

KIC 005700330

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|--------|--------|-----------------------------|-----------------|------------------------|------------------------|
| 005700330-01 | OBS | 6616.01 | 53.220431 | 138.579640 | 73204.5 | 17.732 | 2963.0 | 2703.6 | 2.06 | 5653 | 55.39 | 43.73 |
| 005700330-02 | OBS | No | 53.220452 | 181.681175 | 5512.3 | 8.532 | 230.1 | 220.4 | 2.06 | 5653 | 16.71 | 43.73 |
| 005700330-03 | OBS | No | 406.646842 | 327.771749 | 193.4 | 6.308 | 8.0 | 2.8 | 2.06 | 5653 | 3.41 | 2.90 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 005700330-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS |
| 005700330-02 | OBS | FP | 0.00 | 1 | 1 | 0 | 0 | IS_SEC_TCE—CENT_KIC_POS |
| 005700330-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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 005700330-01

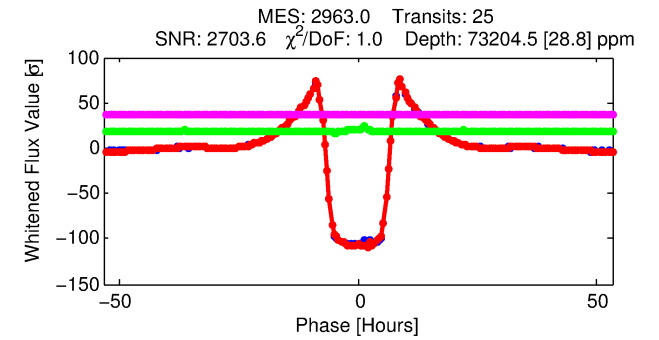
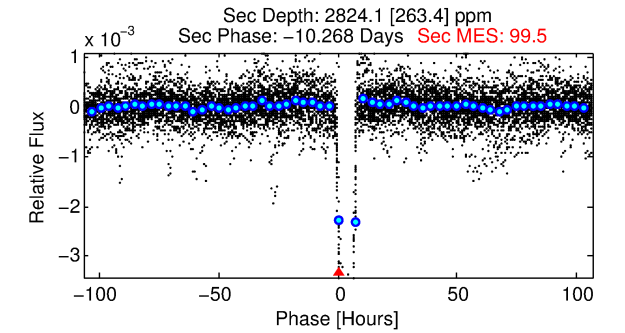
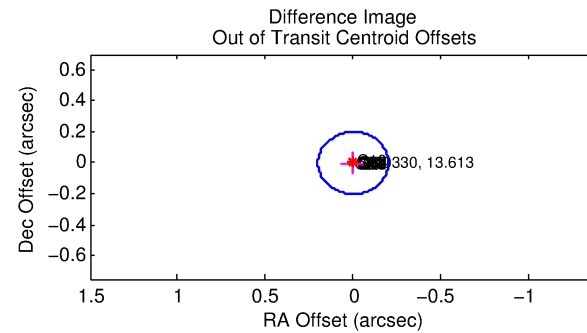
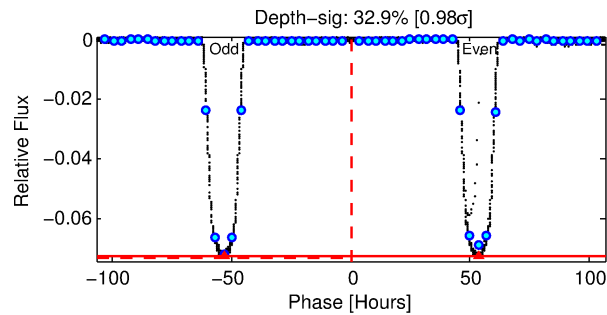
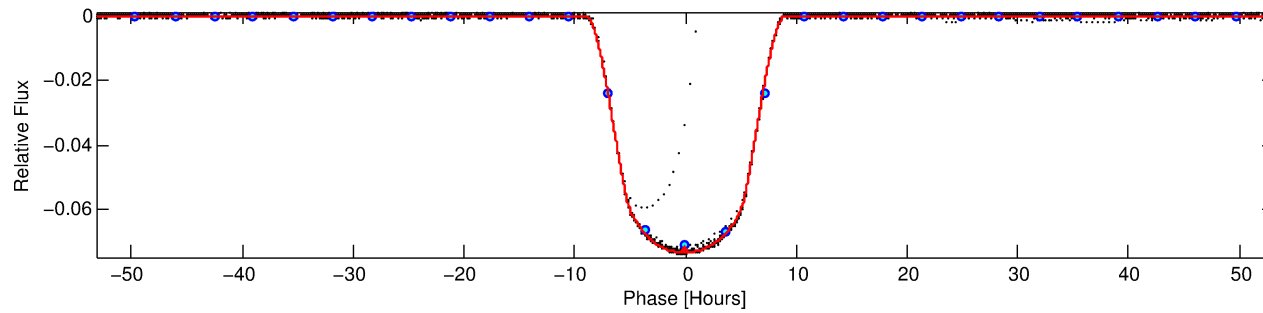
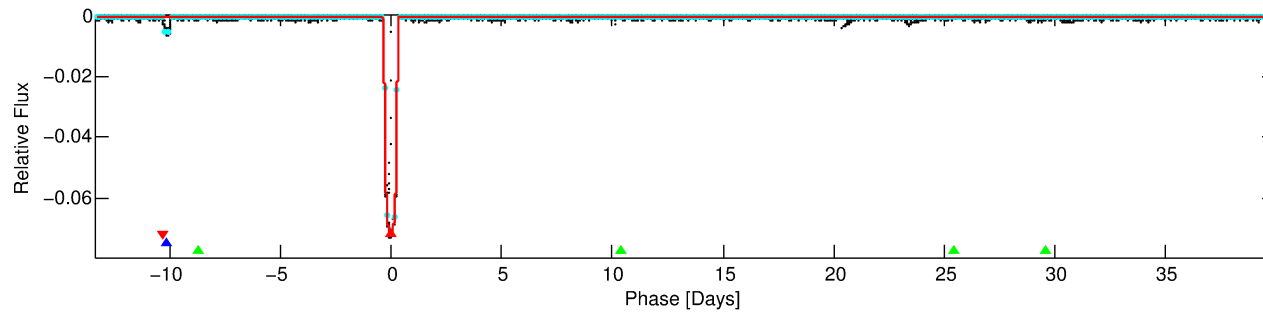
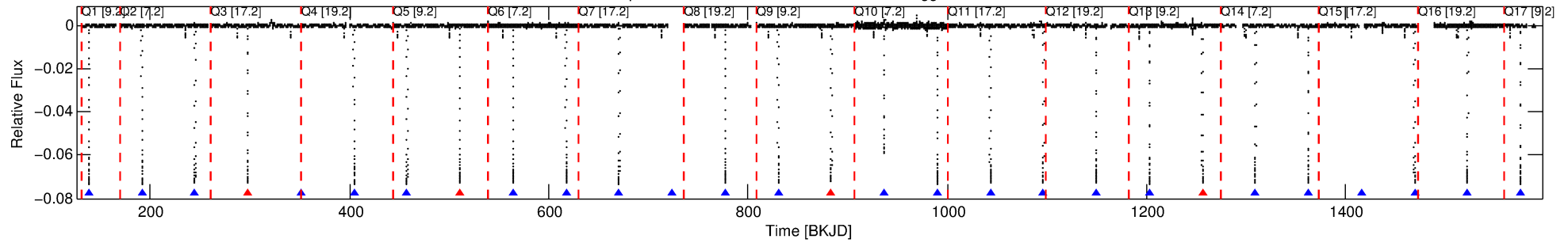
No Significant Match Found

DV One-Page Summary

KIC: 5700330 Candidate: 1 of 3 Period: 53.220 d

KOI: K06616.01 Corr: 0.999

Kp: 13.61 R*: 2.06 Rs Teff: 5653.0 K Logg: 3.90 Fe/H: 0.300



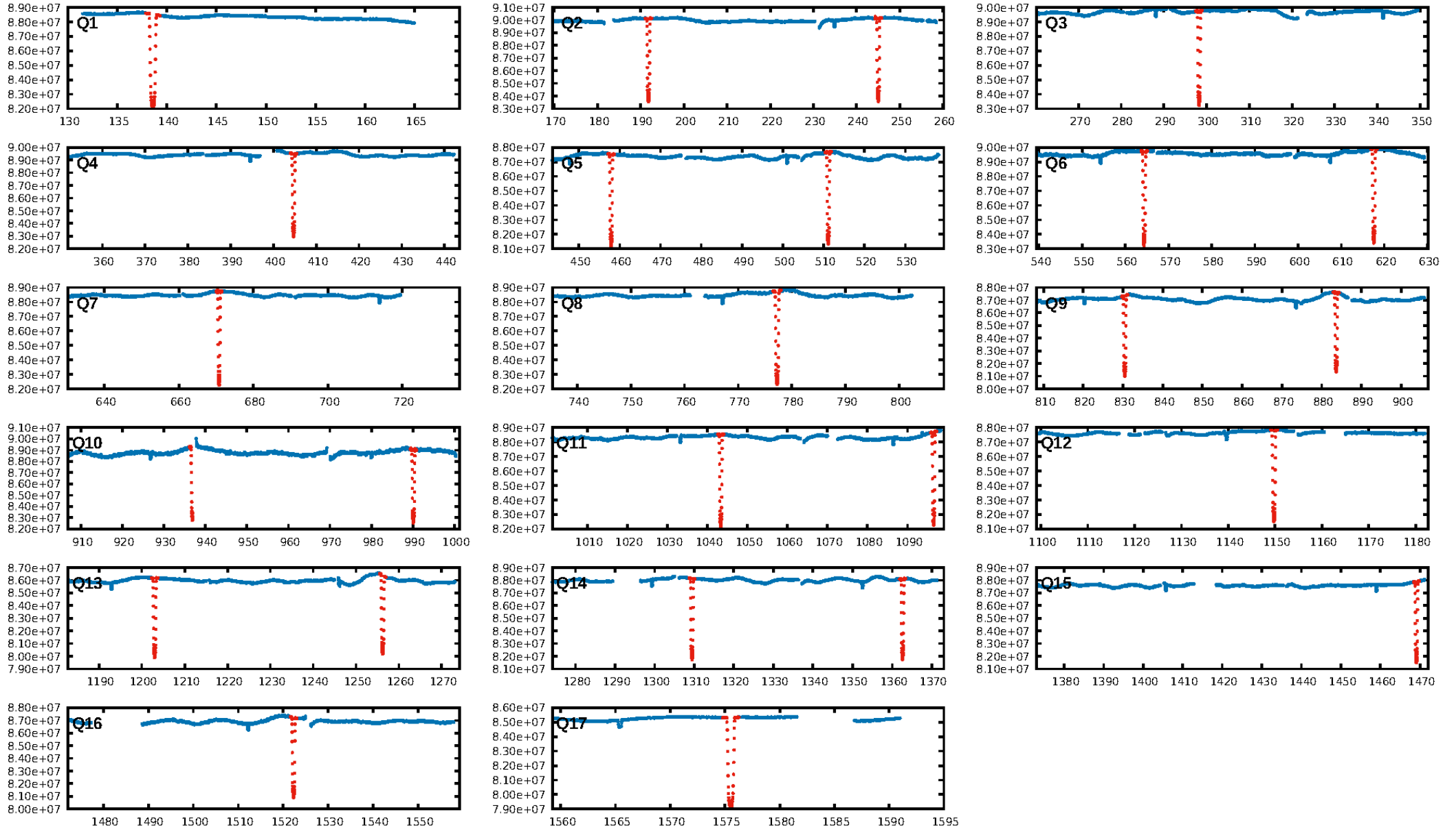
DV Fit Results:

Period = 53.22043 [0.00001] d
Epoch = 138.5796 [0.0001] BKJD
Rp/R* = 0.2468 [0.0001]
a/R* = 27.95 [0.02]
b = 0.26 [0.00]
Seff = 43.72 [16.96]
Teq = 656 [64] K
Rp = 55.39 [15.75] Re
a = 0.2976 [0.0751] AU
Ag = 44.83 [17.68] [2.48σ]
Teffp = 2623 [73] K [20.40σ]

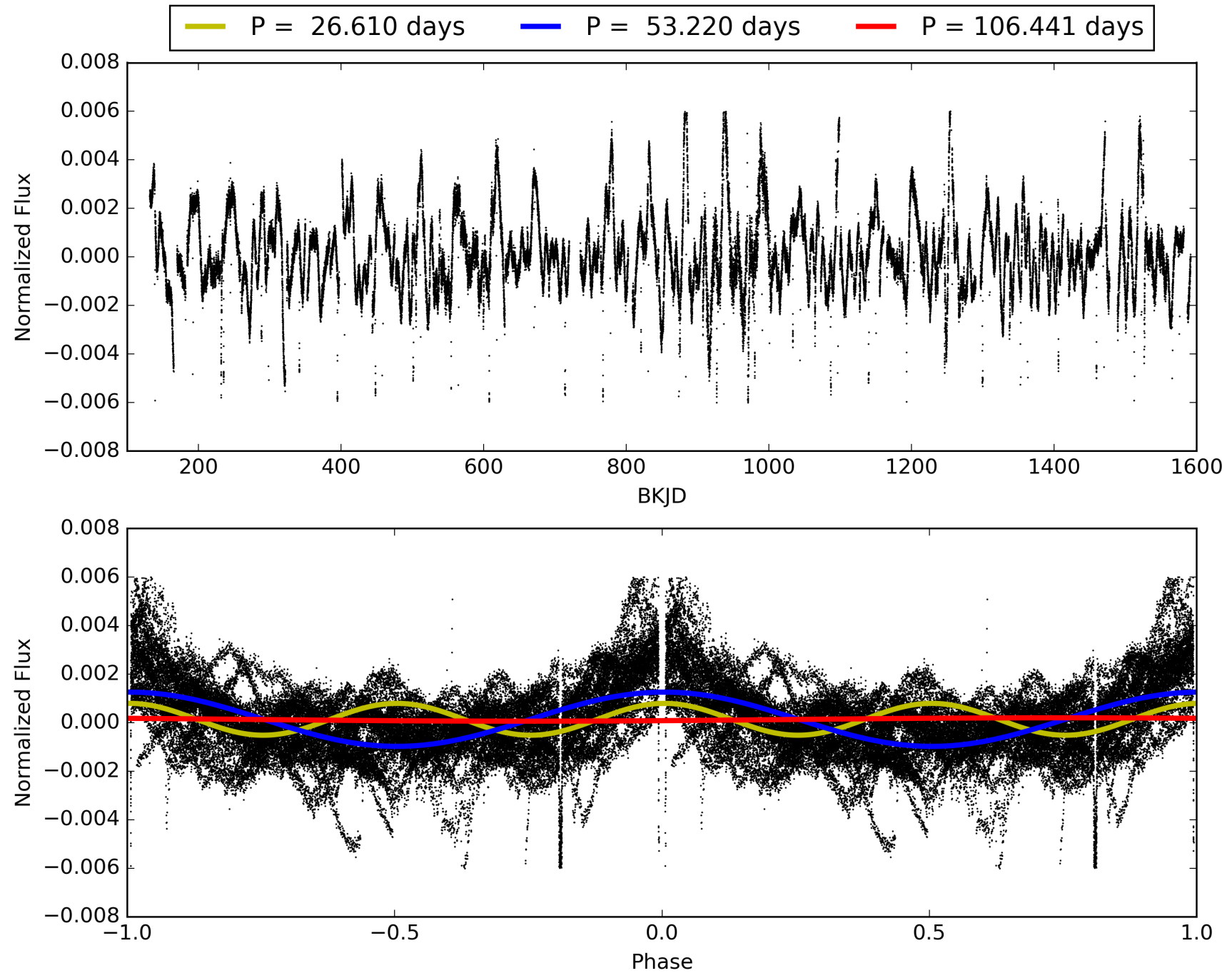
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.83 [19/23]
GhostDiagnostic-chr: 3.977
Centroid-sig: 0.1%
Centroid-so: 0.277 arcsec [165.19σ]
OotOffset-rm: 0.001 arcsec [0.02σ]
KicOffset-rm: 0.335 arcsec [4.95σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005700330-01, PDC Light Curves

