

KIC 011760312

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 011760312-01 | OBS | No | 2.364939 | 132.381663 | 60.8 | 10.261 | 8.4 | 9.4 | 1.51 | 7308 | 1.37 | 3843.23 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 011760312-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—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.

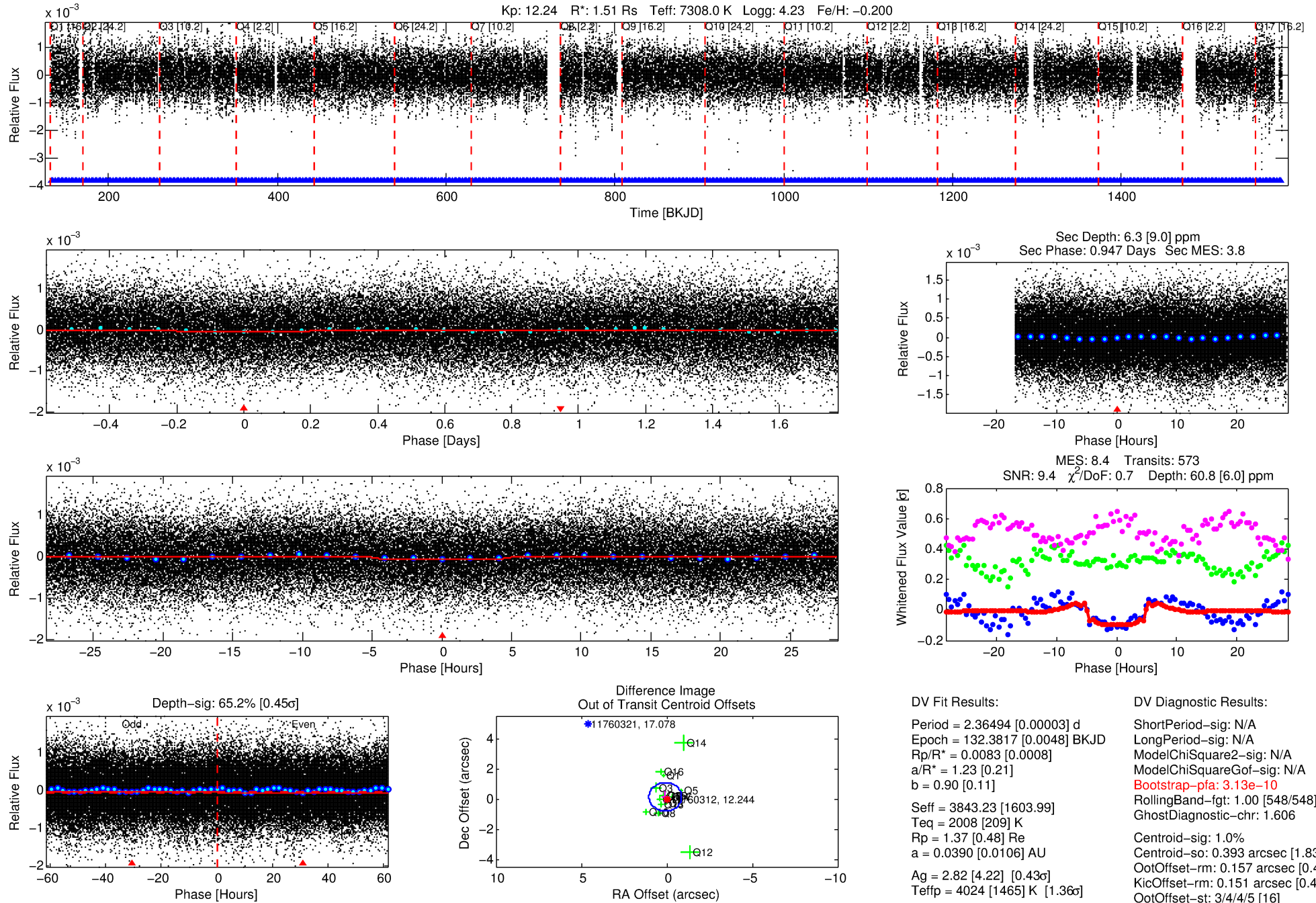
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011760312-01

No Significant Match Found

DV One-Page Summary

KIC: 11760312 Candidate: 1 of 1 Period: 2.365 d



DV Fit Results:

Period = 2.36494 [0.00003] d
Epoch = 132.3817 [0.0048] BKJD
Rp/R* = 0.0083 [0.0008]
a/R* = 1.23 [0.21]
b = 0.90 [0.11]
Seff = 3843.23 [1603.99]
Teq = 2008 [209] K
Rp = 1.37 [0.48] Re
a = 0.0390 [0.0106] AU
Ag = 2.82 [4.22] [0.43 σ]
Teffp = 4024 [1465] K [1.36 σ]

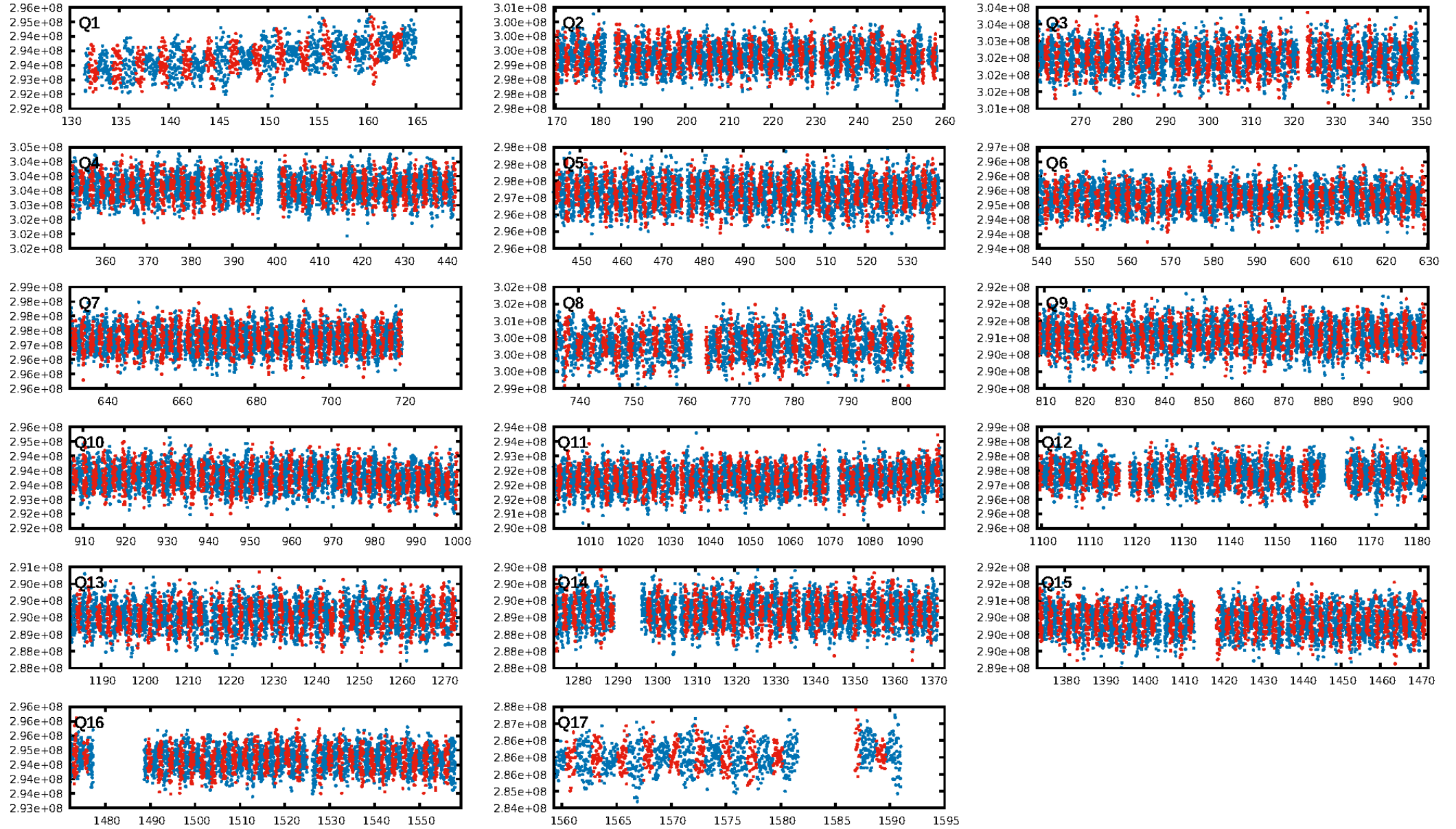
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.13e-10
RollingBand-fgt: 1.00 [548/548]
GhostDiagnostic-chr: 1.606
Centroid-sig: 1.0%
Centroid-so: 0.393 arcsec [1.83 σ]
OotOffset-rm: 0.157 arcsec [0.49 σ]
KicOffset-rm: 0.151 arcsec [0.44 σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.62 [10/16]
DiffImageOverlap-fno: 1.00 [17/17]

