

KIC 007129465

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|---------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007129465-01 | OBS | 6155.01 | 2.745922 | 133.167244 | 266427.8 | 2.500 | 16794.7 | -1.0 | 0.96 | 5372 | 52.02 | 525.66 |
| 007129465-02 | OBS | No | 4.119283 | 134.318058 | 26.0 | 1.887 | 586.7 | 1.1 | 0.96 | 5372 | 0.59 | 306.10 |
| 007129465-03 | OBS | No | 6.590404 | 134.024322 | 10739.7 | 15.000 | 379.4 | -1.0 | 0.96 | 5372 | 9.74 | 163.58 |
| 007129465-04 | OBS | No | 5.491913 | 133.697385 | 3732.6 | 3.500 | 79.2 | -1.0 | 0.96 | 5372 | 5.75 | 208.60 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007129465-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS |
| 007129465-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 007129465-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—CENT_NOFITS |
| 007129465-04 | OBS | FP | 0.00 | 1 | 1 | 0 | 0 | IS_SEC_TCE—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.

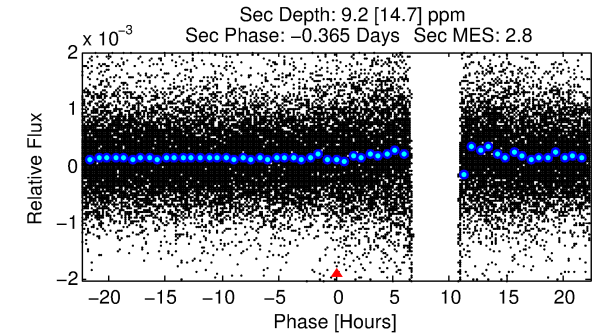
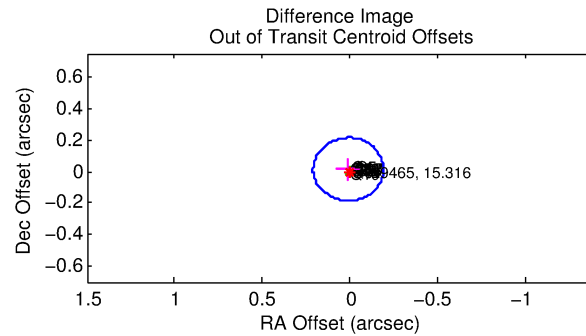
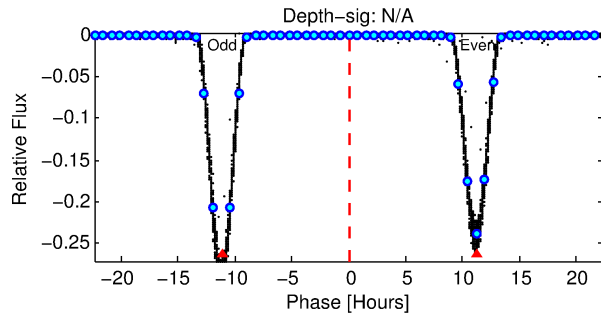
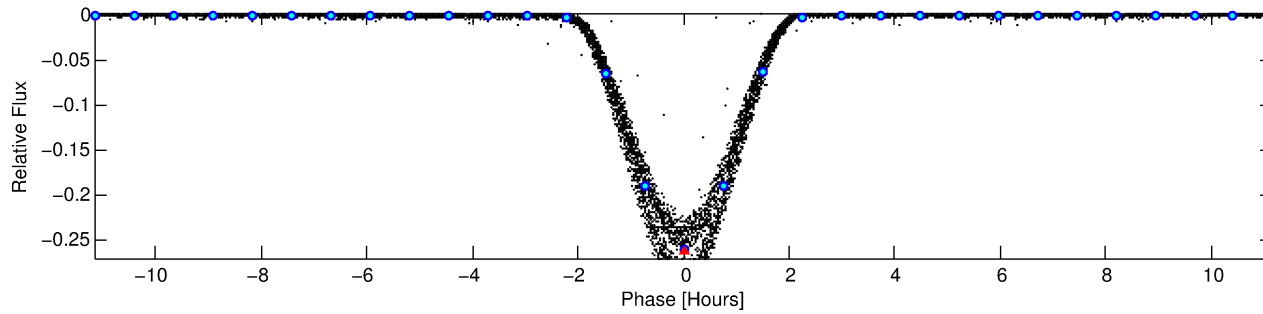
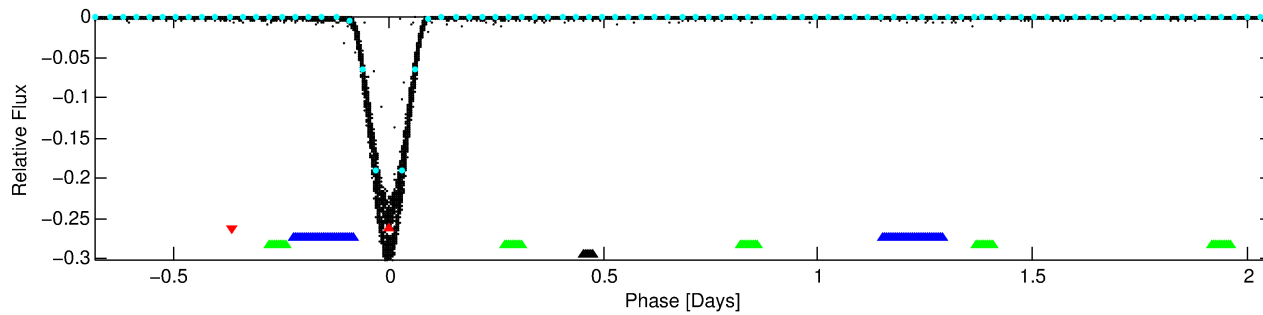
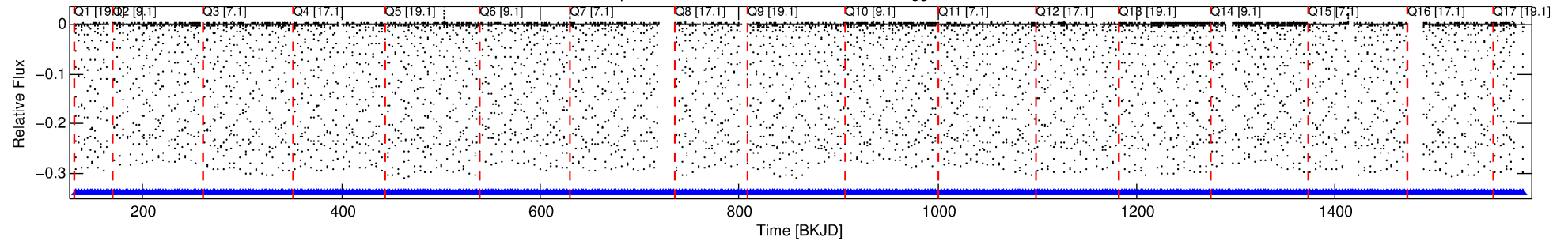
Ephemeris Match Information For 007129465-01

No Significant Match Found

DV One-Page Summary

KIC: 7129465 Candidate: 1 of 4 Period: 2.746 d
KOI: K06155.01 Corr: 0.778

Kp: 15.32 R*: 0.96 Rs Teff: 5372.0 K Logg: 4.40 Fe/H: 0.020



TPS TCE Results:

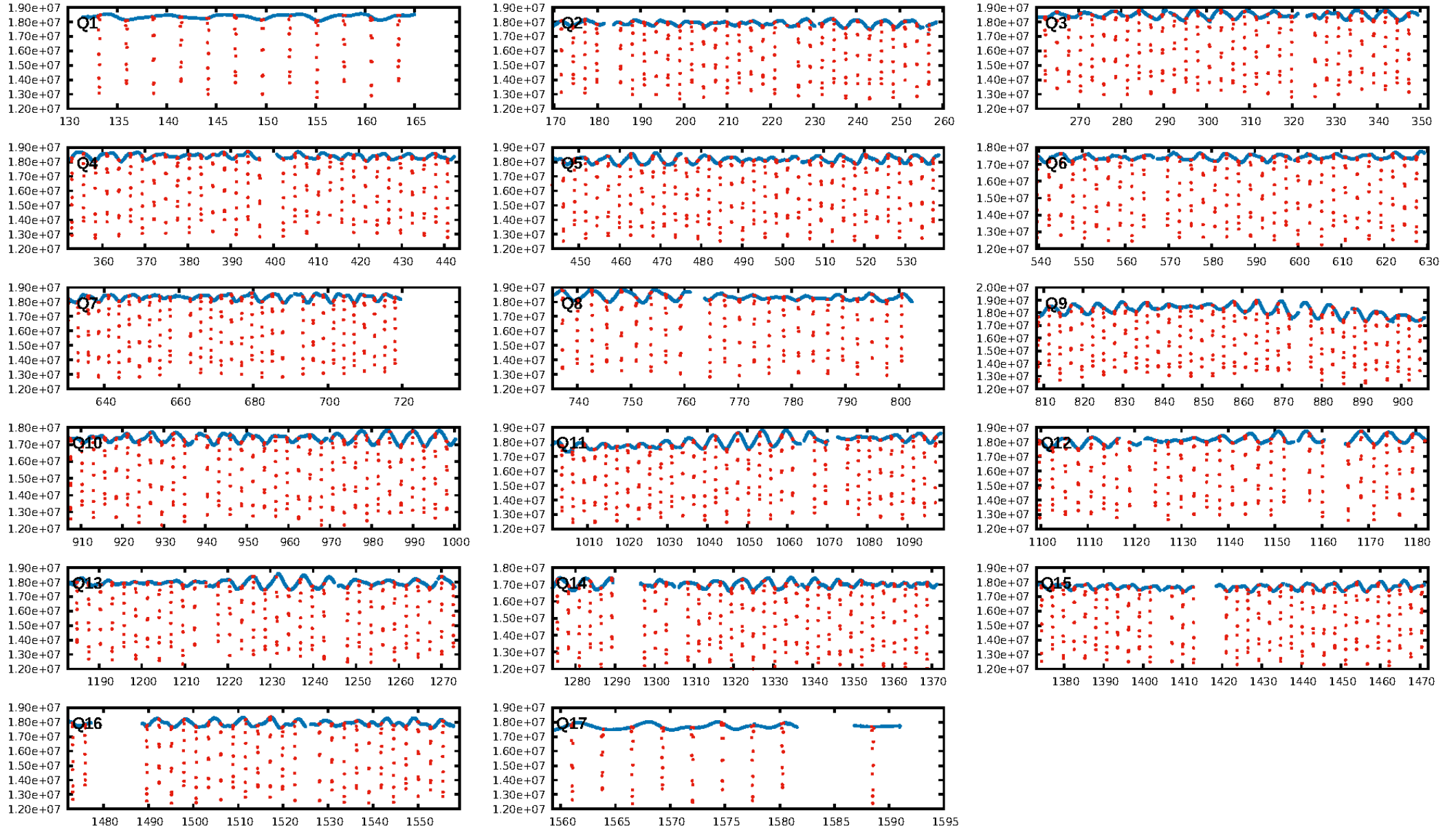
Period = 2.74592 d
Epoch = 133.1672 BKJD

DV fit results are unavailable

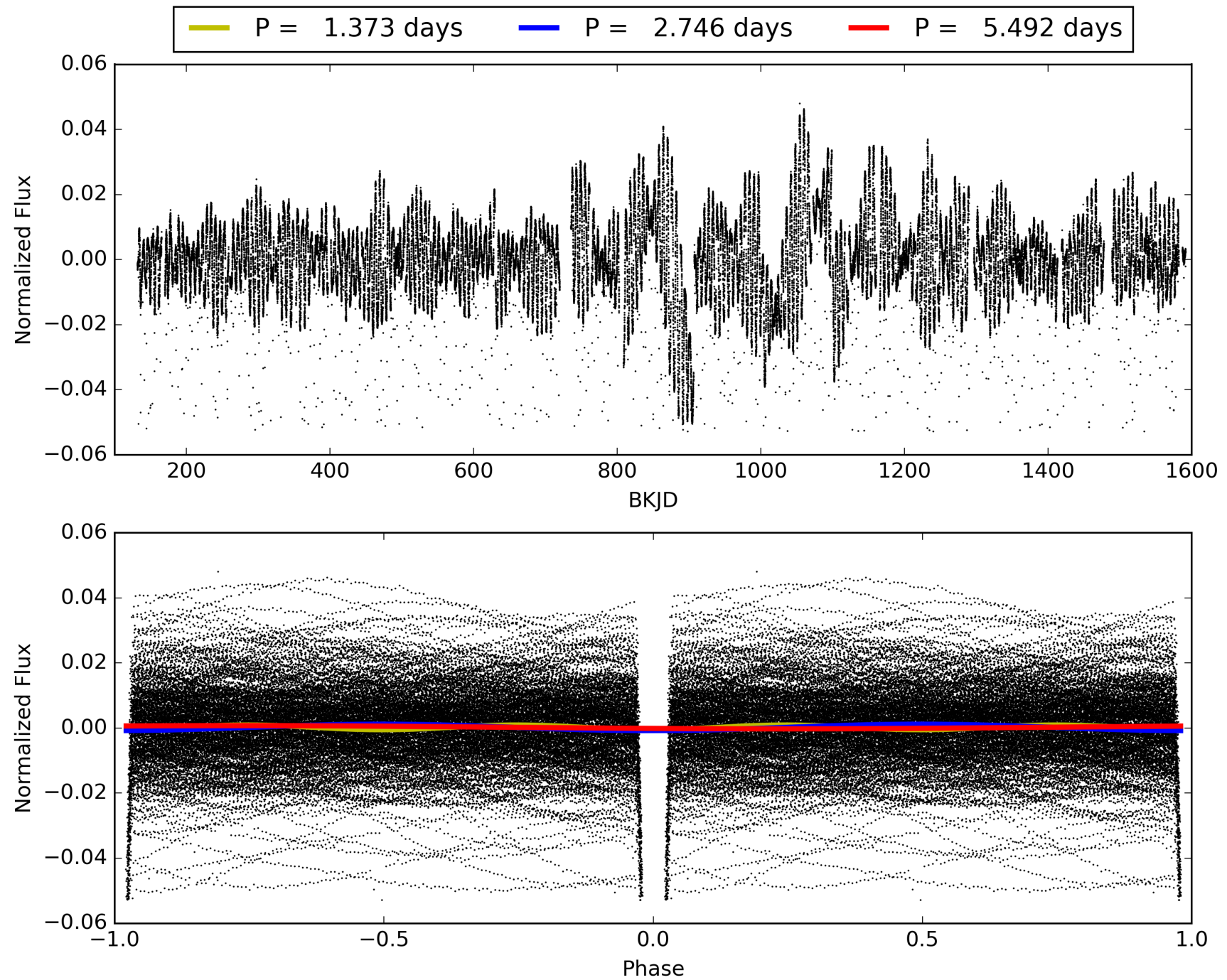
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [10.52σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [464/464]
GhostDiagnostic-chr: 1.53
Centroid-sig: N/A
Centroid-so: 0.115 arcsec [160.67σ]
OotOffset-rm: 0.019 arcsec [0.28σ]
KicOffset-rm: 0.120 arcsec [1.75σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007129465-01, PDC Light Curves

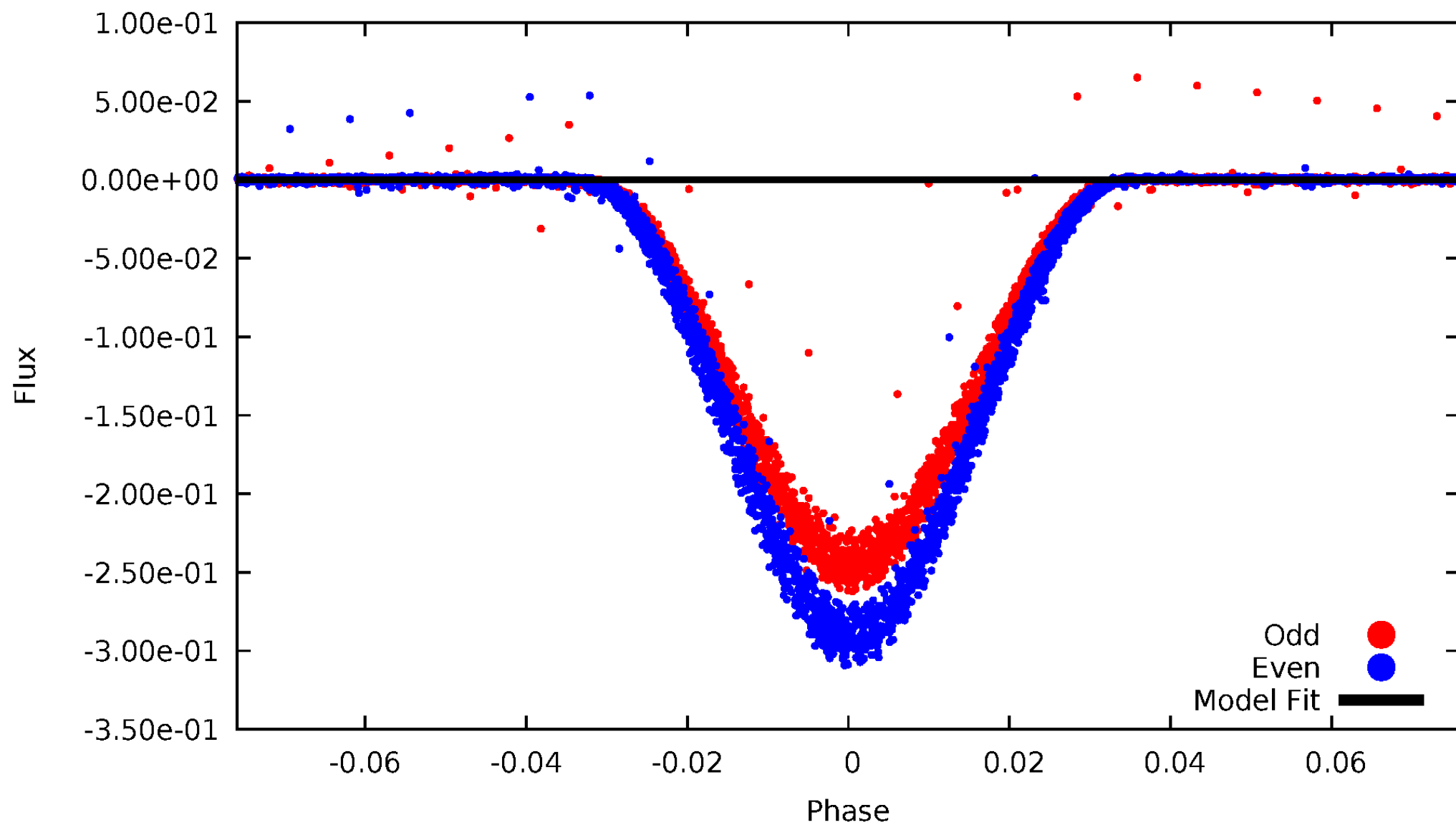


TCE 007129465-01



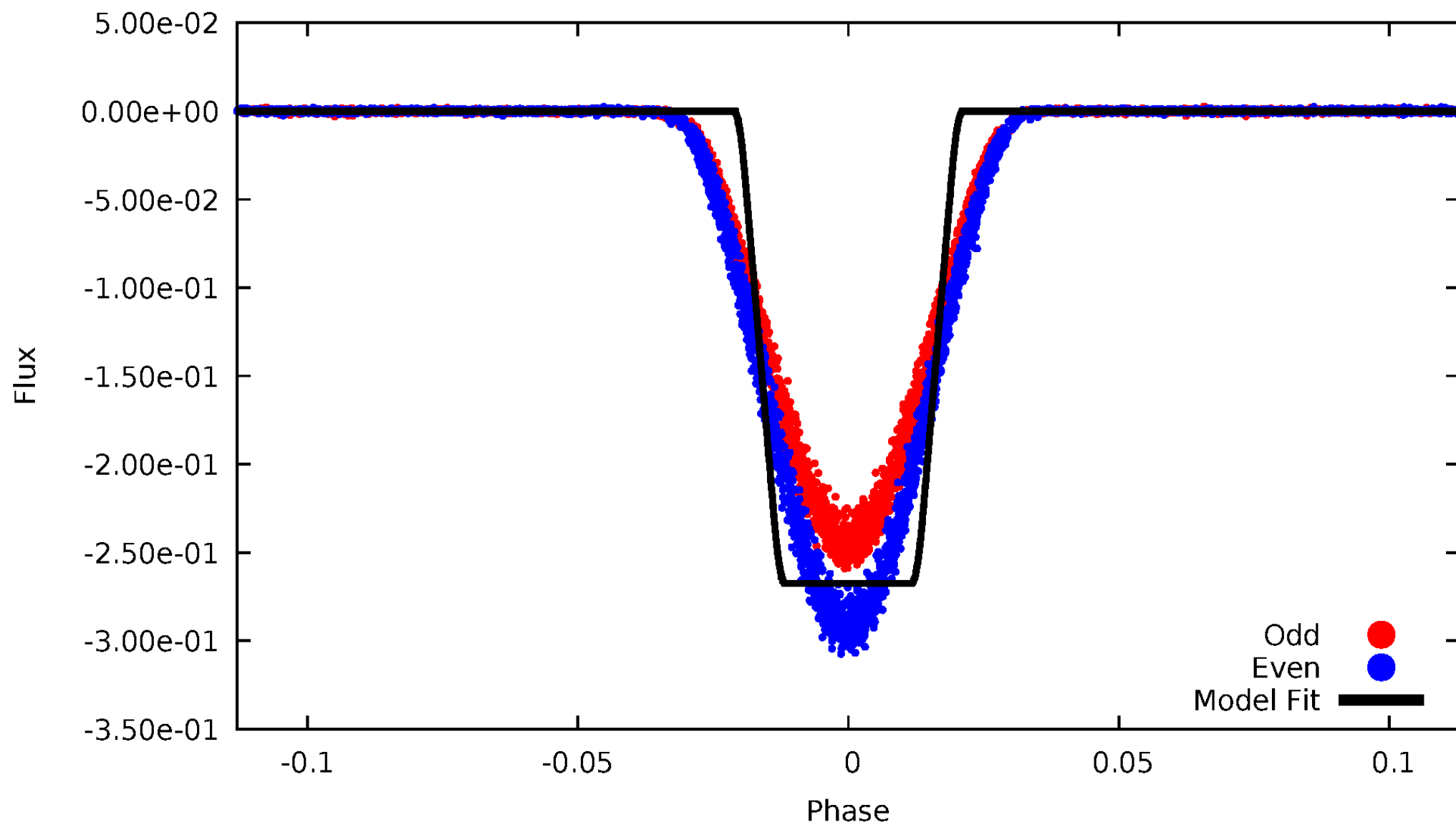
DV Odd/Even

TCE 007129465-01



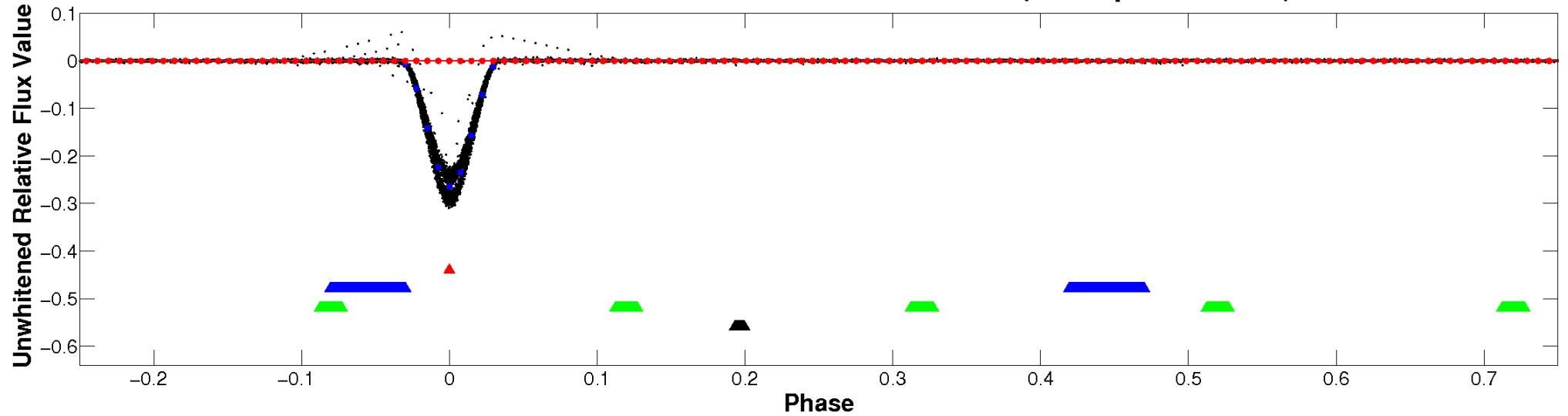
ALT Odd/Even

TCE 007129465-01



Non-Whitened Vs. Whitened Light Curve

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

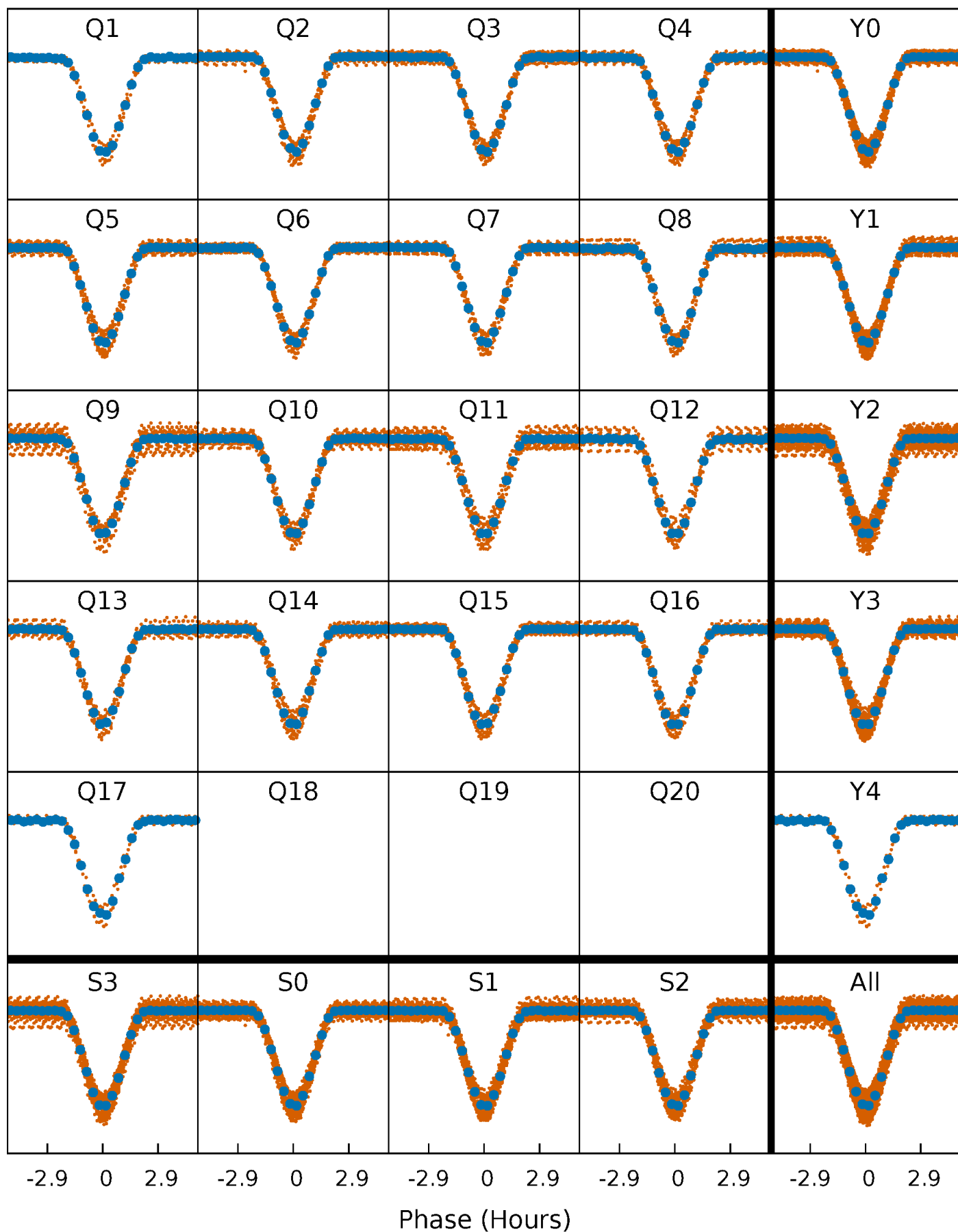


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



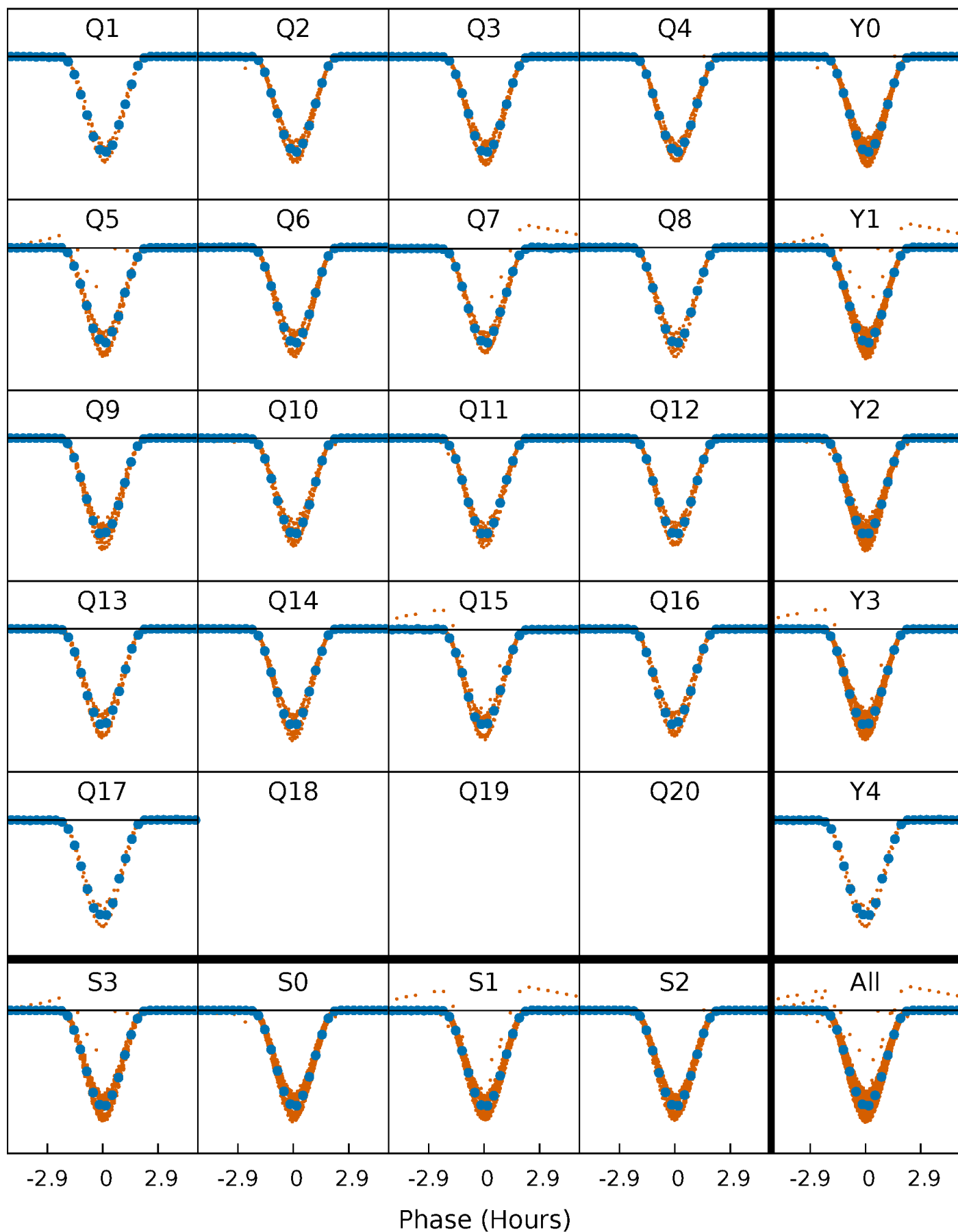
PDC Quarter-Phased Transit Curves

TCE 007129465-01 P= 2.745922 Days $T_0=133.167244$ (BKJD)



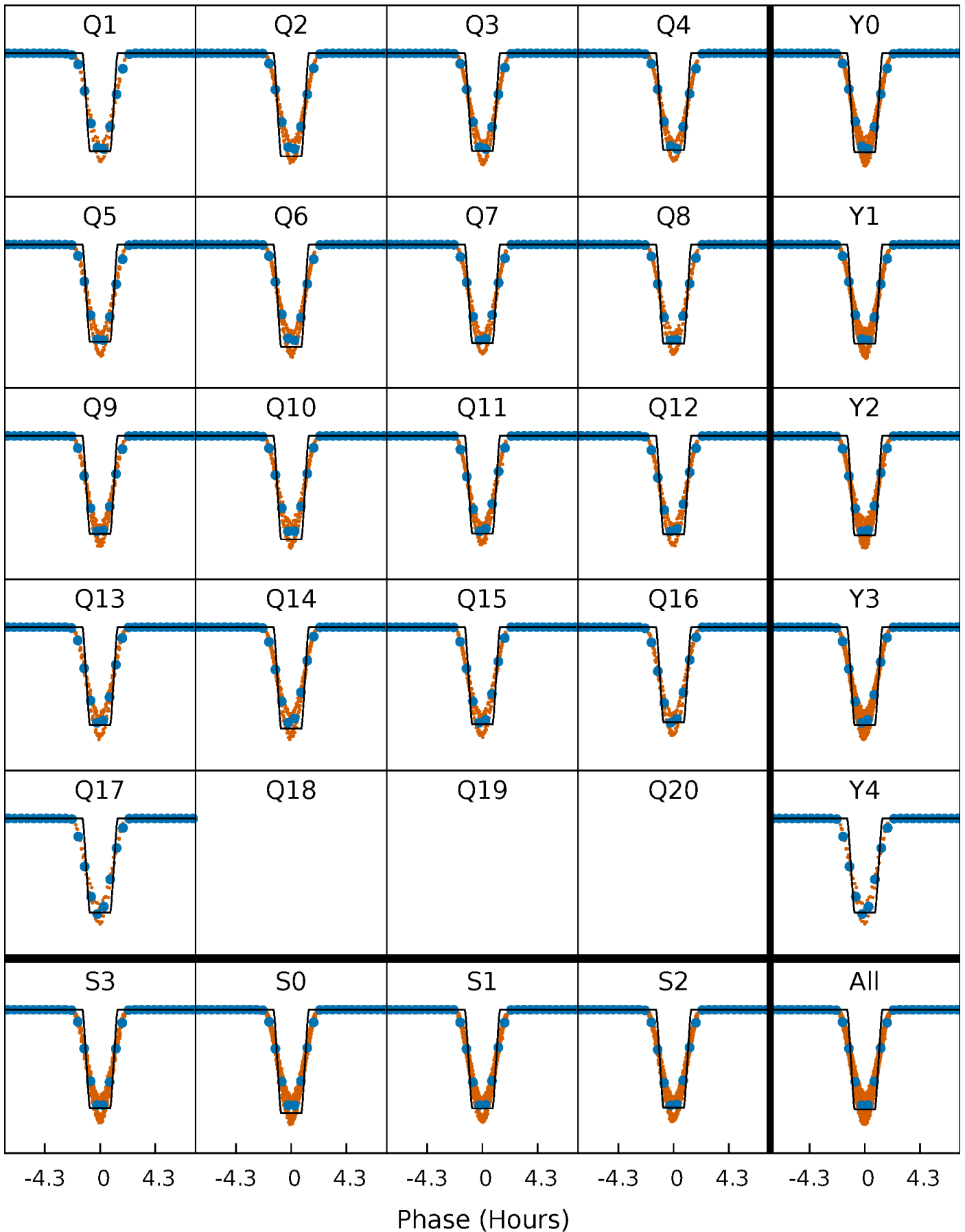
DV Quarter-Phased Transit Curves

TCE 007129465-01 P= 2.745922 Days $T_0=133.167244$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

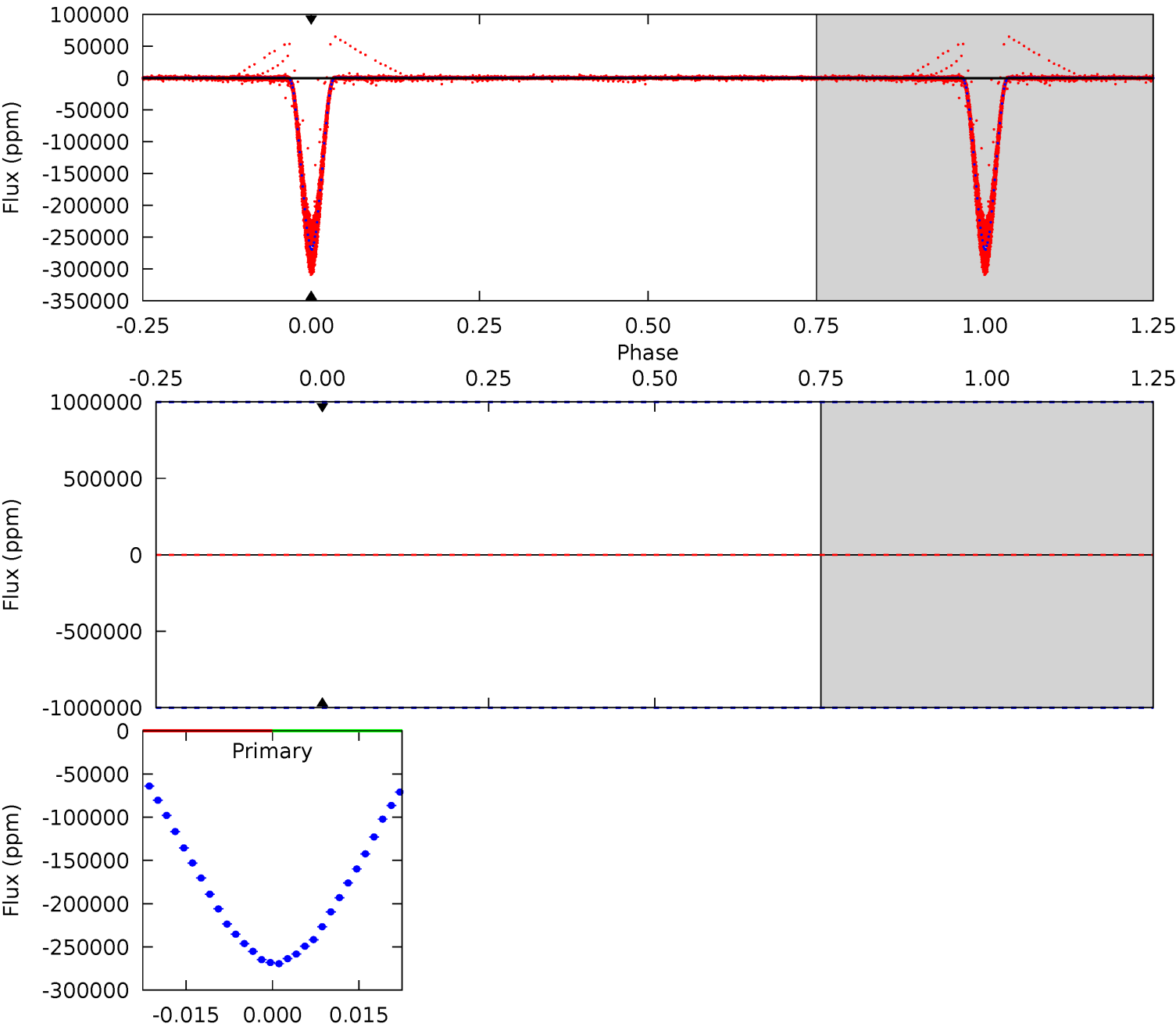
TCE 007129465-01 P= 2.745922 Days $T_0=133.169079$ (BKJD)



