

KIC 006366501

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 006366501-01 | OBS | No | 1.208188 | 131.804013 | 22.7 | 0.648 | 11.4 | 5.3 | 1.92 | 6722 | 0.96 | 10236.58 |
| 006366501-02 | OBS | No | 1.207157 | 132.159253 | 0.0 | 1.550 | 11.2 | 0.0 | 1.92 | 6722 | 0.03 | 10248.24 |
| 006366501-03 | OBS | No | 1.208140 | 132.622166 | 11.3 | 3.924 | 12.1 | 4.0 | 1.92 | 6722 | 0.80 | 10237.12 |
| 006366501-04 | OBS | No | 1.208124 | 132.310489 | 18.3 | 9.940 | 14.4 | 7.3 | 1.92 | 6722 | 0.83 | 10237.30 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 006366501-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS |
| 006366501-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT |
| 006366501-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD |
| 006366501-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD |

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

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

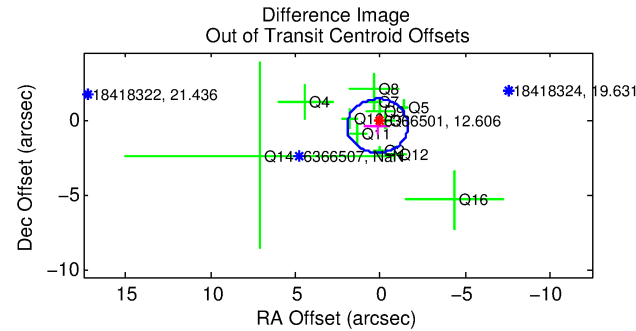
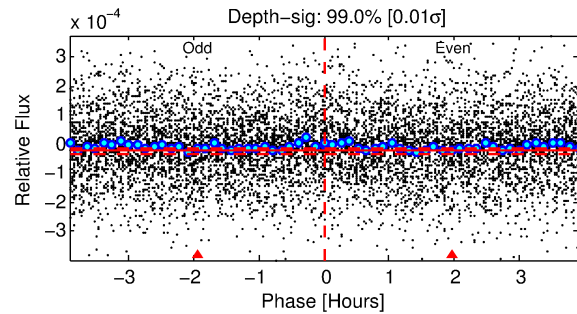
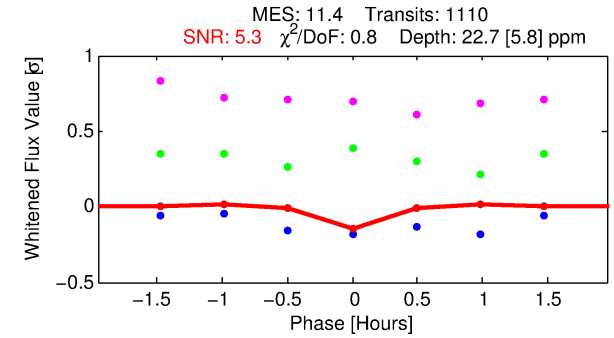
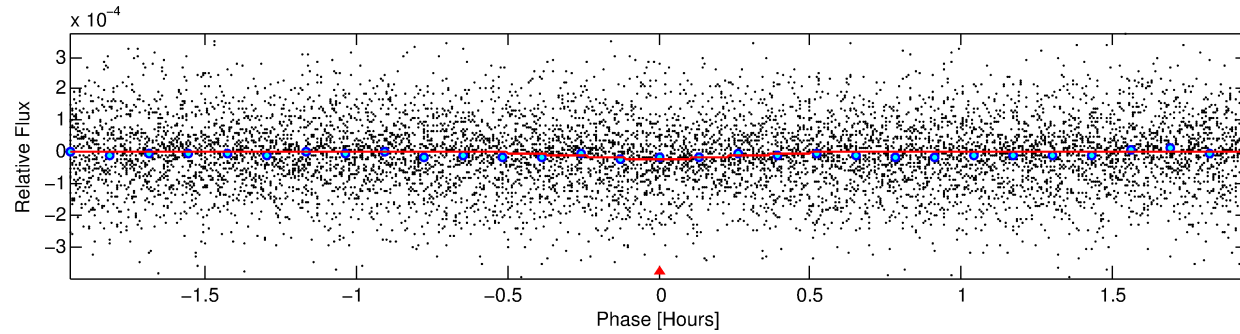
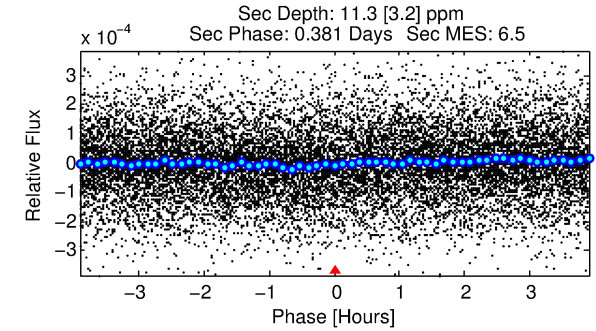
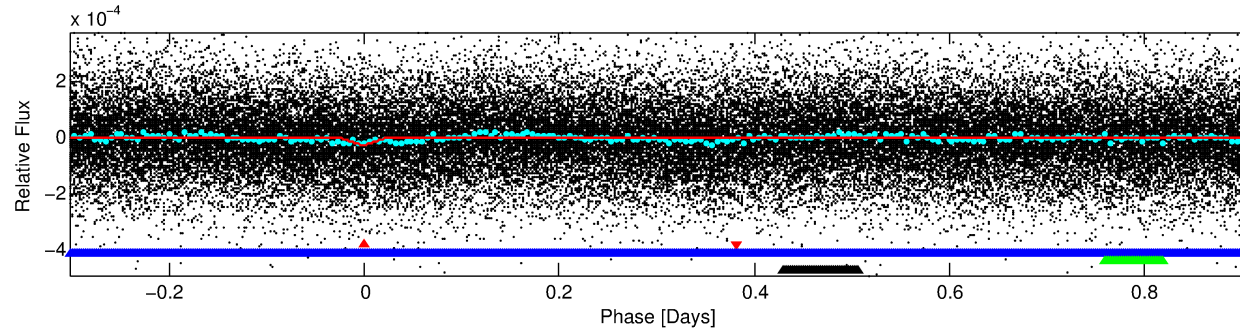
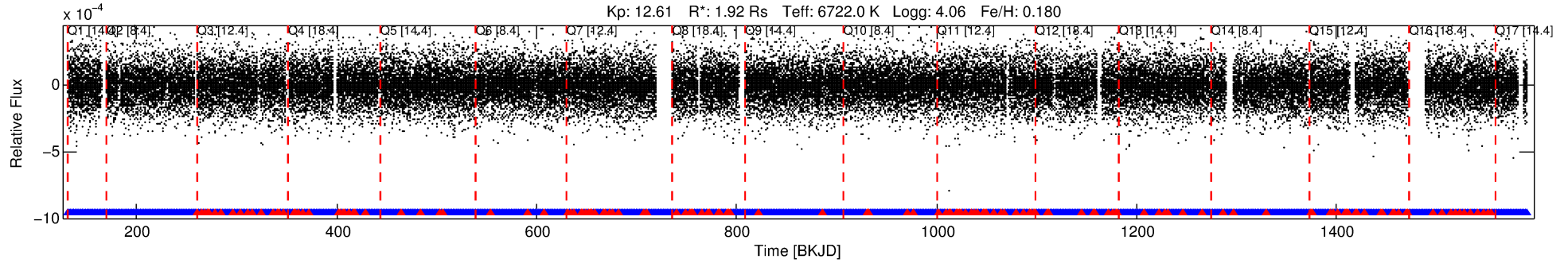
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006366501-01

No Significant Match Found

DV One-Page Summary

KIC: 6366501 Candidate: 1 of 4 Period: 1.208 d



DV Fit Results:

Period = 1.20819 [0.00002] d
Epoch = 131.8040 [0.0022] BKJD
Rp/R* = 0.0046 [0.0019]
a/R* = 12.60 [27.39]
b = 0.48 [3.54]
Seff = 10236.58 [2550.84]
Teq = 2565 [160] K
Rp = 0.96 [0.44] Re
a = 0.0256 [0.0041] AU
Ag = 4.43 [4.05] [0.85σ]
Teffp = 5755 [1270] K [2.49σ]

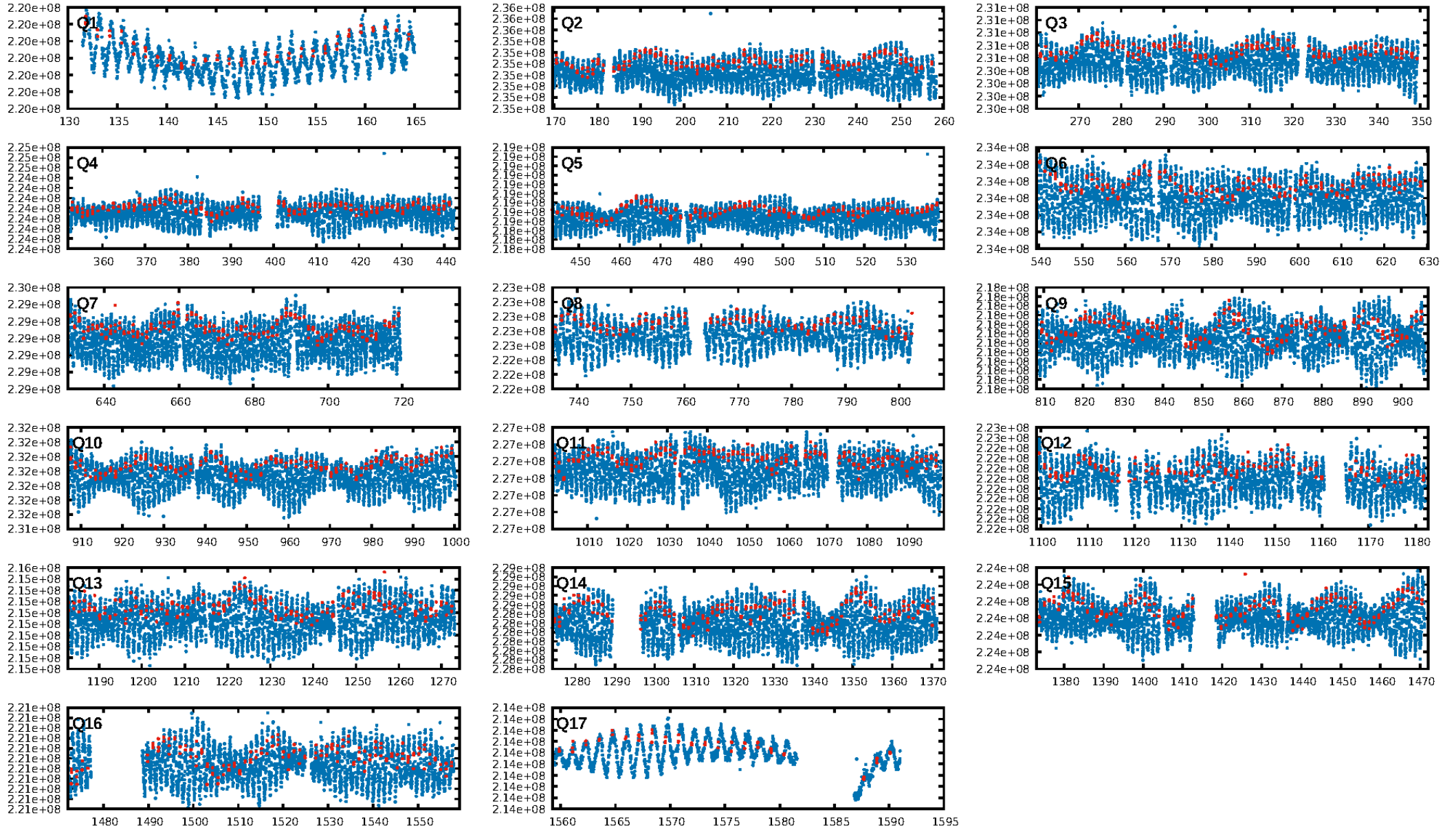
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquare3-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.86 [917/1061]
GhostDiagnostic-chr: -6.282
Centroid-sig: 14.9%
Centroid-so: 1.833 arcsec [1.15σ]
OotOffset-rm: 0.435 arcsec [0.73σ]
KicOffset-rm: 0.334 arcsec [0.54σ]
OotOffset-st: 3/3/4/2 [12]
KicOffset-st: 3/3/4/2 [12]
DiffImageQuality-fgm: 0.08 [1/12]
DiffImageOverlap-fno: 0.65 [11/17]

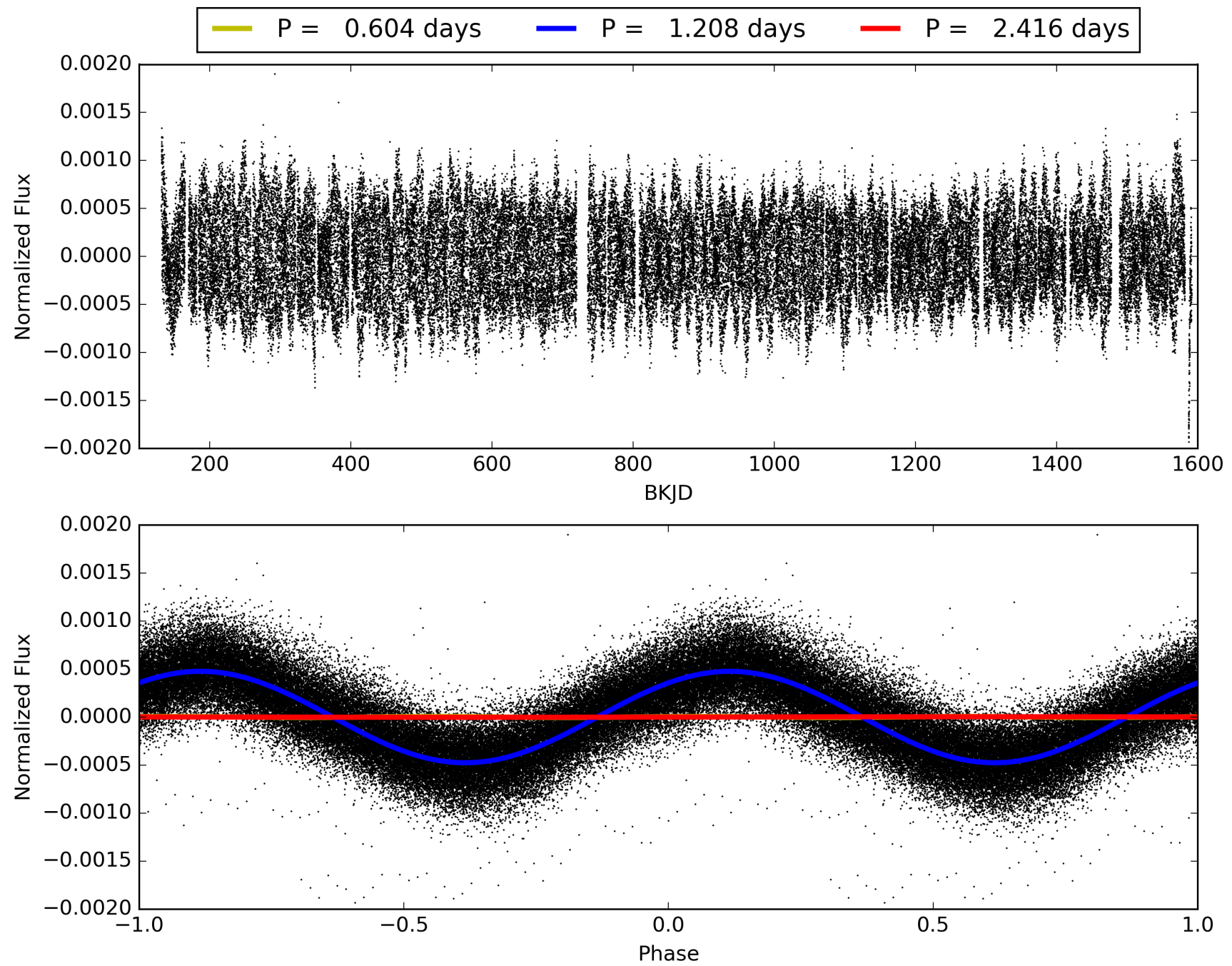
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:21:26 Z

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

TCE 006366501-01, PDC Light Curves

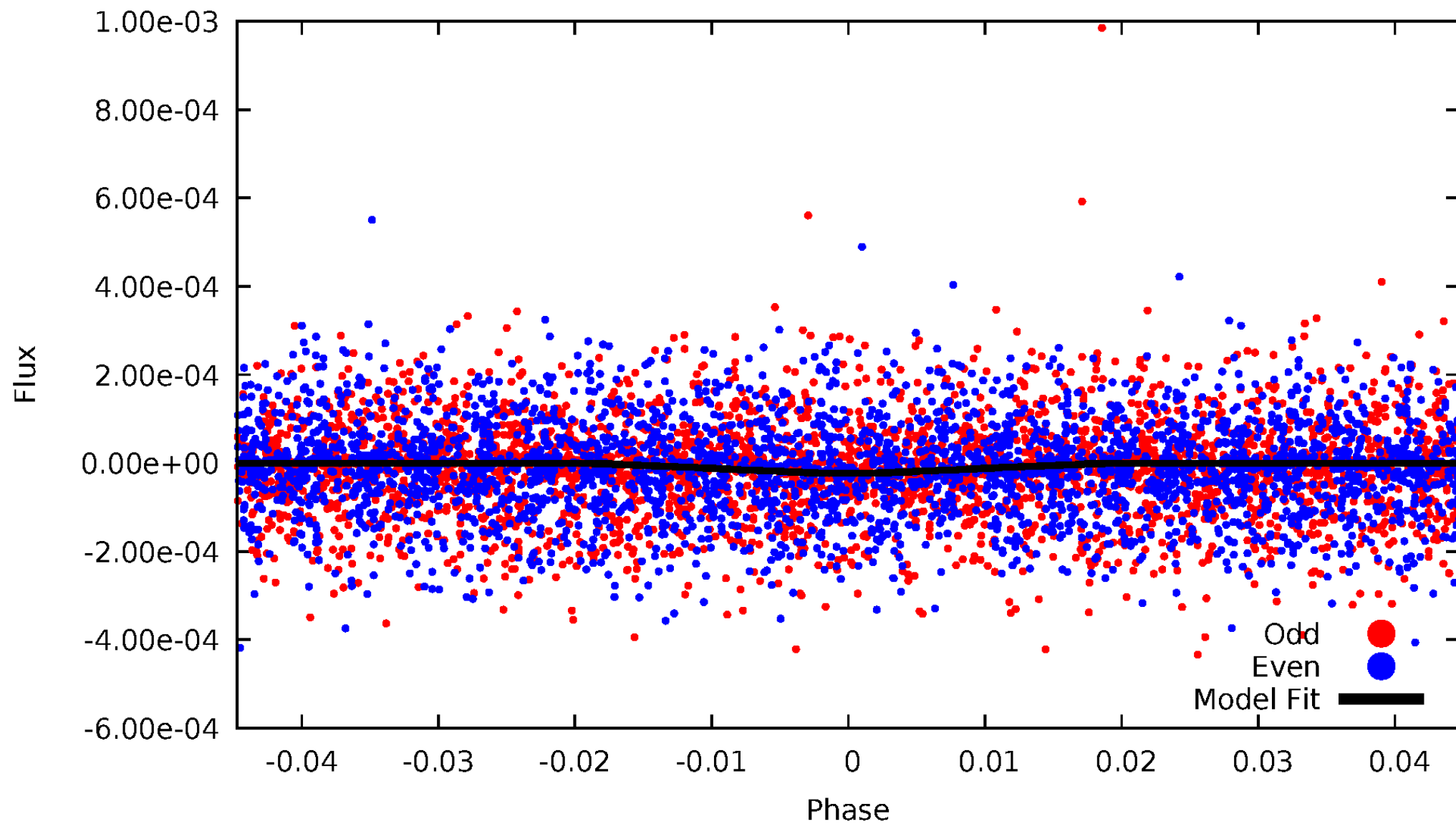


TCE 006366501-01



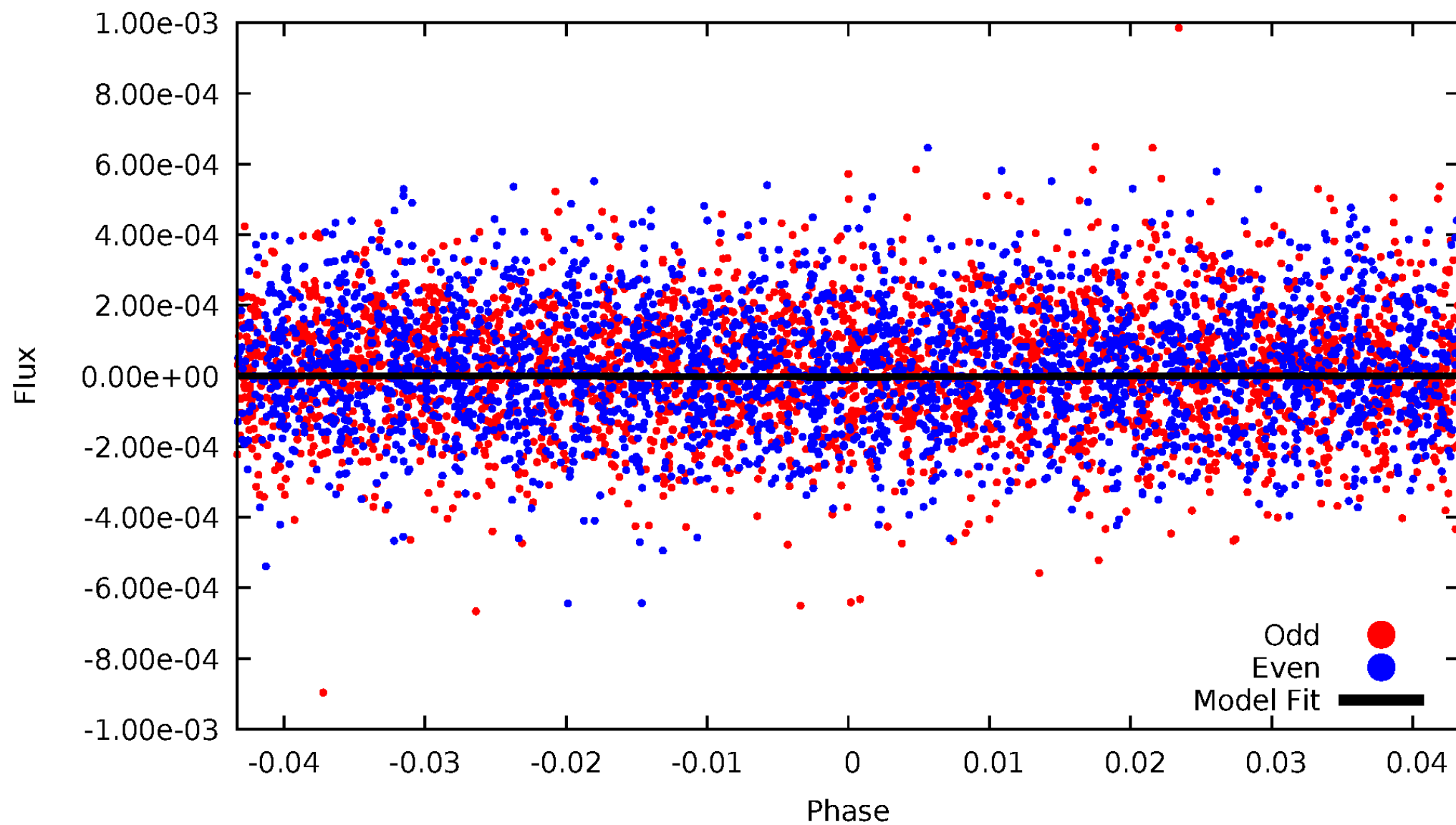
DV Odd/Even

TCE 006366501-01



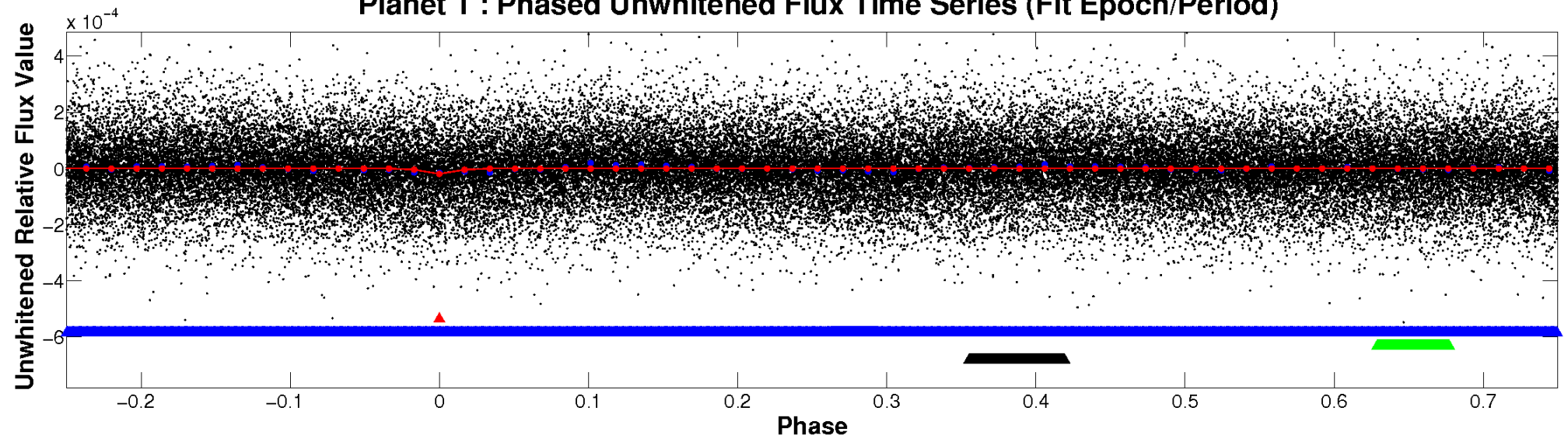
ALT Odd/Even

TCE 006366501-01

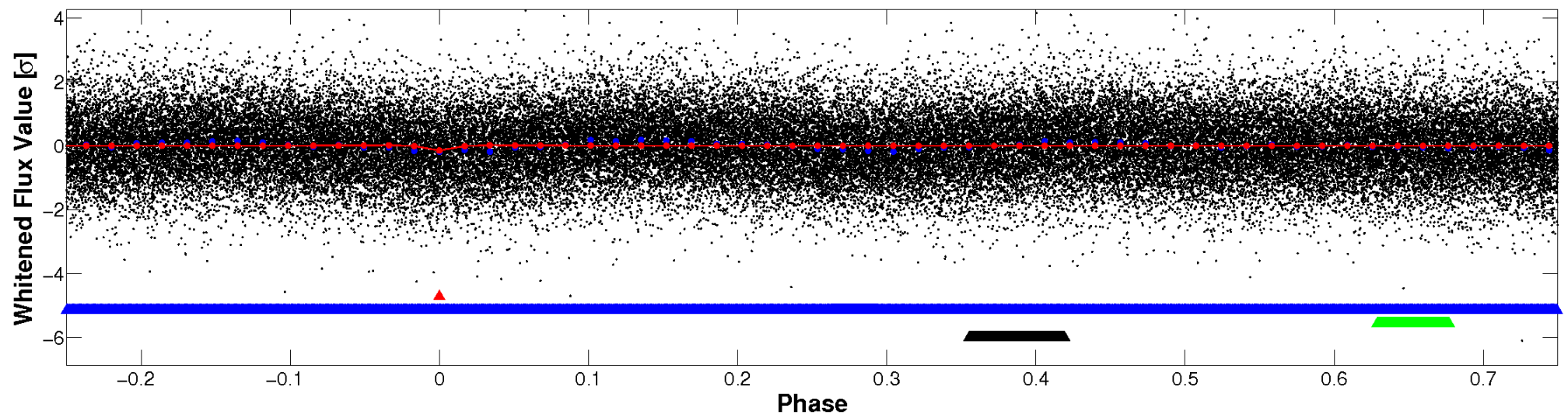


Non-Whitened Vs. Whitened Light Curve

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

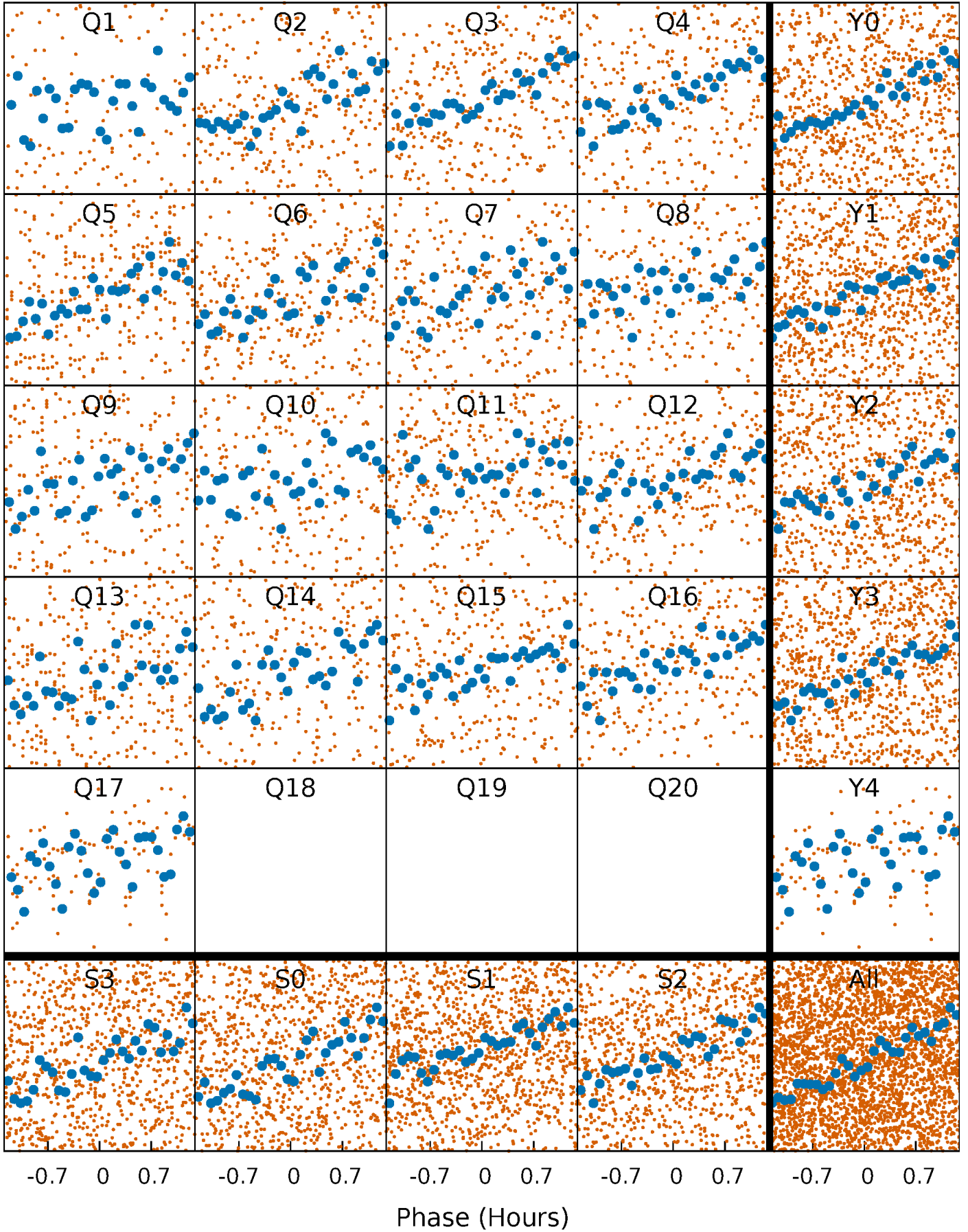


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



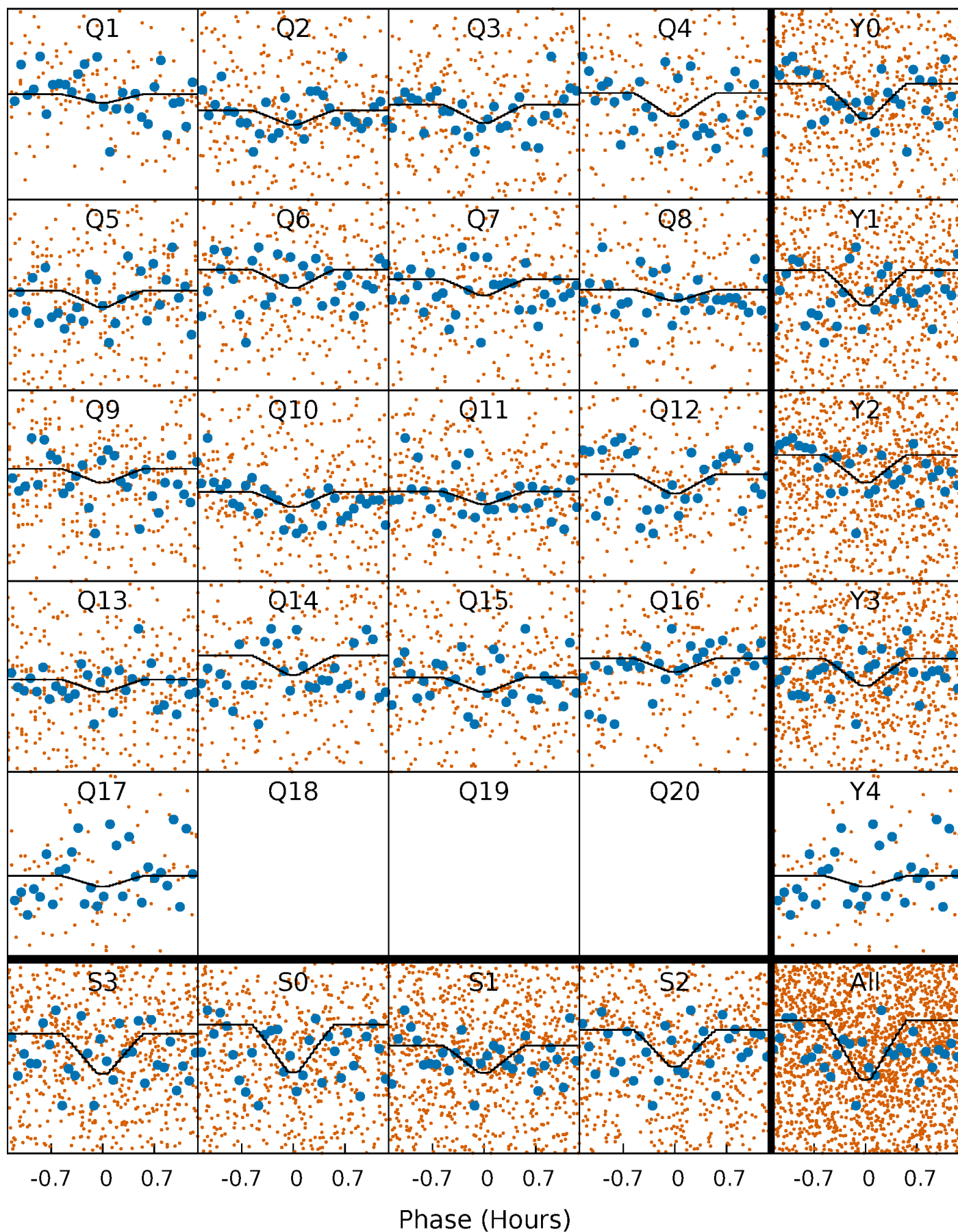
PDC Quarter-Phased Transit Curves

TCE 006366501-01 P= 1.208188 Days $T_0=131.804013$ (BKJD)



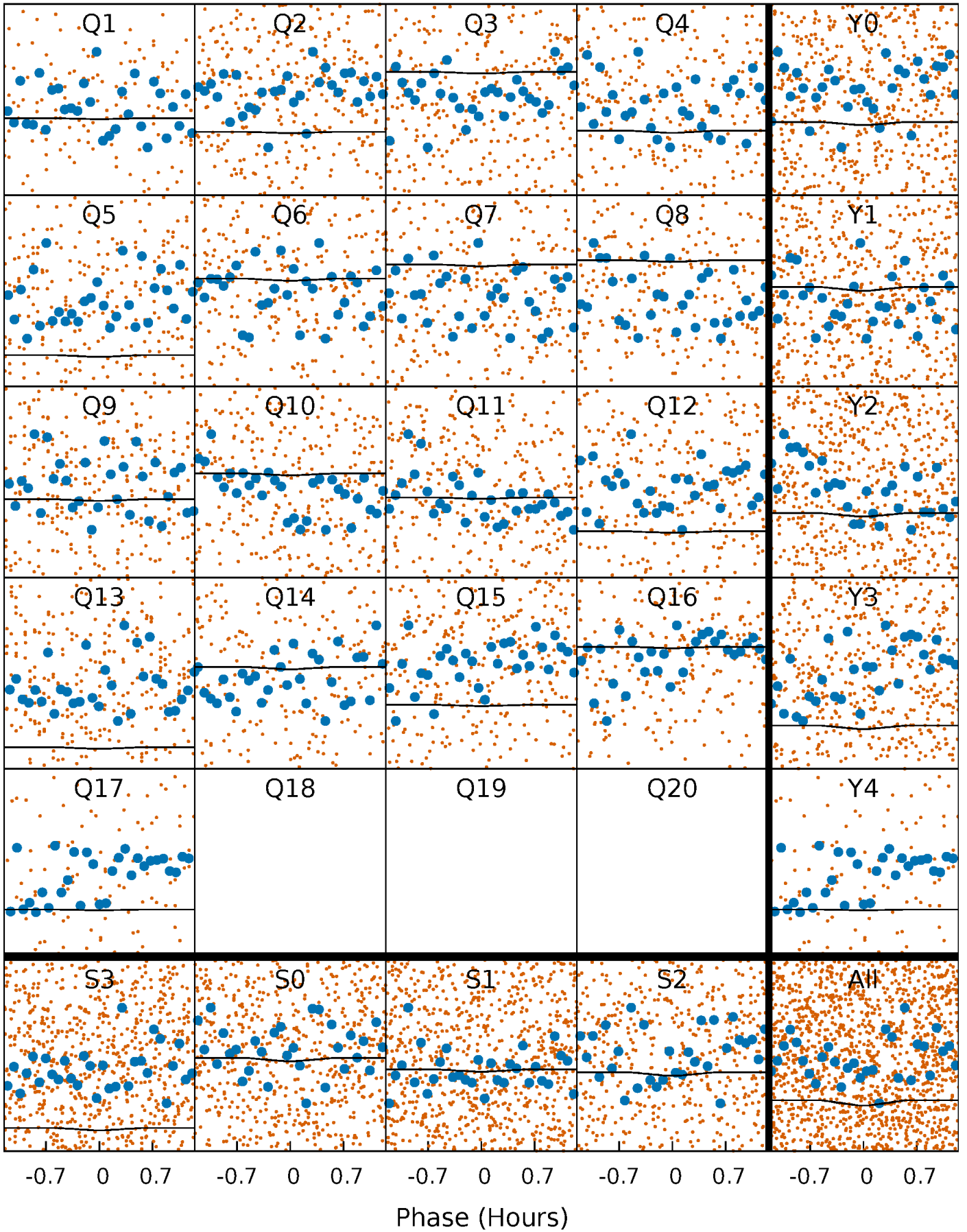
DV Quarter-Phased Transit Curves

TCE 006366501-01 P= 1.208188 Days $T_0=131.804013$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

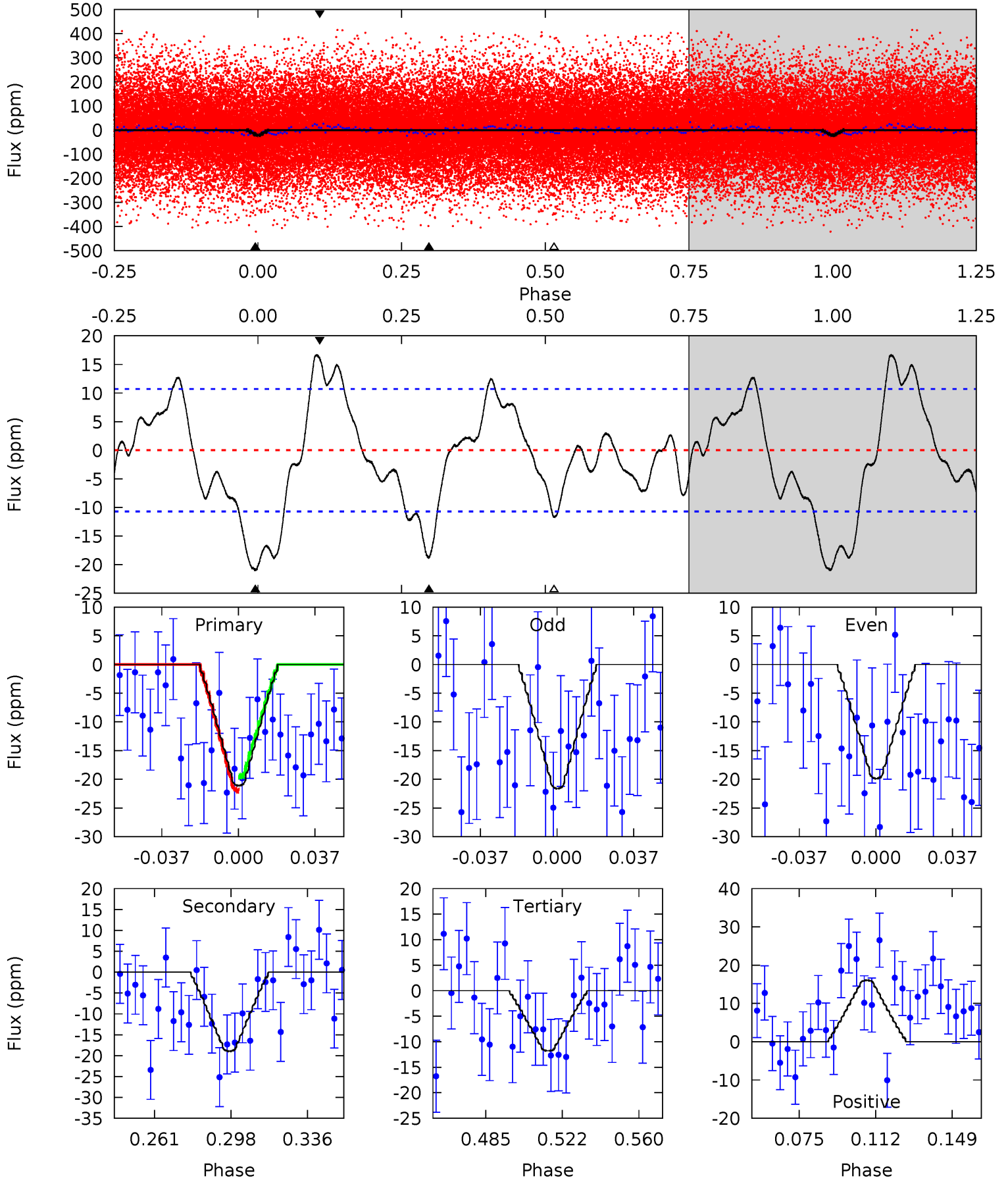
TCE 006366501-01 P= 1.208185 Days $T_0=131.801948$ (BKJD)



DV Model-Shift Uniqueness Test

006366501-01, P = 1.208188 Days, E = 130.595825 Days

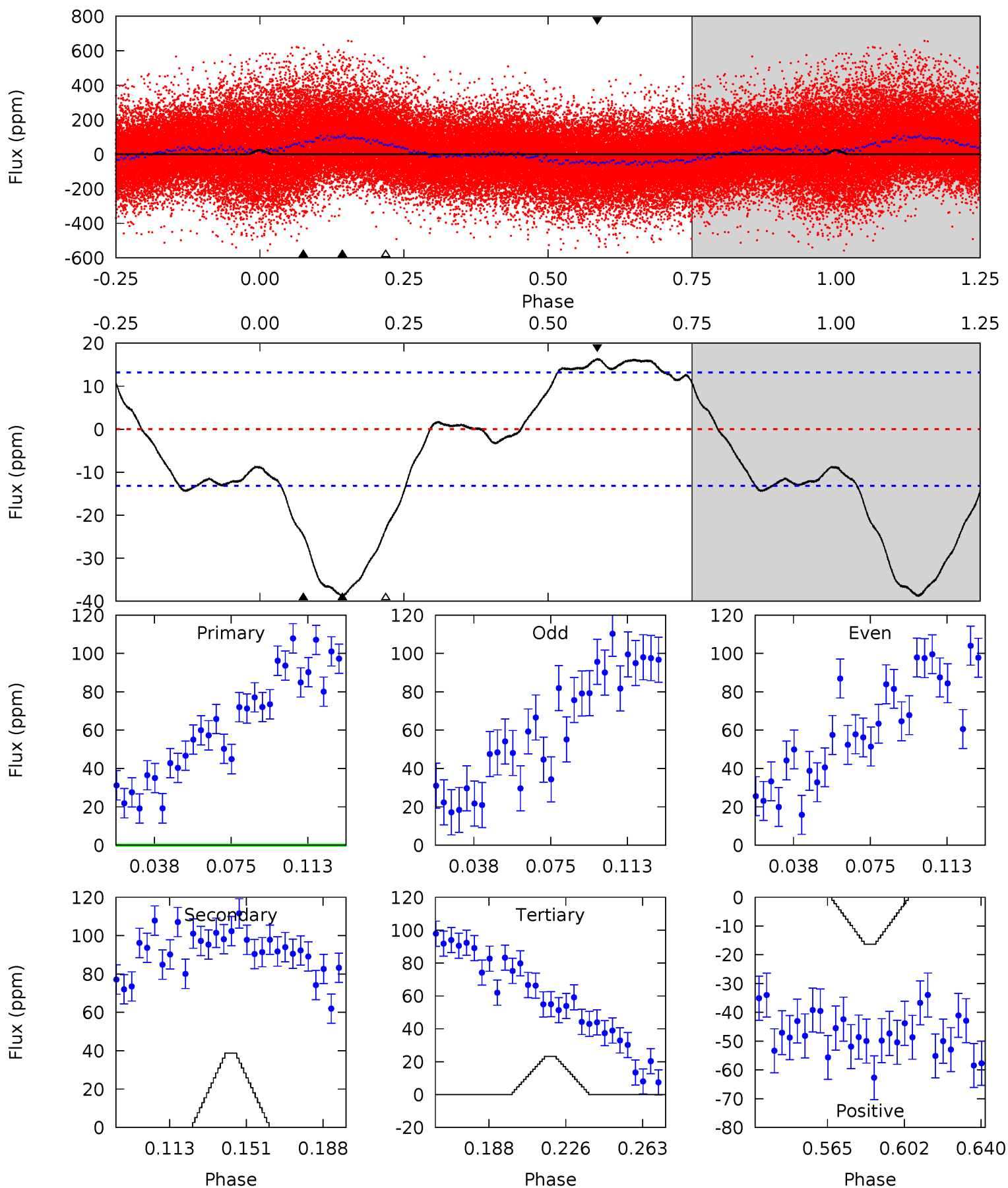
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.40 | 8.44 | 5.25 | 7.14 | 4.77 | 2.08 | 3.00 | 4.15 | 2.26 | 3.19 | 1.29 | 0.39 | 1.02 | 0.44 | 0.55 |