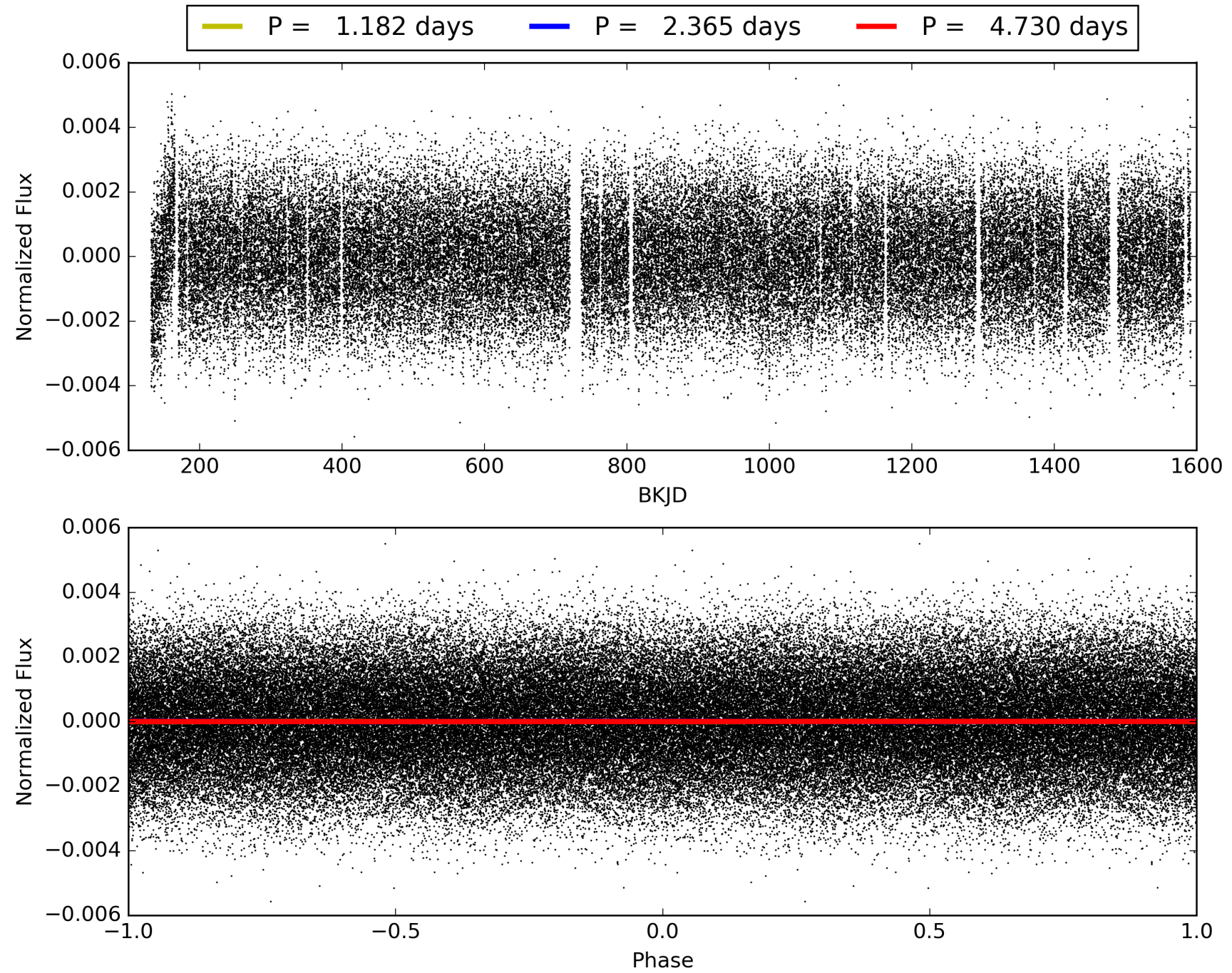
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:36:29 Z

