

KIC 004262505

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|-----|-----------------------------|-----------------|------------------------|------------------------|
| 004262505-01 | OBS | No | 42.079905 | 169.797932 | 15.2 | 2.204 | 11.5 | 5.8 | 8.29 | 4980 | 3.82 | 467.03 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 004262505-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED |

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

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

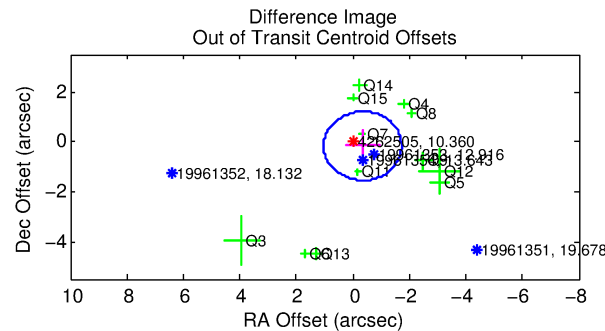
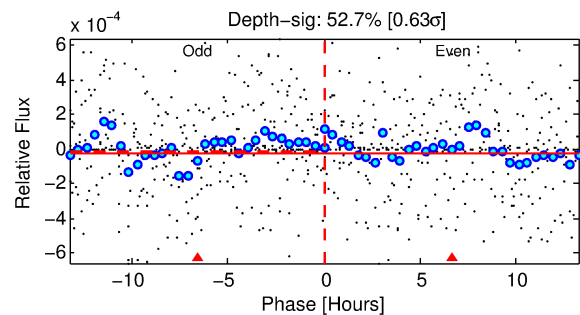
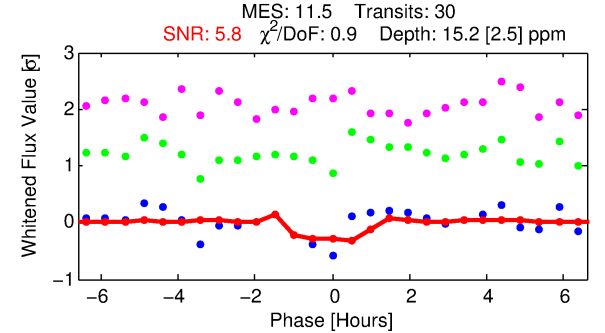
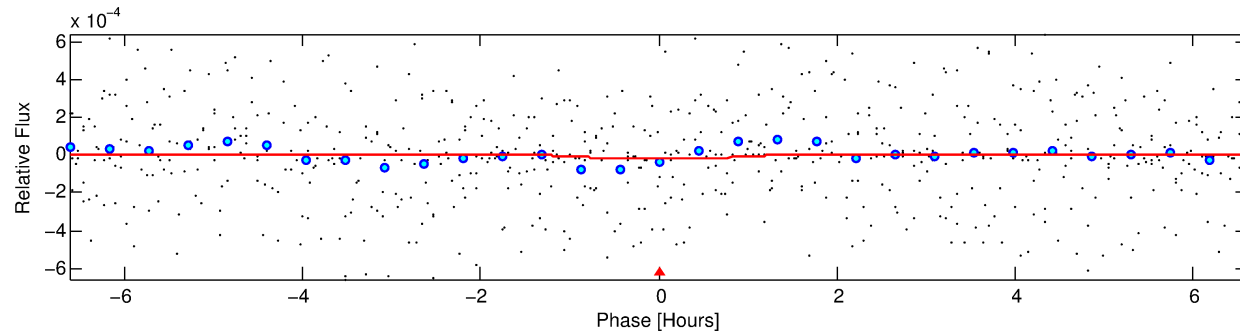
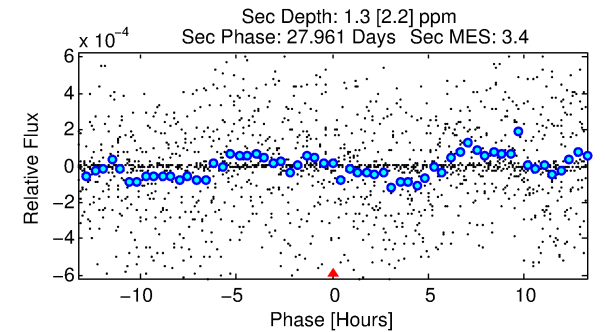
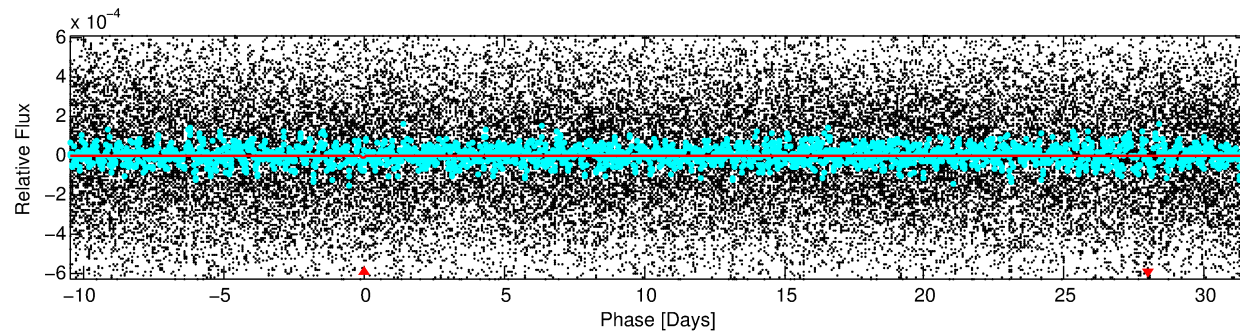
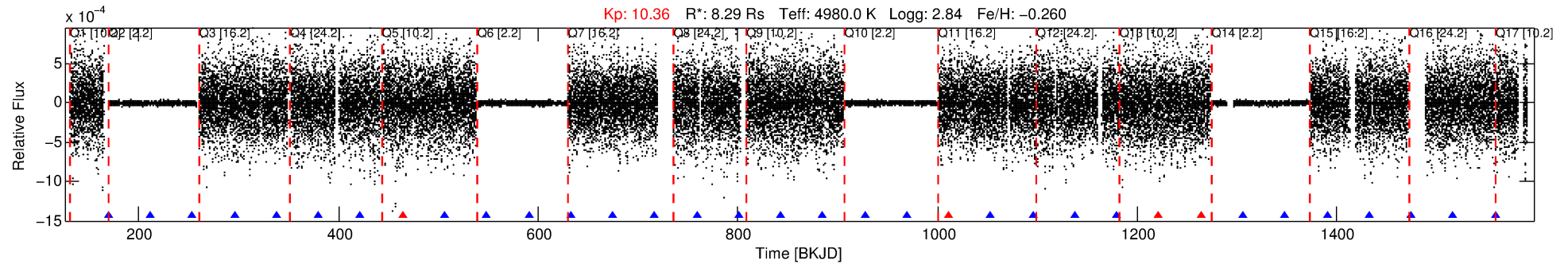
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004262505-01

No Significant Match Found

DV One-Page Summary

KIC: 4262505 Candidate: 1 of 1 Period: 42.080 d



DV Fit Results:

Period = 42.07990 [0.00049] d
Epoch = 169.7979 [0.0056] BKJD
Rp/R* = 0.0042 [0.0019]
a/R* = 71.56 [128.11]
b = 0.88 [0.49]
Seff = 467.03 [76.41]
Teq = 1185 [48] K
Rp = 3.82 [1.89] Re
a = 0.2847 [0.0382] AU
Ag = 4.05 [7.70] [0.40σ]
Teffp = 2600 [1234] K [1.15σ]

