

KIC 005817023

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 005817023-01 | OBS | No | 0.933071 | 132.143041 | 22.1 | 4.890 | 8.3 | 7.5 | 1.18 | 6516 | 0.56 | 5722.54 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|----------------|
| 005817023-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT |

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

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

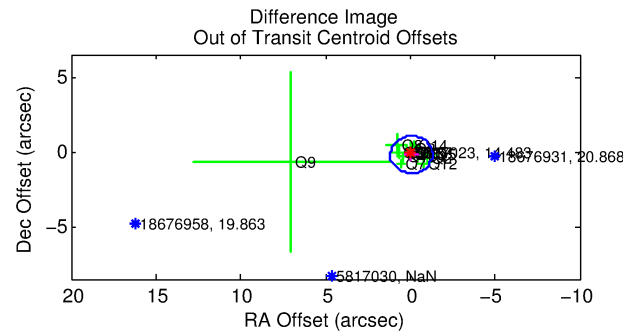
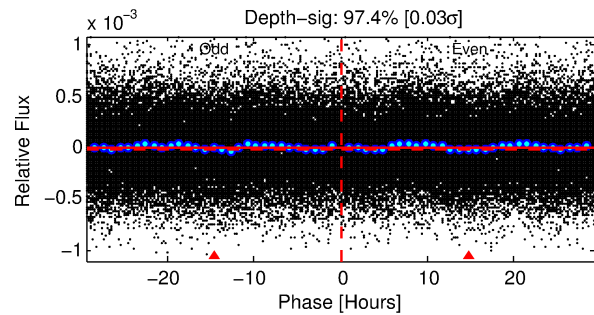
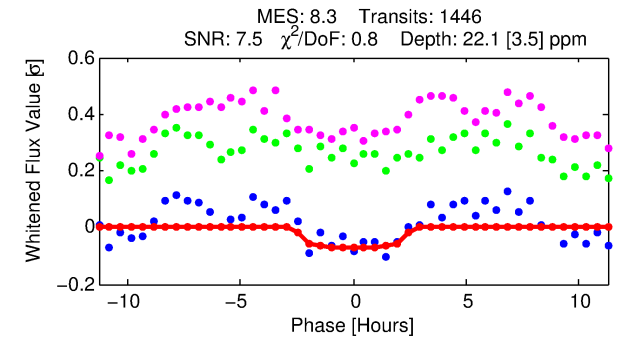
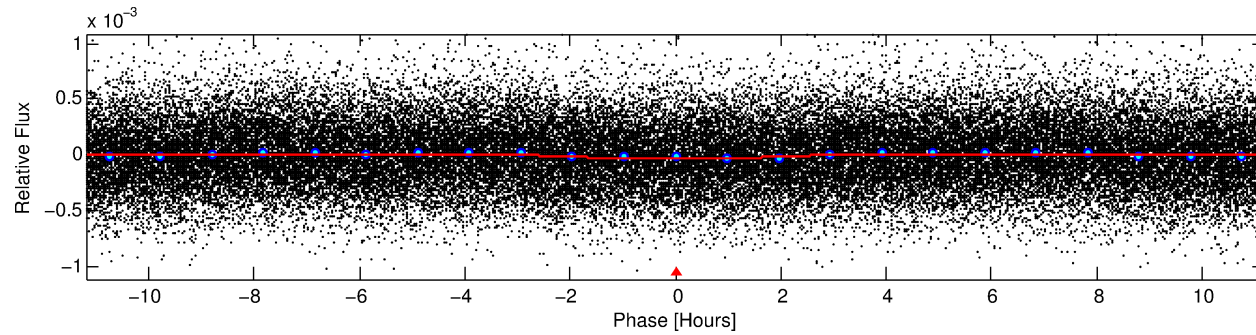
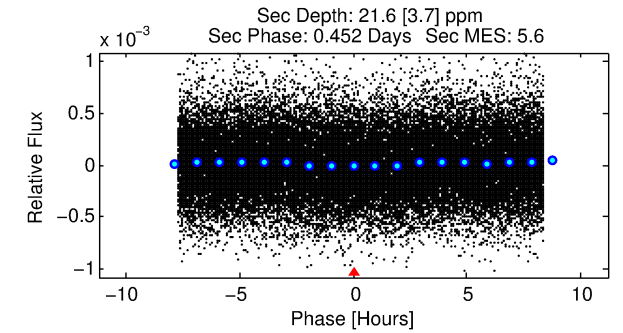
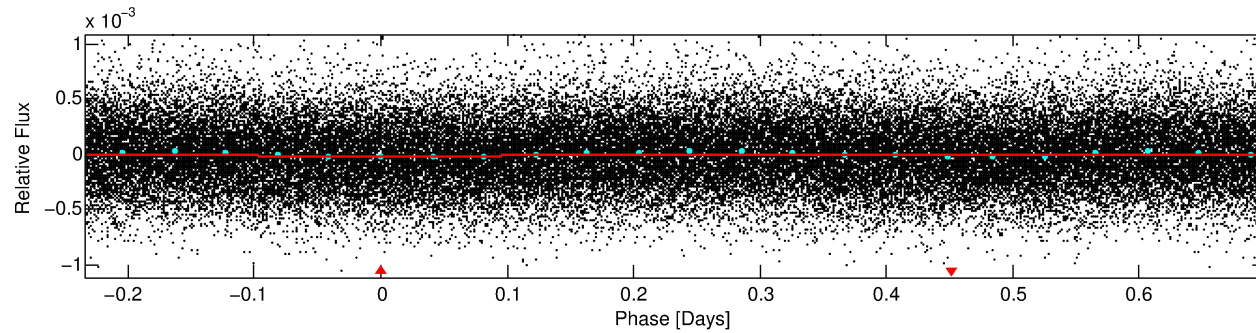
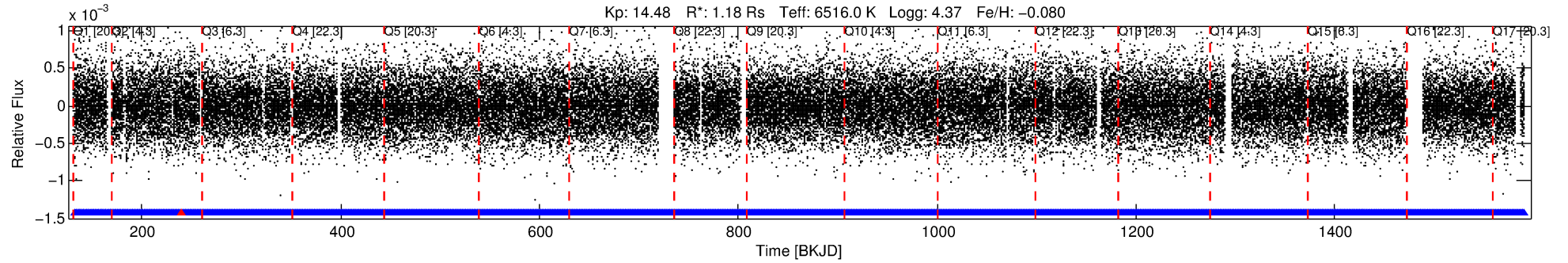
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005817023-01

No Significant Match Found

DV One-Page Summary

KIC: 5817023 Candidate: 1 of 1 Period: 0.933 d



DV Fit Results:

Period = 0.93307 [0.00002] d
Epoch = 132.1430 [0.0072] BKJD
Rp/R* = 0.0044 [0.0053]
a/R* = 1.55 [5.78]
b = 0.29 [20.83]
Seff = 5722.54 [2217.32]
Teff = 2218 [215] K
Rp = 0.56 [0.70] Re
a = 0.0199 [0.0050] AU
Ag = 14.77 [36.23] [0.38σ]
Teffp = 6722 [4085] K [1.10σ]