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

TCE 011760312-01, PDC Light Curves

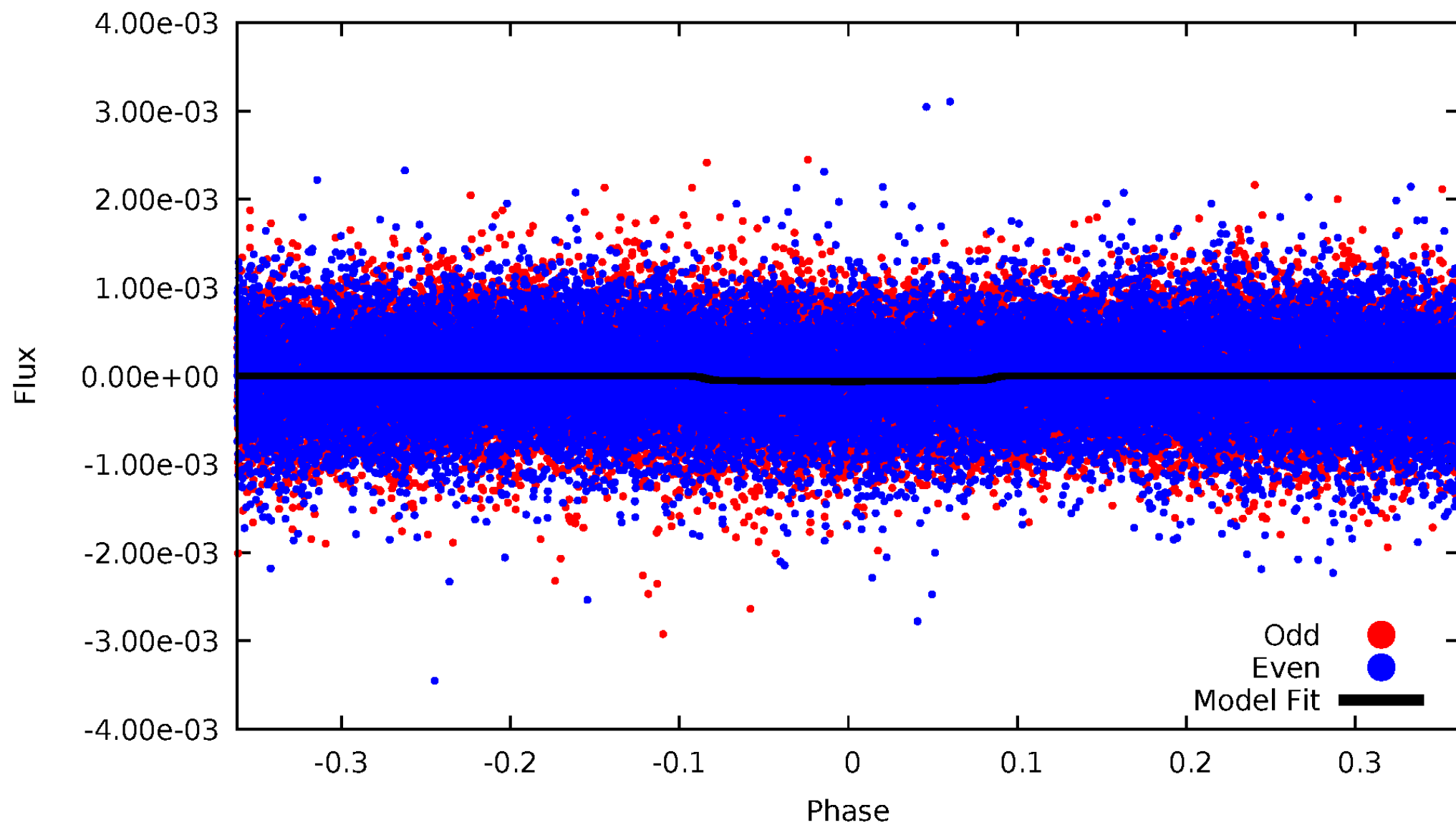


TCE 011760312-01



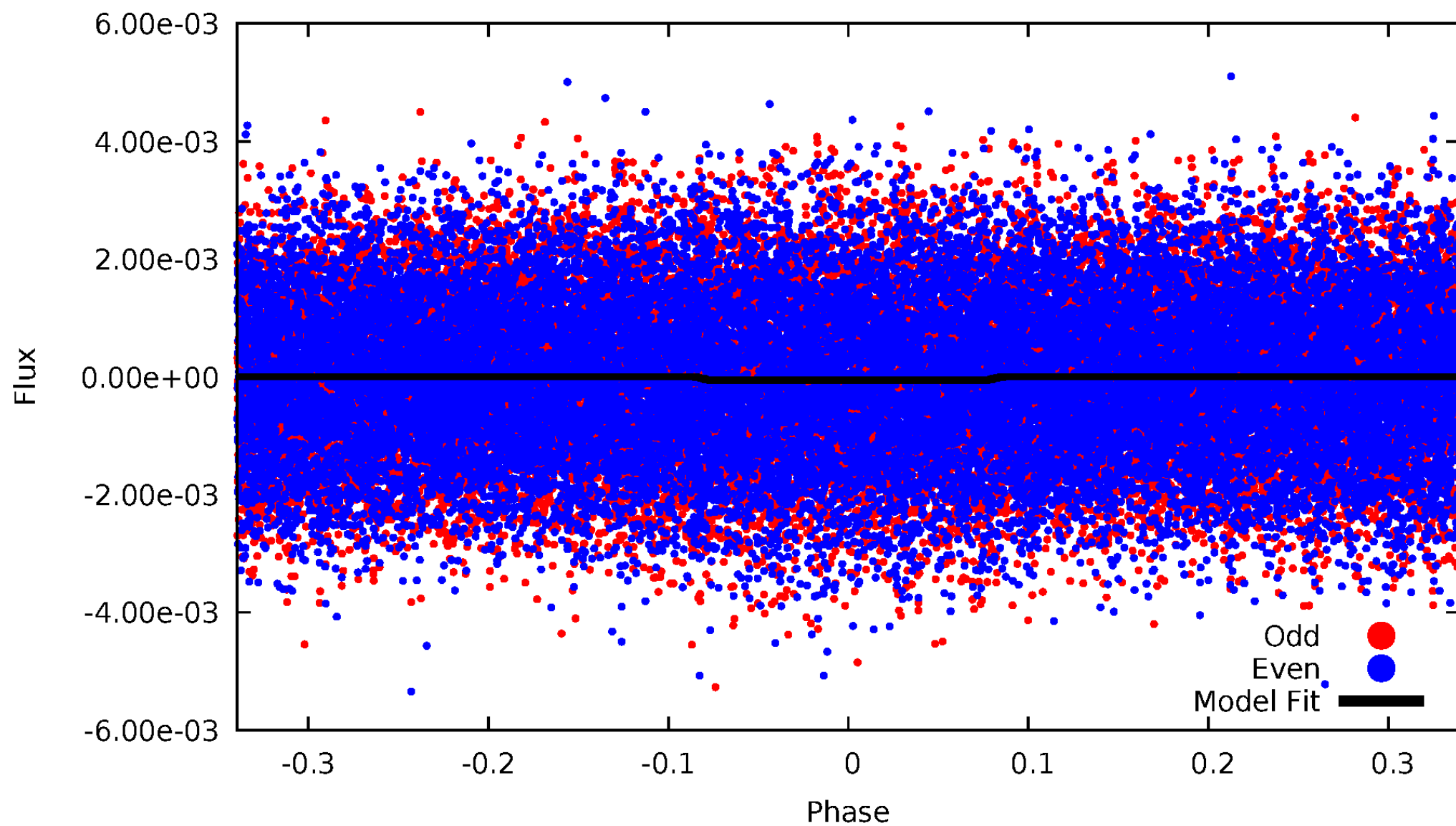
DV Odd/Even

TCE 011760312-01



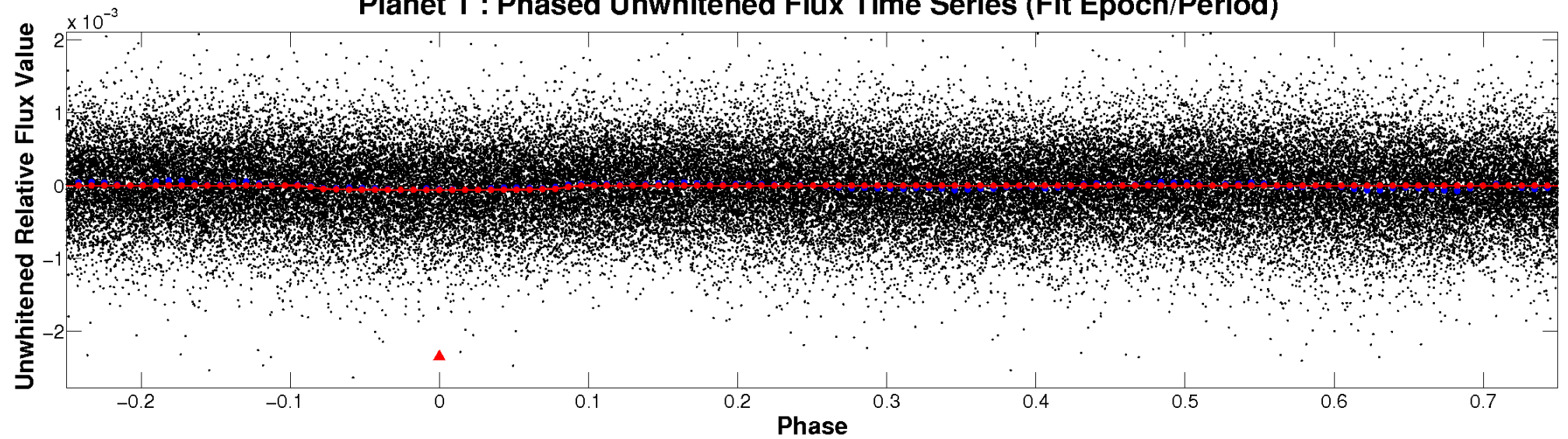
ALT Odd/Even

TCE 011760312-01

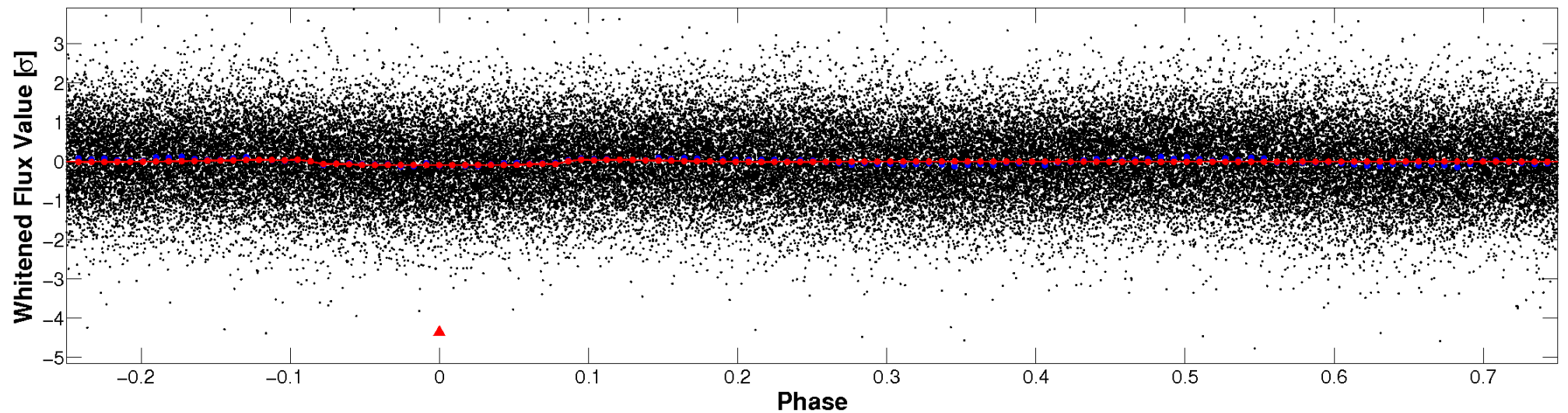


Non-Whitened Vs. Whitened Light Curve

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

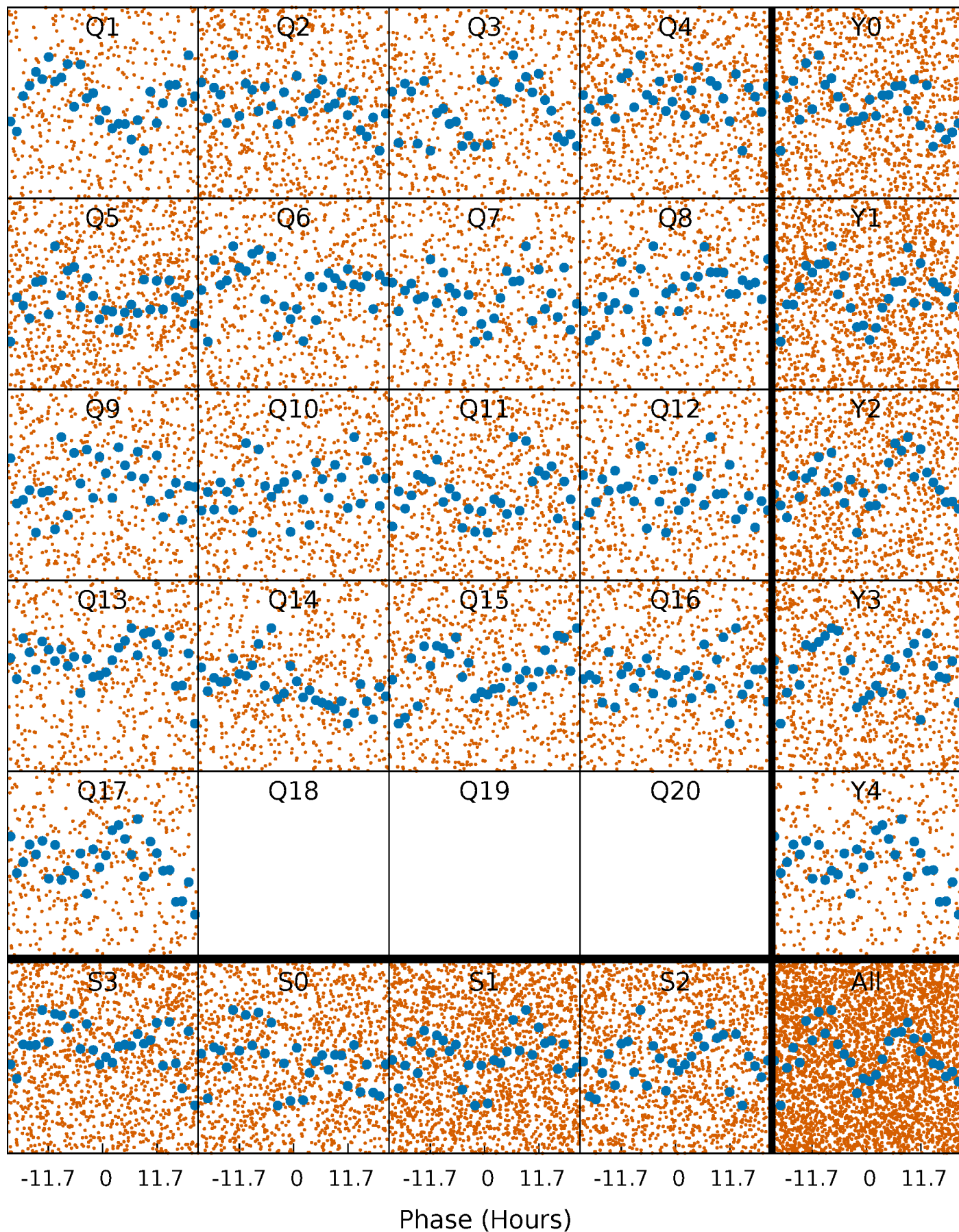


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



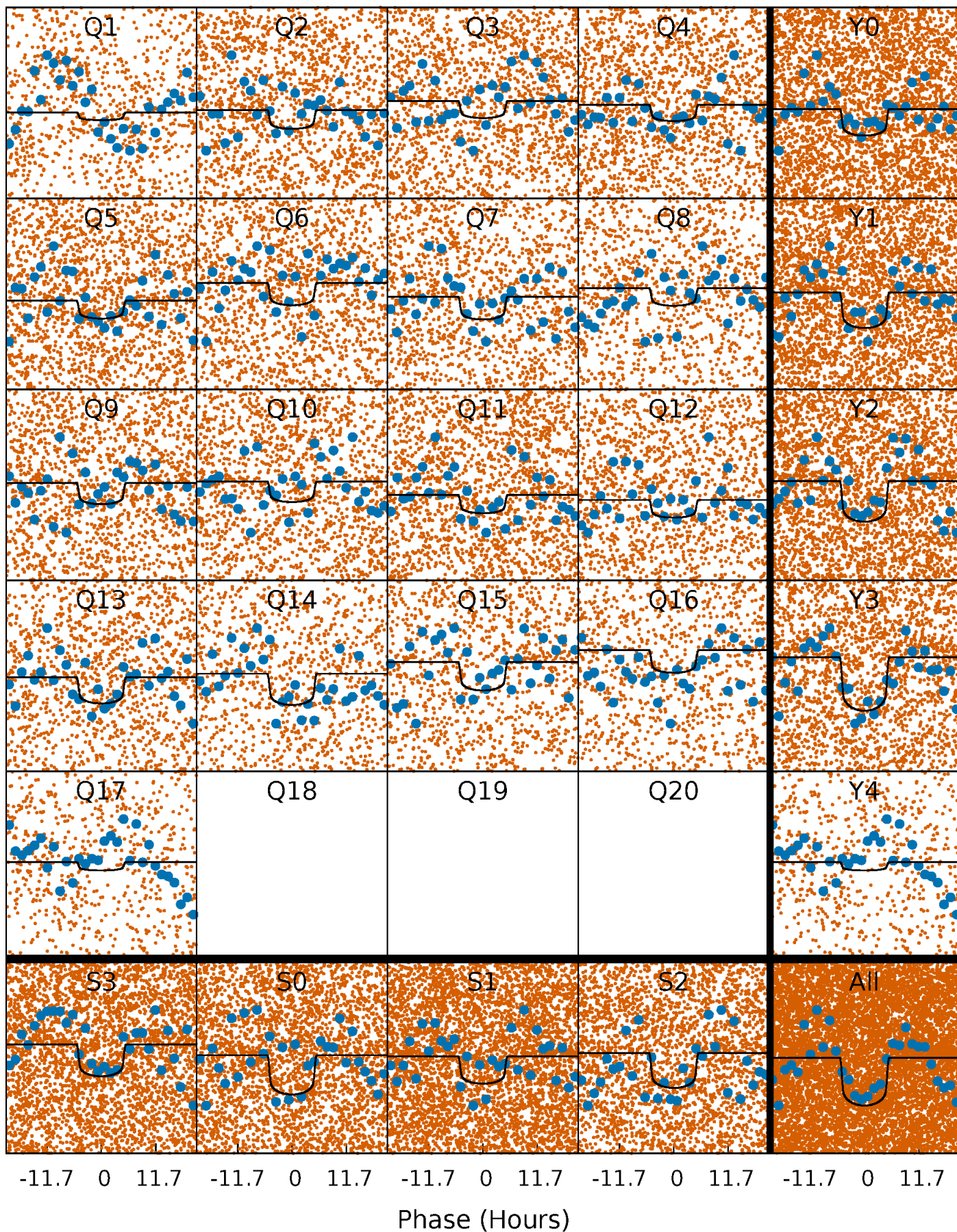
PDC Quarter-Phased Transit Curves

TCE 011760312-01 P= 2.364939 Days $T_0=132.381663$ (BKJD)