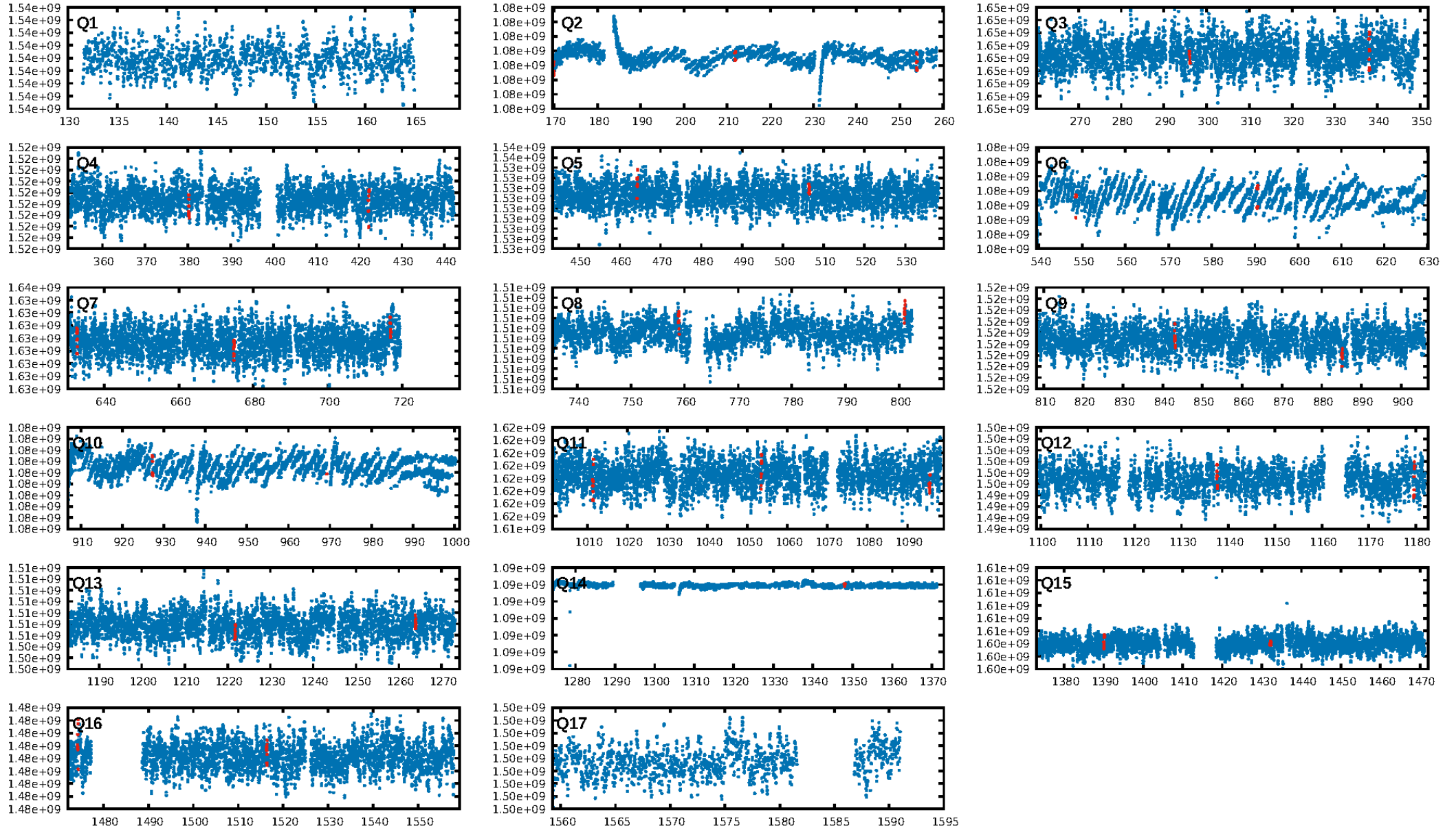
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.24e-13
RollingBand-fgt: 0.87 [26/30]
GhostDiagnostic-chr: -0.4035
Centroid-sig: 0.0%
Centroid-so: 13.057 arcsec [2.06σ]
OotOffset-rm: 0.381 arcsec [0.83σ]
KicOffset-rm: 0.609 arcsec [1.24σ]
OotOffset-st: 2/4/3/3 [12]
KicOffset-st: 2/4/3/3 [12]
DiffImageQuality-fgm: 0.08 [1/12]
DiffImageOverlap-fno: 1.00 [15/15]

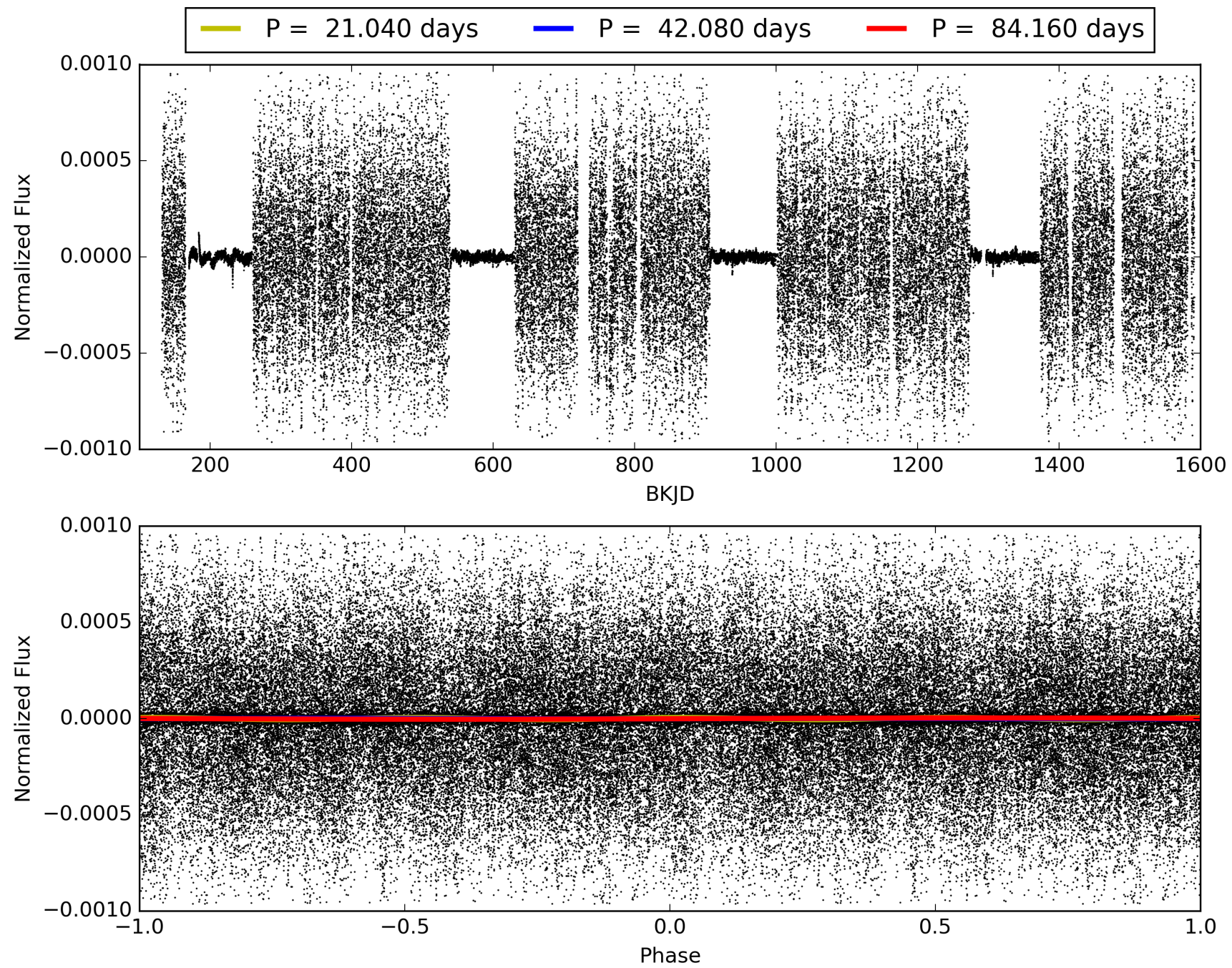
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:20:56 Z

