

KIC 010079481

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 010079481-01 | OBS | 8195.01 | 330.790928 | 281.340126 | 131.6 | 18.567 | 8.0 | 6.3 | 1.07 | 6158 | 1.29 | 1.67 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 010079481-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

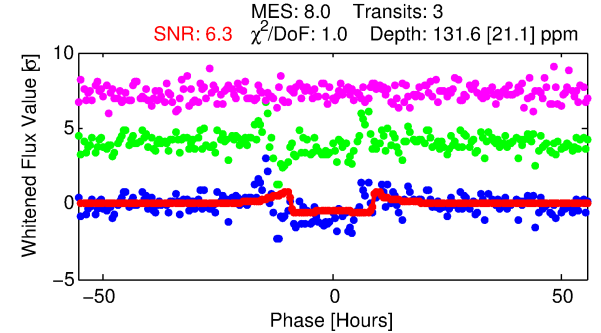
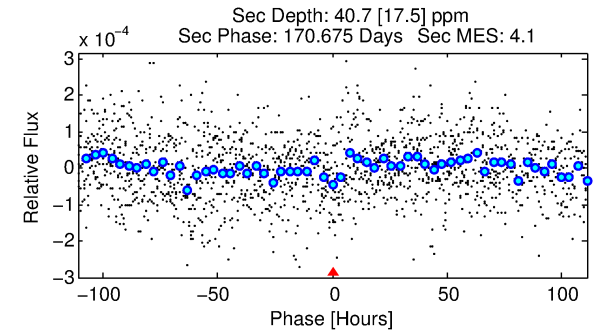
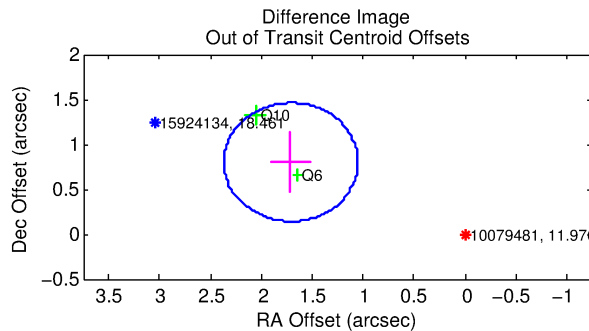
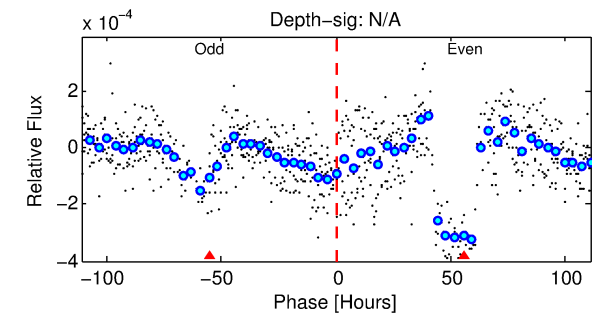
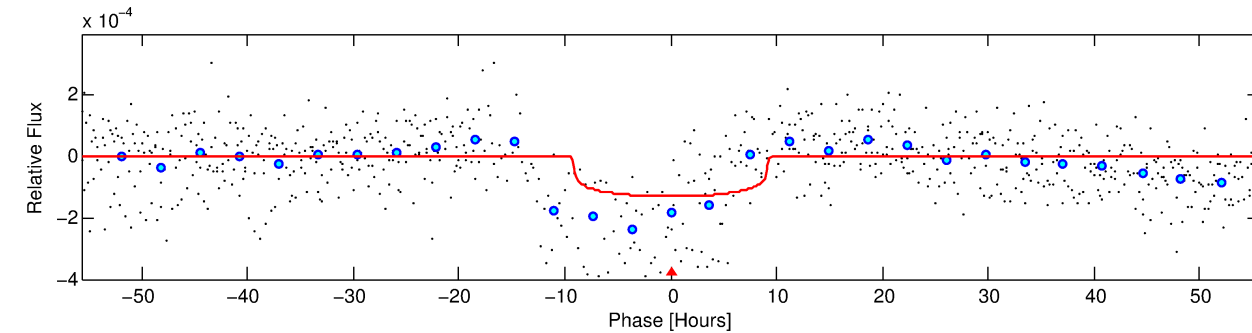
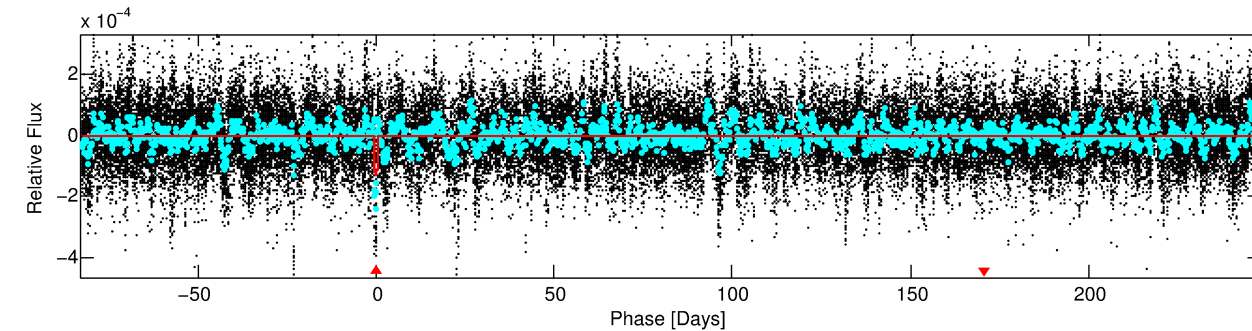
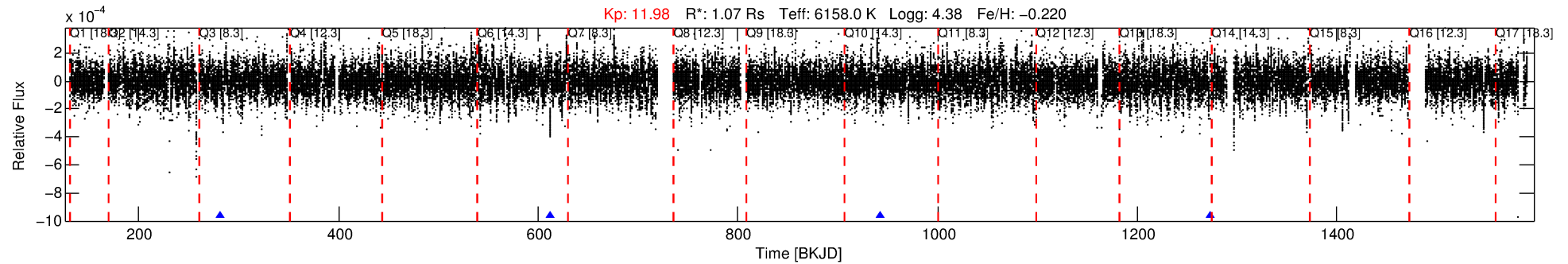
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010079481-01

No Significant Match Found

DV One-Page Summary

KIC: 10079481 Candidate: 1 of 1 Period: 330.791 d



DV Fit Results:

Period = 330.79093 [0.01128] d
Epoch = 281.3401 [0.0174] BKJD
Rp/R* = 0.0111 [0.0033]
a/R* = 107.23 [153.52]
b = 0.63 [1.36]
Seff = 1.67 [0.48]
Teq = 290 [21] K
Rp = 1.29 [0.47] Re
a = 0.9359 [0.1661] AU
Ag = 11863.29 [9243.13] [1.28σ]
Teffp = 4678 [870] K [5.04σ]

