

KIC 009786062

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 009786062-01 | OBS | No | 3.244768 | 133.224163 | 56.4 | 14.416 | 8.3 | 7.3 | 1.32 | 6603 | 1.00 | 1310.18 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------------|
| 009786062-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | SWEET_NTL—LPP_DV |

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

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

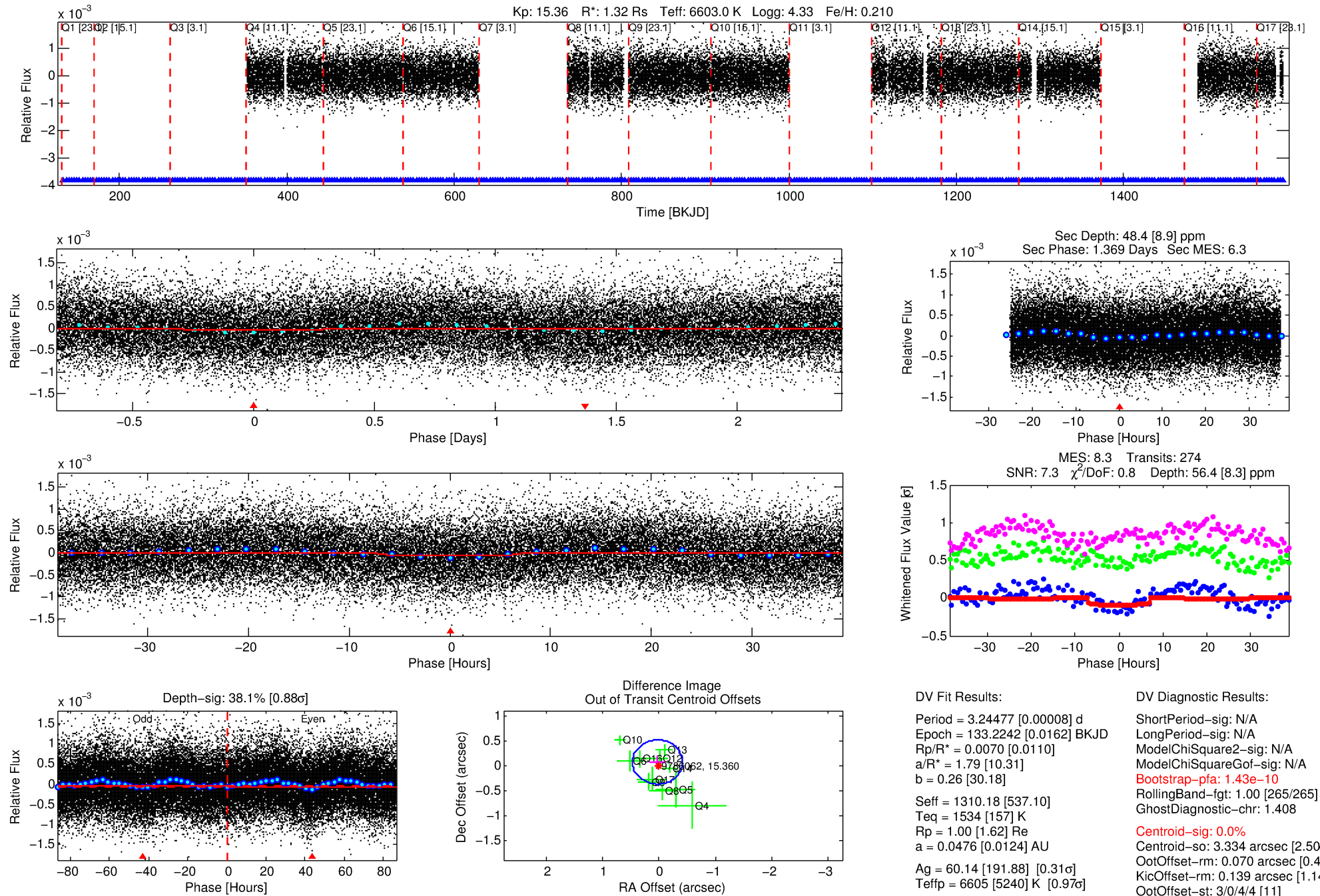
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009786062-01

No Significant Match Found

DV One-Page Summary

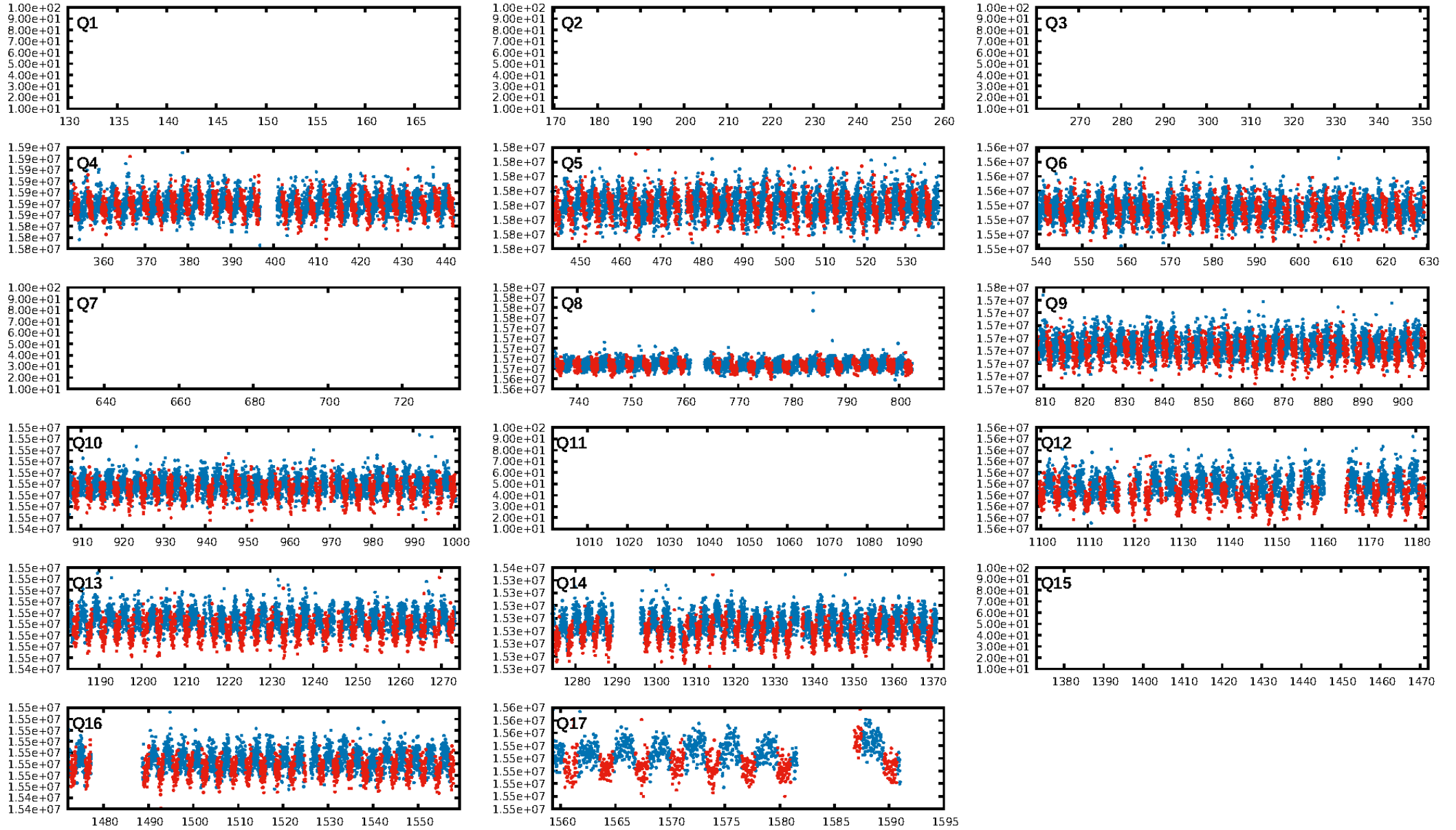
KIC: 9786062 Candidate: 1 of 1 Period: 3.245 d



