

KIC 008226510

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 008226510-01 | OBS | No | 259.770277 | 314.455546 | 326.8 | 2.829 | 7.7 | 8.0 | 0.99 | 6014 | 2.10 | 1.71 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 008226510-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—CENT_FEW_DIFFS |

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

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

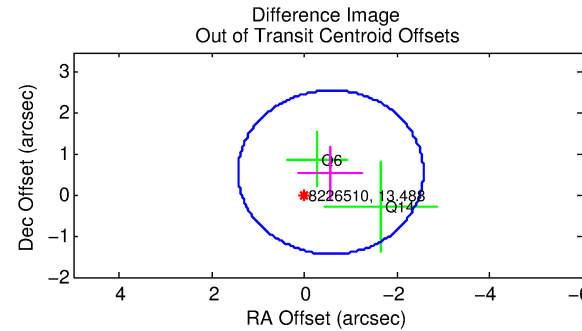
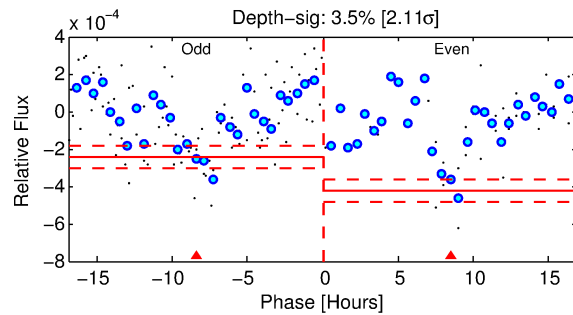
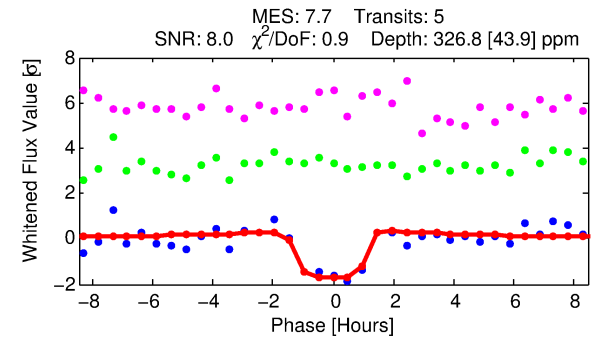
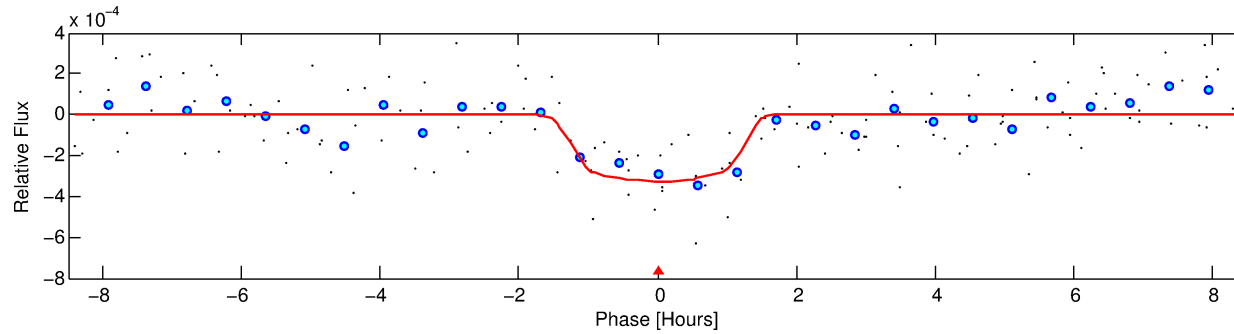
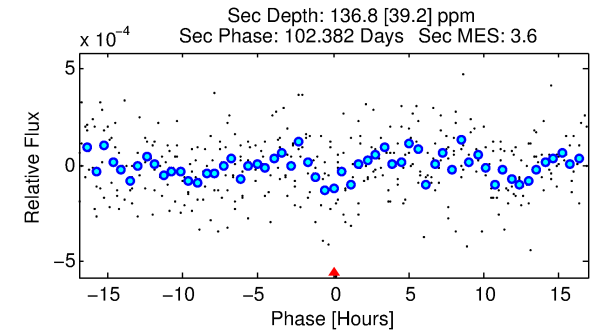
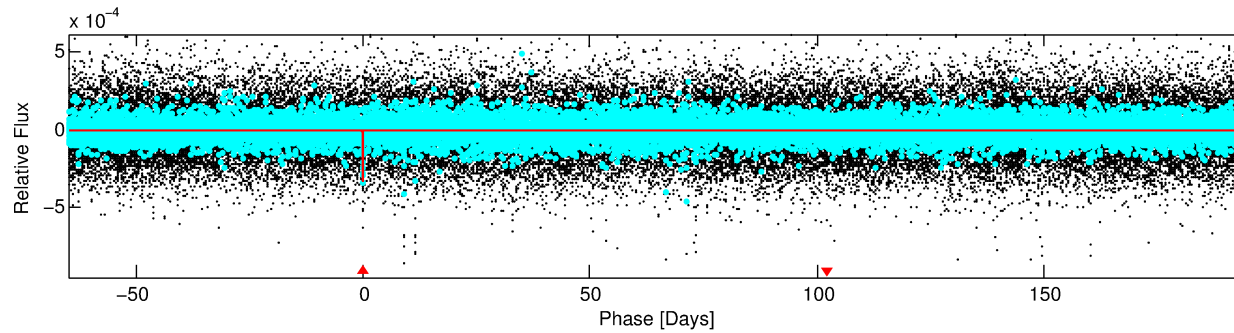
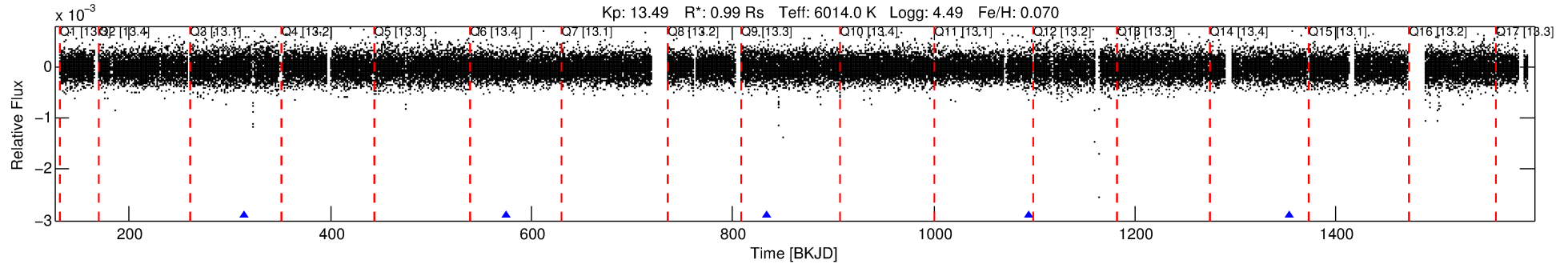
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008226510-01

No Significant Match Found

DV One-Page Summary

KIC: 8226510 Candidate: 1 of 1 Period: 259.770 d



DV Fit Results:

Period = 259.77028 [0.00272] d
Epoch = 314.4555 [0.0078] BKJD
Rp/R* = 0.0193 [0.0095]
a/R* = 355.03 [840.25]
b = 0.88 [0.59]
Seff = 1.71 [0.69]
Teq = 291 [30] K
Rp = 2.10 [1.23] Re
a = 0.8230 [0.2194] AU
Ag = 11598.37 [12721.92] [0.91σ]
Teffp = 4676 [1211] K [3.62σ]

