

KIC 005284283

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 005284283-01 | OBS | No | 1.037565 | 131.745741 | 8.8 | 4.879 | 8.0 | 7.9 | 1.90 | 7910 | 0.65 | 21353.64 |
| 005284283-02 | OBS | No | 284.042807 | 254.604191 | 135.9 | 5.934 | 11.3 | 6.0 | 1.90 | 7910 | 2.42 | 12.01 |
| 005284283-03 | OBS | No | 165.611948 | 250.468110 | 96.8 | 20.059 | 9.7 | 4.1 | 1.90 | 7910 | 2.05 | 24.66 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005284283-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_ALT |
| 005284283-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 005284283-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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

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

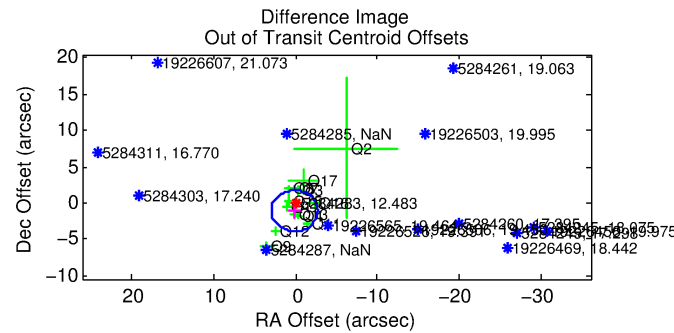
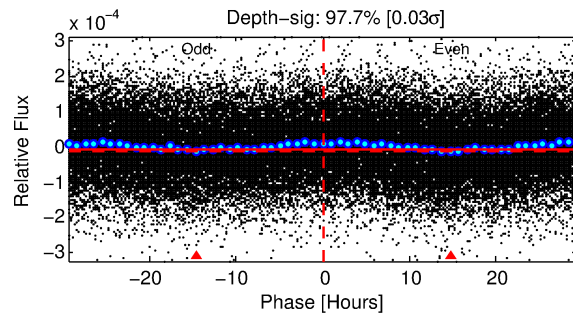
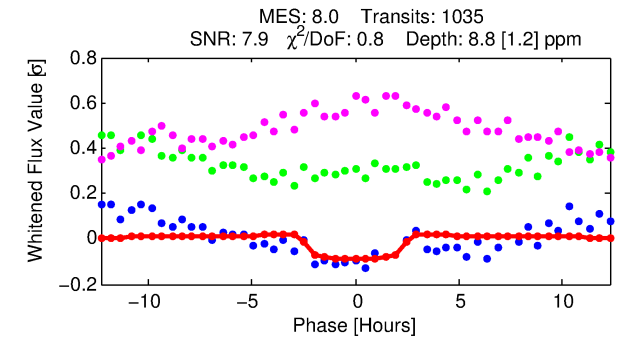
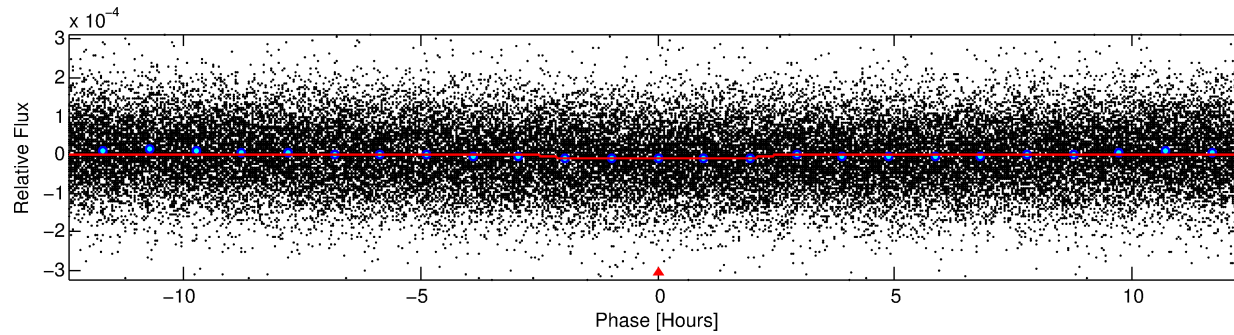
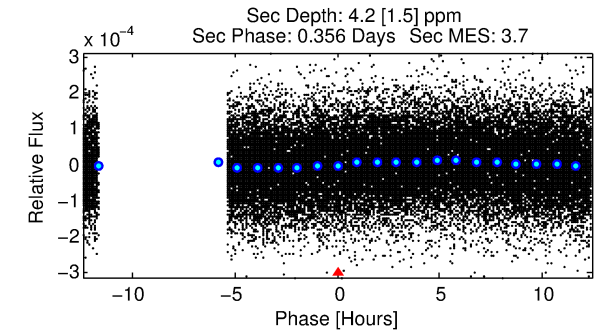
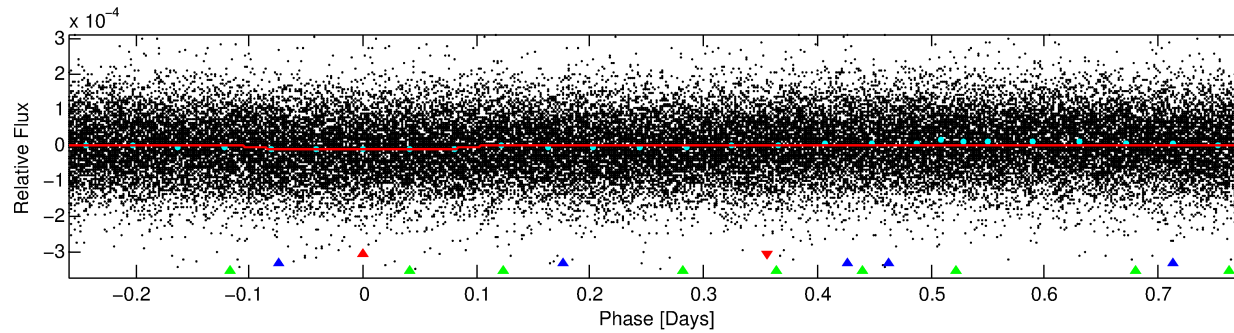
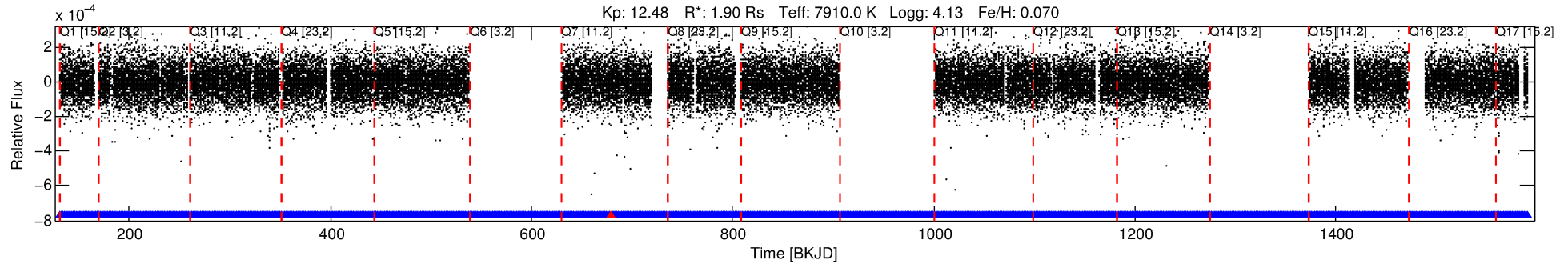
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005284283-01

No Significant Match Found

DV One-Page Summary

KIC: 5284283 Candidate: 1 of 3 Period: 1.038 d



DV Fit Results:

Period = 1.03757 [0.00002] d
Epoch = 131.7457 [0.0058] BKJD
Rp/R* = 0.0031 [0.0009]
a/R* = 1.19 [0.59]
b = 0.90 [0.38]
Seff = 21353.64 [7936.47]
Teq = 3082 [286] K
Rp = 0.65 [0.25] Re
a = 0.0243 [0.0056] AU
Ag = 3.26 [2.35] [0.96σ]
Teffp = 6406 [1069] K [3.00σ]

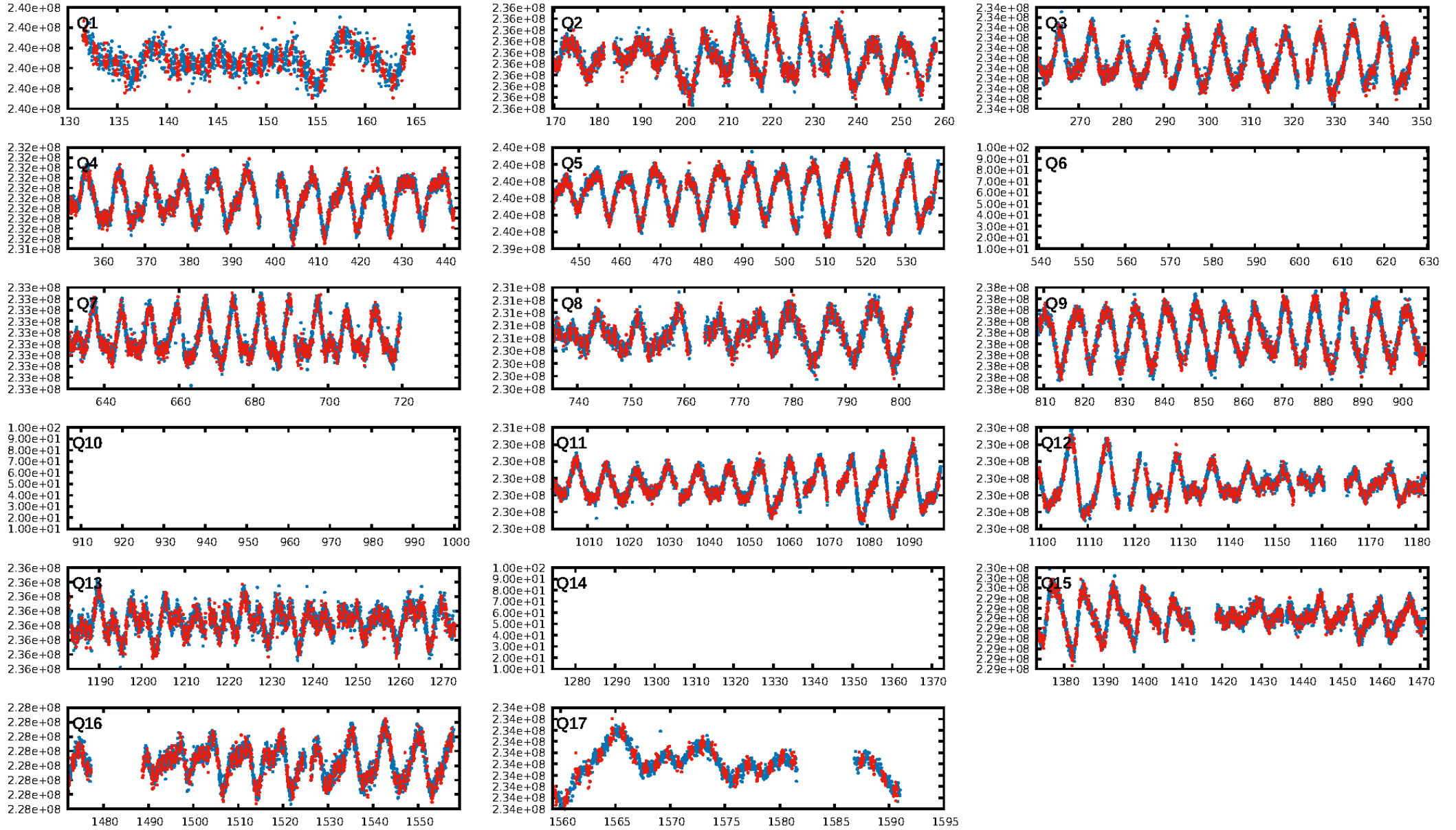
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [191.33σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.34e-14
RollingBand-fgt: 1.00 [975/976]
GhostDiagnostic-chr: 0.8963
Centroid-sig: 86.5%
Centroid-so: 0.491 arcsec [0.37σ]
OotOffset-rm: 1.104 arcsec [1.17σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-rm: 1.195 arcsec [1.29σ]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 1.00 [14/14]

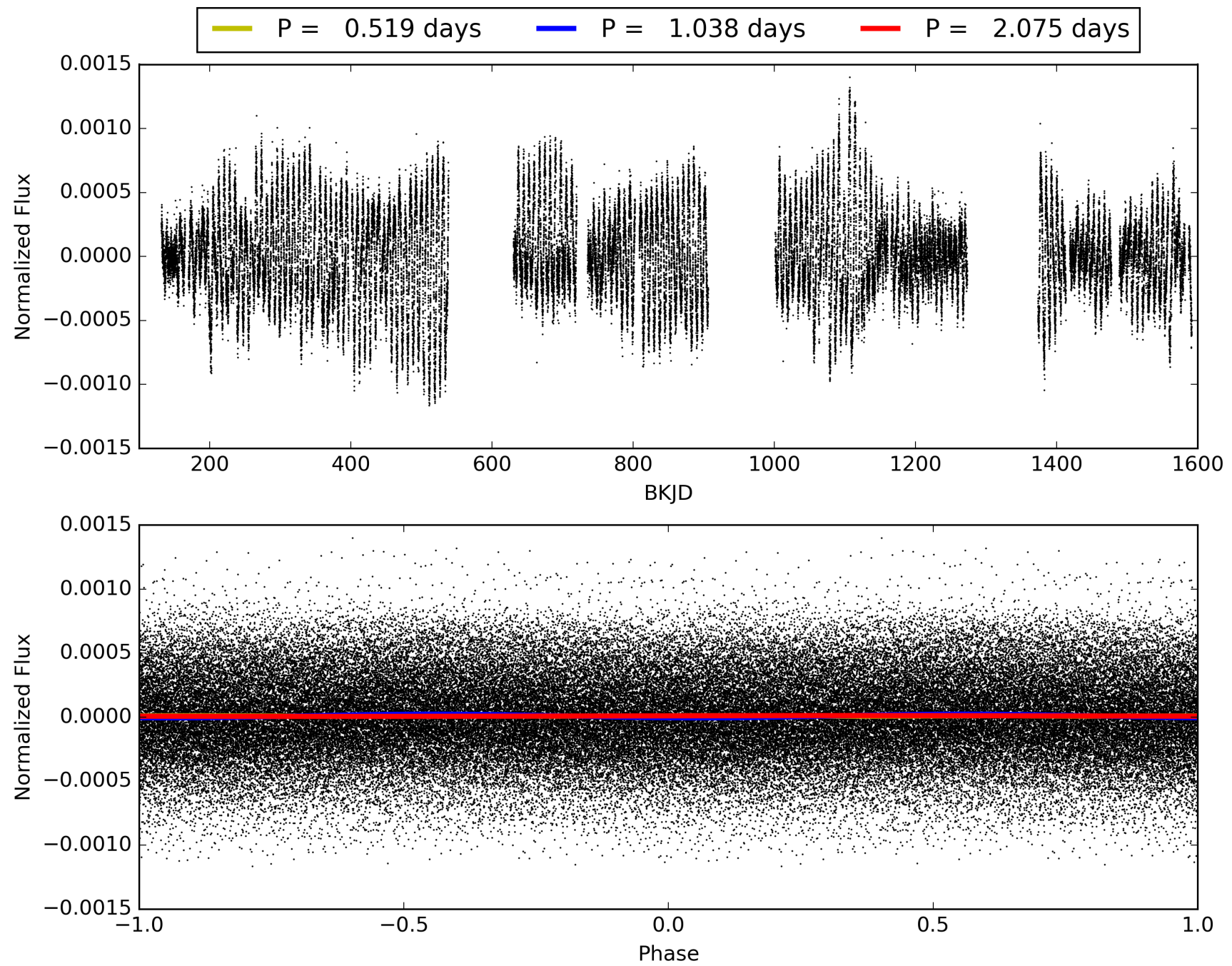
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:51:36 Z

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

TCE 005284283-01, PDC Light Curves

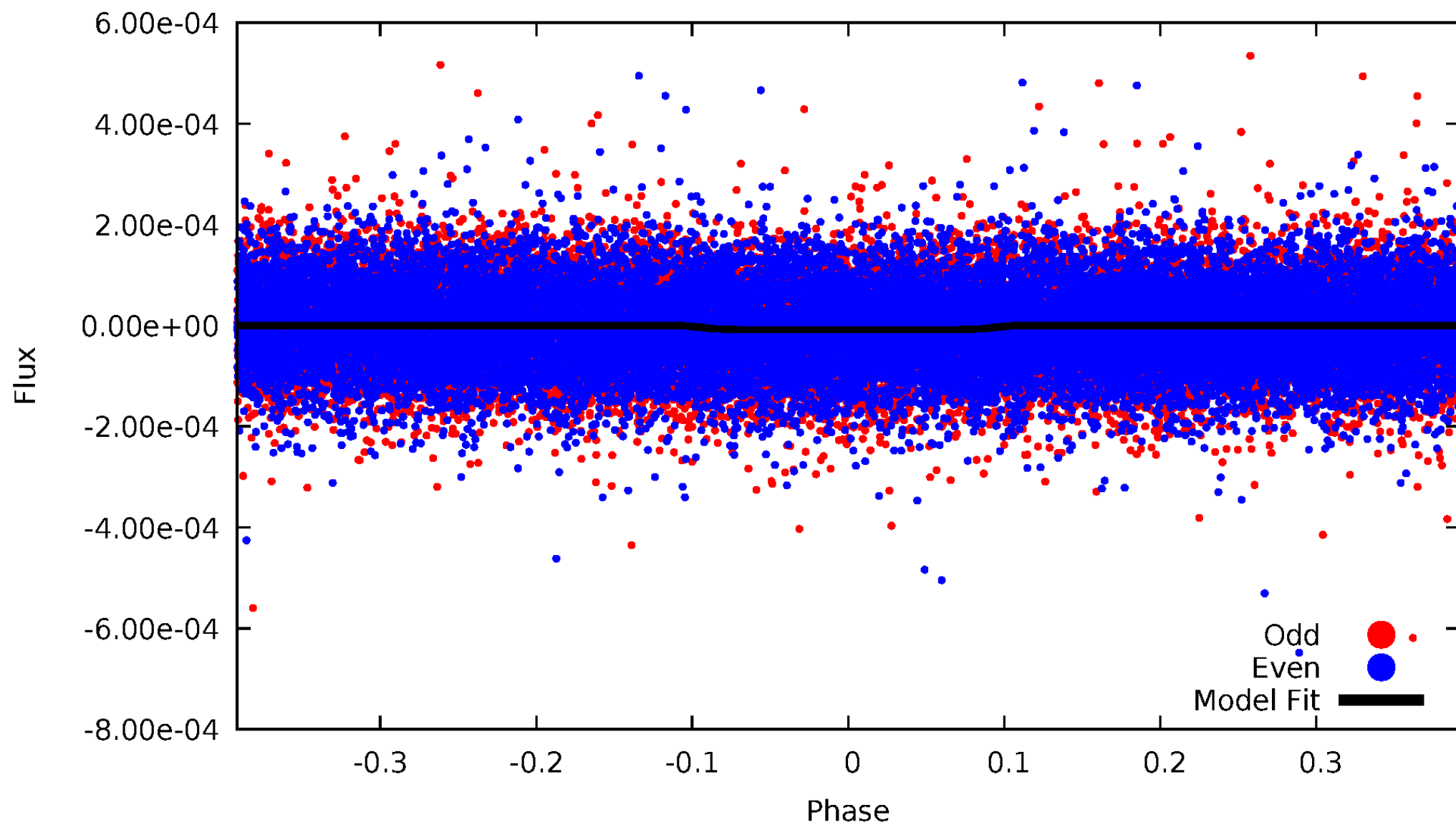


TCE 005284283-01



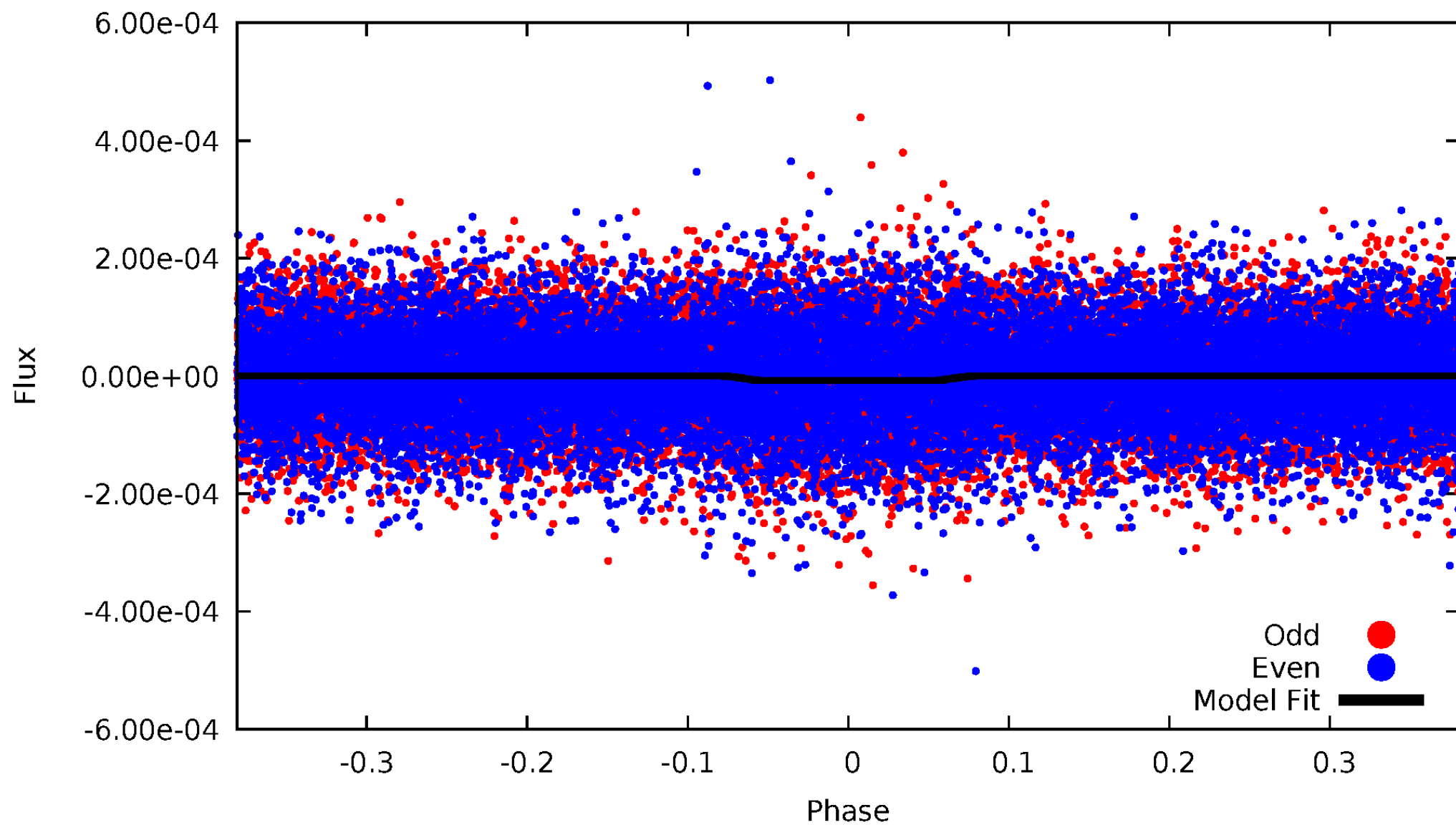
DV Odd/Even

TCE 005284283-01

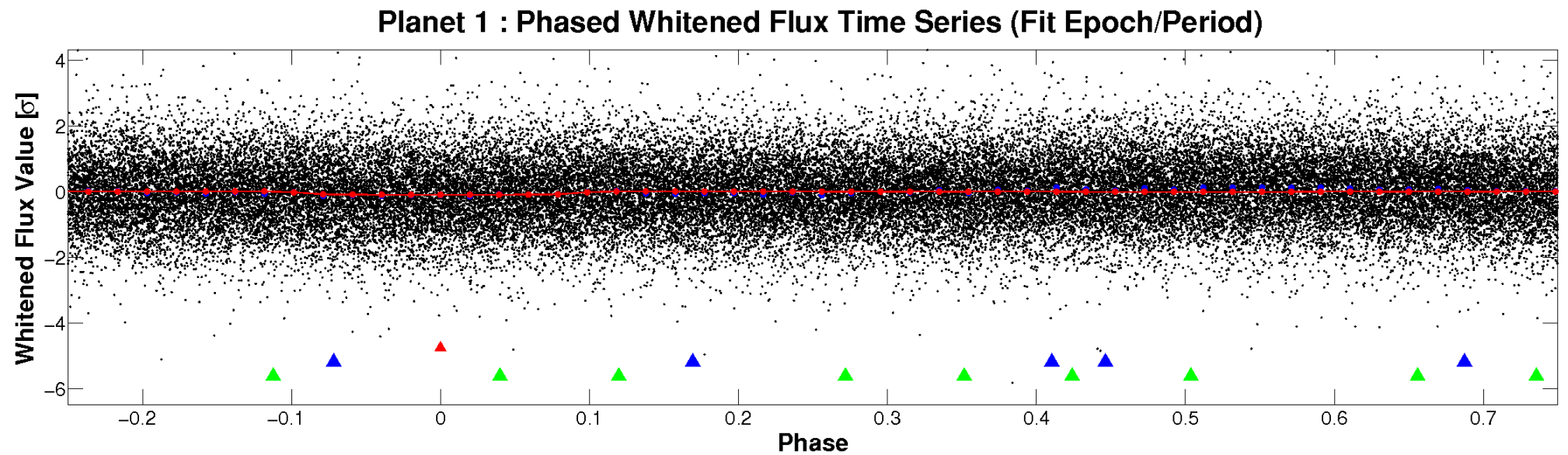
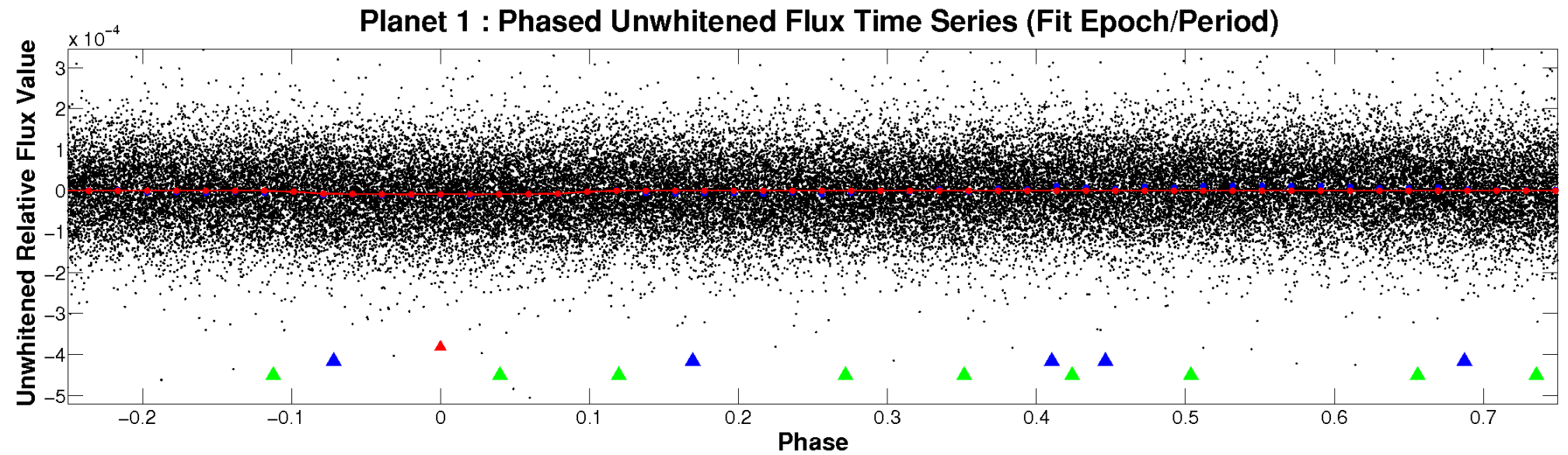


