

KIC 008397017

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 008397017-01 | OBS | No | 7.402453 | 137.646166 | 115.5 | 31.347 | 11.1 | 15.9 | 2.09 | 6043 | 4.56 | 881.22 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|----------|
| 008397017-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV |

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

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

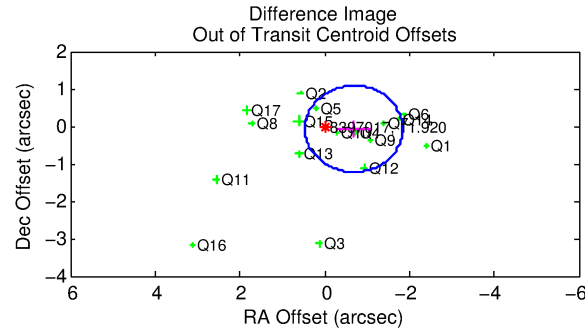
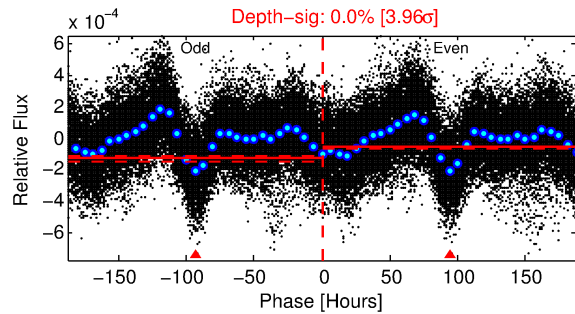
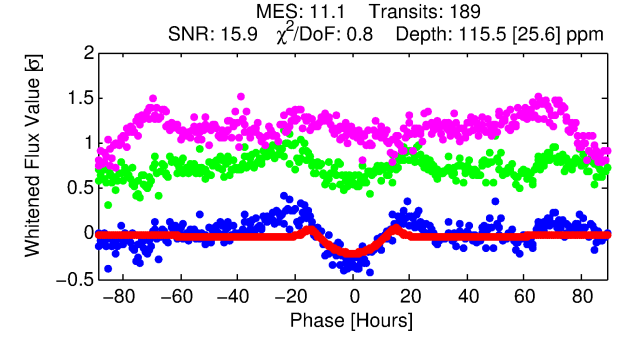
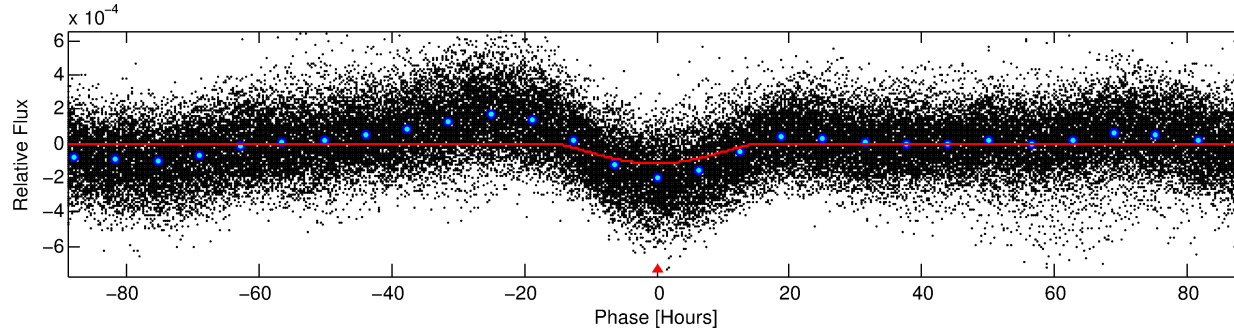
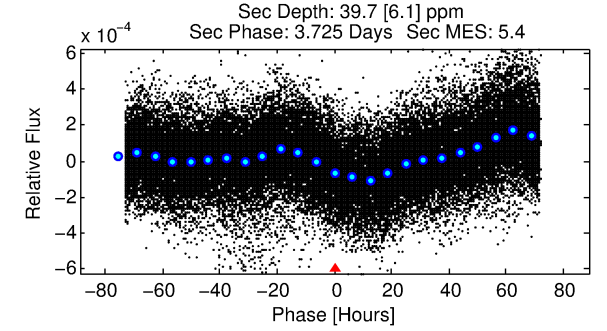
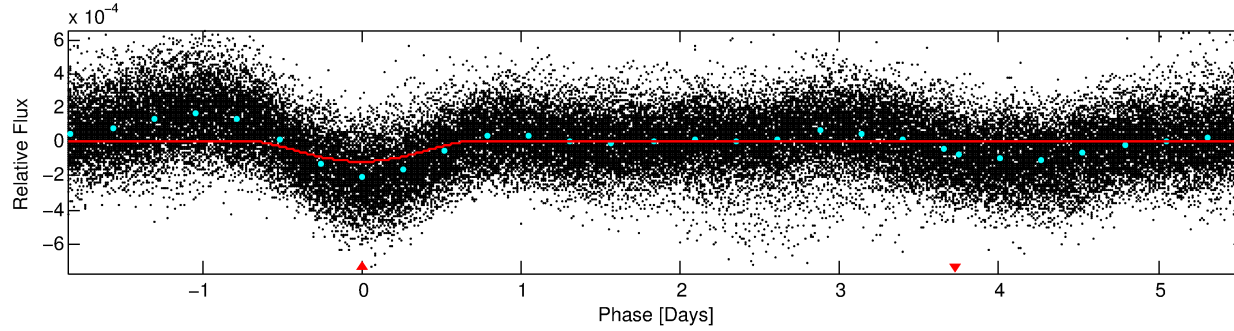
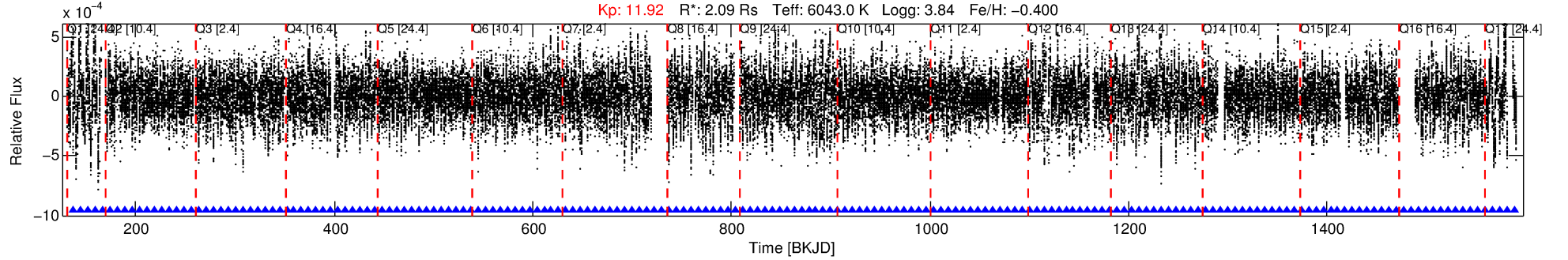
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008397017-01

No Significant Match Found

DV One-Page Summary

KIC: 8397017 Candidate: 1 of 1 Period: 7.402 d



DV Fit Results:

Period = 7.40245 [0.00030] d
Epoch = 137.6462 [0.0344] BKJD
Rp/R* = 0.0200 [0.0152]
a/R* = 1.07 [0.01]
b = 1.00 [0.02]
Seff = 881.22 [480.73]
Teq = 1389 [189] K
Rp = 4.56 [3.77] Re
a = 0.0768 [0.0252] AU
Ag = 6.21 [10.02] [0.52σ]
Teffp = 3391 [1296] K [1.53σ]