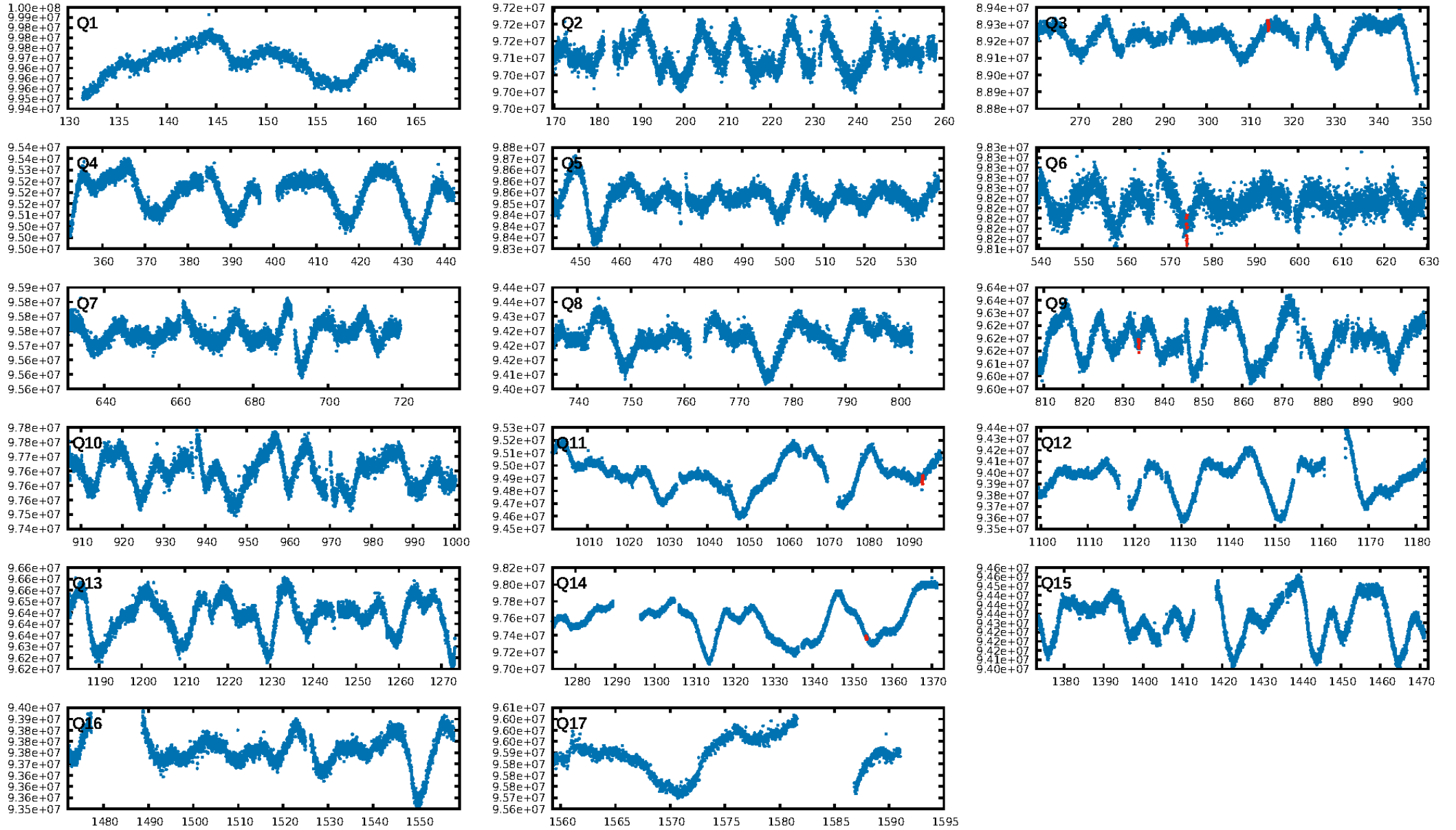
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 33.8%
ModelChiSquareGof-sig: 98.5%
Bootstrap-pfa: 6.05e-11
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 17.97
Centroid-sig: 4.3%
Centroid-so: 0.110 arcsec [0.08σ]
OotOffset-rm: 0.801 arcsec [1.20σ]
KicOffset-rm: 0.785 arcsec [1.16σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [4/4]

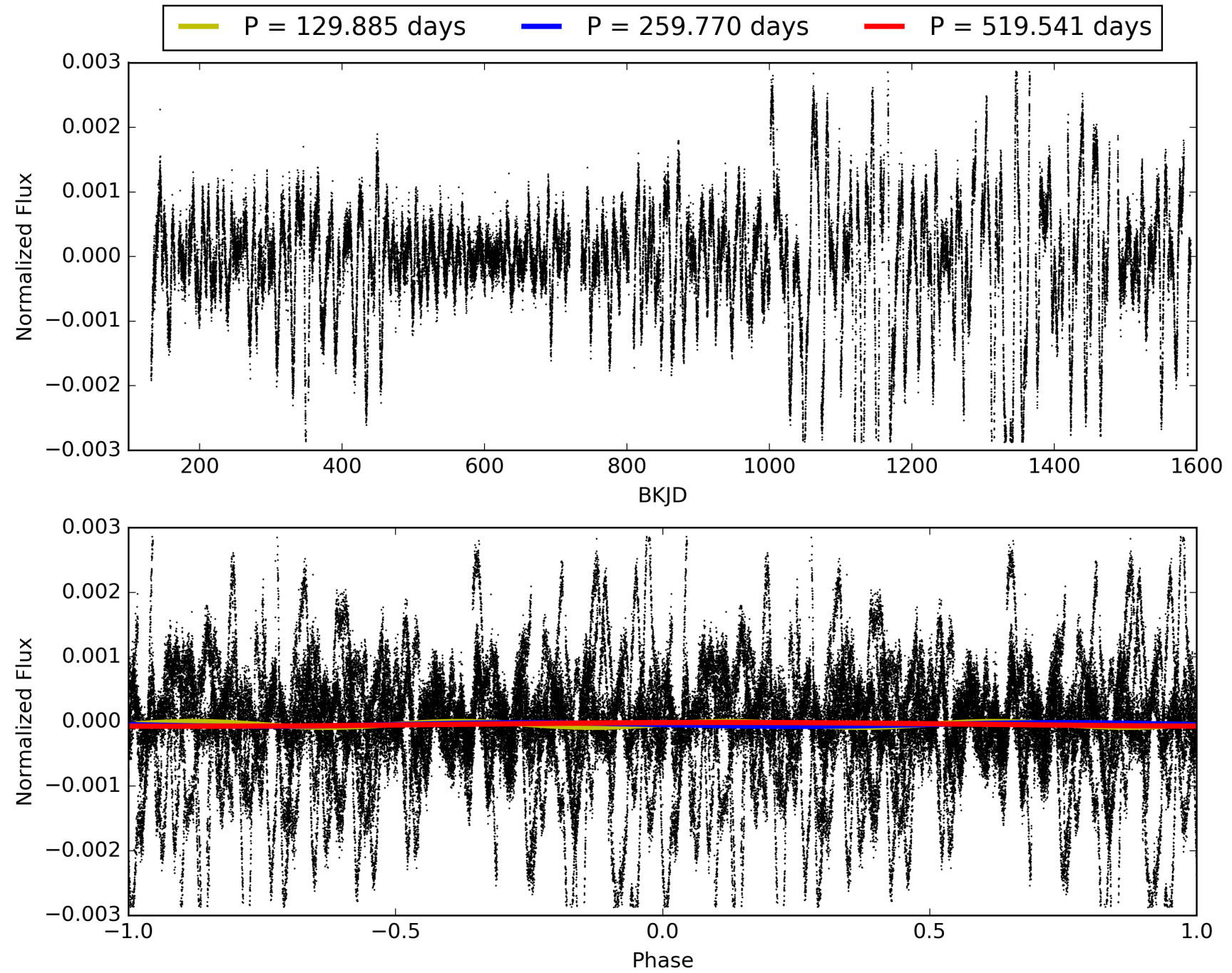
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:03:00 Z