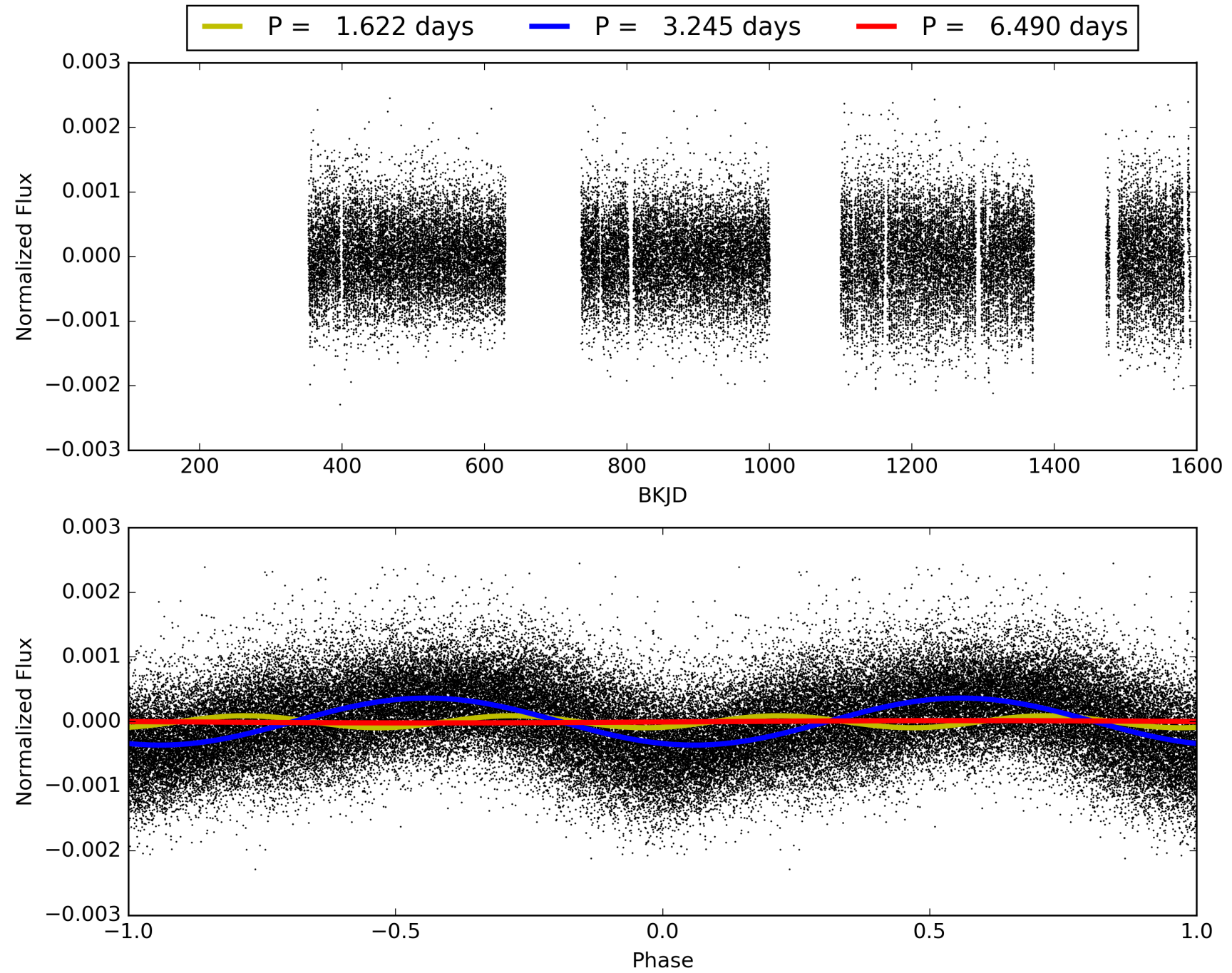
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:16:52 Z