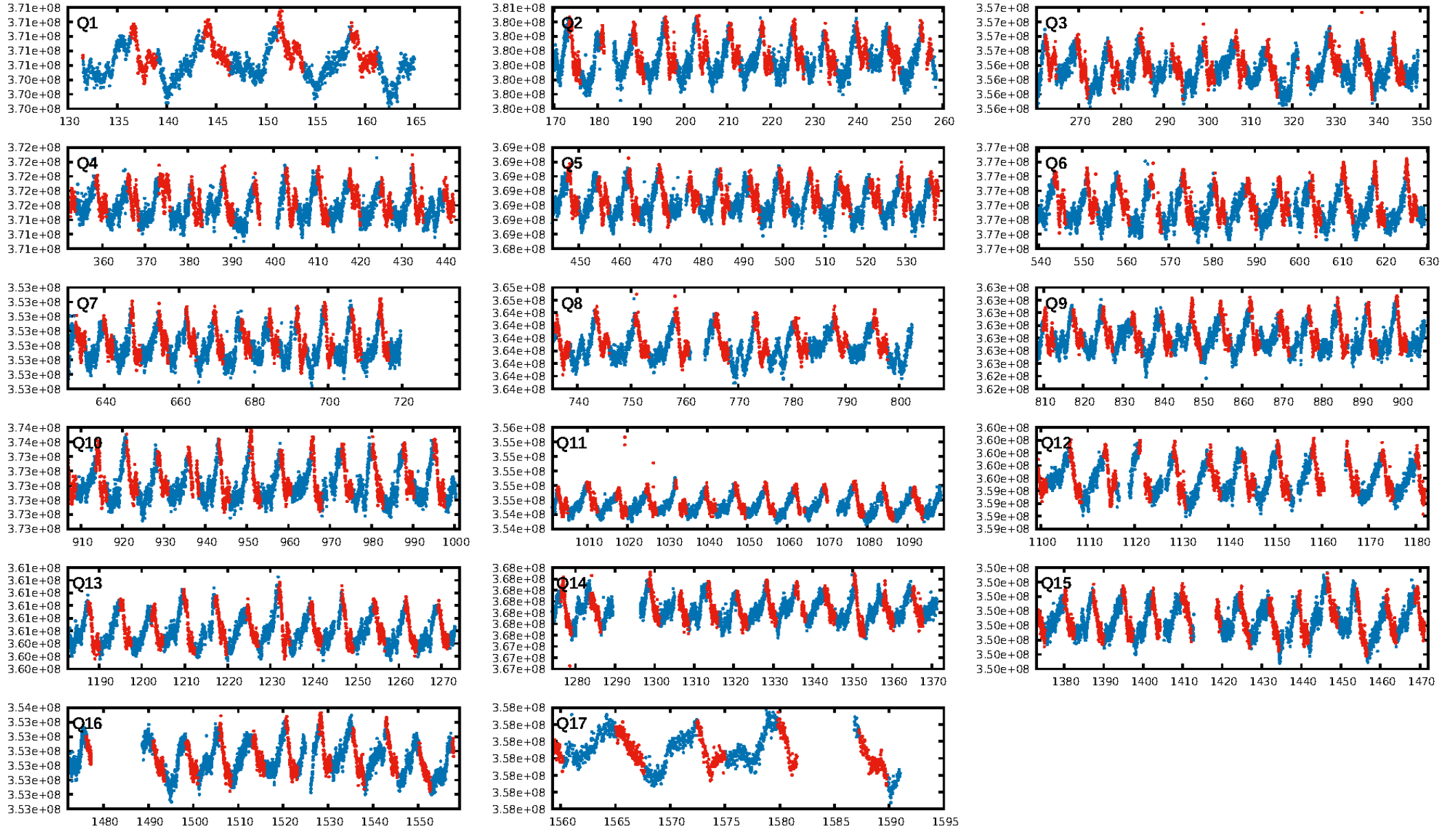
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.36e-26
RollingBand-fgt: 1.00 [180/180]
GhostDiagnostic-chr: 2.648
Centroid-sig: 2.4%
Centroid-so: 0.456 arcsec [1.68σ]
OotOffset-rm: 0.686 arcsec [1.78σ]
KicOffset-rm: 0.725 arcsec [1.77σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.76 [13/17]
DiffImageOverlap-fno: 1.00 [17/17]

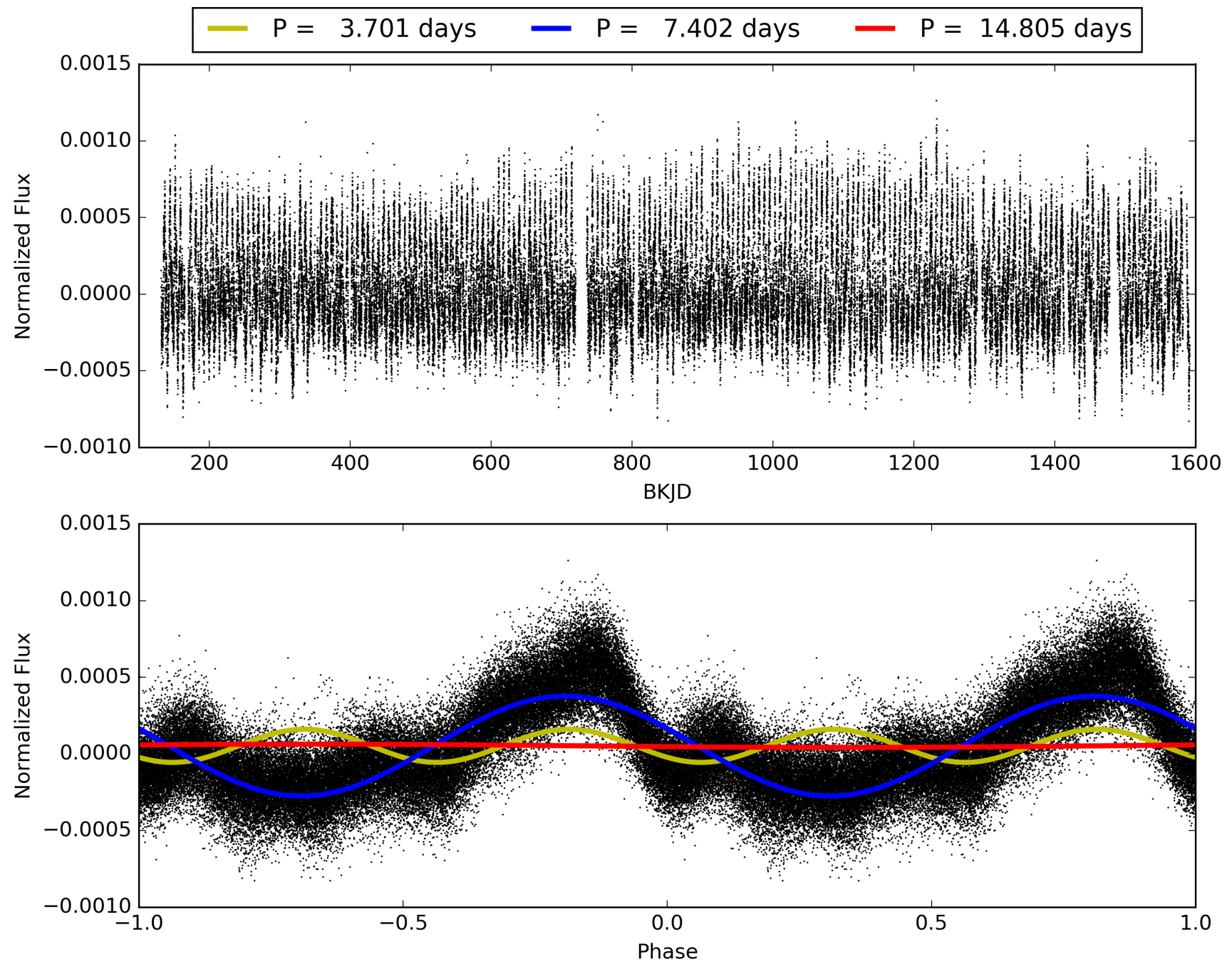
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:28:54 Z