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

TCE 008226510-01, PDC Light Curves

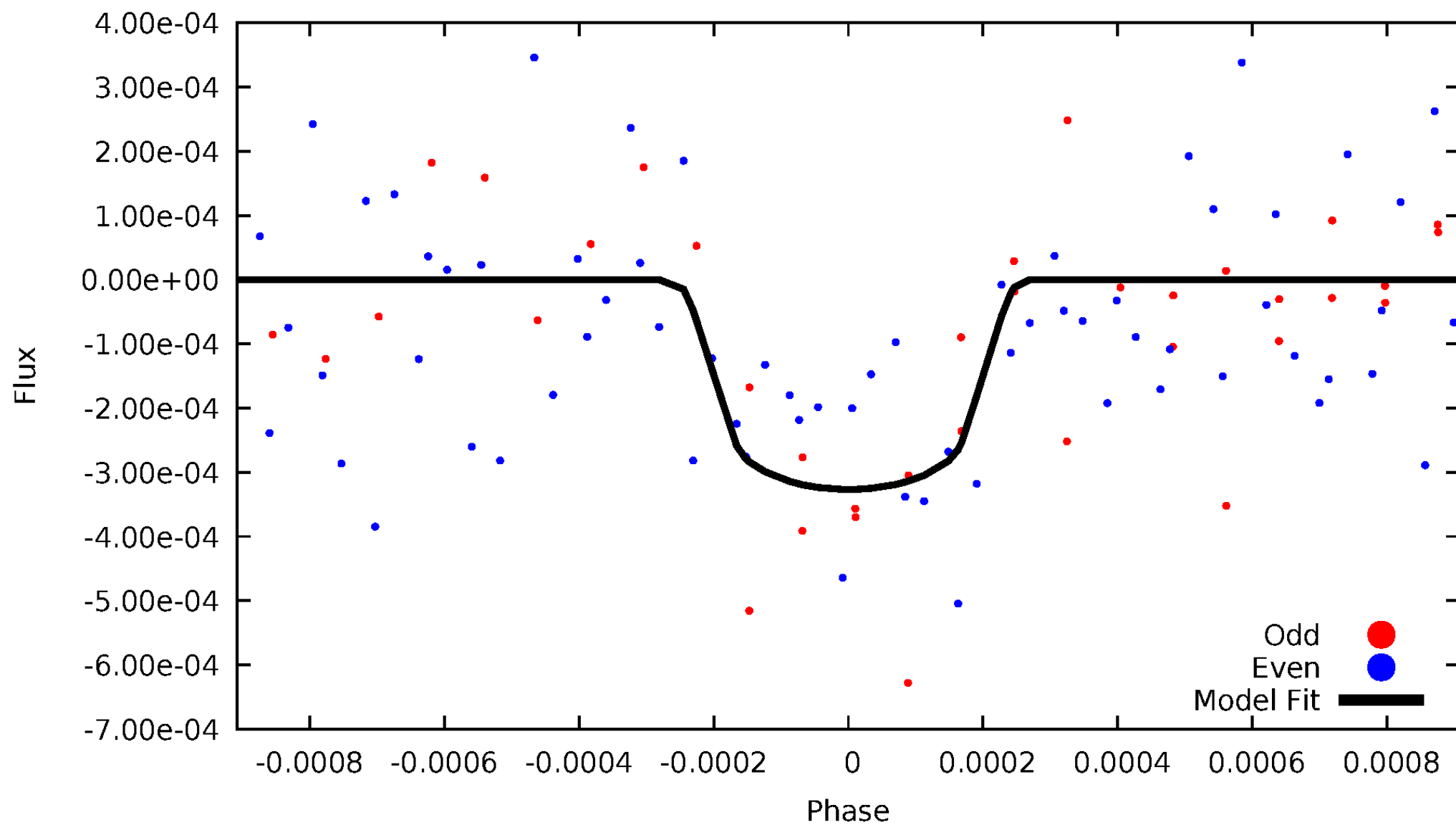


TCE 008226510-01



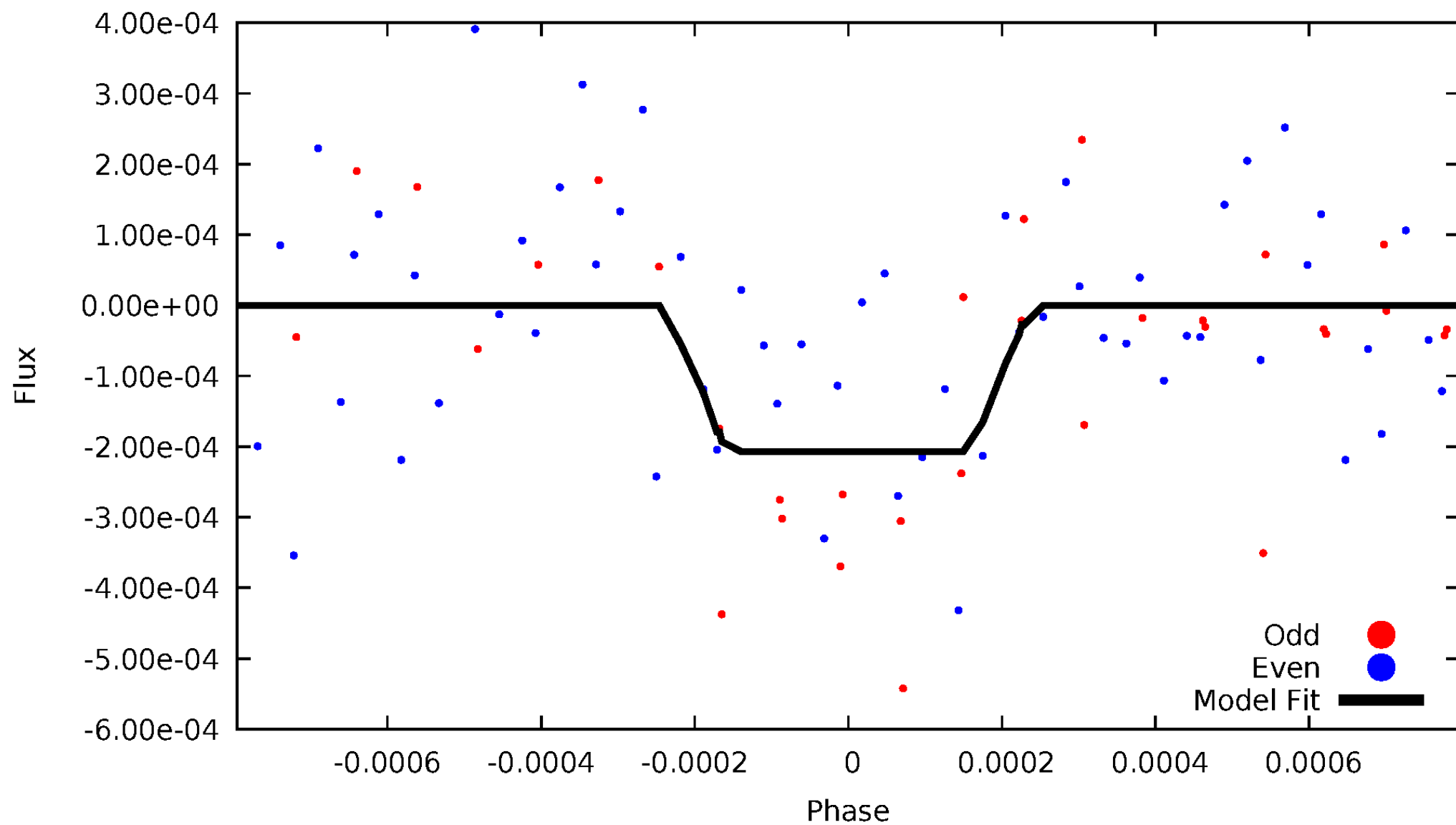
DV Odd/Even

TCE 008226510-01



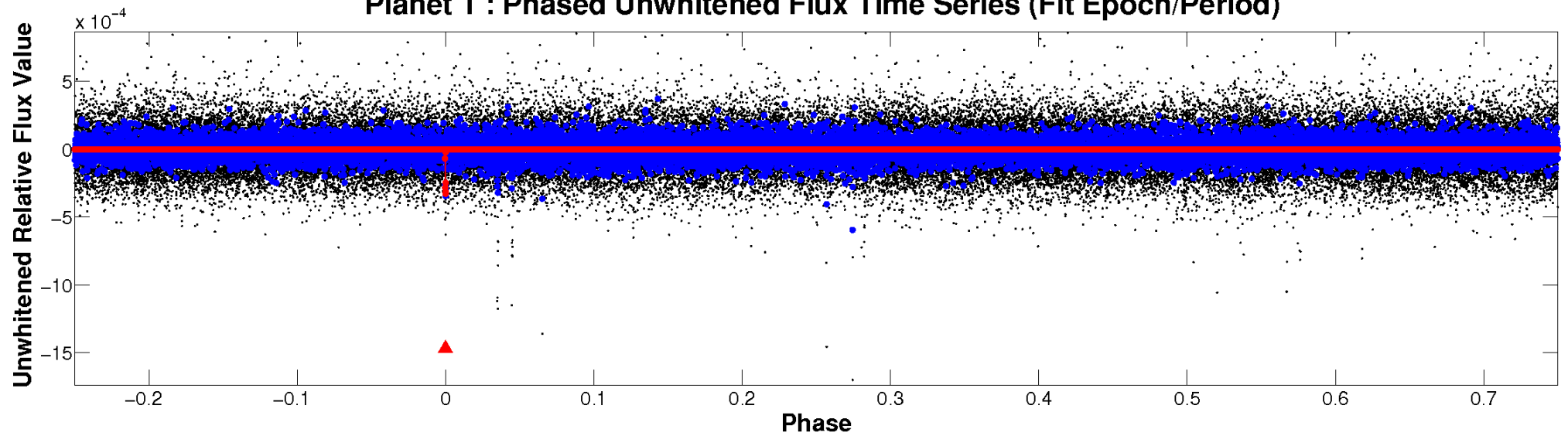
ALT Odd/Even

TCE 008226510-01

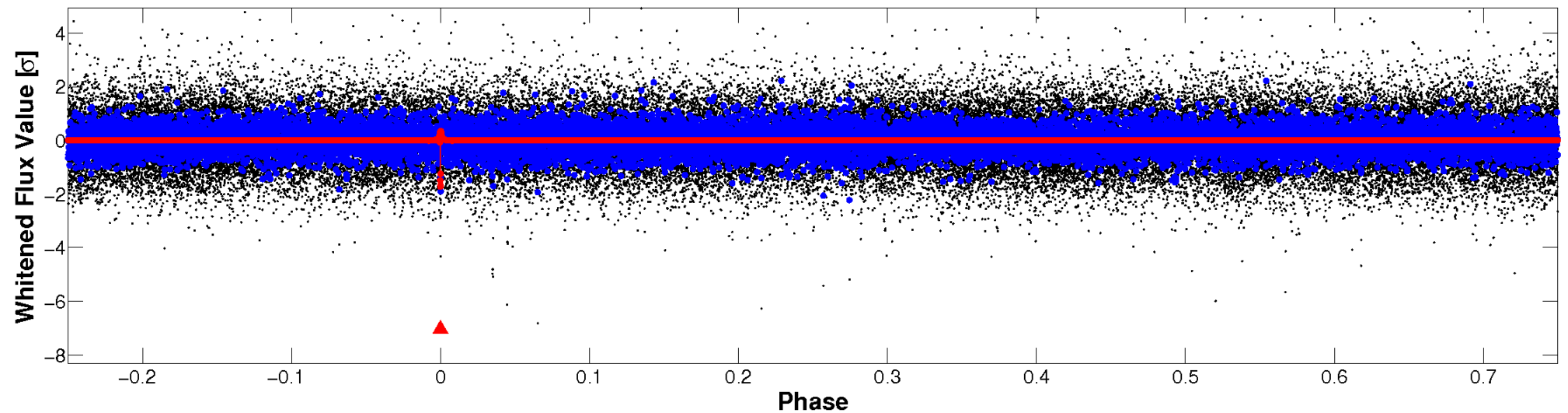


Non-Whitened Vs. Whitened Light Curve

