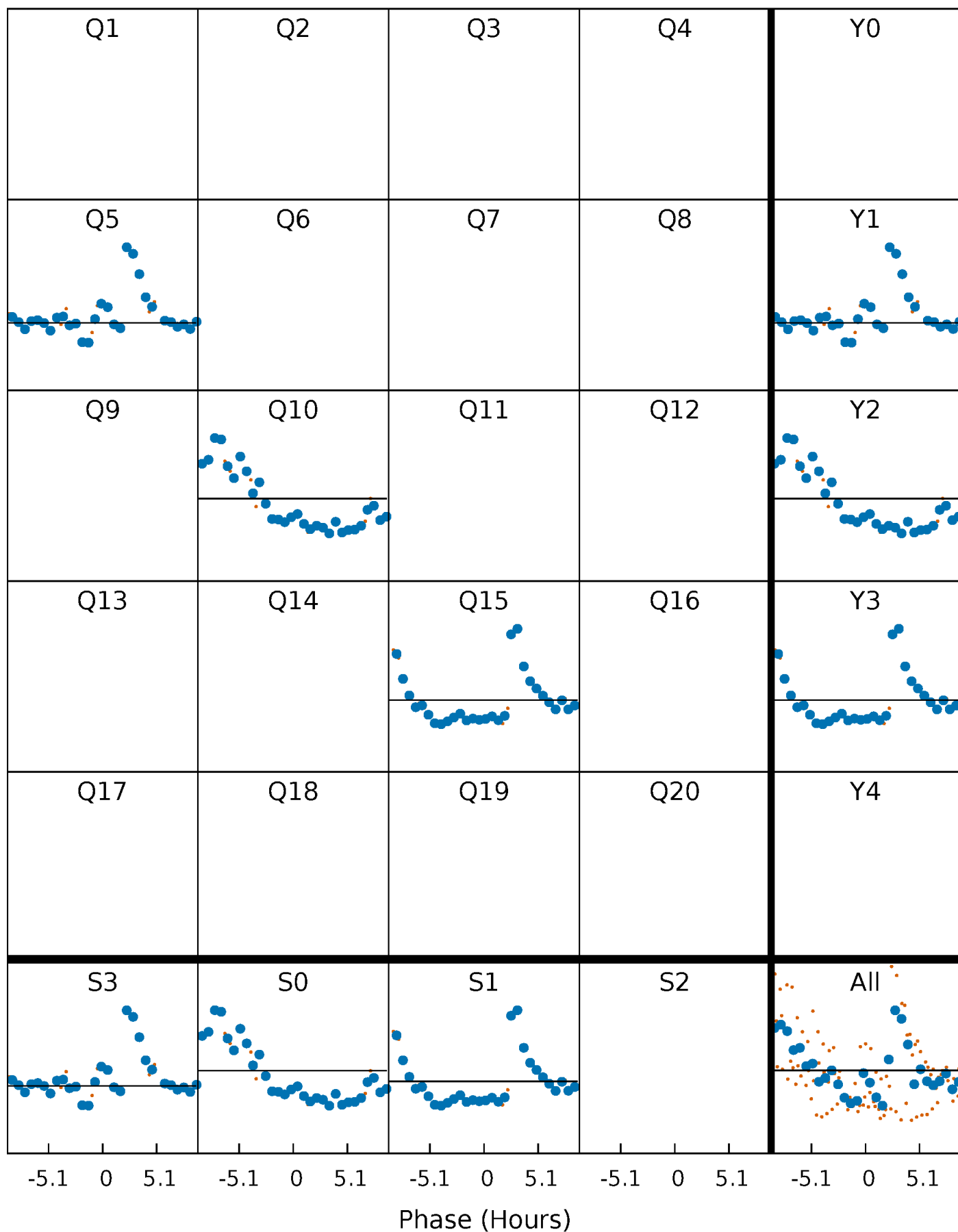
PDC Quarter-Phased Transit Curves

TCE 011246246-05 $P=458.801534$ Days $T_0=460.695645$ (BKJD)



