

KIC 006974111

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 006974111-01 | OBS | No | 0.698687 | 131.785411 | 69.5 | 2.663 | 11.5 | 9.3 | 2.06 | 8184 | 2.00 | 47009.62 |
| 006974111-02 | OBS | No | 0.698751 | 131.521473 | 115.6 | 2.112 | 10.2 | 11.9 | 2.06 | 8184 | 2.58 | 47003.80 |
| 006974111-03 | OBS | No | 0.698733 | 132.004944 | 258.0 | 2.000 | 11.9 | -1.0 | 2.06 | 8184 | 3.36 | 47005.50 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 006974111-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT |
| 006974111-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD |
| 006974111-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_NOFITS |

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

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

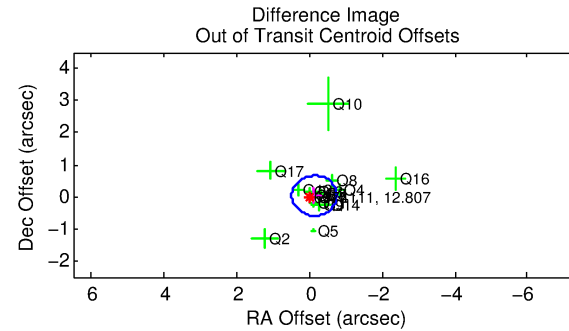
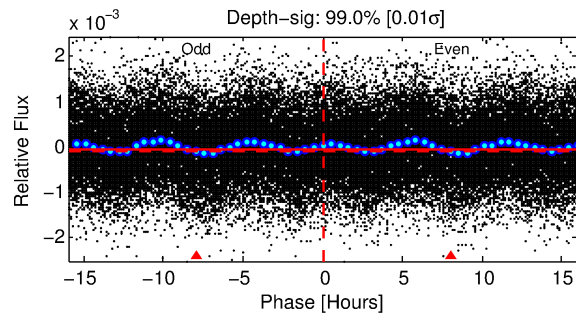
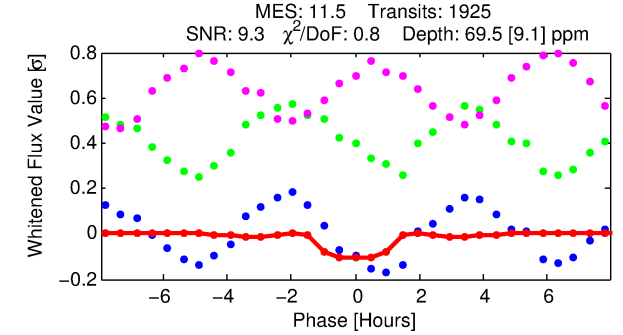
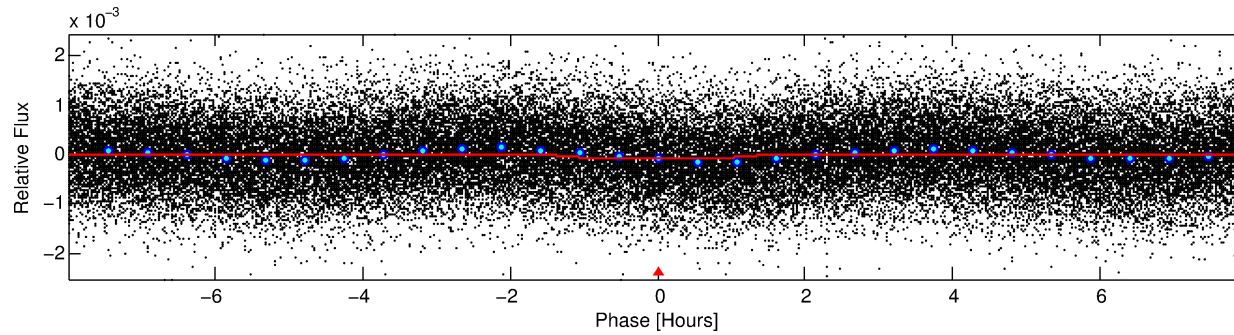
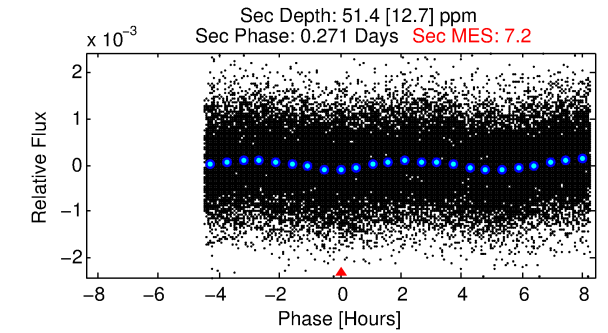
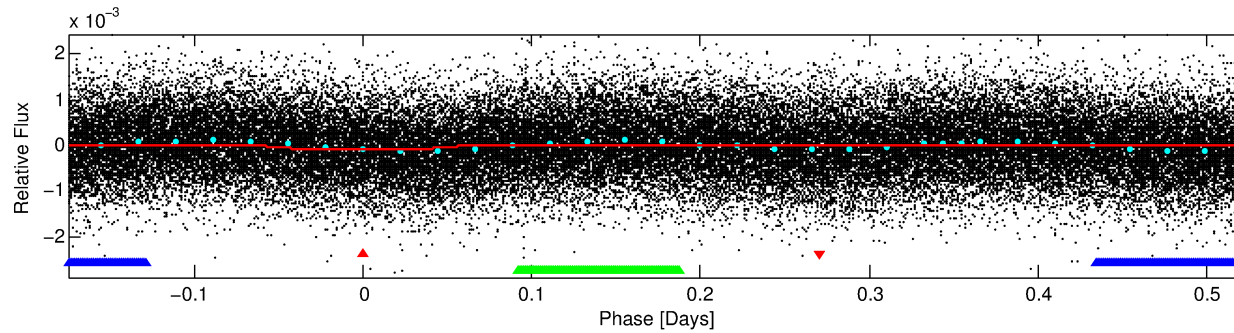
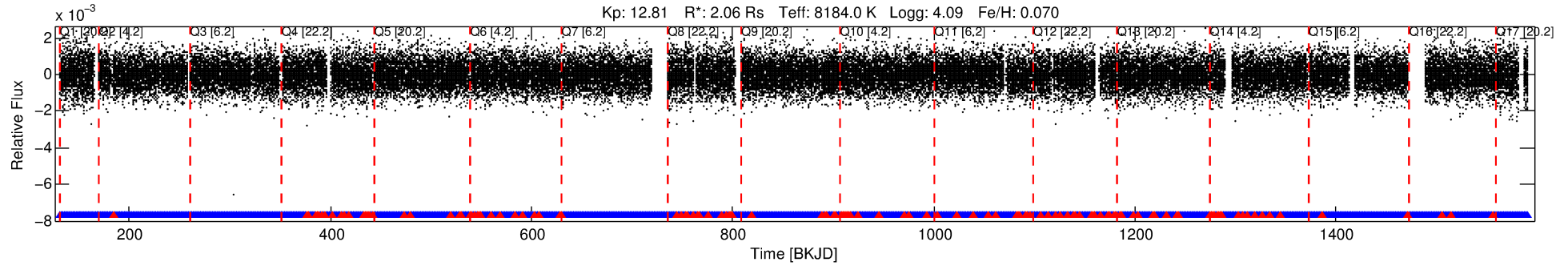
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006974111-01

No Significant Match Found

DV One-Page Summary

KIC: 6974111 Candidate: 1 of 3 Period: 0.699 d



DV Fit Results:

Period = 0.69869 [0.00001] d
Epoch = 131.7854 [0.0034] BKJD
Rp/R* = 0.0089 [0.0046]
a/R* = 1.31 [1.74]
b = 0.90 [0.68]
Seff = 47009.62 [15885.56]
Teq = 3755 [317] K
Rp = 2.00 [1.12] Re
a = 0.0191 [0.0037] AU
Ag = 2.57 [2.80] [0.56σ]
Teffp = 7348 [1964] K [1.81σ]

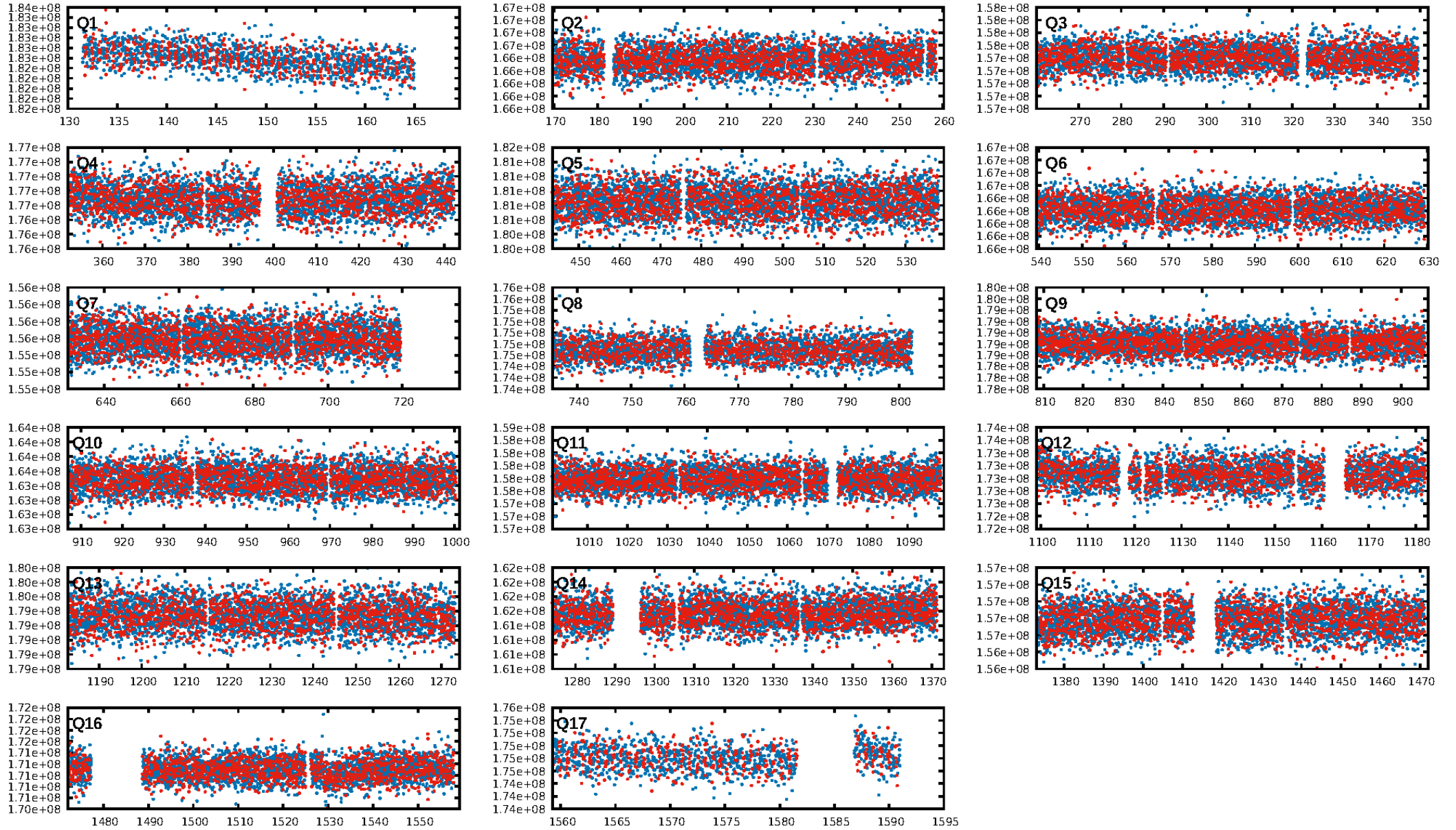
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.92 [1698/1838]
GhostDiagnostic-chr: -1.842
Centroid-sig: 26.0%
Centroid-so: 0.335 arcsec [1.22σ]
OotOffset-rm: 0.137 arcsec [0.66σ]
KicOffset-rm: 0.305 arcsec [1.37σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 0.00 [0/17]

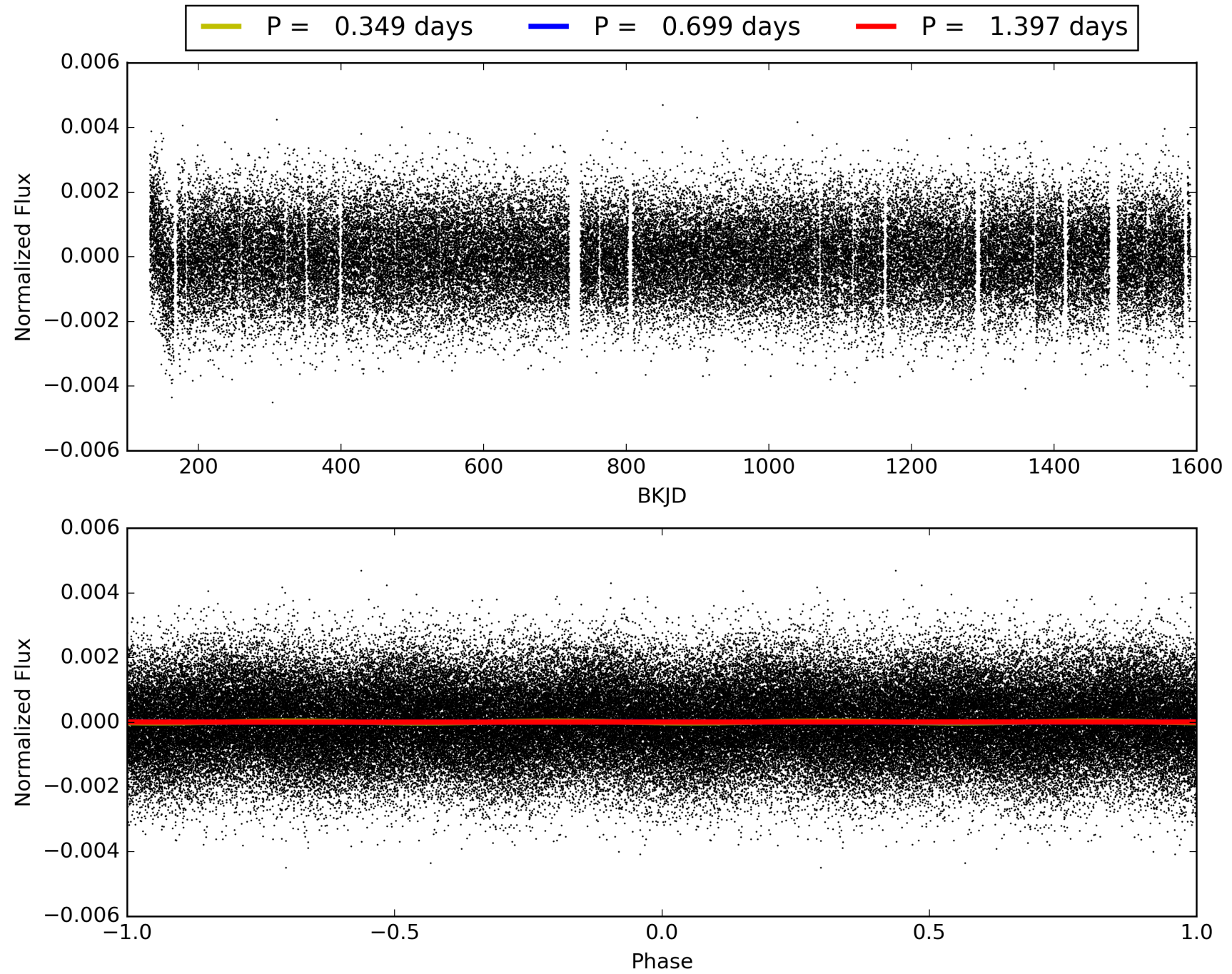
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:41:02 Z

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

TCE 006974111-01, PDC Light Curves

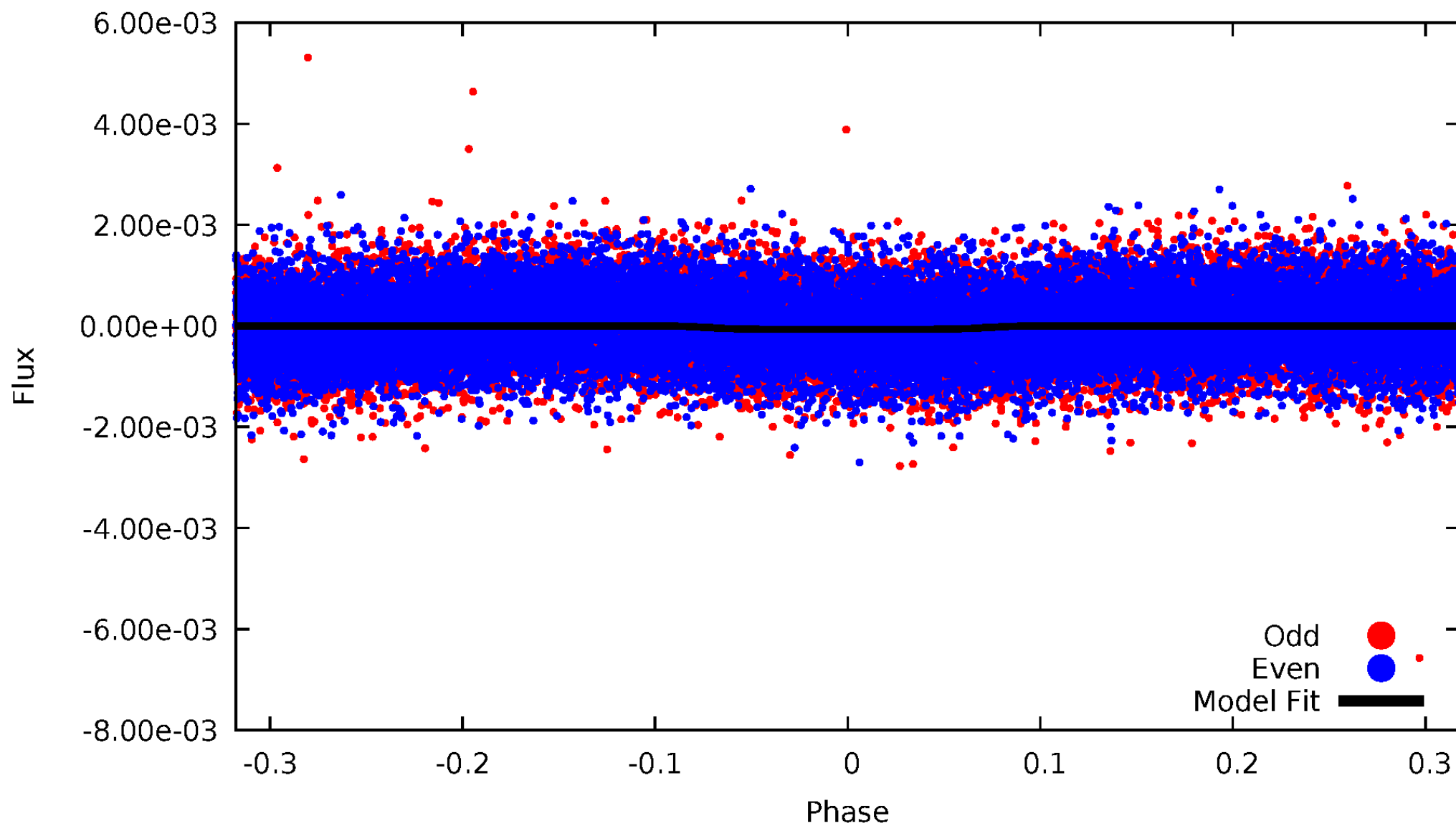


TCE 006974111-01



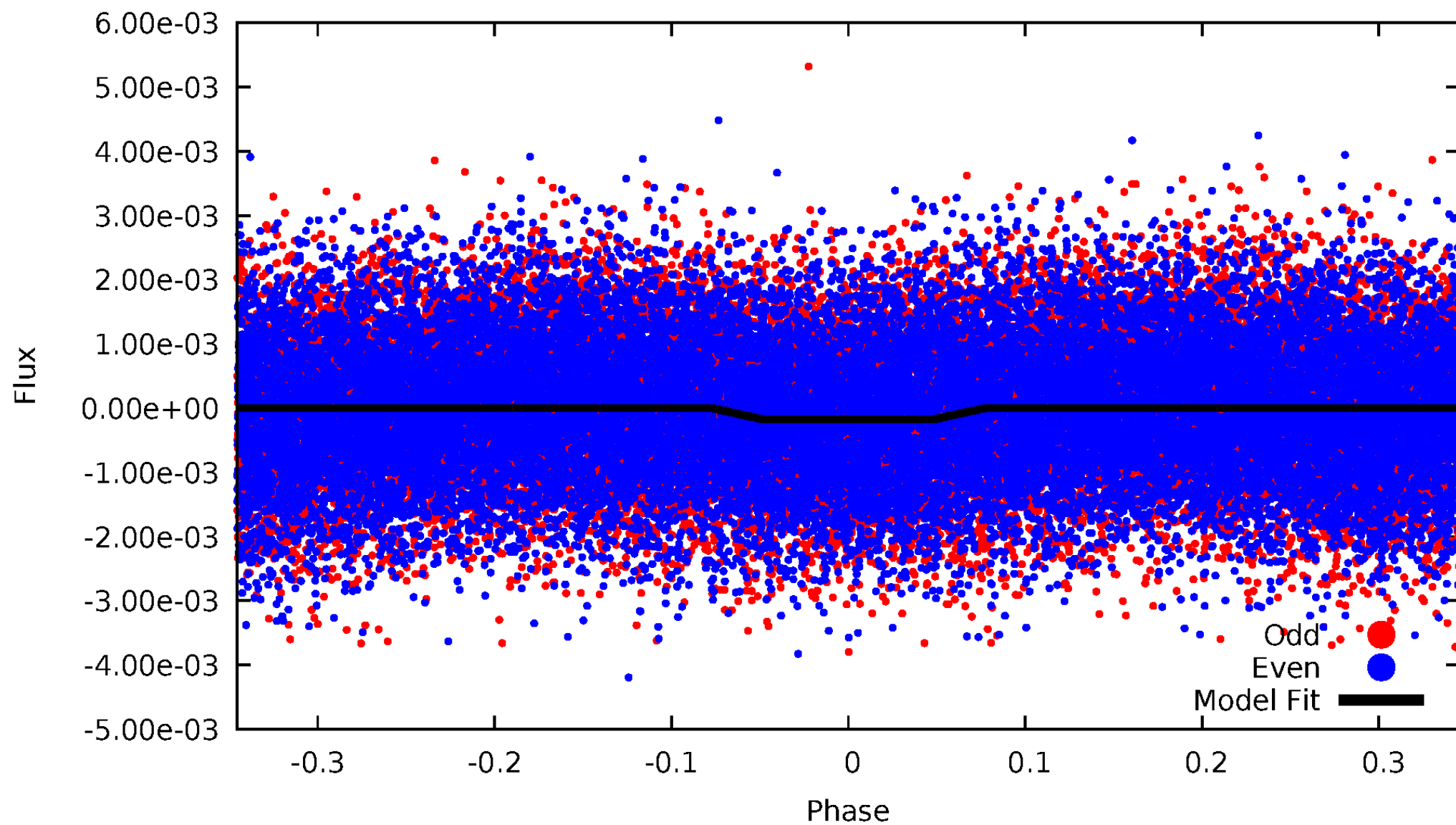
DV Odd/Even

TCE 006974111-01

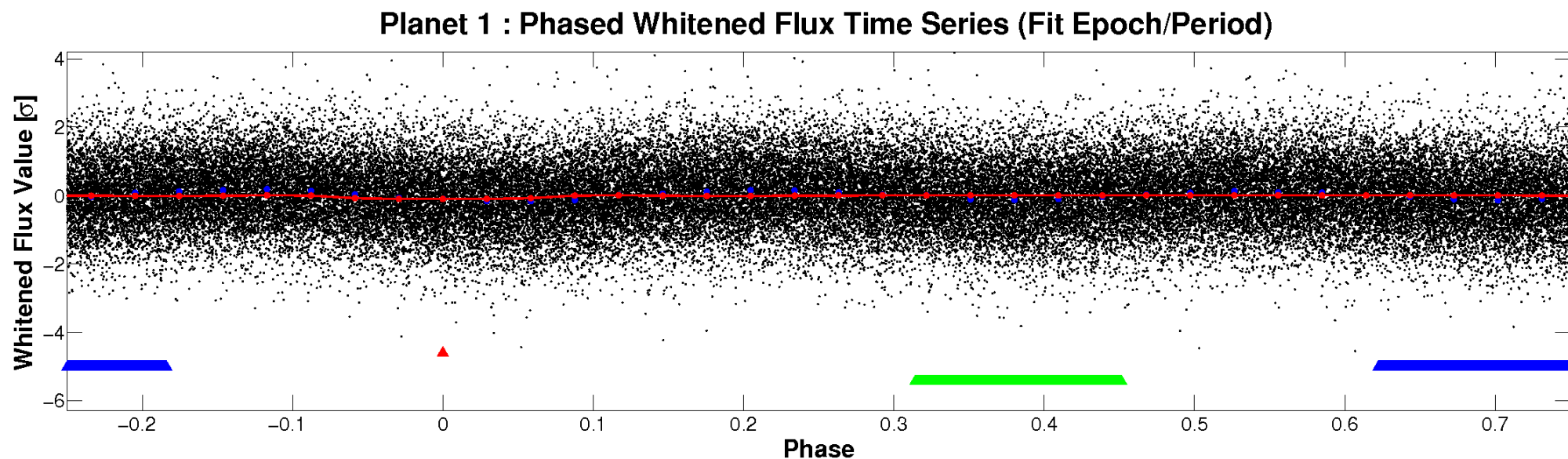
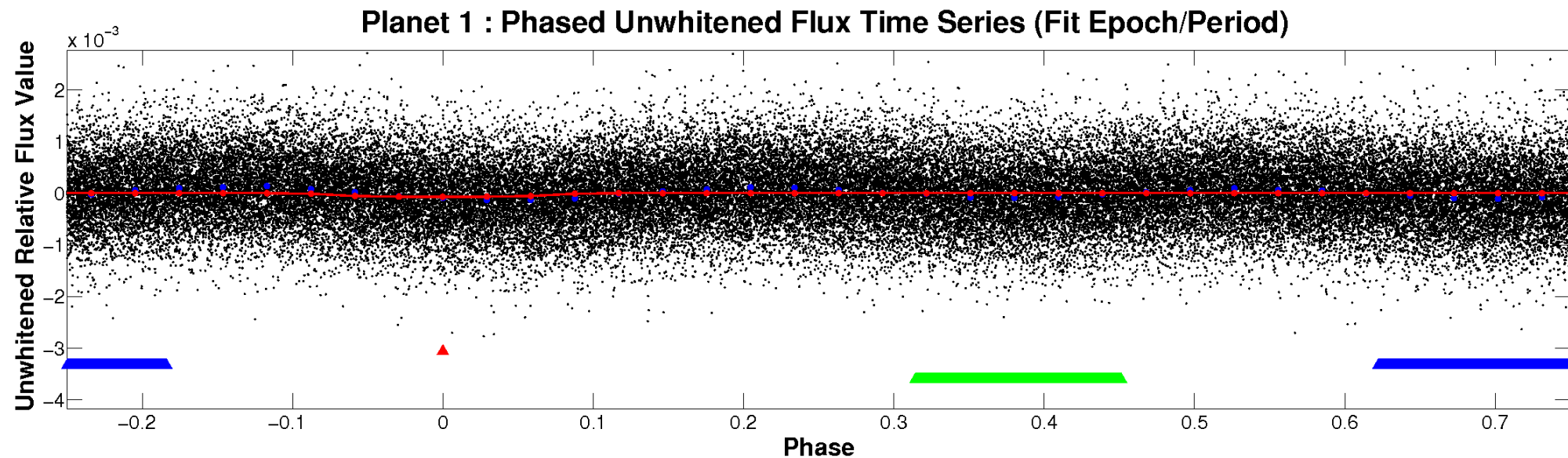