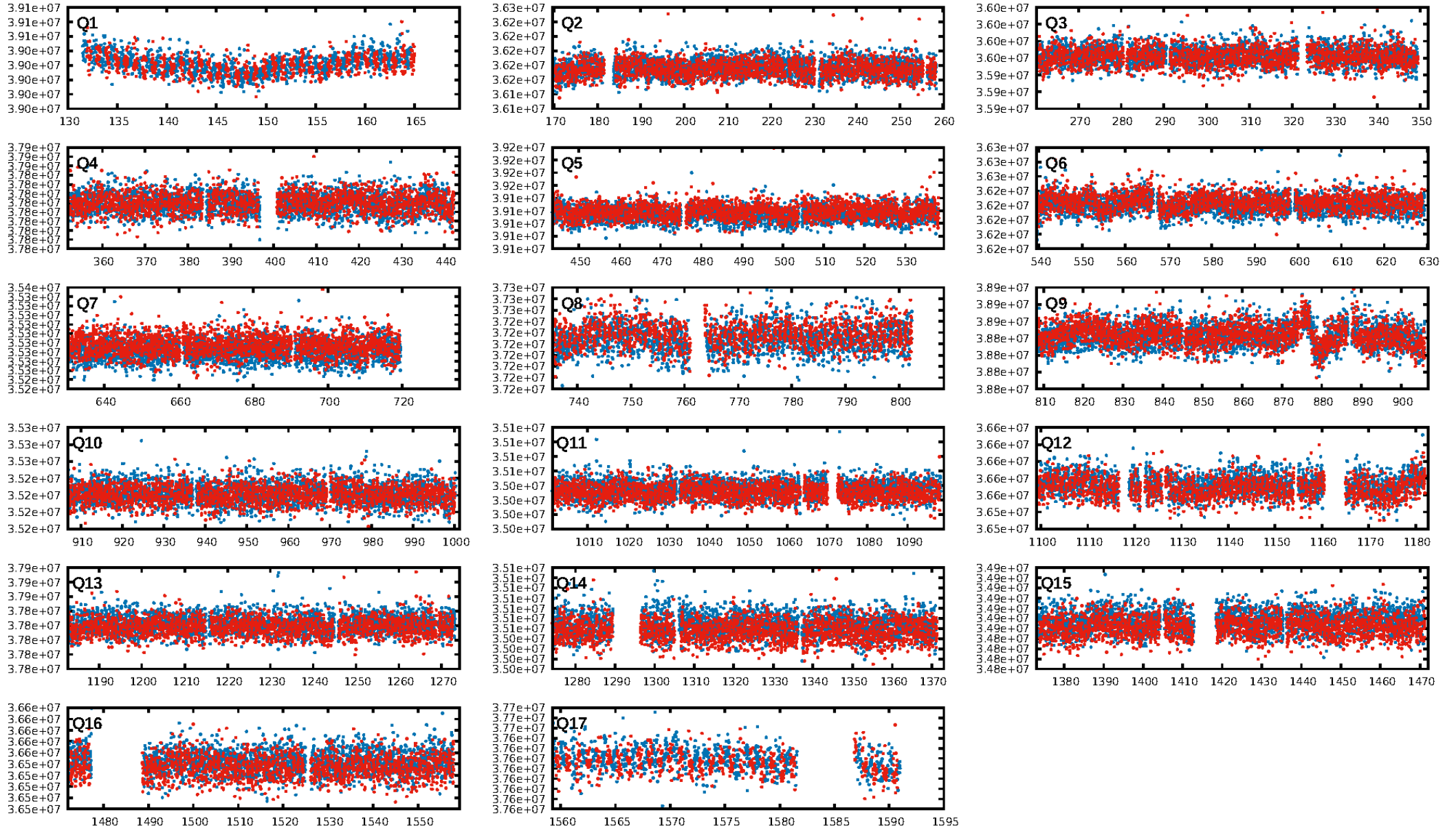
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.10e-13
RollingBand-fgt: 1.00 [1380/1381]
GhostDiagnostic-chr: -7.725
Centroid-sig: 0.4%
Centroid-so: 3.461 arcsec [2.06σ]
OotOffset-rm: 0.207 arcsec [0.50σ]
KicOffset-rm: 0.275 arcsec [0.67σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 1.00 [17/17]

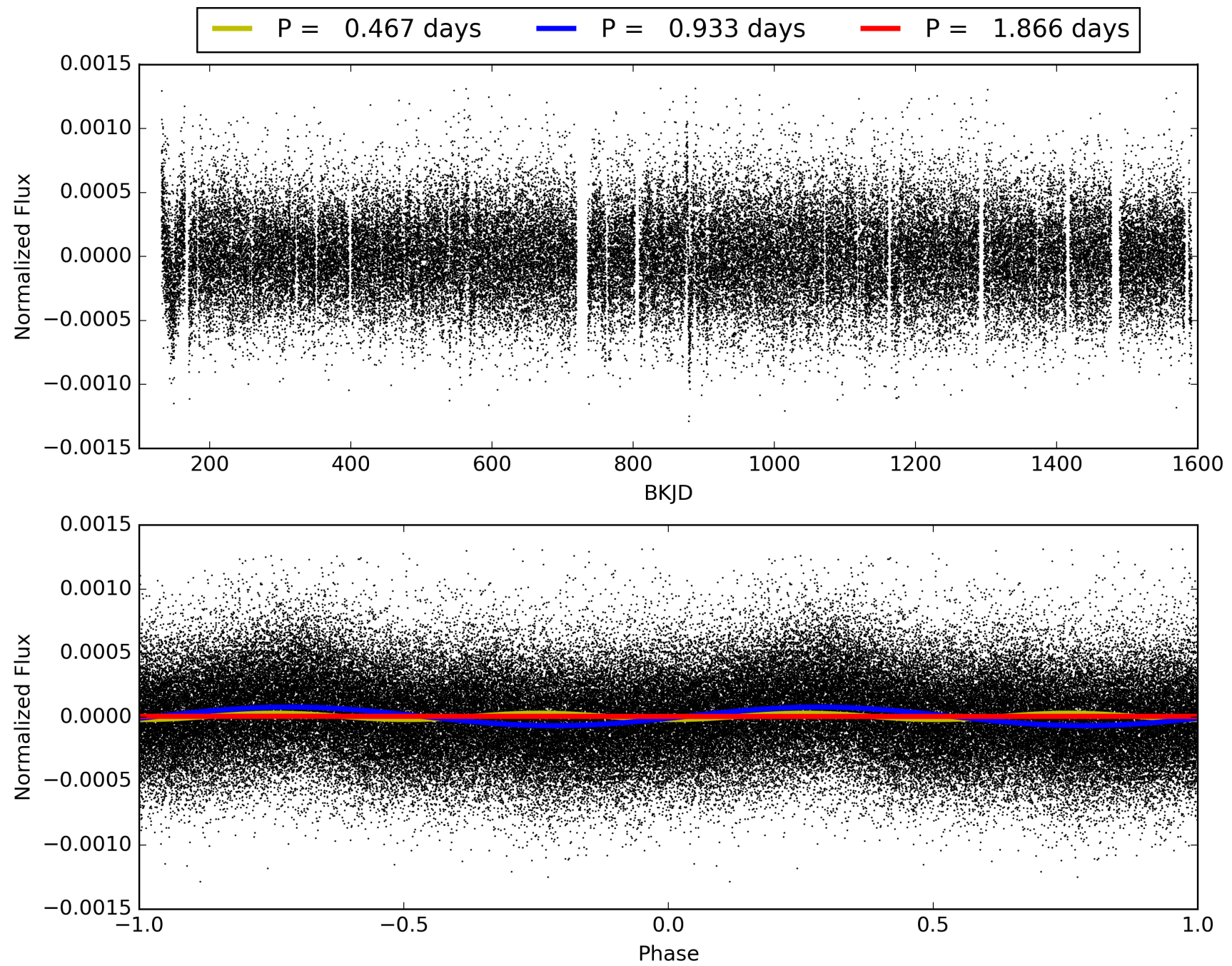
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:39:14 Z