ALT Odd/Even

TCE 005284283-01

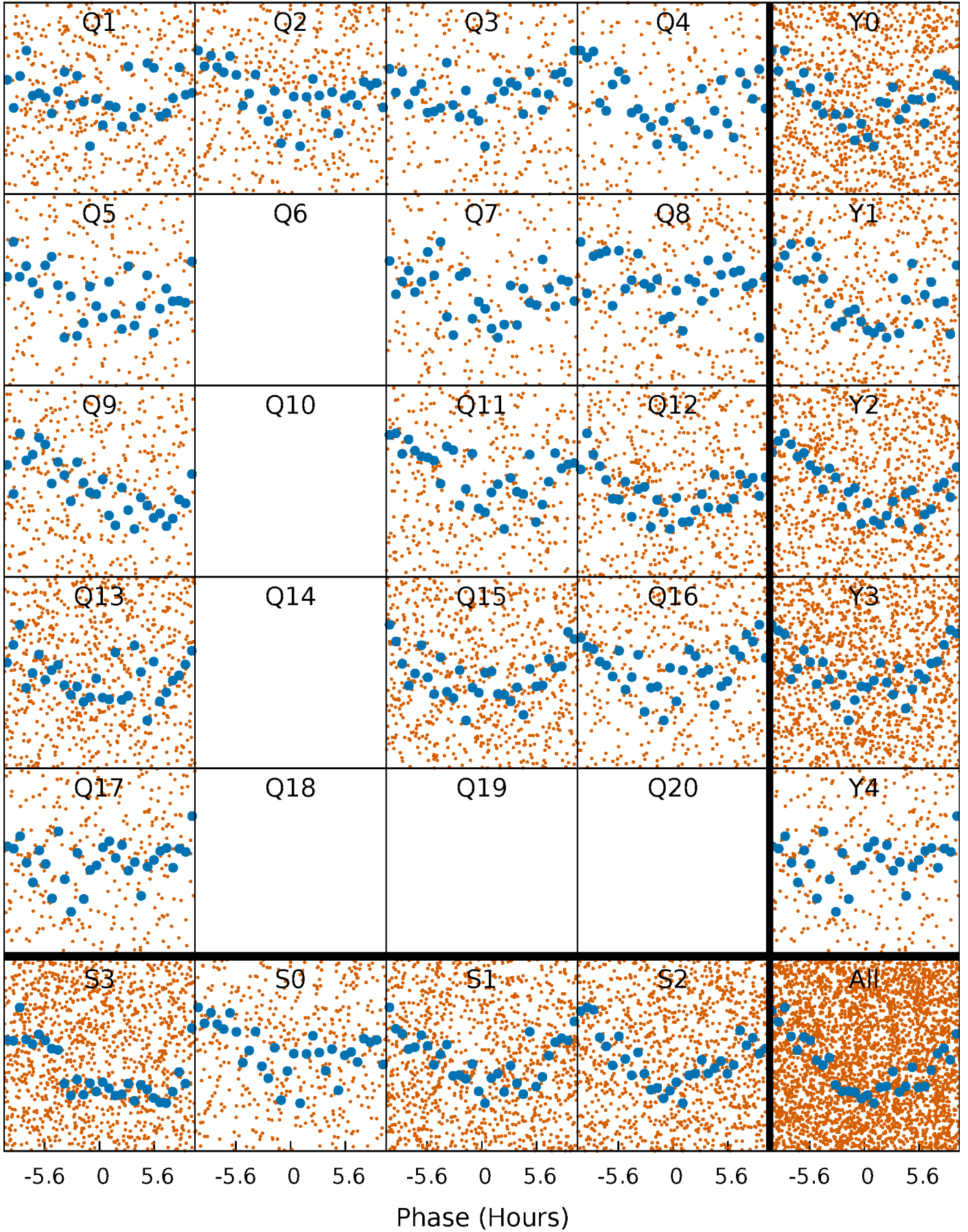


Non-Whitened Vs. Whitened Light Curve



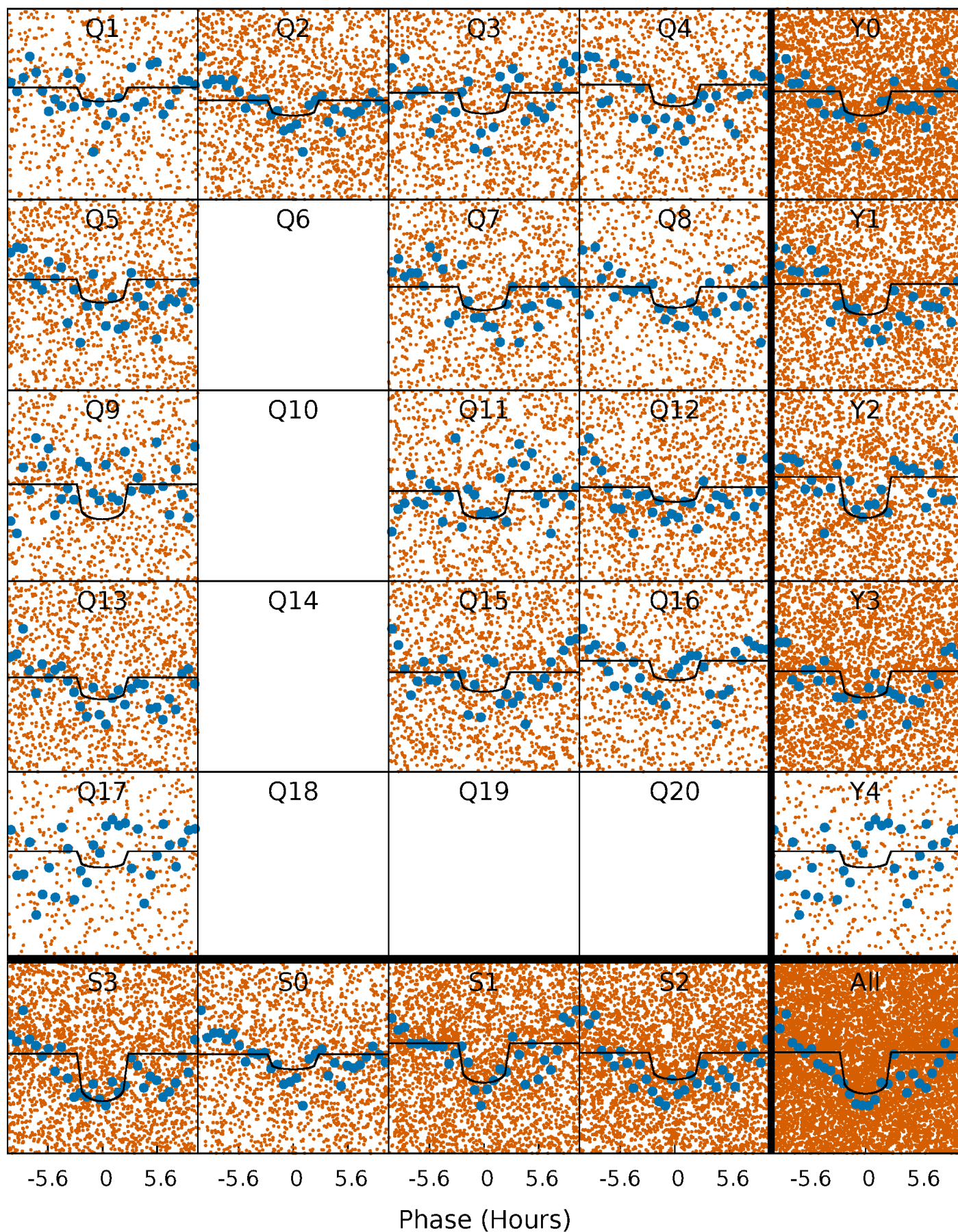
PDC Quarter-Phased Transit Curves

TCE 005284283-01 P= 1.037565 Days $T_0=131.745741$ (BKJD)



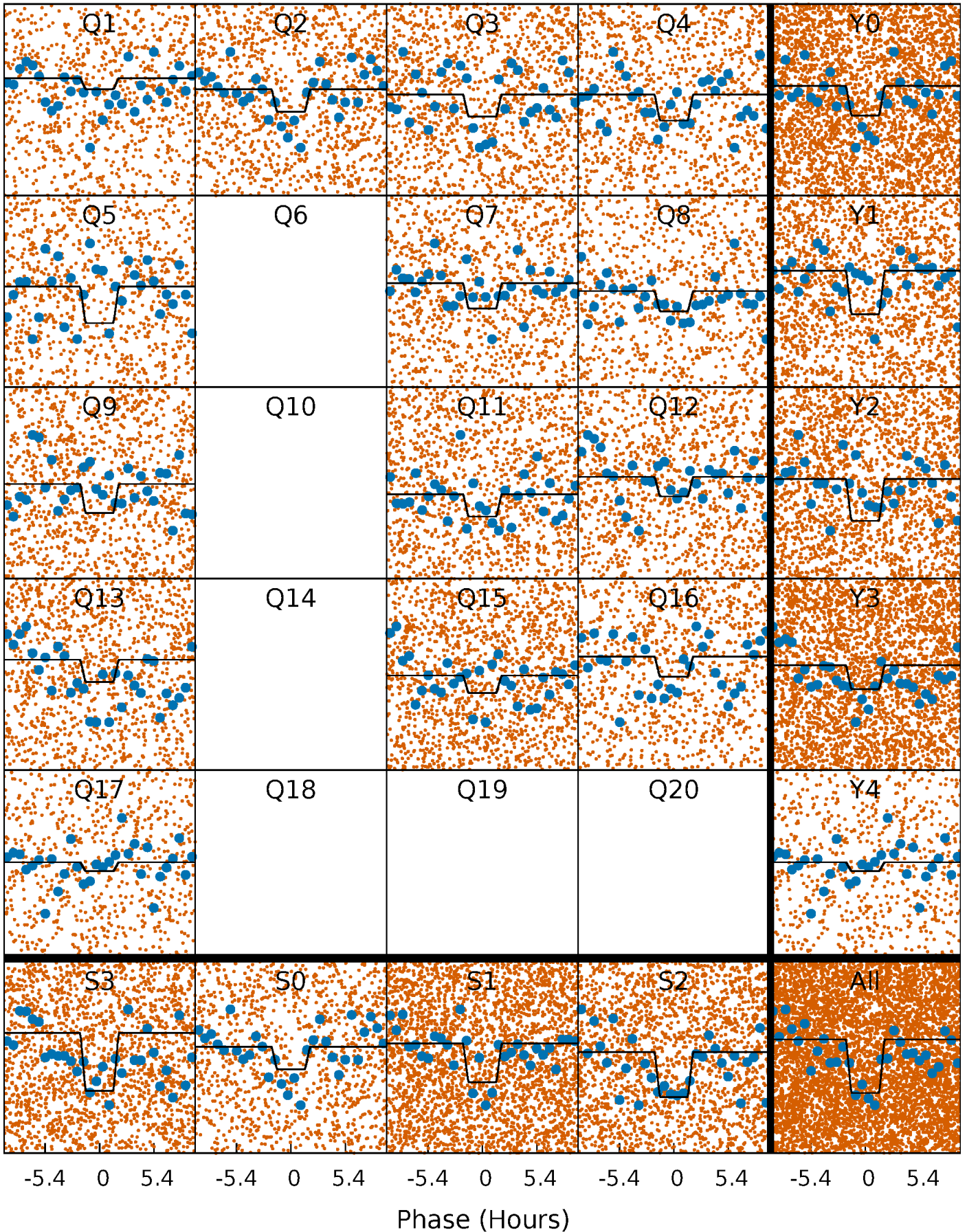
DV Quarter-Phased Transit Curves

TCE 005284283-01 P= 1.037565 Days $T_0=131.745741$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

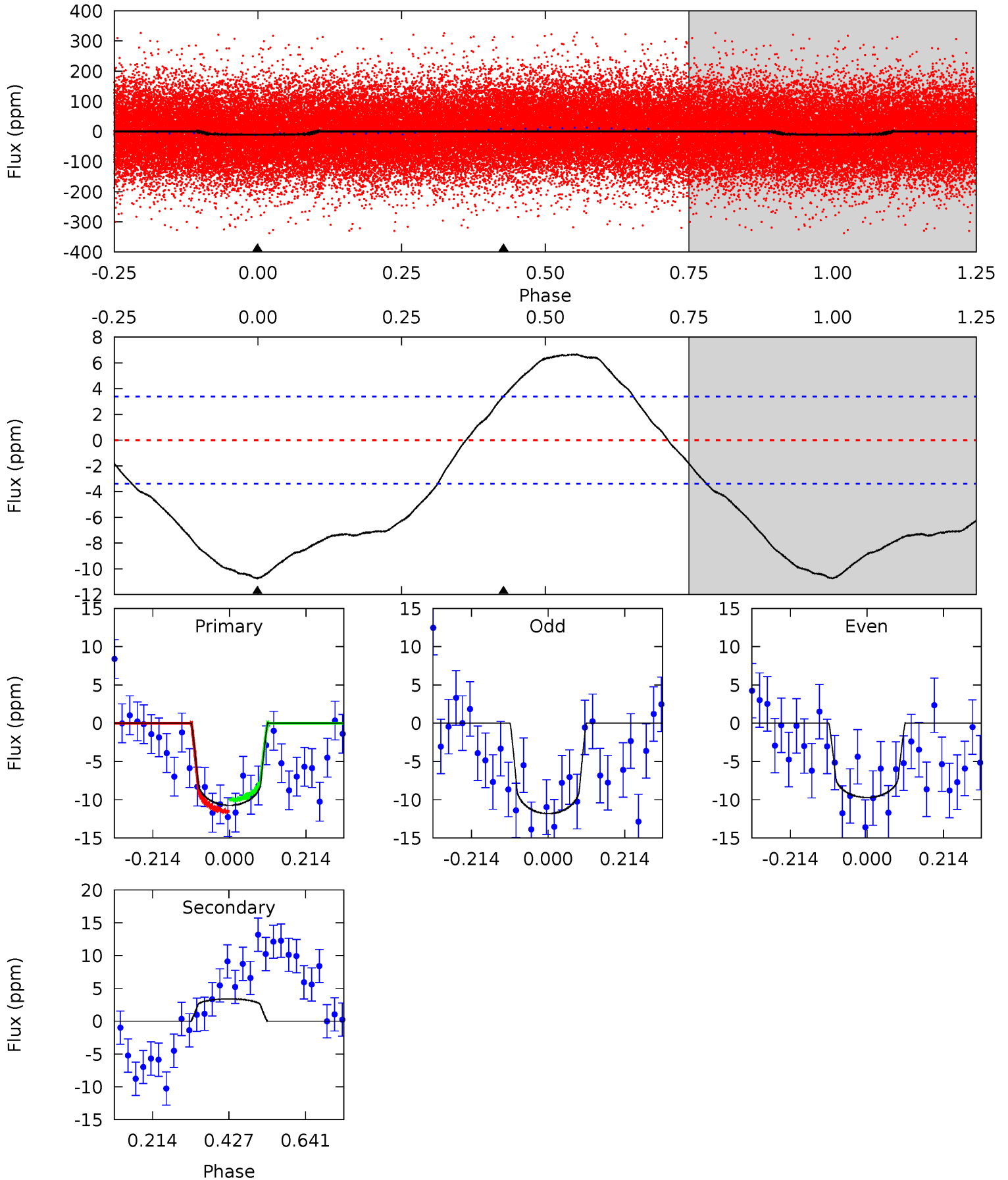
TCE 005284283-01 P= 1.037531 Days $T_0=131.744127$ (BKJD)



DV Model-Shift Uniqueness Test

005284283-01, P = 1.037565 Days, E = 130.708176 Days

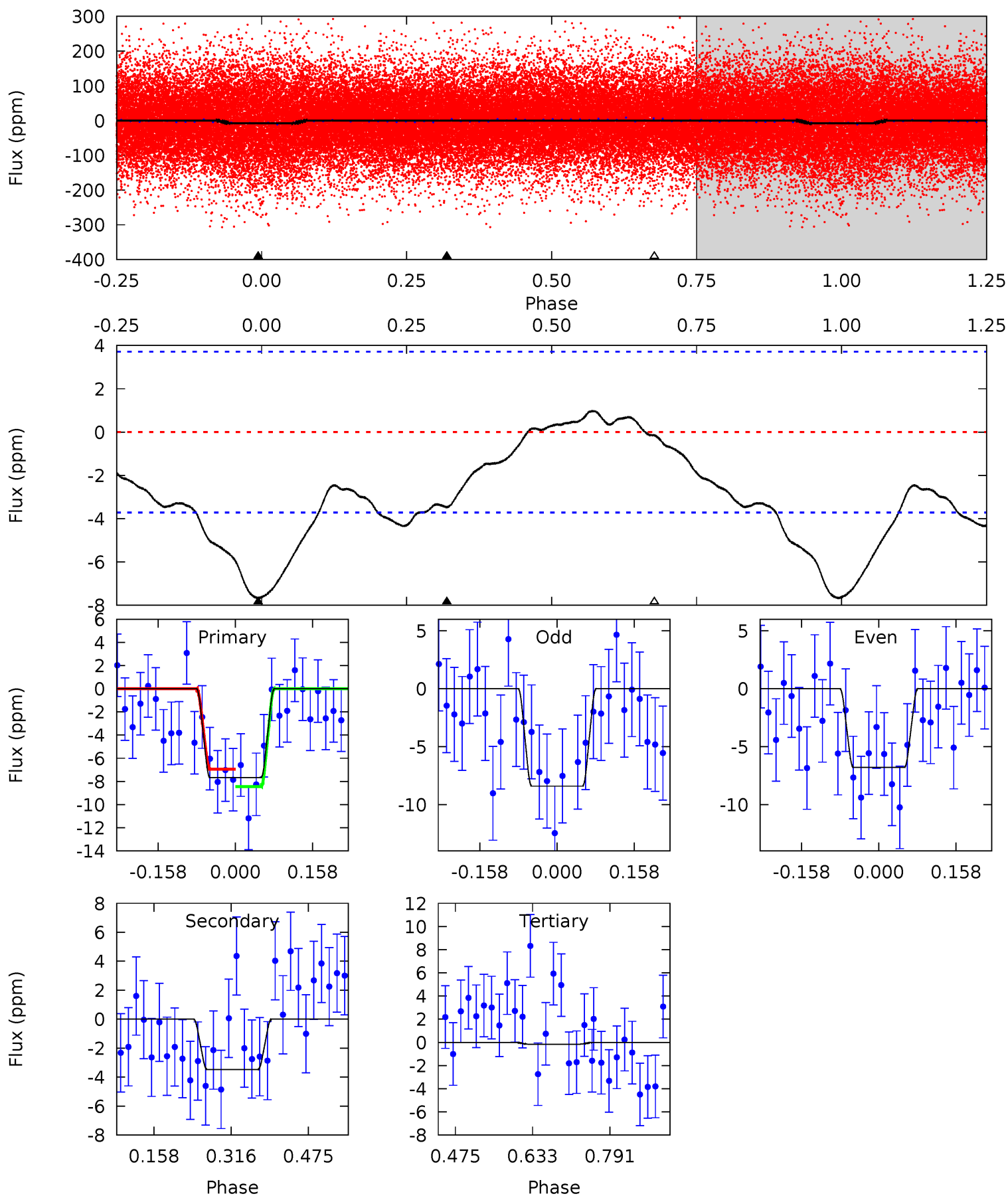
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 14.0 | -4.41 | 0 | 0 | 4.40 | 1.24 | 2.99 | 14.0 | 14.0 | -4.41 | -4.41 | 1.37 | 1.08 | 0.38 | 0.98 |



Alt Model-Shift Uniqueness Test

005284283-01, P = 1.037531 Days, E = 130.706596 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.22 | 4.17 | 0.19 | 0 | 4.47 | 1.41 | 1.64 | 9.03 | 9.22 | 3.98 | 4.17 | 0.97 | 0.97 | 0.11 | 0.92 |



Stellar Parameters For KIC 005284283

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 7910^{+216}_{-351} | $4.132^{+0.108}_{-0.175}$ | $0.070^{+0.150}_{-0.400}$ | $1.896^{+0.528}_{-0.325}$ | $1.777^{+0.183}_{-0.275}$ | $0.367^{+0.203}_{-0.179}$ |
| | +3%/-4% | +3%/-4% | +214%/-571% | +28%/-17% | +10%/-15% | +55%/-49% |
| Source | KIC0 | 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 005284283-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|----------------------------|
| DV | 3 ± 1 | $0.65^{+0.23}_{-0.18}$ | 4338^{+307}_{-272} | -6057^{+683}_{-1103} | $-2.451^{+1.137}_{-2.426}$ |
| Alt. | -3 ± 1 | $0.58^{+0.19}_{-0.18}$ | 4320^{+303}_{-264} | 6125^{+1639}_{-958} | $3.226^{+3.953}_{-1.560}$ |

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 $A_{obs} \gg 1.0$

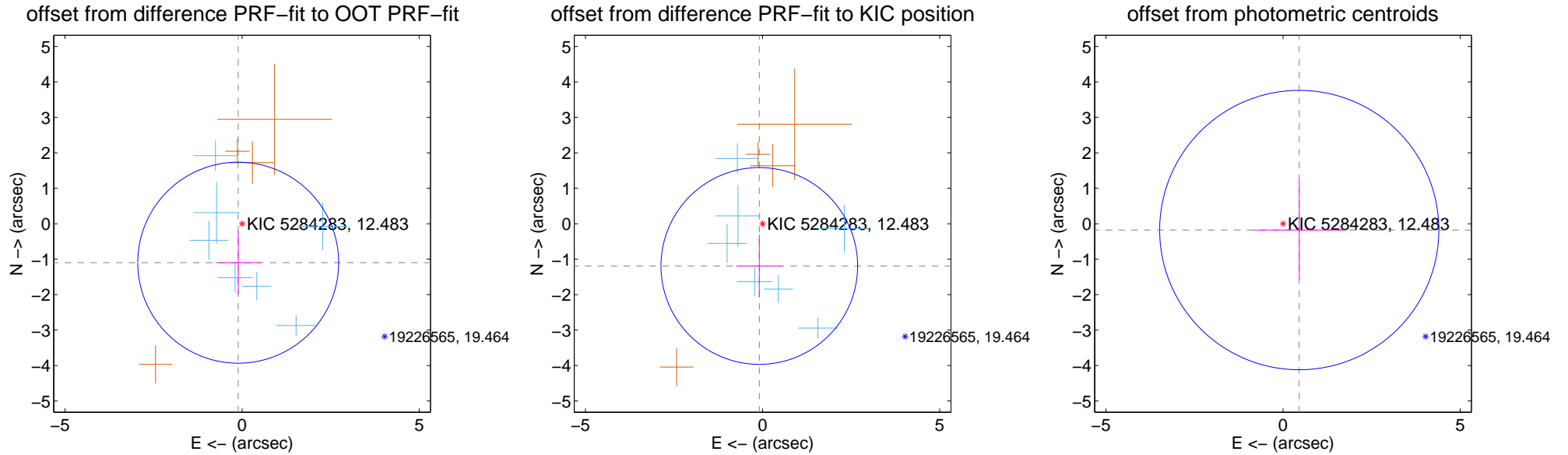
DV Centroid Data

Supplemental centroid analysis for 005284283-01. Kepler magnitude: 12.48. Transit SNR 7.89

There are 7 quarters with good PRF difference image offsets

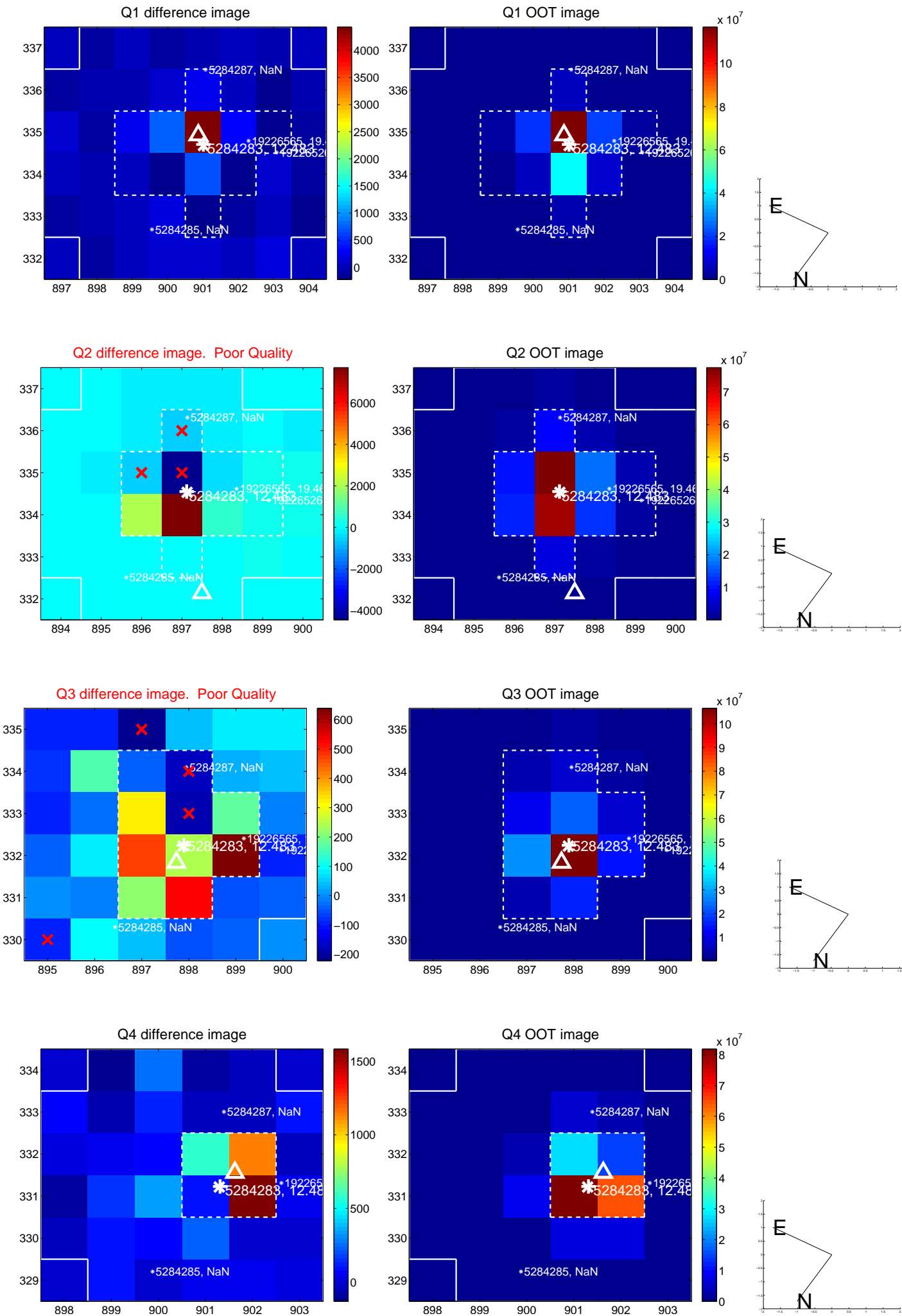
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 1.104 ± 0.945 | 1.17 | 0.110 ± 0.629 | -1.098 ± 0.902 |
| PRF-fit source offset from KIC position | 1.195 ± 0.925 | 1.29 | 0.092 ± 0.648 | -1.191 ± 0.889 |
| photometric centroid source offset | 0.49 ± 1.31 | 0.37 | -0.46 ± 1.30 | -0.18 ± 1.40 |

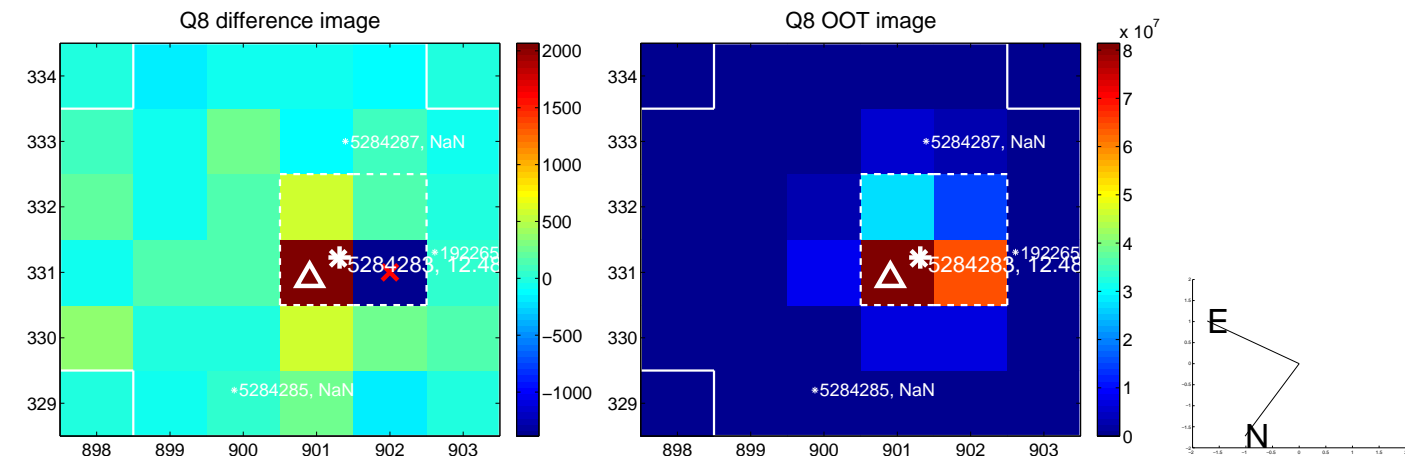
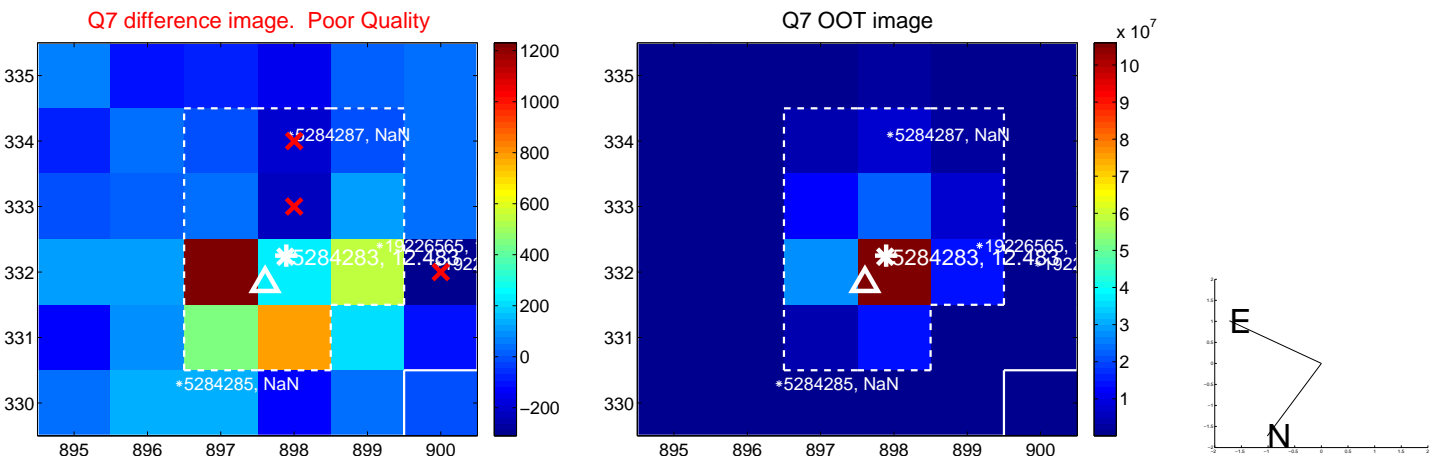
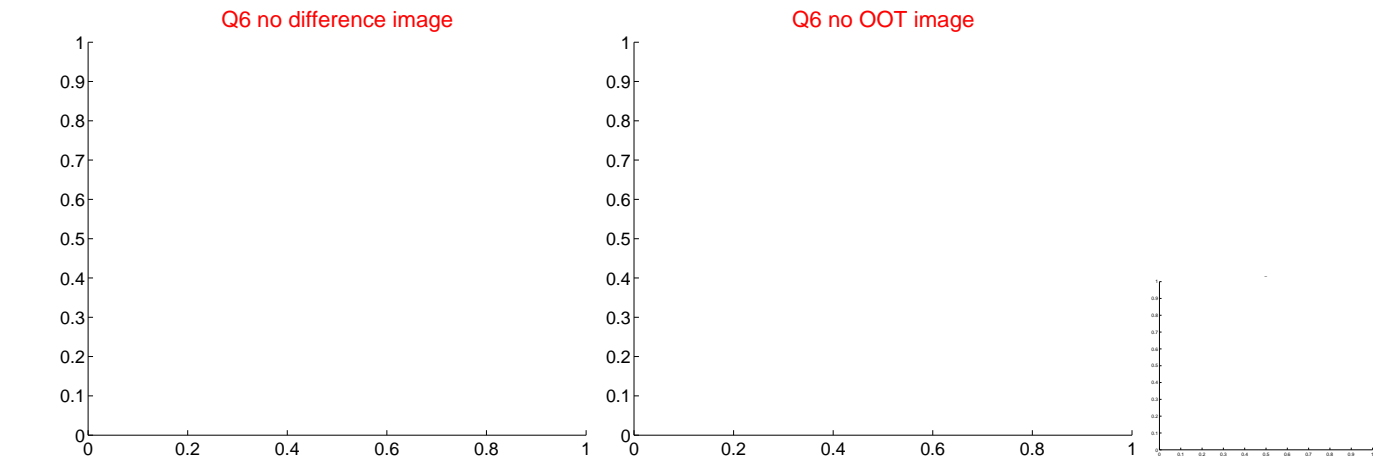
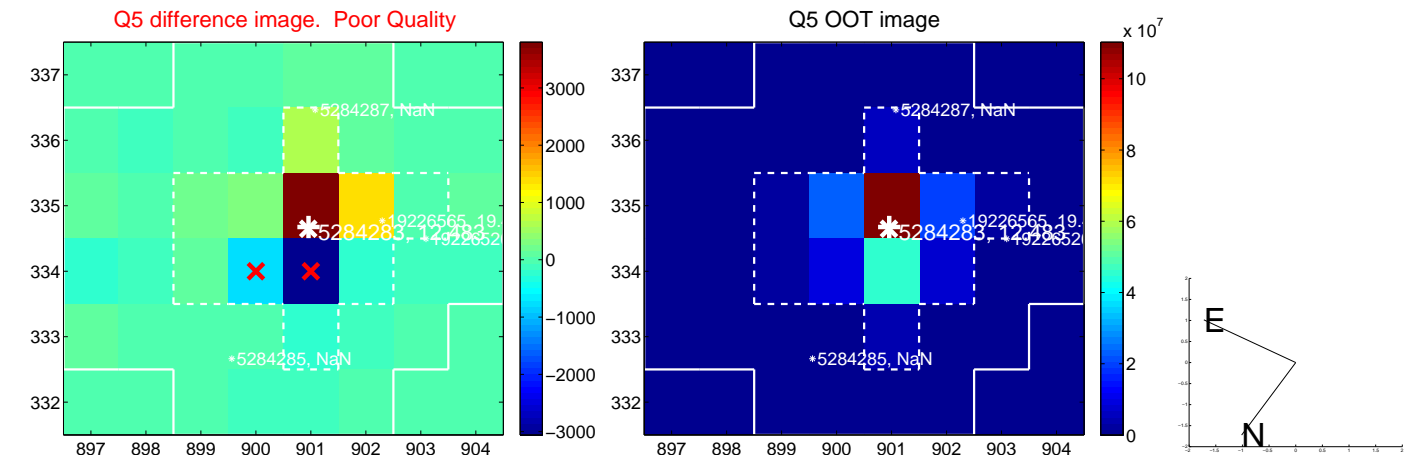