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

TCE 009786062-01, PDC Light Curves

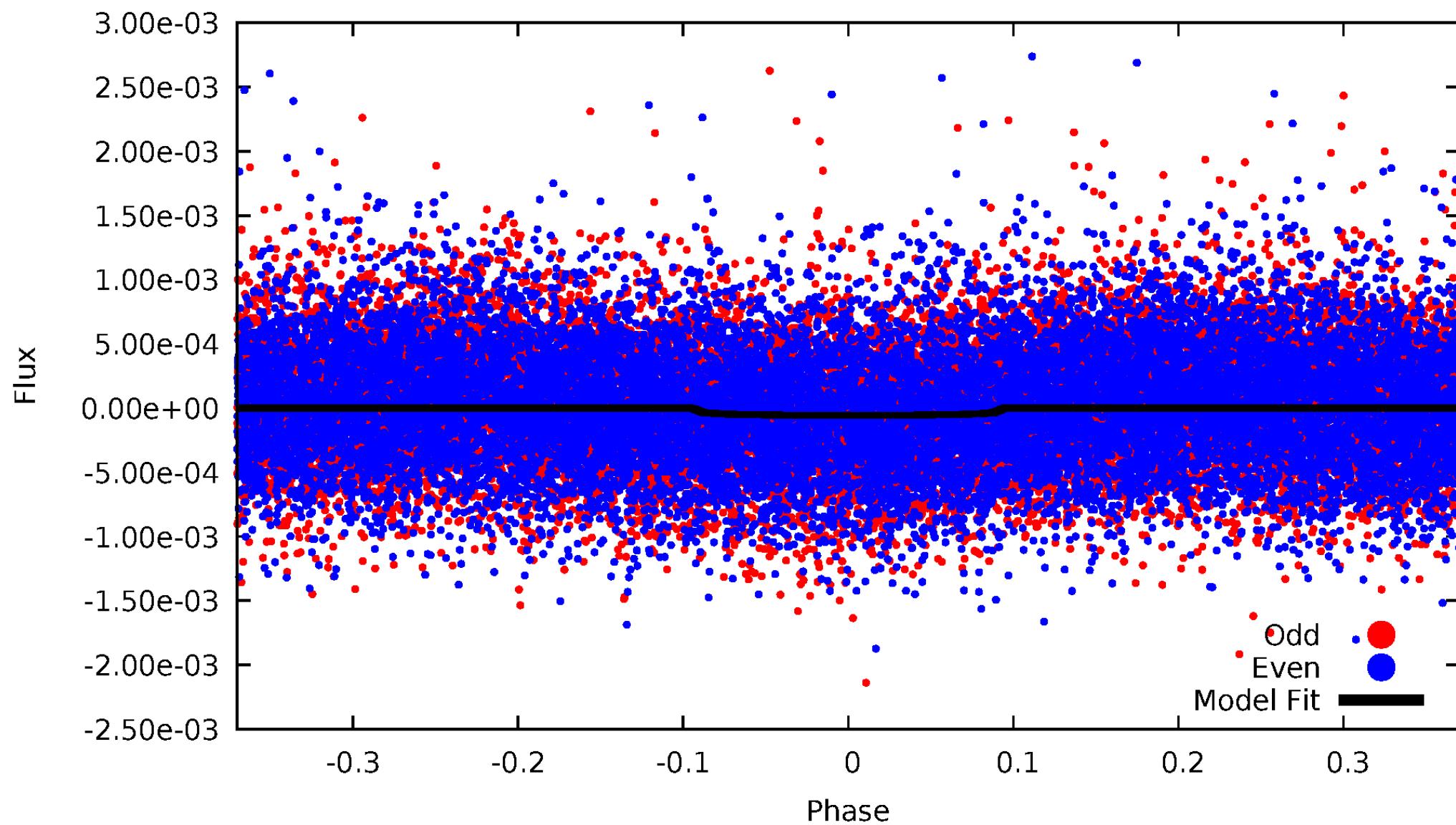


TCE 009786062-01



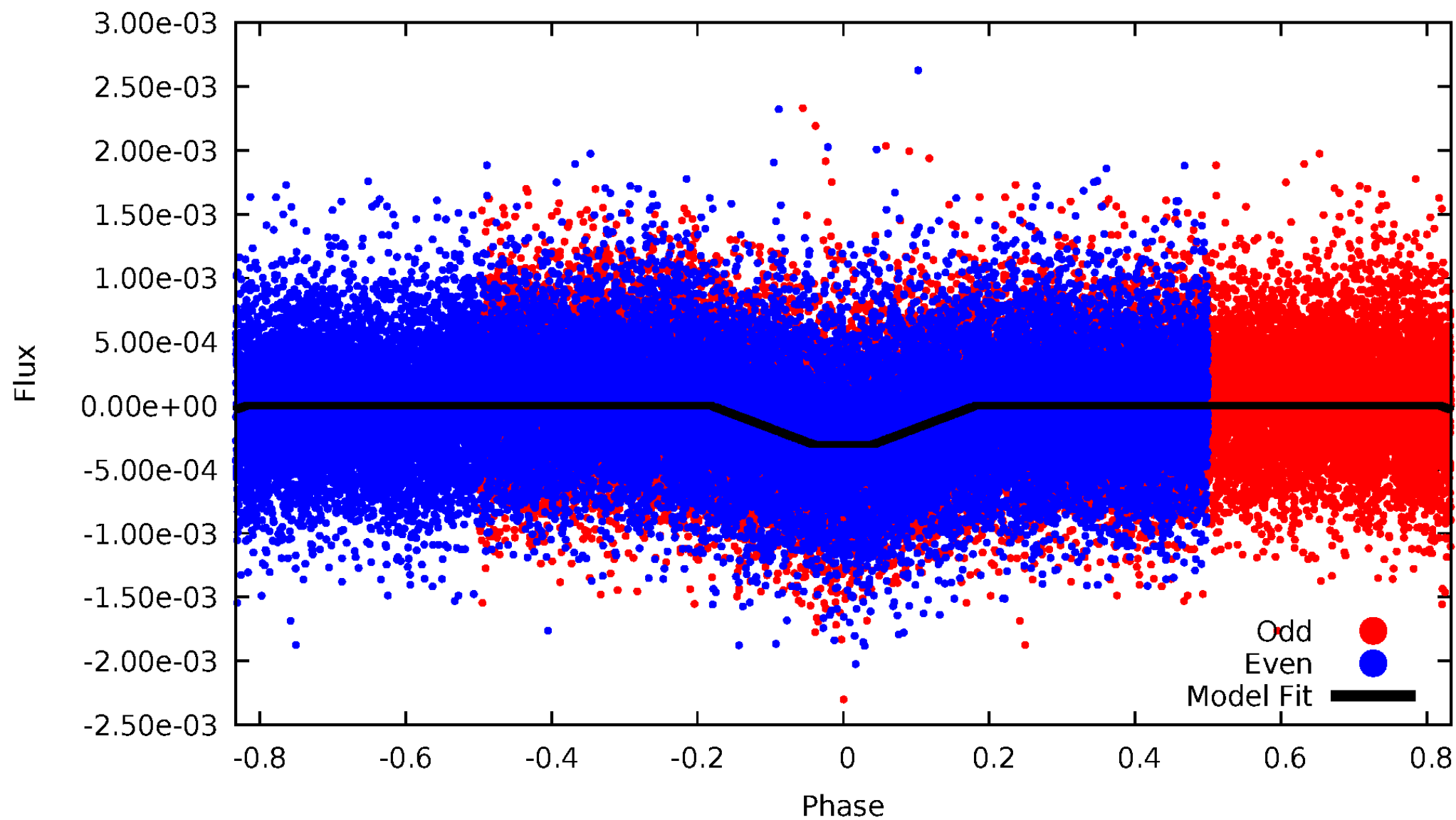
DV Odd/Even

TCE 009786062-01



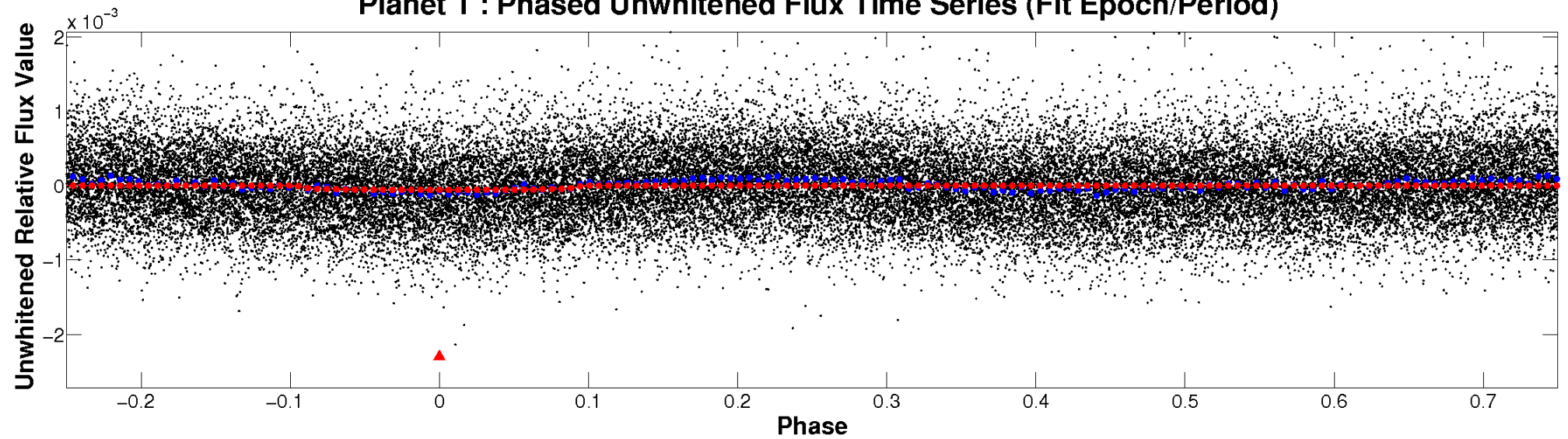
ALT Odd/Even

TCE 009786062-01

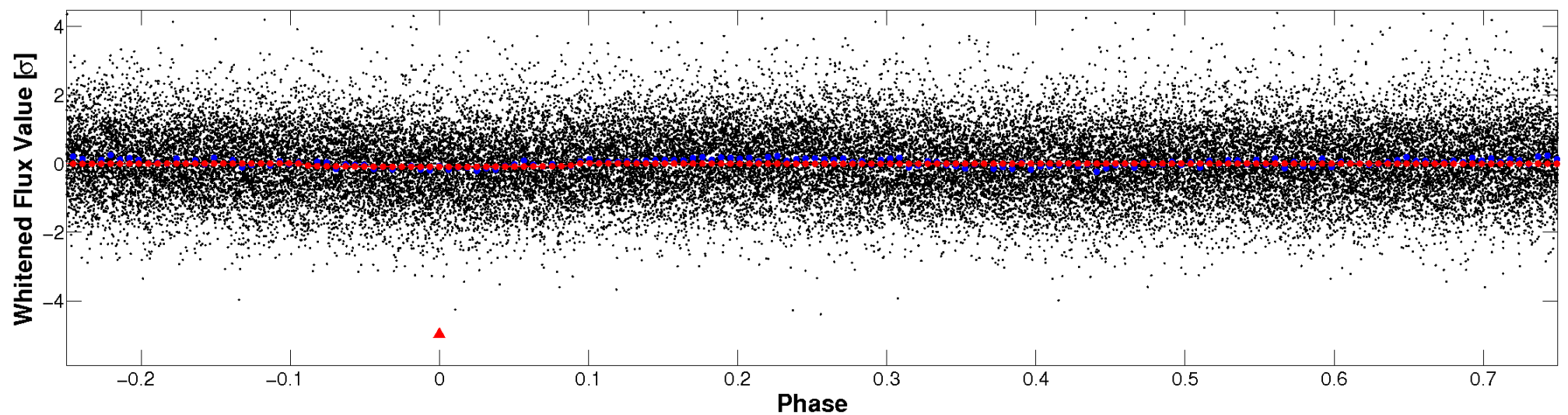


Non-Whitened Vs. Whitened Light Curve

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

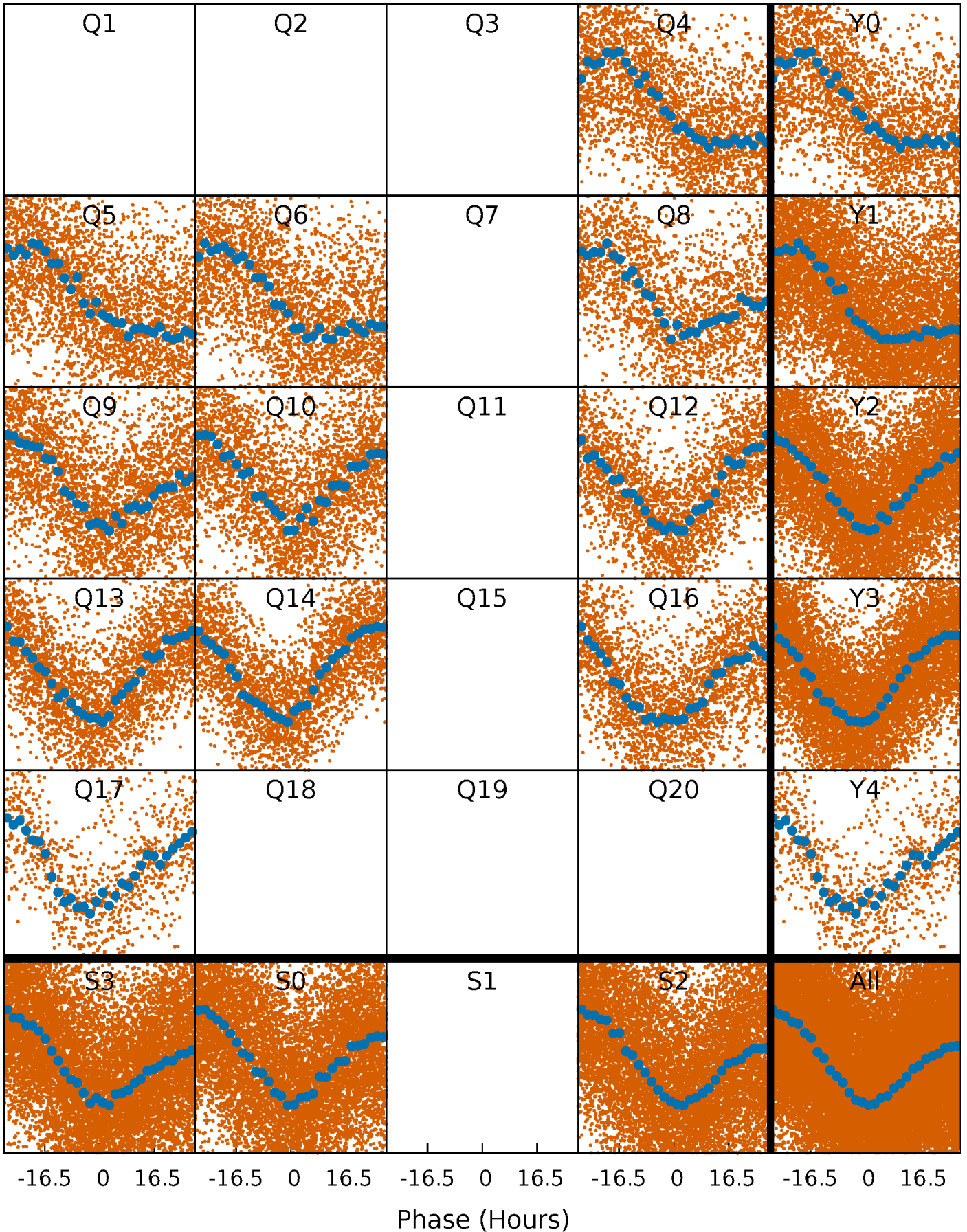