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

TCE 005817023-01, PDC Light Curves

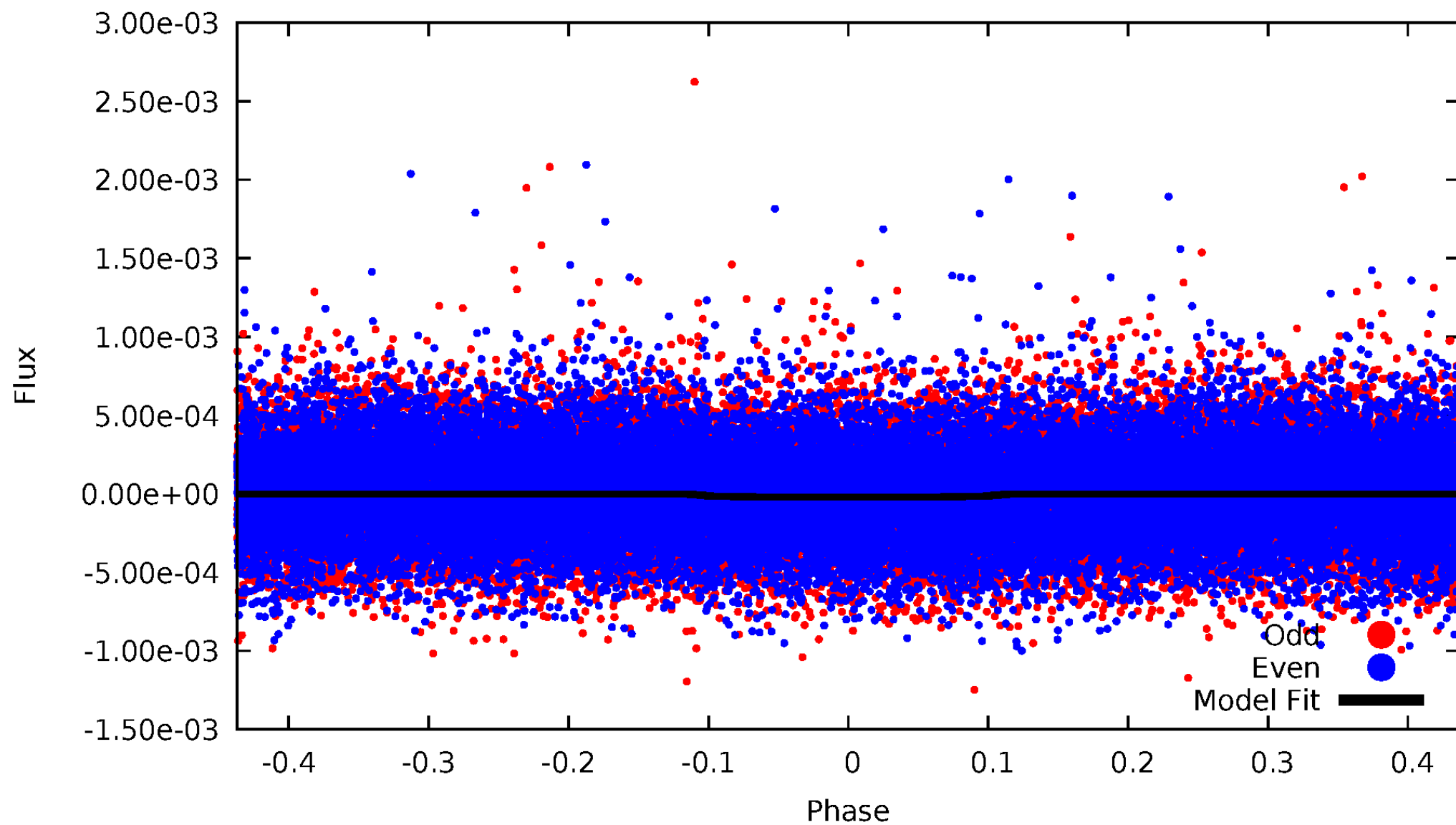


TCE 005817023-01



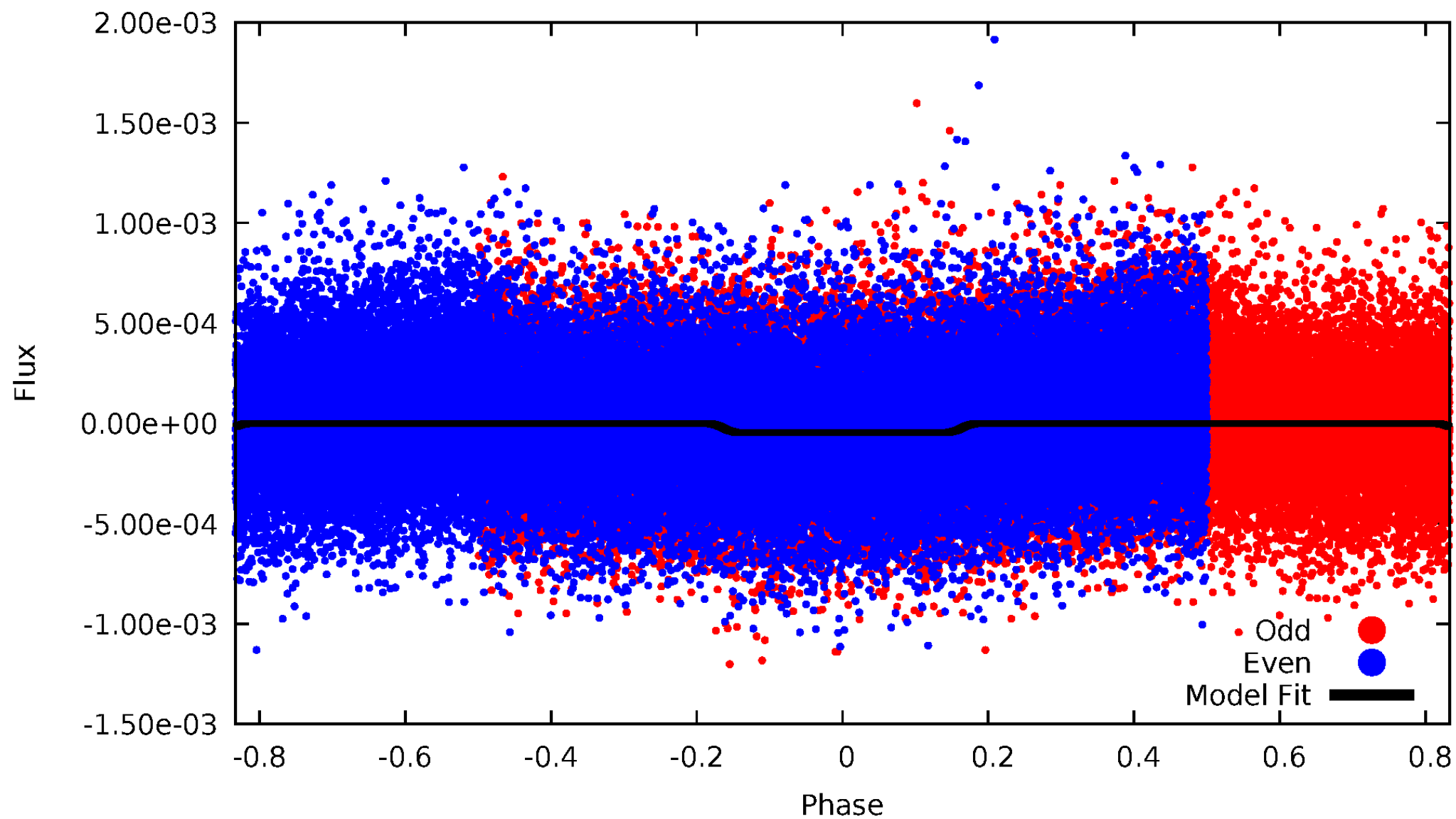
DV Odd/Even

TCE 005817023-01



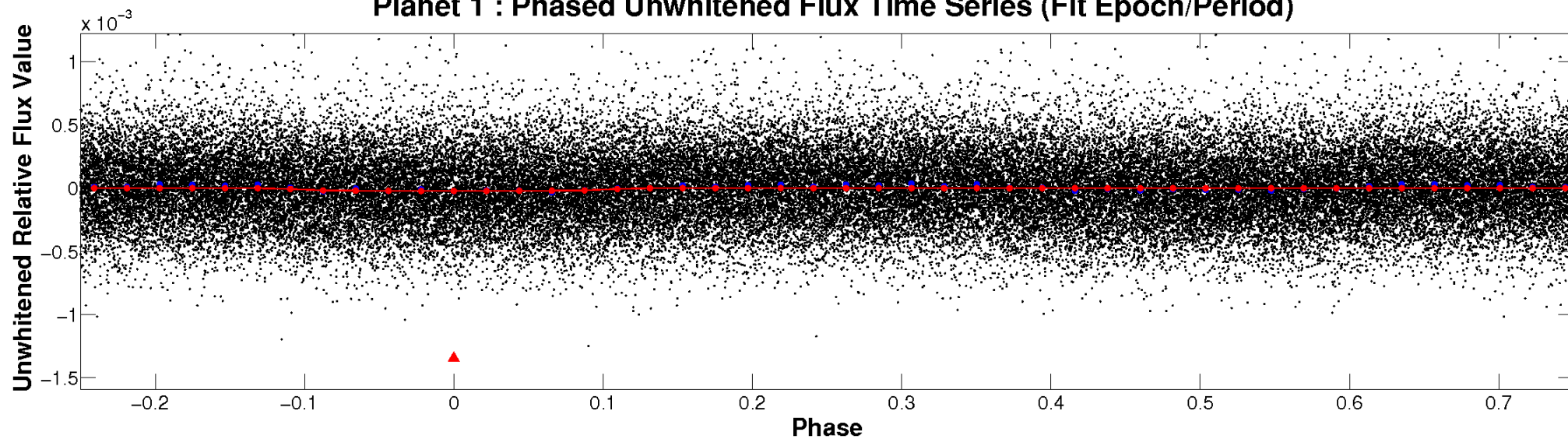
ALT Odd/Even

TCE 005817023-01

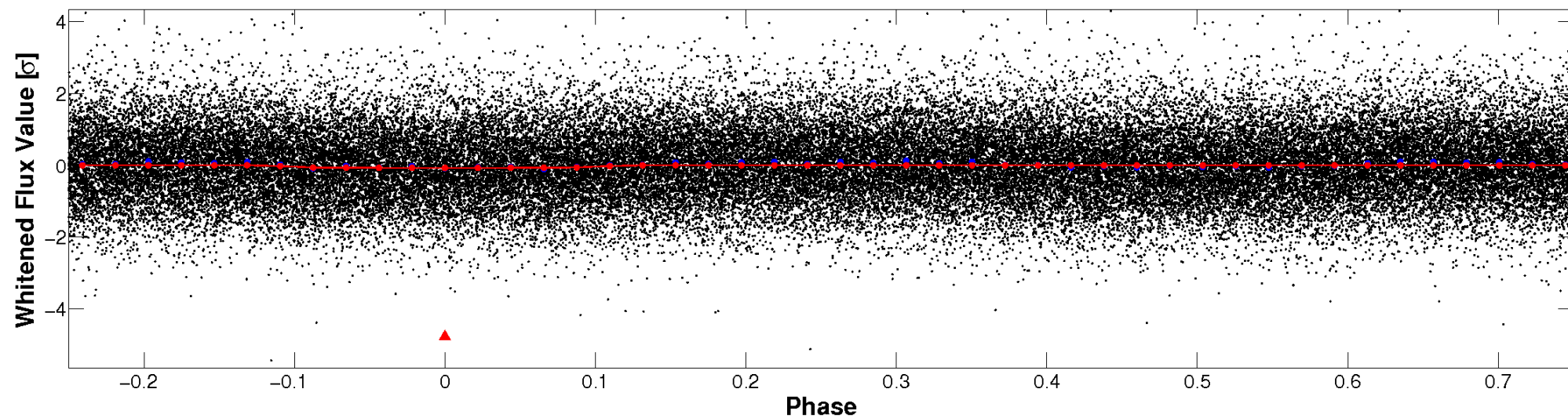