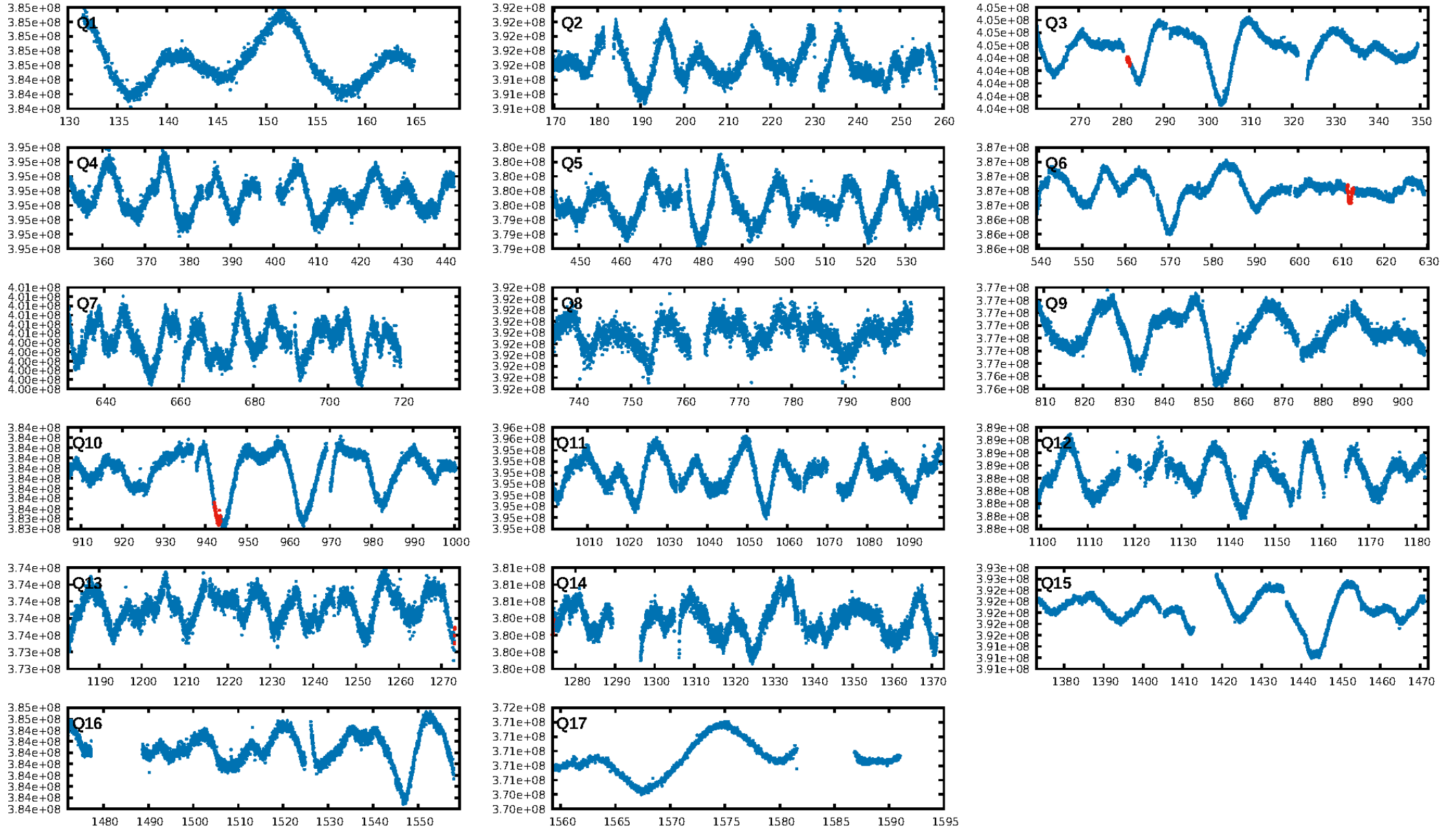
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.3%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 1.34e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7409
Centroid-sig: 94.9%
Centroid-so: 0.486 arcsec [0.51σ]
OotOffset-rm: 1.889 arcsec [8.59σ]
KicOffset-rm: 1.461 arcsec [4.50σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

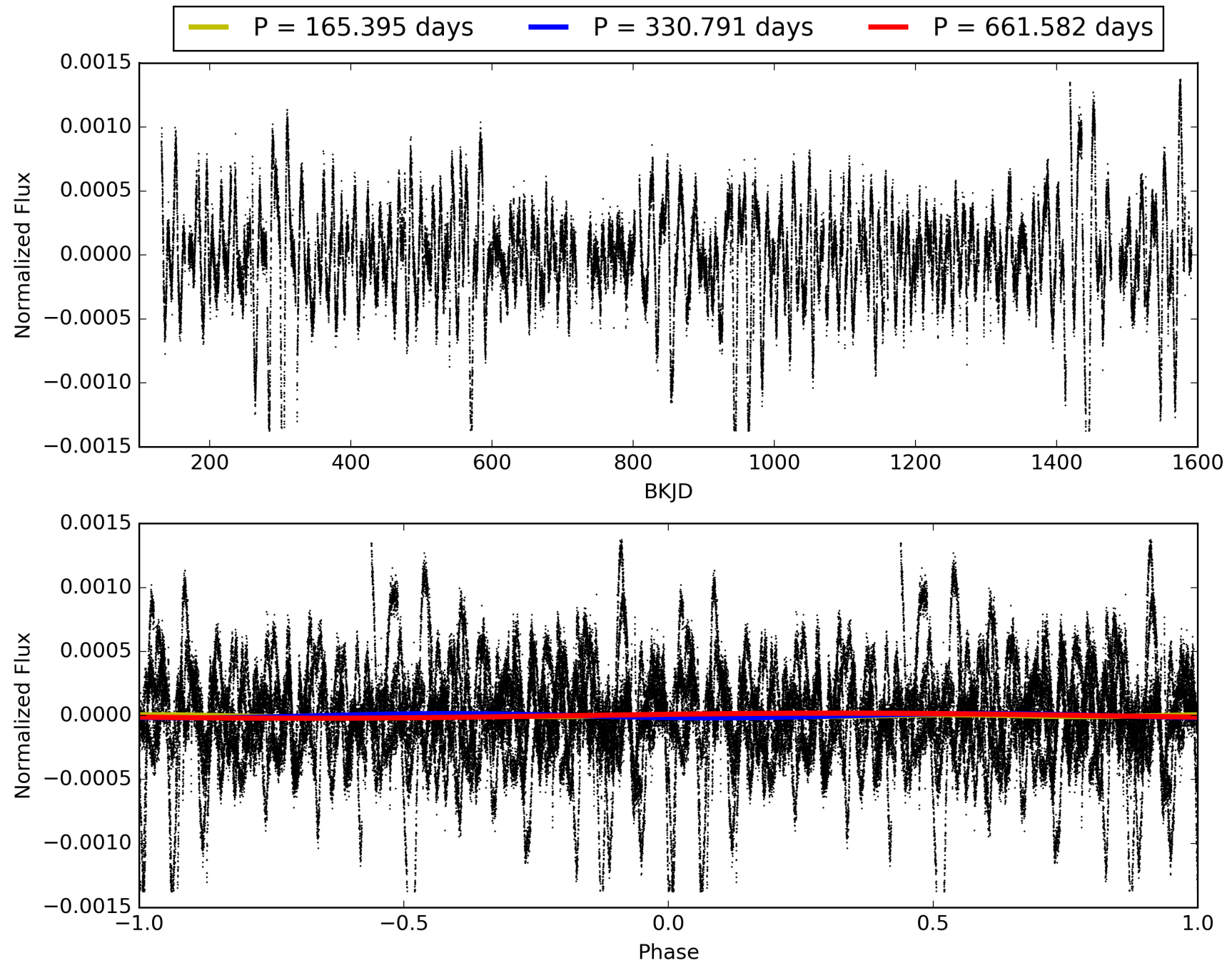
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:03:42 Z