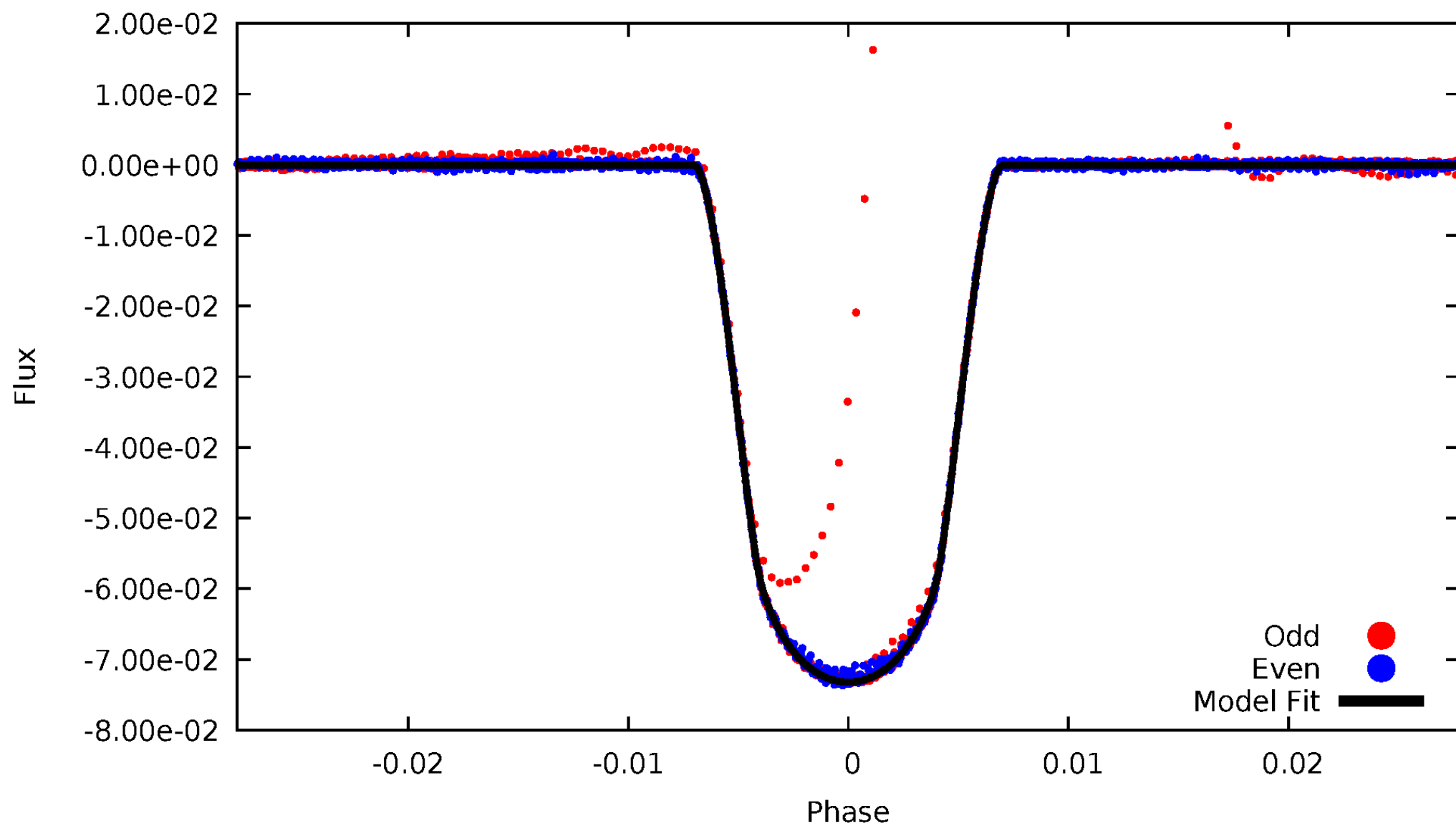


TCE 005700330-01



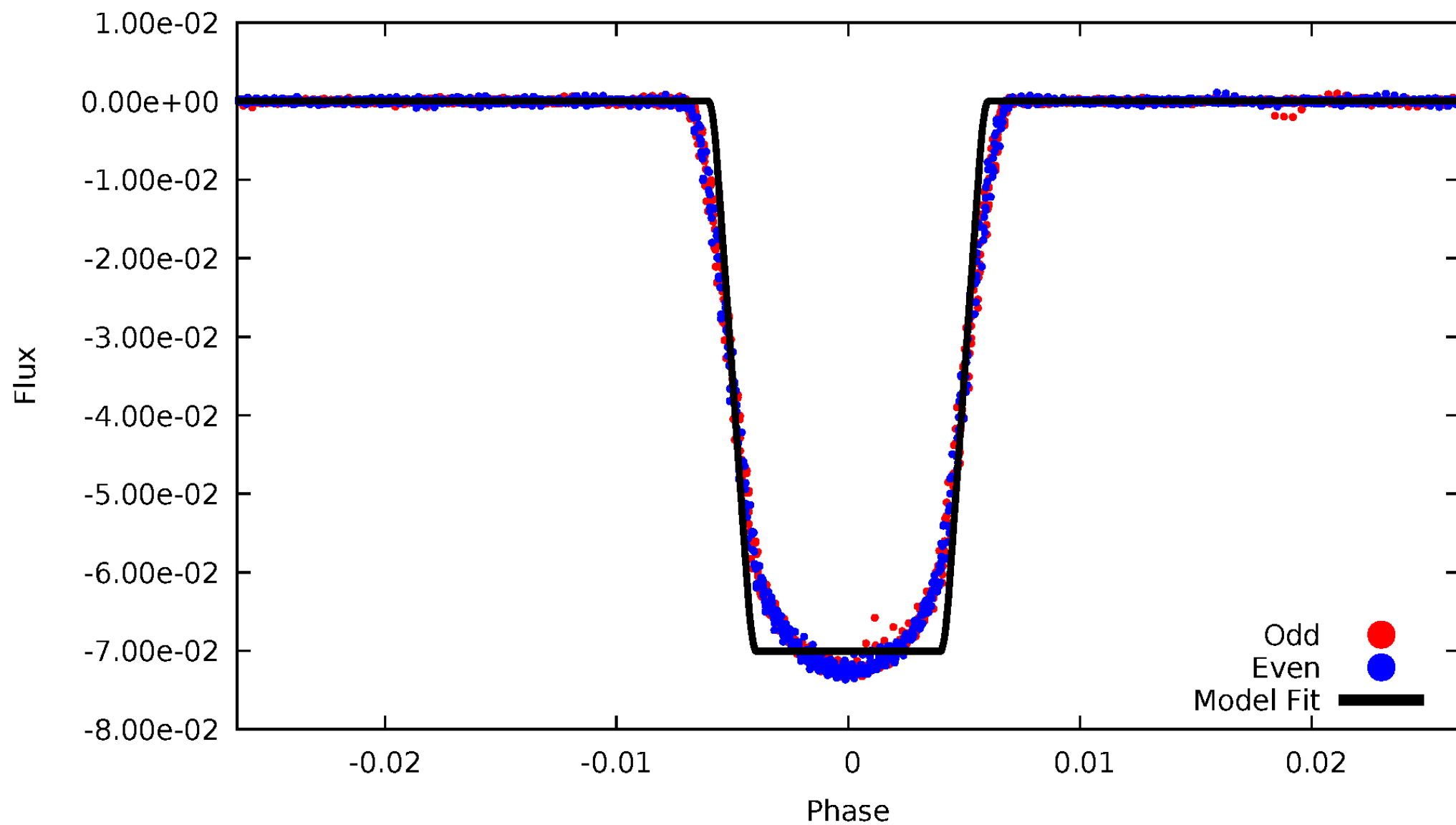
DV Odd/Even

TCE 005700330-01



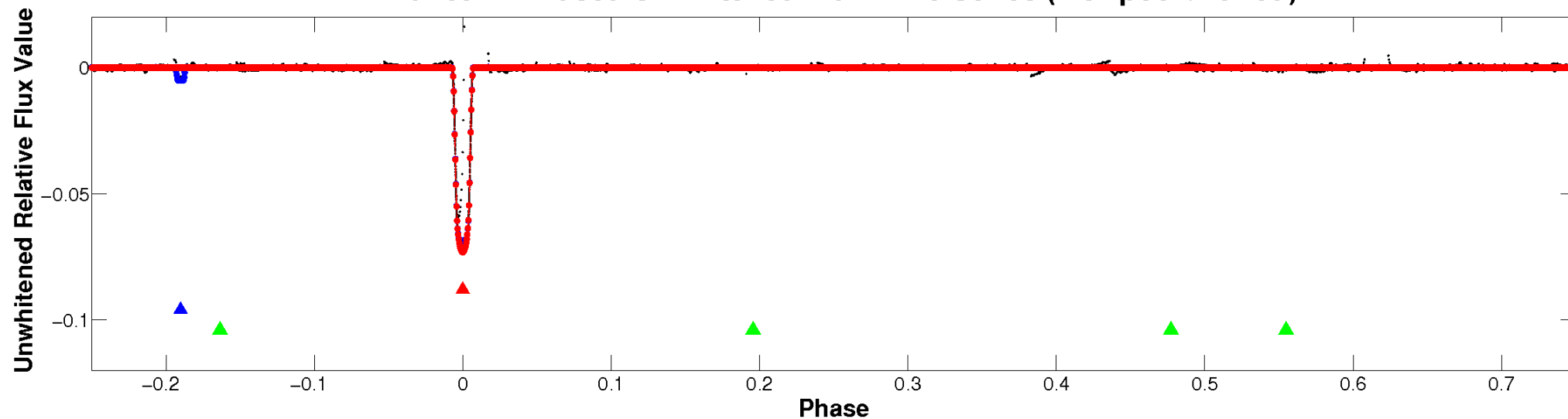
ALT Odd/Even

TCE 005700330-01

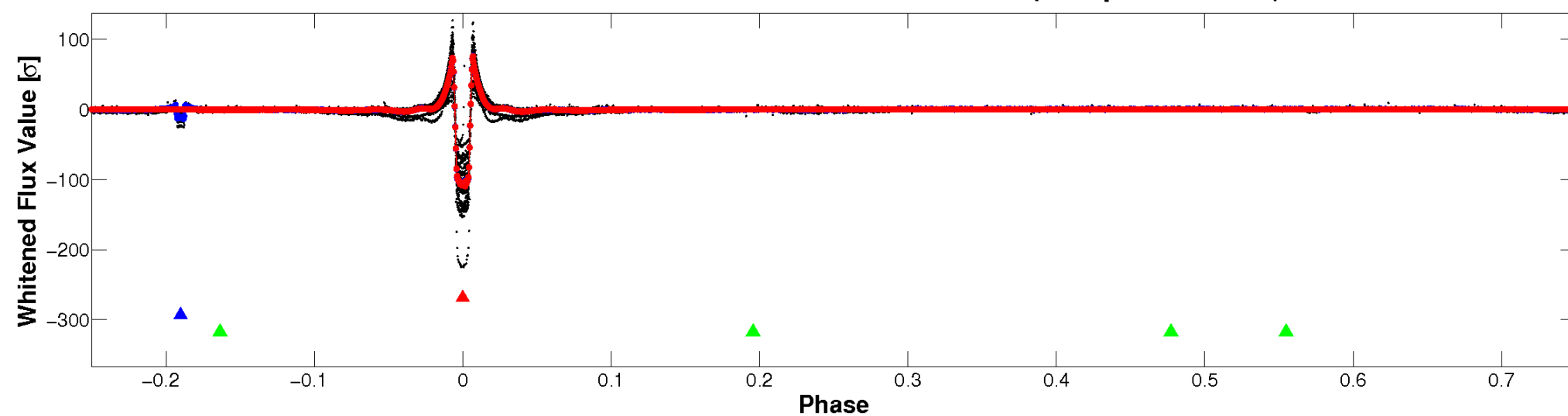


Non-Whitened Vs. Whitened Light Curve

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

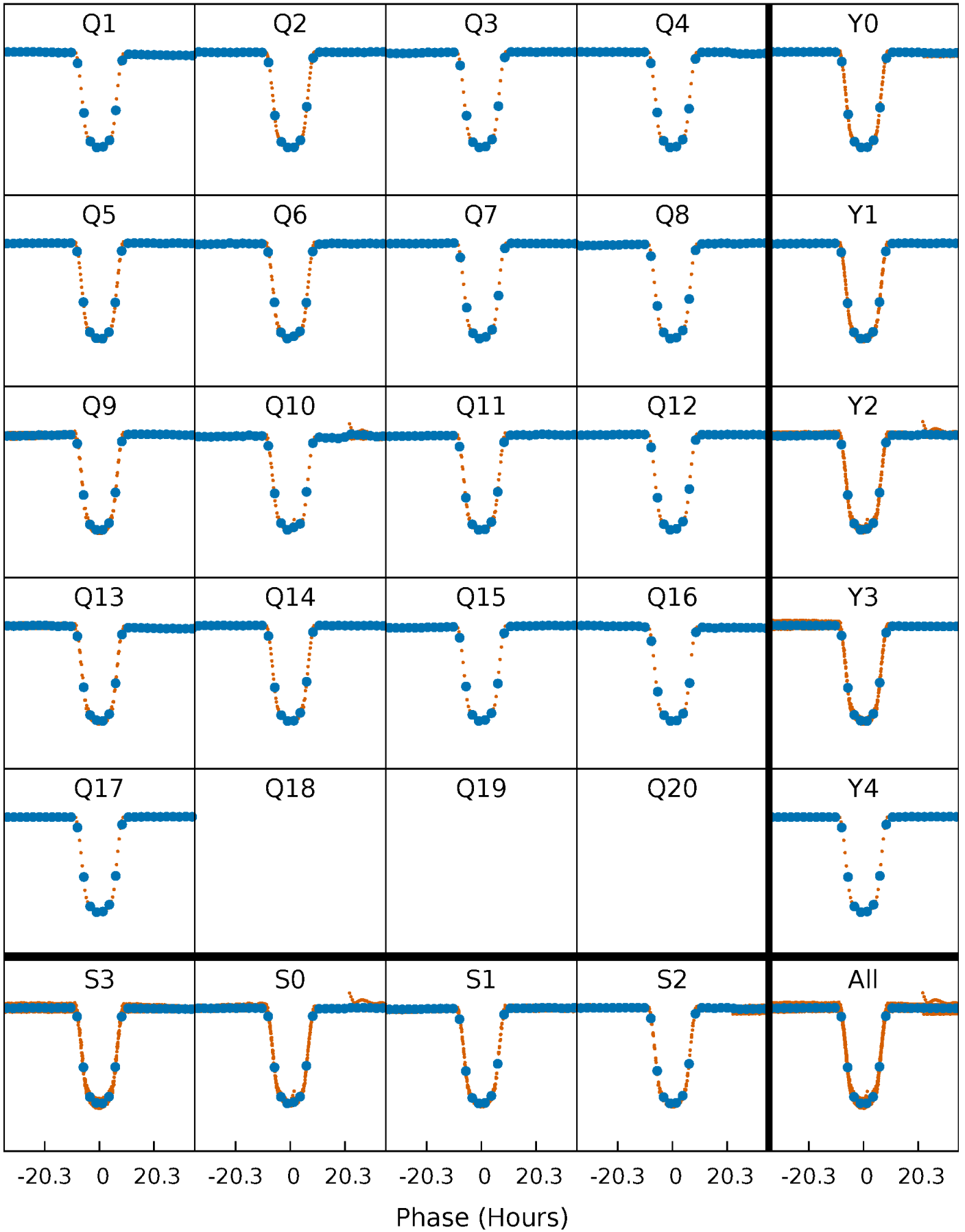


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



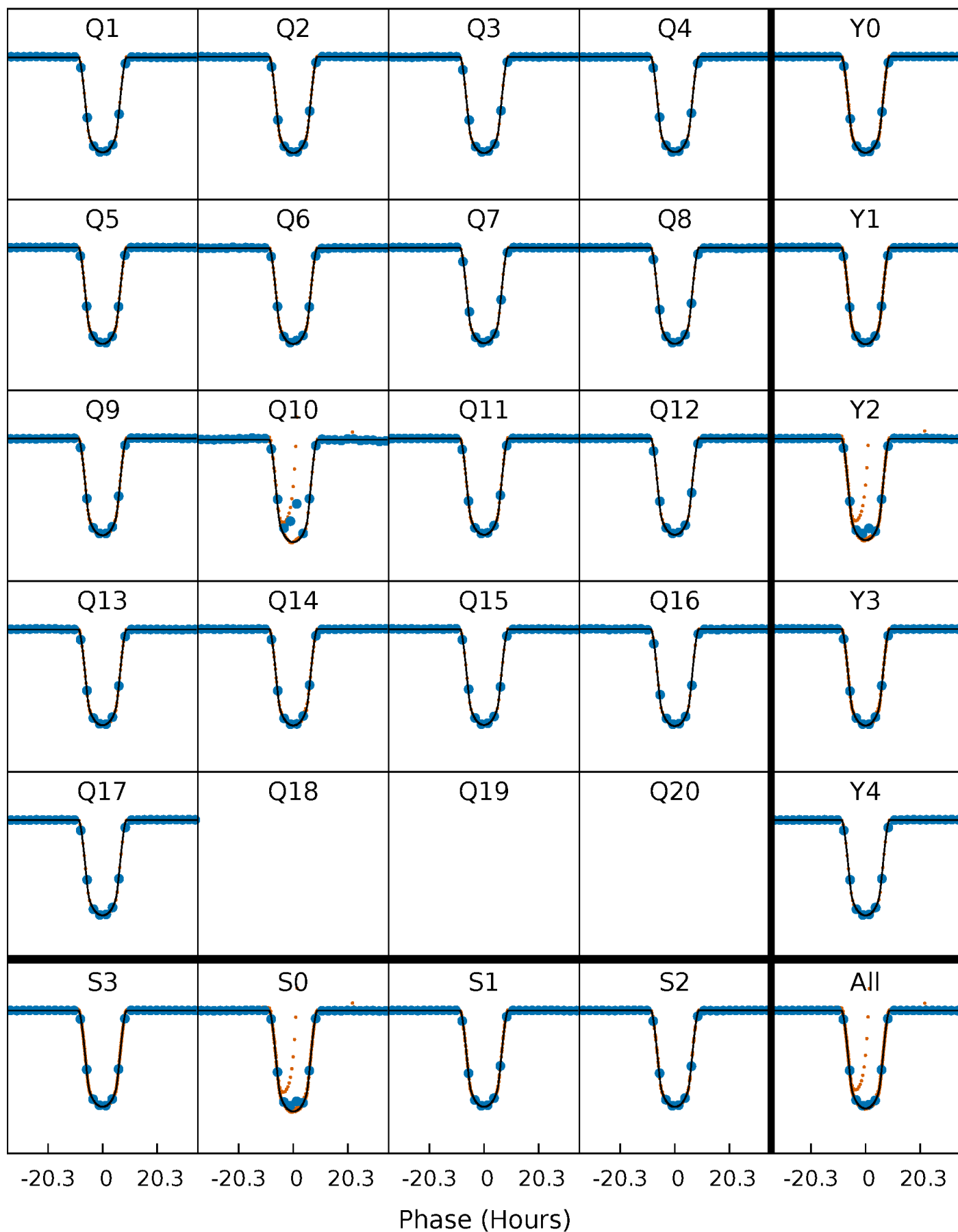
PDC Quarter-Phased Transit Curves

TCE 005700330-01 P= 53.220431 Days $T_0=138.579640$ (BKJD)



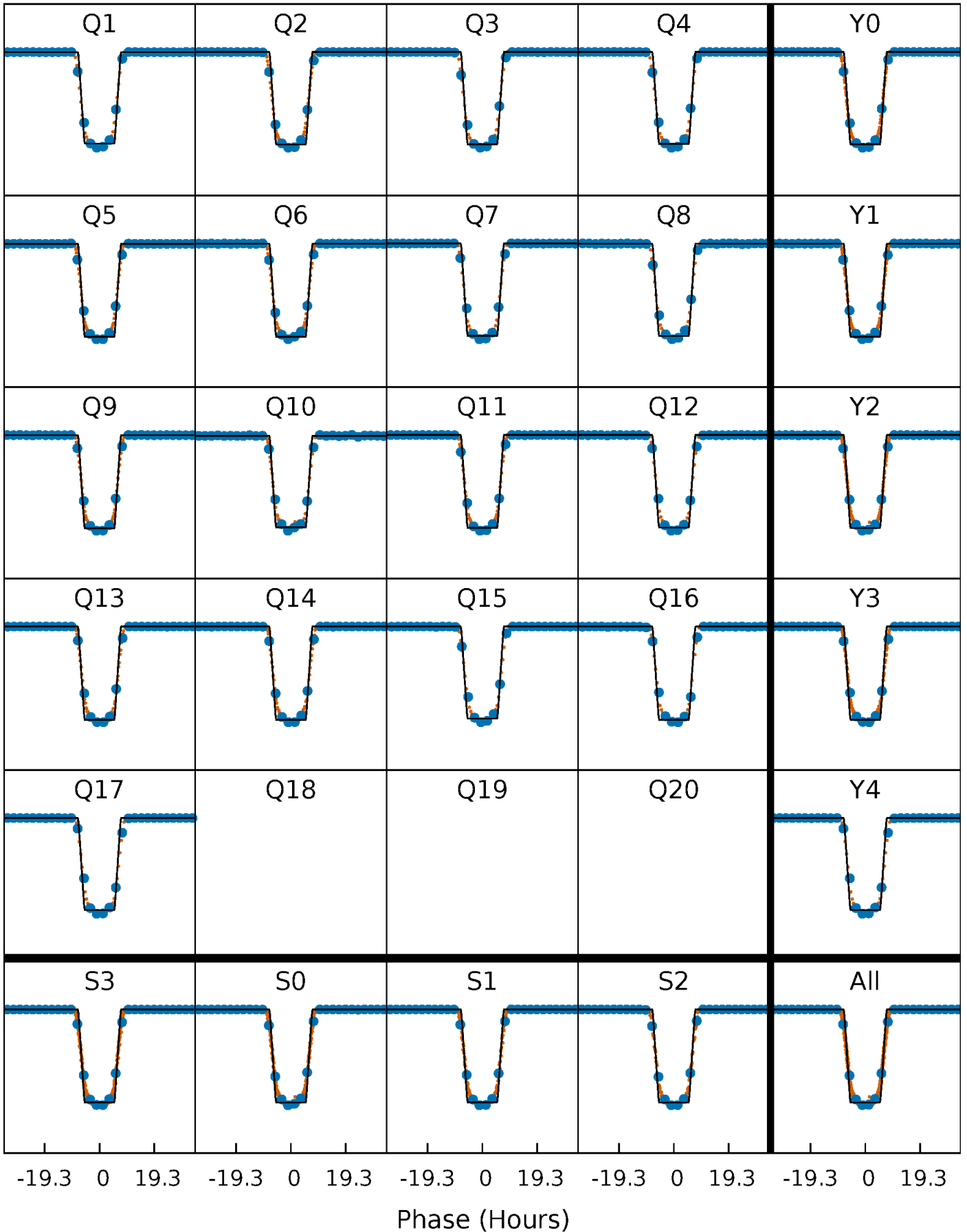
DV Quarter-Phased Transit Curves

TCE 005700330-01 P= 53.220431 Days $T_0=138.579640$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

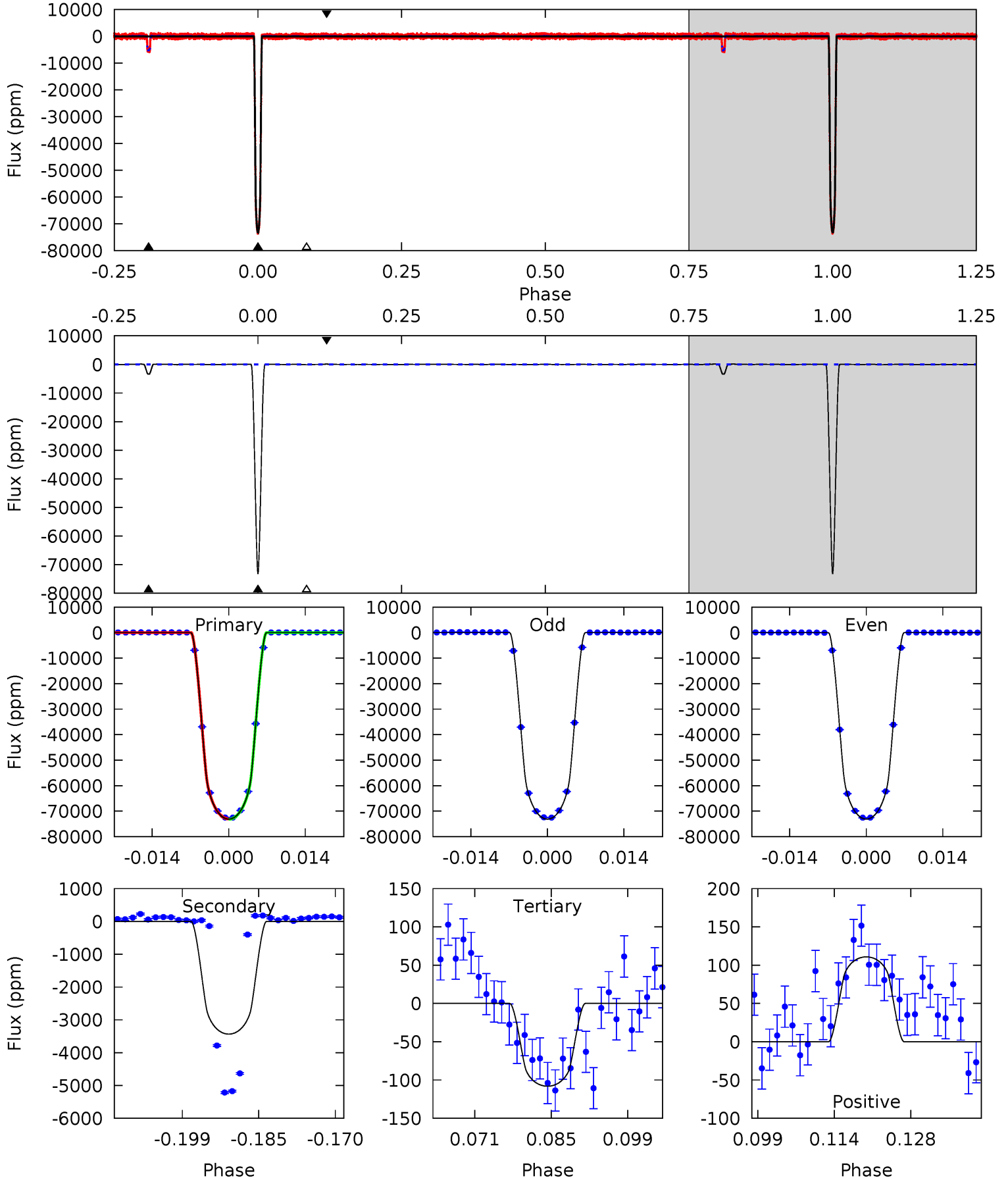
TCE 005700330-01 P= 53.219680 Days $T_0=138.589608$ (BKJD)



DV Model-Shift Uniqueness Test

005700330-01, P = 53.220431 Days, E = 85.359209 Days

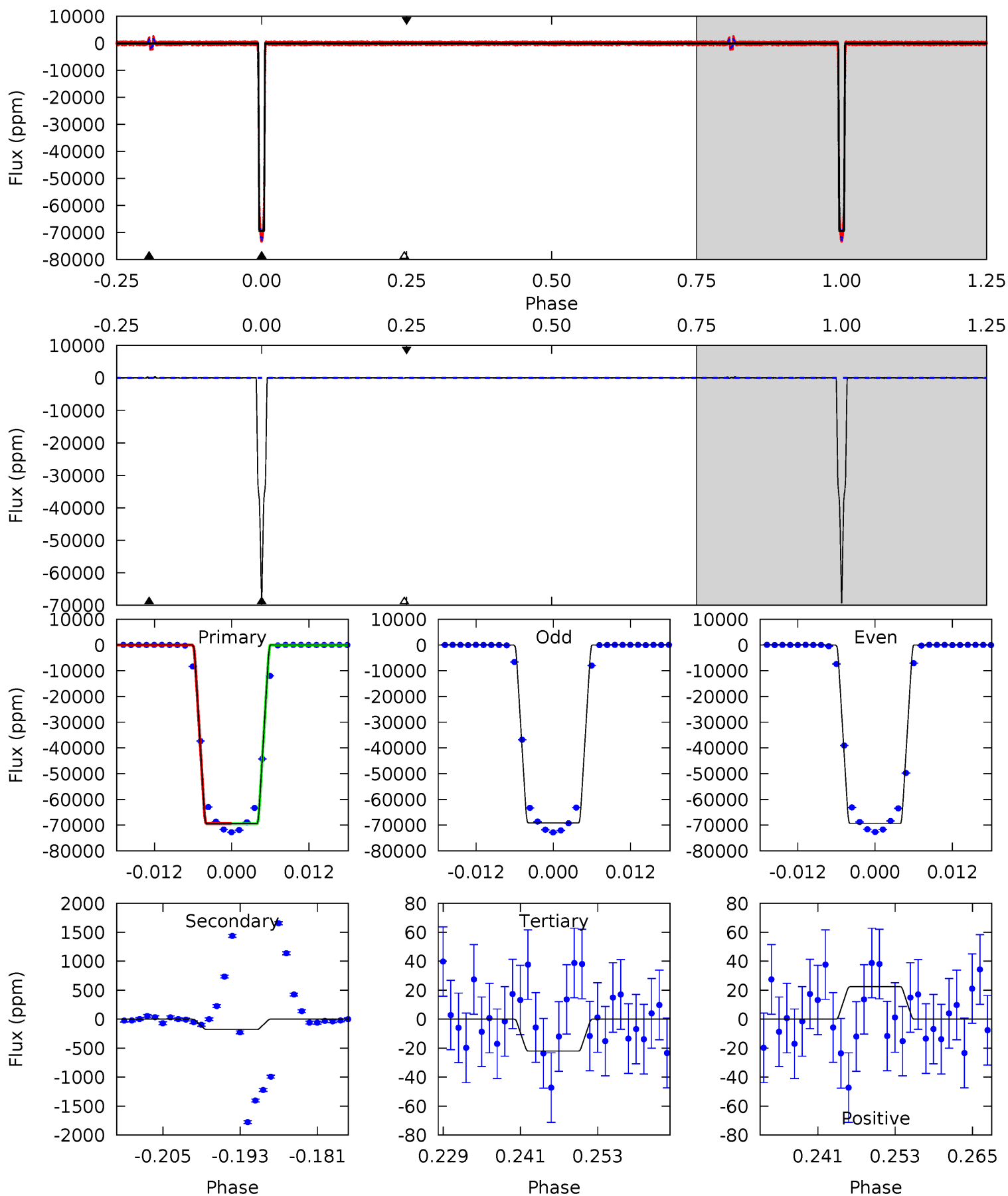
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 7161 | 336.4 | 10.6 | 10.9 | 4.96 | 2.45 | 4.31 | 7150 | 7150 | 325.8 | 325.5 | 0.66 | 0.99 | 0.00 | 3.47 |



Alt Model-Shift Uniqueness Test

005700330-01, P = 53.219680 Days, E = 85.369928 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 7371 | 18.8 | 2.34 | 2.38 | 4.99 | 2.51 | 0.80 | 7369 | 7369 | 16.5 | 16.4 | 11.4 | 1.00 | 0.01 | 1.48 |



Stellar Parameters For KIC 005700330

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5653^{+84}_{-76} | $3.905^{+0.217}_{-0.093}$ | $0.300^{+0.150}_{-0.150}$ | $2.057^{+0.292}_{-0.585}$ | $1.240^{+0.096}_{-0.165}$ | $0.201^{+0.251}_{-0.059}$ |
| | +1%/-1% | +6%/-2% | +50%/-50% | +14%/-28% | +8%/-13% | +125%/-29% |
| Source | SPE68 | SPE68 | SPE68 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005700330-01 / KOI 6616.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|----------------|-------------------------|----------------------|----------------------|---------------------------|
| DV | -3434 ± 10 | $55.01^{+4.70}_{-7.55}$ | 911^{+39}_{-57} | 3308^{+29}_{-32} | 56^{+17}_{-8} |
| Alt. | -177 ± 9 | $59.24^{+4.43}_{-8.51}$ | 911^{+38}_{-60} | 2183^{+22}_{-20} | $2.500^{+0.836}_{-0.382}$ |

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

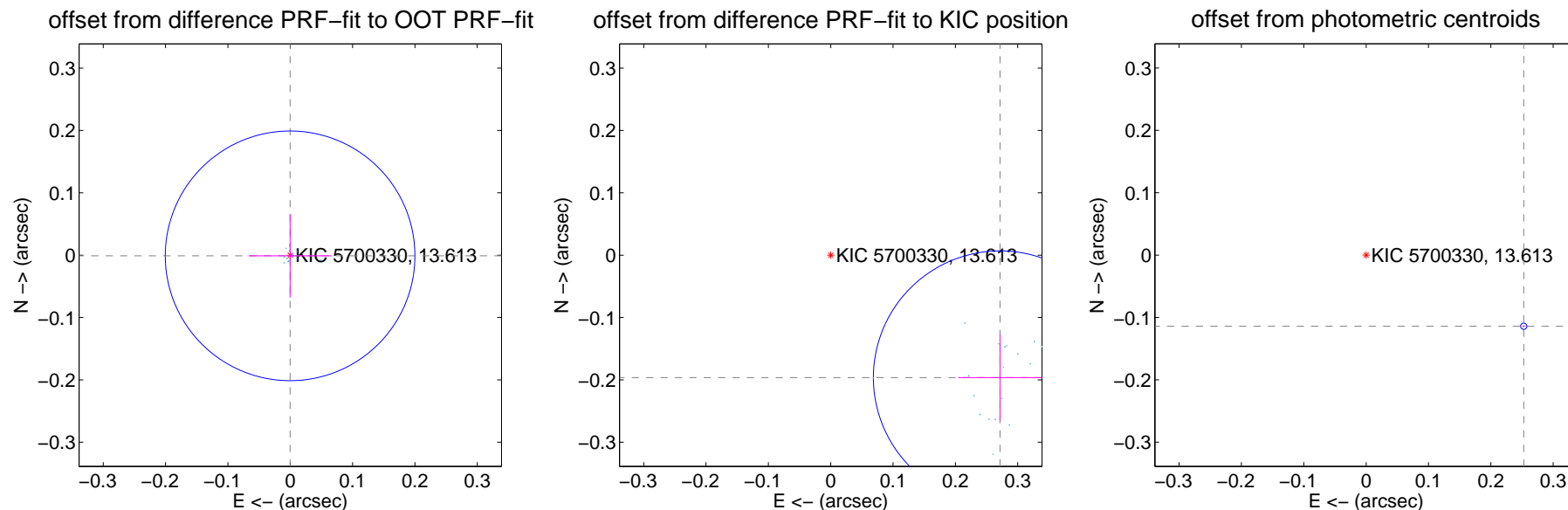
DV Centroid Data

Supplemental centroid analysis for 005700330-01. Kepler magnitude: 13.61. Transit SNR 2703.63

There are 17 quarters with good PRF difference image offsets

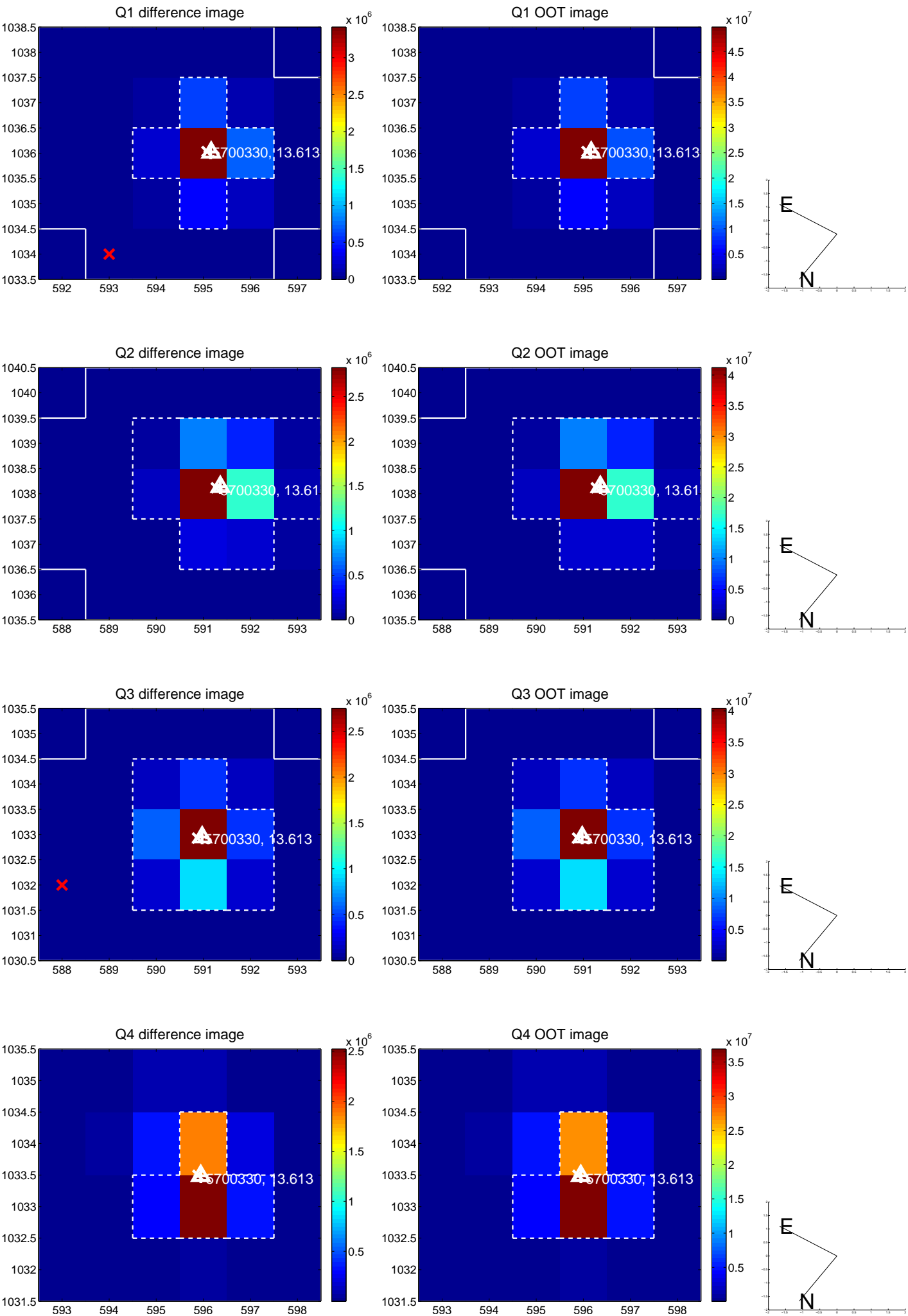
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.001 ± 0.067 | 0.02 | 0.000 ± 0.067 | -0.001 ± 0.067 |
| PRF-fit source offset from KIC position | 0.335 ± 0.068 | 4.95 | -0.272 ± 0.067 | -0.196 ± 0.069 |
| photometric centroid source offset | 0.28 ± 0.00 | 165.19 | -0.25 ± 0.00 | -0.11 ± 0.00 |

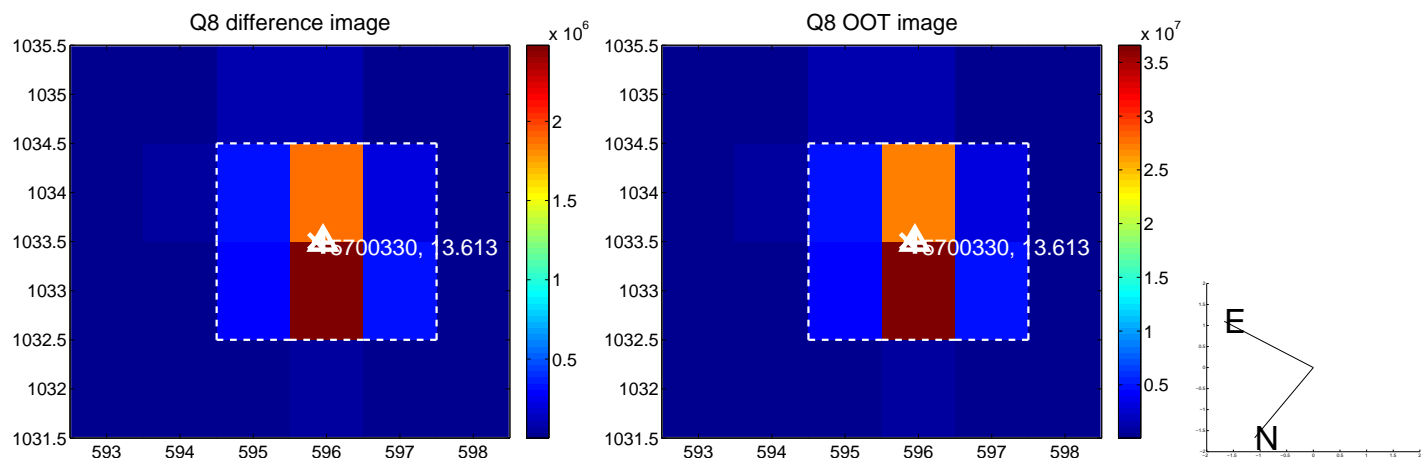
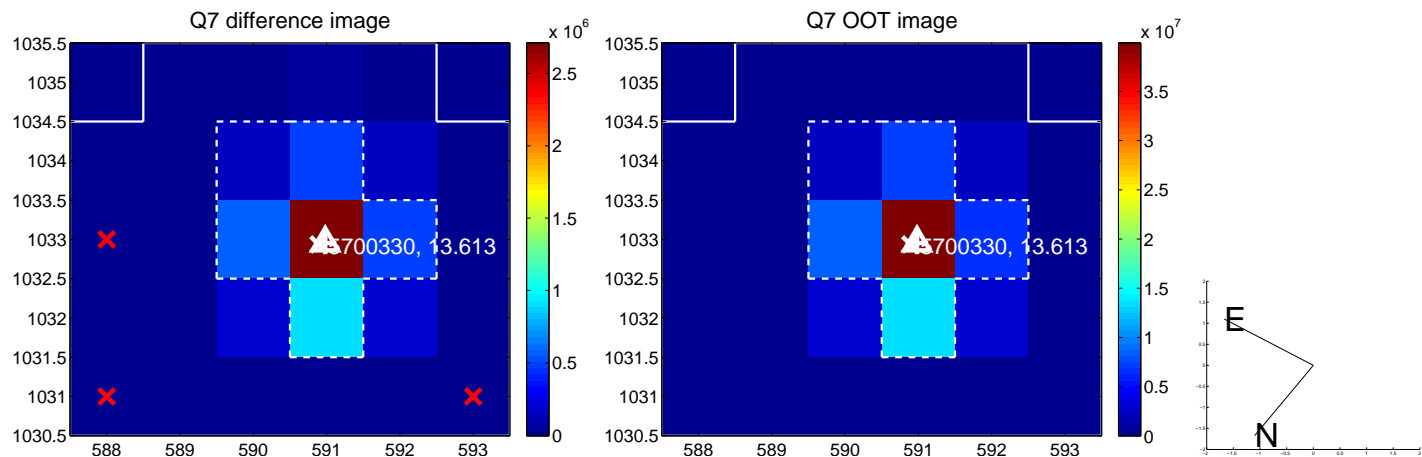
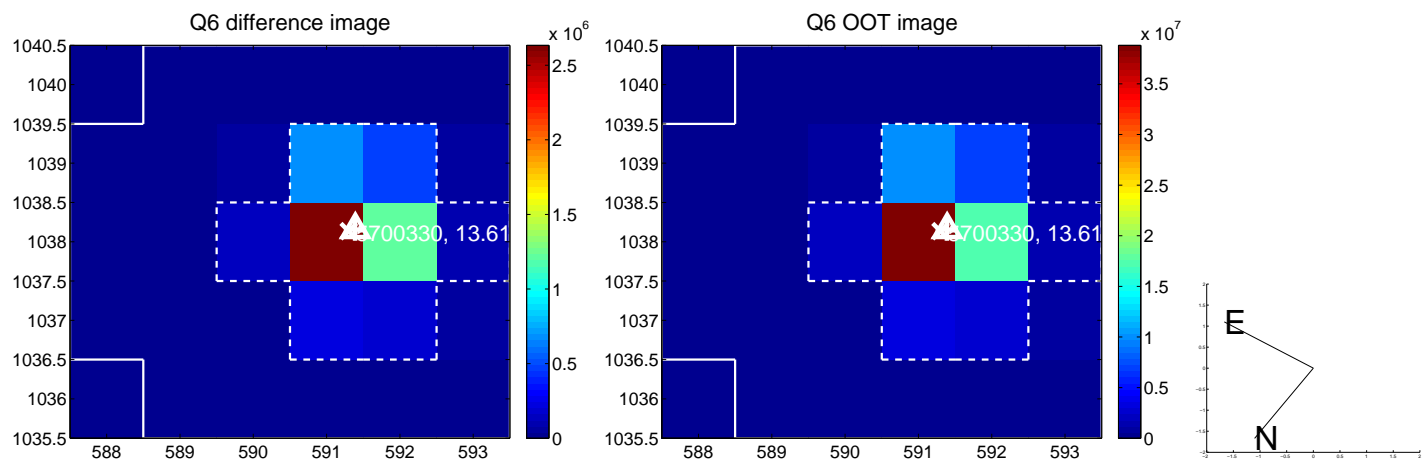
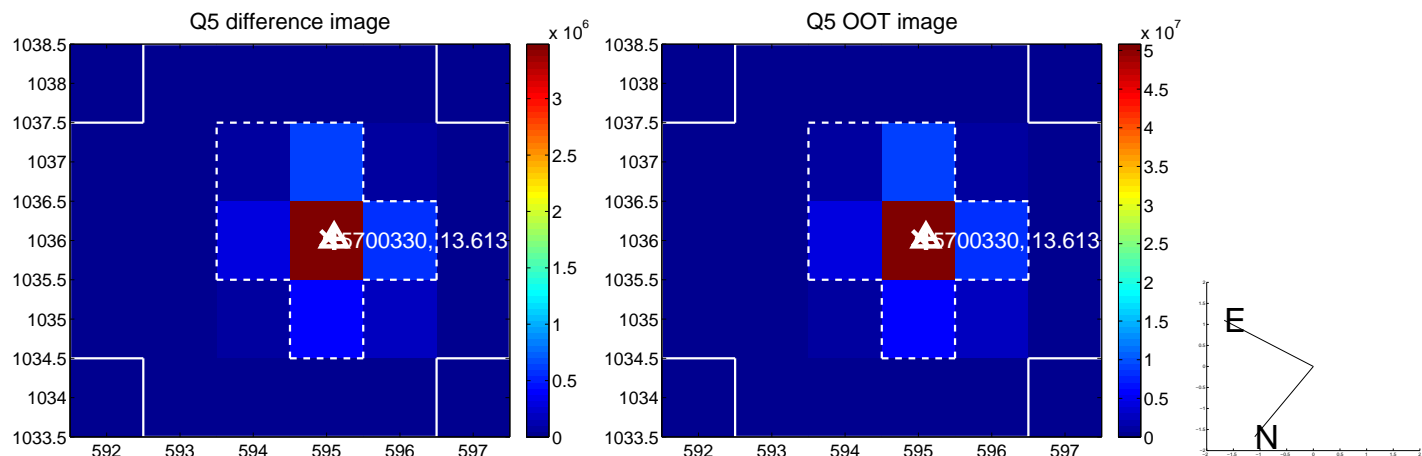