Alt Model-Shift Uniqueness Test

006366501-01, P = 1.208185 Days, E = 130.593763 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 8.91 | 14.0 | 8.39 | 5.91 | 4.77 | 2.08 | 4.42 | 0.52 | 3.00 | 5.62 | 8.10 | 1.68 | 1.14 | 0.30 | 0.43 |



Stellar Parameters For KIC 006366501

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 6722^{+73}_{-87} | $4.059^{+0.137}_{-0.112}$ | $0.180^{+0.150}_{-0.150}$ | $1.915^{+0.354}_{-0.354}$ | $1.530^{+0.114}_{-0.127}$ | $0.307^{+0.211}_{-0.107}$ |
| | +1%/-1% | +3%/-3% | +83%/-83% | +18%/-18% | +7%/-8% | +69%/-35% |
| Source | SPE68 | SPE68 | SPE68 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 006366501-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|--------------------------|----------------------------|
| DV | -19 ± 2 | $0.97^{+0.41}_{-0.43}$ | 3577^{+169}_{-172} | 6364^{+2526}_{-1022} | $7.276^{+15.767}_{-3.797}$ |
| Alt. | -39 ± 3 | $0.44^{+0.38}_{-0.27}$ | 3581^{+163}_{-173} | 14190^{+34071}_{-5290} | 72^{+430}_{-50} |

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

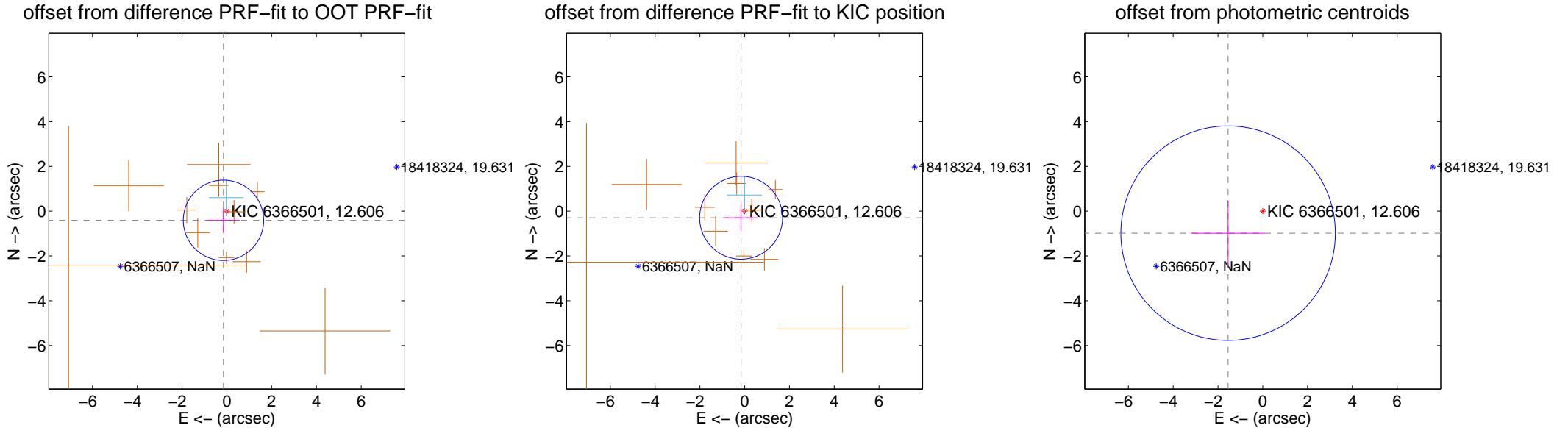
DV Centroid Data

Supplemental centroid analysis for 006366501-01. Kepler magnitude: 12.61. Transit SNR 5.34

There are 1 quarters with good PRF difference image offsets

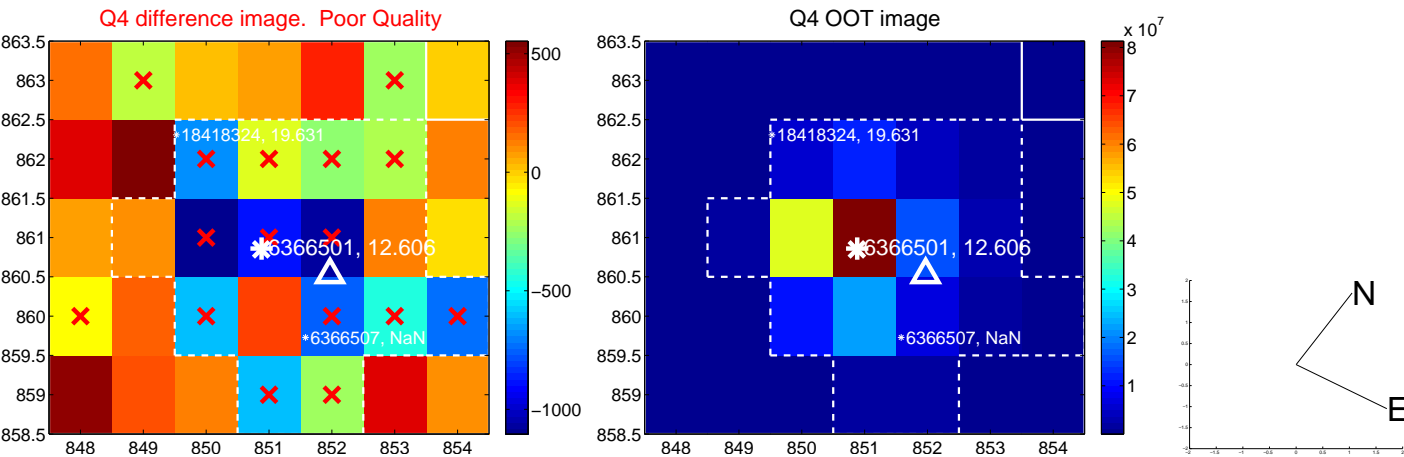
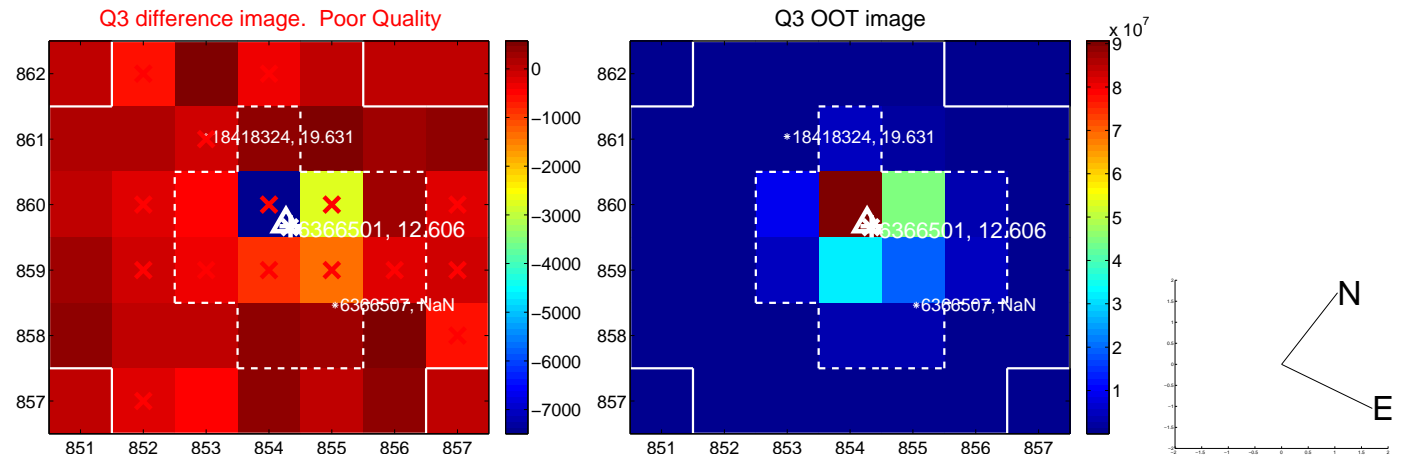
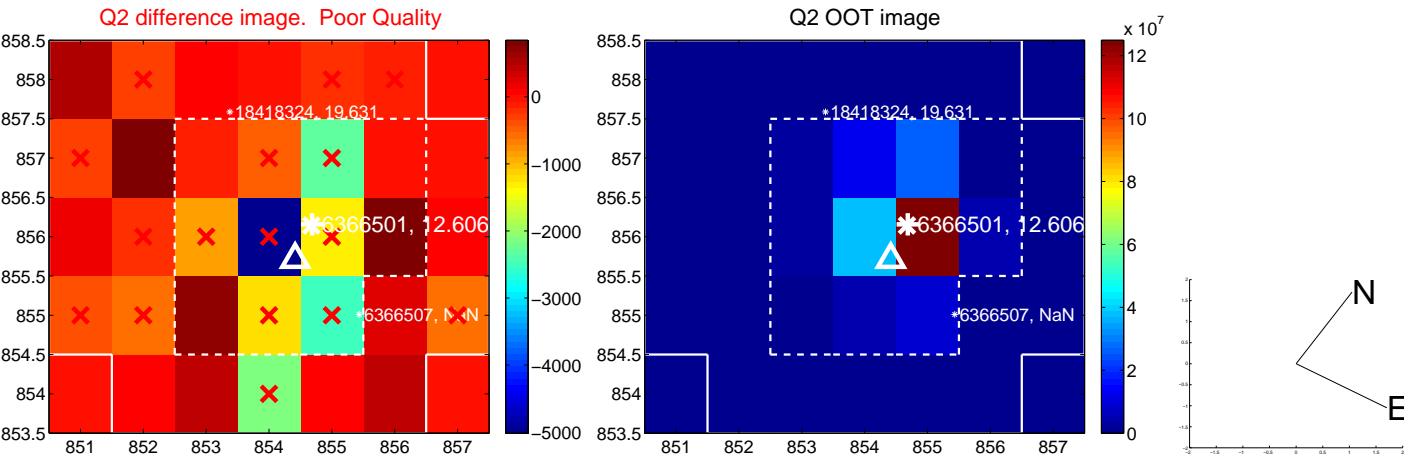
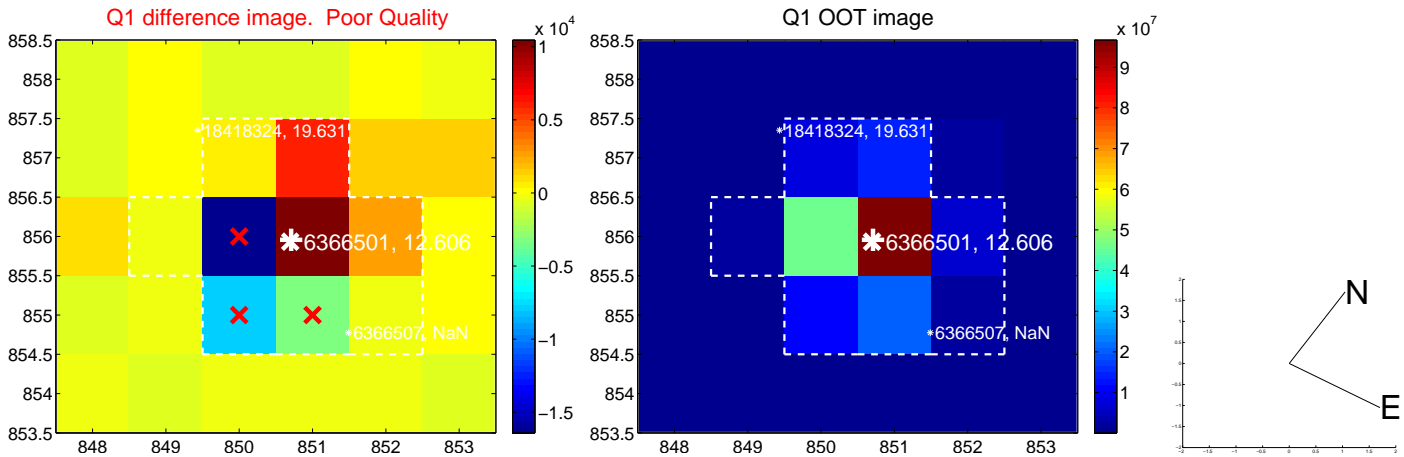
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.435 ± 0.598 | 0.73 | 0.151 ± 0.738 | -0.408 ± 0.576 |
| PRF-fit source offset from KIC position | 0.334 ± 0.617 | 0.54 | 0.160 ± 0.738 | -0.294 ± 0.576 |
| photometric centroid source offset | 1.83 ± 1.60 | 1.15 | 1.55 ± 1.65 | -0.98 ± 1.46 |

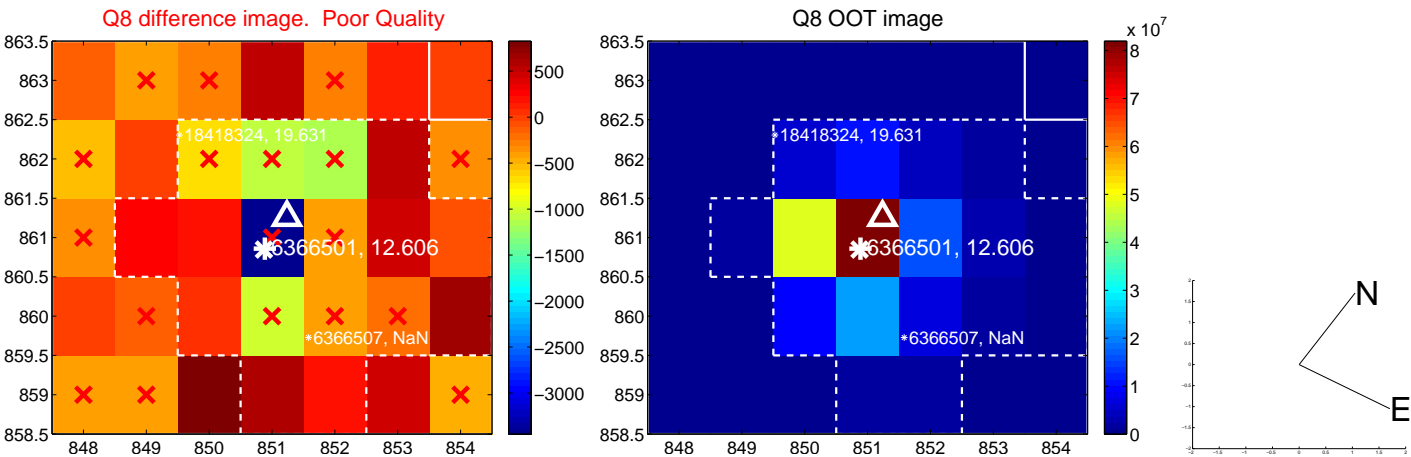
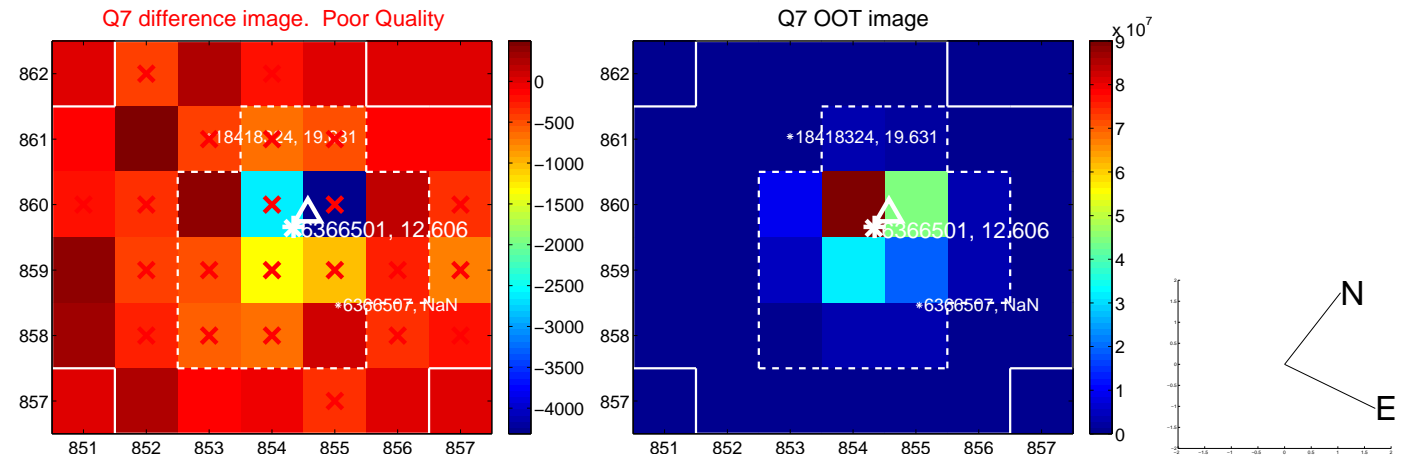
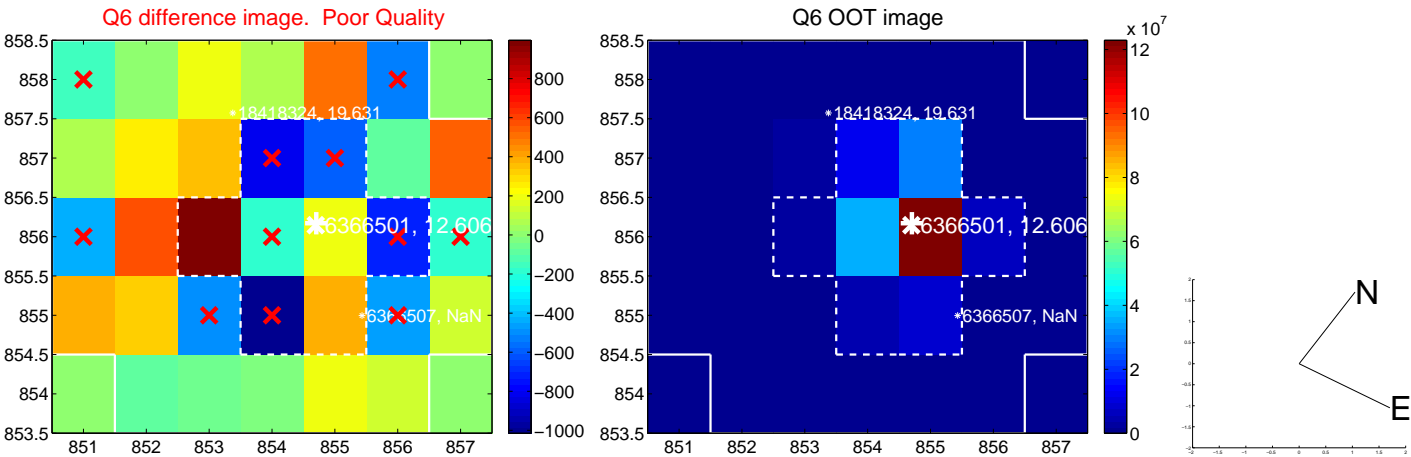
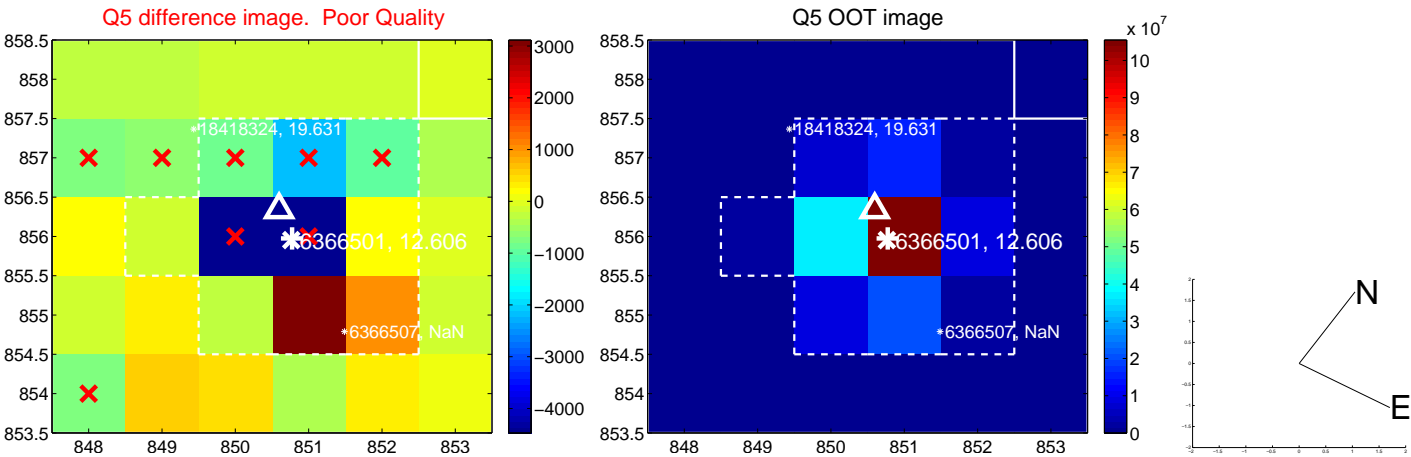


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

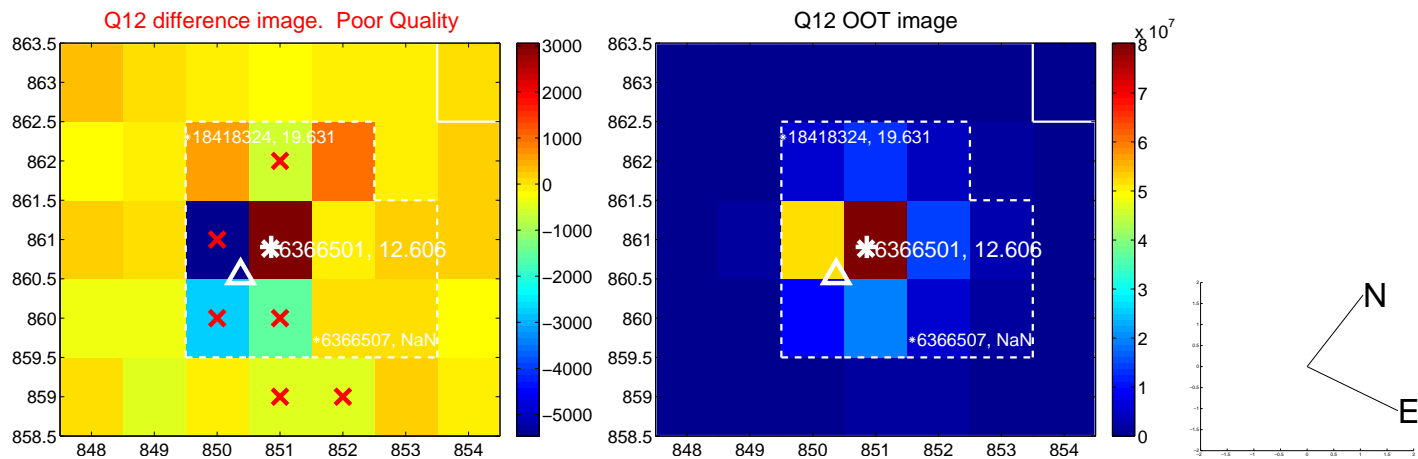
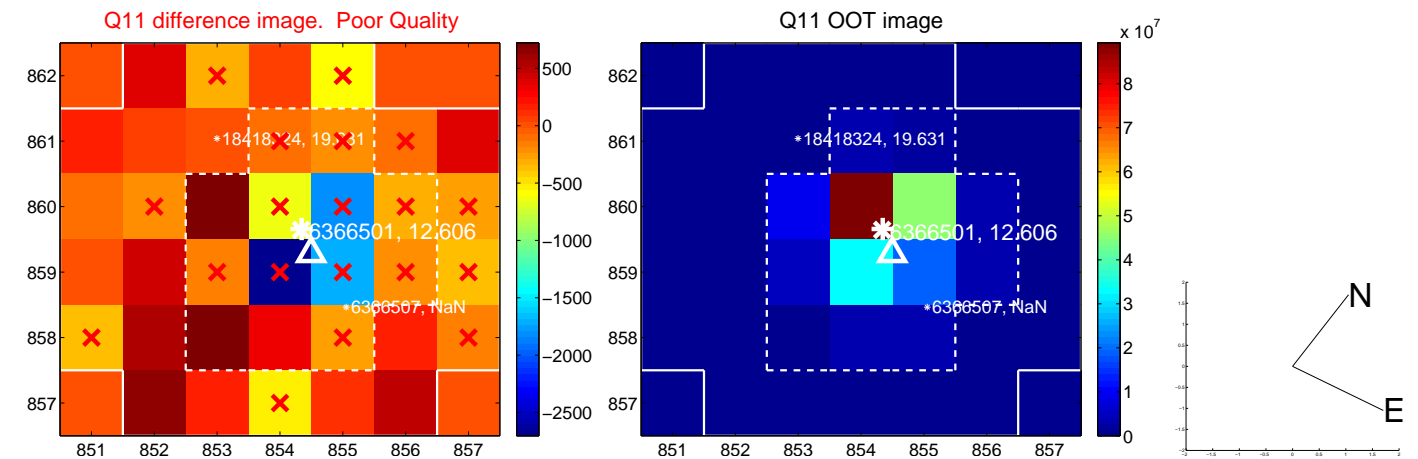
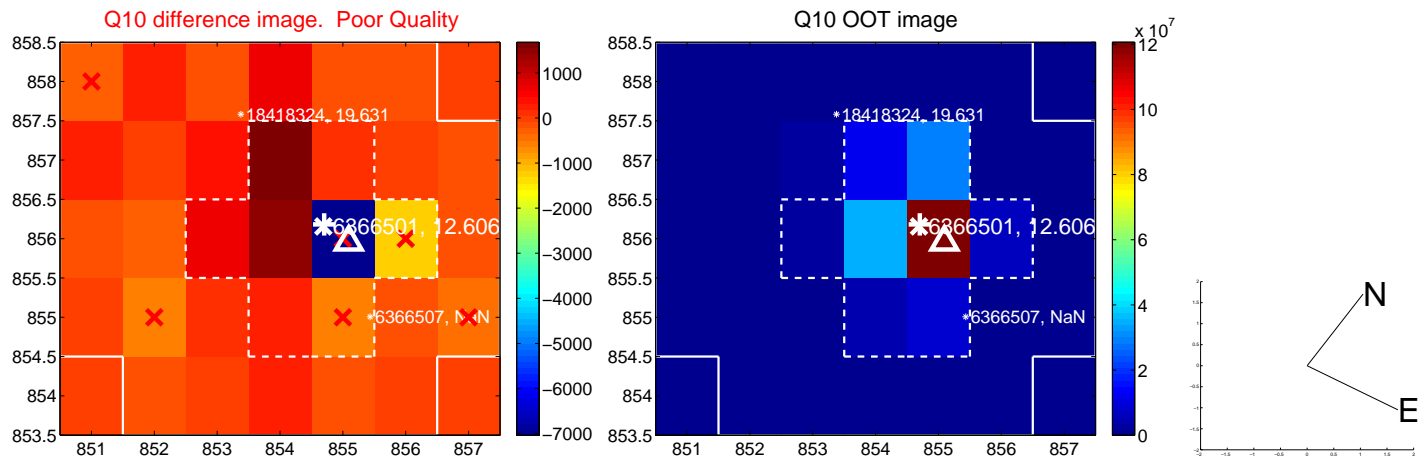
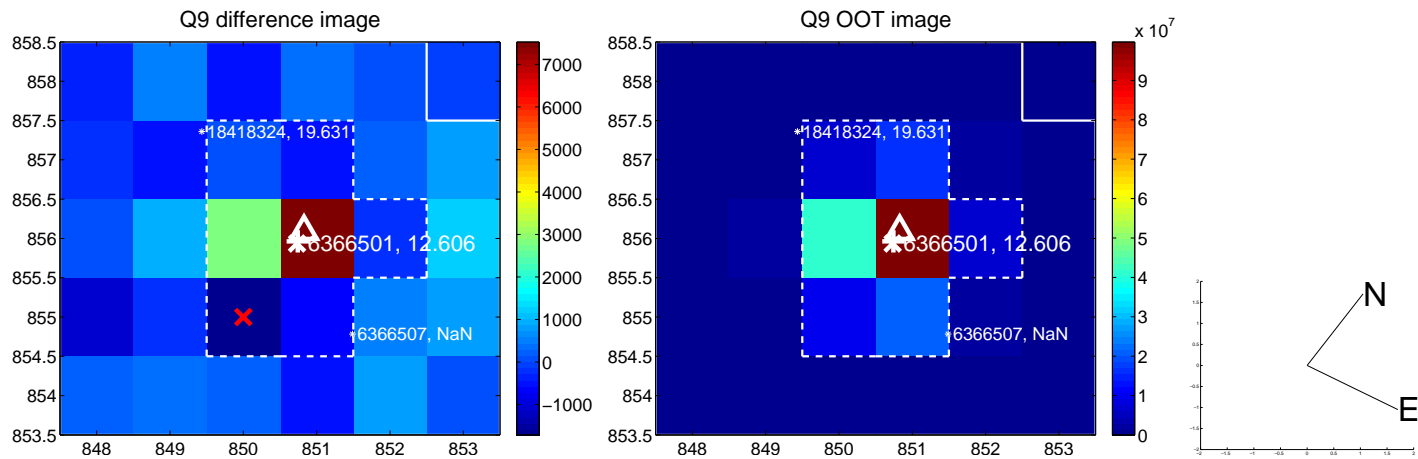
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



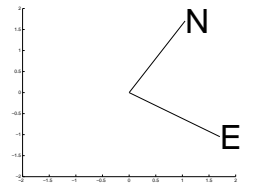
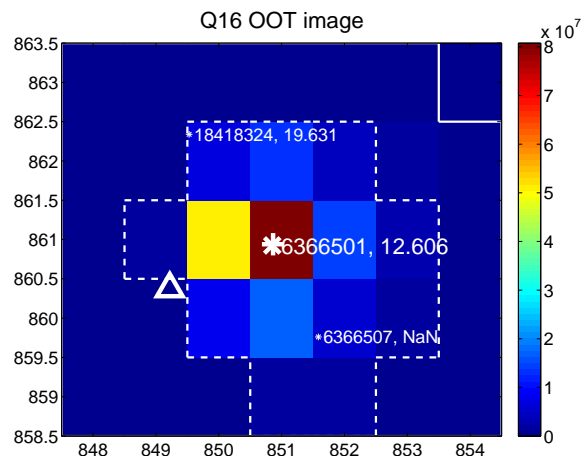
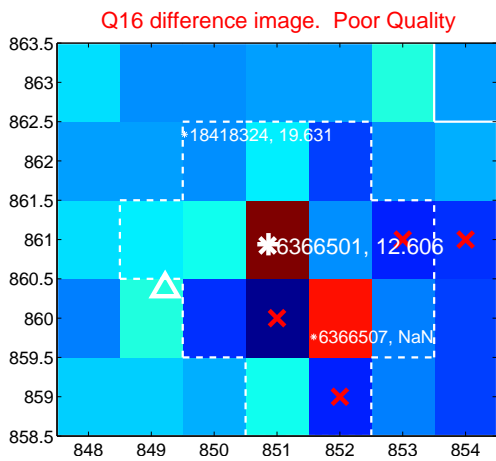
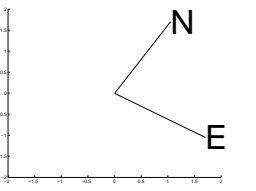
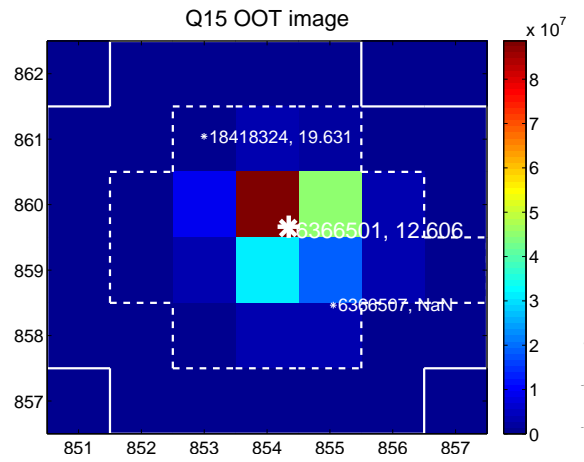
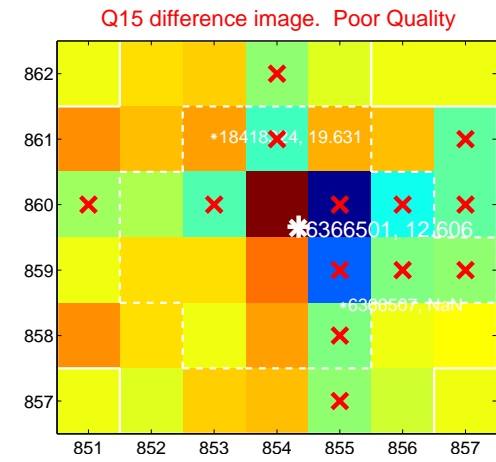
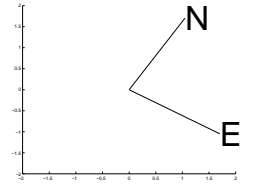
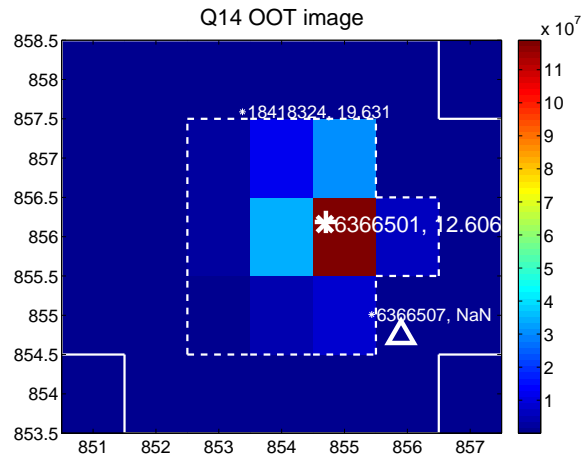
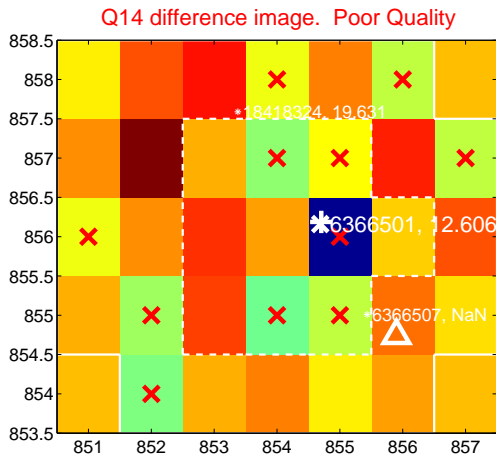
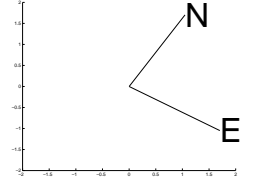
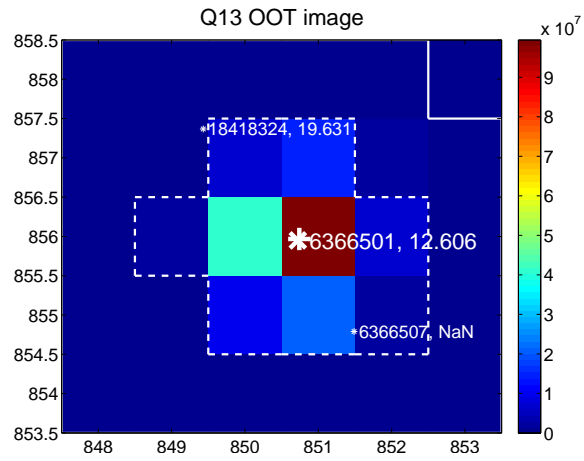
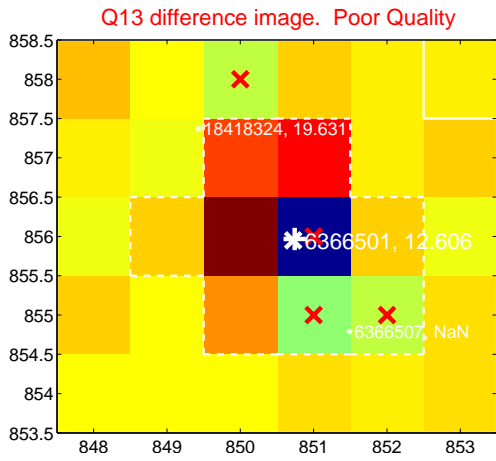
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



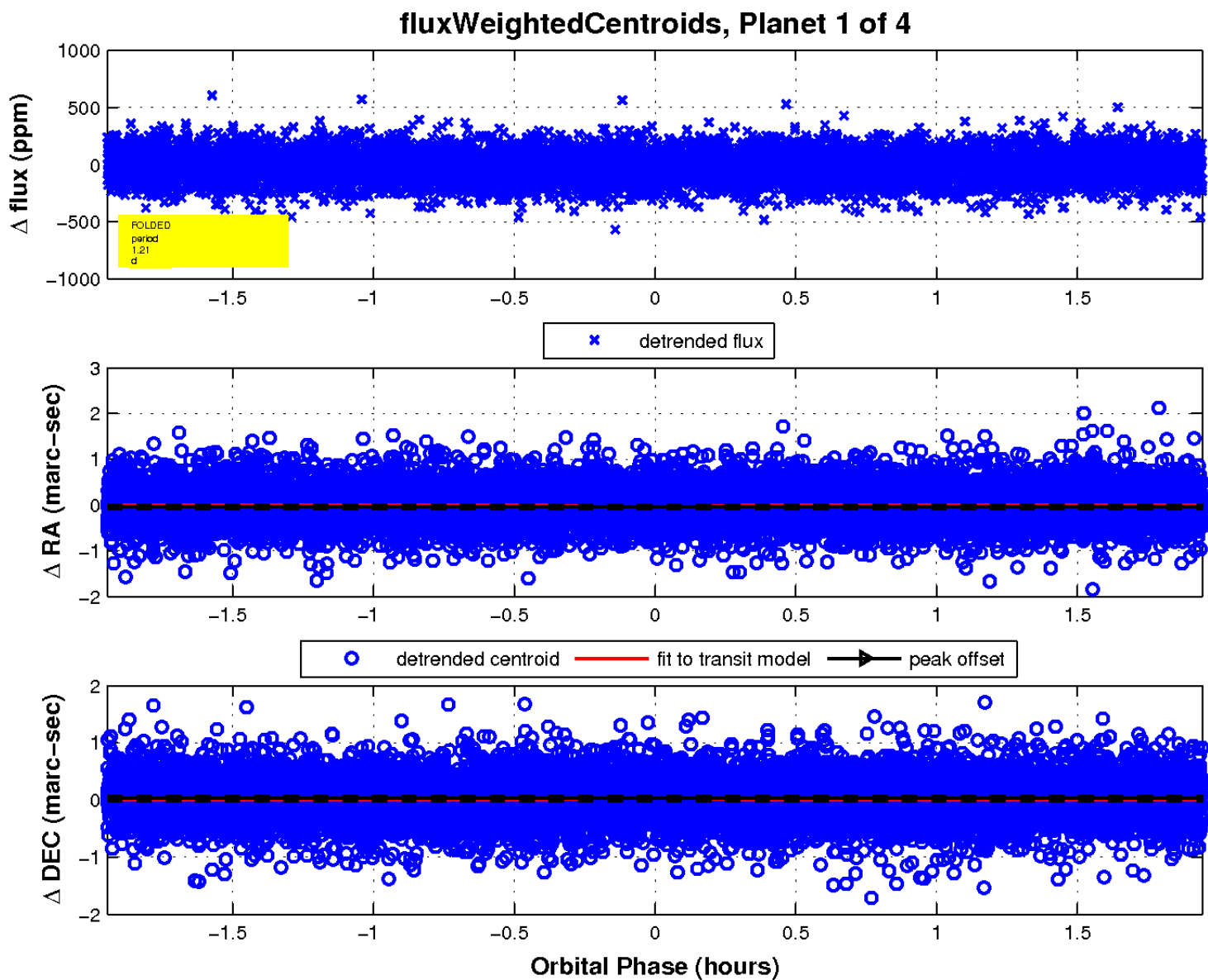
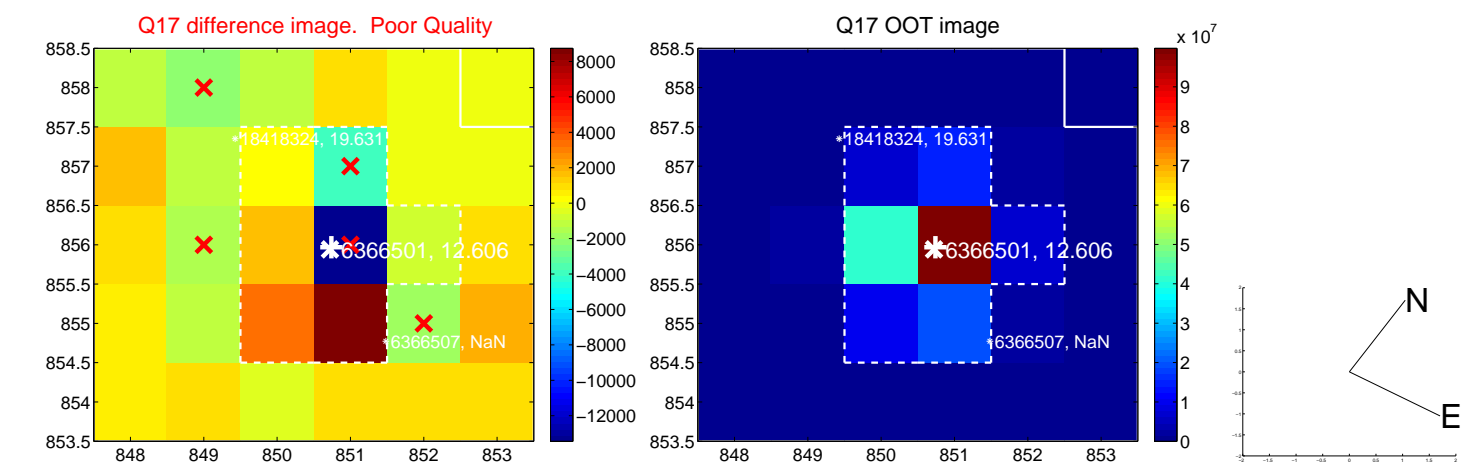
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

