

KIC 005792202

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-------|-------|-----------------------------|-----------------|------------------------|------------------------|
| 005792202-01 | OBS | 0841.02 | 31.330526 | 153.430181 | 5077.6 | 4.937 | 110.0 | 106.5 | 0.82 | 5251 | 6.16 | 12.63 |
| 005792202-02 | OBS | 0841.01 | 15.335275 | 143.332516 | 3017.7 | 3.817 | 84.1 | 79.9 | 0.82 | 5251 | 4.93 | 32.74 |
| 005792202-03 | OBS | 0841.03 | 6.546285 | 133.857609 | 691.0 | 3.424 | 24.0 | 26.8 | 0.82 | 5251 | 2.82 | 101.86 |
| 005792202-04 | OBS | 0841.04 | 269.291614 | 285.631863 | 1591.0 | 11.604 | 12.7 | 12.3 | 0.82 | 5251 | 3.69 | 0.72 |
| 005792202-05 | OBS | 0841.05 | 499.474824 | 455.565728 | 1423.4 | 12.081 | 9.6 | 9.7 | 0.82 | 5251 | 3.52 | 0.32 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005792202-01 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-02 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-03 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL |
| 005792202-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV |

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

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

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

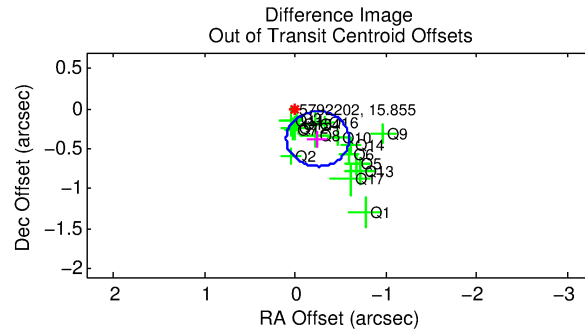
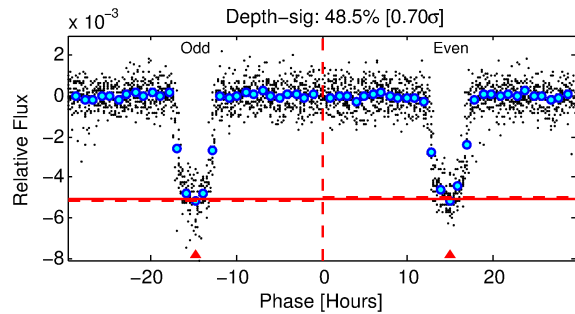
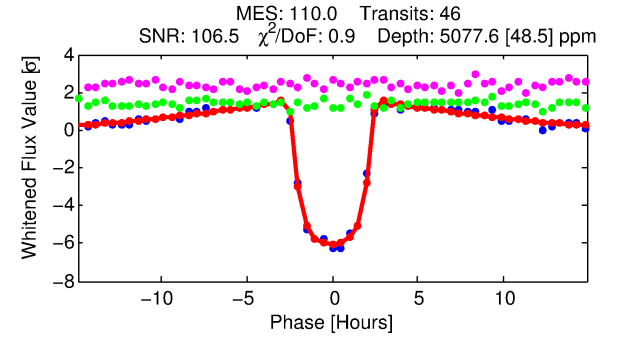
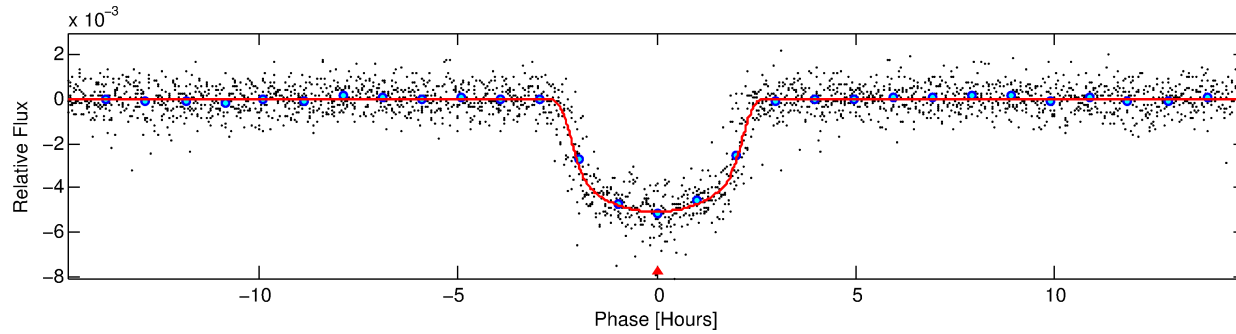
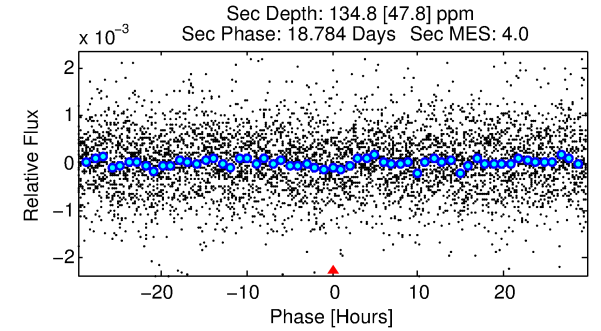
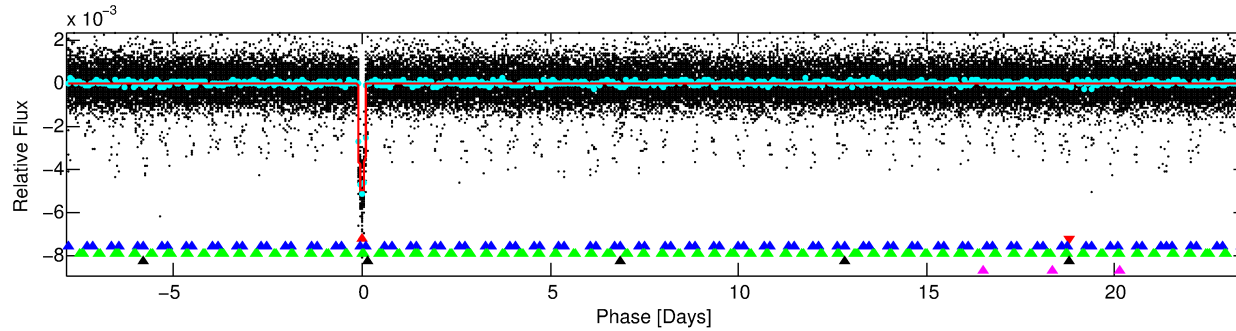
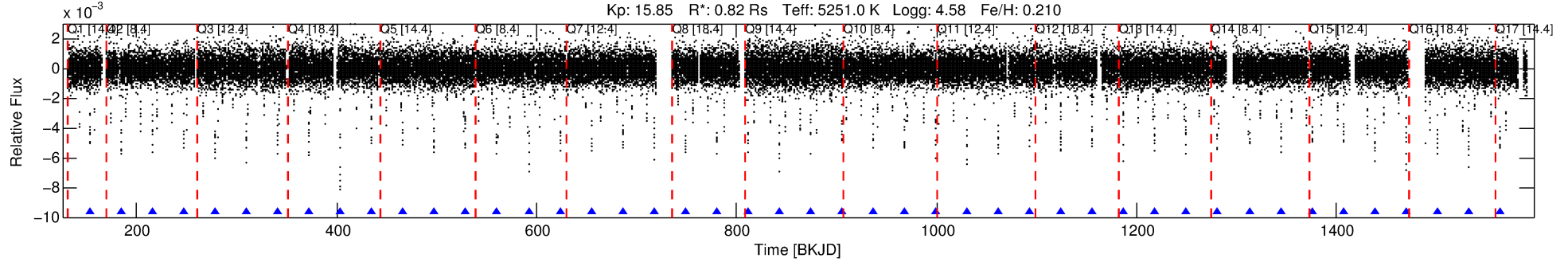
Ephemeris Match Information For 005792202-01

No Significant Match Found

DV One-Page Summary

KIC: 5792202 Candidate: 1 of 5 Period: 31.331 d
KOI: K00841.02 Name: Kepler-27c Corr: 0.972

Kp: 15.85 R*: 0.82 Rs Teff: 5251.0 K Logg: 4.58 Fe/H: 0.210



DV Fit Results:

Period = 31.33053 [0.00003] d
Epoch = 153.4302 [0.0009] BKJD
Rp/R* = 0.0691 [0.0018]
a/R* = 40.15 [3.50]
b = 0.68 [0.07]
Seff = 12.63 [2.10]
Teff = 481 [20] K
Rp = 6.16 [0.62] Re
a = 0.1897 [0.0175] AU
Ag = 70.30 [27.19] [2.55σ]
Teffp = 2152 [197] K [8.42σ]

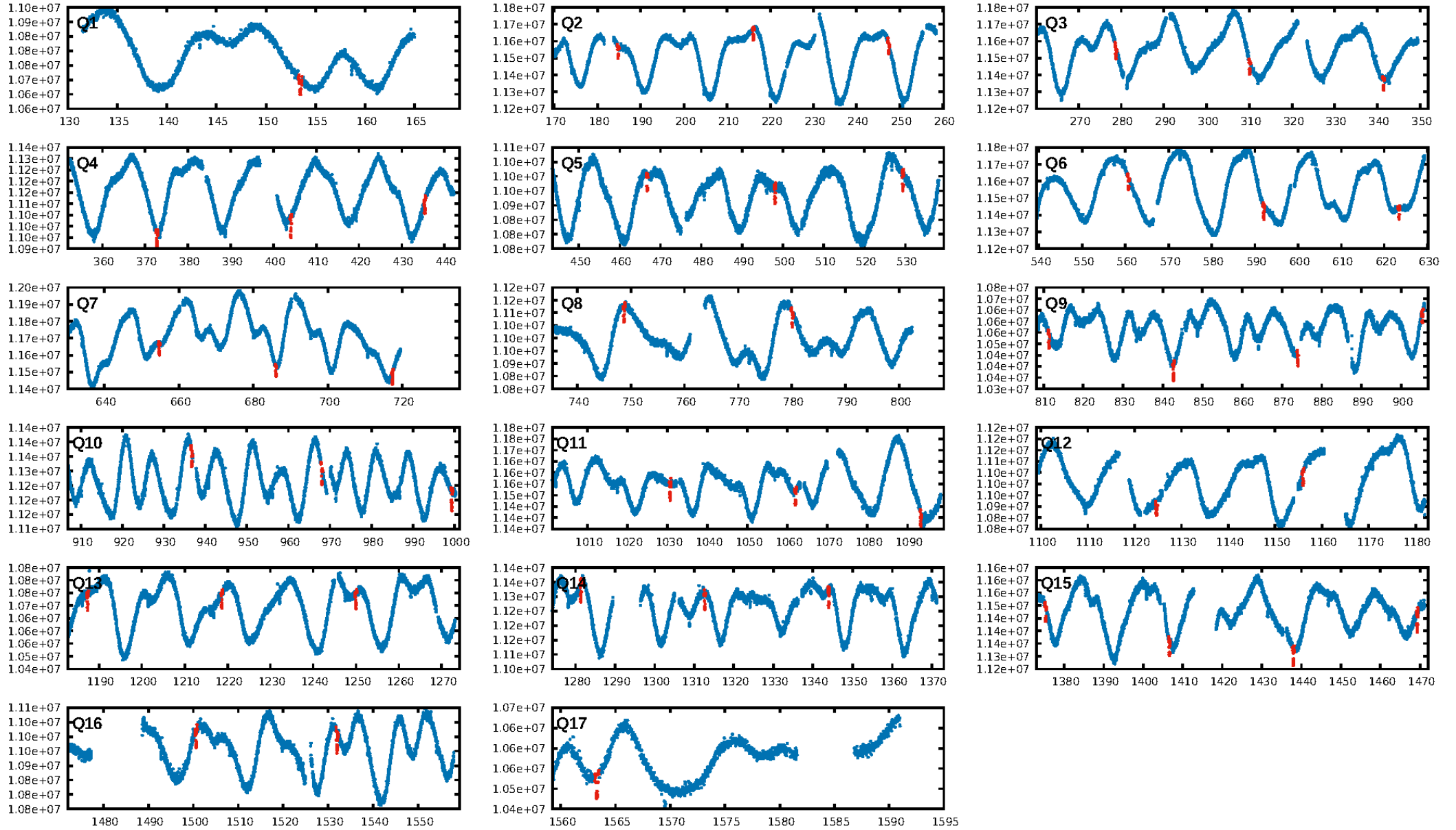
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [61.52σ]
LongPeriod-sig: 100.0% [452.88σ]
ModelChiSquare2-sig: 61.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [44/44]
GhostDiagnostic-chr: 2.472
Centroid-sig: 0.0%
Centroid-so: 0.072 arcsec [0.68σ]
OotOffset-rm: 0.452 arcsec [3.93σ]
KicOffset-rm: 0.082 arcsec [1.05σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.88 [15/17]

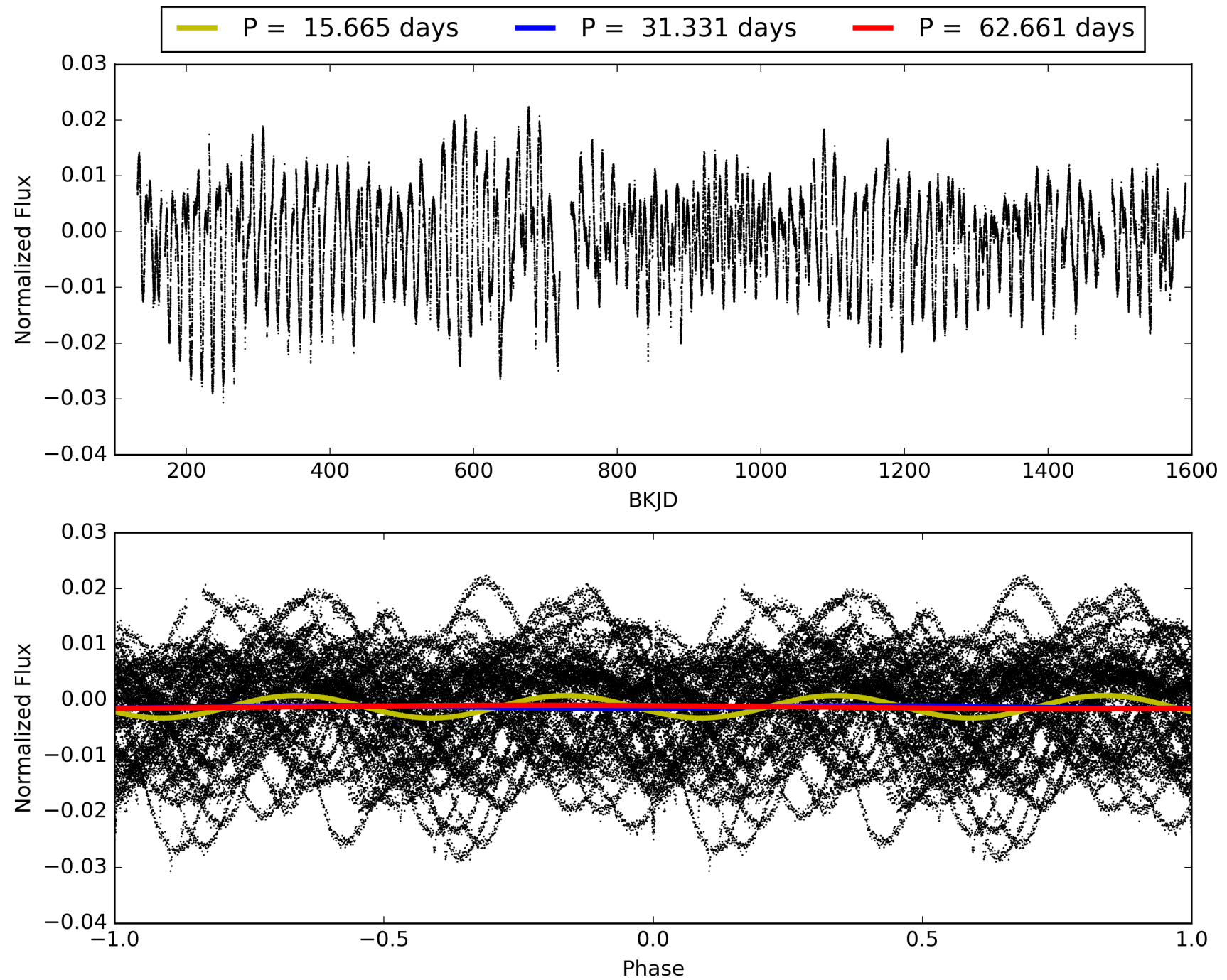
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:24:08 Z

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

TCE 005792202-01, PDC Light Curves

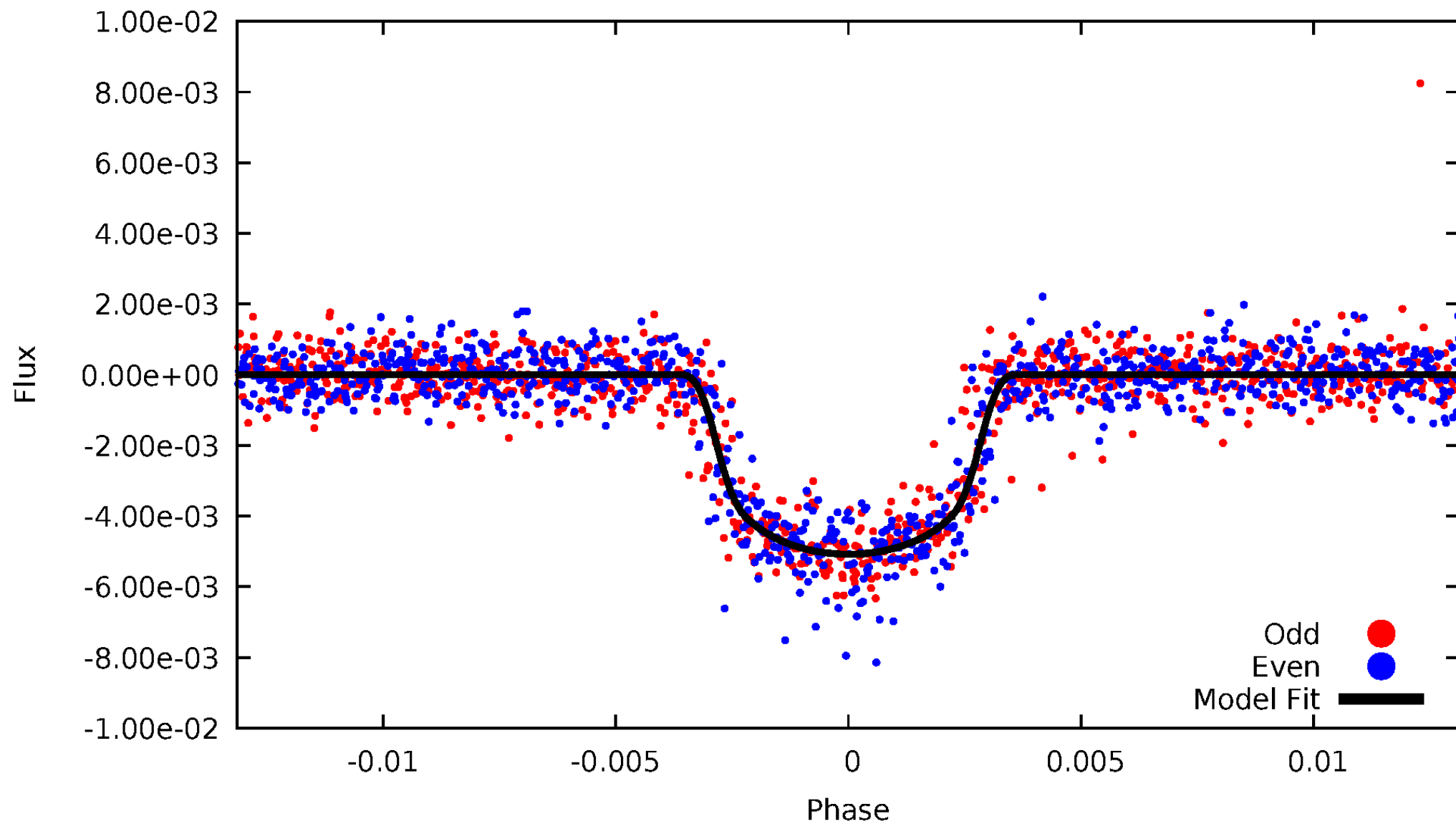


TCE 005792202-01



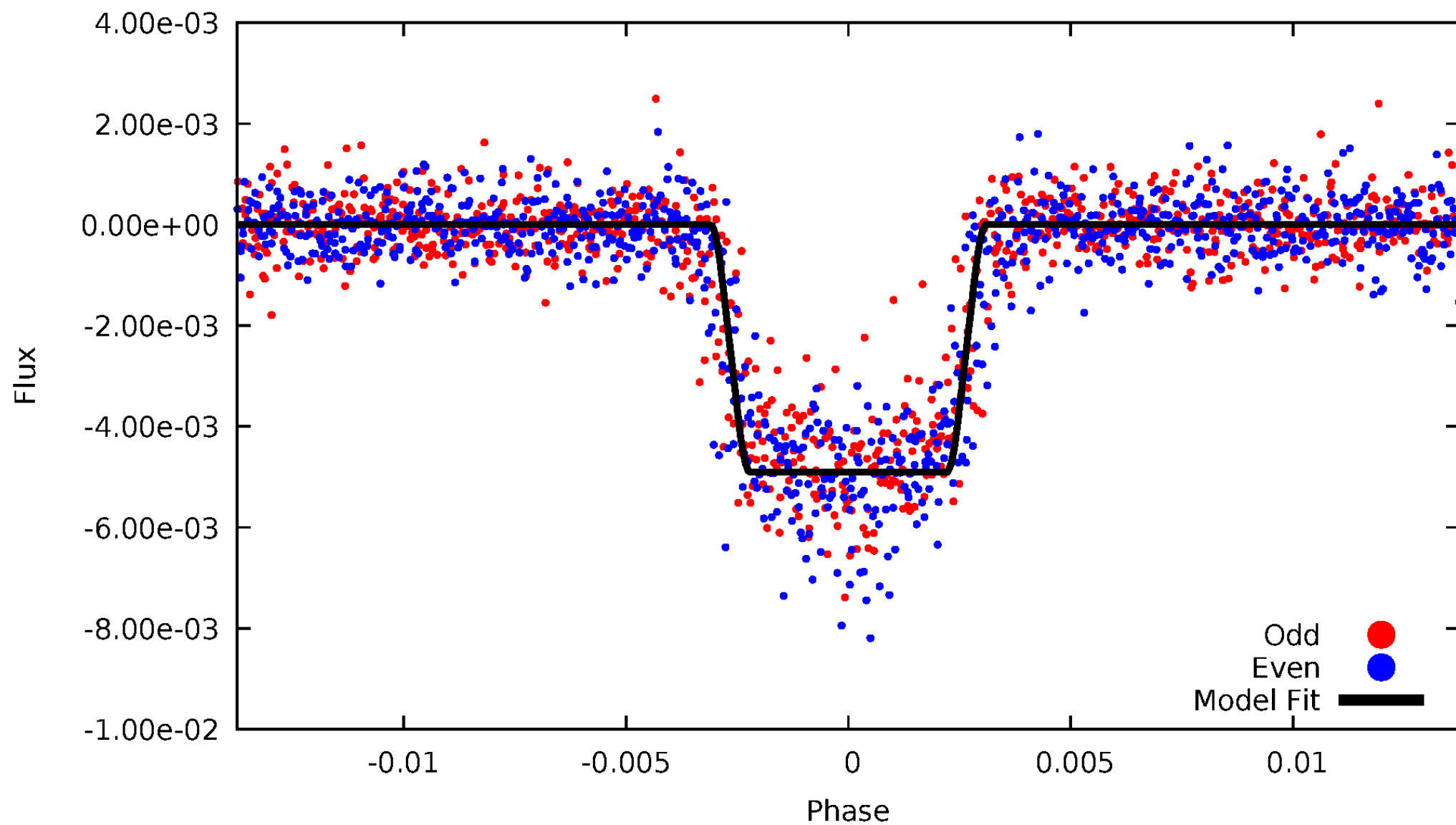
DV Odd/Even

TCE 005792202-01

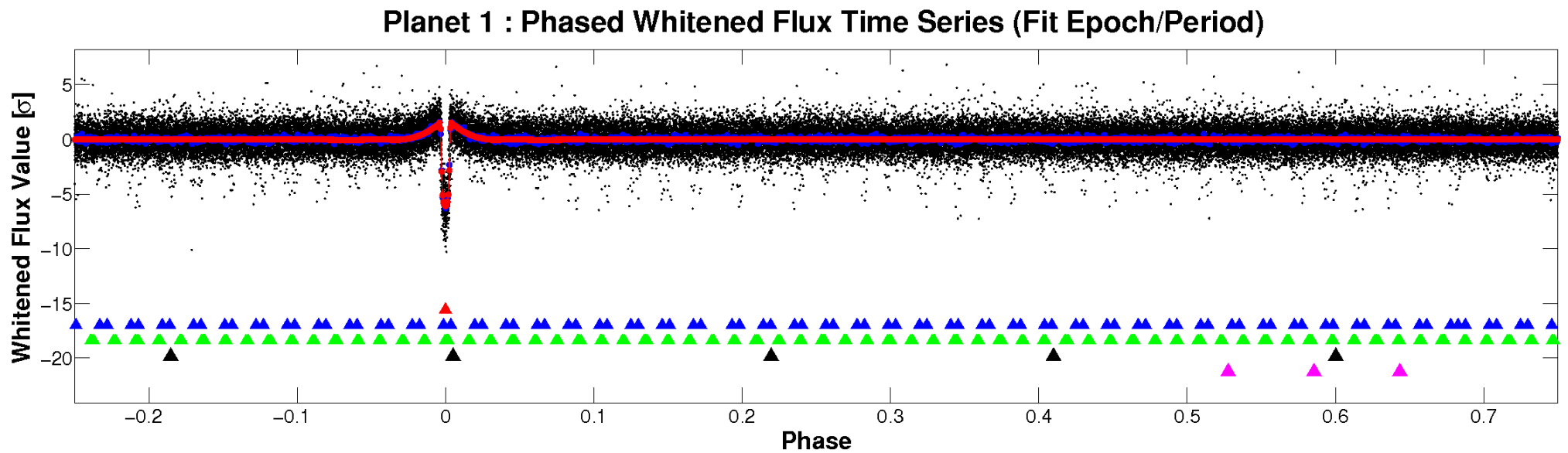
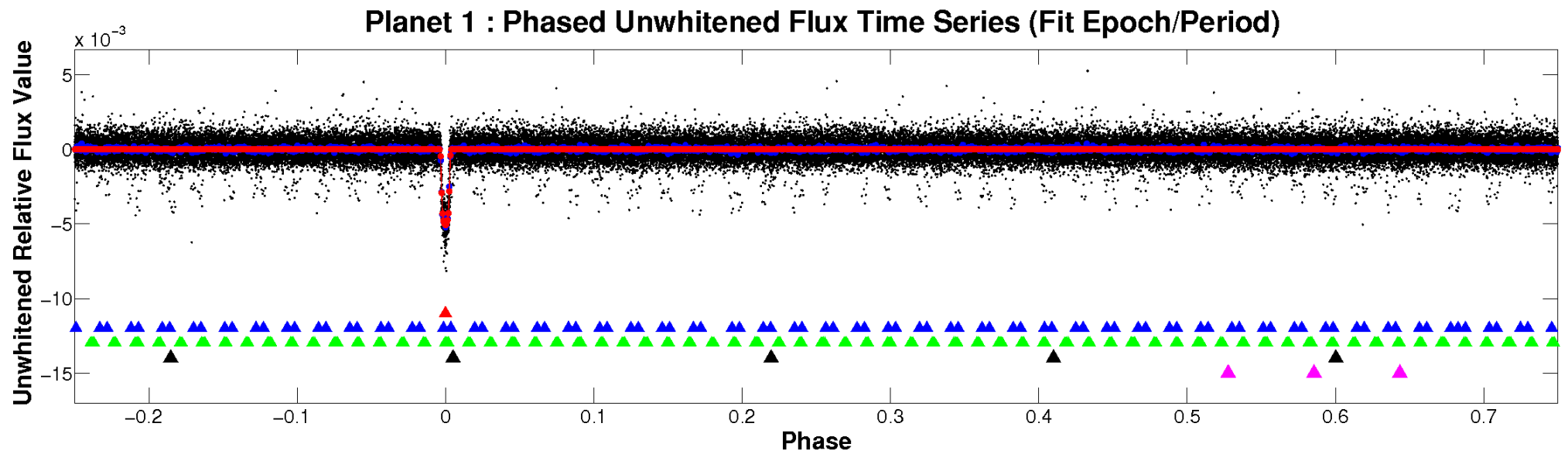


ALT Odd/Even

TCE 005792202-01

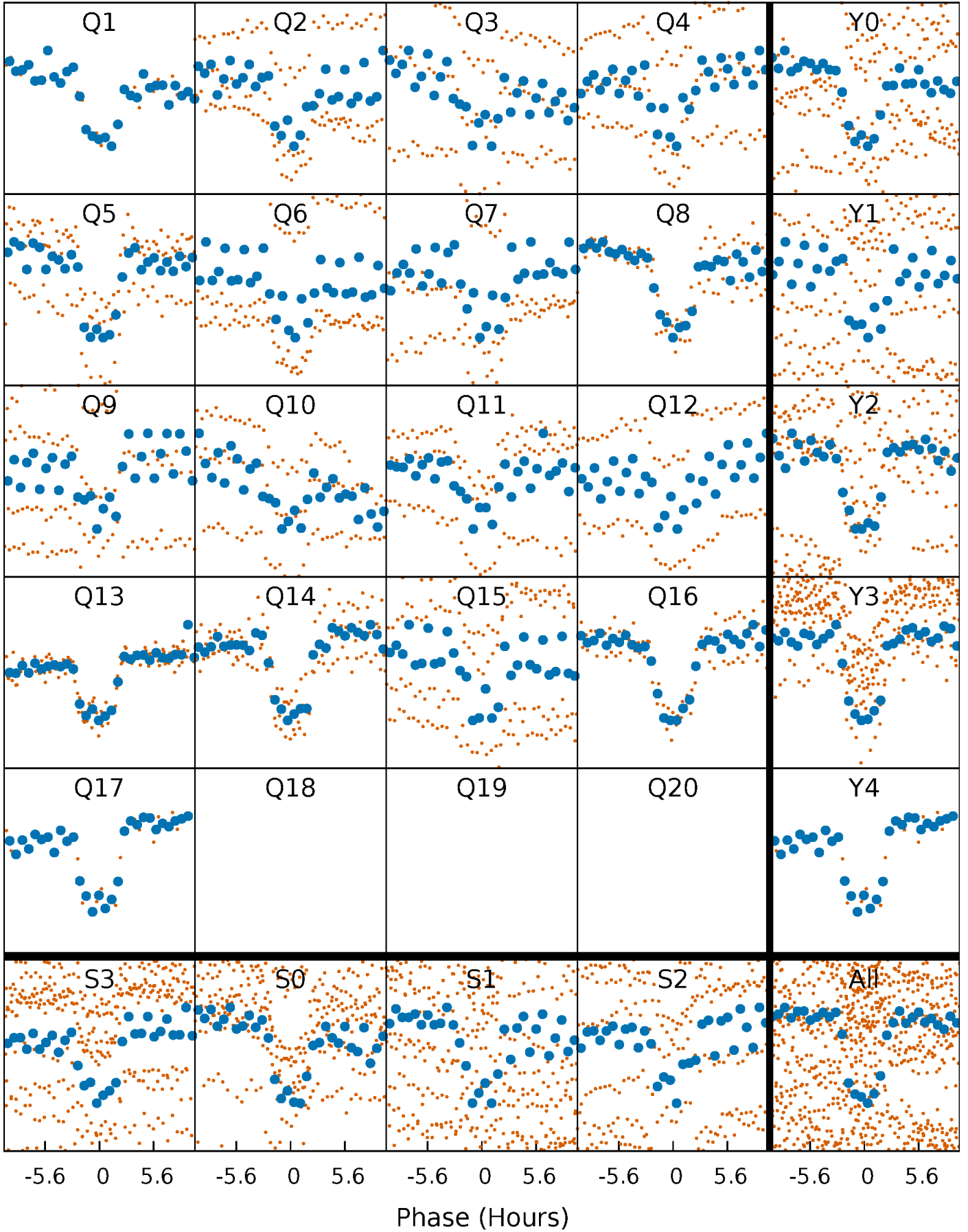


Non-Whitened Vs. Whitened Light Curve



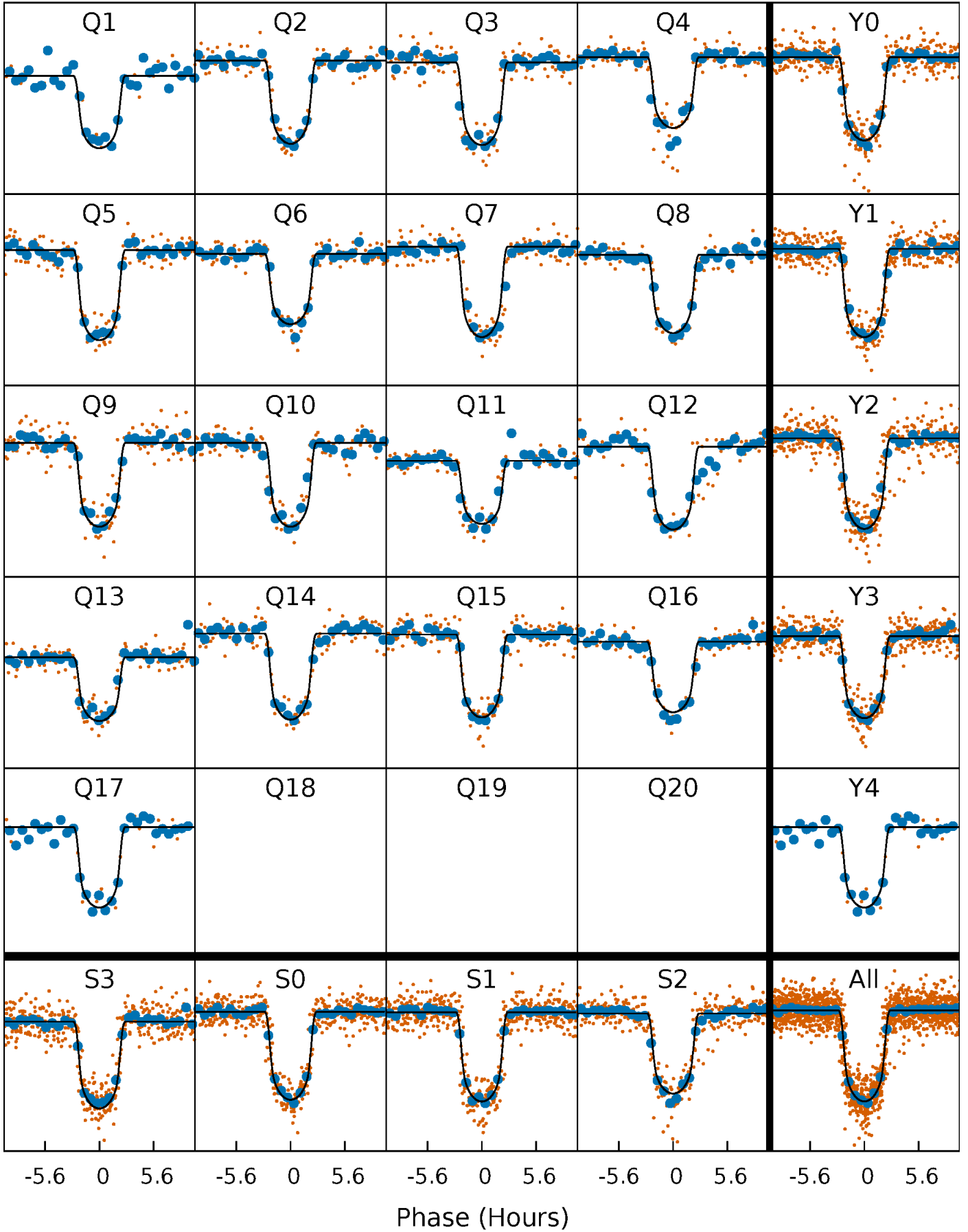
PDC Quarter-Phased Transit Curves

TCE 005792202-01 P= 31.330526 Days $T_0=153.430181$ (BKJD)



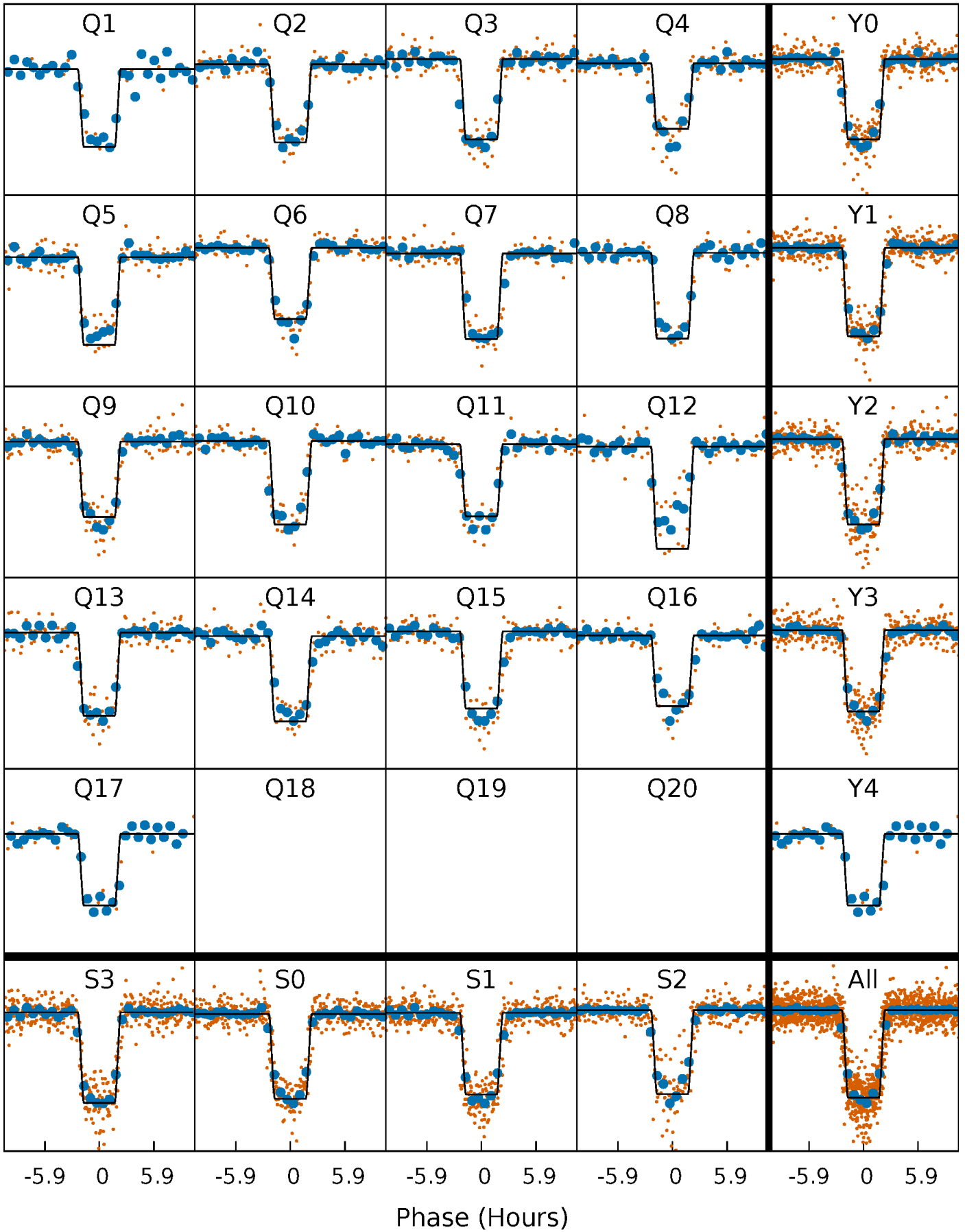
DV Quarter-Phased Transit Curves

TCE 005792202-01 P= 31.330526 Days $T_0=153.430181$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

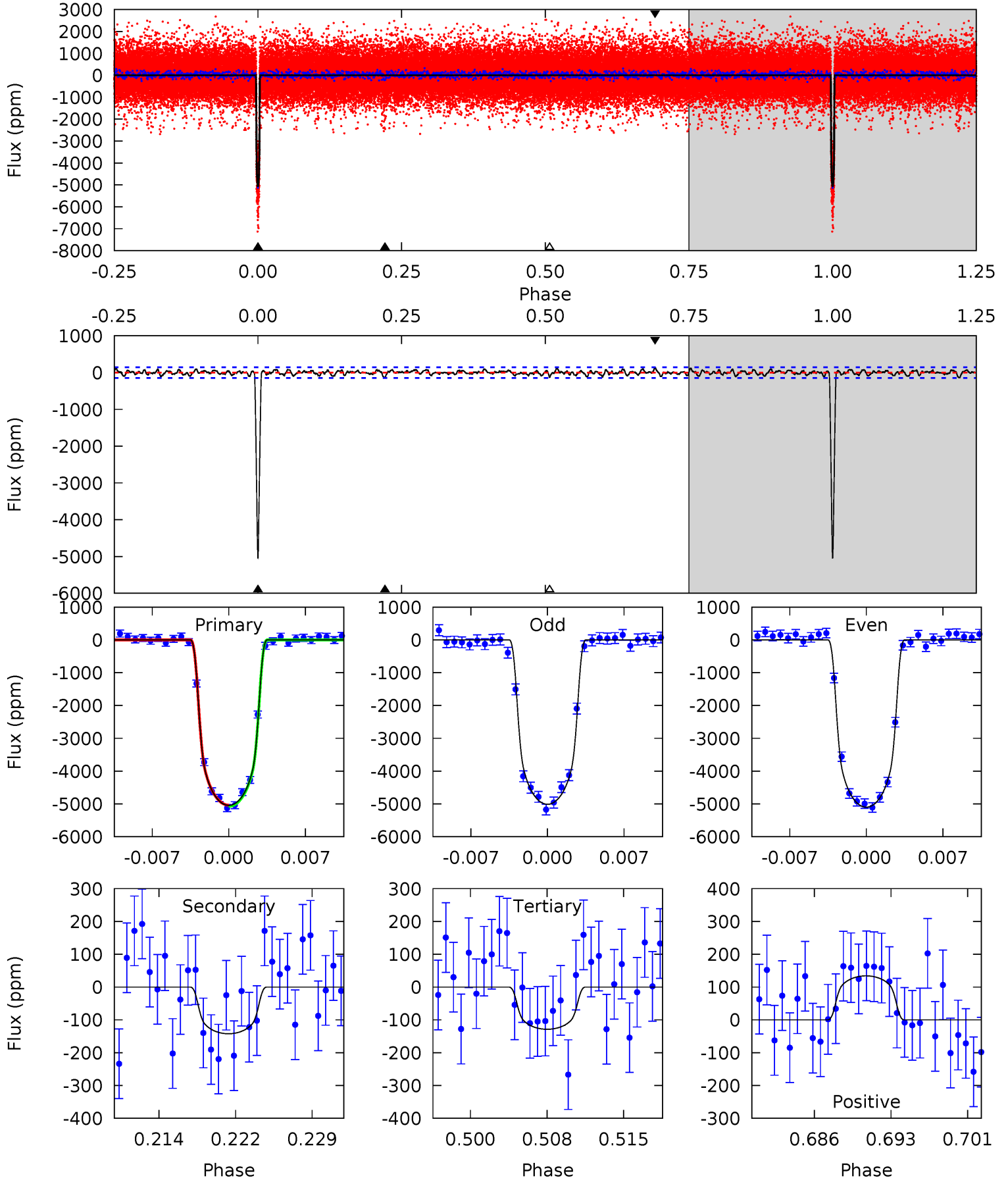
TCE 005792202-01 P= 31.330223 Days $T_0=153.435828$ (BKJD)



DV Model-Shift Uniqueness Test

005792202-01, $P = 31.330526$ Days, $E = 122.099655$ Days

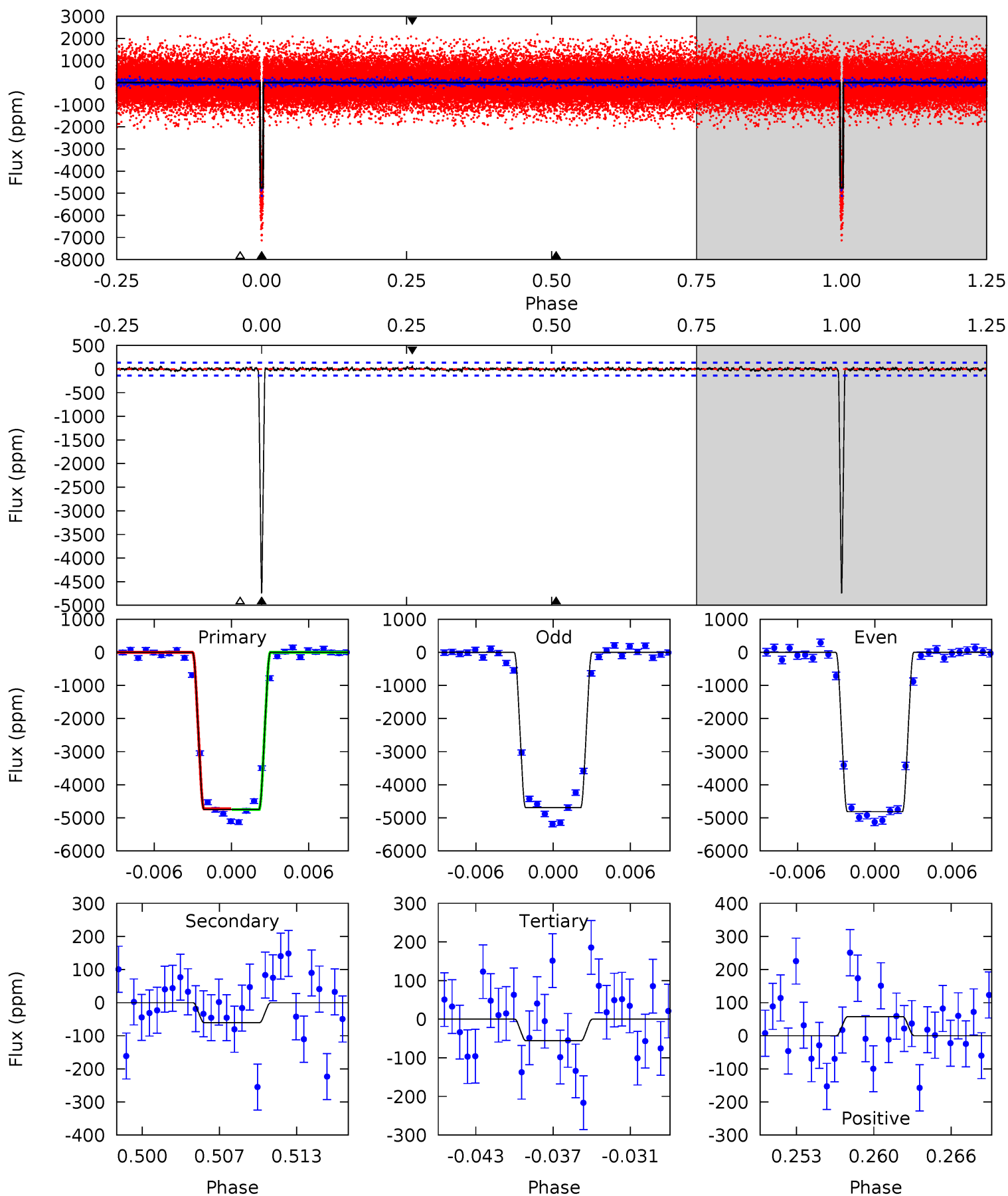
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 176.3 | 4.97 | 4.50 | 4.69 | 5.09 | 2.69 | 1.53 | 171.8 | 171.6 | 0.48 | 0.29 | 1.56 | 1.01 | 0.03 | 0.60 |



Alt Model-Shift Uniqueness Test

005792202-01, P = 31.330223 Days, E = 122.105605 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 177.3 | 2.27 | 2.09 | 2.16 | 5.12 | 2.74 | 0.60 | 175.2 | 175.1 | 0.19 | 0.12 | 2.25 | 1.00 | 0.01 | 0.46 |



Stellar Parameters For KIC 005792202

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5251^{+105}_{-105} | $4.581^{+0.010}_{-0.085}$ | $0.210^{+0.150}_{-0.150}$ | $0.817^{+0.080}_{-0.029}$ | $0.926^{+0.032}_{-0.064}$ | $2.394^{+0.172}_{-0.612}$ |
| | +2%/-2% | +0%/-2% | +71%/-71% | +10%/-4% | +3%/-7% | +7%/-26% |
| Source | SPE33 | SPE33 | SPE33 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005792202-01 / KOI 0841.02

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|---------------|------------------------|----------------------|----------------------|------------------|
| DV | -142 ± 29 | $6.26^{+0.32}_{-0.27}$ | 680^{+20}_{-16} | 2878^{+82}_{-99} | 71^{+16}_{-16} |
| Alt. | -61 ± 27 | $6.34^{+0.34}_{-0.27}$ | 679^{+21}_{-16} | 2552^{+138}_{-166} | 29^{+15}_{-13} |

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

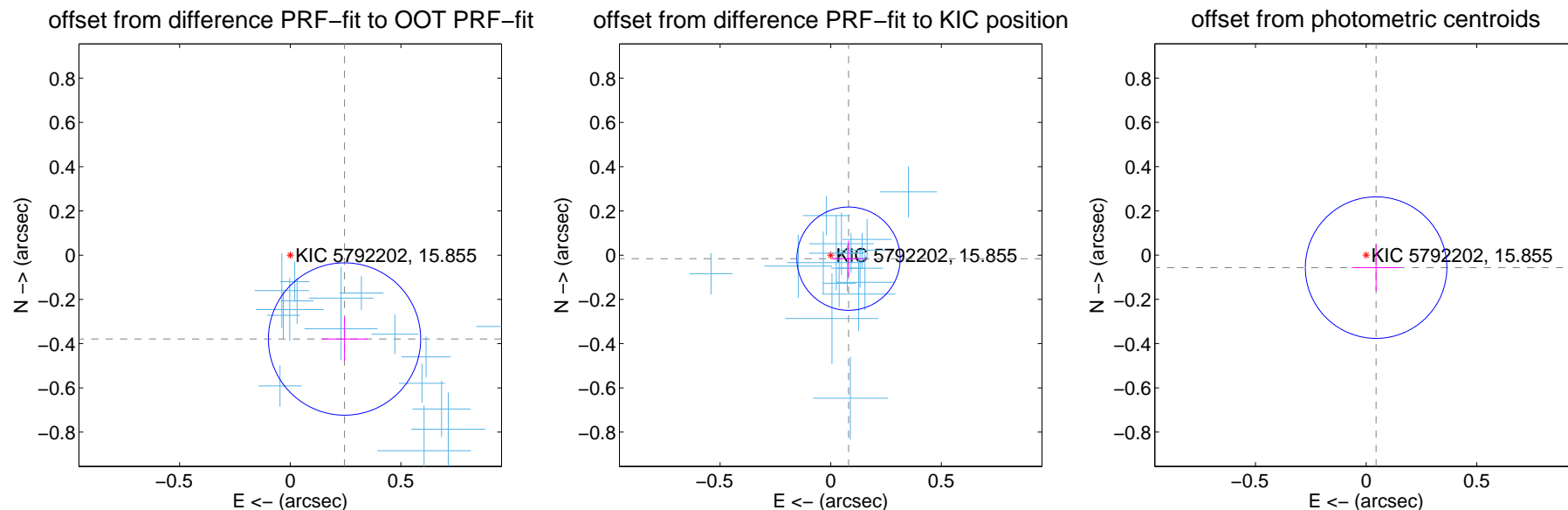
DV Centroid Data

Supplemental centroid analysis for 005792202-01. Kepler magnitude: 15.86. Transit SNR 106.52

