

KIC 007842328

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007842328-01 | OBS | No | 0.804502 | 132.075770 | 3.6 | 4.586 | 9.8 | 3.3 | 2.91 | 7843 | 0.56 | 61369.03 |
| 007842328-02 | OBS | No | 119.598429 | 214.760578 | 132.1 | 5.458 | 7.8 | 7.5 | 2.91 | 7843 | 3.75 | 77.93 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 007842328-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_ALT |
| 007842328-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS |

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

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

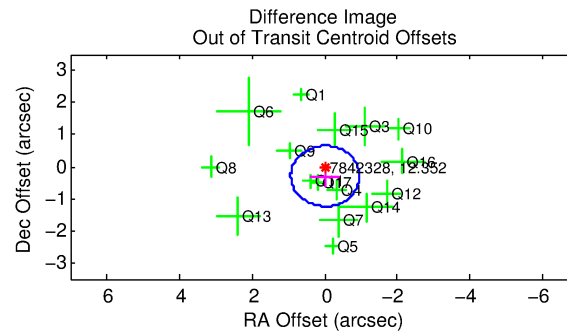
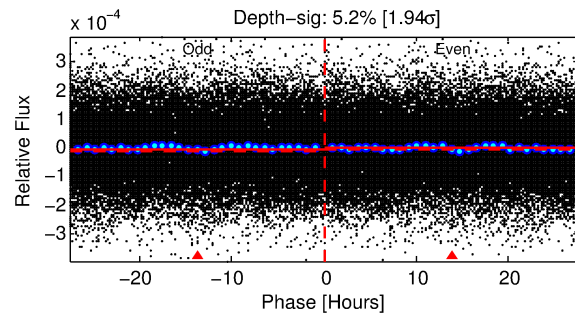
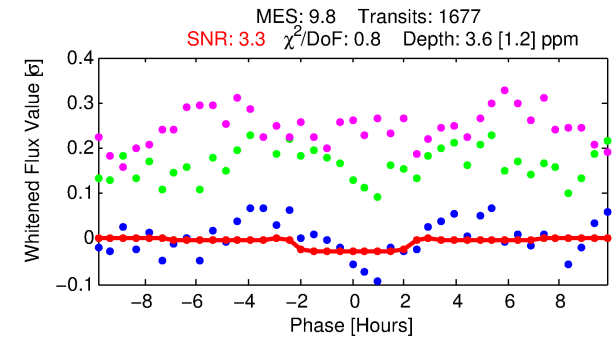
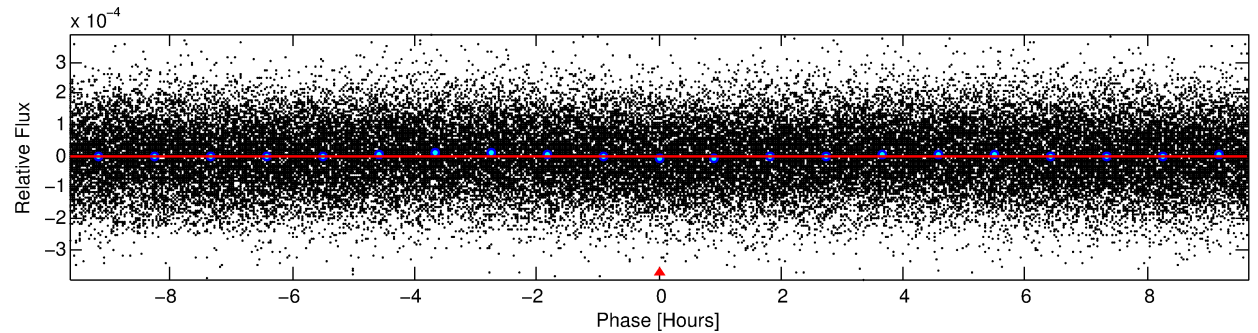
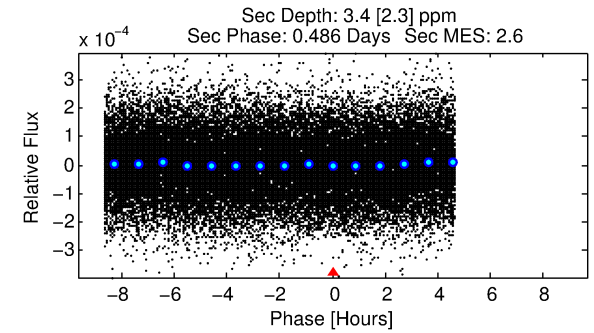
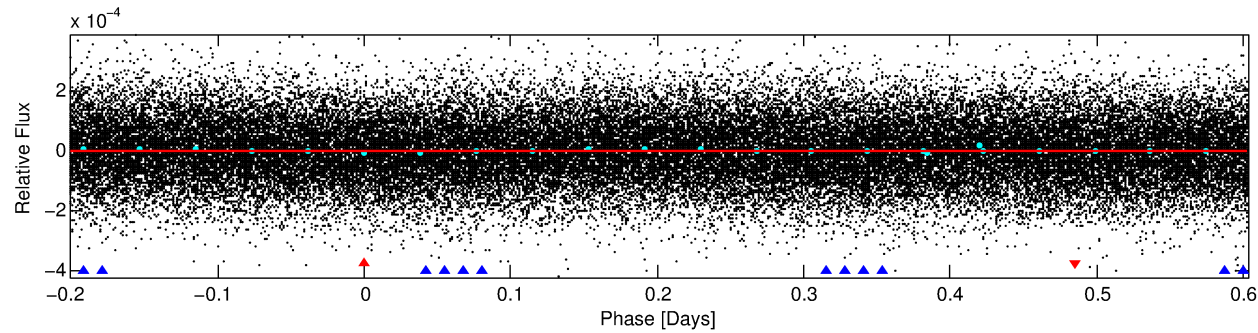
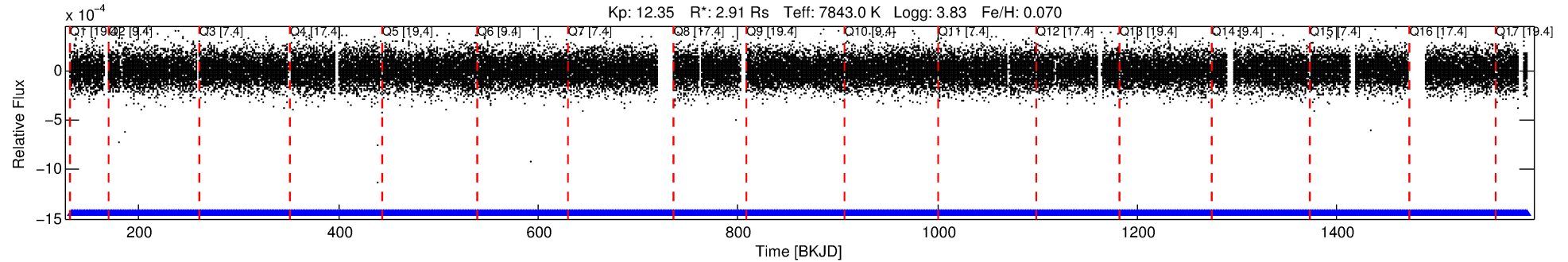
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007842328-01

No Significant Match Found

DV One-Page Summary

KIC: 7842328 Candidate: 1 of 2 Period: 0.805 d



DV Fit Results:

Period = 0.80450 [0.00004] d
Epoch = 132.0758 [0.0134] BKJD
Rp/R* = 0.0018 [0.0020]
a/R* = 1.44 [4.93]
b = 0.31 [19.63]
Seff = 61369.03 [33826.51]
Teff = 4013 [553] K
Rp = 0.57 [0.68] Re
a = 0.0216 [0.0074] AU
Ag = 2.72 [6.66] [0.26σ]
Teffp = 7966 [4780] K [0.82σ]

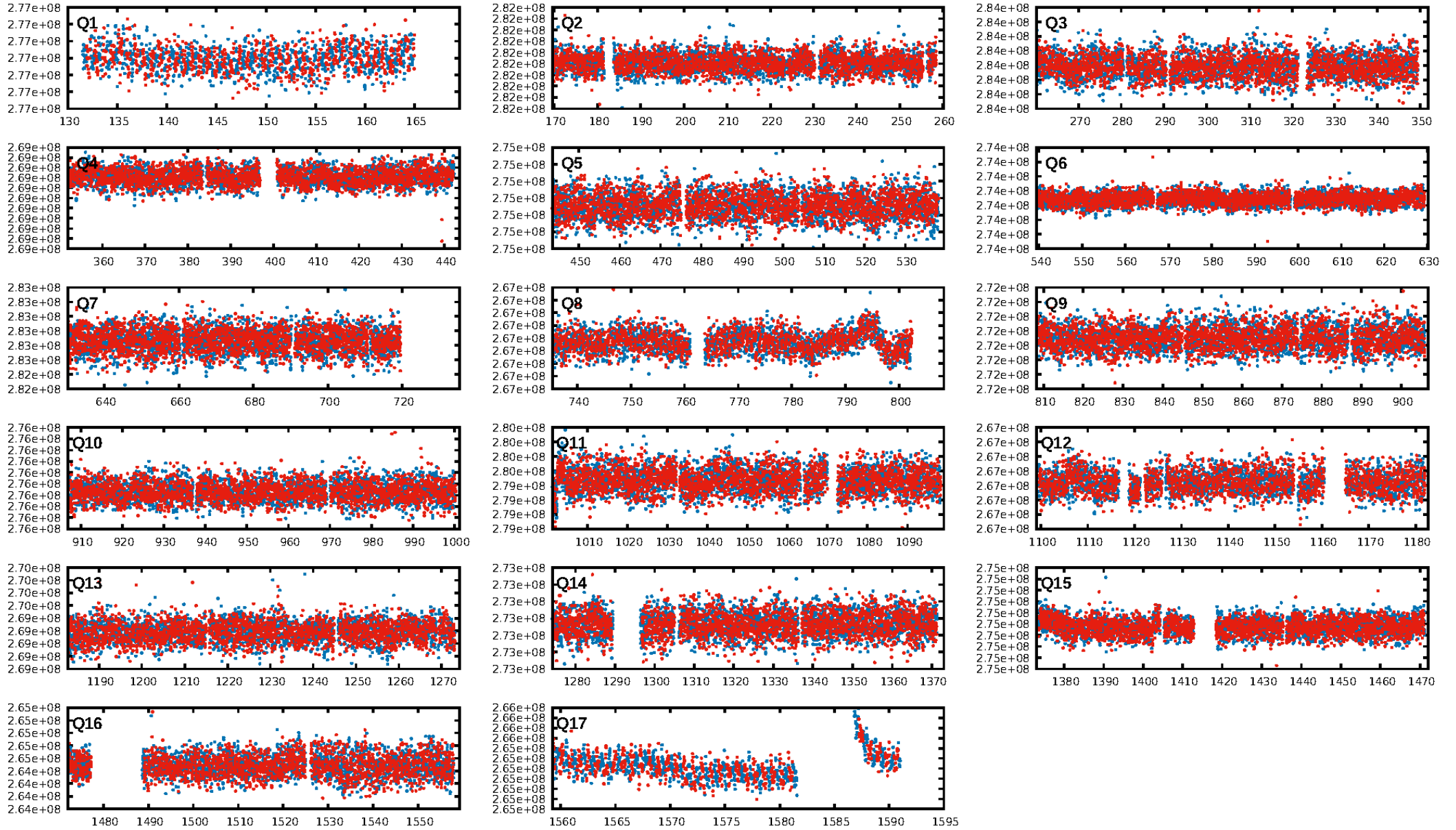
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [399.90σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.77e-15
RollingBand-fgt: 1.00 [1602/1602]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.294 arcsec [0.94σ]
KicOffset-rm: 0.214 arcsec [0.64σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 1.00 [17/17]

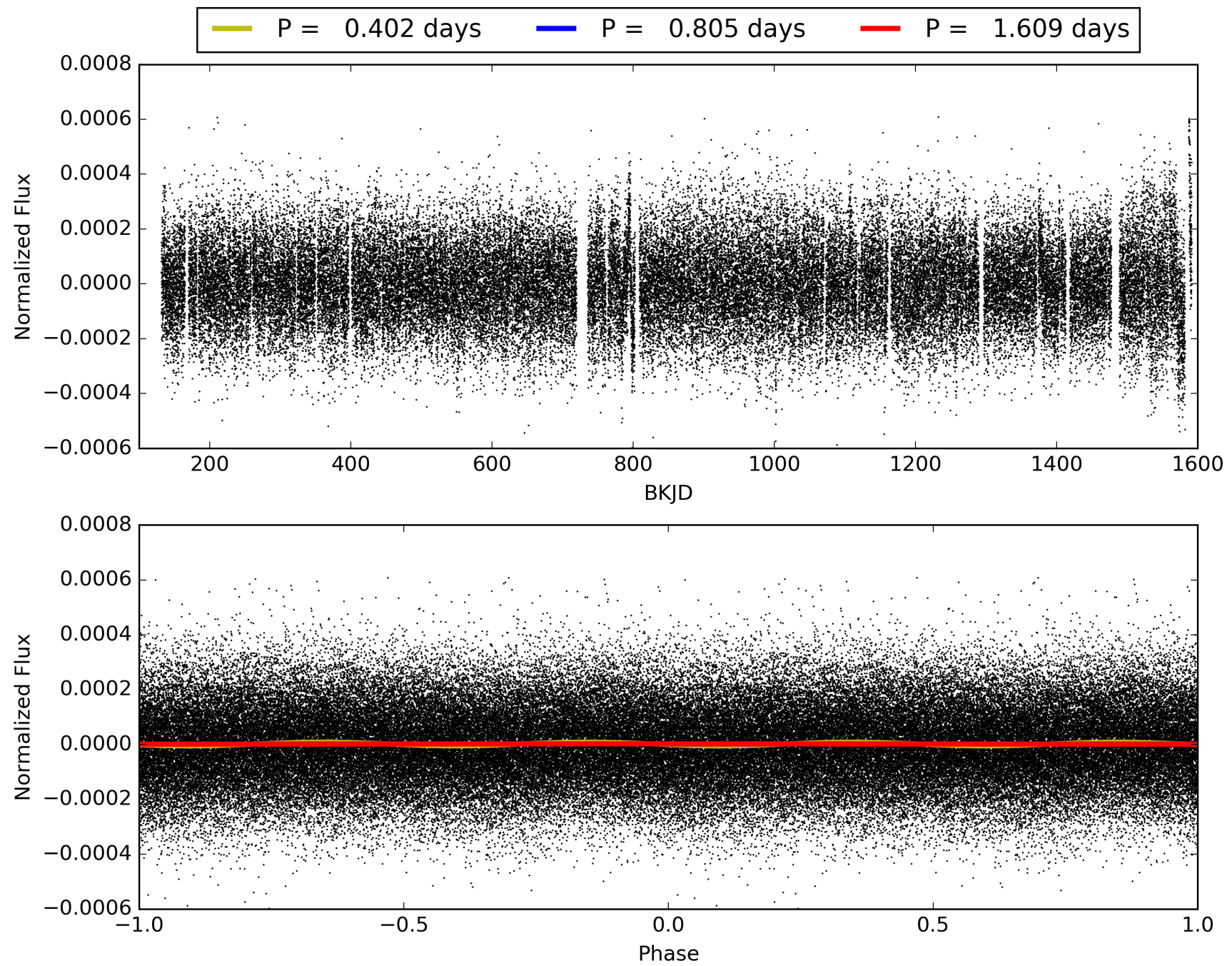
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:48:35 Z