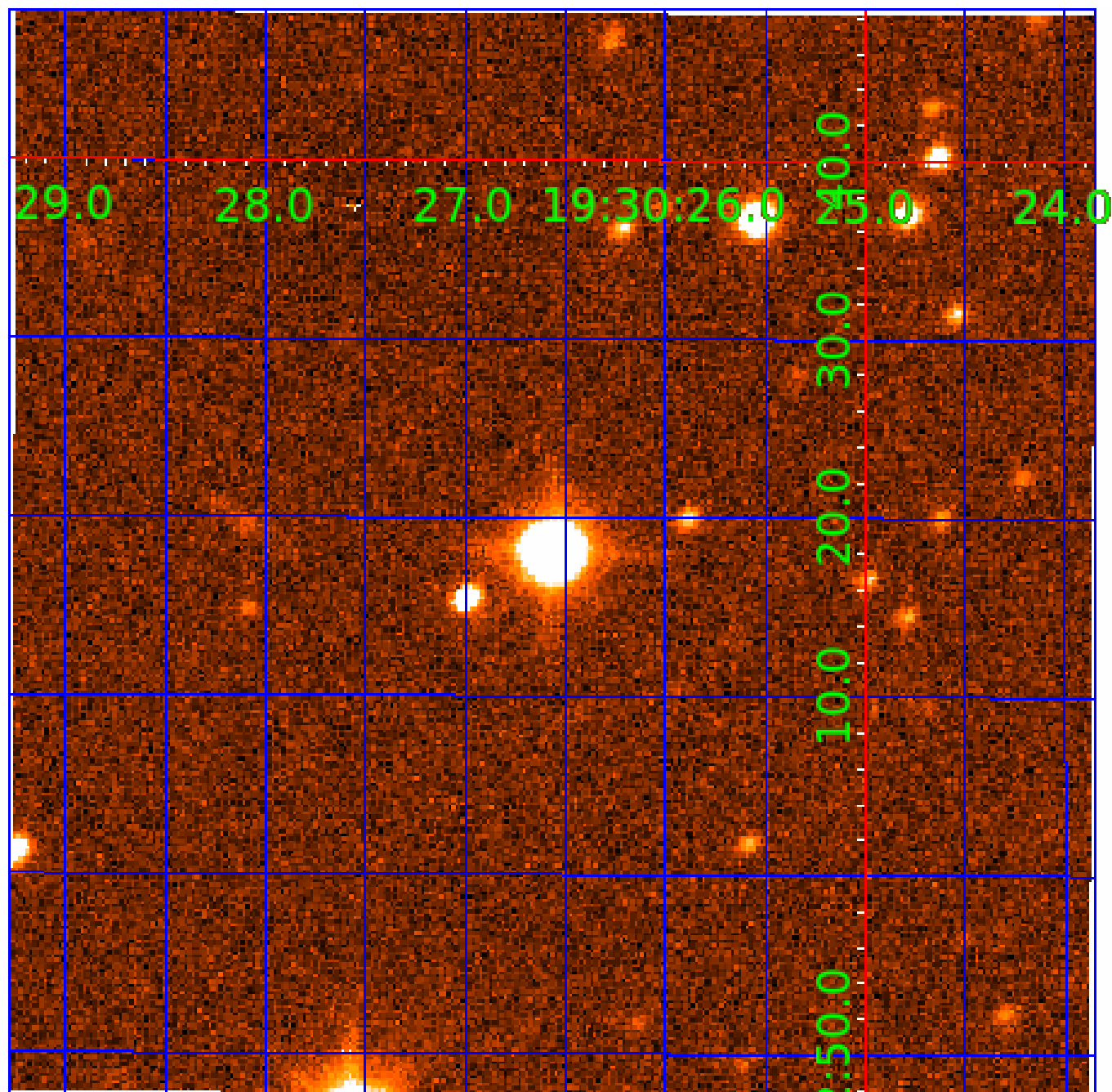


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006366501

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 006366501-01 | OBS | No | 1.208188 | 131.804013 | 22.7 | 0.648 | 11.4 | 5.3 | 1.92 | 6722 | 0.96 | 10236.58 |
| 006366501-02 | OBS | No | 1.207157 | 132.159253 | 0.0 | 1.550 | 11.2 | 0.0 | 1.92 | 6722 | 0.03 | 10248.24 |
| 006366501-03 | OBS | No | 1.208140 | 132.622166 | 11.3 | 3.924 | 12.1 | 4.0 | 1.92 | 6722 | 0.80 | 10237.12 |
| 006366501-04 | OBS | No | 1.208124 | 132.310489 | 18.3 | 9.940 | 14.4 | 7.3 | 1.92 | 6722 | 0.83 | 10237.30 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 006366501-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS |
| 006366501-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT |
| 006366501-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD |
| 006366501-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD |

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

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

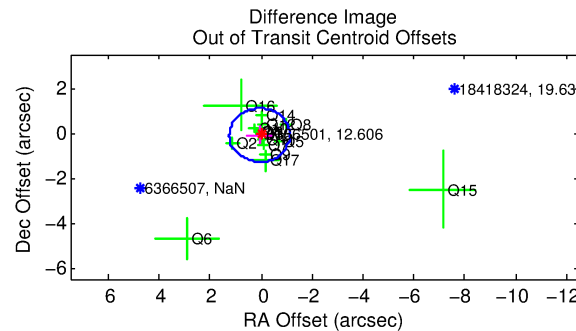
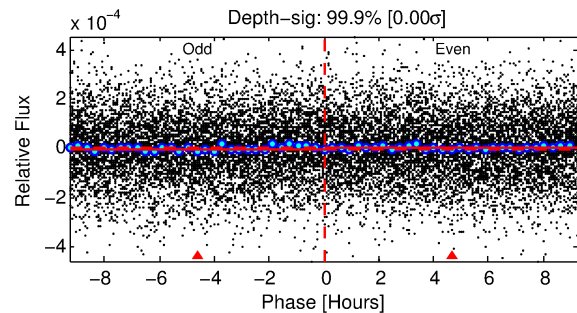
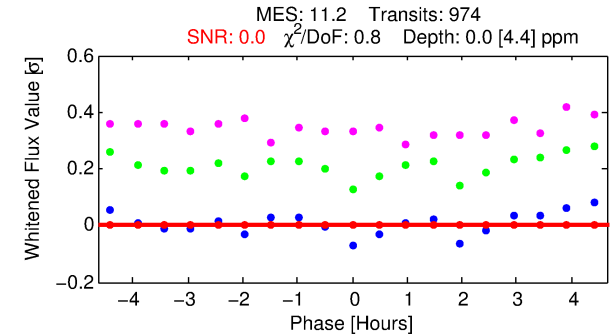
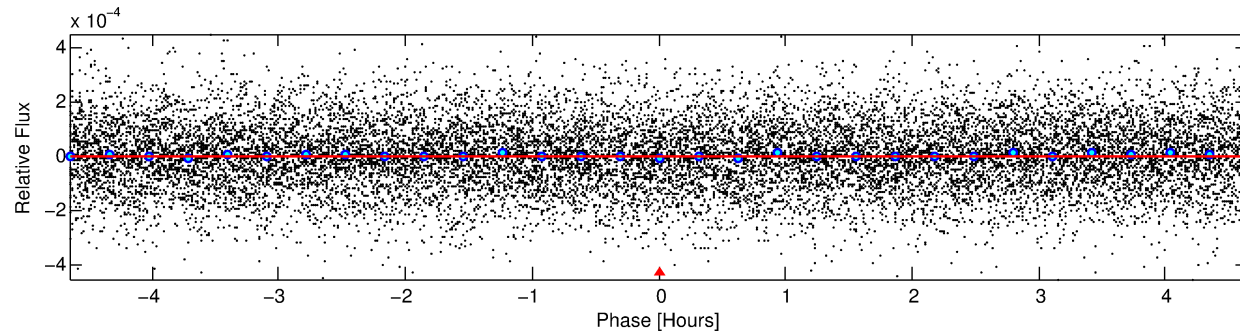
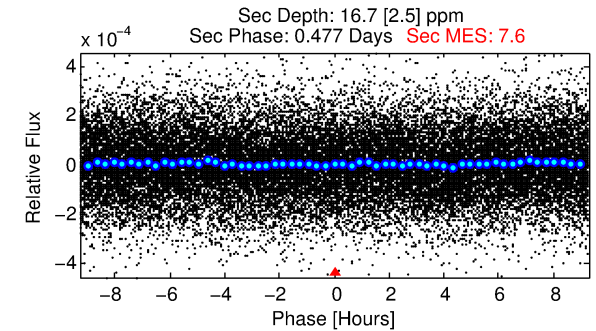
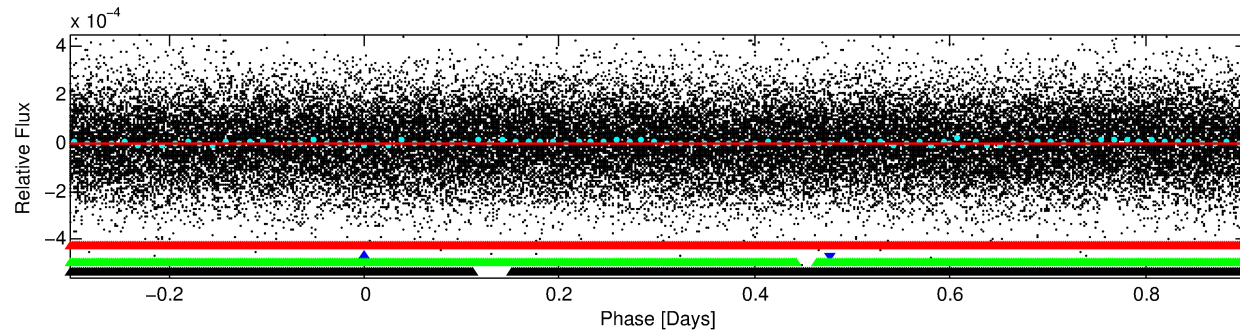
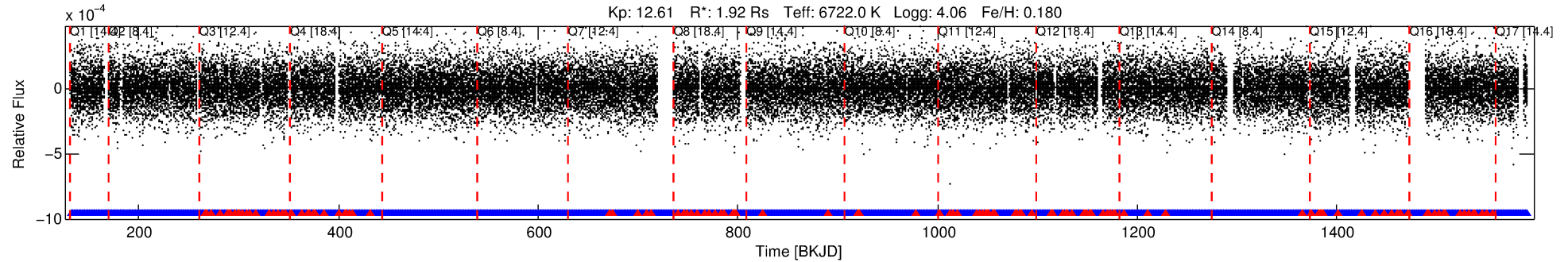
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006366501-02

No Significant Match Found

DV One-Page Summary

KIC: 6366501 Candidate: 2 of 4 Period: 1.207 d



DV Fit Results:

Period = 1.20716 [0.03615] d
Epoch = 132.1593 [7.0577] BKJD
Rp/R* = 0.0001 [0.0311]
a/R* = 1.18 [90.24]
b = 0.99 [3.37]
Seff = 10248.24 [2586.32]
Teff = 2566 [162] K
Rp = 0.03 [6.50] Re
a = 0.0256 [0.0042] AU
Ag = 8760.60 [4347038.21] [0.00σ]
Teffp = 38376 [4760855] K [0.01σ]

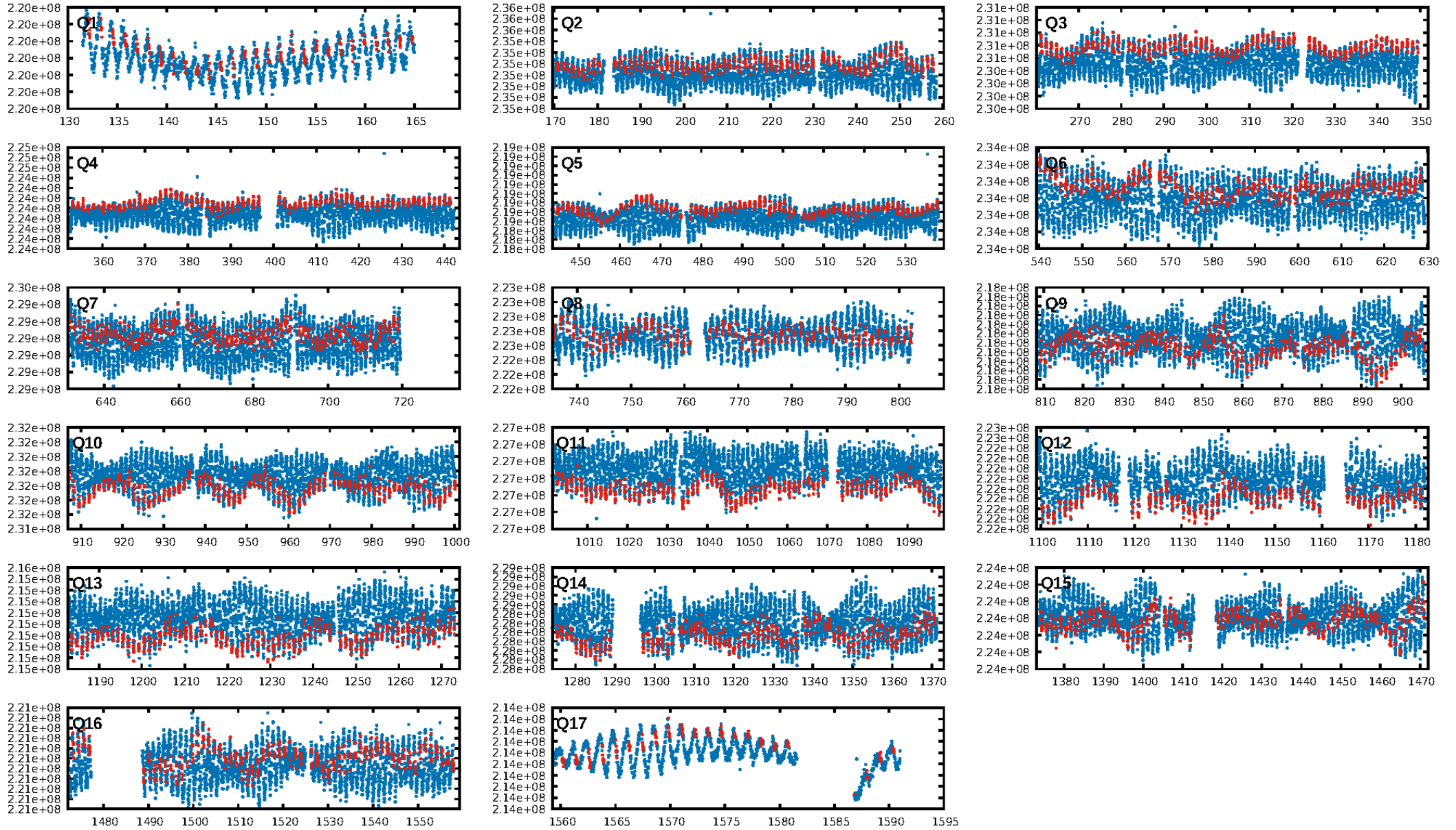
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.2% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.86 [798/925]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.110 arcsec [0.28σ]
KicOffset-rm: 0.069 arcsec [0.13σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.38 [6/16]
DiffImageOverlap-fno: 0.00 [0/17]

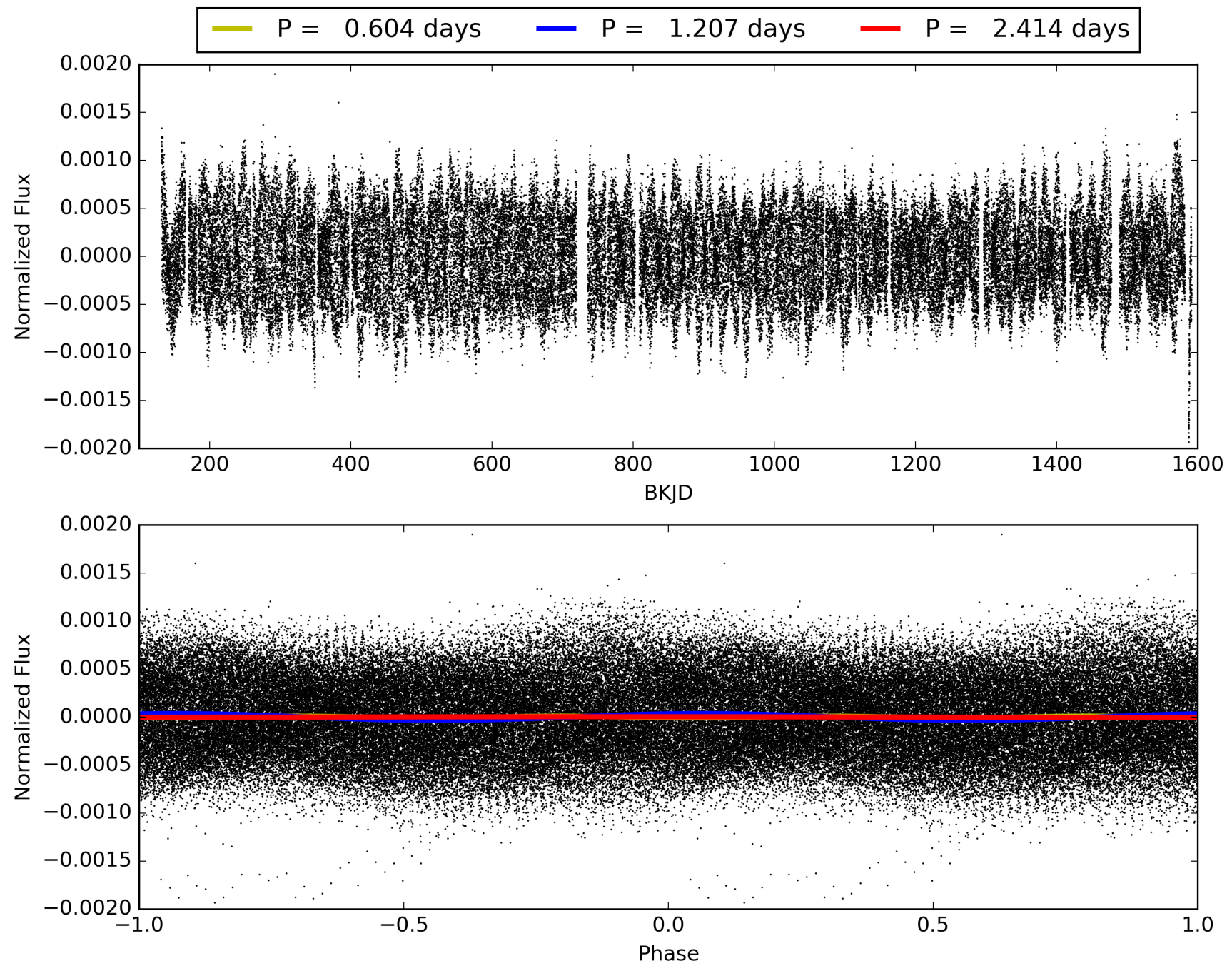
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:21:34 Z

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

TCE 006366501-02, PDC Light Curves

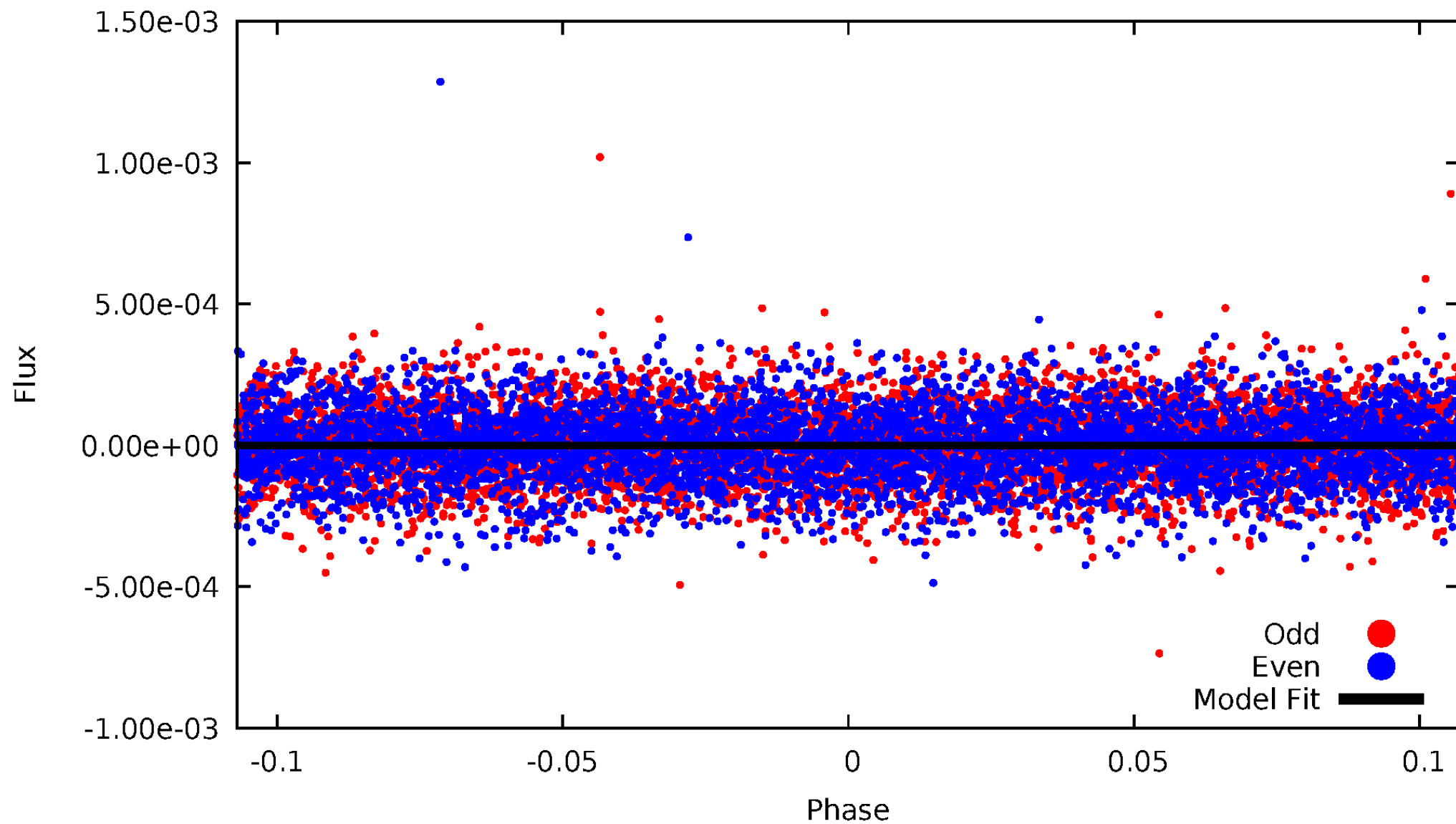


TCE 006366501-02



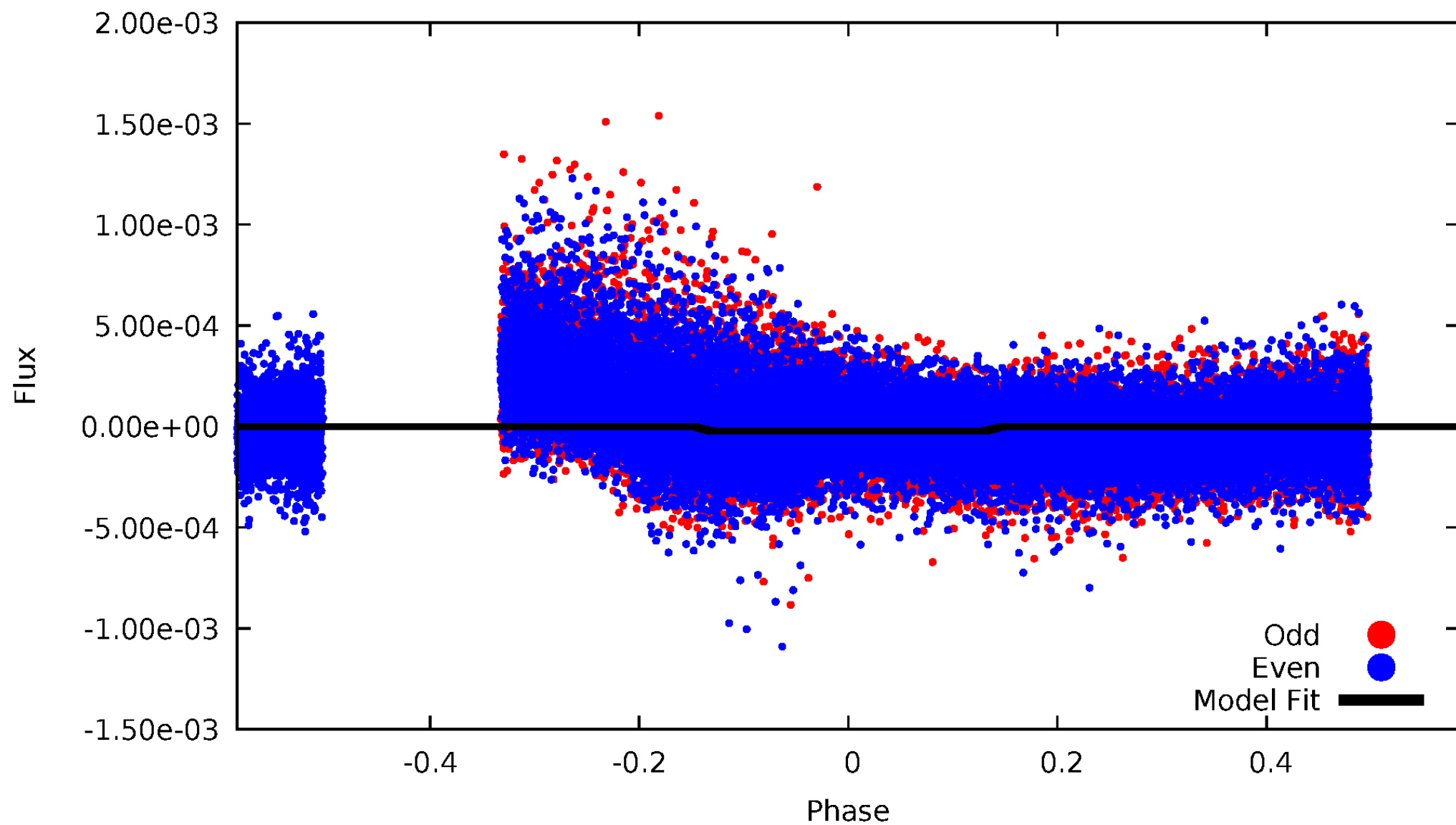
DV Odd/Even

TCE 006366501-02



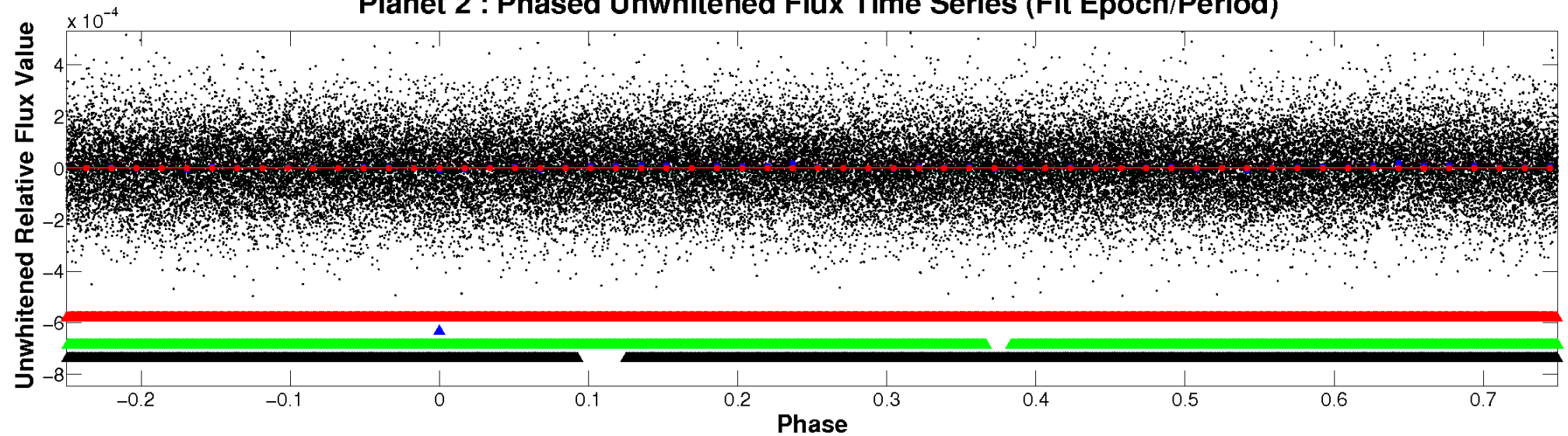
ALT Odd/Even

TCE 006366501-02

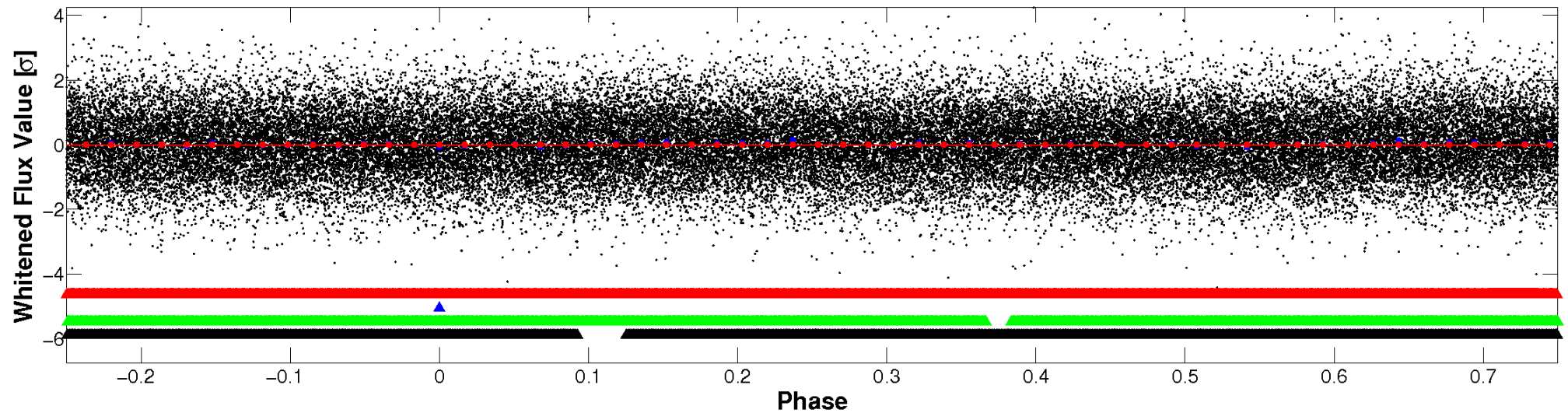


Non-Whitened Vs. Whitened Light Curve

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

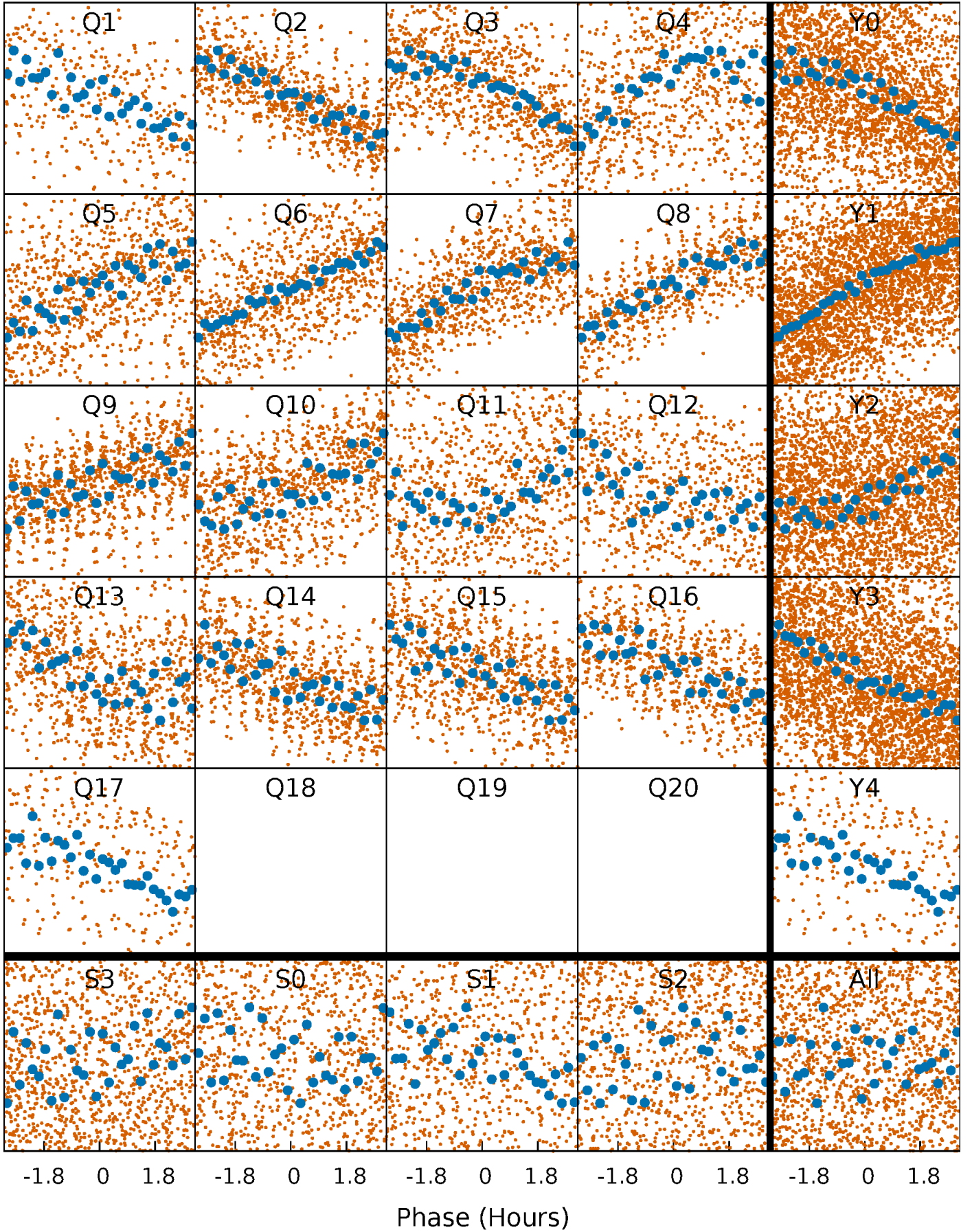


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



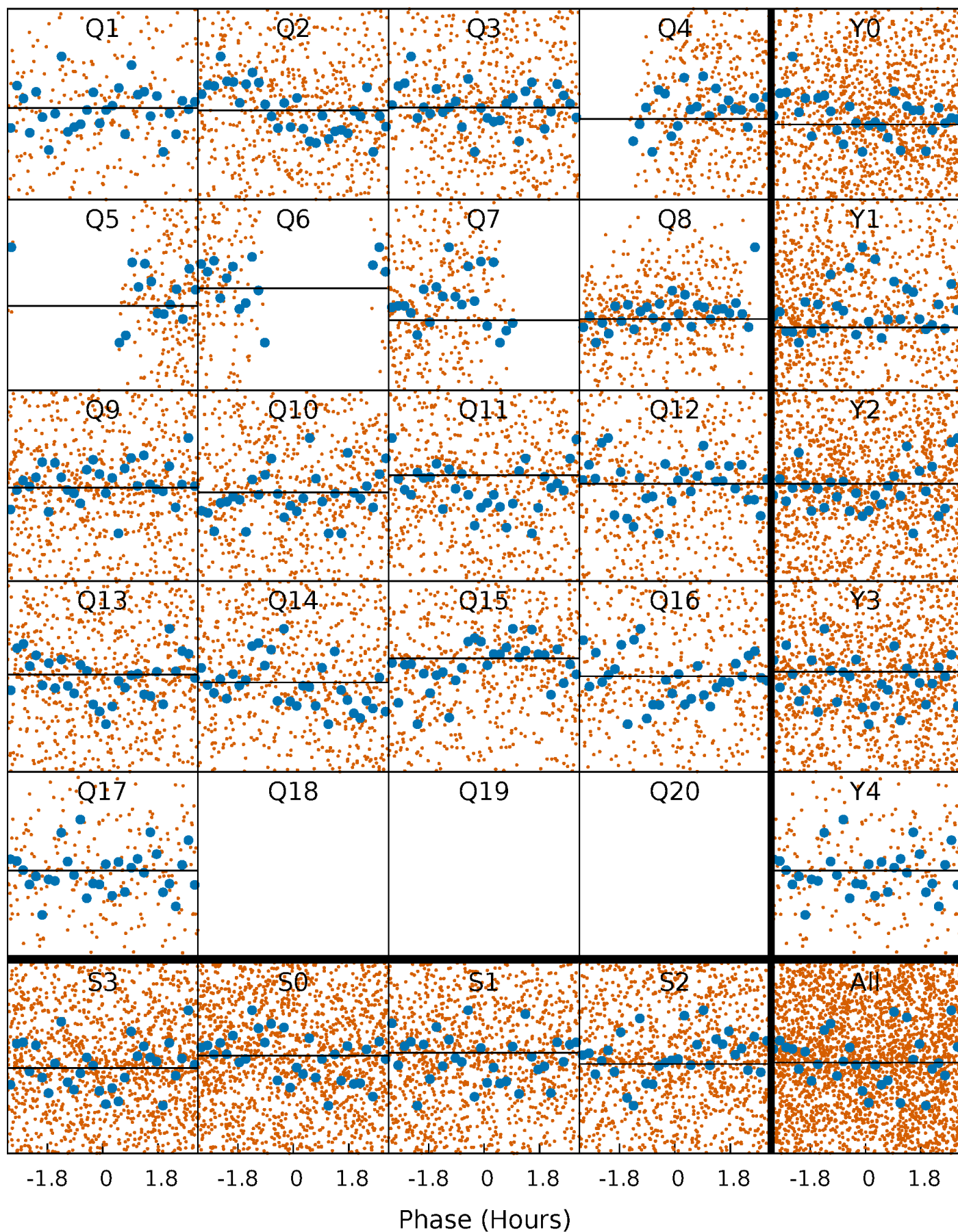
PDC Quarter-Phased Transit Curves

TCE 006366501-02 P= 1.207157 Days $T_0=132.159253$ (BKJD)



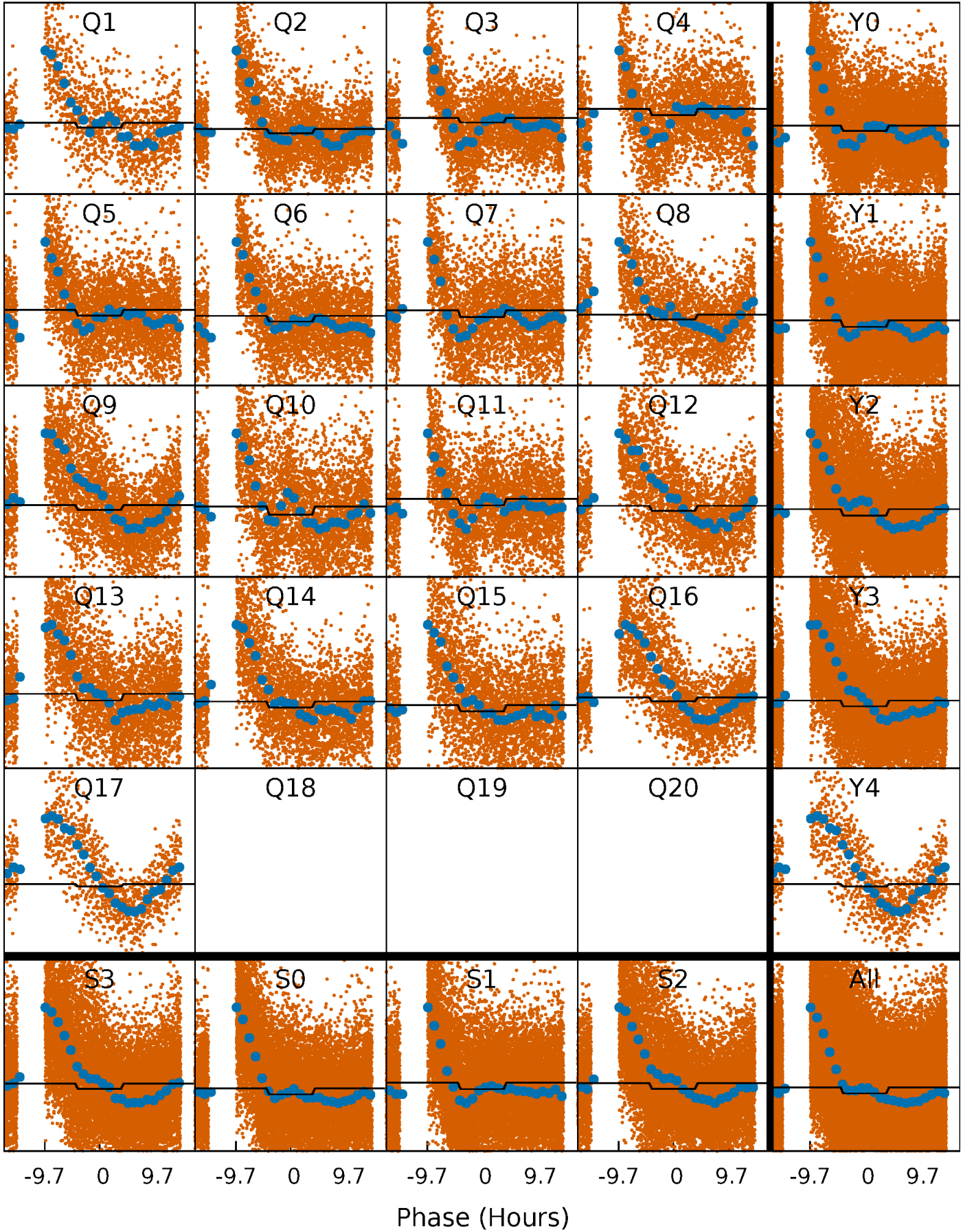
DV Quarter-Phased Transit Curves

TCE 006366501-02 P= 1.207157 Days $T_0=132.159253$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

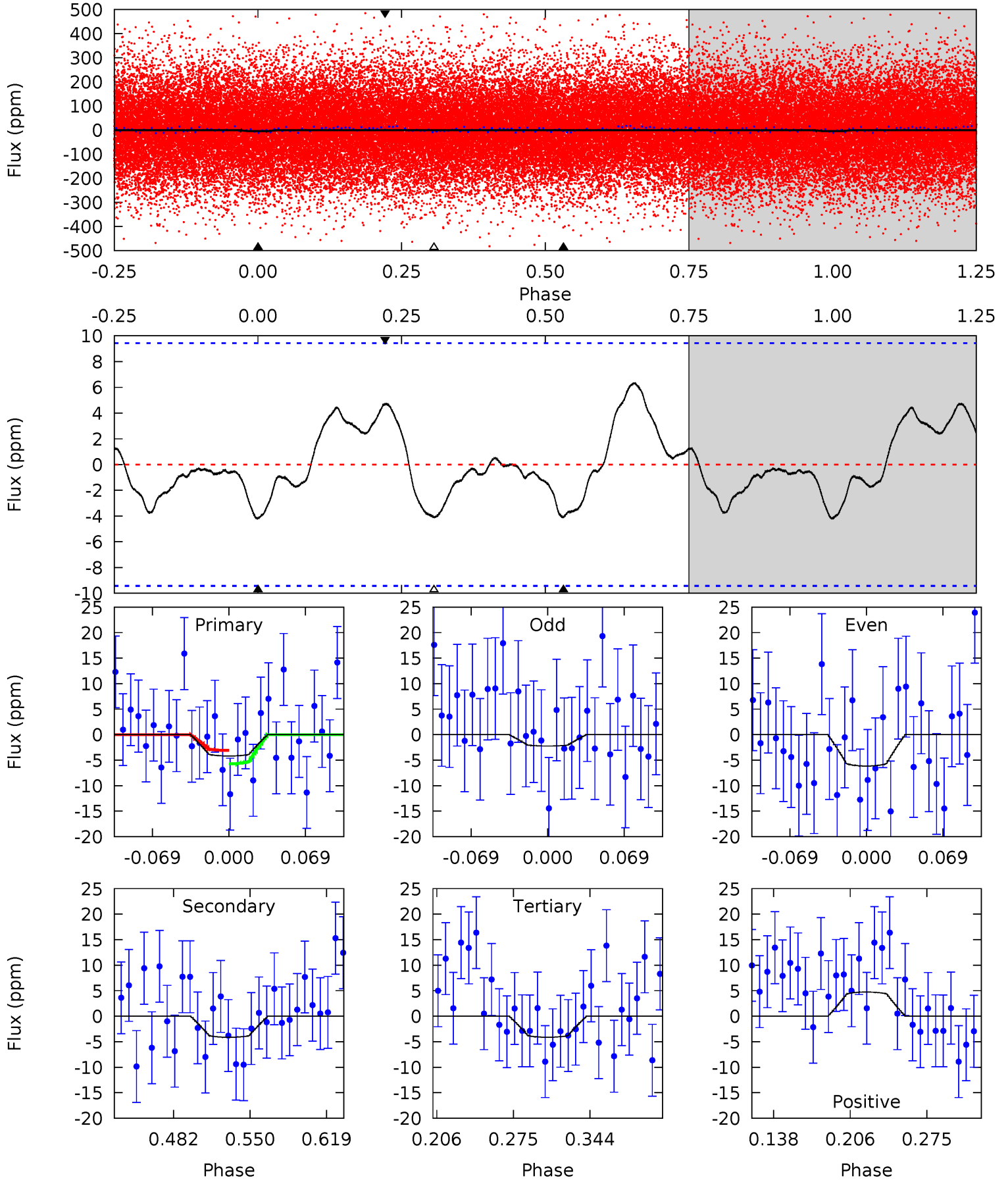
TCE 006366501-02 $P = 1.208185$ Days $T_0 = 132.310590$ (BKJD)



