

KIC 008619789

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|------|-----------------------------|-----------------|------------------------|------------------------|
| 008619789-01 | OBS | No | 376.768476 | 172.331403 | 1022.8 | 42.882 | 9.0 | 14.0 | 0.79 | 5455 | 2.47 | 0.52 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 008619789-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL_SKYE—LPP_DV—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.

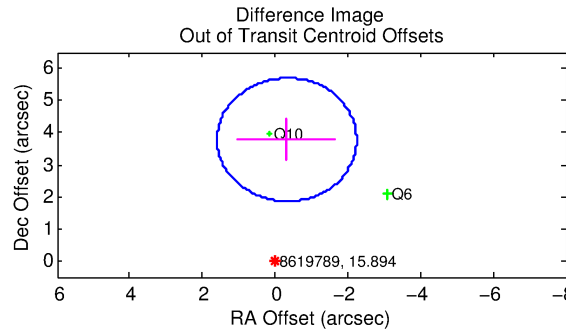
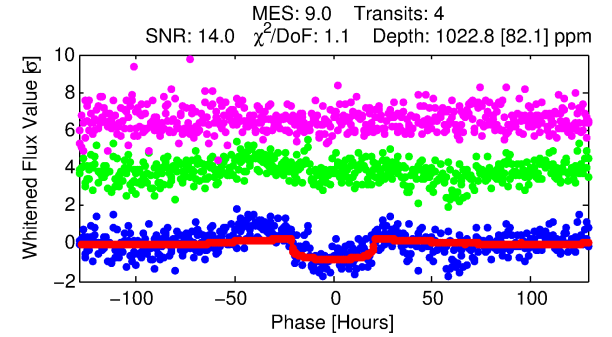
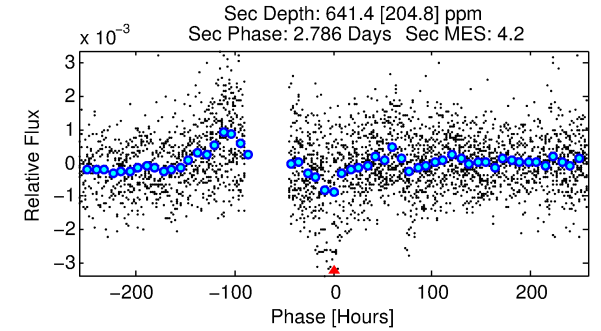
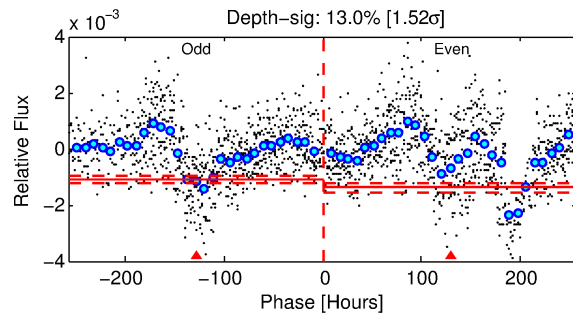
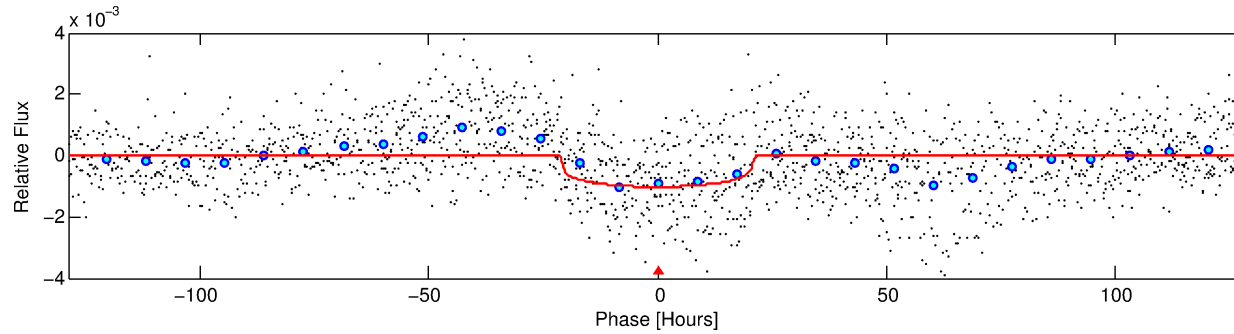
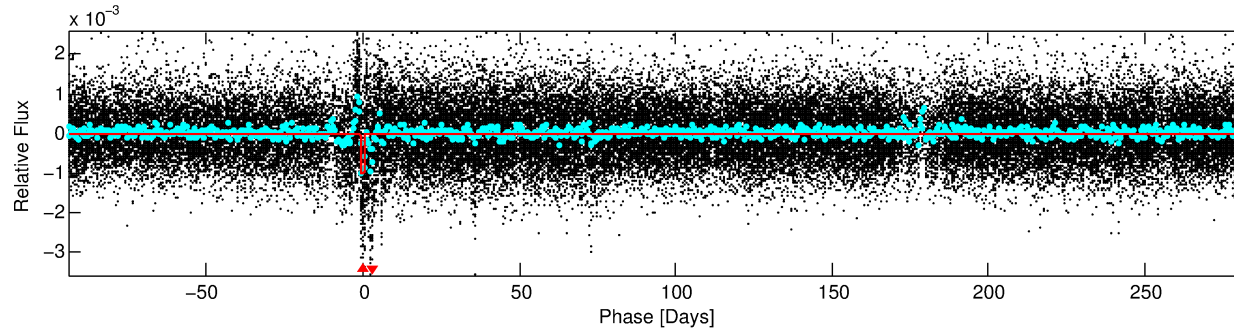
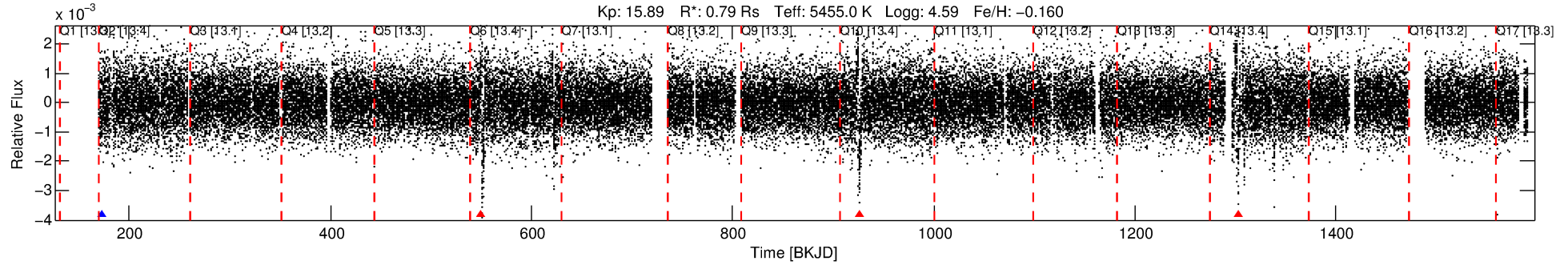
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008619789-01

No Significant Match Found

DV One-Page Summary

KIC: 8619789 Candidate: 1 of 1 Period: 376.768 d



DV Fit Results:

Period = 376.76848 [0.01723] d
Epoch = 172.3314 [0.0316] BKJD
Rp/R* = 0.0288 [0.0081]
a/R* = 69.03 [78.53]
b = 0.03 [41.81]
Seff = 0.52 [0.14]
Teq = 216 [15] K
Rp = 2.47 [0.86] Re
a = 0.9766 [0.1658] AU
Ag = 55061.00 [38295.82] [1.44 σ]
Teffp = 5116 [845] K [5.80 σ]