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

TCE 010079481-01, PDC Light Curves

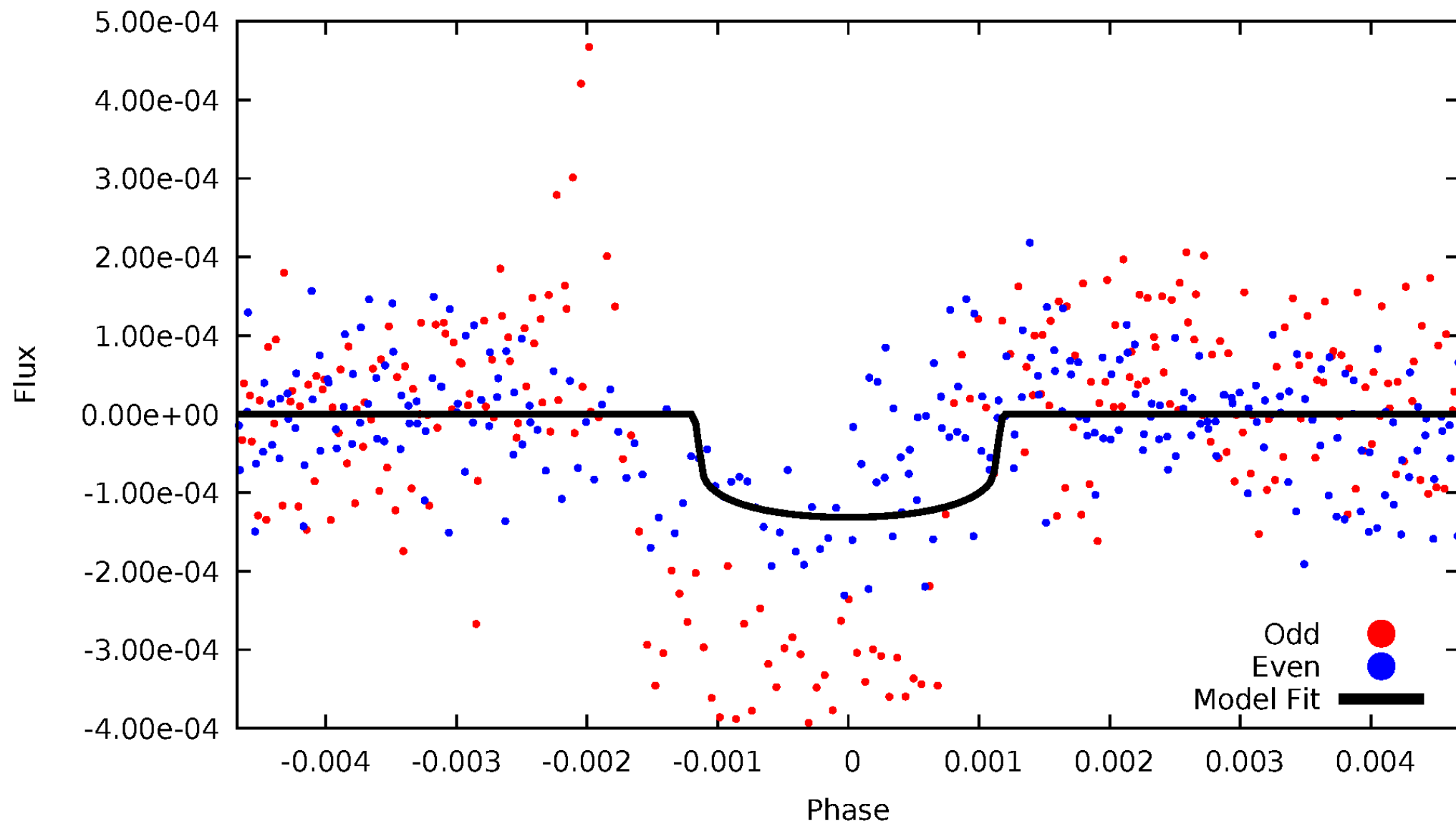


TCE 010079481-01



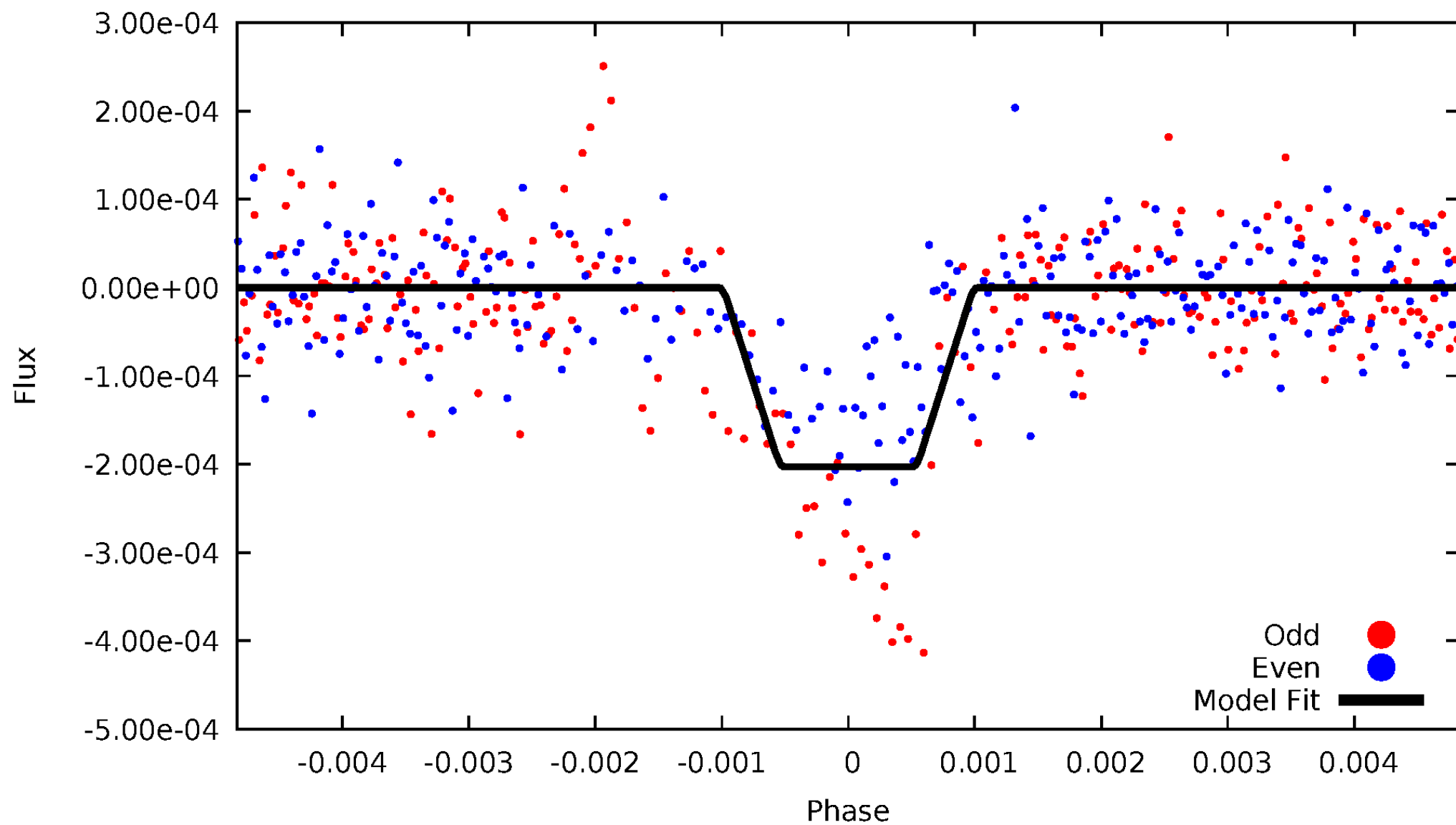
DV Odd/Even

TCE 010079481-01



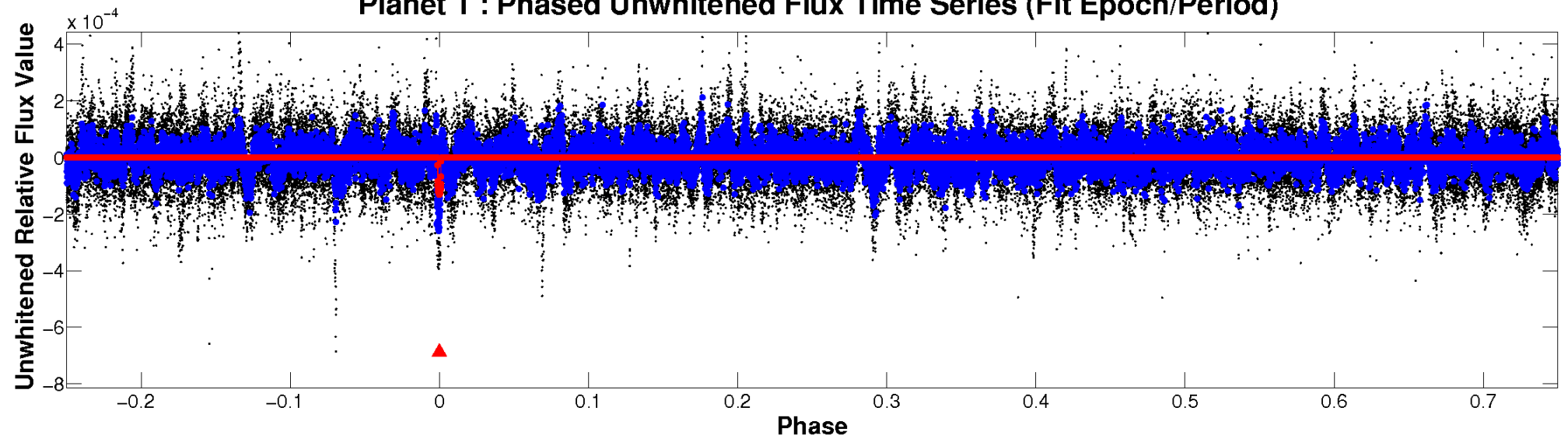
ALT Odd/Even

TCE 010079481-01