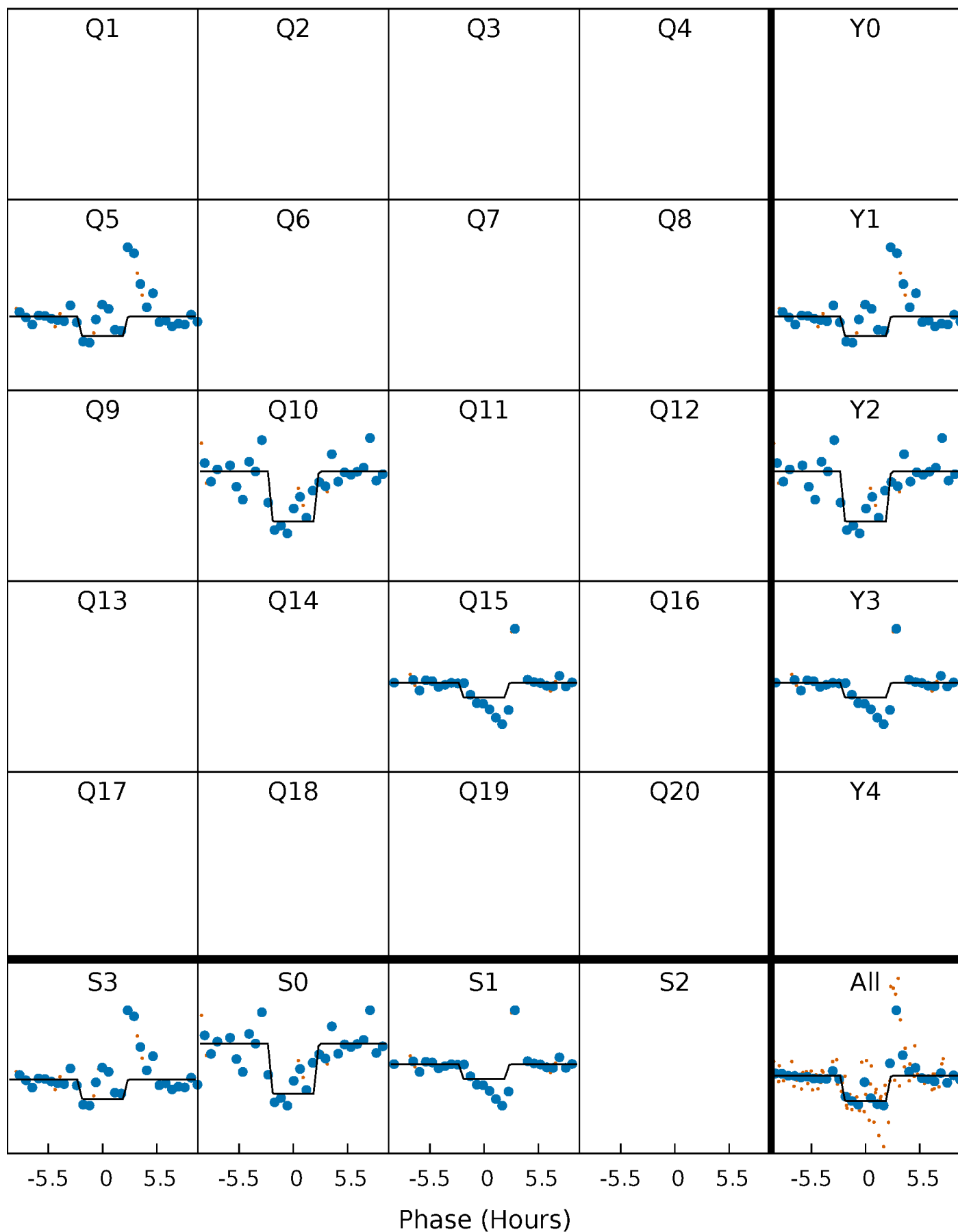
DV Quarter-Phased Transit Curves

TCE 011246246-05 $P=458.801534$ Days $T_0=460.695645$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

