

KIC 010201255

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 010201255-01 | OBS | No | 529.466391 | 264.578473 | 259.9 | 17.852 | 7.4 | 7.3 | 0.92 | 6113 | 1.65 | 0.64 |
| 010201255-02 | OBS | No | 334.038428 | 319.078996 | 191.0 | 13.322 | 7.4 | 5.6 | 0.92 | 6113 | 1.41 | 1.19 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 010201255-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 010201255-02 | OBS | FP | 0.02 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS |

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

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

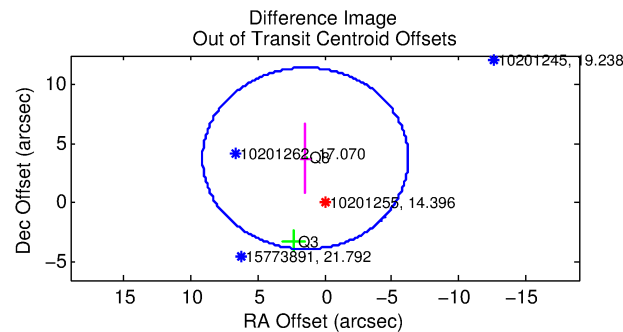
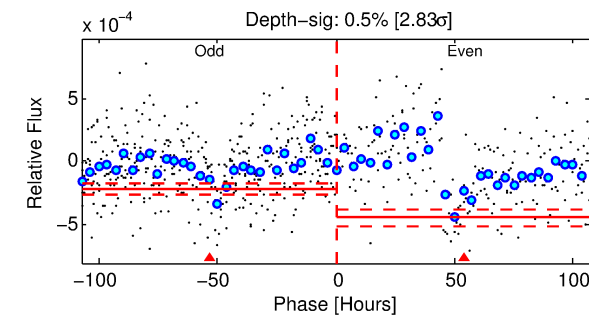
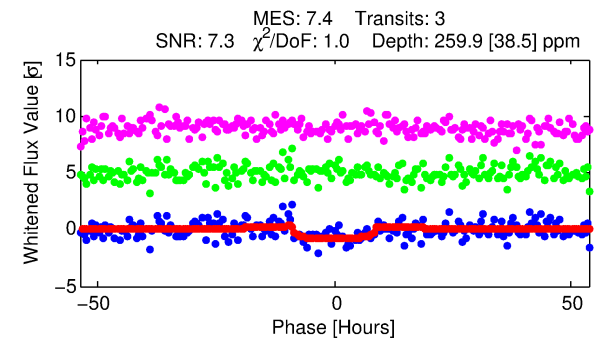
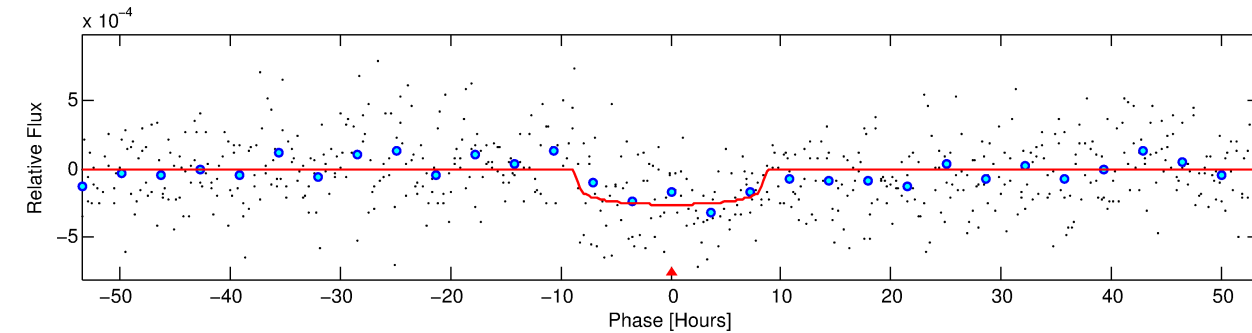
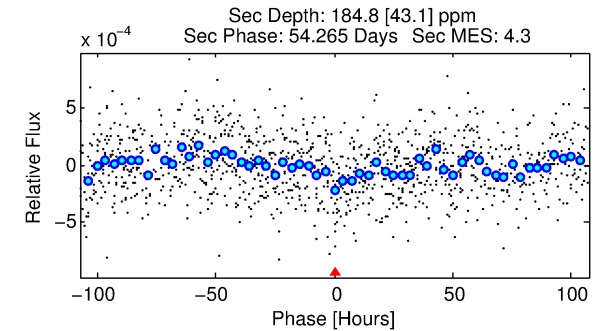
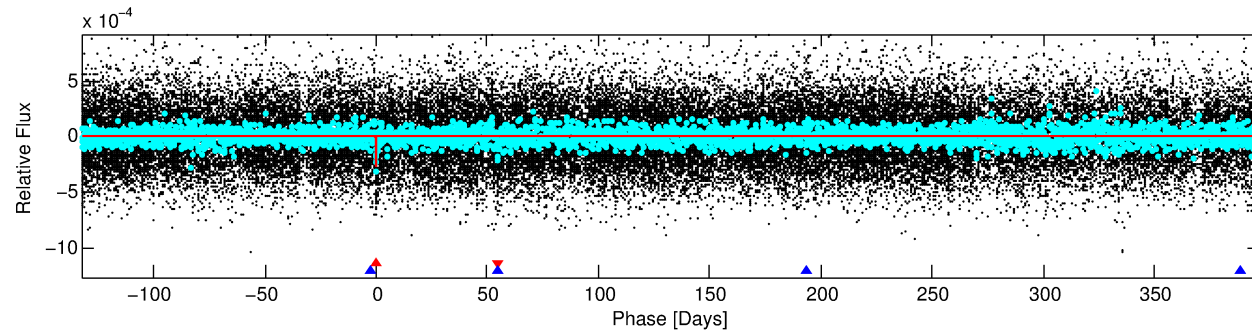
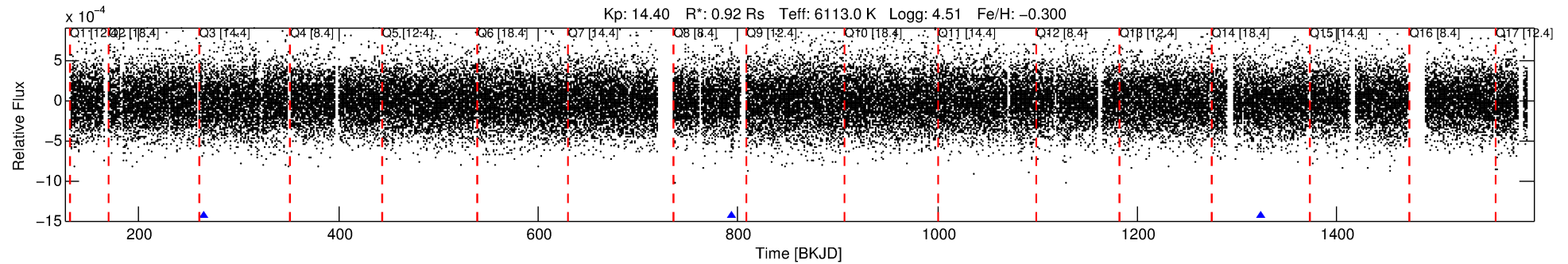
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010201255-01

No Significant Match Found

DV One-Page Summary

KIC: 10201255 Candidate: 1 of 2 Period: 529.466 d



DV Fit Results:

Period = 529.46639 [0.02092] d
Epoch = 264.5785 [0.0269] BKJD
Rp/R* = 0.0165 [0.0038]
a/R* = 134.26 [148.85]
b = 0.83 [0.43]
Seff = 0.64 [0.26]
Teq = 228 [23] K
Rp = 1.65 [0.64] Re
a = 1.2799 [0.3411] AU
Ag = 60865.89 [39208.77] [1.55σ]
Teffp = 5544 [728] K [7.30σ]

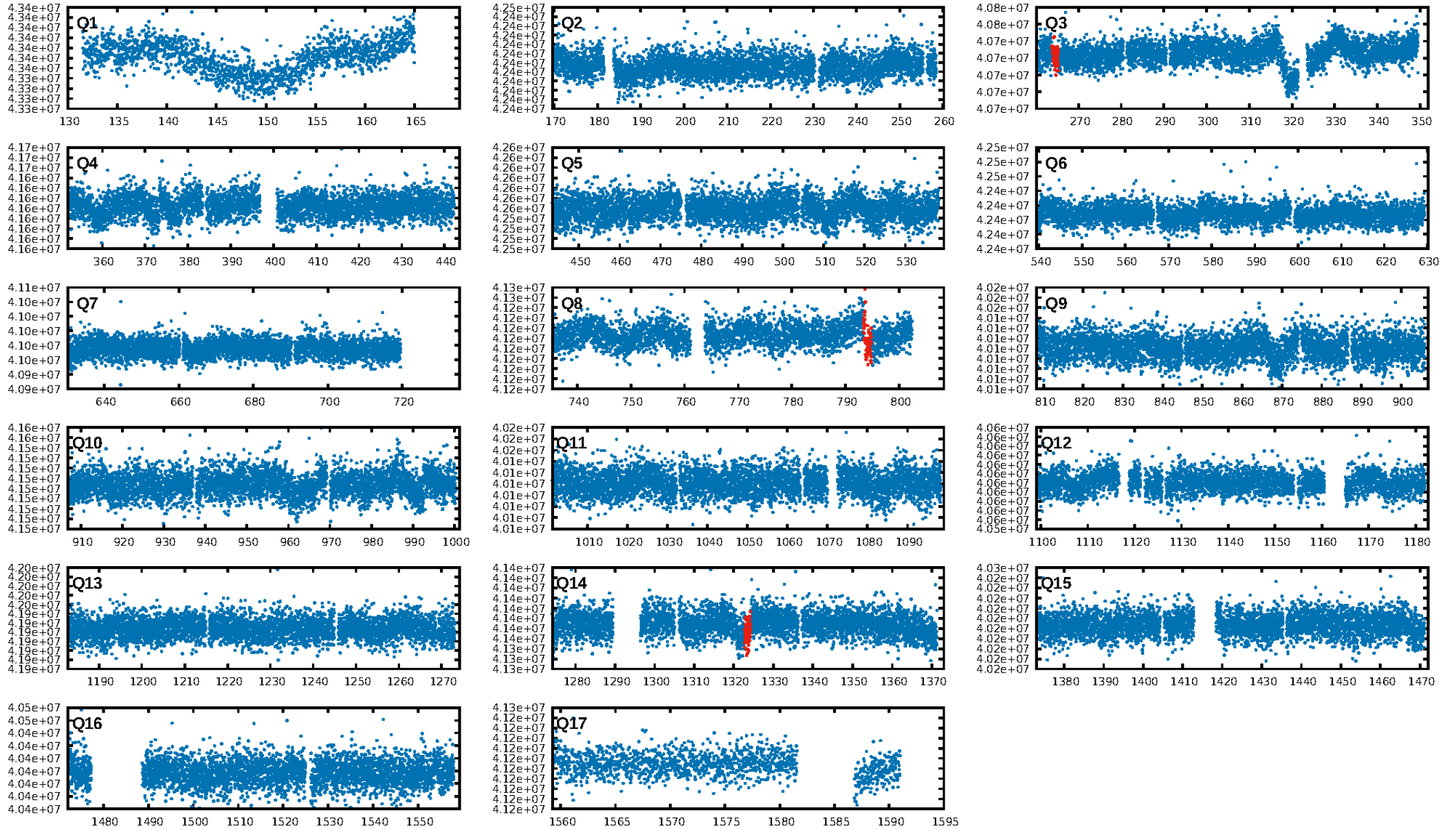
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [210.56σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 16.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 9.26e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -115.8
Centroid-sig: 0.9%
Centroid-so: 3.473 arcsec [2.24σ]
OotOffset-rm: 4.042 arcsec [1.58σ]
KicOffset-rm: 4.235 arcsec [1.40σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

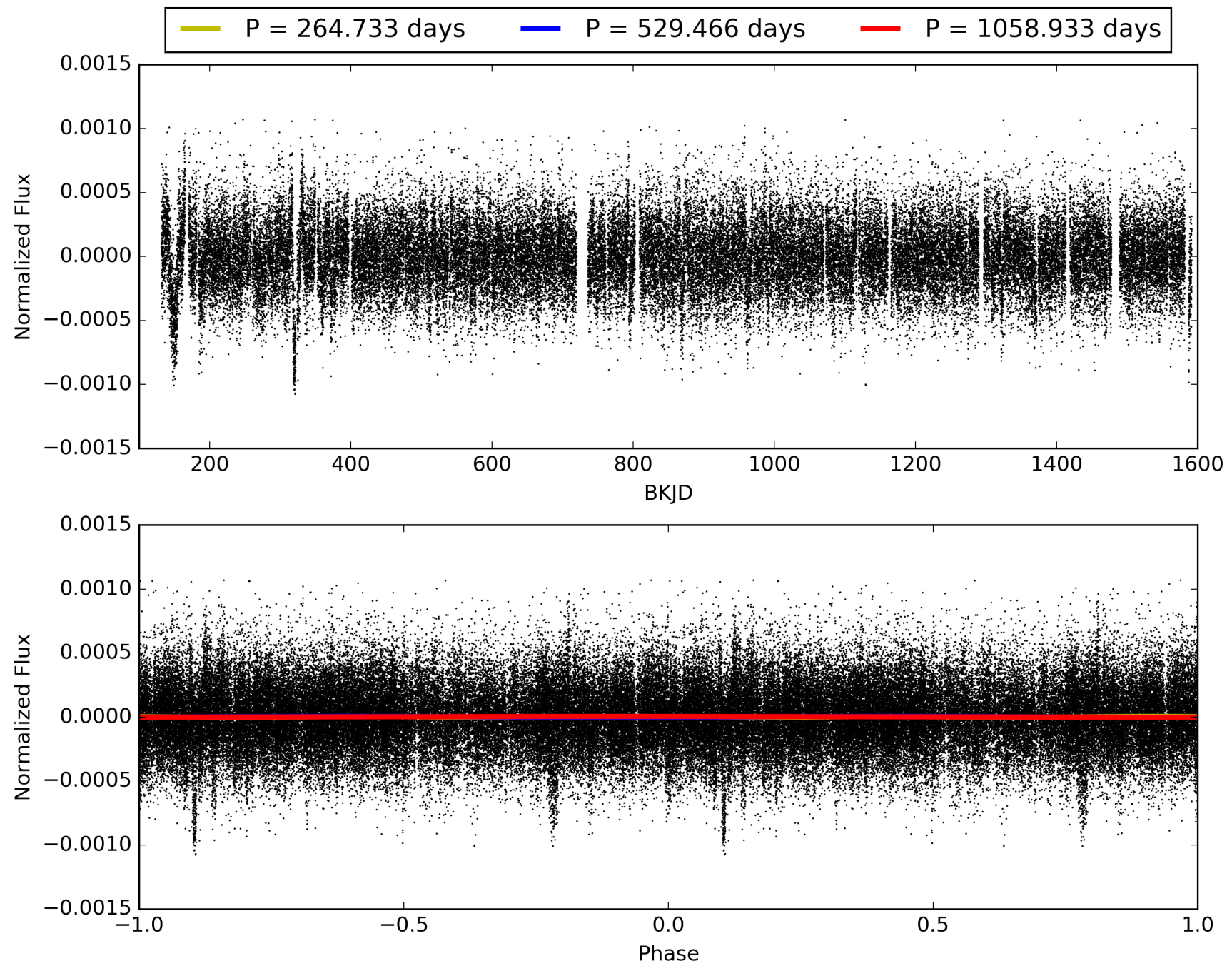
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:24:31 Z

