

KIC 008197713

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 008197713-01 | OBS | No | 110.528060 | 173.626442 | 2469.5 | 3.124 | 10.2 | 5.5 | 0.67 | 5144 | 3.43 | 1.76 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-------------------------------------------------------------------------------------|
| 008197713-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—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.

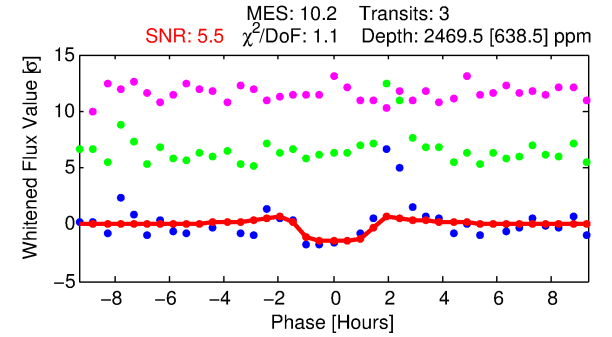
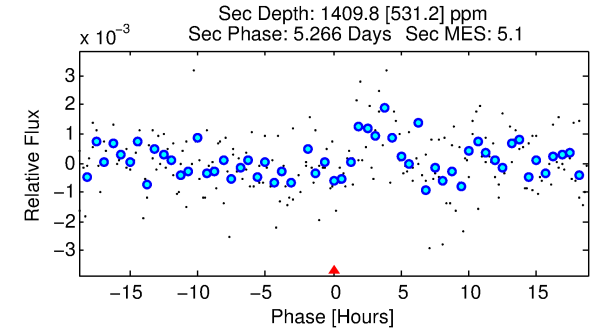
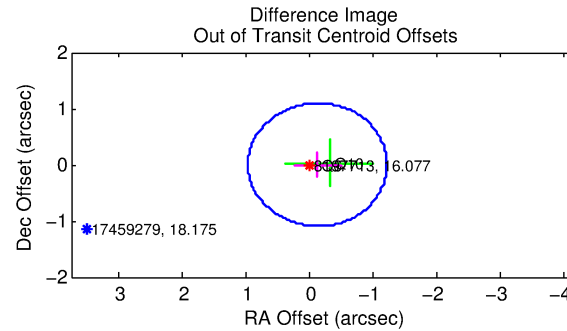
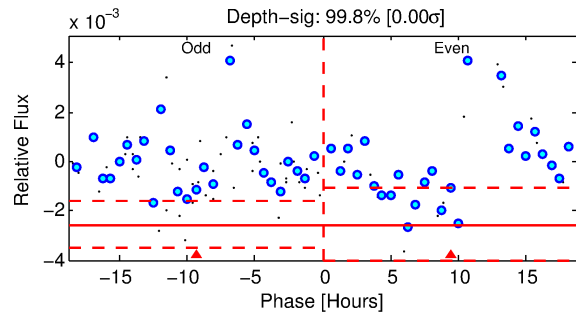
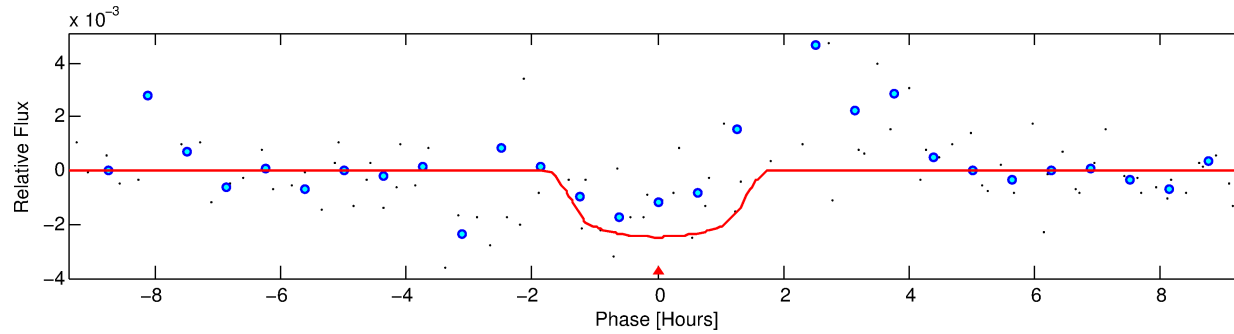
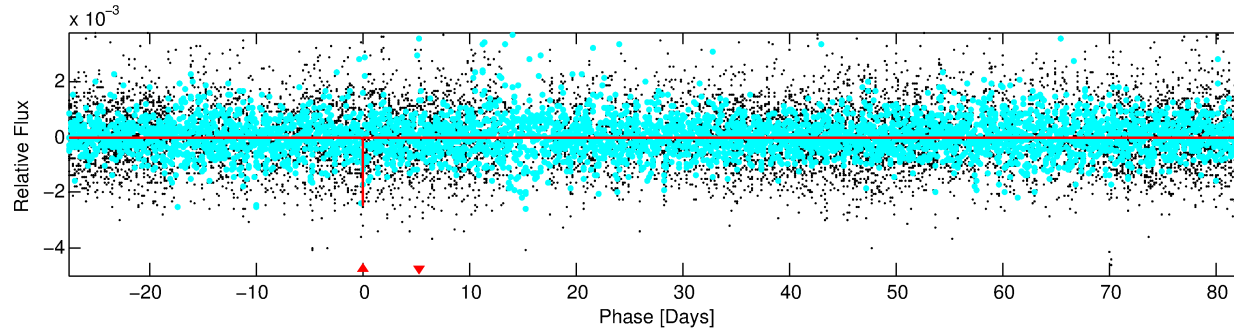
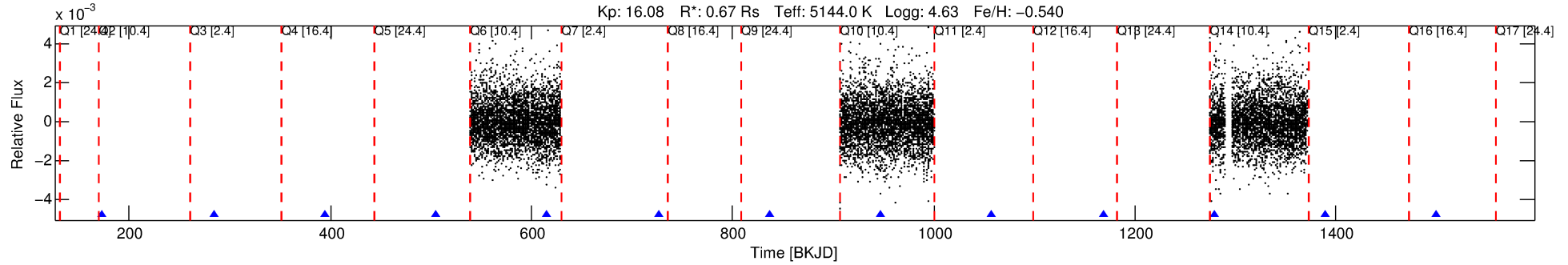
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008197713-01

No Significant Match Found

DV One-Page Summary

KIC: 8197713 Candidate: 1 of 1 Period: 110.528 d



DV Fit Results:

Period = 110.52806 [0.00305] d
Epoch = 173.6264 [0.0226] BKJD
Rp/R* = 0.0470 [0.0927]
a/R* = 235.46 [1757.84]
b = 0.58 [8.64]
Seff = 1.76 [0.32]
Teq = 294 [14] K
Rp = 3.43 [6.78] Re
a = 0.3999 [0.0368] AU
Ag = 10530.44 [41732.04] [0.25 σ]
Teffp = 4597 [4555] K [0.94 σ]