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

TCE 008397017-01, PDC Light Curves

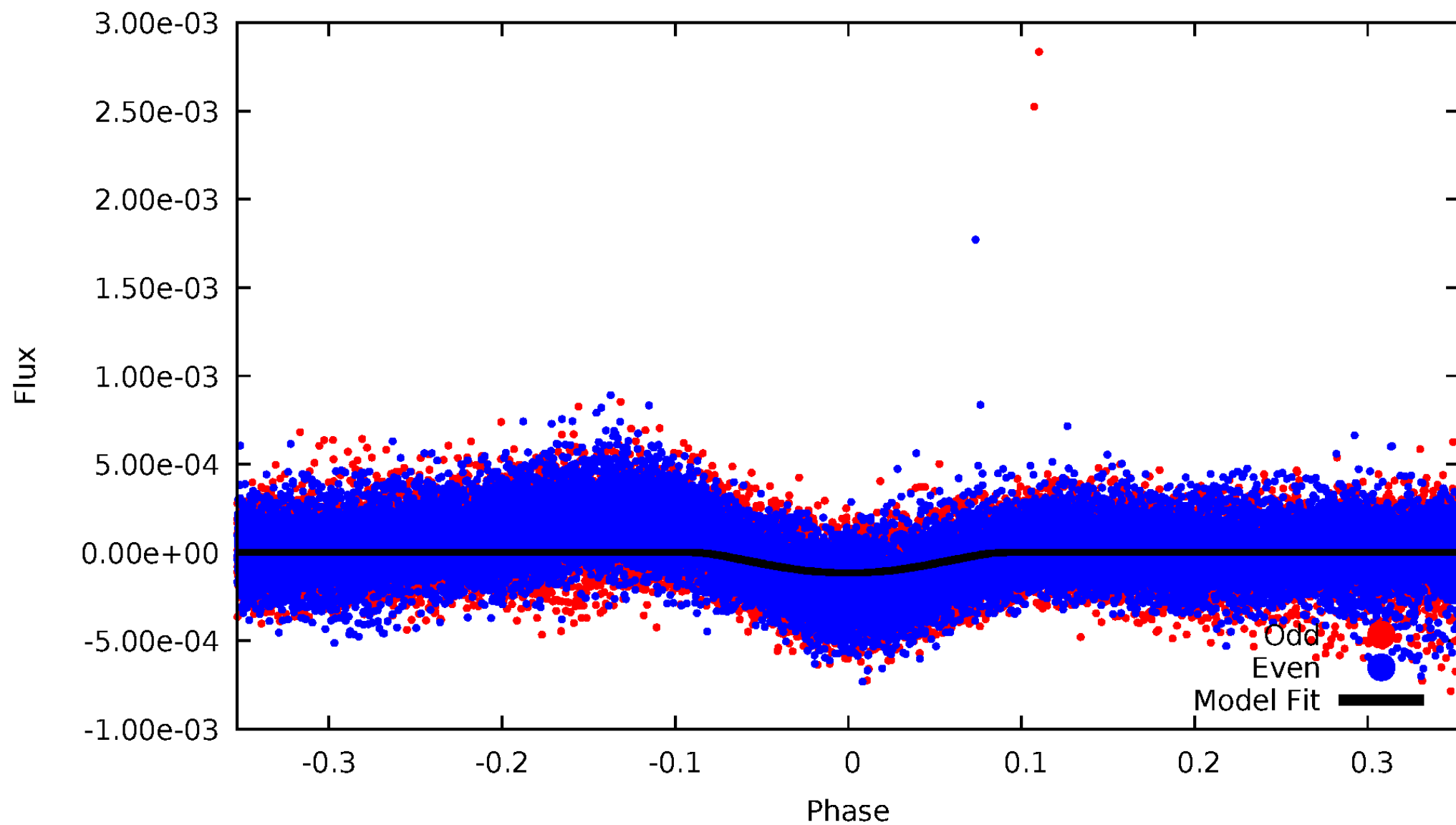


TCE 008397017-01



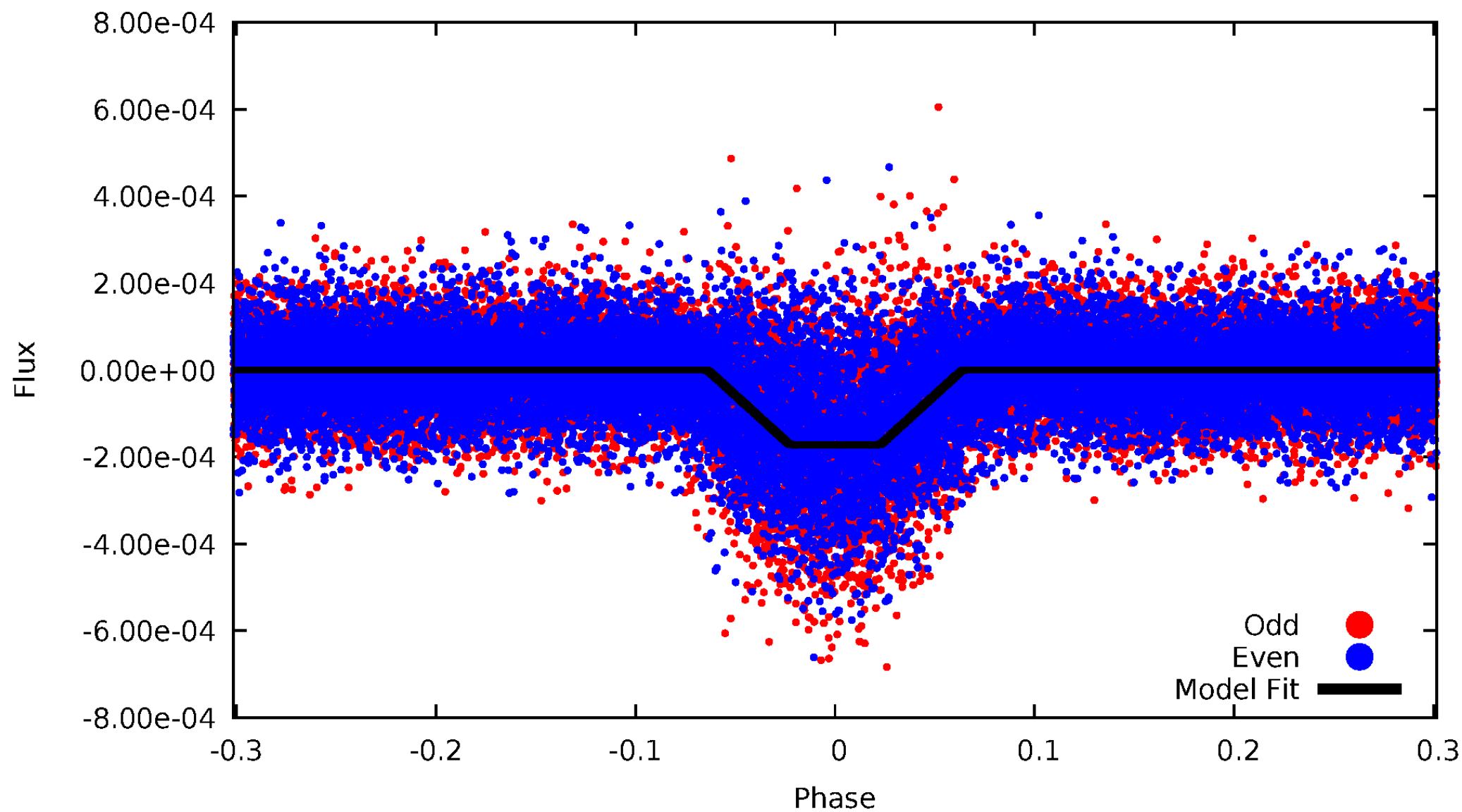
DV Odd/Even

TCE 008397017-01



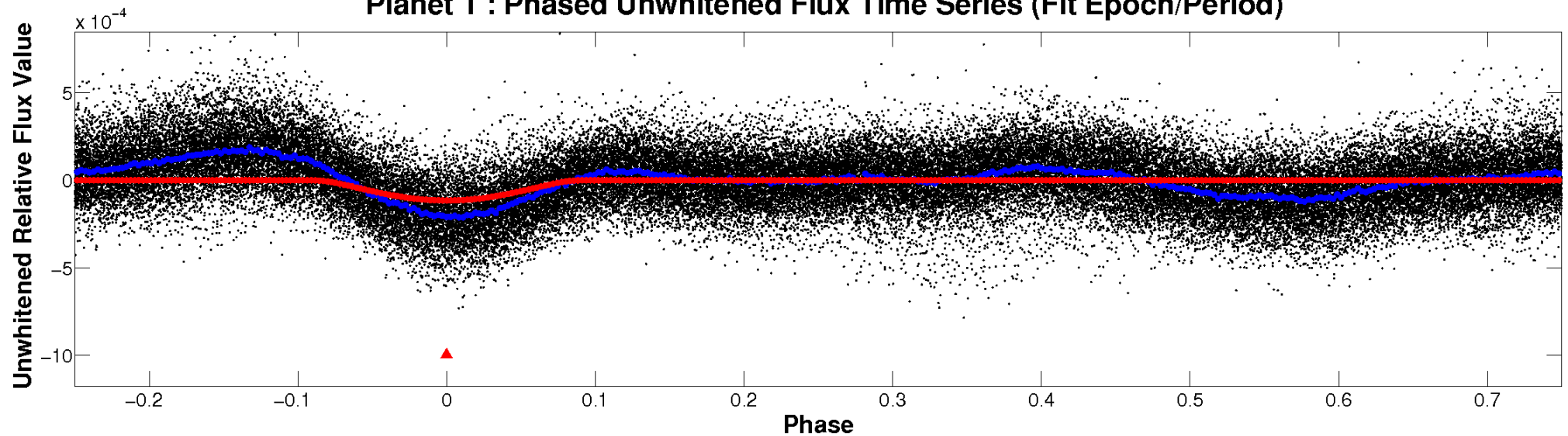
ALT Odd/Even

TCE 008397017-01

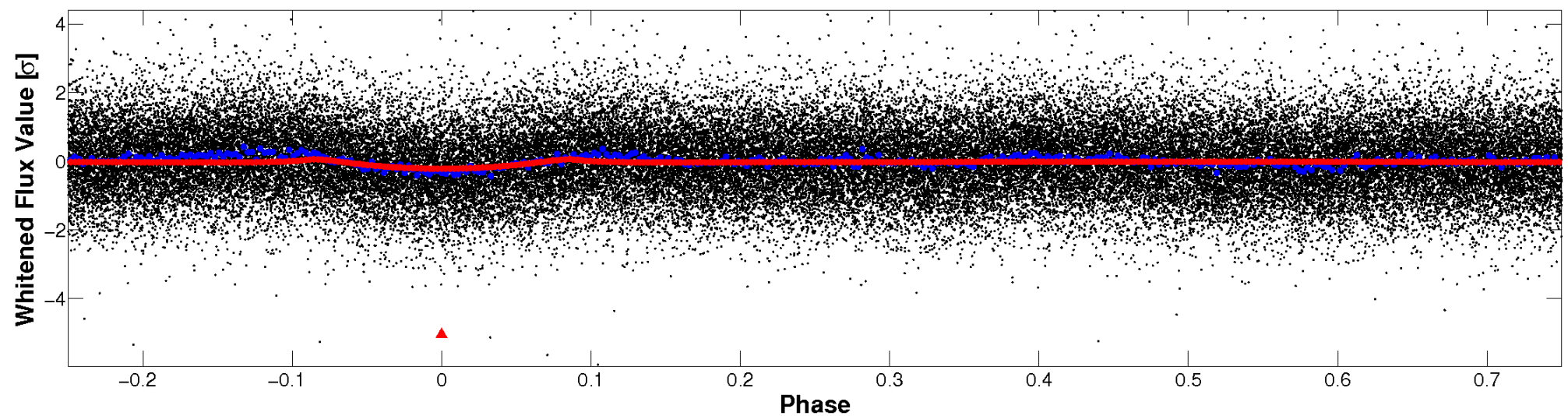