Non-Whitened Vs. Whitened Light Curve

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

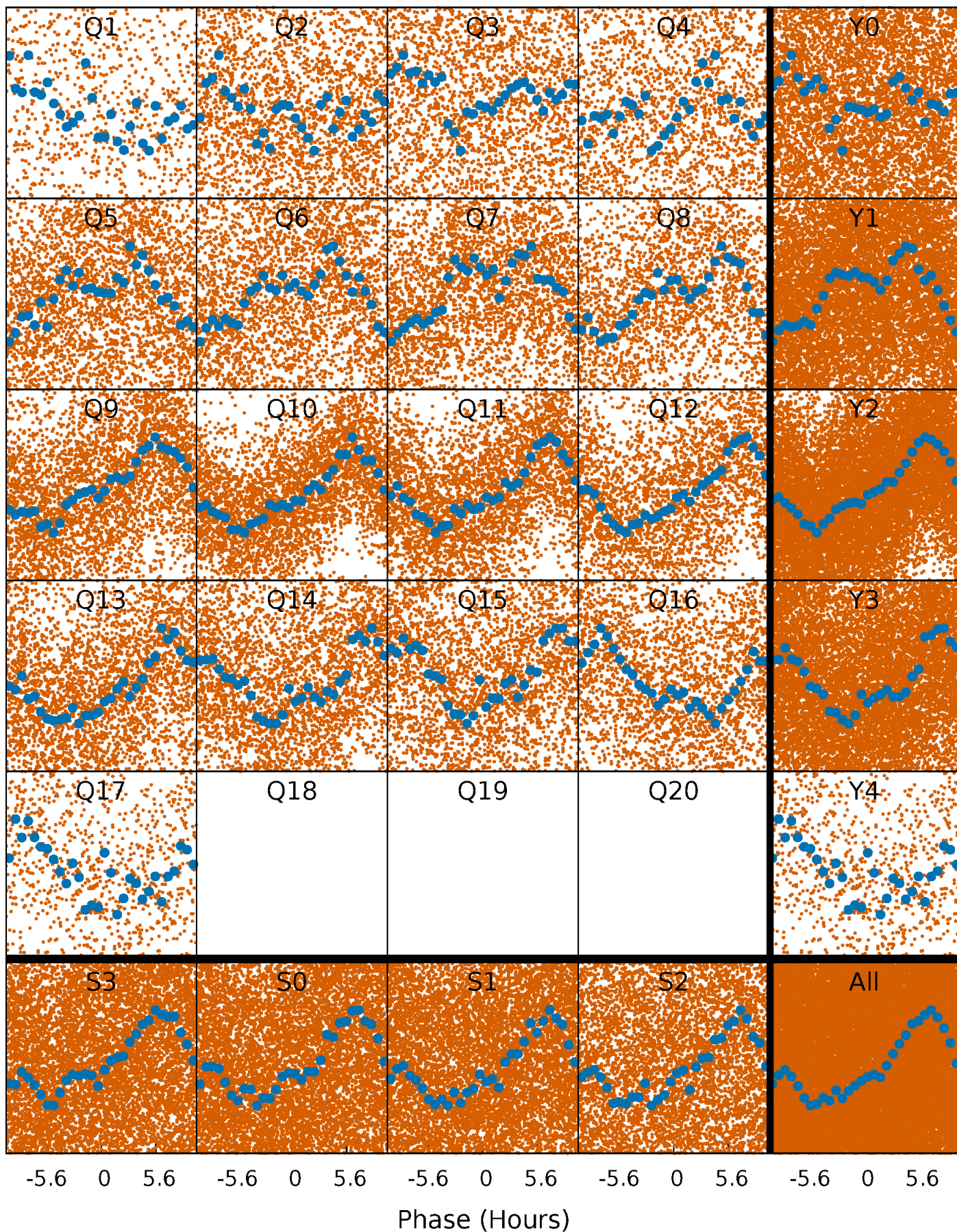


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



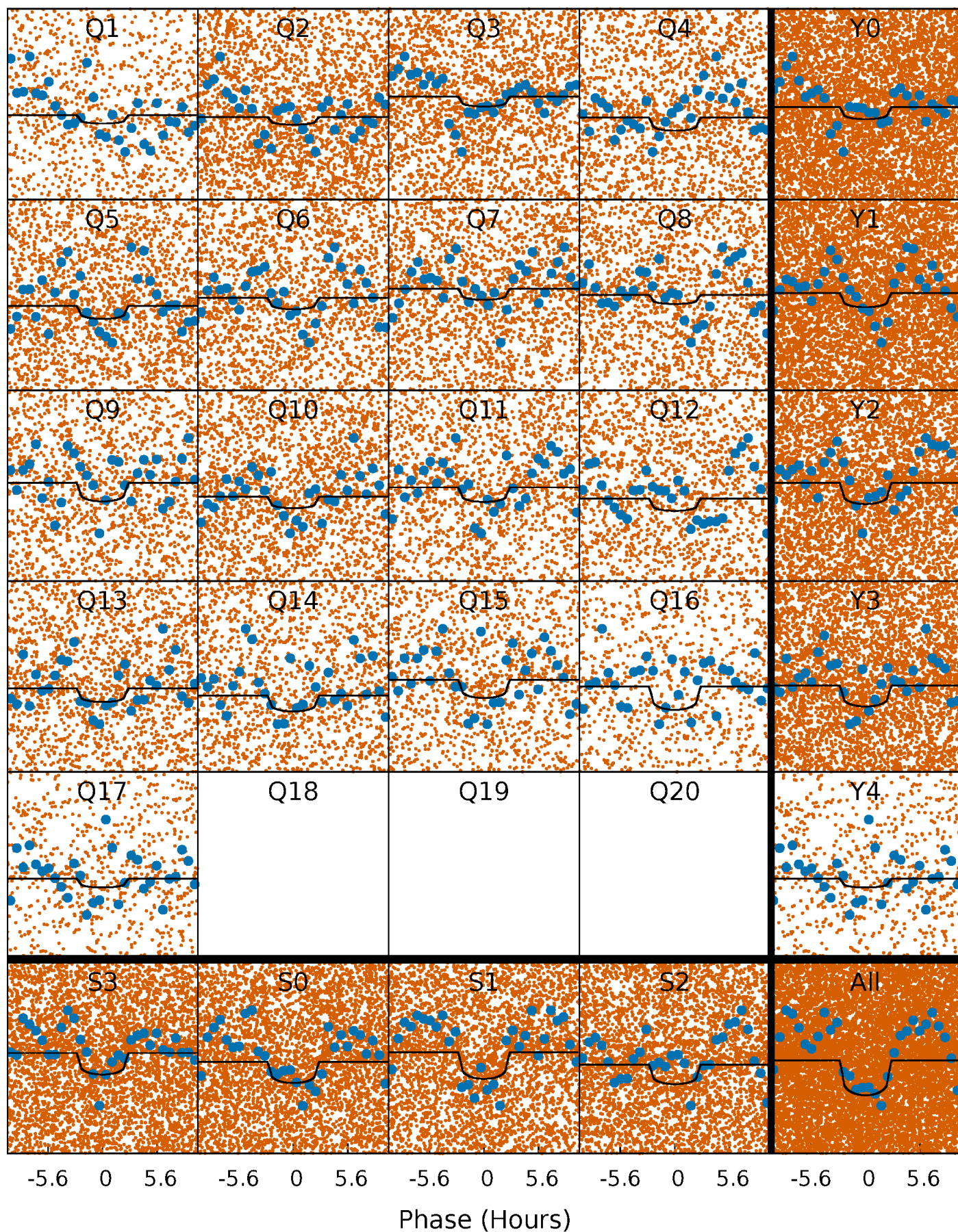
PDC Quarter-Phased Transit Curves

TCE 005817023-01 P= 0.933071 Days $T_0=132.143041$ (BKJD)