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

TCE 007842328-01, PDC Light Curves

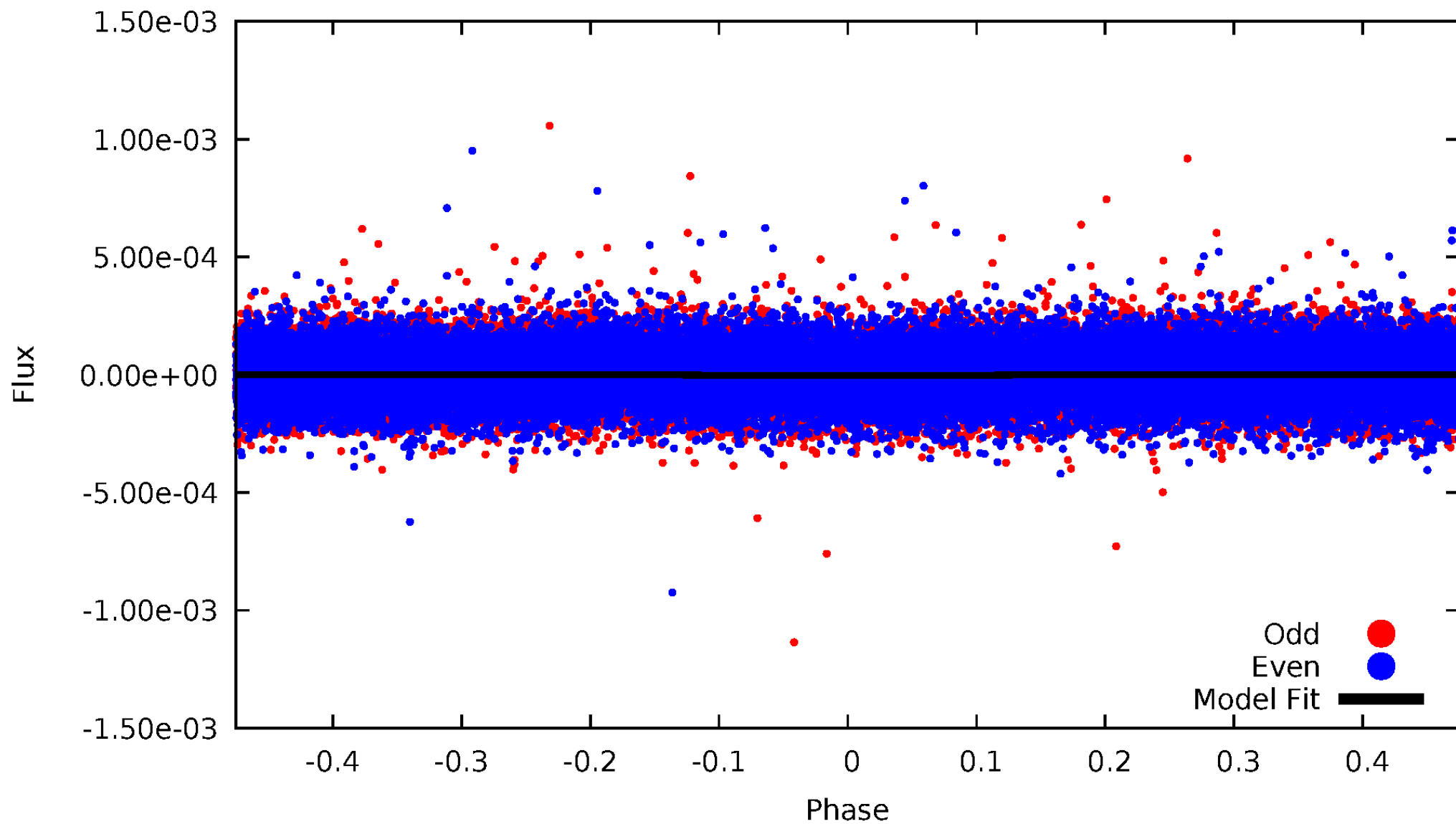


TCE 007842328-01



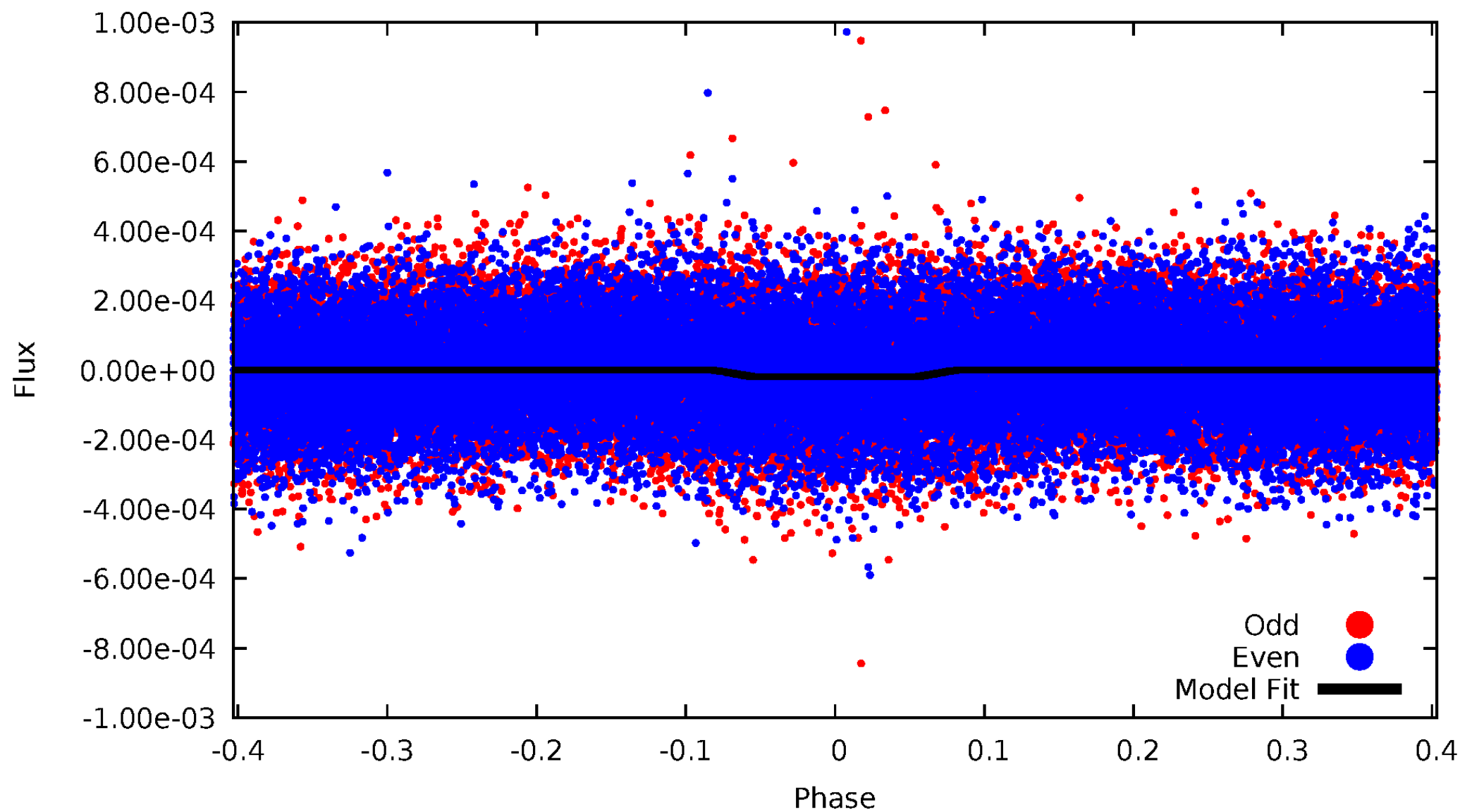
DV Odd/Even

TCE 007842328-01



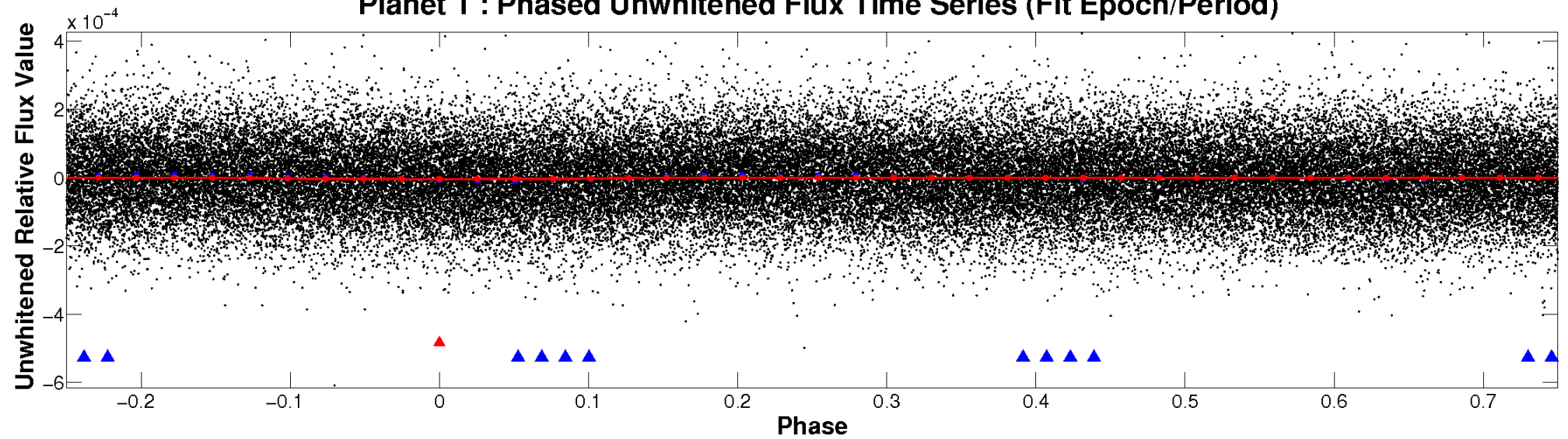
ALT Odd/Even

TCE 007842328-01

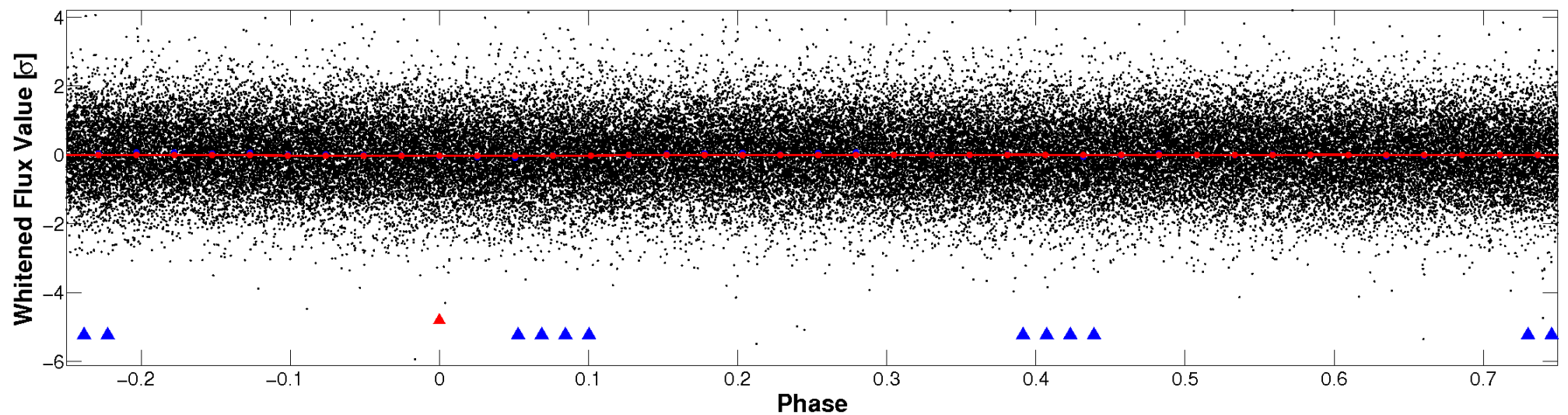


Non-Whitened Vs. Whitened Light Curve

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

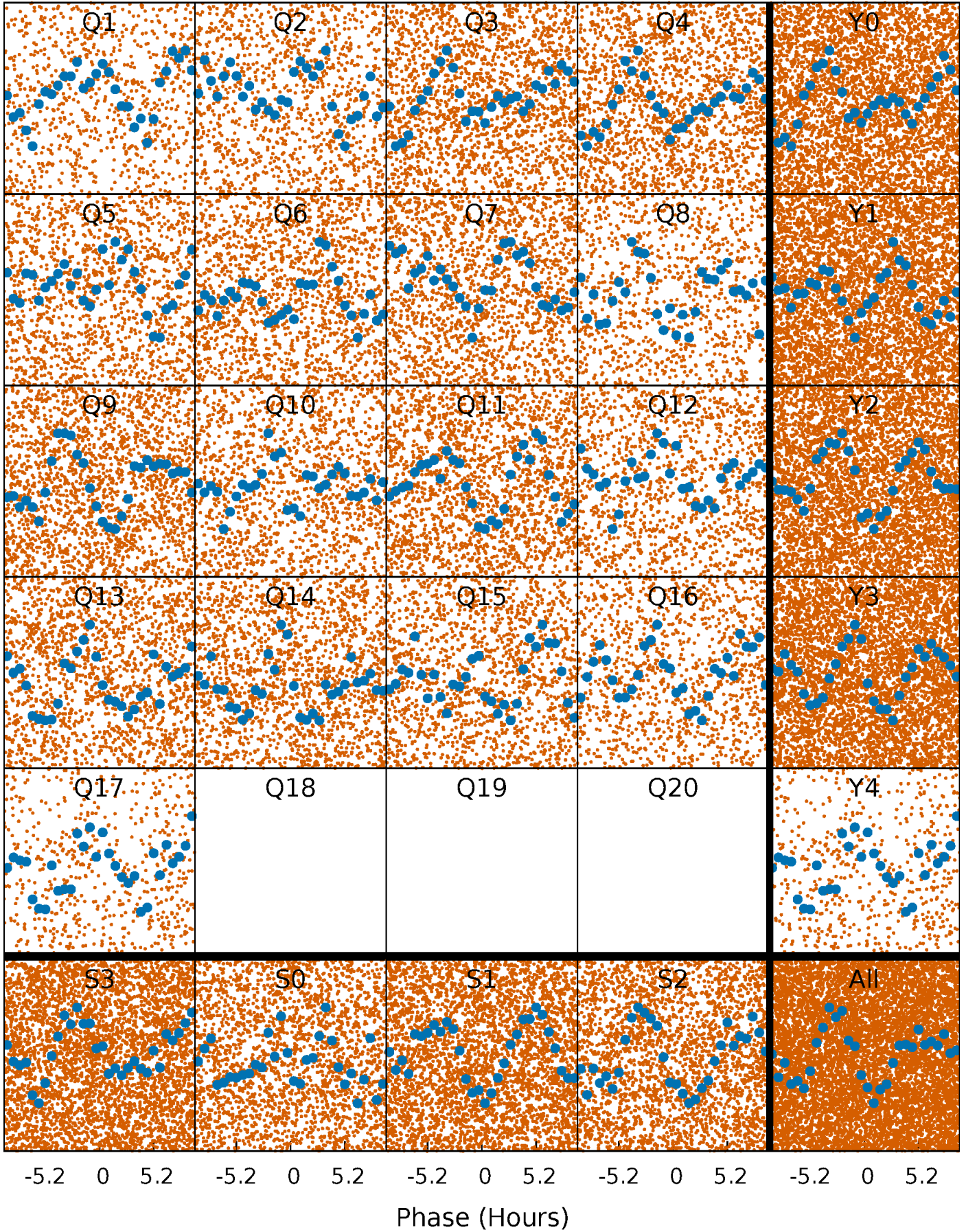


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



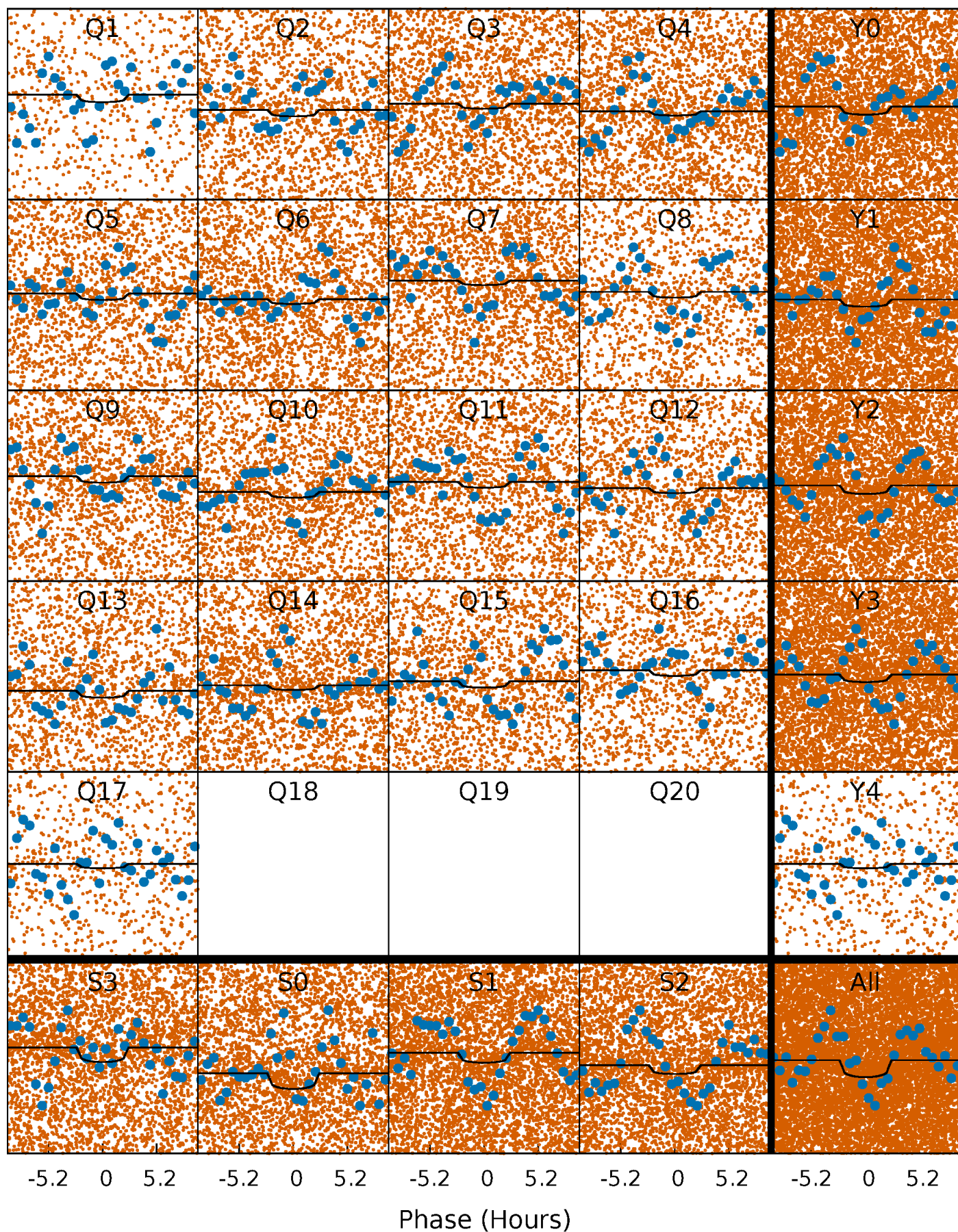
PDC Quarter-Phased Transit Curves

TCE 007842328-01 P= 0.804502 Days $T_0=132.075770$ (BKJD)