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

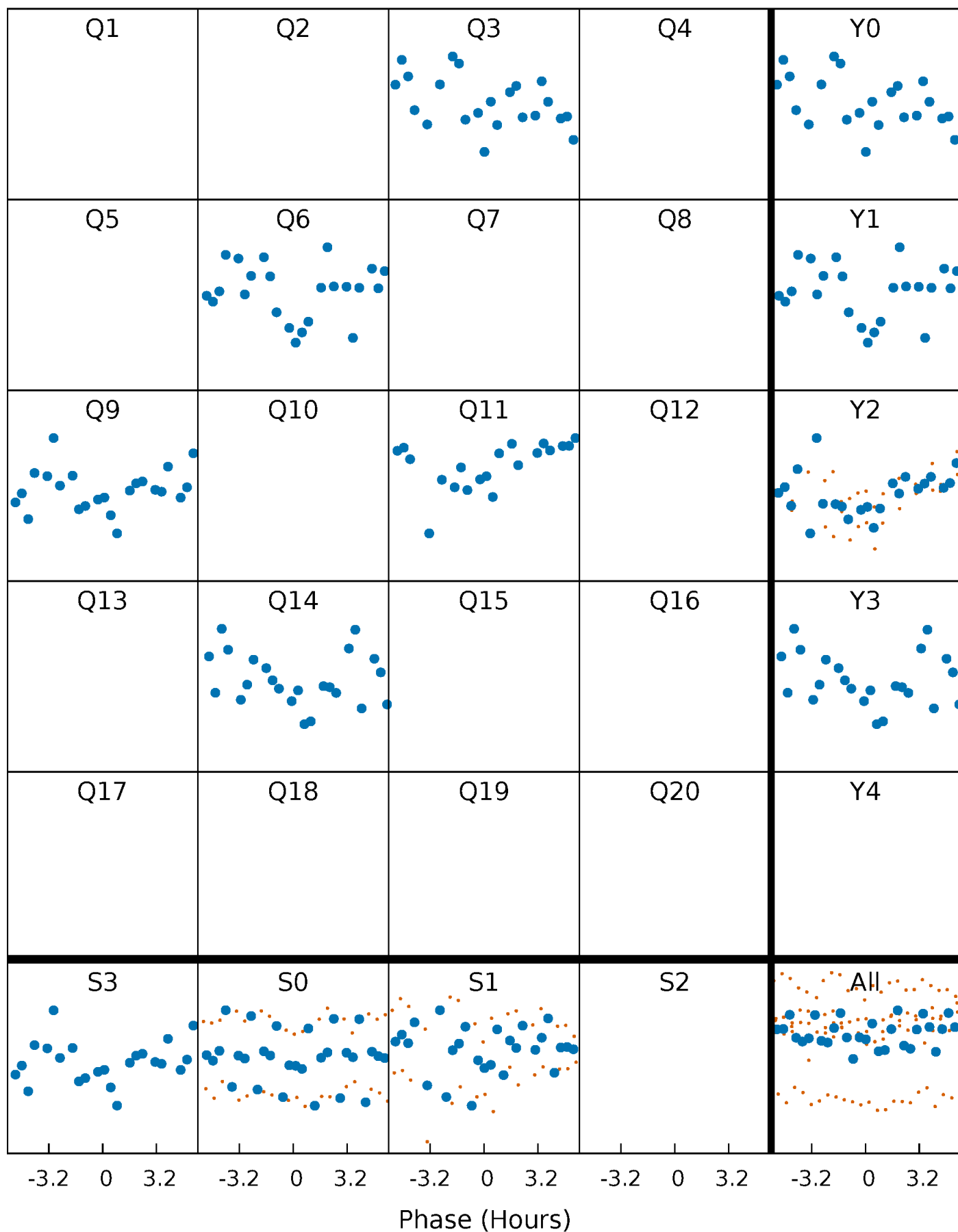


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



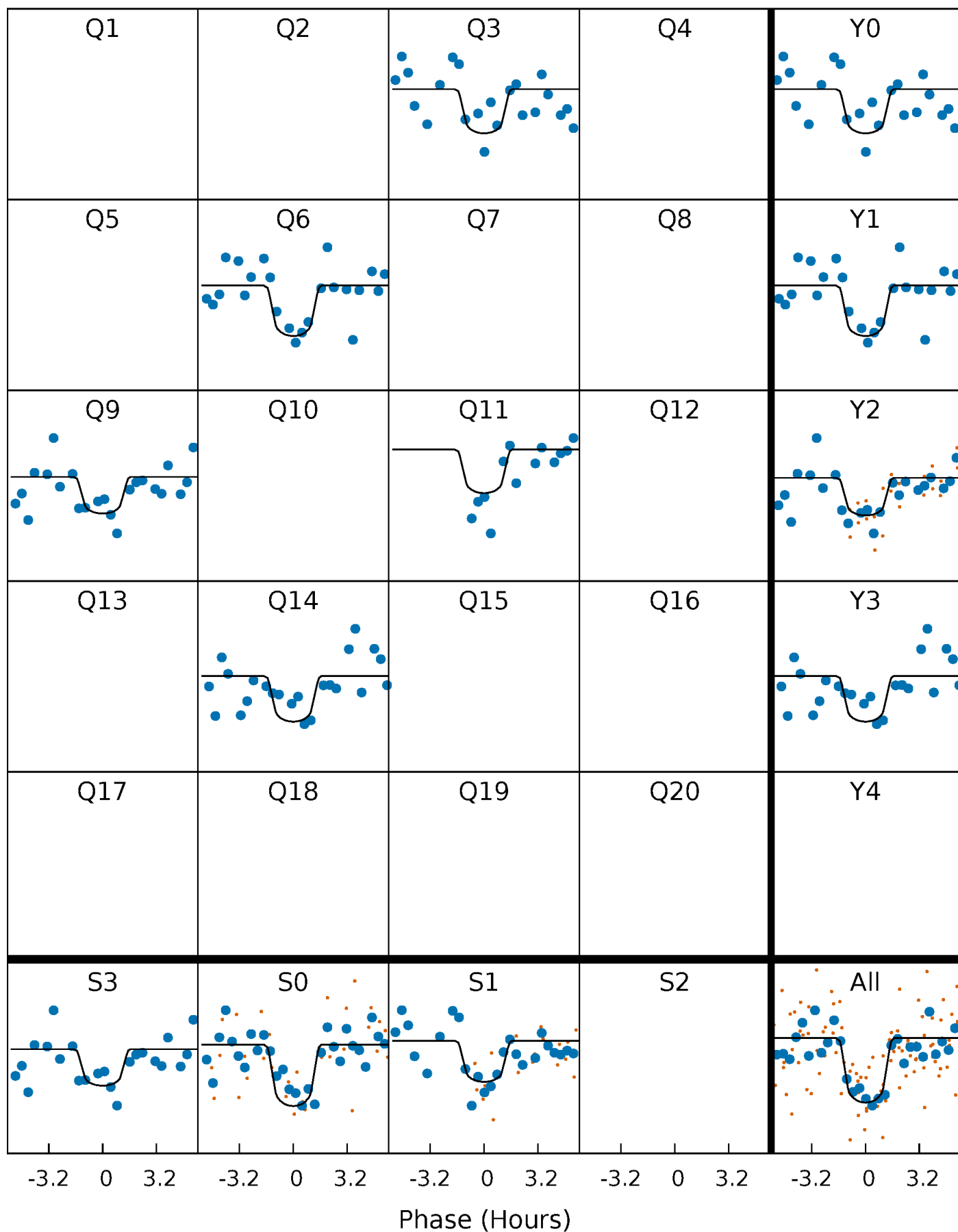
PDC Quarter-Phased Transit Curves

TCE 008226510-01 P=259.770277 Days $T_0=314.455546$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008226510-01 P=259.770277 Days $T_0=314.455546$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