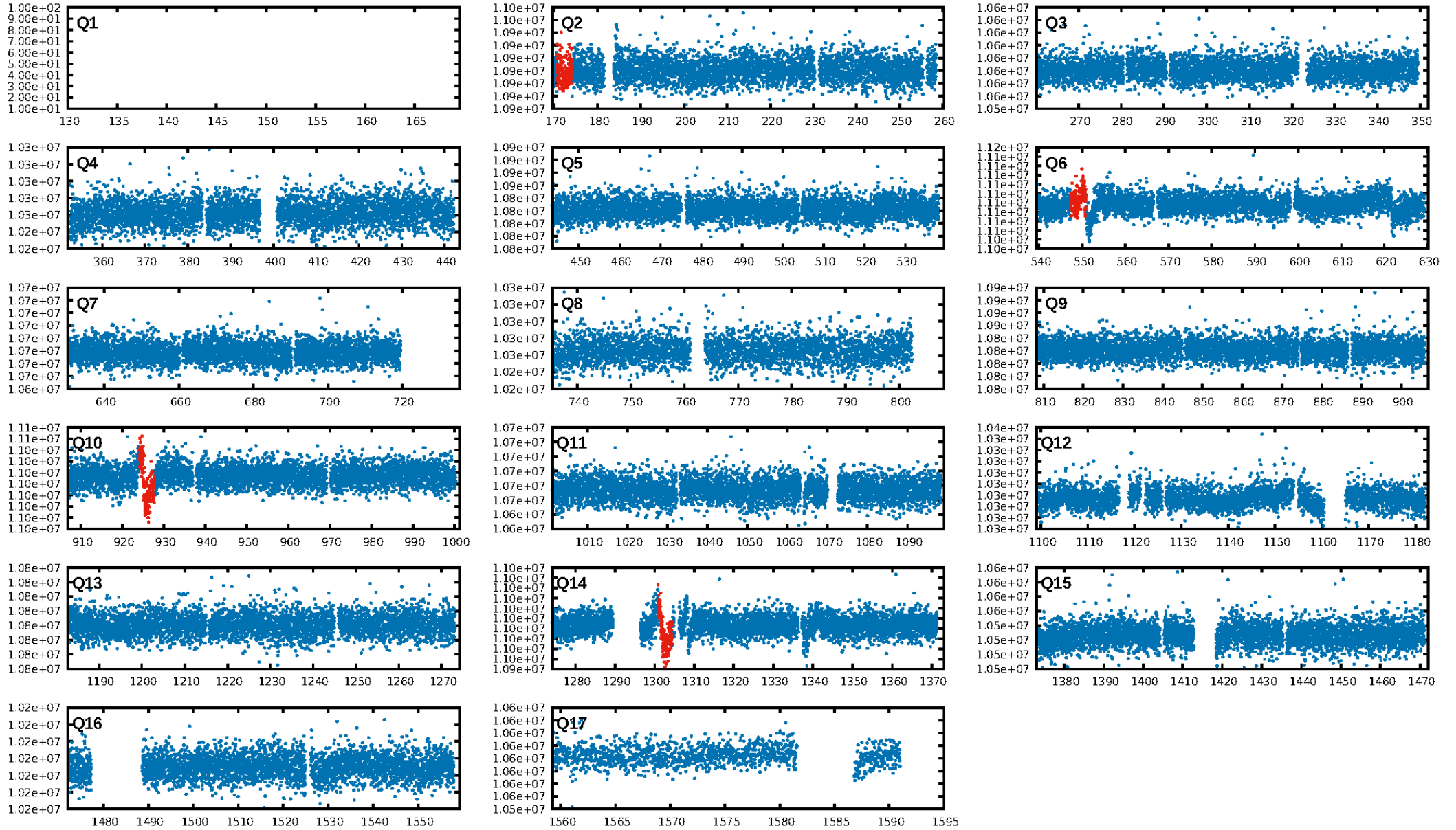
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 1.56e-11
RollingBand-fgt: 0.25 [1/4]
GhostDiagnostic-chr: 8.299
Centroid-sig: 4.6%
Centroid-so: 1.921 arcsec [1.63 σ]
OotOffset-rm: 3.791 arcsec [5.92 σ]
KicOffset-rm: 3.966 arcsec [6.01 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

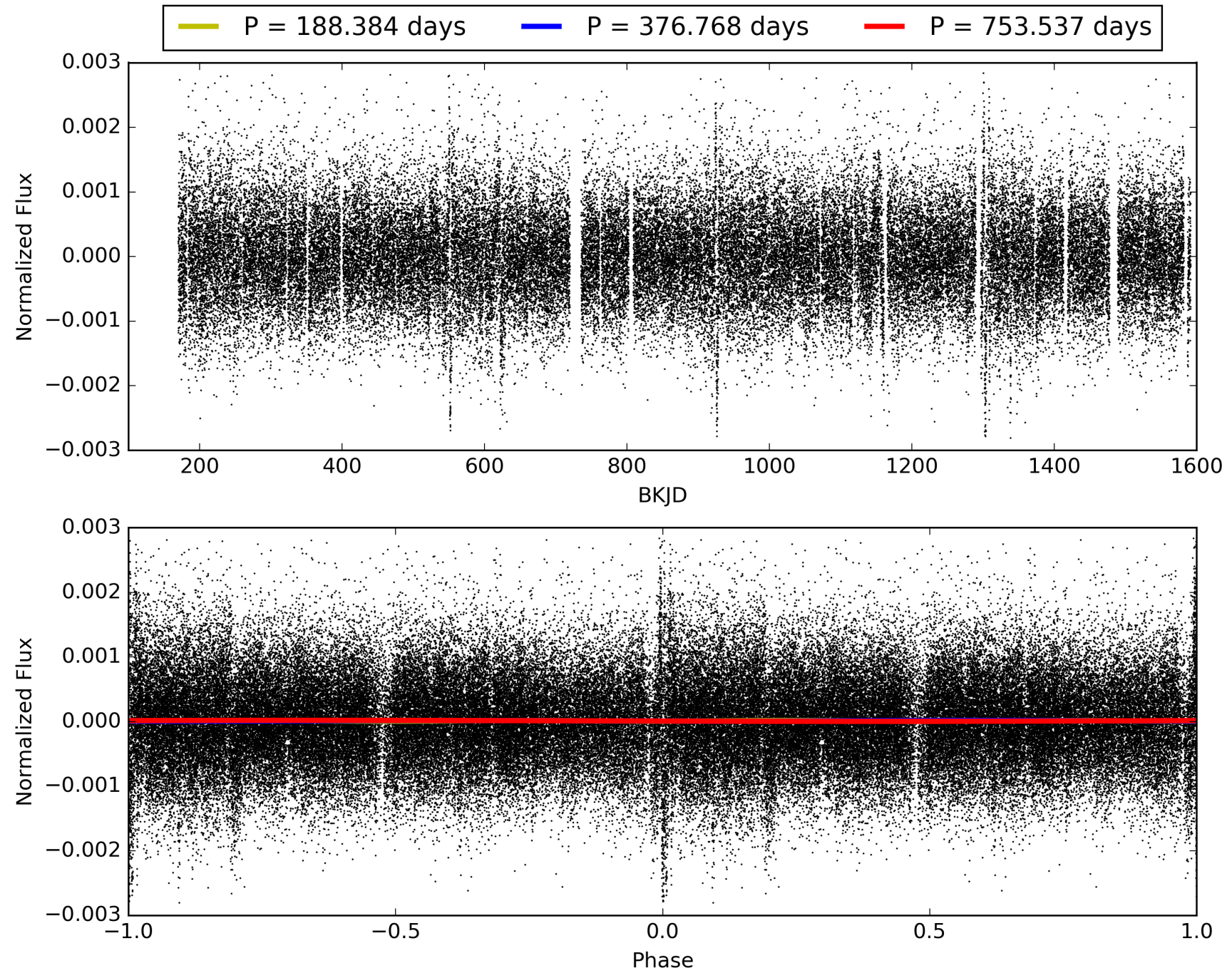
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:22:55 Z