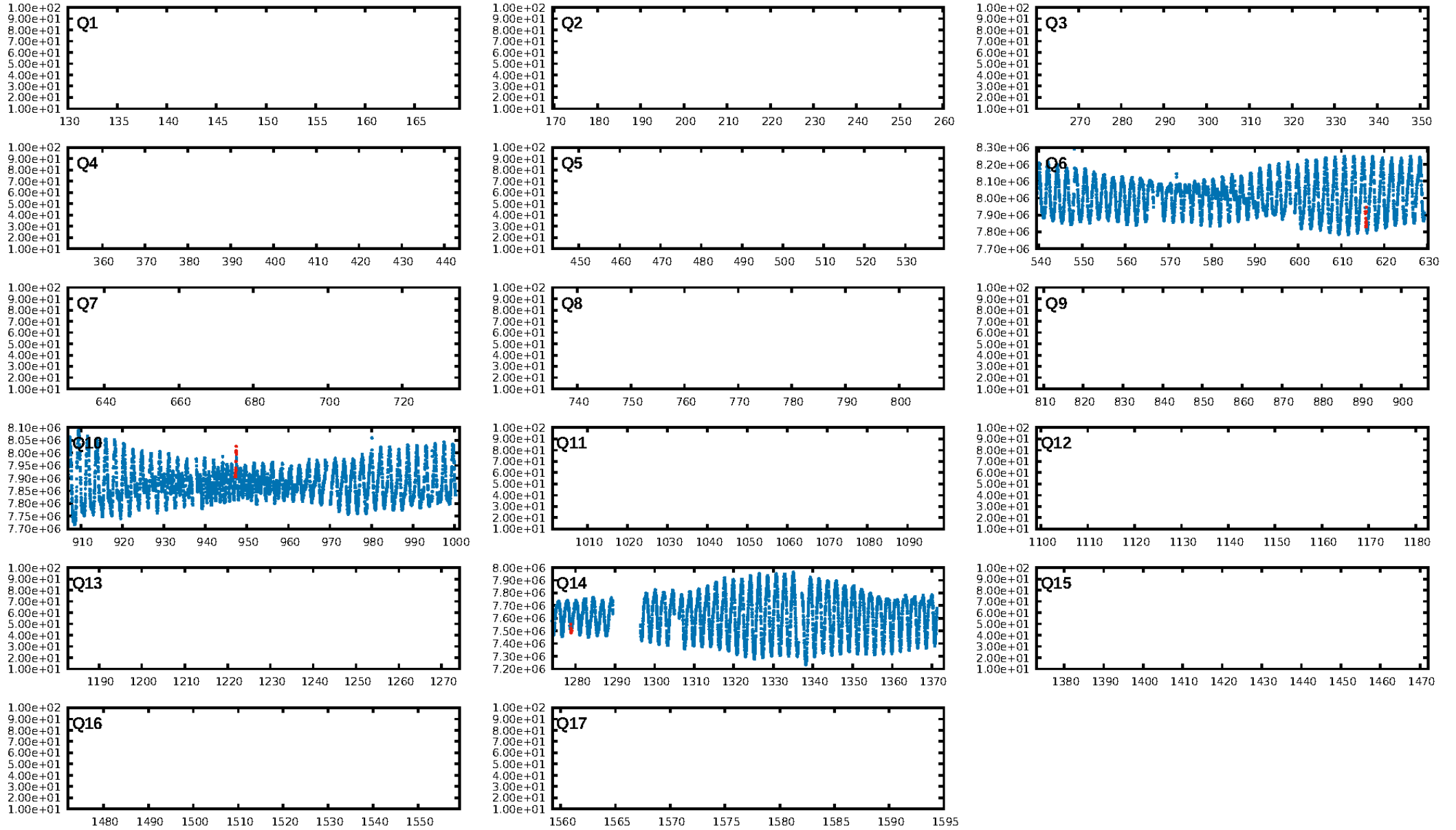
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.8%
ModelChiSquareGof-sig: 96.2%
Bootstrap-pfa: 1.03e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.9859
Centroid-sig: 30.6%
Centroid-so: 2.454 arcsec [1.82 σ]
OotOffset-rm: 0.124 arcsec [0.34 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-rm: 0.148 arcsec [0.44 σ]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

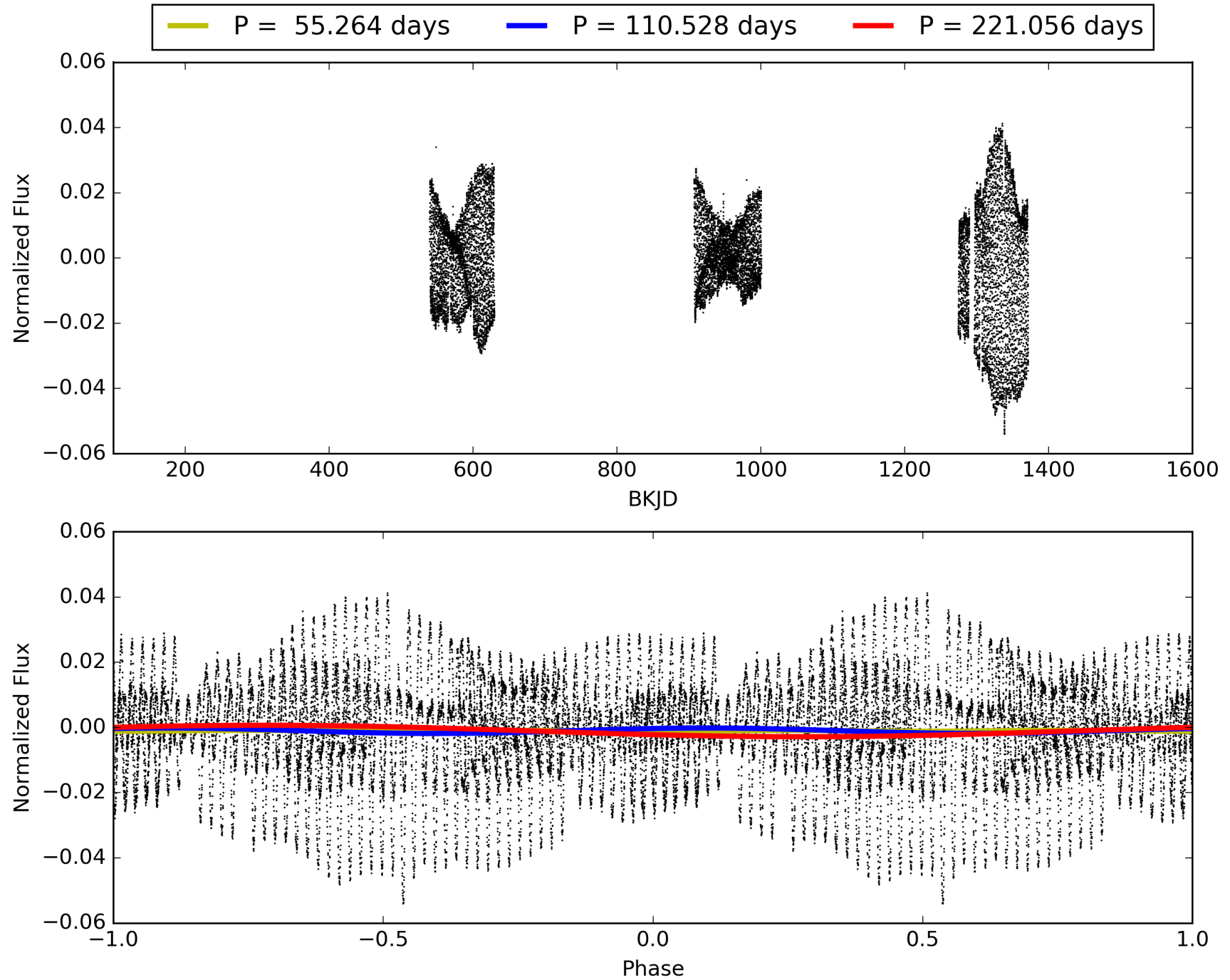
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:54:10 Z