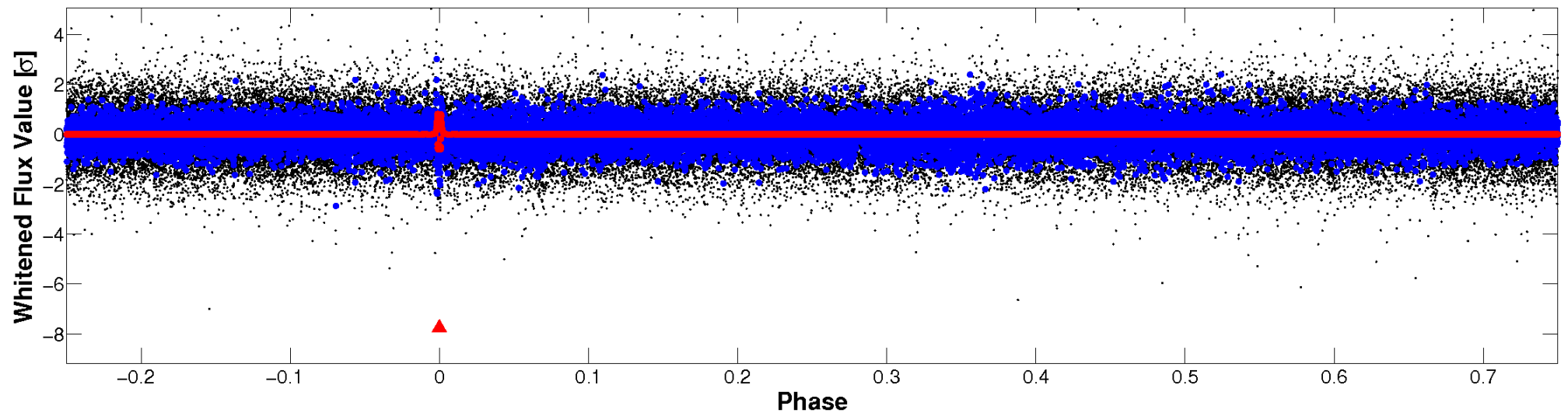


Non-Whitened Vs. Whitened Light Curve

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

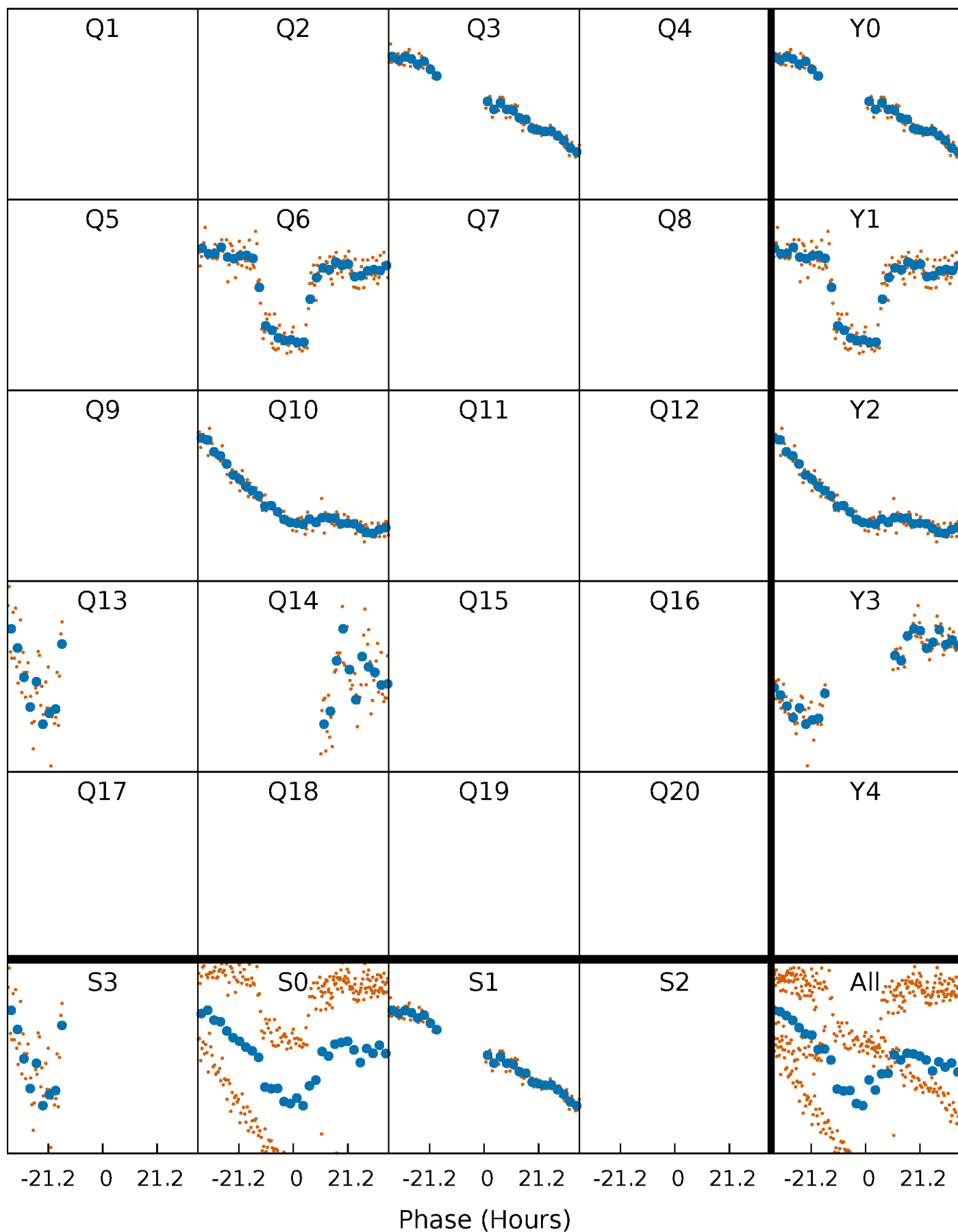


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



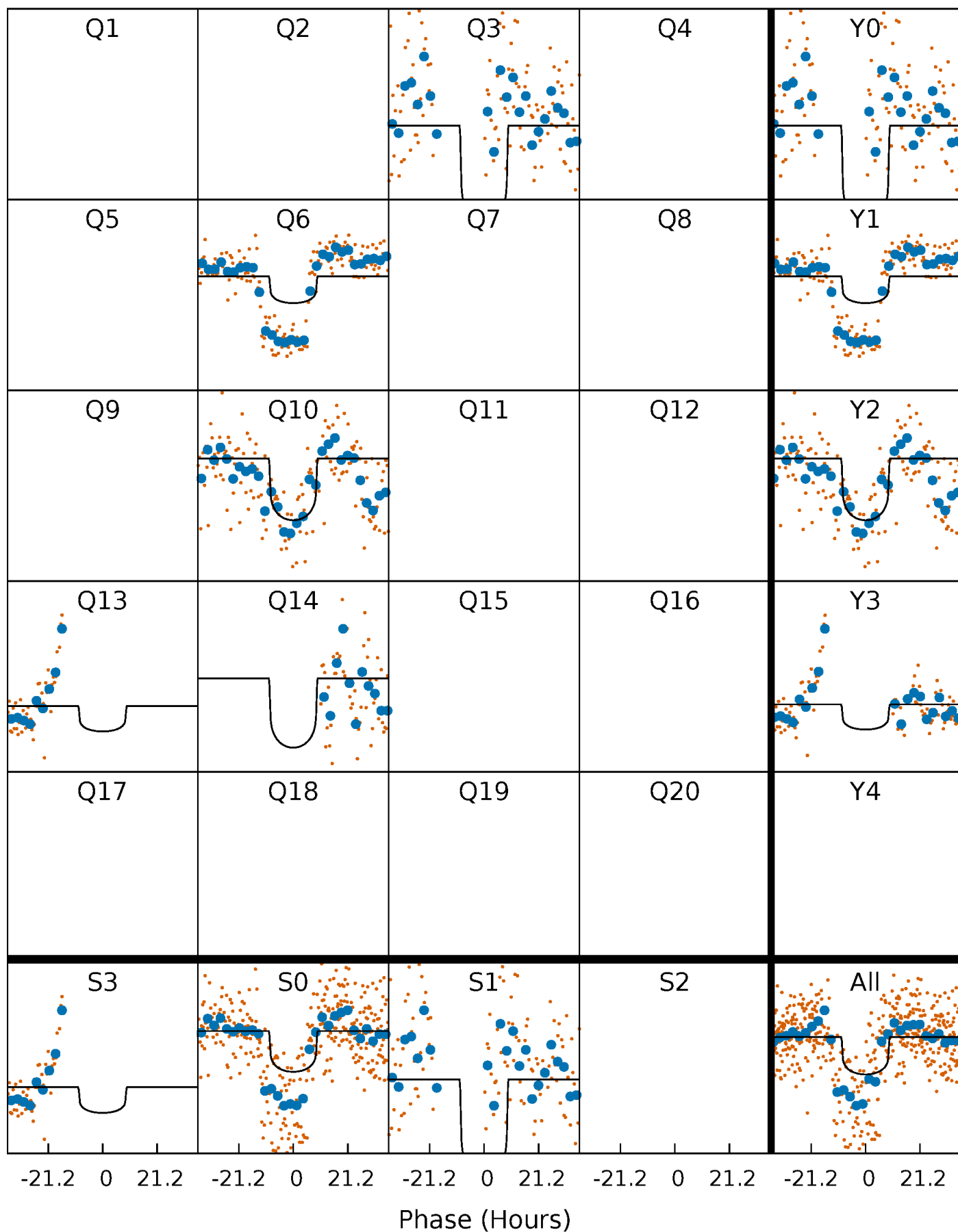
PDC Quarter-Phased Transit Curves