DV Model-Shift Uniqueness Test

007129465-01, P = 2.745922 Days, E = 130.421322 Days

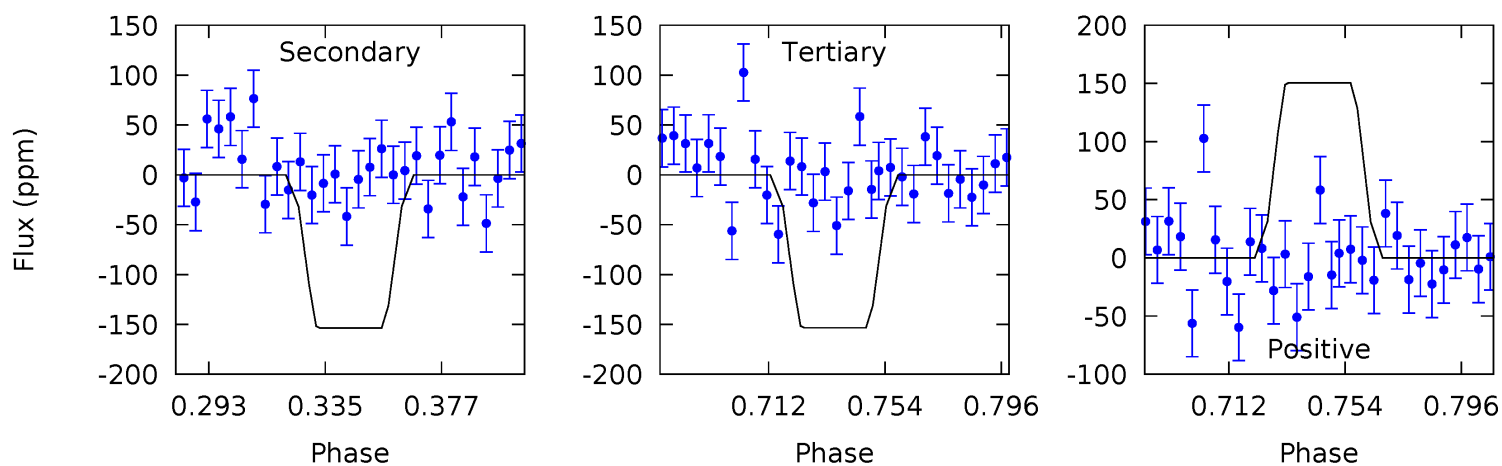
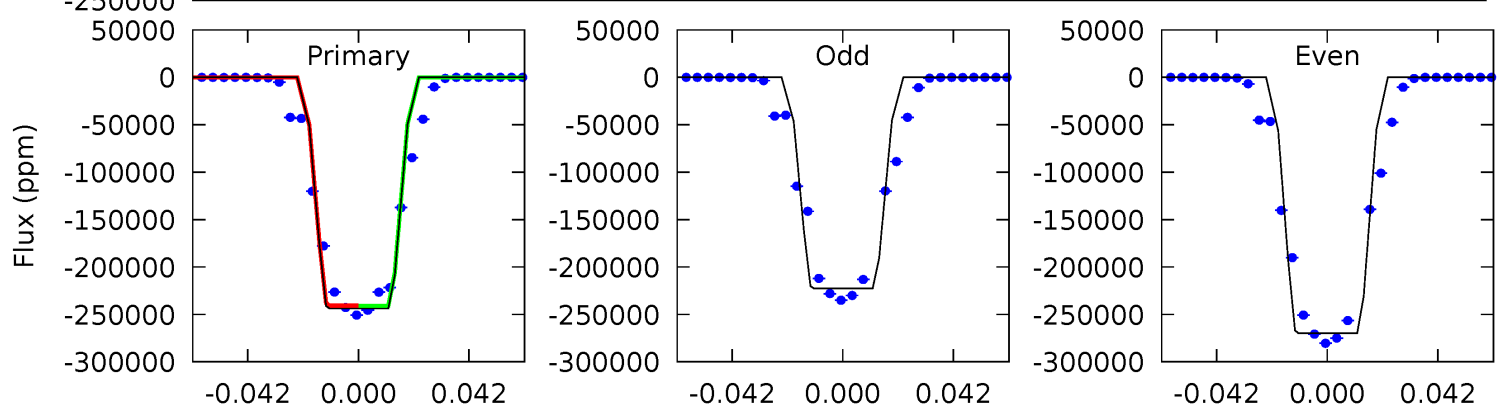
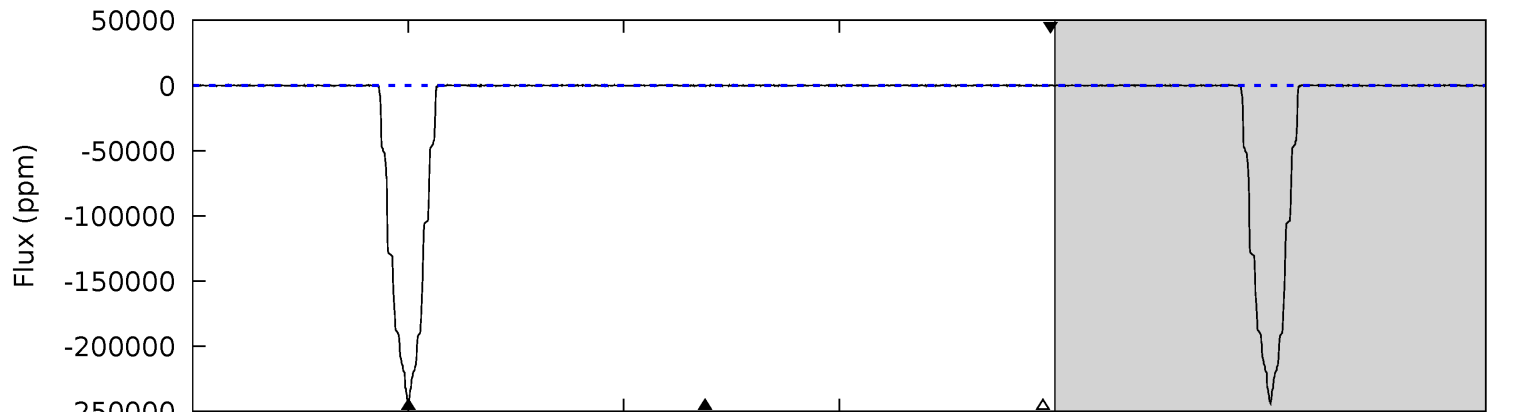
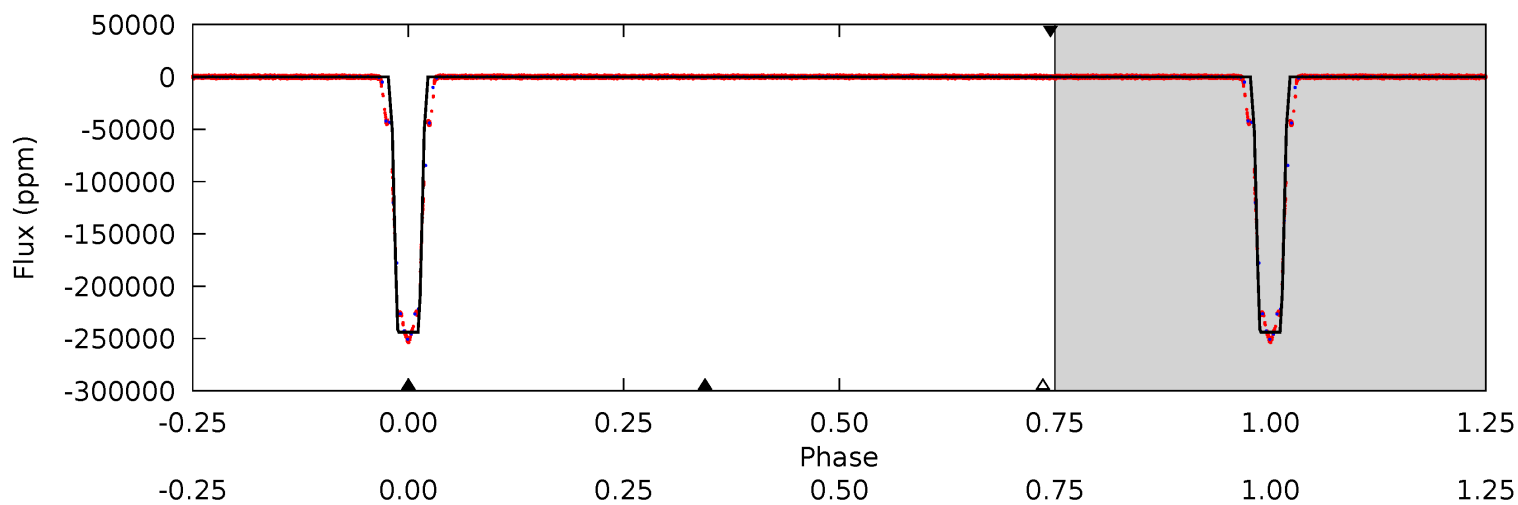
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00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



Alt Model-Shift Uniqueness Test

007129465-01, P = 2.745922 Days, E = 130.423157 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 5929 | 3.74 | 3.73 | 3.66 | 4.74 | 2.03 | 1.17 | 5926 | 5926 | 0.01 | 0.07 | 725.2 | 0.99 | 0.00 | 0 |



Stellar Parameters For KIC 007129465

| | $T_{\text{eff}} (K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (g \cdot cm^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------------------------|
| | 5372^{+177}_{-160} | $4.396^{+0.140}_{-0.210}$ | $0.020^{+0.300}_{-0.250}$ | $0.960^{+0.273}_{-0.168}$ | $0.836^{+0.108}_{-0.063}$ | $1.332^{+0.878}_{-0.675}$ |
| | +3%/-3% | +3%/-5% | +1500%/-1250% | +28%/-18% | +13%/-8% | +66%/-51% |
| 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 007129465-01 / KOI 6155.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|---------------------------|----------------------|------------------------|-----------------------------|
| DV | 0 ± 1000000 | $53.38^{+12.94}_{-12.37}$ | 1726^{+120}_{-112} | 2163^{+2462}_{-6573} | $0.410^{+31.328}_{-23.694}$ |
| Alt. | -154 ± 41 | $56.40^{+13.23}_{-13.43}$ | 1722^{+141}_{-99} | -2278^{+71}_{-101} | $0.035^{+0.027}_{-0.014}$ |

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 $A_{obs} \gg 1.0$

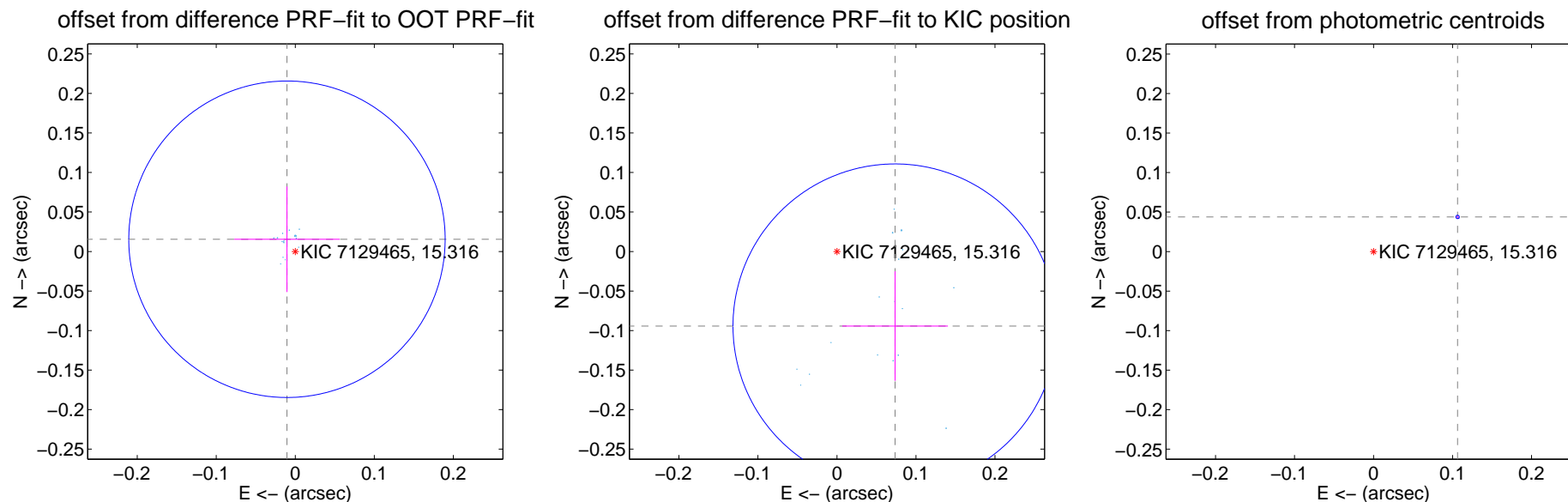
DV Centroid Data

Supplemental centroid analysis for 007129465-01. Kepler magnitude: 15.32. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

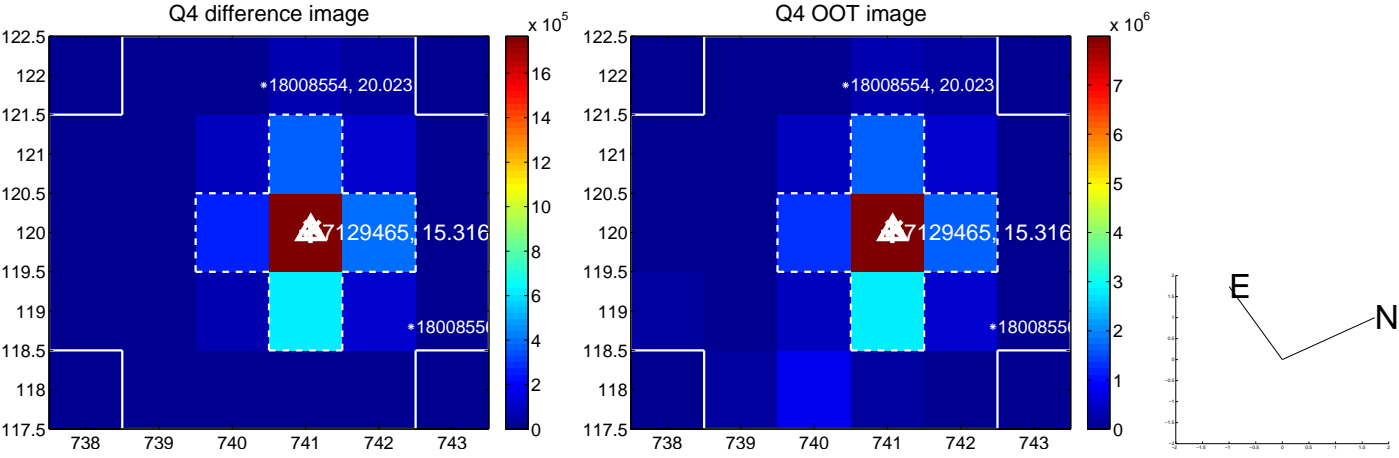
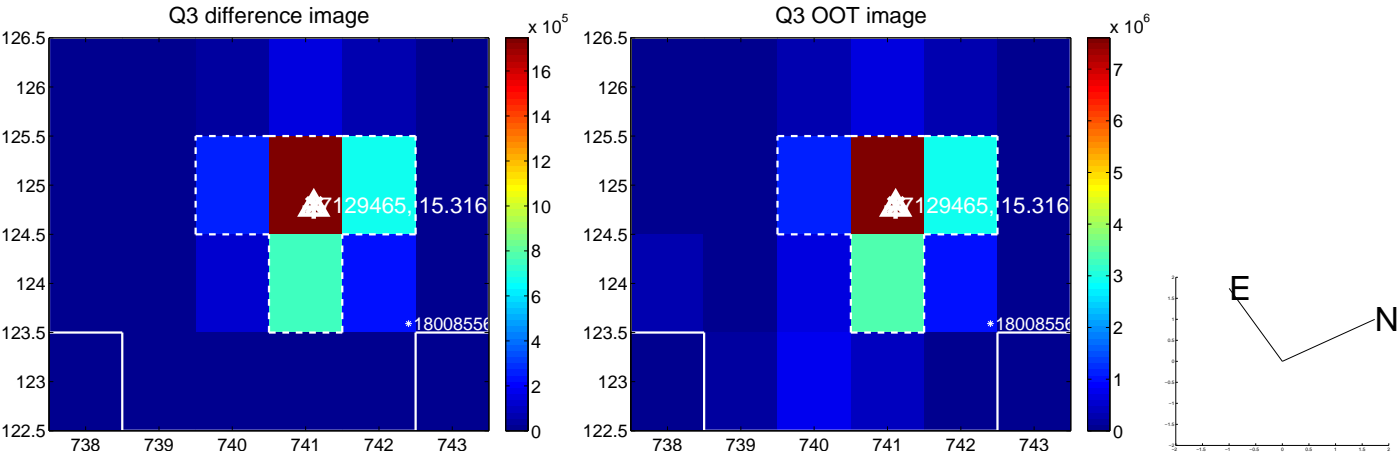
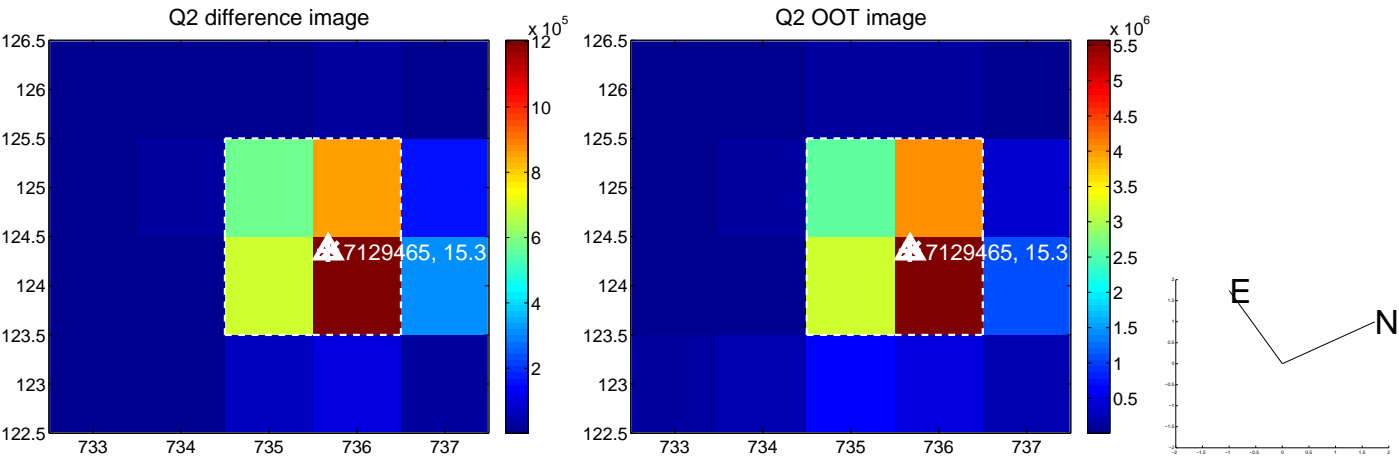
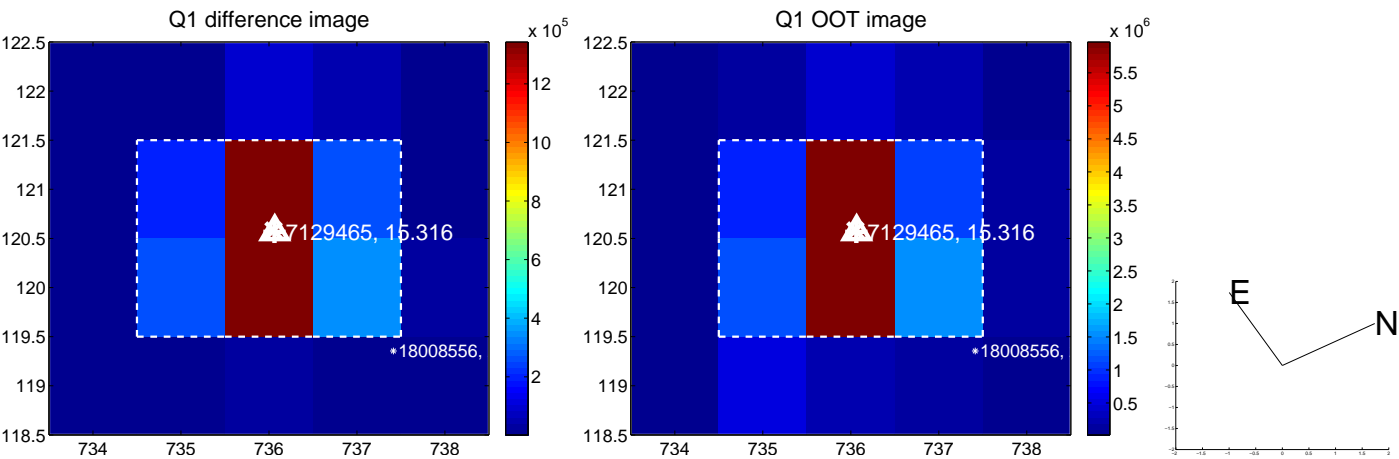
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.019 ± 0.067 | 0.28 | 0.011 ± 0.067 | 0.016 ± 0.067 |
| PRF-fit source offset from KIC position | 0.120 ± 0.068 | 1.75 | -0.074 ± 0.067 | -0.094 ± 0.069 |
| photometric centroid source offset | 0.12 ± 0.00 | 160.67 | -0.11 ± 0.00 | 0.04 ± 0.00 |

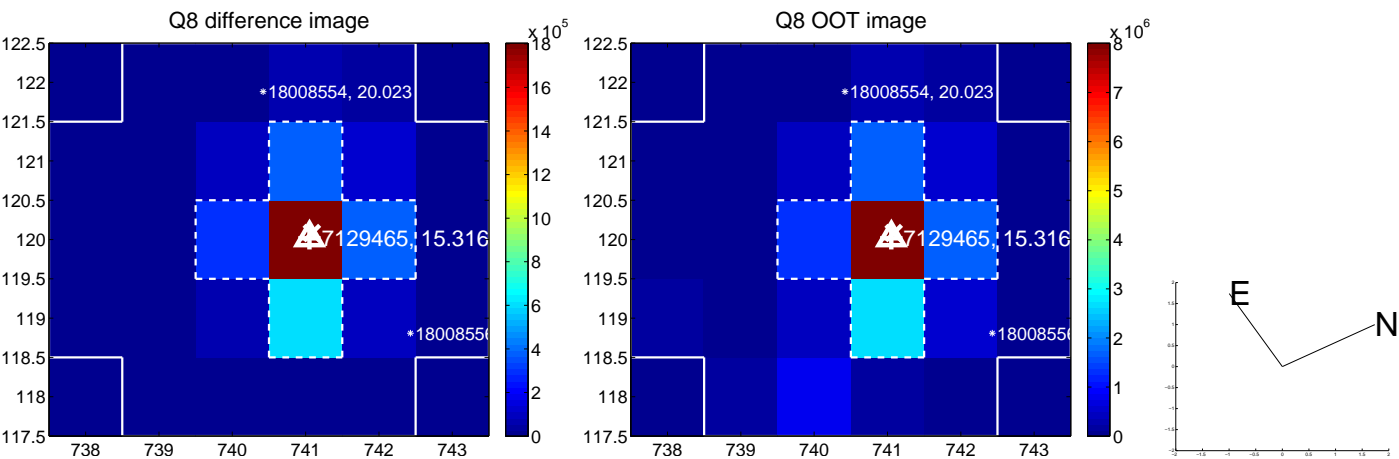
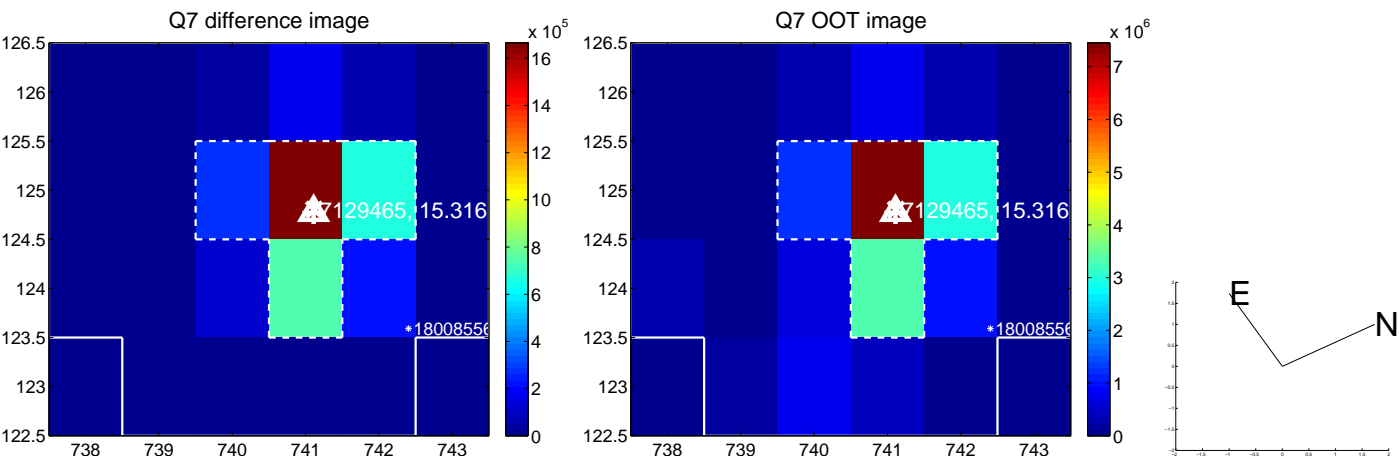
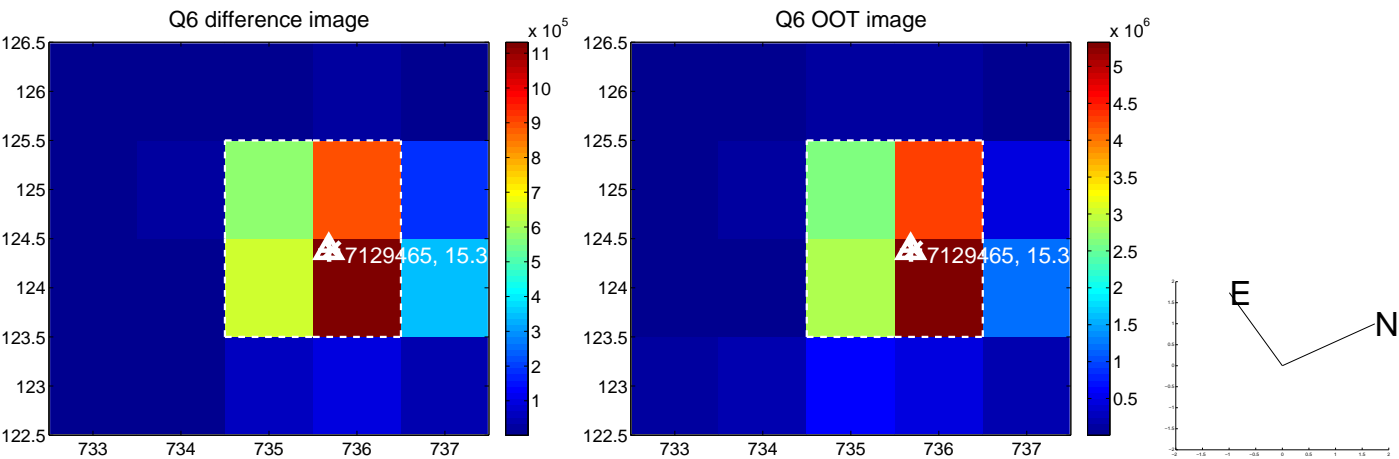
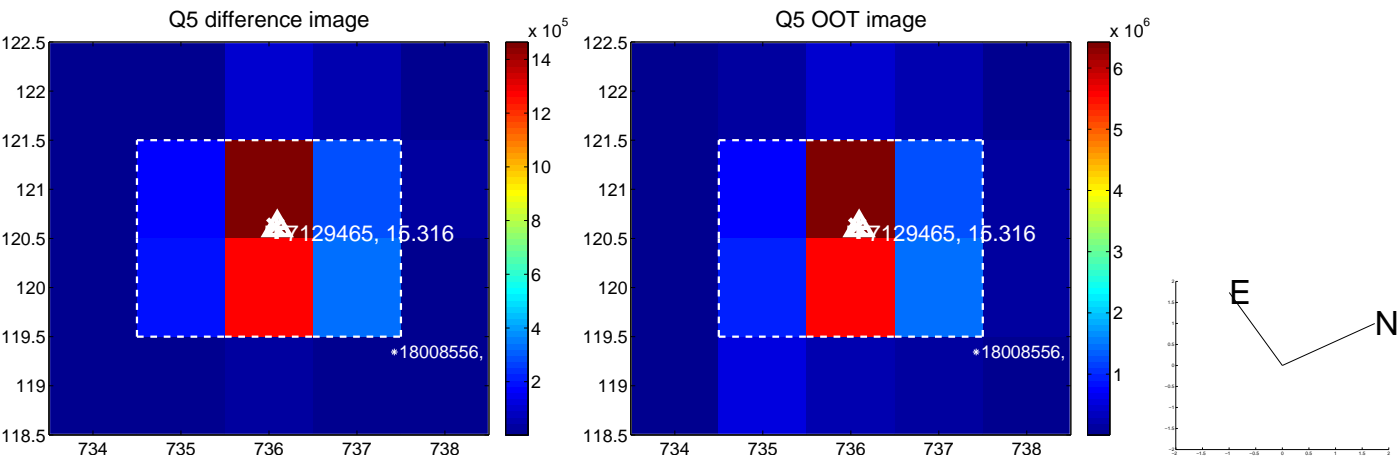


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

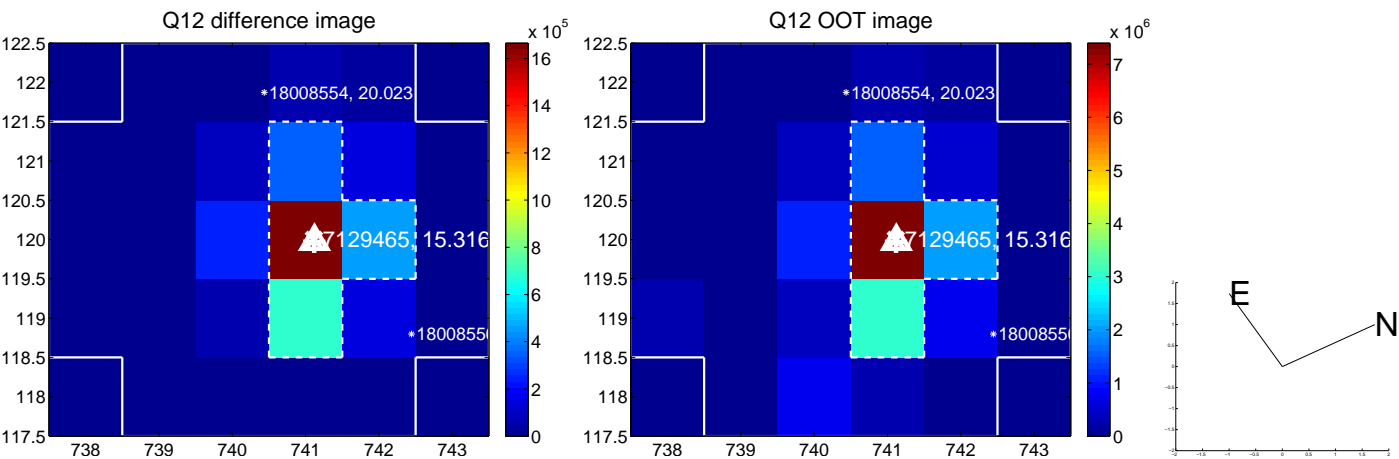
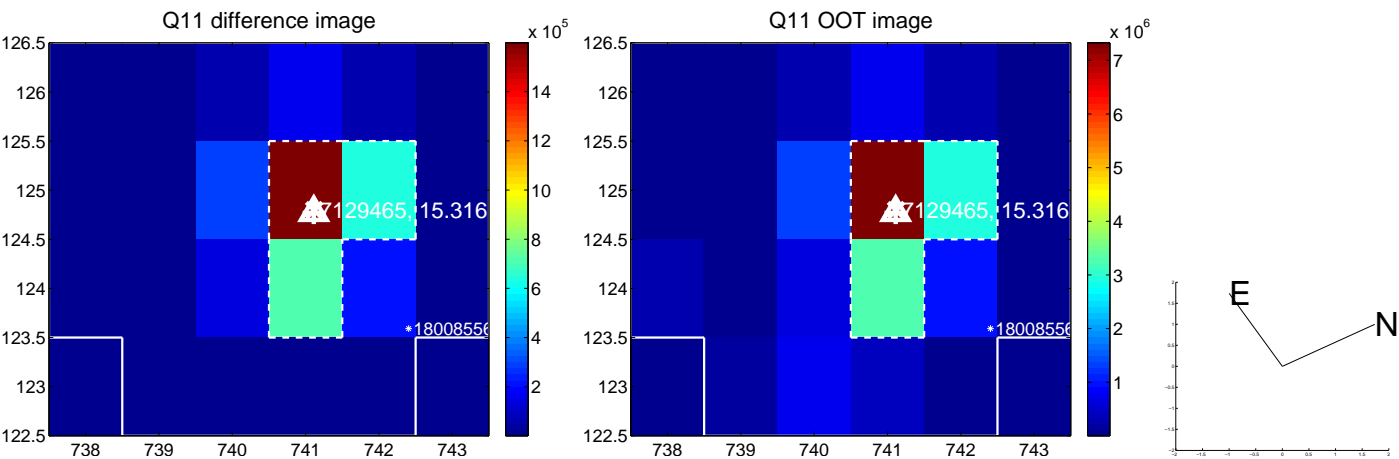
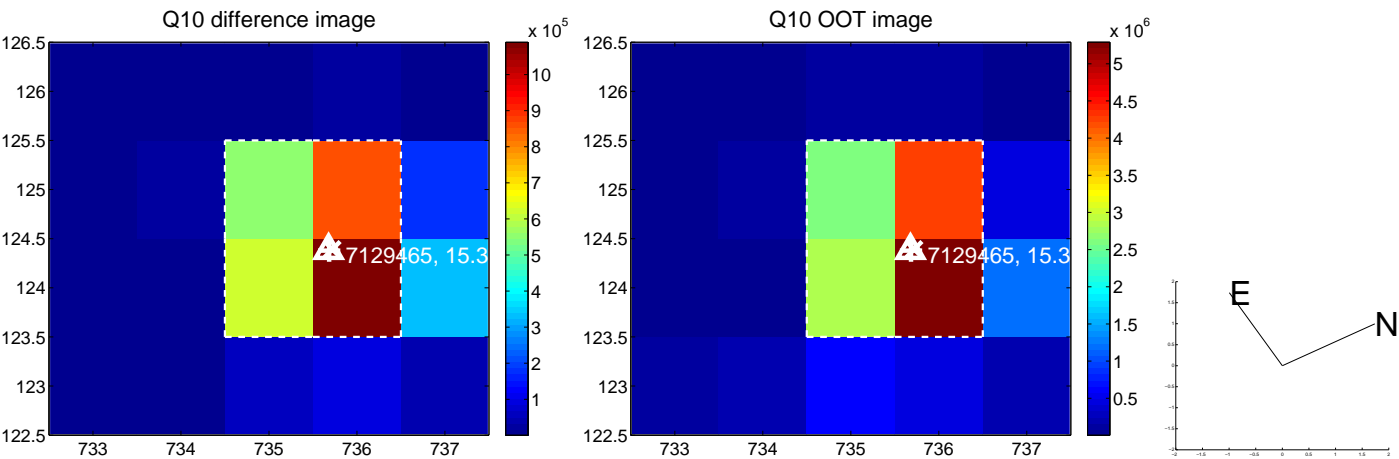
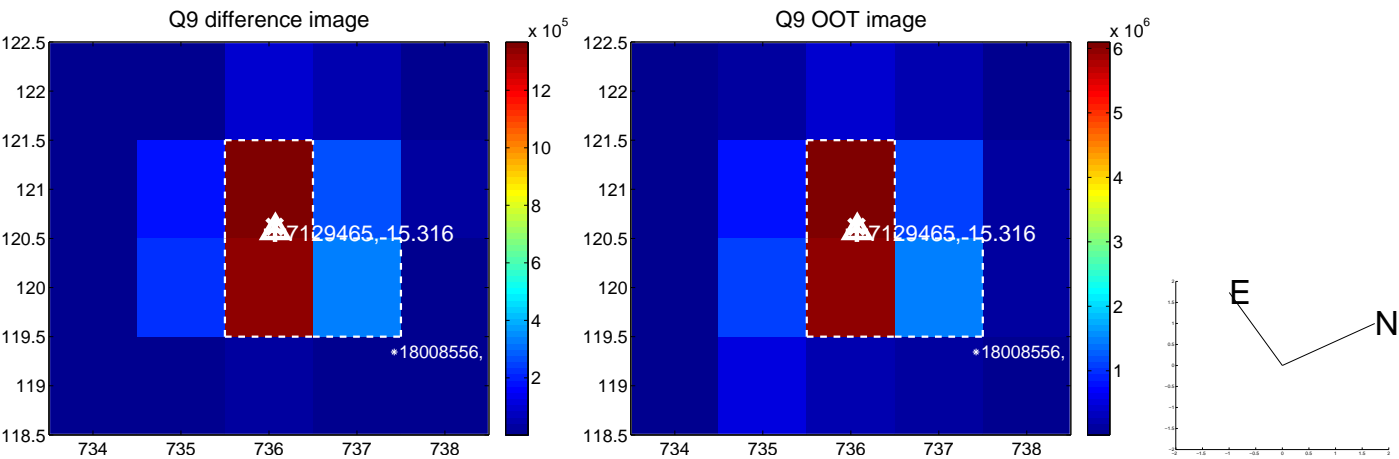
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



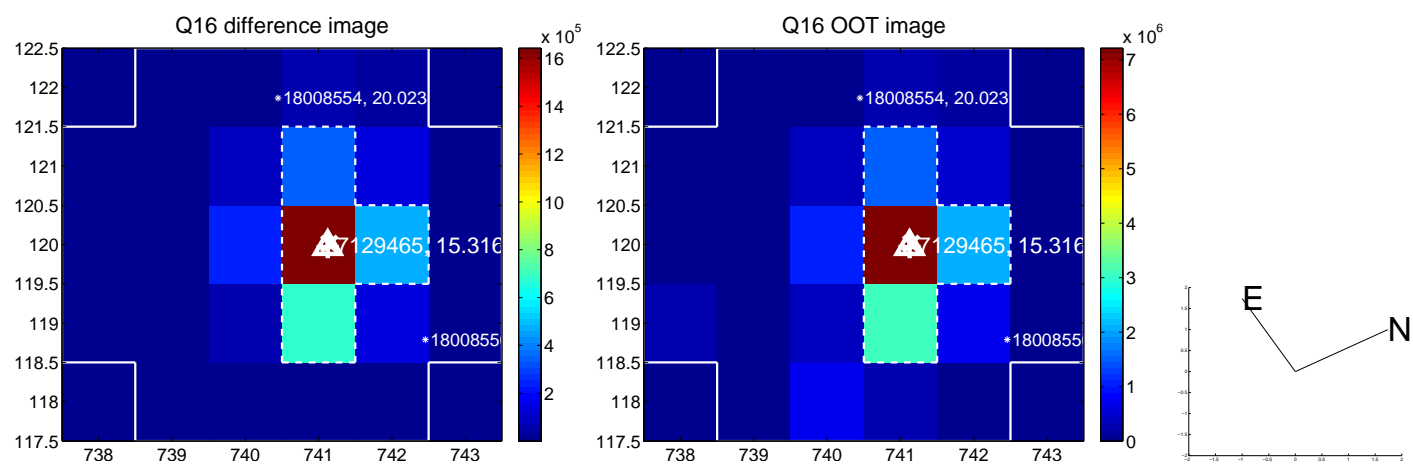
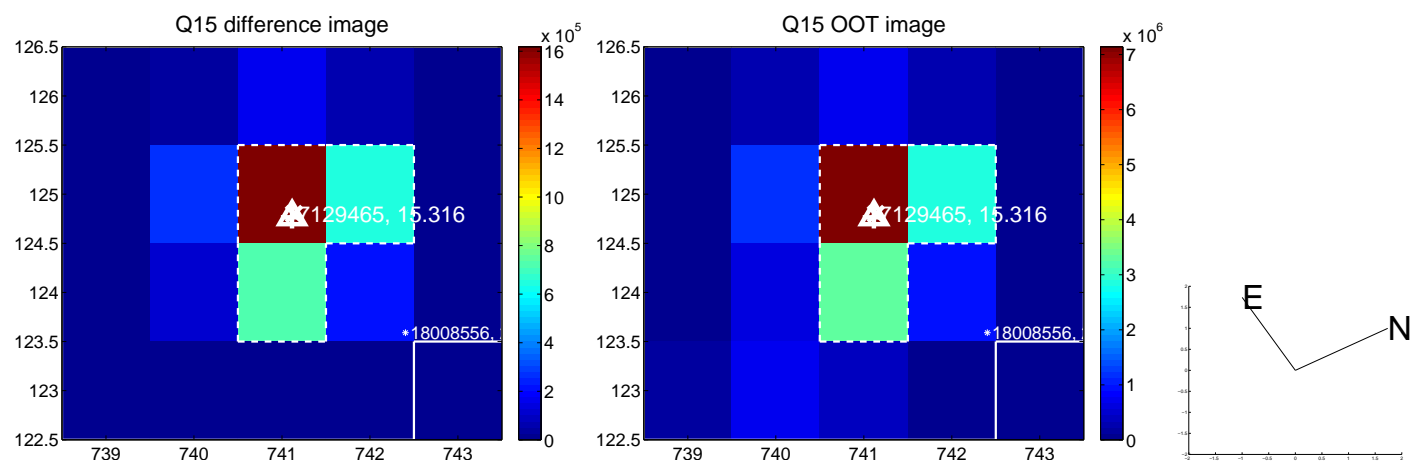
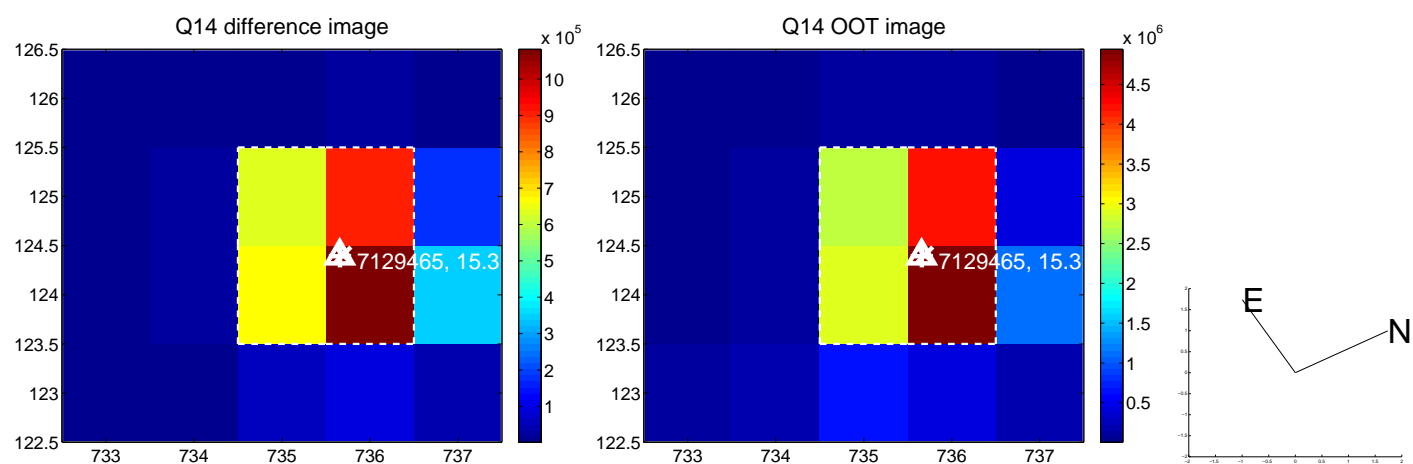
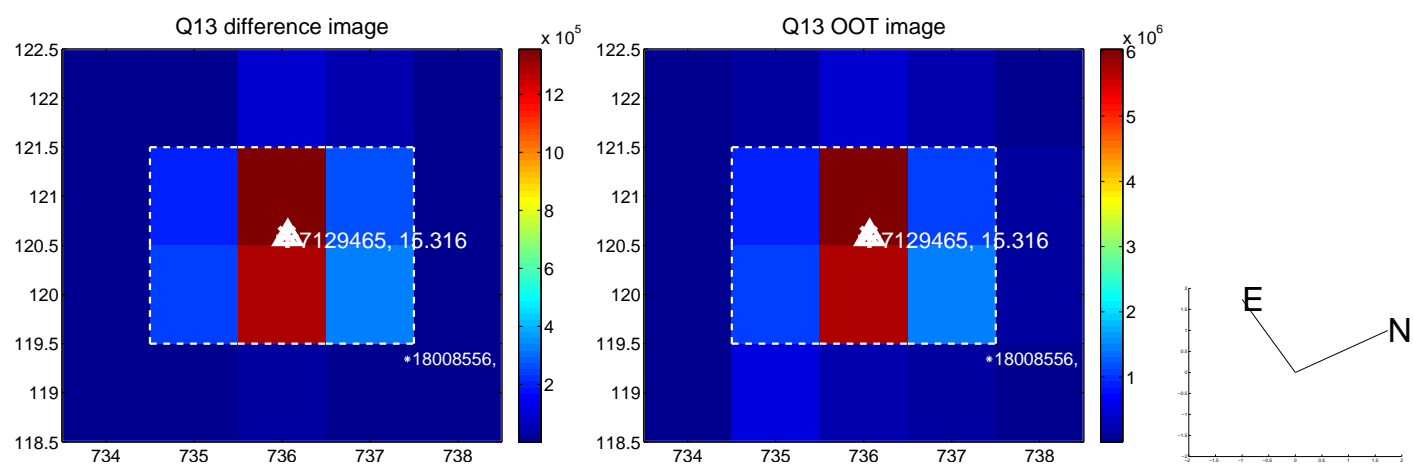
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