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

TCE 004262505-01, PDC Light Curves

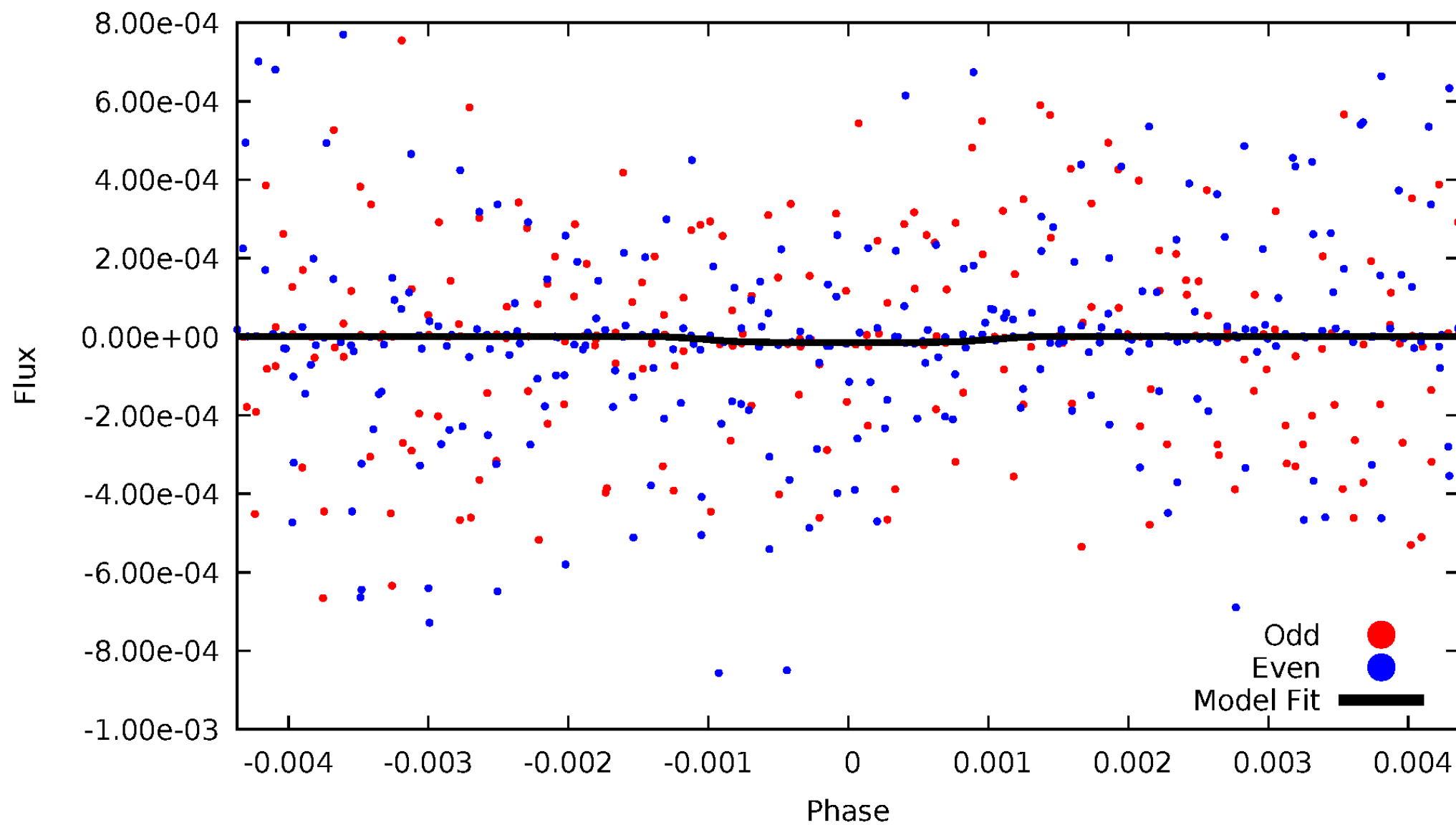


TCE 004262505-01



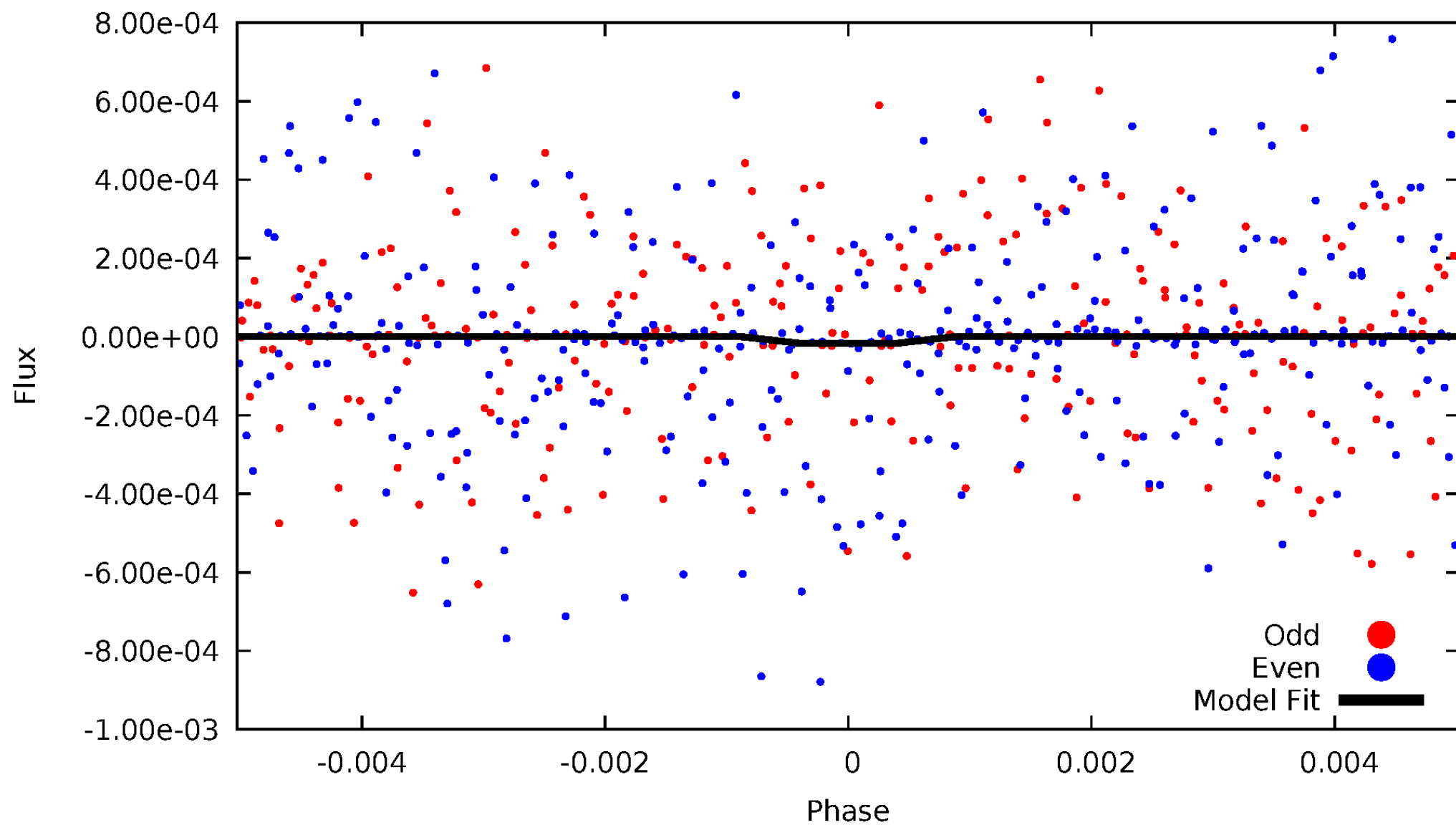
DV Odd/Even

TCE 004262505-01

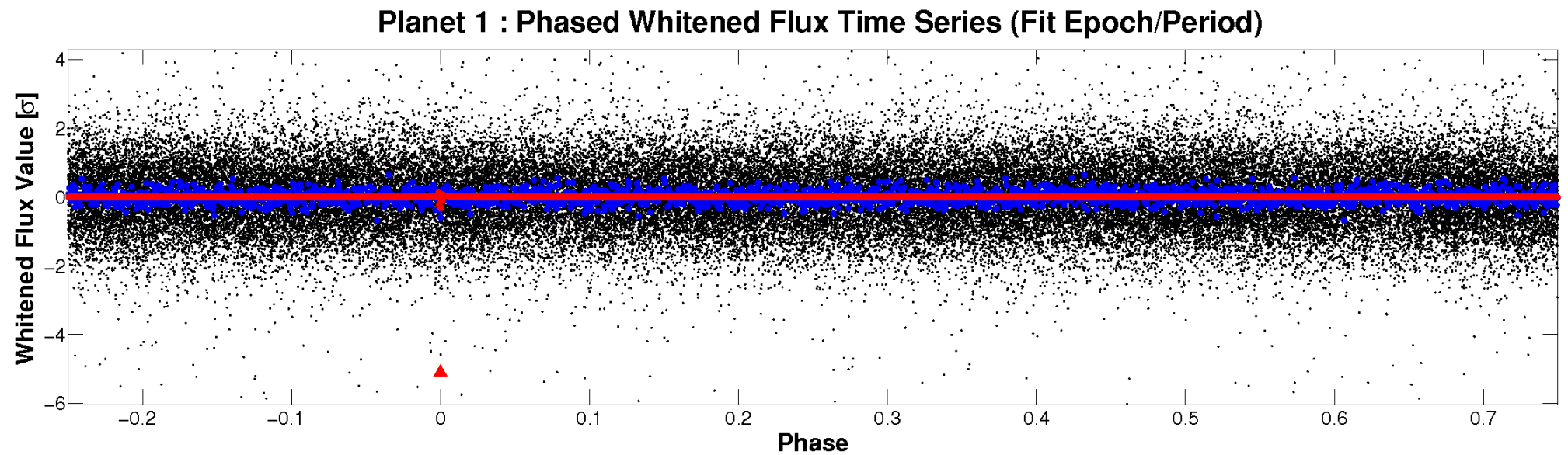
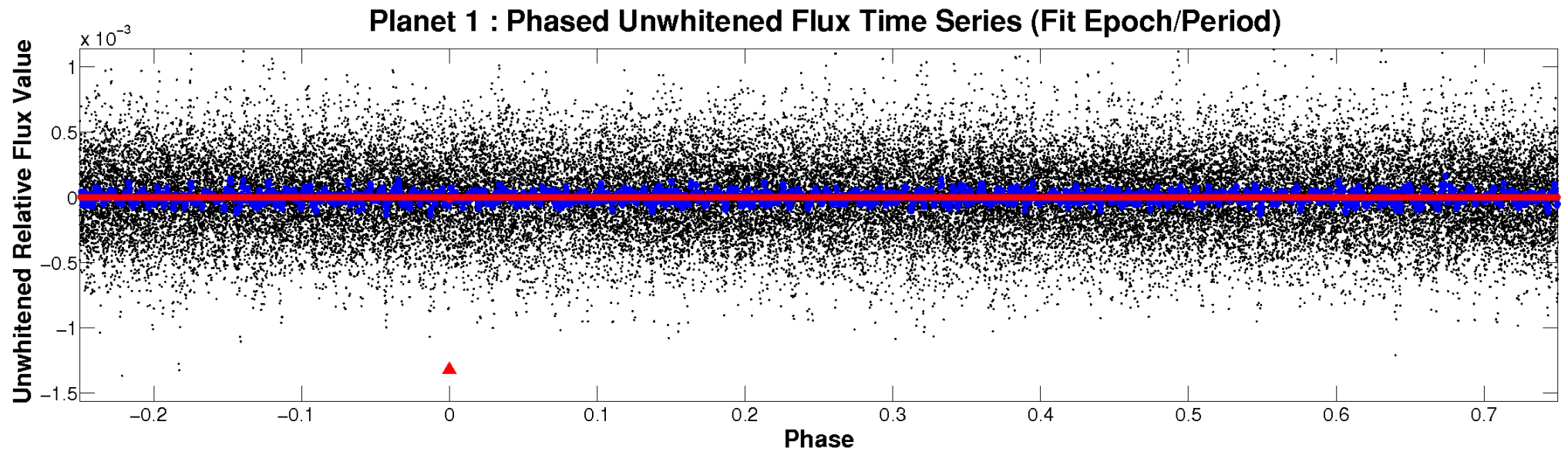