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



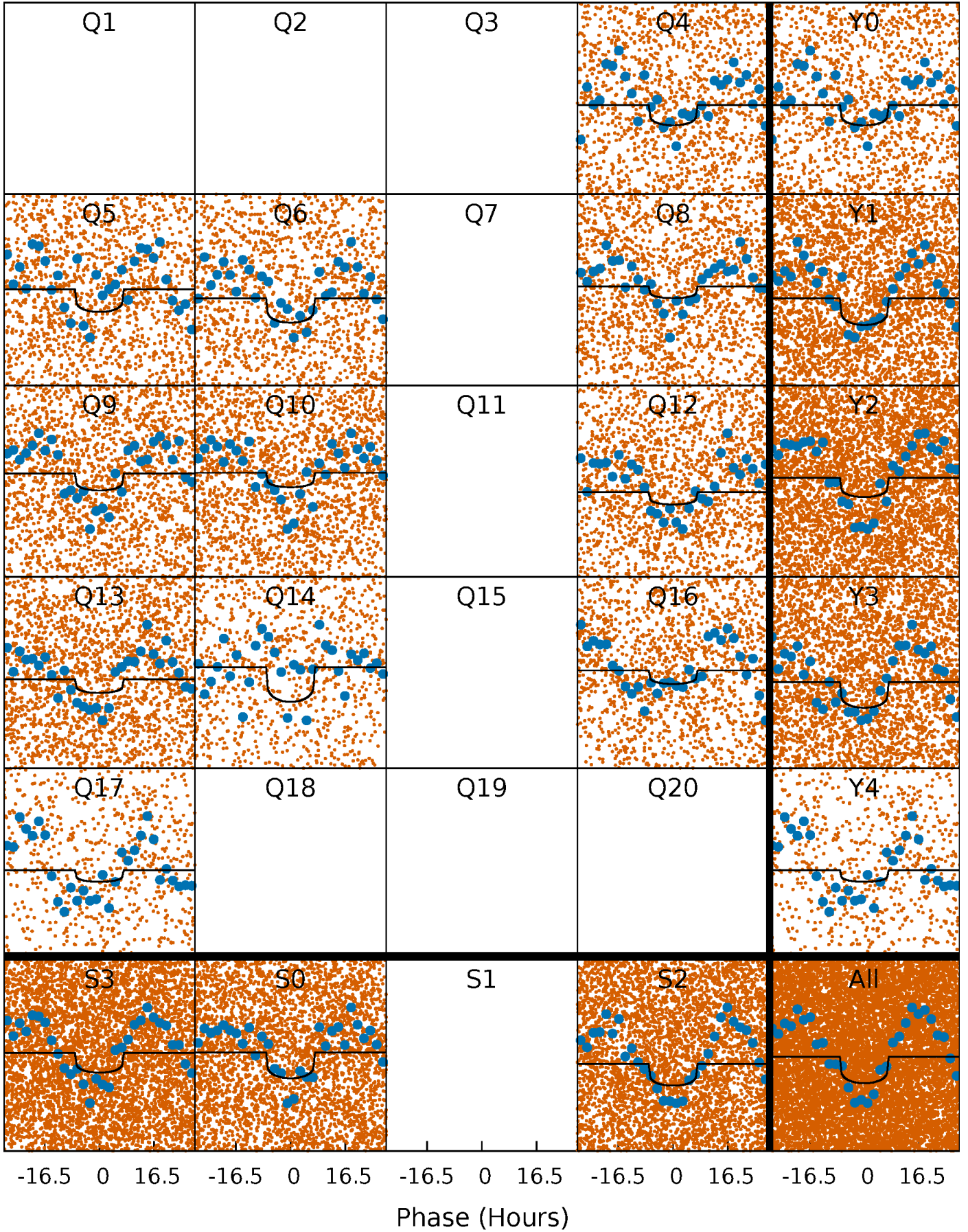
PDC Quarter-Phased Transit Curves

TCE 009786062-01 P= 3.244768 Days $T_0=133.224163$ (BKJD)



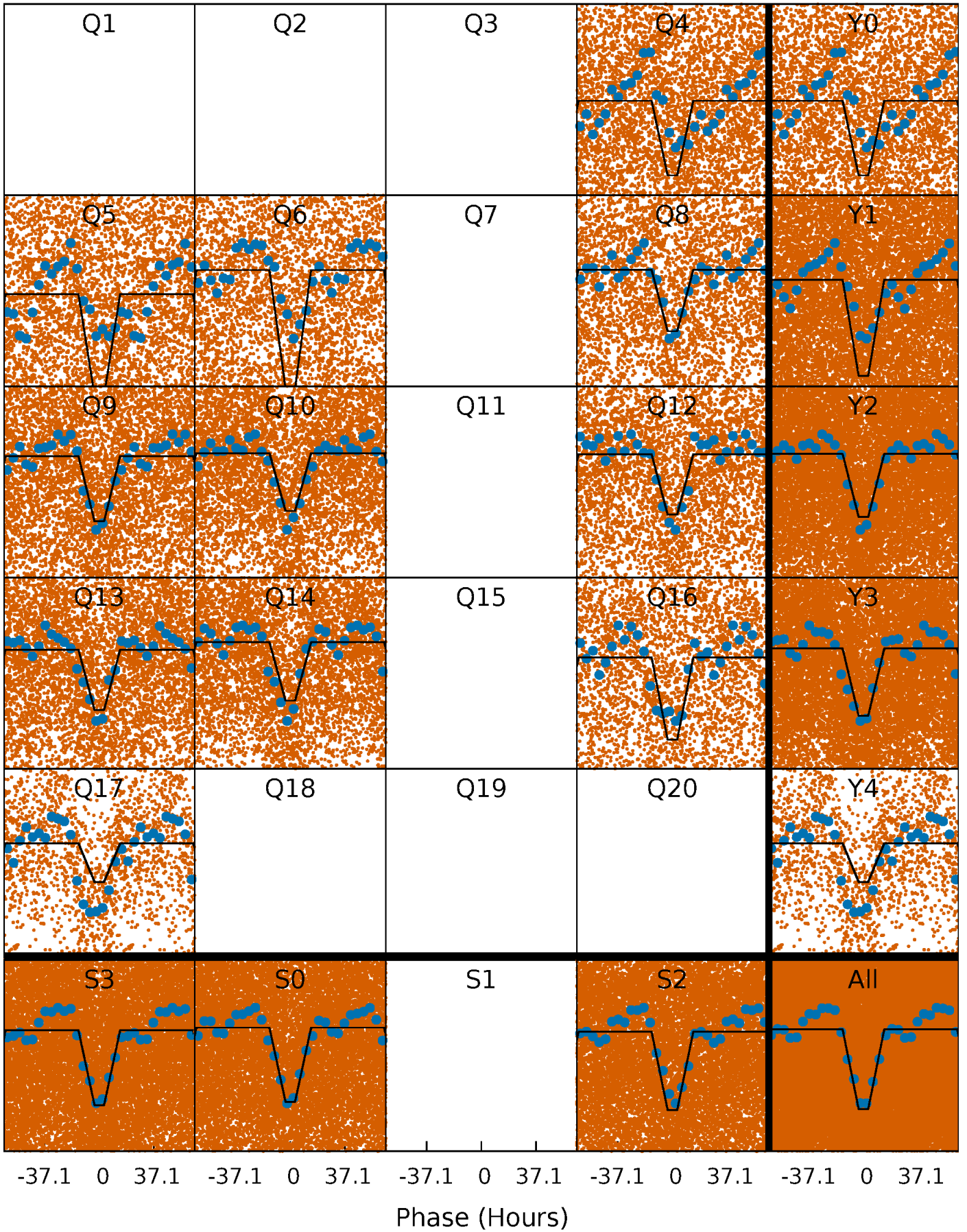
DV Quarter-Phased Transit Curves

TCE 009786062-01 P= 3.244768 Days $T_0=133.224163$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

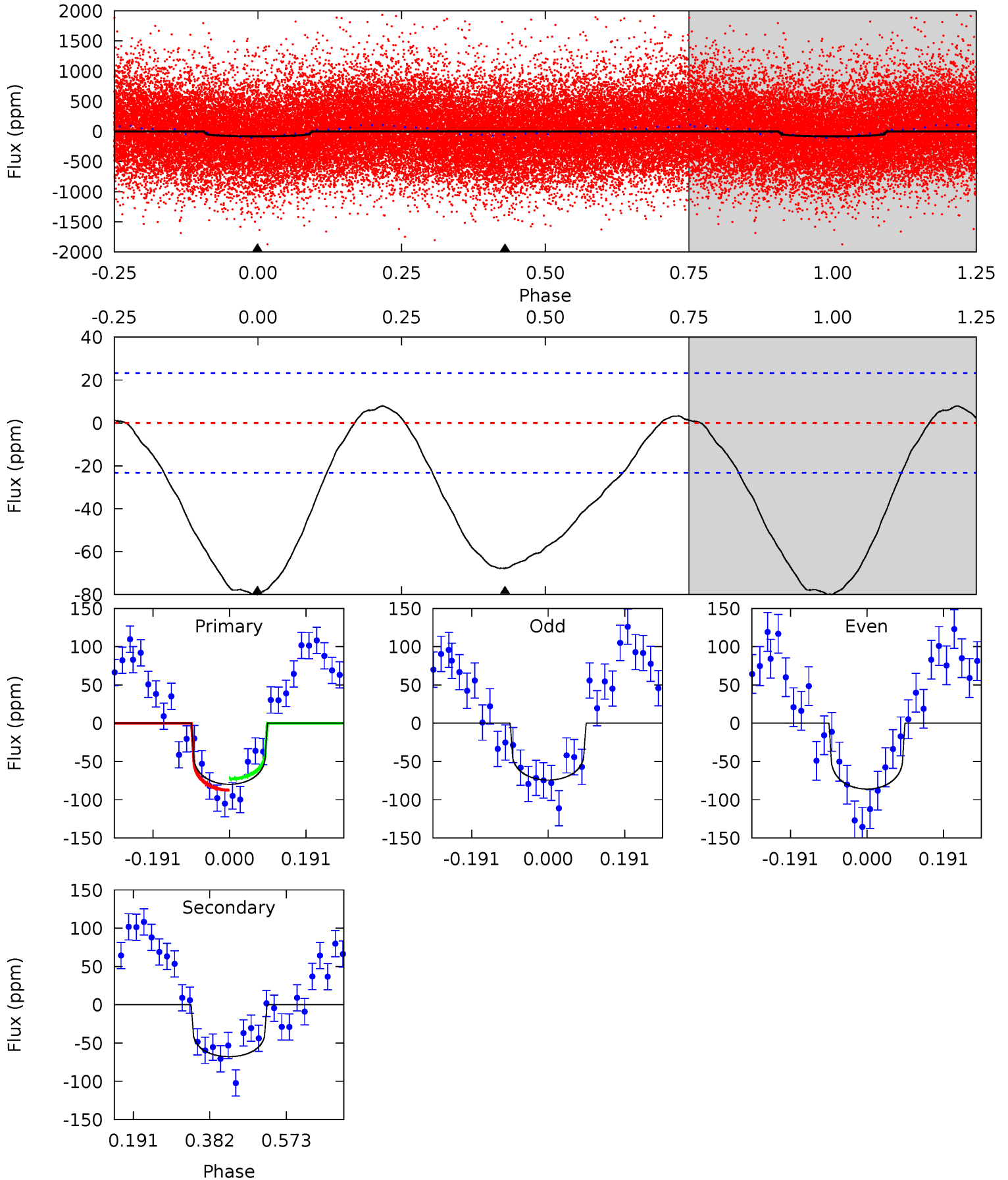
TCE 009786062-01 P= 3.244872 Days $T_0=133.214074$ (BKJD)



