

KIC 005607784

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 005607784-01 | OBS | No | 3.281768 | 131.838003 | 24.1 | 9.732 | 11.4 | 11.1 | 2.69 | 6622 | 1.55 | 4743.64 |
| 005607784-02 | OBS | No | 1.640888 | 131.609957 | 24.4 | 6.614 | 11.0 | 11.4 | 2.69 | 6622 | 1.33 | 11953.18 |
| 005607784-03 | OBS | No | 234.369627 | 157.930698 | 173.7 | 7.260 | 7.9 | 8.0 | 2.69 | 6622 | 3.97 | 16.01 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005607784-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV |
| 005607784-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | TRANS_GAPPED—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD |
| 005607784-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT |

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

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

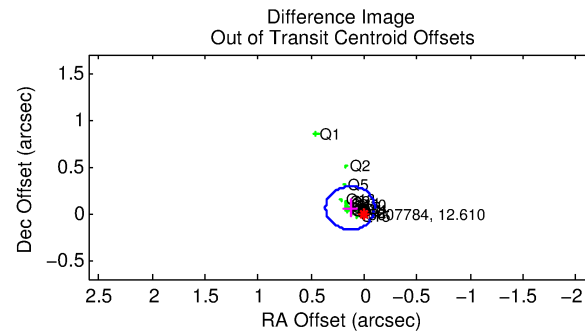
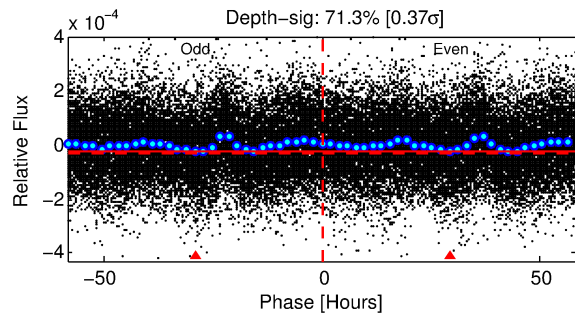
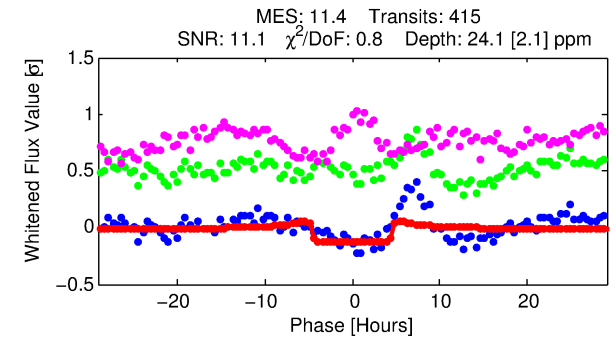
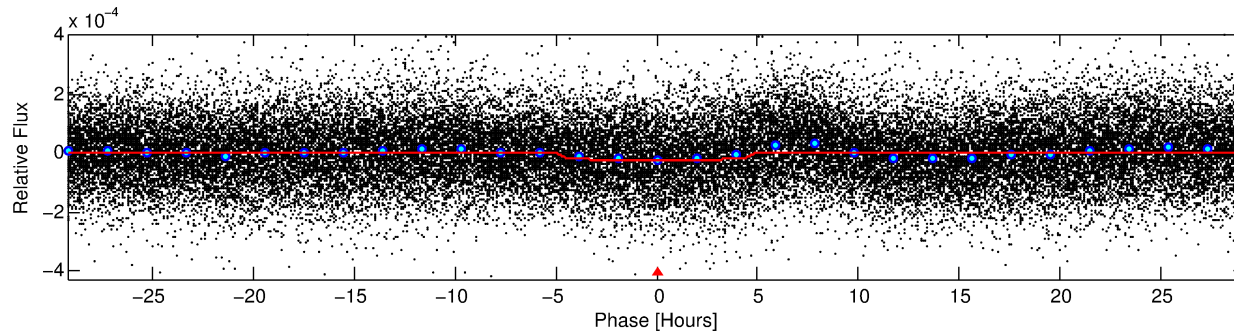
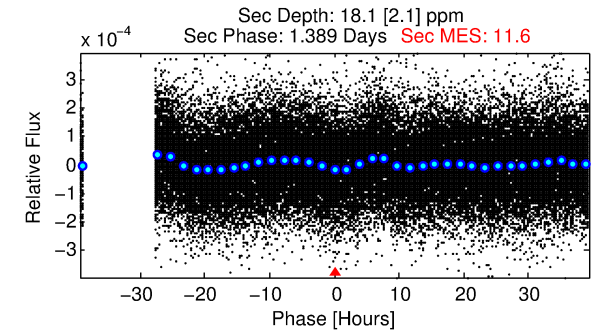
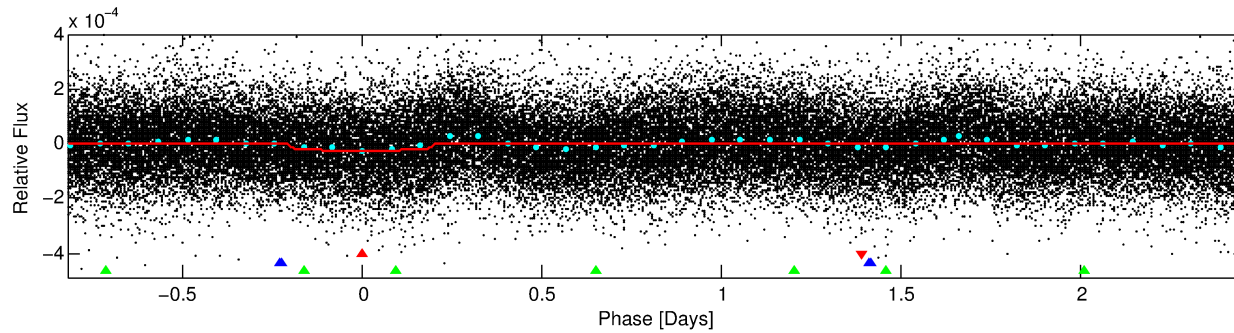
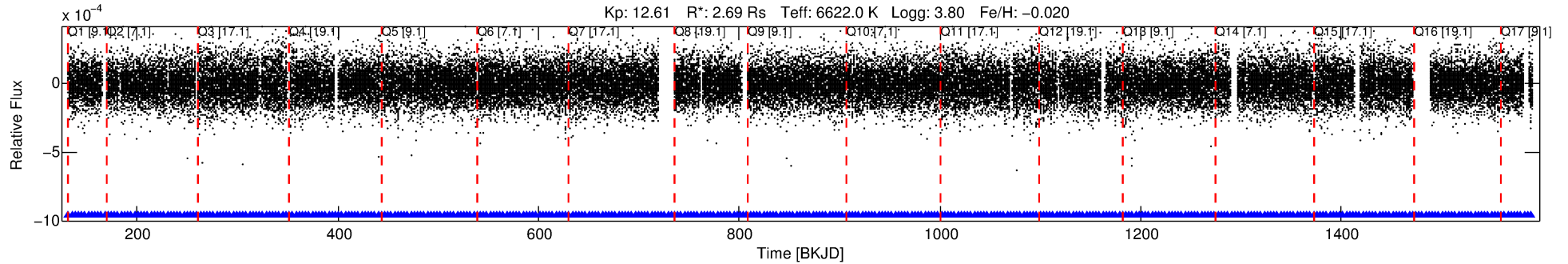
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005607784-01

No Significant Match Found

DV One-Page Summary

KIC: 5607784 Candidate: 1 of 3 Period: 3.282 d



DV Fit Results:

Period = 3.28177 [0.00003] d
Epoch = 131.8380 [0.0056] BKJD
Rp/R* = 0.0053 [0.0008]
a/R* = 1.46 [0.64]
b = 0.91 [0.16]
Seff = 4743.63 [3615.39]
Teq = 2116 [403] K
Rp = 1.55 [0.77] Re
a = 0.0512 [0.0238] AU
Ag = 10.90 [8.84] [1.12σ]
Teffp = 5946 [519] K [5.83σ]

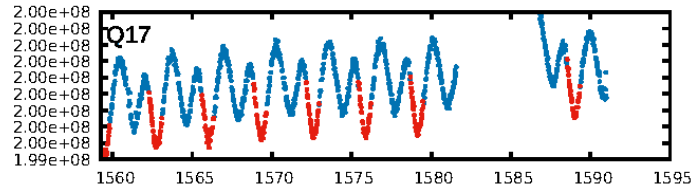
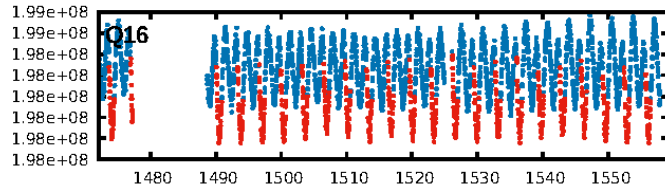
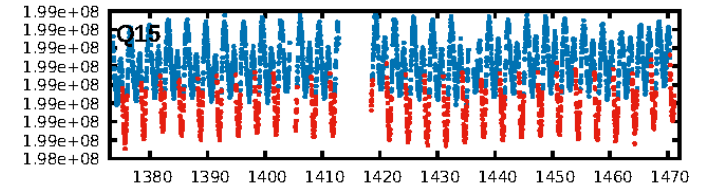
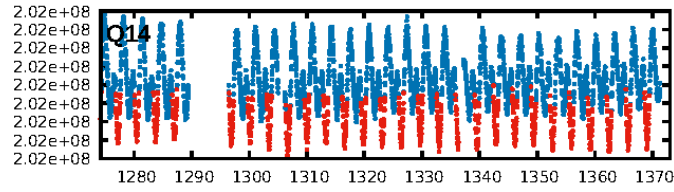
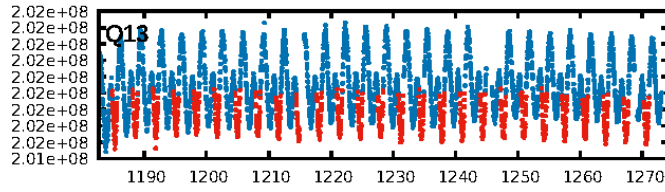
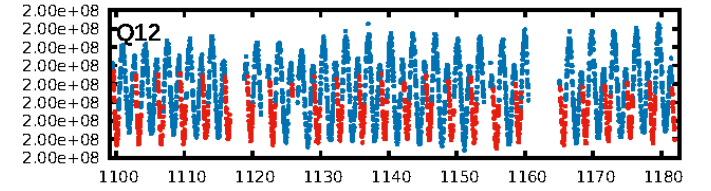
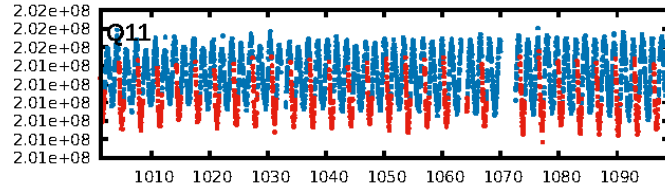
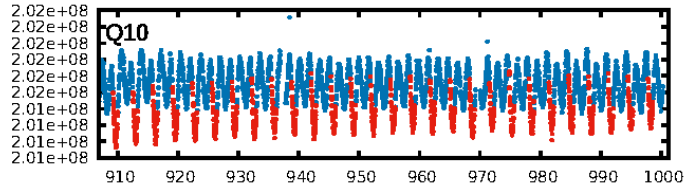
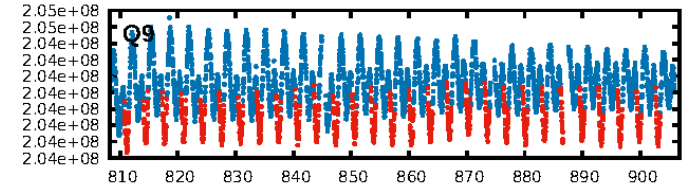
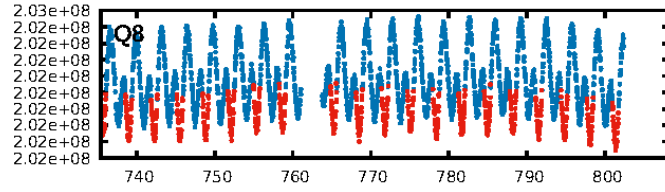
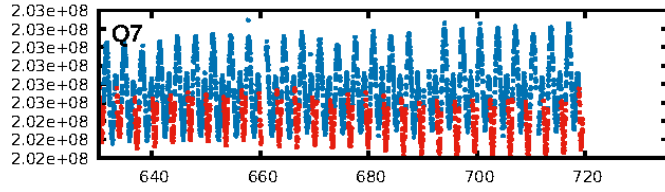
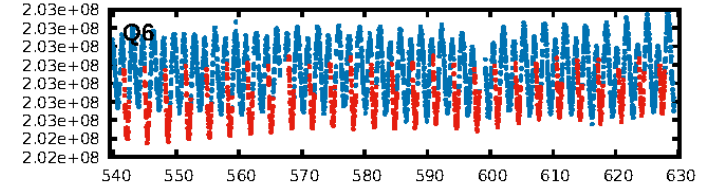
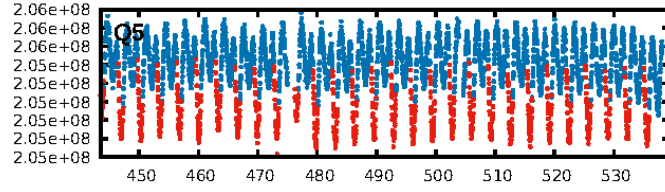
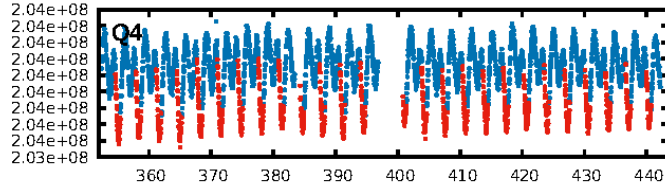
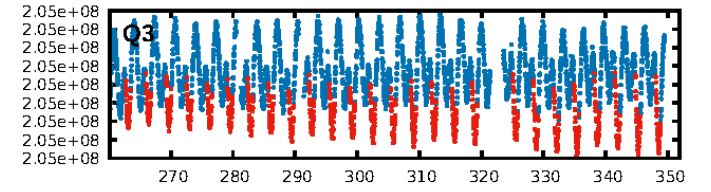
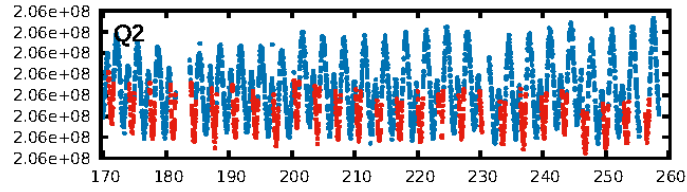
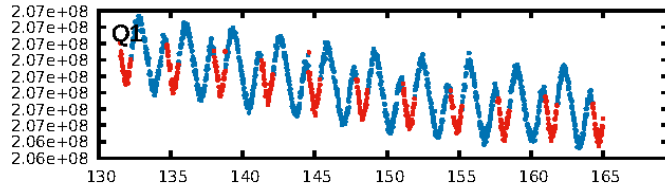
DV Diagnostic Results:

ShortPeriod-sig: 99.9% [3.35σ]
LongPeriod-sig: 100.0% [456.77σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.12e-22
RollingBand-fgt: 1.00 [396/396]
GhostDiagnostic-chr: 0.7014
Centroid-sig: 0.0%
Centroid-so: 2.153 arcsec [3.10σ]
OotOffset-rm: 0.141 arcsec [1.84σ]
KicOffset-rm: 0.172 arcsec [1.90σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

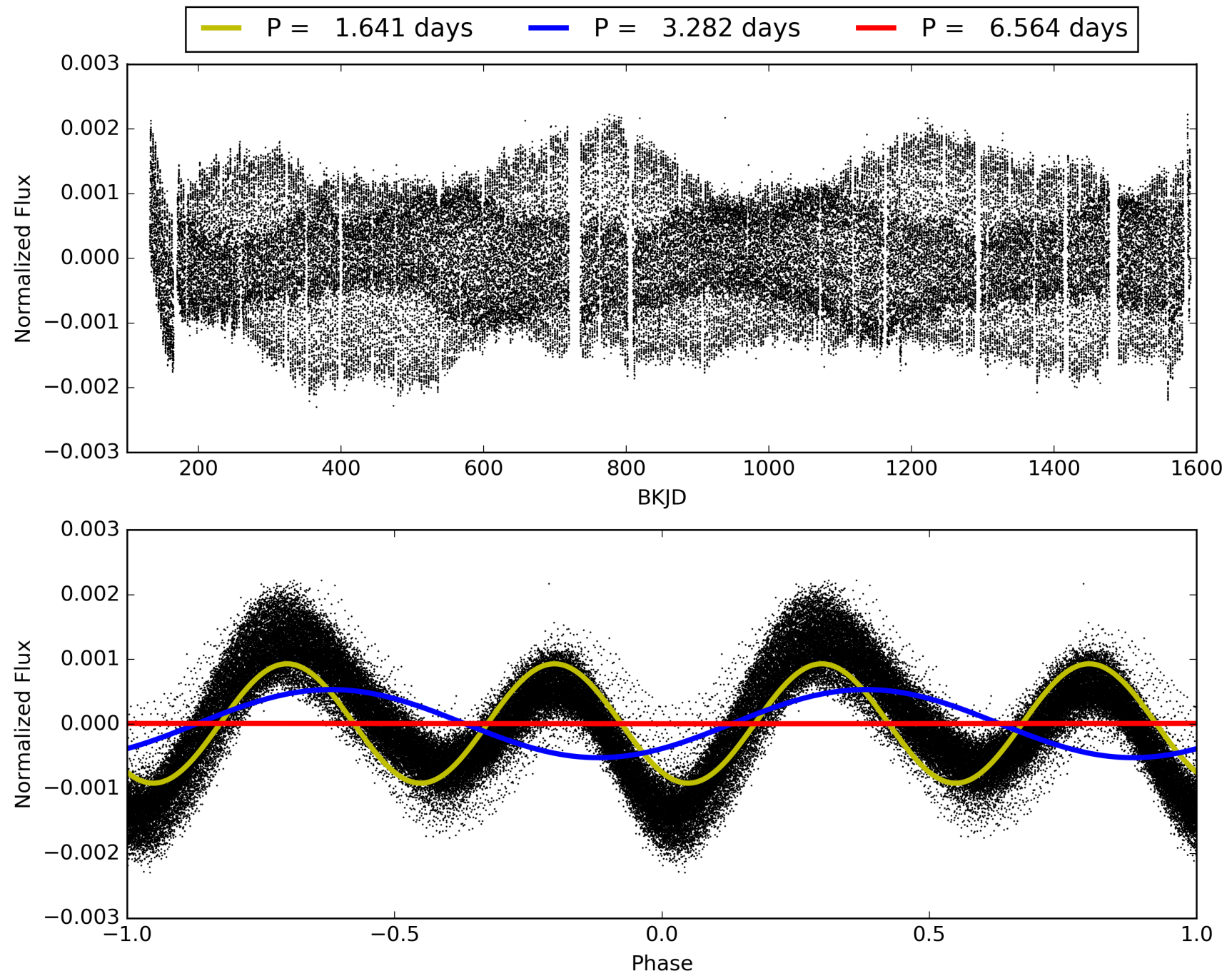
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:57:29 Z

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

TCE 005607784-01, PDC Light Curves

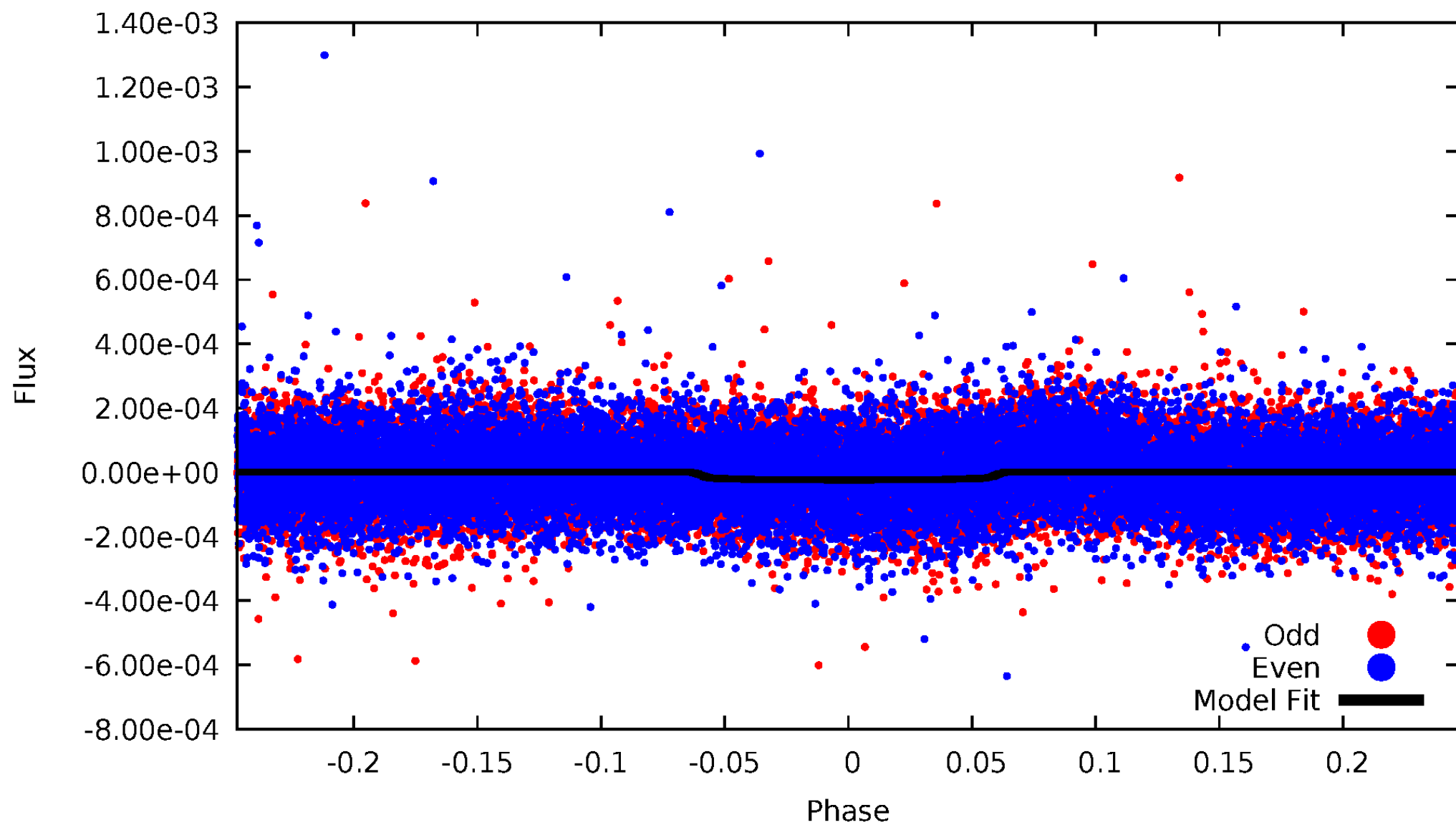


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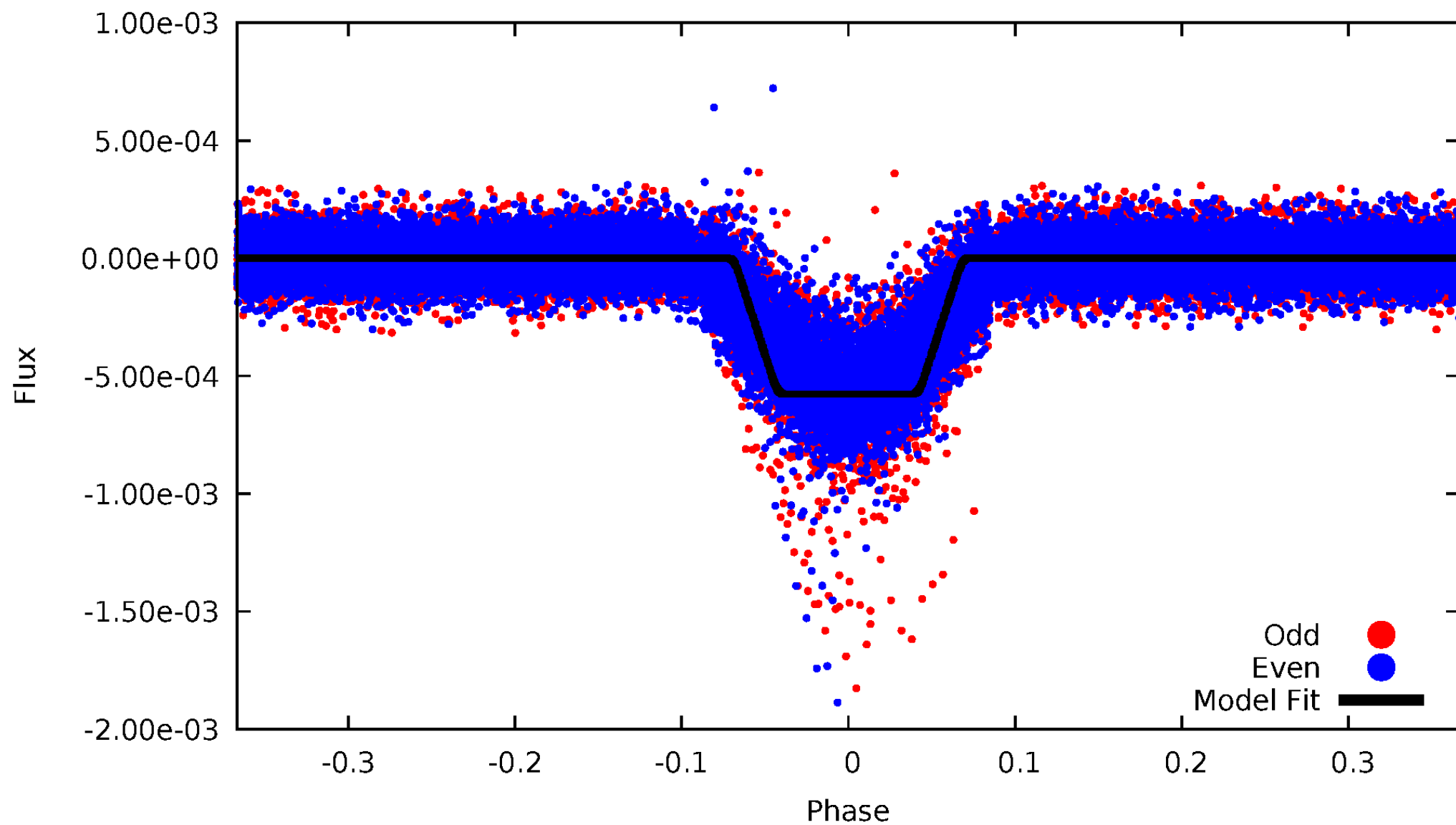
DV Odd/Even

TCE 005607784-01

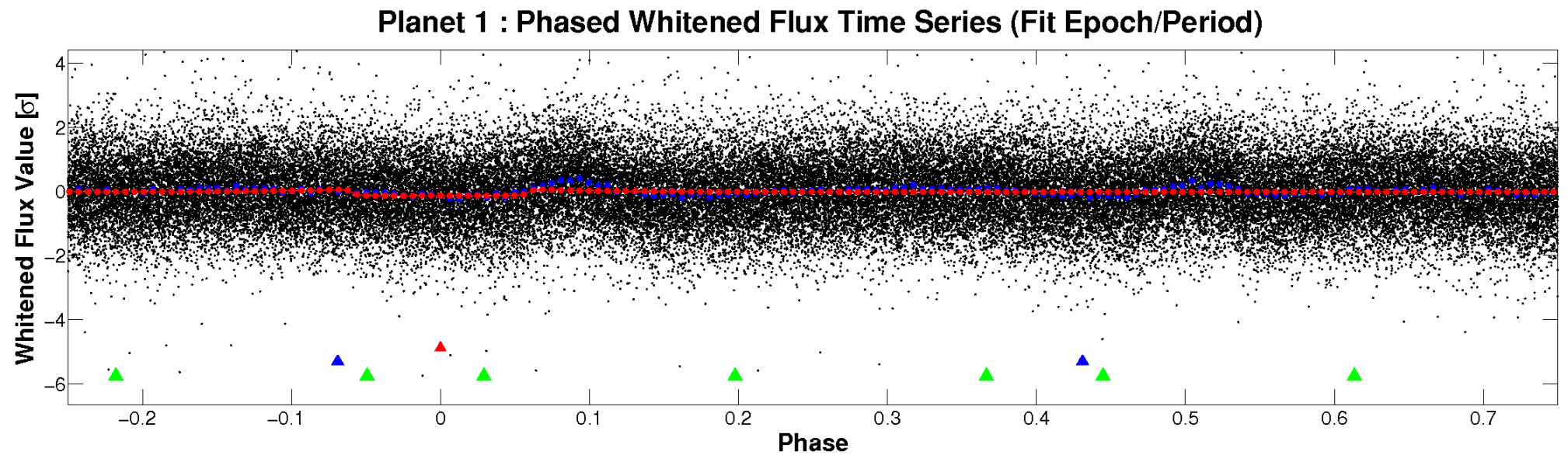
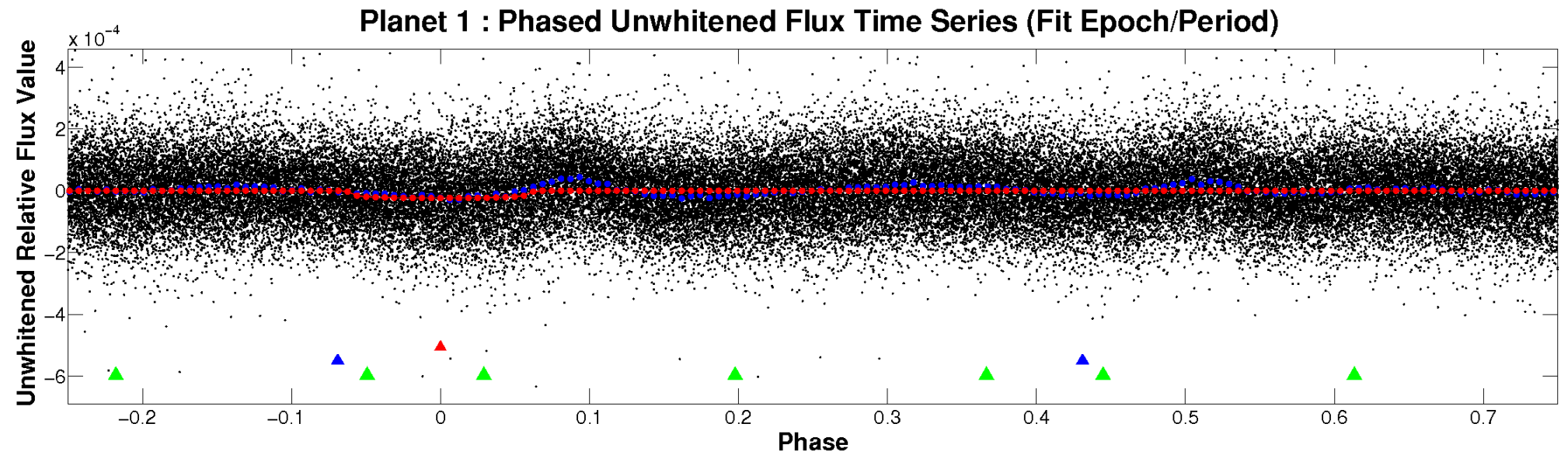