ALT Odd/Even

TCE 006974111-01

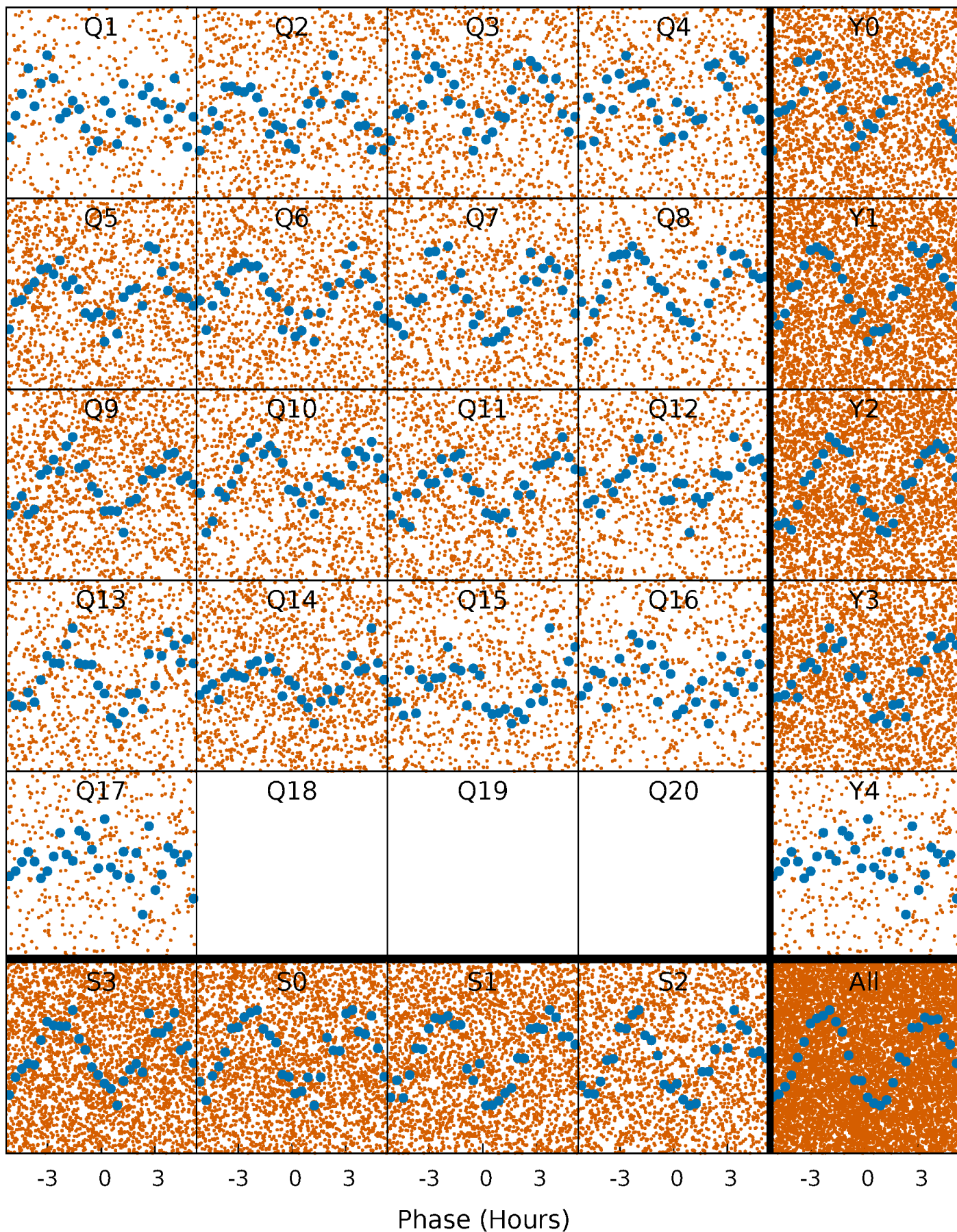


Non-Whitened Vs. Whitened Light Curve



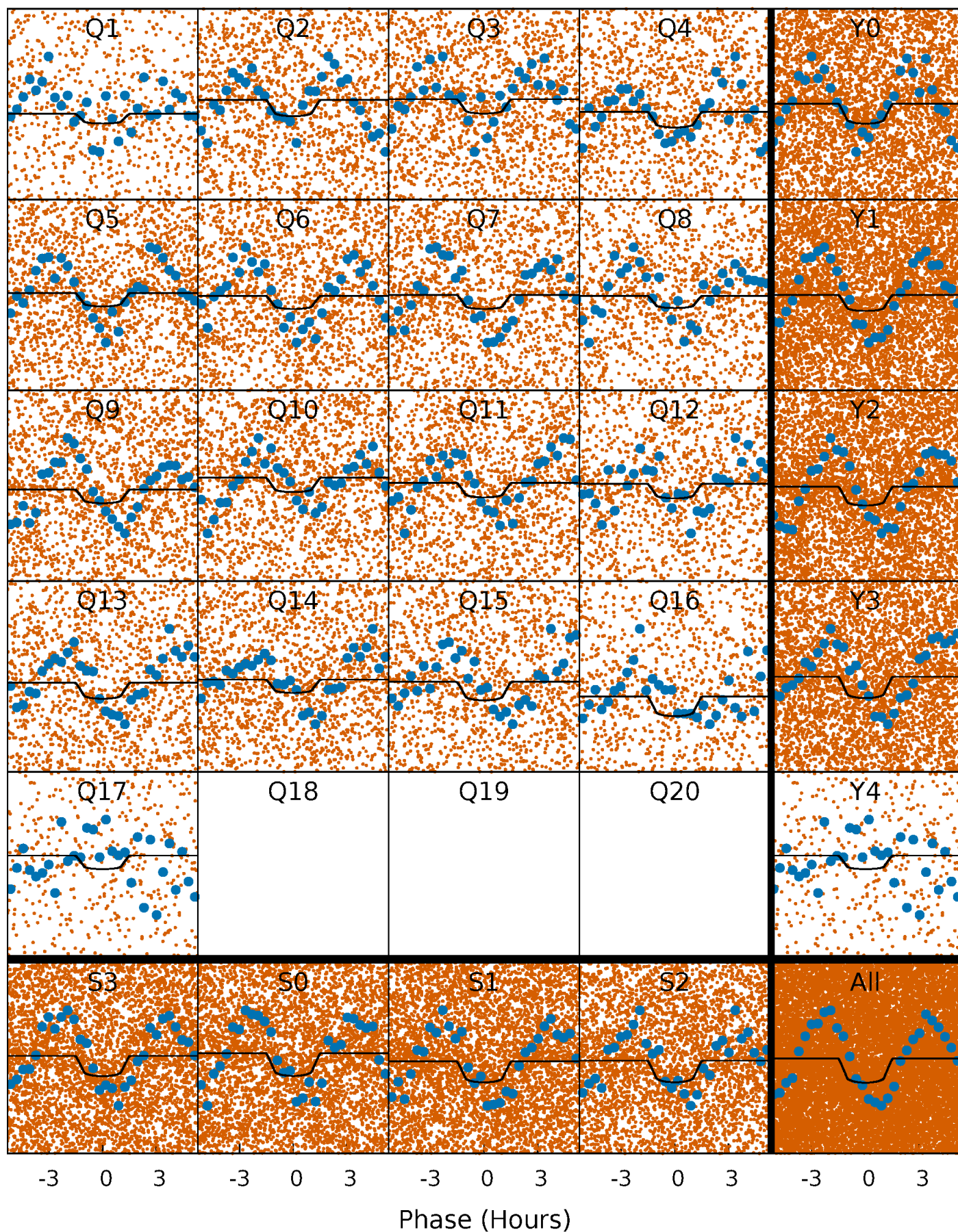
PDC Quarter-Phased Transit Curves

TCE 006974111-01 P= 0.698687 Days $T_0=131.785411$ (BKJD)



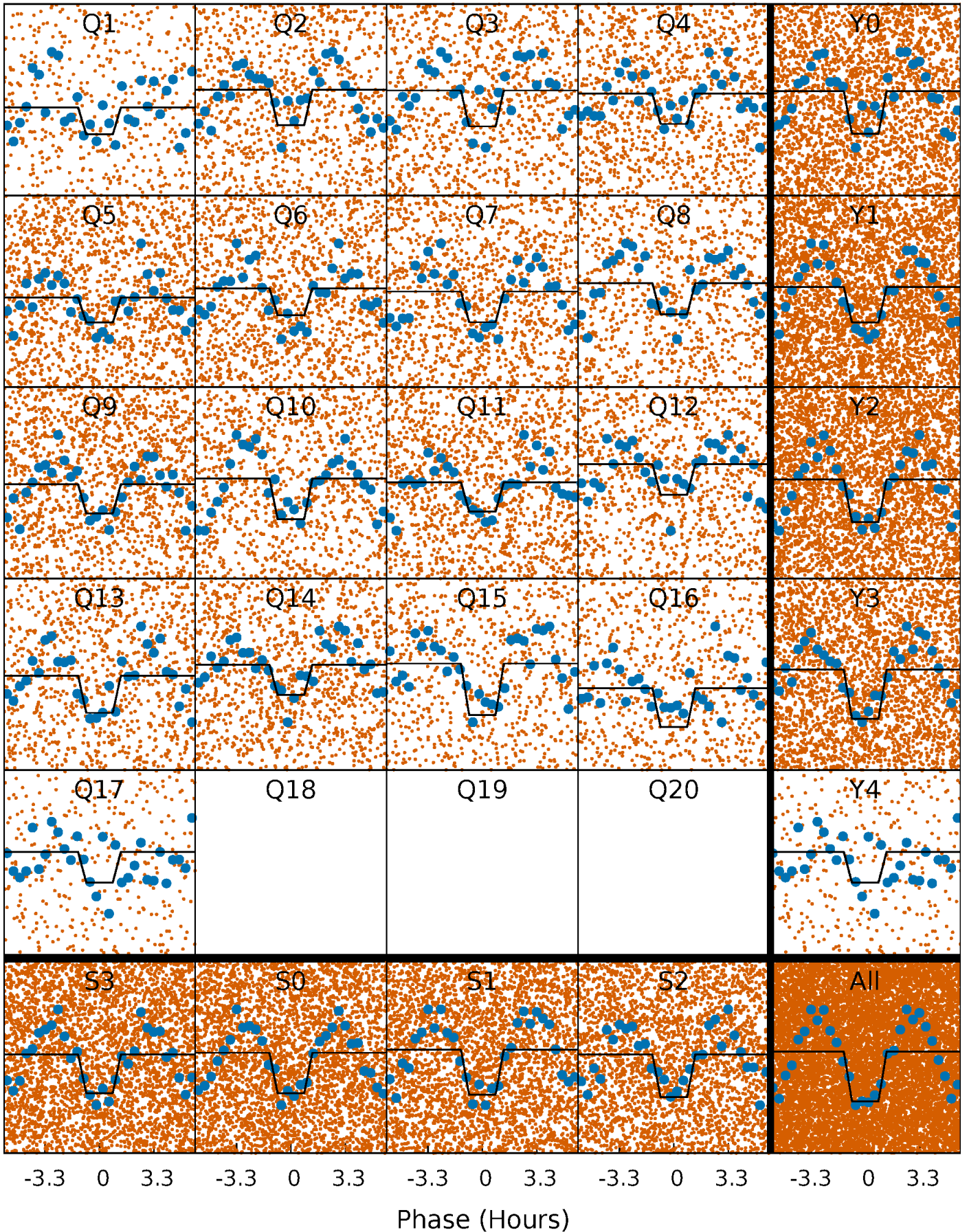
DV Quarter-Phased Transit Curves

TCE 006974111-01 P= 0.698687 Days $T_0=131.785411$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

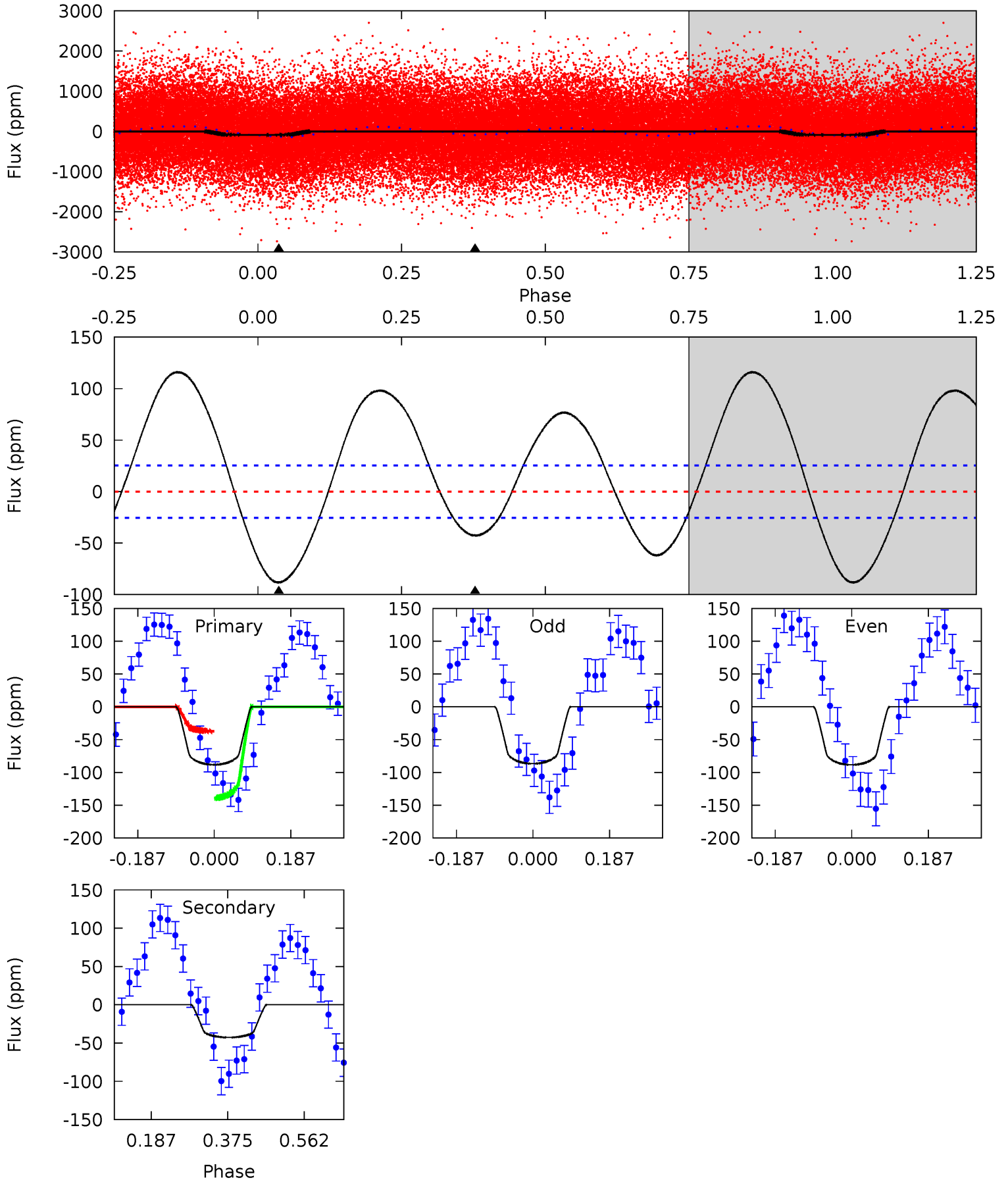
TCE 006974111-01 P= 0.698725 Days $T_0=131.776222$ (BKJD)



DV Model-Shift Uniqueness Test

006974111-01, P = 0.698687 Days, E = 131.086724 Days

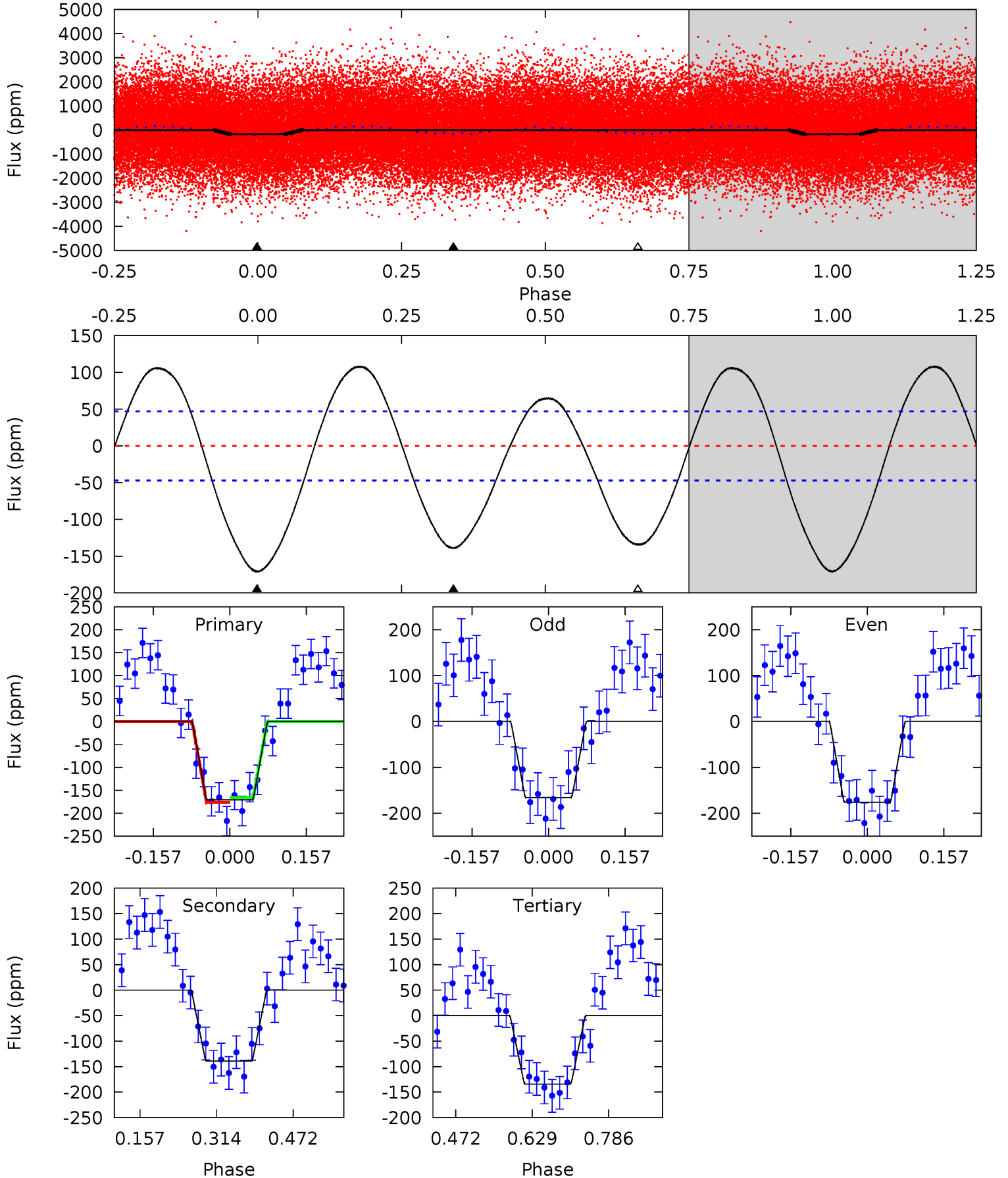
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.4 | 7.44 | 0 | 0 | 4.43 | 1.32 | 9.33 | 15.4 | 15.4 | 7.44 | 7.44 | 0.15 | 1.00 | 0.57 | 8.78 |



Alt Model-Shift Uniqueness Test

006974111-01, P = 0.698725 Days, E = 131.077497 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 16.2 | 13.2 | 12.8 | 0 | 4.47 | 1.41 | 8.04 | 3.48 | 16.2 | 0.44 | 13.2 | 0.50 | 0.96 | 0.39 | 0.49 |



Stellar Parameters For KIC 006974111

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 8184^{+198}_{-368} | $4.087^{+0.145}_{-0.159}$ | $0.070^{+0.200}_{-0.450}$ | $2.064^{+0.462}_{-0.462}$ | $1.898^{+0.256}_{-0.384}$ | $0.304^{+0.235}_{-0.122}$ |
| | +2%/-4% | +4%/-4% | +286%/-643% | +22%/-22% | +13%/-20% | +77%/-40% |
| 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 006974111-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|------------------------|---------------------------|
| DV | -43 ± 6 | $2.01^{+1.01}_{-1.02}$ | 5236^{+362}_{-380} | 6454^{+3860}_{-1385} | $2.057^{+6.261}_{-1.166}$ |
| Alt. | -139 ± 11 | $2.96^{+1.16}_{-1.03}$ | 5264^{+339}_{-348} | 7340^{+2461}_{-1269} | $3.091^{+4.279}_{-1.467}$ |

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 $A_{obs} \gg 1.0$

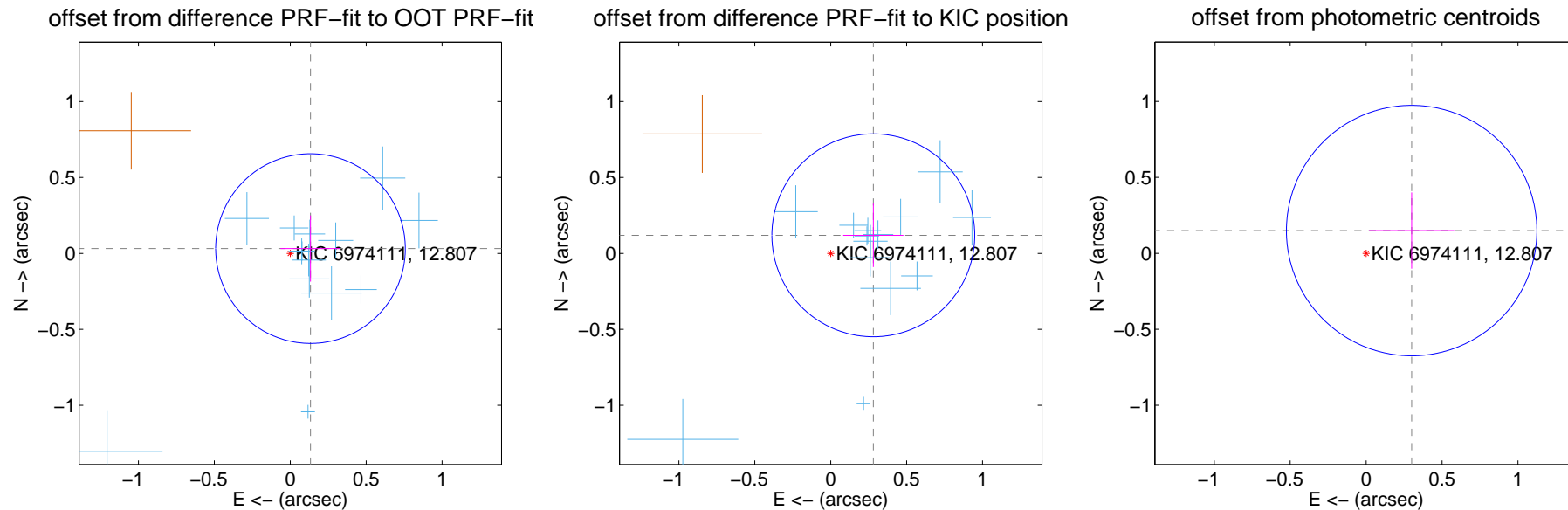
DV Centroid Data

Supplemental centroid analysis for 006974111-01. Kepler magnitude: 12.81. Transit SNR 9.25

There are 15 quarters with good PRF difference image offsets

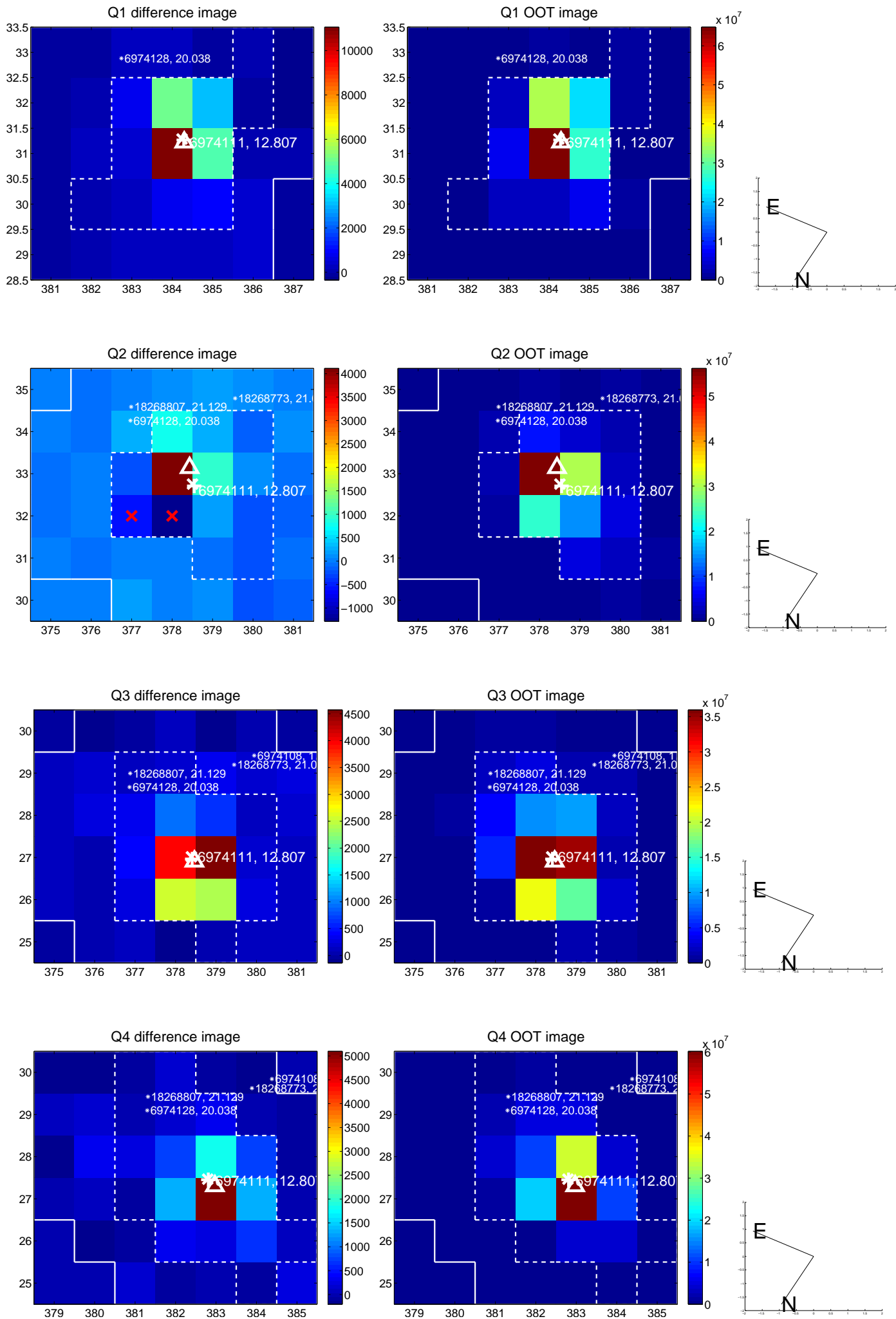
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.137 ± 0.208 | 0.66 | -0.133 ± 0.197 | 0.032 ± 0.218 |
| PRF-fit source offset from KIC position | 0.305 ± 0.223 | 1.37 | -0.281 ± 0.199 | 0.119 ± 0.209 |
| photometric centroid source offset | 0.33 ± 0.27 | 1.22 | -0.30 ± 0.28 | 0.15 ± 0.25 |