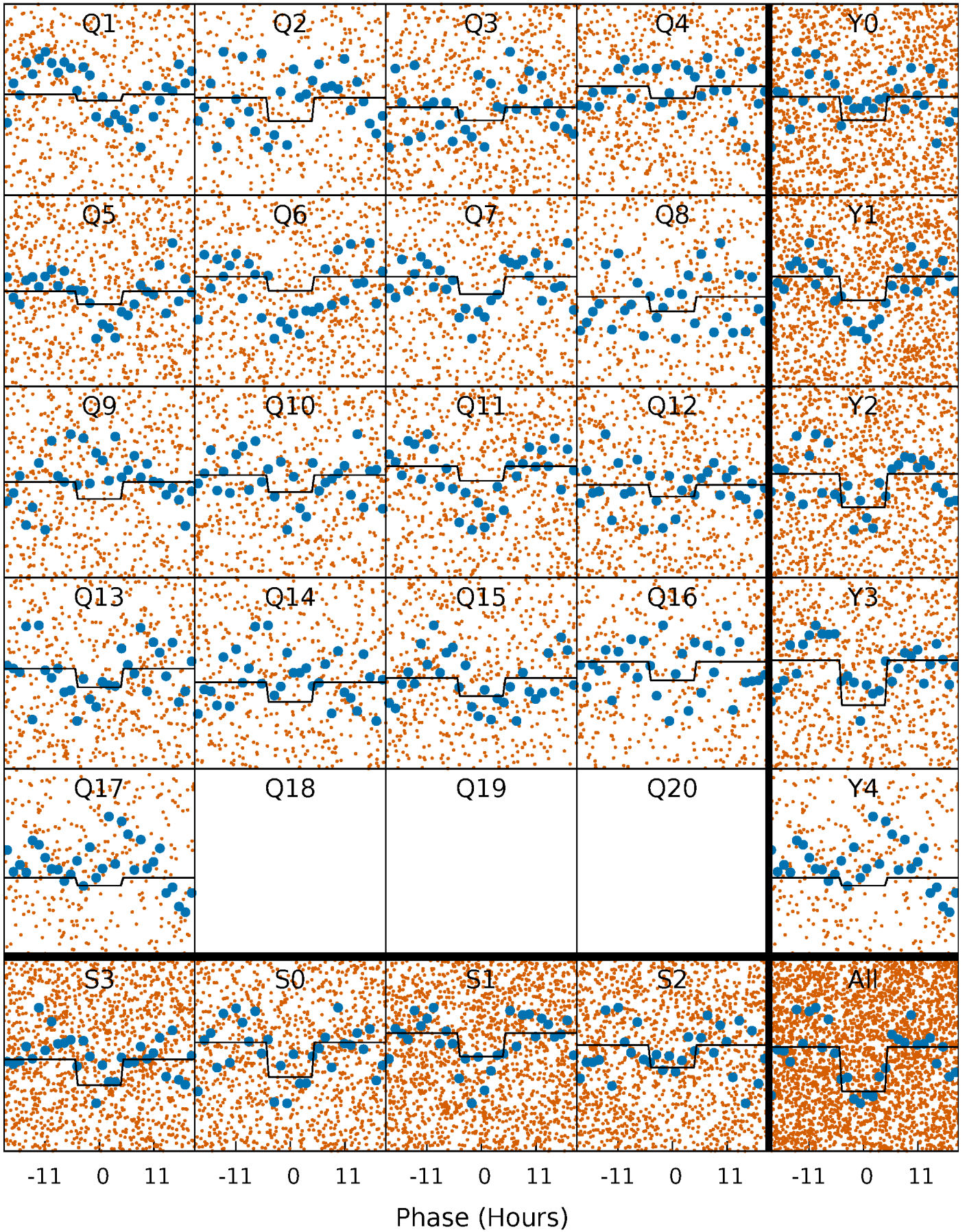
DV Quarter-Phased Transit Curves

TCE 011760312-01 P= 2.364939 Days $T_0=132.381663$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

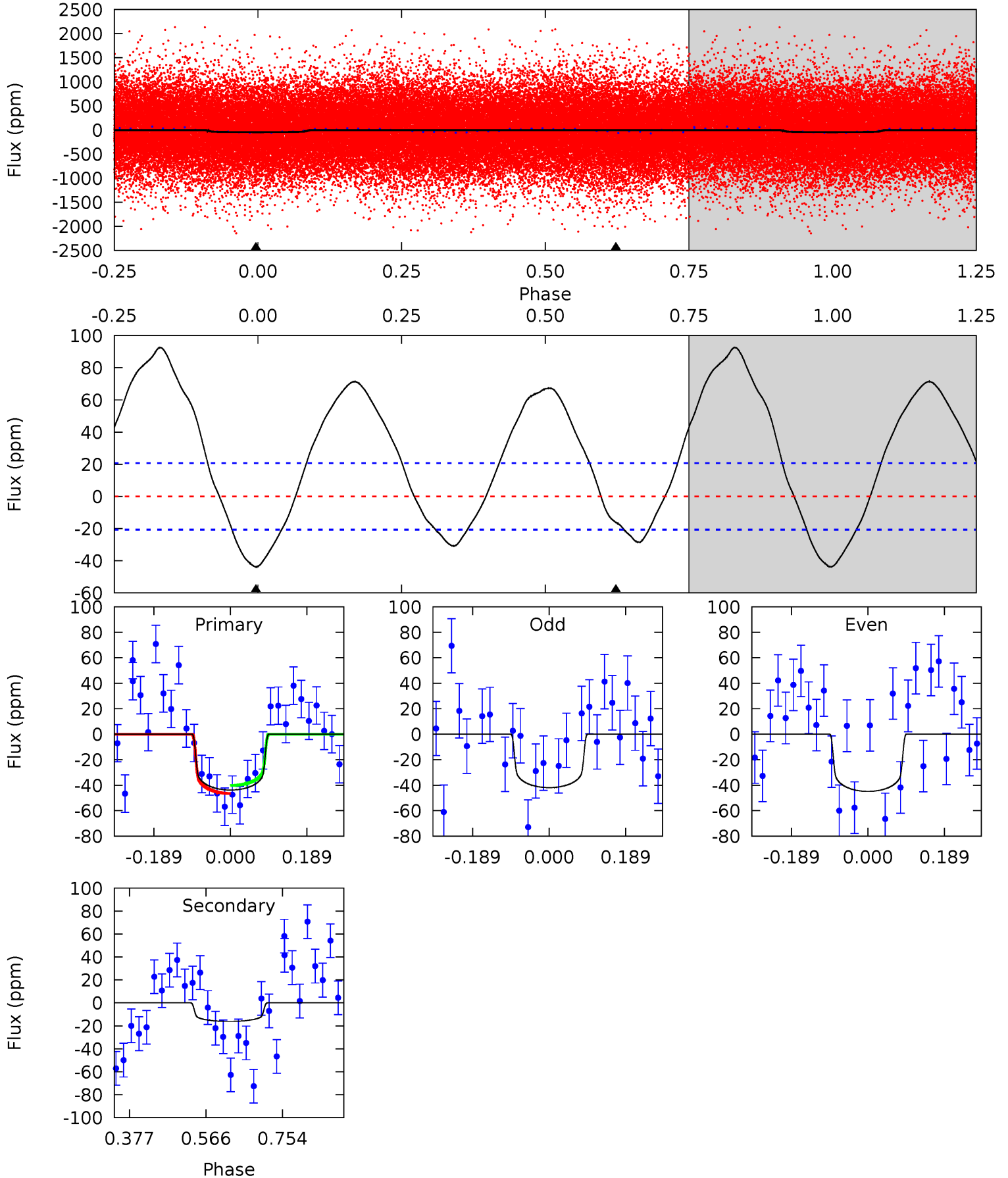
TCE 011760312-01 P= 2.364904 Days $T_0=132.389070$ (BKJD)