There are 17 quarters with good PRF difference image offsets

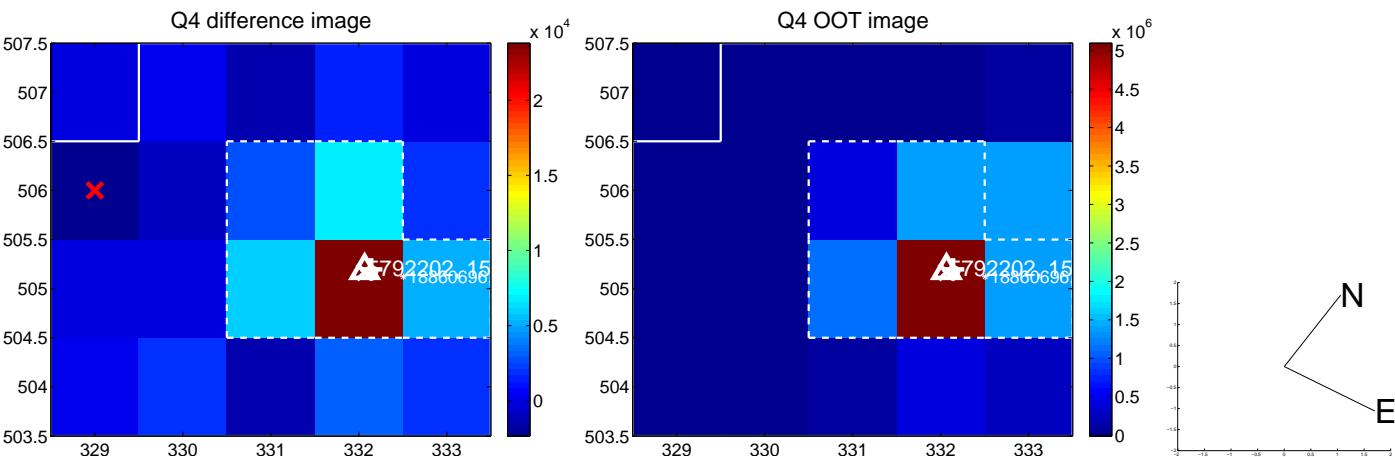
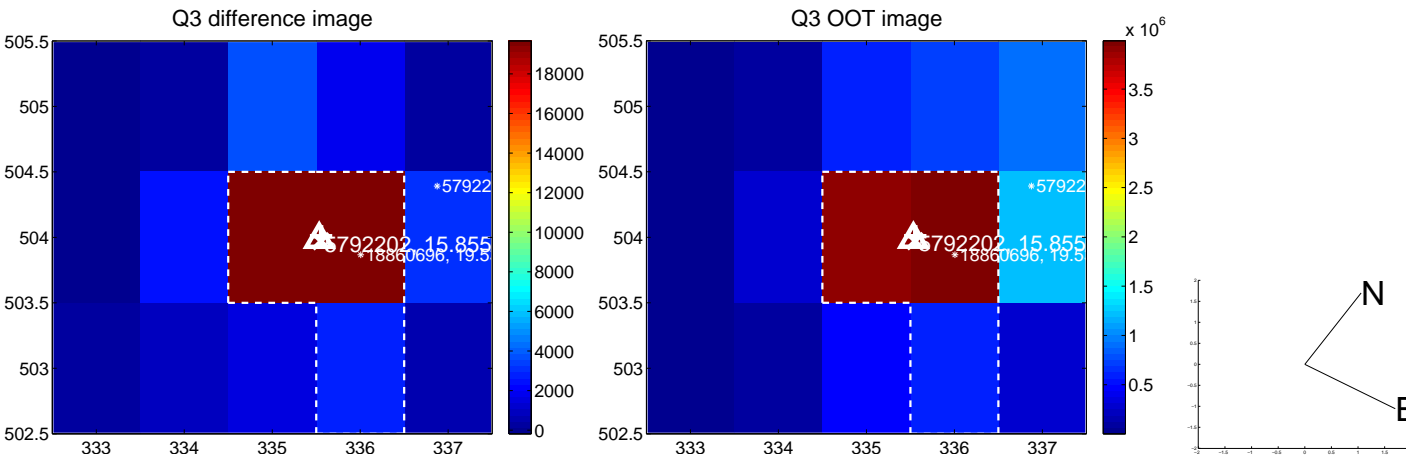
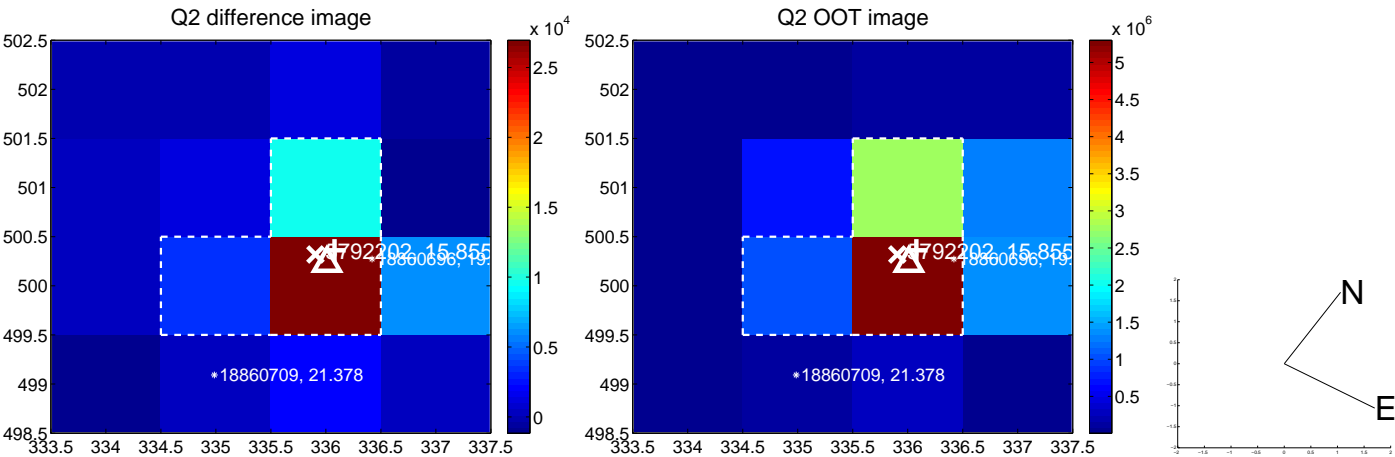
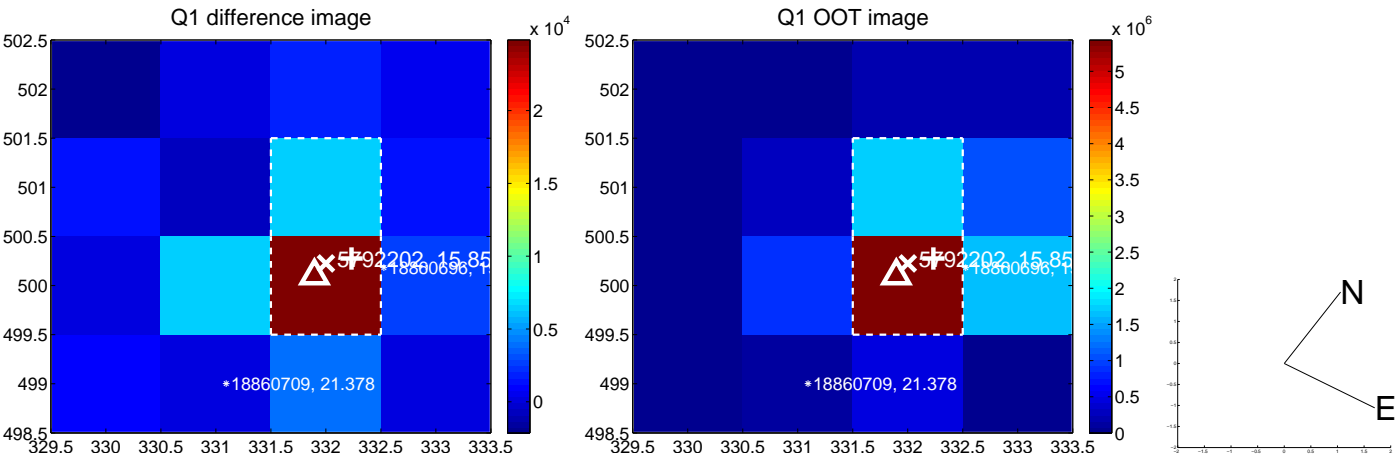
The direct PRF centroid is offset from the target star catalog position by about 0.85 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|-------------------------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.452 ± 0.115 | 3.93 | -0.245 ± 0.103 | -0.379 ± 0.098 |
| PRF-fit source offset from KIC position | 0.082 ± 0.078 | 1.05 | -0.081 ± 0.079 | -0.016 ± 0.082 |
| photometric centroid source offset | 0.07 ± 0.11 | 0.68 | -0.05 ± 0.11 | -0.06 ± 0.10 |

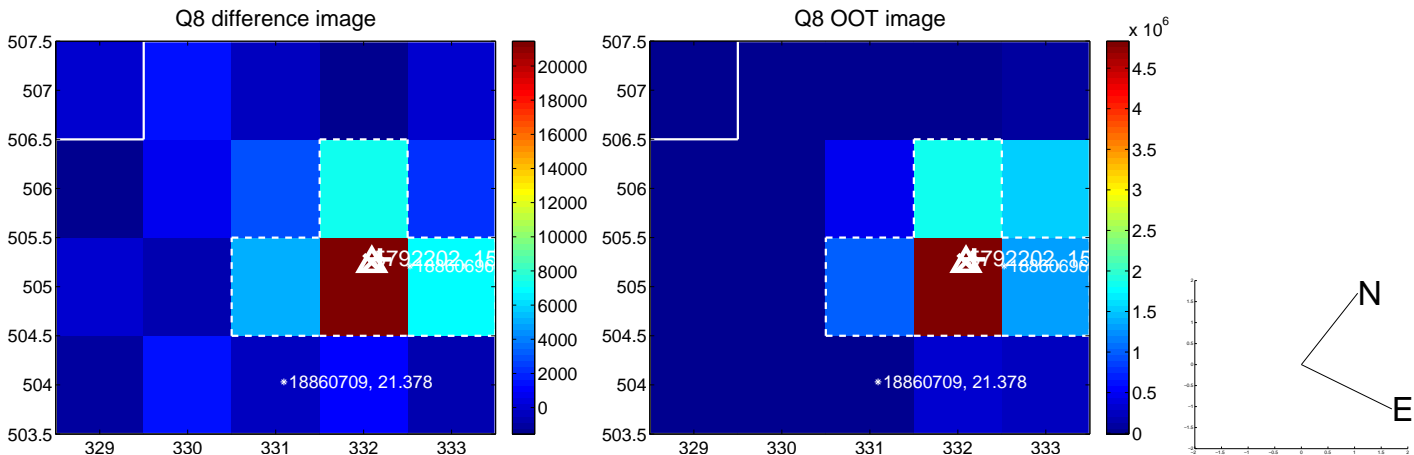
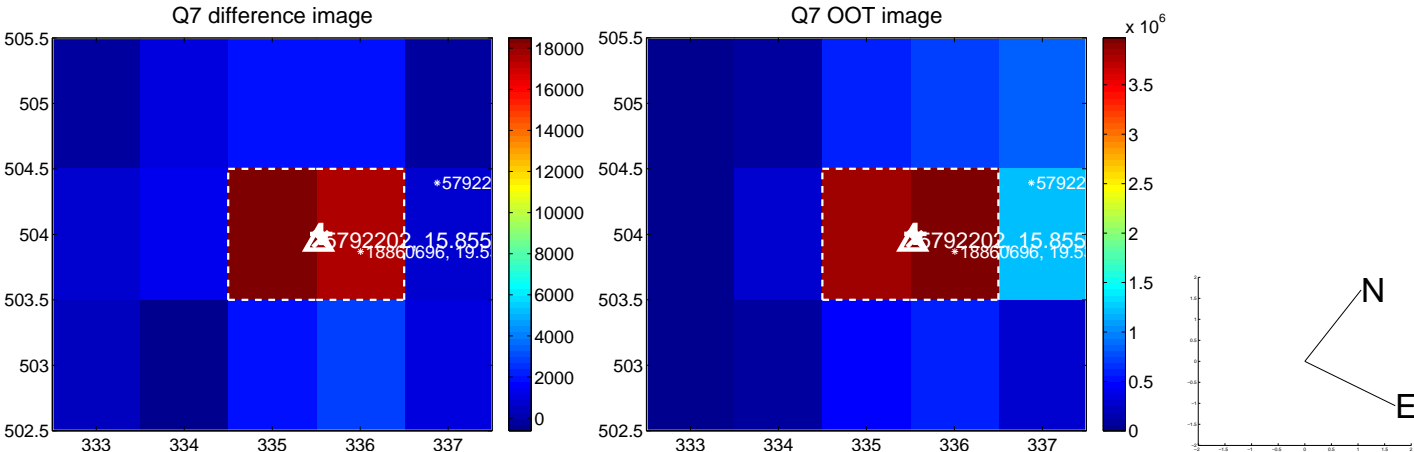
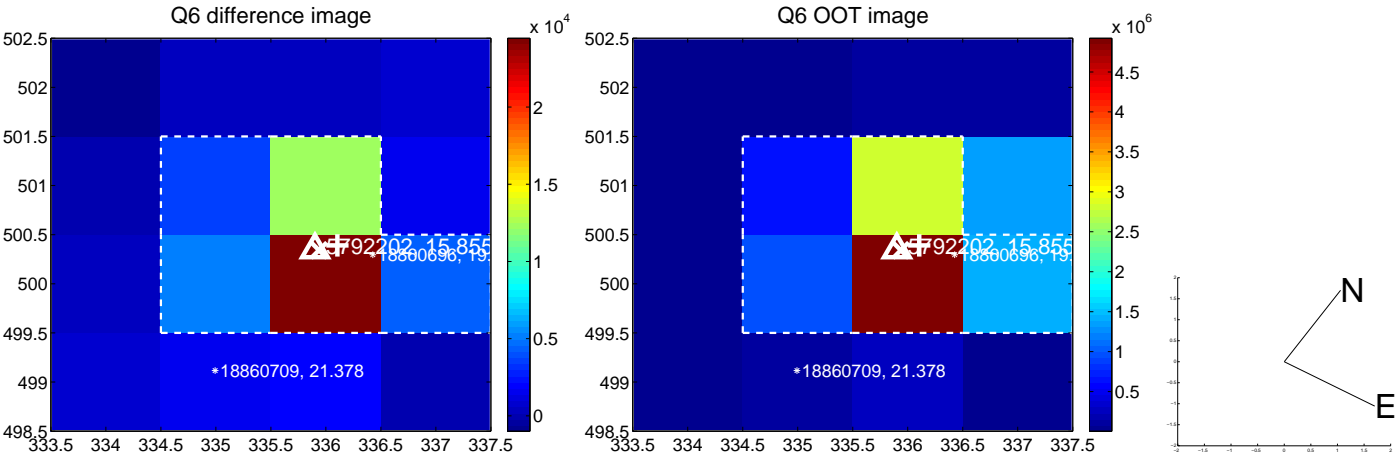
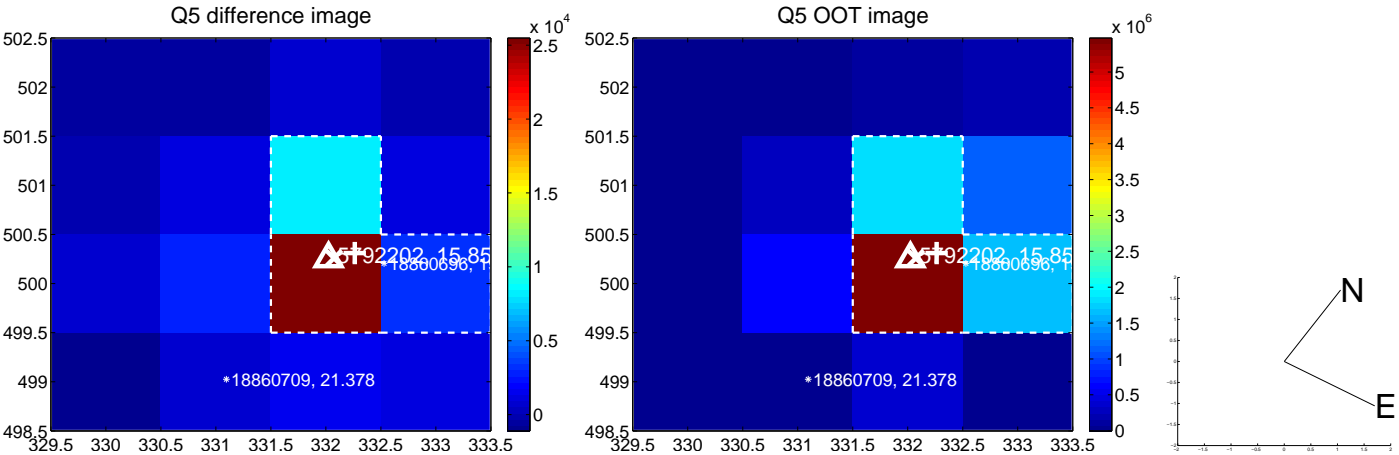


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

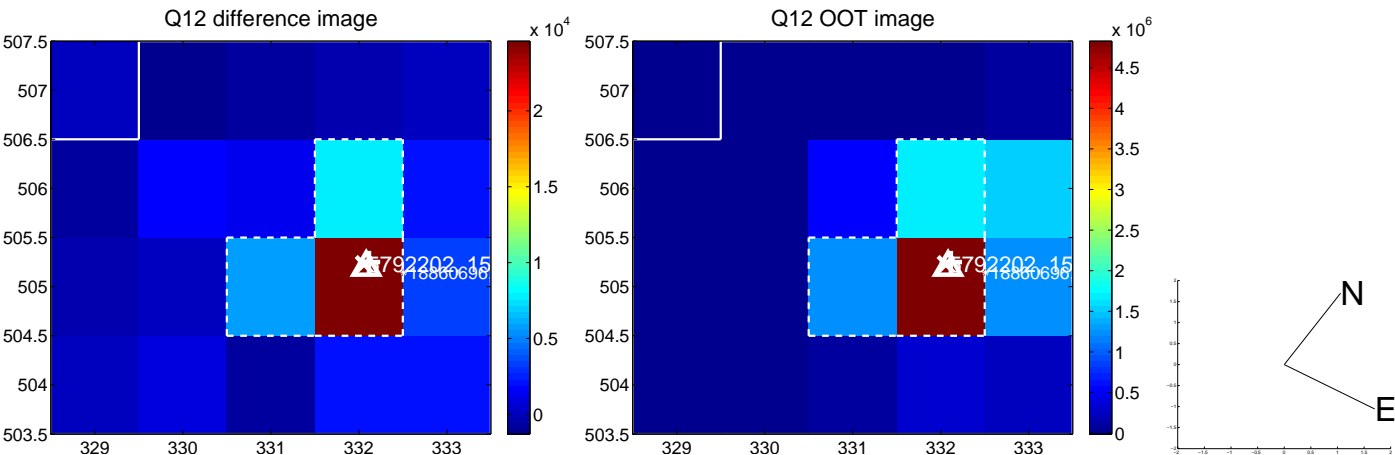
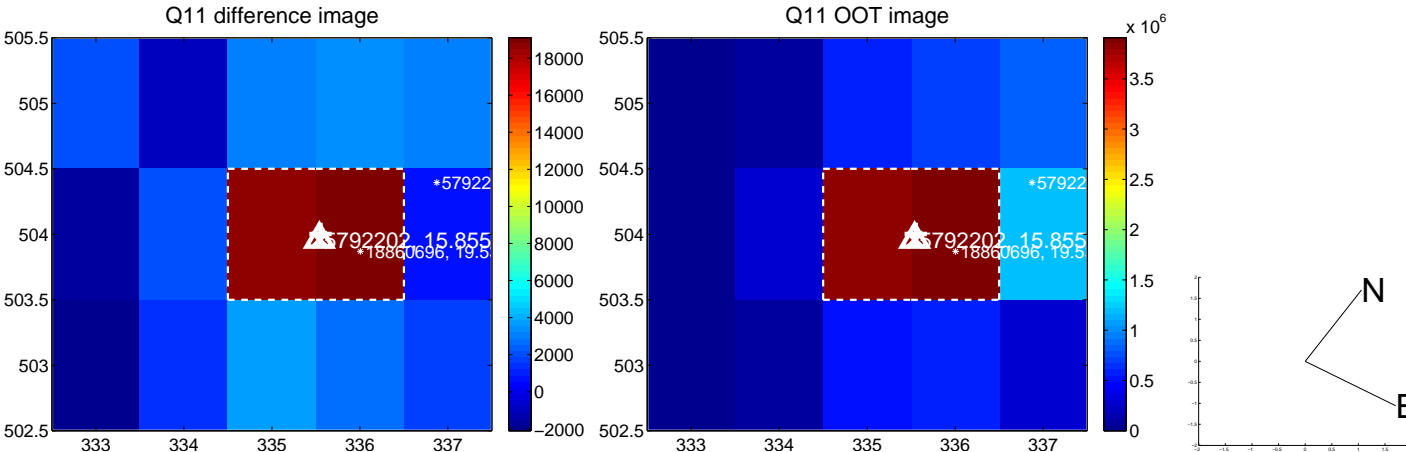
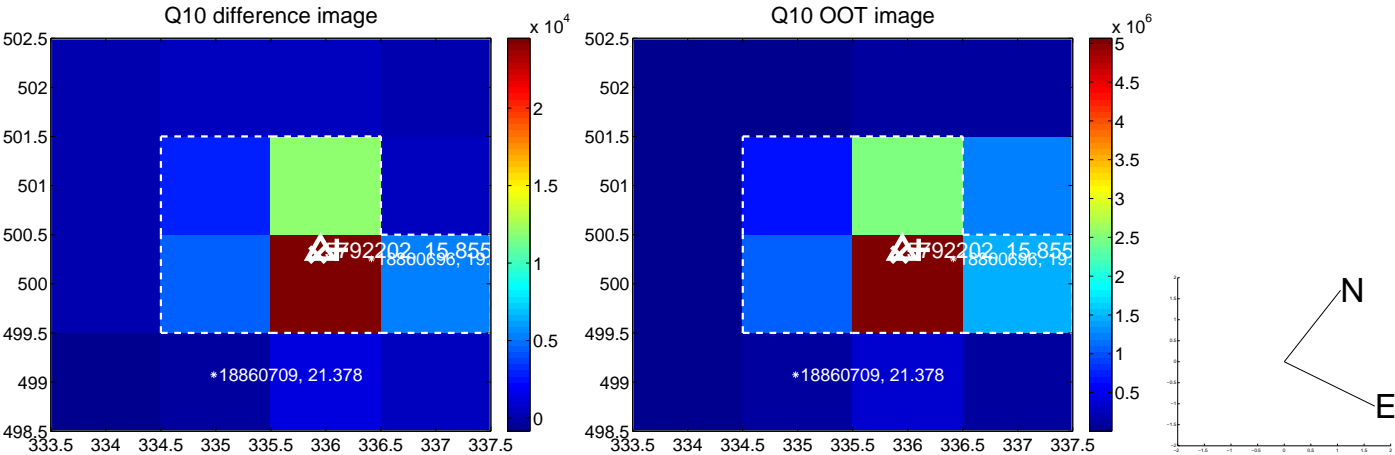
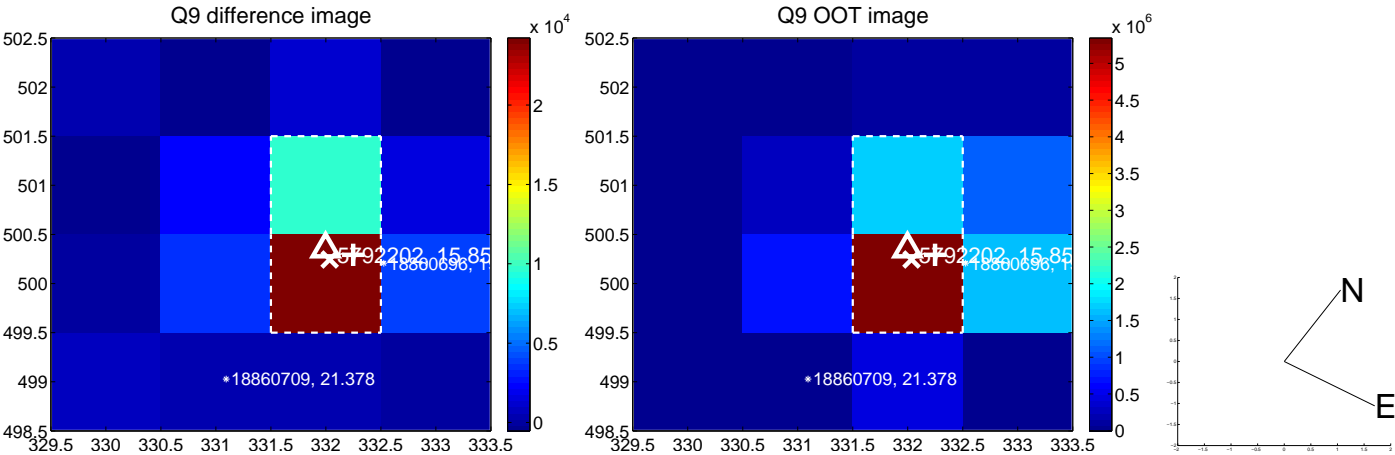
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



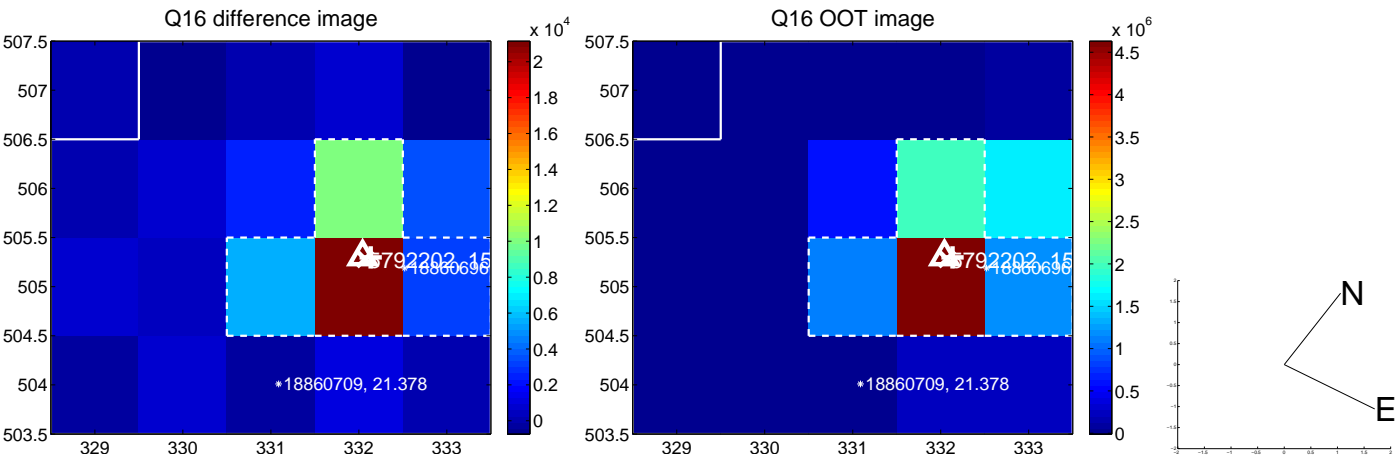
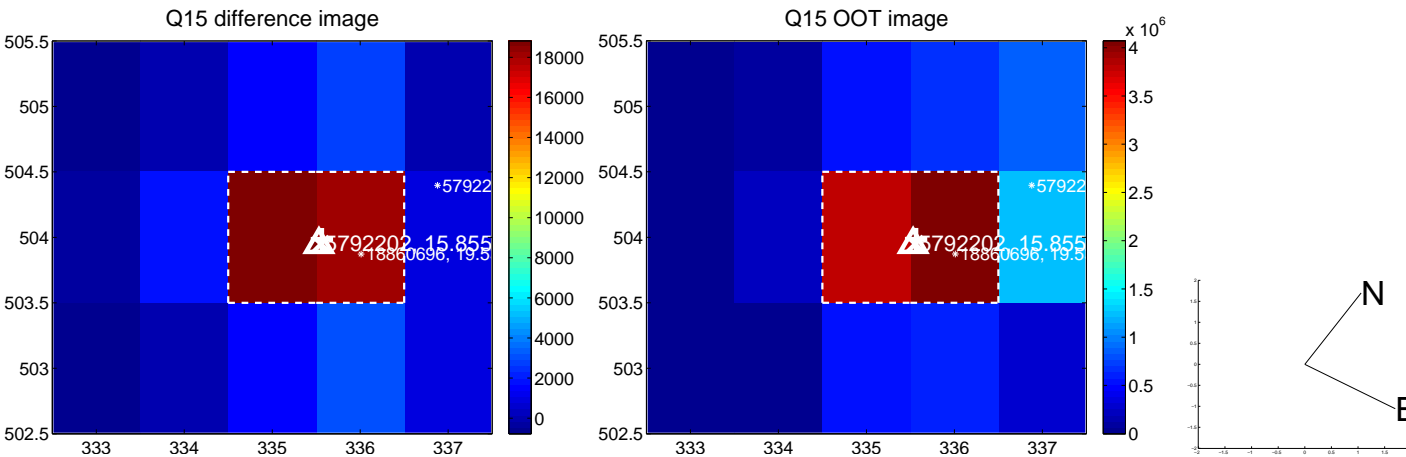
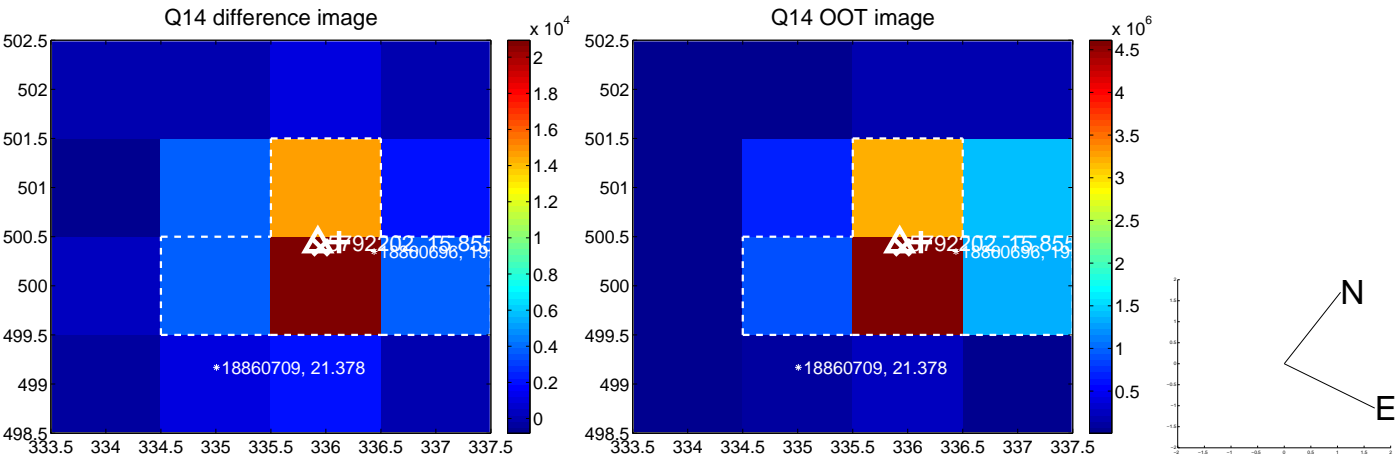
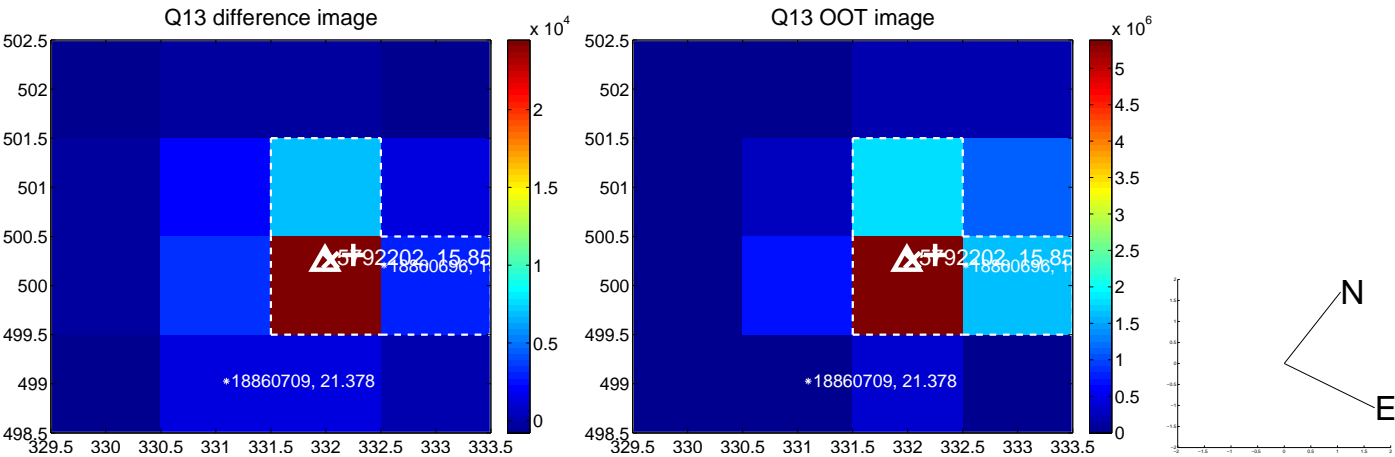
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



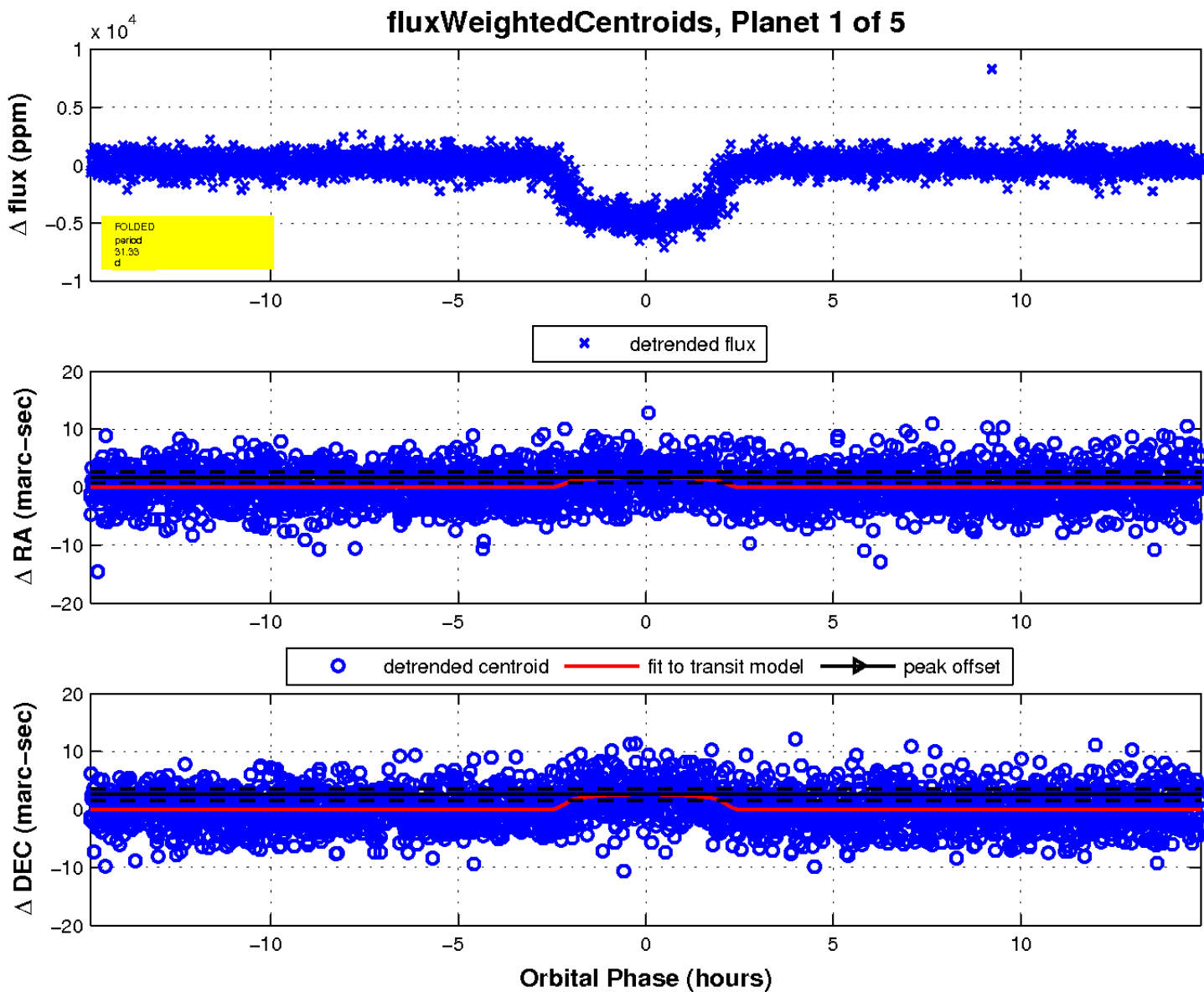
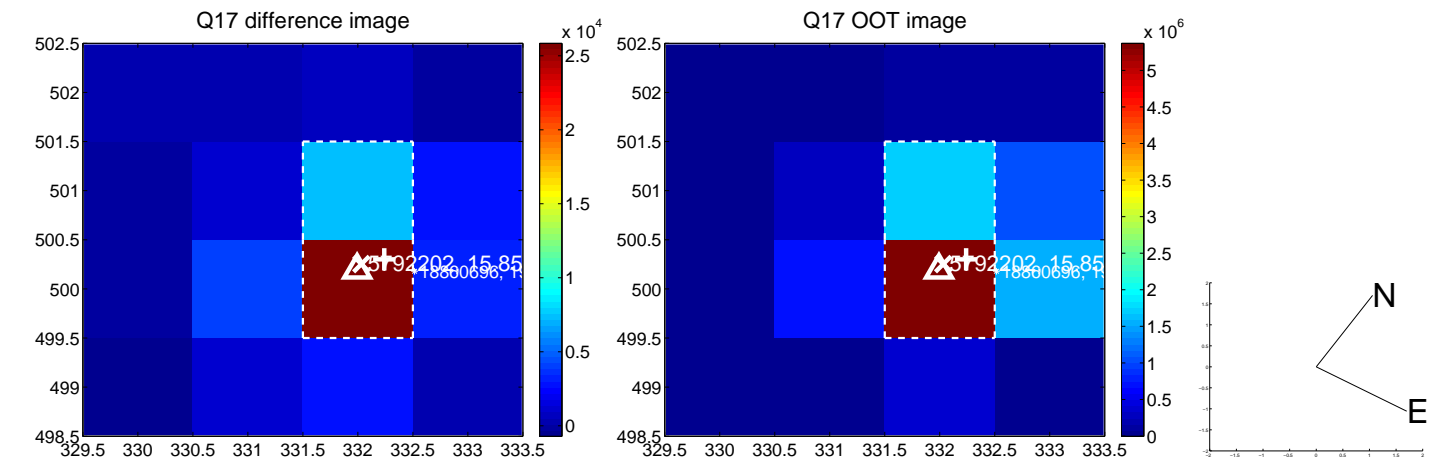
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

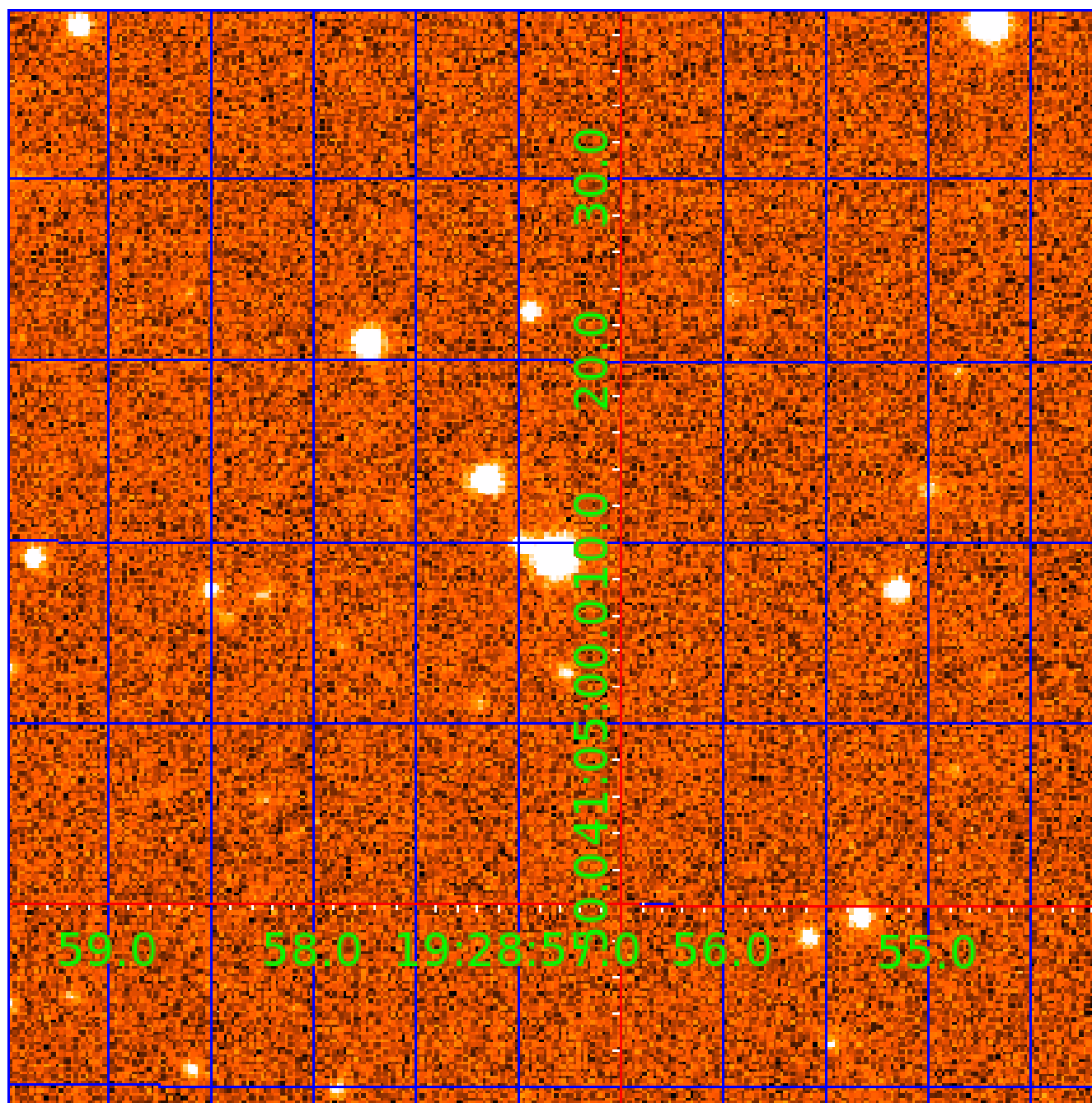


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005792202

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-------|-------|-----------------------------|-----------------|------------------------|------------------------|
| 005792202-01 | OBS | 0841.02 | 31.330526 | 153.430181 | 5077.6 | 4.937 | 110.0 | 106.5 | 0.82 | 5251 | 6.16 | 12.63 |
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Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005792202-01 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-02 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-03 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL |
| 005792202-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV |

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

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

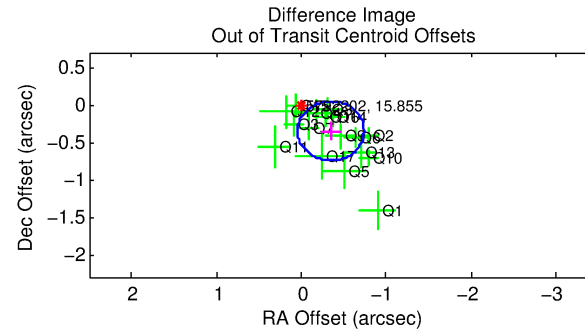
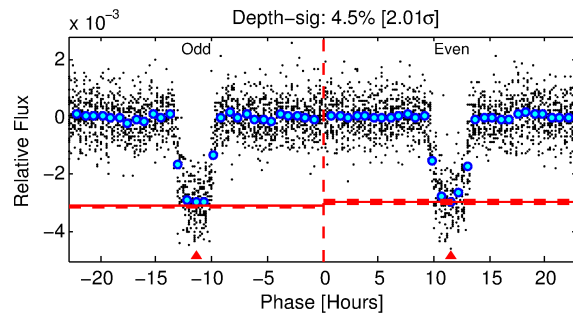
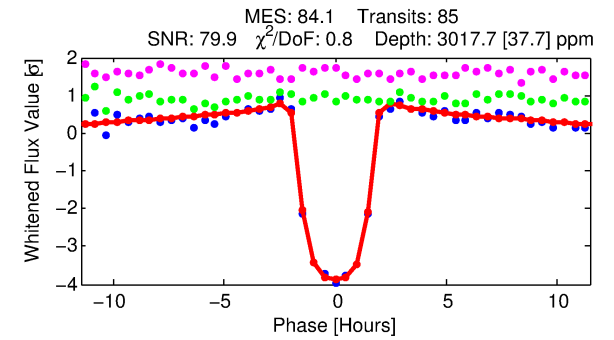
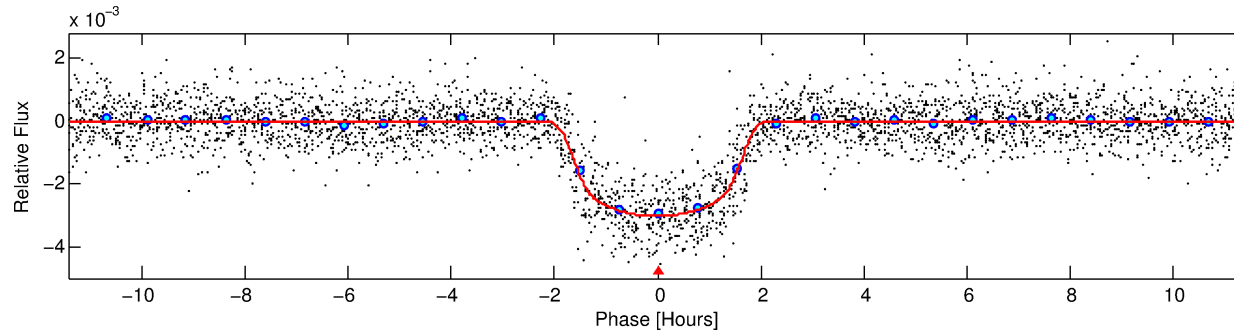
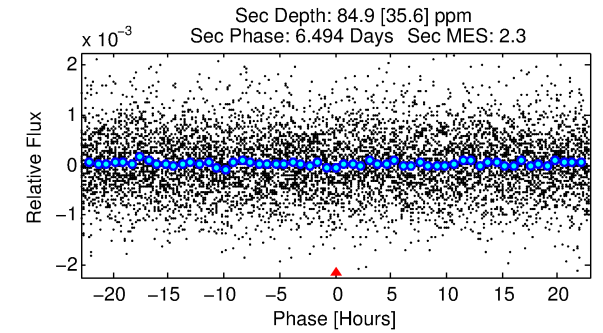
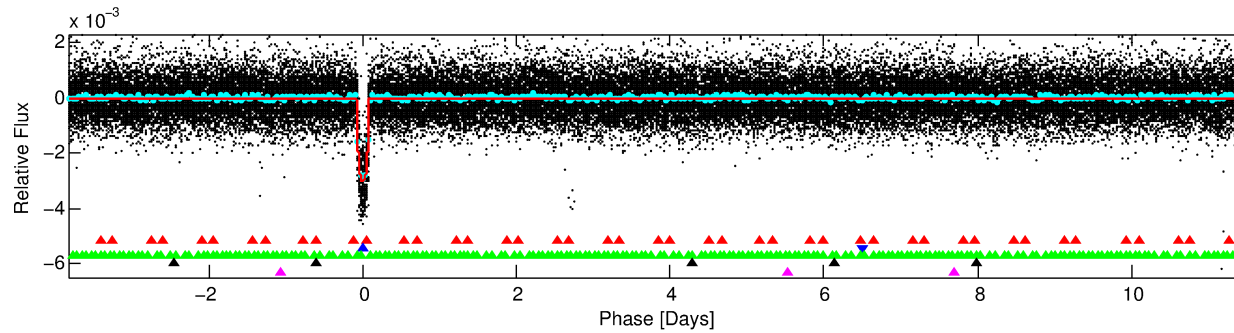
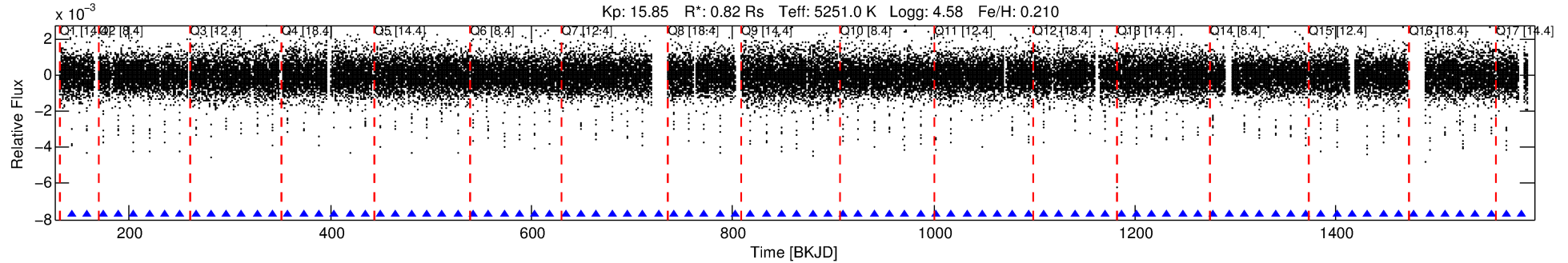
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005792202-02

No Significant Match Found

DV One-Page Summary

KIC: 5792202 Candidate: 2 of 5 Period: 15.335 d
KOI: K00841.01 Name: Kepler-27b Corr: 0.968



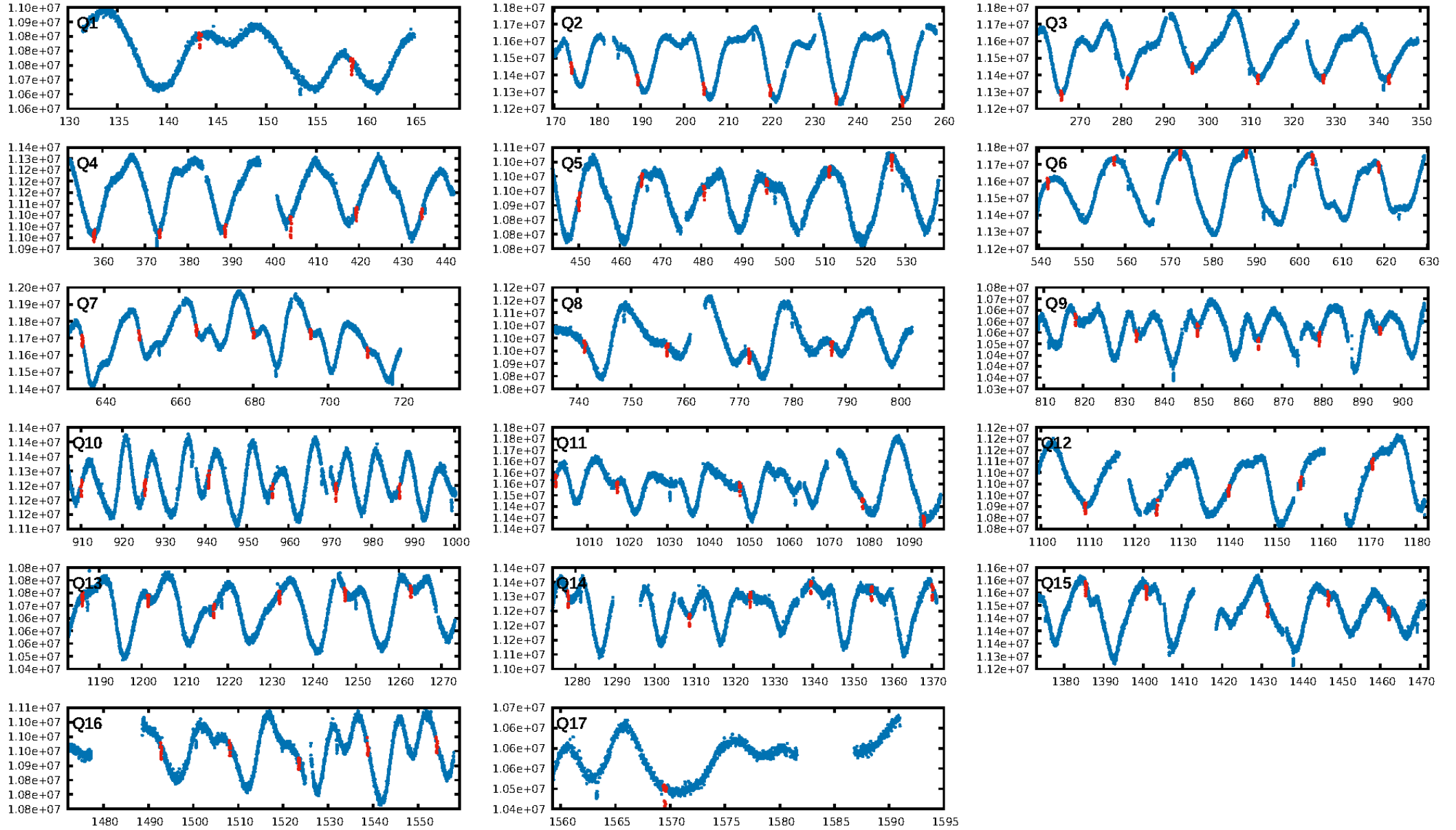
DV Fit Results:

Period = 15.33527 [0.00002] d
Epoch = 143.3325 [0.0009] BKJD
Rp/R* = 0.0554 [0.0022]
a/R* = 22.25 [3.01]
b = 0.77 [0.07]
Seff = 32.74 [5.45]
Teq = 610 [25] K
Rp = 4.94 [0.52] Re
a = 0.1178 [0.0109] AU
Ag = 26.63 [12.01] [2.13σ]
Teffp = 2142 [233] K [6.55σ]

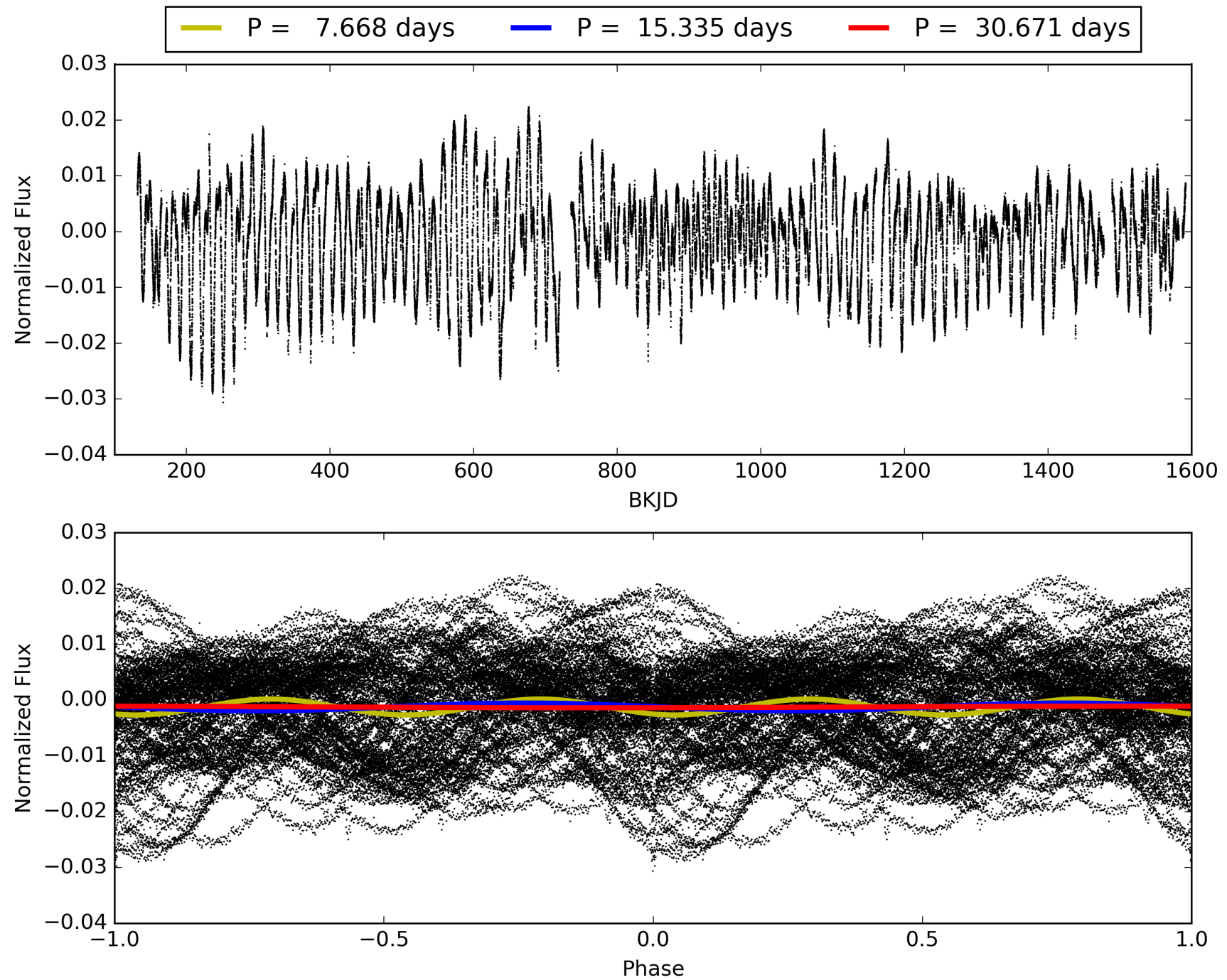
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [41.14σ]
LongPeriod-sig: 100.0% [61.52σ]
ModelChiSquare2-sig: 87.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [82/82]
GhostDiagnostic-chr: 2.316
Centroid-sig: 0.0%
Centroid-so: 0.298 arcsec [2.03σ]
OotOffset-rm: 0.494 arcsec [3.75σ]
KicOffset-rm: 0.083 arcsec [1.00σ]
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 005792202-02, PDC Light Curves