DV Model-Shift Uniqueness Test

006366501-02, P = 1.207157 Days, E = 130.952096 Days

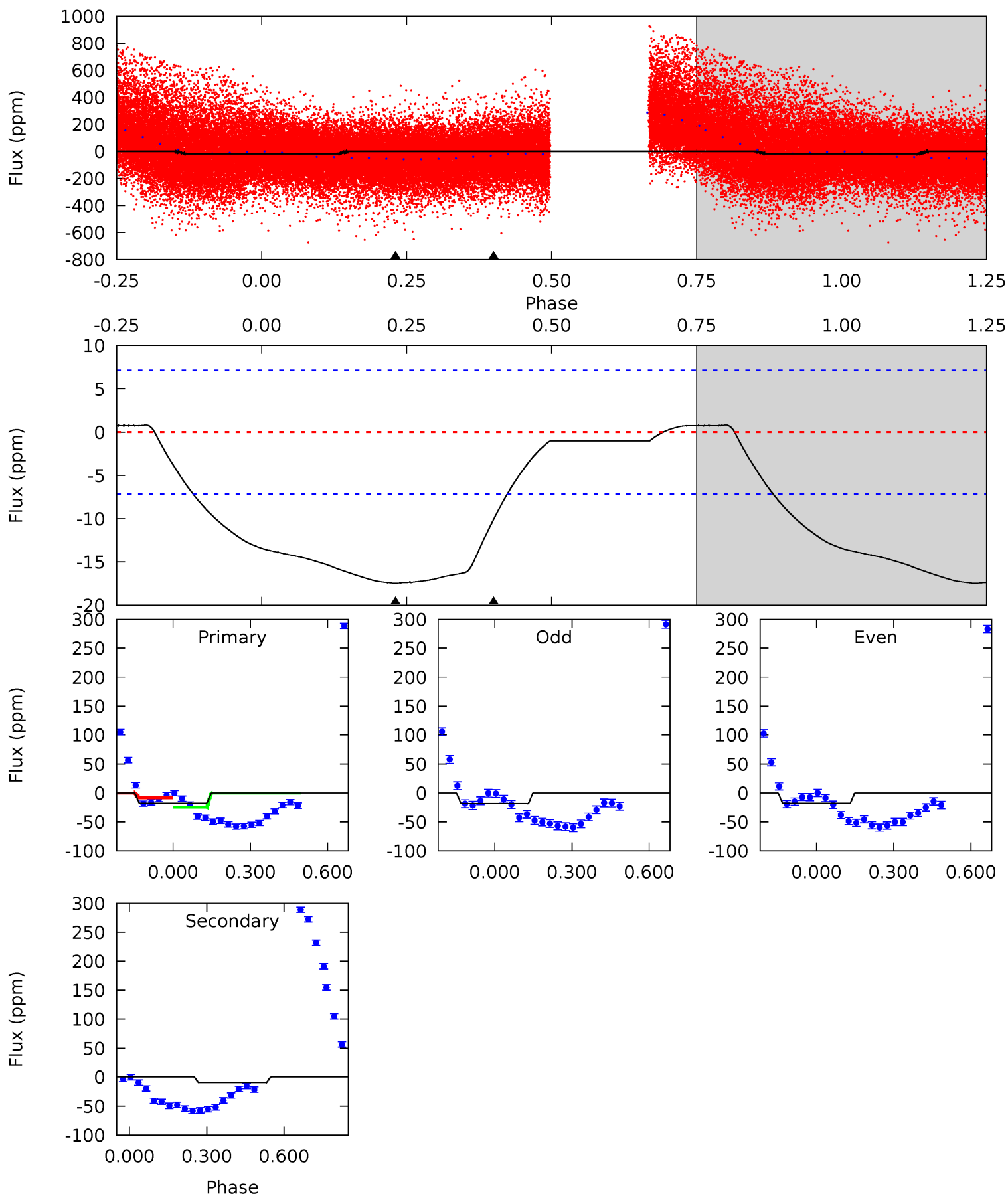
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 2.06 | 2.03 | 2.03 | 2.33 | 4.64 | 1.82 | 1.30 | 0.03 | -0.27 | 0.01 | -0.29 | 0.97 | 0.58 | 0.60 | 0.65 |



Alt Model-Shift Uniqueness Test

006366501-02, P = 1.208185 Days, E = 131.102405 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.6 | 6.10 | 0 | 0 | 4.33 | 1.04 | 2.42 | 10.6 | 10.6 | 6.10 | 6.10 | 0.08 | 0.78 | 0.04 | 4.31 |



Stellar Parameters For KIC 006366501

| | $T_{\text{eff}} (K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 6722^{+73}_{-87} | $4.059^{+0.137}_{-0.112}$ | $0.180^{+0.150}_{-0.150}$ | $1.915^{+0.354}_{-0.354}$ | $1.530^{+0.114}_{-0.127}$ | $0.307^{+0.211}_{-0.107}$ |
| | +1%/-1% | +3%/-3% | +83%/-83% | +18%/-18% | +7%/-8% | +69%/-35% |
| Source | SPE68 | SPE68 | SPE68 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 006366501-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|---------------------------|
| DV | -4 ± 2 | $4.35^{+4.61}_{-3.04}$ | 3578^{+172}_{-178} | -3241^{+6912}_{-203} | $0.074^{+0.727}_{-0.060}$ |
| Alt. | -10 ± 2 | $4.71^{+5.11}_{-3.30}$ | 3577^{+167}_{-180} | -3034^{+7585}_{-344} | $0.156^{+1.648}_{-0.119}$ |

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 $A_{obs} \gg 1.0$

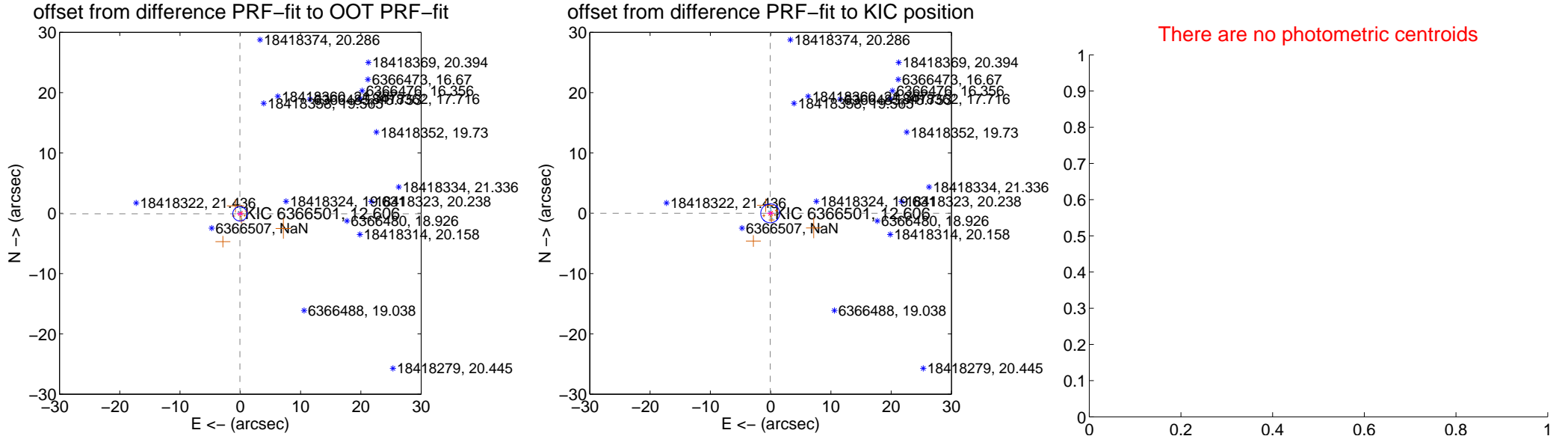
DV Centroid Data

Supplemental centroid analysis for 006366501-02. Kepler magnitude: 12.61. Transit SNR 0.00

There are 6 quarters with good PRF difference image offsets

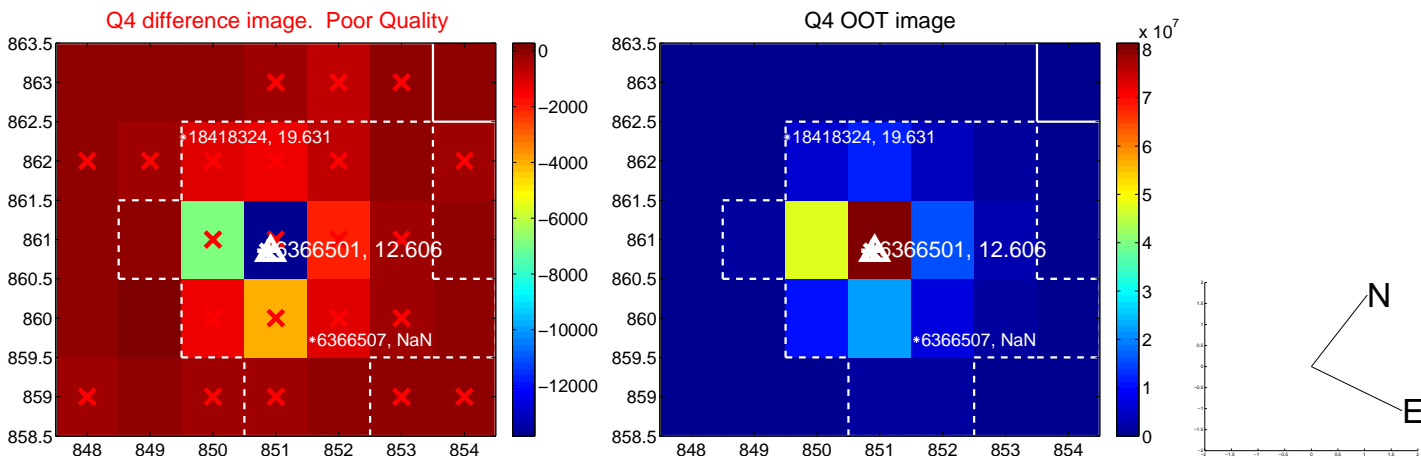
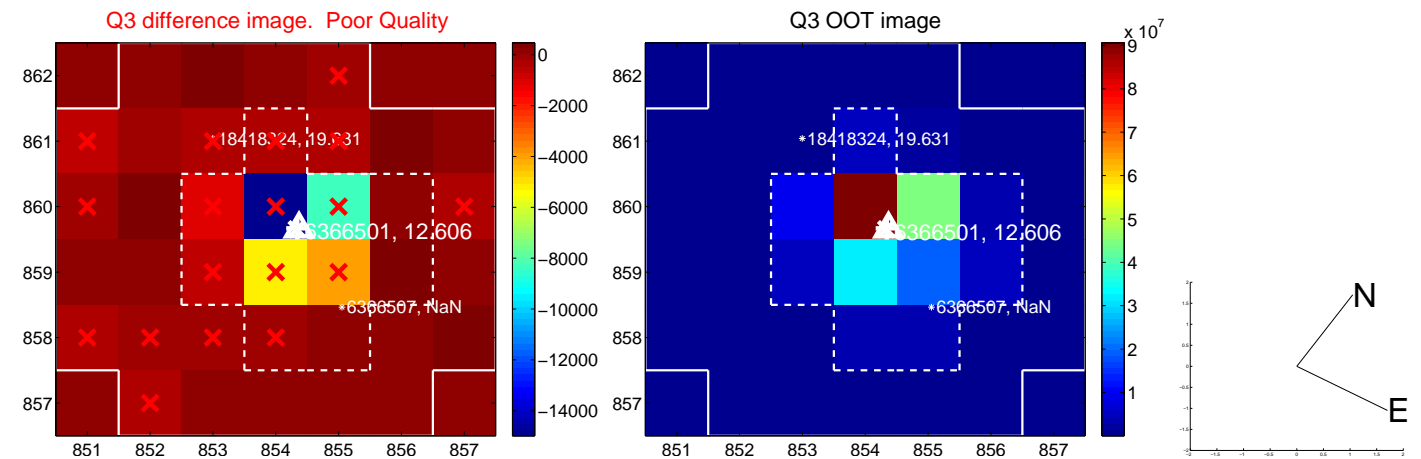
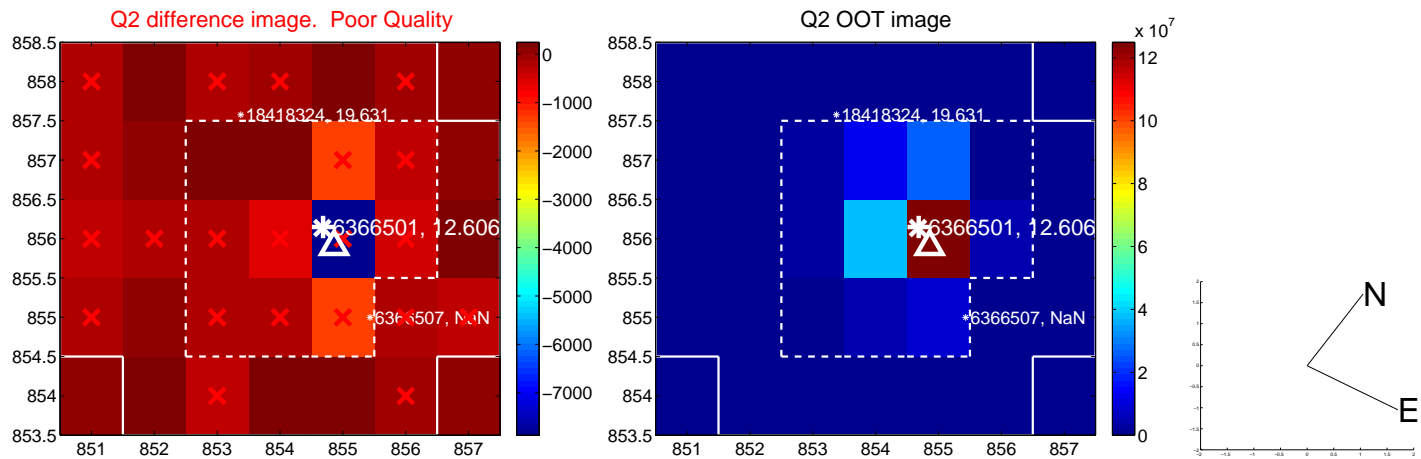
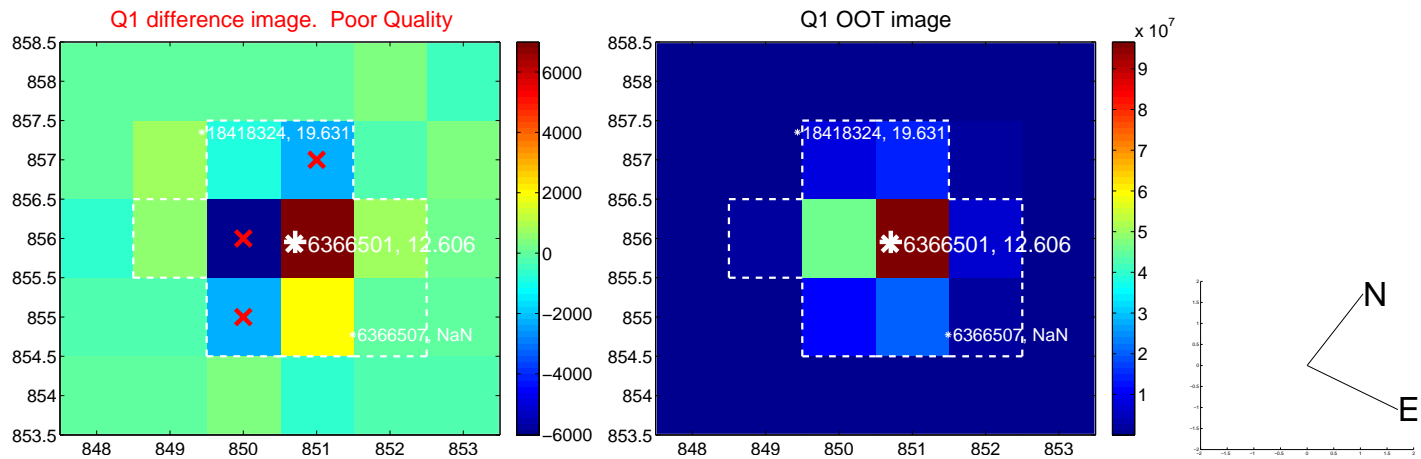
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.110 ± 0.397 | 0.28 | 0.060 ± 0.500 | -0.092 ± 0.347 |
| PRF-fit source offset from KIC position | 0.069 ± 0.524 | 0.13 | 0.069 ± 0.526 | -0.008 ± 0.364 |
| photometric centroid source offset | — | — | — | — |

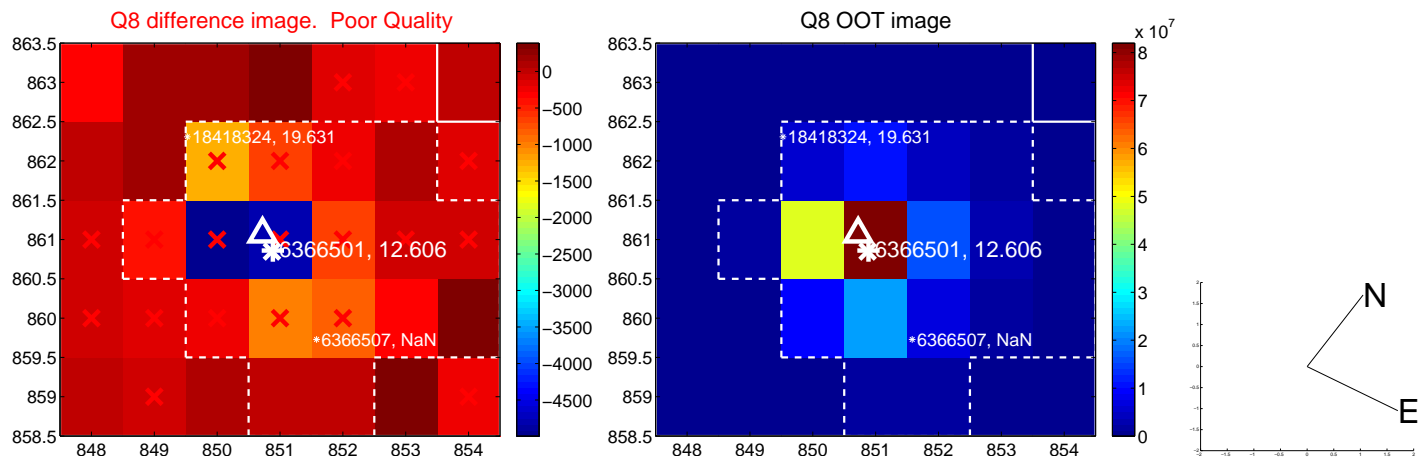
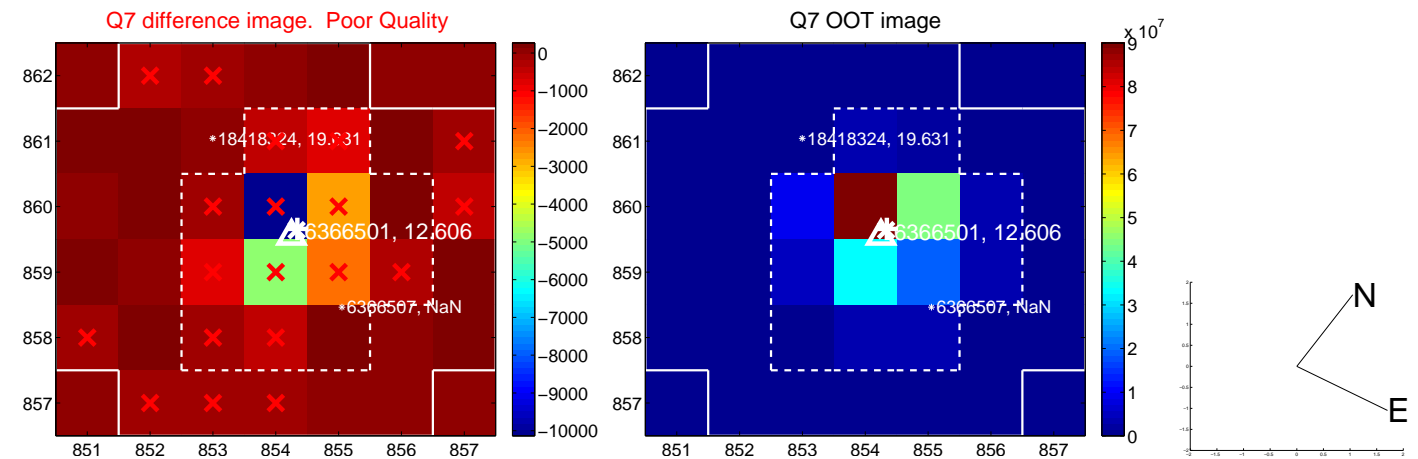
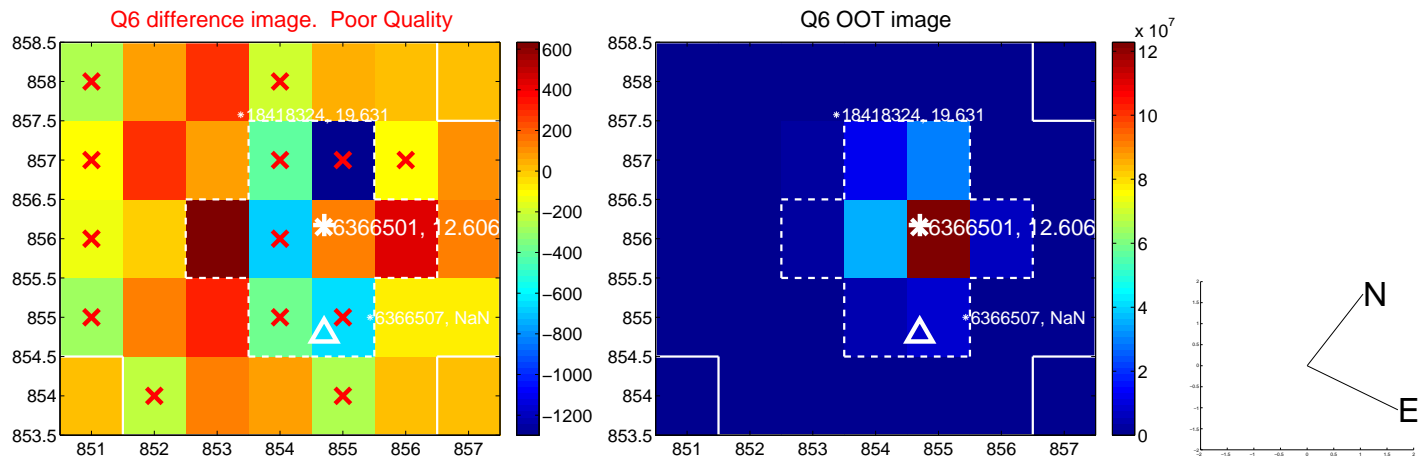
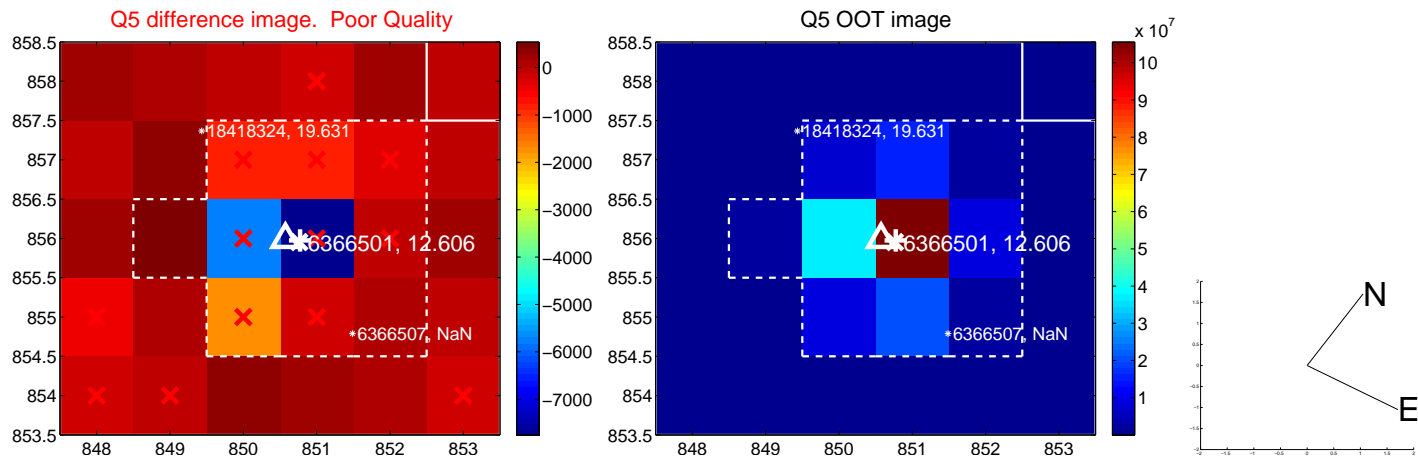


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

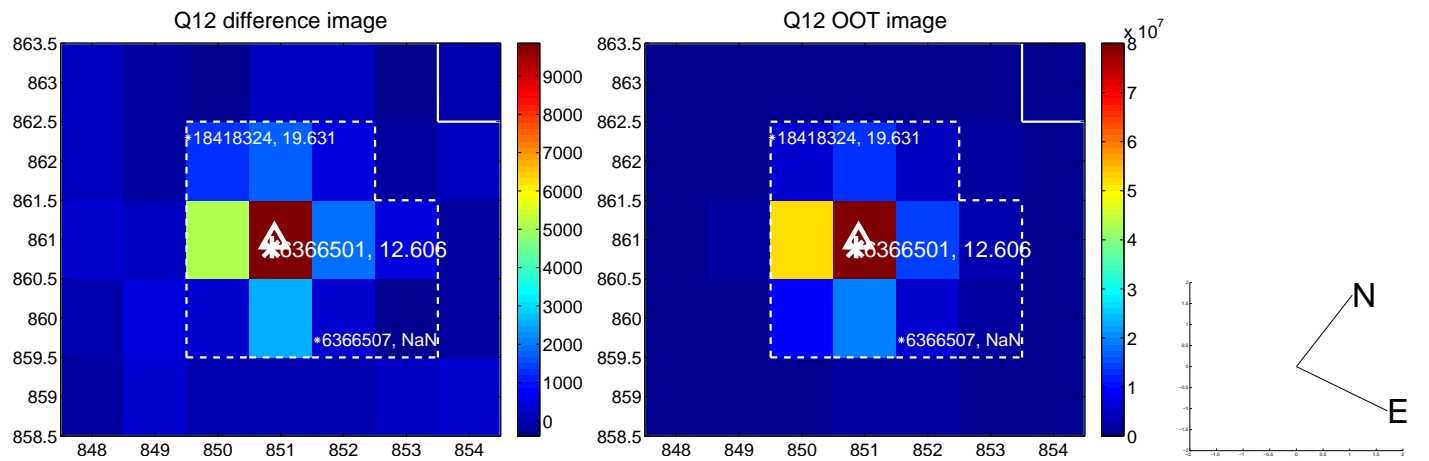
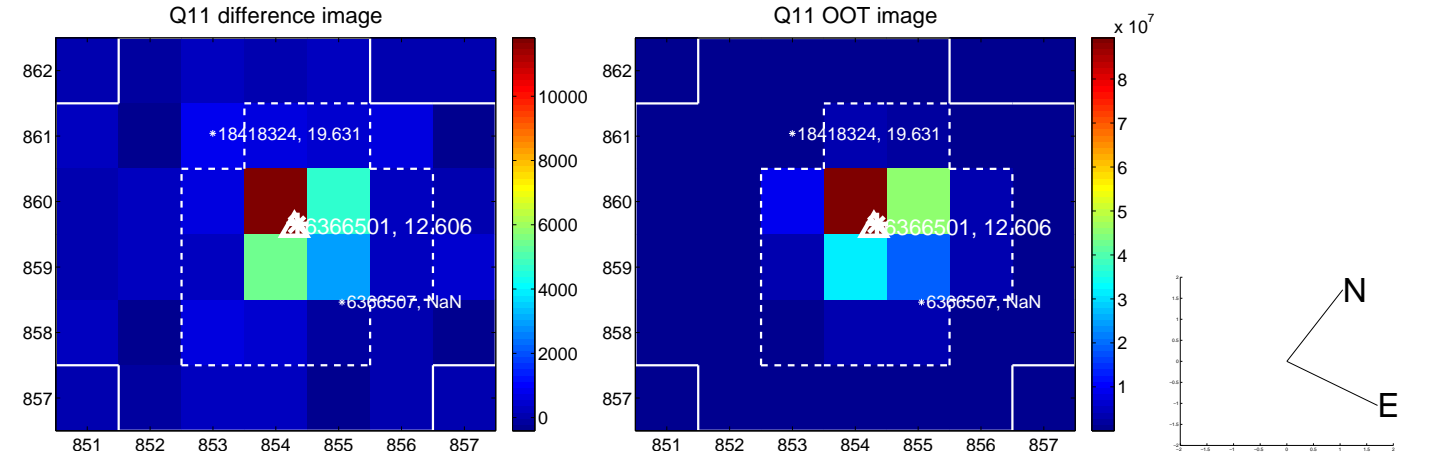
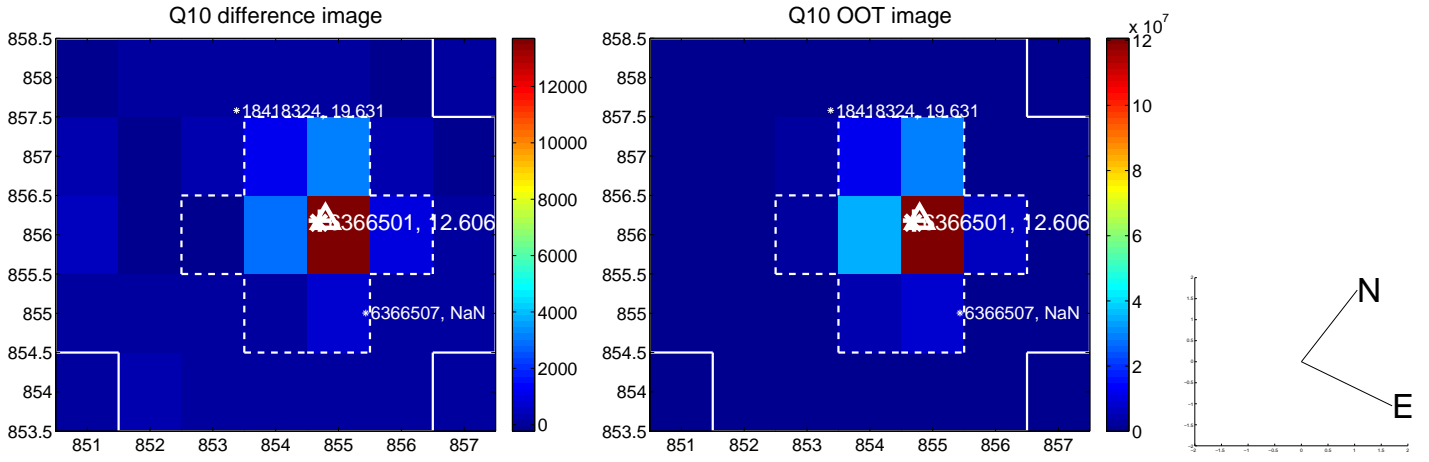
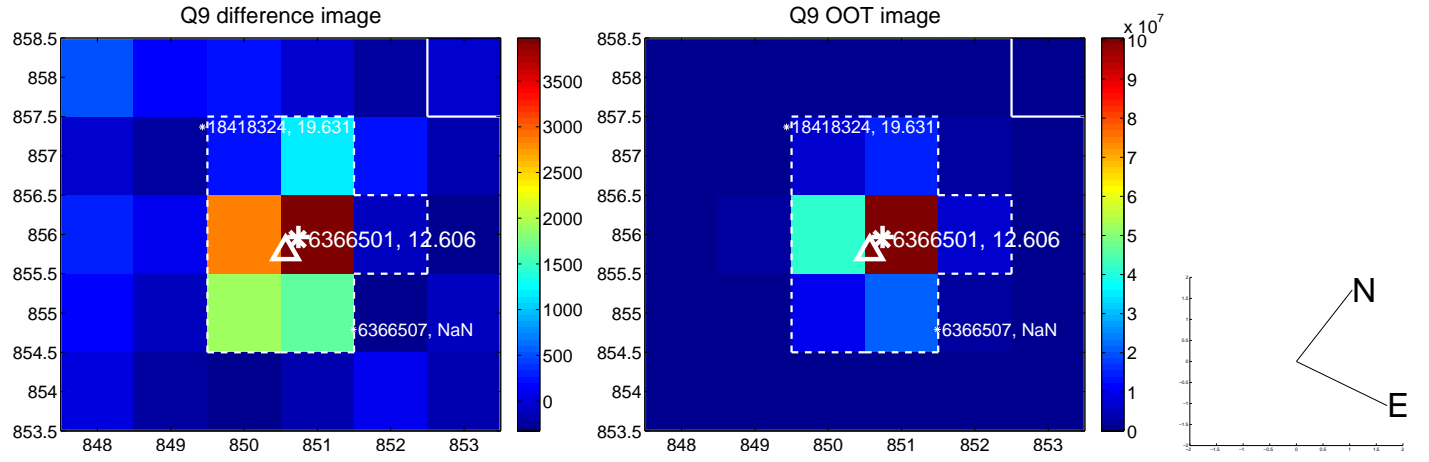
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



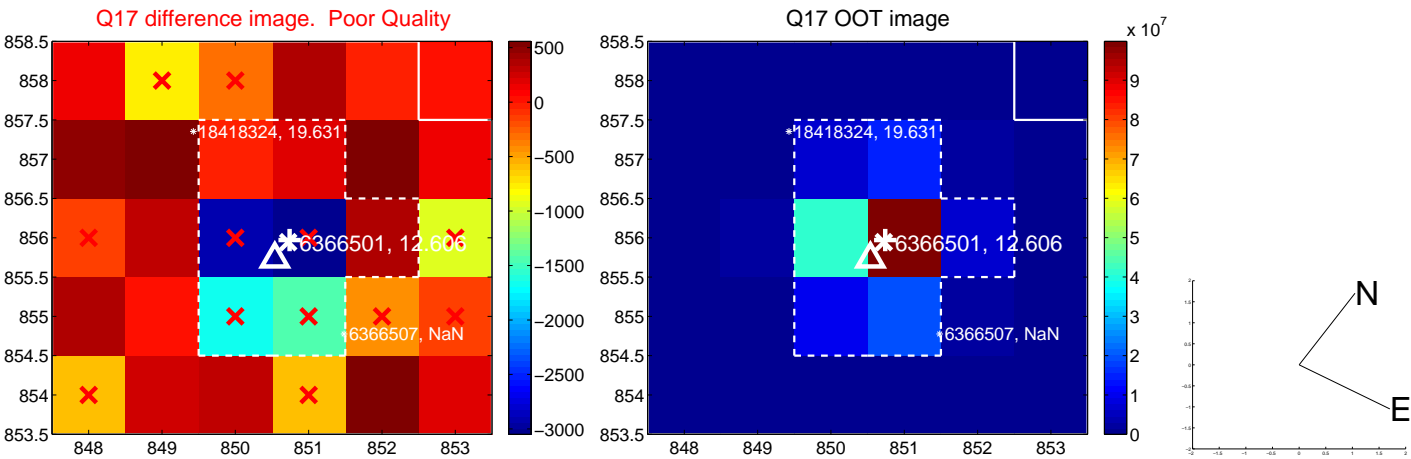
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



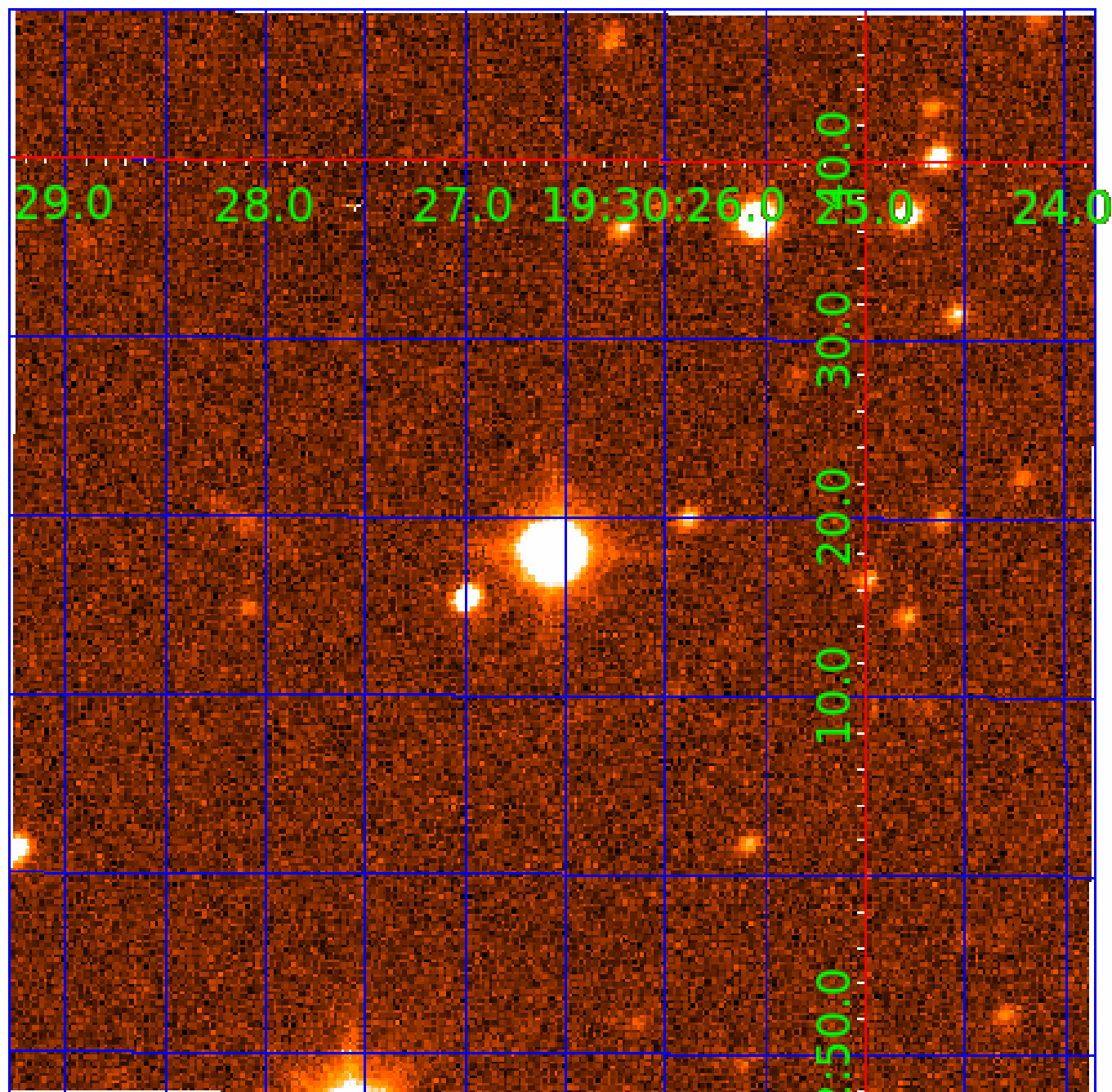
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 006366501

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 006366501-01 | OBS | No | 1.208188 | 131.804013 | 22.7 | 0.648 | 11.4 | 5.3 | 1.92 | 6722 | 0.96 | 10236.58 |
| 006366501-02 | OBS | No | 1.207157 | 132.159253 | 0.0 | 1.550 | 11.2 | 0.0 | 1.92 | 6722 | 0.03 | 10248.24 |
| 006366501-03 | OBS | No | 1.208140 | 132.622166 | 11.3 | 3.924 | 12.1 | 4.0 | 1.92 | 6722 | 0.80 | 10237.12 |
| 006366501-04 | OBS | No | 1.208124 | 132.310489 | 18.3 | 9.940 | 14.4 | 7.3 | 1.92 | 6722 | 0.83 | 10237.30 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 006366501-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS |
| 006366501-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT |
| 006366501-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD |
| 006366501-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD |

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

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

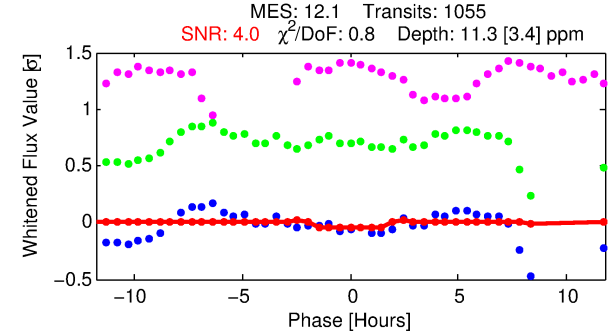
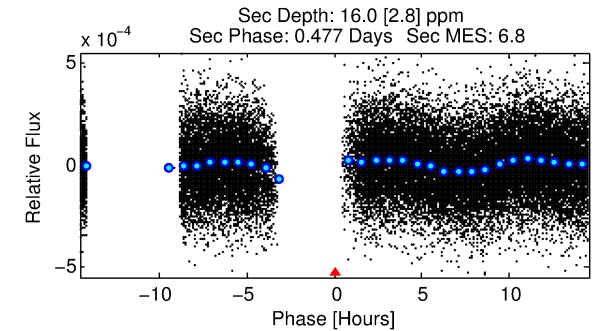
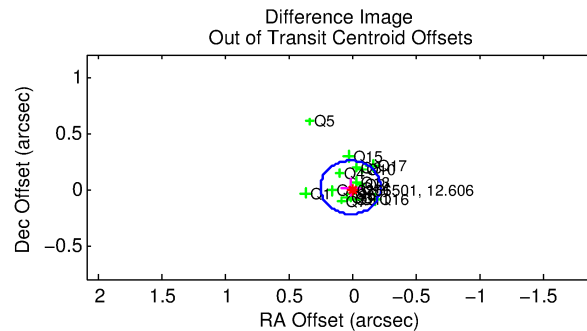
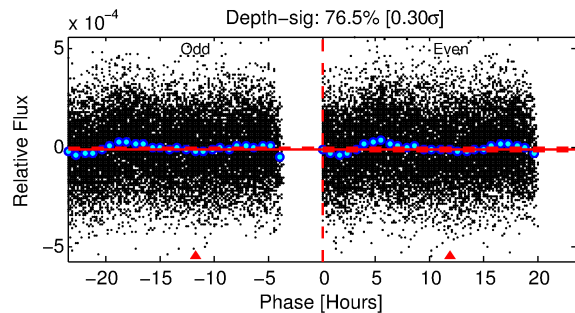
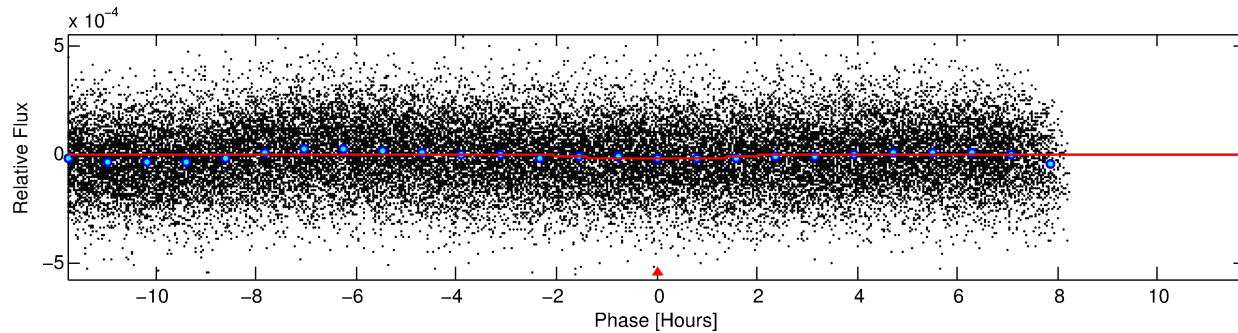
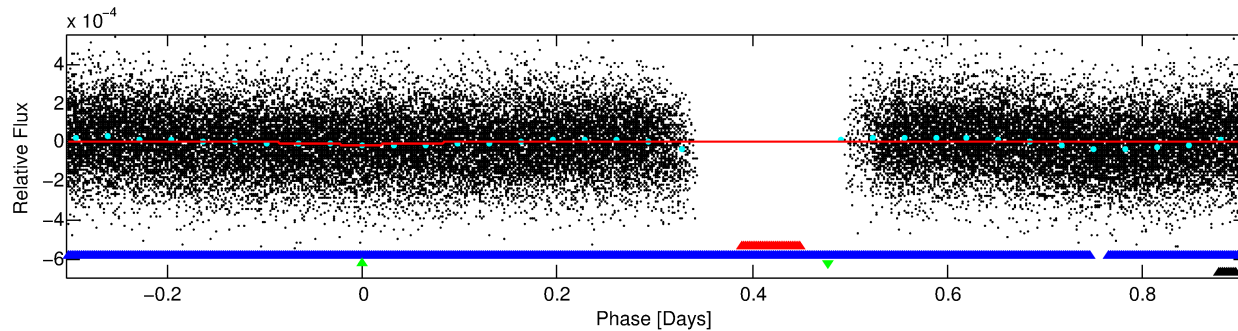
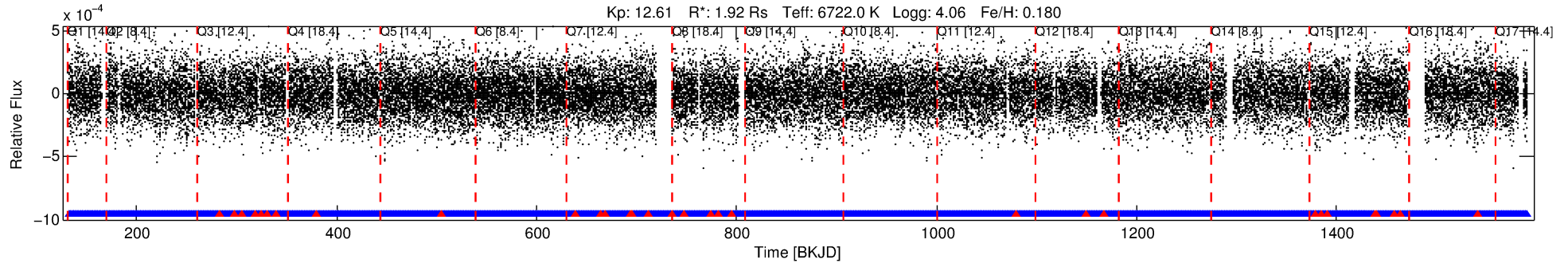
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006366501-03

