

KIC 008619057

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|------|-----------------------------|-----------------|------------------------|------------------------|
| 008619057-01 | OBS | No | 378.693216 | 206.357430 | 1461.8 | 52.969 | 7.6 | 11.5 | 0.96 | 5763 | 7.07 | 0.91 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 008619057-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS—HALO_GHOST |

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

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

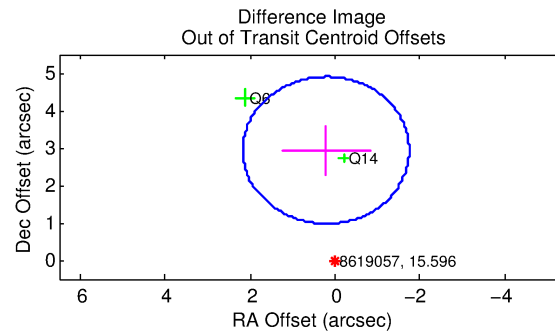
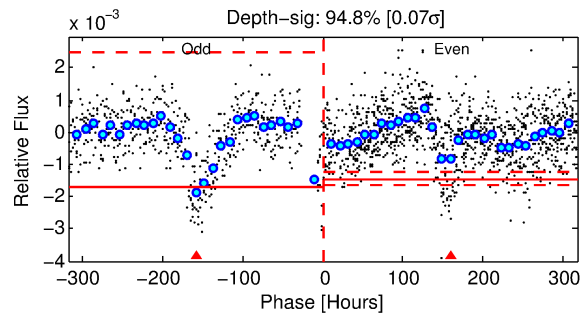
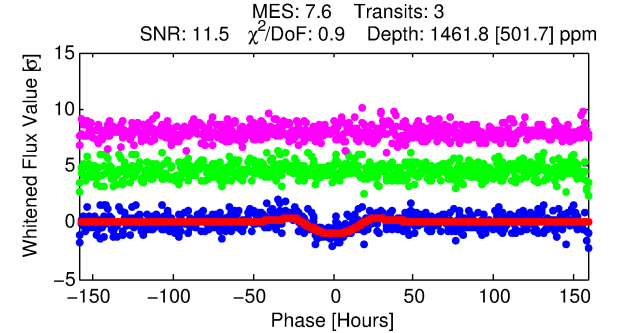
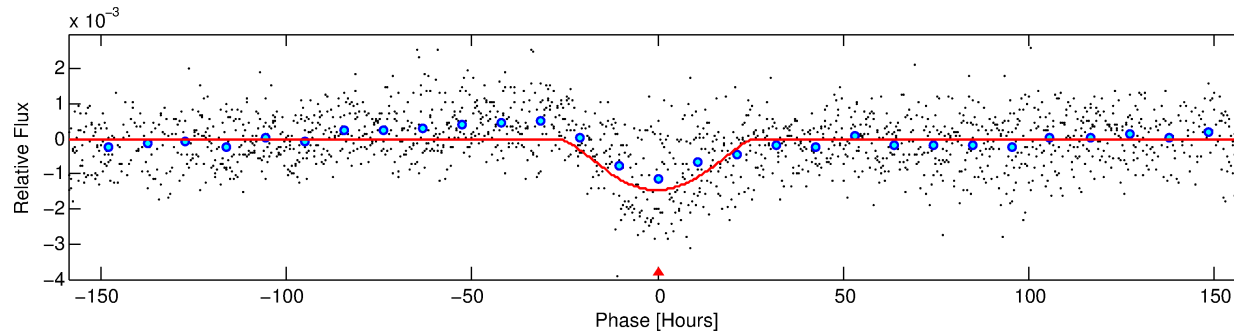
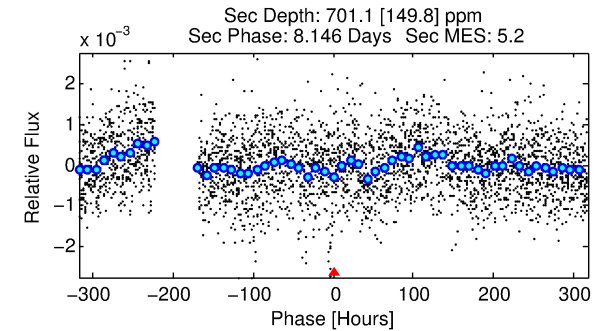
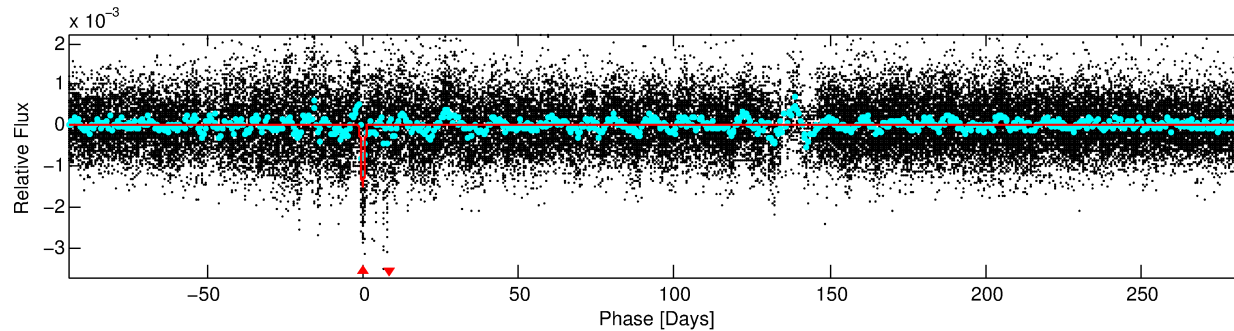
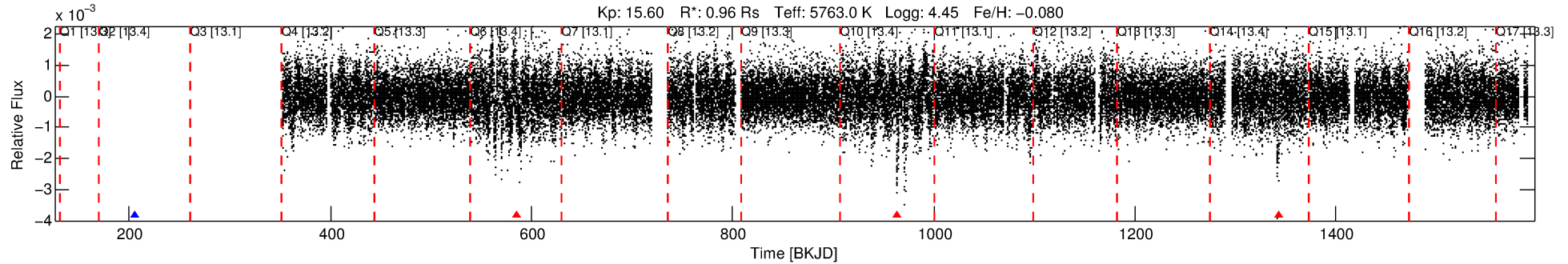
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008619057-01

No Significant Match Found

DV One-Page Summary

KIC: 8619057 Candidate: 1 of 1 Period: 378.693 d



DV Fit Results:

Period = 378.69322 [0.04998] d
Epoch = 206.3574 [0.1136] BKJD
Rp/R* = 0.0674 [0.1319]
a/R* = 20.41 [8.95]
b = 1.00 [0.17]
Seff = 0.91 [0.34]
Teq = 249 [23] K
Rp = 7.07 [13.99] Re
a = 1.0039 [0.2439] AU
Ag = 7787.04 [30655.00] [0.25σ]
Teffp = 3613 [3544] K [0.95σ]

