

KIC 010395008

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 010395008-01 | OBS | No | 426.660272 | 239.819733 | 347.5 | 10.570 | 7.5 | 5.0 | 0.96 | 5825 | 2.03 | 0.74 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 010395008-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

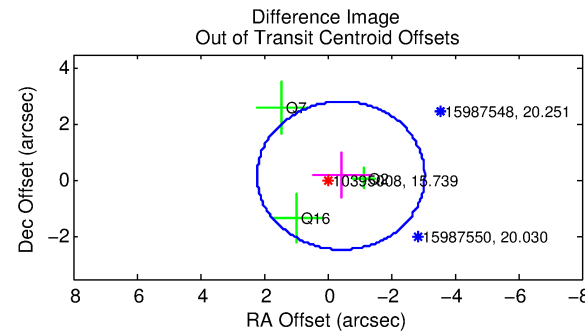
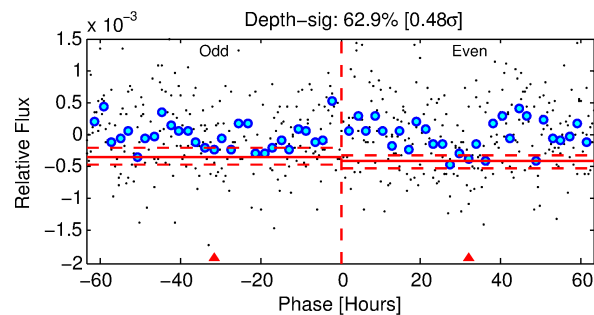
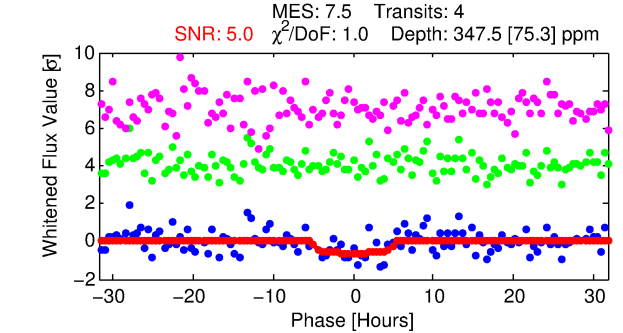
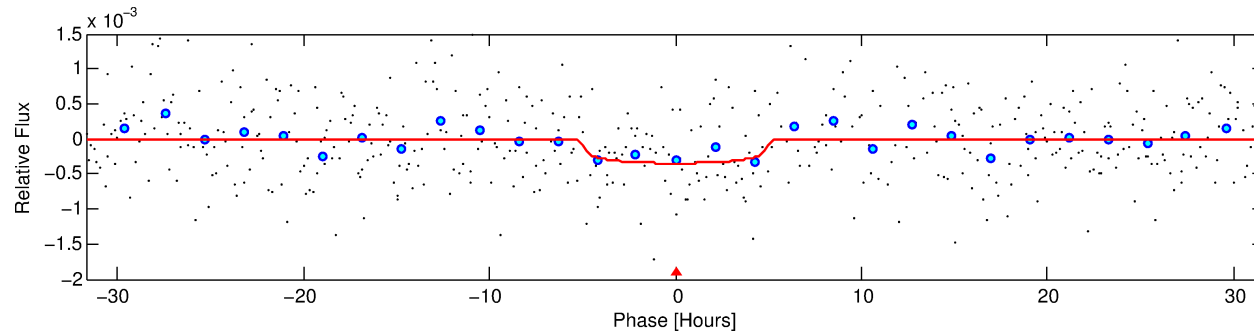
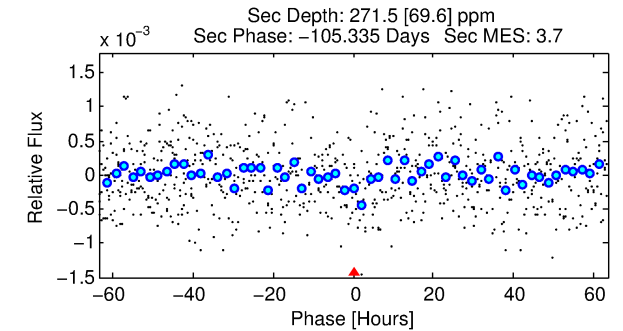
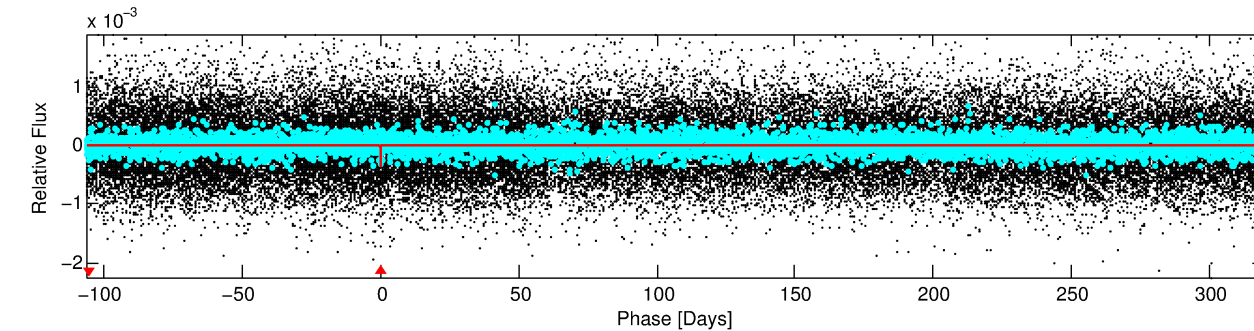
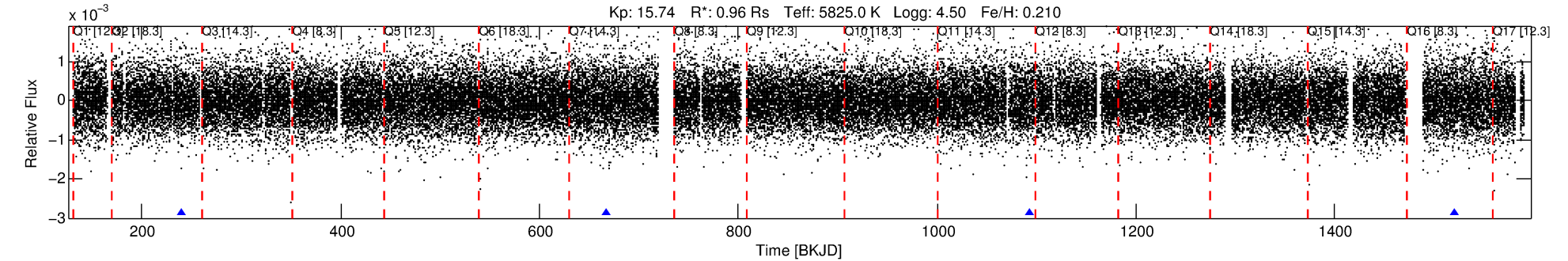
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010395008-01

No Significant Match Found

DV One-Page Summary

KIC: 10395008 Candidate: 1 of 1 Period: 426.660 d



DV Fit Results:

Period = 426.66027 [0.02031] d
Epoch = 239.8197 [0.0347] BKJD
Rp/R* = 0.0193 [0.0137]
a/R* = 183.16 [573.03]
b = 0.83 [1.21]
Seff = 0.74 [0.26]
Teq = 236 [21] K
Rp = 2.03 [1.53] Re
a = 1.1396 [0.2443] AU
Ag = 47143.35 [69929.07] [0.67 σ]
Teffp = 5387 [1961] K [2.63 σ]