DV Model-Shift Uniqueness Test

011760312-01, P = 2.364939 Days, E = 130.016724 Days

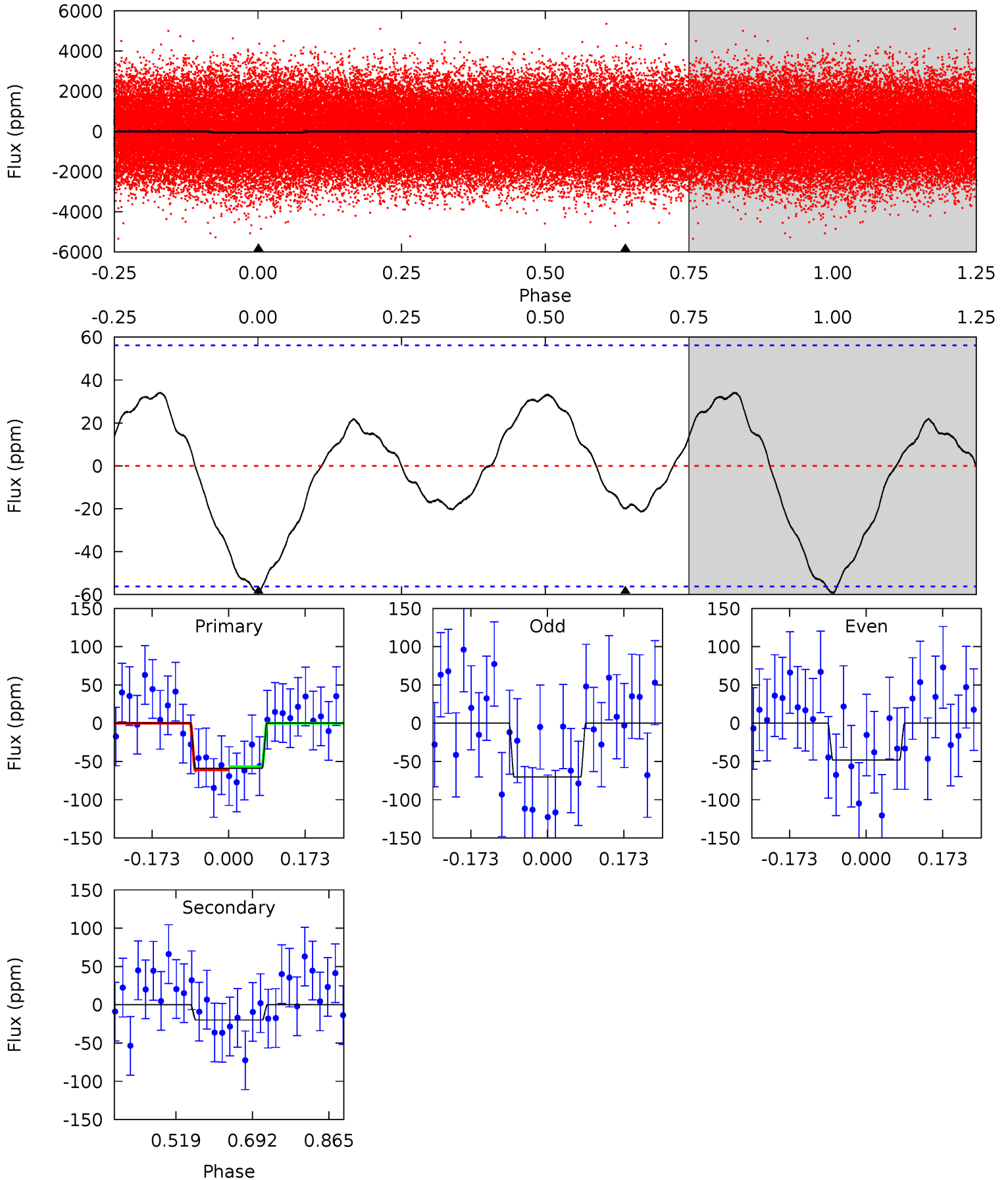
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 9.39 | 3.46 | 0 | 0 | 4.43 | 1.31 | 6.16 | 9.39 | 9.39 | 3.46 | 3.46 | 0.32 | 1.21 | 0.68 | 0.68 |



Alt Model-Shift Uniqueness Test

011760312-01, P = 2.364904 Days, E = 130.024166 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 4.68 | 1.58 | 0 | 0 | 4.45 | 1.36 | 1.24 | 4.68 | 4.68 | 1.58 | 1.58 | 0.88 | 12.4 | 0.37 | 0.17 |



Stellar Parameters For KIC 011760312

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 7308^{+230}_{-333} | $4.229^{+0.105}_{-0.195}$ | $-0.200^{+0.250}_{-0.350}$ | $1.512^{+0.514}_{-0.257}$ | $1.416^{+0.218}_{-0.218}$ | $0.578^{+0.282}_{-0.299}$ |
| | +3%/-5% | +2%/-5% | +125%/-175% | +34%/-17% | +15%/-15% | +49%/-52% |
| 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 011760312-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|--------------|------------------------|----------------------|-----------------------|---------------------------|
| DV | -16 ± 5 | $1.39^{+0.27}_{-0.20}$ | 2820^{+242}_{-172} | 5045^{+378}_{-467} | $6.813^{+3.147}_{-2.700}$ |
| Alt. | -20 ± 13 | $1.30^{+0.24}_{-0.19}$ | 2835^{+212}_{-191} | 5443^{+831}_{-1190} | $9.273^{+7.640}_{-6.115}$ |

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 $A_{obs} \gg 1.0$

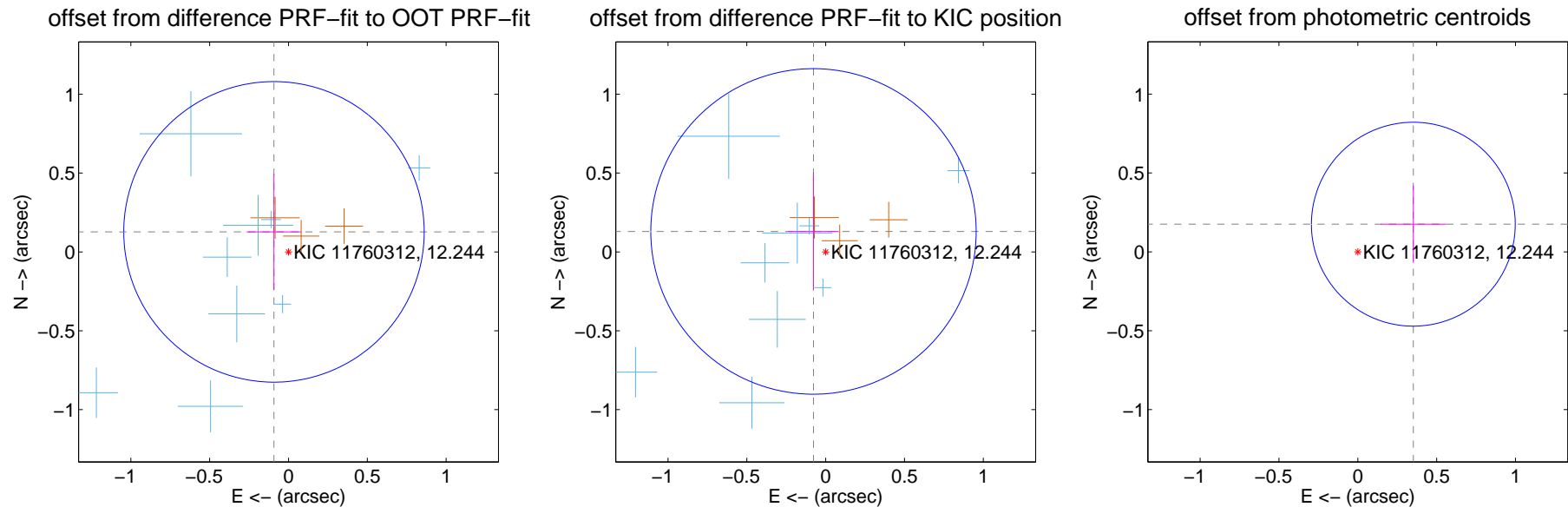
DV Centroid Data

Supplemental centroid analysis for 011760312-01. Kepler magnitude: 12.24. Transit SNR 9.39