Non-Whitened Vs. Whitened Light Curve

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

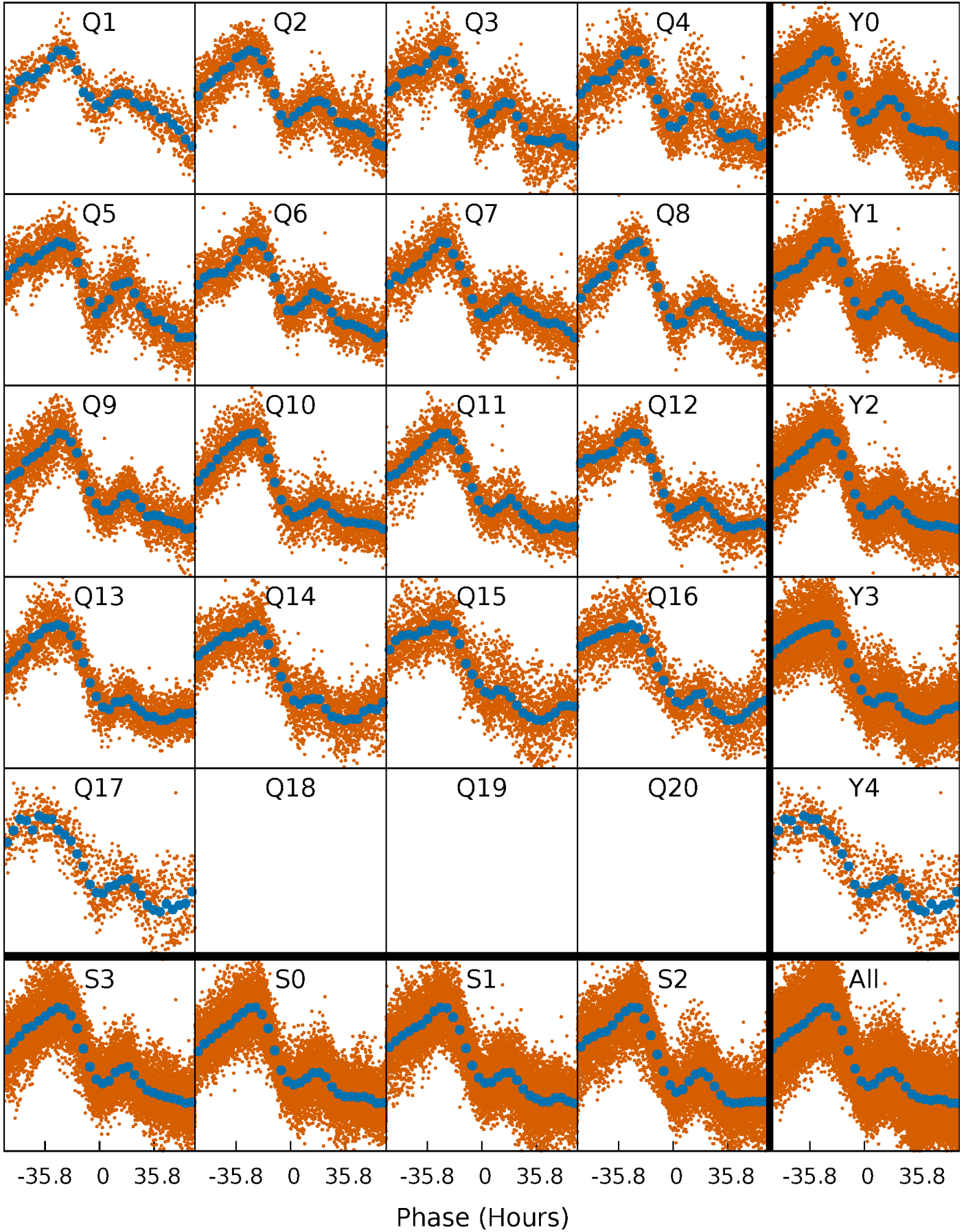


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



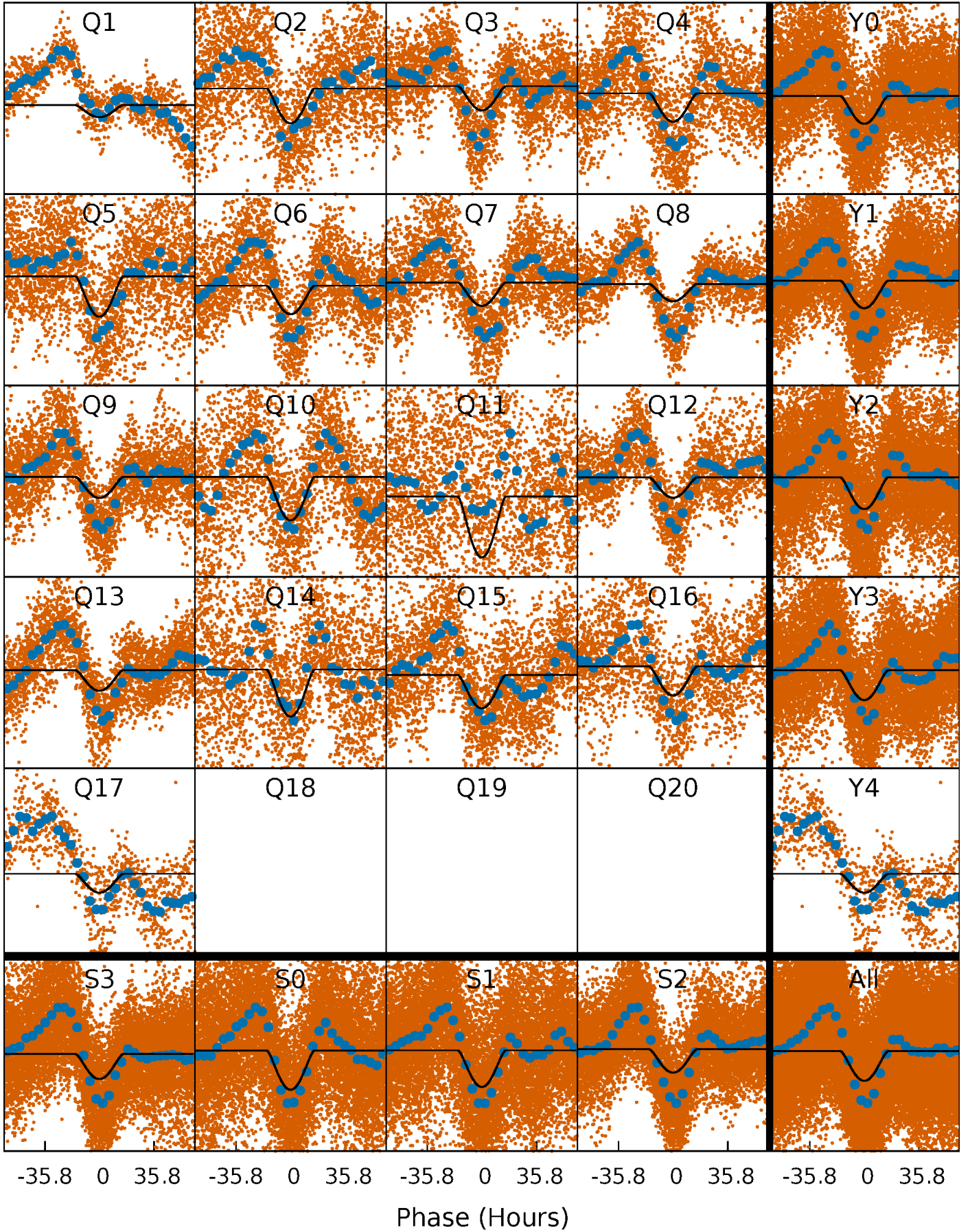
PDC Quarter-Phased Transit Curves

TCE 008397017-01 P= 7.402453 Days $T_0=137.646165$ (BKJD)