DV Model-Shift Uniqueness Test

009786062-01, P = 3.244768 Days, E = 133.224163 Days

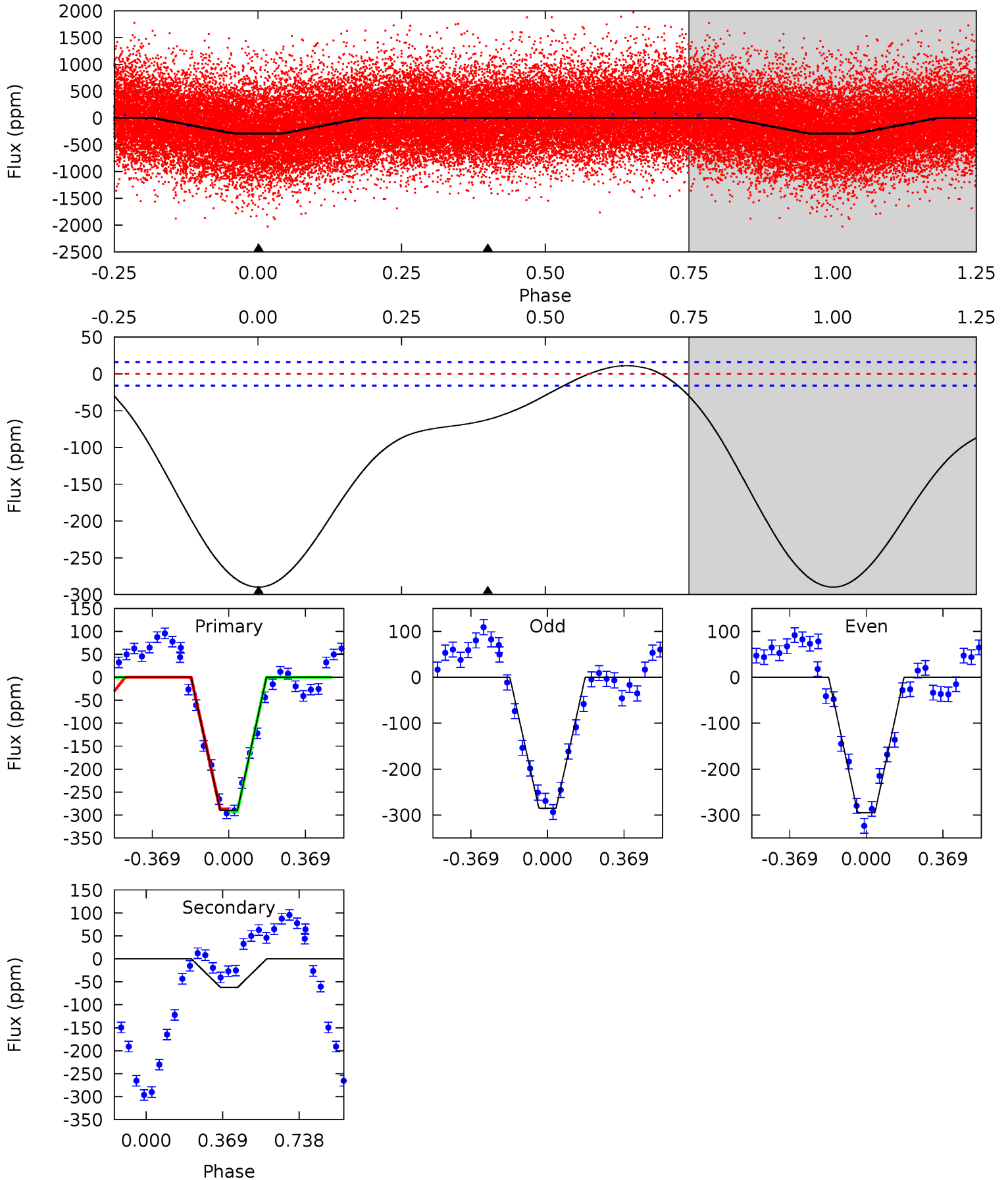
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.2 | 12.9 | 0 | 0 | 4.43 | 1.31 | 1.82 | 15.2 | 15.2 | 12.9 | 12.9 | 1.13 | 1.09 | 0.09 | 1.40 |



Alt Model-Shift Uniqueness Test

009786062-01, P = 3.244872 Days, E = 133.214074 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 77.6 | 16.6 | 0 | 0 | 4.28 | 0.90 | 3.37 | 77.6 | 77.6 | 16.6 | 16.6 | 1.29 | 0.99 | 0.04 | 0.53 |



Stellar Parameters For KIC 009786062

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 6603^{+160}_{-274} | $4.332^{+0.067}_{-0.202}$ | $0.210^{+0.150}_{-0.400}$ | $1.320^{+0.417}_{-0.179}$ | $1.364^{+0.166}_{-0.229}$ | $0.836^{+0.302}_{-0.427}$ |
| | +2%/-4% | +2%/-5% | +71%/-190% | +32%/-14% | +12%/-17% | +36%/-51% |
| 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 009786062-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|-------------------|
| DV | -68 ± 5 | $1.58^{+1.52}_{-1.06}$ | 2188^{+159}_{-127} | 5779^{+5449}_{-1406} | 33^{+265}_{-24} |
| Alt. | -62 ± 4 | $2.67^{+1.79}_{-1.37}$ | 2173^{+148}_{-116} | 4469^{+1691}_{-734} | 10^{+34}_{-7} |

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

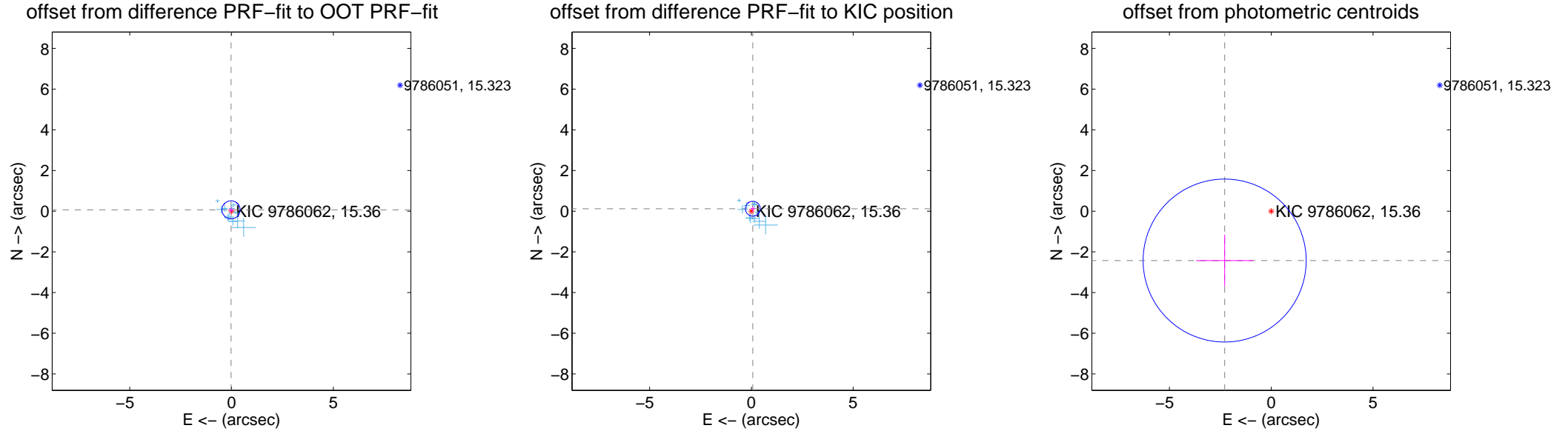
DV Centroid Data

Supplemental centroid analysis for 009786062-01. Kepler magnitude: 15.36. Transit SNR 7.32