There are 10 quarters with good PRF difference image offsets

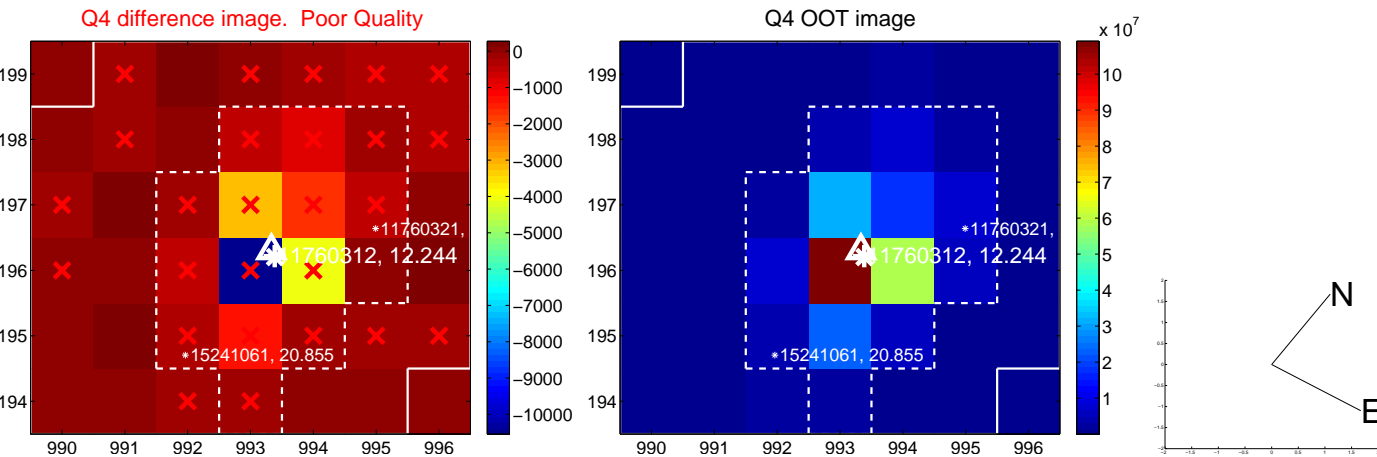
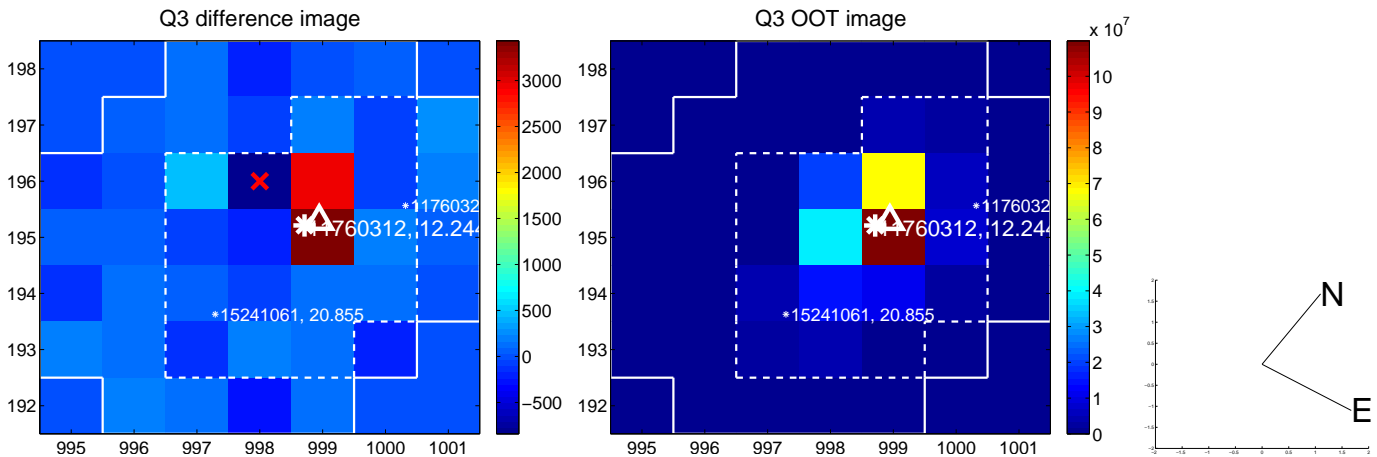
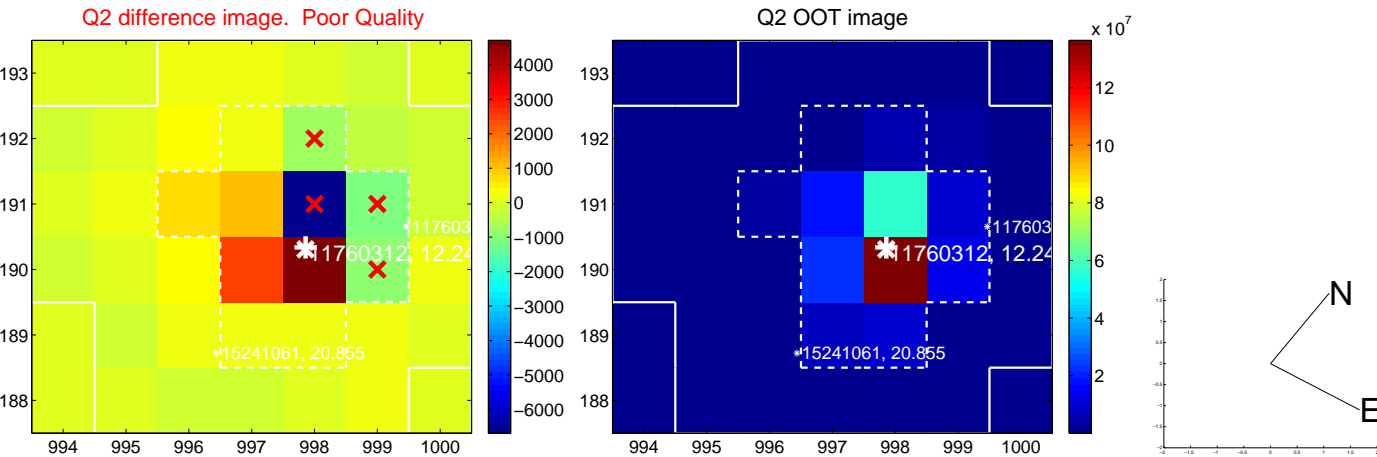
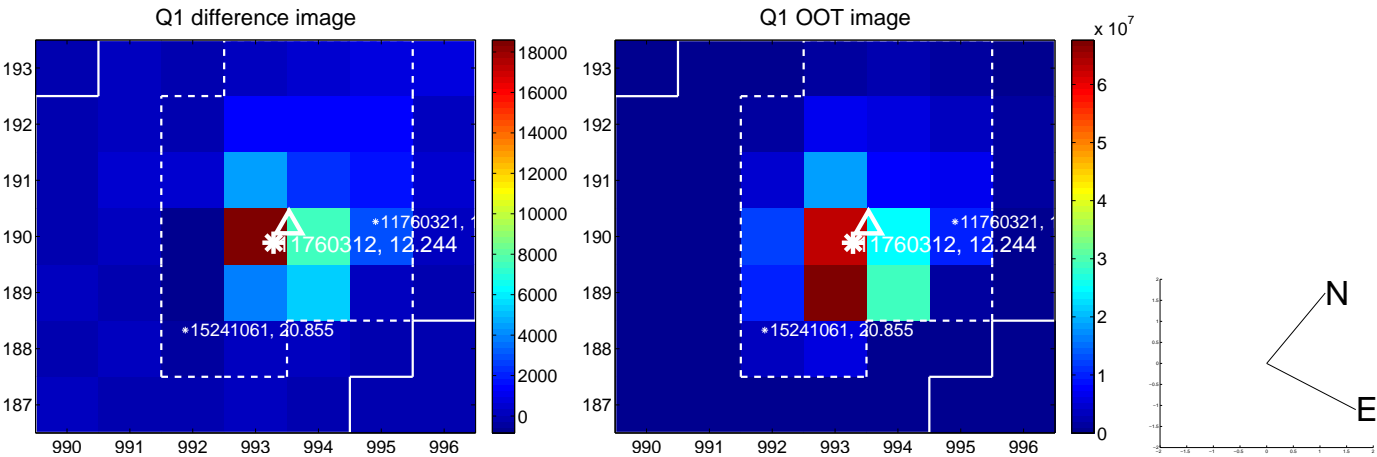
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.157 ± 0.318 | 0.49 | 0.092 ± 0.174 | 0.127 ± 0.368 |
| PRF-fit source offset from KIC position | 0.151 ± 0.344 | 0.44 | 0.077 ± 0.161 | 0.130 ± 0.372 |
| photometric centroid source offset | 0.39 ± 0.22 | 1.83 | -0.35 ± 0.21 | 0.18 ± 0.24 |

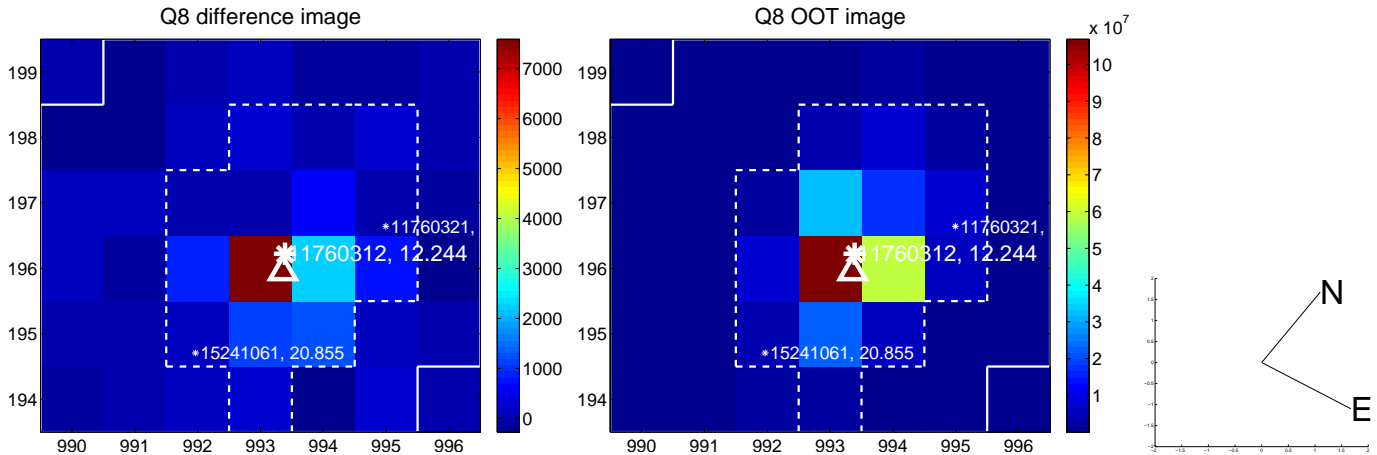
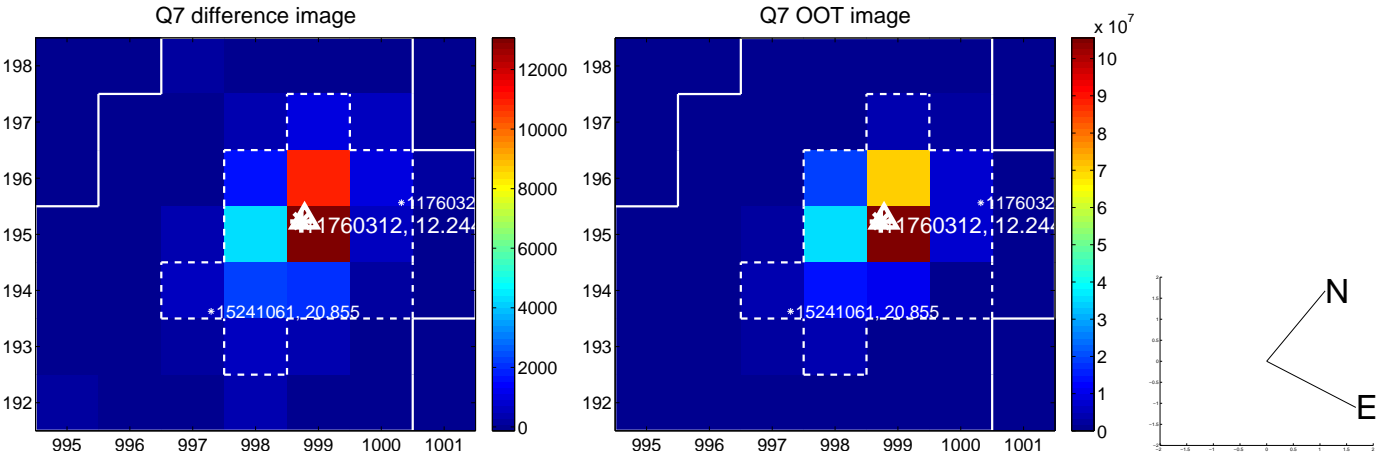
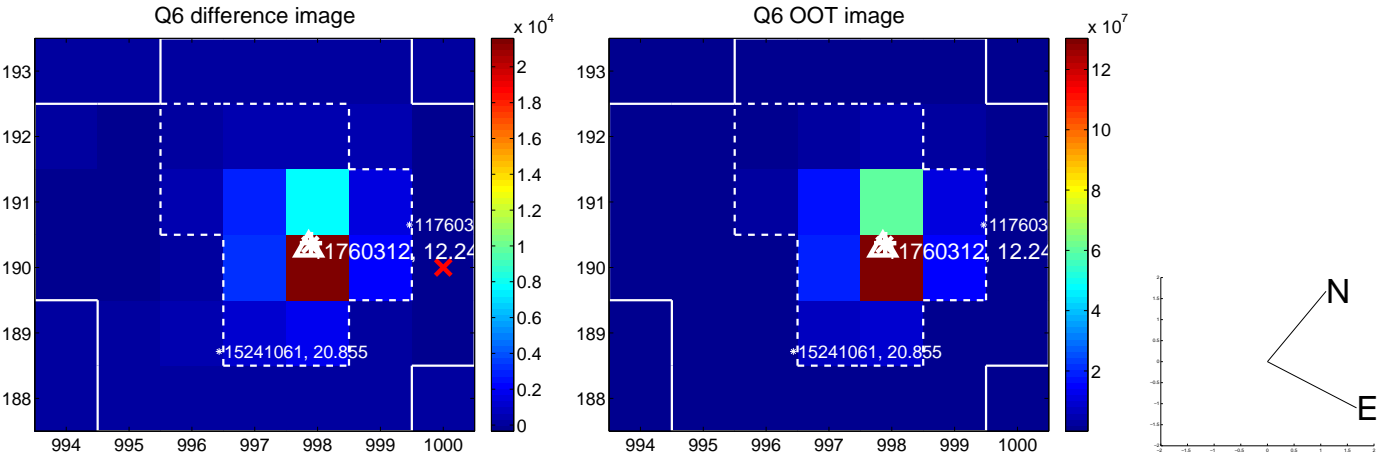
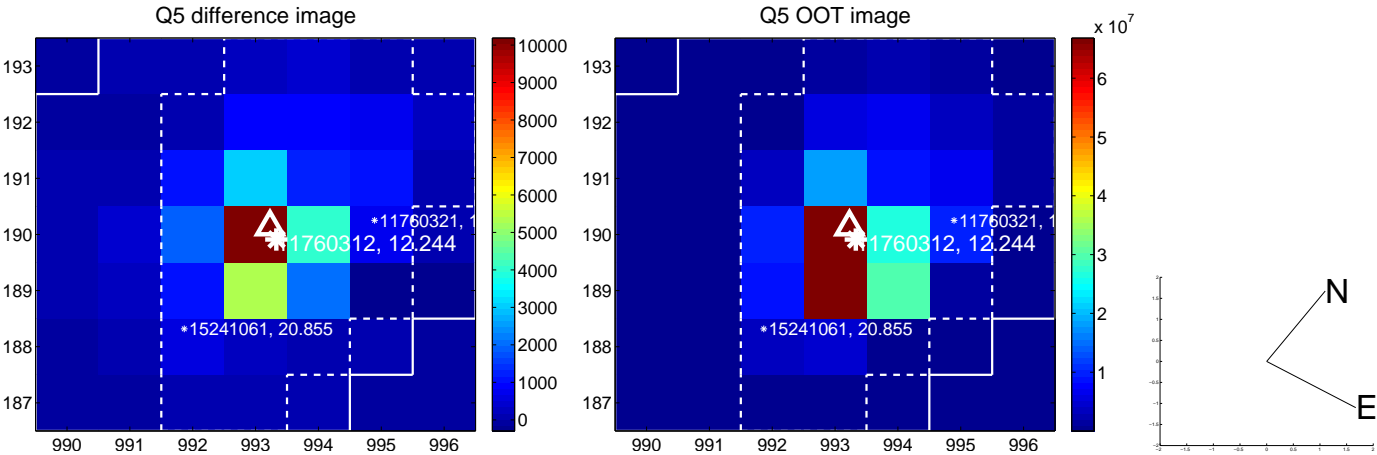