ALT Odd/Even

TCE 005607784-01

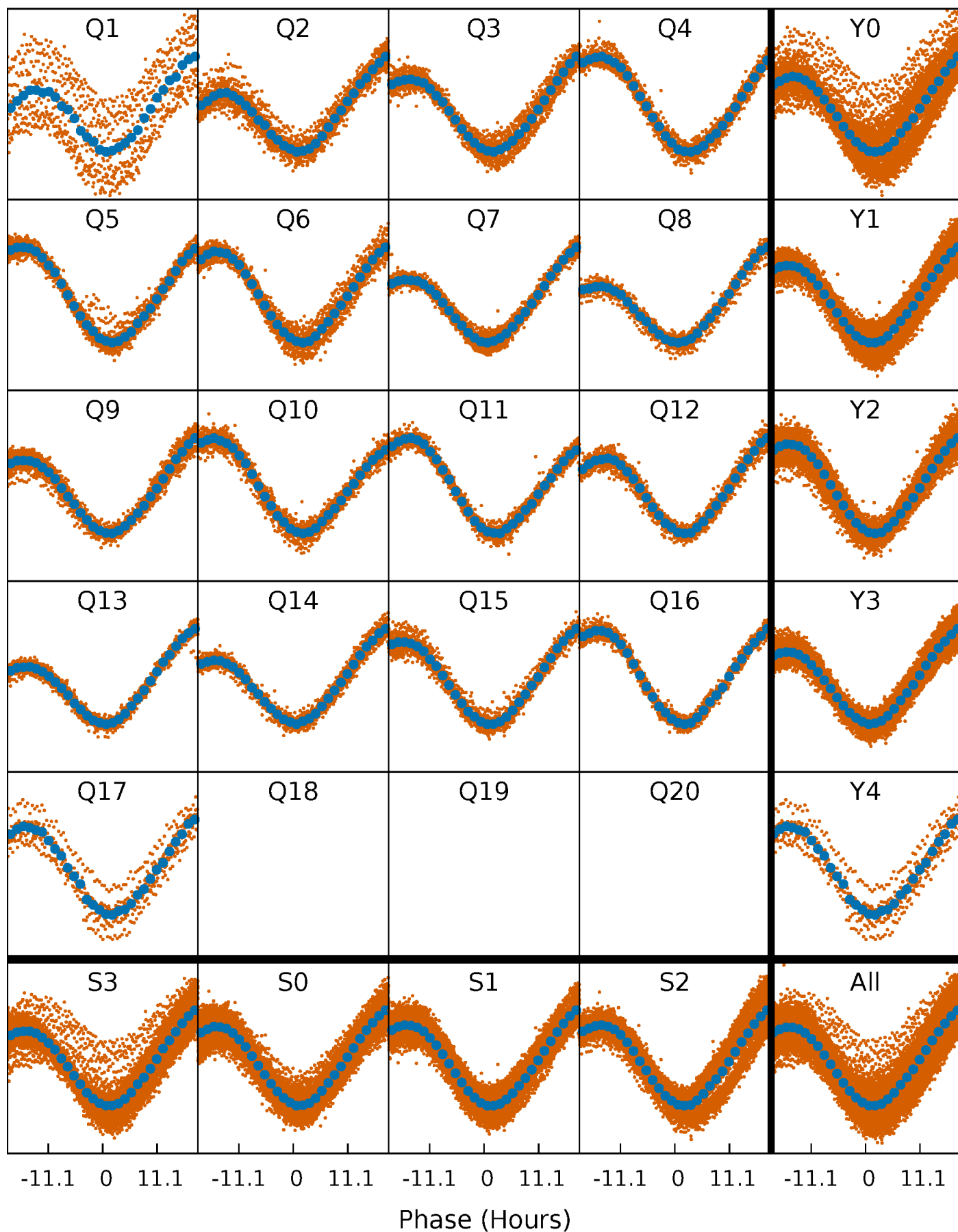


Non-Whitened Vs. Whitened Light Curve



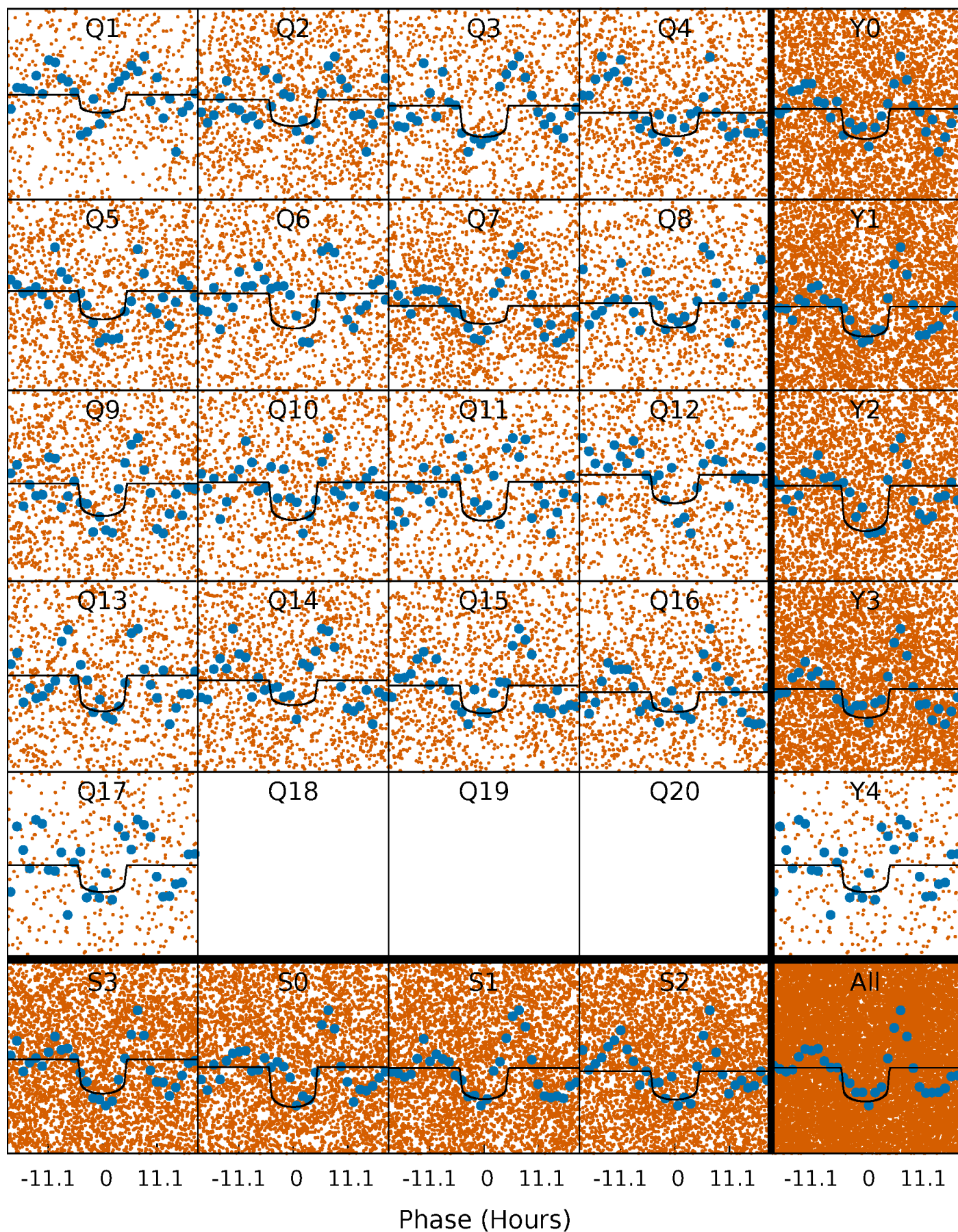
PDC Quarter-Phased Transit Curves

TCE 005607784-01 P= 3.281768 Days $T_0=131.838003$ (BKJD)



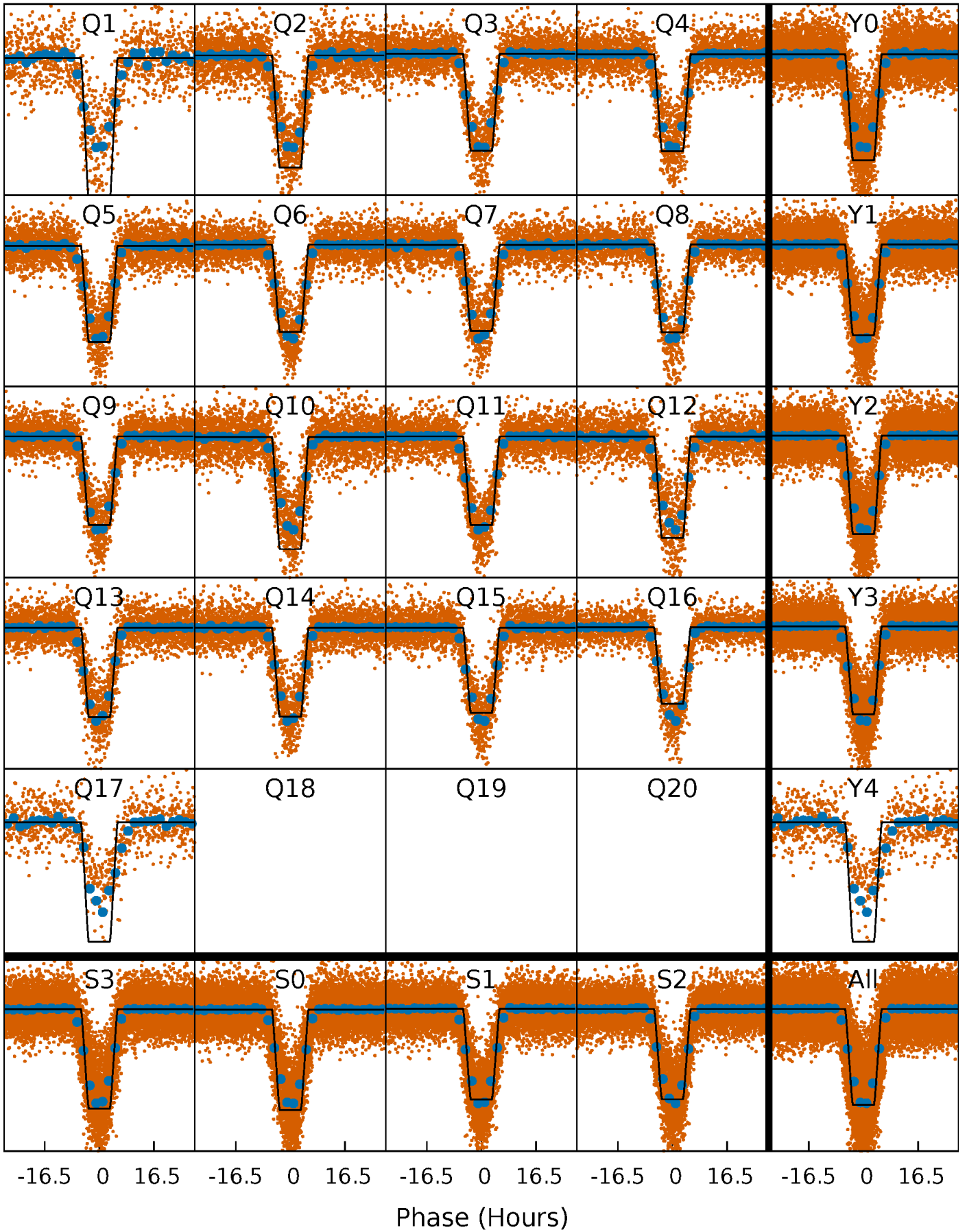
DV Quarter-Phased Transit Curves

TCE 005607784-01 P= 3.281768 Days $T_0=131.838003$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

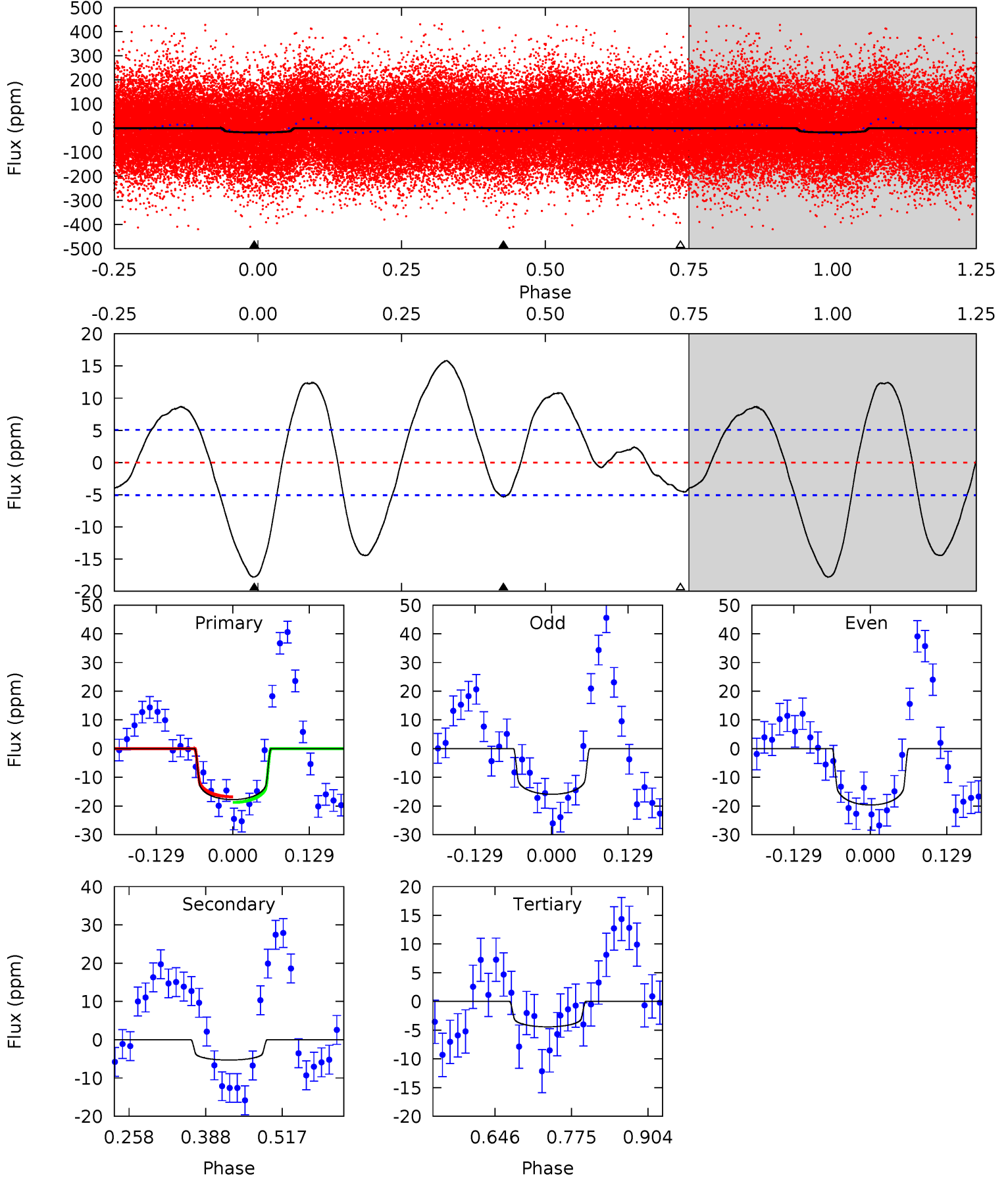
TCE 005607784-01 P= 3.281721 Days $T_0=131.872129$ (BKJD)



DV Model-Shift Uniqueness Test

005607784-01, P = 3.281768 Days, E = 128.556235 Days

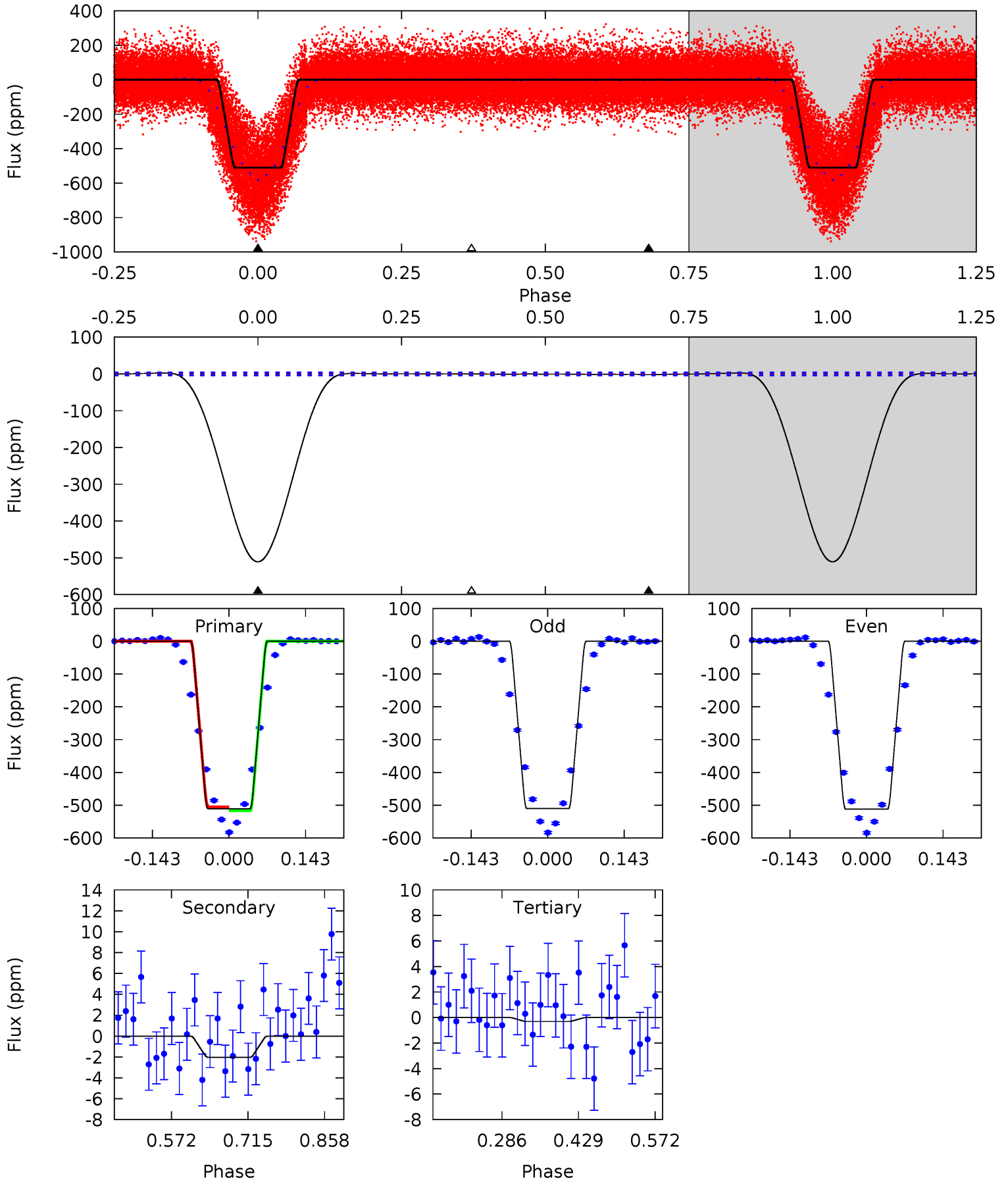
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.8 | 4.72 | 3.93 | 0 | 4.51 | 1.52 | 5.62 | 11.9 | 15.8 | 0.79 | 4.72 | 1.65 | 0.98 | 0.47 | 0.85 |



Alt Model-Shift Uniqueness Test

005607784-01, P = 3.281721 Days, E = 128.590408 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 613.1 | 2.44 | 0.37 | 0 | 4.49 | 1.46 | 0.97 | 612.7 | 613.1 | 2.07 | 2.44 | 1.22 | 1.00 | 0.01 | 7.14 |



Stellar Parameters For KIC 005607784

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6622^{+182}_{-250} | $3.800^{+0.440}_{-0.110}$ | $-0.020^{+0.250}_{-0.300}$ | $2.686^{+0.551}_{-1.286}$ | $1.659^{+0.198}_{-0.461}$ | $0.121^{+0.527}_{-0.041}$ |
| | +3%/-4% | +12%/-3% | +1250%/-1500% | +21%/-48% | +12%/-28% | +437%/-34% |
| 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 005607784-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|-----------------------|---------------------------|
| DV | -5 ± 1 | $1.43^{+0.33}_{-0.38}$ | 2853^{+230}_{-355} | 4432^{+369}_{-306} | $3.660^{+3.031}_{-1.322}$ |
| Alt. | -2 ± 1 | $6.75^{+0.97}_{-1.63}$ | 2866^{+213}_{-337} | -2912^{+260}_{-145} | $0.068^{+0.046}_{-0.030}$ |

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 $A_{obs} \gg 1.0$

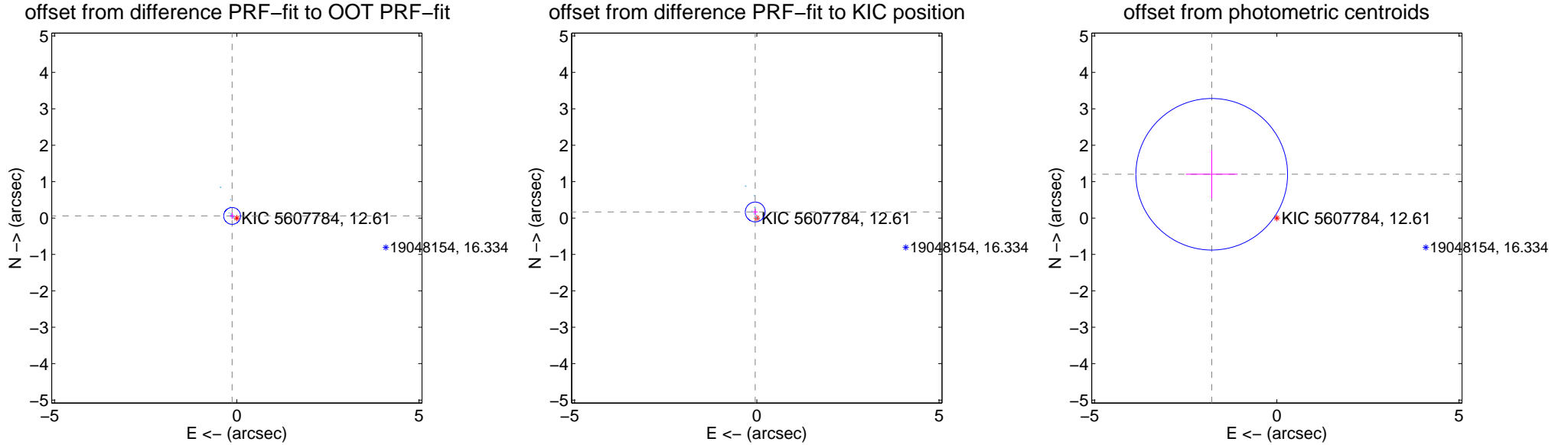
DV Centroid Data

Supplemental centroid analysis for 005607784-01. Kepler magnitude: 12.61. Transit SNR 11.14

There are 17 quarters with good PRF difference image offsets

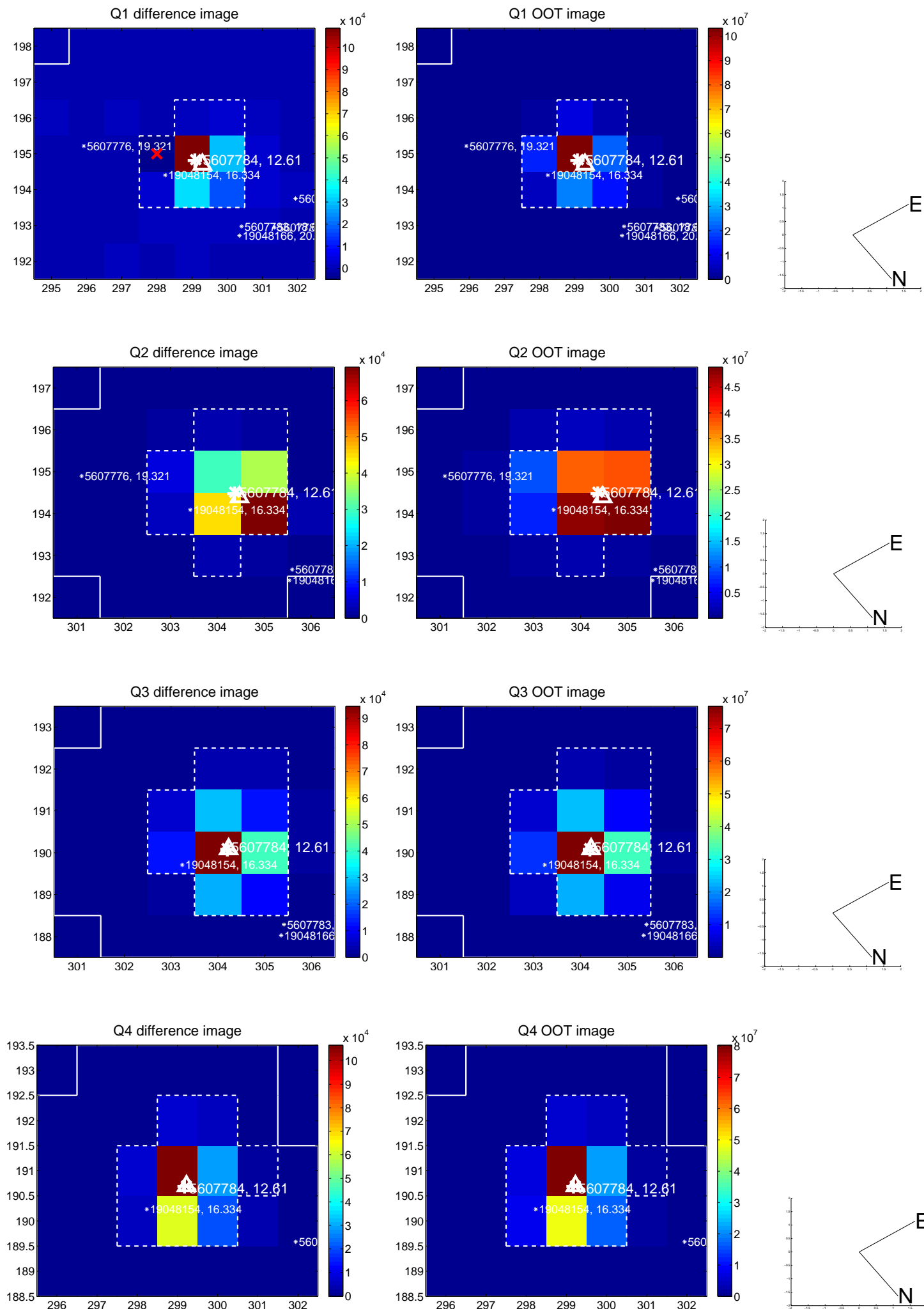
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.141 ± 0.077 | 1.84 | 0.129 ± 0.070 | 0.058 ± 0.085 |
| PRF-fit source offset from KIC position | 0.172 ± 0.091 | 1.90 | 0.044 ± 0.069 | 0.167 ± 0.089 |
| photometric centroid source offset | 2.15 ± 0.69 | 3.10 | 1.79 ± 0.71 | 1.20 ± 0.65 |

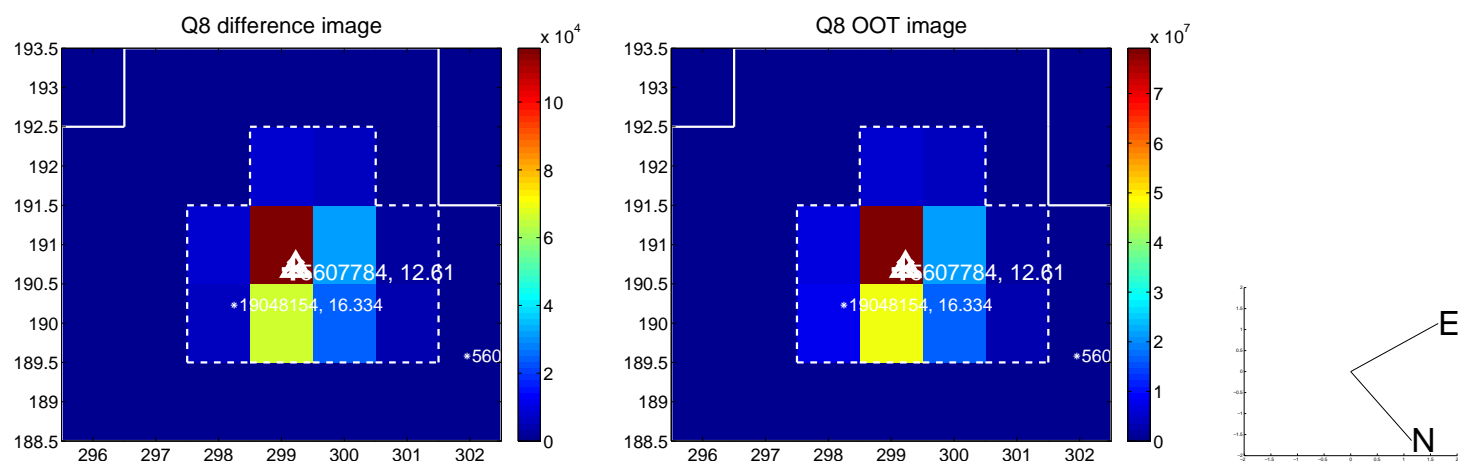
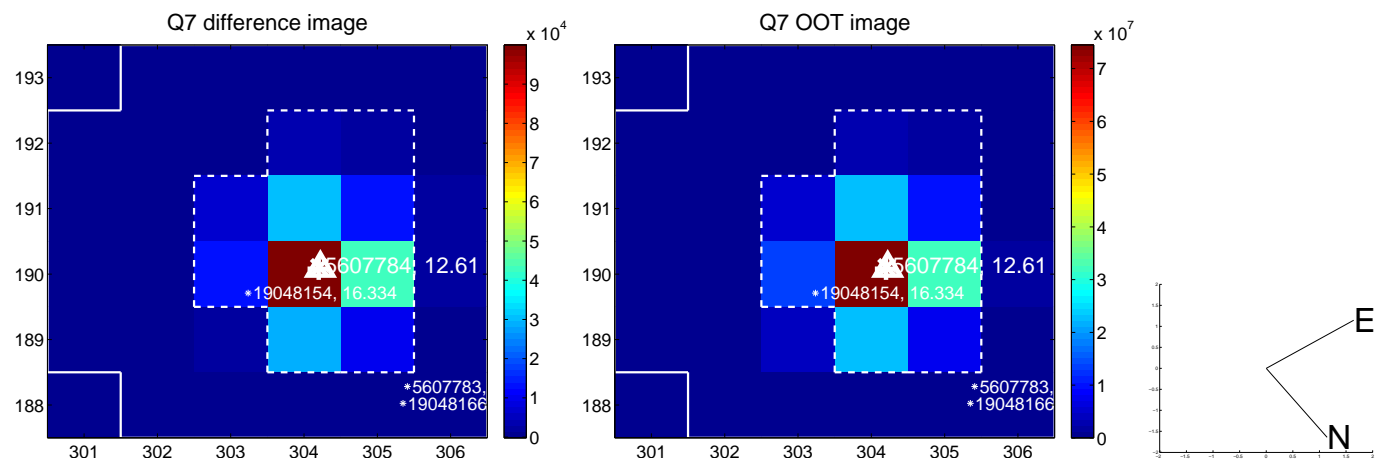
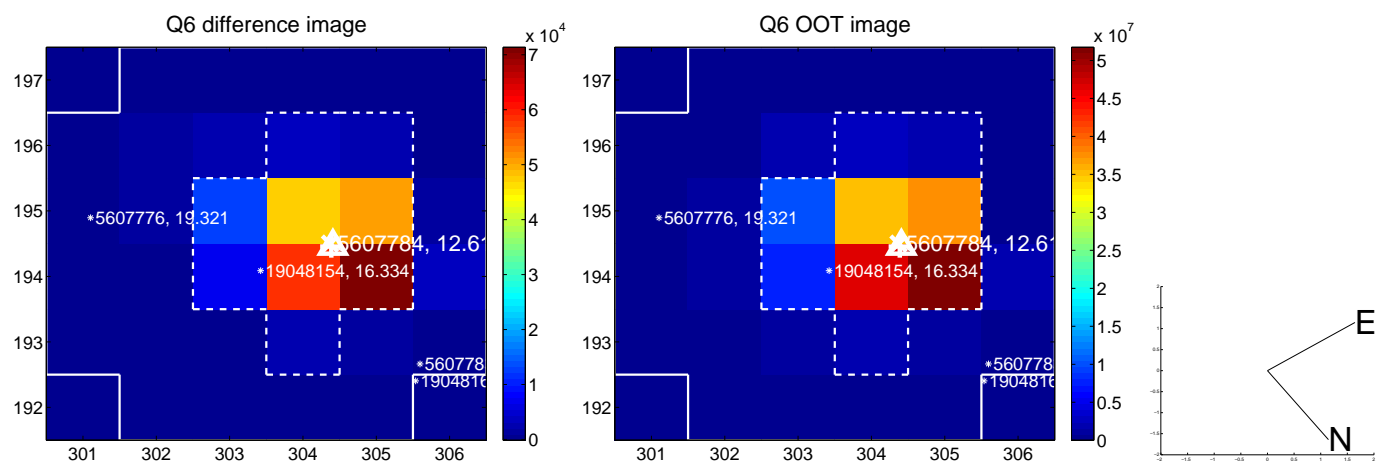
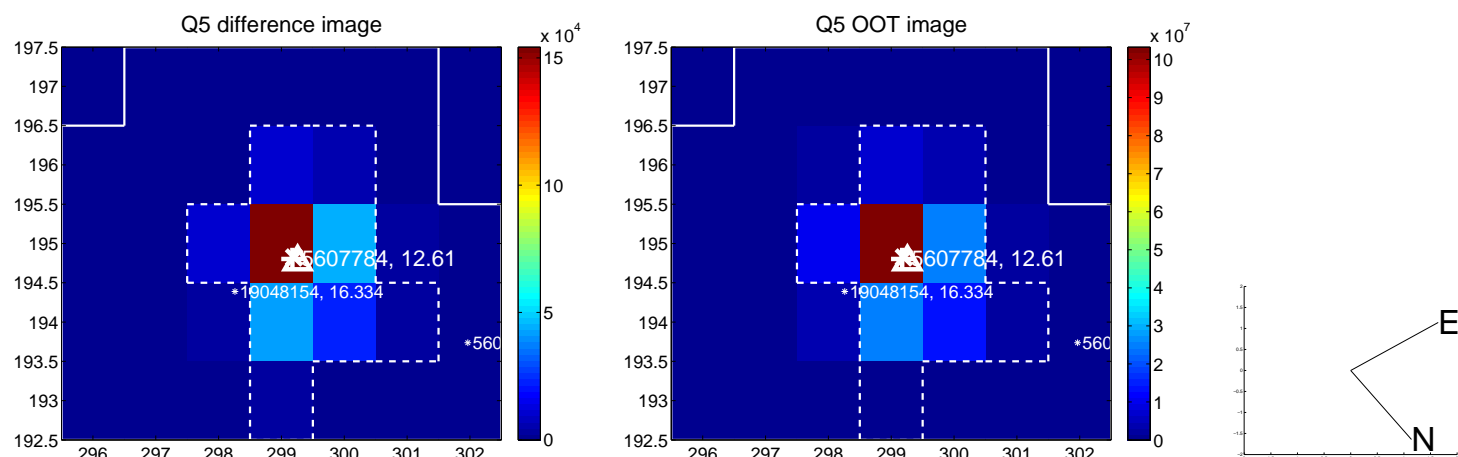


