

KIC 011873179

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 011873179-02 | OBS | No | 386.786817 | 509.134182 | 1206.5 | 10.336 | 9.7 | 6.6 | 0.75 | 4548 | 2.67 | 0.24 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 011873179-02 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—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.

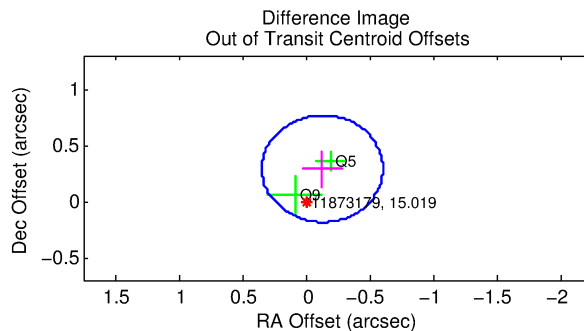
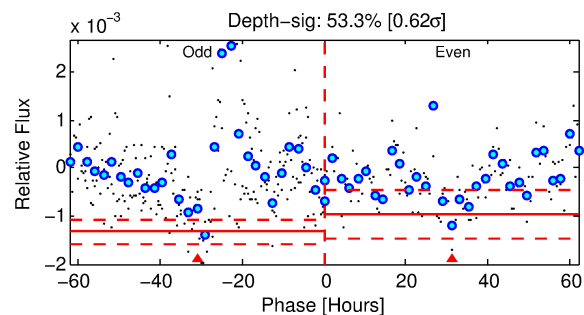
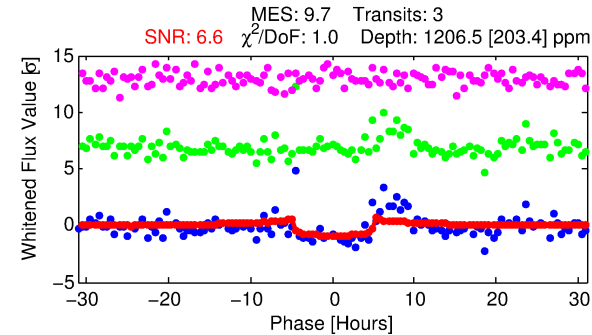
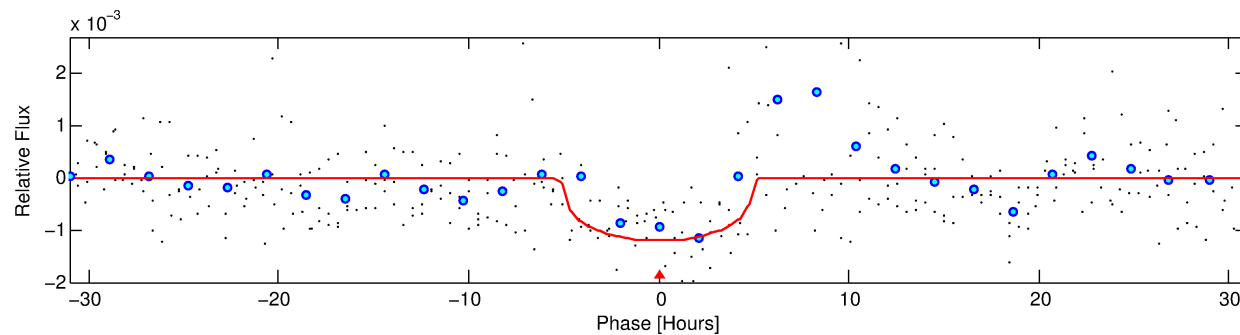
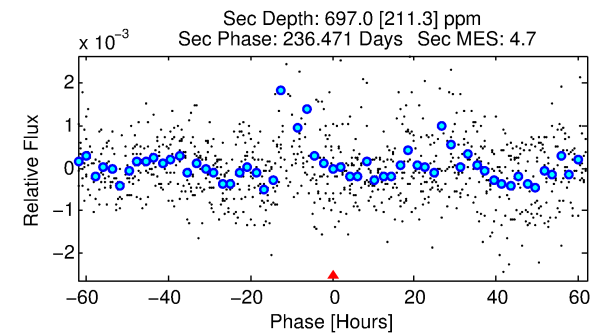
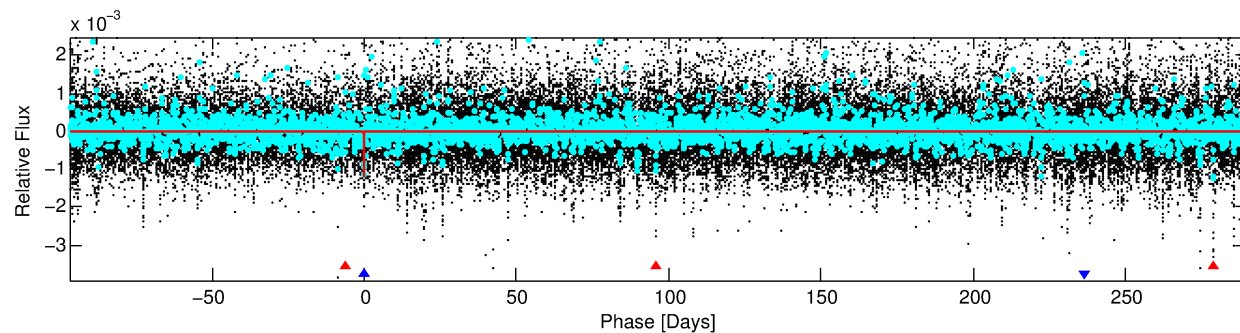
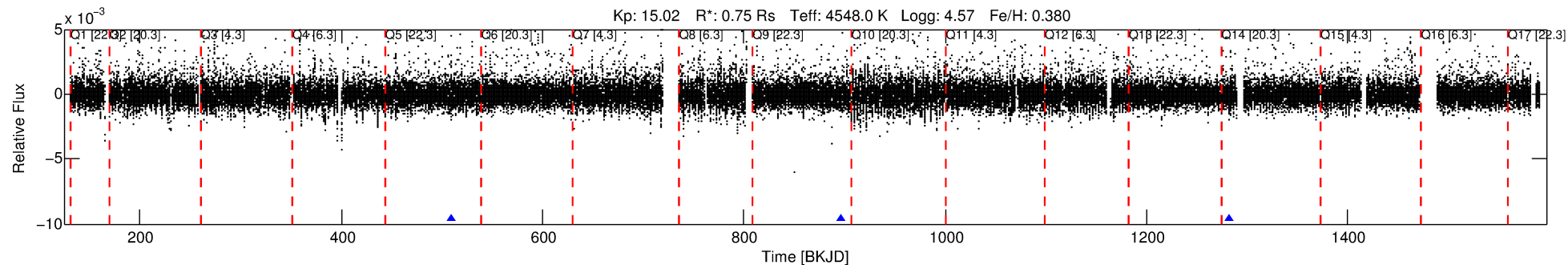
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011873179-02

No Significant Match Found

DV One-Page Summary

KIC: 11873179 Candidate: 2 of 2 Period: 386.787 d



DV Fit Results:

Period = 386.78682 [0.01226] d
Epoch = 509.1342 [0.0171] BKJD
Rp/R* = 0.0327 [0.0158]
a/R* = 240.57 [337.83]
b = 0.60 [1.53]
Seff = 0.24 [0.04]
Teq = 178 [7] K
Rp = 2.67 [1.31] Re
a = 0.9468 [0.0633] AU
Ag = 48301.74 [49280.98] [0.98 σ]
Teffp = 4088 [1047] K [3.73 σ]

