

KIC 007429392

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007429392-01 | OBS | No | 431.784868 | 484.570427 | 826.7 | 5.639 | 7.2 | 6.9 | 1.02 | 6224 | 4.63 | 1.07 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 007429392-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_ALT—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.

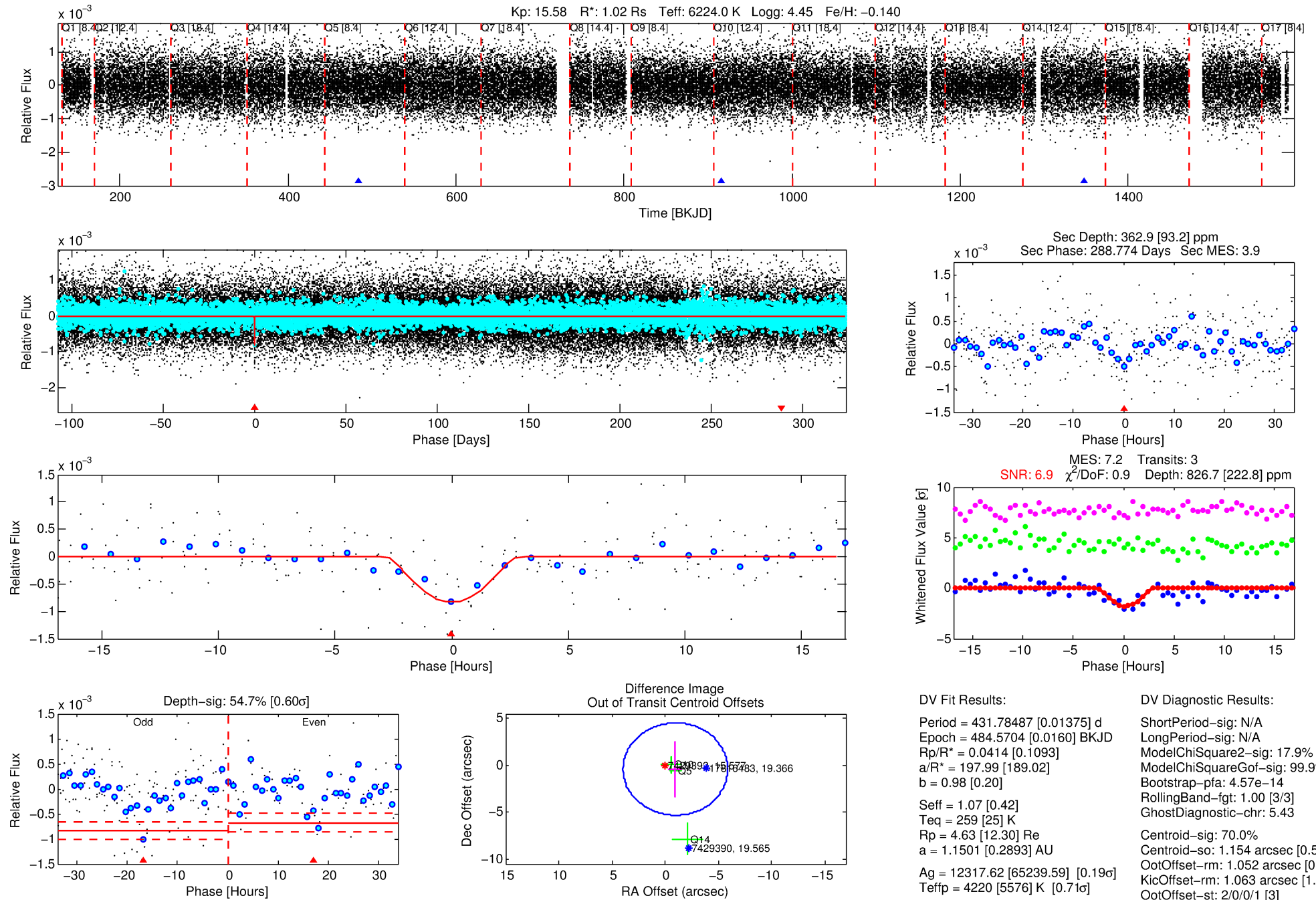
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007429392-01

No Significant Match Found

DV One-Page Summary

KIC: 7429392 Candidate: 1 of 1 Period: 431.785 d



DV Fit Results:

Period = 431.78487 [0.01375] d
 Epoch = 484.5704 [0.0160] BKJD
 Rp/R* = 0.0414 [0.1093]
 a/R* = 197.99 [189.02]
 b = 0.98 [0.20]
 Seff = 1.07 [0.42]
 Teq = 259 [25] K
 Rp = 4.63 [12.30] Re
 a = 1.1501 [0.2893] AU
 Ag = 12317.62 [65239.59] [0.19σ]
 Tefp = 4220 [5576] K [0.71σ]

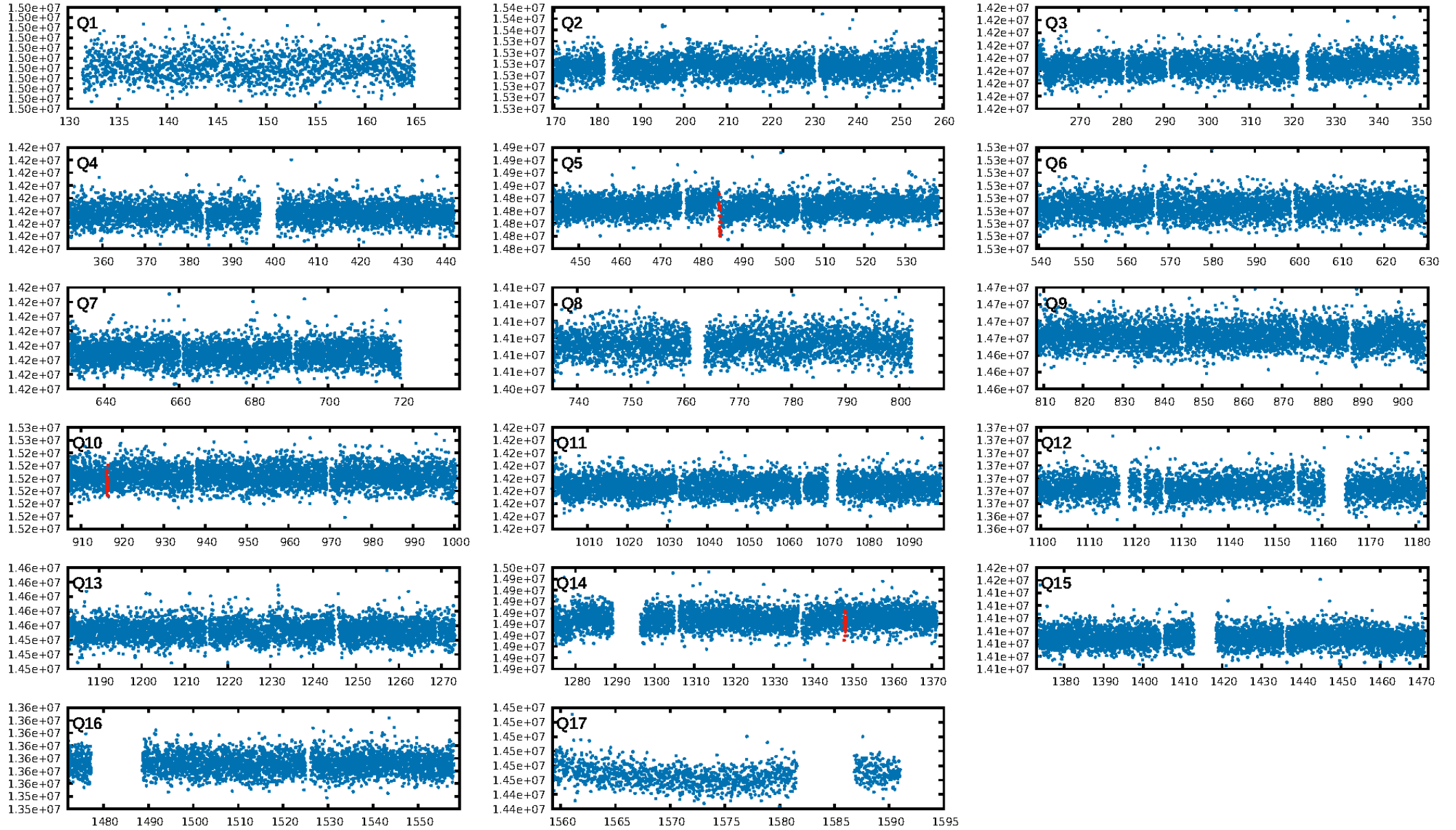
DV Diagnostic Results:

ShortPeriod-sig: N/A
 LongPeriod-sig: N/A
 ModelChiSquare2-sig: 17.9%
 ModelChiSquareGof-sig: 99.9%
 Bootstrap-pfa: 4.57e-14
 RollingBand-fgt: 1.00 [3/3]
 GhostDiagnostic-chr: 5.43
 Centroid-sig: 70.0%
 Centroid-so: 1.154 arcsec [0.54σ]
 OotOffset-rm: 1.052 arcsec [0.64σ]
 KicOffset-rm: 1.063 arcsec [1.15σ]
 OotOffset-st: 2/0/0/1 [3]
 KicOffset-st: 2/0/0/1 [3]
 DiffImageQuality-fgm: 0.33 [1/3]
 DiffImageOverlap-fno: 1.00 [3/3]

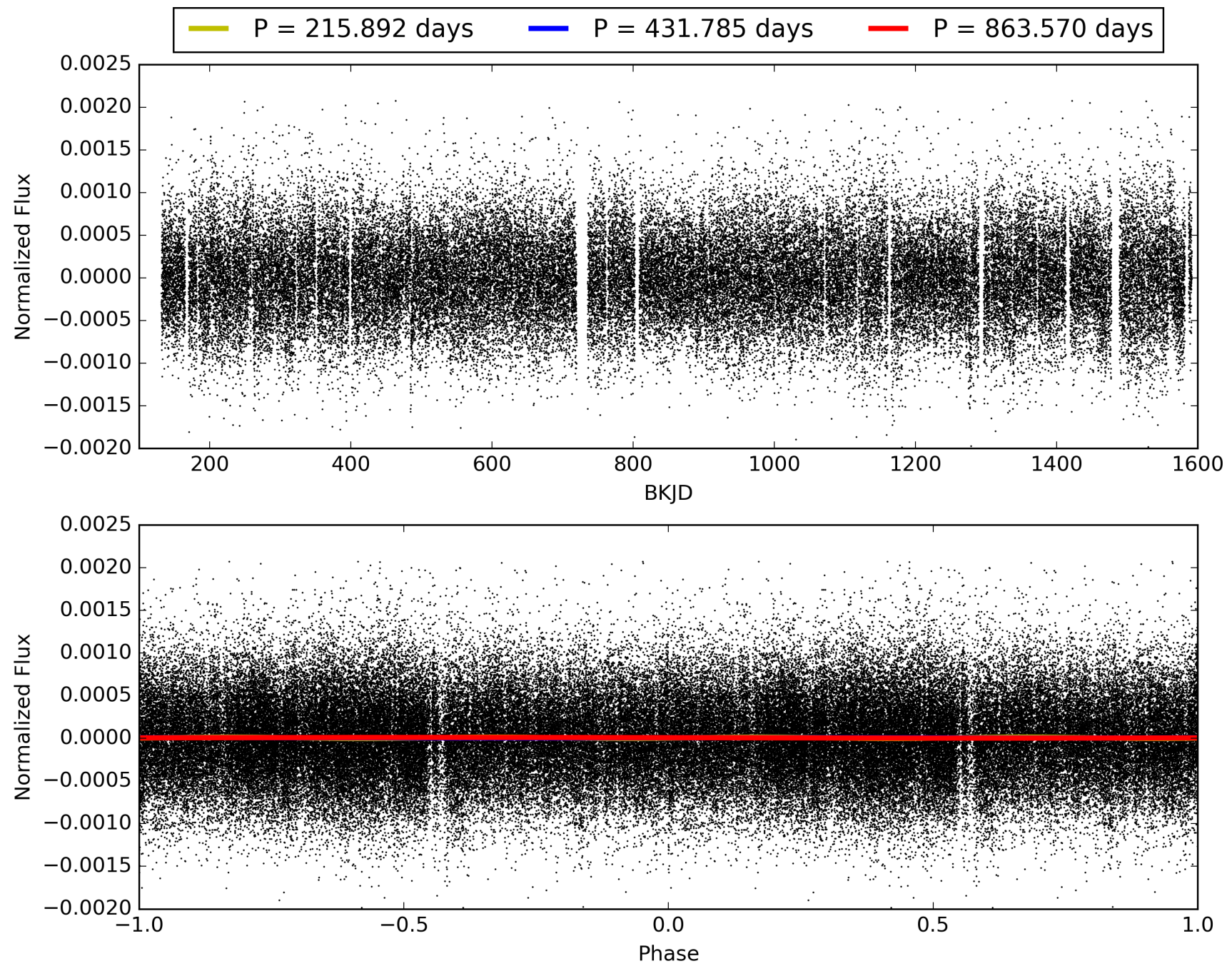
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:36:31 Z