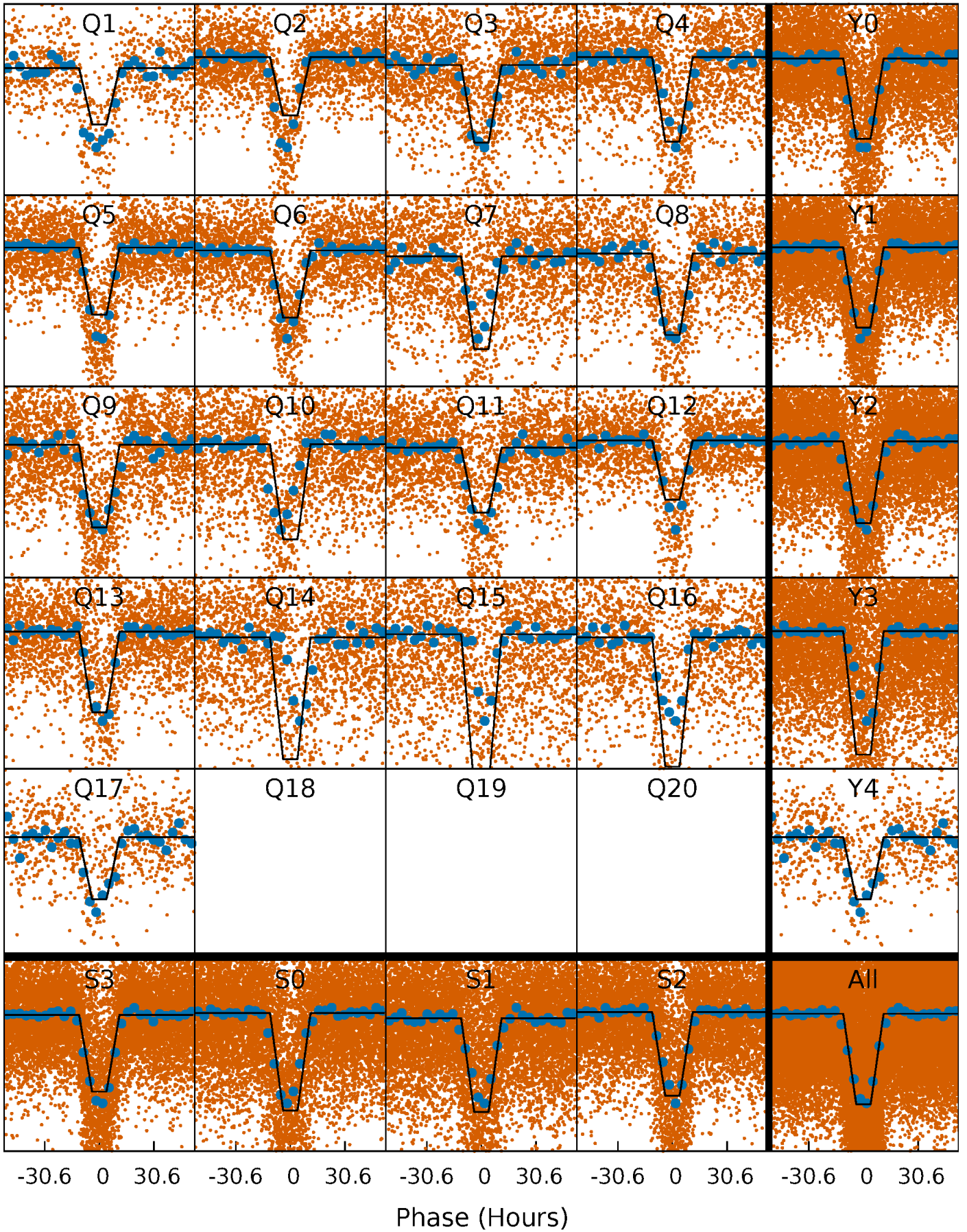
DV Quarter-Phased Transit Curves

TCE 008397017-01 $P = 7.402453$ Days $T_0 = 137.646165$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

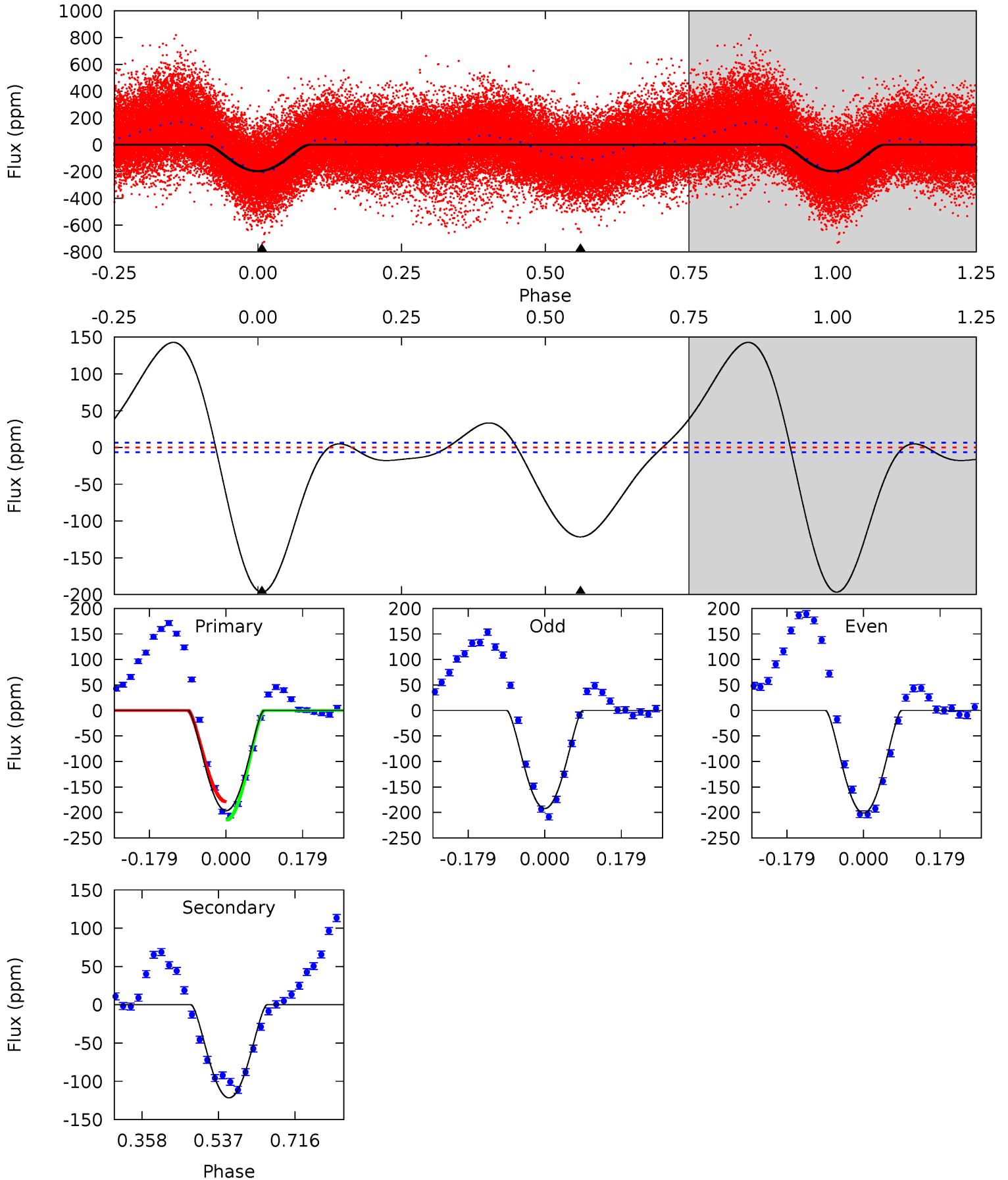
TCE 008397017-01 P= 7.403063 Days $T_0=137.554719$ (BKJD)



DV Model-Shift Uniqueness Test

008397017-01, P = 7.402453 Days, E = 130.243712 Days

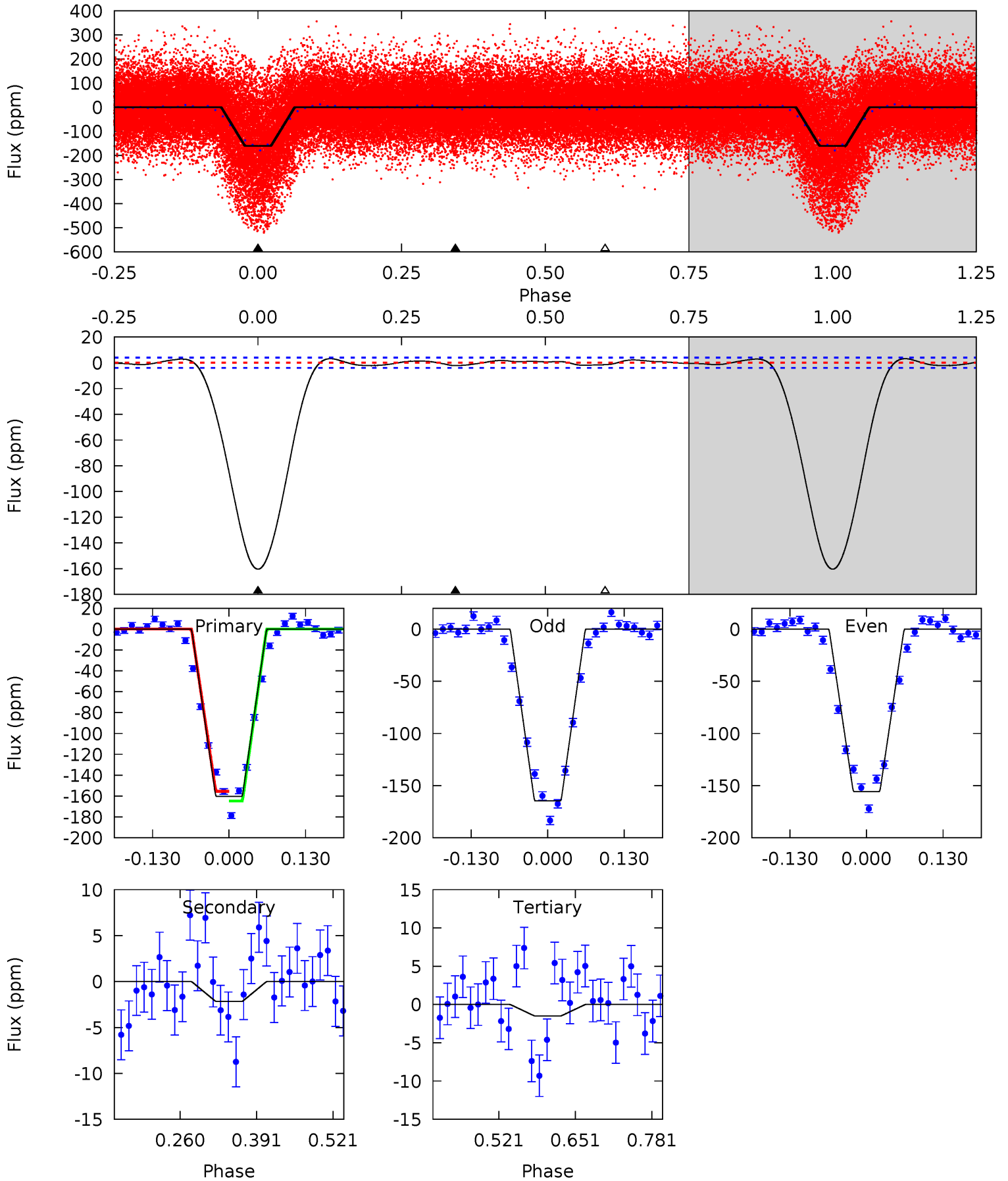
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 134.3 | 83.1 | 0 | 0 | 4.44 | 1.34 | 30.4 | 134.3 | 134.3 | 83.1 | 83.1 | 3.07 | 1.03 | 0.42 | 12.7 |