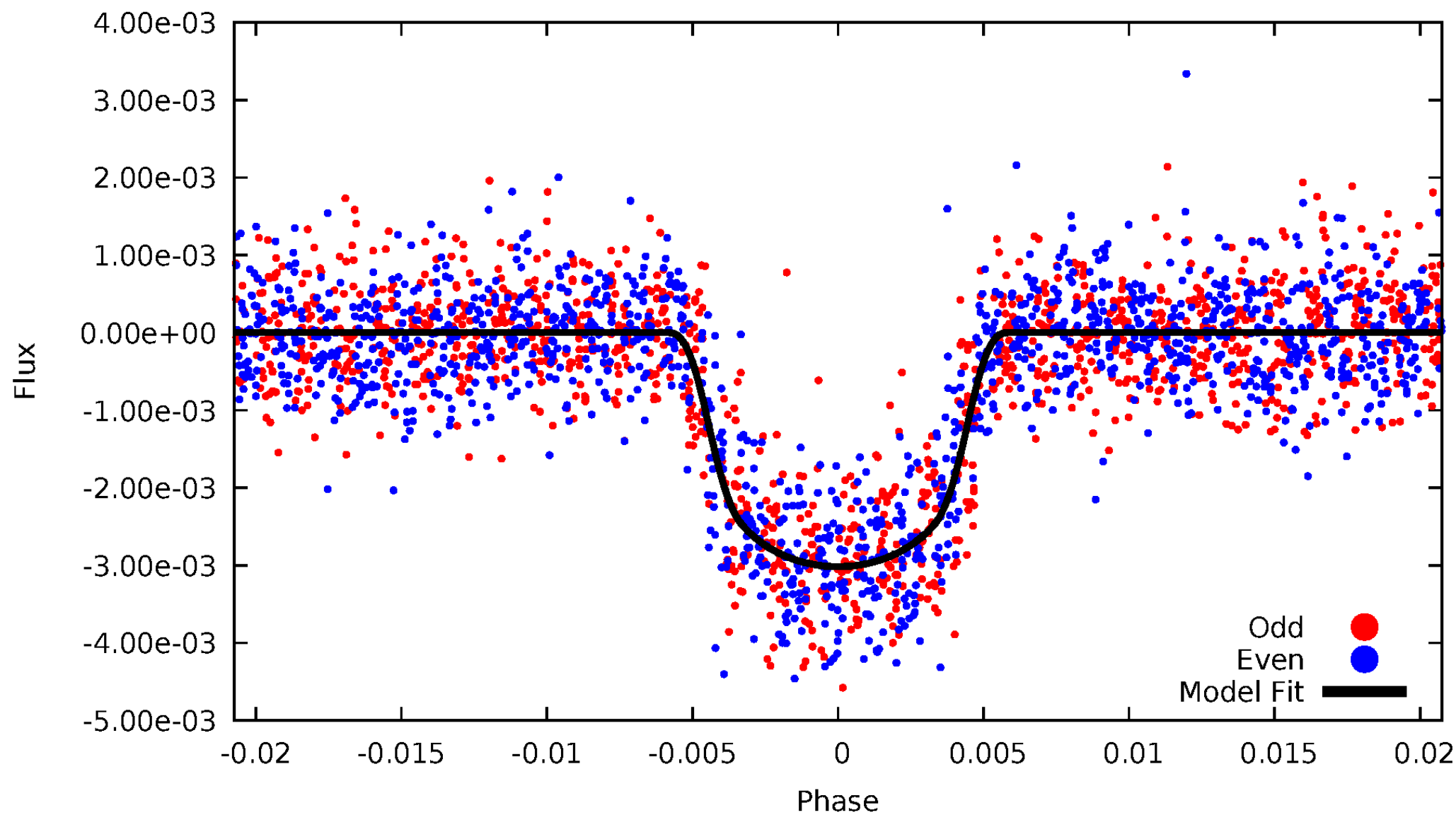


TCE 005792202-02



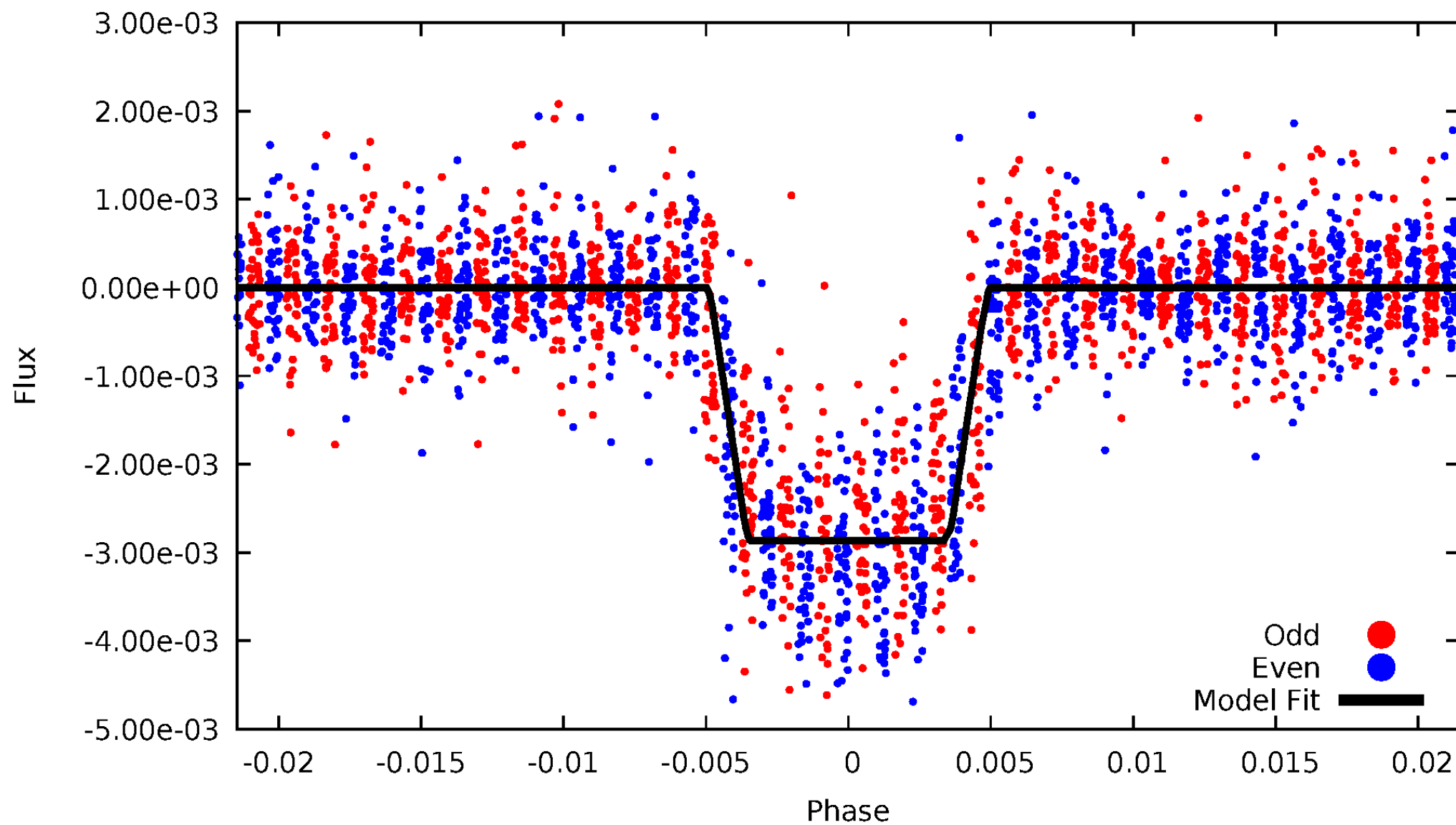
DV Odd/Even

TCE 005792202-02



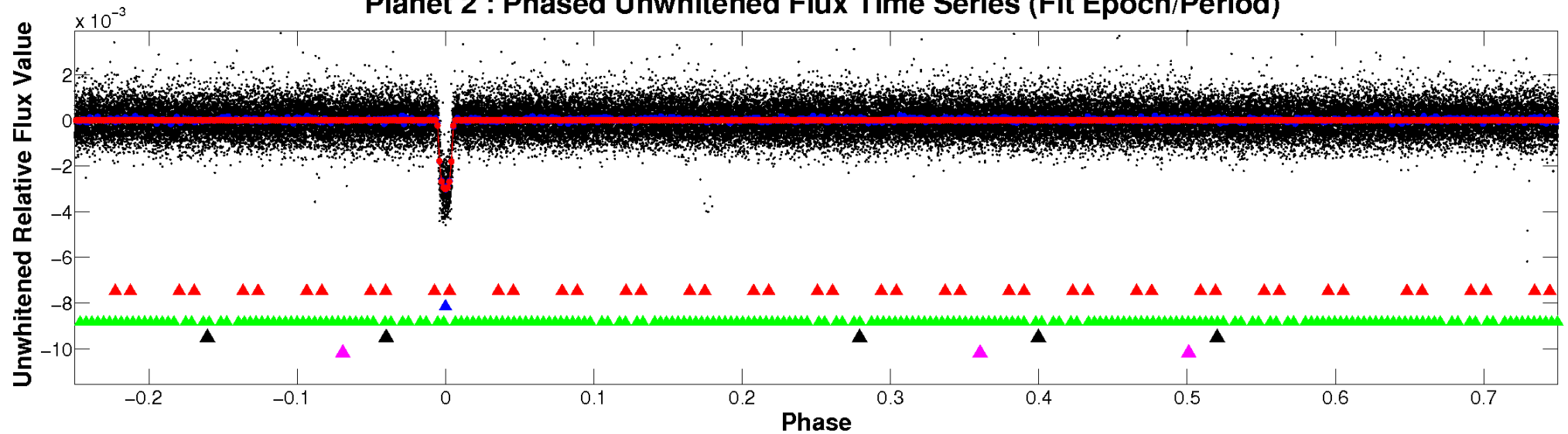
ALT Odd/Even

TCE 005792202-02

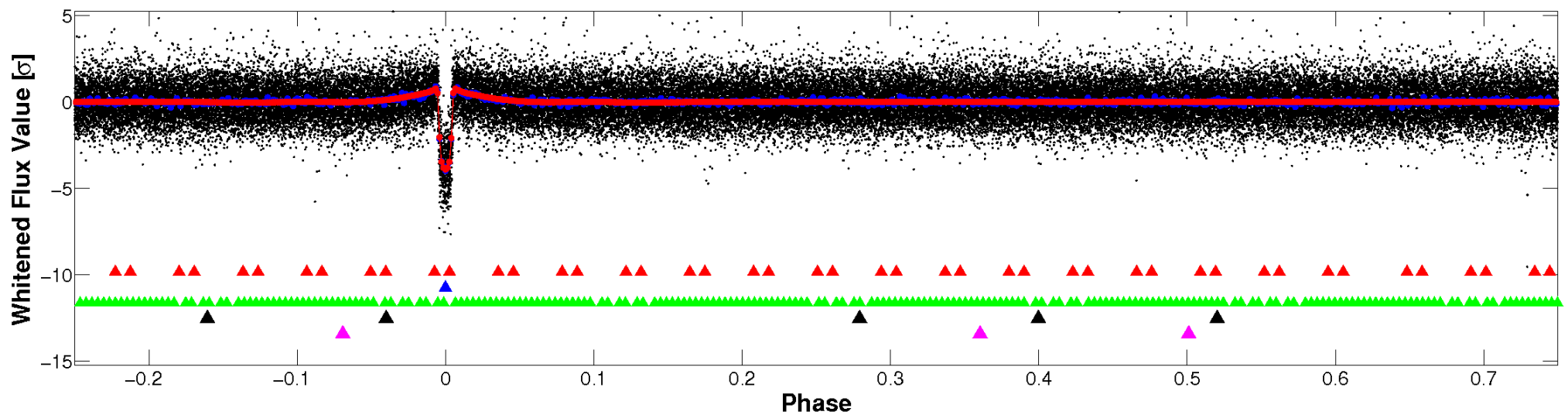


Non-Whitened Vs. Whitened Light Curve

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

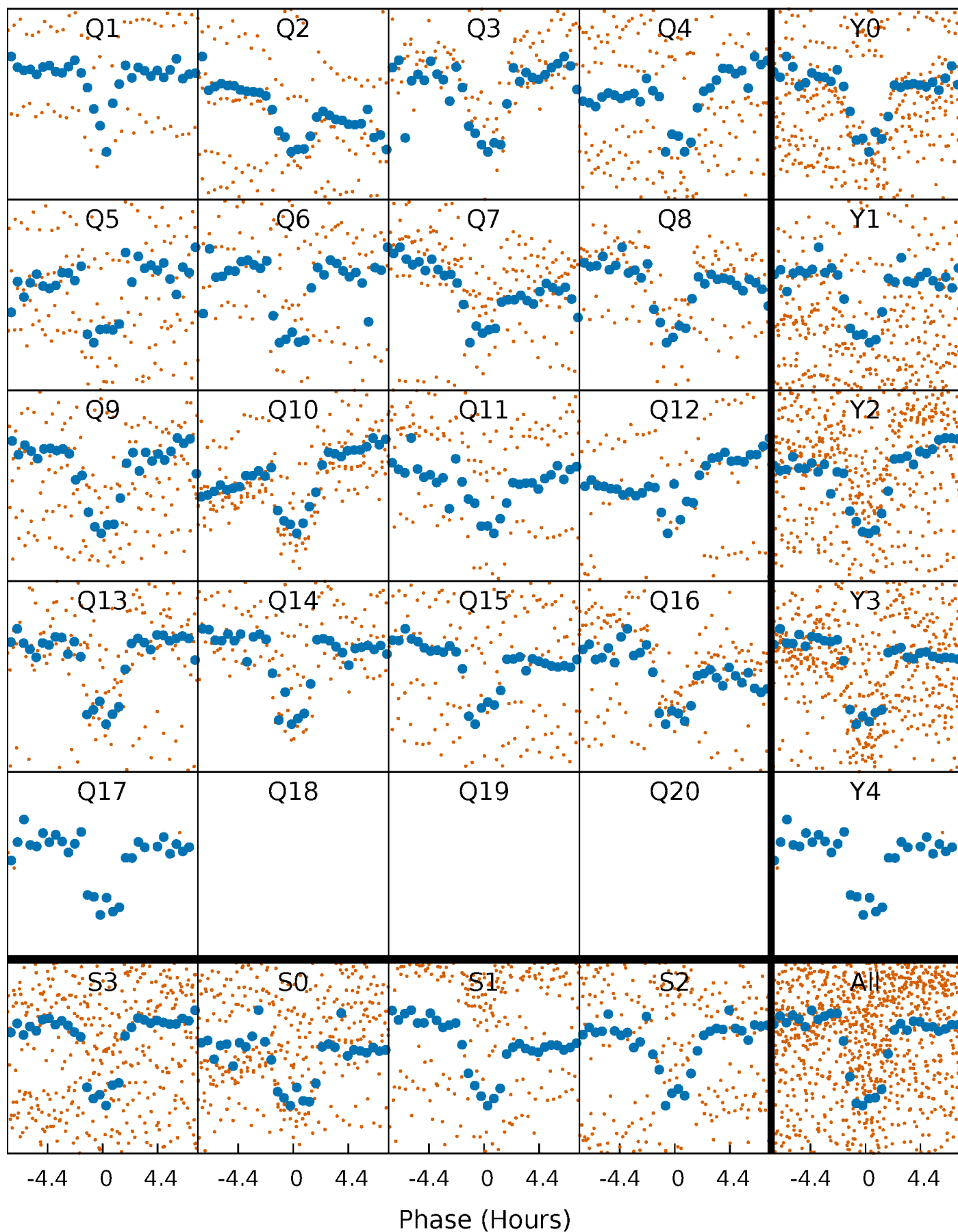


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



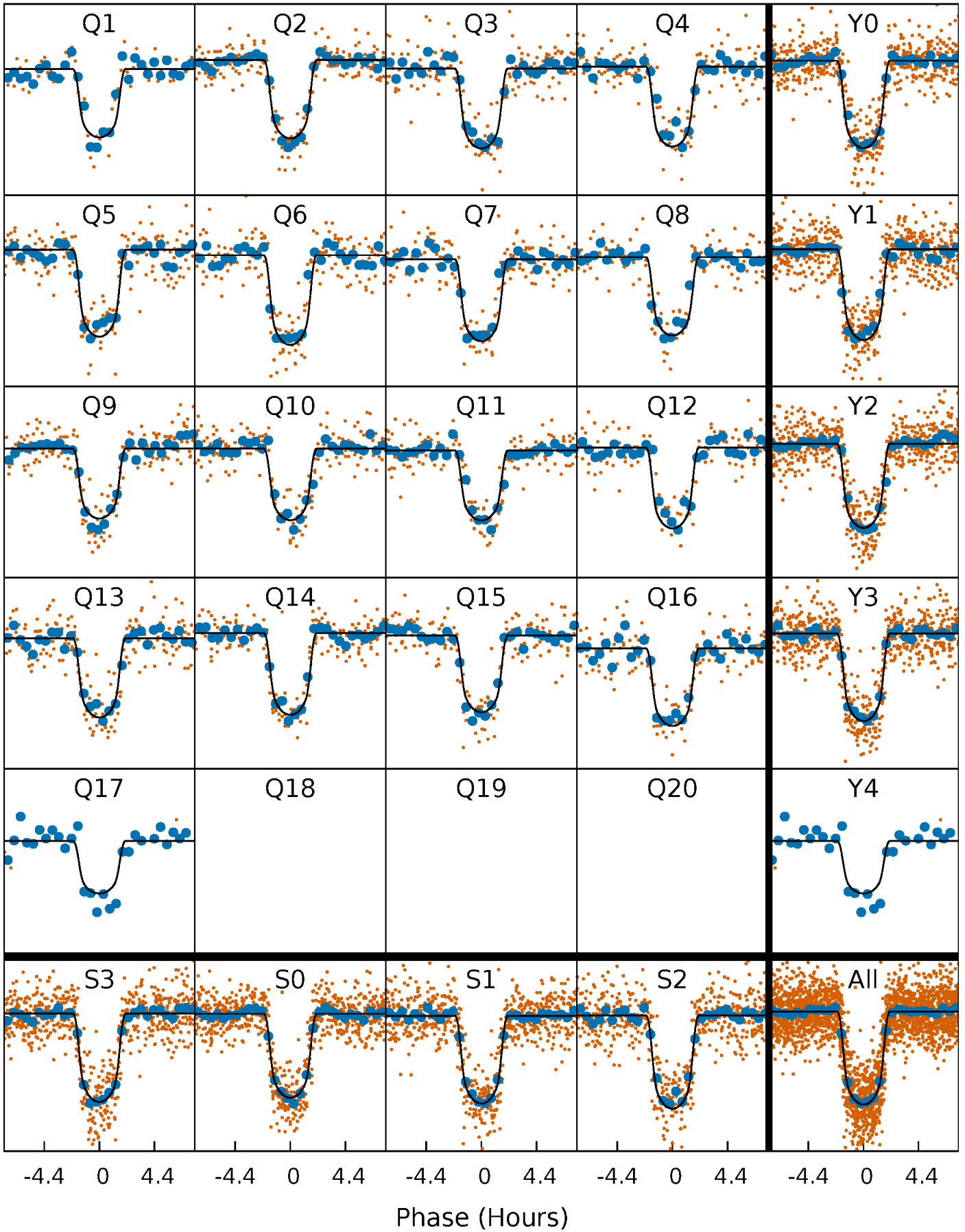
PDC Quarter-Phased Transit Curves

TCE 005792202-02 P= 15.335275 Days $T_0=143.332516$ (BKJD)



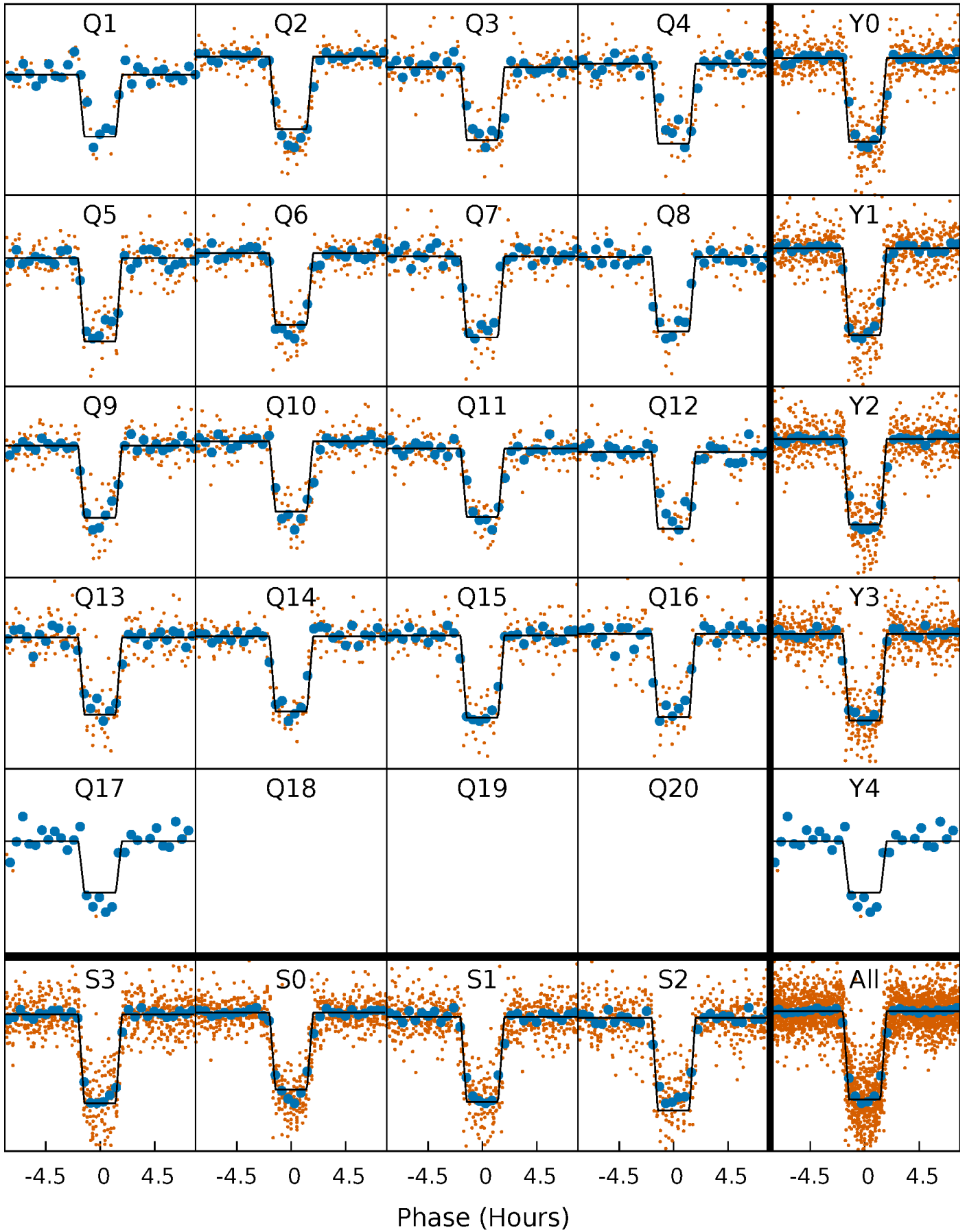
DV Quarter-Phased Transit Curves

TCE 005792202-02 P= 15.335275 Days $T_0=143.332516$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

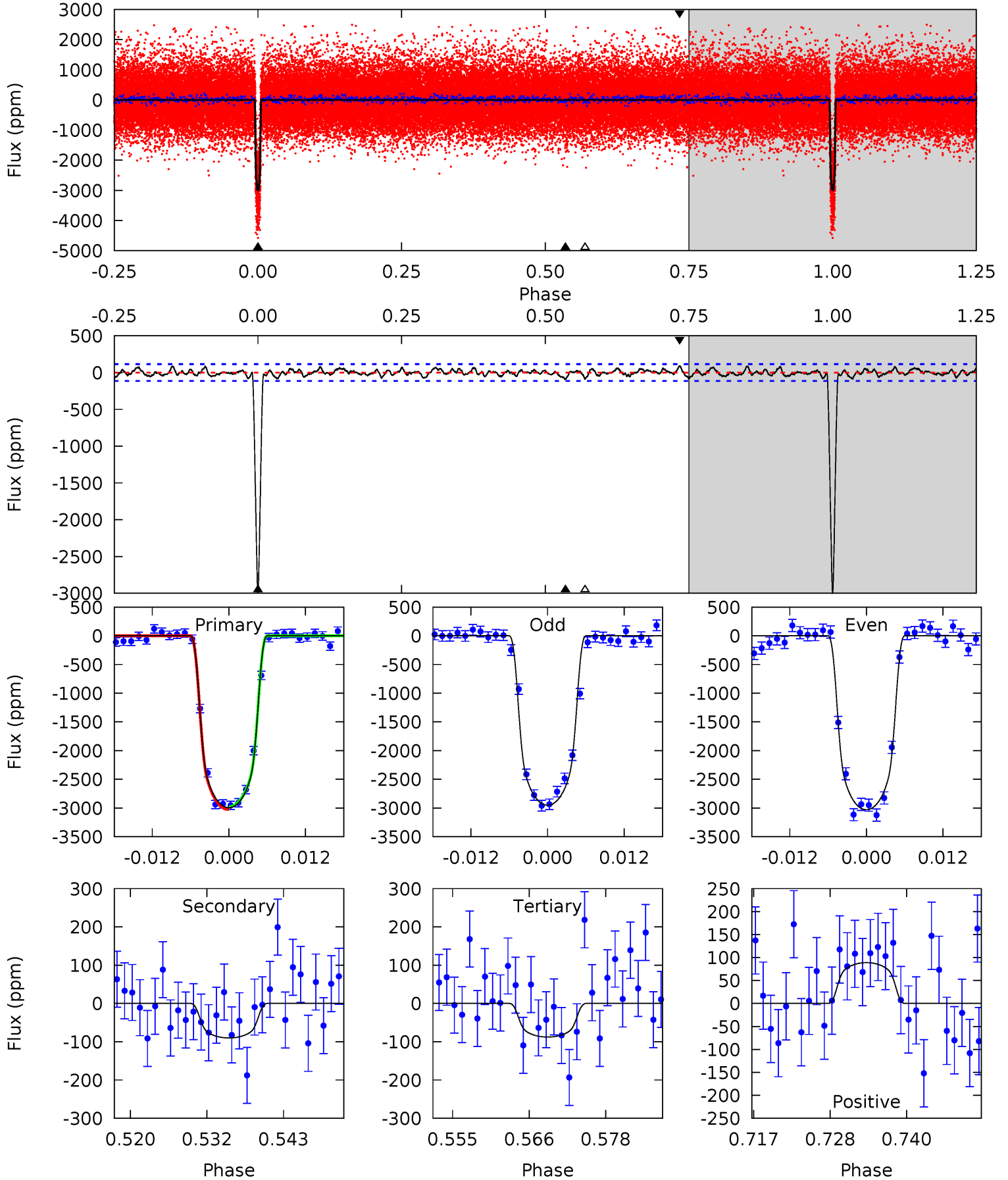
TCE 005792202-02 P= 15.335400 Days $T_0=143.326248$ (BKJD)



DV Model-Shift Uniqueness Test

005792202-02, $P = 15.335275$ Days, $E = 127.997241$ Days

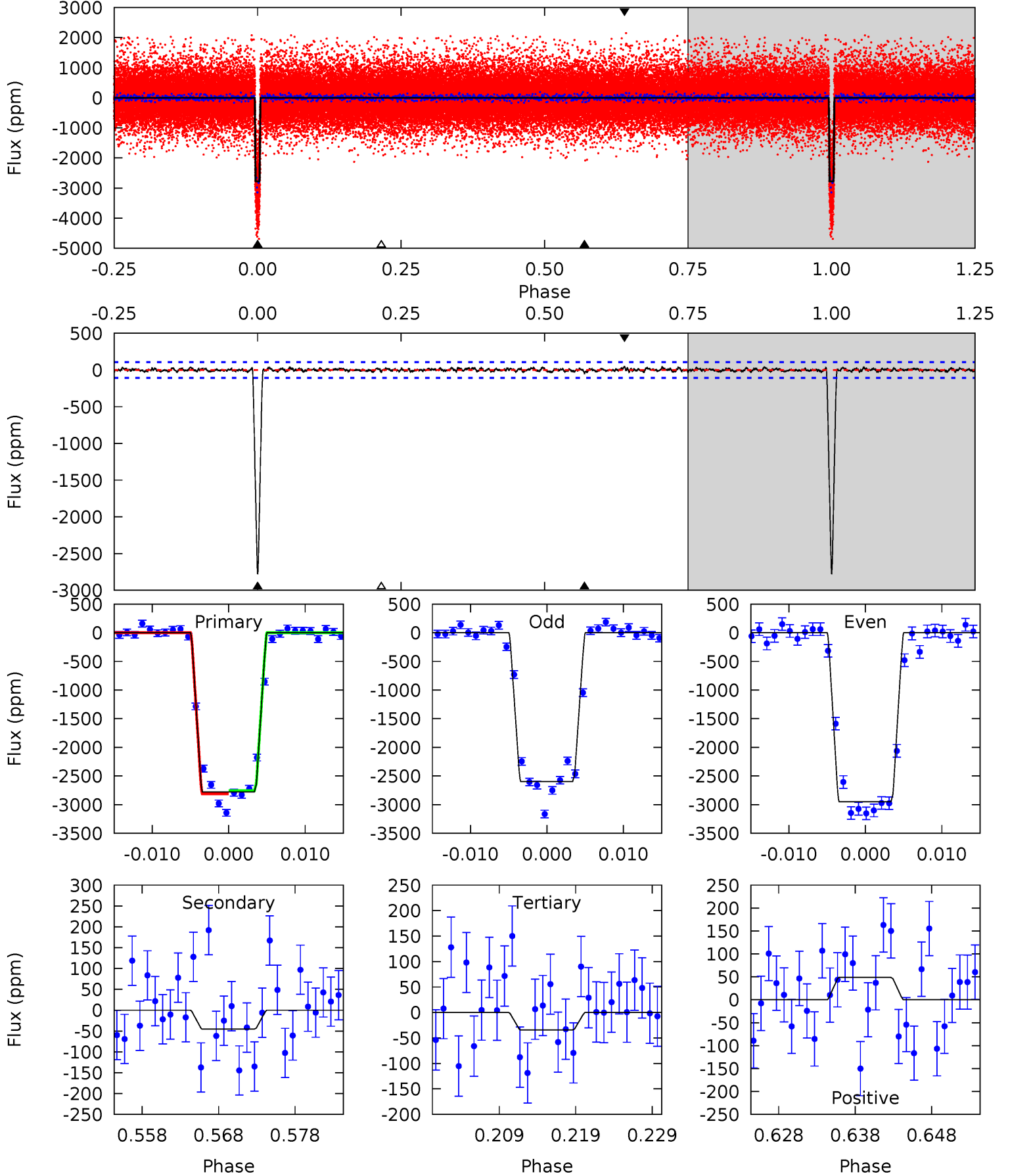
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 131.1 | 3.95 | 3.84 | 3.89 | 5.00 | 2.53 | 1.40 | 127.3 | 127.3 | 0.10 | 0.06 | 1.72 | 0.98 | 0.03 | 1.03 |



Alt Model-Shift Uniqueness Test

005792202-02, $P = 15.335400$ Days, $E = 127.990848$ Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 130.9 | 2.14 | 1.61 | 2.29 | 5.03 | 2.58 | 0.63 | 129.2 | 128.6 | 0.53 | -0.15 | 8.28 | 0.99 | 0.02 | 1.30 |



Stellar Parameters For KIC 005792202

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5251^{+105}_{-105} | $4.581^{+0.010}_{-0.085}$ | $0.210^{+0.150}_{-0.150}$ | $0.817^{+0.080}_{-0.029}$ | $0.926^{+0.032}_{-0.064}$ | $2.394^{+0.172}_{-0.612}$ |
| | +2%/-2% | +0%/-2% | +71%/-71% | +10%/-4% | +3%/-7% | +7%/-26% |
| Source | SPE33 | SPE33 | SPE33 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005792202-02 / KOI 0841.01

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|--------------|------------------------|----------------------|----------------------|------------------|
| DV | -90 ± 23 | $5.03^{+0.31}_{-0.27}$ | 861^{+28}_{-20} | 2871^{+101}_{-122} | 27^{+8}_{-7} |
| Alt. | -45 ± 21 | $4.87^{+0.30}_{-0.26}$ | 864^{+25}_{-23} | 2636^{+149}_{-202} | 14^{+7}_{-7} |

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

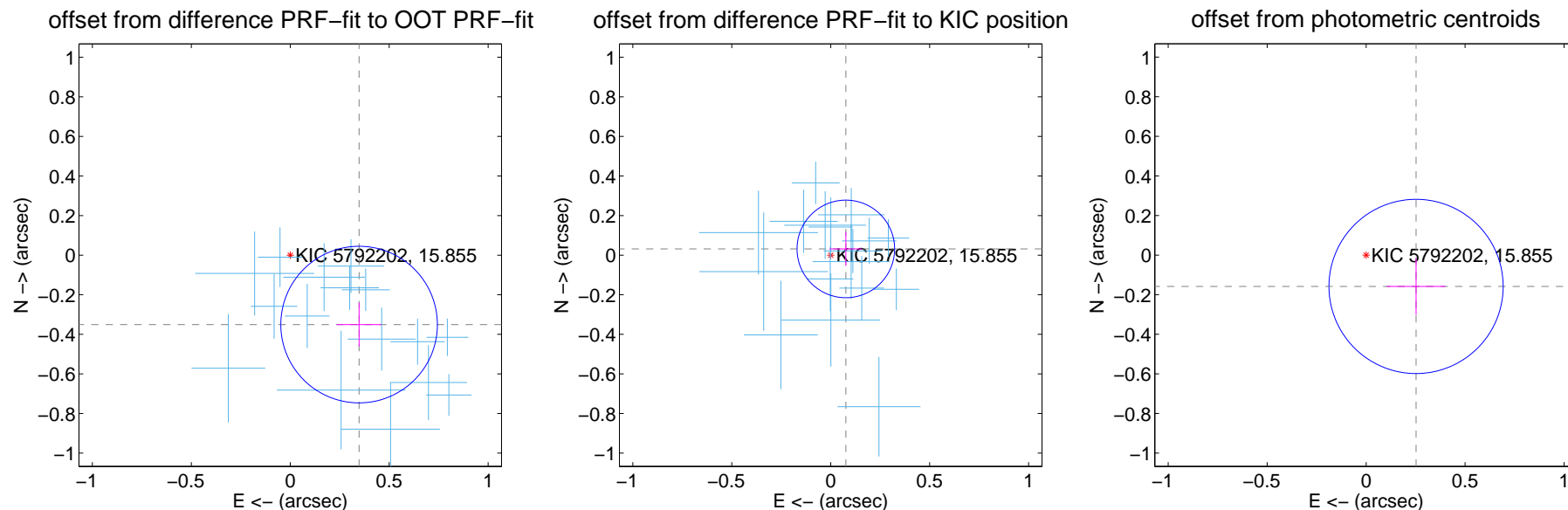
DV Centroid Data

Supplemental centroid analysis for 005792202-02. Kepler magnitude: 15.86. Transit SNR 79.91

There are 17 quarters with good PRF difference image offsets

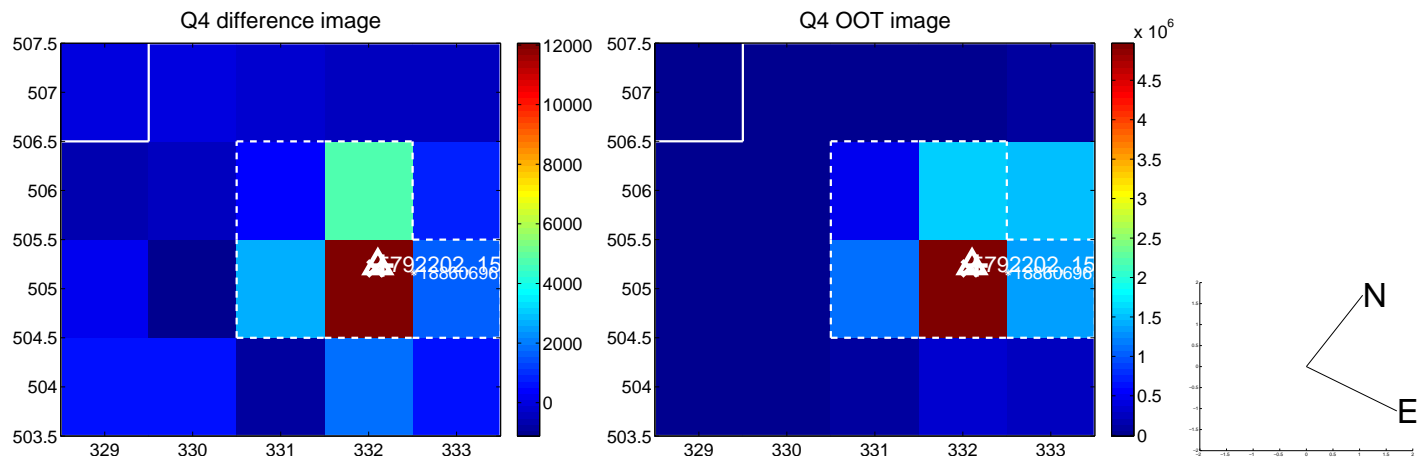
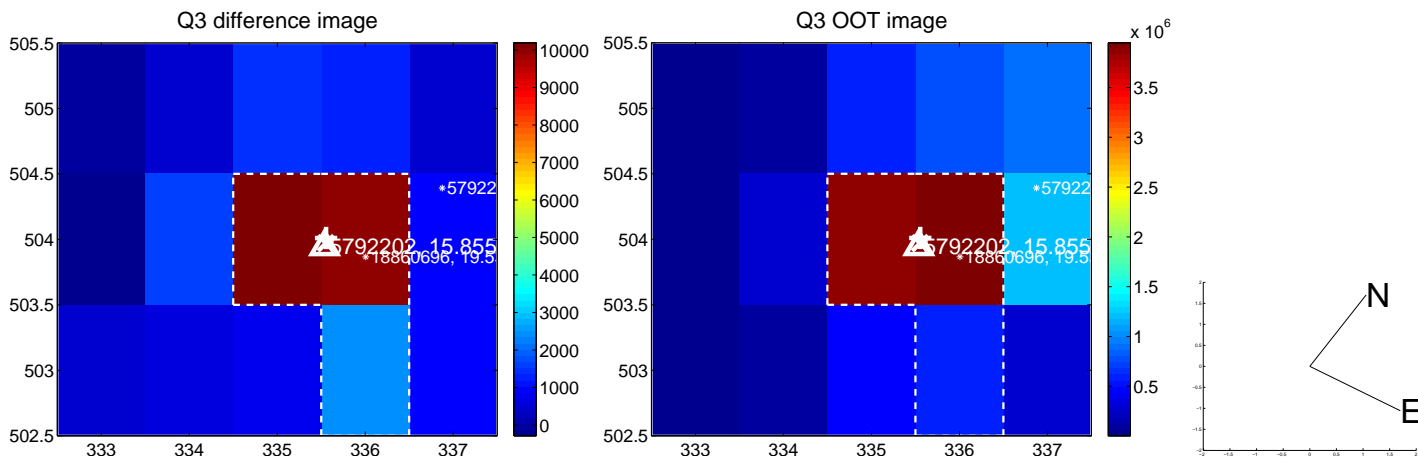
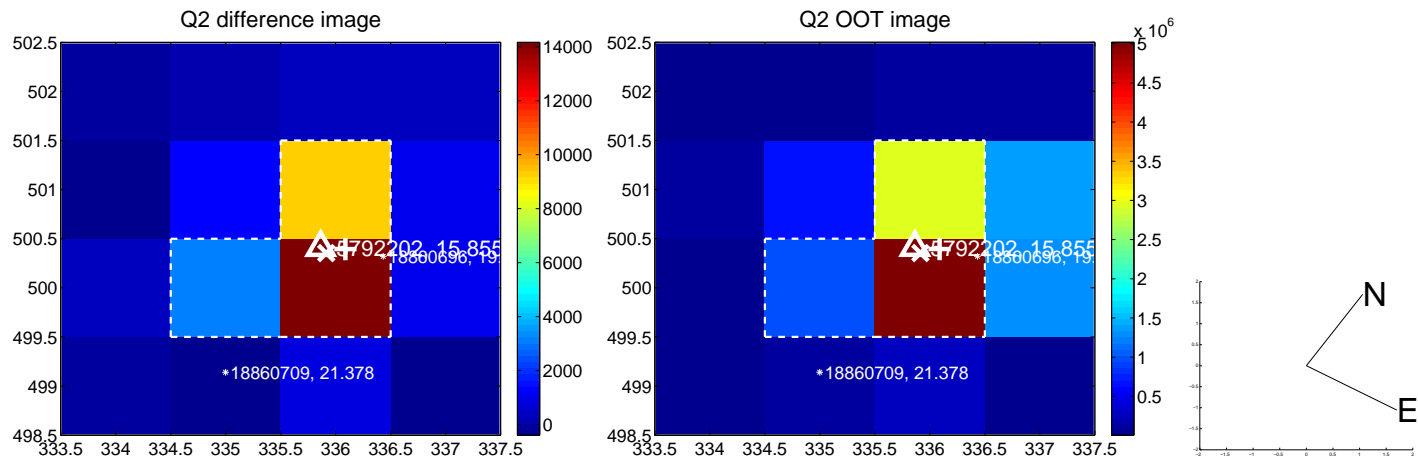
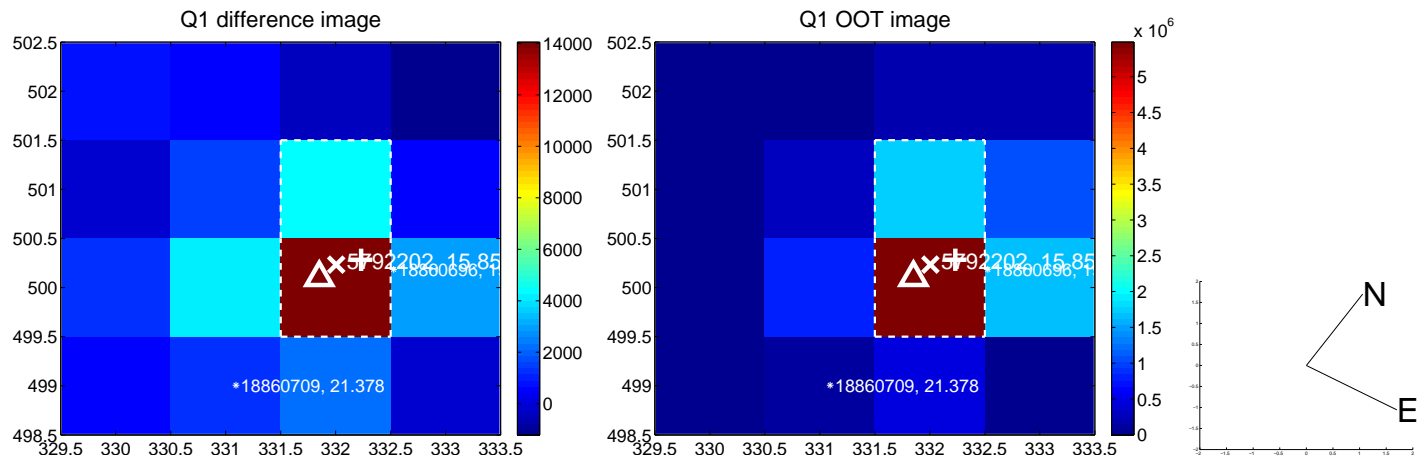
The direct PRF centroid is offset from the target star catalog position by about 0.84 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|-------------------------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.494 ± 0.132 | 3.75 | -0.348 ± 0.113 | -0.351 ± 0.109 |
| PRF-fit source offset from KIC position | 0.083 ± 0.082 | 1.00 | -0.076 ± 0.082 | 0.031 ± 0.085 |
| photometric centroid source offset | 0.30 ± 0.15 | 2.03 | -0.25 ± 0.15 | -0.16 ± 0.14 |

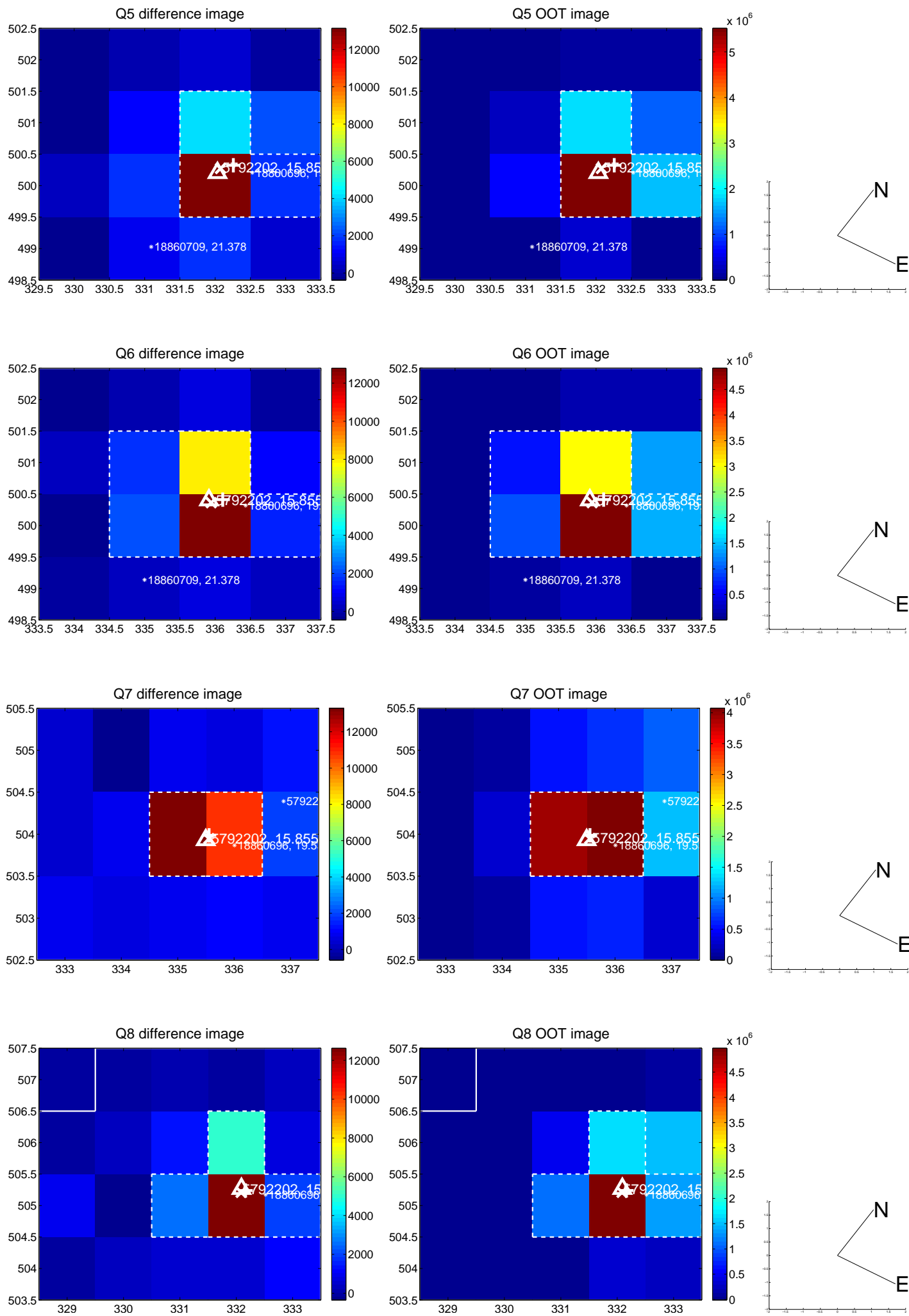


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

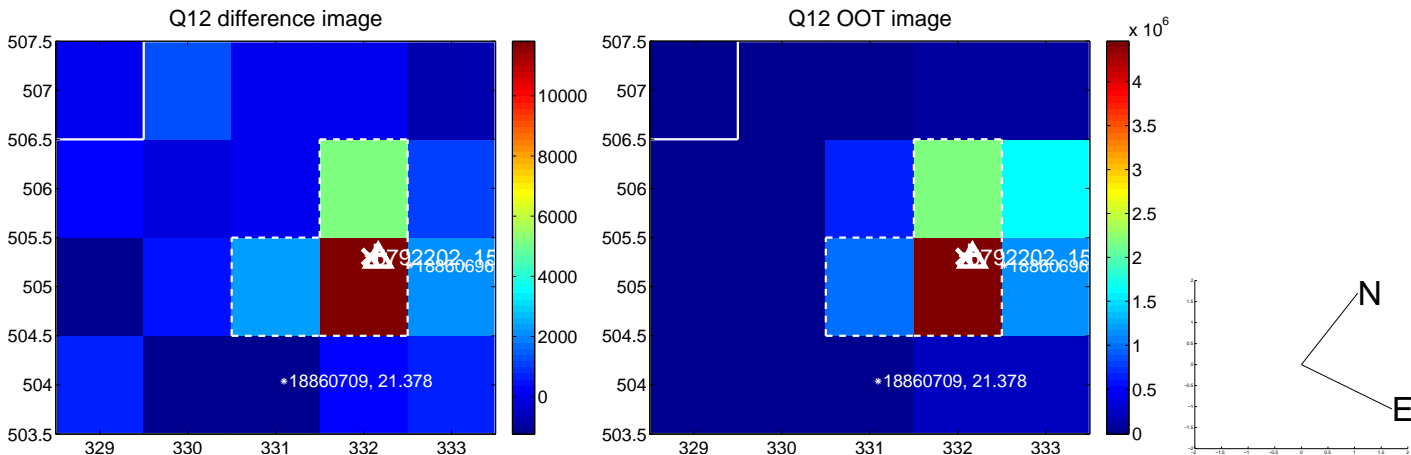
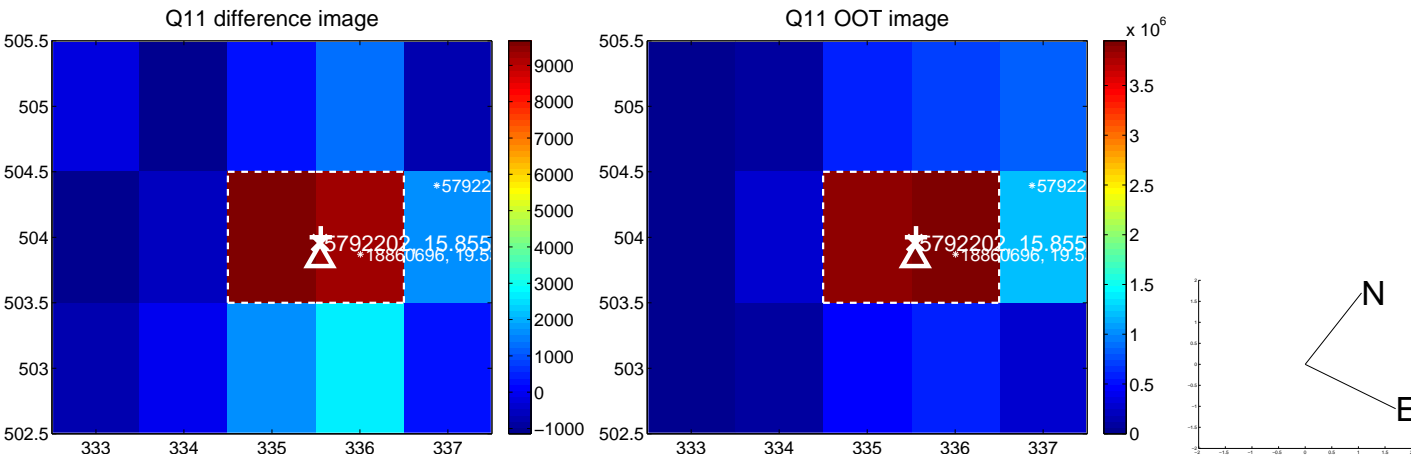
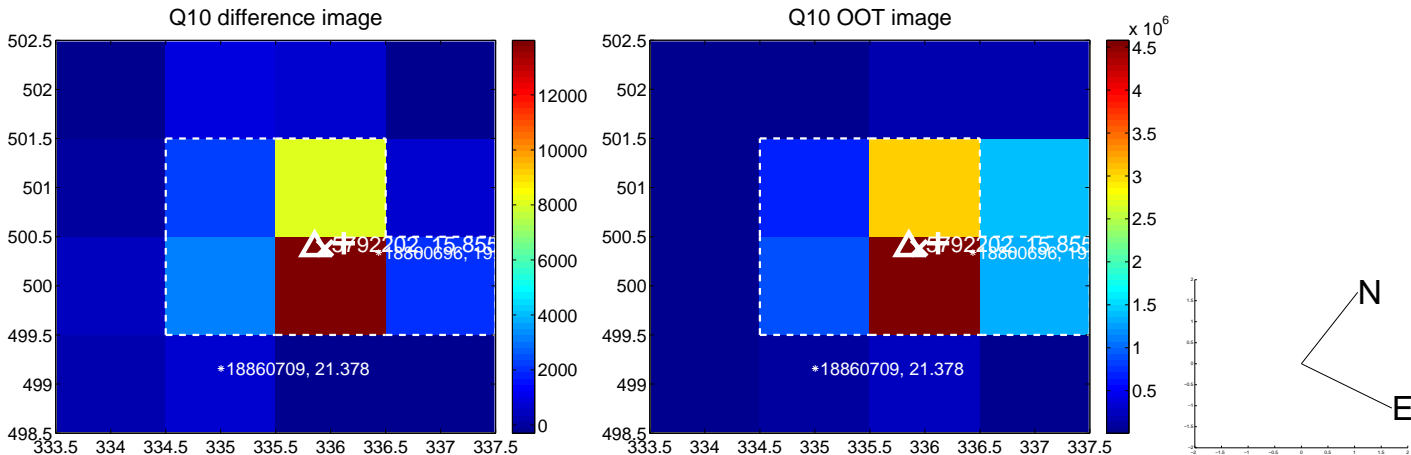
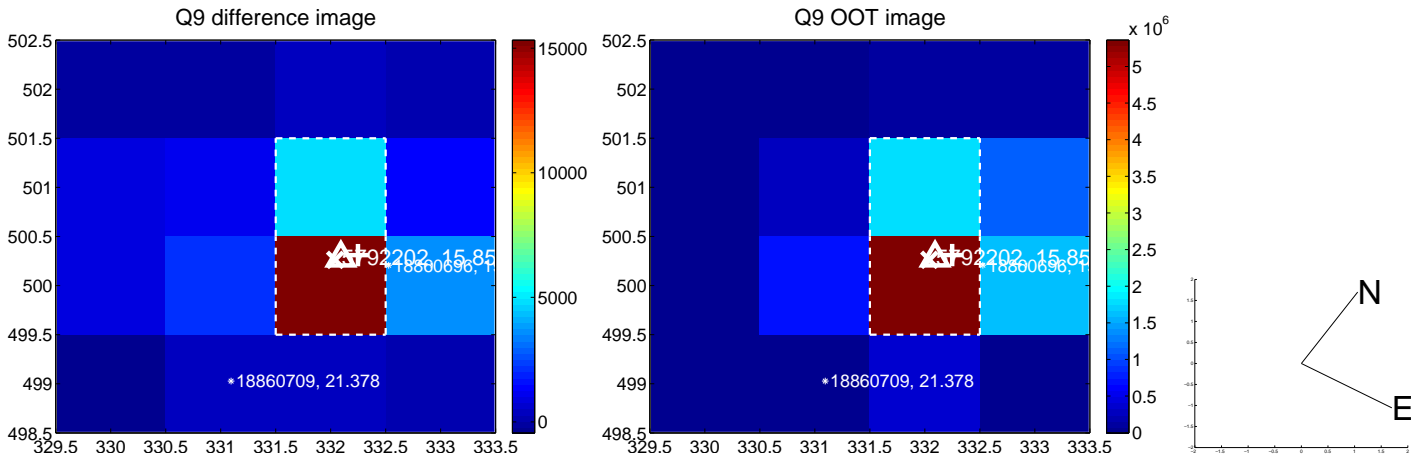
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