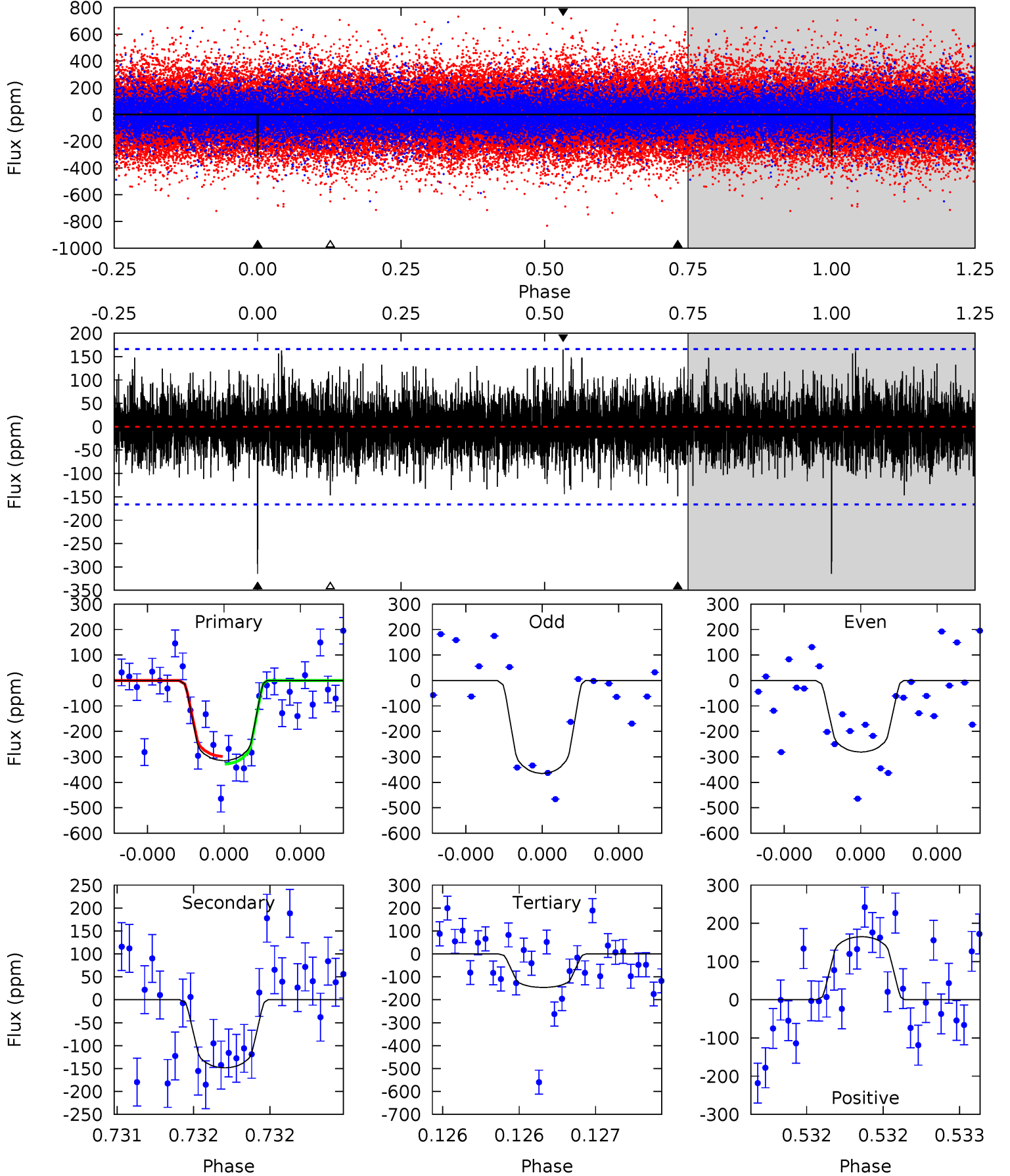
TCE 008226510-01 P=259.769828 Days $T_0=314.461474$ (BKJD)



DV Model-Shift Uniqueness Test

008226510-01, $P = 259.770277$ Days, $E = 54.685269$ Days

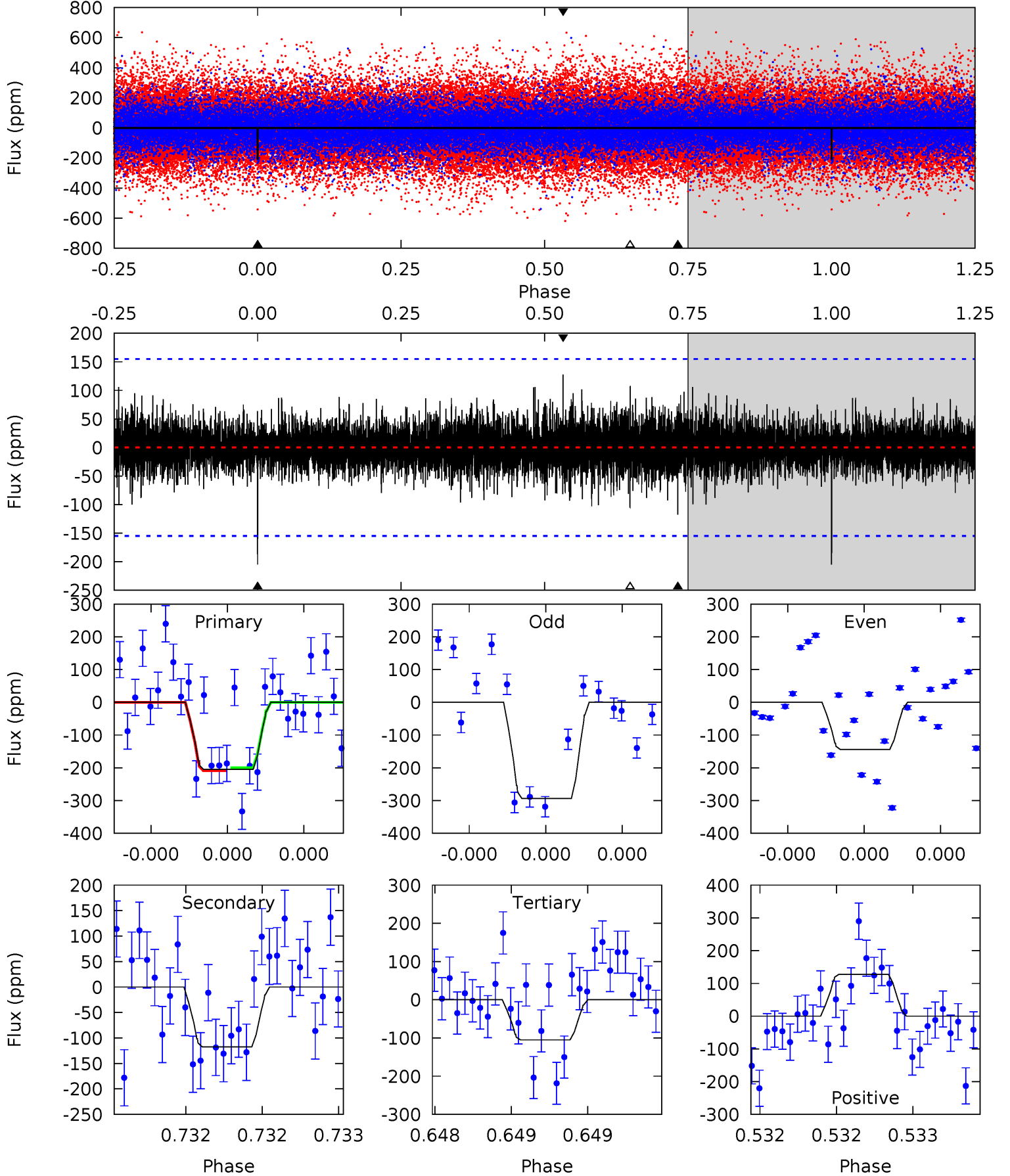
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.6 | 4.98 | 4.91 | 5.54 | 5.58 | 3.49 | 1.38 | 5.64 | 5.02 | 0.07 | -0.56 | 1.40 | 1.07 | 0.34 | 0.49 |



Alt Model-Shift Uniqueness Test

008226510-01, P = 259.769828 Days, E = 54.691646 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 7.39 | 4.24 | 3.79 | 4.60 | 5.59 | 3.51 | 0.99 | 3.61 | 2.79 | 0.45 | -0.37 | 2.64 | 0.85 | 0.38 | 0.17 |



Stellar Parameters For KIC 008226510

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 6014^{+163}_{-199} | $4.486^{+0.052}_{-0.208}$ | $0.070^{+0.250}_{-0.350}$ | $0.993^{+0.318}_{-0.106}$ | $1.101^{+0.120}_{-0.160}$ | $1.584^{+0.335}_{-0.844}$ |
| | +3%/-3% | +1%/-5% | +357%/-500% | +32%/-11% | +11%/-15% | +21%/-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 008226510-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|------------------------|-------------------|-----------------------|--------------------------|
| DV | -148 ± 30 | $2.20^{+1.16}_{-1.02}$ | 416^{+29}_{-21} | 4853^{+1766}_{-732} | 11322^{+28382}_{-6621} |
| Alt. | -117 ± 28 | $1.71^{+1.11}_{-0.92}$ | 414^{+29}_{-18} | 5084^{+2524}_{-888} | 14060^{+54819}_{-8851} |