There are 11 quarters with good PRF difference image offsets

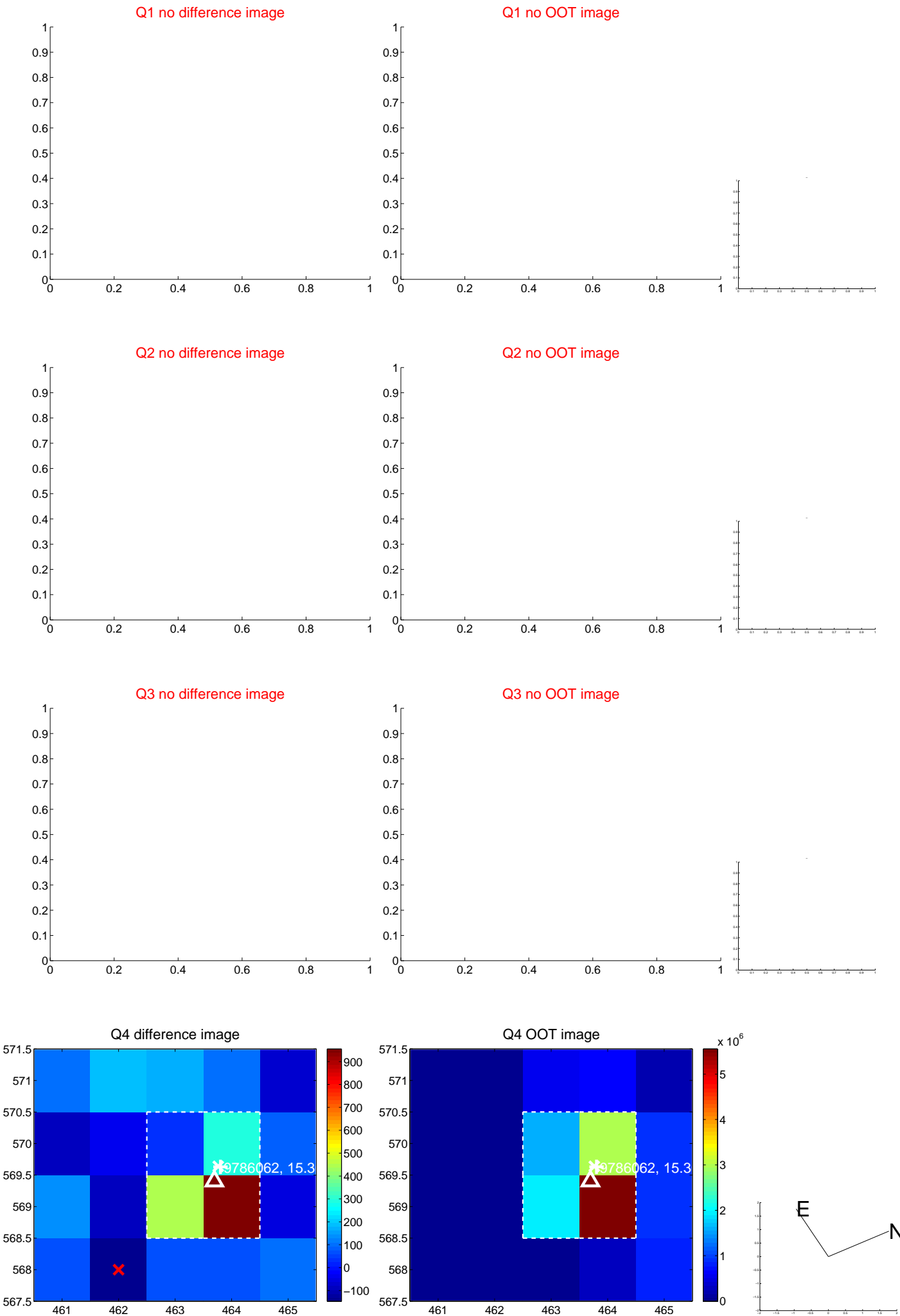
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.070 ± 0.148 | 0.47 | 0.024 ± 0.125 | 0.066 ± 0.129 |
| PRF-fit source offset from KIC position | 0.139 ± 0.122 | 1.14 | -0.070 ± 0.104 | 0.121 ± 0.127 |
| photometric centroid source offset | 3.33 ± 1.33 | 2.50 | 2.29 ± 1.40 | -2.43 ± 1.27 |

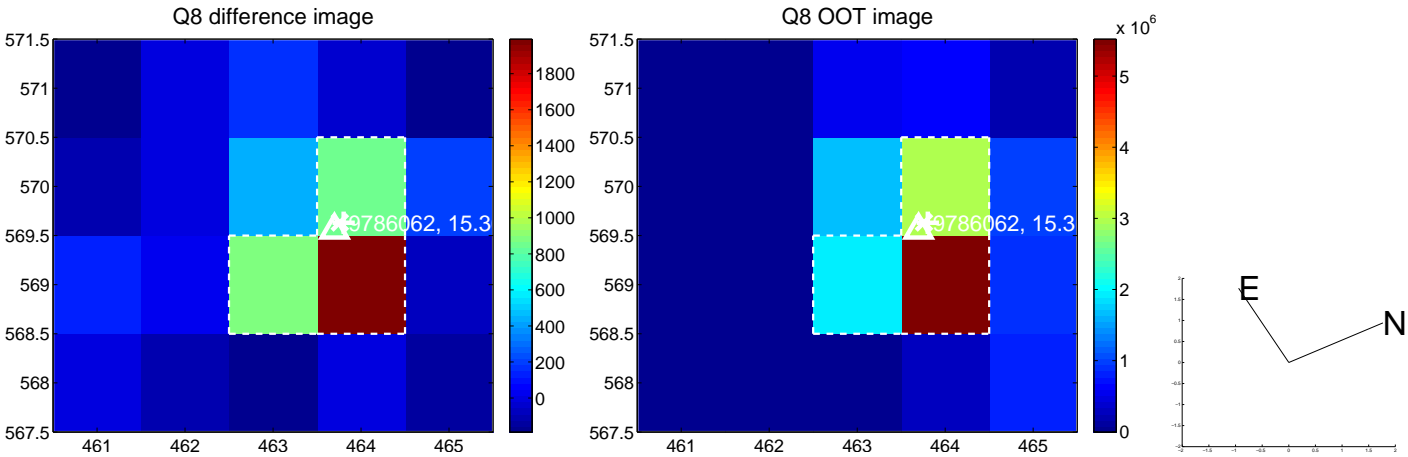
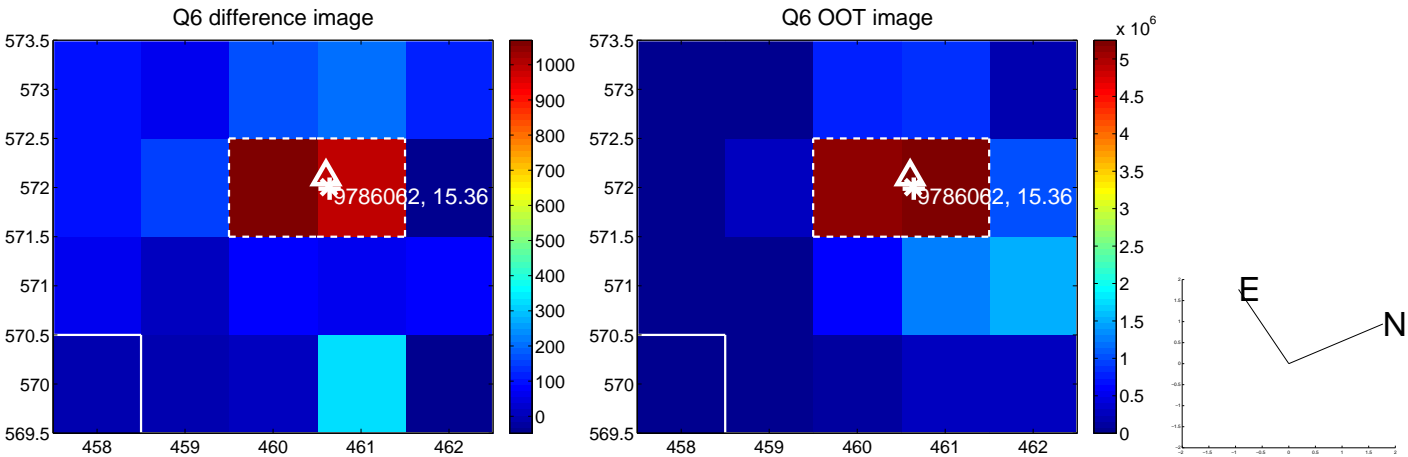
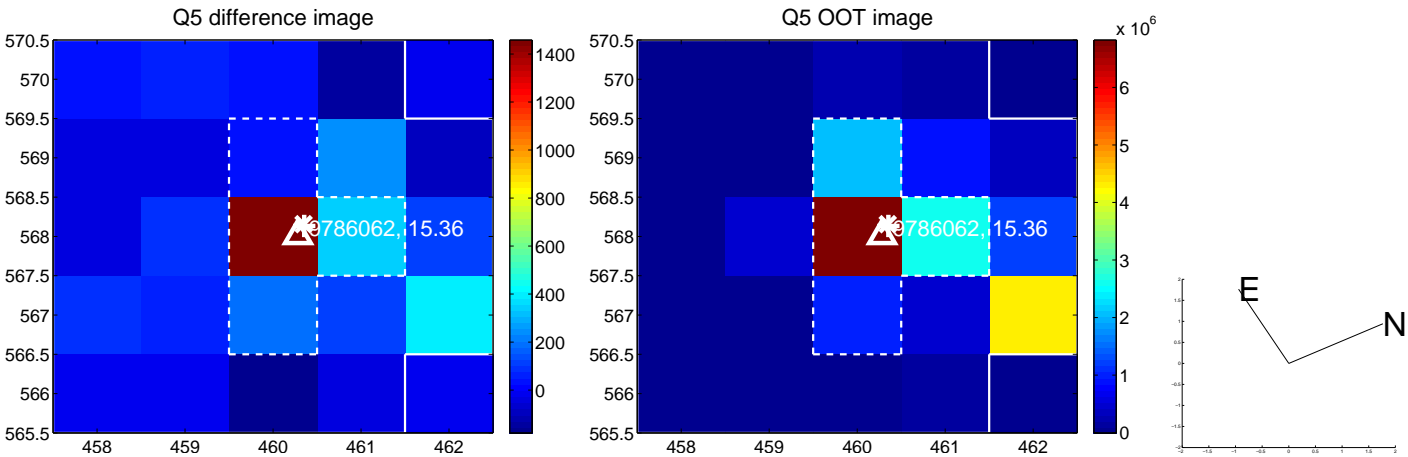