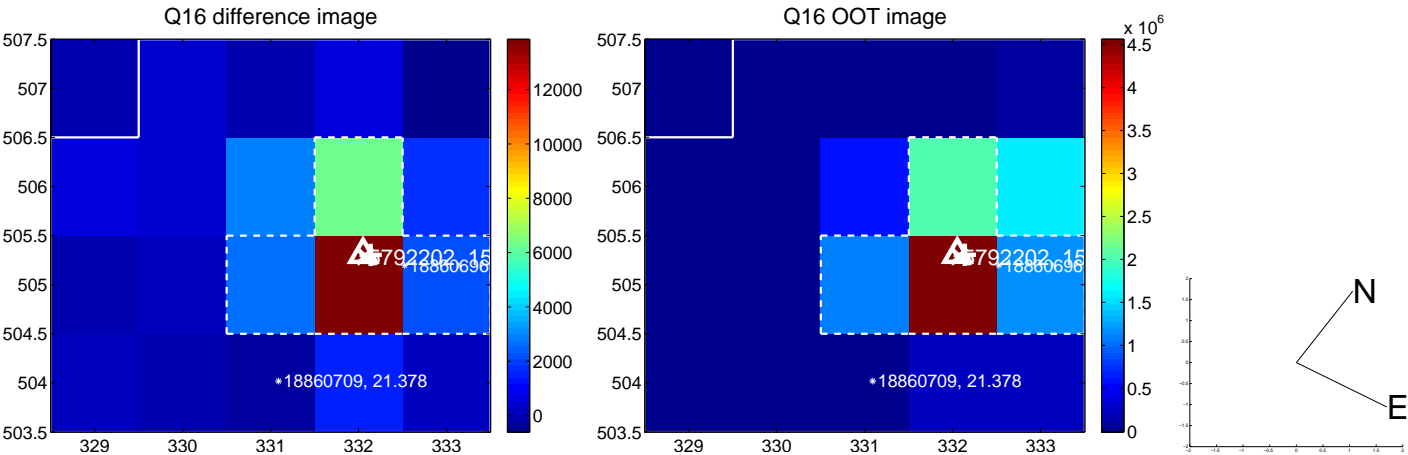
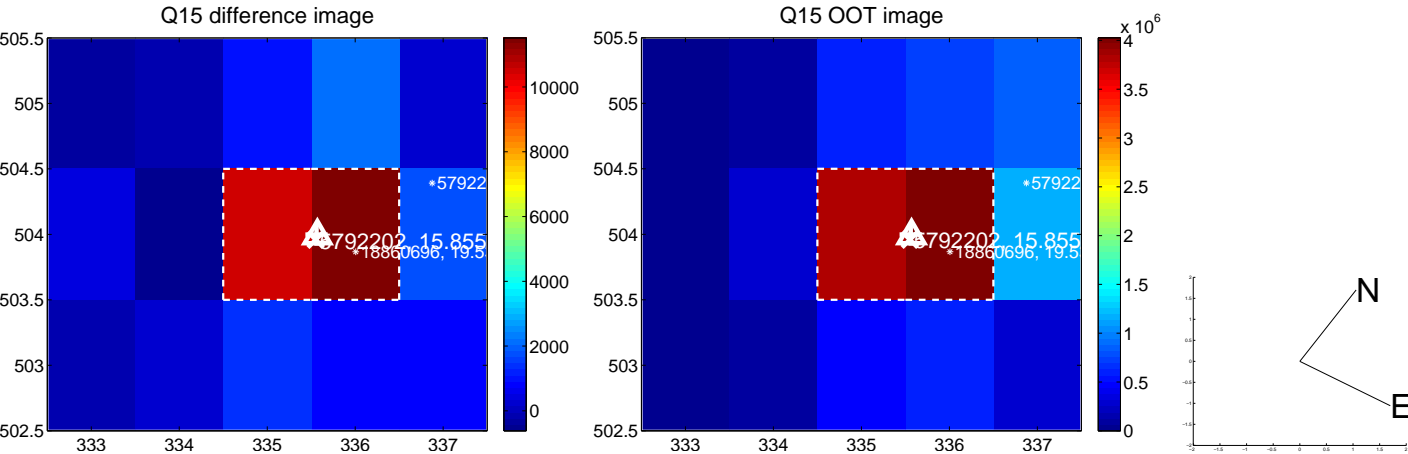
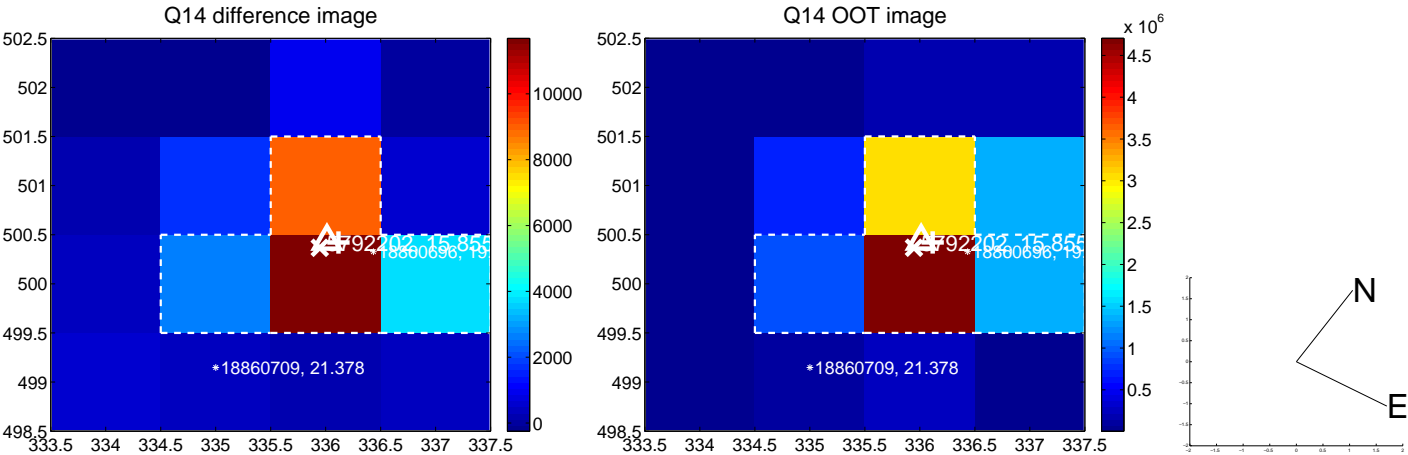
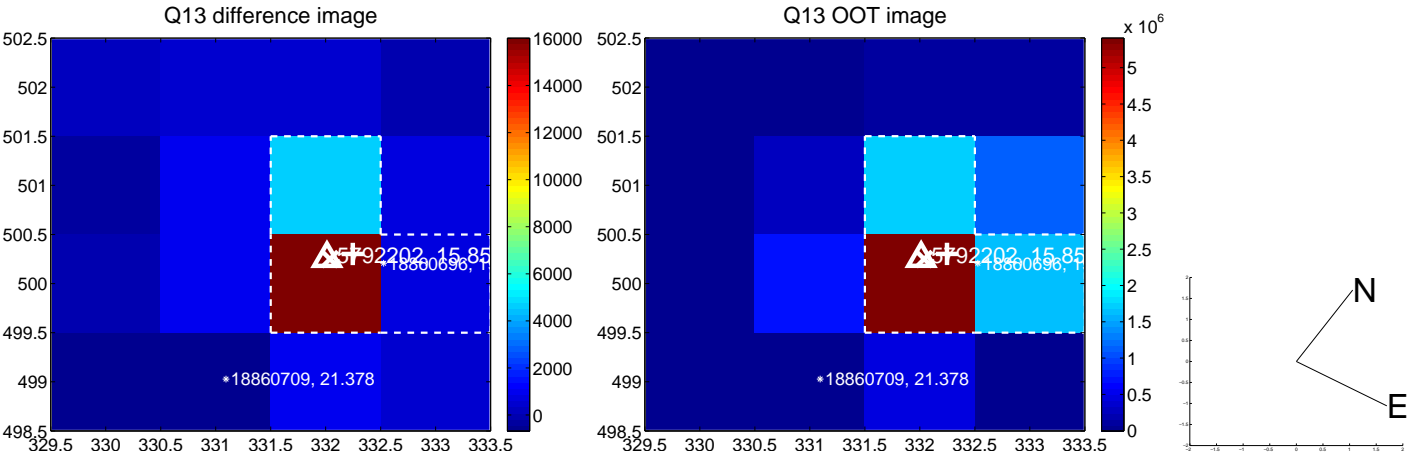
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



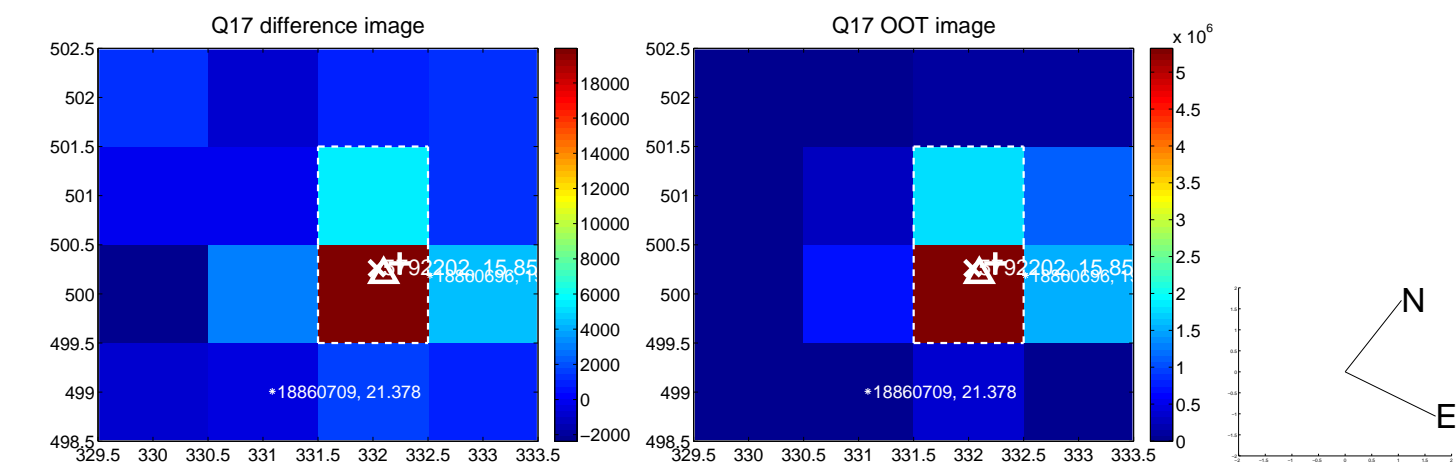
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



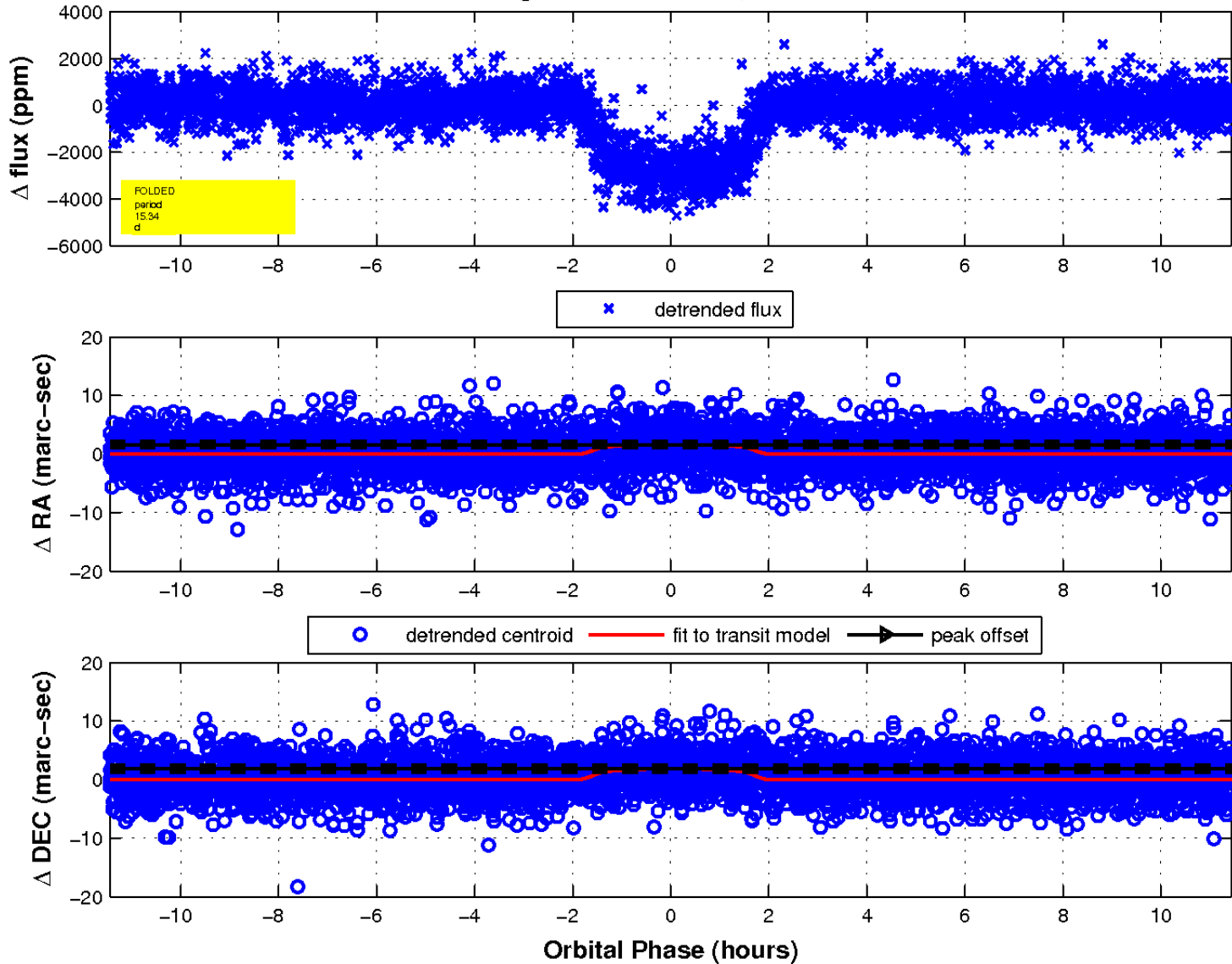
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

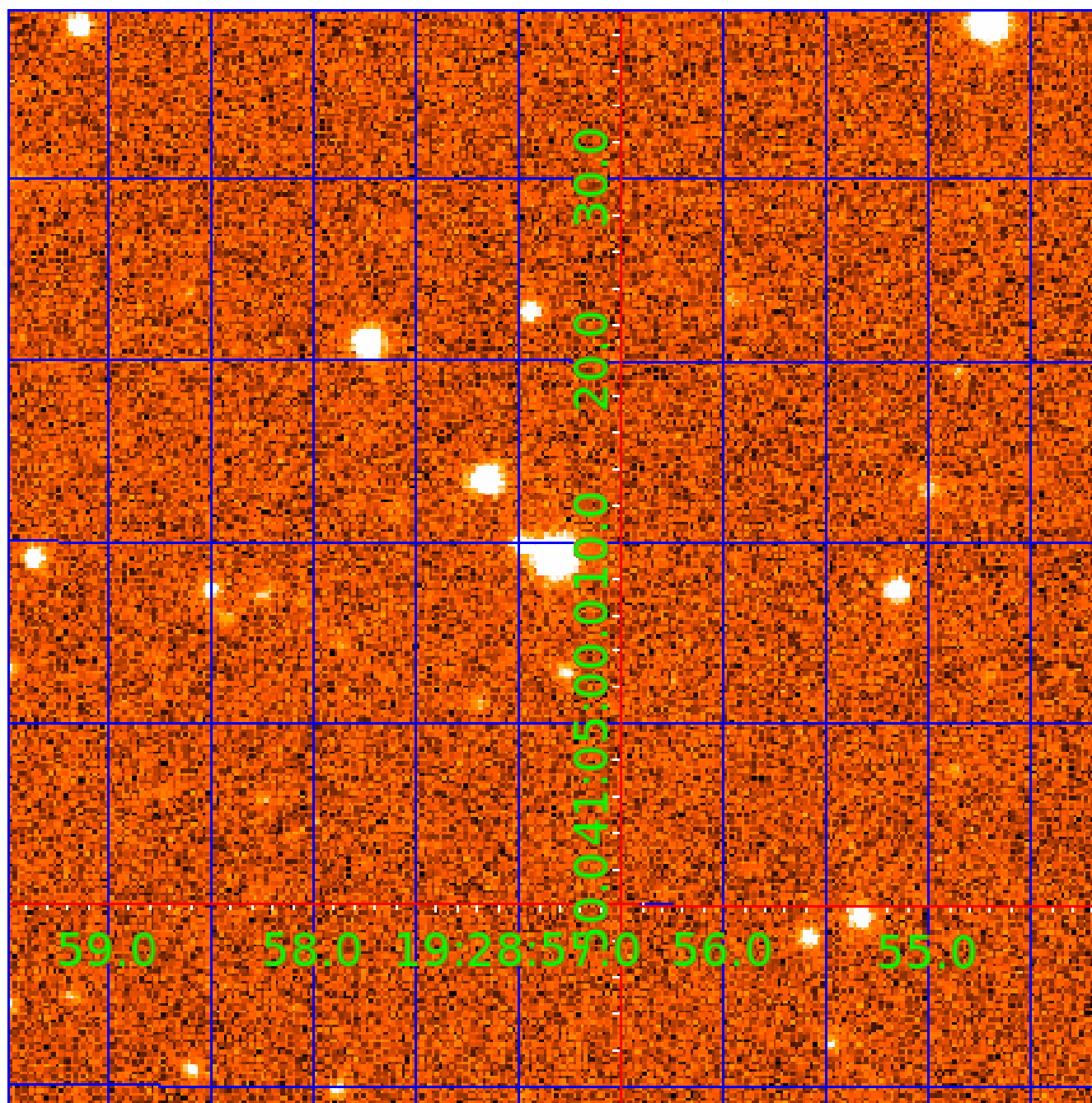


fluxWeightedCentroids, Planet 2 of 5



UKIRT Image

Declination



KIC 005792202

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-------|-------|-----------------------------|-----------------|------------------------|------------------------|
| 005792202-01 | OBS | 0841.02 | 31.330526 | 153.430181 | 5077.6 | 4.937 | 110.0 | 106.5 | 0.82 | 5251 | 6.16 | 12.63 |
| 005792202-02 | OBS | 0841.01 | 15.335275 | 143.332516 | 3017.7 | 3.817 | 84.1 | 79.9 | 0.82 | 5251 | 4.93 | 32.74 |
| 005792202-03 | OBS | 0841.03 | 6.546285 | 133.857609 | 691.0 | 3.424 | 24.0 | 26.8 | 0.82 | 5251 | 2.82 | 101.86 |
| 005792202-04 | OBS | 0841.04 | 269.291614 | 285.631863 | 1591.0 | 11.604 | 12.7 | 12.3 | 0.82 | 5251 | 3.69 | 0.72 |
| 005792202-05 | OBS | 0841.05 | 499.474824 | 455.565728 | 1423.4 | 12.081 | 9.6 | 9.7 | 0.82 | 5251 | 3.52 | 0.32 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005792202-01 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-02 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-03 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL |
| 005792202-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV |

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

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

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

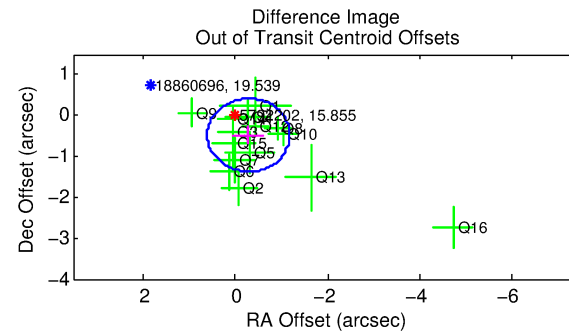
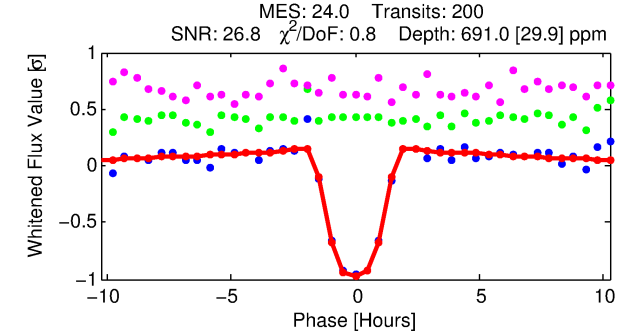
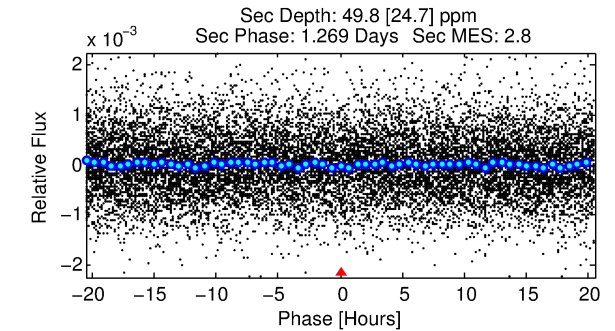
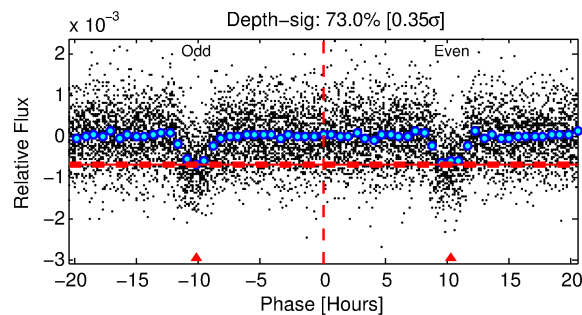
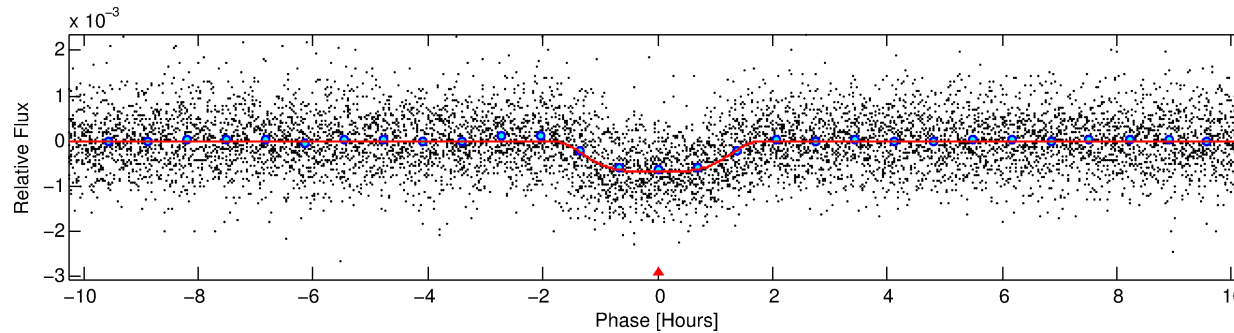
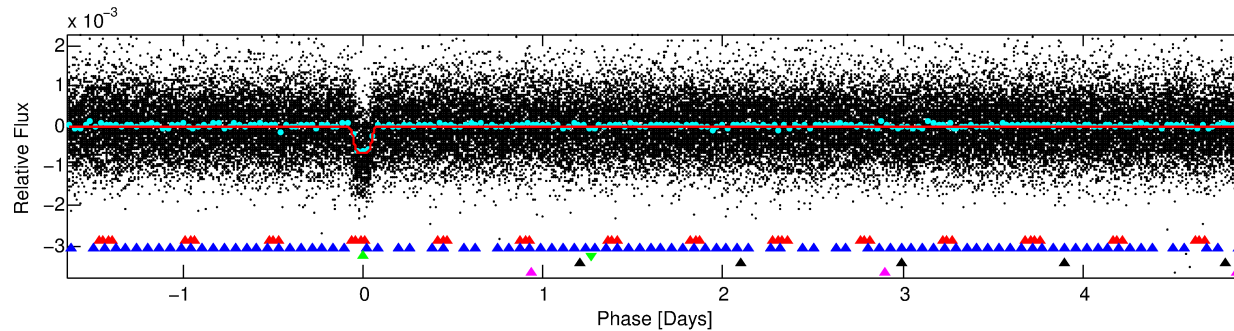
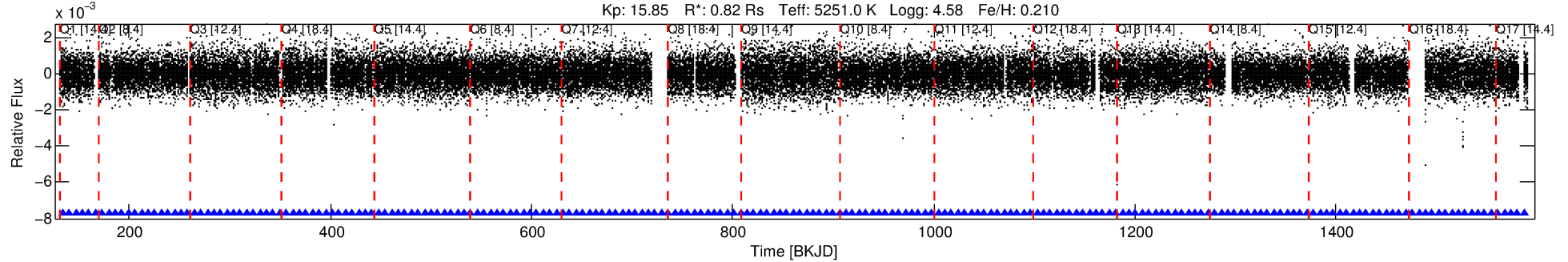
Ephemeris Match Information For 005792202-03

No Significant Match Found

DV One-Page Summary

KIC: 5792202 Candidate: 3 of 5 Period: 6.546 d
KOI: K00841.03 Corr: 0.935

Kp: 15.85 R*: 0.82 Rs Teff: 5251.0 K Logg: 4.58 Fe/H: 0.210



DV Fit Results:

Period = 6.54629 [0.00002] d
Epoch = 133.8576 [0.0025] BKJD
Rp/R* = 0.0317 [0.0013]
a/R* = 5.91 [0.70]
b = 0.95 [0.01]
Seff = 101.86 [16.95]
Teq = 810 [34] K
Rp = 2.82 [0.30] Re
a = 0.0668 [0.0062] AU
Ag = 15.36 [8.04] [1.79σ]
Teffp = 2480 [316] K [5.26σ]

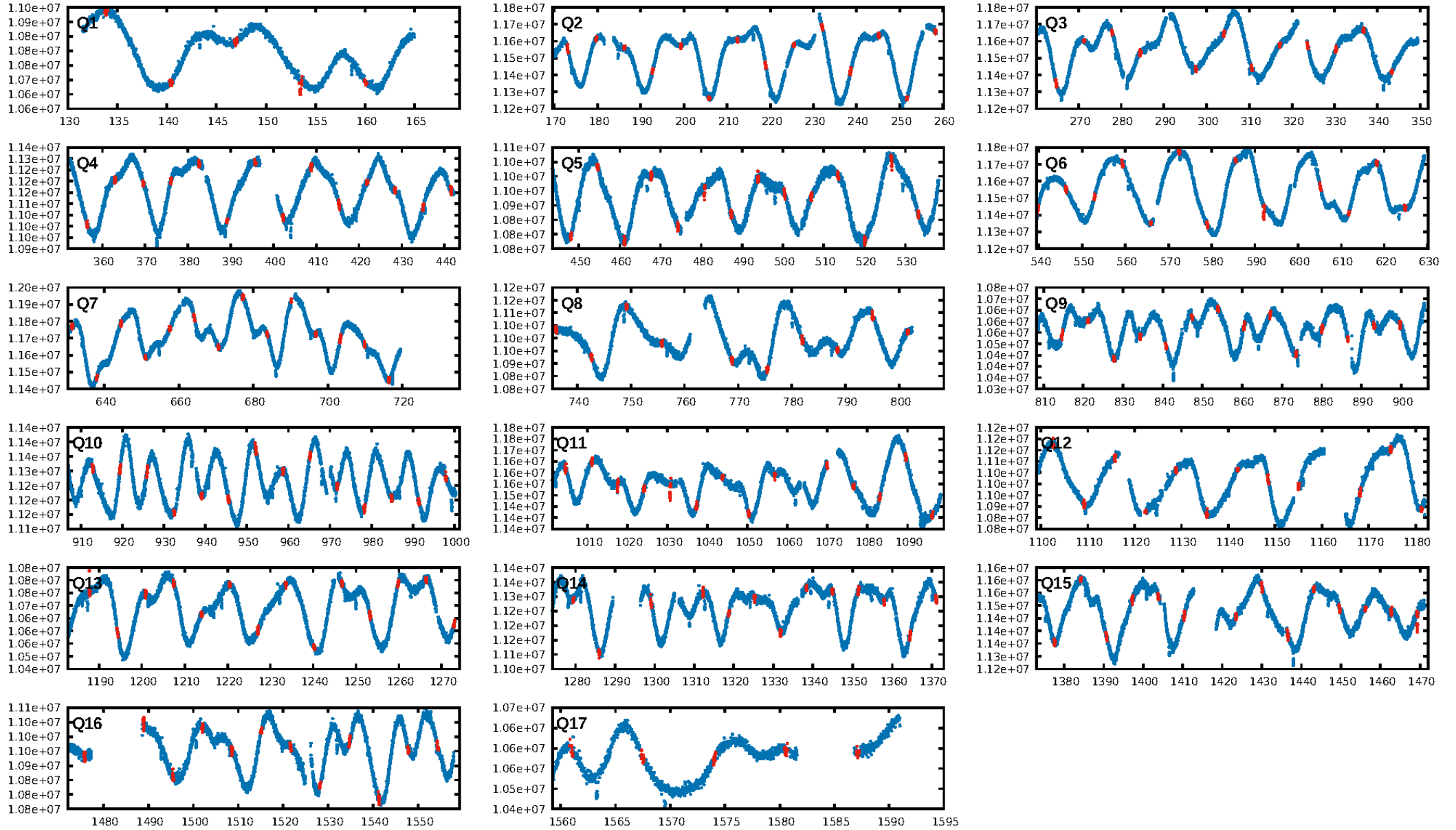
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [41.14σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.07e-126
RollingBand-fgt: 1.00 [191/191]
GhostDiagnostic-chr: 2.888
Centroid-sig: 9.0%
Centroid-so: 0.356 arcsec [0.77σ]
OotOffset-rm: 0.558 arcsec [1.87σ]
KicOffset-rm: 0.086 arcsec [0.28σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 1.00 [17/17]

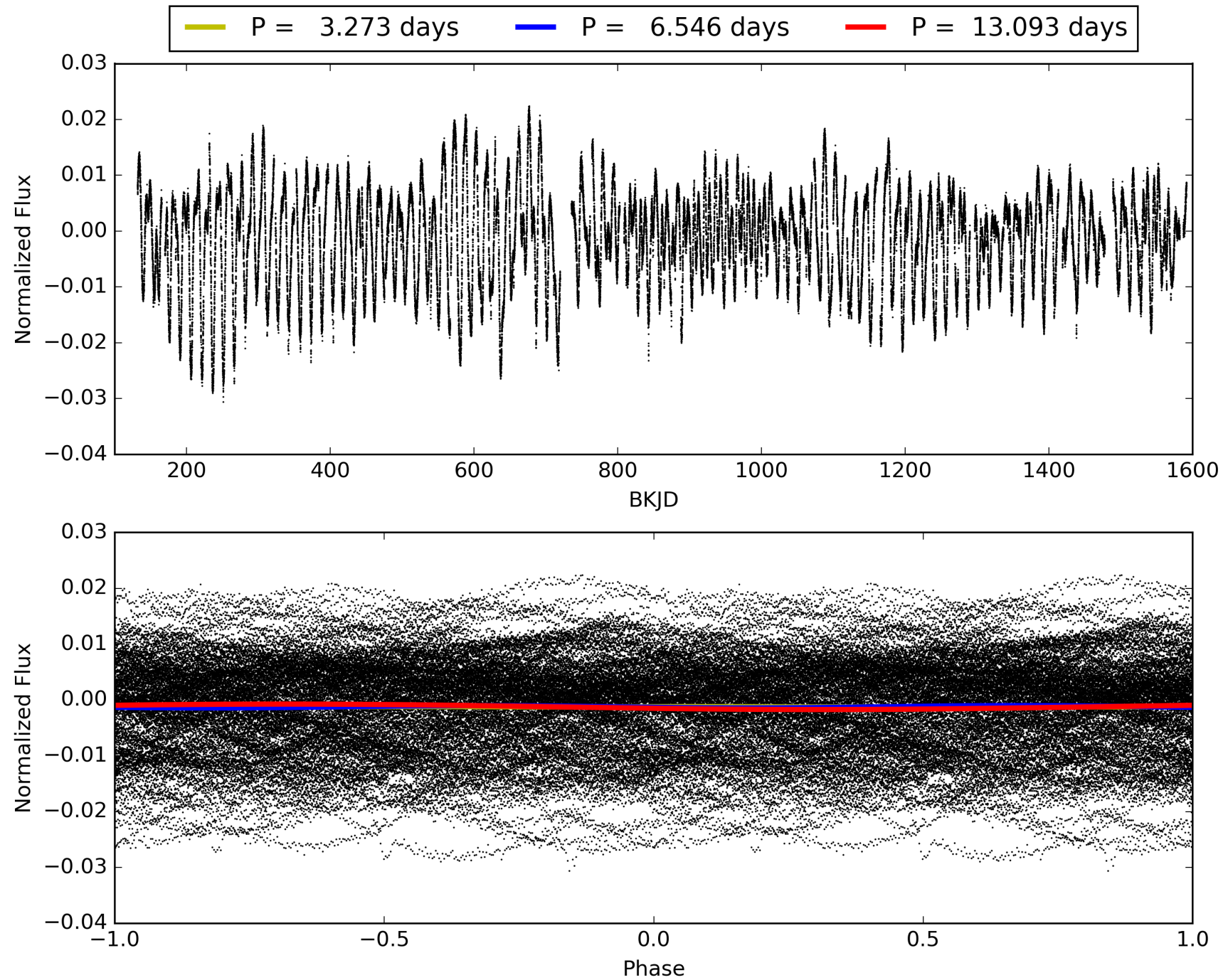
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:24:21 Z

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

TCE 005792202-03, PDC Light Curves

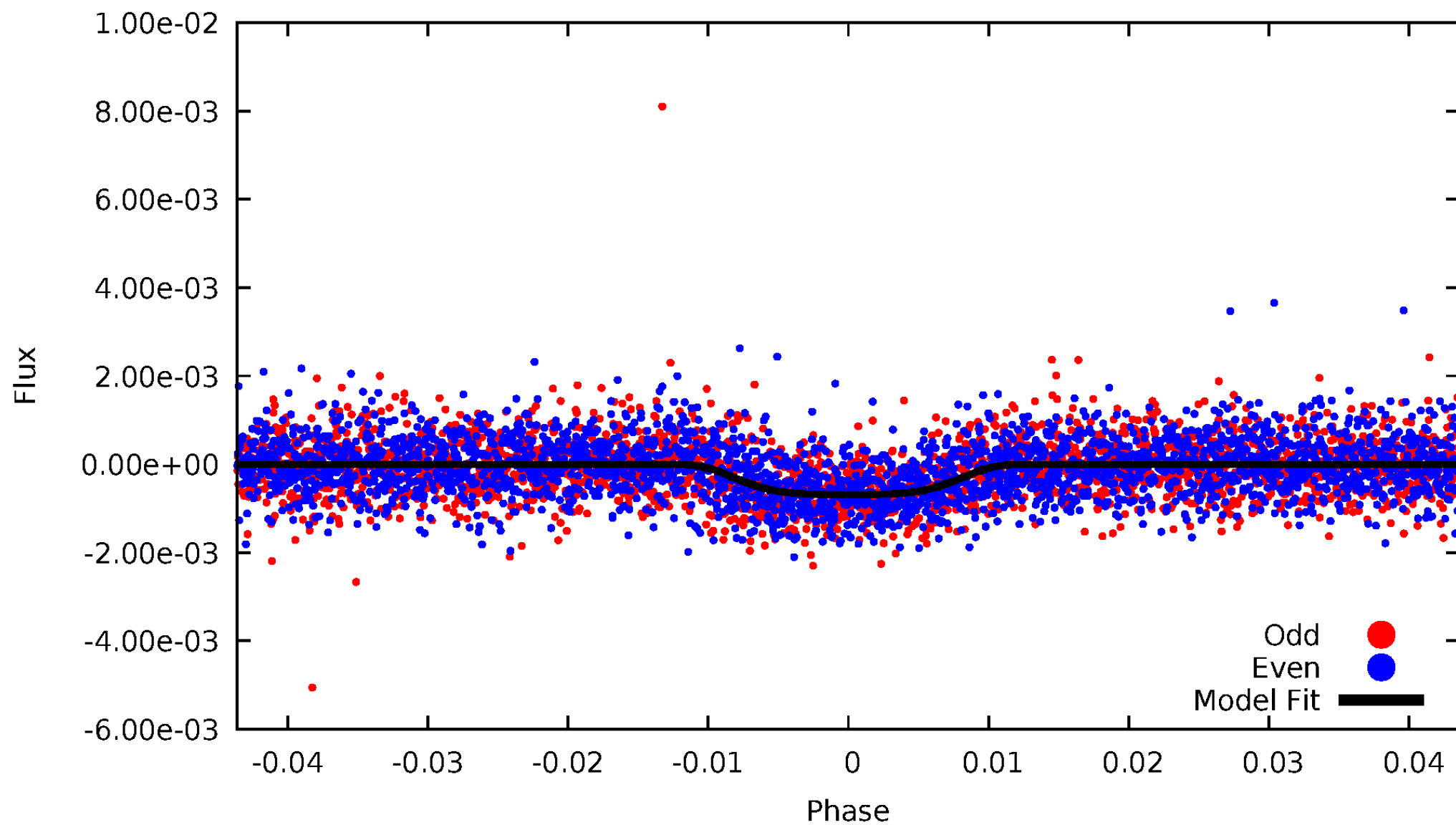


TCE 005792202-03



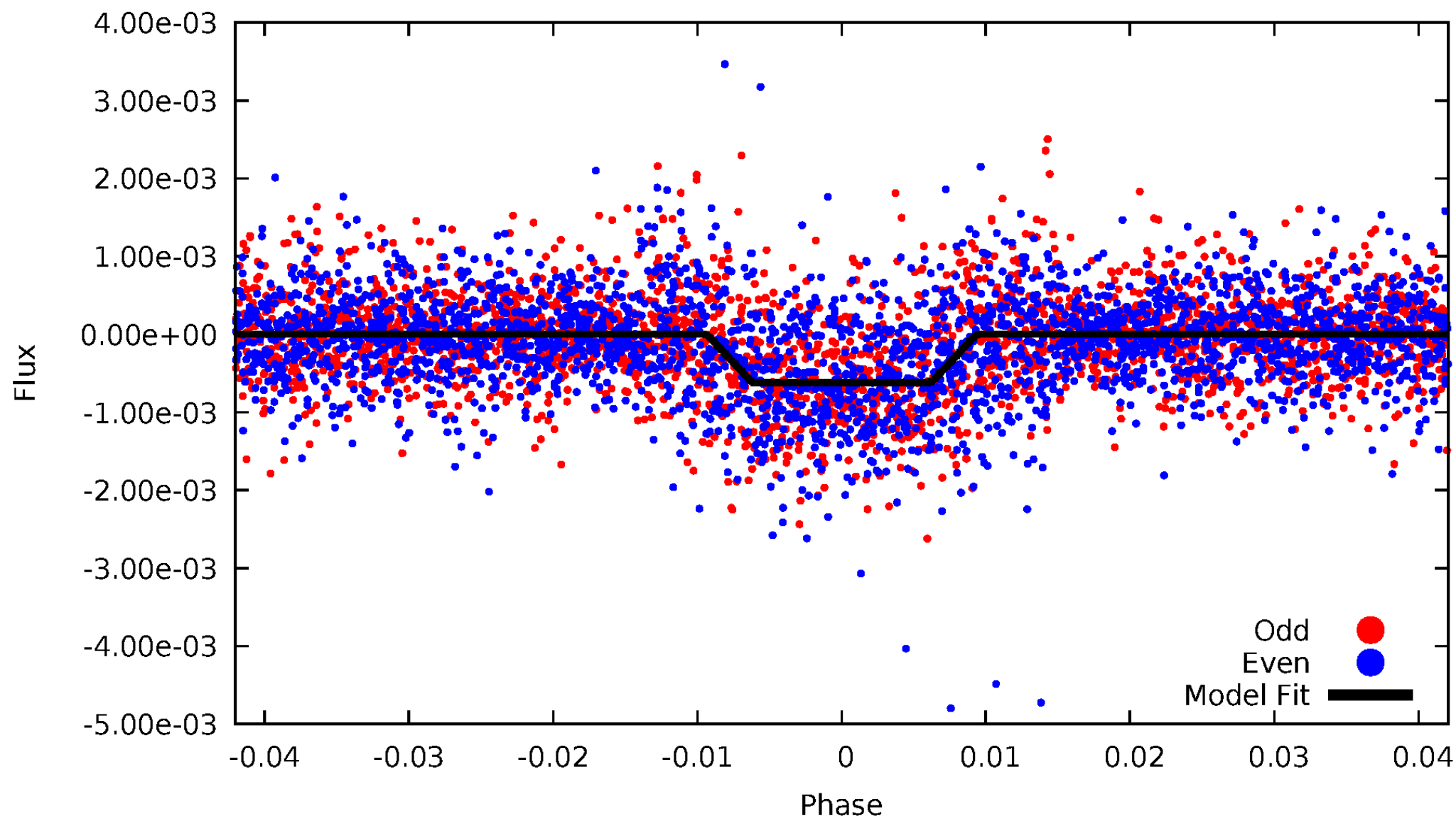
DV Odd/Even

TCE 005792202-03



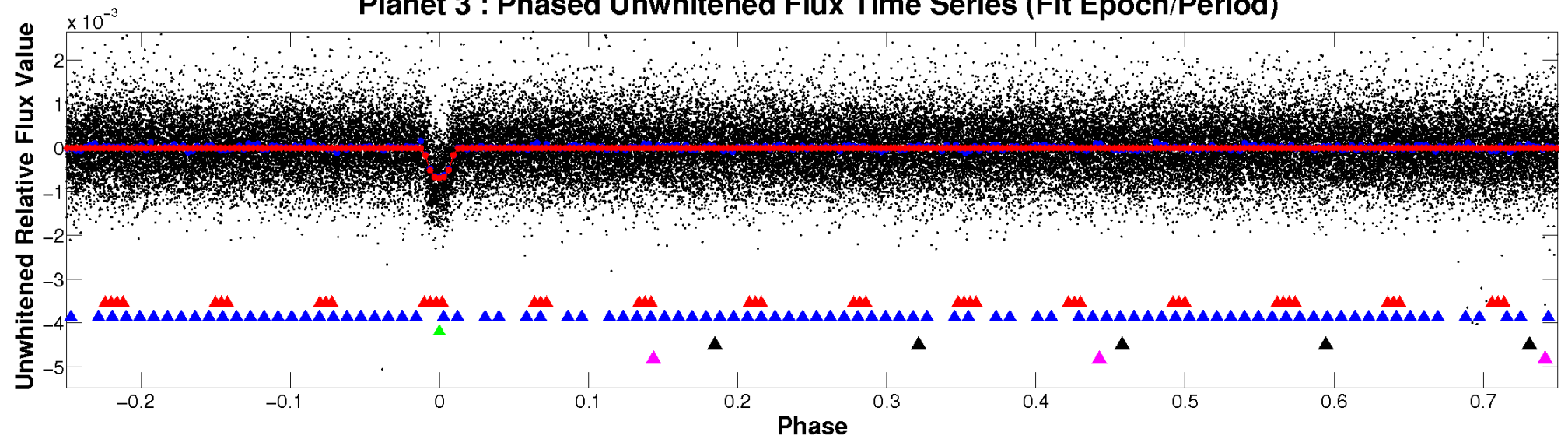
ALT Odd/Even

TCE 005792202-03

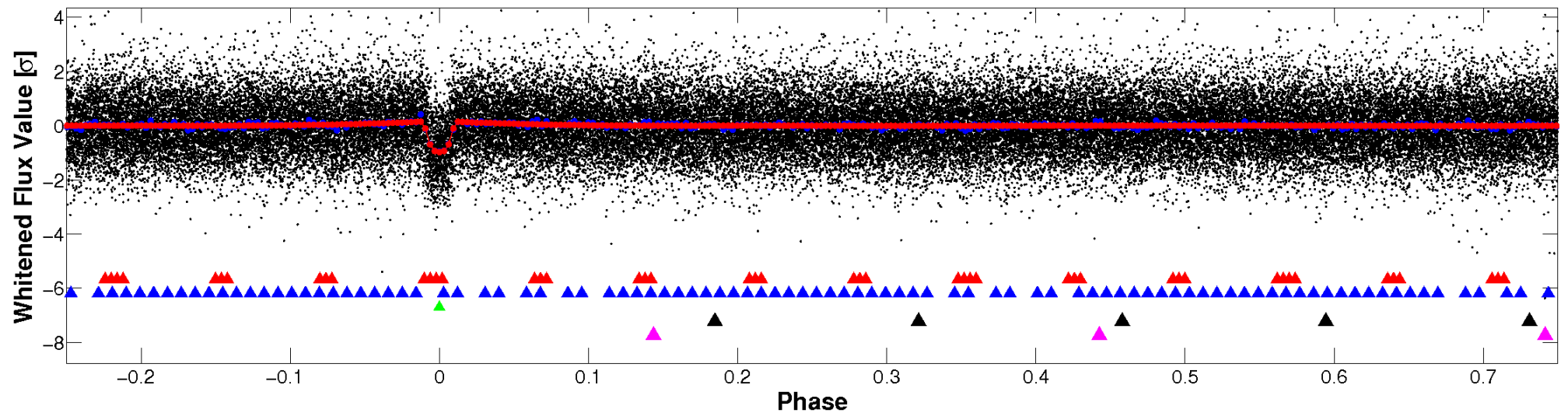


Non-Whitened Vs. Whitened Light Curve

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

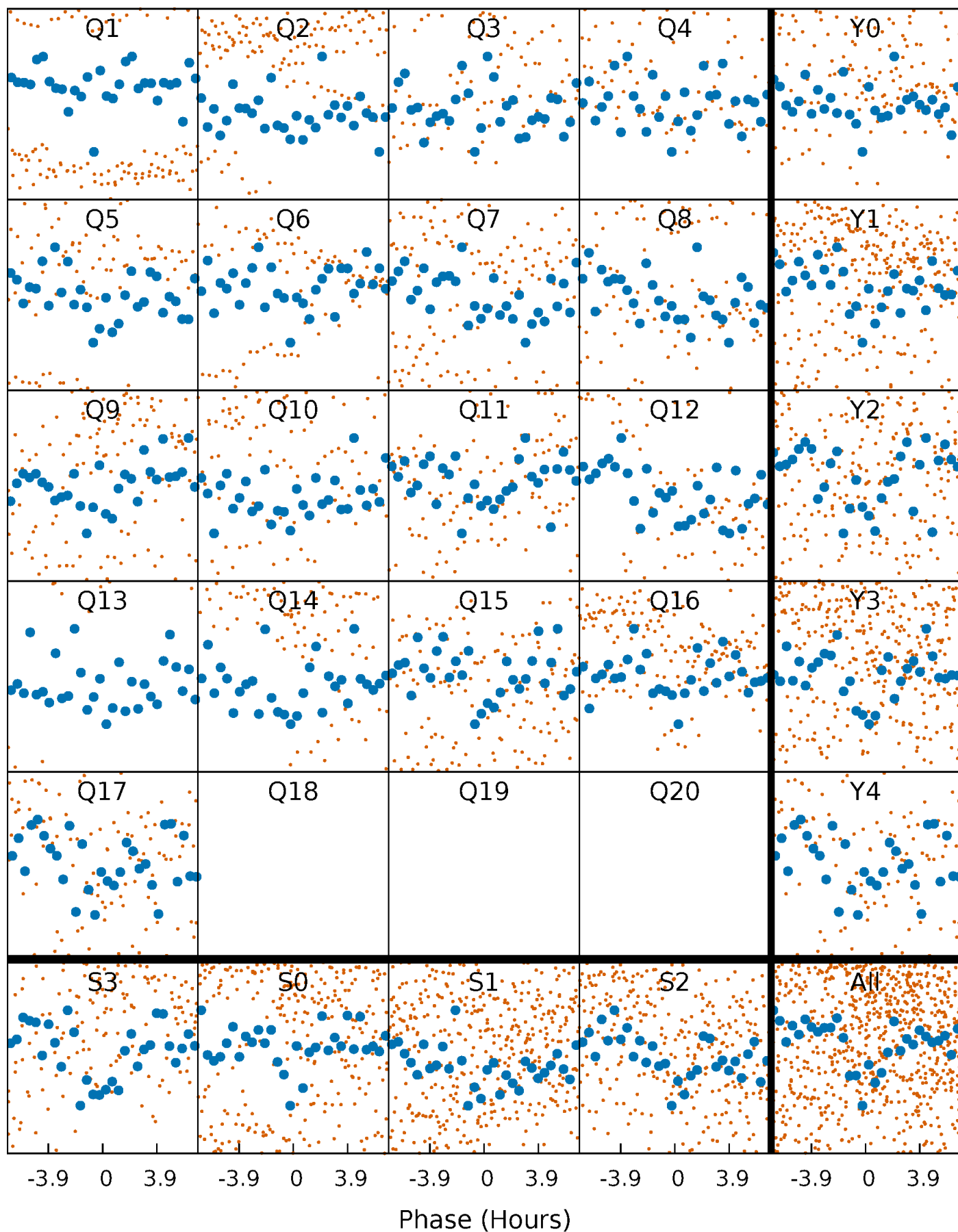


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



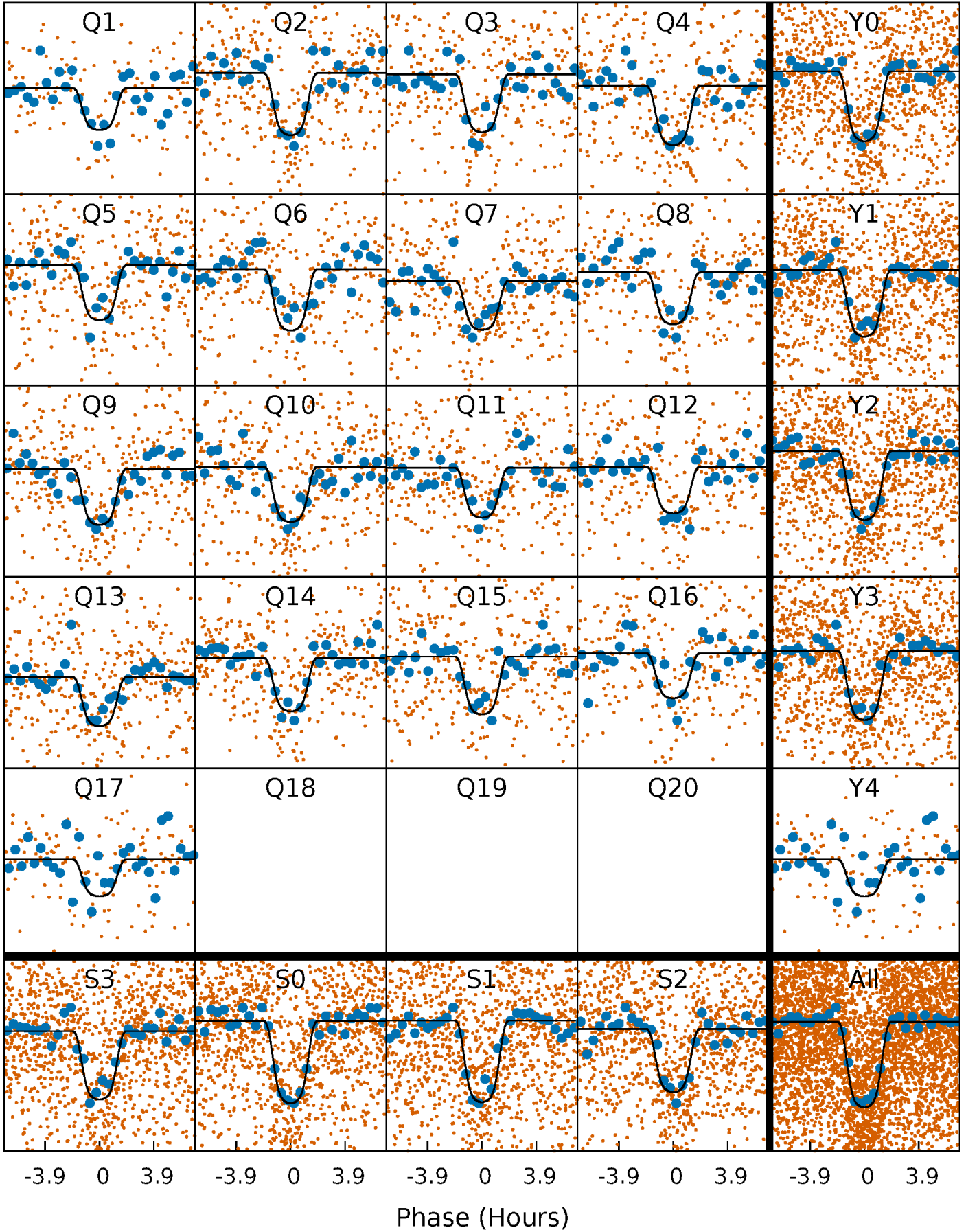
PDC Quarter-Phased Transit Curves

TCE 005792202-03 P= 6.546285 Days $T_0=133.857609$ (BKJD)



