

KIC 006432054

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 006432054-01 | OBS | No | 1.241506 | 132.410275 | 257.8 | 9.804 | 15.2 | 20.1 | 3.10 | 7411 | 5.71 | 32037.44 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-----------------------|
| 006432054-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—CENT_SATURATED |

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

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

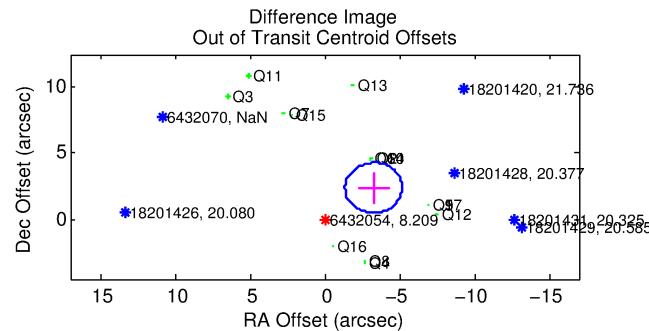
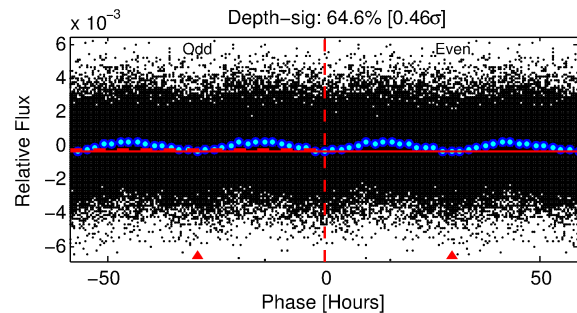
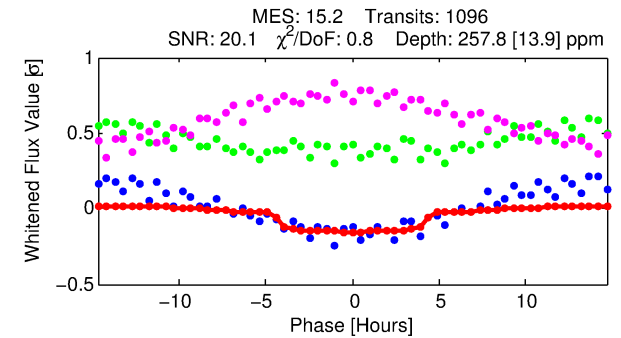
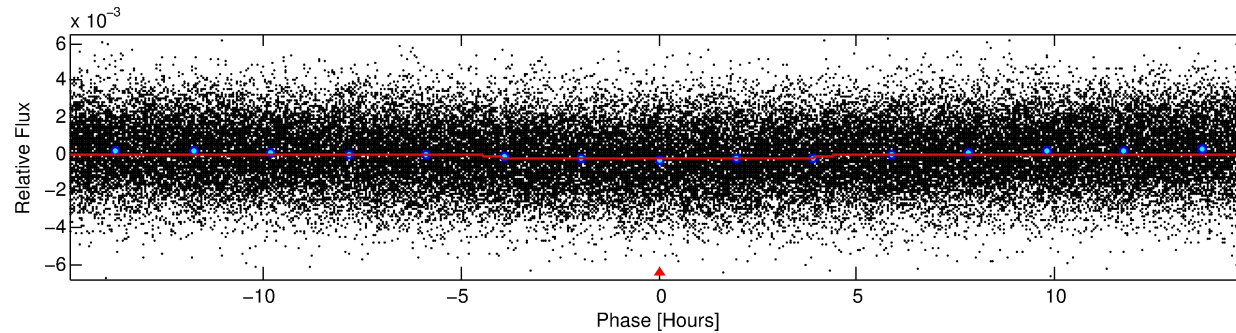
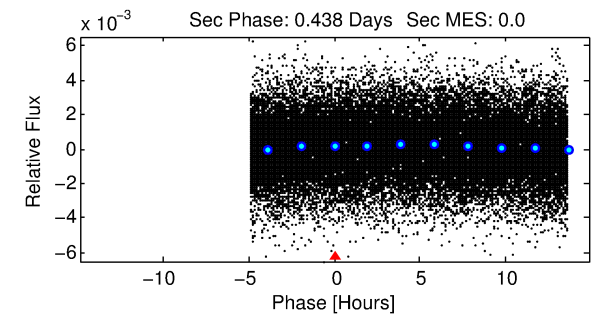
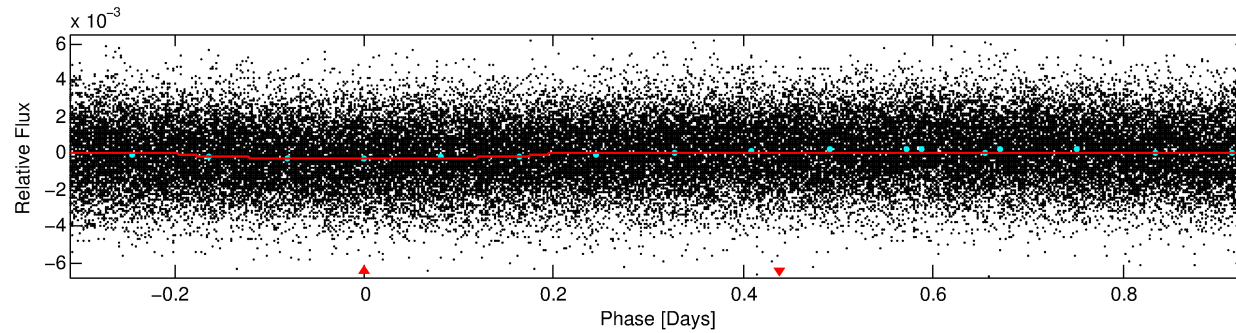
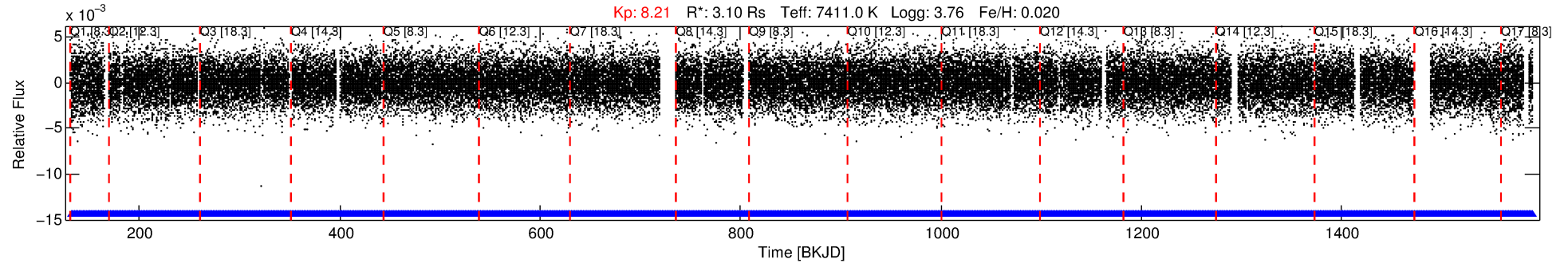
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006432054-01