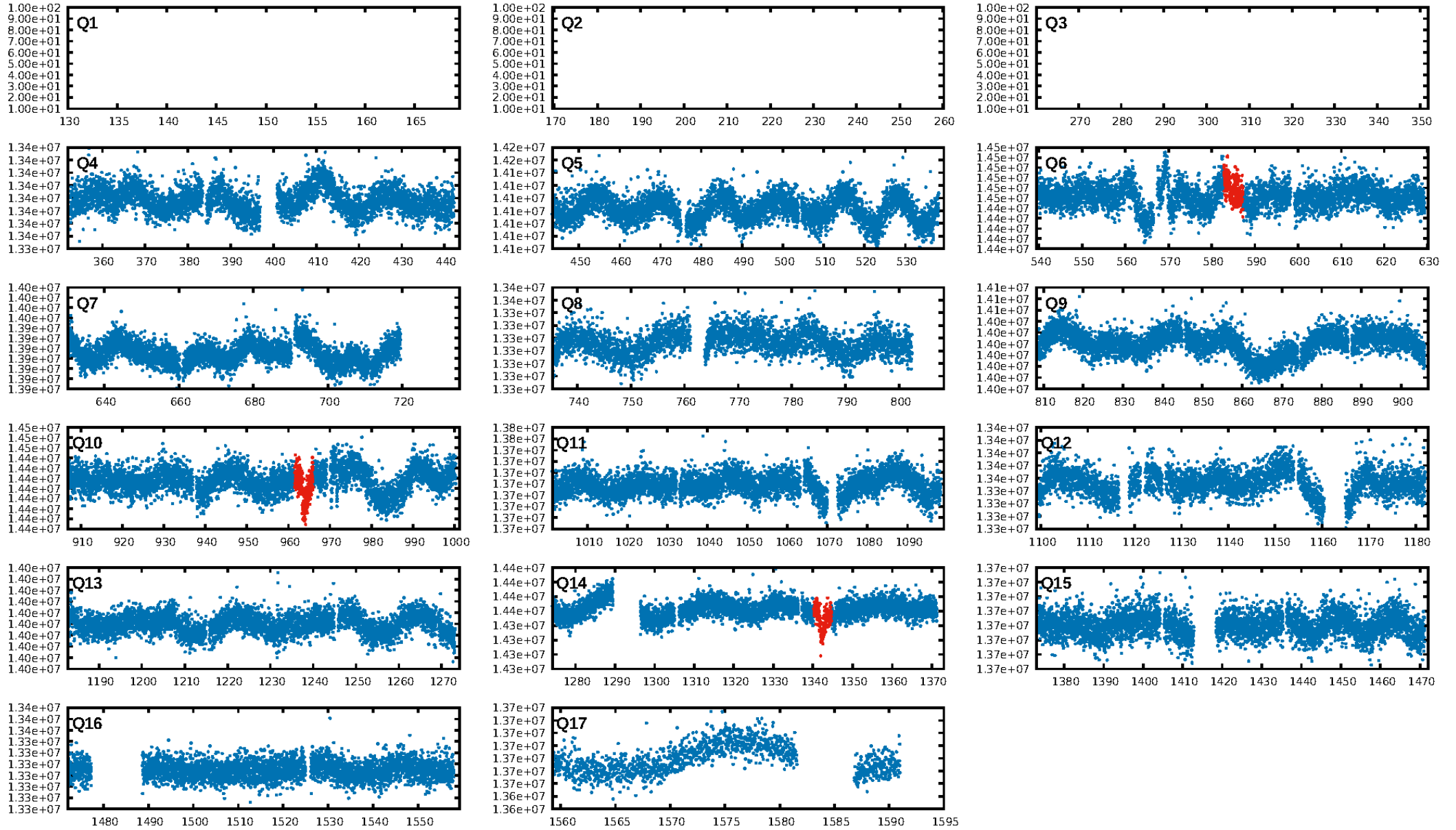
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.33e-16
RollingBand-fgt: 0.00 [0/3]
GhostDiagnostic-chr: -0.01893
Centroid-sig: 4.6%
Centroid-so: 1.536 arcsec [1.70σ]
OotOffset-rm: 2.944 arcsec [4.50σ]
KicOffset-rm: 2.944 arcsec [3.40σ]
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]

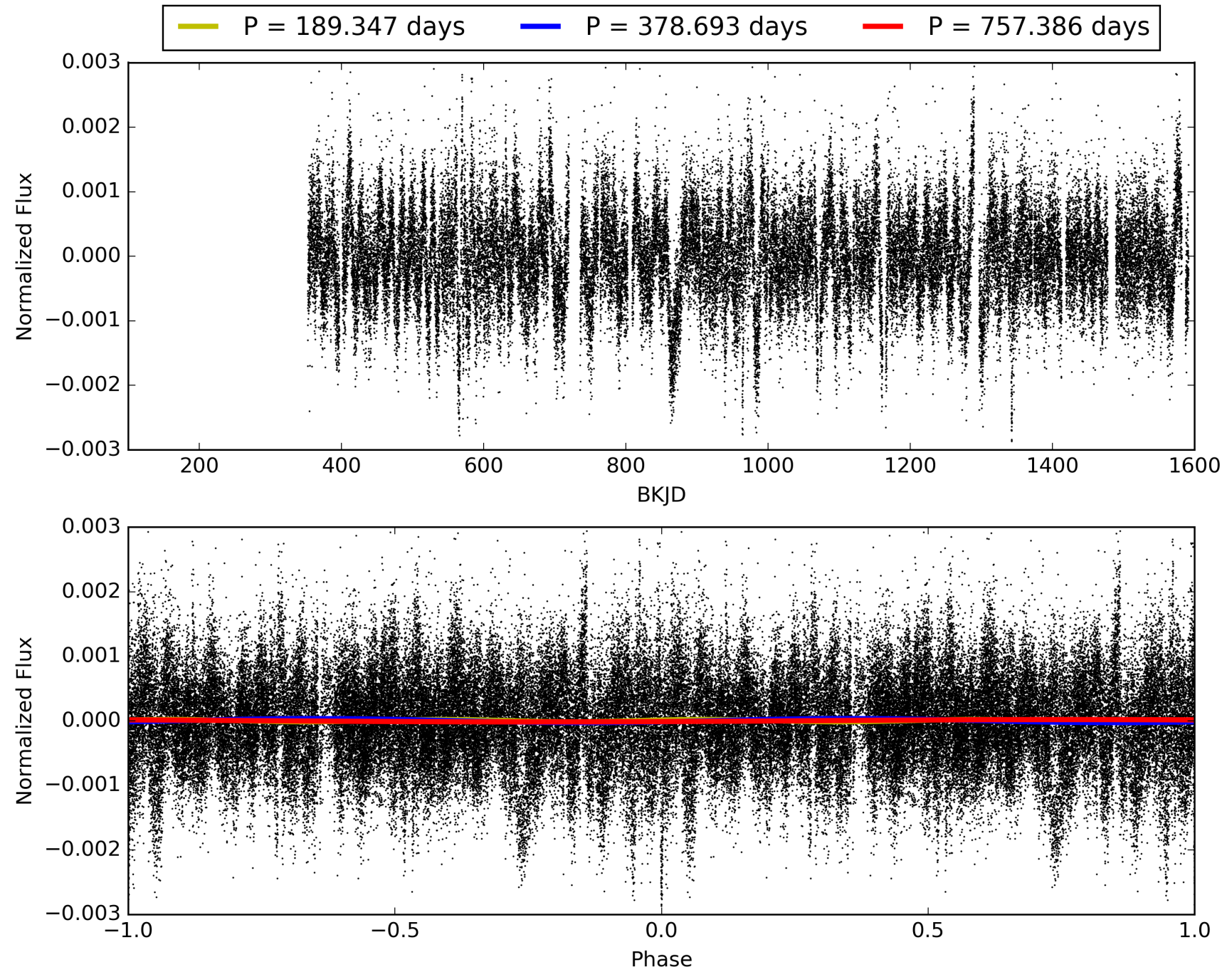
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:32:56 Z