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

TCE 010201255-01, PDC Light Curves

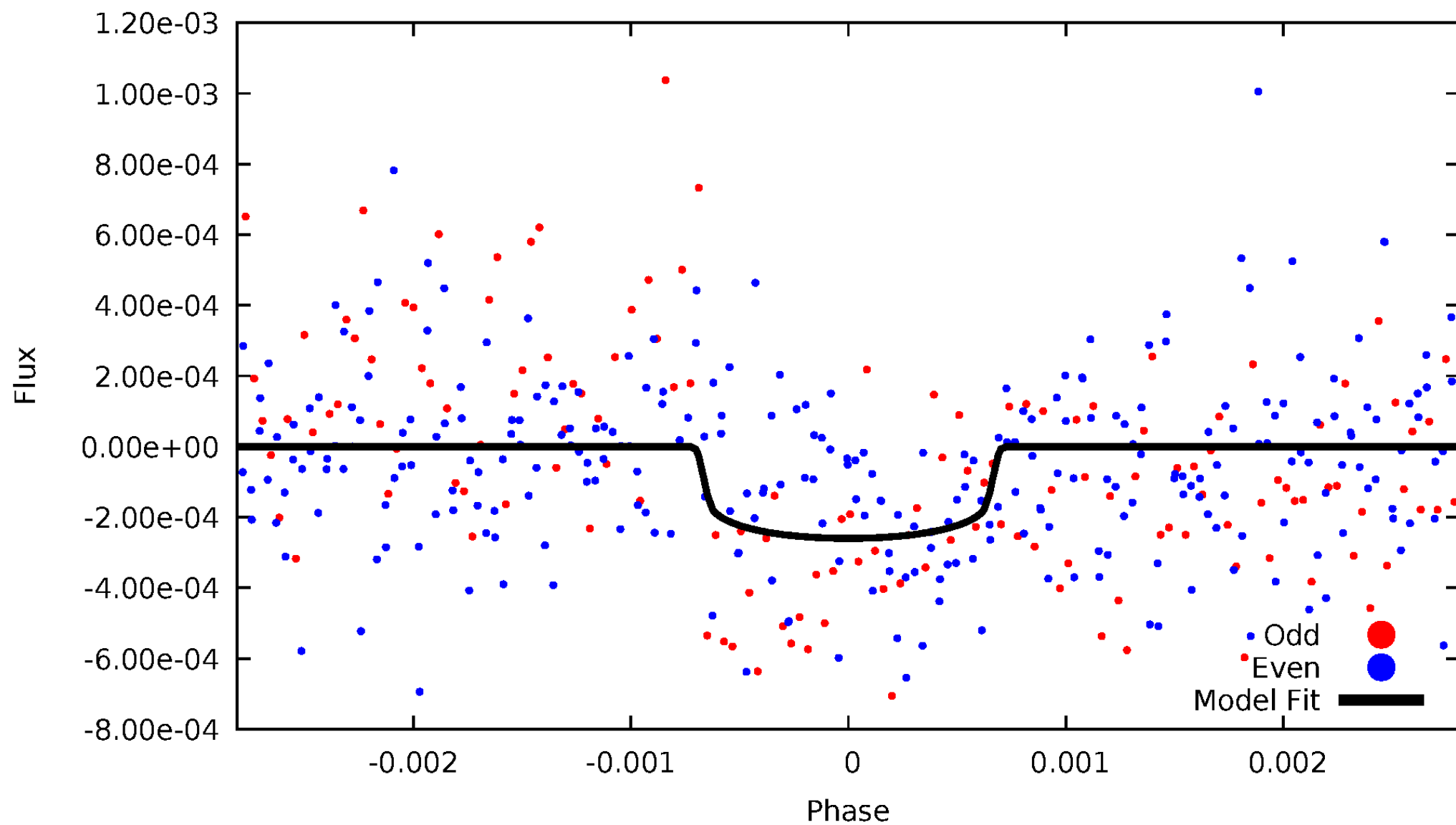


TCE 010201255-01



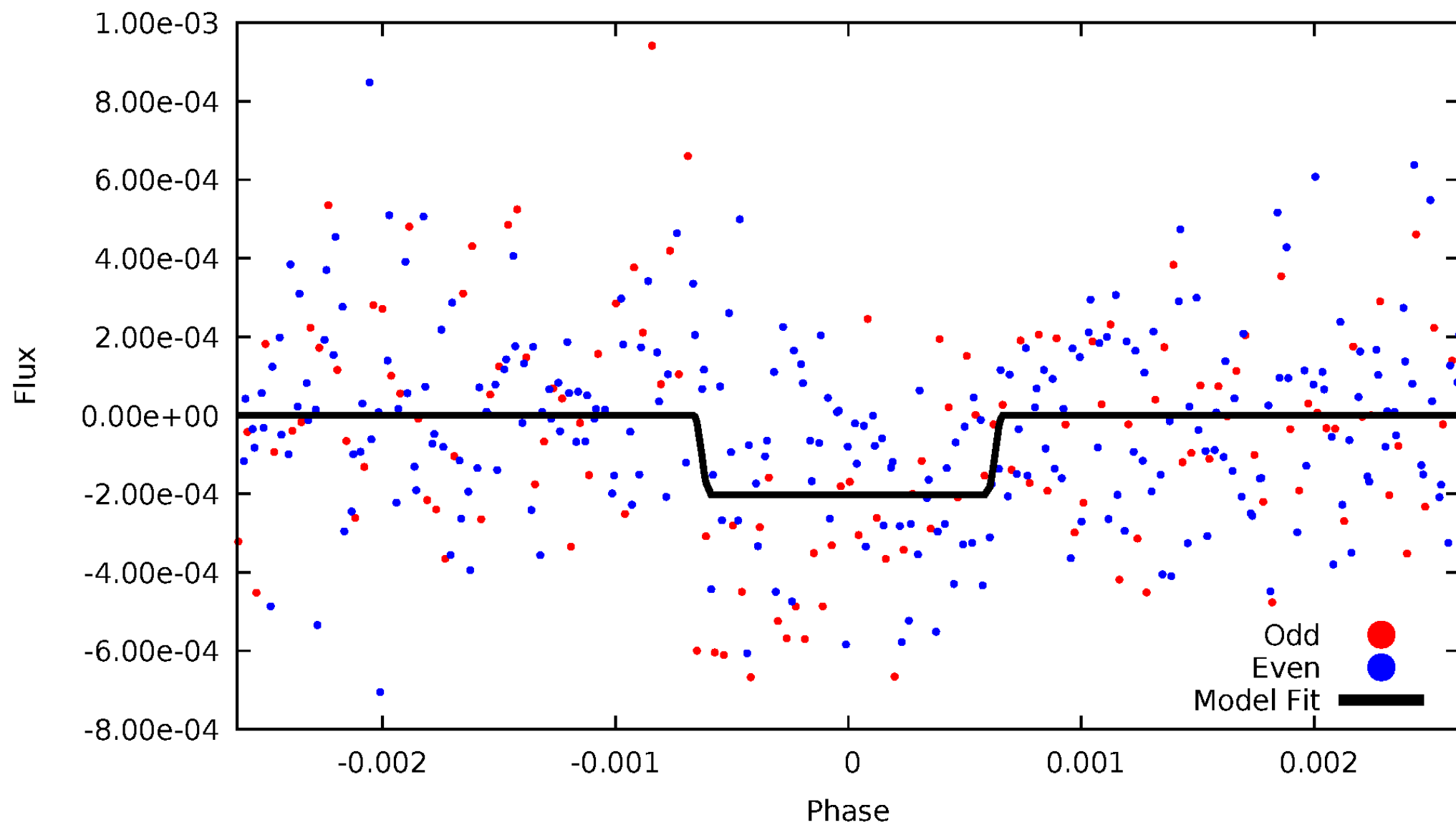
DV Odd/Even

TCE 010201255-01



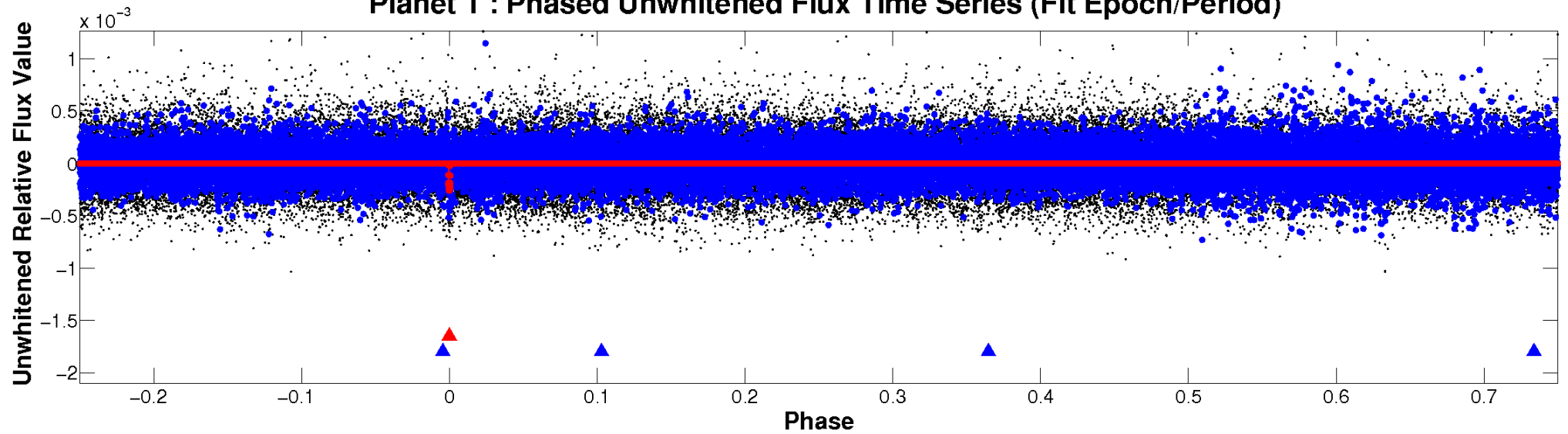
ALT Odd/Even

TCE 010201255-01

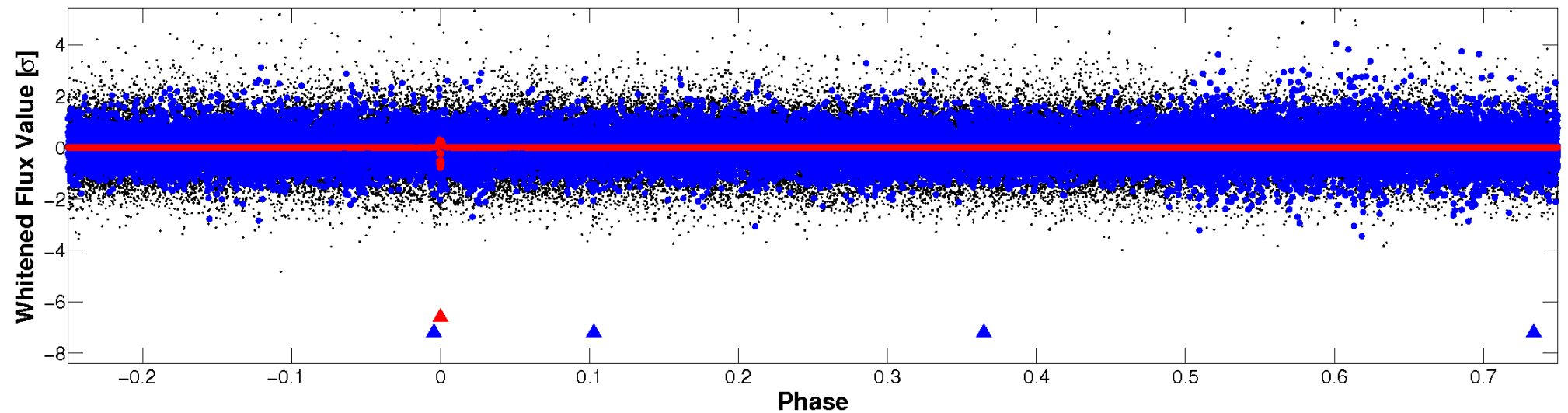


Non-Whitened Vs. Whitened Light Curve

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

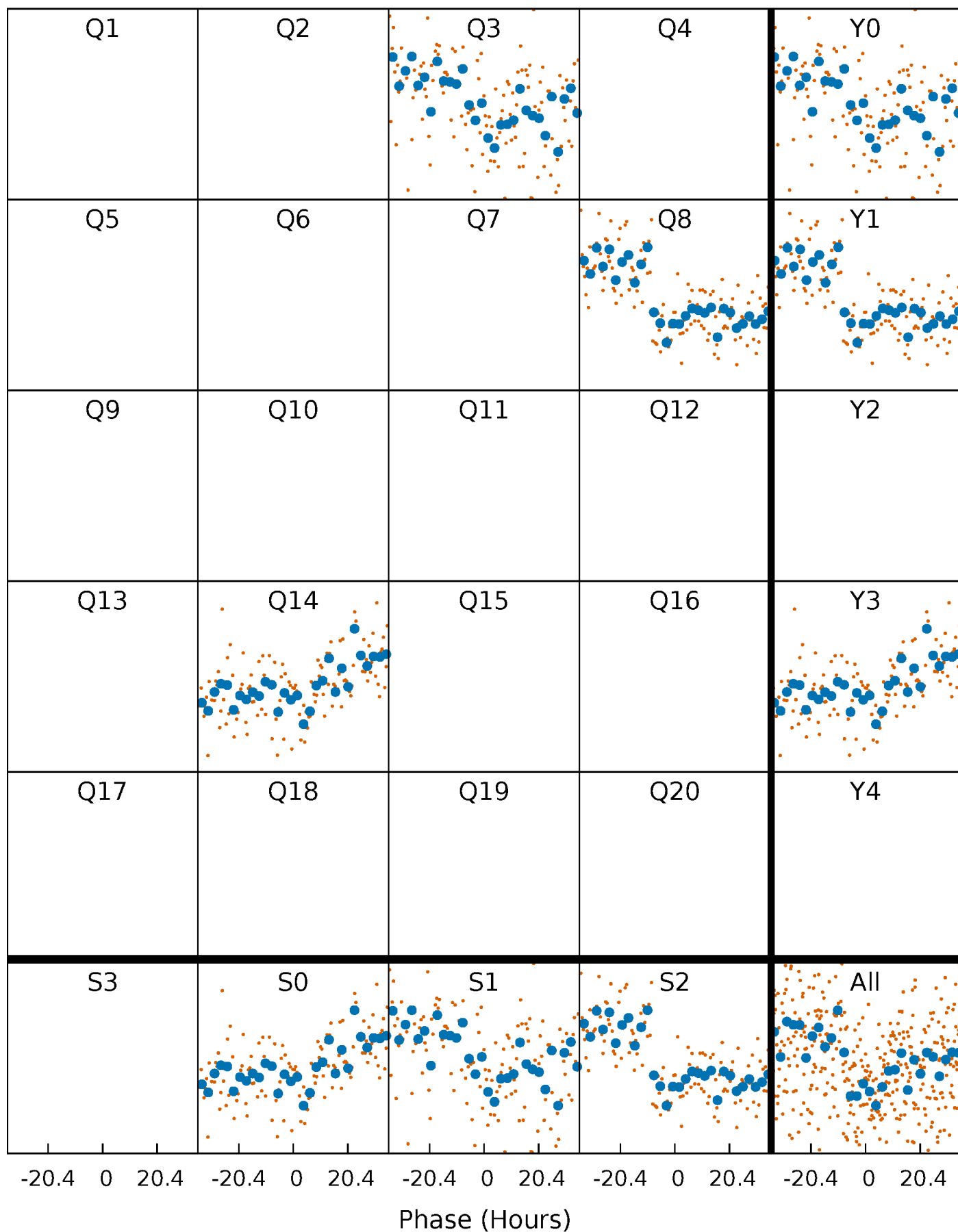


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



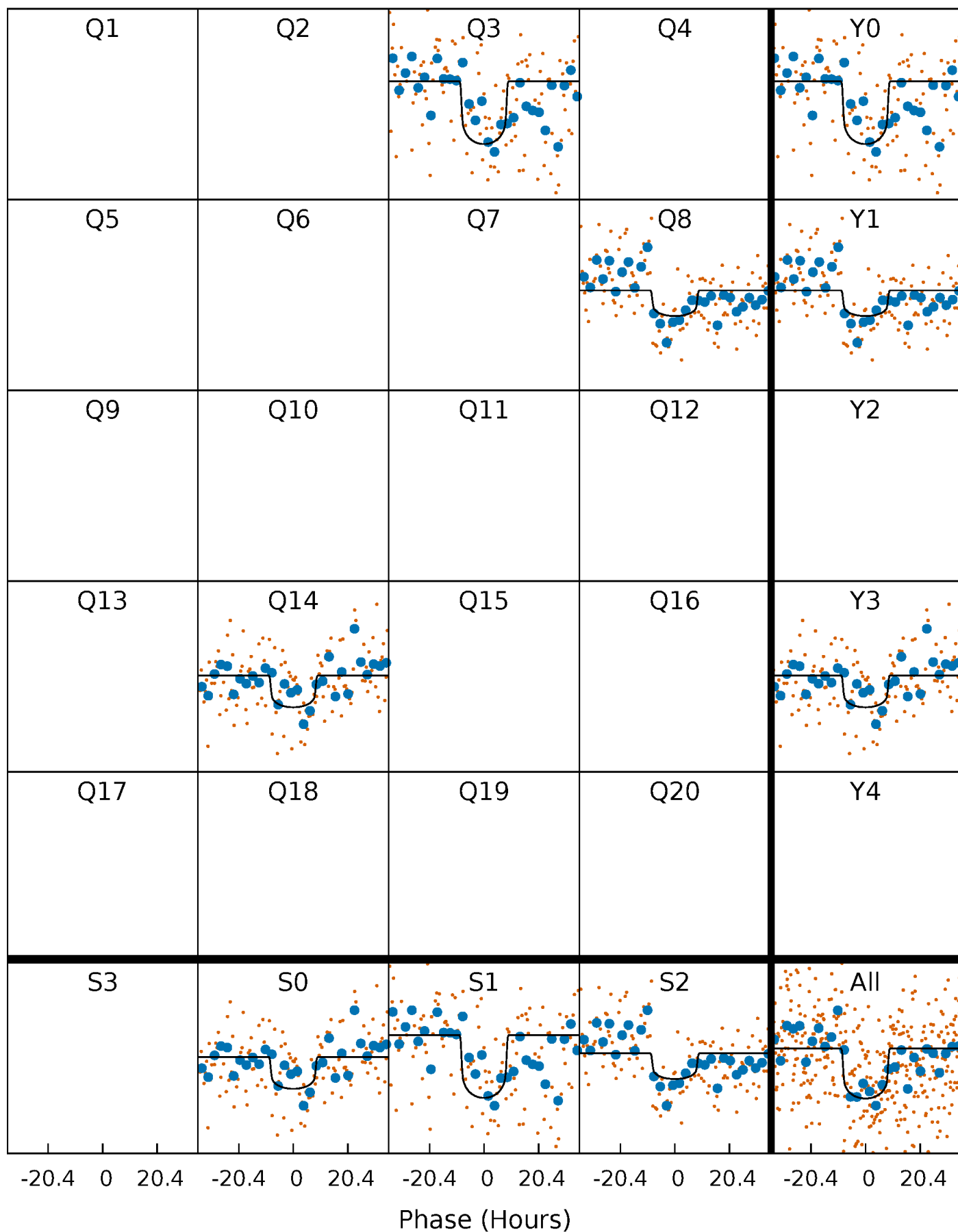
PDC Quarter-Phased Transit Curves

TCE 010201255-01 P=529.466391 Days $T_0=264.578473$ (BKJD)



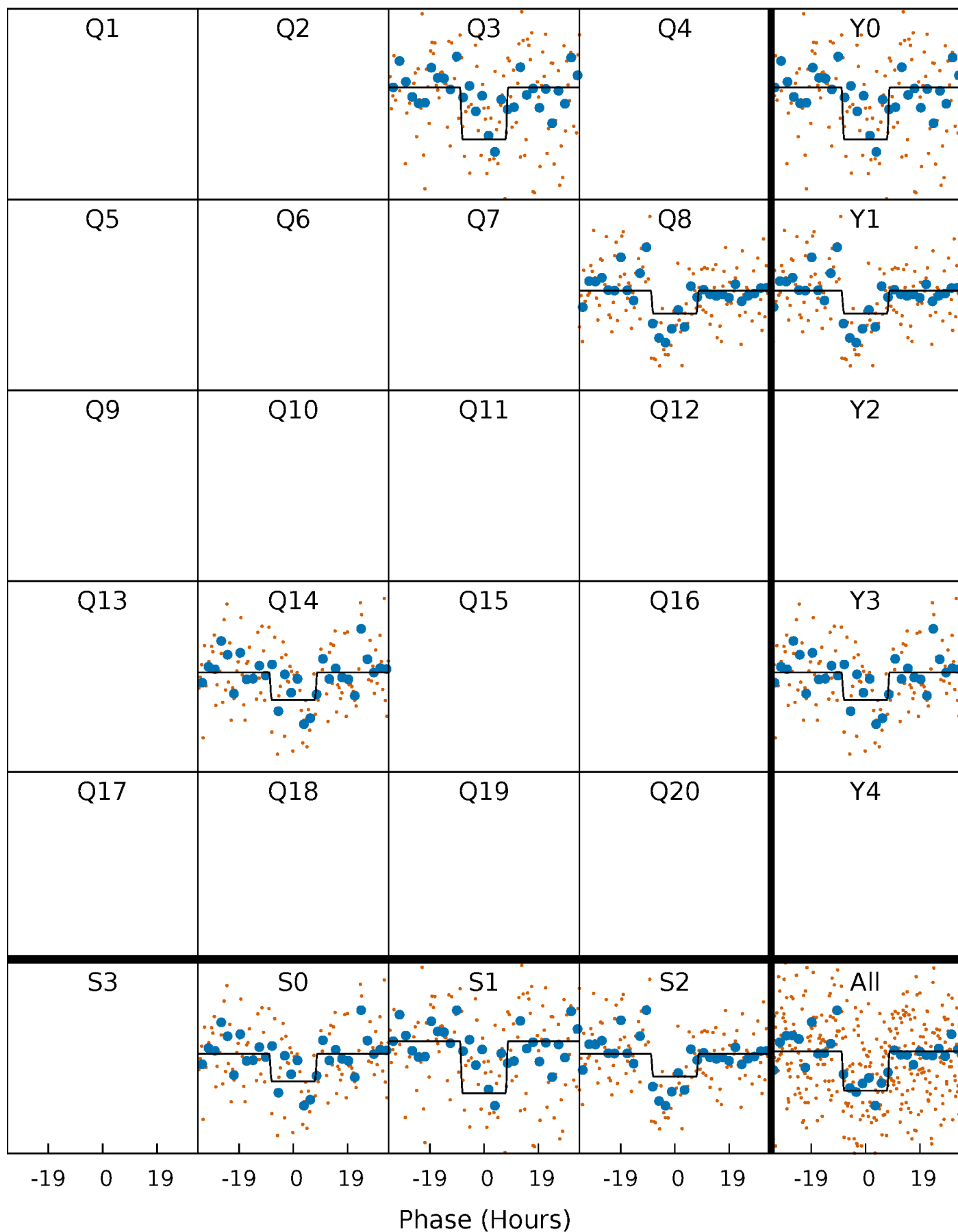
DV Quarter-Phased Transit Curves

TCE 010201255-01 P=529.466391 Days $T_0=264.578473$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