No Significant Match Found

DV One-Page Summary

KIC: 6366501 Candidate: 3 of 4 Period: 1.208 d



DV Fit Results:

Period = 1.20814 [0.00003] d
Epoch = 132.6222 [0.0077] BKJD
Rp/R* = 0.0038 [0.0021]
a/R* = 1.20 [1.20]
b = 0.96 [0.28]
Seff = 10237.12 [2550.97]
Teq = 2565 [160] K
Rp = 0.80 [0.46] Re
a = 0.0256 [0.0041] AU
Ag = 8.94 [10.02] [0.79 σ]
Teffp = 6857 [1877] K [2.28 σ]

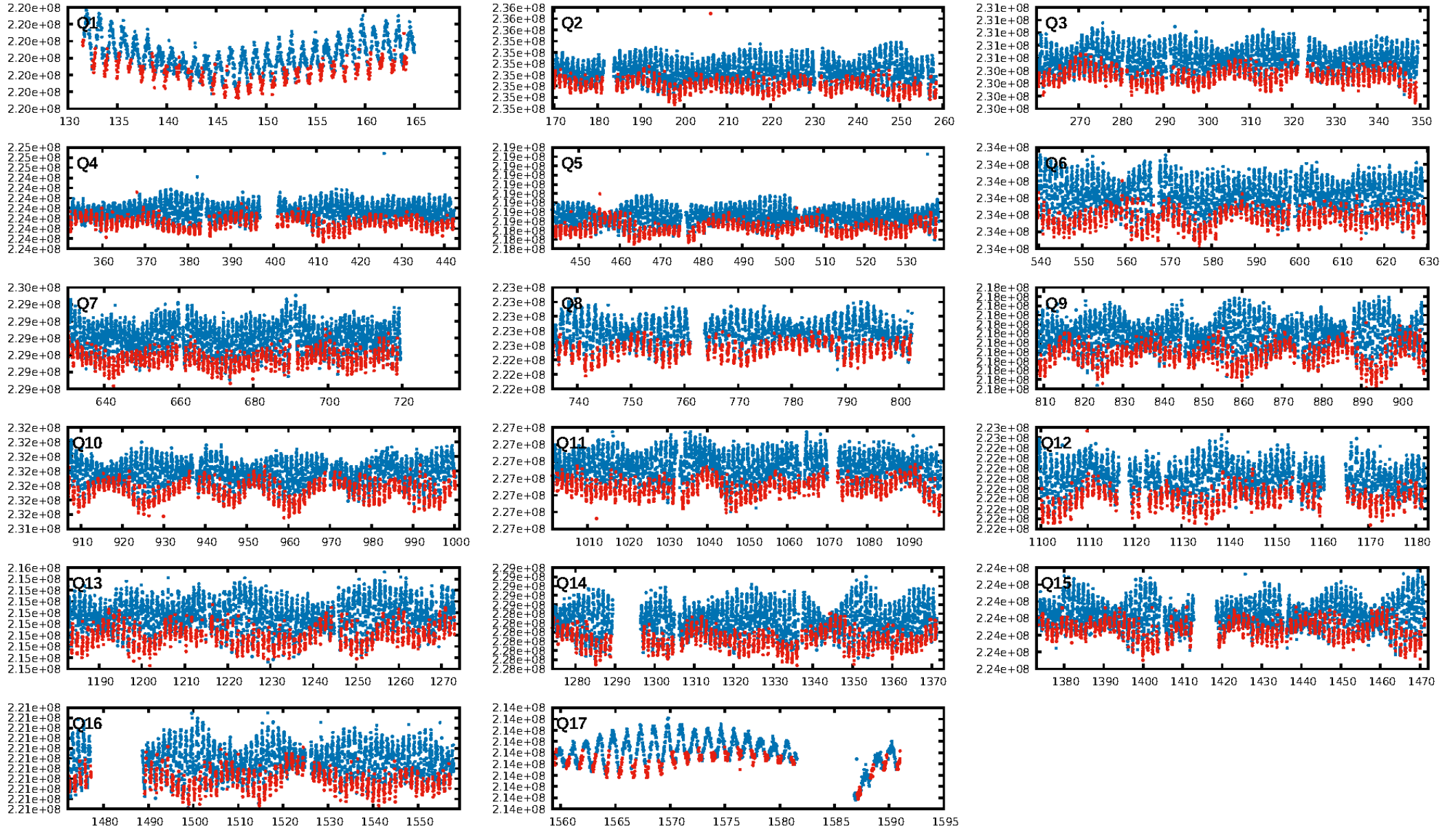
DV Diagnostic Results:

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: 0.97 [974/1005]
GhostDiagnostic-chr: 0.5087
Centroid-sig: 0.0%
Centroid-so: 3.230 arcsec [2.57 σ]
OotOffset-rm: 0.028 arcsec [0.36 σ]
KicOffset-rm: 0.103 arcsec [1.30 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

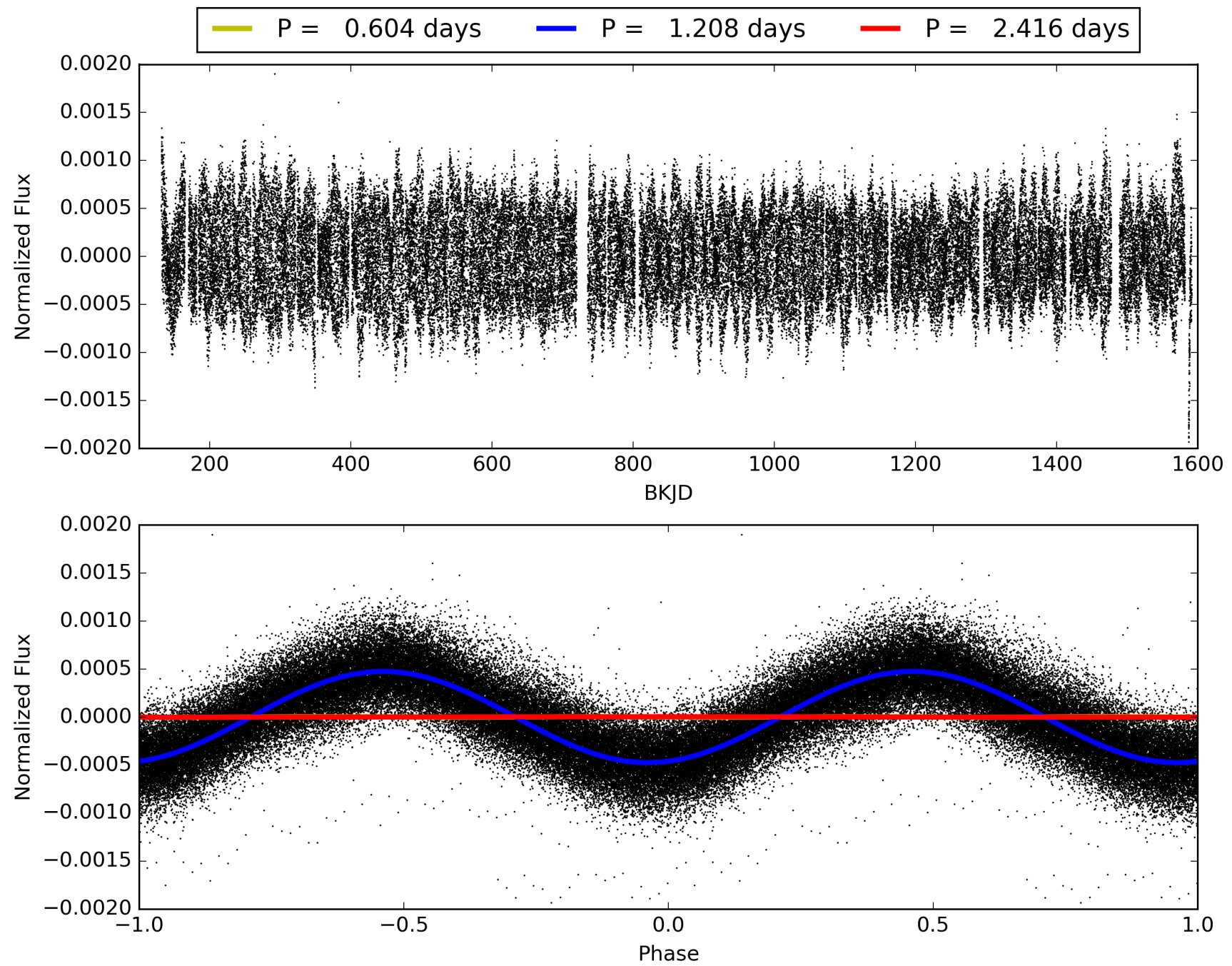
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:21:43 Z

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

TCE 006366501-03, PDC Light Curves

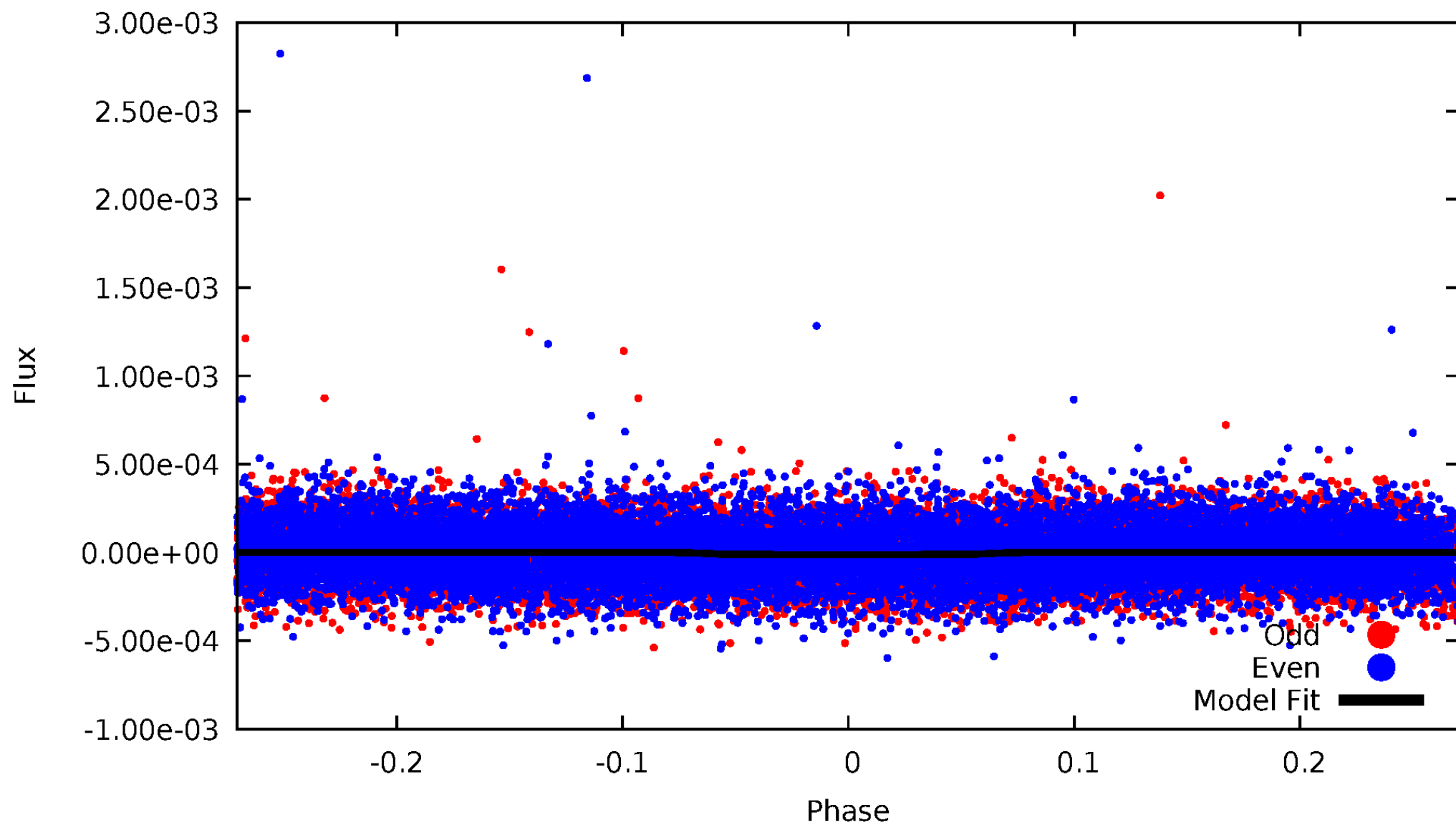


TCE 006366501-03



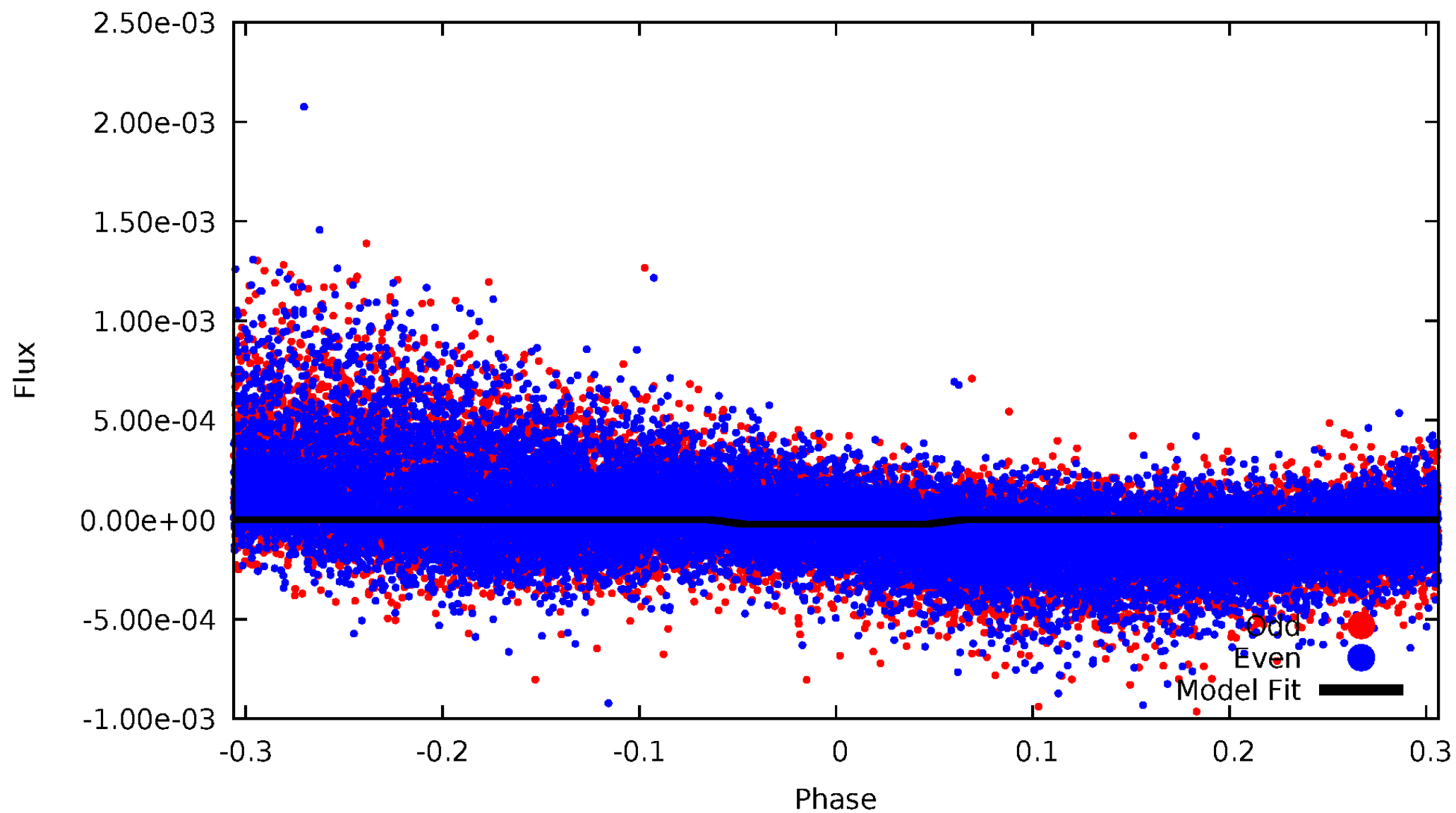
DV Odd/Even

TCE 006366501-03



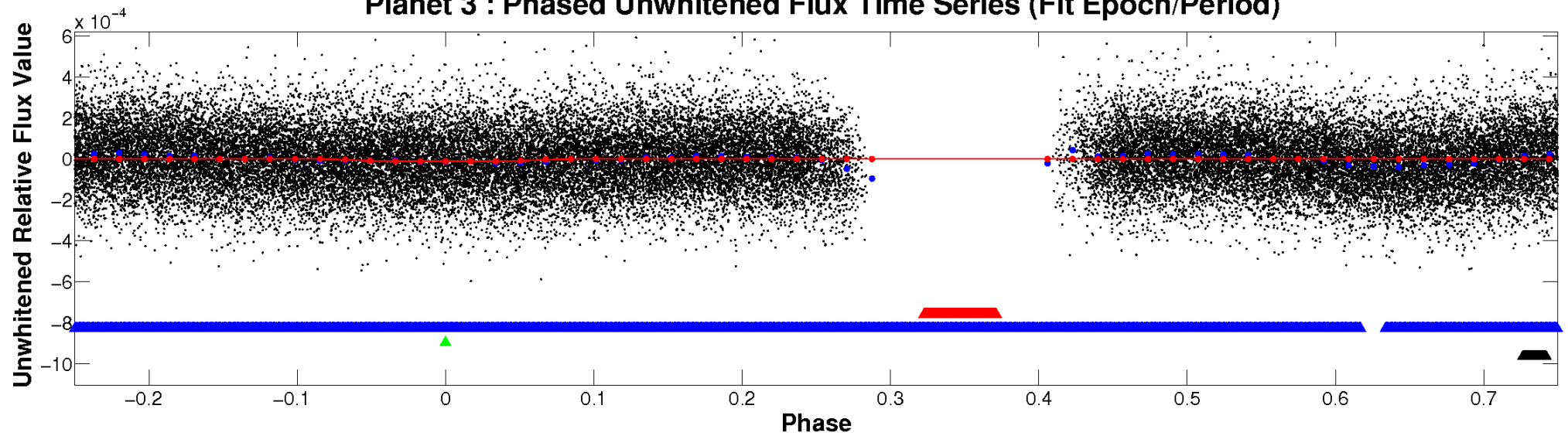
ALT Odd/Even

TCE 006366501-03

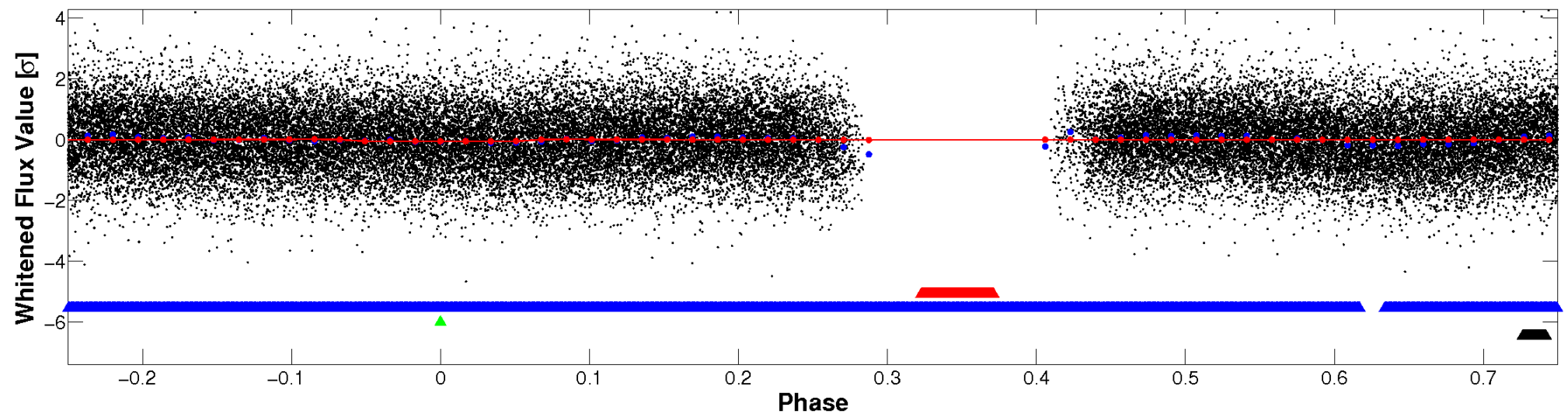


Non-Whitened Vs. Whitened Light Curve

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

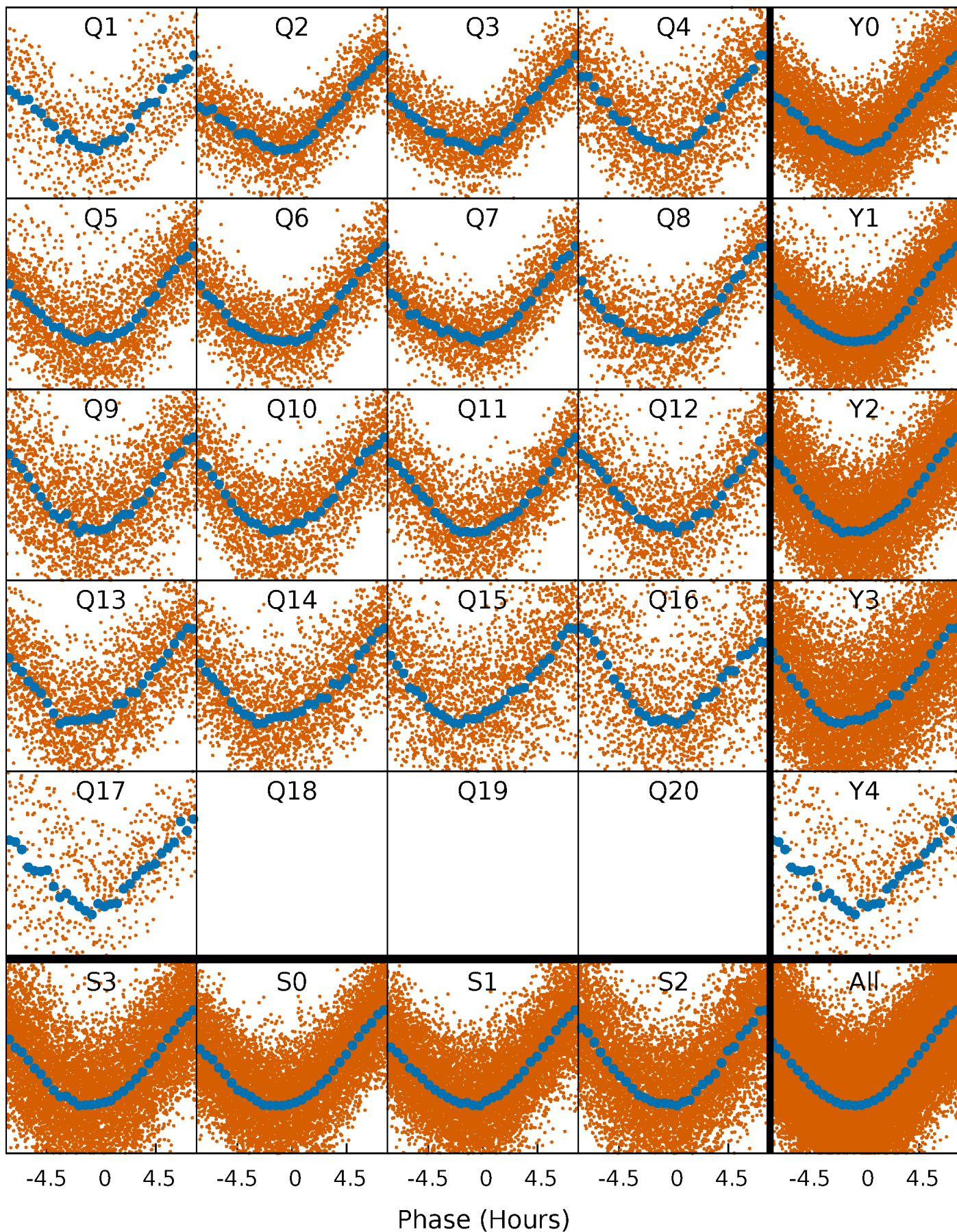


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



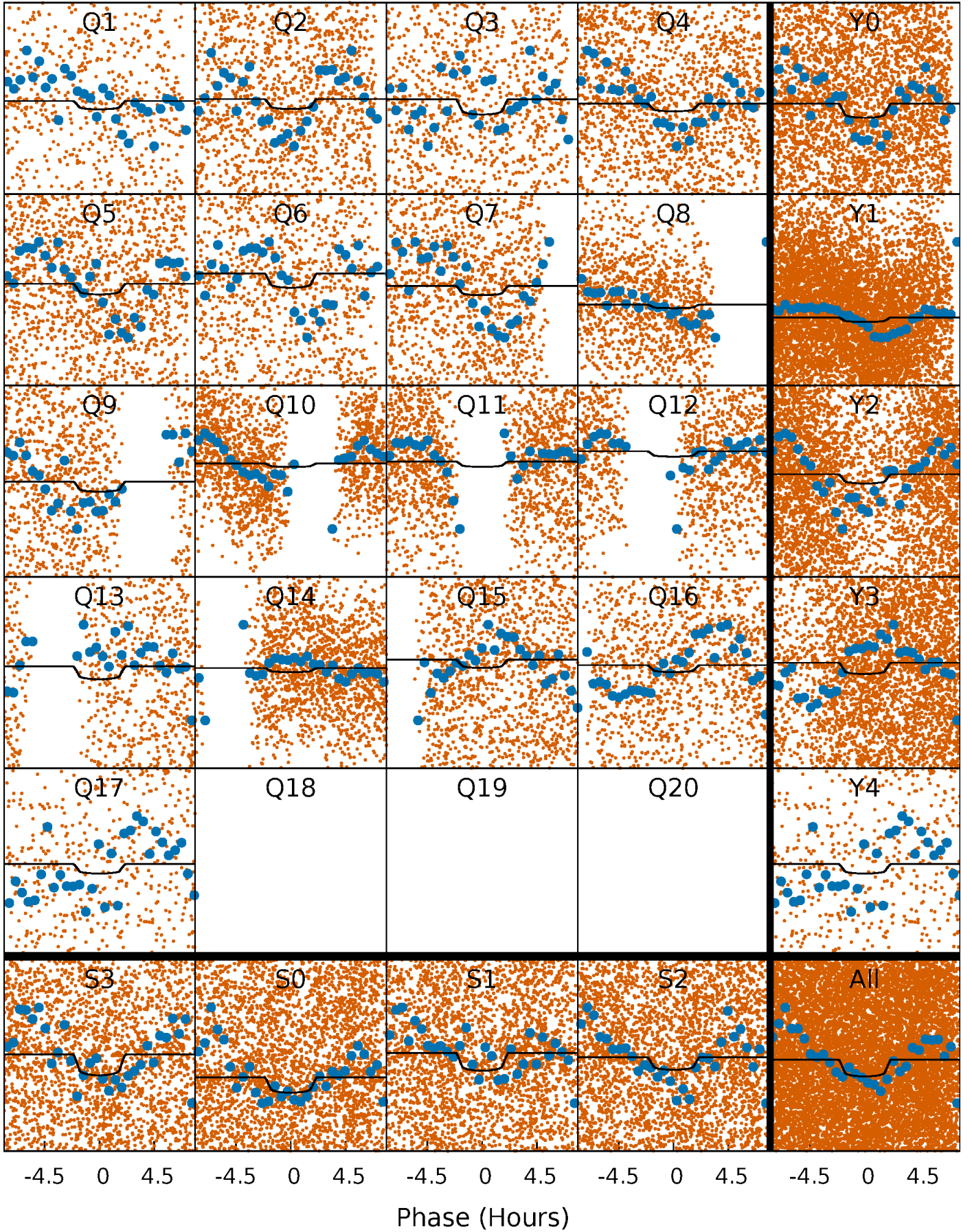
PDC Quarter-Phased Transit Curves

TCE 006366501-03 P= 1.208140 Days $T_0=132.622166$ (BKJD)



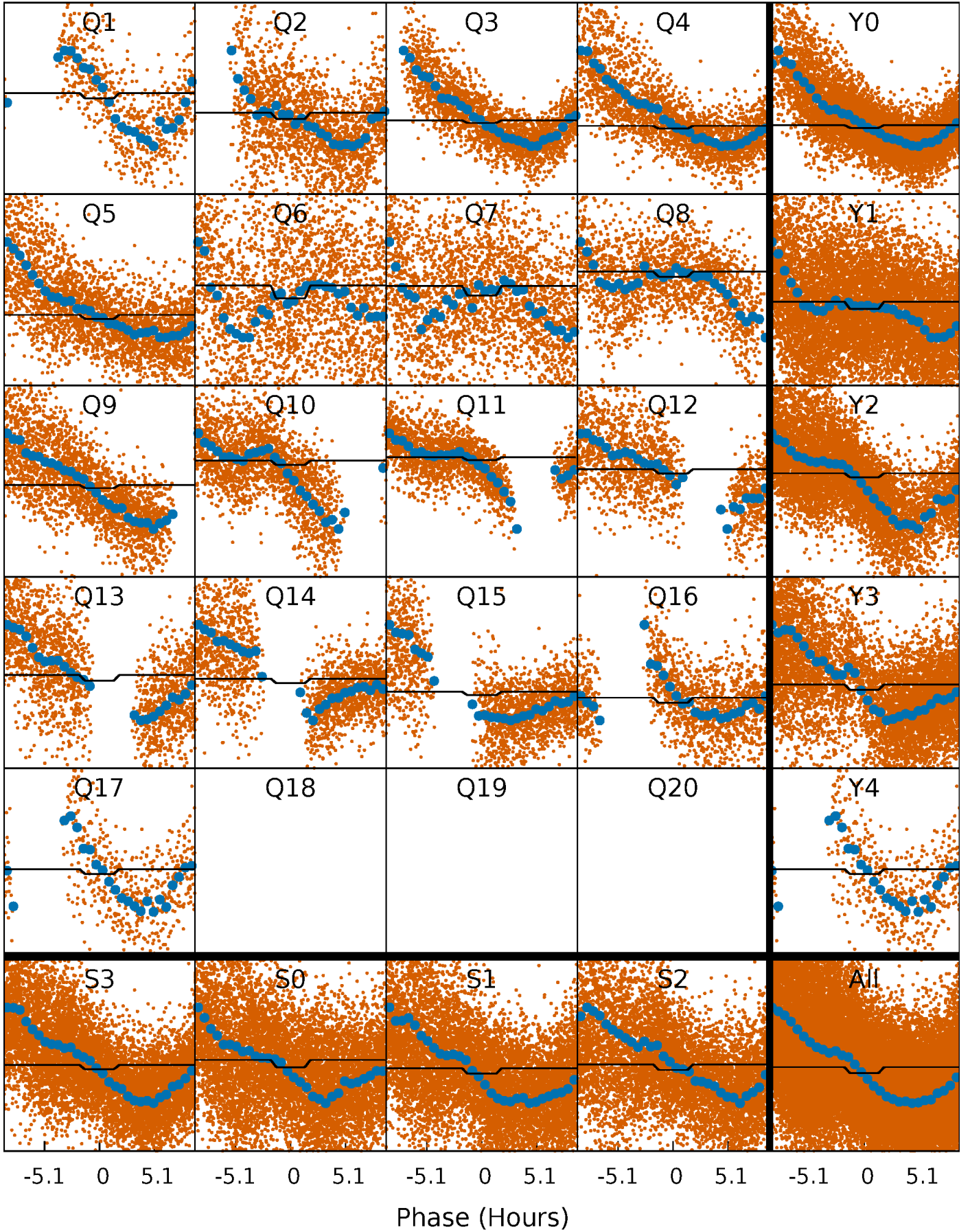
DV Quarter-Phased Transit Curves

TCE 006366501-03 P= 1.208140 Days $T_0=132.622166$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

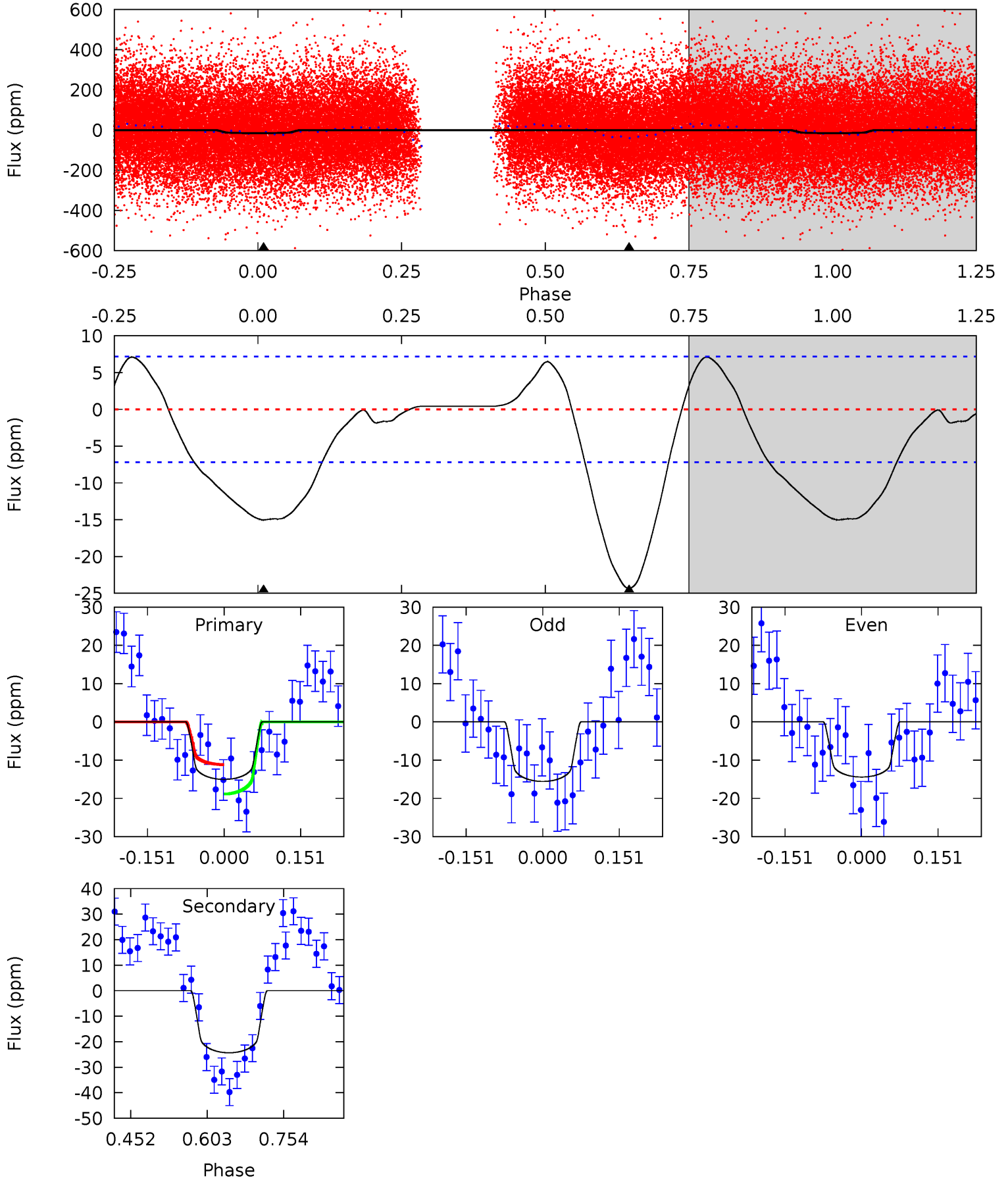
TCE 006366501-03 P= 1.208161 Days $T_0=132.405465$ (BKJD)



DV Model-Shift Uniqueness Test

006366501-03, P = 1.208140 Days, E = 131.414026 Days

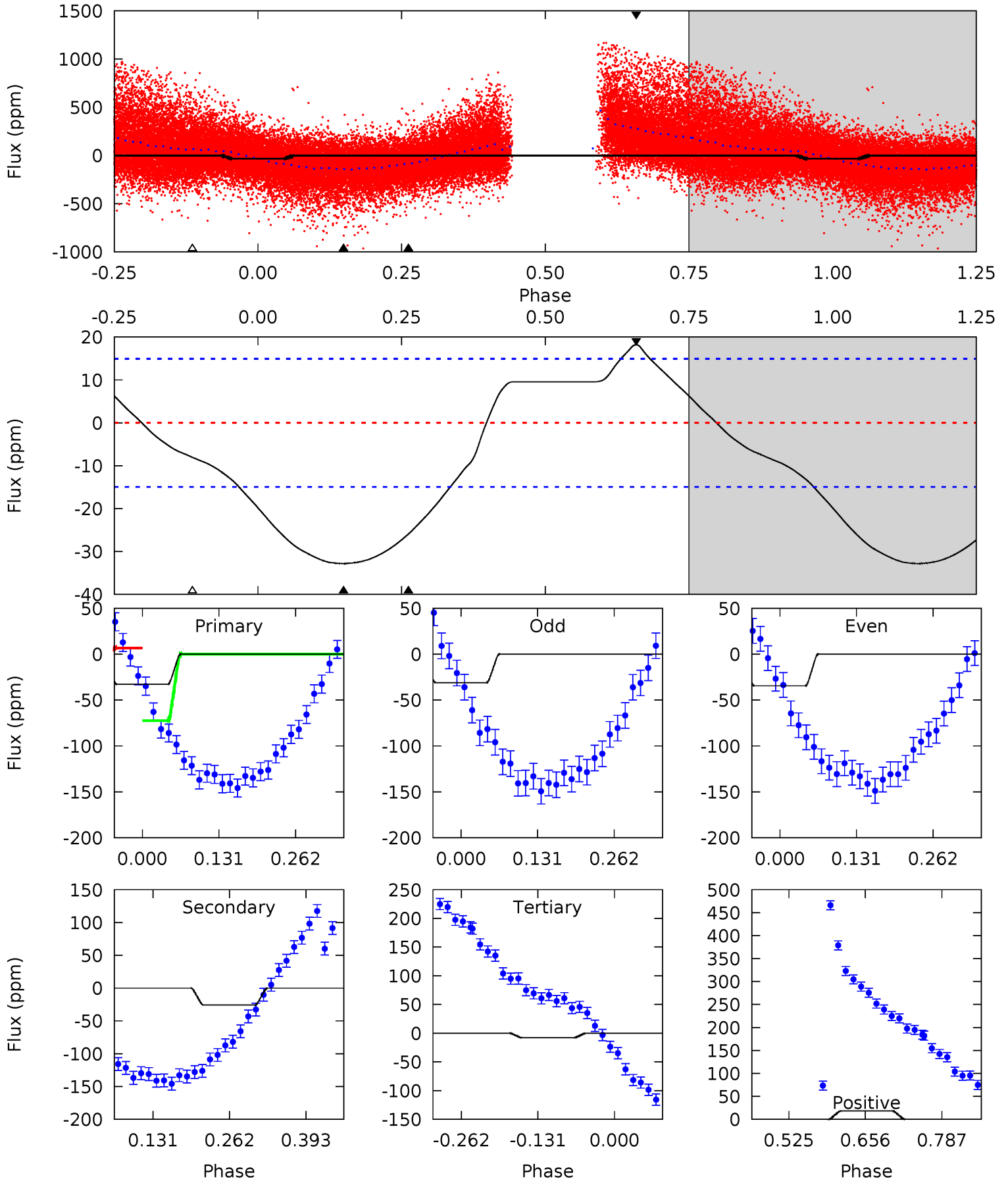
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.37 | 15.2 | 0 | 0 | 4.48 | 1.44 | 1.57 | 9.37 | 9.37 | 15.2 | 15.2 | 0.36 | 0.98 | 0.23 | 2.42 |



Alt Model-Shift Uniqueness Test

006366501-03, P = 1.208161 Days, E = 131.197304 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.91 | 7.83 | 2.43 | 5.50 | 4.51 | 1.51 | 3.44 | 7.48 | 4.41 | 5.40 | 2.33 | 0.54 | 1.23 | 0.36 | 16.7 |



Stellar Parameters For KIC 006366501

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 6722^{+73}_{-87} | $4.059^{+0.137}_{-0.112}$ | $0.180^{+0.150}_{-0.150}$ | $1.915^{+0.354}_{-0.354}$ | $1.530^{+0.114}_{-0.127}$ | $0.307^{+0.211}_{-0.107}$ |
| | +1%/-1% | +3%/-3% | +83%/-83% | +18%/-18% | +7%/-8% | +69%/-35% |
| Source | SPE68 | SPE68 | SPE68 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 006366501-03 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|----------------------------|
| DV | -24 ± 2 | $0.80^{+0.44}_{-0.40}$ | 3570^{+173}_{-180} | 7586^{+4864}_{-1537} | 14^{+44}_{-8} |
| Alt. | -26 ± 3 | $1.01^{+0.44}_{-0.40}$ | 3575^{+165}_{-174} | 6784^{+2690}_{-1144} | $9.061^{+17.516}_{-4.567}$ |

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 $A_{obs} \gg 1.0$

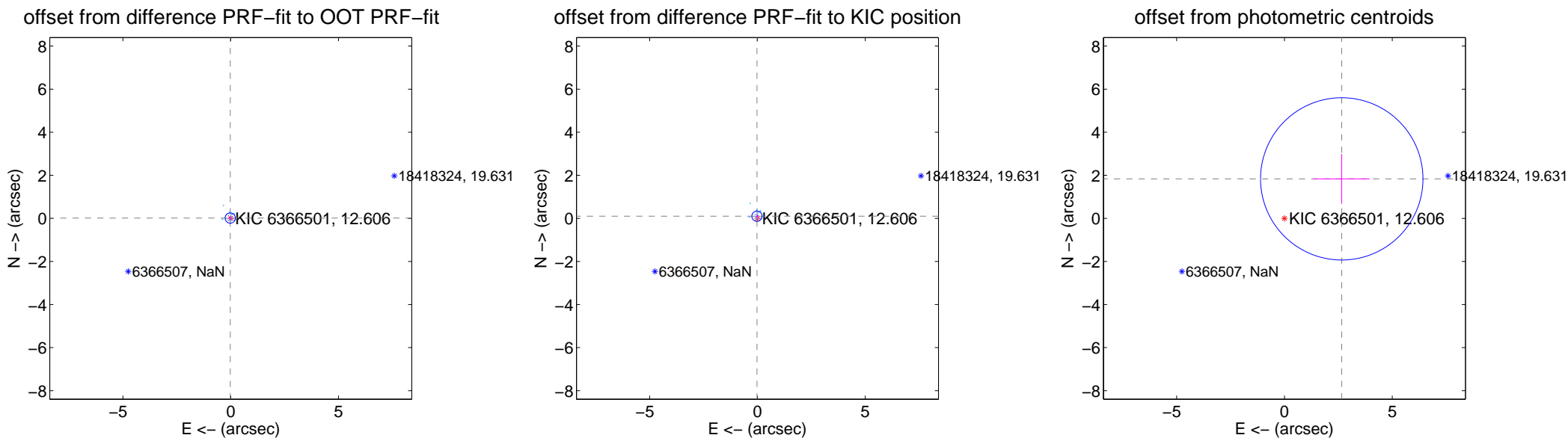
DV Centroid Data

Supplemental centroid analysis for 006366501-03. Kepler magnitude: 12.61. Transit SNR 4.01