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

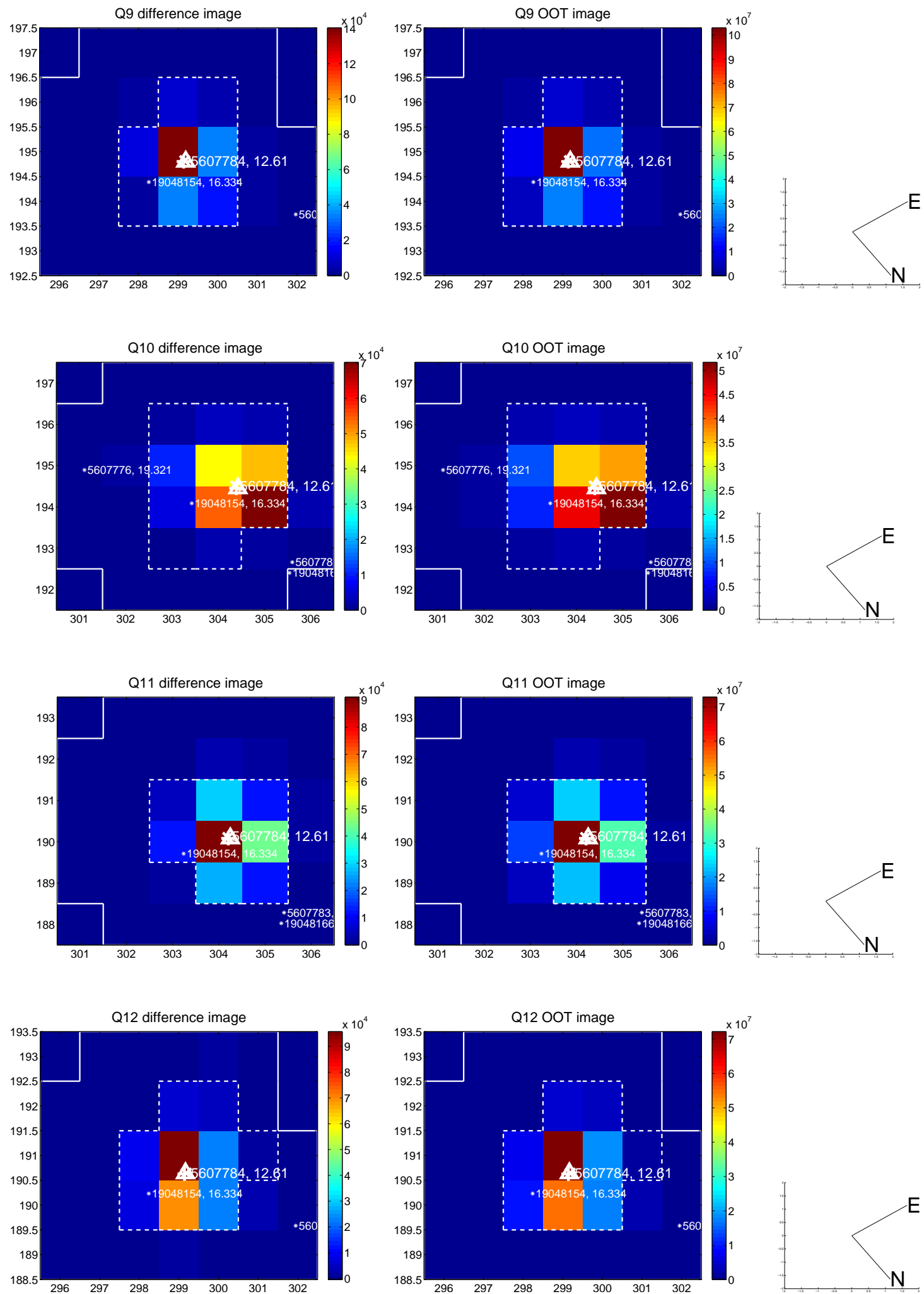
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



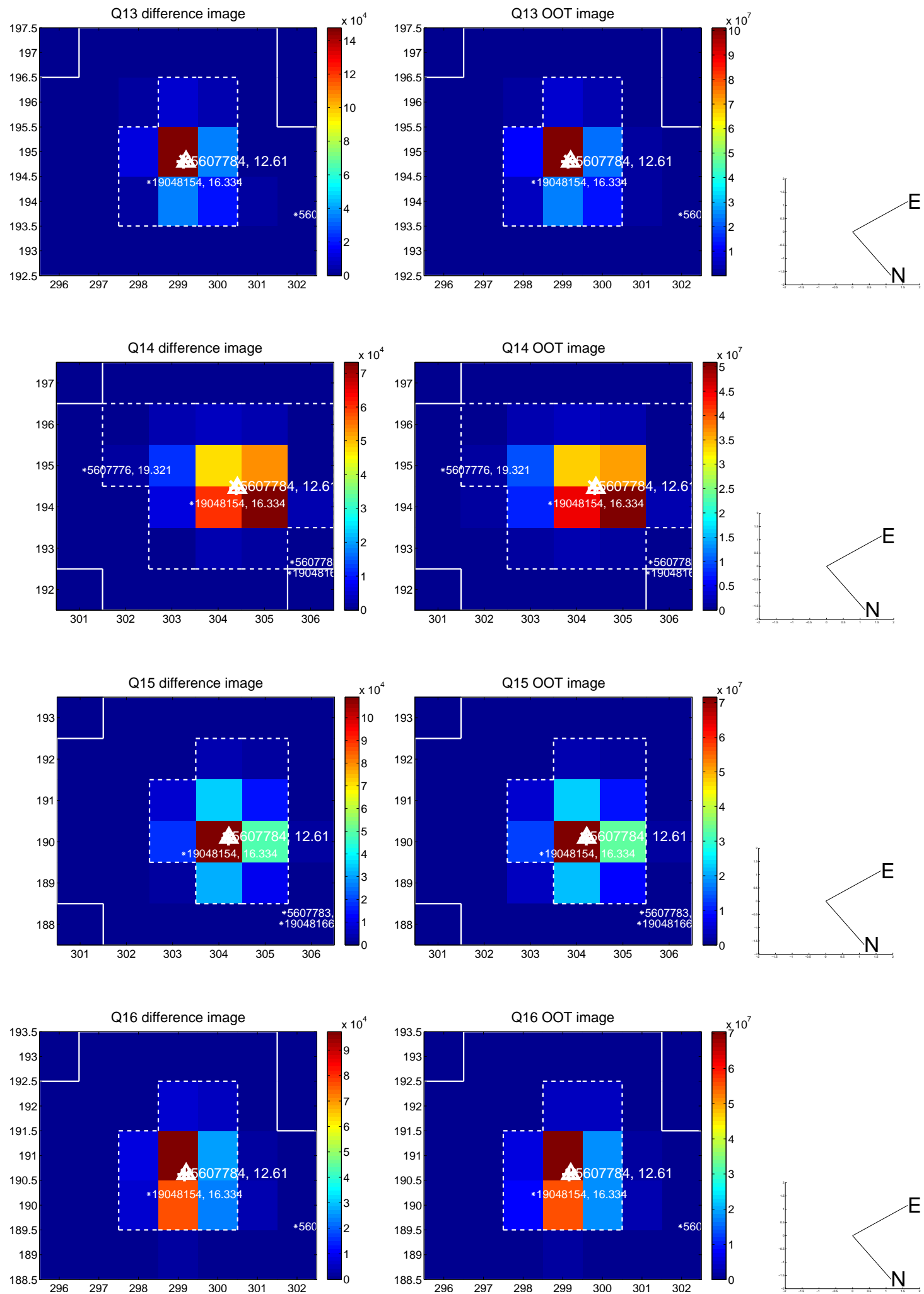
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



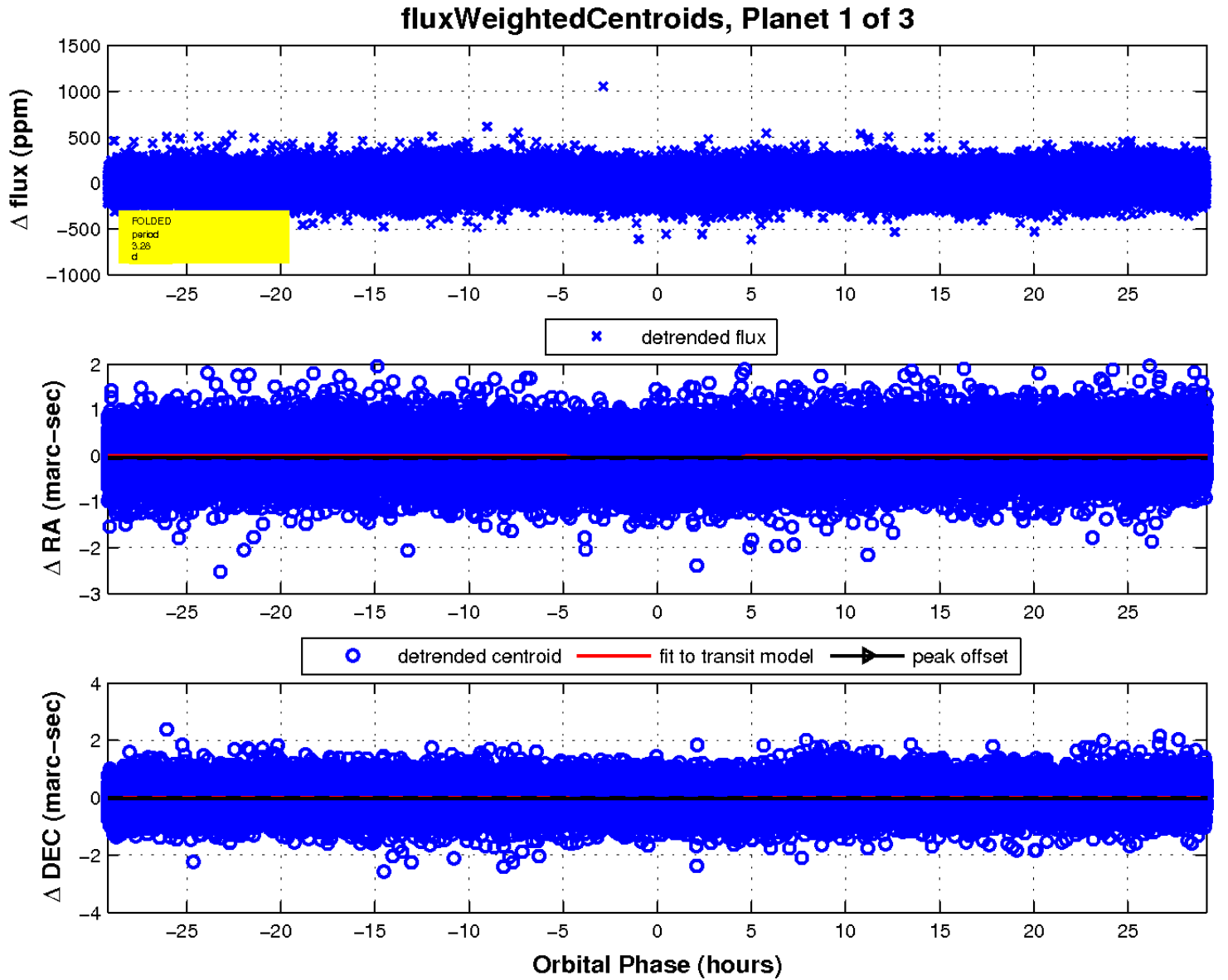
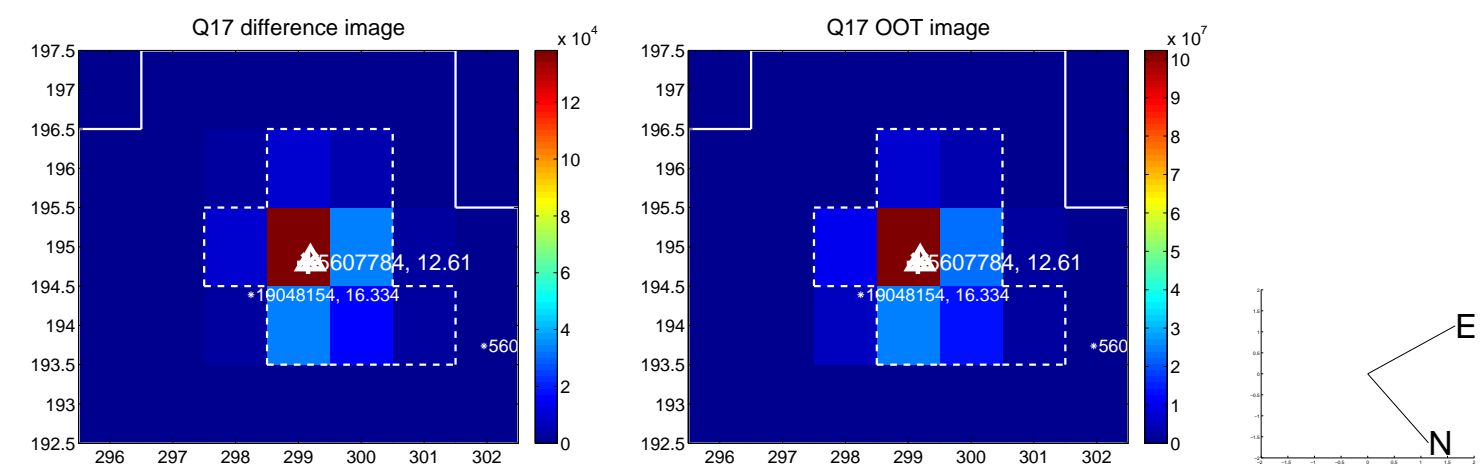
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

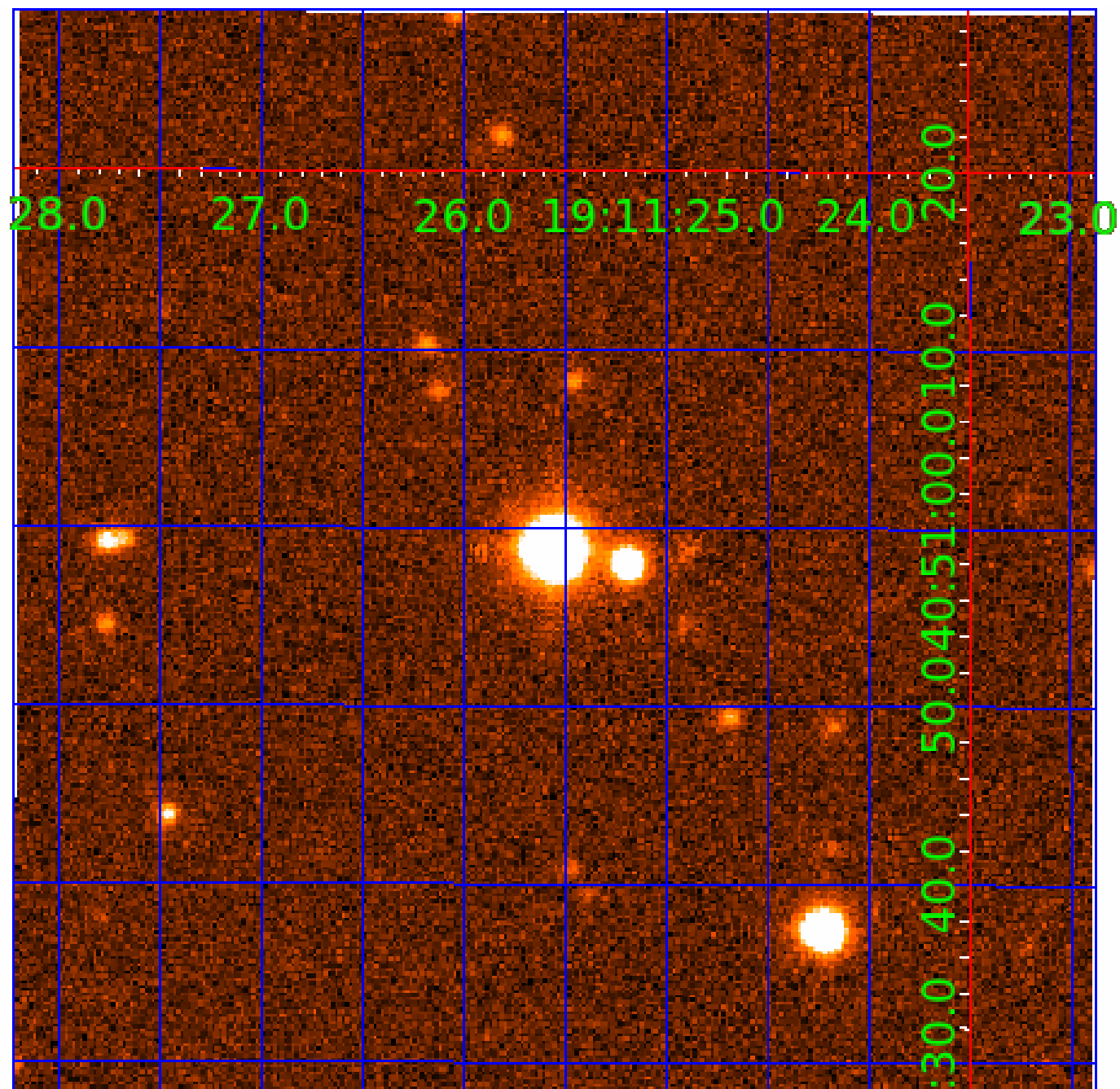


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005607784

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 005607784-01 | OBS | No | 3.281768 | 131.838003 | 24.1 | 9.732 | 11.4 | 11.1 | 2.69 | 6622 | 1.55 | 4743.64 |
| 005607784-02 | OBS | No | 1.640888 | 131.609957 | 24.4 | 6.614 | 11.0 | 11.4 | 2.69 | 6622 | 1.33 | 11953.18 |
| 005607784-03 | OBS | No | 234.369627 | 157.930698 | 173.7 | 7.260 | 7.9 | 8.0 | 2.69 | 6622 | 3.97 | 16.01 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005607784-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV |
| 005607784-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | TRANS_GAPPED—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD |
| 005607784-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT |

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

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

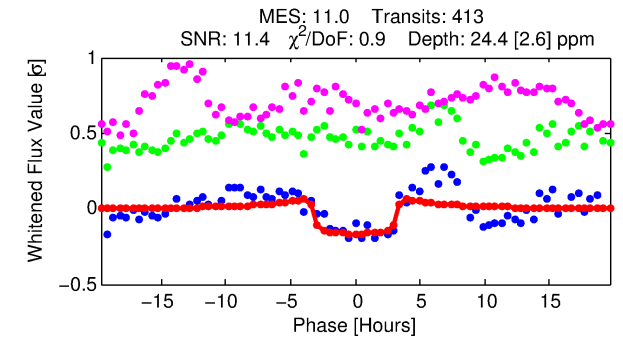
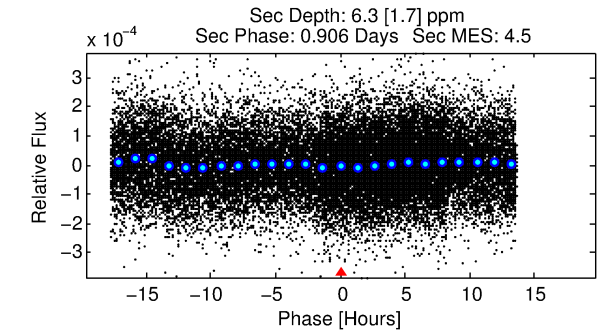
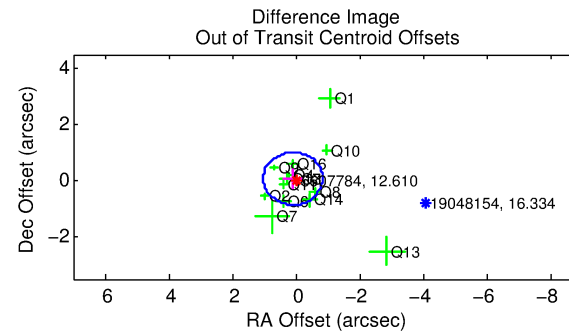
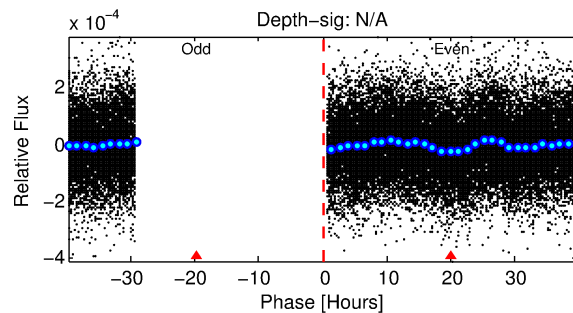
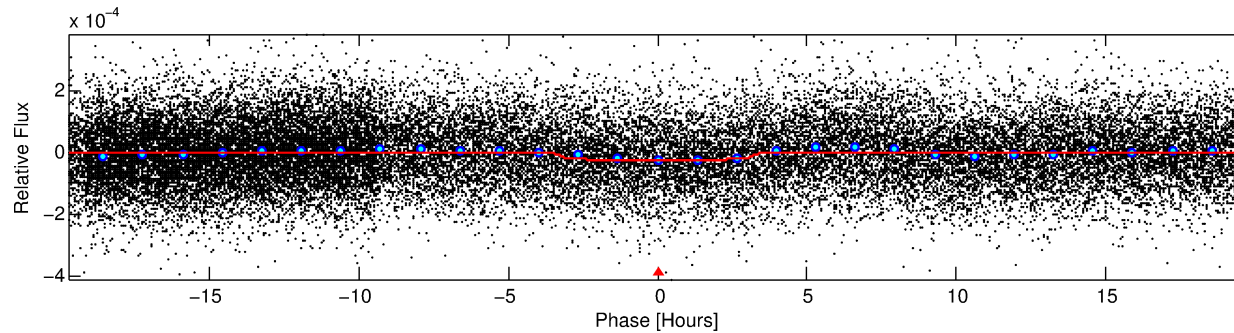
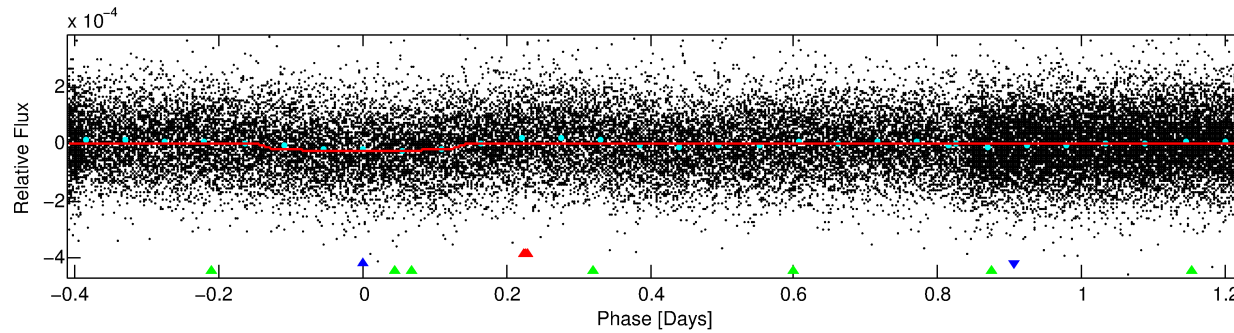
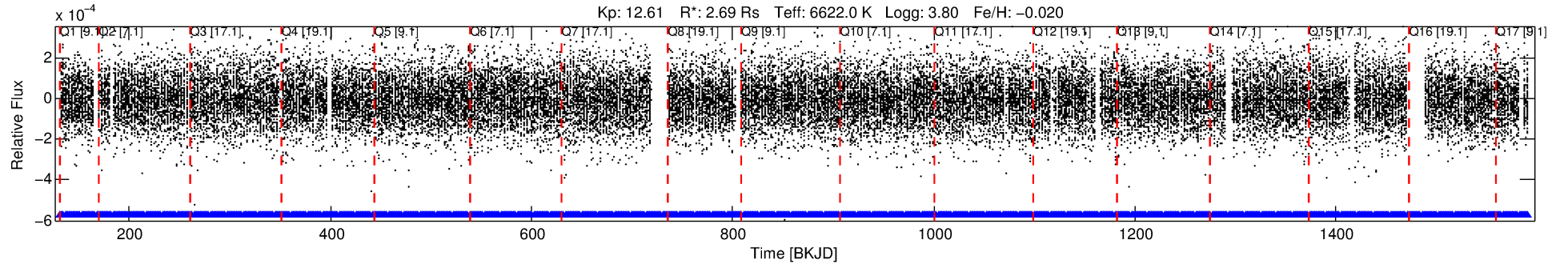
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005607784-02

No Significant Match Found

DV One-Page Summary

KIC: 5607784 Candidate: 2 of 3 Period: 1.641 d



DV Fit Results:

Period = 1.64089 [0.00002] d
Epoch = 131.6100 [0.0047] BKJD
Rp/R* = 0.0045 [0.0036]
a/R* = 1.99 [6.28]
b = 0.03 [144.29]
Seff = 11953.18 [9110.20]
Teq = 2666 [508] K
Rp = 1.33 [1.23] Re
a = 0.0322 [0.0150] AU
Ag = 2.02 [3.57] [0.29σ]
Teffp = 4914 [1979] K [1.10σ]

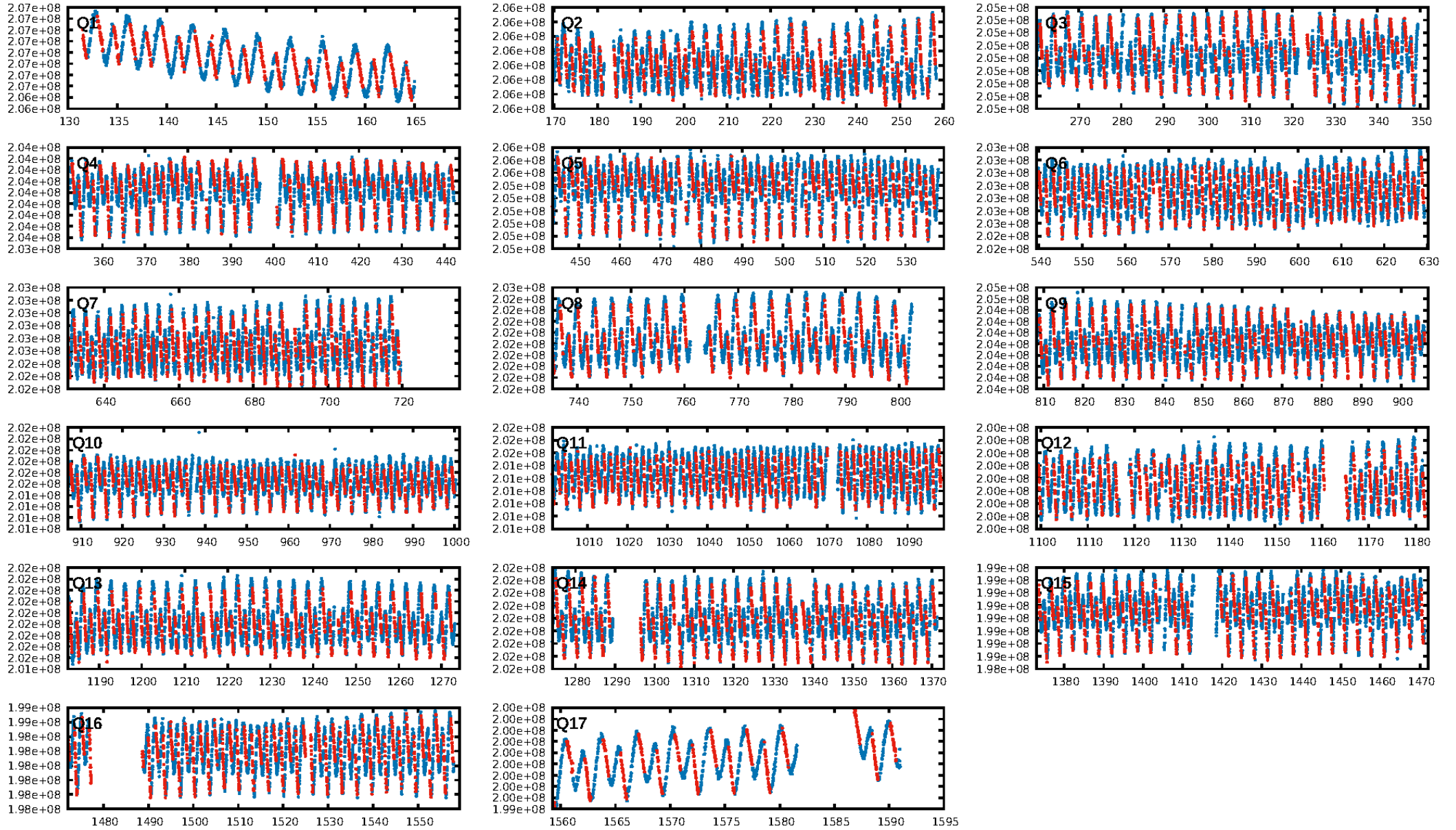
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.9% [3.35σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.73e-21
RollingBand-fgt: 1.00 [394/394]
GhostDiagnostic-chr: 1.437
Centroid-sig: 5.3%
Centroid-so: 0.670 arcsec [1.30σ]
OotOffset-rm: 0.116 arcsec [0.37σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-rm: 0.091 arcsec [0.27σ]
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DiffImageQuality-fgm: 0.21 [3/14]
DiffImageOverlap-fno: 1.00 [17/17]