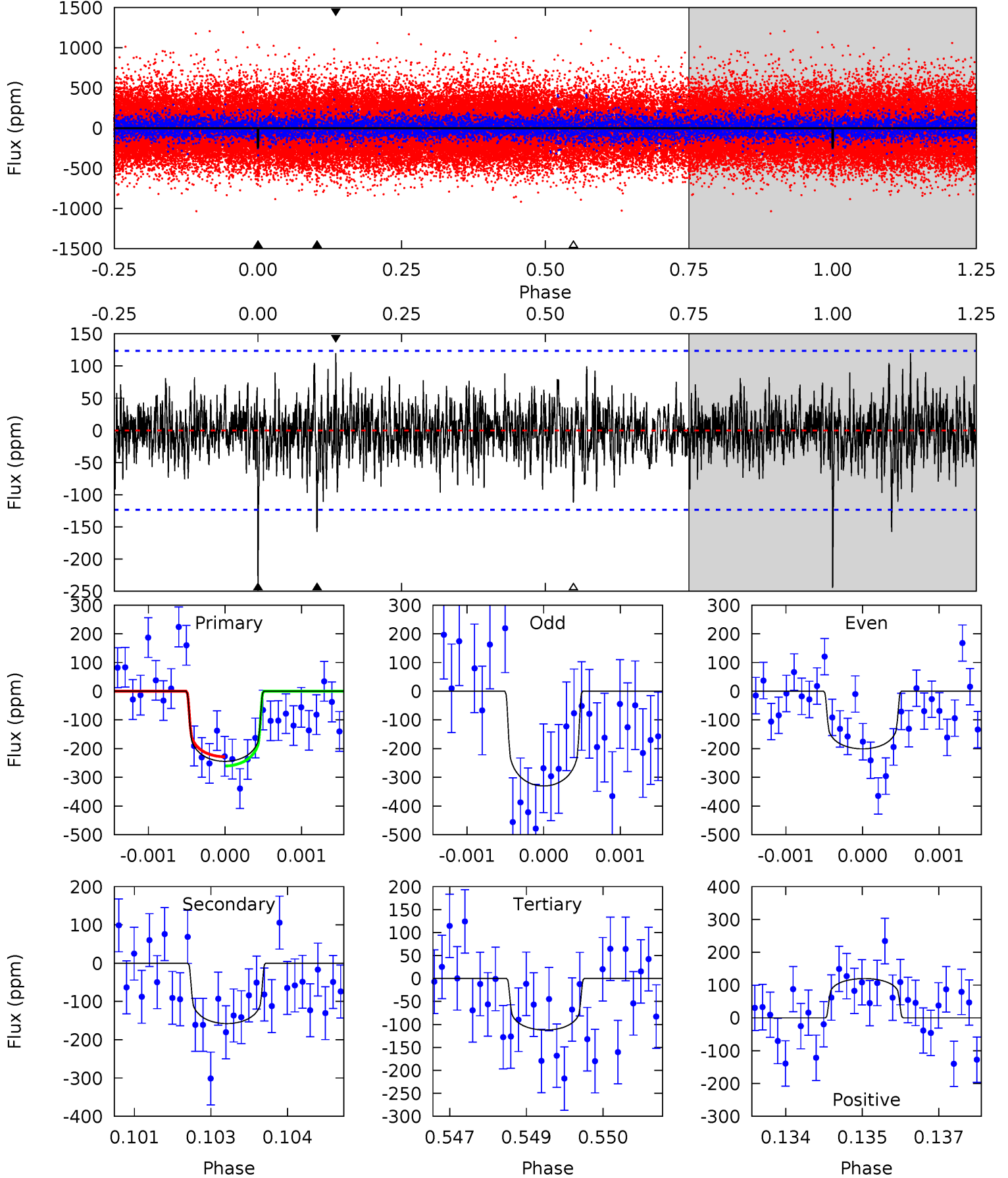
TCE 010201255-01 P=529.447162 Days $T_0=264.598453$ (BKJD)



DV Model-Shift Uniqueness Test

010201255-01, P = 529.466391 Days, E = 264.578473 Days

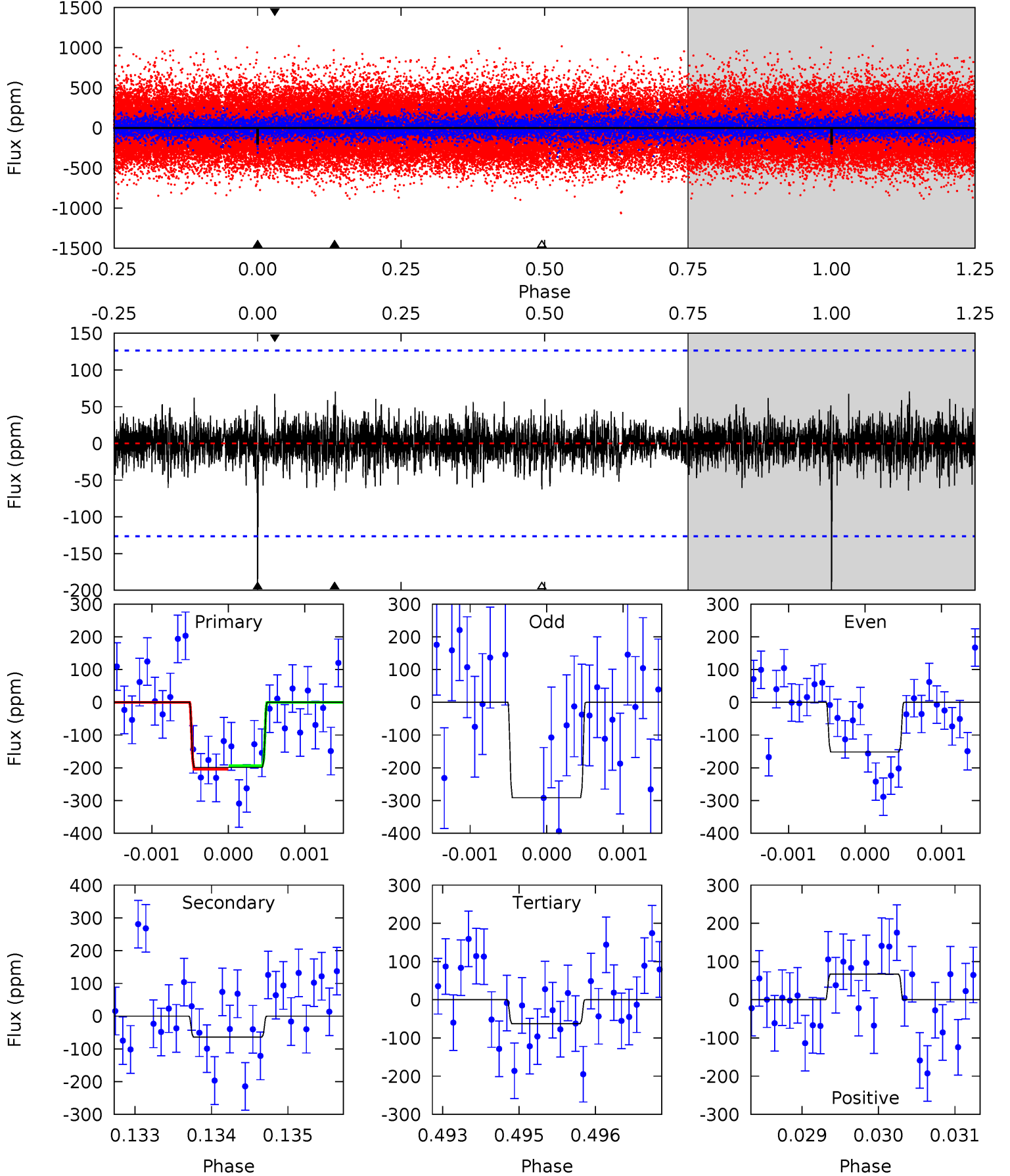
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.7 | 6.88 | 4.90 | 5.22 | 5.39 | 3.19 | 1.33 | 5.77 | 5.44 | 1.99 | 1.66 | 2.66 | 1.15 | 0.33 | 0.70 |



Alt Model-Shift Uniqueness Test

010201255-01, P = 529.447162 Days, E = 264.598453 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 8.49 | 2.74 | 2.67 | 2.88 | 5.40 | 3.21 | 0.73 | 5.82 | 5.61 | 0.07 | -0.14 | 2.78 | 1.11 | 0.26 | 0.22 |



Stellar Parameters For KIC 010201255

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6113^{+164}_{-183} | $4.512^{+0.040}_{-0.216}$ | $-0.300^{+0.300}_{-0.300}$ | $0.917^{+0.287}_{-0.096}$ | $0.997^{+0.128}_{-0.128}$ | $1.823^{+0.385}_{-0.972}$ |
| | +3%/-3% | +1%/-5% | +100%/-100% | +31%/-10% | +13%/-13% | +21%/-53% |
| Source | PHO1 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 010201255-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|------------------------|-------------------|----------------------|---------------------------|
| DV | -158 ± 23 | $1.76^{+0.48}_{-0.42}$ | 328^{+24}_{-15} | 5342^{+746}_{-482} | 44380^{+33889}_{-16871} |
| Alt. | -64 ± 23 | $1.49^{+0.47}_{-0.41}$ | 328^{+23}_{-16} | 4715^{+751}_{-568} | 24290^{+27969}_{-12098} |

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 $A_{obs} \gg 1.0$

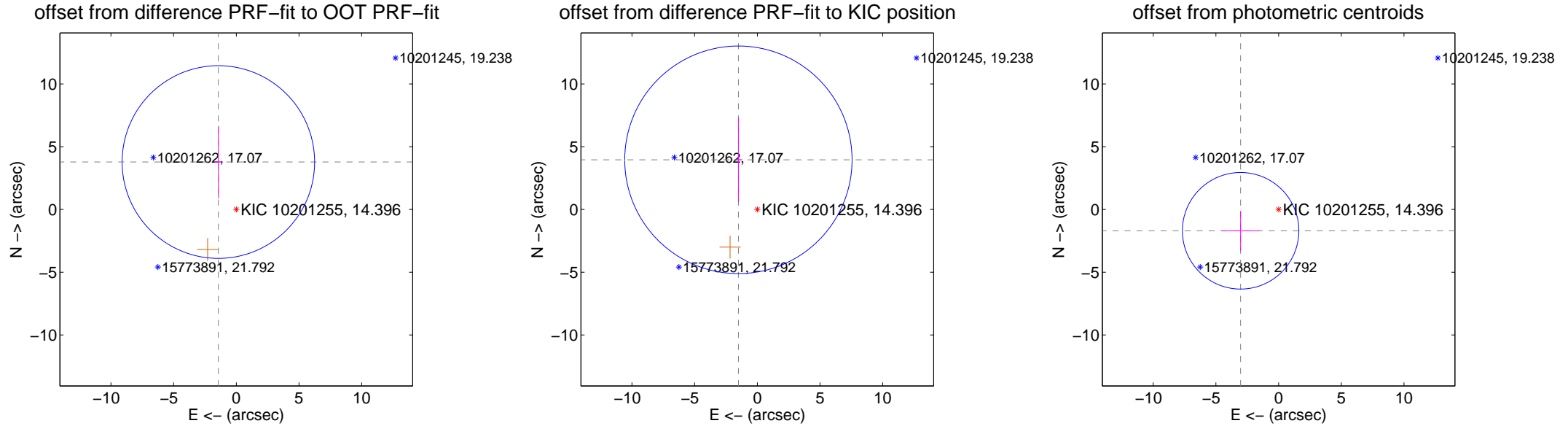
DV Centroid Data

Supplemental centroid analysis for 010201255-01. Kepler magnitude: 14.40. Transit SNR 7.30

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

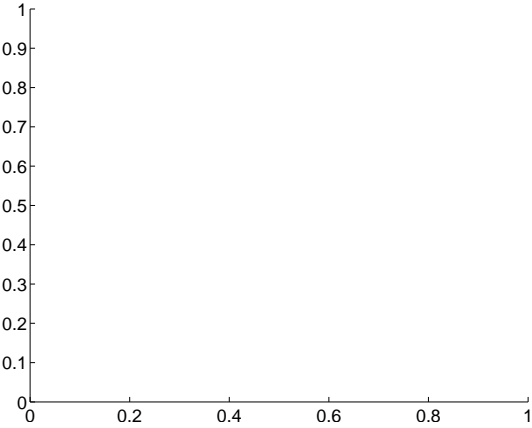
| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 4.042 ± 2.559 | 1.58 | 1.431 ± 0.359 | 3.780 ± 2.869 |
| PRF-fit source offset from KIC position | 4.235 ± 3.022 | 1.40 | 1.510 ± 0.327 | 3.957 ± 3.356 |
| photometric centroid source offset | 3.47 ± 1.55 | 2.24 | 3.03 ± 1.53 | -1.70 ± 1.59 |



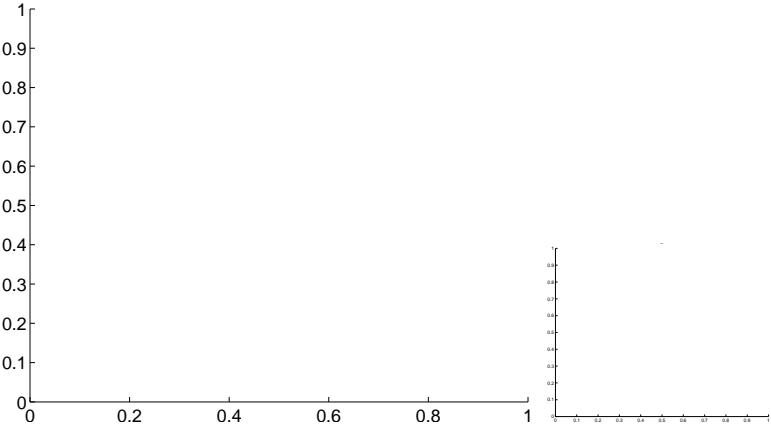
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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