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

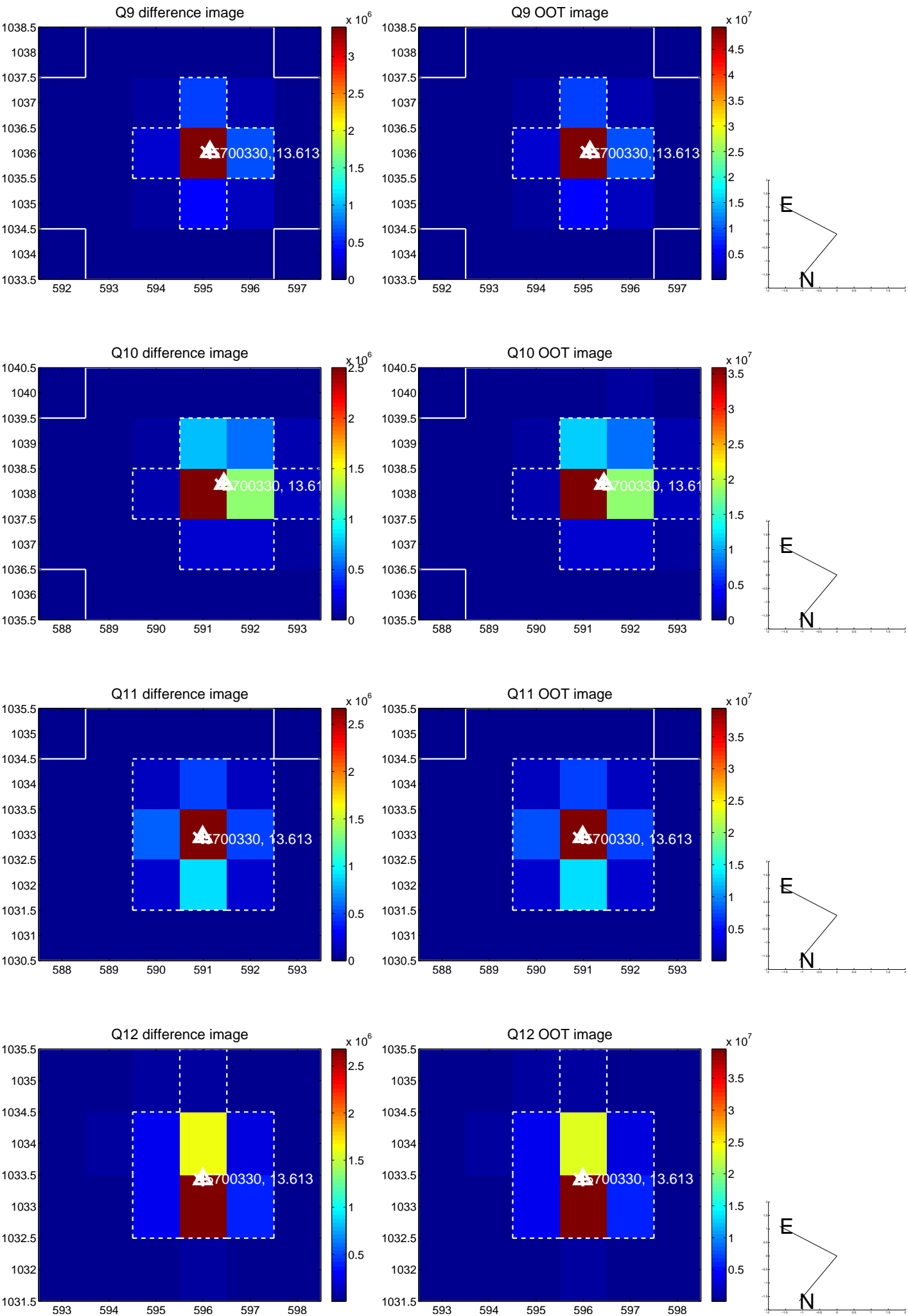
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



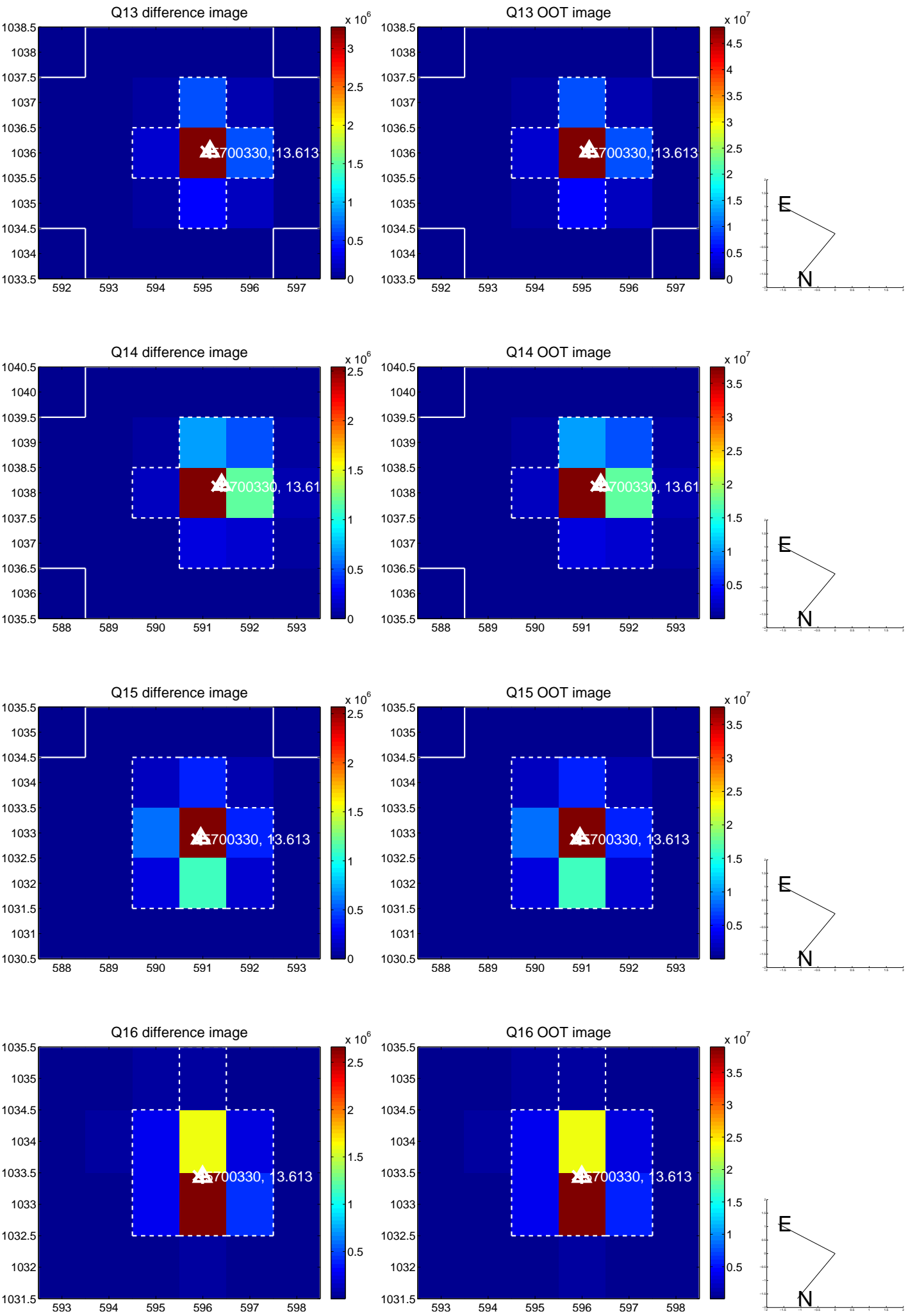
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



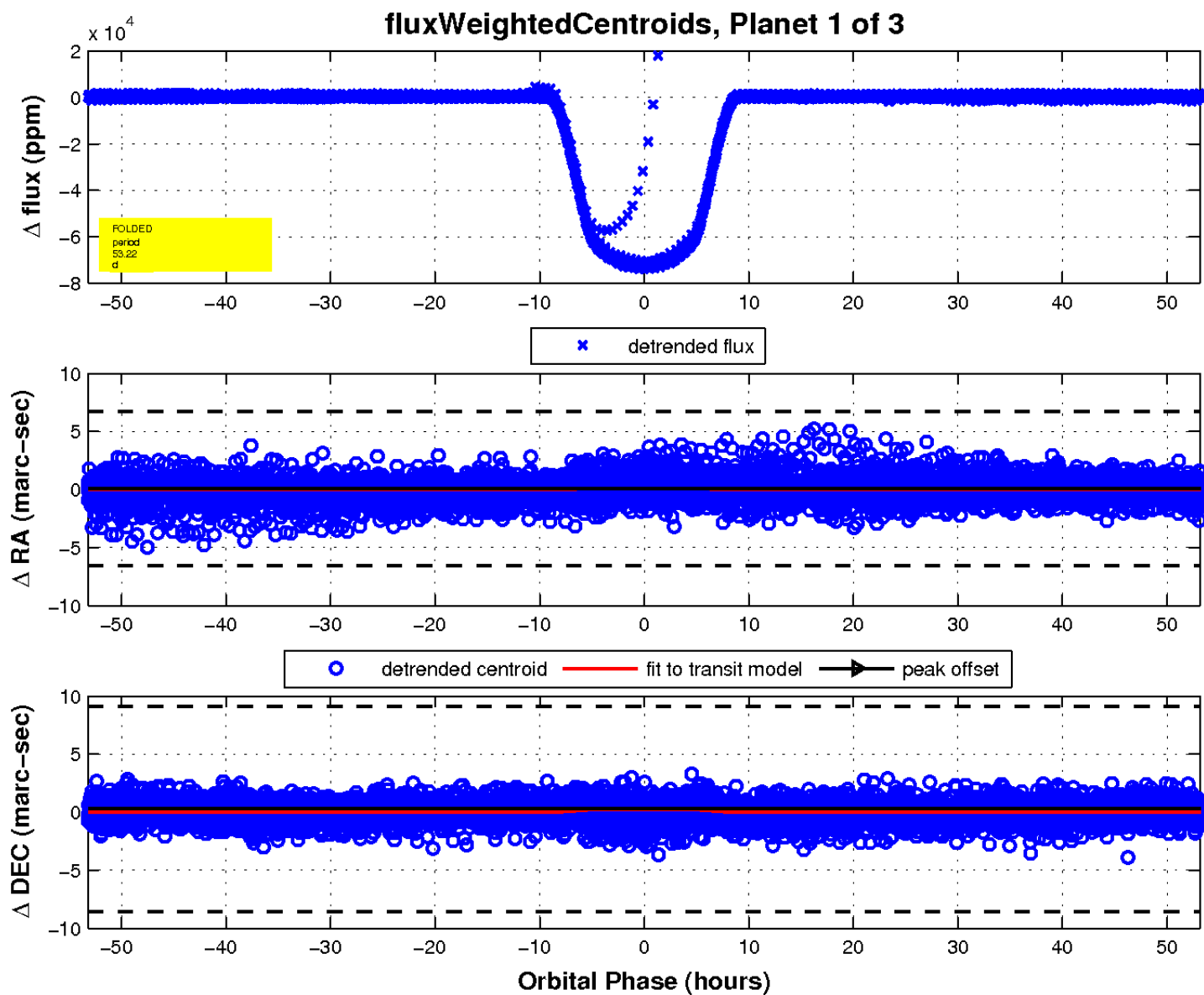
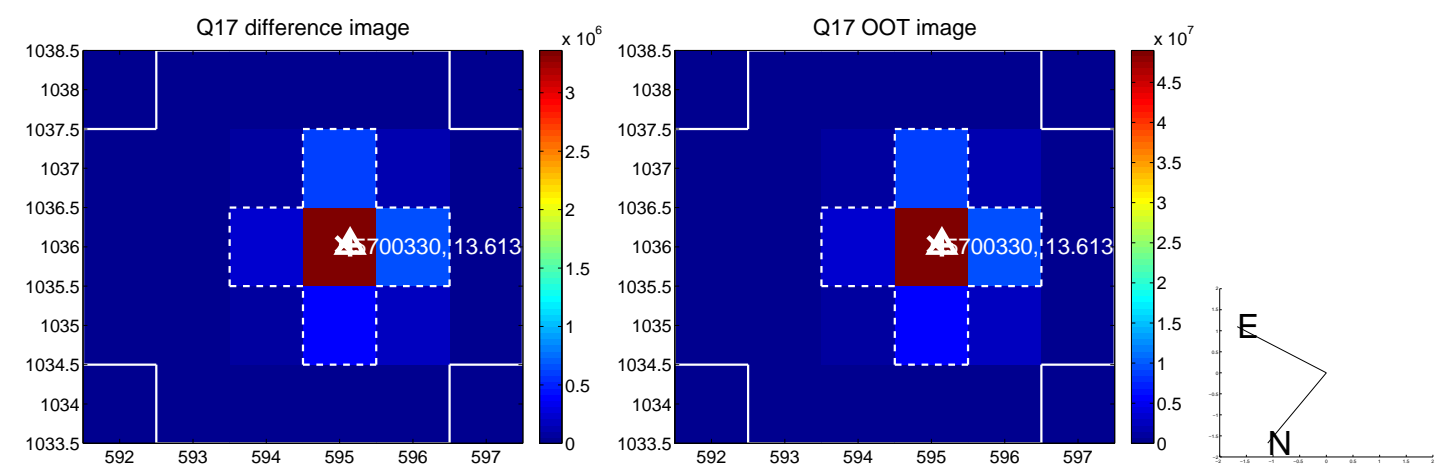
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

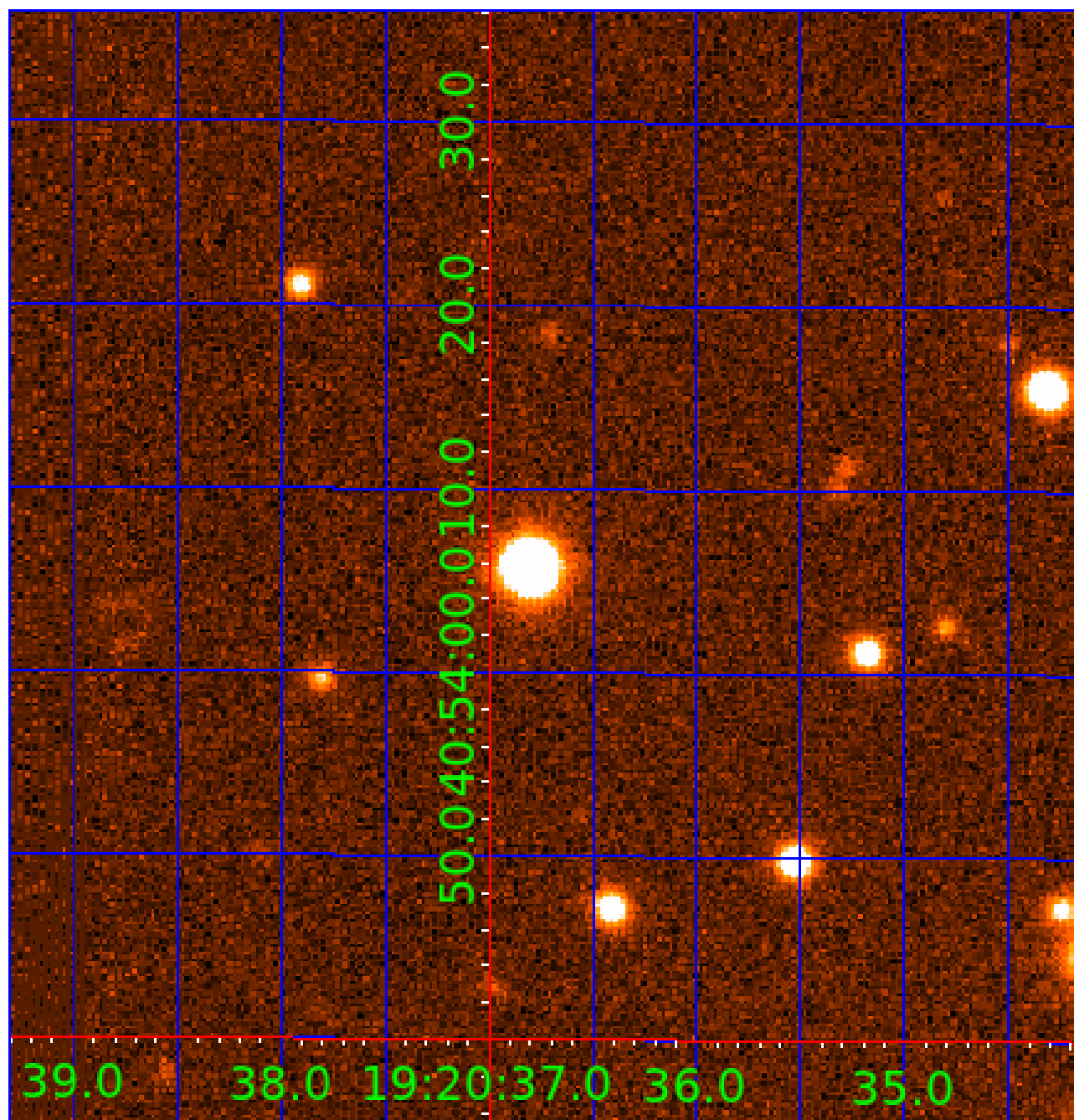


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005700330

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|--------|--------|-----------------------------|-----------------|------------------------|------------------------|
| 005700330-01 | OBS | 6616.01 | 53.220431 | 138.579640 | 73204.5 | 17.732 | 2963.0 | 2703.6 | 2.06 | 5653 | 55.39 | 43.73 |
| 005700330-02 | OBS | No | 53.220452 | 181.681175 | 5512.3 | 8.532 | 230.1 | 220.4 | 2.06 | 5653 | 16.71 | 43.73 |
| 005700330-03 | OBS | No | 406.646842 | 327.771749 | 193.4 | 6.308 | 8.0 | 2.8 | 2.06 | 5653 | 3.41 | 2.90 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 005700330-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS |
| 005700330-02 | OBS | FP | 0.00 | 1 | 1 | 0 | 0 | IS_SEC_TCE—CENT_KIC_POS |
| 005700330-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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.

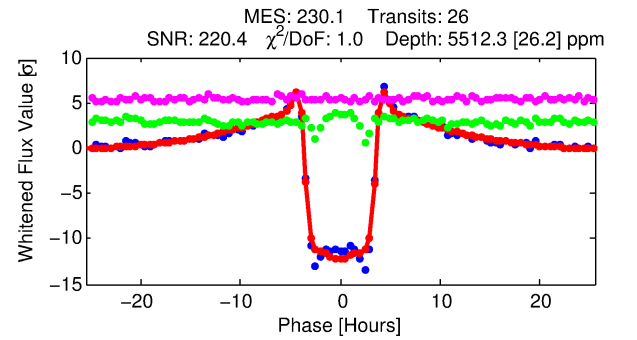
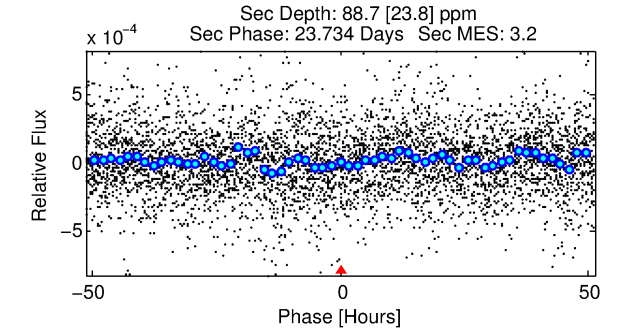
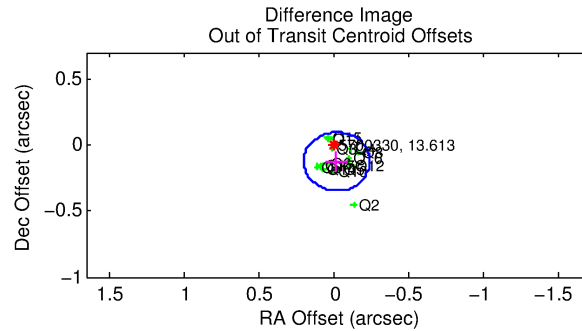
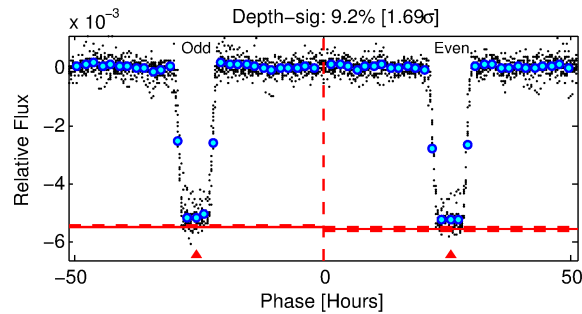
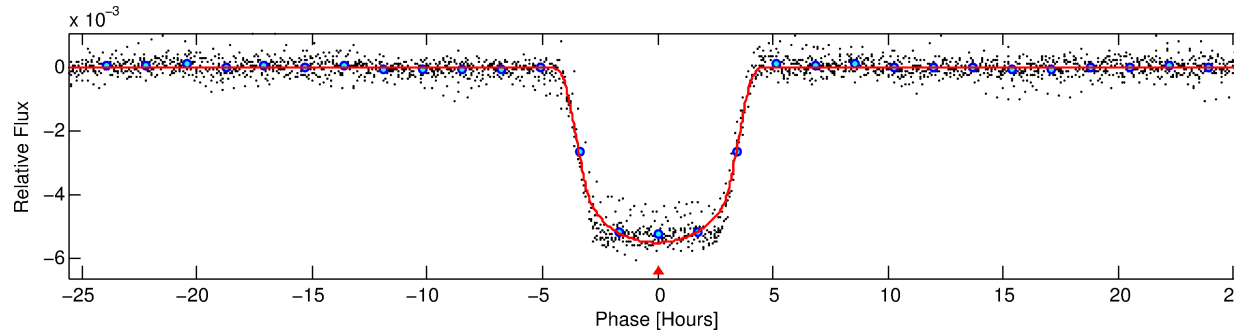
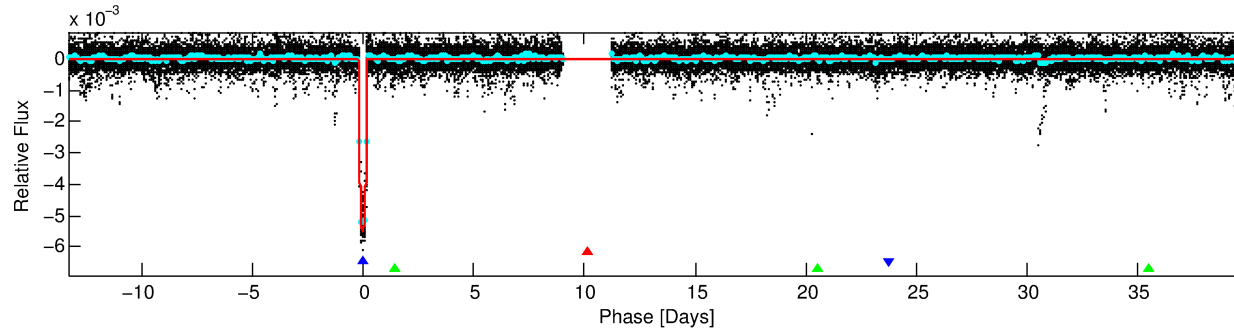
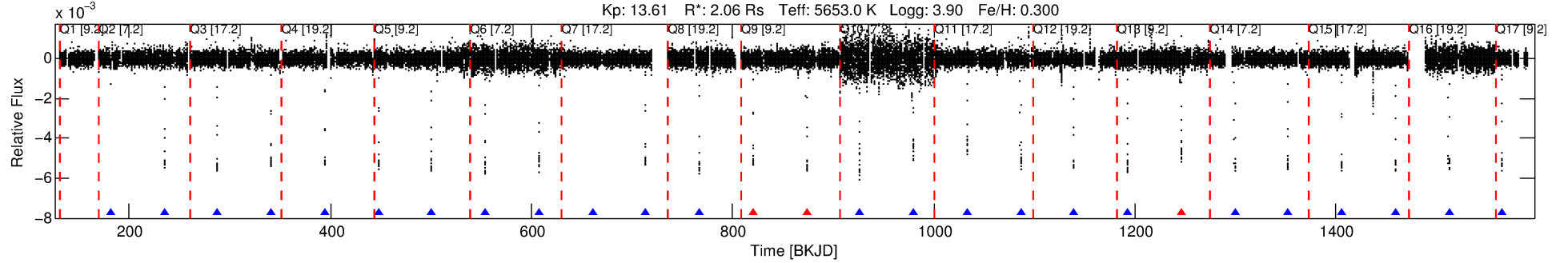
Ephemeris Match Information For 005700330-02

No Significant Match Found

DV One-Page Summary

KIC: 5700330 Candidate: 2 of 3 Period: 53.220 d
KOI: K06616 Corr: No Ephemeris Match

Kp: 13.61 R*: 2.06 Rs Teff: 5653.0 K Logg: 3.90 Fe/H: 0.300



DV Fit Results:

Period = 53.22045 [0.00003] d
Epoch = 181.6812 [0.0006] BKJD
Rp/R* = 0.0745 [0.0003]
a/R* = 36.05 [0.41]
b = 0.76 [0.01]
Seff = 43.72 [16.96]
Teq = 656 [64] K
Rp = 16.72 [4.75] Re
a = 0.2976 [0.0751] AU
Ag = 15.46 [7.24] [2.00σ]
Teffp = 2010 [138] K [8.89σ]