There are 17 quarters with good PRF difference image offsets

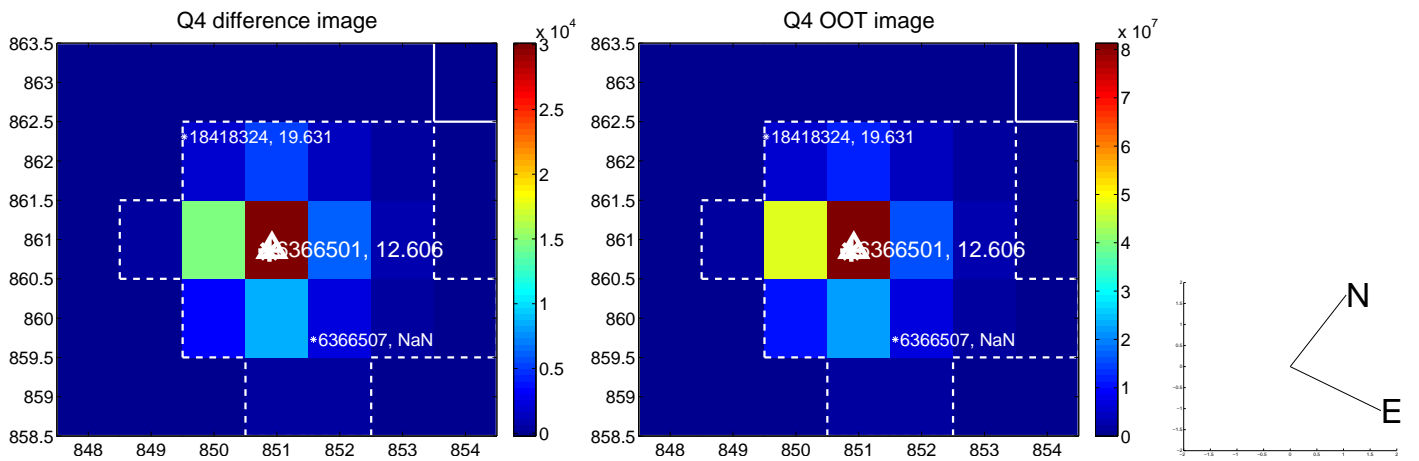
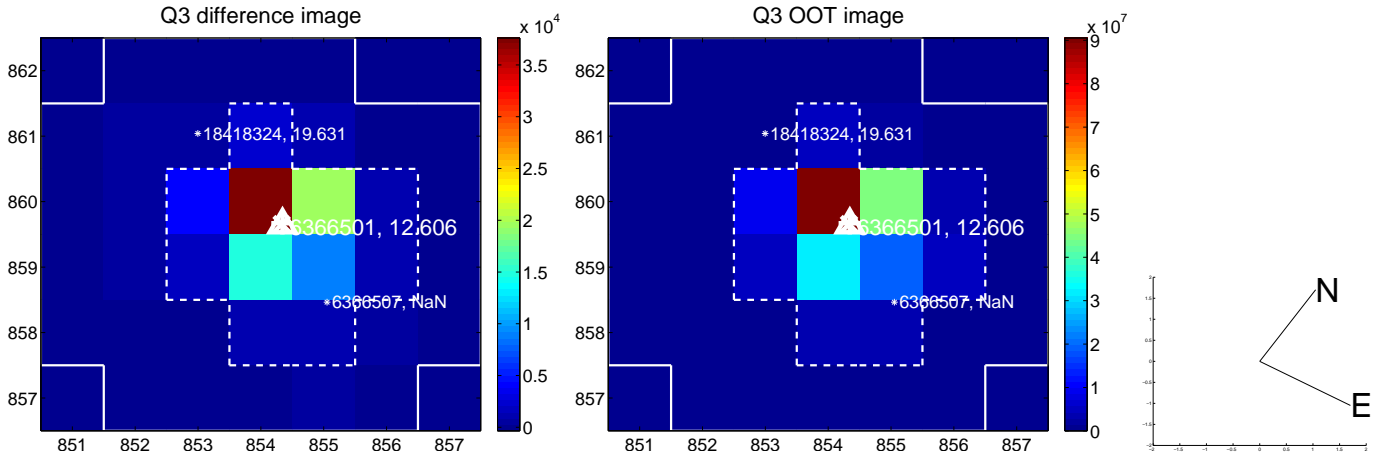
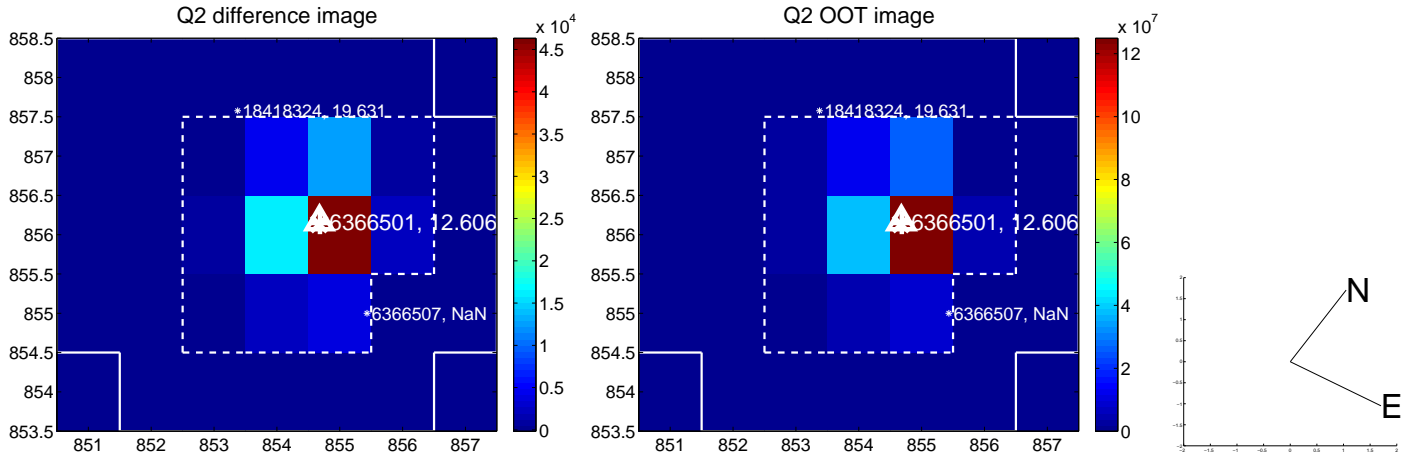
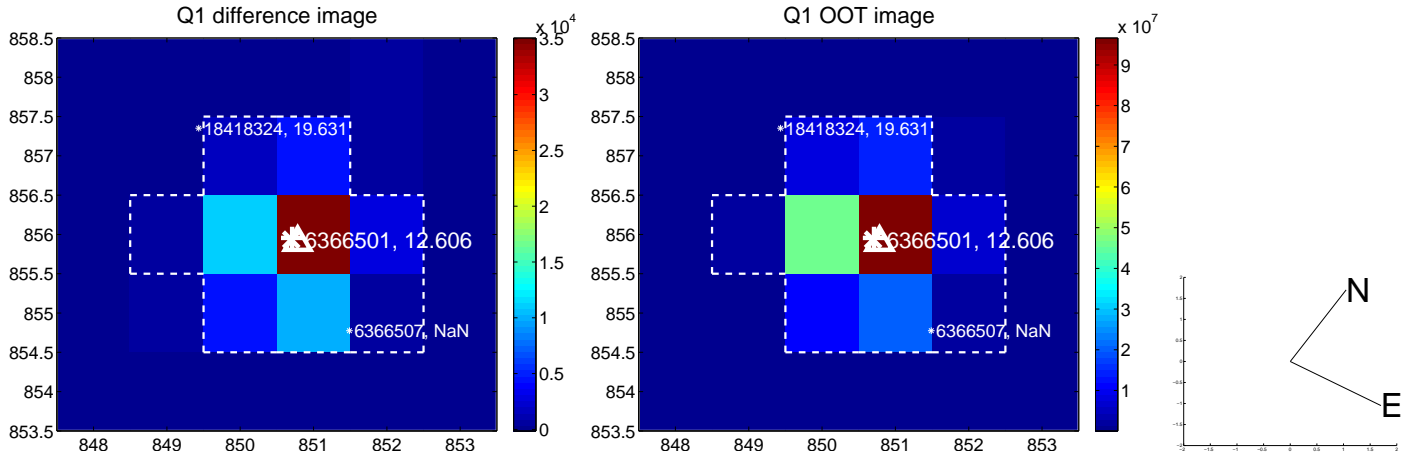
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.028 ± 0.079 | 0.36 | 0.023 ± 0.075 | 0.016 ± 0.080 |
| PRF-fit source offset from KIC position | 0.103 ± 0.079 | 1.30 | 0.023 ± 0.076 | 0.100 ± 0.078 |
| photometric centroid source offset | 3.23 ± 1.26 | 2.57 | -2.66 ± 1.30 | 1.83 ± 1.16 |

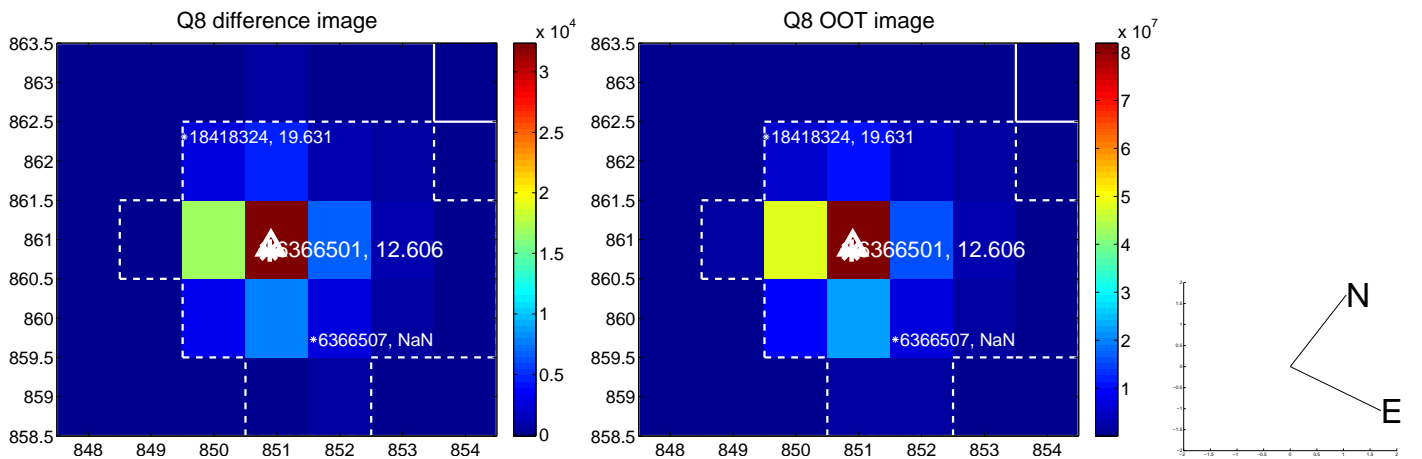
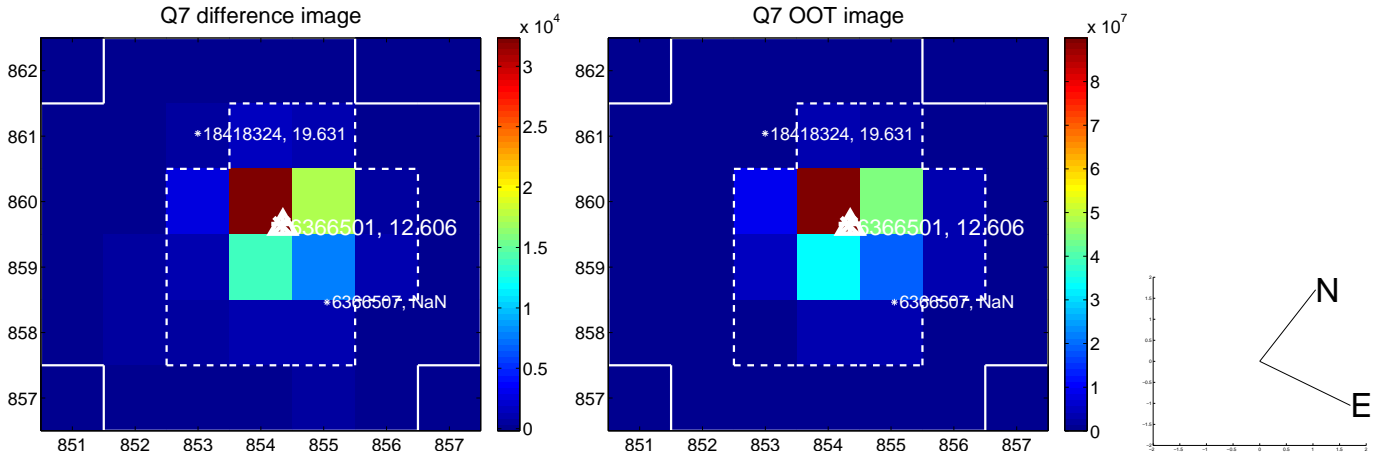
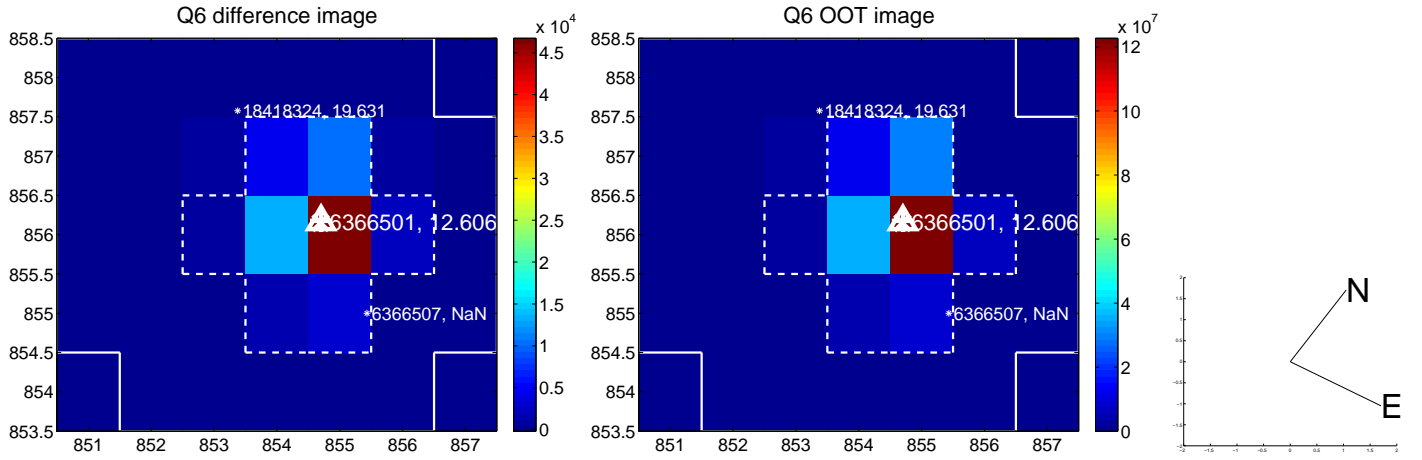
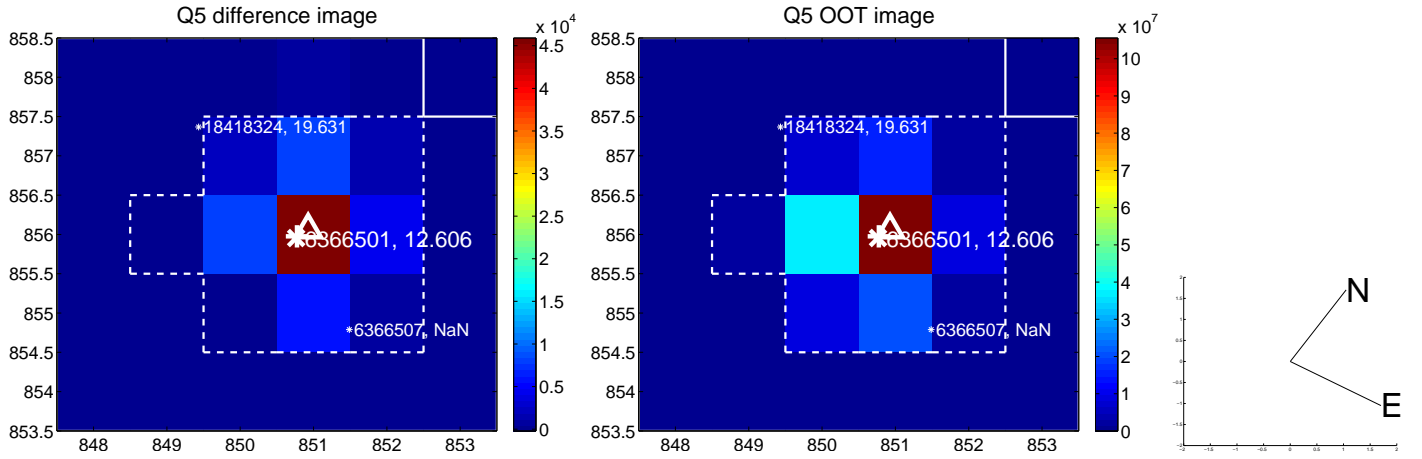


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

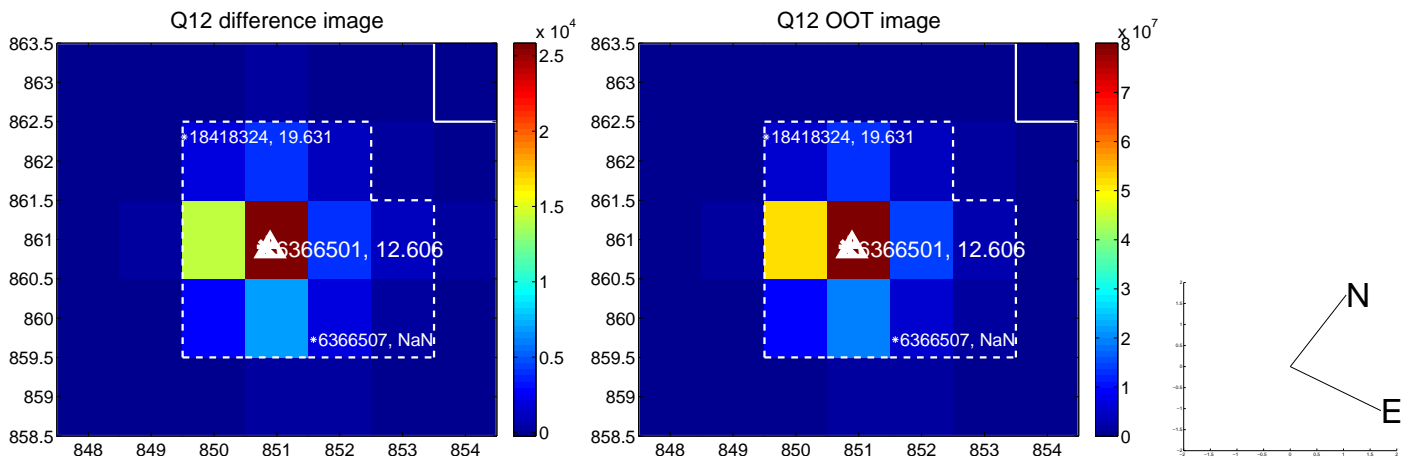
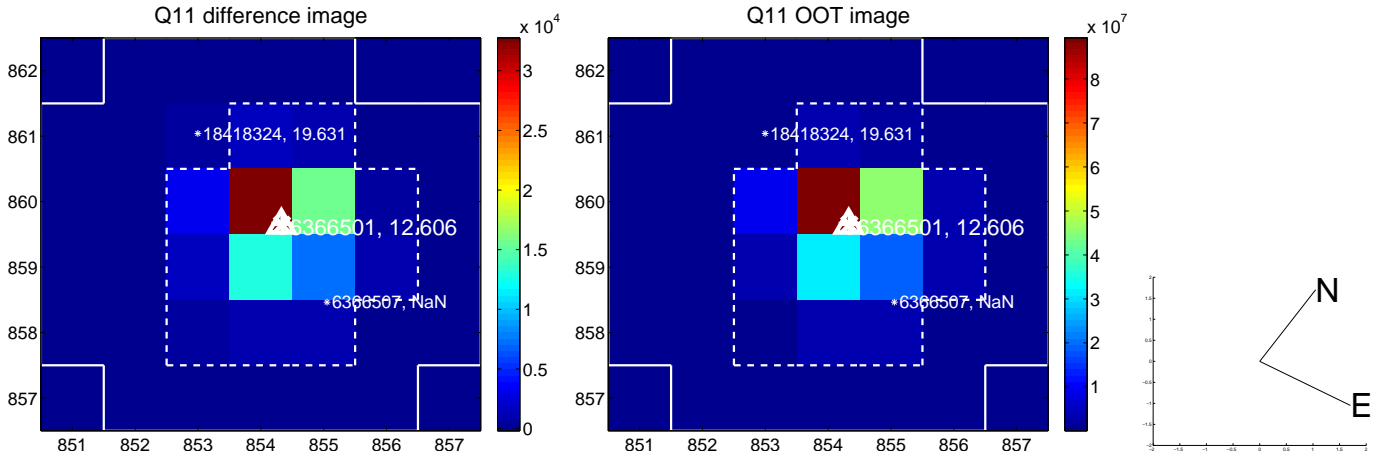
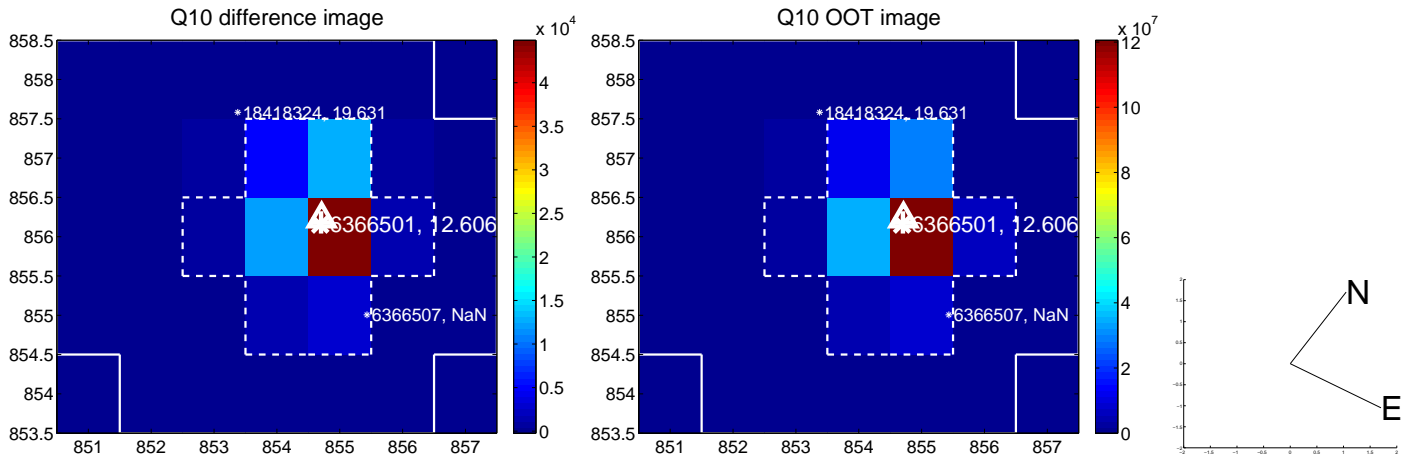
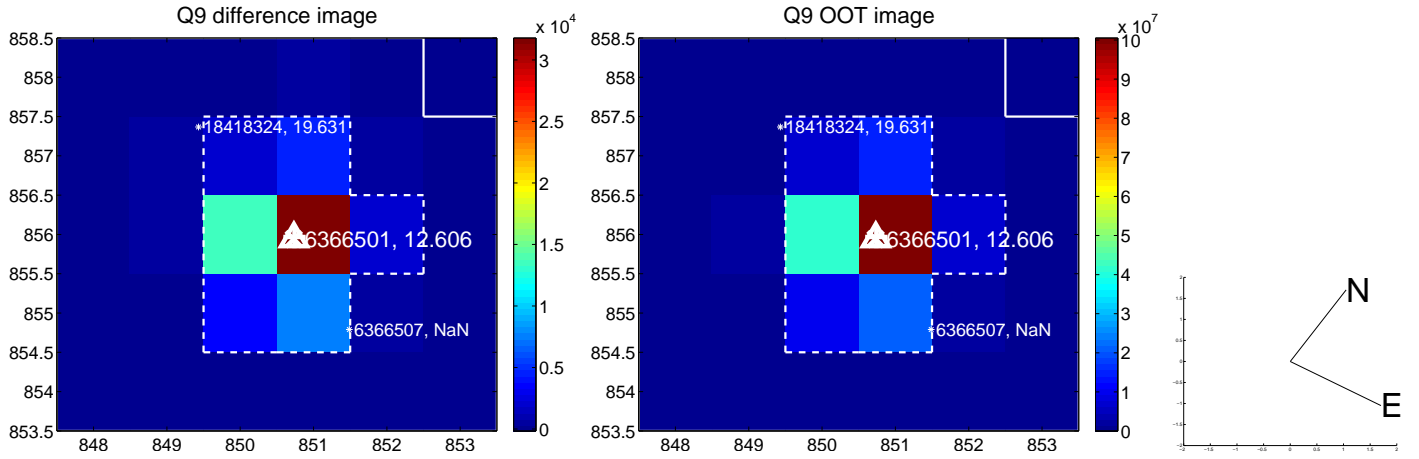
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



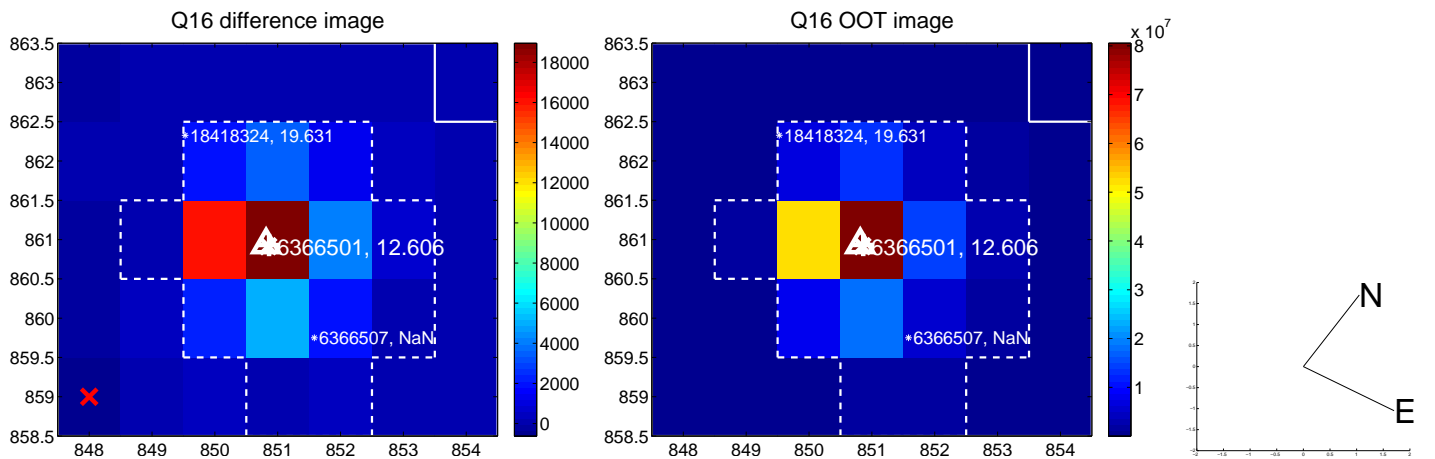
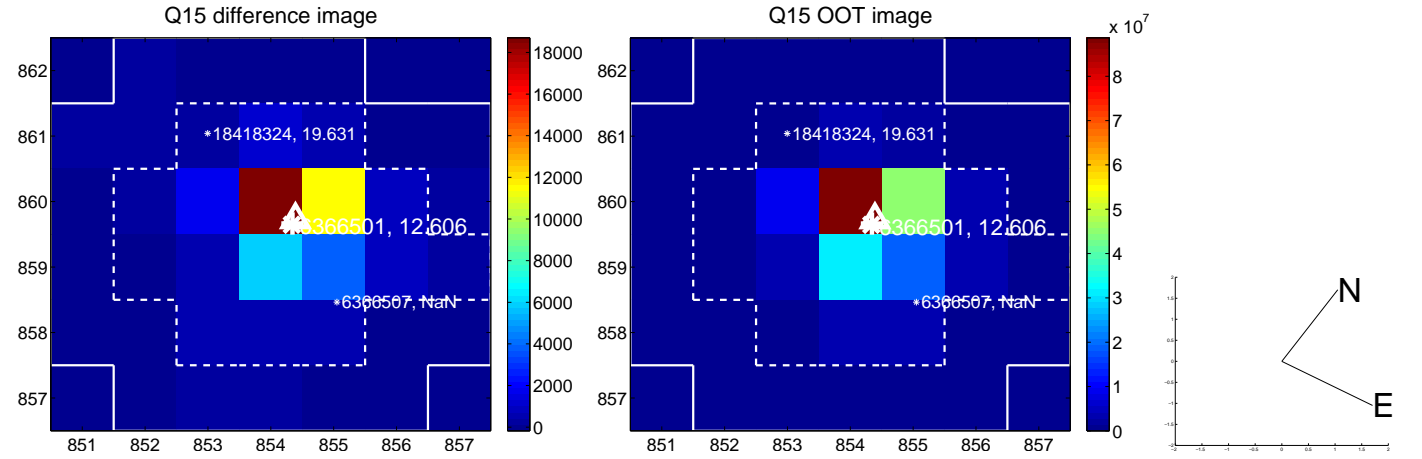
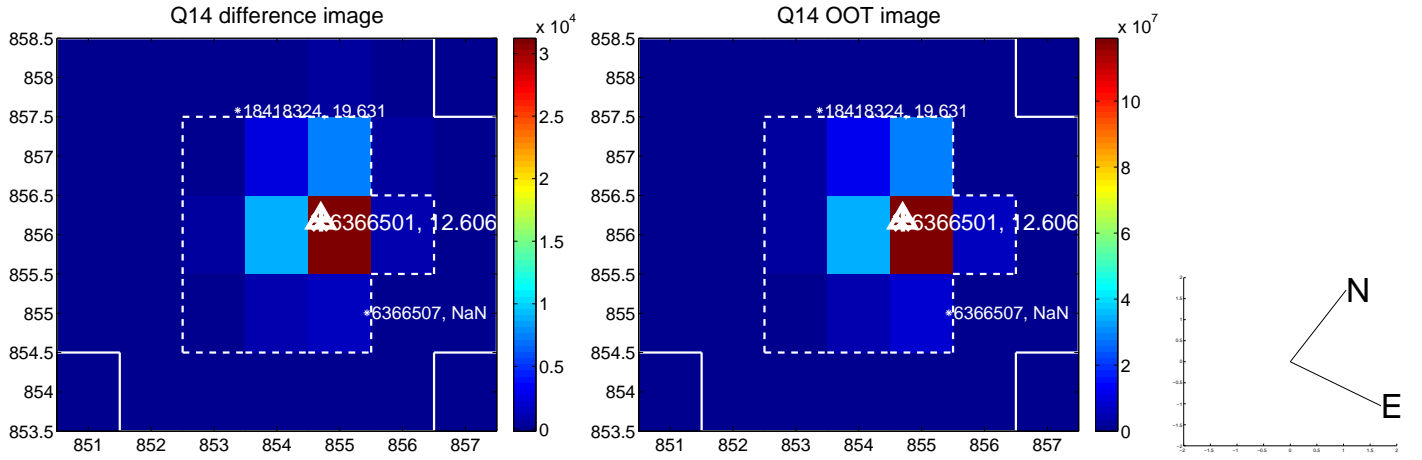
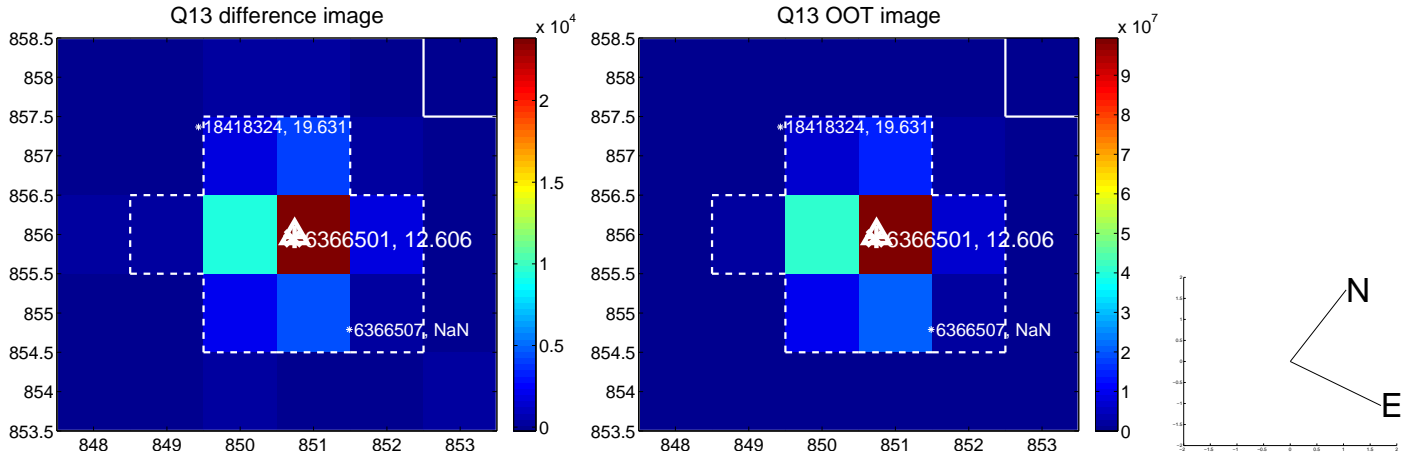
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



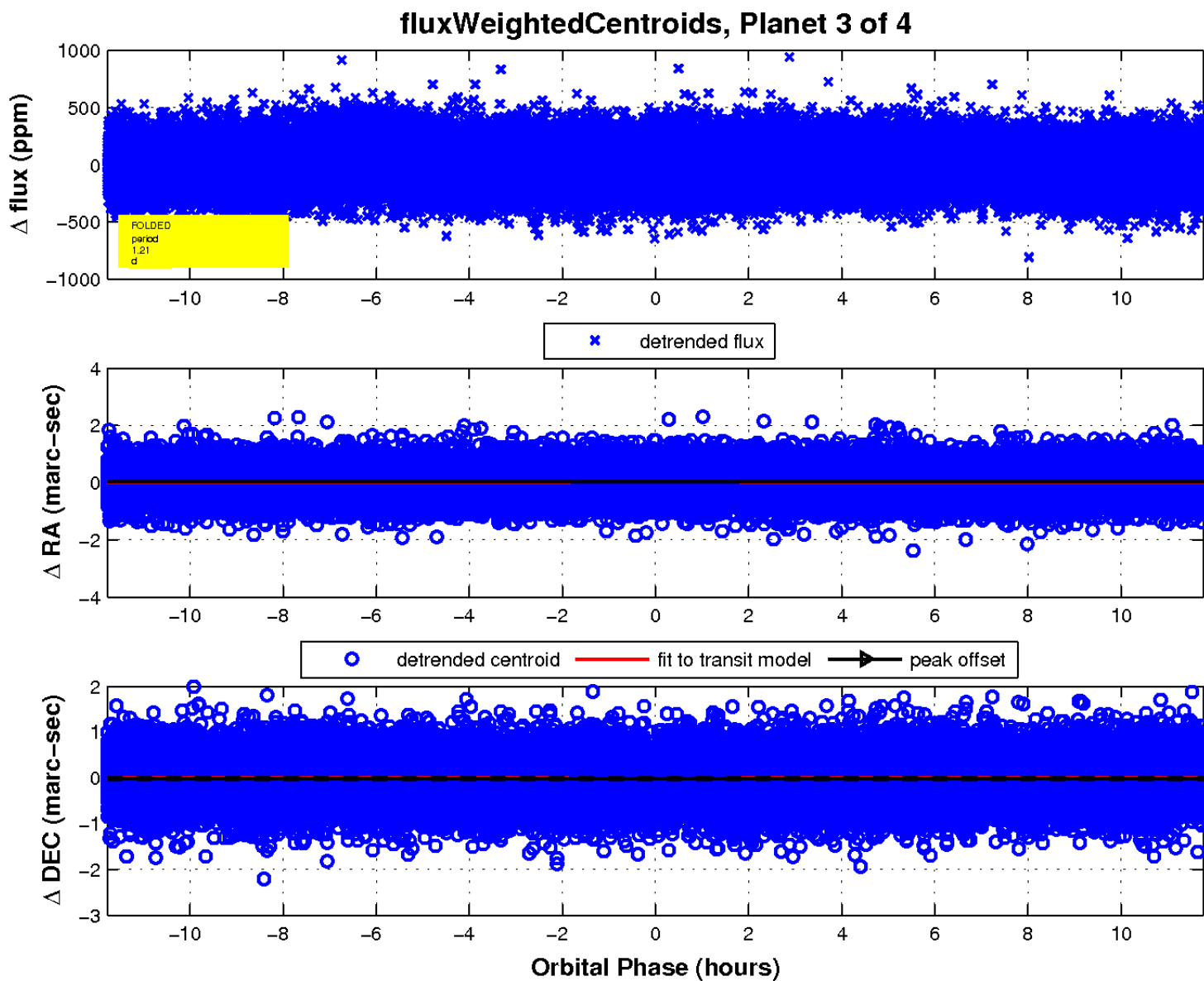
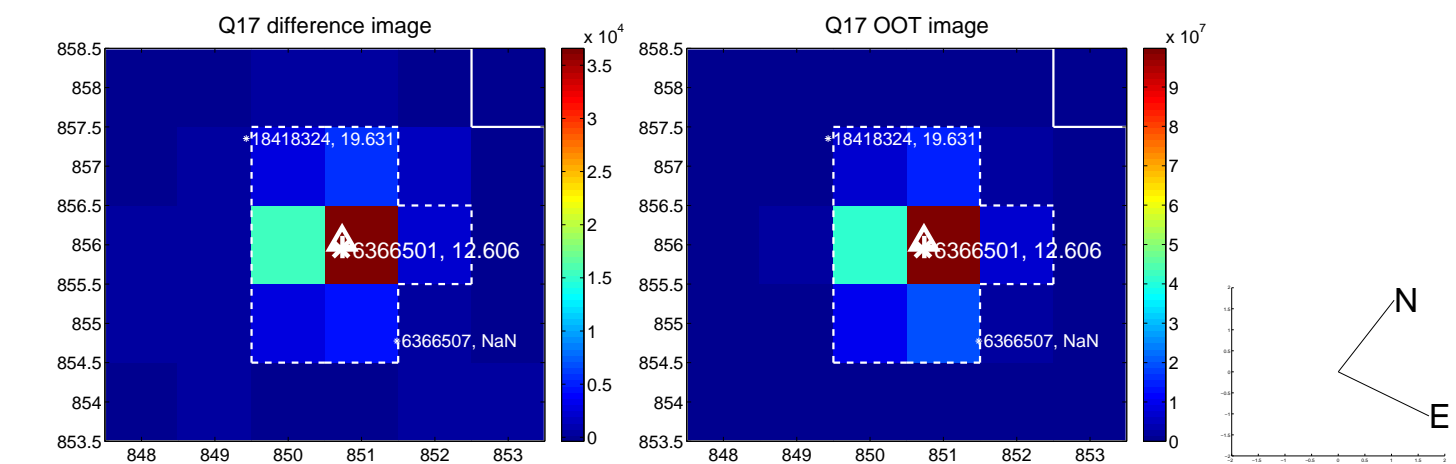
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

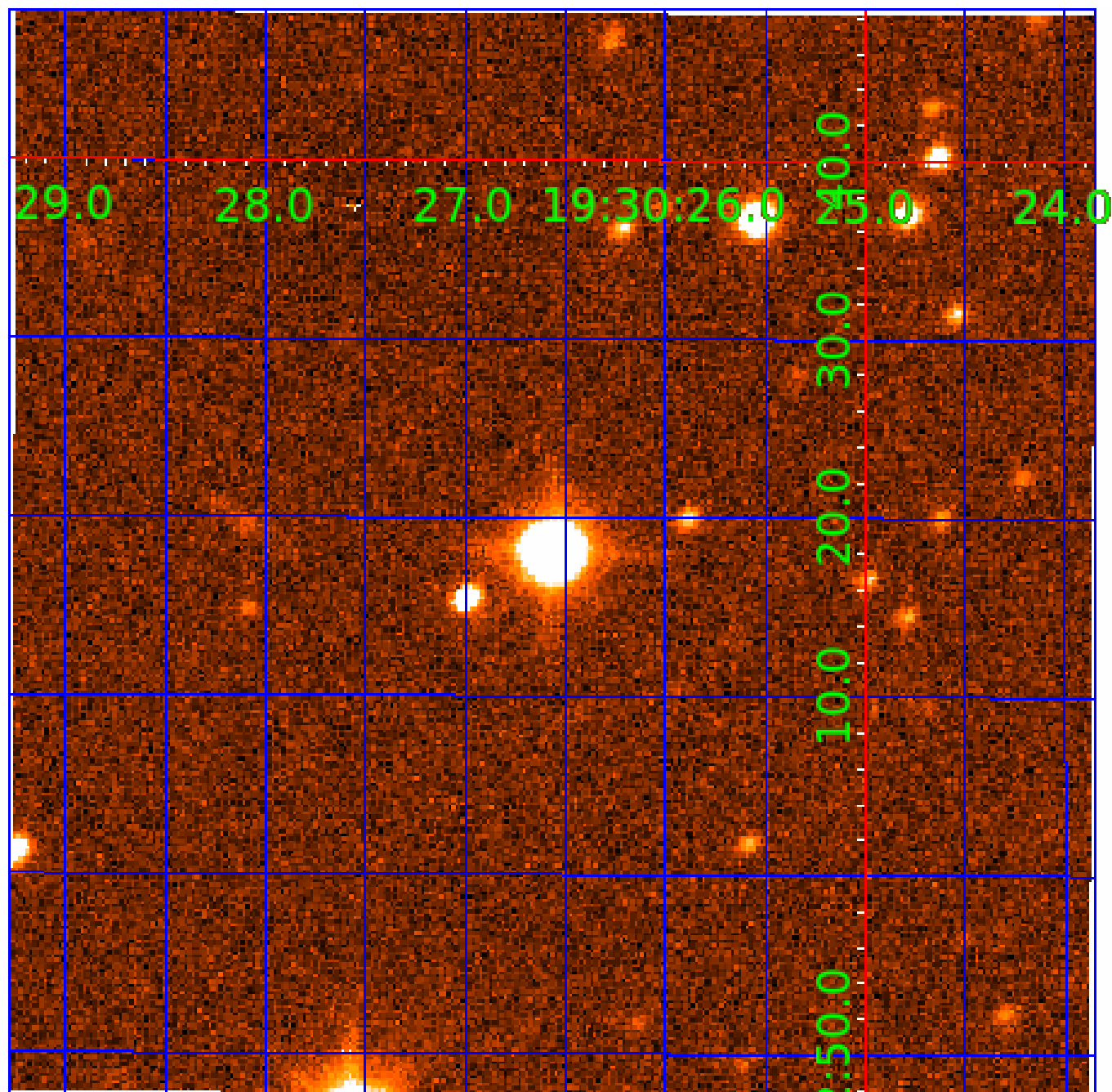


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006366501

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 006366501-01 | OBS | No | 1.208188 | 131.804013 | 22.7 | 0.648 | 11.4 | 5.3 | 1.92 | 6722 | 0.96 | 10236.58 |
| 006366501-02 | OBS | No | 1.207157 | 132.159253 | 0.0 | 1.550 | 11.2 | 0.0 | 1.92 | 6722 | 0.03 | 10248.24 |
| 006366501-03 | OBS | No | 1.208140 | 132.622166 | 11.3 | 3.924 | 12.1 | 4.0 | 1.92 | 6722 | 0.80 | 10237.12 |
| 006366501-04 | OBS | No | 1.208124 | 132.310489 | 18.3 | 9.940 | 14.4 | 7.3 | 1.92 | 6722 | 0.83 | 10237.30 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 006366501-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS |
| 006366501-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT |
| 006366501-03 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD |
| 006366501-04 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_SKYE_ZUMA—SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD |