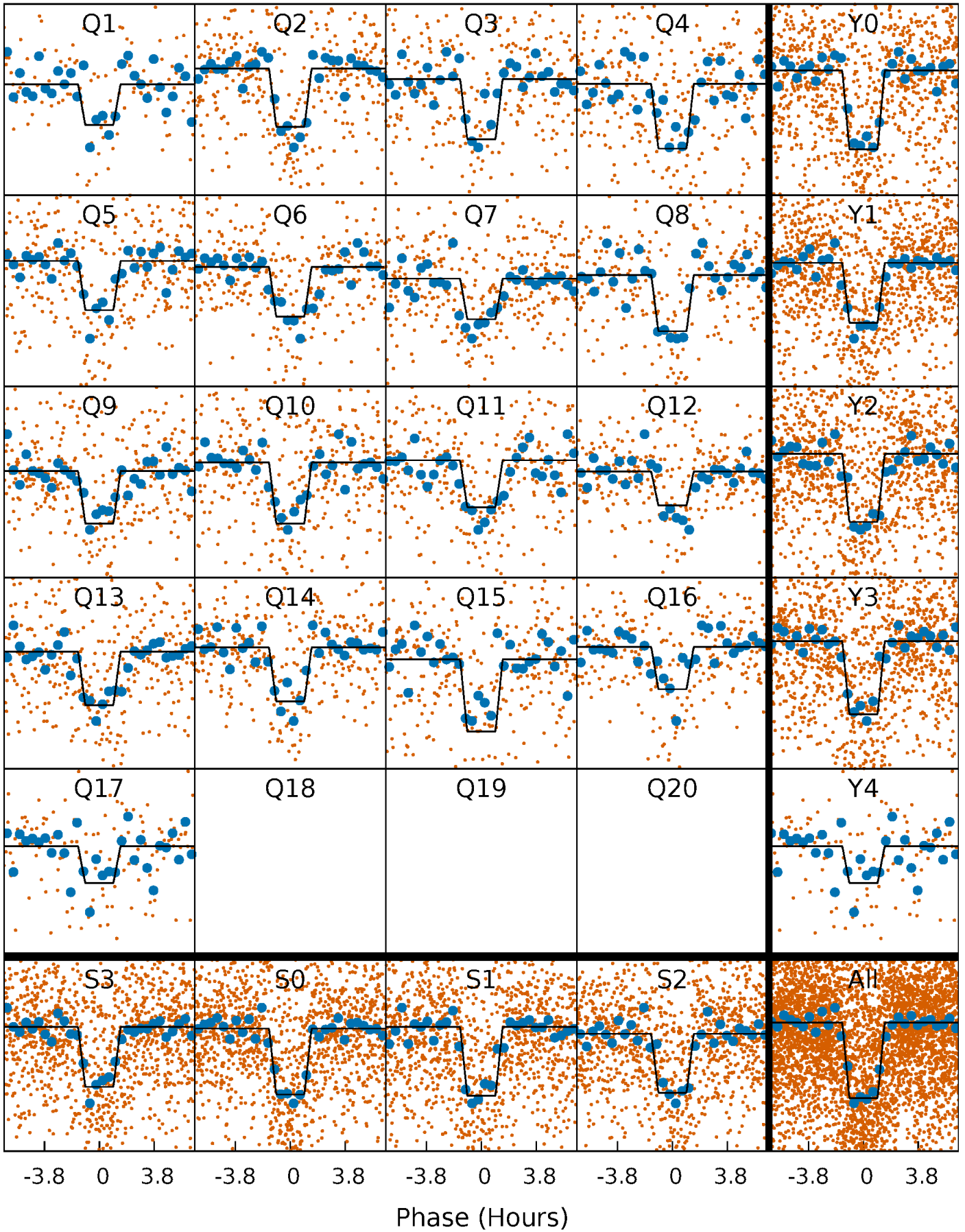
DV Quarter-Phased Transit Curves

TCE 005792202-03 P= 6.546285 Days $T_0=133.857609$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

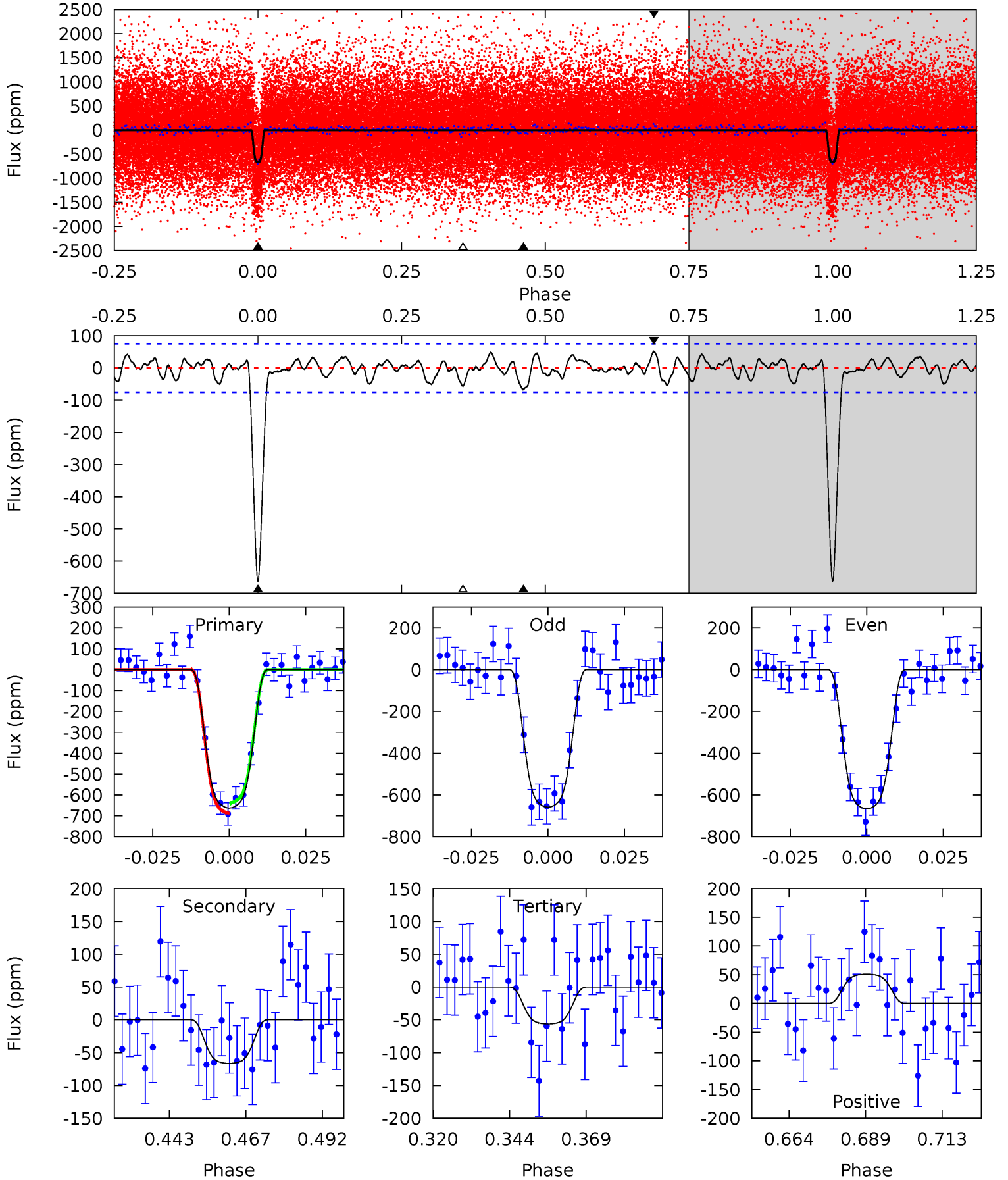
TCE 005792202-03 P= 6.546307 Days $T_0=133.856869$ (BKJD)



DV Model-Shift Uniqueness Test

005792202-03, P = 6.546285 Days, E = 127.311324 Days

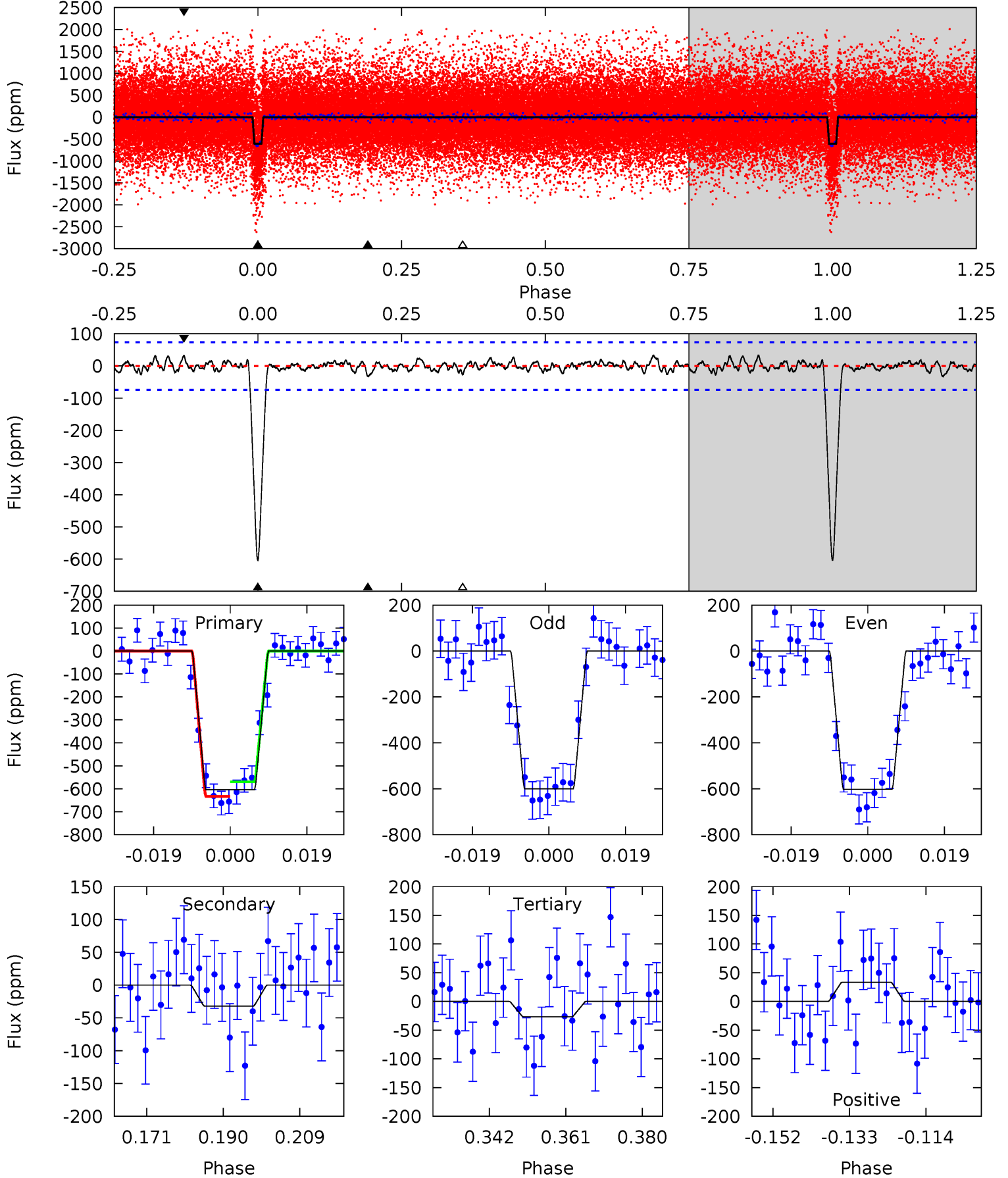
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 42.7 | 4.28 | 3.64 | 3.29 | 4.85 | 2.25 | 1.39 | 39.0 | 39.4 | 0.64 | 0.99 | 0.26 | 1.00 | 0.07 | 1.60 |



Alt Model-Shift Uniqueness Test

005792202-03, P = 6.546307 Days, E = 127.310562 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 40.1 | 2.14 | 1.77 | 2.22 | 4.90 | 2.35 | 0.73 | 38.3 | 37.9 | 0.37 | -0.08 | 0.06 | 0.97 | 0.05 | 2.11 |



Stellar Parameters For KIC 005792202

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5251^{+105}_{-105} | $4.581^{+0.010}_{-0.085}$ | $0.210^{+0.150}_{-0.150}$ | $0.817^{+0.080}_{-0.029}$ | $0.926^{+0.032}_{-0.064}$ | $2.394^{+0.172}_{-0.612}$ |
| | +2%/-2% | +0%/-2% | +71%/-71% | +10%/-4% | +3%/-7% | +7%/-26% |
| Source | SPE33 | SPE33 | SPE33 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005792202-03 / KOI 0841.03

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|--------------|------------------------|----------------------|----------------------|------------------|
| DV | -66 ± 16 | $2.87^{+0.18}_{-0.15}$ | 1149^{+32}_{-29} | 3219^{+128}_{-134} | 19^{+5}_{-4} |
| Alt. | -32 ± 15 | $2.26^{+0.18}_{-0.15}$ | 1149^{+35}_{-29} | 3083^{+215}_{-276} | 14^{+8}_{-7} |

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

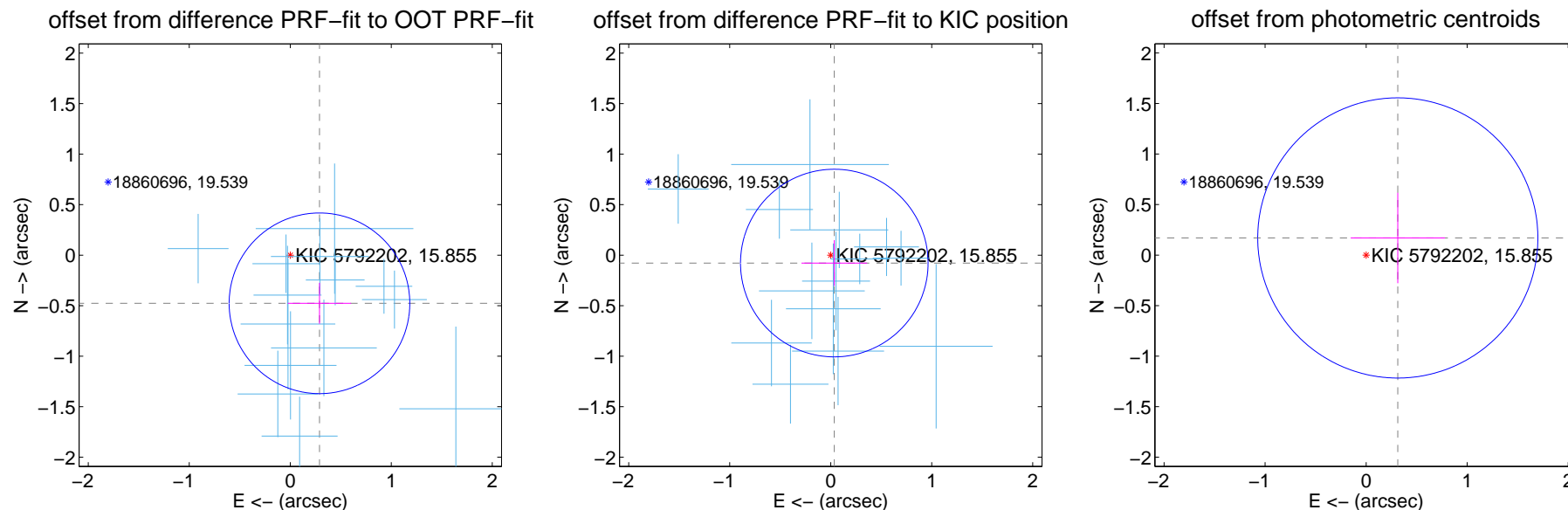
DV Centroid Data

Supplemental centroid analysis for 005792202-03. Kepler magnitude: 15.86. Transit SNR 26.81

There are 14 quarters with good PRF difference image offsets

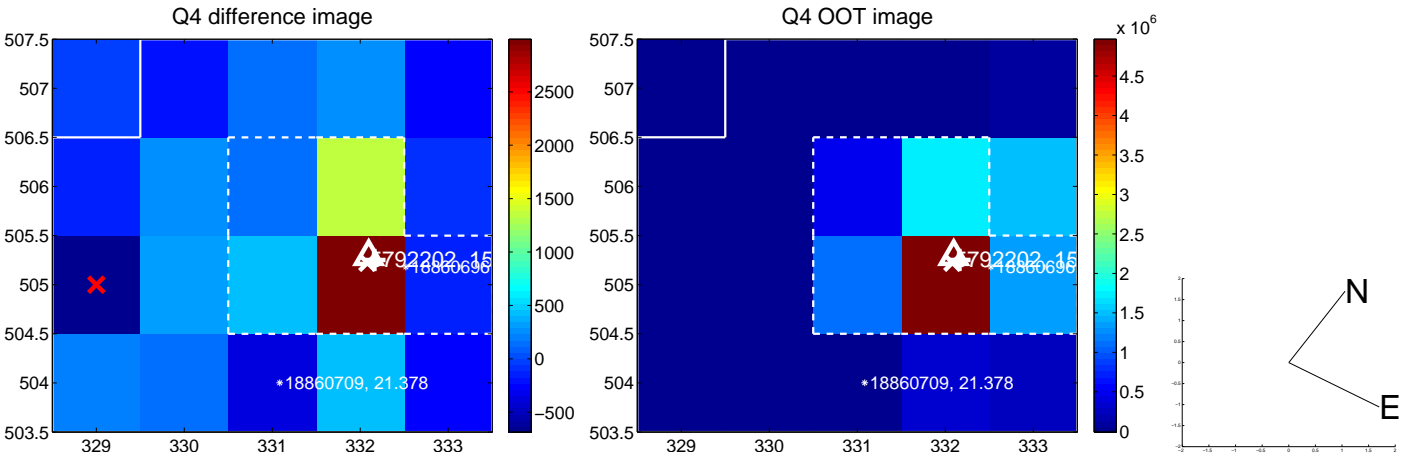
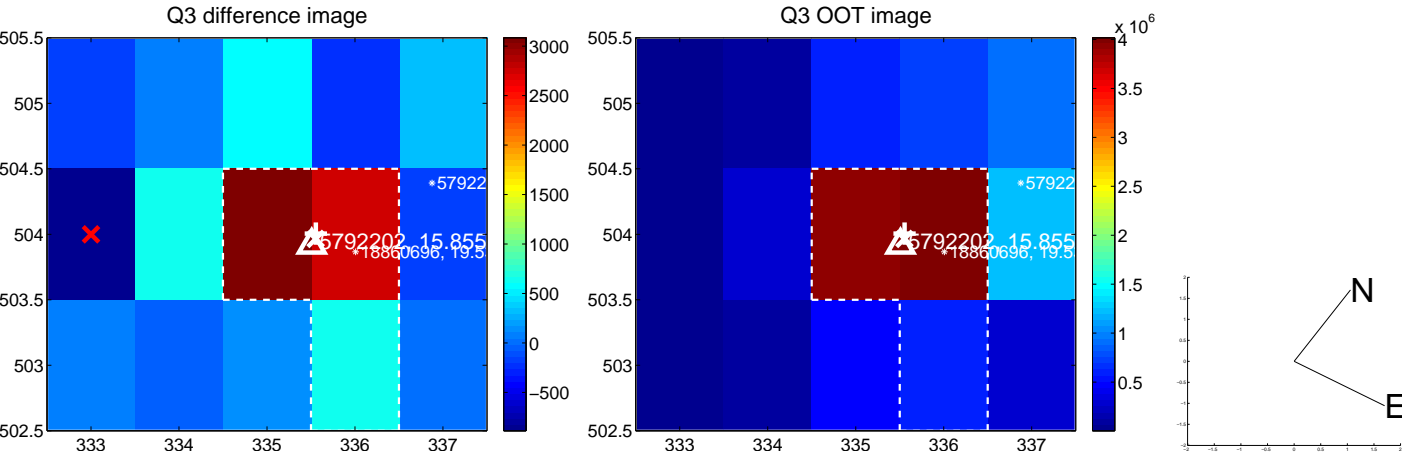
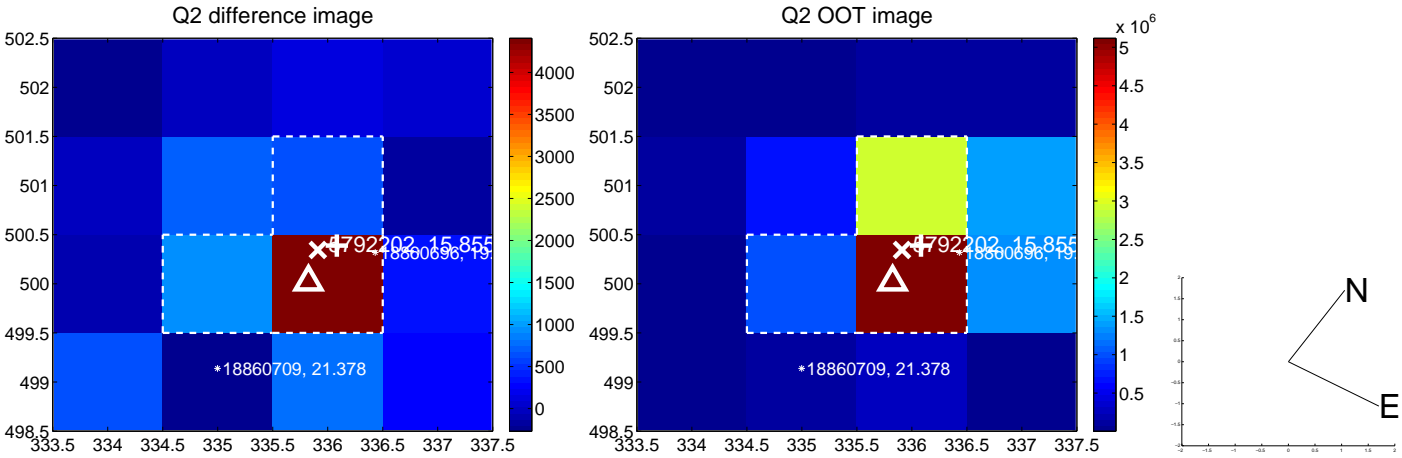
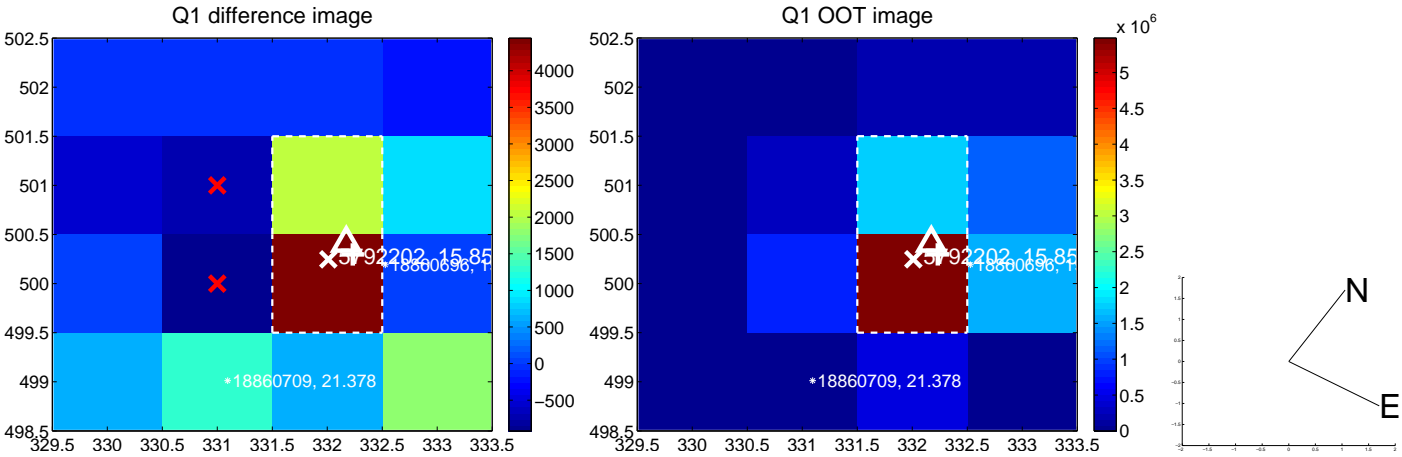
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.558 ± 0.298 | 1.87 | -0.289 ± 0.313 | -0.477 ± 0.203 |
| PRF-fit source offset from KIC position | 0.086 ± 0.310 | 0.28 | -0.036 ± 0.325 | -0.078 ± 0.228 |
| photometric centroid source offset | 0.36 ± 0.46 | 0.77 | -0.31 ± 0.47 | 0.17 ± 0.45 |

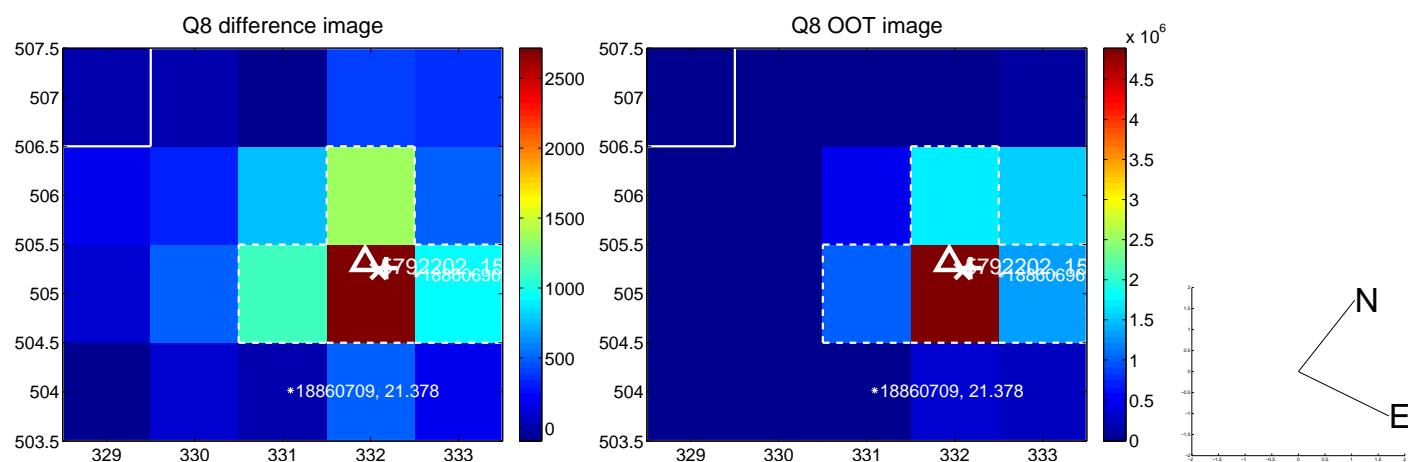
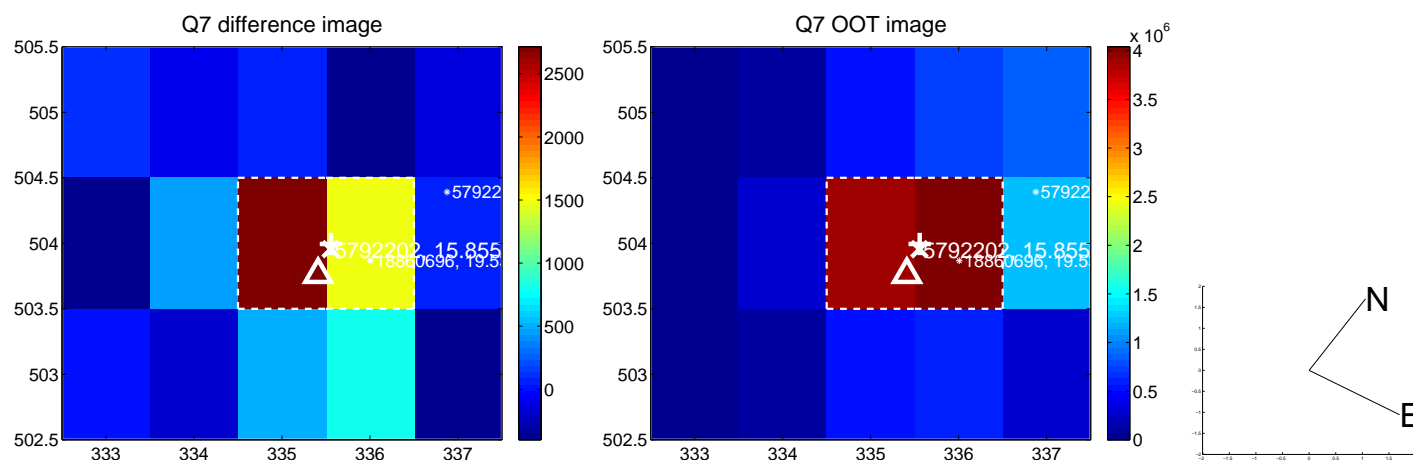
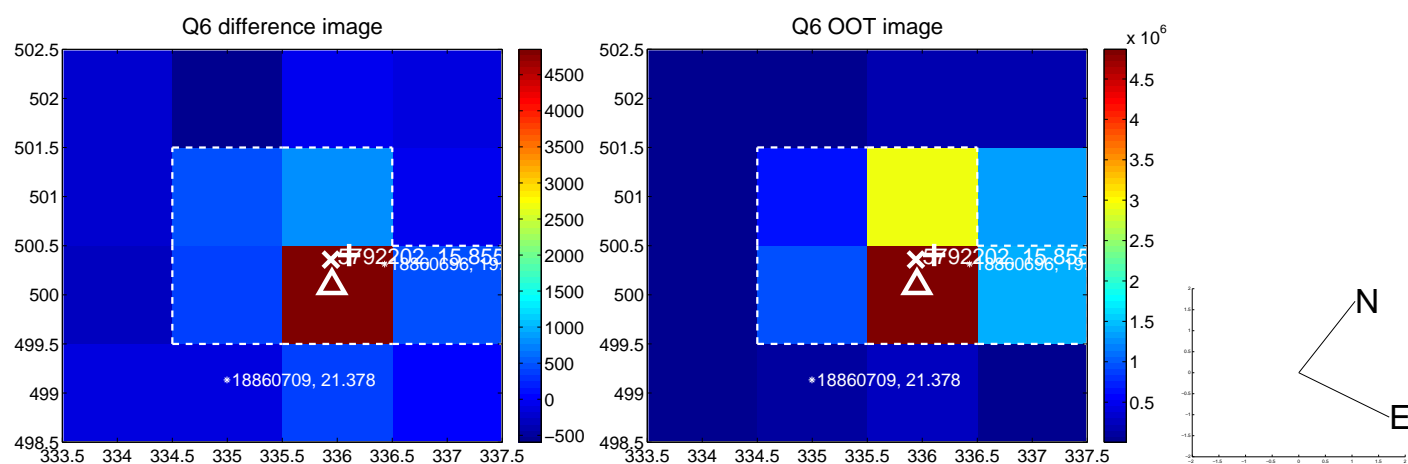
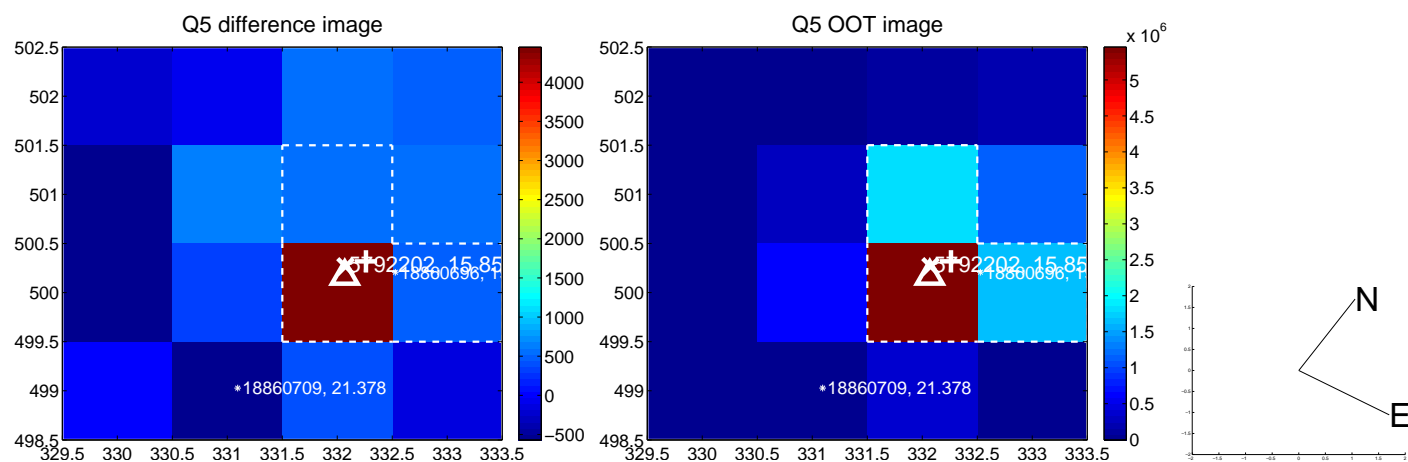


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

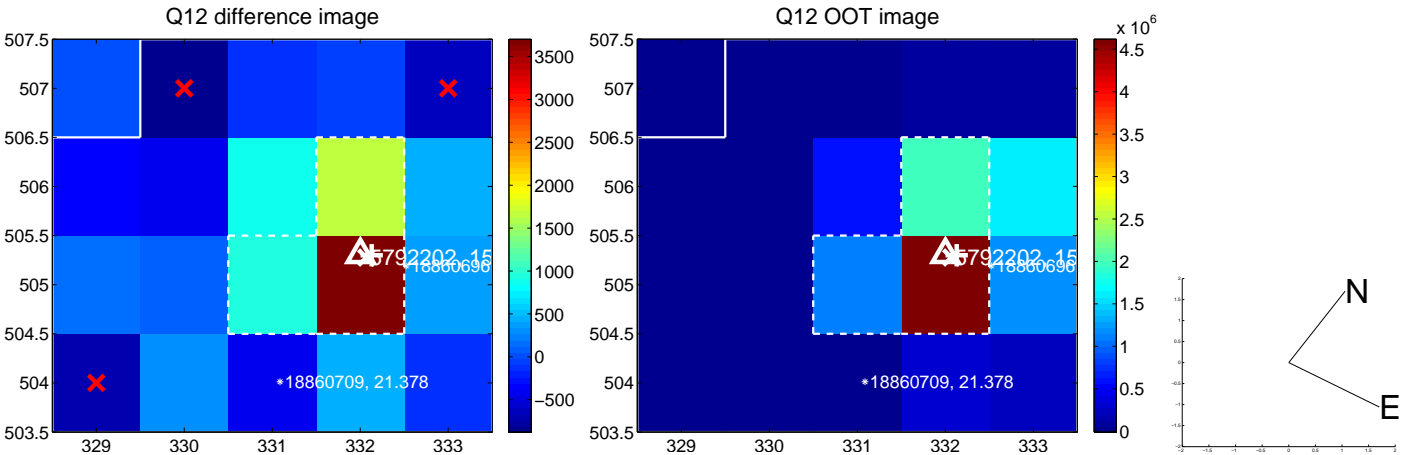
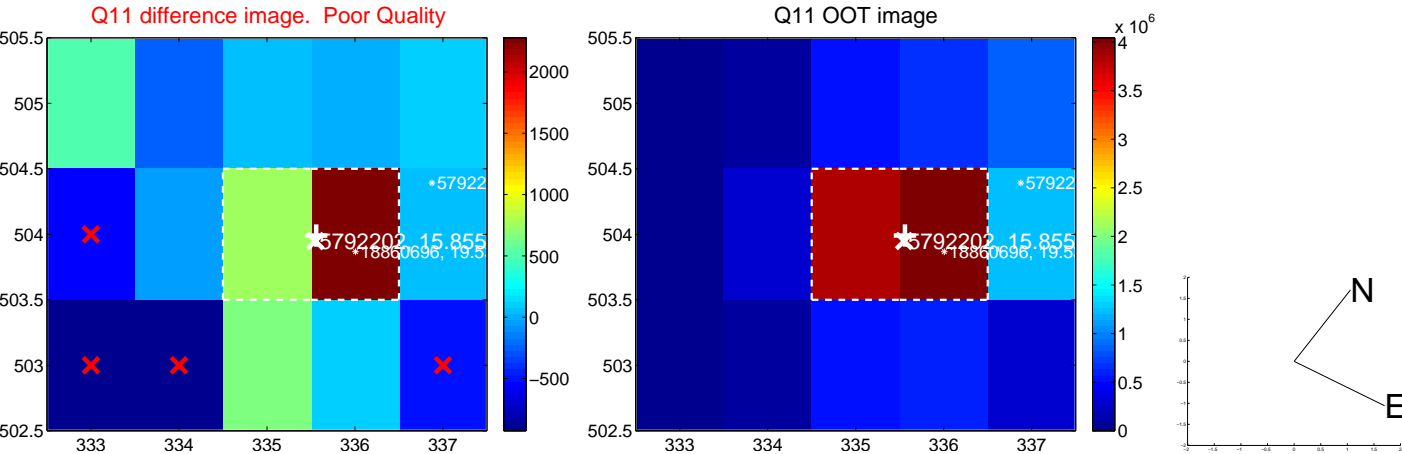
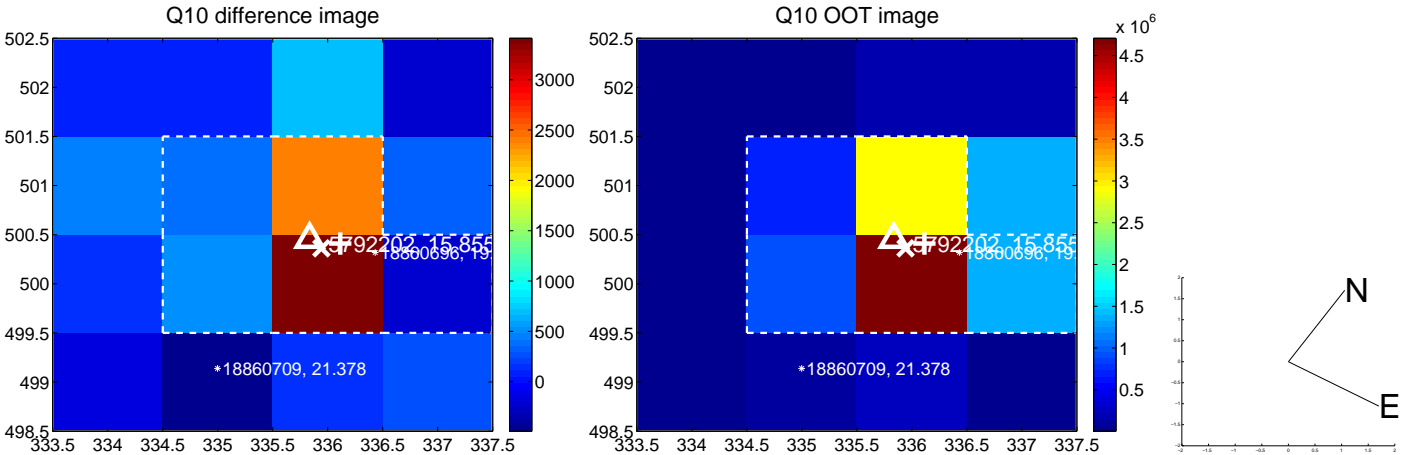
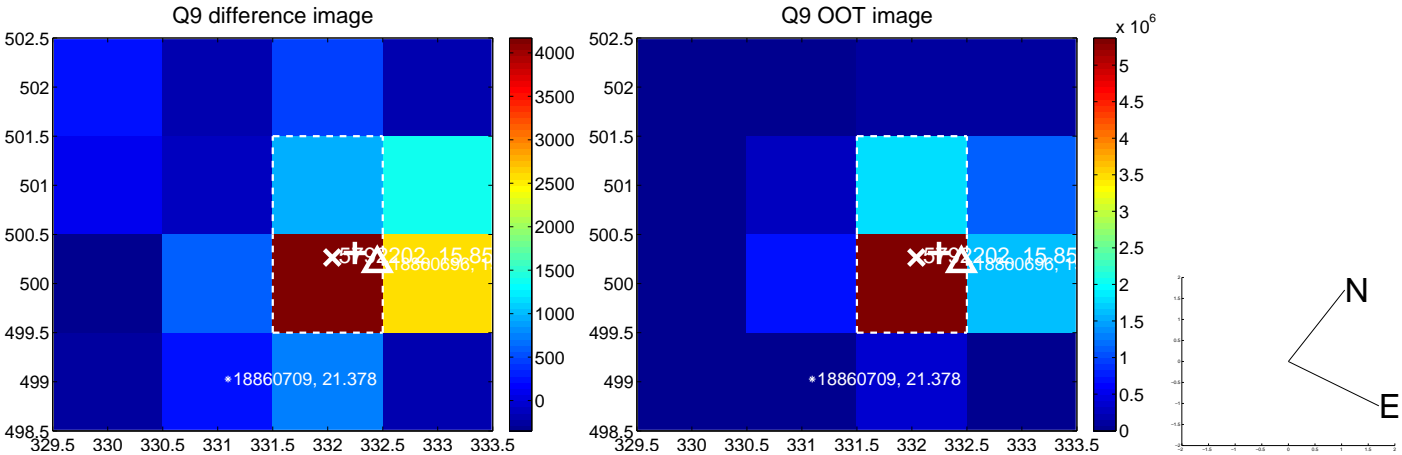
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



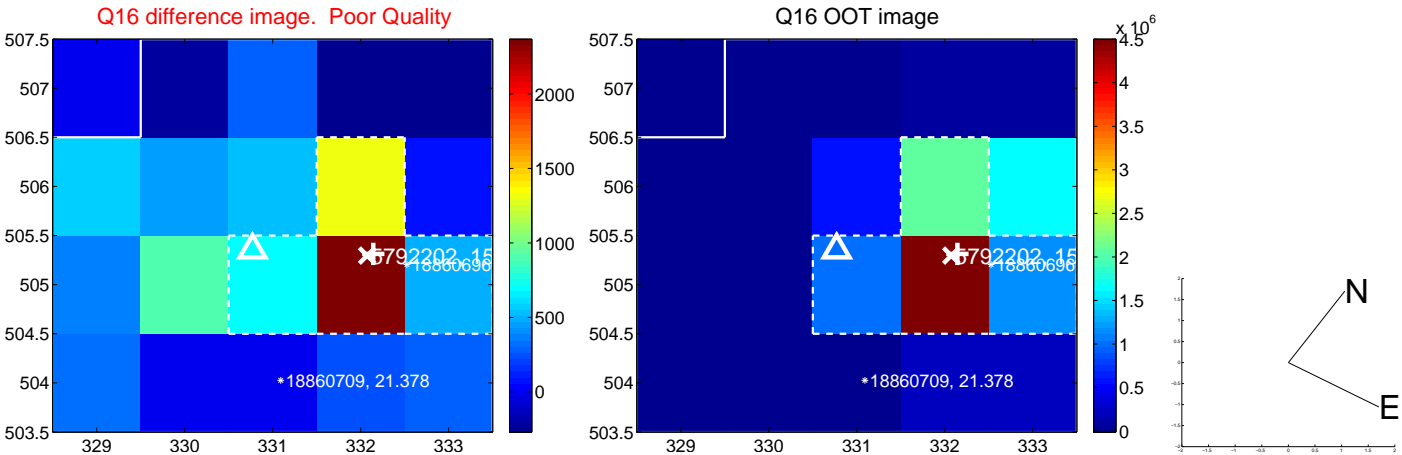
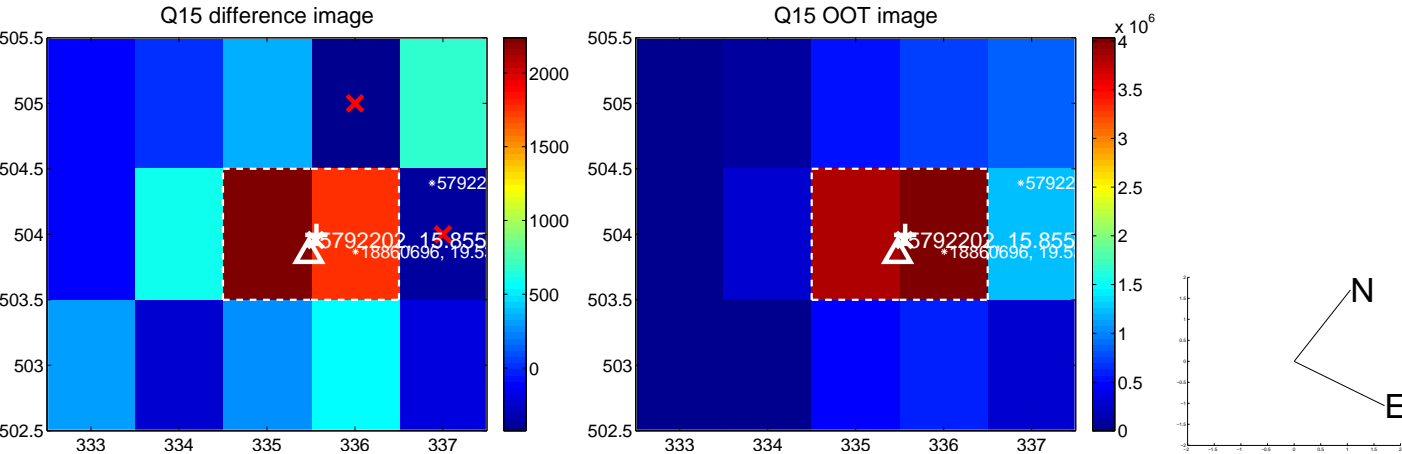
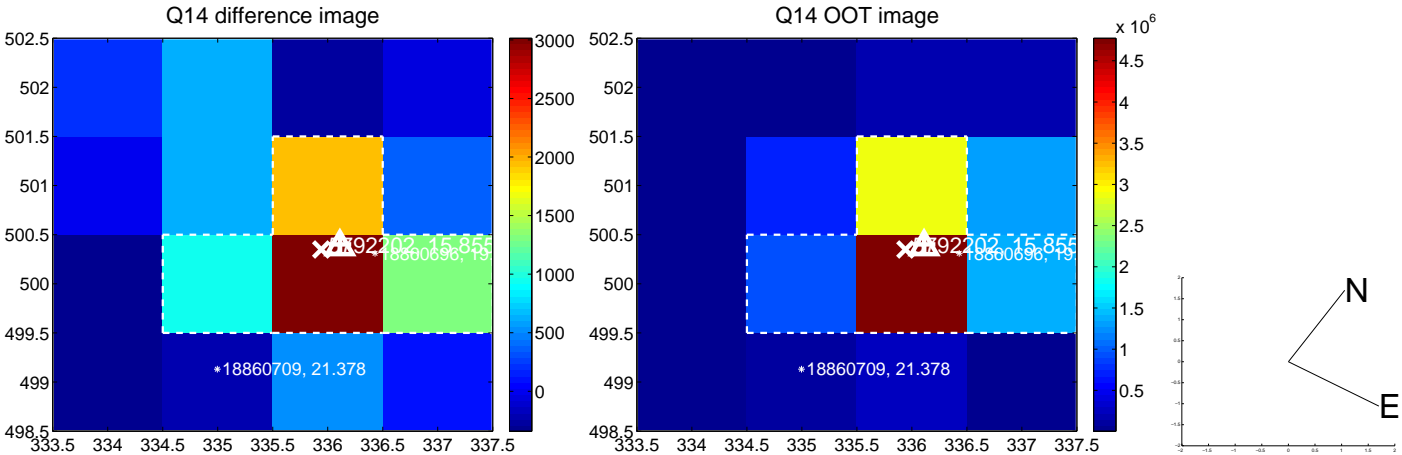
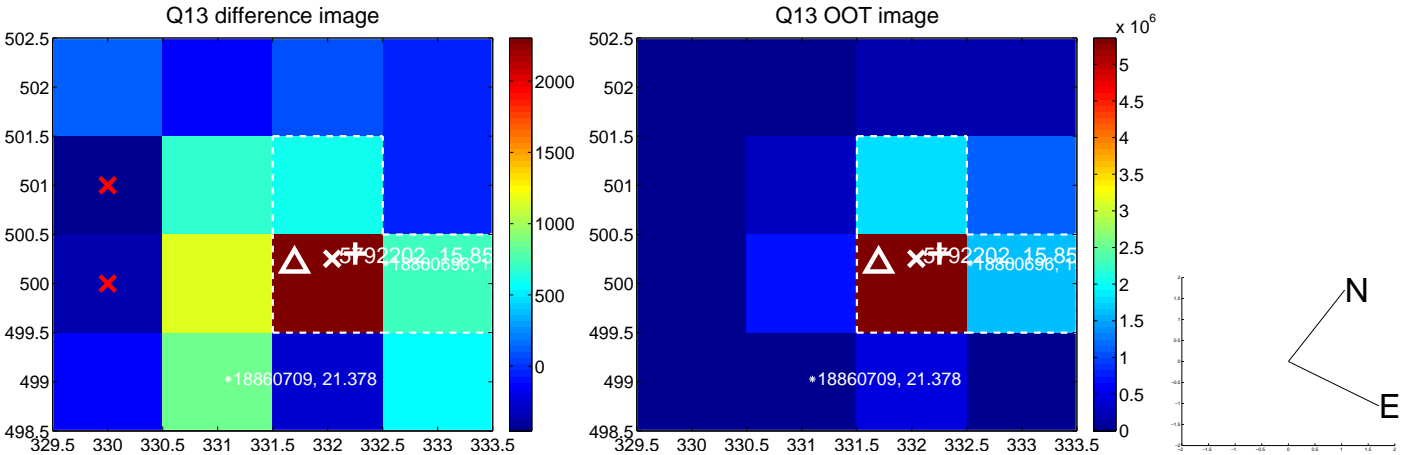
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



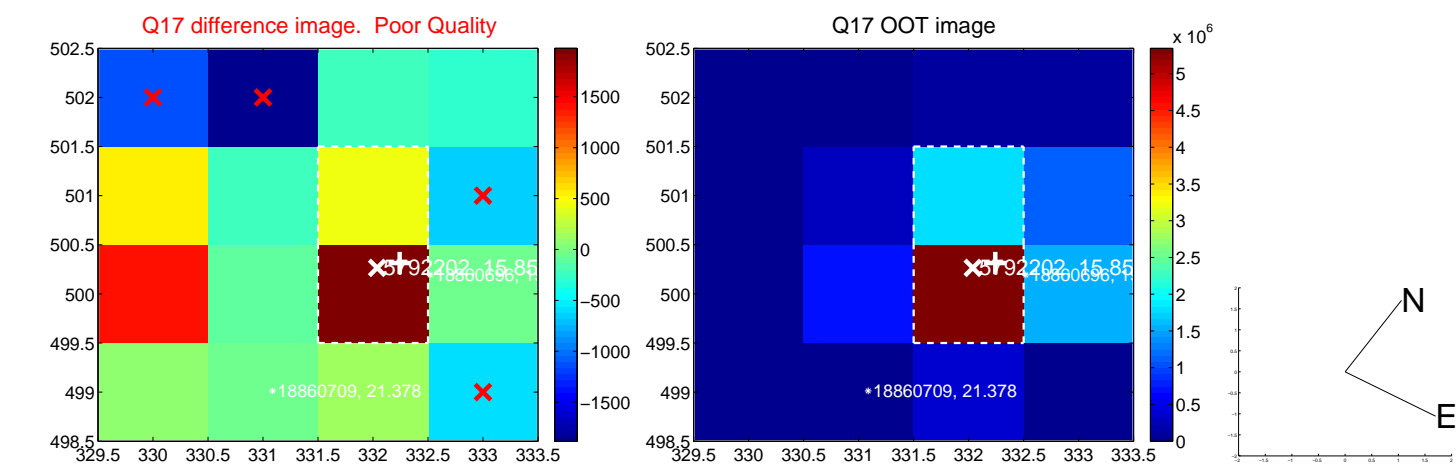
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