Alt Model-Shift Uniqueness Test

008397017-01, P = 7.403063 Days, E = 130.151656 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 179.9 | 2.43 | 1.68 | 0 | 4.51 | 1.51 | 1.58 | 178.2 | 179.9 | 0.75 | 2.43 | 4.97 | 1.16 | 0.02 | 5.24 |



Stellar Parameters For KIC 008397017

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6043^{+181}_{-181} | $3.842^{+0.315}_{-0.105}$ | $-0.400^{+0.350}_{-0.250}$ | $2.087^{+0.406}_{-0.696}$ | $1.105^{+0.197}_{-0.197}$ | $0.171^{+0.370}_{-0.054}$ |
| | +3%/-3% | +8%/-3% | +87%/-62% | +19%/-33% | +18%/-18% | +216%/-31% |
| Source | PHO1 | FLK73 | 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 008397017-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|--------------|------------------------|----------------------|------------------------|---------------------------|
| DV | -122 ± 1 | $4.72^{+3.55}_{-2.67}$ | 1910^{+127}_{-171} | 4506^{+1879}_{-832} | 18^{+82}_{-12} |
| Alt. | -2 ± 1 | $3.54^{+3.40}_{-2.19}$ | 1902^{+133}_{-159} | 2287^{+1091}_{-4564} | $0.508^{+3.504}_{-0.373}$ |

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 $A_{obs} \gg 1.0$

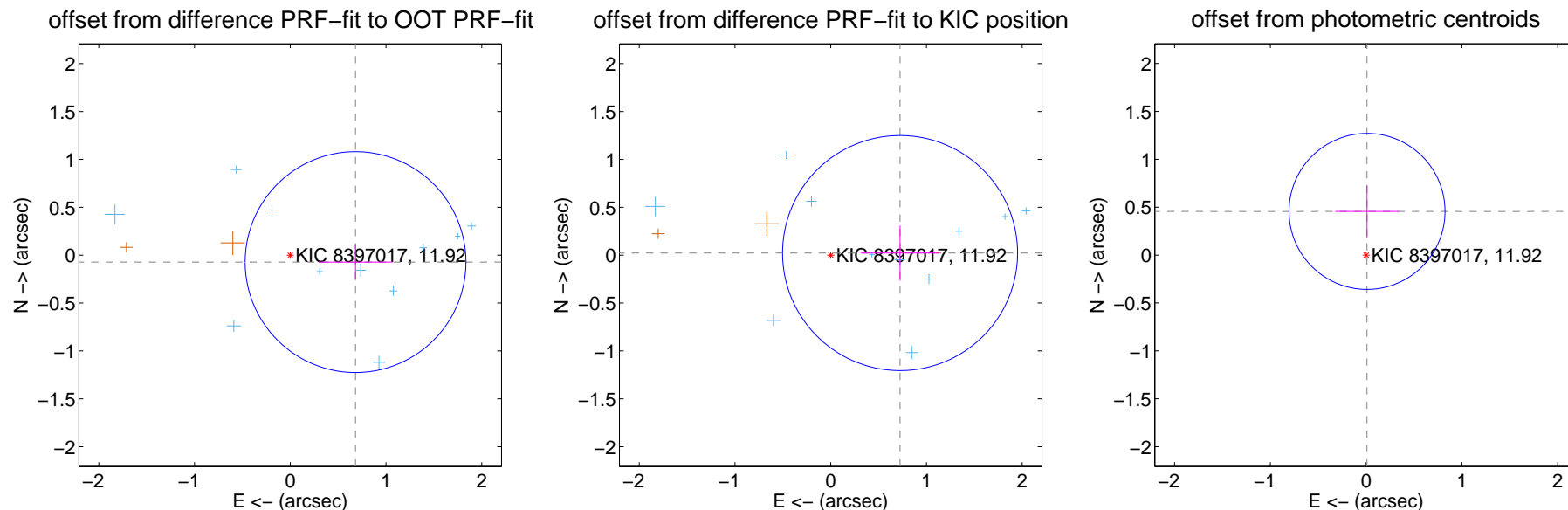
DV Centroid Data

Supplemental centroid analysis for 008397017-01. **Kepler magnitude: 11.92.** Transit SNR 15.94

There are 13 quarters with good PRF difference image offsets

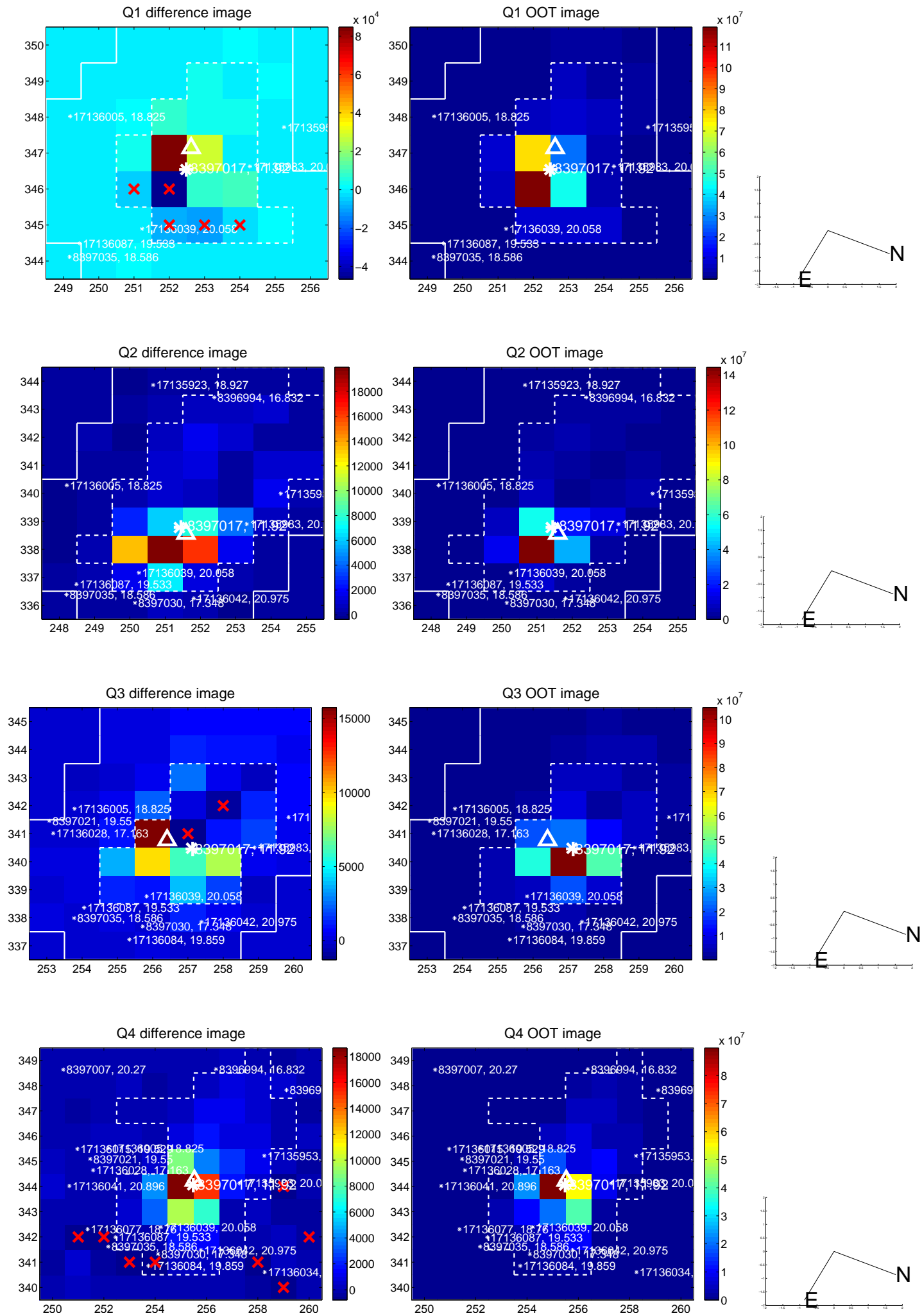
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.686 ± 0.384 | 1.78 | -0.682 ± 0.386 | -0.073 ± 0.188 |
| PRF-fit source offset from KIC position | 0.725 ± 0.409 | 1.77 | -0.724 ± 0.407 | 0.022 ± 0.287 |
| photometric centroid source offset | 0.46 ± 0.27 | 1.68 | -0.01 ± 0.33 | 0.46 ± 0.27 |

