

KIC 011714107

Q1-17 DR25 TCE Parameters

| TCE | Run Type | KOI? | Period (Days) | Epoch (BKJD) | Depth (ppm) | Duration (Hours) | MES | SNR | R _★ (R _☉) | T _★ (K) | R _p (R _⊕) | S _p (S _⊕) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-----|-----|----------------------------------|--------------------|----------------------------------|----------------------------------|
| 011714107-01 | OBS | 8063.01 | 405.359028 | 311.797081 | 536.1 | 11.008 | 8.3 | 8.1 | 0.91 | 5650 | 2.20 | 0.69 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|----------------|
| 011714107-01 | OBS | PC | 0.47 | 0 | 0 | 0 | 0 | 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.

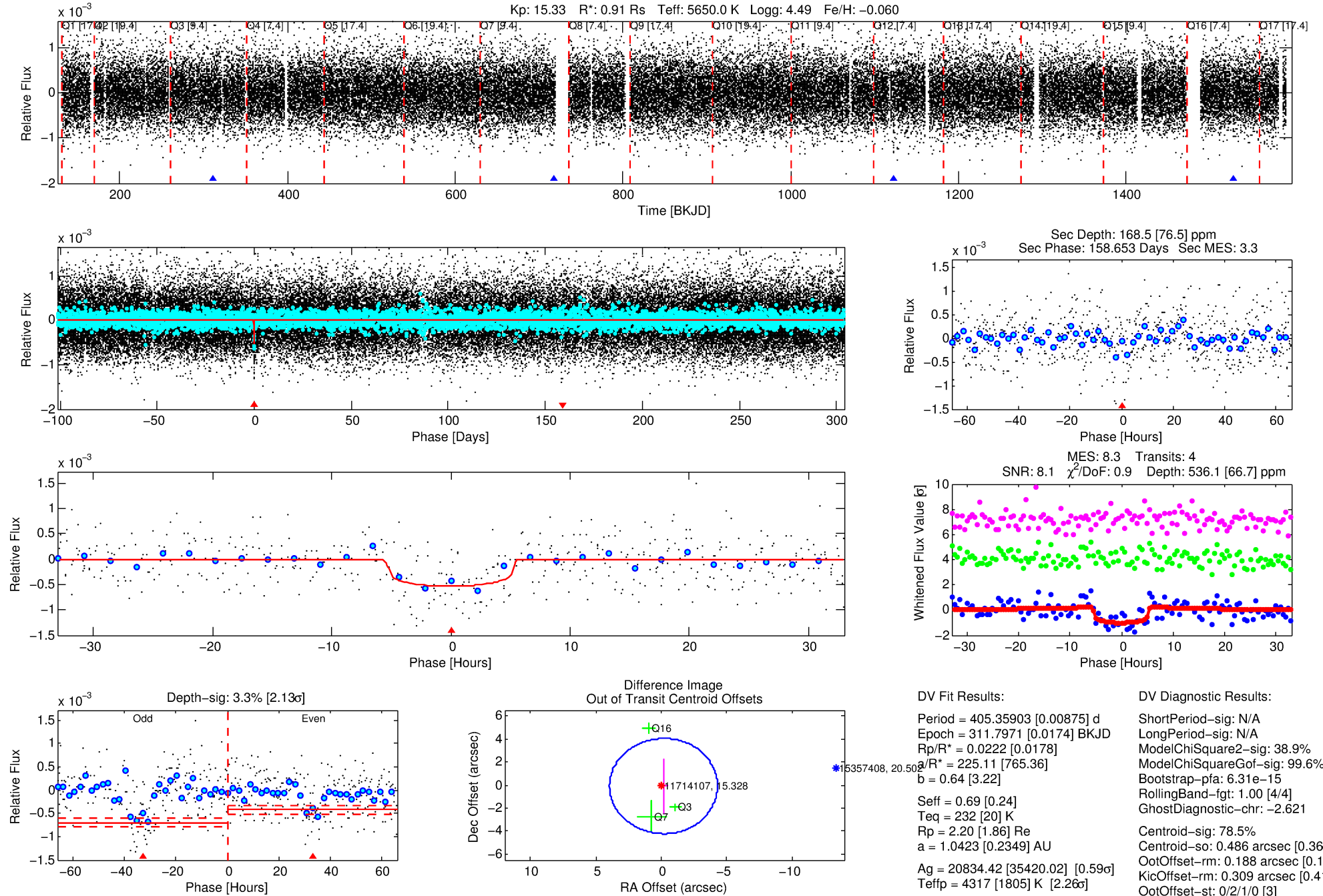
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011714107-01

No Significant Match Found

DV One-Page Summary

KIC: 11714107 Candidate: 1 of 1 Period: 405.359 d



DV Fit Results:

Period = 405.35903 [0.00875] d
Epoch = 311.7971 [0.0174] BKJD
Rp/R* = 0.0222 [0.0178]
a/R* = 225.11 [765.36]
b = 0.64 [3.22]
Seff = 0.69 [0.24]
Teq = 232 [20] K
Rp = 2.20 [1.86] Re
a = 1.0423 [0.2349] AU
Ag = 20834.42 [35420.02] [0.59 σ]
Teffp = 4317 [1805] K [2.26 σ]

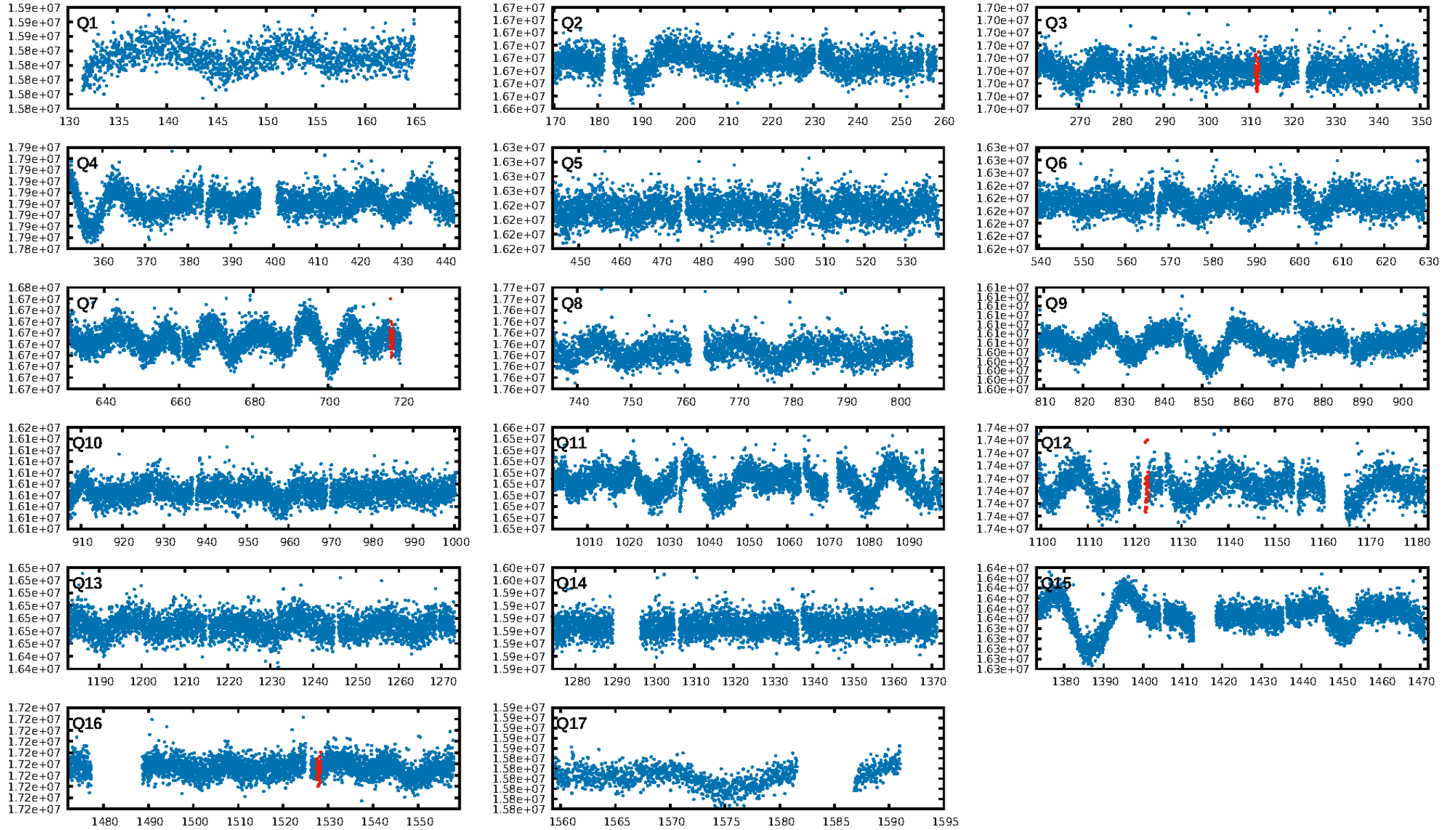
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 38.9%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 6.31e-15
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -2.621
Centroid-sig: 78.5%
Centroid-so: 0.486 arcsec [0.36 σ]
OotOffset-rm: 0.188 arcsec [0.14 σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-rm: 0.309 arcsec [0.41 σ]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