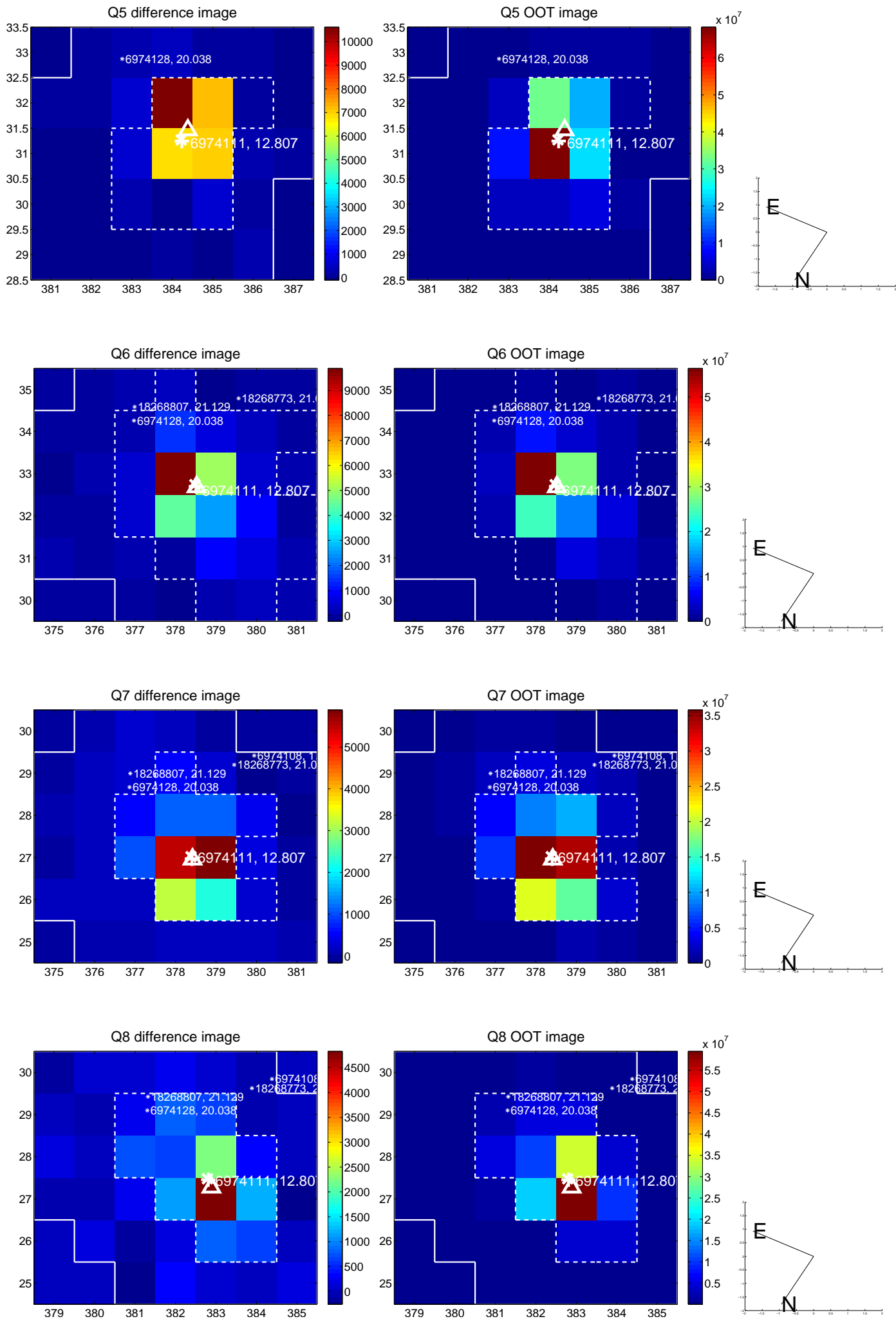


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

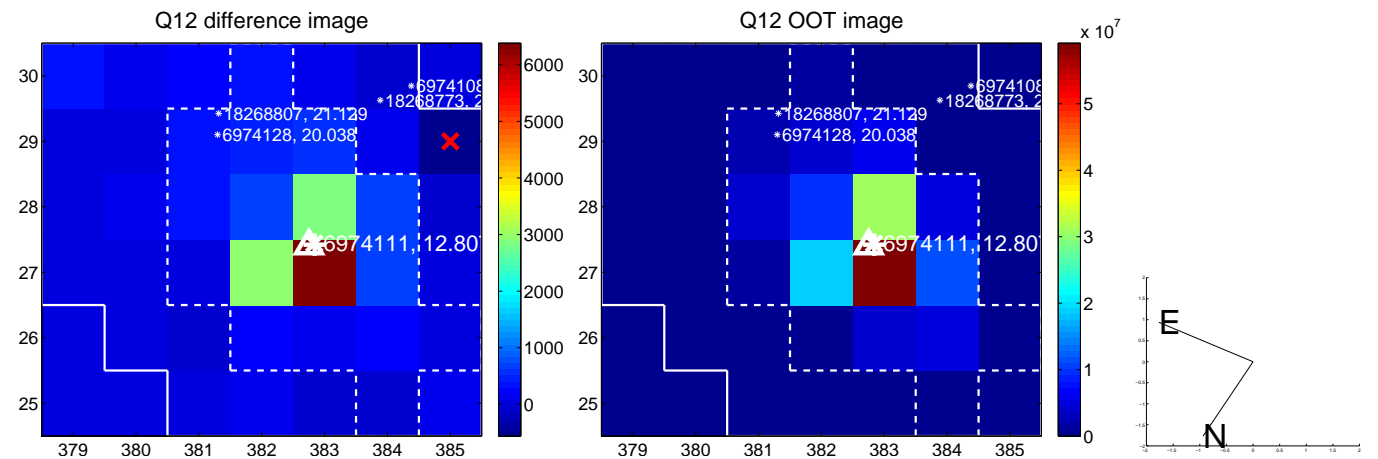
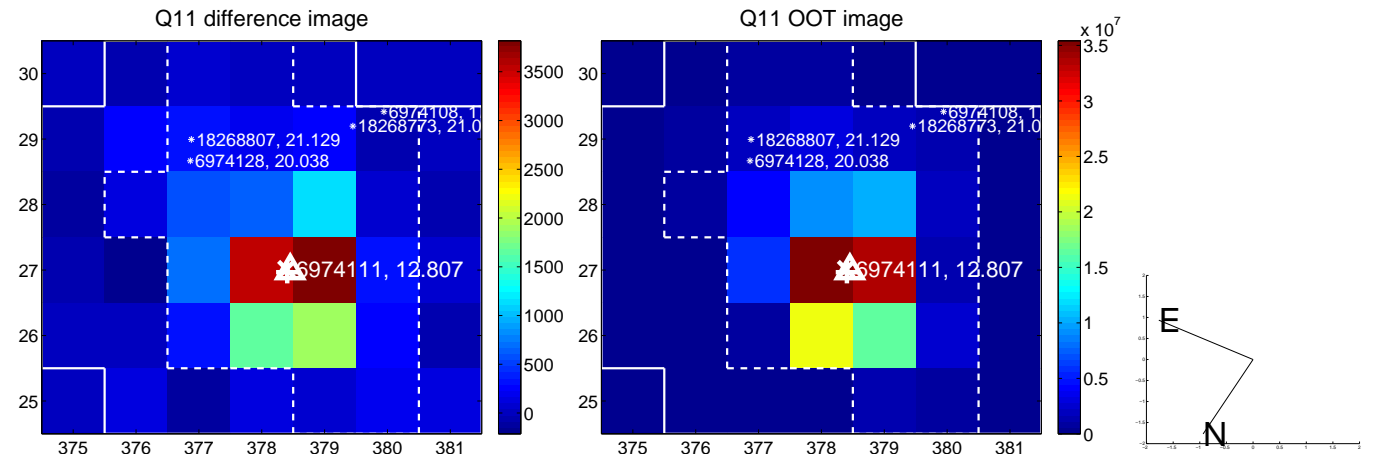
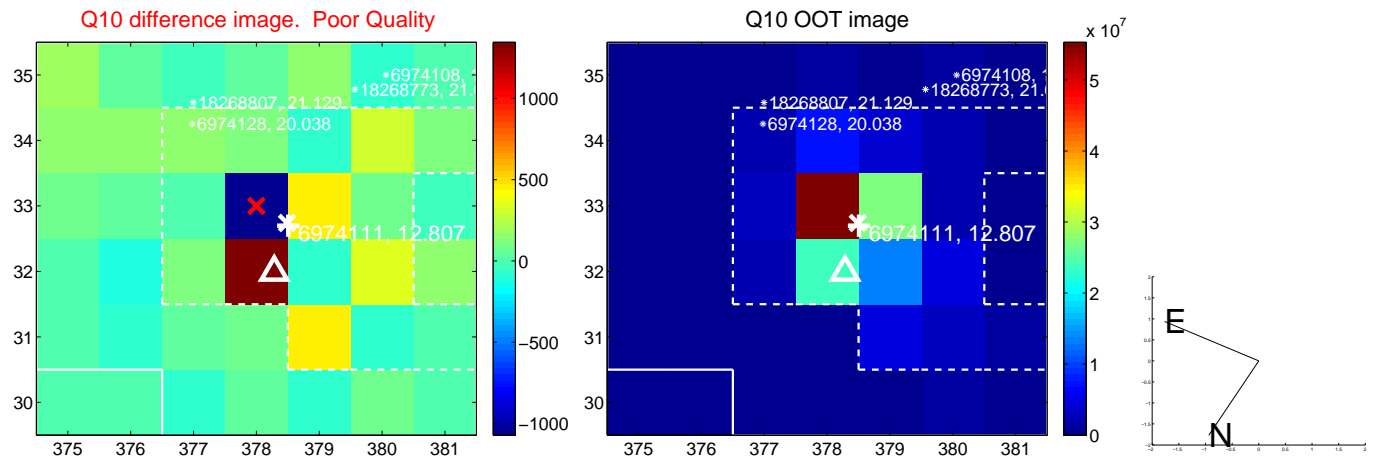
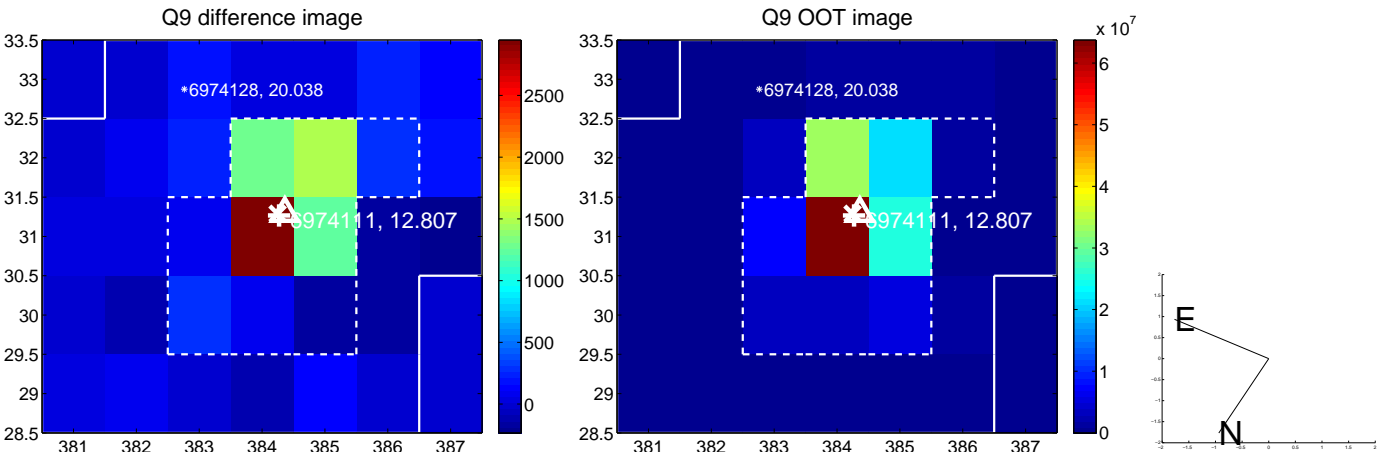
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



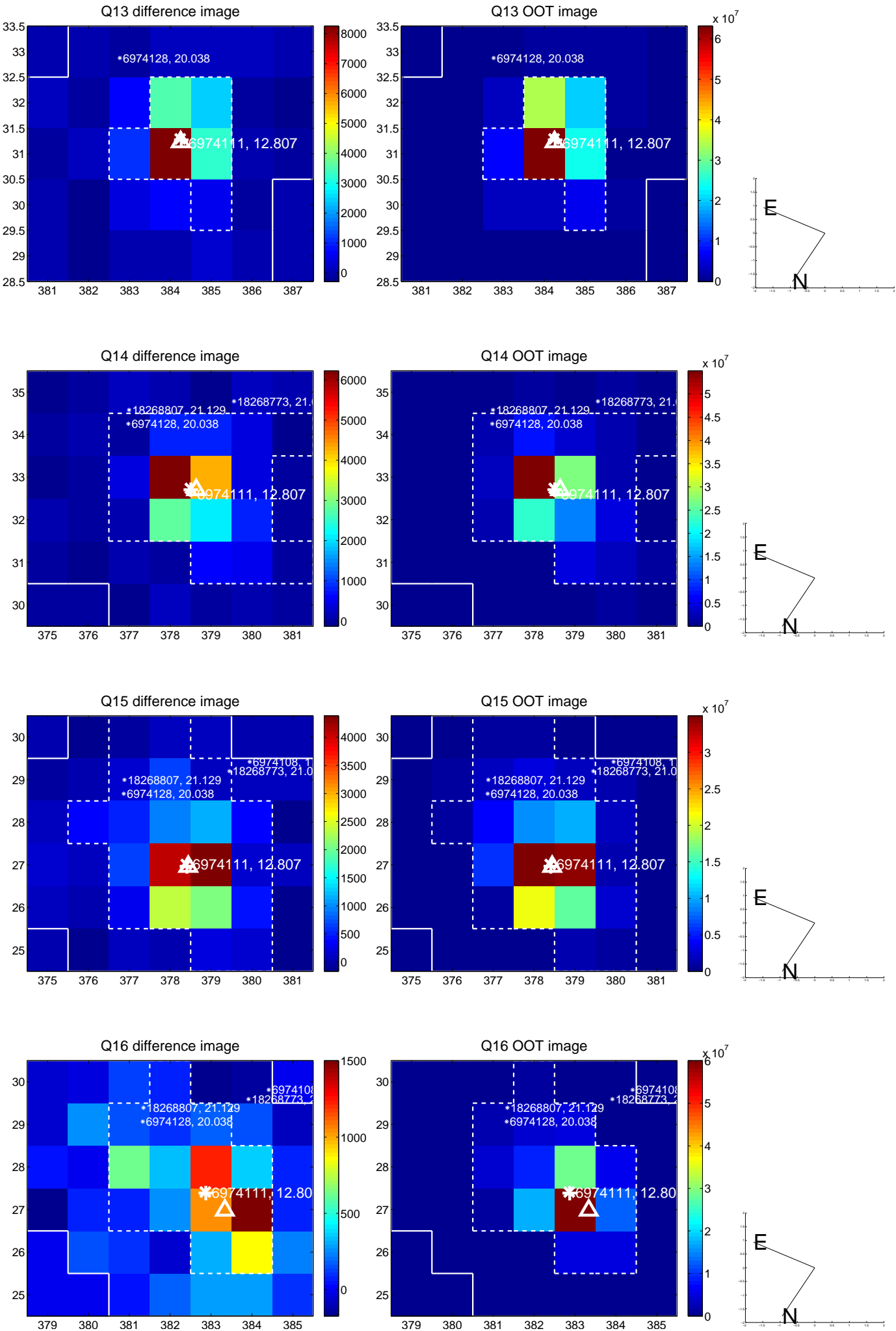
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



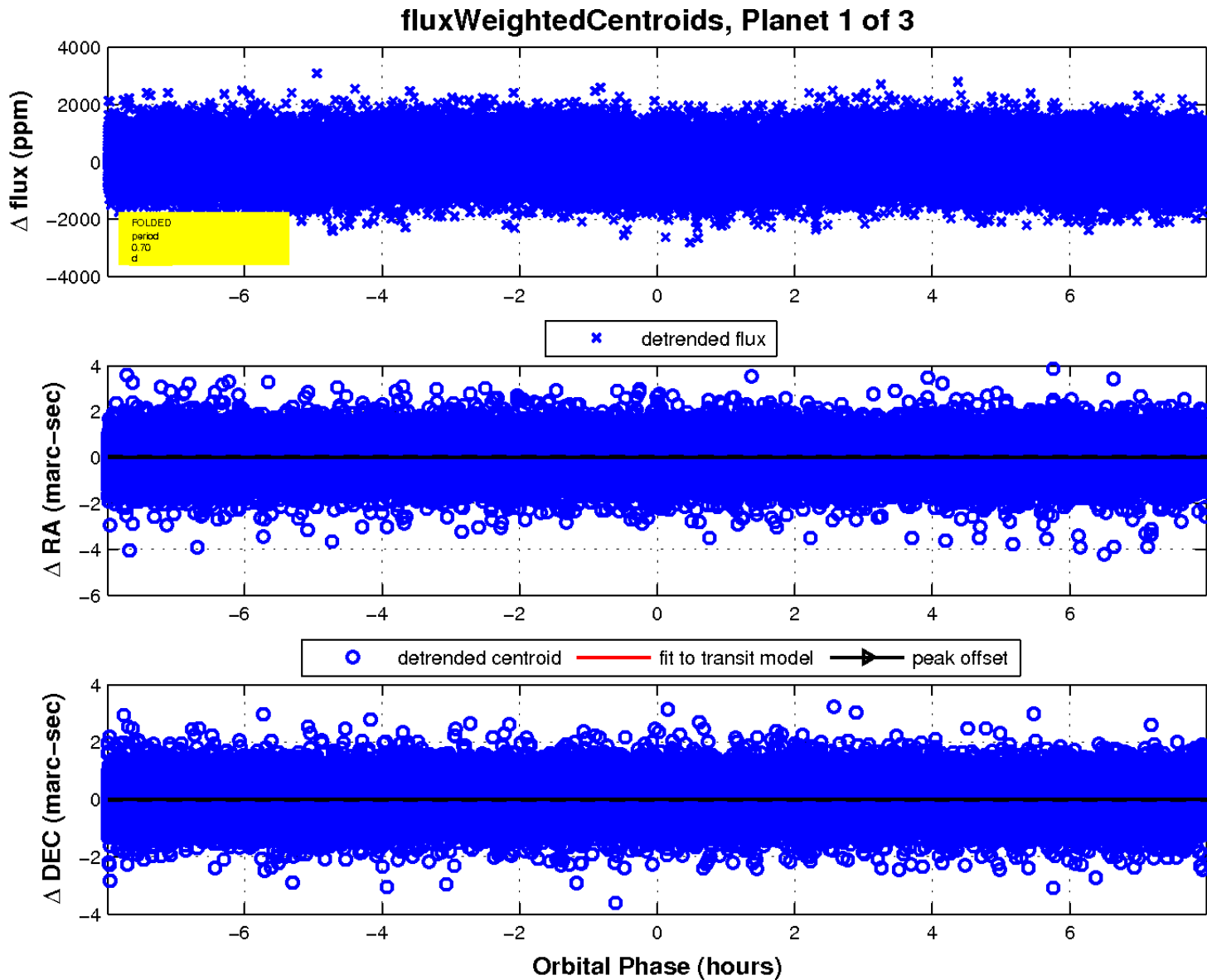
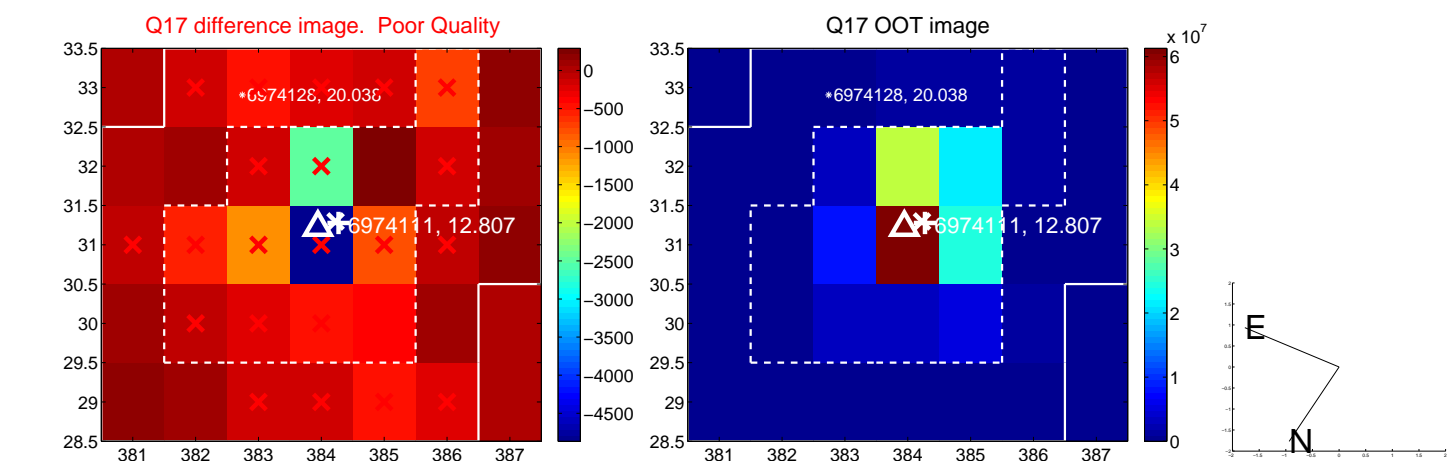
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

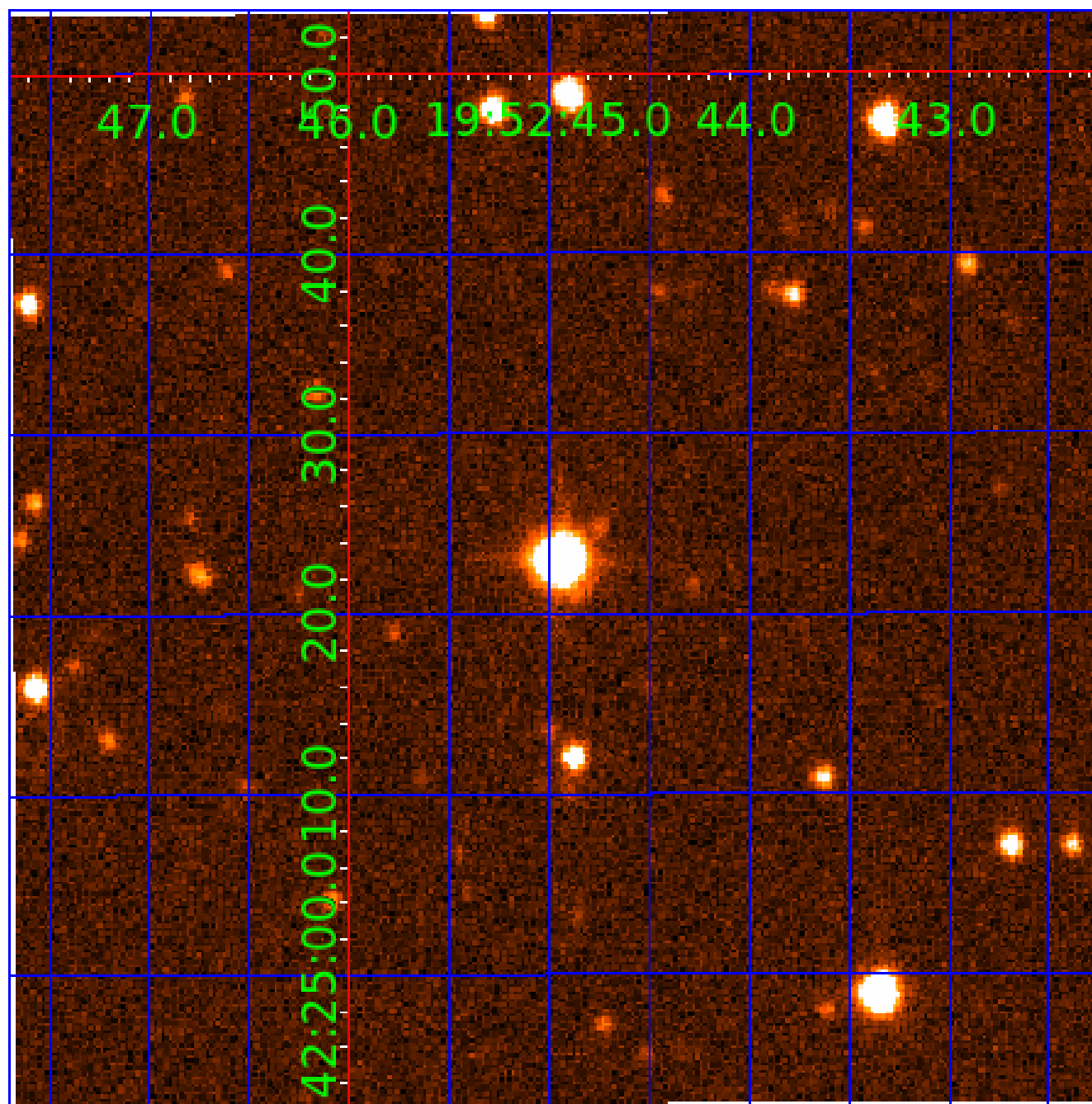


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006974111

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 006974111-01 | OBS | No | 0.698687 | 131.785411 | 69.5 | 2.663 | 11.5 | 9.3 | 2.06 | 8184 | 2.00 | 47009.62 |
| 006974111-02 | OBS | No | 0.698751 | 131.521473 | 115.6 | 2.112 | 10.2 | 11.9 | 2.06 | 8184 | 2.58 | 47003.80 |
| 006974111-03 | OBS | No | 0.698733 | 132.004944 | 258.0 | 2.000 | 11.9 | -1.0 | 2.06 | 8184 | 3.36 | 47005.50 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 006974111-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT |
| 006974111-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD |
| 006974111-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_NOFITS |

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

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

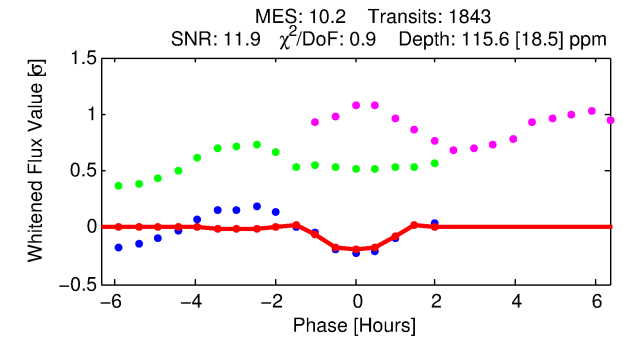
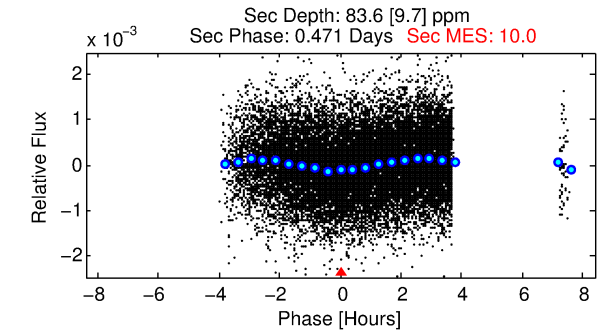
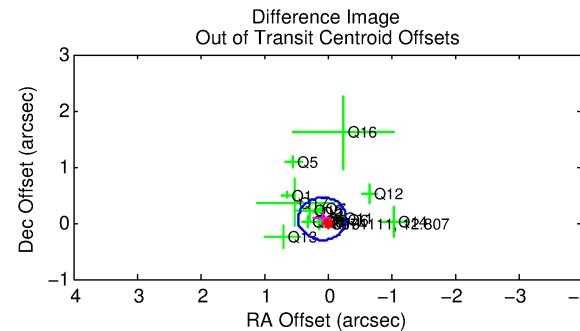
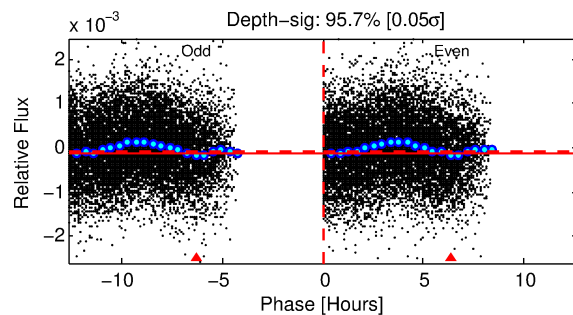
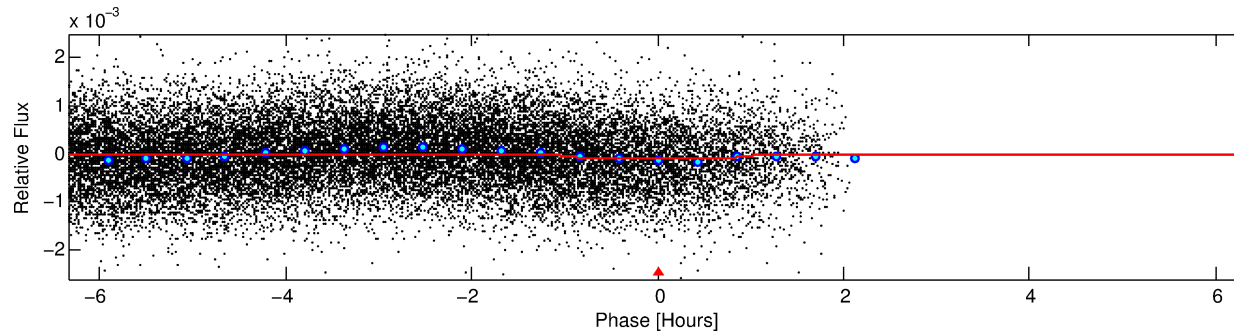
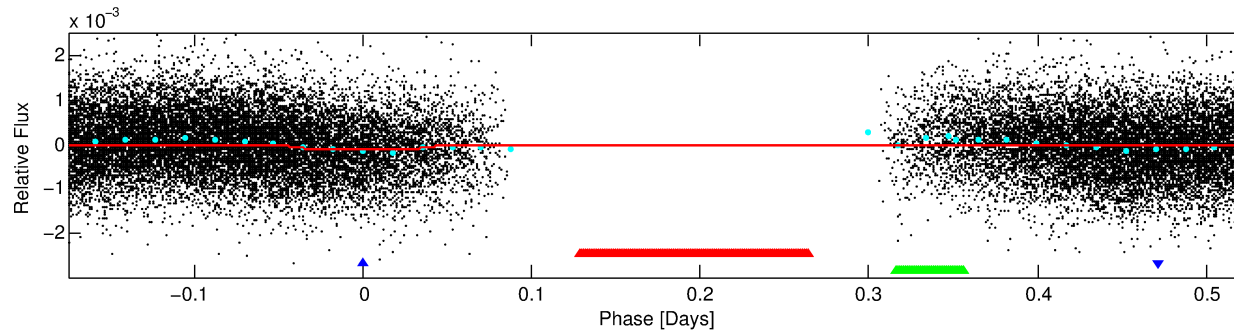
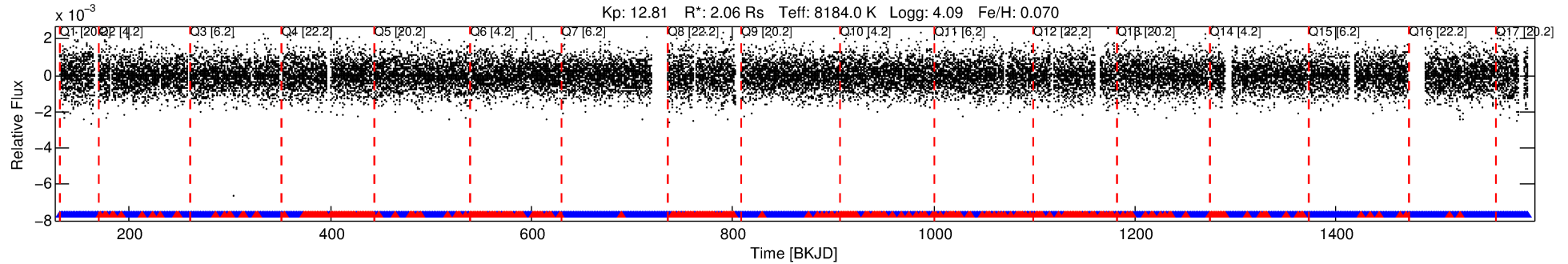
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006974111-02

No Significant Match Found

DV One-Page Summary

KIC: 6974111 Candidate: 2 of 3 Period: 0.699 d



DV Fit Results:

Period = 0.69875 [0.00002] d
Epoch = 131.5215 [0.0032] BKJD
Rp/R* = 0.0115 [0.0054]
a/R* = 1.50 [2.45]
b = 0.90 [0.63]
Seff = 47003.80 [15883.59]
Teq = 3755 [317] K
Rp = 2.58 [1.36] Re
a = 0.0191 [0.0037] AU
Ag = 2.52 [2.51] [0.60 σ]
Teffp = 7311 [1780] K [1.97 σ]

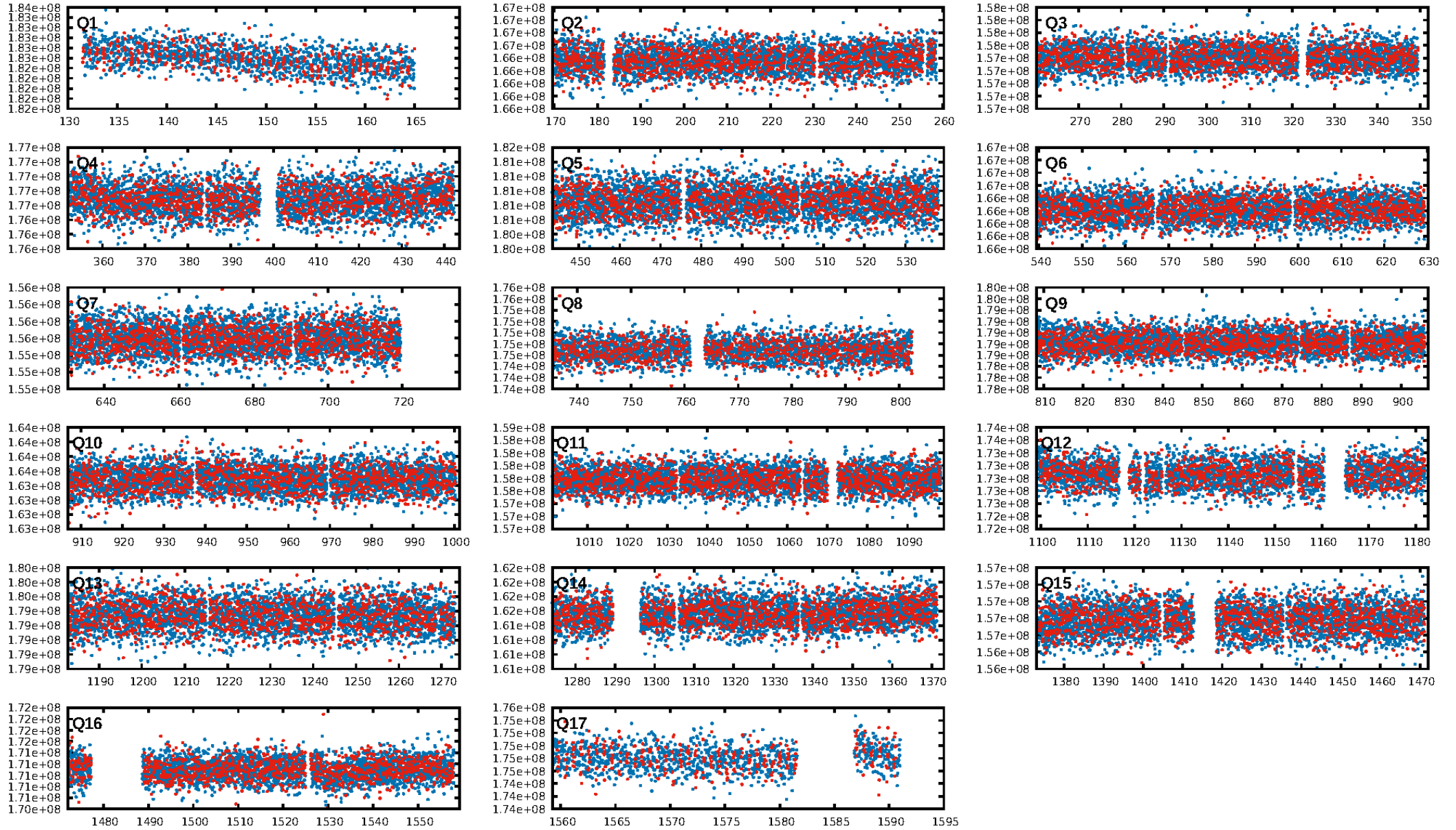
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.78 [1389/1781]
GhostDiagnostic-chr: -1.757
Centroid-sig: 39.2%
Centroid-so: 0.189 arcsec [1.02 σ]
OotOffset-rm: 0.110 arcsec [0.87 σ]
KicOffset-rm: 0.193 arcsec [1.56 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 0.00 [0/17]