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

TCE 008197713-01, PDC Light Curves

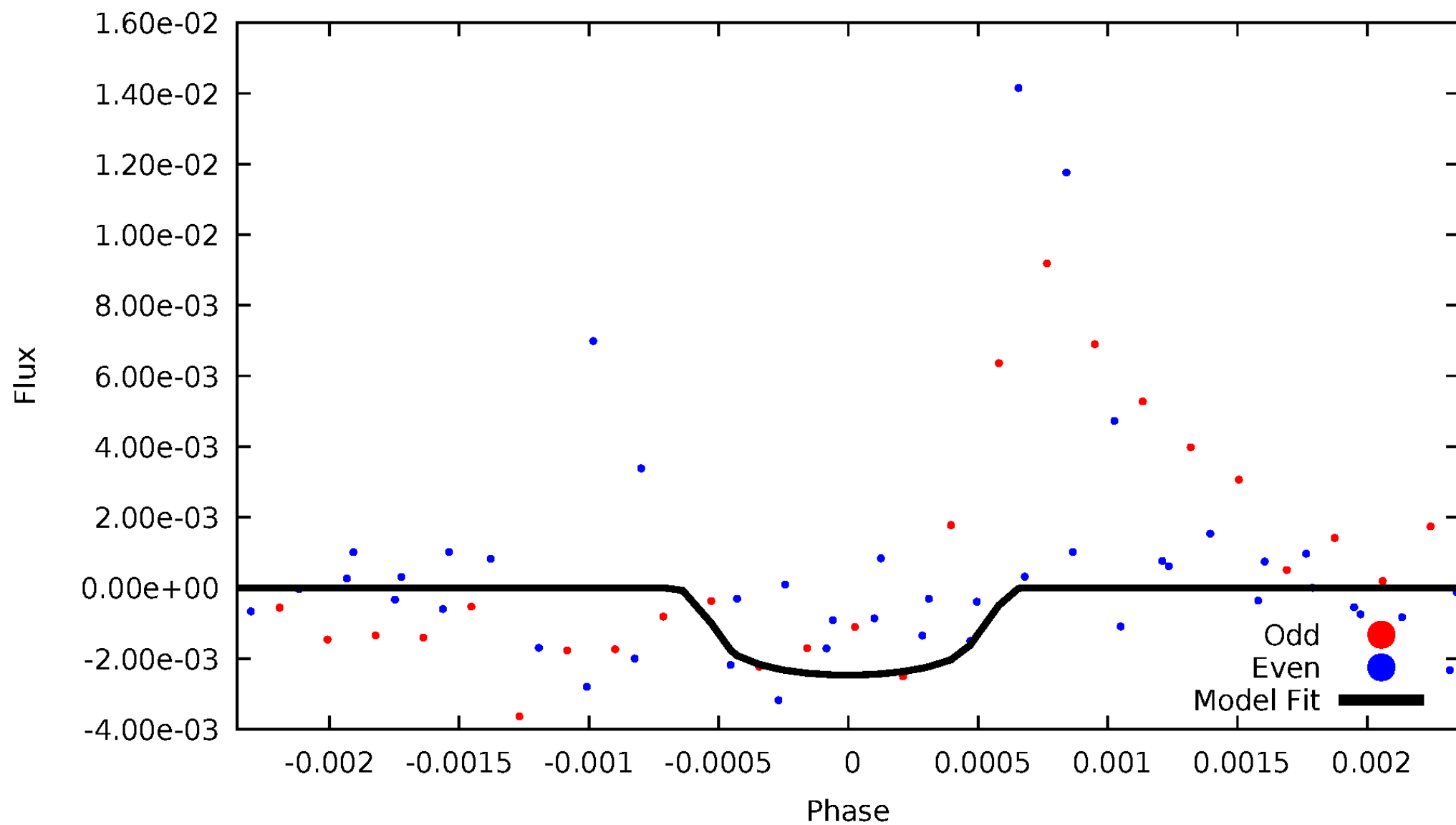


TCE 008197713-01



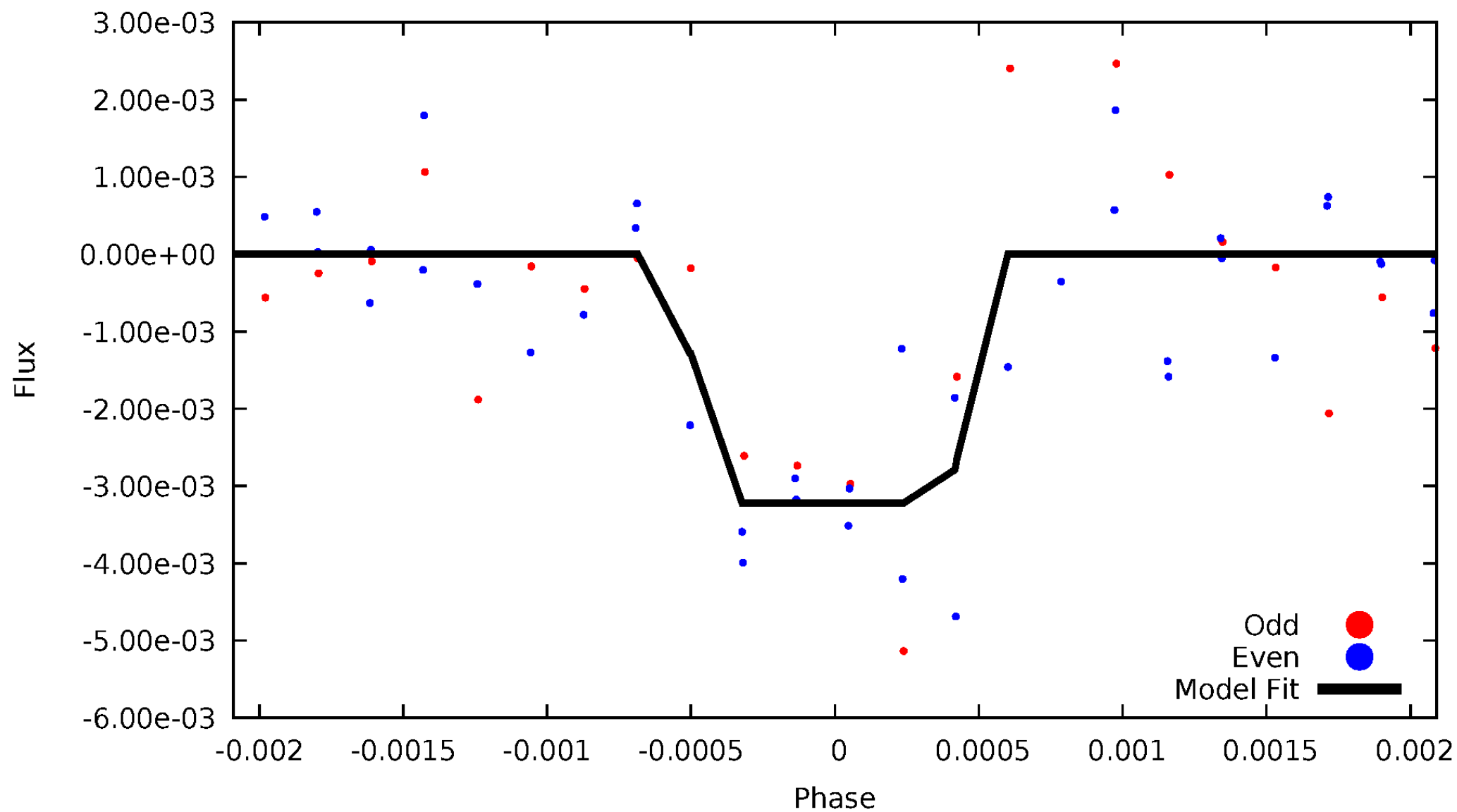
DV Odd/Even

TCE 008197713-01



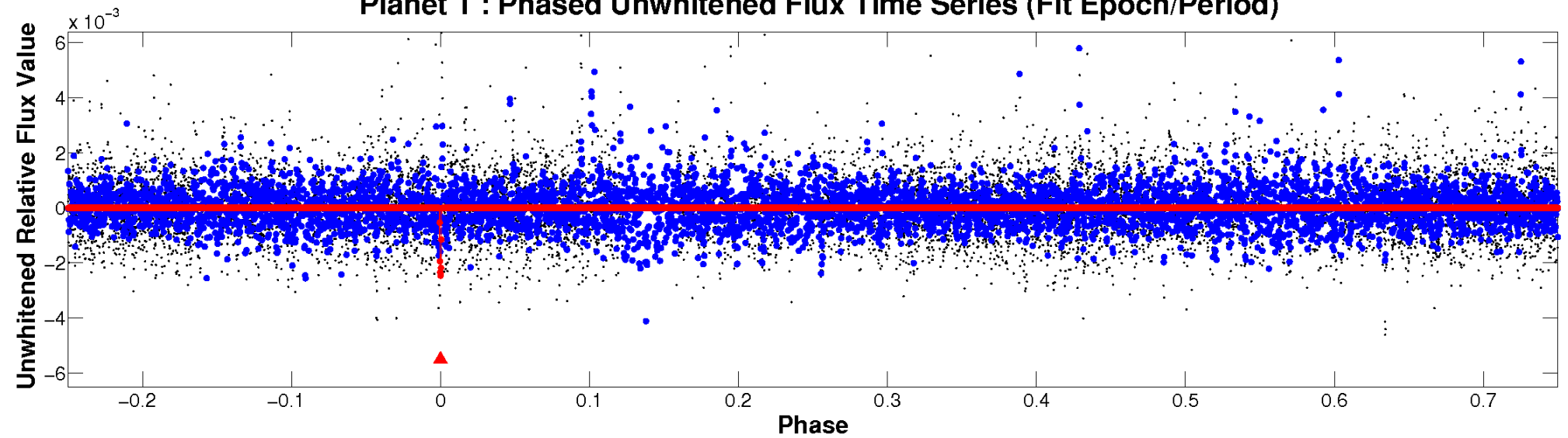
ALT Odd/Even

TCE 008197713-01

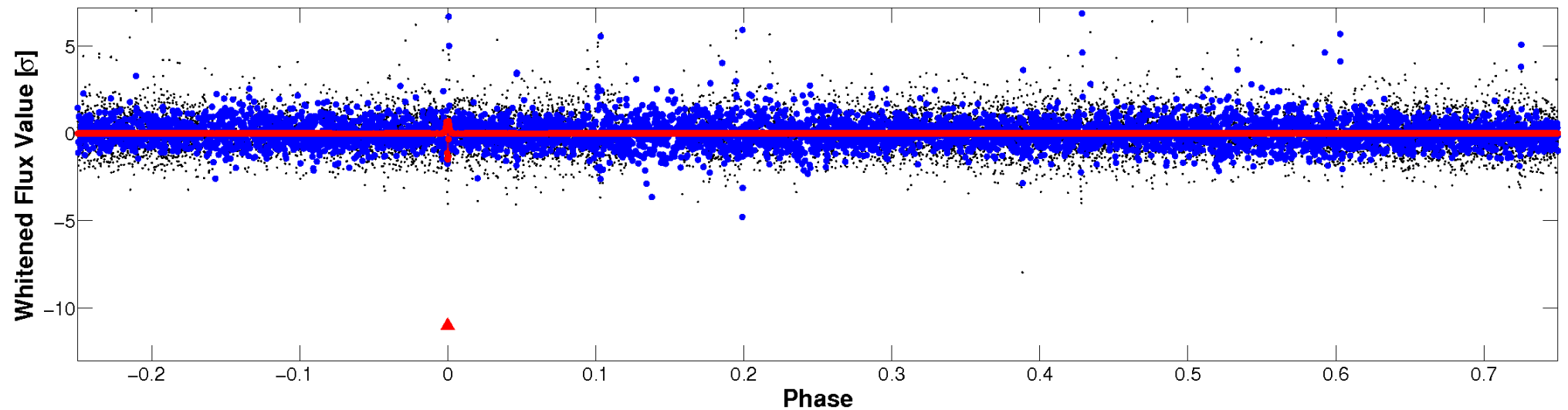