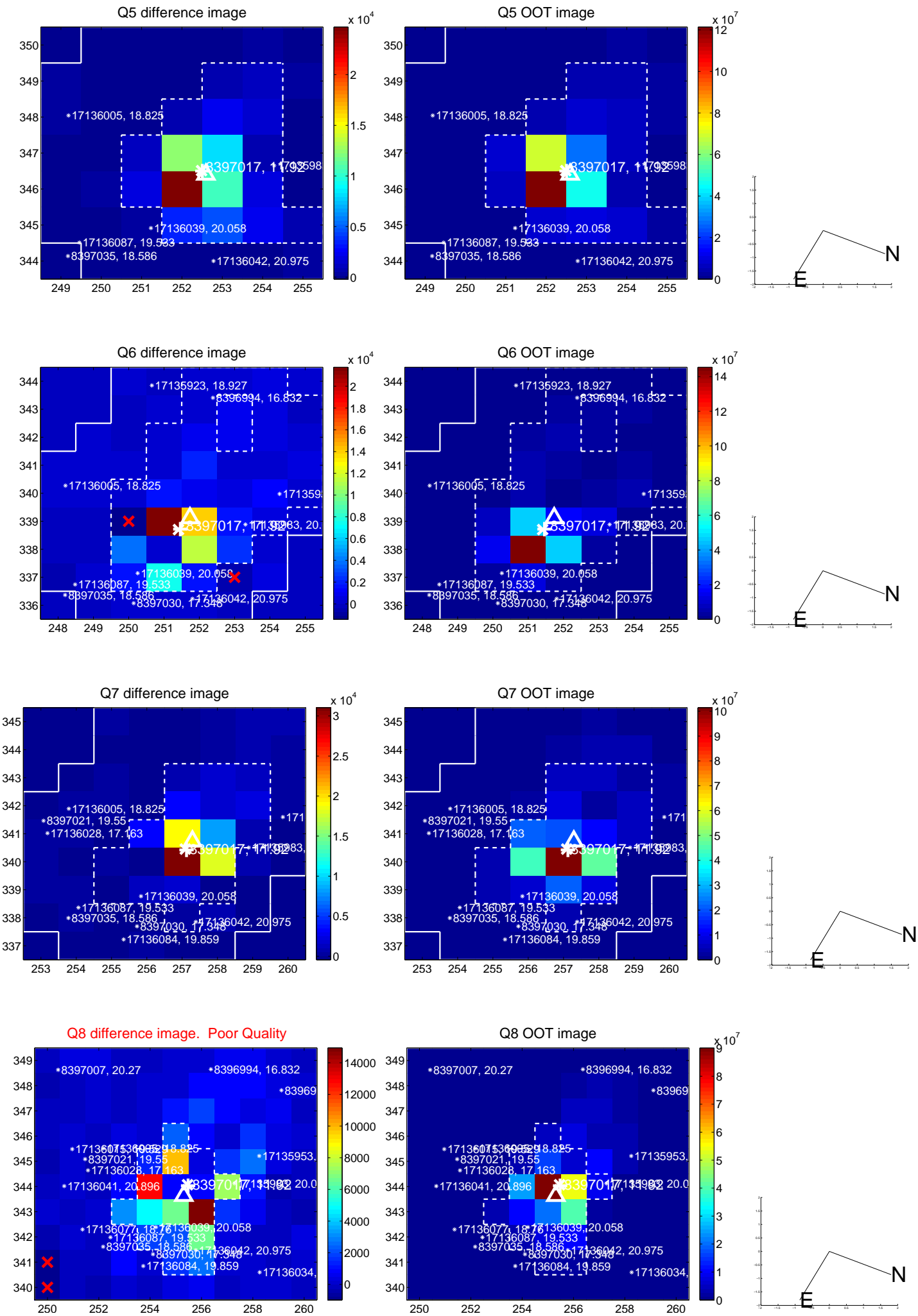


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

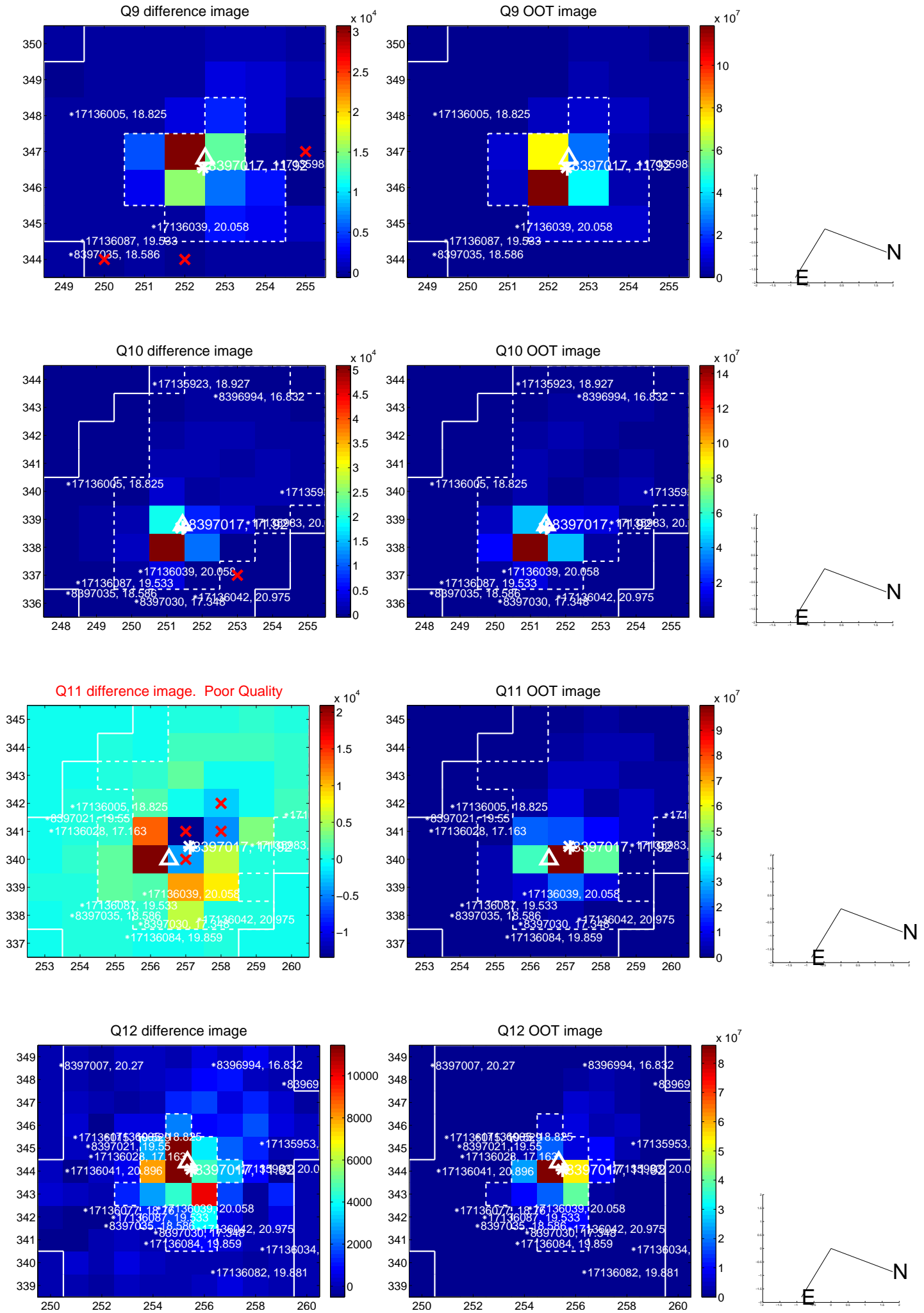
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