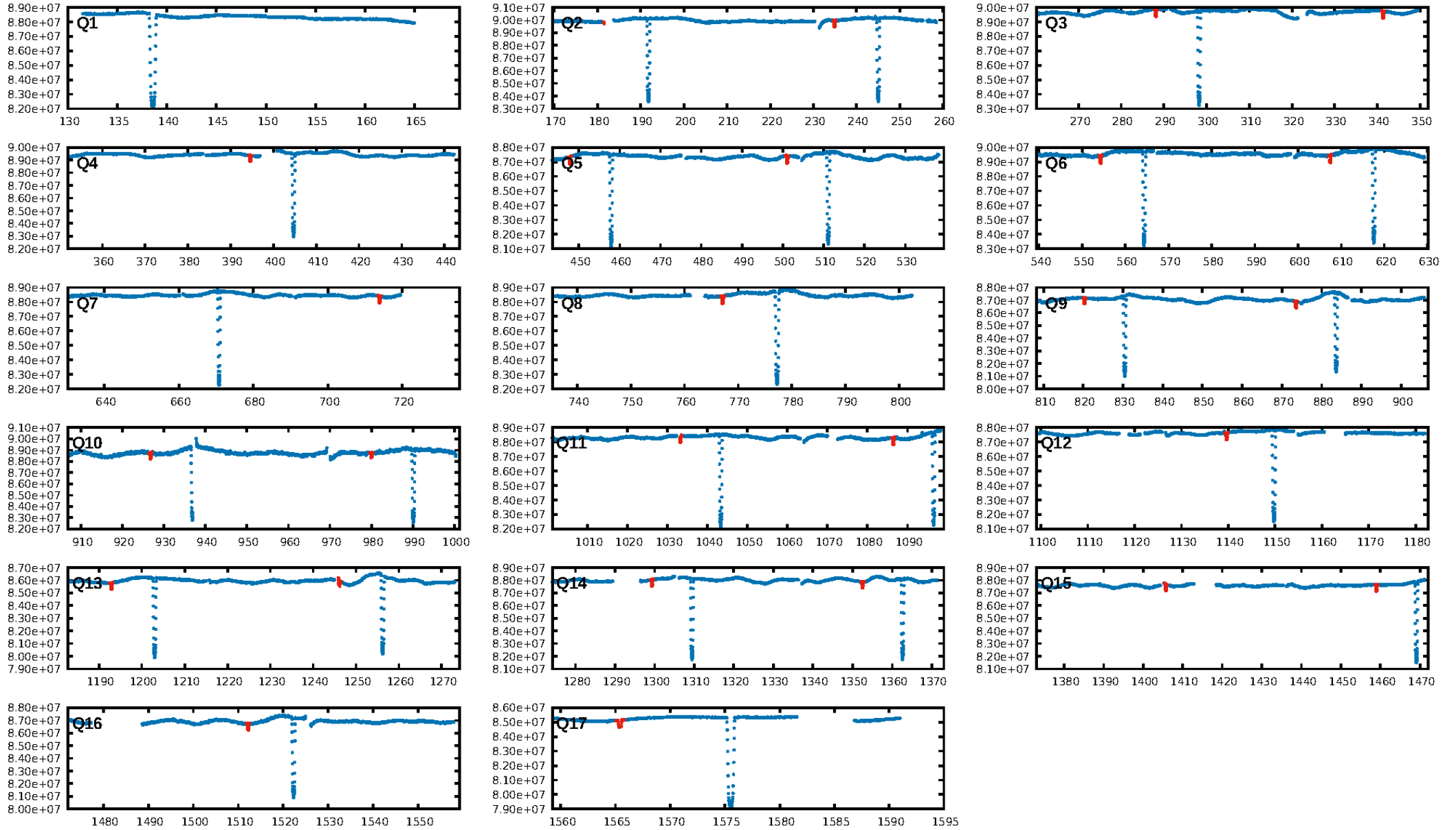
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [799.41σ]
ModelChiSquare2-sig: 32.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.88 [22/25]
GhostDiagnostic-chr: 4.364
Centroid-sig: 0.0%
Centroid-so: 0.273 arcsec [10.02σ]
OotOffset-rm: 0.129 arcsec [1.75σ]
KicOffset-rm: 0.435 arcsec [5.82σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-st: 4/3/4/3 [14]
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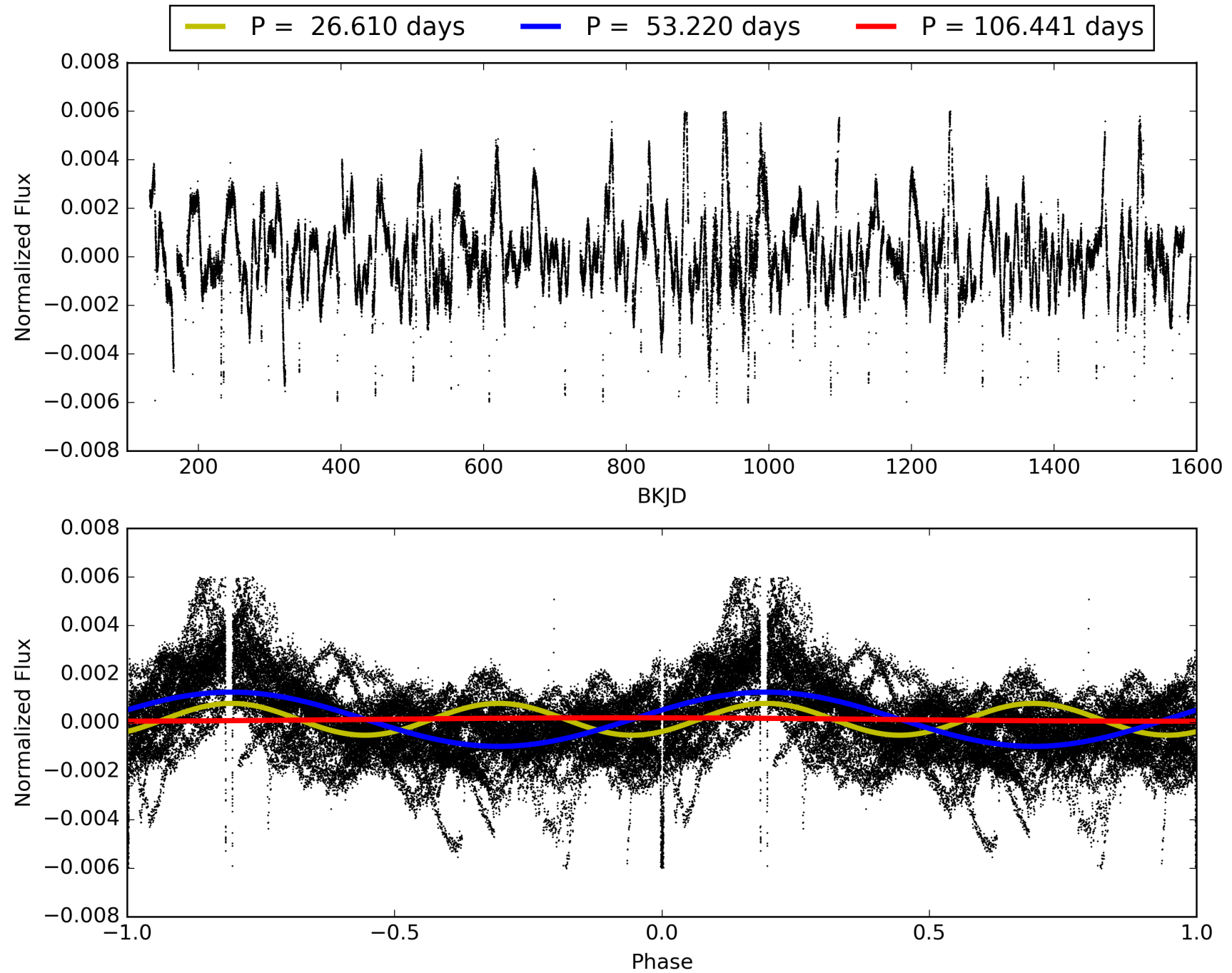
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:22:25 Z

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

TCE 005700330-02, PDC Light Curves

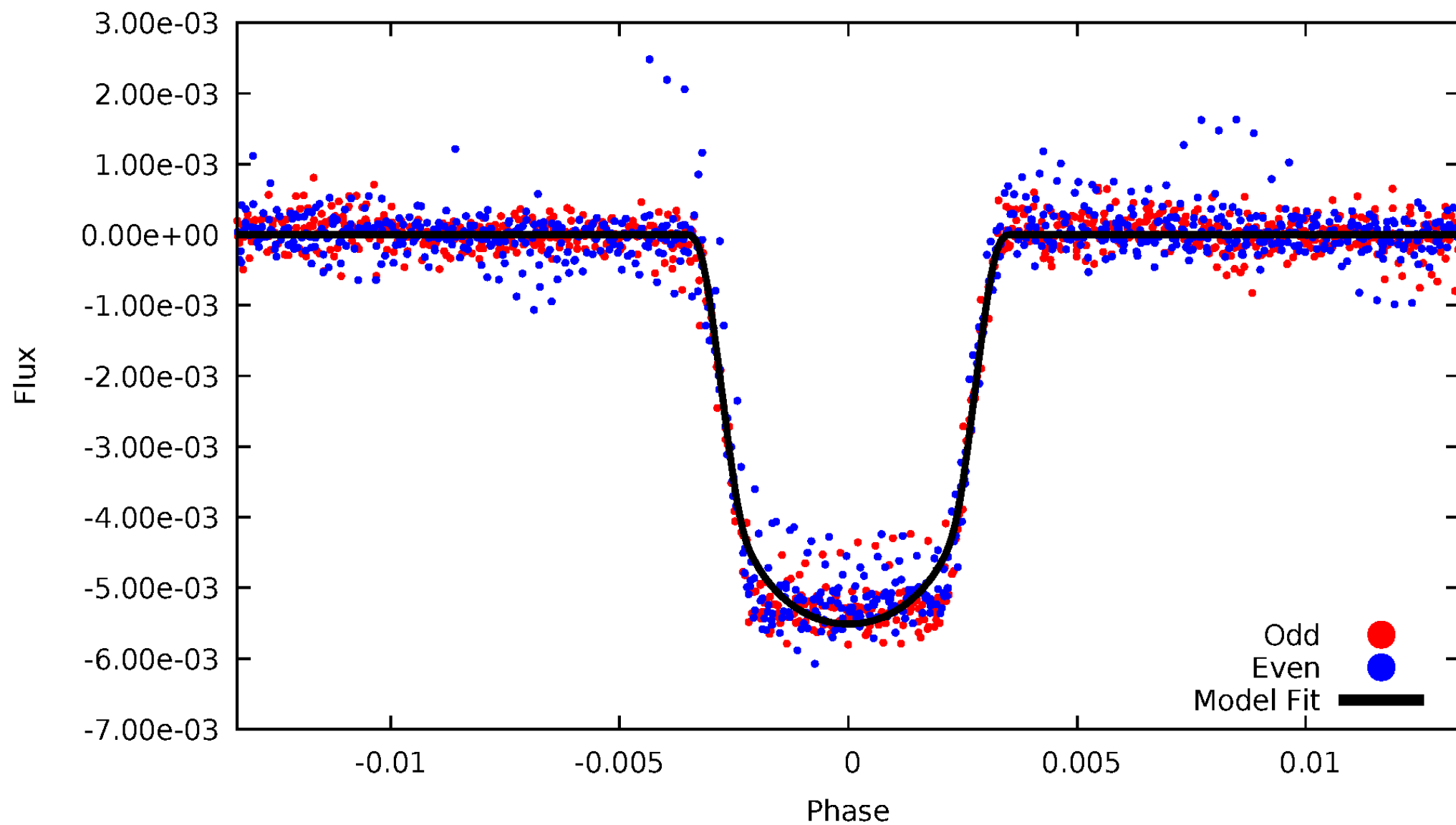


TCE 005700330-02



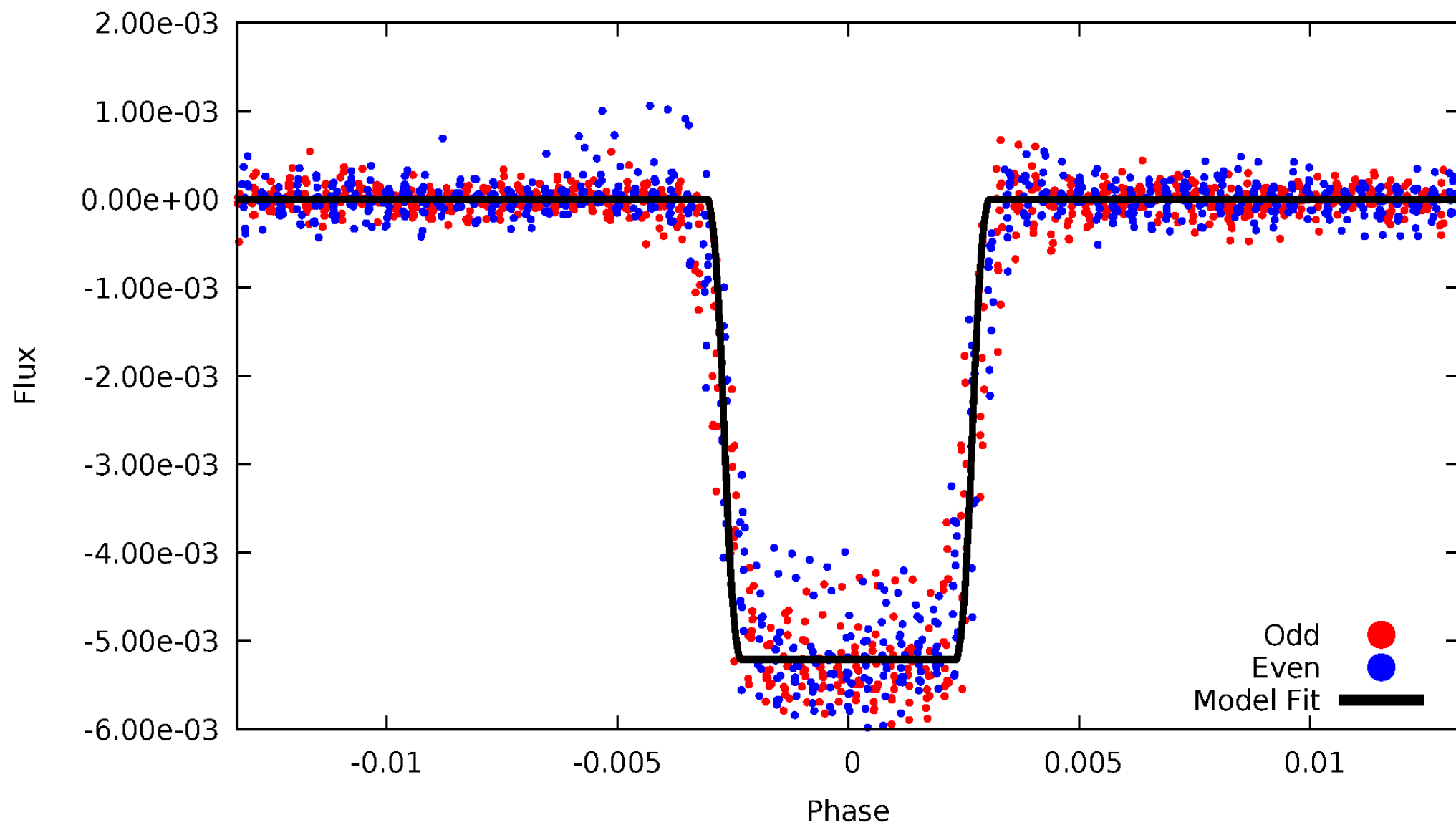
DV Odd/Even

TCE 005700330-02



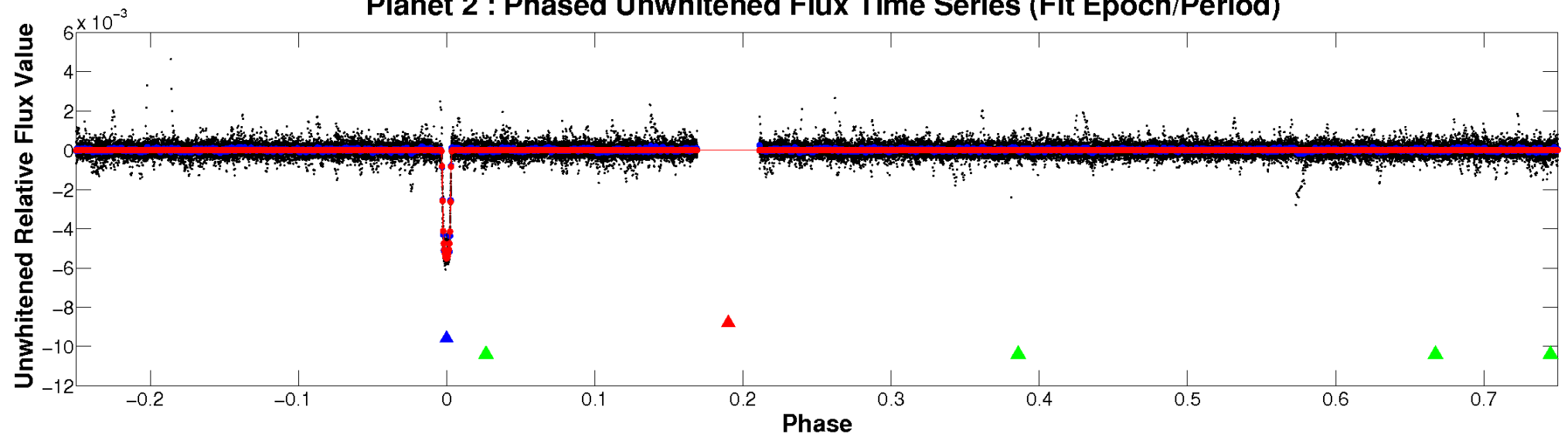
ALT Odd/Even

TCE 005700330-02

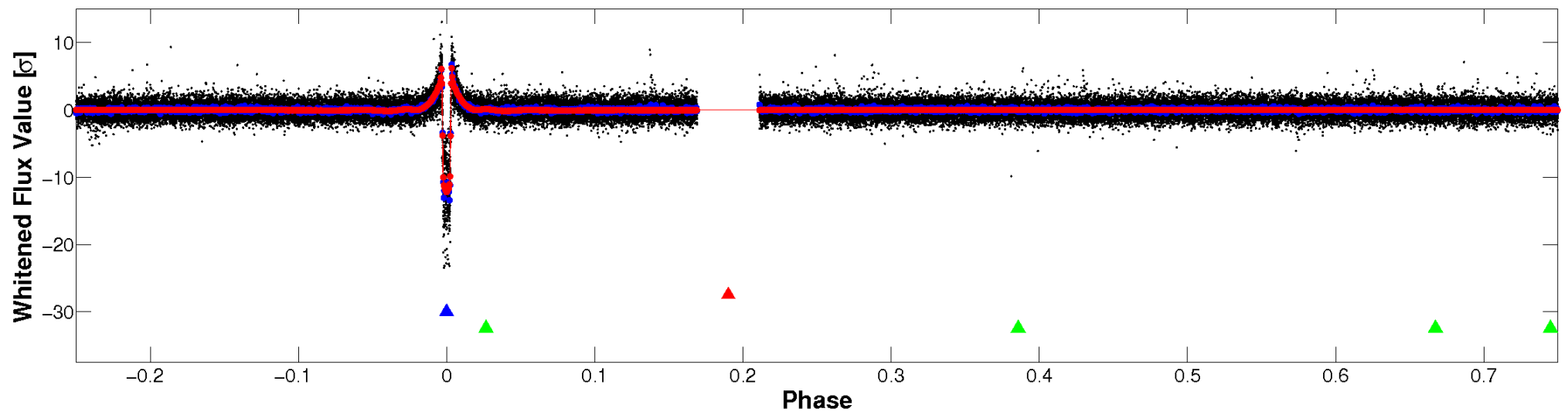


Non-Whitened Vs. Whitened Light Curve

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

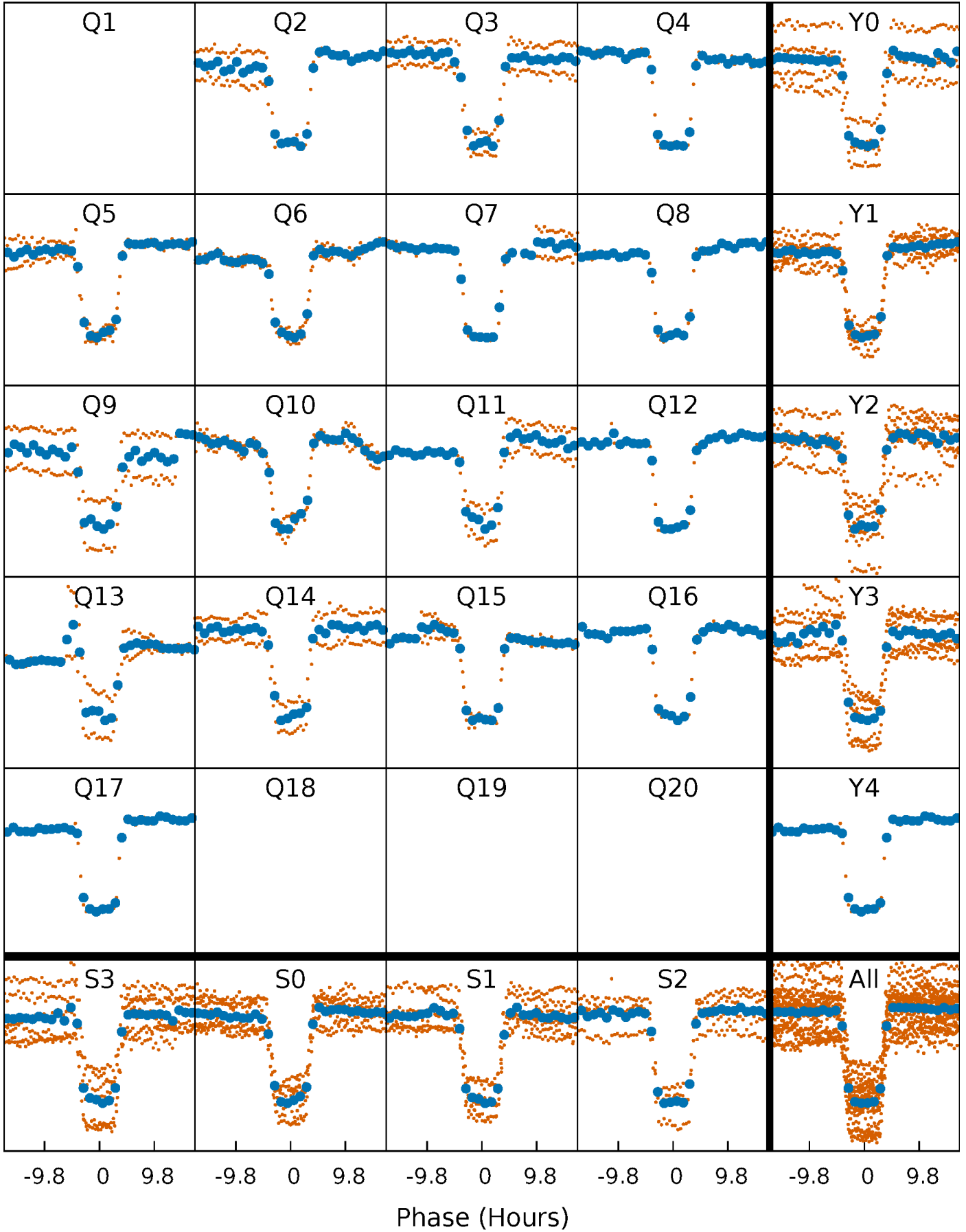


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



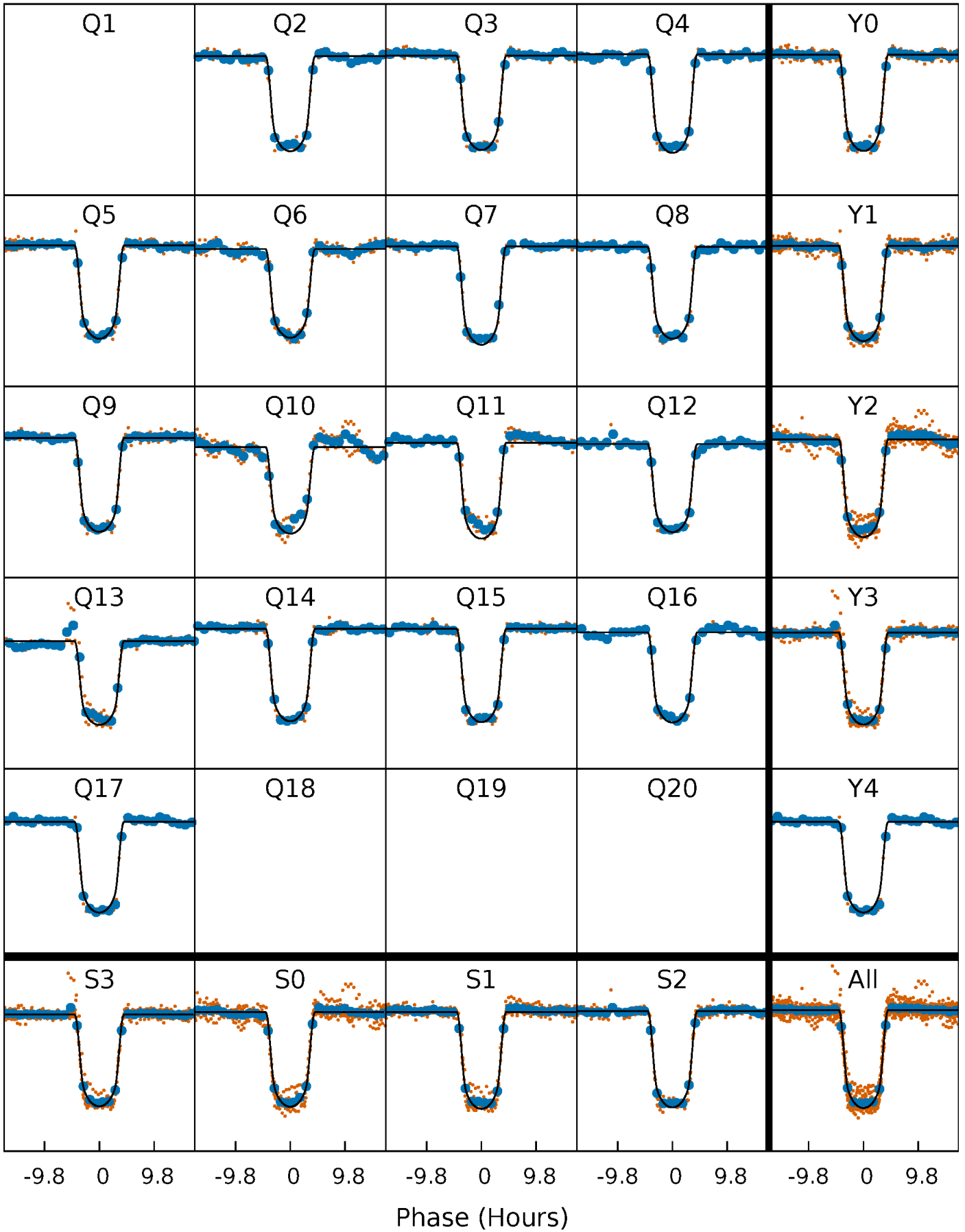
PDC Quarter-Phased Transit Curves

TCE 005700330-02 P= 53.220452 Days $T_0=181.681175$ (BKJD)



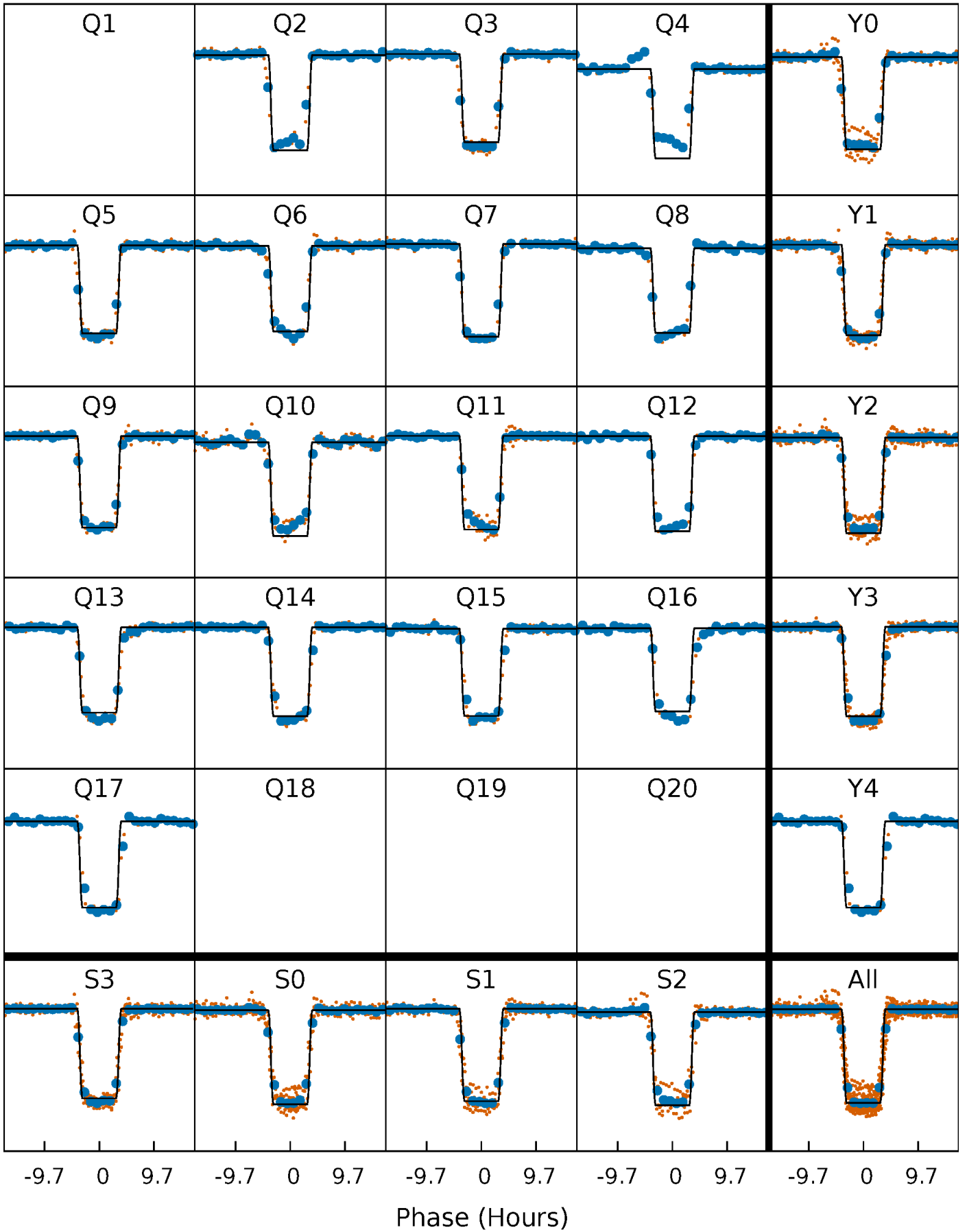
DV Quarter-Phased Transit Curves

TCE 005700330-02 P= 53.220452 Days $T_0=181.681175$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

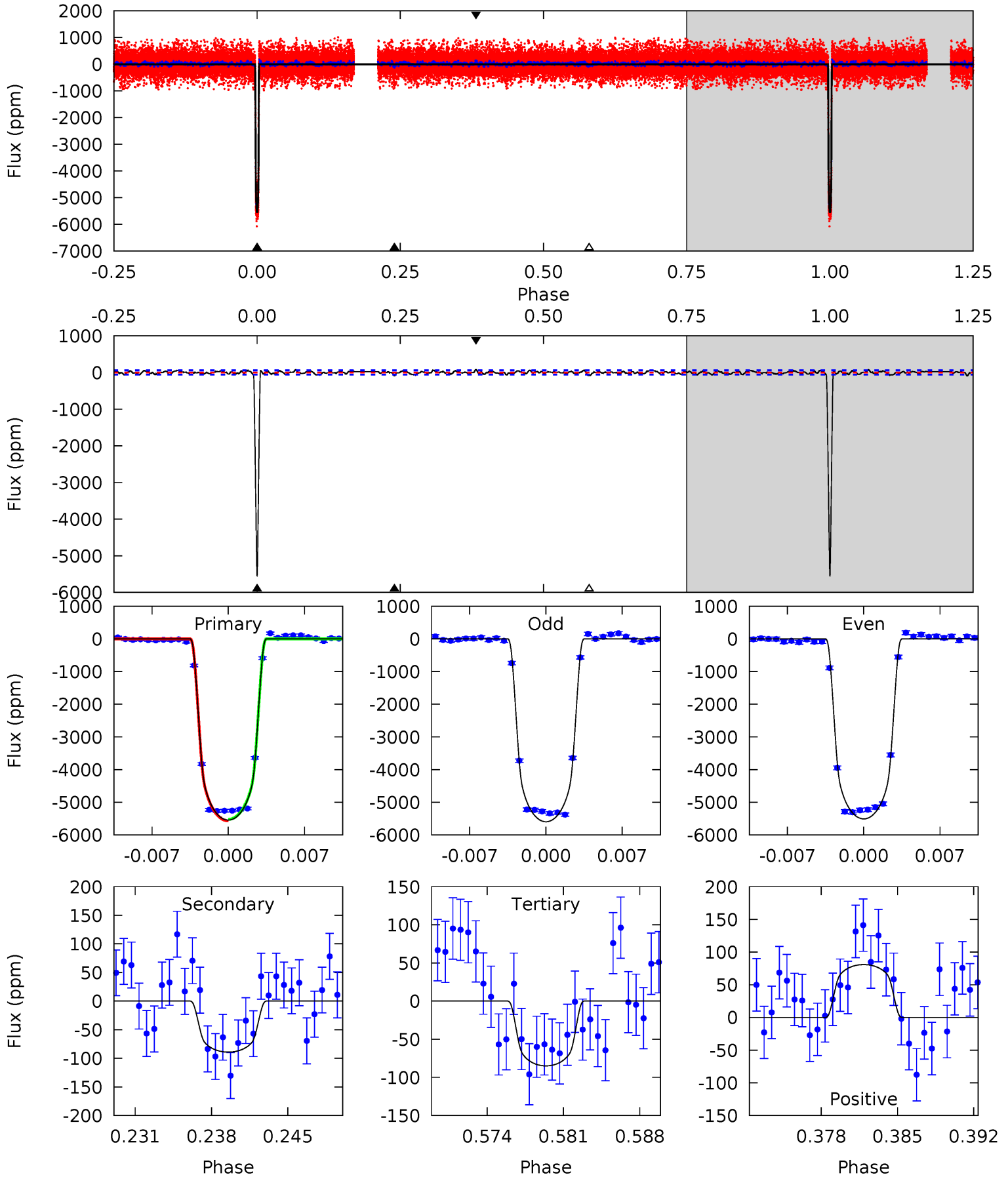
TCE 005700330-02 P= 53.219193 Days $T_0=181.698217$ (BKJD)