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

TCE 008619057-01, PDC Light Curves

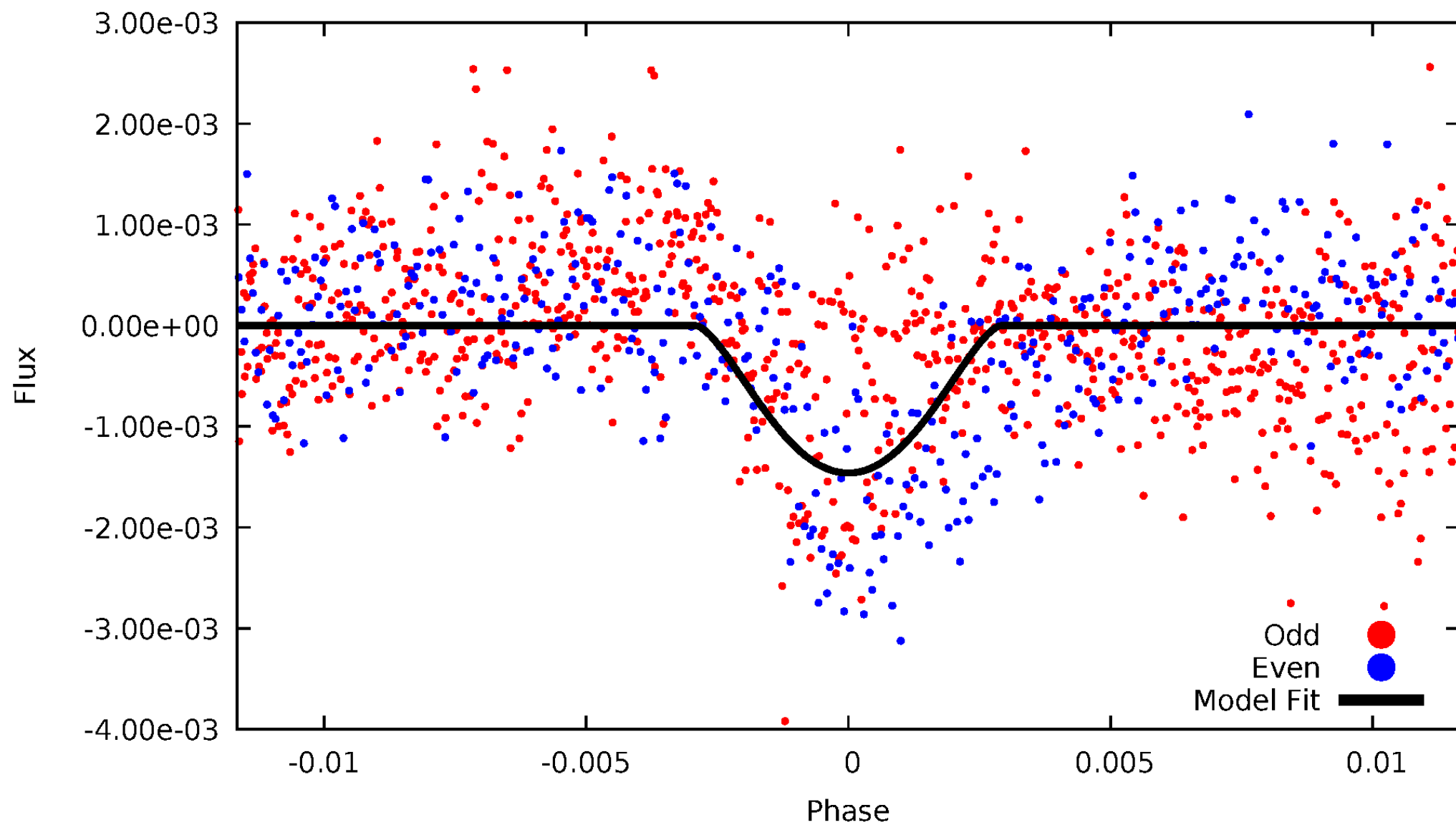


TCE 008619057-01



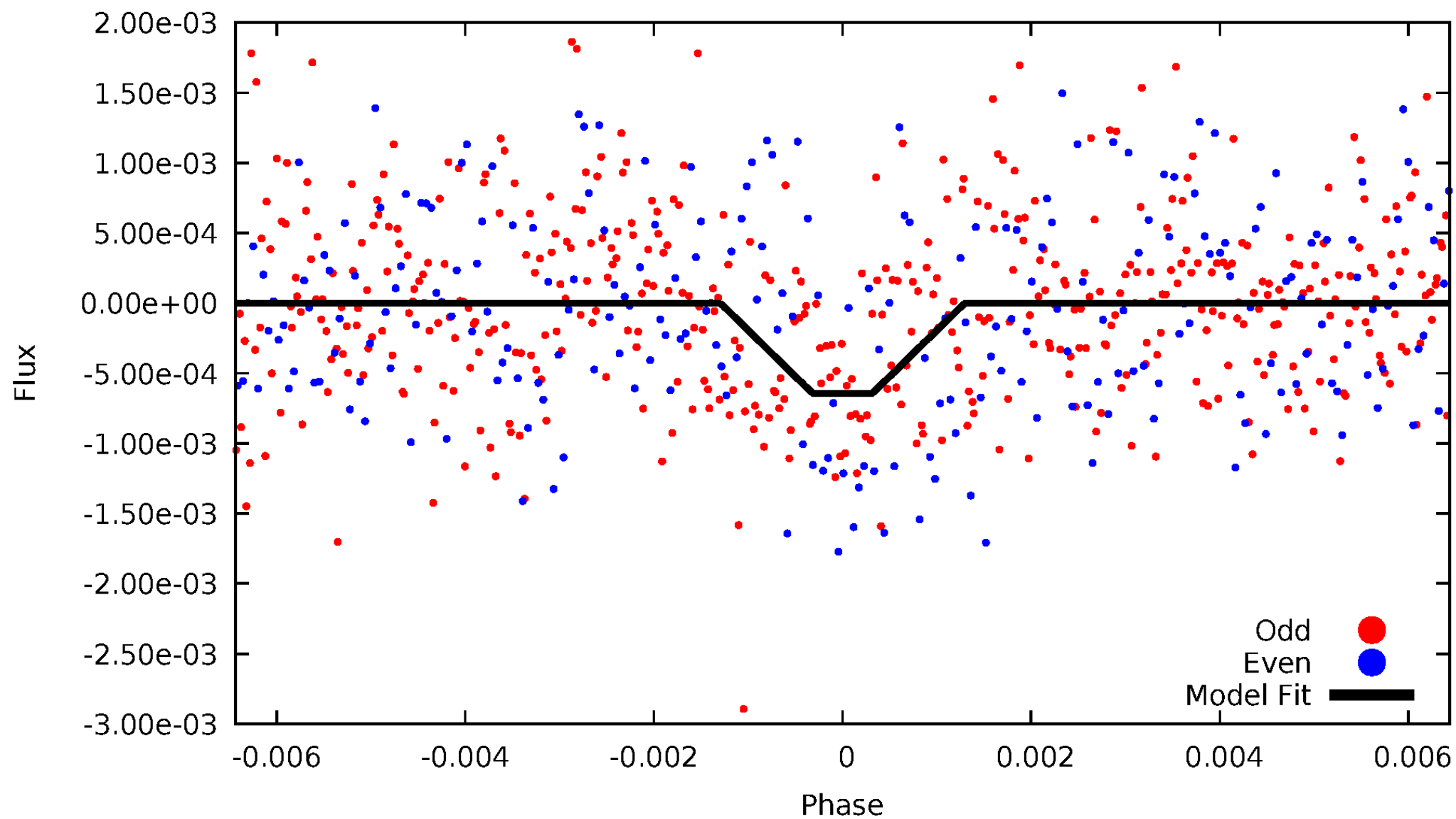
DV Odd/Even

TCE 008619057-01



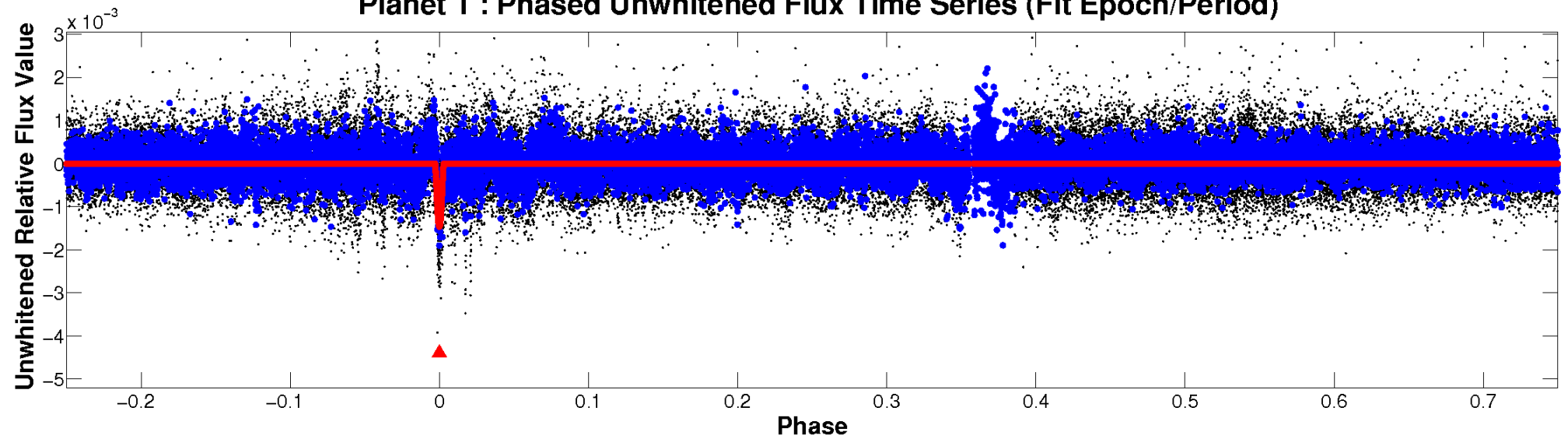