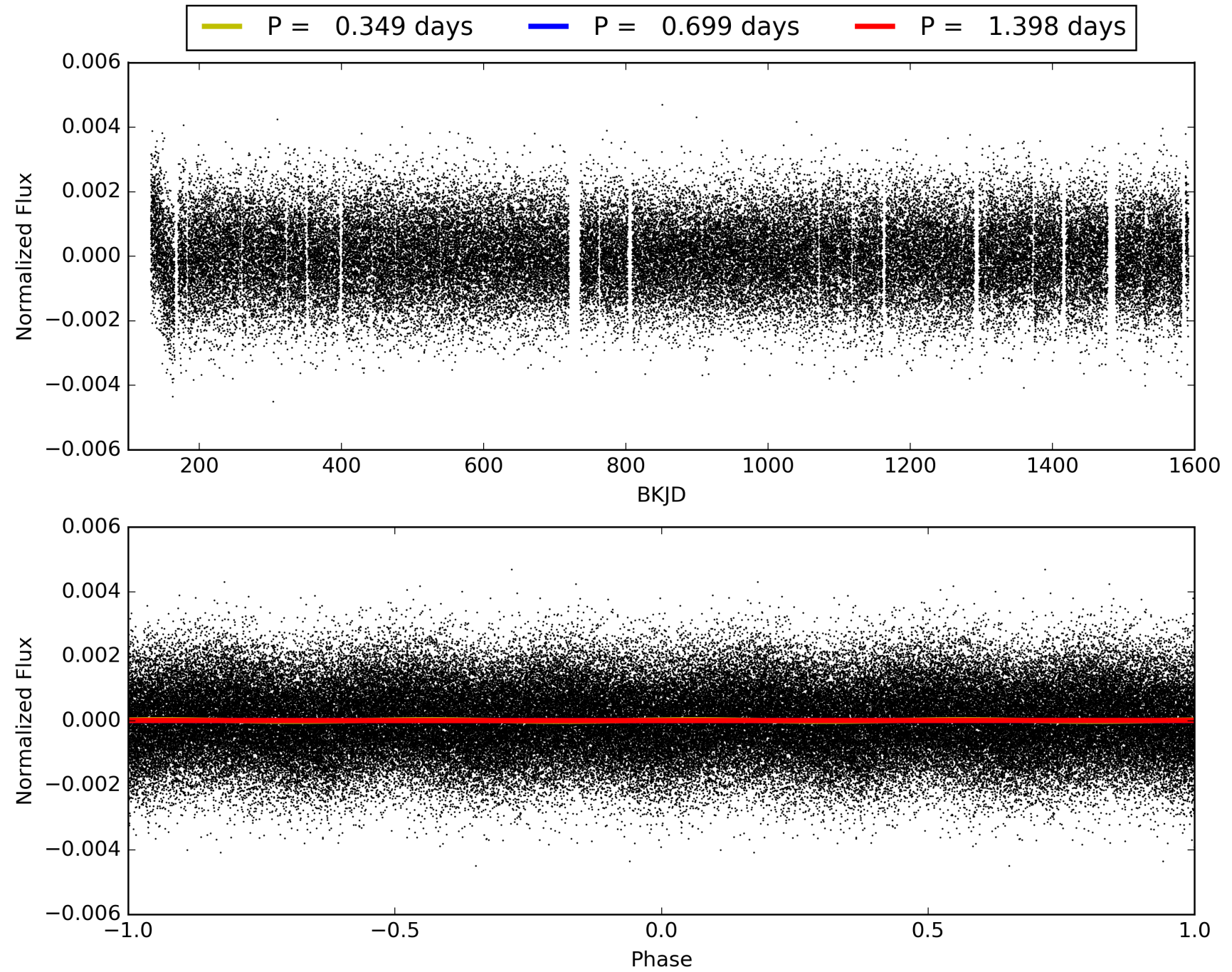
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:41:14 Z

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

TCE 006974111-02, PDC Light Curves

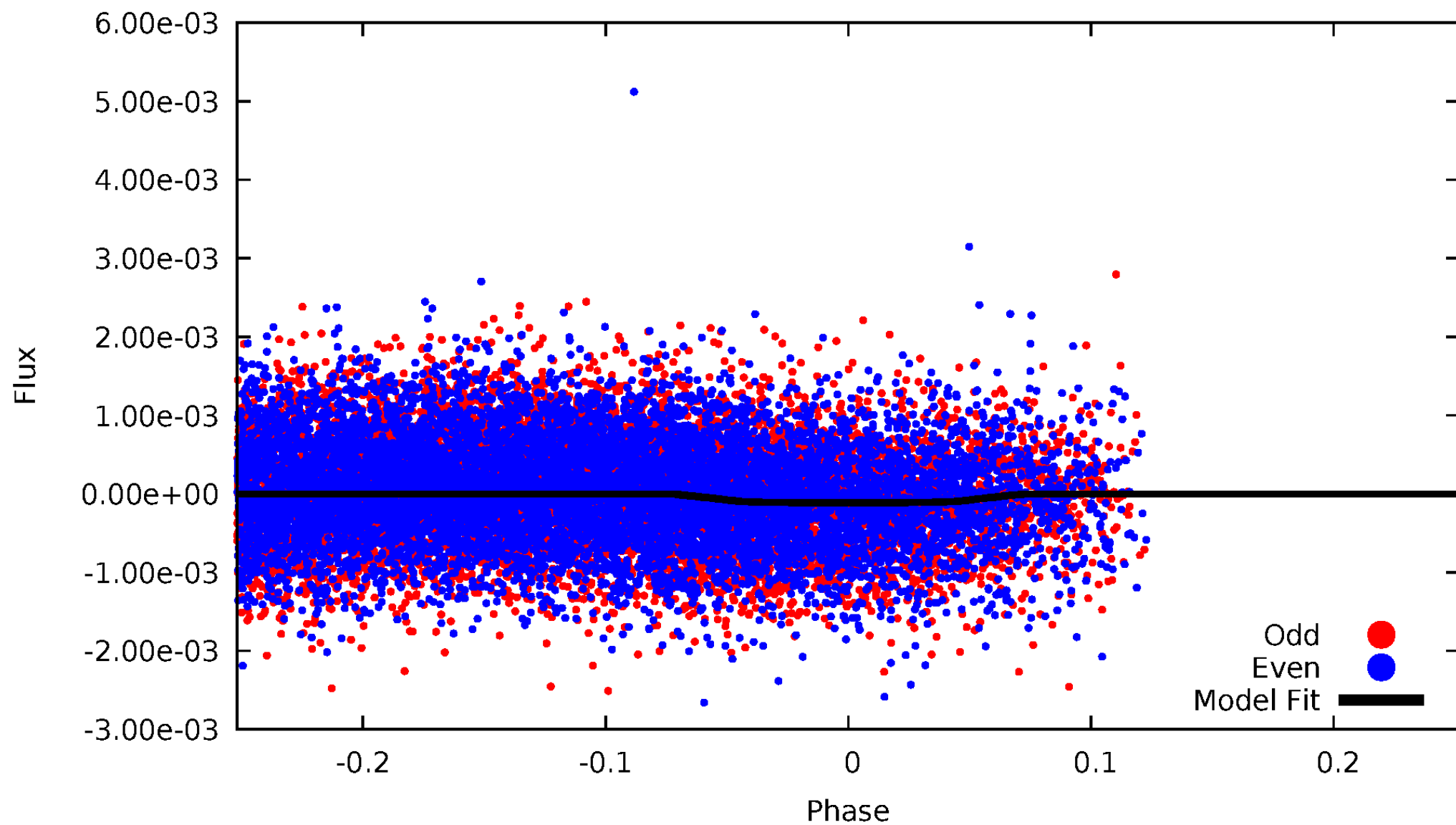


TCE 006974111-02



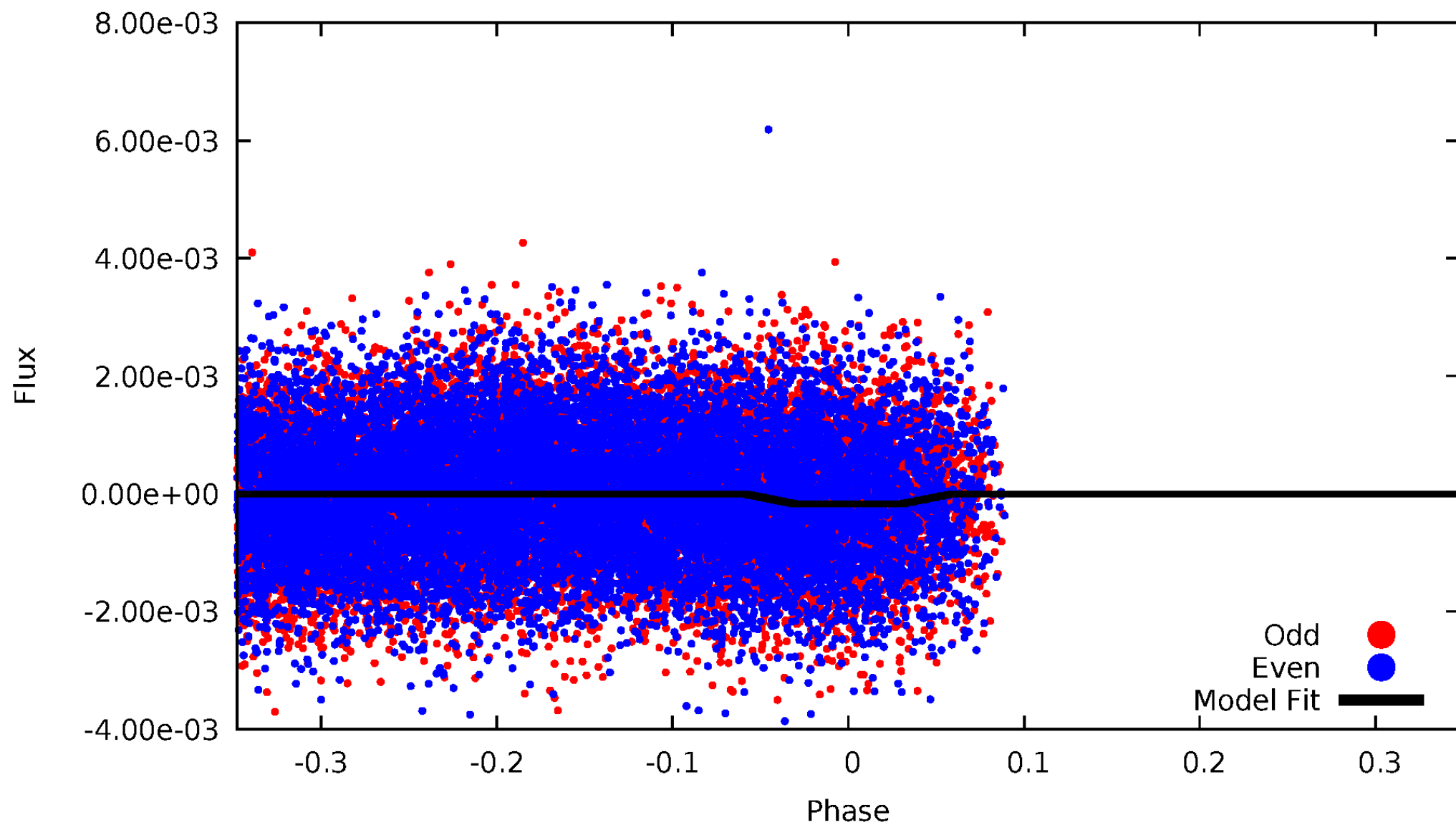
DV Odd/Even

TCE 006974111-02



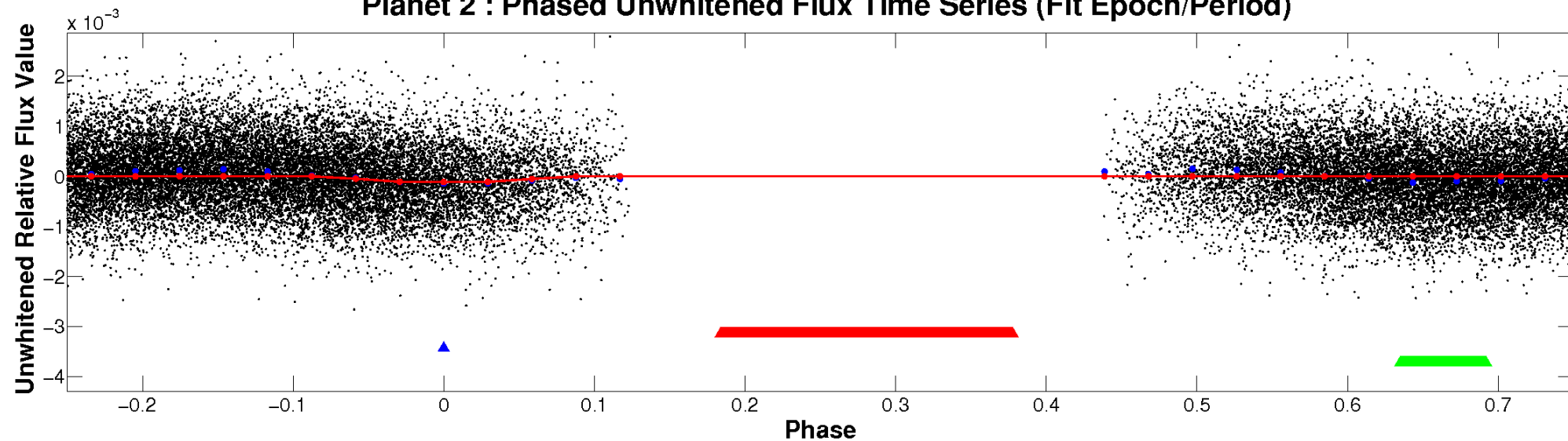
ALT Odd/Even

TCE 006974111-02

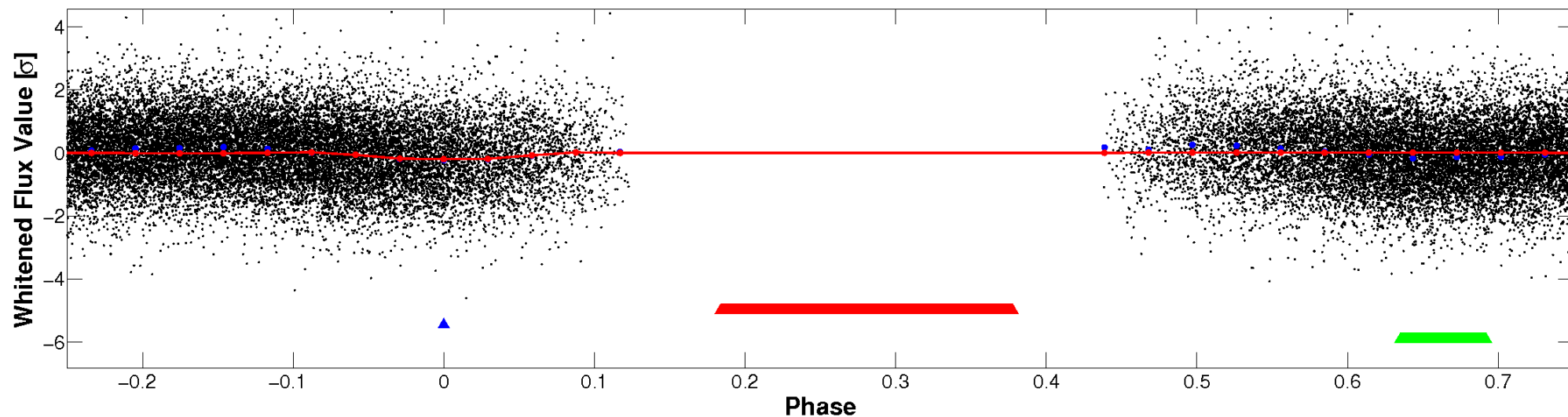


Non-Whitened Vs. Whitened Light Curve

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

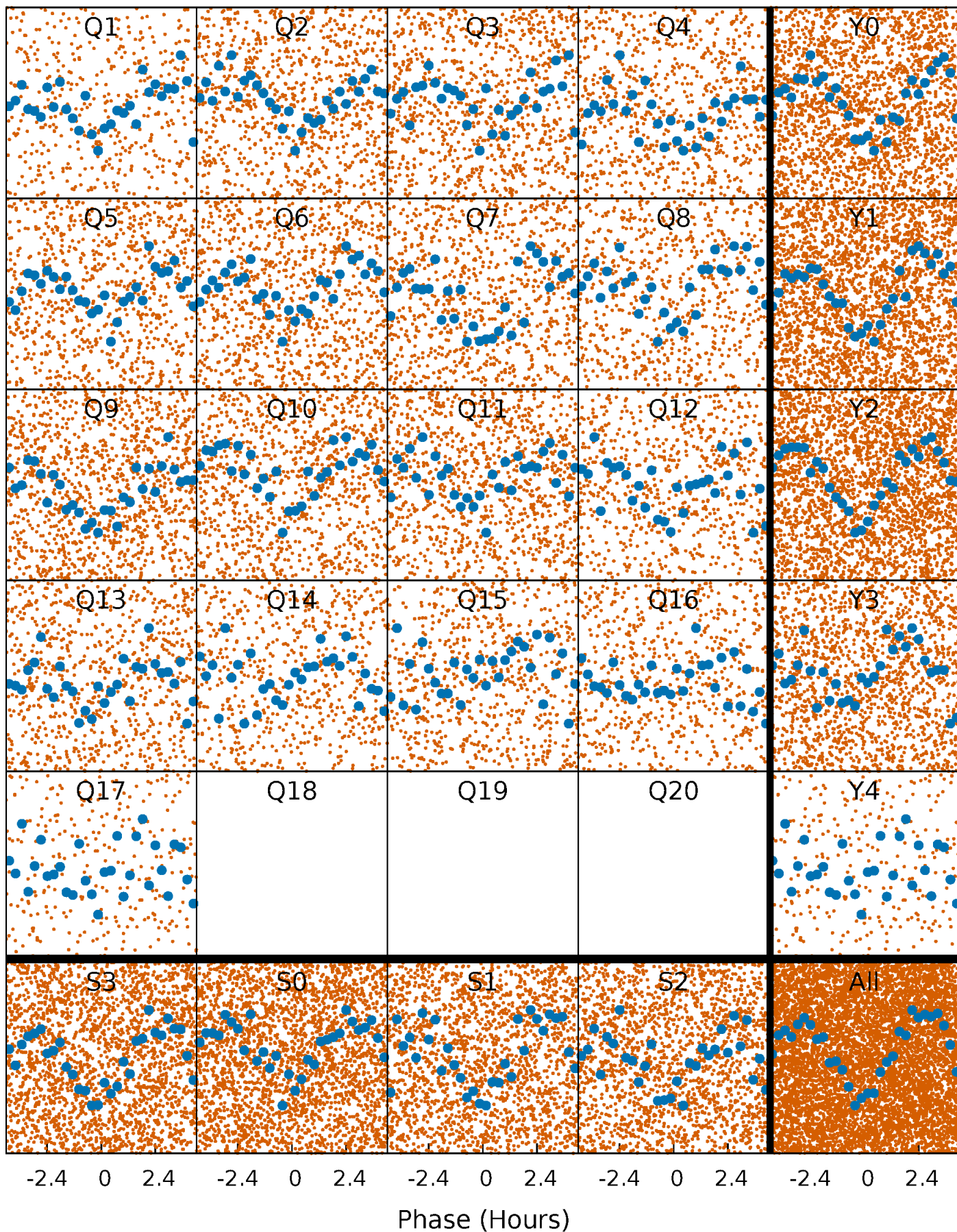


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



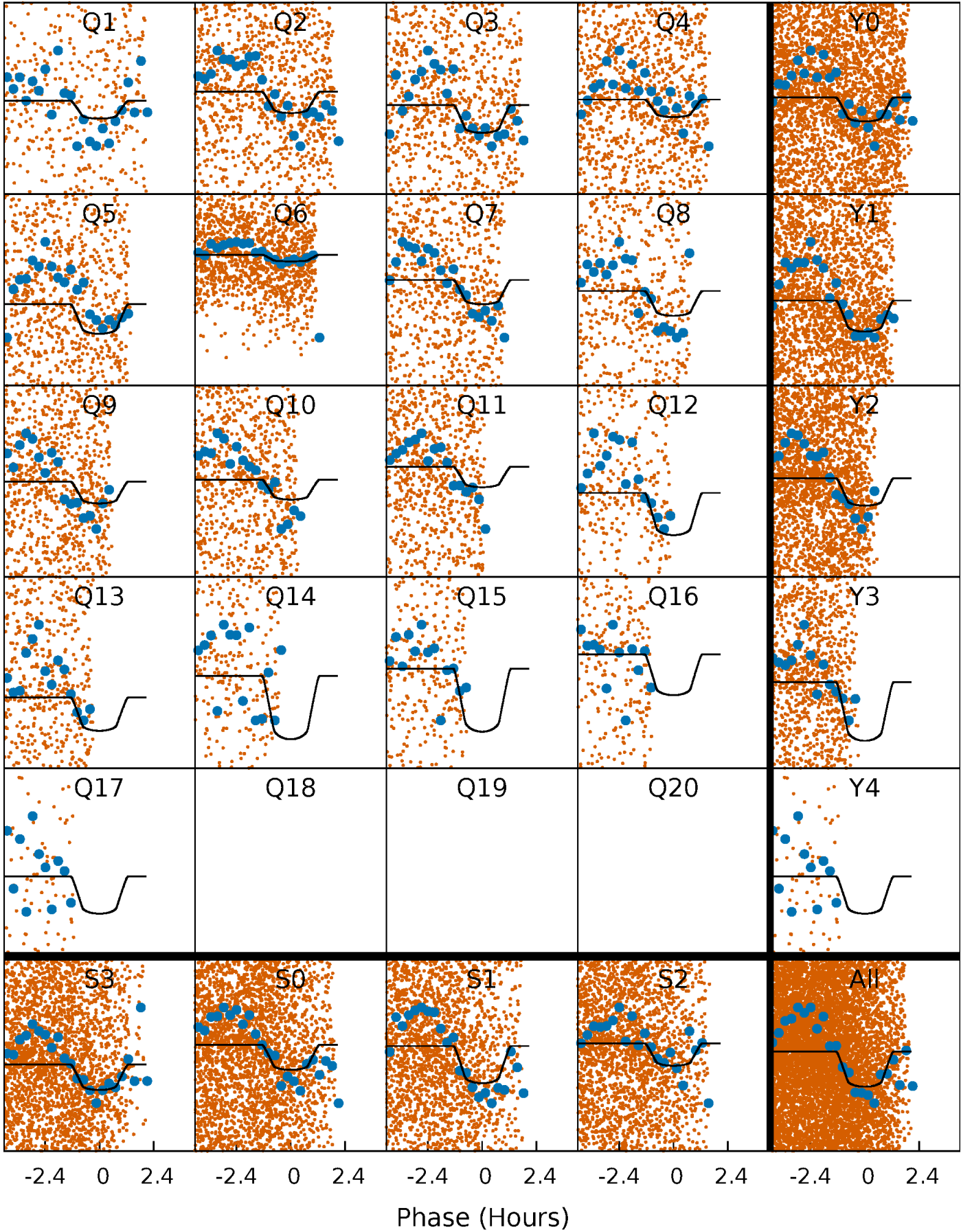
PDC Quarter-Phased Transit Curves

TCE 006974111-02 P= 0.698752 Days $T_0=131.521473$ (BKJD)



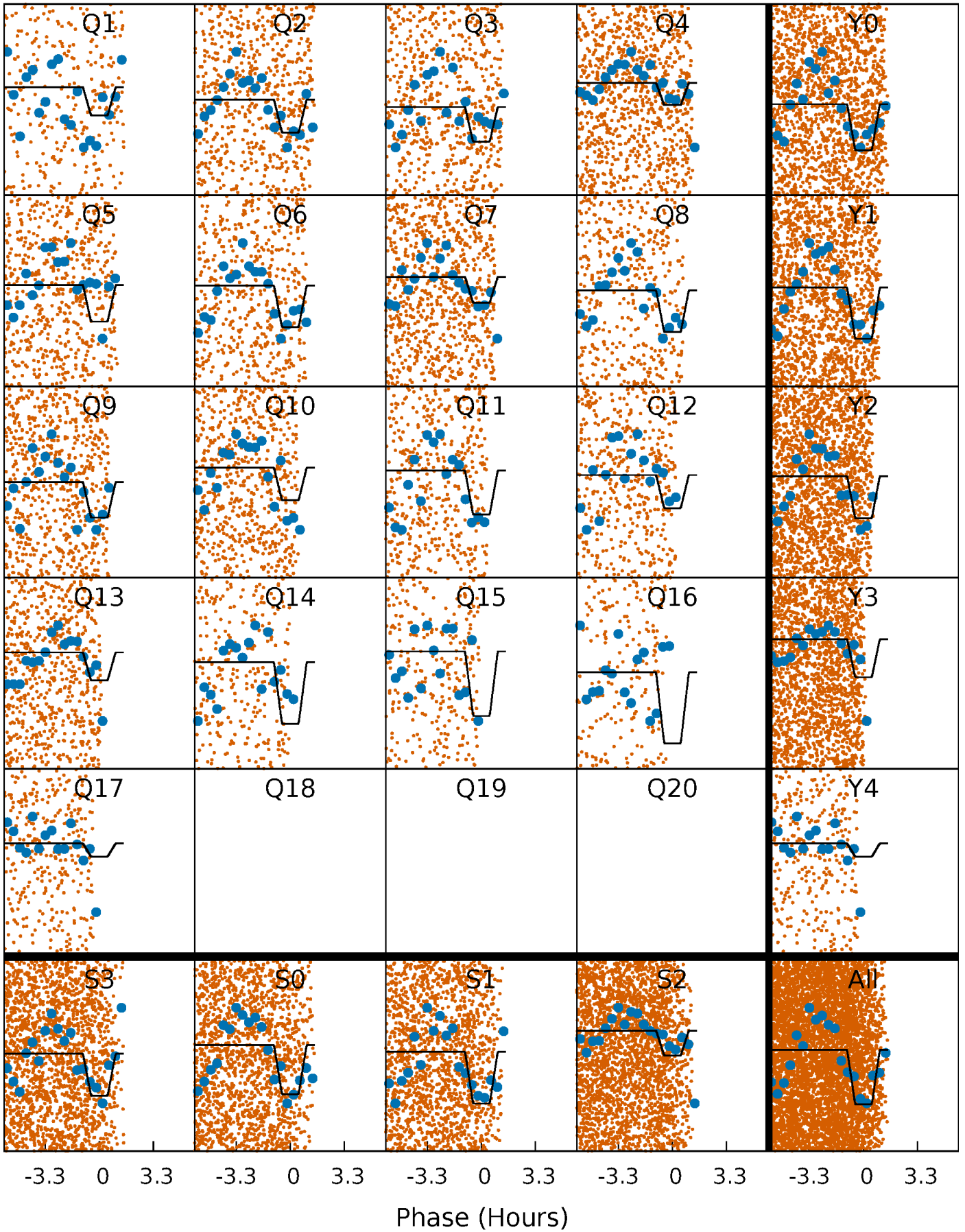
DV Quarter-Phased Transit Curves

TCE 006974111-02 P= 0.698752 Days $T_0=131.521473$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

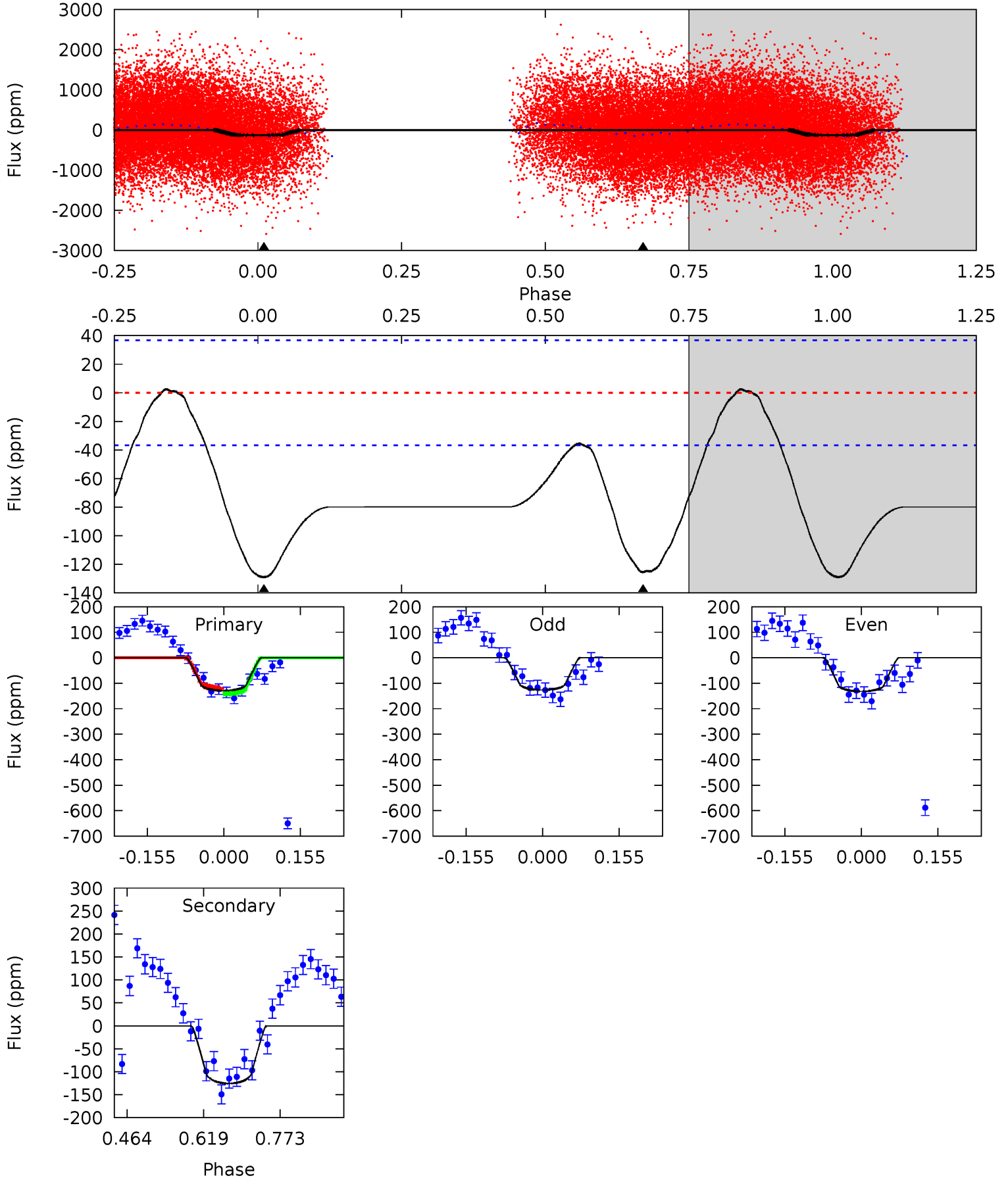
TCE 006974111-02 P= 0.698725 Days $T_0=131.545462$ (BKJD)