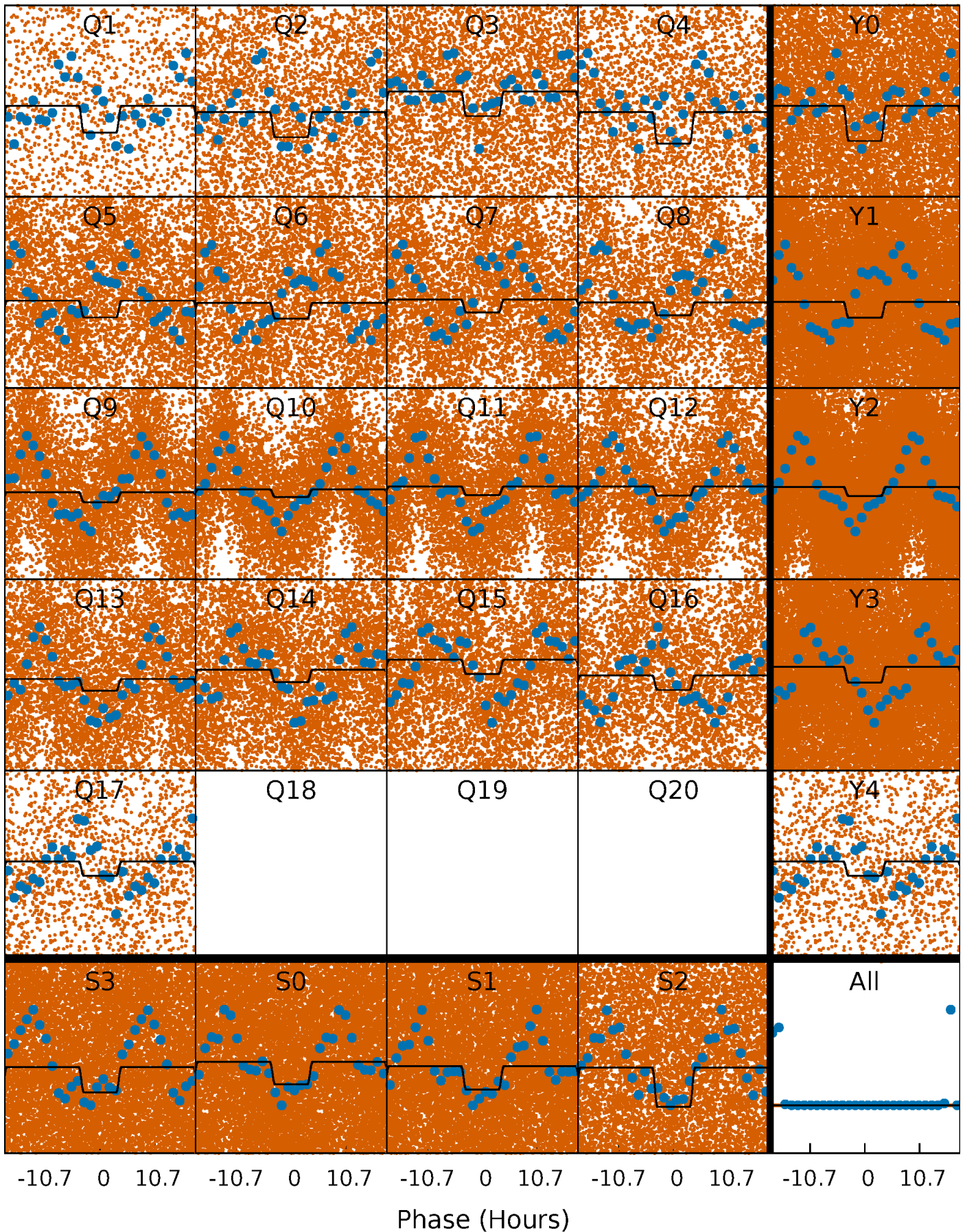
DV Quarter-Phased Transit Curves

TCE 005817023-01 P= 0.933071 Days $T_0=132.143041$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

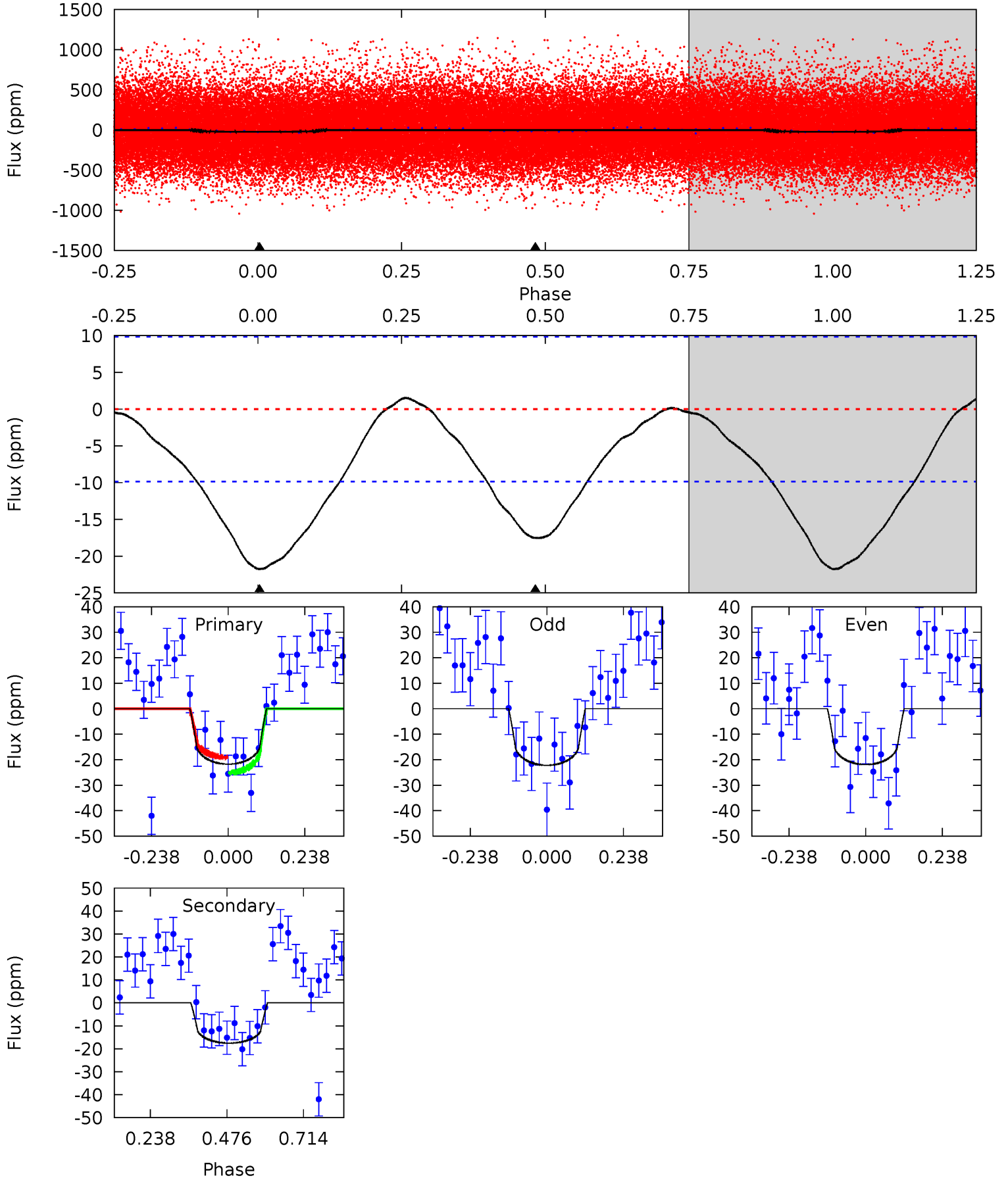
TCE 005817023-01 P= 0.932997 Days $T_0=132.081250$ (BKJD)



DV Model-Shift Uniqueness Test

005817023-01, P = 0.933071 Days, E = 131.209970 Days

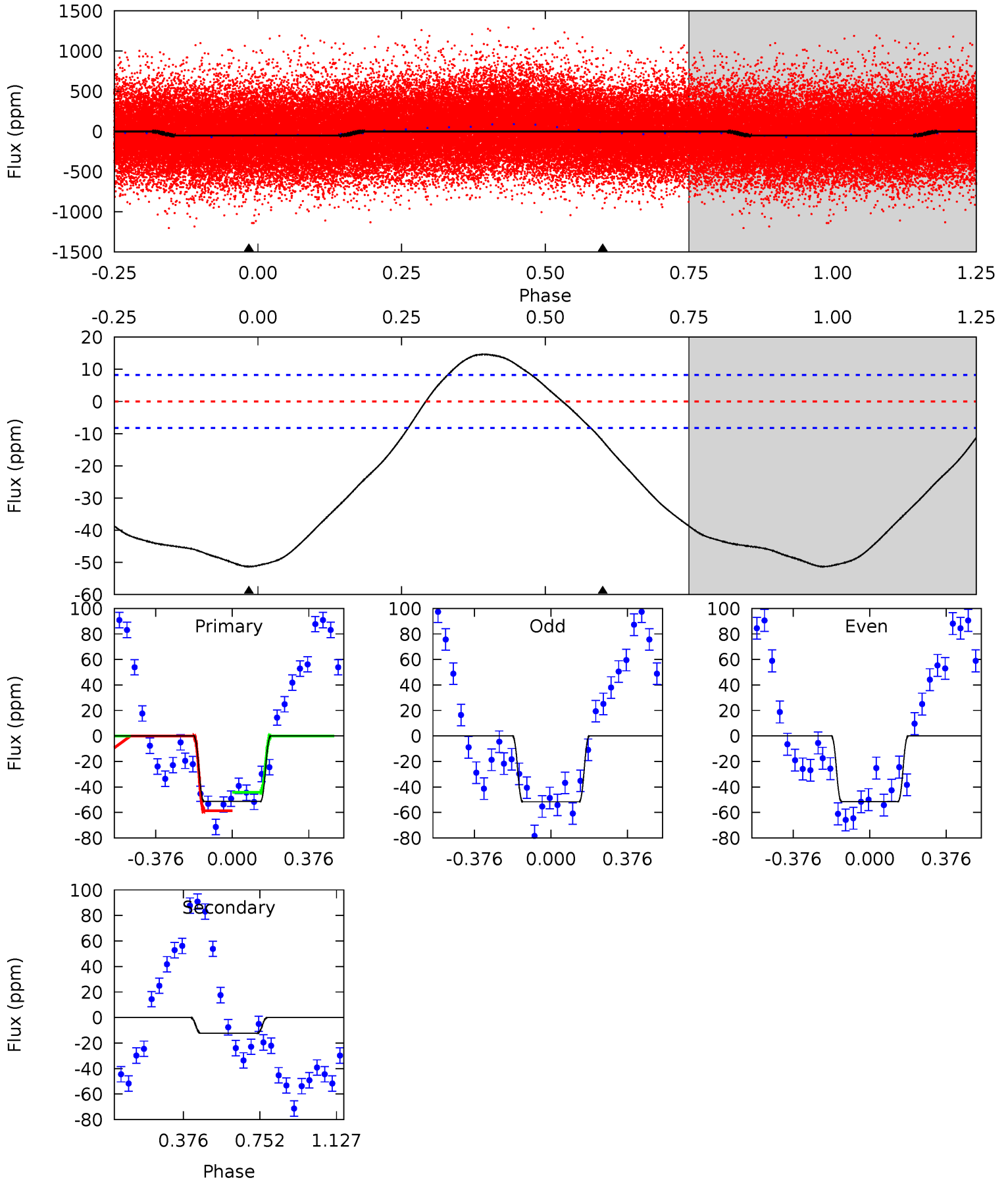
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.66 | 7.79 | 0 | 0 | 4.38 | 1.18 | 0.31 | 9.66 | 9.66 | 7.79 | 7.79 | 0.07 | 0.79 | 0.07 | 1.33 |