ALT Odd/Even

TCE 008619057-01

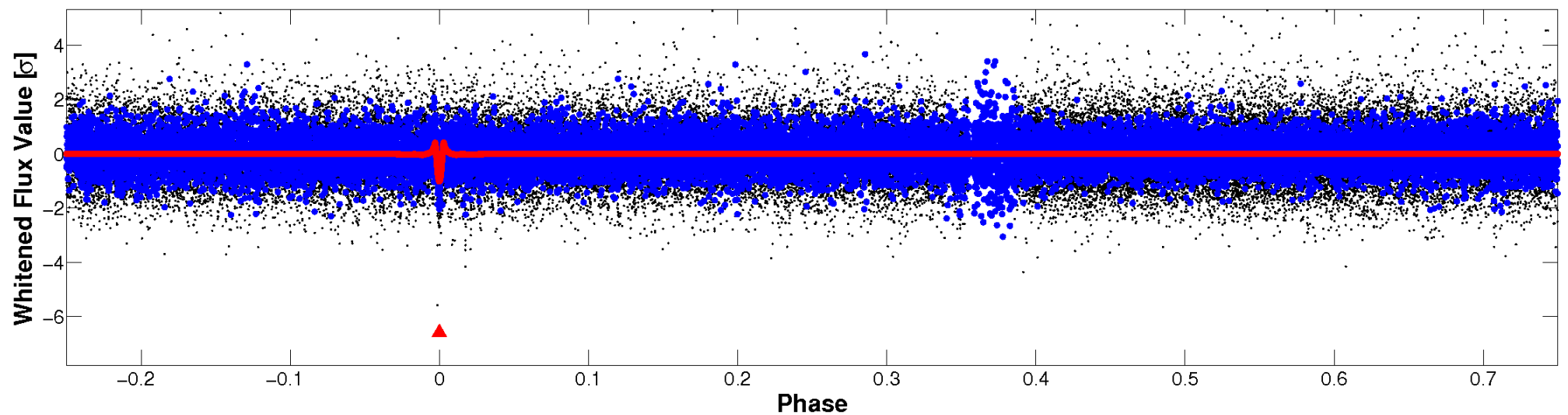


Non-Whitened Vs. Whitened Light Curve

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

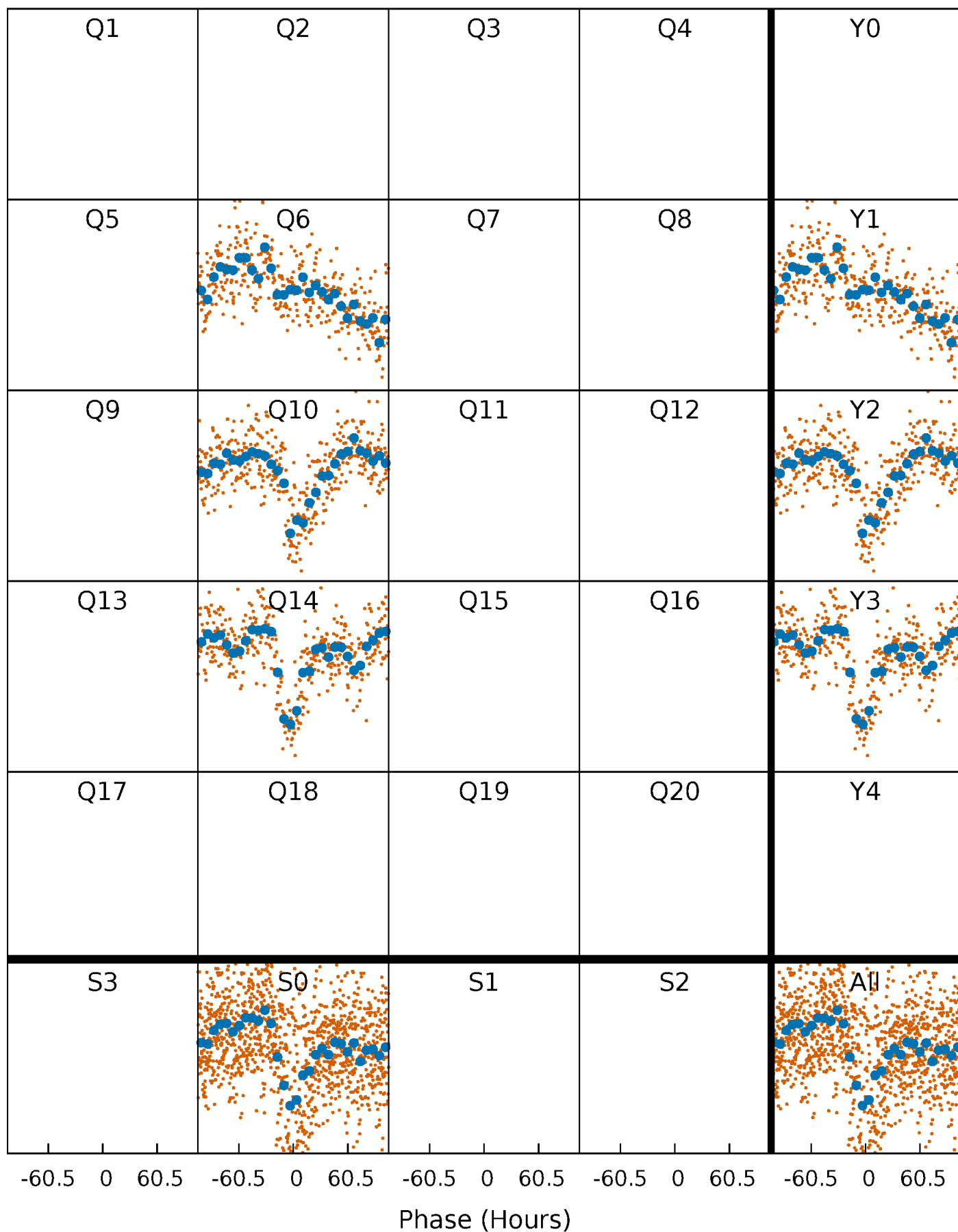


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