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

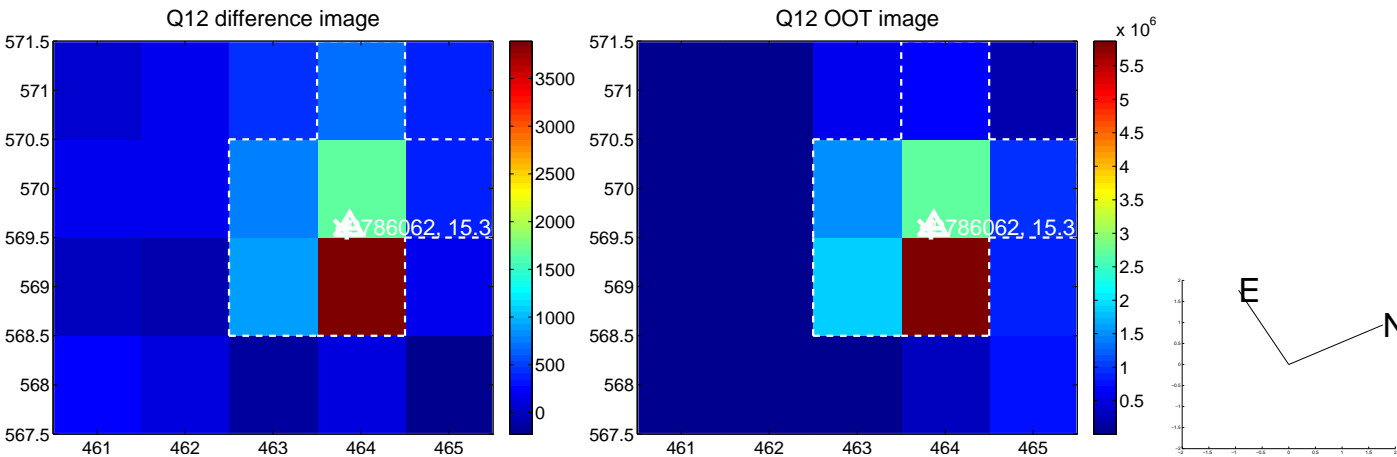
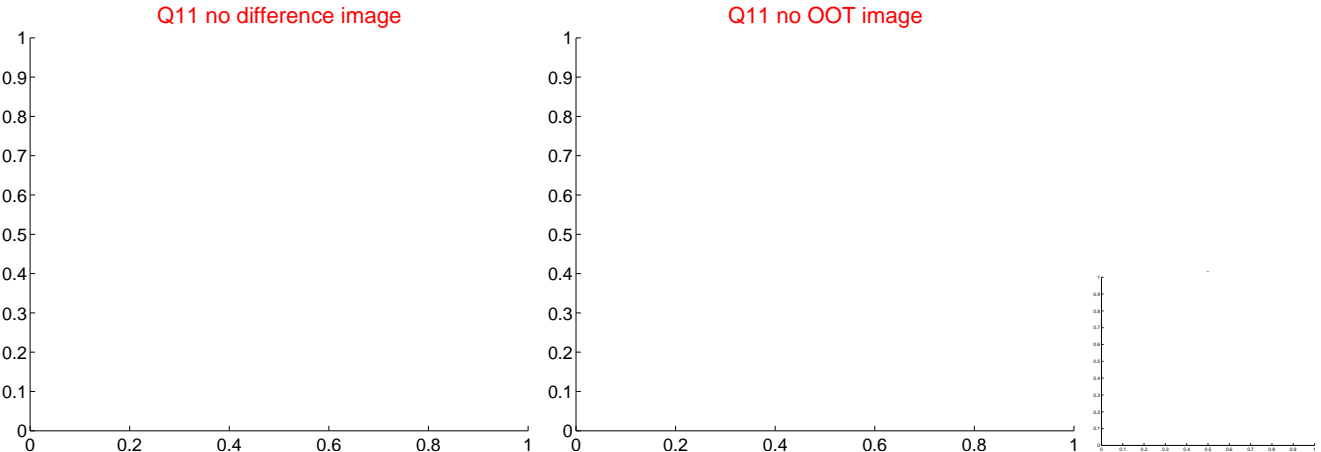
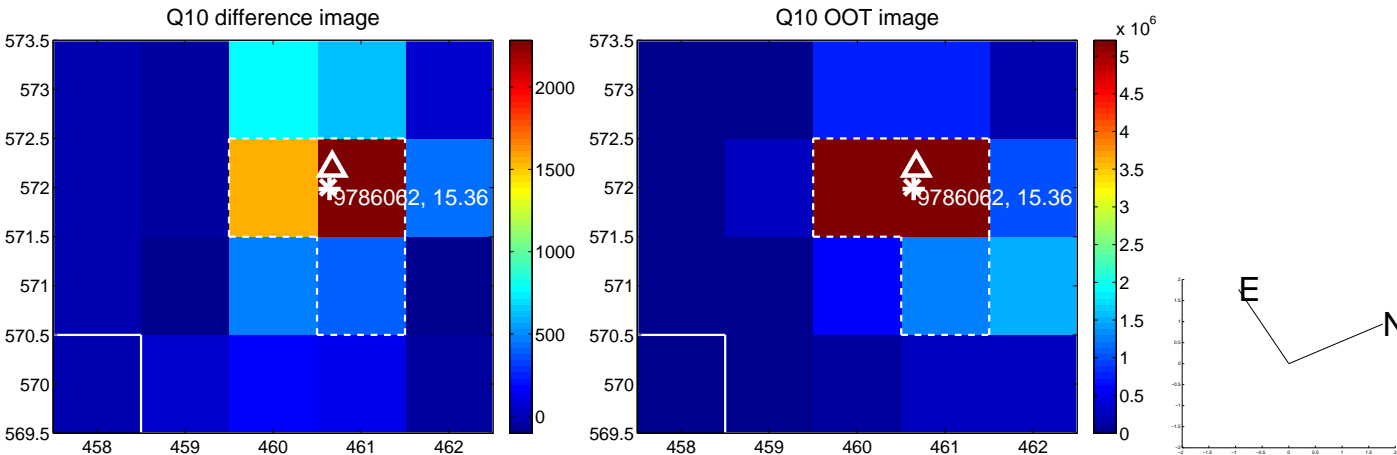
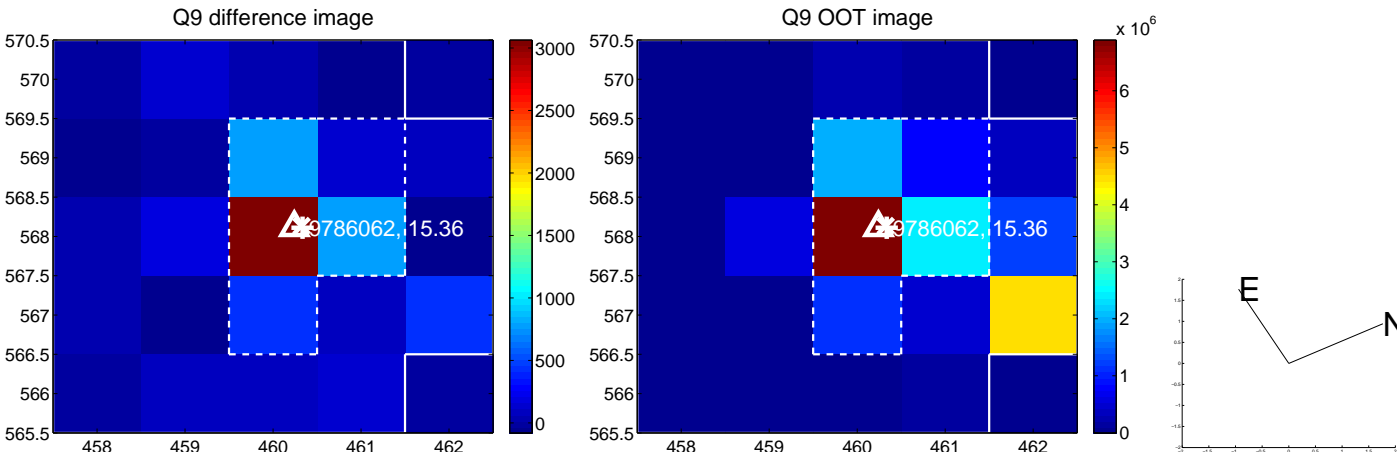
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