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

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

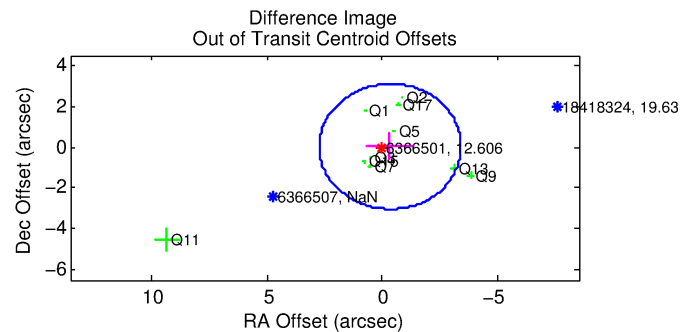
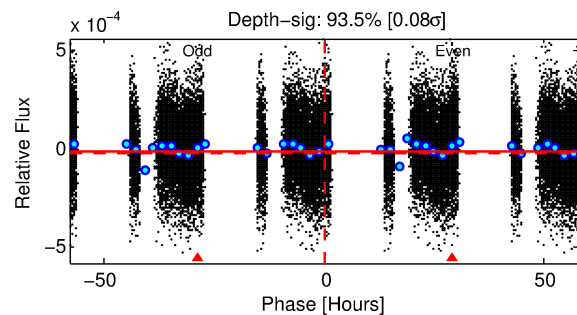
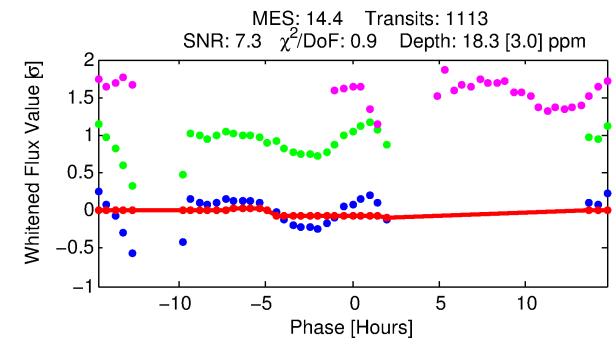
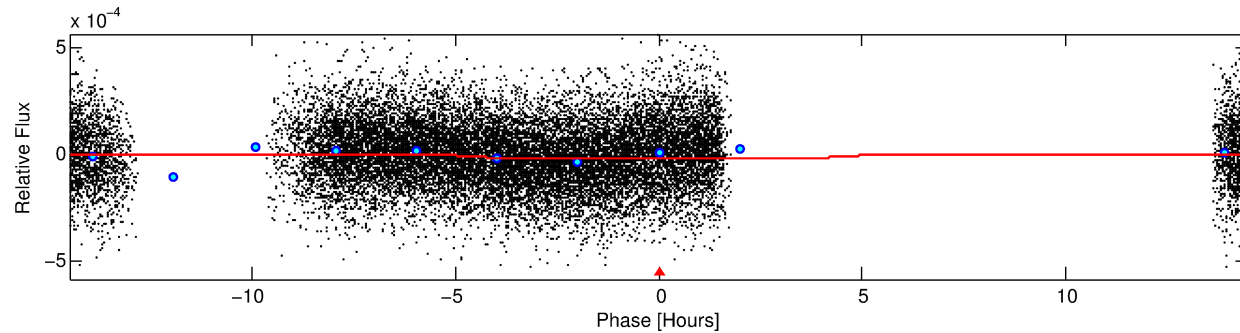
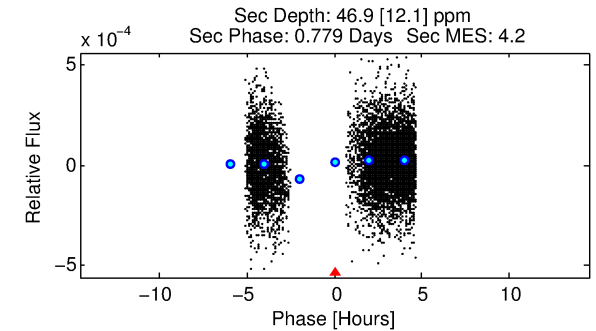
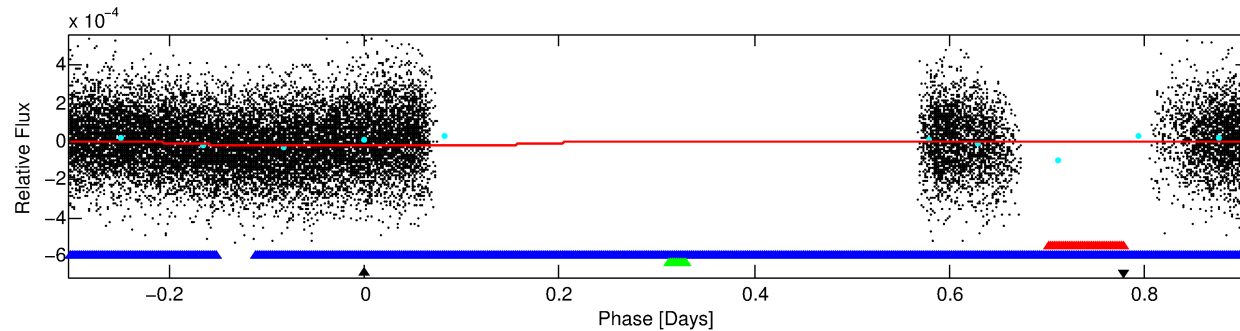
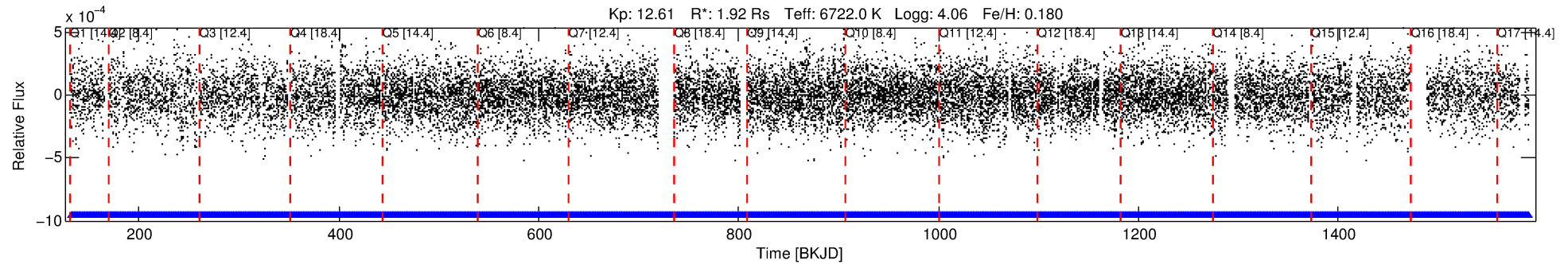
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006366501-04

No Significant Match Found

DV One-Page Summary

KIC: 6366501 Candidate: 4 of 4 Period: 1.208 d



DV Fit Results:

Period = 1.20812 [0.00004] d
Epoch = 132.3105 [0.0272] BKJD
Rp/R* = 0.0040 [0.0071]
a/R* = 1.13 [2.30]
b = 0.30 [28.91]
Seff = 10237.30 [2551.02]
Teff = 2565 [160] K
Rp = 0.83 [1.49] Re
a = 0.0256 [0.0041] AU
Ag = 24.46 [87.42] [0.27σ]
Teffp = 8819 [7862] K [0.80σ]

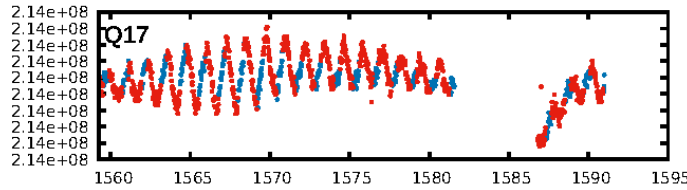
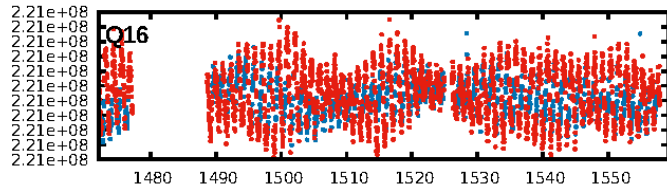
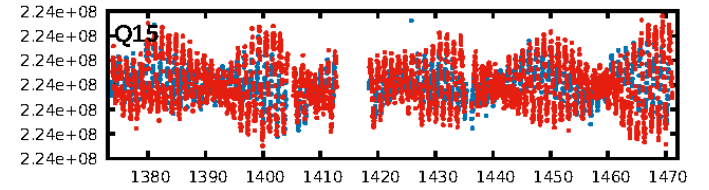
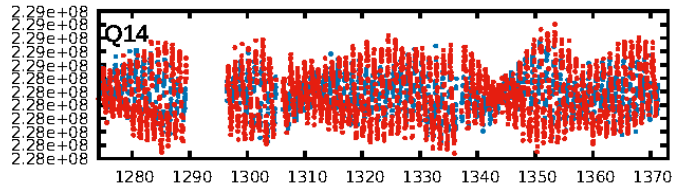
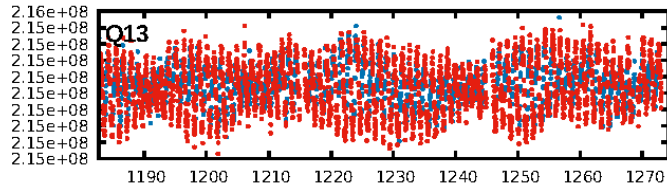
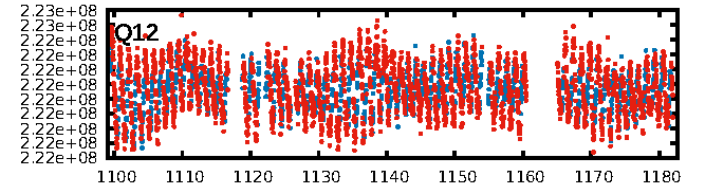
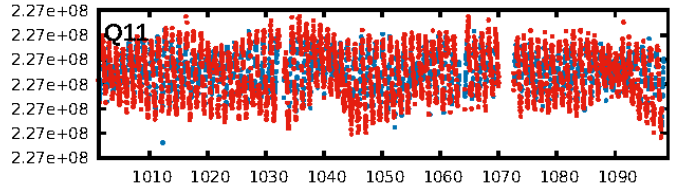
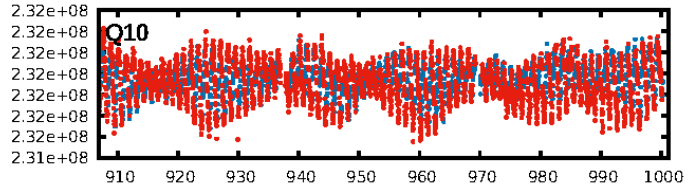
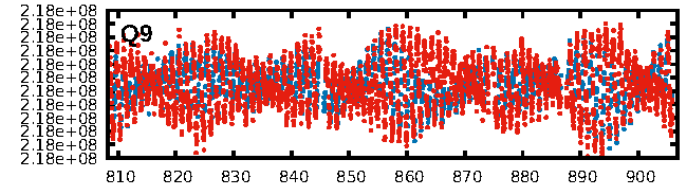
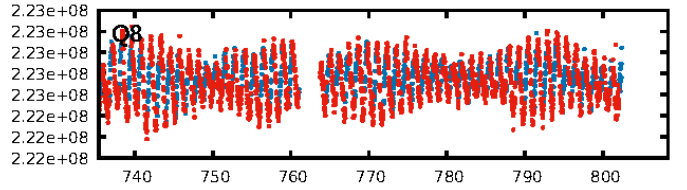
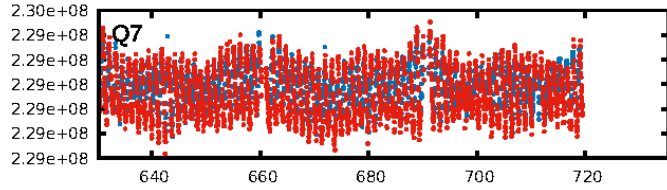
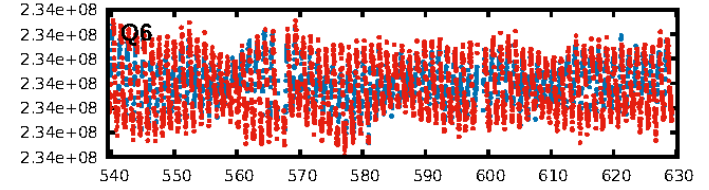
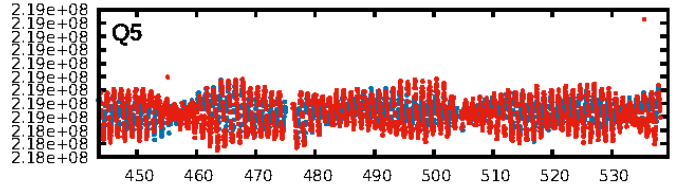
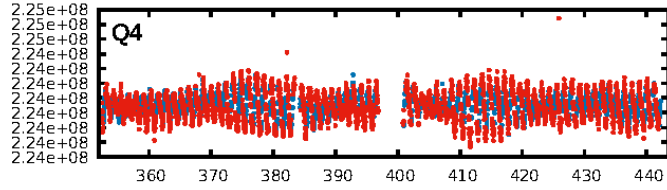
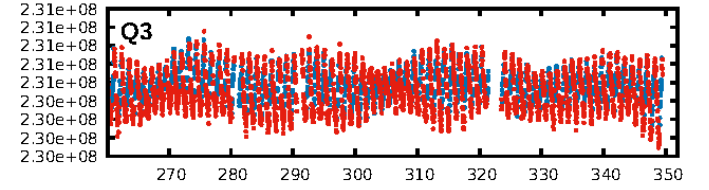
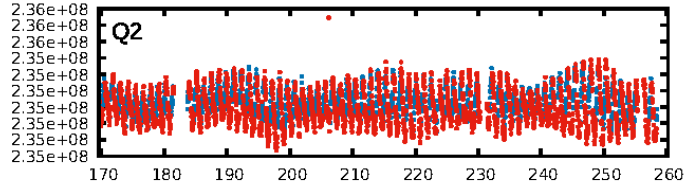
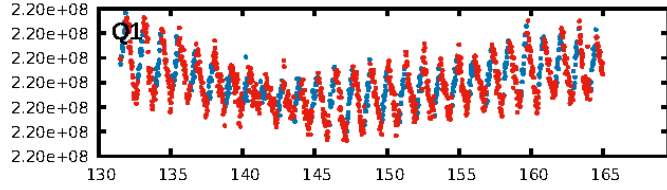
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1063/1063]
GhostDiagnostic-chr: 1.536
Centroid-sig: 9.1%
Centroid-so: 0.729 arcsec [1.46σ]
OotOffset-rm: 0.332 arcsec [0.33σ]
OotOffset-st: 1/4/0/5 [10]
KicOffset-rm: 0.348 arcsec [0.31σ]
KicOffset-st: 1/4/0/5 [10]
DiffImageQuality-fgm: 0.60 [6/10]
DiffImageOverlap-fno: 0.00 [0/17]

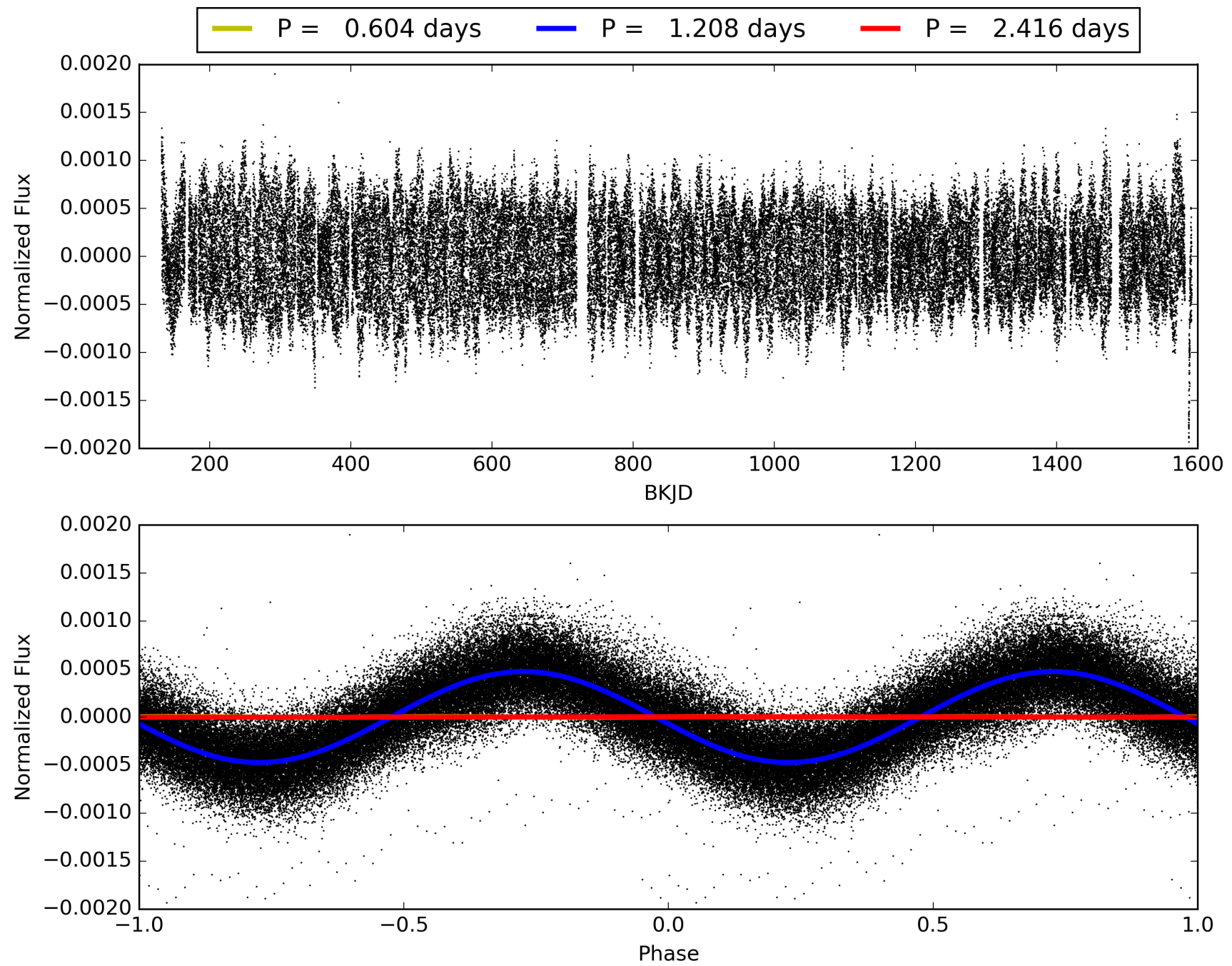
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:21:56 Z

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

TCE 006366501-04, PDC Light Curves

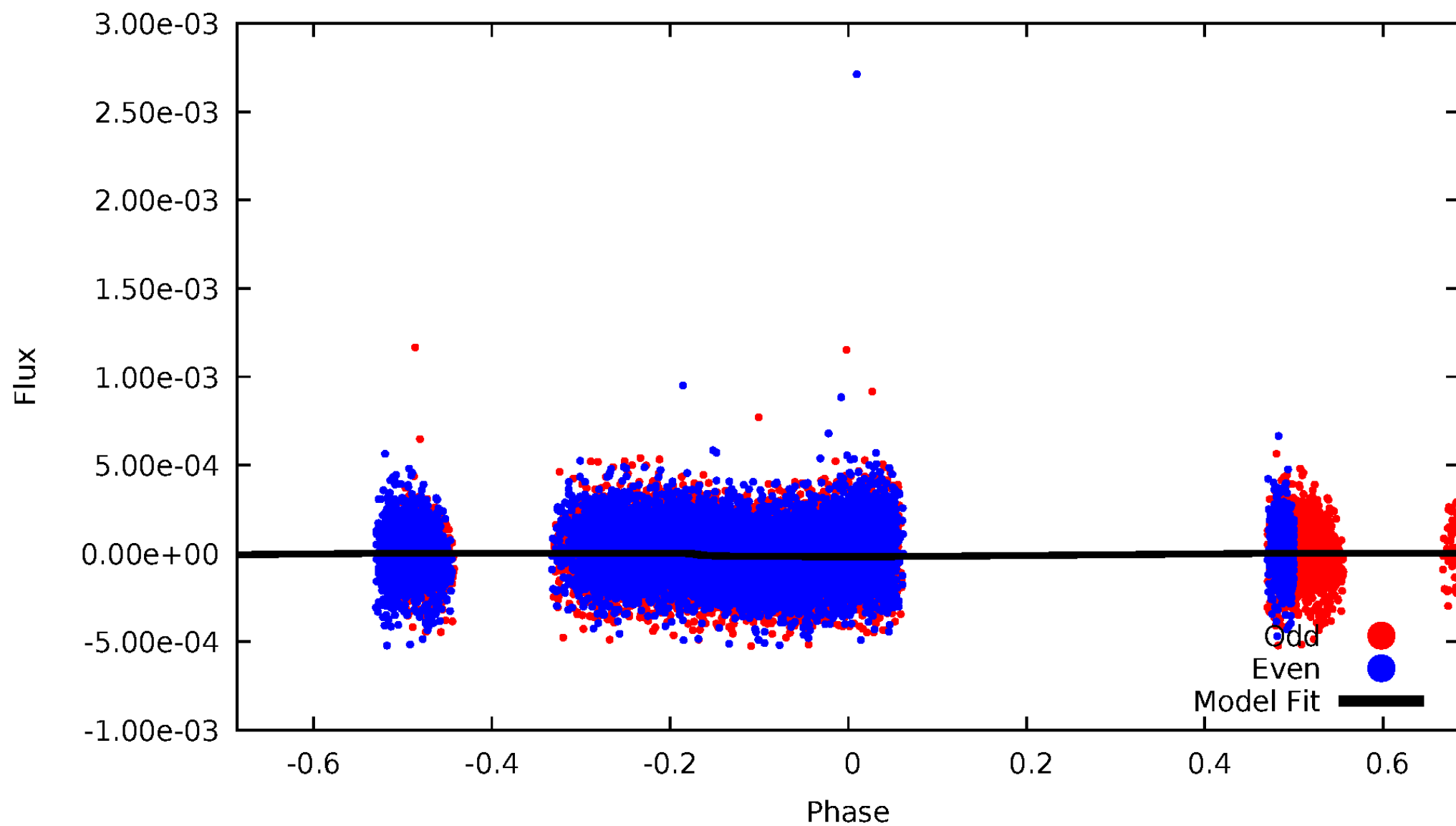


TCE 006366501-04



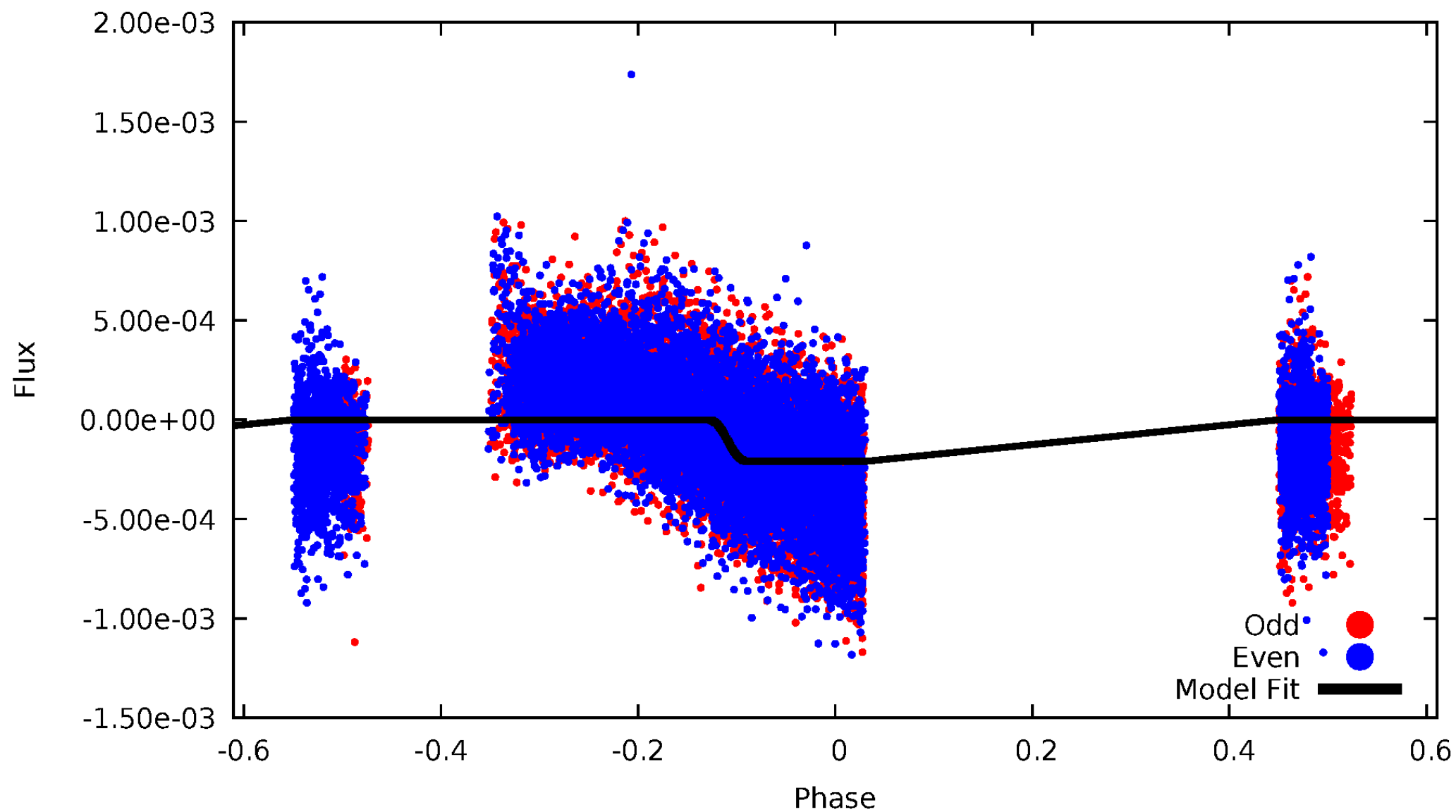
DV Odd/Even

TCE 006366501-04



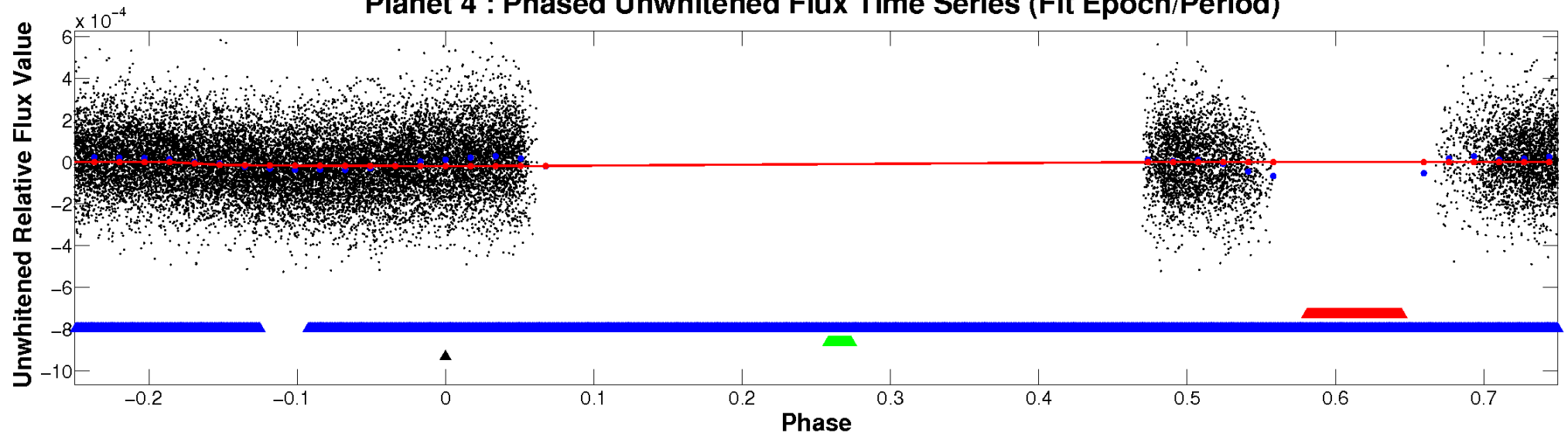
ALT Odd/Even

TCE 006366501-04

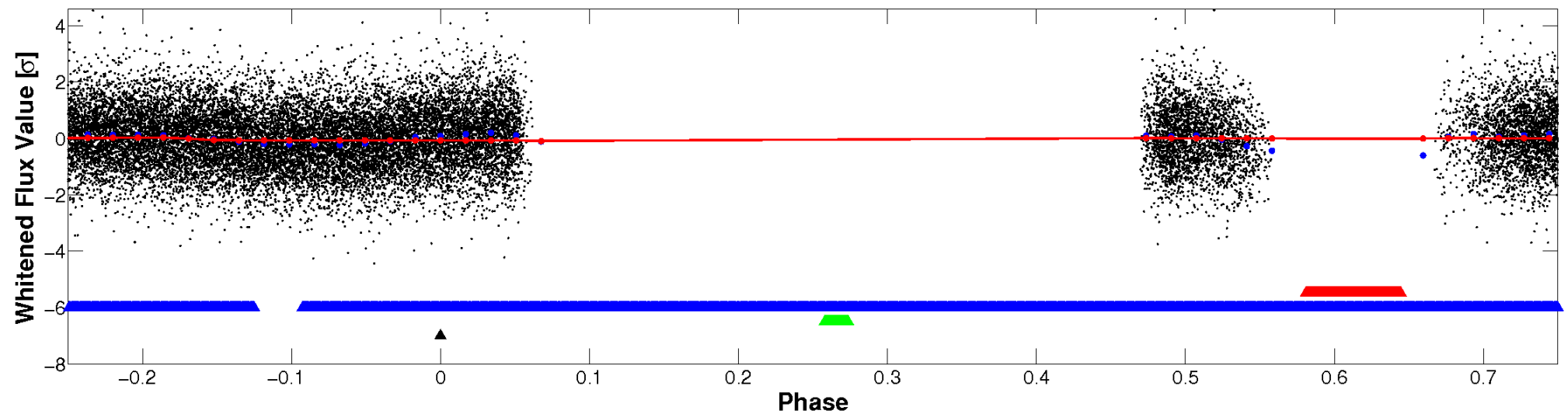


Non-Whitened Vs. Whitened Light Curve

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

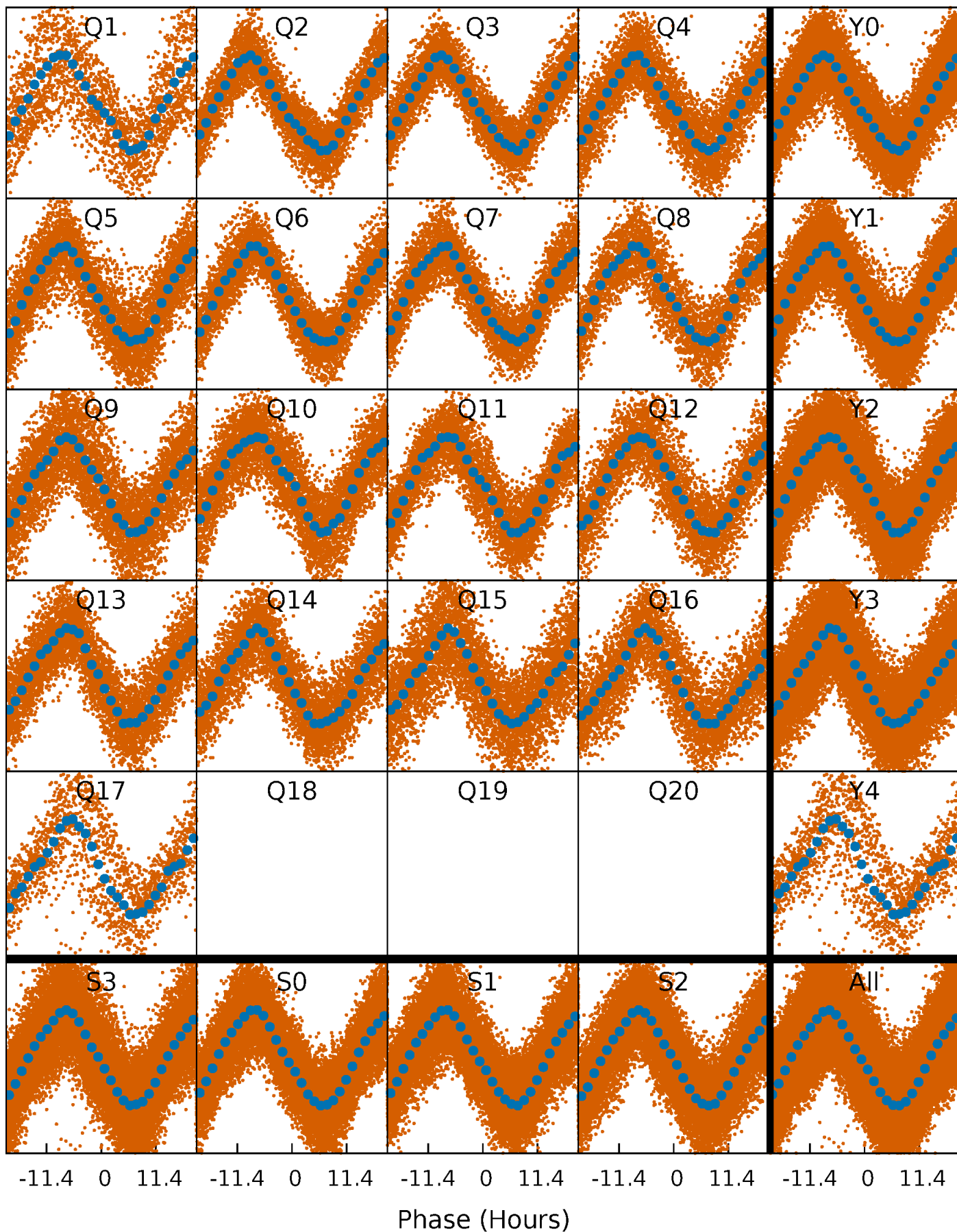


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



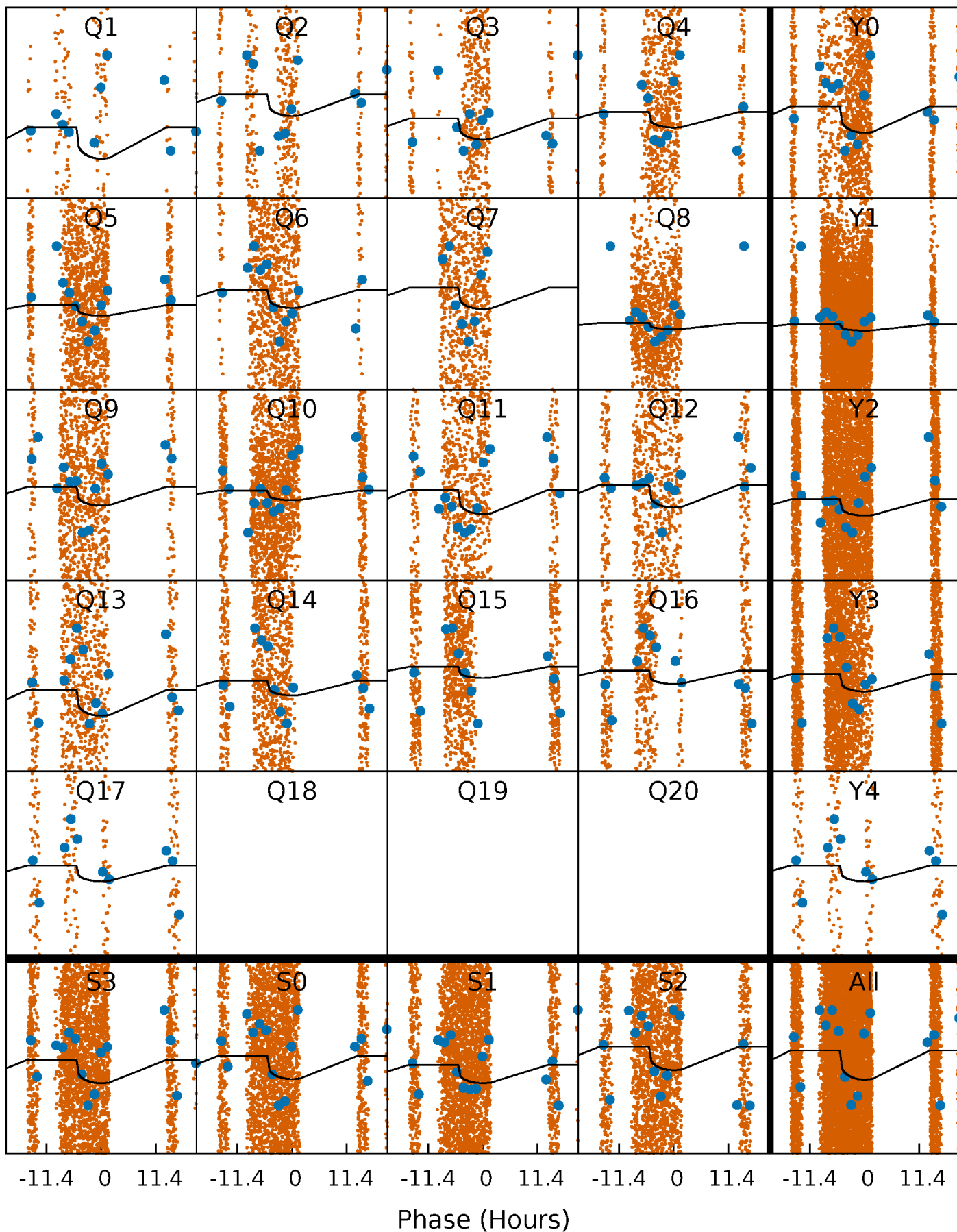
PDC Quarter-Phased Transit Curves

TCE 006366501-04 P= 1.208124 Days $T_0=132.310489$ (BKJD)



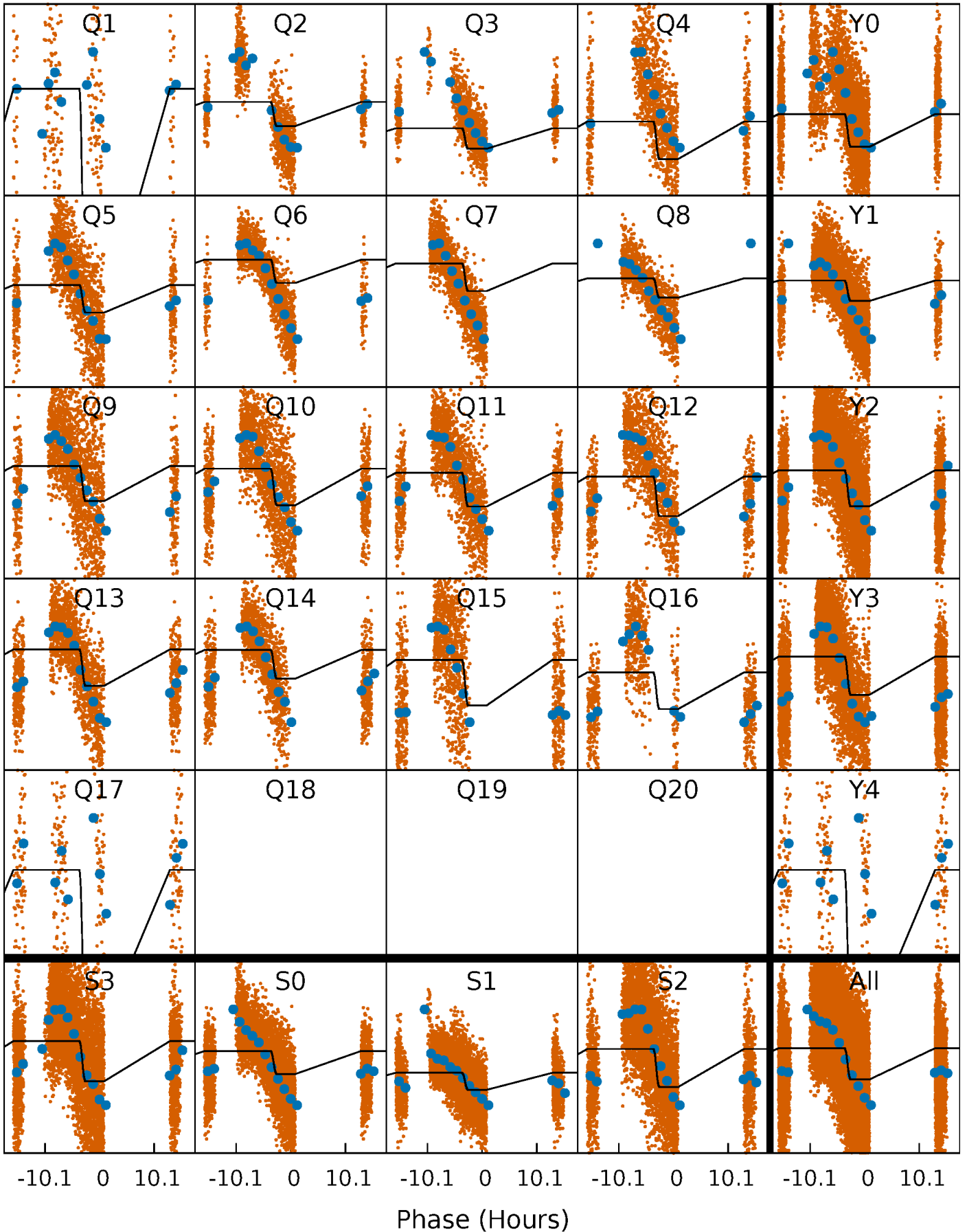
DV Quarter-Phased Transit Curves

TCE 006366501-04 $P = 1.208124$ Days $T_0 = 132.310489$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

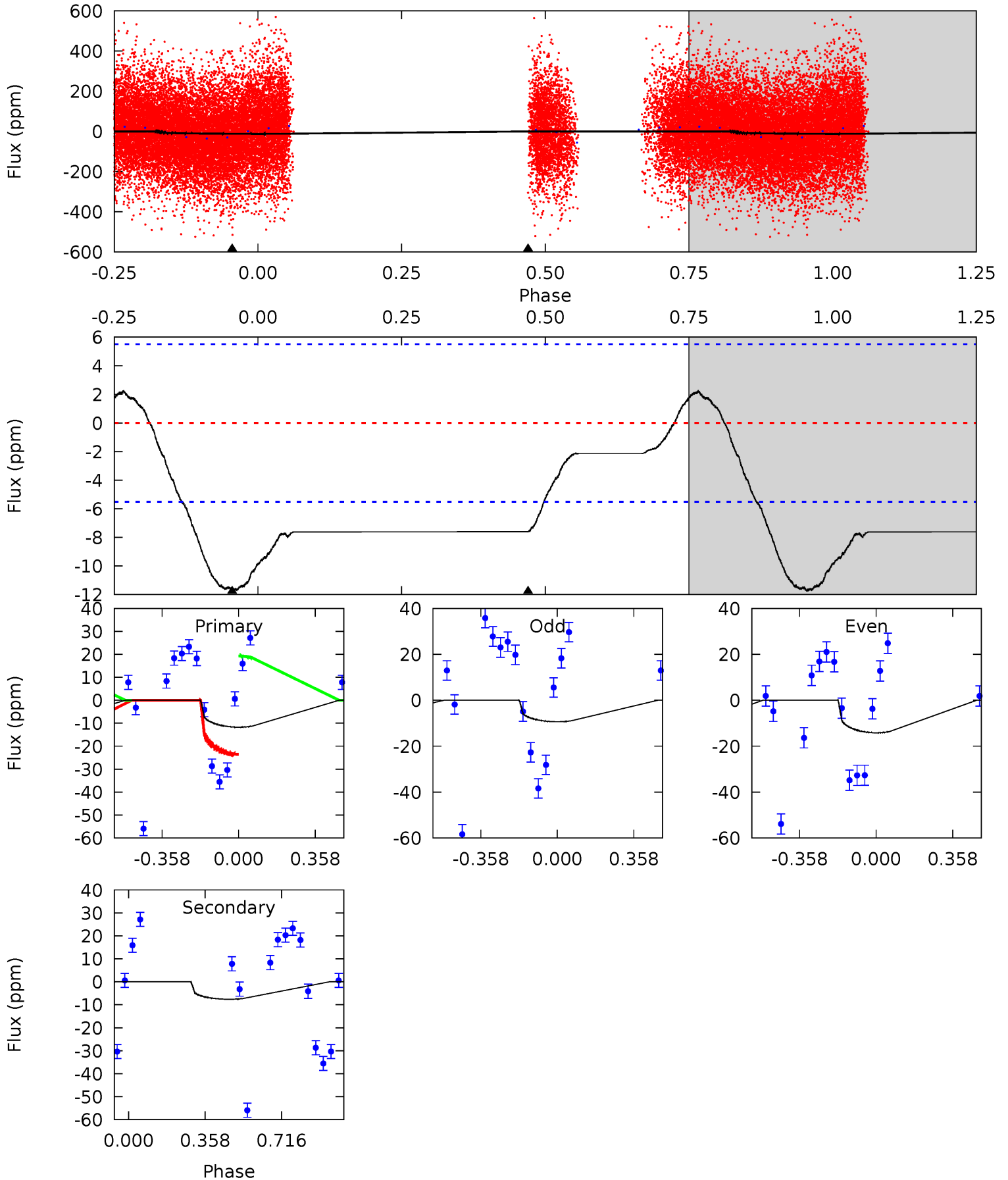
TCE 006366501-04 $P = 1.208137$ Days $T_0 = 132.333724$ (BKJD)



DV Model-Shift Uniqueness Test

006366501-04, P = 1.208124 Days, E = 131.102365 Days

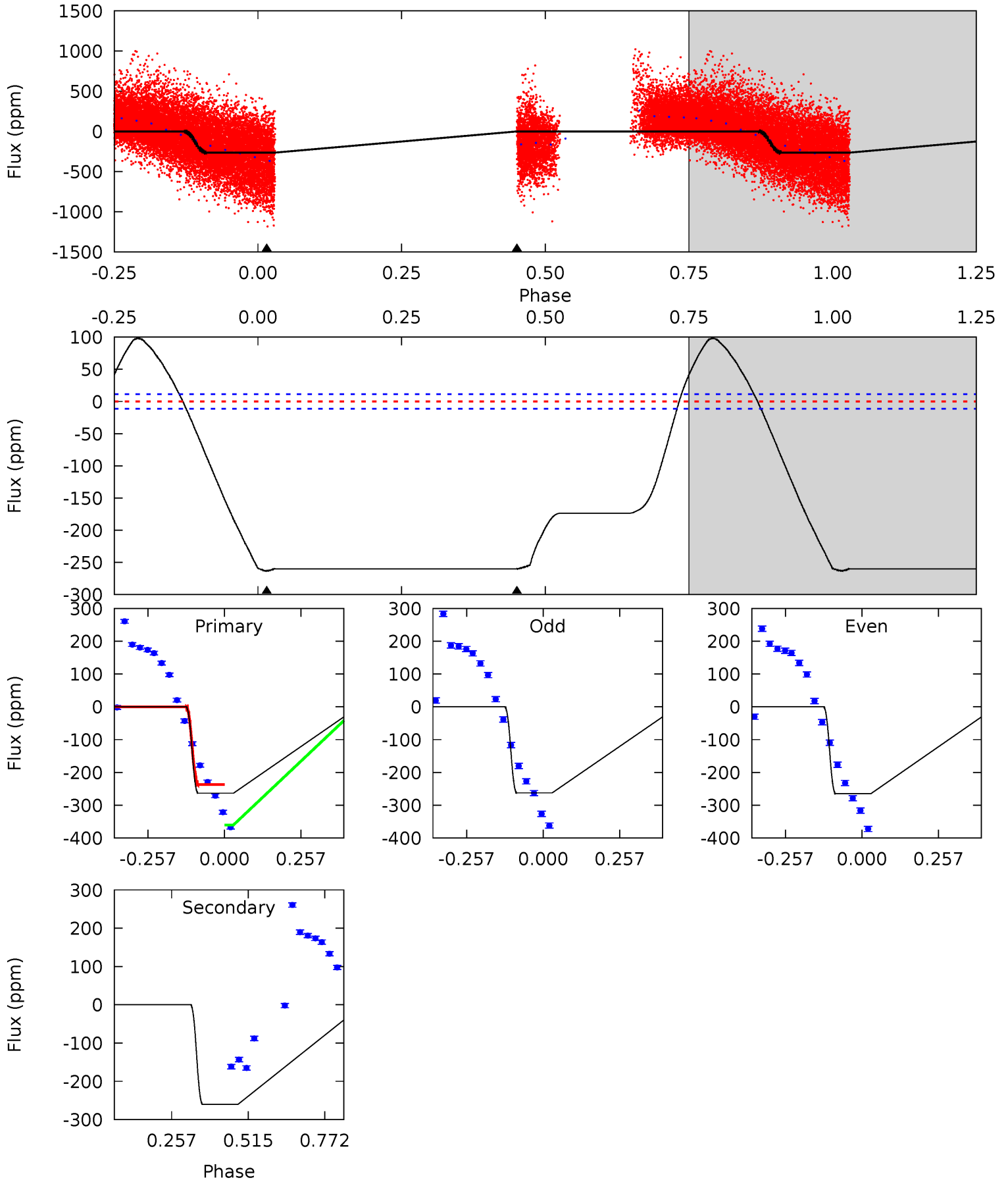
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.14 | 5.92 | 0 | 0 | 4.29 | 0.92 | 0.81 | 9.14 | 9.14 | 5.92 | 5.92 | 1.87 | 0.85 | 0.16 | 1.28 |