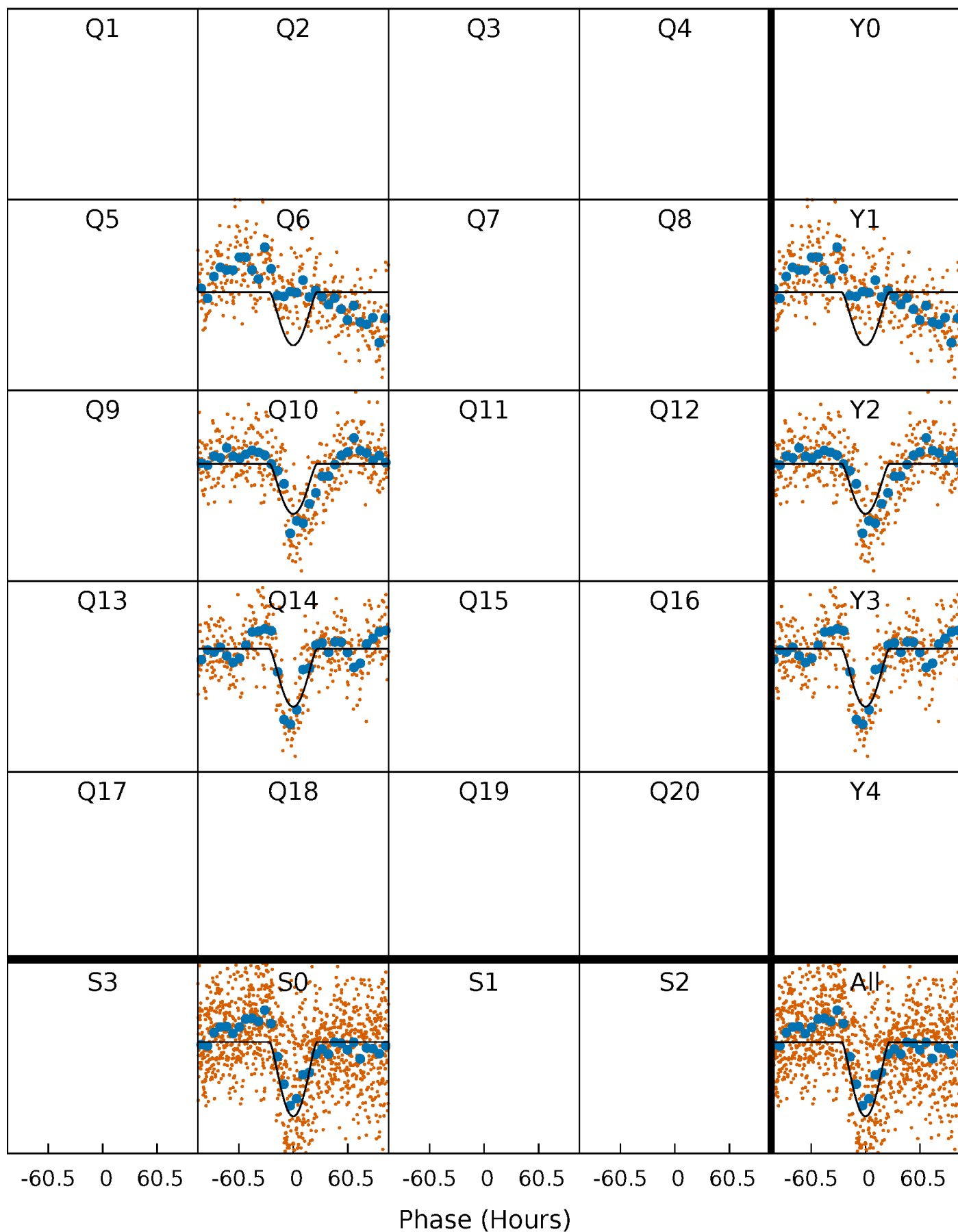
PDC Quarter-Phased Transit Curves

TCE 008619057-01 P=378.693216 Days $T_0=206.357430$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008619057-01 P=378.693216 Days $T_0=206.357430$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