DV Model-Shift Uniqueness Test

006974111-02, P = 0.698752 Days, E = 130.822721 Days

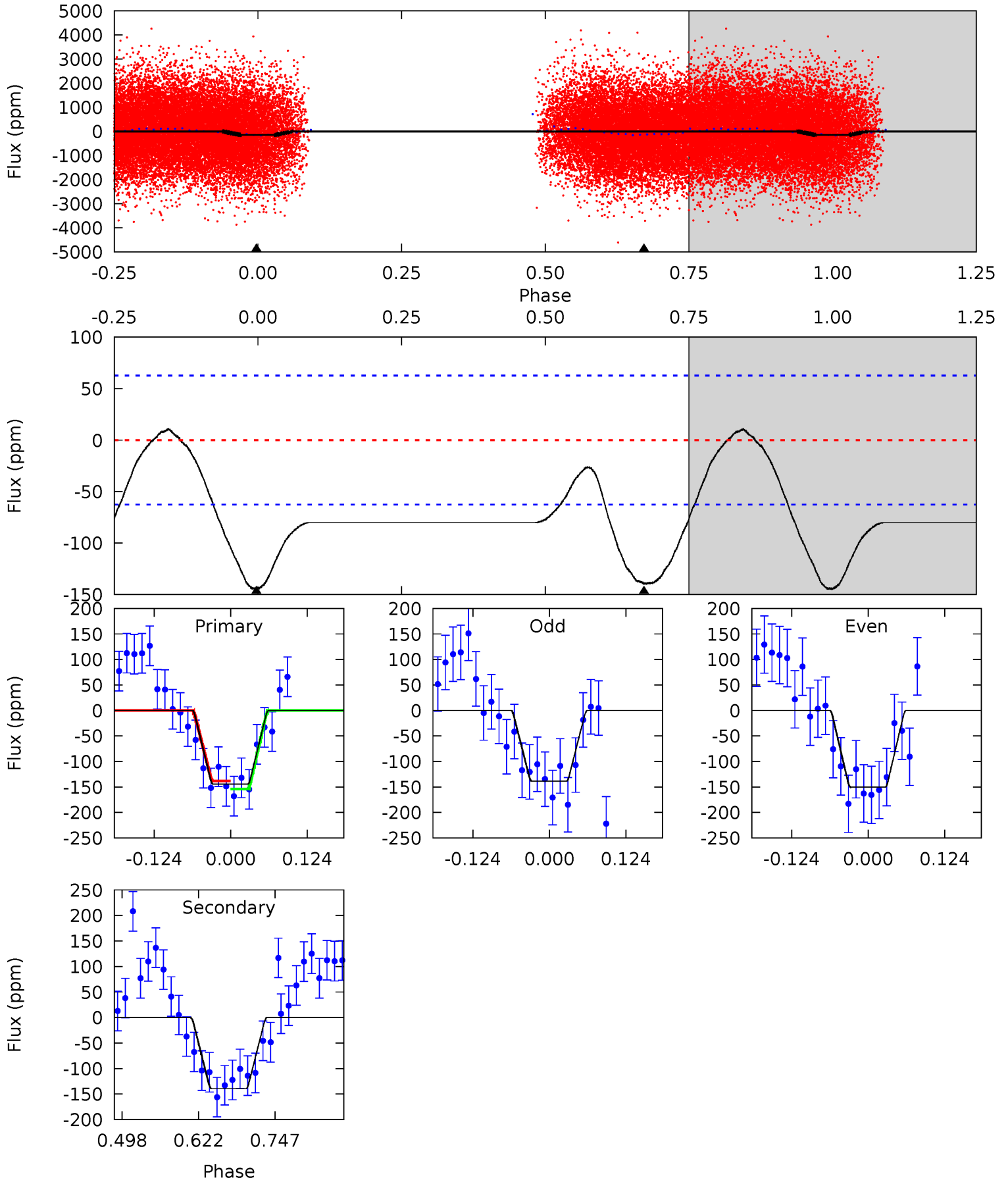
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.7 | 15.3 | 0 | 0 | 4.47 | 1.42 | 3.83 | 15.7 | 15.7 | 15.3 | 15.3 | 0.34 | 0.97 | 0.02 | 1.18 |



Alt Model-Shift Uniqueness Test

006974111-02, P = 0.698725 Days, E = 130.846737 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.4 | 10.1 | 0 | 0 | 4.52 | 1.54 | 1.86 | 10.4 | 10.4 | 10.1 | 10.1 | 0.42 | 0.85 | 0.07 | 0.52 |



Stellar Parameters For KIC 006974111

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 8184^{+198}_{-368} | $4.087^{+0.145}_{-0.159}$ | $0.070^{+0.200}_{-0.450}$ | $2.064^{+0.462}_{-0.462}$ | $1.898^{+0.256}_{-0.384}$ | $0.304^{+0.235}_{-0.122}$ |
| | +2%/-4% | +4%/-4% | +286%/-643% | +22%/-22% | +13%/-20% | +77%/-40% |
| 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 006974111-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|------------------------|---------------------------|
| DV | -126 ± 8 | $2.59^{+1.34}_{-1.19}$ | 5268^{+339}_{-345} | 7808^{+4463}_{-1734} | $3.708^{+8.697}_{-2.076}$ |
| Alt. | -140 ± 14 | $3.00^{+1.38}_{-1.18}$ | 5246^{+349}_{-346} | 7237^{+3194}_{-1369} | $3.106^{+5.340}_{-1.656}$ |

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 $A_{obs} \gg 1.0$

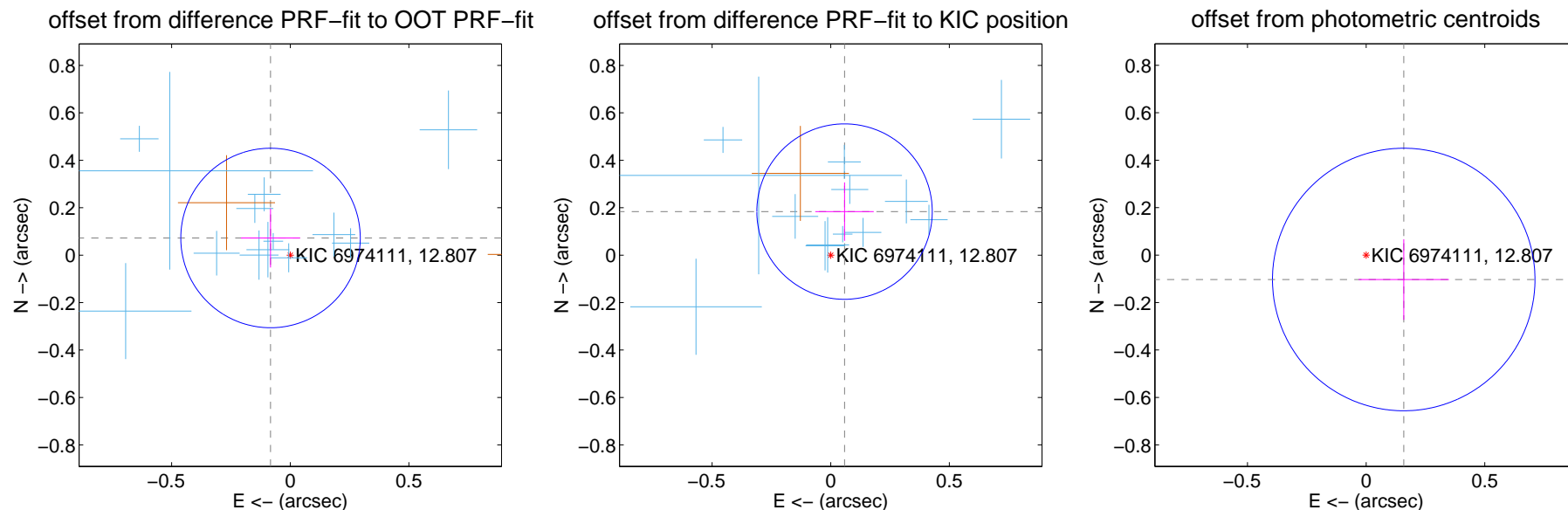
DV Centroid Data

Supplemental centroid analysis for 006974111-02. Kepler magnitude: 12.81. Transit SNR 11.86

There are 14 quarters with good PRF difference image offsets

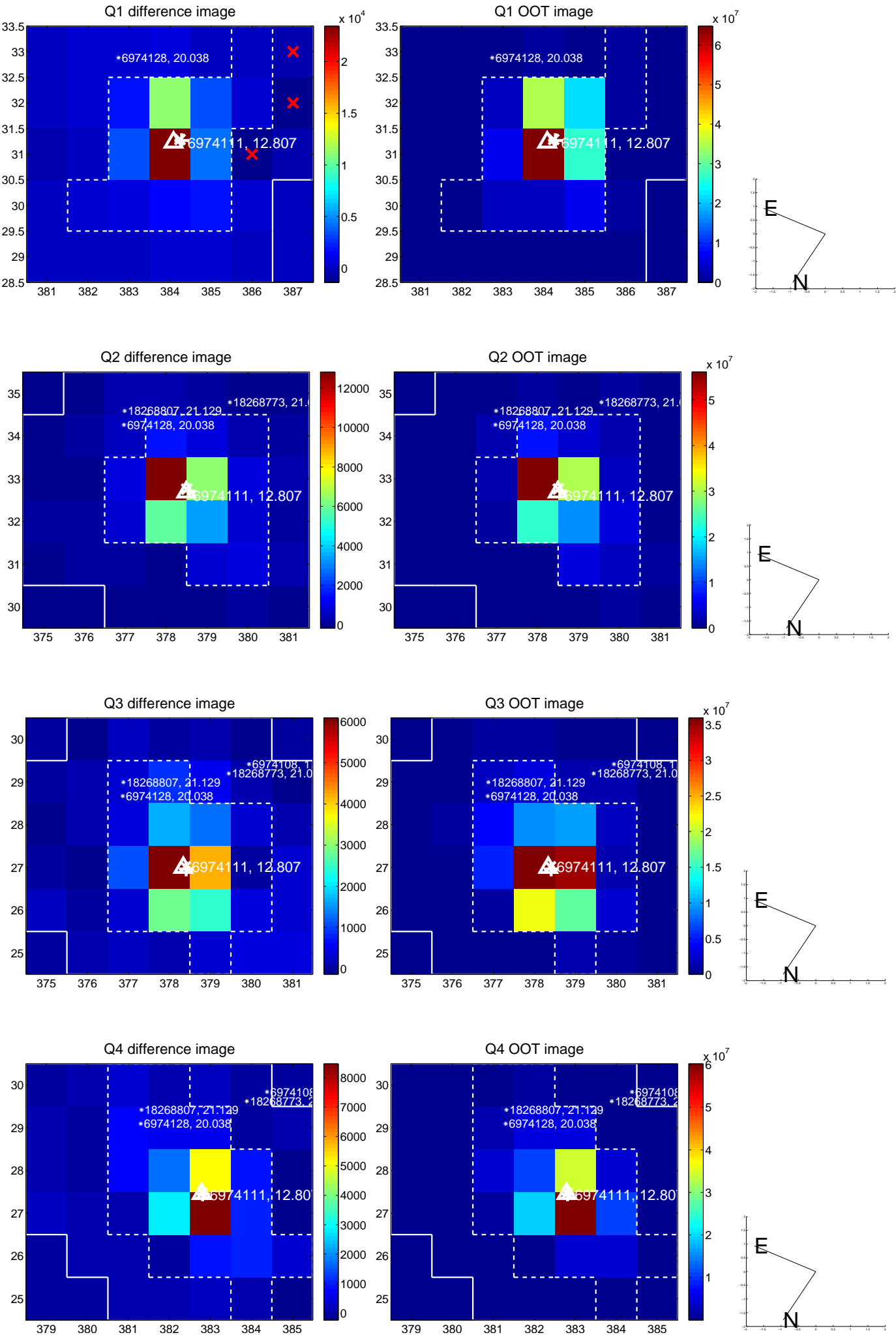
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.110 ± 0.126 | 0.87 | 0.083 ± 0.124 | 0.072 ± 0.124 |
| PRF-fit source offset from KIC position | 0.193 ± 0.123 | 1.56 | -0.058 ± 0.123 | 0.184 ± 0.123 |
| photometric centroid source offset | 0.19 ± 0.18 | 1.02 | -0.16 ± 0.19 | -0.10 ± 0.17 |

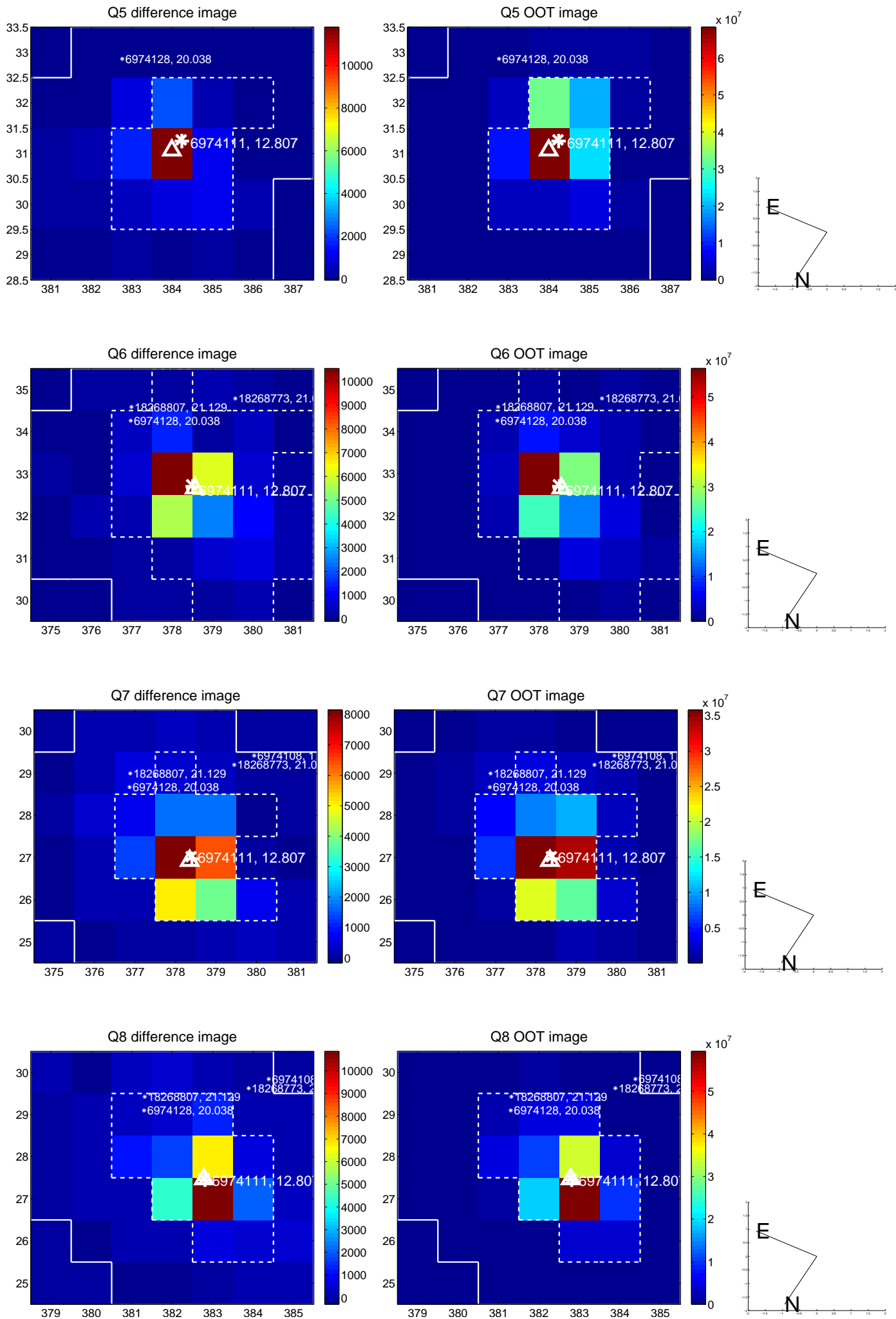


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

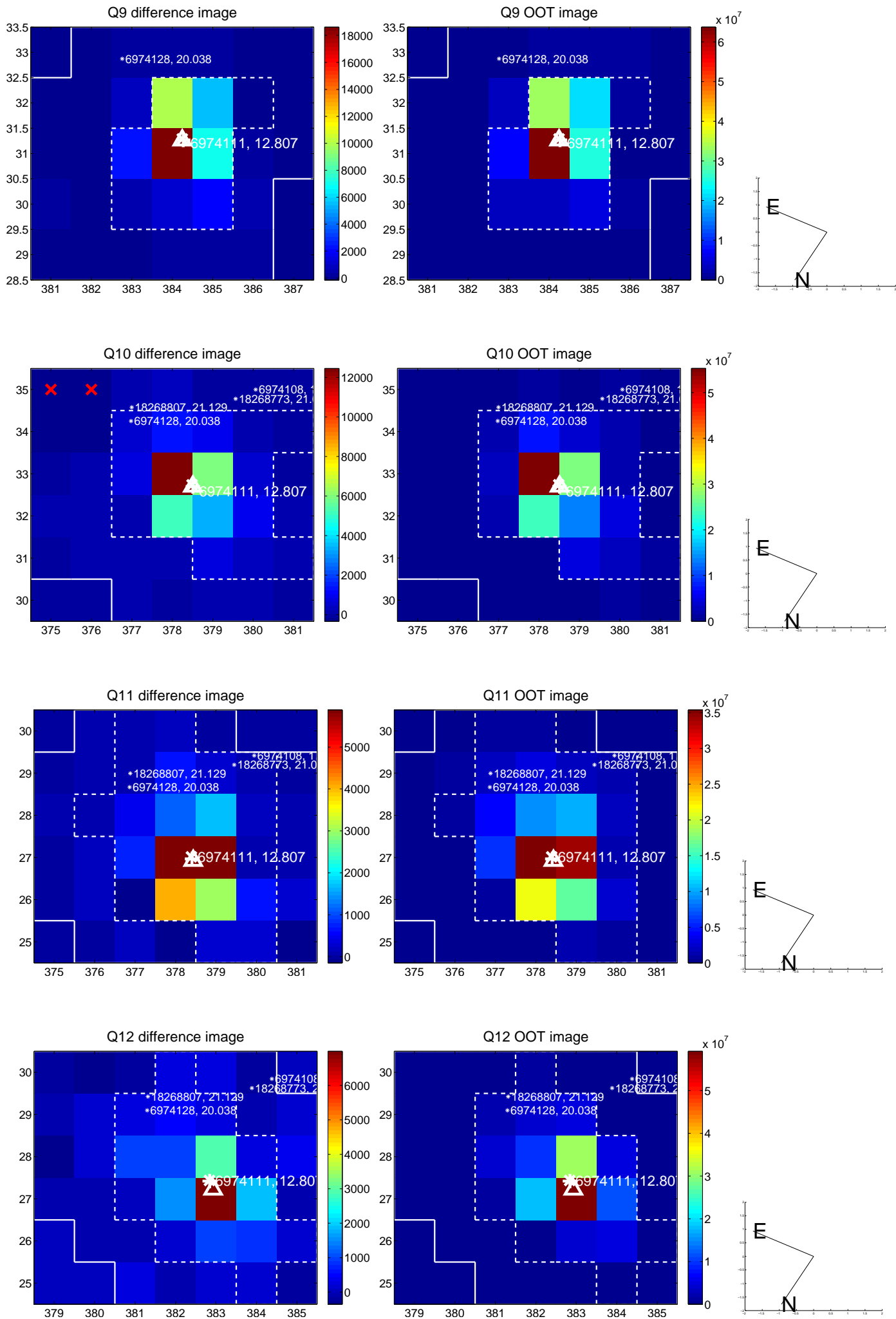
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



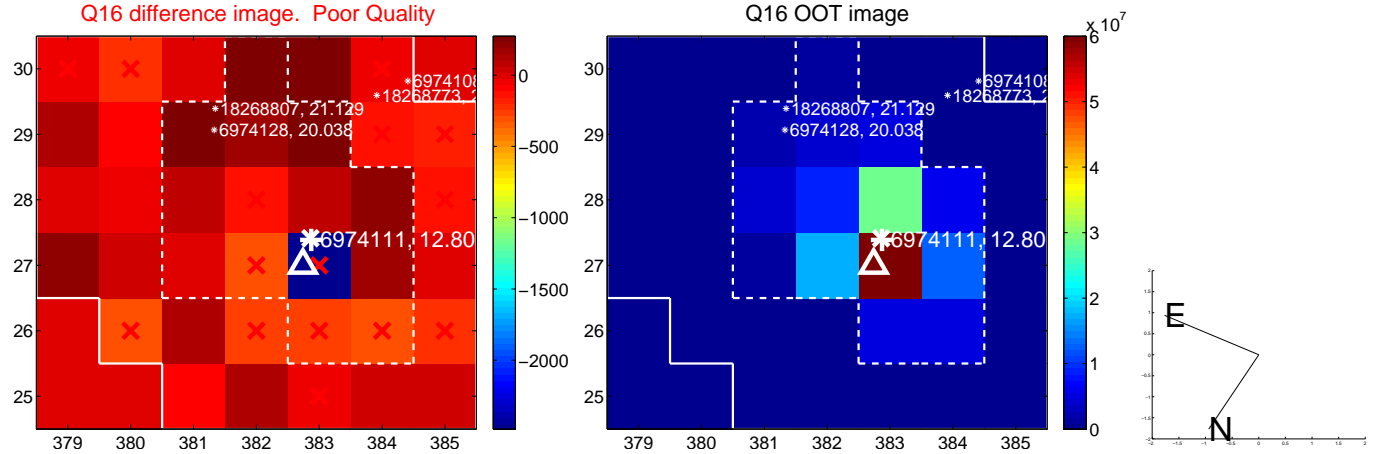
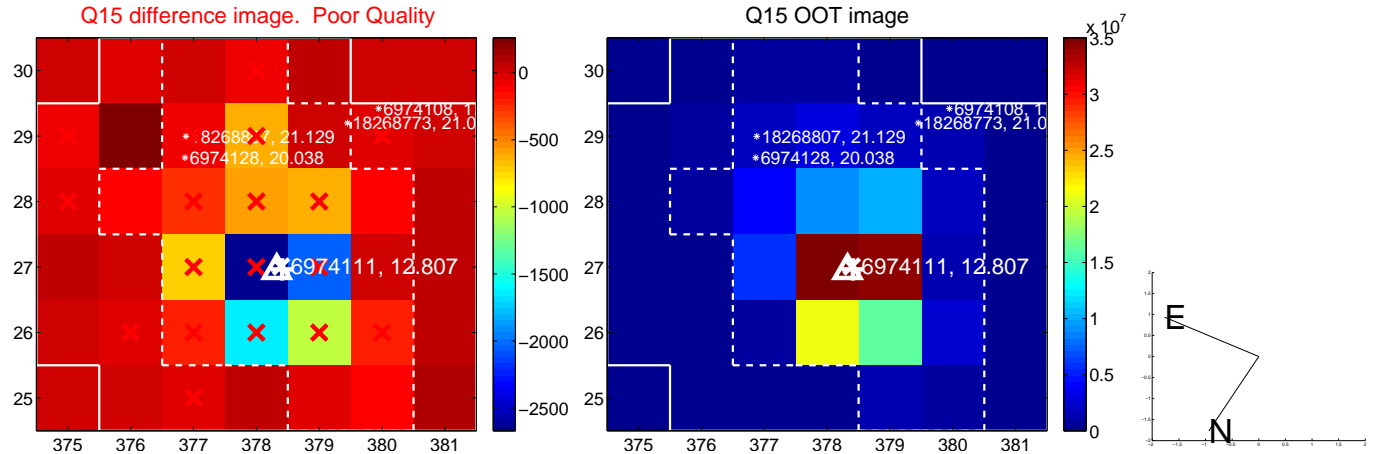
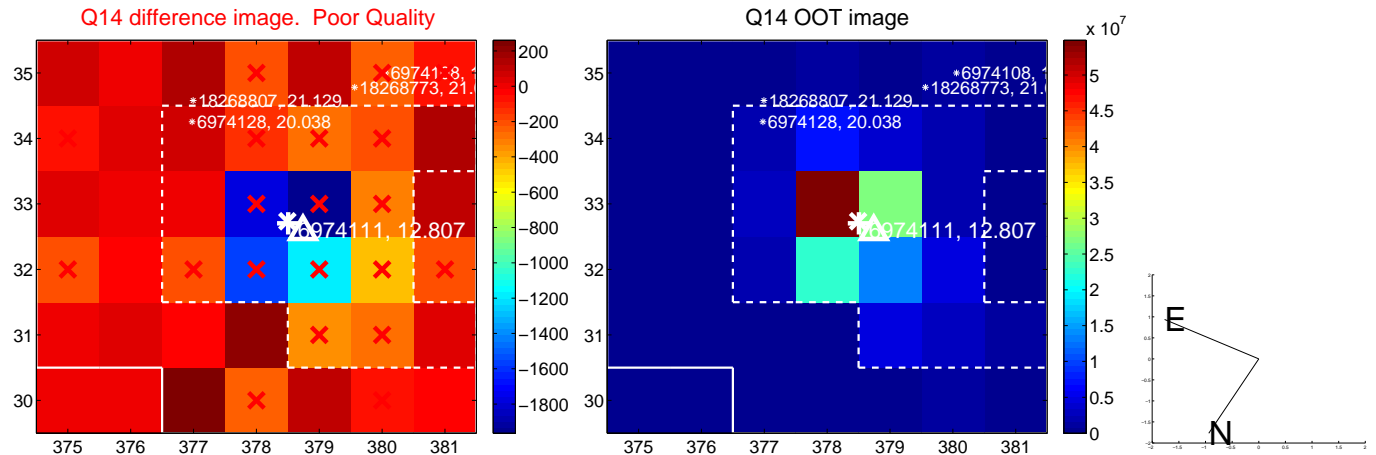
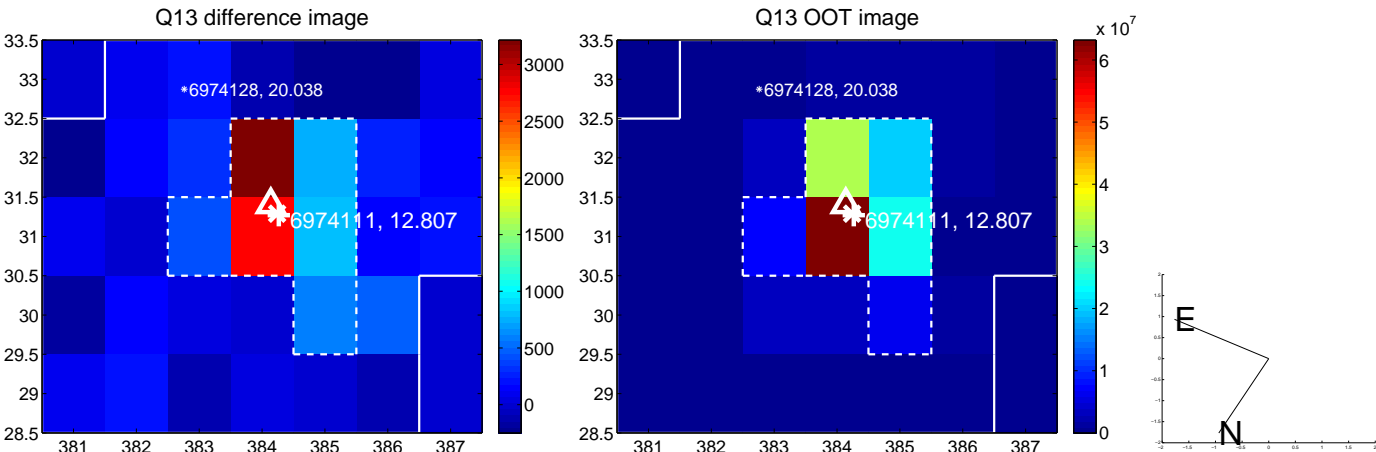
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



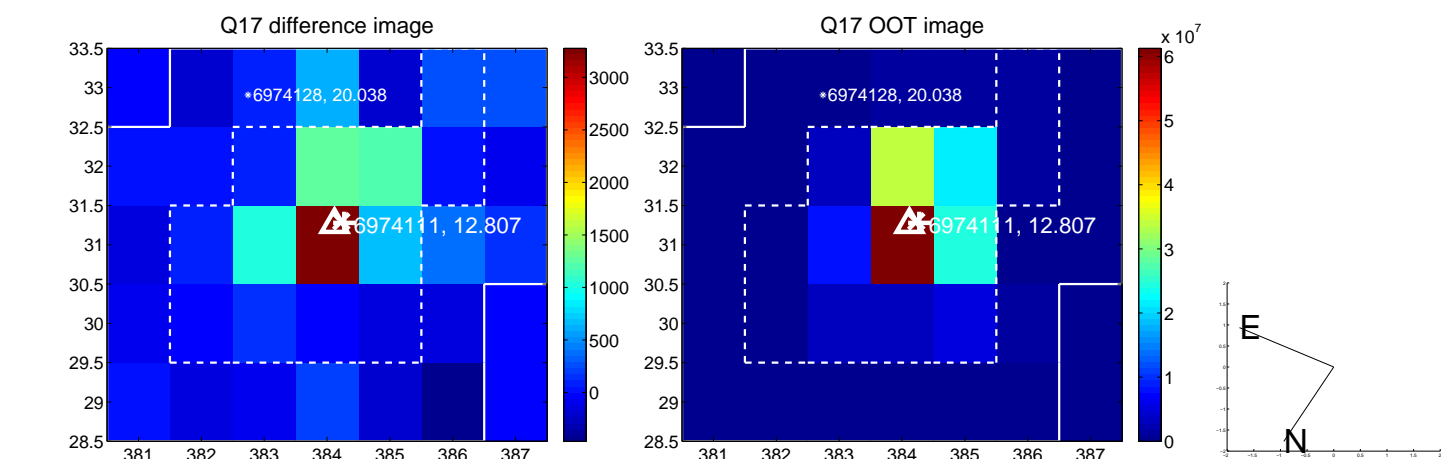
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