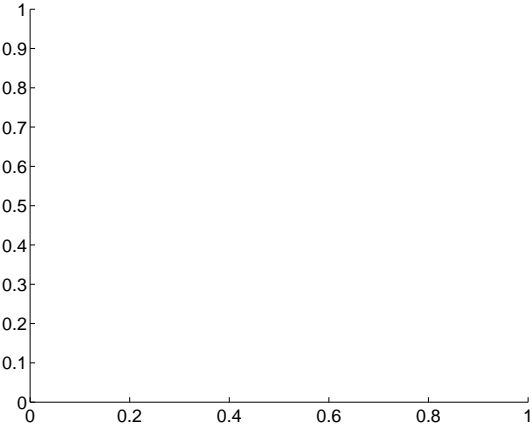
Q1 no difference image



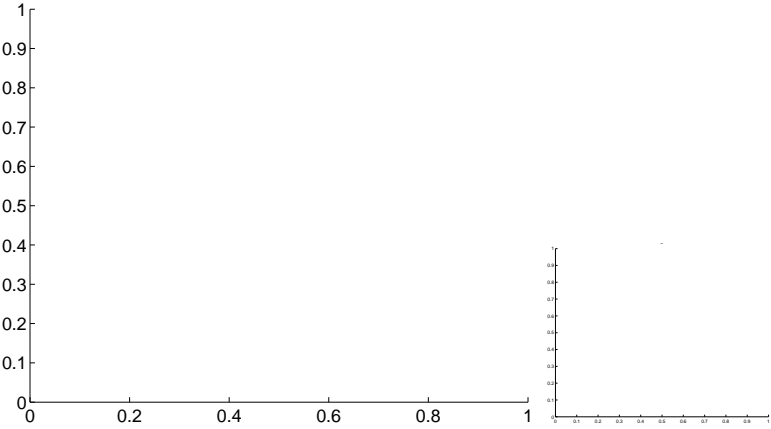
Q1 no OOT image



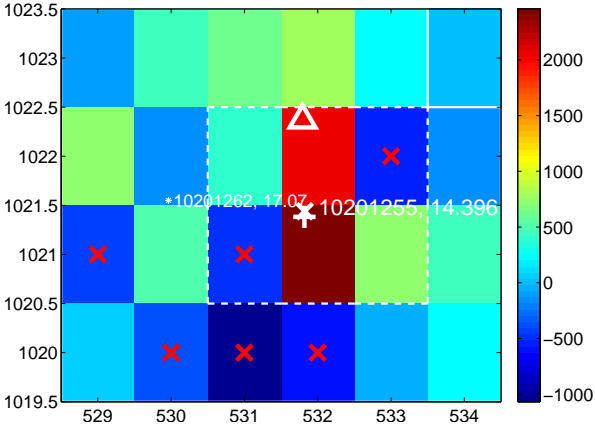
Q2 no difference image



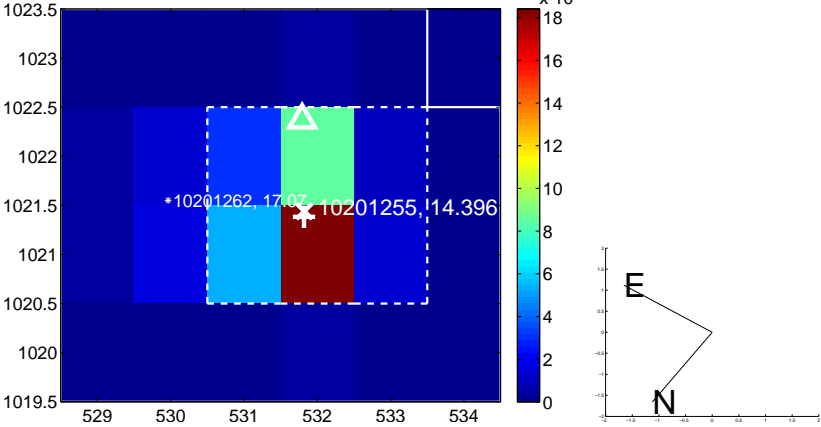
Q2 no OOT image



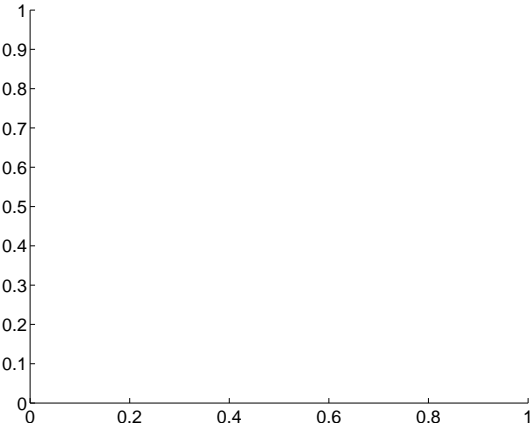
Q3 difference image. Poor Quality



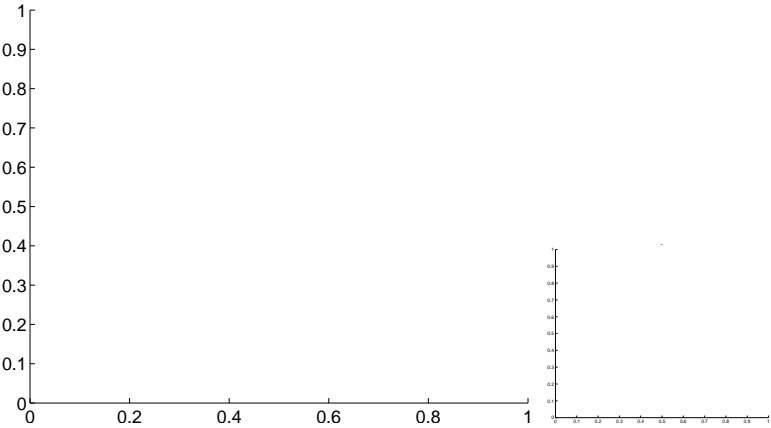
Q3 OOT image



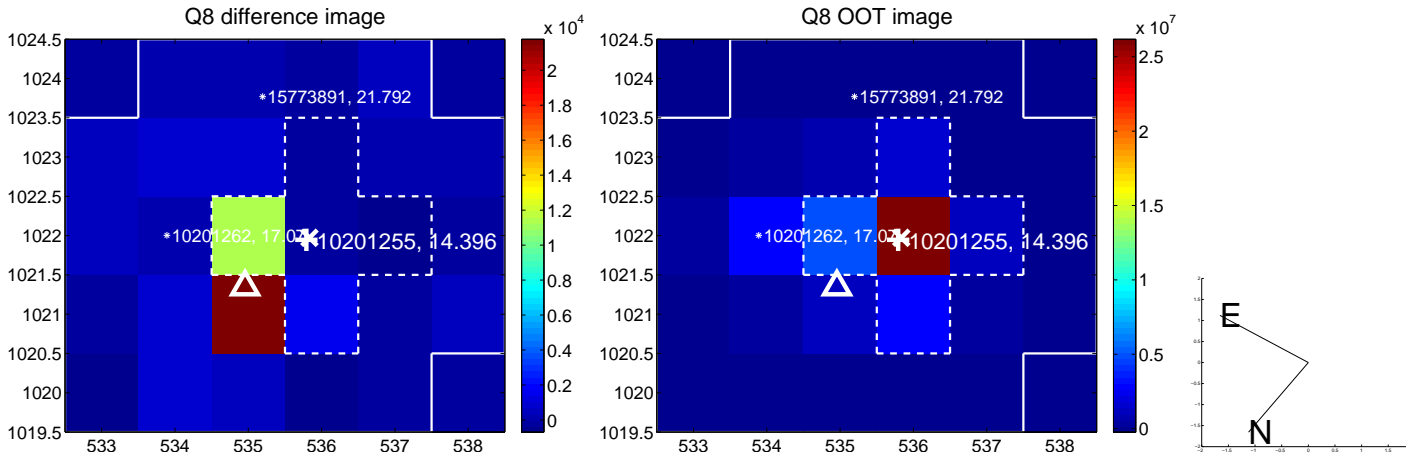
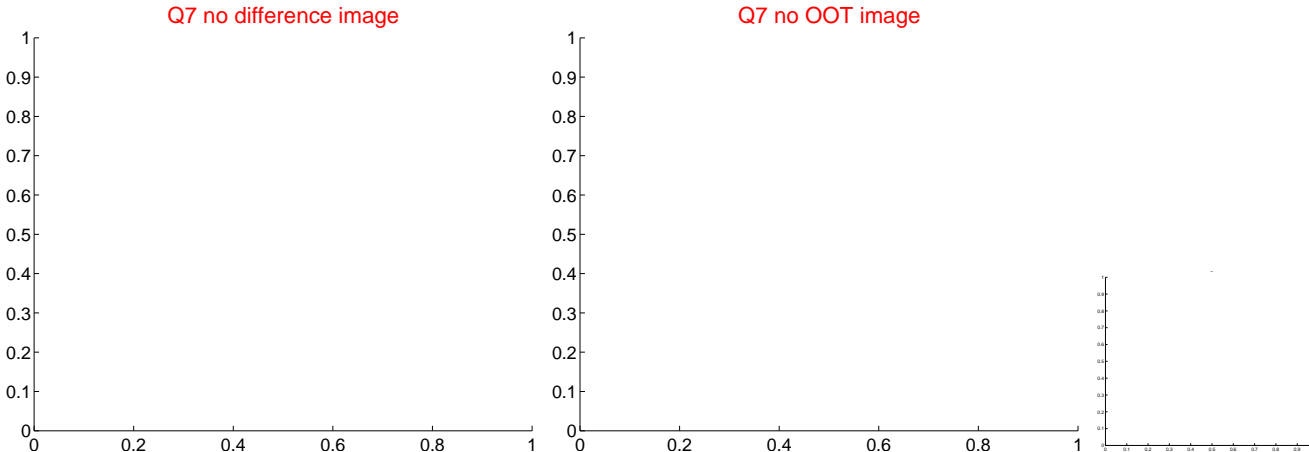
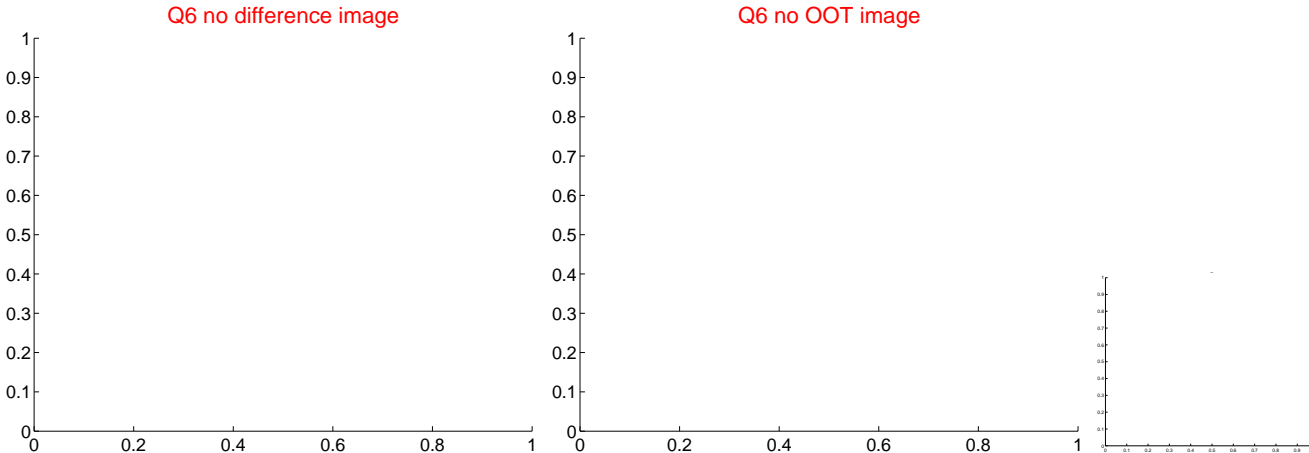
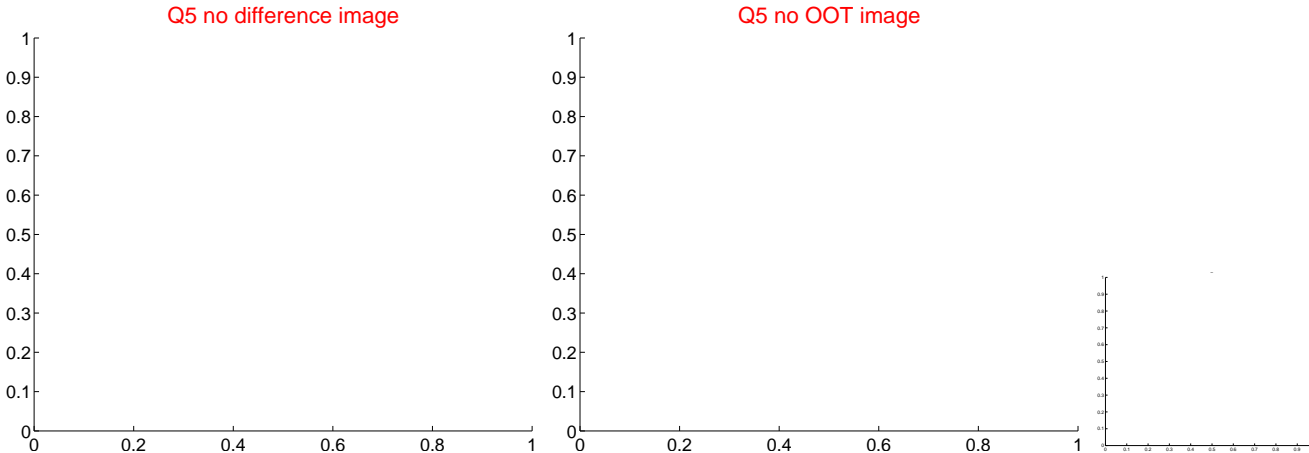
Q4 no difference image



Q4 no OOT image



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

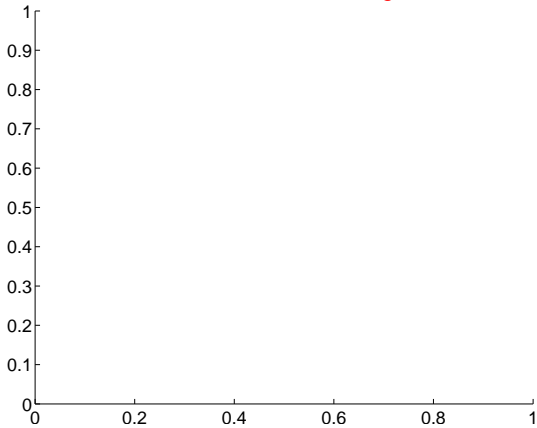


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

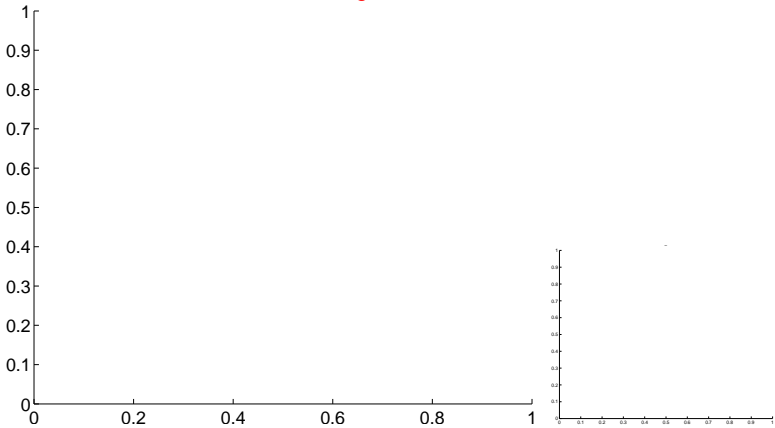


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

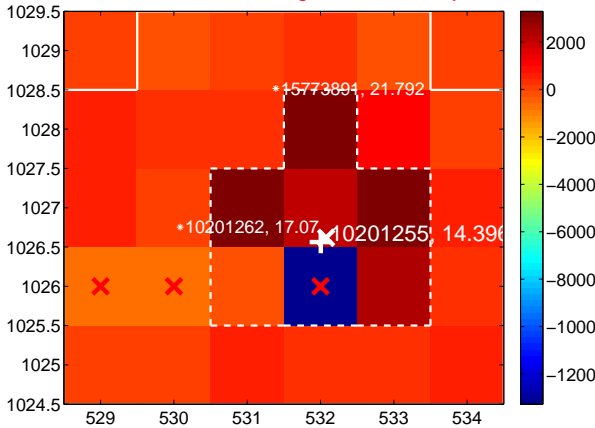
Q13 no difference image



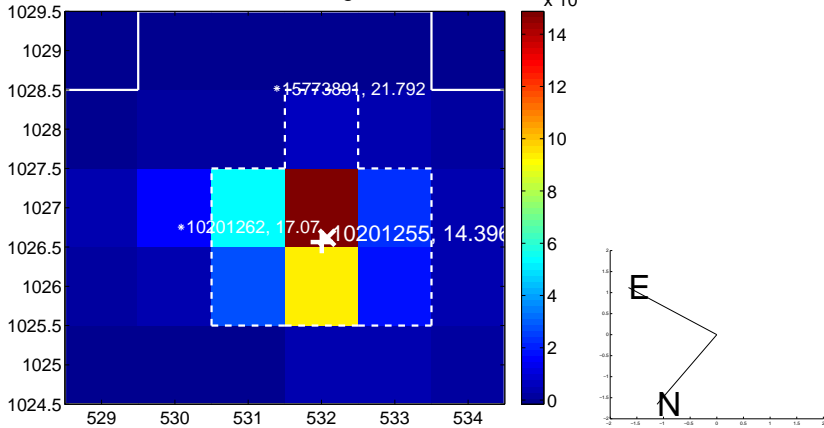
Q13 no OOT image



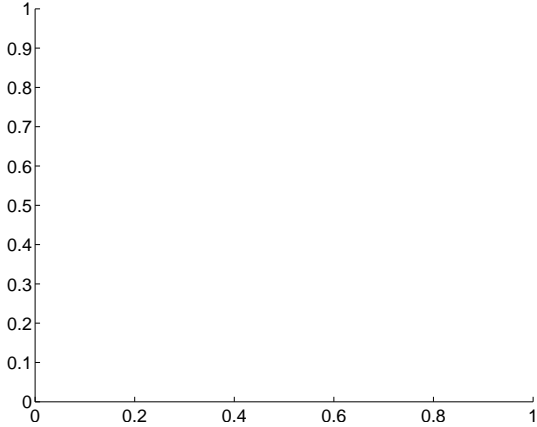
Q14 difference image. Poor Quality



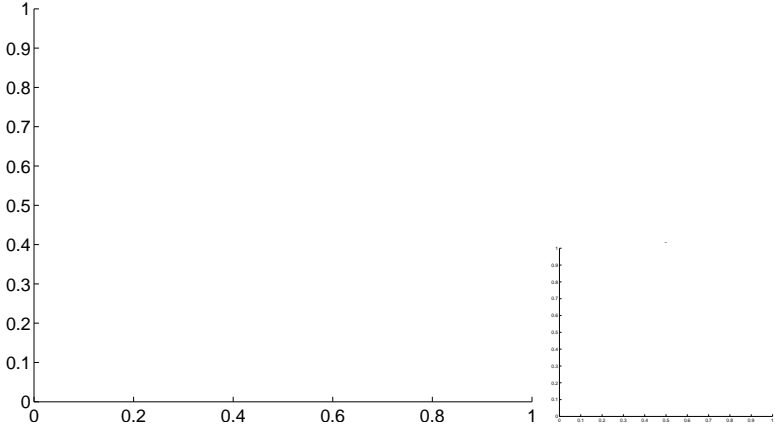
Q14 OOT image



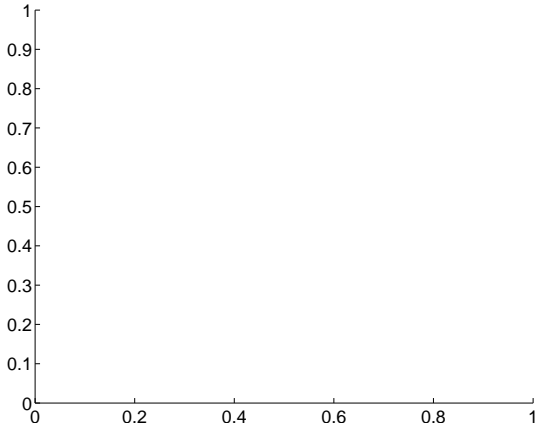
Q15 no difference image



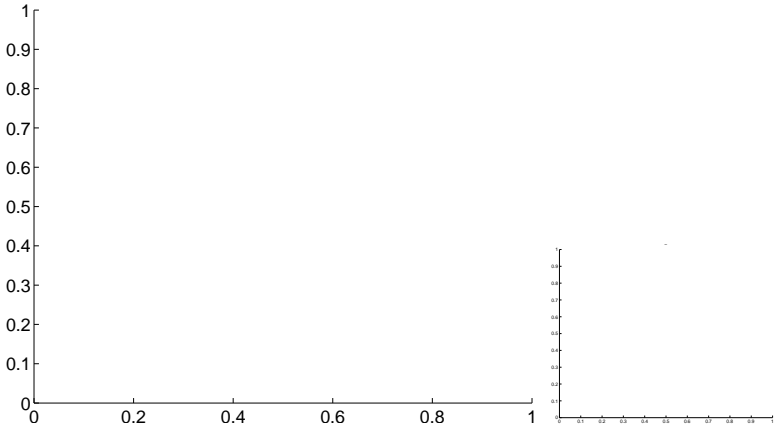
Q15 no OOT image



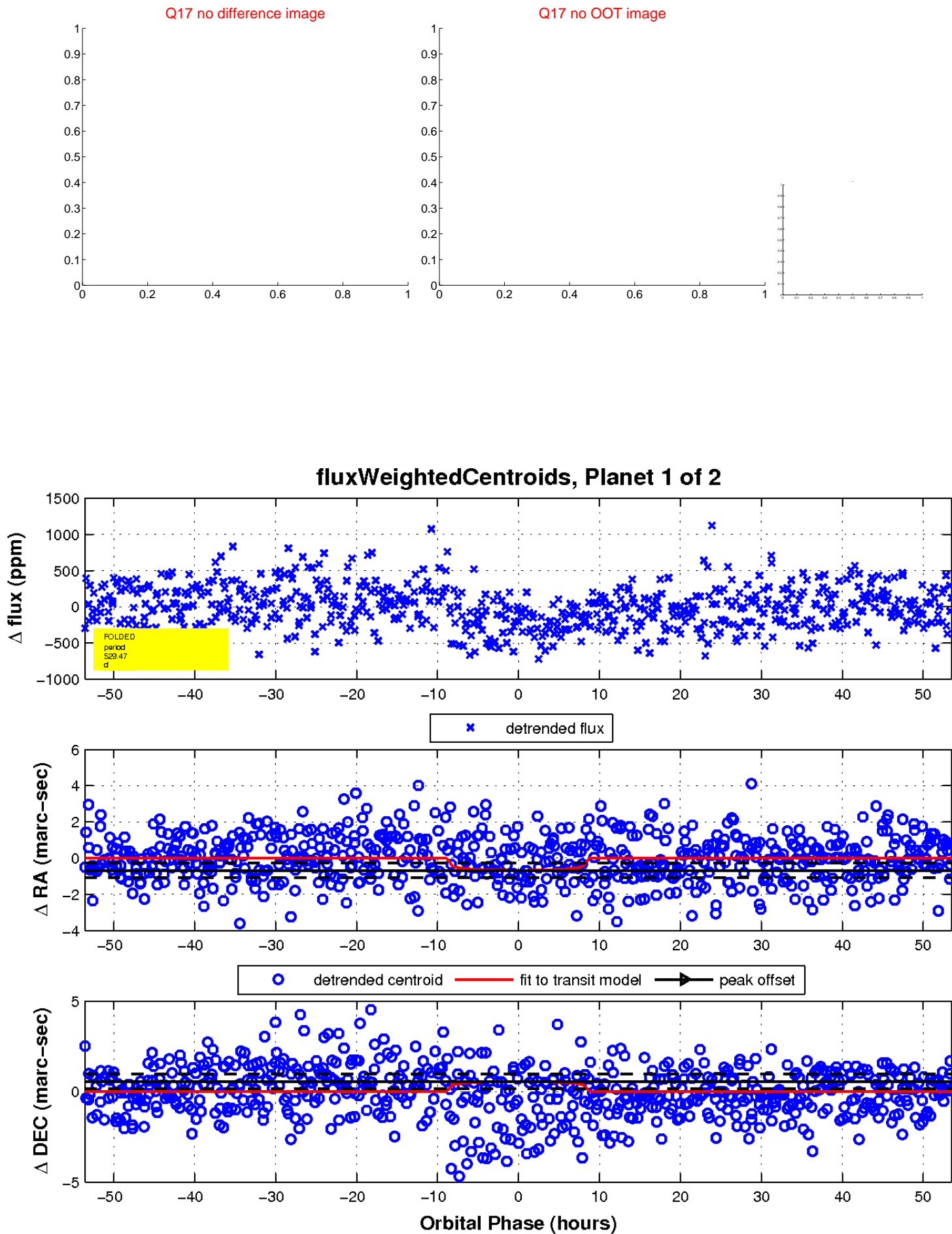
Q16 no difference image



Q16 no OOT image

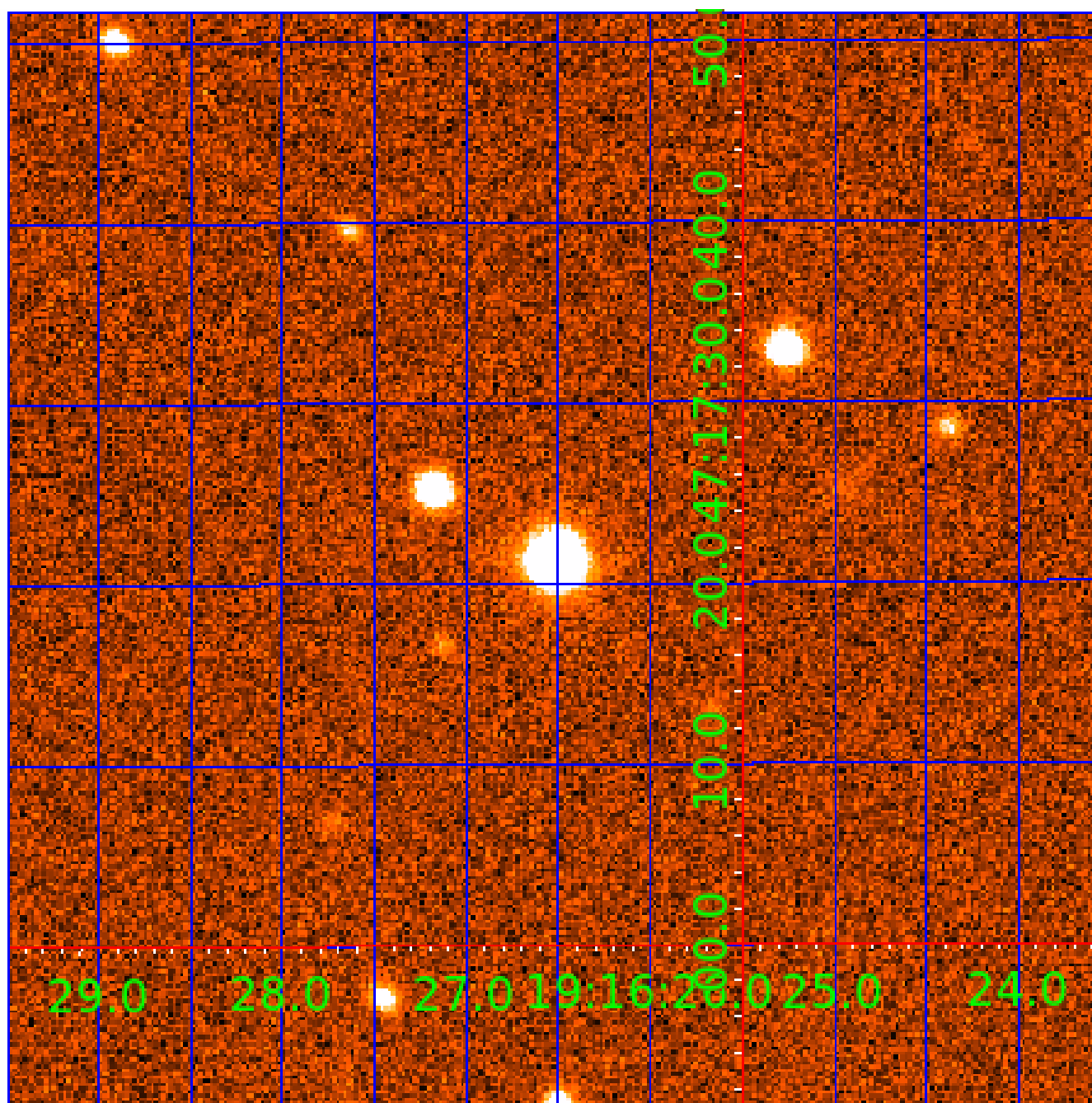


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010201255

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 010201255-01 | OBS | No | 529.466391 | 264.578473 | 259.9 | 17.852 | 7.4 | 7.3 | 0.92 | 6113 | 1.65 | 0.64 |
| 010201255-02 | OBS | No | 334.038428 | 319.078996 | 191.0 | 13.322 | 7.4 | 5.6 | 0.92 | 6113 | 1.41 | 1.19 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 010201255-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 010201255-02 | OBS | FP | 0.02 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS |

