

KIC 007511994

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007511994-01 | OBS | No | 0.735203 | 131.737013 | 30.4 | 2.889 | 9.1 | 8.0 | 1.38 | 6854 | 0.89 | 13540.28 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---------------------------------------|
| 007511994-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT |

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

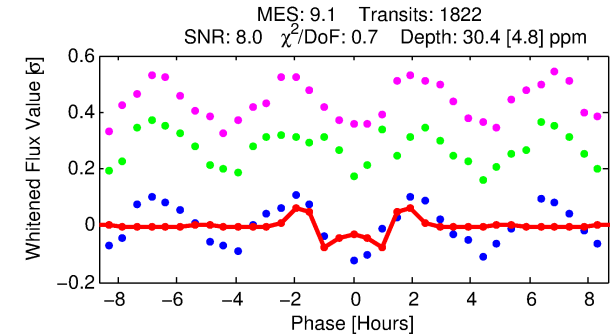
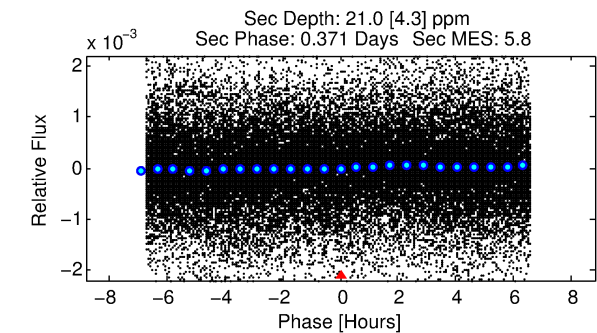
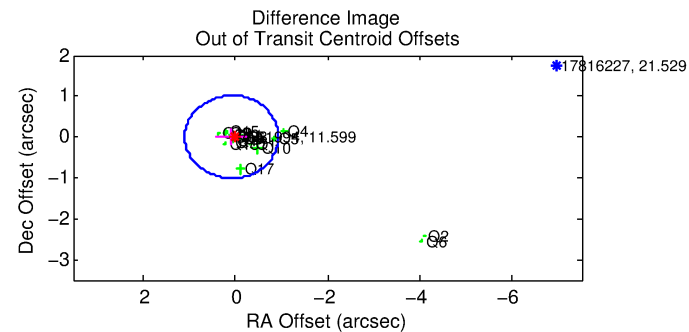
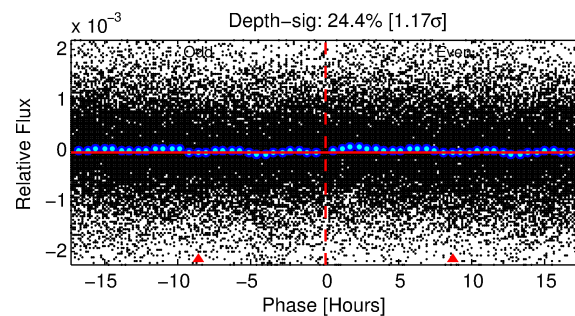
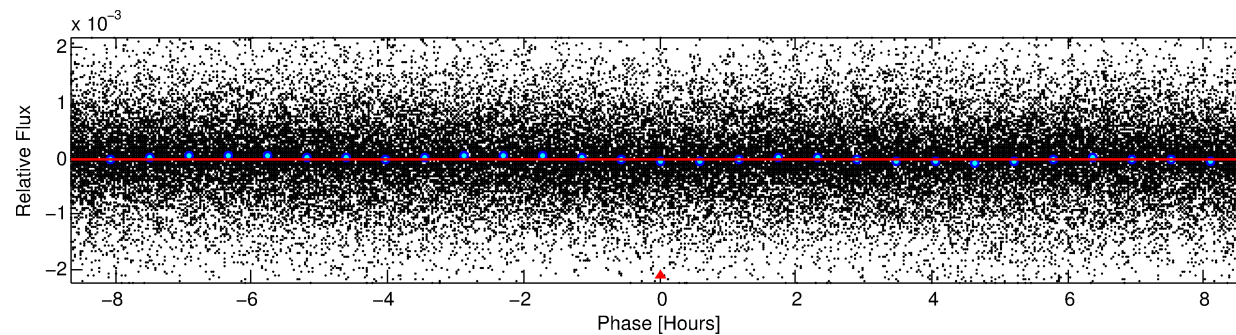
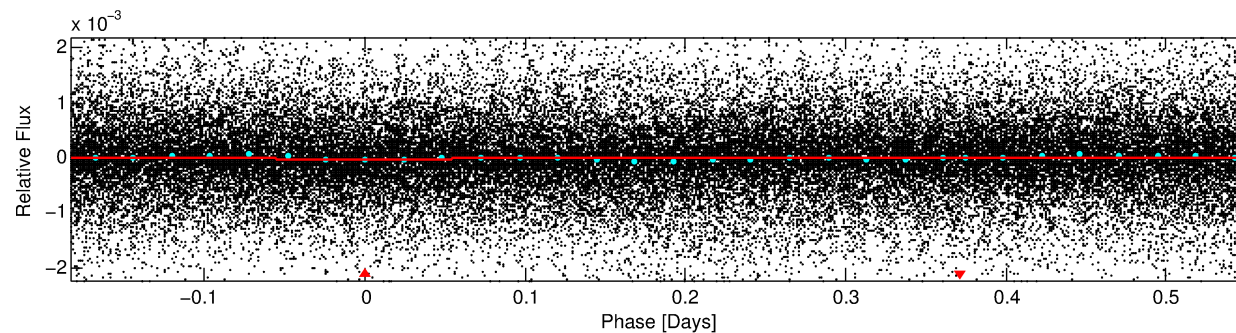
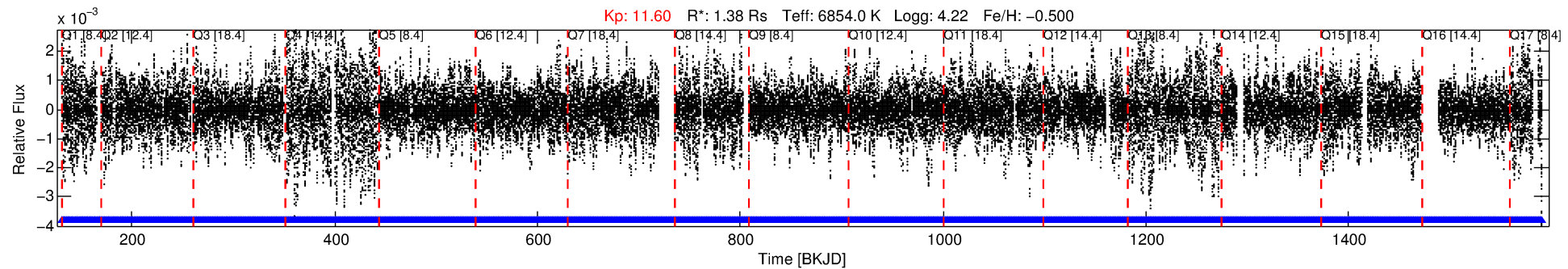
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

Ephemeris Match Information For 007511994-01

No Significant Match Found

KIC: 7511994 Candidate: 1 of 1 Period: 0.735 d



DV Fit Results:

29 Period = 0.73520 [0.00001] d
Epoch = 131.7370 [0.0014] BKJD
Rp/R* = 0.0059 [0.0011]
a/R* = 1.28 [0.54]
b = 0.90 [0.23]

Seff = 13540.28 [4851.73]
Teq = 2751 [246] K
Rp = 0.89 [0.29] Re
a = 0.0167 [0.0037] AU

Ag = 4.09 [2.21] [1.40σ]
Teffp = 6046 [711] K [4.38σ]

DV Diagnostic Results:

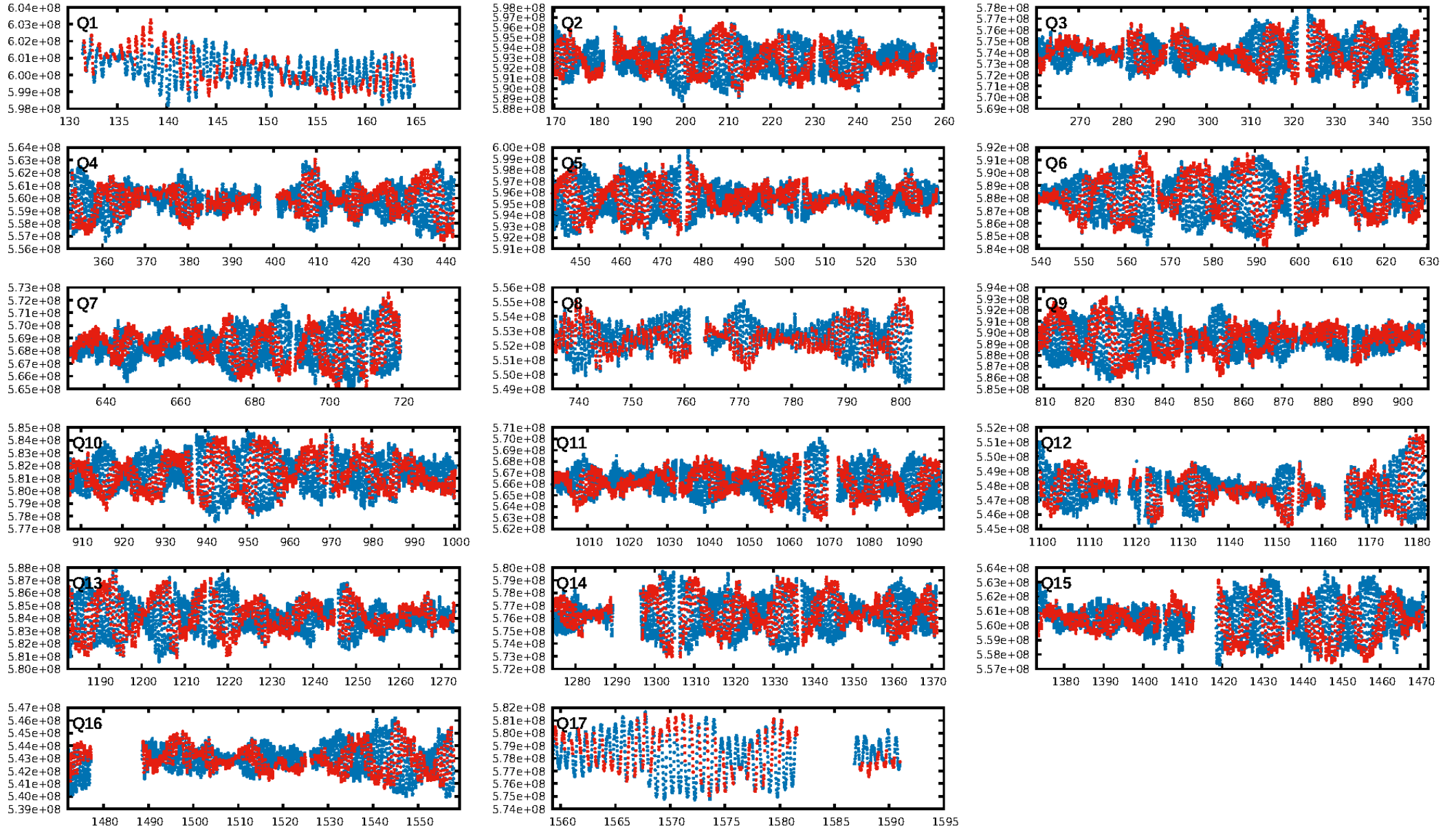
ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.17e-26
RollingBand-fgt: 1.00 [1740/1740]
GhostDiagnostic-chr: 2.111