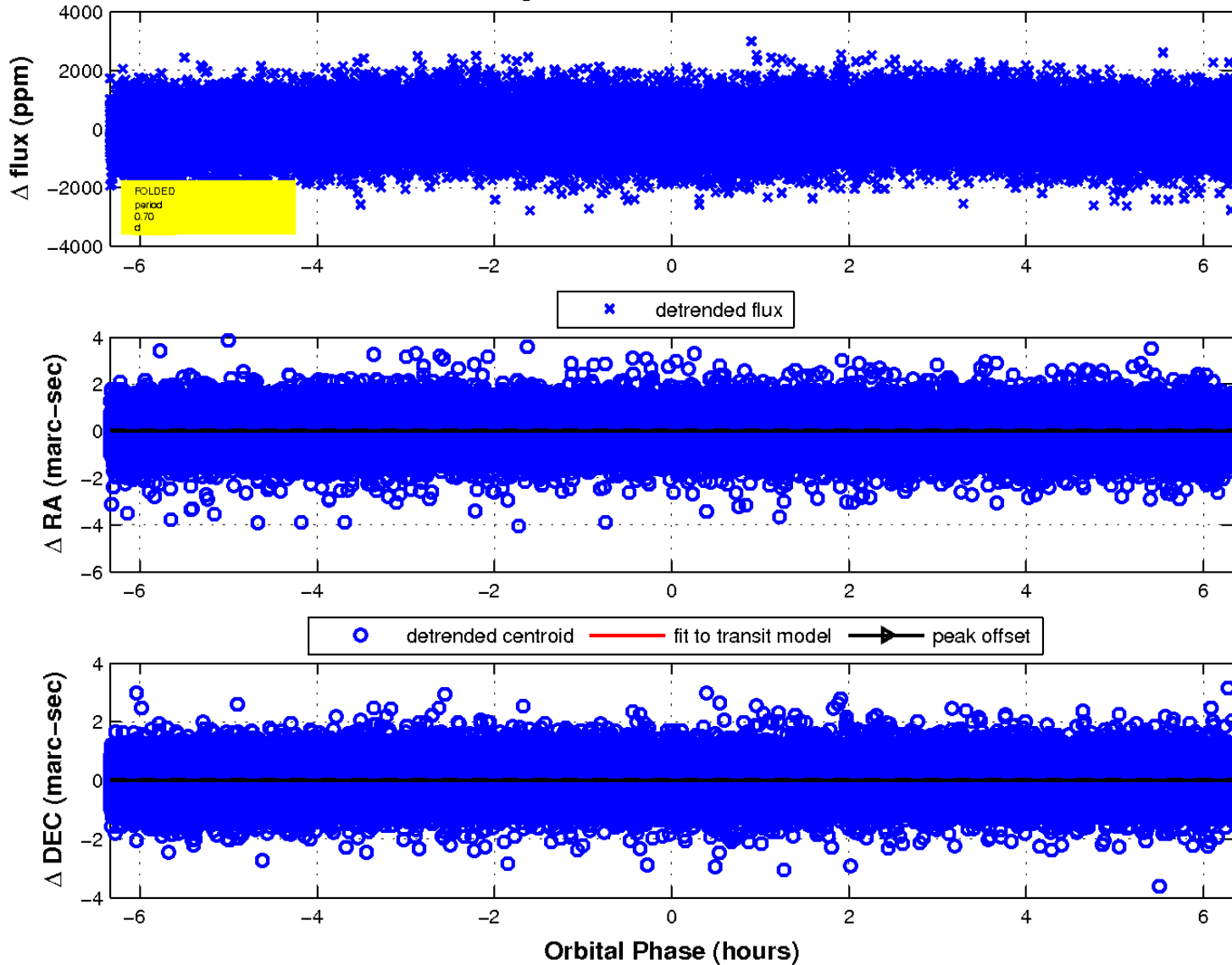
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

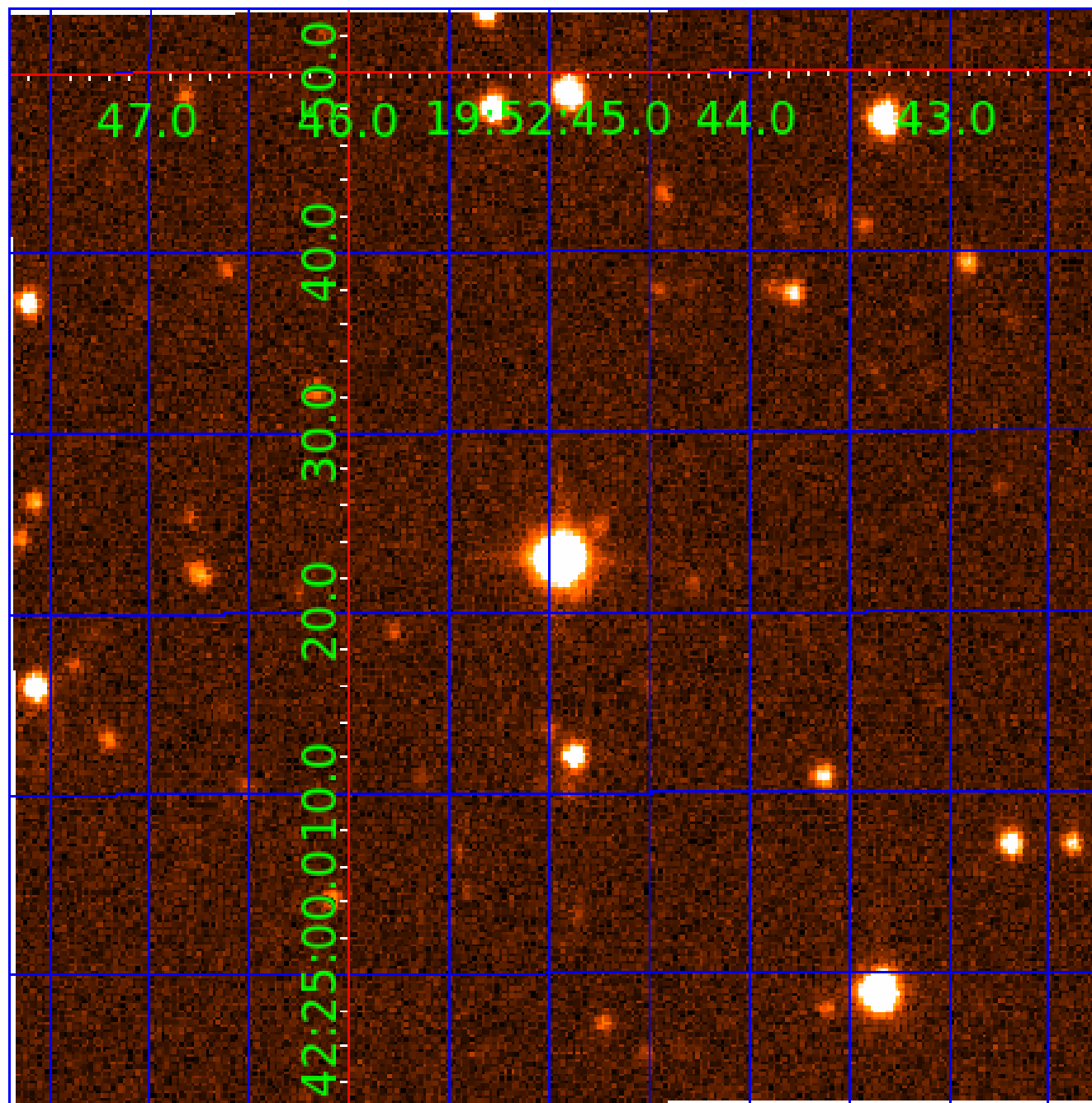


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 006974111

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 006974111-01 | OBS | No | 0.698687 | 131.785411 | 69.5 | 2.663 | 11.5 | 9.3 | 2.06 | 8184 | 2.00 | 47009.62 |
| 006974111-02 | OBS | No | 0.698751 | 131.521473 | 115.6 | 2.112 | 10.2 | 11.9 | 2.06 | 8184 | 2.58 | 47003.80 |
| 006974111-03 | OBS | No | 0.698733 | 132.004944 | 258.0 | 2.000 | 11.9 | -1.0 | 2.06 | 8184 | 3.36 | 47005.50 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 006974111-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT |
| 006974111-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD |
| 006974111-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_NOFITS |

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

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

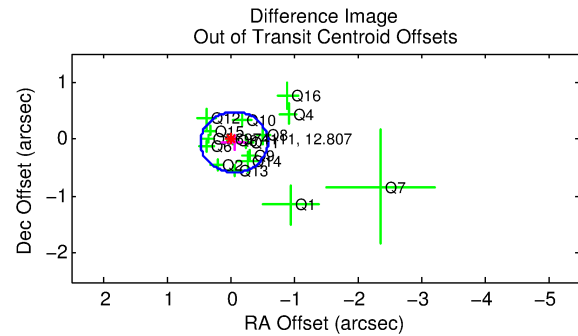
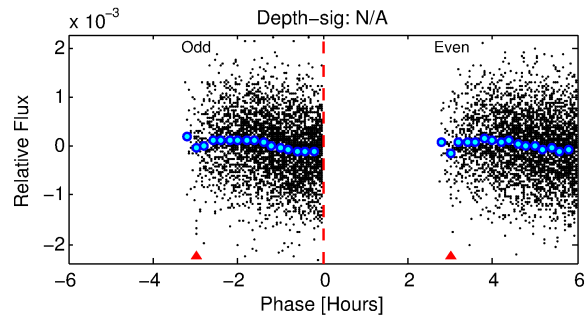
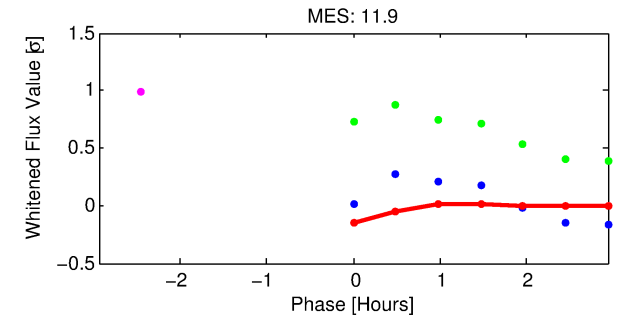
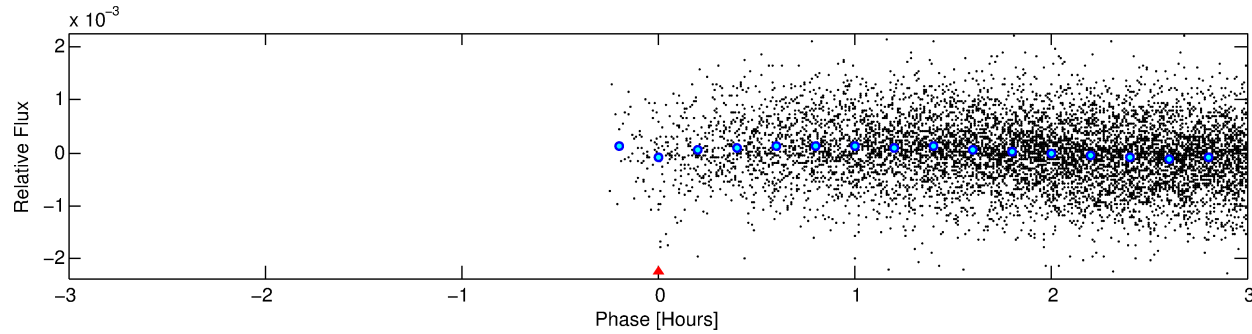
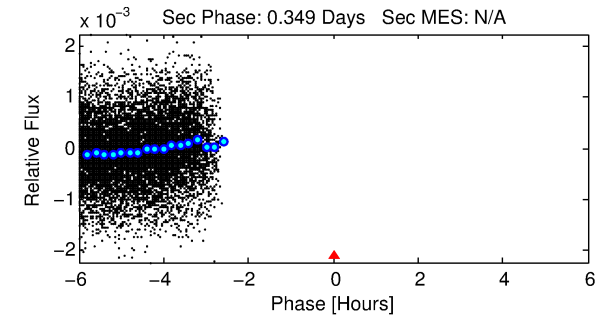
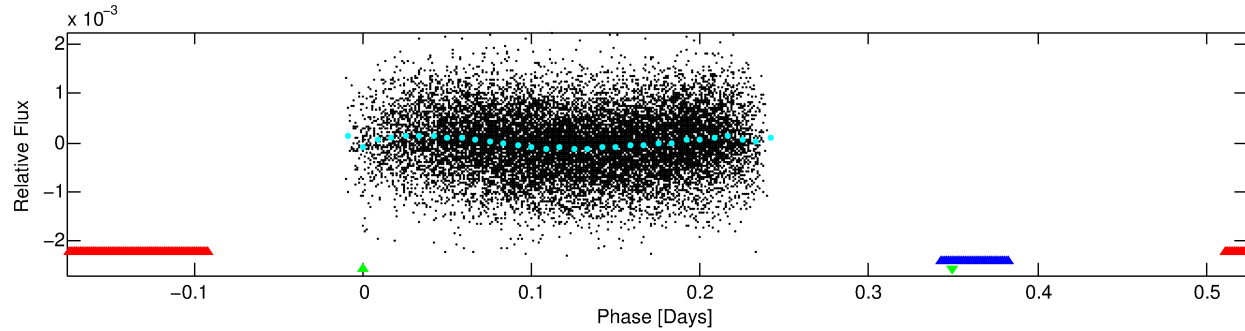
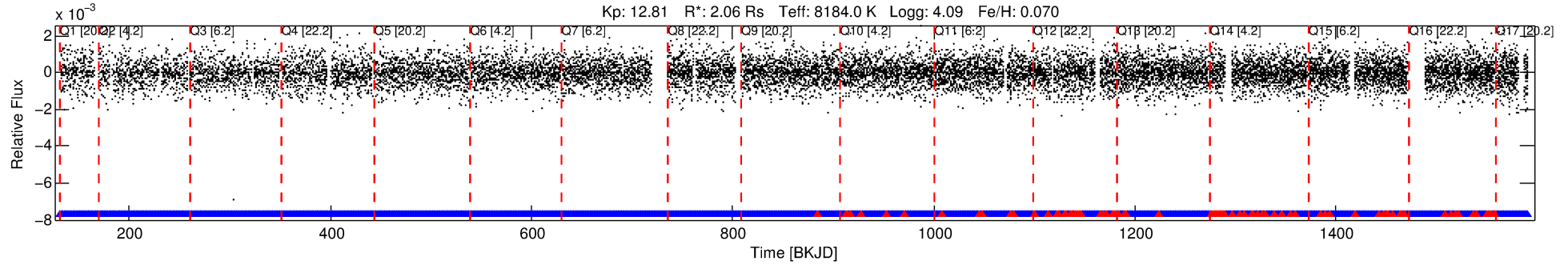
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006974111-03

No Significant Match Found

DV One-Page Summary

KIC: 6974111 Candidate: 3 of 3 Period: 0.699 d



TPS TCE Results:

Period = 0.69873 d
Epoch = 132.0049 BKJD

DV fit results are unavailable

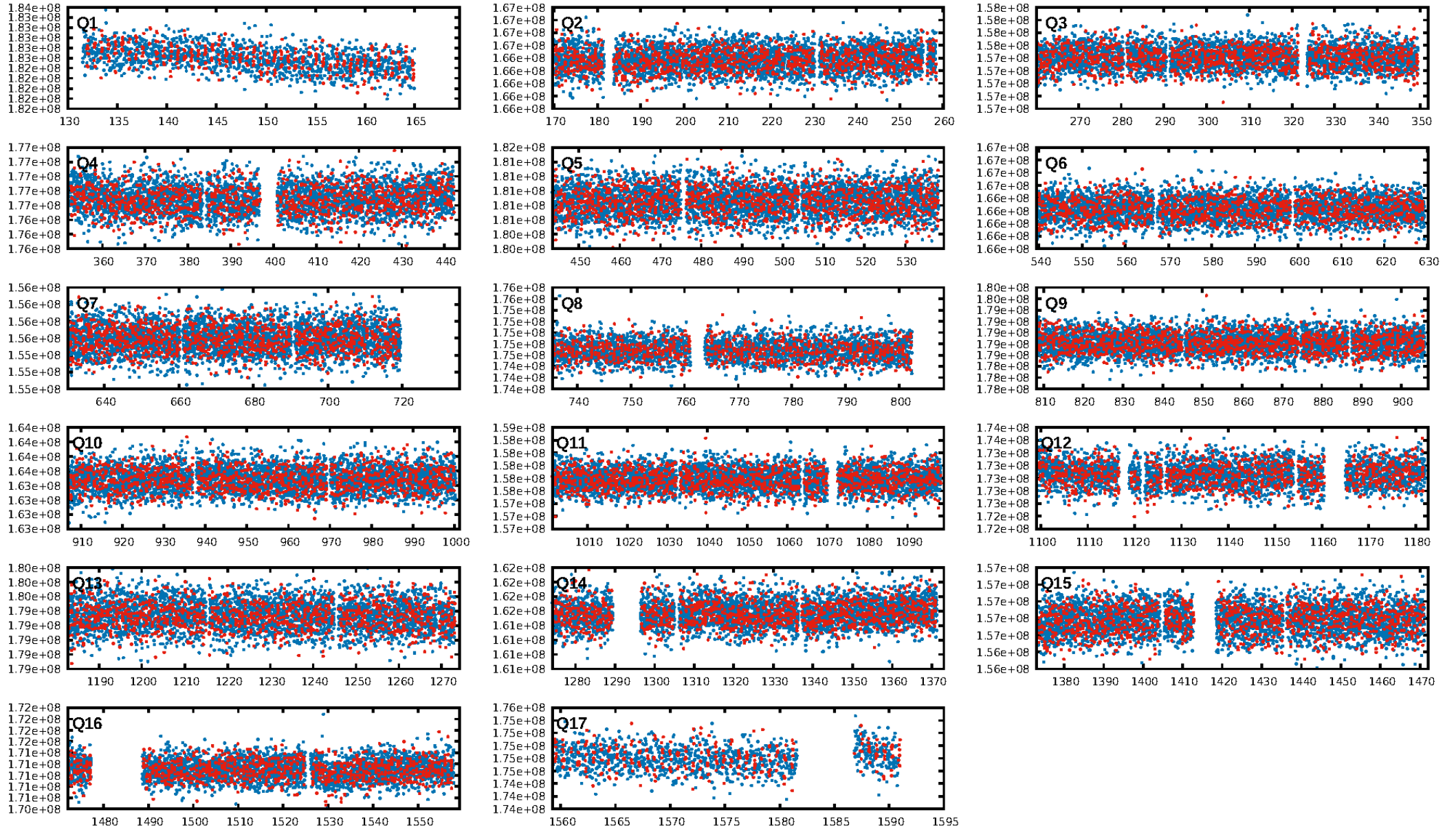
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.89 [699/787]
GhostDiagnostic-chr: 312.7
Centroid-sig: 43.0%
Centroid-so: 0.289 arcsec [0.68 σ]
OotOffset-rm: 0.081 arcsec [0.46 σ]
KicOffset-rm: 0.206 arcsec [1.16 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.06 [1/16]
DiffImageOverlap-fno: 0.00 [0/17]

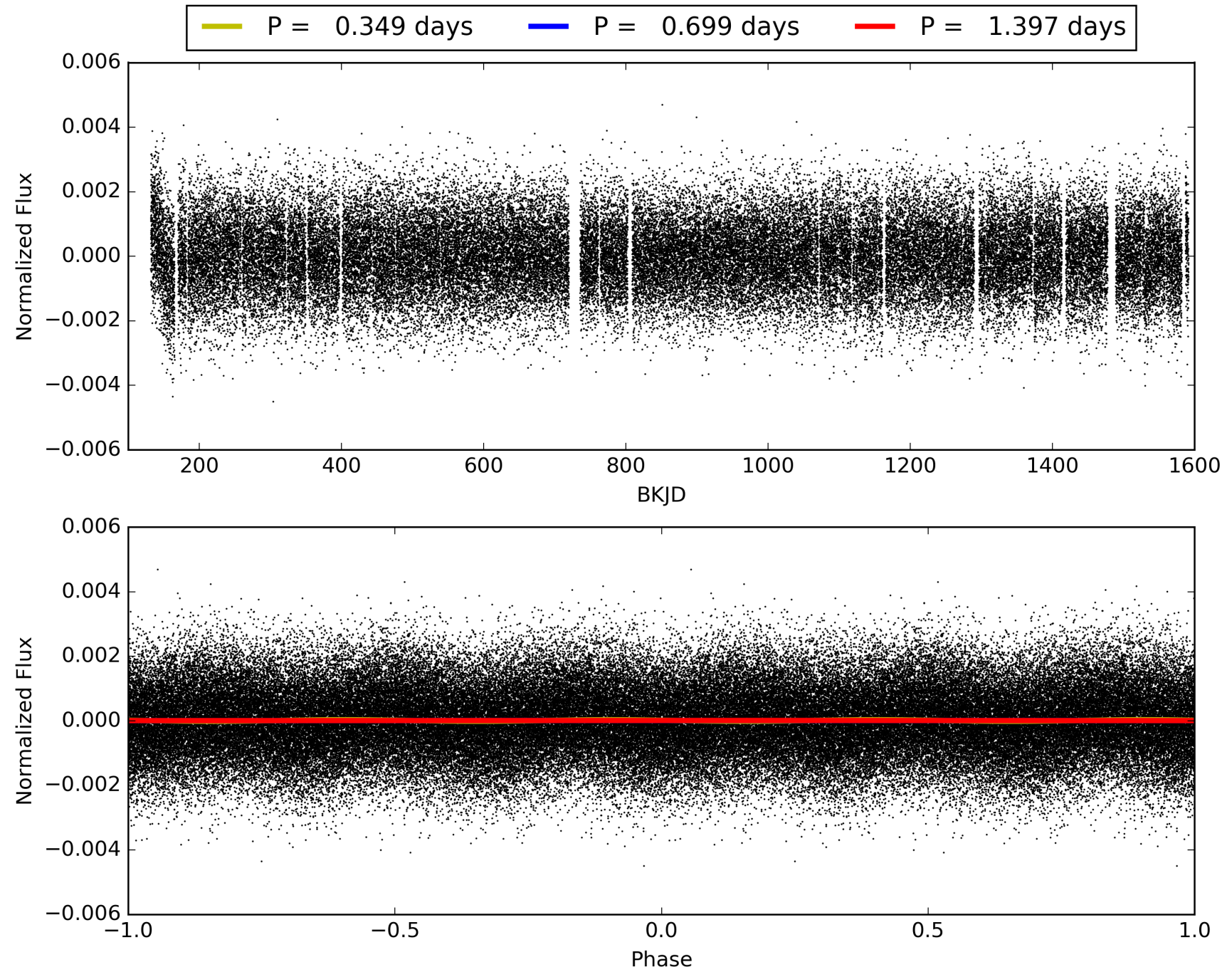
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:41:21 Z