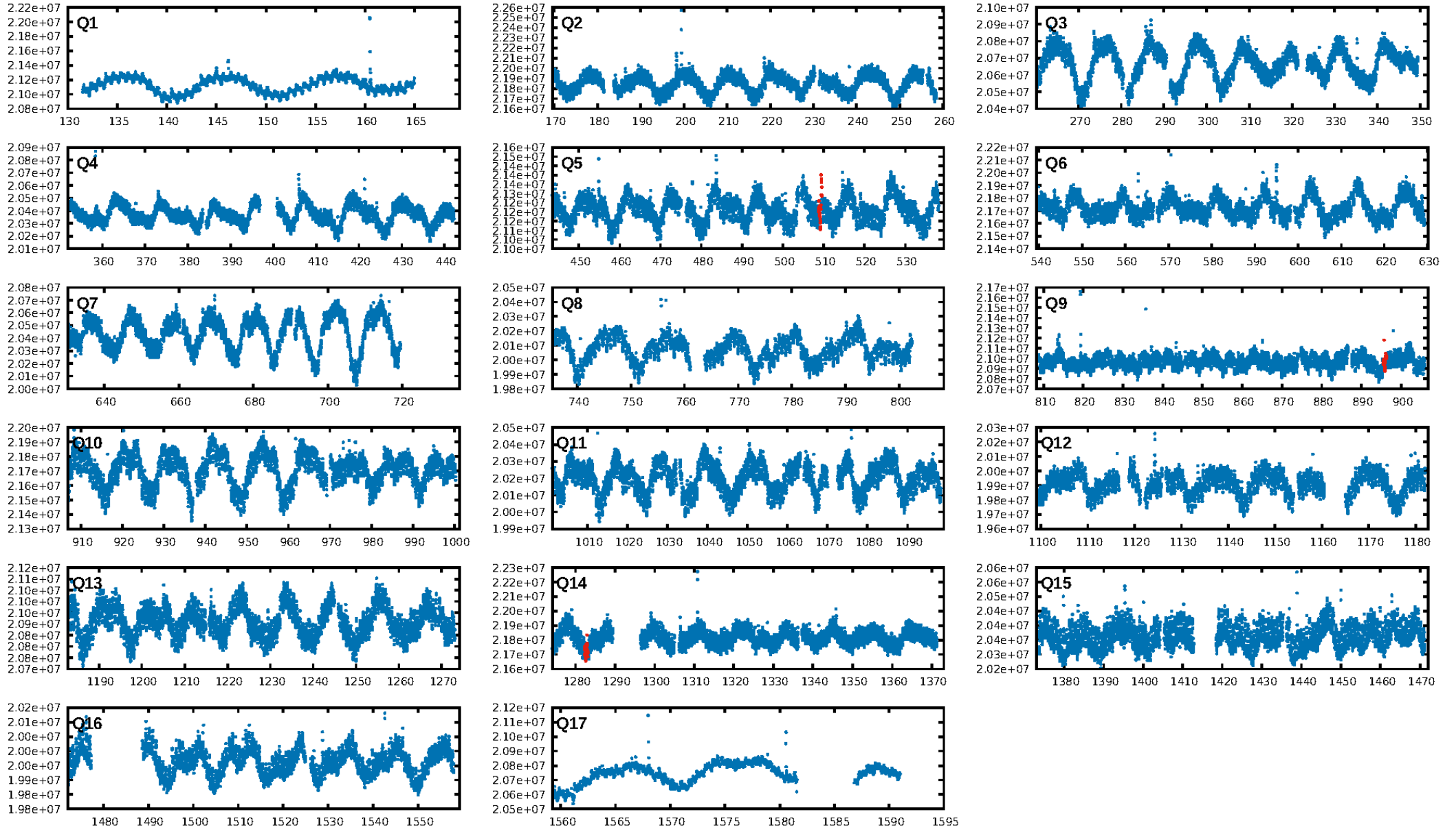
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [540.69 σ]
ModelChiSquare2-sig: 36.3%
ModelChiSquareGof-sig: 99.4%
Bootstrap-pfa: 5.53e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.997
Centroid-sig: 40.0%
Centroid-so: 1.204 arcsec [1.23 σ]
OotOffset-rm: 0.318 arcsec [2.01 σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-rm: 0.358 arcsec [2.12 σ]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

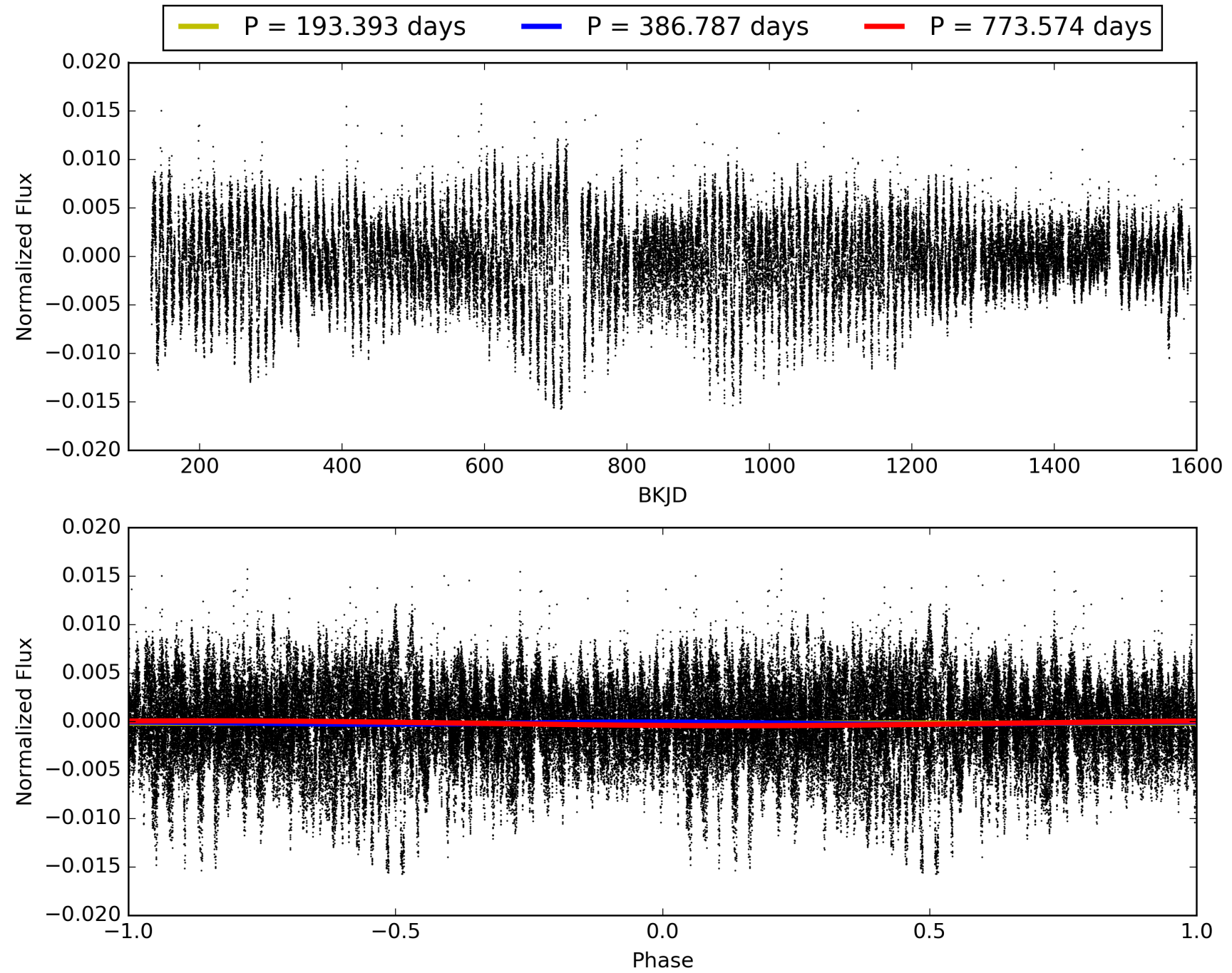
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:28:23 Z