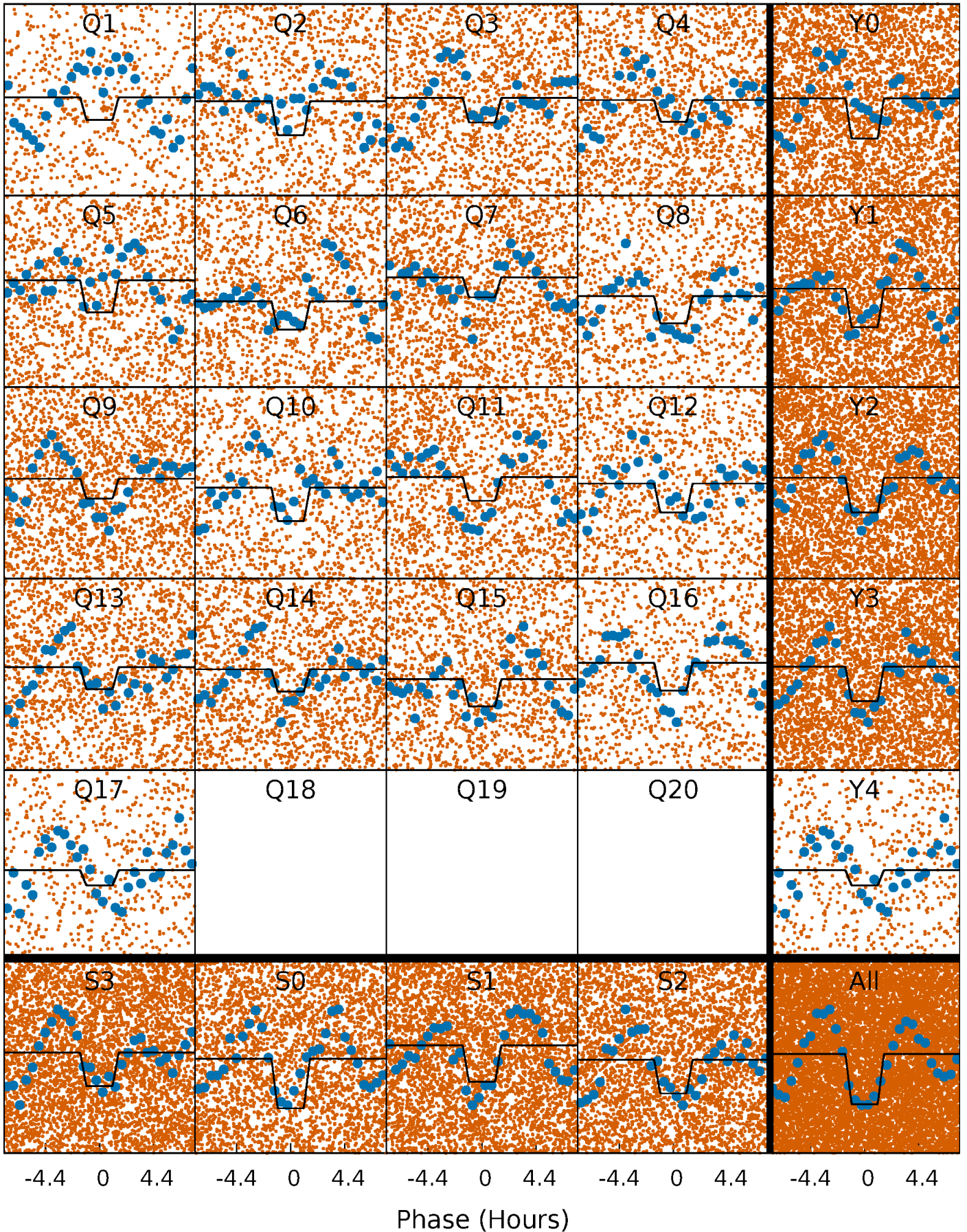
DV Quarter-Phased Transit Curves

TCE 007842328-01 P= 0.804502 Days $T_0=132.075770$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

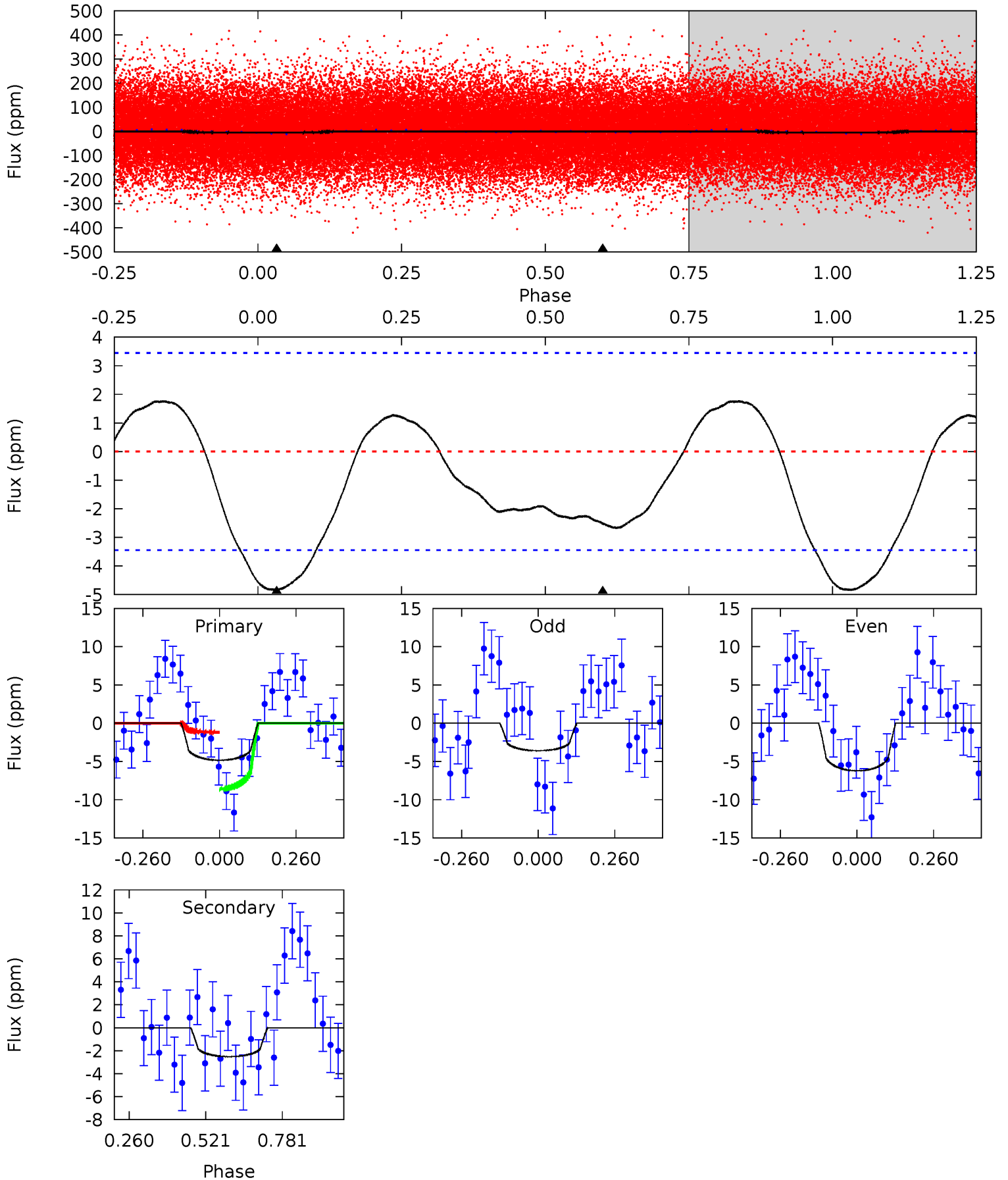
TCE 007842328-01 P= 0.804603 Days $T_0=132.010138$ (BKJD)



DV Model-Shift Uniqueness Test

007842328-01, P = 0.804502 Days, E = 131.271268 Days

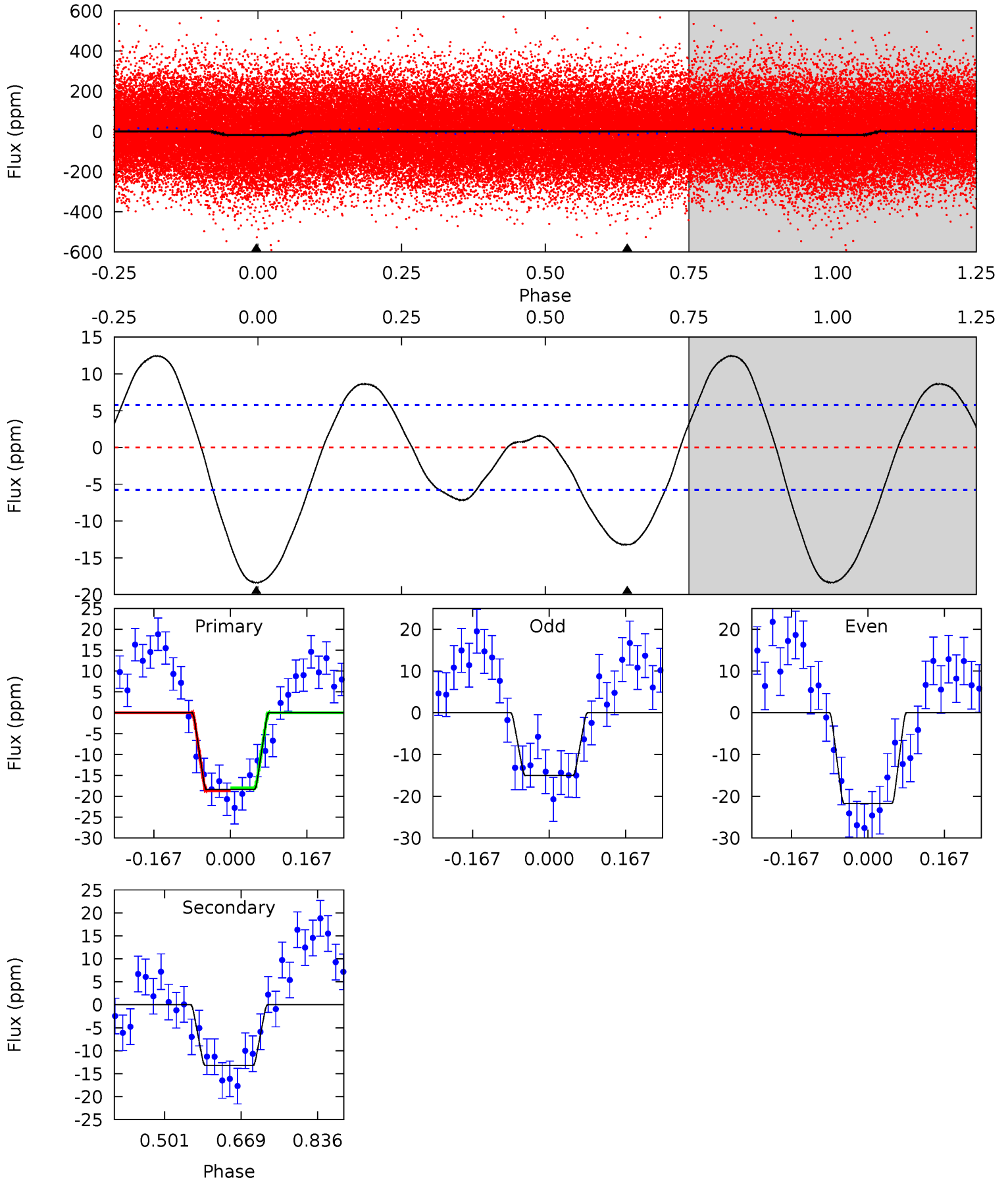
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.12 | 3.19 | 0 | 0 | 4.36 | 1.13 | 1.00 | 6.12 | 6.12 | 3.19 | 3.19 | 1.70 | 1.21 | 0.27 | 4.85 |



Alt Model-Shift Uniqueness Test

007842328-01, P = 0.804603 Days, E = 131.205535 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 14.2 | 10.2 | 0 | 0 | 4.46 | 1.38 | 4.61 | 14.2 | 14.2 | 10.2 | 10.2 | 2.60 | 1.05 | 0.40 | 0.27 |



Stellar Parameters For KIC 007842328

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 7843^{+218}_{-327} | $3.829^{+0.301}_{-0.108}$ | $0.070^{+0.150}_{-0.350}$ | $2.909^{+0.588}_{-1.091}$ | $2.081^{+0.284}_{-0.486}$ | $0.119^{+0.258}_{-0.040}$ |
| | +3%/-4% | +8%/-3% | +214%/-500% | +20%/-38% | +14%/-23% | +216%/-34% |
| Source | KIC0 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 007842328-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|---------------------------|
| DV | -3 ± 1 | $0.69^{+0.58}_{-0.45}$ | 5491^{+375}_{-497} | 5938^{+6735}_{-2609} | $1.367^{+9.832}_{-1.015}$ |
| Alt. | -13 ± 1 | $1.28^{+0.70}_{-0.61}$ | 5504^{+375}_{-525} | 6664^{+3850}_{-1508} | $2.030^{+5.401}_{-1.196}$ |

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 $A_{obs} \gg 1.0$

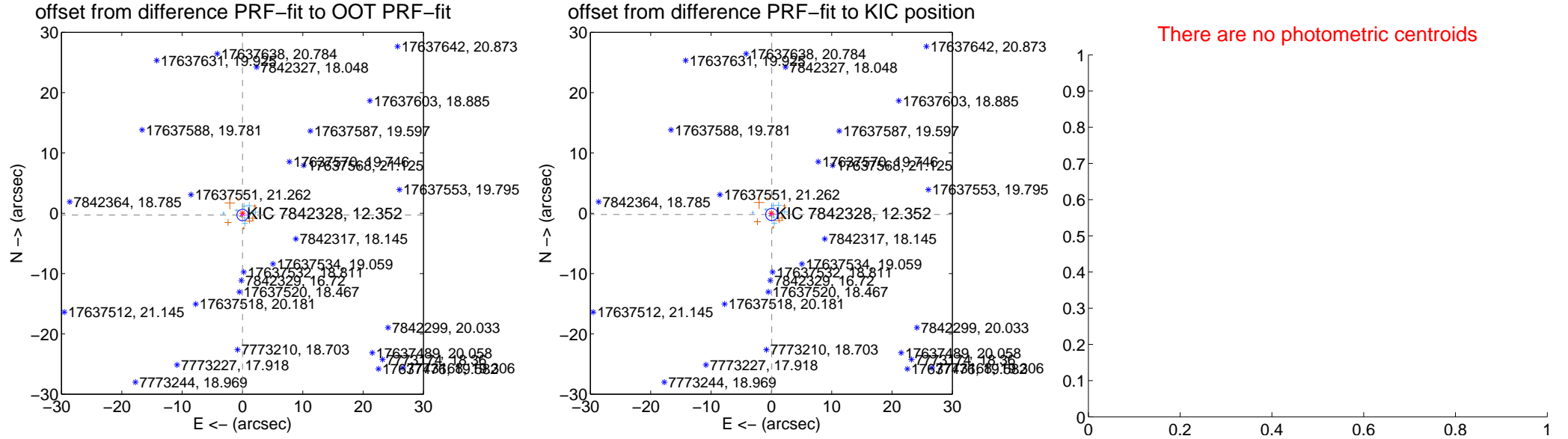
DV Centroid Data

Supplemental centroid analysis for 007842328-01. Kepler magnitude: 12.35. Transit SNR 3.29

There are 8 quarters with good PRF difference image offsets

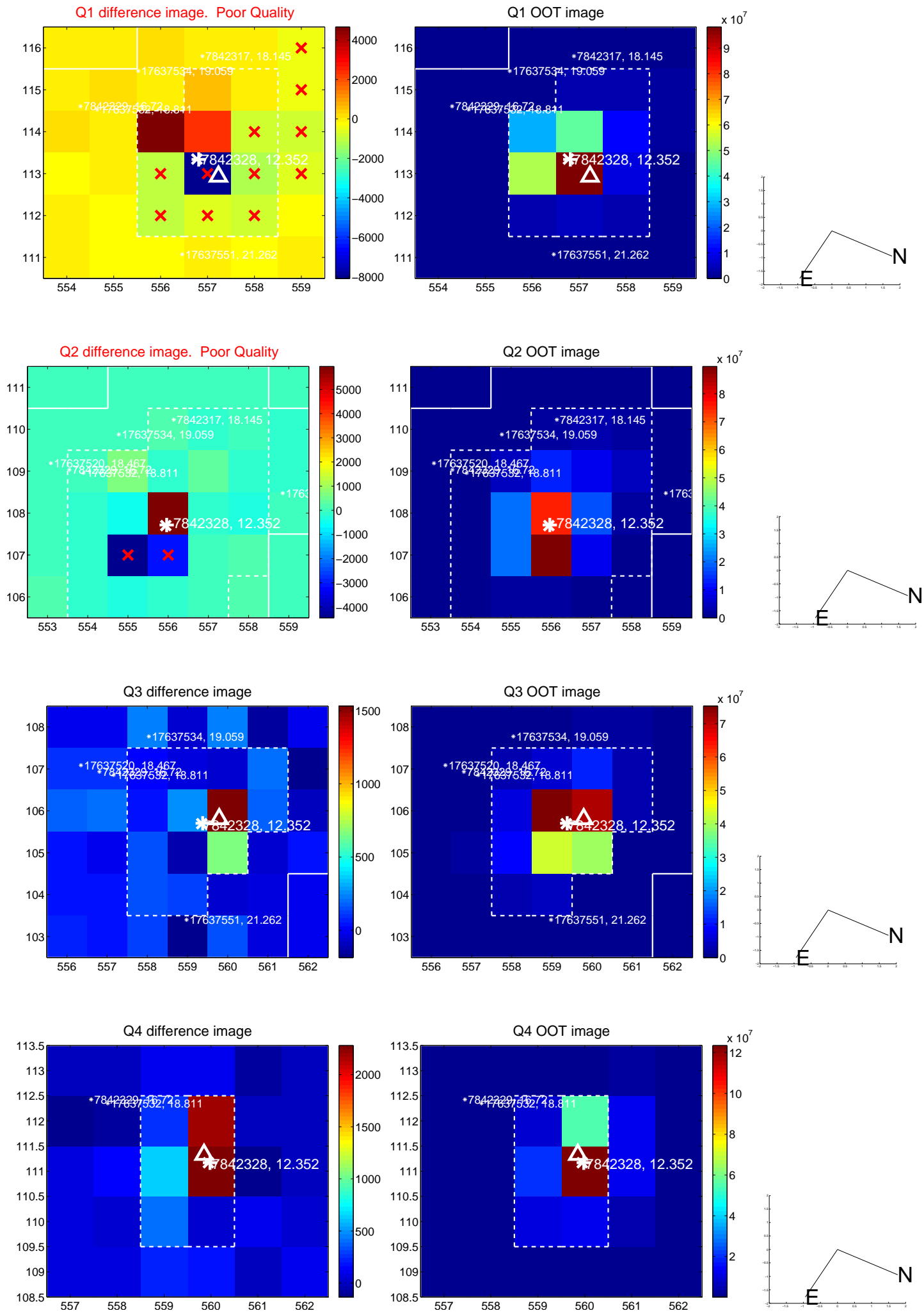
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.294 ± 0.314 | 0.94 | -0.011 ± 0.389 | -0.294 ± 0.314 |
| PRF-fit source offset from KIC position | 0.214 ± 0.336 | 0.64 | -0.067 ± 0.370 | -0.203 ± 0.321 |
| photometric centroid source offset | — | — | — | — |