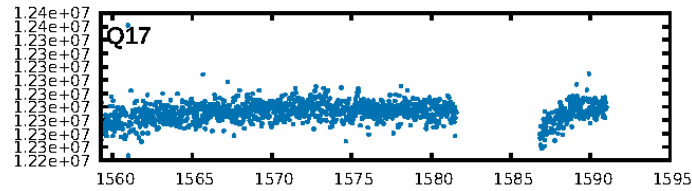
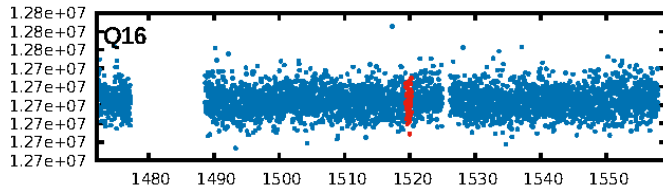
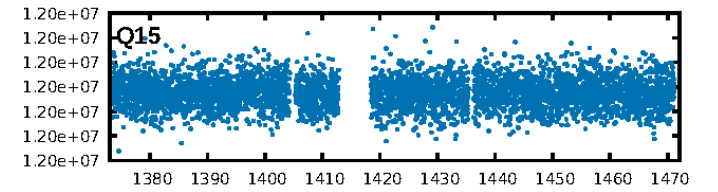
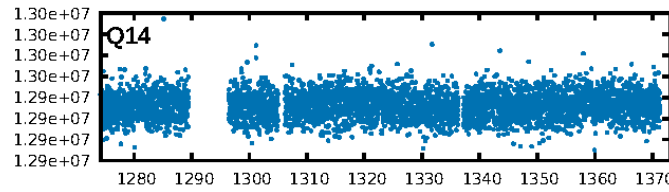
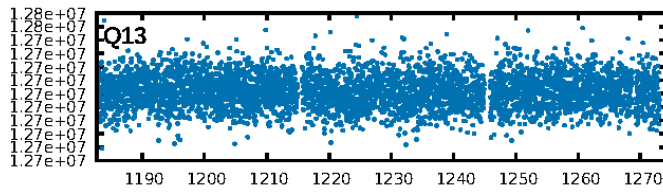
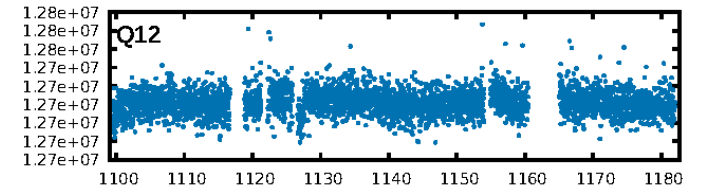
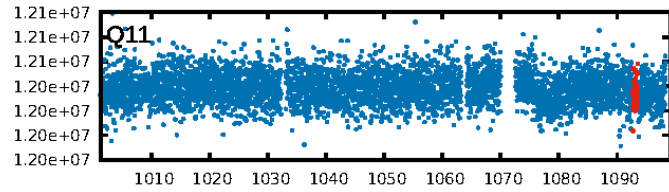
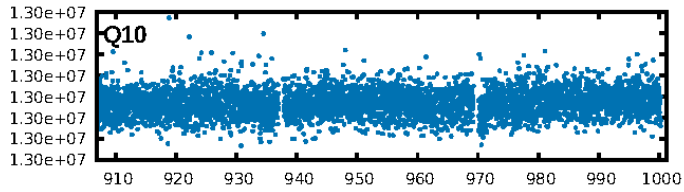
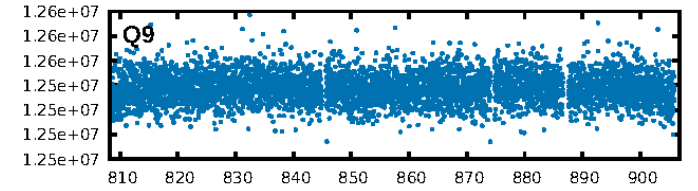
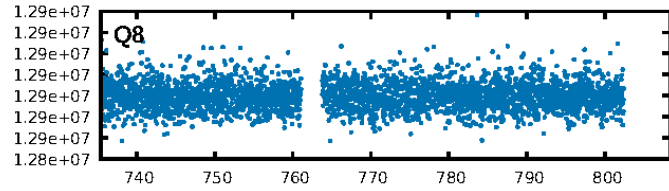
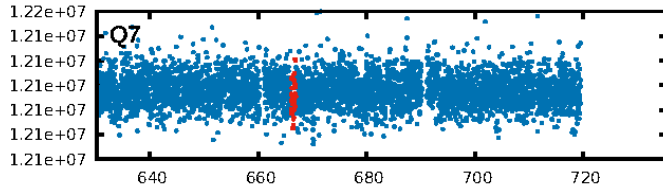
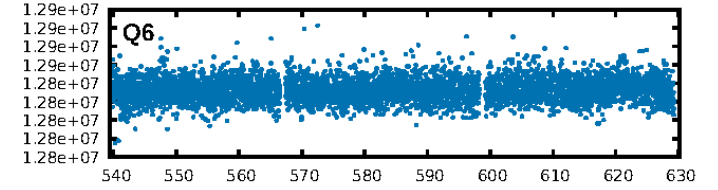
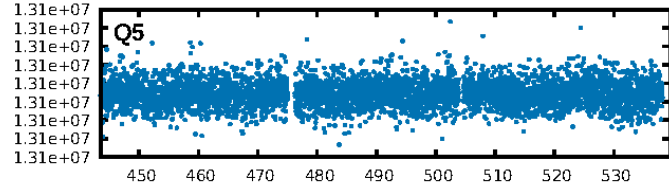
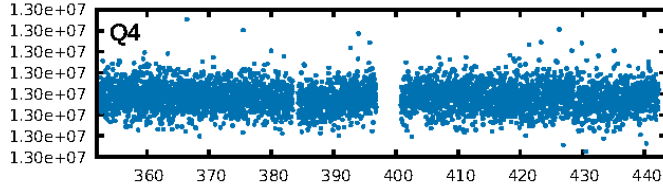
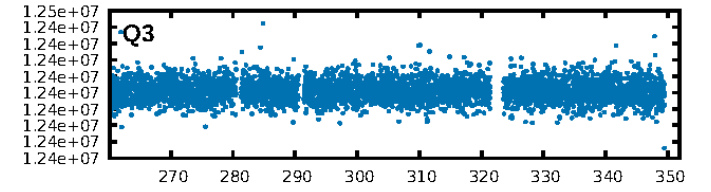
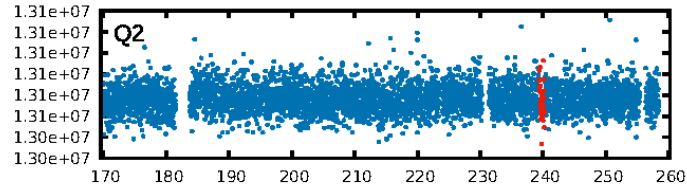
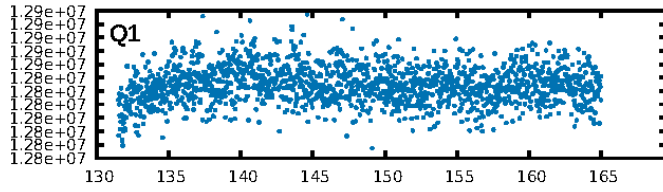
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 13.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.73e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.3
Centroid-sig: 0.2%
Centroid-so: 4.463 arcsec [1.90 σ]
OotOffset-rm: 0.467 arcsec [0.53 σ]
KicOffset-rm: 0.648 arcsec [0.68 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

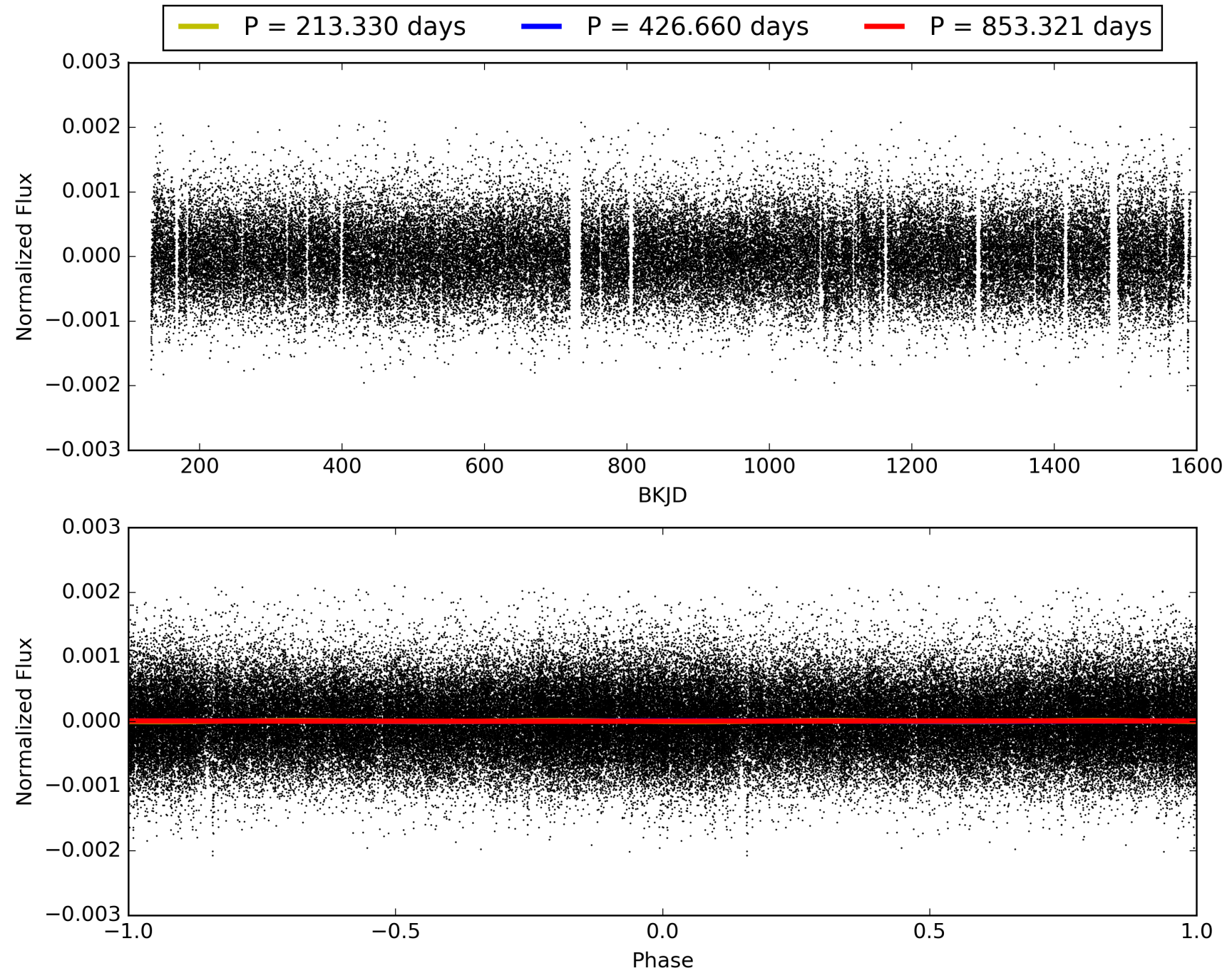
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:06:41 Z