DV Model-Shift Uniqueness Test

005700330-02, P = 53.220452 Days, E = 128.460723 Days

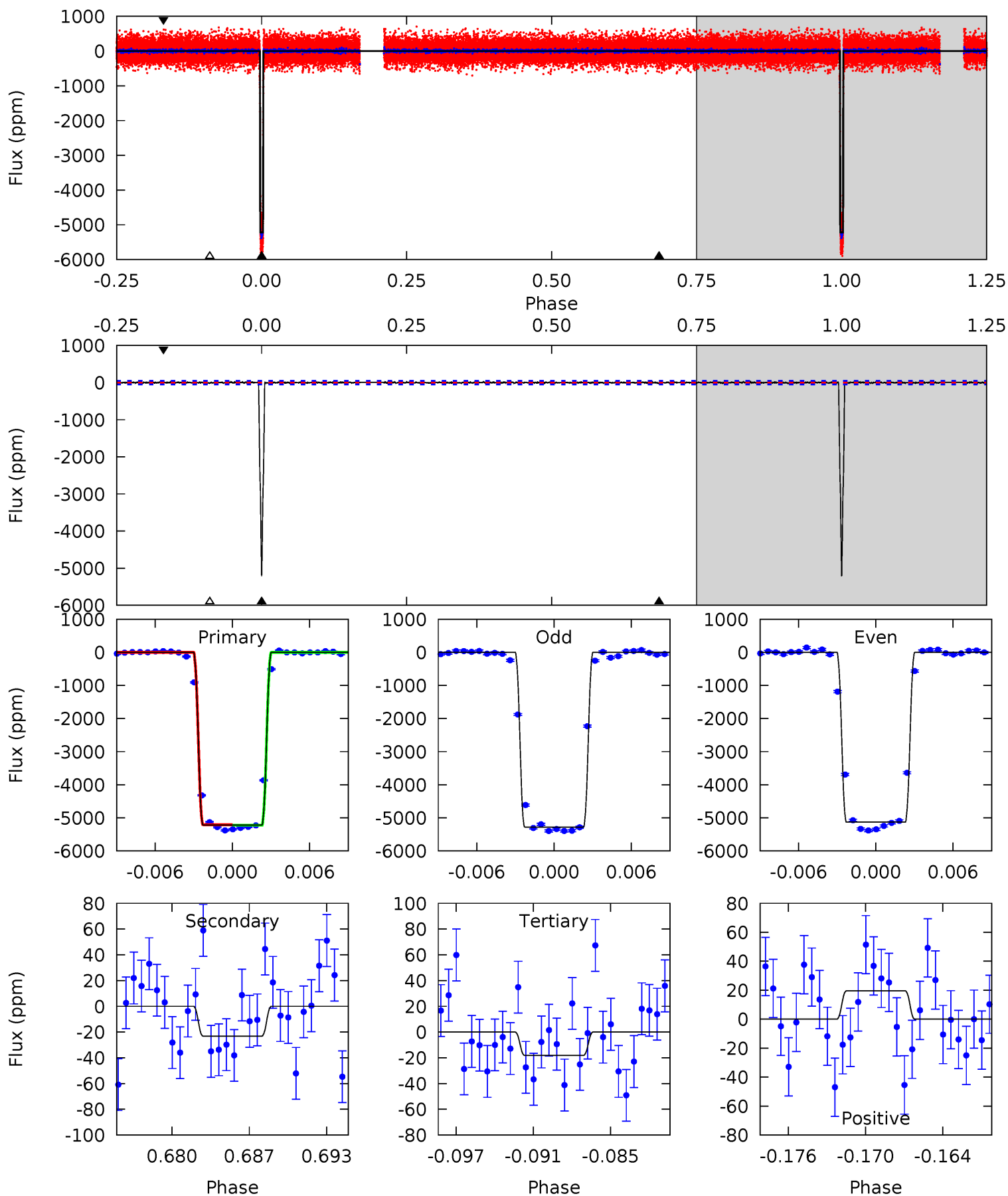
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 482.0 | 7.75 | 7.38 | 7.03 | 5.09 | 2.70 | 2.48 | 474.6 | 475.0 | 0.37 | 0.72 | 3.83 | 1.03 | 0.01 | 2.00 |



Alt Model-Shift Uniqueness Test

005700330-02, P = 53.219193 Days, E = 128.479024 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 559.8 | 2.48 | 1.94 | 2.09 | 5.12 | 2.74 | 0.62 | 557.9 | 557.7 | 0.54 | 0.39 | 8.02 | 0.98 | 0.00 | 0.85 |



Stellar Parameters For KIC 005700330

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|--|
| | 5653^{+84}_{-76} | $3.905^{+0.217}_{-0.093}$ | $0.300^{+0.150}_{-0.150}$ | $2.057^{+0.292}_{-0.585}$ | $1.240^{+0.096}_{-0.165}$ | $0.201^{+0.251}_{-0.059}$ |
| | +1%/-1% | +6%/-2% | +50%/-50% | +14%/-28% | +8%/-13% | +125%/-29% |
| Source | SPE68 | SPE68 | SPE68 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005700330-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|--------------|-------------------------|----------------------|----------------------|---------------------------|
| DV | -89 ± 12 | $16.79^{+1.27}_{-2.47}$ | 913^{+41}_{-59} | 2765^{+51}_{-60} | 16^{+5}_{-3} |
| Alt. | -23 ± 9 | $16.19^{+1.32}_{-2.44}$ | 912^{+39}_{-60} | 2347^{+94}_{-127} | $4.525^{+2.308}_{-1.655}$ |

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

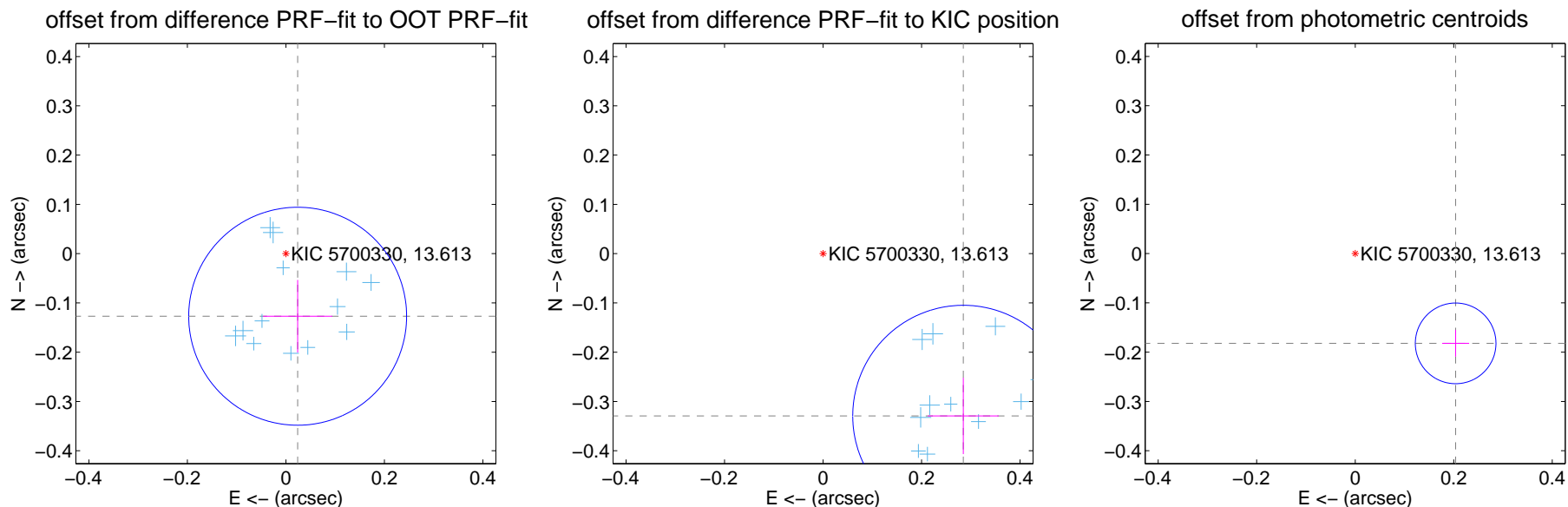
DV Centroid Data

Supplemental centroid analysis for 005700330-02. Kepler magnitude: 13.61. Transit SNR 220.38

There are 14 quarters with good PRF difference image offsets

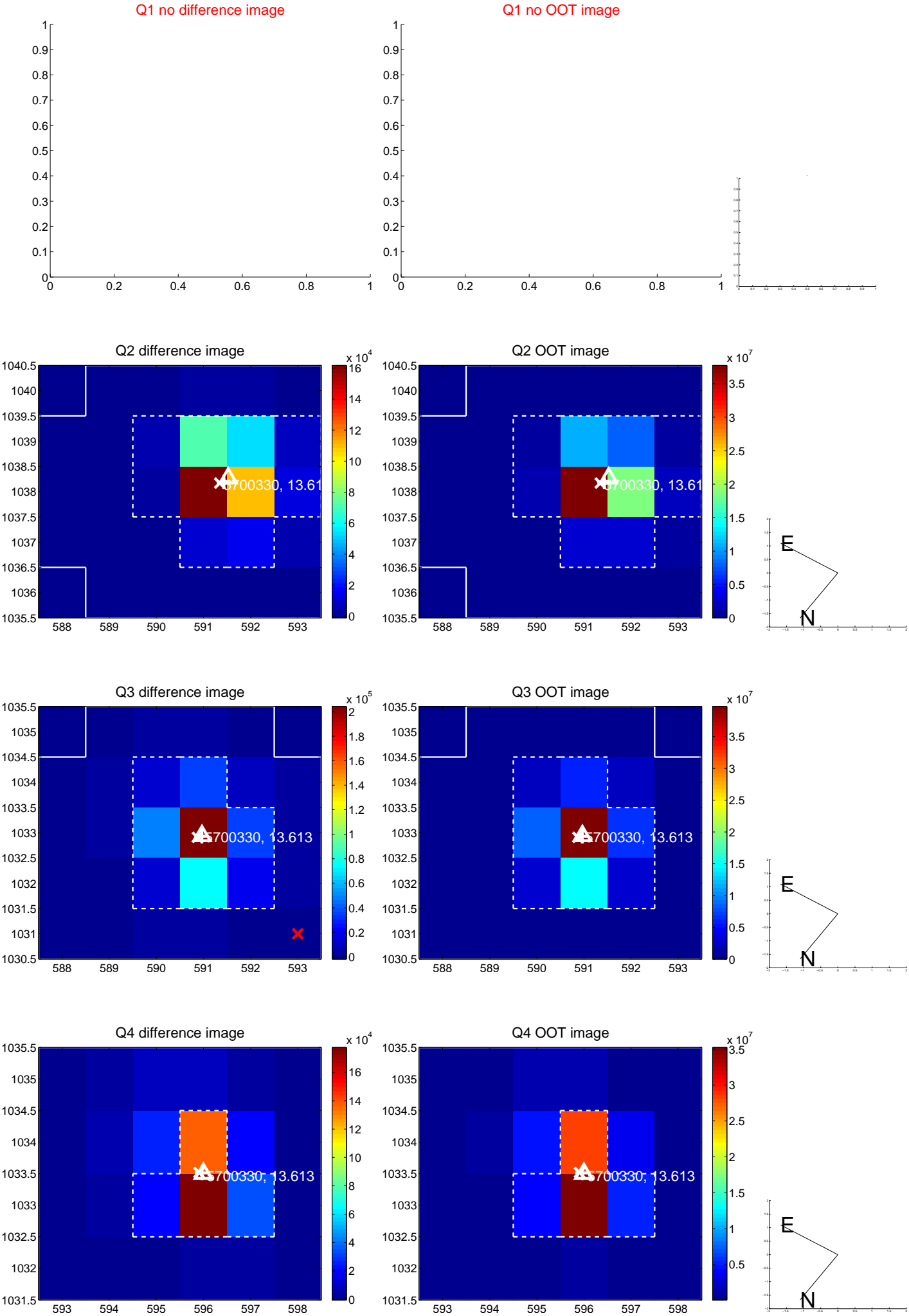
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.129 ± 0.074 | 1.75 | -0.024 ± 0.070 | -0.127 ± 0.074 |
| PRF-fit source offset from KIC position | 0.435 ± 0.075 | 5.82 | -0.285 ± 0.072 | -0.329 ± 0.077 |
| photometric centroid source offset | 0.27 ± 0.03 | 10.02 | -0.20 ± 0.03 | -0.18 ± 0.03 |

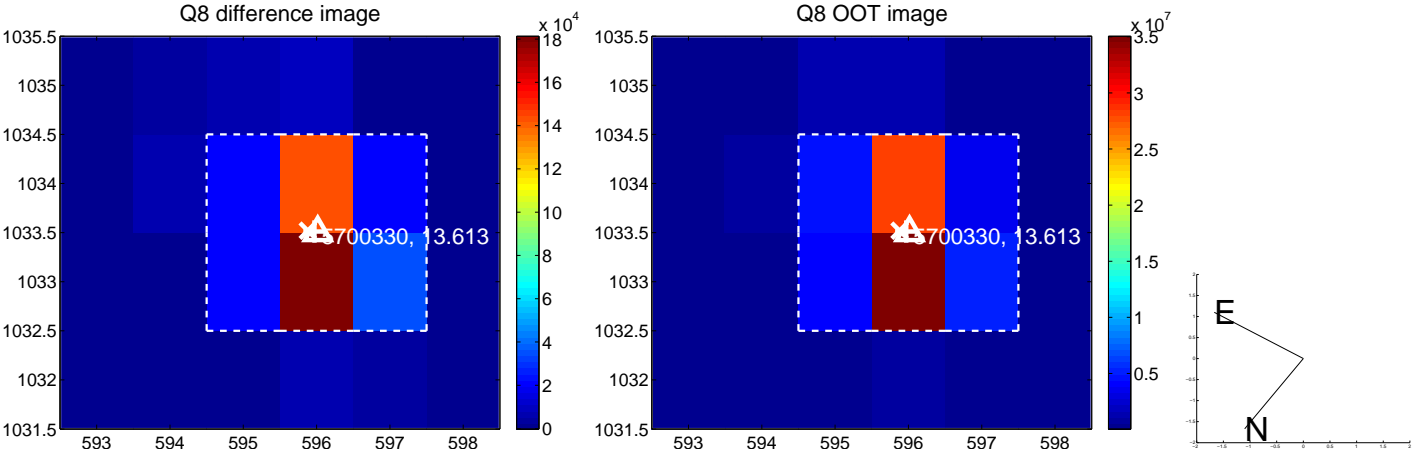
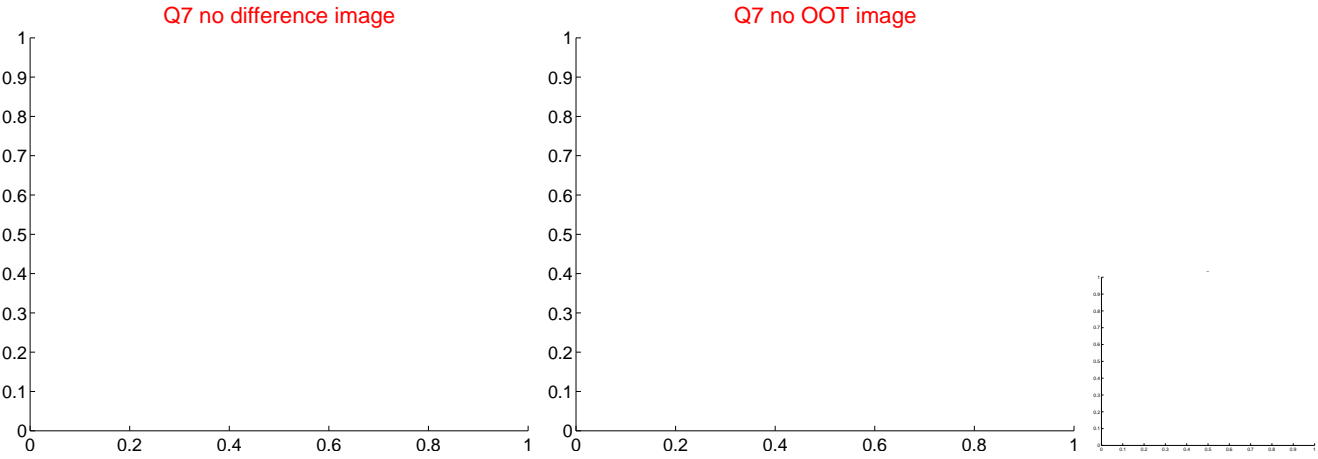
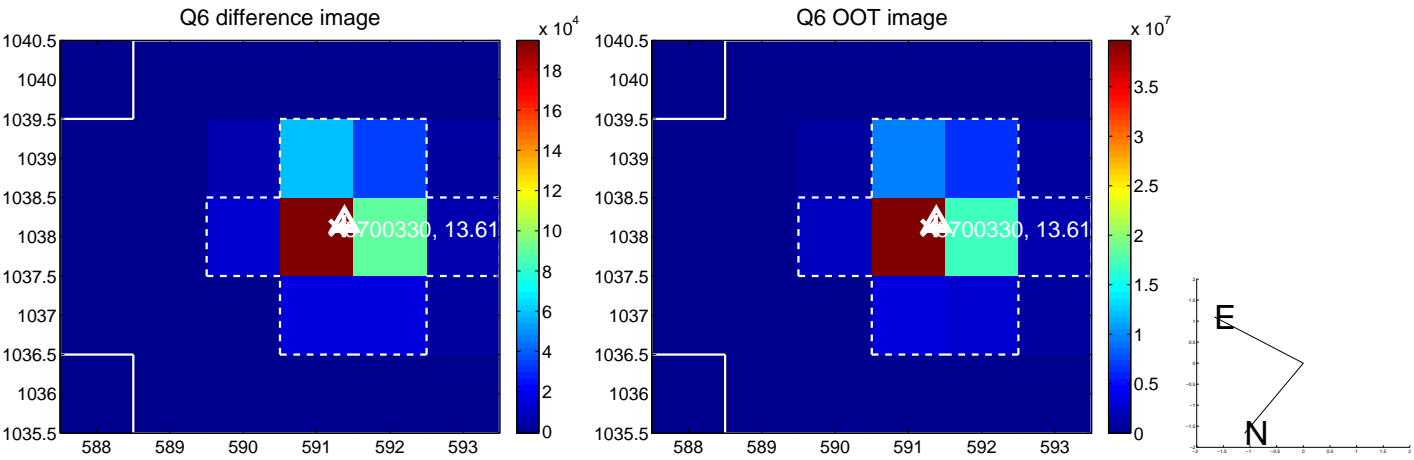
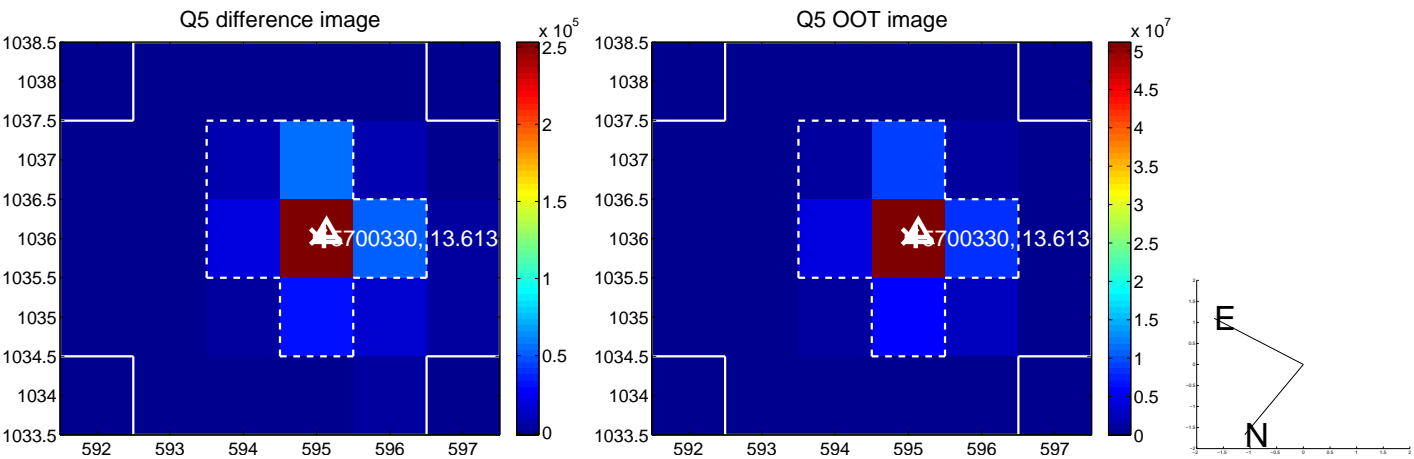


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

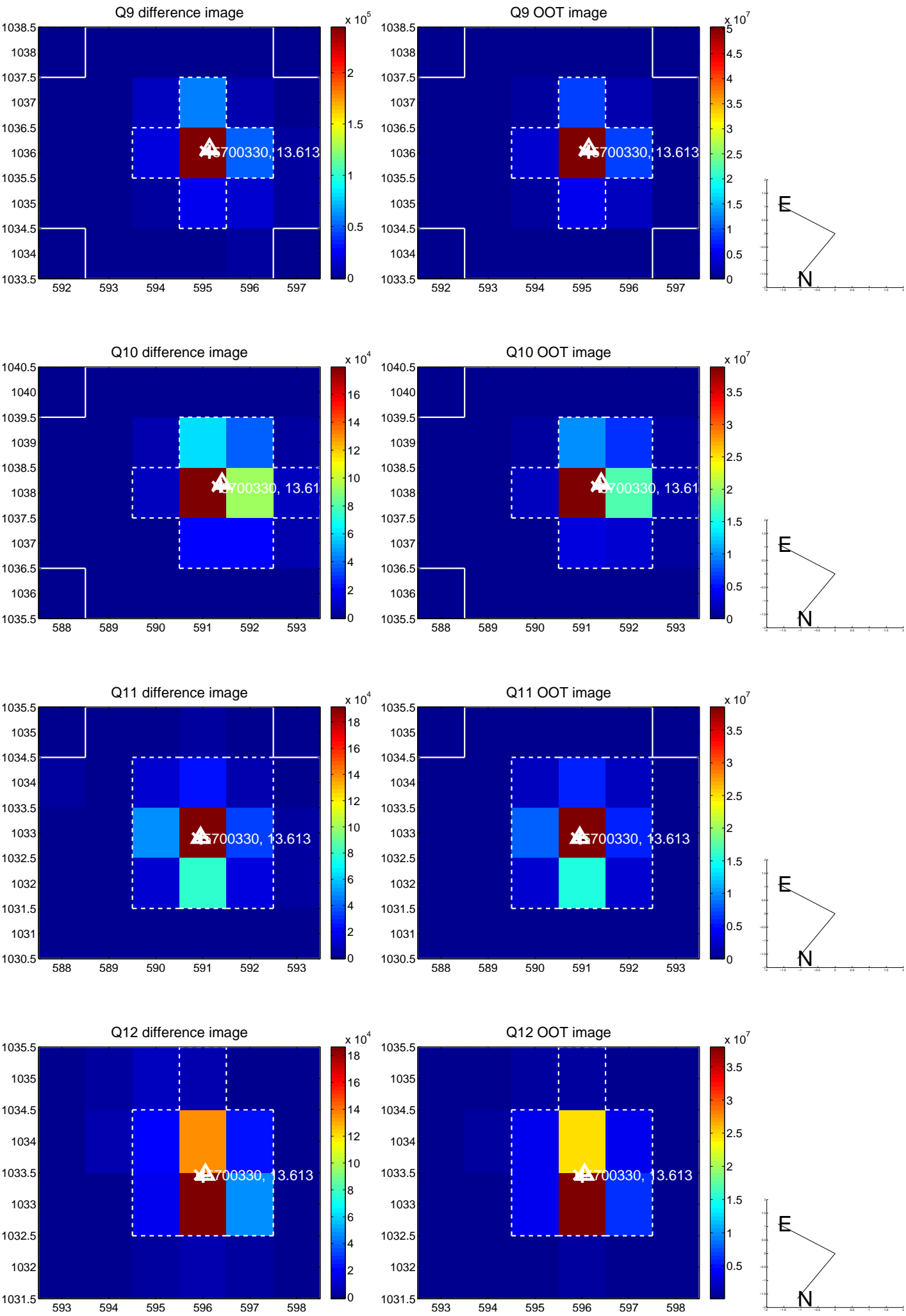
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



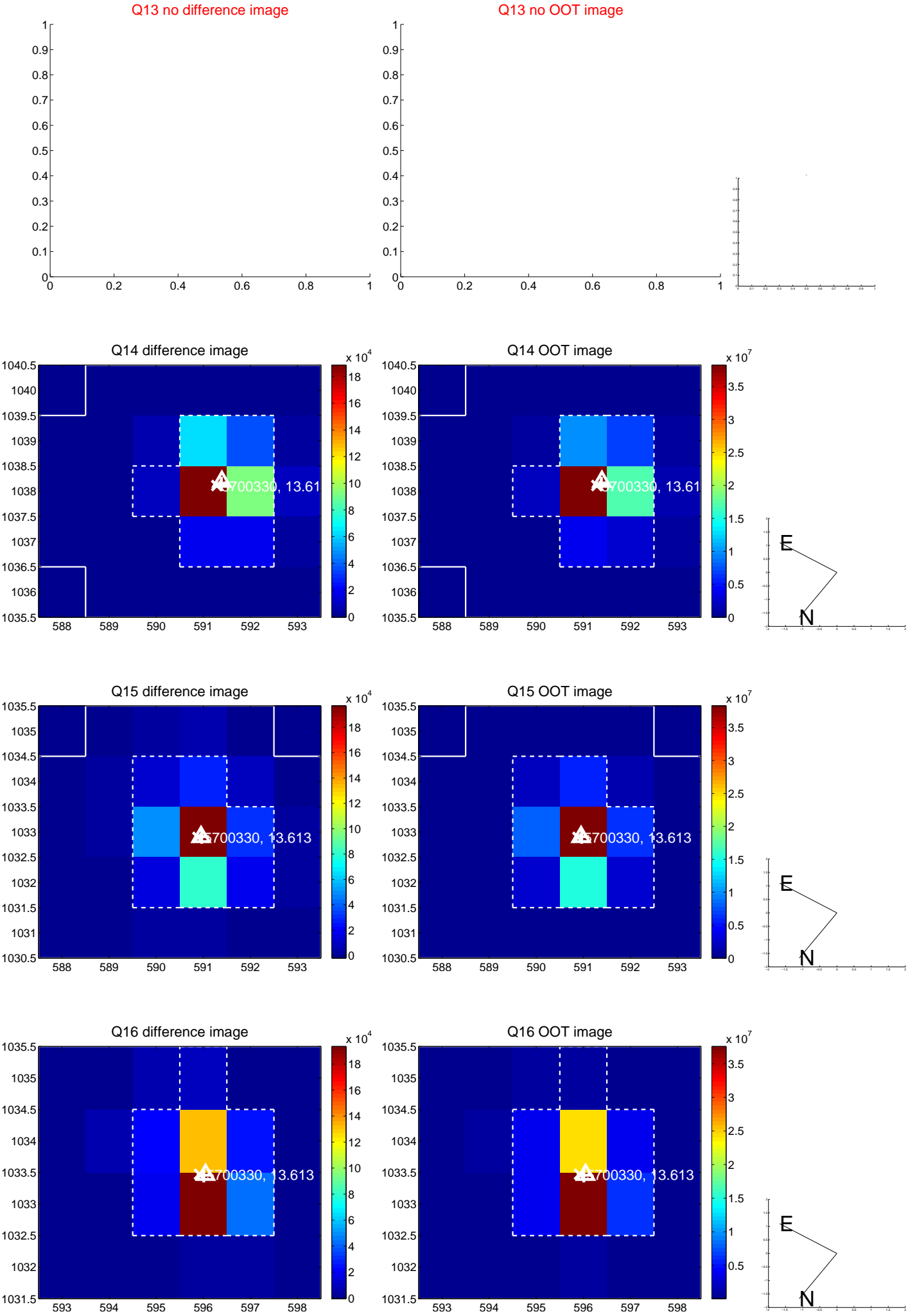
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