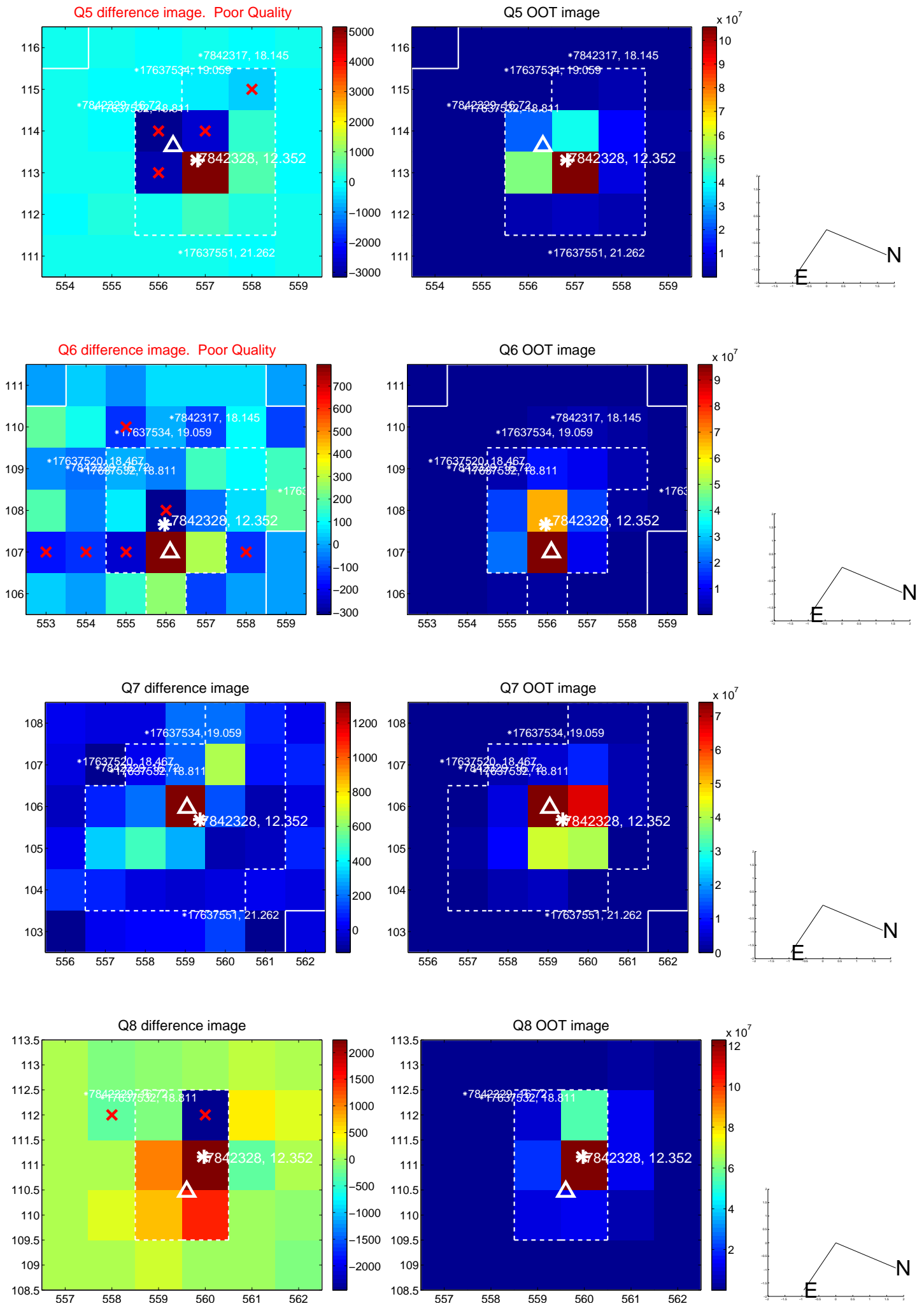


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

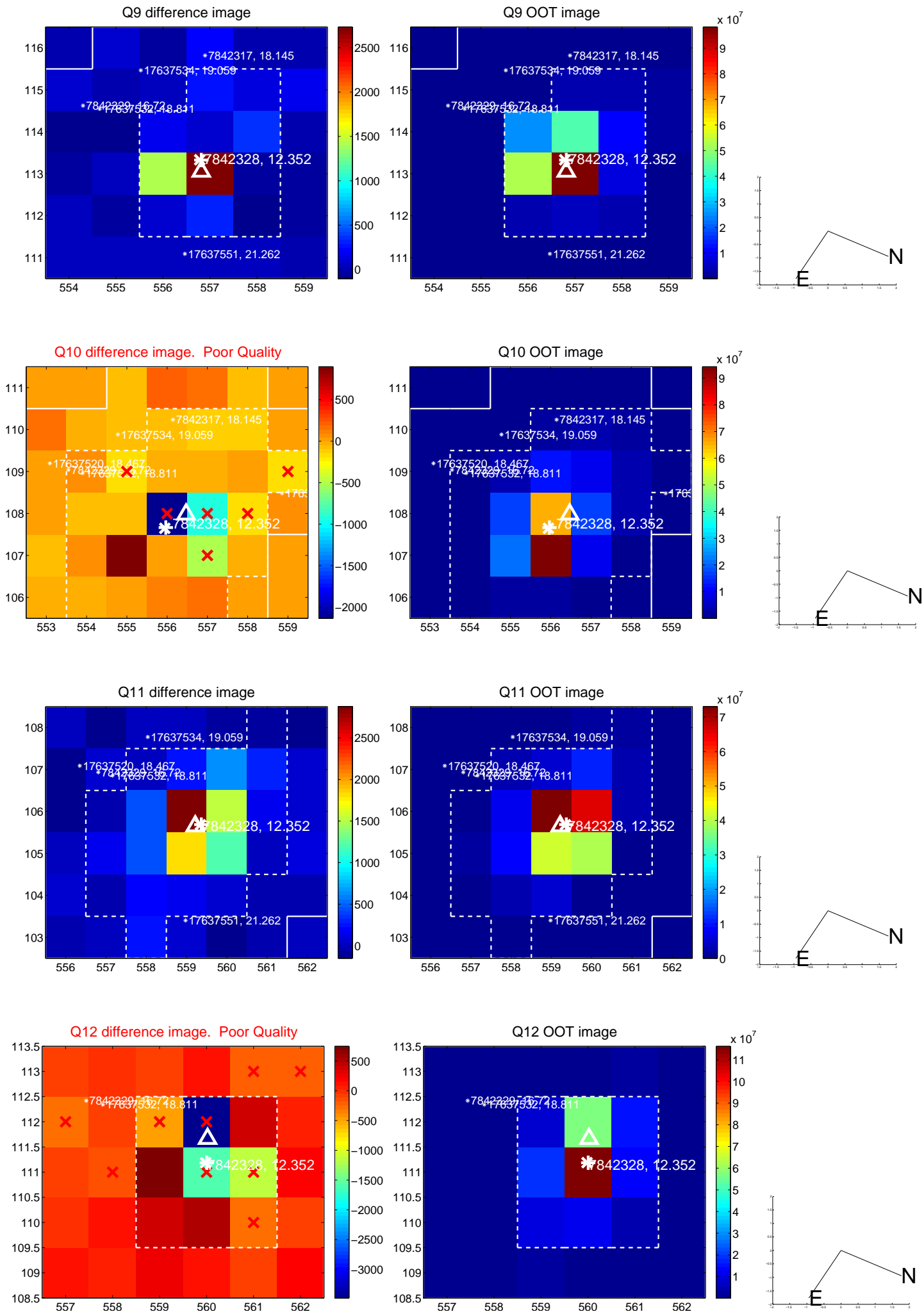
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



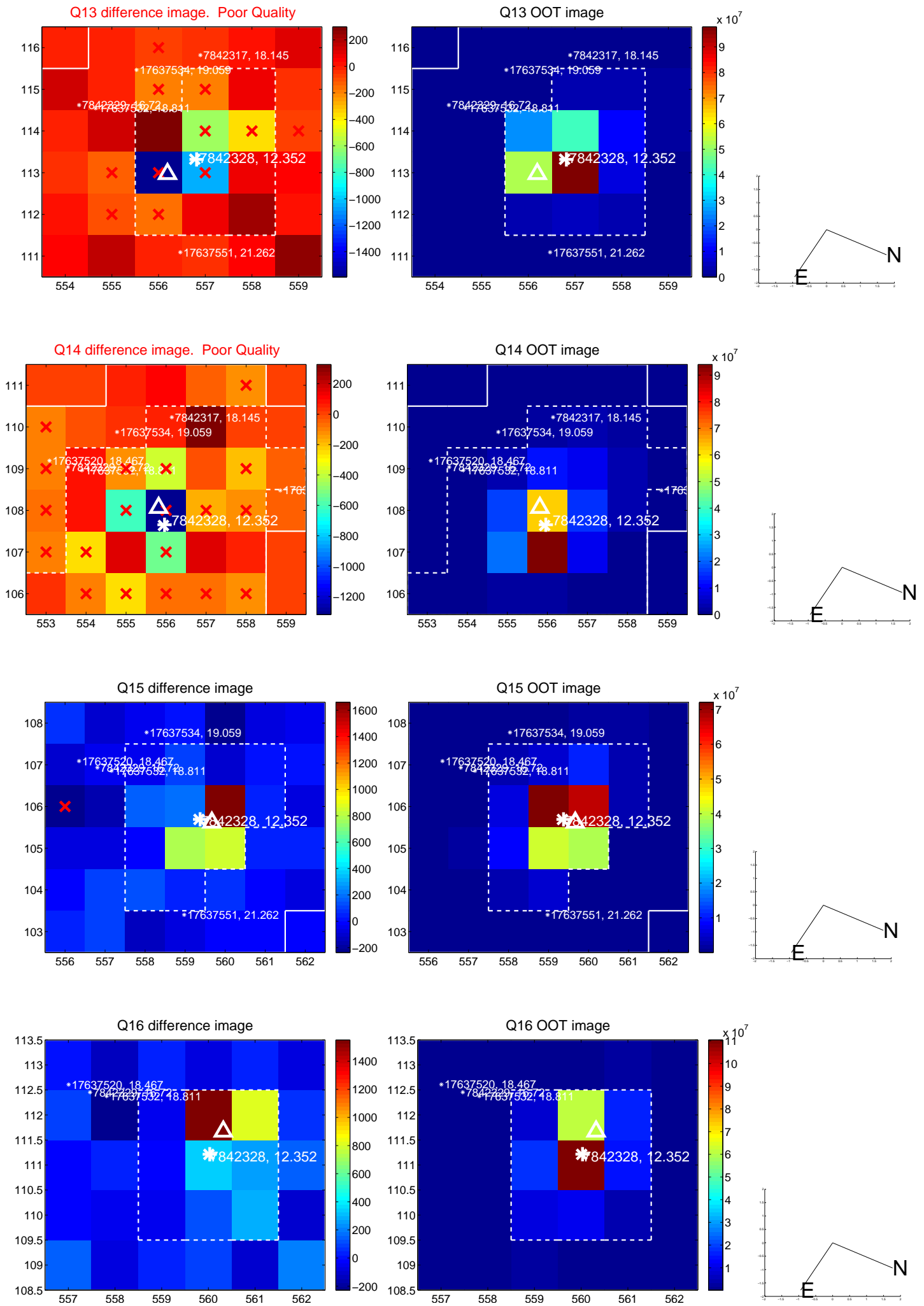
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



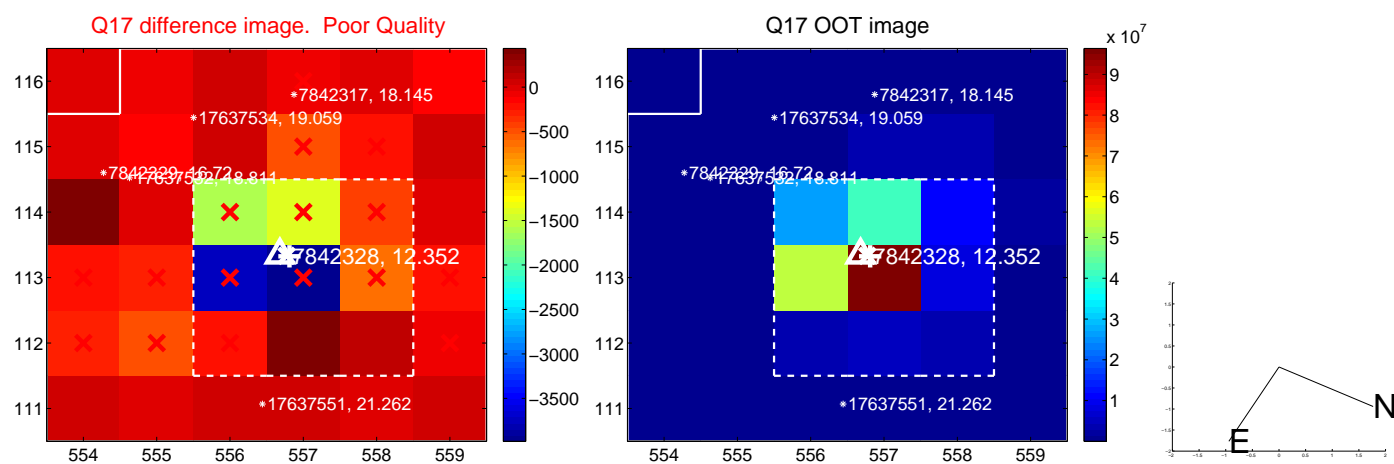
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

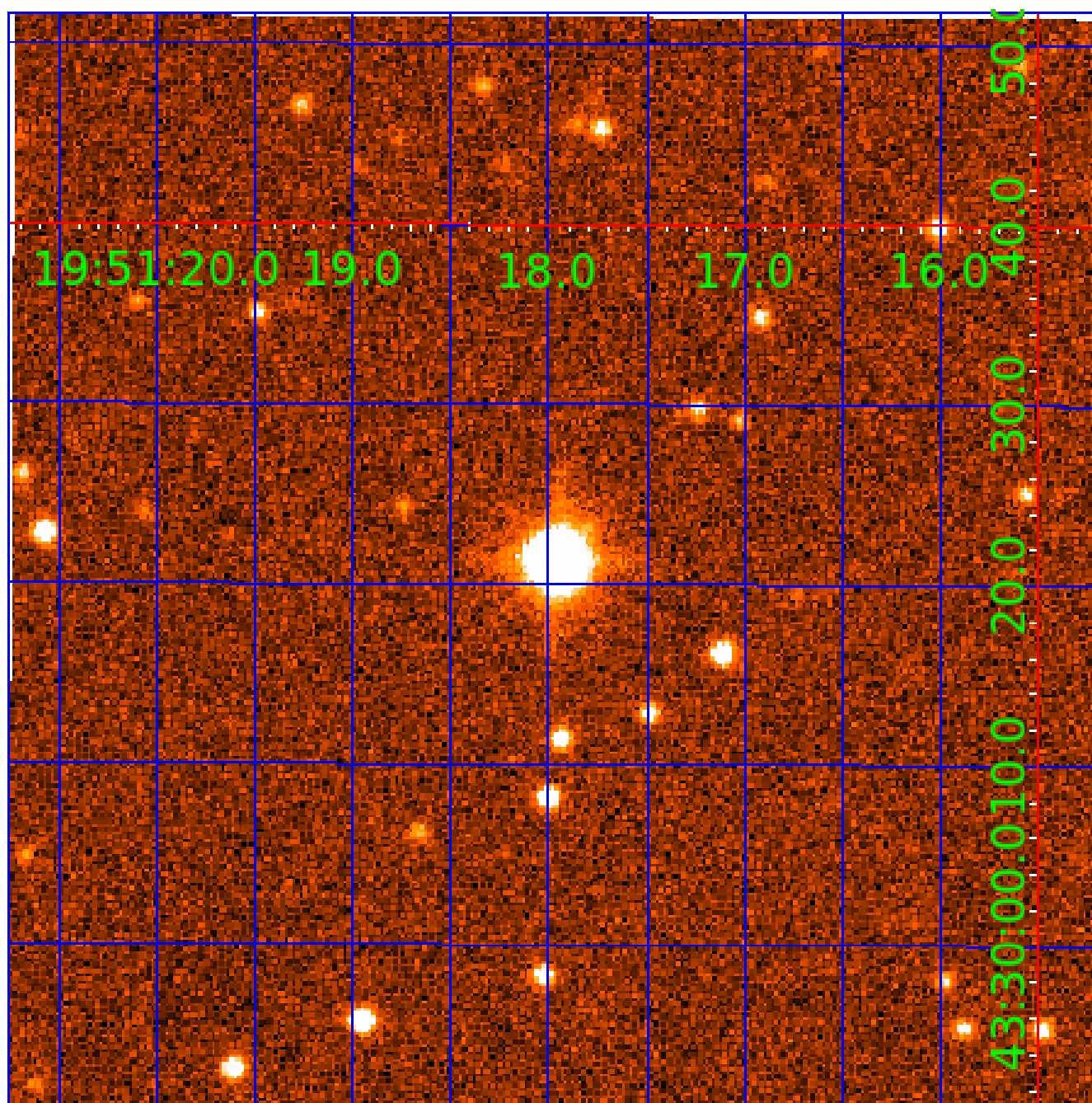


folded centroid time series figure for this object.