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

TCE 011873179-02, PDC Light Curves

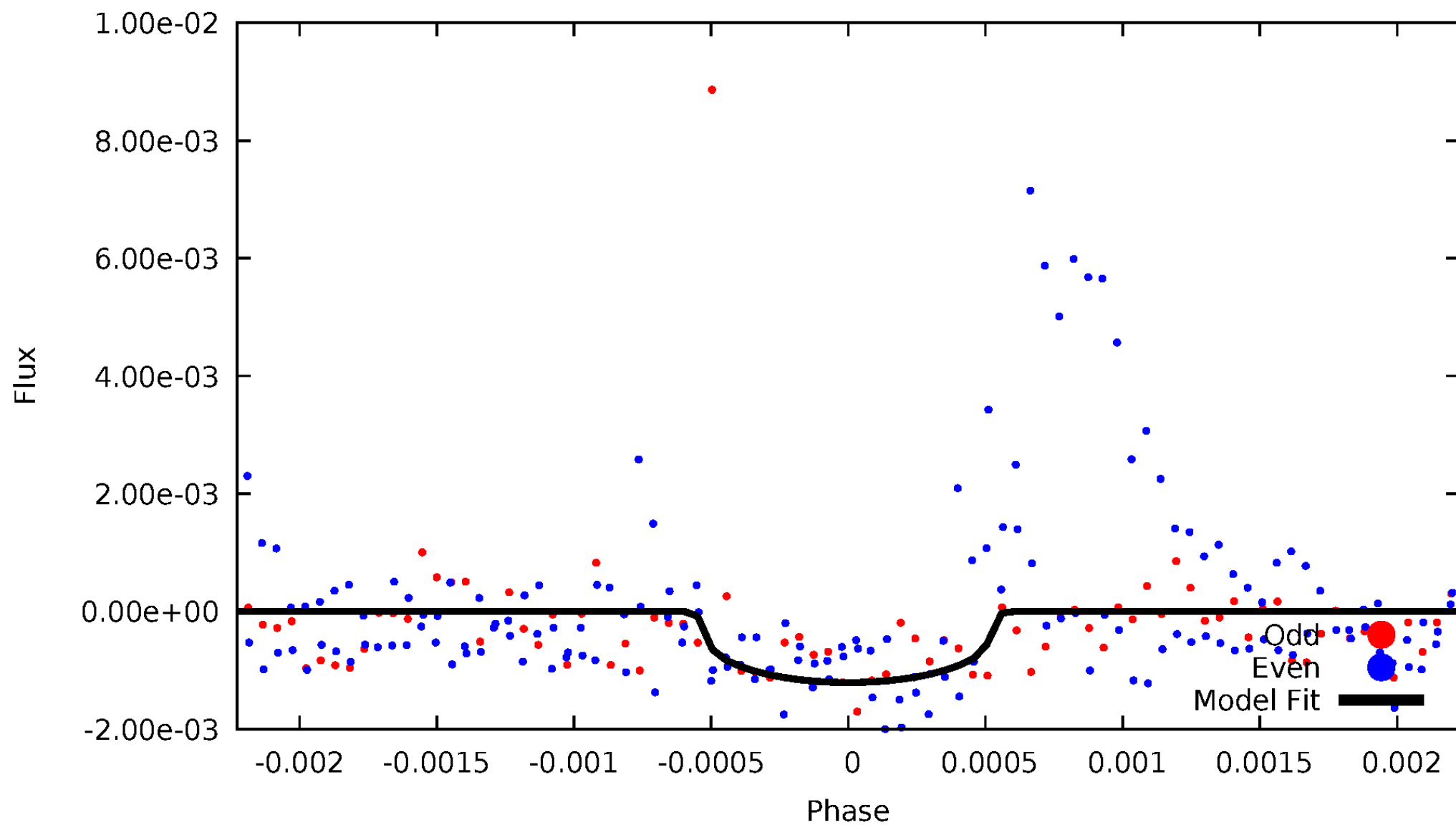


TCE 011873179-02



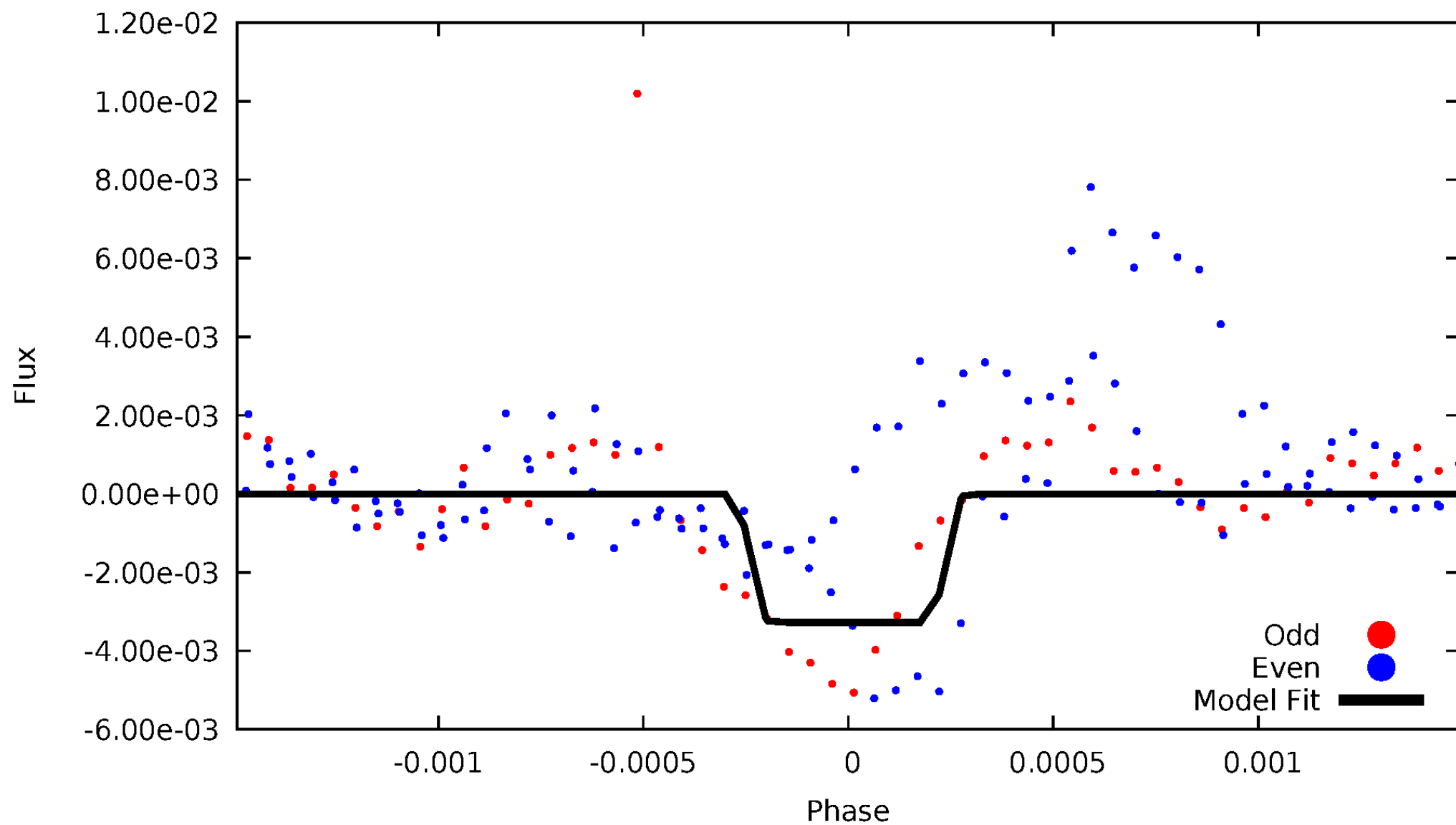
DV Odd/Even

TCE 011873179-02



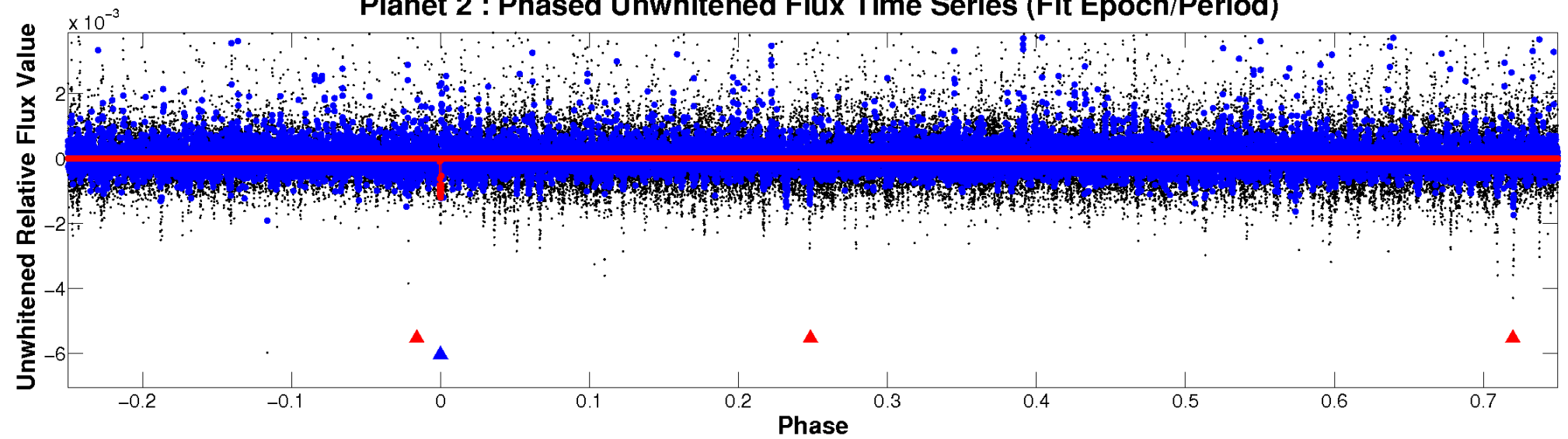
ALT Odd/Even

TCE 011873179-02