Non-Whitened Vs. Whitened Light Curve

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

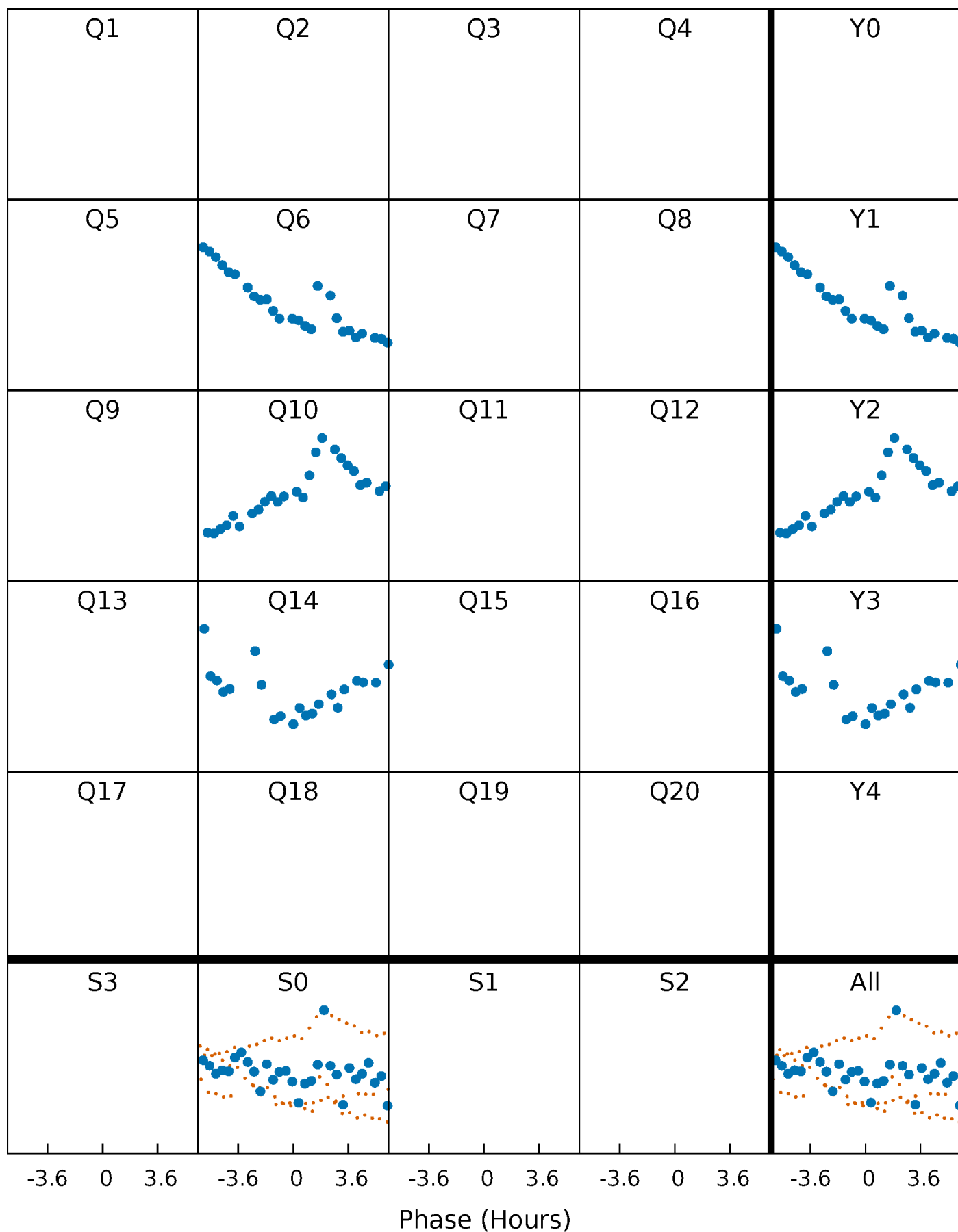


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



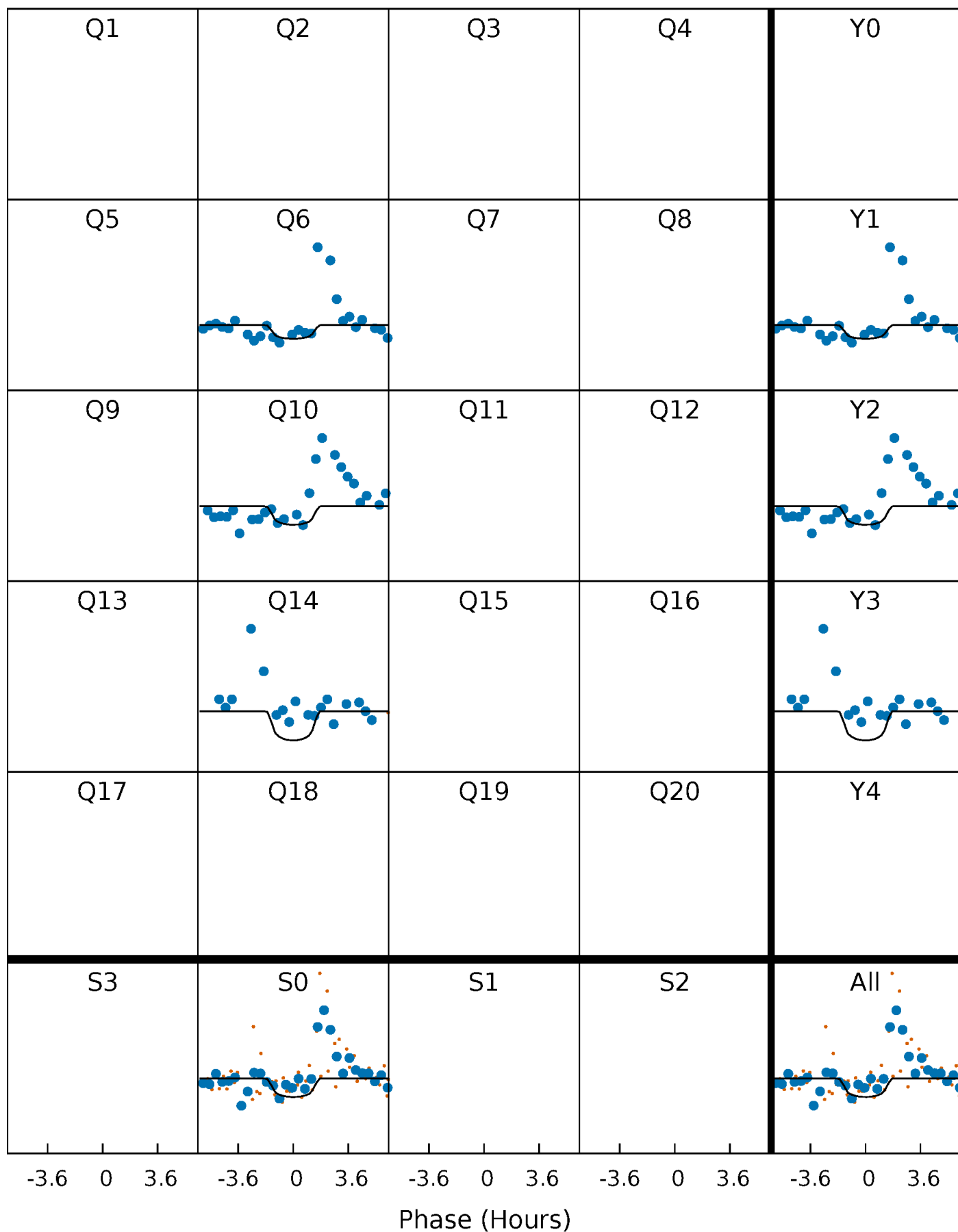
PDC Quarter-Phased Transit Curves

TCE 008197713-01 P=110.528060 Days $T_0=173.626442$ (BKJD)