UKIRT Image

Declination



KIC 007842328

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007842328-01 | OBS | No | 0.804502 | 132.075770 | 3.6 | 4.586 | 9.8 | 3.3 | 2.91 | 7843 | 0.56 | 61369.03 |
| 007842328-02 | OBS | No | 119.598429 | 214.760578 | 132.1 | 5.458 | 7.8 | 7.5 | 2.91 | 7843 | 3.75 | 77.93 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 007842328-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_ALT |
| 007842328-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS |

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

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

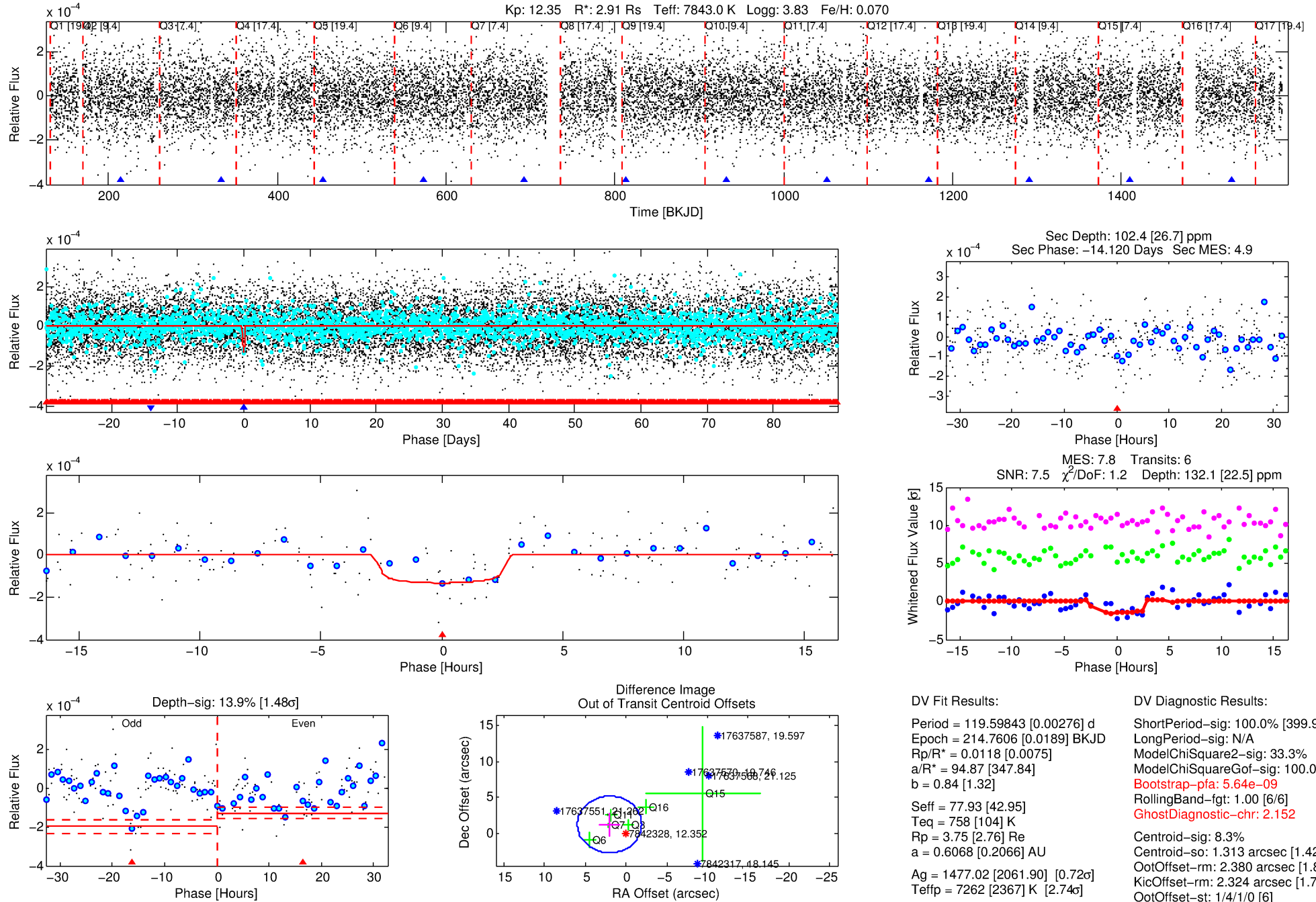
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007842328-02

No Significant Match Found

DV One-Page Summary

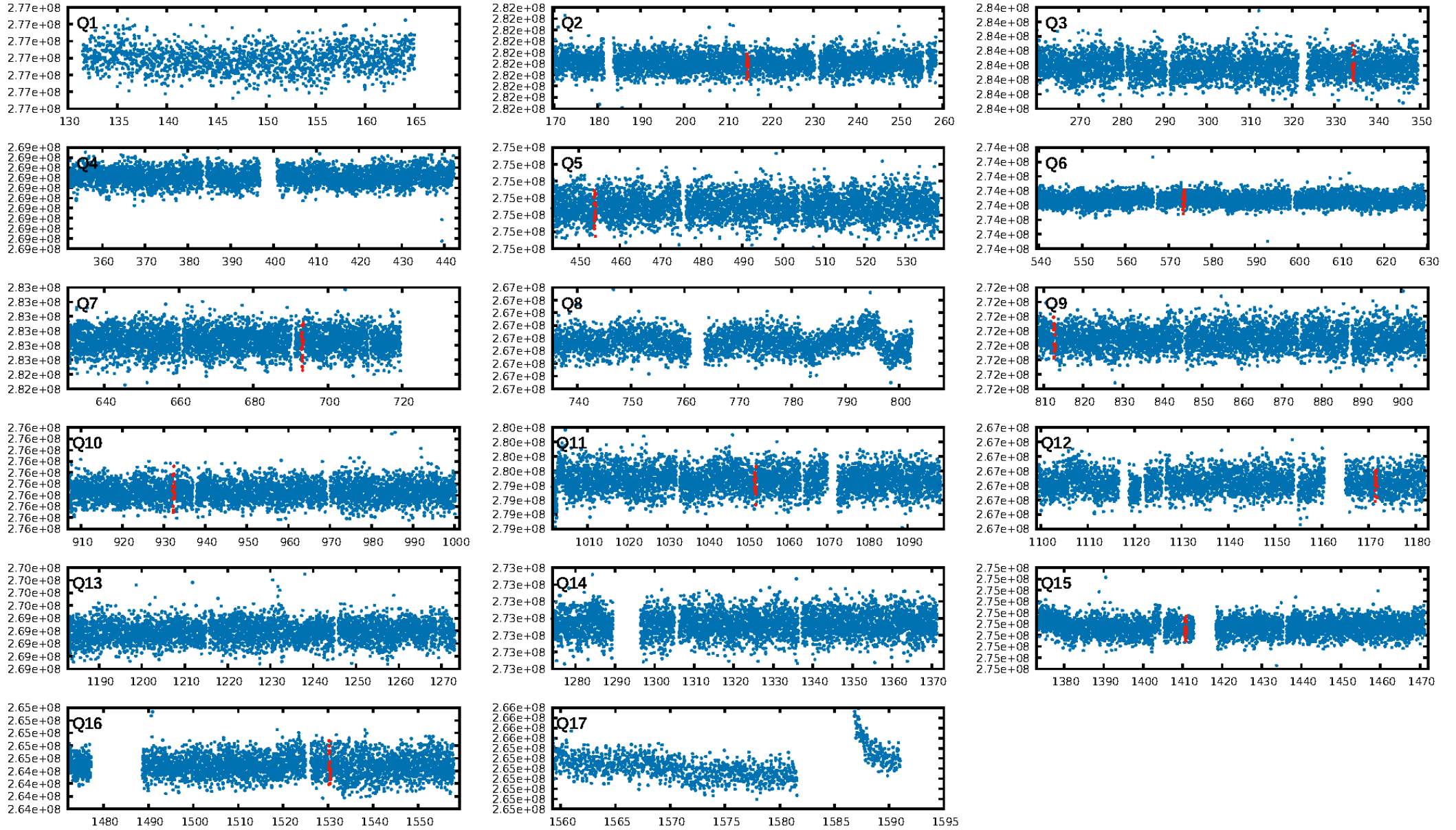
KIC: 7842328 Candidate: 2 of 2 Period: 119.598 d



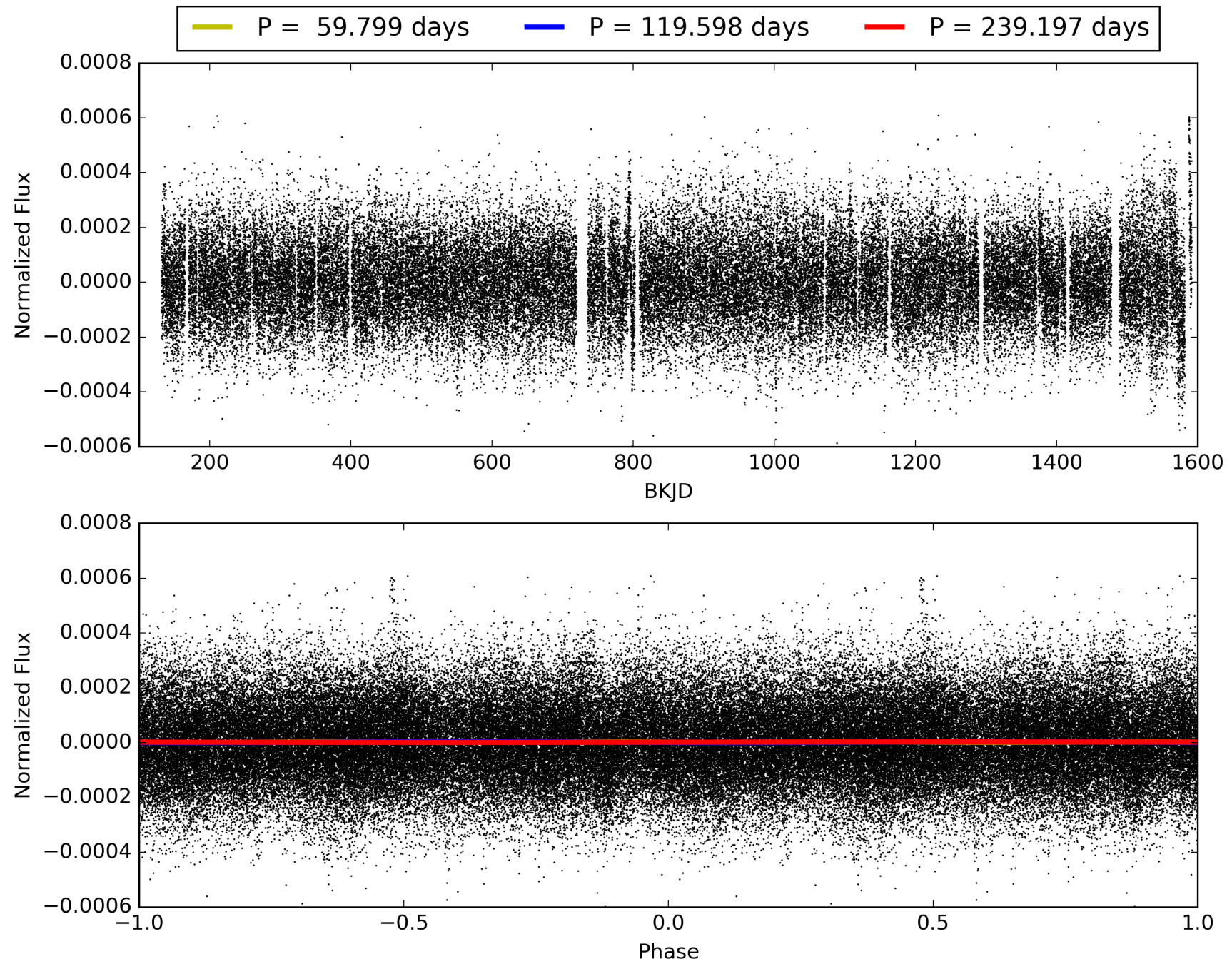
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:48:46 Z