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

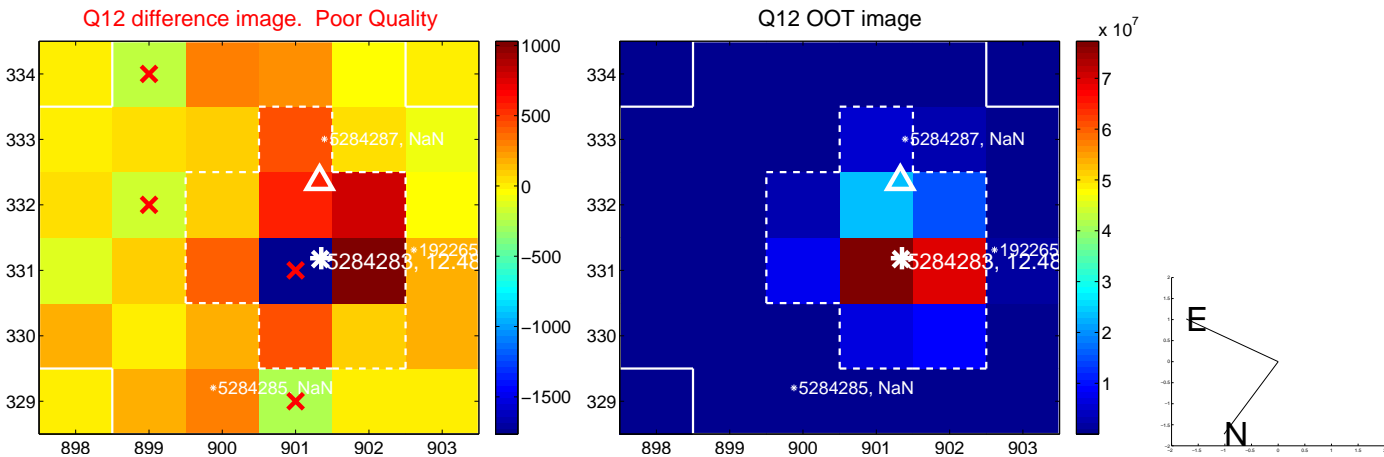
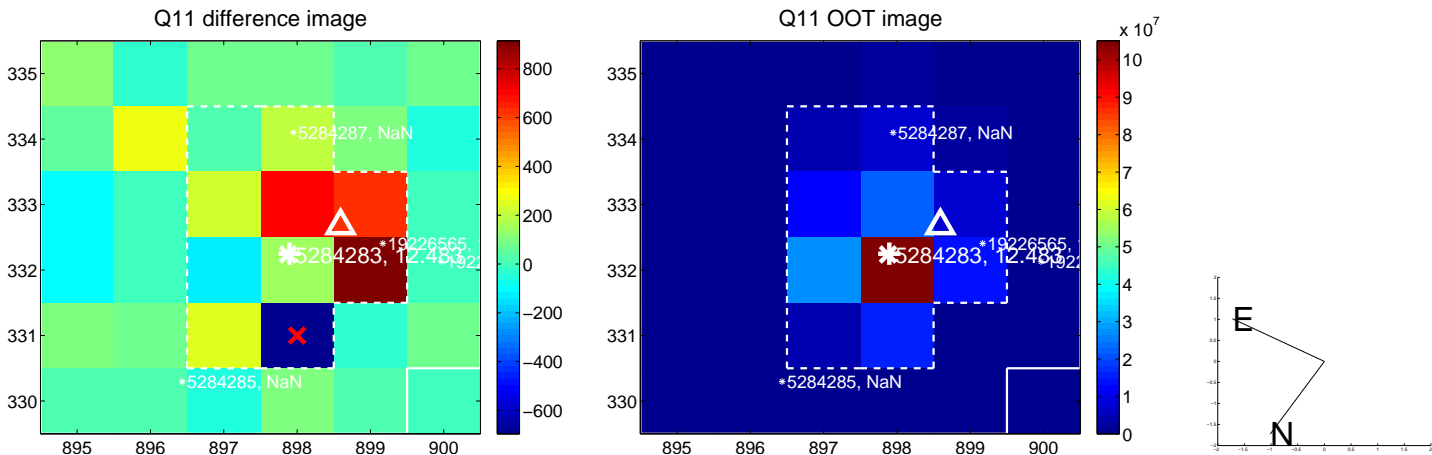
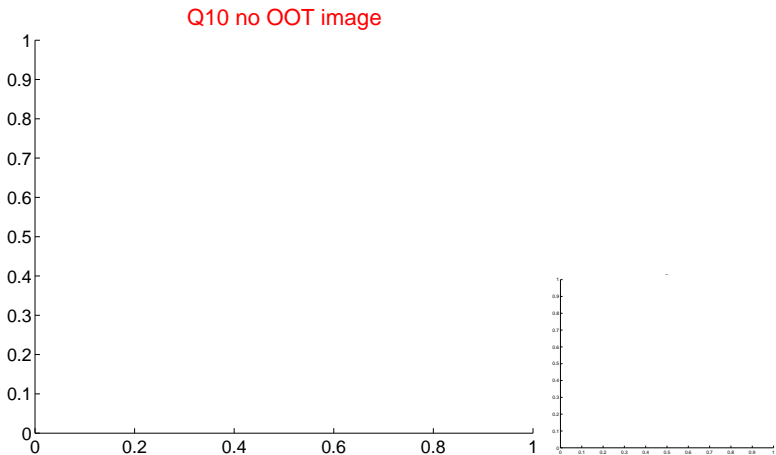
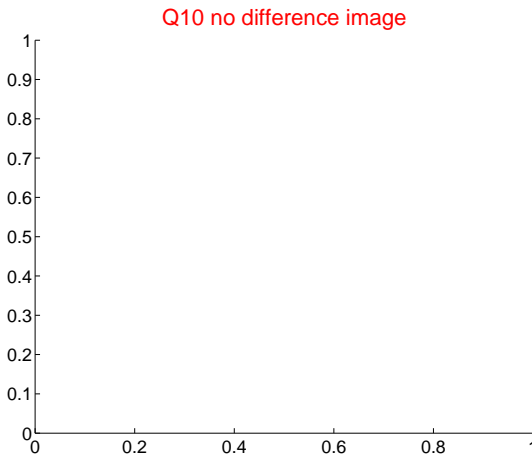
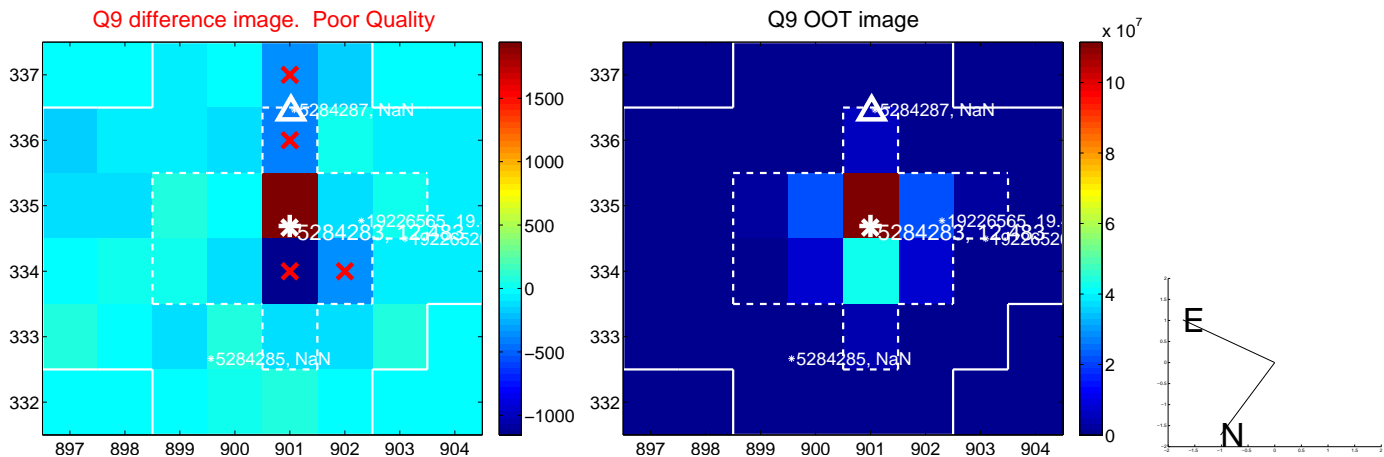
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



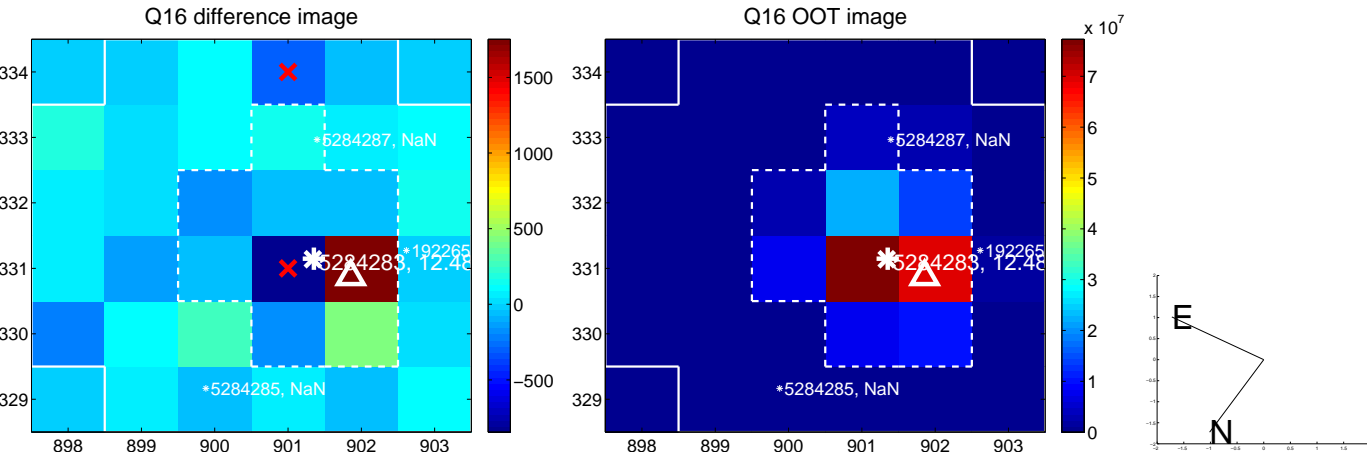
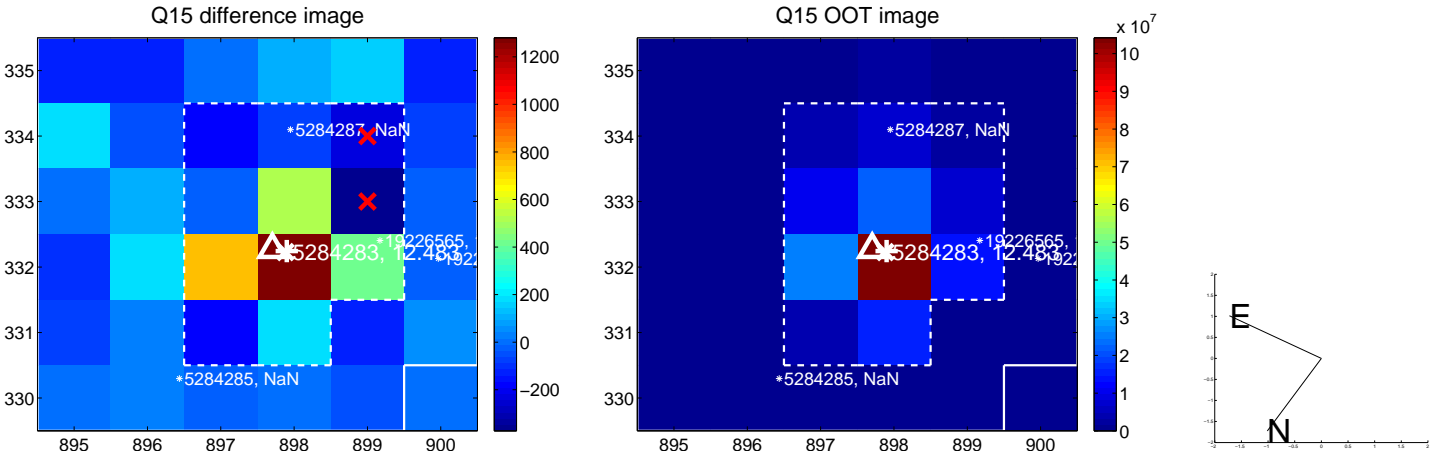
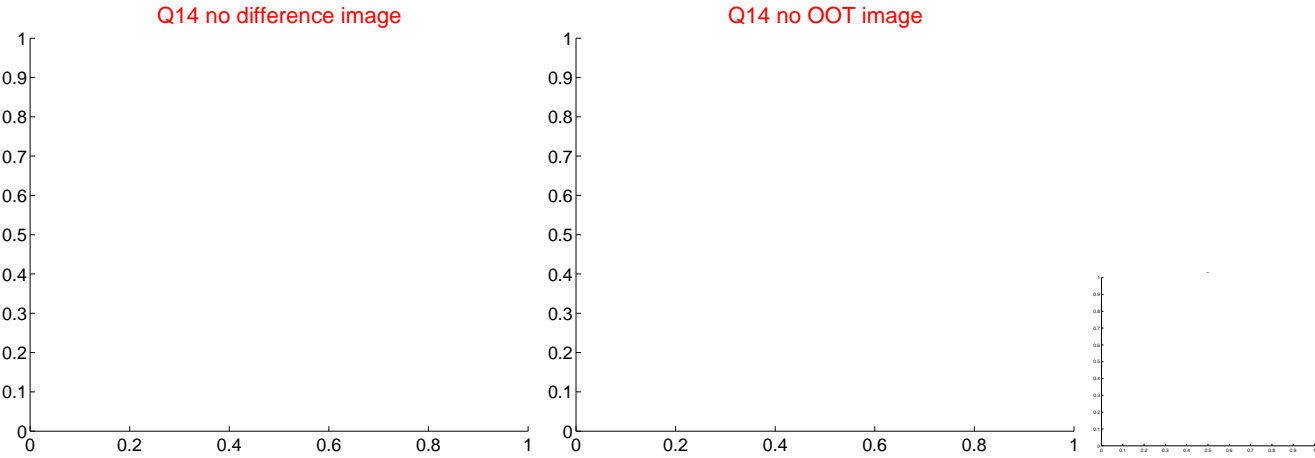
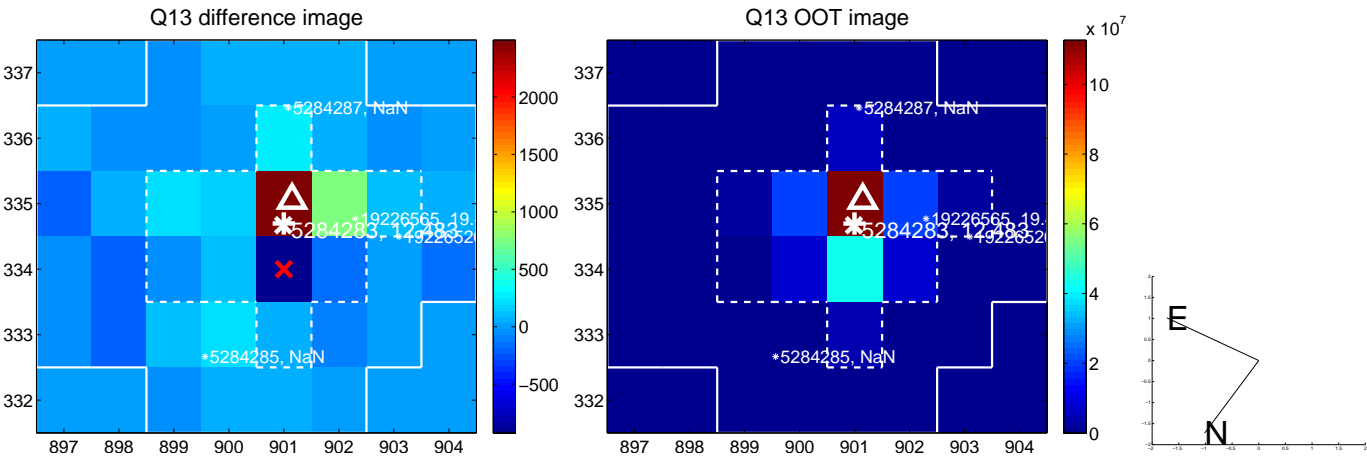
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



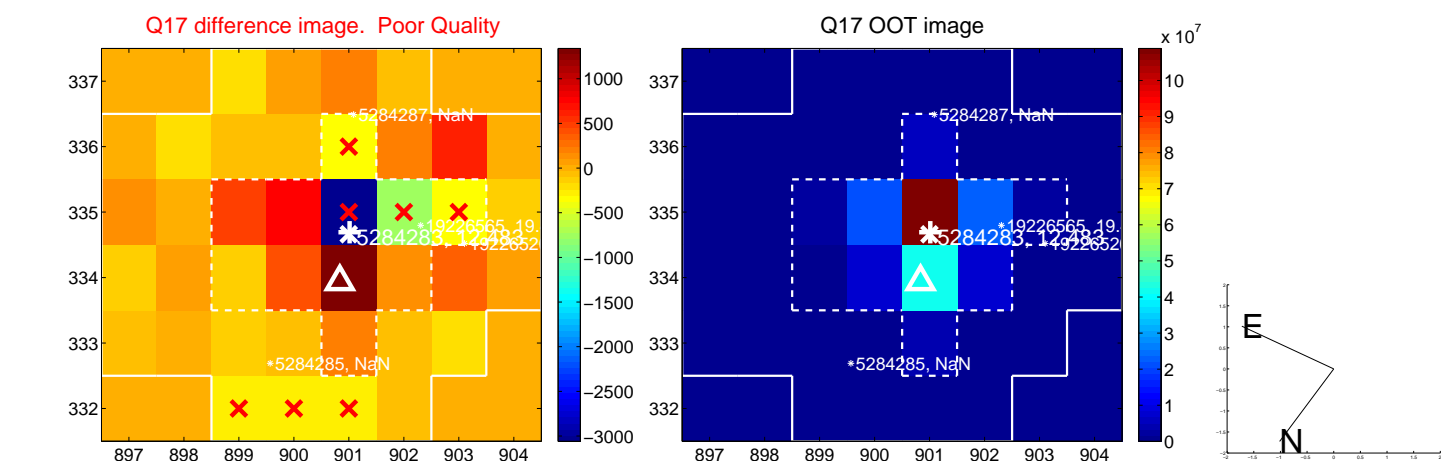
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



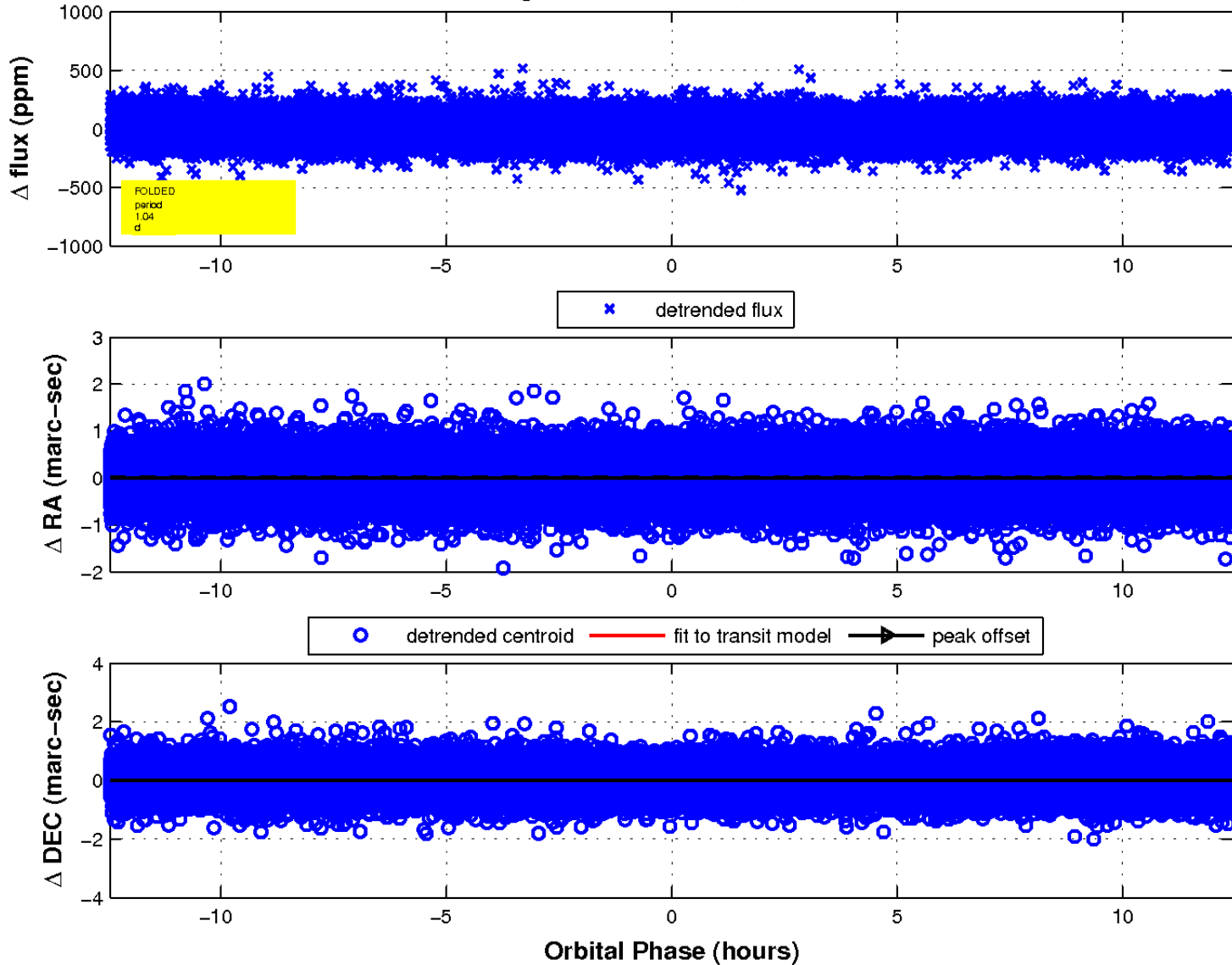
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

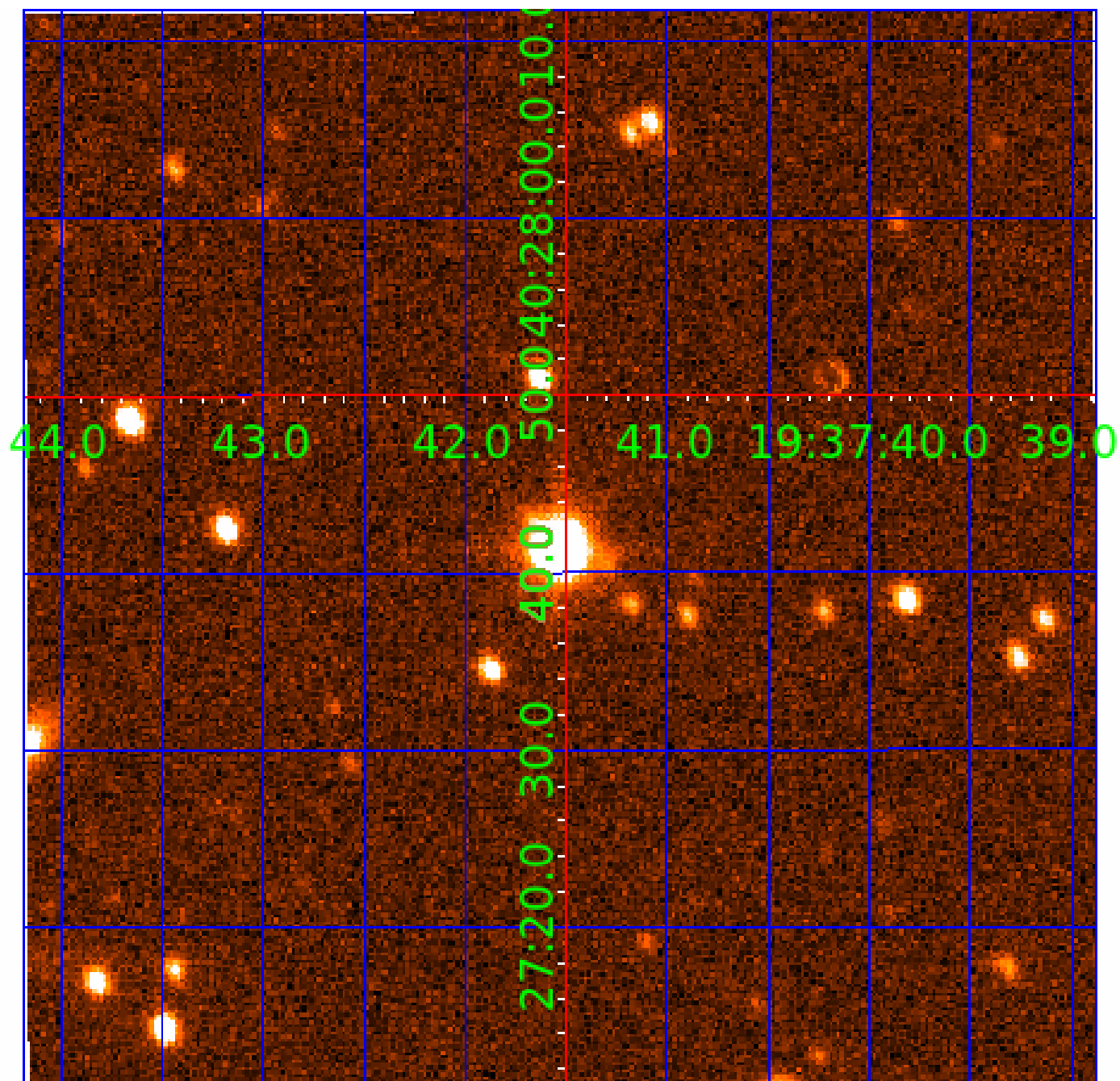


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 005284283

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 005284283-01 | OBS | No | 1.037565 | 131.745741 | 8.8 | 4.879 | 8.0 | 7.9 | 1.90 | 7910 | 0.65 | 21353.64 |
| 005284283-02 | OBS | No | 284.042807 | 254.604191 | 135.9 | 5.934 | 11.3 | 6.0 | 1.90 | 7910 | 2.42 | 12.01 |
| 005284283-03 | OBS | No | 165.611948 | 250.468110 | 96.8 | 20.059 | 9.7 | 4.1 | 1.90 | 7910 | 2.05 | 24.66 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005284283-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_ALT |
| 005284283-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 005284283-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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