No Significant Match Found

DV One-Page Summary

KIC: 6432054 Candidate: 1 of 1 Period: 1.242 d



DV Fit Results:

Period = 1.24151 [0.00001] d
Epoch = 132.4103 [0.0061] BKJD
Rp/R* = 0.0169 [0.0011]
a/R* = 1.06 [0.04]
b = 0.88 [0.09]
Seff = 32037.44 [13553.58]
Teff = 3411 [361] K
Rp = 5.71 [1.79] Re
a = 0.0285 [0.0077] AU
Ag = N/A
Teffp = N/A

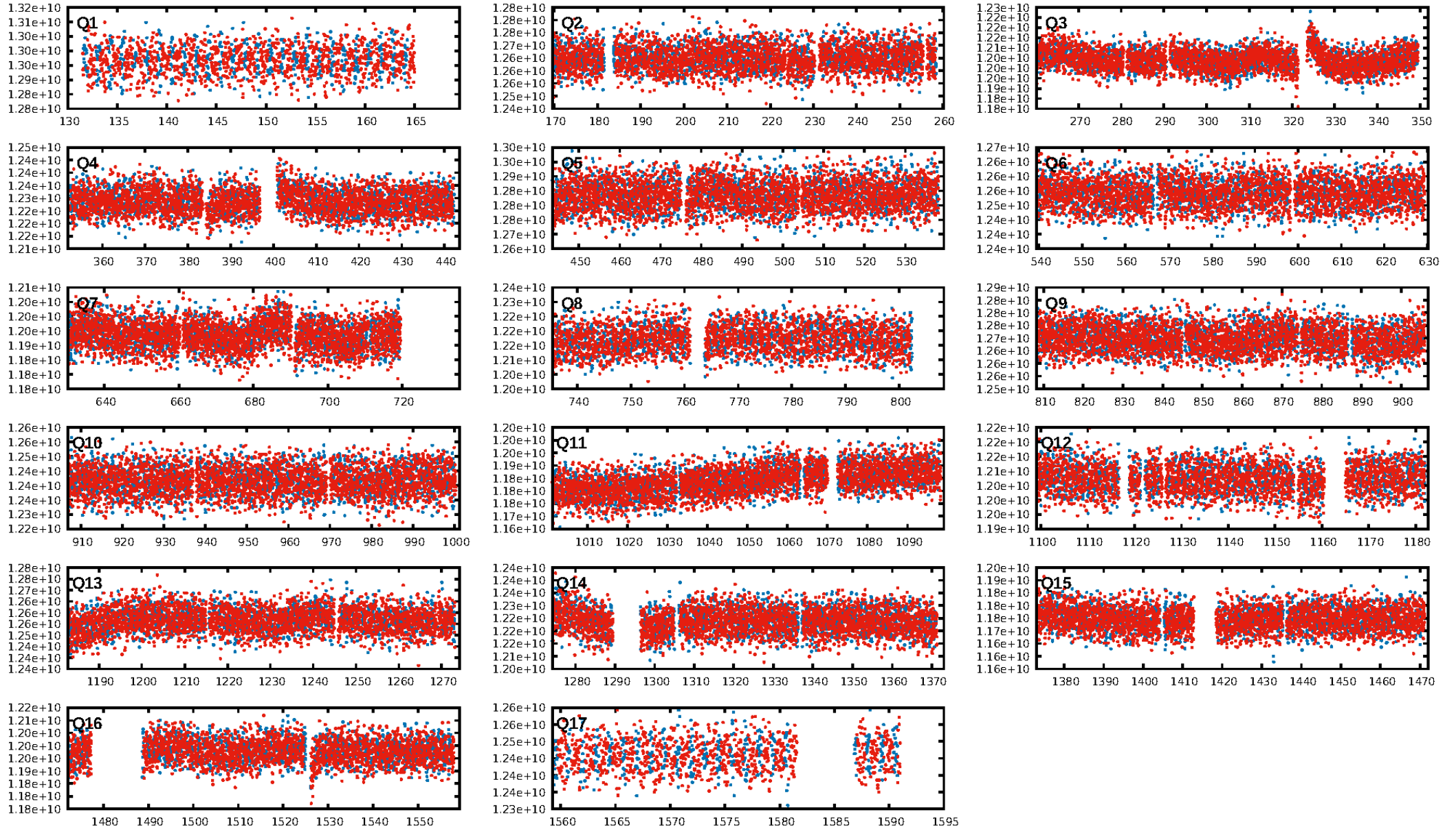
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1047/1047]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 1.693 arcsec [2.21σ]
OotOffset-rm: 4.054 arcsec [6.40σ]
KicOffset-rm: 9.471 arcsec [5.15σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