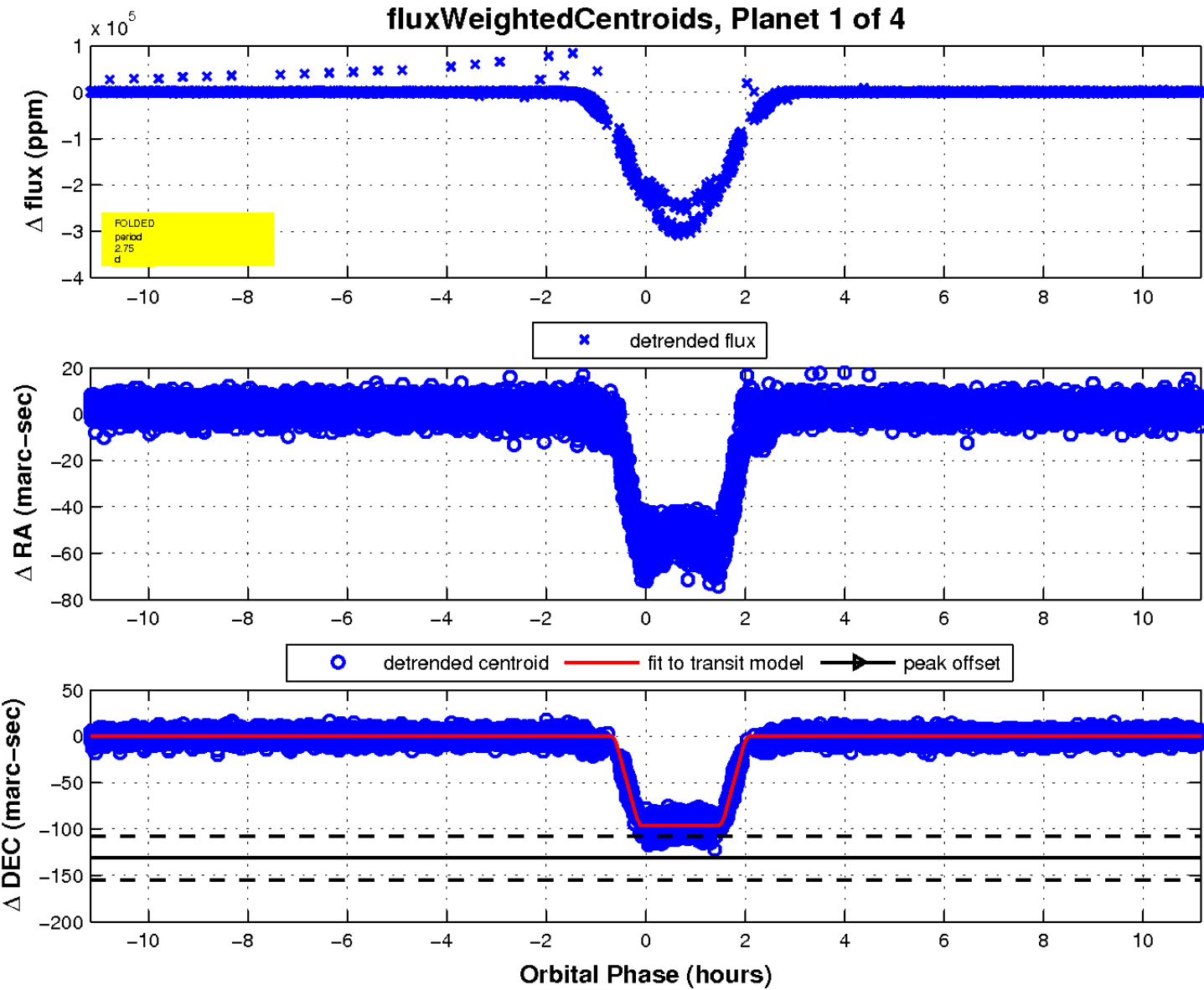
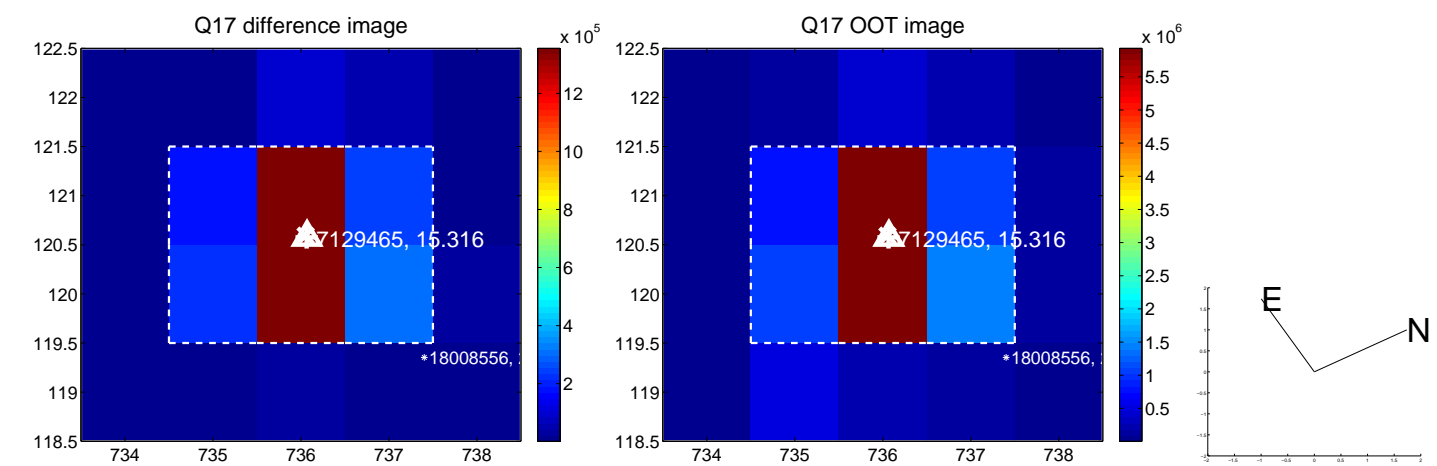
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

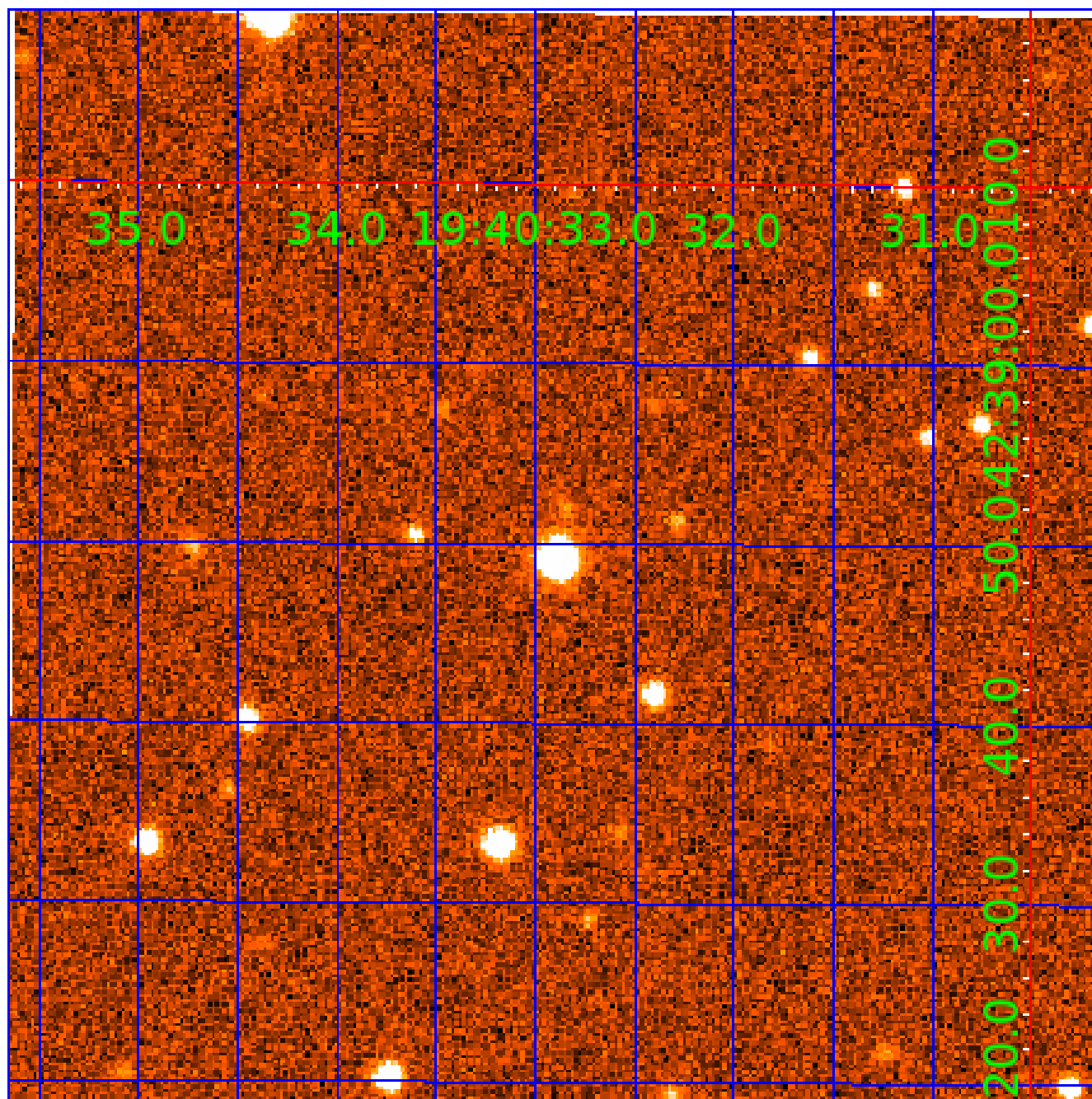


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007129465

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|---------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007129465-01 | OBS | 6155.01 | 2.745922 | 133.167244 | 266427.8 | 2.500 | 16794.7 | -1.0 | 0.96 | 5372 | 52.02 | 525.66 |
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| 007129465-04 | OBS | No | 5.491913 | 133.697385 | 3732.6 | 3.500 | 79.2 | -1.0 | 0.96 | 5372 | 5.75 | 208.60 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007129465-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS |
| 007129465-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 007129465-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—CENT_NOFITS |
| 007129465-04 | OBS | FP | 0.00 | 1 | 1 | 0 | 0 | IS_SEC_TCE—CENT_NOFITS |

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

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

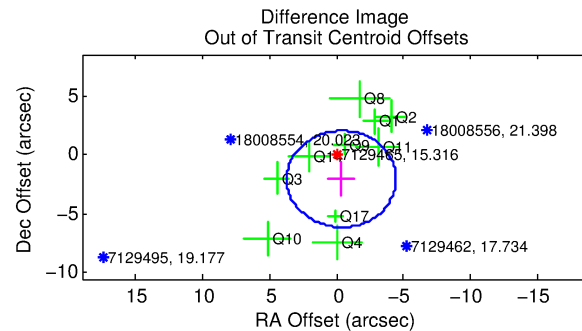
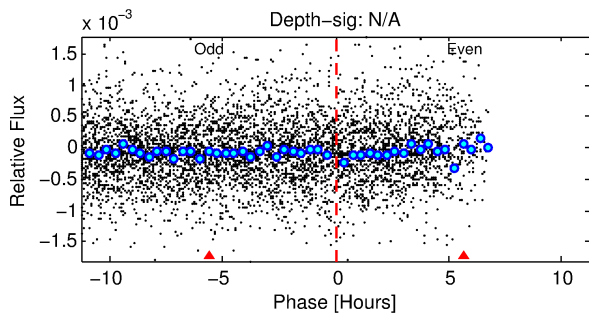
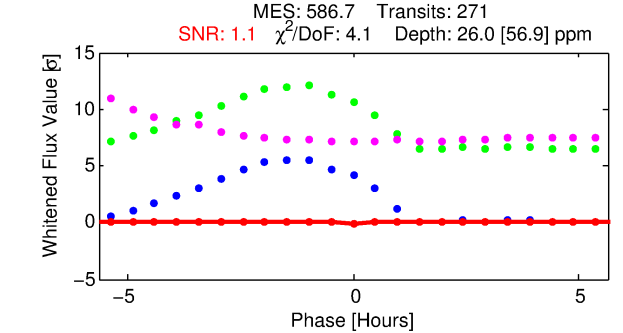
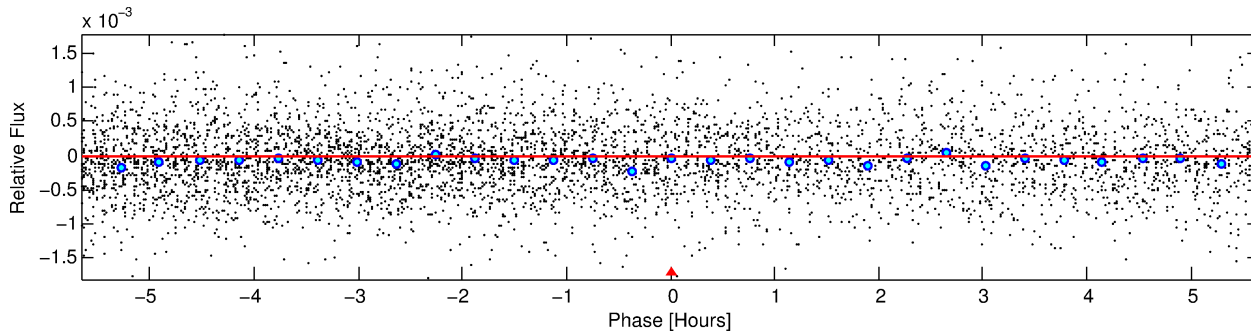
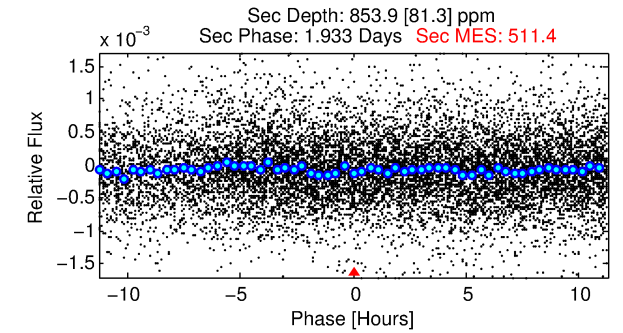
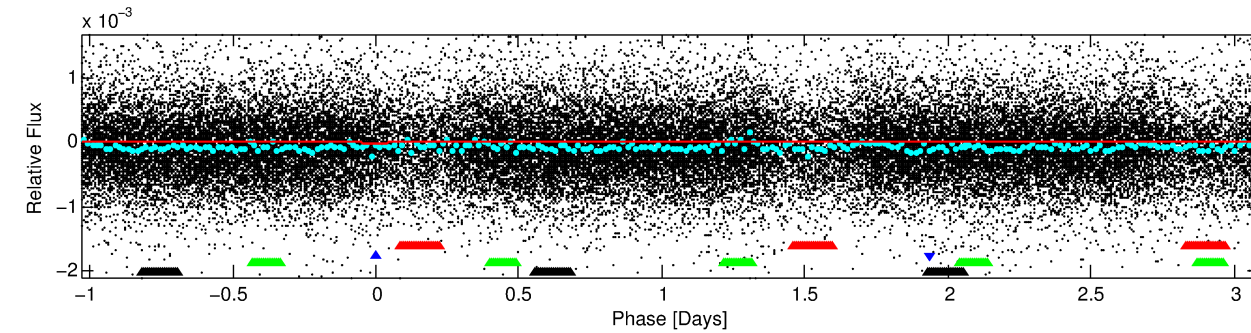
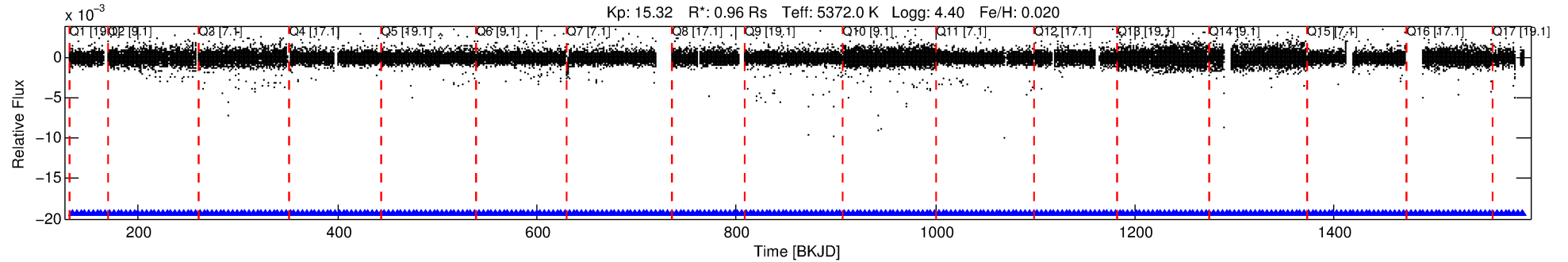
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007129465-02

No Significant Match Found

DV One-Page Summary

KIC: 7129465 Candidate: 2 of 4 Period: 4.119 d
KOI: K06155 Corr: No Ephemeris Match



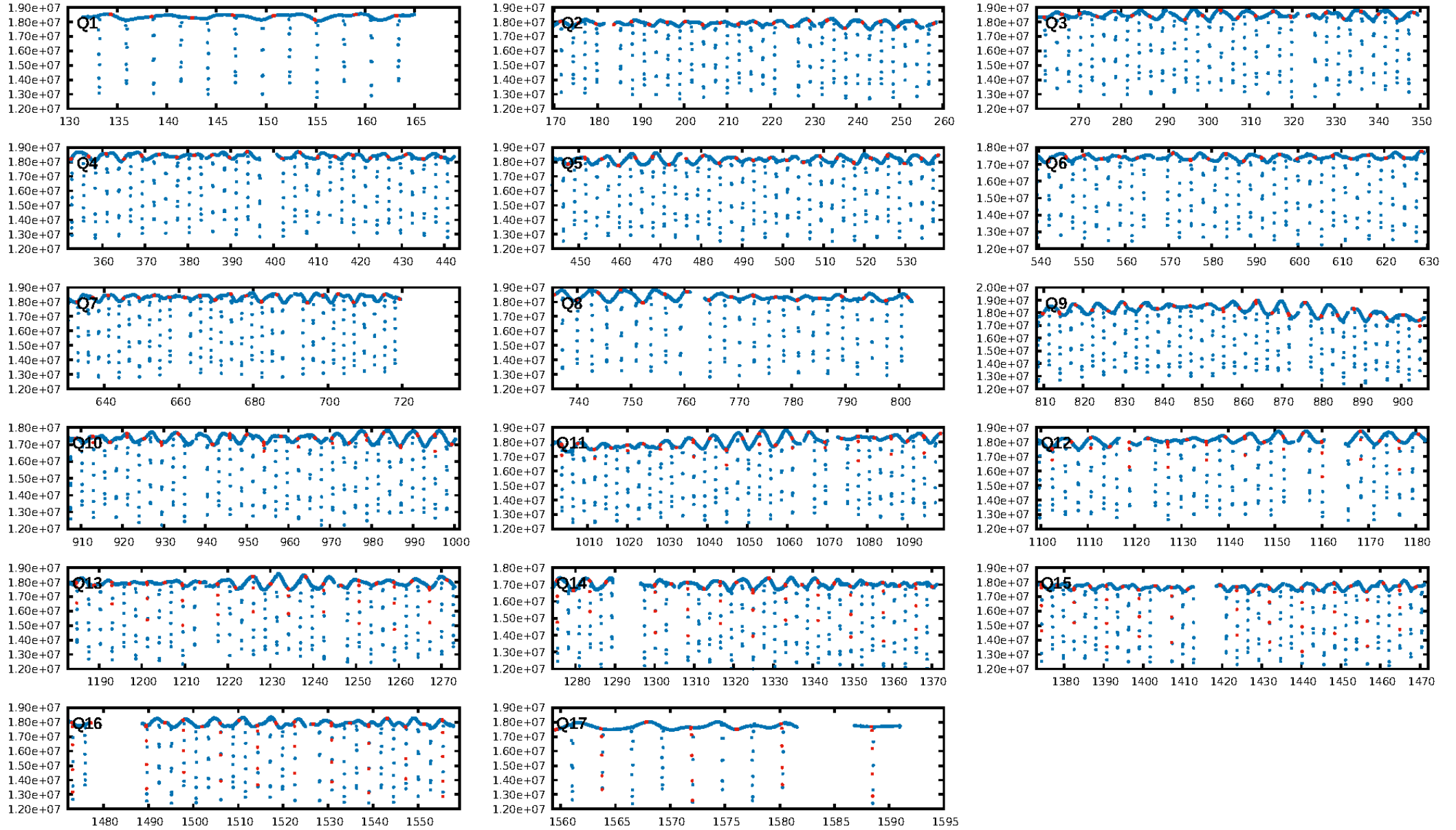
DV Fit Results:

Period = 4.11928 [0.00050] d
Epoch = 134.3181 [0.0707] BKJD
Rp/R* = 0.0056 [0.0537]
a/R* = 7.70 [314.24]
b = 0.90 [9.46]
Seff = 306.10 [121.37]
Teff = 1067 [106] K
Rp = 0.59 [5.63] Re
a = 0.0474 [0.0118] AU
Ag = 3064.62 [58795.03] [0.05] σ
Teffp = 12269 [58838] K [0.19] σ

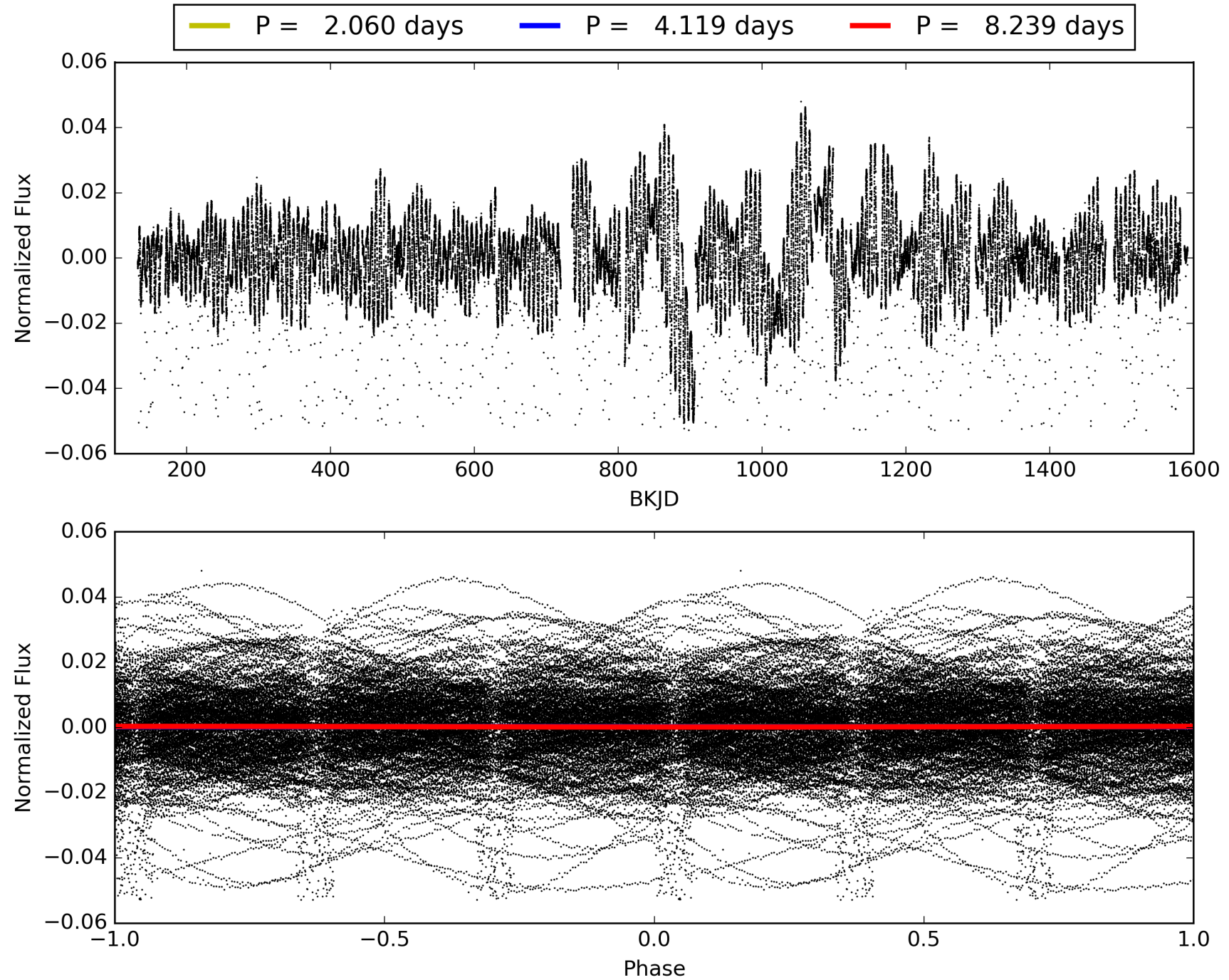
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [10.52] σ
LongPeriod-sig: 100.0% [8.29] σ
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [260/260]
GhostDiagnostic-chr: 107.3
Centroid-sig: N/A
Centroid-so: 8.890 arcsec [1.09] σ
OotOffset-rm: 2.083 arcsec [1.53] σ
KicOffset-rm: 2.178 arcsec [1.62] σ
OotOffset-st: 3/2/2/3 [10]
KicOffset-st: 3/2/2/3 [10]
DiffImageQuality-fgm: 0.20 [2/10]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007129465-02, PDC Light Curves

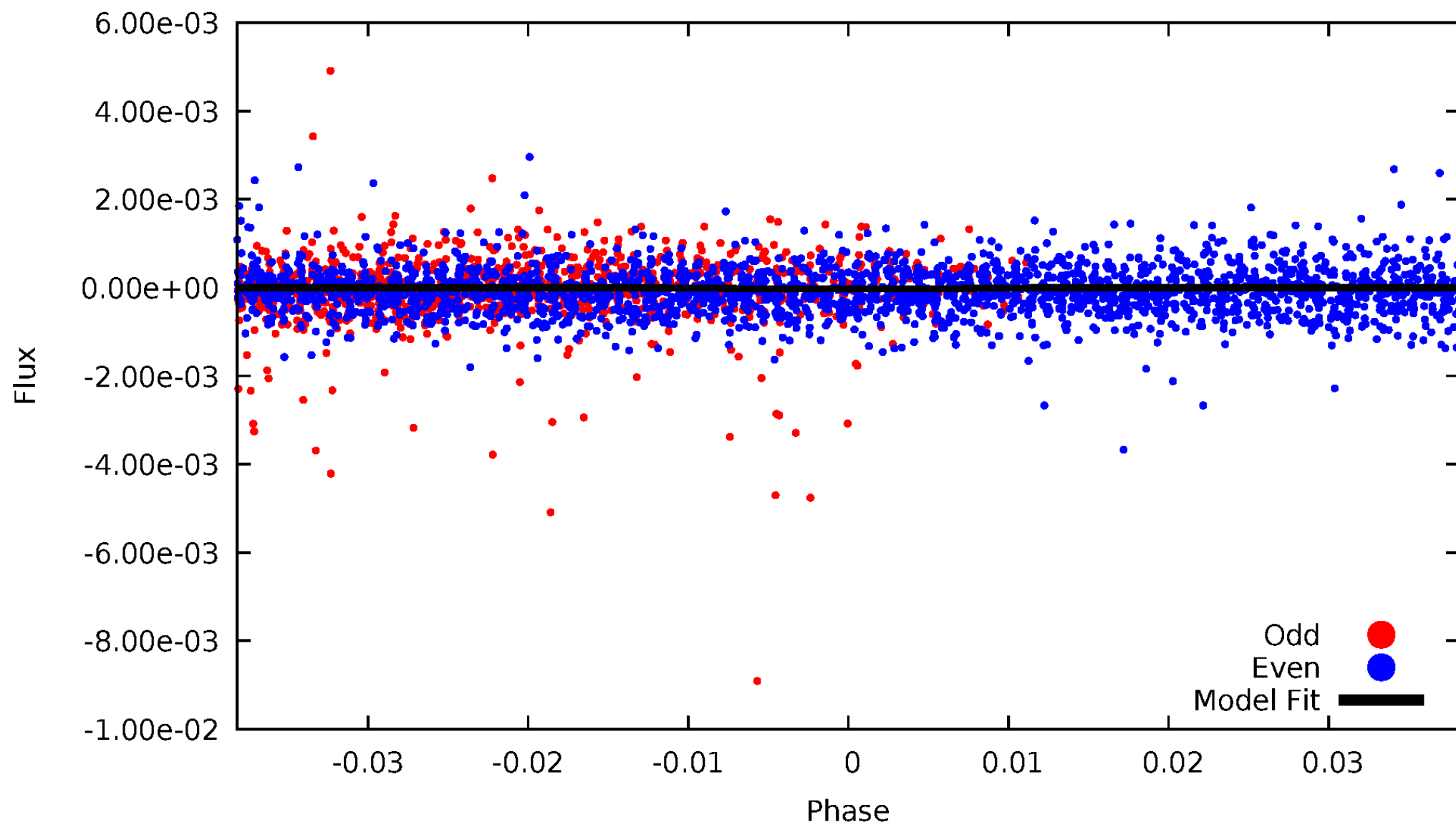


TCE 007129465-02



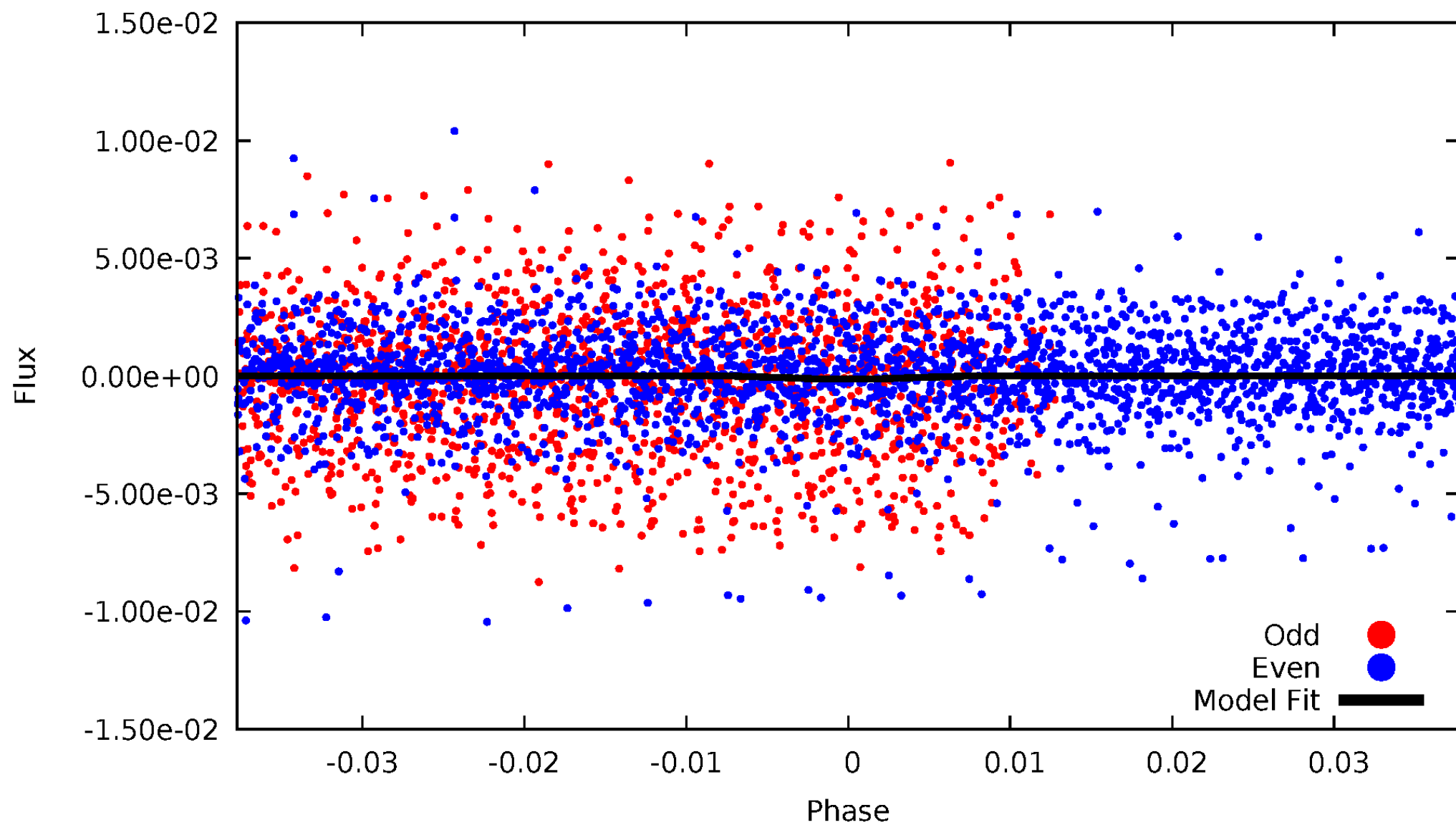
DV Odd/Even

TCE 007129465-02



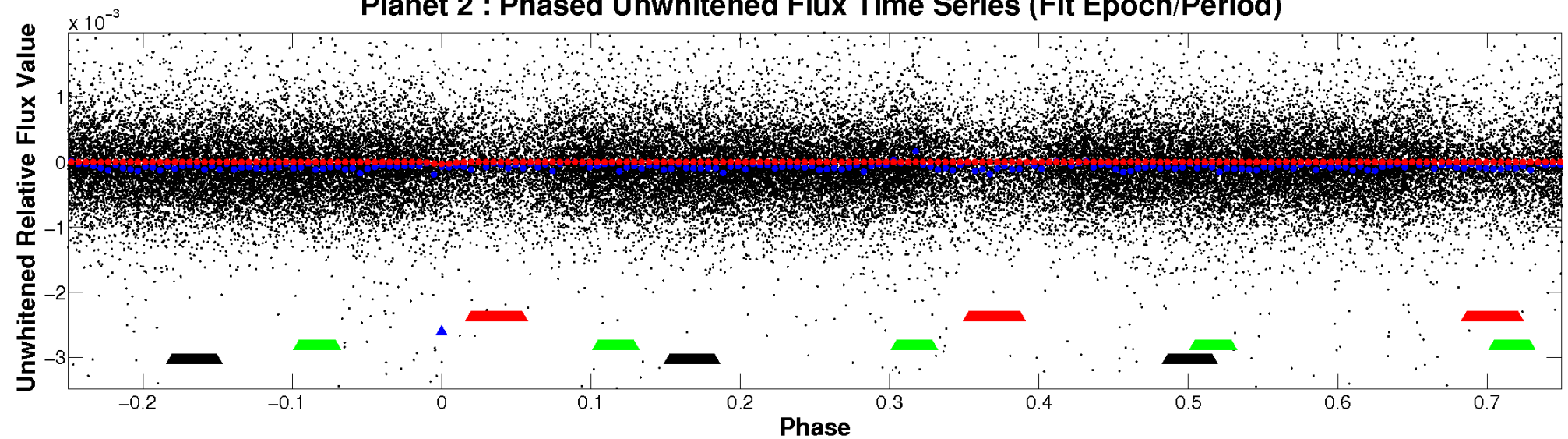
ALT Odd/Even

TCE 007129465-02

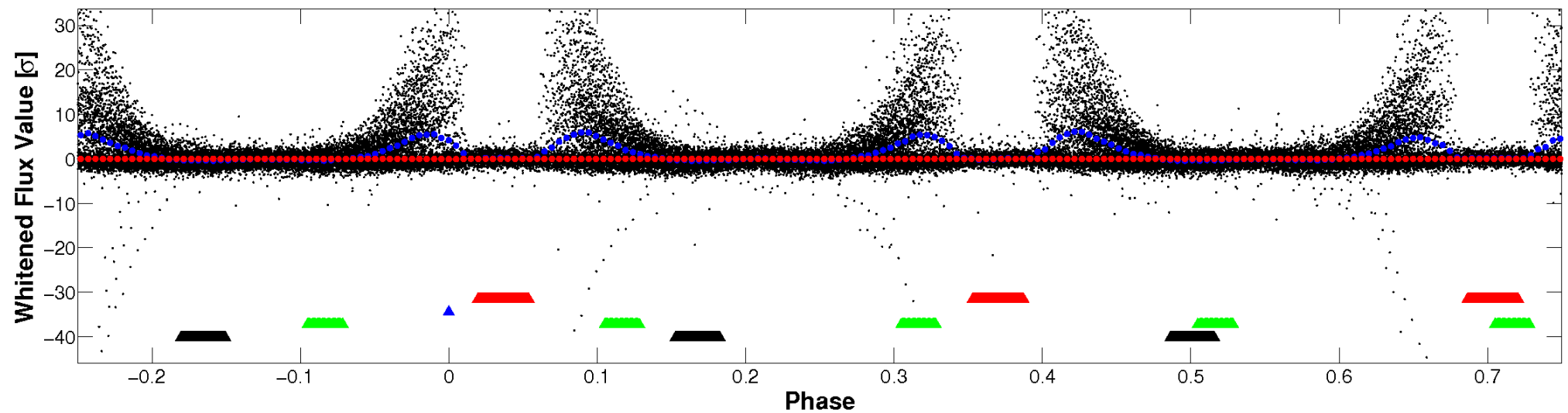


Non-Whitened Vs. Whitened Light Curve

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

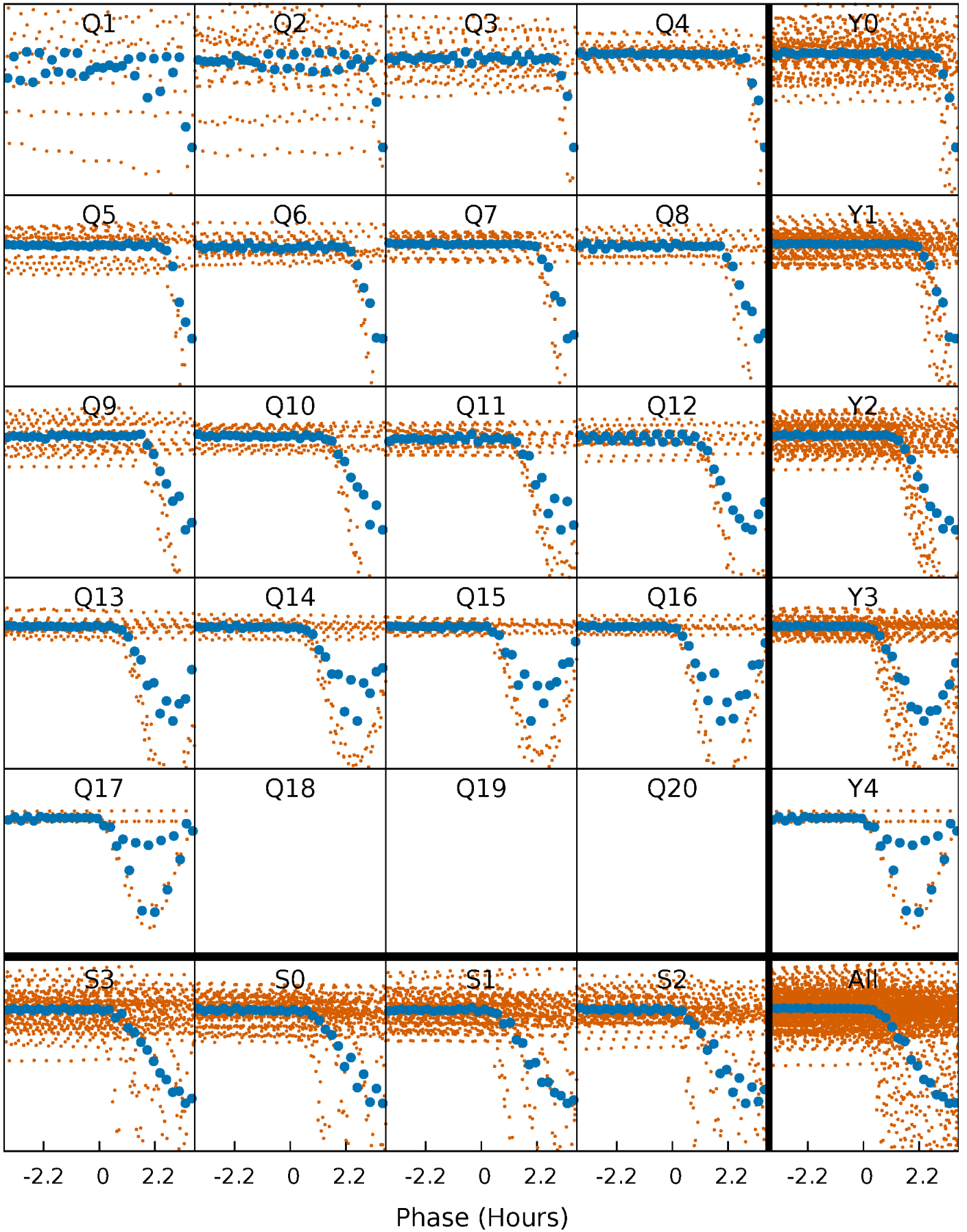


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



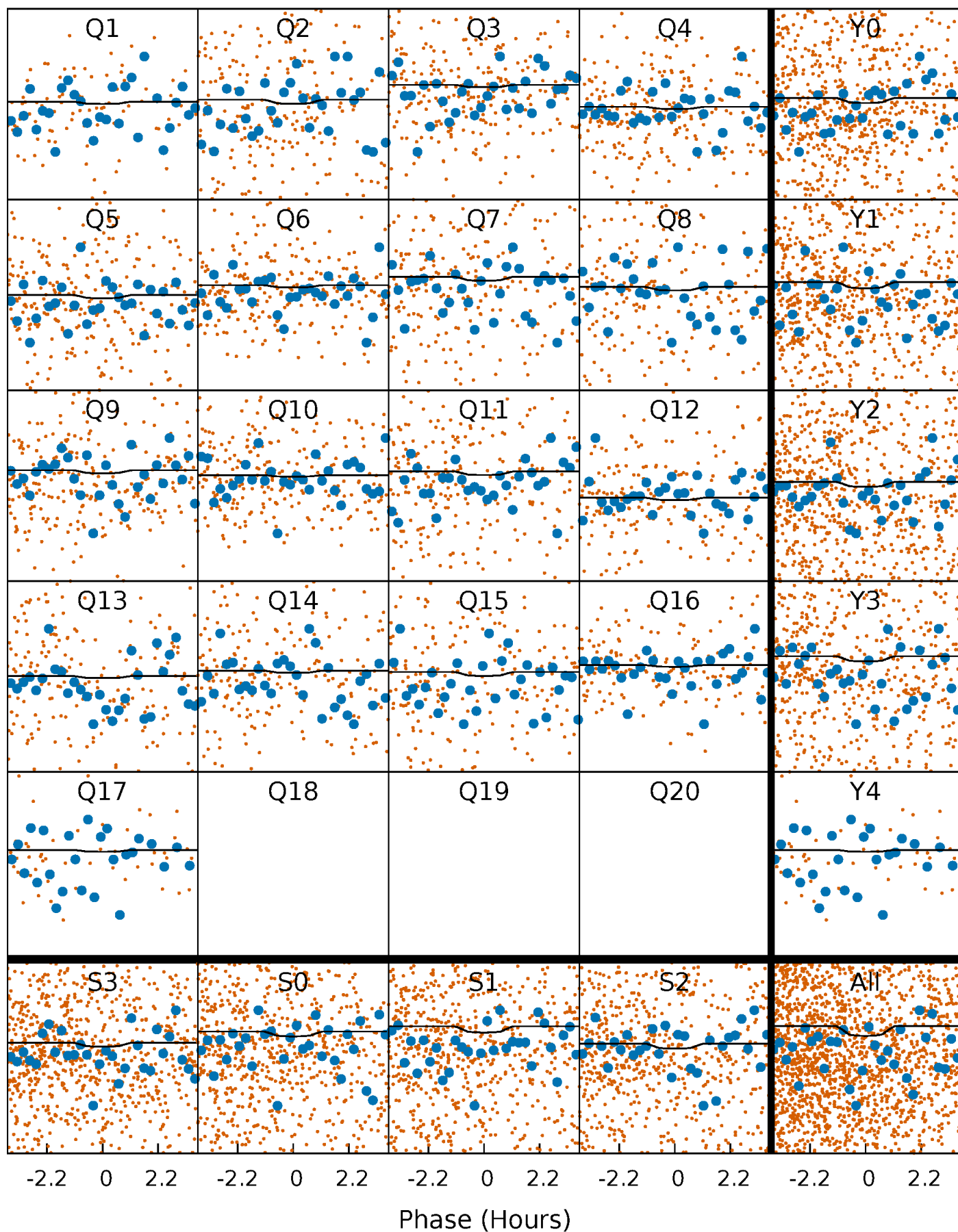
PDC Quarter-Phased Transit Curves

TCE 007129465-02 P= 4.119283 Days $T_0=134.318058$ (BKJD)