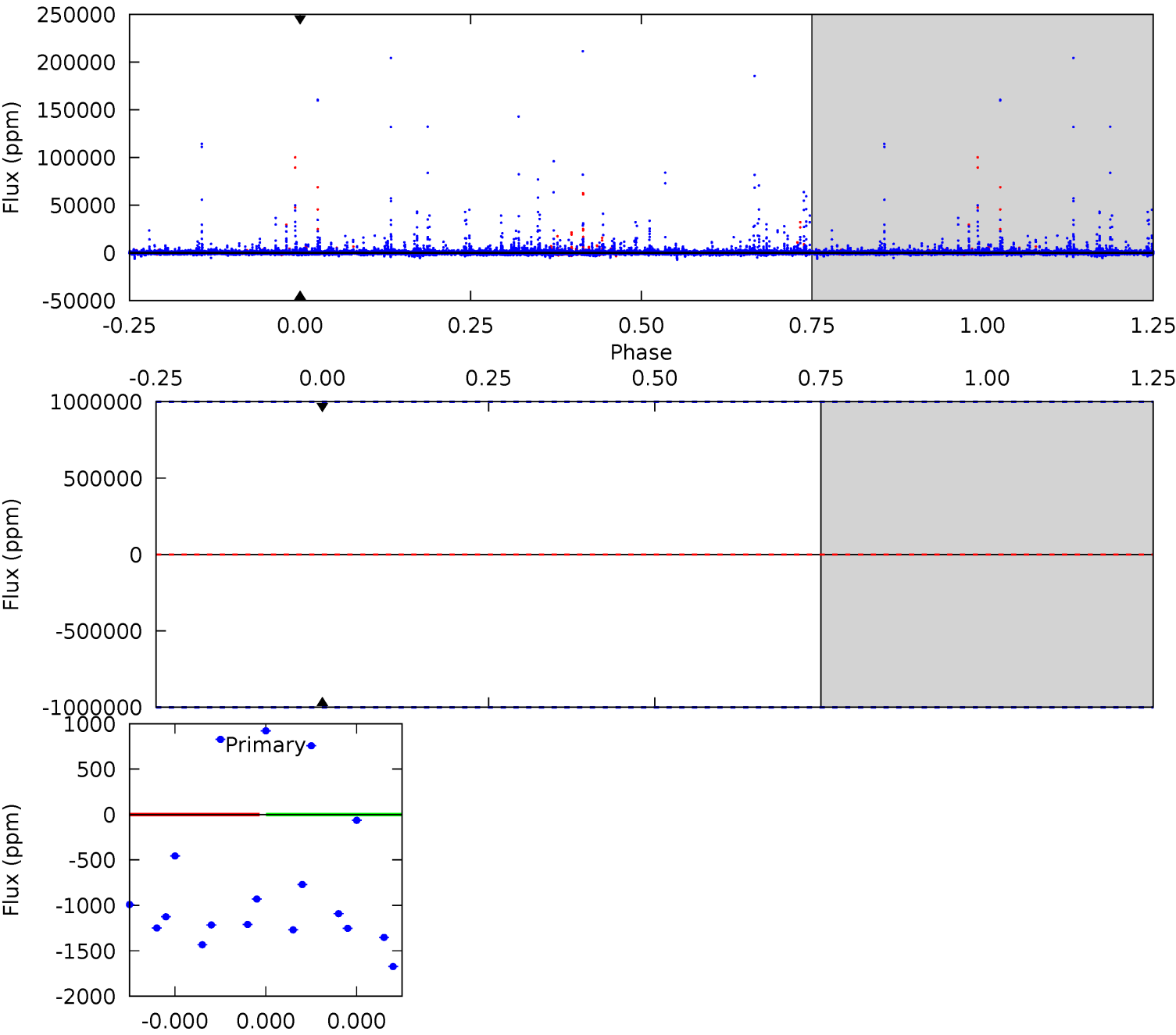
TCE 011246246-05 $P=458.801534$ Days $T_0=460.691912$ (BKJD)