TCE 010079481-01 P=330.790928 Days $T_0=281.340126$ (BKJD)



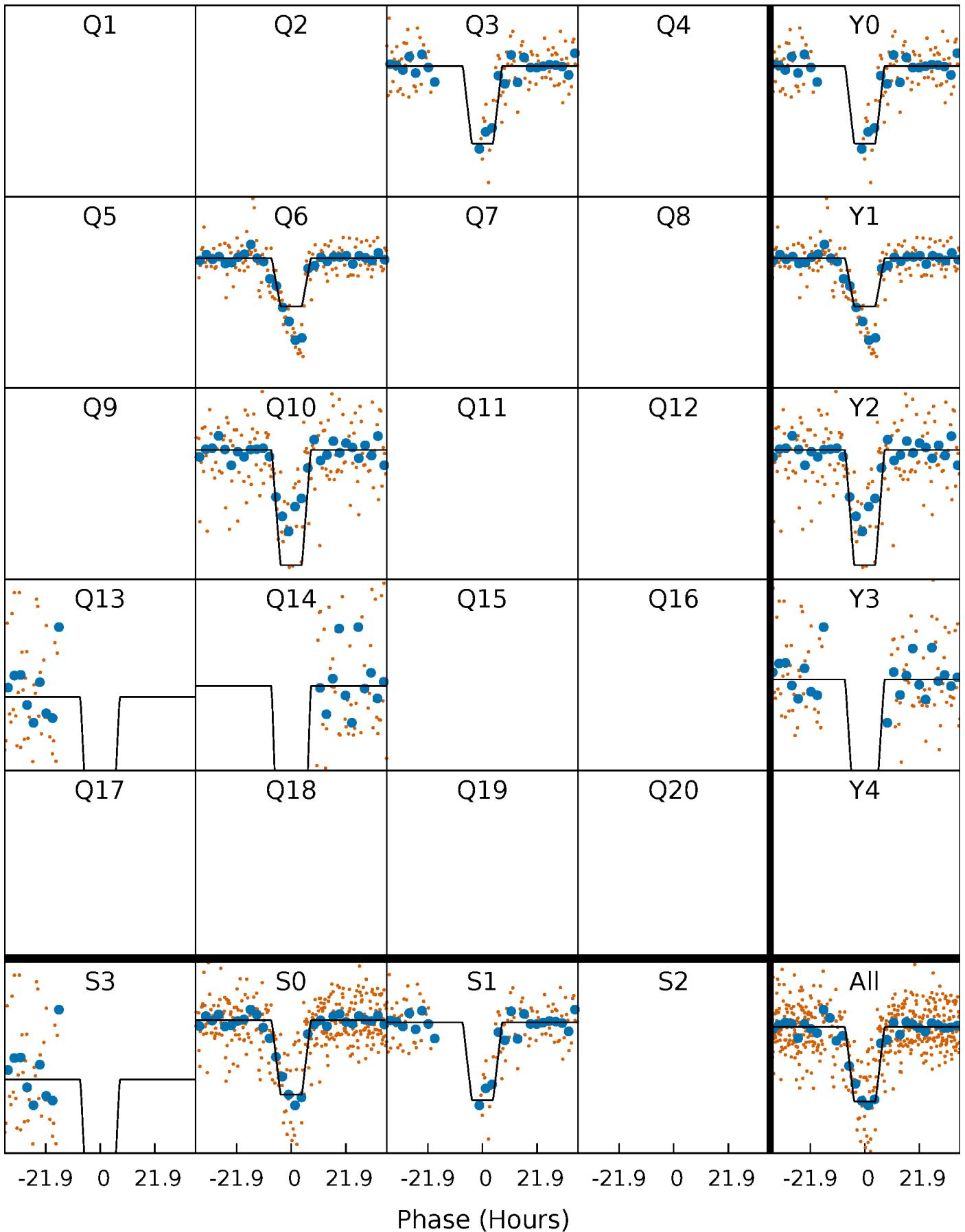
DV Quarter-Phased Transit Curves

TCE 010079481-01 P=330.790928 Days $T_0=281.340126$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

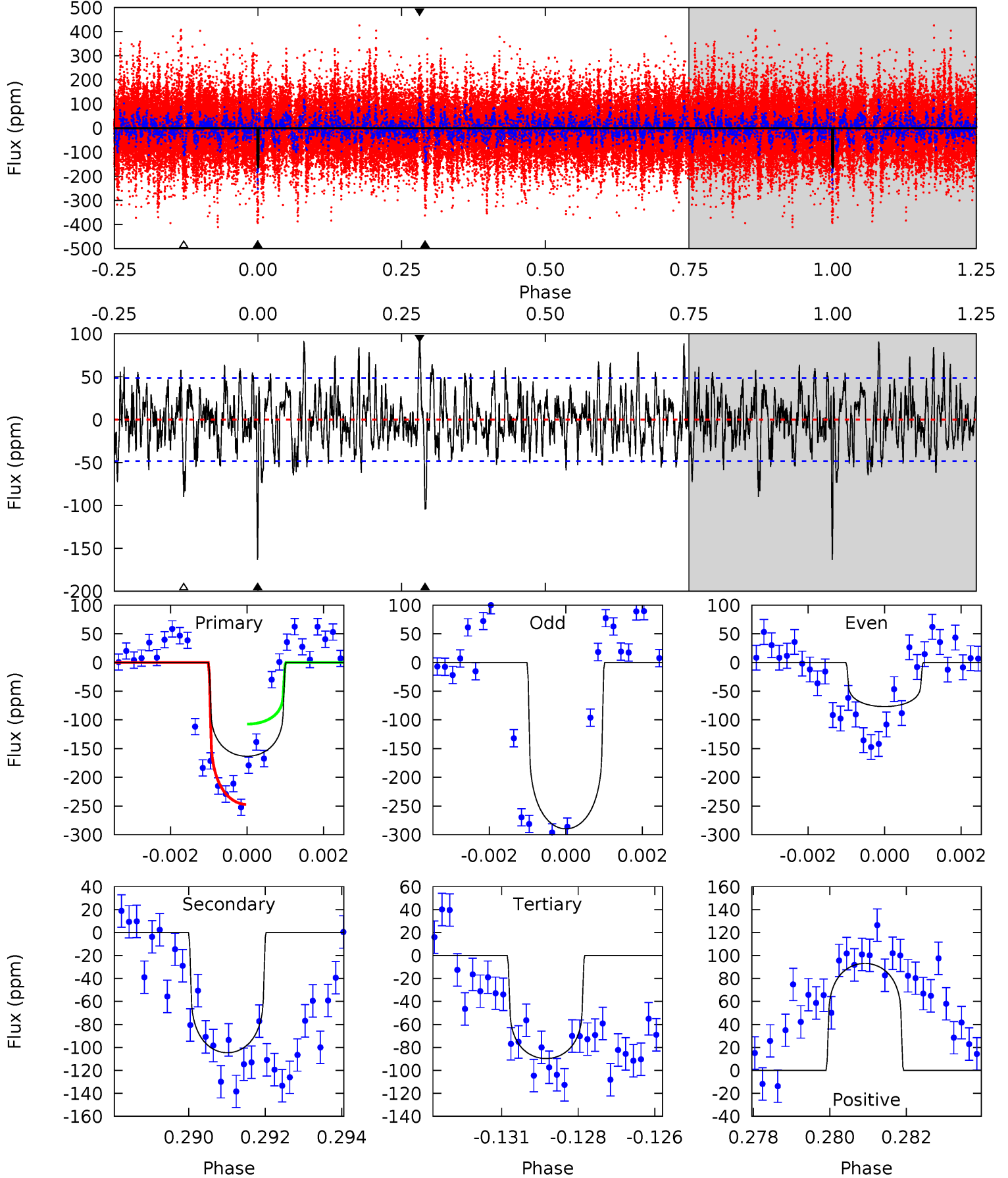
TCE 010079481-01 P=330.785280 Days $T_0=281.375215$ (BKJD)