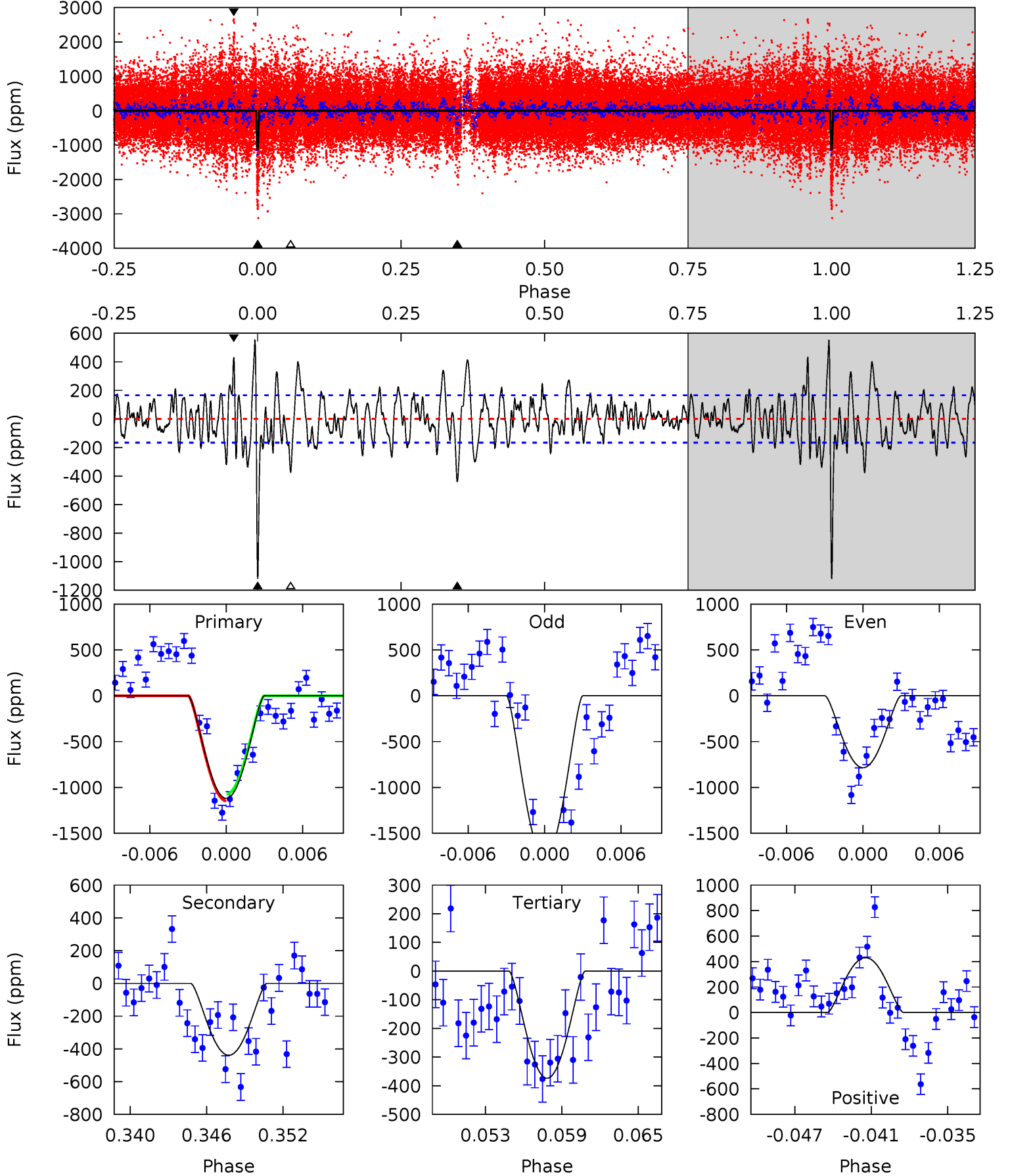
TCE 008619057-01 P=378.831391 Days $T_0=205.883351$ (BKJD)



DV Model-Shift Uniqueness Test

008619057-01, $P = 378.693216$ Days, $E = 206.357430$ Days

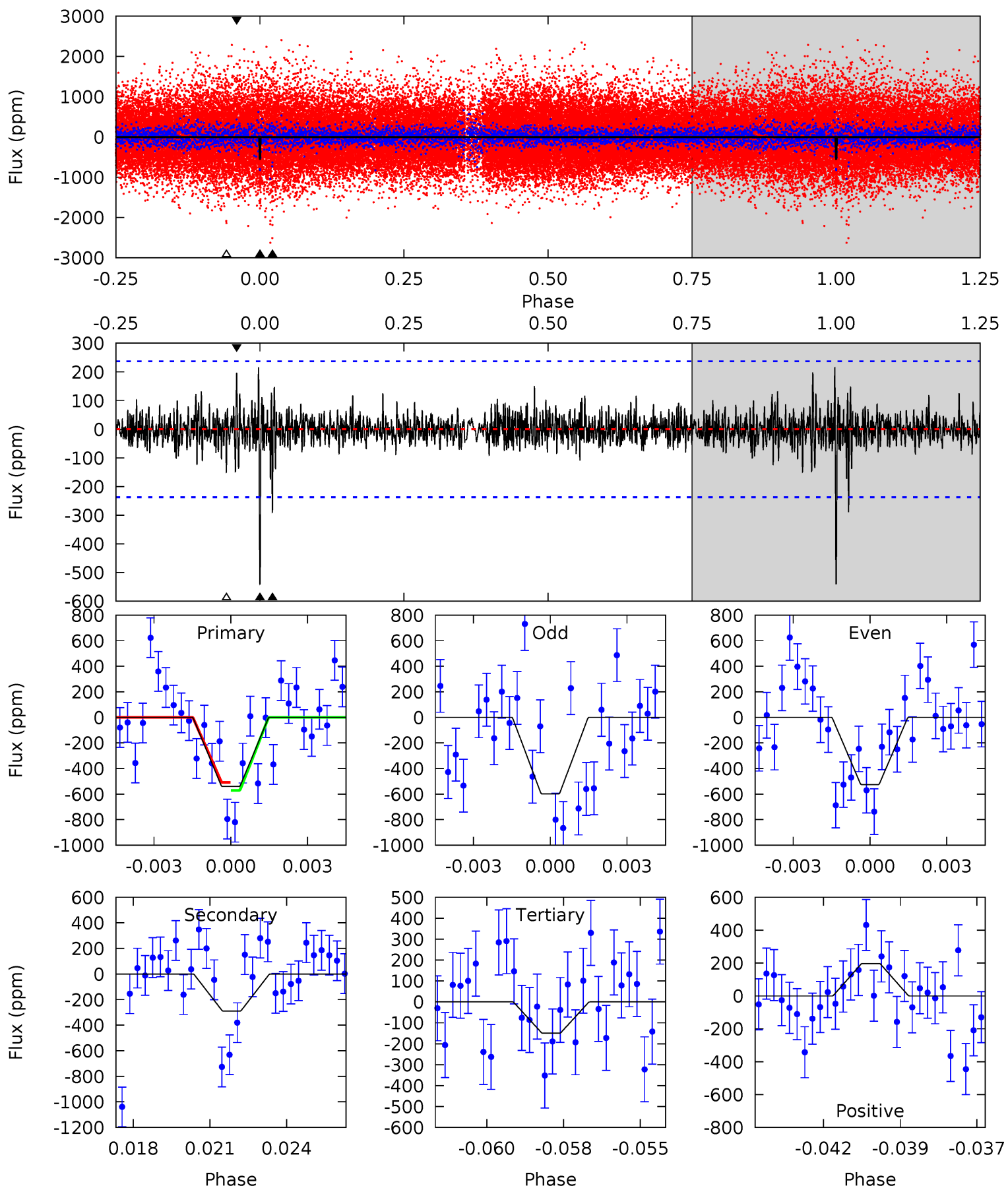
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 34.6 | 13.6 | 11.6 | 13.3 | 5.13 | 2.76 | 3.83 | 23.1 | 21.3 | 2.01 | 0.25 | 14.3 | 0.68 | 0.33 | 1.10 |



Alt Model-Shift Uniqueness Test

008619057-01, P = 378.831391 Days, E = 205.883351 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.0 | 6.45 | 3.33 | 4.39 | 5.28 | 3.01 | 0.88 | 8.71 | 7.65 | 3.12 | 2.06 | 0.77 | 0.92 | 0.29 | 0.69 |



Stellar Parameters For KIC 008619057

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5763^{+173}_{-190} | $4.446^{+0.094}_{-0.189}$ | $-0.080^{+0.300}_{-0.300}$ | $0.961^{+0.281}_{-0.120}$ | $0.941^{+0.125}_{-0.102}$ | $1.494^{+0.637}_{-0.760}$ |
| | +3%/-3% | +2%/-4% | +375%/-375% | +29%/-12% | +13%/-11% | +43%/-51% |
| 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 008619057-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|--------------------------|-------------------|-----------------------|-------------------------|
| DV | -439 ± 32 | $12.93^{+13.61}_{-9.04}$ | 352^{+24}_{-20} | 3062^{+1427}_{-534} | 1418^{+14178}_{-1075} |
| Alt. | -289 ± 45 | $10.80^{+11.31}_{-7.26}$ | 351^{+26}_{-20} | 3020^{+1313}_{-511} | 1380^{+12009}_{-1053} |