DV Model-Shift Uniqueness Test

011246246-05, P = 458.801534 Days, E = 1.894111 Days

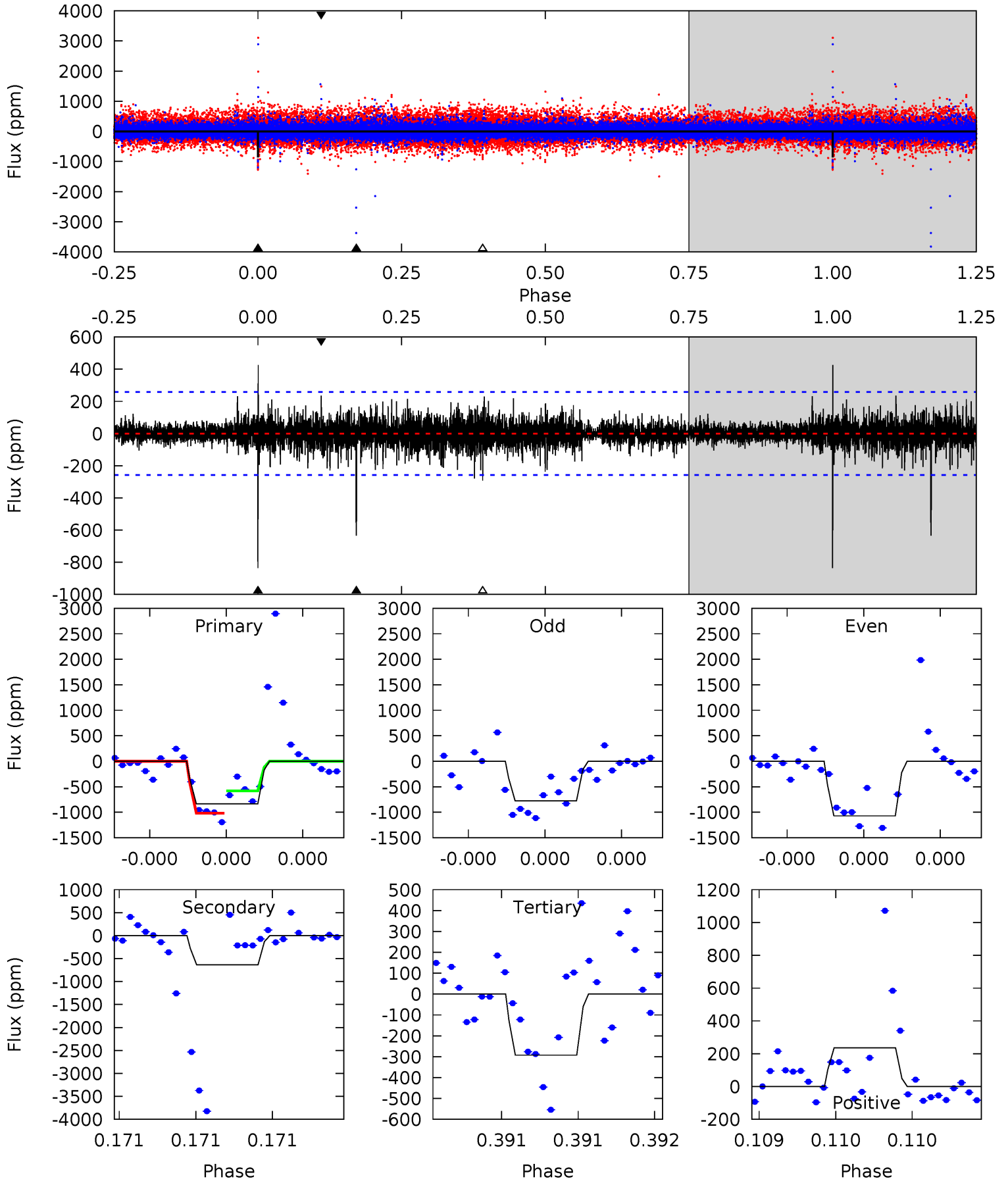
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00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



Alt Model-Shift Uniqueness Test

011246246-05, P = 458.801534 Days, E = 1.890378 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 18.1 | 13.7 | 6.33 | 5.11 | 5.59 | 3.51 | 1.07 | 11.8 | 13.0 | 7.40 | 8.62 | 2.87 | 1.10 | 0.34 | 4.66 |



Stellar Parameters For KIC 011246246

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 4983^{+176}_{-176} | $4.584^{+0.055}_{-0.050}$ | $-0.260^{+0.300}_{-0.300}$ | $0.715^{+0.072}_{-0.072}$ | $0.715^{+0.085}_{-0.057}$ | $2.761^{+0.668}_{-0.488}$ |
| | +4%/-4% | +1%/-1% | +115%/-115% | +10%/-10% | +12%/-8% | +24%/-18% |
| Source | PHO54 | PHO54 | PHO54 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 011246246-05 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|------------------------|-------------------|--------------------------|-------------------------------|
| DV | 0 ± 1000000 | $6.09^{+6.14}_{-4.34}$ | 254^{+11}_{-10} | 3728^{+11604}_{-17075} | $19260^{+3545981}_{-2435961}$ |
| Alt. | -634 ± 46 | $6.53^{+6.29}_{-4.44}$ | 255^{+10}_{-10} | 3267^{+1634}_{-570} | 9025^{+77694}_{-6709} |