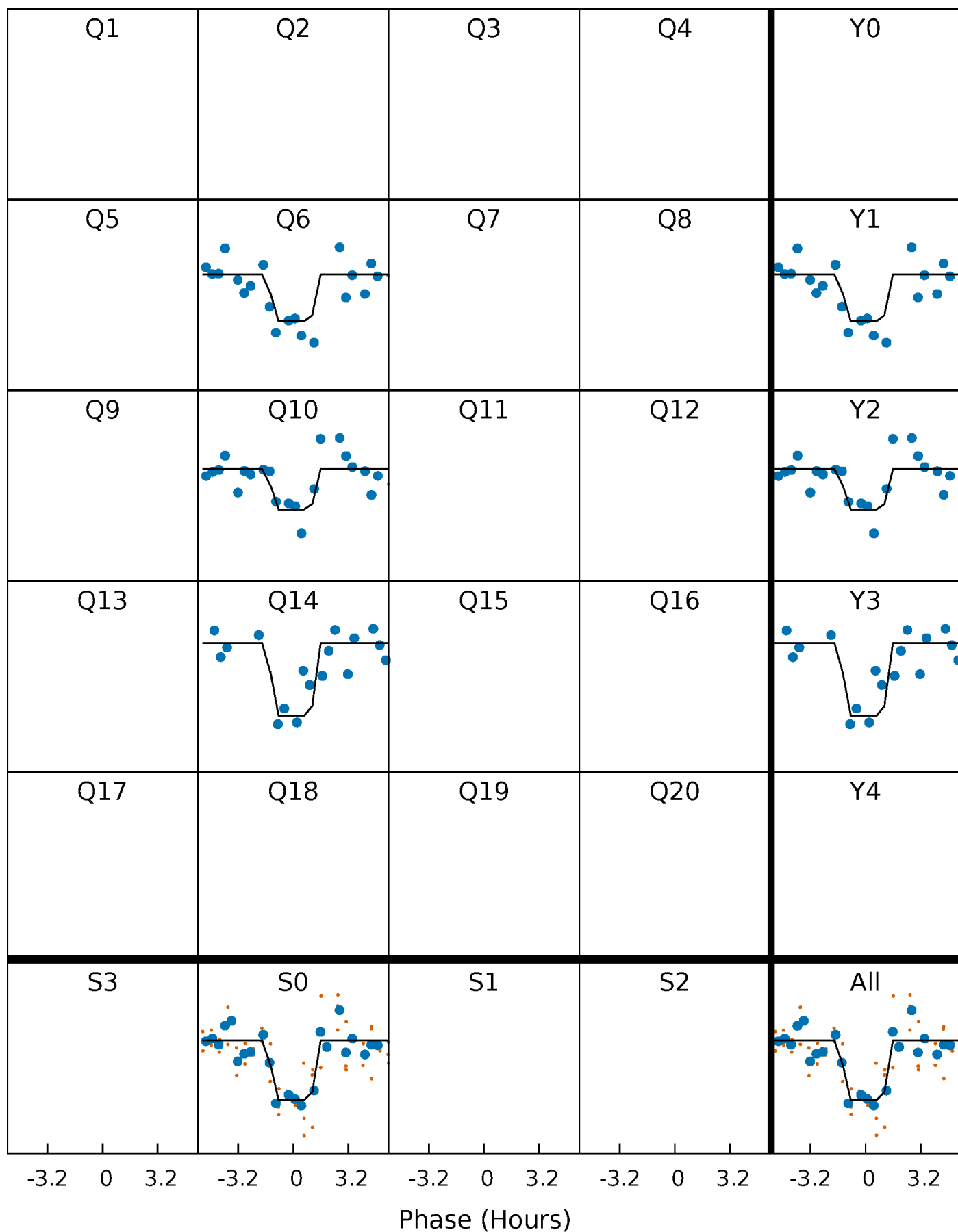
DV Quarter-Phased Transit Curves

TCE 008197713-01 P=110.528060 Days $T_0=173.626442$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

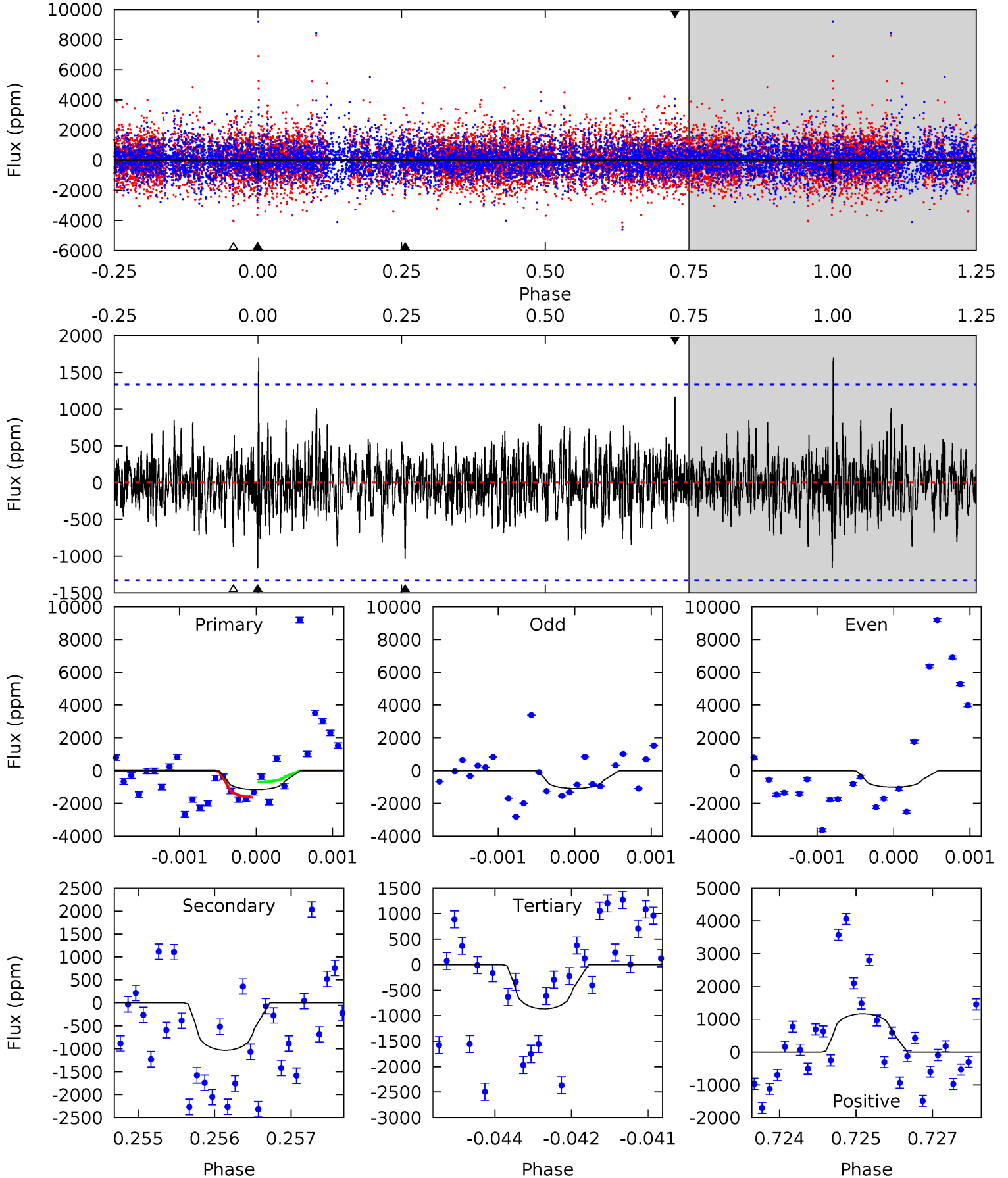
TCE 008197713-01 P=110.525182 Days $T_0=173.643495$ (BKJD)