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

TCE 010395008-01, PDC Light Curves

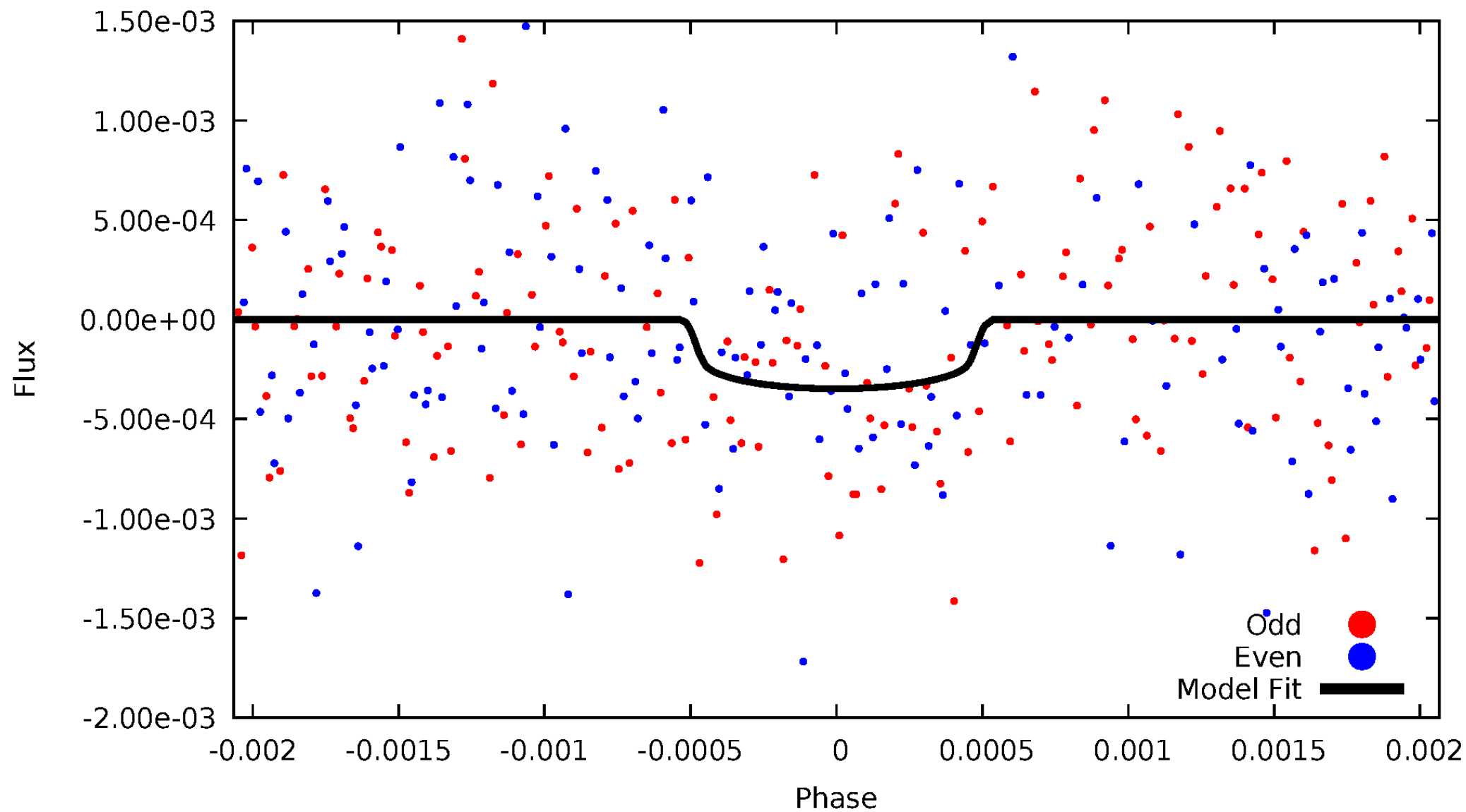


TCE 010395008-01



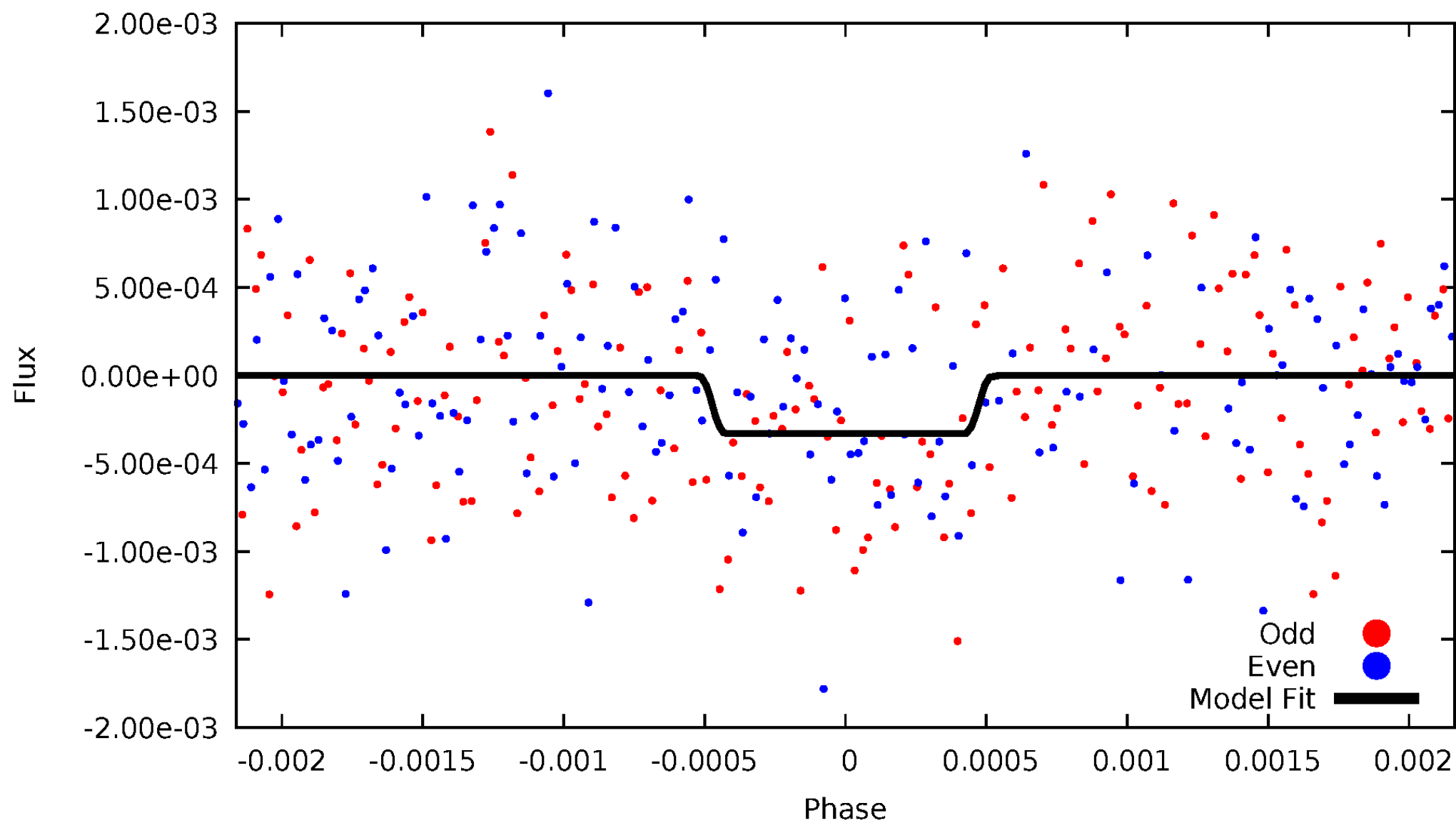
DV Odd/Even

TCE 010395008-01

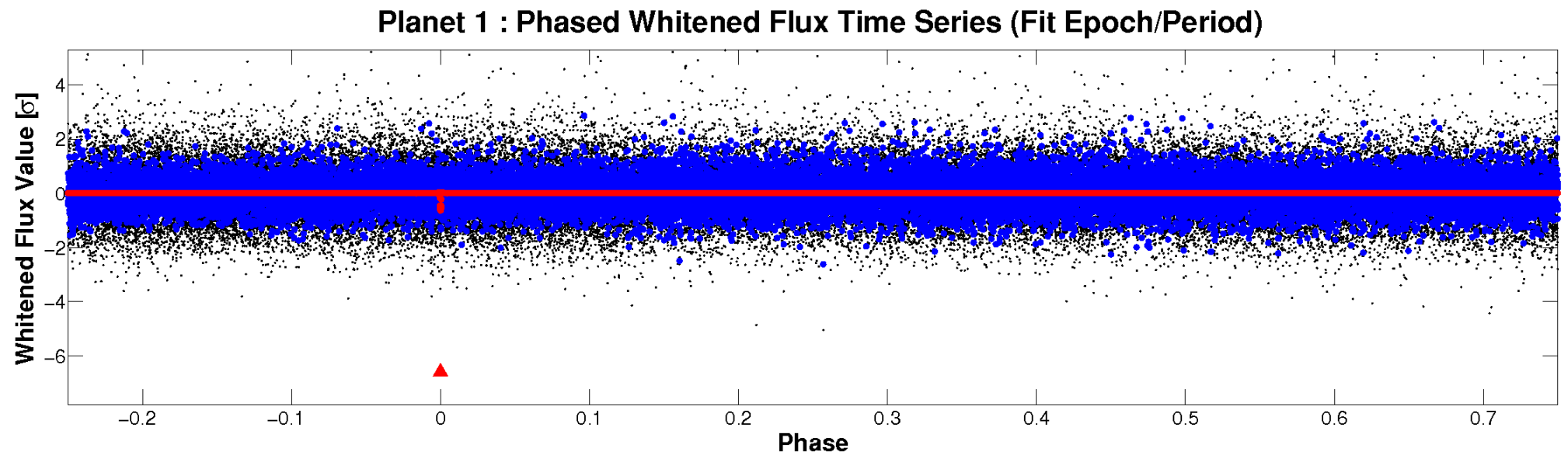
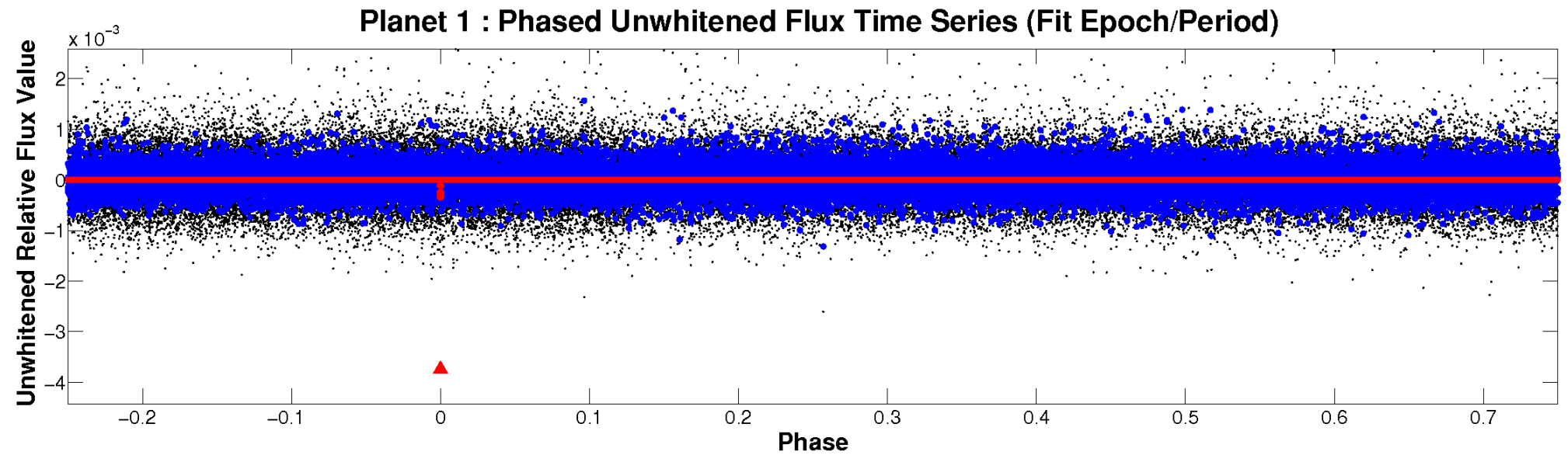