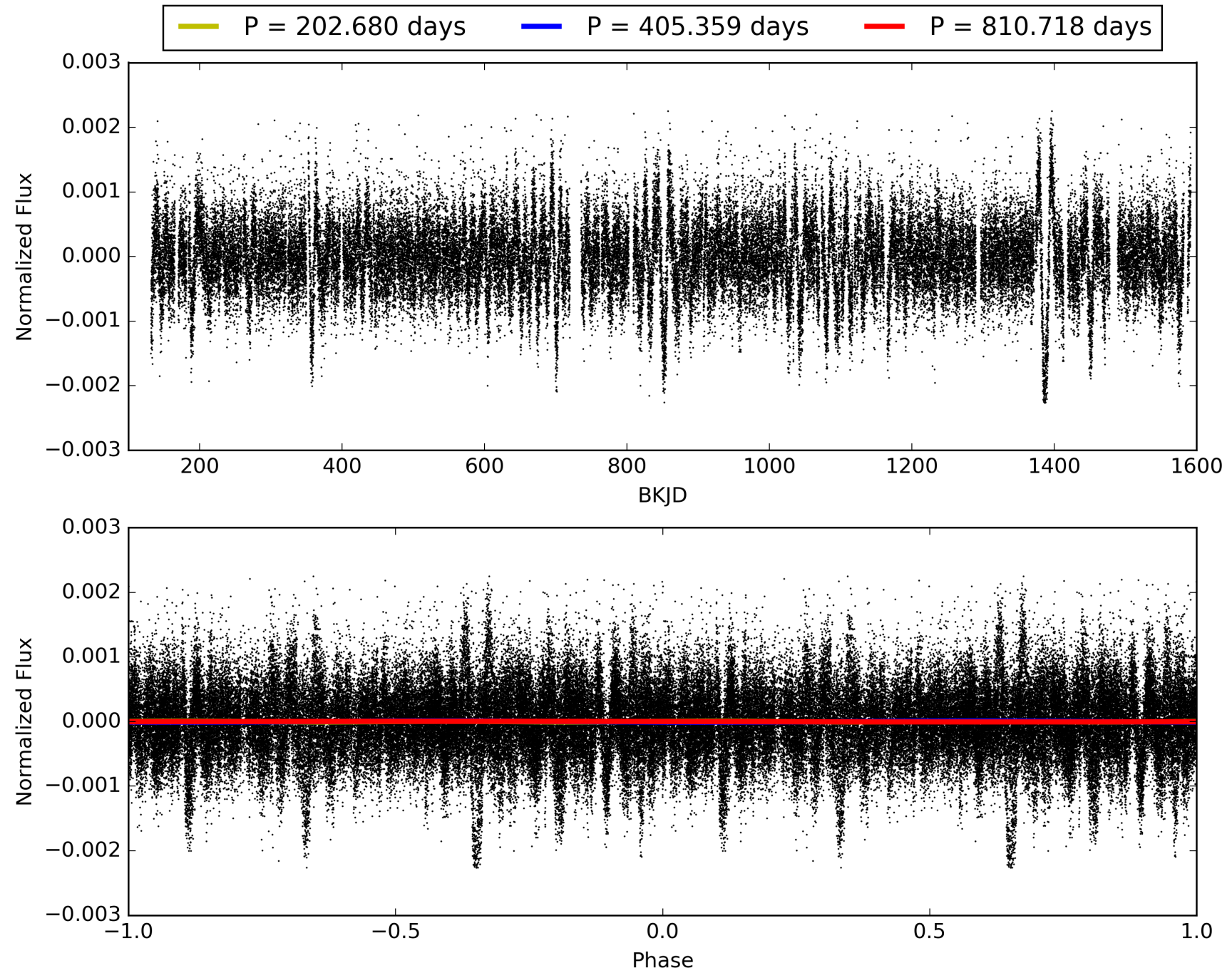
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:36:11 Z