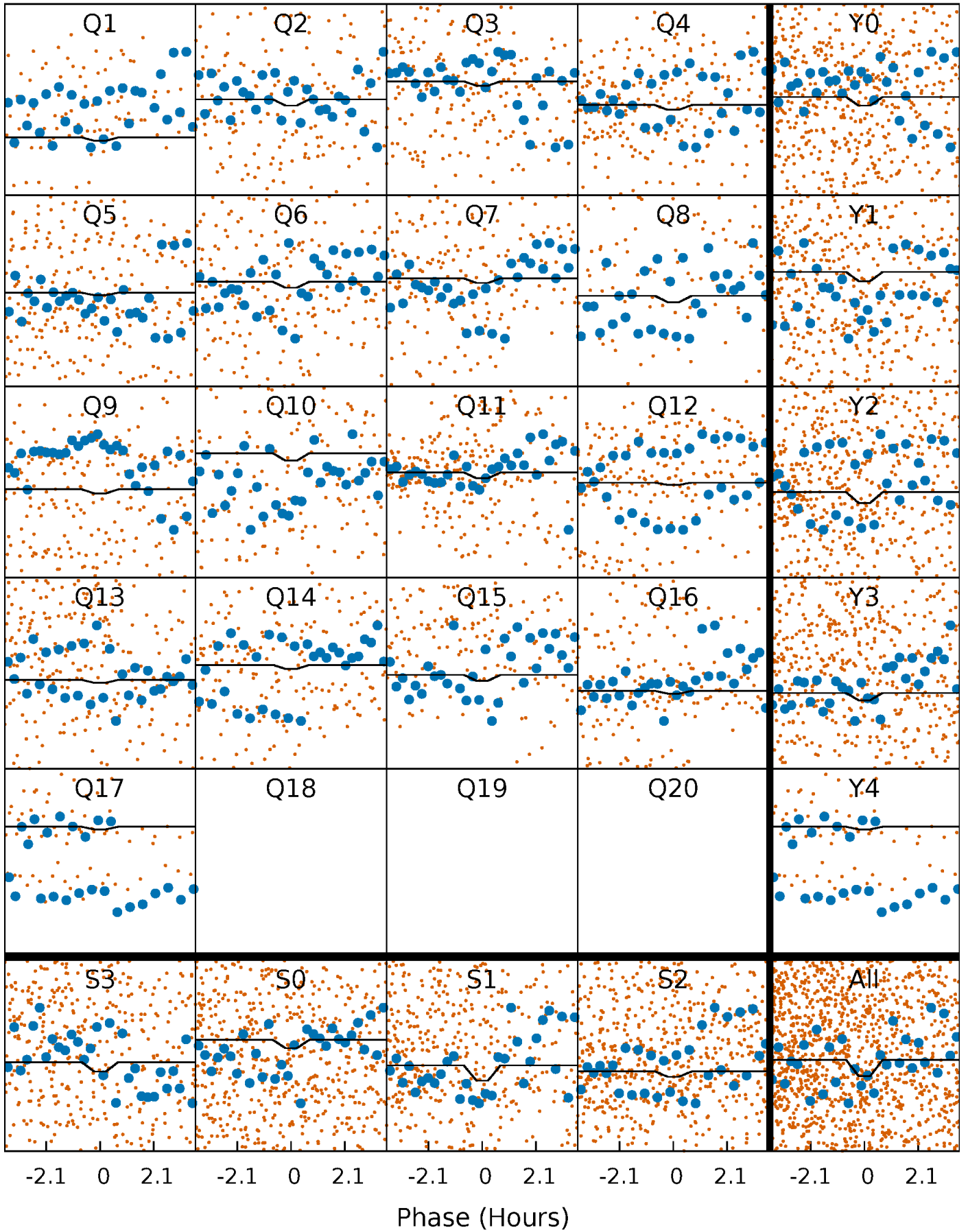
DV Quarter-Phased Transit Curves

TCE 007129465-02 P= 4.119283 Days $T_0=134.318058$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

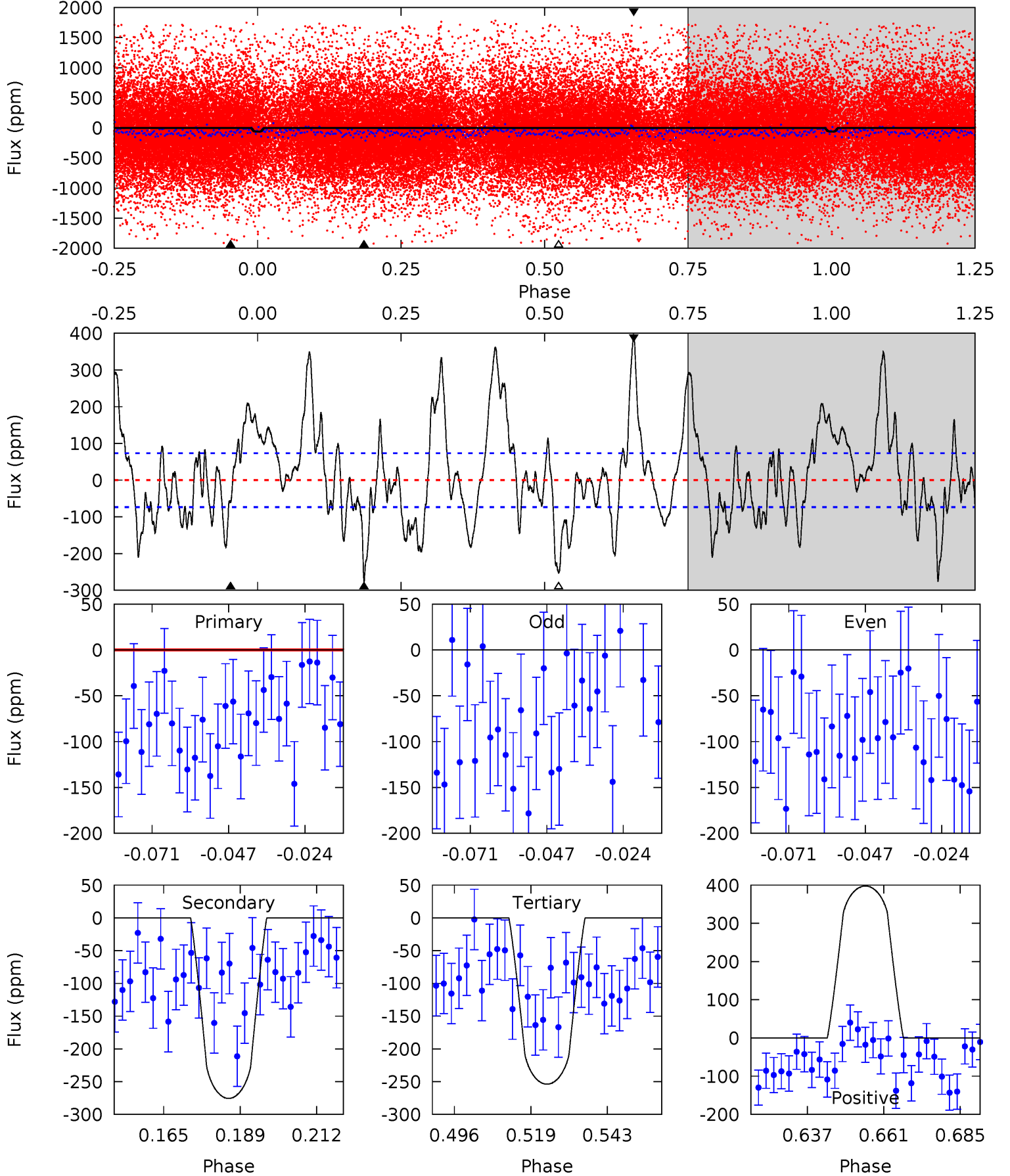
TCE 007129465-02 P= 4.118969 Days $T_0=134.317749$ (BKJD)



DV Model-Shift Uniqueness Test

007129465-02, P = 4.119283 Days, E = 130.198775 Days

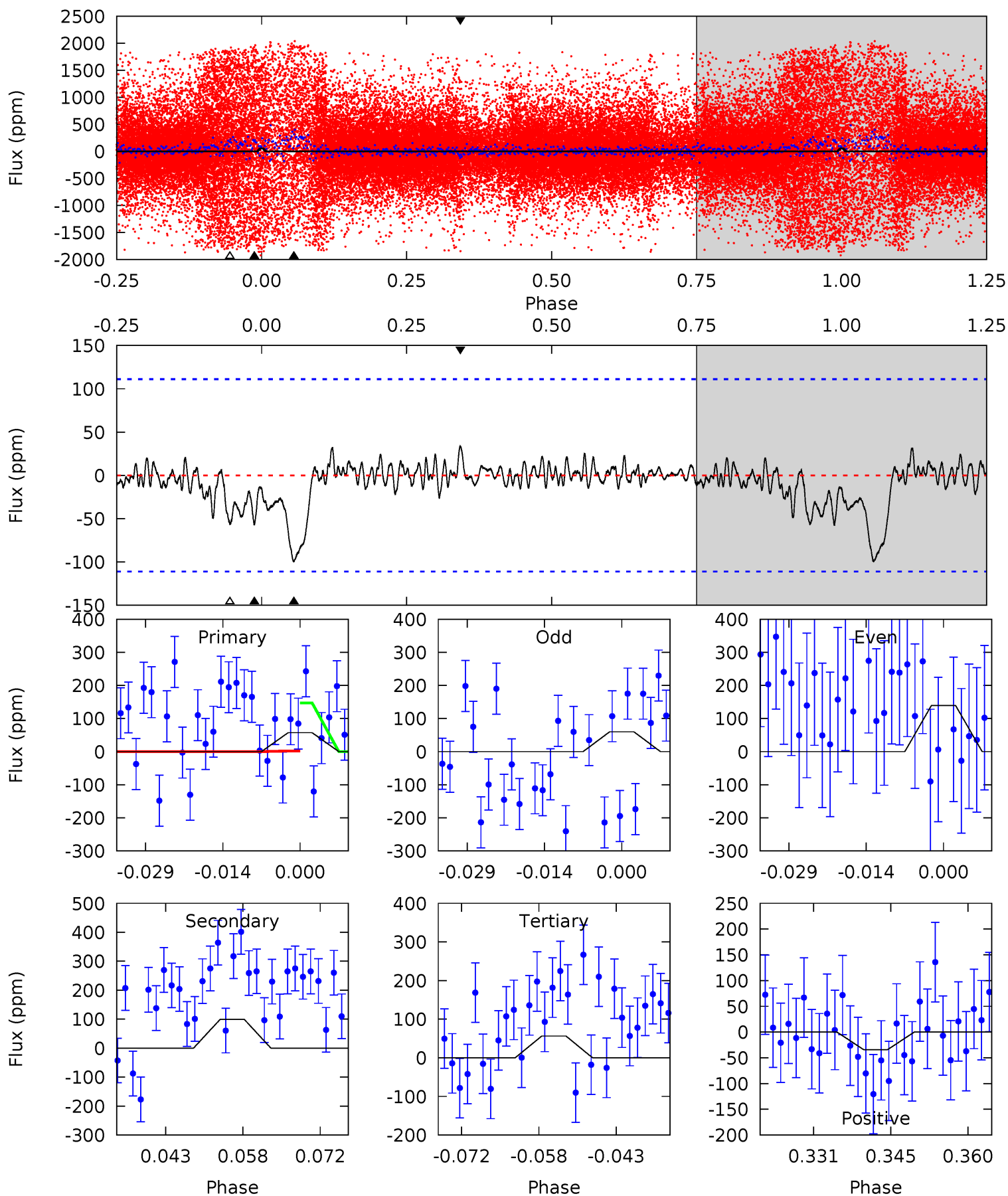
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 4.13 | 18.3 | 16.8 | 26.3 | 4.86 | 2.26 | 8.60 | -12.7 | -22.2 | 1.44 | -8.09 | 0.80 | 1.82 | 0.59 | 0.37 |



Alt Model-Shift Uniqueness Test

007129465-02, P = 4.118969 Days, E = 130.198780 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 2.55 | 4.44 | 2.52 | 1.52 | 4.96 | 2.45 | 0.65 | 0.03 | 1.03 | 1.92 | 2.92 | 1.74 | 3.75 | 0.26 | 0 |



Stellar Parameters For KIC 007129465

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5372^{+177}_{-160} | $4.396^{+0.140}_{-0.210}$ | $0.020^{+0.300}_{-0.250}$ | $0.960^{+0.273}_{-0.168}$ | $0.836^{+0.108}_{-0.063}$ | $1.332^{+0.878}_{-0.675}$ |
| | +3%/-3% | +3%/-5% | +1500%/-1250% | +28%/-18% | +13%/-8% | +66%/-51% |
| 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 007129465-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|-----------------------|----------------------------|
| DV | -276 ± 15 | $3.92^{+4.61}_{-2.76}$ | 1504^{+116}_{-90} | 3942^{+2659}_{-900} | 23^{+244}_{-18} |
| Alt. | -99 ± 22 | $4.25^{+4.59}_{-2.81}$ | 1502^{+134}_{-87} | 3210^{+1480}_{-645} | $6.820^{+51.407}_{-5.410}$ |

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

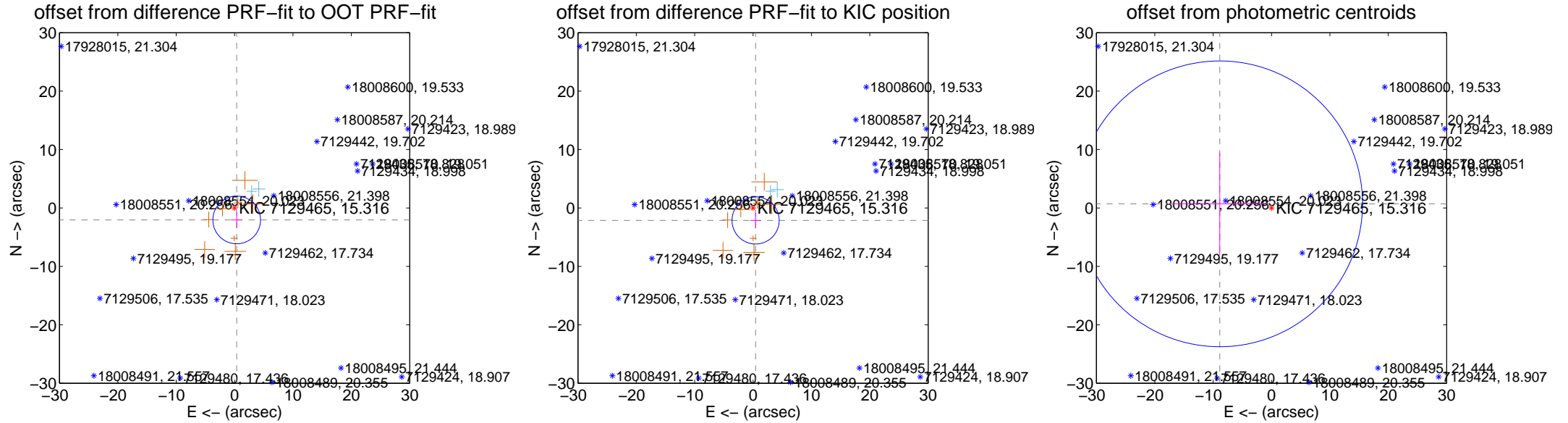
DV Centroid Data

Supplemental centroid analysis for 007129465-02. Kepler magnitude: 15.32. Transit SNR 1.06

There are 2 quarters with good PRF difference image offsets

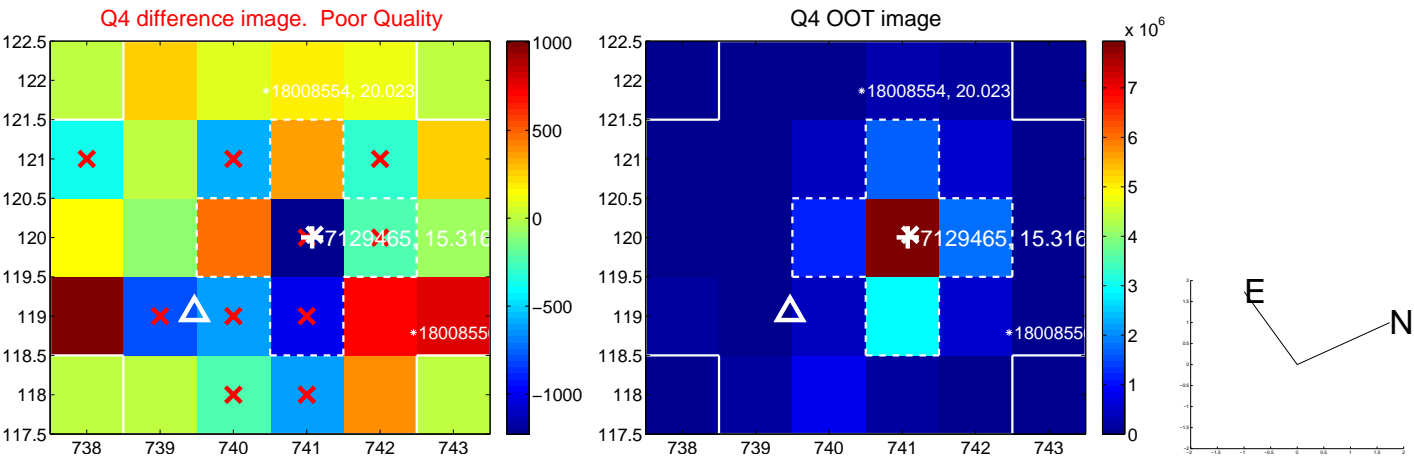
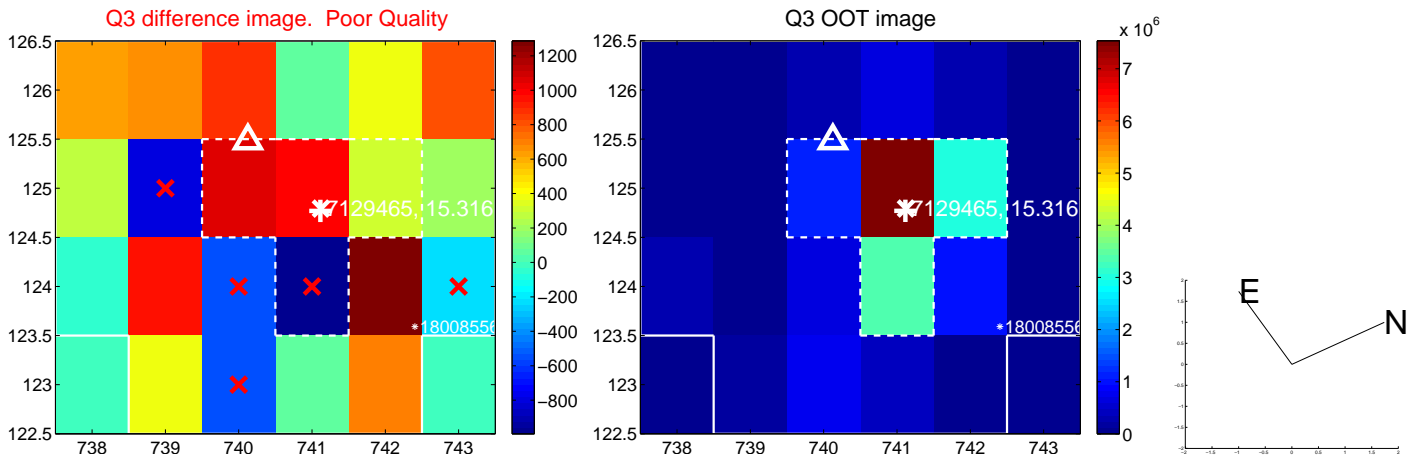
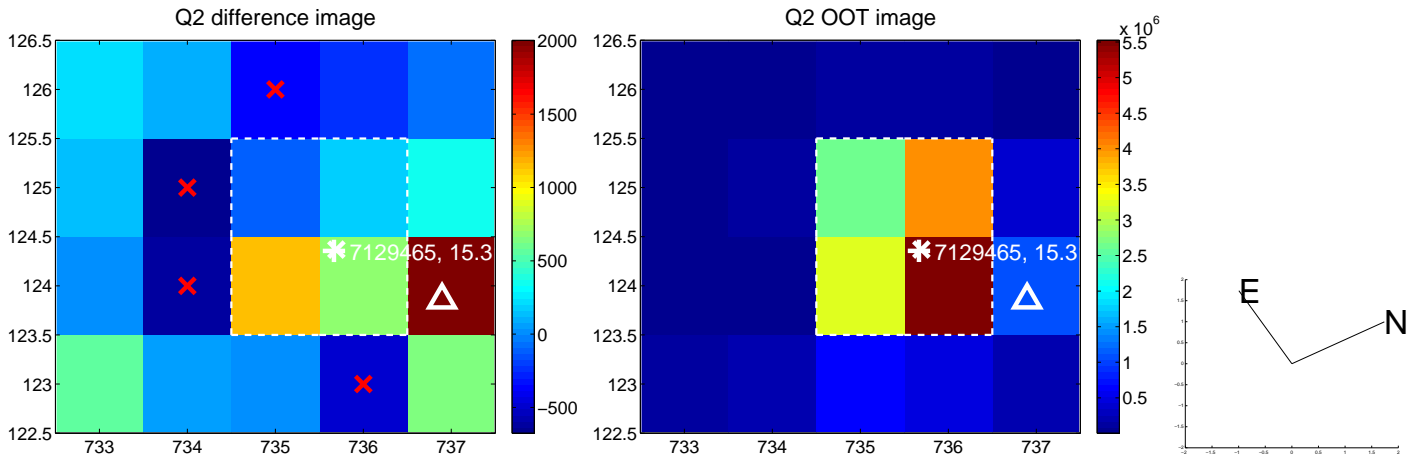
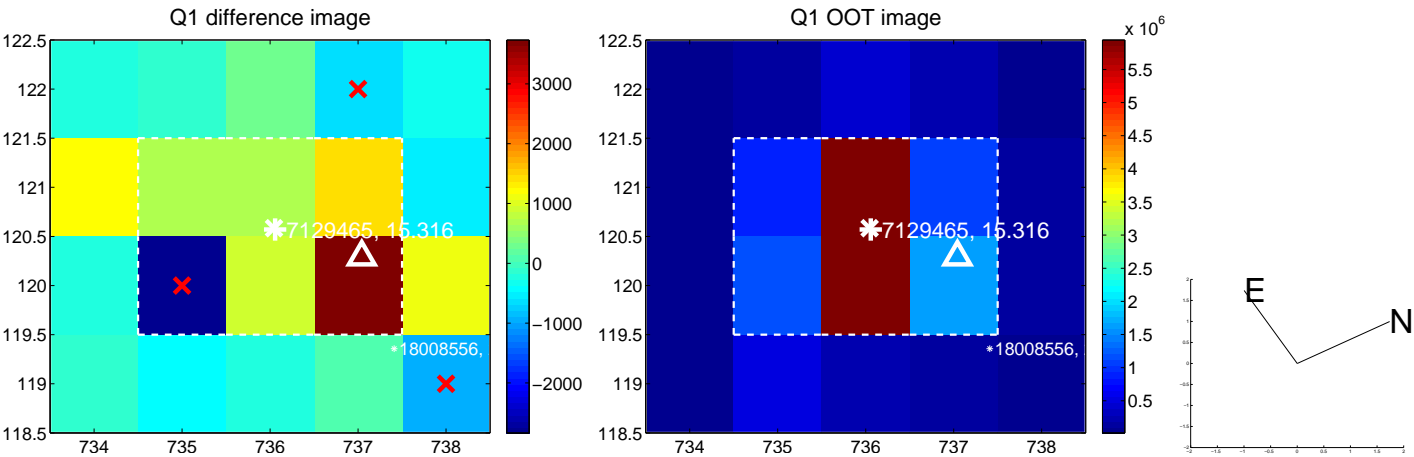
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 2.083 ± 1.361 | 1.53 | -0.360 ± 0.951 | -2.051 ± 1.371 |
| PRF-fit source offset from KIC position | 2.178 ± 1.346 | 1.62 | -0.438 ± 0.952 | -2.133 ± 1.360 |
| photometric centroid source offset | 8.89 ± 8.15 | 1.09 | 8.86 ± 8.15 | 0.70 ± 8.76 |

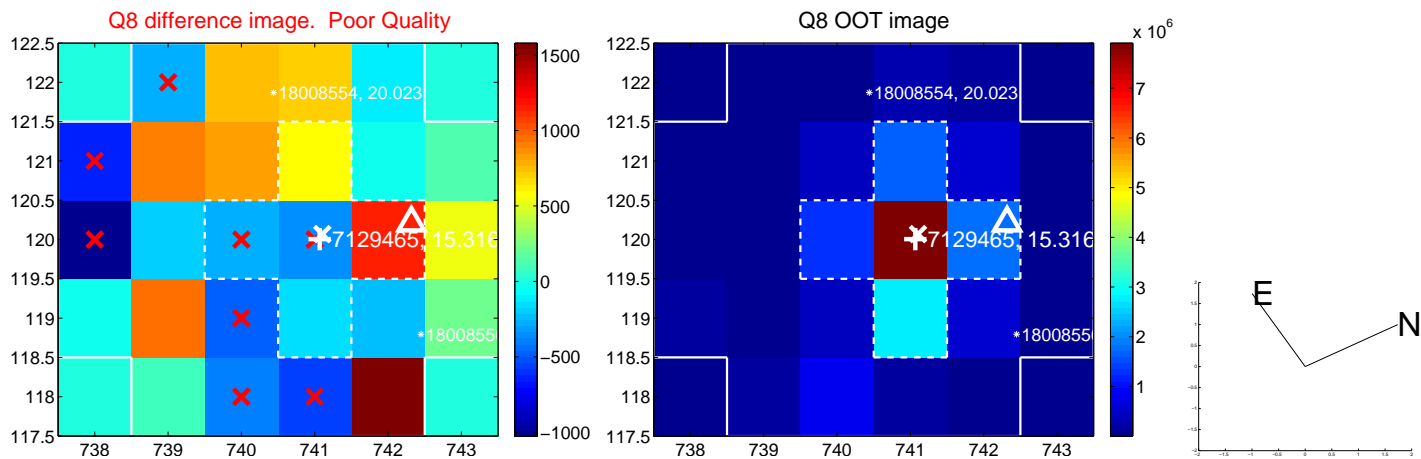
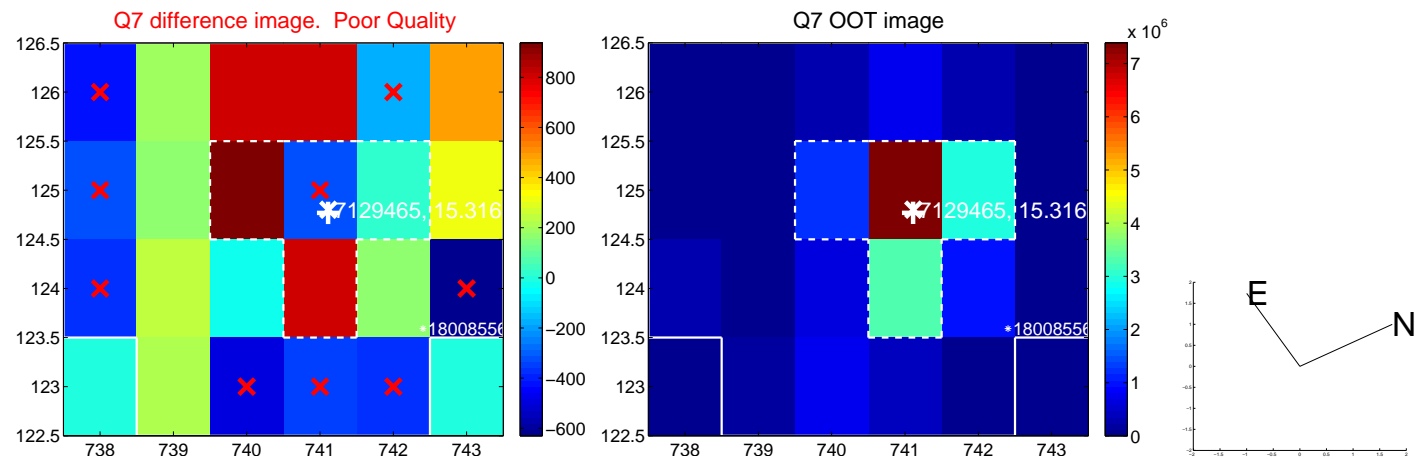
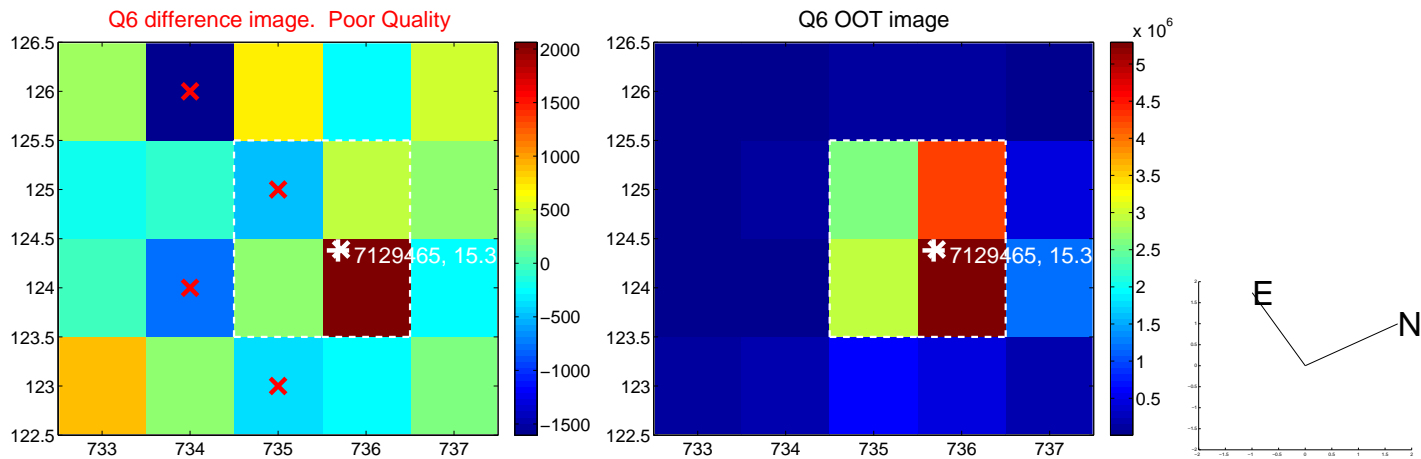
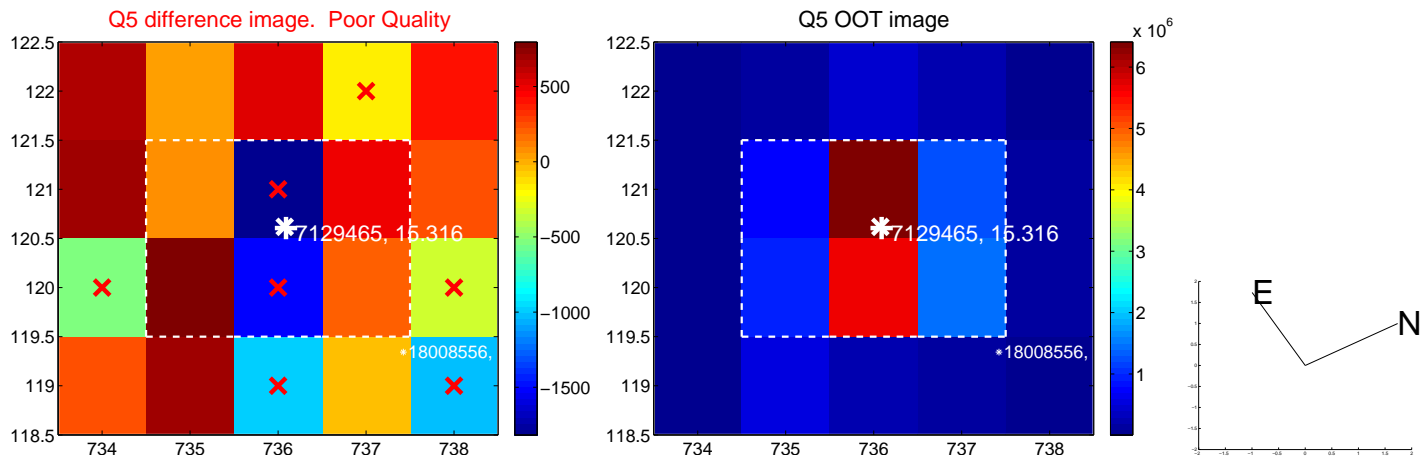


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

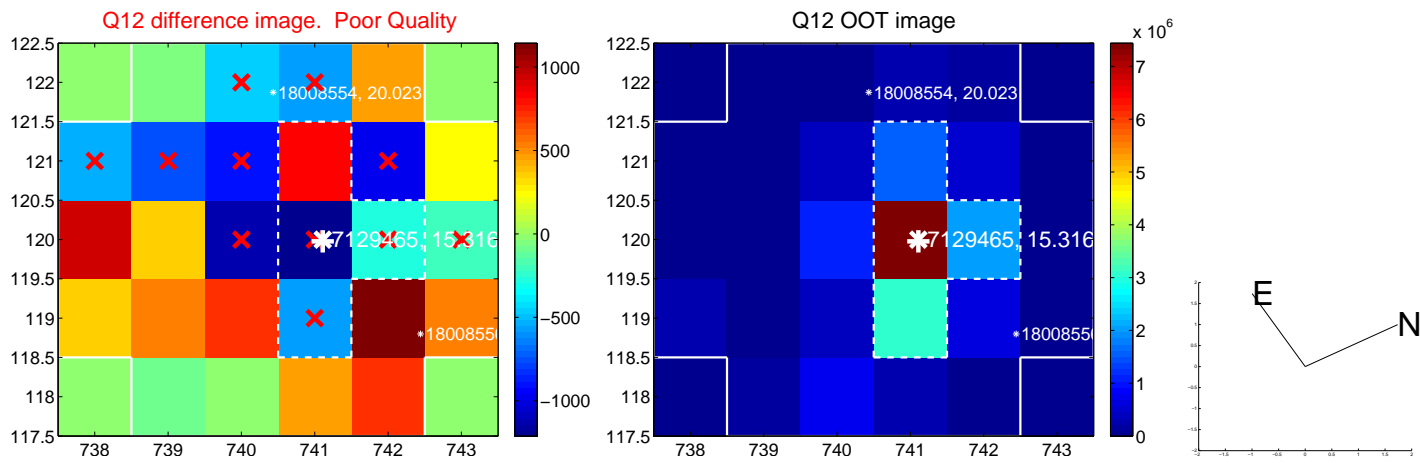
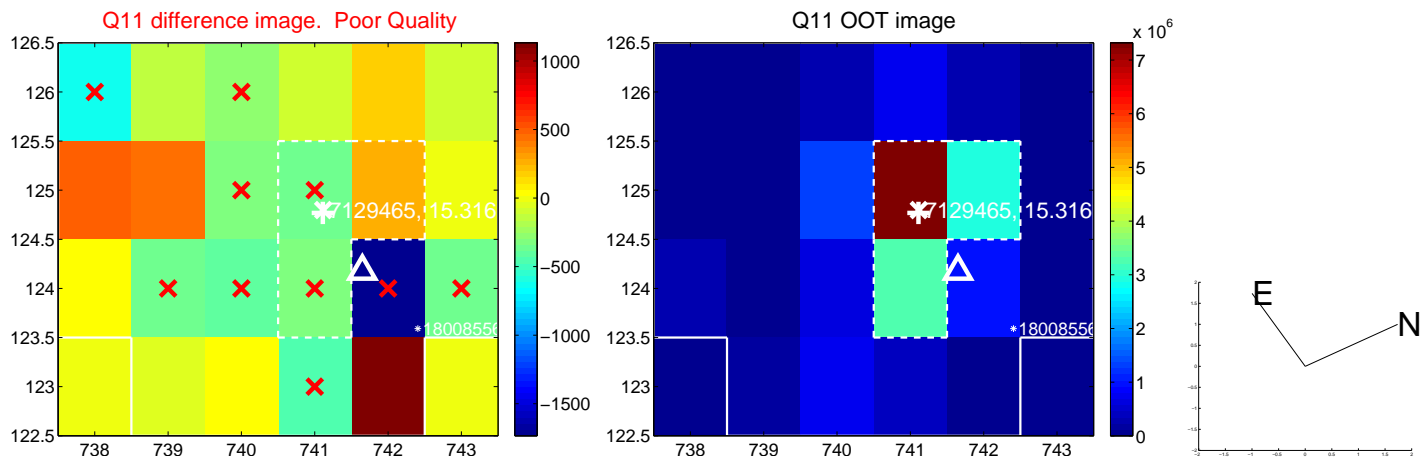
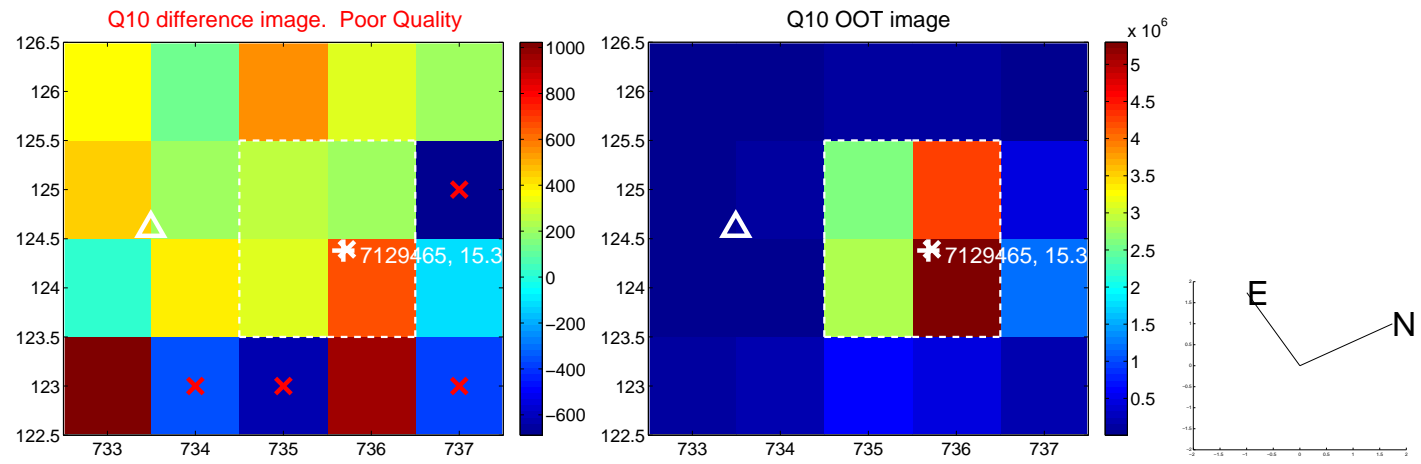
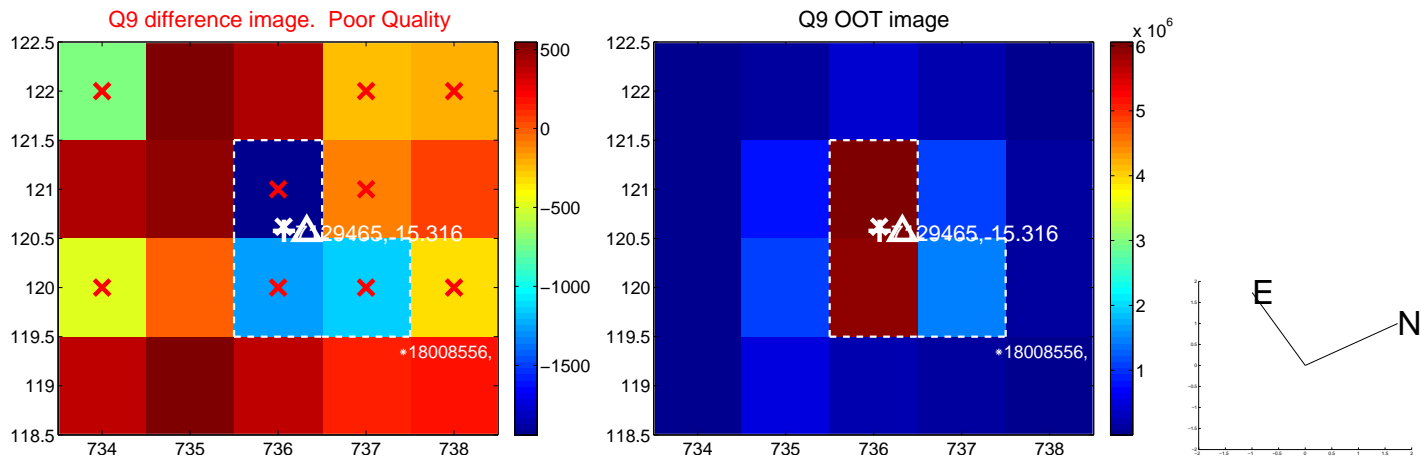
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



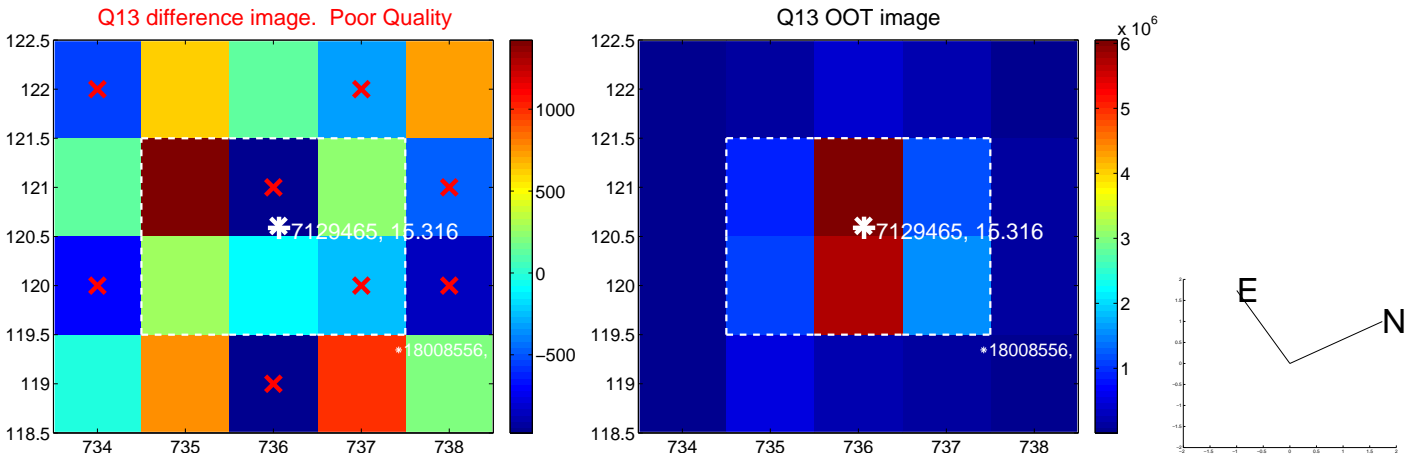
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