ALT Odd/Even

TCE 010395008-01

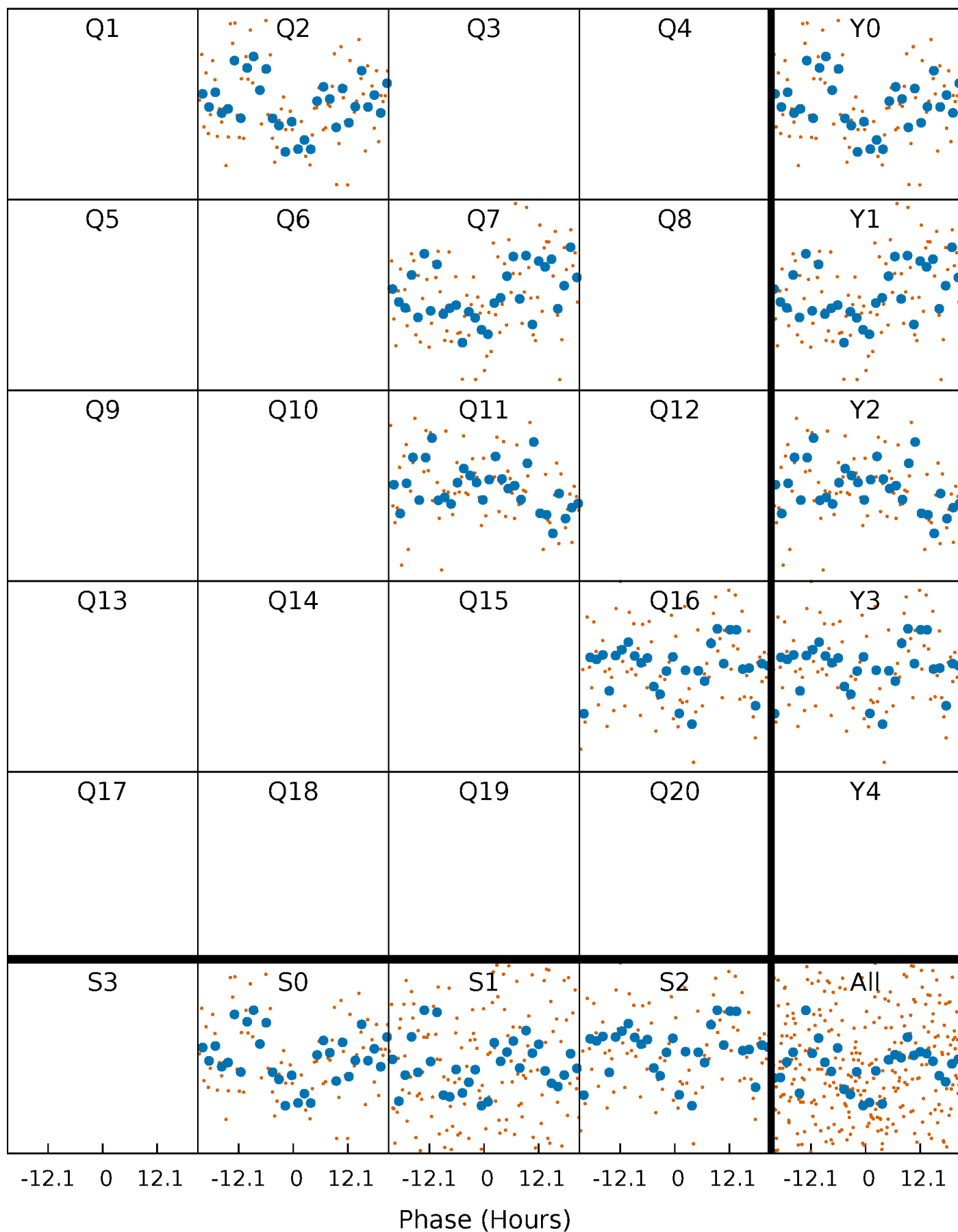


Non-Whitened Vs. Whitened Light Curve



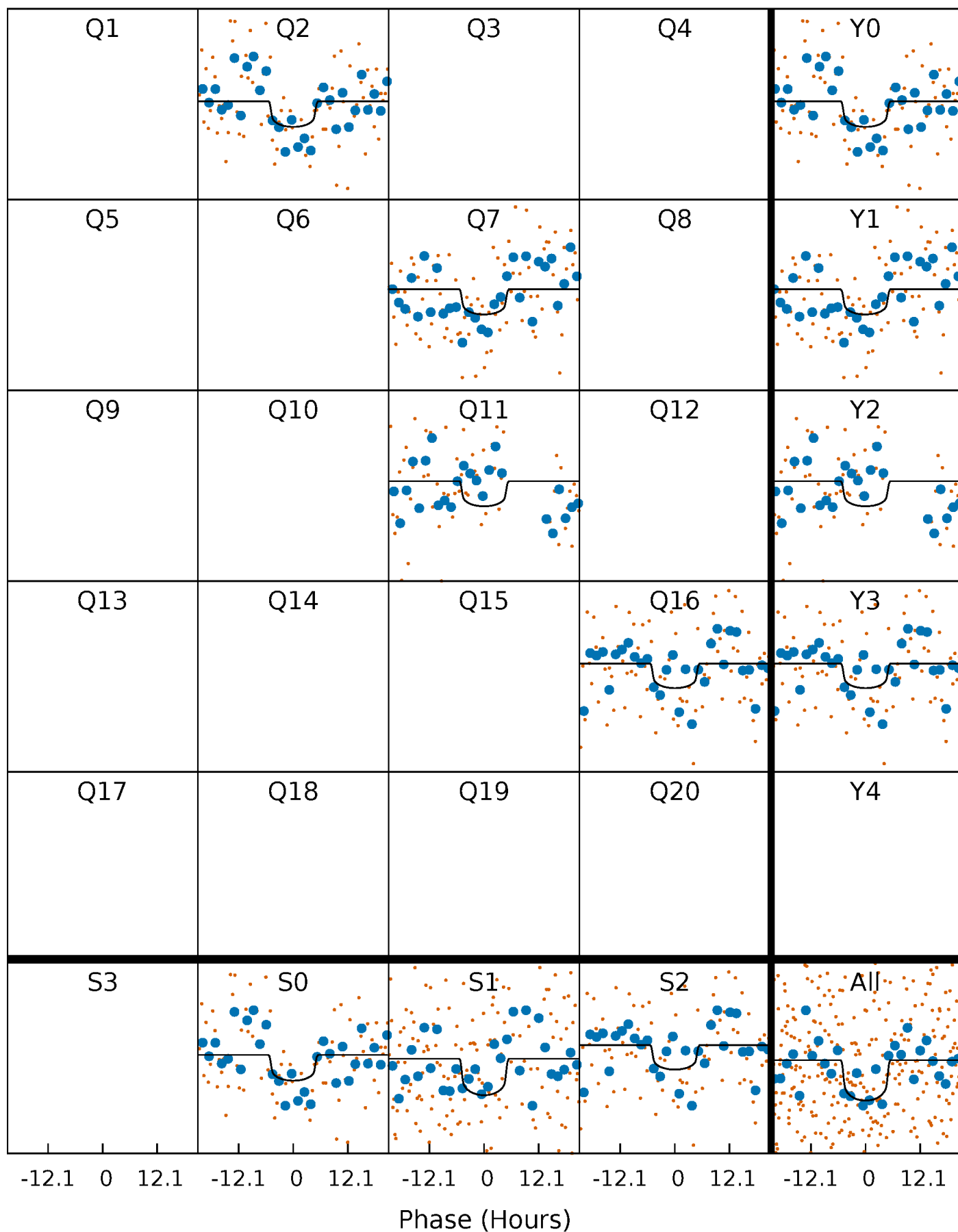
PDC Quarter-Phased Transit Curves

TCE 010395008-01 P=426.660272 Days $T_0=239.819733$ (BKJD)