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

TCE 007842328-02, PDC Light Curves

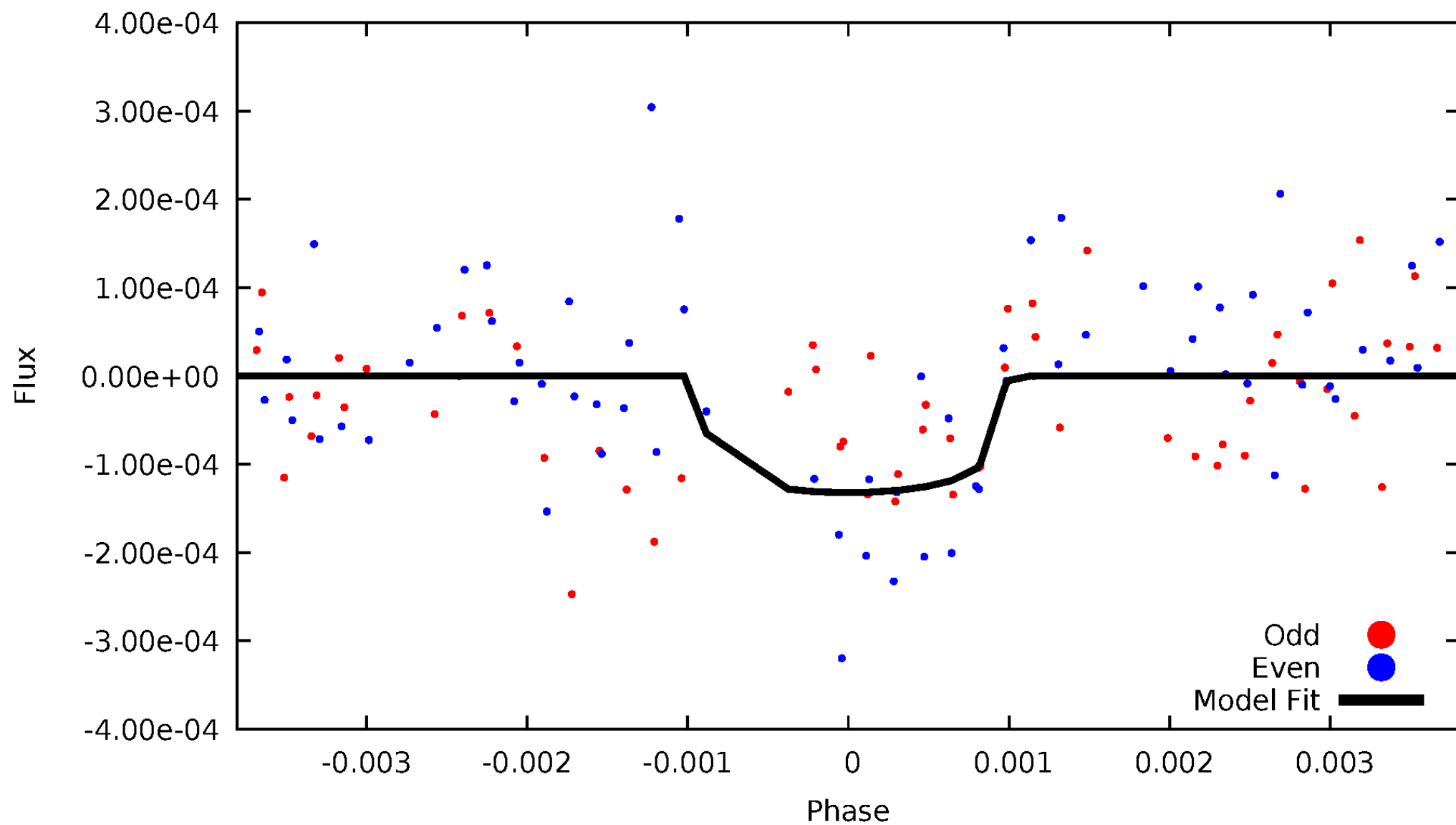


TCE 007842328-02



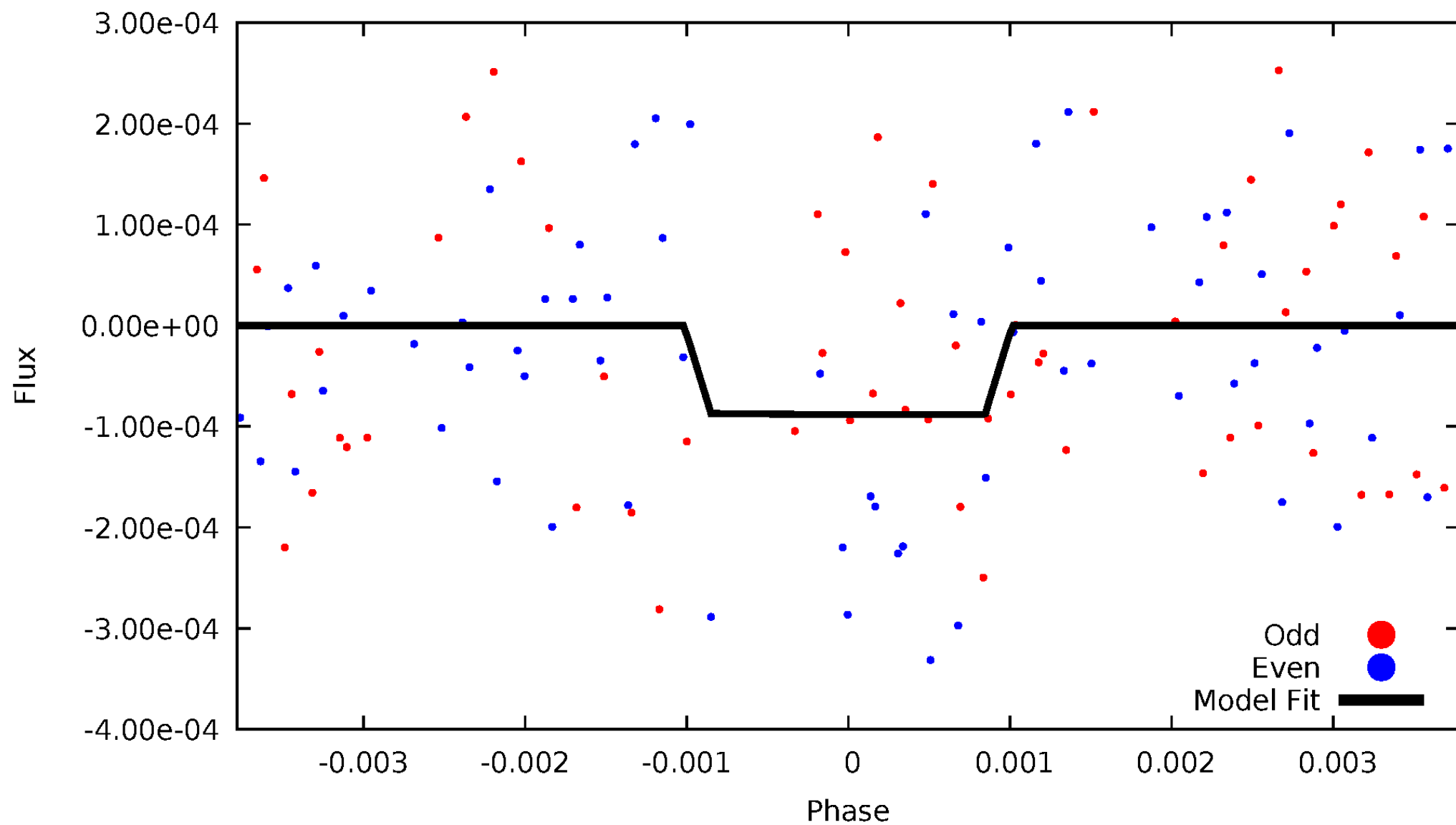
DV Odd/Even

TCE 007842328-02



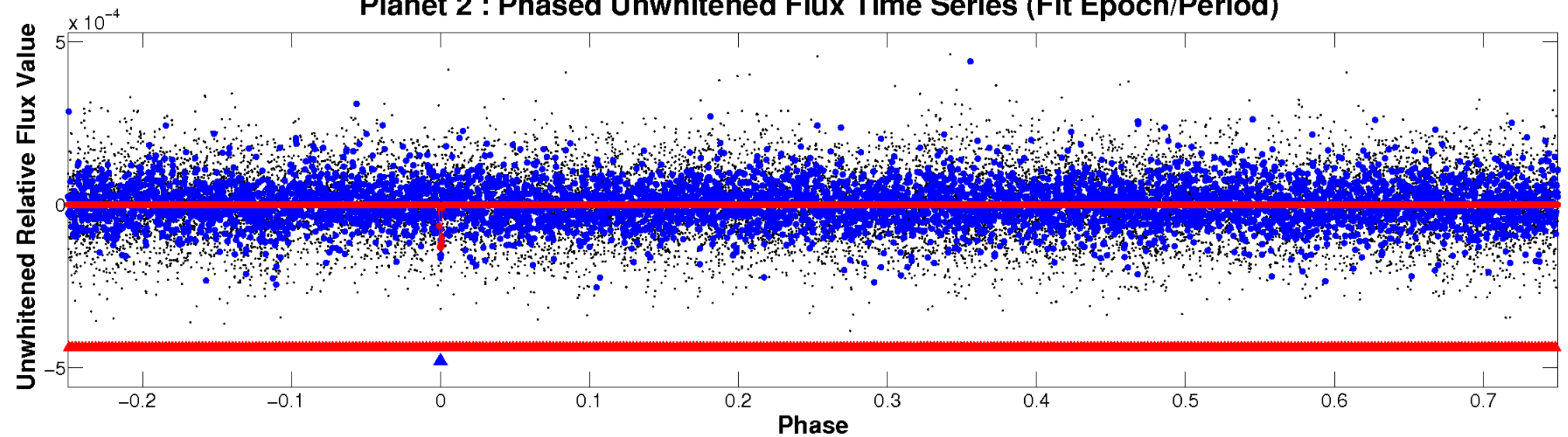
ALT Odd/Even

TCE 007842328-02

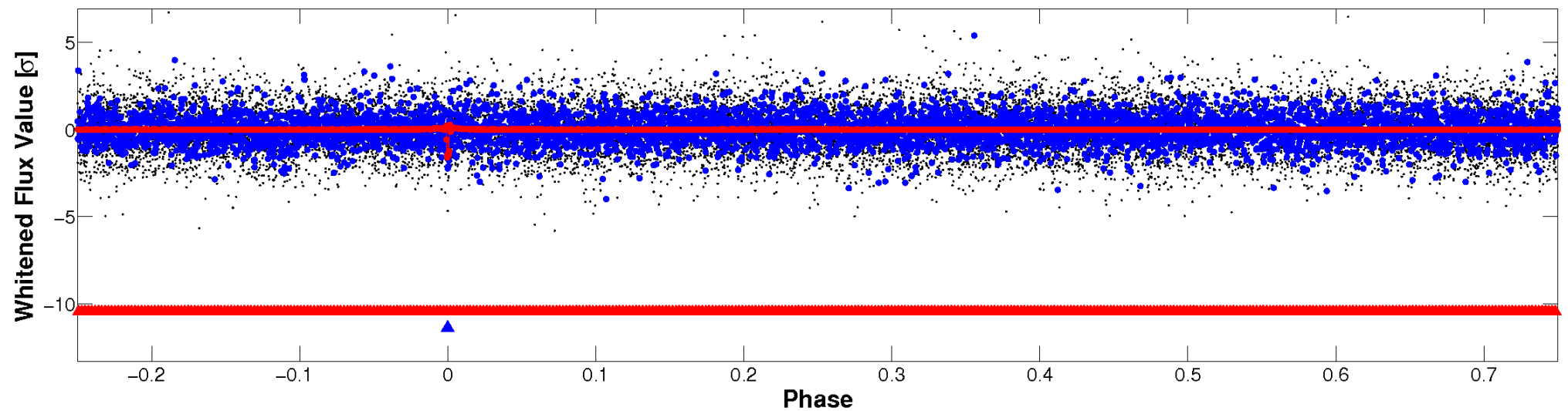


Non-Whitened Vs. Whitened Light Curve

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

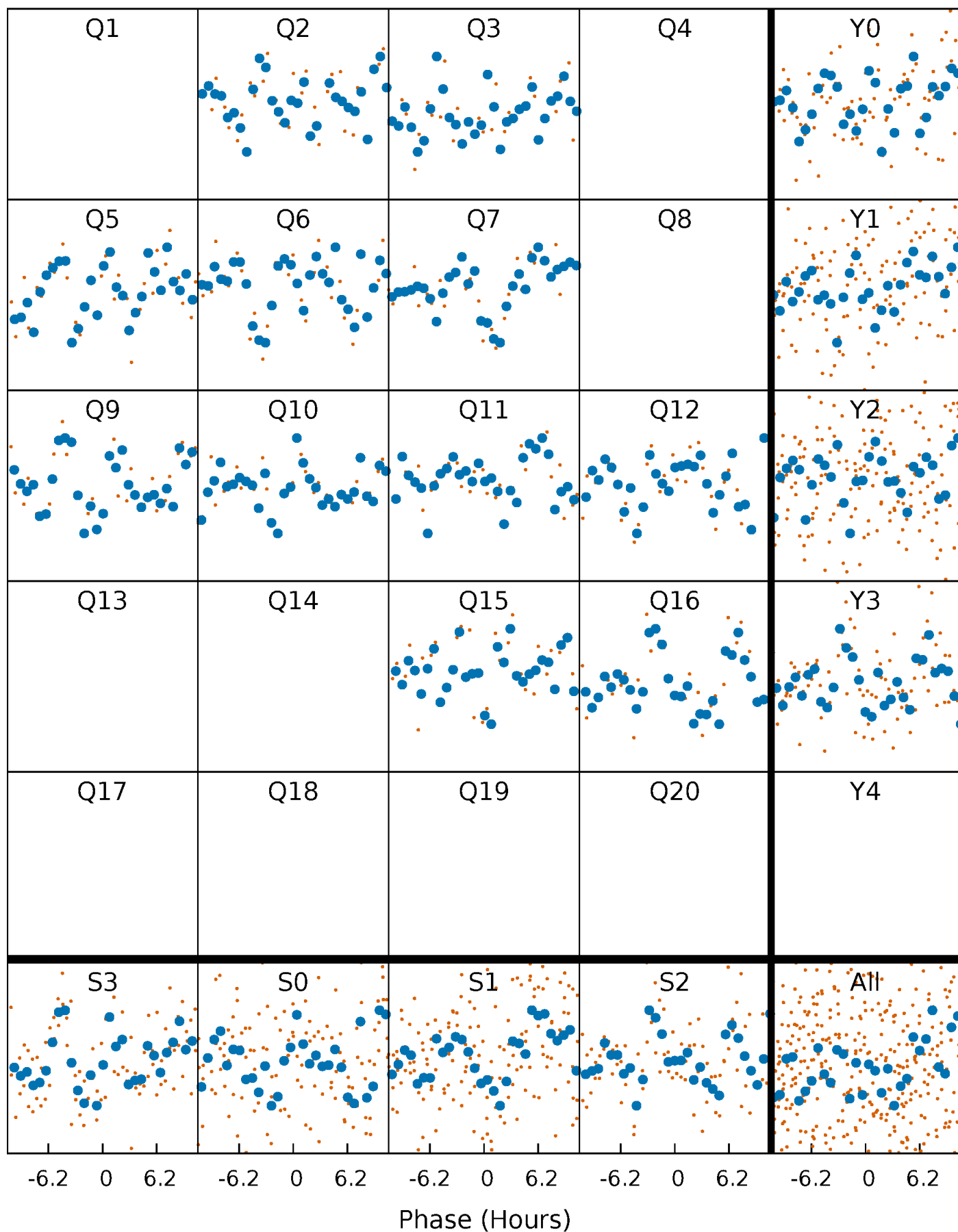


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



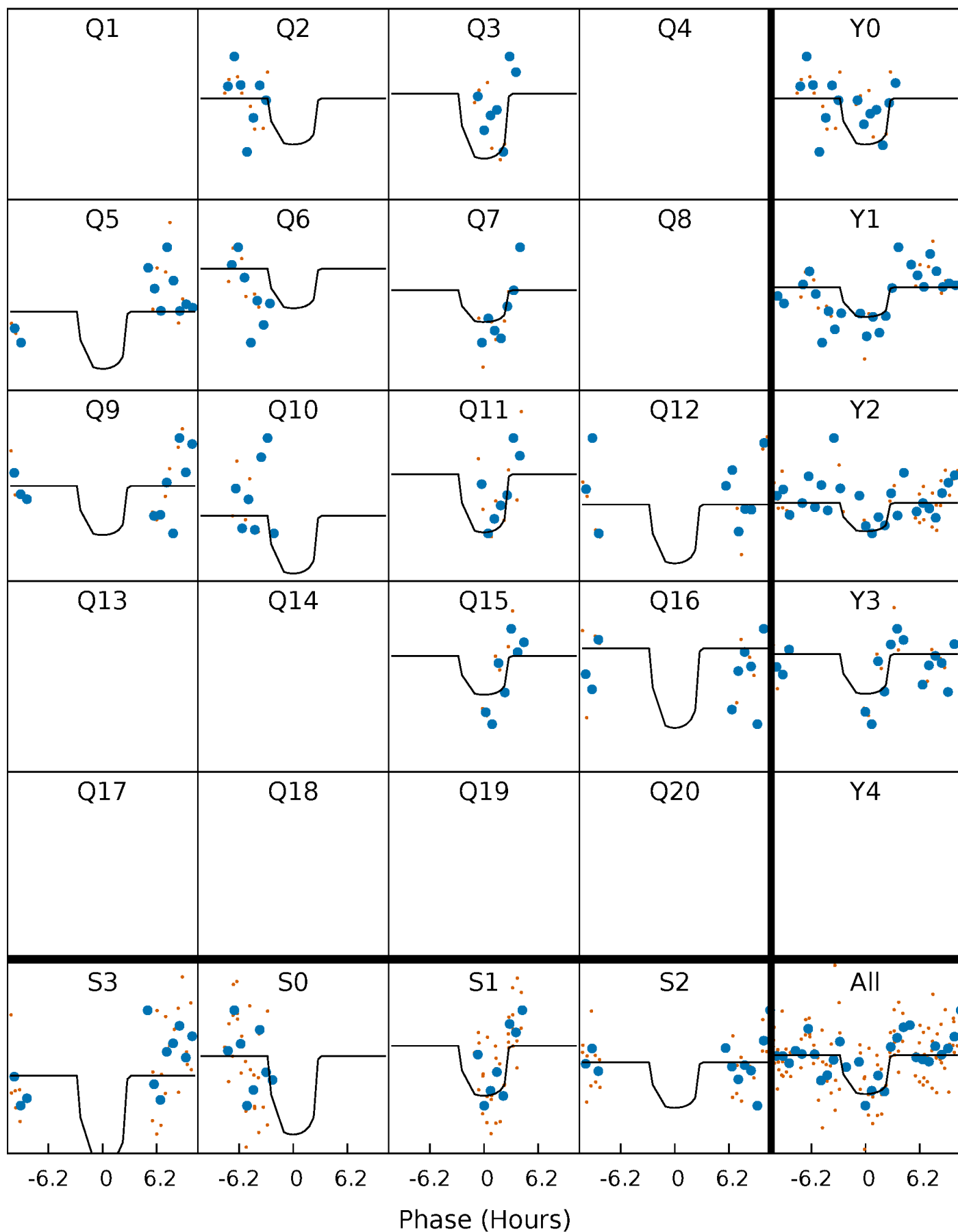
PDC Quarter-Phased Transit Curves

TCE 007842328-02 P=119.598428 Days $T_0=214.760578$ (BKJD)



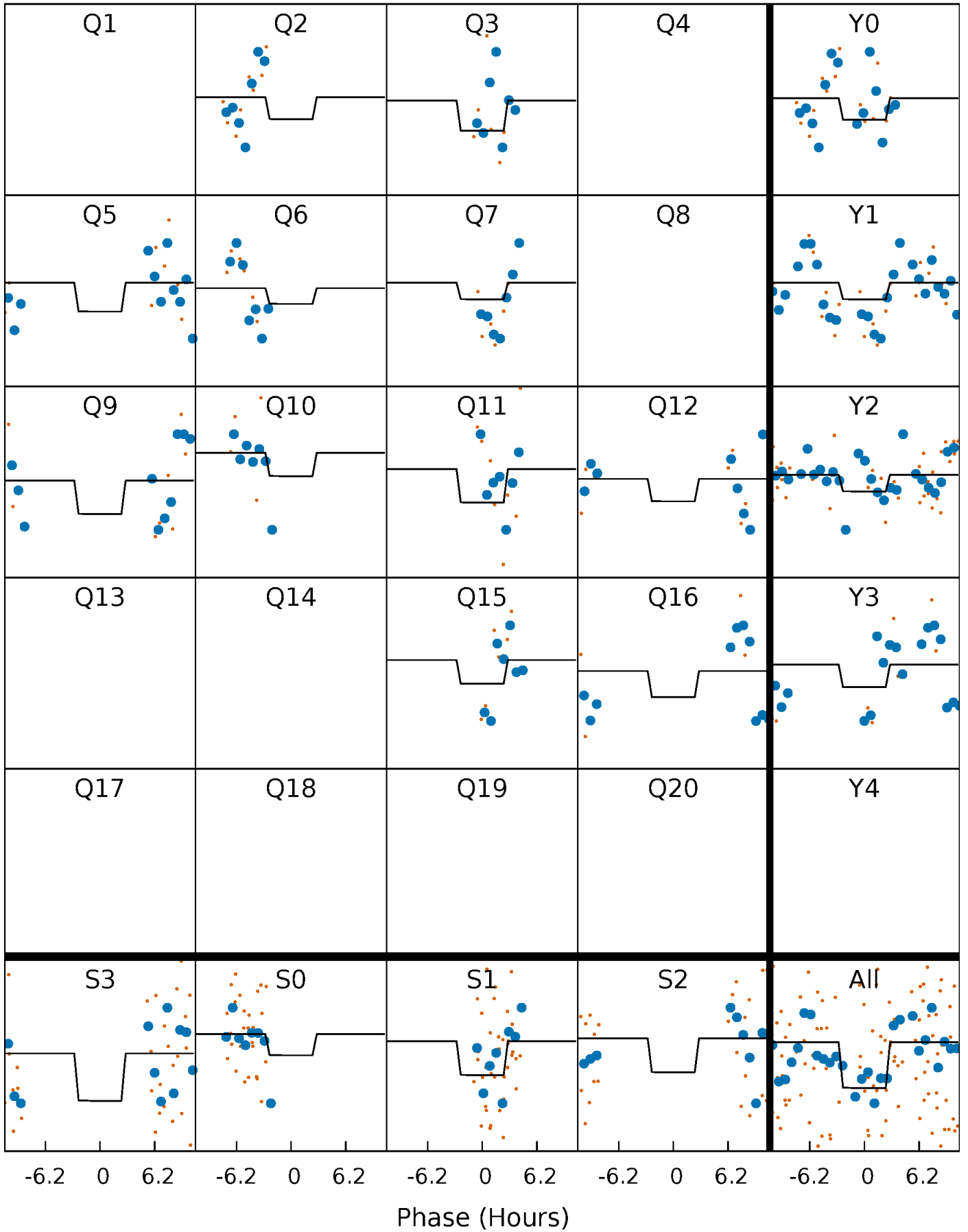
DV Quarter-Phased Transit Curves

TCE 007842328-02 P=119.598428 Days $T_0=214.760578$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