ALT Odd/Even

TCE 004262505-01

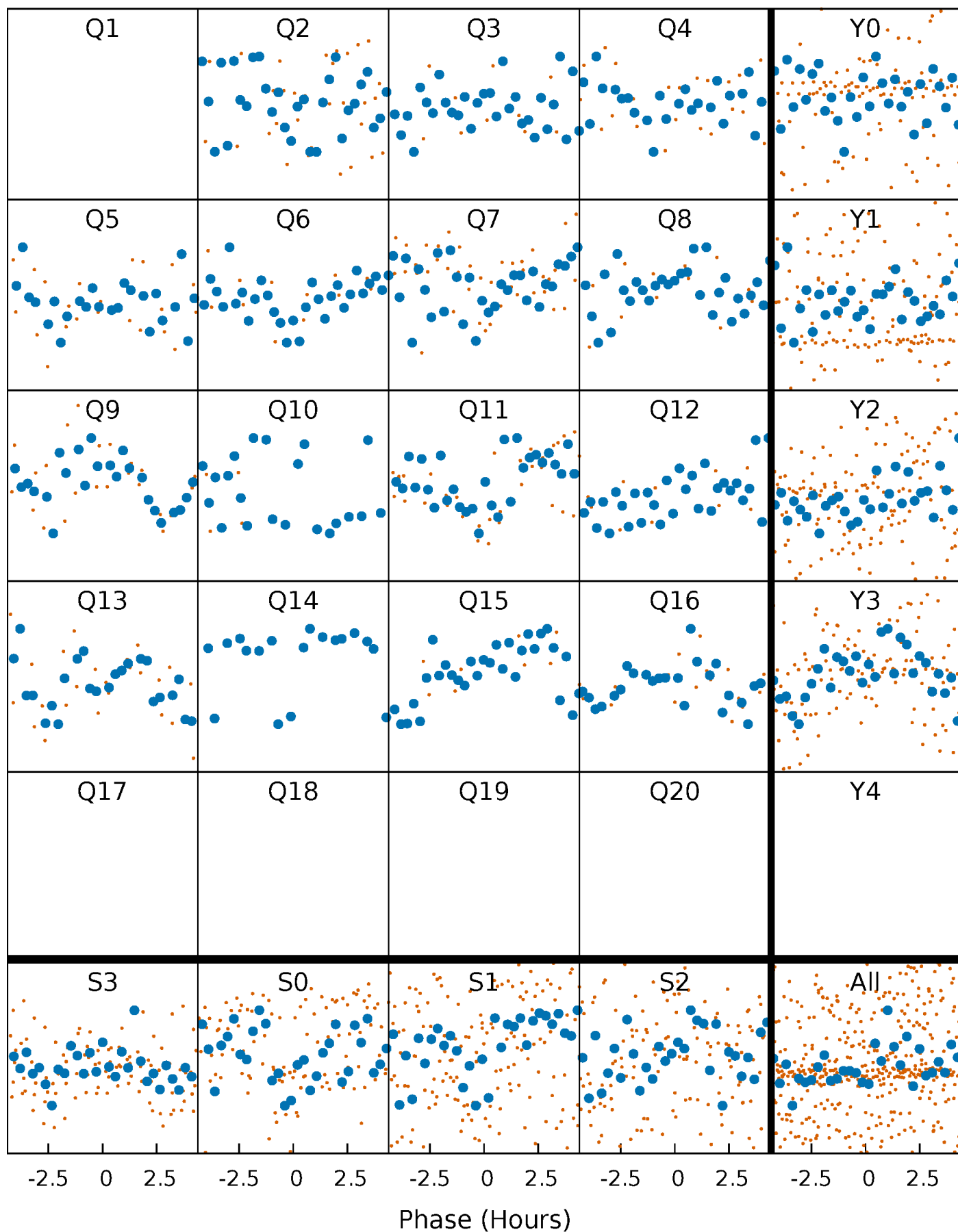


Non-Whitened Vs. Whitened Light Curve



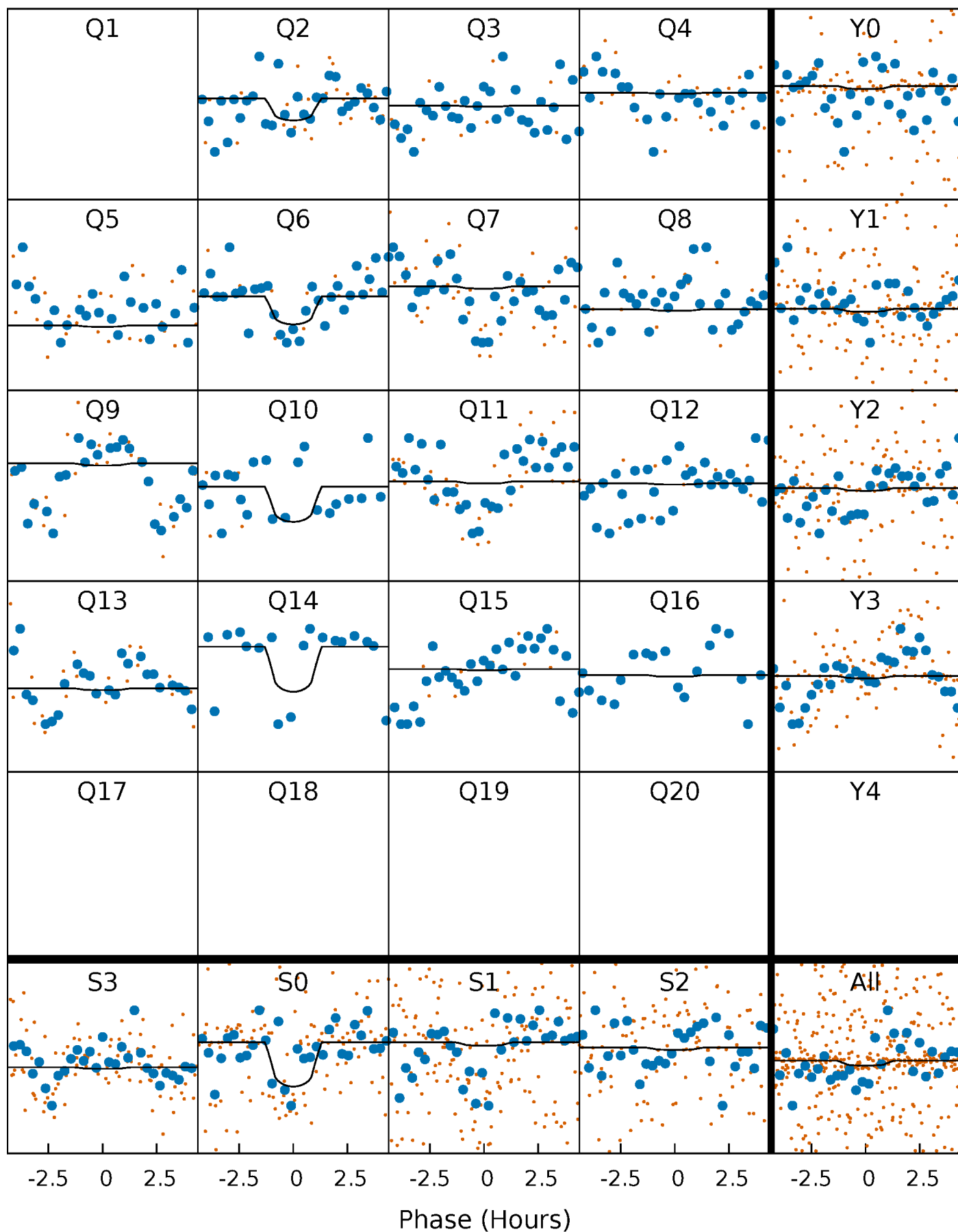
PDC Quarter-Phased Transit Curves

TCE 004262505-01 P= 42.079905 Days $T_0=169.797932$ (BKJD)