Alt Model-Shift Uniqueness Test

005817023-01, P = 0.932997 Days, E = 131.148253 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 26.7 | 6.37 | 0 | 0 | 4.28 | 0.89 | 3.67 | 26.7 | 26.7 | 6.37 | 6.37 | 0.06 | 1.01 | 0.22 | 3.88 |



Stellar Parameters For KIC 005817023

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6516^{+154}_{-232} | $4.372^{+0.065}_{-0.195}$ | $-0.080^{+0.250}_{-0.350}$ | $1.183^{+0.356}_{-0.153}$ | $1.205^{+0.164}_{-0.164}$ | $1.024^{+0.353}_{-0.541}$ |
| | +2%/-4% | +1%/-4% | +312%/-438% | +30%/-13% | +14%/-14% | +34%/-53% |
| 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 005817023-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|----------------------------|
| DV | -18 ± 2 | $0.77^{+0.60}_{-0.49}$ | 3150^{+214}_{-159} | 5474^{+4895}_{-1216} | $6.284^{+45.435}_{-4.344}$ |
| Alt. | -12 ± 2 | $1.00^{+0.72}_{-0.60}$ | 3155^{+215}_{-160} | 4487^{+2550}_{-906} | $2.613^{+13.988}_{-1.689}$ |

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 $A_{obs} \gg 1.0$

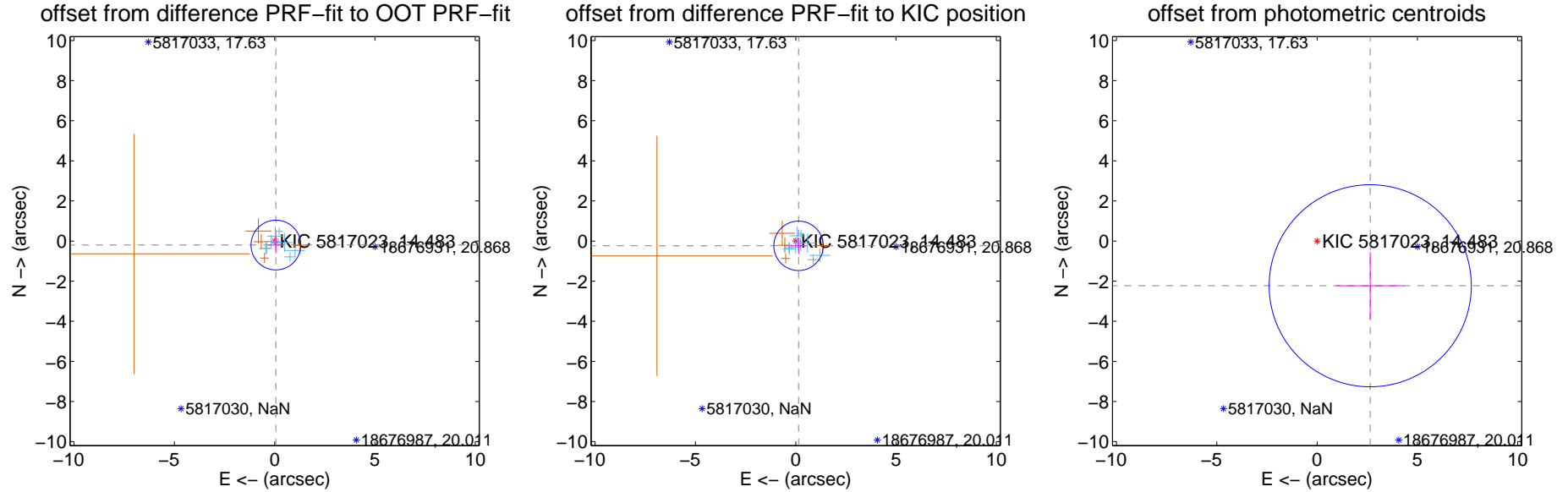
DV Centroid Data

Supplemental centroid analysis for 005817023-01. Kepler magnitude: 14.48. Transit SNR 7.50

There are 10 quarters with good PRF difference image offsets

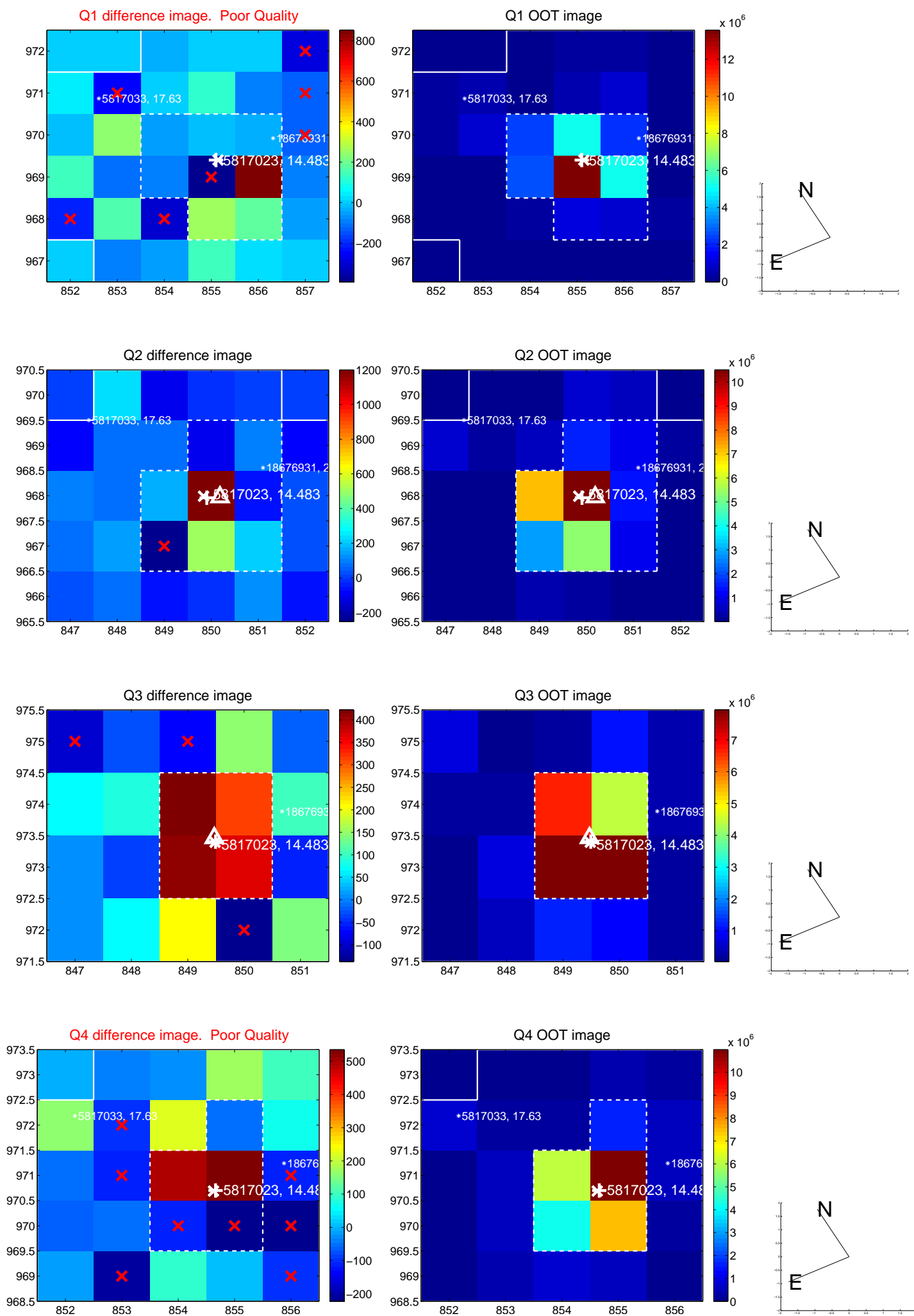
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.207 ± 0.413 | 0.50 | -0.061 ± 0.400 | -0.198 ± 0.414 |
| PRF-fit source offset from KIC position | 0.275 ± 0.411 | 0.67 | -0.141 ± 0.400 | -0.236 ± 0.414 |
| photometric centroid source offset | 3.46 ± 1.68 | 2.06 | -2.65 ± 1.68 | -2.23 ± 1.67 |