Centroid-sig: 58.5%
Centroid-so: 0.132 arcsec [0.50σ]
OotOffset-rm: 0.075 arcsec [0.22σ]
KicOffset-rm: 0.246 arcsec [0.75σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 1.00 [17/17]

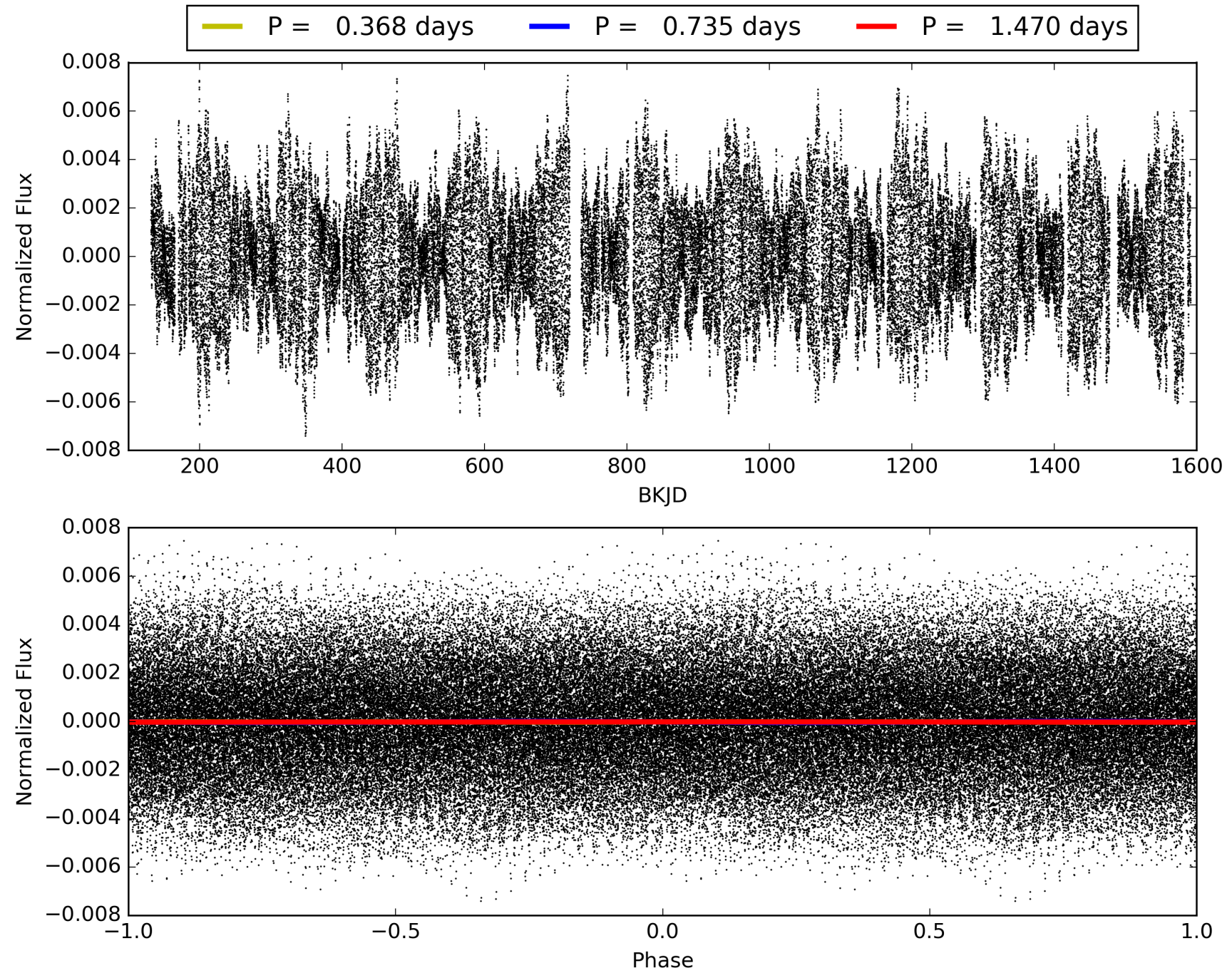
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- **Date Generated:** 01-Feb-2016 06:02:55 Z