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

TCE 011714107-01, PDC Light Curves

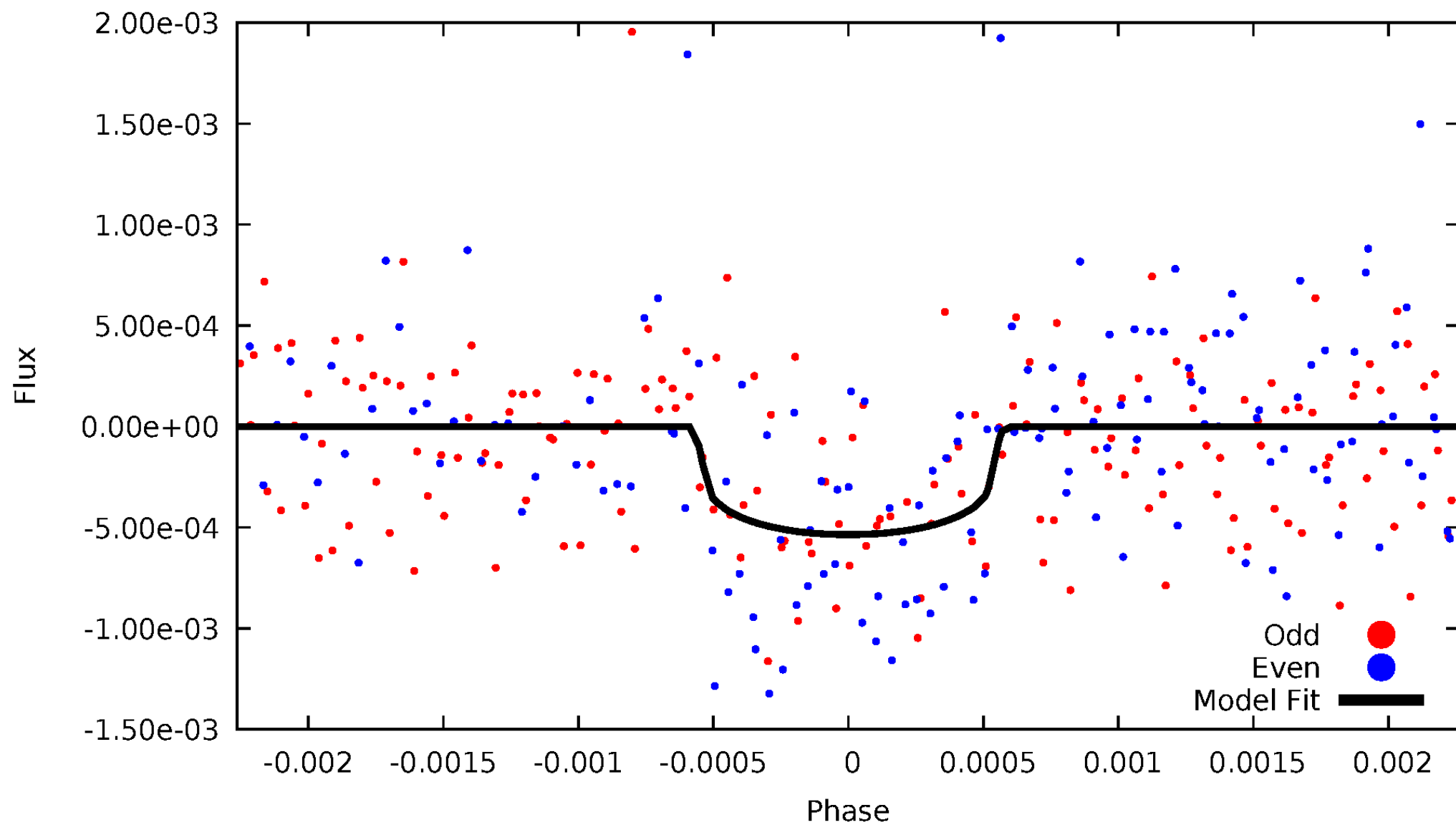


TCE 011714107-01



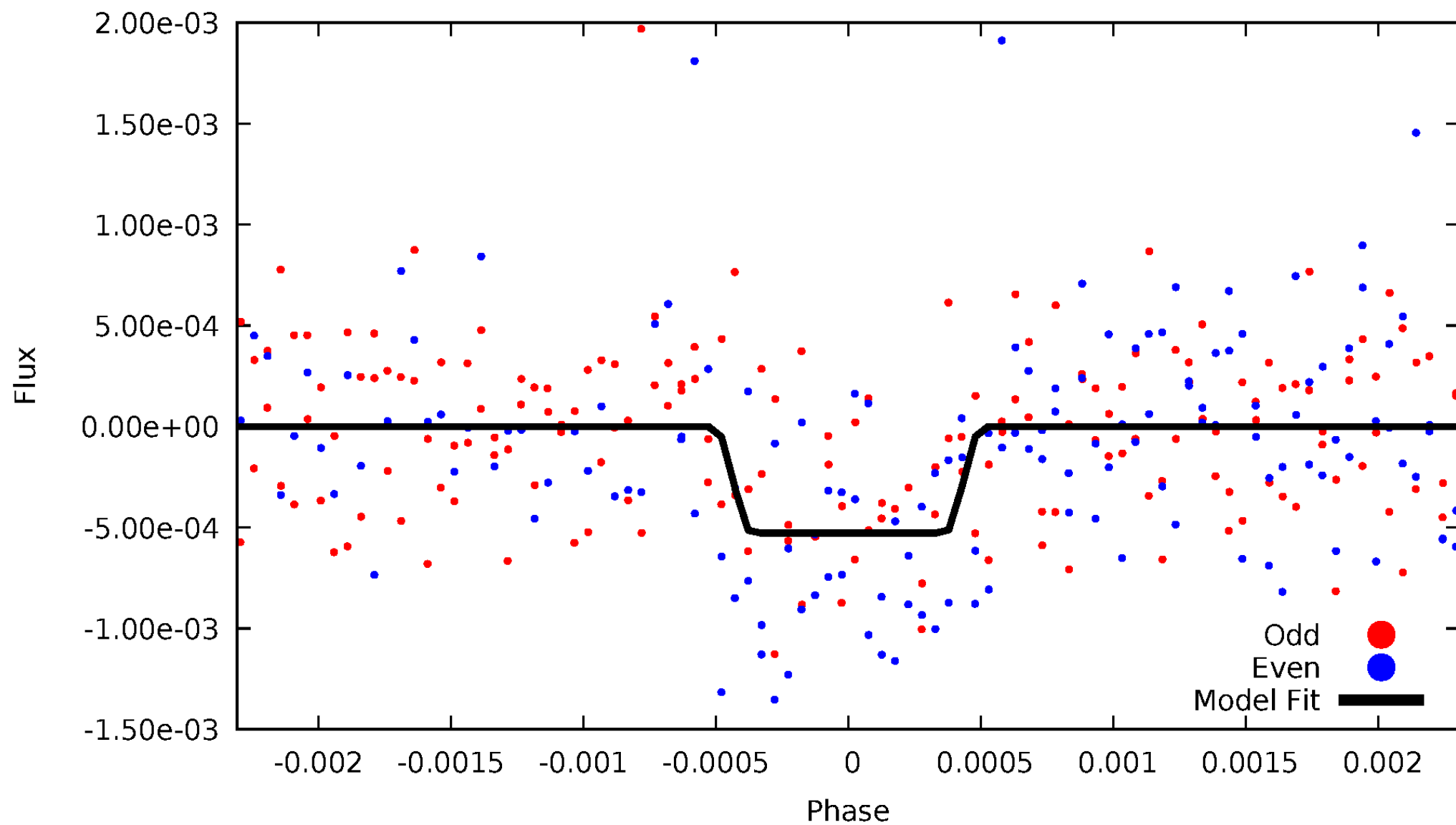
DV Odd/Even

TCE 011714107-01



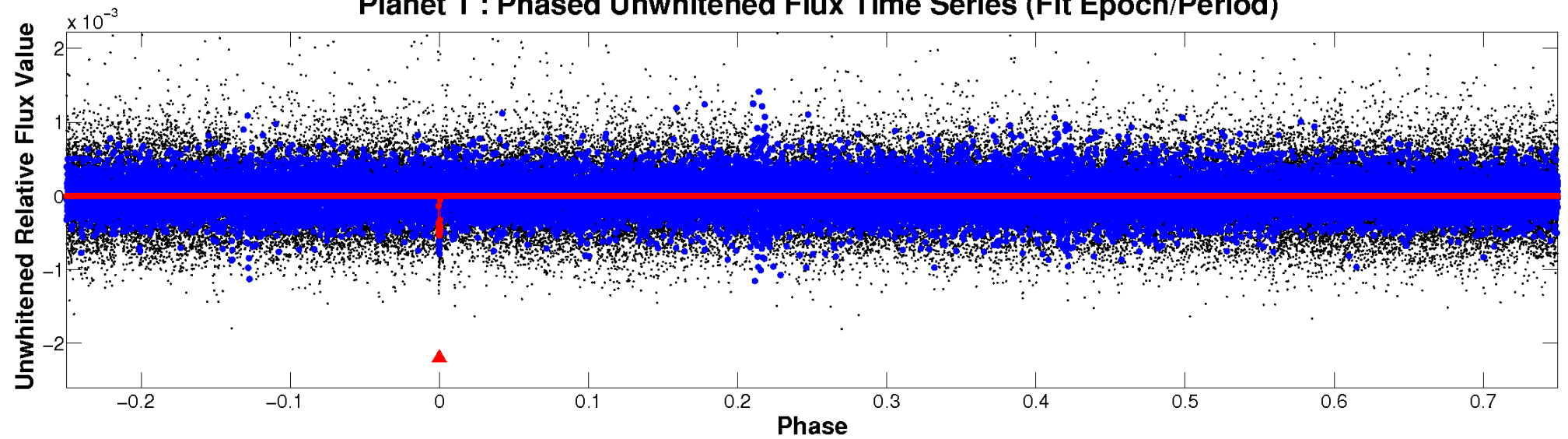
ALT Odd/Even

TCE 011714107-01

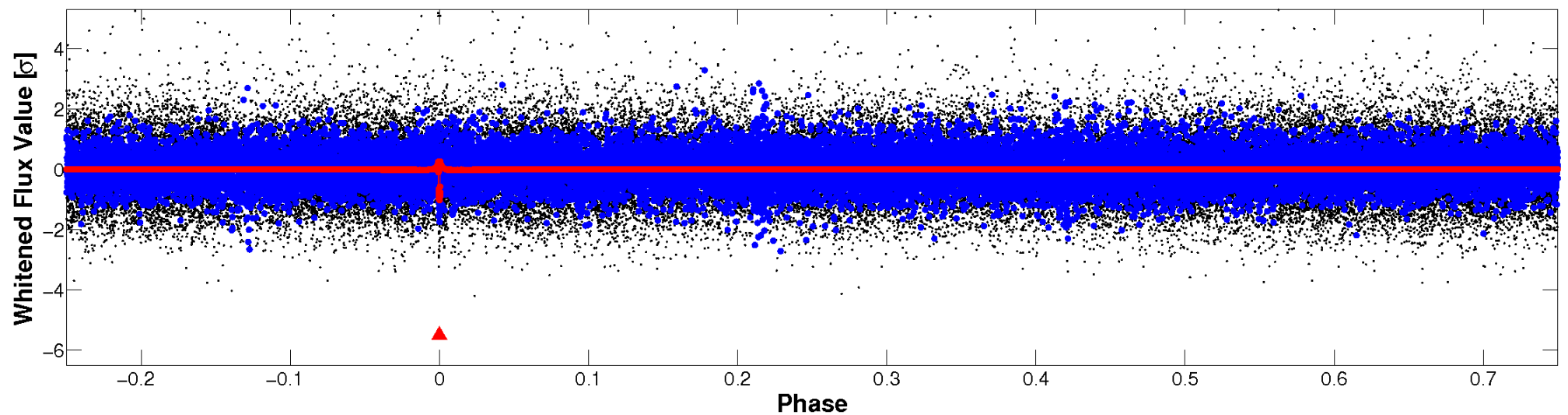


Non-Whitened Vs. Whitened Light Curve

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