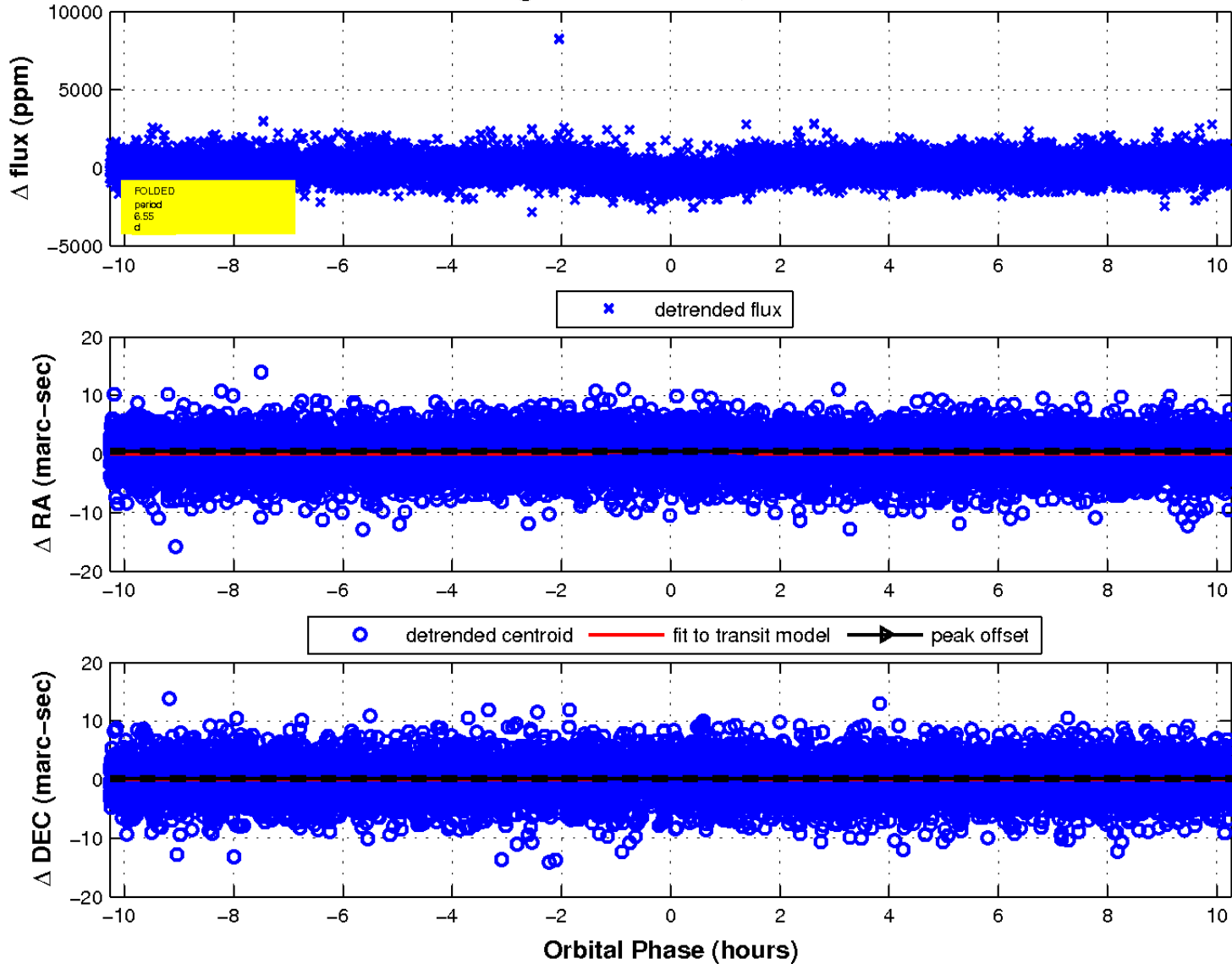
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

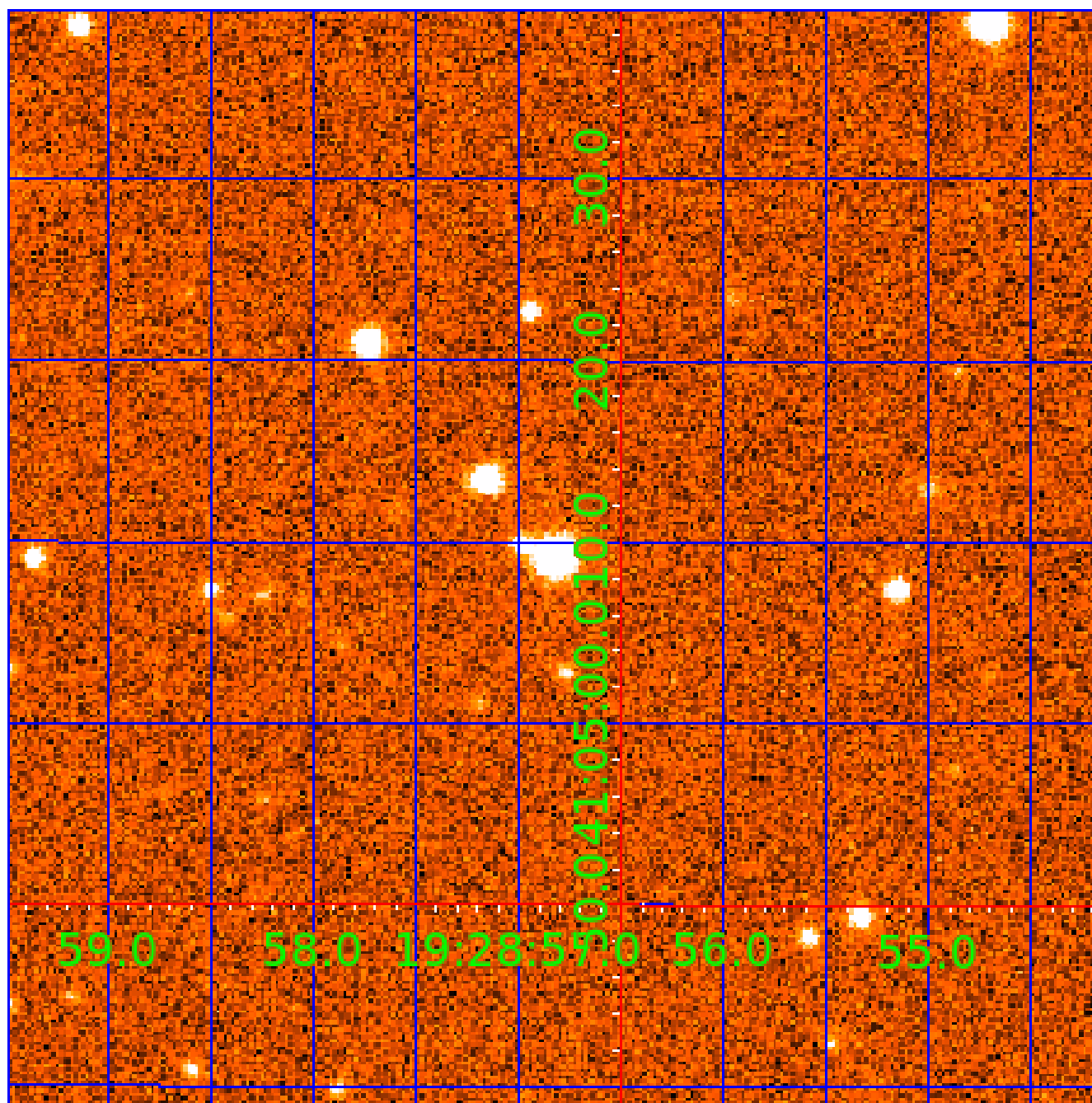


fluxWeightedCentroids, Planet 3 of 5



UKIRT Image

Declination



KIC 005792202

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-------|-------|-----------------------------|-----------------|------------------------|------------------------|
| 005792202-01 | OBS | 0841.02 | 31.330526 | 153.430181 | 5077.6 | 4.937 | 110.0 | 106.5 | 0.82 | 5251 | 6.16 | 12.63 |
| 005792202-02 | OBS | 0841.01 | 15.335275 | 143.332516 | 3017.7 | 3.817 | 84.1 | 79.9 | 0.82 | 5251 | 4.93 | 32.74 |
| 005792202-03 | OBS | 0841.03 | 6.546285 | 133.857609 | 691.0 | 3.424 | 24.0 | 26.8 | 0.82 | 5251 | 2.82 | 101.86 |
| 005792202-04 | OBS | 0841.04 | 269.291614 | 285.631863 | 1591.0 | 11.604 | 12.7 | 12.3 | 0.82 | 5251 | 3.69 | 0.72 |
| 005792202-05 | OBS | 0841.05 | 499.474824 | 455.565728 | 1423.4 | 12.081 | 9.6 | 9.7 | 0.82 | 5251 | 3.52 | 0.32 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005792202-01 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-02 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-03 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL |
| 005792202-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV |

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

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

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

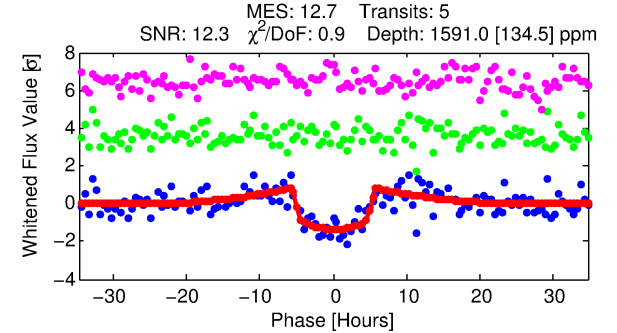
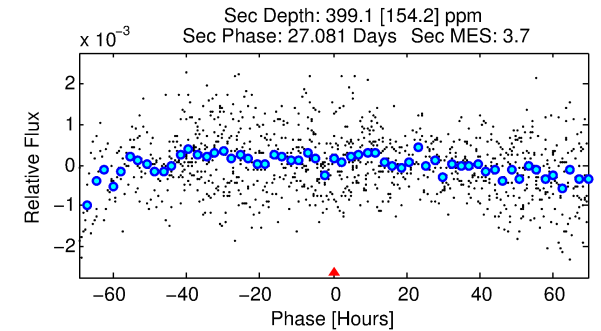
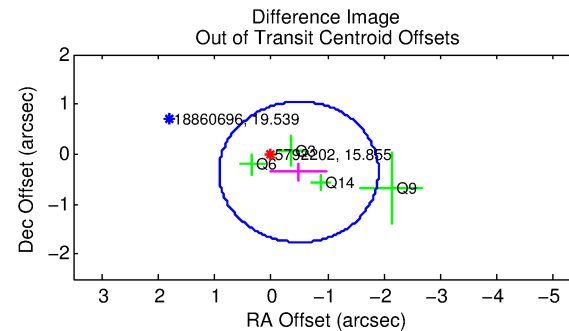
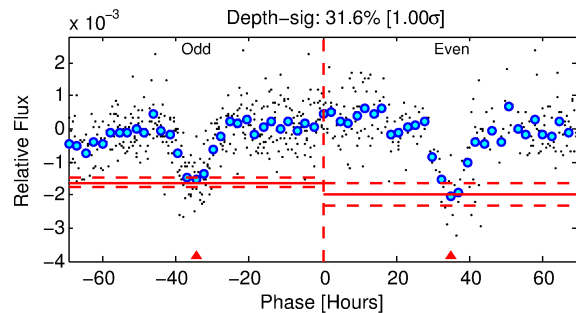
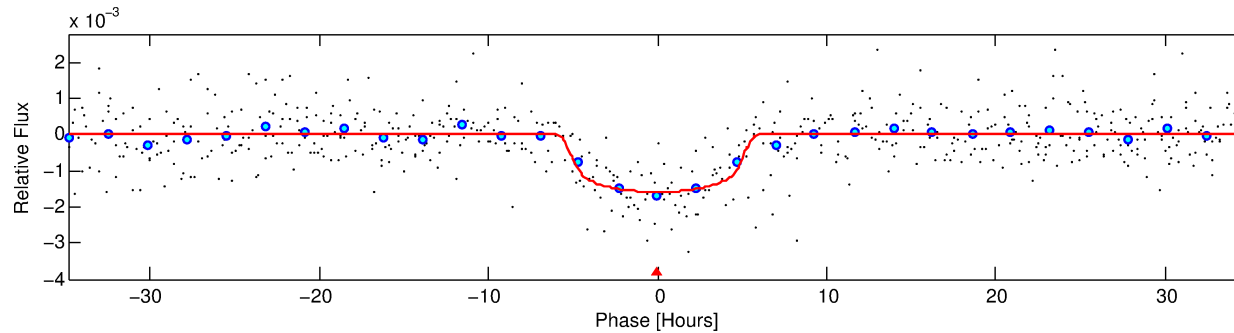
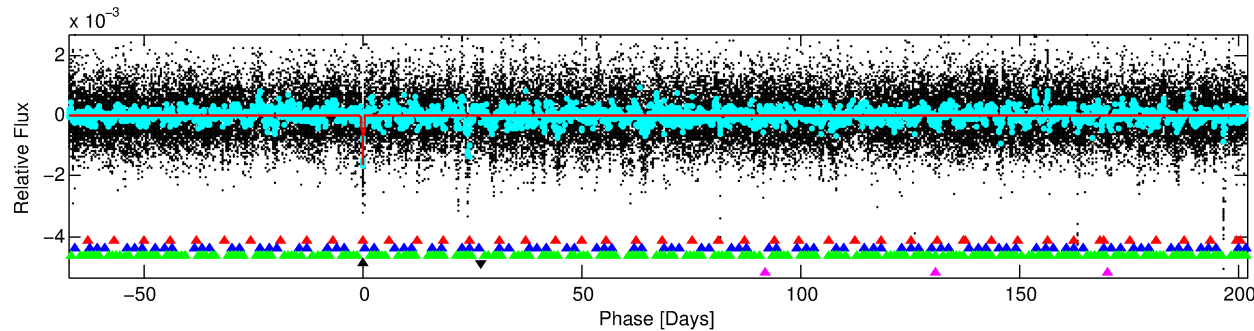
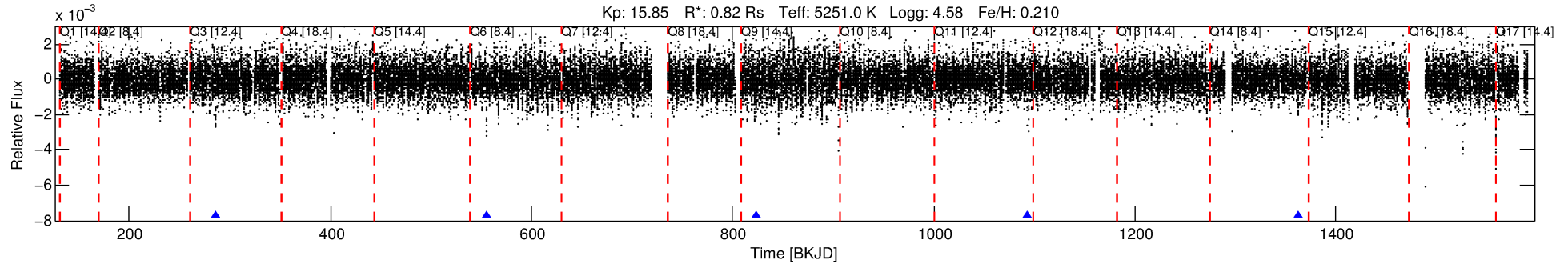
Ephemeris Match Information For 005792202-04

No Significant Match Found

DV One-Page Summary

KIC: 5792202 Candidate: 4 of 5 Period: 269.292 d

KOI: K00841.04 Corr: 0.958



DV Fit Results:

Period = 269.29161 [0.00409] d
Epoch = 285.6319 [0.0109] BKJD
Rp/R* = 0.0414 [0.0038]
a/R* = 113.46 [32.90]
b = 0.82 [0.12]
Seff = 0.72 [0.12]
Teq = 235 [10] K
Rp = 3.69 [0.50] Re
a = 0.7961 [0.0735] AU
Ag = 10208.61 [4619.56] [2.21 σ]
Teffp = 3647 [397] K [8.59 σ]

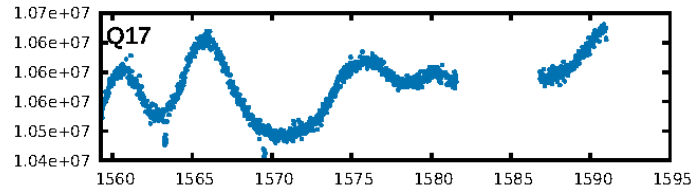
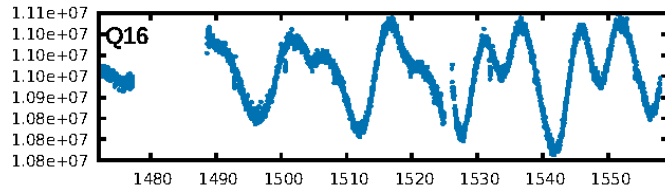
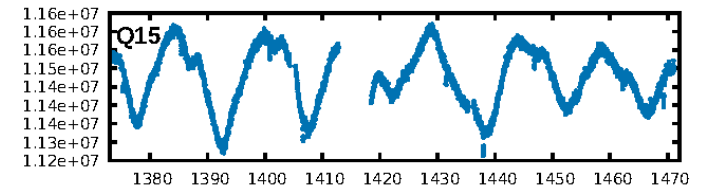
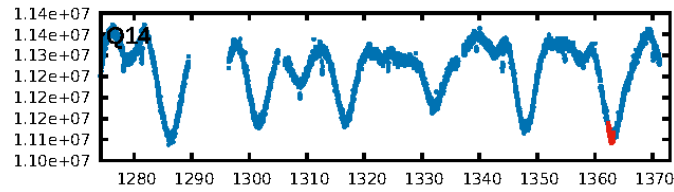
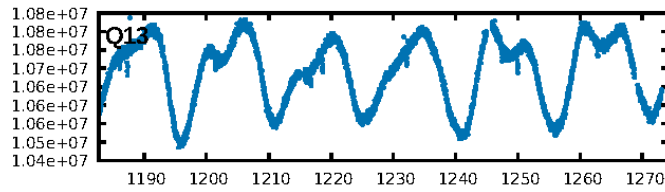
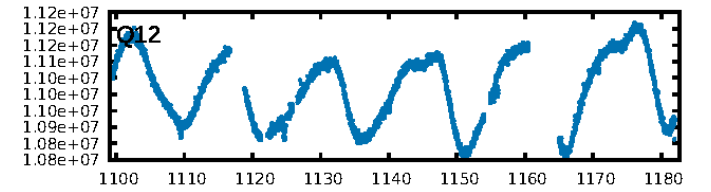
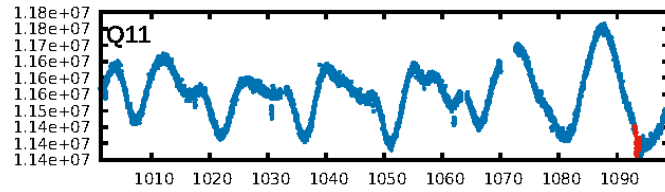
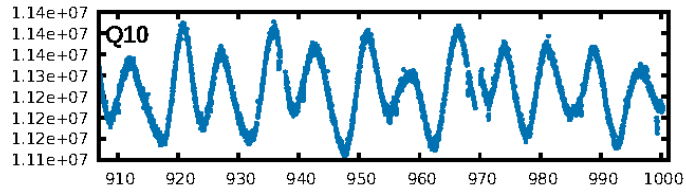
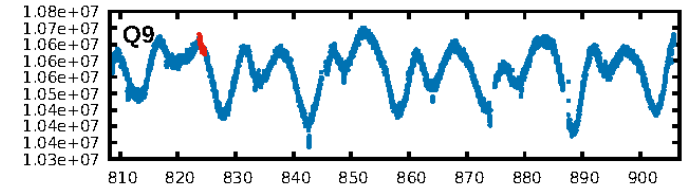
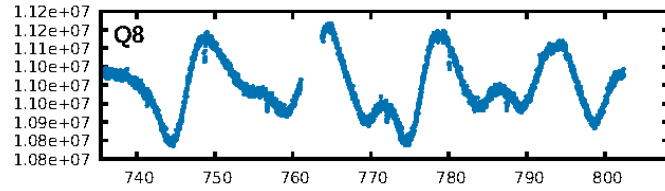
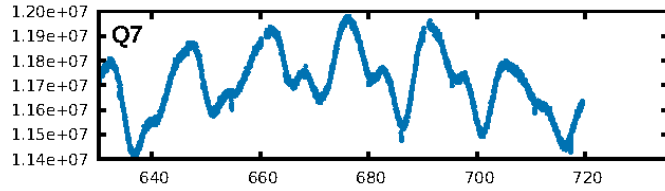
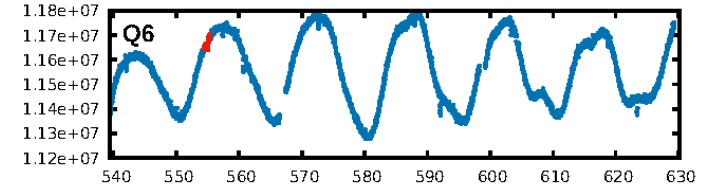
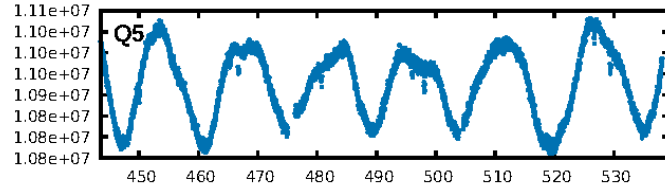
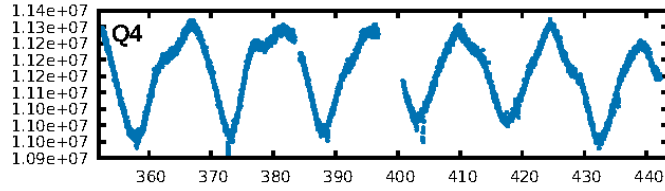
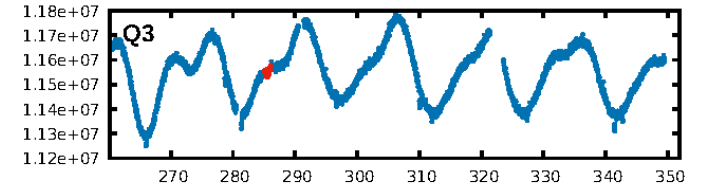
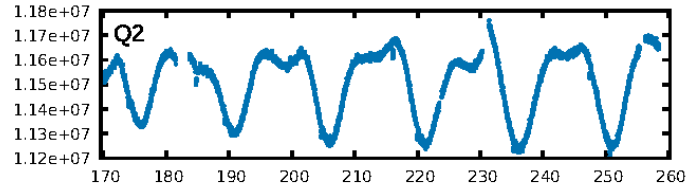
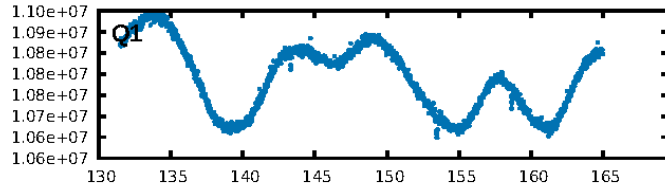
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [452.88 σ]
LongPeriod-sig: 100.0% [329.79 σ]
ModelChiSquare2-sig: 14.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.21e-18
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.211
Centroid-sig: 6.9%
Centroid-so: 0.624 arcsec [0.76 σ]
OotOffset-rm: 0.608 arcsec [1.29 σ]
KicOffset-rm: 0.228 arcsec [0.65 σ]
OotOffset-st: 2/1/0/1 [4]
KicOffset-st: 2/1/0/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

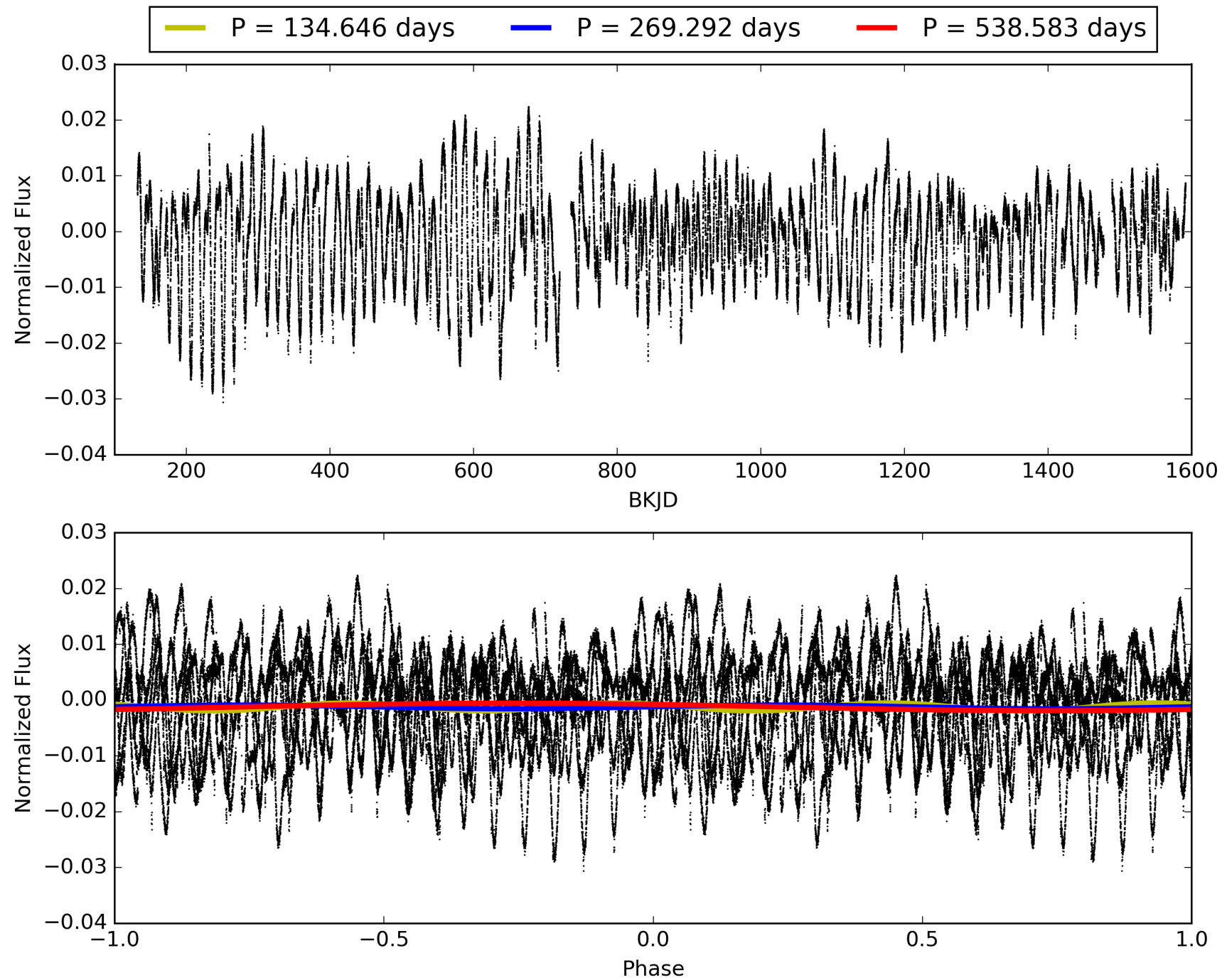
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:24:30 Z

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

TCE 005792202-04, PDC Light Curves

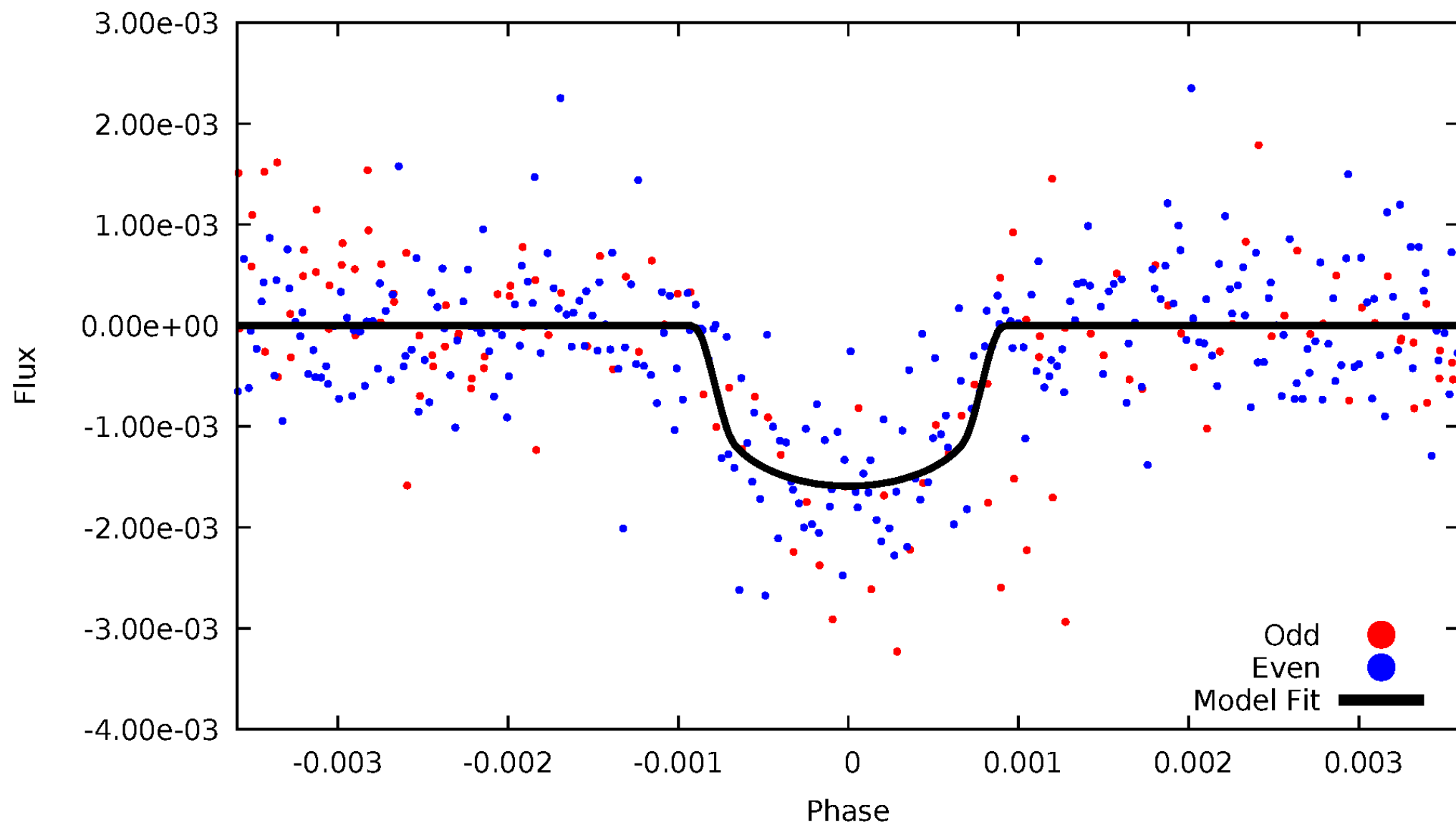


TCE 005792202-04



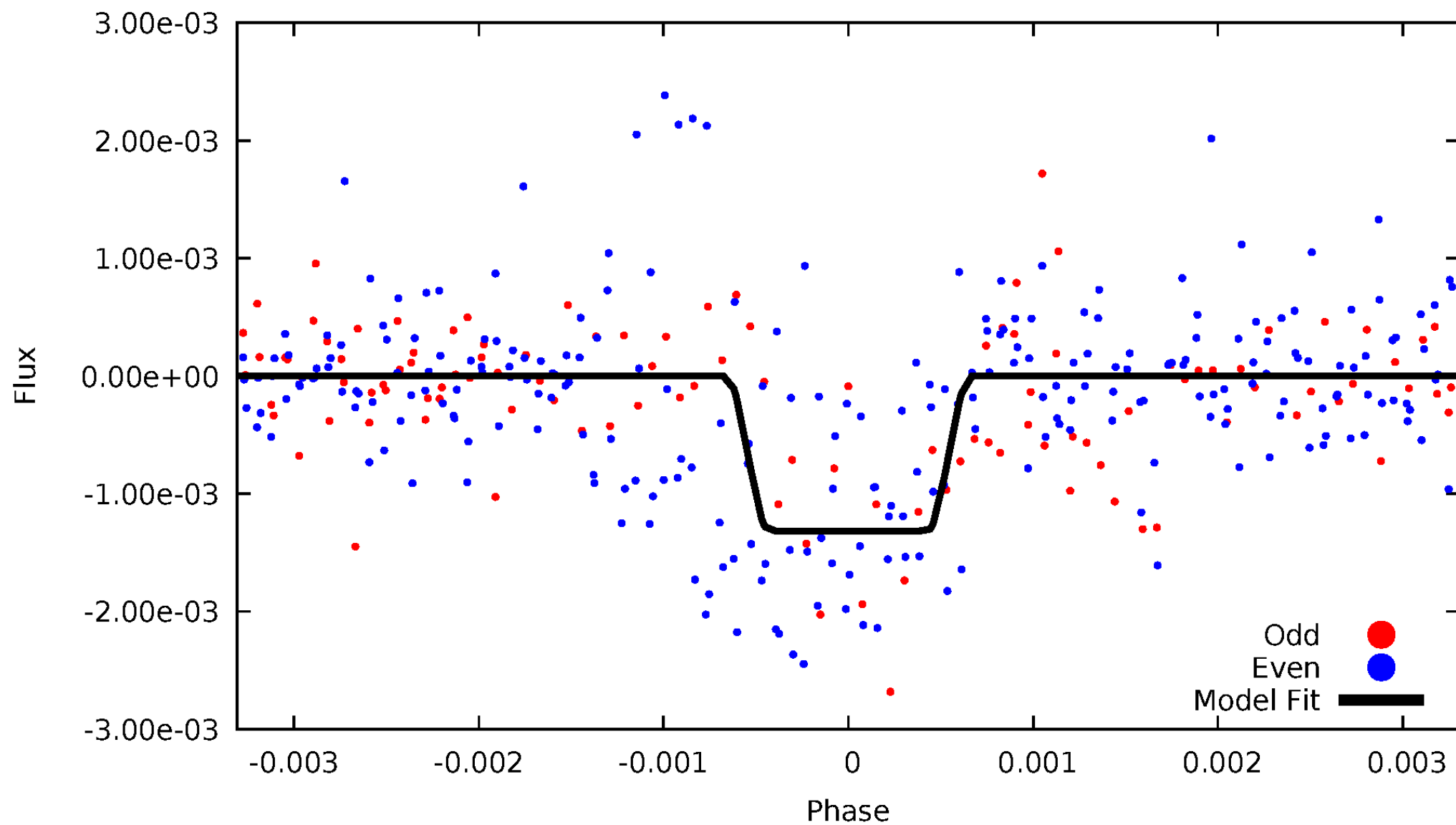
DV Odd/Even

TCE 005792202-04



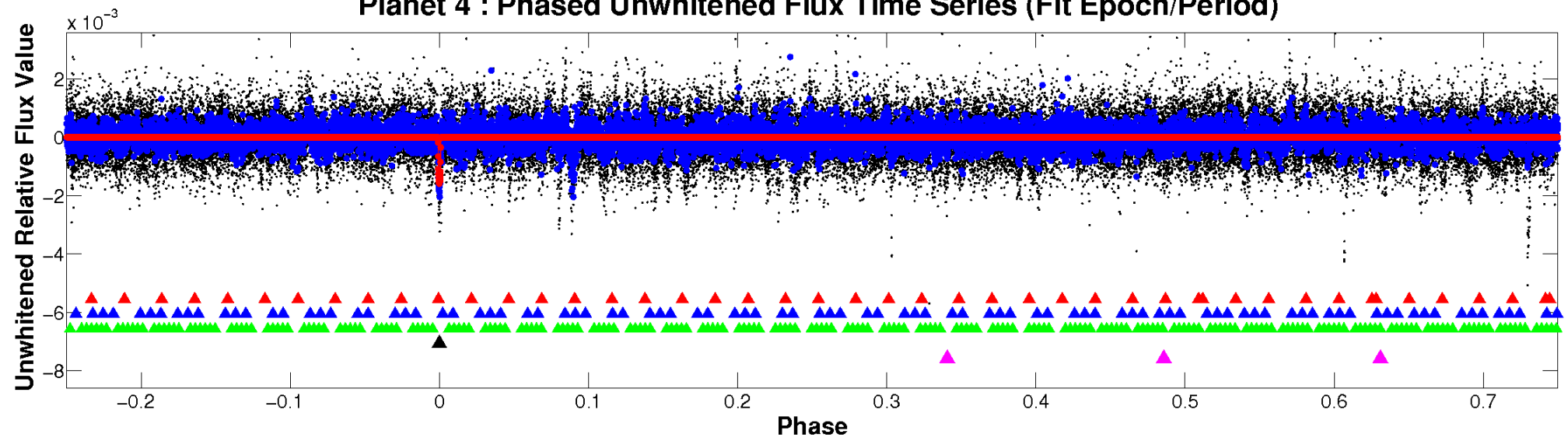
ALT Odd/Even

TCE 005792202-04

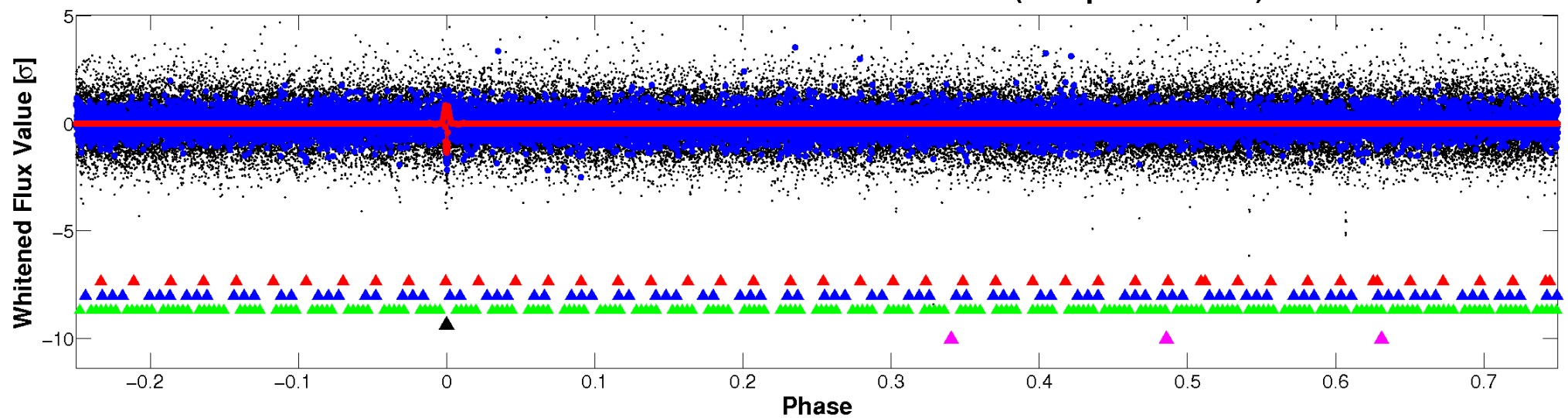


Non-Whitened Vs. Whitened Light Curve

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

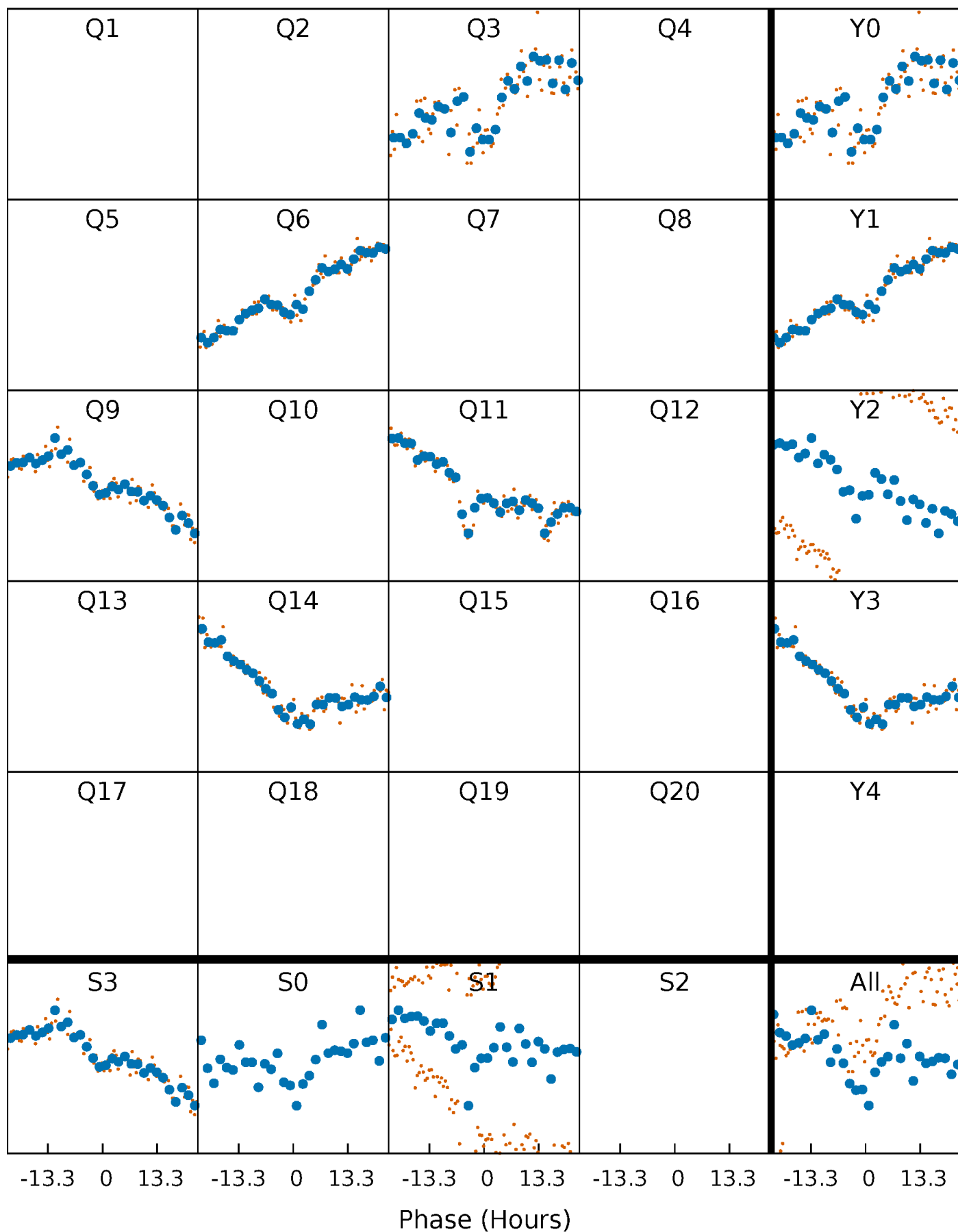


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



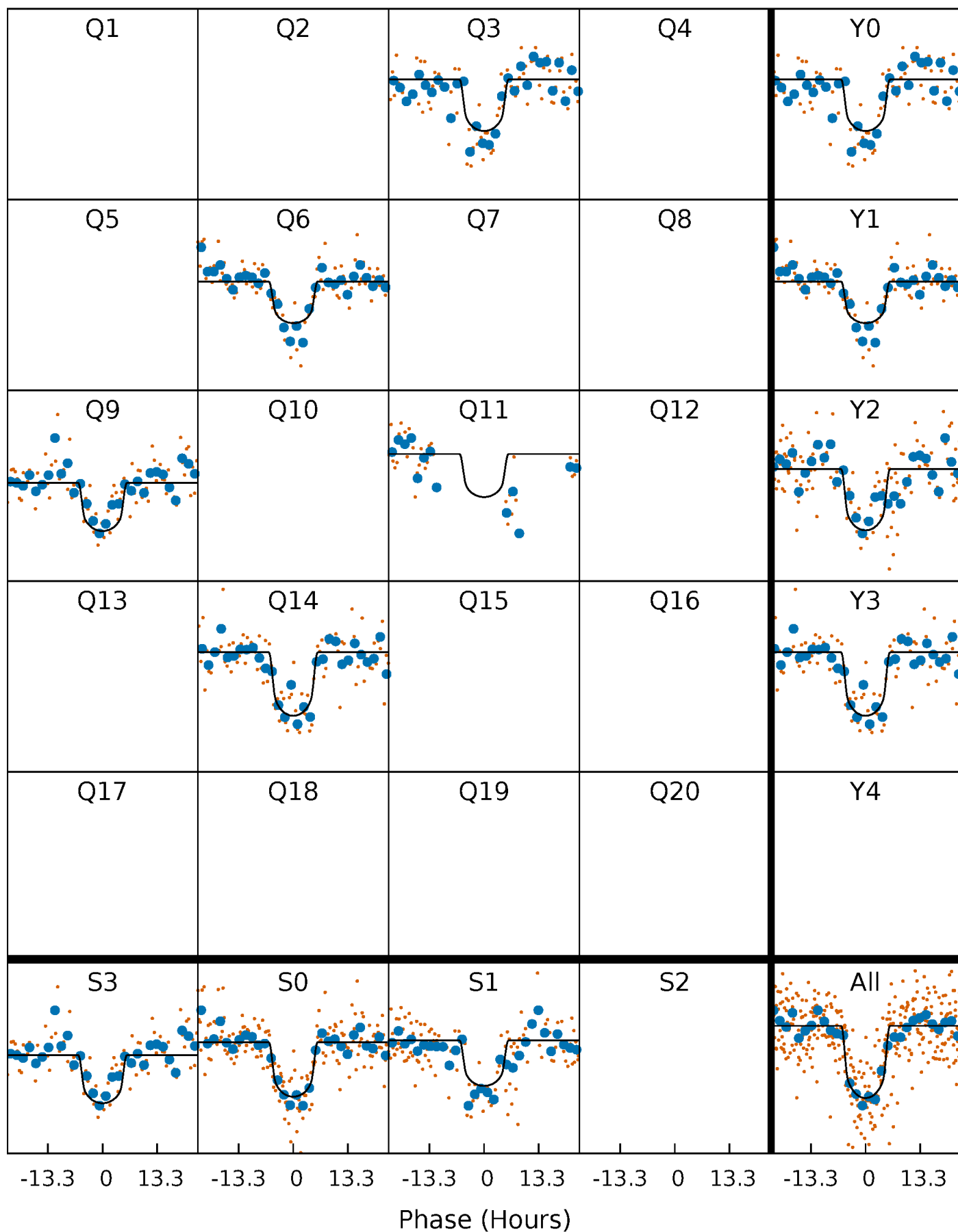
PDC Quarter-Phased Transit Curves

TCE 005792202-04 $P=269.291614$ Days $T_0=285.631863$ (BKJD)



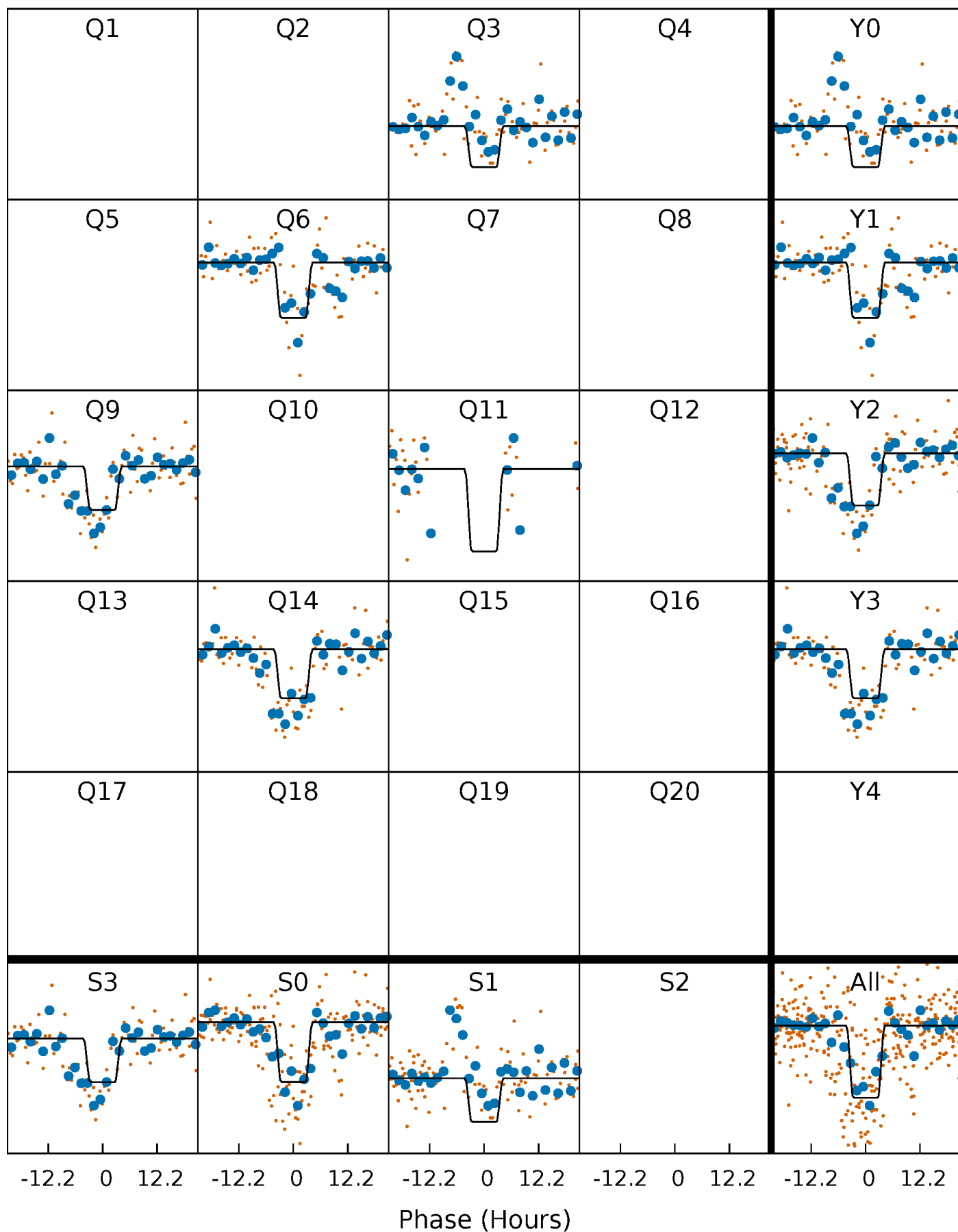
DV Quarter-Phased Transit Curves

TCE 005792202-04 $P=269.291614$ Days $T_0=285.631863$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

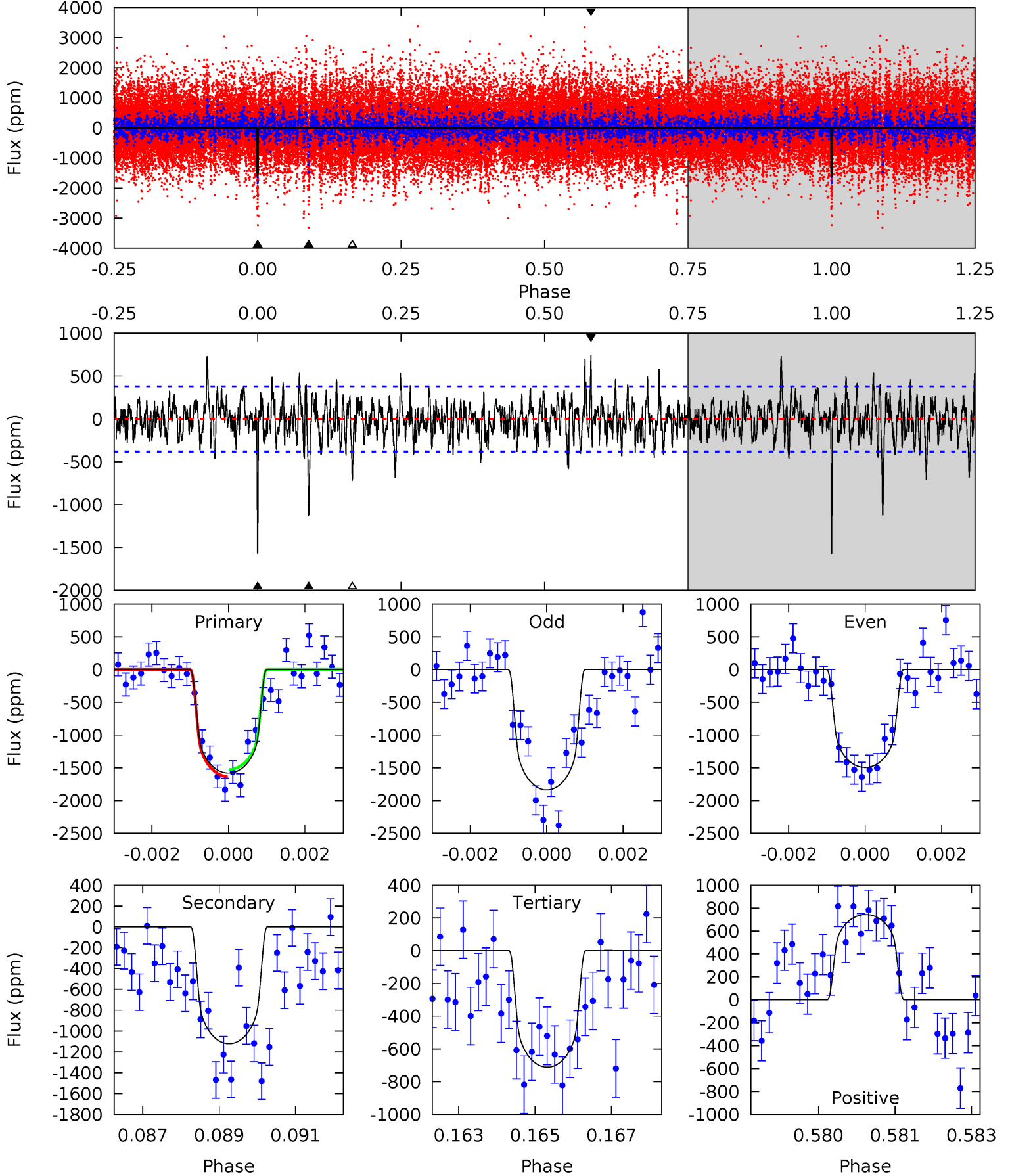
TCE 005792202-04 $P=269.293887$ Days $T_0=285.645443$ (BKJD)