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

TCE 008619789-01, PDC Light Curves

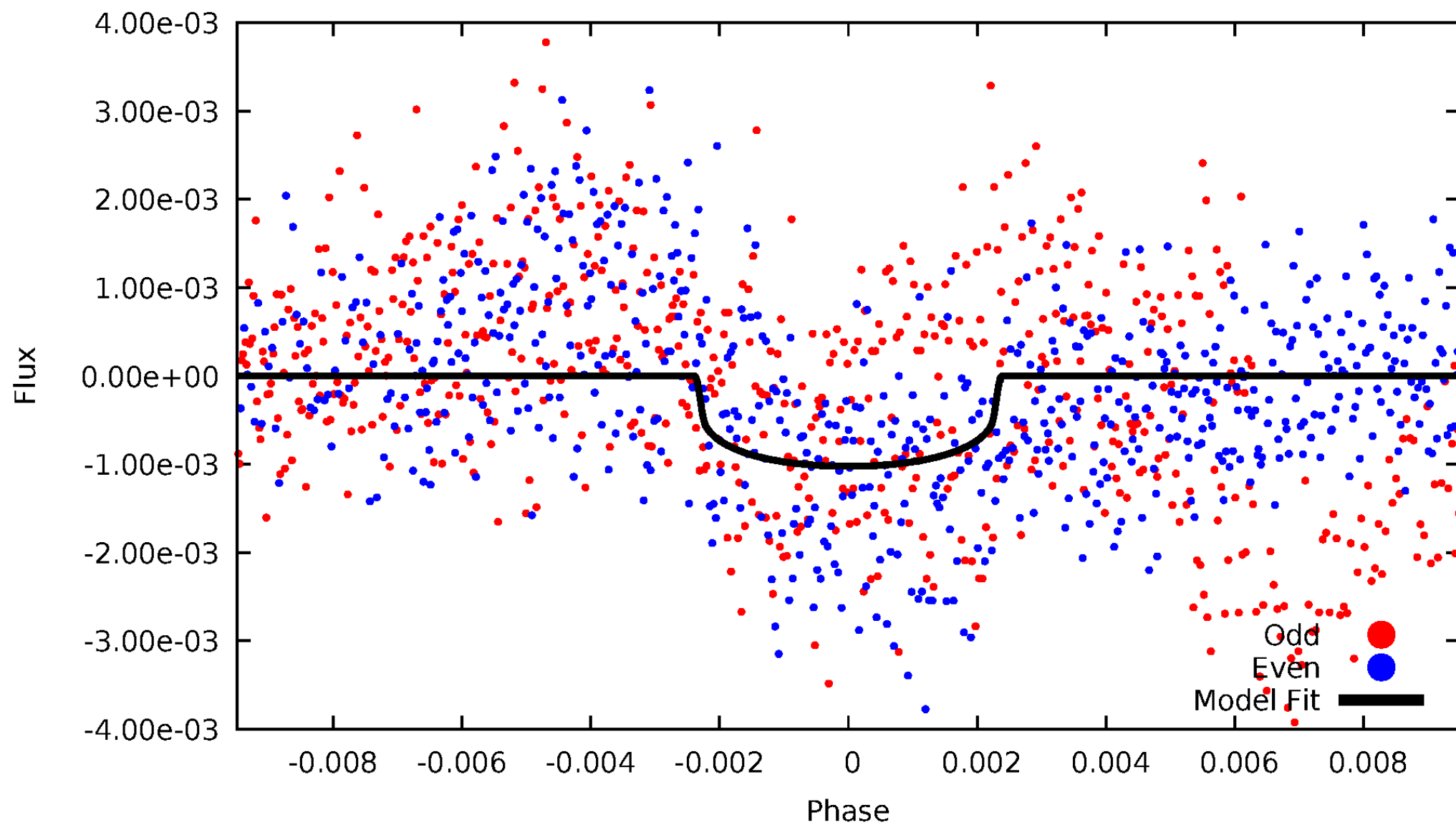


TCE 008619789-01



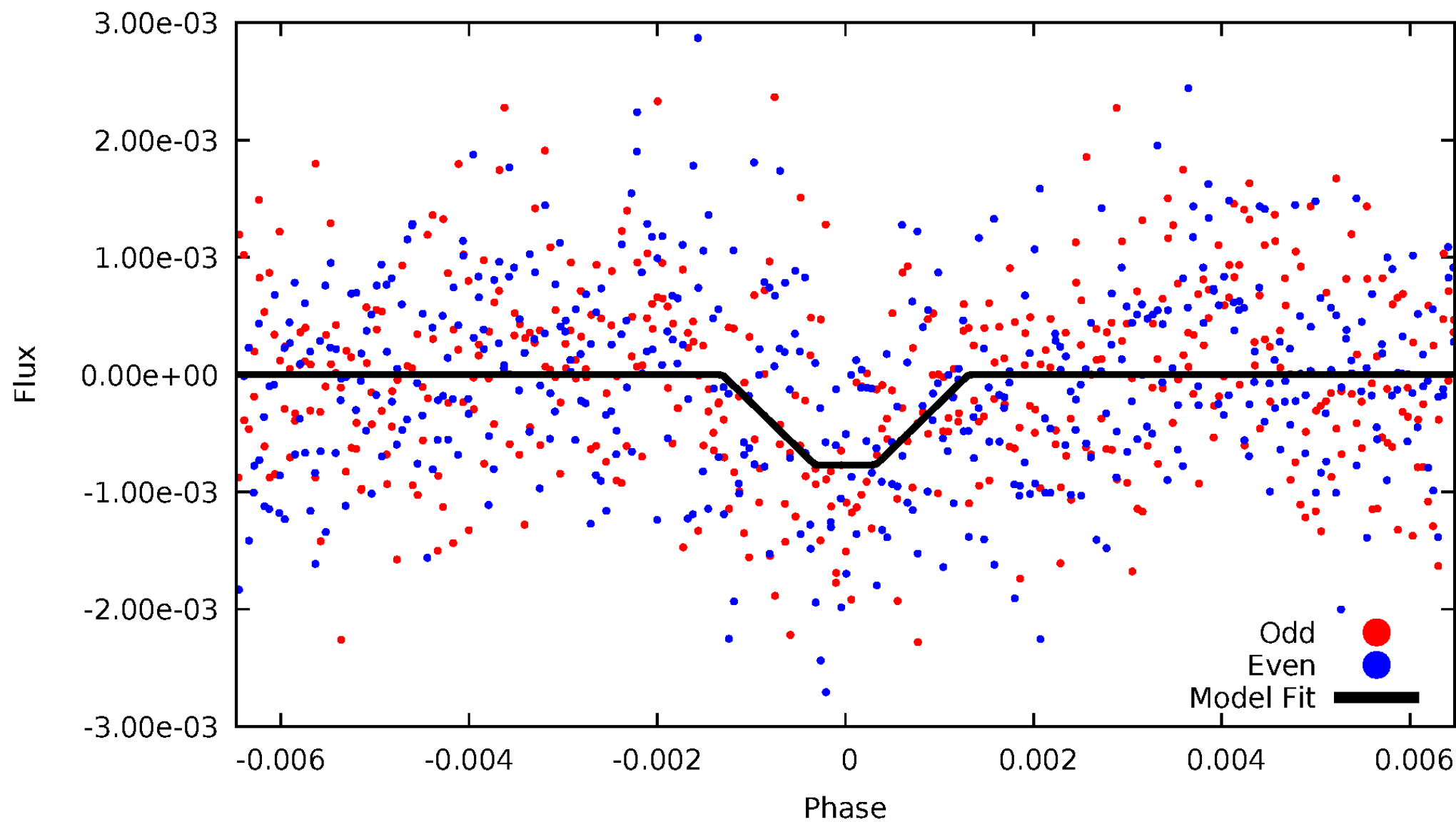
DV Odd/Even

TCE 008619789-01



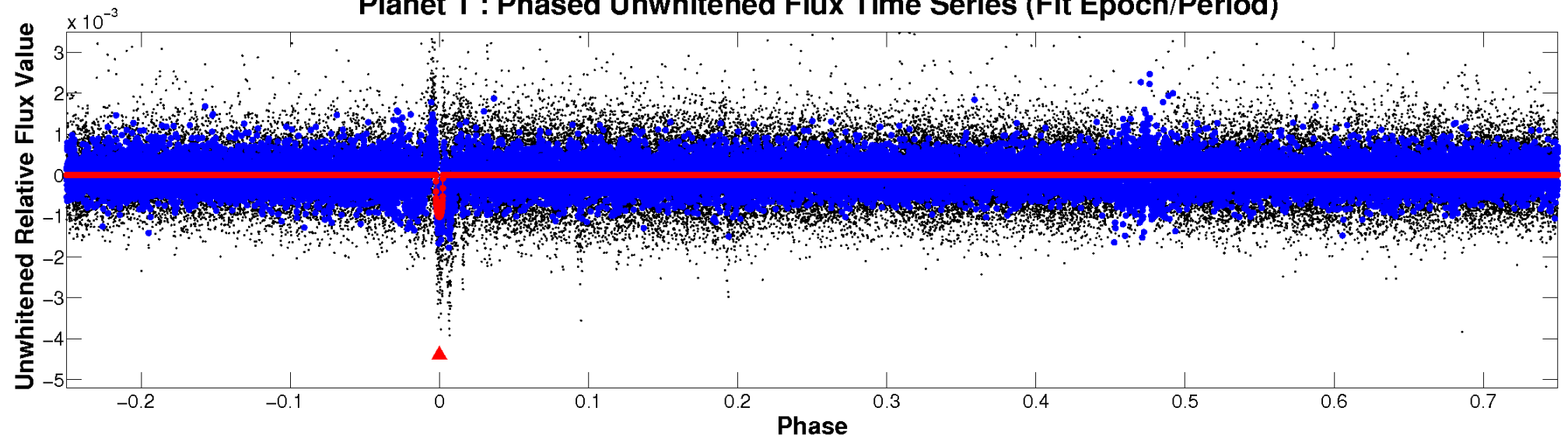
ALT Odd/Even