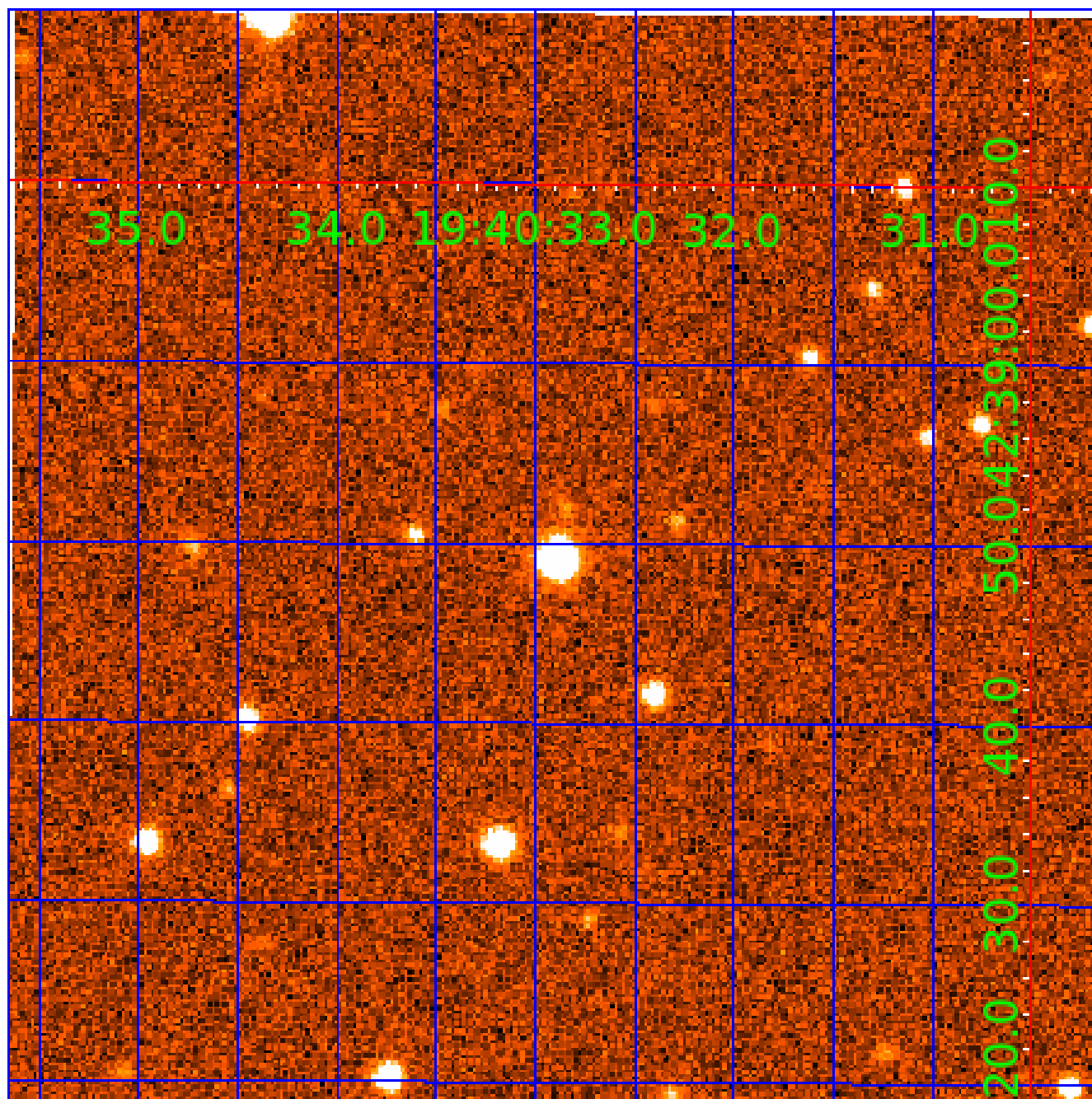


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007129465

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|---------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007129465-01 | OBS | 6155.01 | 2.745922 | 133.167244 | 266427.8 | 2.500 | 16794.7 | -1.0 | 0.96 | 5372 | 52.02 | 525.66 |
| 007129465-02 | OBS | No | 4.119283 | 134.318058 | 26.0 | 1.887 | 586.7 | 1.1 | 0.96 | 5372 | 0.59 | 306.10 |
| 007129465-03 | OBS | No | 6.590404 | 134.024322 | 10739.7 | 15.000 | 379.4 | -1.0 | 0.96 | 5372 | 9.74 | 163.58 |
| 007129465-04 | OBS | No | 5.491913 | 133.697385 | 3732.6 | 3.500 | 79.2 | -1.0 | 0.96 | 5372 | 5.75 | 208.60 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007129465-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS |
| 007129465-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 007129465-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—CENT_NOFITS |
| 007129465-04 | OBS | FP | 0.00 | 1 | 1 | 0 | 0 | IS_SEC_TCE—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 007129465-03

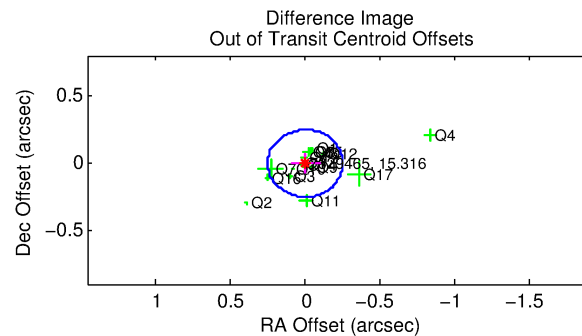
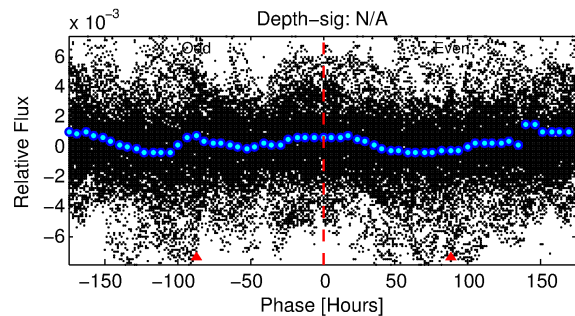
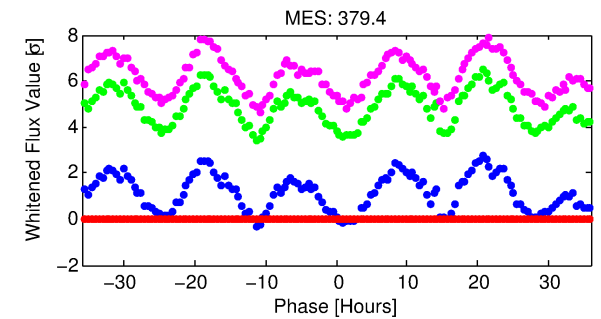
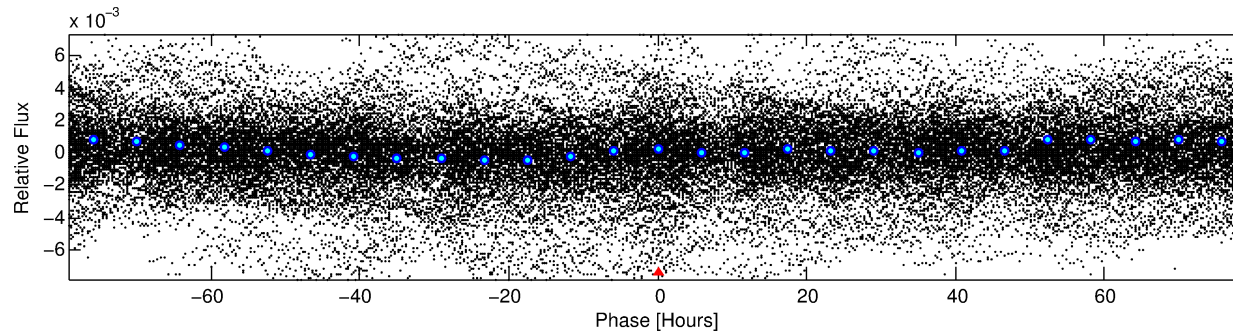
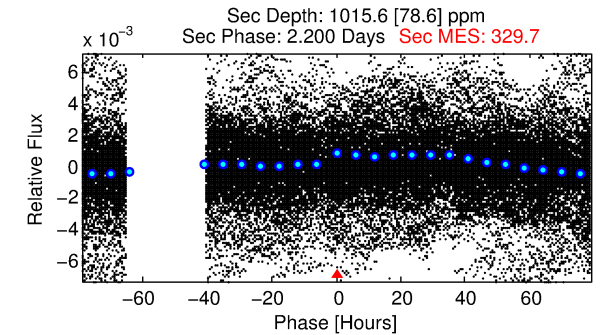
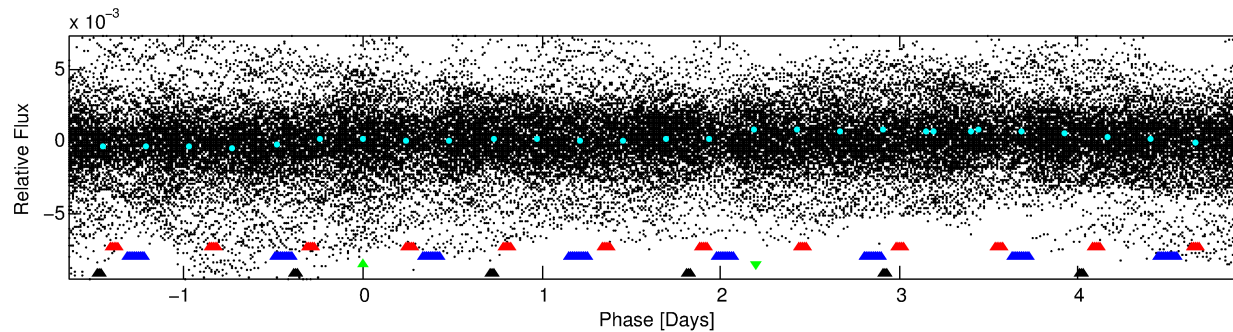
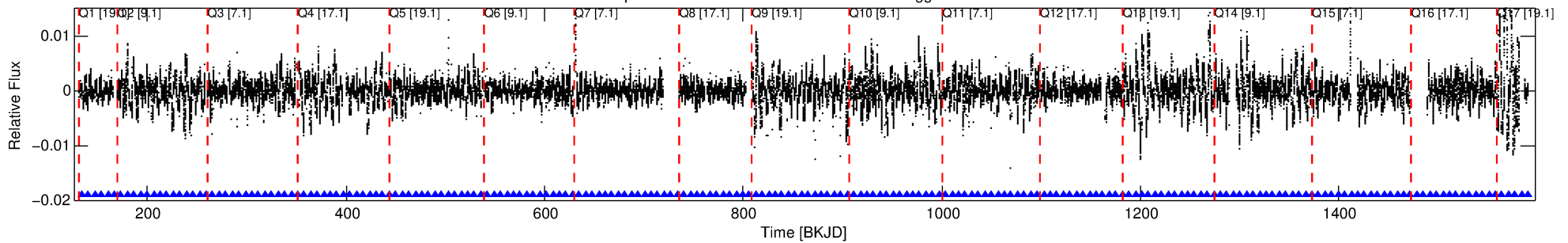
No Significant Match Found

DV One-Page Summary

KIC: 7129465 Candidate: 3 of 4 Period: 6.590 d

KOI: K06155 Corr: No Ephemeris Match

Kp: 15.32 R*: 0.96 Rs Teff: 5372.0 K Logg: 4.40 Fe/H: 0.020



TPS TCE Results:

Period = 6.59040 d
Epoch = 134.0243 BKJD

DV fit results are unavailable

DV Diagnostic Results:

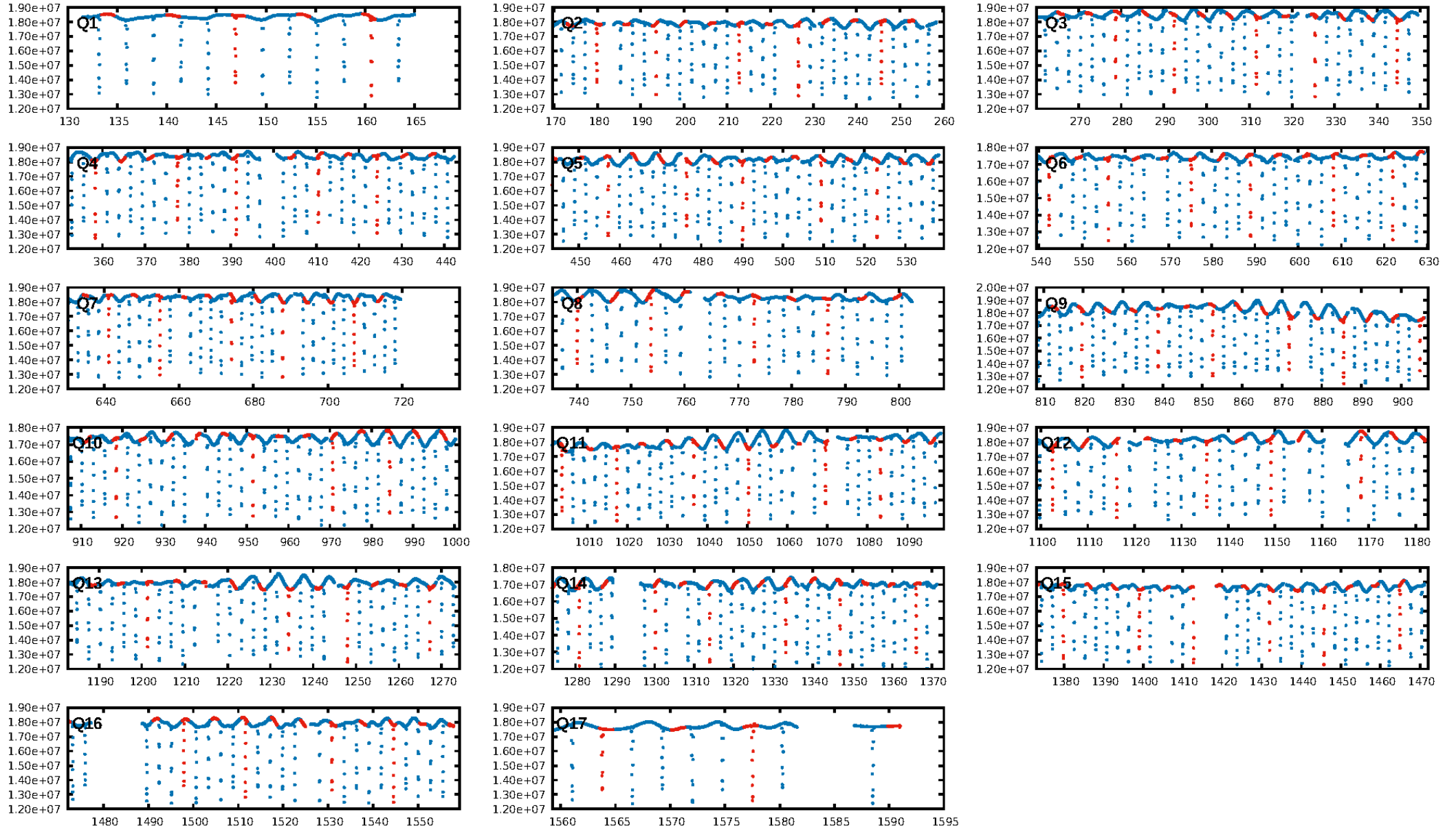
ShortPeriod-sig: 91.3% [1.71σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [199/199]
GhostDiagnostic-chr: 2.927

Centroid-sig: N/A
Centroid-so: 0.742 arcsec [2.02σ]
OotOffset-rm: 0.008 arcsec [0.10σ]
KicOffset-rm: 0.169 arcsec [2.24σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.12 [2/17]
DiffImageOverlap-fno: 0.00 [0/17]

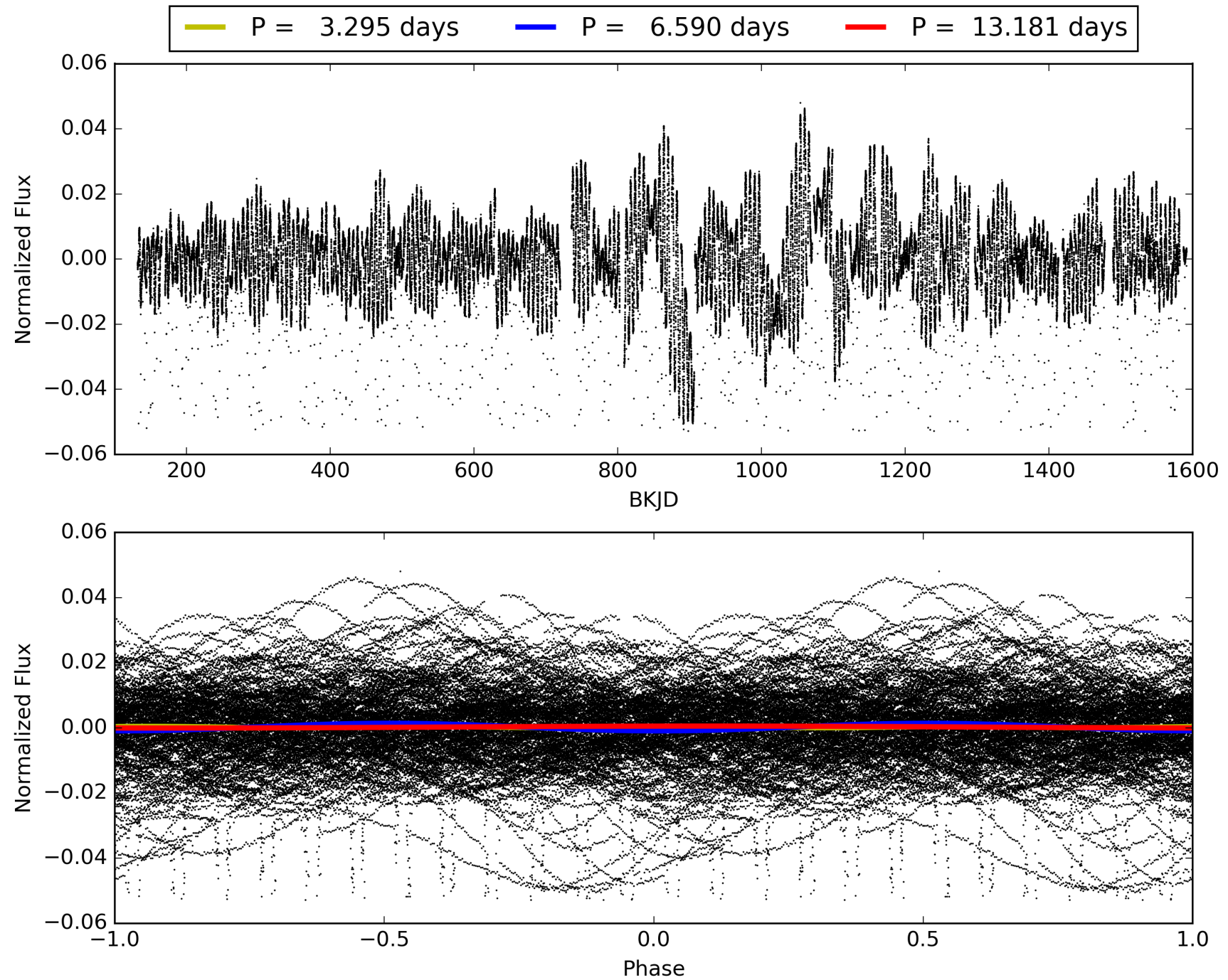
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 09:20:44 Z

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

TCE 007129465-03, PDC Light Curves

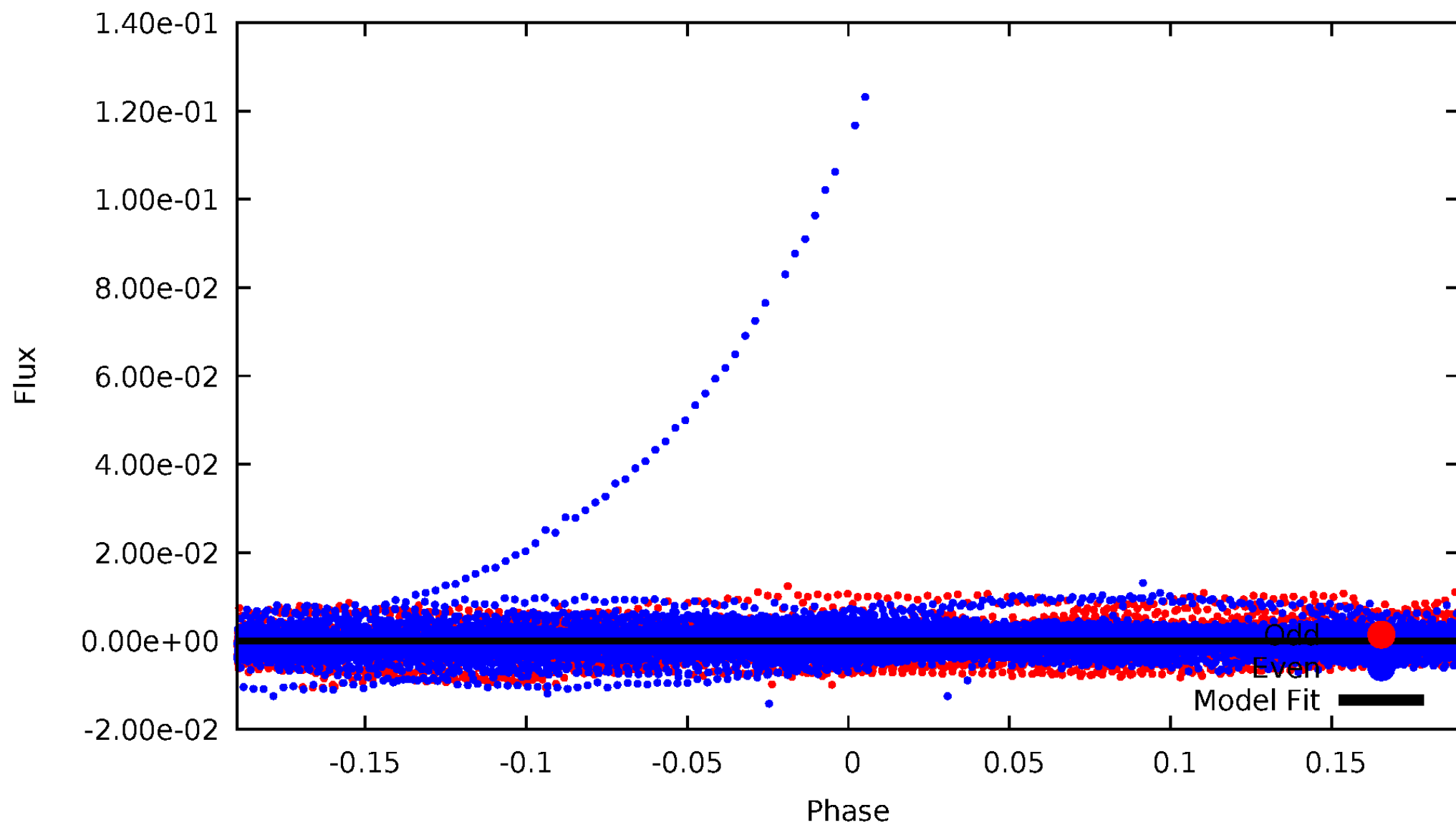


TCE 007129465-03



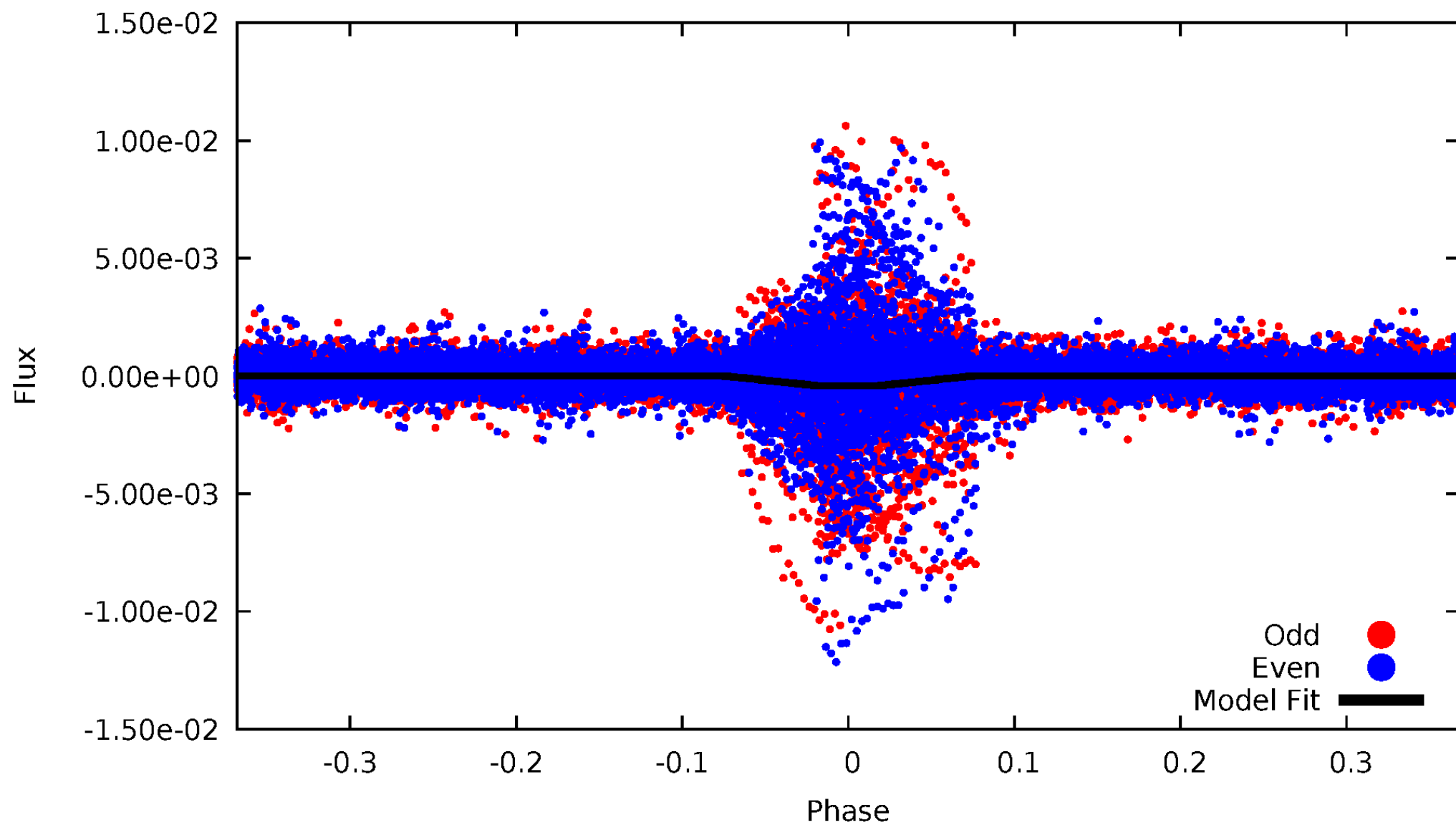
DV Odd/Even

TCE 007129465-03

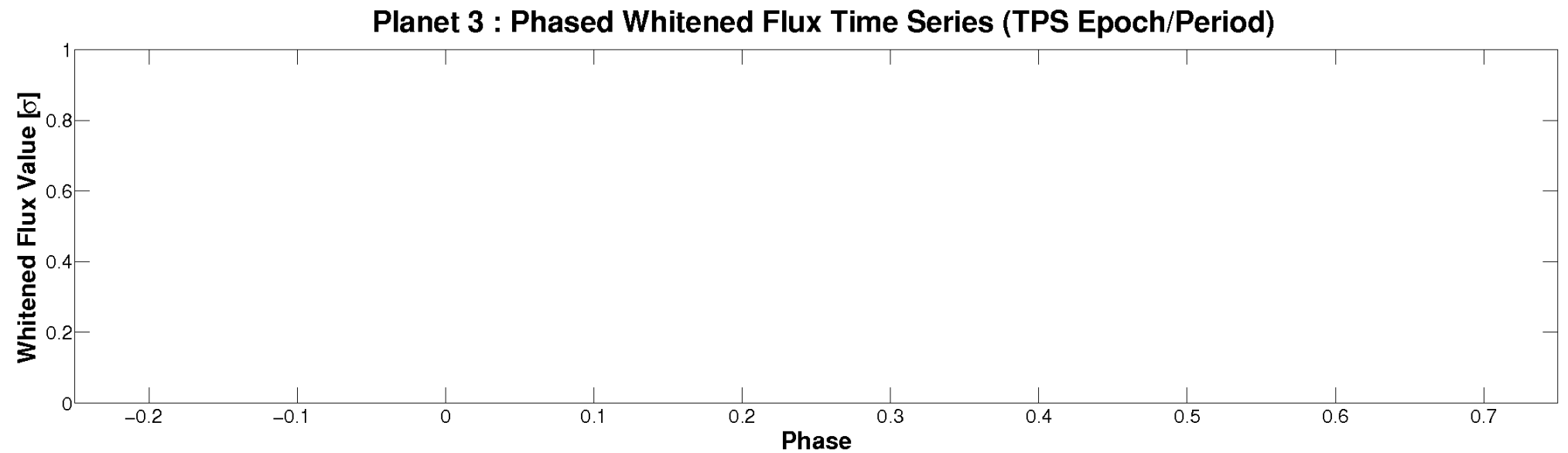
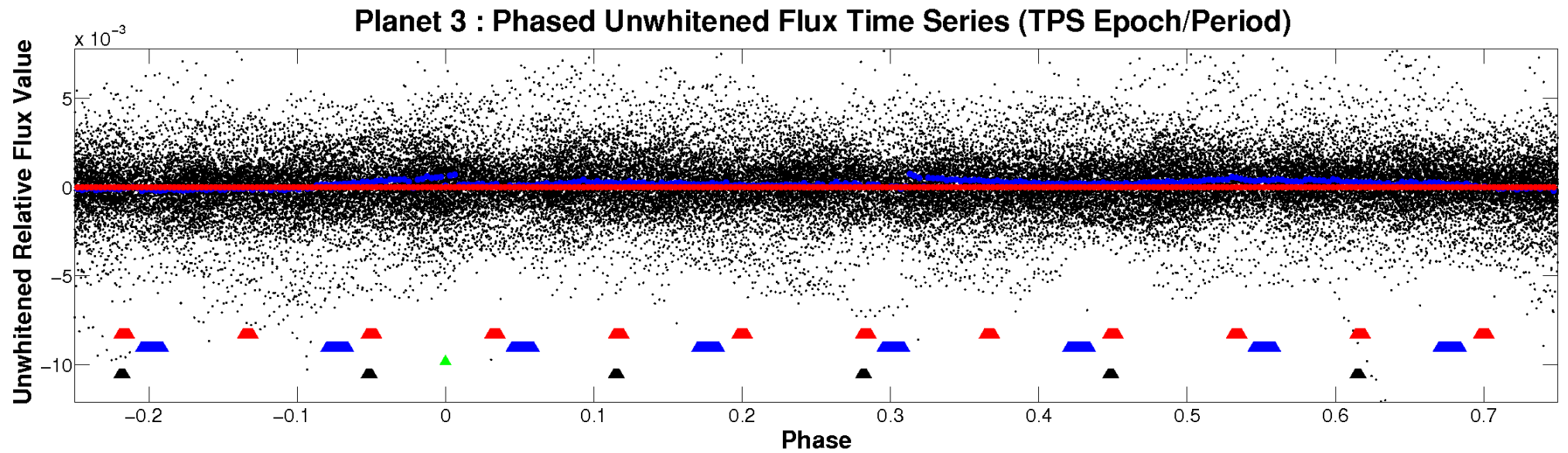


ALT Odd/Even

TCE 007129465-03

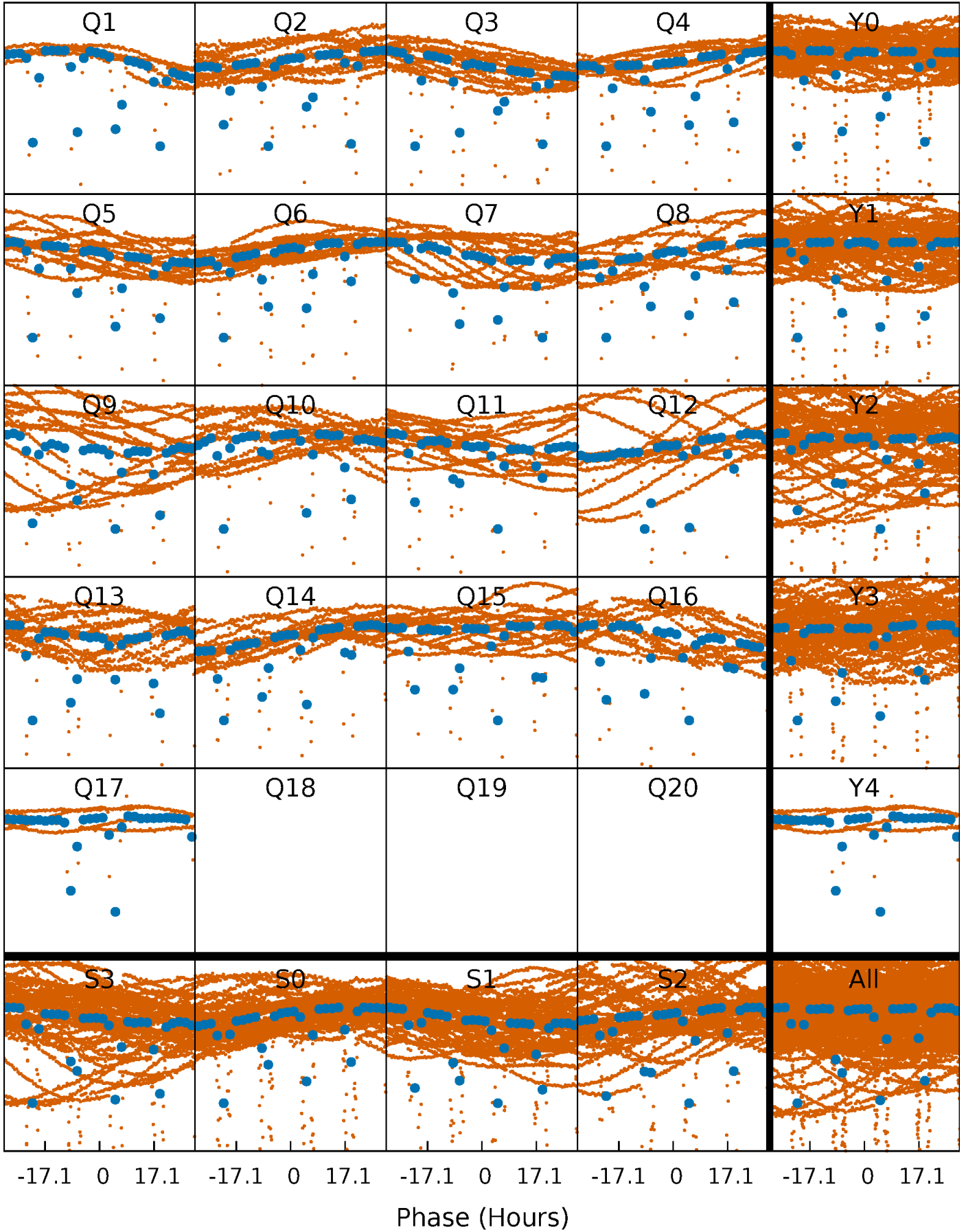


Non-Whitened Vs. Whitened Light Curve



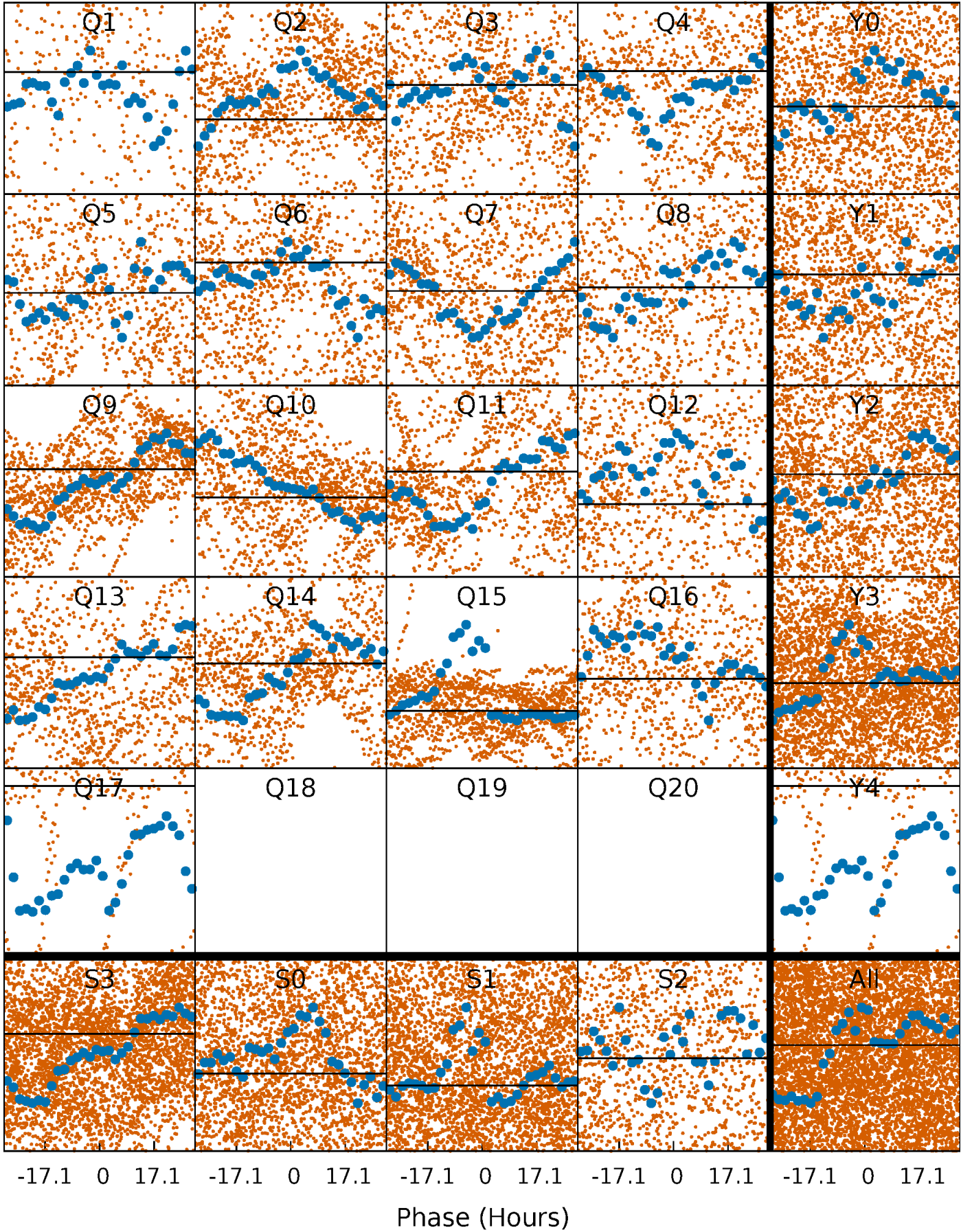
PDC Quarter-Phased Transit Curves

TCE 007129465-03 P= 6.590404 Days $T_0=134.024322$ (BKJD)



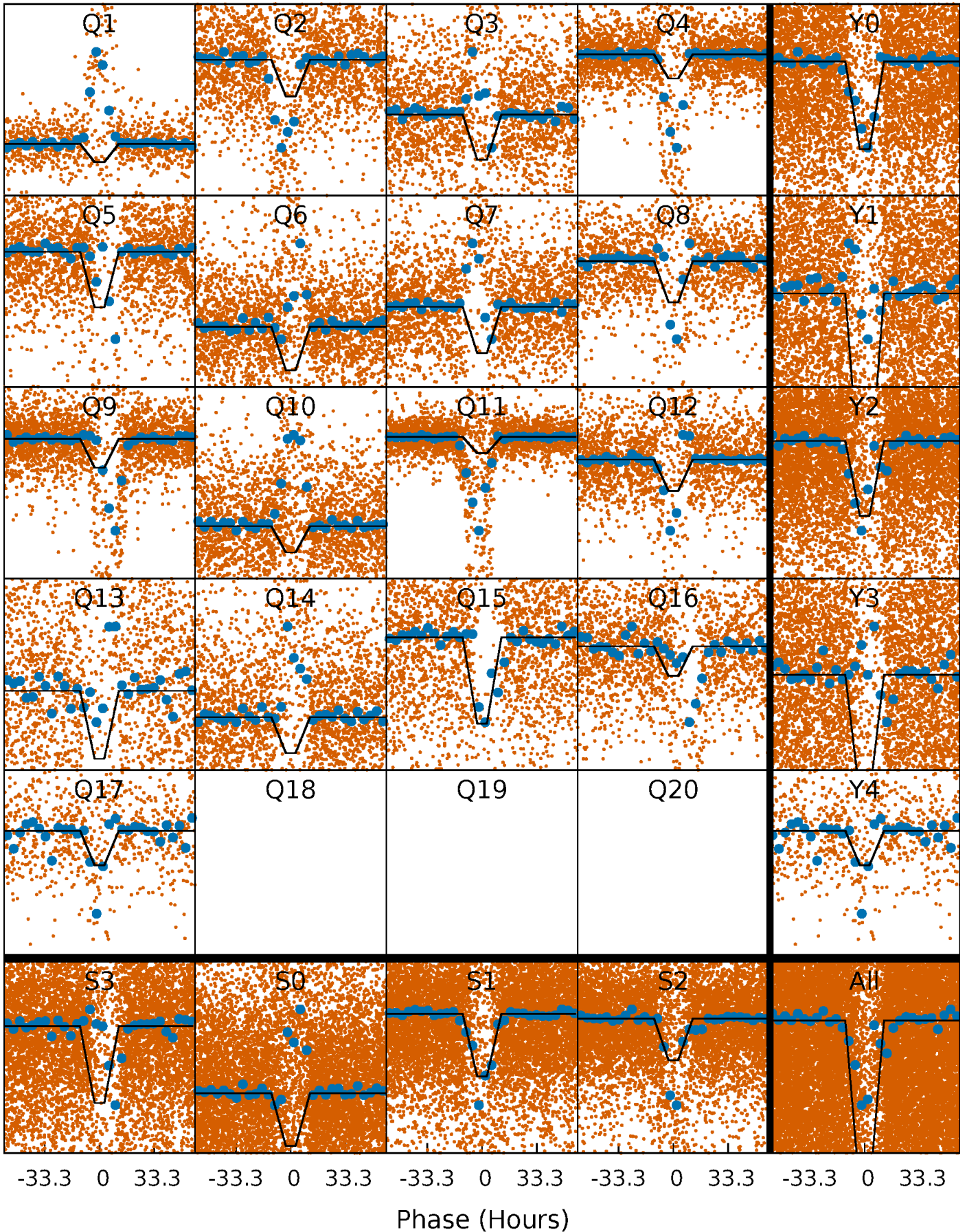
DV Quarter-Phased Transit Curves

TCE 007129465-03 P= 6.590404 Days $T_0=134.024322$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