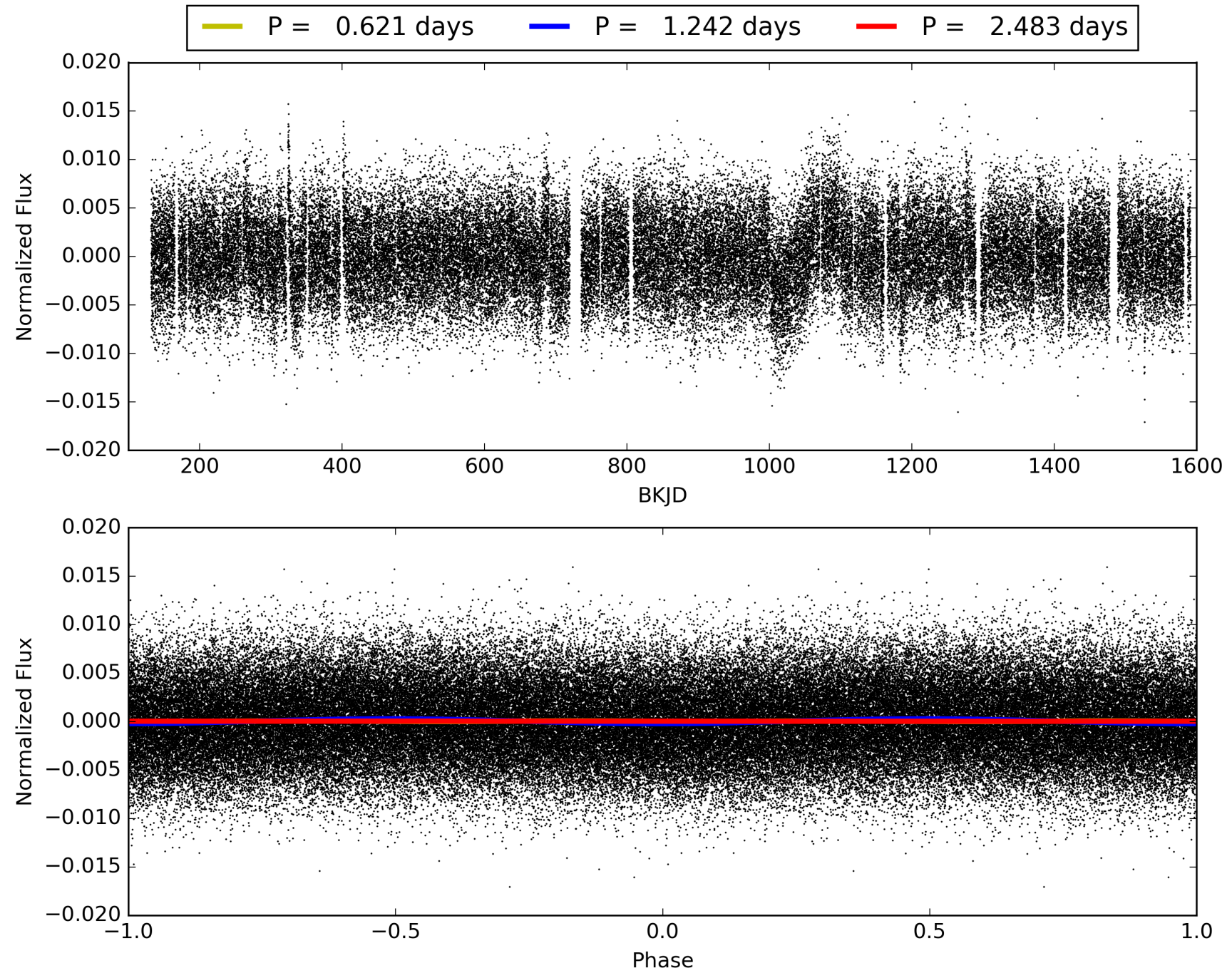
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:47:36 Z