TCE 008619789-01

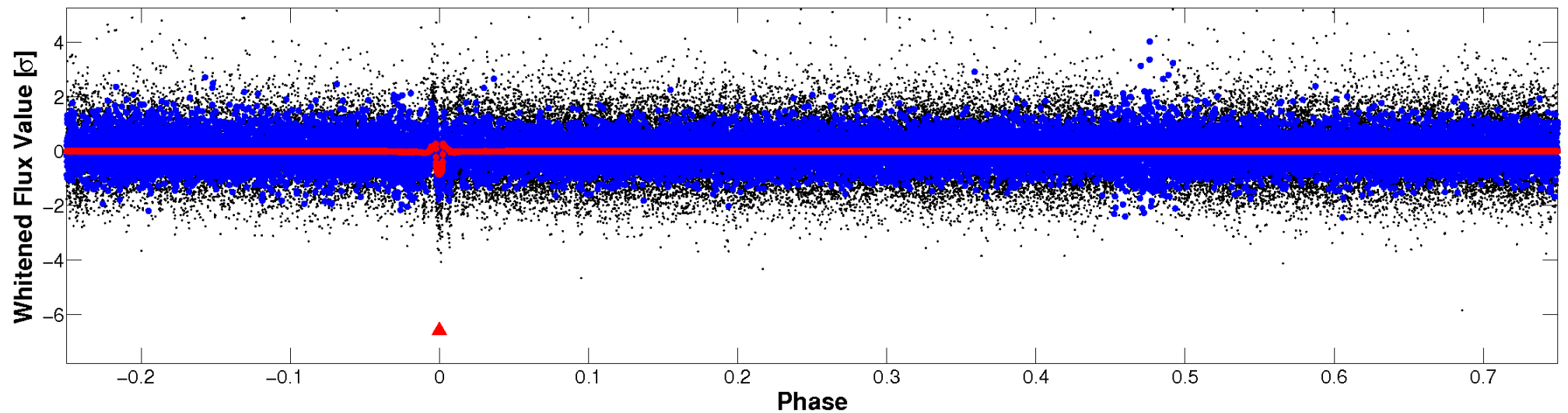


Non-Whitened Vs. Whitened Light Curve

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

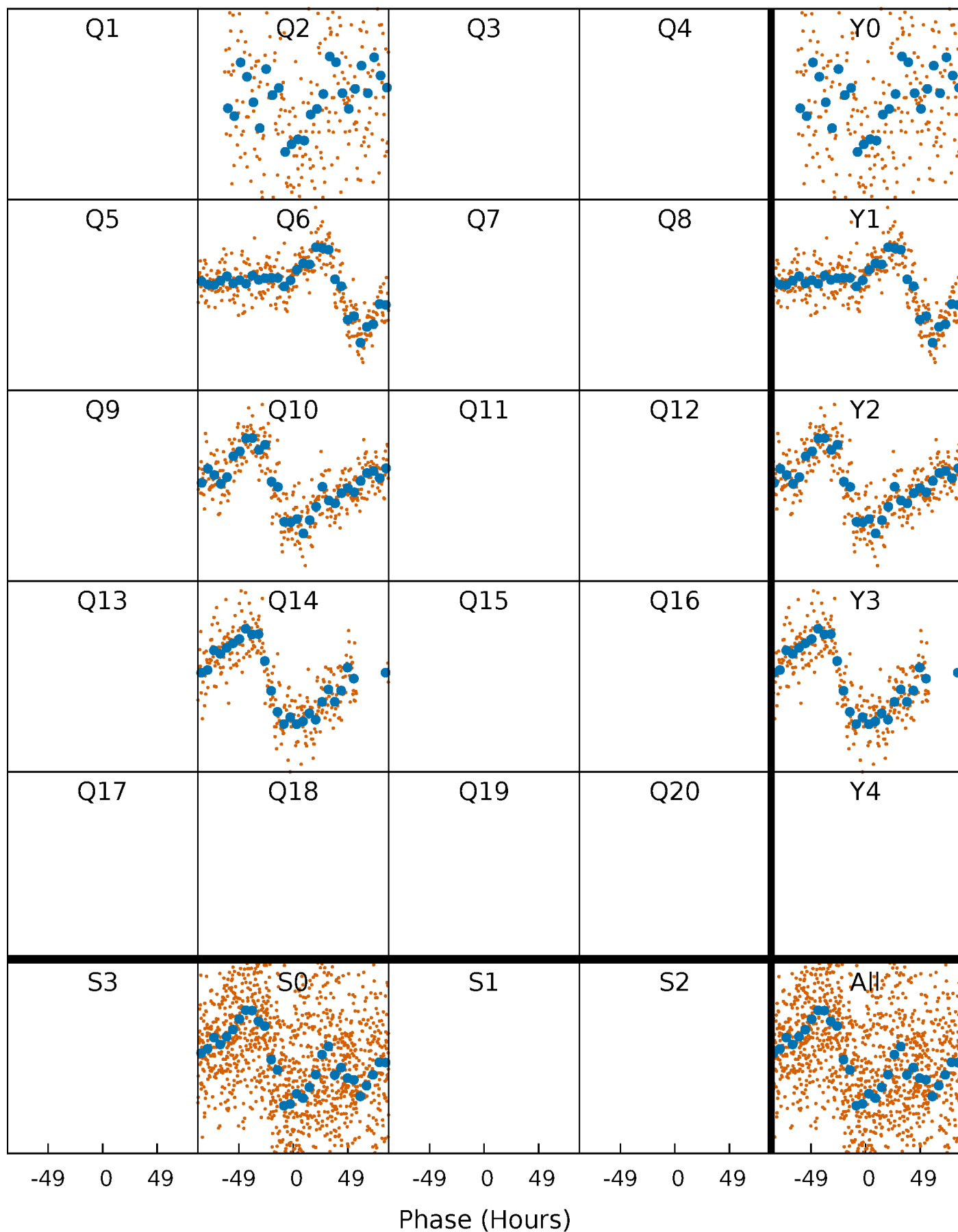


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



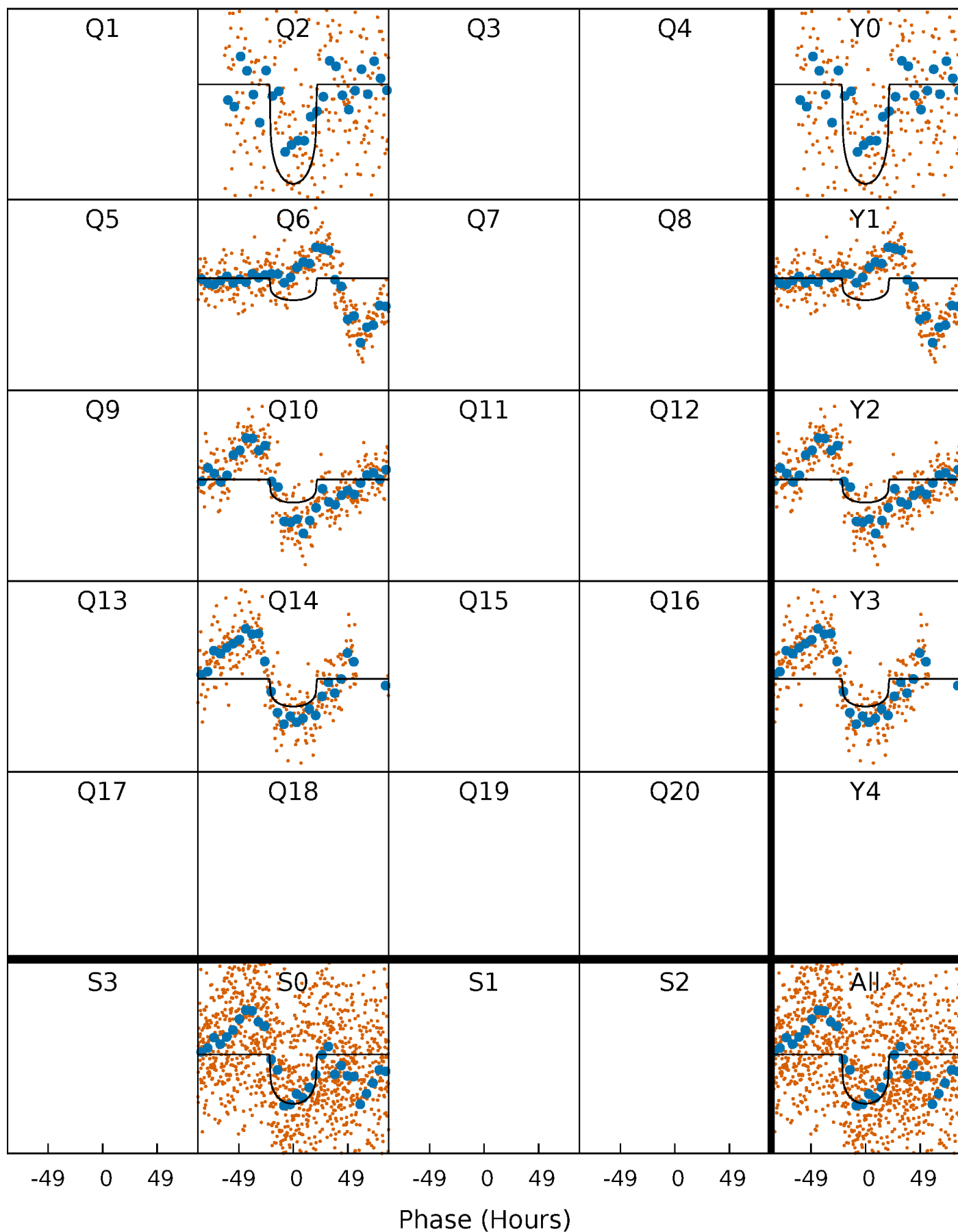