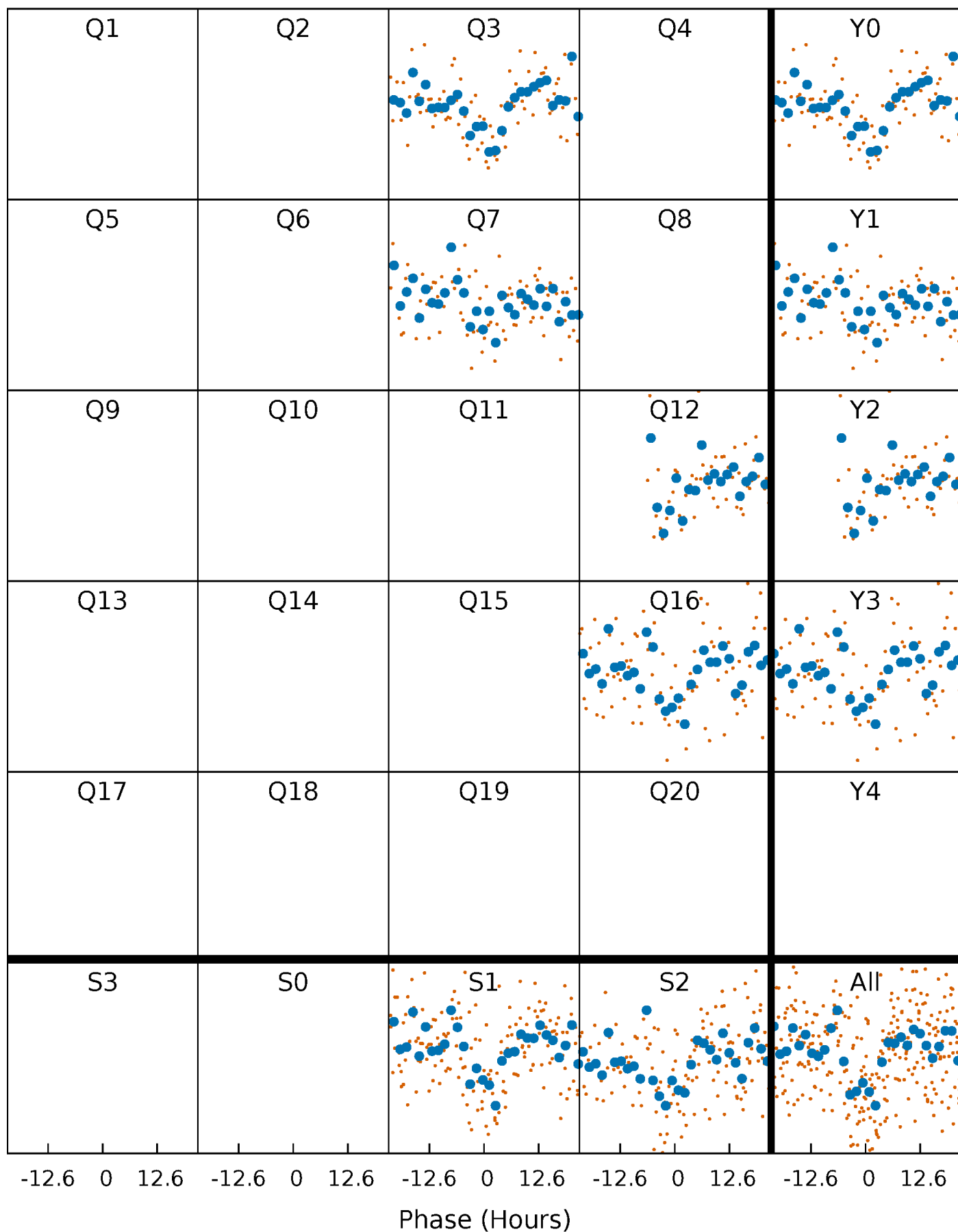


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



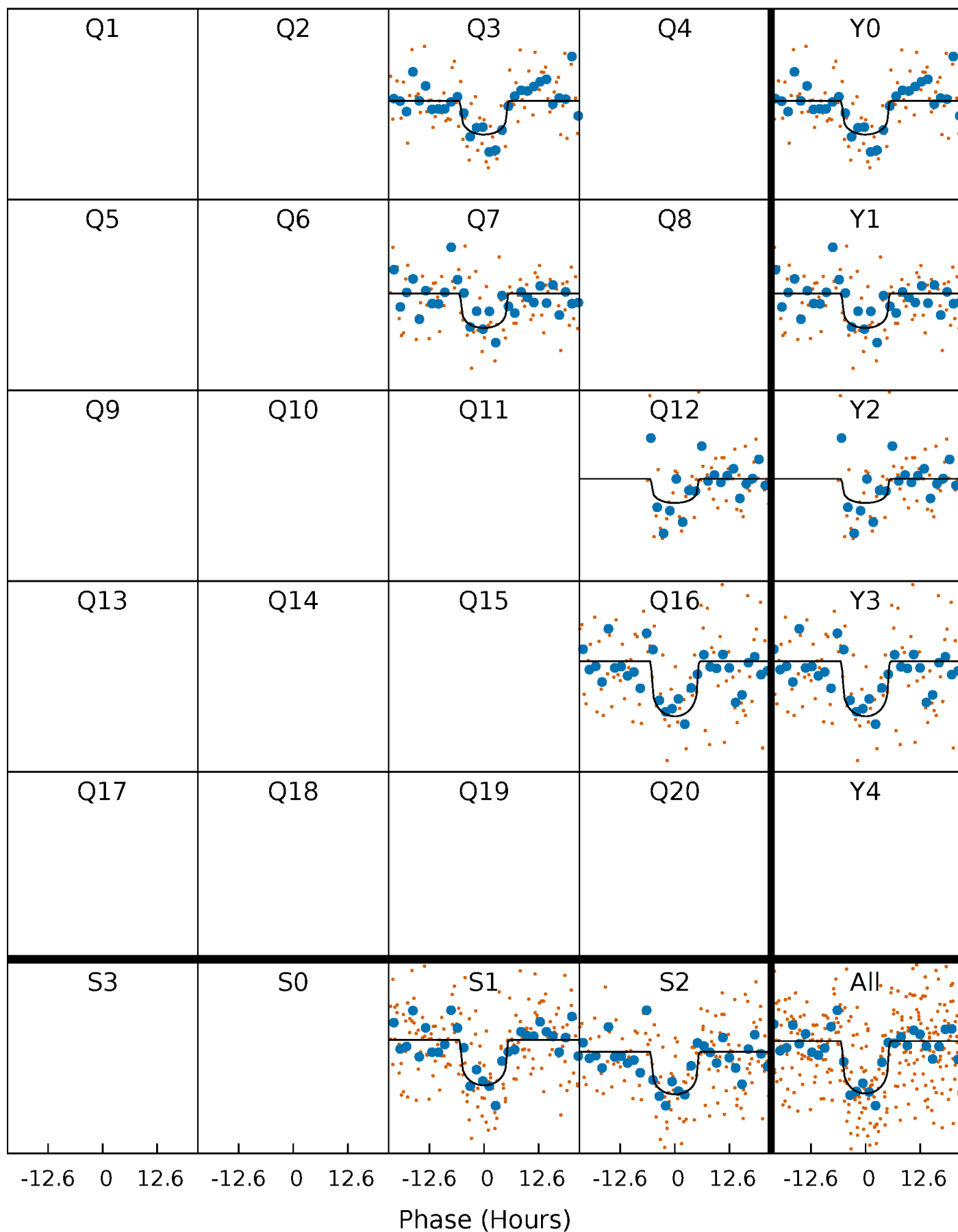
PDC Quarter-Phased Transit Curves

TCE 011714107-01 P=405.359028 Days $T_0=311.797081$ (BKJD)



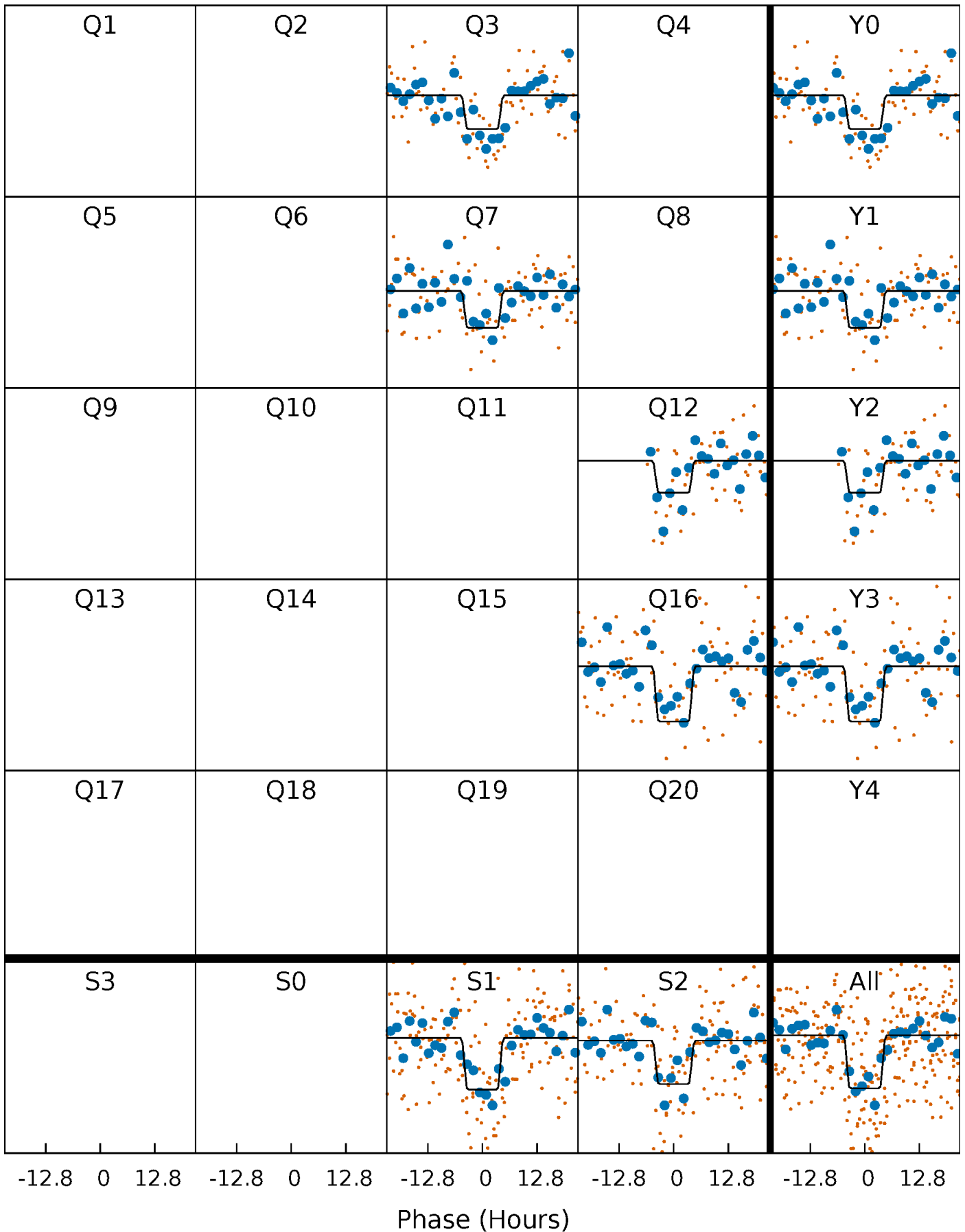
DV Quarter-Phased Transit Curves

TCE 011714107-01 P=405.359028 Days $T_0=311.797081$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