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

TCE 007511994-01, PDC Light Curves

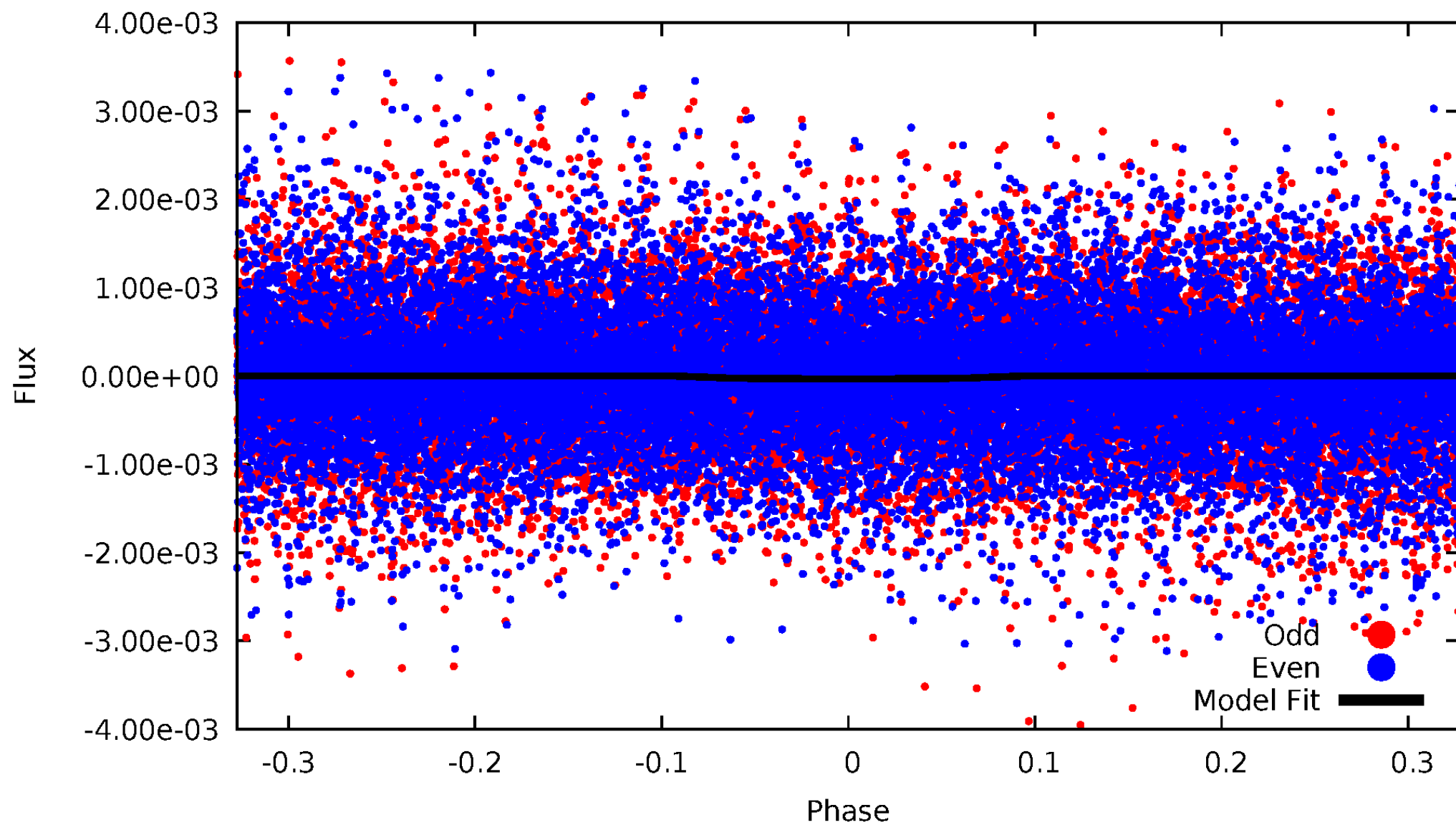


TCE 007511994-01



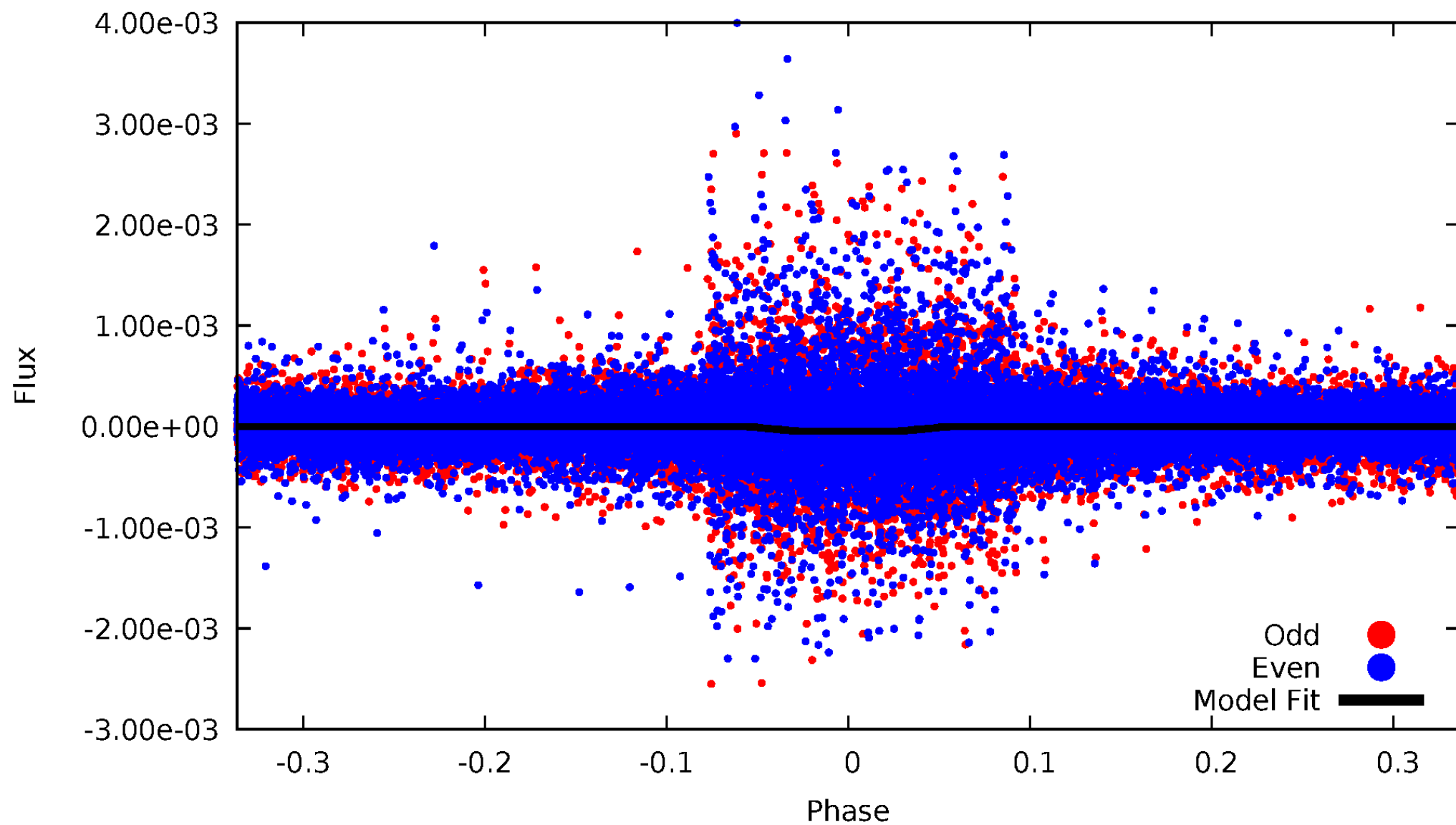
DV Odd/Even

TCE 007511994-01



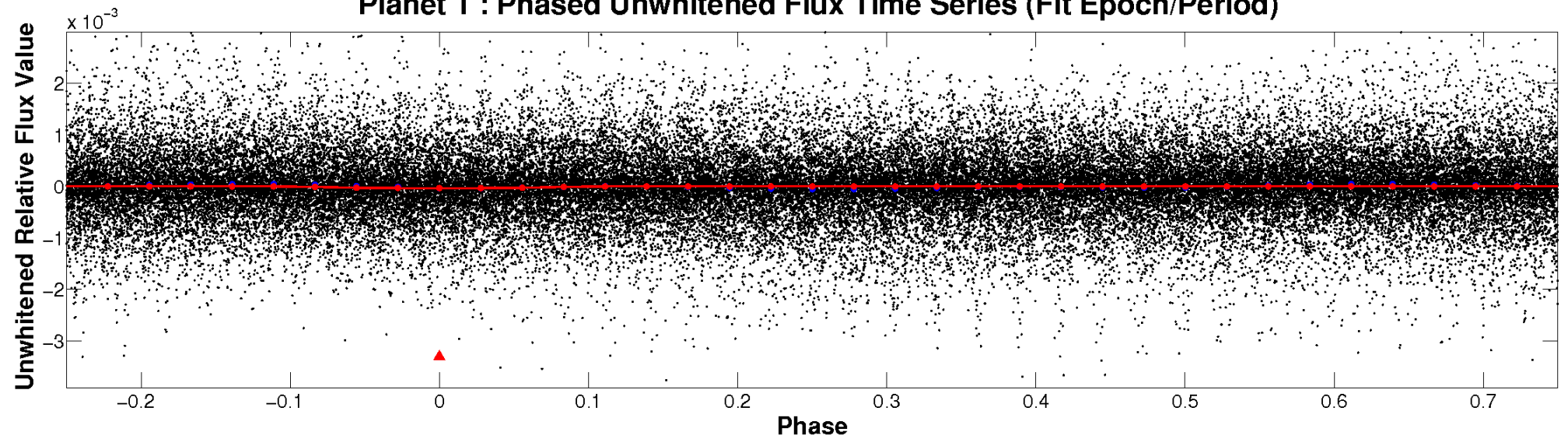
ALT Odd/Even

TCE 007511994-01

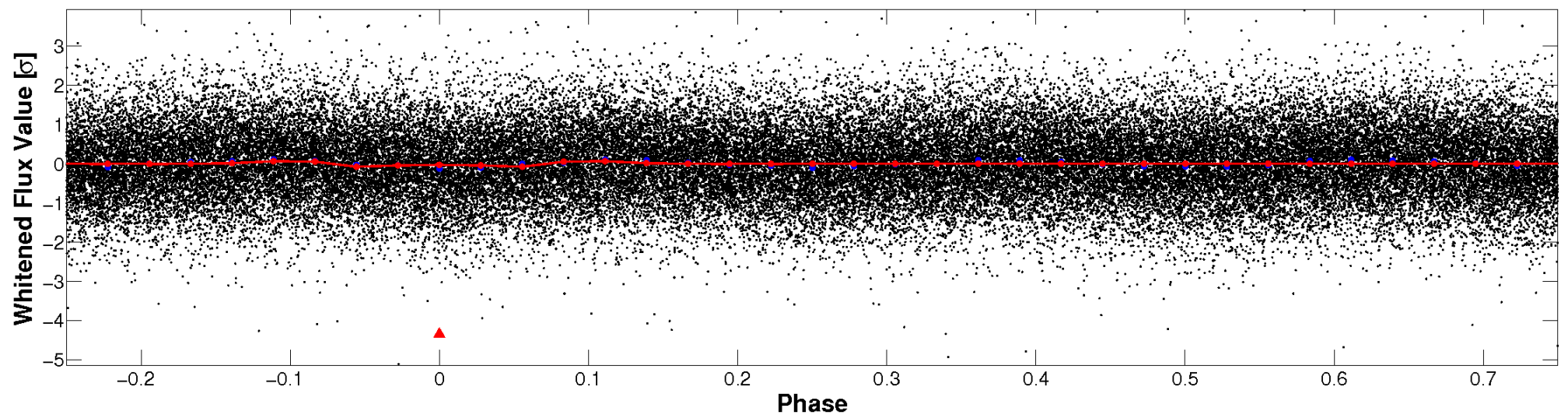


Non-Whitened Vs. Whitened Light Curve

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