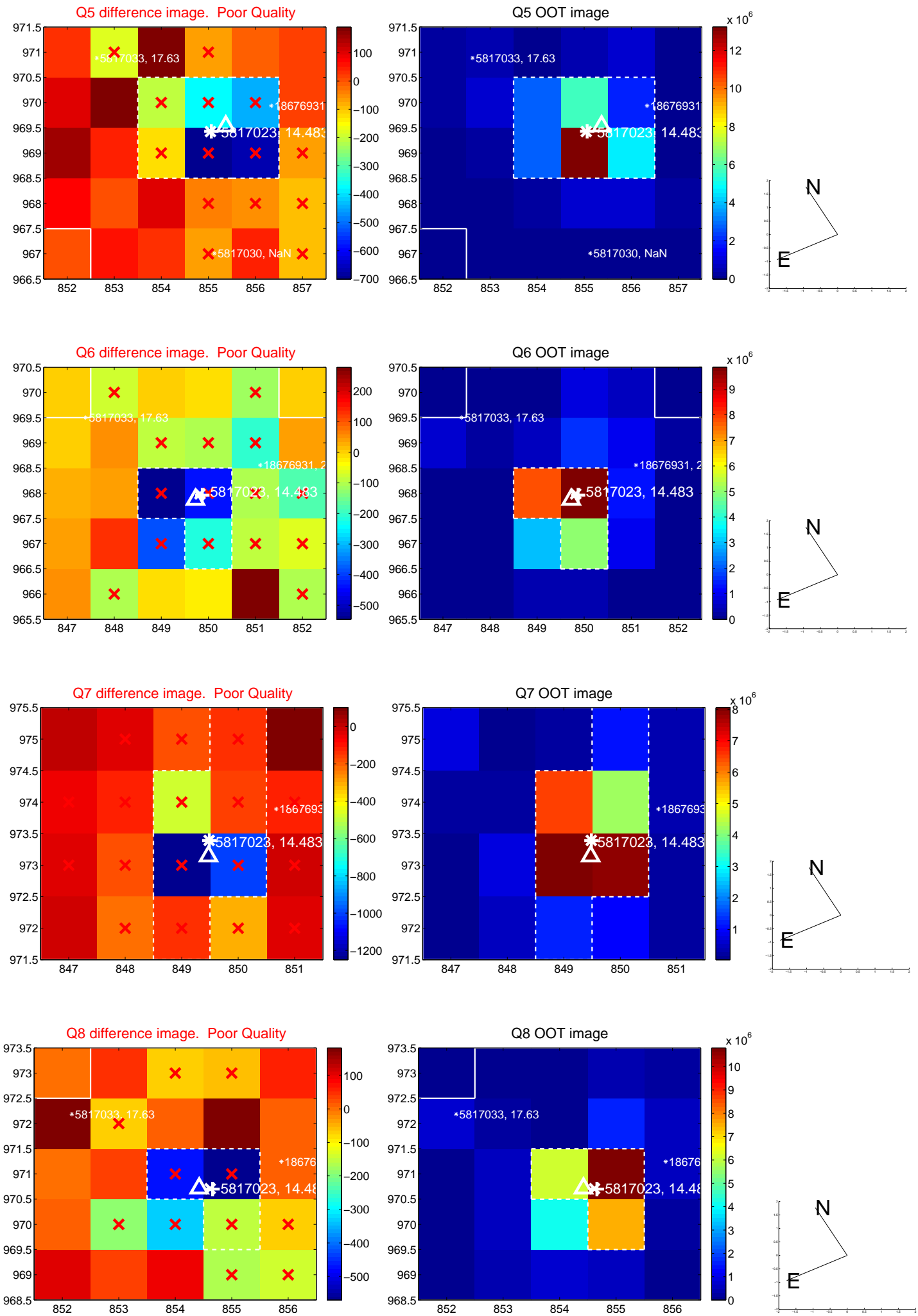


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

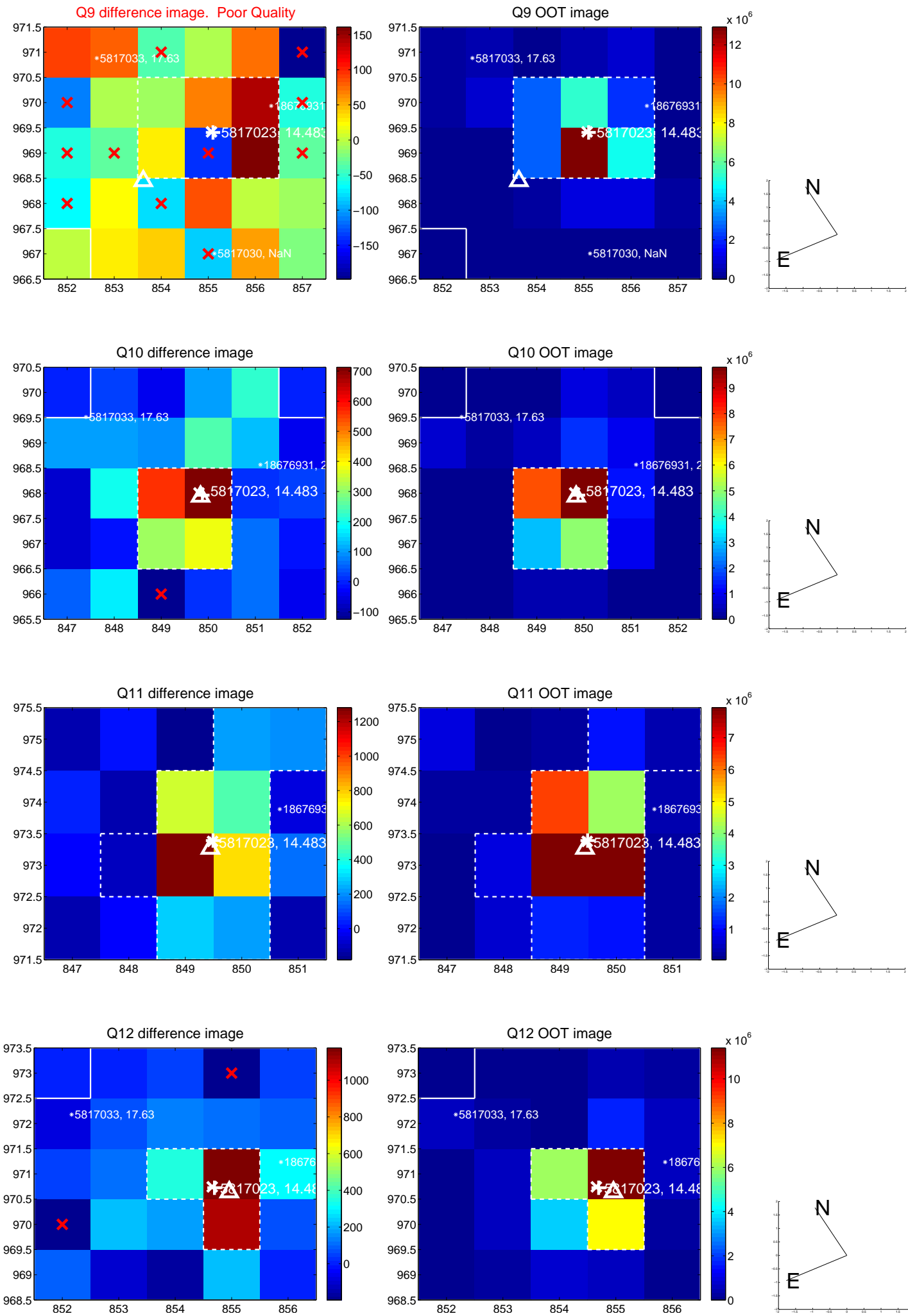
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