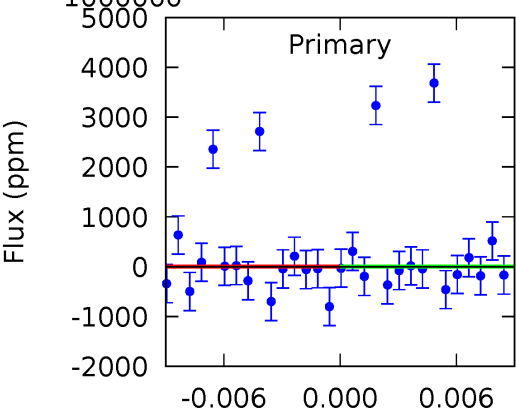
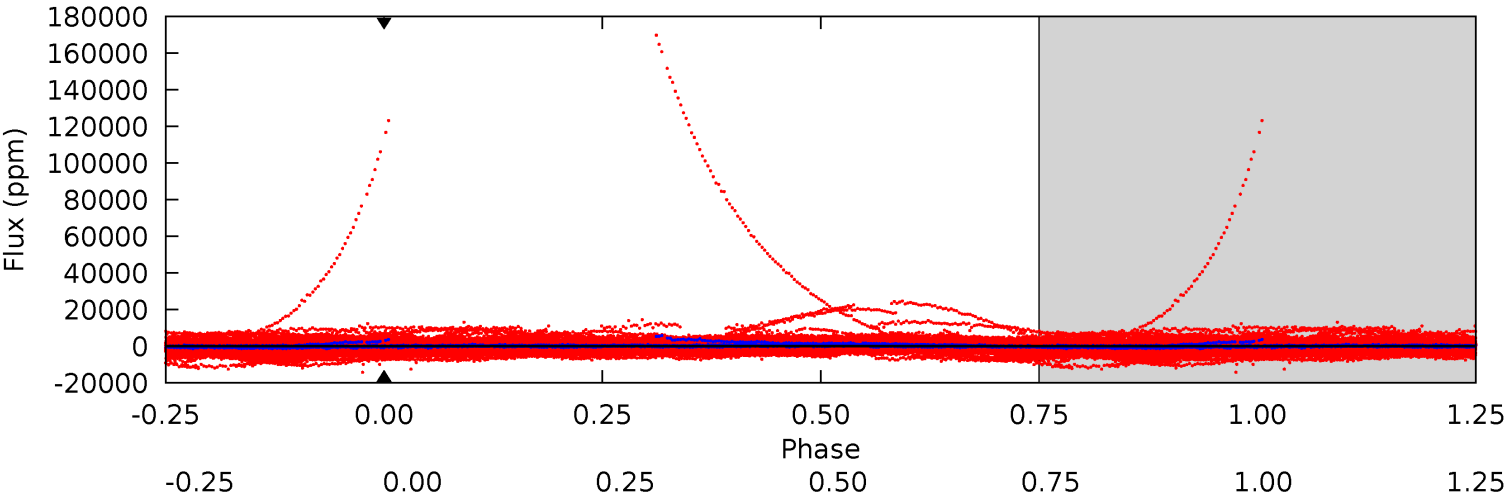
TCE 007129465-03 P= 6.590404 Days $T_0=133.987798$ (BKJD)



DV Model-Shift Uniqueness Test

007129465-03, P = 6.590404 Days, E = 127.433918 Days

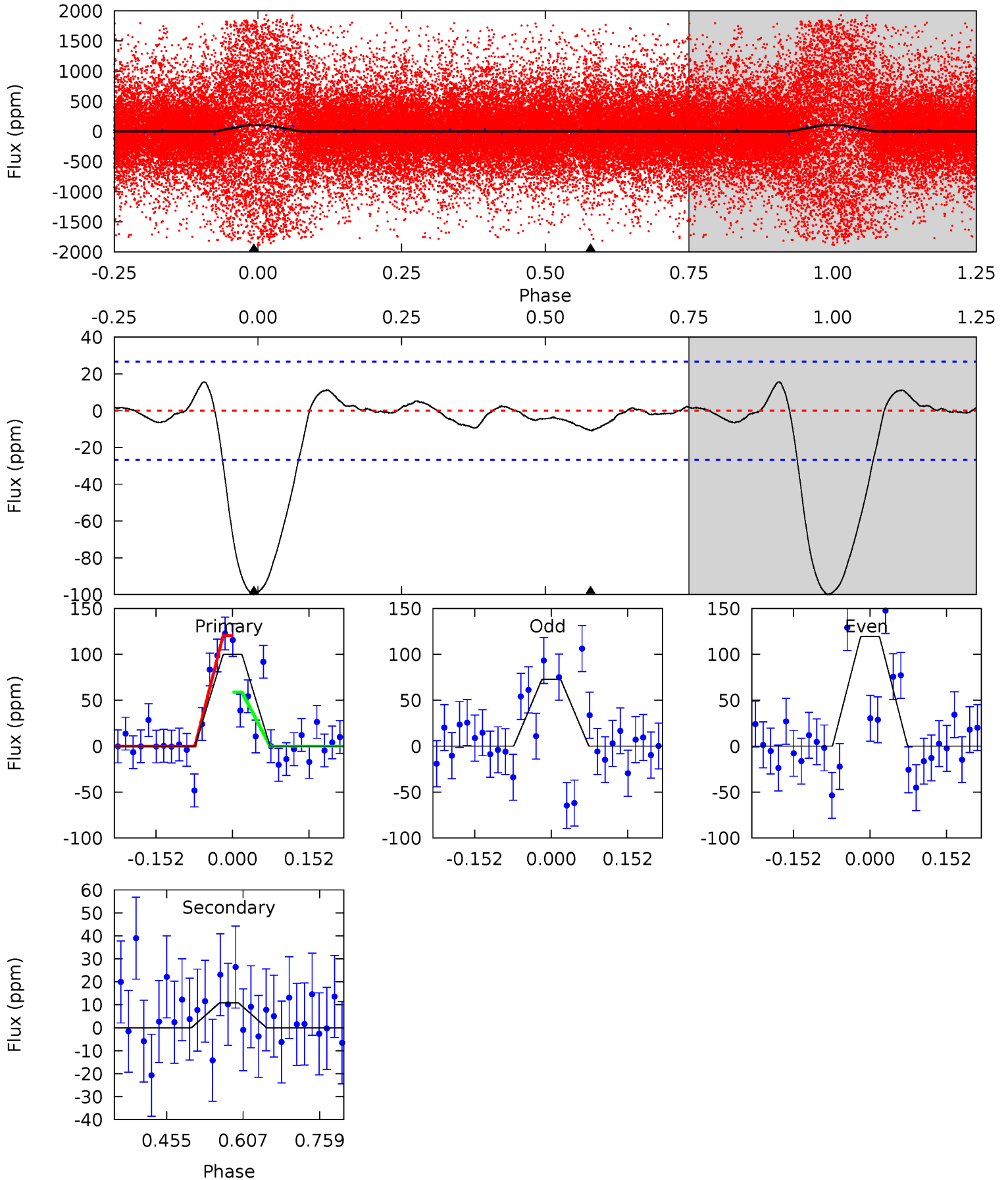
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00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



Alt Model-Shift Uniqueness Test

007129465-03, P = 6.590404 Days, E = 127.397394 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-------|-------|------|
| 16.7 | 1.82 | 0 | 0 | 4.48 | 1.43 | 0.63 | 16.7 | 16.7 | 1.82 | 1.82 | 3.95 | -6.20 | 0.14 | 5.15 |



Stellar Parameters For KIC 007129465

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5372^{+177}_{-160} | $4.396^{+0.140}_{-0.210}$ | $0.020^{+0.300}_{-0.250}$ | $0.960^{+0.273}_{-0.168}$ | $0.836^{+0.108}_{-0.063}$ | $1.332^{+0.878}_{-0.675}$ |
| | +3%/-3% | +3%/-5% | +1500%/-1250% | +28%/-18% | +13%/-8% | +66%/-51% |
| 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 007129465-03 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-----------------|--------------------------|----------------------|-------------------------|---------------------------|
| DV | 0 ± 1000000 | $12.58^{+10.35}_{-8.01}$ | 1285^{+100}_{-79} | 3787^{+7147}_{-15290} | 27^{+2320}_{-2531} |
| Alt. | -11 ± 6 | $8.37^{+8.58}_{-5.65}$ | 1286^{+106}_{-79} | 1472^{+1198}_{-3479} | $0.308^{+2.928}_{-0.249}$ |

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

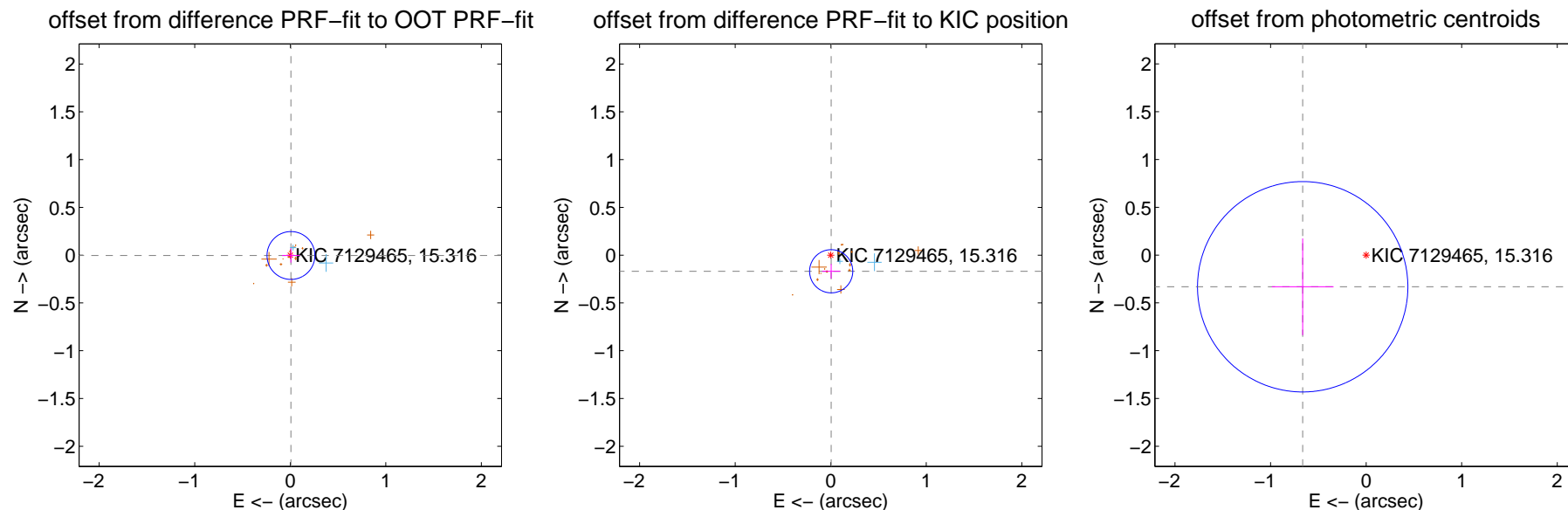
DV Centroid Data

Supplemental centroid analysis for 007129465-03. Kepler magnitude: 15.32. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

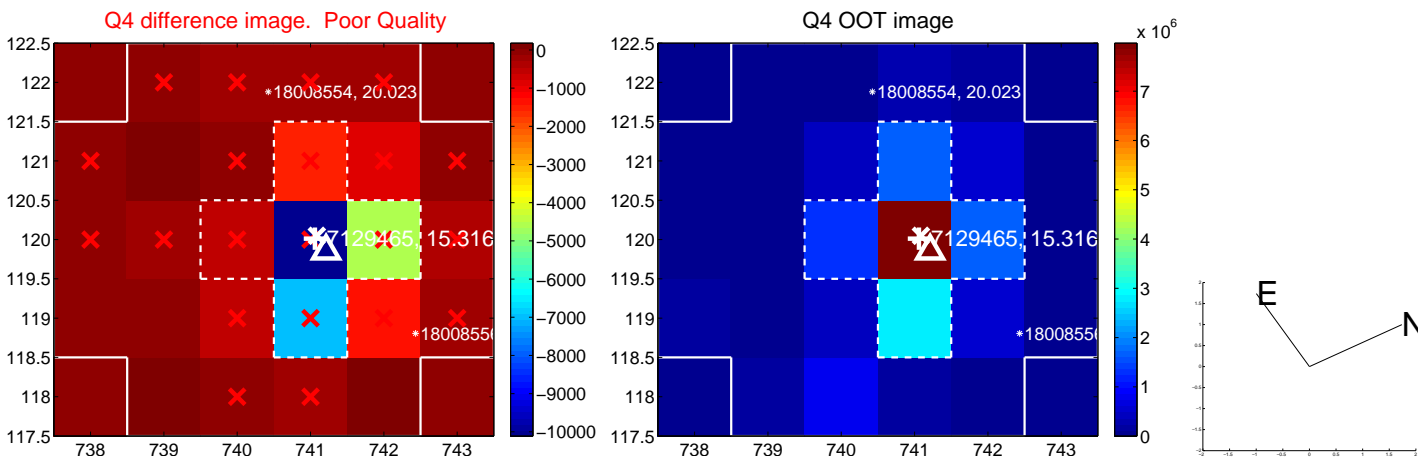
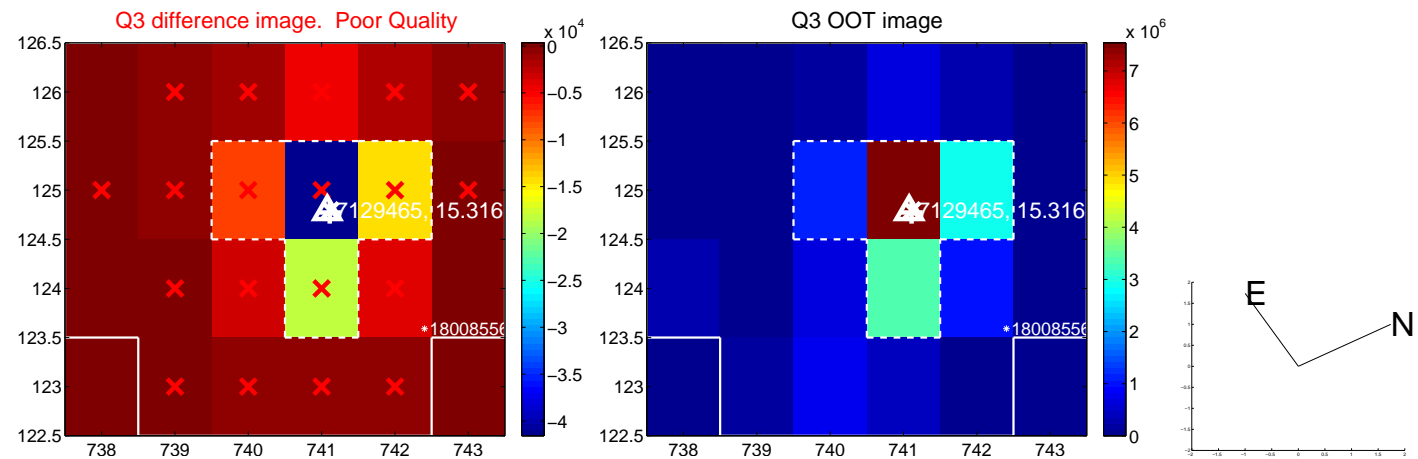
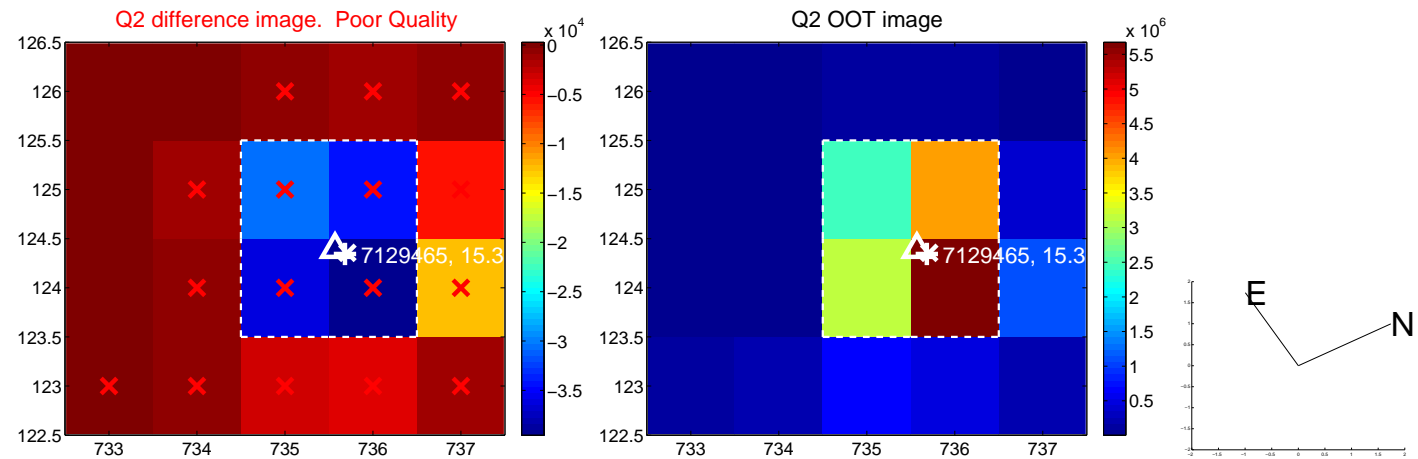
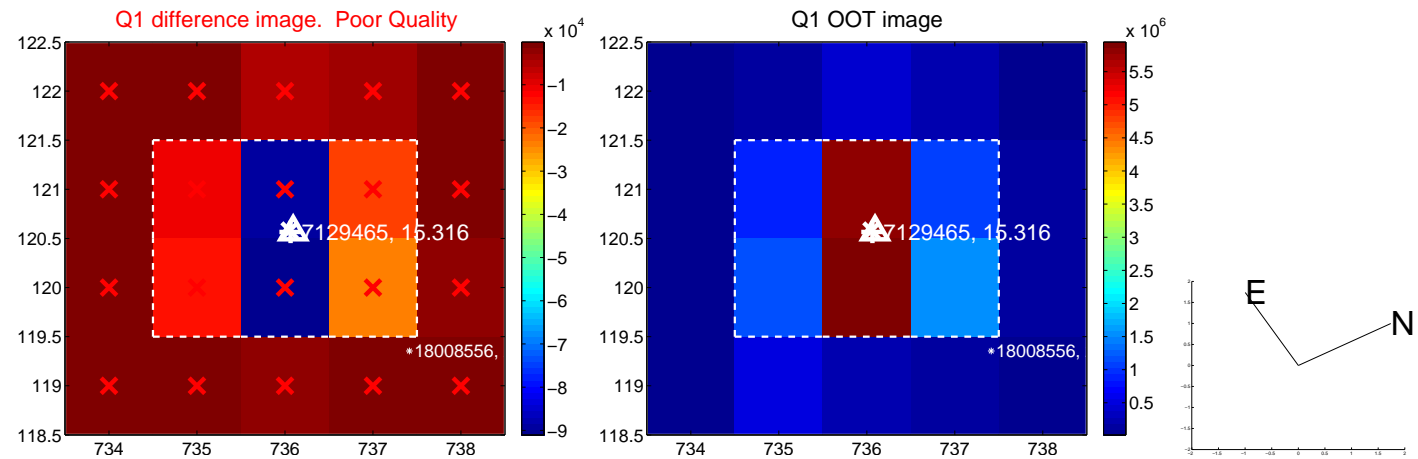
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.008 ± 0.083 | 0.10 | -0.007 ± 0.093 | -0.004 ± 0.074 |
| PRF-fit source offset from KIC position | 0.169 ± 0.075 | 2.24 | -0.005 ± 0.094 | -0.169 ± 0.076 |
| photometric centroid source offset | 0.74 ± 0.37 | 2.02 | 0.66 ± 0.32 | -0.33 ± 0.51 |

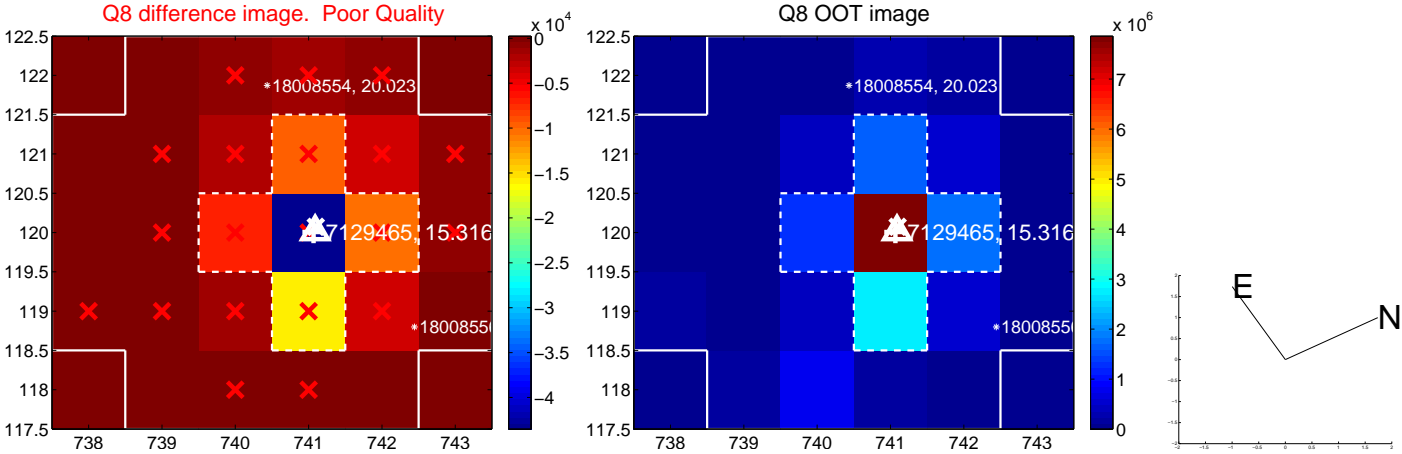
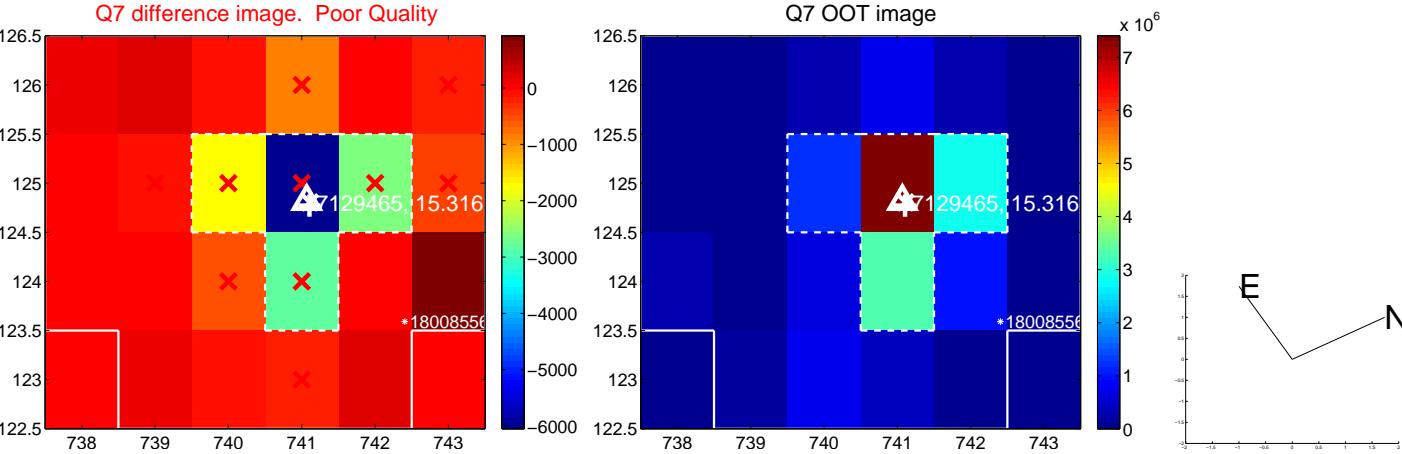
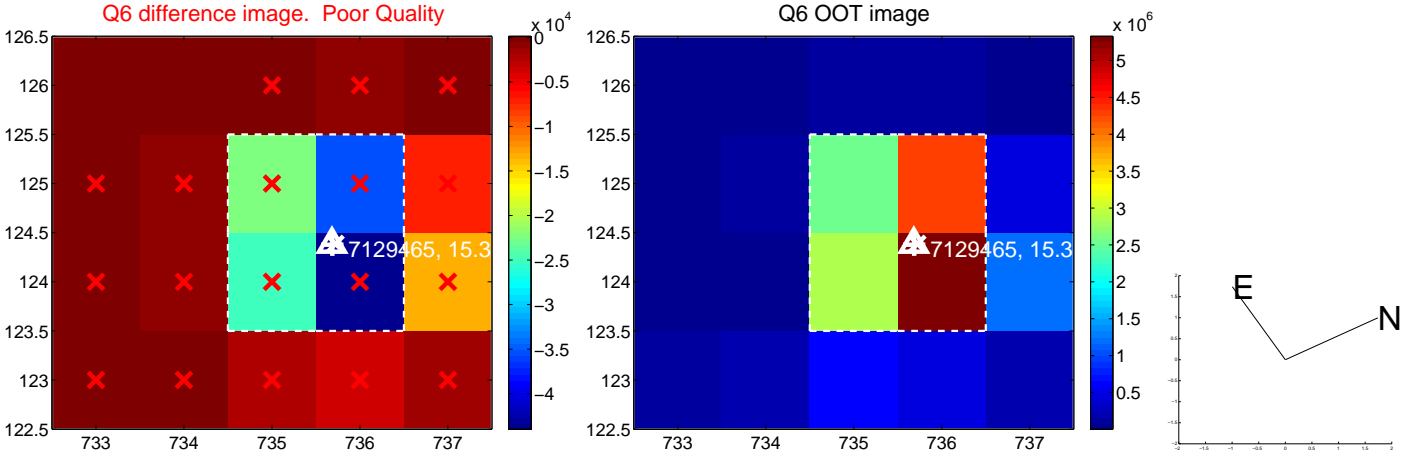
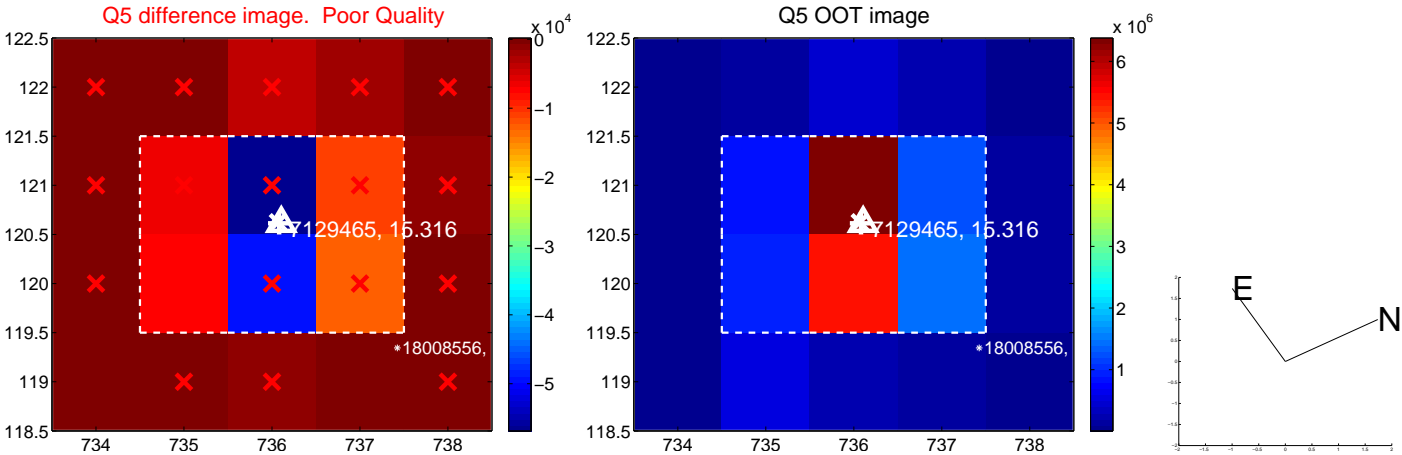


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

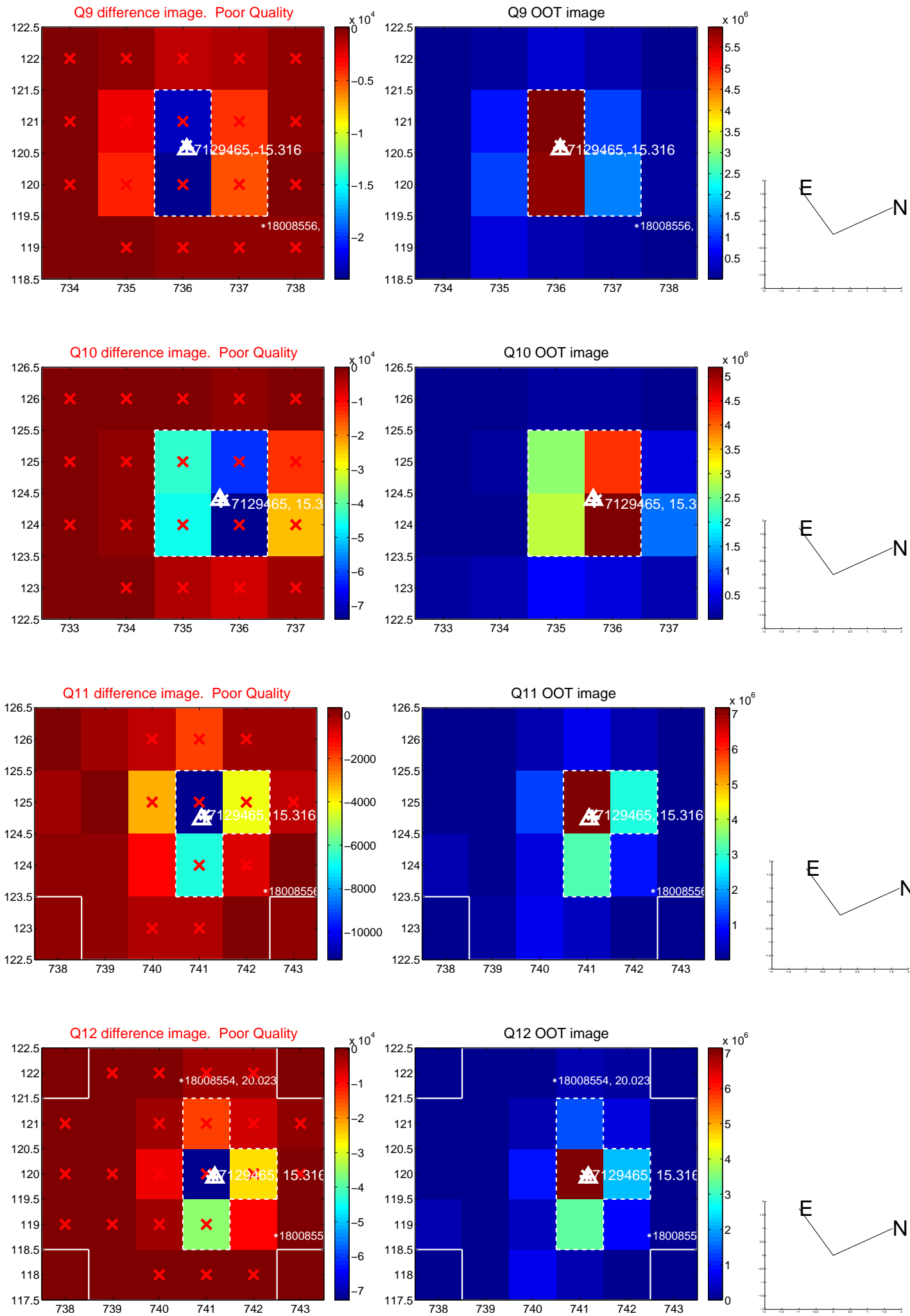
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



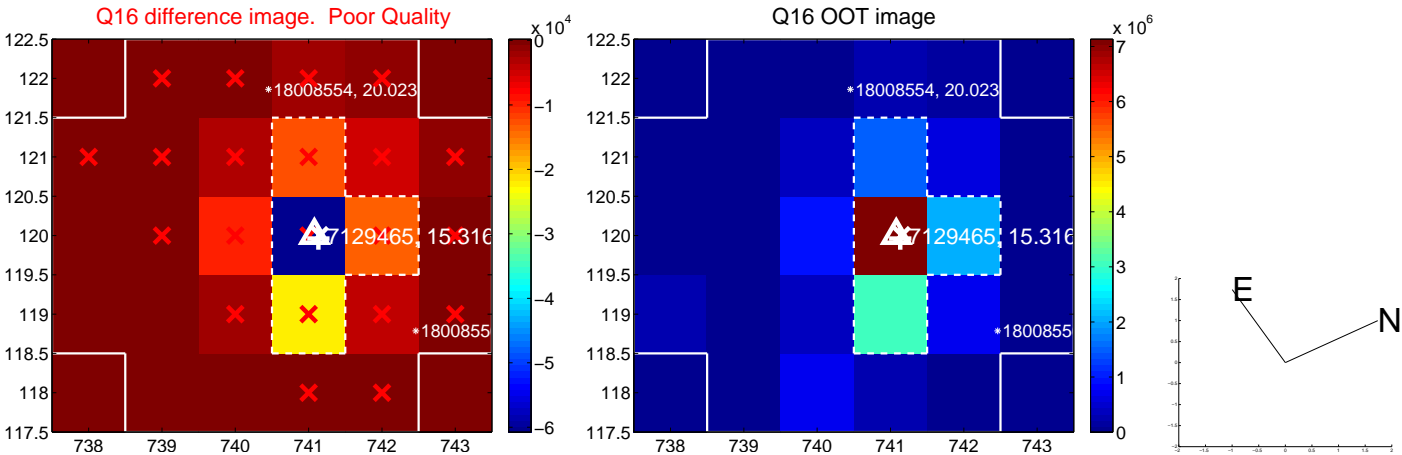
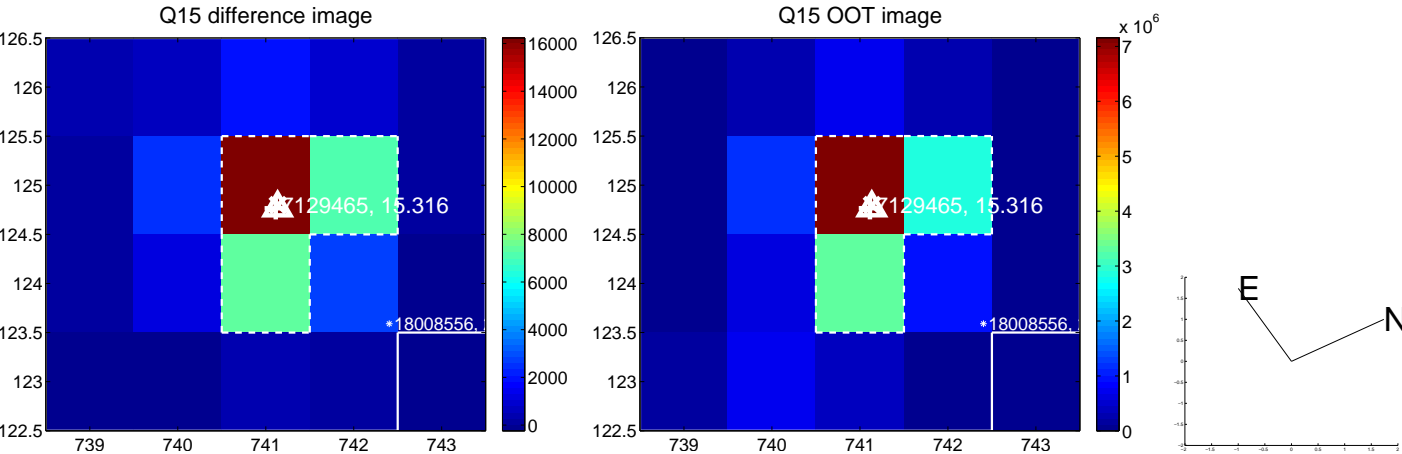
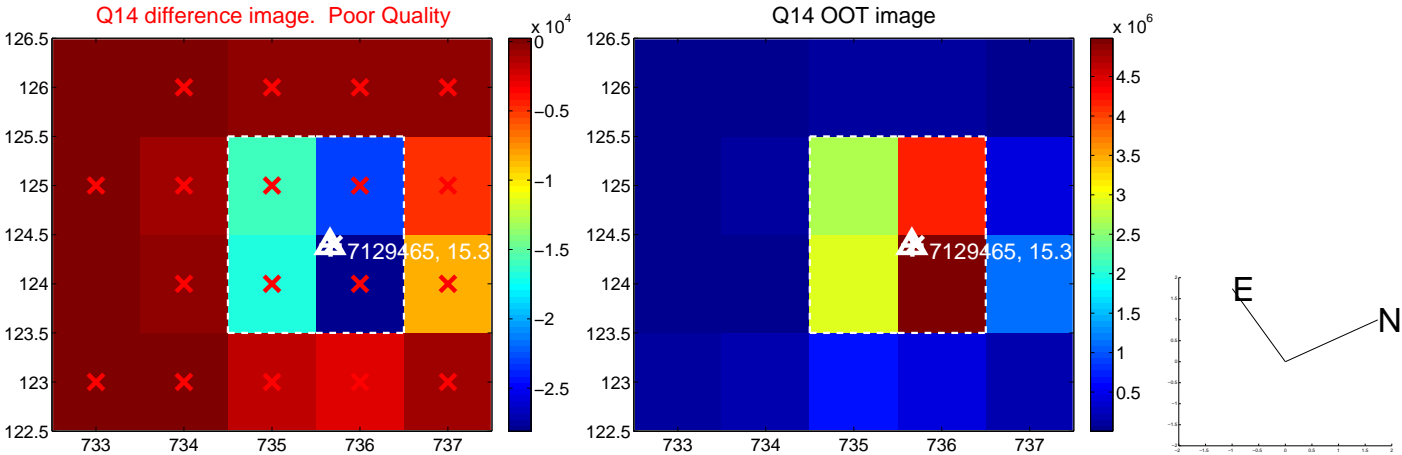
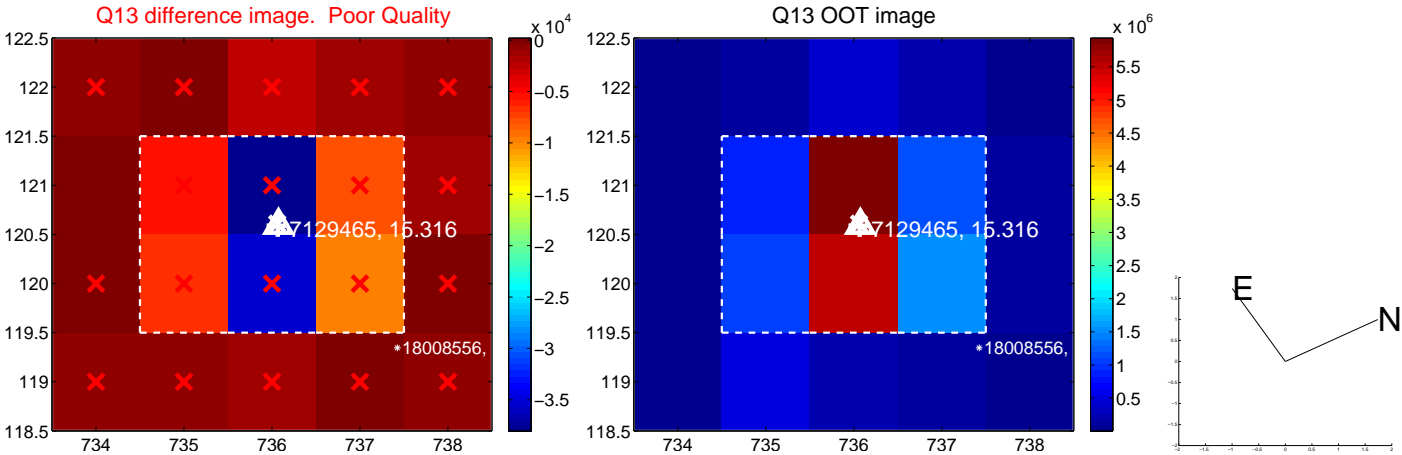
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



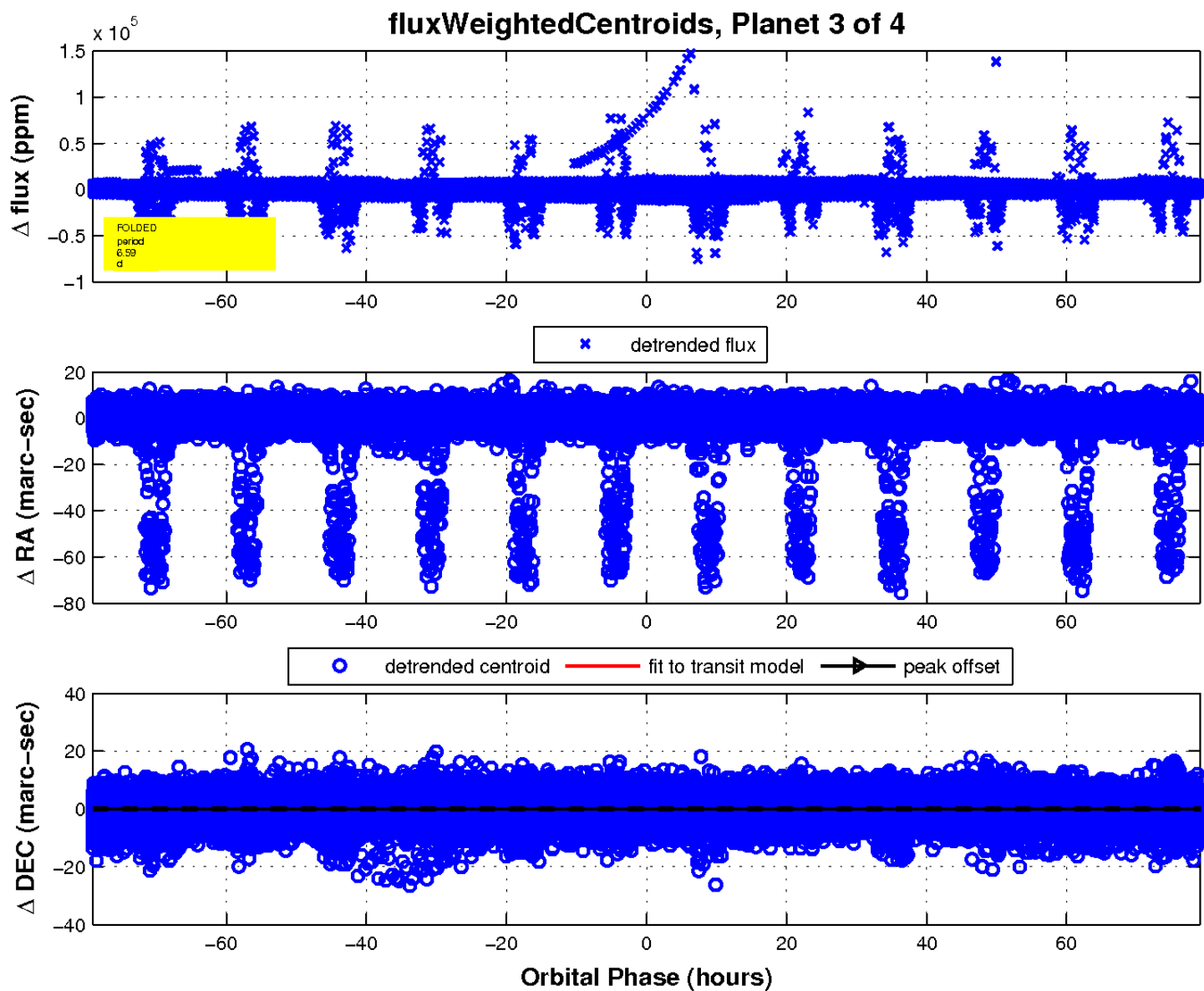
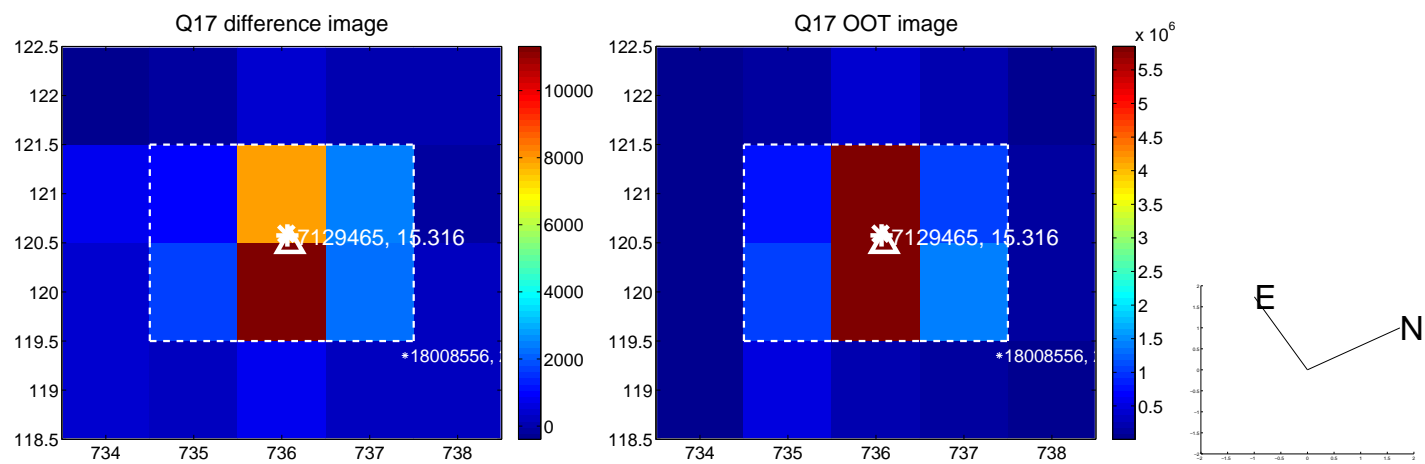
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