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

TCE 007429392-01, PDC Light Curves

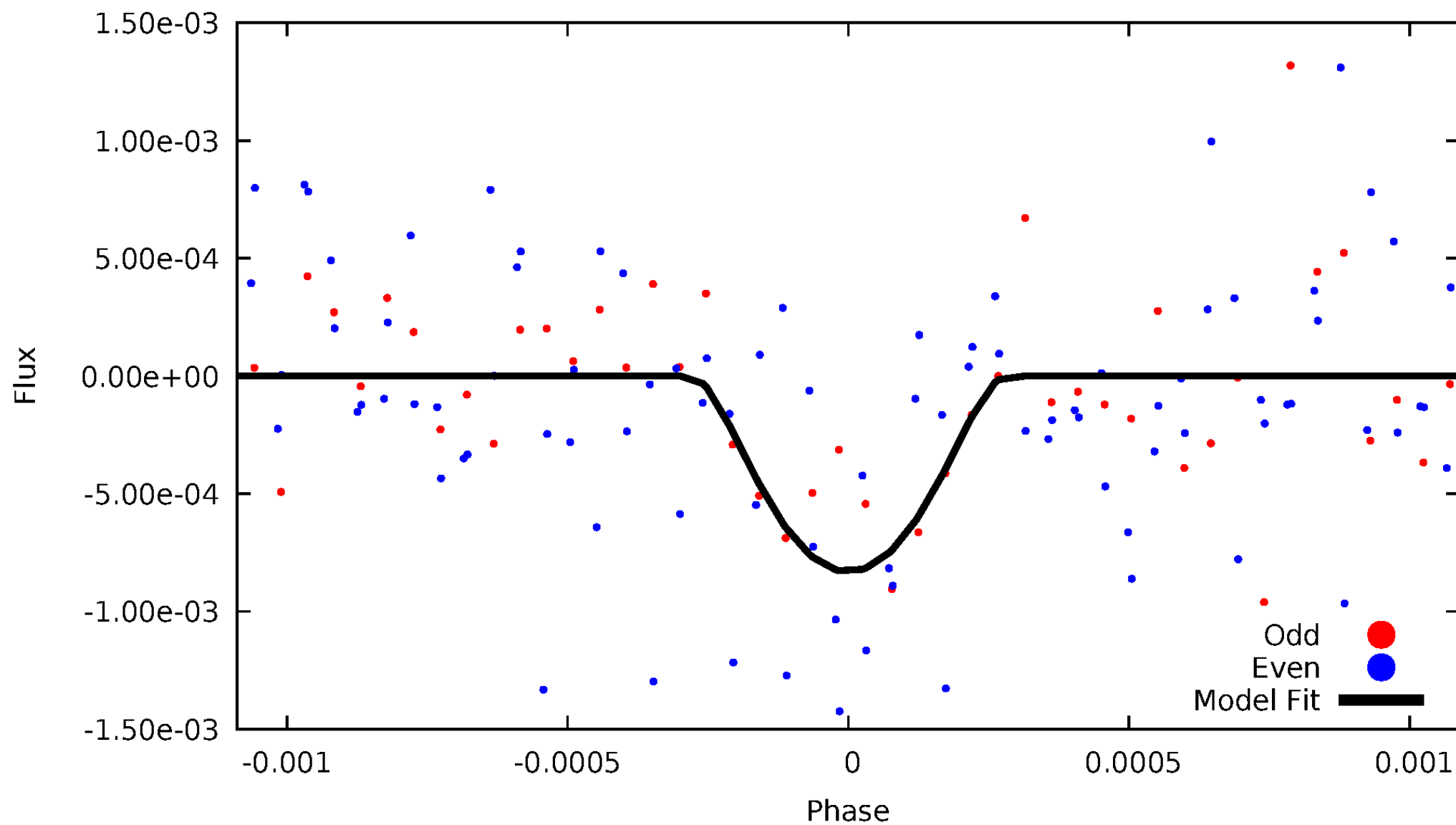


TCE 007429392-01



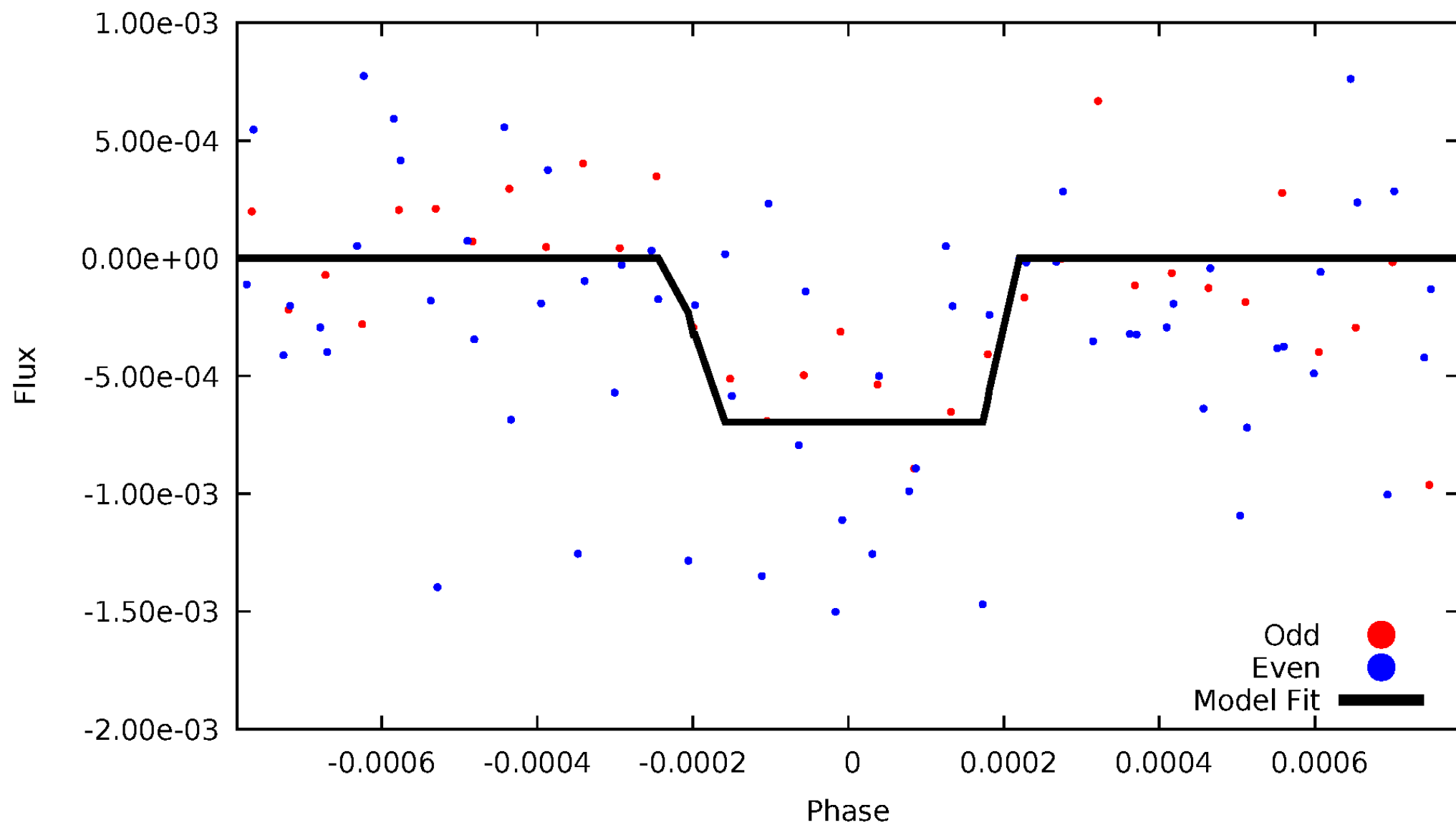
DV Odd/Even

TCE 007429392-01



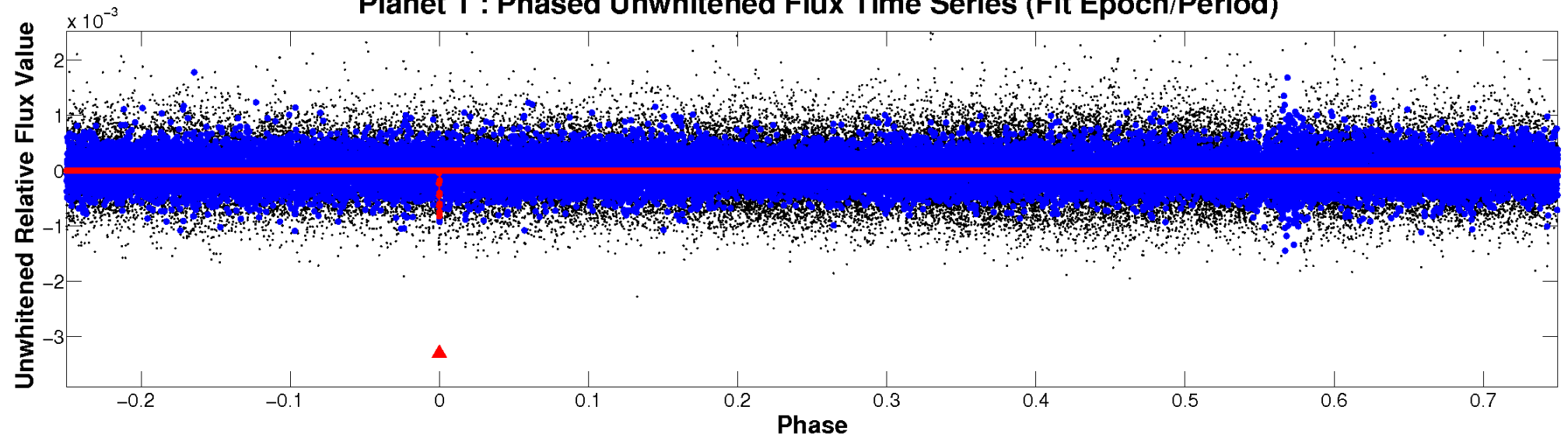
ALT Odd/Even

TCE 007429392-01