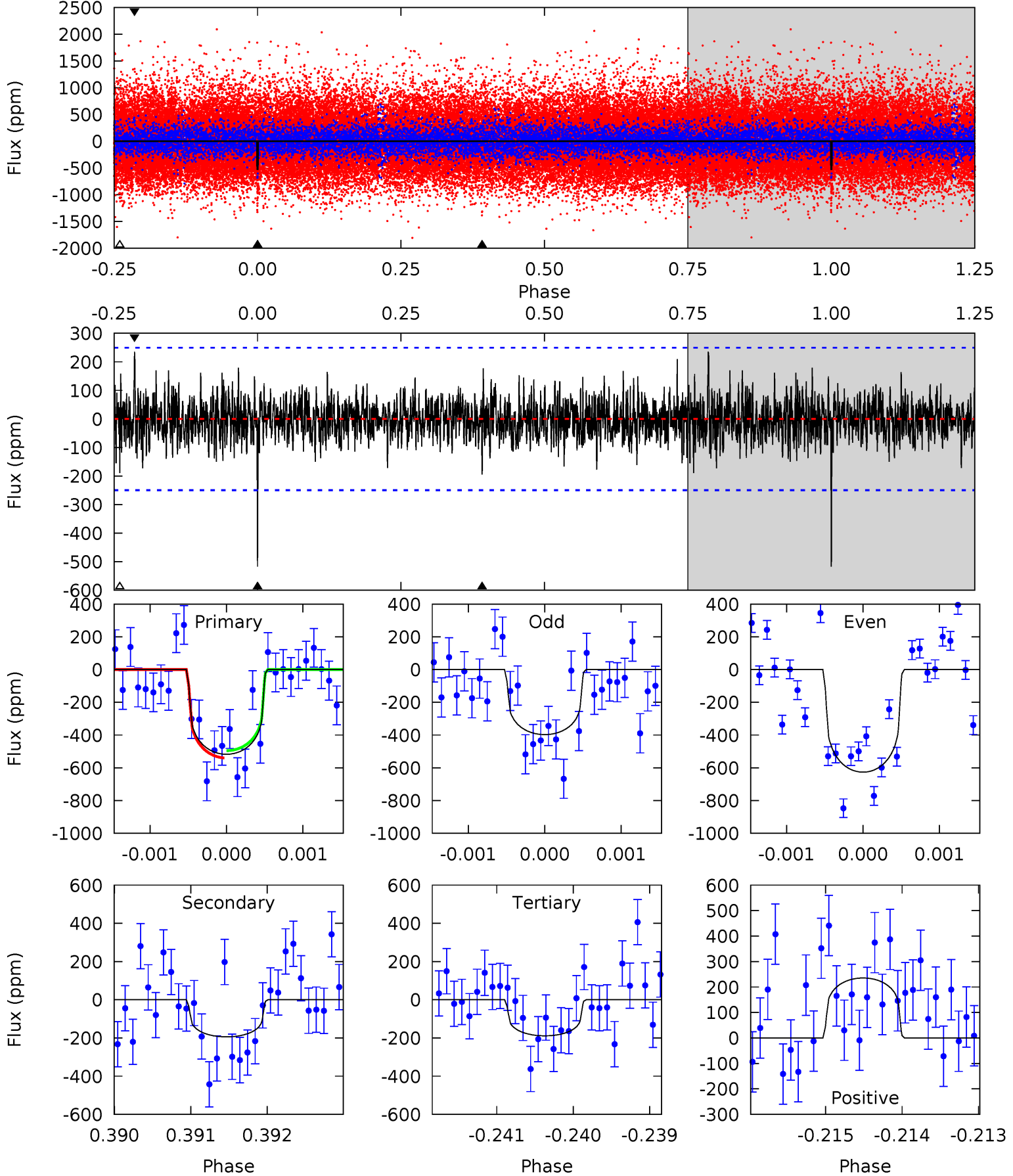
TCE 011714107-01 P=405.360963 Days $T_0=311.787056$ (BKJD)