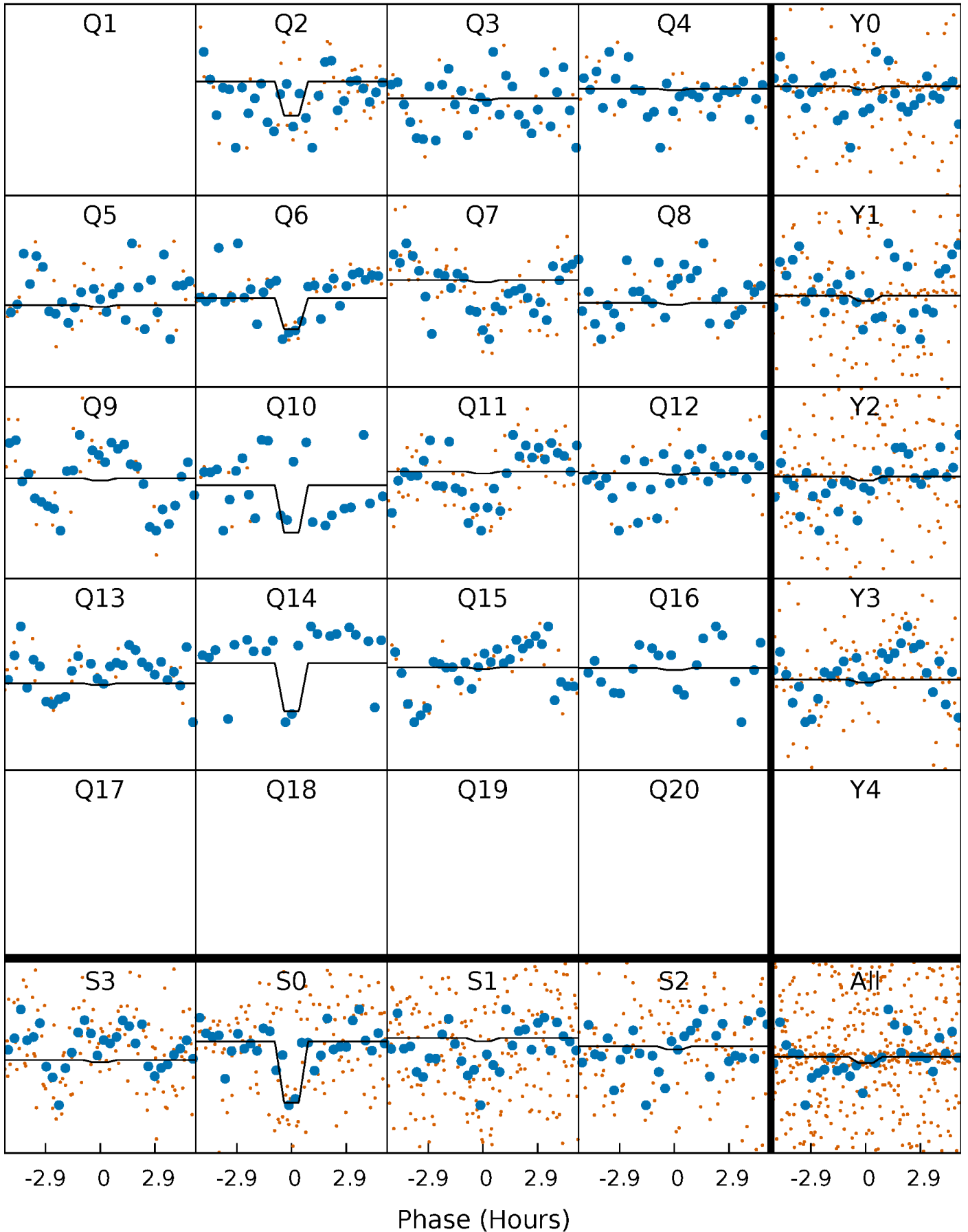
DV Quarter-Phased Transit Curves

TCE 004262505-01 P= 42.079905 Days $T_0=169.797932$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

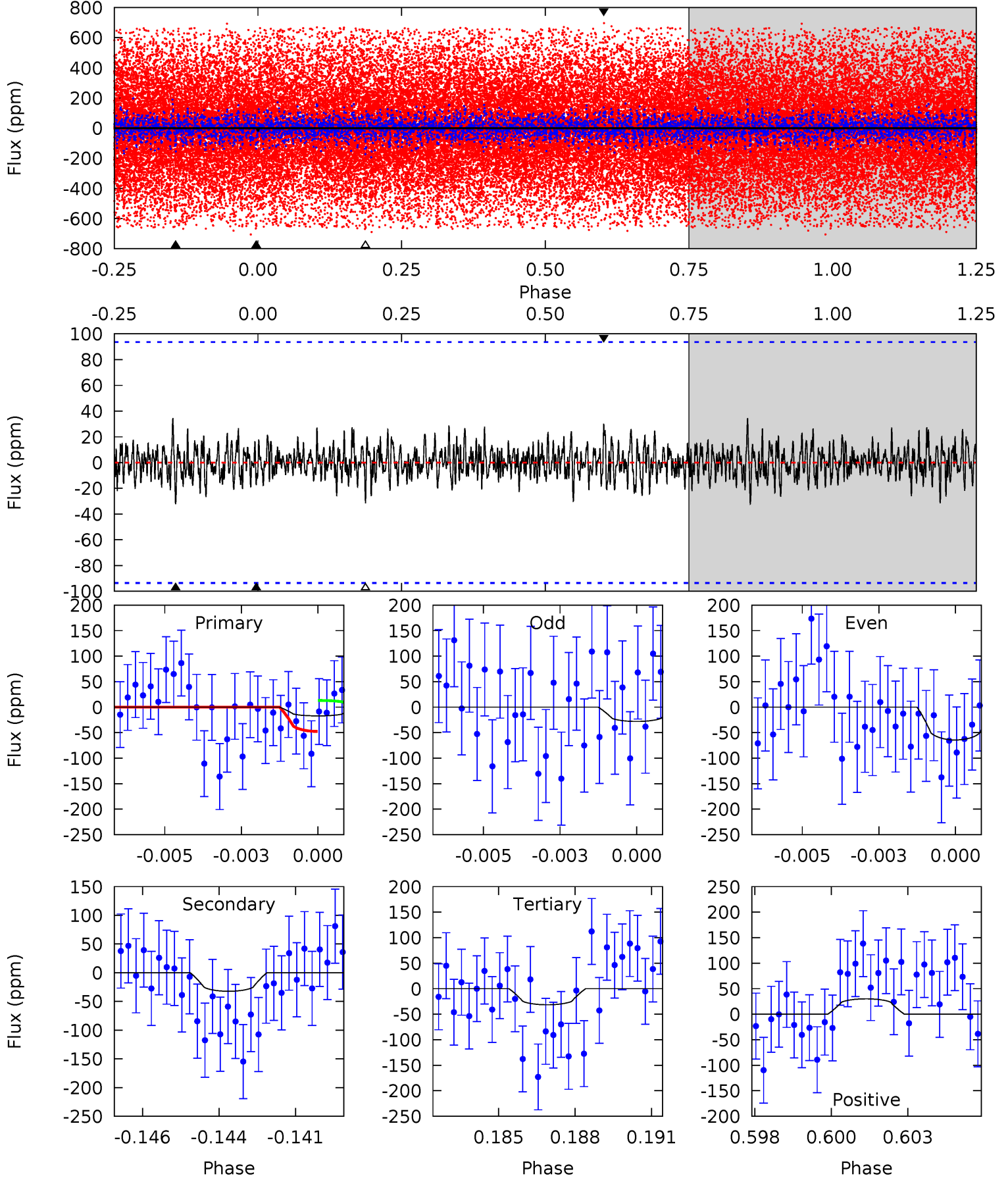
TCE 004262505-01 P= 42.079974 Days $T_0=169.788706$ (BKJD)



DV Model-Shift Uniqueness Test

004262505-01, $P = 42.079905$ Days, $E = 127.718027$ Days

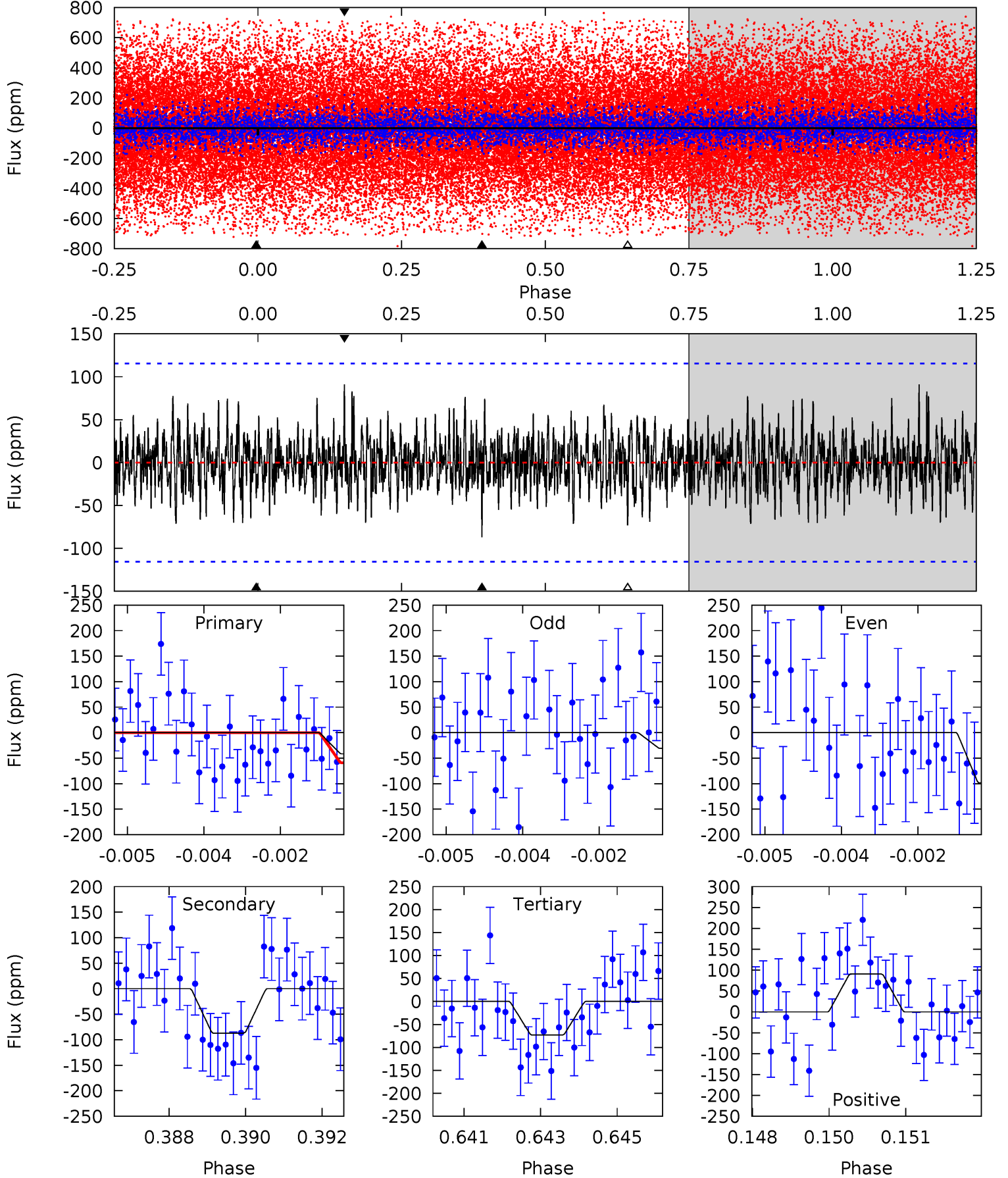
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 0.97 | 1.82 | 1.78 | 1.70 | 5.28 | 3.01 | 0.56 | -0.81 | -0.73 | 0.04 | 0.12 | 1.03 | 2.45 | 0.52 | 0.99 |