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

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

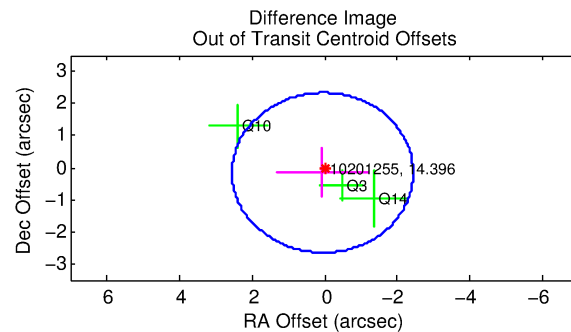
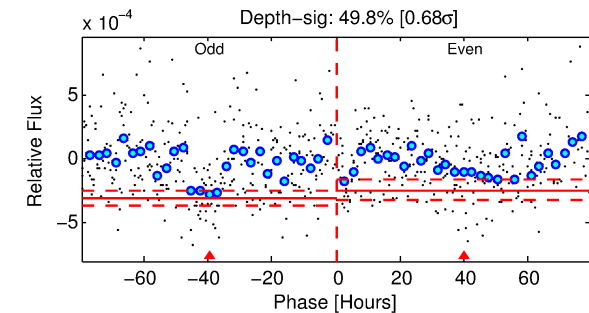
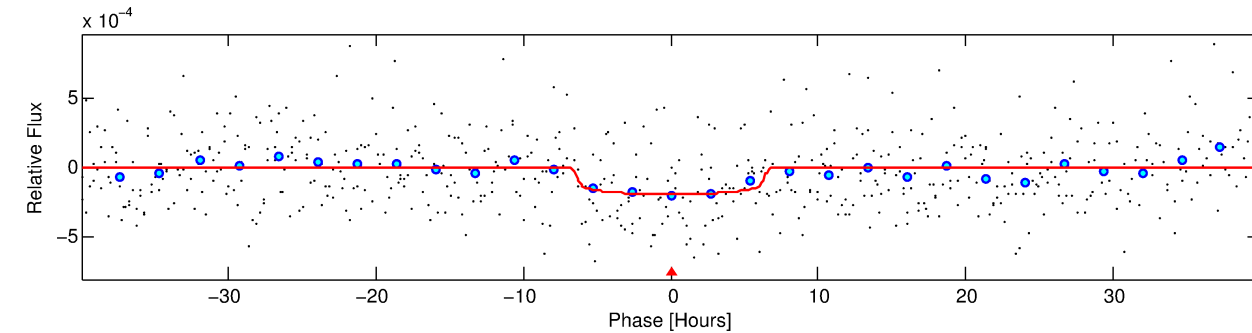
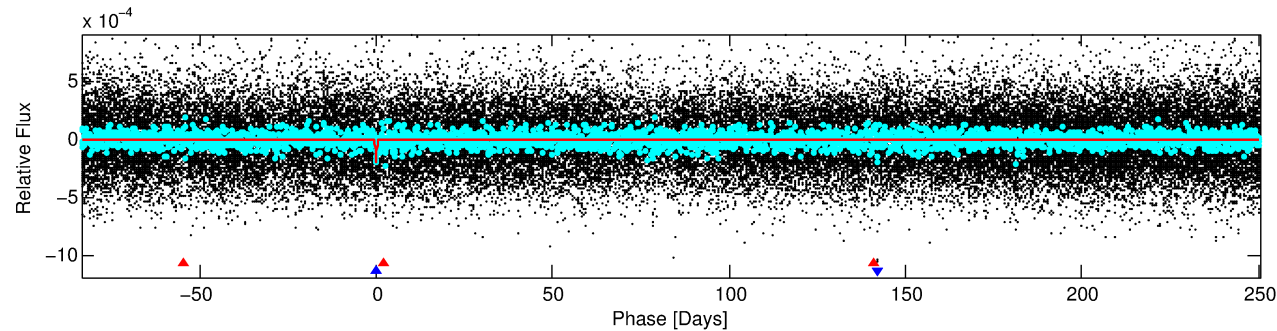
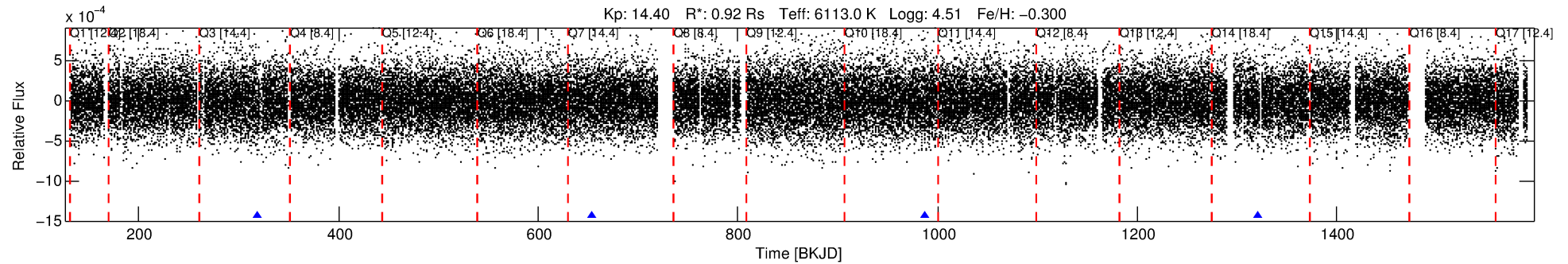
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010201255-02

No Significant Match Found

DV One-Page Summary

KIC: 10201255 Candidate: 2 of 2 Period: 334.038 d



DV Fit Results:

Period = 334.03843 [0.01559] d
Epoch = 319.0790 [0.0298] BKJD
Rp/R* = 0.0141 [0.0062]
a/R* = 115.50 [255.65]
b = 0.82 [0.92]
Seff = 1.19 [0.49]
Teq = 266 [27] K
Rp = 1.41 [0.76] Re
a = 0.9415 [0.2509] AU
Ag = 27696.58 [28515.27] [0.97 σ]
Teffp = 5309 [1274] K [3.96 σ]

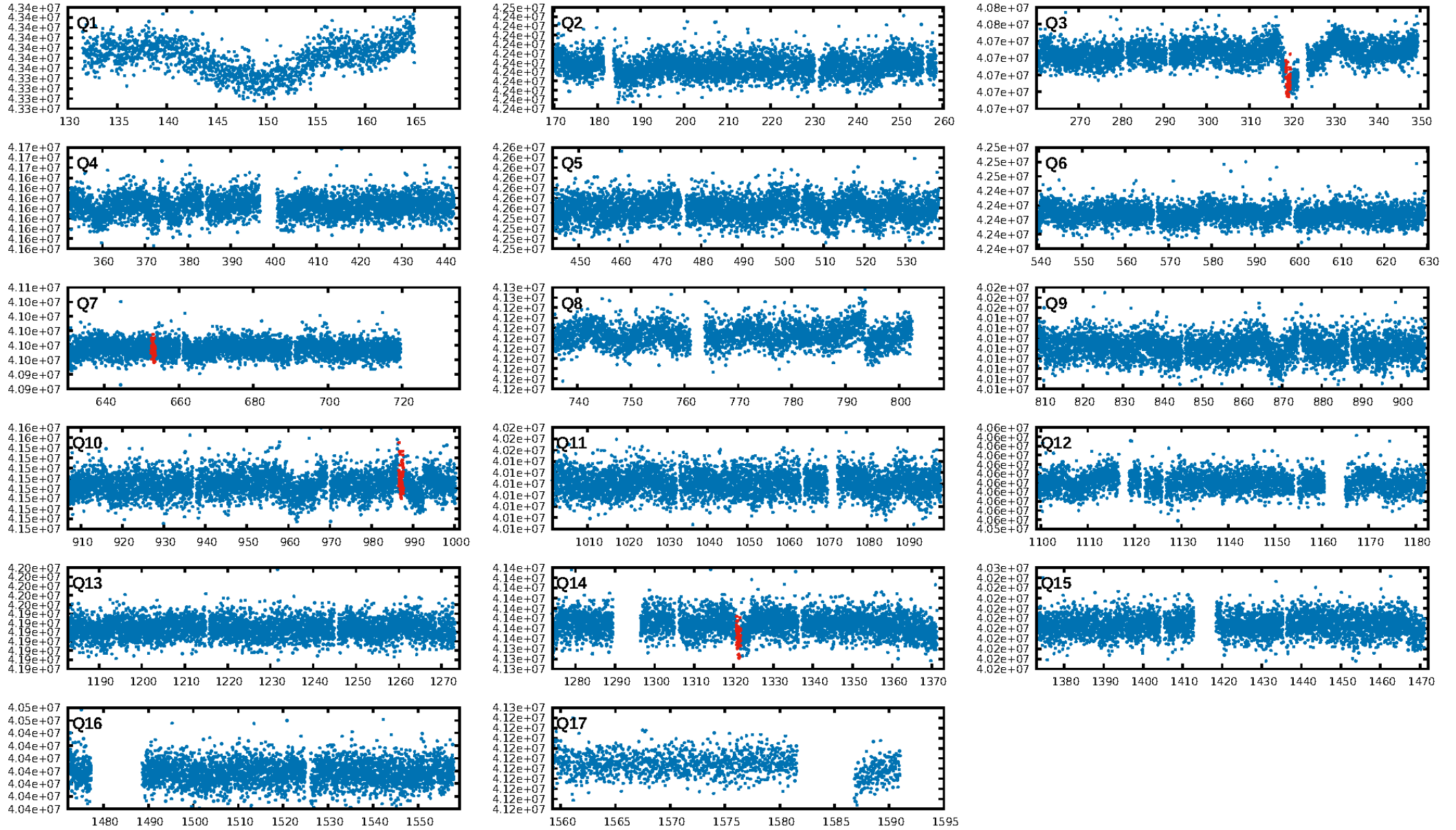
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [210.56 σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 5.31e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.034
Centroid-sig: 2.4%
Centroid-so: 4.775 arcsec [2.22 σ]
OotOffset-rm: 0.166 arcsec [0.20 σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-rm: 0.086 arcsec [0.11 σ]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

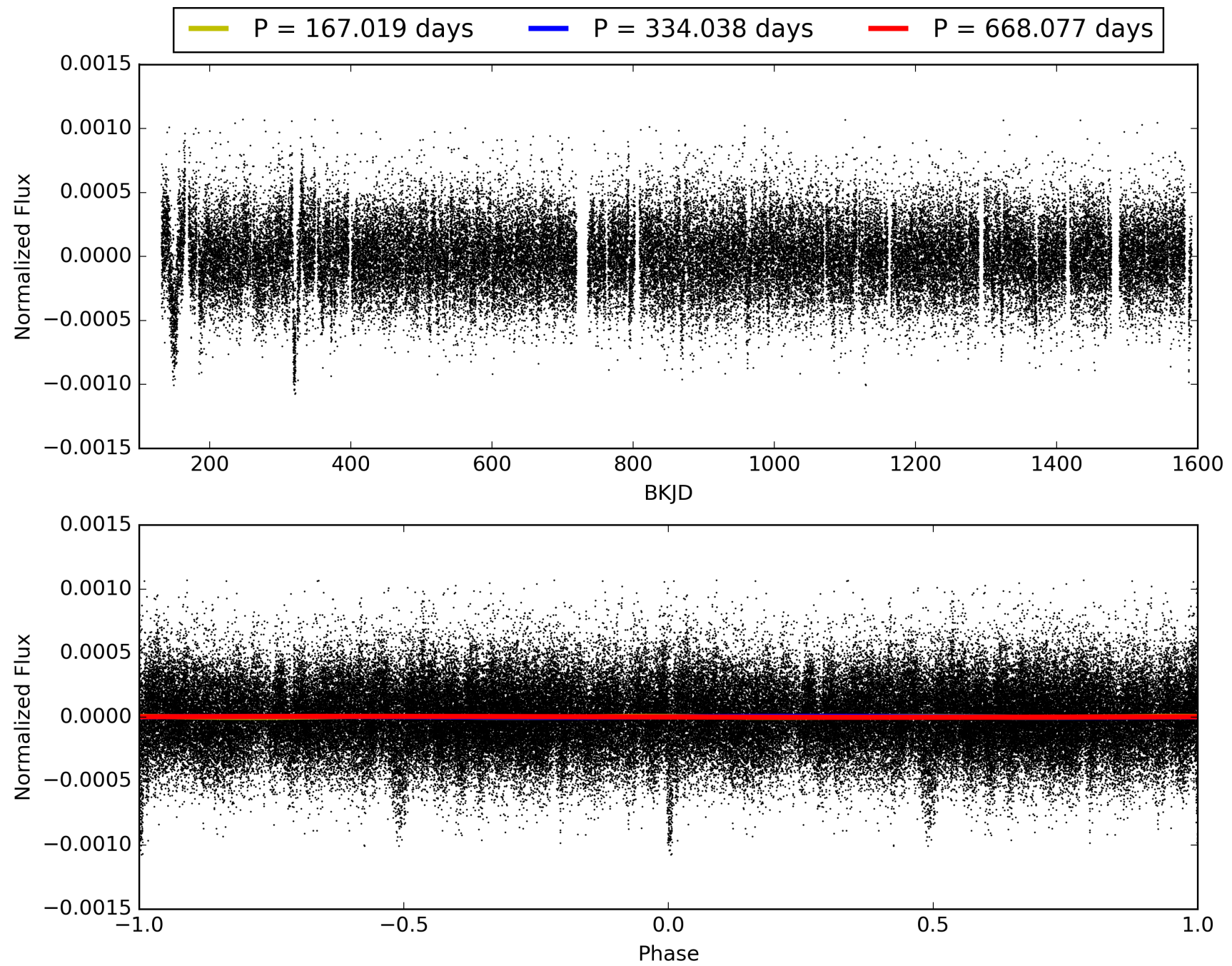
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:24:40 Z