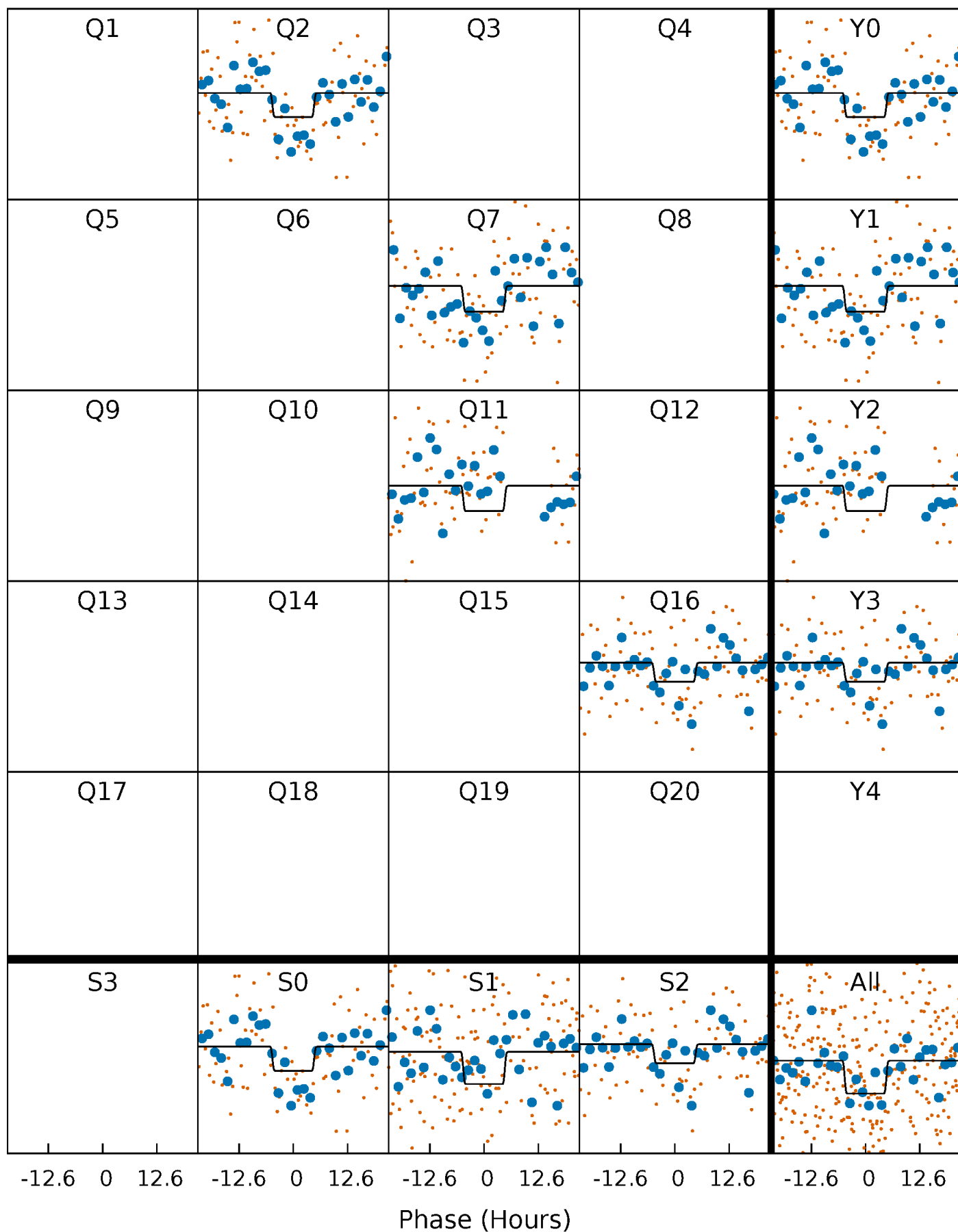
DV Quarter-Phased Transit Curves

TCE 010395008-01 P=426.660272 Days $T_0=239.819733$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

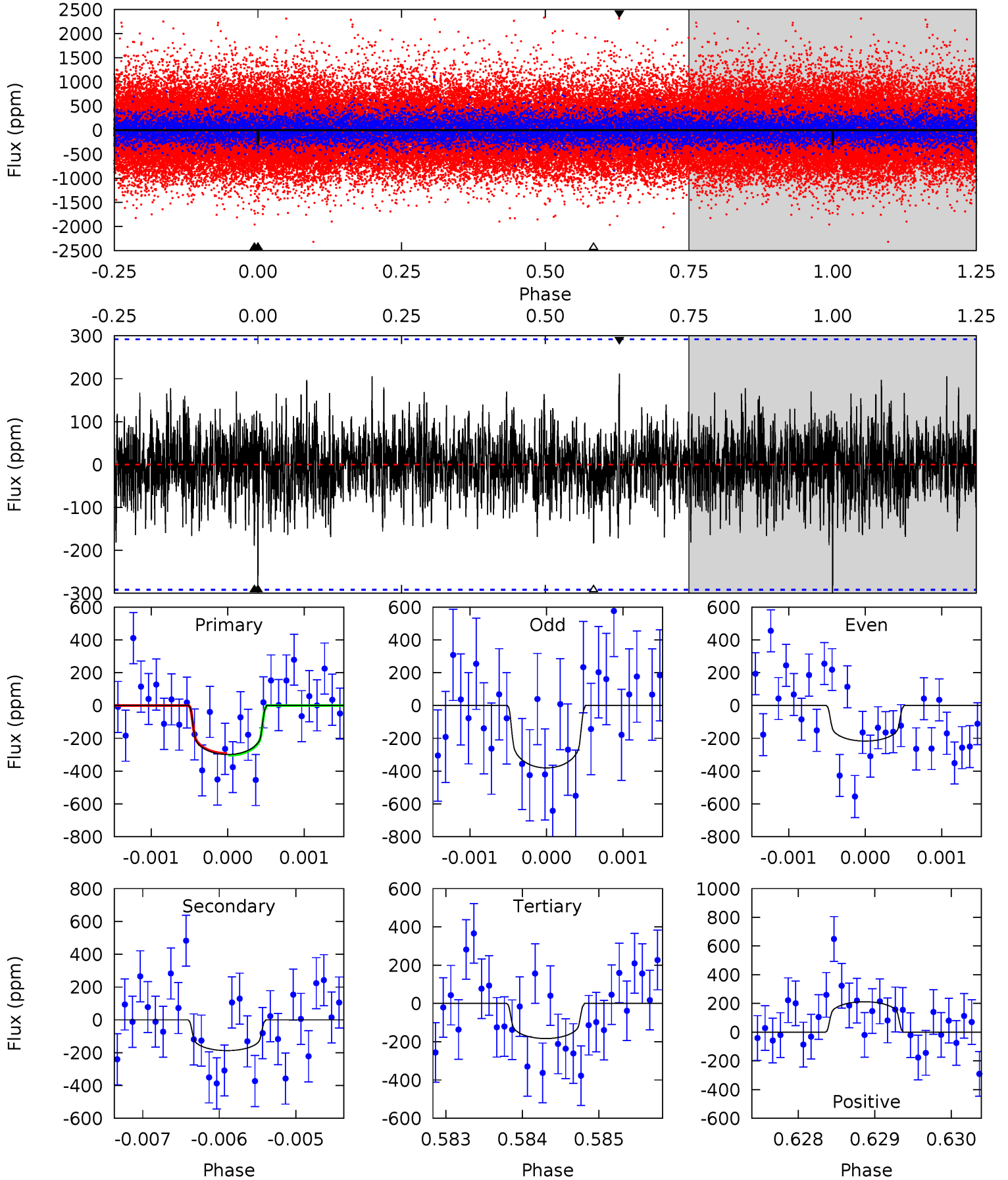
TCE 010395008-01 P=426.666355 Days $T_0=239.803857$ (BKJD)



DV Model-Shift Uniqueness Test

010395008-01, P = 426.660272 Days, E = 239.819733 Days

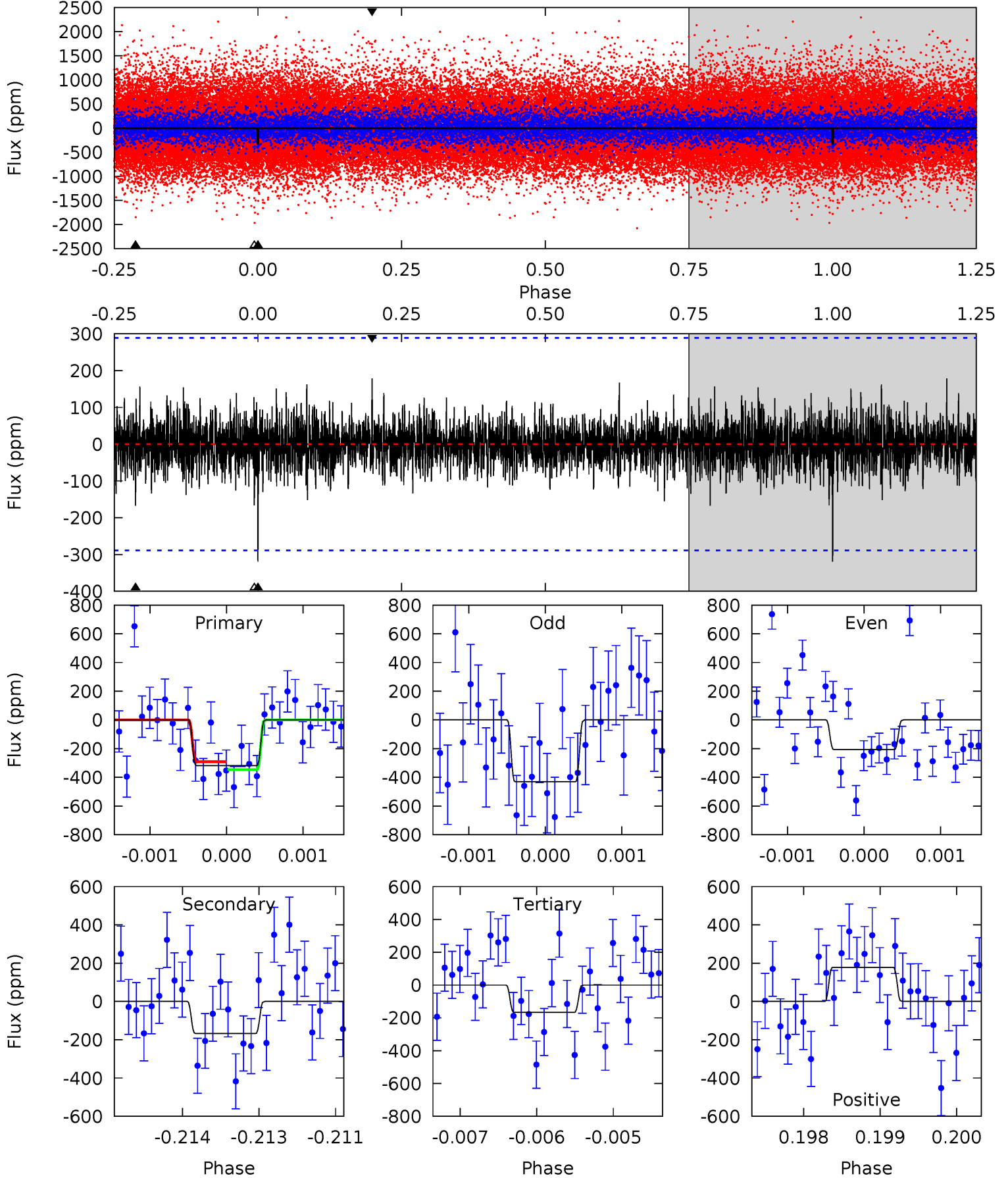
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 5.57 | 3.50 | 3.42 | 3.95 | 5.44 | 3.28 | 1.05 | 2.16 | 1.62 | 0.08 | -0.45 | 1.53 | 0.78 | 0.41 | 0.10 |