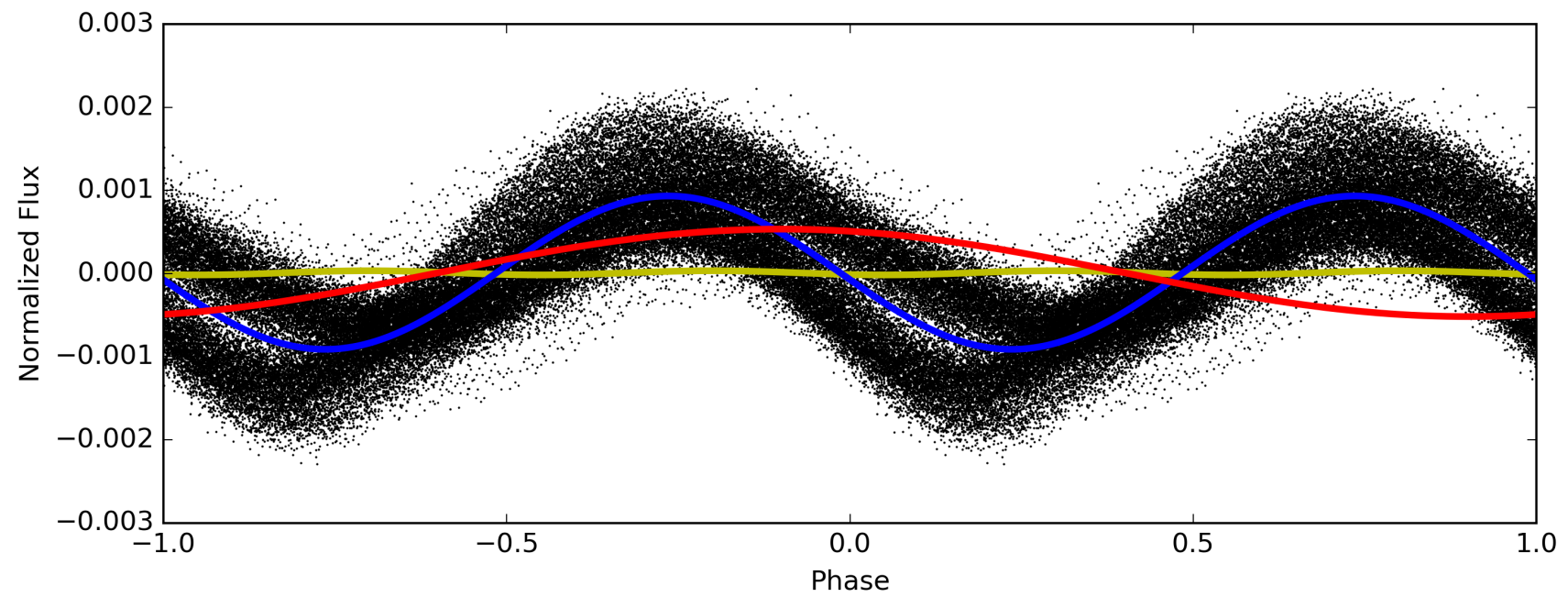
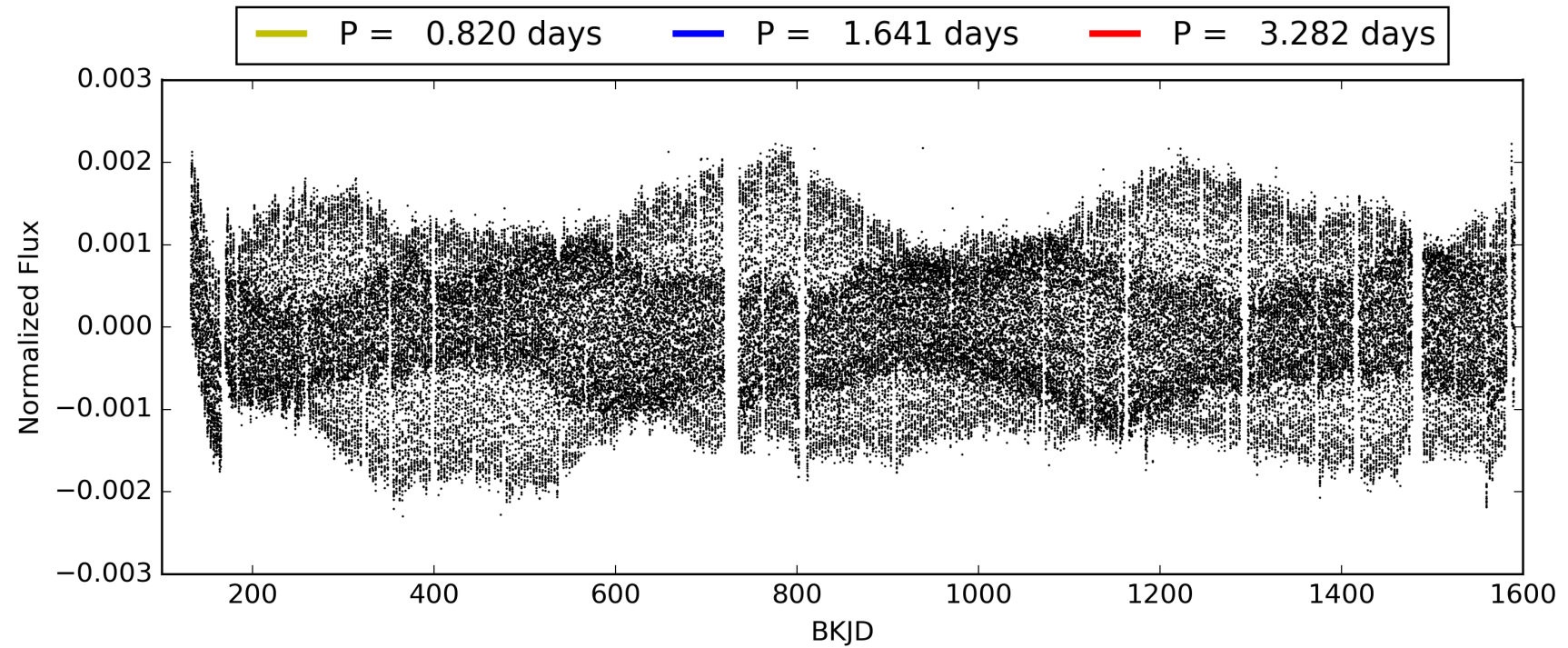
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:57:41 Z

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

TCE 005607784-02, PDC Light Curves

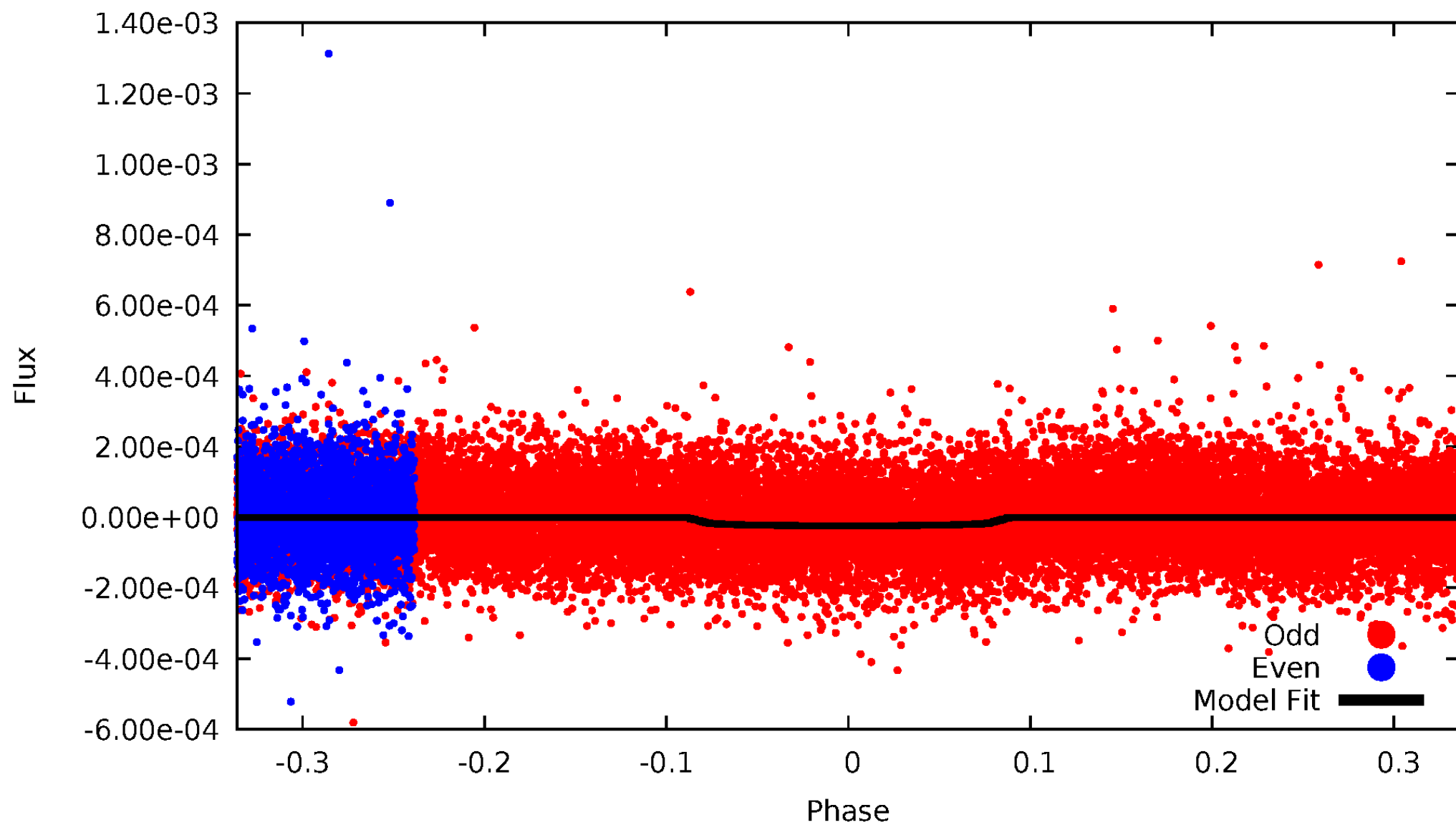


TCE 005607784-02



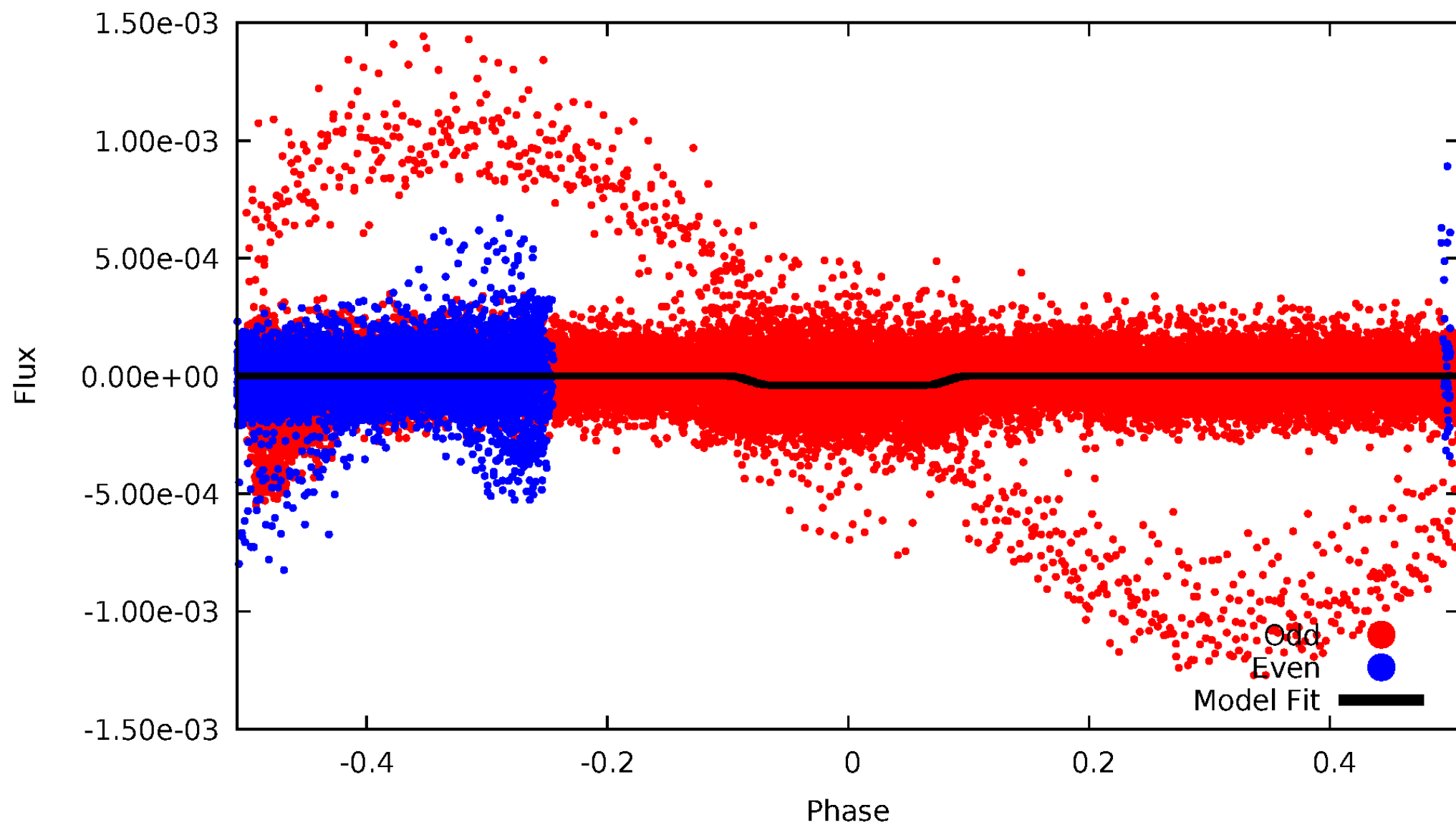
DV Odd/Even

TCE 005607784-02



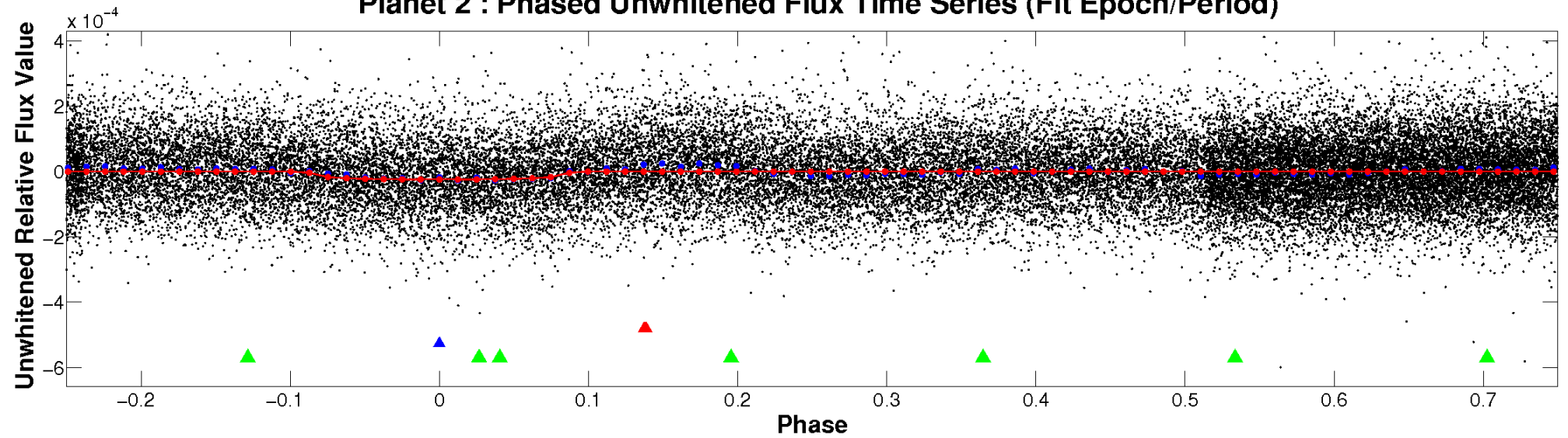
ALT Odd/Even

TCE 005607784-02

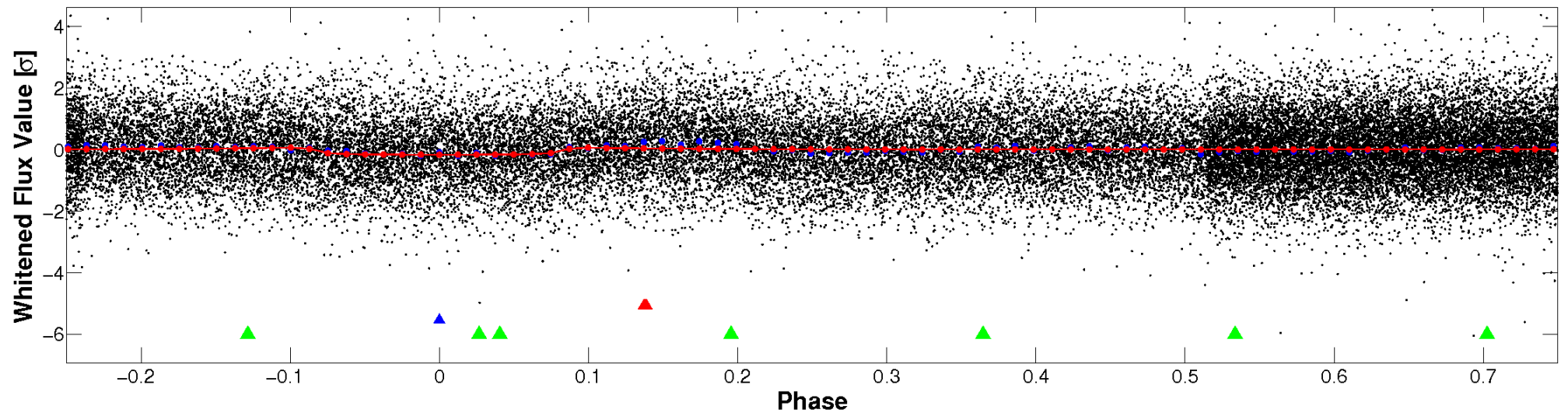


Non-Whitened Vs. Whitened Light Curve

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

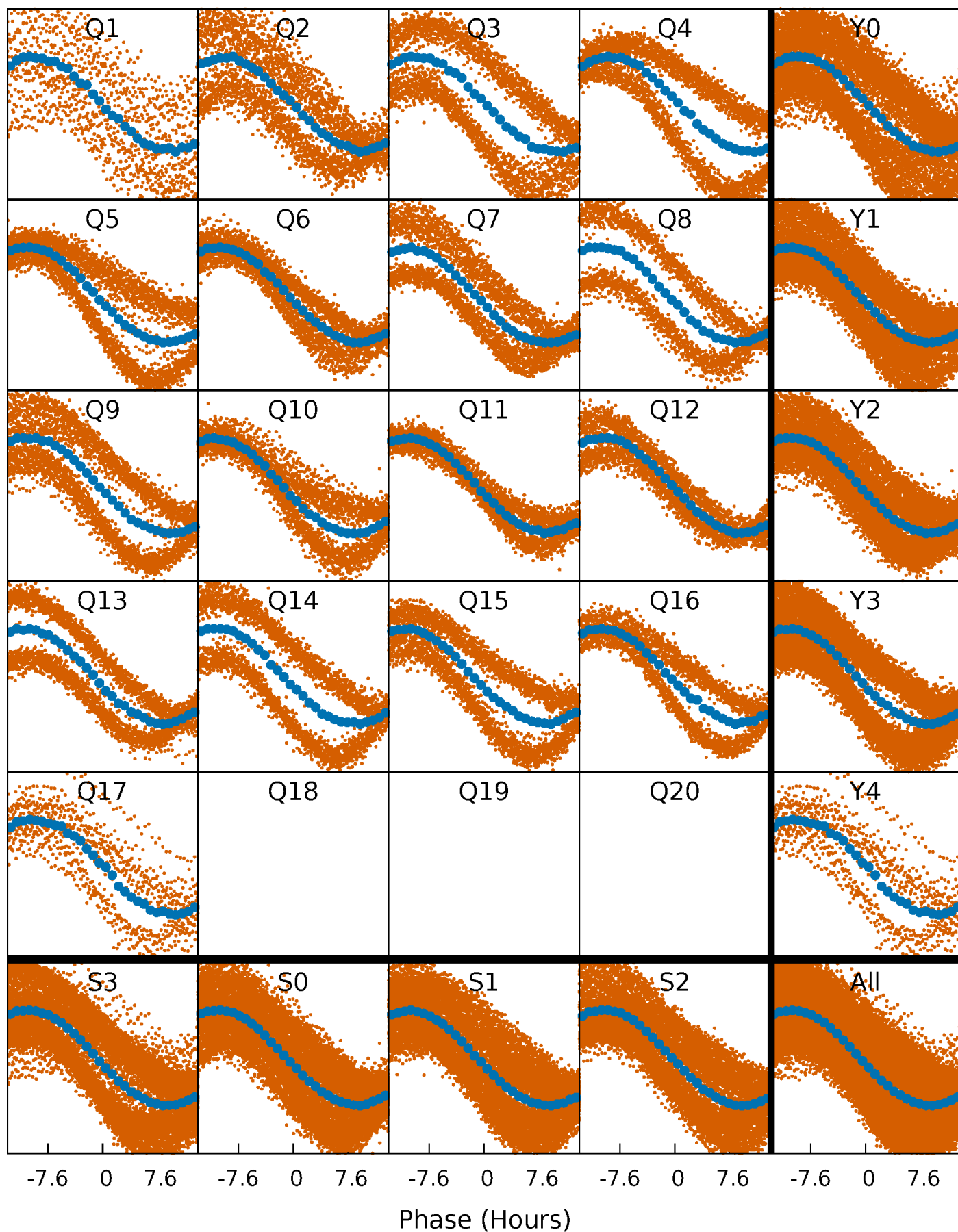


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



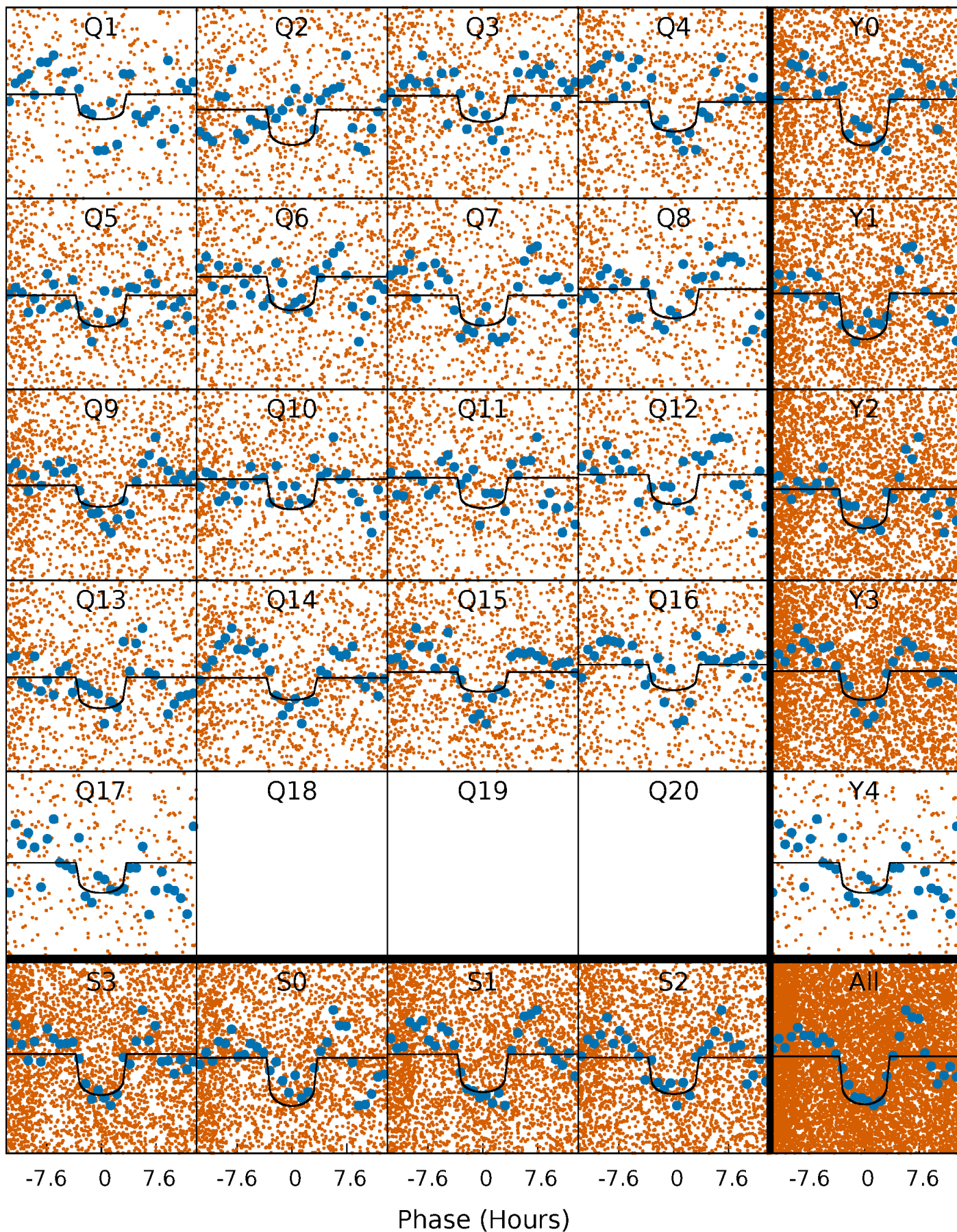
PDC Quarter-Phased Transit Curves

TCE 005607784-02 P= 1.640887 Days $T_0=131.609957$ (BKJD)



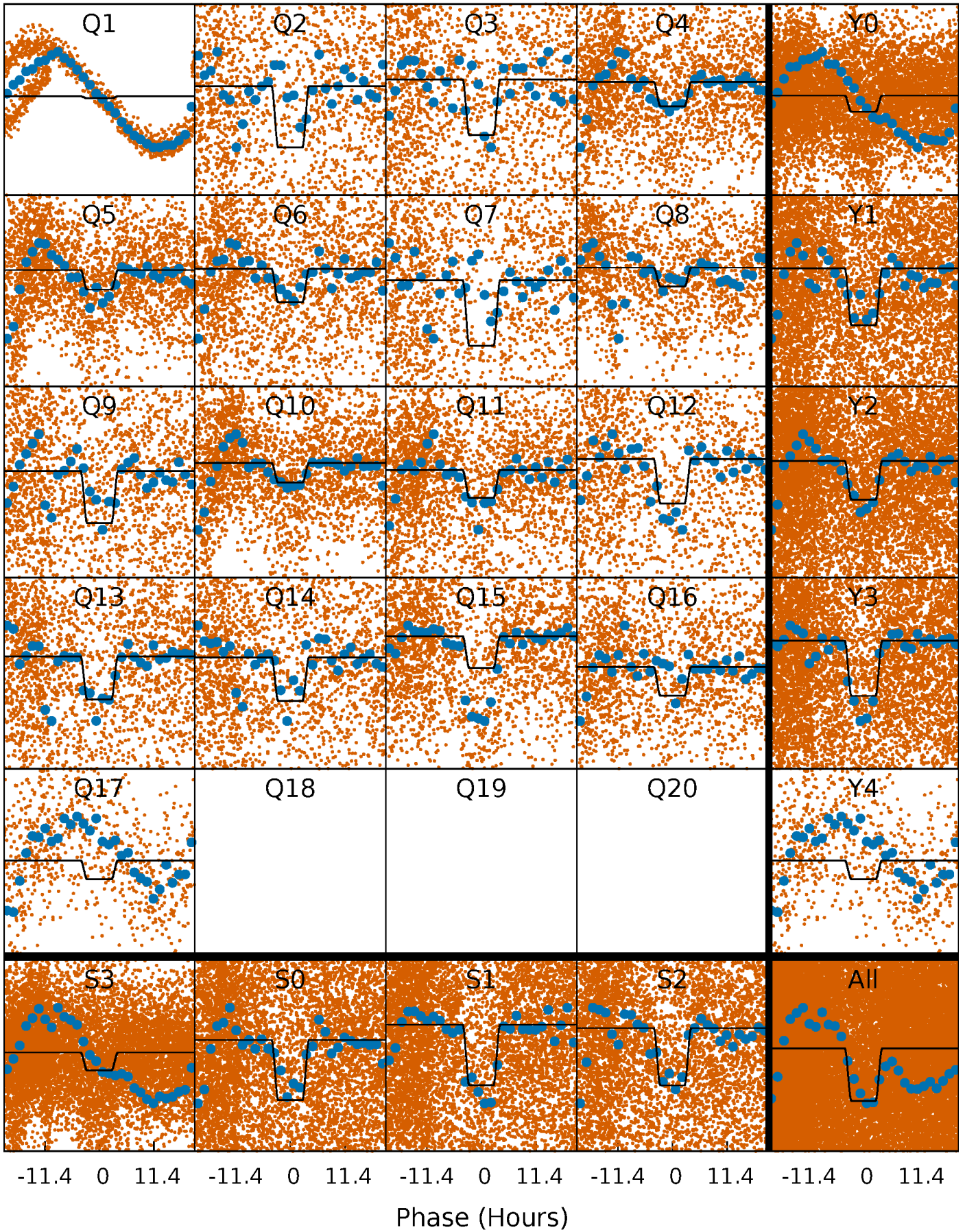
DV Quarter-Phased Transit Curves

TCE 005607784-02 $P = 1.640887$ Days $T_0 = 131.609957$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

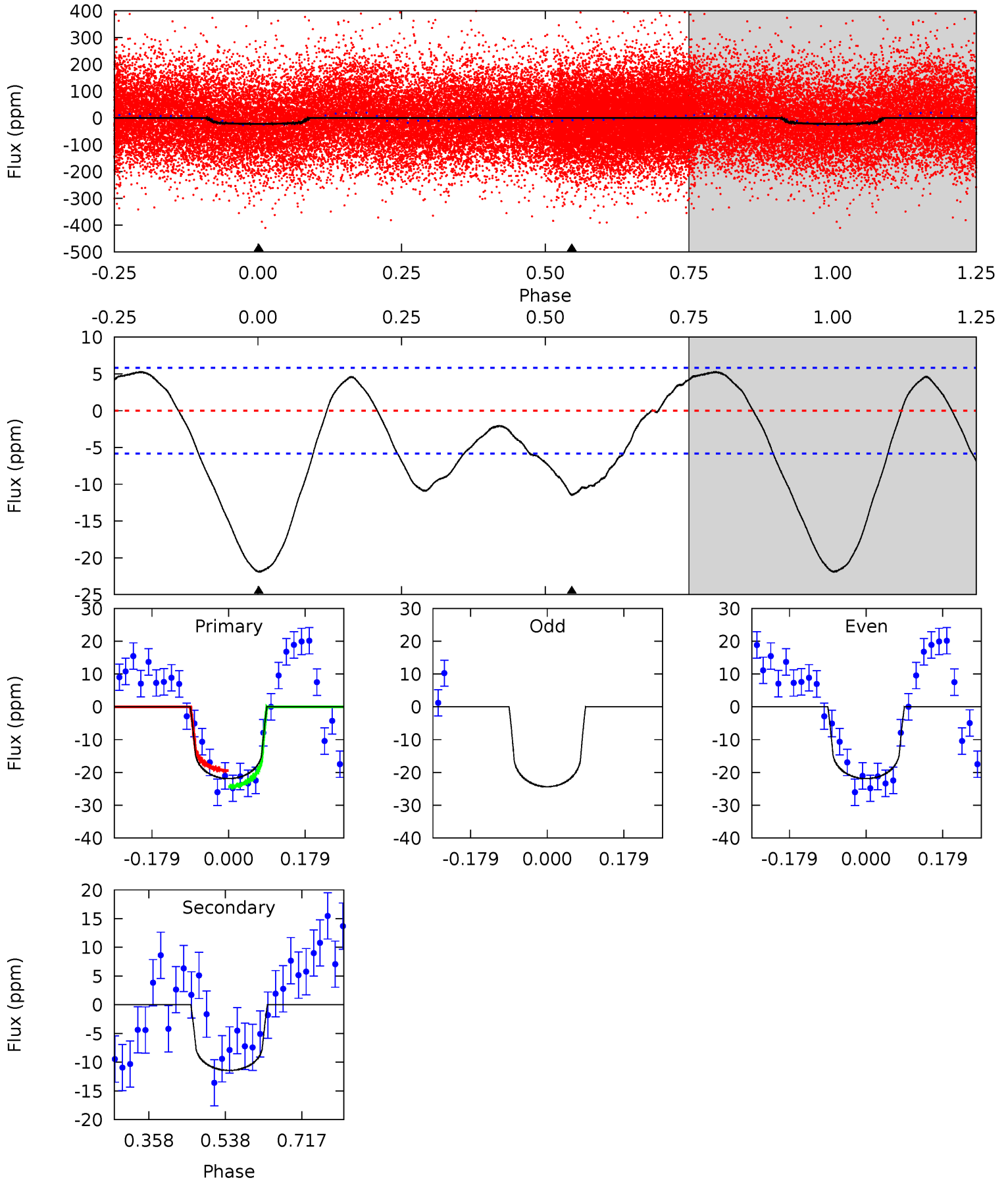
TCE 005607784-02 $P = 1.640850$ Days $T_0 = 131.648876$ (BKJD)