DV Model-Shift Uniqueness Test

011714107-01, P = 405.359028 Days, E = 311.797081 Days

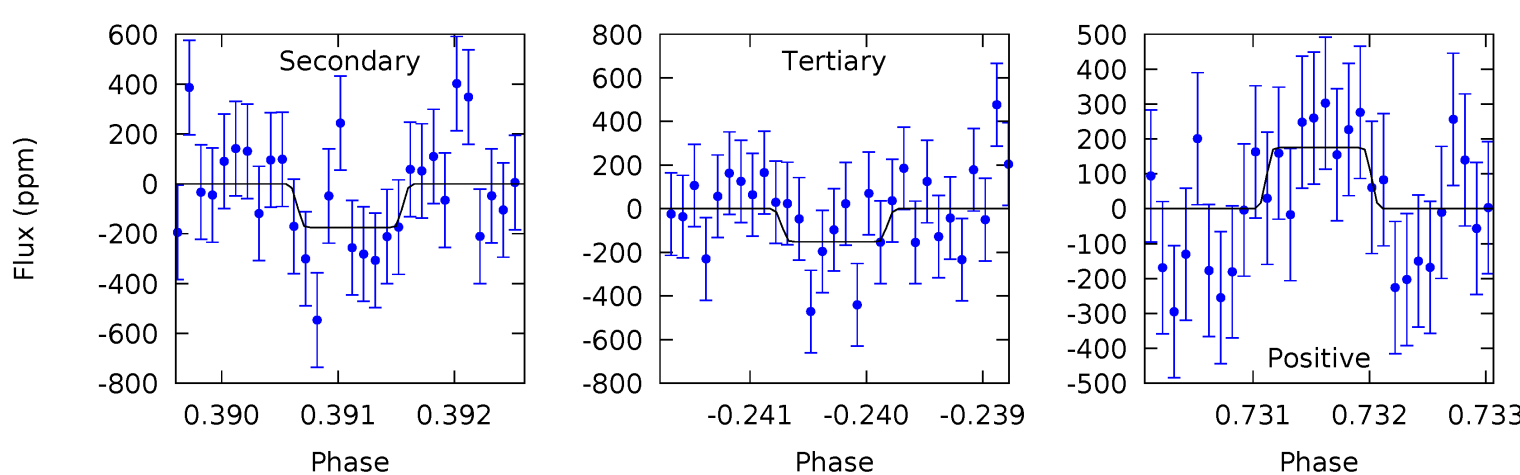
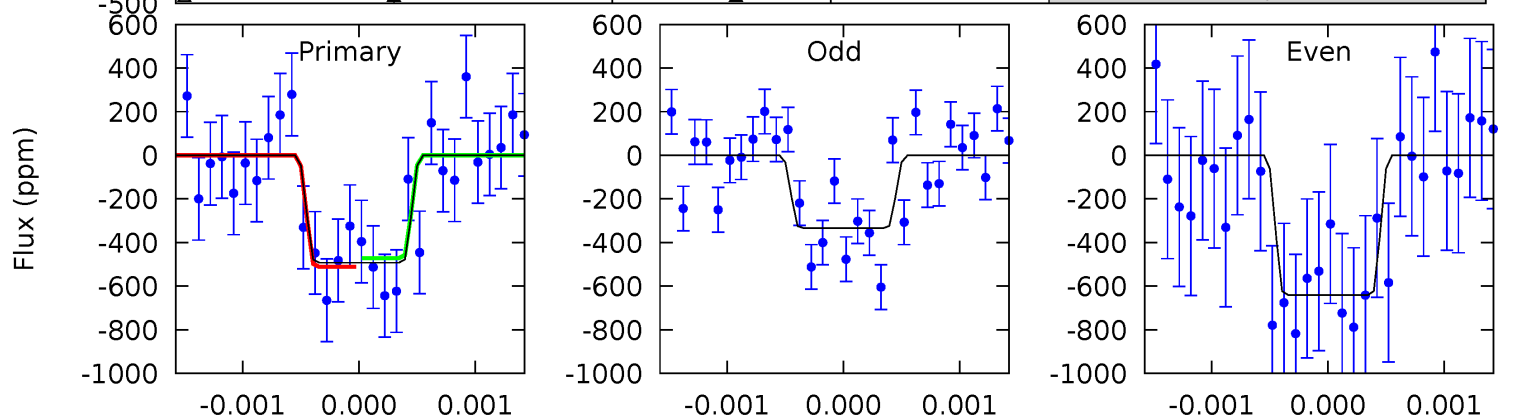
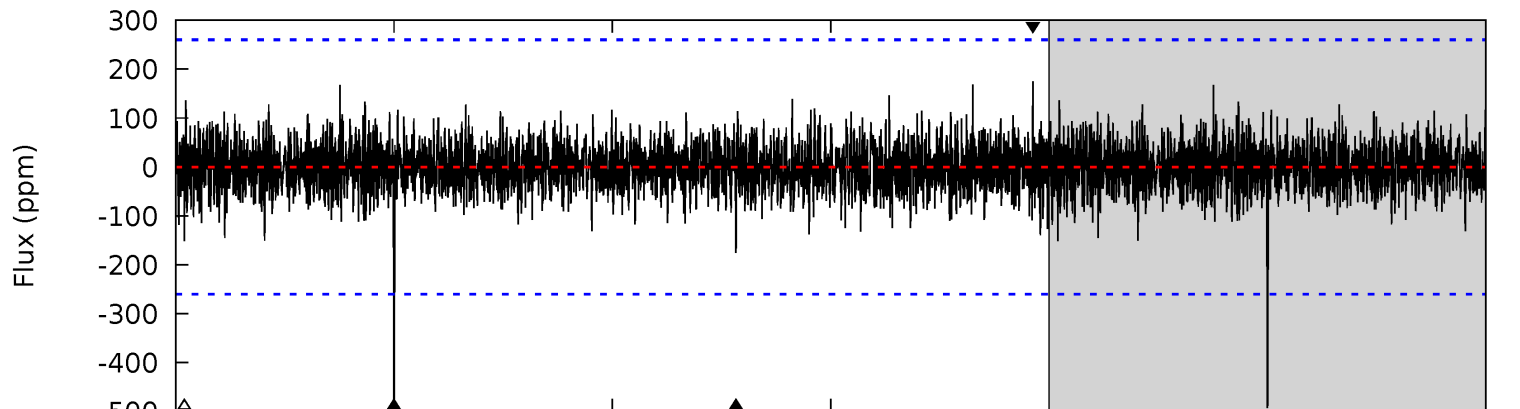
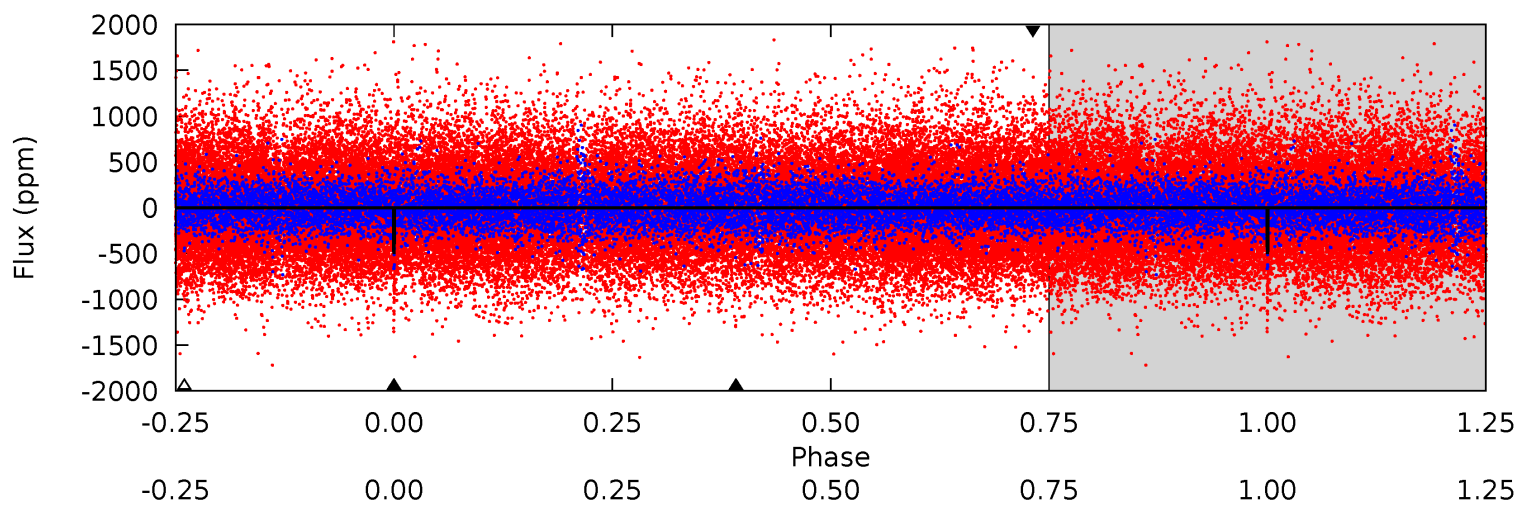
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.3 | 4.23 | 4.11 | 5.13 | 5.43 | 3.26 | 1.18 | 7.16 | 6.14 | 0.12 | -0.90 | 2.51 | 0.99 | 0.31 | 0.49 |



Alt Model-Shift Uniqueness Test

011714107-01, P = 405.360963 Days, E = 311.787056 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 10.3 | 3.68 | 3.18 | 3.67 | 5.46 | 3.30 | 0.86 | 7.15 | 6.66 | 0.50 | 0.01 | 3.24 | 1.02 | 0.26 | 0.42 |



Stellar Parameters For KIC 011714107

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5650^{+152}_{-169} | $4.487^{+0.060}_{-0.180}$ | $-0.060^{+0.300}_{-0.300}$ | $0.906^{+0.242}_{-0.104}$ | $0.920^{+0.104}_{-0.094}$ | $1.742^{+0.558}_{-0.833}$ |
| | +3%/-3% | +1%/-4% | +500%/-500% | +27%/-11% | +11%/-10% | +32%/-48% |
| 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 011714107-01 / KOI 8063.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|-----------------------|---------------------------|
| DV | -194 ± 46 | $2.72^{+1.70}_{-1.57}$ | 329^{+21}_{-15} | 4277^{+1815}_{-647} | 14793^{+62476}_{-9205} |
| Alt. | -175 ± 48 | $2.52^{+1.92}_{-1.58}$ | 329^{+21}_{-13} | 4369^{+2407}_{-815} | 16068^{+92186}_{-11036} |

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

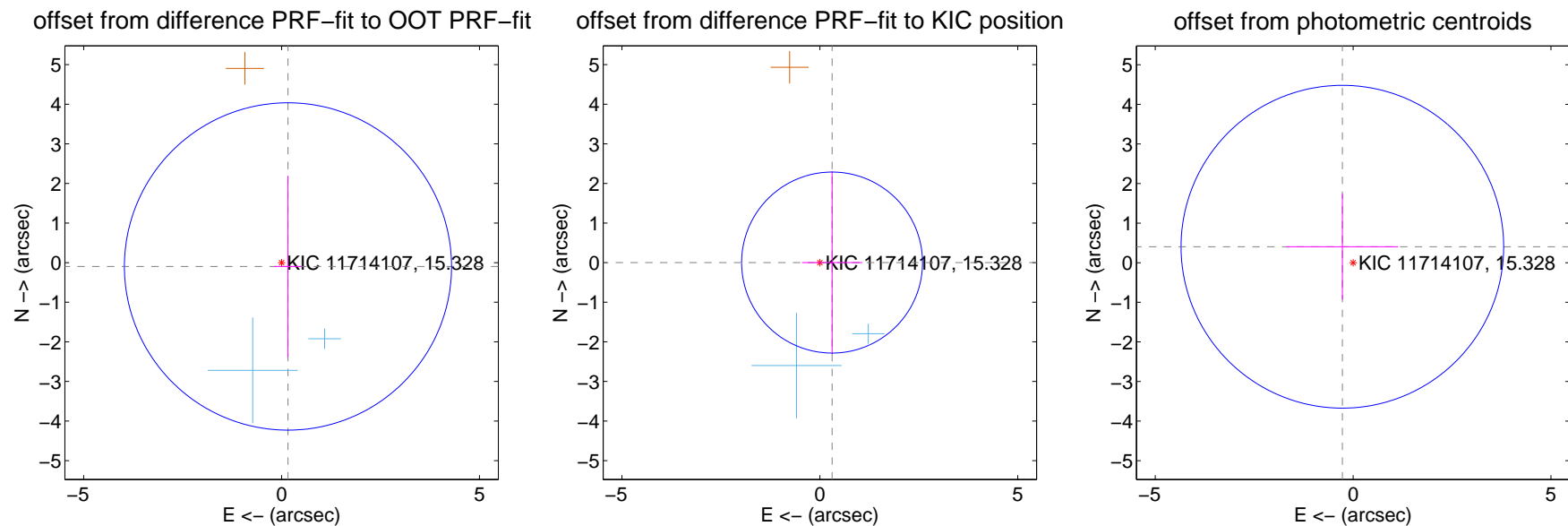
DV Centroid Data

Supplemental centroid analysis for 011714107-01. Kepler magnitude: 15.33. Transit SNR 8.13