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 $A_{obs} \gg 1.0$

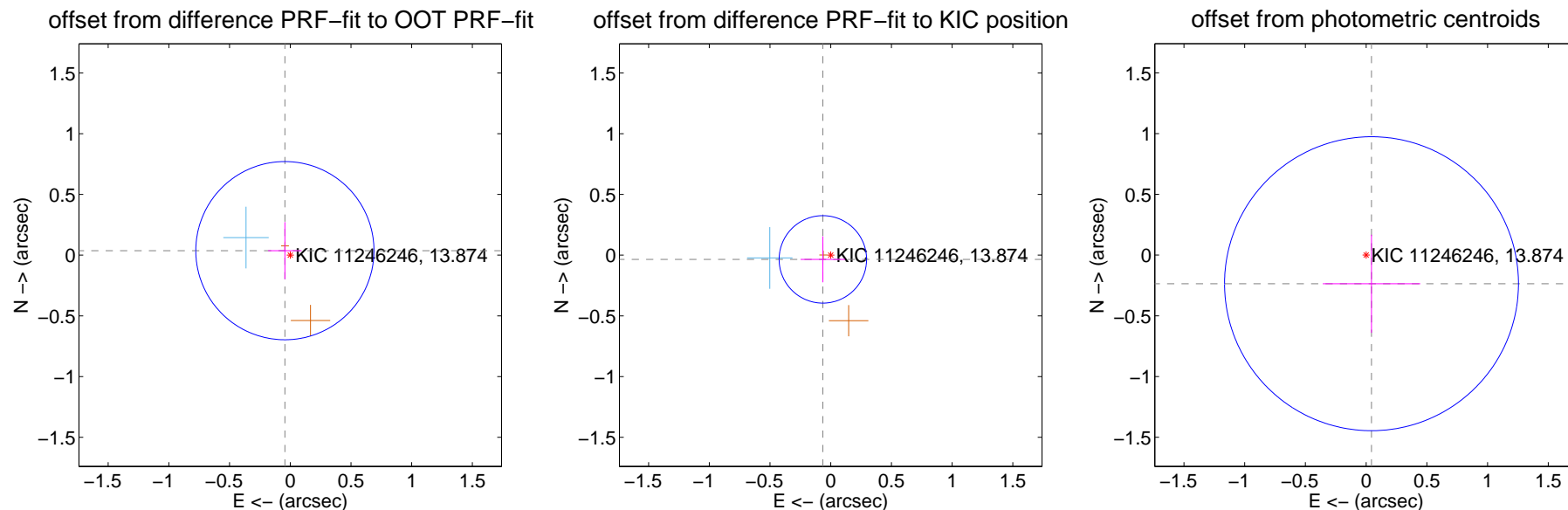
DV Centroid Data

Supplemental centroid analysis for 011246246-05. Kepler magnitude: 13.87. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.058 ± 0.245 | 0.24 | 0.044 ± 0.138 | 0.037 ± 0.235 |
| PRF-fit source offset from KIC position | 0.074 ± 0.120 | 0.61 | 0.065 ± 0.183 | -0.035 ± 0.189 |
| photometric centroid source offset | 0.24 ± 0.40 | 0.59 | -0.04 ± 0.40 | -0.24 ± 0.40 |