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

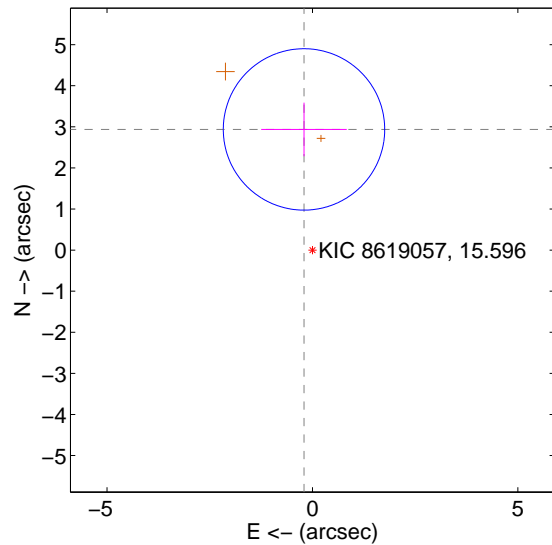
Supplemental centroid analysis for 008619057-01. Kepler magnitude: 15.60. Transit SNR 11.45

There are 0 quarters with good PRF difference image offsets

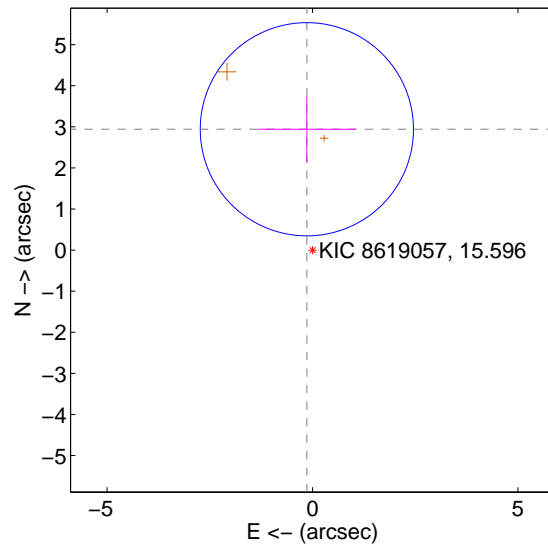
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 2.944 ± 0.655 | 4.50 | 0.205 ± 1.042 | 2.937 ± 0.652 |
| PRF-fit source offset from KIC position | 2.944 ± 0.865 | 3.40 | 0.138 ± 1.184 | 2.941 ± 0.811 |
| photometric centroid source offset | 1.54 ± 0.90 | 1.70 | 1.51 ± 0.89 | -0.28 ± 1.11 |

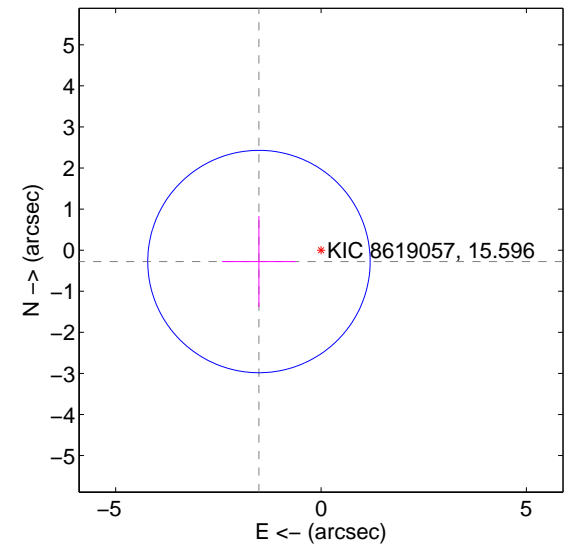
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