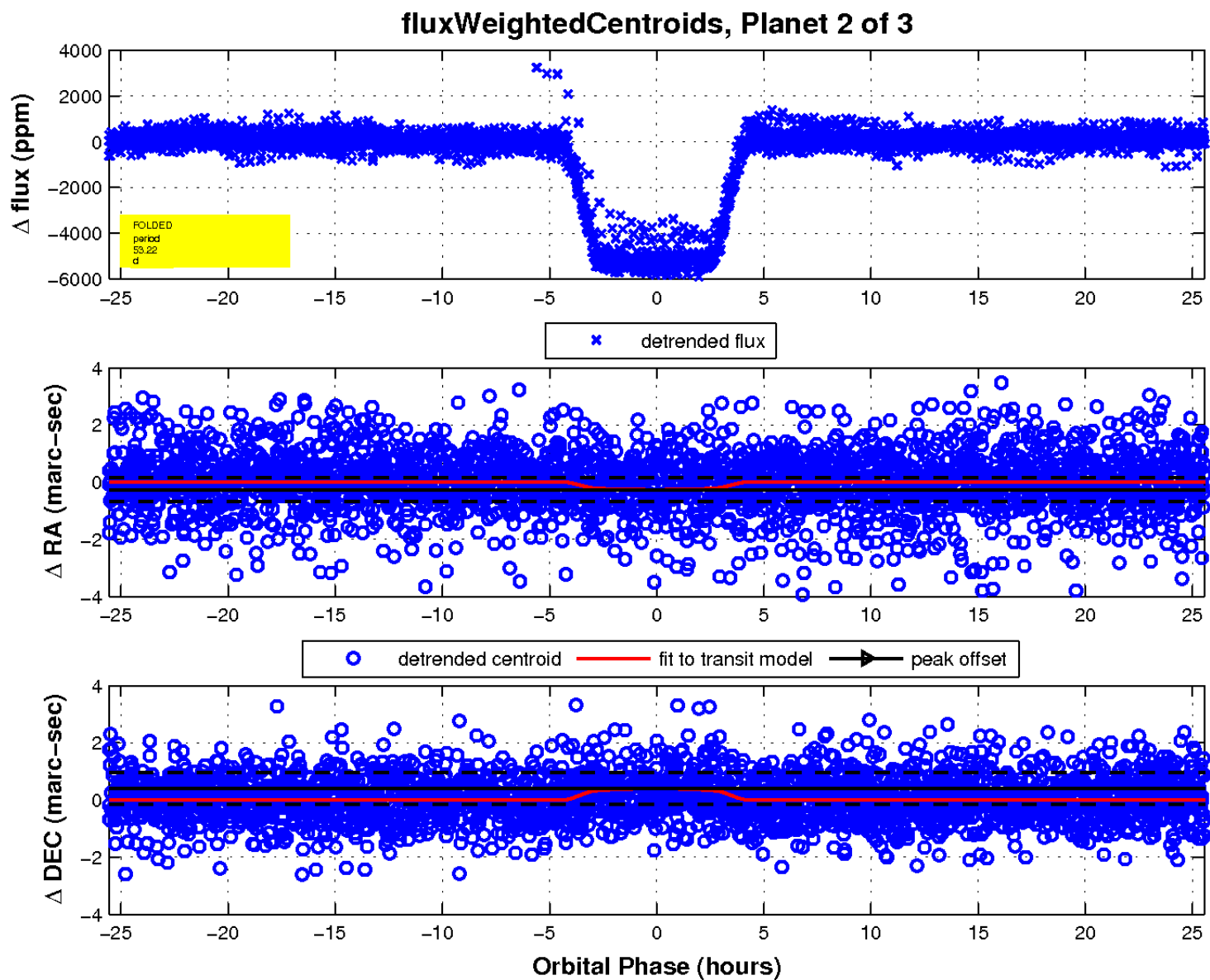
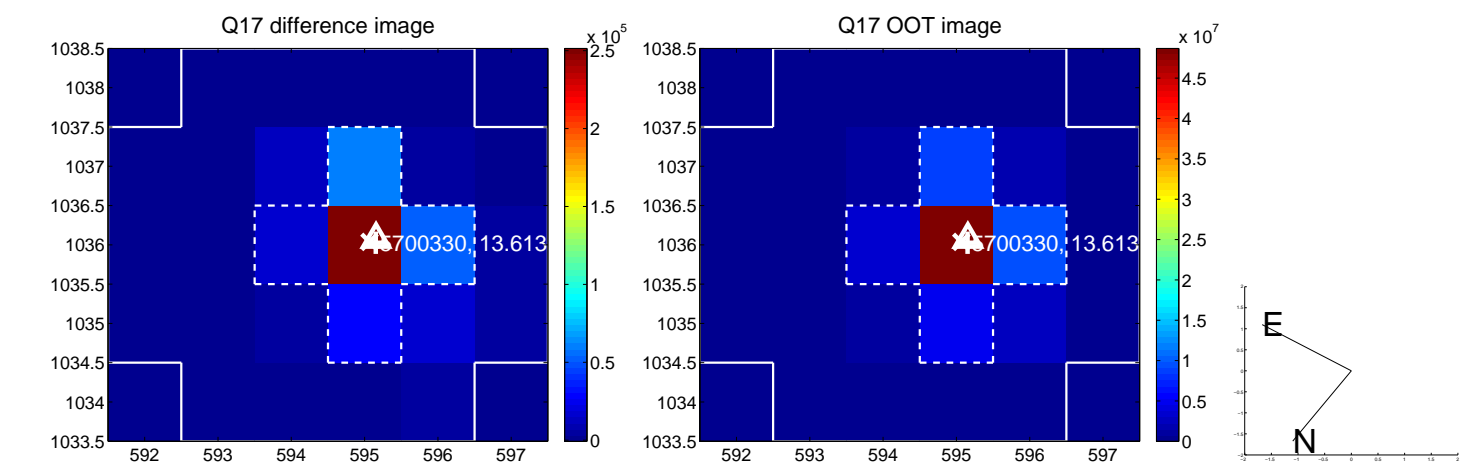
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

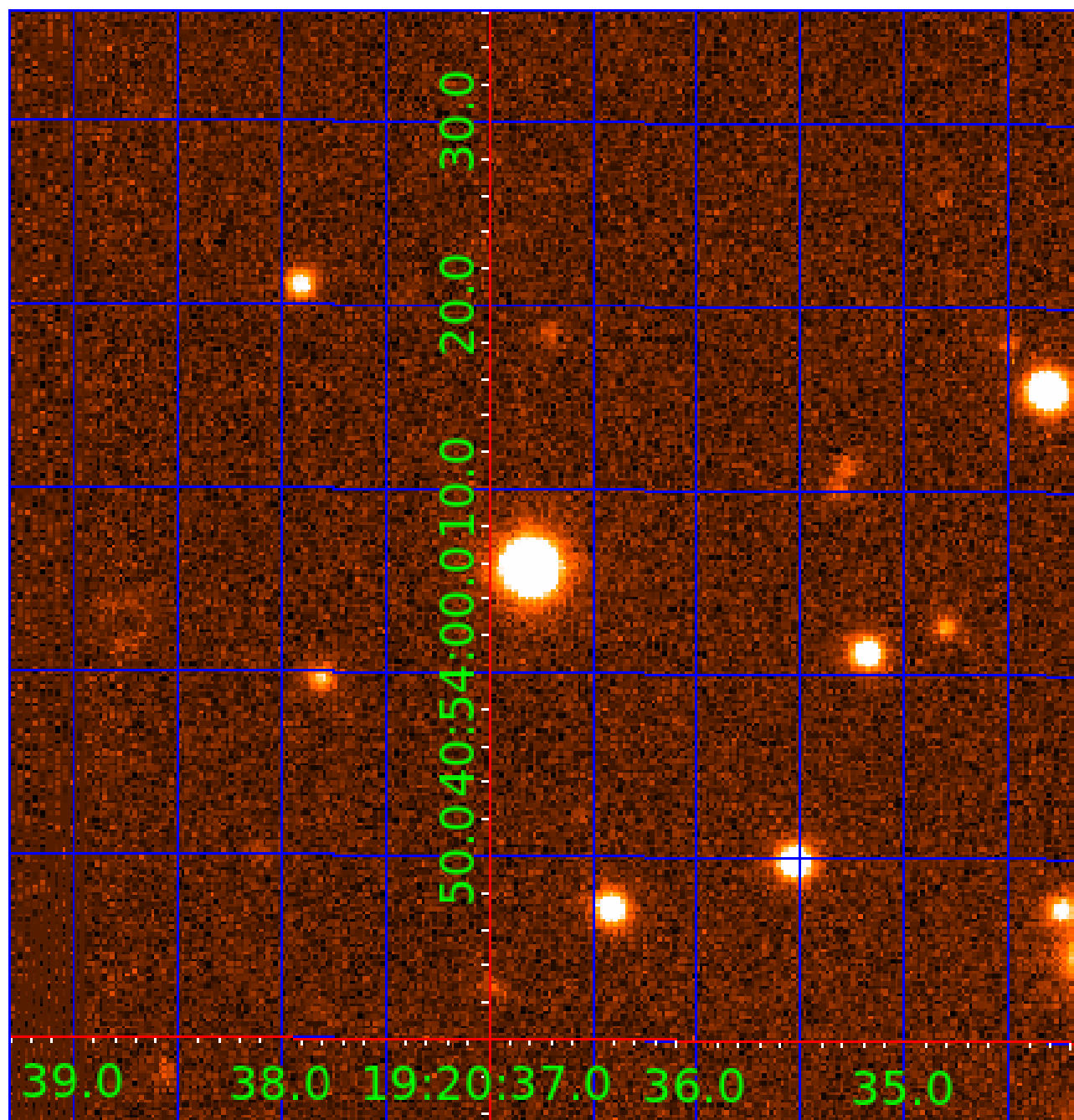


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005700330

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|--------|--------|-----------------------------|-----------------|------------------------|------------------------|
| 005700330-01 | OBS | 6616.01 | 53.220431 | 138.579640 | 73204.5 | 17.732 | 2963.0 | 2703.6 | 2.06 | 5653 | 55.39 | 43.73 |
| 005700330-02 | OBS | No | 53.220452 | 181.681175 | 5512.3 | 8.532 | 230.1 | 220.4 | 2.06 | 5653 | 16.71 | 43.73 |
| 005700330-03 | OBS | No | 406.646842 | 327.771749 | 193.4 | 6.308 | 8.0 | 2.8 | 2.06 | 5653 | 3.41 | 2.90 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 005700330-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS |
| 005700330-02 | OBS | FP | 0.00 | 1 | 1 | 0 | 0 | IS_SEC_TCE—CENT_KIC_POS |
| 005700330-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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.

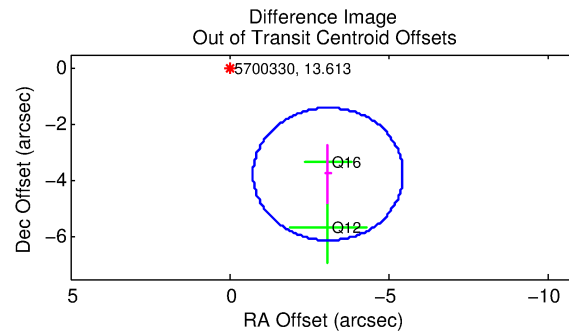
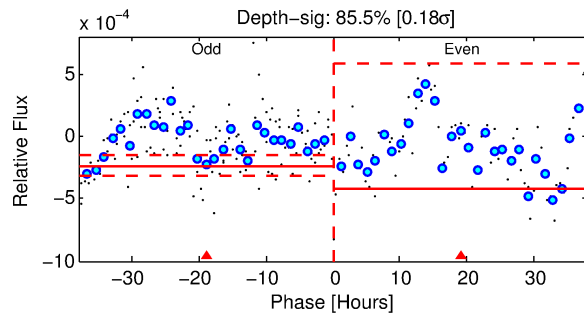
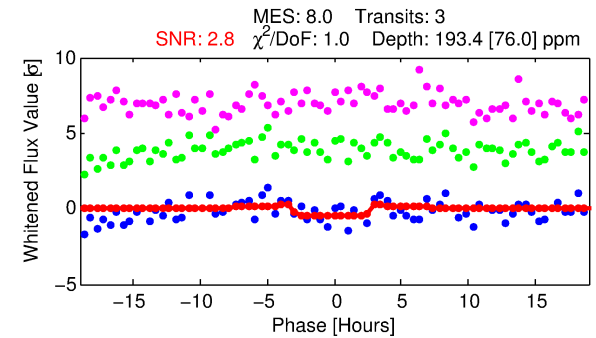
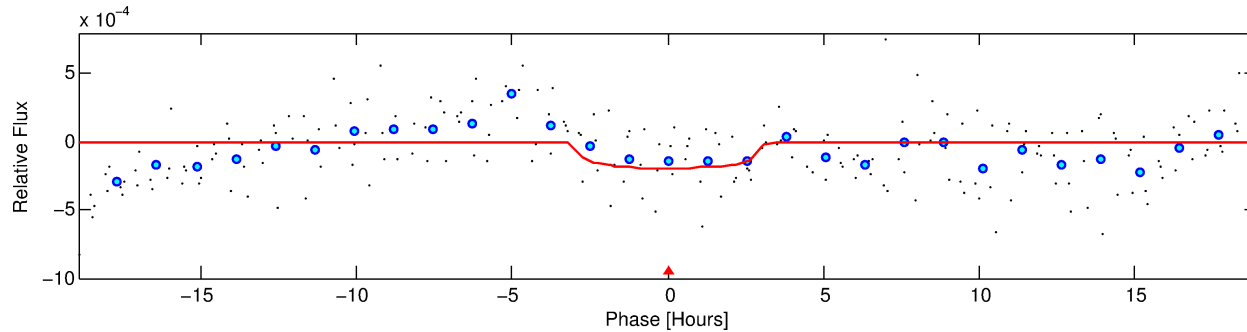
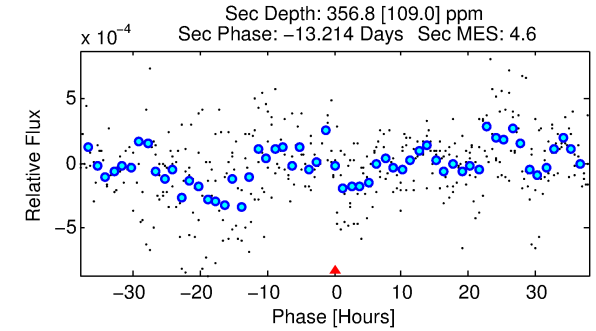
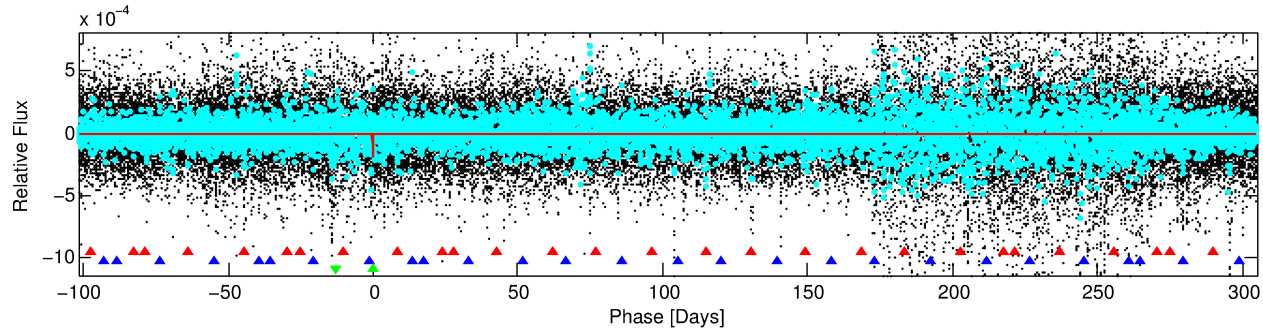
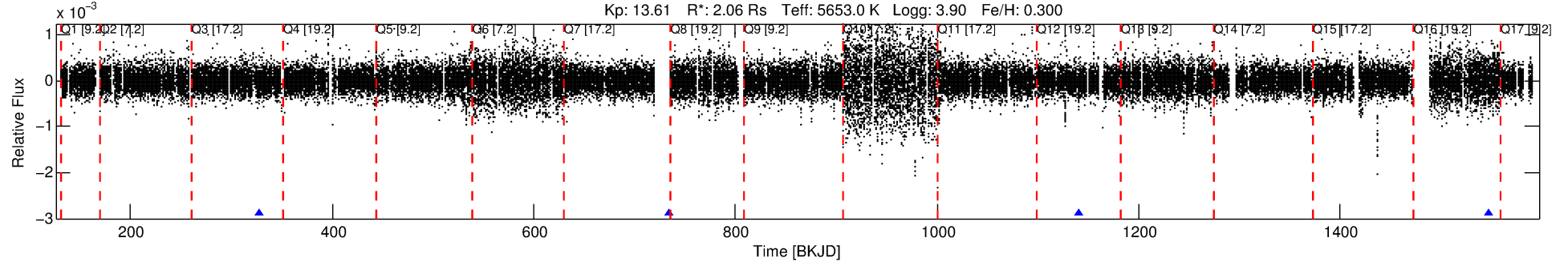
Ephemeris Match Information For 005700330-03

No Significant Match Found

DV One-Page Summary

KIC: 5700330 Candidate: 3 of 3 Period: 406.647 d
KOI: K06616 Corr: No Ephemeris Match

Kp: 13.61 R*: 2.06 Rs Teff: 5653.0 K Logg: 3.90 Fe/H: 0.300



DV Fit Results:

Period = 406.64684 [0.01247] d
Epoch = 327.7717 [0.0226] BKJD
Rp/R* = 0.0152 [0.0097]
a/R* = 234.06 [614.67]
b = 0.90 [0.58]
Seff = 2.91 [1.13]
Teff = 333 [32] K
Rp = 3.41 [2.38] Re
a = 1.1543 [0.2913] AU
Ag = 22457.16 [30667.13] [0.73σ]
Teffp = 6301 [2067] K [2.89σ]

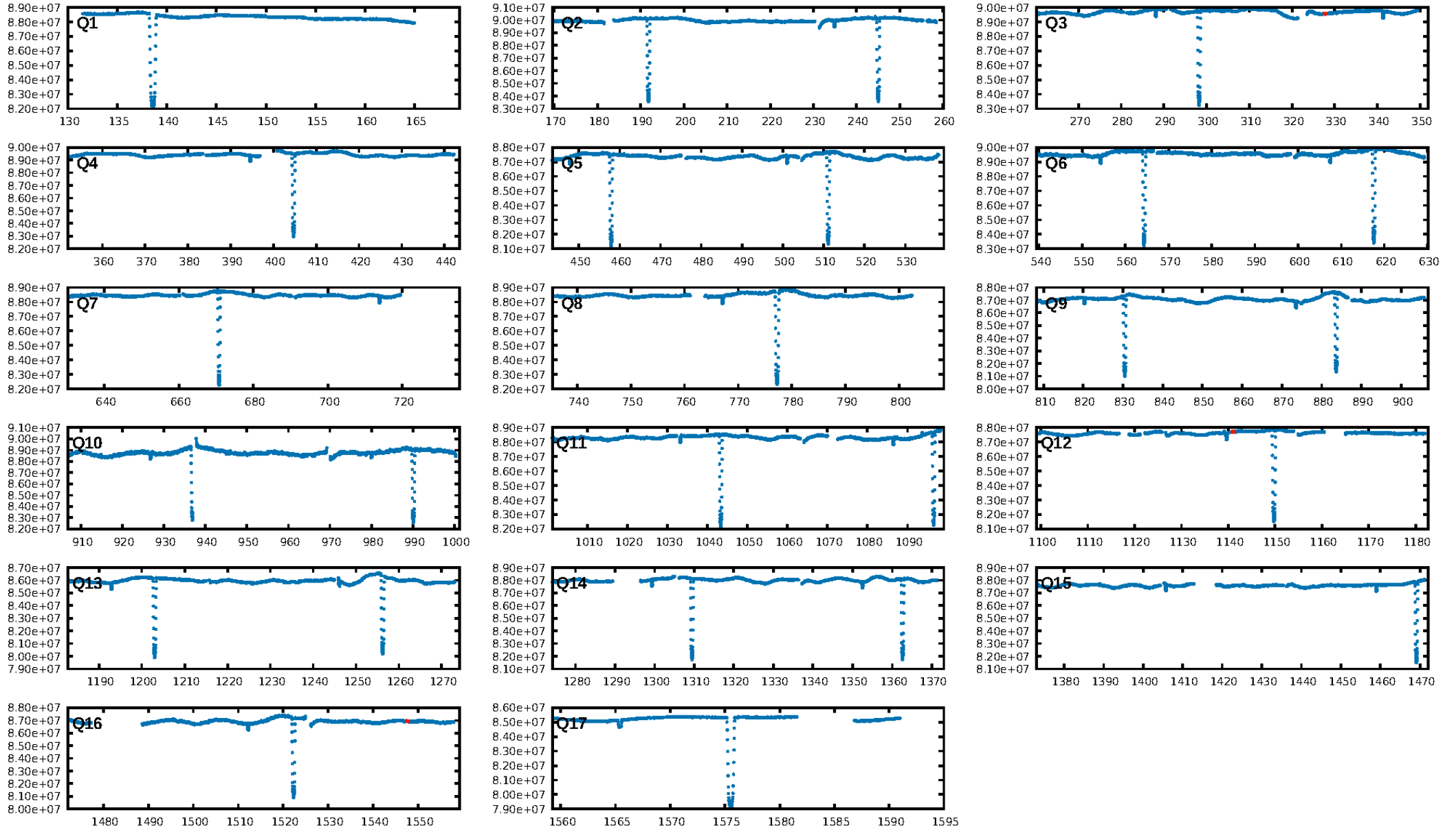
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [799.41σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 68.0%
ModelChiSquareGof-sig: 88.1%
Bootstrap-pfa: 9.09e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.777
Centroid-sig: 46.0%
Centroid-so: 1.605 arcsec [0.77σ]
OotOffset-rm: 4.884 arcsec [6.21σ]
KicOffset-rm: 5.202 arcsec [6.79σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

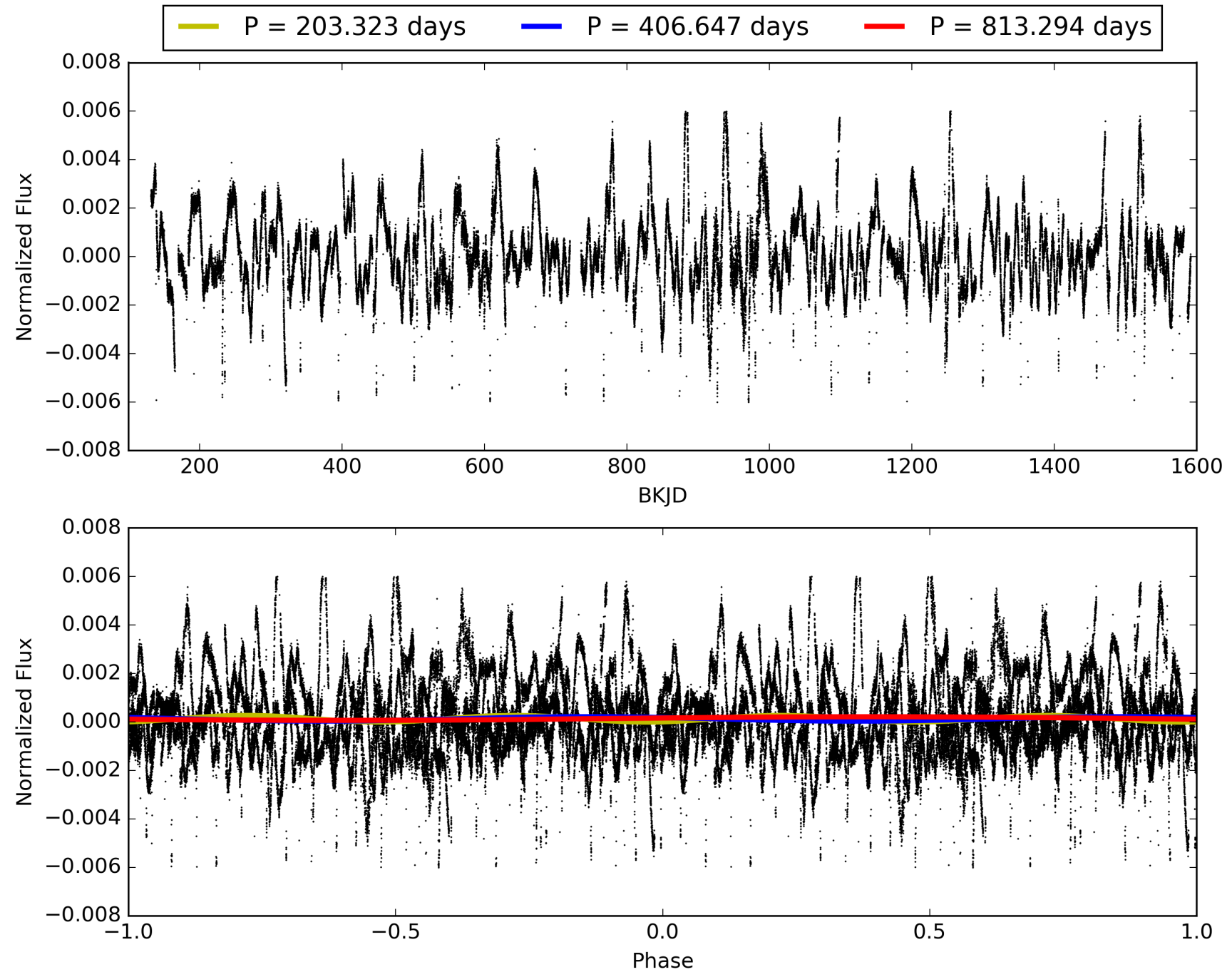
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:22:36 Z