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

TCE 010201255-02, PDC Light Curves

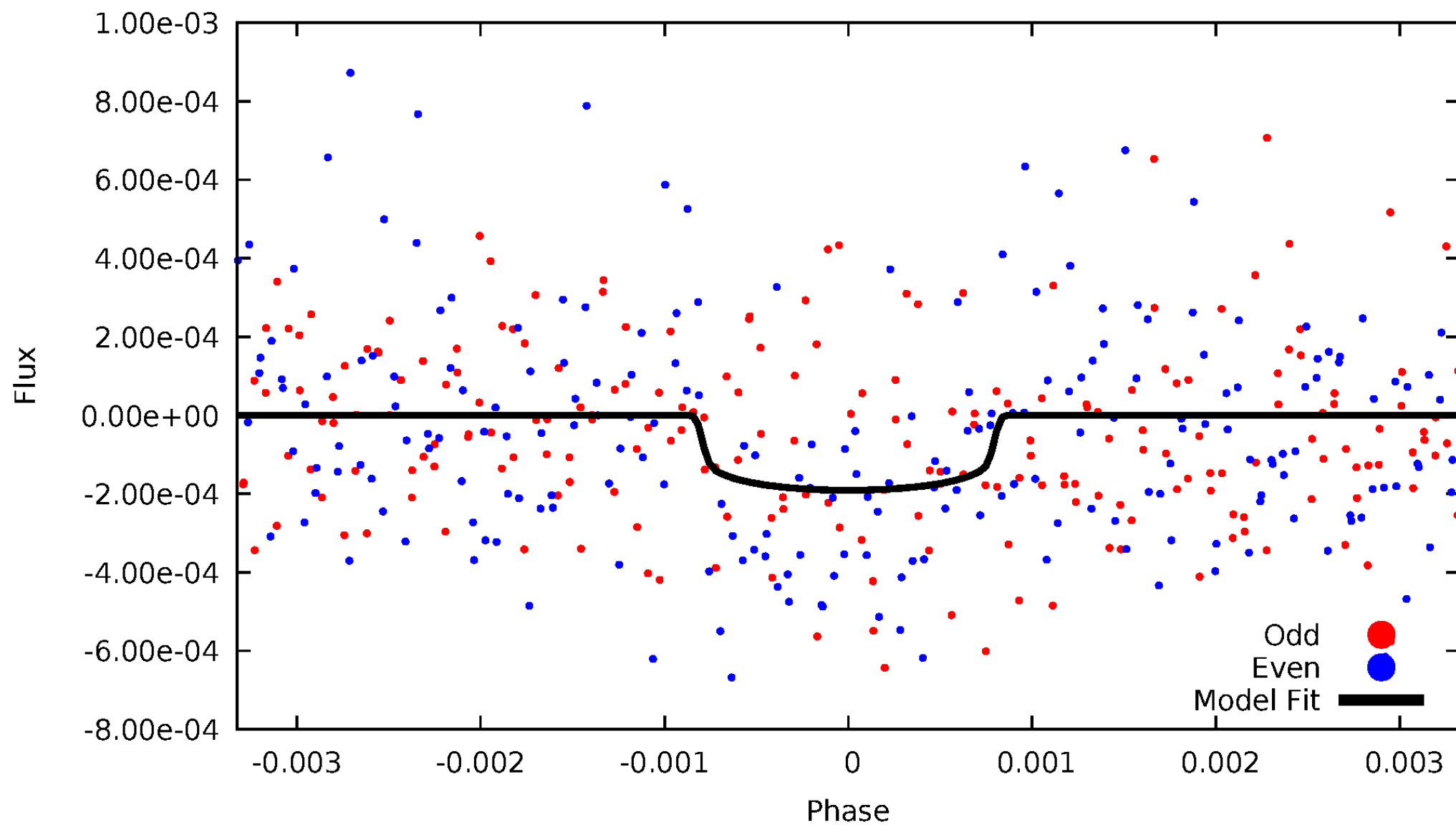


TCE 010201255-02



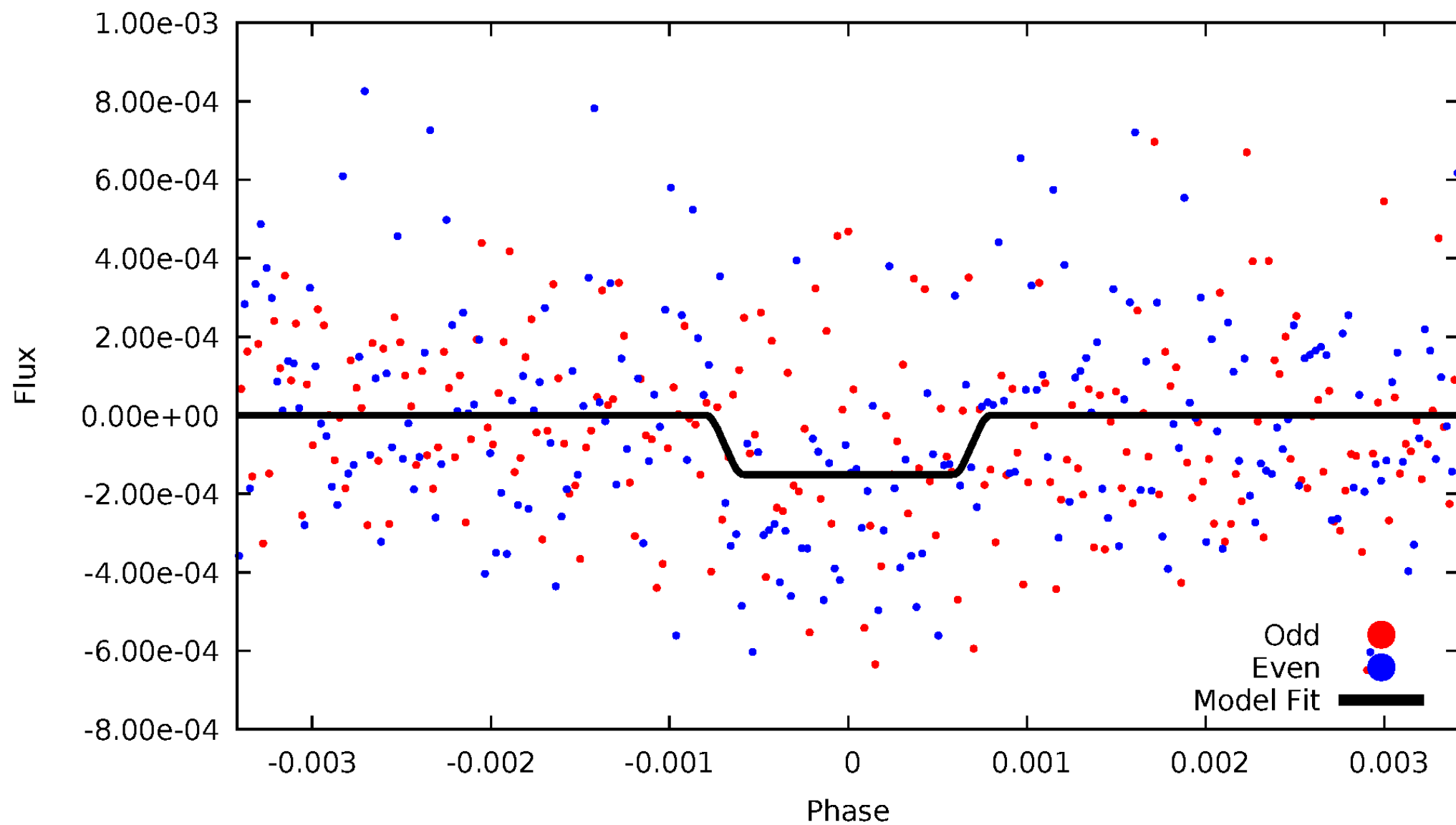
DV Odd/Even

TCE 010201255-02



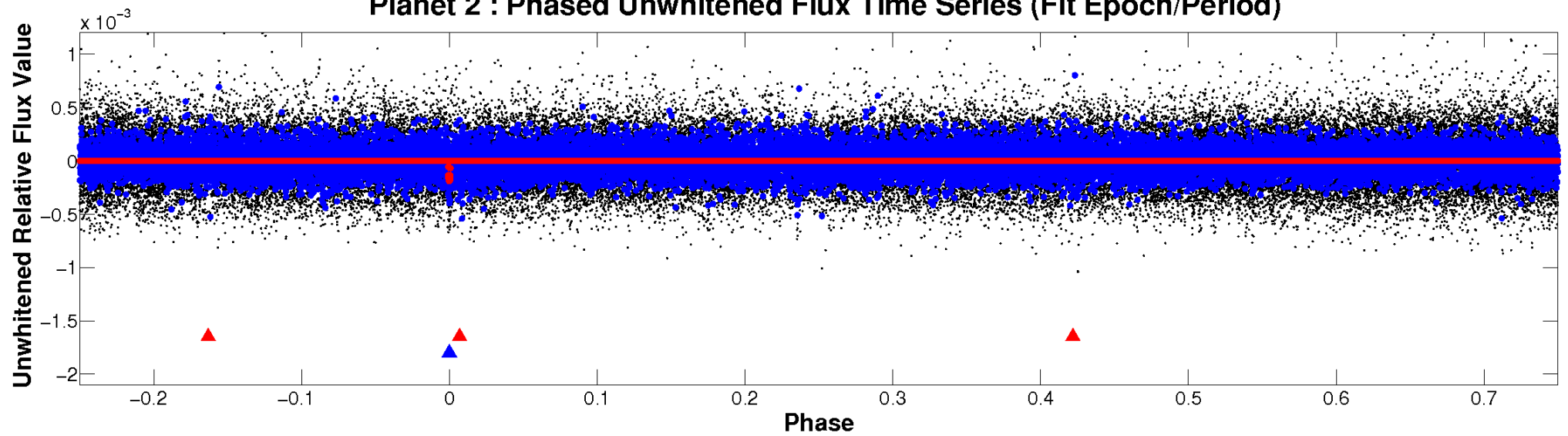
ALT Odd/Even

TCE 010201255-02

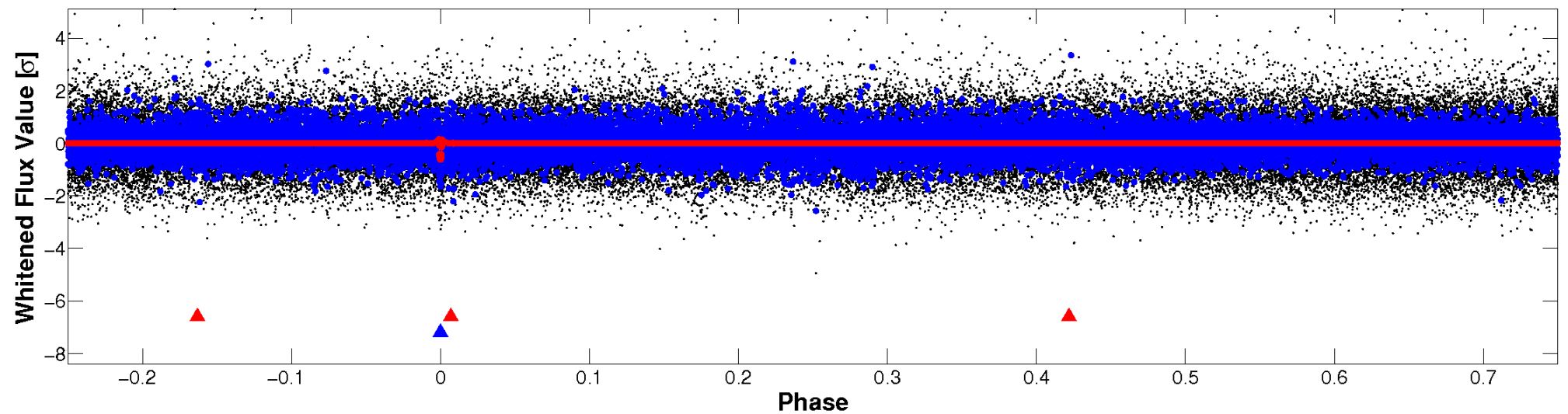


Non-Whitened Vs. Whitened Light Curve

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

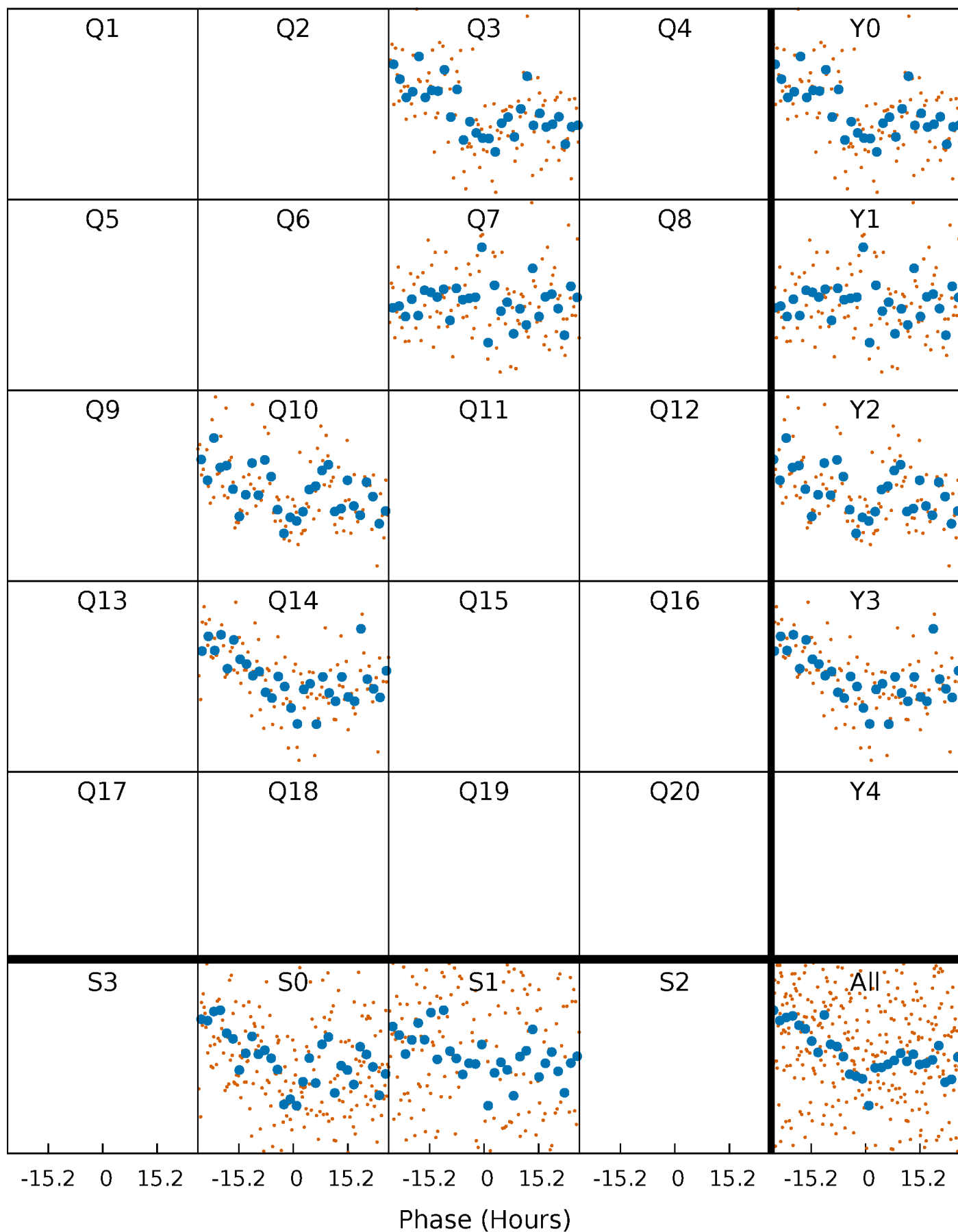


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



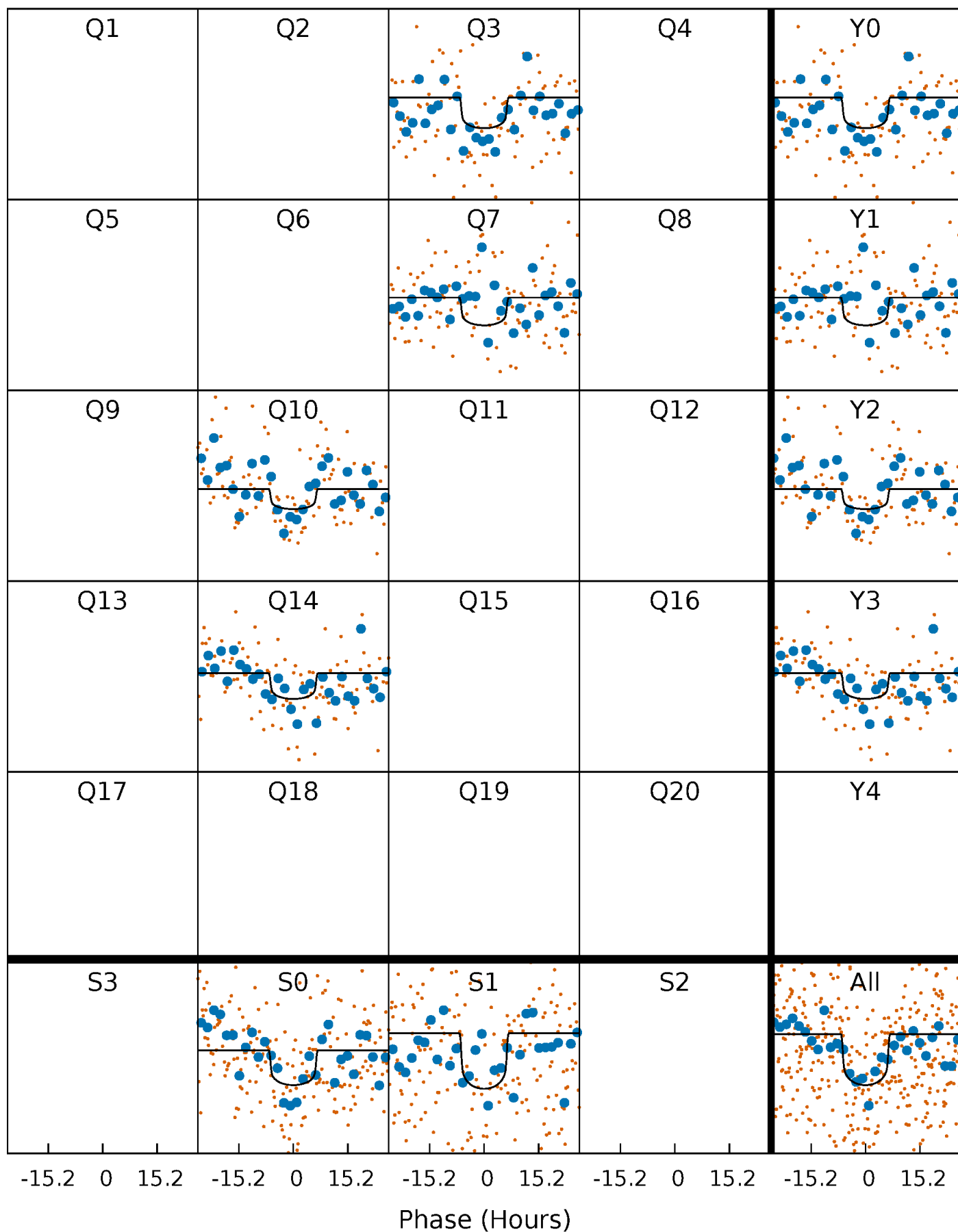
PDC Quarter-Phased Transit Curves

TCE 010201255-02 $P=334.038428$ Days $T_0=319.078996$ (BKJD)



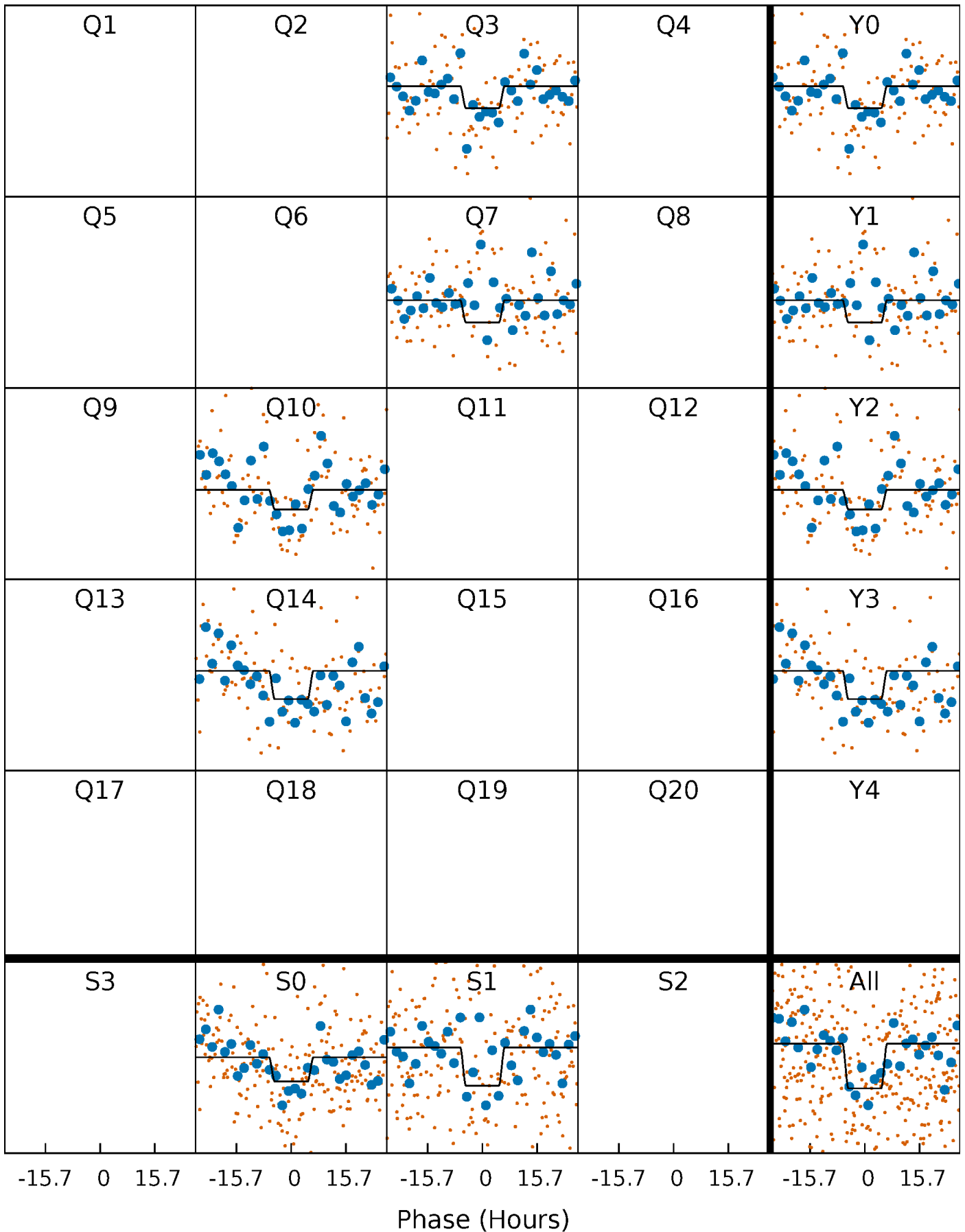
DV Quarter-Phased Transit Curves

TCE 010201255-02 P=334.038428 Days $T_0=319.078996$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

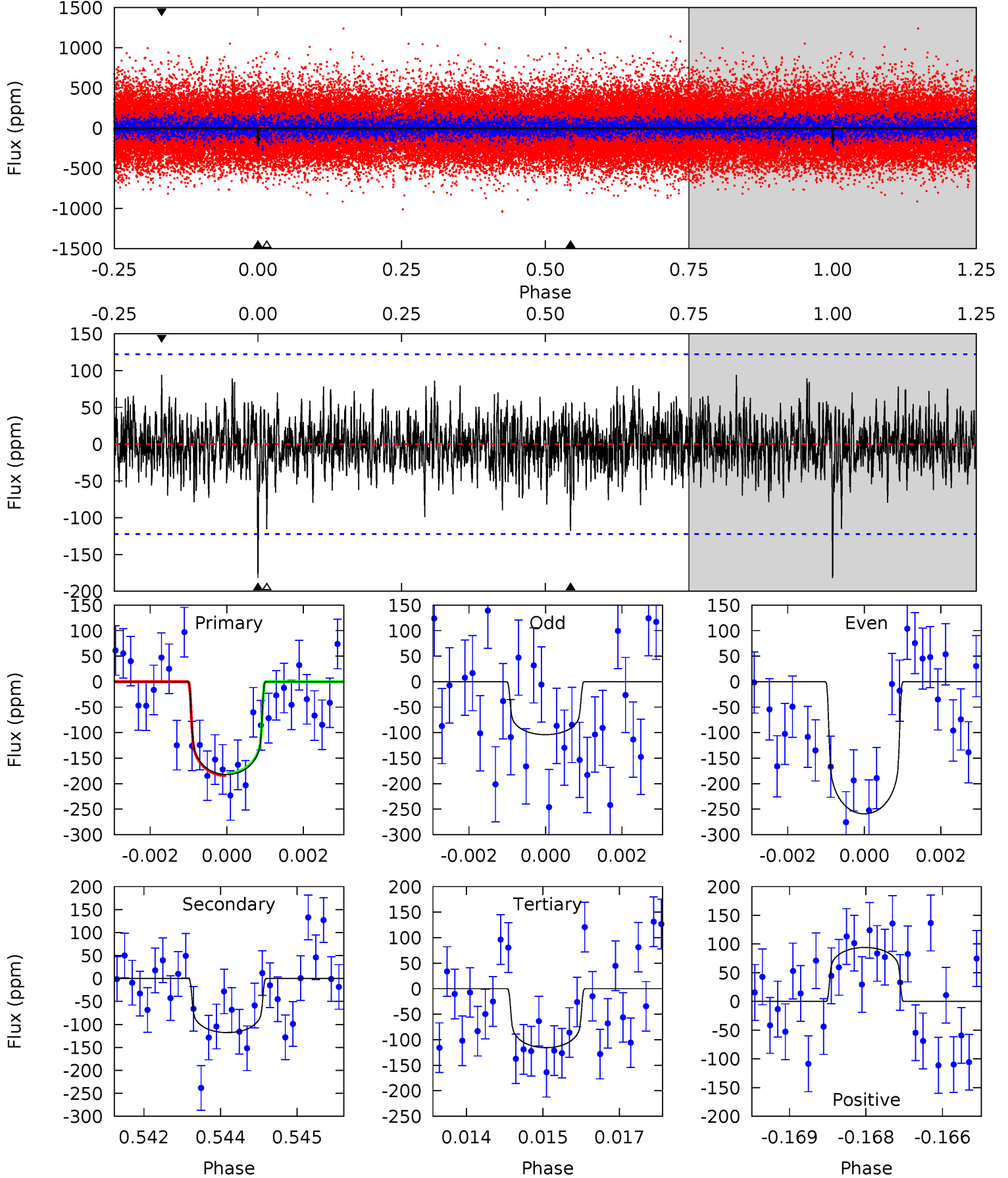
TCE 010201255-02 P=334.054650 Days $T_0=319.045950$ (BKJD)