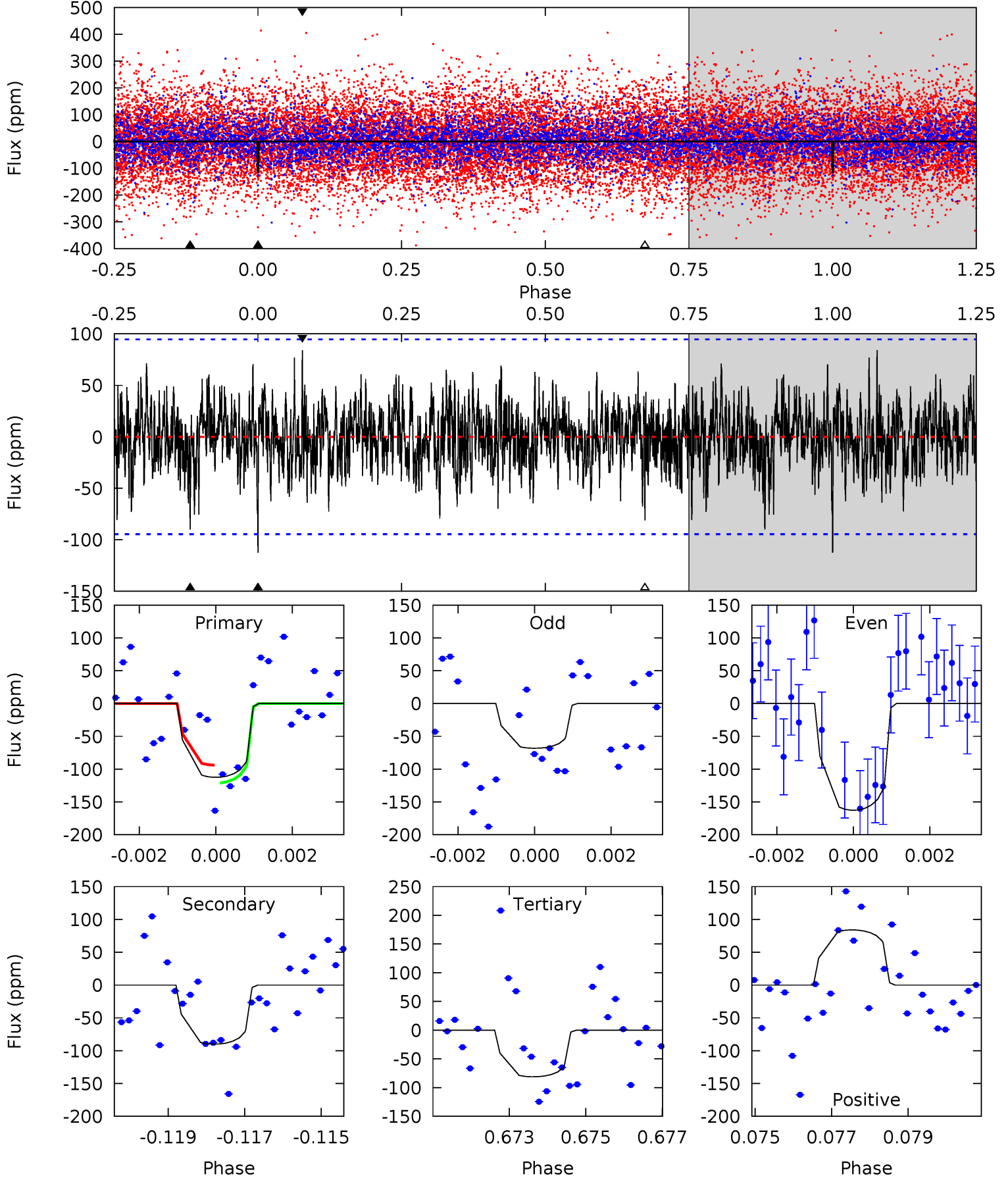
TCE 007842328-02 P=119.598642 Days $T_0=214.755345$ (BKJD)



DV Model-Shift Uniqueness Test

007842328-02, P = 119.598428 Days, E = 95.162150 Days

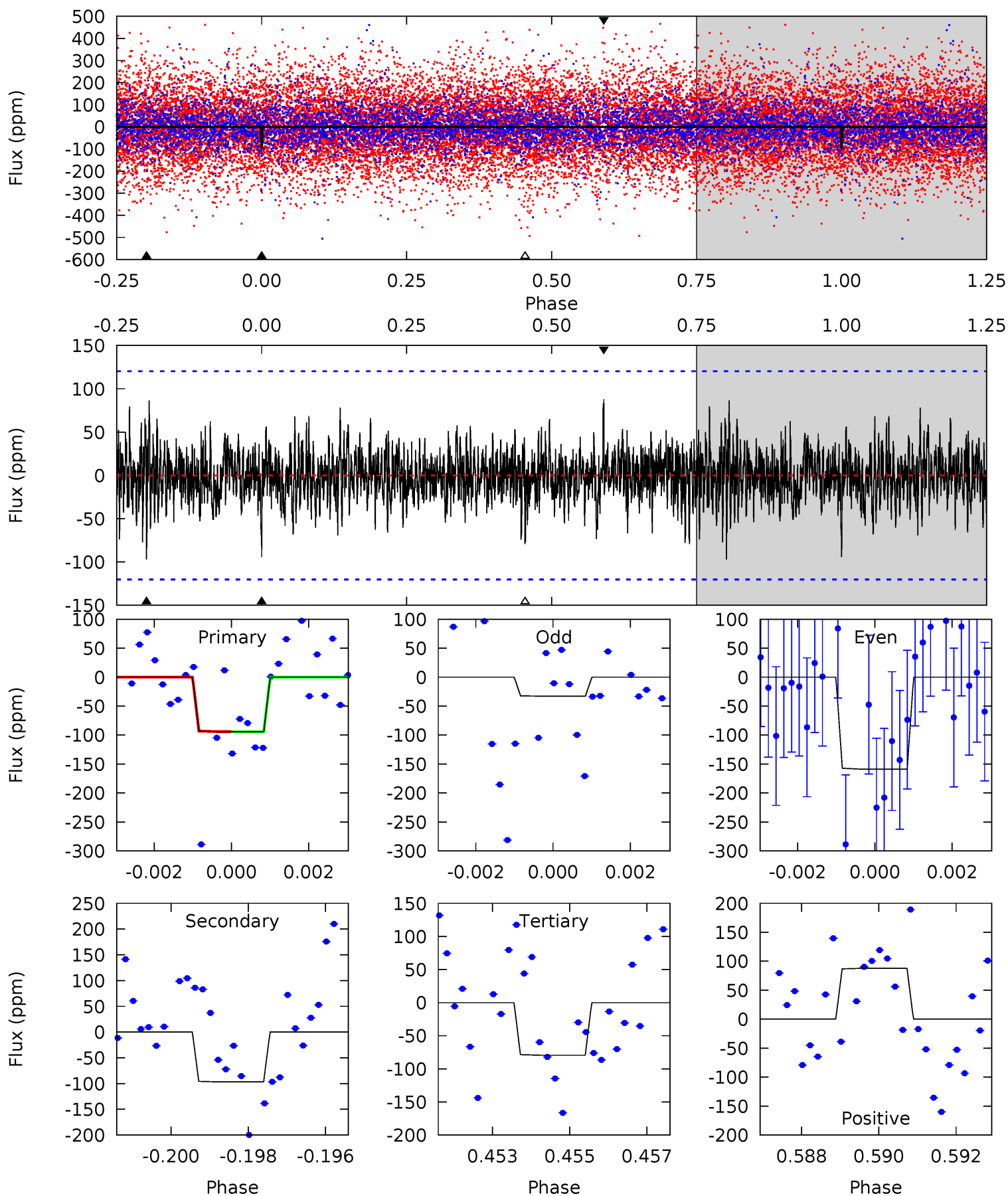
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.34 | 5.07 | 4.57 | 4.73 | 5.32 | 3.09 | 1.37 | 1.76 | 1.61 | 0.50 | 0.34 | 2.66 | 1.04 | 0.43 | 0.66 |



Alt Model-Shift Uniqueness Test

007842328-02, P = 119.598642 Days, E = 95.156703 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 4.17 | 4.29 | 3.52 | 3.89 | 5.32 | 3.09 | 1.01 | 0.66 | 0.28 | 0.77 | 0.40 | 2.84 | 1.60 | 0.48 | 0.00 |



Stellar Parameters For KIC 007842328

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|--|
| | 7843^{+218}_{-327} | $3.829^{+0.301}_{-0.108}$ | $0.070^{+0.150}_{-0.350}$ | $2.909^{+0.588}_{-1.091}$ | $2.081^{+0.284}_{-0.486}$ | $0.119^{+0.258}_{-0.040}$ |
| | +3%/-4% | +8%/-3% | +214%/-500% | +20%/-38% | +14%/-23% | +216%/-34% |
| Source | KIC0 | KIC0 | KIC0 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 007842328-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|--------------|------------------------|----------------------|------------------------|------------------------|
| DV | -90 ± 18 | $3.53^{+2.29}_{-1.98}$ | 1037^{+72}_{-97} | 6764^{+4474}_{-1420} | 1400^{+5115}_{-875} |
| Alt. | -97 ± 23 | $3.19^{+2.07}_{-1.89}$ | 1027^{+69}_{-89} | 7307^{+6620}_{-1690} | 1855^{+9864}_{-1219} |

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

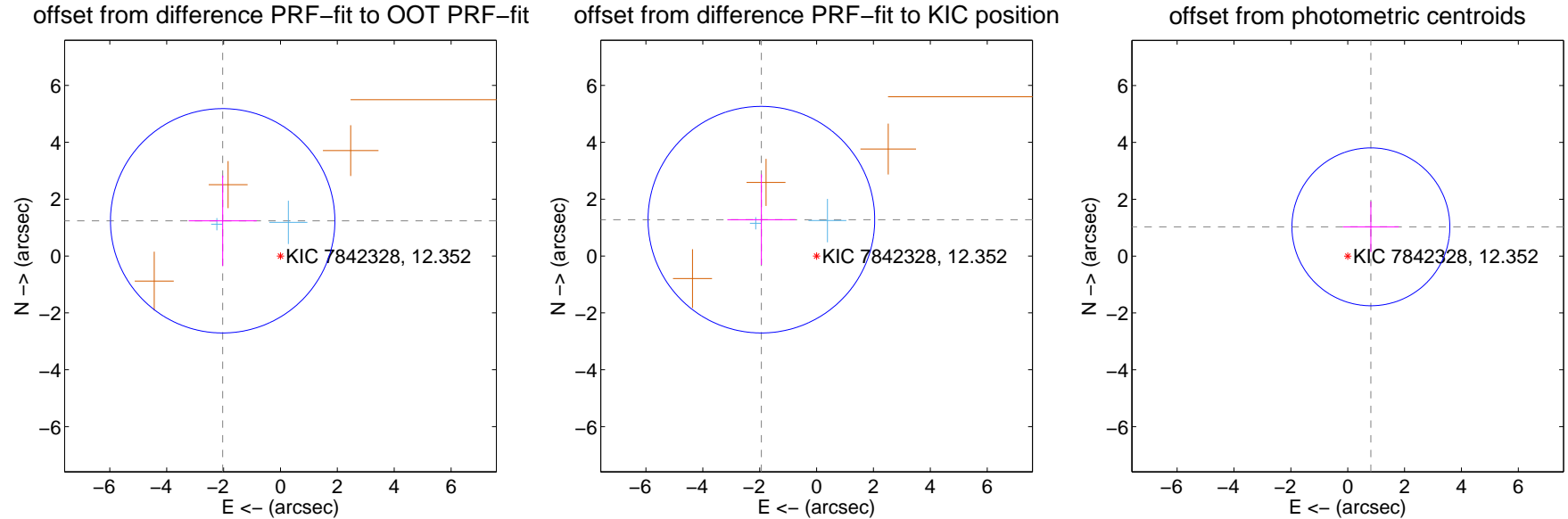
DV Centroid Data

Supplemental centroid analysis for 007842328-02. Kepler magnitude: 12.35. Transit SNR 7.49

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 2.380 ± 1.315 | 1.81 | 2.032 ± 1.197 | 1.239 ± 1.590 |
| PRF-fit source offset from KIC position | 2.324 ± 1.328 | 1.75 | 1.941 ± 1.197 | 1.279 ± 1.590 |
| photometric centroid source offset | 1.31 ± 0.93 | 1.42 | -0.81 ± 0.98 | 1.03 ± 0.89 |



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

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

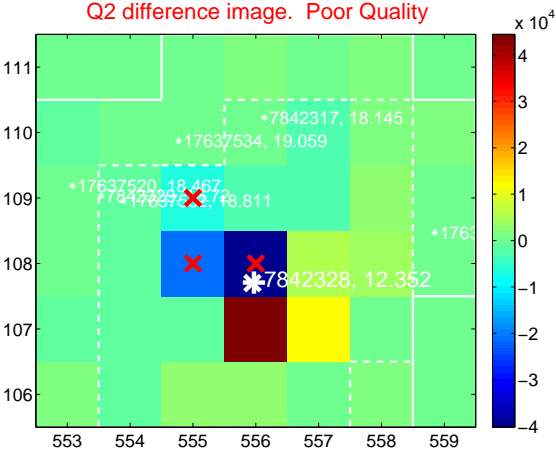
Q1 no difference image



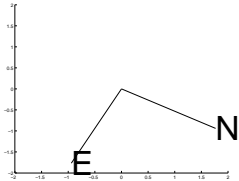
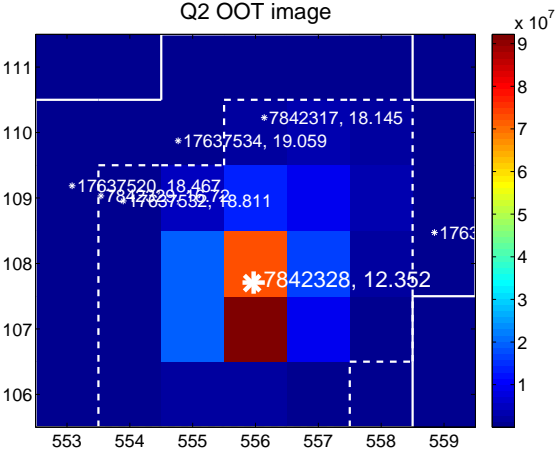
Q1 no OOT image



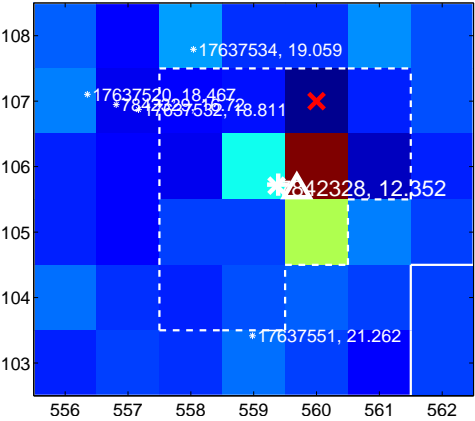
Q2 difference image. Poor Quality



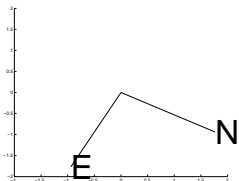
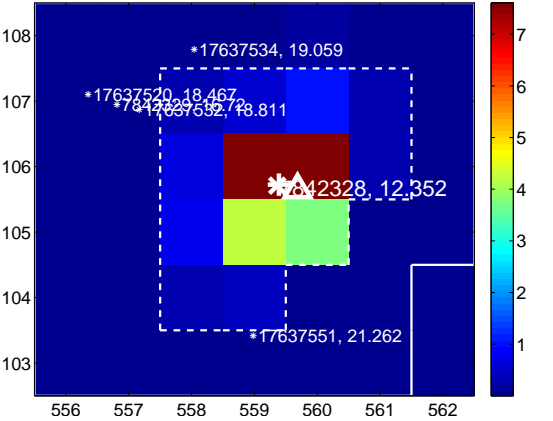
Q2 OOT image