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

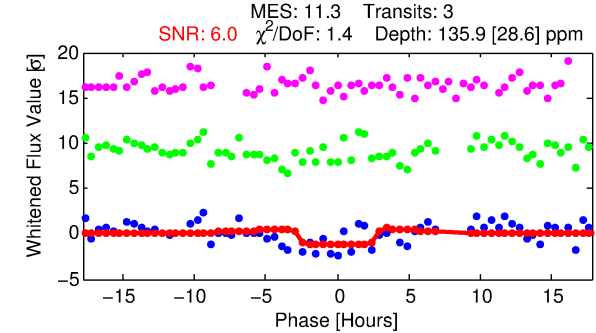
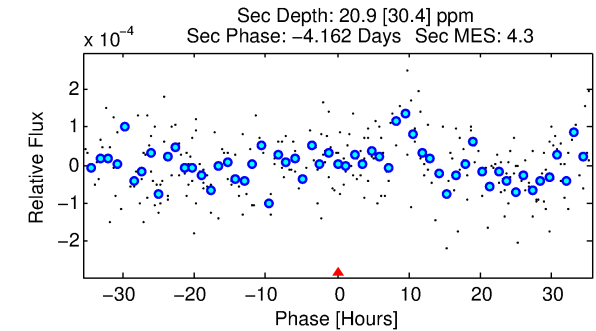
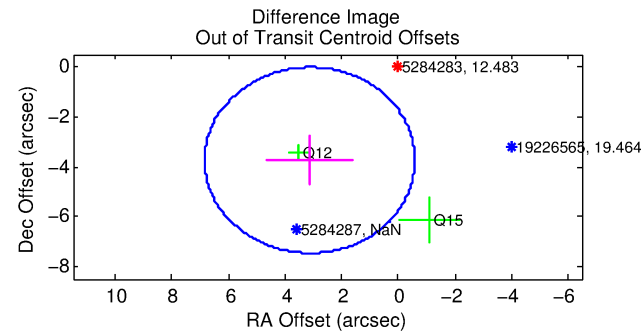
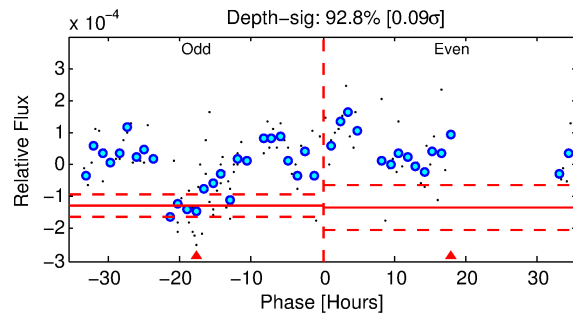
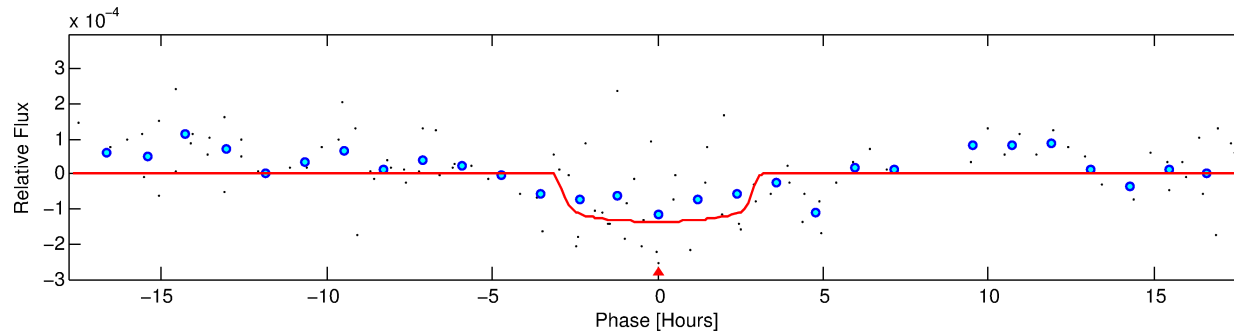
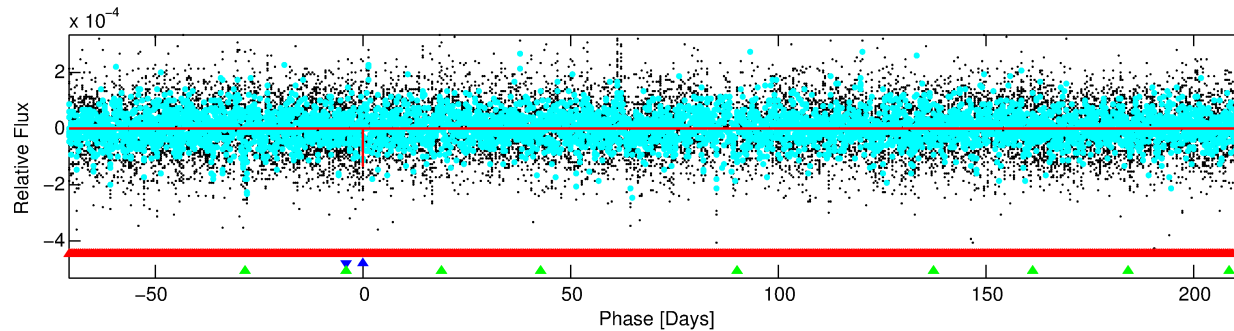
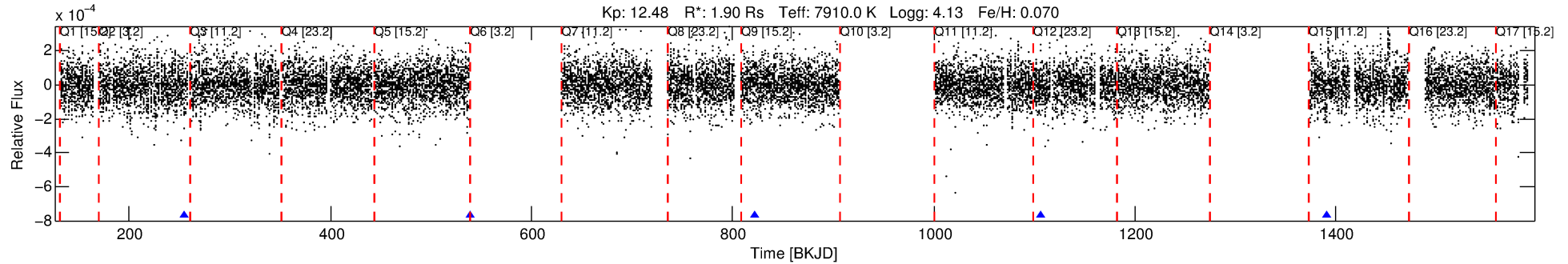
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005284283-02

No Significant Match Found

DV One-Page Summary

KIC: 5284283 Candidate: 2 of 3 Period: 284.043 d



DV Fit Results:

Period = 284.04281 [0.00790] d
Epoch = 254.6042 [0.0216] BKJD
Rp/R* = 0.0117 [0.0149]
a/R* = 232.66 [1840.24]
b = 0.79 [3.83]
Seff = 12.01 [4.46]
Teq = 475 [44] K
Rp = 2.43 [3.16] Re
a = 1.0245 [0.2348] AU
Ag = 2047.25 [6042.17] [0.34 σ]
Teffp = 4937 [3627] K [1.23 σ]

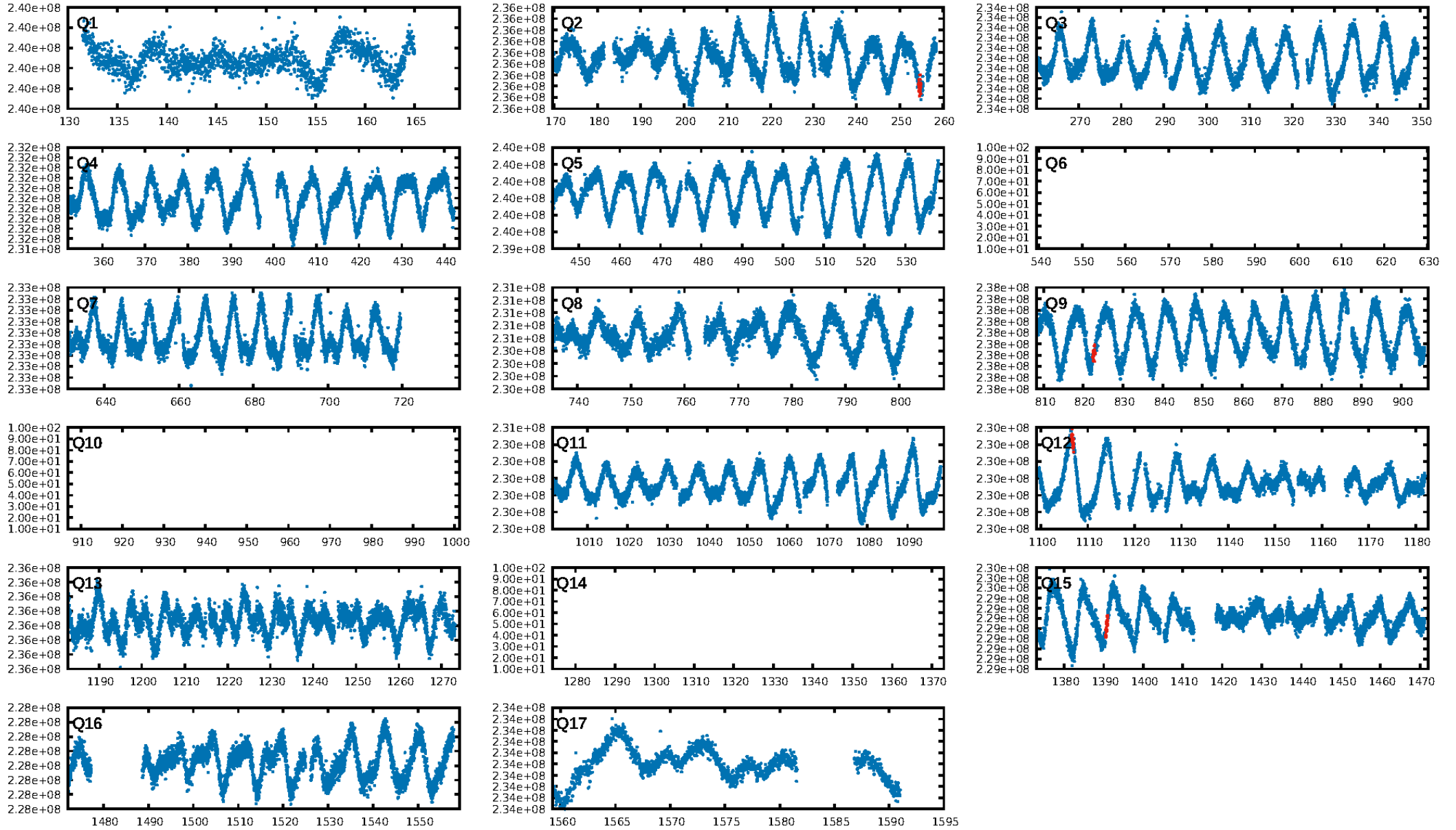
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [135.88 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 54.3%
ModelChiSquareGof-sig: 84.1%
Bootstrap-pfa: 7.50e-22
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -3.583
Centroid-sig: 22.8%
Centroid-so: 1.610 arcsec [1.02 σ]
OotOffset-rm: 4.876 arcsec [3.93 σ]
KicOffset-rm: 4.930 arcsec [3.98 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.00 [0/4]

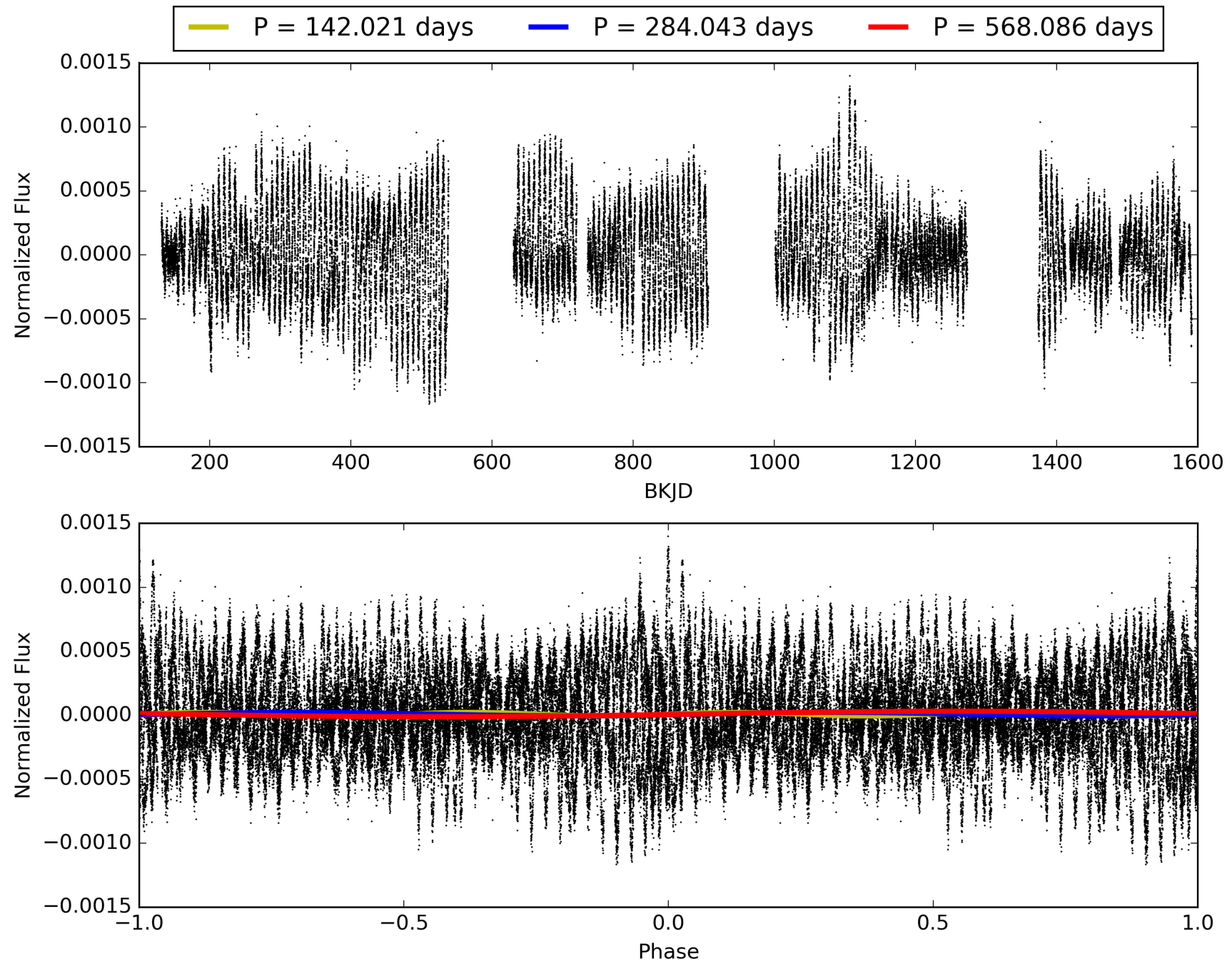
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:51:46 Z

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

TCE 005284283-02, PDC Light Curves

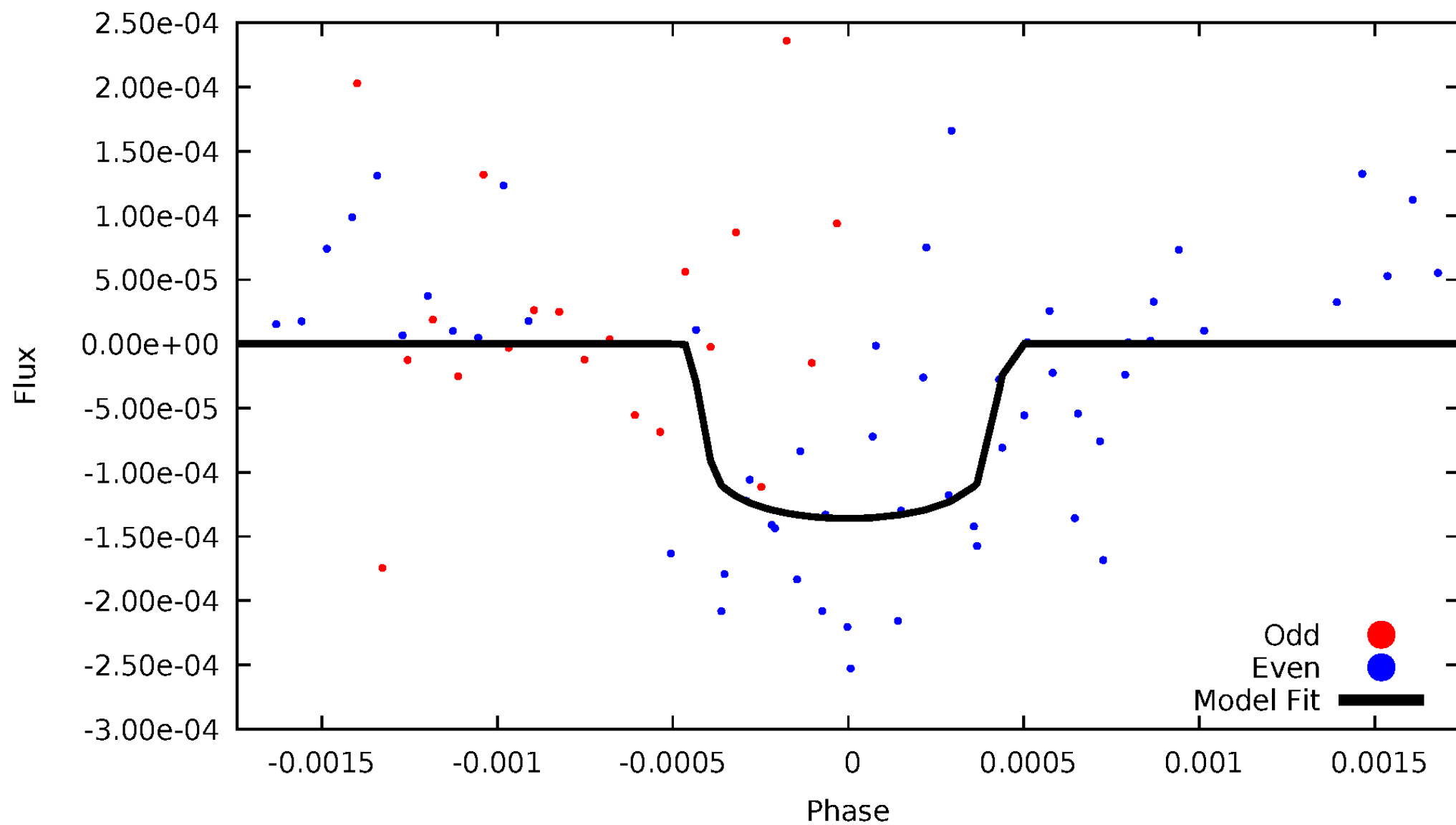


TCE 005284283-02



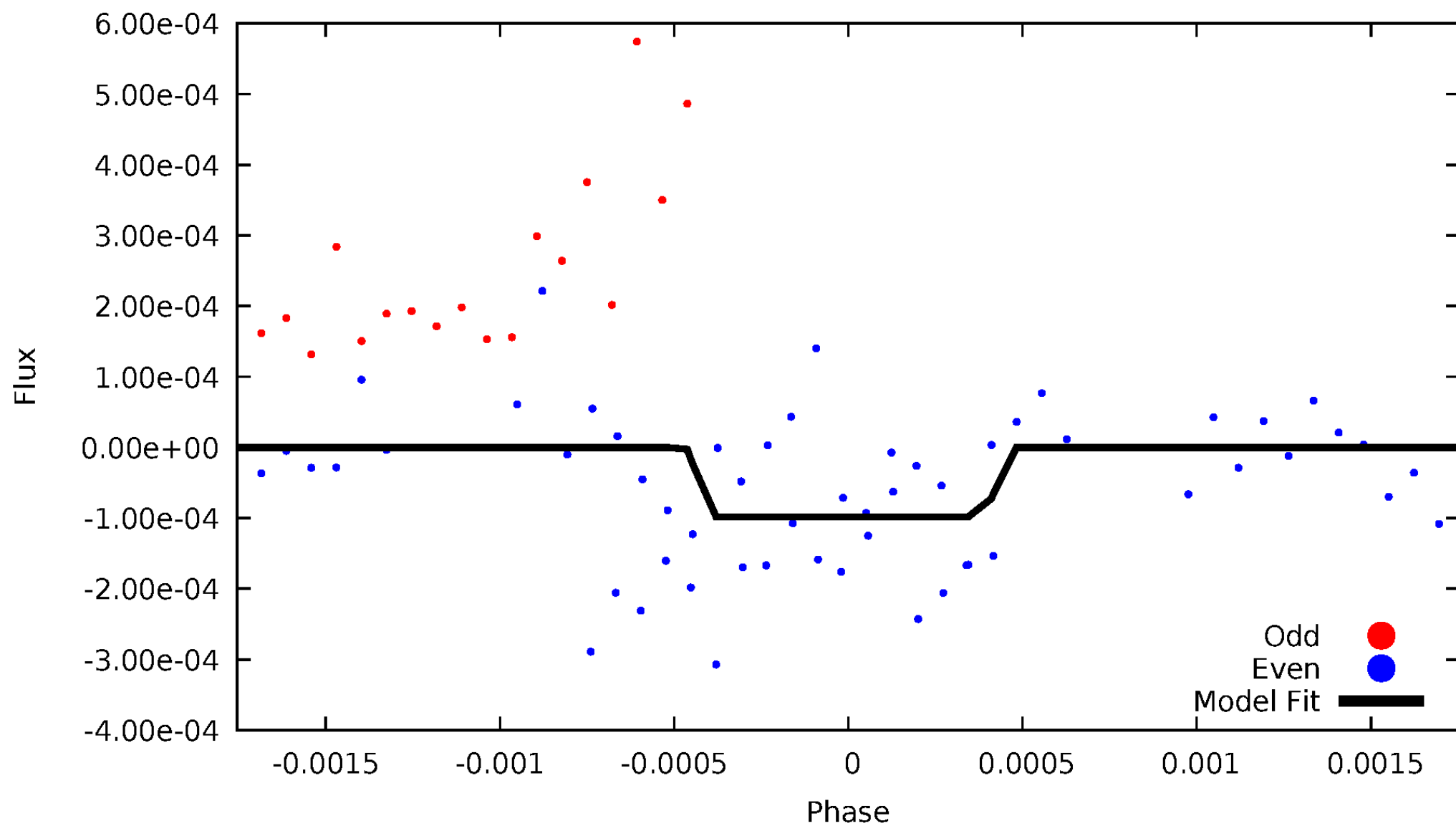
DV Odd/Even

TCE 005284283-02



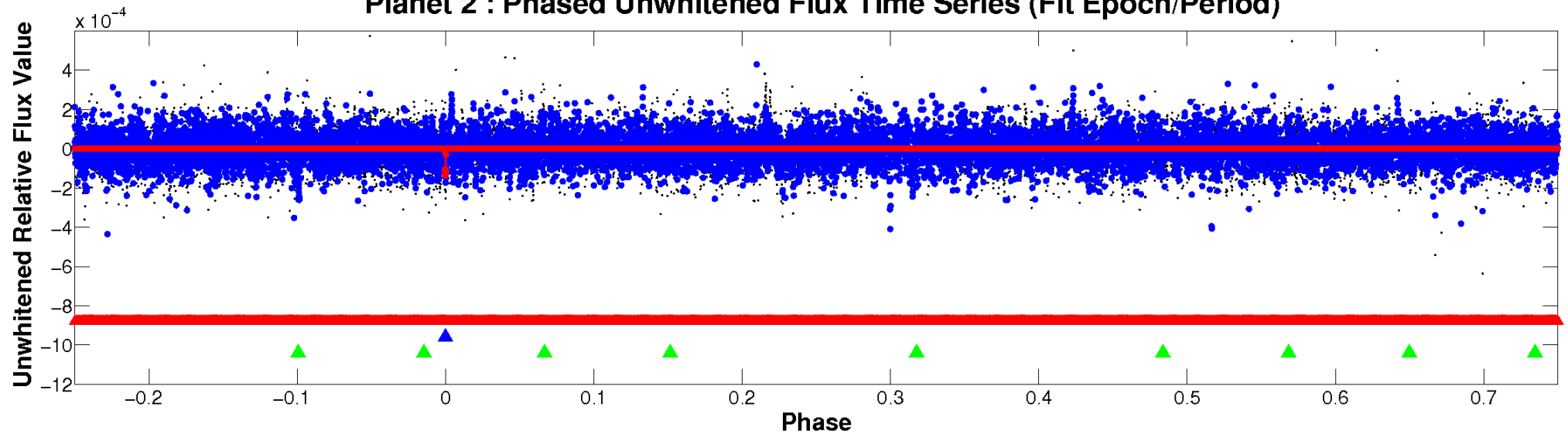
ALT Odd/Even

TCE 005284283-02

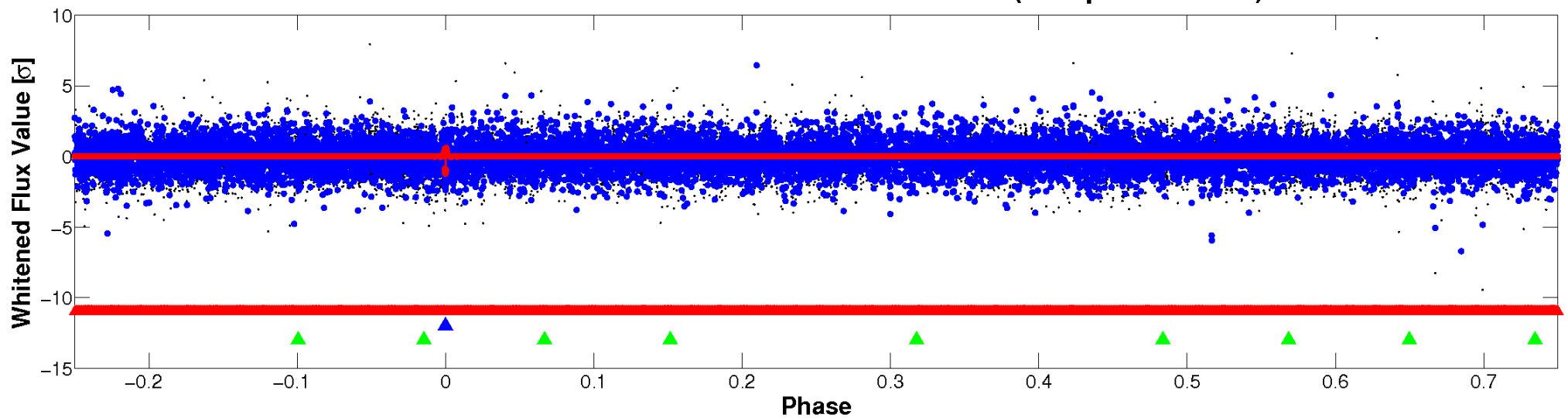


Non-Whitened Vs. Whitened Light Curve

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

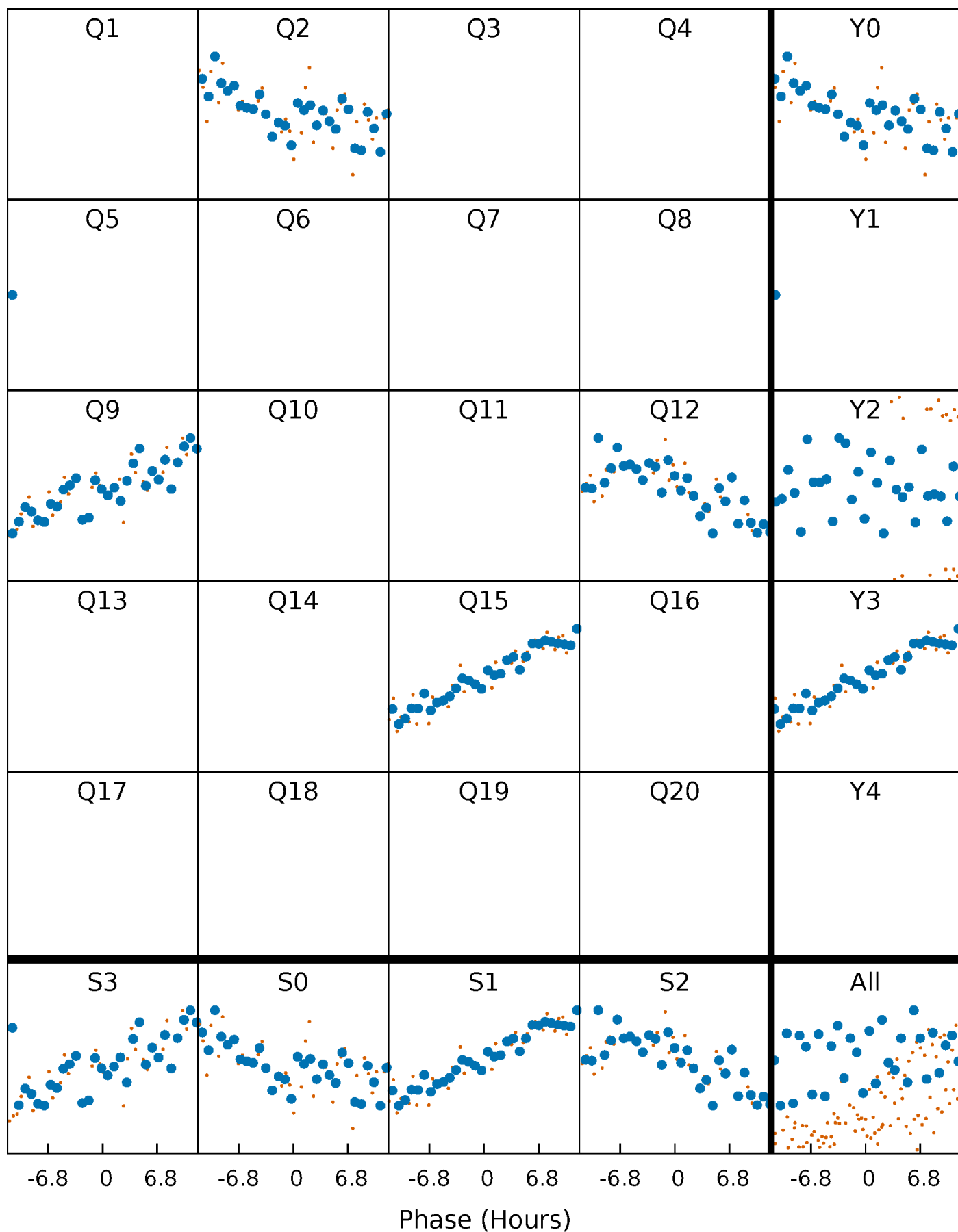


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



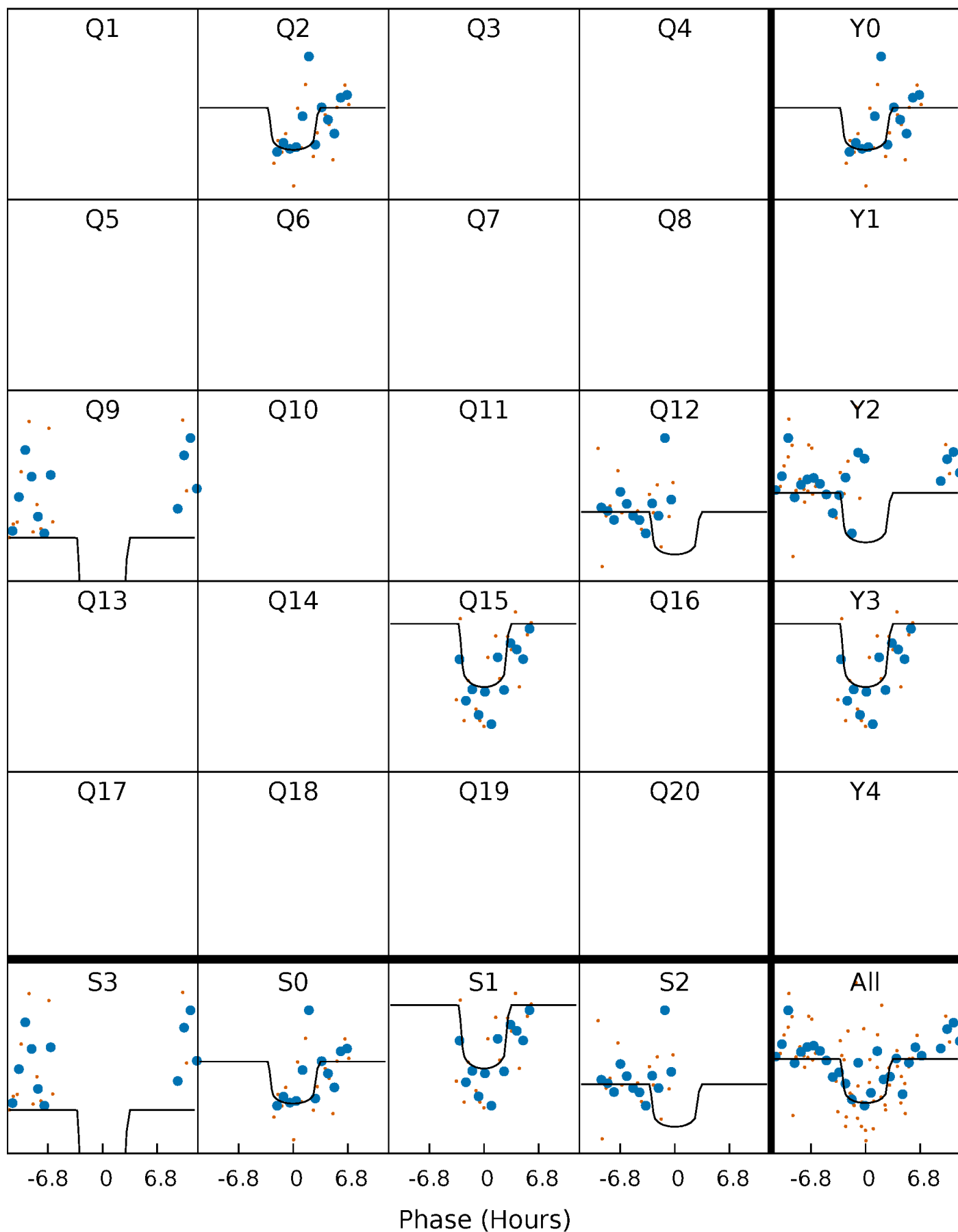
PDC Quarter-Phased Transit Curves

TCE 005284283-02 P=284.042807 Days $T_0=254.604191$ (BKJD)