Alt Model-Shift Uniqueness Test

010395008-01, P = 426.666355 Days, E = 239.803857 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6.01 | 3.15 | 3.13 | 3.36 | 5.44 | 3.27 | 0.82 | 2.87 | 2.64 | 0.01 | -0.22 | 2.11 | 0.74 | 0.36 | 0.51 |



Stellar Parameters For KIC 010395008

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5825^{+156}_{-208} | $4.504^{+0.044}_{-0.176}$ | $0.210^{+0.200}_{-0.300}$ | $0.965^{+0.241}_{-0.096}$ | $1.083^{+0.091}_{-0.147}$ | $1.699^{+0.379}_{-0.770}$ |
| | +3%/-4% | +1%/-4% | +95%/-143% | +25%/-10% | +8%/-14% | +22%/-45% |
| 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 010395008-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|-----------------------|----------------------------|
| DV | -187 ± 54 | $2.32^{+1.44}_{-1.36}$ | 336^{+21}_{-15} | 4801^{+2382}_{-878} | $24530^{+115558}_{-16259}$ |
| Alt. | -167 ± 53 | $2.18^{+1.52}_{-1.32}$ | 337^{+21}_{-16} | 4744^{+2620}_{-826} | $23519^{+126080}_{-15361}$ |

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

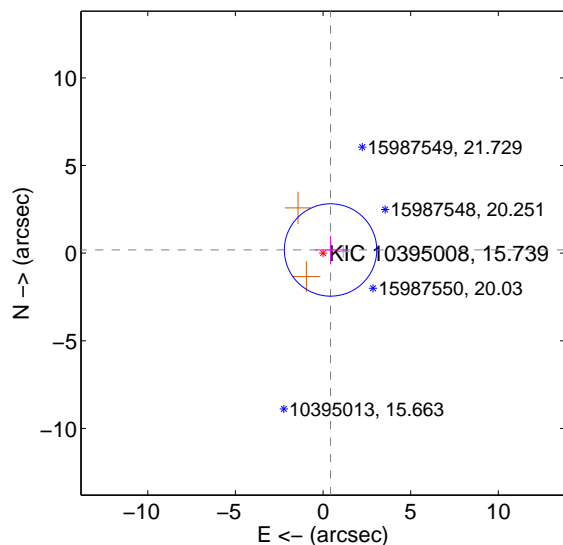
Supplemental centroid analysis for 010395008-01. Kepler magnitude: 15.74. Transit SNR 4.98

There are 1 quarters with good PRF difference image offsets

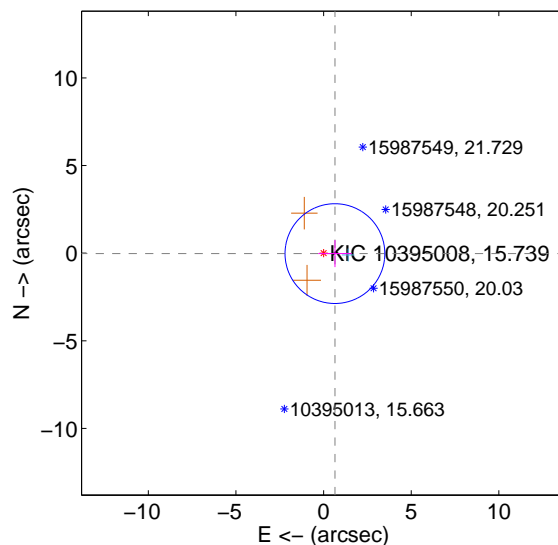
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.467 ± 0.879 | 0.53 | -0.429 ± 0.893 | 0.183 ± 0.794 |
| PRF-fit source offset from KIC position | 0.648 ± 0.949 | 0.68 | -0.647 ± 0.949 | -0.025 ± 0.769 |
| photometric centroid source offset | 4.46 ± 2.35 | 1.90 | -2.79 ± 2.14 | 3.48 ± 2.47 |

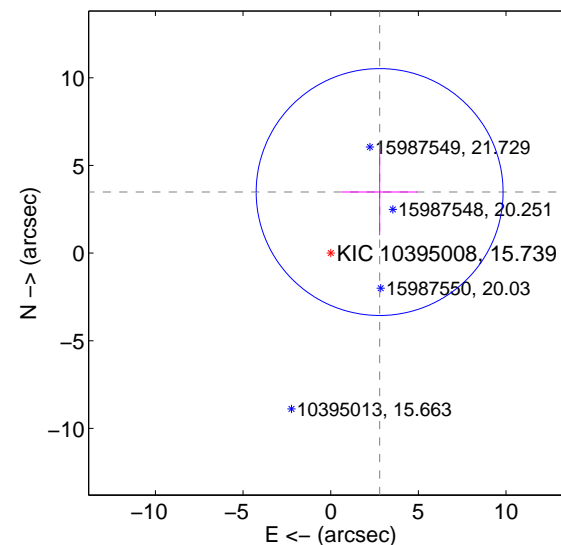
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