DV Model-Shift Uniqueness Test

005607784-02, P = 1.640887 Days, E = 131.609957 Days

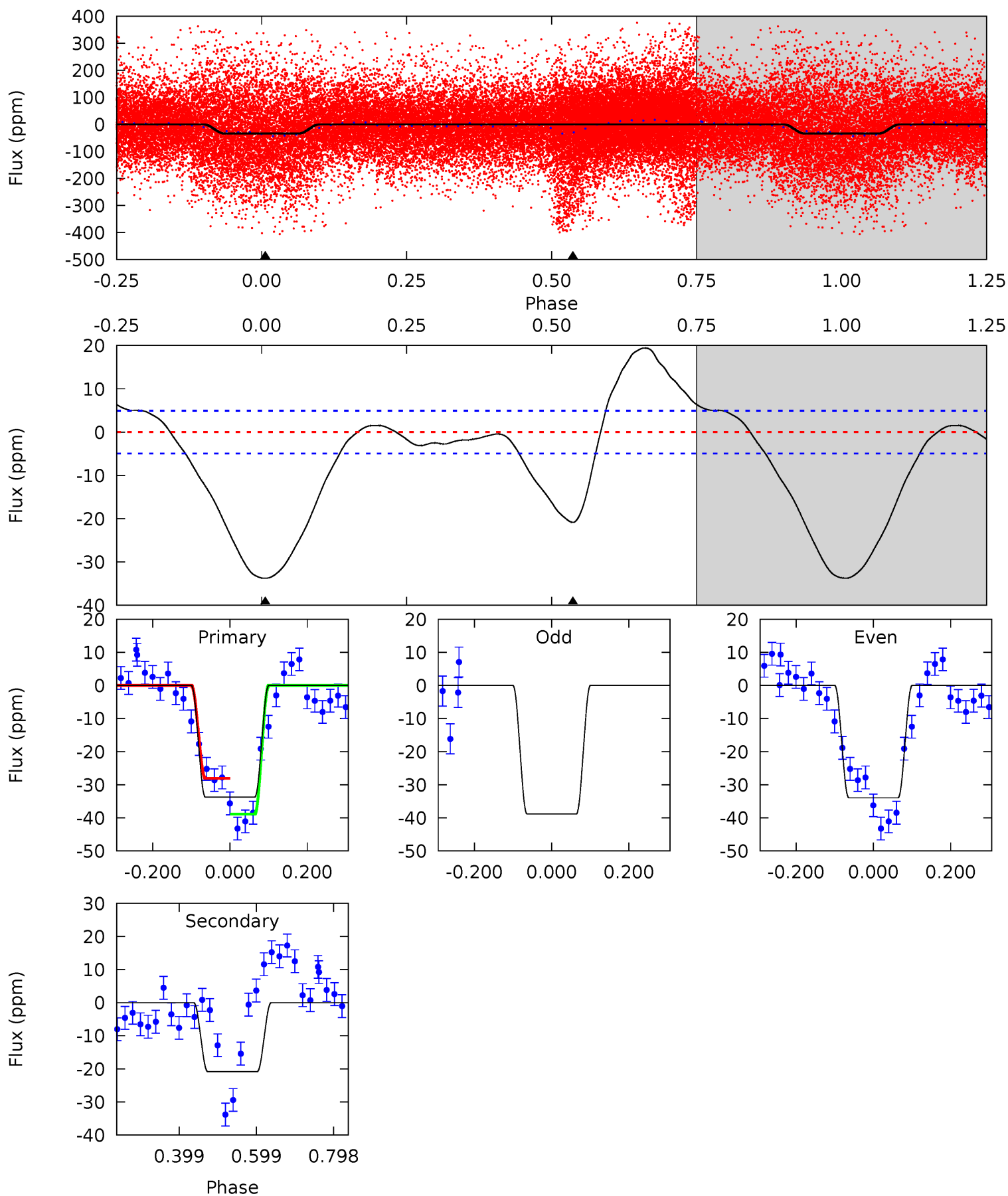
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 16.7 | 8.72 | 0 | 0 | 4.44 | 1.34 | 4.62 | 16.7 | 16.7 | 8.72 | 8.72 | 1.10 | 1.05 | 0.19 | 1.88 |



Alt Model-Shift Uniqueness Test

005607784-02, P = 1.640850 Days, E = 131.648876 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 30.1 | 18.6 | 0 | 0 | 4.42 | 1.28 | 3.42 | 30.1 | 30.1 | 18.6 | 18.6 | 2.68 | 0.94 | 0.37 | 4.69 |



Stellar Parameters For KIC 005607784

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6622^{+182}_{-250} | $3.800^{+0.440}_{-0.110}$ | $-0.020^{+0.250}_{-0.300}$ | $2.686^{+0.551}_{-1.286}$ | $1.659^{+0.198}_{-0.461}$ | $0.121^{+0.527}_{-0.041}$ |
| | +3%/-4% | +12%/-3% | +1250%/-1500% | +21%/-48% | +12%/-28% | +437%/-34% |
| 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 005607784-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|----------------------------|
| DV | -11 ± 1 | $1.31^{+1.01}_{-0.77}$ | 3595^{+287}_{-416} | 5308^{+3320}_{-1169} | $3.874^{+17.257}_{-2.665}$ |
| Alt. | -21 ± 1 | $1.66^{+1.15}_{-0.89}$ | 3610^{+273}_{-456} | 5461^{+2922}_{-1014} | $4.211^{+15.913}_{-2.687}$ |

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 $A_{obs} \gg 1.0$

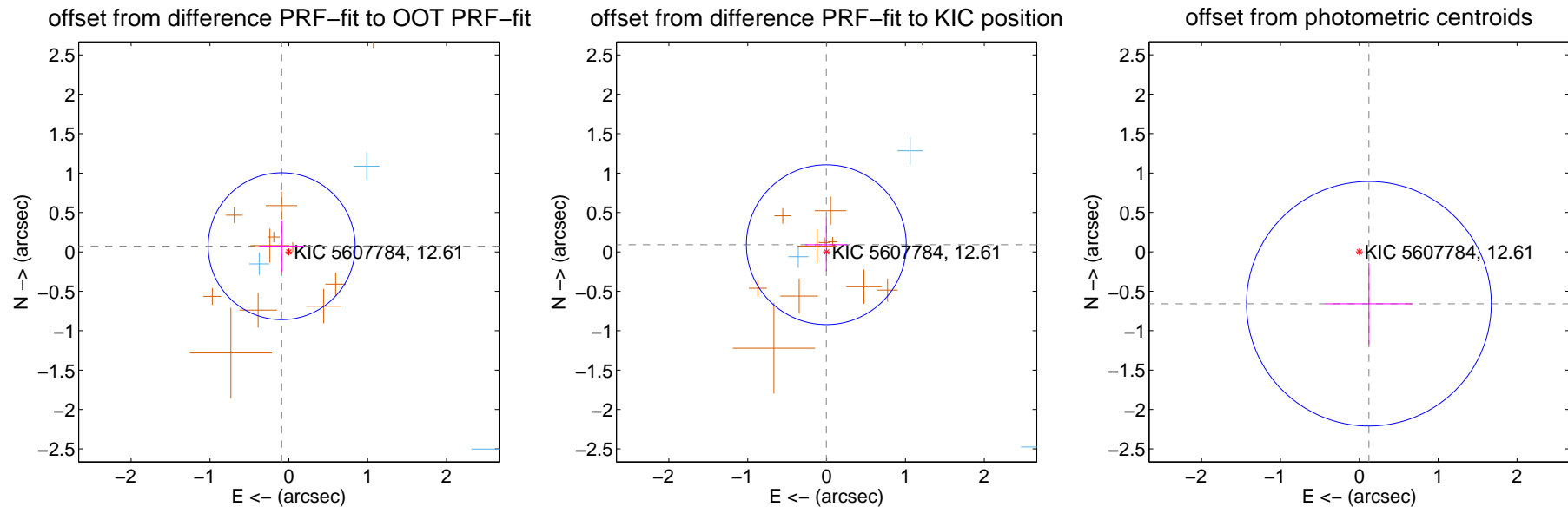
DV Centroid Data

Supplemental centroid analysis for 005607784-02. Kepler magnitude: 12.61. Transit SNR 11.42

There are 3 quarters with good PRF difference image offsets

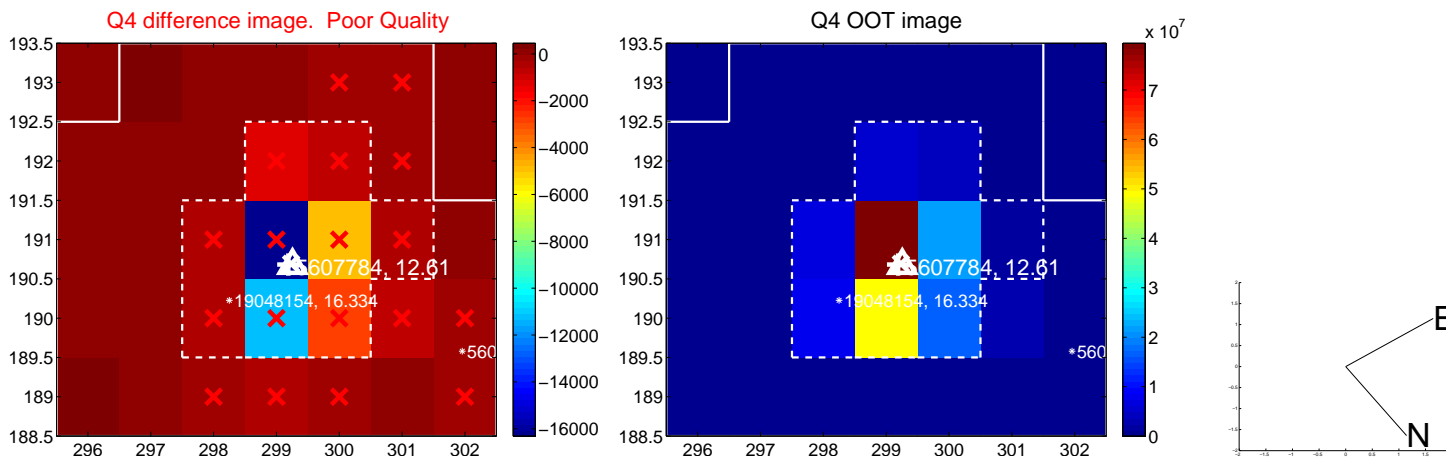
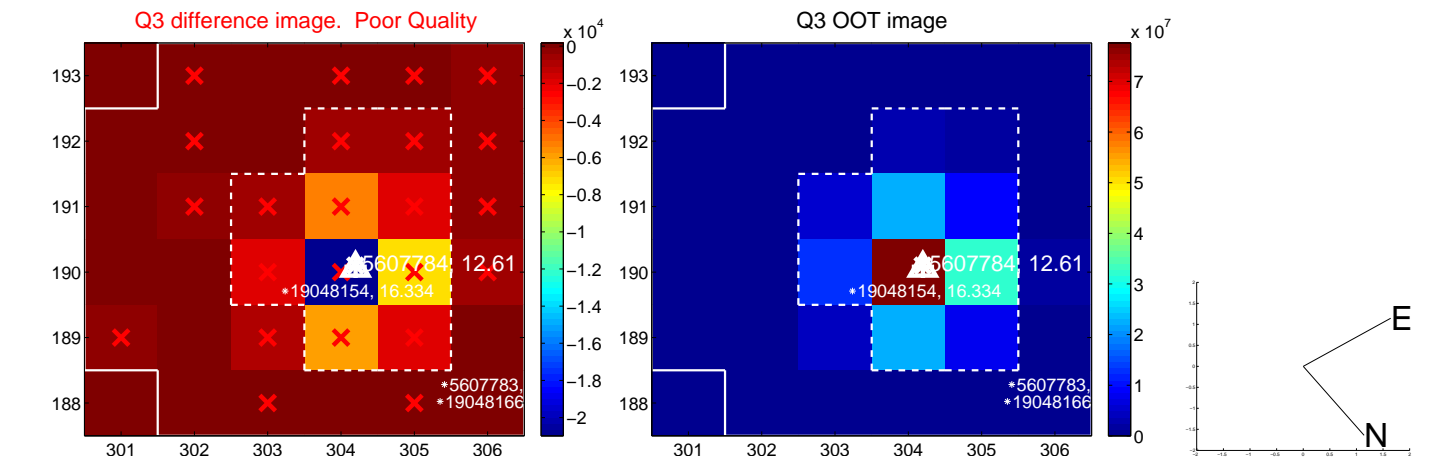
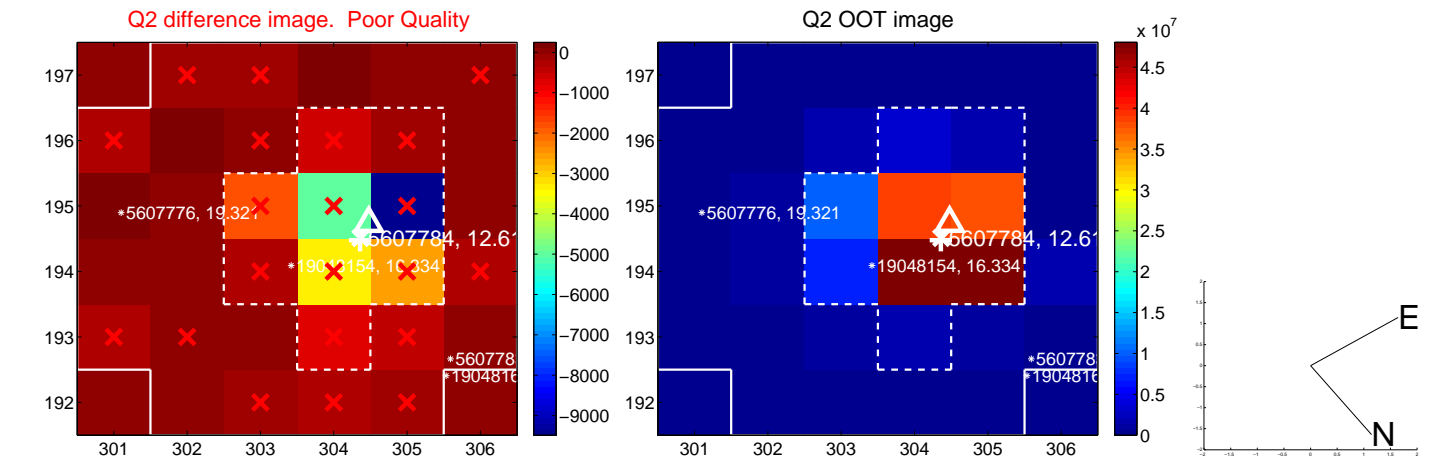
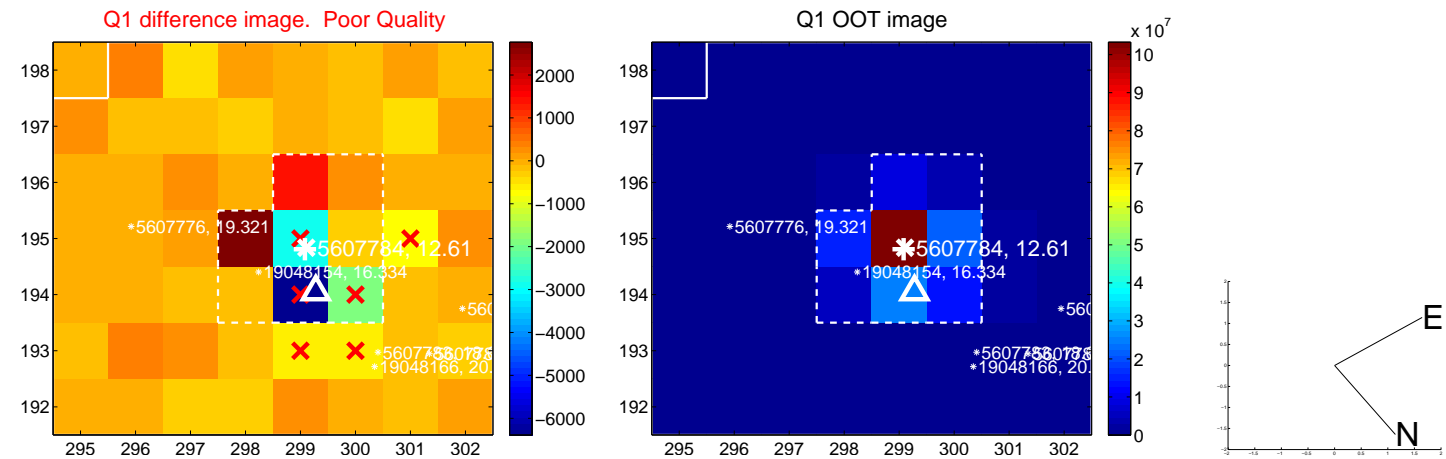
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.116 ± 0.311 | 0.37 | 0.091 ± 0.285 | 0.072 ± 0.326 |
| PRF-fit source offset from KIC position | 0.091 ± 0.338 | 0.27 | 0.003 ± 0.263 | 0.091 ± 0.337 |
| photometric centroid source offset | 0.67 ± 0.52 | 1.30 | -0.12 ± 0.55 | -0.66 ± 0.52 |

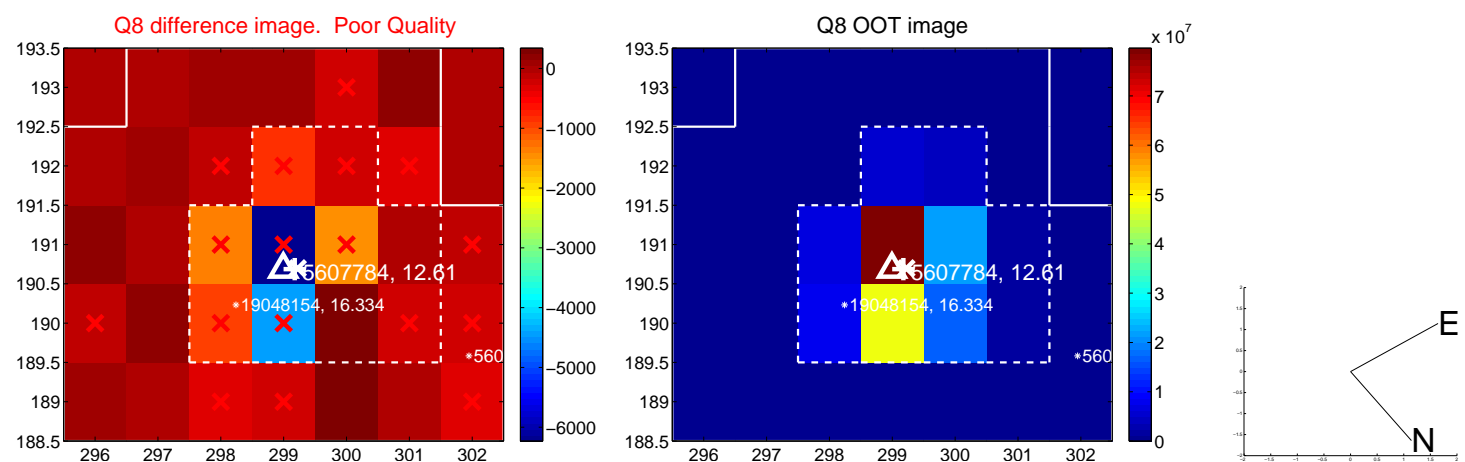
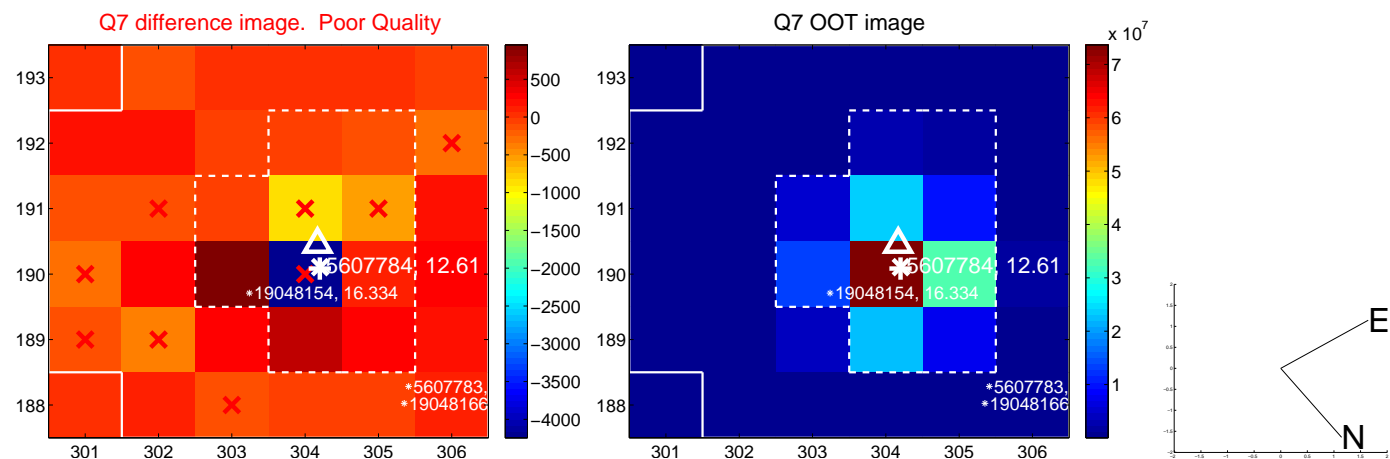
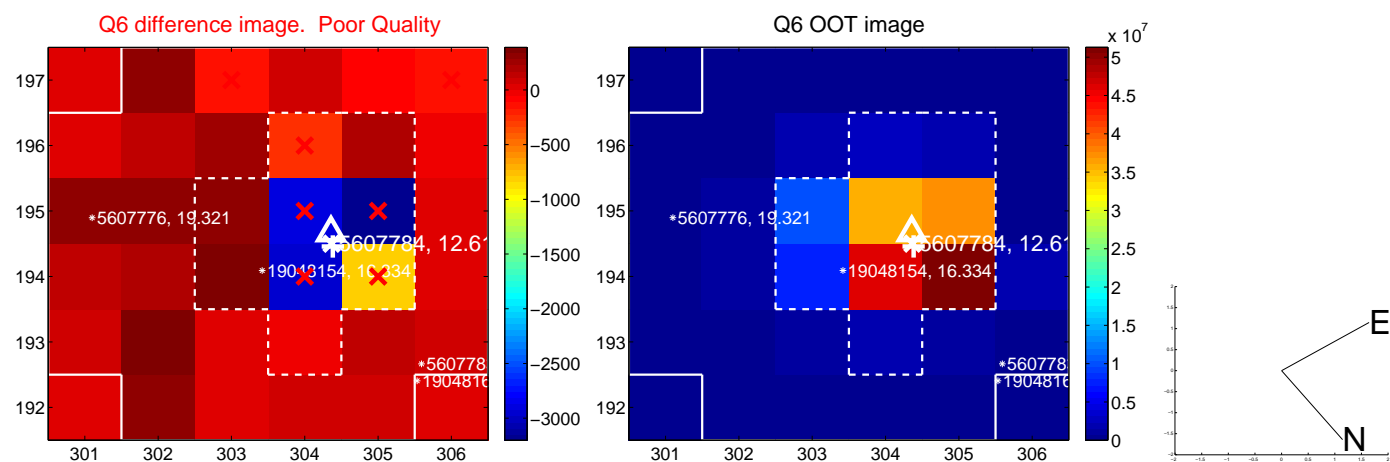
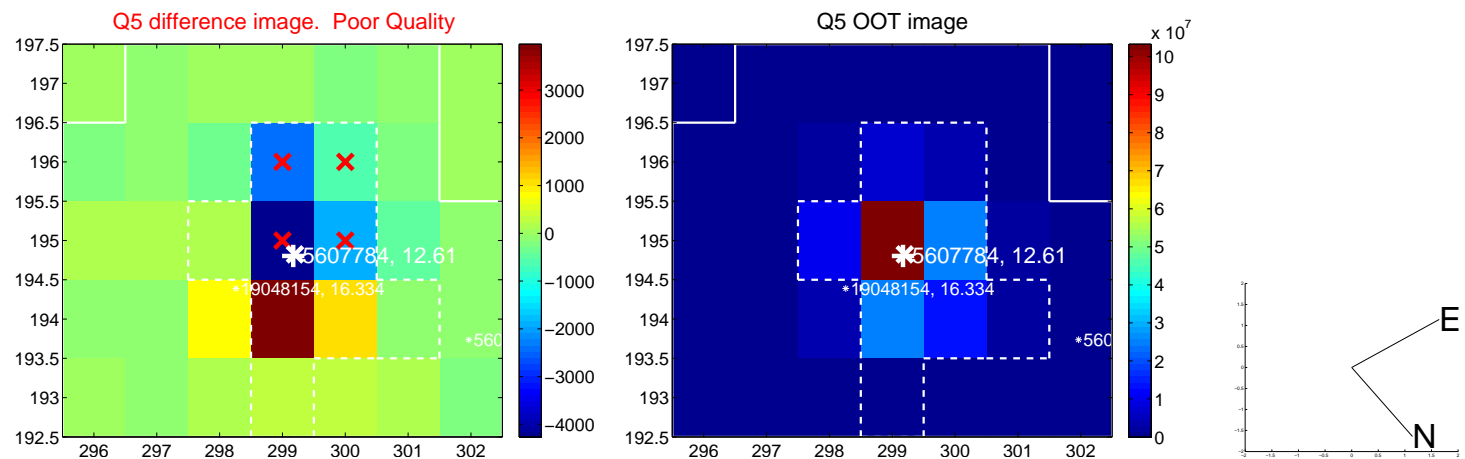


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

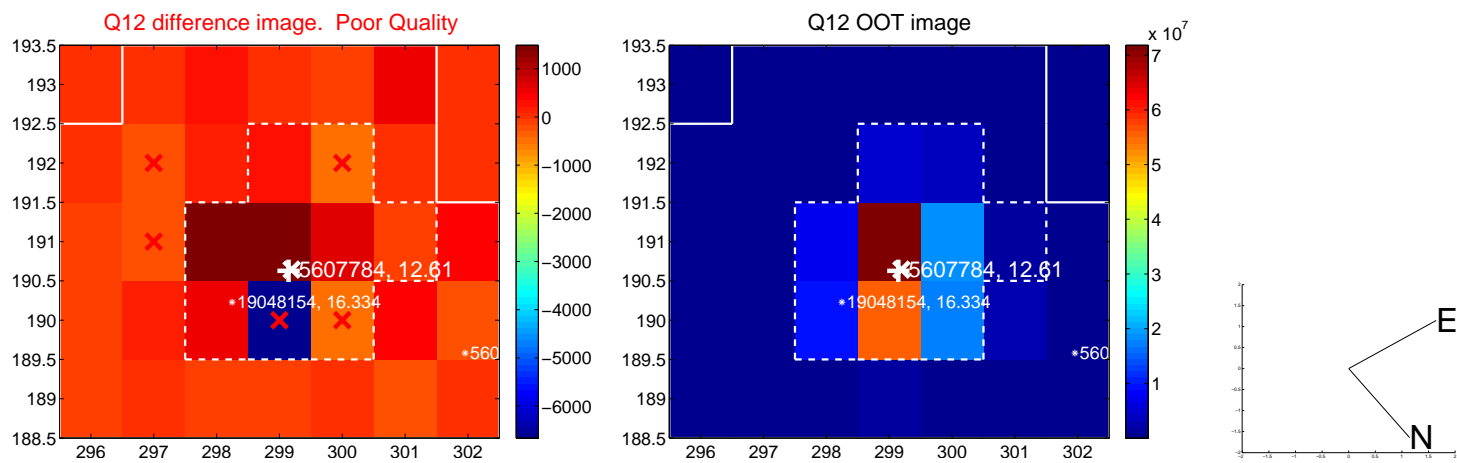
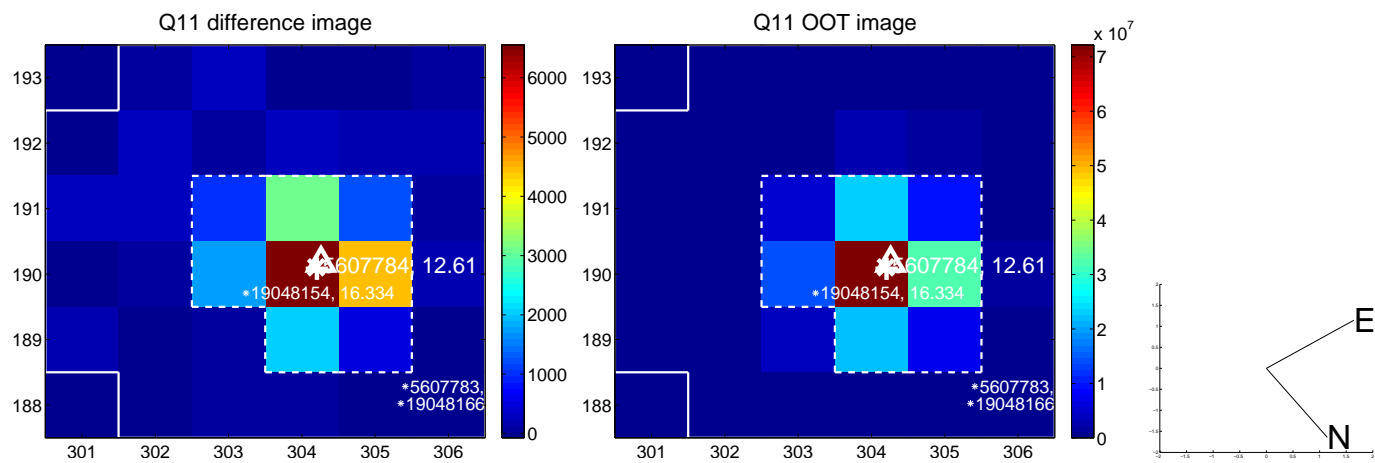
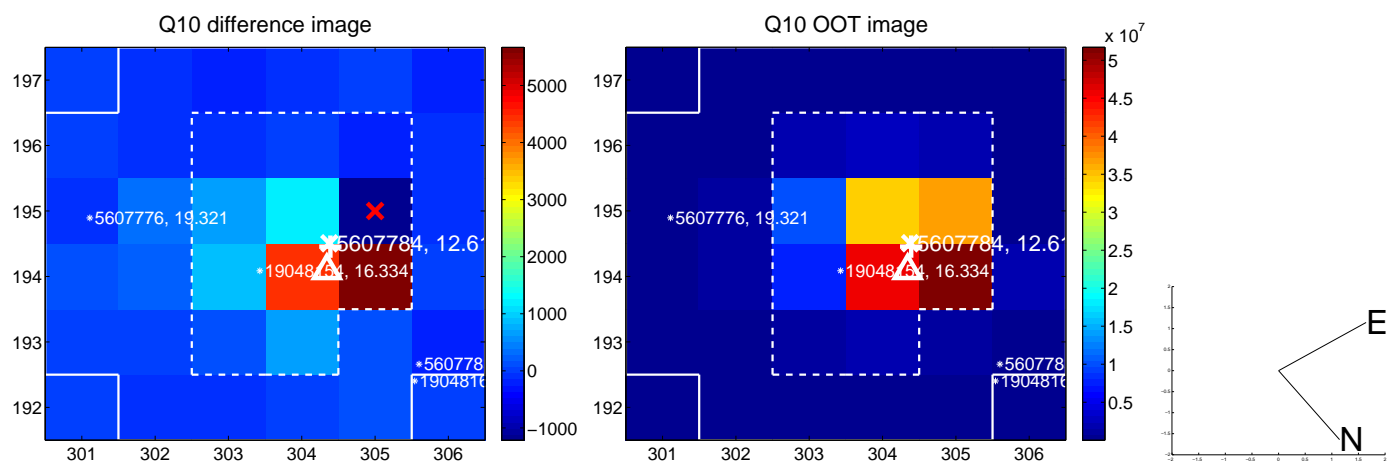
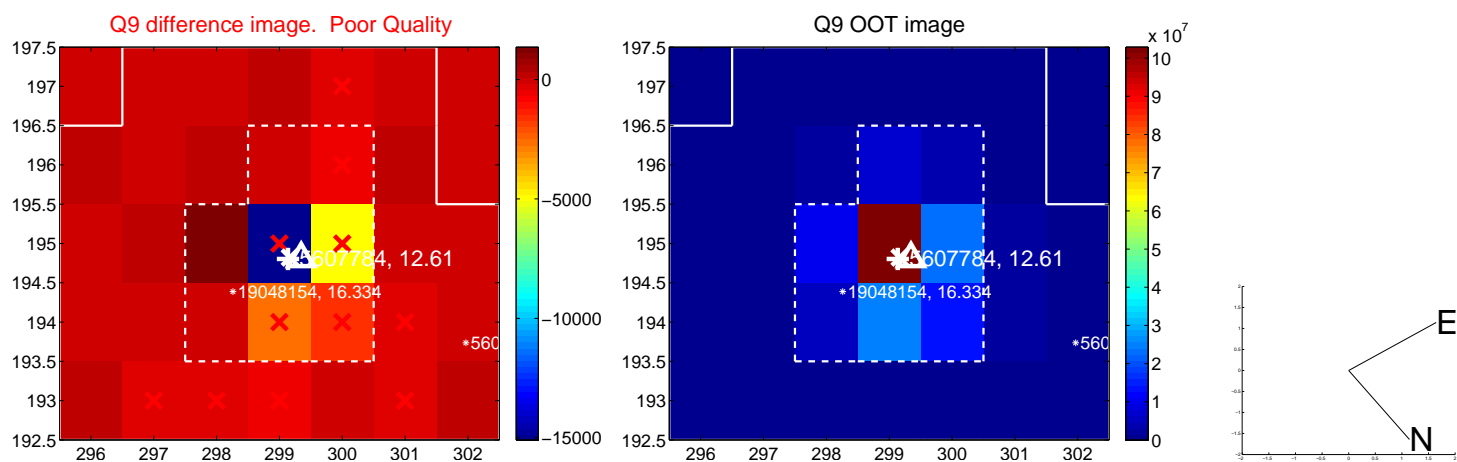
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