Alt Model-Shift Uniqueness Test

004262505-01, P = 42.079974 Days, E = 127.708732 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 1.92 | 4.03 | 3.39 | 4.21 | 5.35 | 3.12 | 1.19 | -1.47 | -2.29 | 0.64 | -0.18 | 1.56 | 4.13 | 0.51 | 0.84 |



Stellar Parameters For KIC 004262505

| | $T_{\text{eff}}(K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|---------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 4980^{+44}_{-103} | $2.841^{+0.033}_{-0.027}$ | $-0.260^{+0.100}_{-0.150}$ | $8.288^{+0.410}_{-1.638}$ | $1.736^{+0.156}_{-0.583}$ | $0.004^{+0.001}_{-0.000}$ |
| | +1%/-2% | +1%/-1% | +38%/-58% | +5%/-20% | +9%/-34% | +32%/-9% |
| Source | PHO55 | AST55 | SPE55 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 004262505-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|--------------|------------------------|----------------------|------------------------|---------------------|
| DV | -32 ± 18 | $3.93^{+1.66}_{-1.75}$ | 1653^{+25}_{-42} | 5512^{+2028}_{-1166} | 87^{+212}_{-58} |
| Alt. | -87 ± 22 | $3.70^{+1.71}_{-1.68}$ | 1652^{+28}_{-39} | 7382^{+3796}_{-1356} | 270^{+674}_{-141} |

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

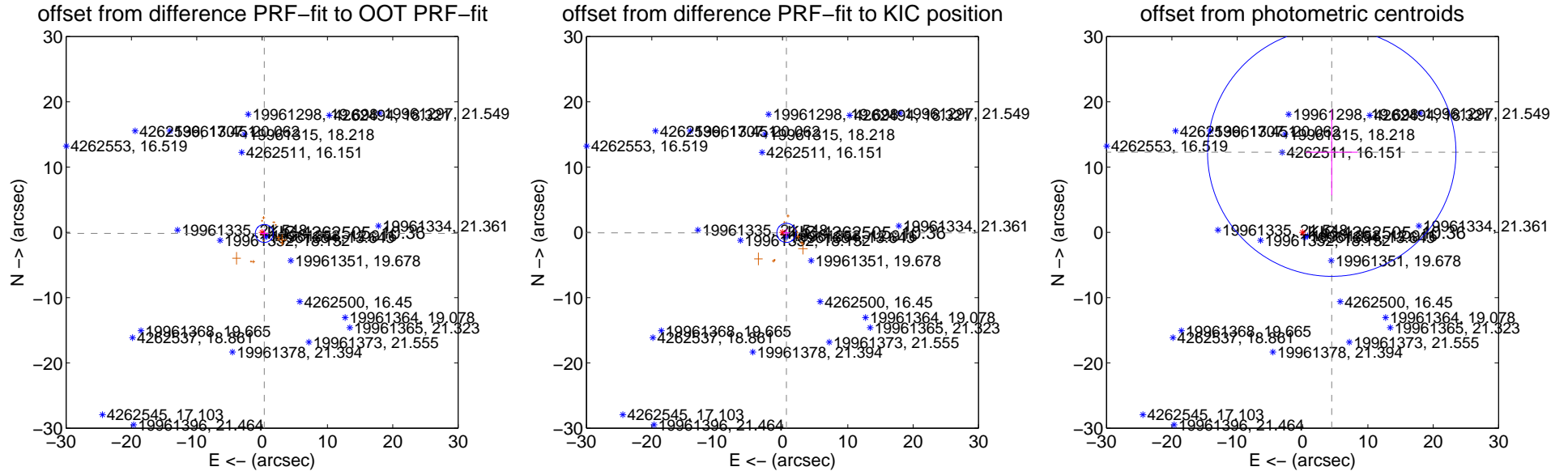
DV Centroid Data

Supplemental centroid analysis for 004262505-01. **Kepler magnitude: 10.36.** Transit SNR 5.78

There are 1 quarters with good PRF difference image offsets

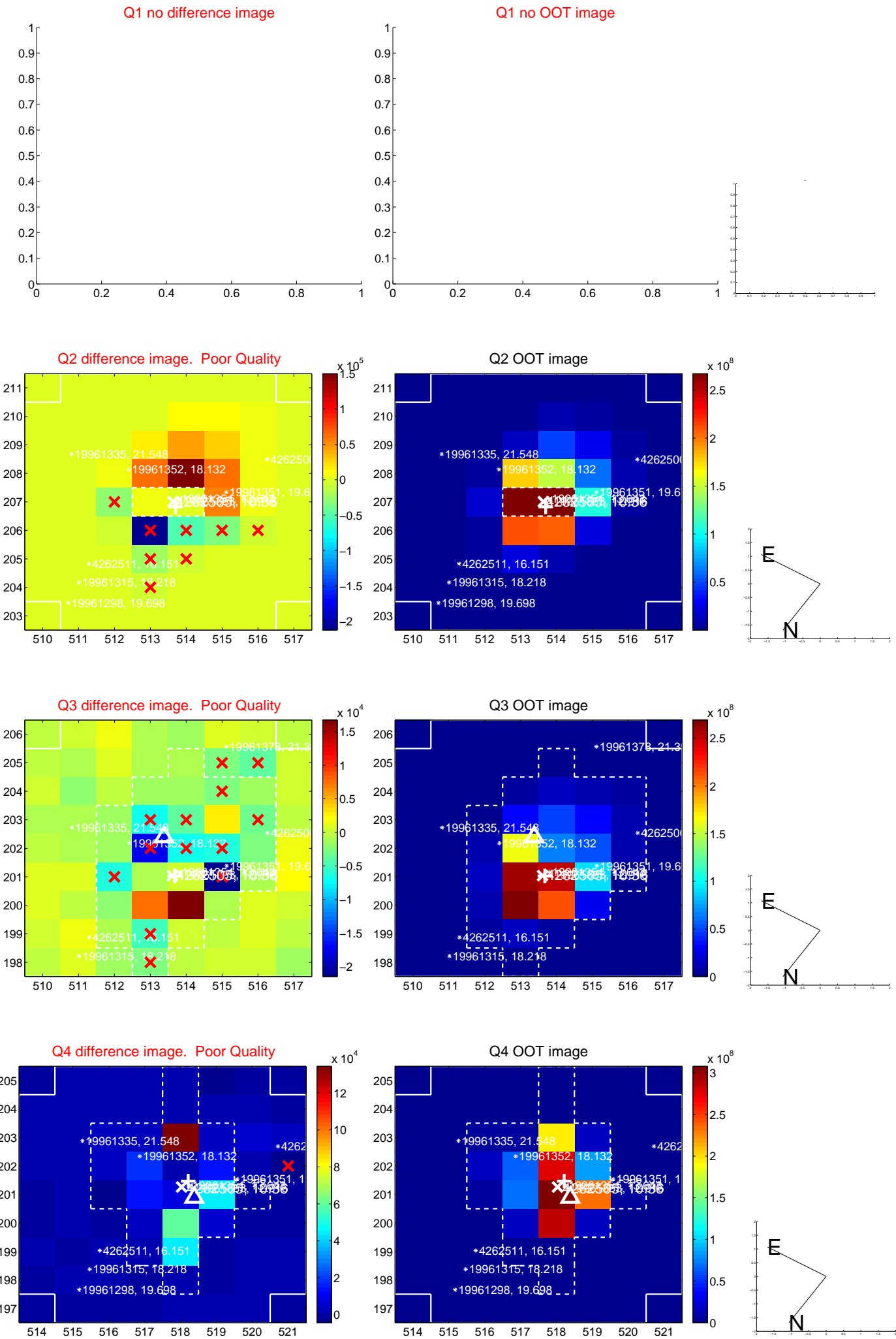
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.381 ± 0.459 | 0.83 | -0.341 ± 0.583 | -0.170 ± 0.644 |
| PRF-fit source offset from KIC position | 0.609 ± 0.489 | 1.24 | -0.604 ± 0.528 | -0.080 ± 0.635 |
| photometric centroid source offset | 13.06 ± 6.34 | 2.06 | -4.47 ± 3.99 | 12.27 ± 6.58 |