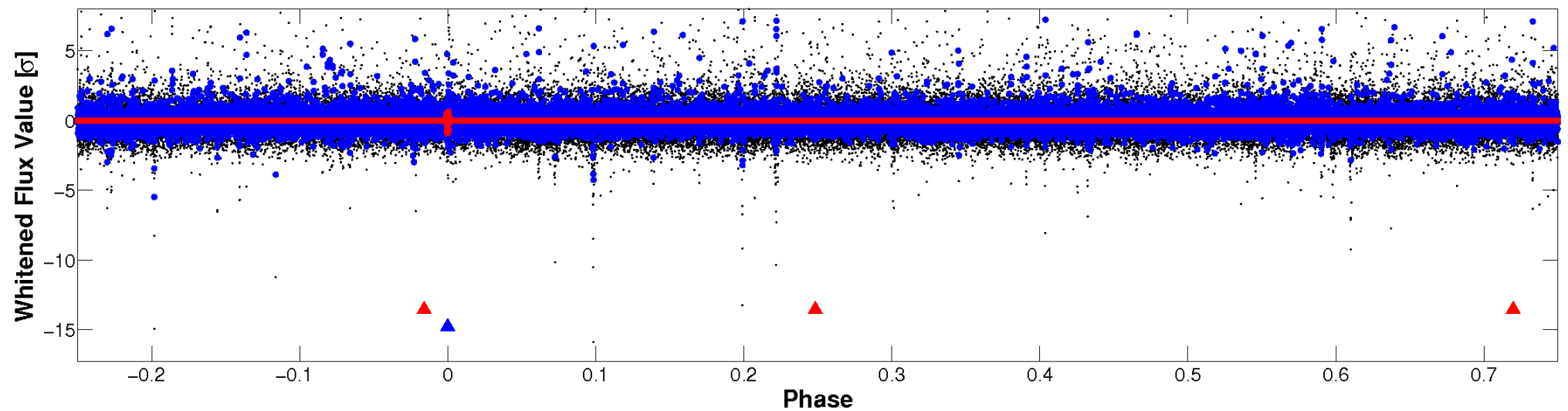


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

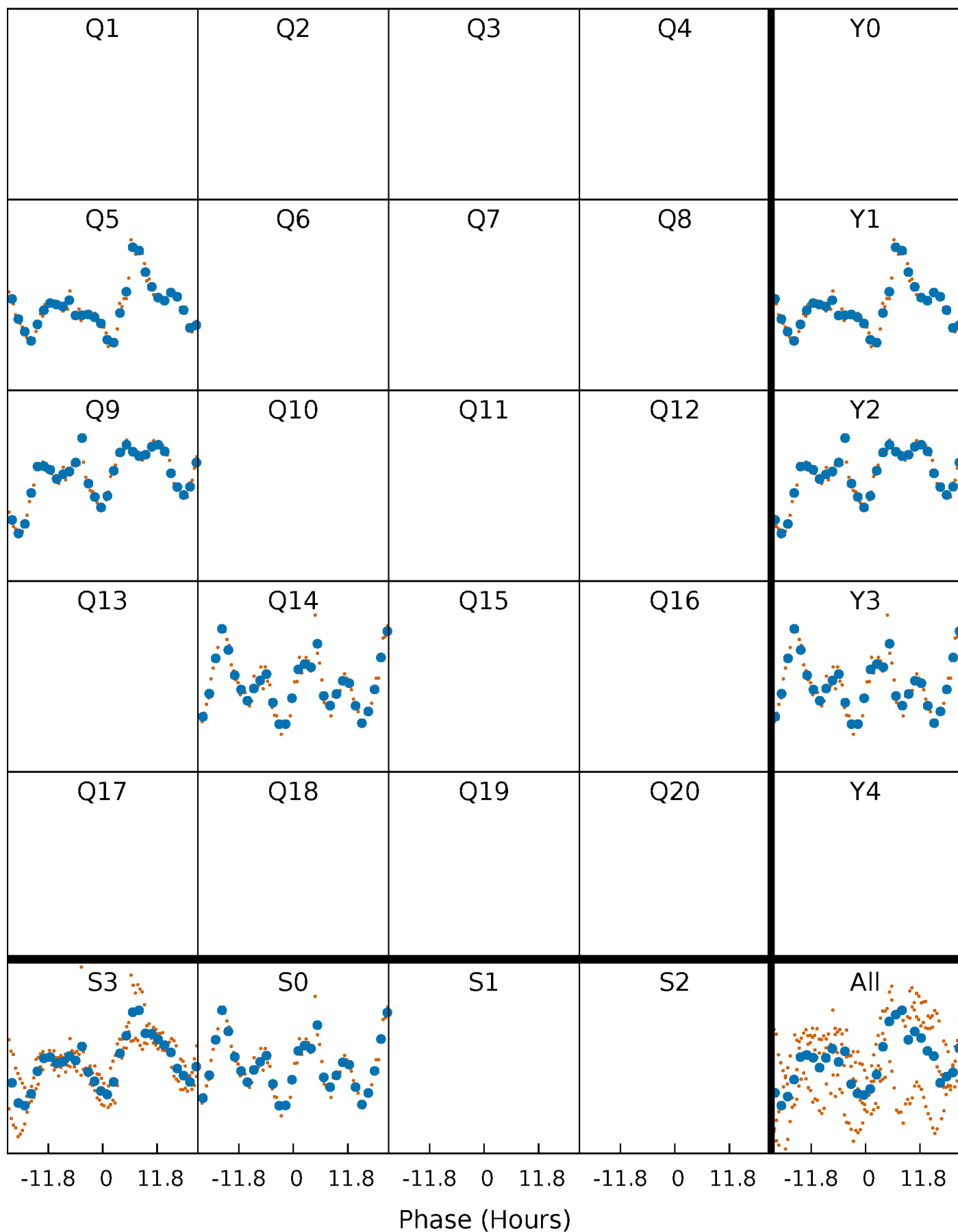


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



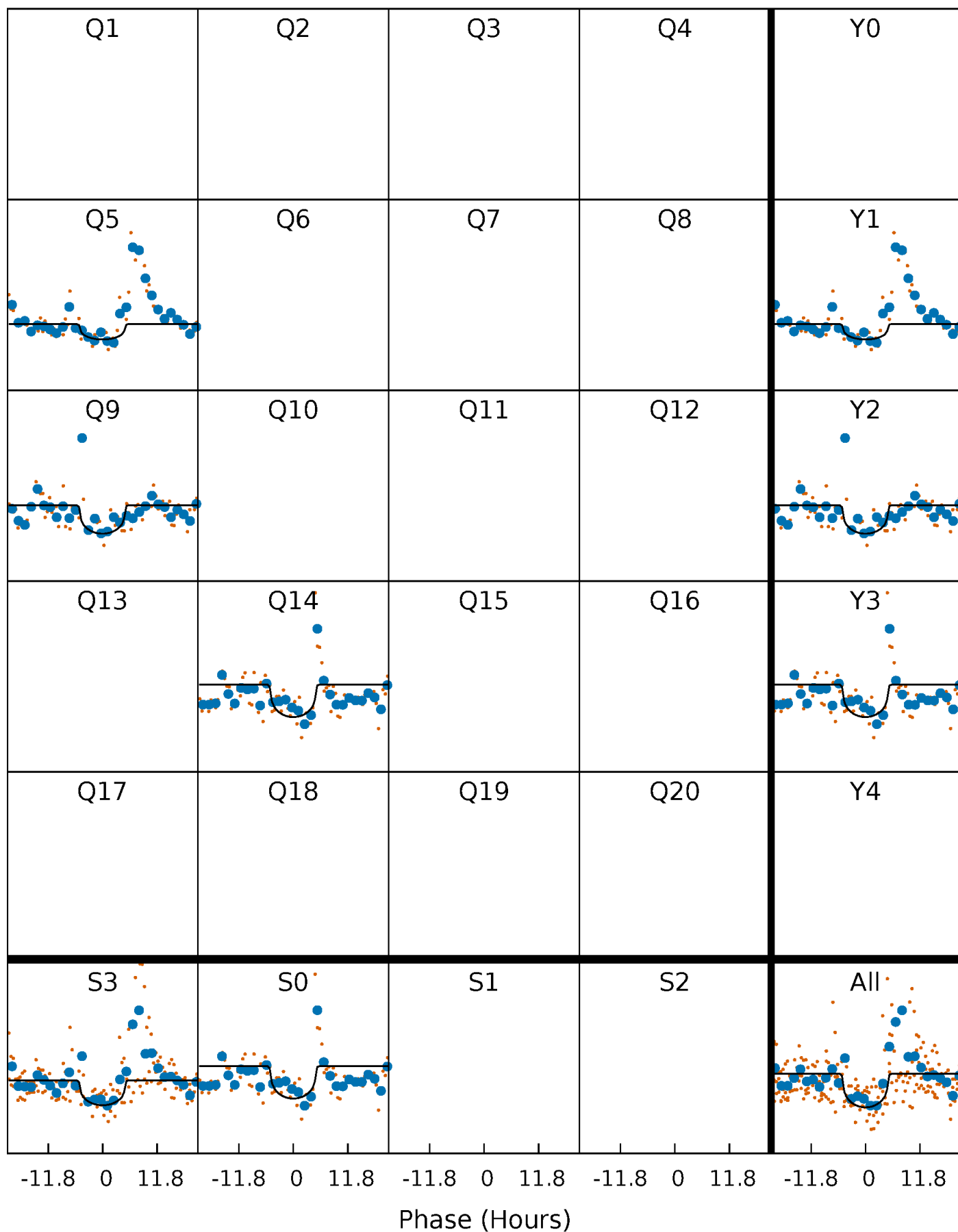
PDC Quarter-Phased Transit Curves

TCE 011873179-02 $P=386.786817$ Days $T_0=509.134182$ (BKJD)