DV Model-Shift Uniqueness Test

008197713-01, P = 110.528060 Days, E = 173.626442 Days

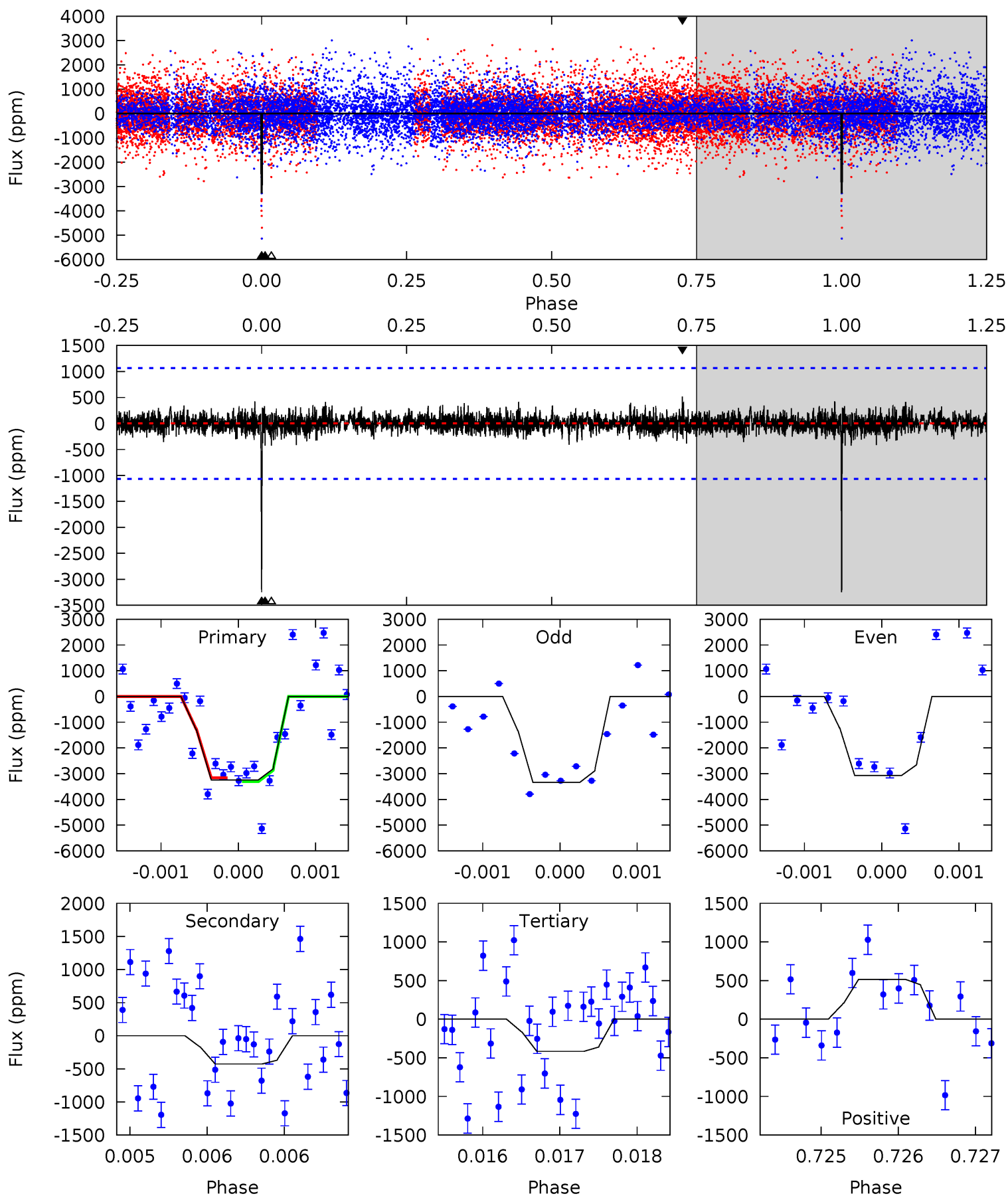
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 4.69 | 4.19 | 3.52 | 4.74 | 5.40 | 3.21 | 1.14 | 1.17 | -0.04 | 0.67 | -0.55 | 0.15 | 1.04 | 0.60 | 1.94 |



Alt Model-Shift Uniqueness Test

008197713-01, P = 110.525182 Days, E = 173.643495 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 16.7 | 2.19 | 2.14 | 2.64 | 5.47 | 3.31 | 0.56 | 14.5 | 14.0 | 0.05 | -0.46 | 0.67 | 1.06 | 0.14 | 0.39 |



Stellar Parameters For KIC 008197713

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|-----------------------------------------------|
| | 5144^{+179}_{-179} | $4.631^{+0.045}_{-0.060}$ | $-0.540^{+0.350}_{-0.300}$ | $0.669^{+0.080}_{-0.053}$ | $0.699^{+0.076}_{-0.055}$ | $3.285^{+0.625}_{-0.755}$ |
| | +3%/-3% | +1%/-1% | +65%/-56% | +12%/-8% | +11%/-8% | +19%/-23% |
| 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 008197713-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-----------------|------------------------|-------------------|-----------------------|-------------------------|
| DV | -1033 ± 247 | $6.10^{+5.69}_{-4.05}$ | 410^{+18}_{-15} | 3602^{+1939}_{-674} | 2419^{+19549}_{-1770} |
| Alt. | -426 ± 195 | $6.59^{+5.58}_{-4.21}$ | 412^{+17}_{-16} | 3061^{+1307}_{-534} | 834^{+6742}_{-644} |

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

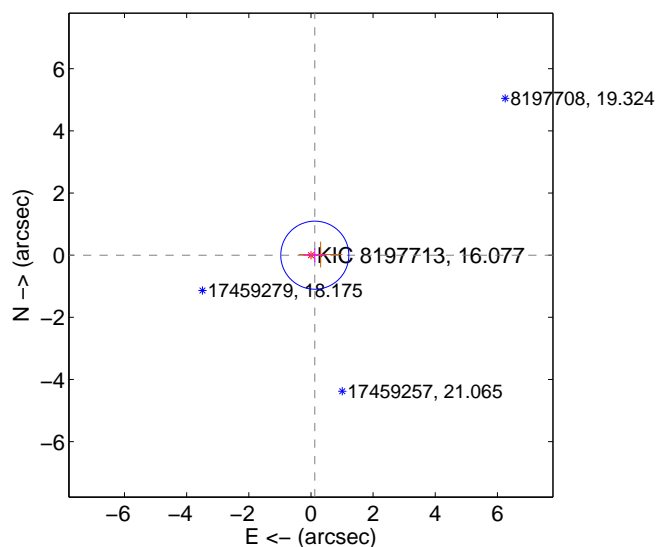
Supplemental centroid analysis for 008197713-01. Kepler magnitude: 16.08. Transit SNR 5.50

There are 1 quarters with good PRF difference image offsets

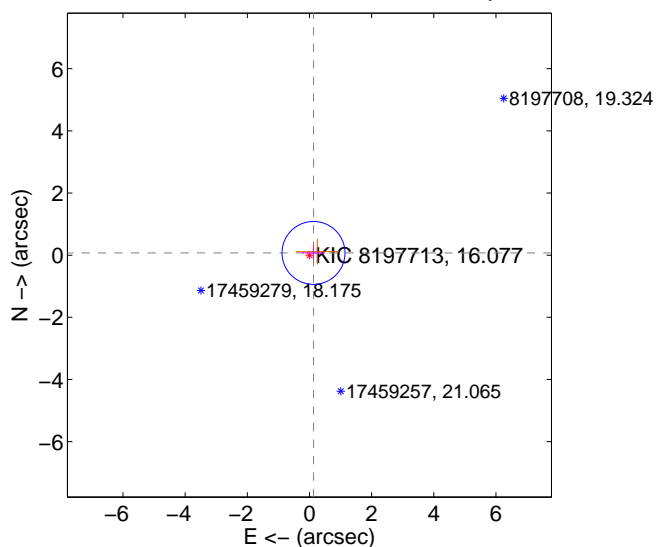
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|-----------------------------------------|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.124 ± 0.365 | 0.34 | -0.124 ± 0.365 | -0.000 ± 0.227 |
| PRF-fit source offset from KIC position | 0.148 ± 0.337 | 0.44 | -0.129 ± 0.365 | 0.072 ± 0.227 |
| photometric centroid source offset | 2.45 ± 1.34 | 1.82 | 2.14 ± 1.34 | 1.21 ± 1.36 |