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

TCE 006974111-03, PDC Light Curves

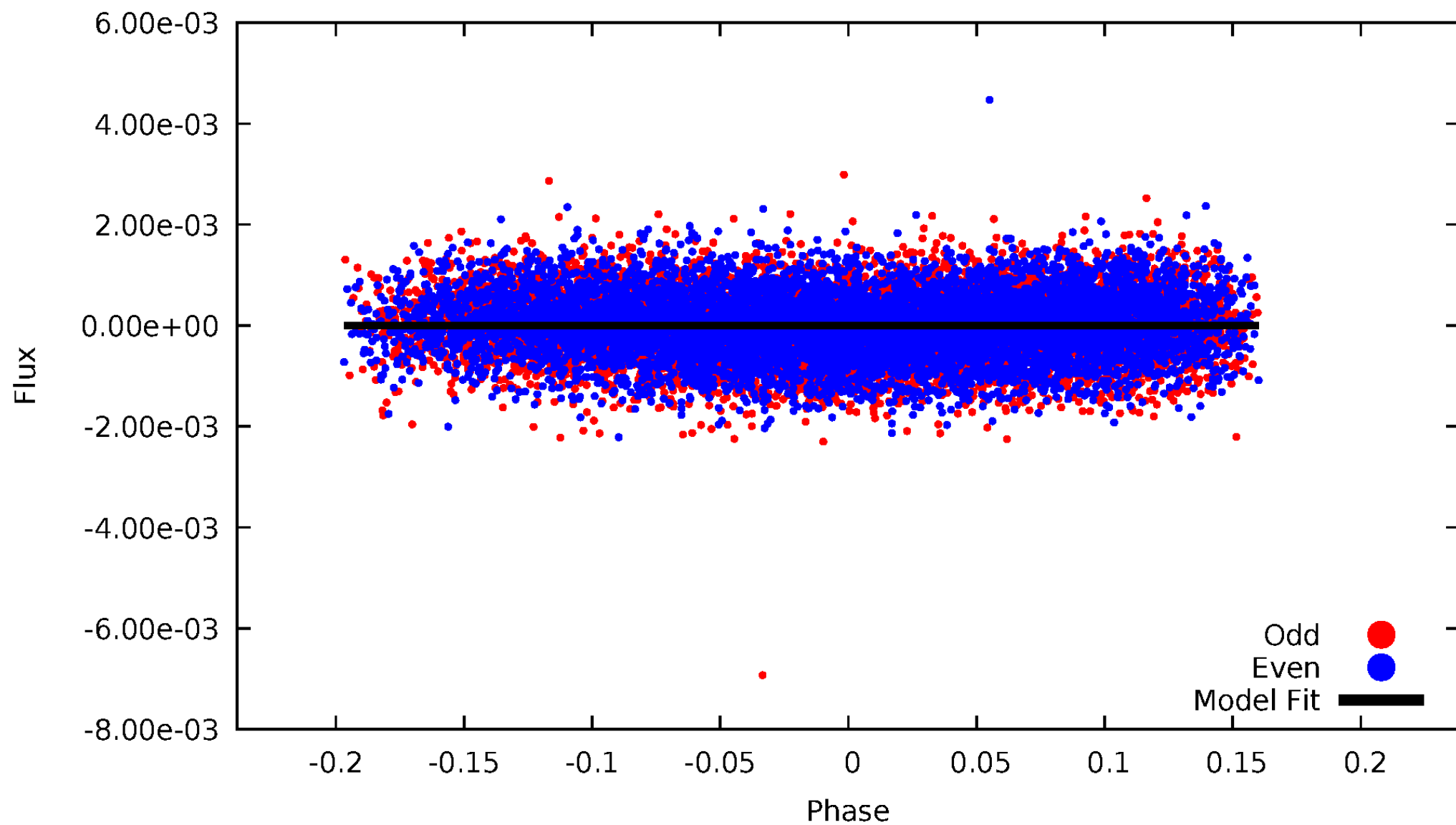


TCE 006974111-03



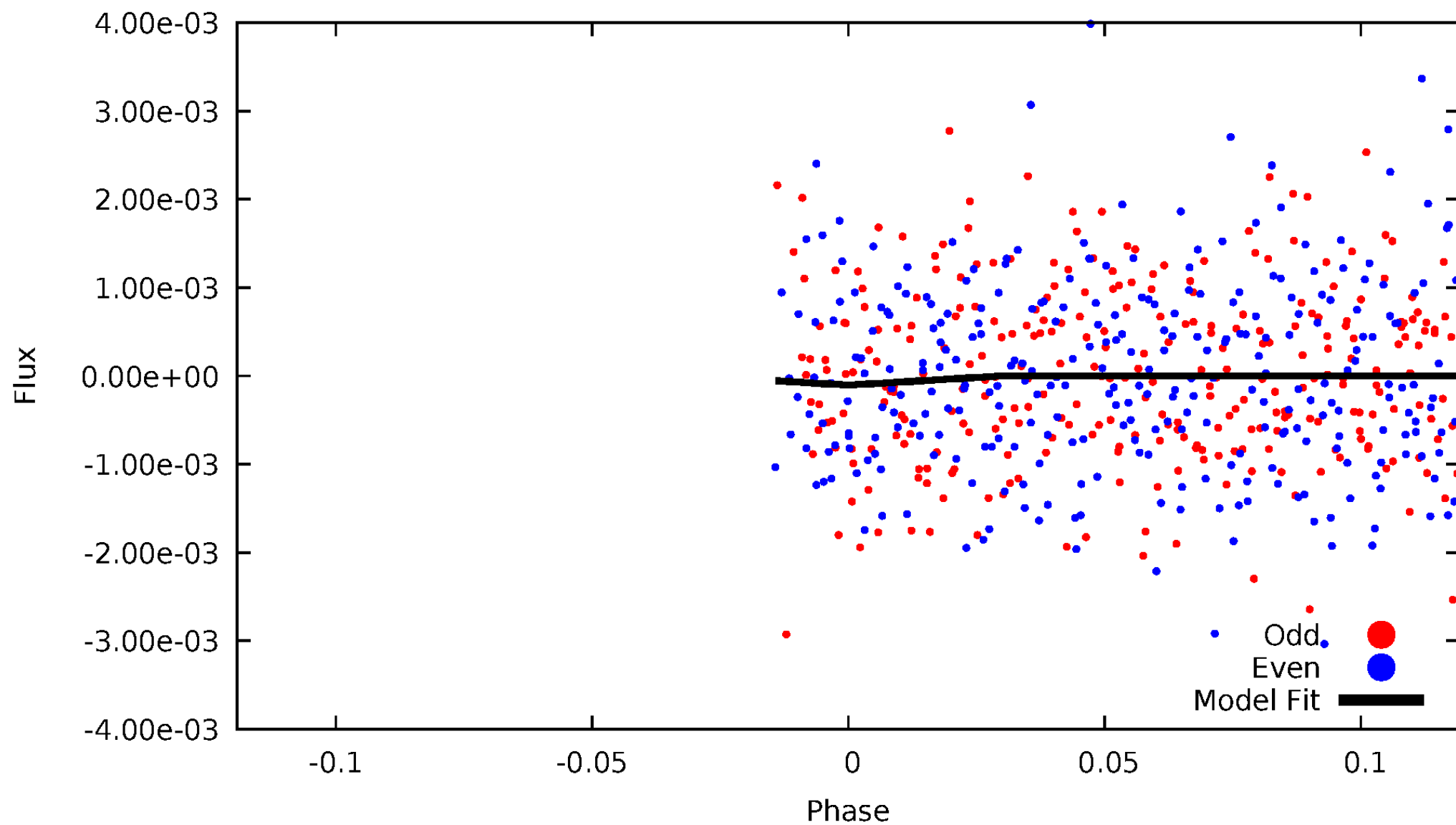
DV Odd/Even

TCE 006974111-03



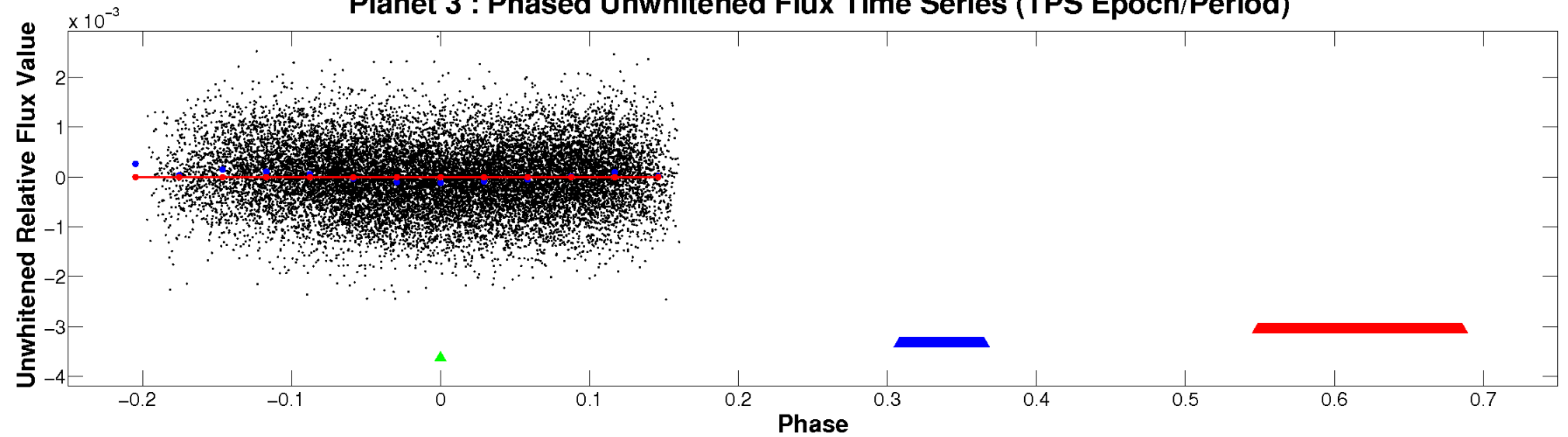
ALT Odd/Even

TCE 006974111-03

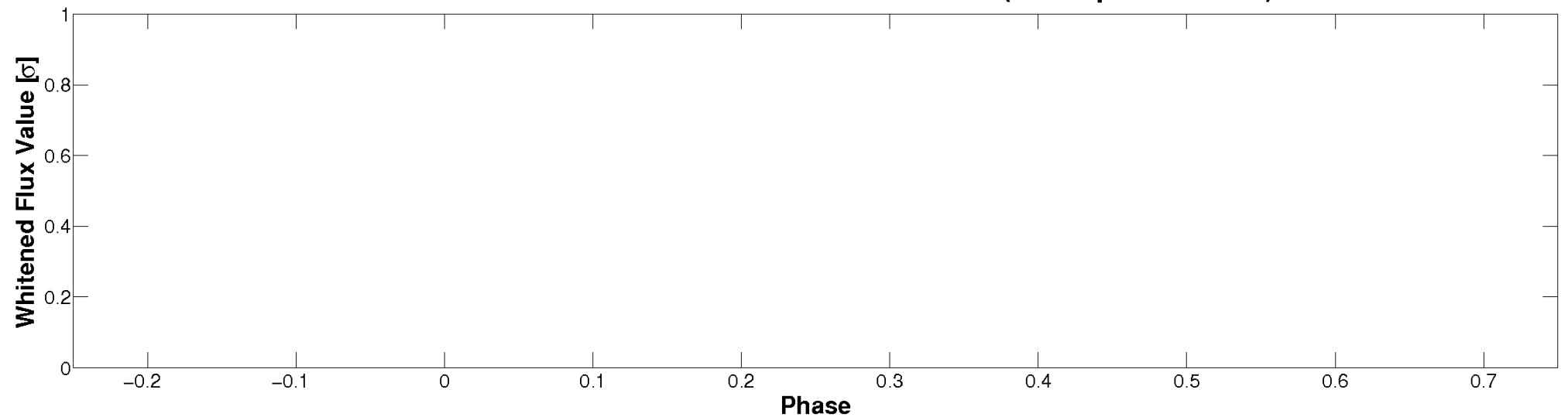


Non-Whitened Vs. Whitened Light Curve

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

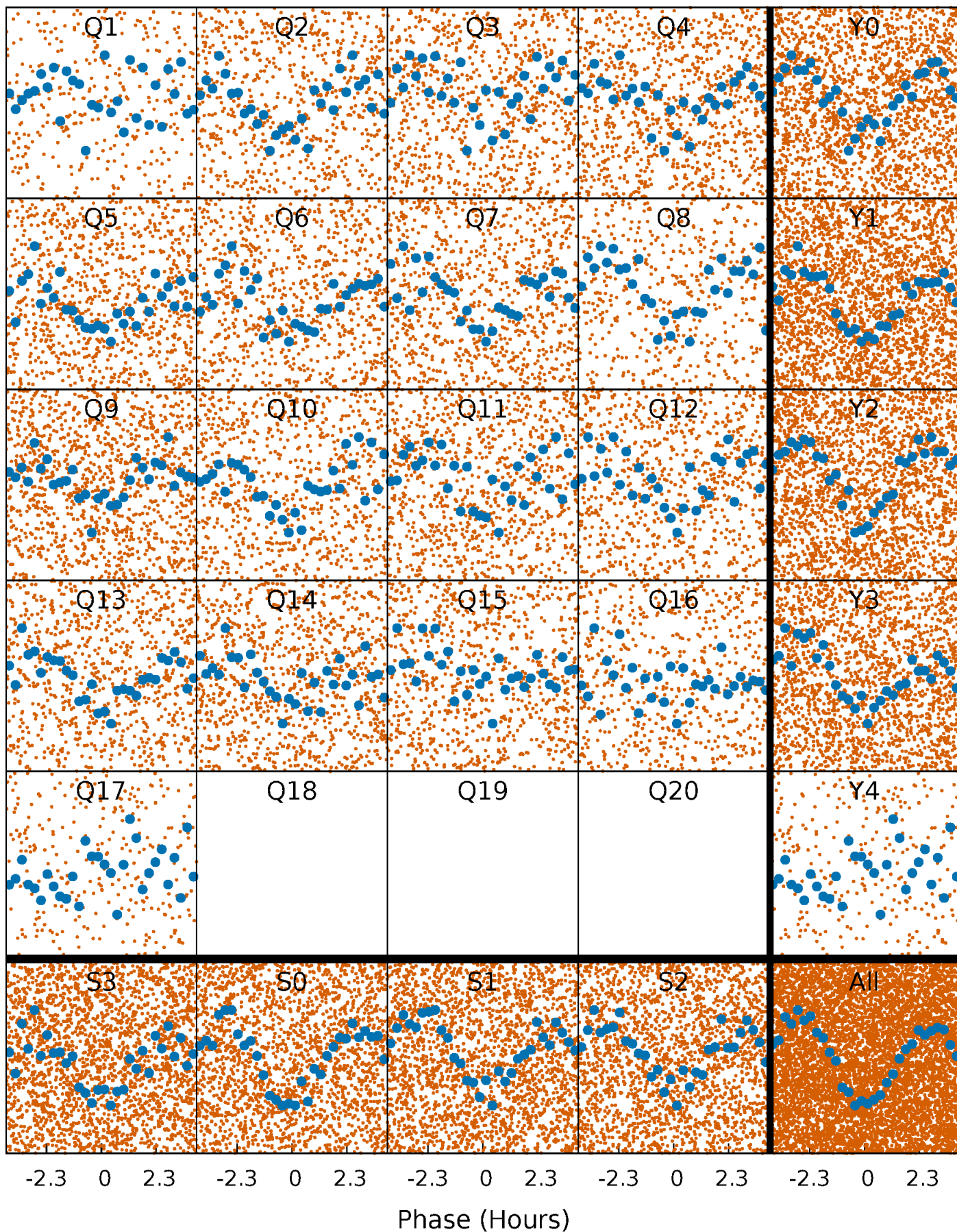


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



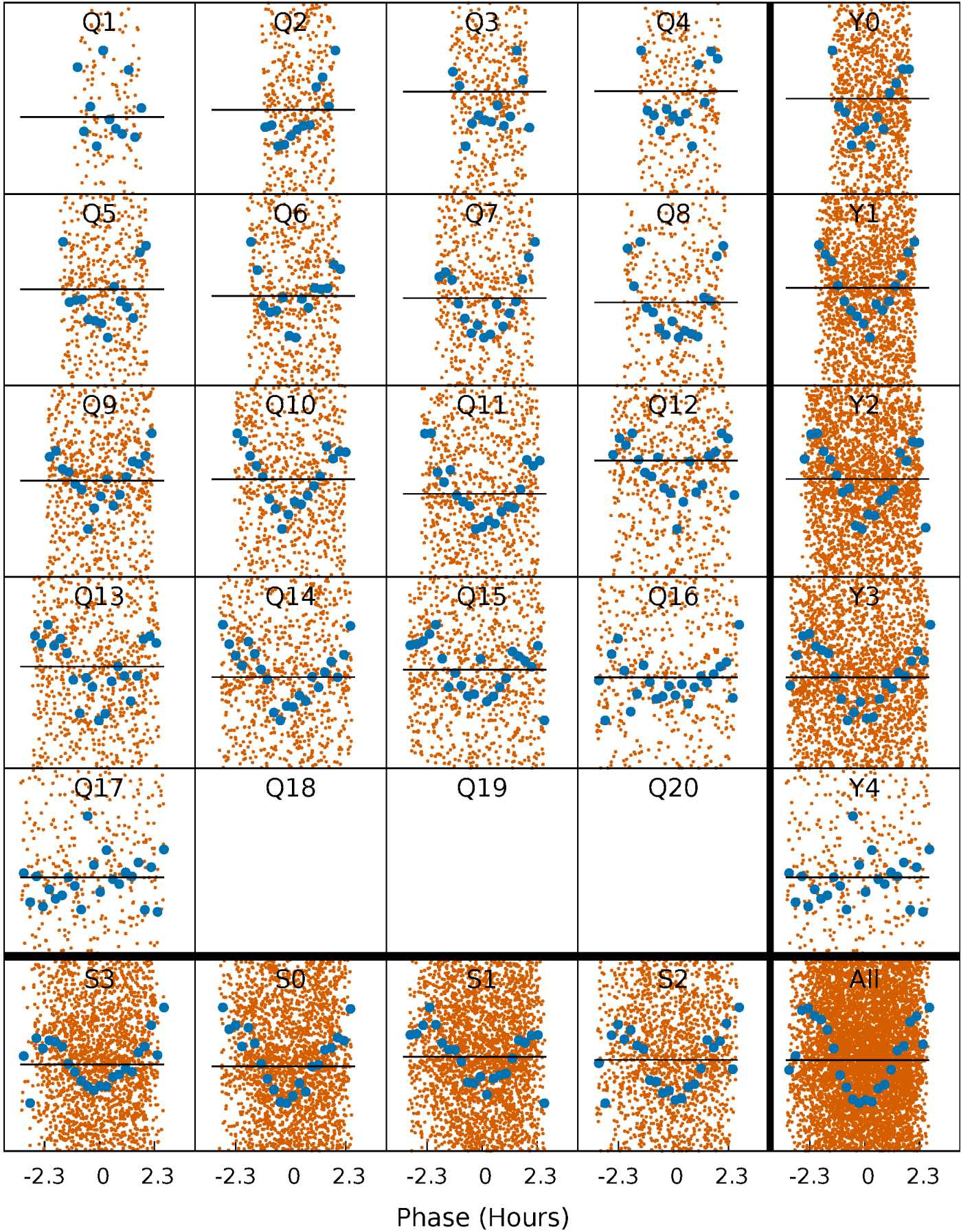
PDC Quarter-Phased Transit Curves

TCE 006974111-03 P= 0.698733 Days $T_0=132.004944$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 006974111-03 $P = 0.698733$ Days $T_0 = 132.004944$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

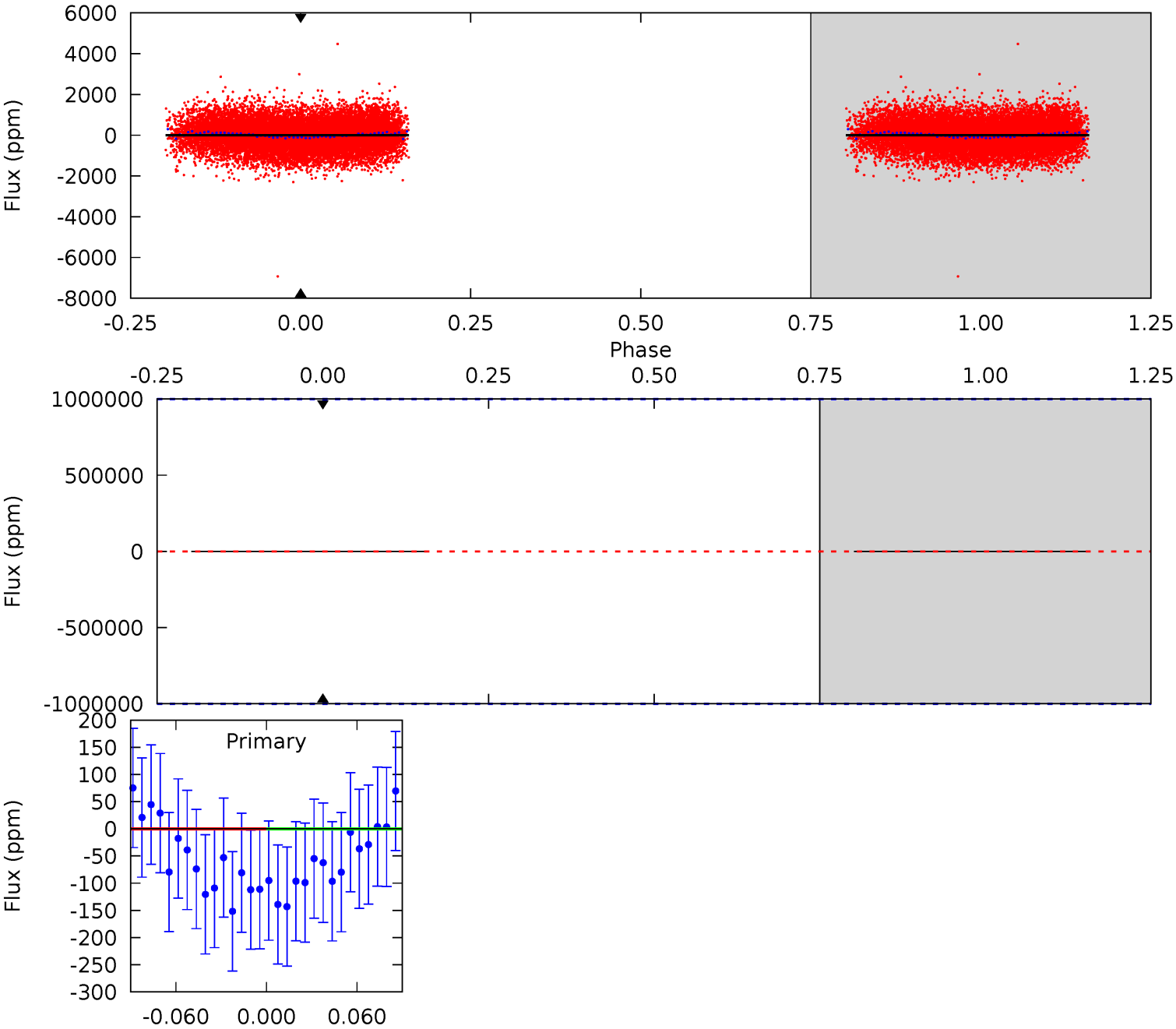
TCE 006974111-03 P= 0.698733 Days $T_0=131.877376$ (BKJD)



DV Model-Shift Uniqueness Test

006974111-03, P = 0.698733 Days, E = 131.306211 Days

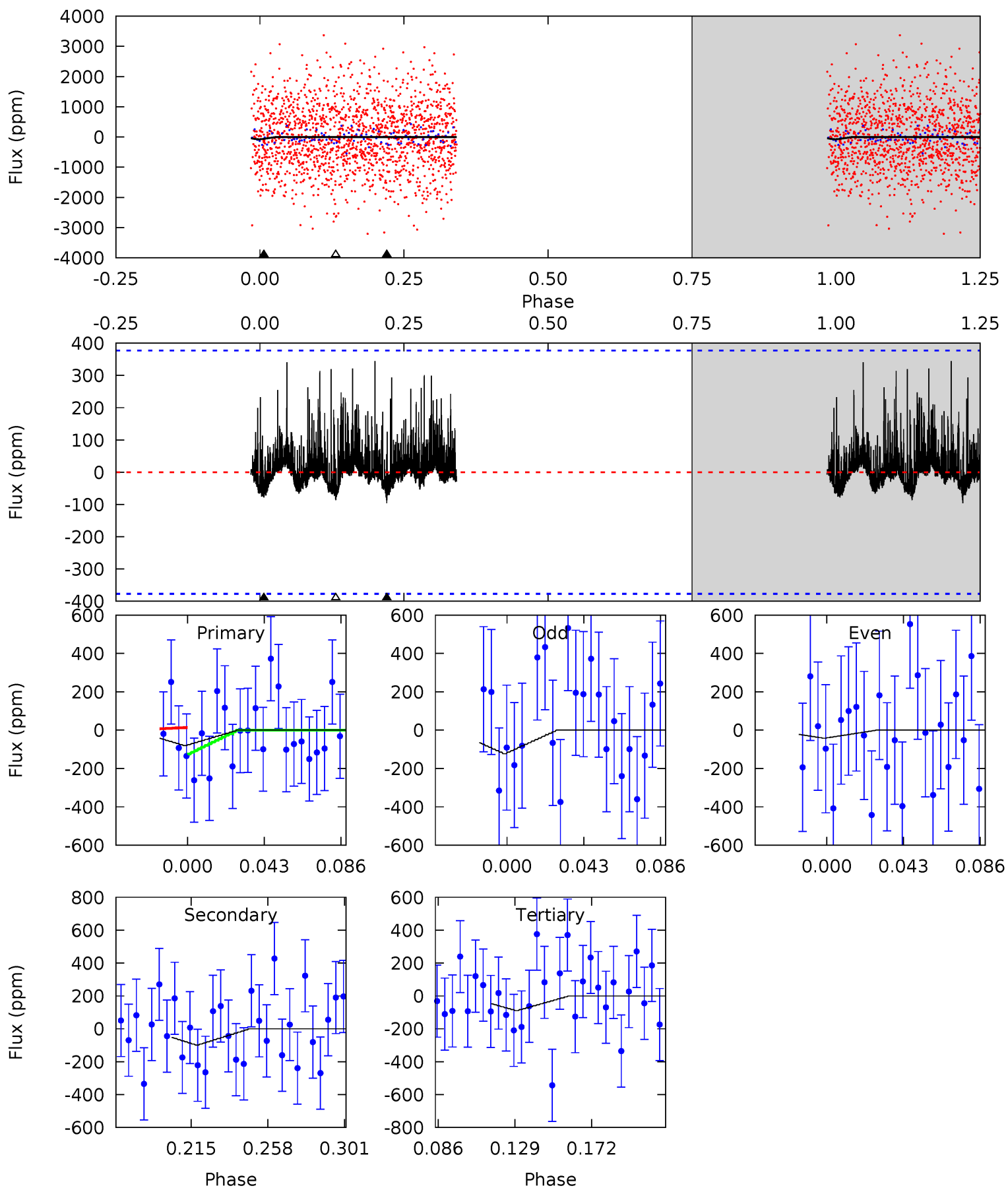
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00 | 1.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Alt Model-Shift Uniqueness Test

006974111-03, P = 0.698733 Days, E = 131.877376 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 0.98 | 1.20 | 1.09 | 0 | 4.74 | 2.02 | 0.77 | -0.11 | 0.98 | 0.12 | 1.20 | 0.51 | 0.72 | 0.78 | 0.59 |



Stellar Parameters For KIC 006974111

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 8184^{+198}_{-368} | $4.087^{+0.145}_{-0.159}$ | $0.070^{+0.200}_{-0.450}$ | $2.064^{+0.462}_{-0.462}$ | $1.898^{+0.256}_{-0.384}$ | $0.304^{+0.235}_{-0.122}$ |
| | +2%/-4% | +4%/-4% | +286%/-643% | +22%/-22% | +13%/-20% | +77%/-40% |
| 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 006974111-03 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-----------------|---------------------------|----------------------|--------------------------|-------------------------------|
| DV | 0 ± 1000000 | $17.36^{+17.16}_{-11.99}$ | 5242^{+353}_{-357} | 4170^{+46939}_{-45904} | $0.512^{+135.698}_{-103.672}$ |
| Alt. | -96 ± 80 | $16.40^{+18.40}_{-12.22}$ | 5226^{+370}_{-338} | -4143^{+9318}_{-343} | $0.053^{+1.012}_{-0.047}$ |

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

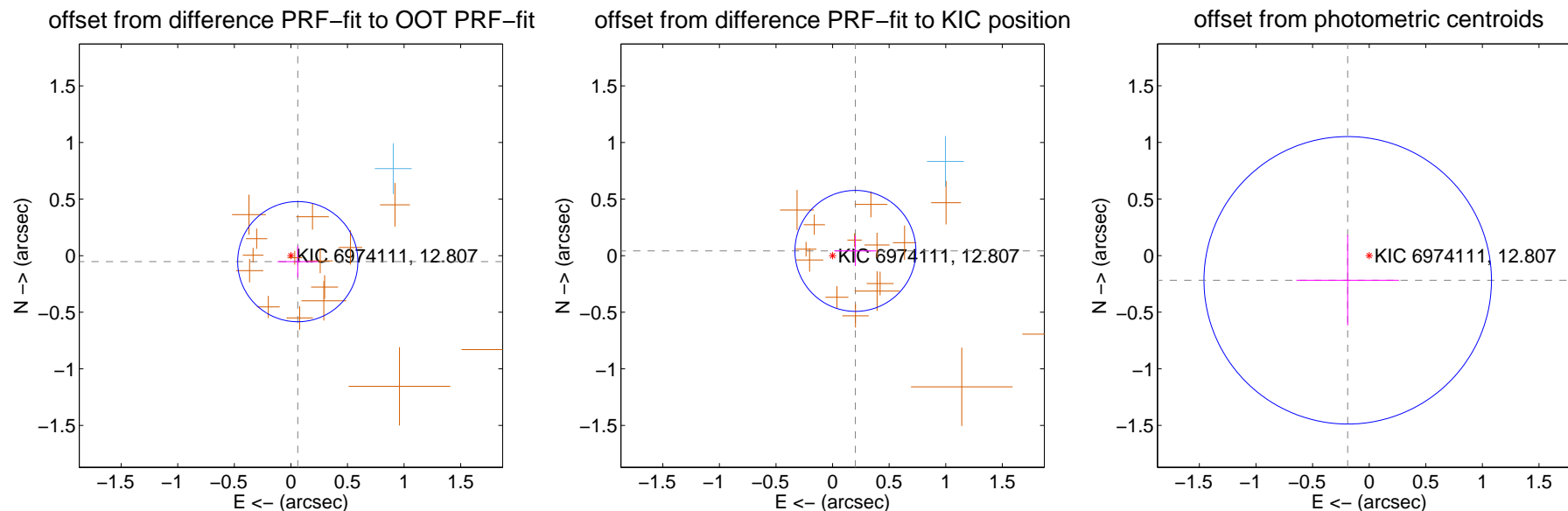
DV Centroid Data

Supplemental centroid analysis for 006974111-03. Kepler magnitude: 12.81. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

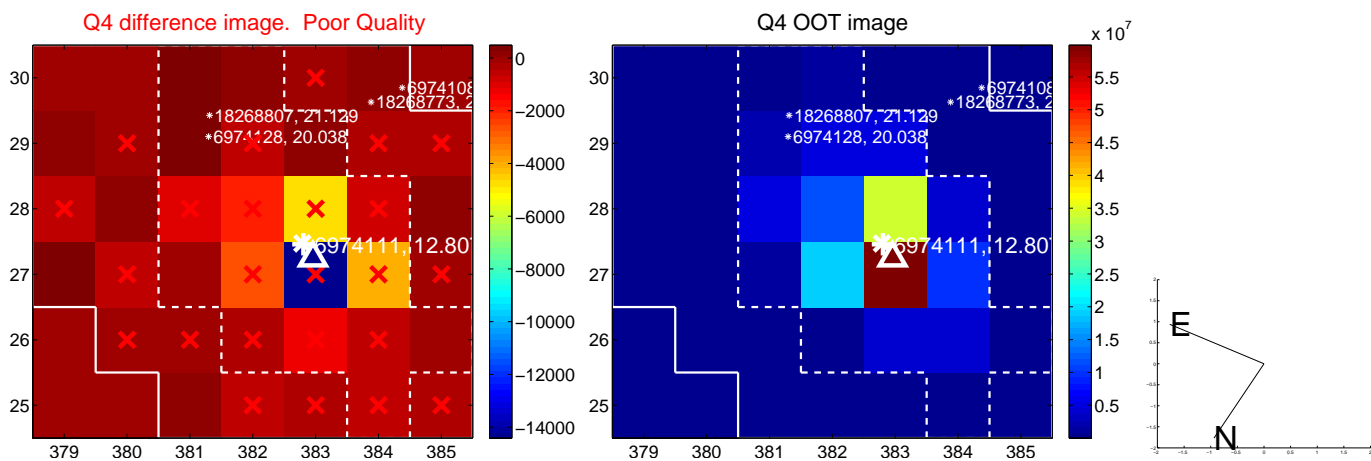
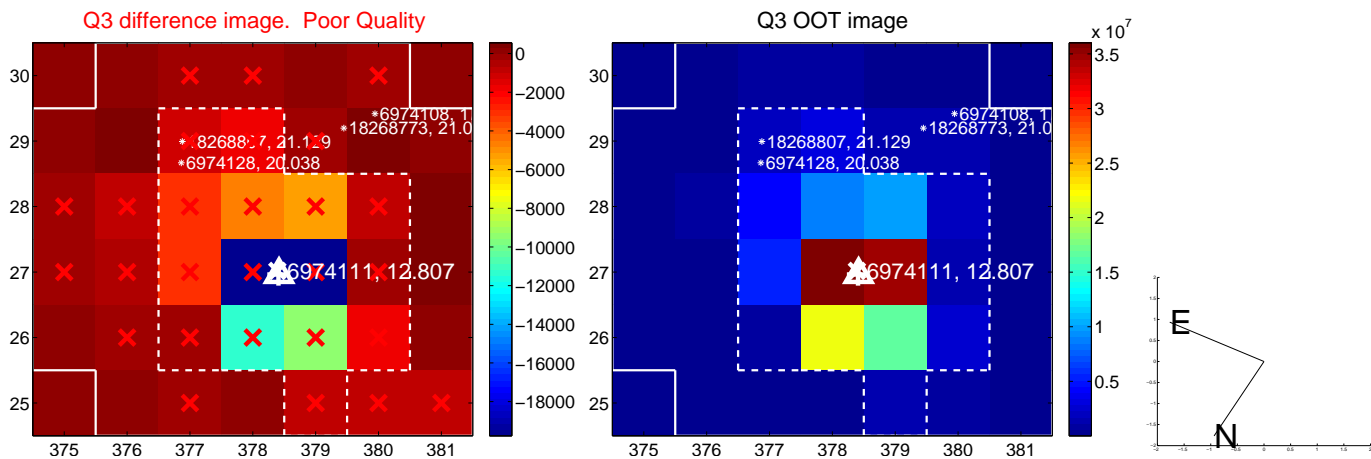
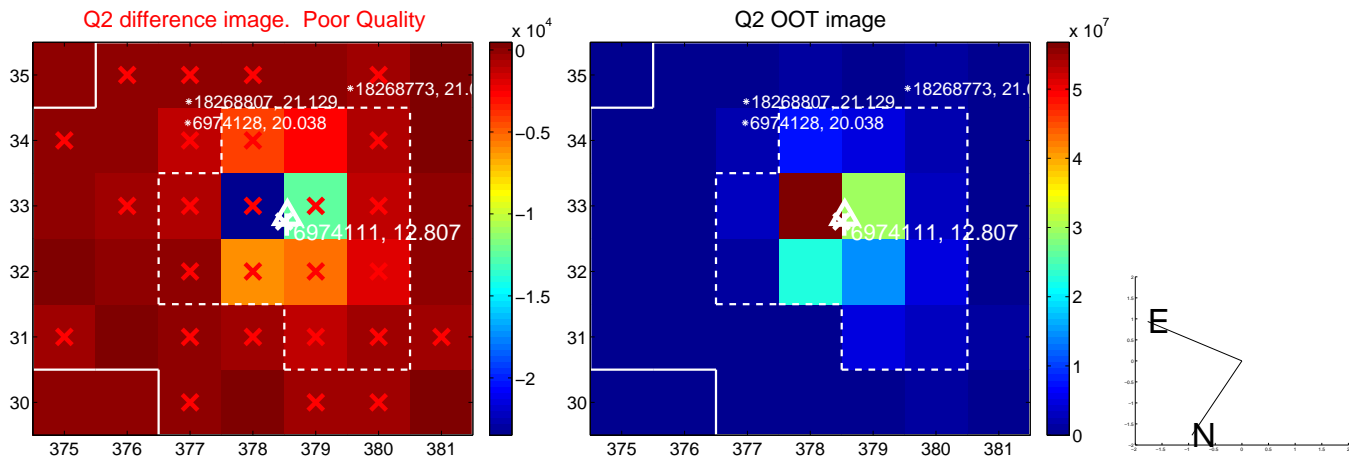
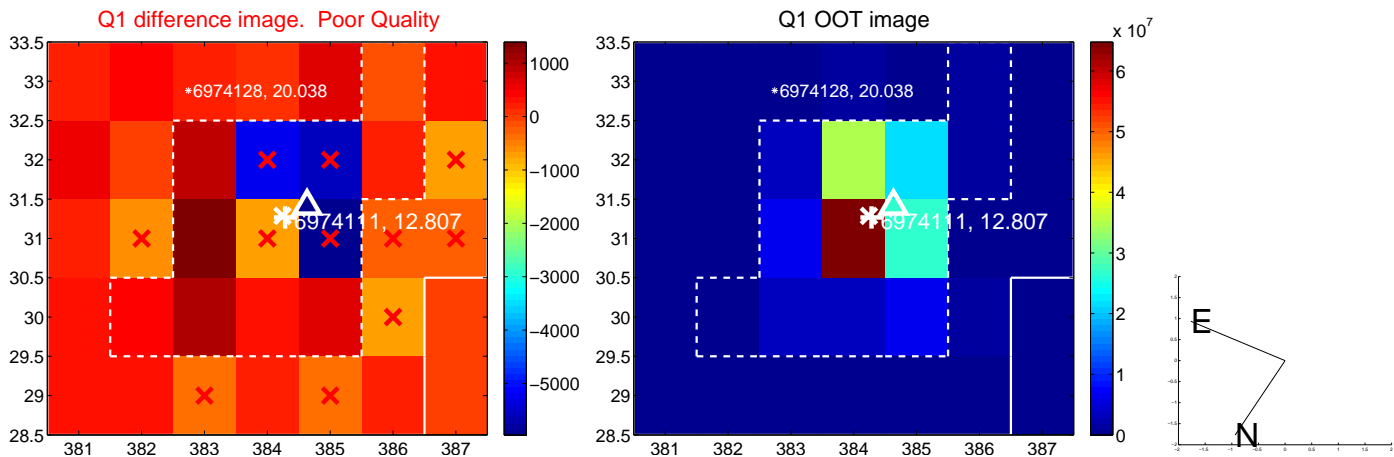
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.081 ± 0.177 | 0.46 | -0.061 ± 0.179 | -0.053 ± 0.138 |
| PRF-fit source offset from KIC position | 0.206 ± 0.178 | 1.16 | -0.202 ± 0.186 | 0.042 ± 0.134 |
| photometric centroid source offset | 0.29 ± 0.42 | 0.68 | 0.19 ± 0.45 | -0.22 ± 0.40 |