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

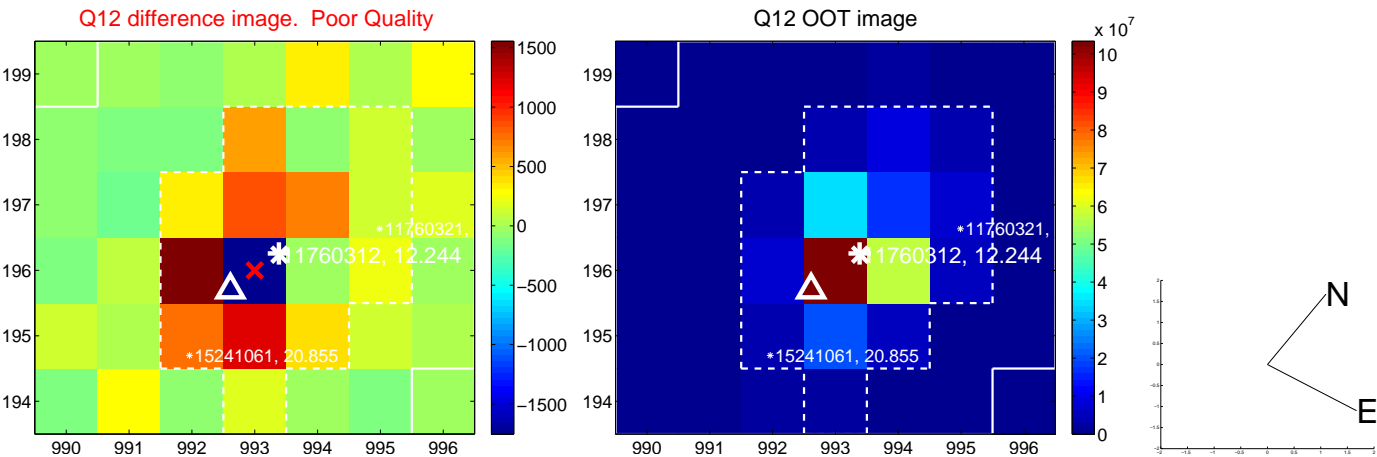
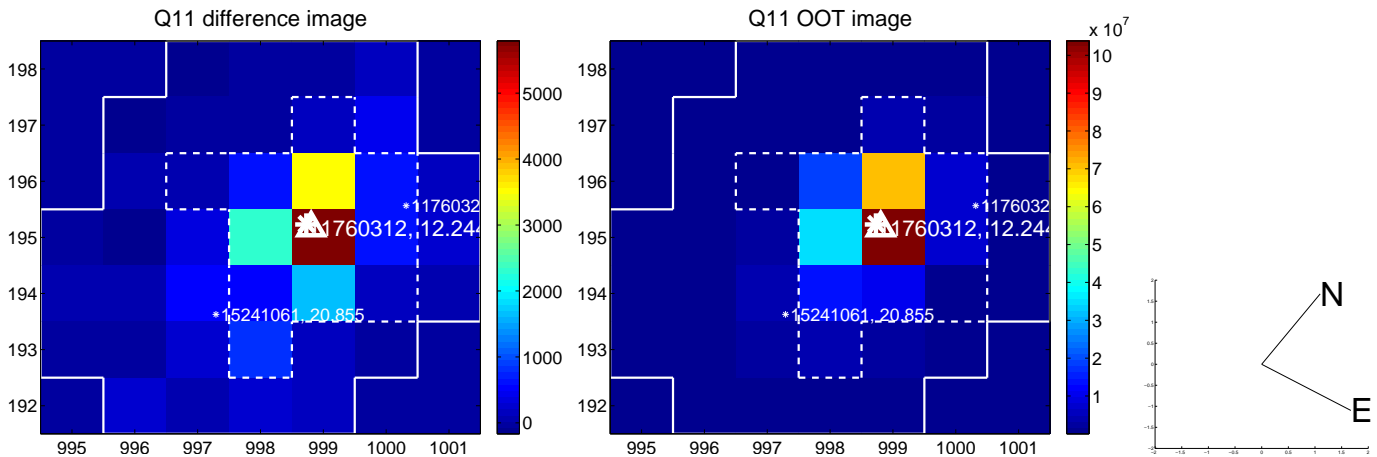
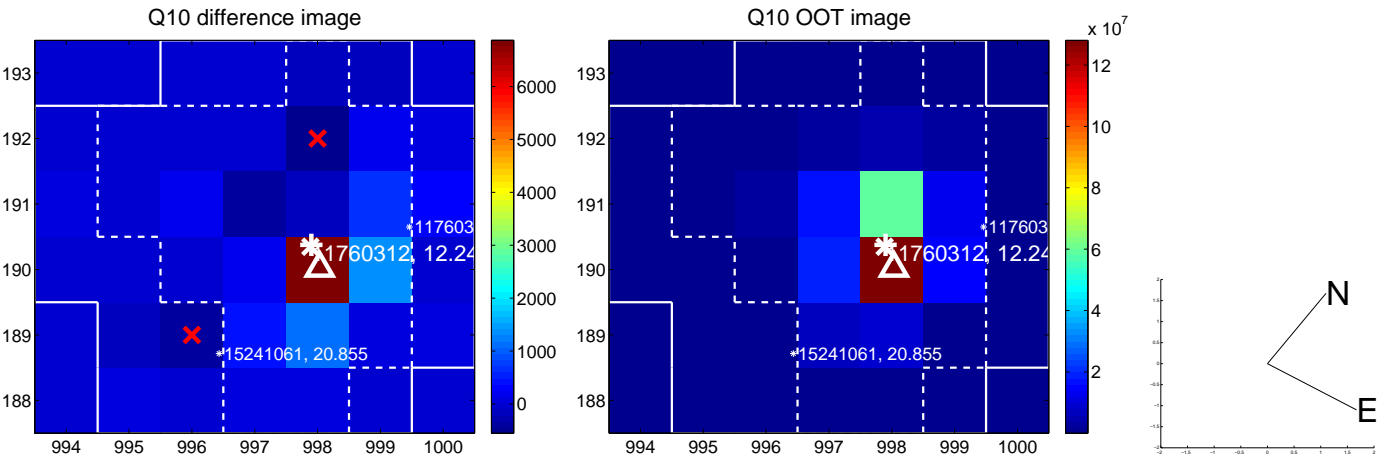
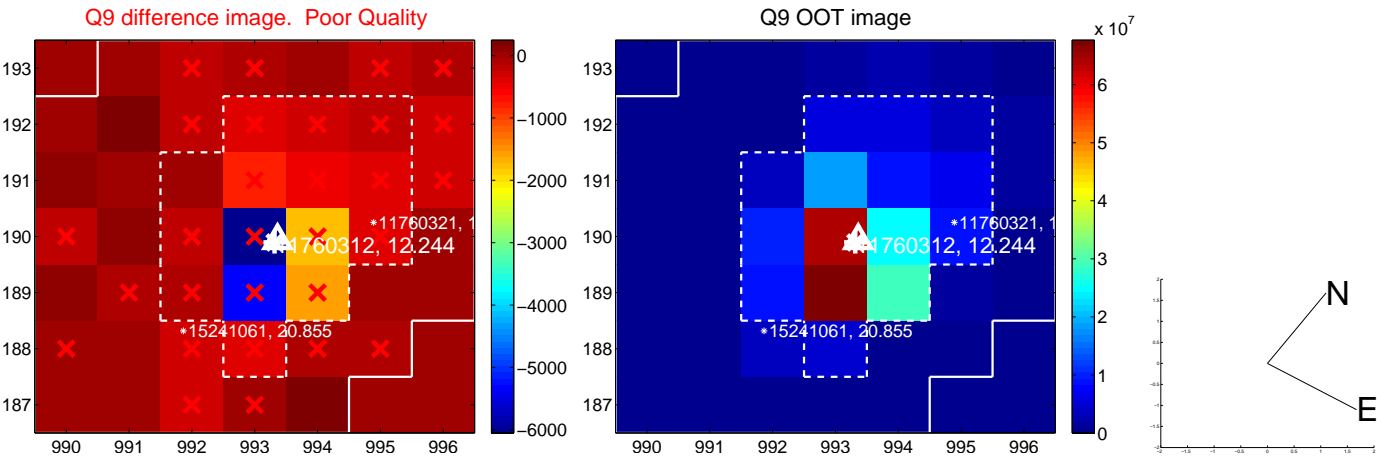
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