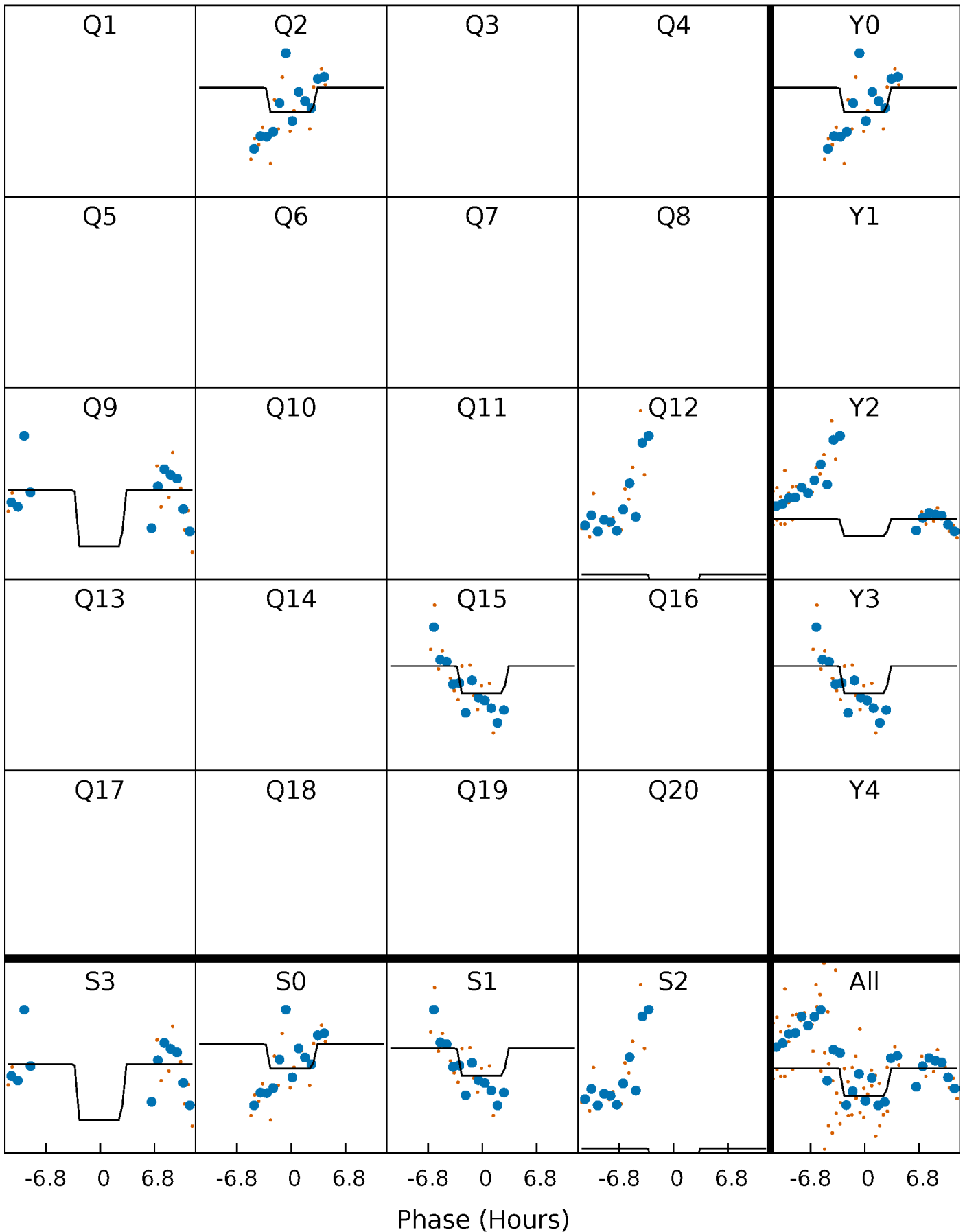
DV Quarter-Phased Transit Curves

TCE 005284283-02 P=284.042807 Days $T_0=254.604191$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

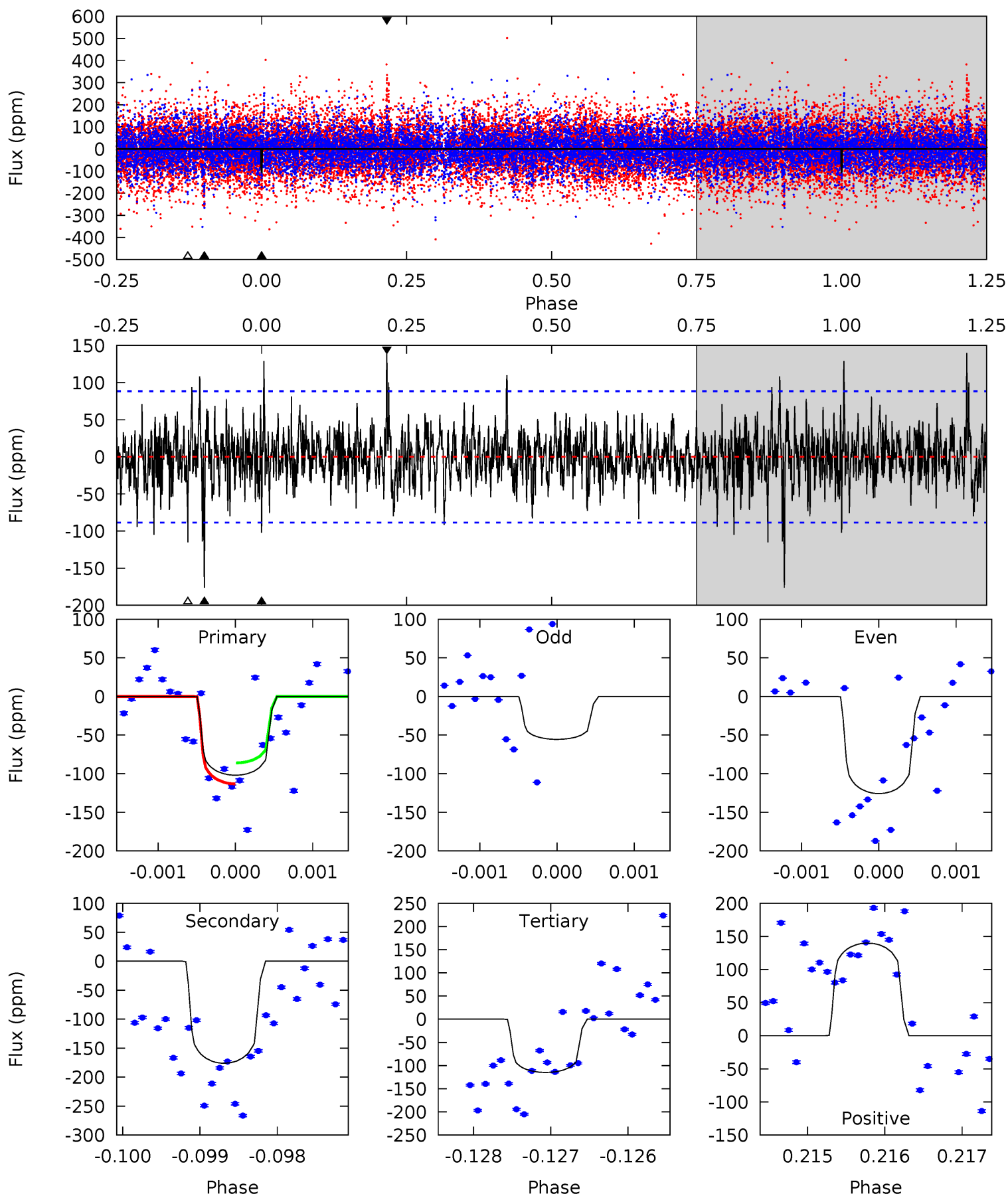
TCE 005284283-02 P=284.046918 Days $T_0=254.714020$ (BKJD)



DV Model-Shift Uniqueness Test

005284283-02, P = 284.042807 Days, E = 254.604191 Days

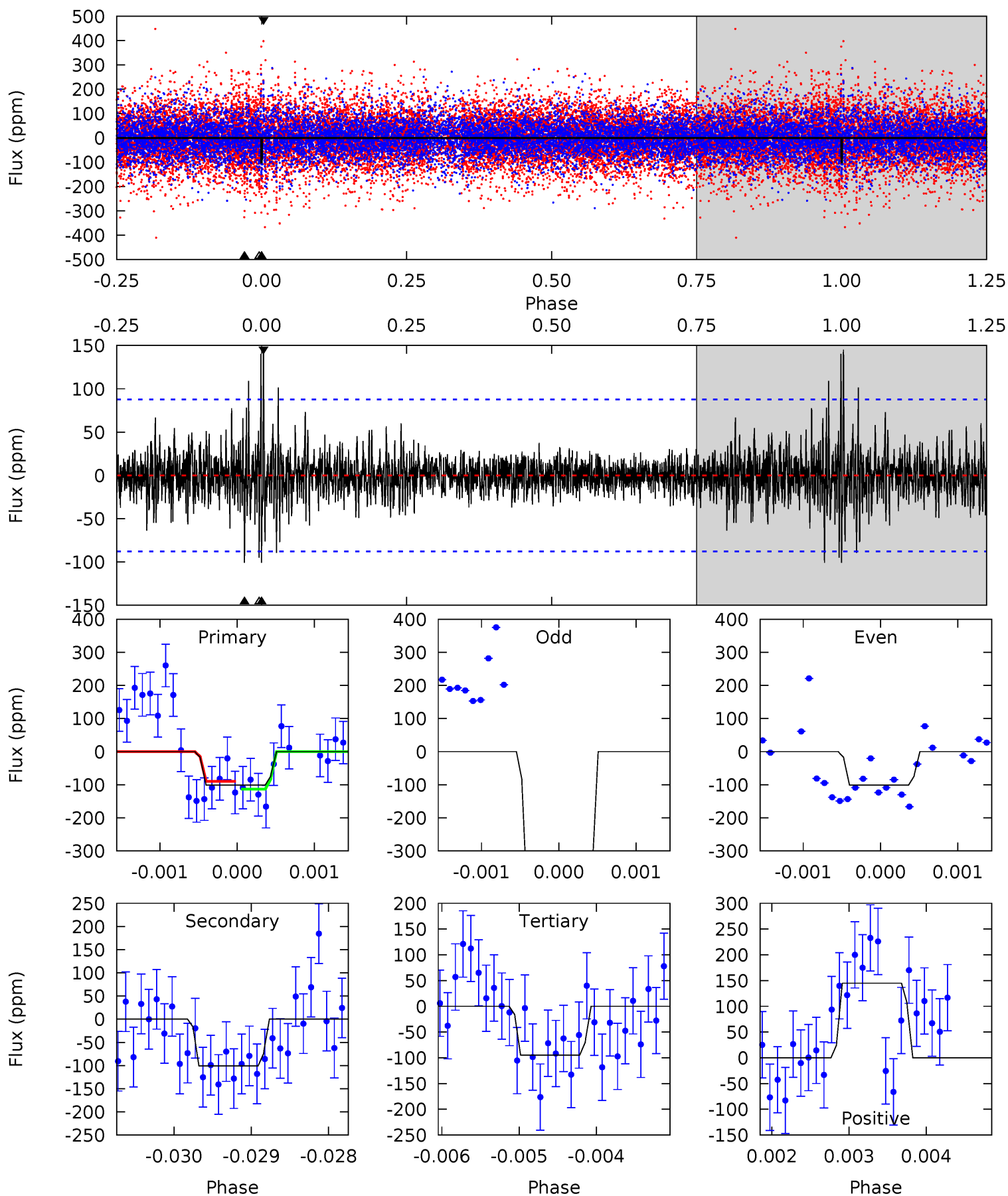
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.29 | 10.9 | 7.09 | 8.63 | 5.46 | 3.31 | 1.72 | -0.80 | -2.34 | 3.77 | 2.23 | 1.79 | 0.71 | 0.44 | 0.83 |



Alt Model-Shift Uniqueness Test

005284283-02, P = 284.046918 Days, E = 254.714020 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.28 | 6.27 | 5.90 | 9.02 | 5.46 | 3.31 | 1.16 | 0.38 | -2.74 | 0.37 | -2.75 | 13.4 | 1.00 | 0.59 | 0.75 |



Stellar Parameters For KIC 005284283

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 7910^{+216}_{-351} | $4.132^{+0.108}_{-0.175}$ | $0.070^{+0.150}_{-0.400}$ | $1.896^{+0.528}_{-0.325}$ | $1.777^{+0.183}_{-0.275}$ | $0.367^{+0.203}_{-0.179}$ |
| | +3%/-4% | +3%/-4% | +214%/-571% | +28%/-17% | +10%/-15% | +55%/-49% |
| Source | KIC0 | 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 005284283-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|------------------------|-------------------|------------------------|-------------------------|
| DV | -176 ± 16 | $3.27^{+2.85}_{-2.09}$ | 666^{+46}_{-42} | 7111^{+9458}_{-1871} | 8882^{+65999}_{-6244} |
| Alt. | -101 ± 16 | $3.06^{+2.75}_{-1.99}$ | 666^{+44}_{-39} | 6289^{+6037}_{-1524} | 5772^{+42781}_{-4047} |

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 $A_{obs} \gg 1.0$

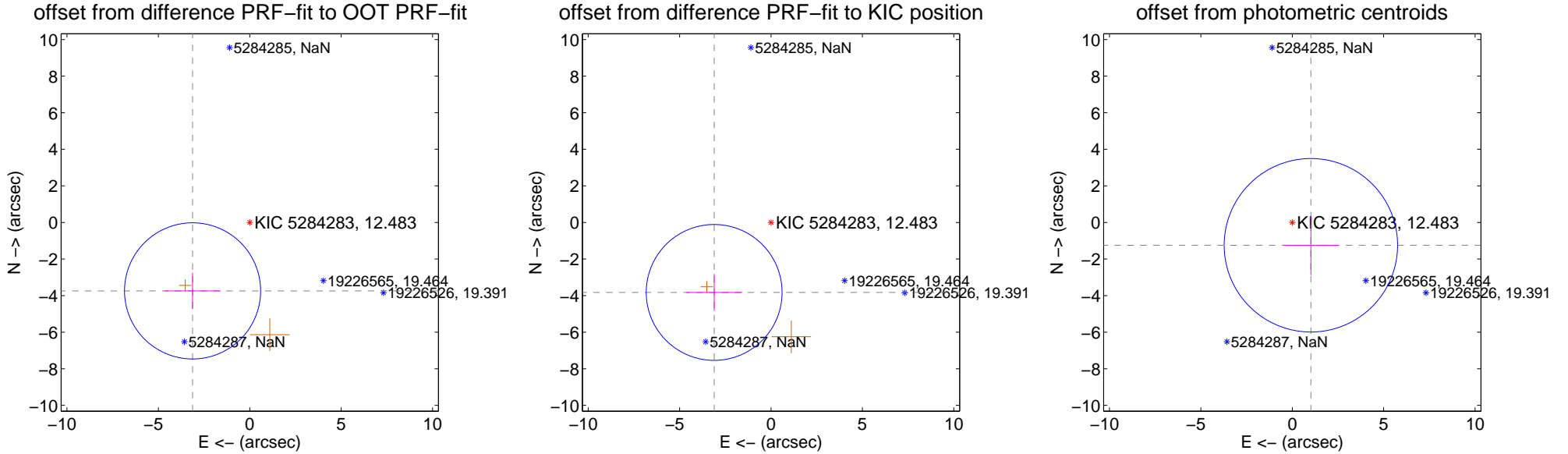
DV Centroid Data

Supplemental centroid analysis for 005284283-02. Kepler magnitude: 12.48. Transit SNR 5.98

There are 0 quarters with good PRF difference image offsets

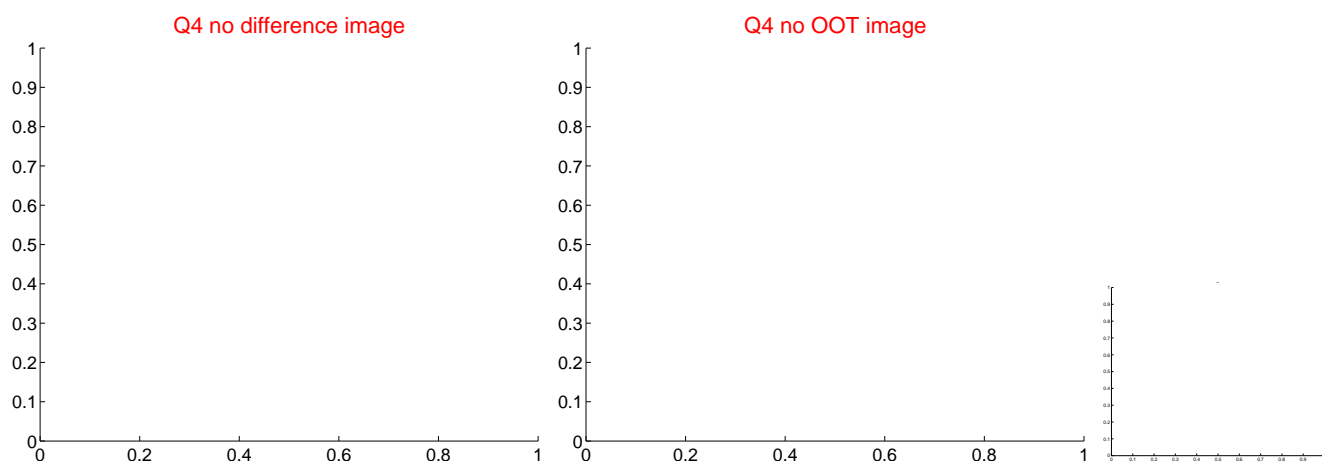
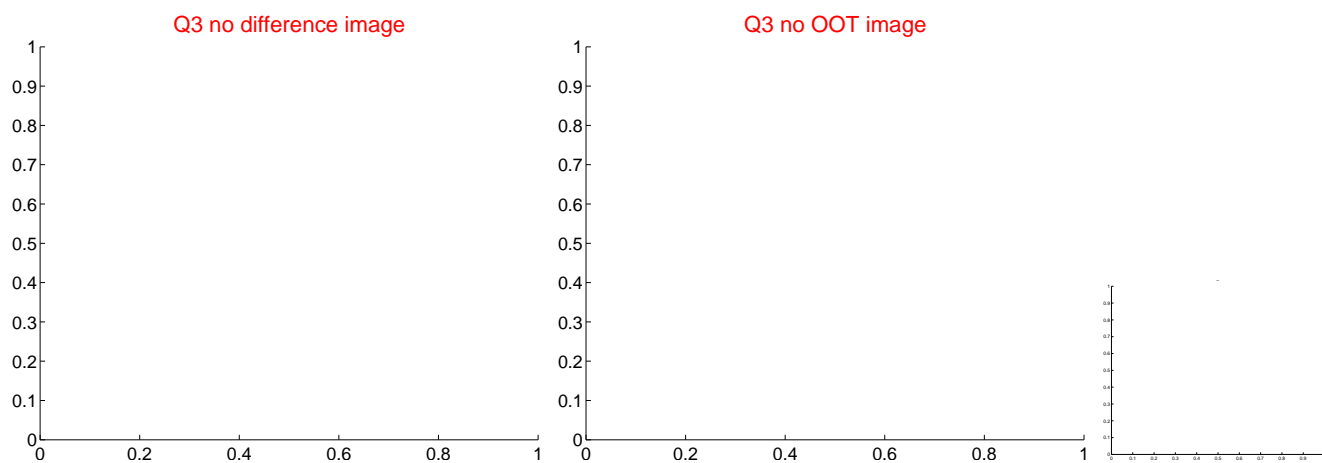
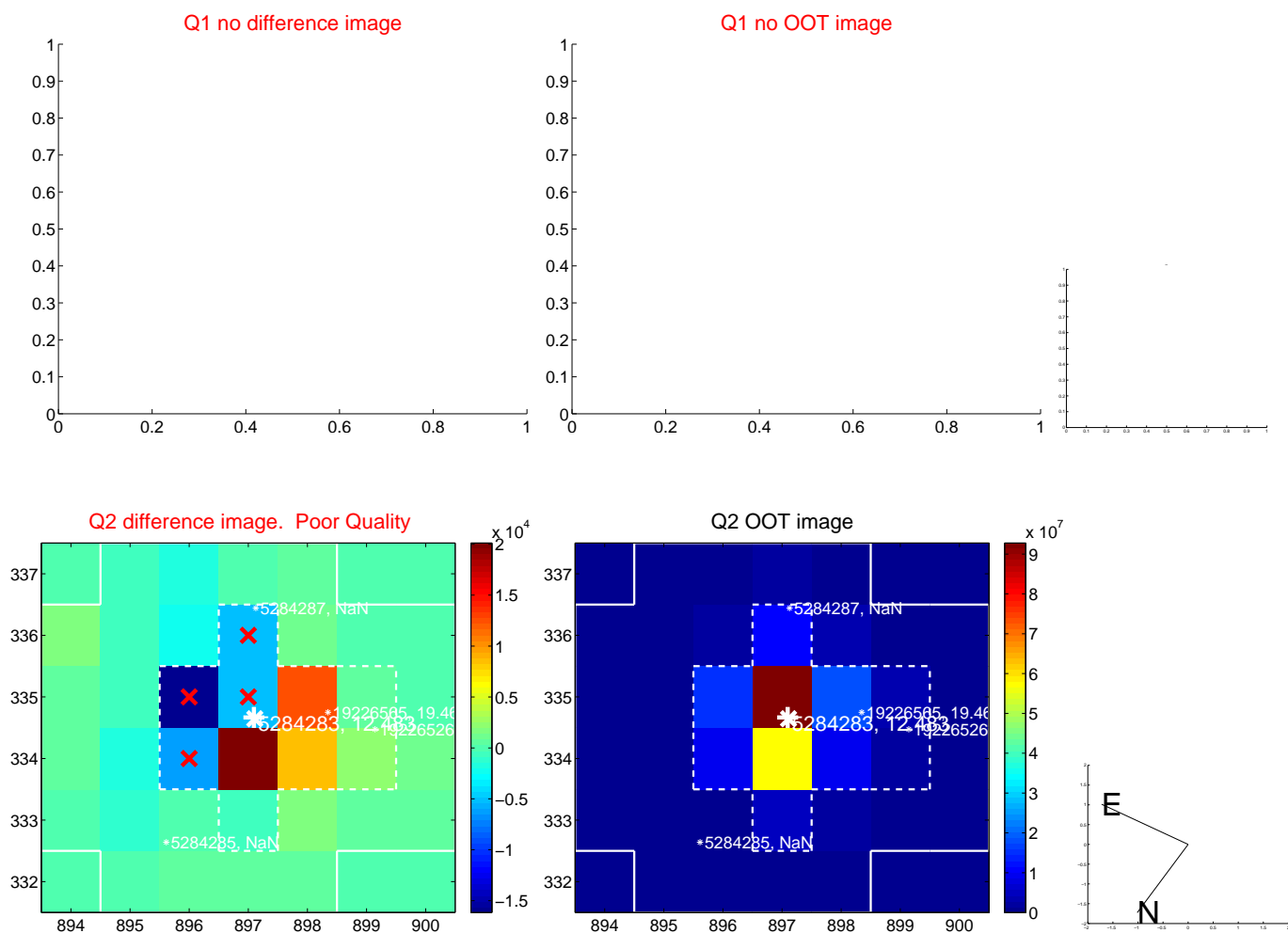
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 4.876 ± 1.241 | 3.93 | 3.128 ± 1.525 | -3.741 ± 0.995 |
| PRF-fit source offset from KIC position | 4.930 ± 1.238 | 3.98 | 3.110 ± 1.523 | -3.825 ± 1.007 |
| photometric centroid source offset | 1.61 ± 1.58 | 1.02 | -1.02 ± 1.50 | -1.25 ± 1.63 |

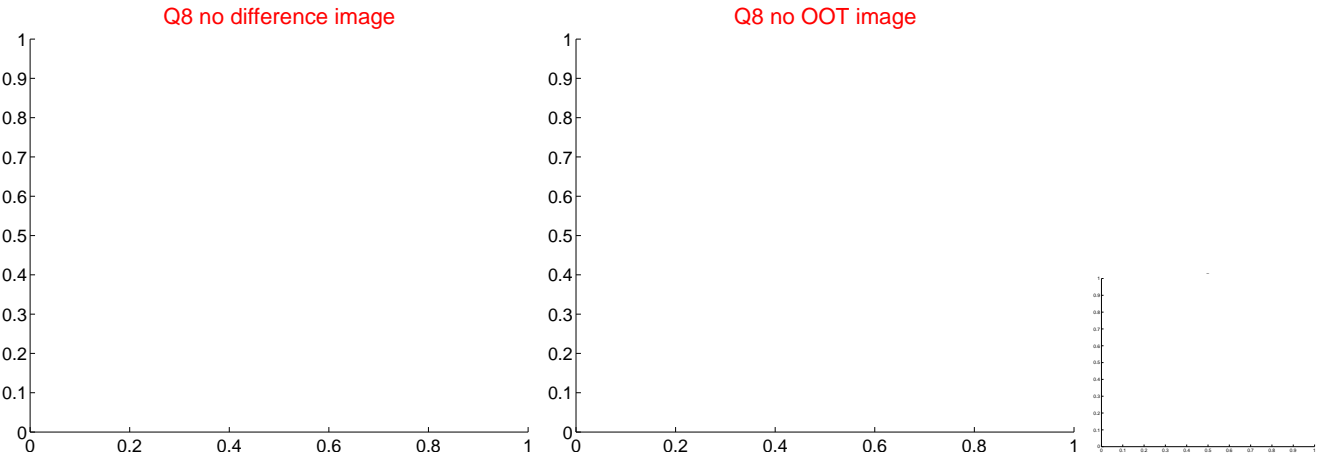
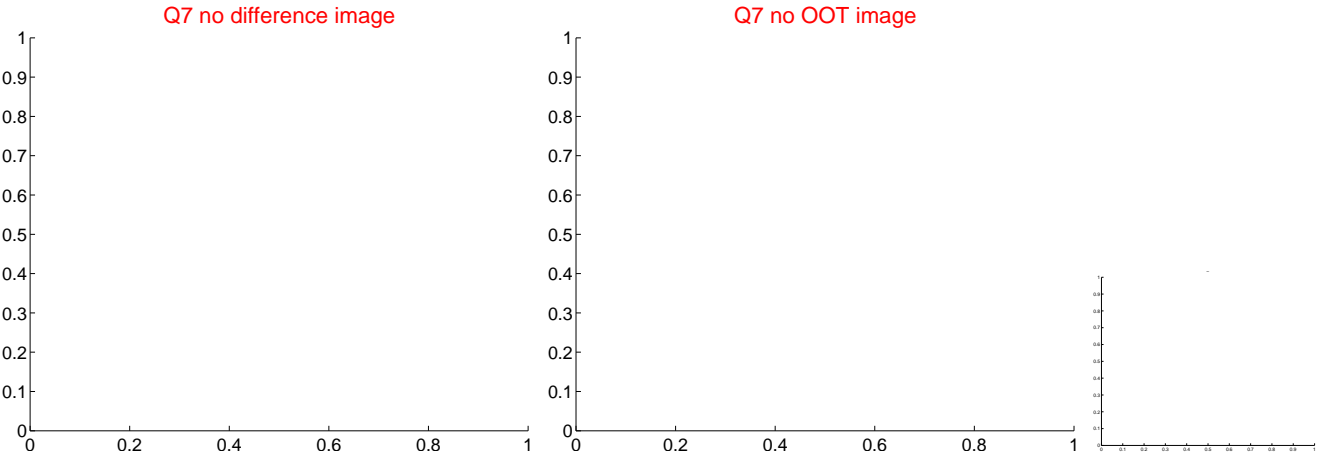
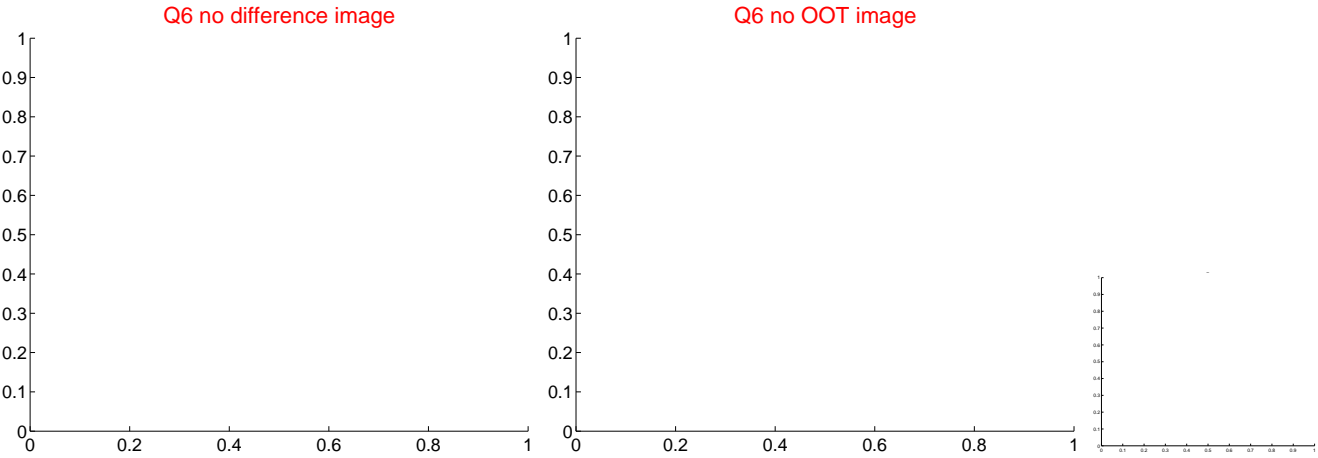
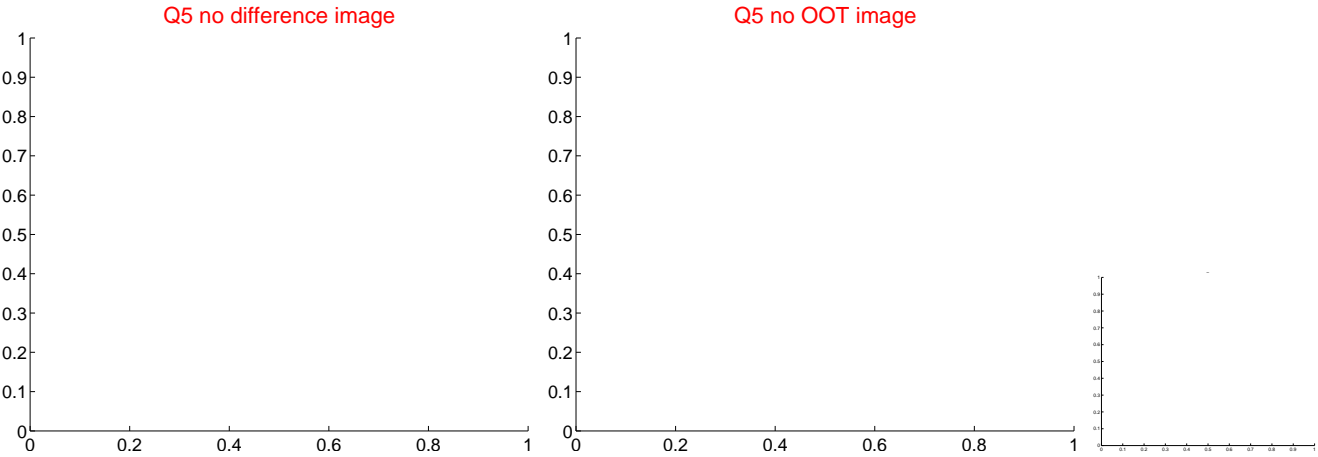