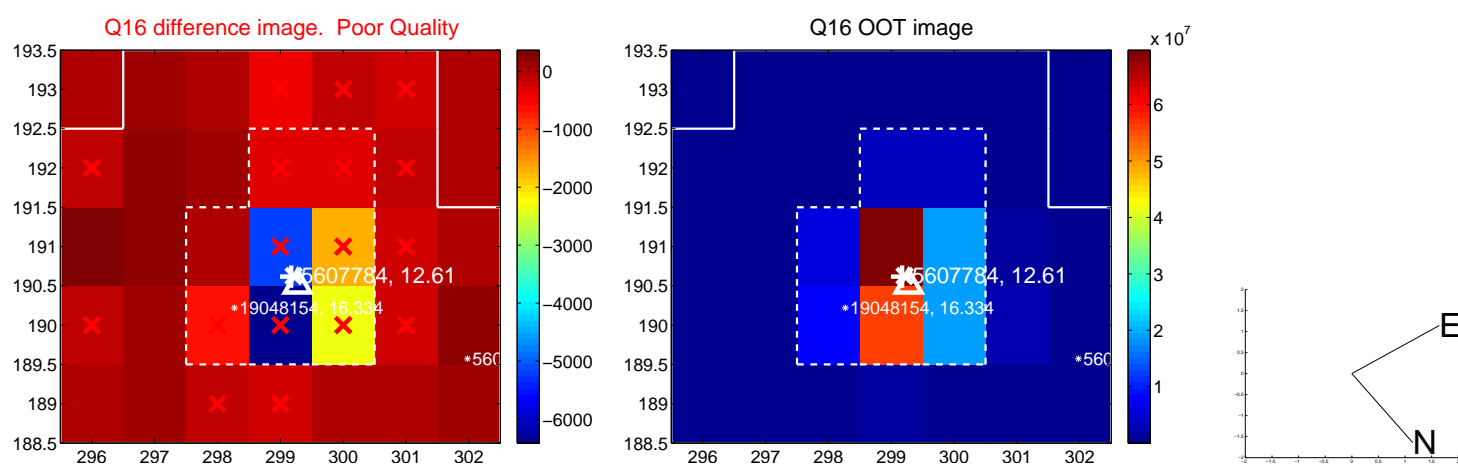
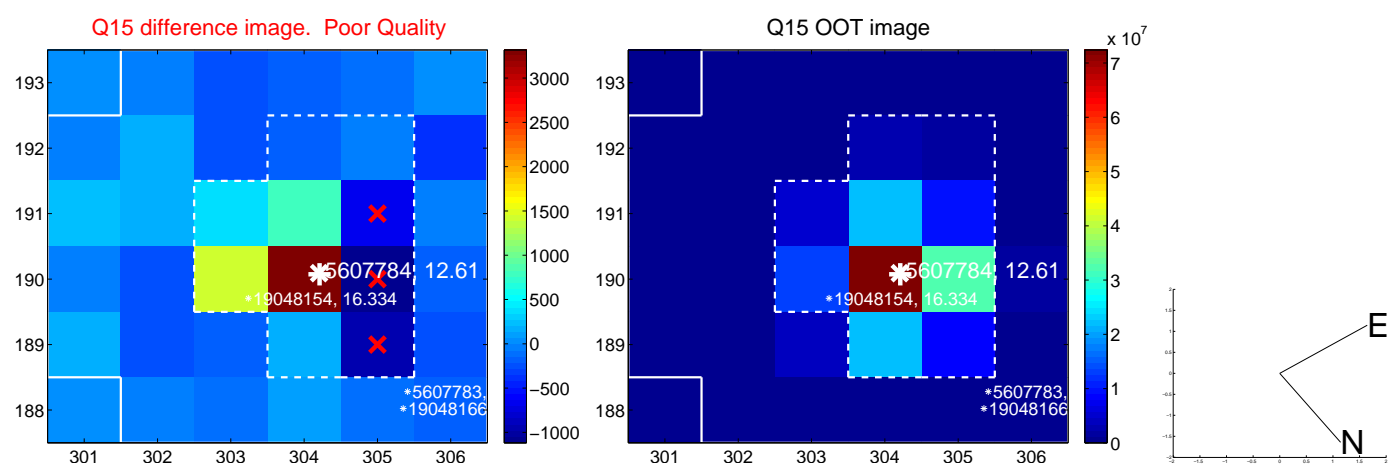
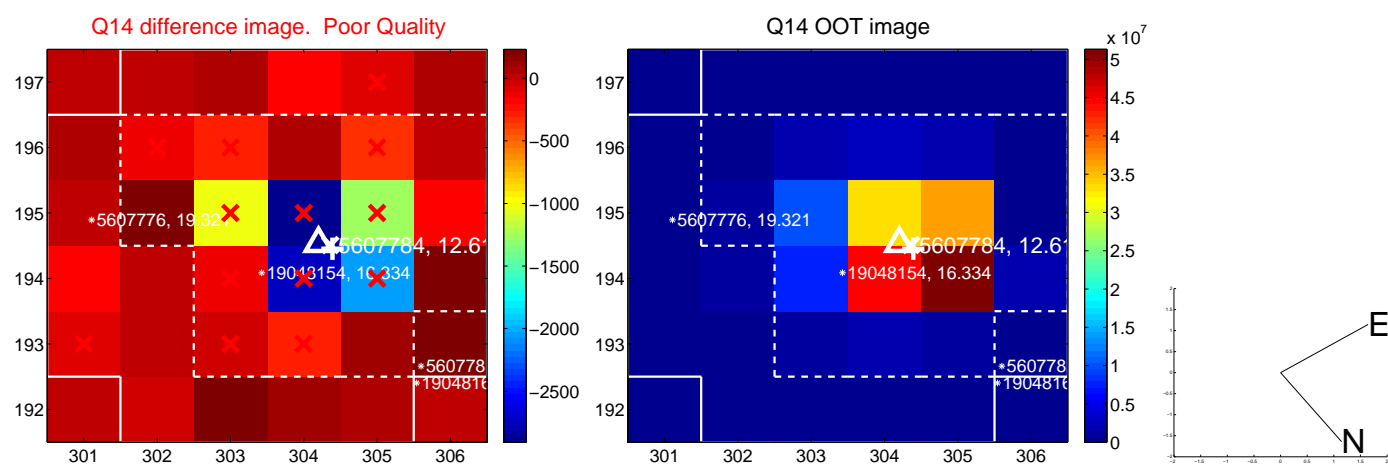
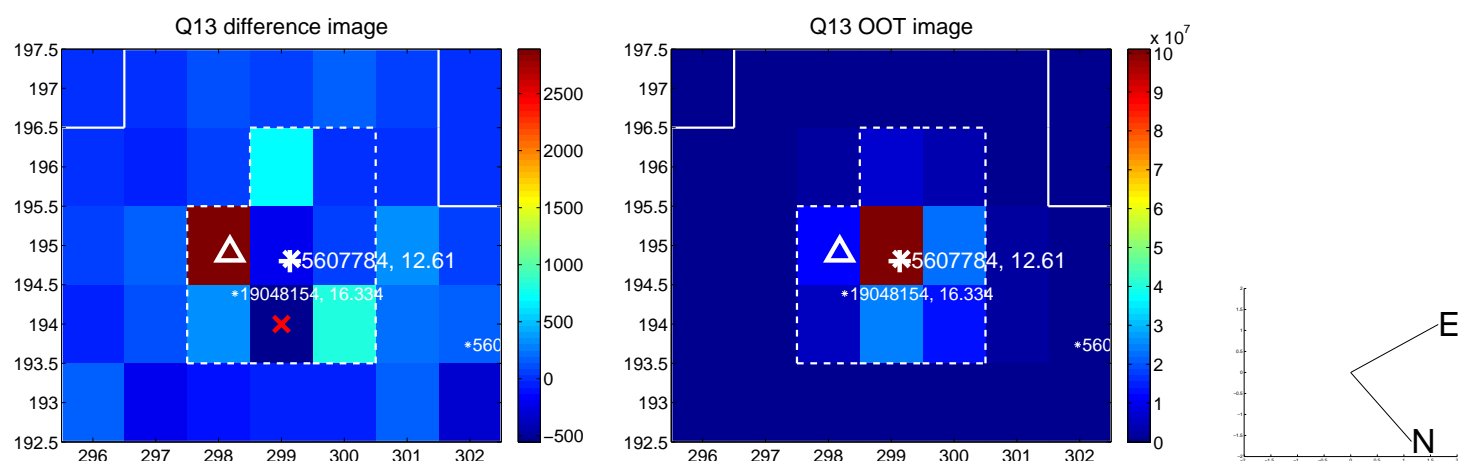
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



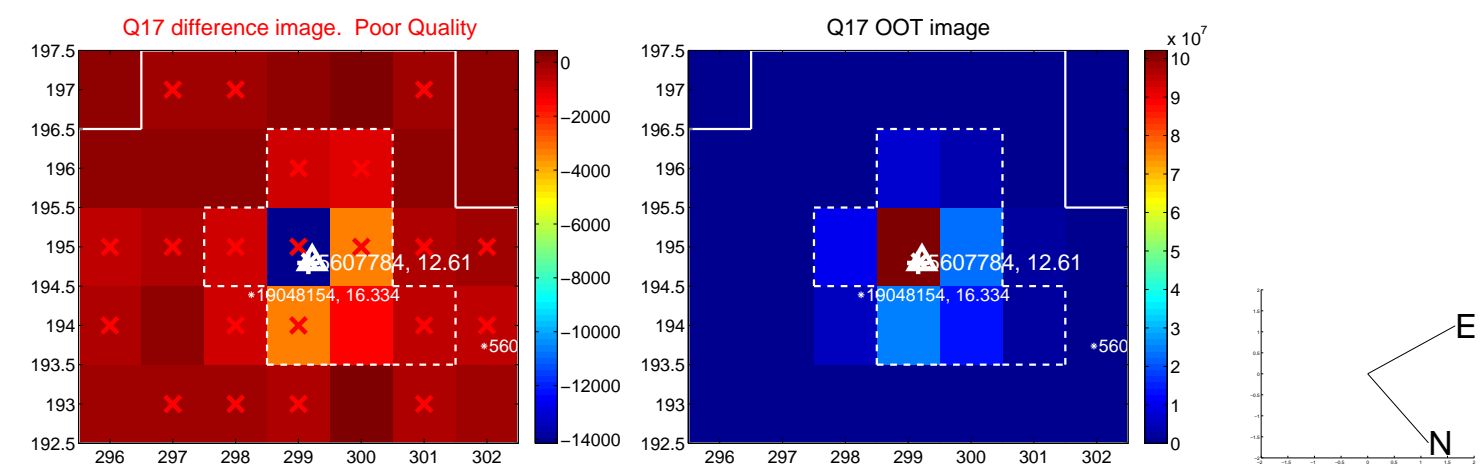
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



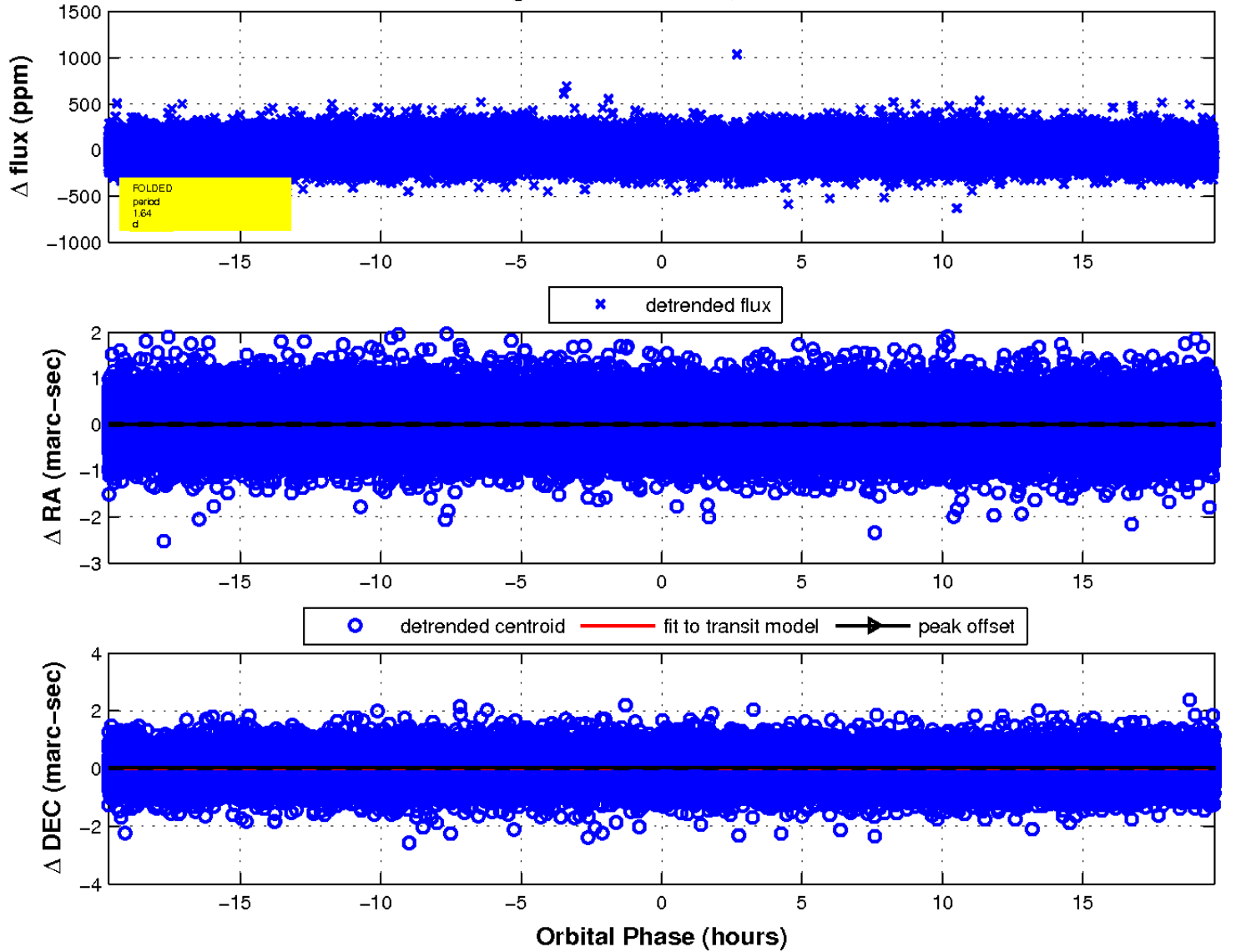
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

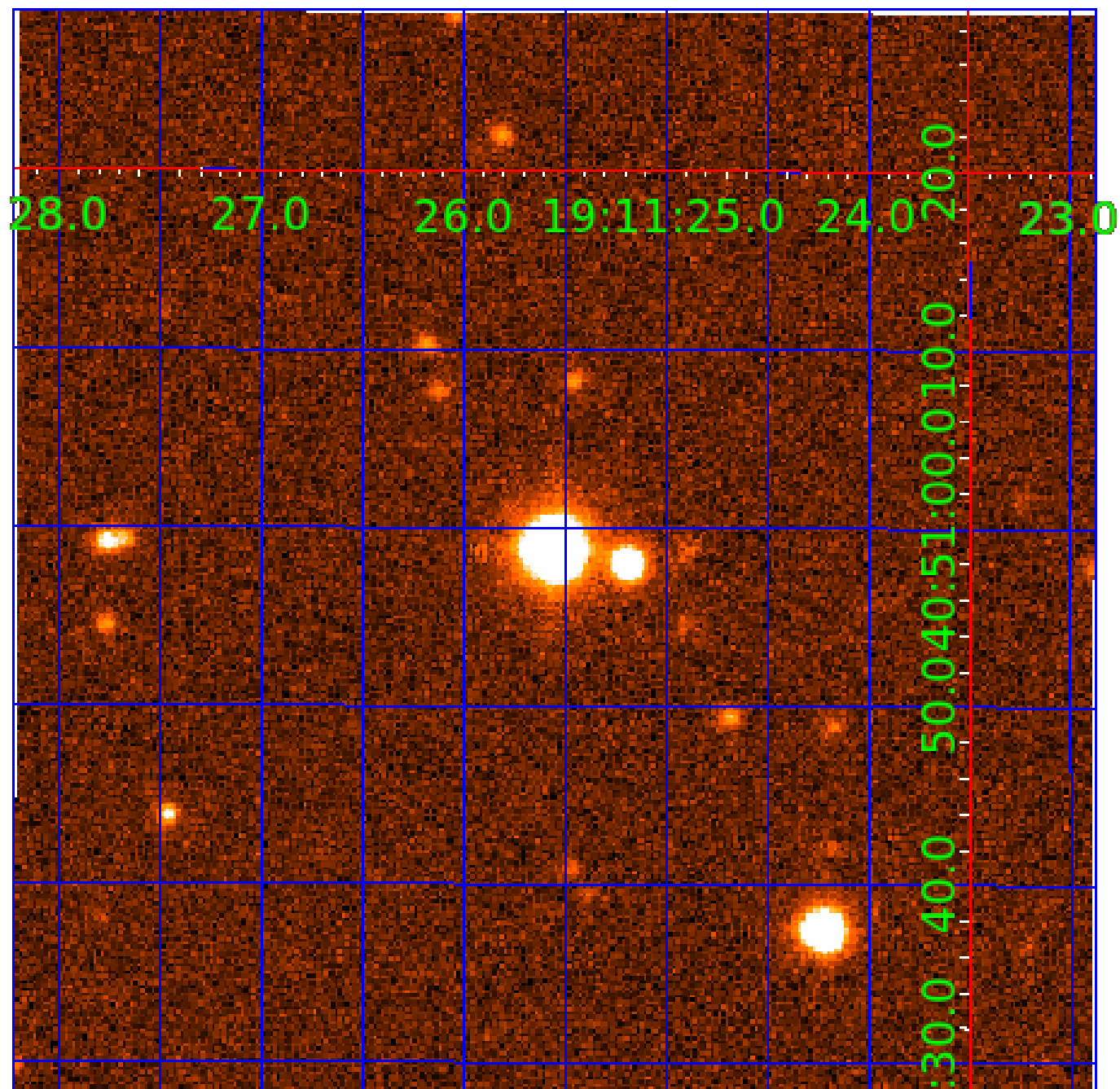


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 005607784

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 005607784-01 | OBS | No | 3.281768 | 131.838003 | 24.1 | 9.732 | 11.4 | 11.1 | 2.69 | 6622 | 1.55 | 4743.64 |
| 005607784-02 | OBS | No | 1.640888 | 131.609957 | 24.4 | 6.614 | 11.0 | 11.4 | 2.69 | 6622 | 1.33 | 11953.18 |
| 005607784-03 | OBS | No | 234.369627 | 157.930698 | 173.7 | 7.260 | 7.9 | 8.0 | 2.69 | 6622 | 3.97 | 16.01 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005607784-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV |
| 005607784-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | TRANS_GAPPED—SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD |
| 005607784-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT |

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

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

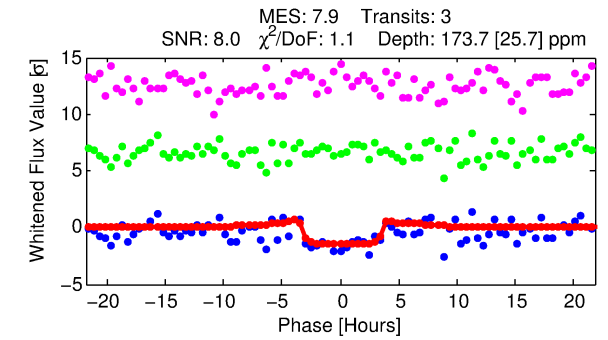
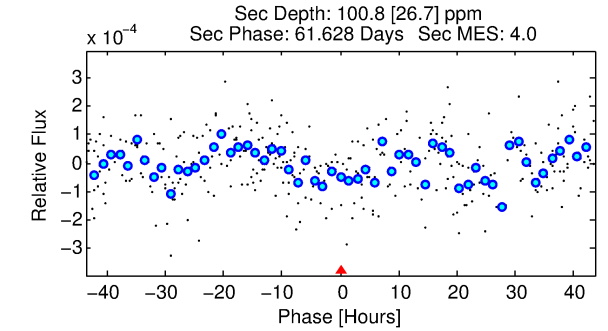
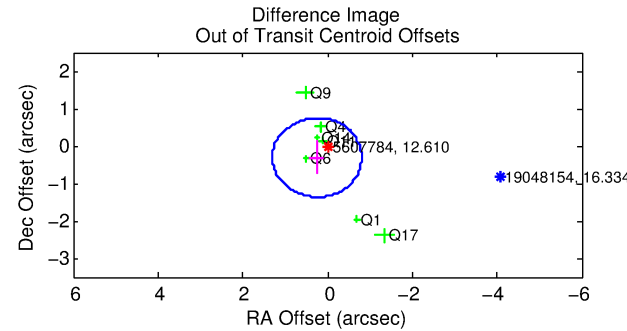
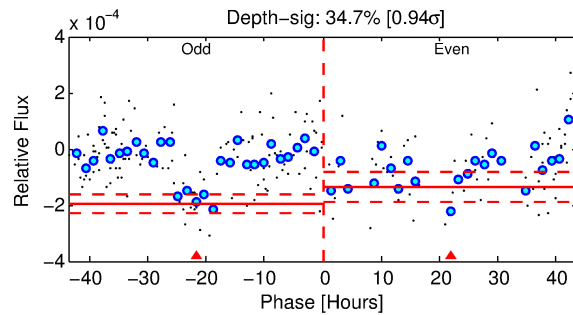
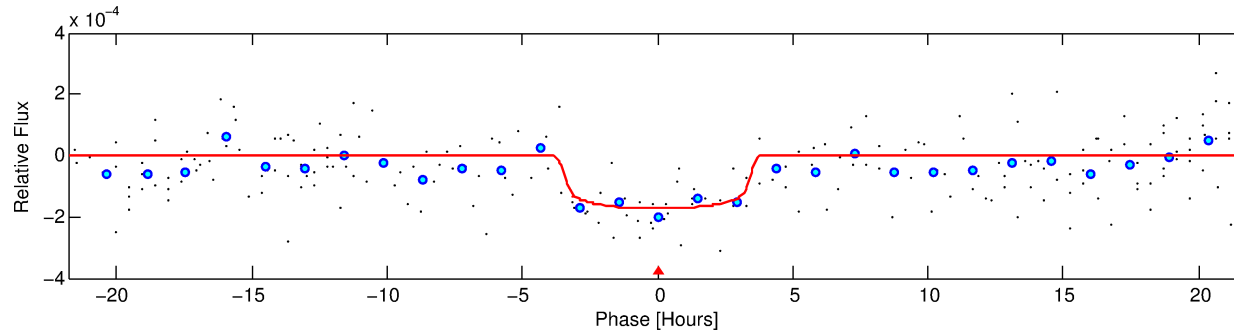
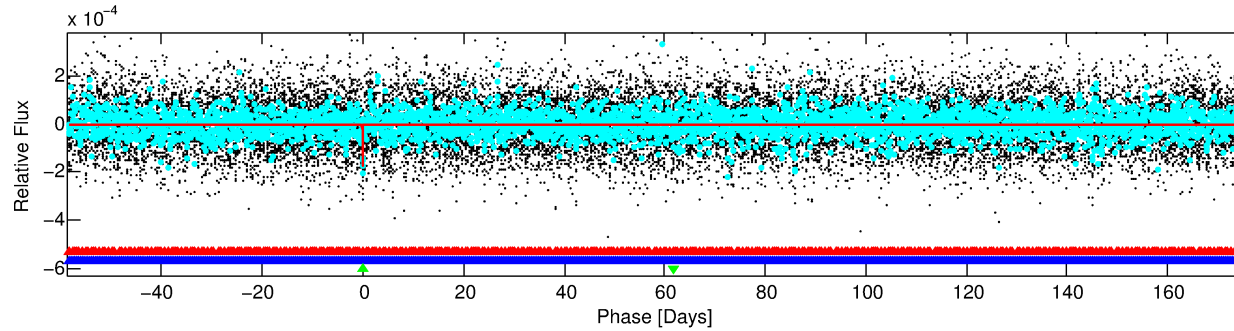
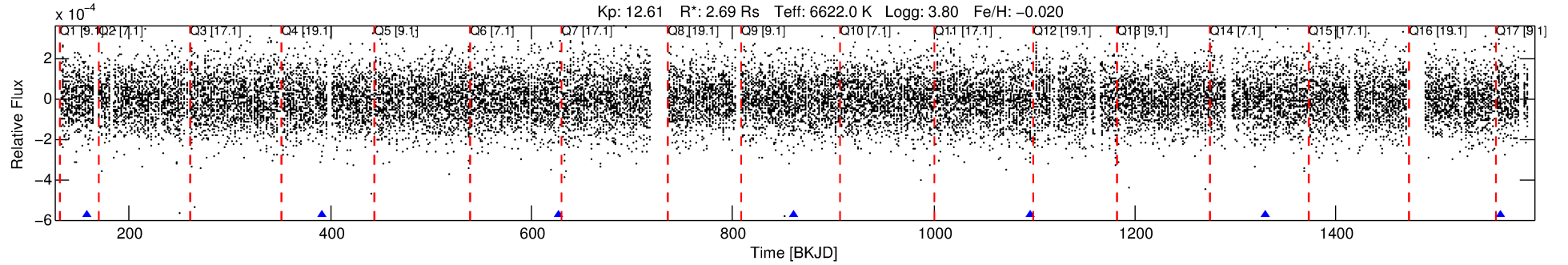
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005607784-03

No Significant Match Found

DV One-Page Summary

KIC: 5607784 Candidate: 3 of 3 Period: 234.370 d



DV Fit Results:

Period = 234.36963 [0.00969] d
Epoch = 157.9307 [0.0341] BKJD
Rp/R* = 0.0136 [0.0064]
a/R* = 140.79 [374.57]
b = 0.84 [0.96]
Seff = 16.01 [12.20]
Teq = 510 [97] K
Rp = 3.97 [2.67] Re
a = 0.8811 [0.4094] AU
Ag = 2728.72 [3360.97] [0.81 σ]
Teff = 5700 [1412] K [3.67 σ]

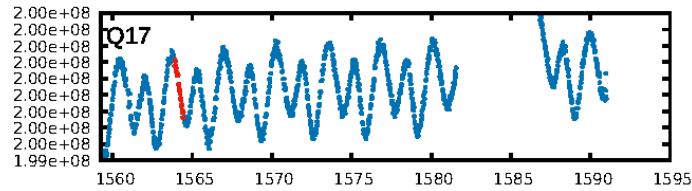
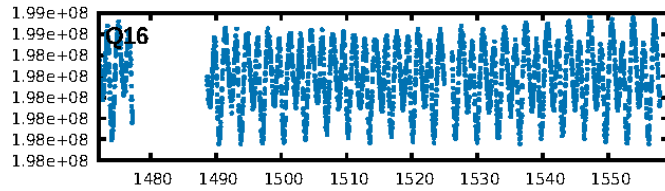
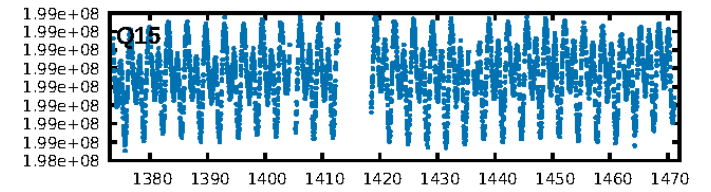
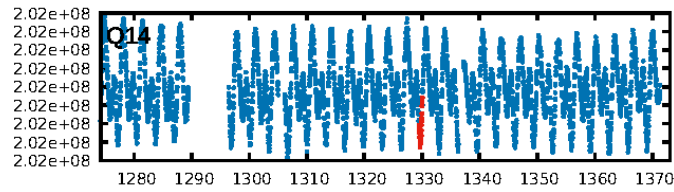
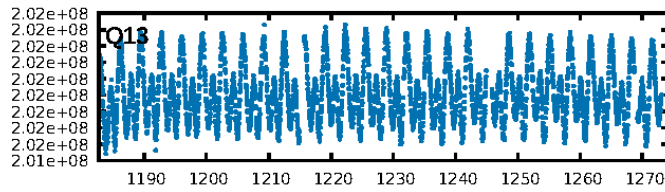
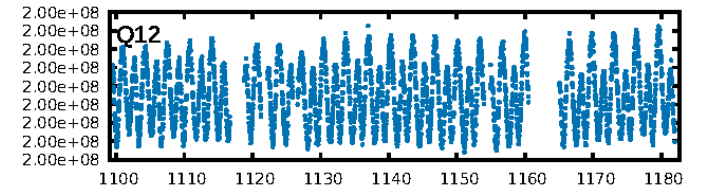
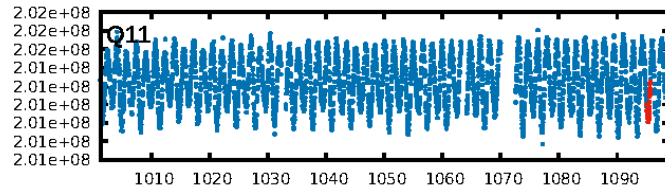
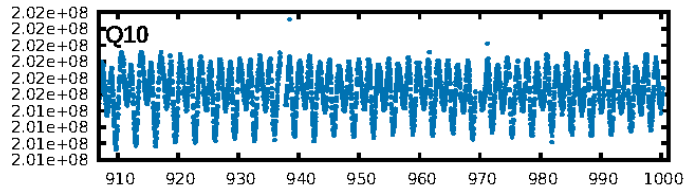
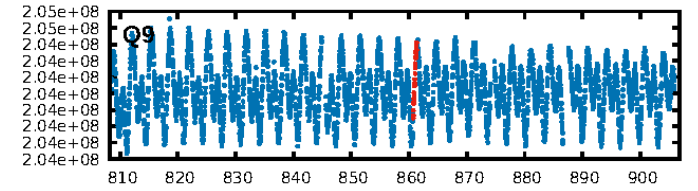
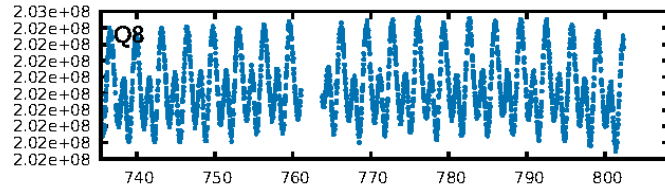
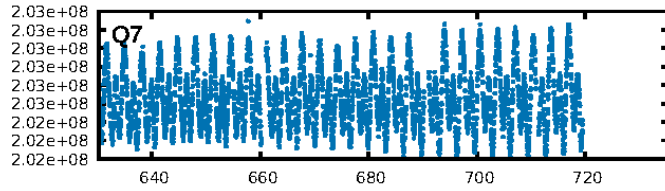
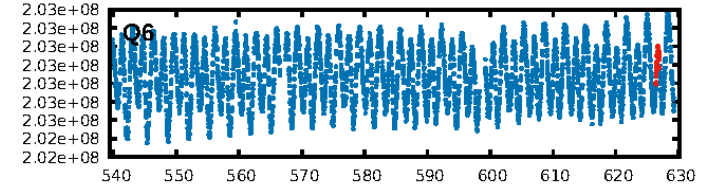
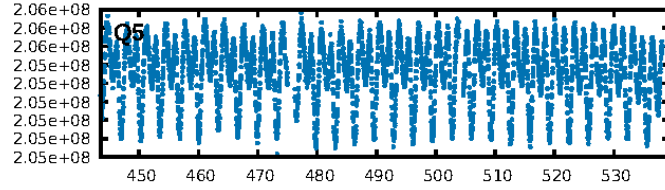
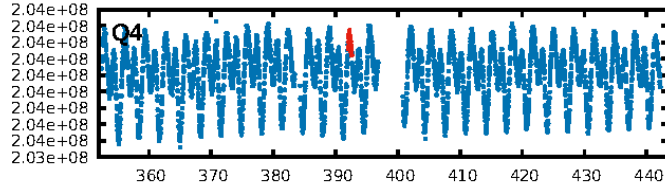
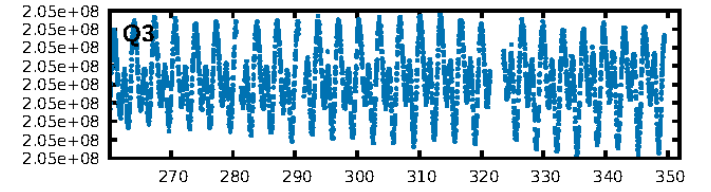
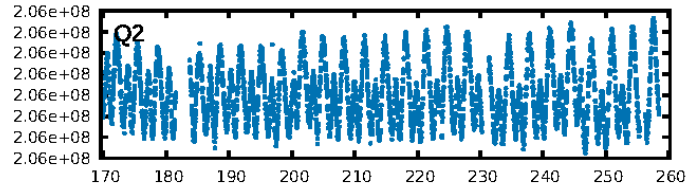
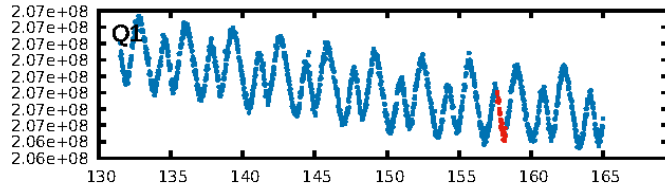
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [456.77 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 45.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 5.56e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 14.71
Centroid-sig: 77.0%
Centroid-so: 0.341 arcsec [0.44 σ]
OotOffset-rm: 0.397 arcsec [1.13 σ]
KicOffset-rm: 0.222 arcsec [1.03 σ]
OotOffset-st: 2/1/1/3 [7]
KicOffset-st: 2/1/1/3 [7]
DiffImageQuality-fgm: 0.43 [3/7]
DiffImageOverlap-fno: 0.00 [0/7]