There are 2 quarters with good PRF difference image offsets

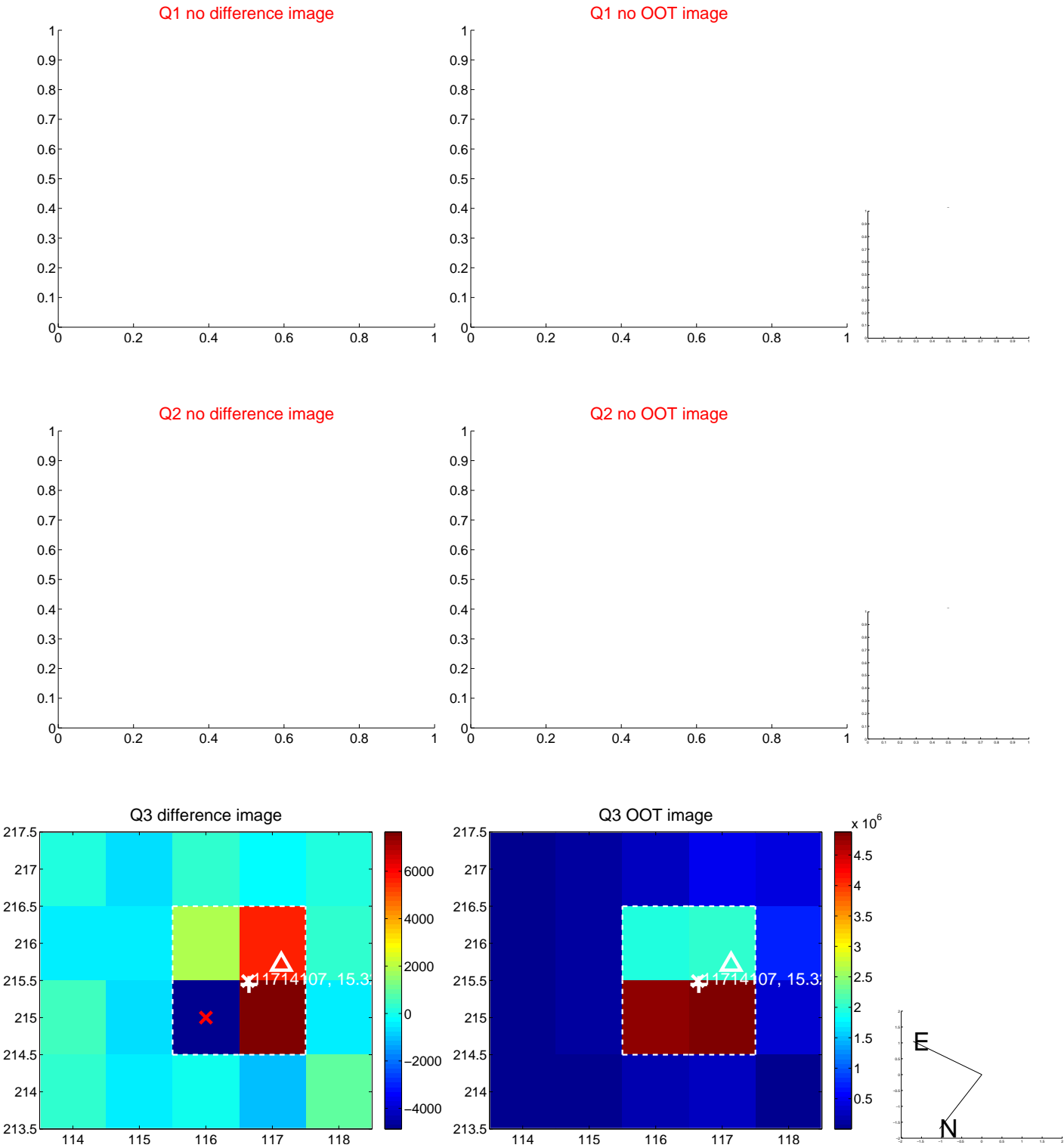
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.188 ± 1.377 | 0.14 | -0.161 ± 0.346 | -0.097 ± 2.290 |
| PRF-fit source offset from KIC position | 0.309 ± 0.762 | 0.41 | -0.309 ± 0.762 | 0.002 ± 2.307 |
| photometric centroid source offset | 0.49 ± 1.36 | 0.36 | 0.27 ± 1.41 | 0.40 ± 1.33 |



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.

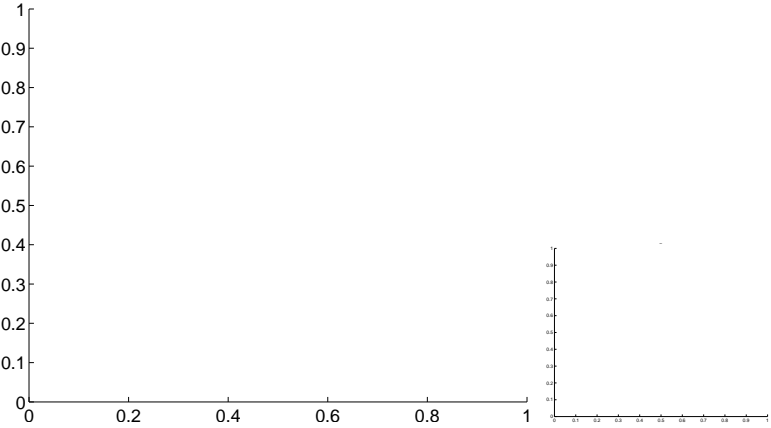


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.

Q5 no difference image



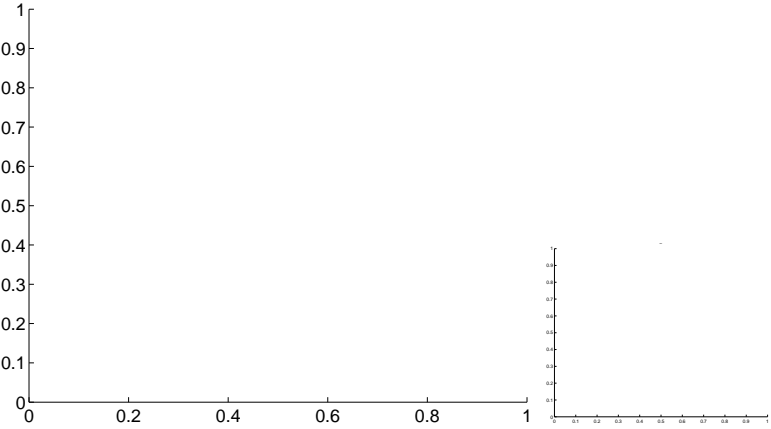
Q5 no OOT image



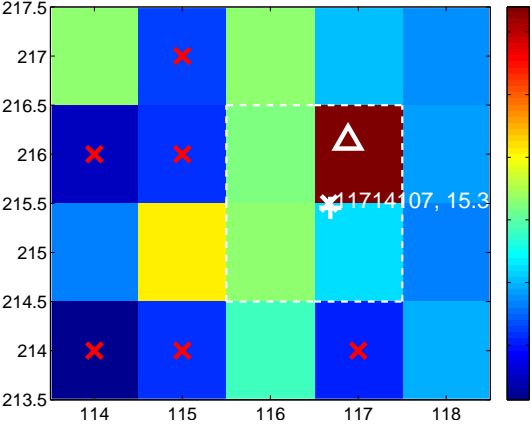
Q6 no difference image



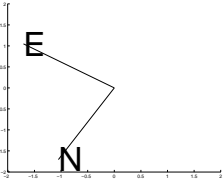
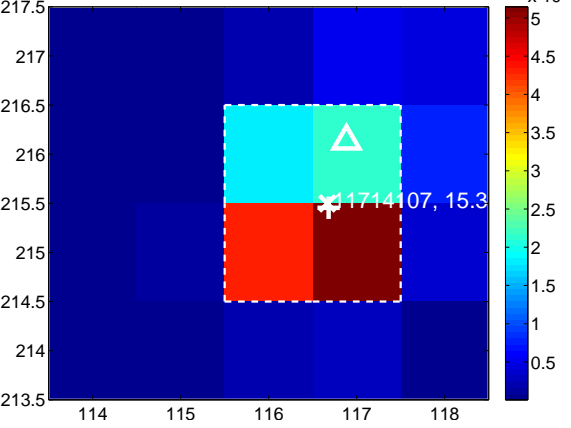
Q6 no OOT image