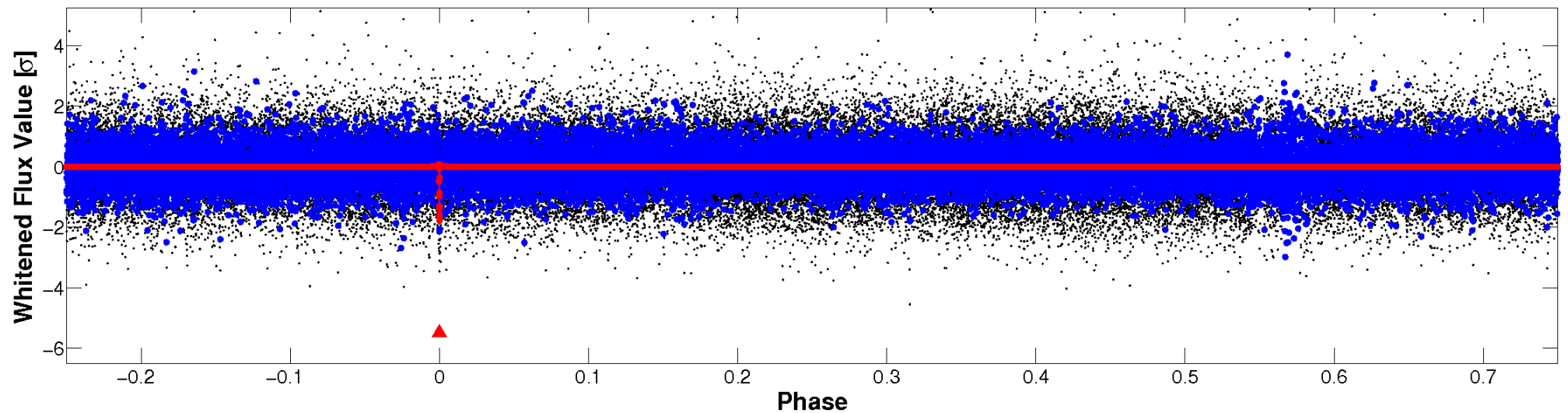


Non-Whitened Vs. Whitened Light Curve

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

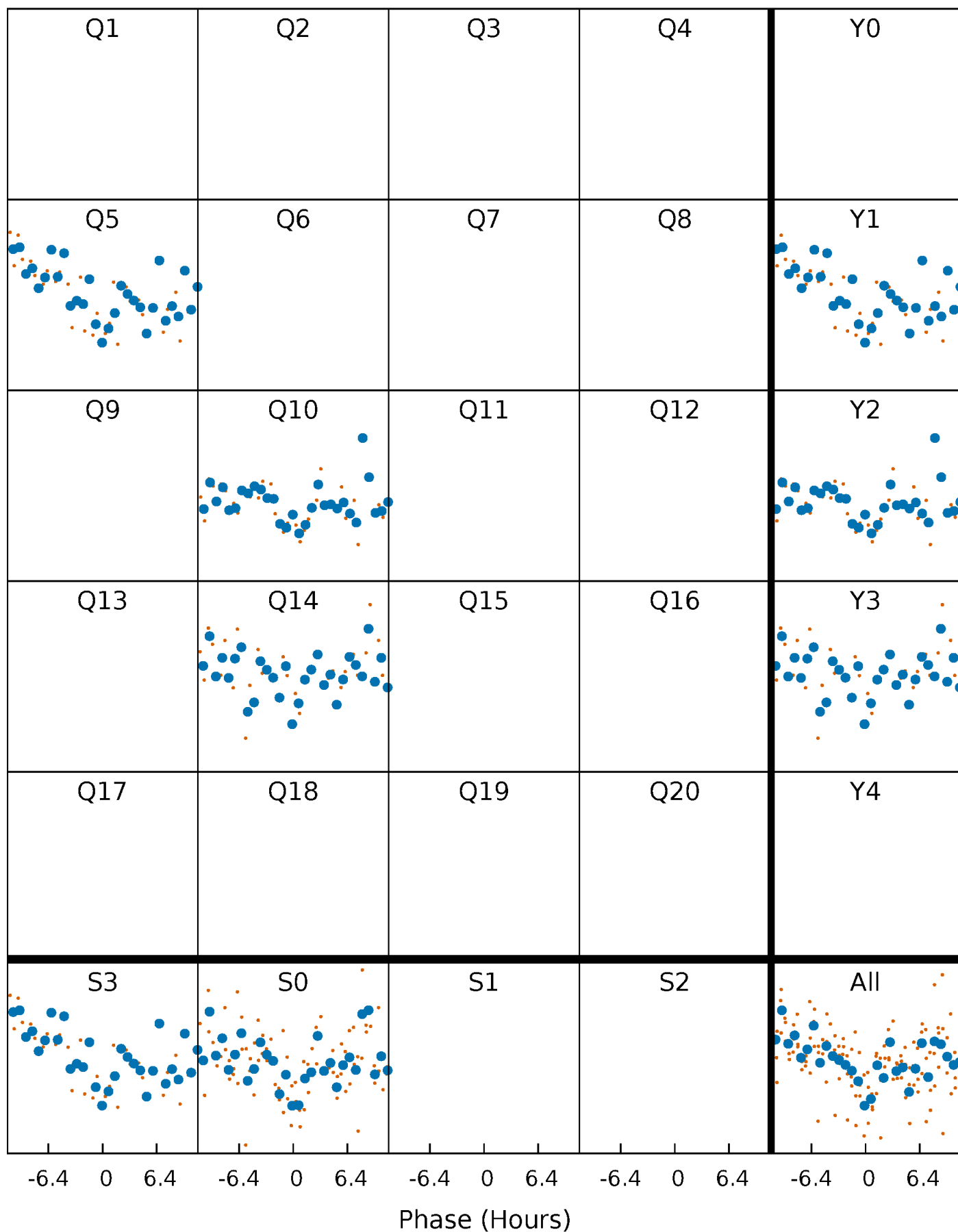


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



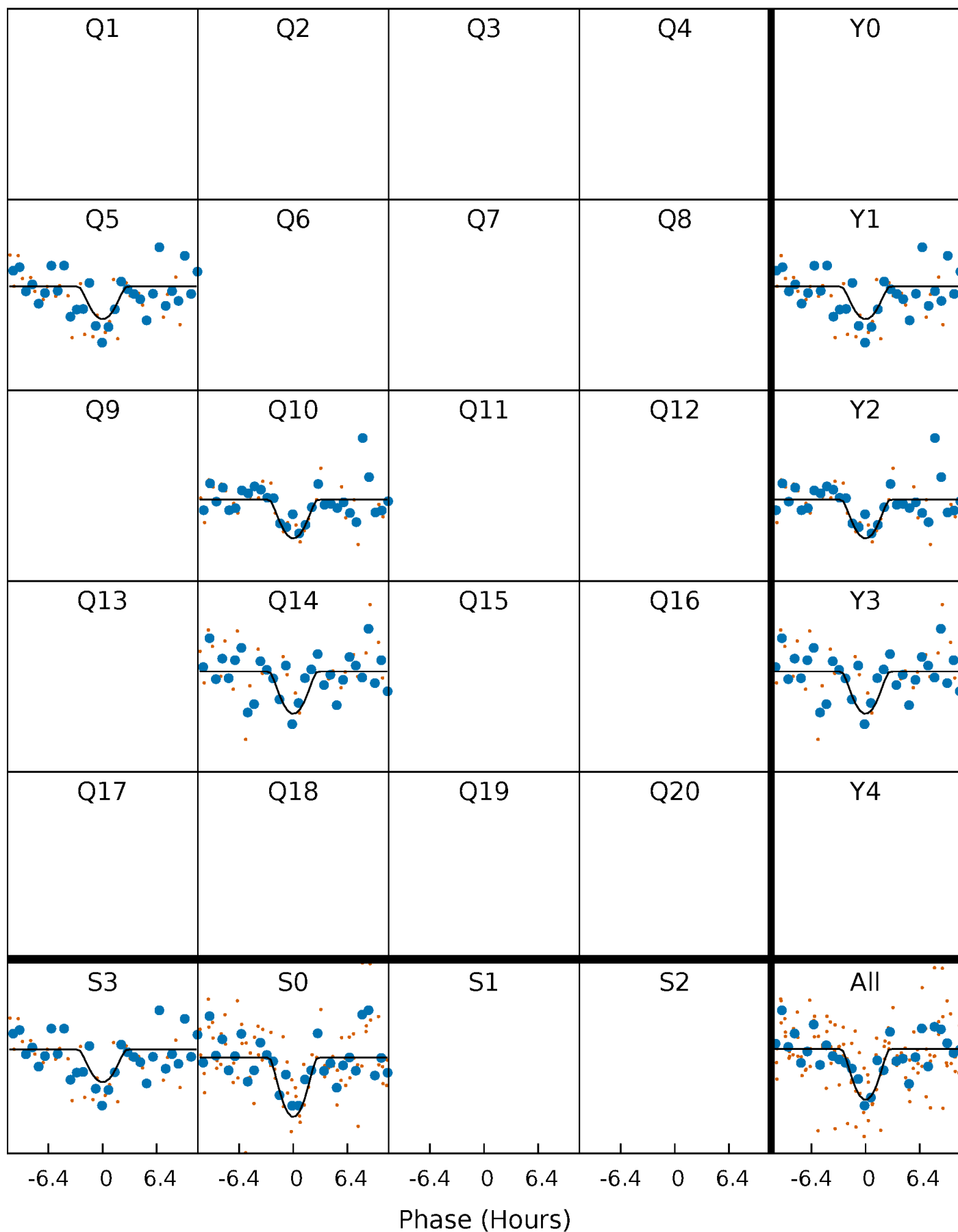
PDC Quarter-Phased Transit Curves