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

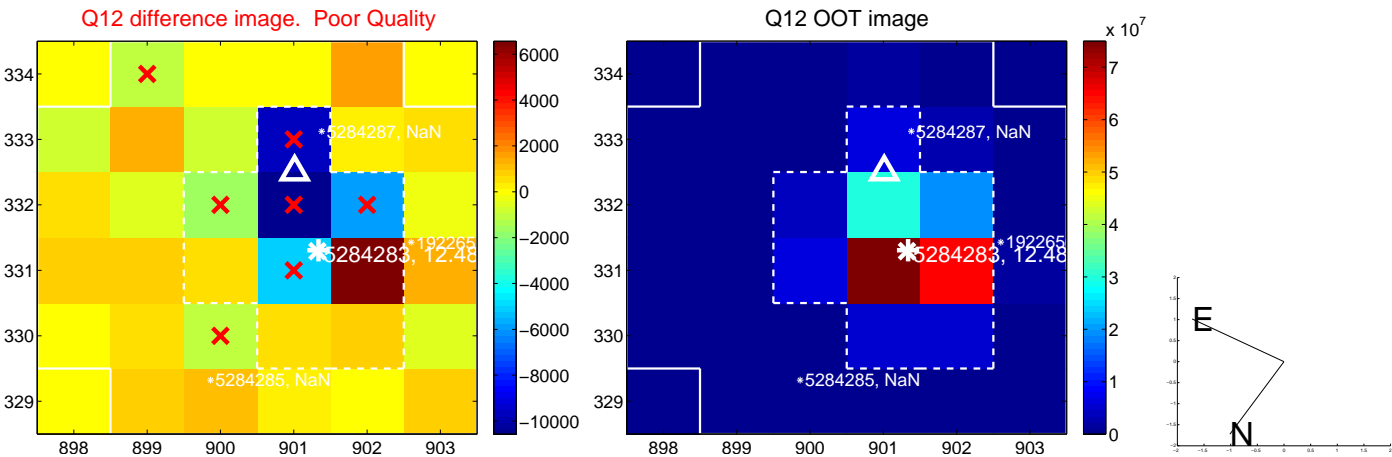
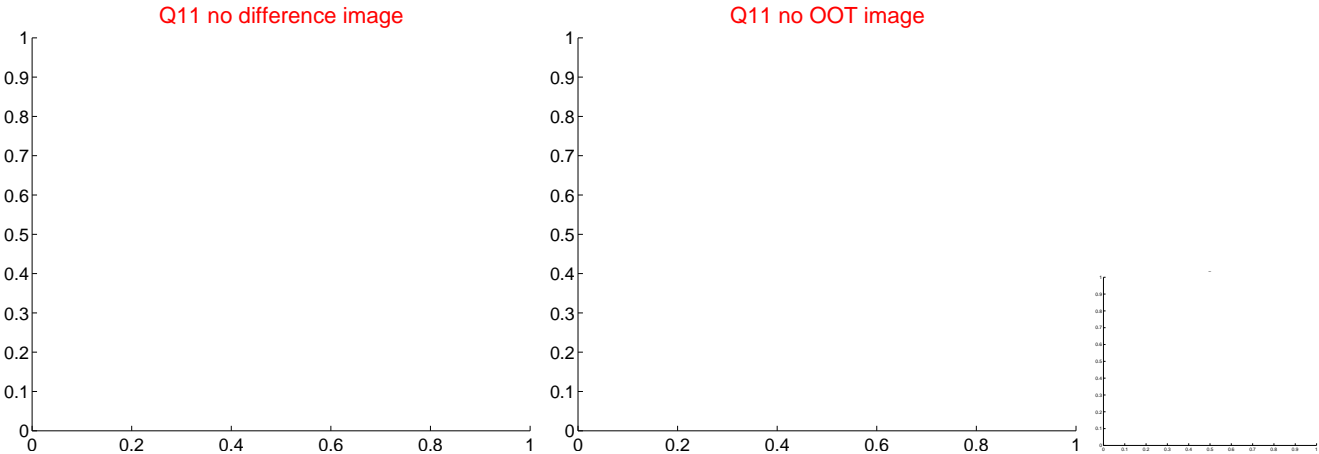
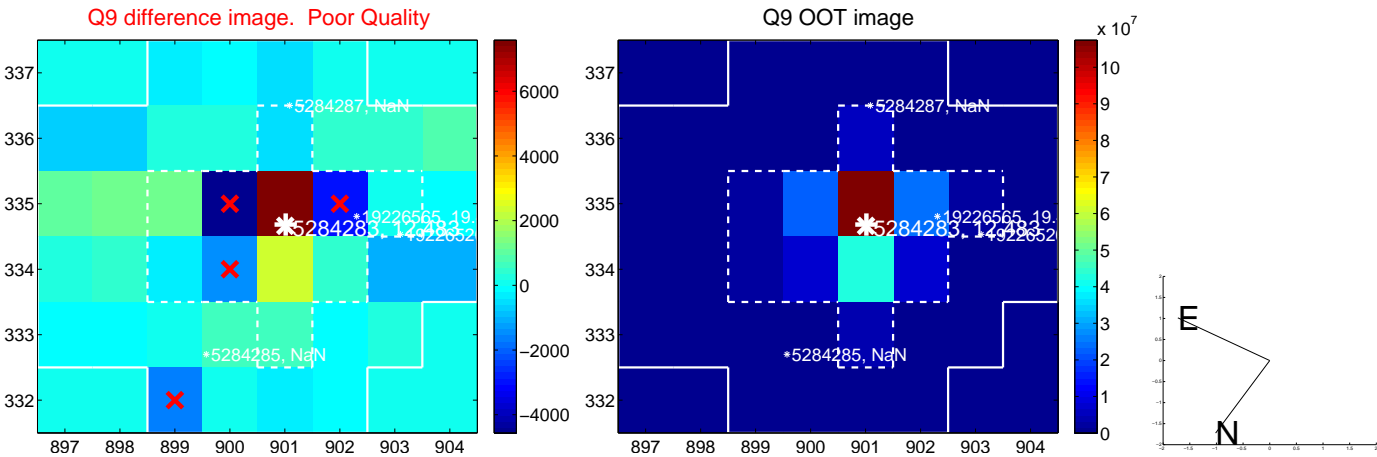
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

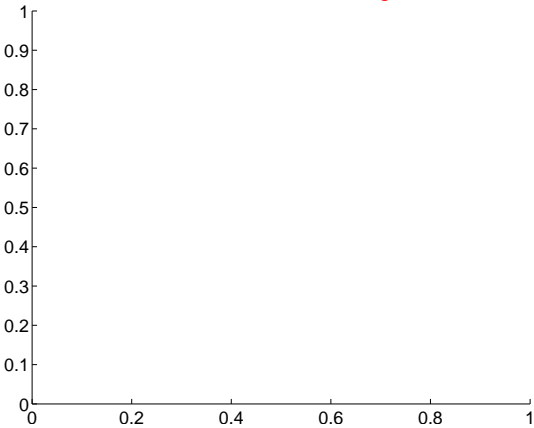


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

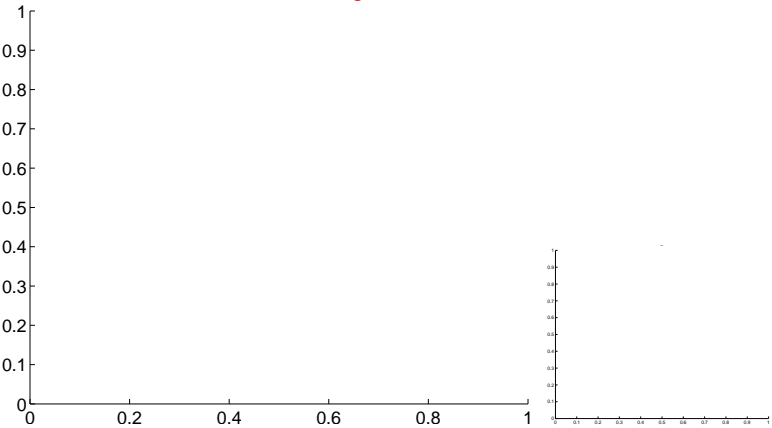


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

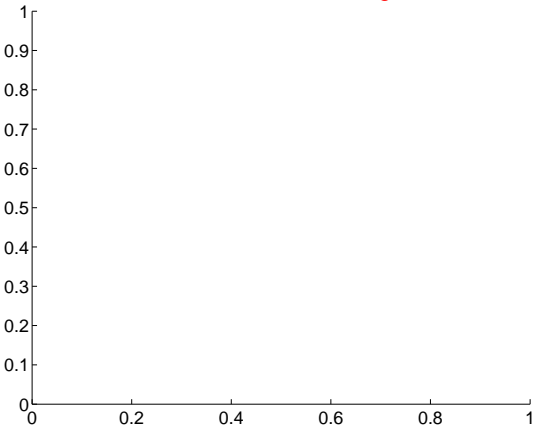
Q13 no difference image



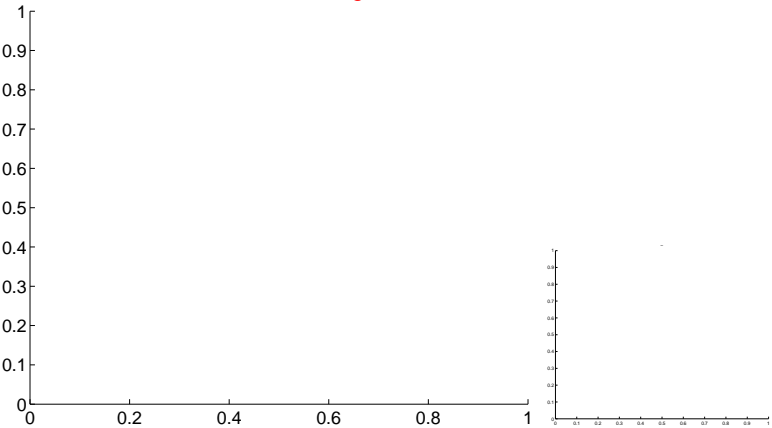
Q13 no OOT image



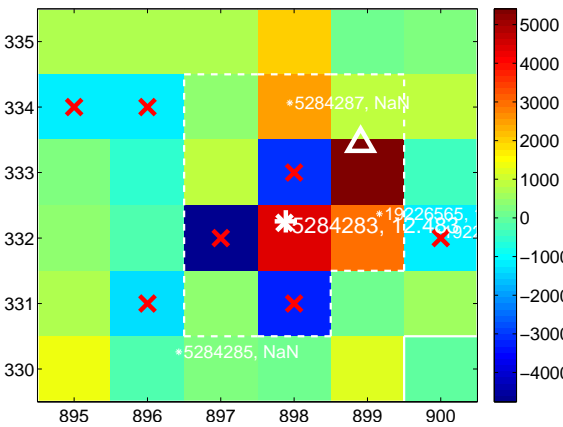
Q14 no difference image



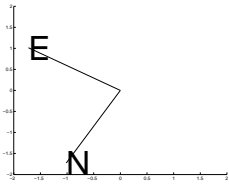
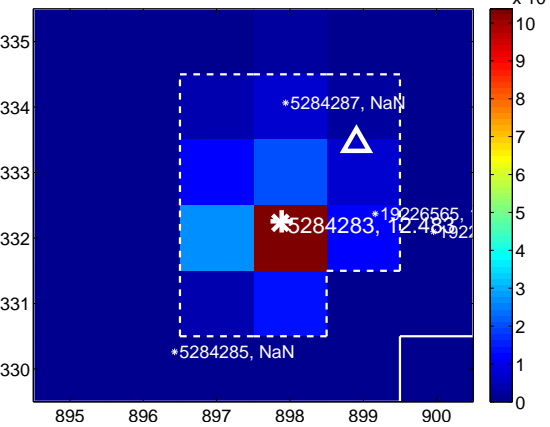
Q14 no OOT image



Q15 difference image. Poor Quality



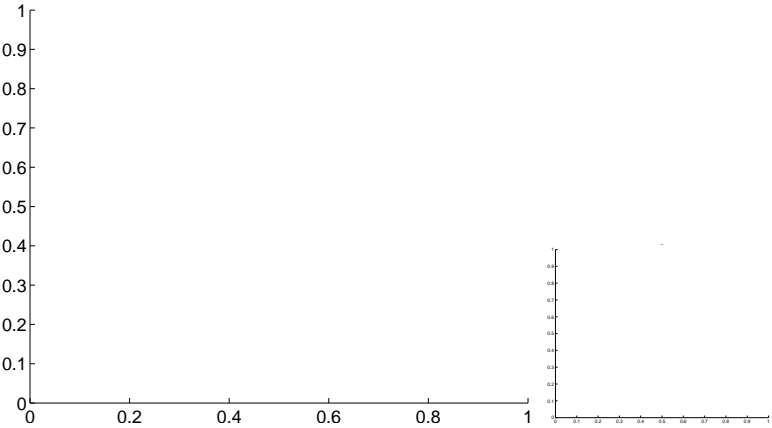
Q15 OOT image



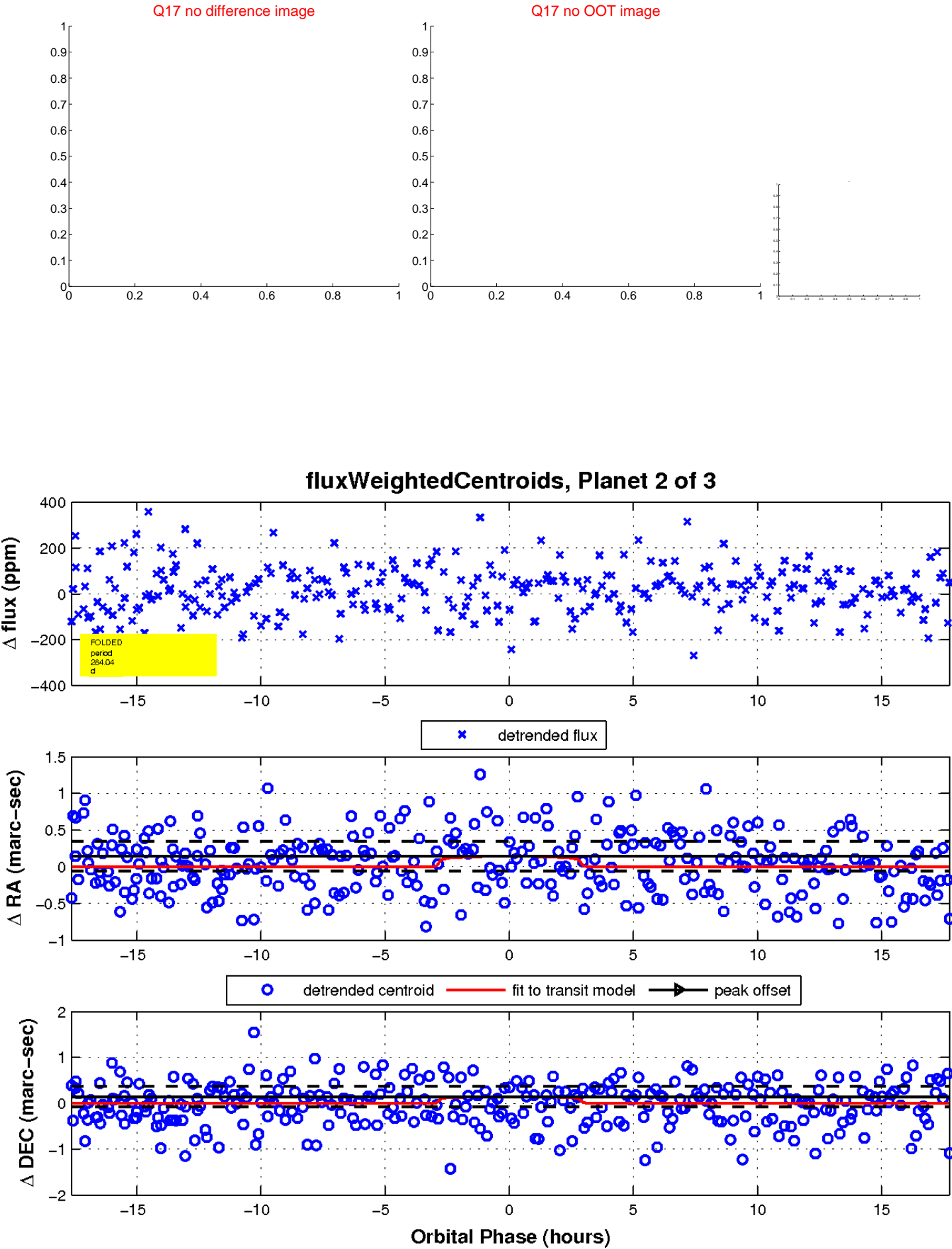
Q16 no difference image



Q16 no OOT image

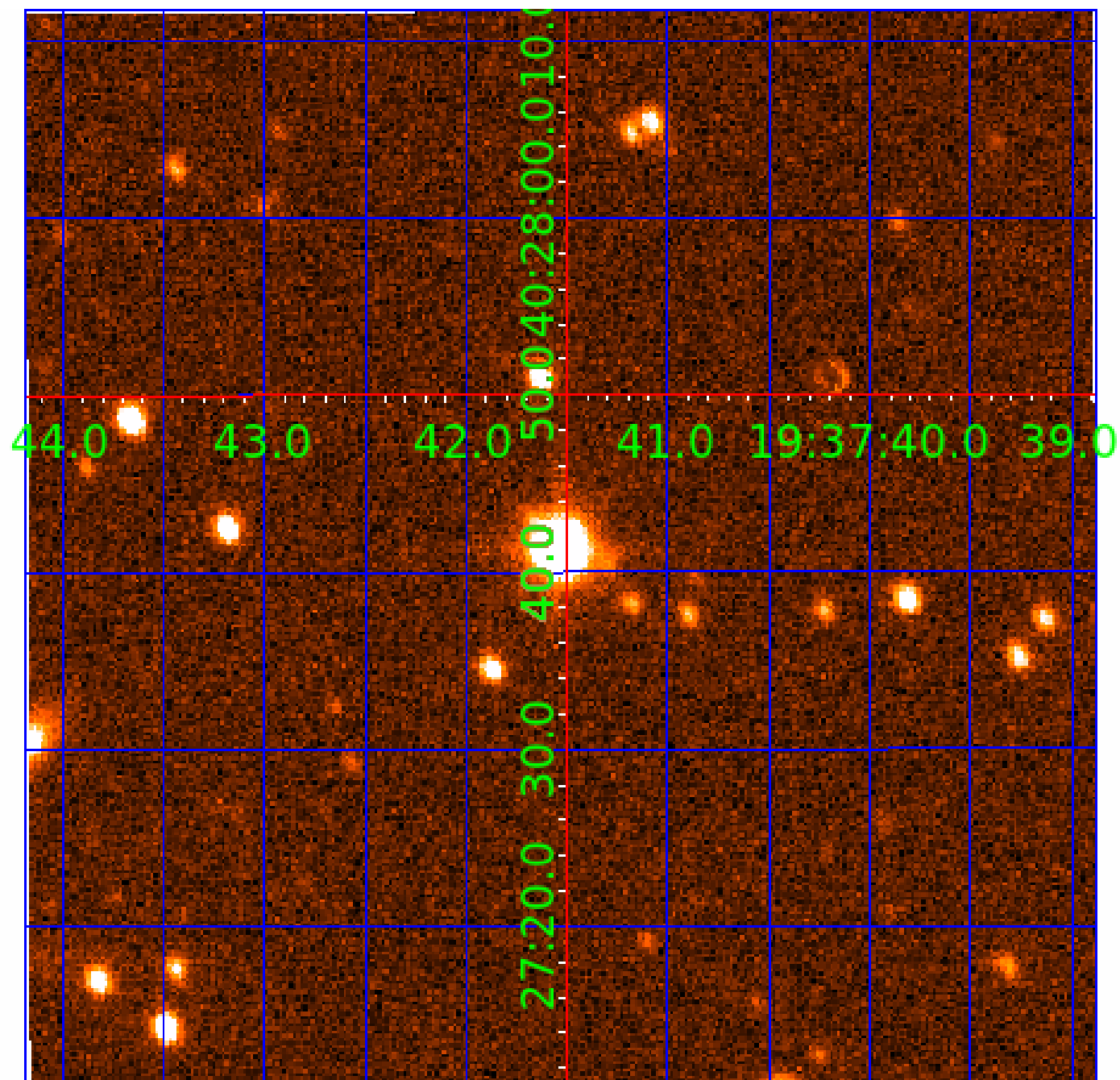


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005284283

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 005284283-01 | OBS | No | 1.037565 | 131.745741 | 8.8 | 4.879 | 8.0 | 7.9 | 1.90 | 7910 | 0.65 | 21353.64 |
| 005284283-02 | OBS | No | 284.042807 | 254.604191 | 135.9 | 5.934 | 11.3 | 6.0 | 1.90 | 7910 | 2.42 | 12.01 |
| 005284283-03 | OBS | No | 165.611948 | 250.468110 | 96.8 | 20.059 | 9.7 | 4.1 | 1.90 | 7910 | 2.05 | 24.66 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 005284283-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_ALT |
| 005284283-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |
| 005284283-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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

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

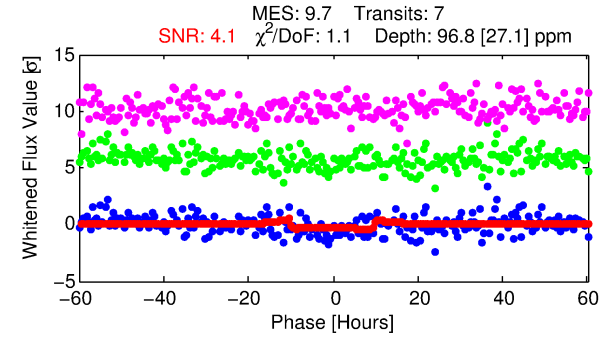
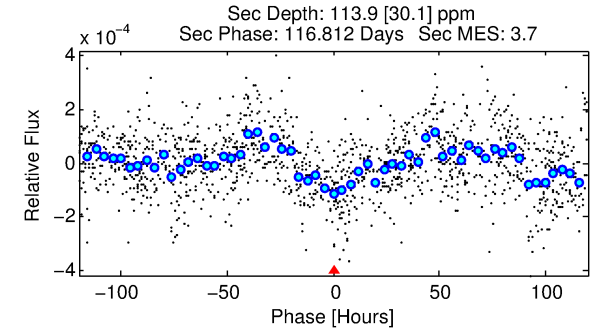
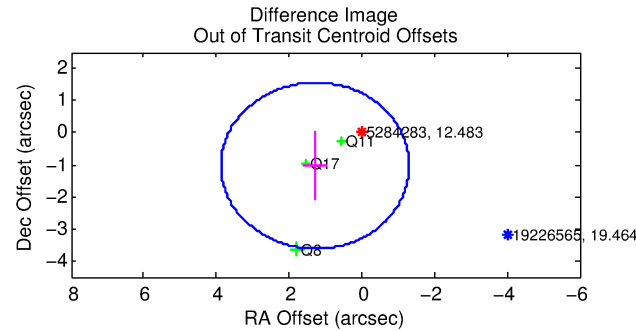
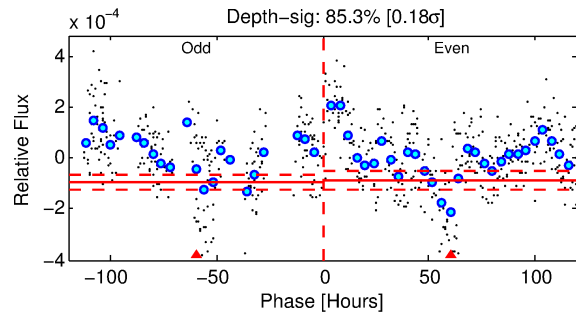
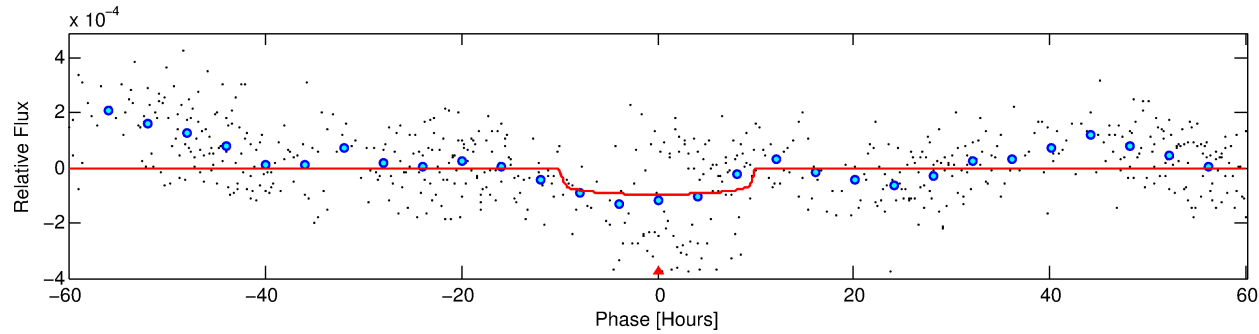
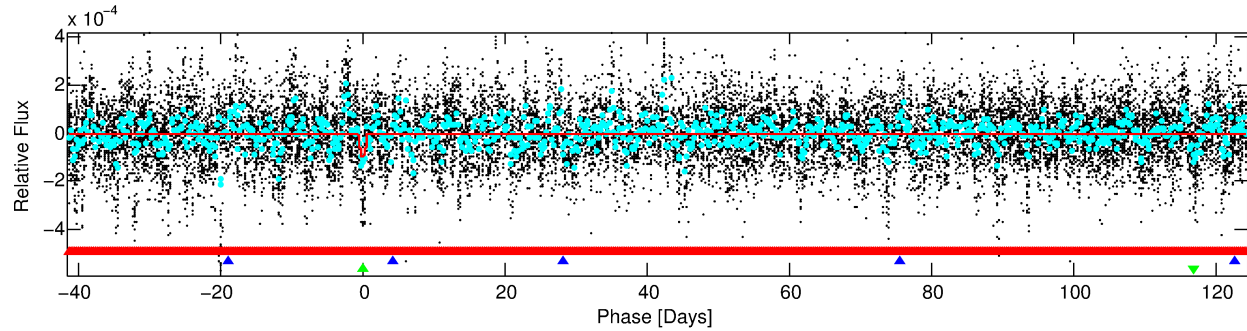
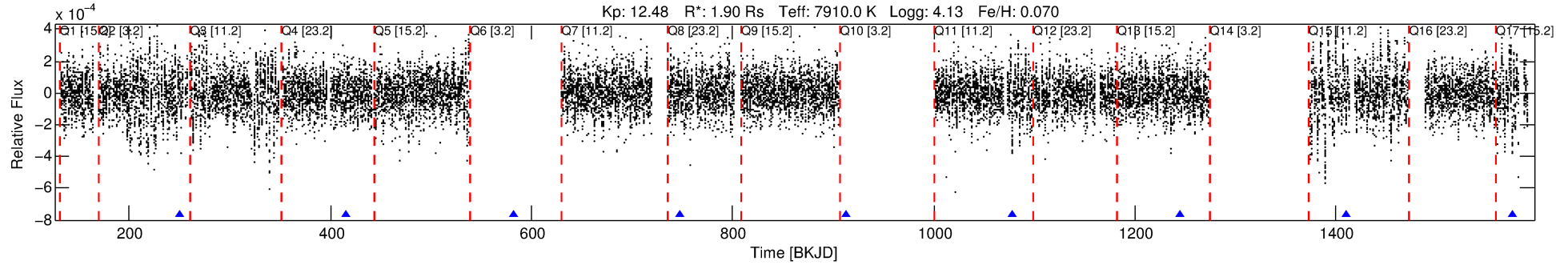
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005284283-03

No Significant Match Found

DV One-Page Summary

KIC: 5284283 Candidate: 3 of 3 Period: 165.612 d



DV Fit Results:

Period = 165.61195 [0.00624] d
Epoch = 250.4681 [0.0280] BKJD
Rp/R* = 0.0099 [0.0025]
a/R* = 39.67 [46.23]
b = 0.79 [0.55]
Seff = 24.66 [9.17]
Teq = 568 [53] K
Rp = 2.05 [0.77] Re
a = 0.7150 [0.1638] AU
Ag = 7628.96 [4974.89] [1.53 σ]
Teffp = 8211 [1215] K [6.29 σ]