DV Model-Shift Uniqueness Test

010079481-01, P = 330.790928 Days, E = 281.340126 Days

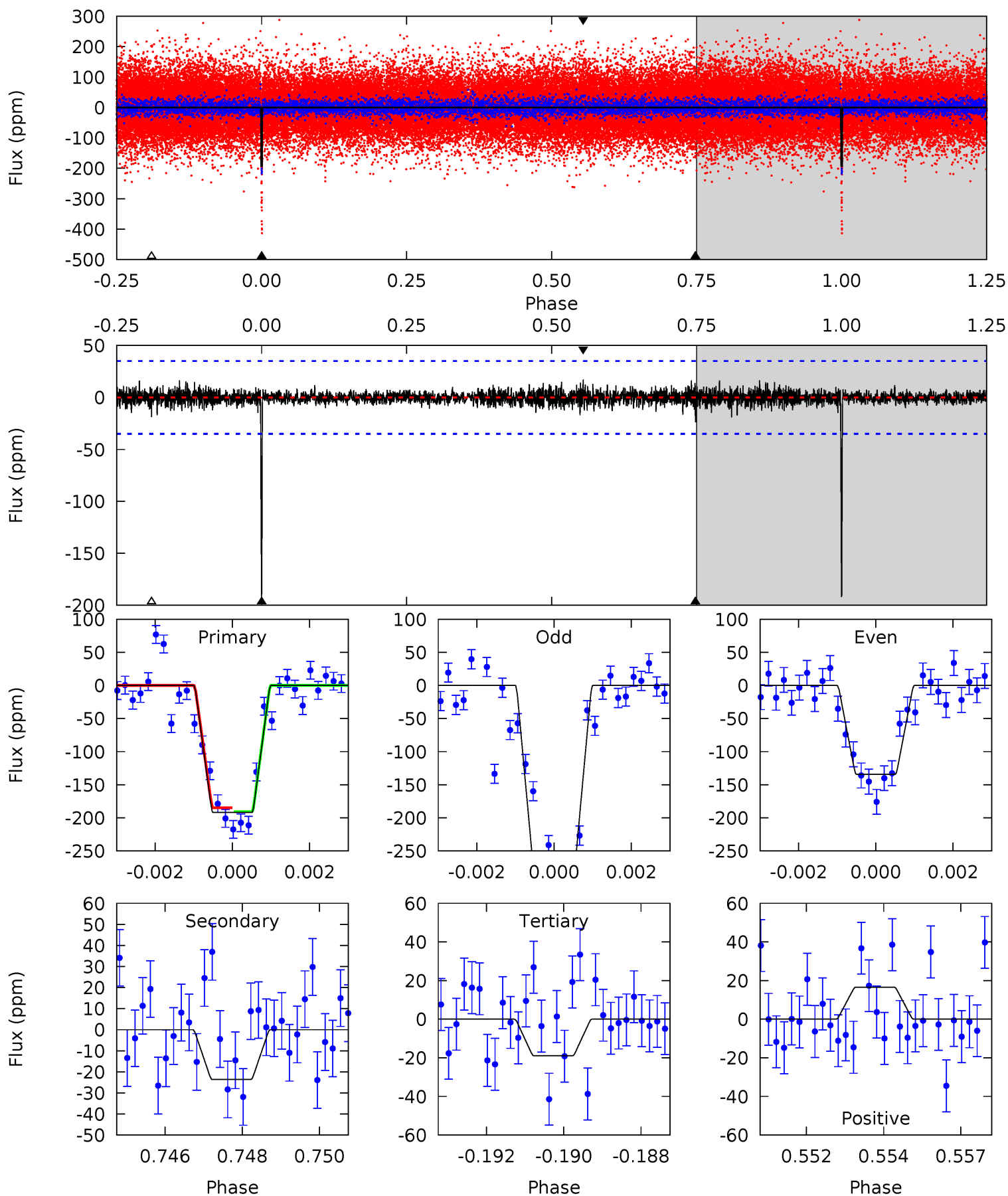
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 17.9 | 11.5 | 9.82 | 10.2 | 5.30 | 3.04 | 2.91 | 8.06 | 7.69 | 1.64 | 1.26 | 11.2 | 1.04 | 0.36 | 7.50 |



Alt Model-Shift Uniqueness Test

010079481-01, P = 330.785280 Days, E = 281.375215 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 29.2 | 3.59 | 2.88 | 2.51 | 5.32 | 3.08 | 0.64 | 26.3 | 26.6 | 0.71 | 1.08 | 10.8 | 1.12 | 0.08 | 0.44 |



Stellar Parameters For KIC 010079481

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6158^{+155}_{-186} | $4.382^{+0.096}_{-0.144}$ | $-0.220^{+0.250}_{-0.300}$ | $1.066^{+0.222}_{-0.148}$ | $0.998^{+0.137}_{-0.112}$ | $1.159^{+0.498}_{-0.480}$ |
| | +3%/-3% | +2%/-3% | +114%/-136% | +21%/-14% | +14%/-11% | +43%/-41% |
| 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 010079481-01 / KOI 8195.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|--------------|------------------------|----------------------|-----------------------|---------------------------|
| DV | -105 ± 9 | $1.31^{+0.40}_{-0.39}$ | 409^{+21}_{-20} | 5924^{+1322}_{-674} | 29564^{+30712}_{-12537} |
| Alt. | -24 ± 7 | $1.70^{+0.45}_{-0.39}$ | 408^{+21}_{-18} | 3899^{+423}_{-320} | 3877^{+3137}_{-1677} |

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

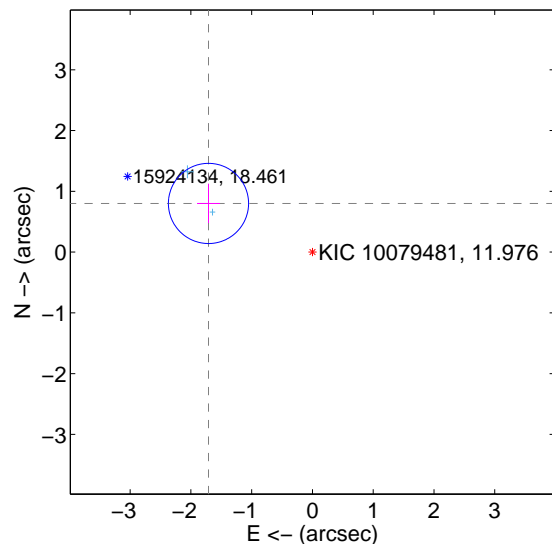
Supplemental centroid analysis for 010079481-01. **Kepler magnitude: 11.98.** Transit SNR 6.34

There are 2 quarters with good PRF difference image offsets

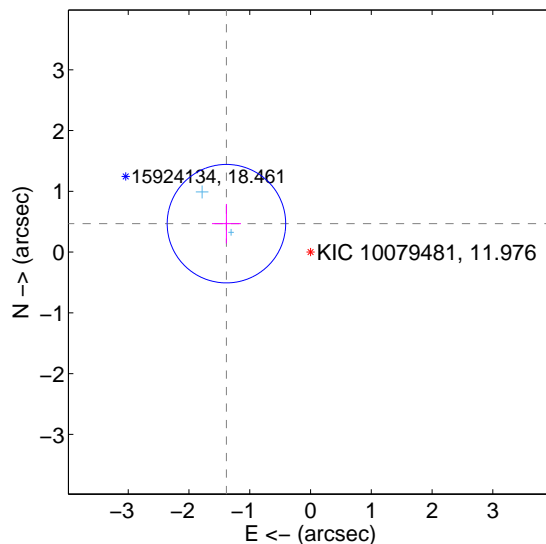
The direct PRF centroid is offset from the target star catalog position by about 0.43 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|-------------------------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 1.889 ± 0.220 | 8.59 | 1.711 ± 0.189 | 0.801 ± 0.325 |
| PRF-fit source offset from KIC position | 1.461 ± 0.325 | 4.50 | 1.384 ± 0.238 | 0.468 ± 0.325 |
| photometric centroid source offset | 0.49 ± 0.94 | 0.51 | -0.29 ± 1.07 | -0.39 ± 0.87 |