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 $A_{obs} \gg 1.0$

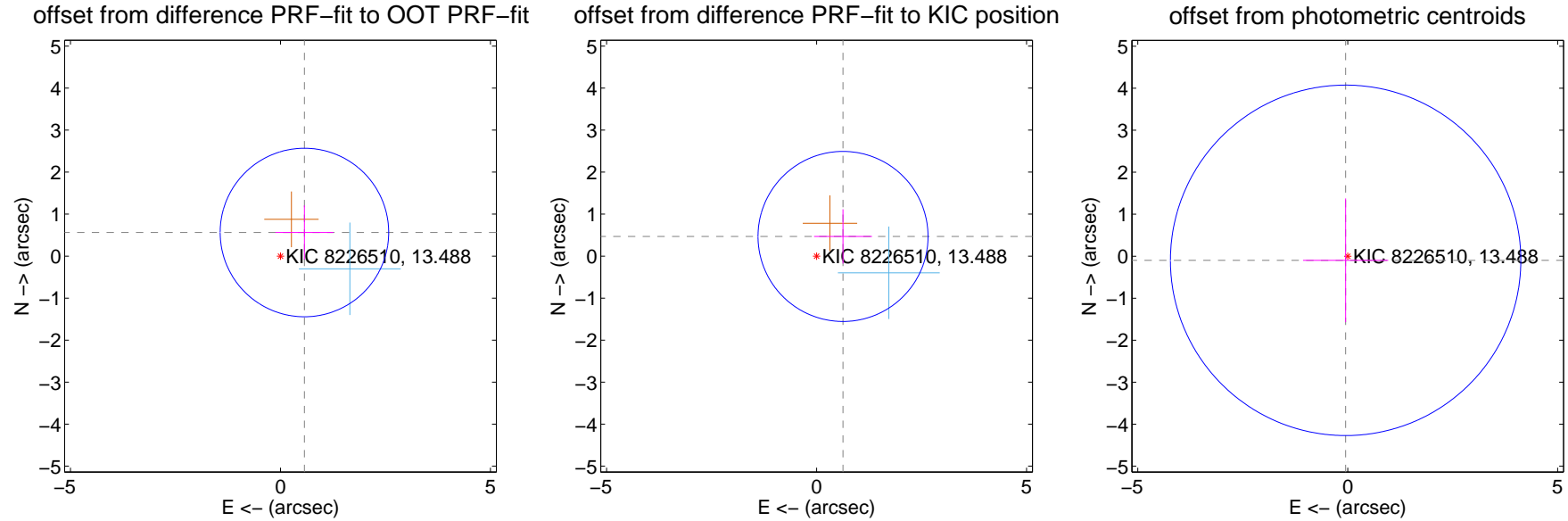
DV Centroid Data

Supplemental centroid analysis for 008226510-01. Kepler magnitude: 13.49. Transit SNR 7.95

There are 1 quarters with good PRF difference image offsets

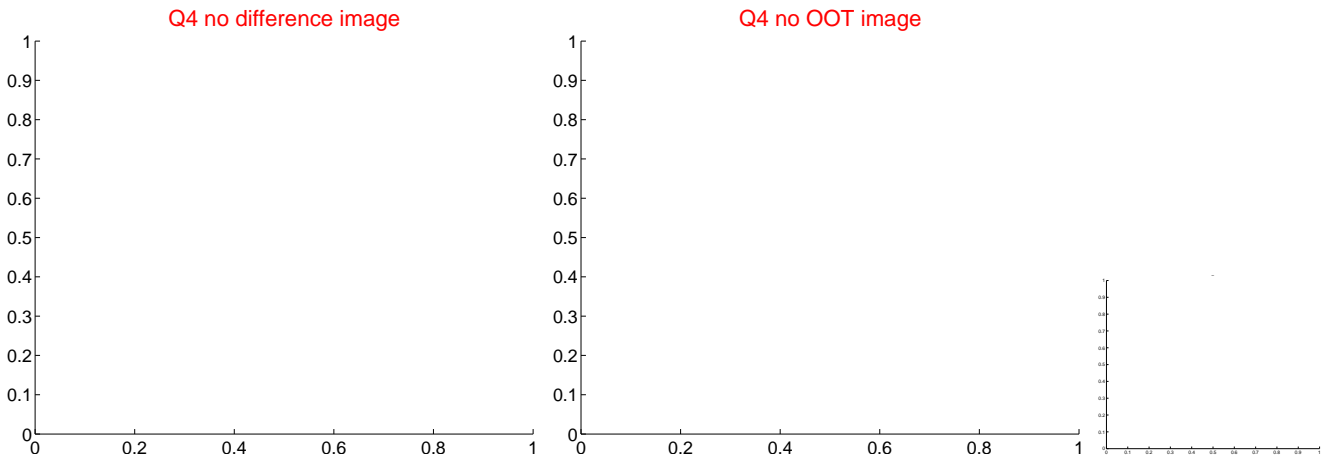
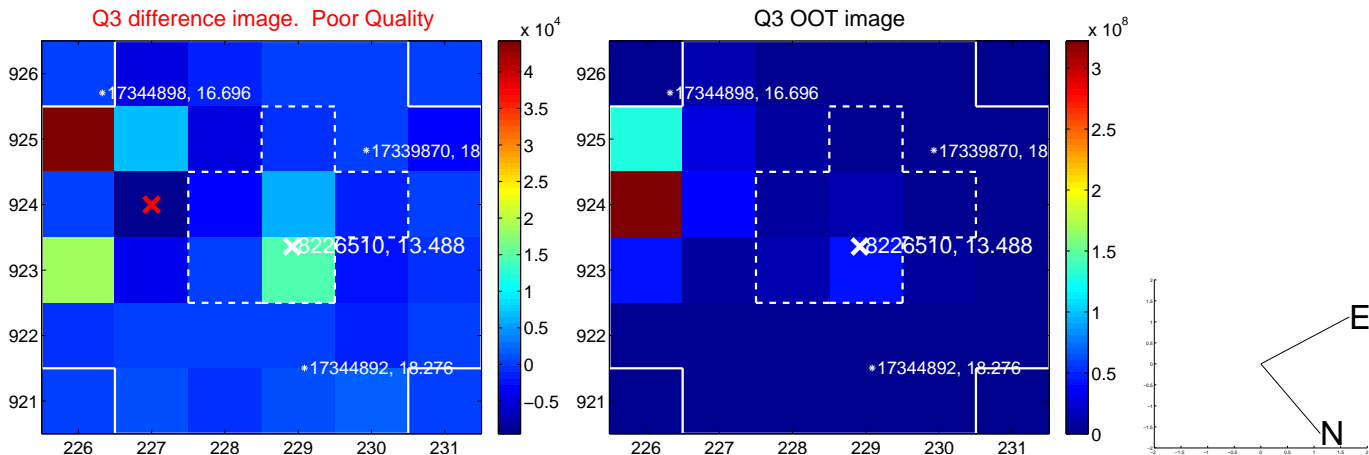
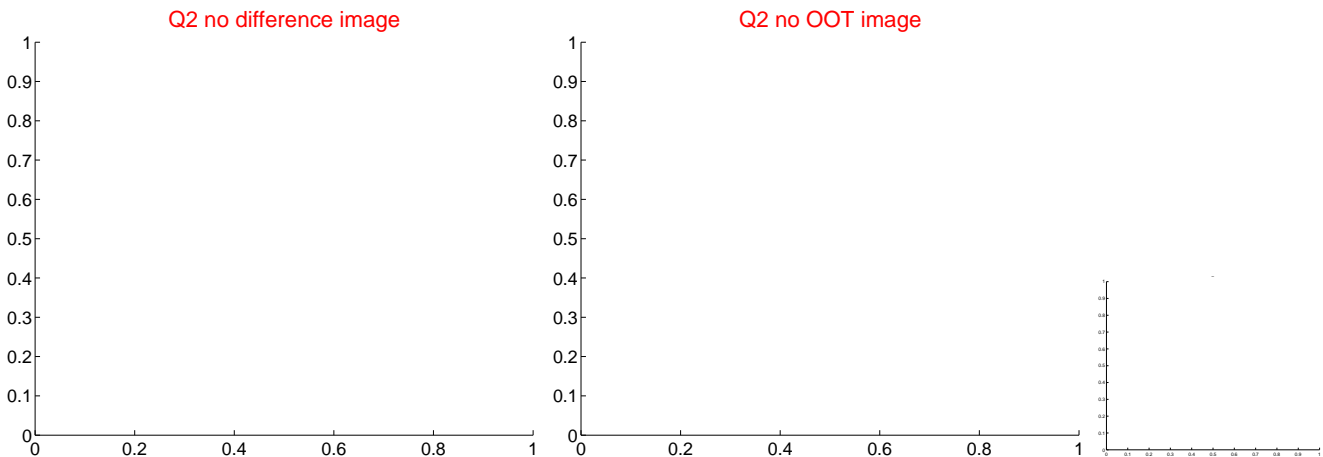
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.801 ± 0.669 | 1.20 | -0.571 ± 0.690 | 0.562 ± 0.646 |
| PRF-fit source offset from KIC position | 0.785 ± 0.675 | 1.16 | -0.630 ± 0.690 | 0.469 ± 0.646 |
| photometric centroid source offset | 0.11 ± 1.39 | 0.08 | 0.05 ± 1.01 | -0.10 ± 1.47 |