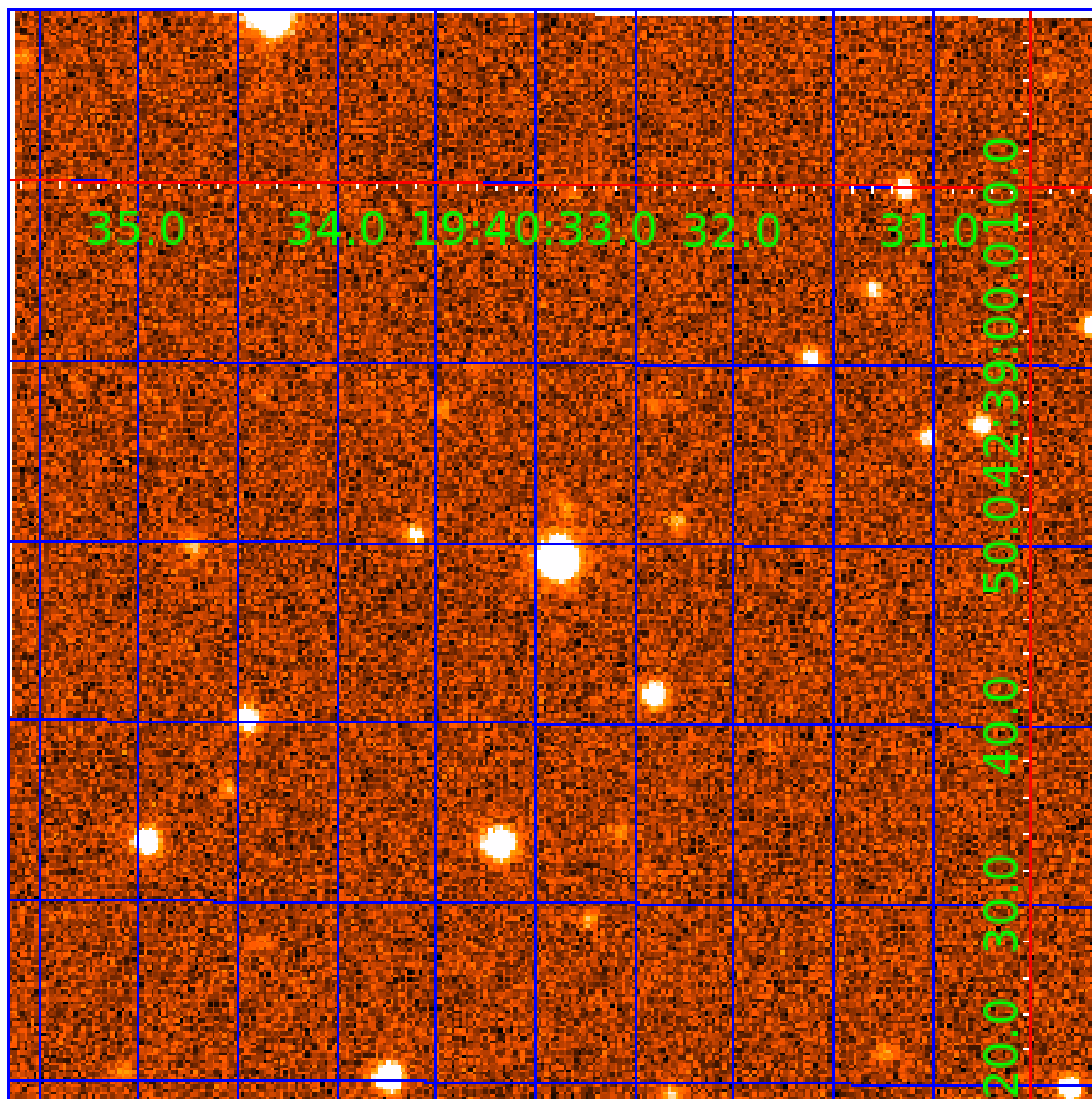


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007129465

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|---------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007129465-01 | OBS | 6155.01 | 2.745922 | 133.167244 | 266427.8 | 2.500 | 16794.7 | -1.0 | 0.96 | 5372 | 52.02 | 525.66 |
| 007129465-02 | OBS | No | 4.119283 | 134.318058 | 26.0 | 1.887 | 586.7 | 1.1 | 0.96 | 5372 | 0.59 | 306.10 |
| 007129465-03 | OBS | No | 6.590404 | 134.024322 | 10739.7 | 15.000 | 379.4 | -1.0 | 0.96 | 5372 | 9.74 | 163.58 |
| 007129465-04 | OBS | No | 5.491913 | 133.697385 | 3732.6 | 3.500 | 79.2 | -1.0 | 0.96 | 5372 | 5.75 | 208.60 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007129465-01 | OBS | FP | 0.00 | 0 | 1 | 0 | 0 | DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS |
| 007129465-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS |
| 007129465-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—CENT_NOFITS |
| 007129465-04 | OBS | FP | 0.00 | 1 | 1 | 0 | 0 | IS_SEC_TCE—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 007129465-04

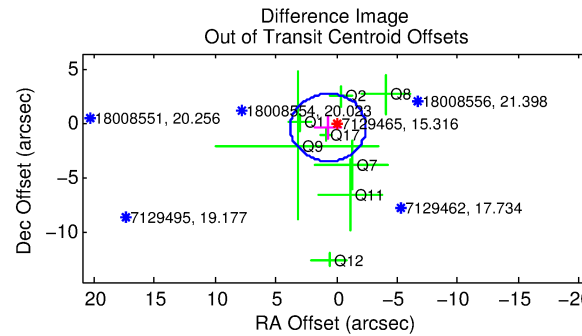
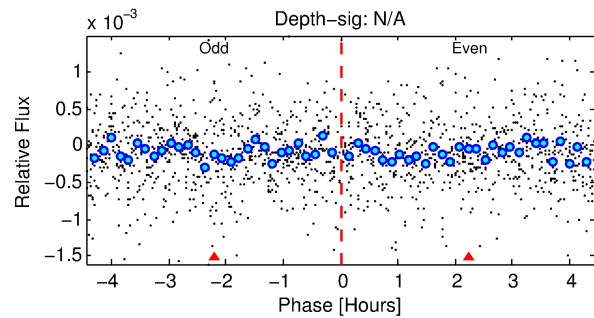
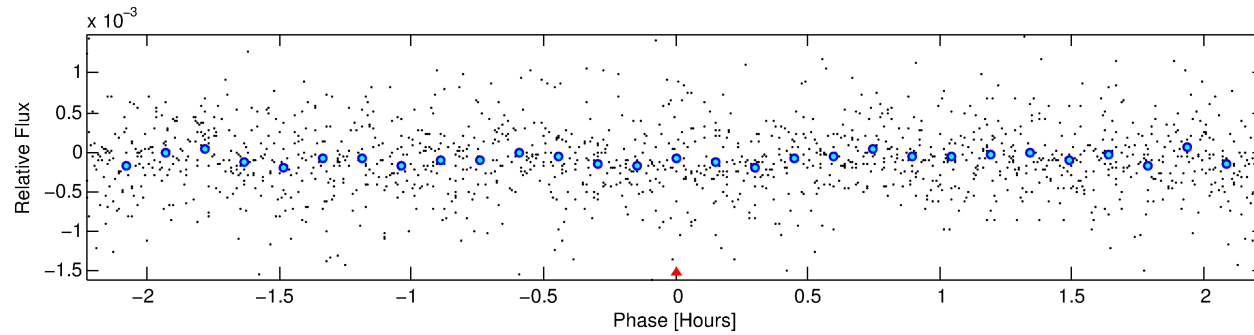
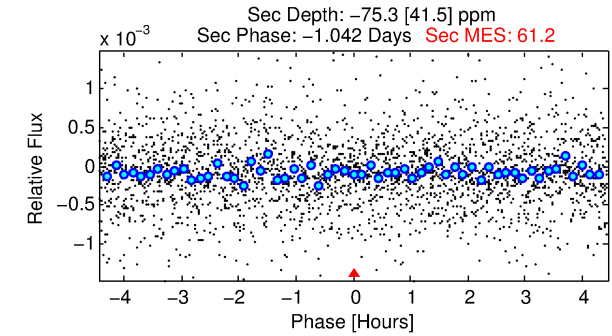
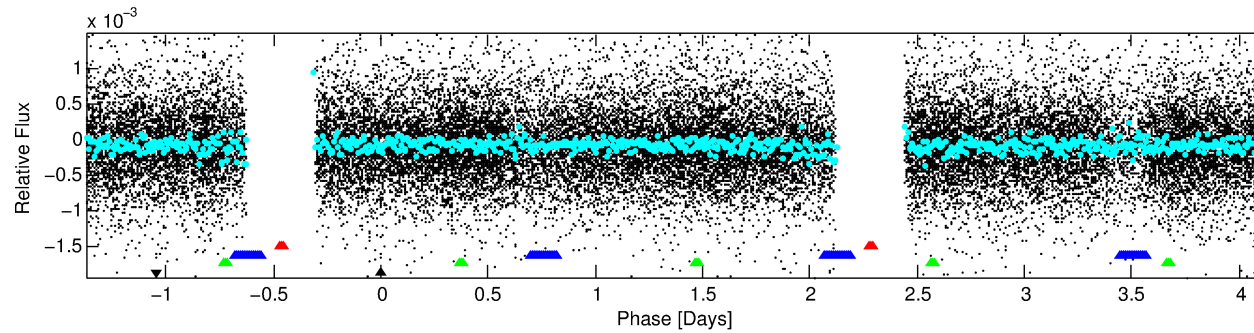
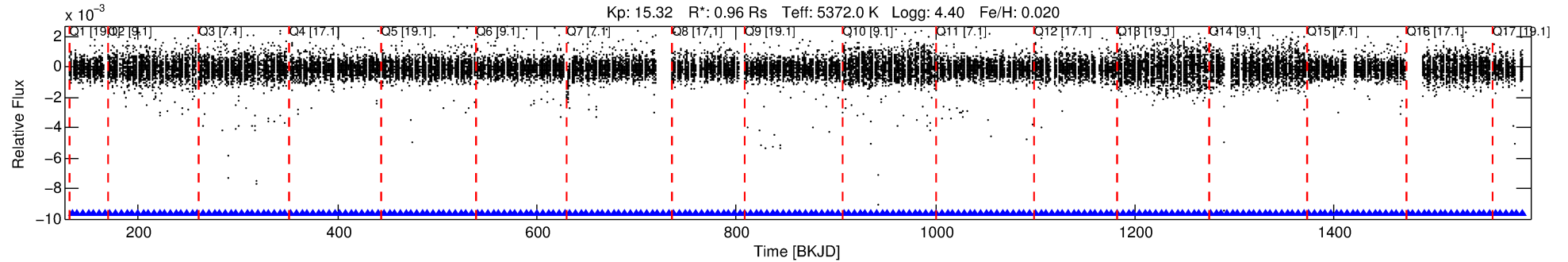
No Significant Match Found

DV One-Page Summary

KIC: 7129465 Candidate: 4 of 4 Period: 5.492 d

KOI: K06155 Corr: No Ephemeris Match

Kp: 15.32 R*: 0.96 Rs Teff: 5372.0 K Logg: 4.40 Fe/H: 0.020



TPS TCE Results:

Period = 5.49191 d
Epoch = 133.6974 BKJD

DV fit results are unavailable

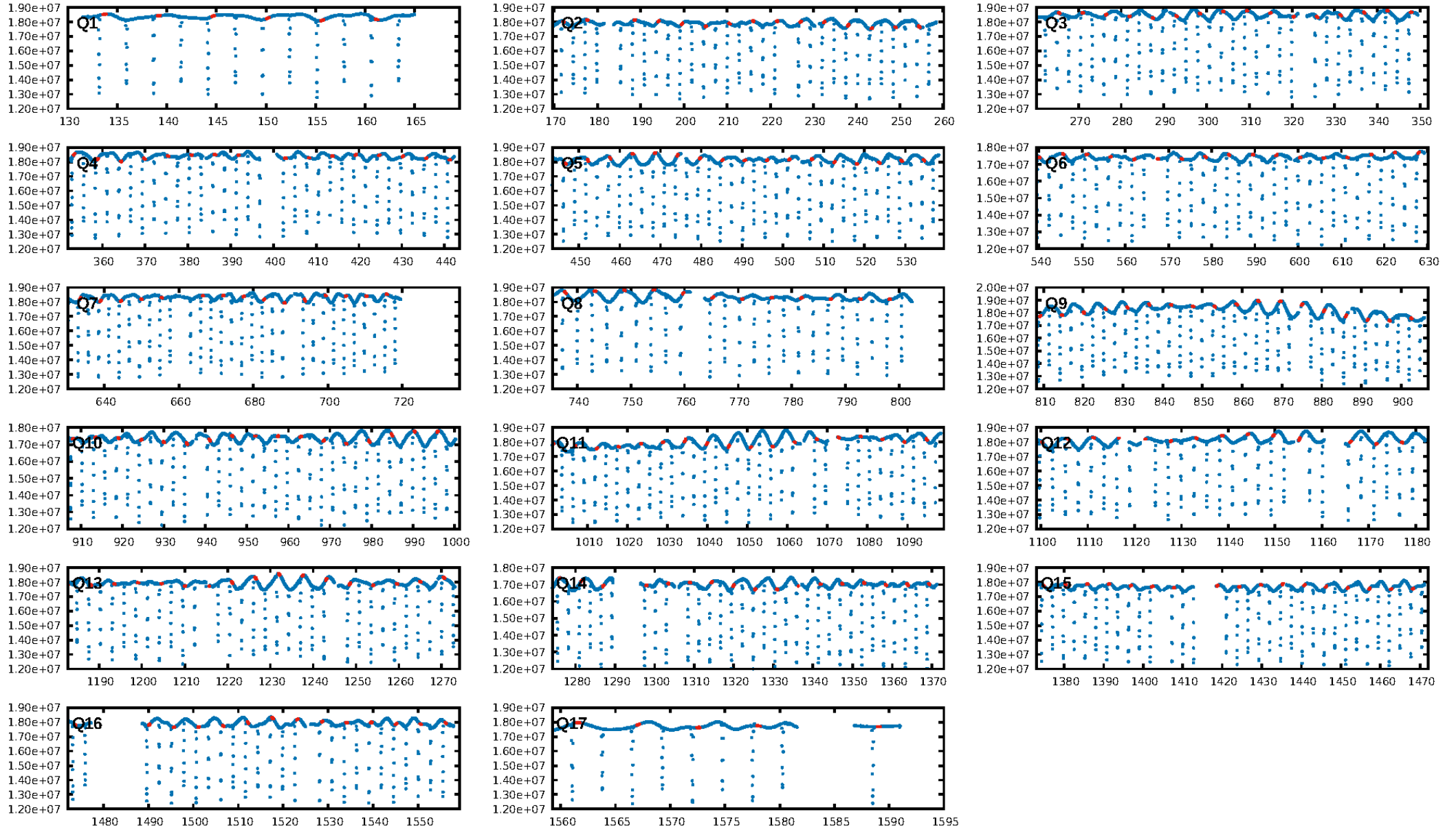
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.29 σ]
LongPeriod-sig: 91.3% [1.71 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [161/161]
GhostDiagnostic-chr: 0.6136
Centroid-sig: N/A
Centroid-so: 6.840 arcsec [1.69 σ]
OotOffset-rm: 0.748 arcsec [0.72 σ]
KicOffset-rm: 0.690 arcsec [0.65 σ]
OotOffset-st: 1/2/2/3 [8]
KicOffset-st: 1/2/2/3 [8]
DiffImageQuality-fgm: 0.00 [0/8]
DiffImageOverlap-fno: 1.00 [17/17]

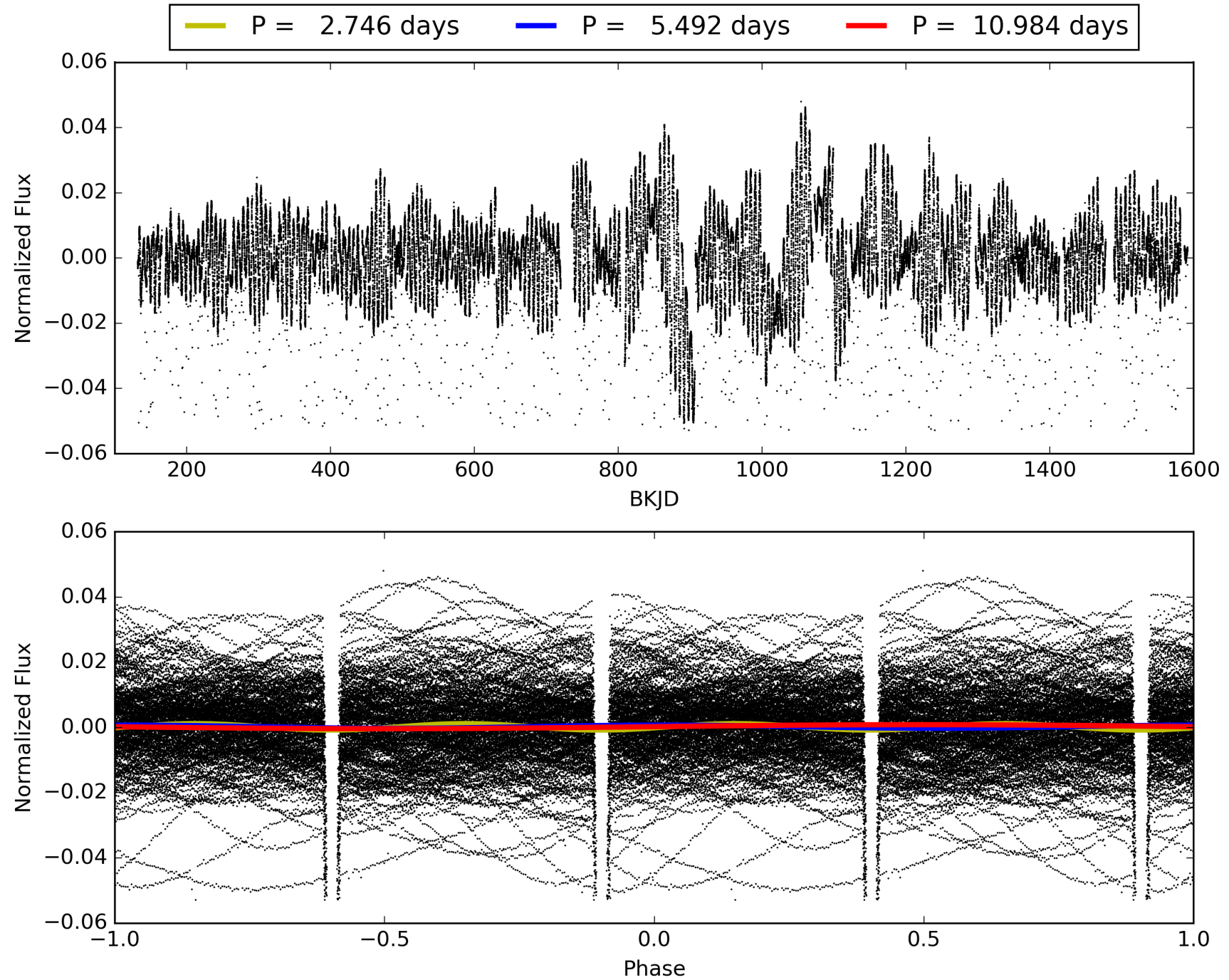
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 09:20:54 Z

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

TCE 007129465-04, PDC Light Curves

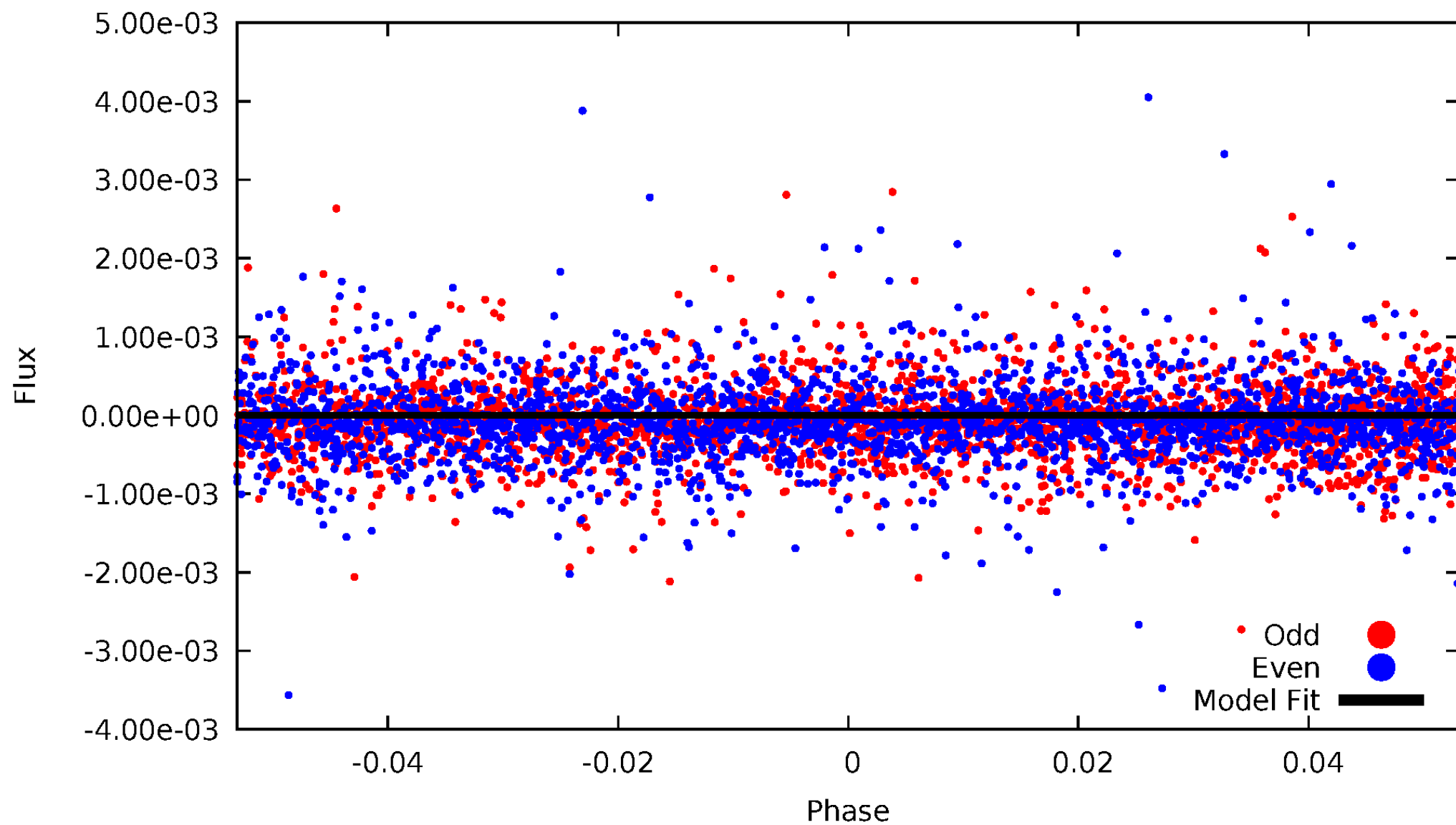


TCE 007129465-04



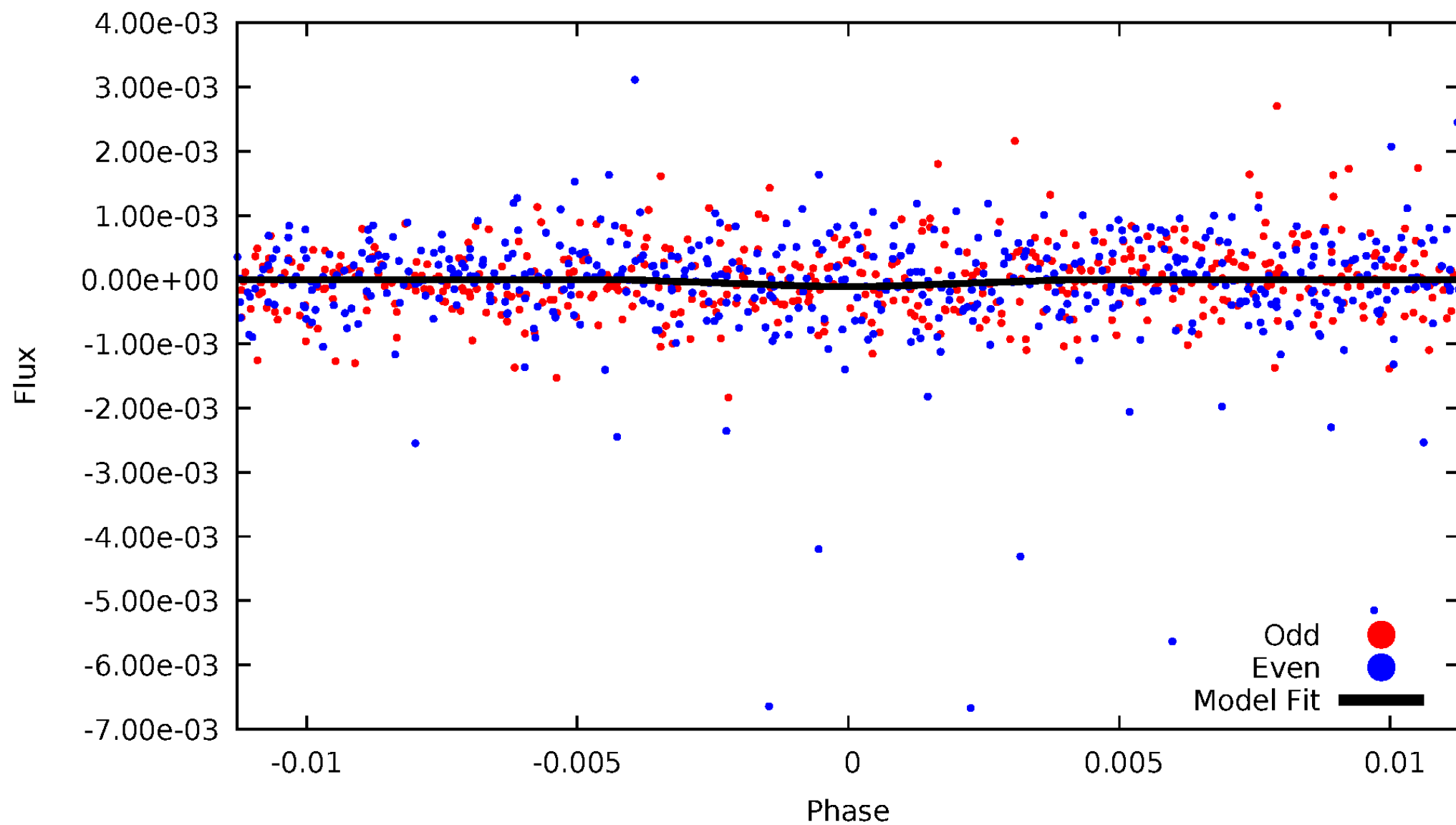
DV Odd/Even

TCE 007129465-04



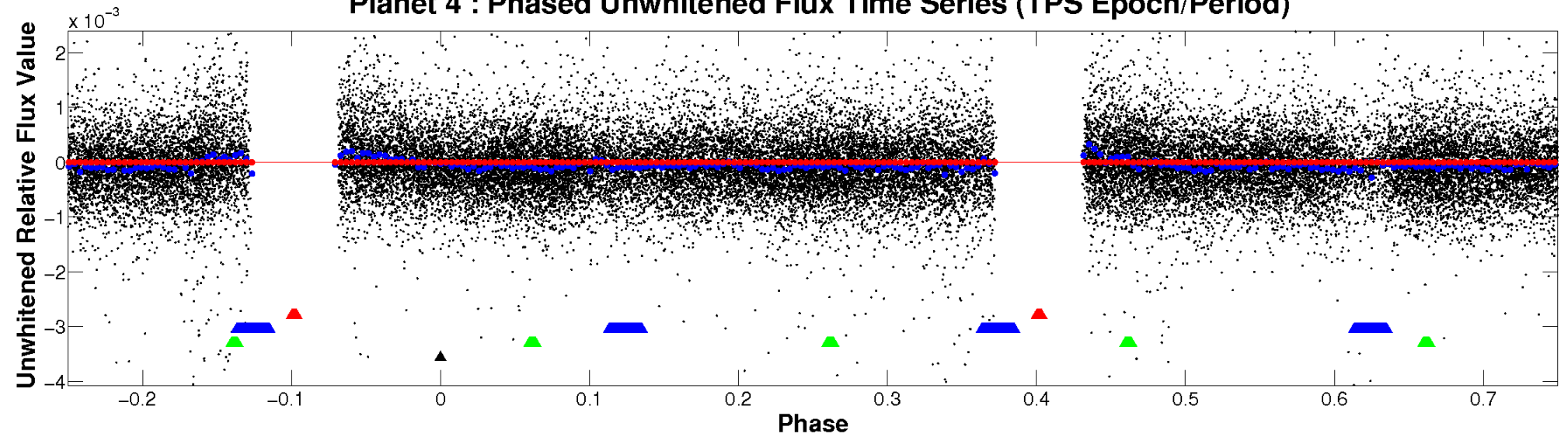
ALT Odd/Even

TCE 007129465-04



Non-Whitened Vs. Whitened Light Curve

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

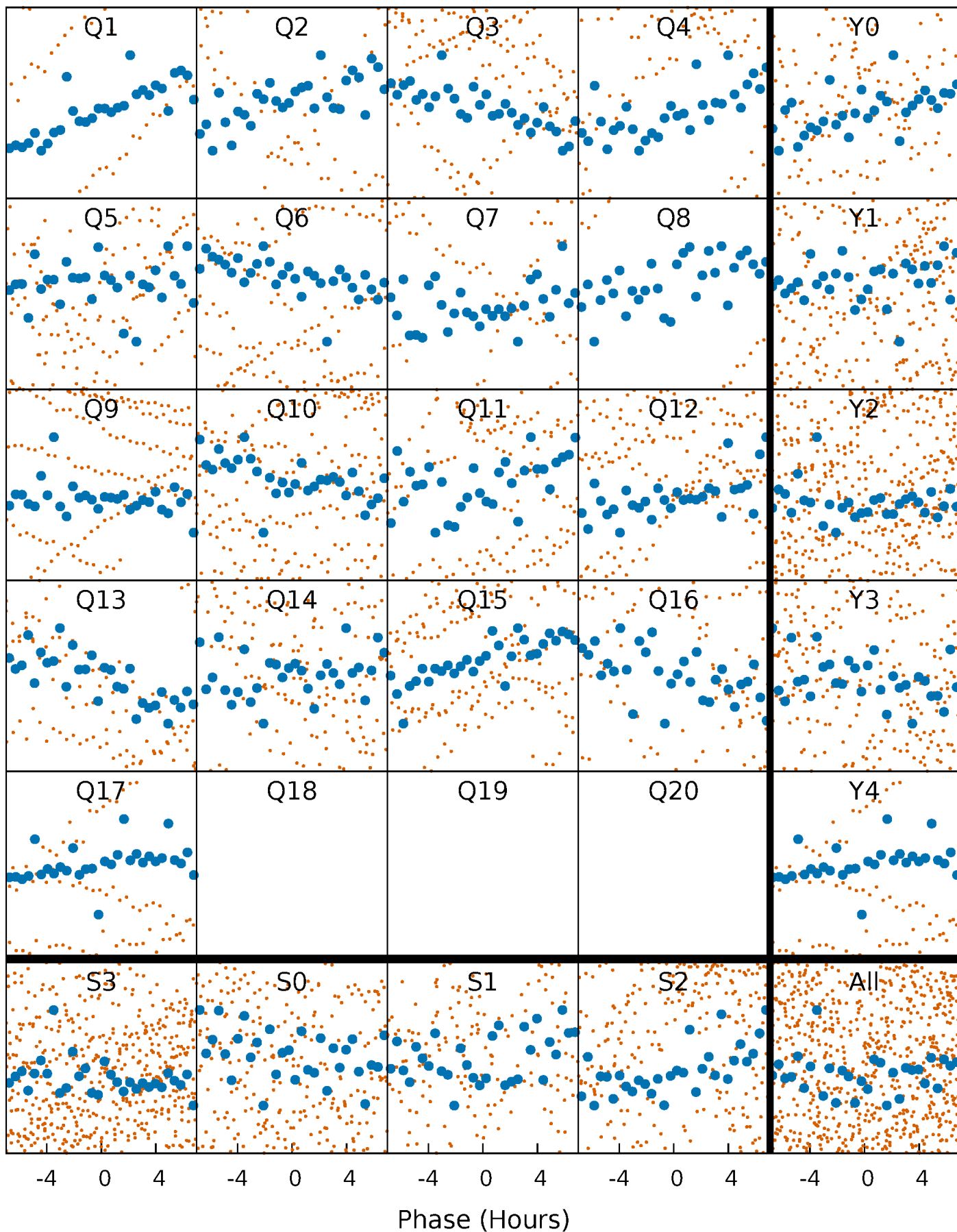


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



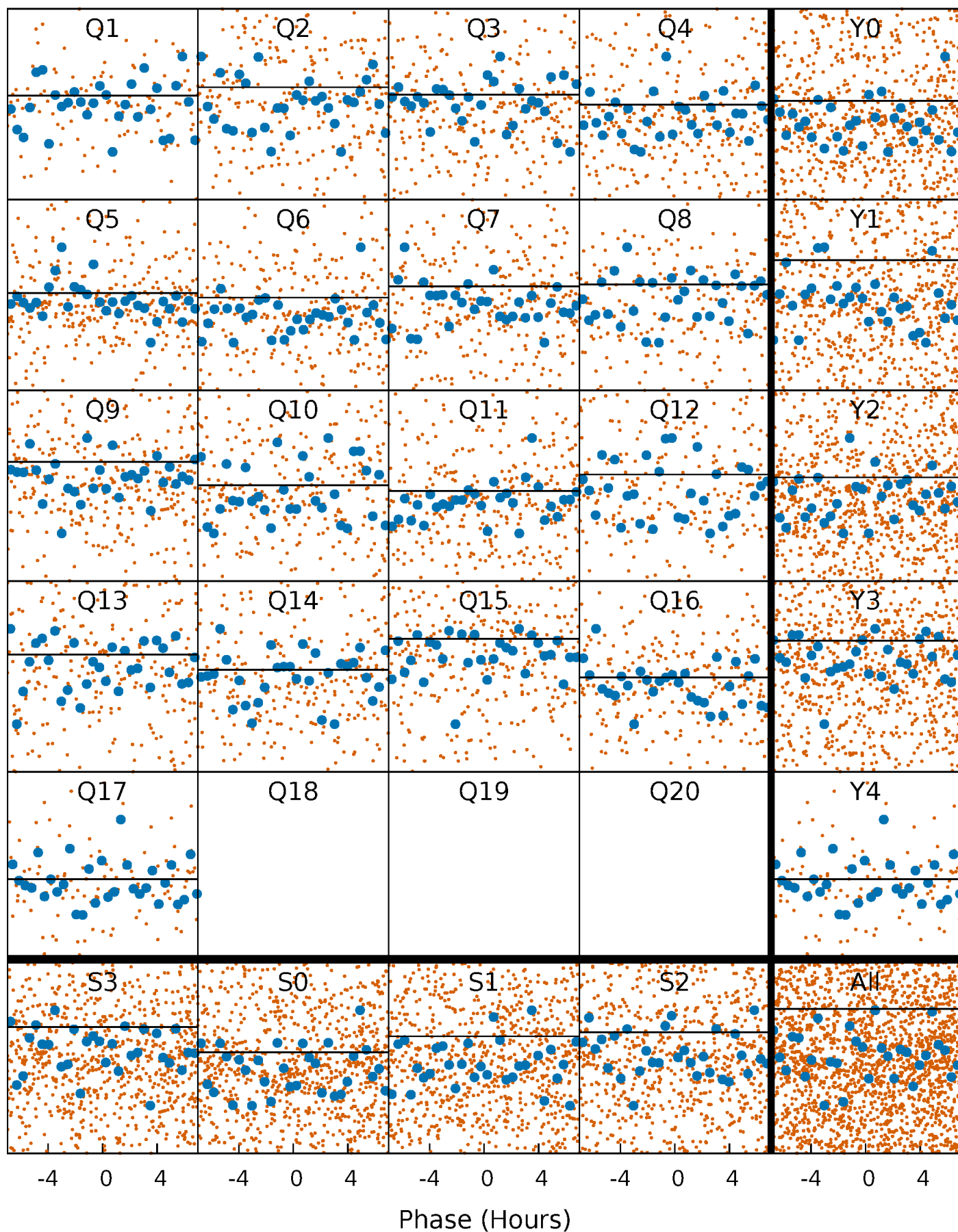
PDC Quarter-Phased Transit Curves

TCE 007129465-04 P= 5.491913 Days $T_0=133.697385$ (BKJD)



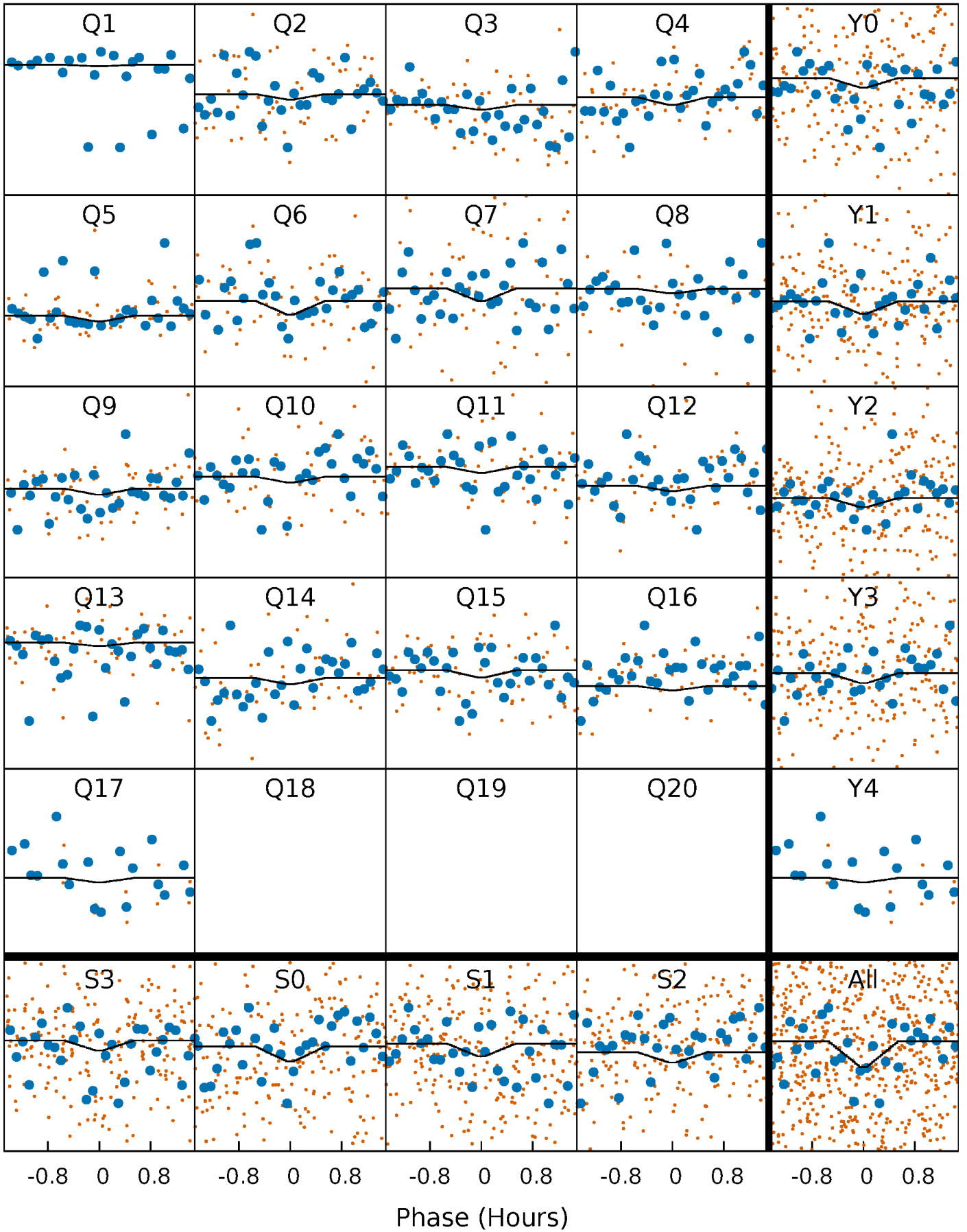
DV Quarter-Phased Transit Curves

TCE 007129465-04 P= 5.491913 Days $T_0=133.697385$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