TCE 007429392-01 P=431.784868 Days $T_0=484.570427$ (BKJD)



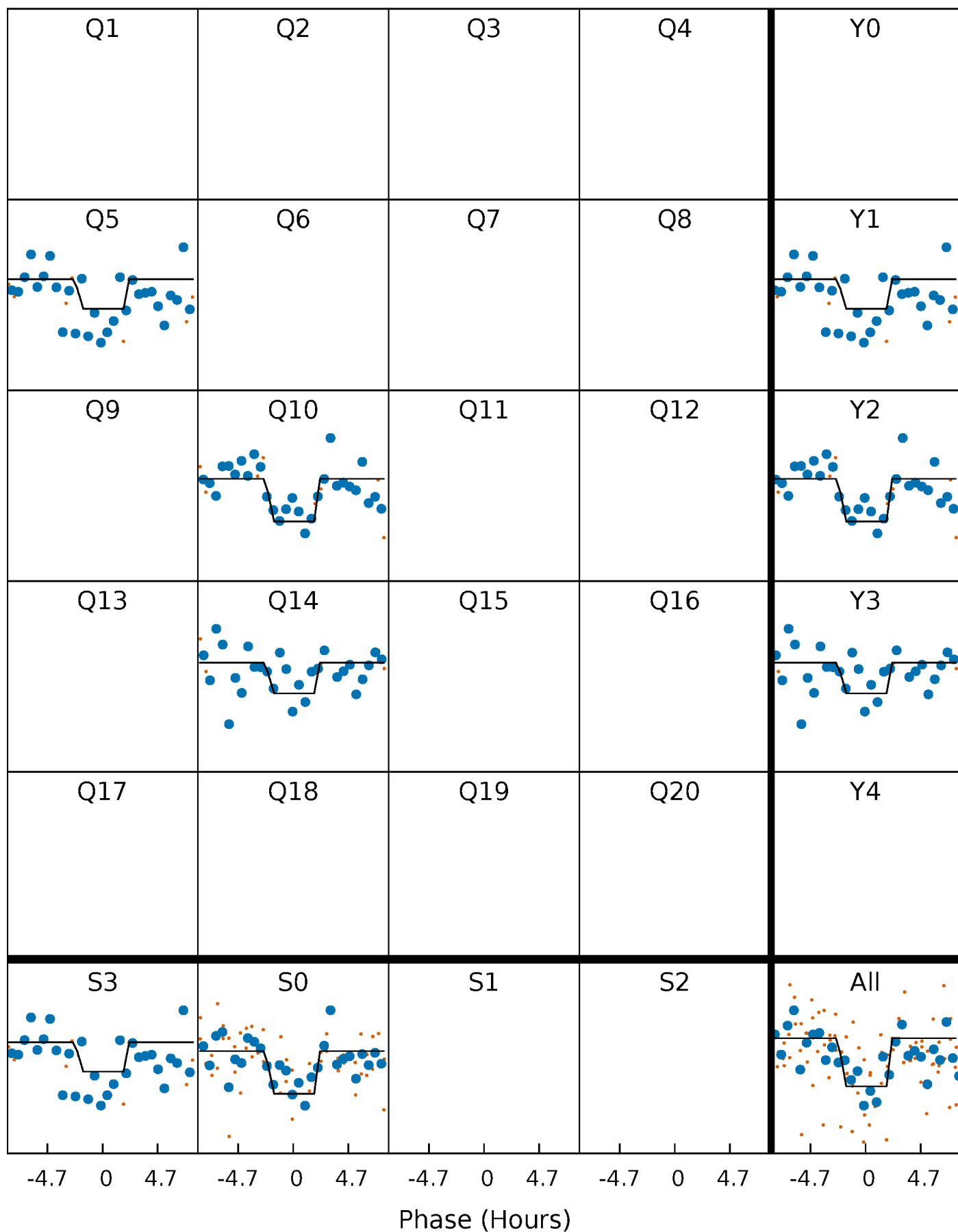
DV Quarter-Phased Transit Curves

TCE 007429392-01 P=431.784868 Days $T_0=484.570427$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

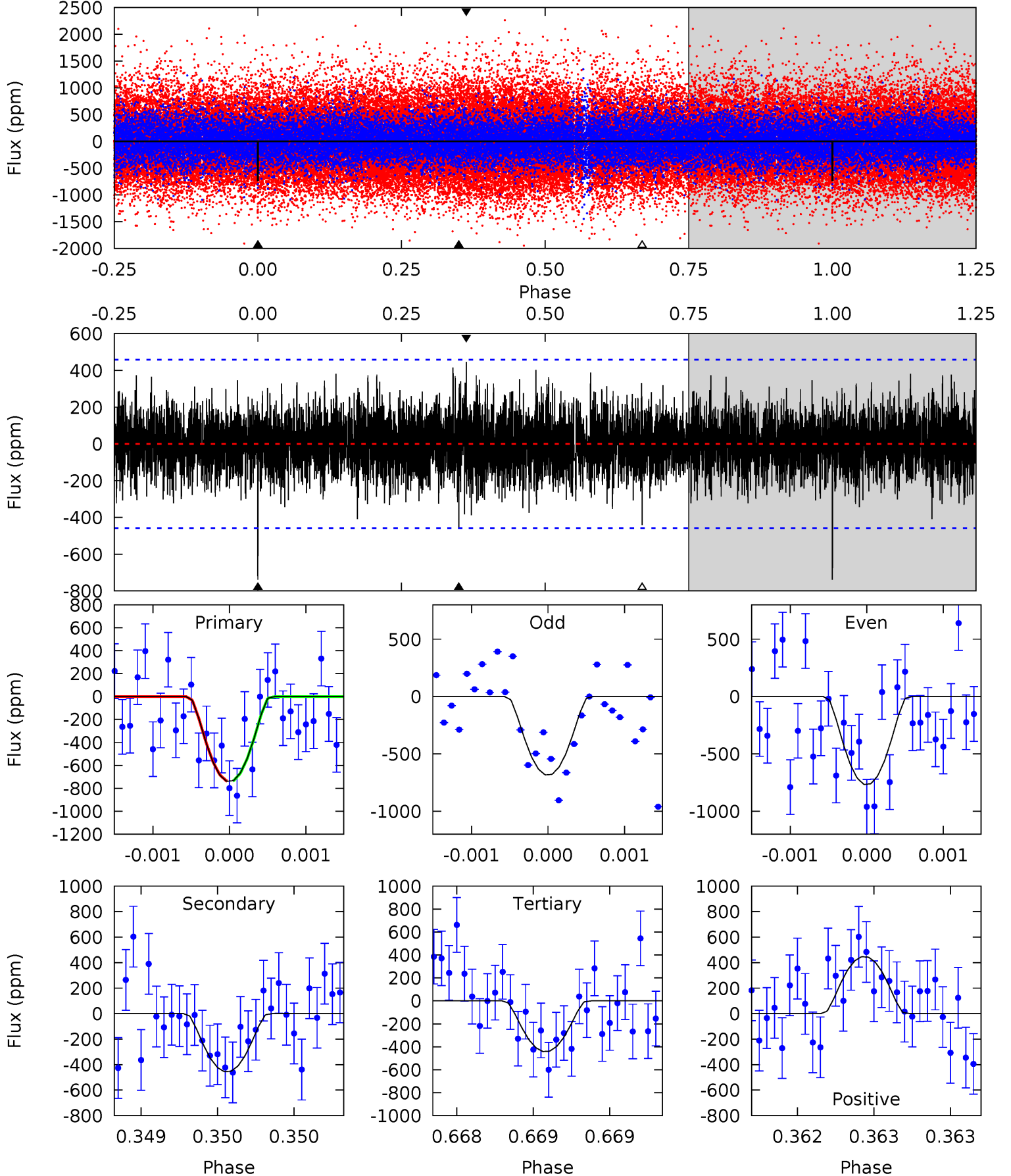
TCE 007429392-01 P=431.781556 Days $T_0=484.570819$ (BKJD)