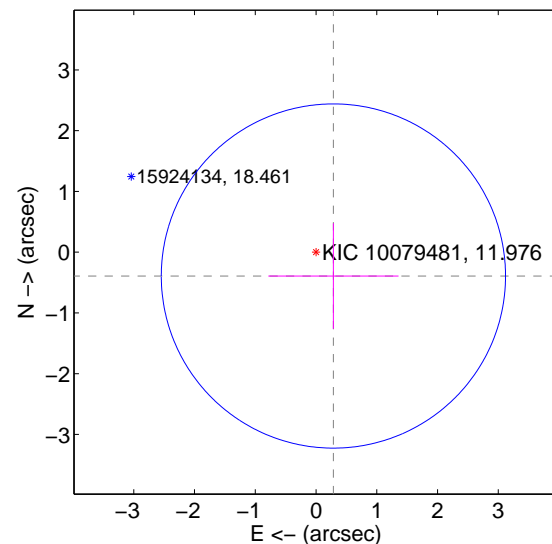
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

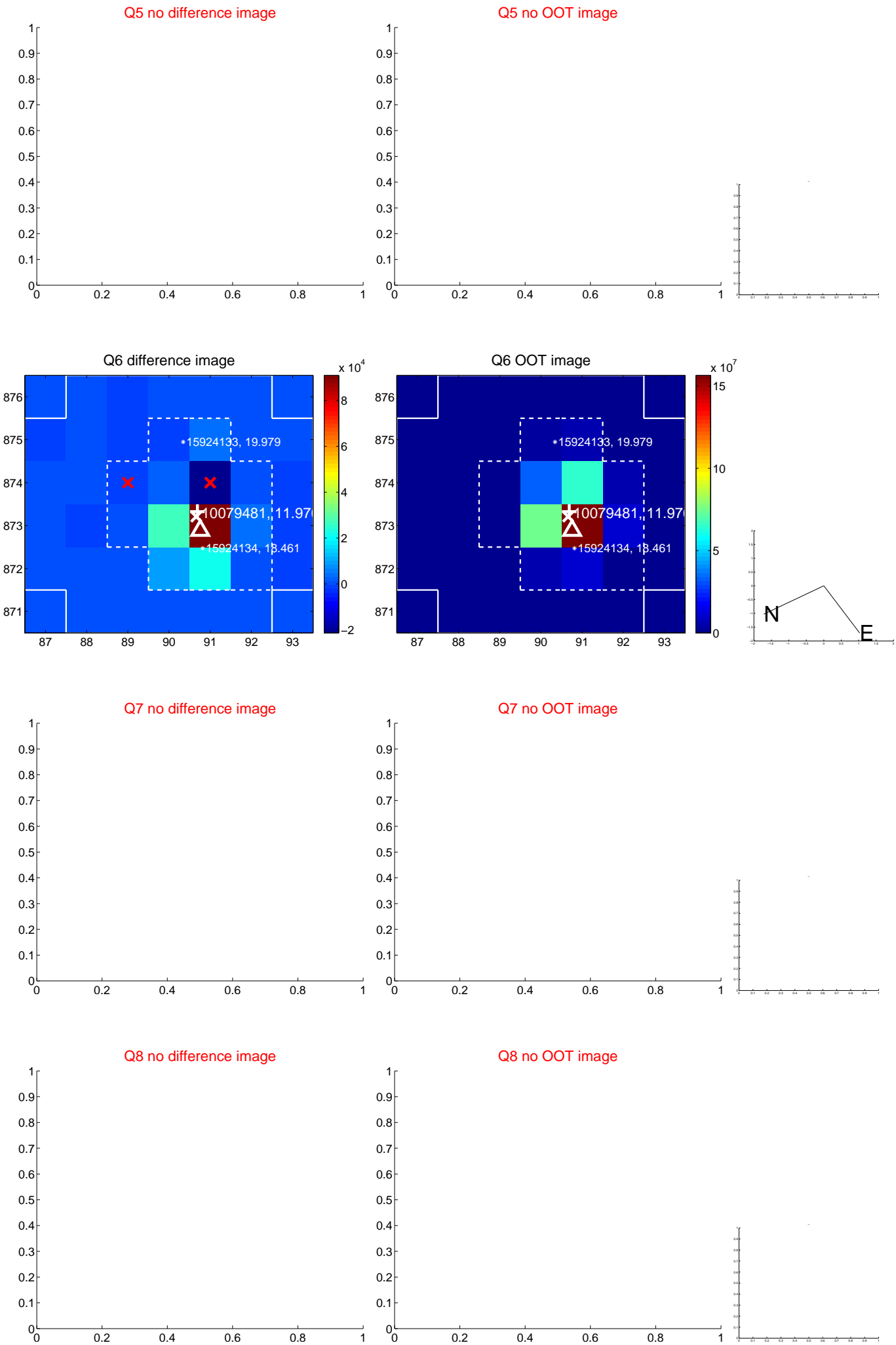


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

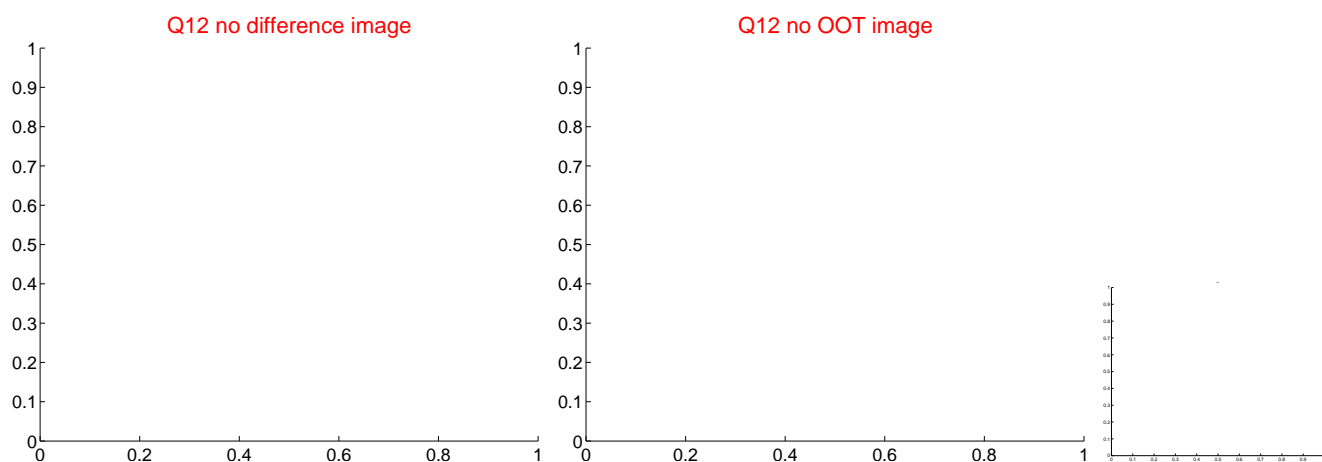