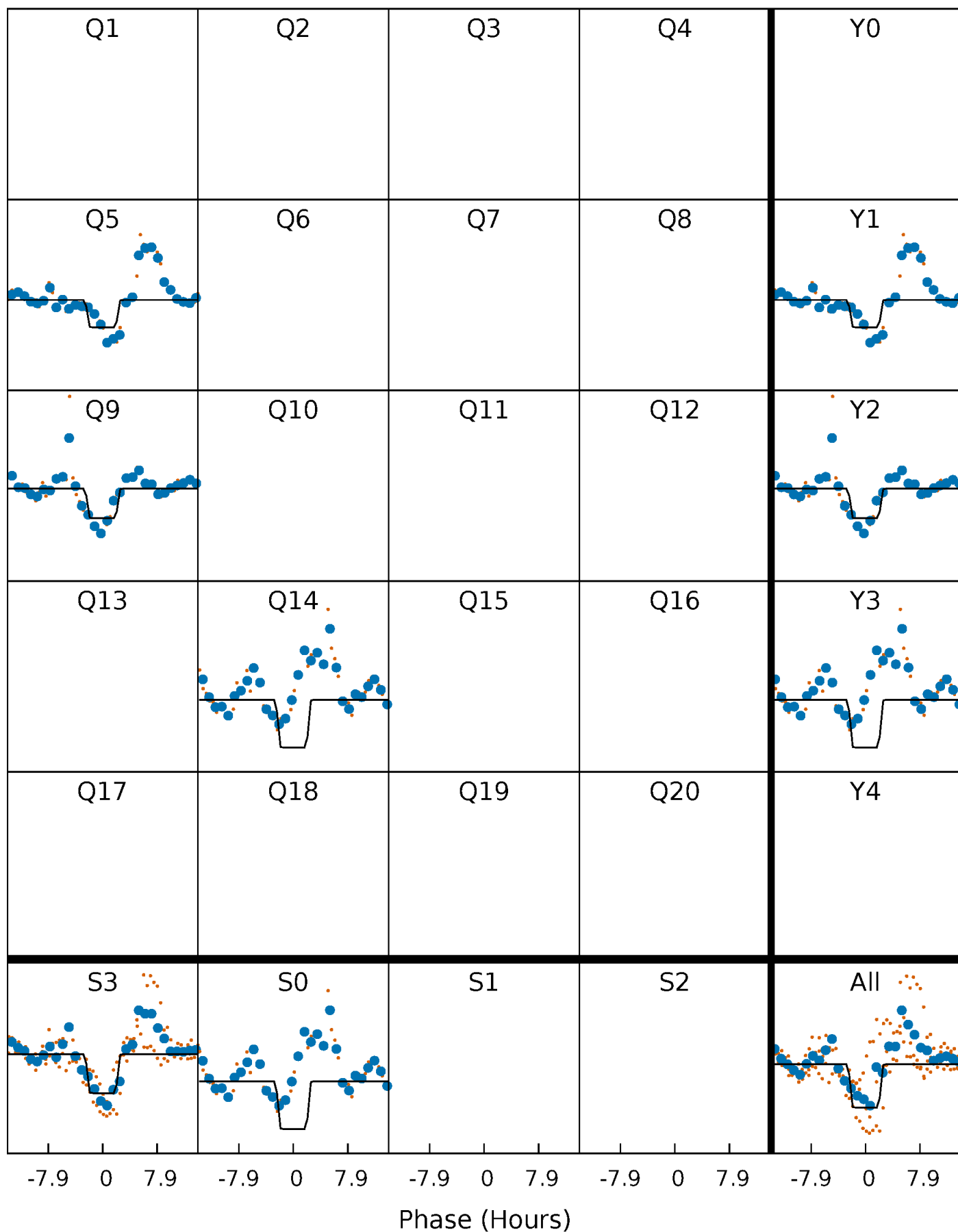
DV Quarter-Phased Transit Curves

TCE 011873179-02 $P=386.786817$ Days $T_0=509.134182$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

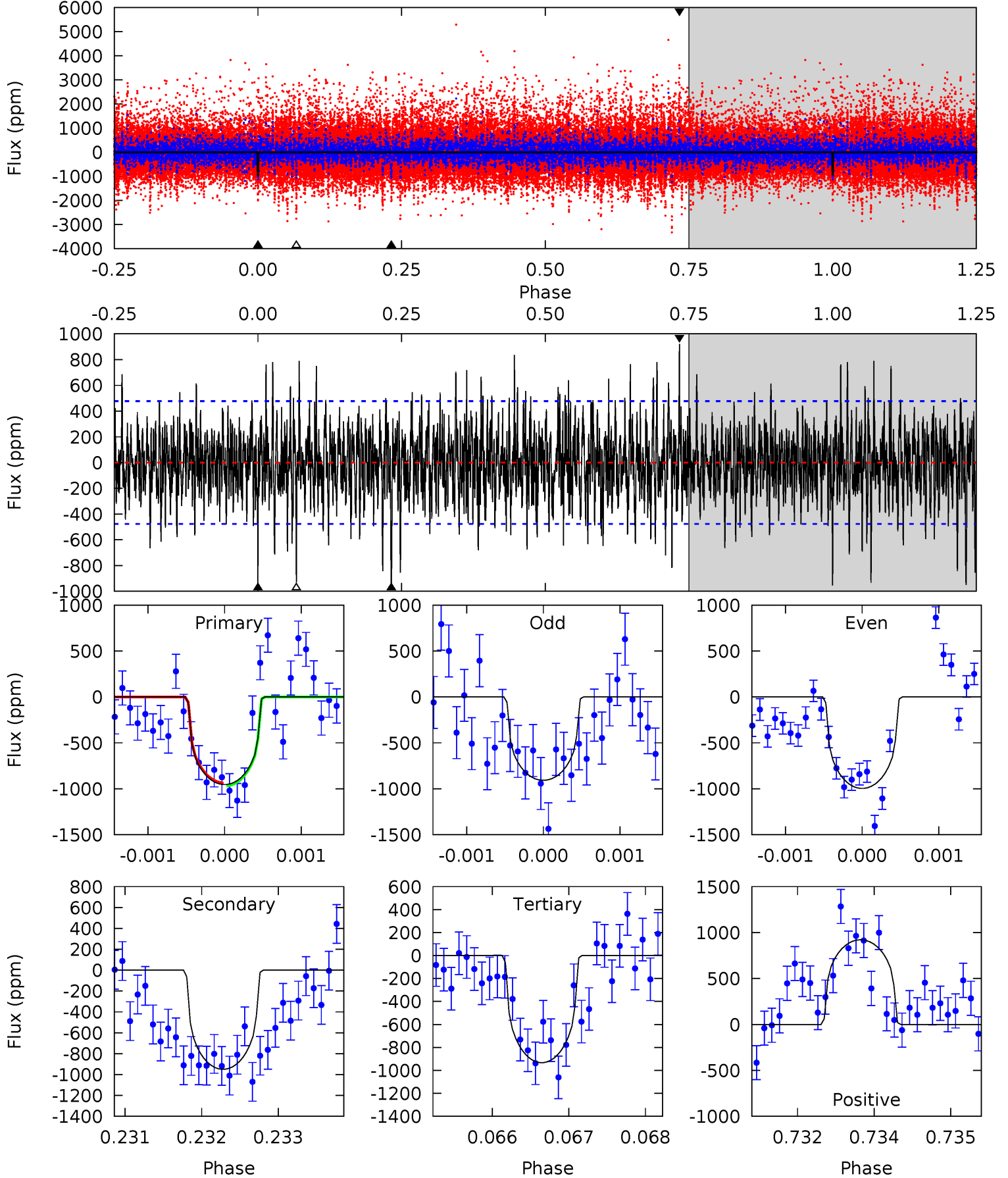
TCE 011873179-02 P=386.766424 Days $T_0=509.161846$ (BKJD)