DV Model-Shift Uniqueness Test

010201255-02, P = 334.038428 Days, E = 319.078996 Days

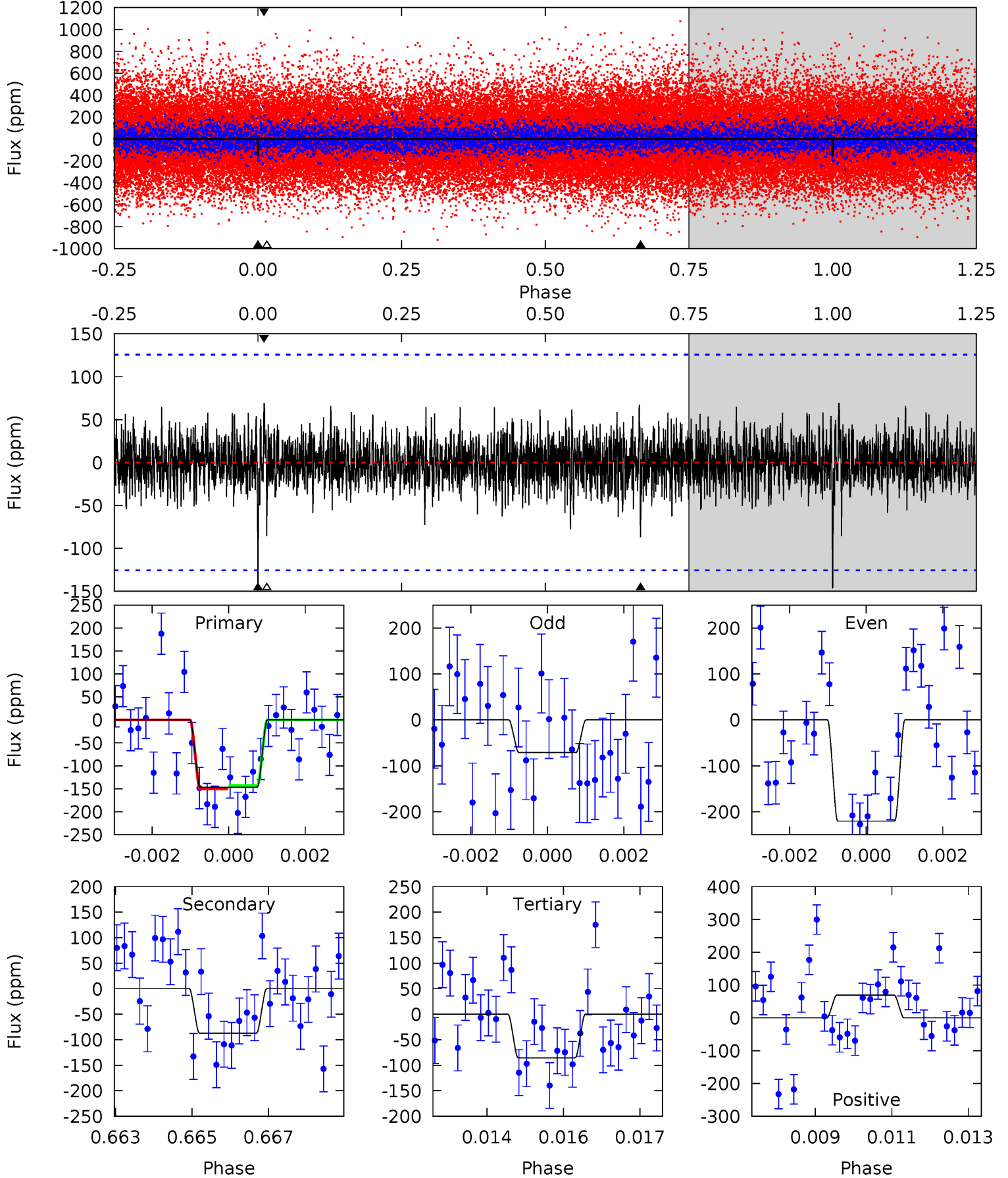
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 7.98 | 5.16 | 5.06 | 4.12 | 5.36 | 3.14 | 1.18 | 2.91 | 3.86 | 0.10 | 1.04 | 3.40 | 0.83 | 0.34 | 0.10 |



Alt Model-Shift Uniqueness Test

010201255-02, P = 334.054650 Days, E = 319.045950 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.27 | 3.73 | 3.65 | 2.98 | 5.37 | 3.16 | 0.90 | 2.62 | 3.30 | 0.07 | 0.75 | 3.20 | 0.75 | 0.32 | 0.16 |



Stellar Parameters For KIC 010201255

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6113^{+164}_{-183} | $4.512^{+0.040}_{-0.216}$ | $-0.300^{+0.300}_{-0.300}$ | $0.917^{+0.287}_{-0.096}$ | $0.997^{+0.128}_{-0.128}$ | $1.823^{+0.385}_{-0.972}$ |
| | +3%/-3% | +1%/-5% | +100%/-100% | +31%/-10% | +13%/-13% | +21%/-53% |
| Source | PHO1 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 010201255-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|------------------------|-------------------|-----------------------|---------------------------|
| DV | -118 ± 23 | $1.49^{+0.69}_{-0.61}$ | 382^{+28}_{-18} | 5373^{+1650}_{-764} | 25637^{+46123}_{-13931} |
| Alt. | -87 ± 23 | $1.32^{+0.68}_{-0.62}$ | 382^{+27}_{-18} | 5288^{+1917}_{-854} | 23076^{+60946}_{-13322} |

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 $A_{obs} \gg 1.0$

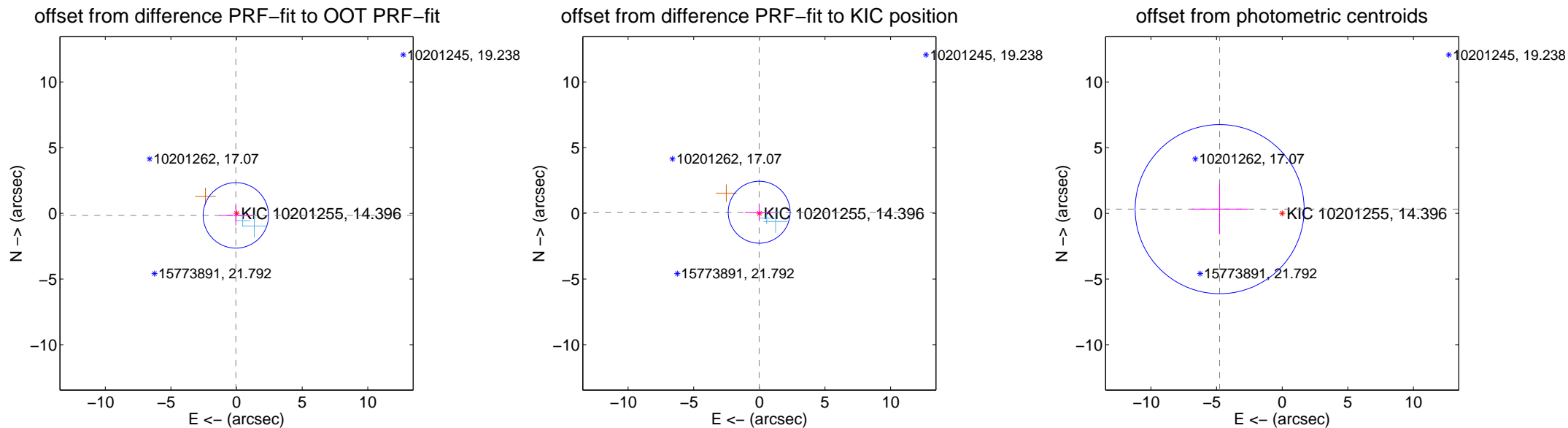
DV Centroid Data

Supplemental centroid analysis for 010201255-02. Kepler magnitude: 14.40. Transit SNR 5.57

There are 2 quarters with good PRF difference image offsets

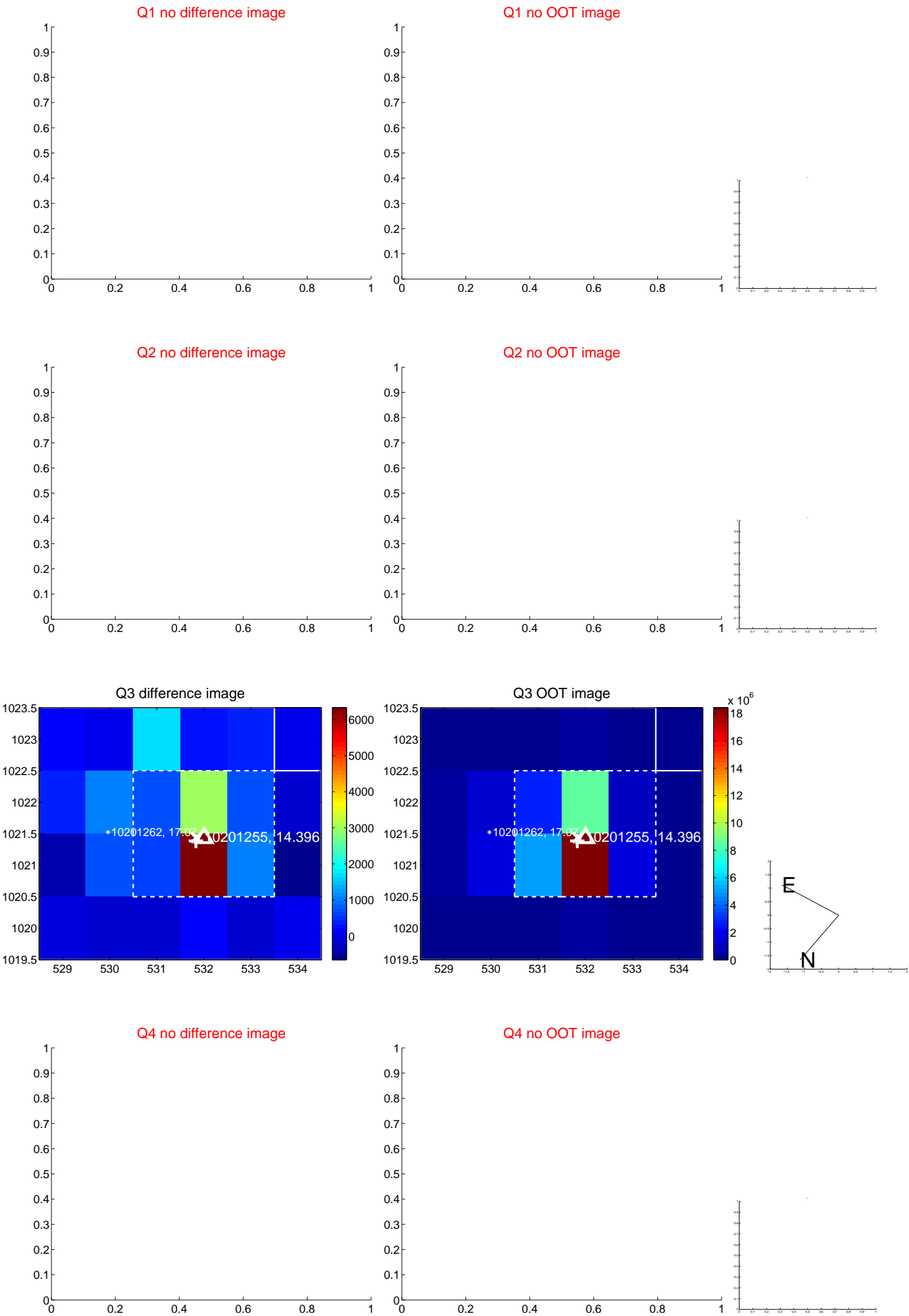
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.166 ± 0.831 | 0.20 | 0.054 ± 1.245 | -0.157 ± 0.768 |
| PRF-fit source offset from KIC position | 0.086 ± 0.786 | 0.11 | 0.014 ± 1.079 | 0.085 ± 0.625 |
| photometric centroid source offset | 4.78 ± 2.15 | 2.22 | 4.76 ± 2.15 | 0.32 ± 1.90 |



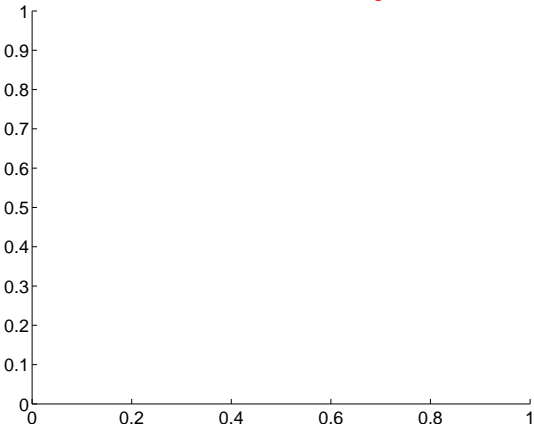
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