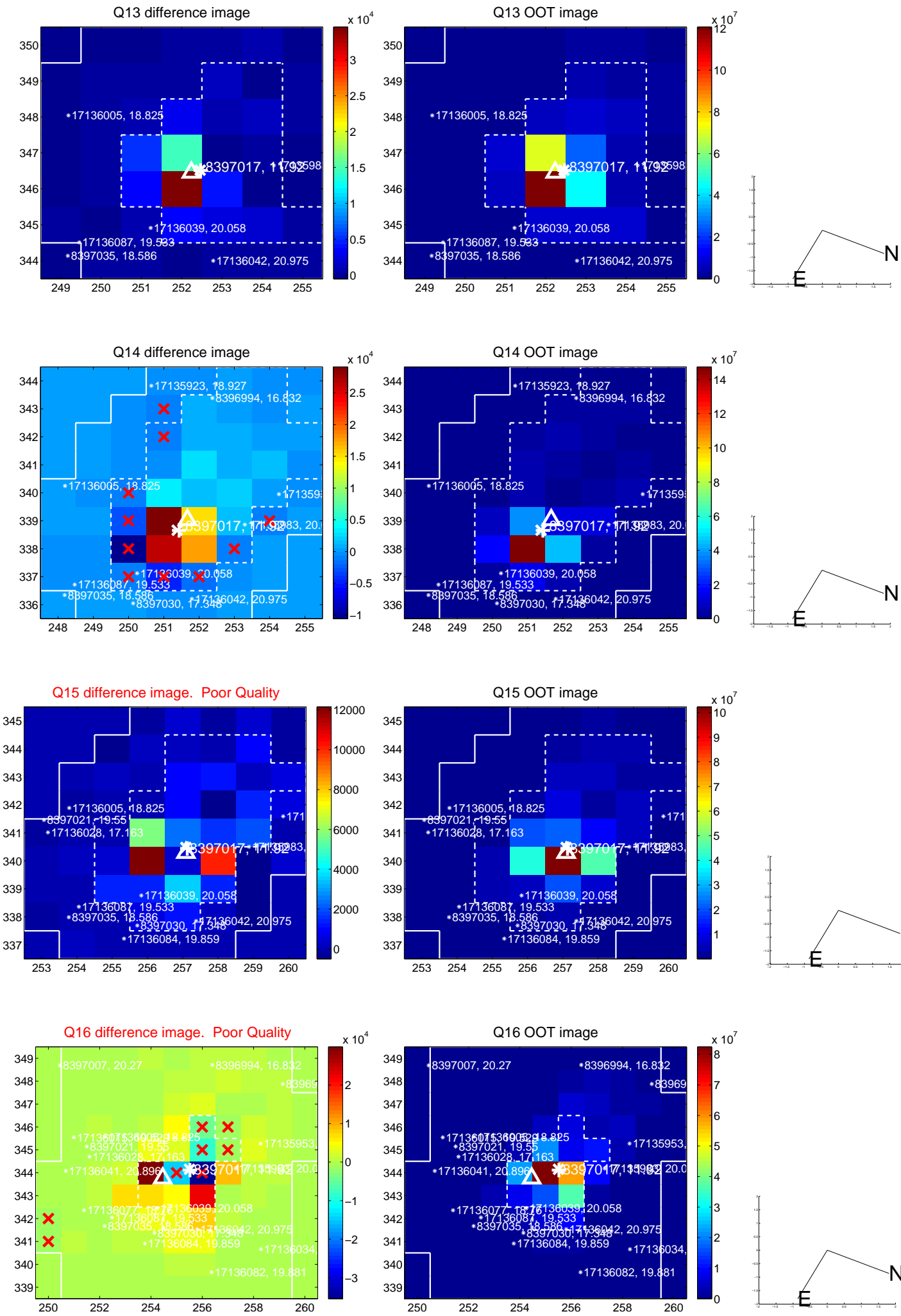
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



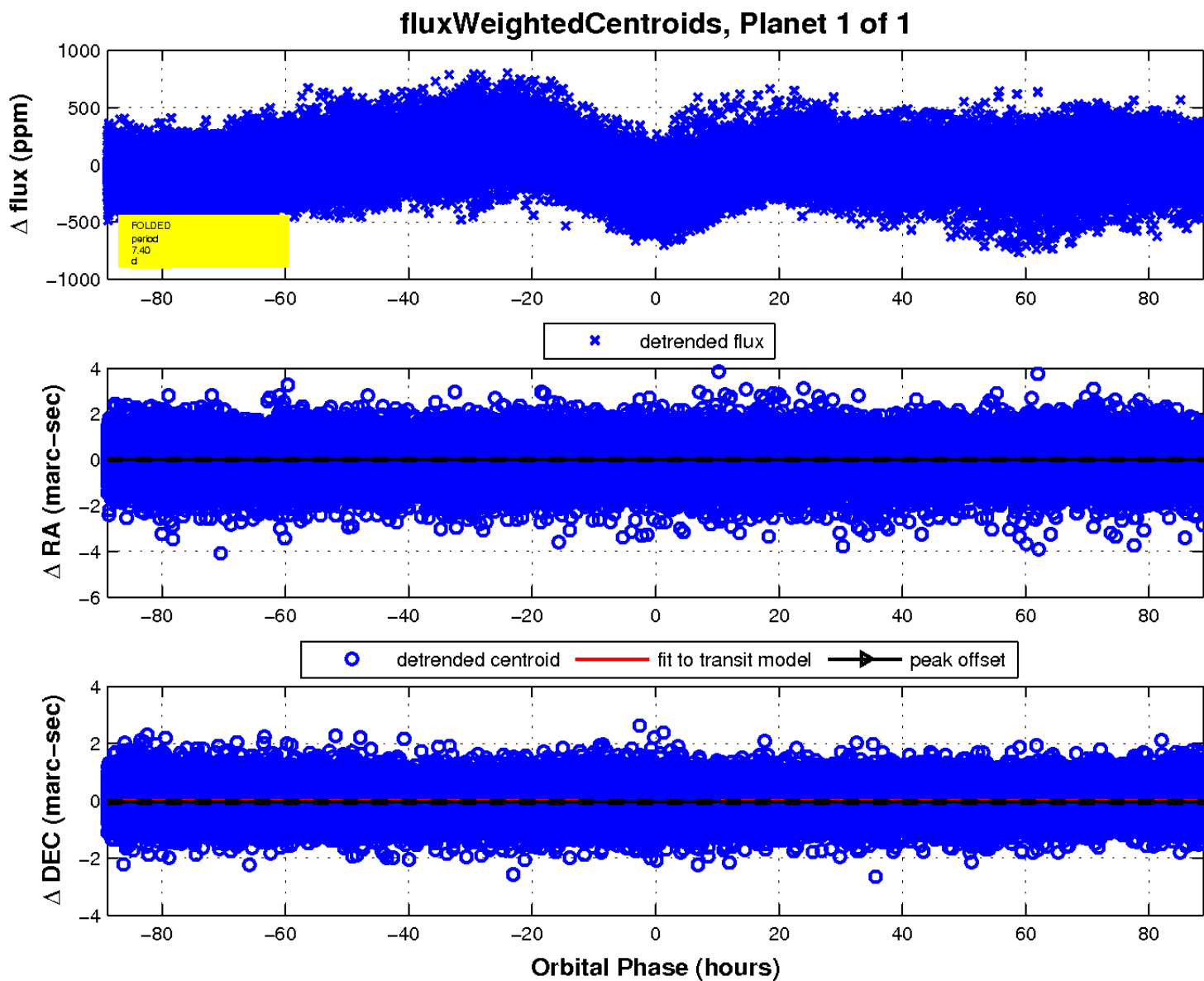
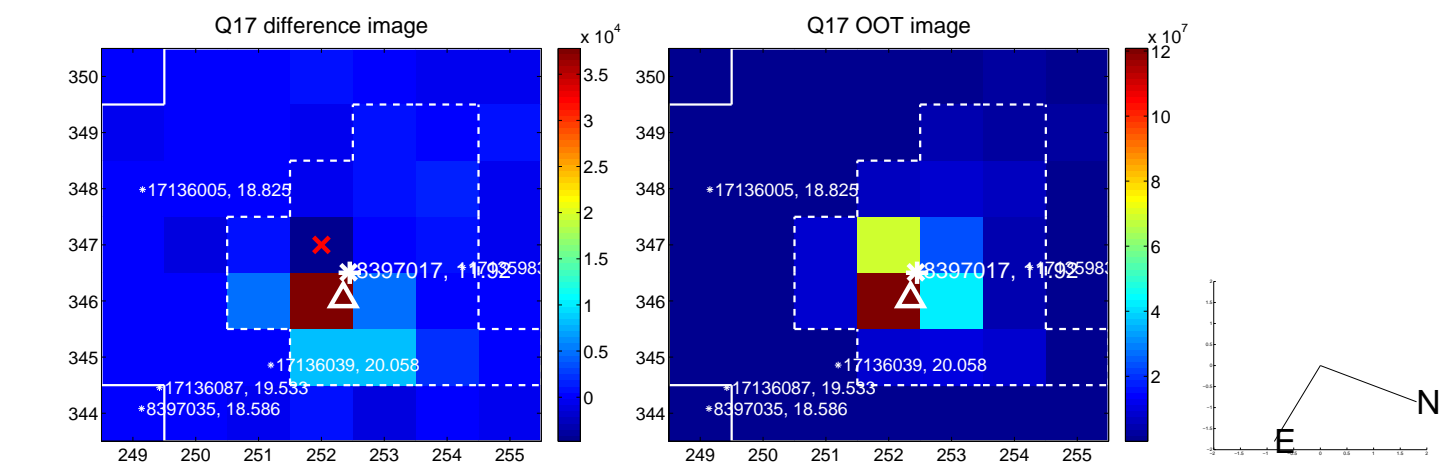
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