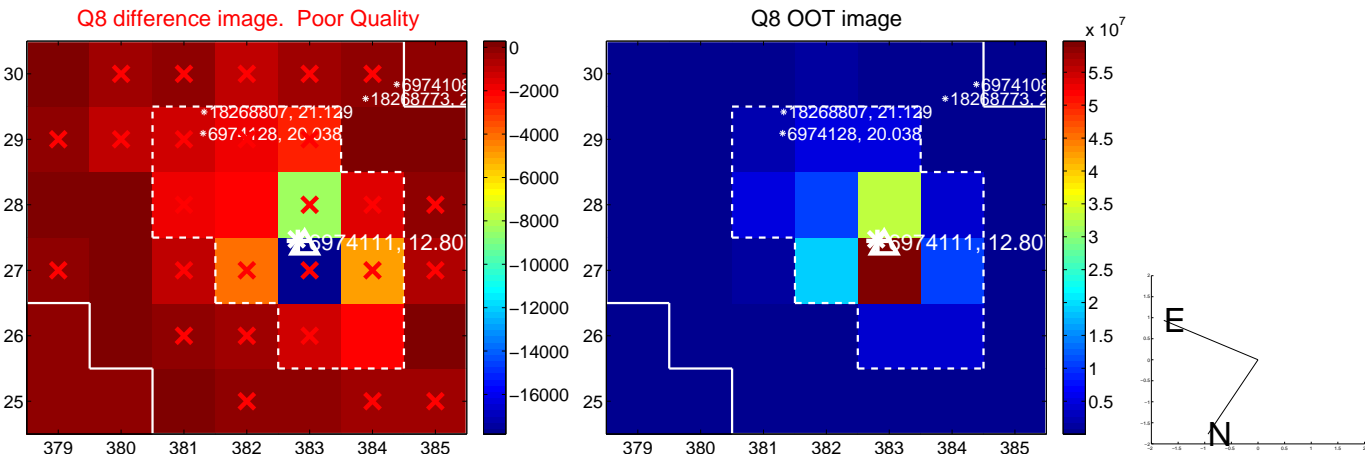
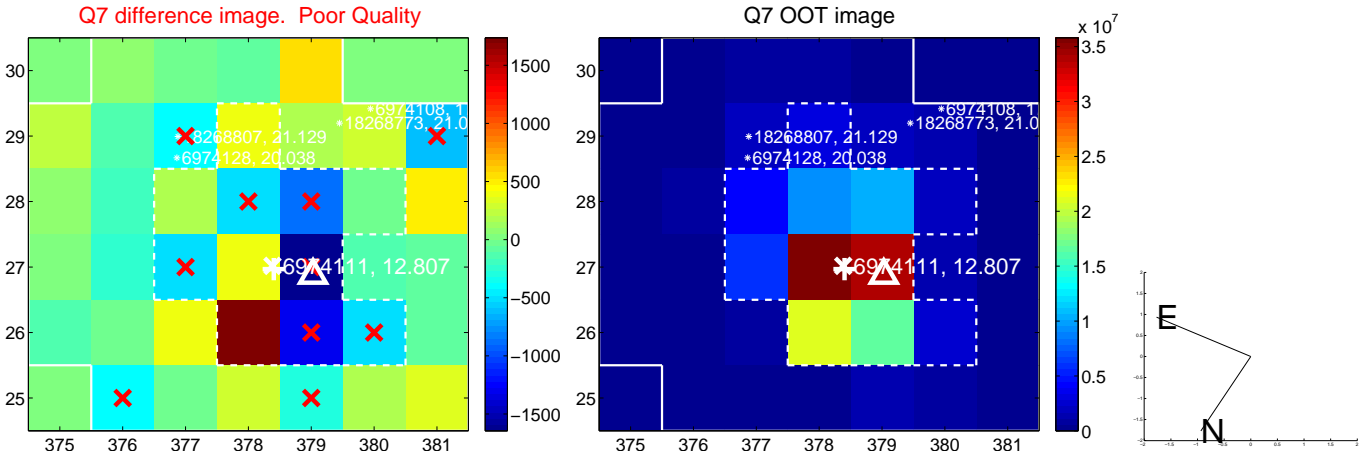
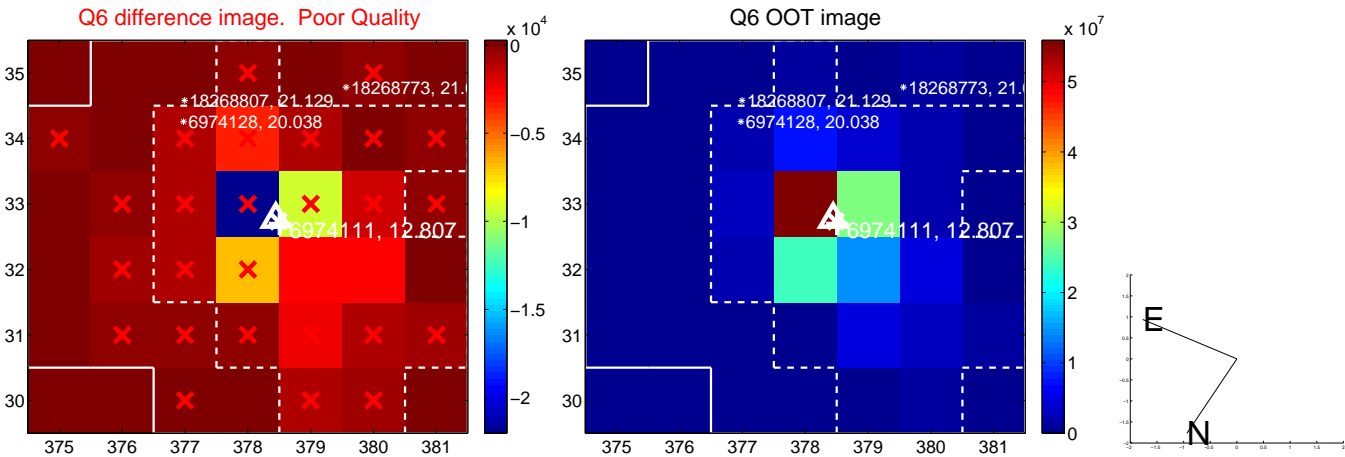
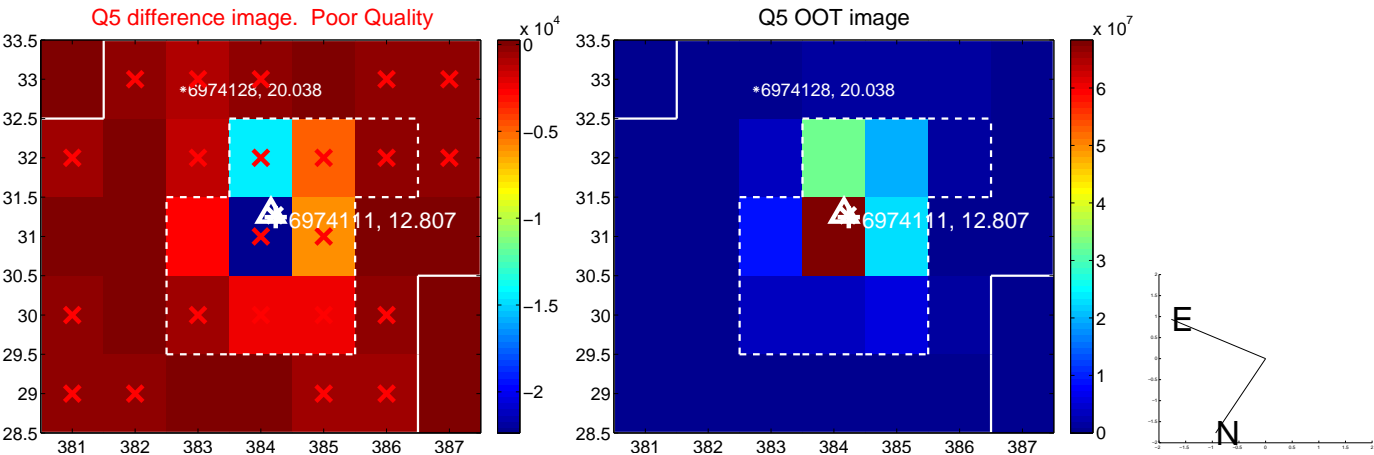


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

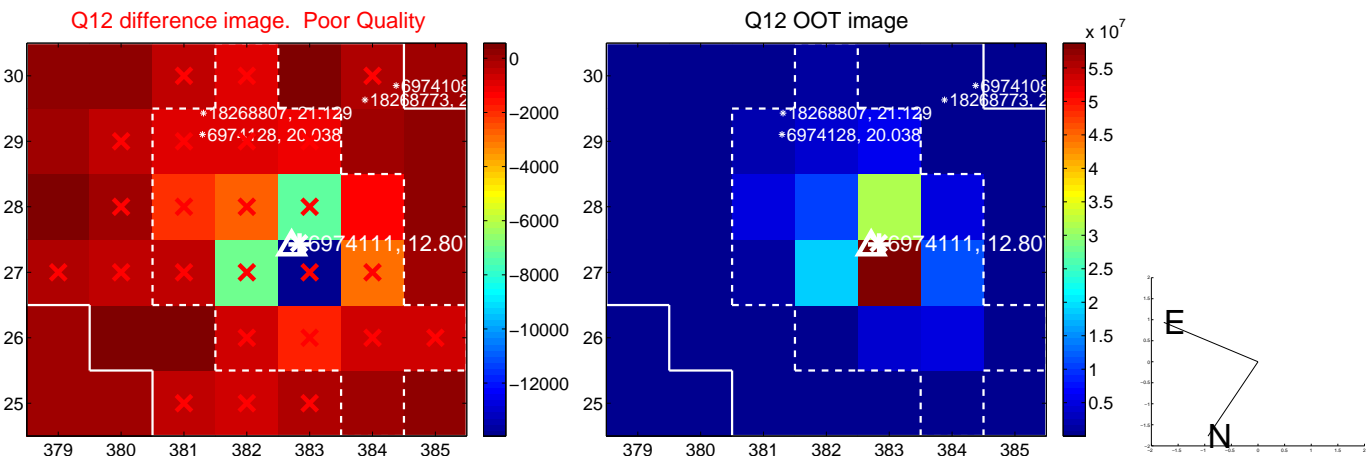
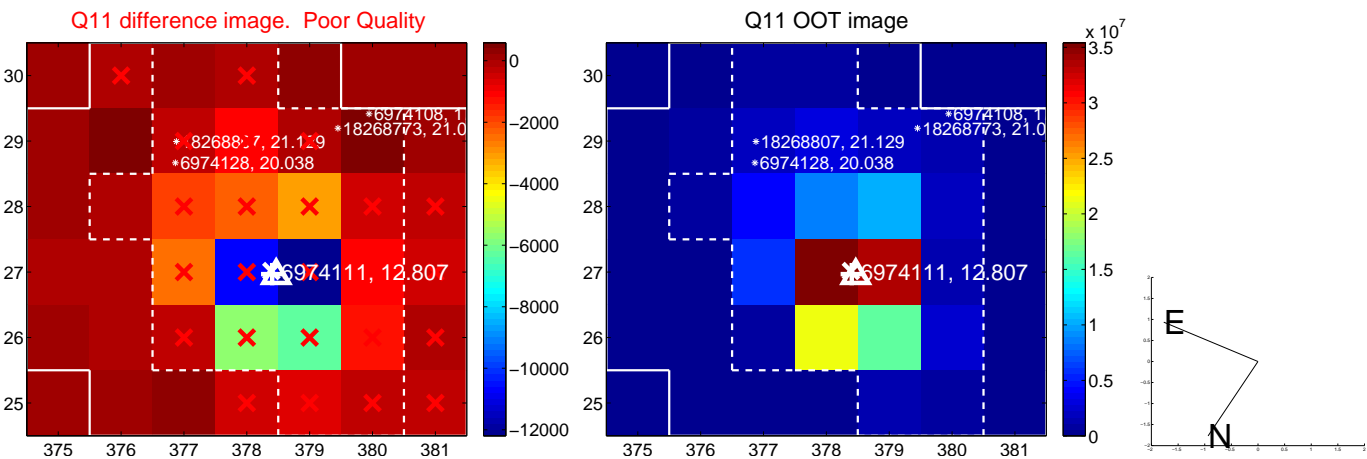
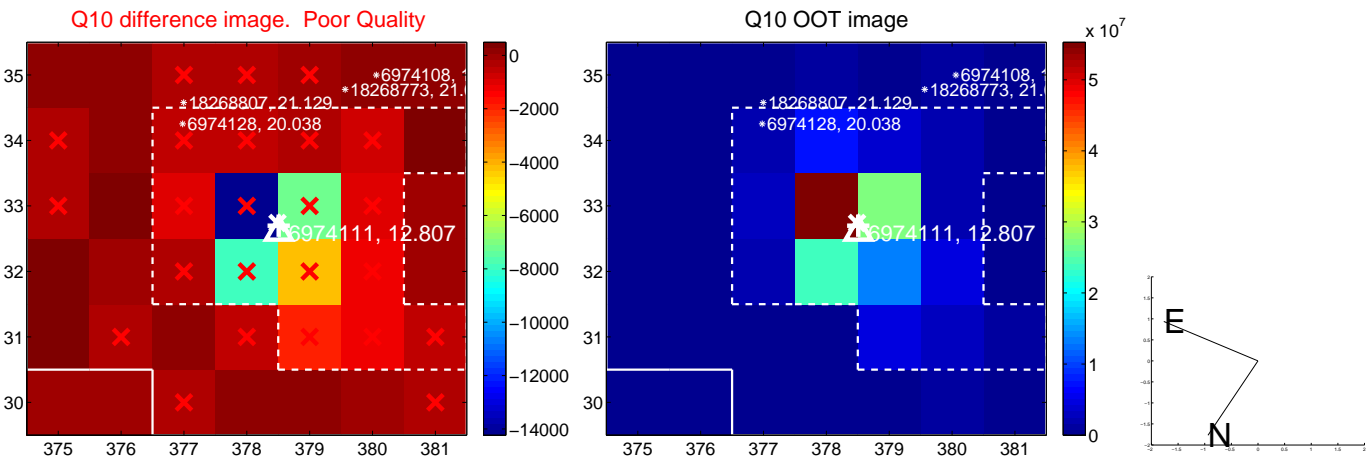
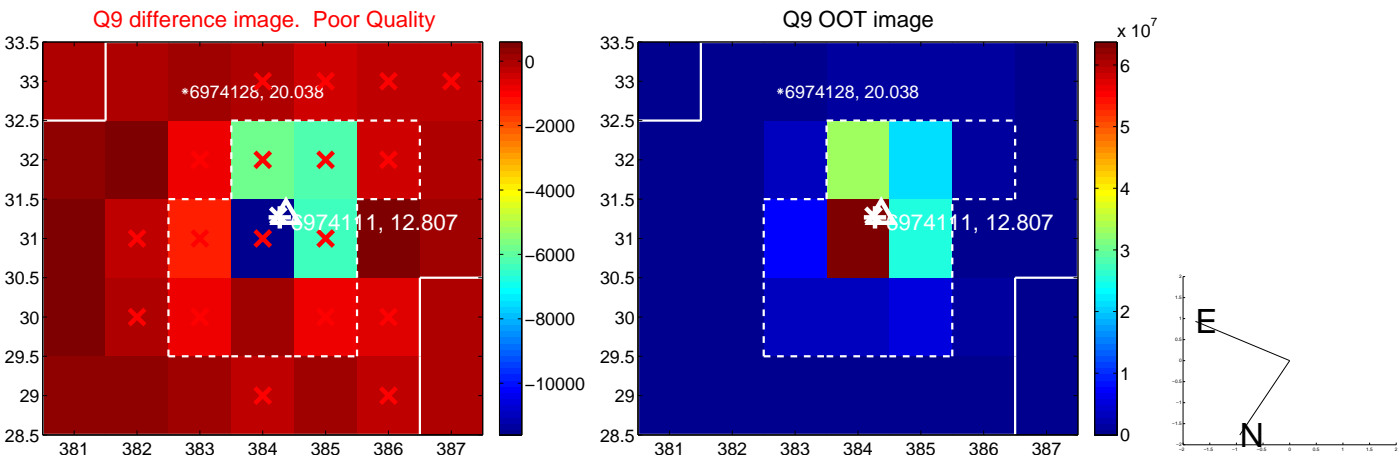
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



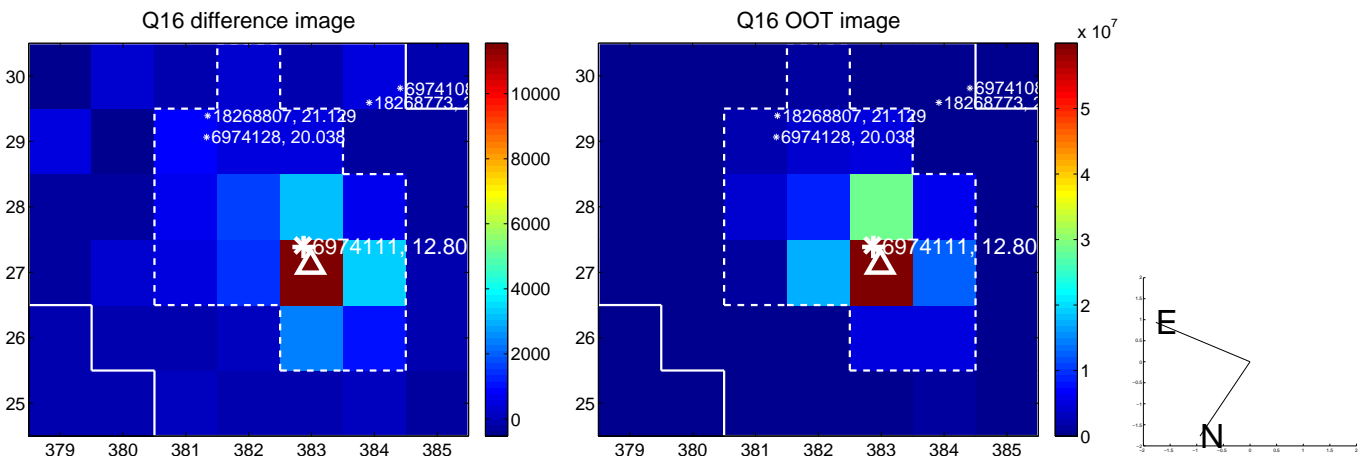
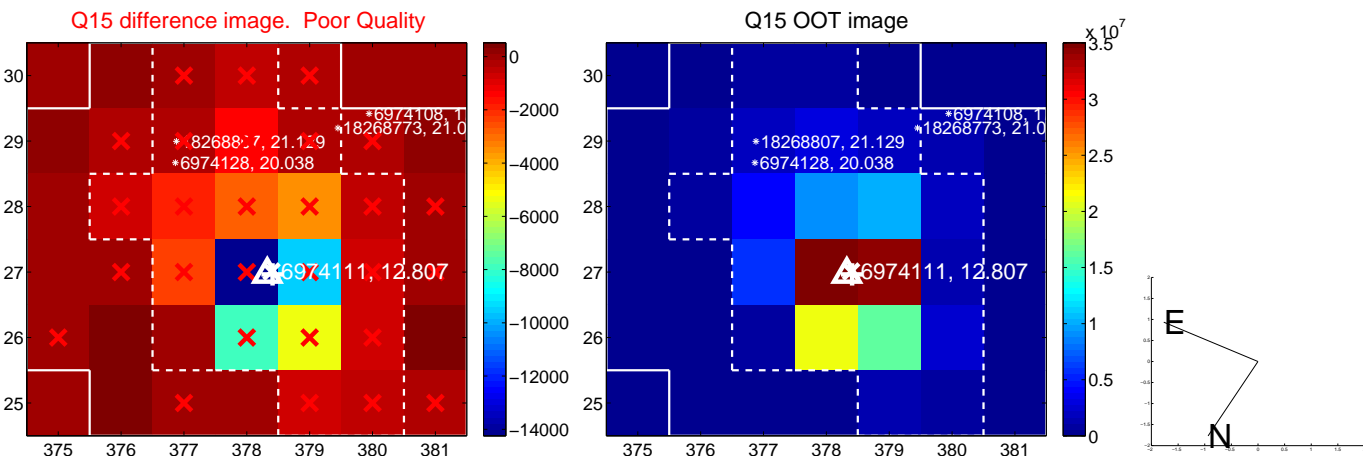
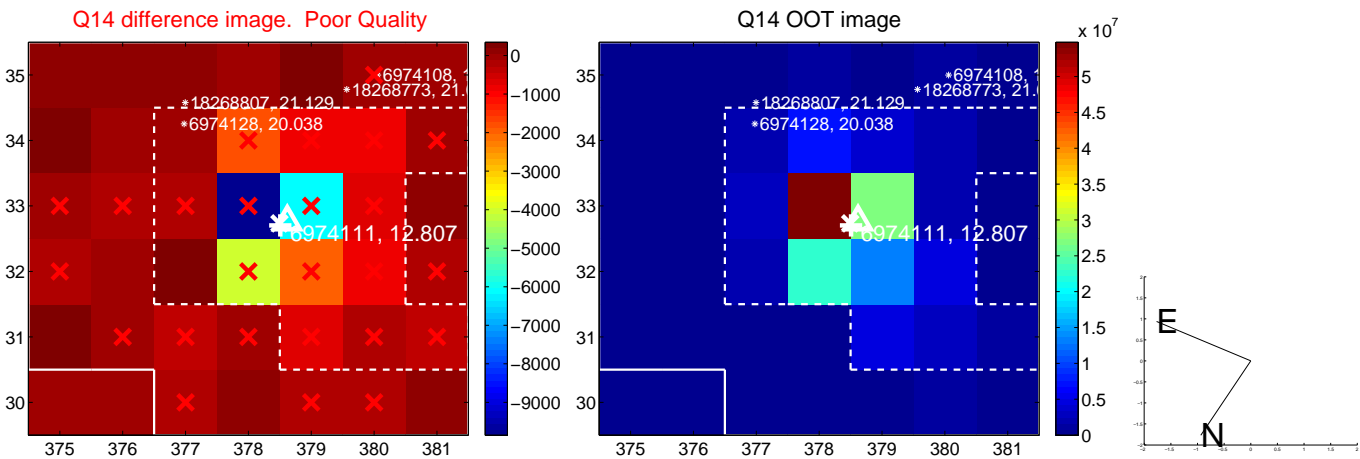
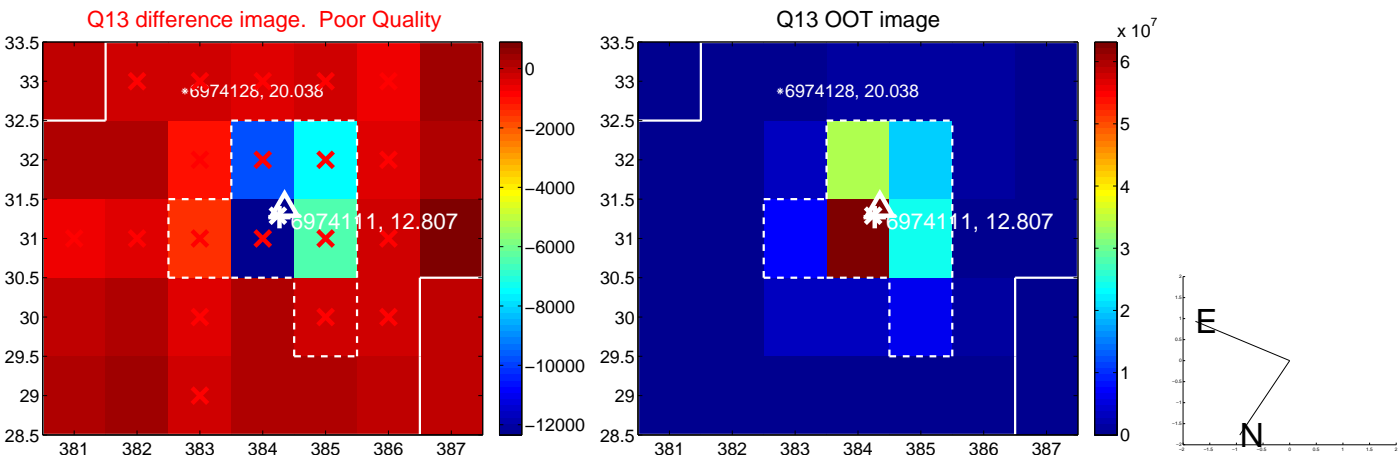
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



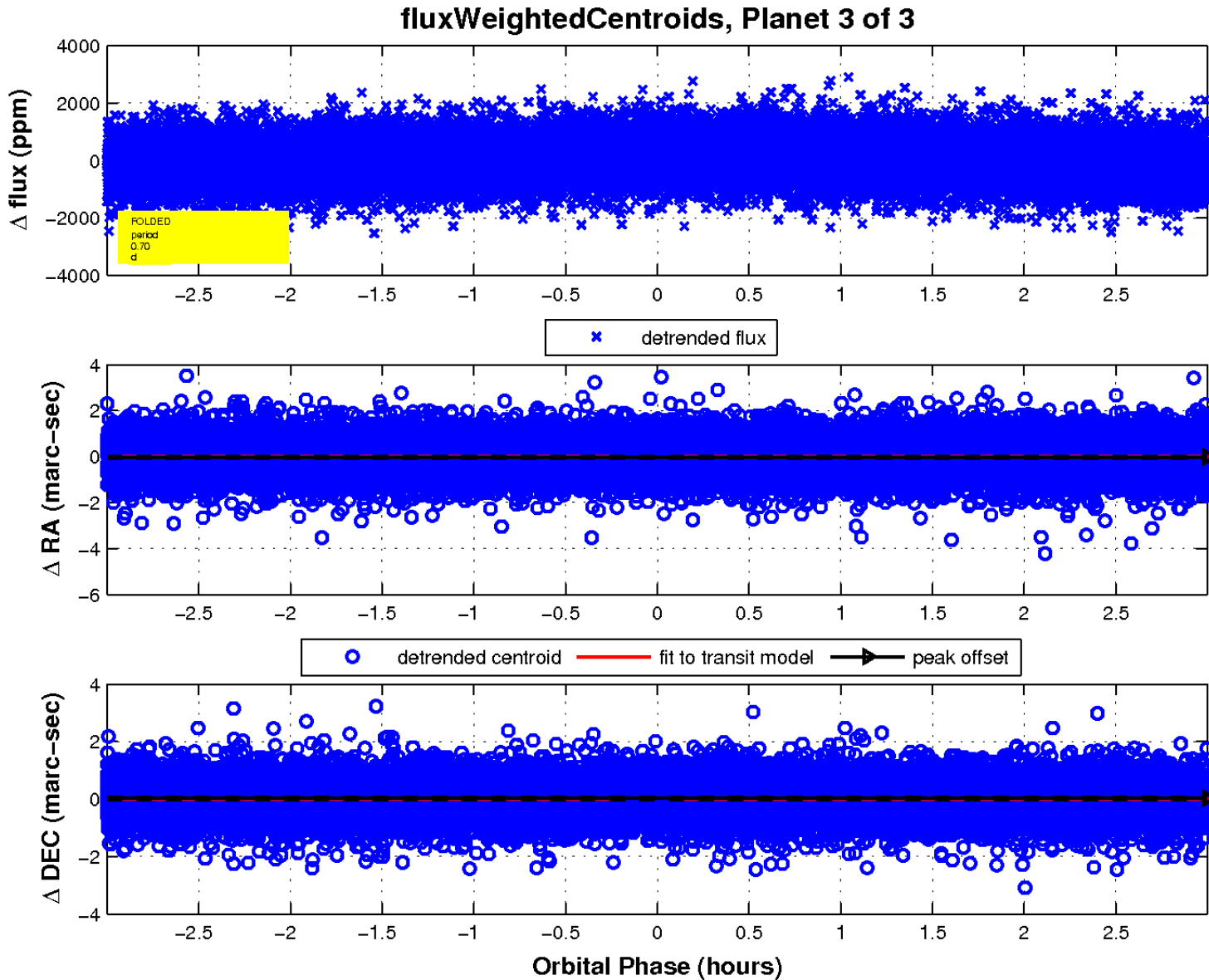
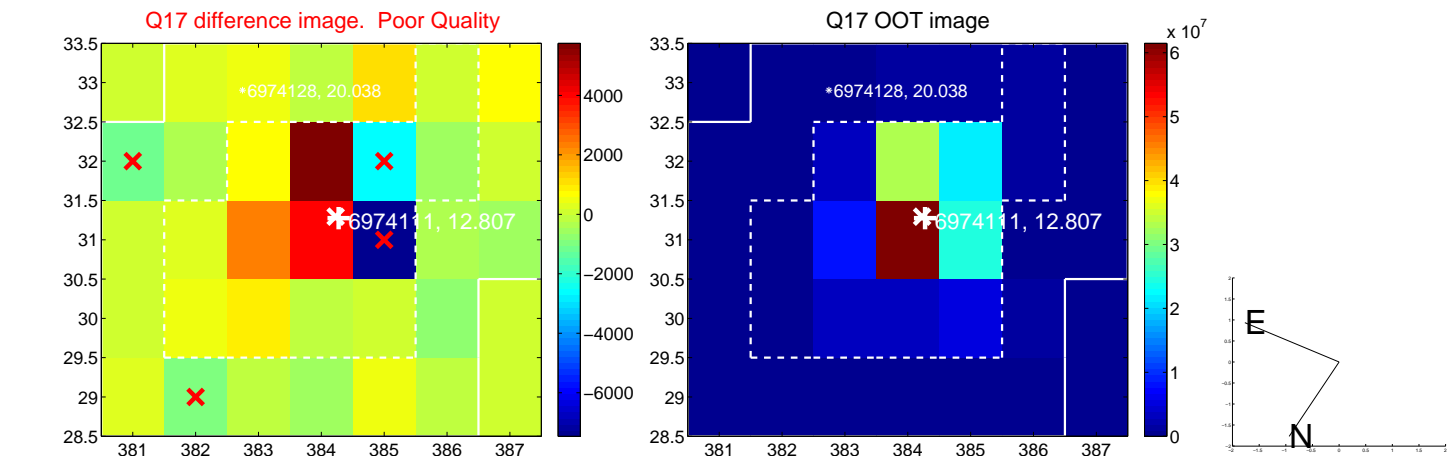
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