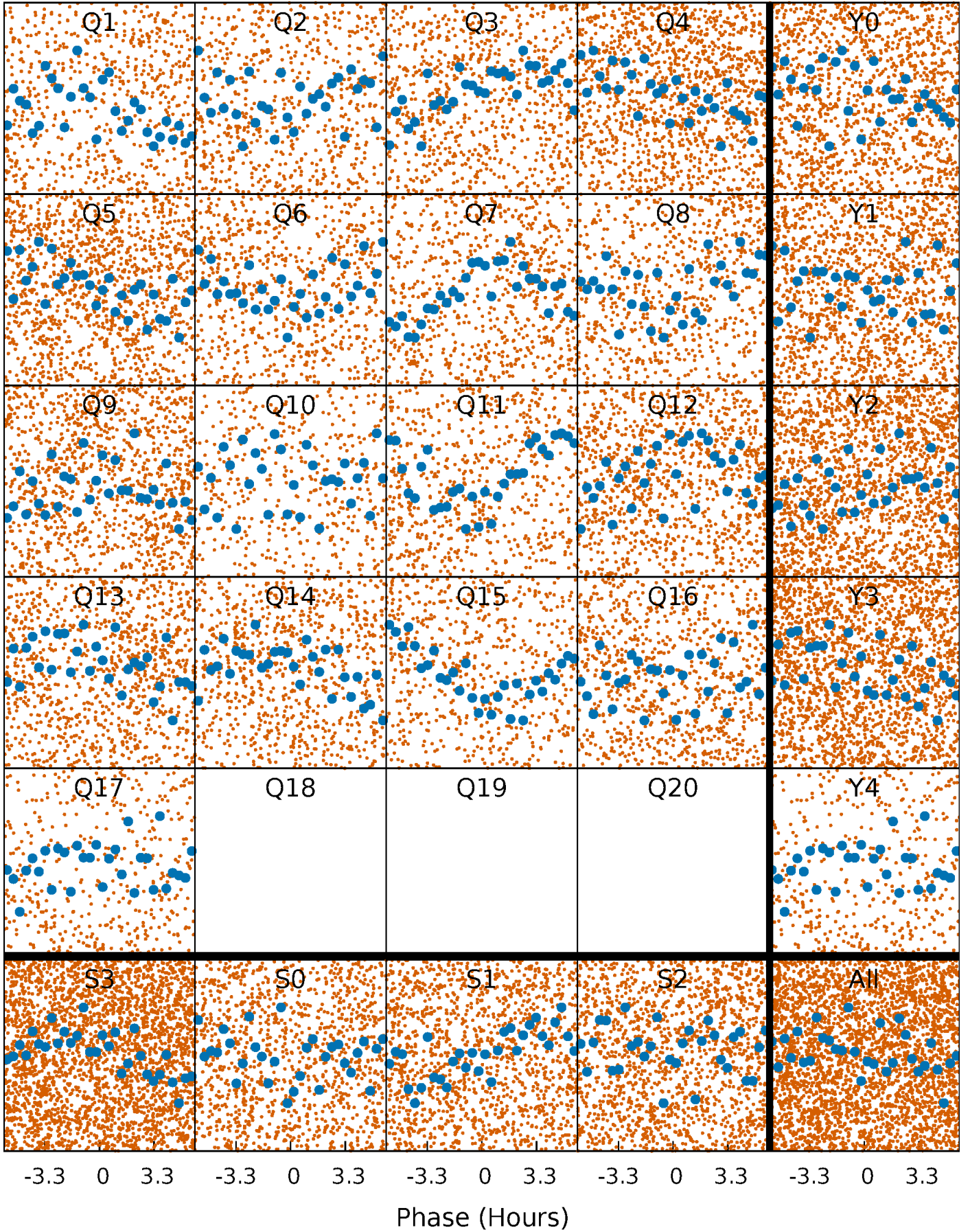


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



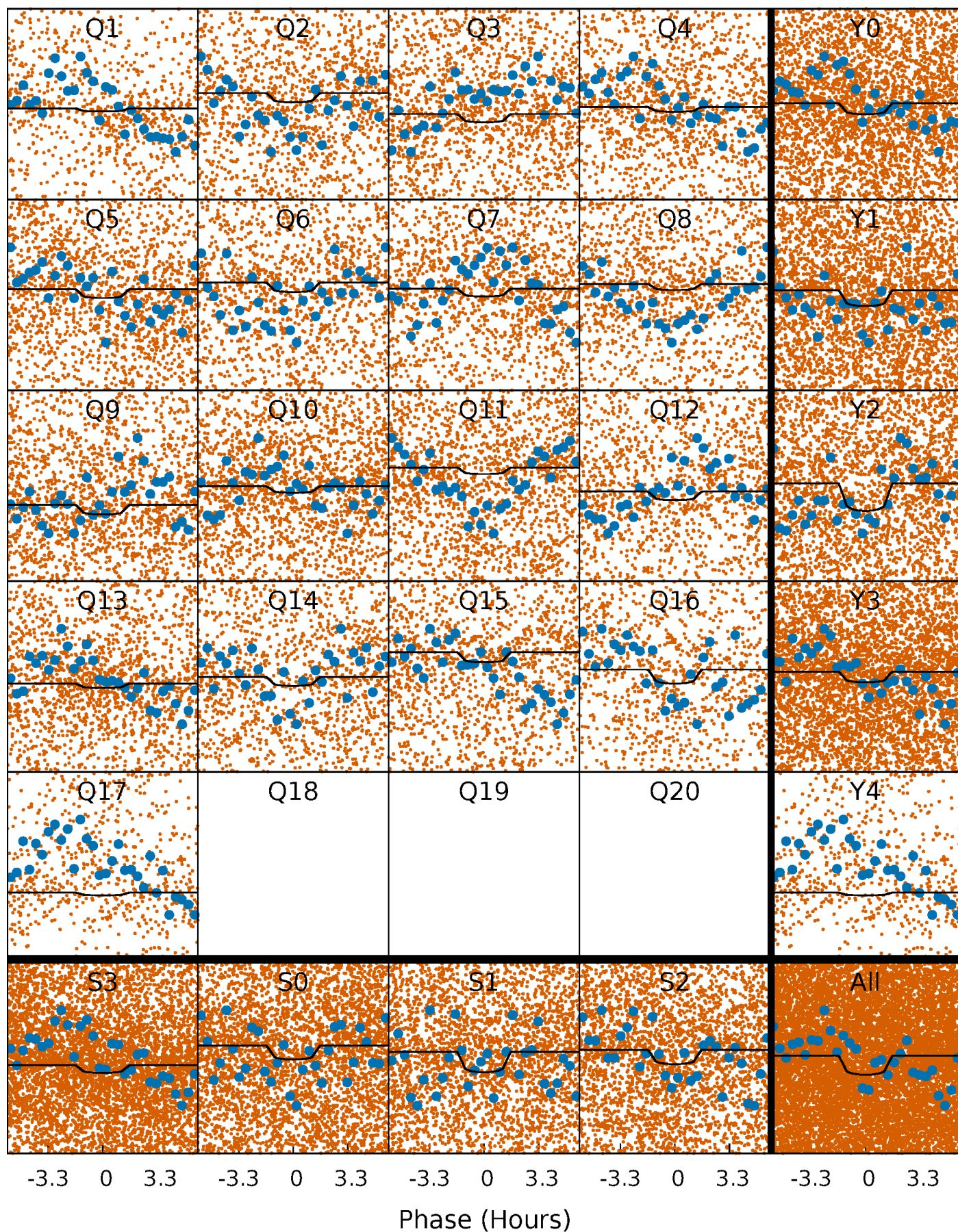
PDC Quarter-Phased Transit Curves

TCE 007511994-01 P= 0.735203 Days $T_0=131.737013$ (BKJD)



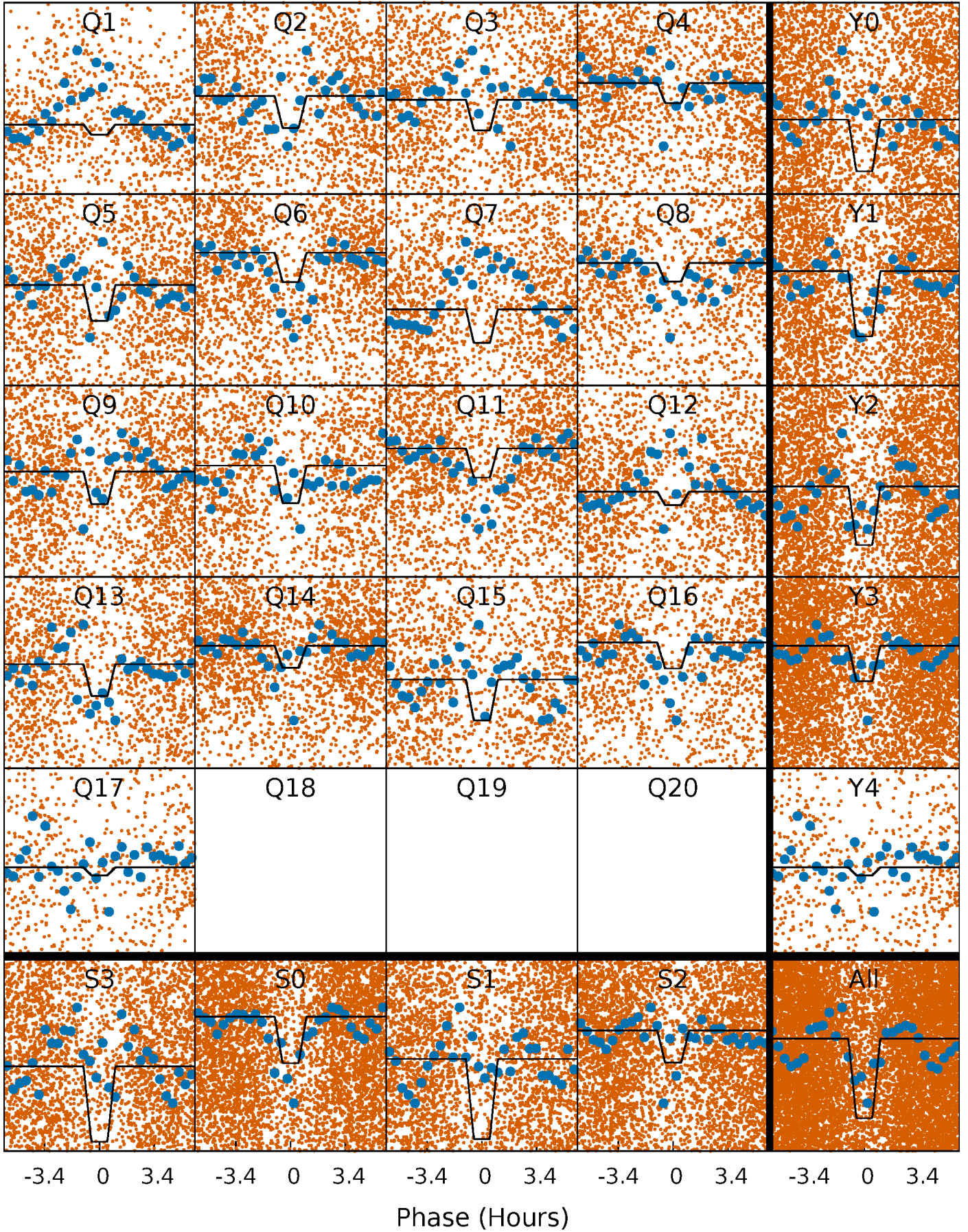
DV Quarter-Phased Transit Curves

TCE 007511994-01 P= 0.735203 Days $T_0=131.737013$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