PDC Quarter-Phased Transit Curves

TCE 008619789-01 P=376.768477 Days $T_0=172.331403$ (BKJD)



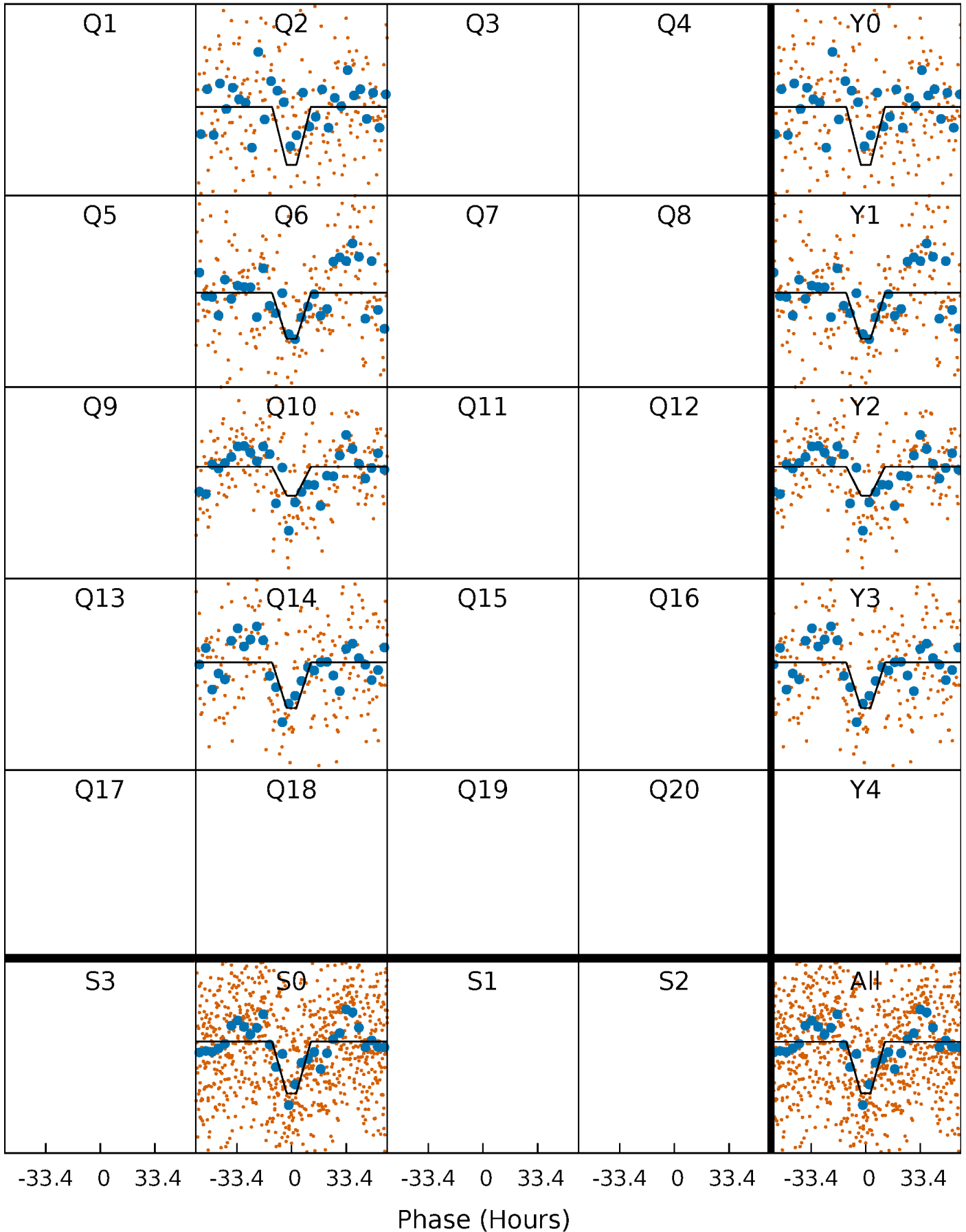
DV Quarter-Phased Transit Curves

TCE 008619789-01 P=376.768477 Days $T_0=172.331403$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