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

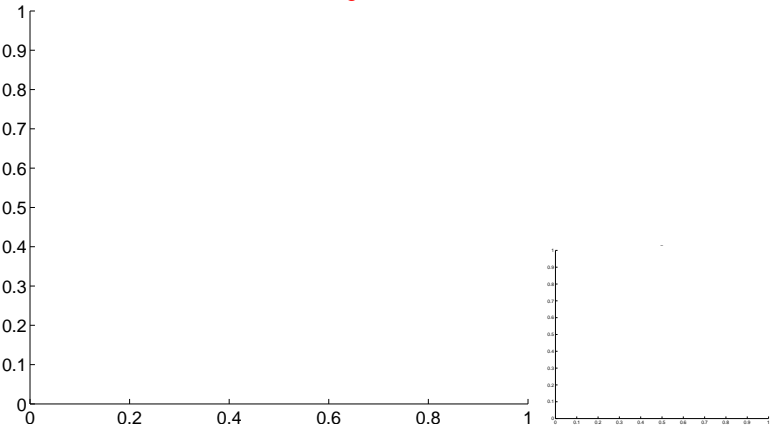


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

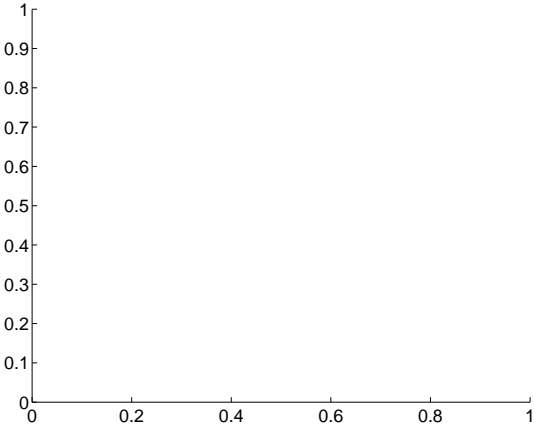
Q5 no difference image



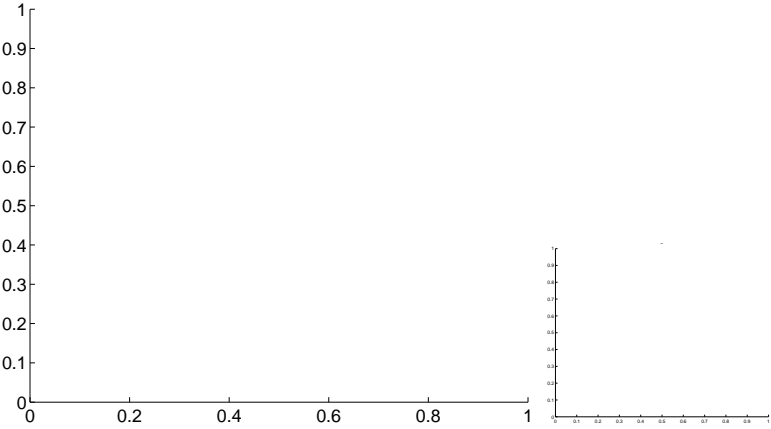
Q5 no OOT image



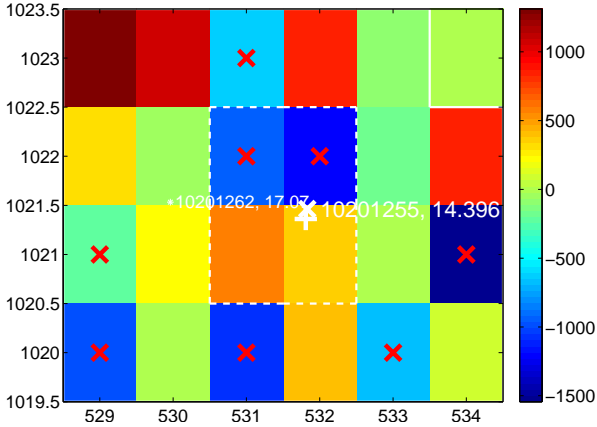
Q6 no difference image



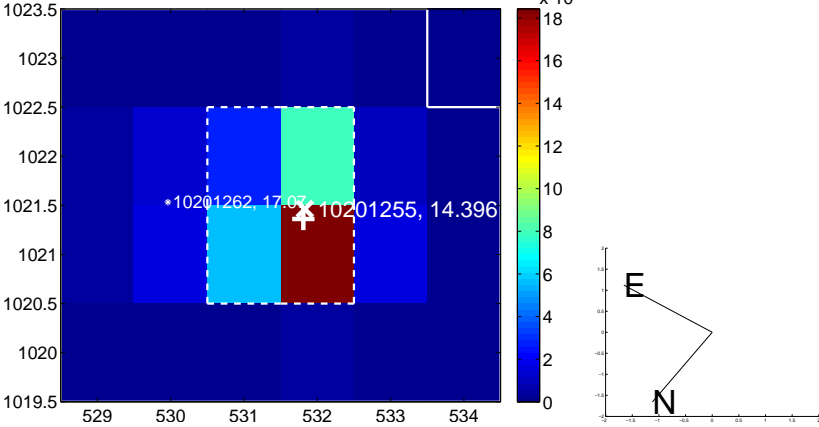
Q6 no OOT image



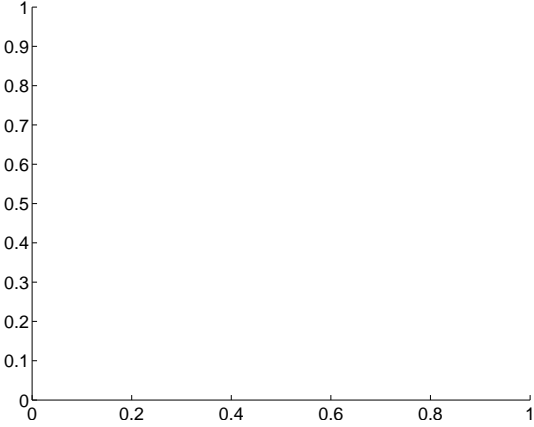
Q7 difference image. Poor Quality



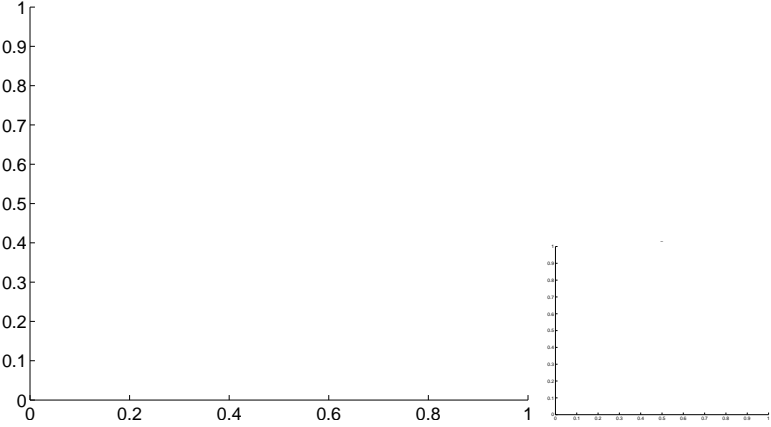
Q7 OOT image



Q8 no difference image

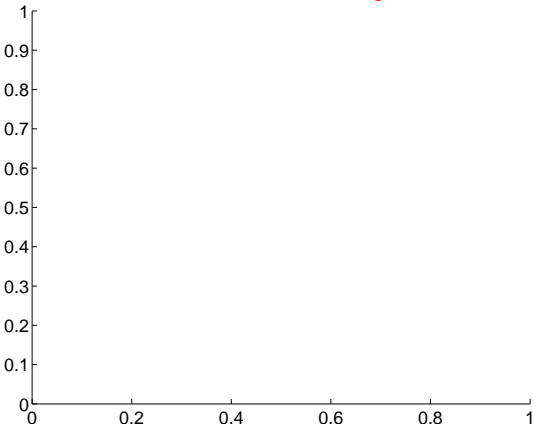


Q8 no OOT image

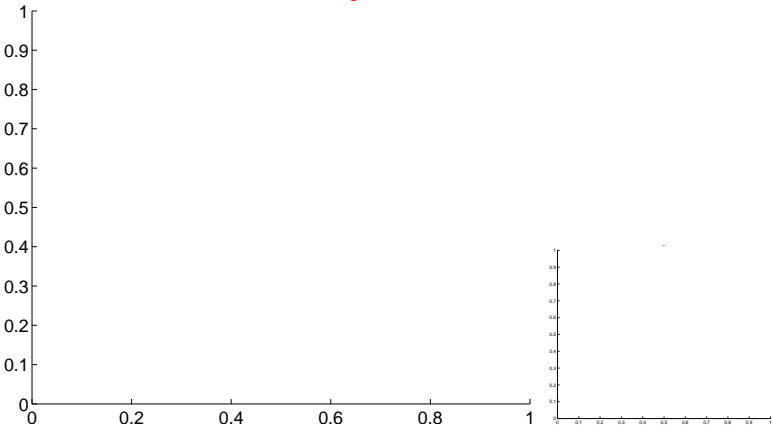


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

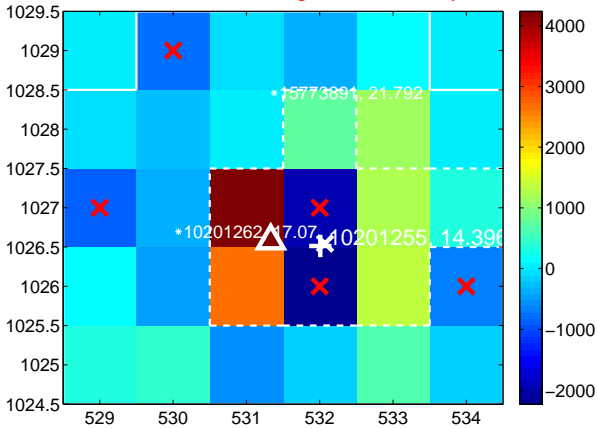
Q9 no difference image



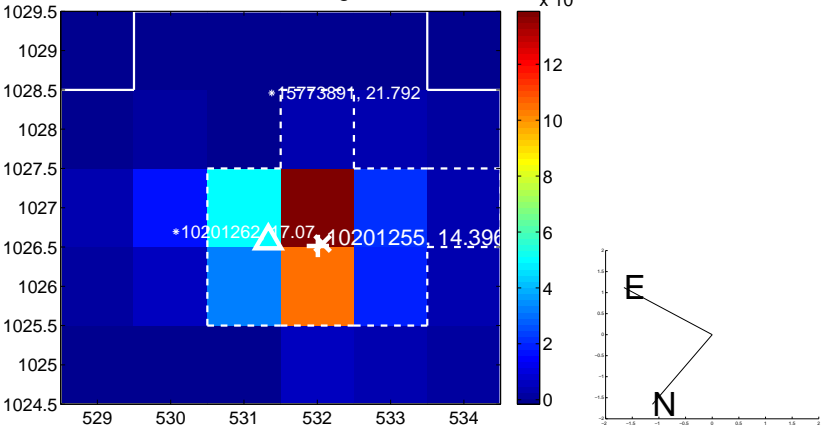
Q9 no OOT image



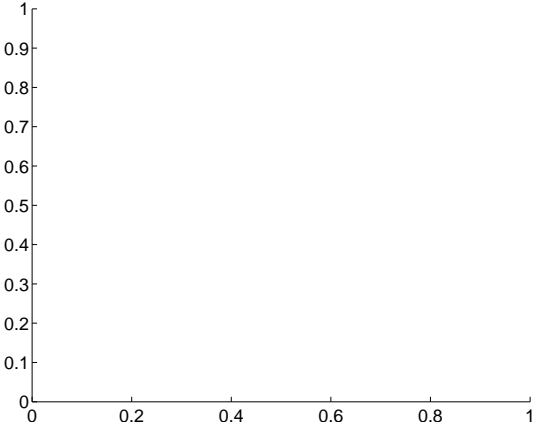
Q10 difference image. Poor Quality



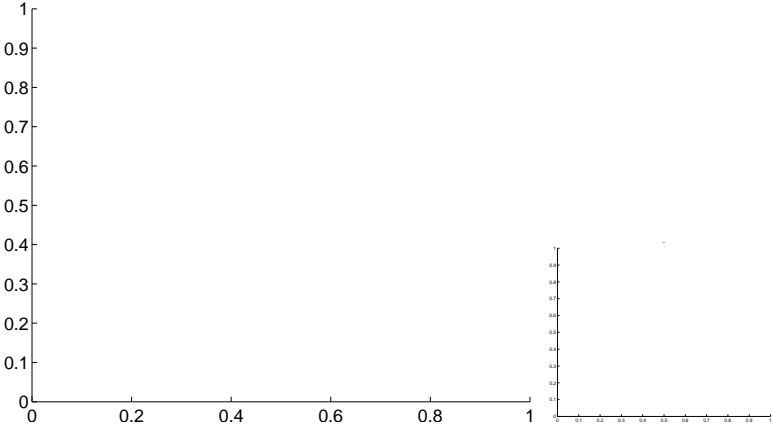
Q10 OOT image



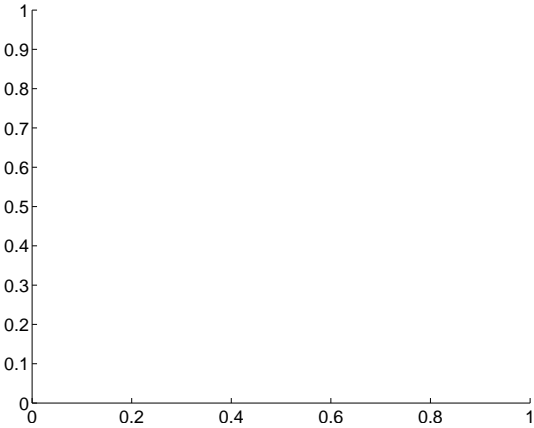
Q11 no difference image



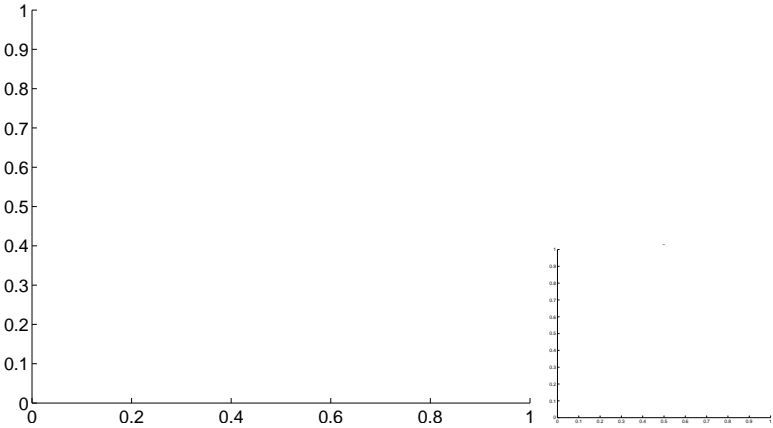
Q11 no OOT image



Q12 no difference image

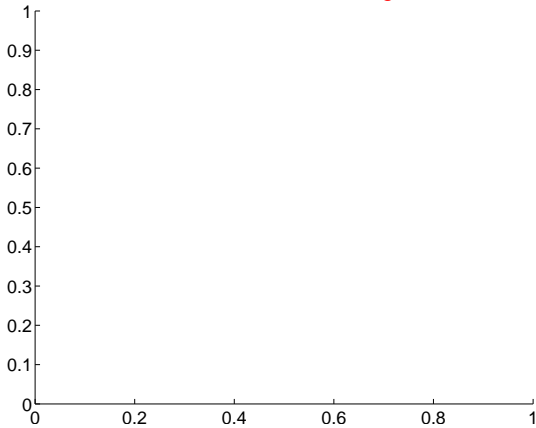


Q12 no OOT image

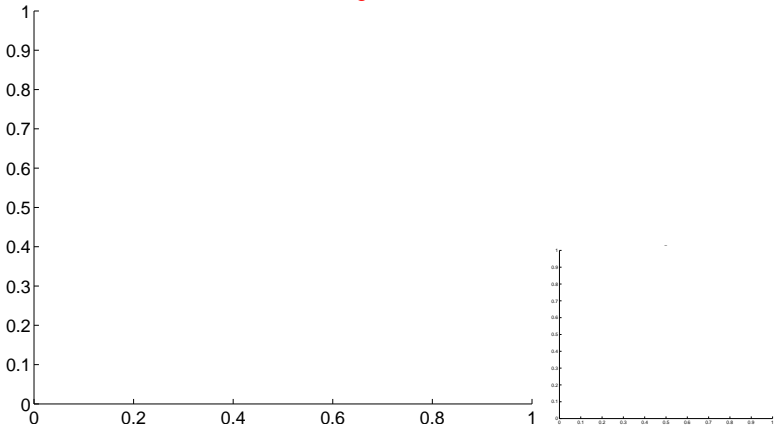


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

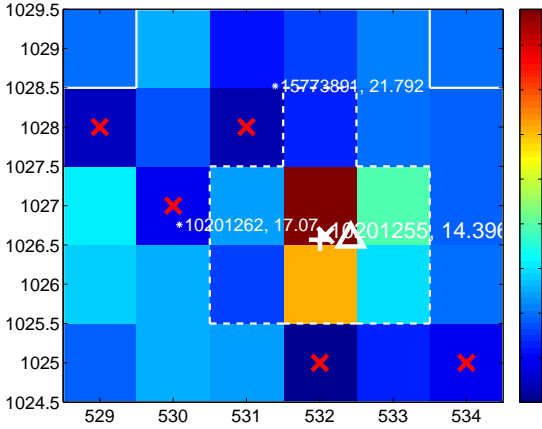
Q13 no difference image



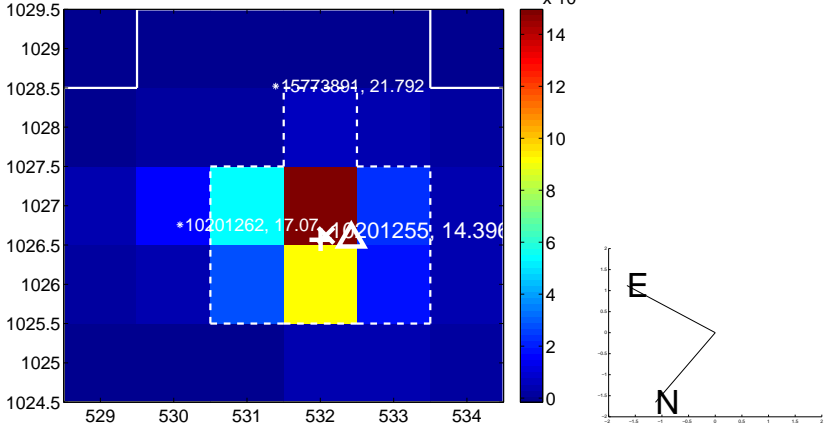
Q13 no OOT image



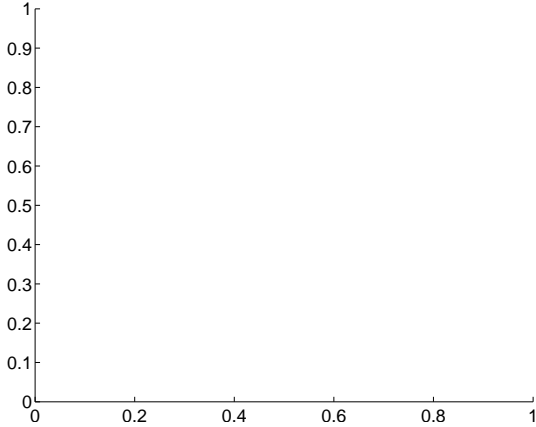
Q14 difference image



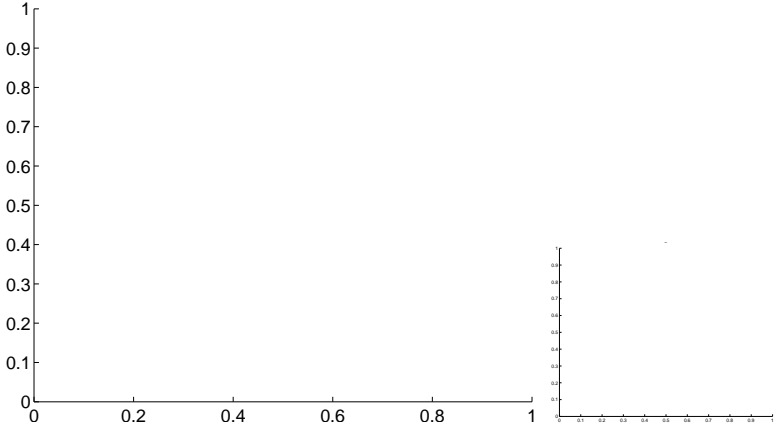
Q14 OOT image



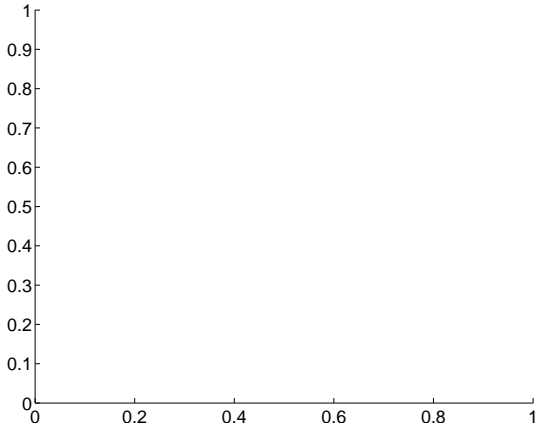
Q15 no difference image



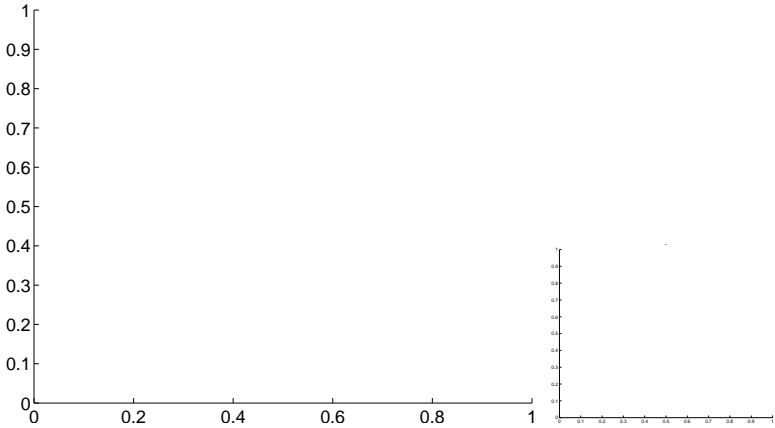
Q15 no OOT image



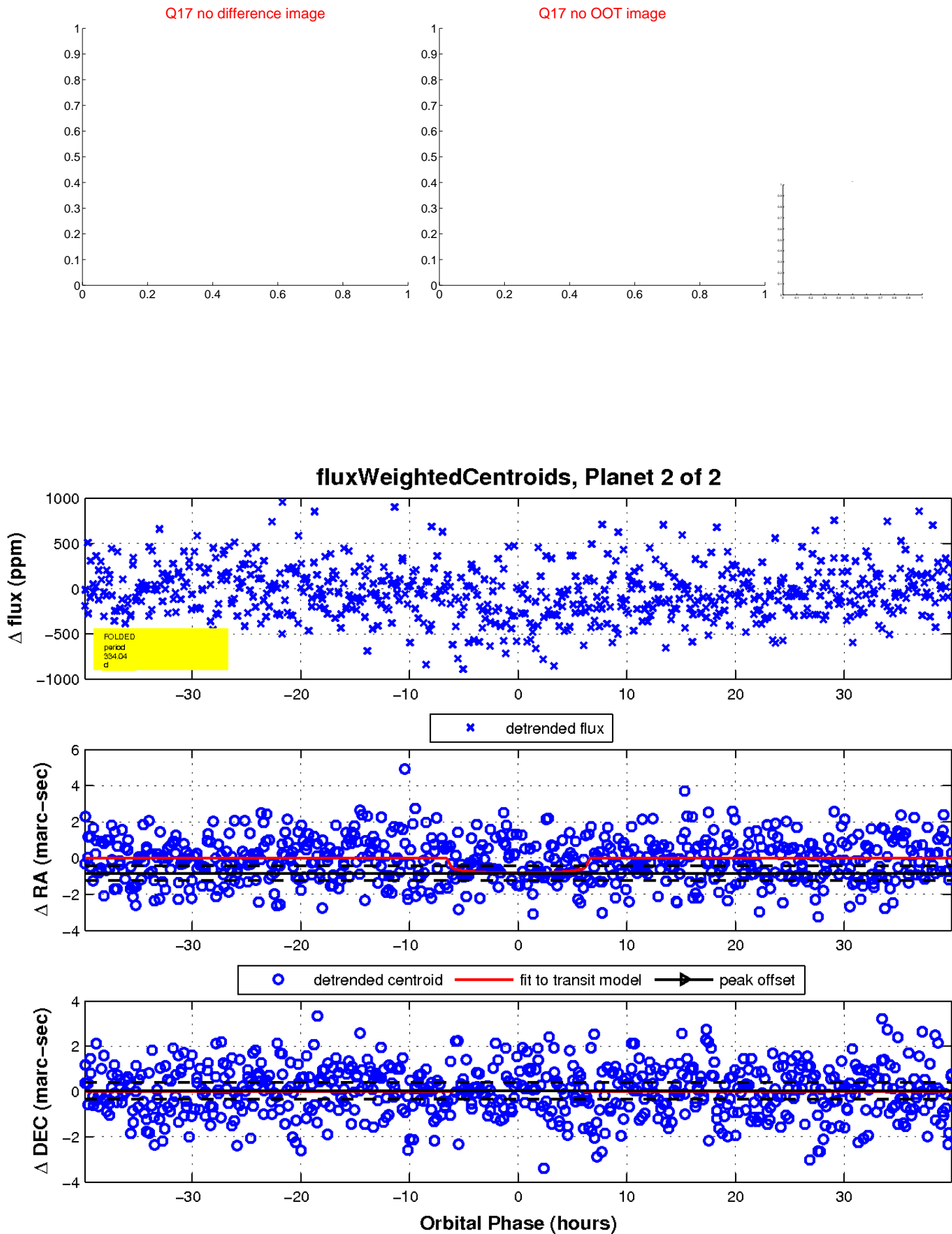
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