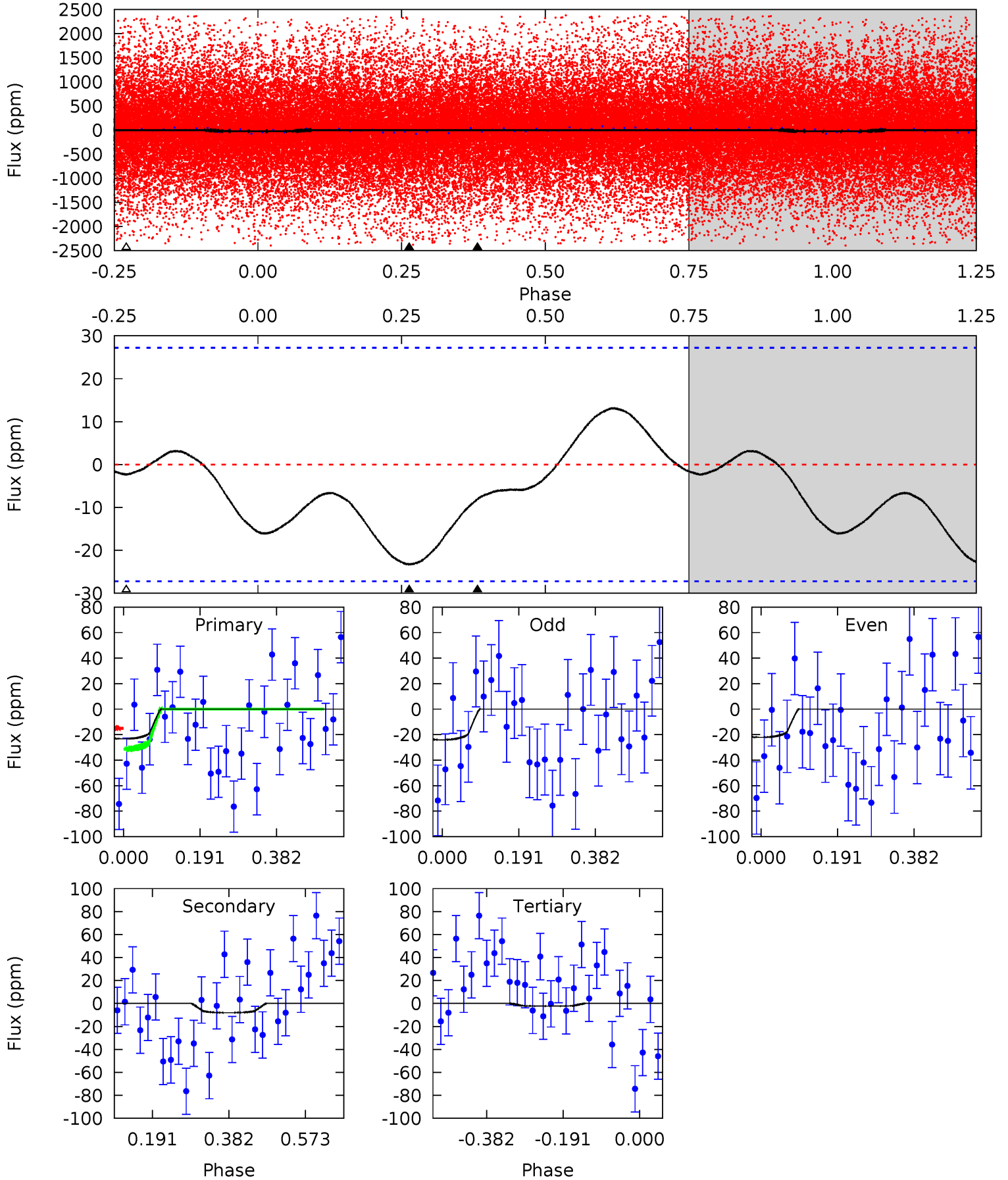
TCE 007511994-01 P= 0.735206 Days $T_0=131.732014$ (BKJD)



DV Model-Shift Uniqueness Test

007511994-01, P = 0.735203 Days, E = 131.001810 Days

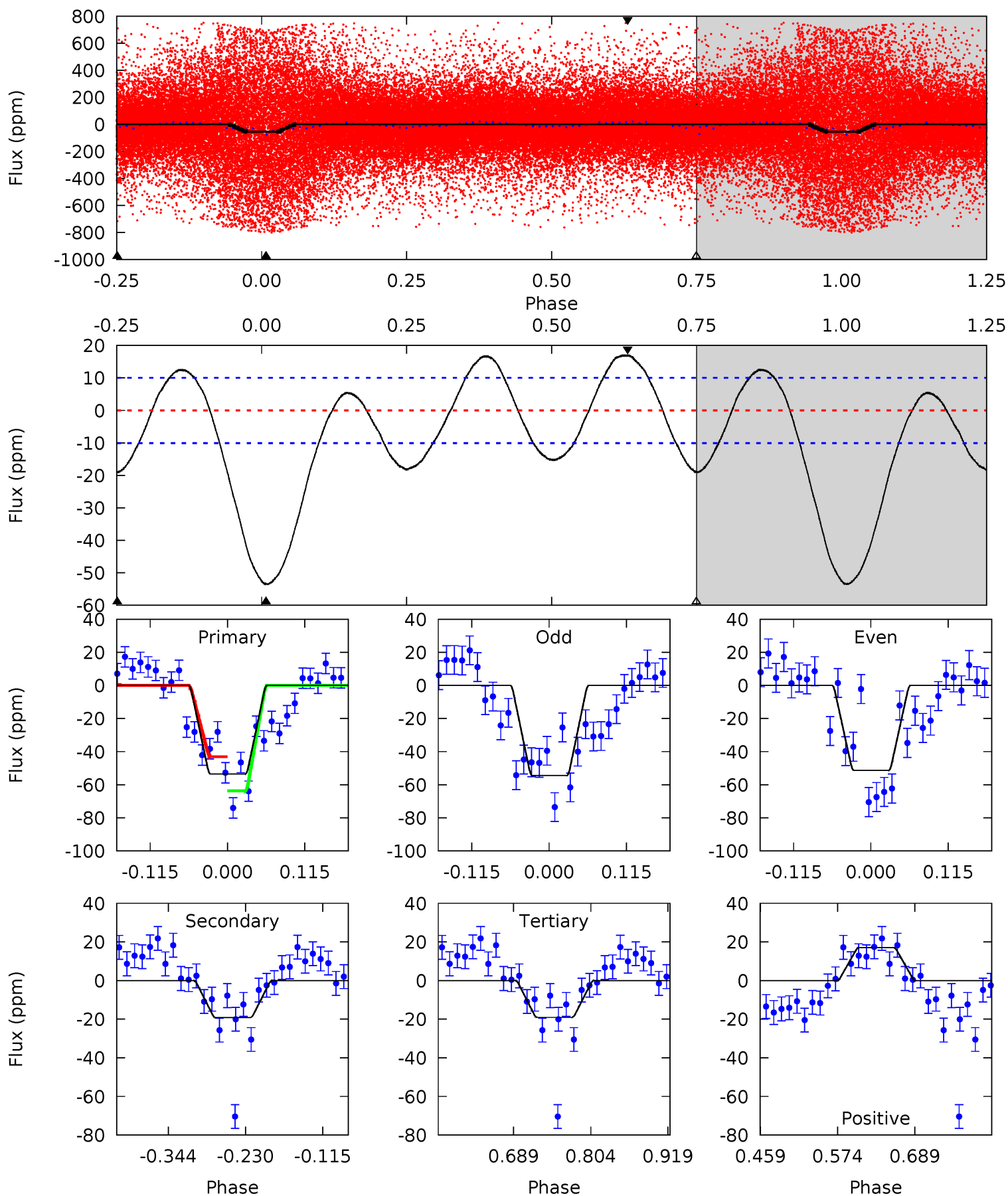
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 3.79 | 1.32 | 0.38 | 0 | 4.43 | 1.31 | 1.44 | 3.41 | 3.79 | 0.93 | 1.32 | 0.16 | 1.09 | 0.36 | 1.32 |



Alt Model-Shift Uniqueness Test

007511994-01, P = 0.735206 Days, E = 130.996808 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 24.2 | 8.64 | 8.61 | 7.68 | 4.54 | 1.58 | 5.14 | 15.6 | 16.5 | 0.03 | 0.96 | 0.69 | 0.71 | 0.24 | 4.58 |



Stellar Parameters For KIC 007511994

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6854^{+216}_{-288} | $4.216^{+0.170}_{-0.170}$ | $-0.500^{+0.250}_{-0.300}$ | $1.378^{+0.370}_{-0.303}$ | $1.138^{+0.171}_{-0.137}$ | $0.613^{+0.536}_{-0.288}$ |
| | +3%/-4% | +4%/-4% | +50%/-60% | +27%/-22% | +15%/-12% | +88%/-47% |
| Source | PHO54 | PHO54 | PHO54 | DSEP | | |

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 007511994-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|-----------------------|---------------------------|
| DV | -8 ± 6 | $0.89^{+0.23}_{-0.21}$ | 3850^{+274}_{-282} | 4560^{+950}_{-1988} | $1.490^{+1.778}_{-1.168}$ |
| Alt. | -19 ± 2 | $1.03^{+0.23}_{-0.20}$ | 3822^{+309}_{-250} | 5291^{+608}_{-453} | $2.708^{+1.488}_{-0.926}$ |

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

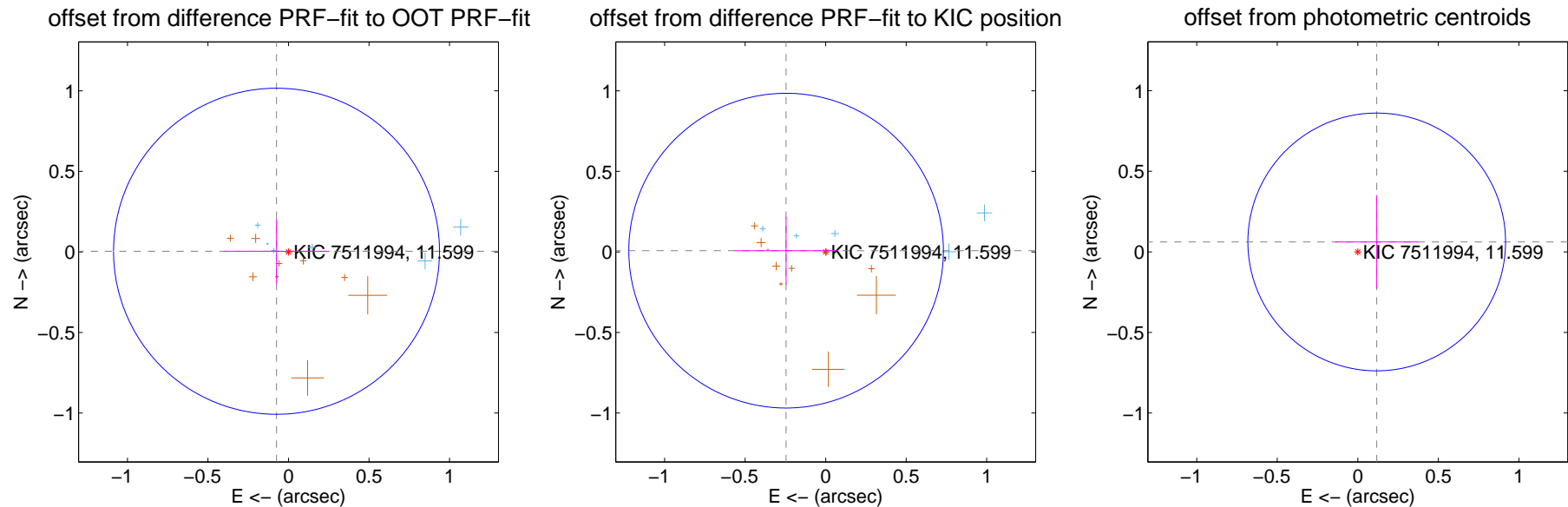
DV Centroid Data

Supplemental centroid analysis for 007511994-01. **Kepler magnitude: 11.60.** Transit SNR 8.05