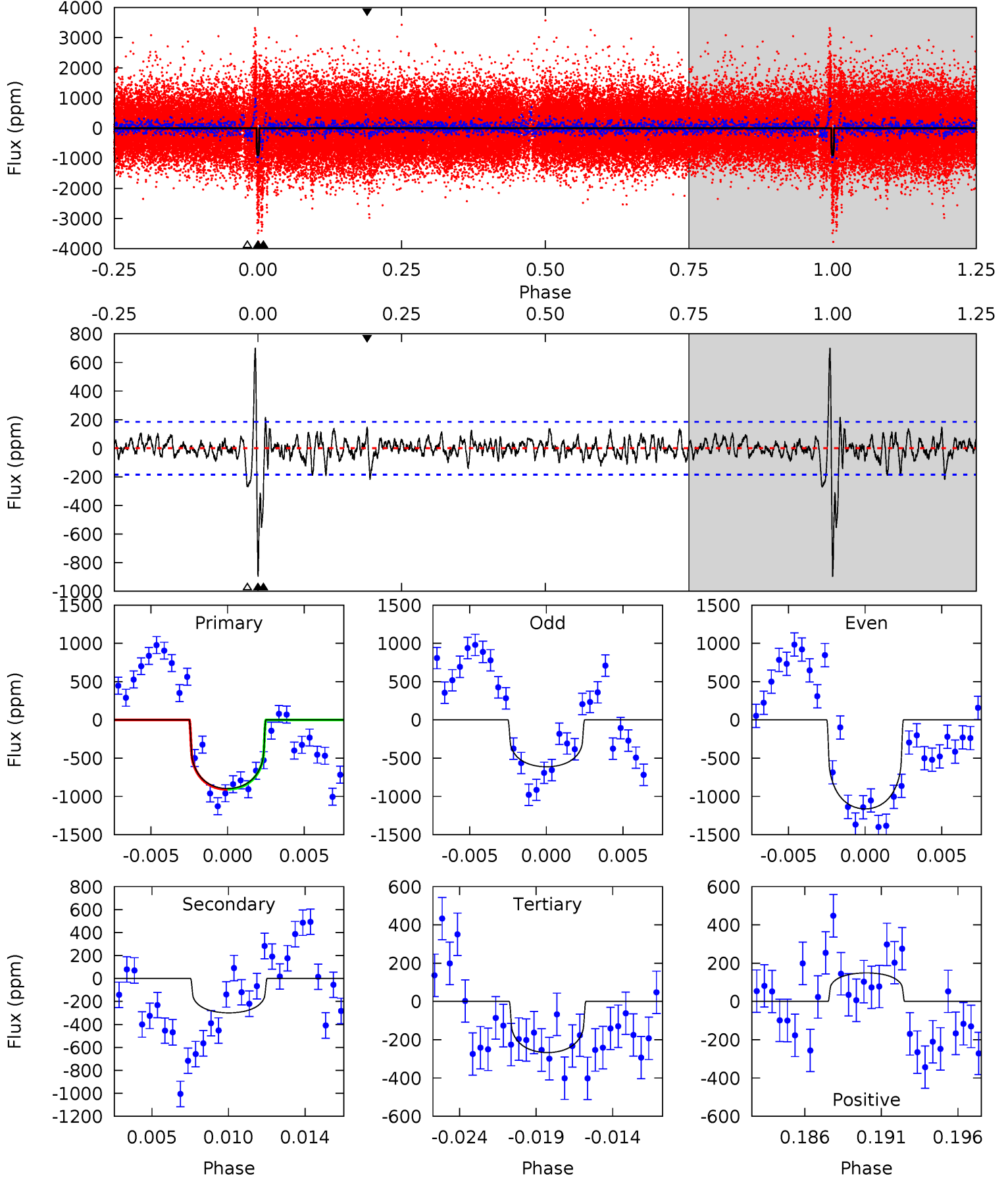
TCE 008619789-01 P=376.692679 Days $T_0=172.154249$ (BKJD)



DV Model-Shift Uniqueness Test

008619789-01, $P = 376.768477$ Days, $E = 172.331403$ Days

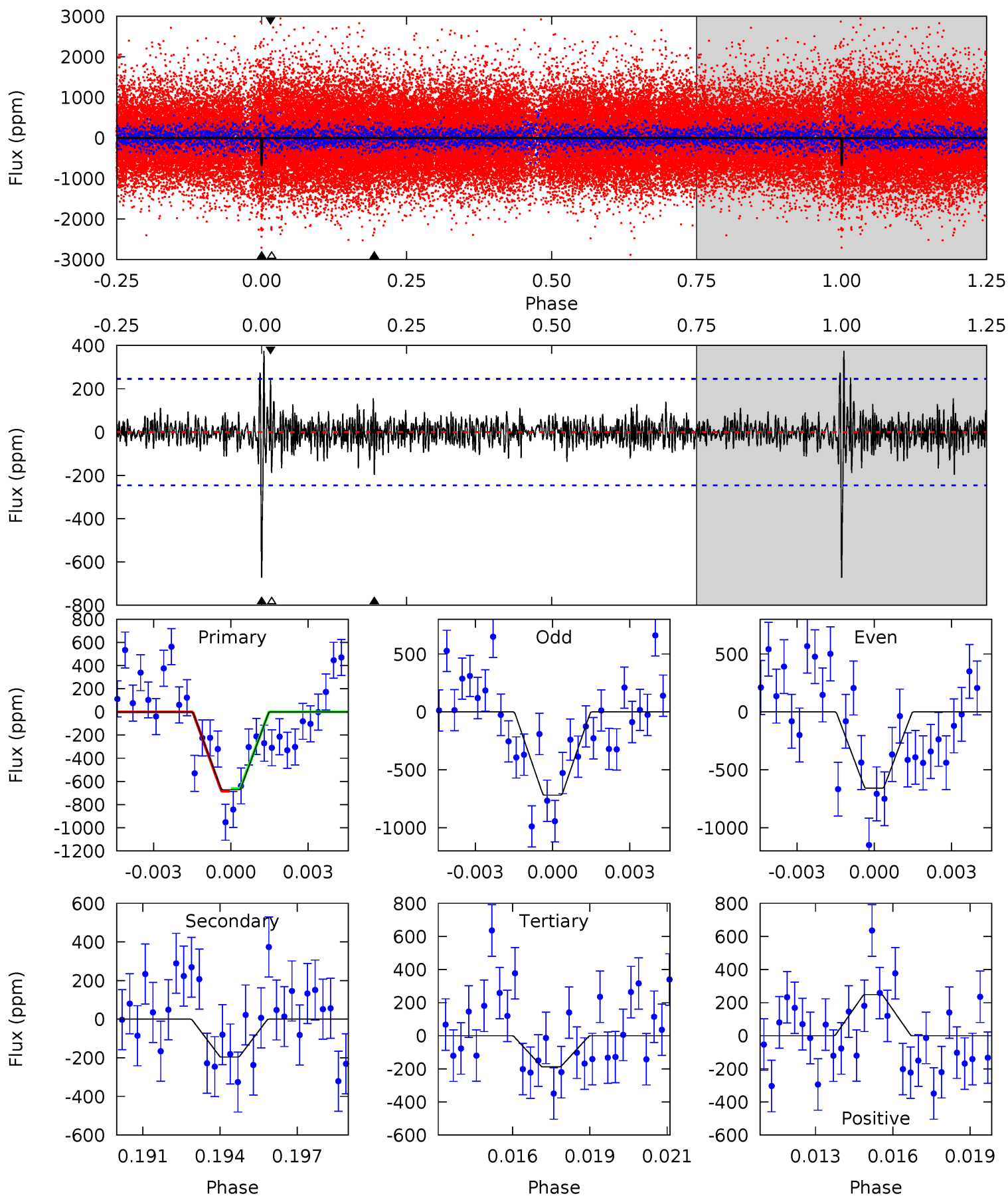
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 25.1 | 8.39 | 7.49 | 4.18 | 5.17 | 2.82 | 1.79 | 17.7 | 21.0 | 0.90 | 4.21 | 7.69 | 0.83 | 0.44 | 0.04 |