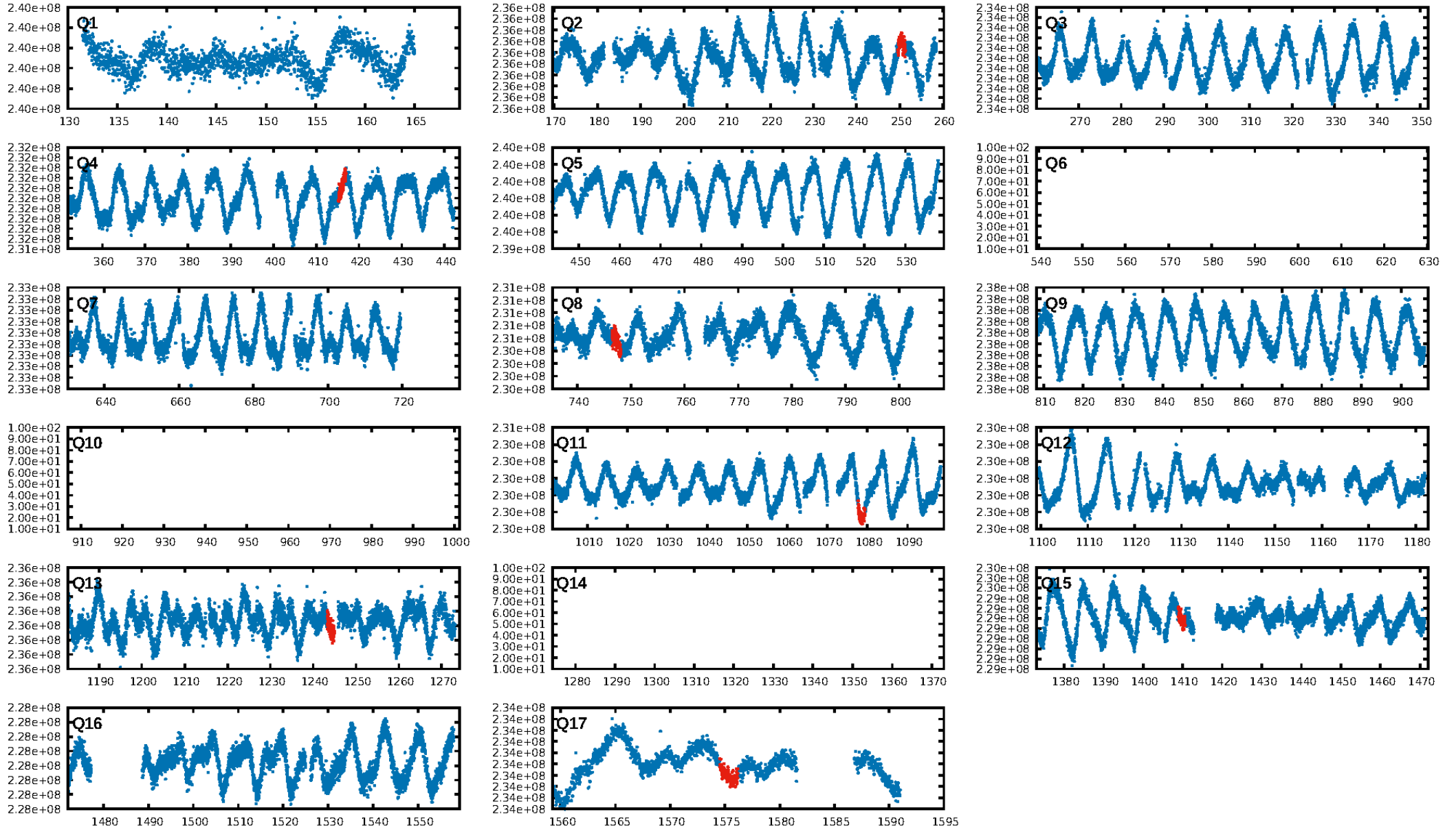
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [191.33 σ]
LongPeriod-sig: 100.0% [135.88 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.77e-12
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 5.448
Centroid-sig: 0.4%
Centroid-so: 1.942 arcsec [1.98 σ]
OotOffset-rm: 1.649 arcsec [1.91 σ]
KicOffset-rm: 1.719 arcsec [2.39 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/5]

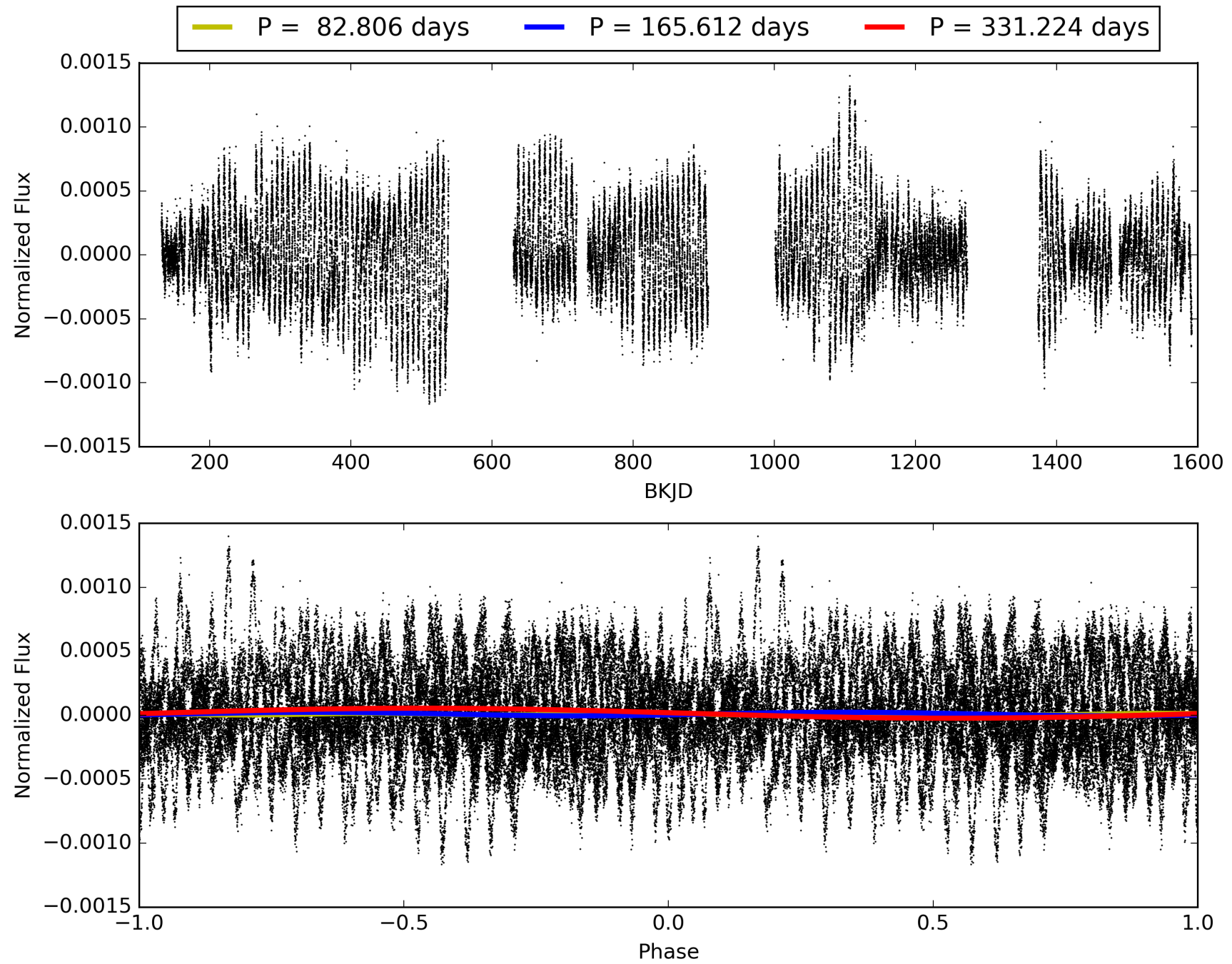
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:51:51 Z

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

TCE 005284283-03, PDC Light Curves

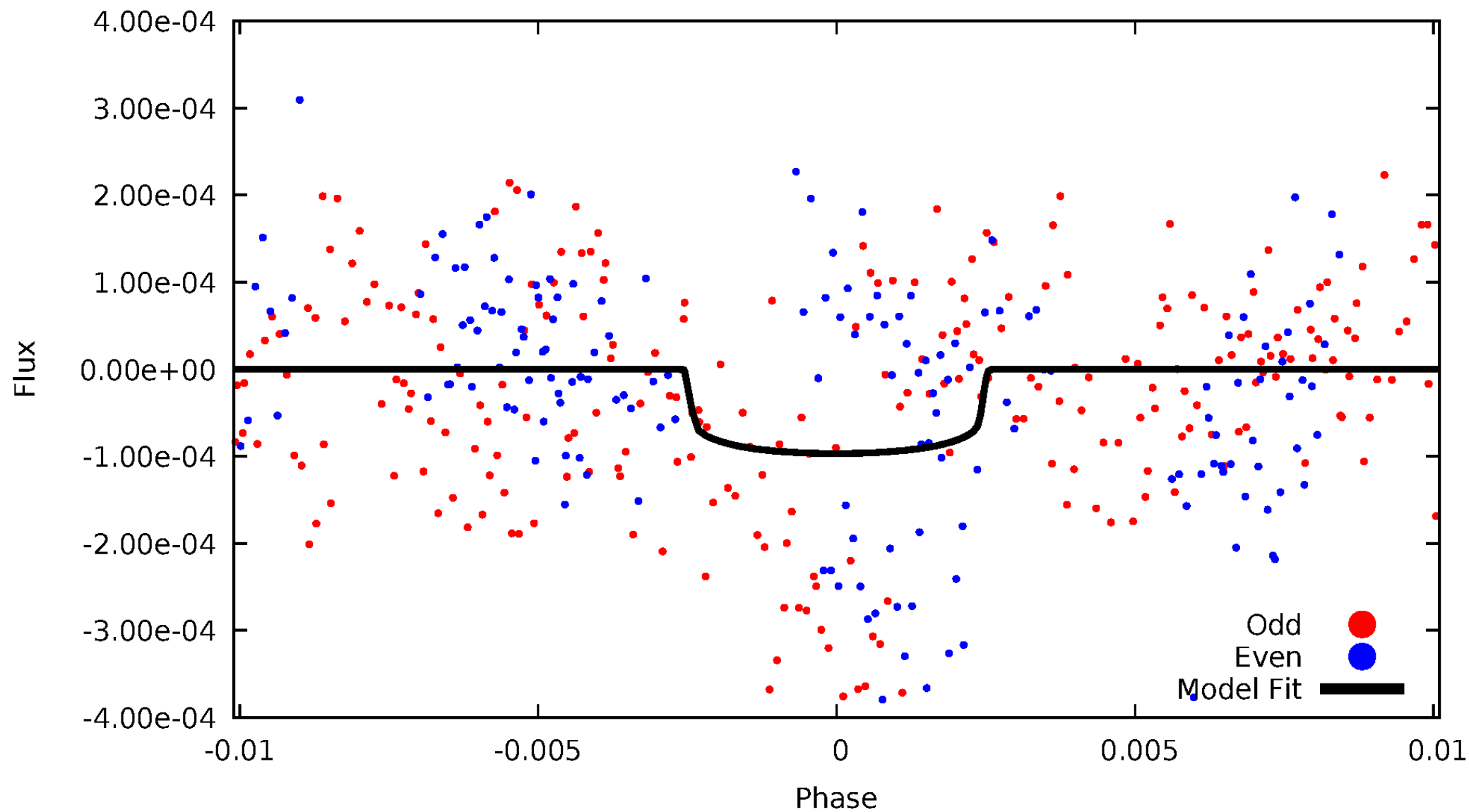


TCE 005284283-03



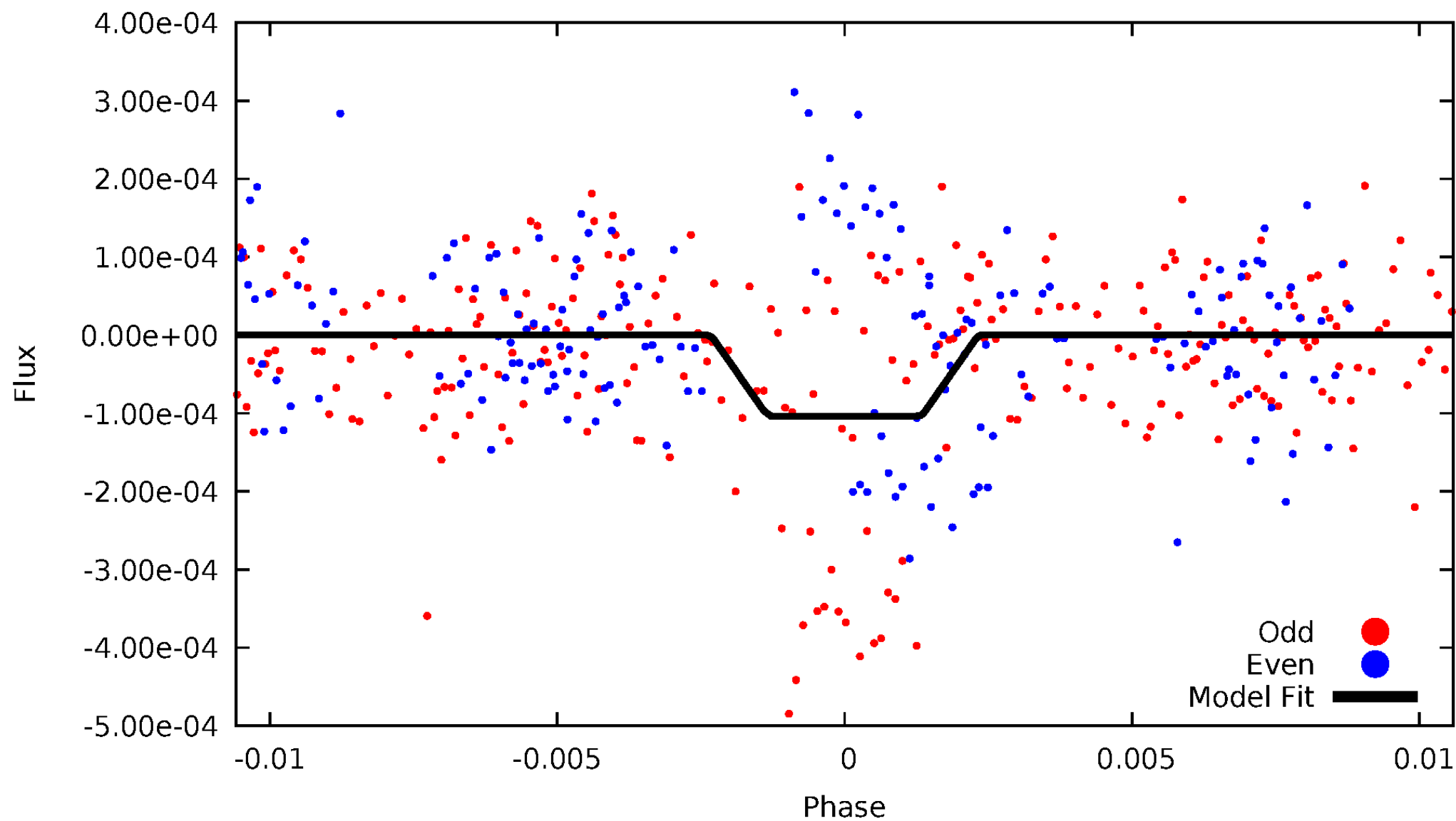
DV Odd/Even

TCE 005284283-03



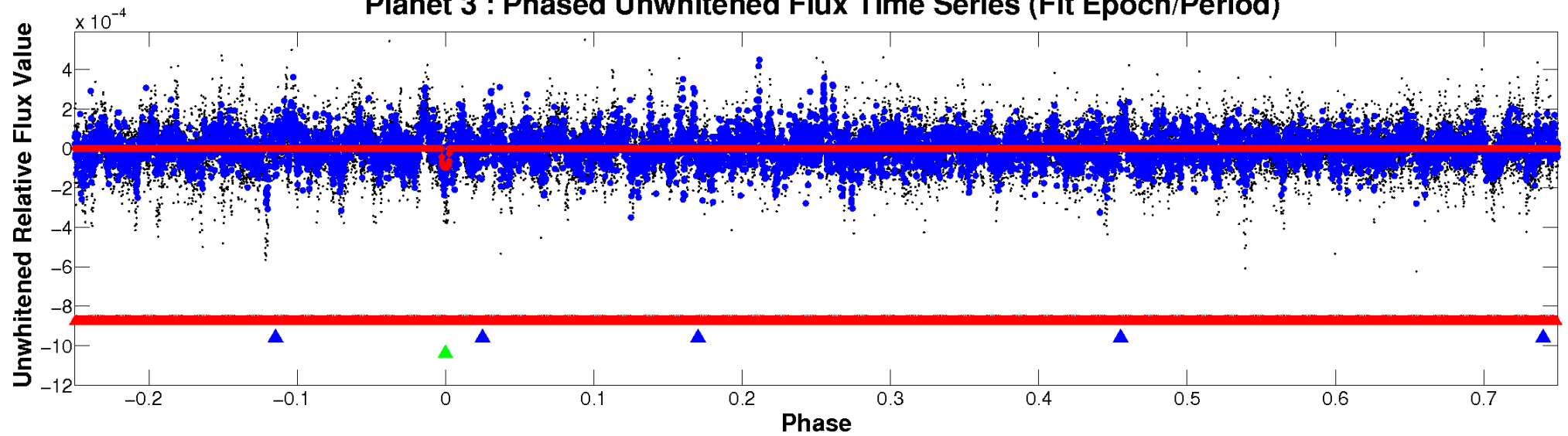
ALT Odd/Even

TCE 005284283-03

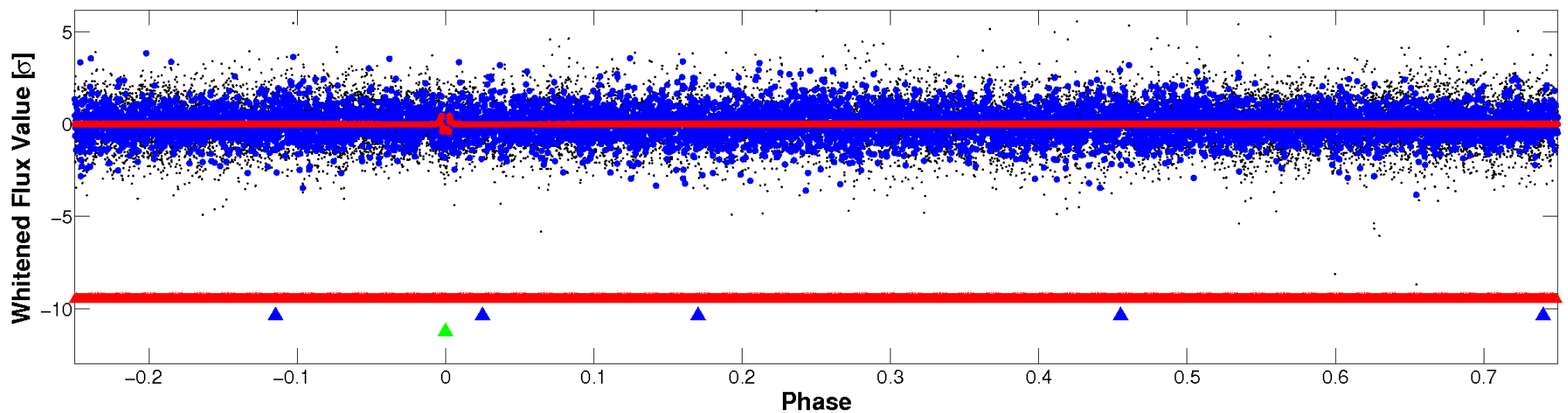


Non-Whitened Vs. Whitened Light Curve

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

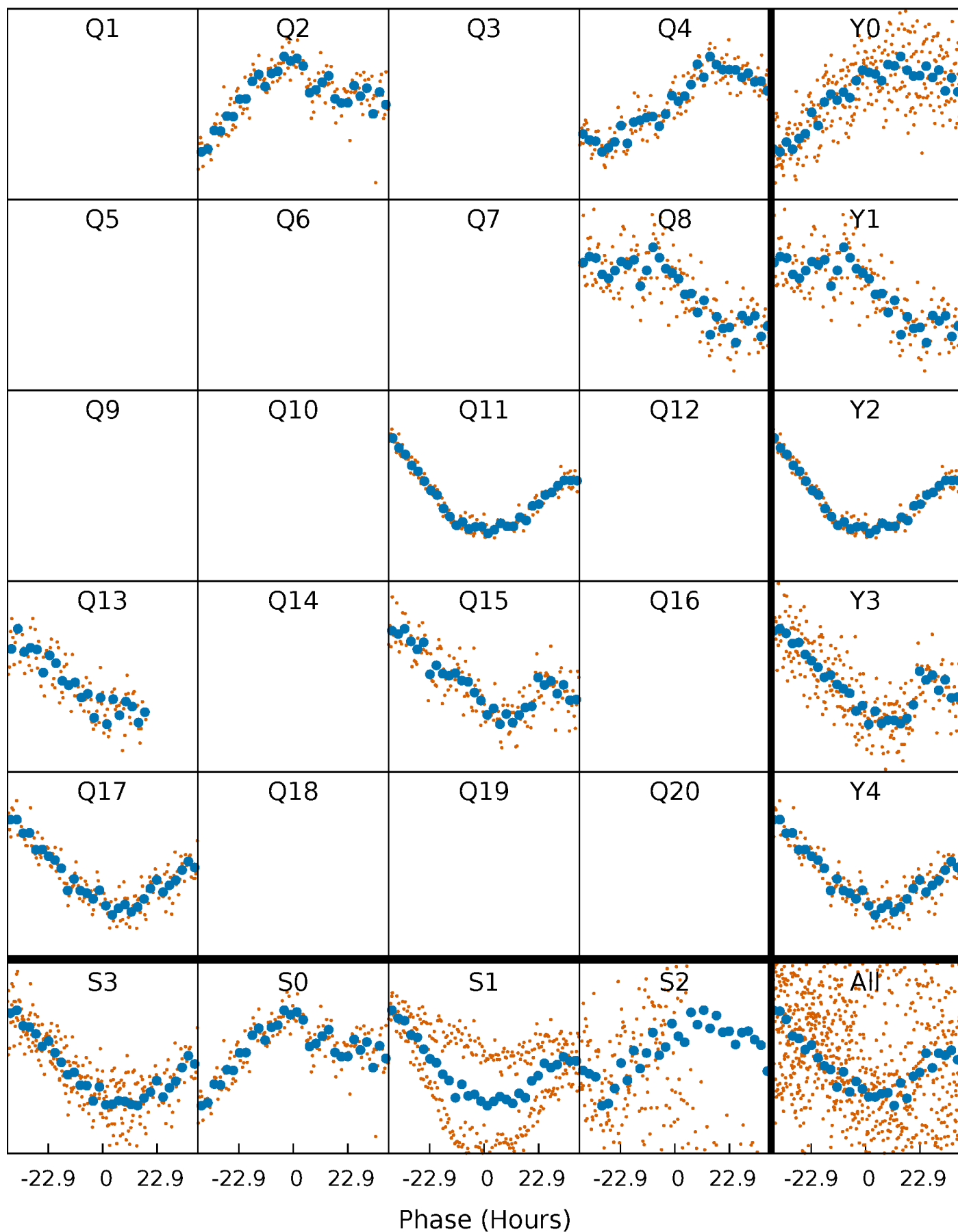


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



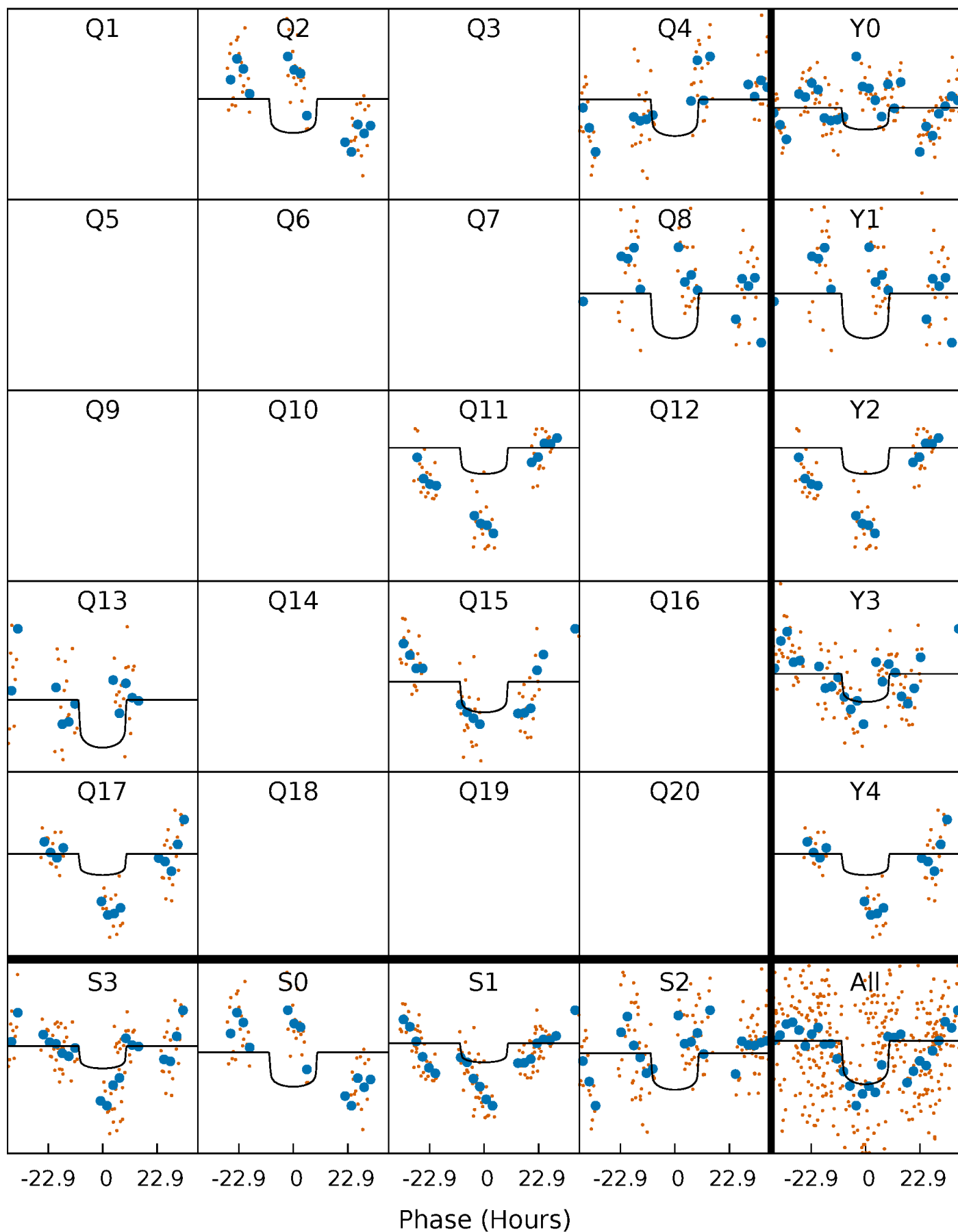
PDC Quarter-Phased Transit Curves

TCE 005284283-03 P=165.611948 Days $T_0=250.468110$ (BKJD)



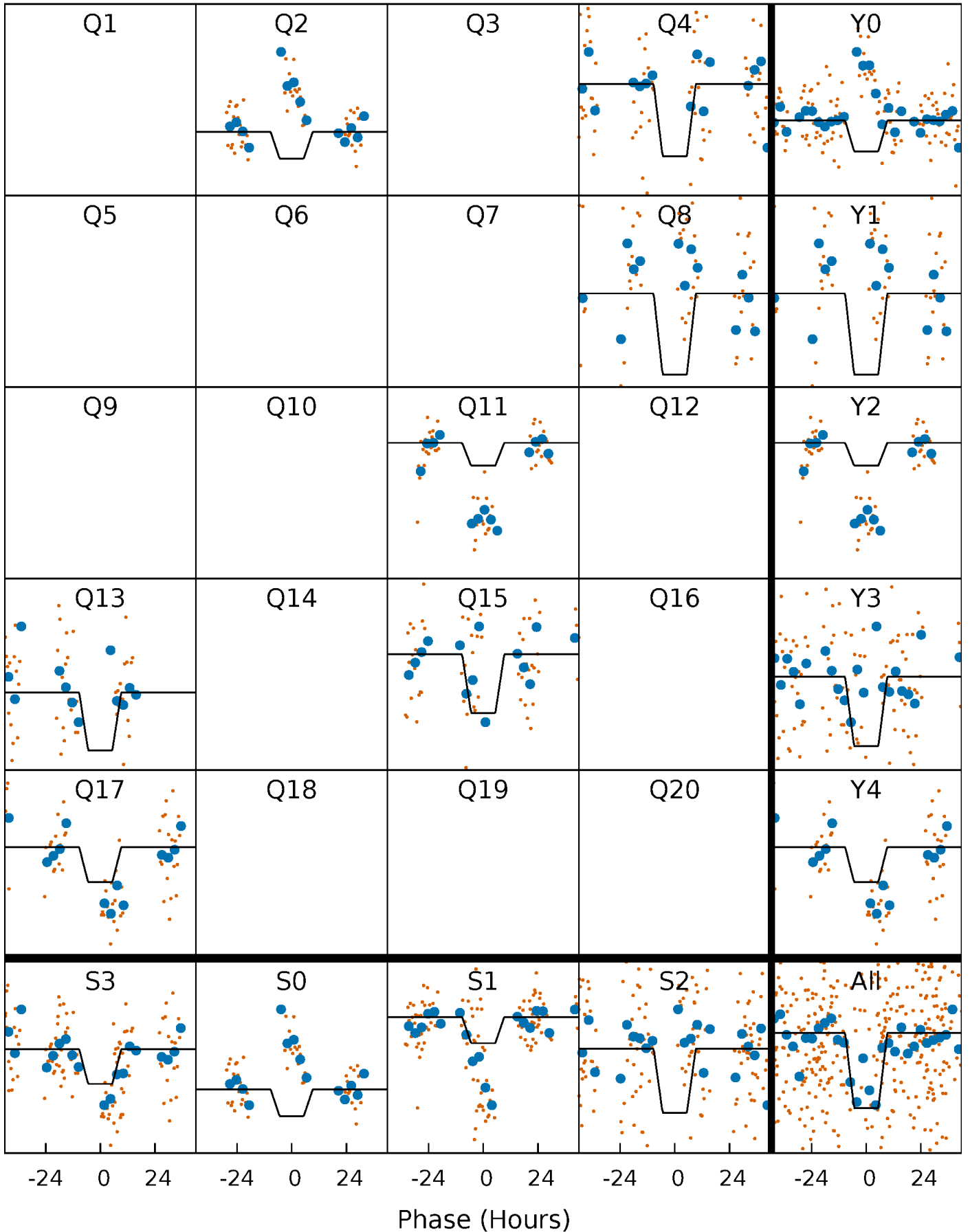
DV Quarter-Phased Transit Curves

TCE 005284283-03 $P=165.611948$ Days $T_0=250.468110$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