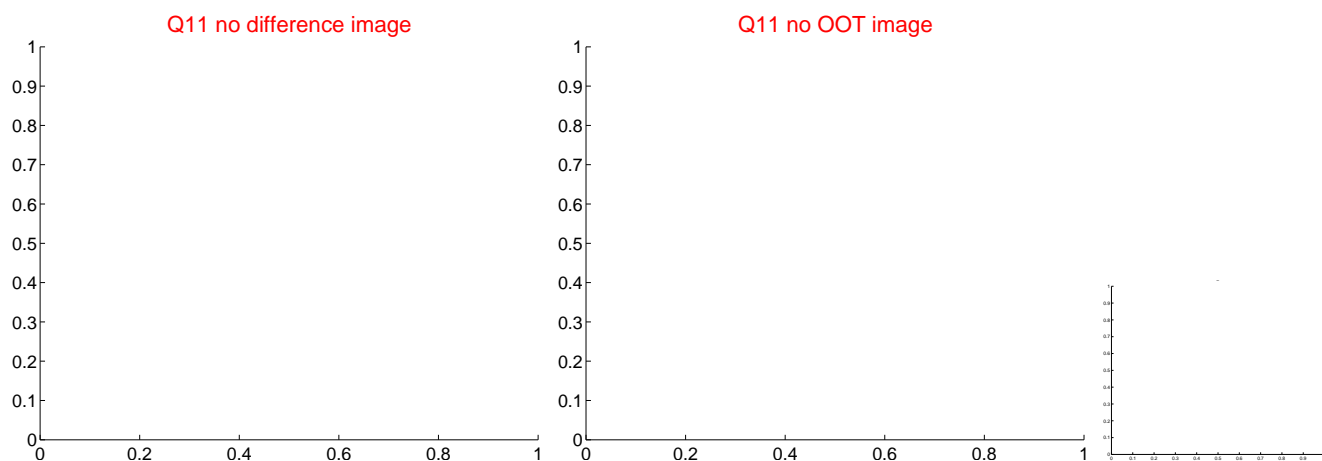
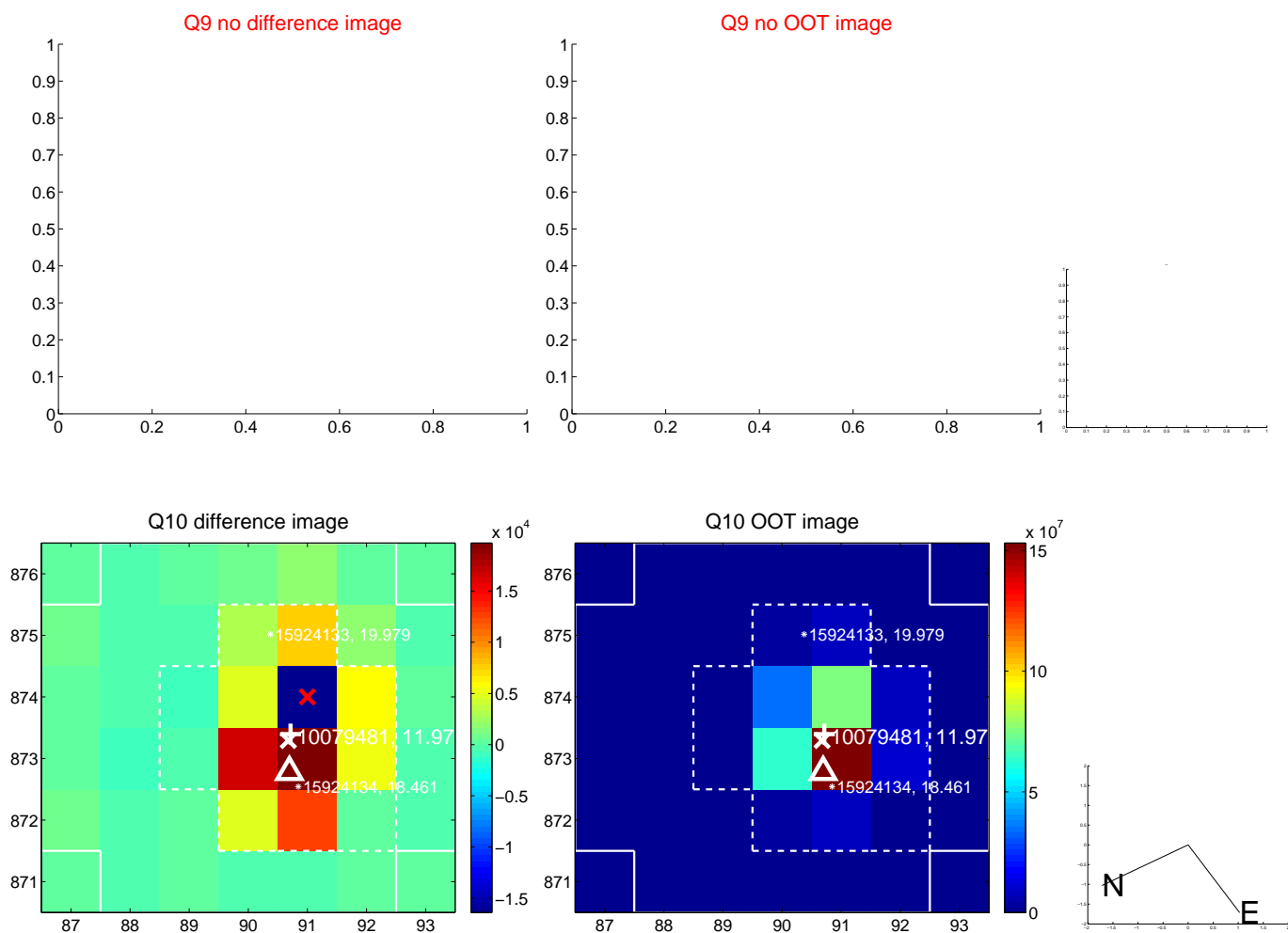
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



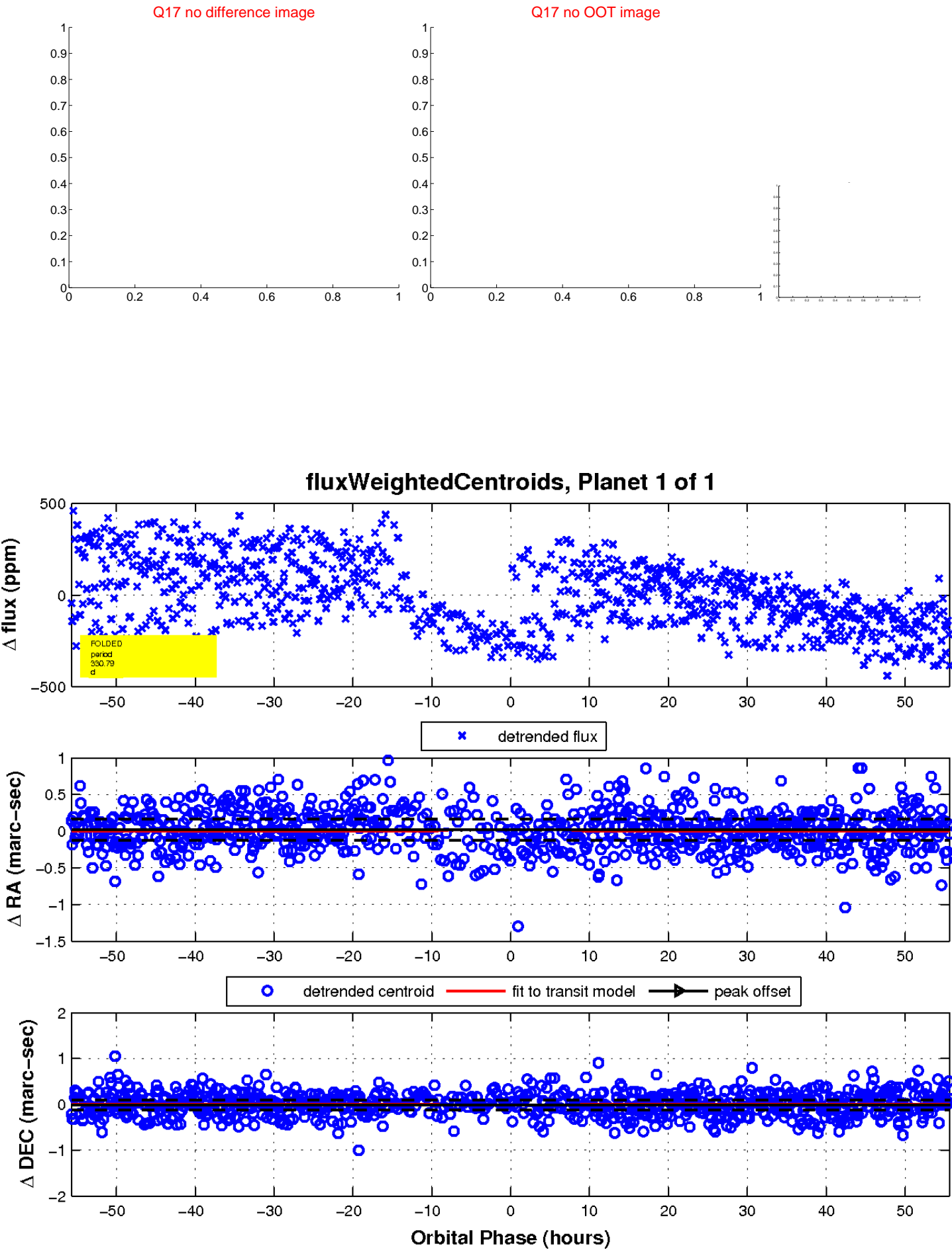
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