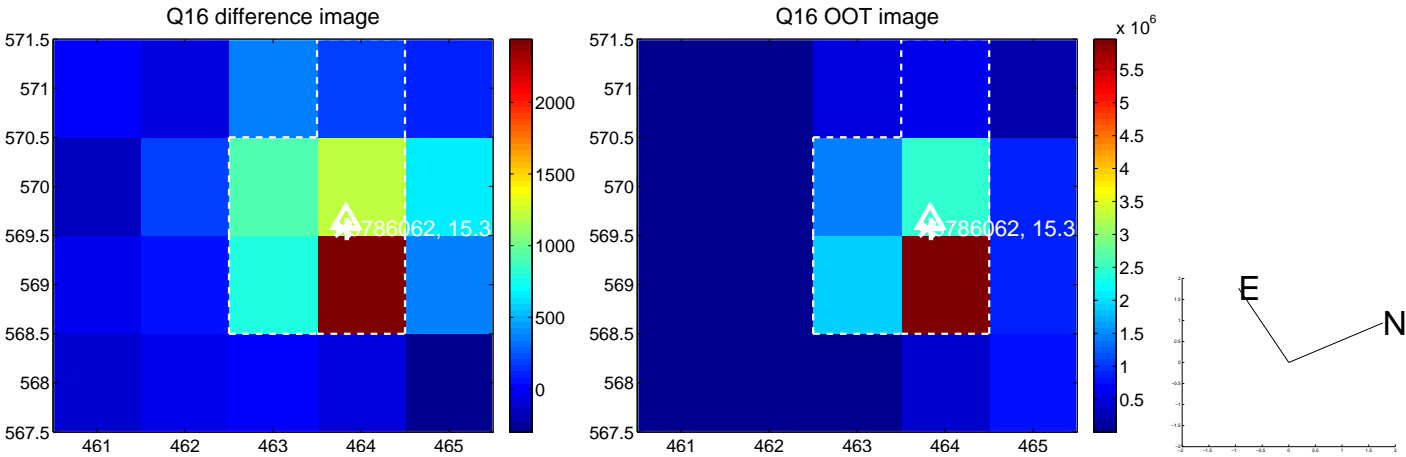
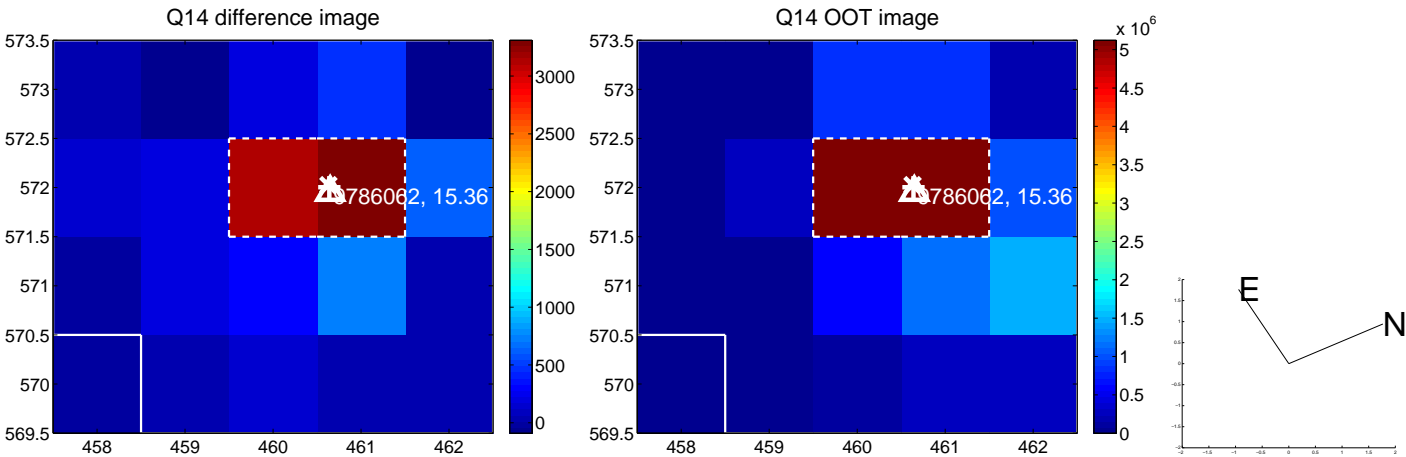
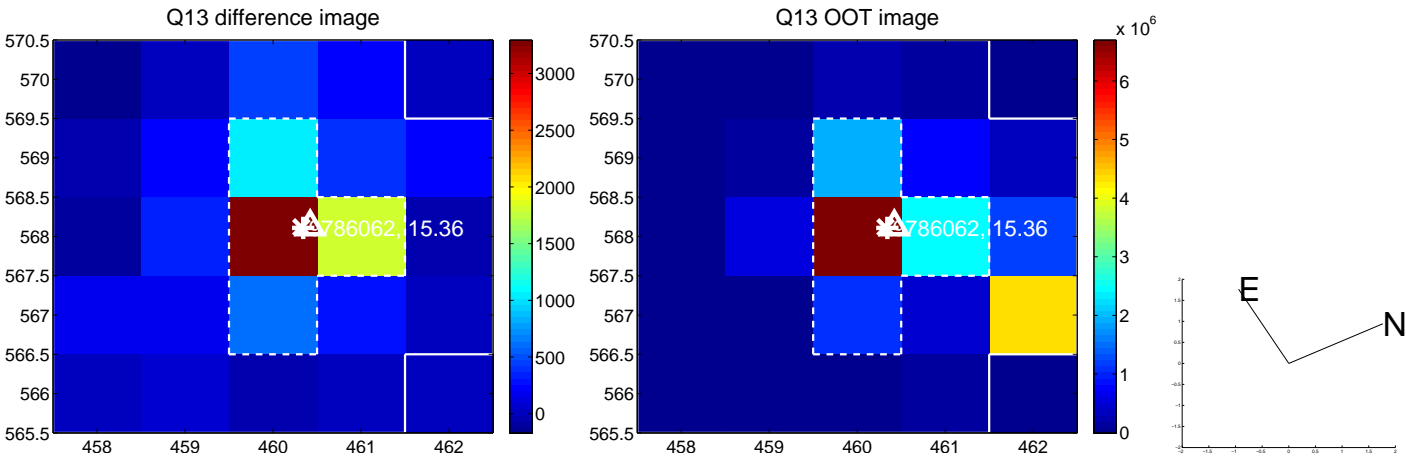
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



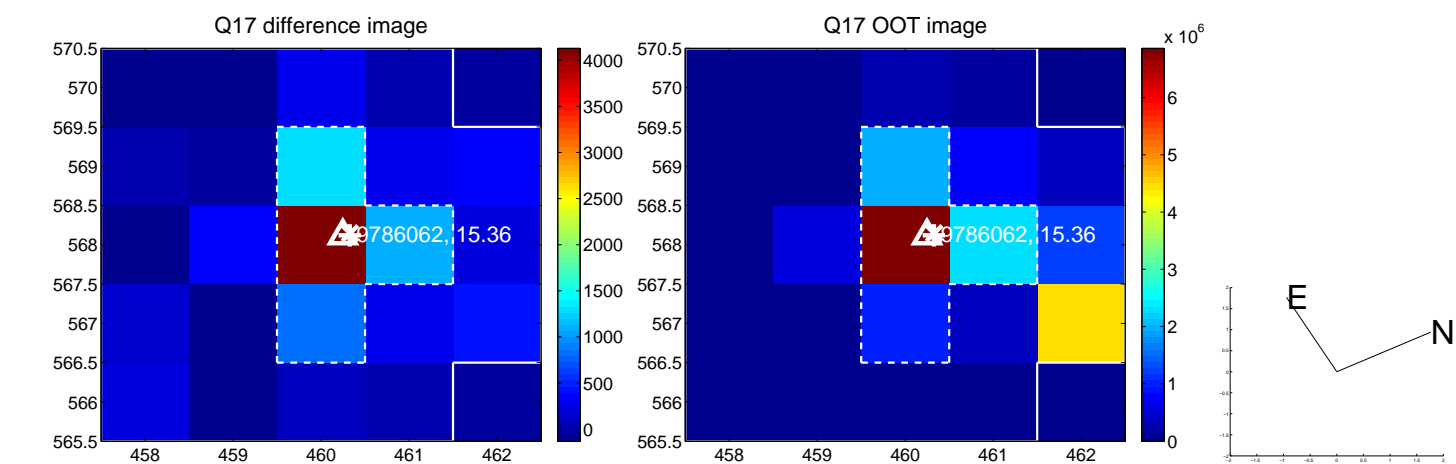
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



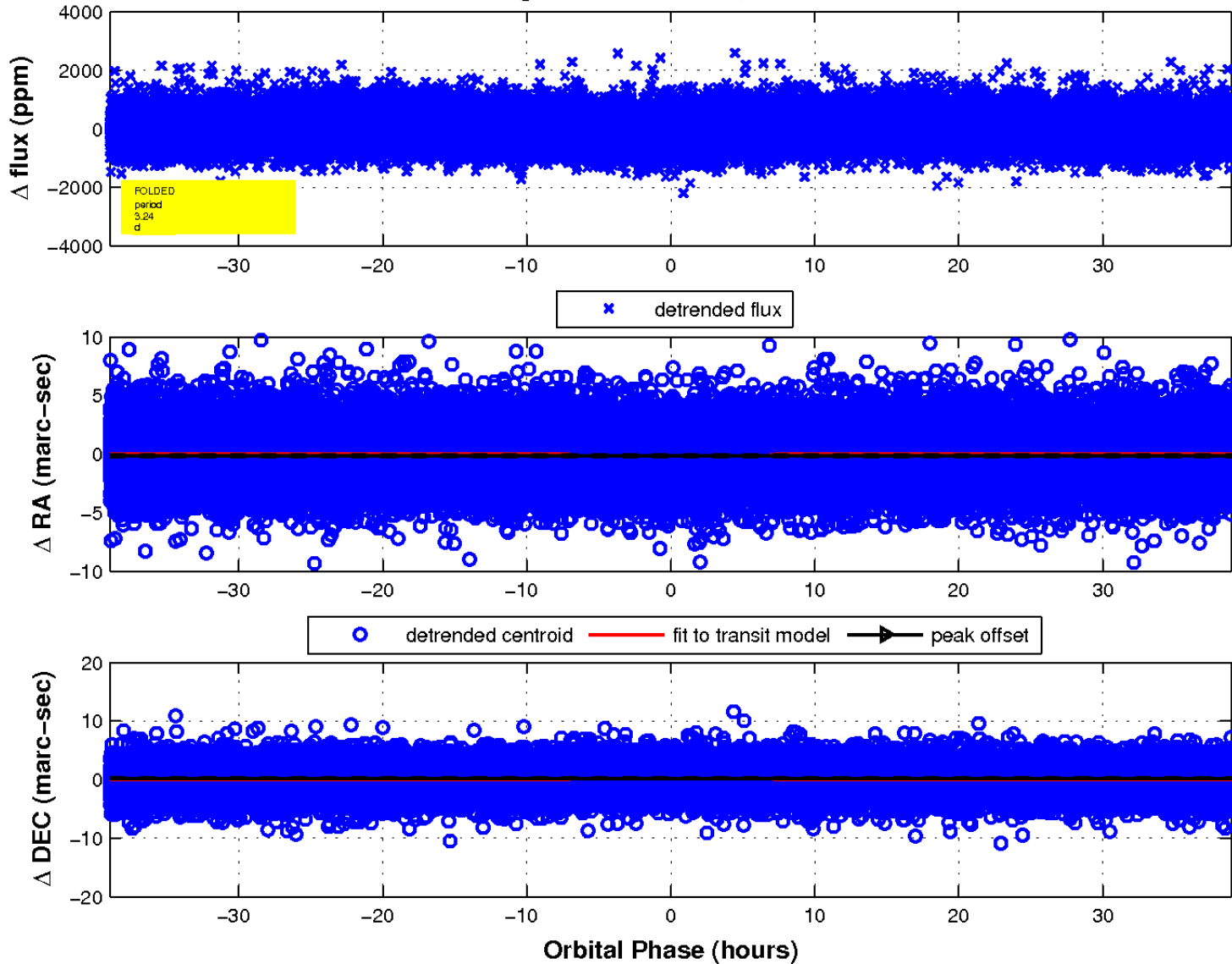
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