DV Model-Shift Uniqueness Test

007429392-01, $P = 431.784868$ Days, $E = 52.785559$ Days

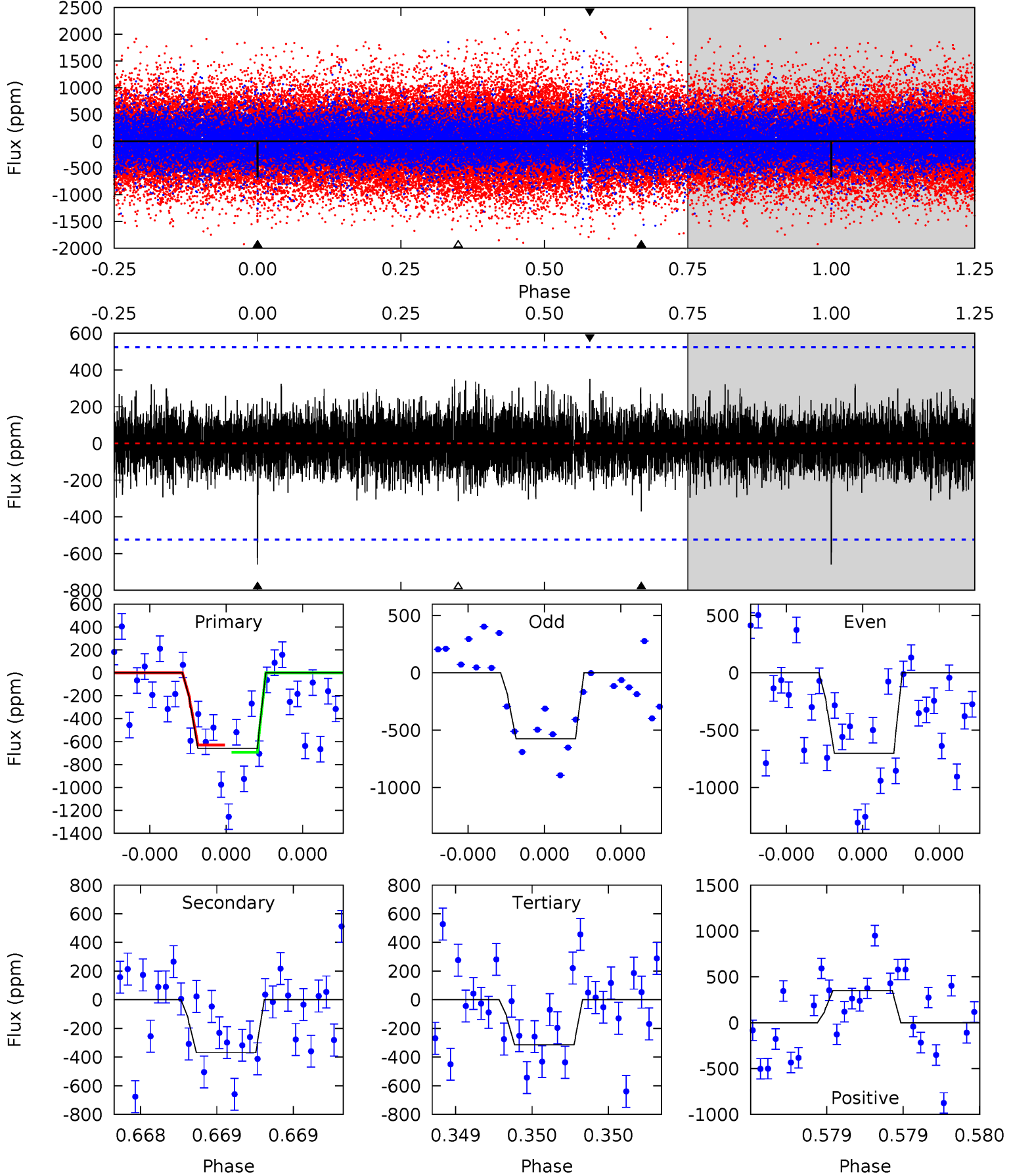
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 8.96 | 5.52 | 5.35 | 5.42 | 5.56 | 3.47 | 1.38 | 3.61 | 3.55 | 0.17 | 0.11 | 0.48 | 1.08 | 0.38 | 0.01 |



Alt Model-Shift Uniqueness Test

007429392-01, P = 431.781556 Days, E = 52.789263 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 7.05 | 3.94 | 3.36 | 3.74 | 5.60 | 3.52 | 0.98 | 3.69 | 3.31 | 0.58 | 0.20 | 0.65 | 1.14 | 0.35 | 0.33 |



Stellar Parameters For KIC 007429392

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6224^{+175}_{-218} | $4.454^{+0.062}_{-0.200}$ | $-0.140^{+0.250}_{-0.350}$ | $1.024^{+0.306}_{-0.122}$ | $1.084^{+0.144}_{-0.144}$ | $1.423^{+0.460}_{-0.712}$ |
| | +3%/-4% | +1%/-4% | +179%/-250% | +30%/-12% | +13%/-13% | +32%/-50% |
| 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 007429392-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|--------------------------|-------------------|-----------------------|-------------------------|
| DV | -455 ± 82 | $10.58^{+10.51}_{-7.11}$ | 369^{+24}_{-19} | 3491^{+1788}_{-641} | 2791^{+24775}_{-2087} |
| Alt. | -369 ± 94 | $9.95^{+9.73}_{-6.85}$ | 370^{+27}_{-19} | 3482^{+1815}_{-652} | 2604^{+24196}_{-1964} |

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

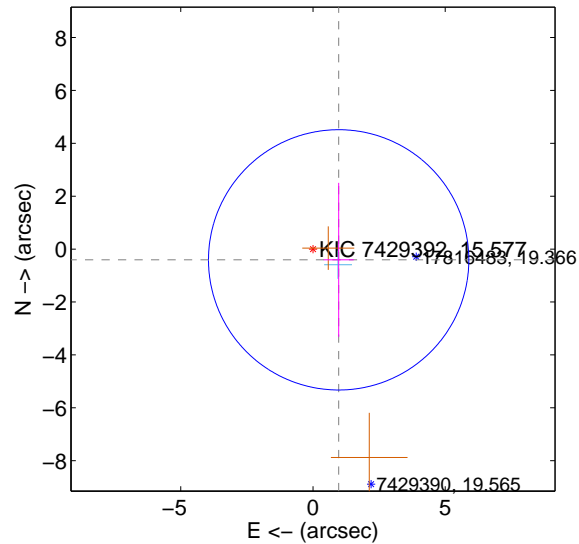
Supplemental centroid analysis for 007429392-01. Kepler magnitude: 15.58. Transit SNR 6.95