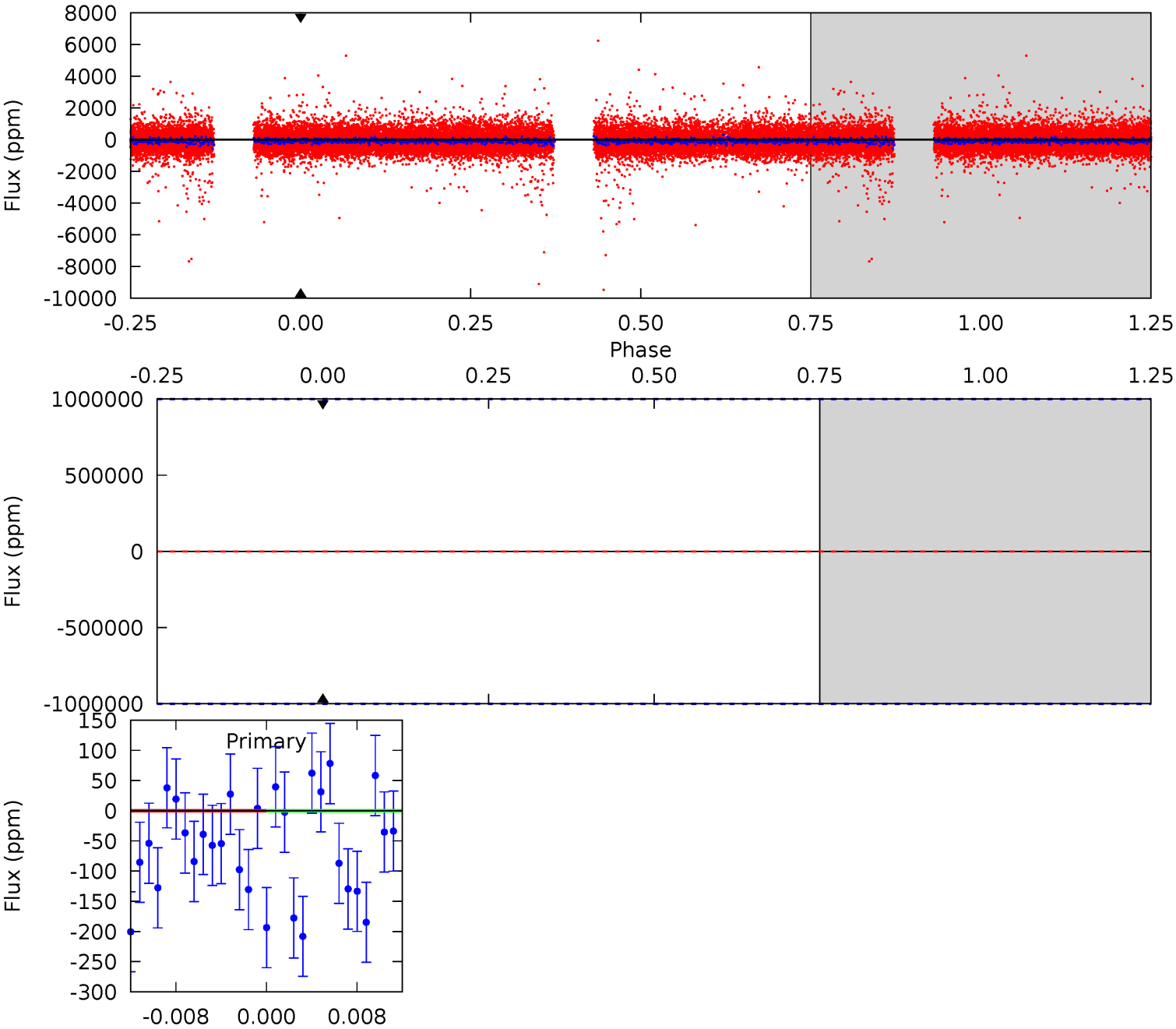
TCE 007129465-04 P= 5.491913 Days $T_0=133.624301$ (BKJD)



DV Model-Shift Uniqueness Test

007129465-04, P = 5.491913 Days, E = 128.205472 Days

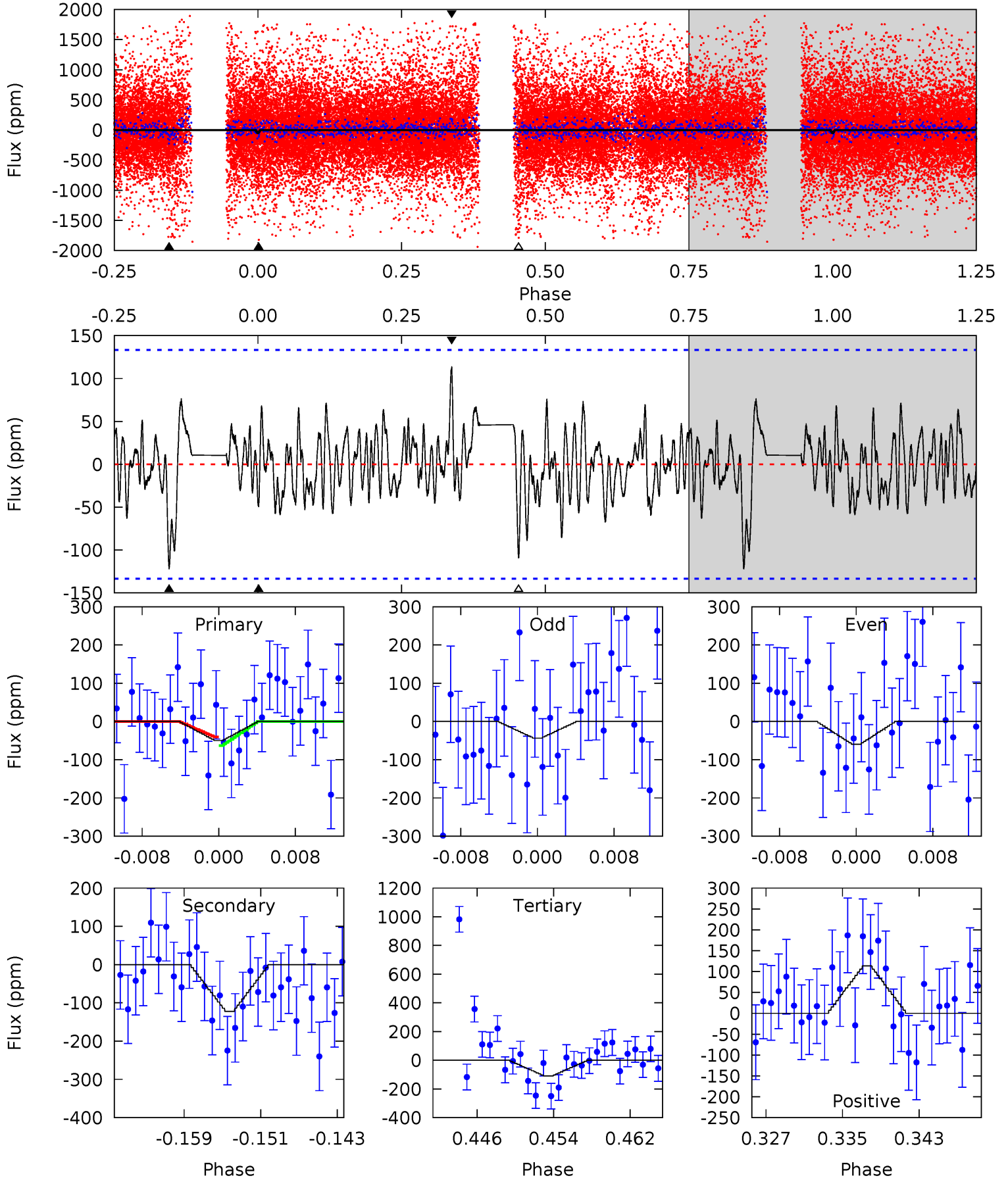
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00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



Alt Model-Shift Uniqueness Test

007129465-04, P = 5.491913 Days, E = 128.132388 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 1.90 | 4.65 | 4.16 | 4.32 | 5.07 | 2.65 | 1.21 | -2.27 | -2.42 | 0.49 | 0.33 | 0.31 | 1.99 | 0.48 | 0.44 |



Stellar Parameters For KIC 007129465

| | $T_{\text{eff}} (K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5372^{+177}_{-160} | $4.396^{+0.140}_{-0.210}$ | $0.020^{+0.300}_{-0.250}$ | $0.960^{+0.273}_{-0.168}$ | $0.836^{+0.108}_{-0.063}$ | $1.332^{+0.878}_{-0.675}$ |
| | +3%/-3% | +3%/-5% | +1500%/-1250% | +28%/-18% | +13%/-8% | +66%/-51% |
| 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 007129465-04 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|------------------------|---------------------|---------------------------|----------------------------------|
| DV | 0 ± 1000000 | $9.58^{+9.91}_{-6.49}$ | 1362^{+114}_{-86} | -2892^{+16627}_{-10913} | $-5.064^{+3141.937}_{-3263.769}$ |
| Alt. | -122 ± 26 | $7.75^{+8.64}_{-5.52}$ | 1365^{+110}_{-85} | 2786^{+1315}_{-544} | $3.583^{+37.875}_{-2.784}$ |

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 $A_{obs} \gg 1.0$

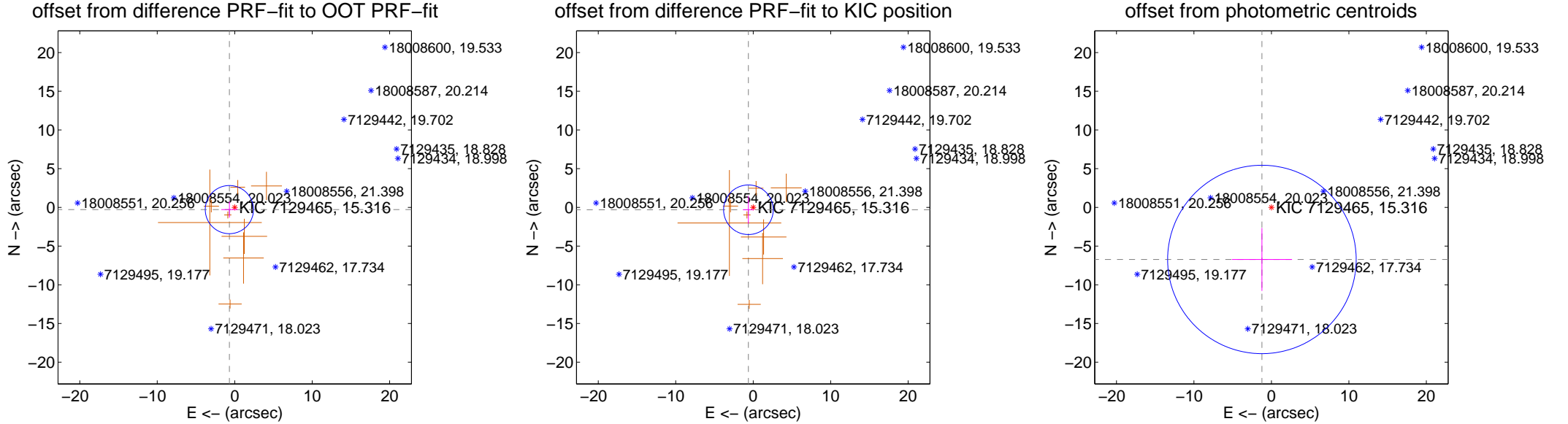
DV Centroid Data

Supplemental centroid analysis for 007129465-04. Kepler magnitude: 15.32. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

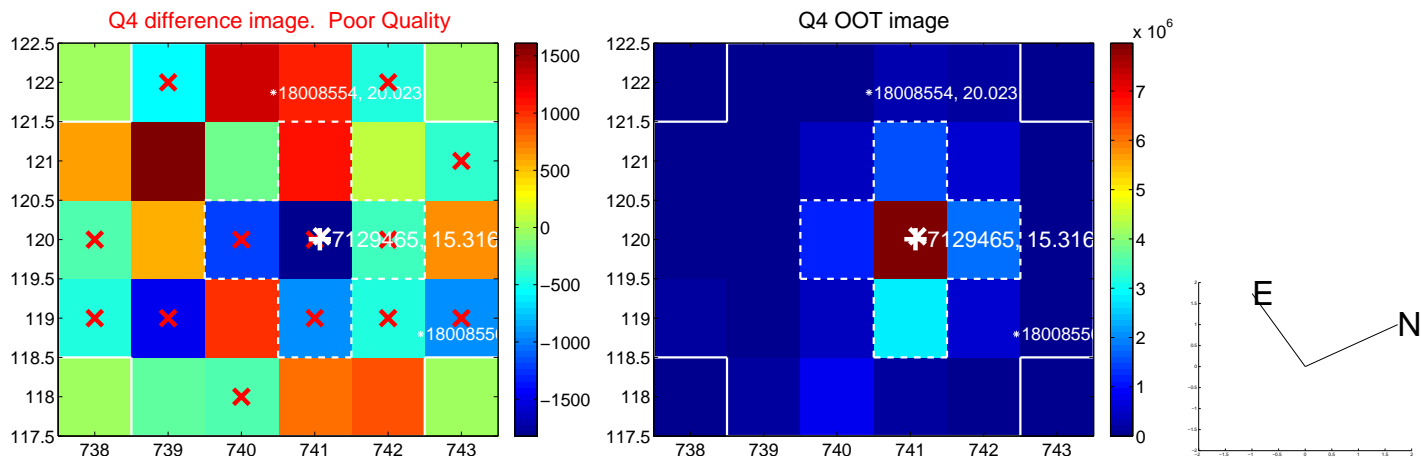
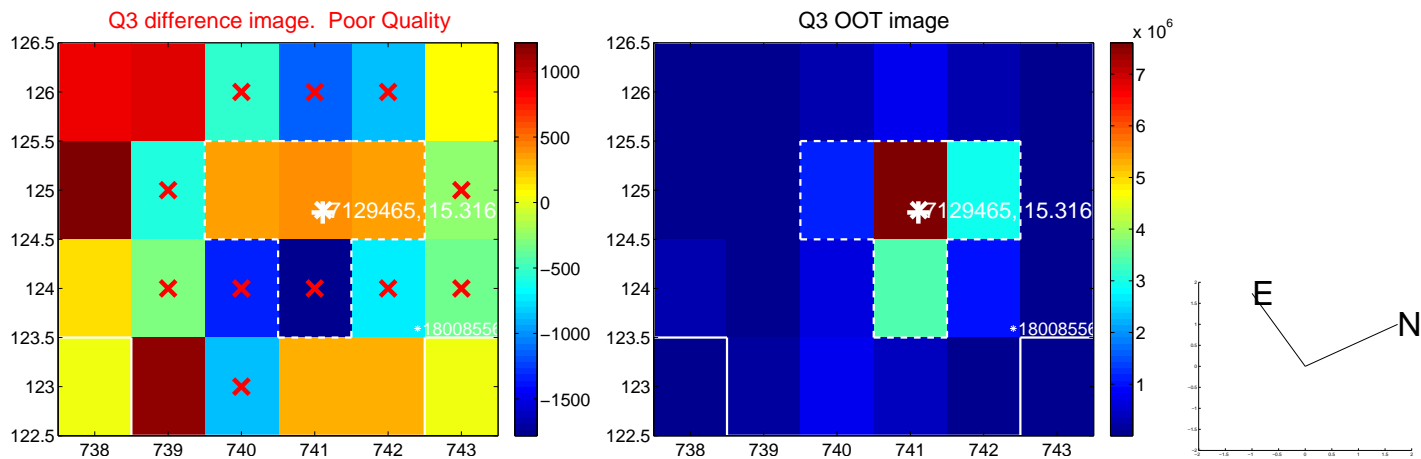
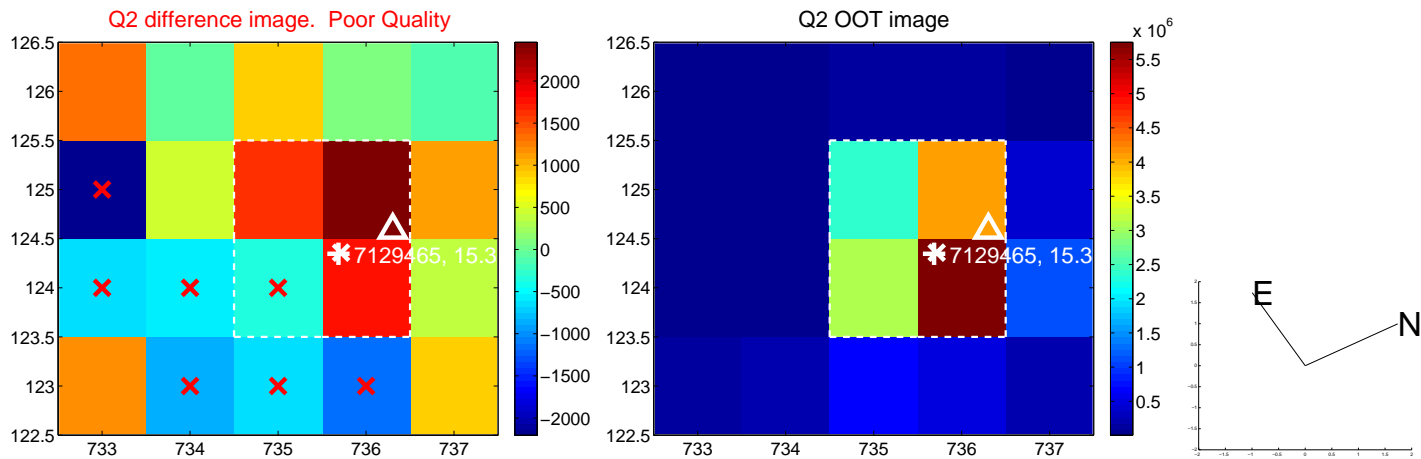
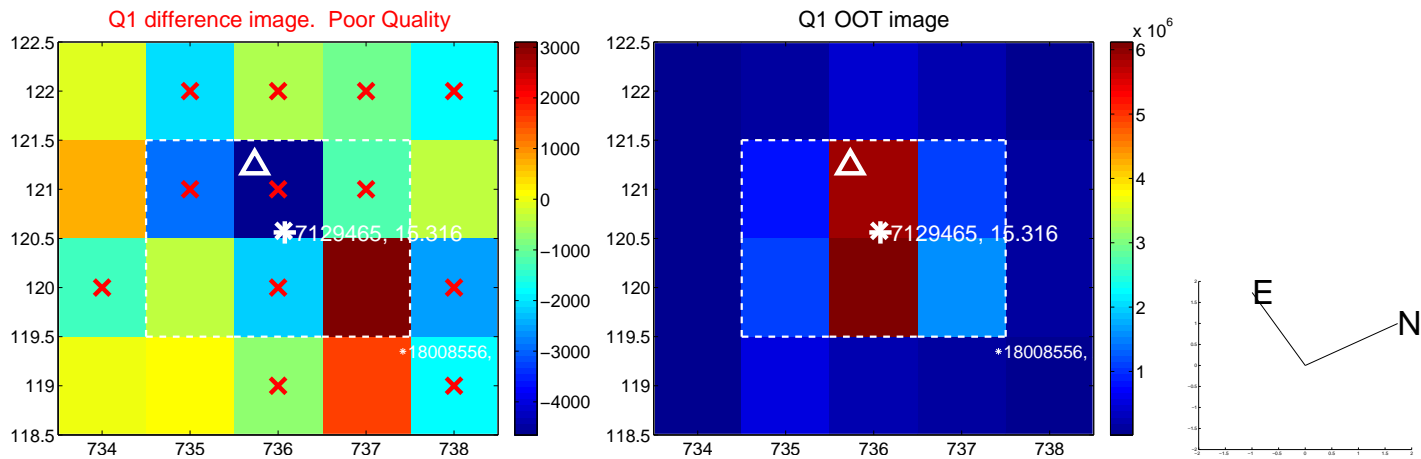
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.748 ± 1.037 | 0.72 | 0.691 ± 1.038 | -0.287 ± 1.036 |
| PRF-fit source offset from KIC position | 0.690 ± 1.068 | 0.65 | 0.618 ± 0.706 | -0.307 ± 1.807 |
| photometric centroid source offset | 6.84 ± 4.06 | 1.69 | 1.23 ± 3.89 | -6.73 ± 4.06 |

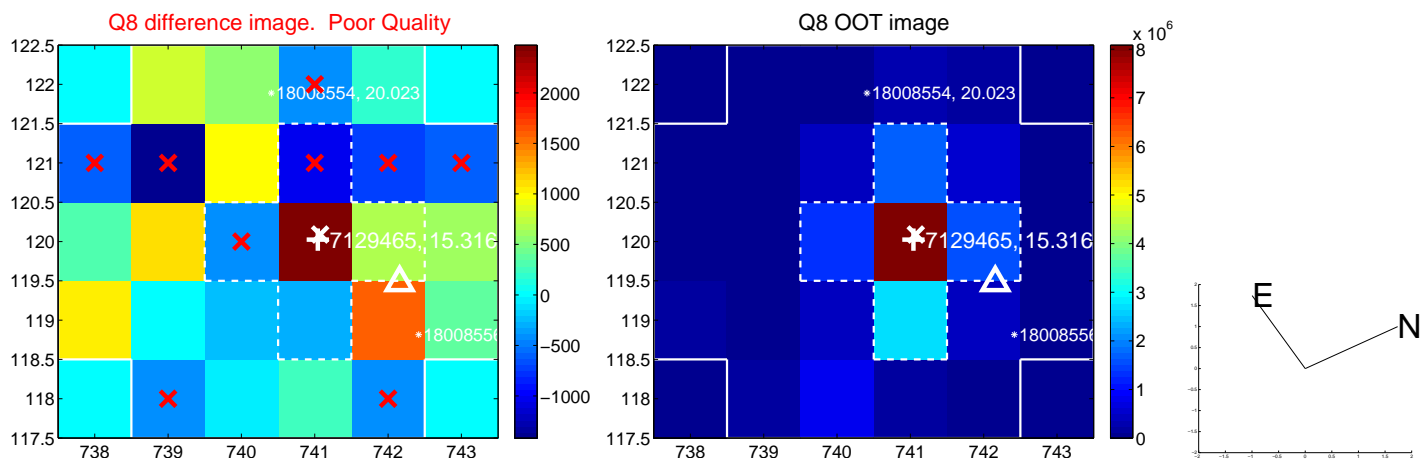
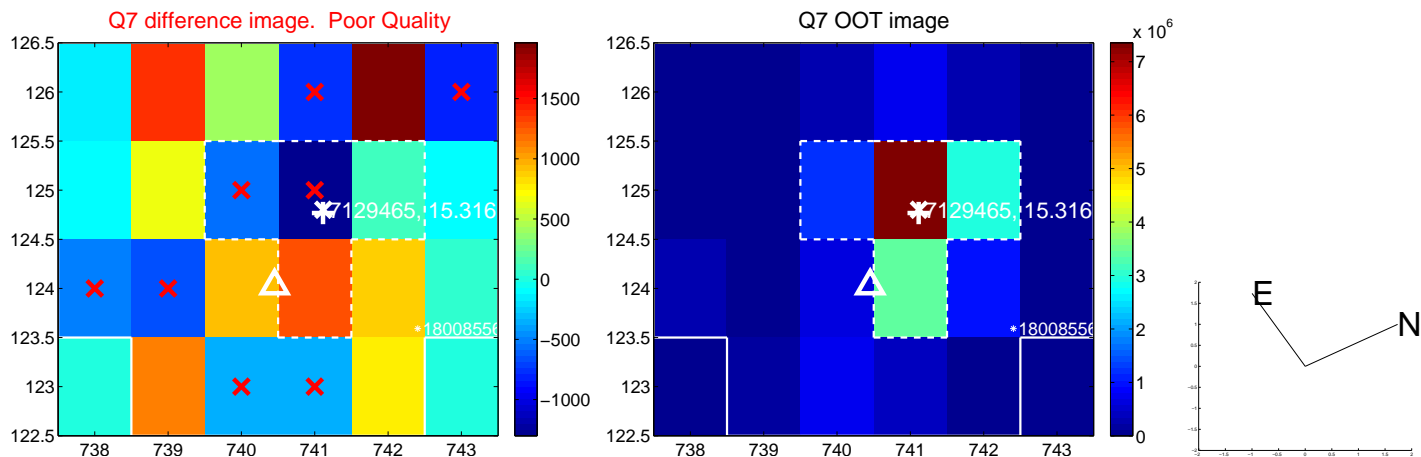
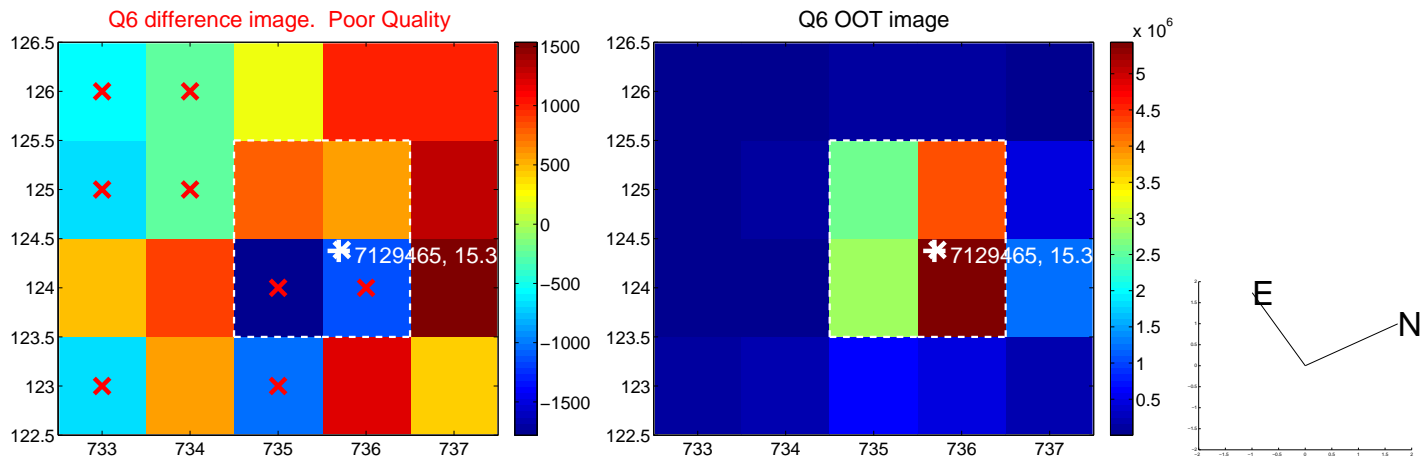
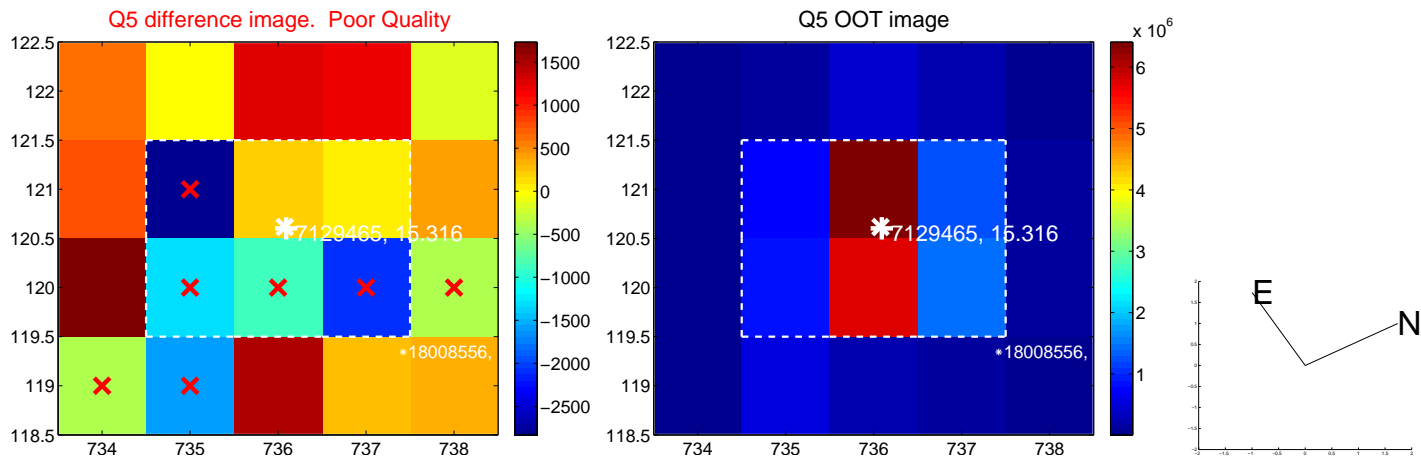


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

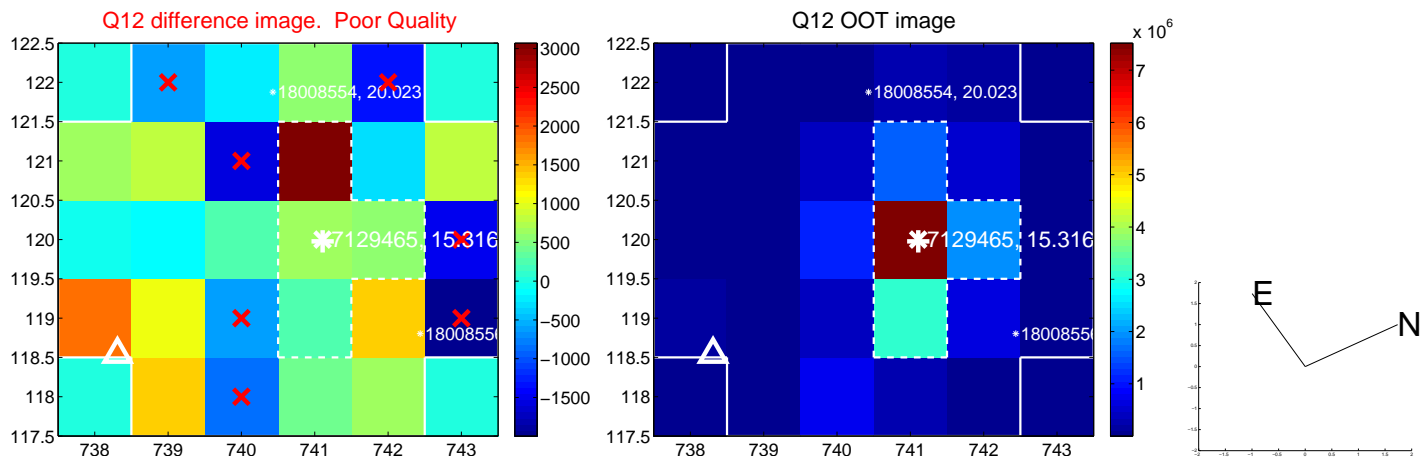
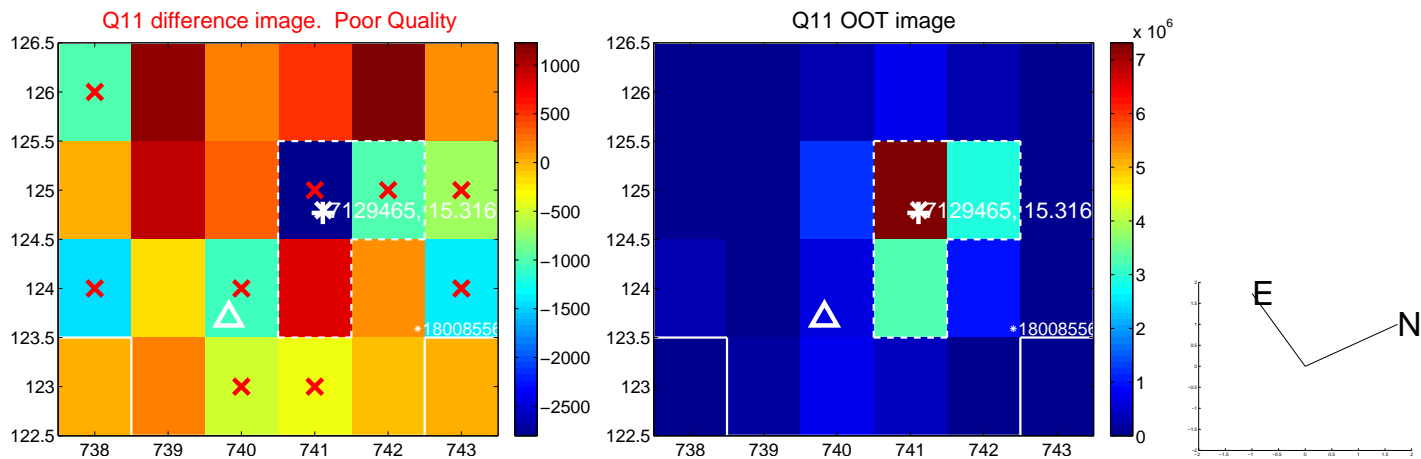
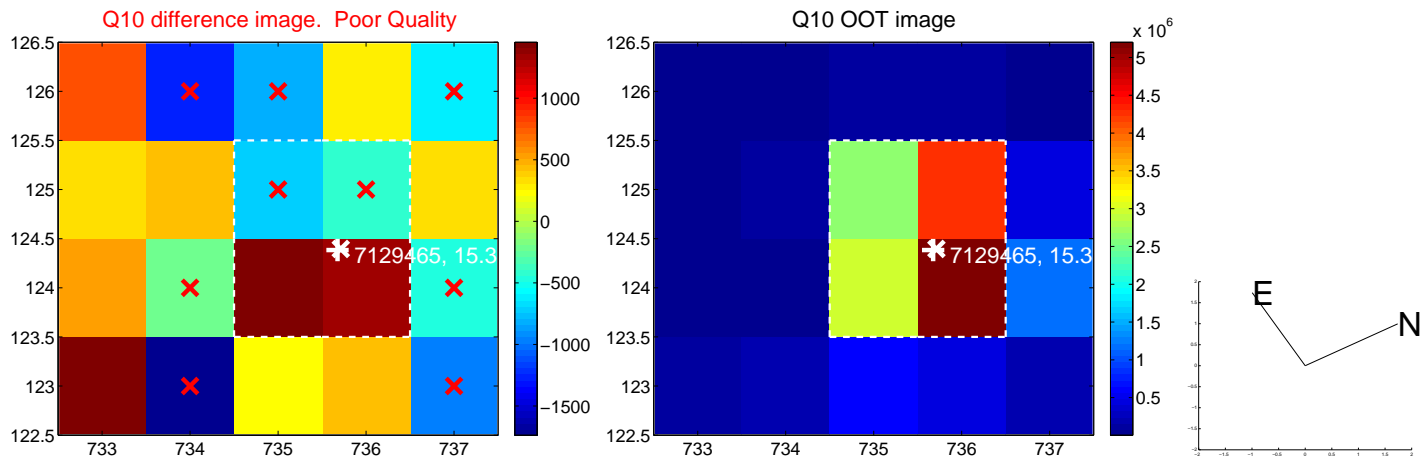
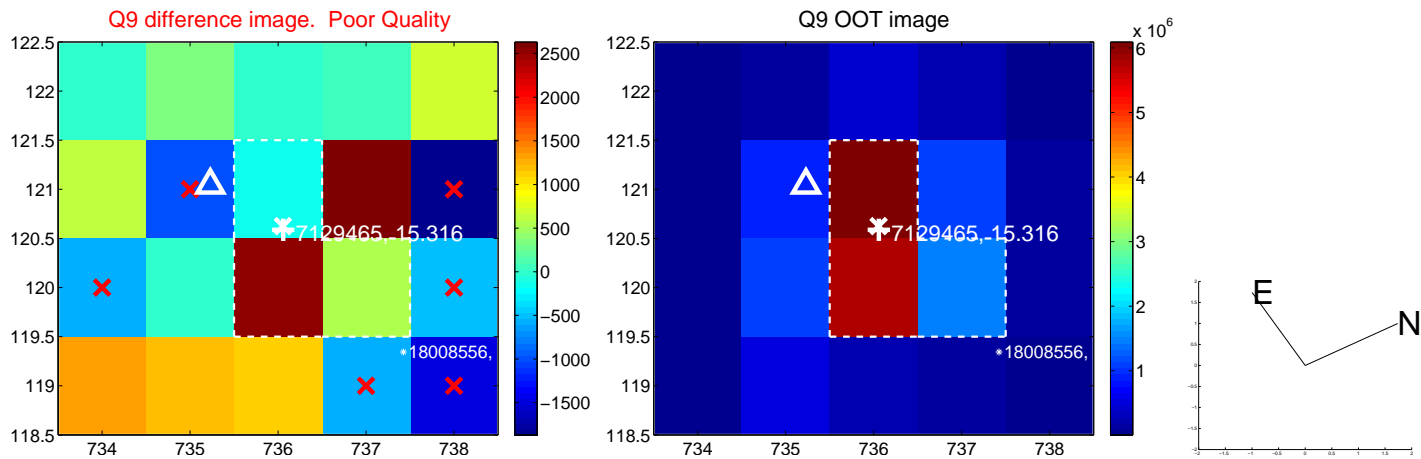
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



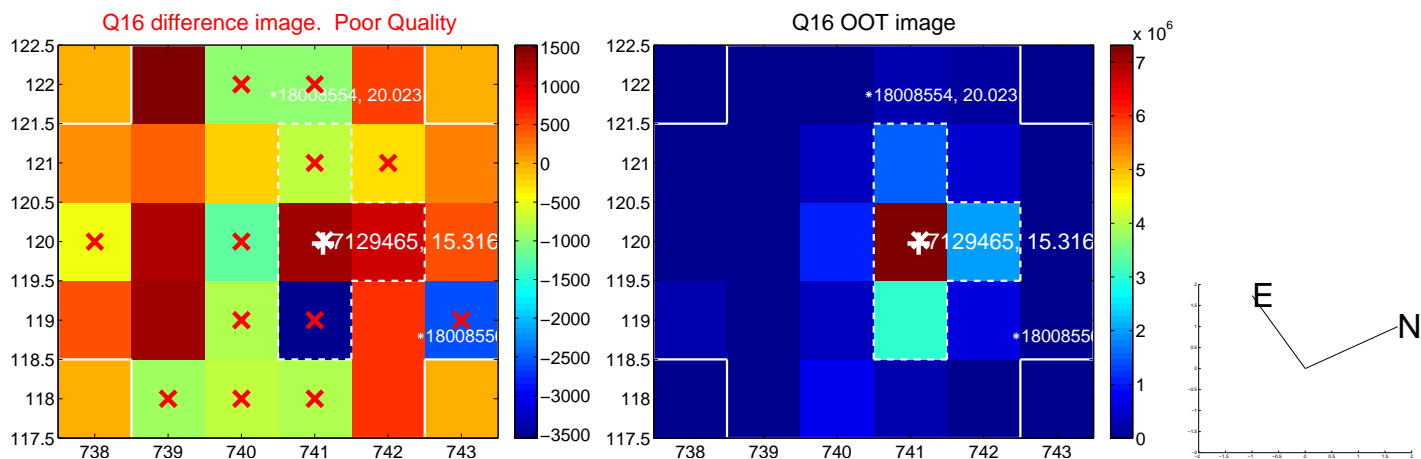
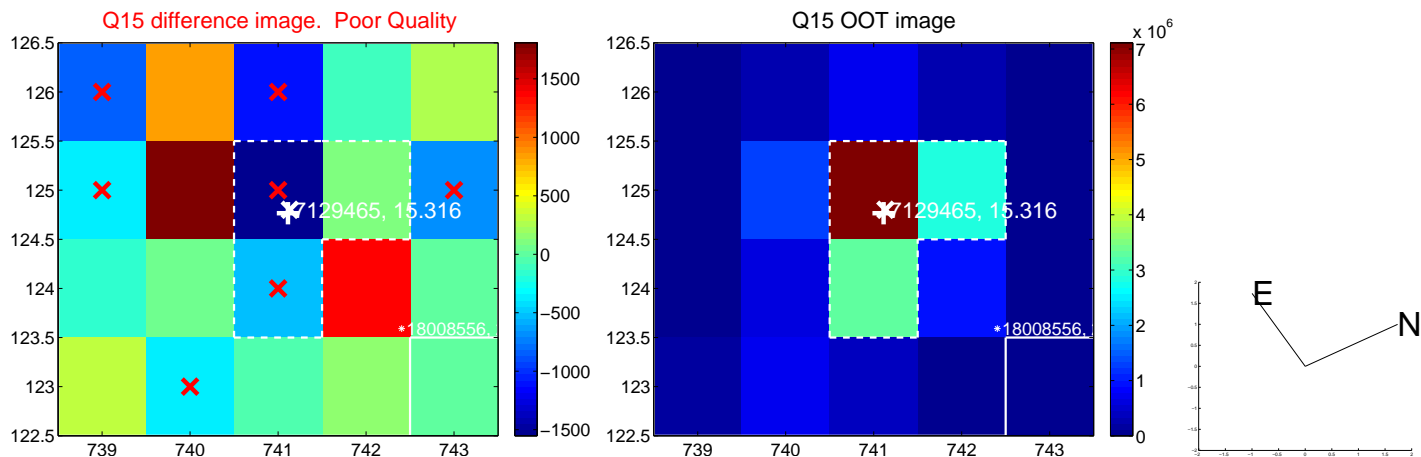
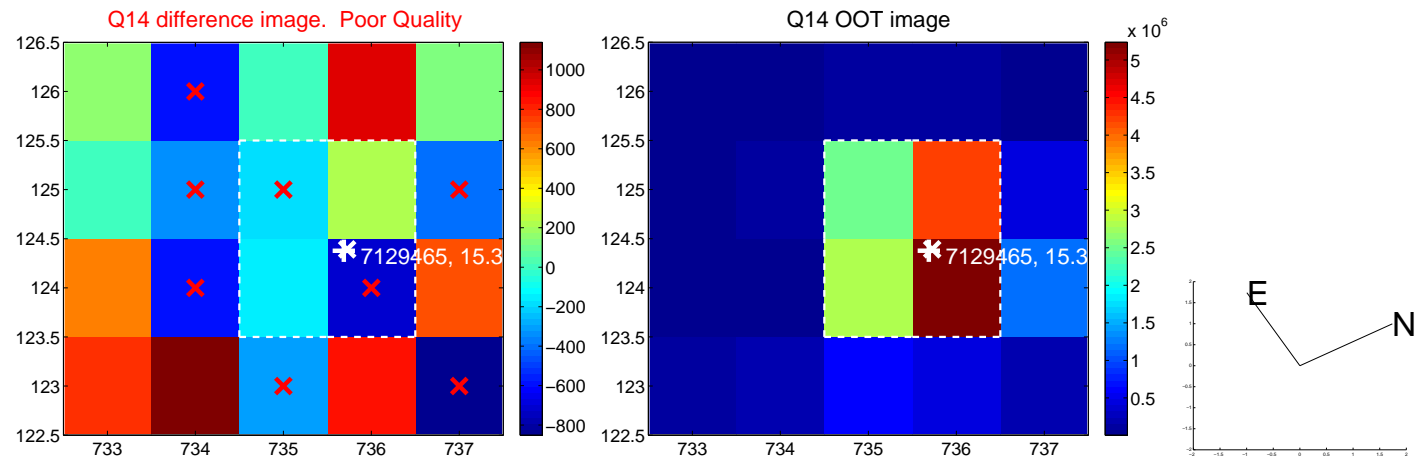
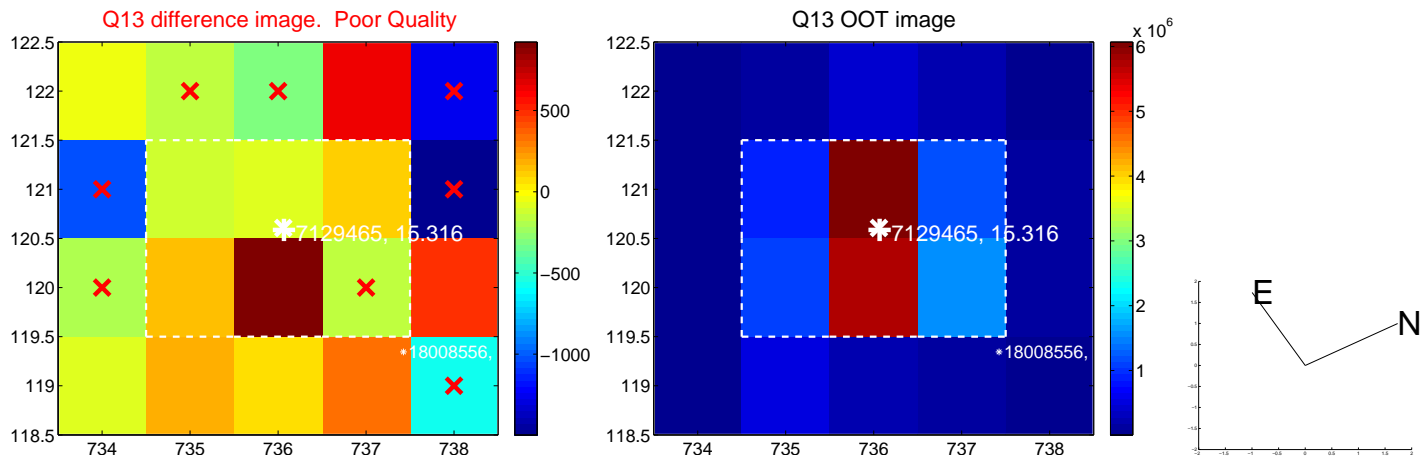
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