Alt Model-Shift Uniqueness Test

008619789-01, P = 376.692679 Days, E = 172.154249 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 14.4 | 4.21 | 4.03 | 5.33 | 5.27 | 3.01 | 1.03 | 10.4 | 9.09 | 0.17 | -1.12 | 0.64 | 0.98 | 0.36 | 0.23 |



Stellar Parameters For KIC 008619789

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5455^{+162}_{-162} | $4.588^{+0.032}_{-0.136}$ | $-0.160^{+0.300}_{-0.300}$ | $0.787^{+0.158}_{-0.068}$ | $0.882^{+0.080}_{-0.107}$ | $2.553^{+0.446}_{-0.977}$ |
| | +3%/-3% | +1%/-3% | +188%/-188% | +20%/-9% | +9%/-12% | +17%/-38% |
| 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 008619789-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|----------------------|--------------------------|
| DV | -299 ± 36 | $2.58^{+0.74}_{-0.75}$ | 308^{+15}_{-13} | 4409^{+654}_{-428} | 23027^{+23839}_{-9282} |
| Alt. | -196 ± 47 | $2.45^{+0.72}_{-0.71}$ | 309^{+14}_{-12} | 4129^{+606}_{-388} | 16288^{+18569}_{-7150} |

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

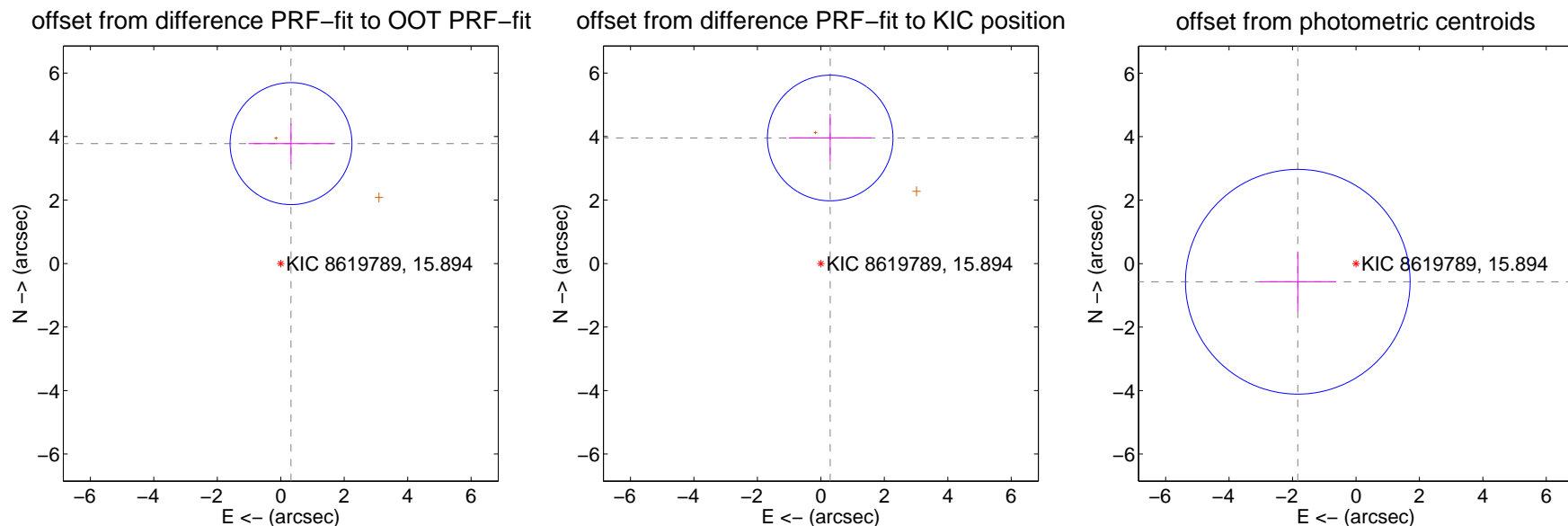
DV Centroid Data

Supplemental centroid analysis for 008619789-01. Kepler magnitude: 15.89. Transit SNR 14.03

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 3.791 ± 0.640 | 5.92 | -0.324 ± 1.339 | 3.778 ± 0.632 |
| PRF-fit source offset from KIC position | 3.966 ± 0.660 | 6.01 | -0.294 ± 1.301 | 3.955 ± 0.758 |
| photometric centroid source offset | 1.92 ± 1.18 | 1.63 | 1.83 ± 1.20 | -0.57 ± 0.93 |