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

TCE 006432054-01, PDC Light Curves

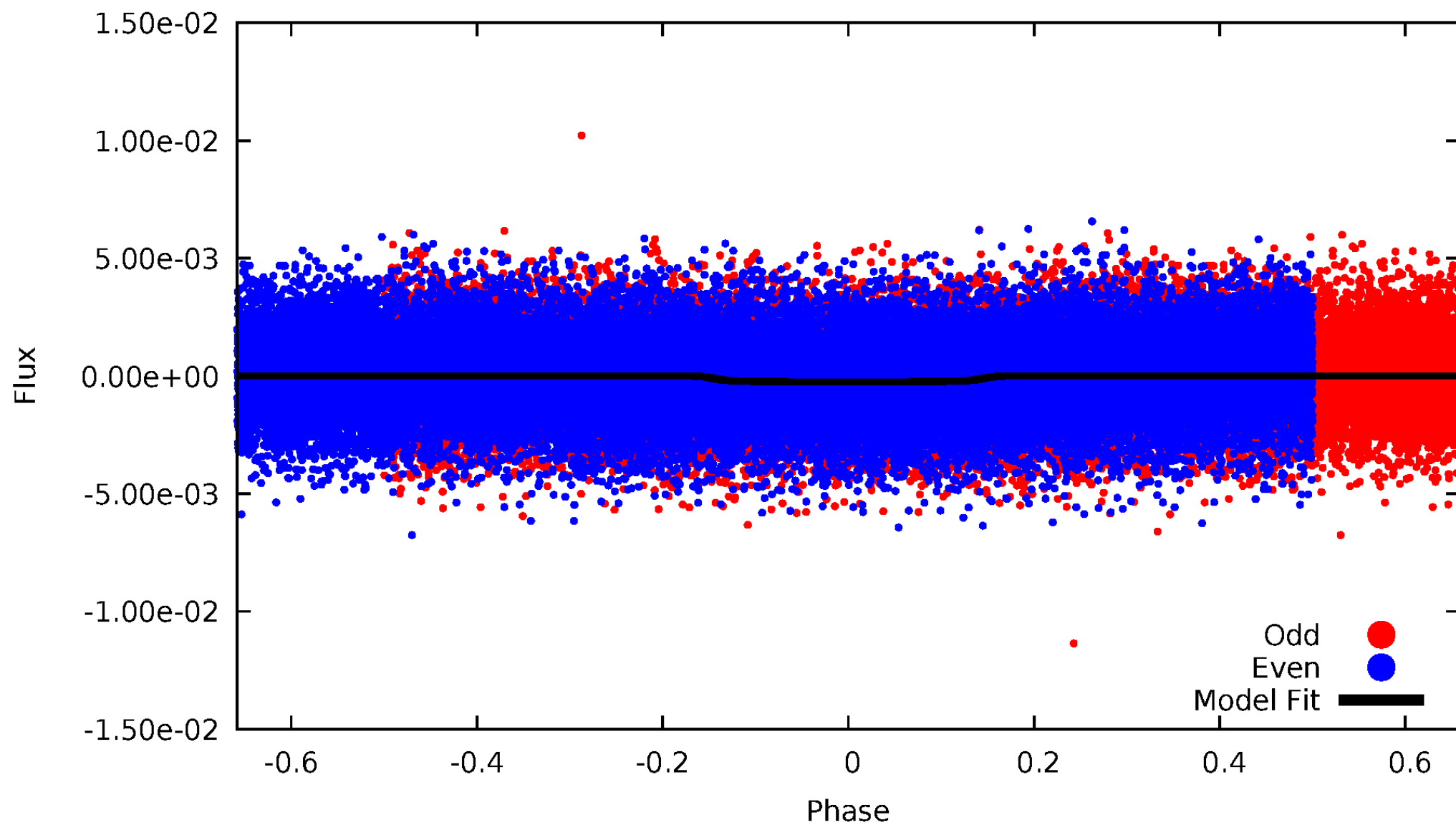


TCE 006432054-01