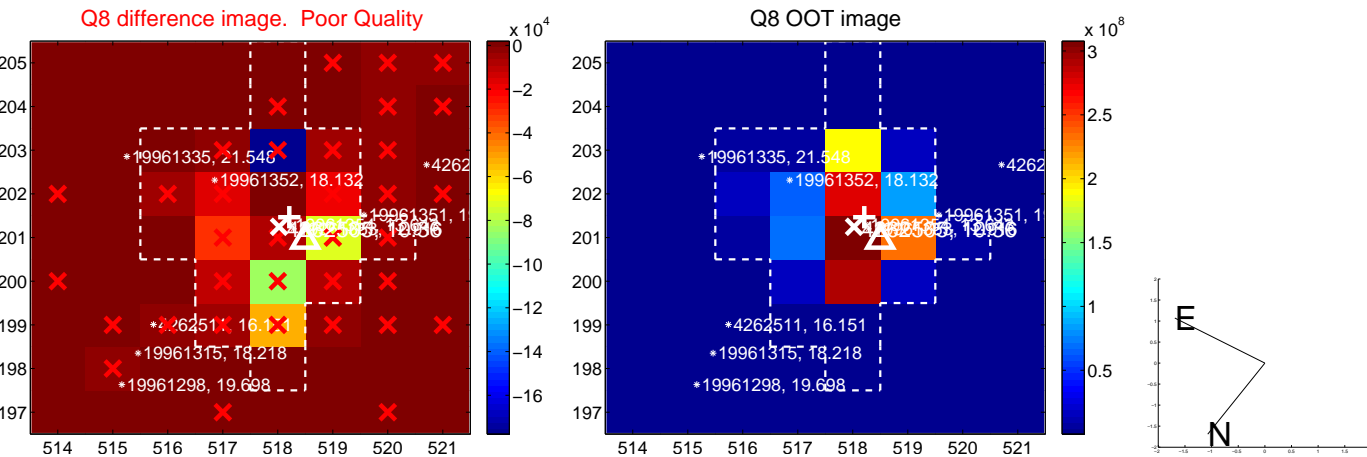
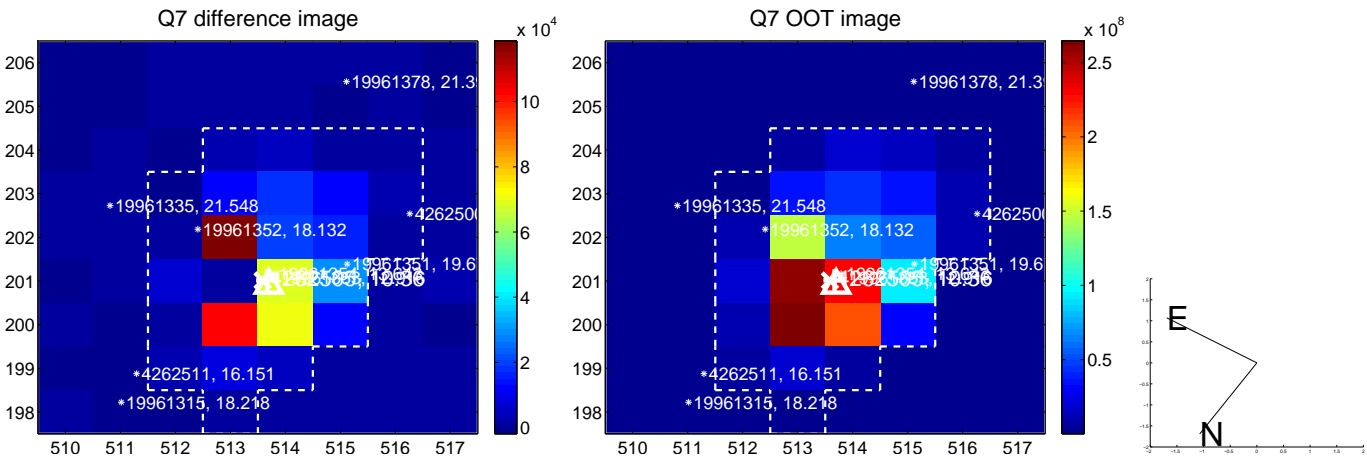
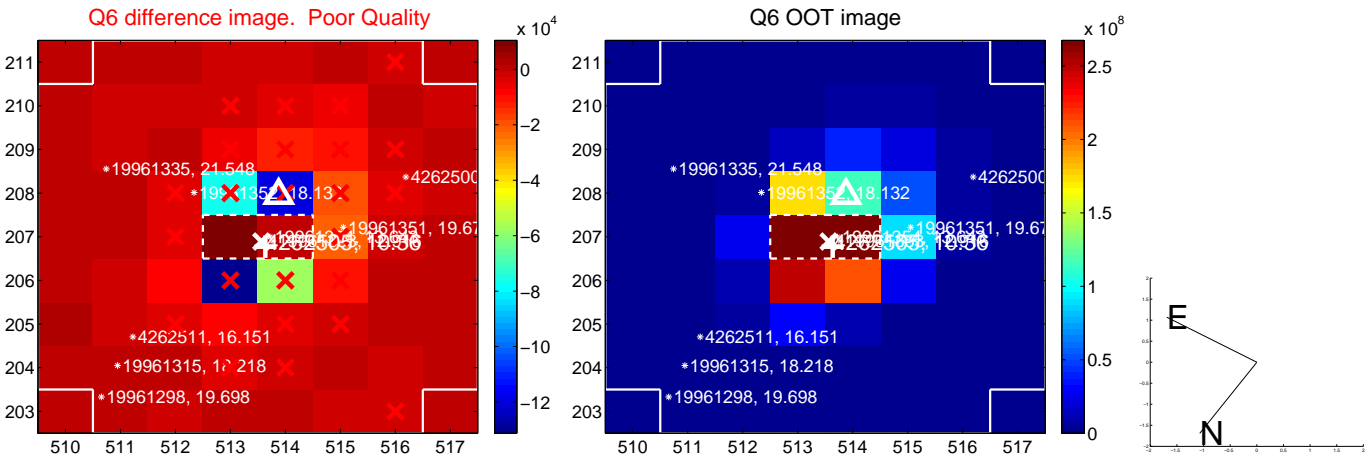
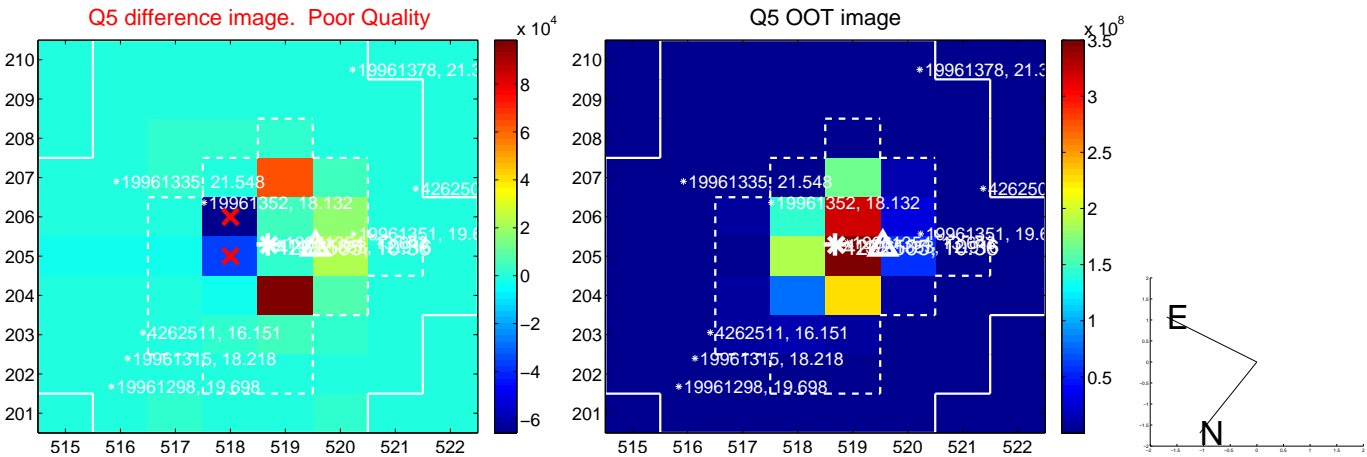


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

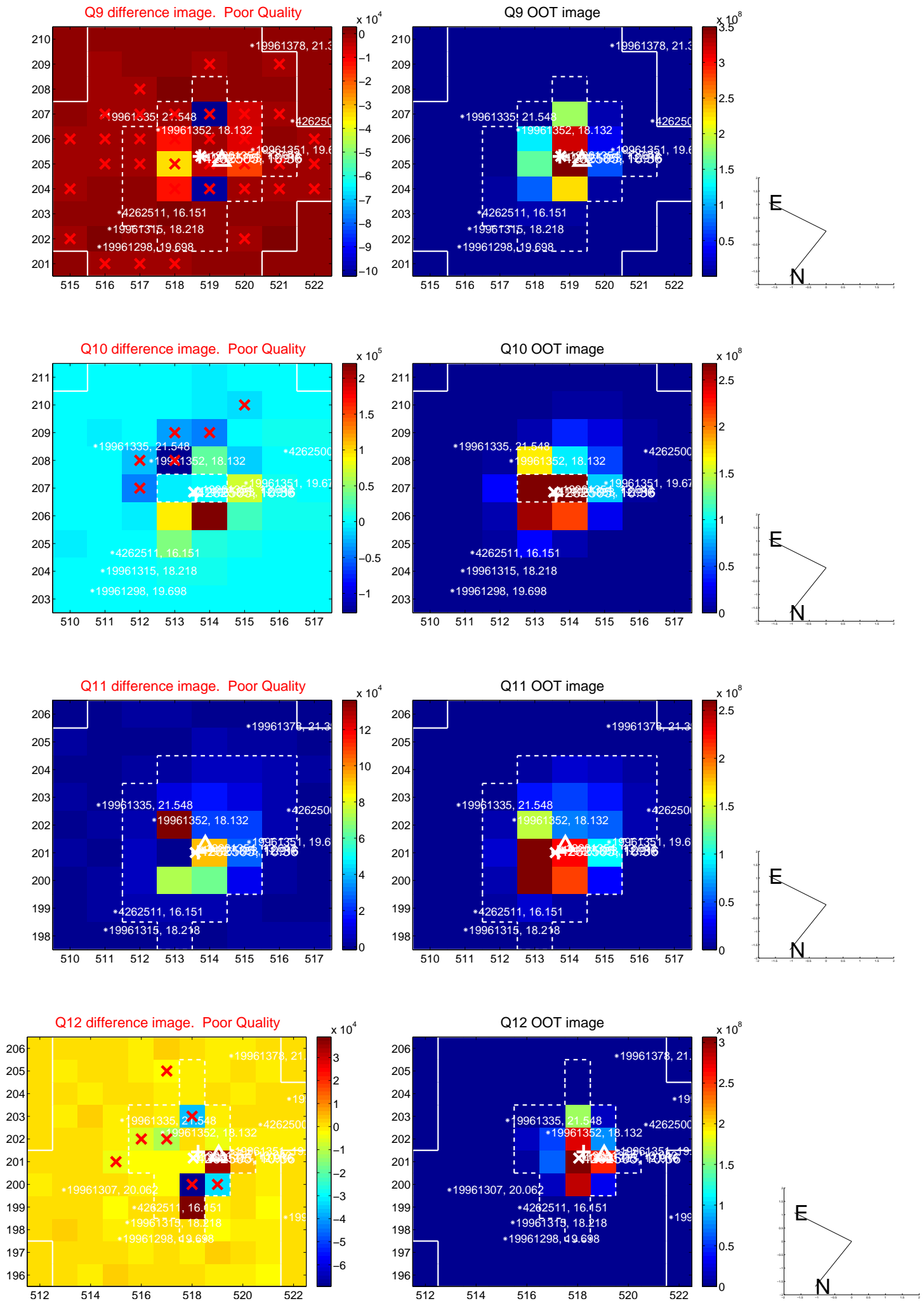
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