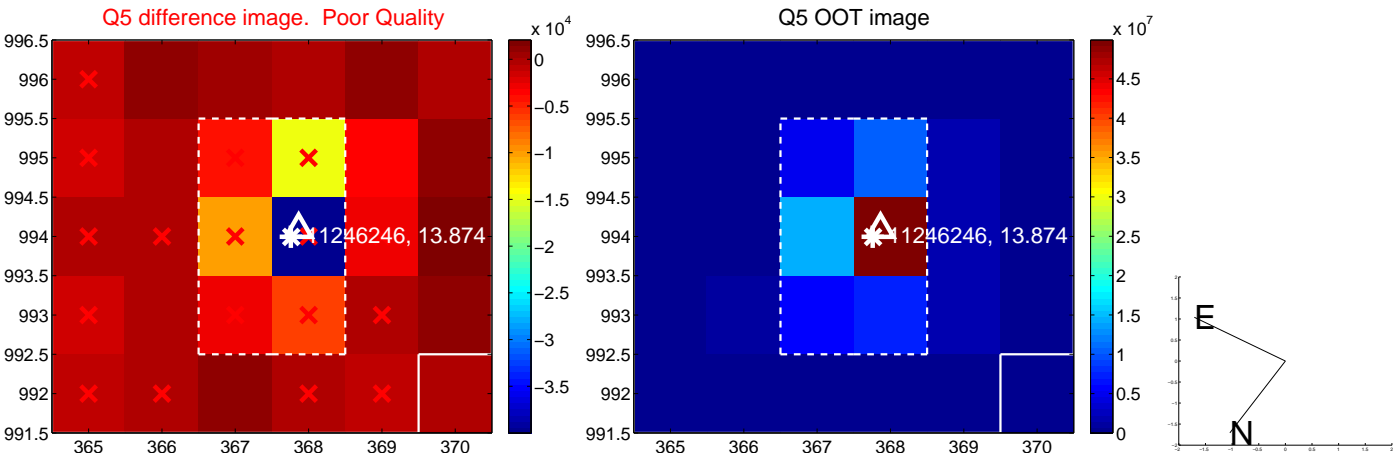


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

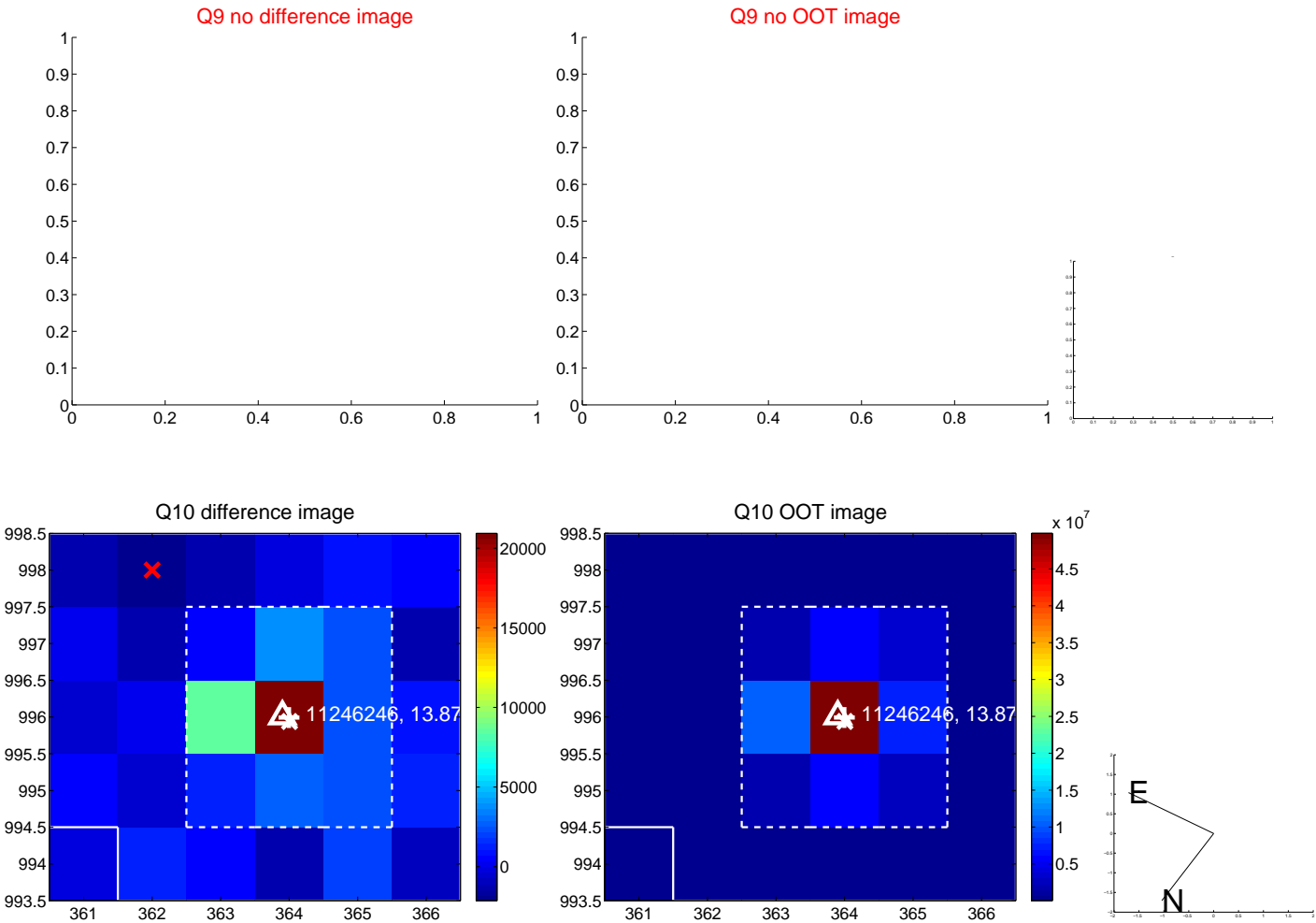
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