DV Model-Shift Uniqueness Test

011873179-02, P = 386.786817 Days, E = 122.347365 Days

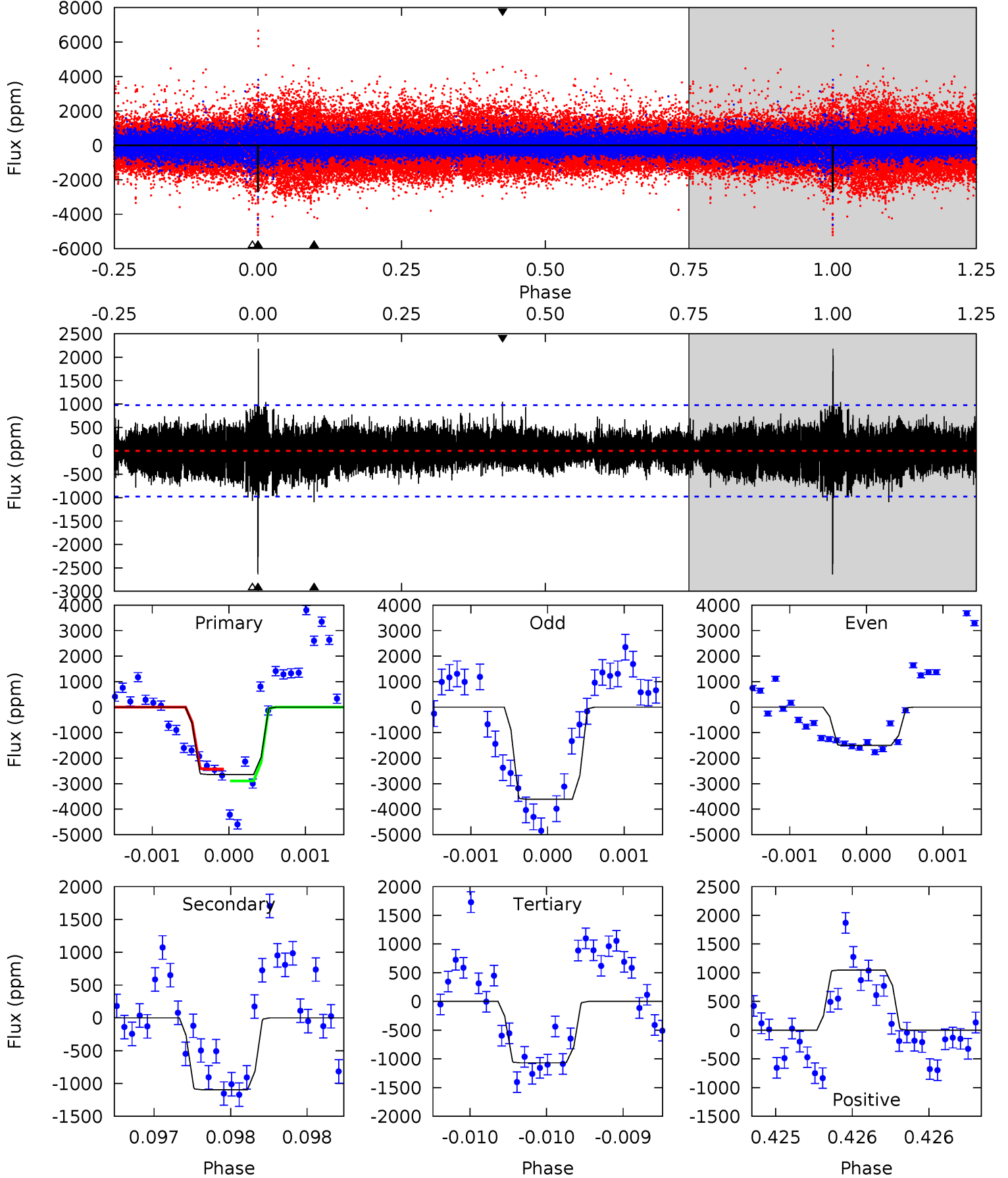
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.9 | 10.8 | 10.6 | 10.5 | 5.43 | 3.25 | 2.63 | 0.24 | 0.37 | 0.19 | 0.33 | 0.41 | 0.89 | 0.49 | 0.18 |



Alt Model-Shift Uniqueness Test

011873179-02, P = 386.766424 Days, E = 122.395422 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.0 | 6.24 | 6.09 | 5.97 | 5.56 | 3.46 | 1.62 | 8.96 | 9.08 | 0.15 | 0.27 | 6.10 | 0.64 | 0.45 | 1.32 |



Stellar Parameters For KIC 011873179

| | $T_{\text{eff}}(K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 4548^{+150}_{-150} | $4.569^{+0.049}_{-0.025}$ | $0.380^{+0.100}_{-0.300}$ | $0.748^{+0.031}_{-0.062}$ | $0.759^{+0.036}_{-0.052}$ | $2.549^{+0.546}_{-0.236}$ |
| | +3%/-3% | +1%/-1% | +26%/-79% | +4%/-8% | +5%/-7% | +21%/-9% |
| 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 011873179-02 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-----------------|------------------------|----------------------|-----------------------|----------------------------|
| DV | -950 ± 88 | $2.65^{+1.29}_{-1.20}$ | 248^{+8}_{-9} | 4440^{+1269}_{-620} | $65499^{+162512}_{-36205}$ |
| Alt. | -1095 ± 176 | $4.61^{+1.31}_{-1.27}$ | 249^{+9}_{-10} | 3732^{+479}_{-305} | 25521^{+22149}_{-10235} |

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

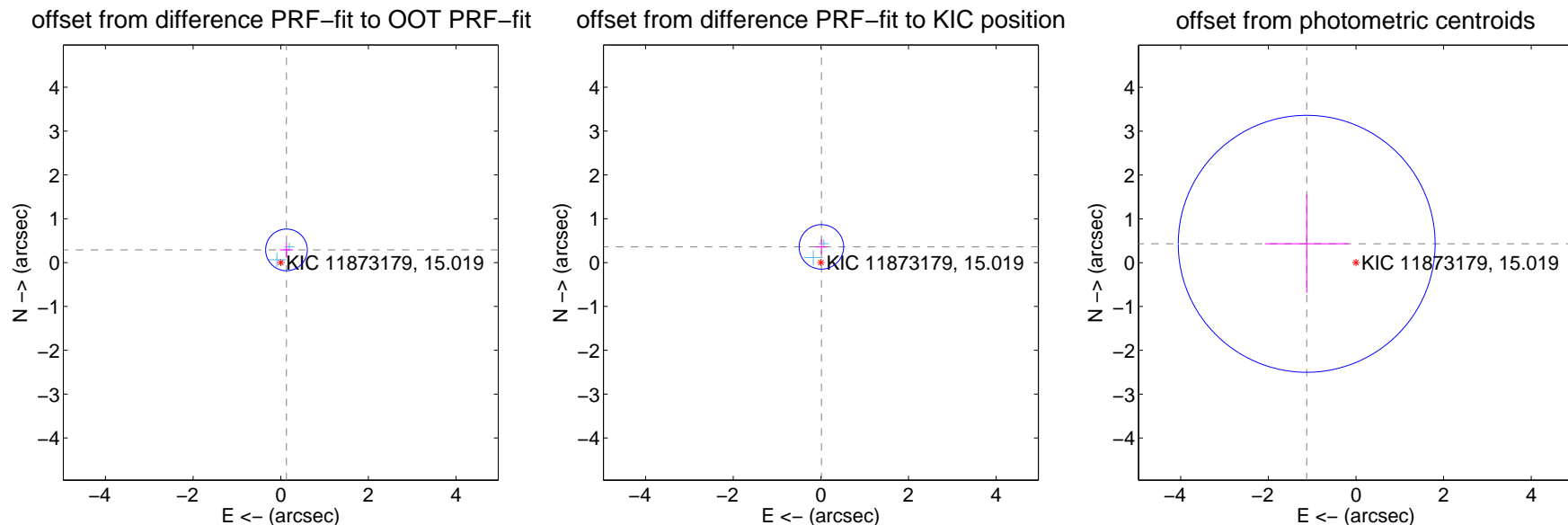
DV Centroid Data

Supplemental centroid analysis for 011873179-02. Kepler magnitude: 15.02. Transit SNR 6.64

There are 2 quarters with good PRF difference image offsets

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

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.318 ± 0.158 | 2.01 | -0.130 ± 0.153 | 0.290 ± 0.159 |
| PRF-fit source offset from KIC position | 0.358 ± 0.169 | 2.12 | -0.012 ± 0.134 | 0.358 ± 0.169 |
| photometric centroid source offset | 1.20 ± 0.98 | 1.23 | 1.12 ± 0.95 | 0.43 ± 1.12 |