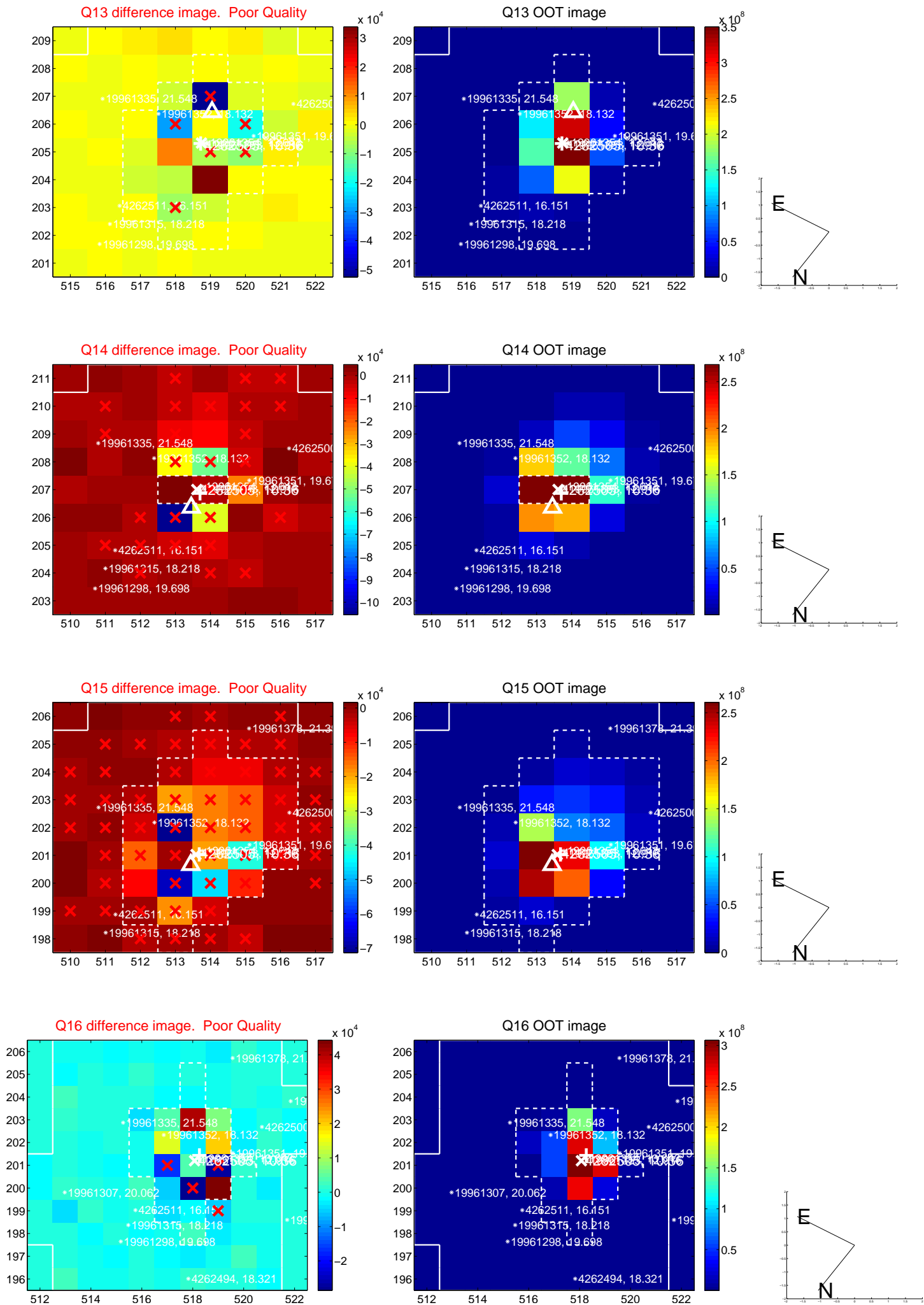
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



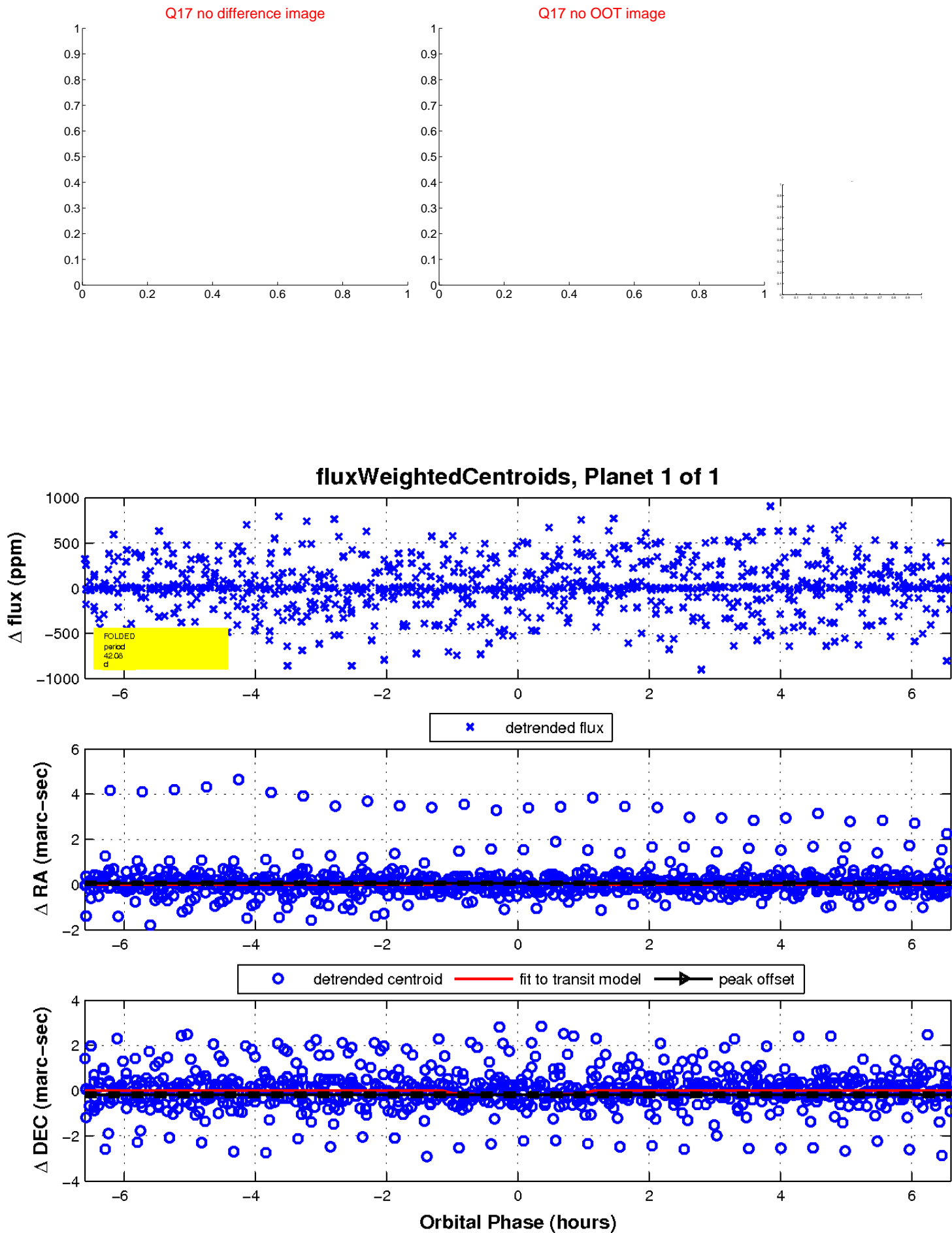
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