DV Model-Shift Uniqueness Test

005792202-04, P = 269.291614 Days, E = 16.340249 Days

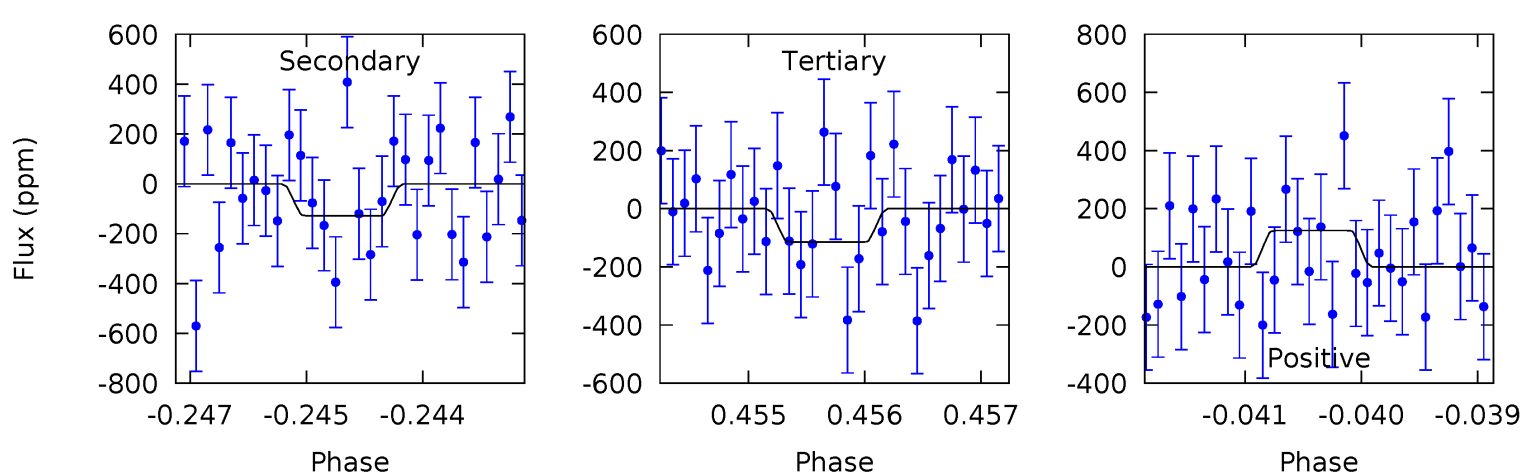
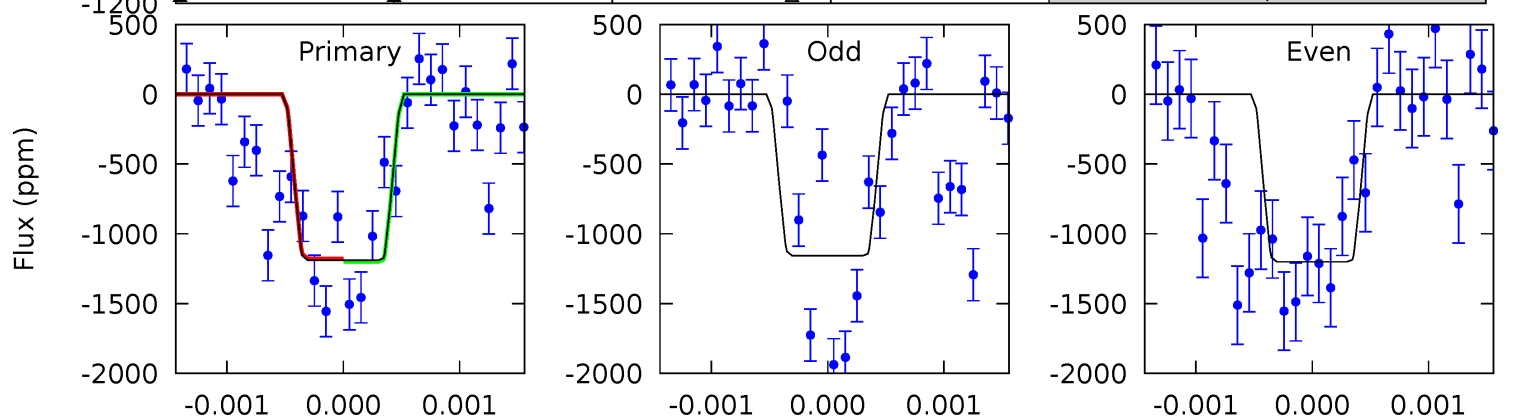
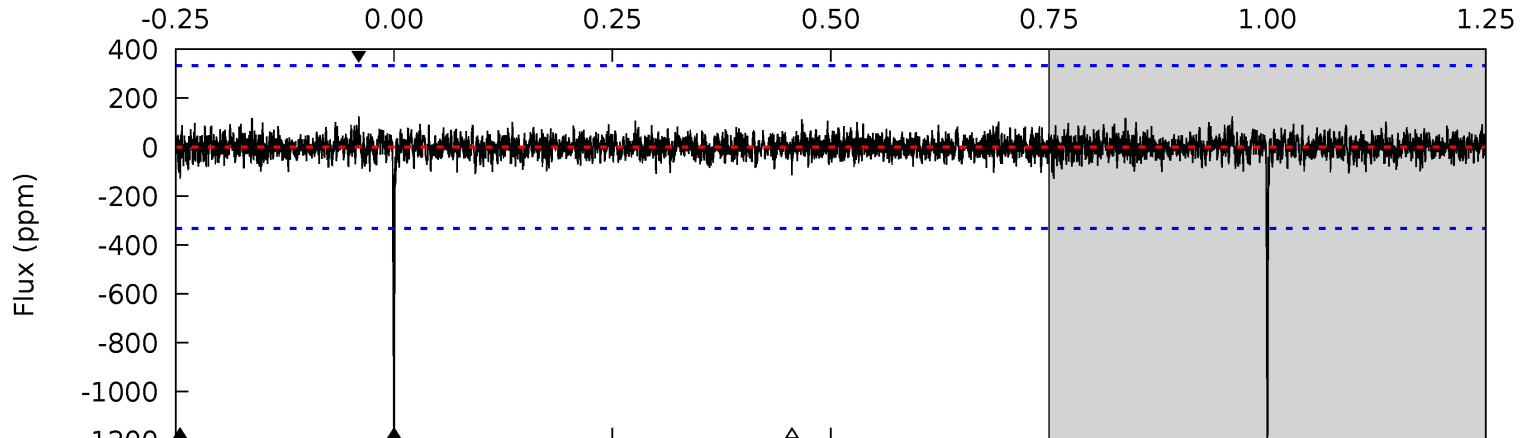
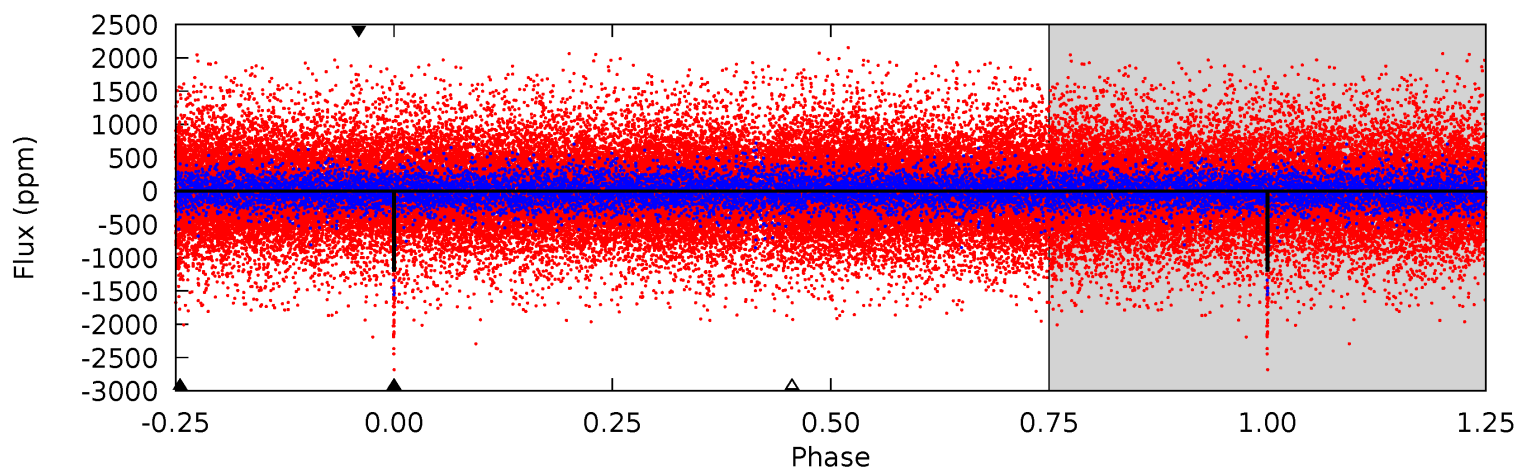
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 22.2 | 15.7 | 9.98 | 10.4 | 5.34 | 3.11 | 2.52 | 12.2 | 11.8 | 5.76 | 5.32 | 2.12 | 1.71 | 0.32 | 0.75 |



Alt Model-Shift Uniqueness Test

005792202-04, P = 269.293887 Days, E = 16.351556 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 19.3 | 2.09 | 1.86 | 2.03 | 5.41 | 3.22 | 0.50 | 17.4 | 17.3 | 0.23 | 0.06 | 0.32 | 0.91 | 0.10 | 0.18 |



Stellar Parameters For KIC 005792202

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5251^{+105}_{-105} | $4.581^{+0.010}_{-0.085}$ | $0.210^{+0.150}_{-0.150}$ | $0.817^{+0.080}_{-0.029}$ | $0.926^{+0.032}_{-0.064}$ | $2.394^{+0.172}_{-0.612}$ |
| | +2%/-2% | +0%/-2% | +71%/-71% | +10%/-4% | +3%/-7% | +7%/-26% |
| Source | SPE33 | SPE33 | SPE33 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005792202-04 / KOI 0841.04

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|----------------|------------------------|----------------------|----------------------|-------------------------|
| DV | -1122 ± 71 | $3.78^{+0.37}_{-0.36}$ | 332^{+10}_{-8} | 4798^{+222}_{-193} | 26967^{+6386}_{-4791} |
| Alt. | -129 ± 62 | $3.31^{+0.36}_{-0.36}$ | 332^{+9}_{-8} | 3408^{+273}_{-301} | 3972^{+2265}_{-1810} |

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

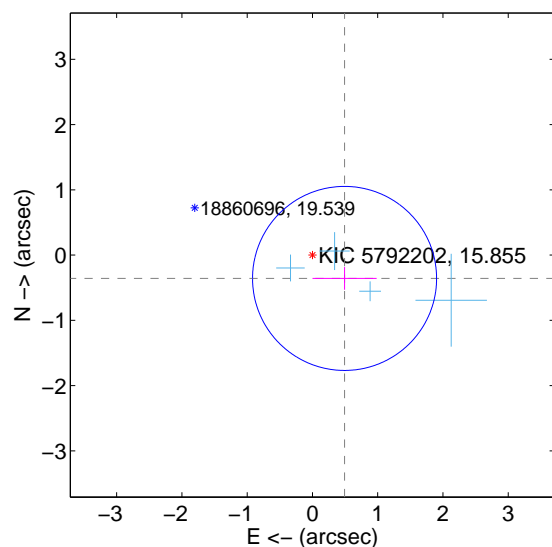
Supplemental centroid analysis for 005792202-04. Kepler magnitude: 15.86. Transit SNR 12.33

There are 4 quarters with good PRF difference image offsets

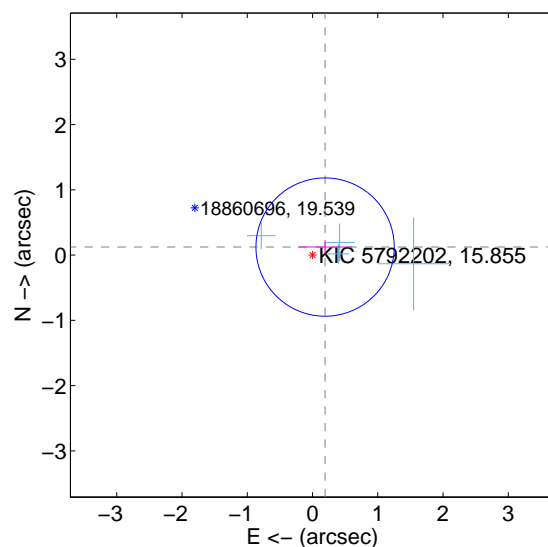
The direct PRF centroid is offset from the target star catalog position by about 0.75 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.608 ± 0.470 | 1.29 | -0.492 ± 0.491 | -0.357 ± 0.174 |
| PRF-fit source offset from KIC position | 0.228 ± 0.353 | 0.65 | -0.192 ± 0.413 | 0.123 ± 0.108 |
| photometric centroid source offset | 0.62 ± 0.82 | 0.76 | 0.34 ± 0.83 | -0.52 ± 0.82 |

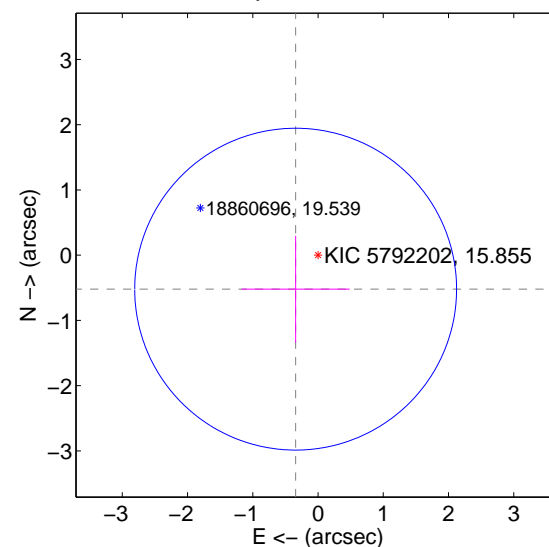
offset from difference PRF-fit to OOT PRF-fit



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



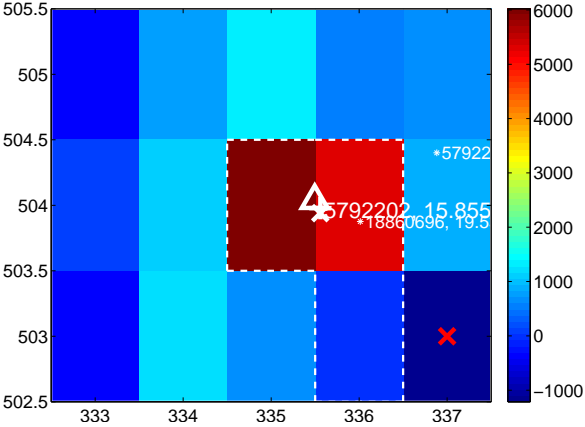
Q2 no difference image



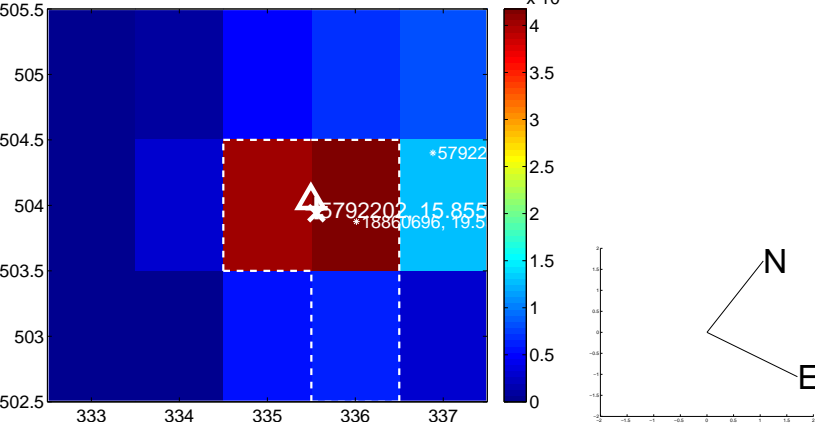
Q2 no OOT image



Q3 difference image



Q3 OOT image



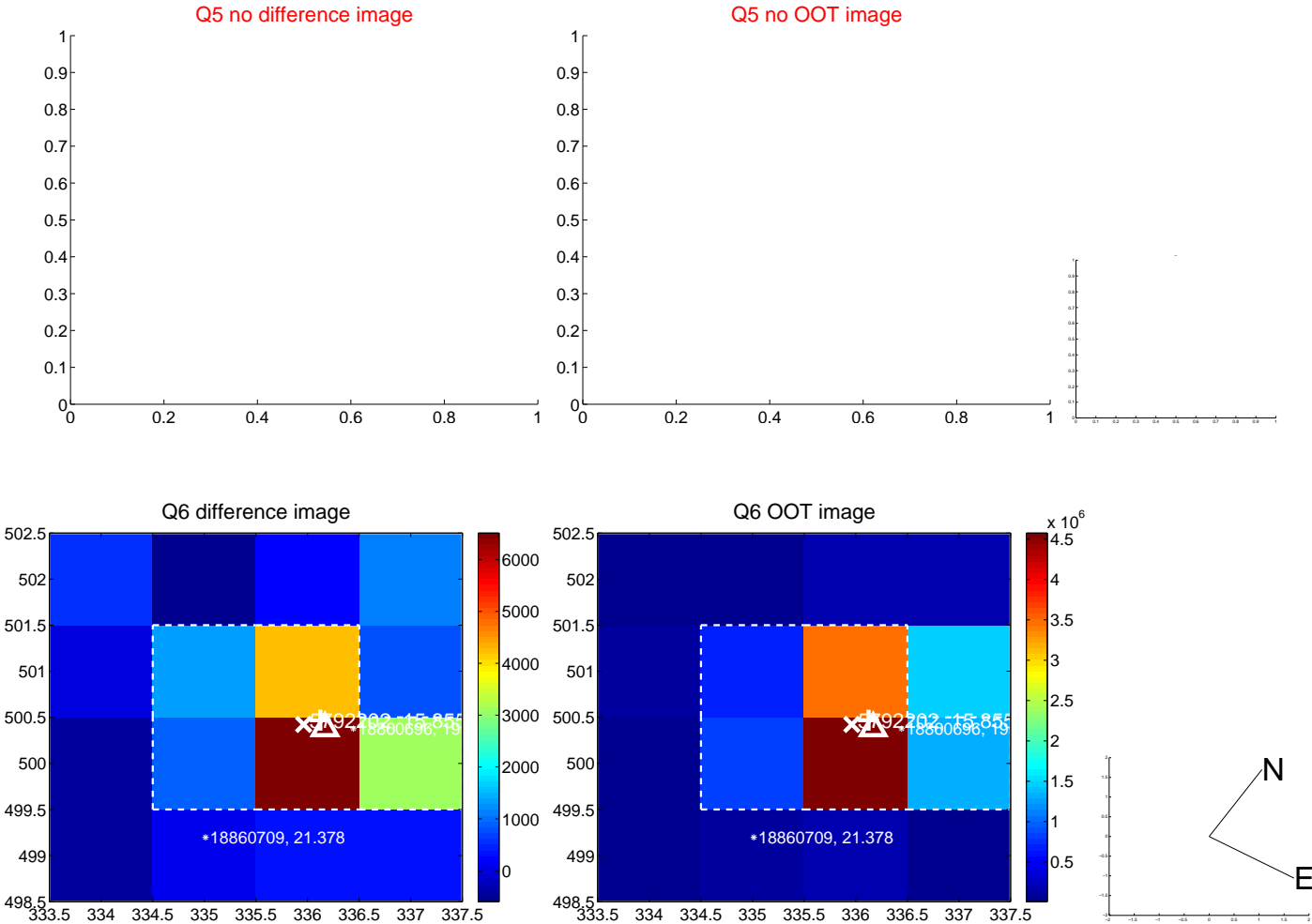
Q4 no difference image



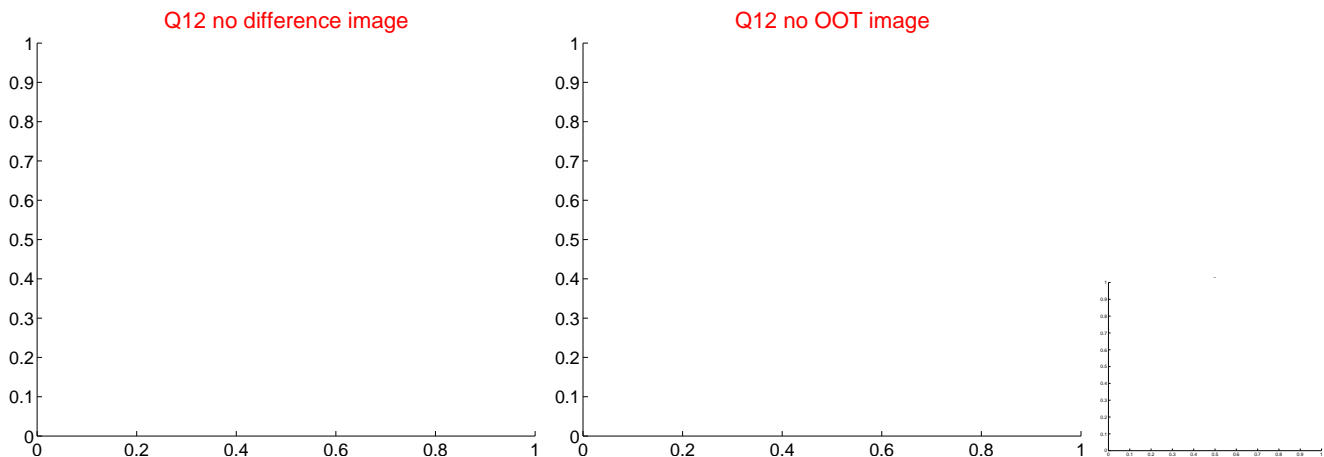
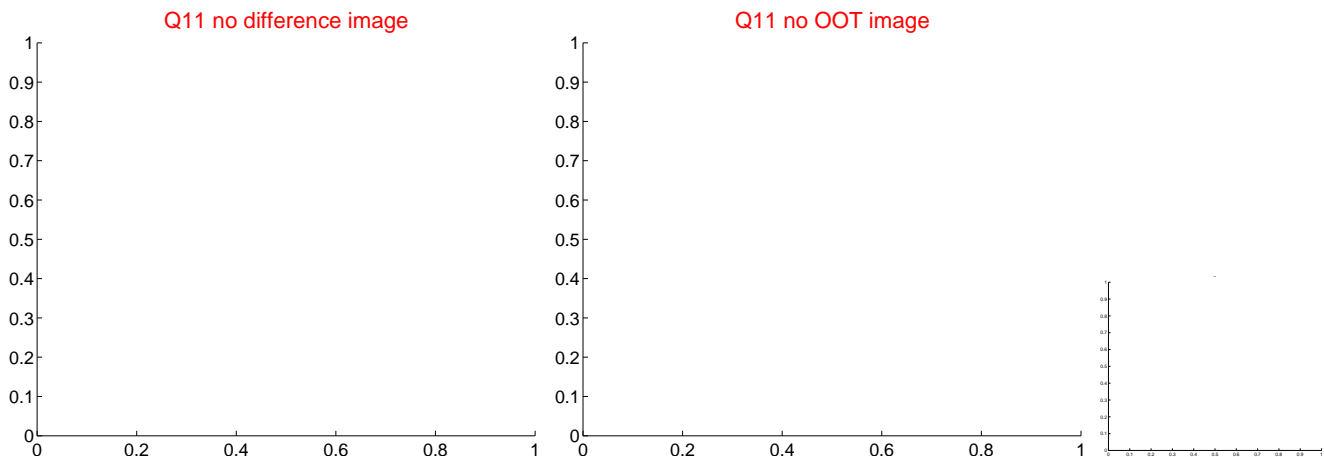
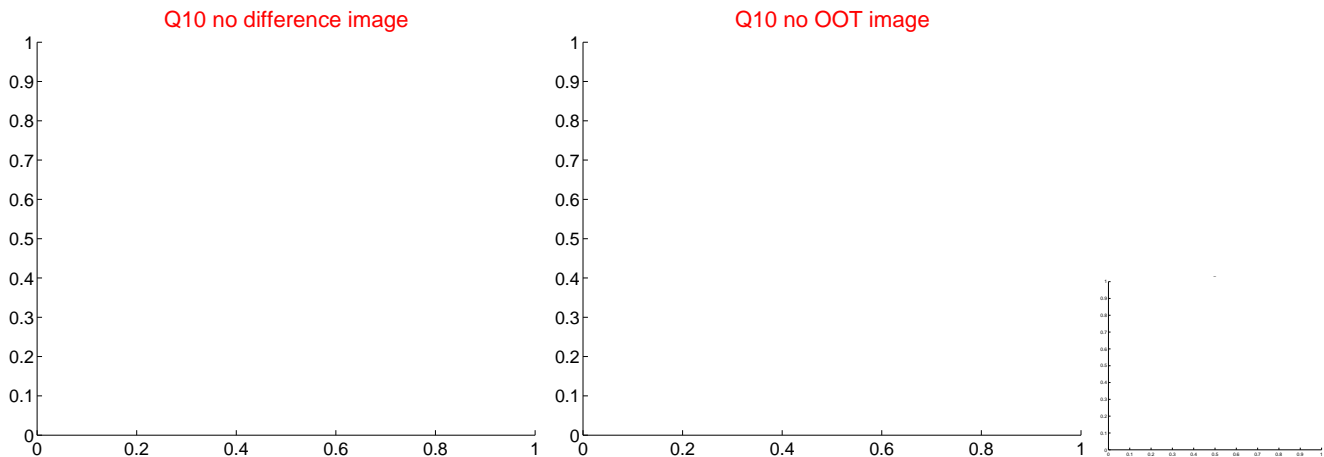
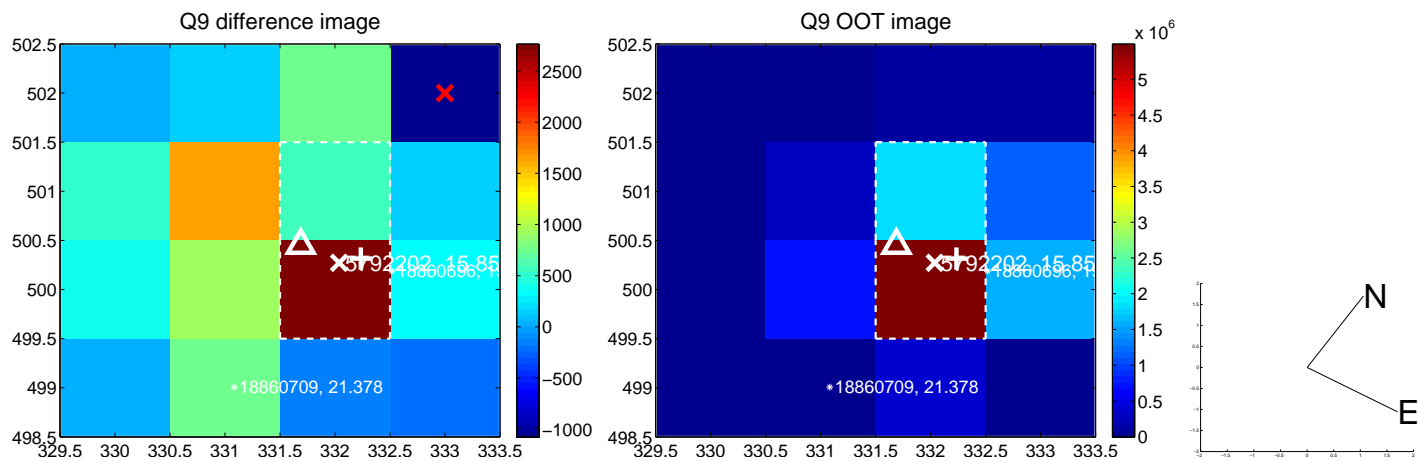
Q4 no OOT image



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.

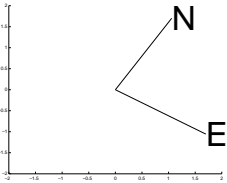
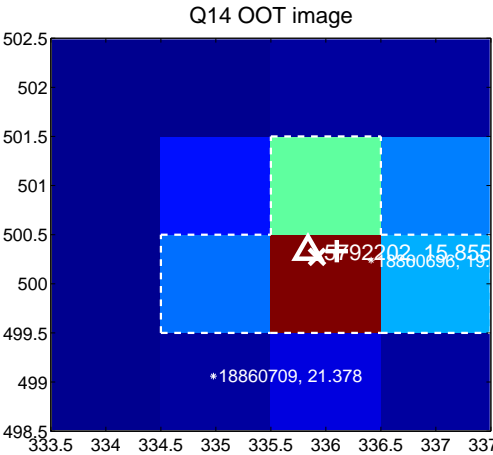
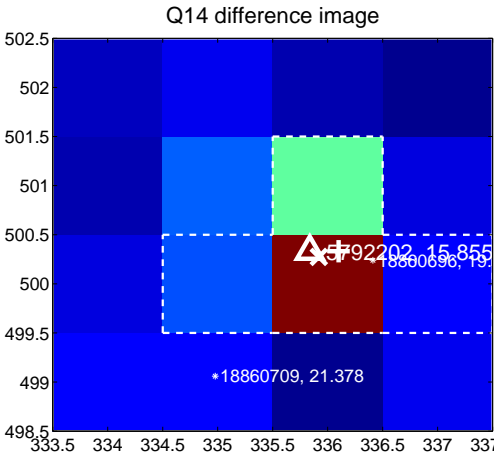


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

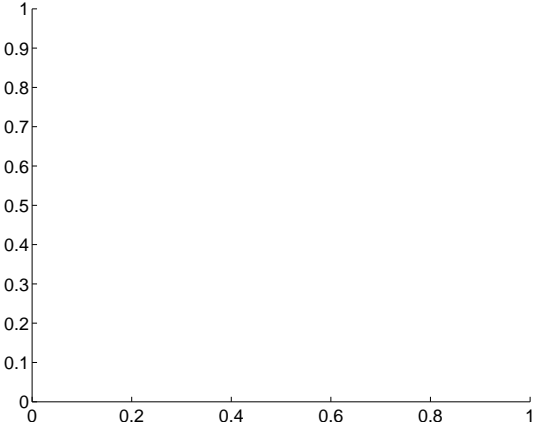
Q13 no difference image



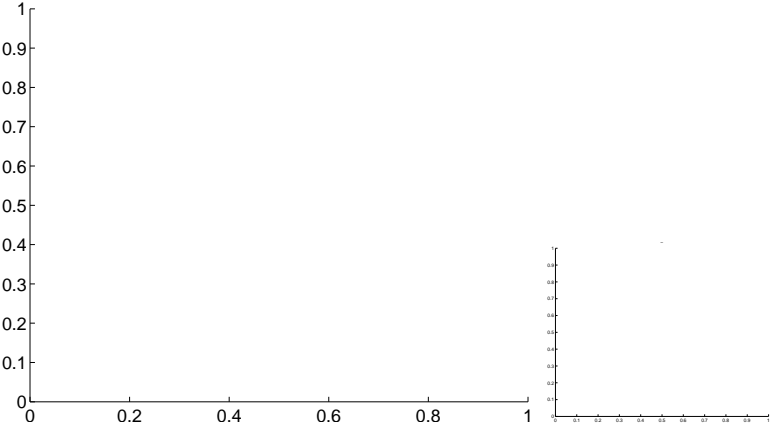
Q13 no OOT image



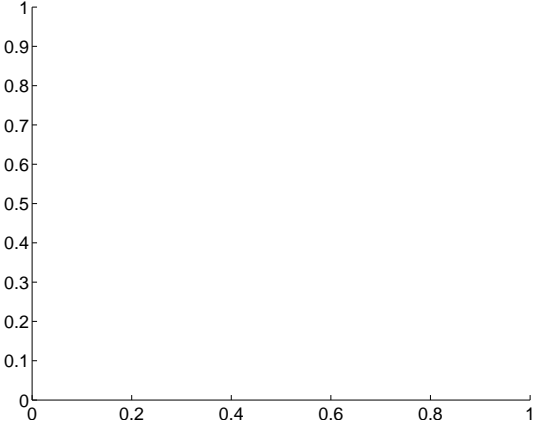
Q15 no difference image



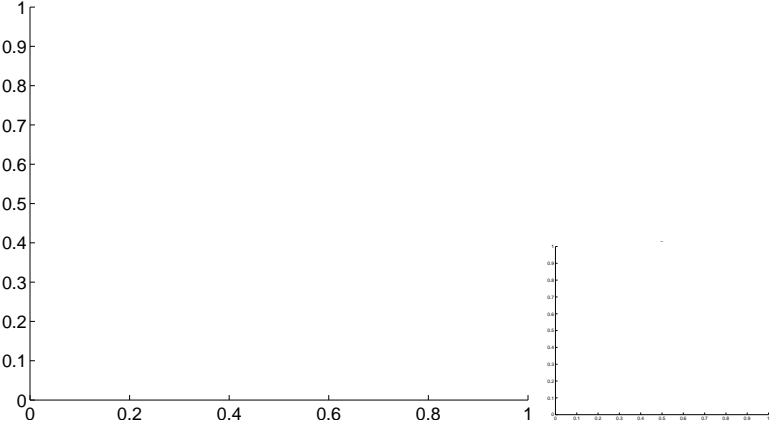
Q15 no OOT image



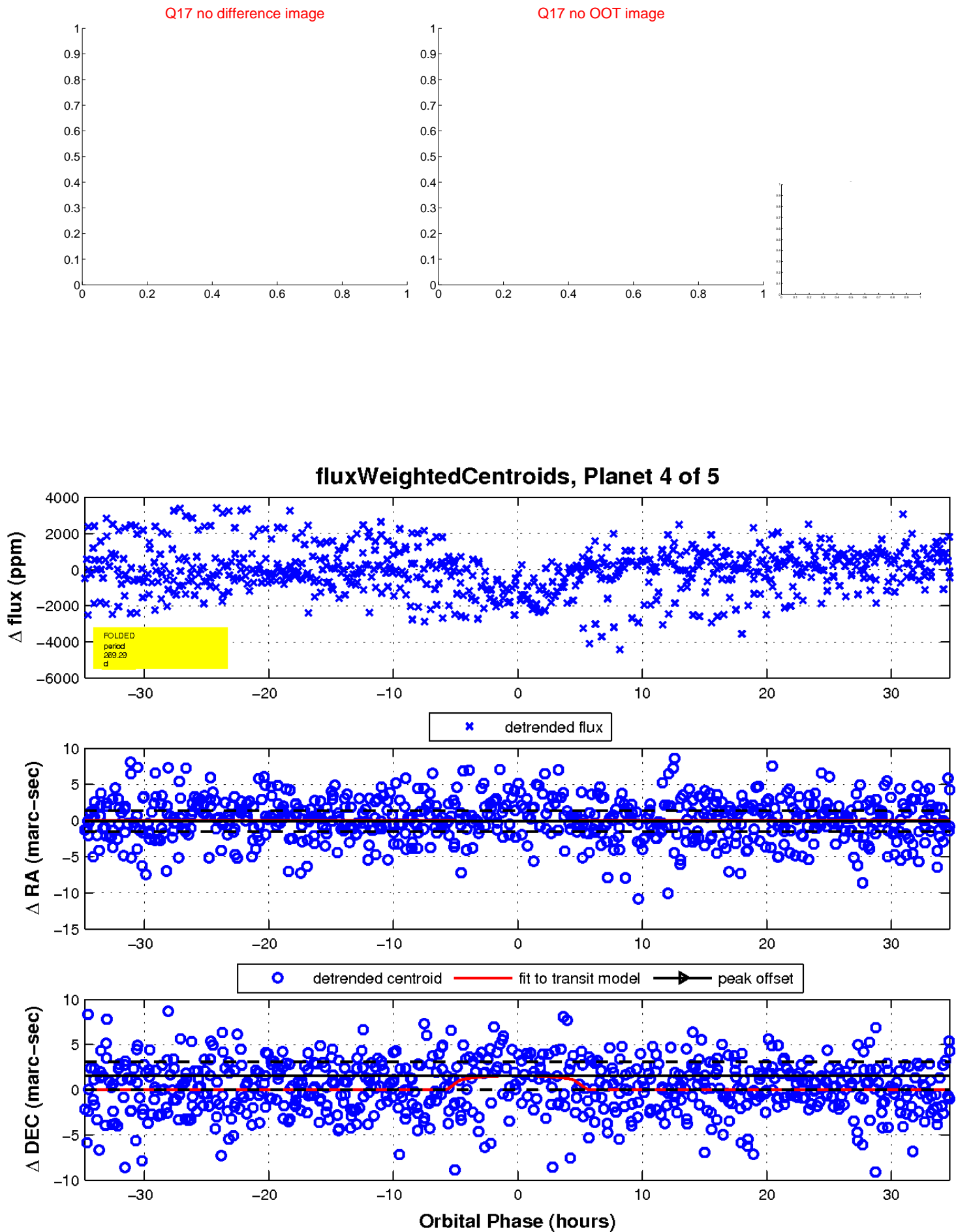
Q16 no difference image



Q16 no OOT image

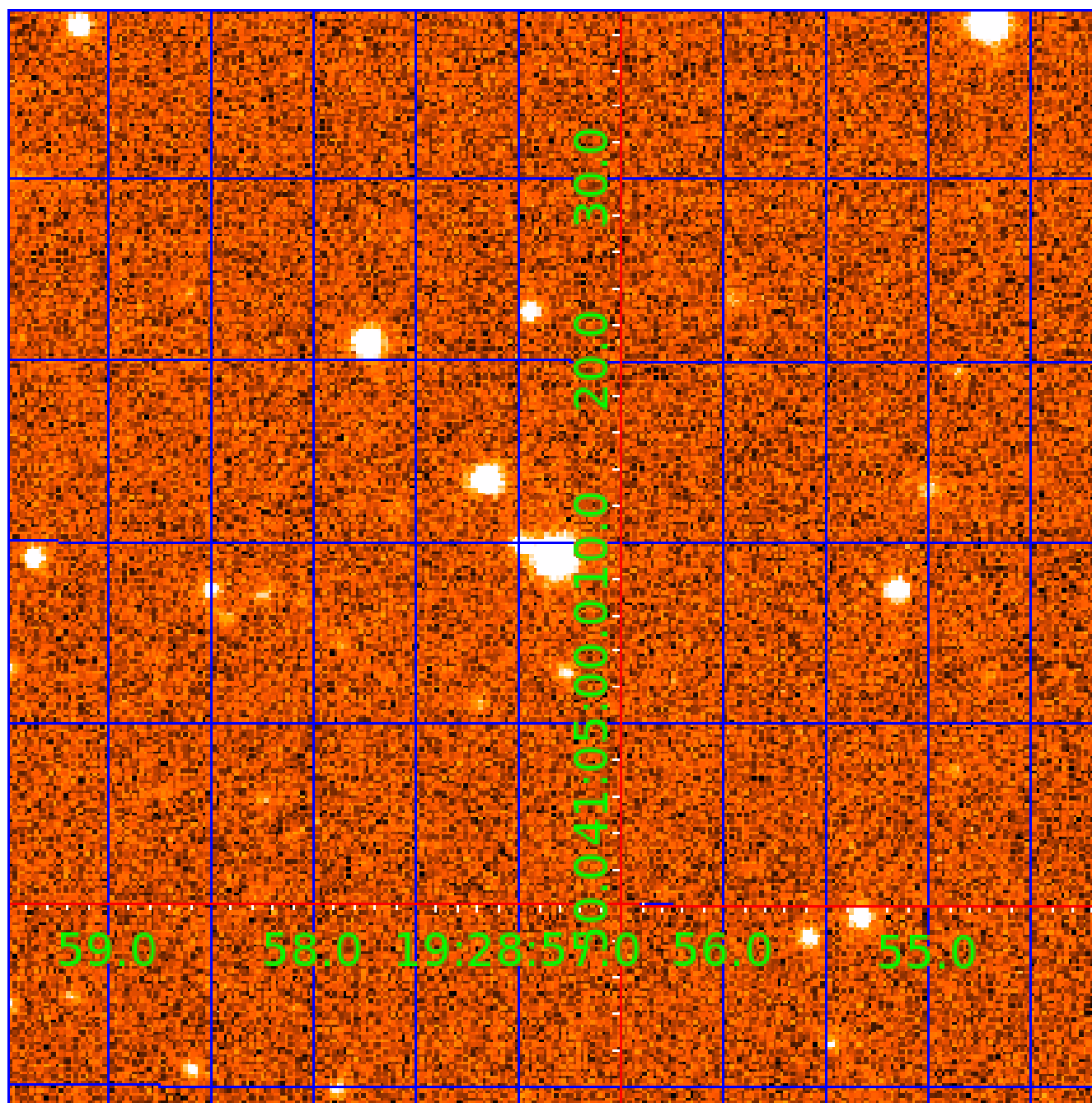


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005792202

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-------|-------|-----------------------------|-----------------|------------------------|------------------------|
| 005792202-01 | OBS | 0841.02 | 31.330526 | 153.430181 | 5077.6 | 4.937 | 110.0 | 106.5 | 0.82 | 5251 | 6.16 | 12.63 |
| 005792202-02 | OBS | 0841.01 | 15.335275 | 143.332516 | 3017.7 | 3.817 | 84.1 | 79.9 | 0.82 | 5251 | 4.93 | 32.74 |
| 005792202-03 | OBS | 0841.03 | 6.546285 | 133.857609 | 691.0 | 3.424 | 24.0 | 26.8 | 0.82 | 5251 | 2.82 | 101.86 |
| 005792202-04 | OBS | 0841.04 | 269.291614 | 285.631863 | 1591.0 | 11.604 | 12.7 | 12.3 | 0.82 | 5251 | 3.69 | 0.72 |
| 005792202-05 | OBS | 0841.05 | 499.474824 | 455.565728 | 1423.4 | 12.081 | 9.6 | 9.7 | 0.82 | 5251 | 3.52 | 0.32 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005792202-01 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-02 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-03 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |
| 005792202-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL |
| 005792202-05 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV |

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

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

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

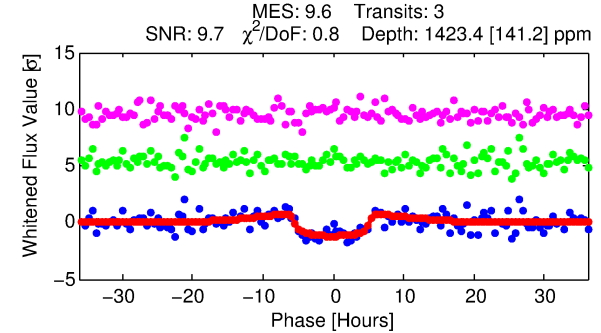
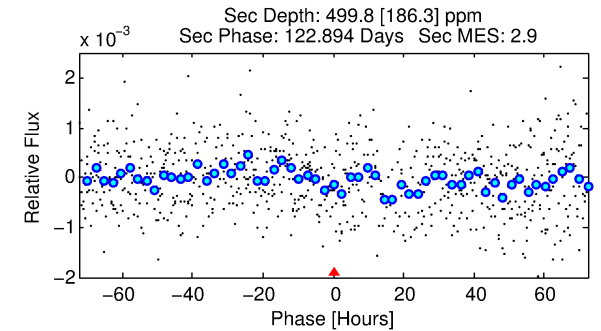
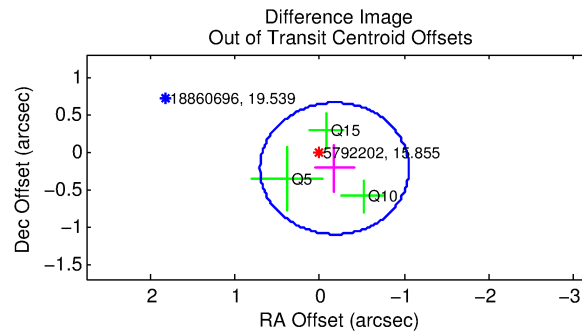
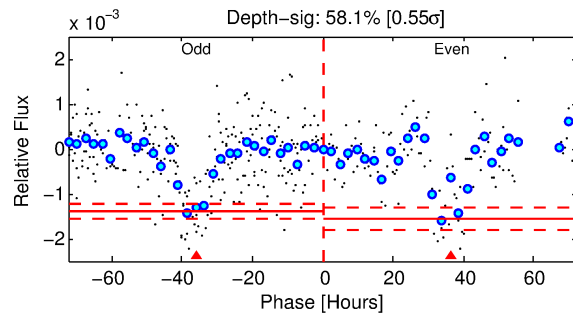
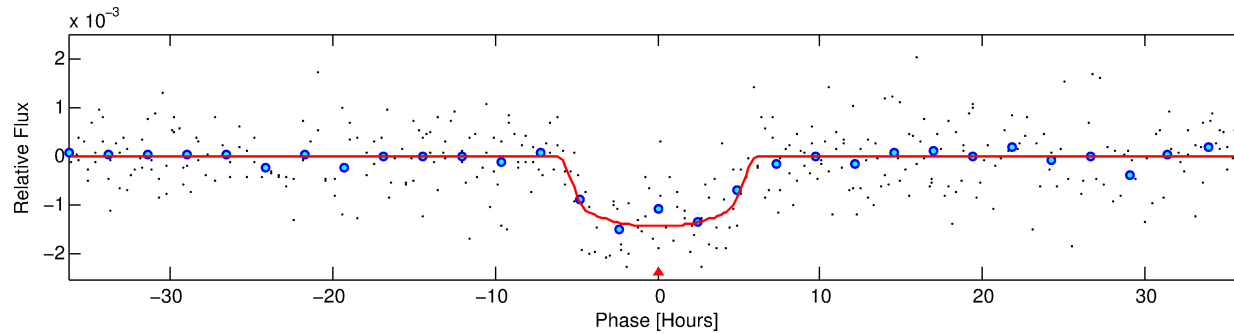
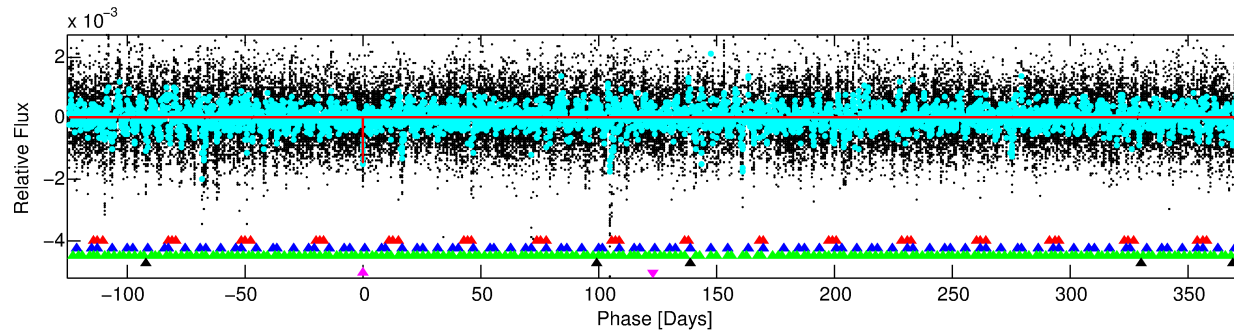
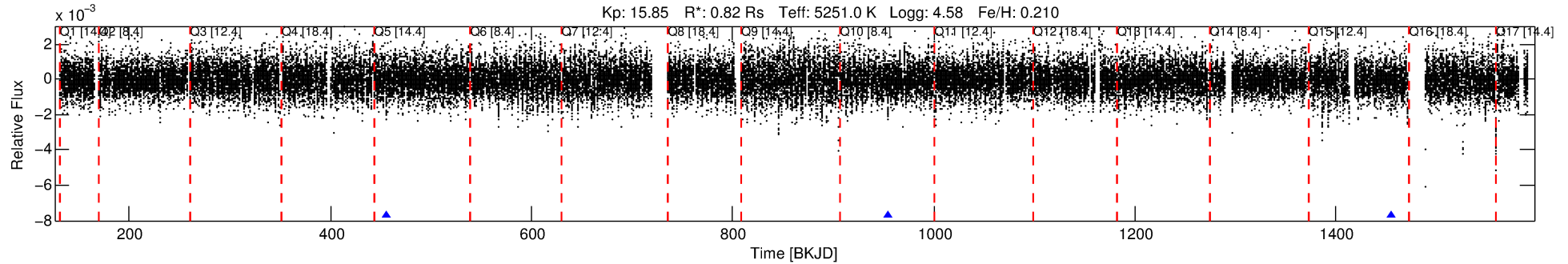
Ephemeris Match Information For 005792202-05

No Significant Match Found

DV One-Page Summary

KIC: 5792202 Candidate: 5 of 5 Period: 499.475 d

KOI: K00841.05 Corr: 0.953



DV Fit Results:

Period = 499.47482 [0.01082] d
Epoch = 455.5657 [0.0153] BKJD
Rp/R* = 0.0395 [0.0049]
a/R* = 196.65 [80.15]
b = 0.83 [0.15]
Seff = 0.31 [0.05]
Teq = 191 [8] K
Rp = 3.52 [0.56] Re
a = 1.2019 [0.1109] AU
Ag = 32101.15 [15130.87] [2.12 σ]
Teffp = 3953 [450] K [8.36 σ]

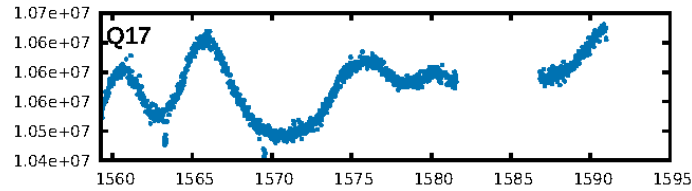
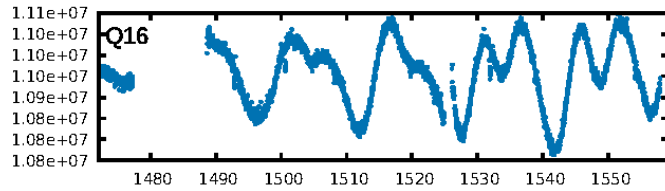
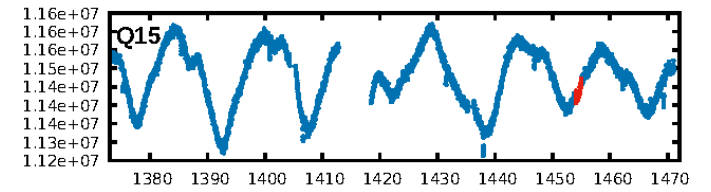
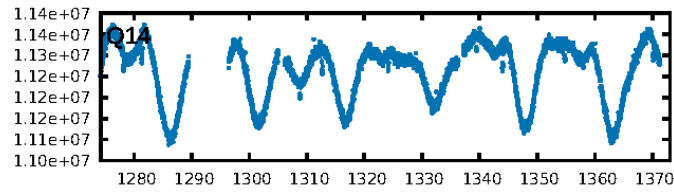
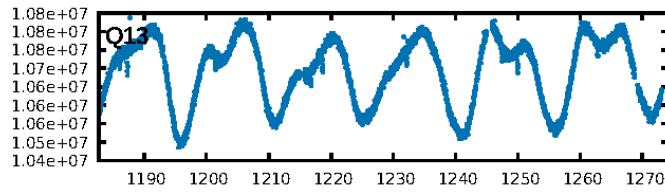
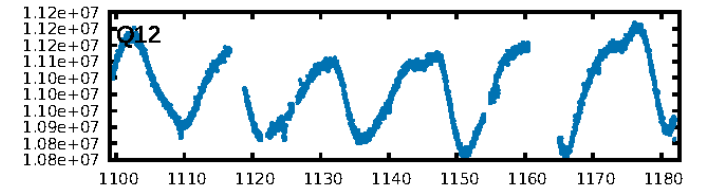
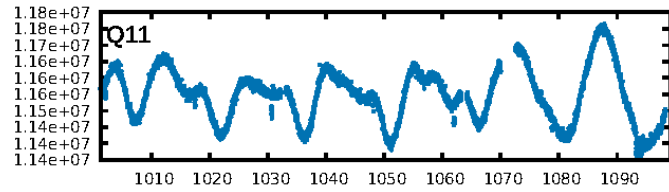
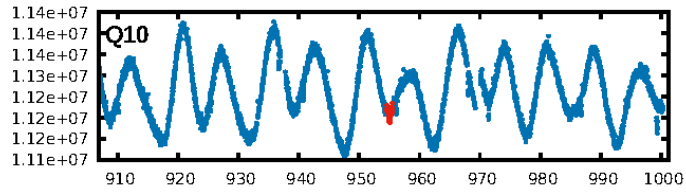
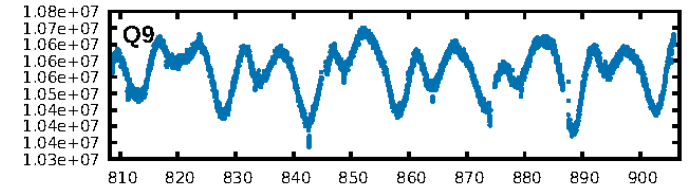
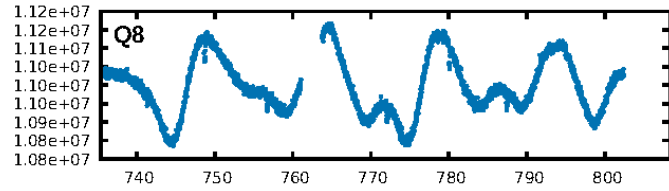
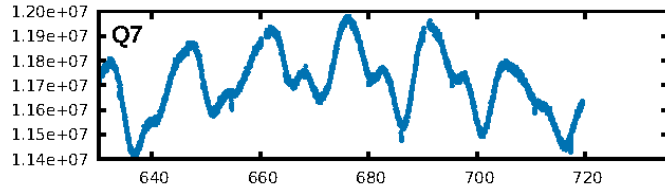
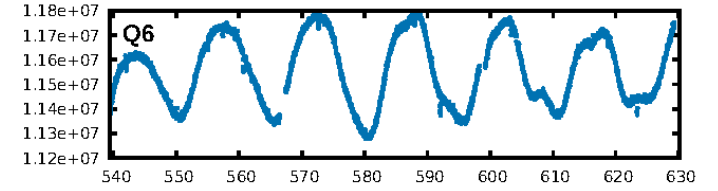
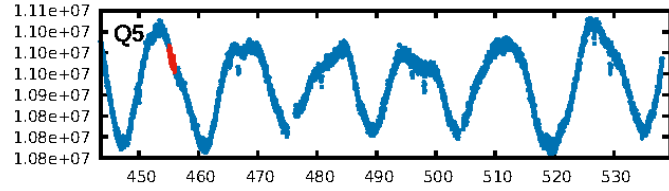
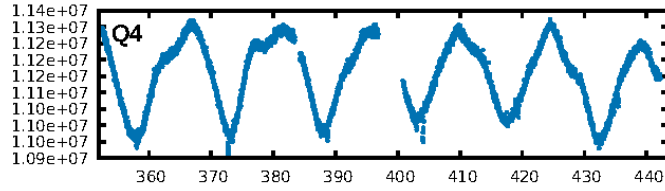
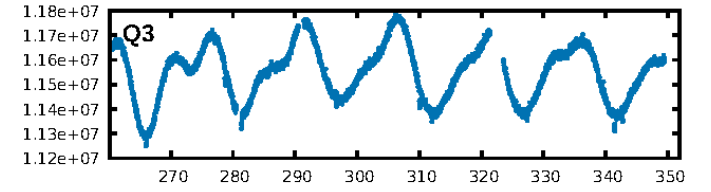
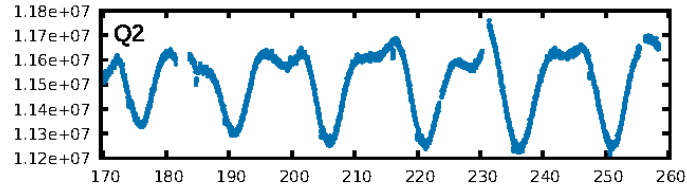
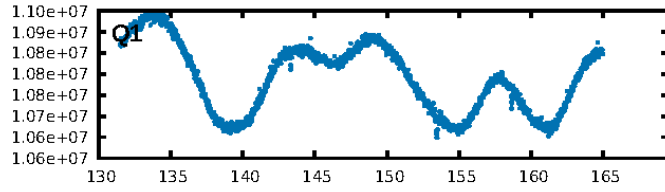
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [329.79 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.50e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7582
Centroid-sig: 6.5%
Centroid-so: 0.881 arcsec [0.79 σ]
OotOffset-rm: 0.287 arcsec [0.98 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 0.143 arcsec [0.72 σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.67 [2/3]