Alt Model-Shift Uniqueness Test

006366501-04, P = 1.208137 Days, E = 131.125587 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 100.5 | 99.3 | 0 | 0 | 4.36 | 1.13 | 15.4 | 100.5 | 100.5 | 99.3 | 99.3 | 0.40 | 1.03 | 0.27 | 16.0 |



Stellar Parameters For KIC 006366501

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 6722^{+73}_{-87} | $4.059^{+0.137}_{-0.112}$ | $0.180^{+0.150}_{-0.150}$ | $1.915^{+0.354}_{-0.354}$ | $1.530^{+0.114}_{-0.127}$ | $0.307^{+0.211}_{-0.107}$ |
| | +1%/-1% | +3%/-3% | +83%/-83% | +18%/-18% | +7%/-8% | +69%/-35% |
| Source | SPE68 | SPE68 | SPE68 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 006366501-04 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|--------------|------------------------|----------------------|------------------------|----------------------------|
| DV | -8 ± 1 | $1.35^{+1.23}_{-0.89}$ | 3568^{+161}_{-170} | 4346^{+3018}_{-1419} | $1.541^{+10.881}_{-1.140}$ |
| Alt. | -260 ± 3 | $2.93^{+1.54}_{-1.29}$ | 3577^{+170}_{-167} | 7178^{+3342}_{-1439} | 11^{+24}_{-6} |

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

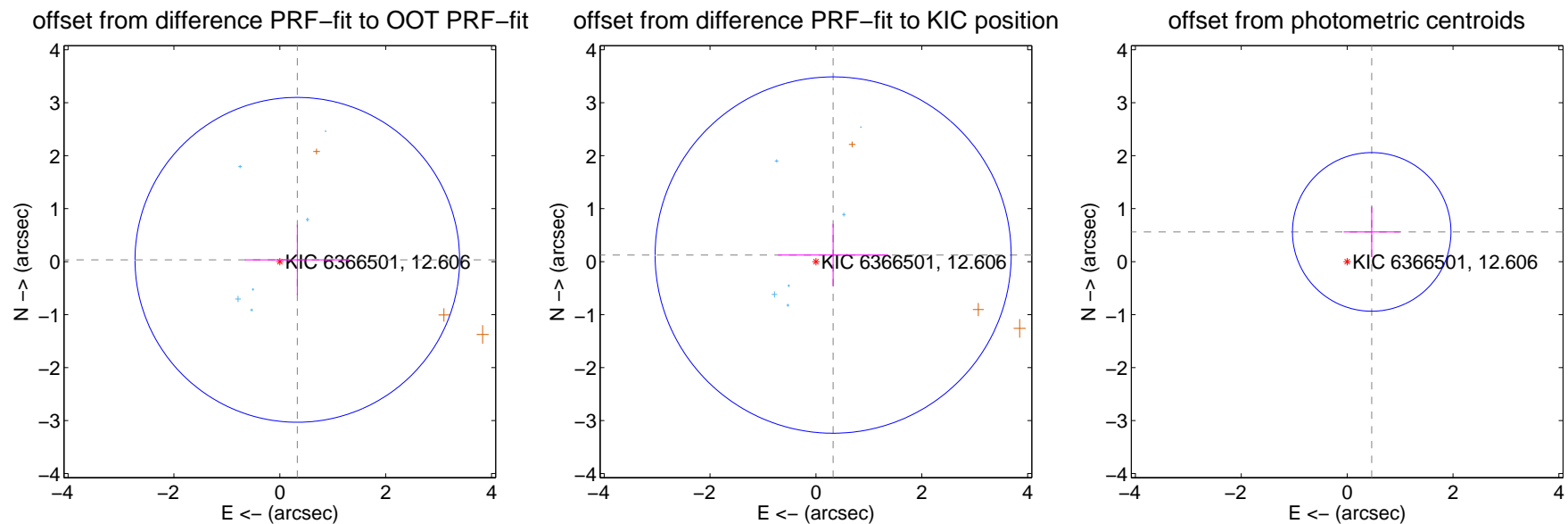
DV Centroid Data

Supplemental centroid analysis for 006366501-04. Kepler magnitude: 12.61. Transit SNR 7.30

There are 6 quarters with good PRF difference image offsets

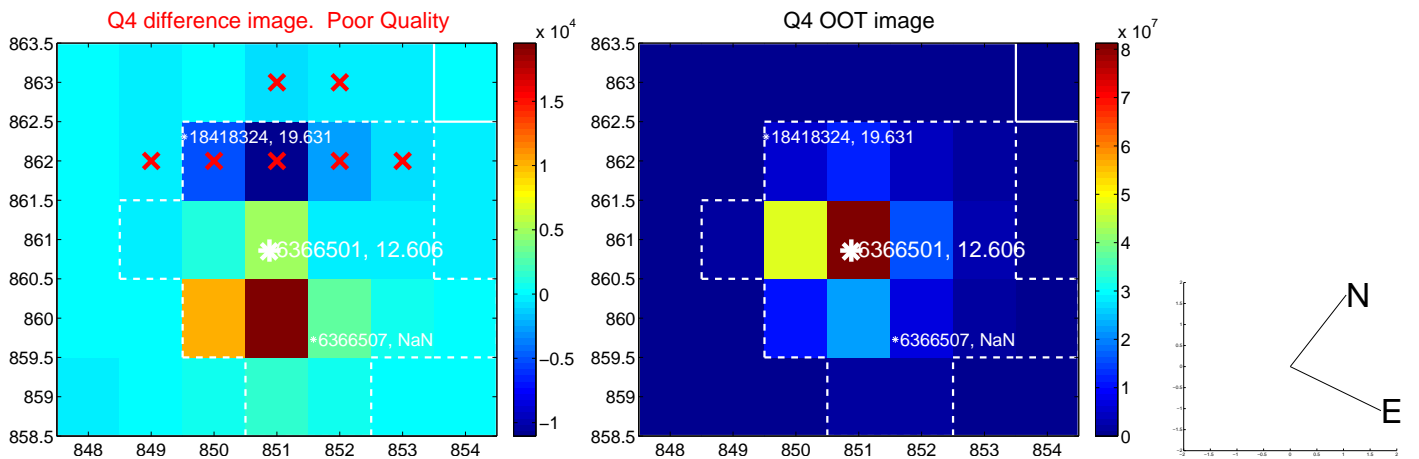
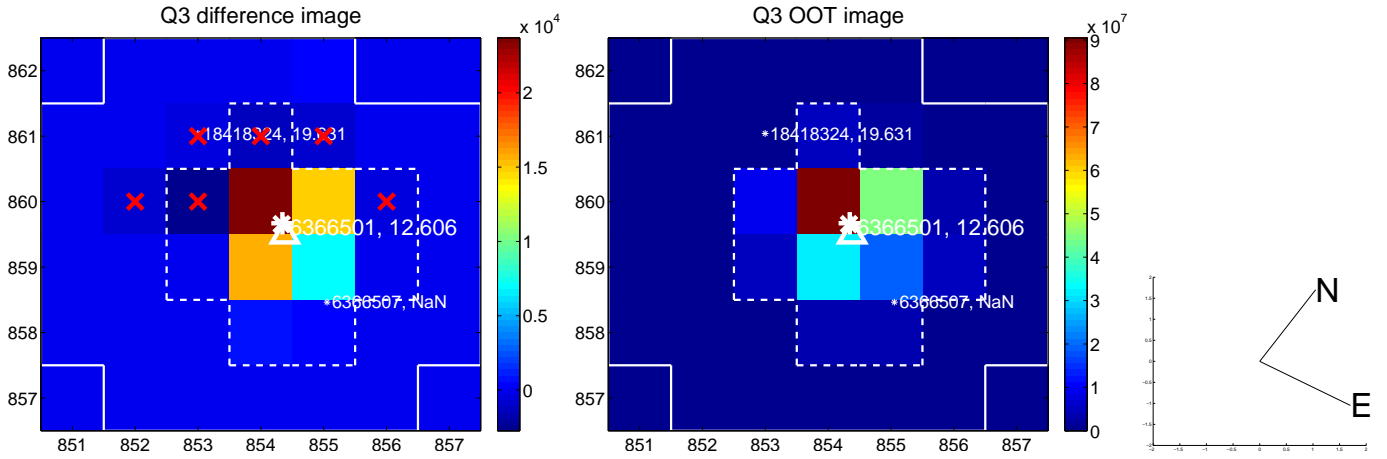
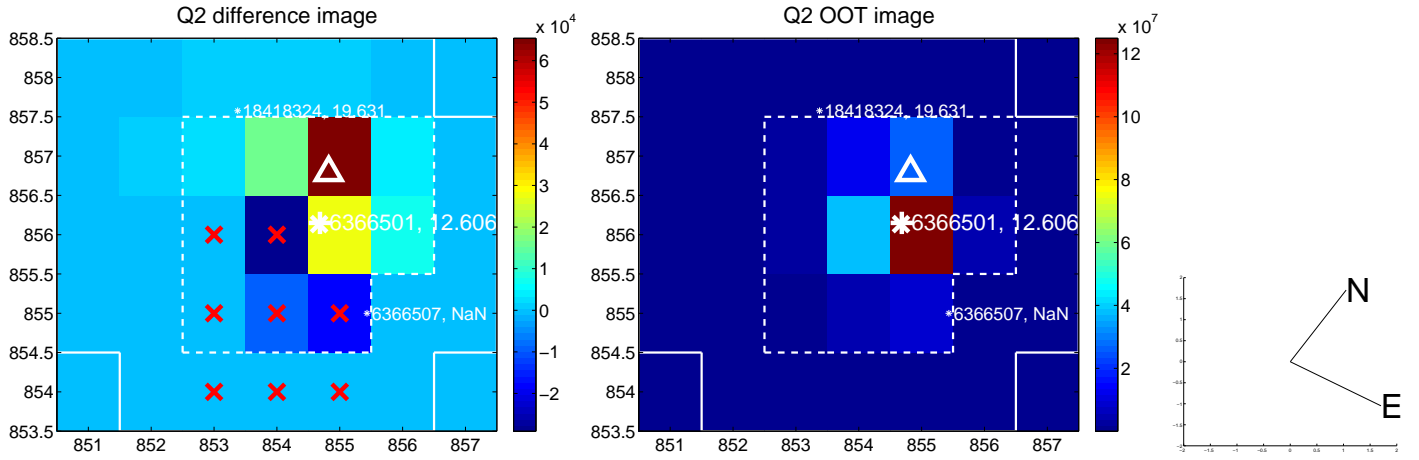
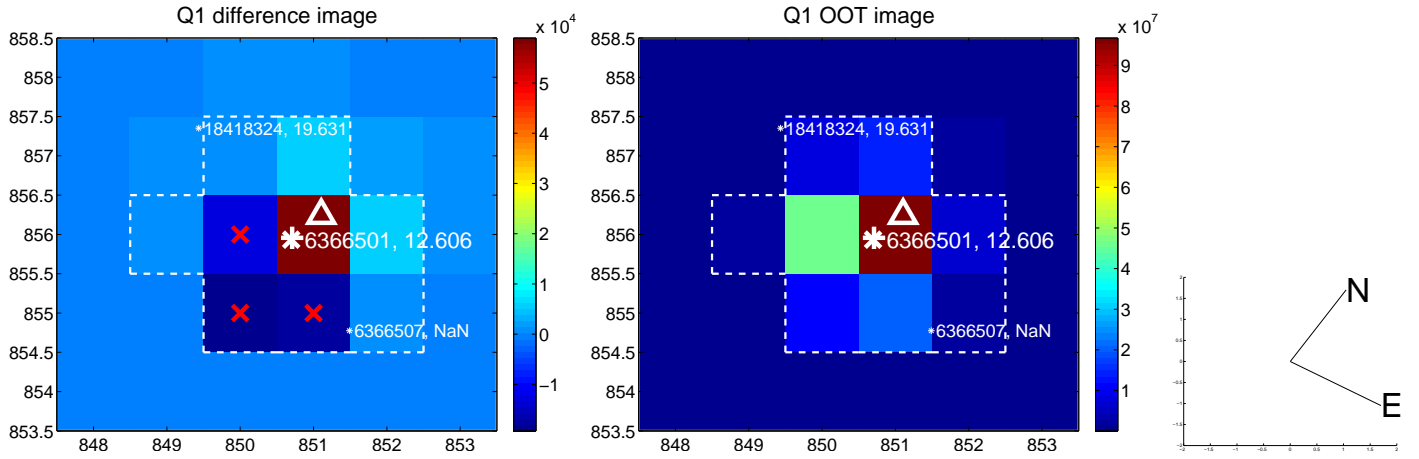
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.332 ± 1.022 | 0.33 | -0.331 ± 0.989 | 0.034 ± 0.663 |
| PRF-fit source offset from KIC position | 0.348 ± 1.121 | 0.31 | -0.325 ± 1.042 | 0.124 ± 0.588 |
| photometric centroid source offset | 0.73 ± 0.50 | 1.46 | -0.46 ± 0.53 | 0.56 ± 0.48 |

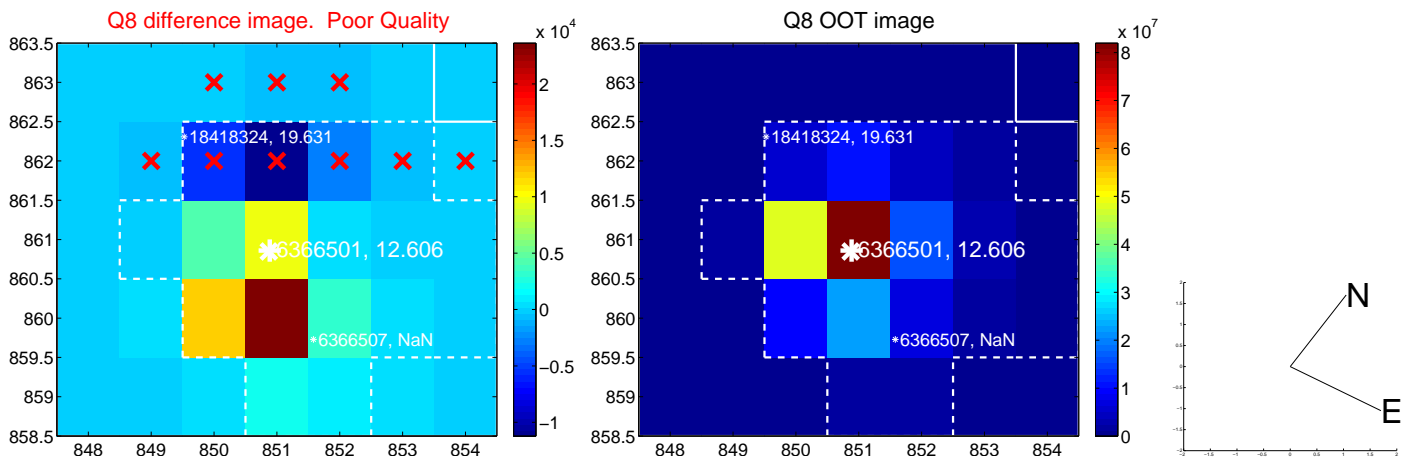
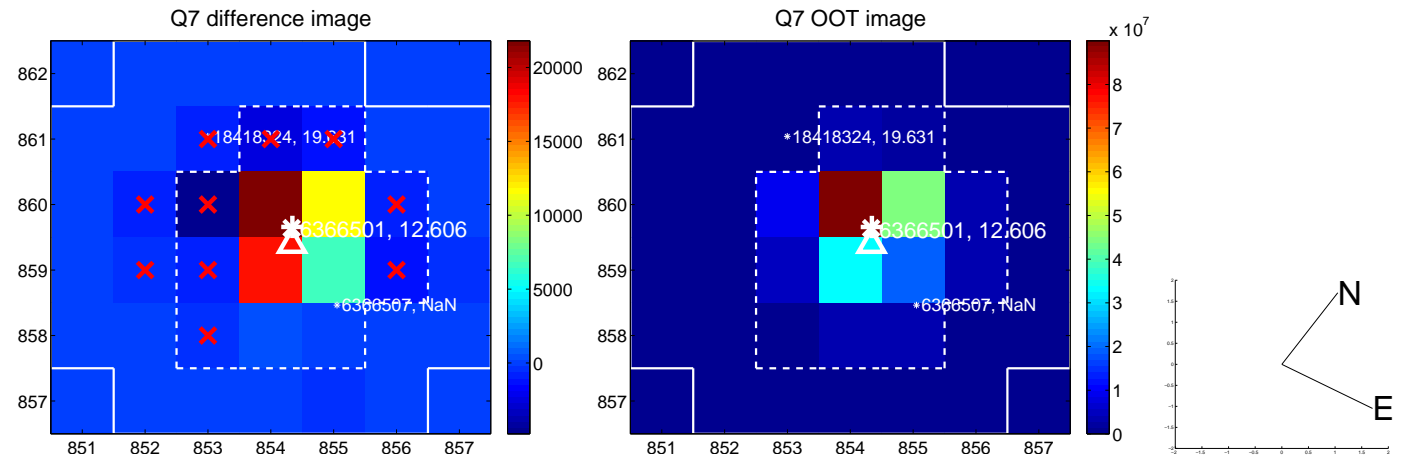
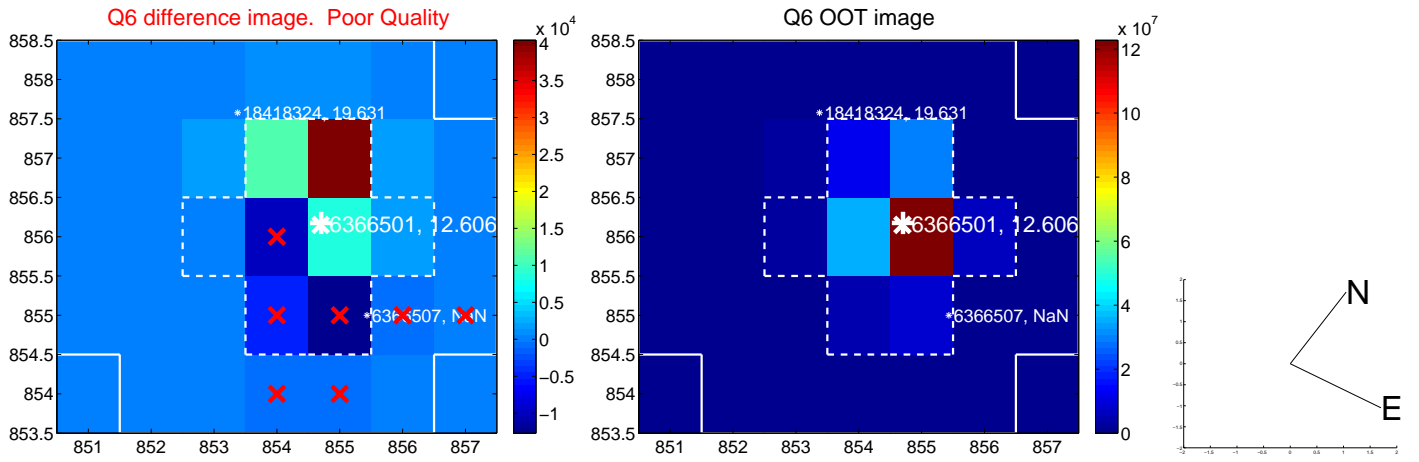
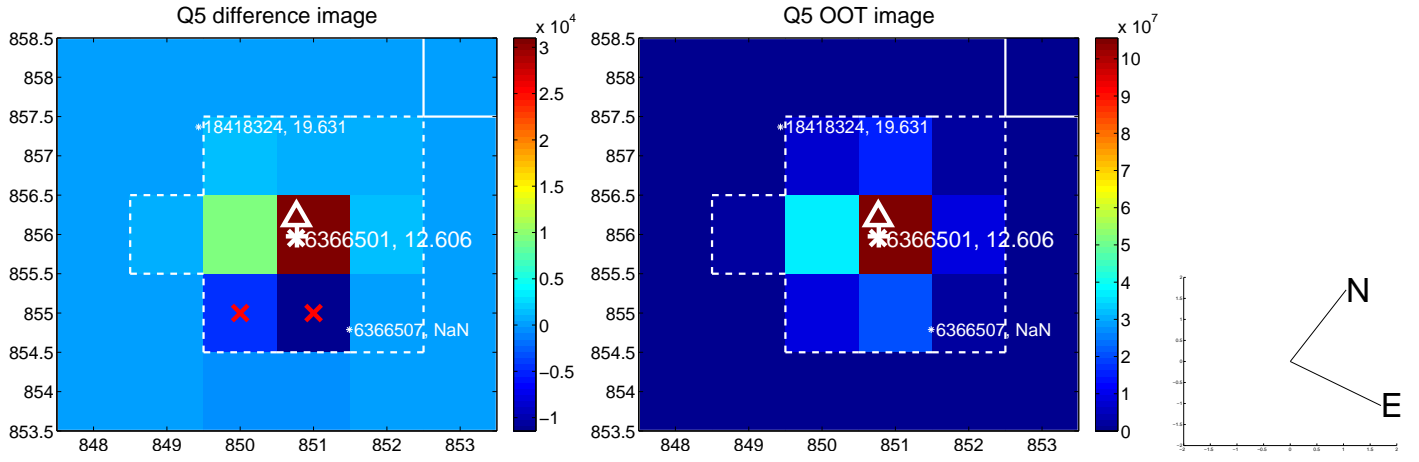


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

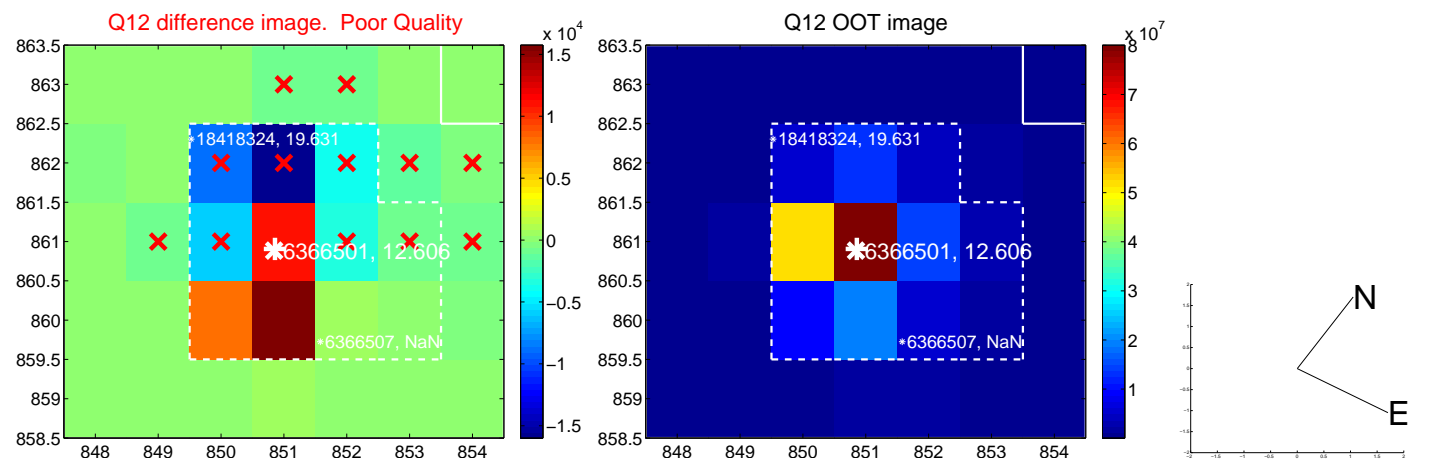
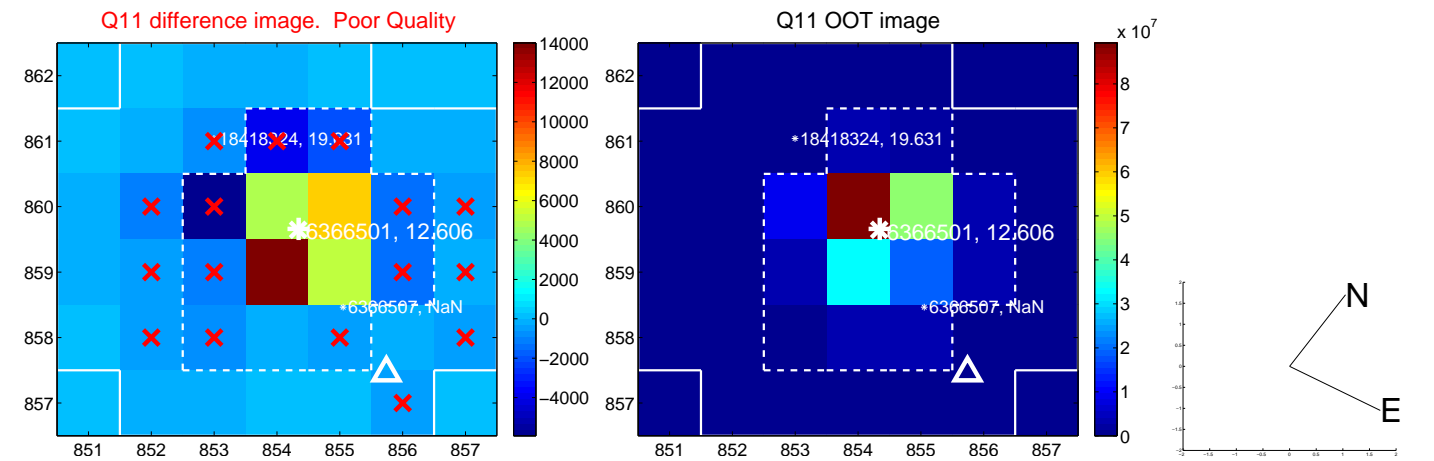
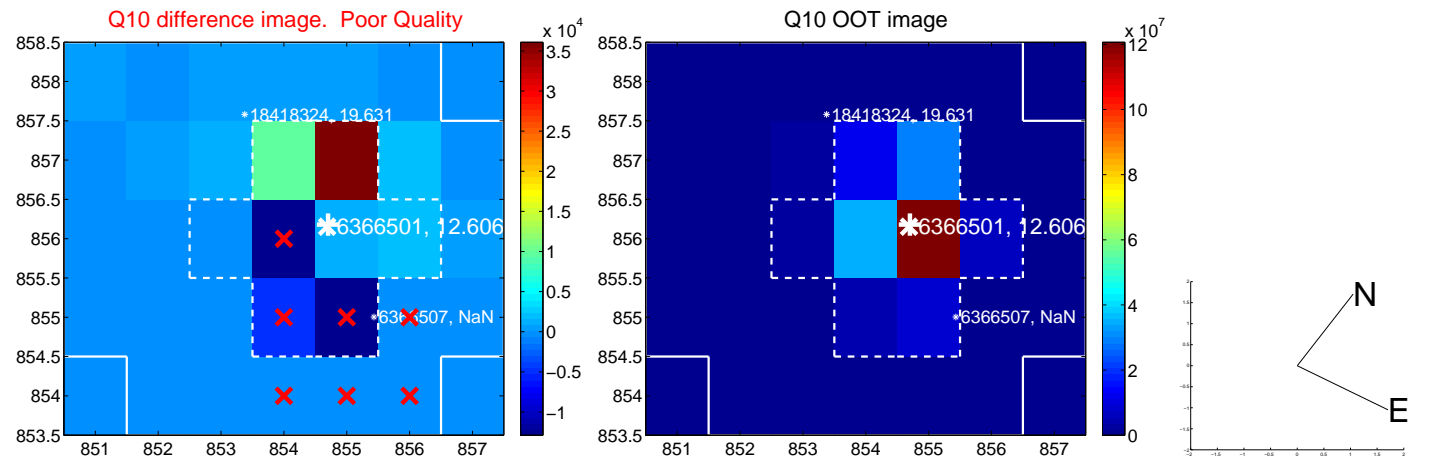
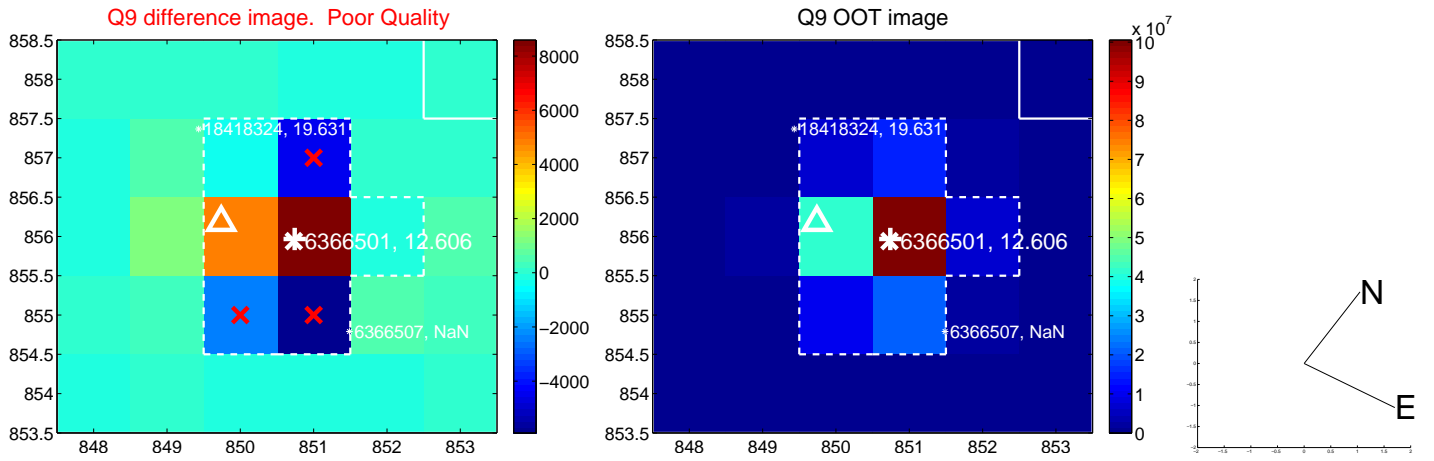
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



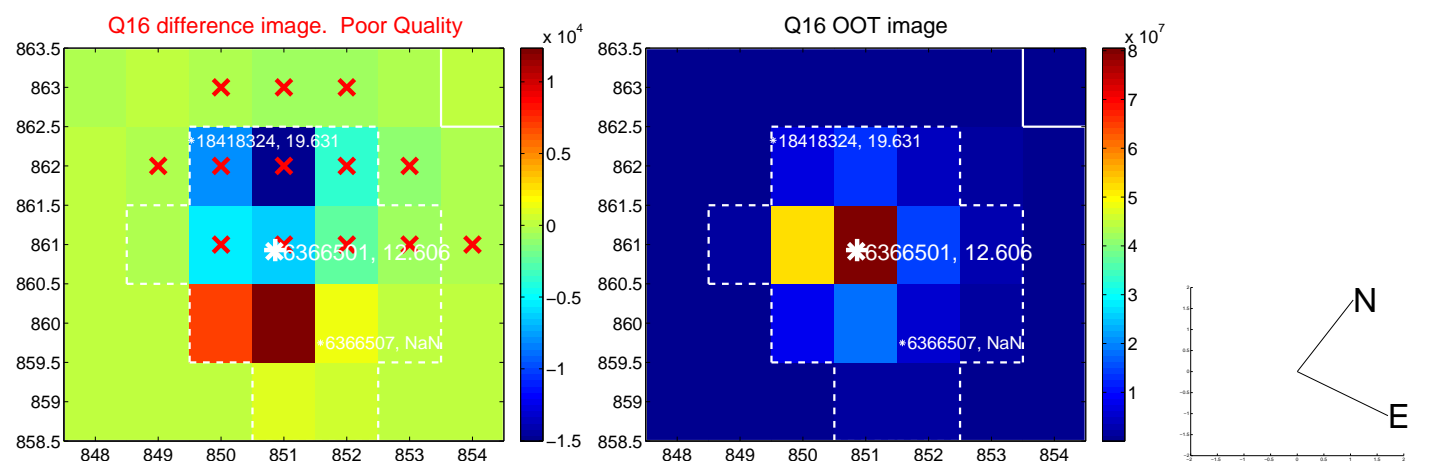
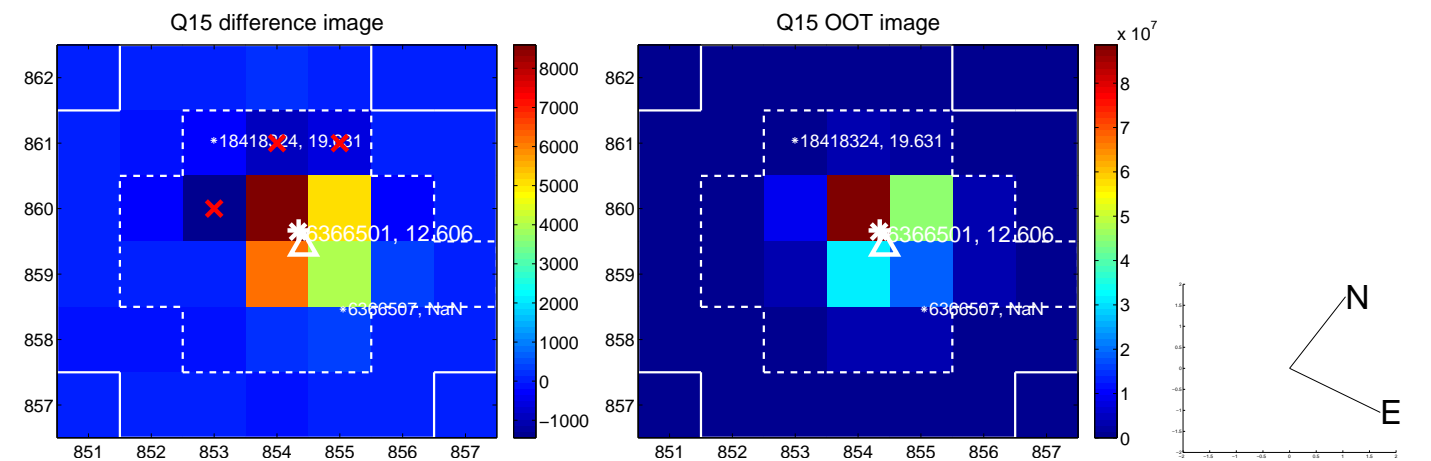
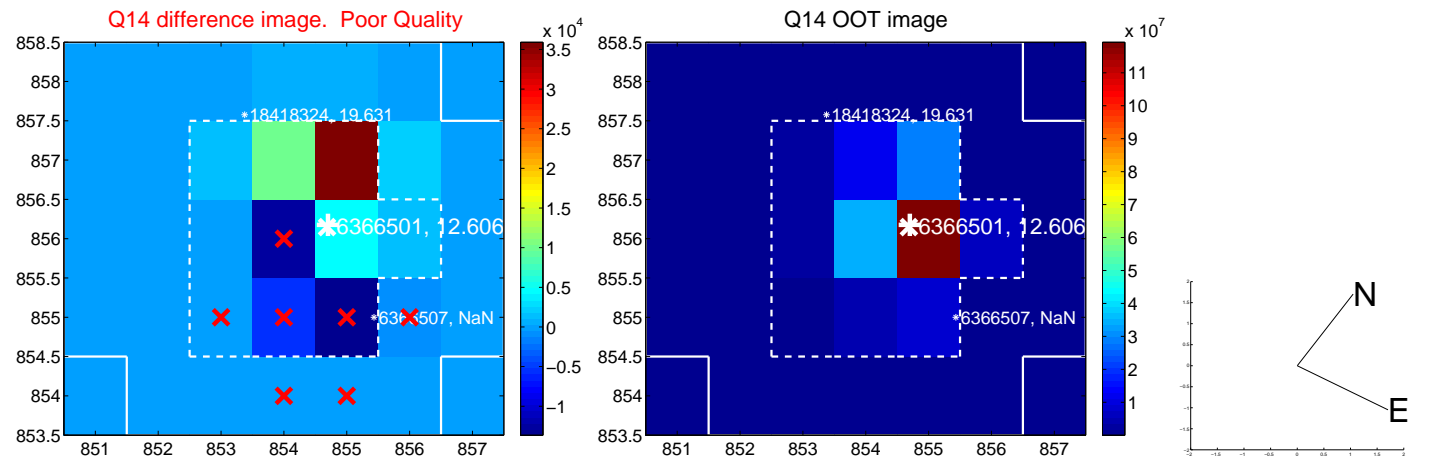
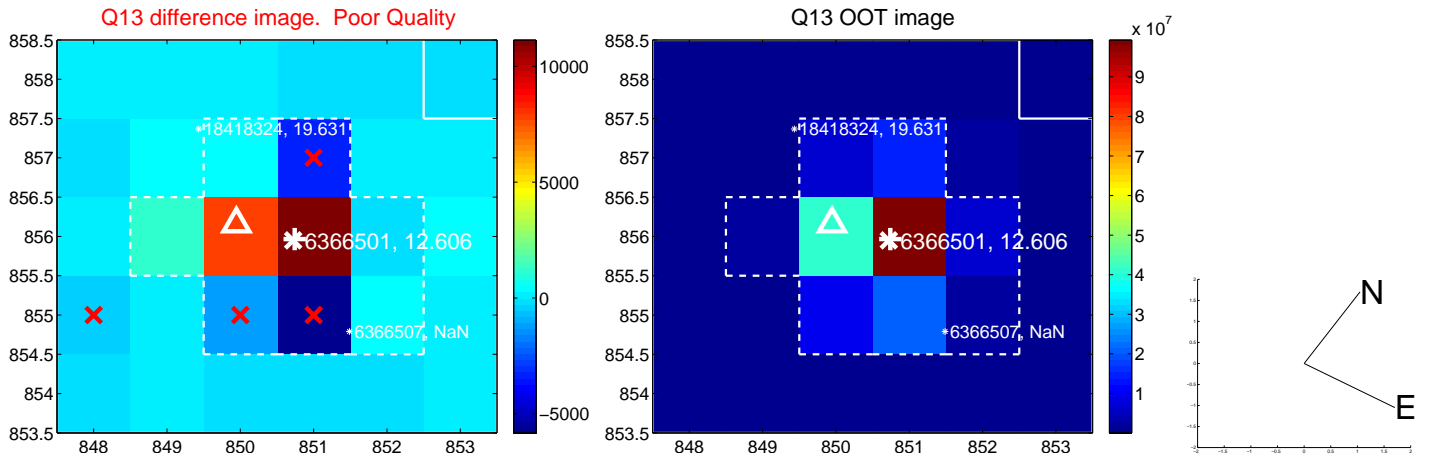
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



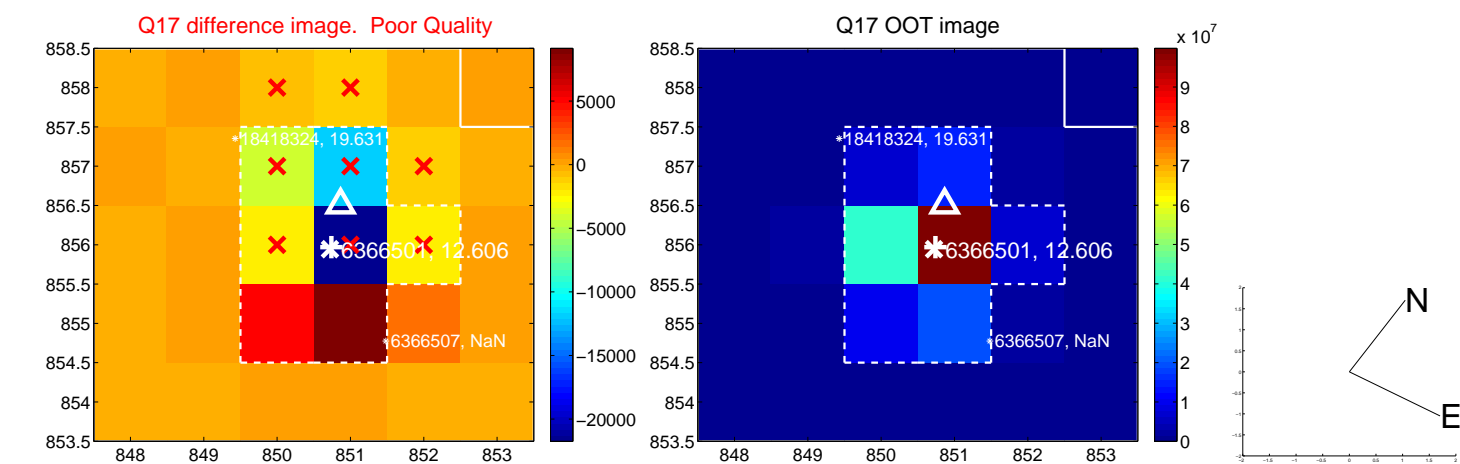
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



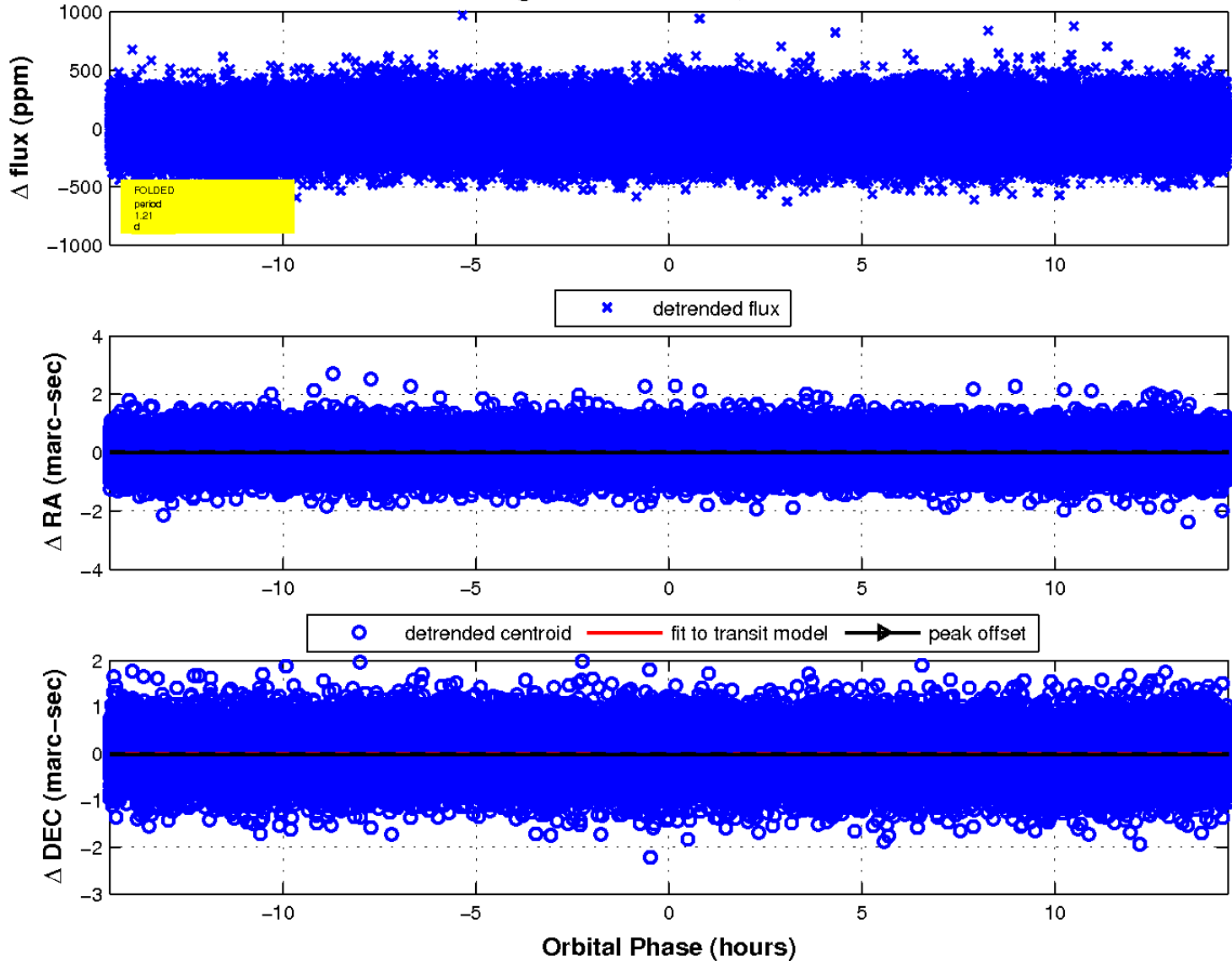
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 4 of 4



UKIRT Image

Declination