There are 1 quarters with good PRF difference image offsets

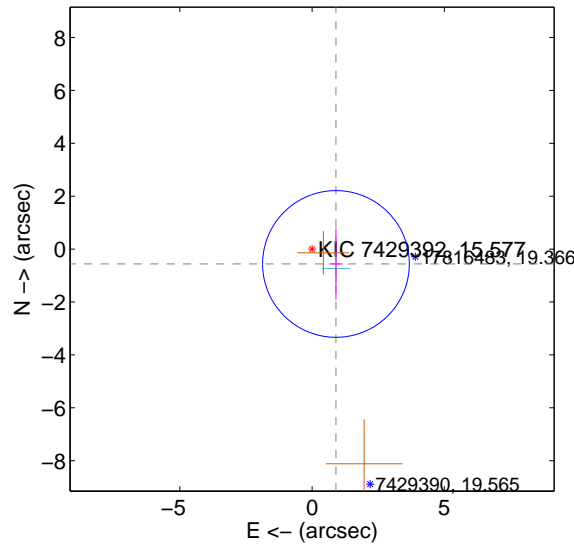
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 1.052 ± 1.640 | 0.64 | -0.971 ± 0.567 | -0.406 ± 2.910 |
| PRF-fit source offset from KIC position | 1.063 ± 0.924 | 1.15 | -0.903 ± 0.269 | -0.561 ± 1.355 |
| photometric centroid source offset | 1.15 ± 2.16 | 0.54 | -1.14 ± 2.15 | 0.17 ± 2.48 |

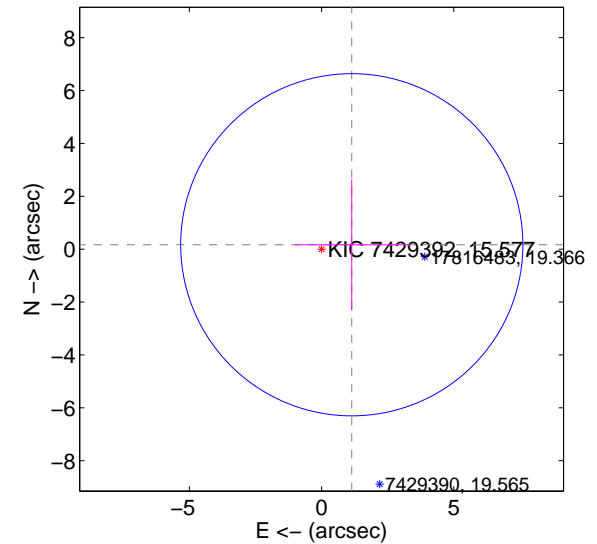
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

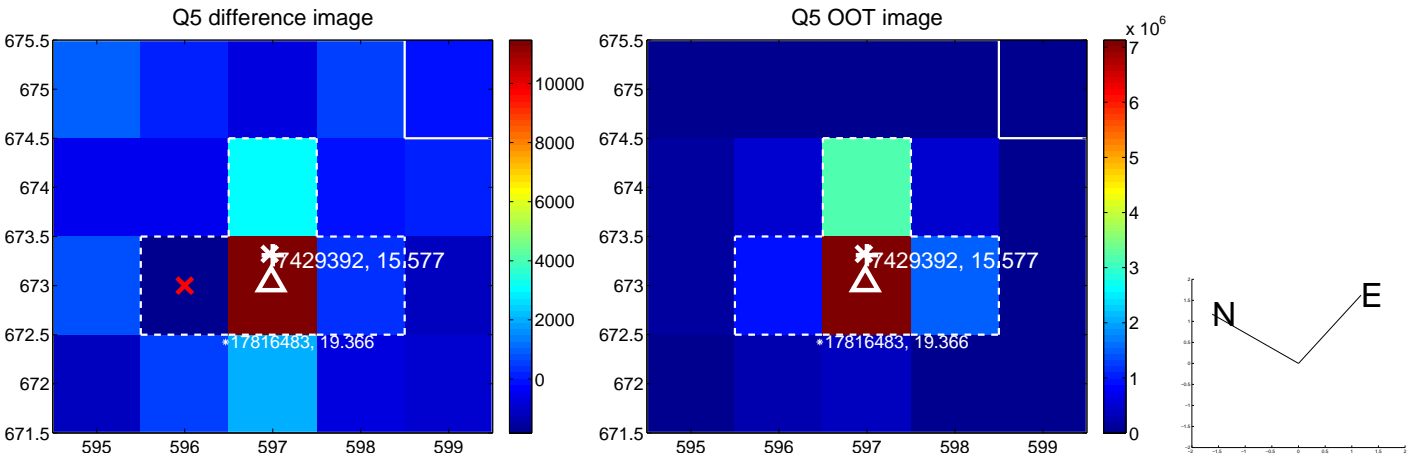


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

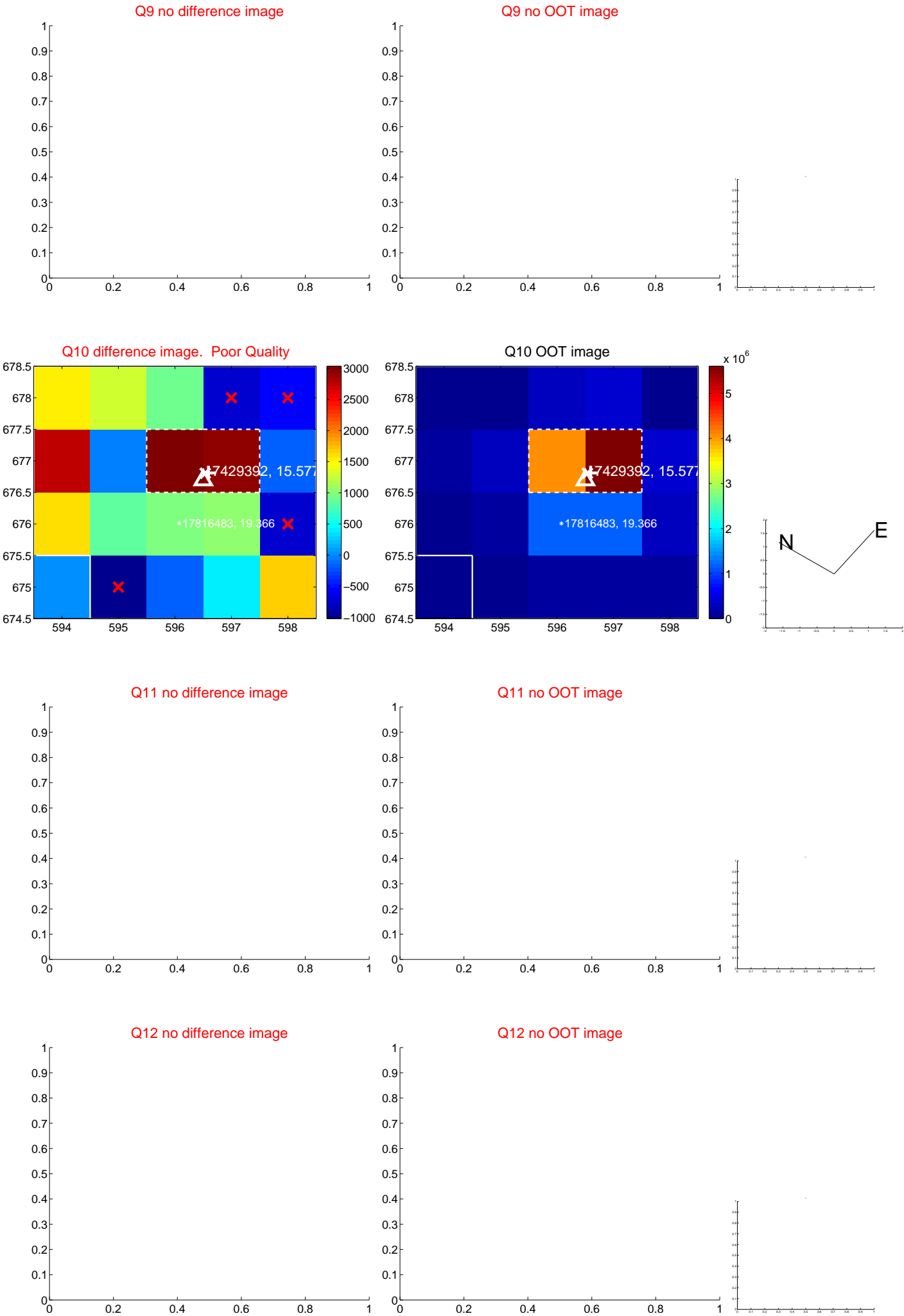
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