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

TCE 005700330-03, PDC Light Curves

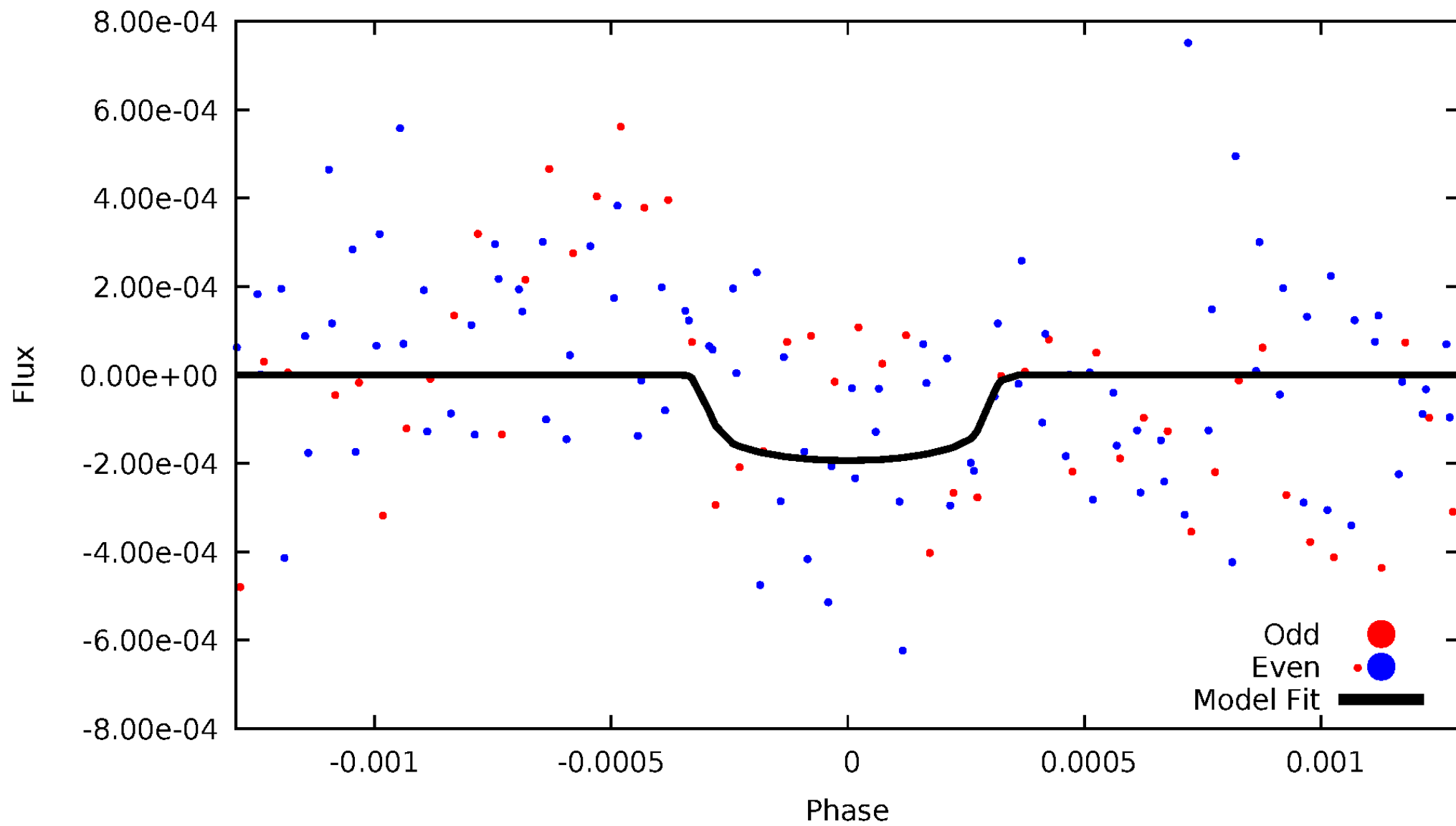


TCE 005700330-03



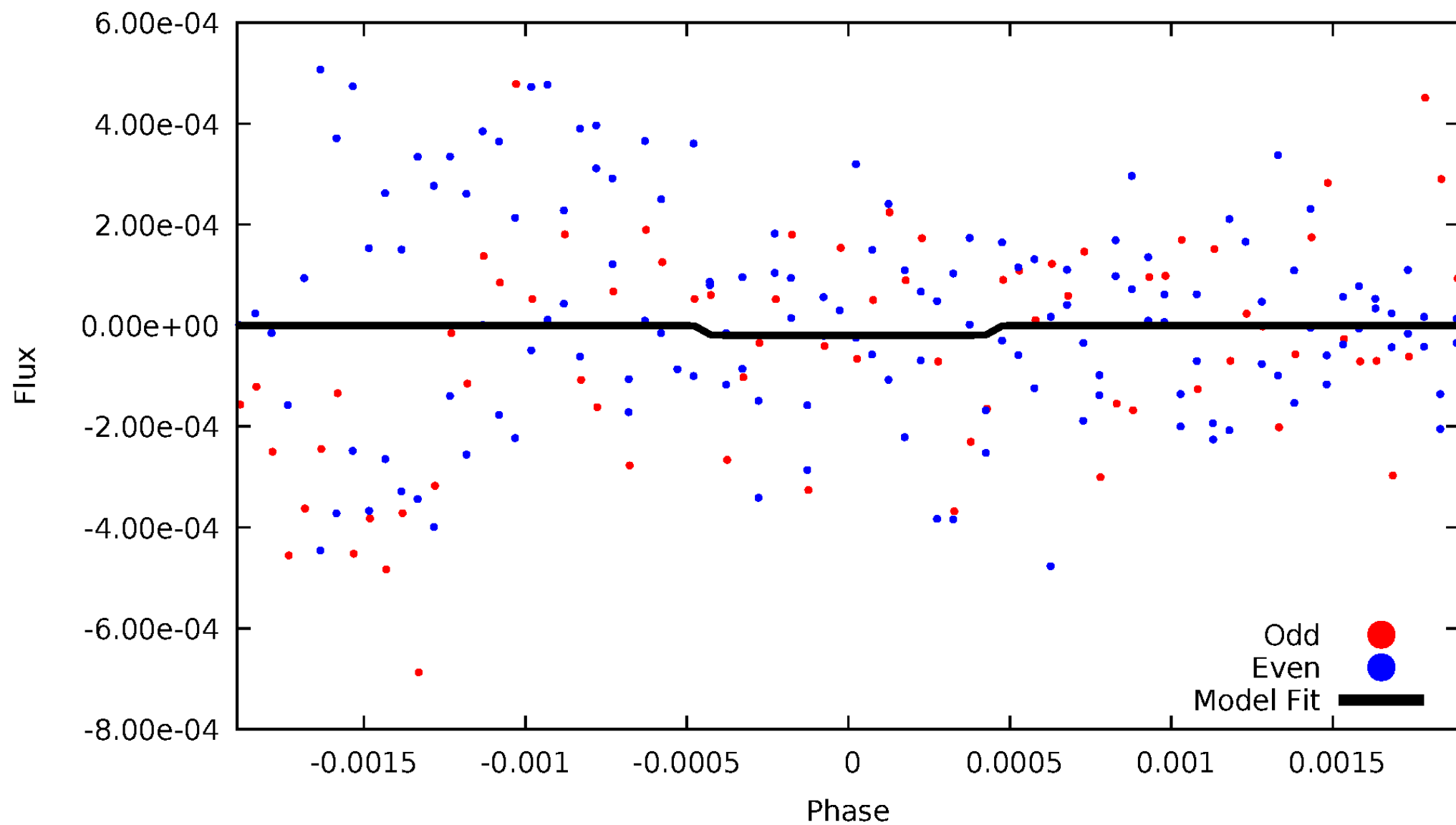
DV Odd/Even

TCE 005700330-03

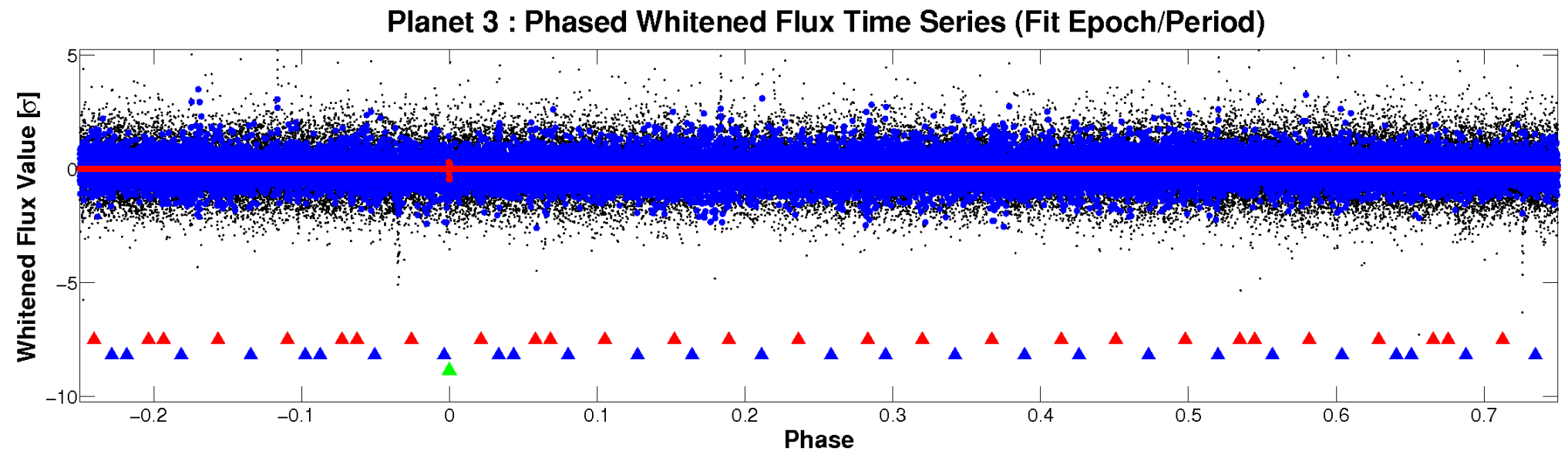
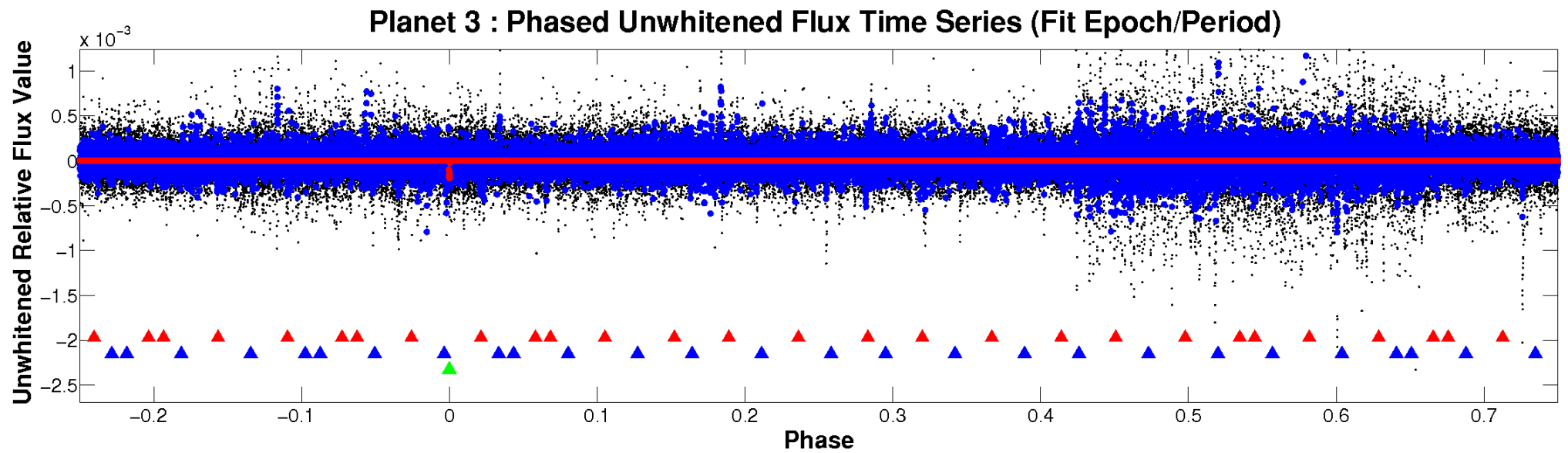


ALT Odd/Even

TCE 005700330-03

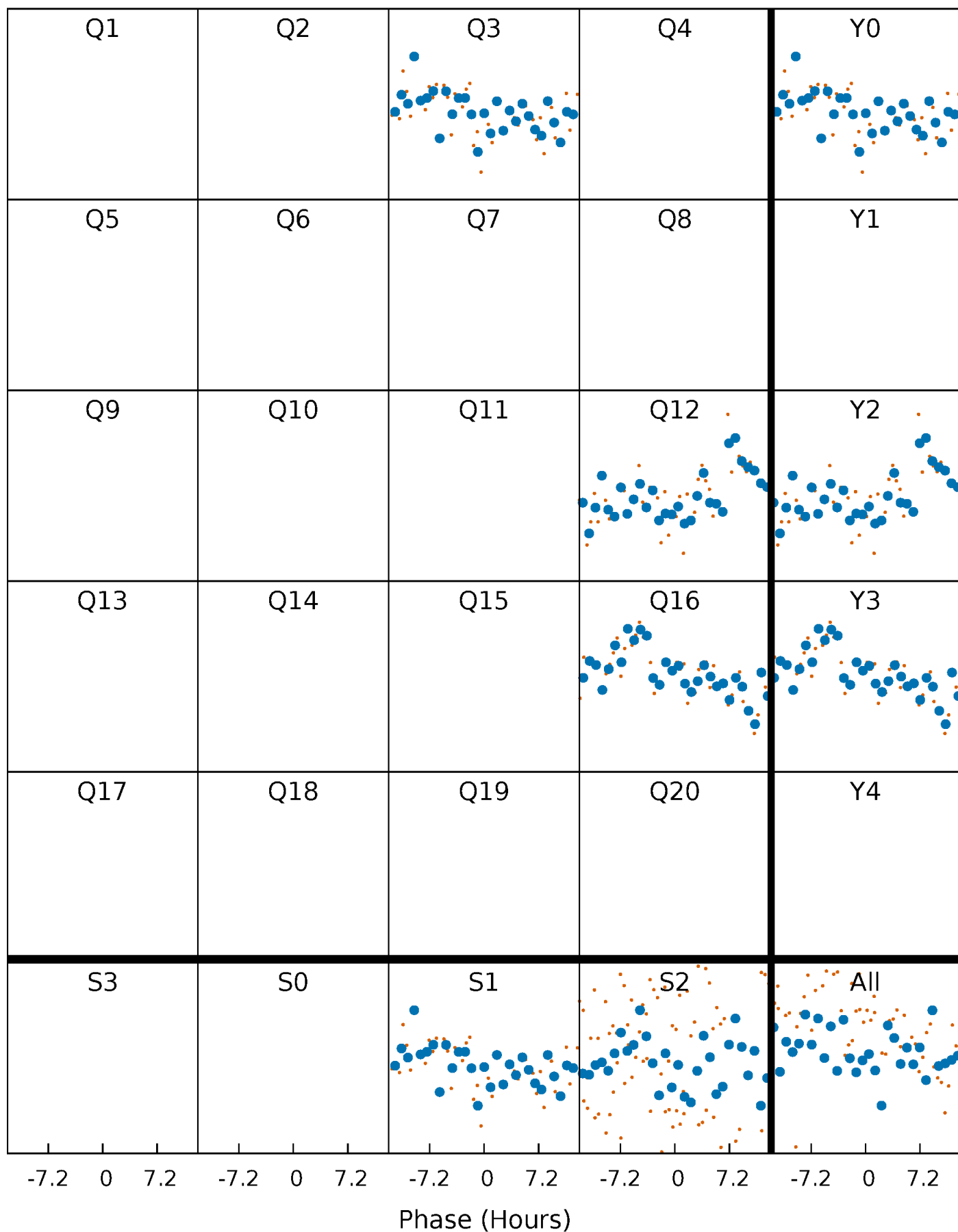


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 005700330-03 $P=406.646842$ Days $T_0=327.771749$ (BKJD)



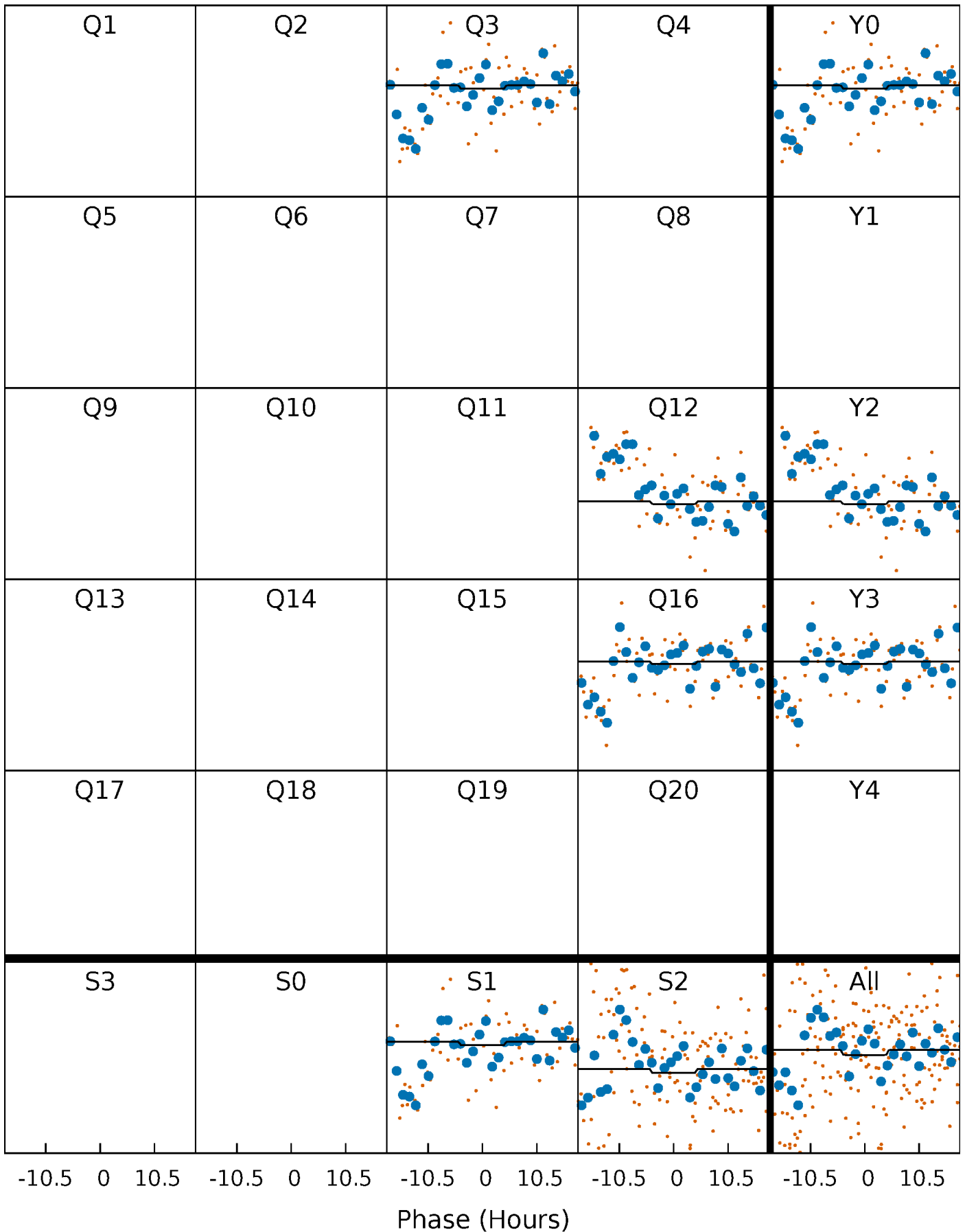
DV Quarter-Phased Transit Curves

TCE 005700330-03 $P=406.646842$ Days $T_0=327.771749$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

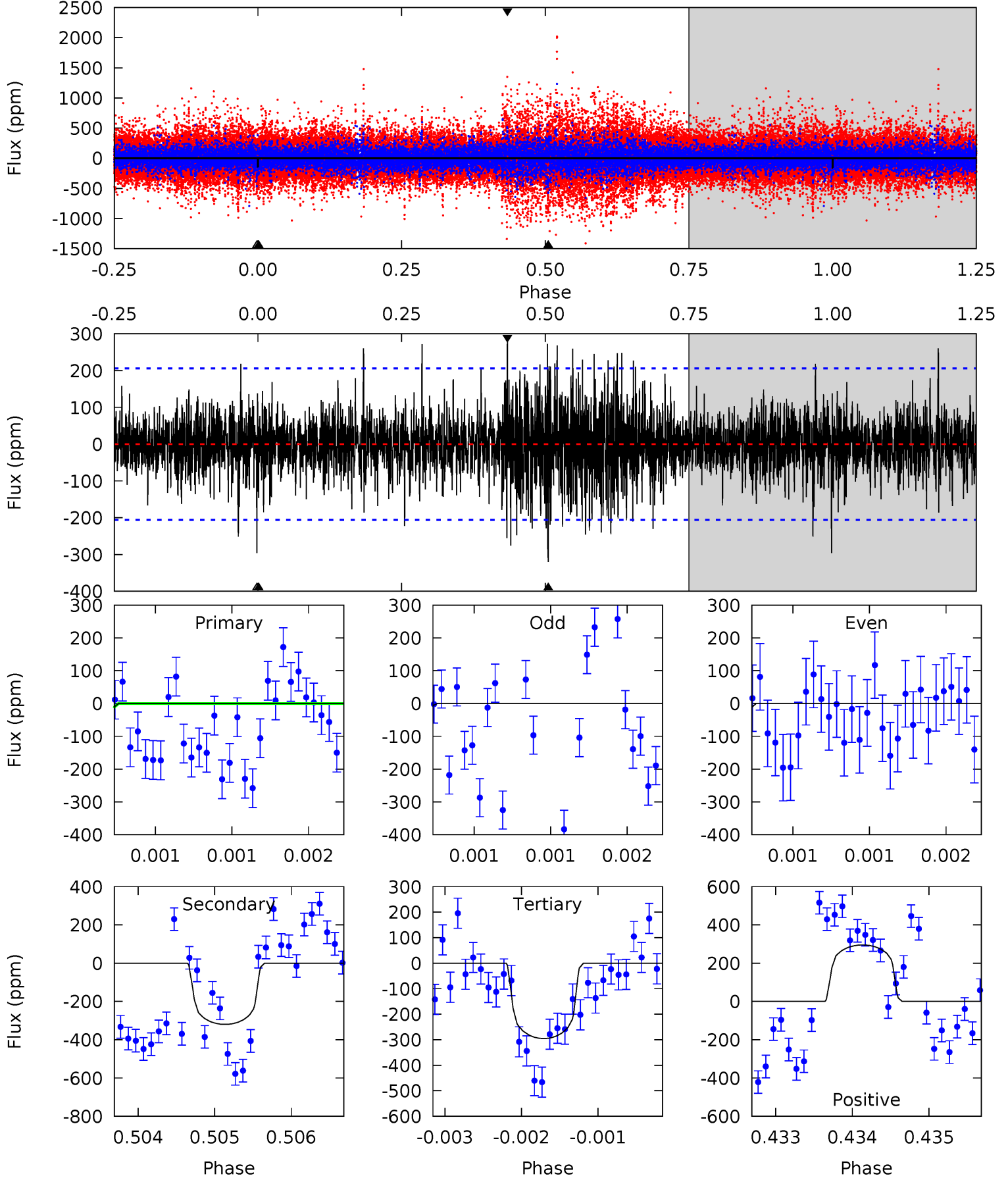
TCE 005700330-03 P=406.607410 Days $T_0=327.643120$ (BKJD)



DV Model-Shift Uniqueness Test

005700330-03, P = 406.646842 Days, E = 327.771749 Days

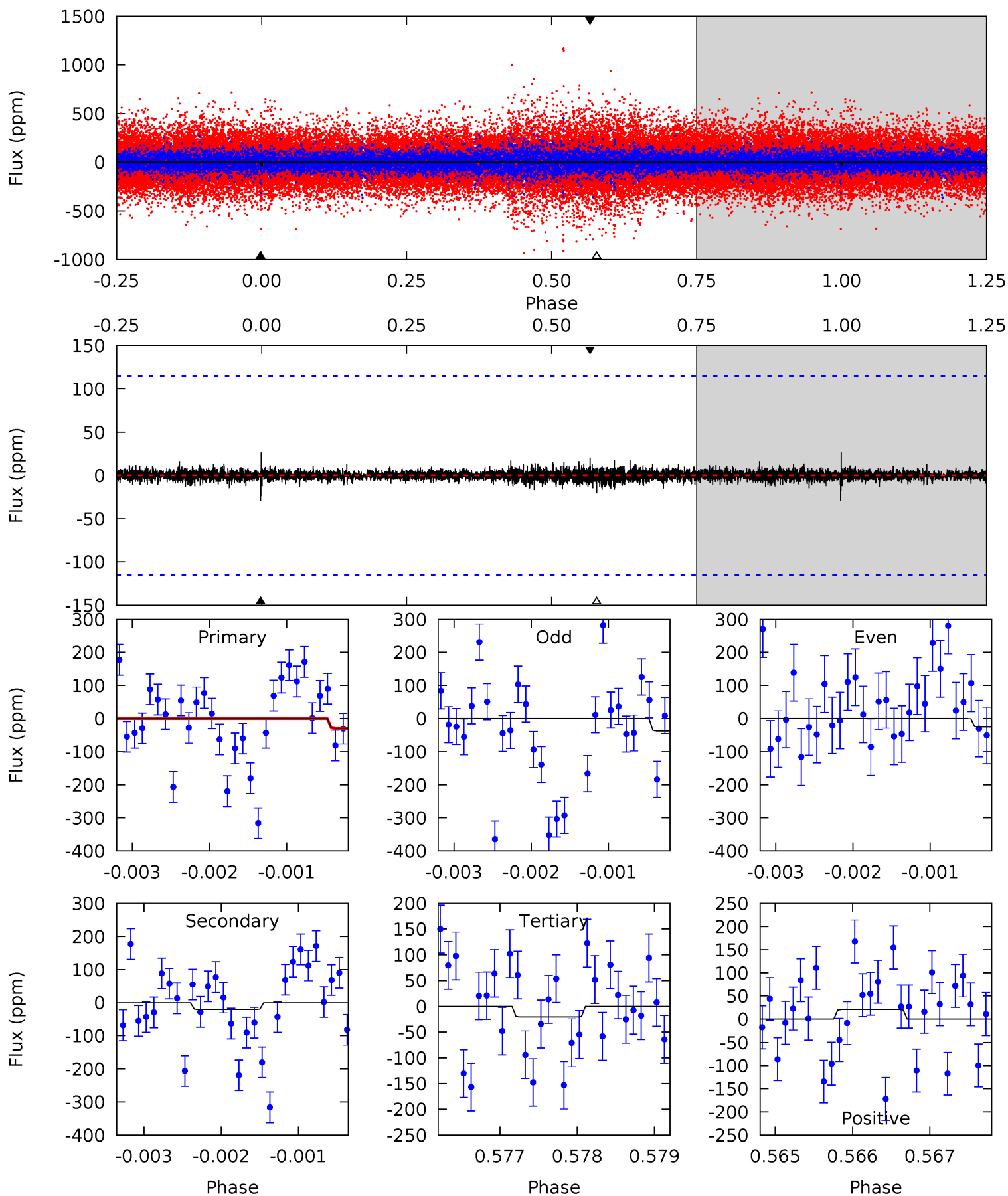
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 3.91 | 8.56 | 7.91 | 7.91 | 5.52 | 3.39 | 1.77 | -4.00 | -4.00 | 0.65 | 0.66 | 0.92 | 1.33 | 0.48 | 0.25 |



Alt Model-Shift Uniqueness Test

005700330-03, P = 406.607410 Days, E = 327.643120 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 1.40 | 0.99 | 0.99 | 0.98 | 5.45 | 3.29 | 0.18 | 0.41 | 0.42 | 0.01 | 0.01 | 0.28 | 0.83 | 0.47 | 0.02 |



Stellar Parameters For KIC 005700330

| | $T_{\text{eff}} (K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5653^{+84}_{-76} | $3.905^{+0.217}_{-0.093}$ | $0.300^{+0.150}_{-0.150}$ | $2.057^{+0.292}_{-0.585}$ | $1.240^{+0.096}_{-0.165}$ | $0.201^{+0.251}_{-0.059}$ |
| | +1%/-1% | +6%/-2% | +50%/-50% | +14%/-28% | +8%/-13% | +125%/-29% |
| Source | SPE68 | SPE68 | SPE68 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005700330-03 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|------------------------|---------------------------|
| DV | -320 ± 37 | $3.43^{+2.22}_{-1.84}$ | 461^{+20}_{-32} | 5935^{+3094}_{-1171} | 19429^{+71056}_{-12175} |
| Alt. | -21 ± 21 | $1.80^{+1.75}_{-1.16}$ | 462^{+21}_{-30} | 4187^{+2852}_{-1445} | 3815^{+36012}_{-3596} |

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

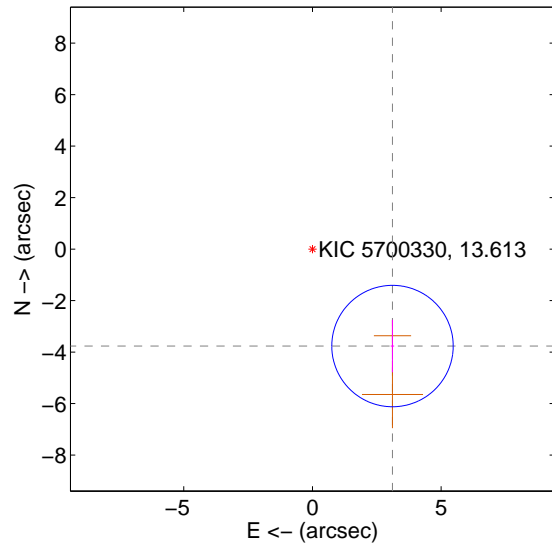
Supplemental centroid analysis for 005700330-03. Kepler magnitude: 13.61. Transit SNR 2.81

There are 0 quarters with good PRF difference image offsets

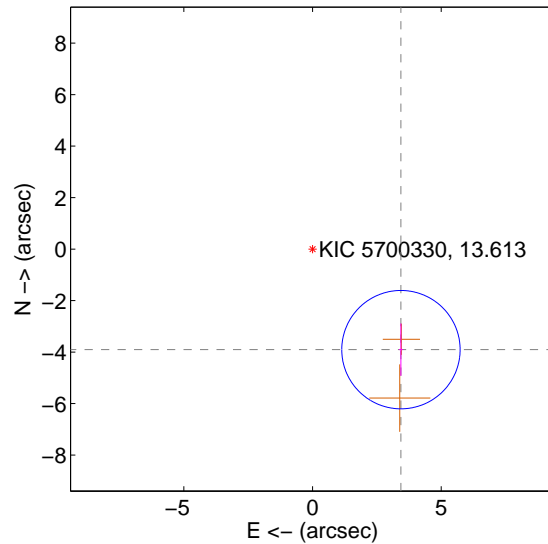
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 4.884 ± 0.786 | 6.21 | -3.110 ± 0.067 | -3.766 ± 1.018 |
| PRF-fit source offset from KIC position | 5.202 ± 0.766 | 6.79 | -3.435 ± 0.074 | -3.906 ± 1.018 |
| photometric centroid source offset | 1.61 ± 2.08 | 0.77 | -0.81 ± 2.27 | -1.39 ± 2.01 |

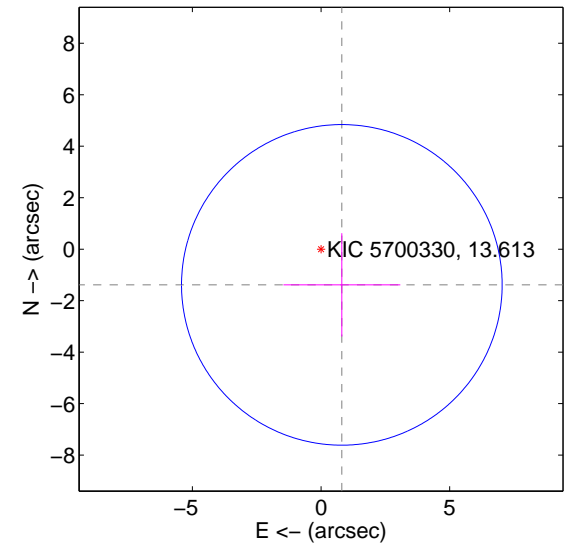
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



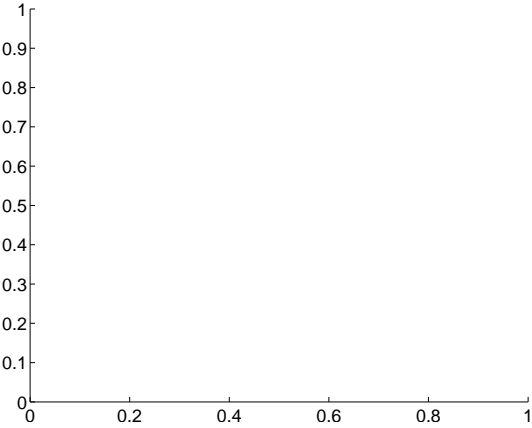
offset from photometric centroids



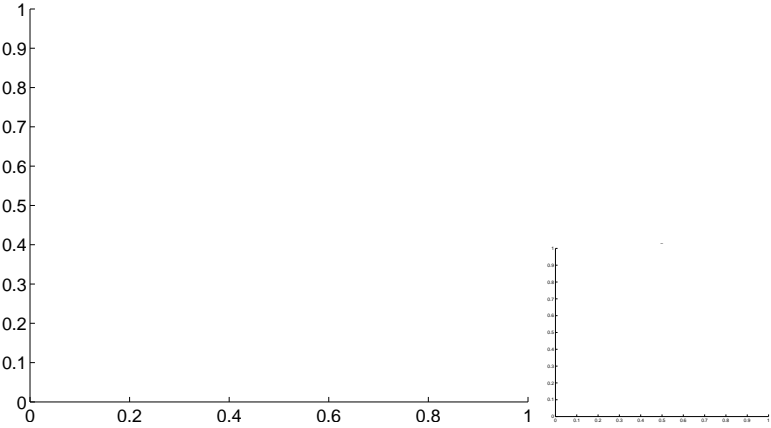
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