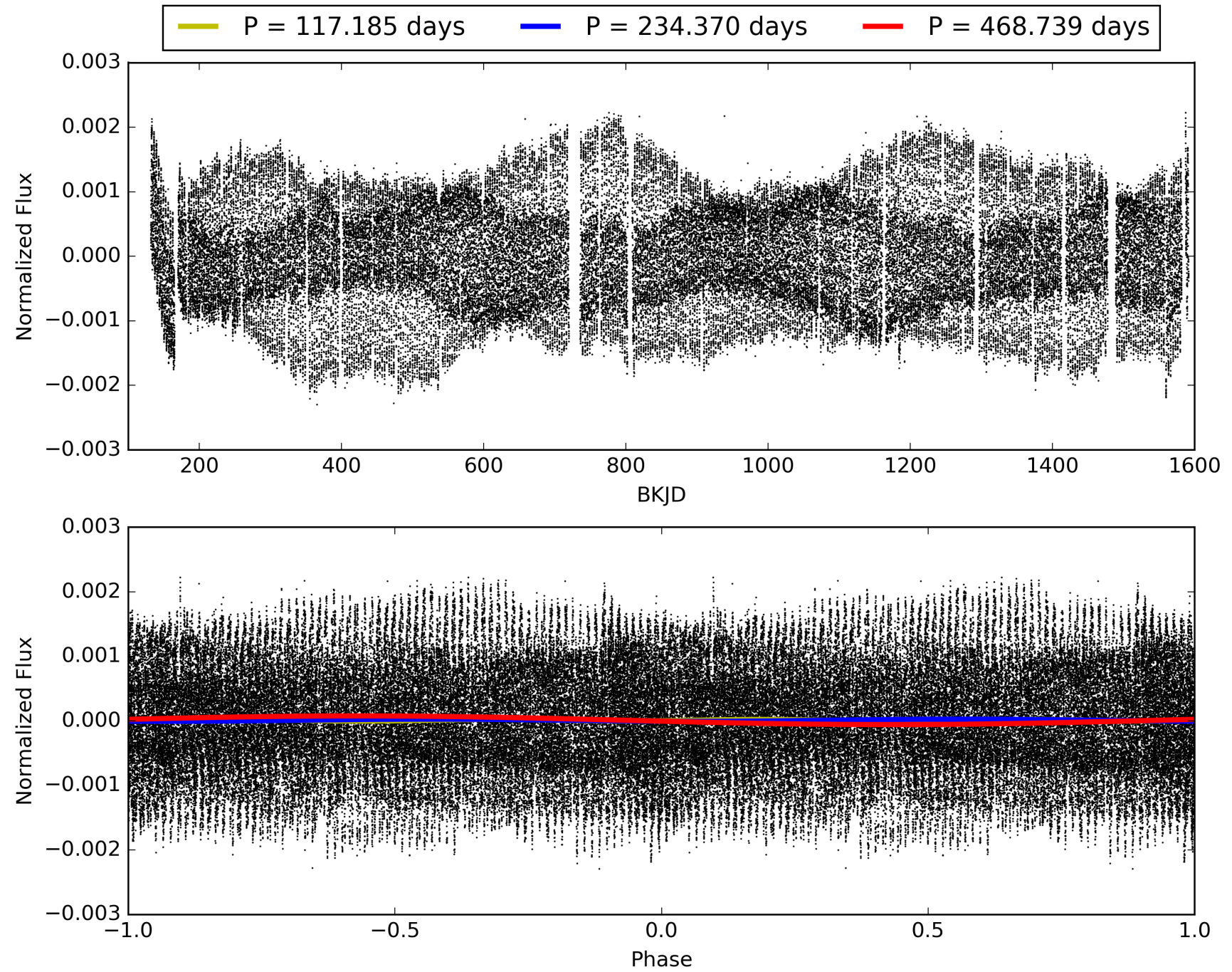
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:57:50 Z

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

TCE 005607784-03, PDC Light Curves

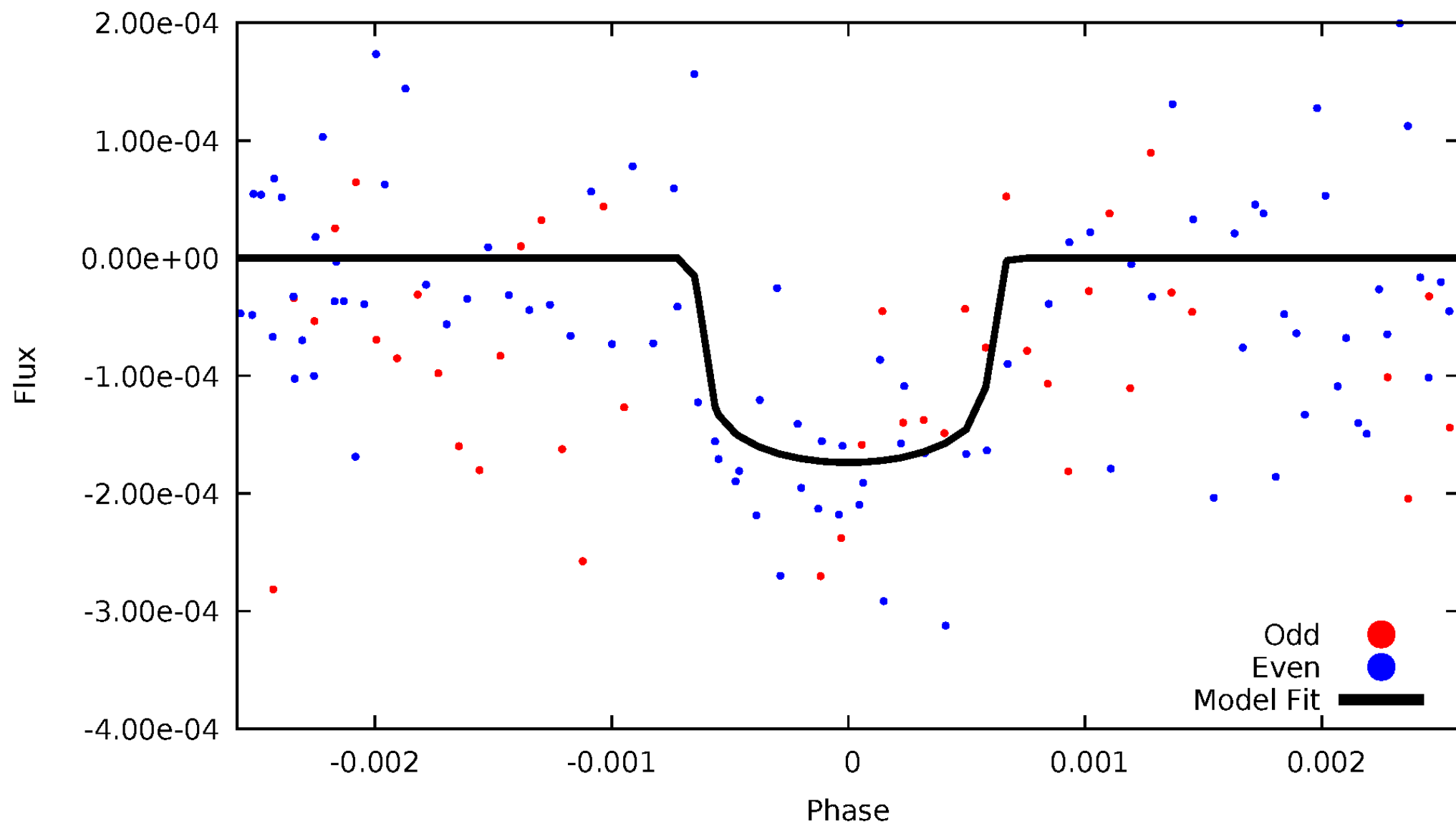


TCE 005607784-03



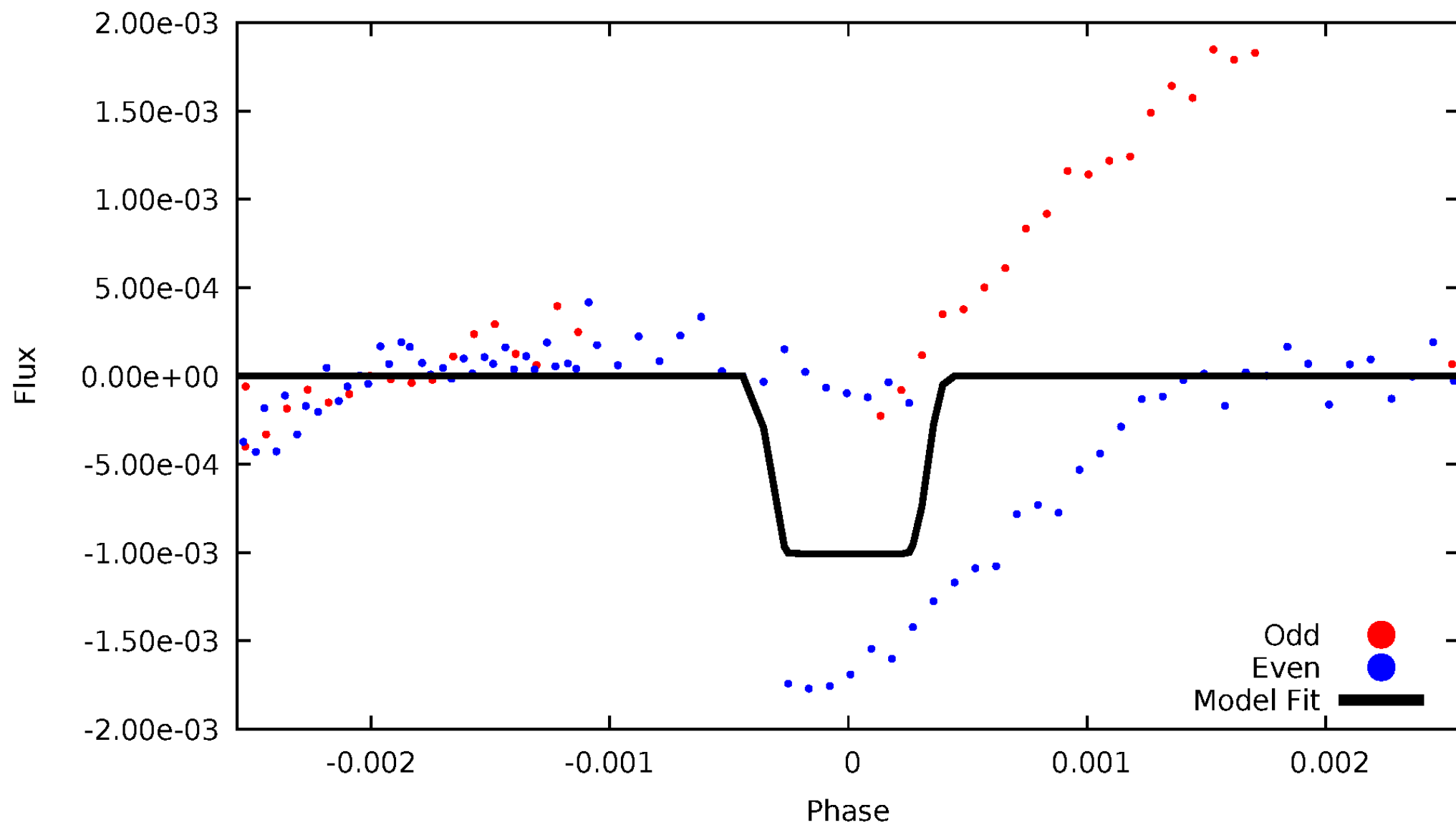
DV Odd/Even

TCE 005607784-03

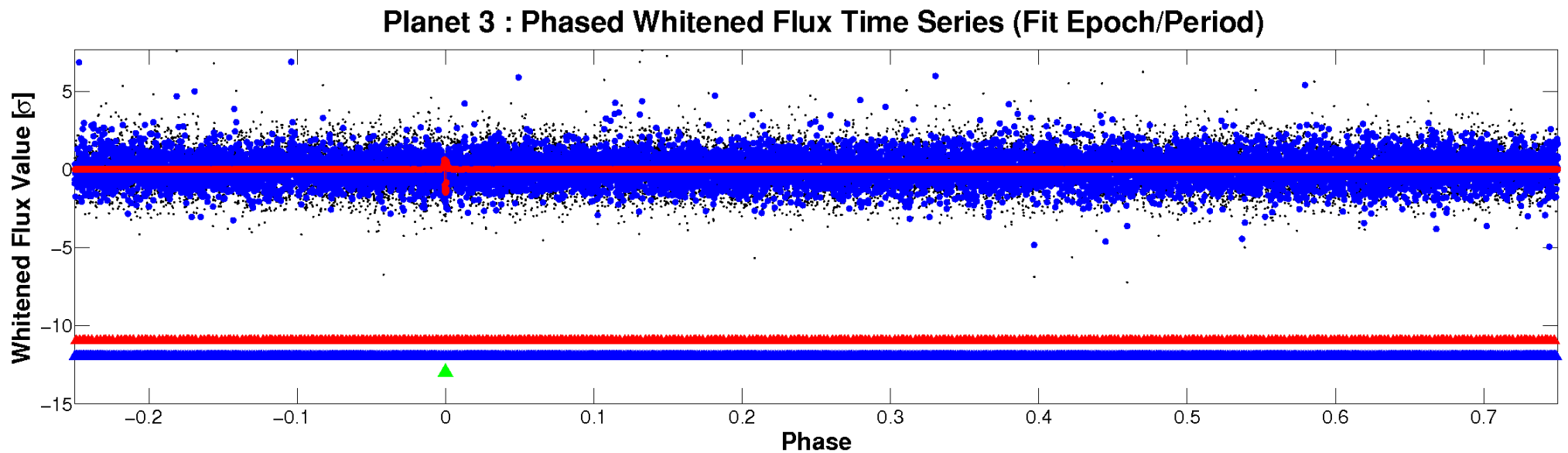
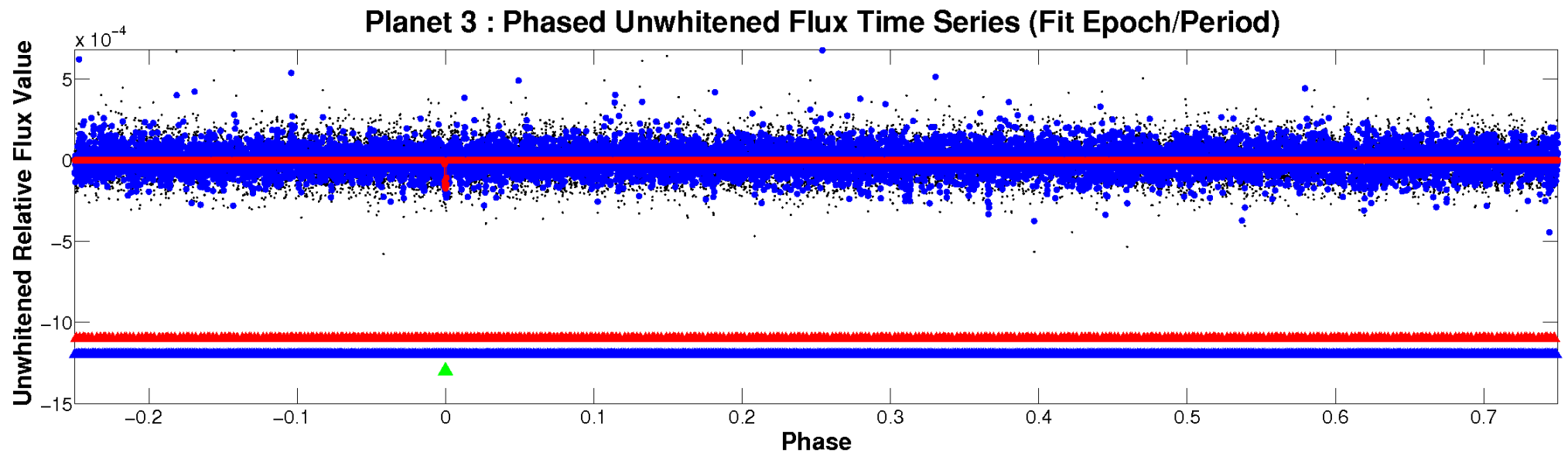


ALT Odd/Even

TCE 005607784-03

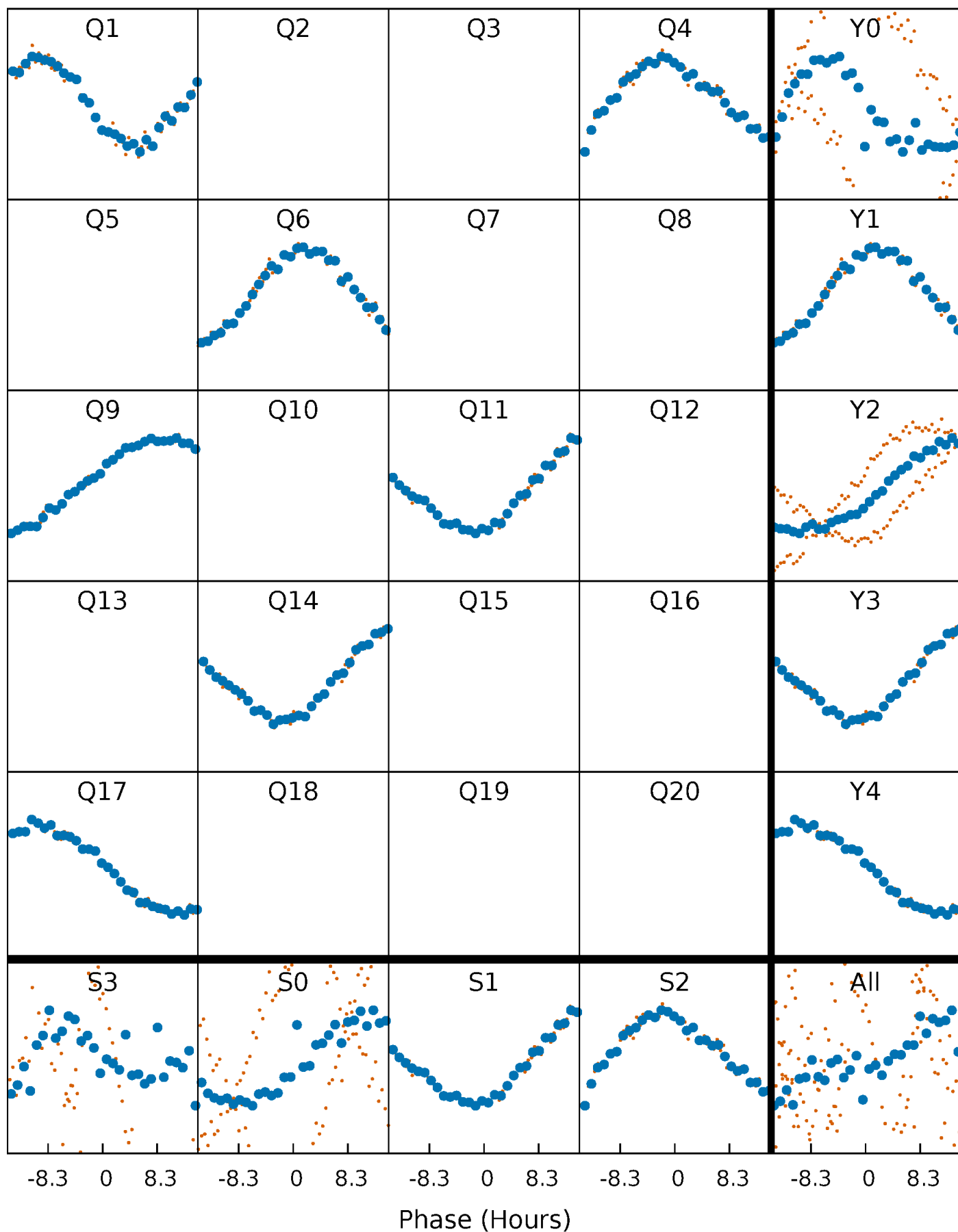


Non-Whitened Vs. Whitened Light Curve



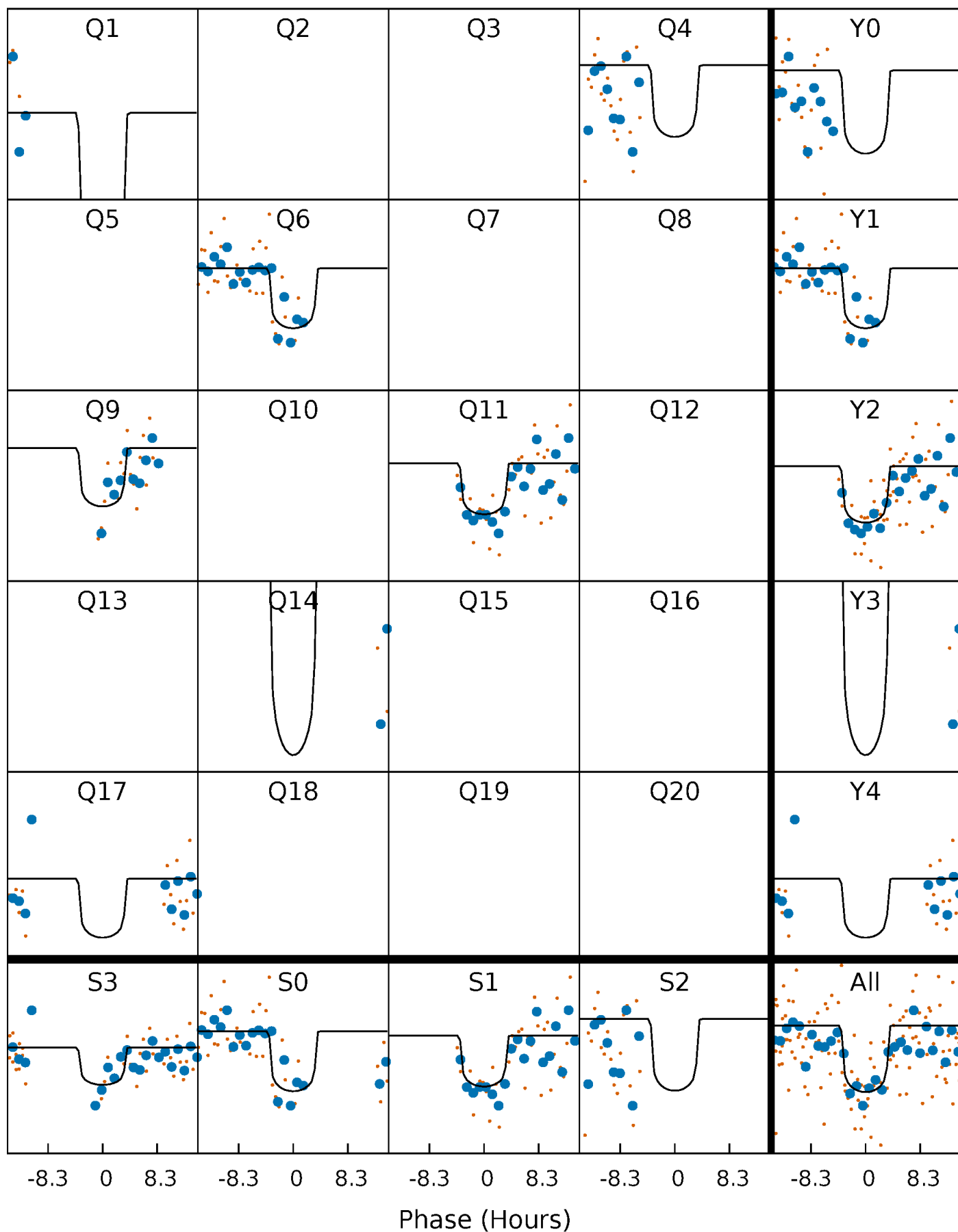
PDC Quarter-Phased Transit Curves

TCE 005607784-03 $P=234.369627$ Days $T_0=157.930698$ (BKJD)



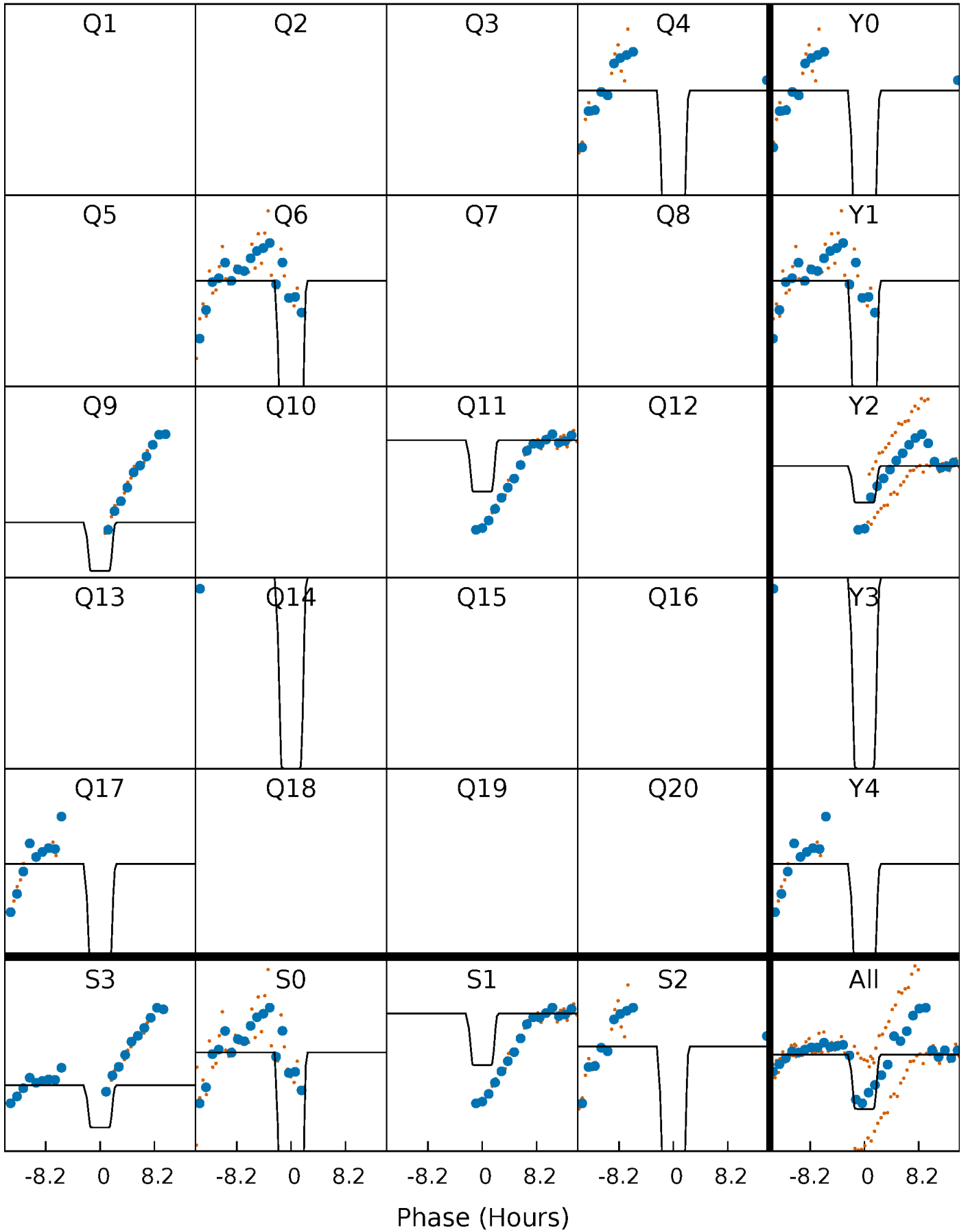
DV Quarter-Phased Transit Curves

TCE 005607784-03 P=234.369627 Days $T_0=157.930698$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