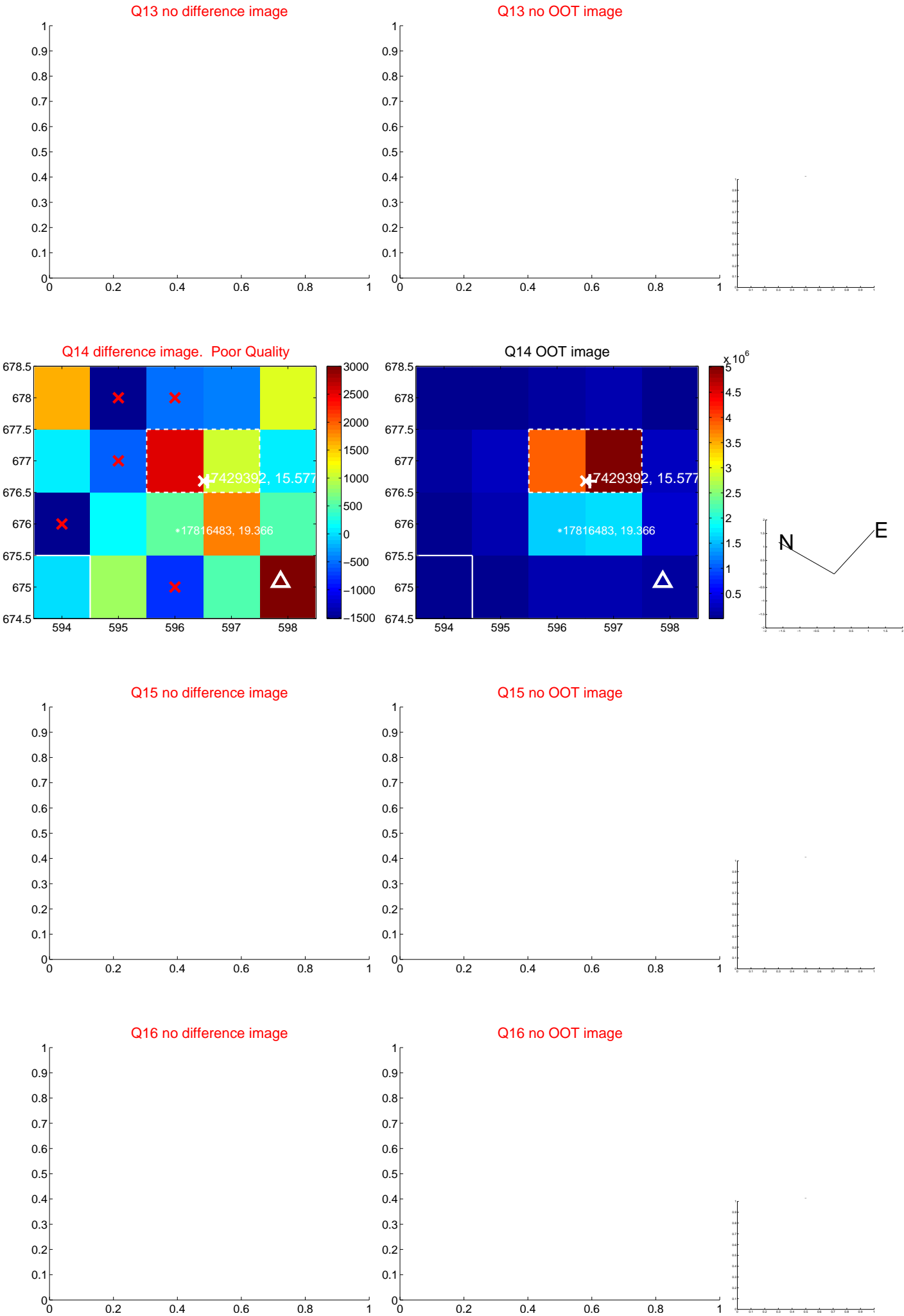
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



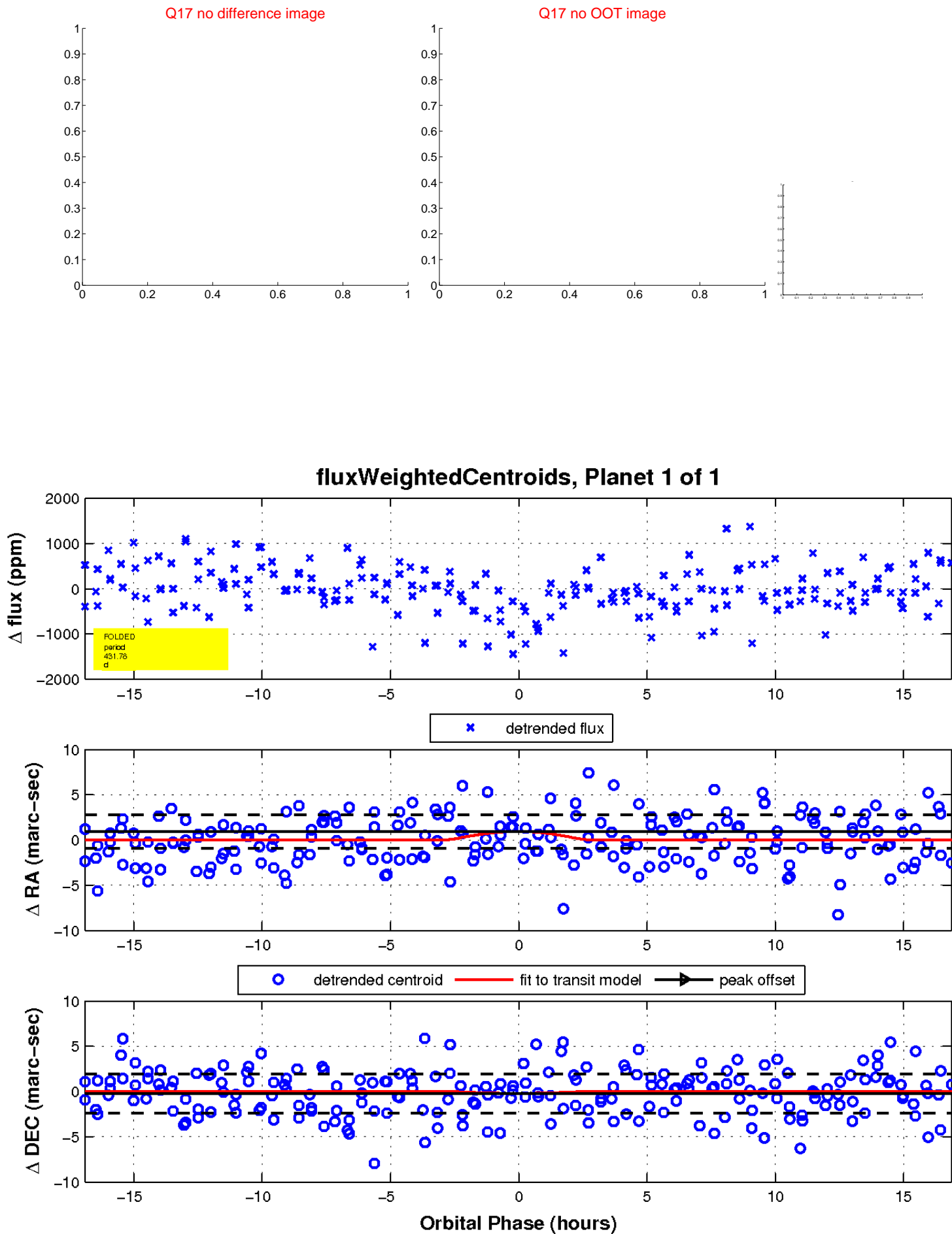
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