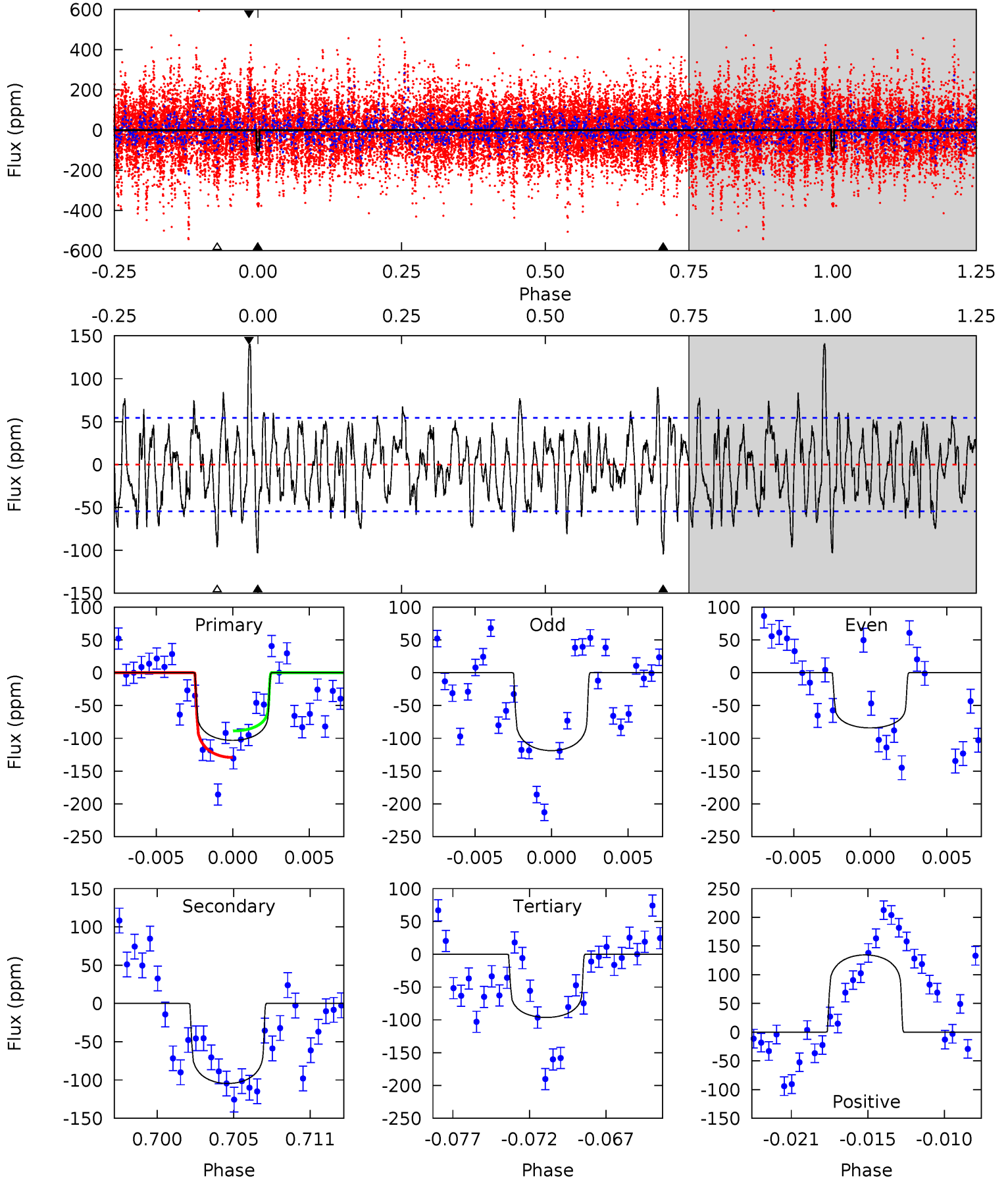
TCE 005284283-03 P=165.600381 Days $T_0=250.500706$ (BKJD)



DV Model-Shift Uniqueness Test

005284283-03, P = 165.611948 Days, E = 84.856162 Days

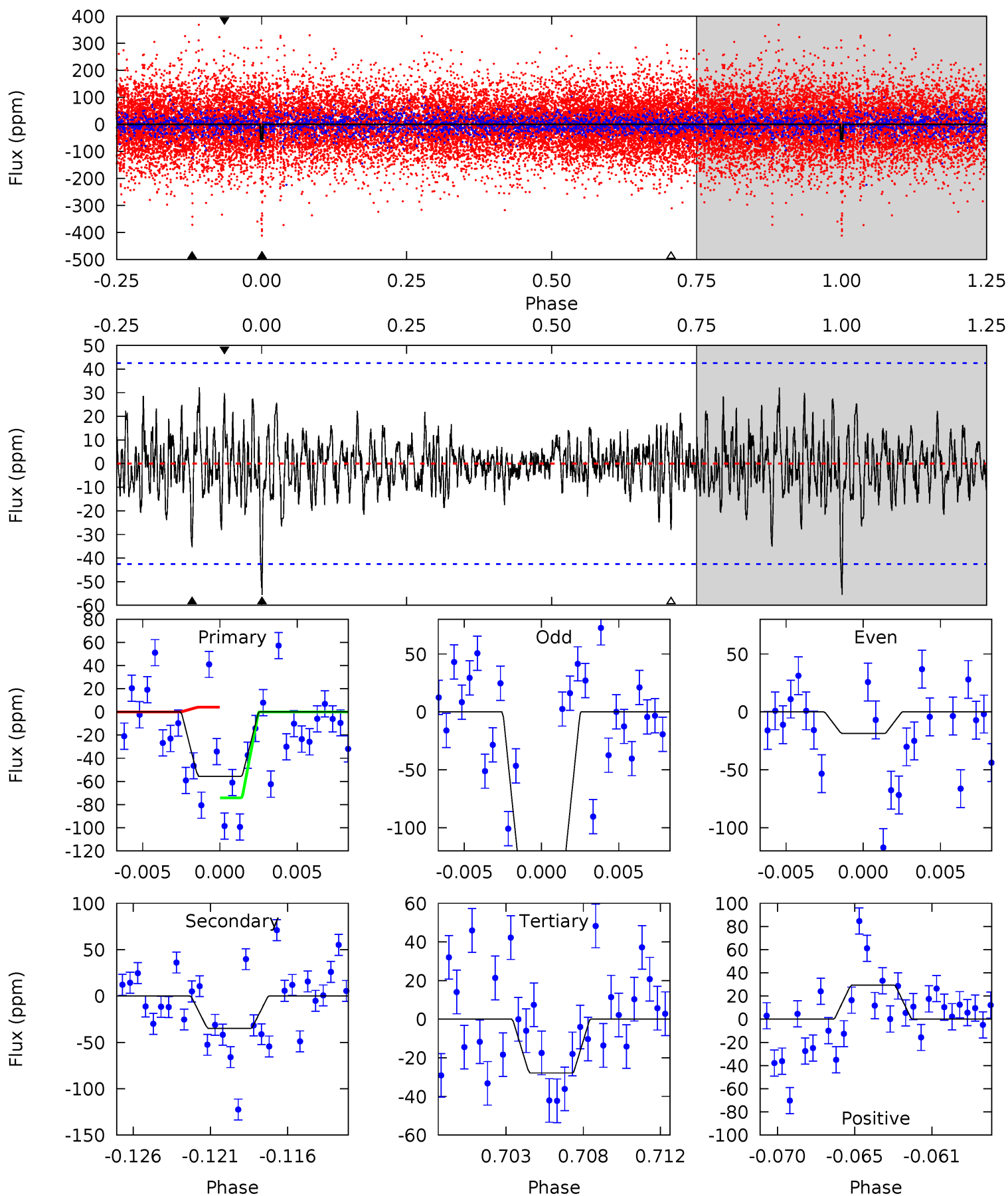
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.77 | 9.90 | 9.12 | 12.7 | 5.15 | 2.80 | 3.29 | 0.65 | -2.97 | 0.78 | -2.84 | 1.64 | 5.17 | 0.57 | 1.81 |



Alt Model-Shift Uniqueness Test

005284283-03, P = 165.600381 Days, E = 84.900325 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.76 | 4.25 | 3.39 | 3.57 | 5.17 | 2.83 | 1.05 | 3.37 | 3.19 | 0.86 | 0.68 | 7.36 | 2.62 | 0.37 | 3.86 |



Stellar Parameters For KIC 005284283

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 7910^{+216}_{-351} | $4.132^{+0.108}_{-0.175}$ | $0.070^{+0.150}_{-0.400}$ | $1.896^{+0.528}_{-0.325}$ | $1.777^{+0.183}_{-0.275}$ | $0.367^{+0.203}_{-0.179}$ |
| | +3%/-4% | +3%/-4% | +214%/-571% | +28%/-17% | +10%/-15% | +55%/-49% |
| Source | KIC0 | 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 005284283-03 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|------------------------|------------------------|
| DV | -105 ± 11 | $2.08^{+0.60}_{-0.55}$ | 799^{+51}_{-48} | 8032^{+1795}_{-1072} | 6670^{+5612}_{-2684} |
| Alt. | -35 ± 8 | $2.14^{+0.61}_{-0.57}$ | 797^{+56}_{-48} | 5823^{+972}_{-651} | 2072^{+1843}_{-871} |

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

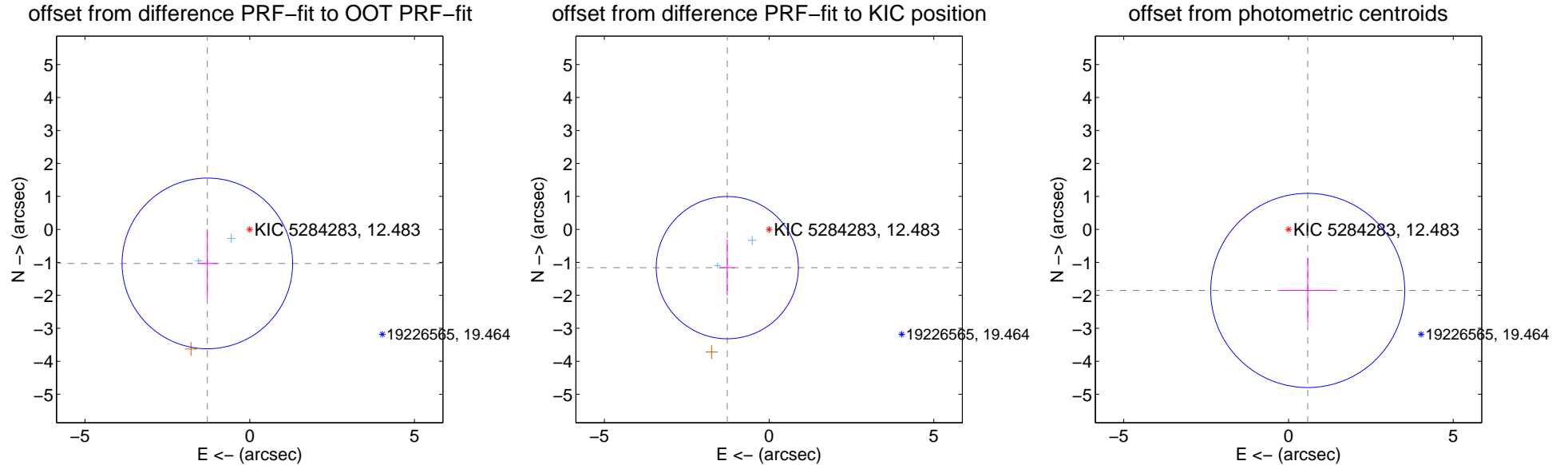
DV Centroid Data

Supplemental centroid analysis for 005284283-03. Kepler magnitude: 12.48. Transit SNR 4.07

There are 2 quarters with good PRF difference image offsets

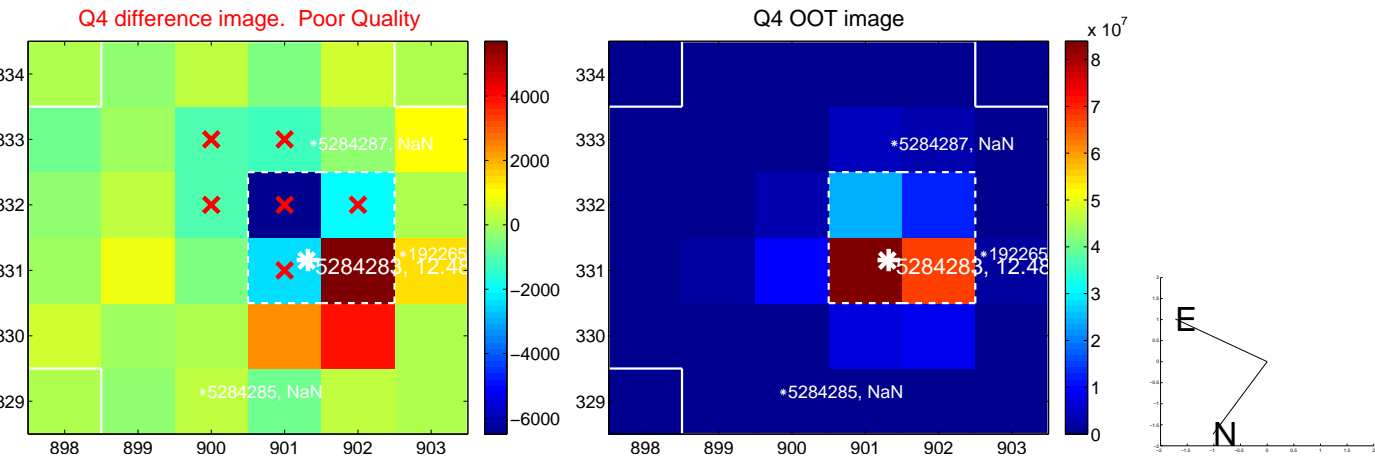
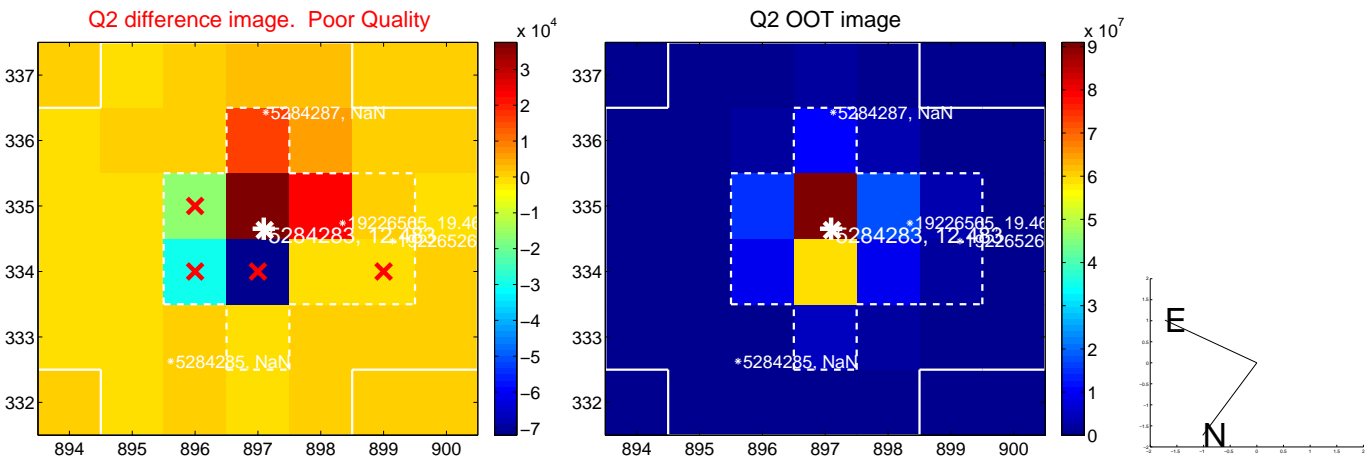
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 1.649 ± 0.863 | 1.91 | 1.286 ± 0.304 | -1.033 ± 1.032 |
| PRF-fit source offset from KIC position | 1.719 ± 0.719 | 2.39 | 1.269 ± 0.232 | -1.160 ± 0.852 |
| photometric centroid source offset | 1.94 ± 0.98 | 1.98 | -0.58 ± 0.84 | -1.85 ± 0.99 |

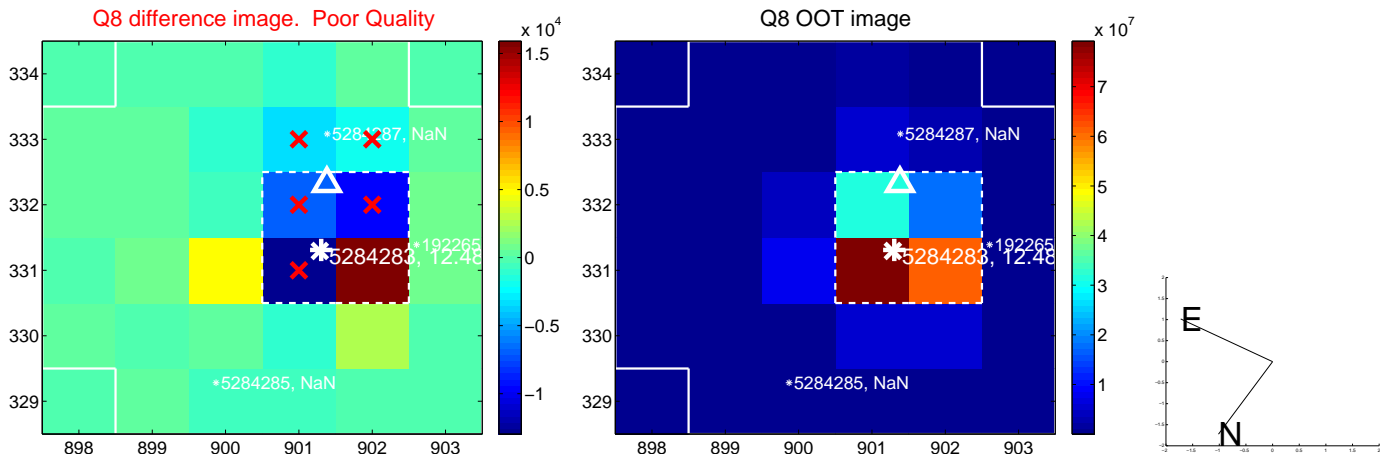
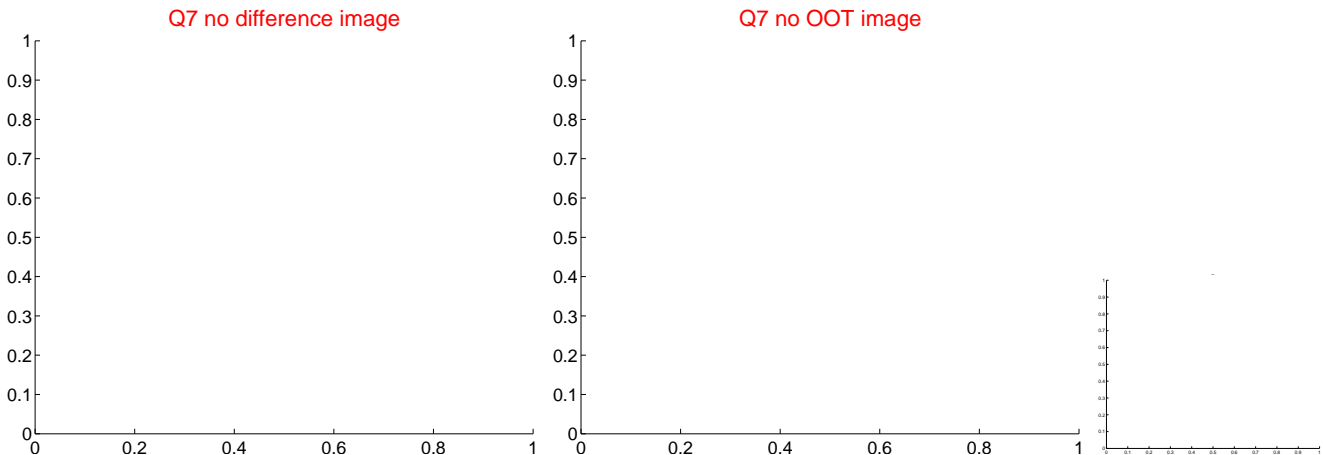
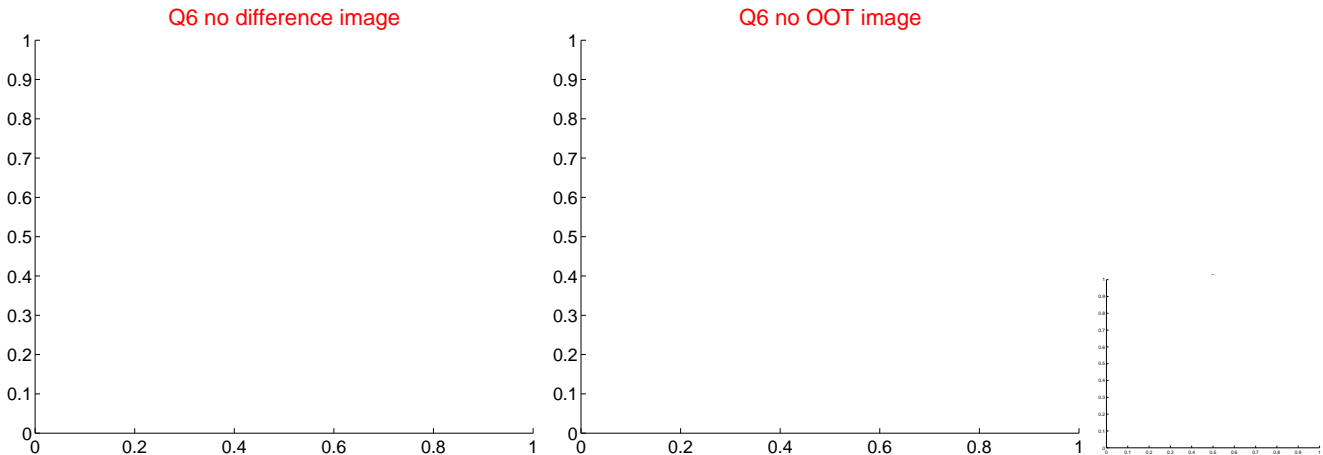
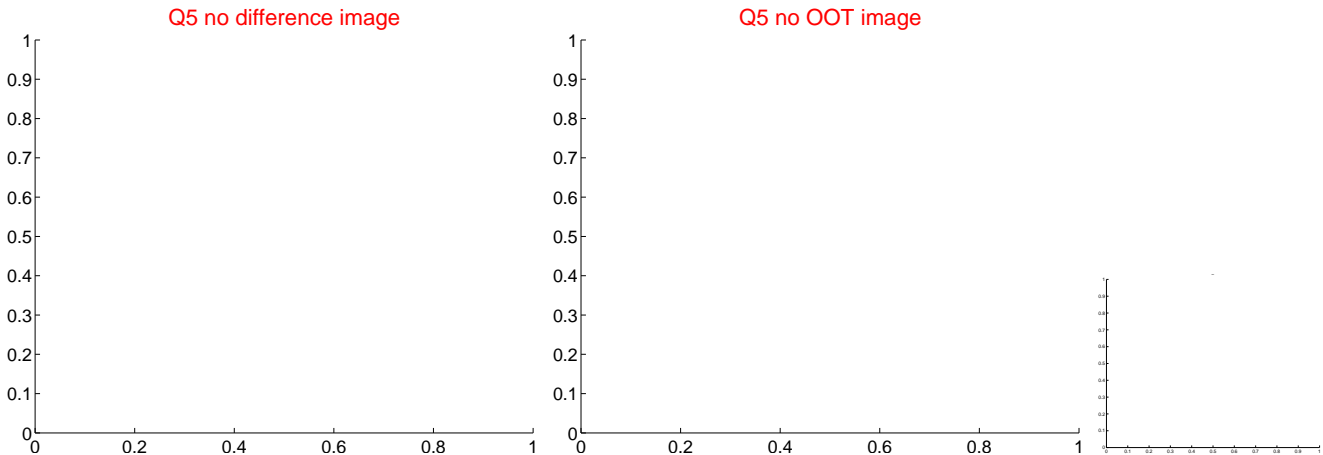


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

Q9 no difference image



Q9 no OOT image



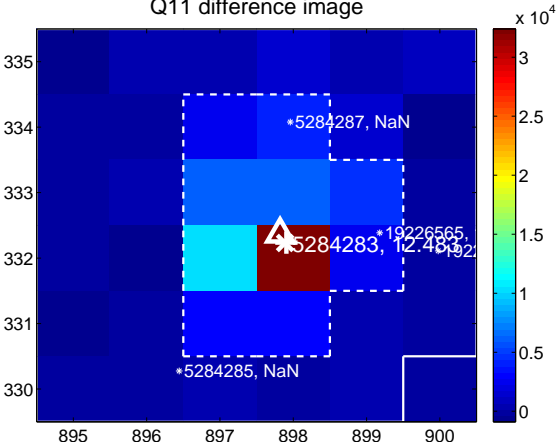
Q10 no difference image



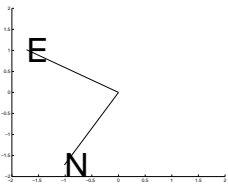
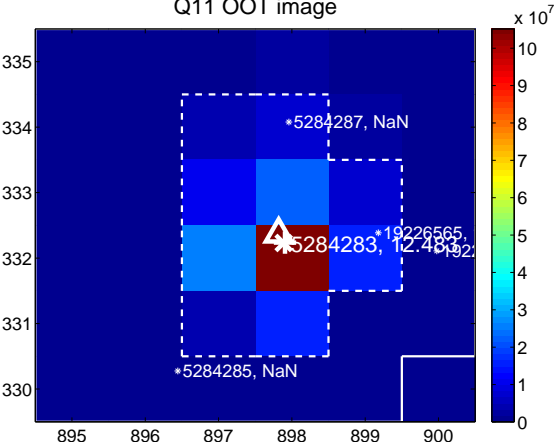
Q10 no OOT image



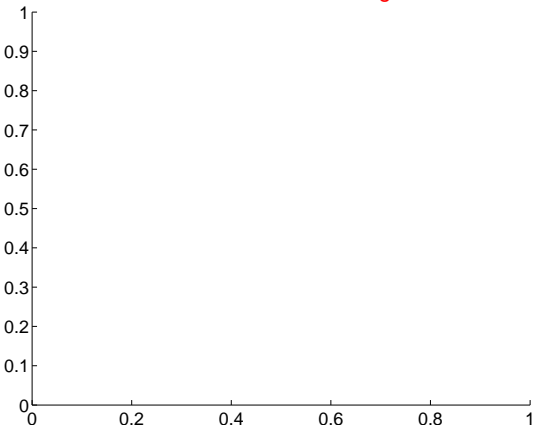
Q11 difference image



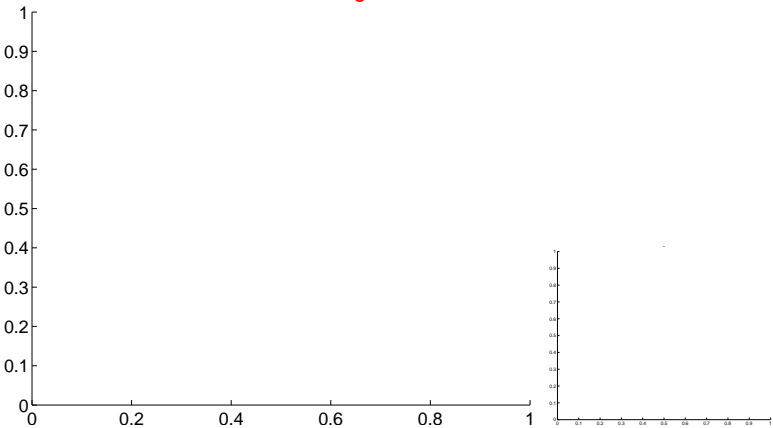
Q11 OOT image



Q12 no difference image



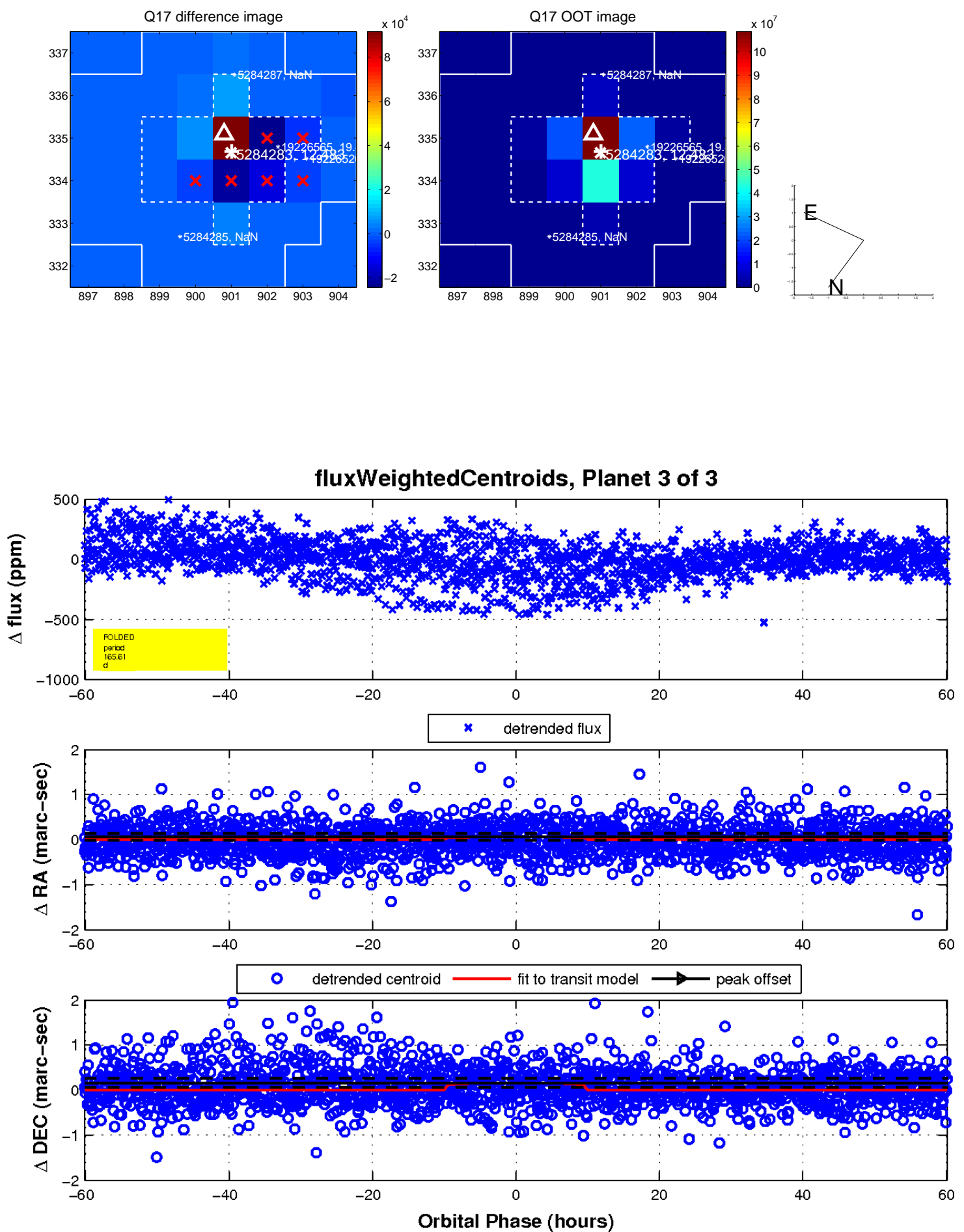
Q12 no OOT image



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



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



UKIRT Image

Declination