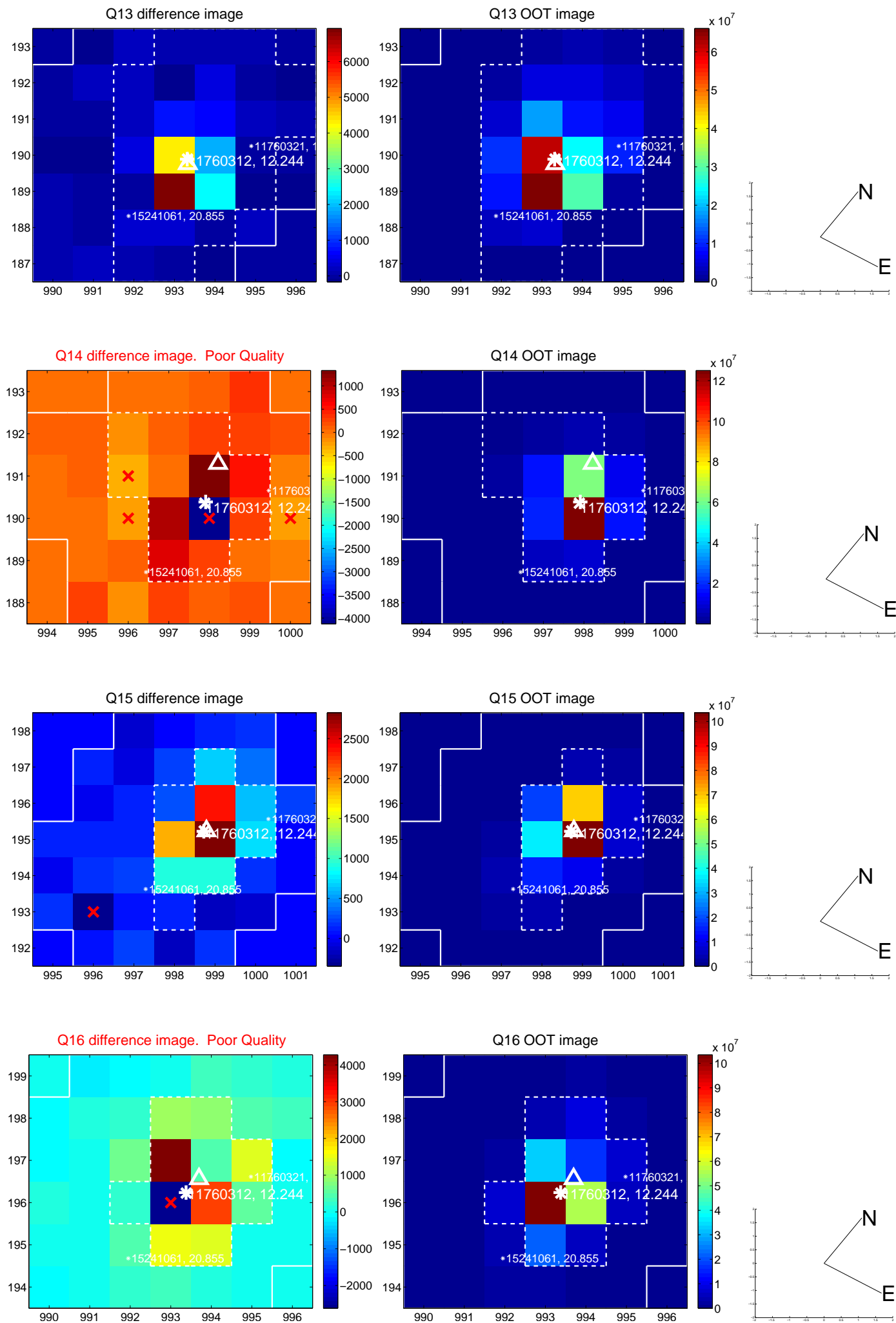
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



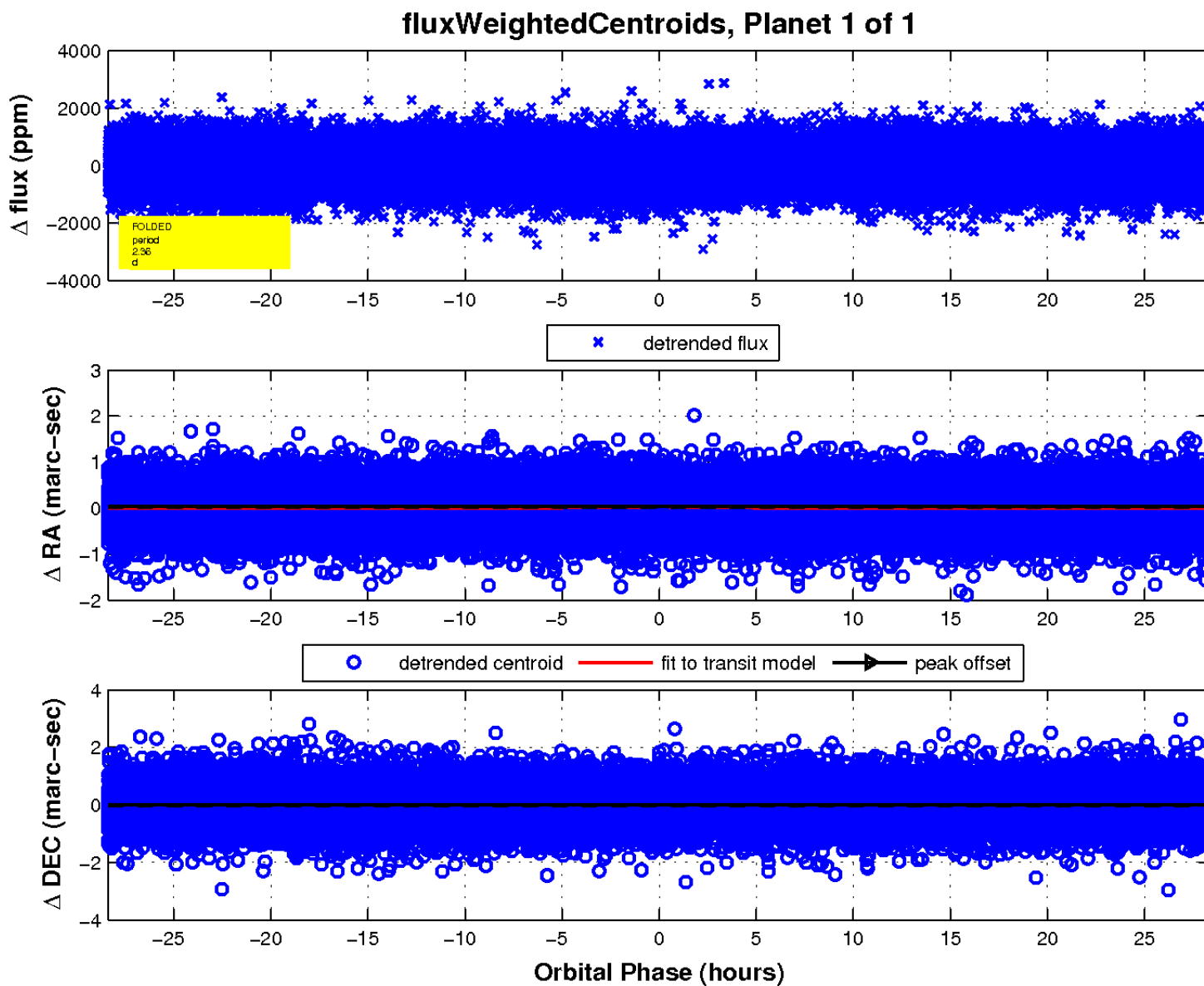
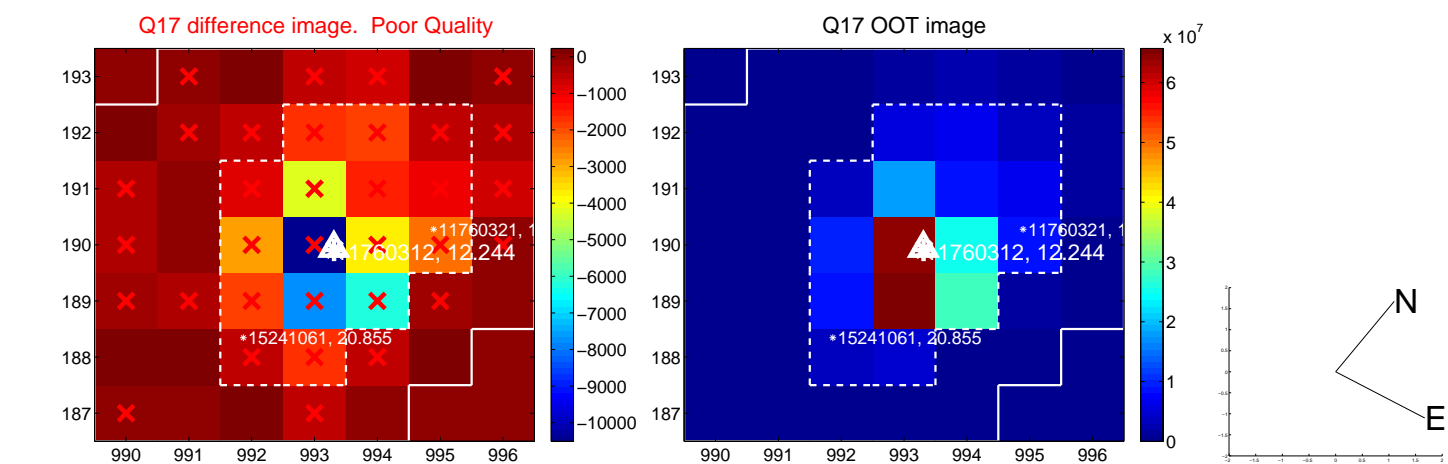
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