There are 8 quarters with good PRF difference image offsets

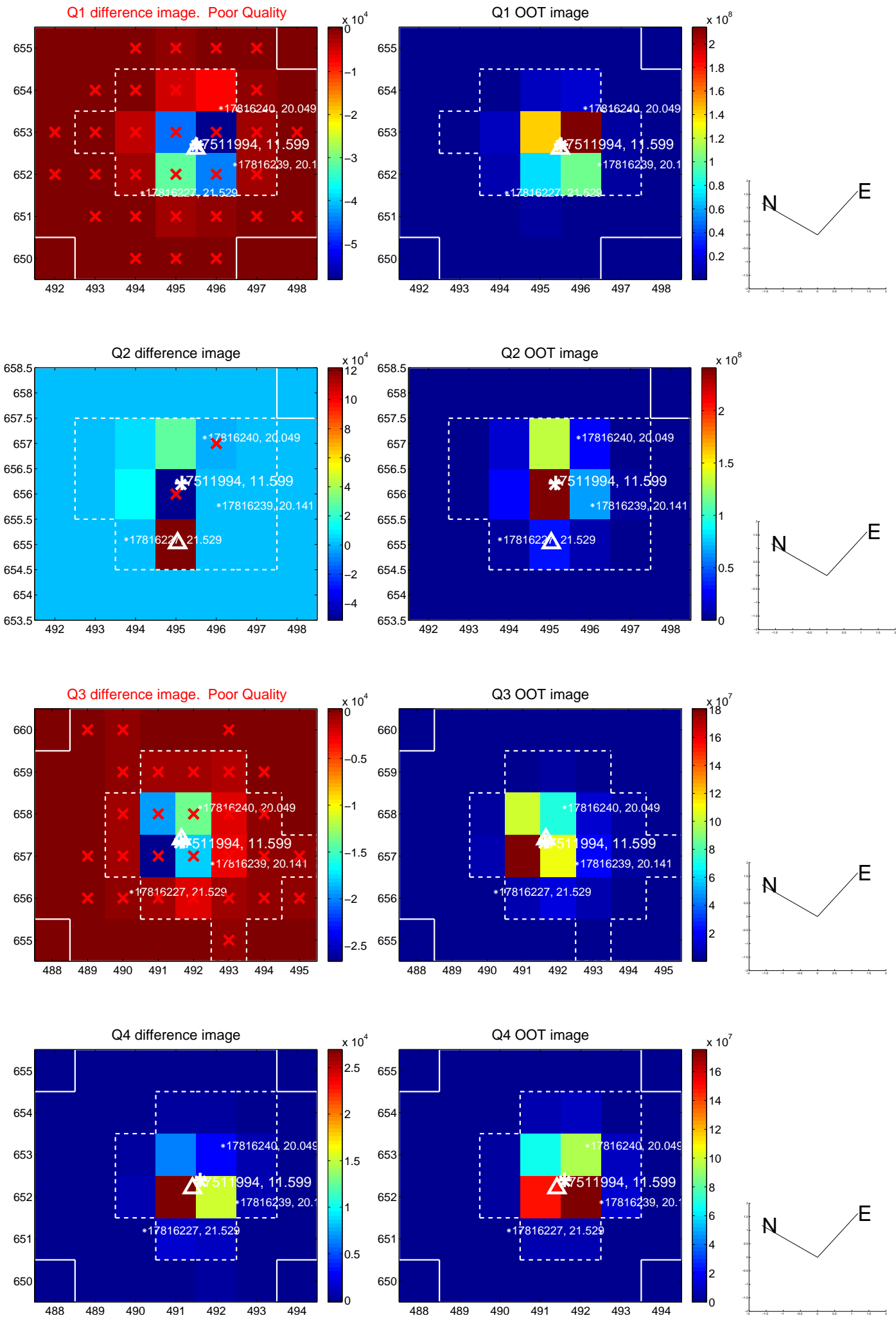
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.075 ± 0.337 | 0.22 | 0.074 ± 0.328 | 0.004 ± 0.201 |
| PRF-fit source offset from KIC position | 0.246 ± 0.326 | 0.75 | 0.246 ± 0.320 | 0.008 ± 0.209 |
| photometric centroid source offset | 0.13 ± 0.27 | 0.50 | -0.12 ± 0.26 | 0.06 ± 0.29 |

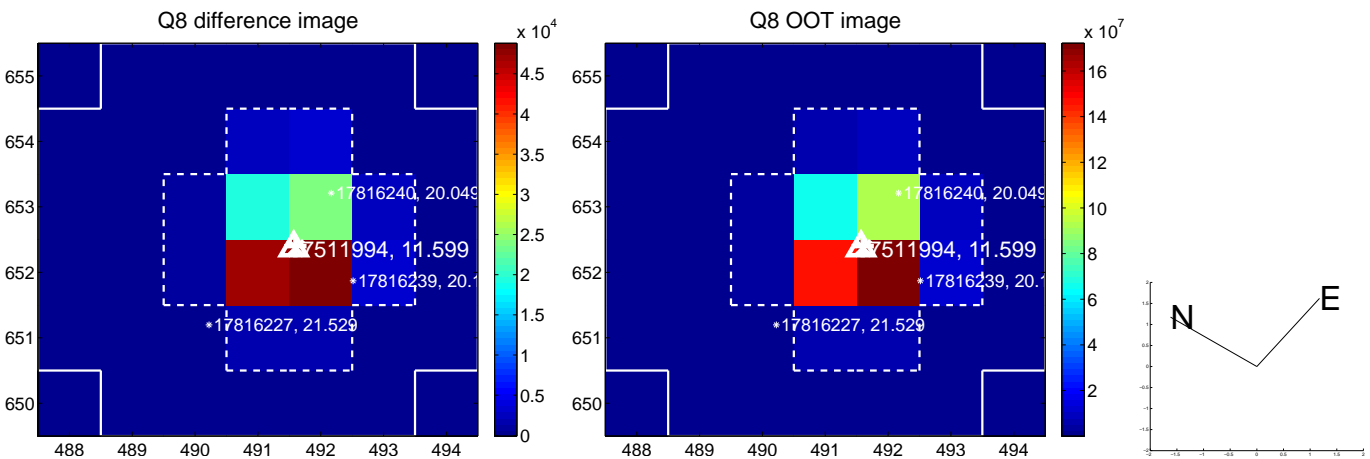
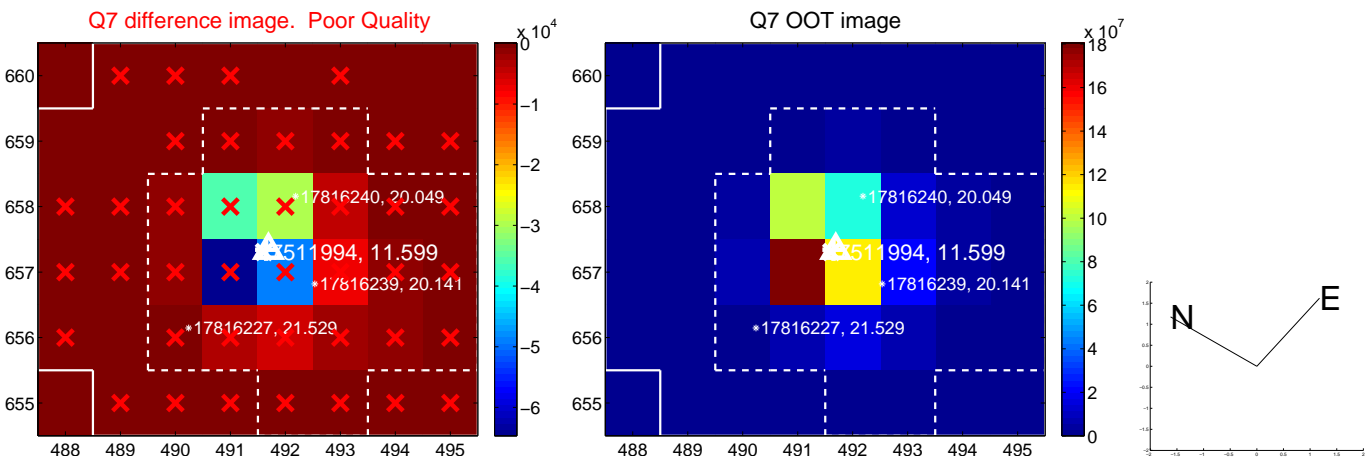
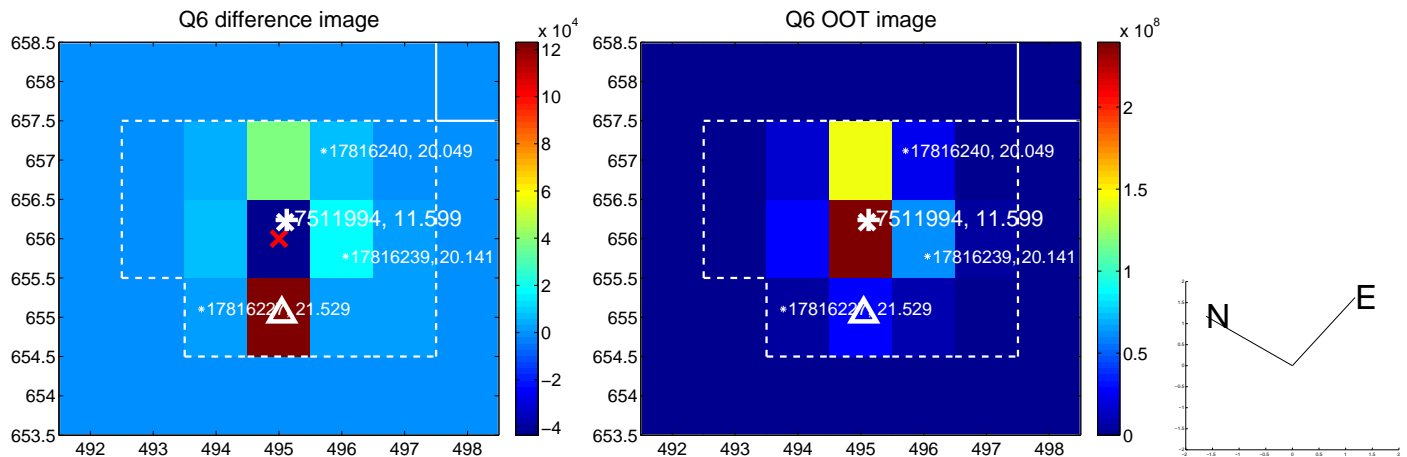
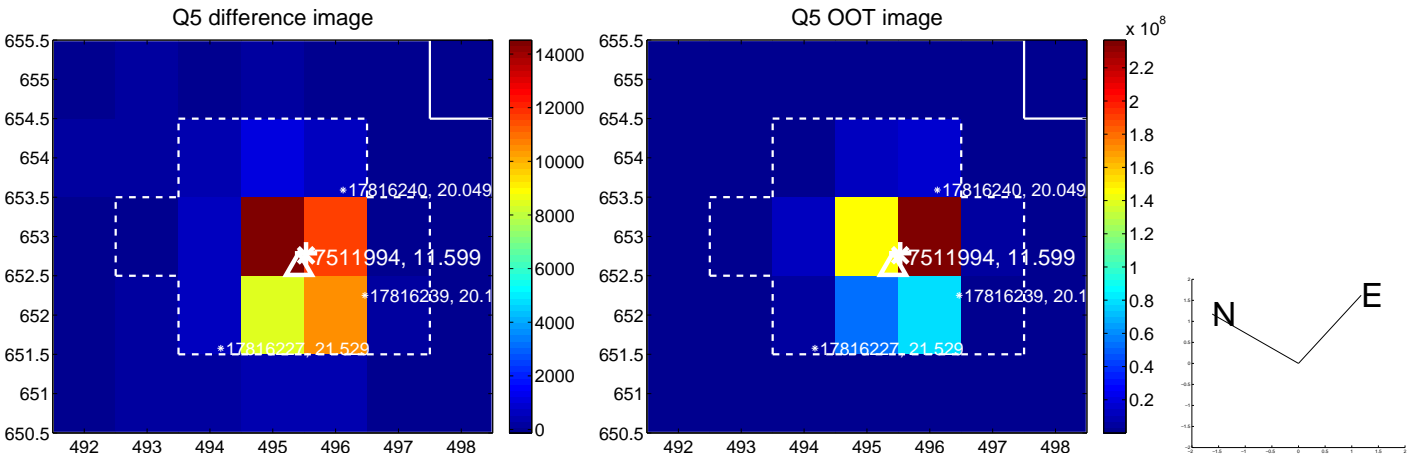