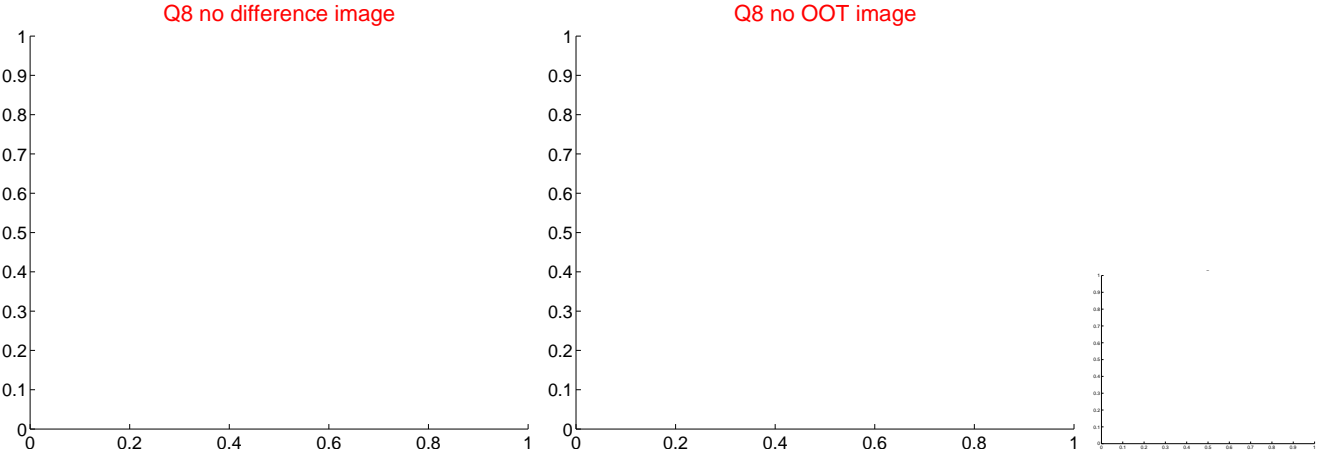
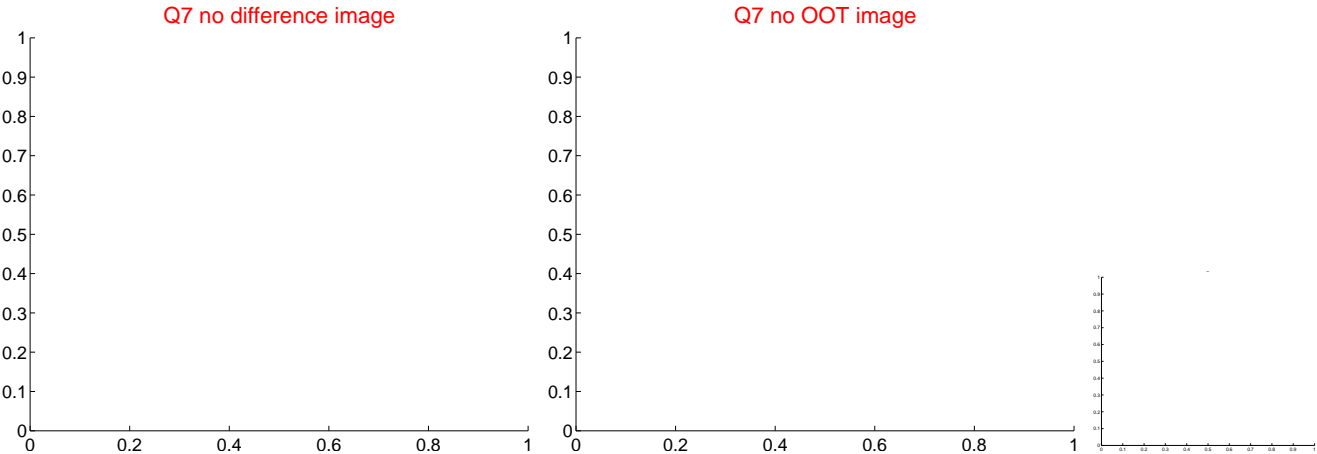
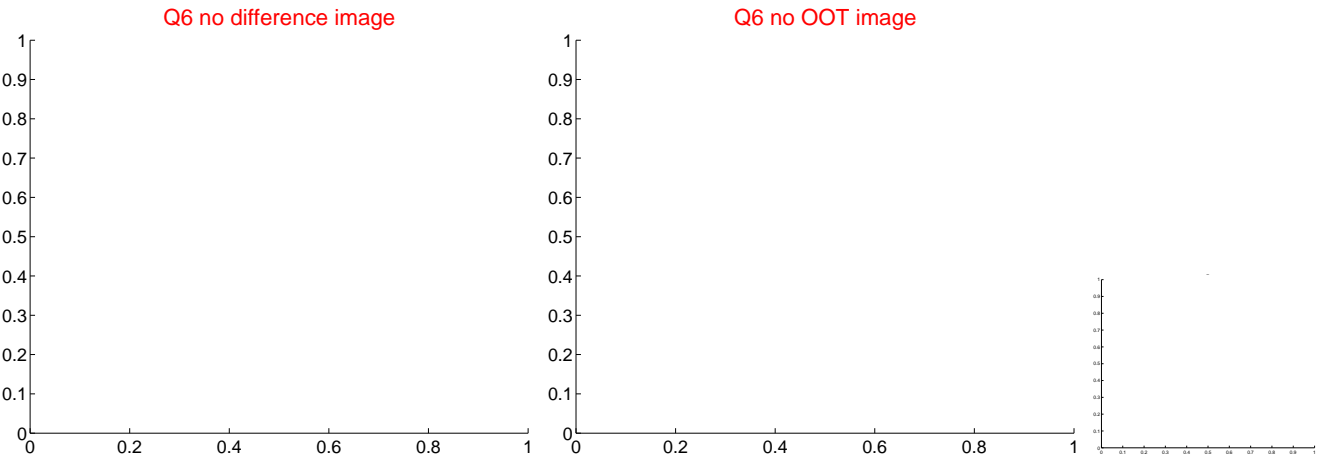
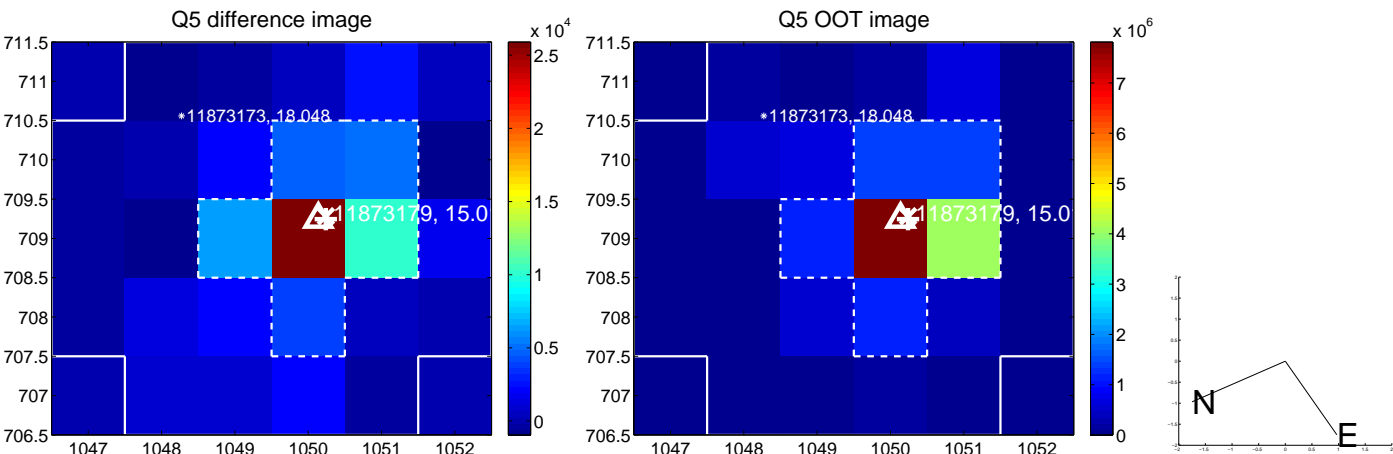