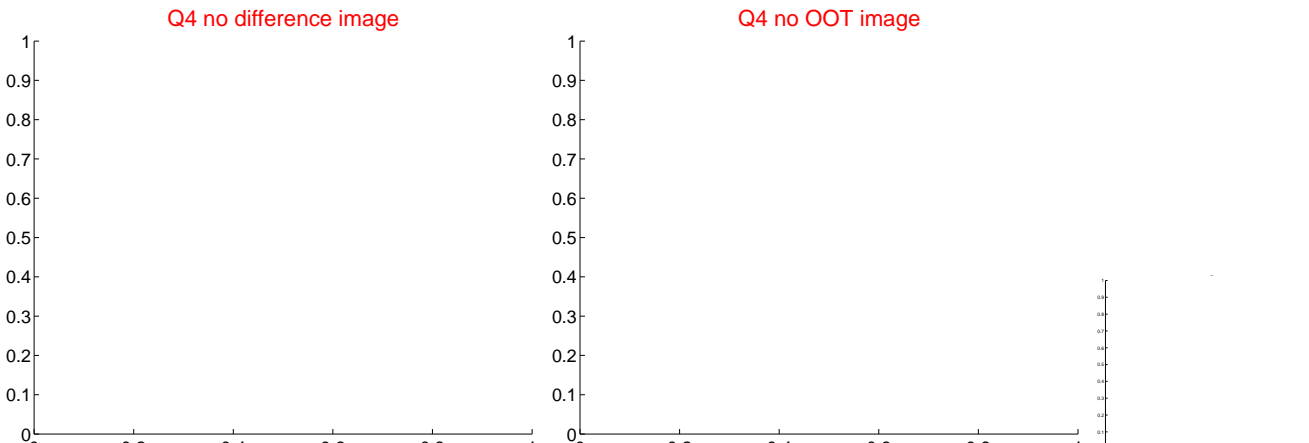
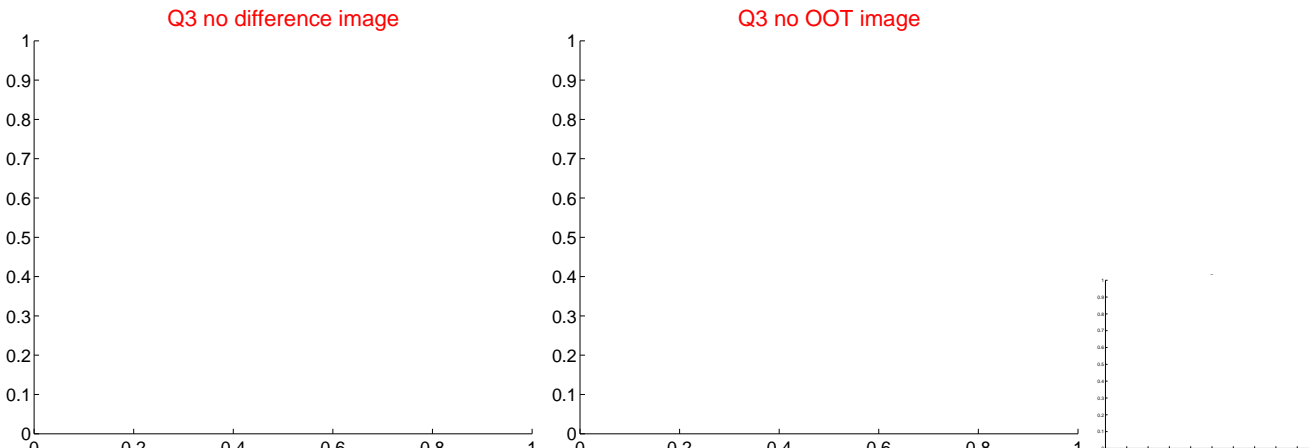
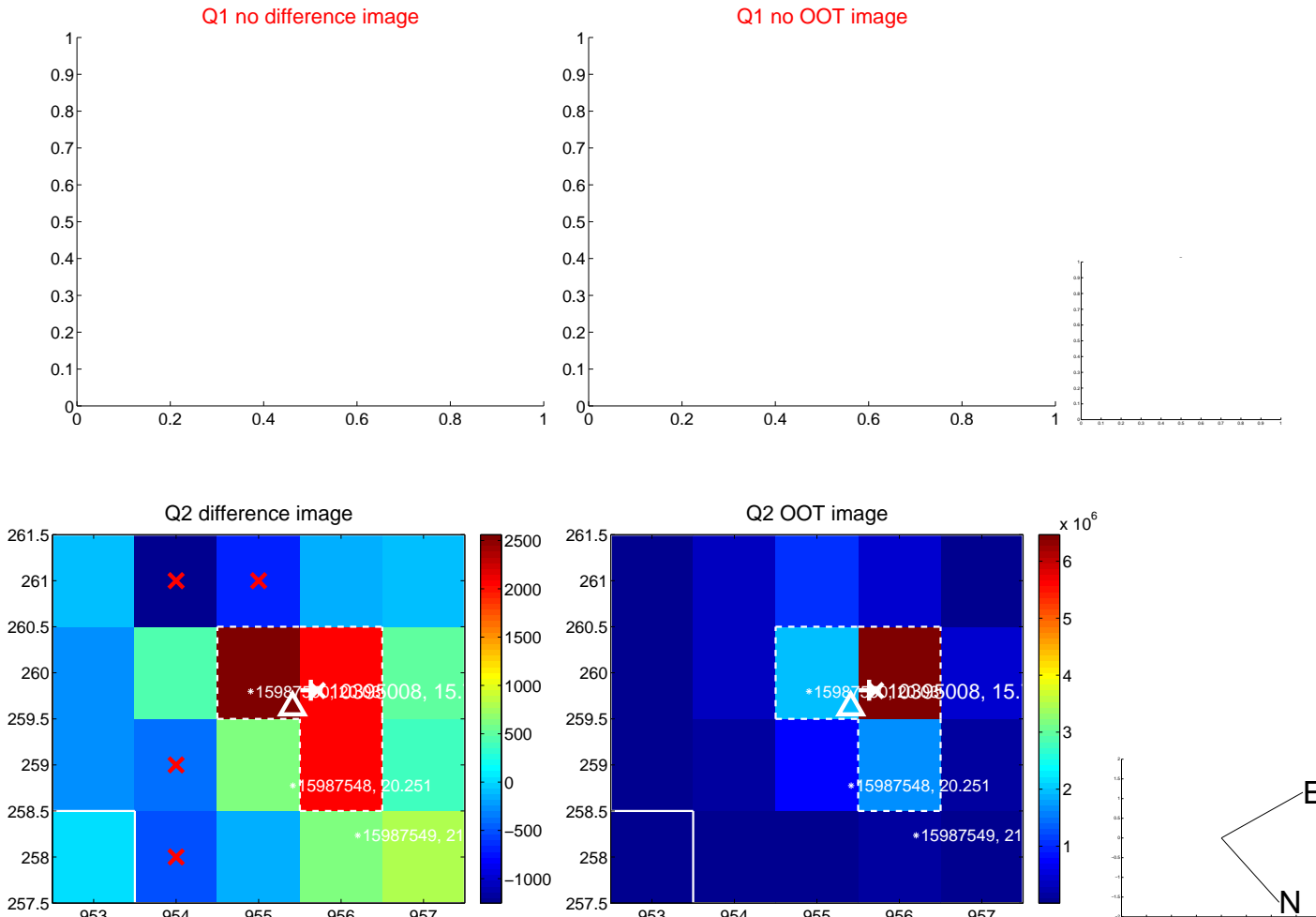