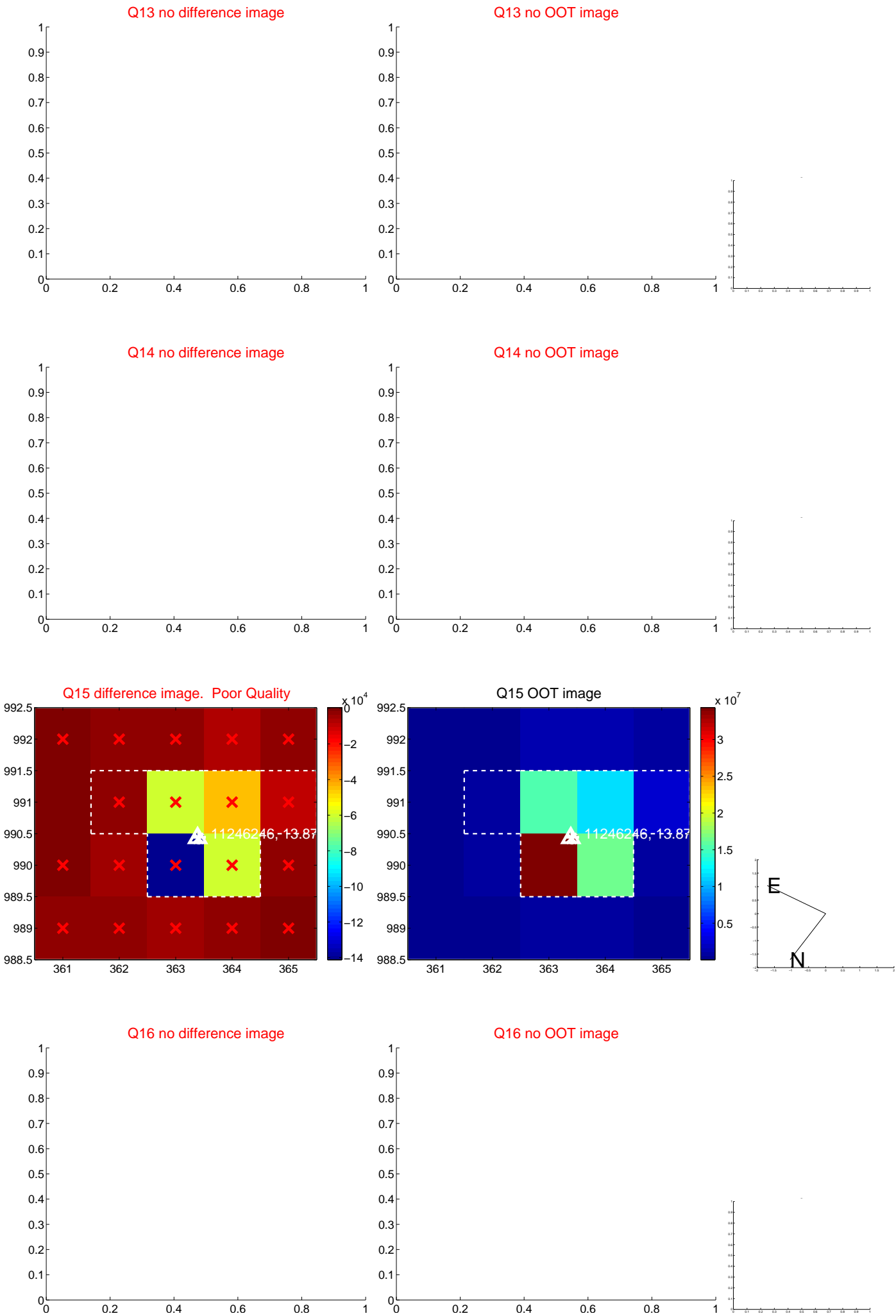
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