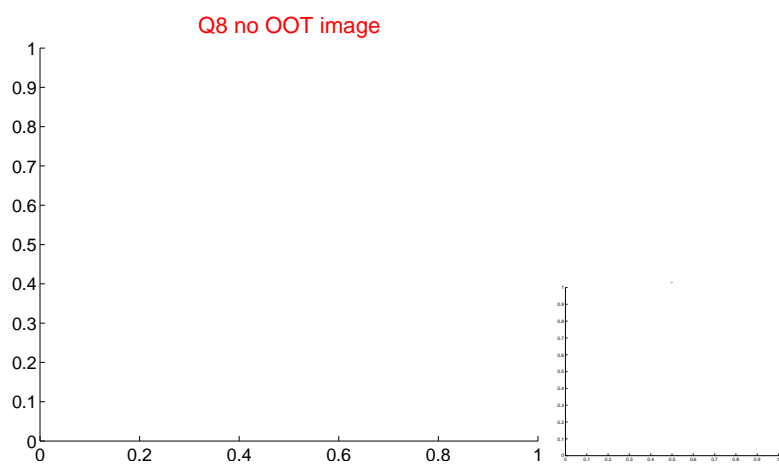
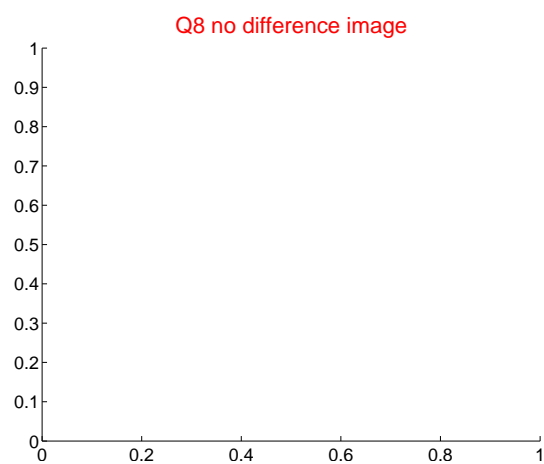
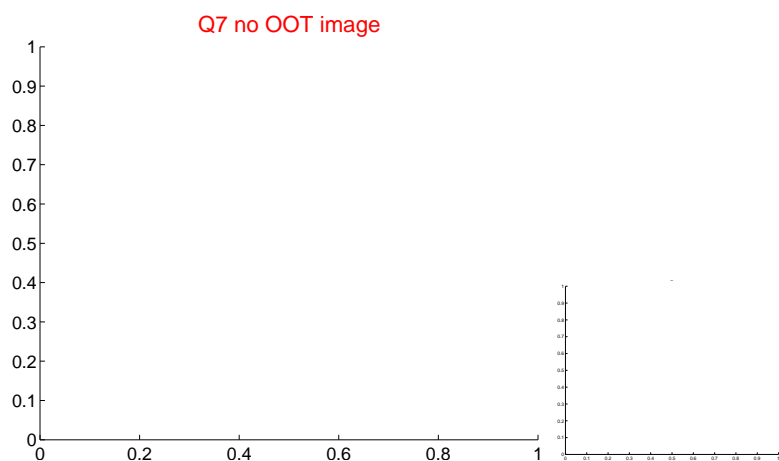
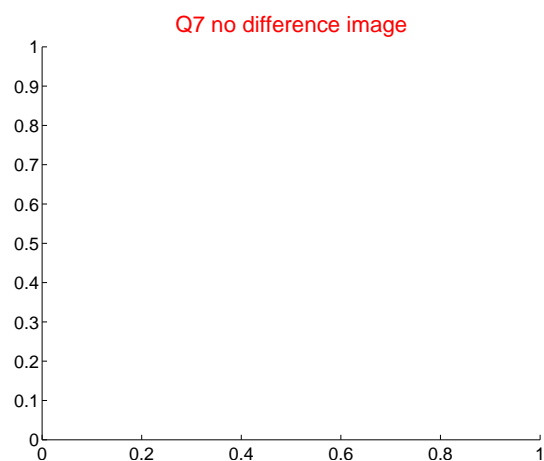
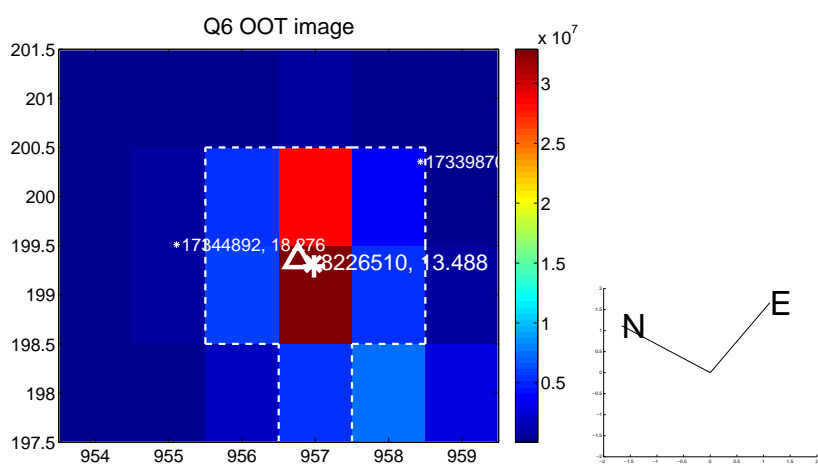
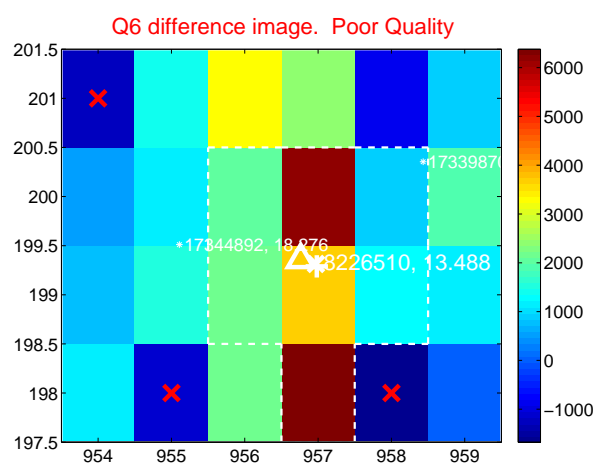
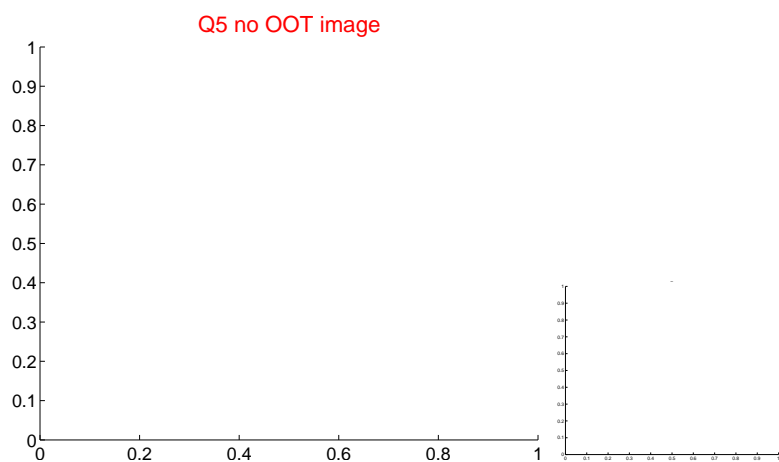
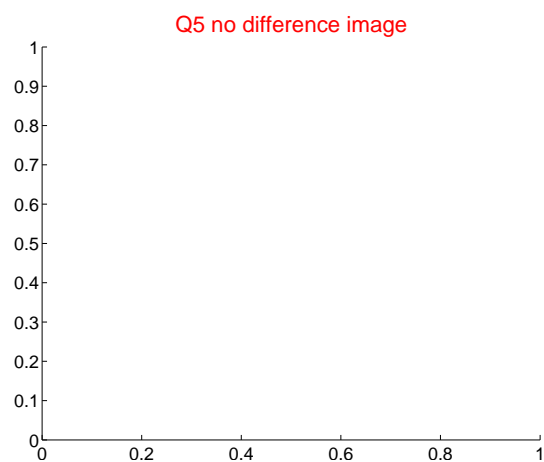