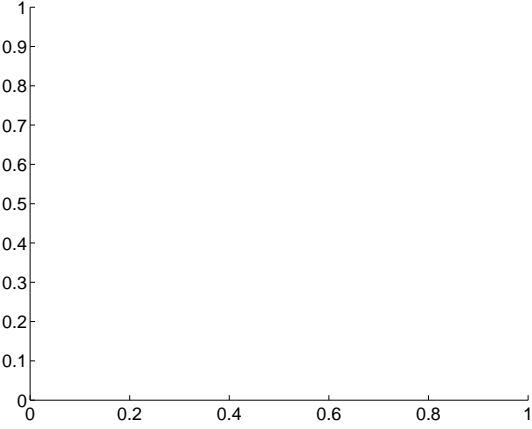
Q1 no difference image



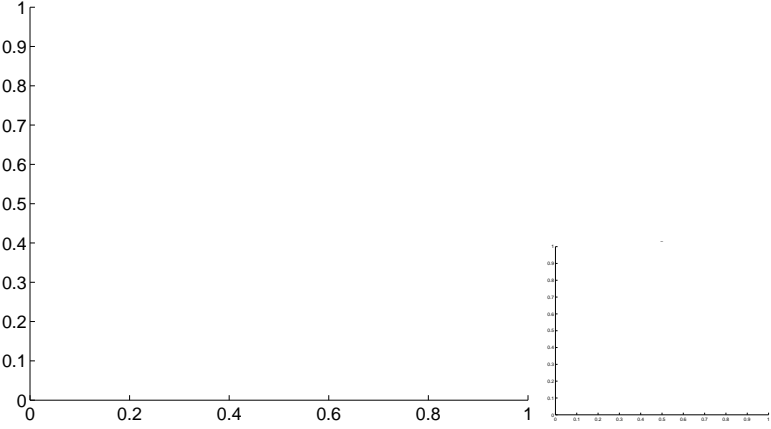
Q1 no OOT image



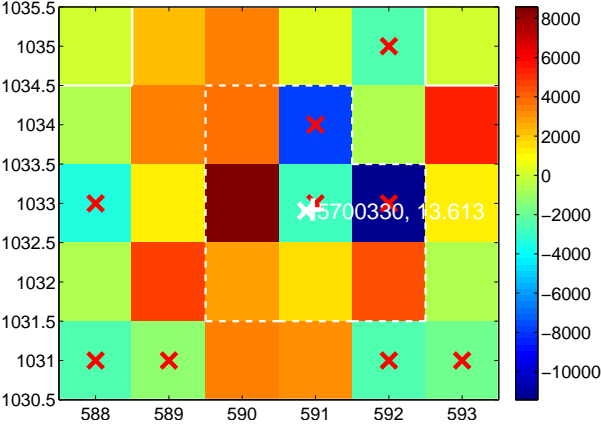
Q2 no difference image



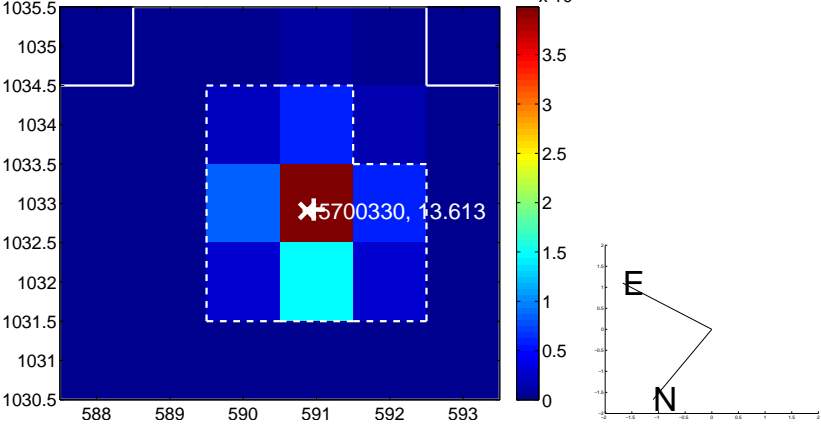
Q2 no OOT image



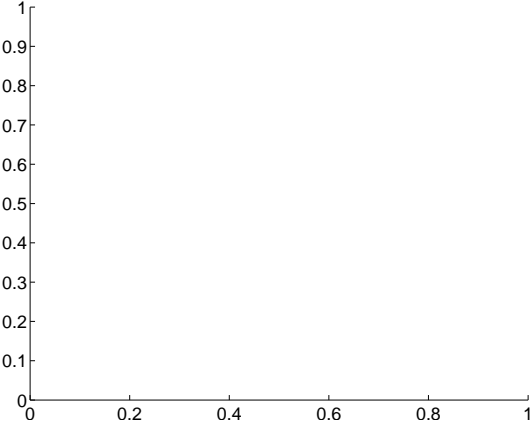
Q3 difference image. Poor Quality



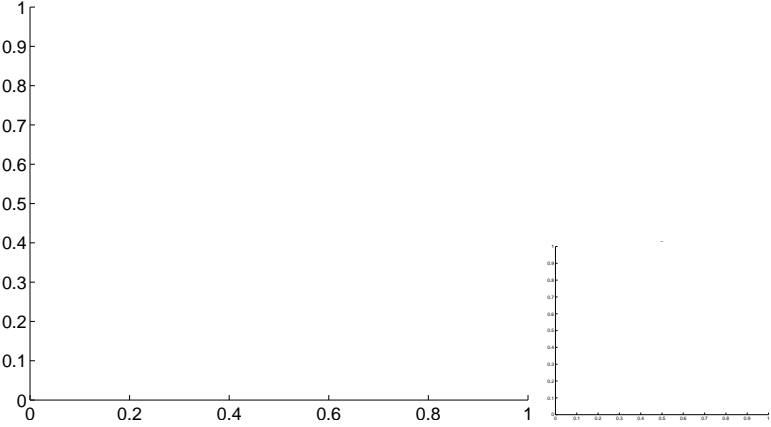
Q3 OOT image



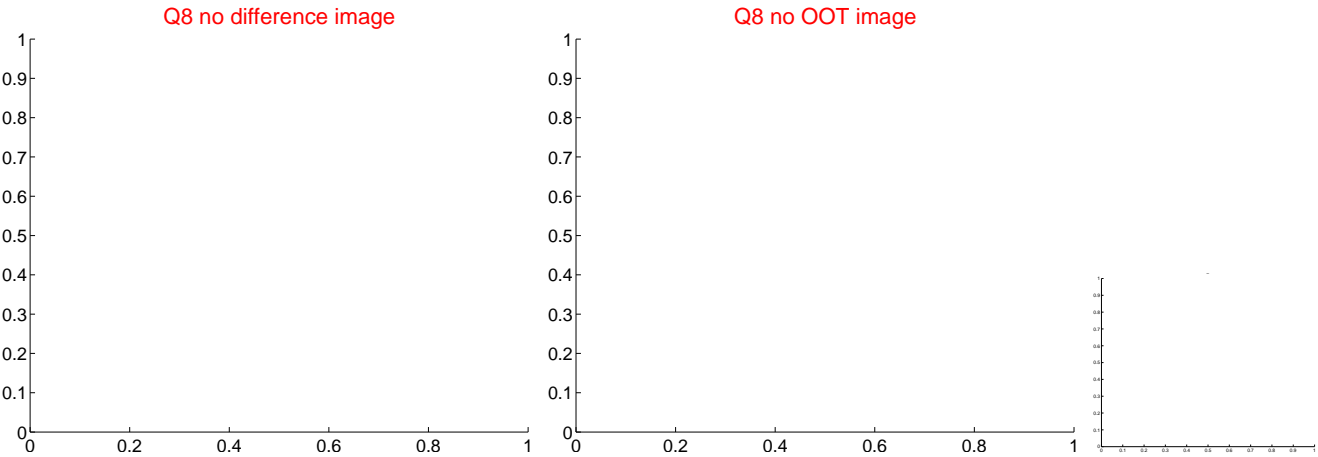
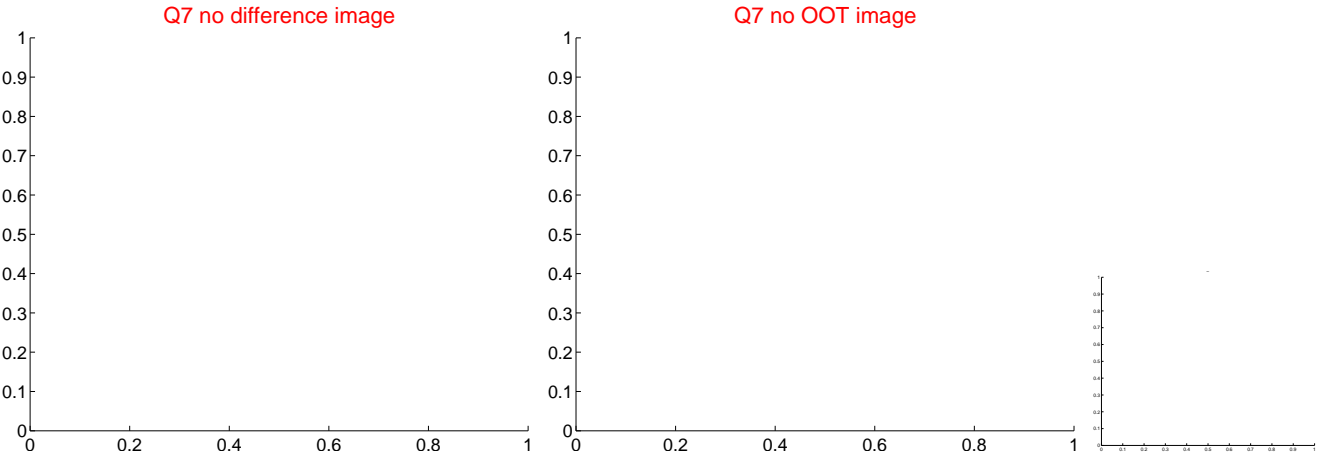
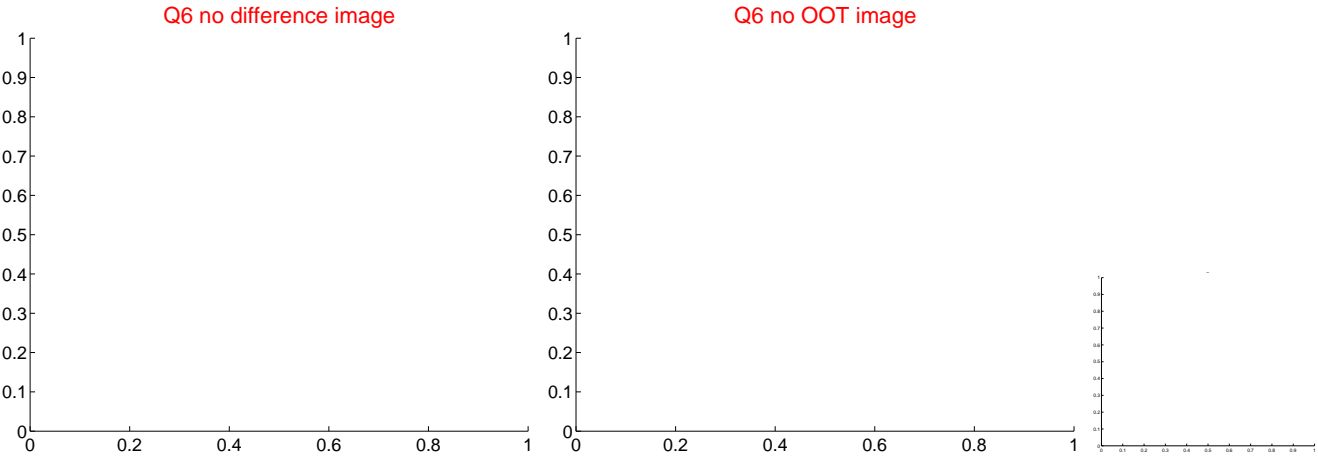
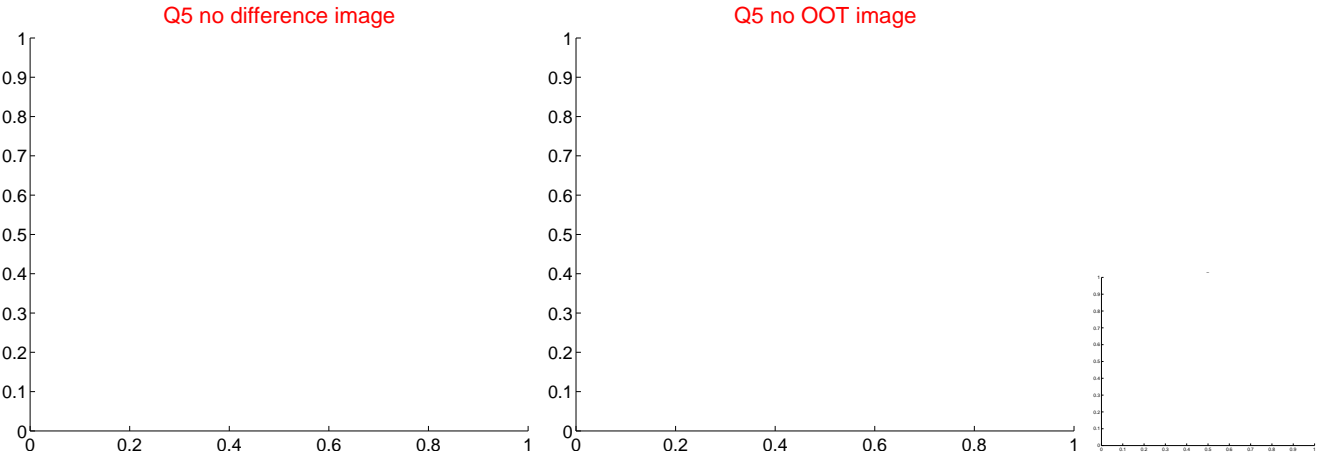
Q4 no difference image



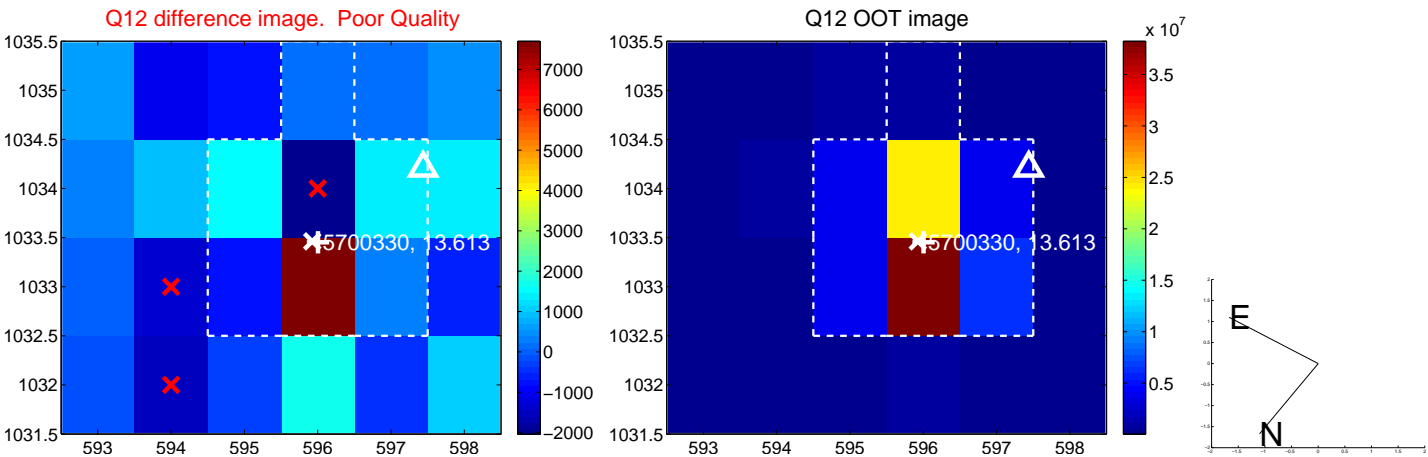
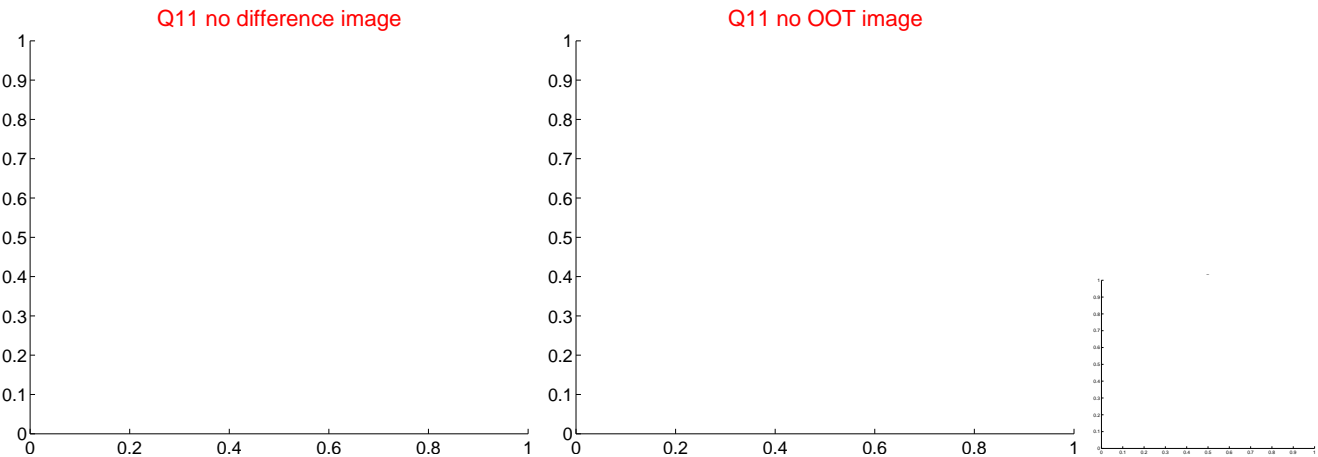
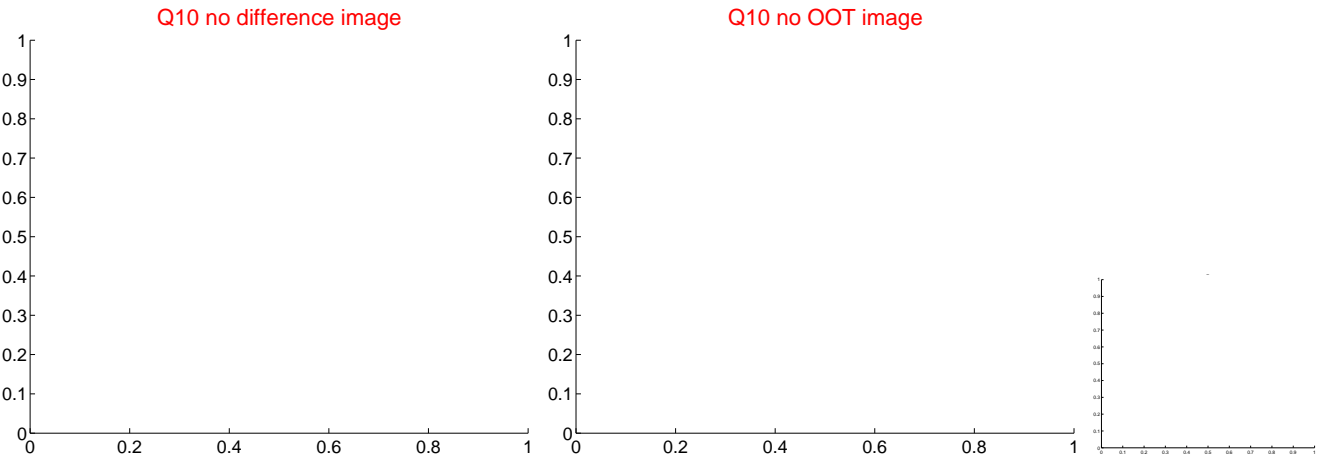
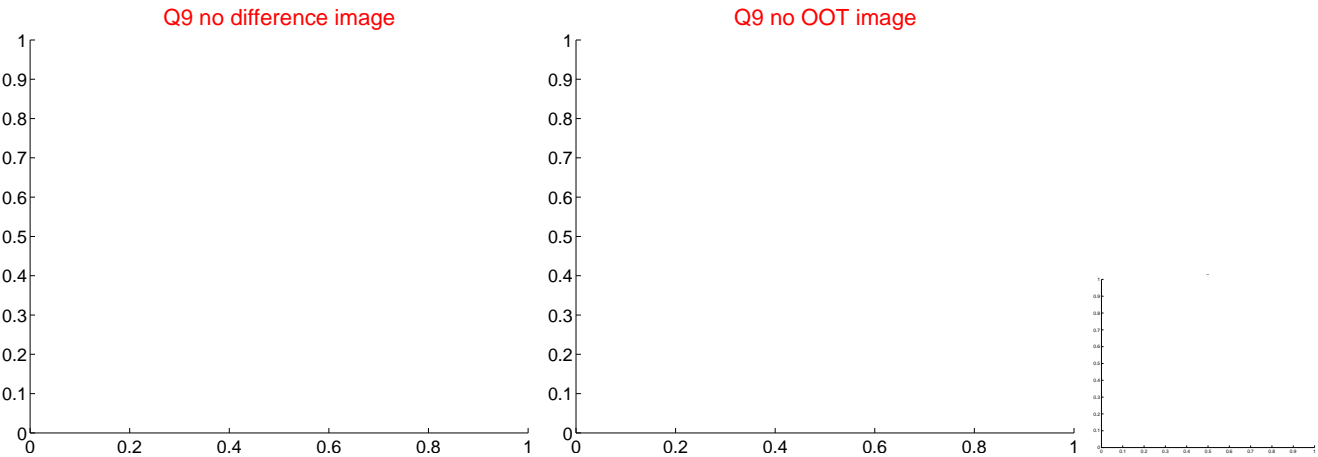
Q4 no OOT image



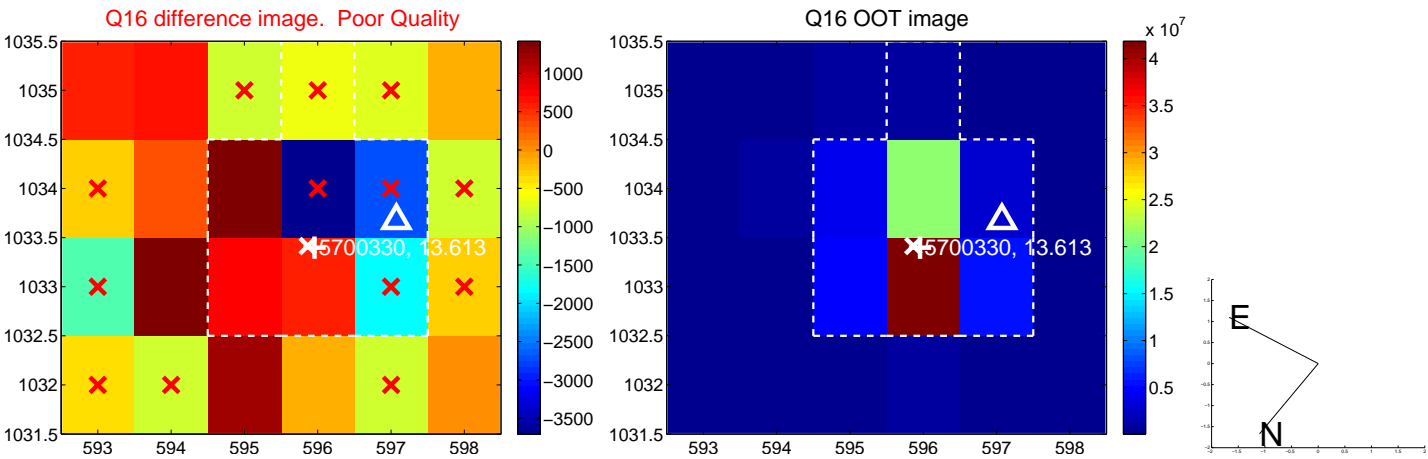
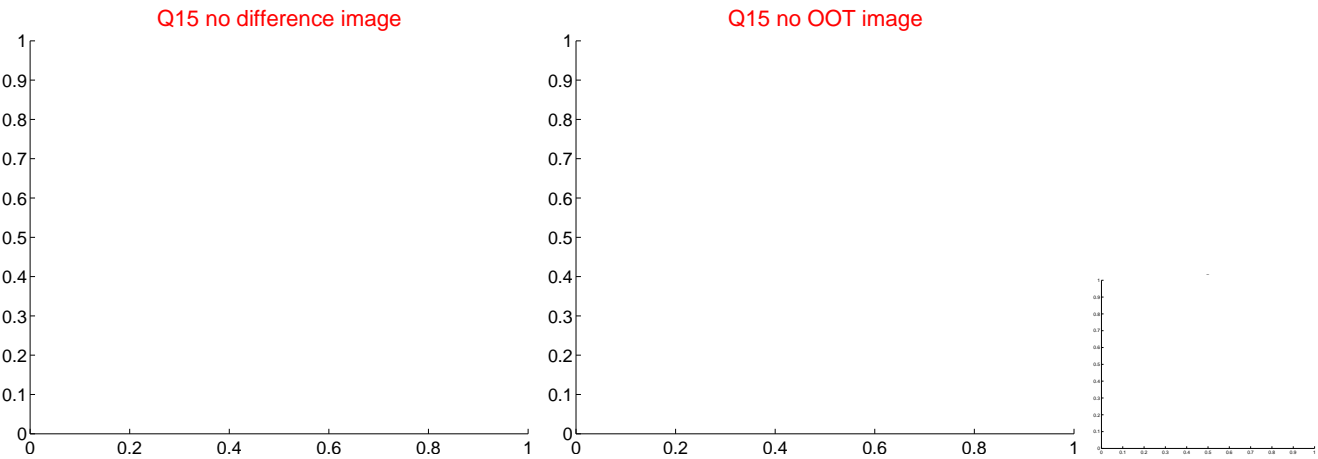
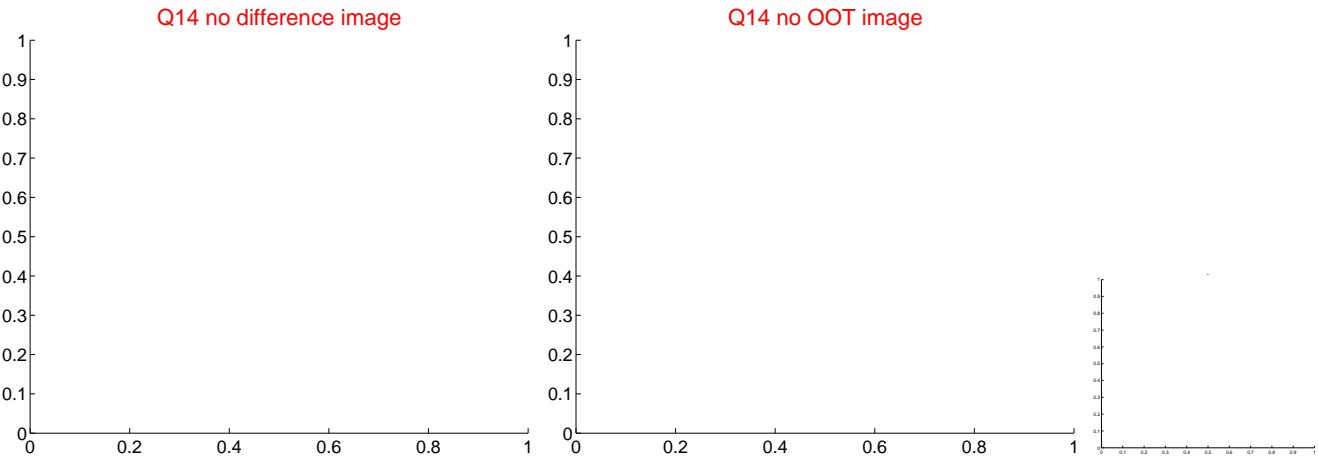
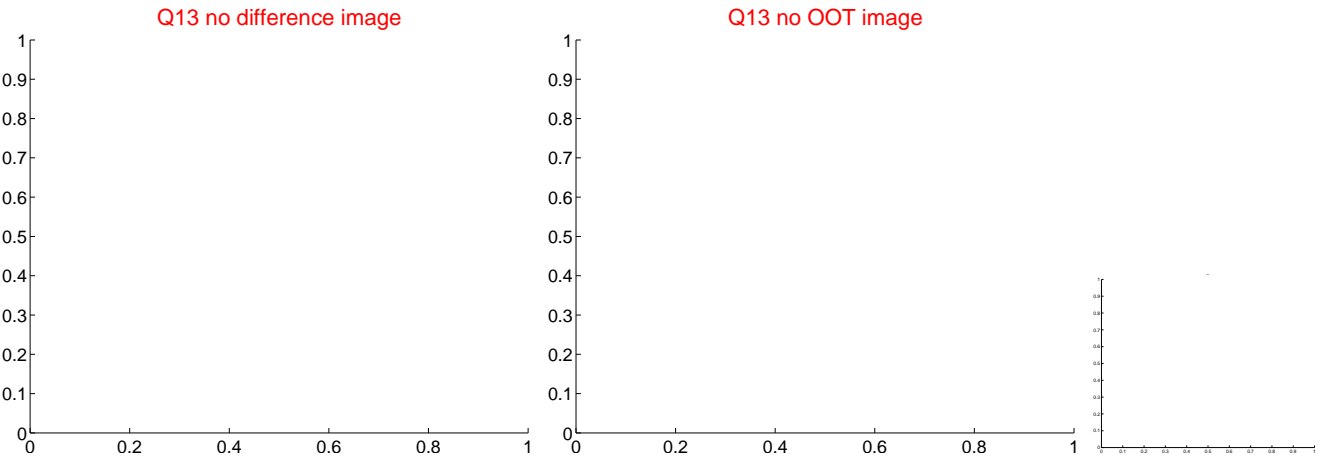
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



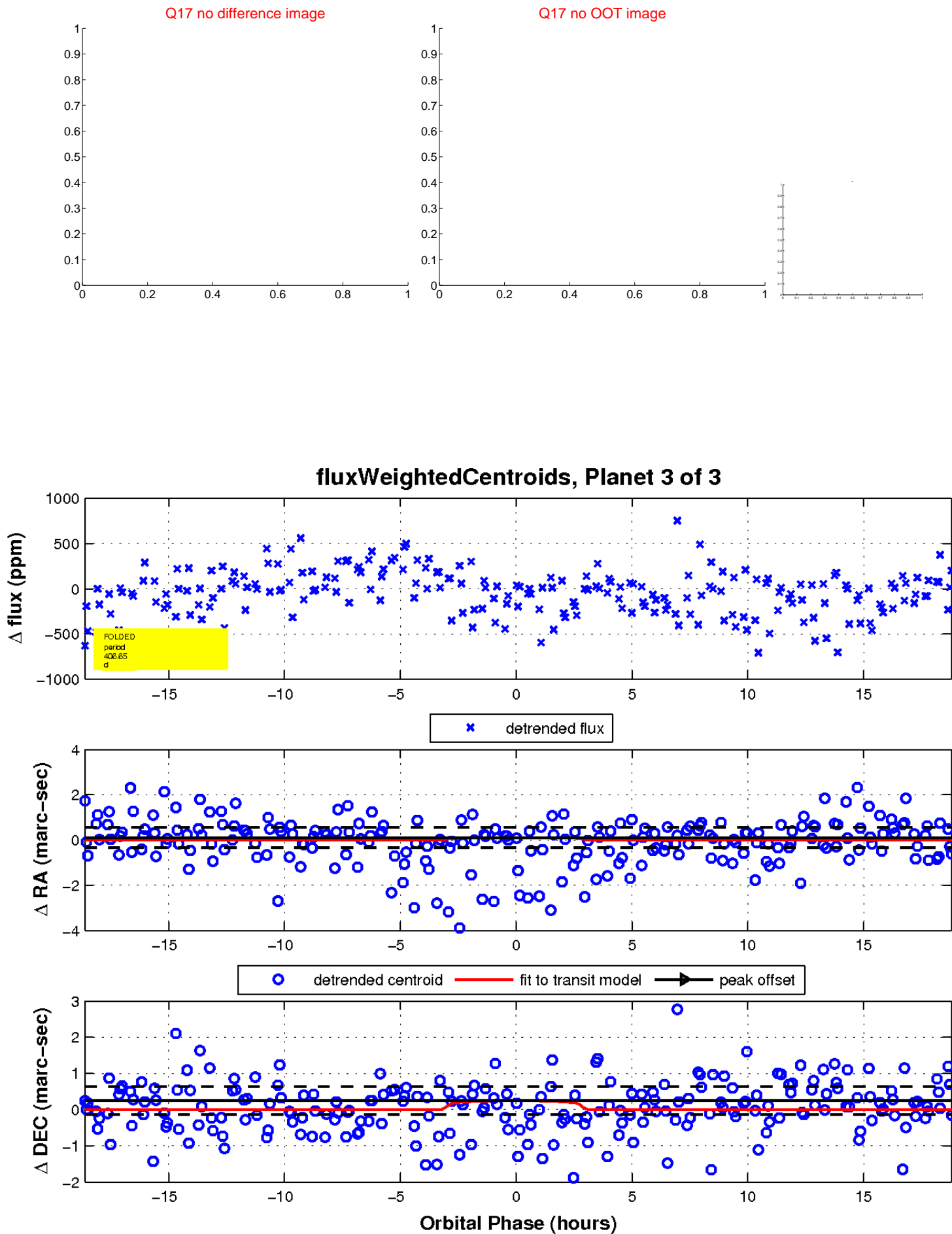
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



UKIRT Image

Declination