Q7 difference image



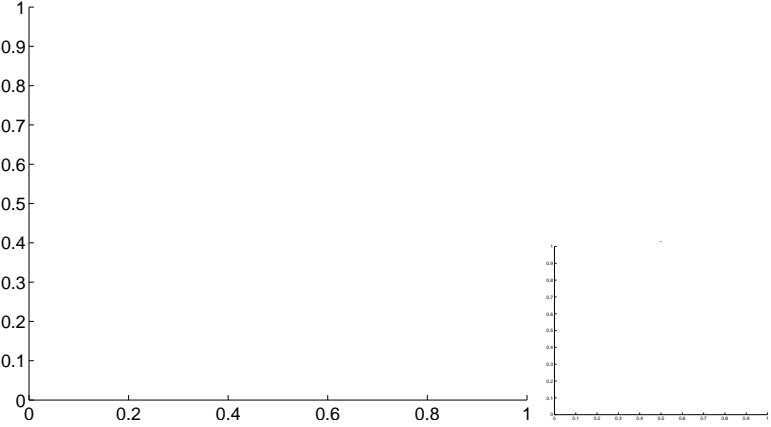
Q7 OOT image



Q8 no difference image



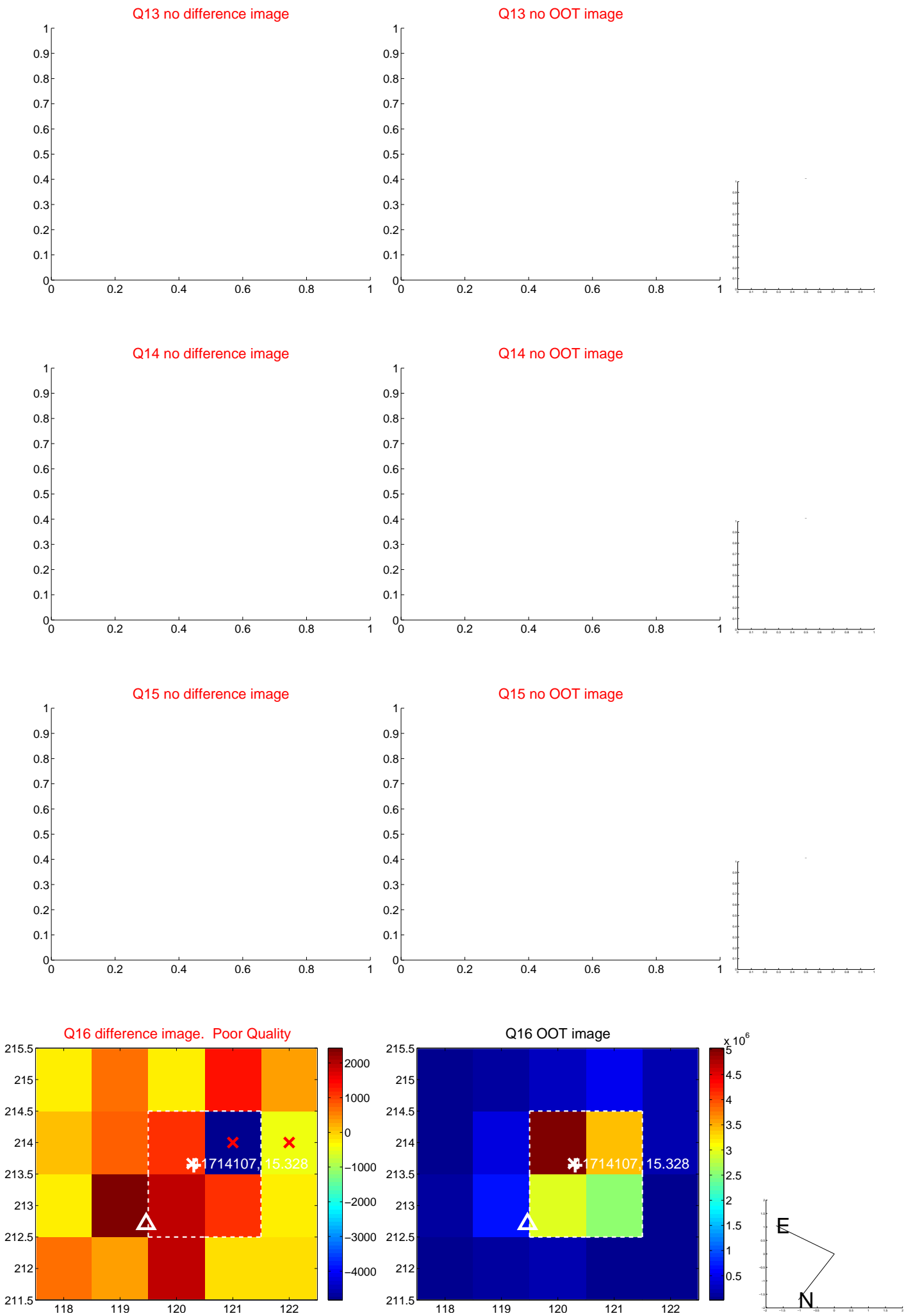
Q8 no OOT image



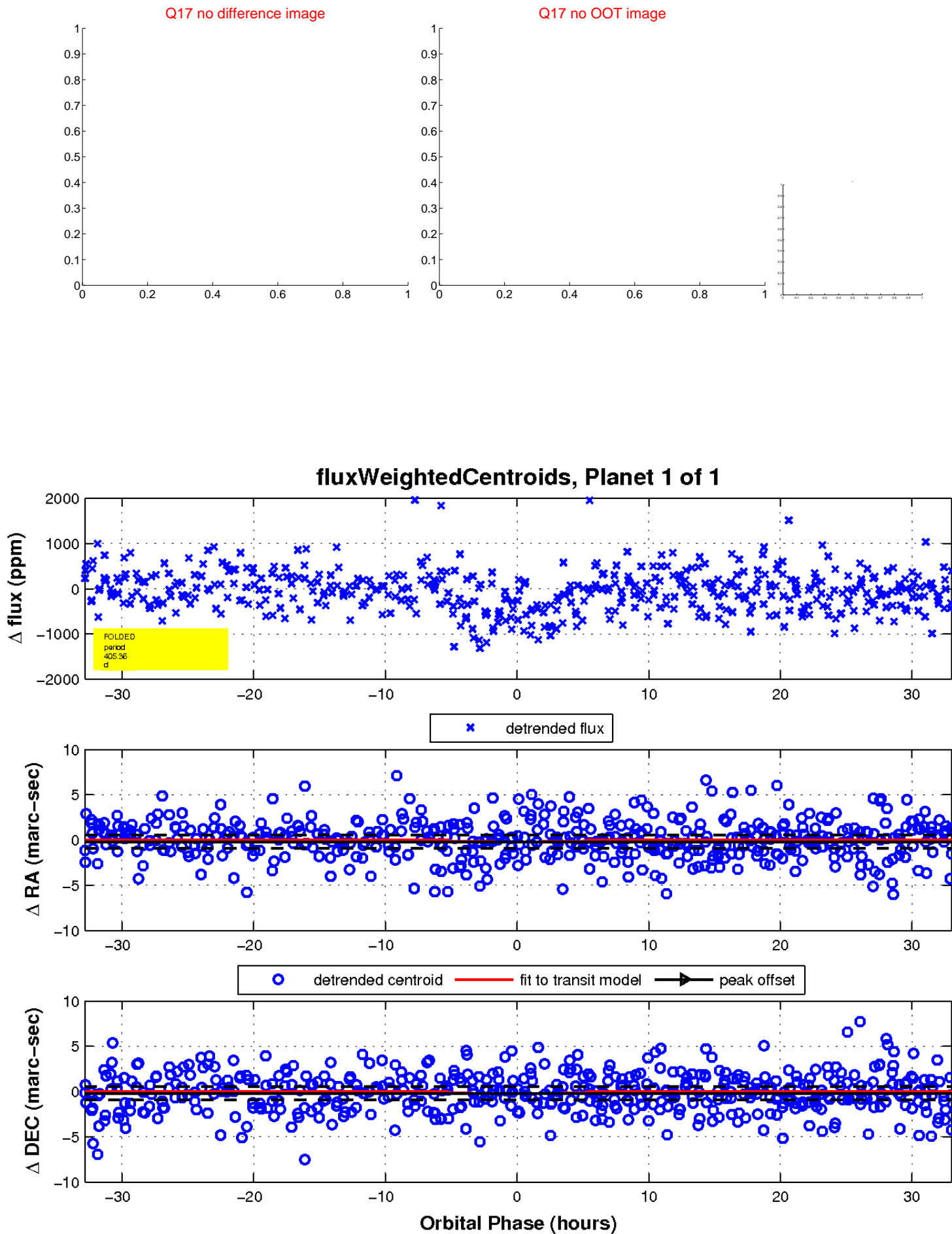
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