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

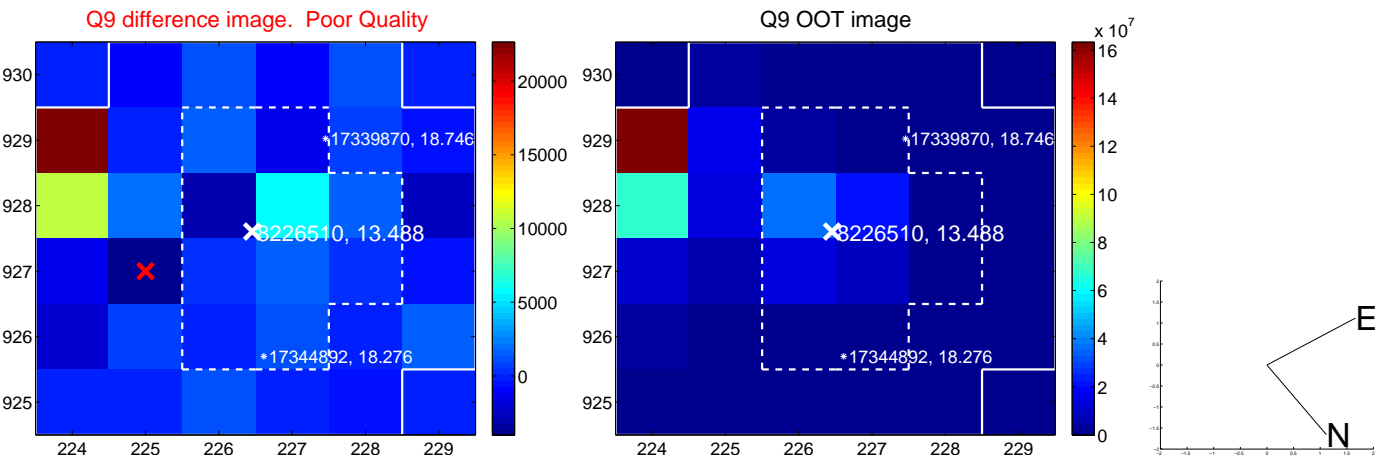
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



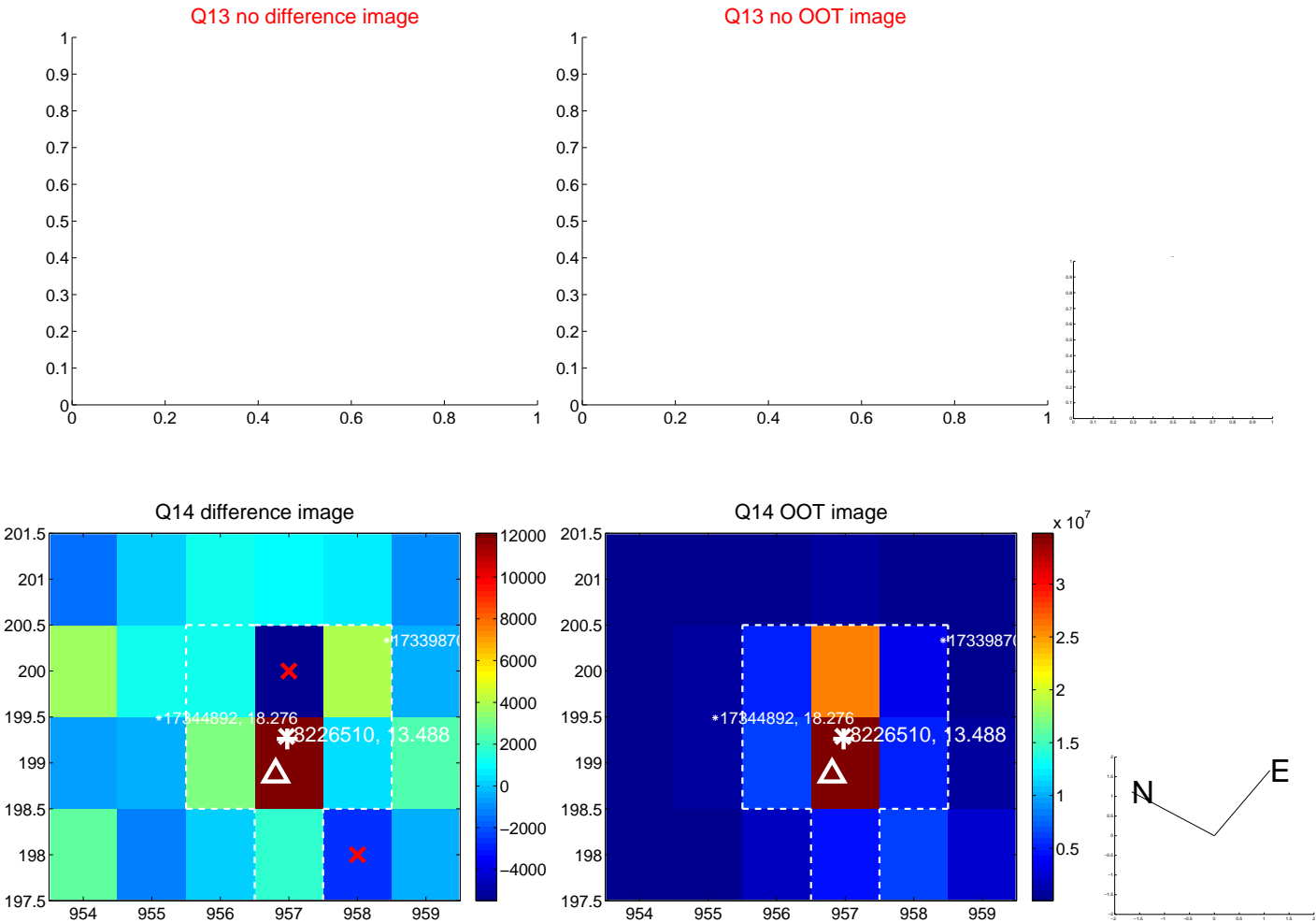
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



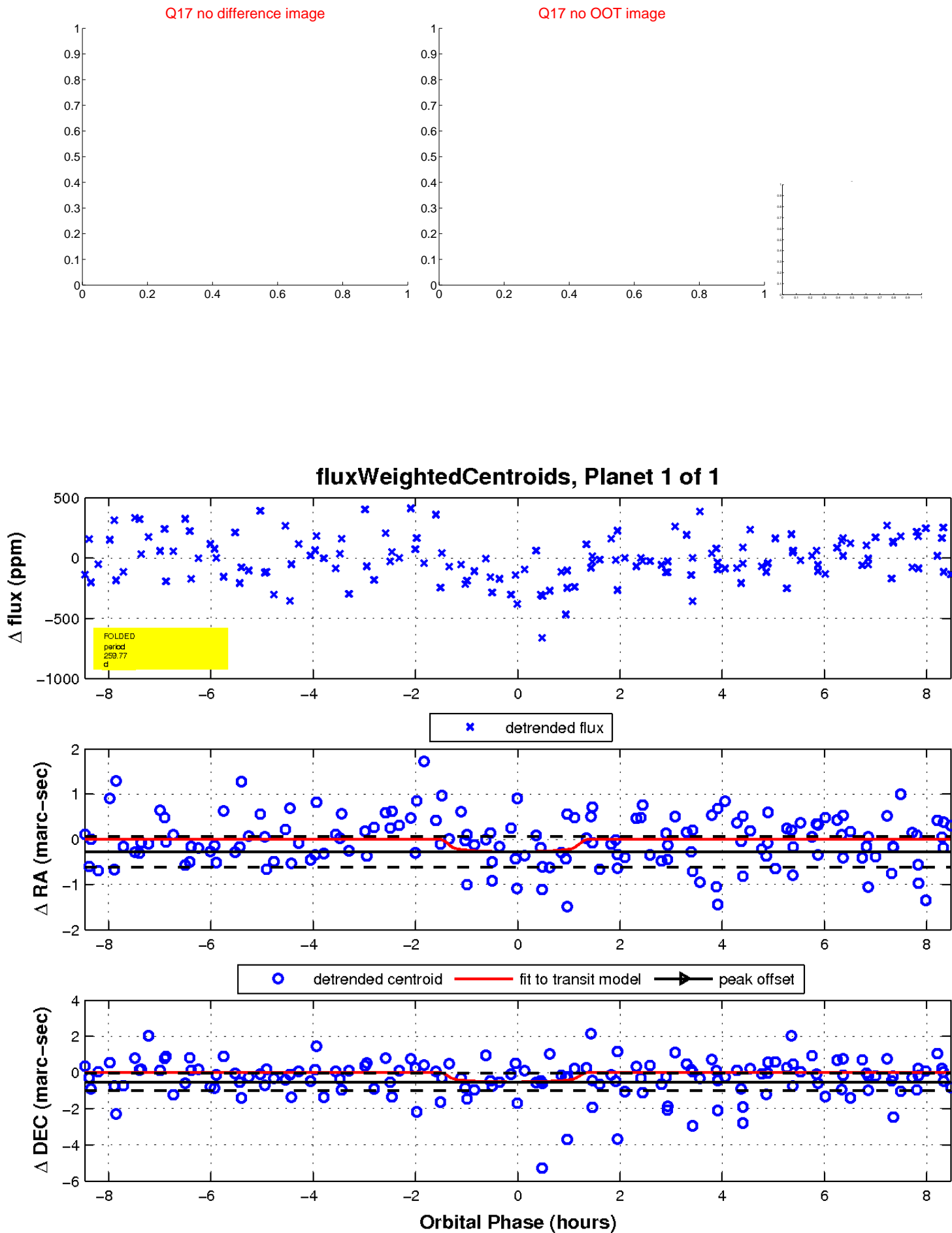
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