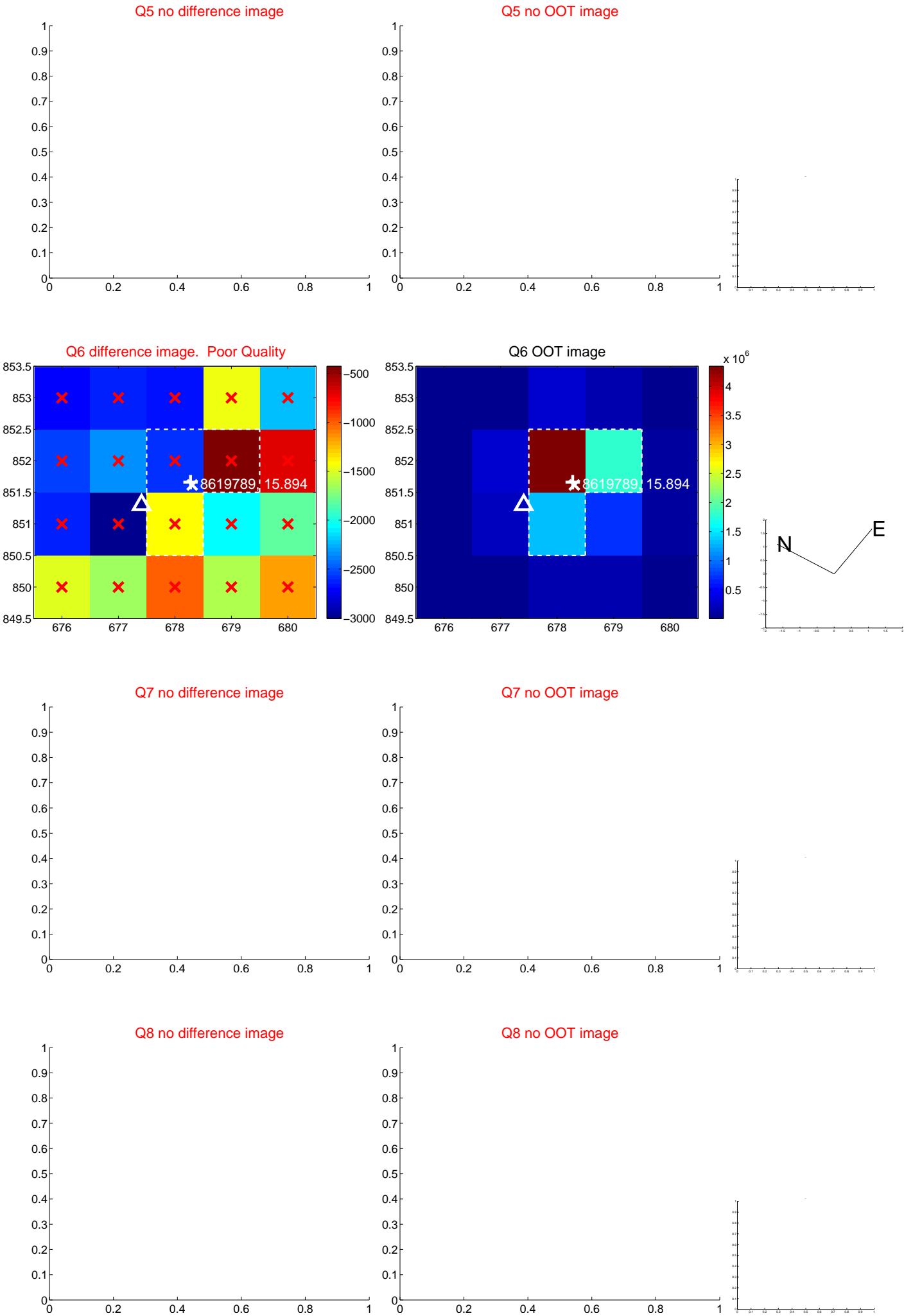


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

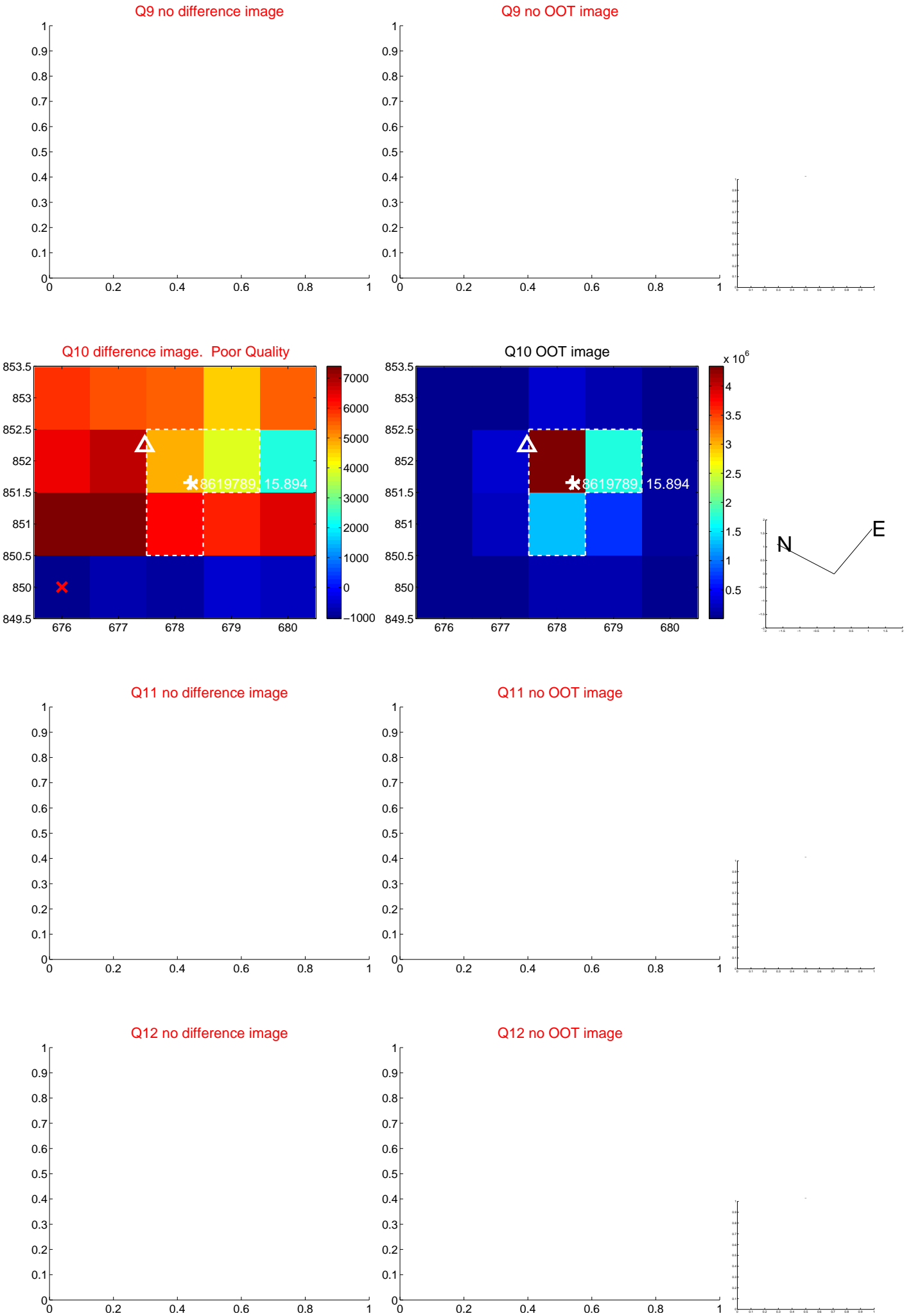
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



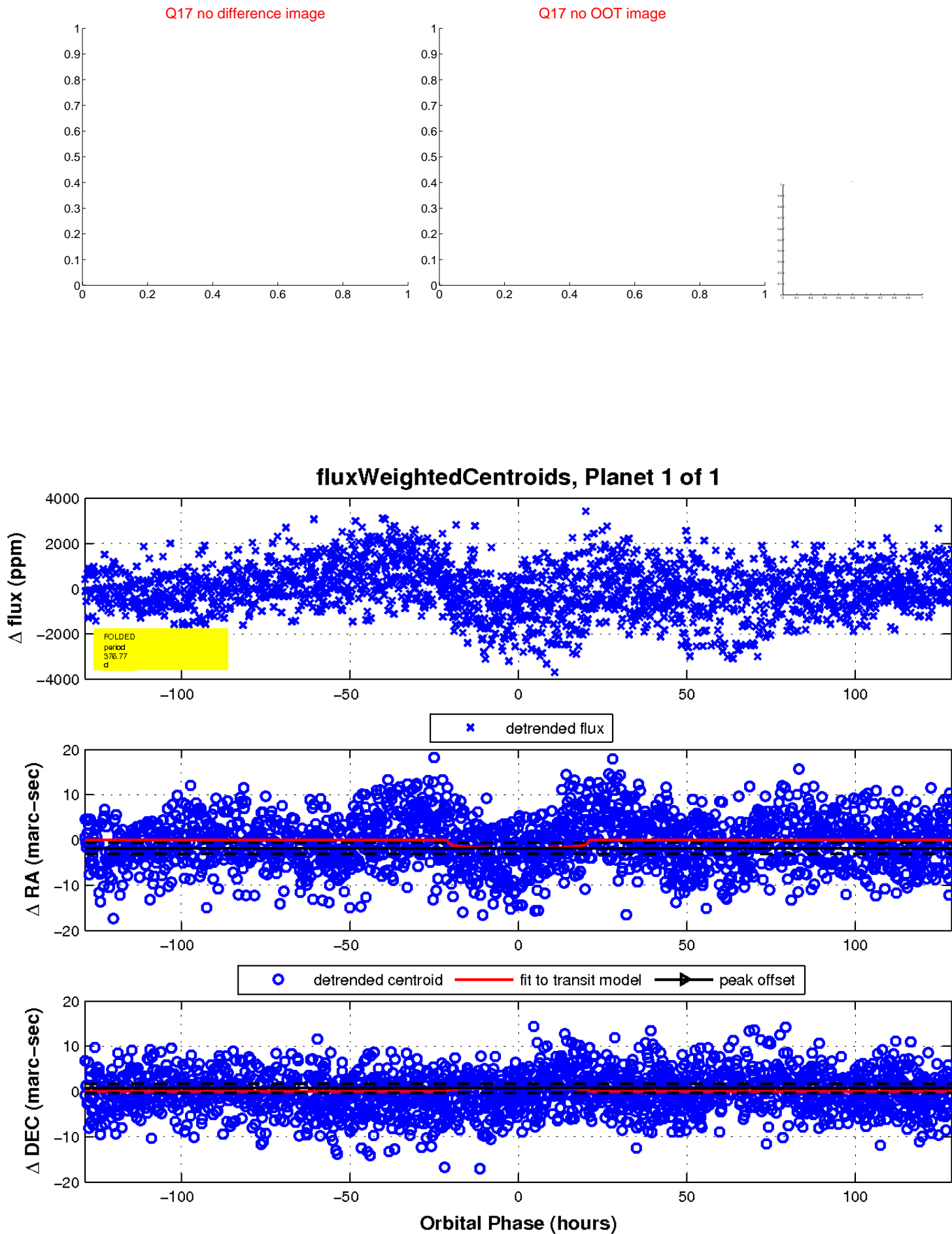
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