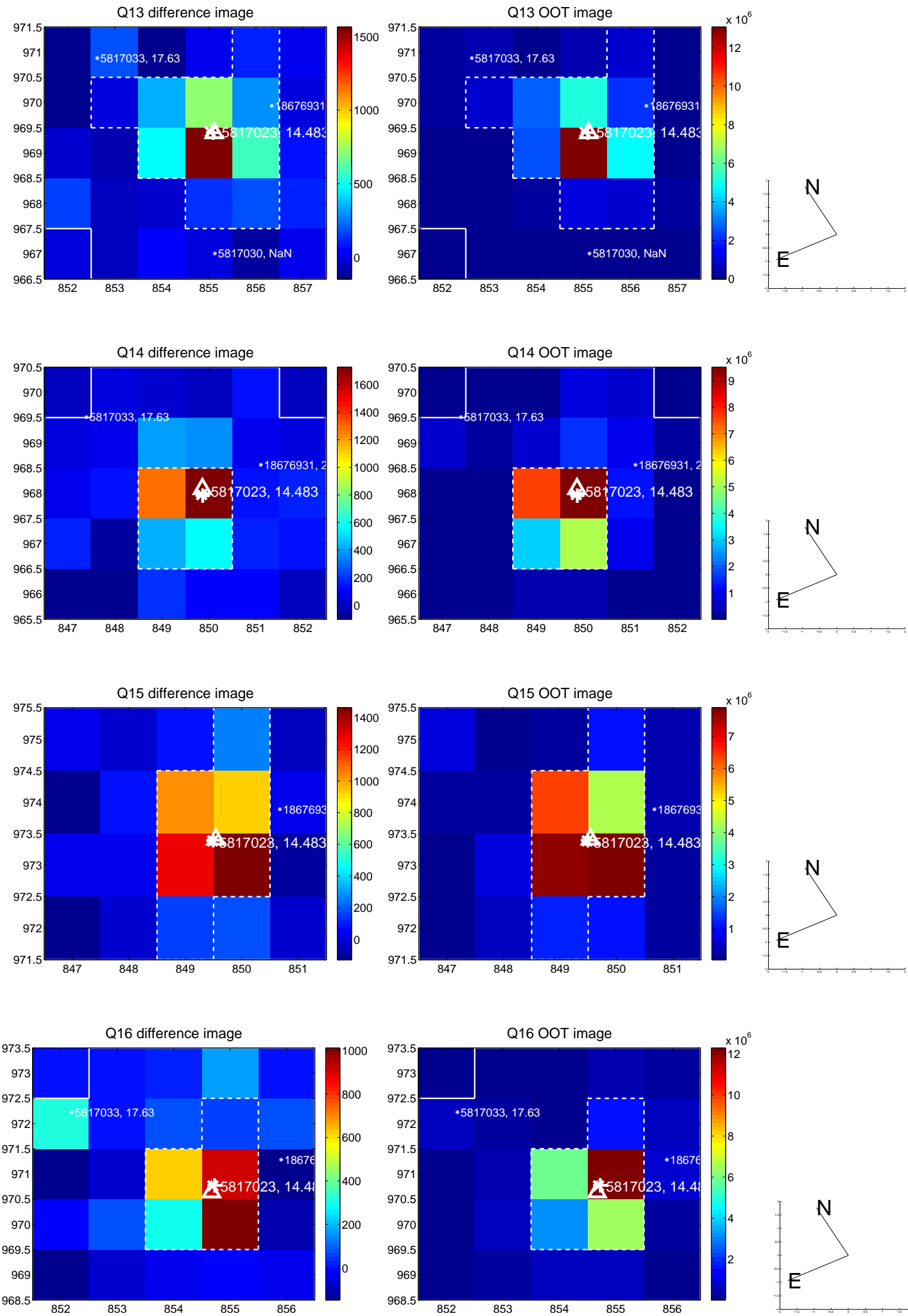
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



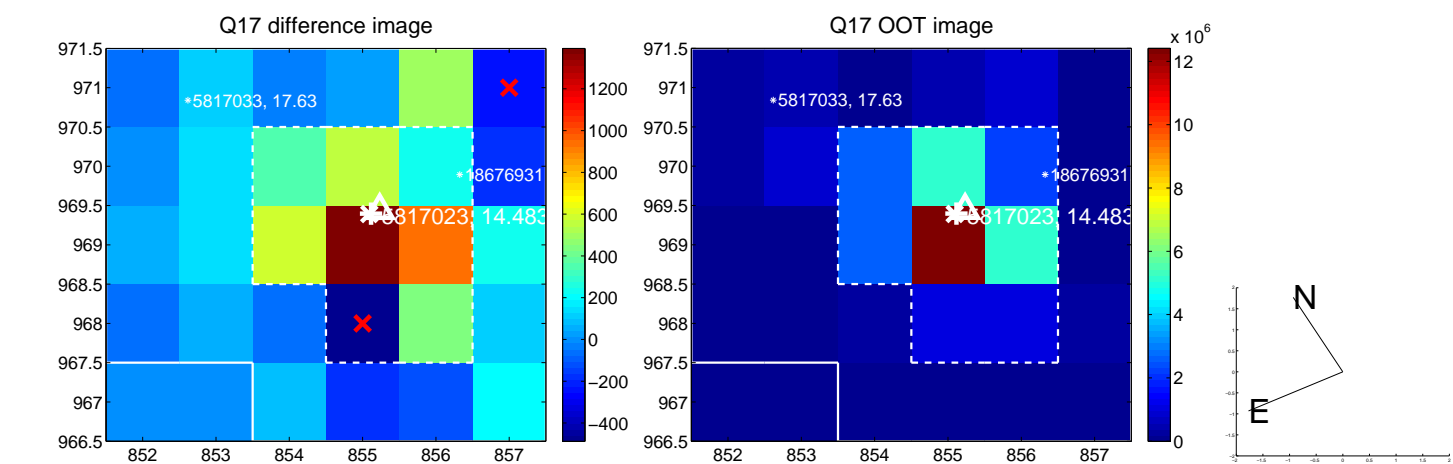
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



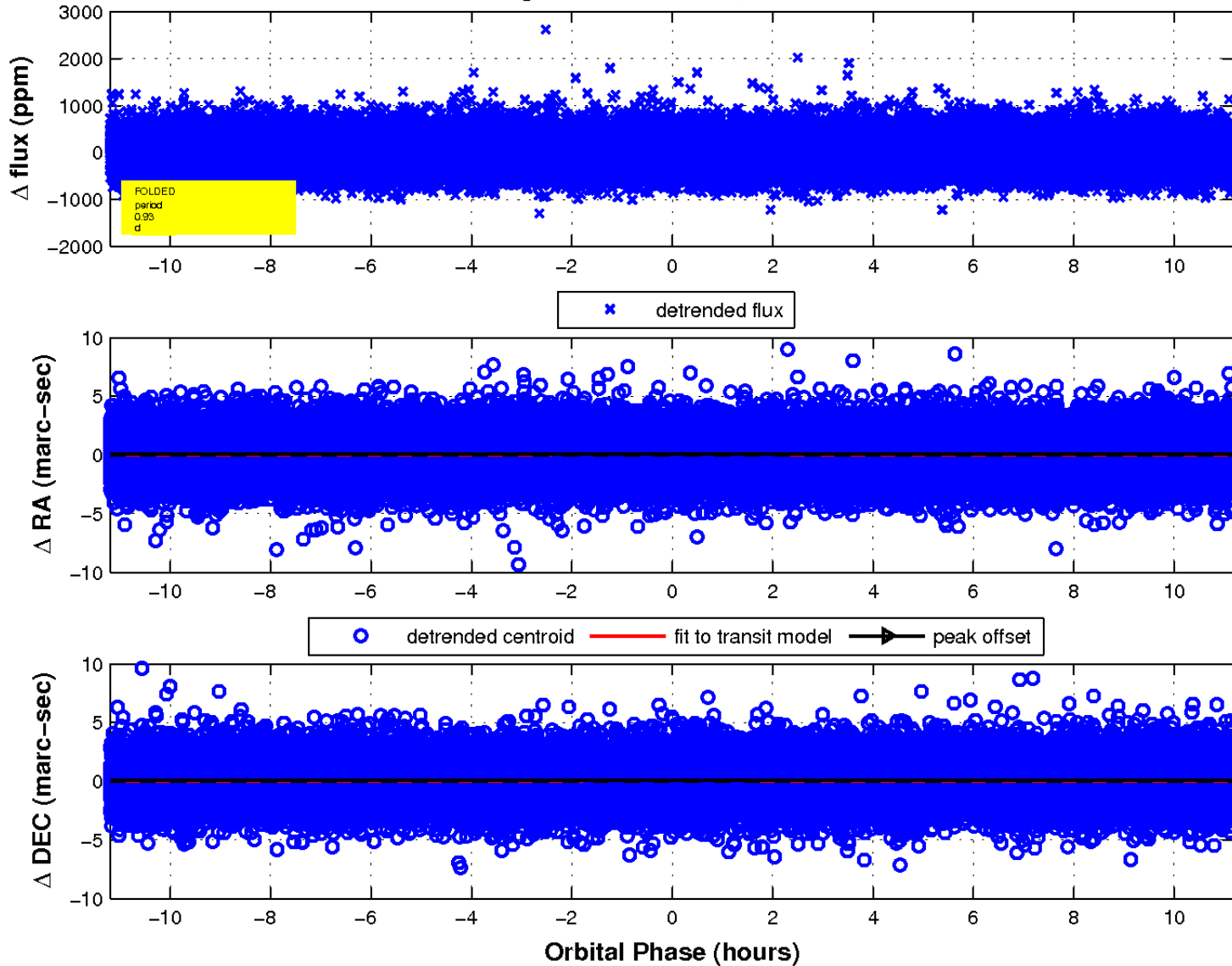
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