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

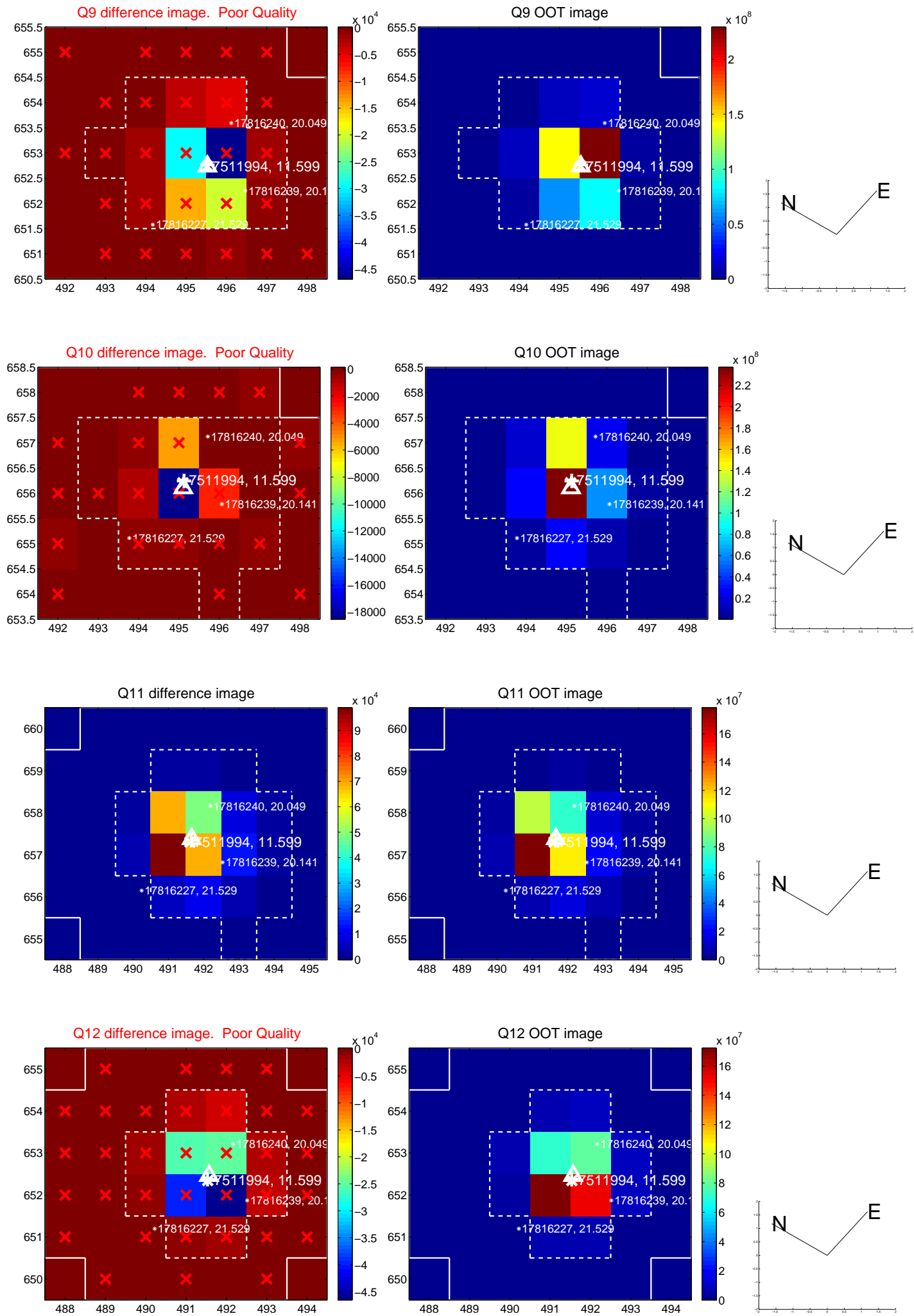
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