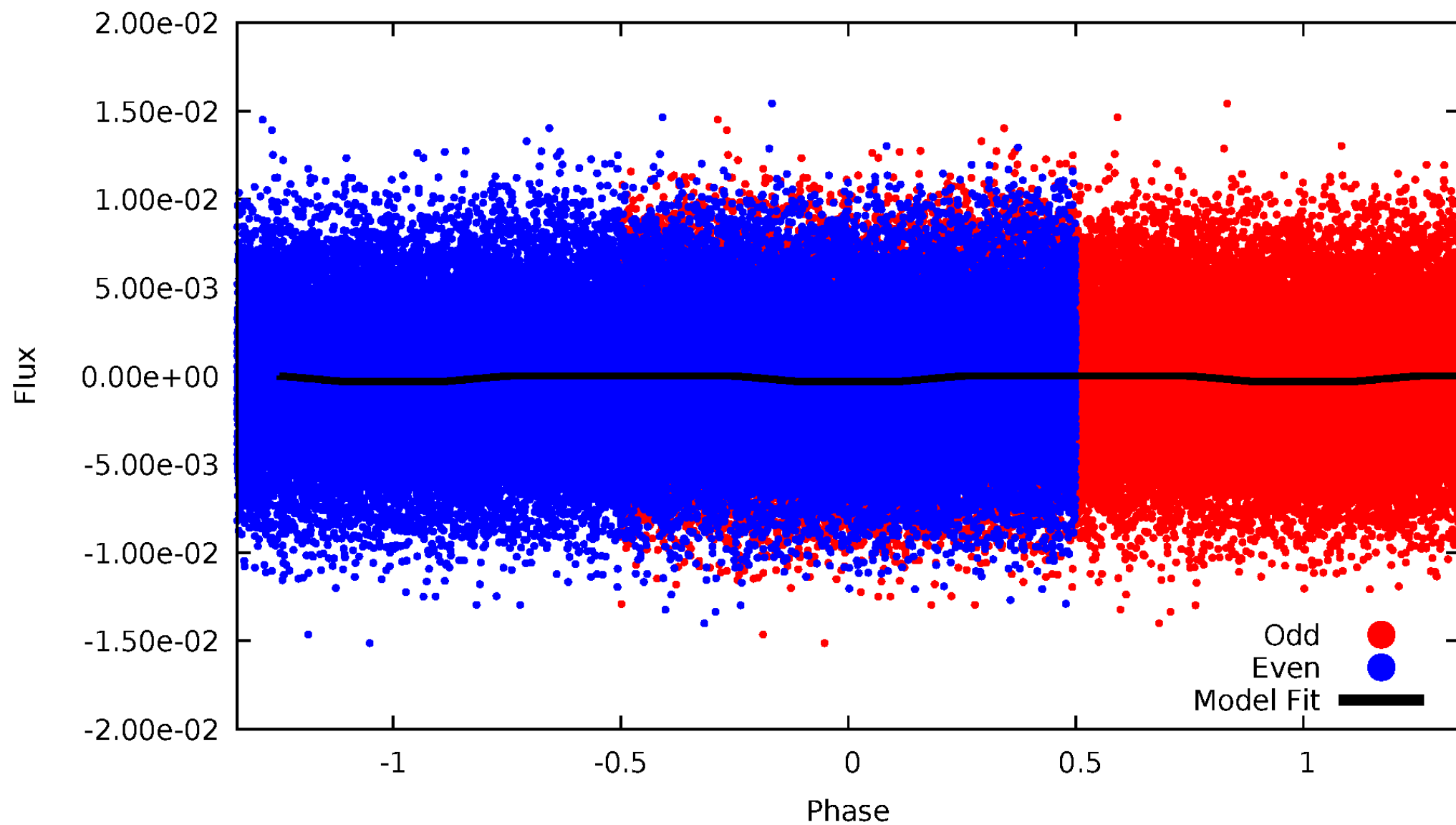
DV Odd/Even

TCE 006432054-01



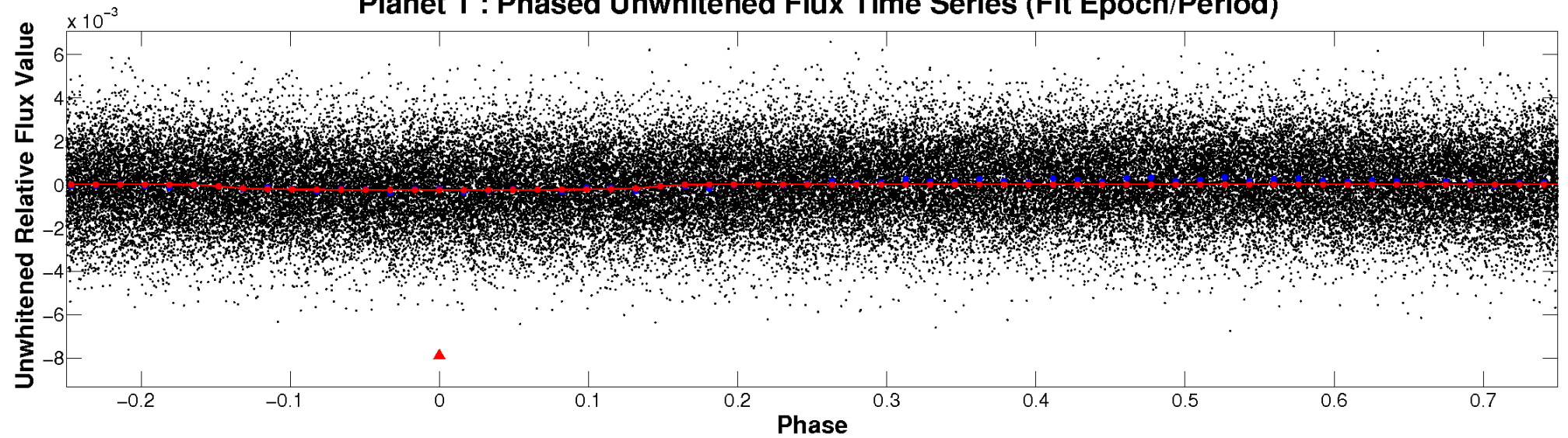
ALT Odd/Even

TCE 006432054-01

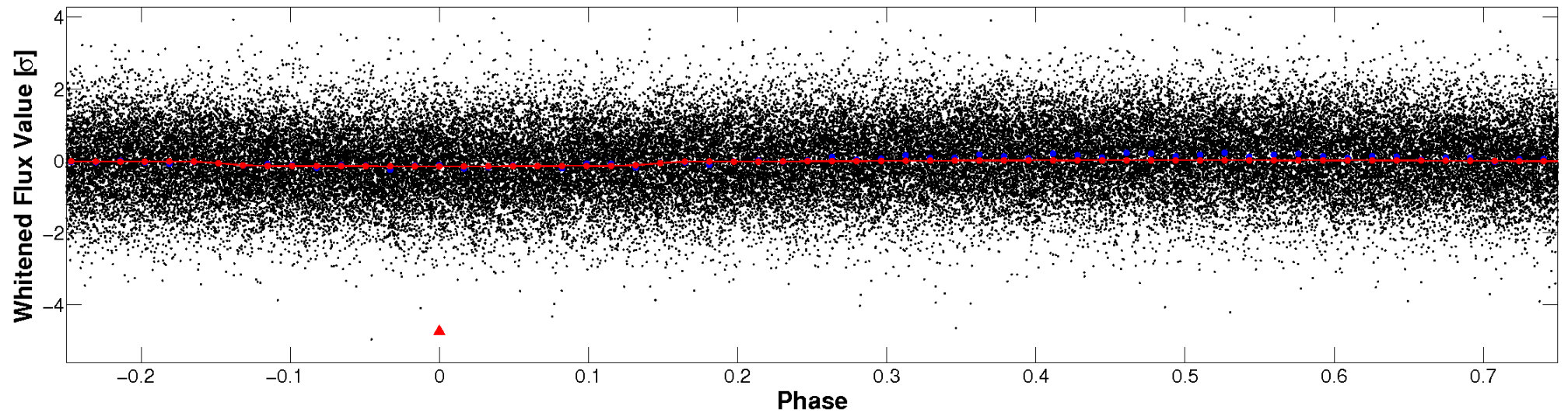