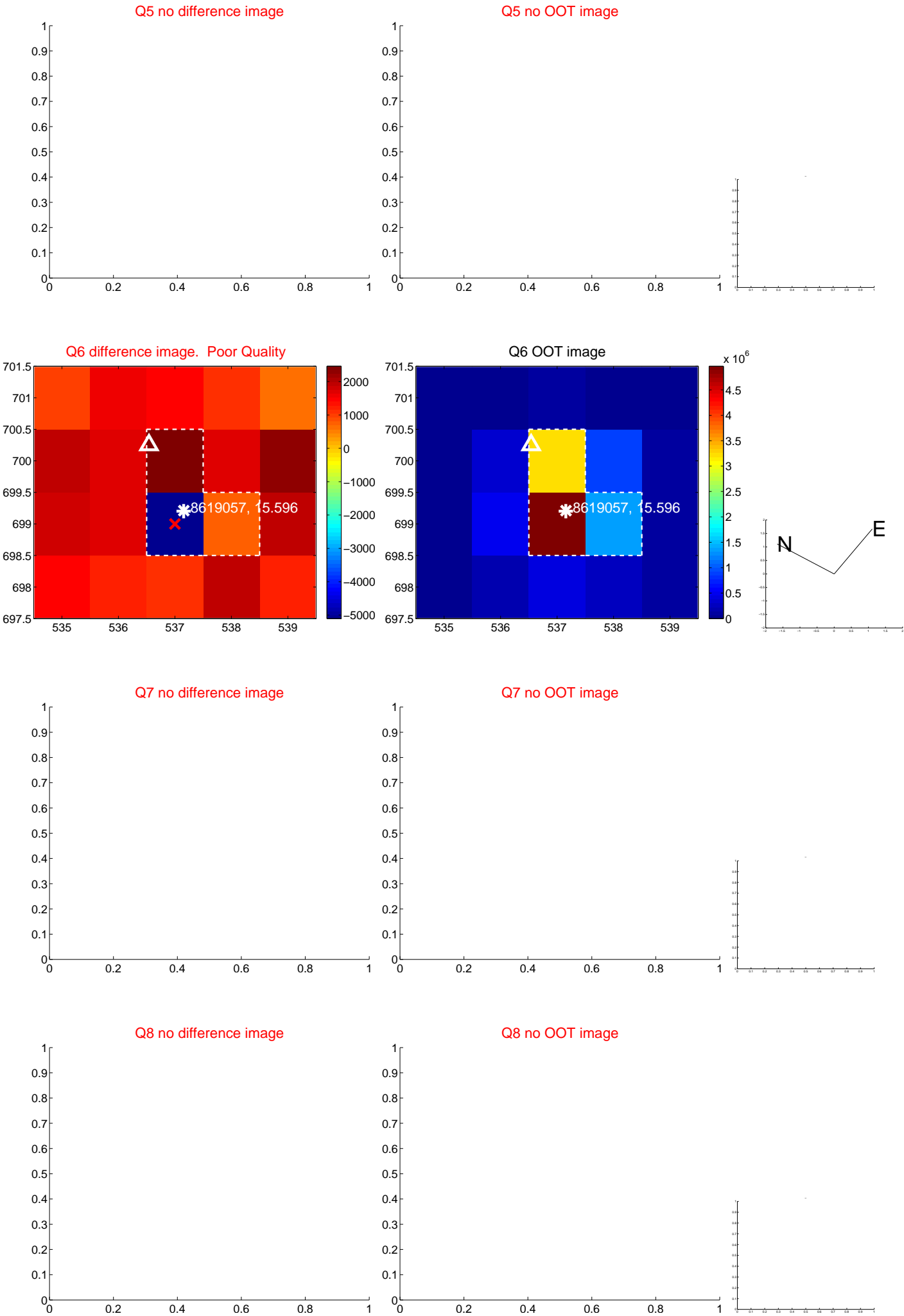


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



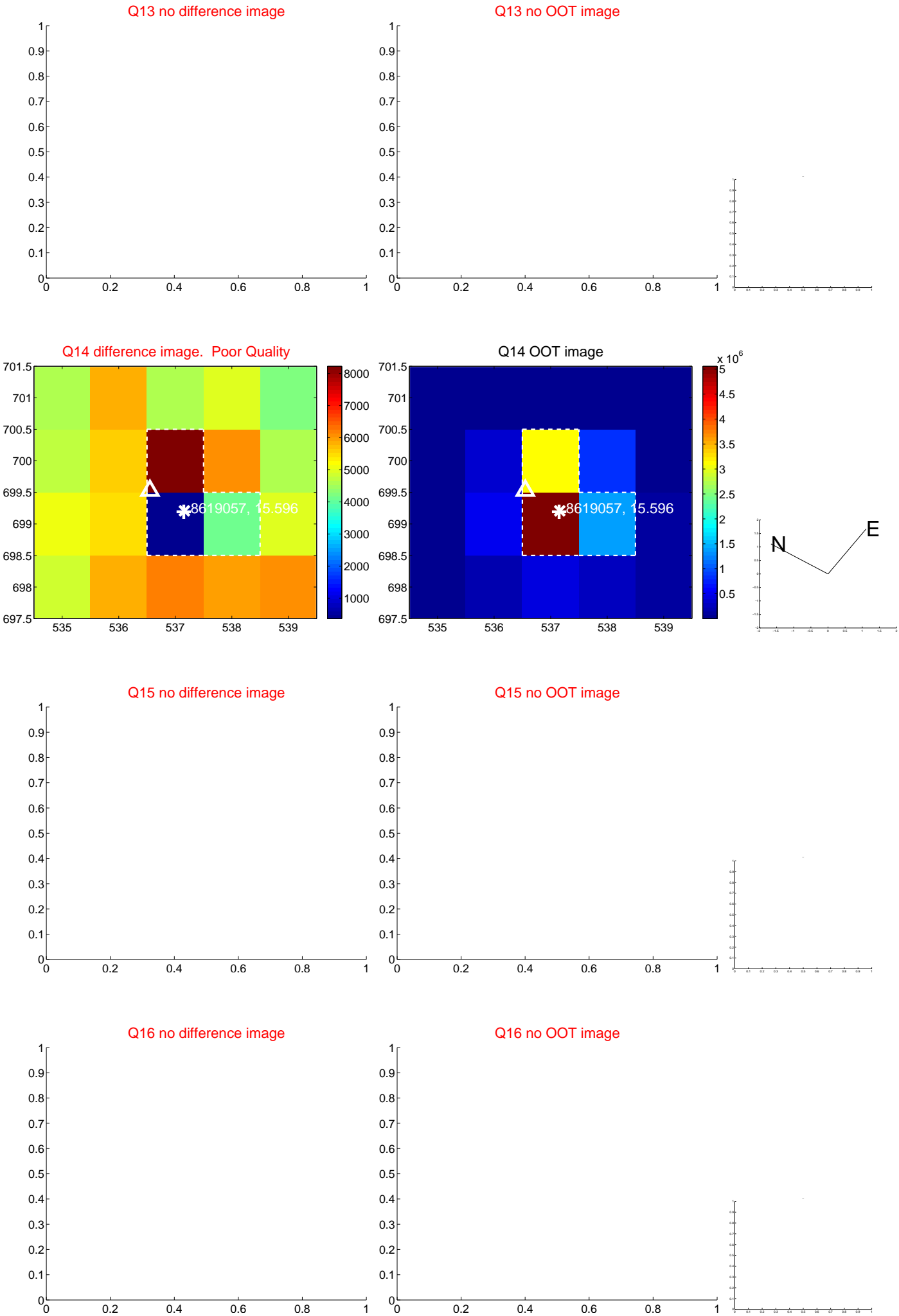
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



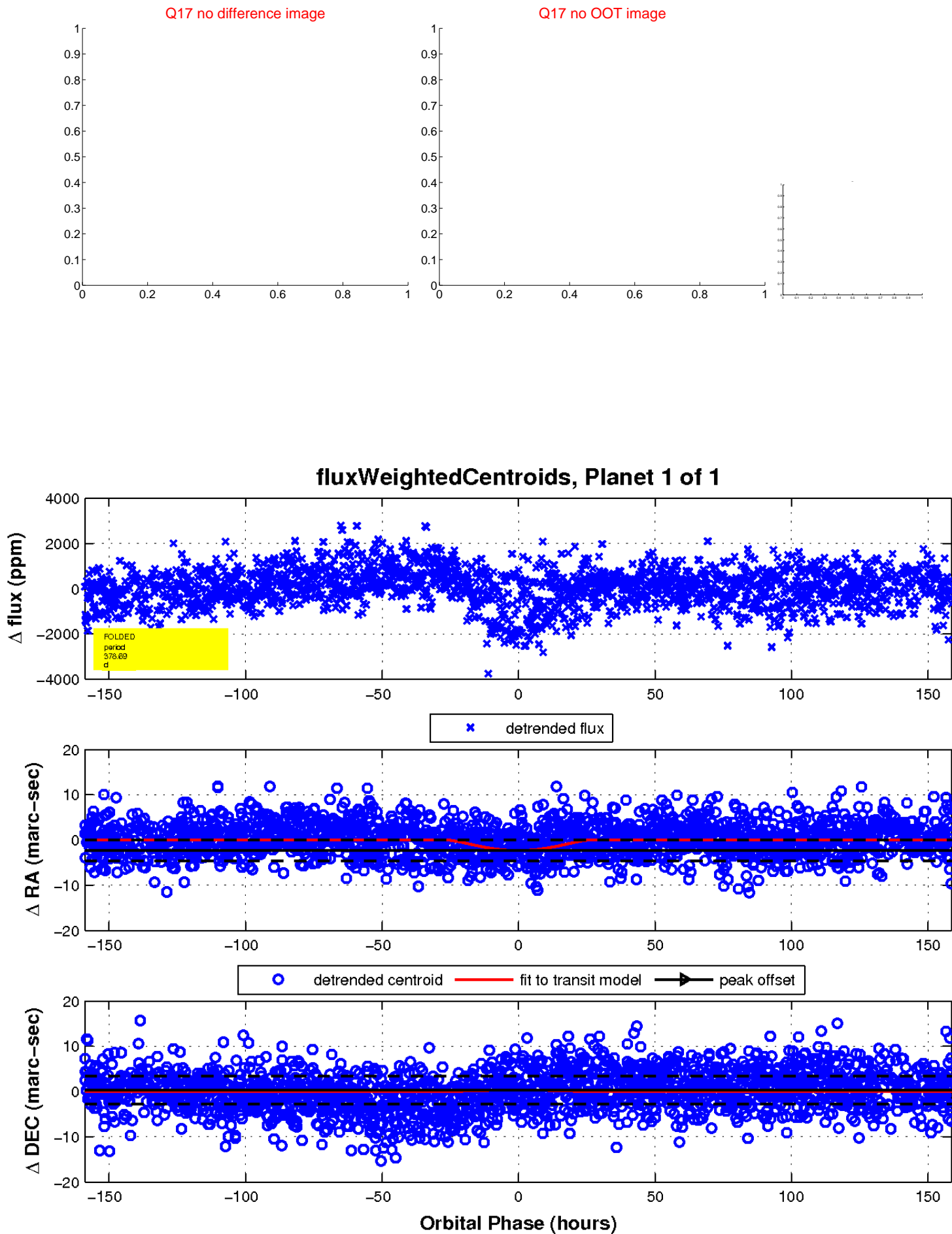
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