offset from photometric centroids

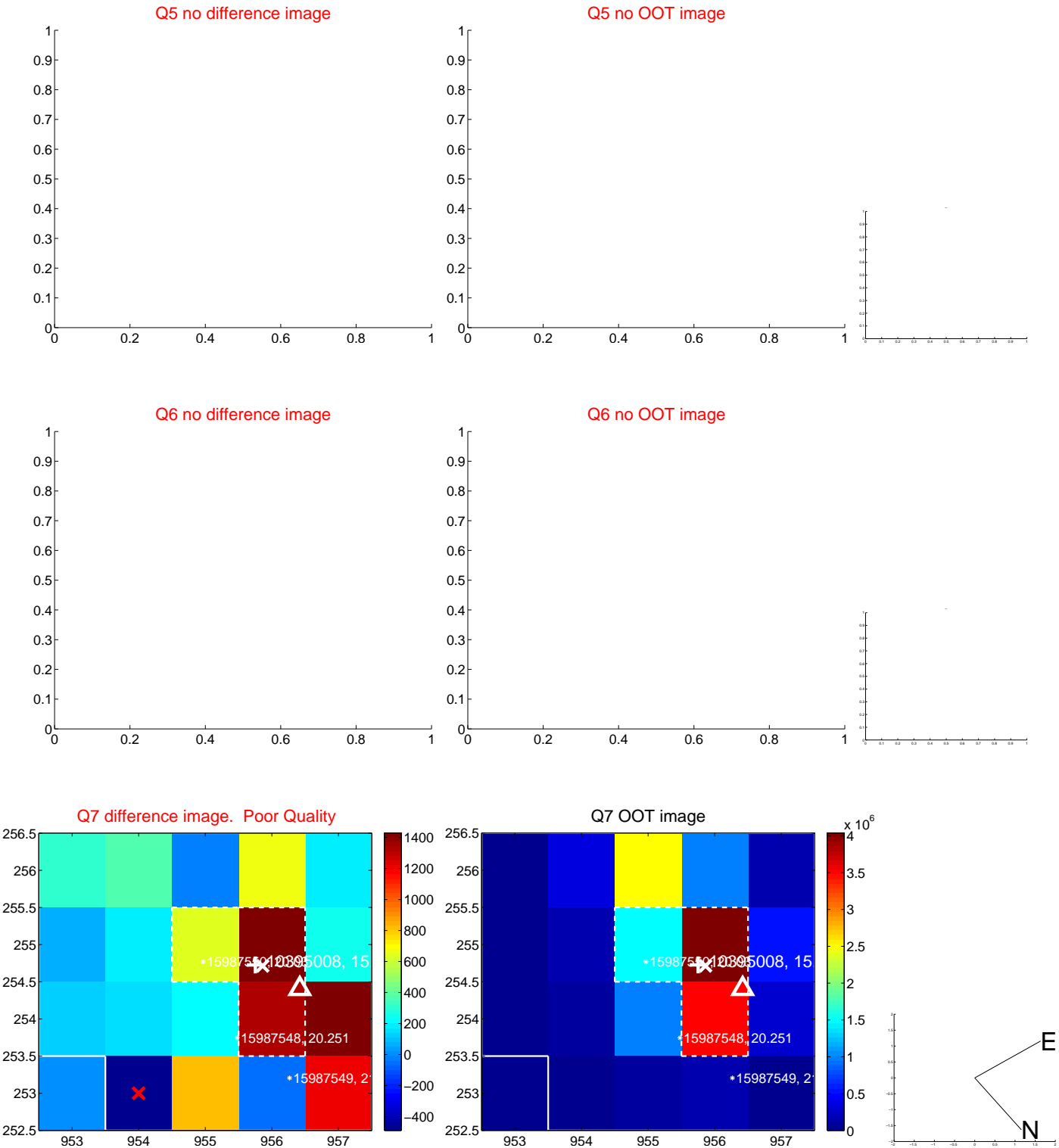


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



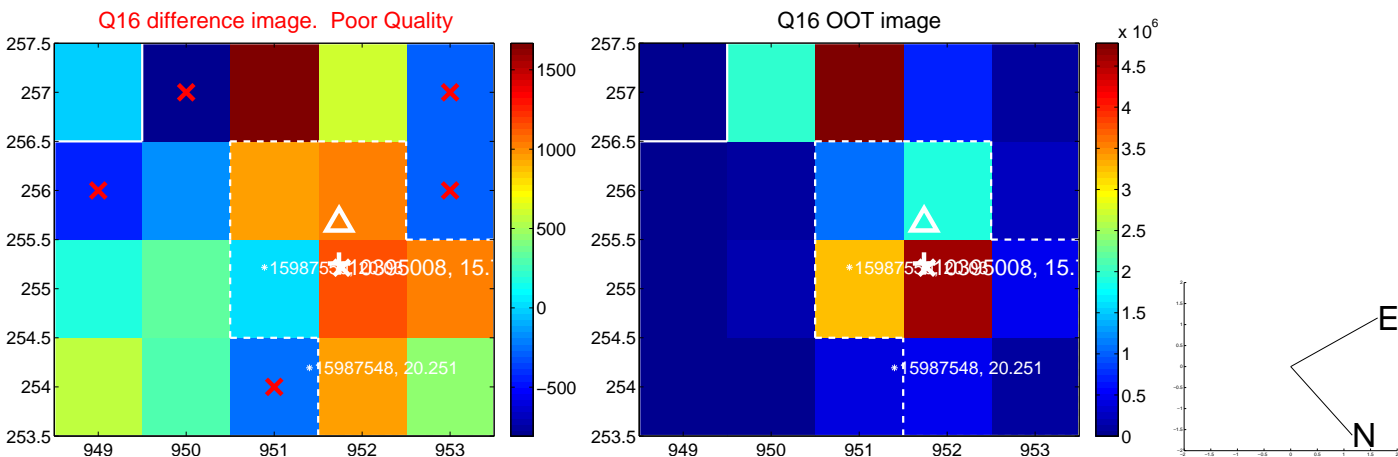
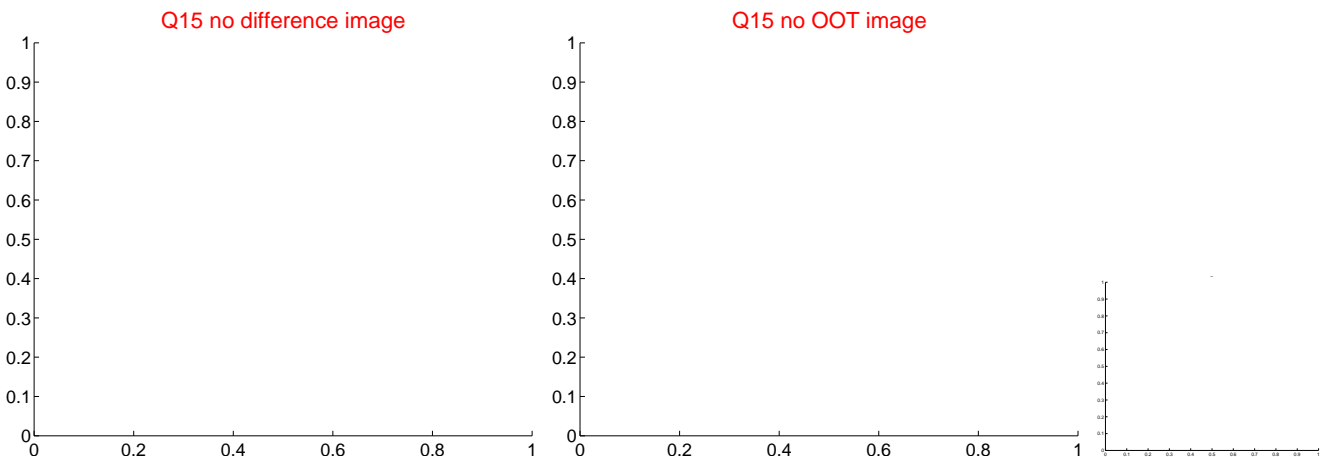
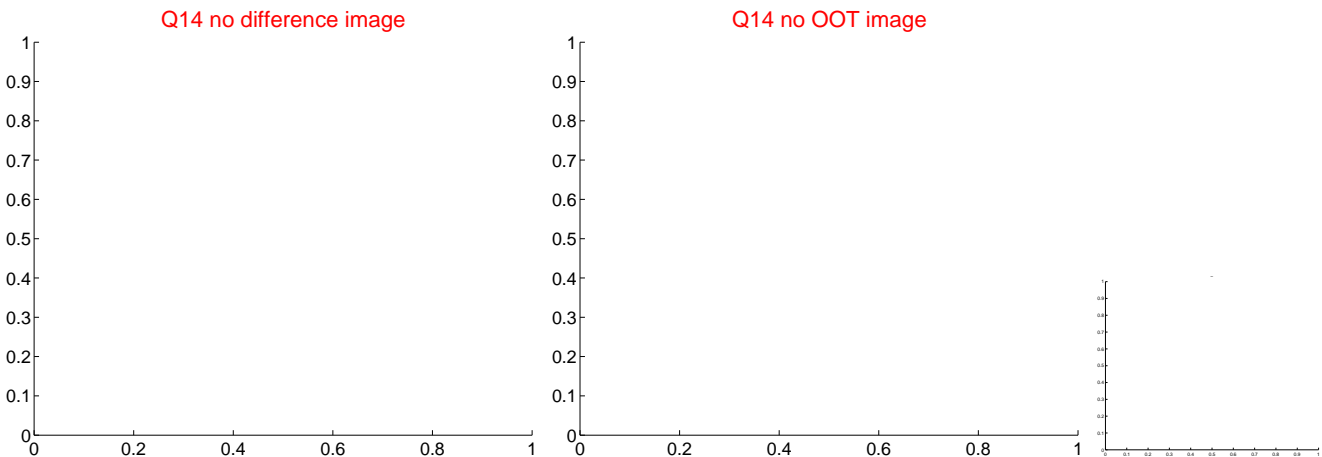
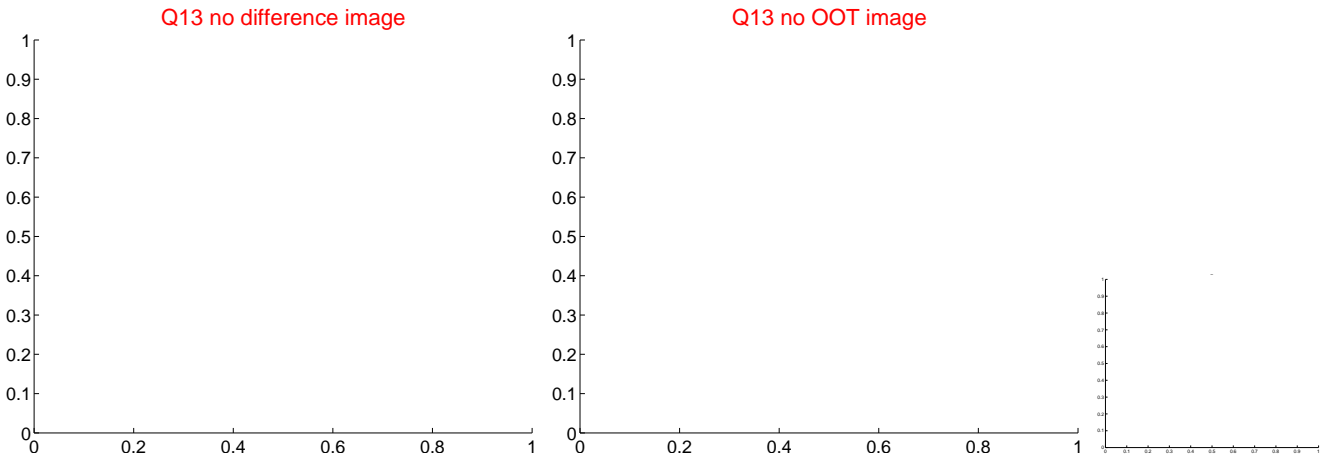
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



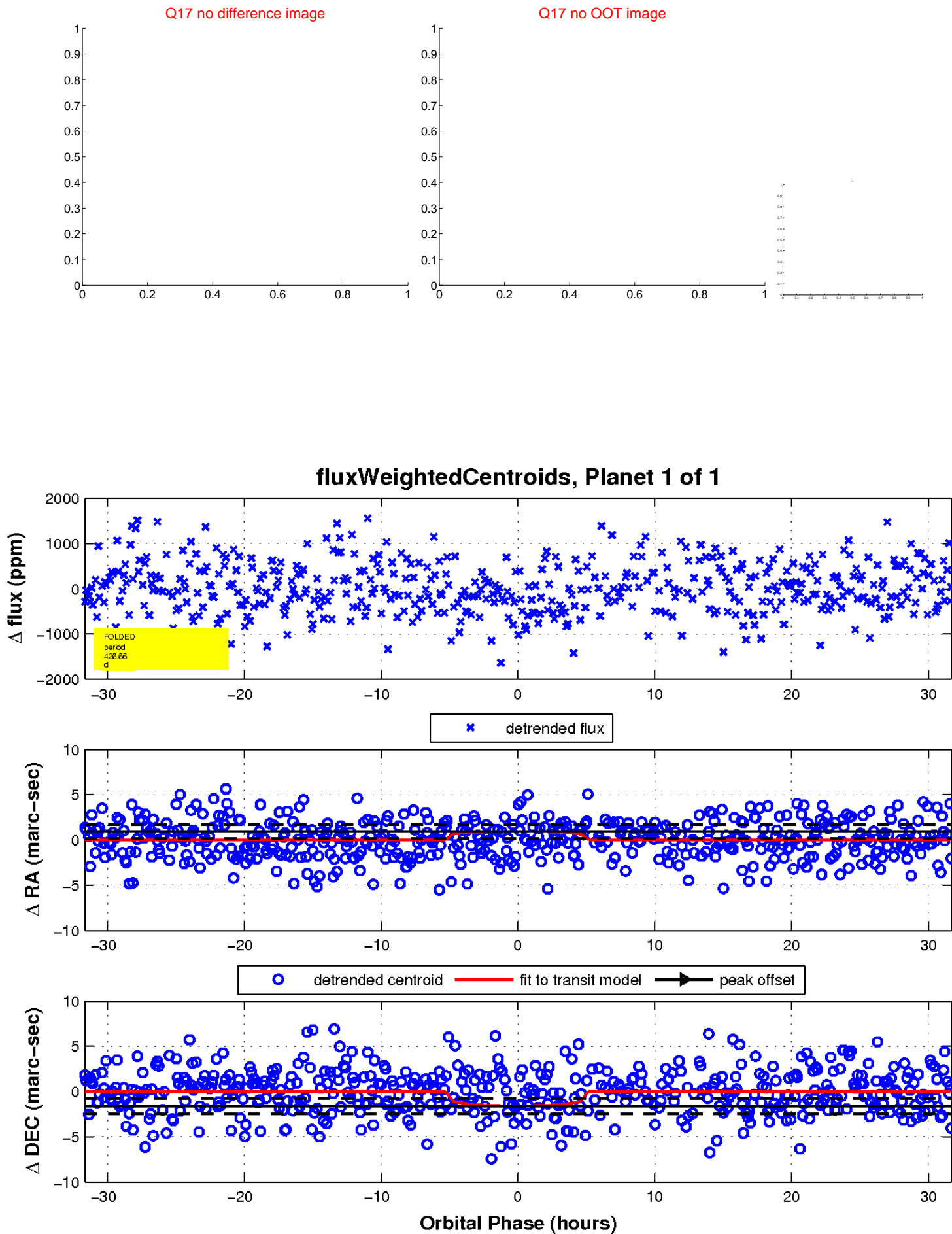
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