Non-Whitened Vs. Whitened Light Curve

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

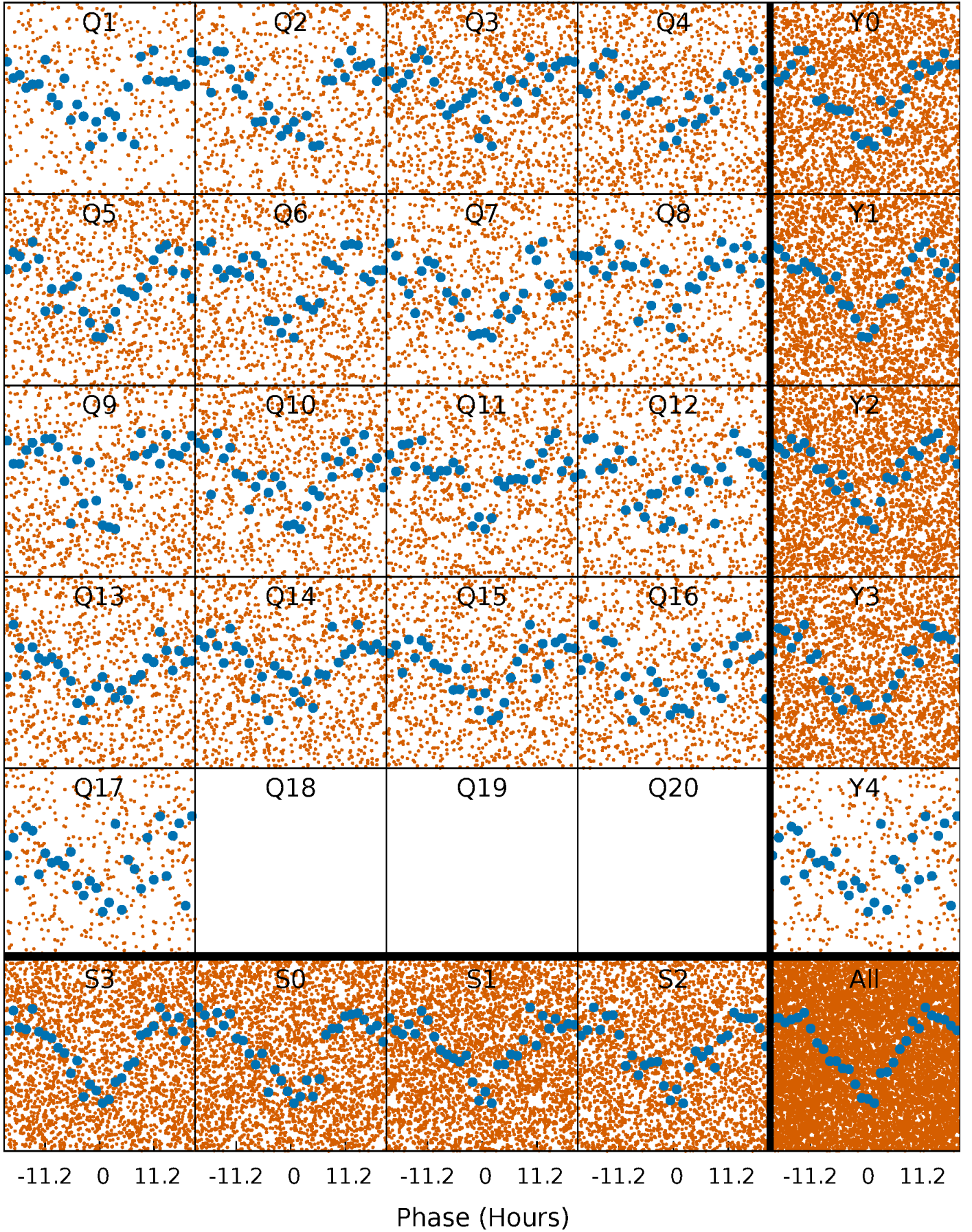