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

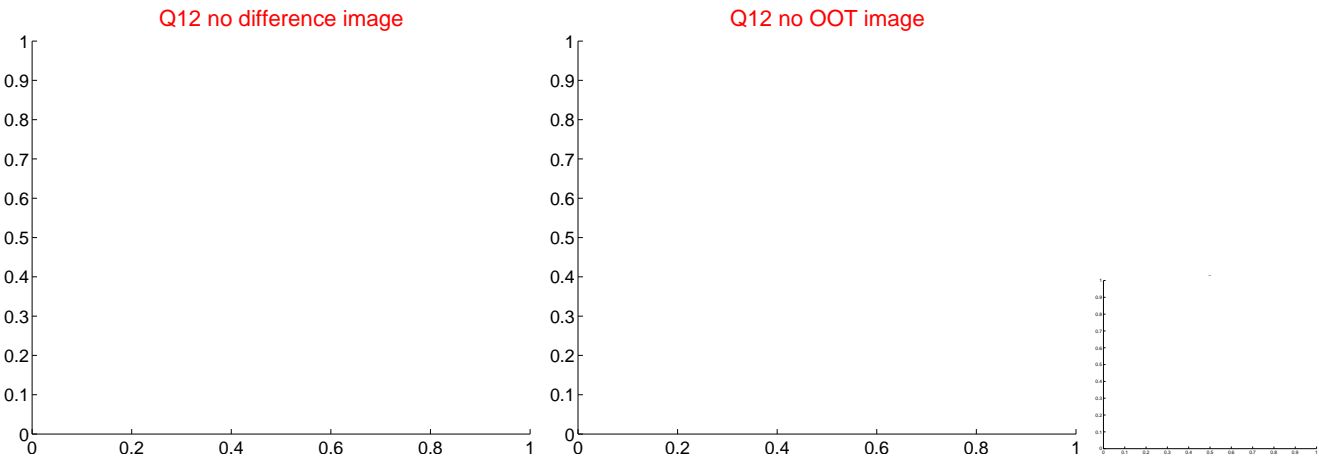
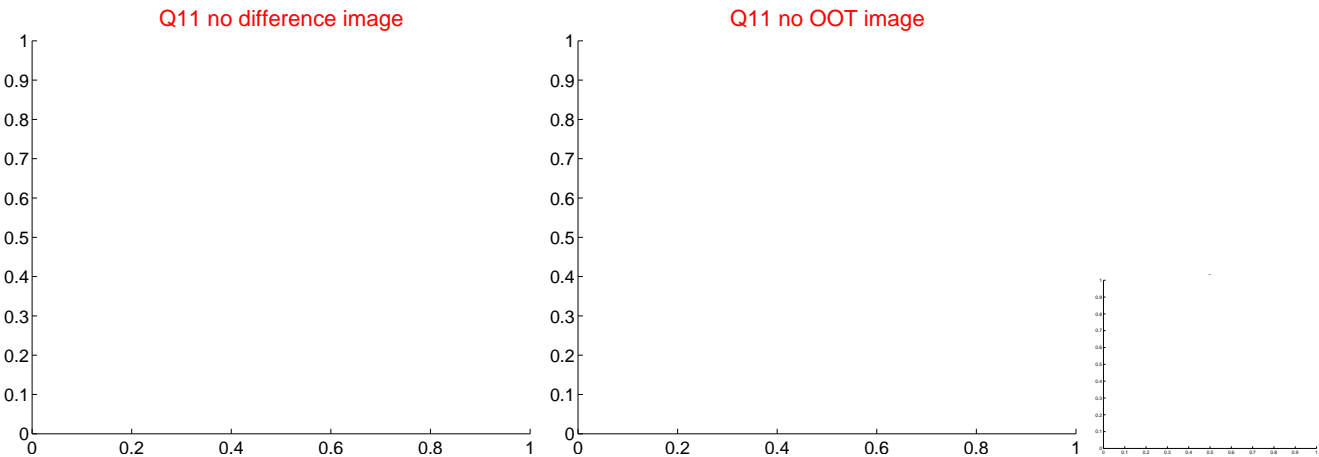
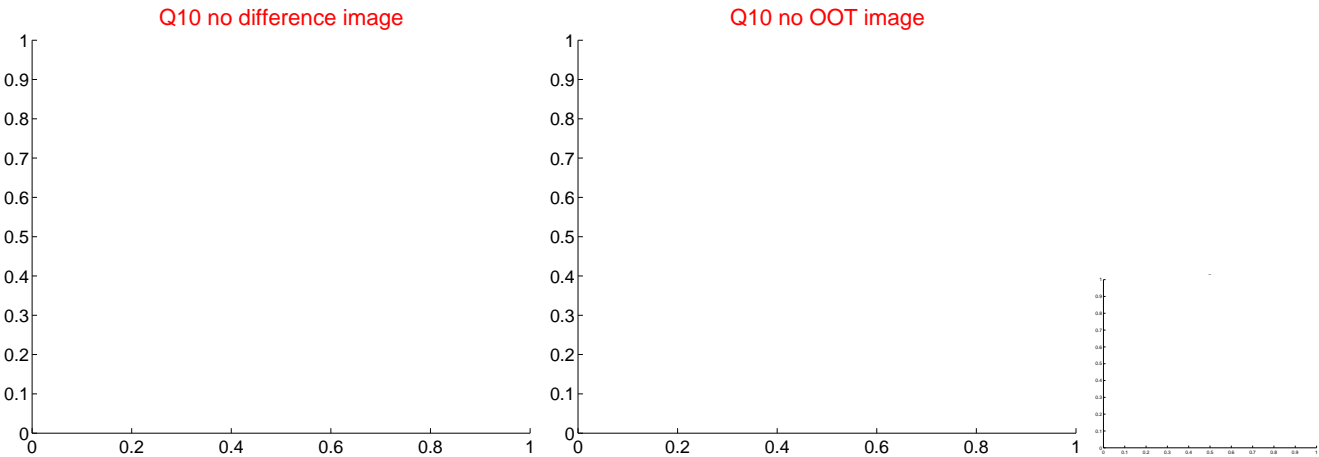
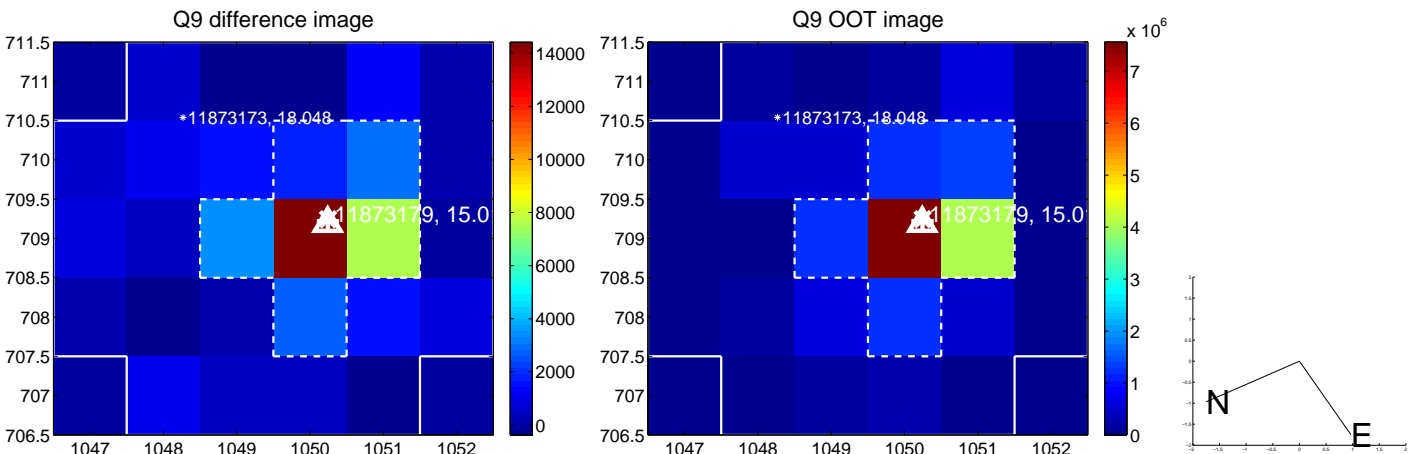
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



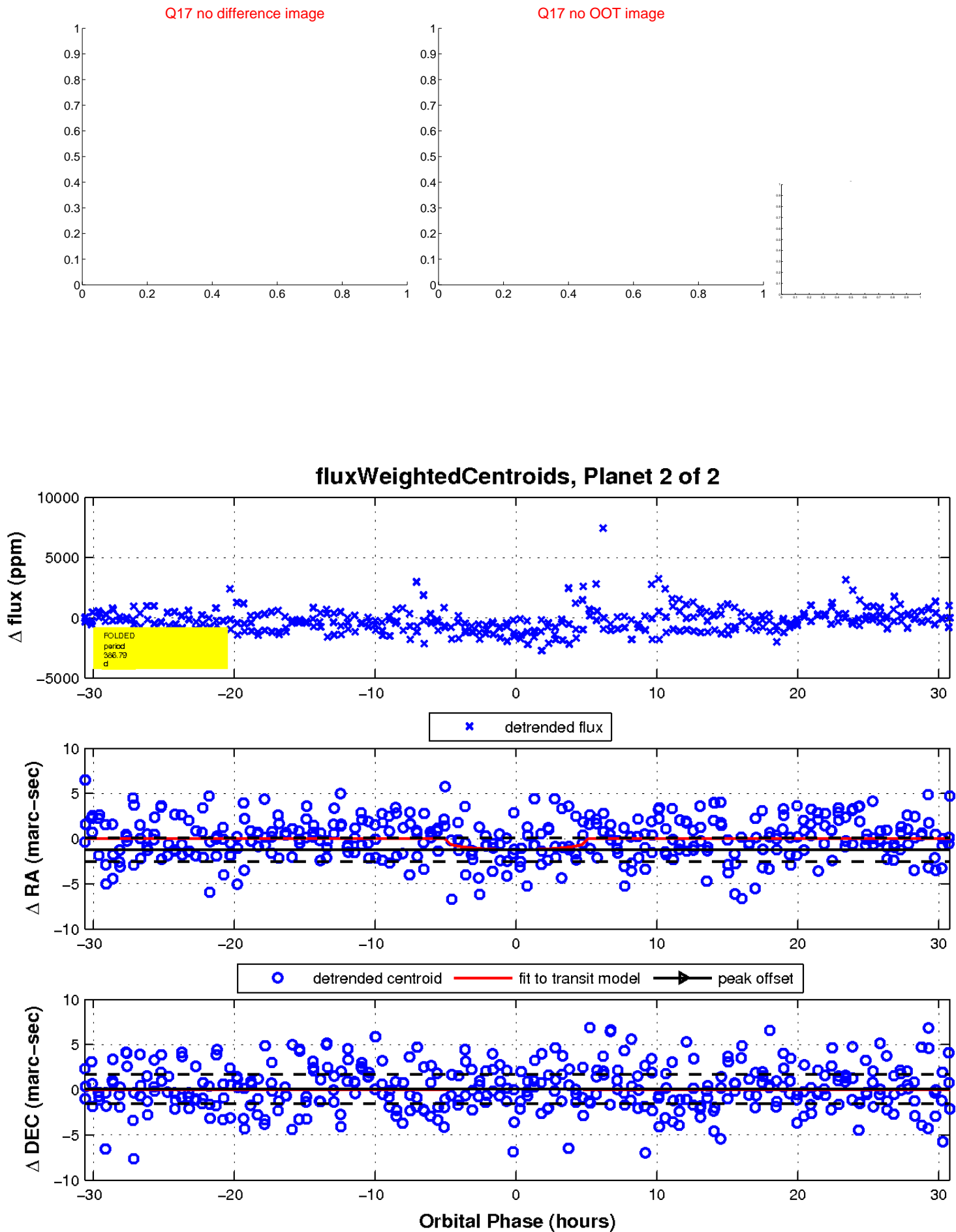
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