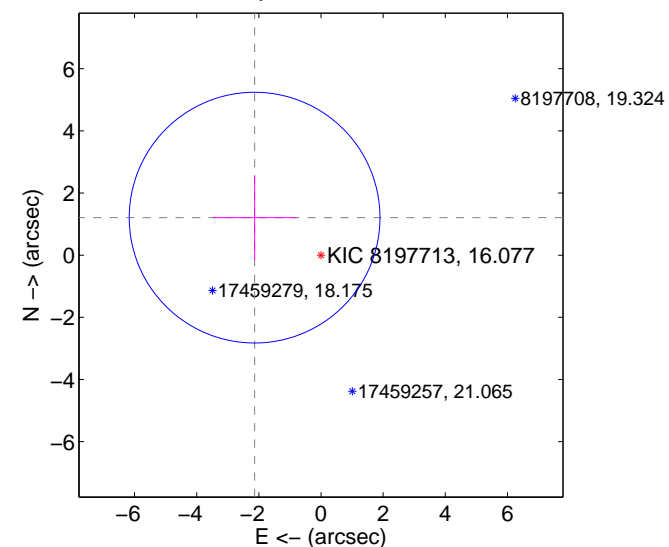
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

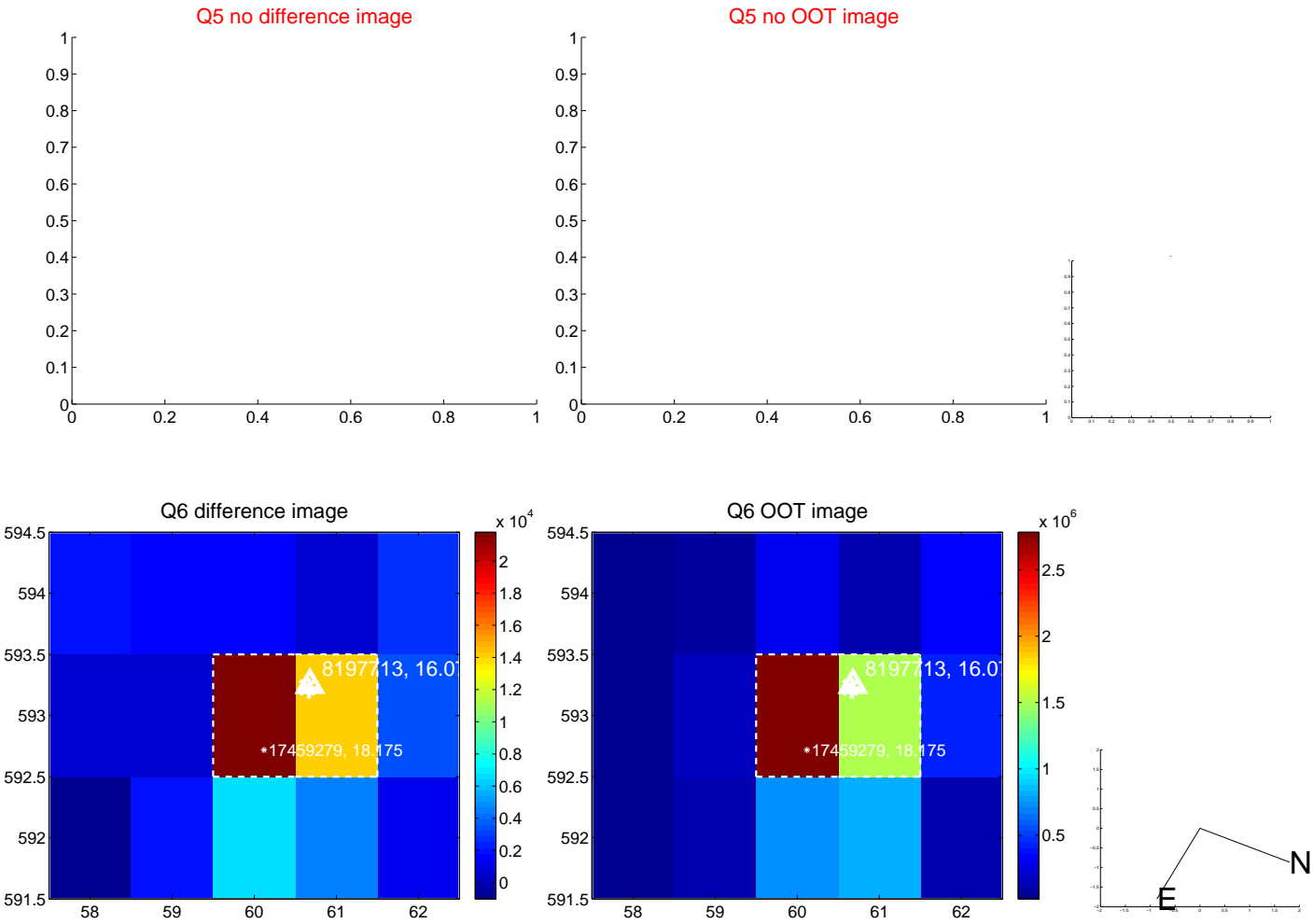


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

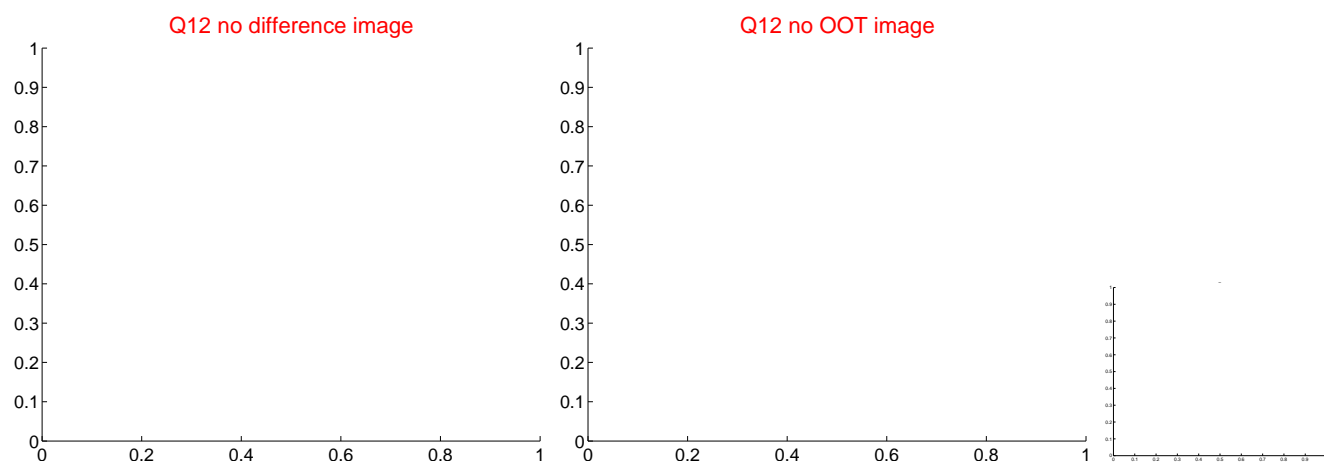