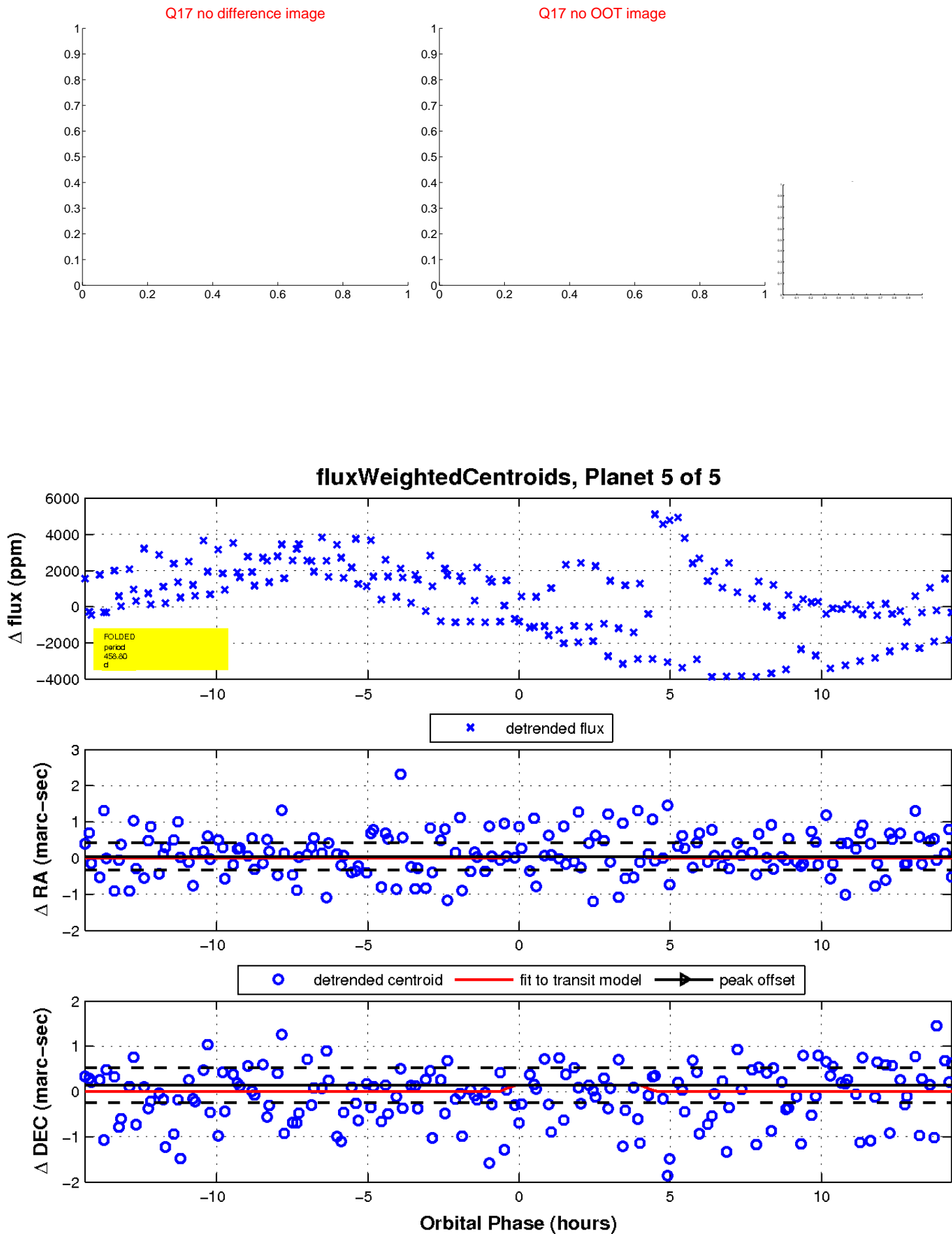
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