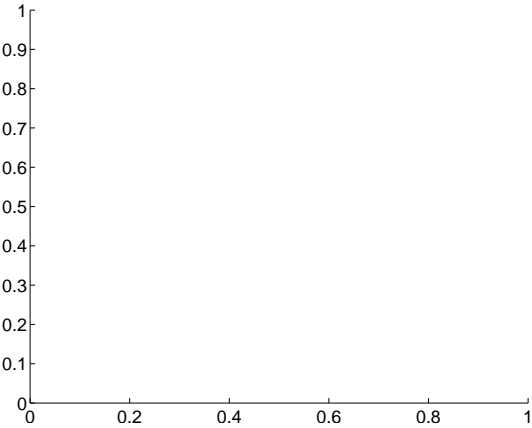
Q3 difference image



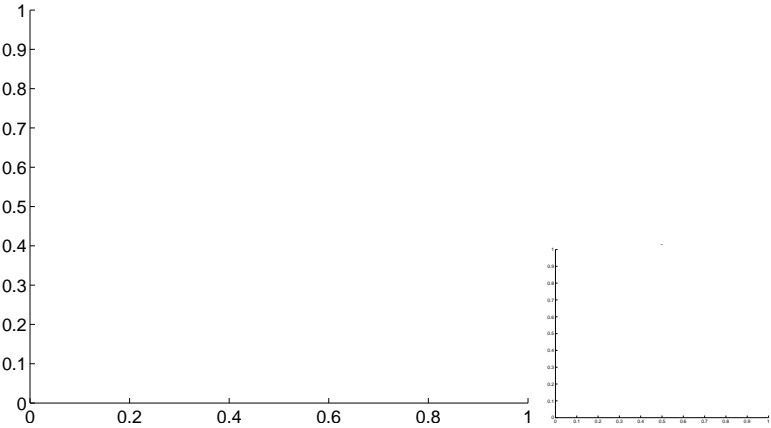
Q3 OOT image



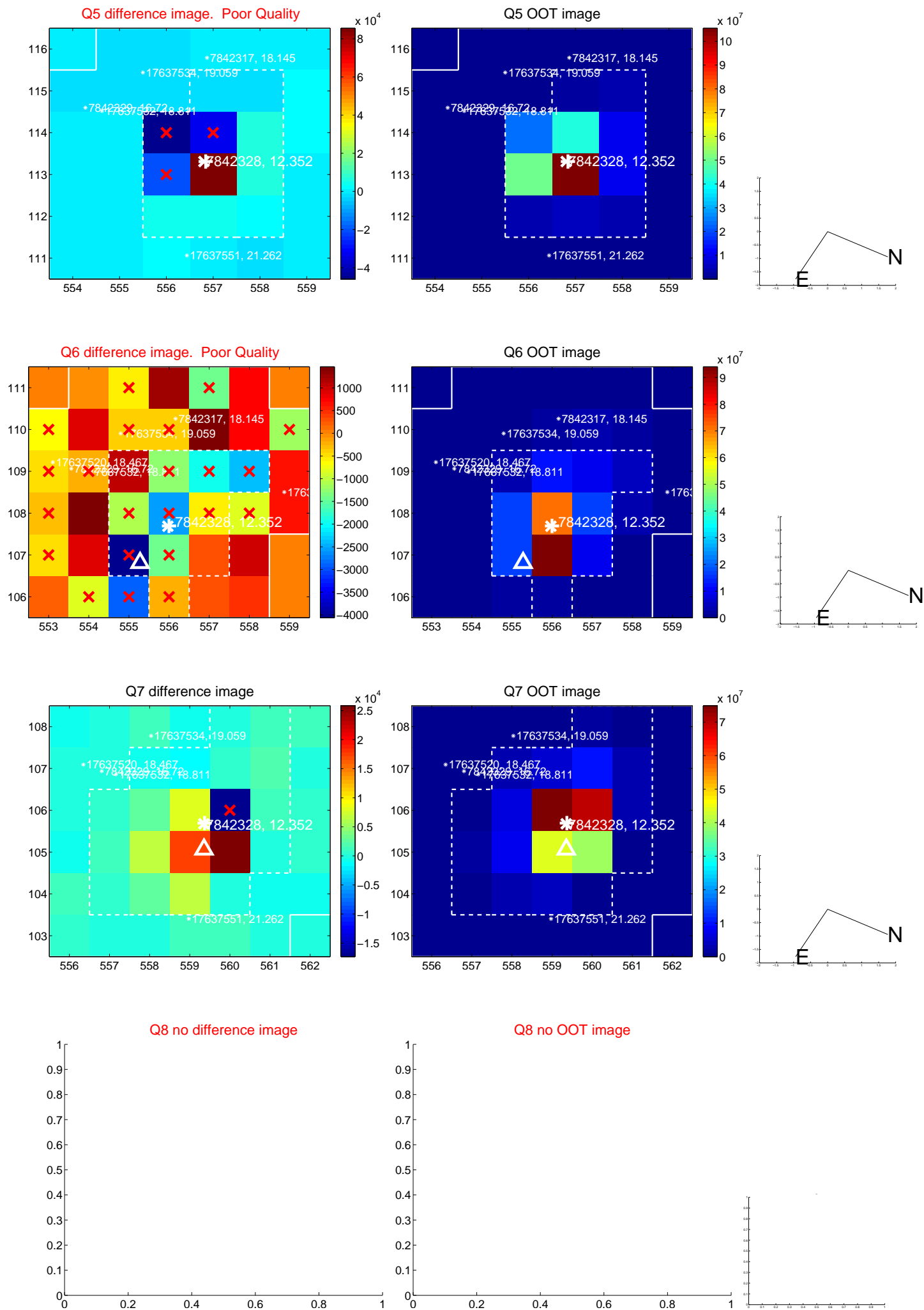
Q4 no difference image



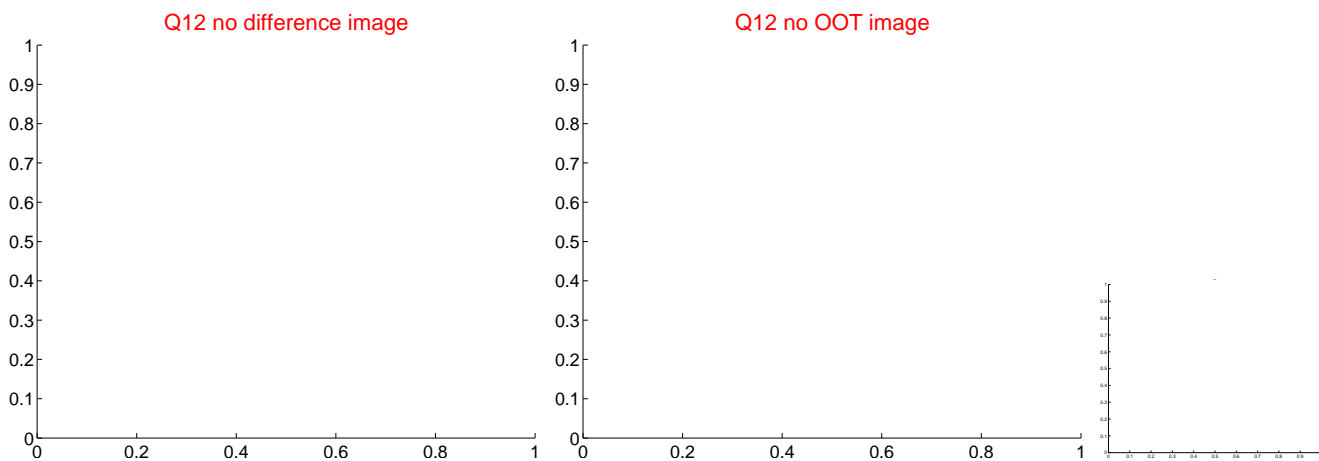
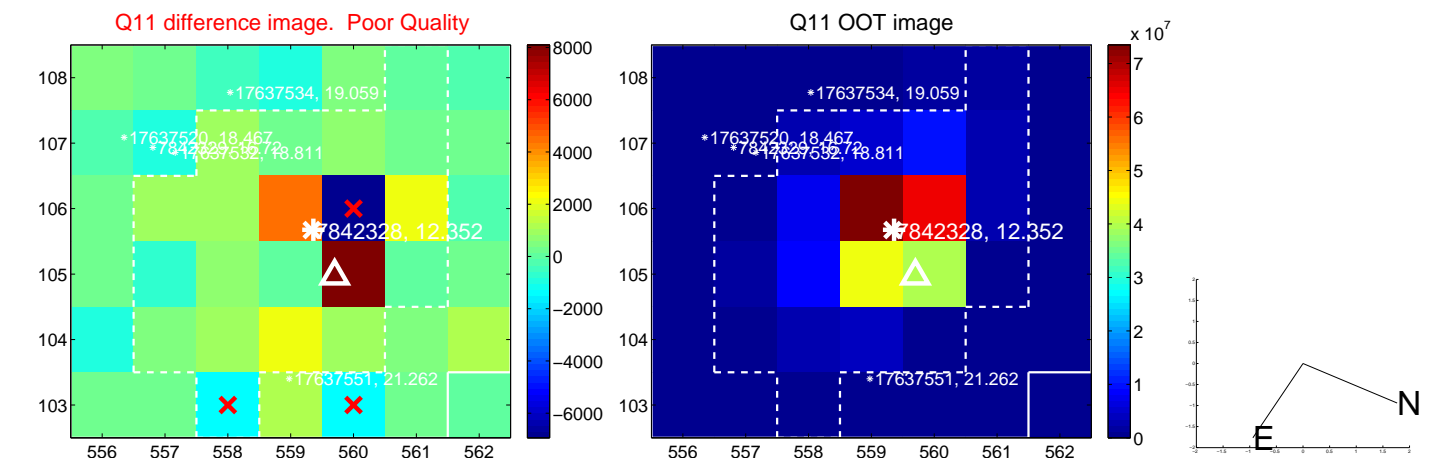
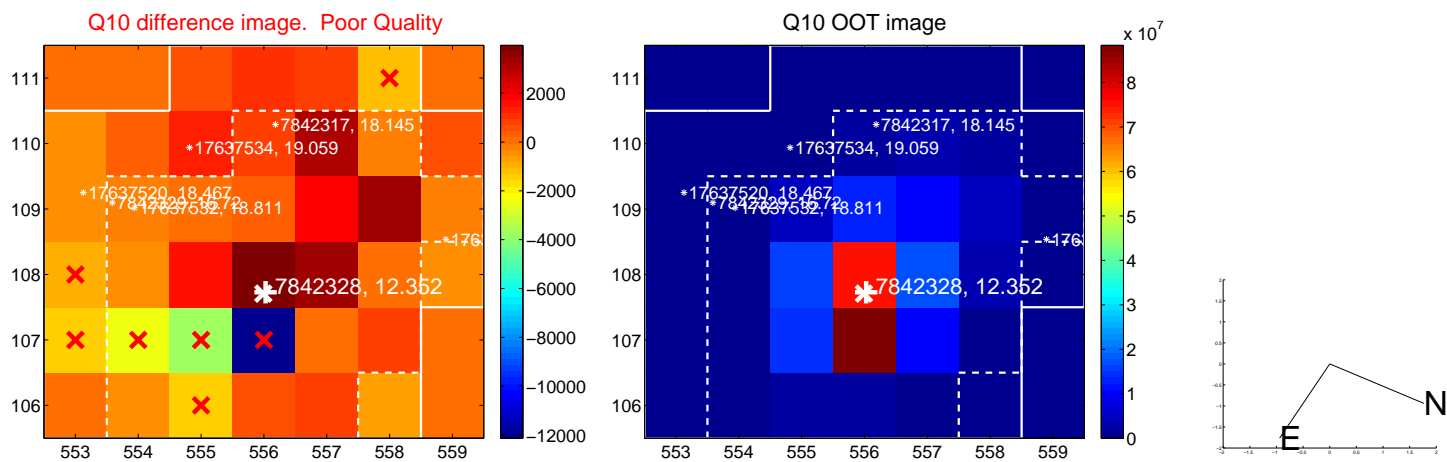
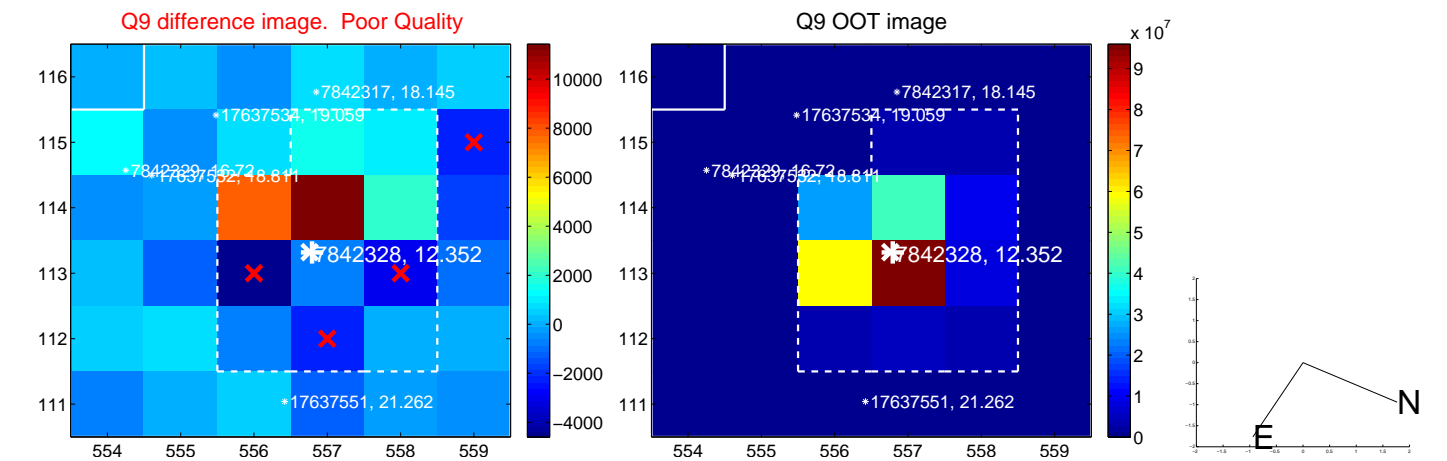
Q4 no OOT image



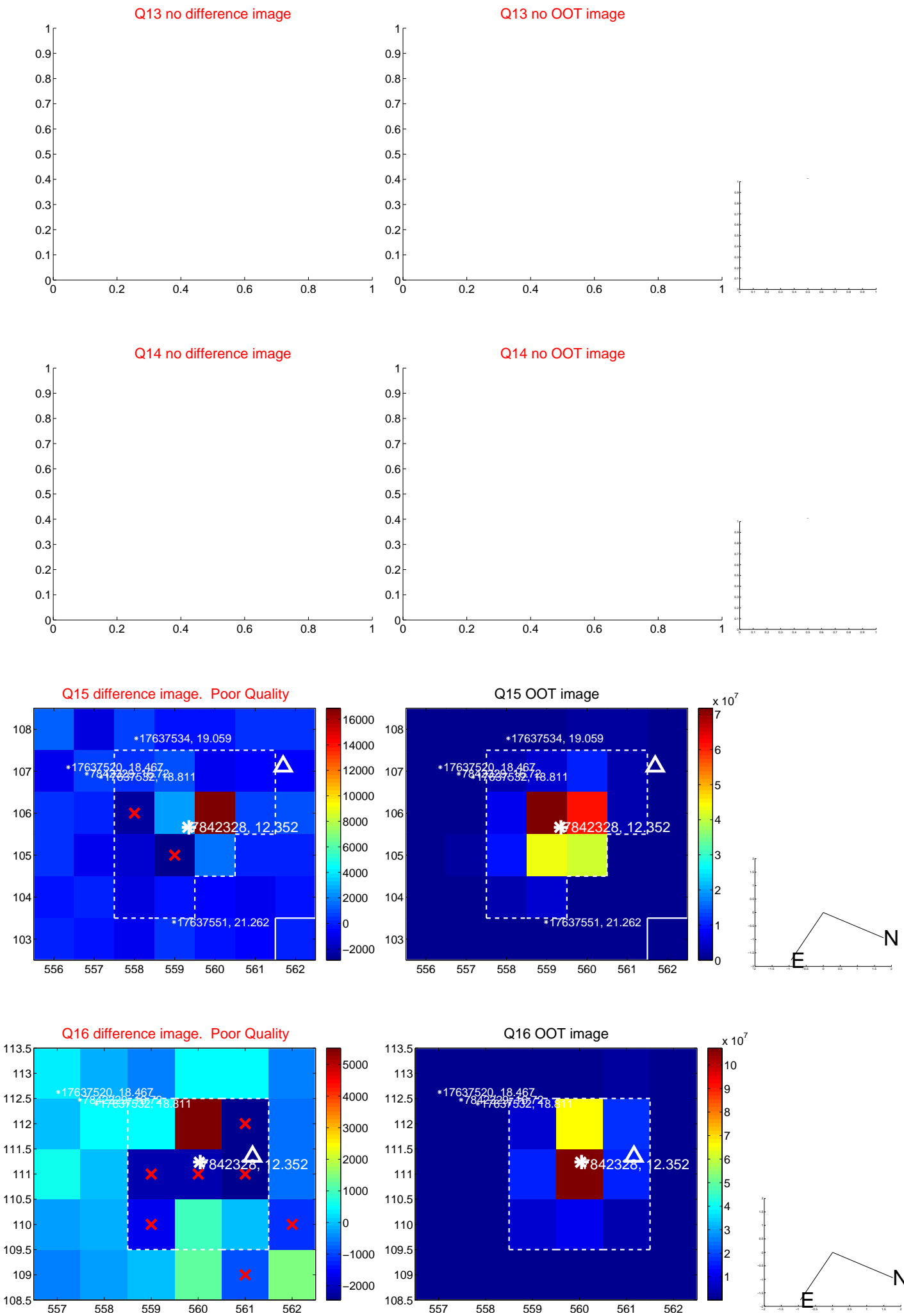
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



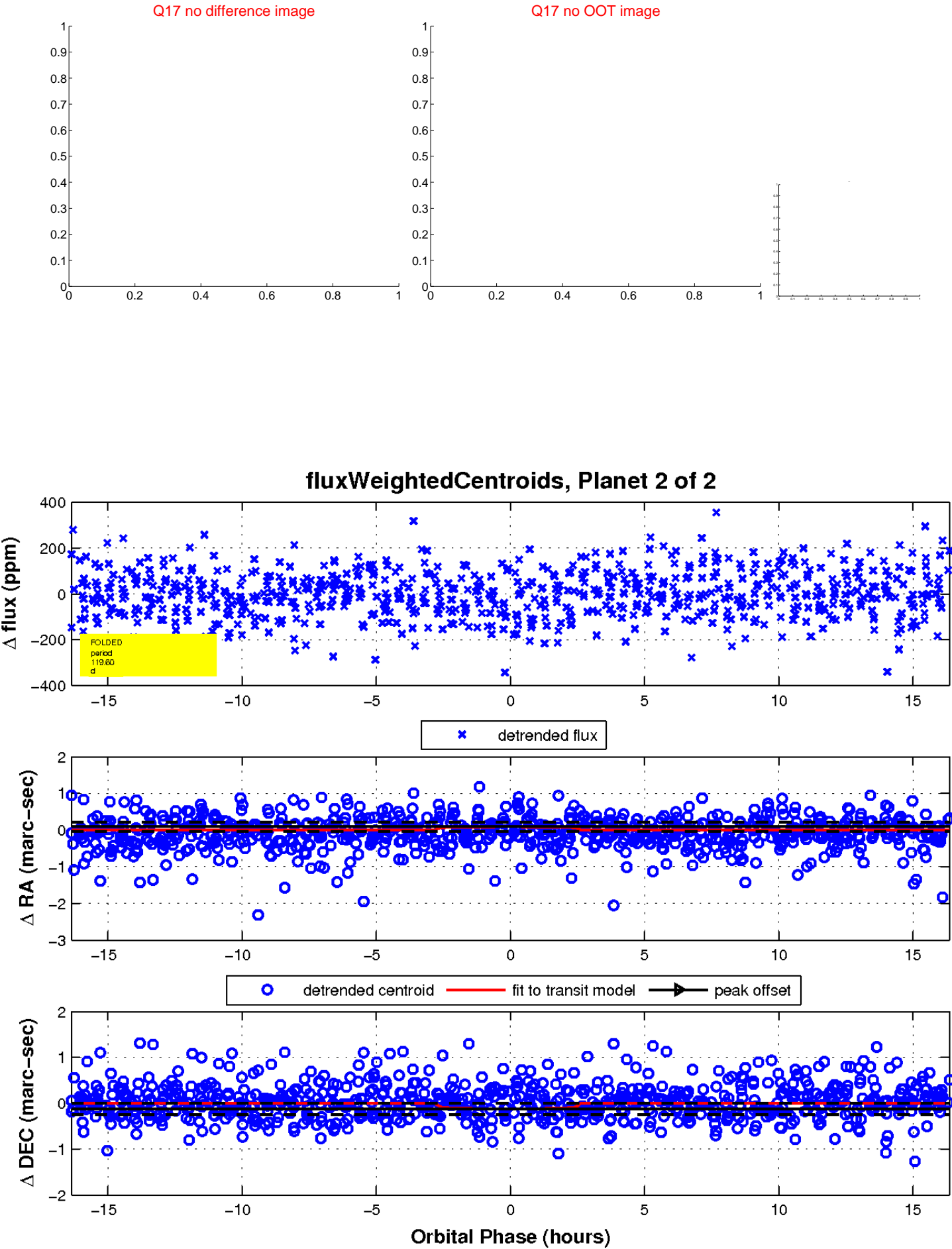
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \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