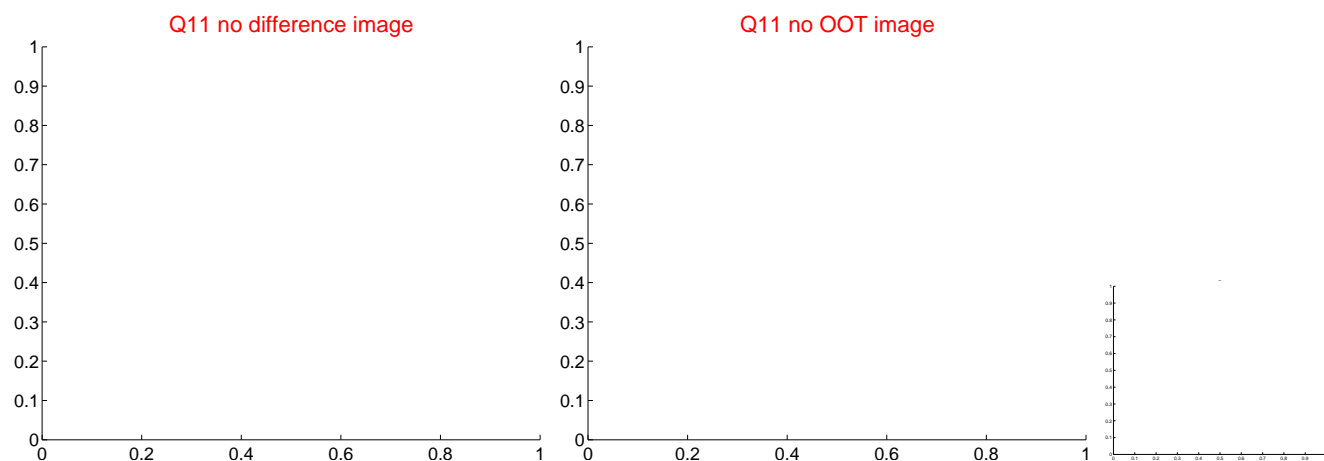
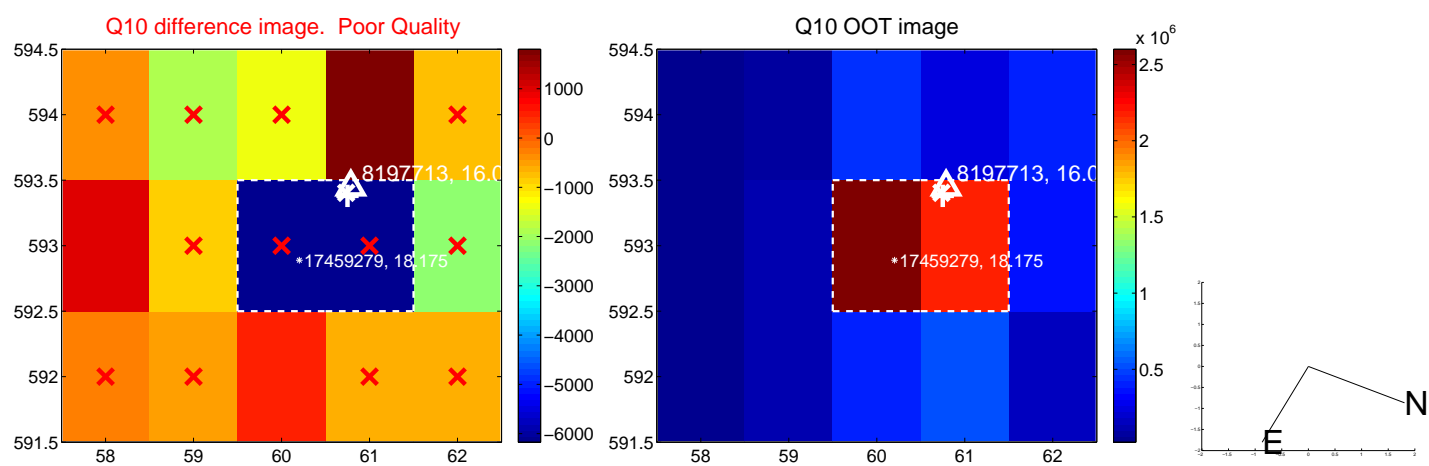
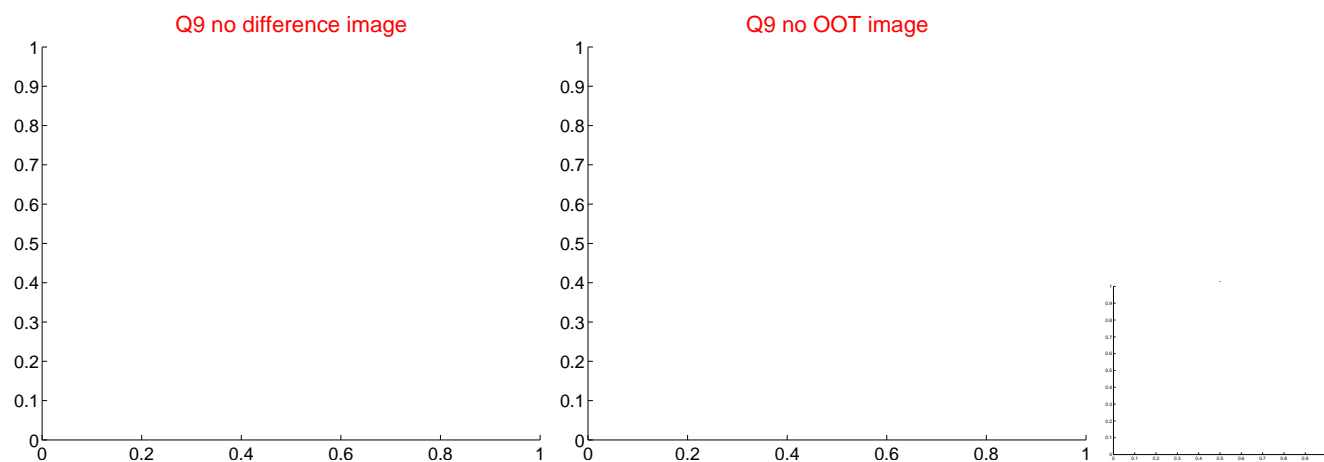
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



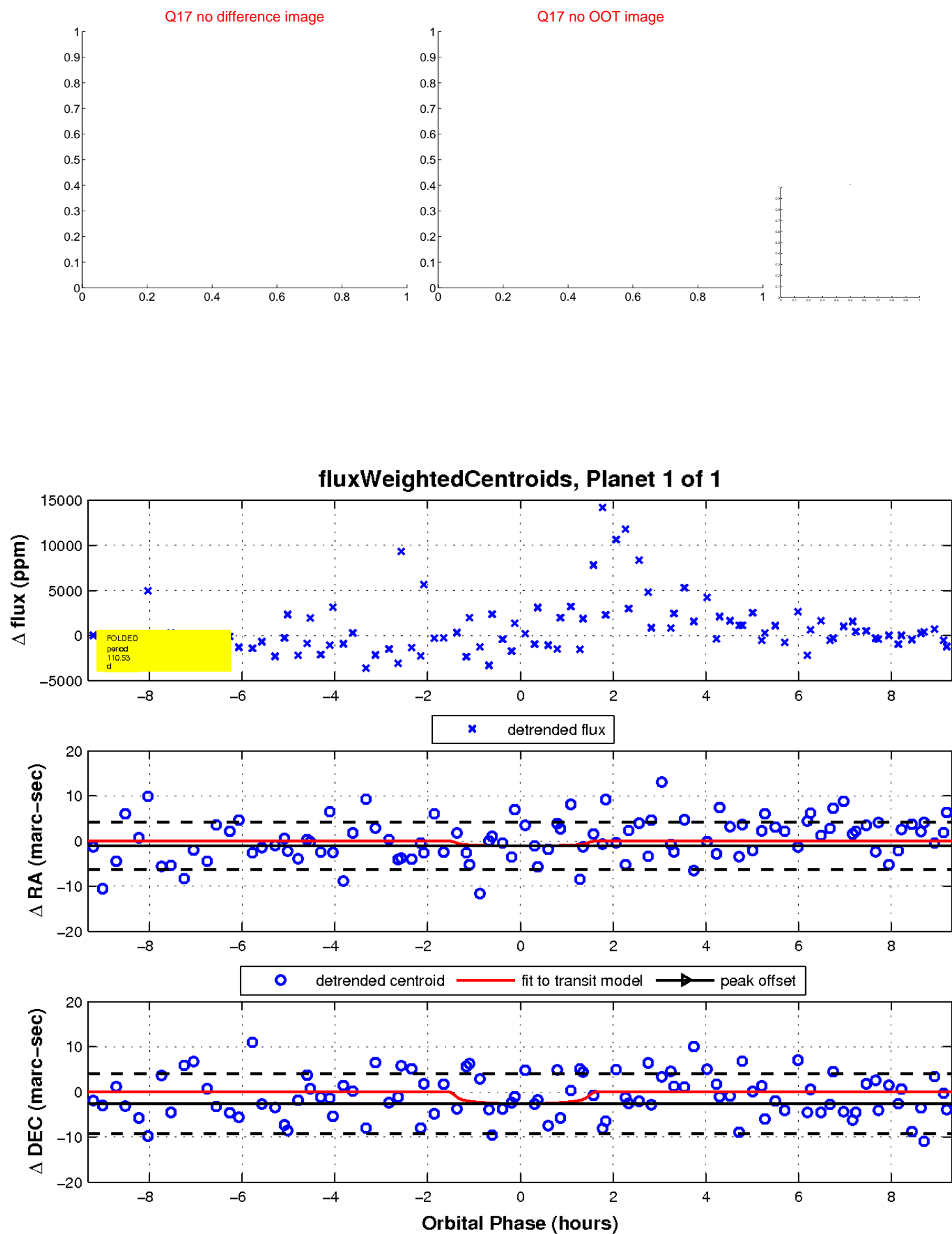
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