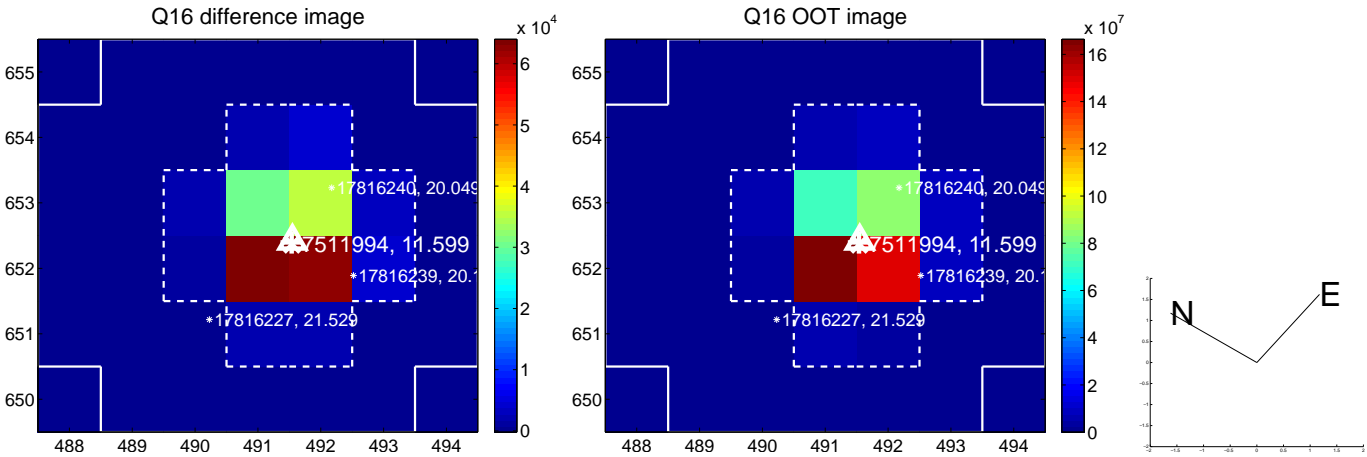
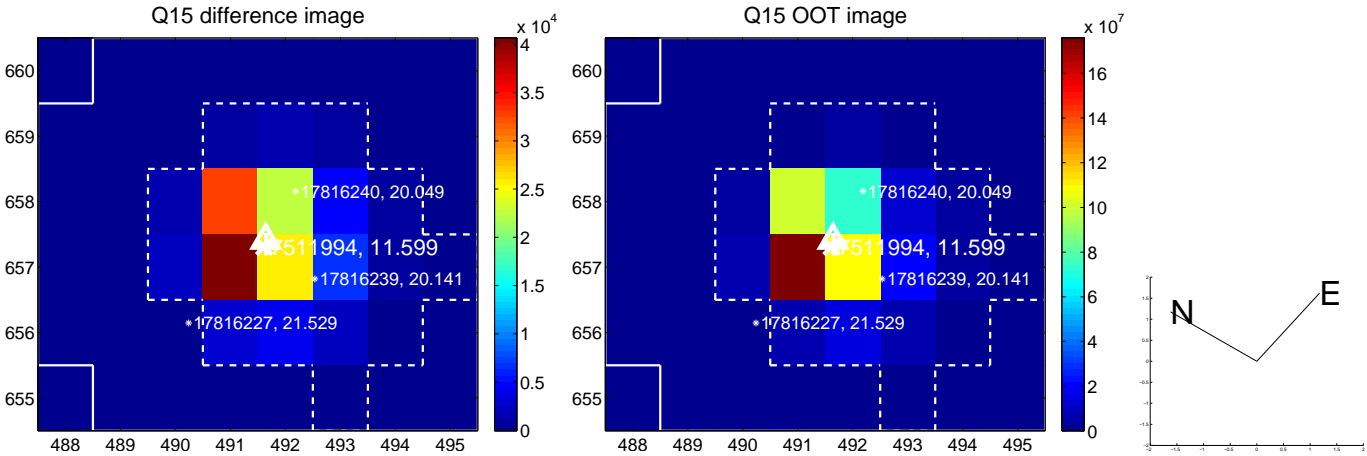
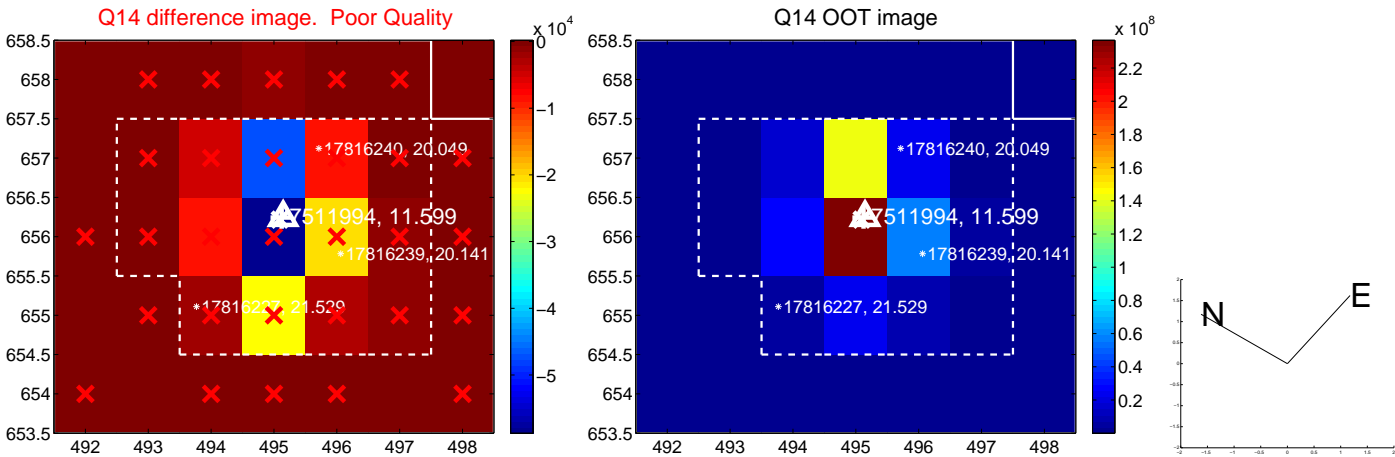
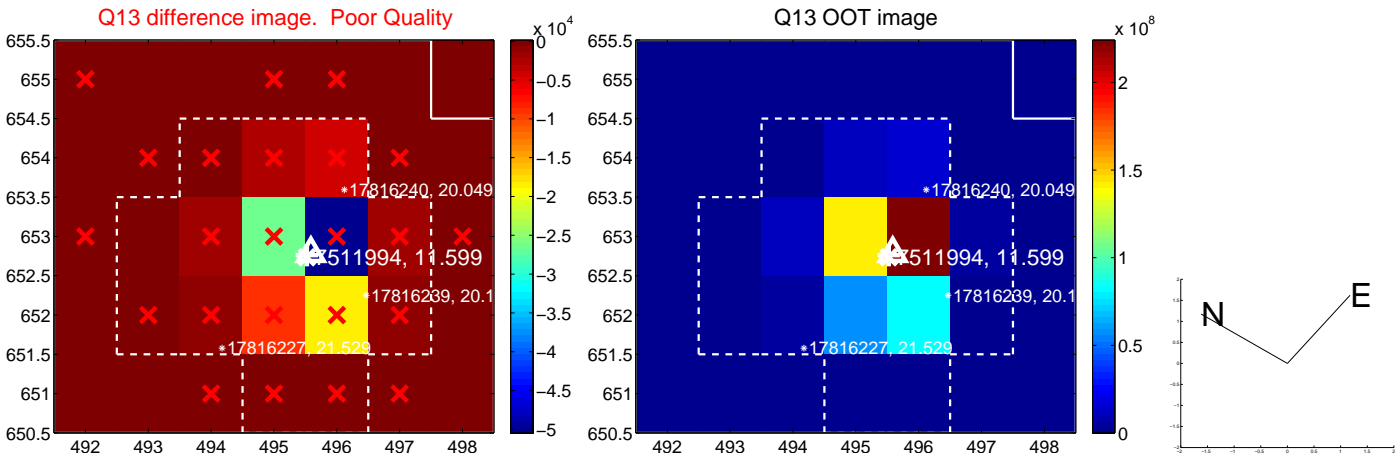
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



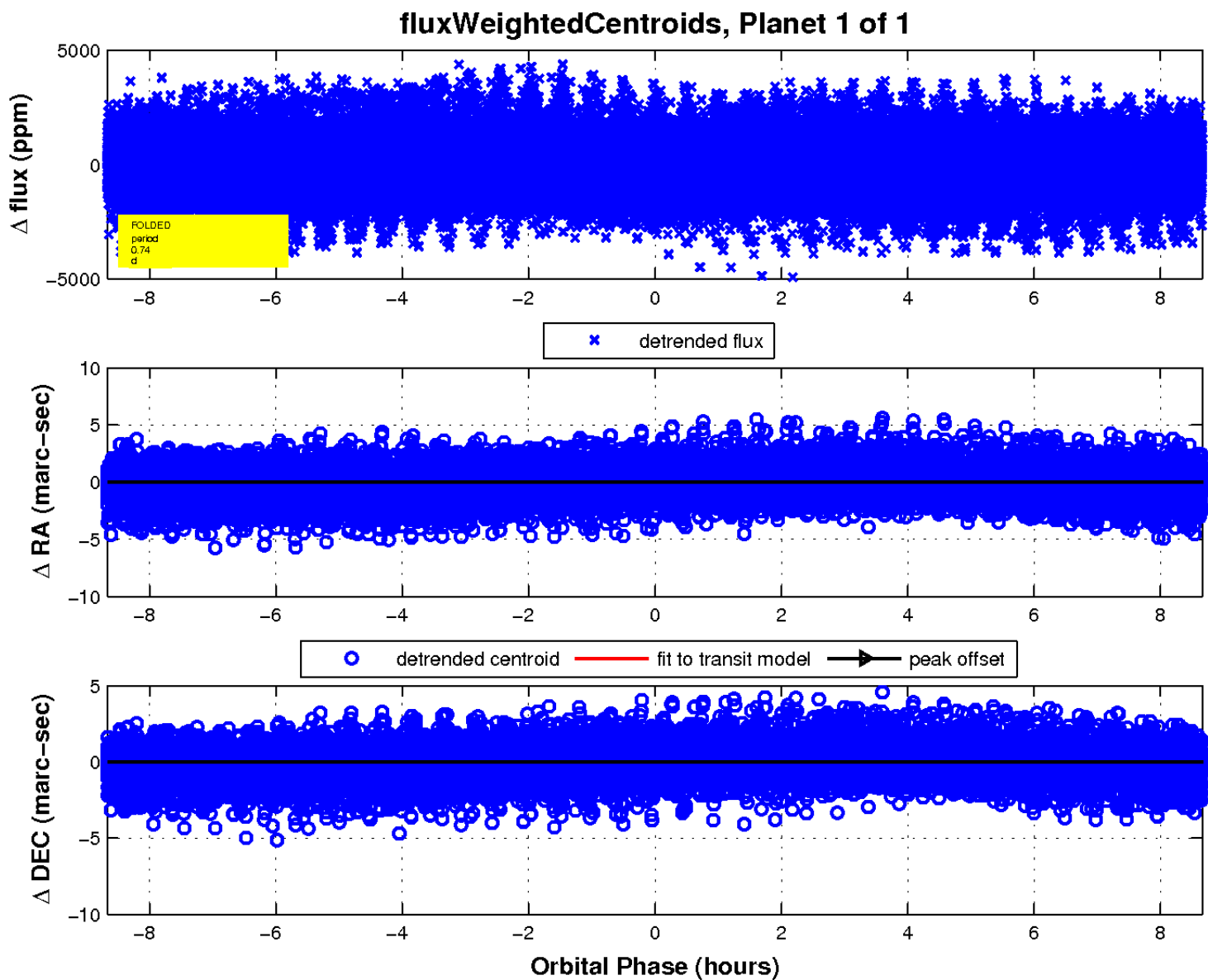
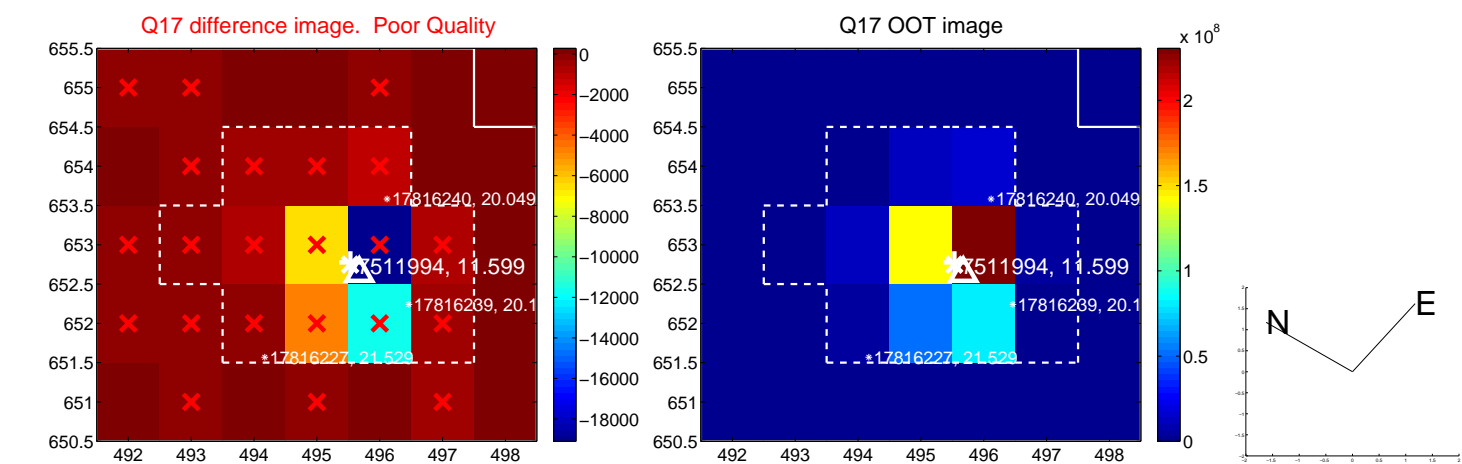
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UKIRT Image

Declination