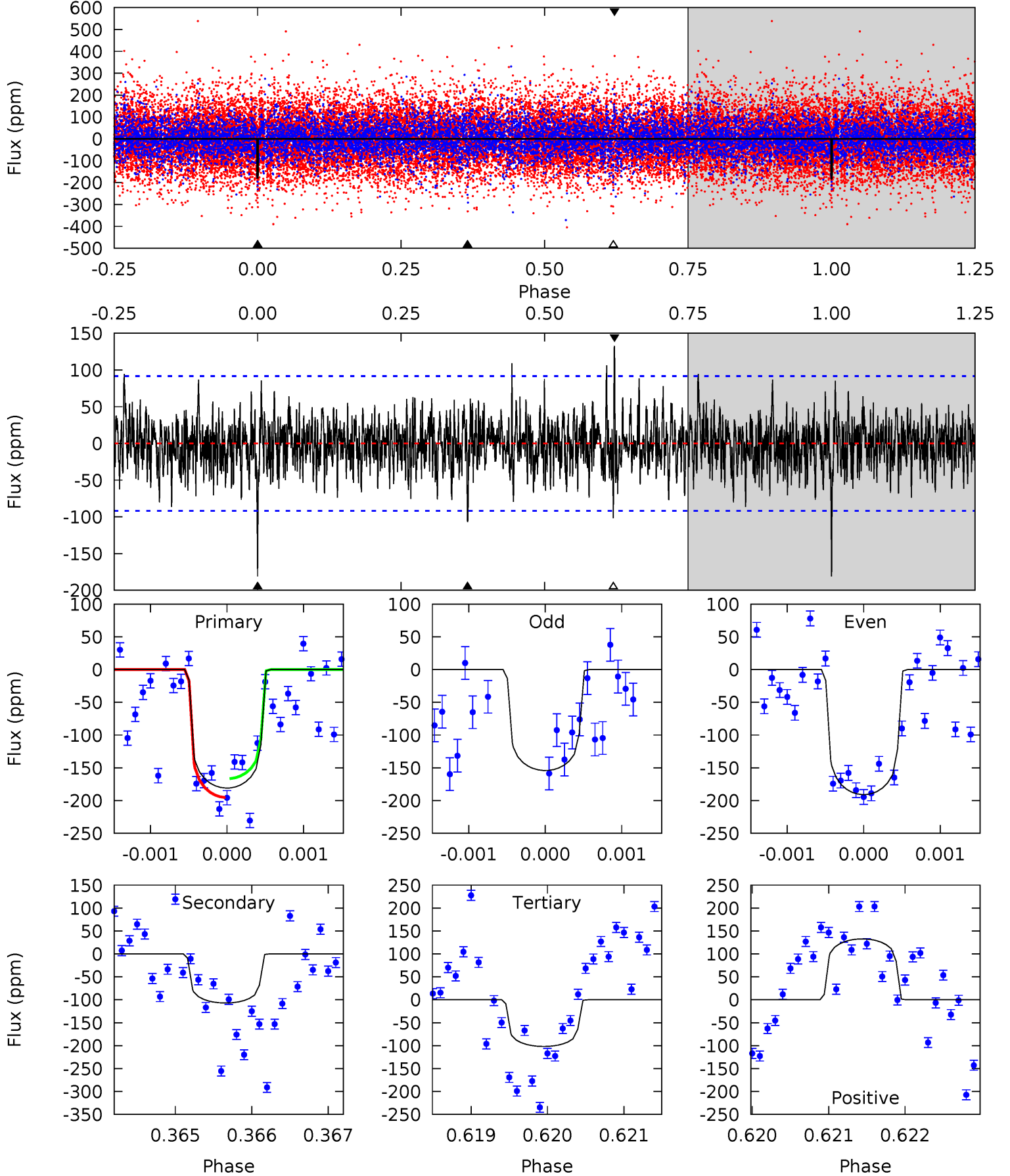
TCE 005607784-03 P=234.318444 Days $T_0=158.025251$ (BKJD)



DV Model-Shift Uniqueness Test

005607784-03, P = 234.369627 Days, E = 157.930698 Days

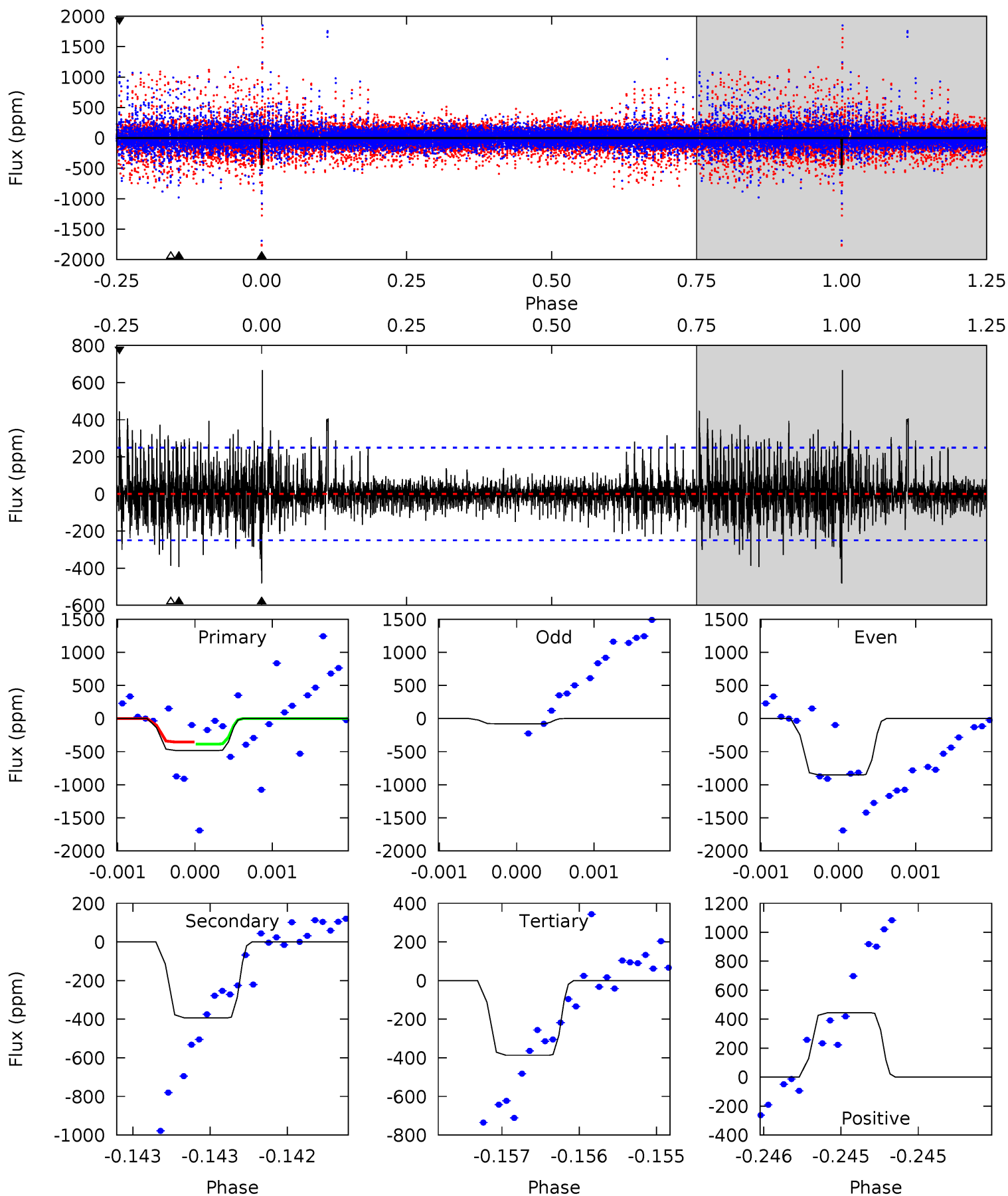
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.6 | 6.30 | 5.99 | 7.81 | 5.40 | 3.21 | 1.62 | 4.65 | 2.84 | 0.31 | -1.50 | 0.99 | 1.05 | 0.42 | 0.85 |



Alt Model-Shift Uniqueness Test

005607784-03, P = 234.318444 Days, E = 158.025251 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.6 | 8.68 | 8.54 | 9.81 | 5.51 | 3.38 | 1.69 | 2.11 | 0.83 | 0.14 | -1.14 | 7.60 | 7.62 | 0.58 | 0.29 |



Stellar Parameters For KIC 005607784

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6622^{+182}_{-250} | $3.800^{+0.440}_{-0.110}$ | $-0.020^{+0.250}_{-0.300}$ | $2.686^{+0.551}_{-1.286}$ | $1.659^{+0.198}_{-0.461}$ | $0.121^{+0.527}_{-0.041}$ |
| | +3%/-4% | +12%/-3% | +1250%/-1500% | +21%/-48% | +12%/-28% | +437%/-34% |
| 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 005607784-03 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|-----------------------|------------------------|
| DV | -107 ± 17 | $3.59^{+1.98}_{-1.74}$ | 690^{+53}_{-78} | 5655^{+2122}_{-833} | 3381^{+9459}_{-1996} |
| Alt. | -393 ± 45 | $8.28^{+2.79}_{-2.47}$ | 691^{+51}_{-87} | 5284^{+620}_{-447} | 2436^{+2167}_{-1051} |

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

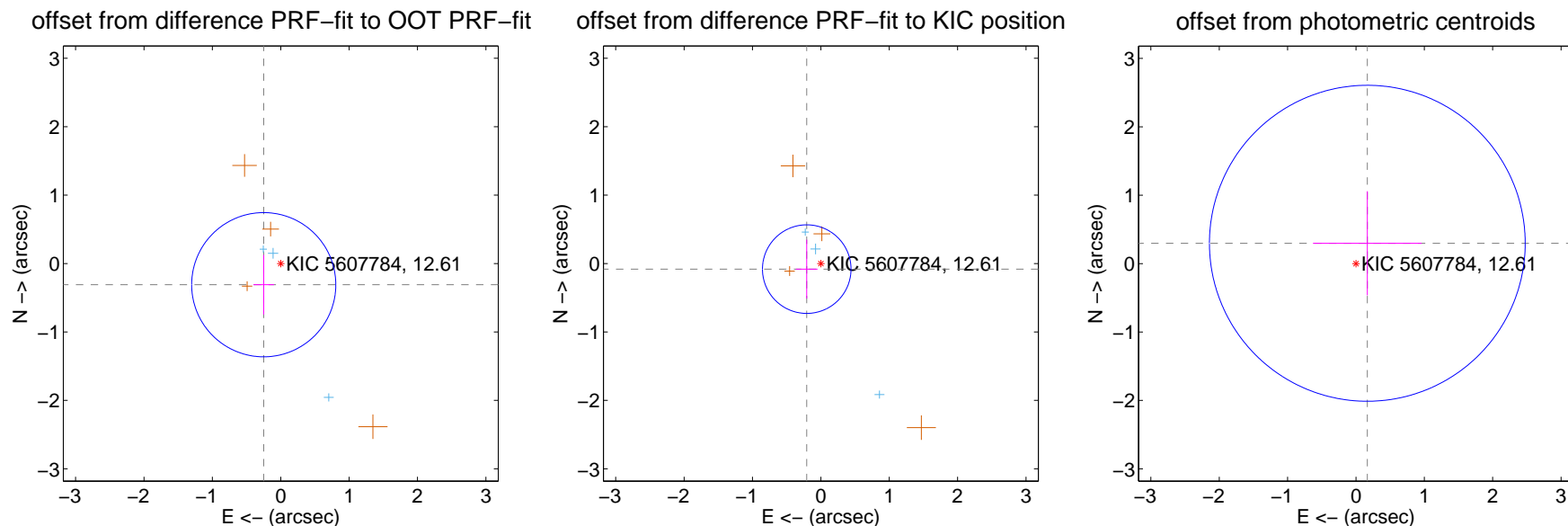
DV Centroid Data

Supplemental centroid analysis for 005607784-03. Kepler magnitude: 12.61. Transit SNR 8.04

There are 3 quarters with good PRF difference image offsets

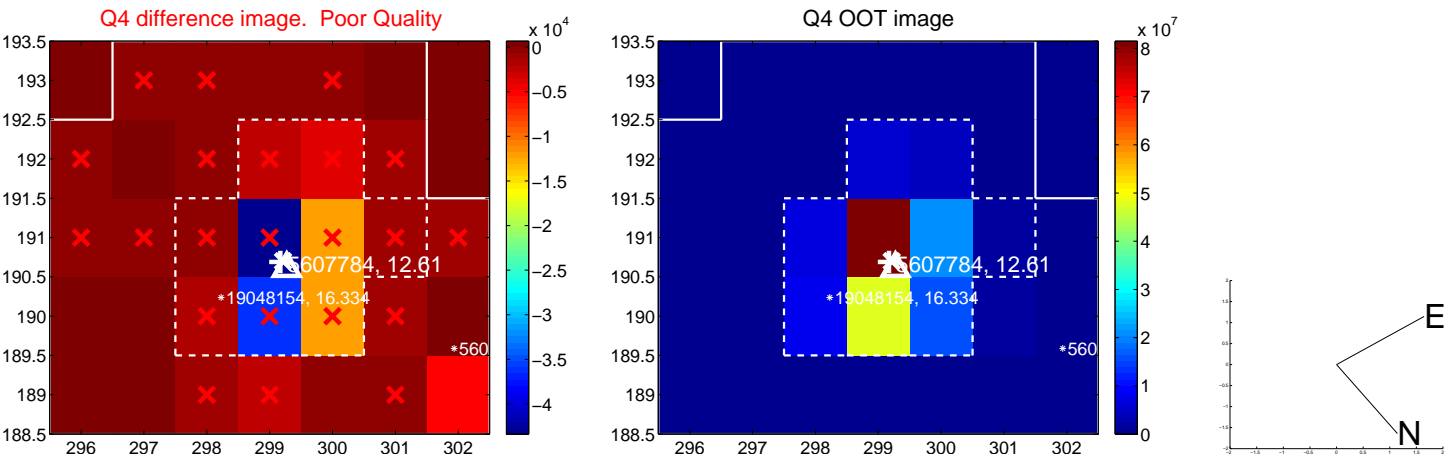
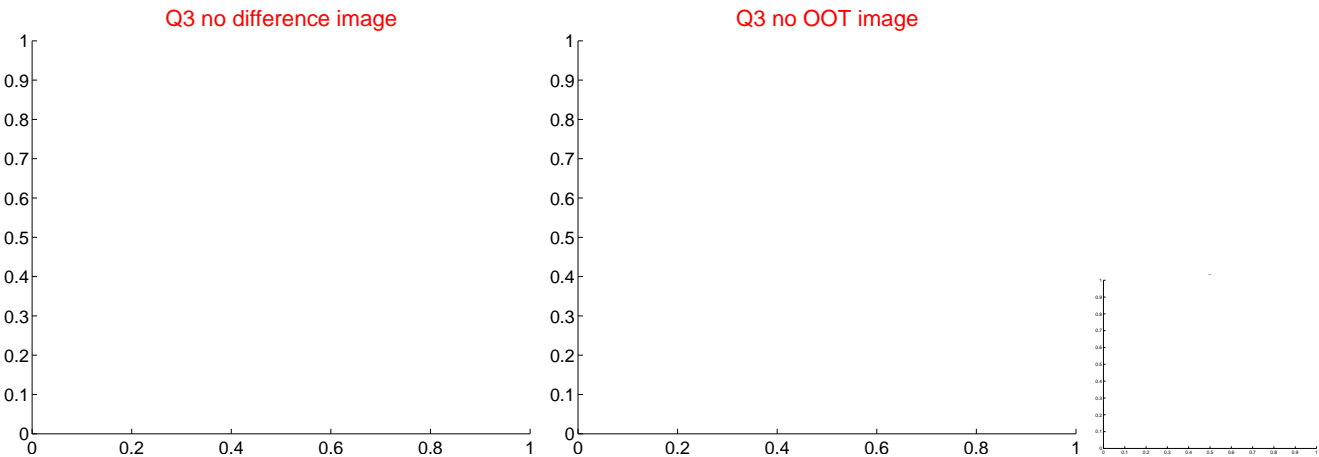
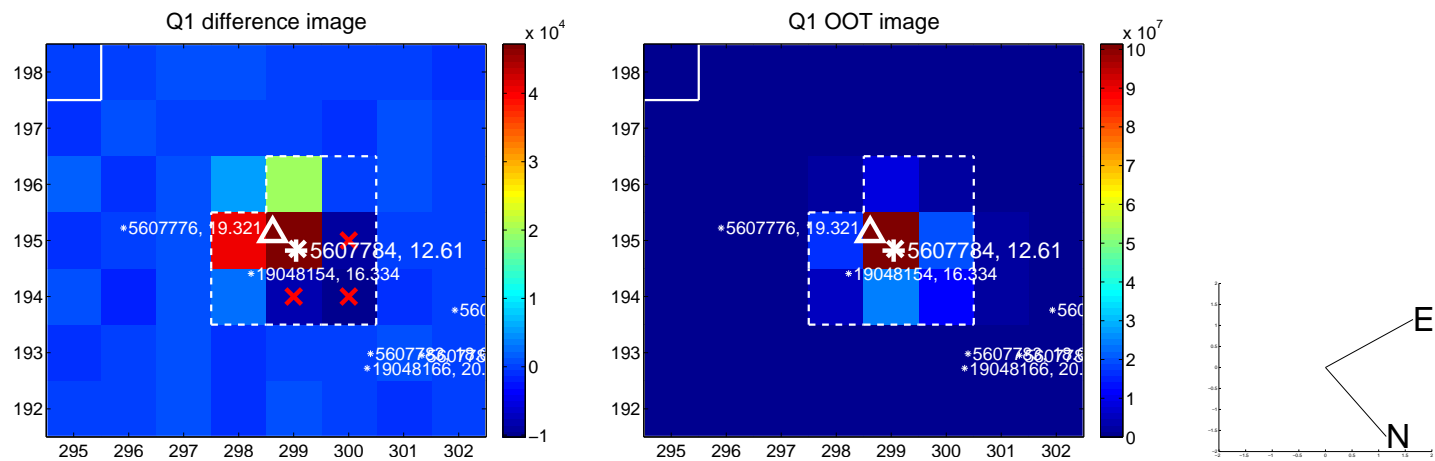
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.397 ± 0.351 | 1.13 | 0.249 ± 0.151 | -0.309 ± 0.434 |
| PRF-fit source offset from KIC position | 0.222 ± 0.216 | 1.03 | 0.207 ± 0.158 | -0.082 ± 0.430 |
| photometric centroid source offset | 0.34 ± 0.77 | 0.44 | -0.17 ± 0.79 | 0.30 ± 0.76 |

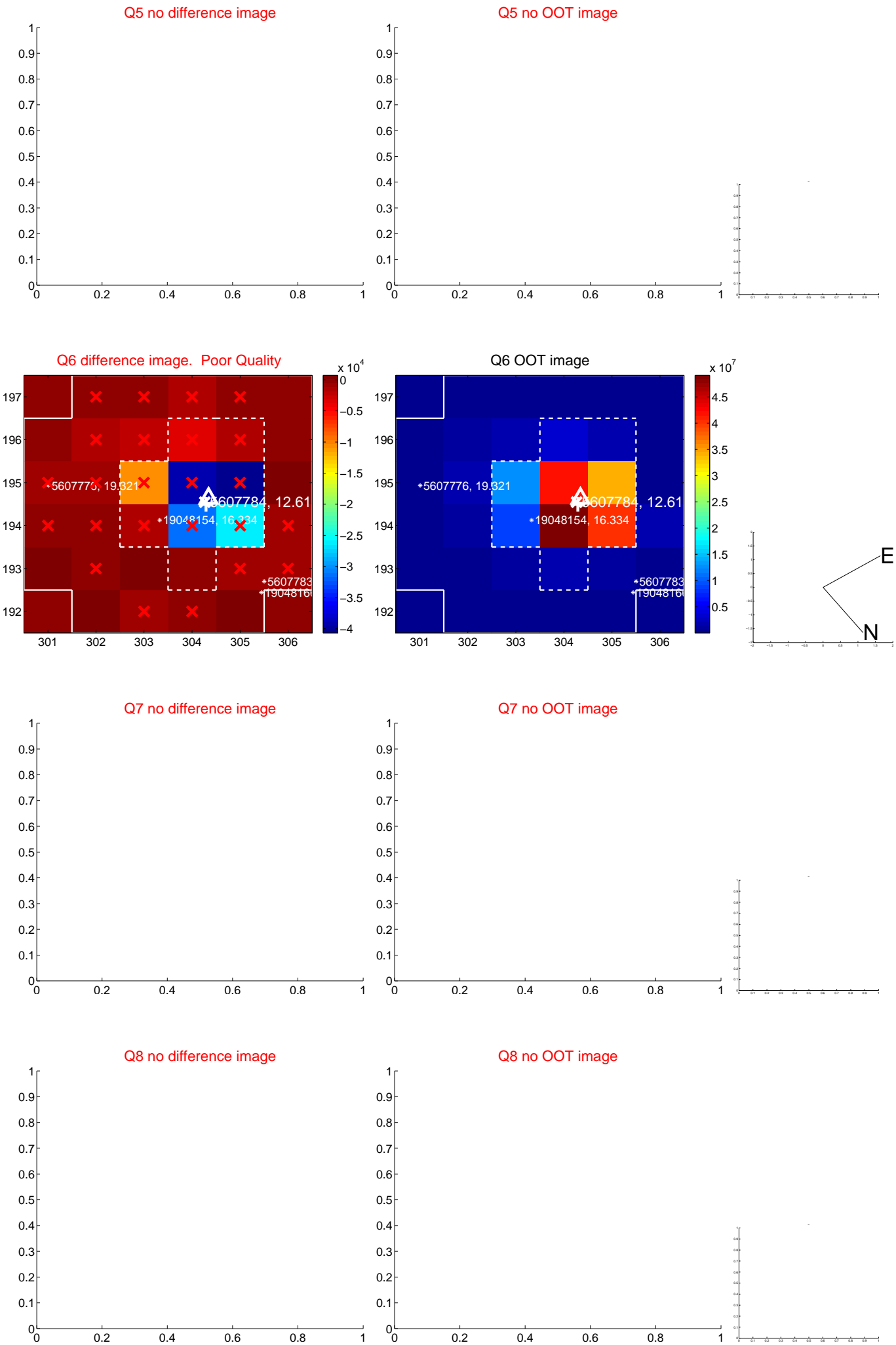


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

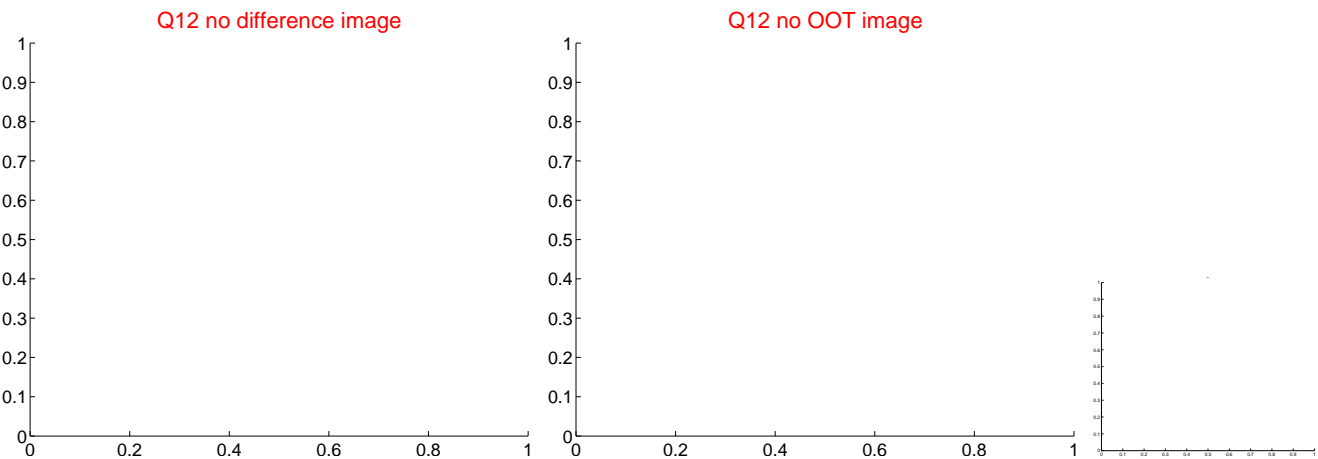
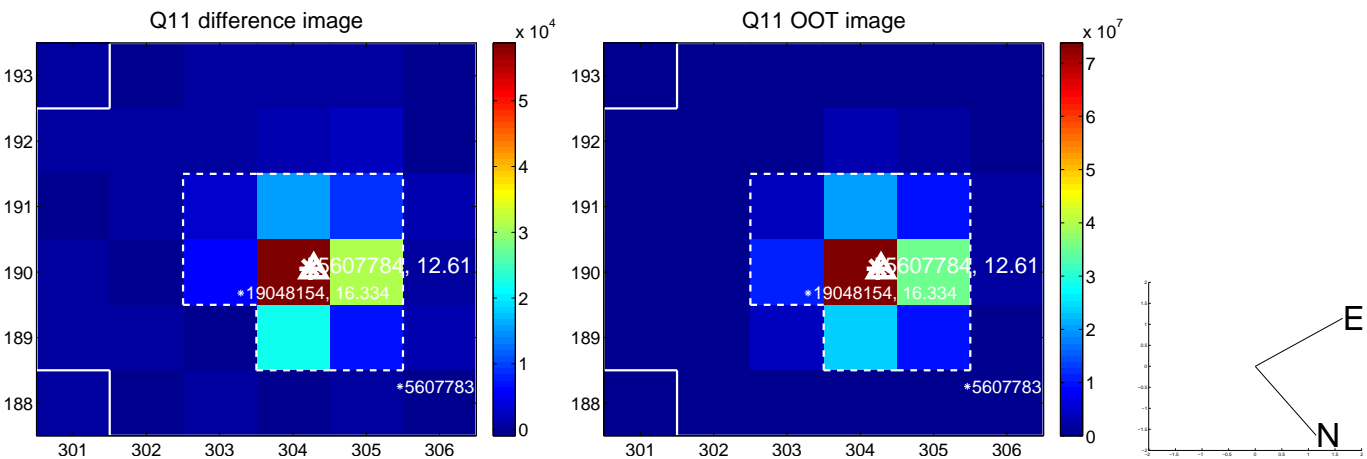
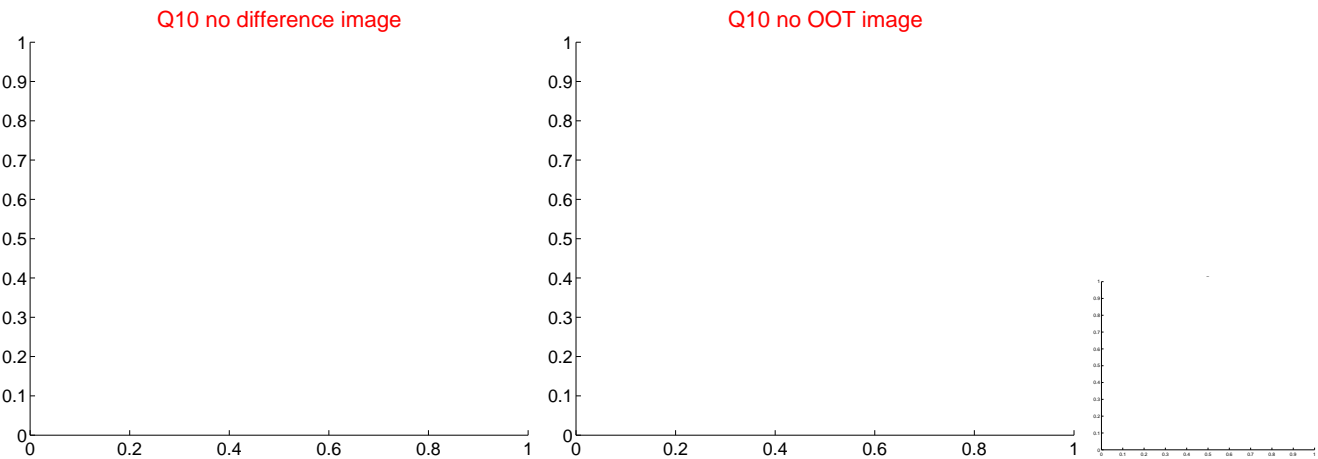
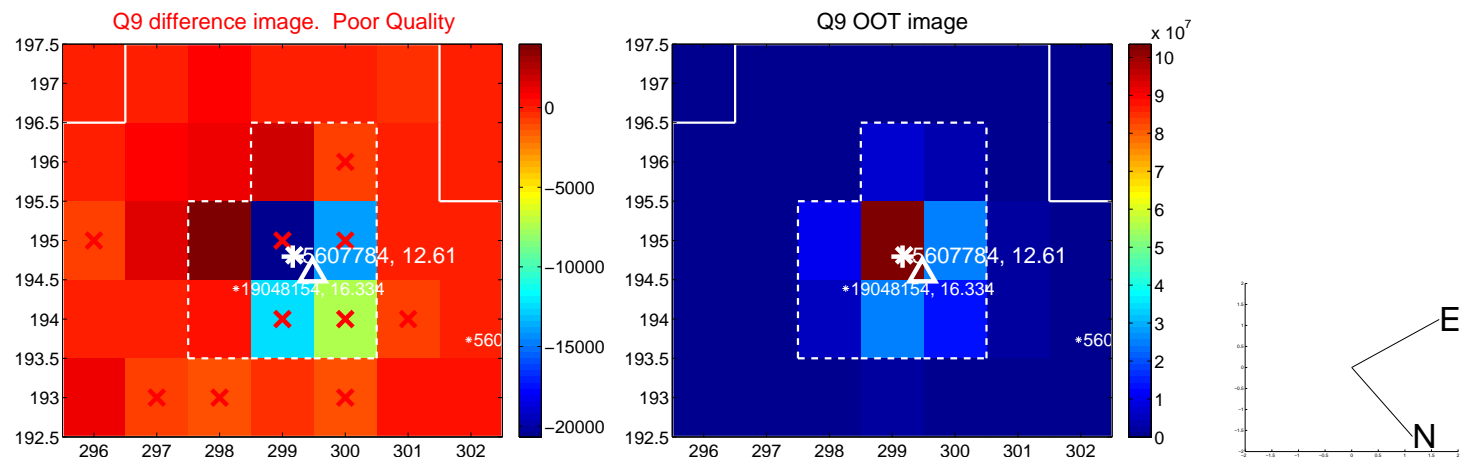
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



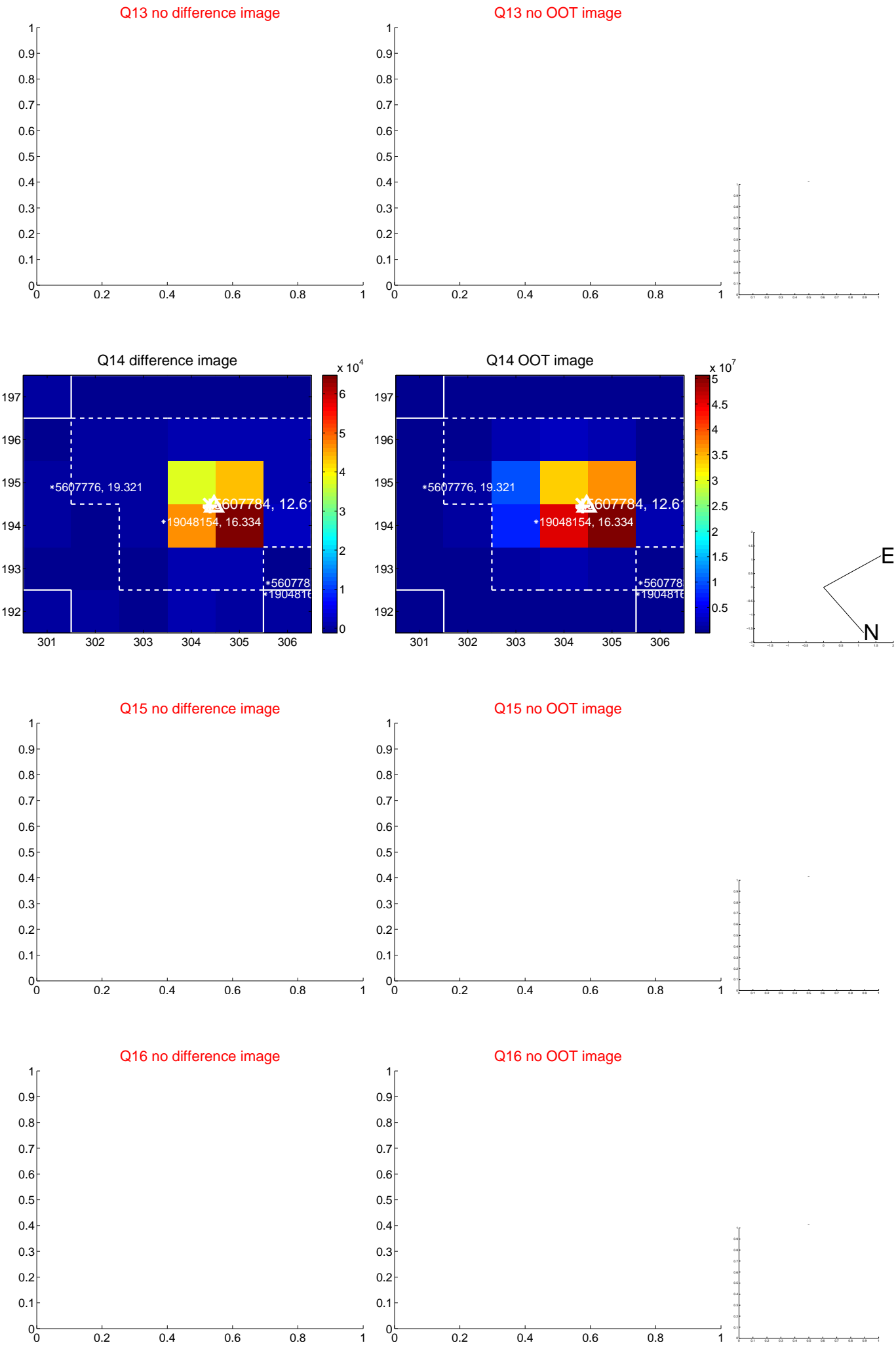
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