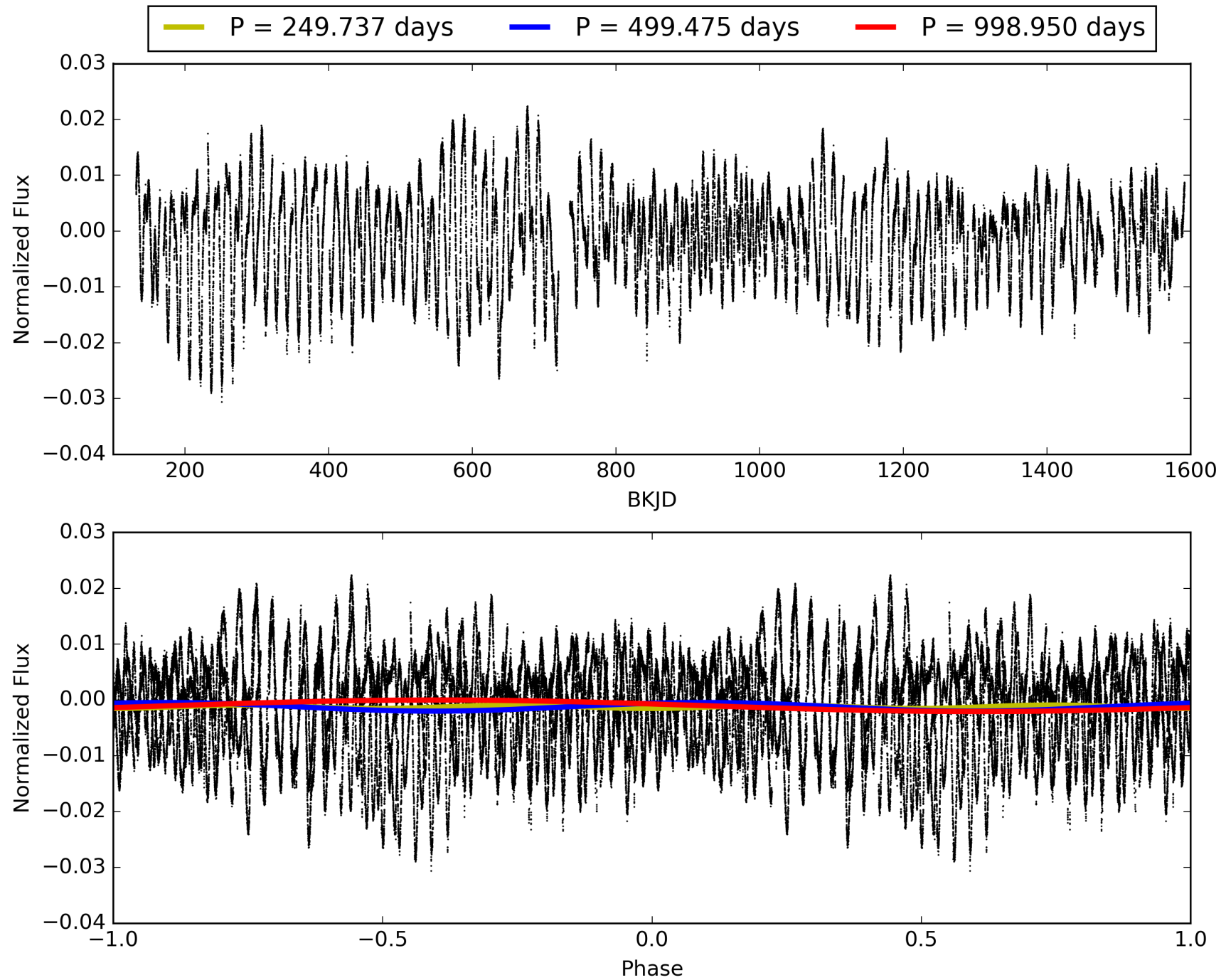
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:24:39 Z

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

TCE 005792202-05, PDC Light Curves

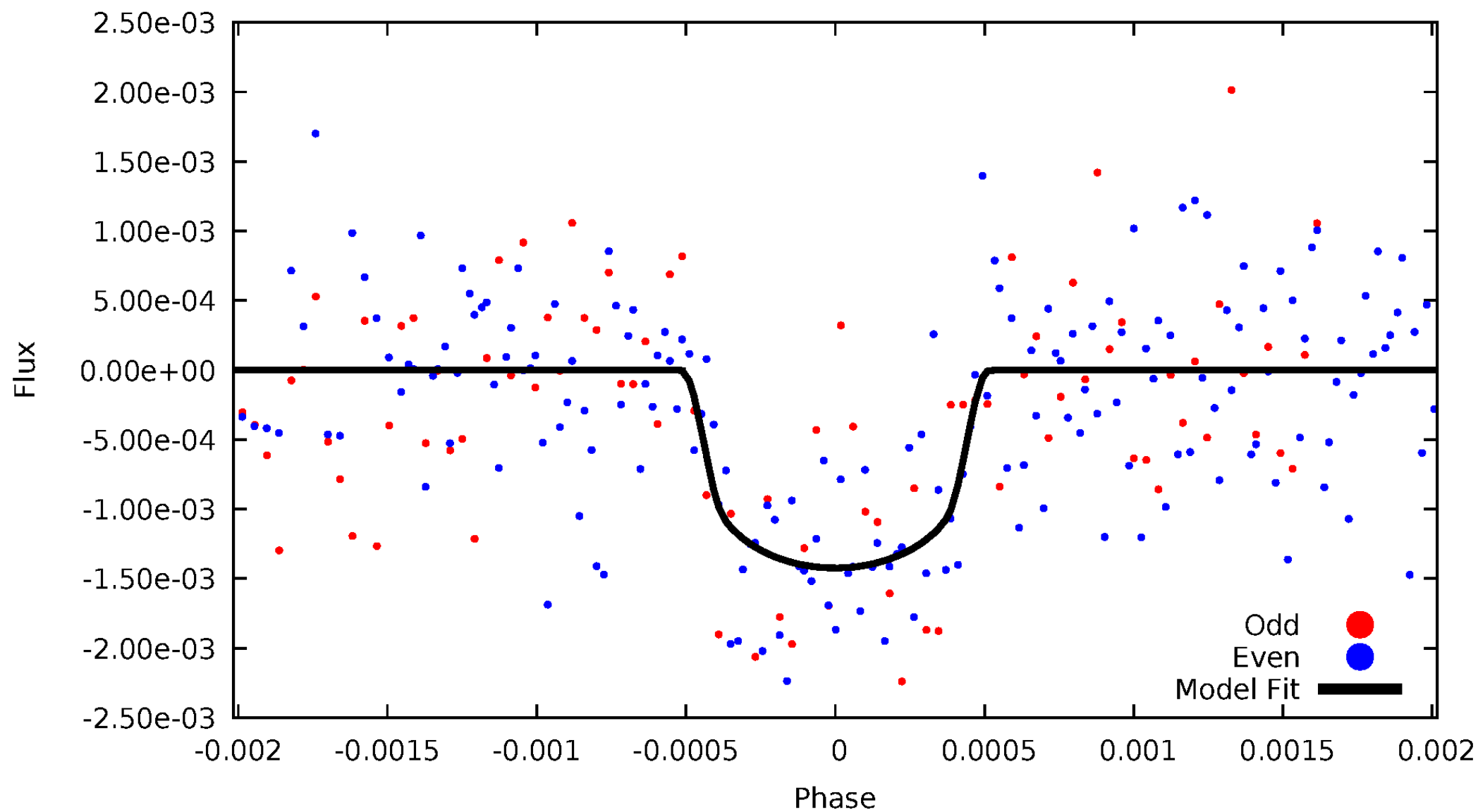


TCE 005792202-05



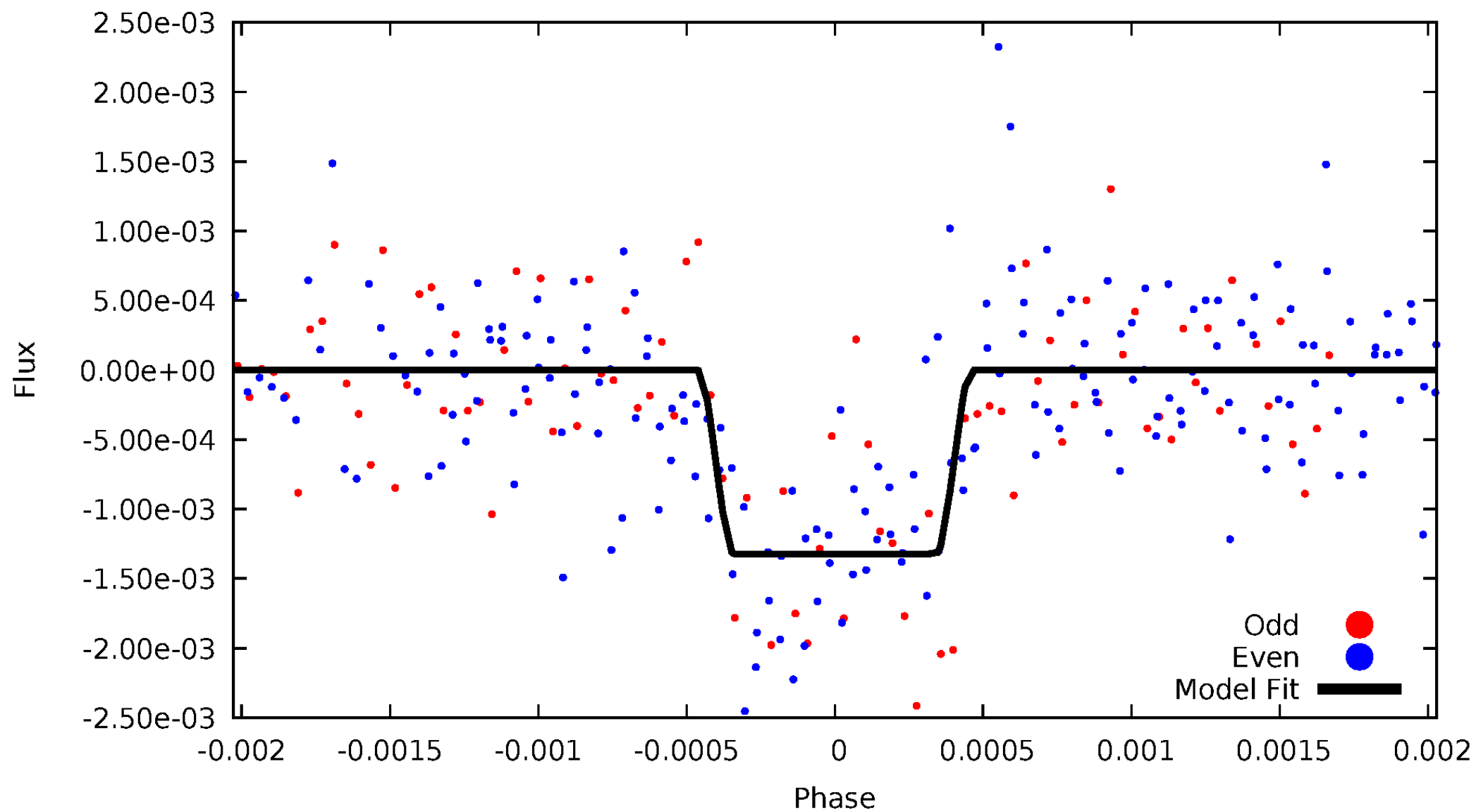
DV Odd/Even

TCE 005792202-05



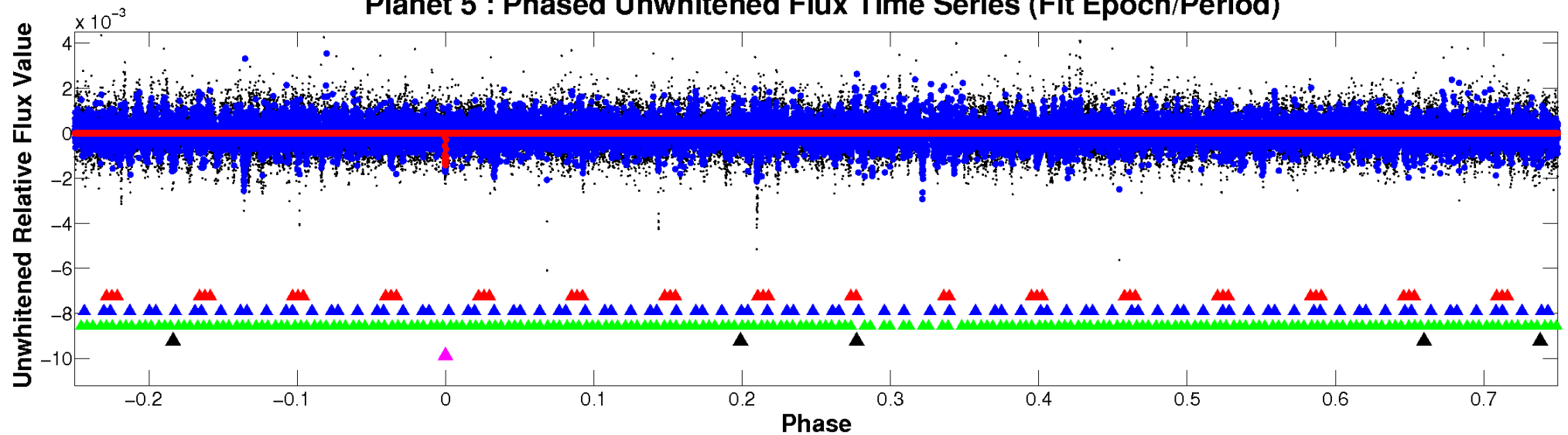
ALT Odd/Even

TCE 005792202-05

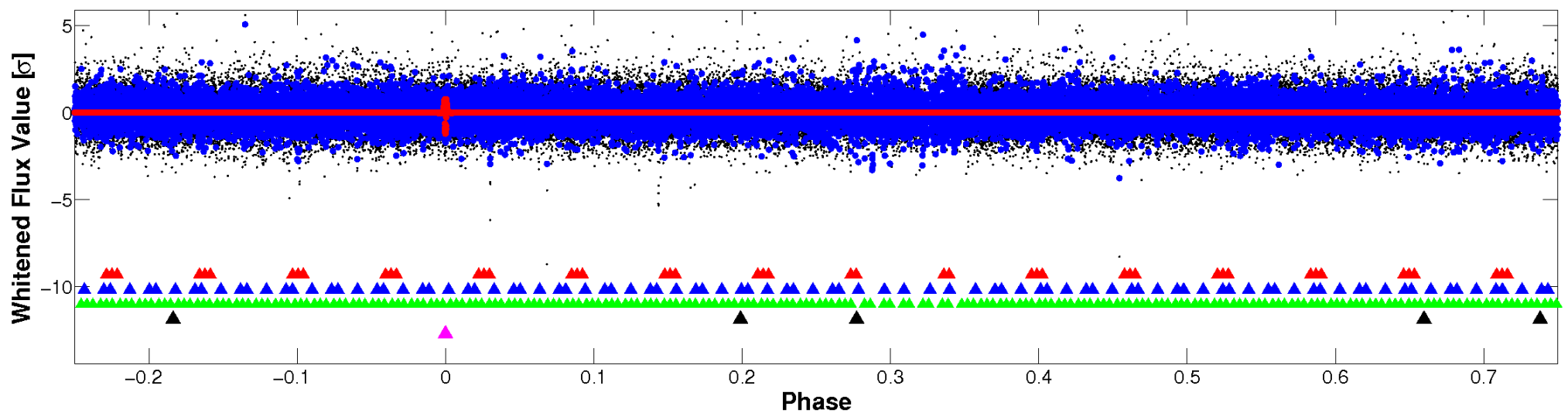


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

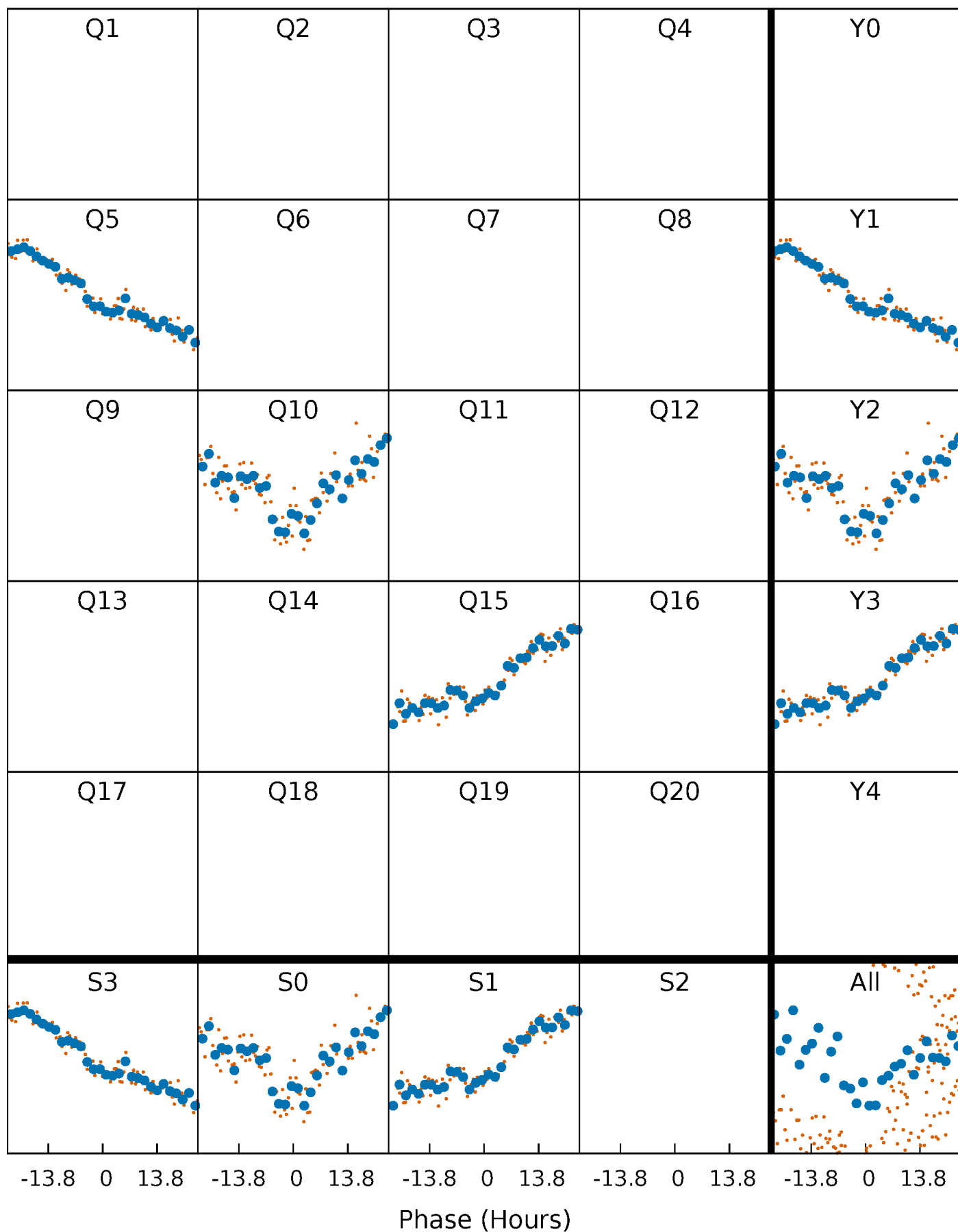


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 005792202-05 $P=499.474824$ Days $T_0=455.565728$ (BKJD)



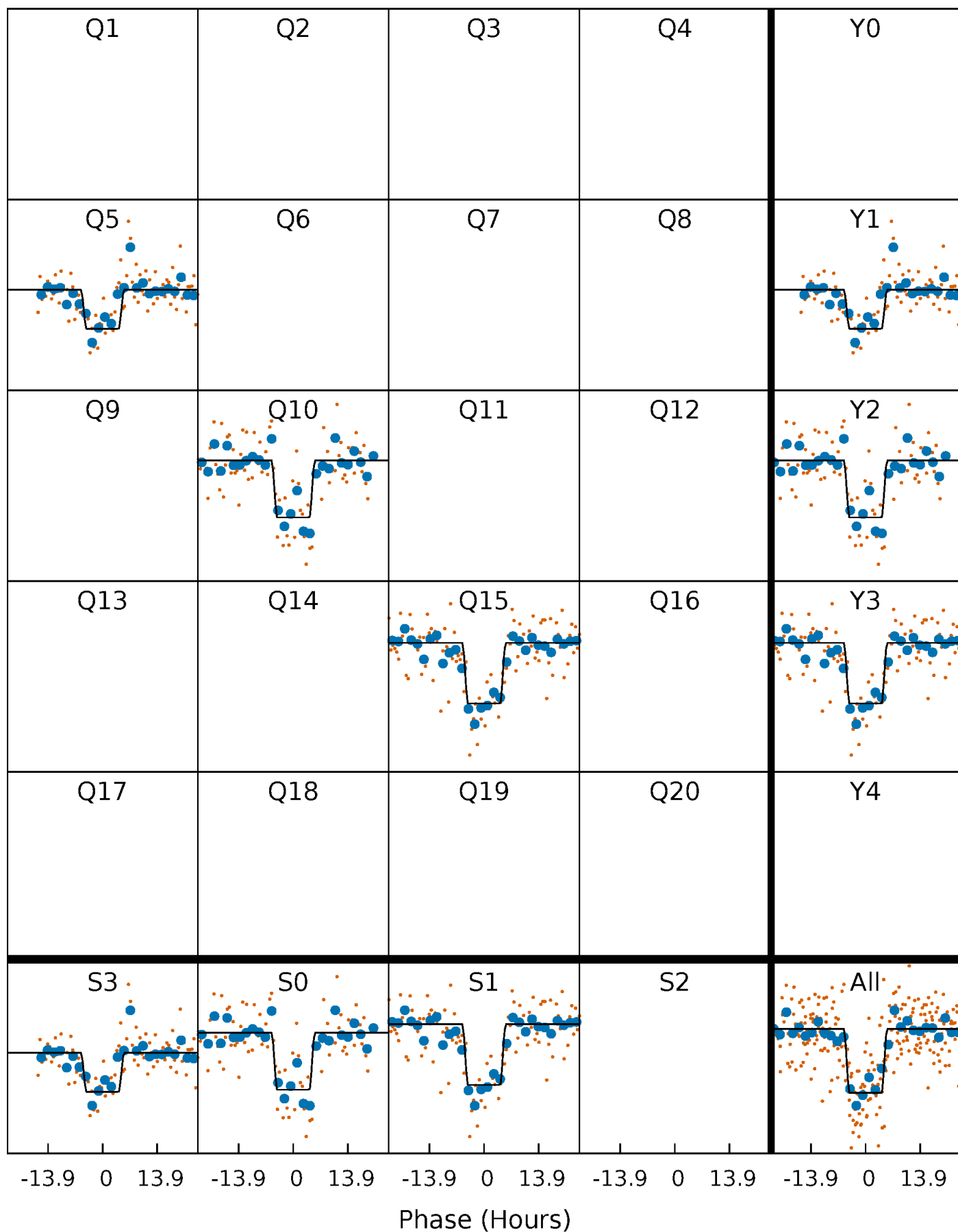
DV Quarter-Phased Transit Curves

TCE 005792202-05 $P=499.474824$ Days $T_0=455.565728$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

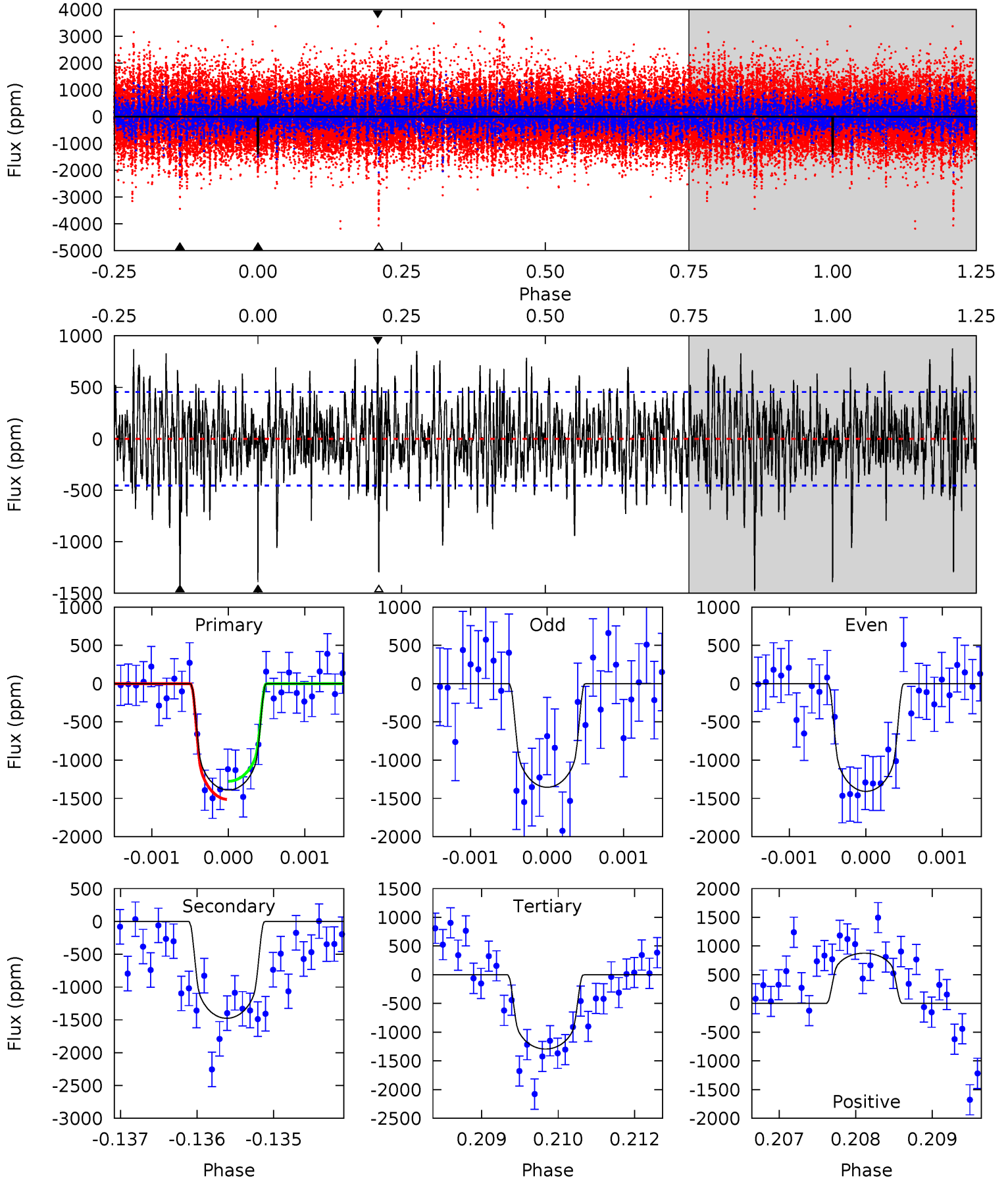
TCE 005792202-05 $P=499.477941$ Days $T_0=455.536443$ (BKJD)



DV Model-Shift Uniqueness Test

005792202-05, P = 499.474824 Days, E = 455.565728 Days

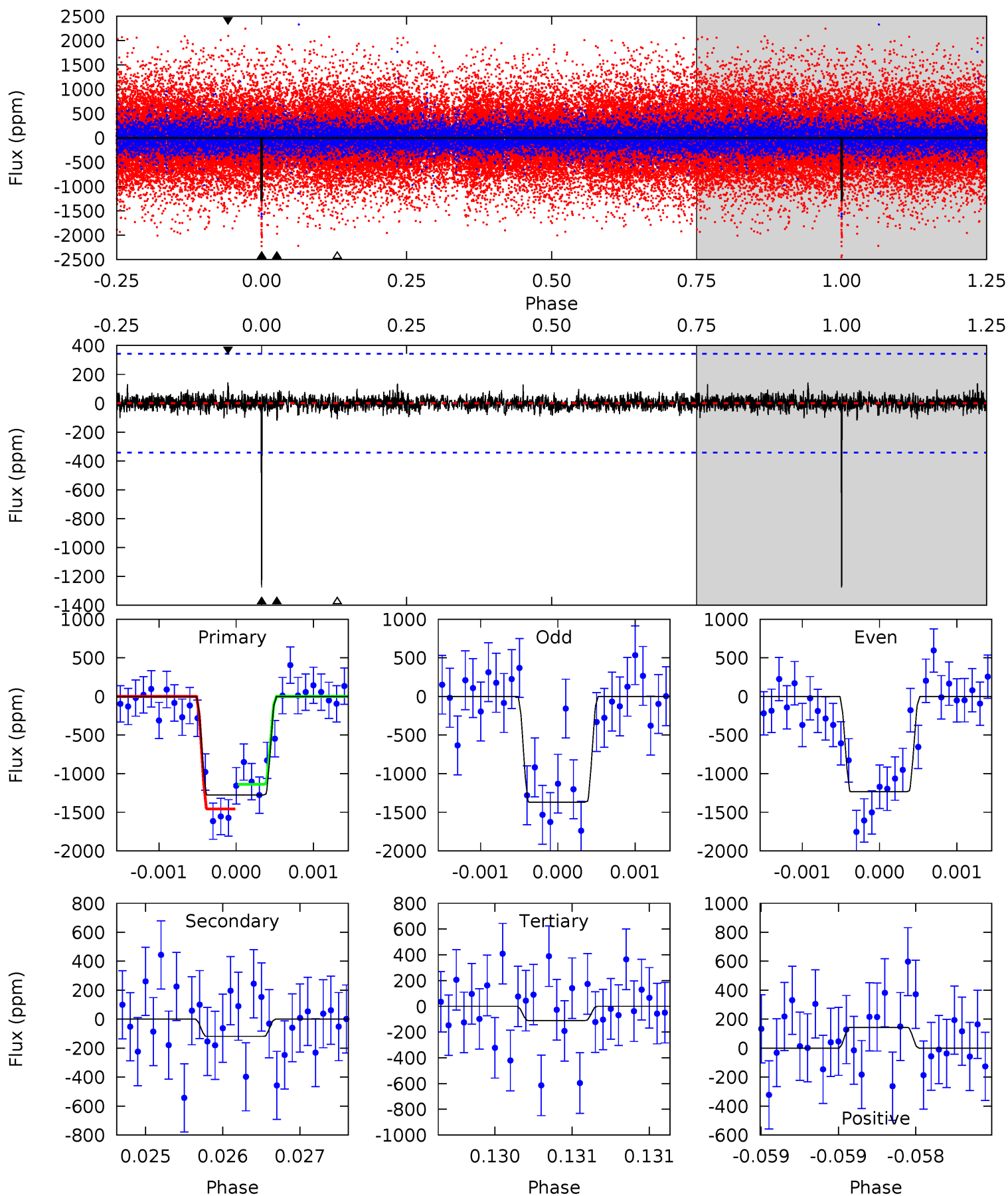
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 16.7 | 17.7 | 15.5 | 10.5 | 5.44 | 3.28 | 3.30 | 1.16 | 6.17 | 2.19 | 7.20 | 0.30 | 1.00 | 0.37 | 1.43 |



Alt Model-Shift Uniqueness Test

005792202-05, P = 499.477941 Days, E = 455.536443 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 20.4 | 1.90 | 1.76 | 2.29 | 5.47 | 3.32 | 0.44 | 18.6 | 18.1 | 0.14 | -0.39 | 0.99 | 0.93 | 0.10 | 2.53 |



Stellar Parameters For KIC 005792202

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5251^{+105}_{-105} | $4.581^{+0.010}_{-0.085}$ | $0.210^{+0.150}_{-0.150}$ | $0.817^{+0.080}_{-0.029}$ | $0.926^{+0.032}_{-0.064}$ | $2.394^{+0.172}_{-0.612}$ |
| | +2%/-2% | +0%/-2% | +71%/-71% | +10%/-4% | +3%/-7% | +7%/-26% |
| Source | SPE33 | SPE33 | SPE33 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 005792202-05 / KOI 0841.05

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|----------------|------------------------|----------------------|----------------------|---------------------------|
| DV | -1476 ± 83 | $3.58^{+0.54}_{-0.45}$ | 270^{+8}_{-6} | 5194^{+373}_{-285} | 89650^{+29748}_{-21903} |
| Alt. | -119 ± 63 | $3.32^{+0.48}_{-0.44}$ | 270^{+8}_{-6} | 3349^{+288}_{-341} | 8058^{+5610}_{-4186} |

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

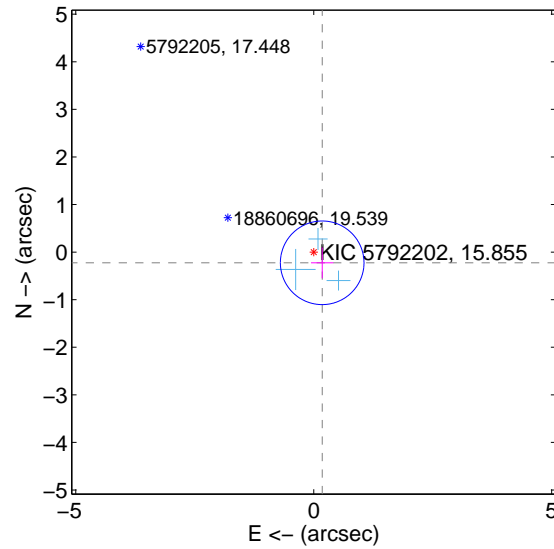
Supplemental centroid analysis for 005792202-05. Kepler magnitude: 15.86. Transit SNR 9.69

There are 3 quarters with good PRF difference image offsets

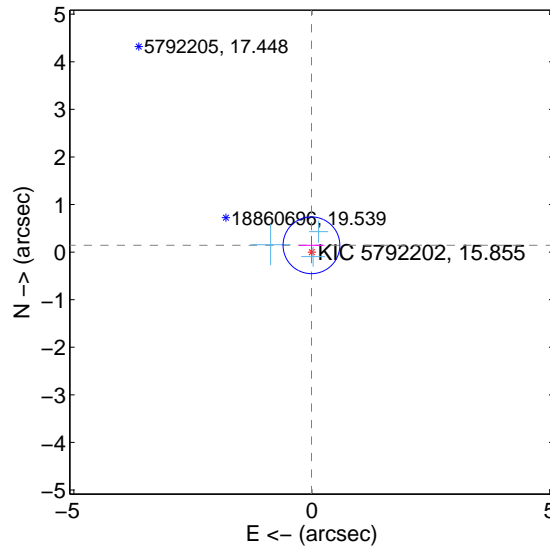
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.287 ± 0.293 | 0.98 | -0.178 ± 0.235 | -0.225 ± 0.324 |
| PRF-fit source offset from KIC position | 0.143 ± 0.199 | 0.72 | 0.007 ± 0.270 | 0.143 ± 0.199 |
| photometric centroid source offset | 0.88 ± 1.12 | 0.79 | -0.35 ± 1.13 | -0.81 ± 1.12 |

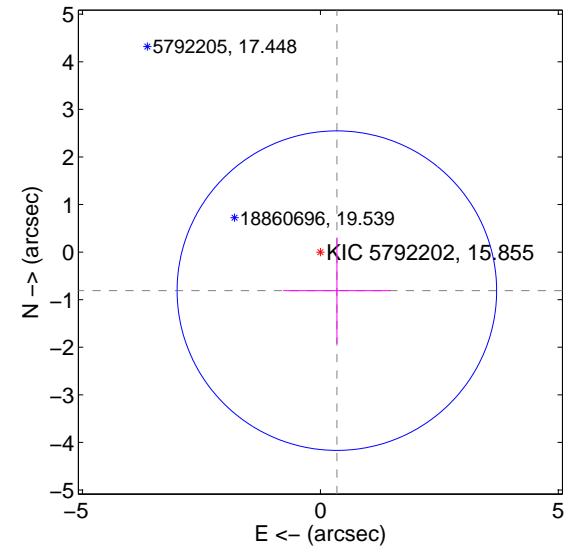
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

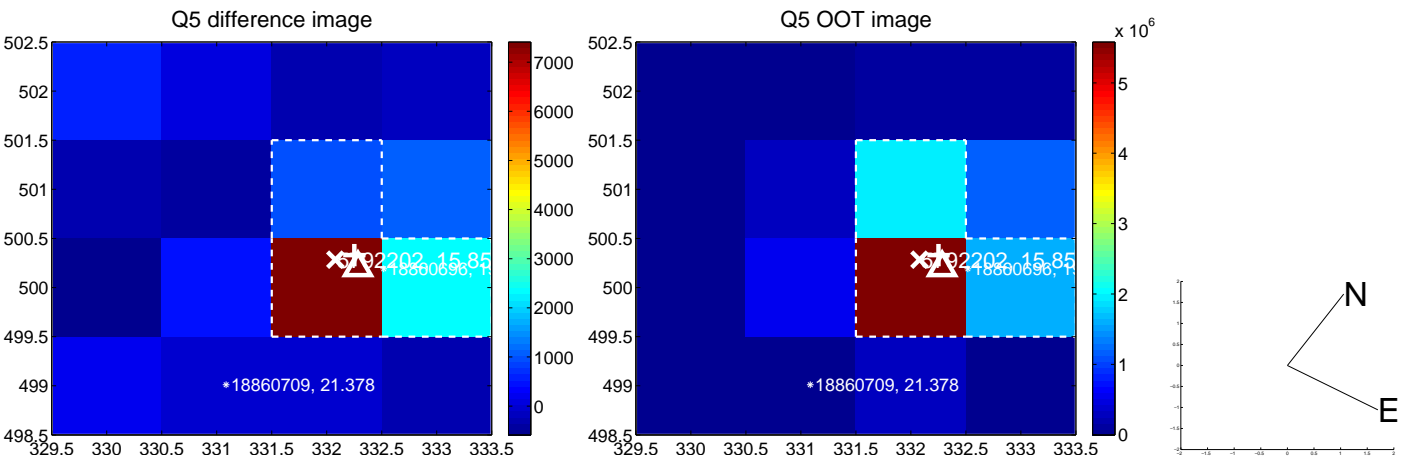


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

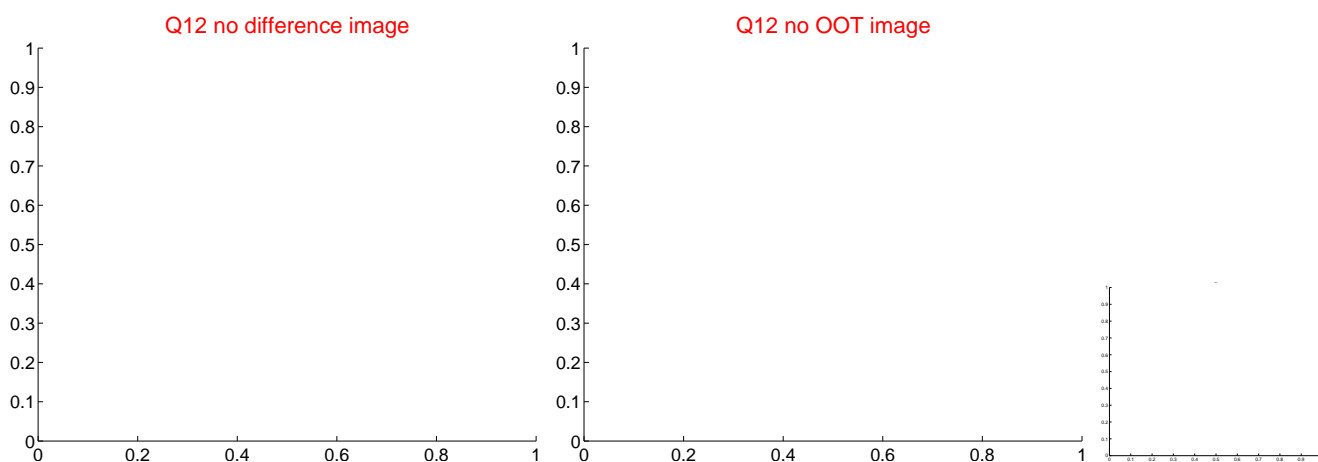
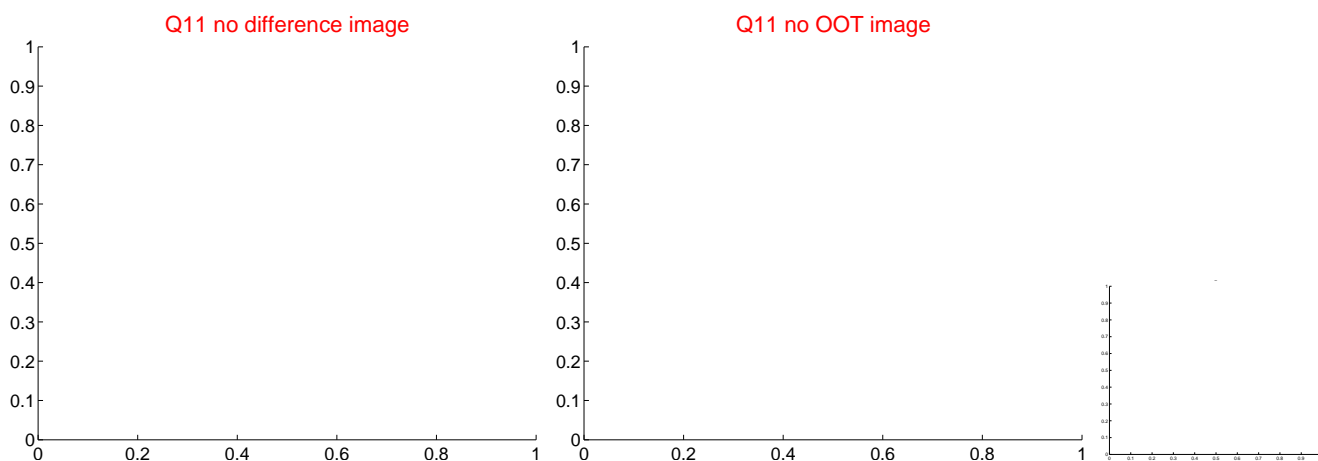
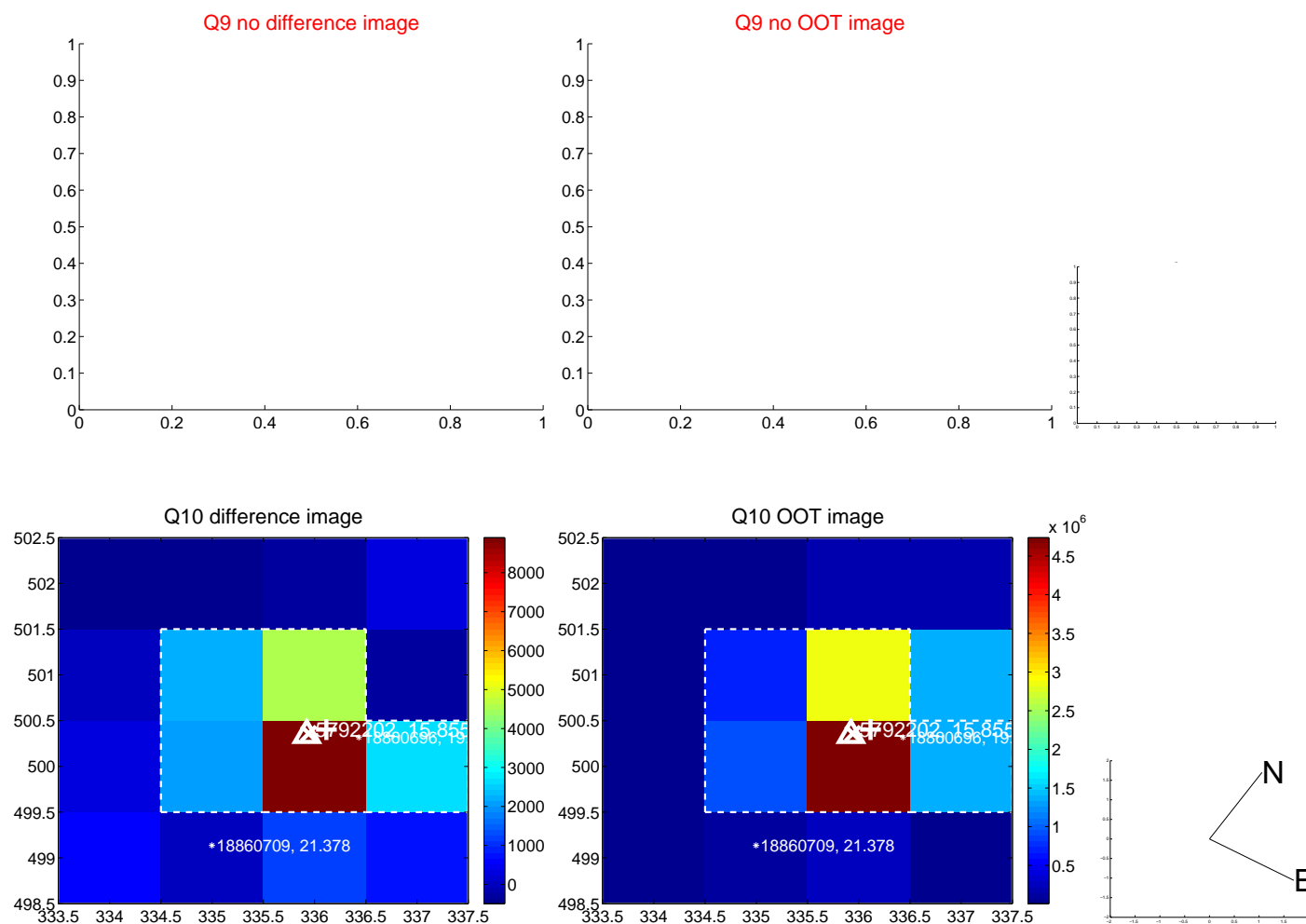
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



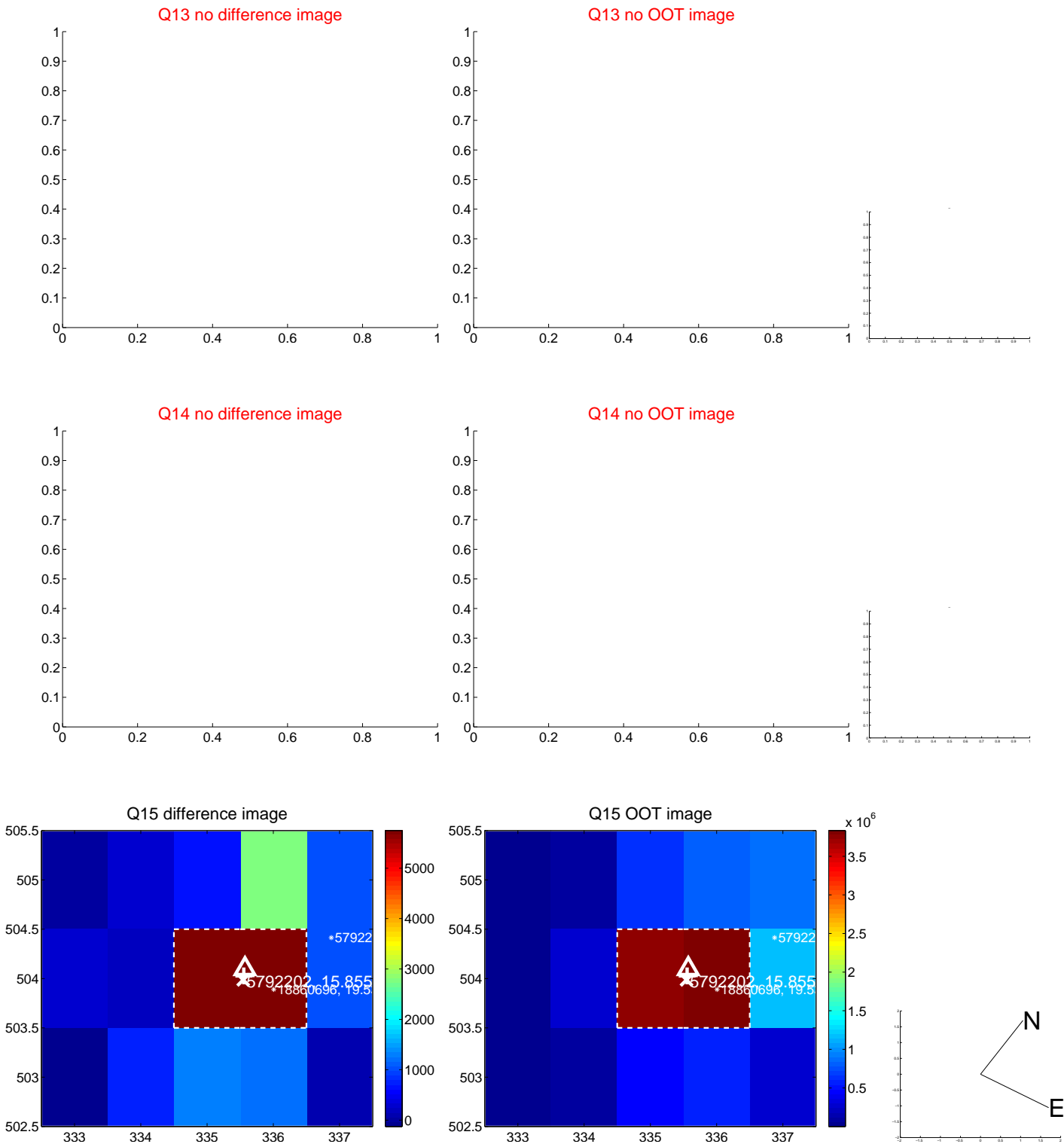
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



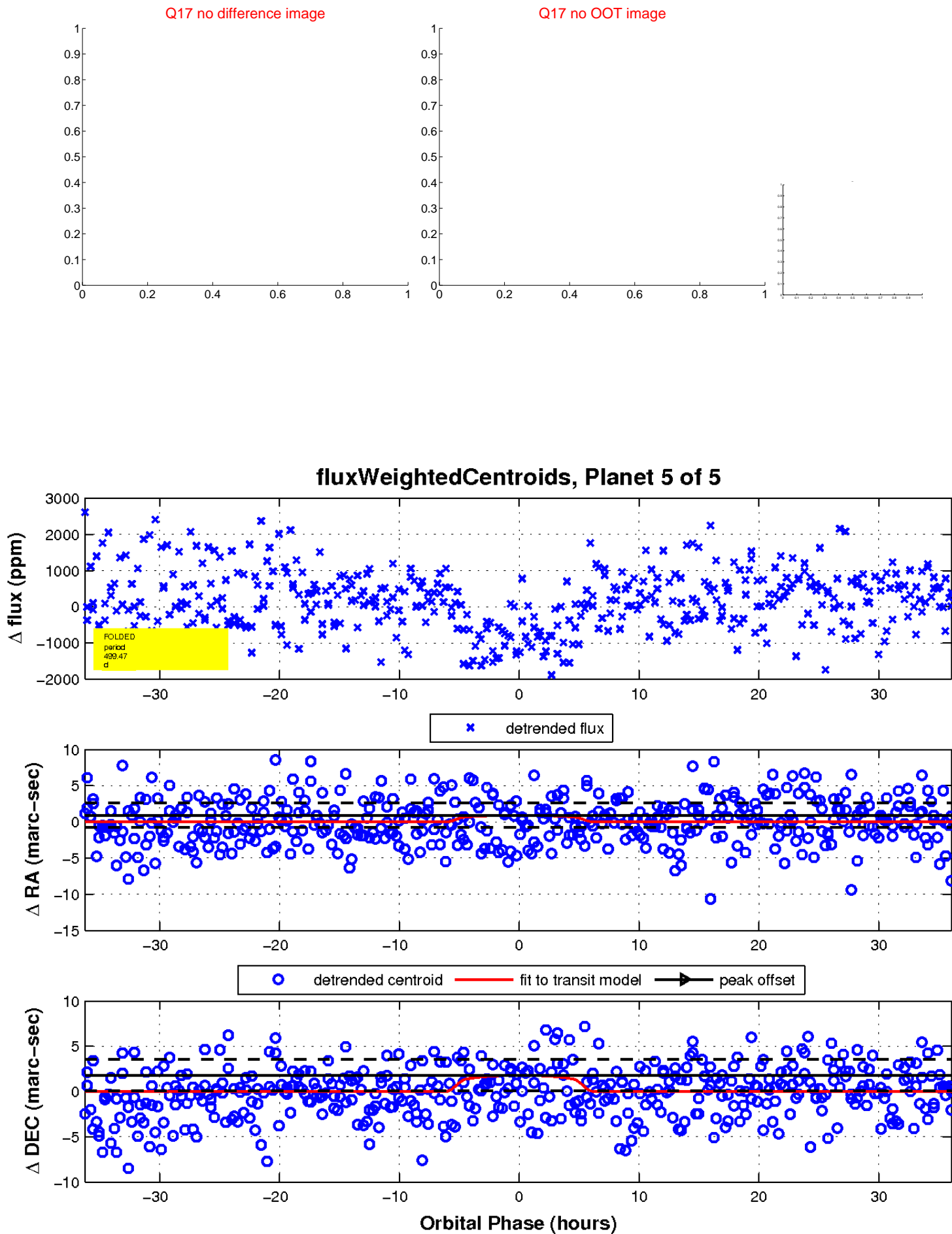
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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