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



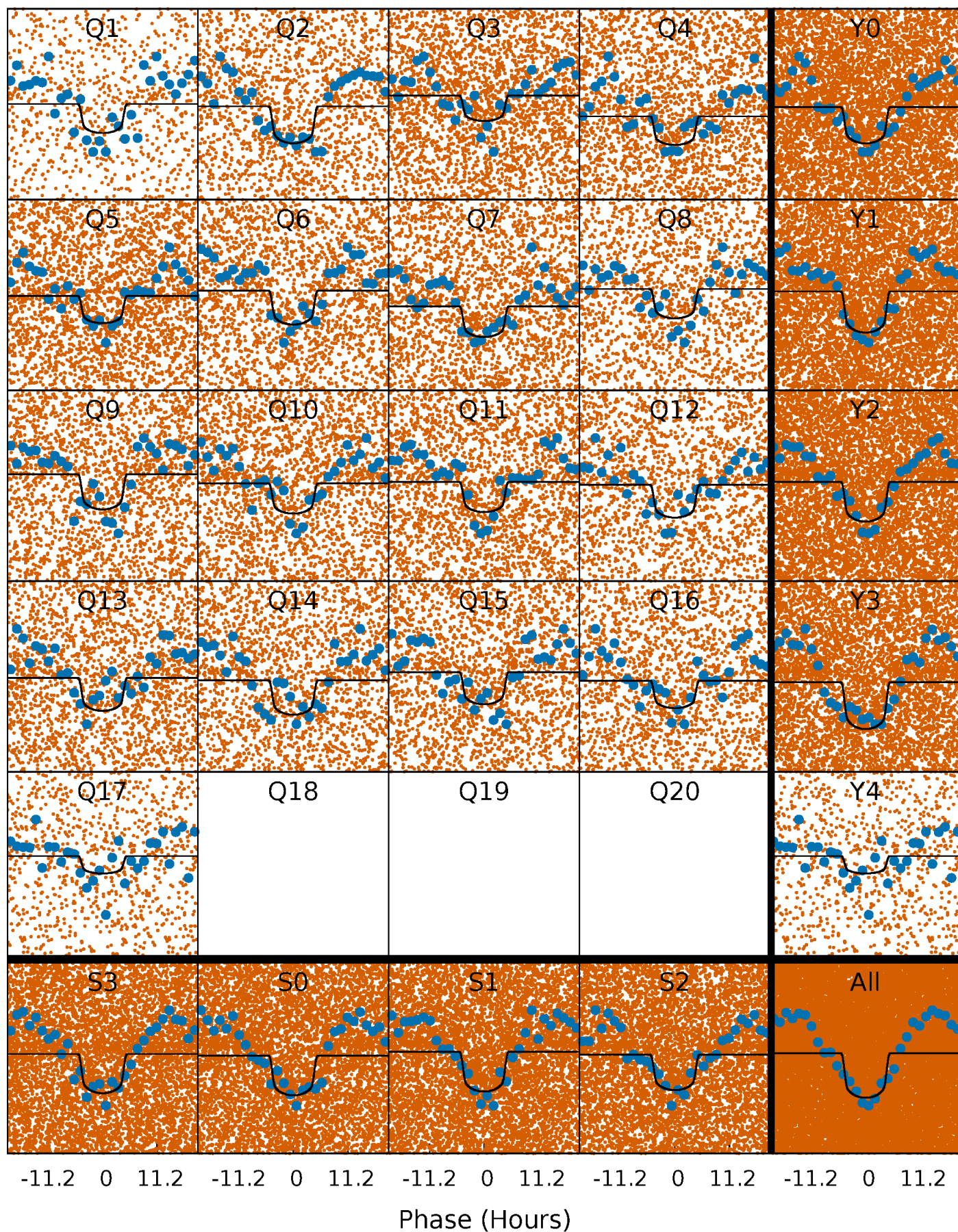
PDC Quarter-Phased Transit Curves

TCE 006432054-01 P= 1.241506 Days $T_0=132.410275$ (BKJD)



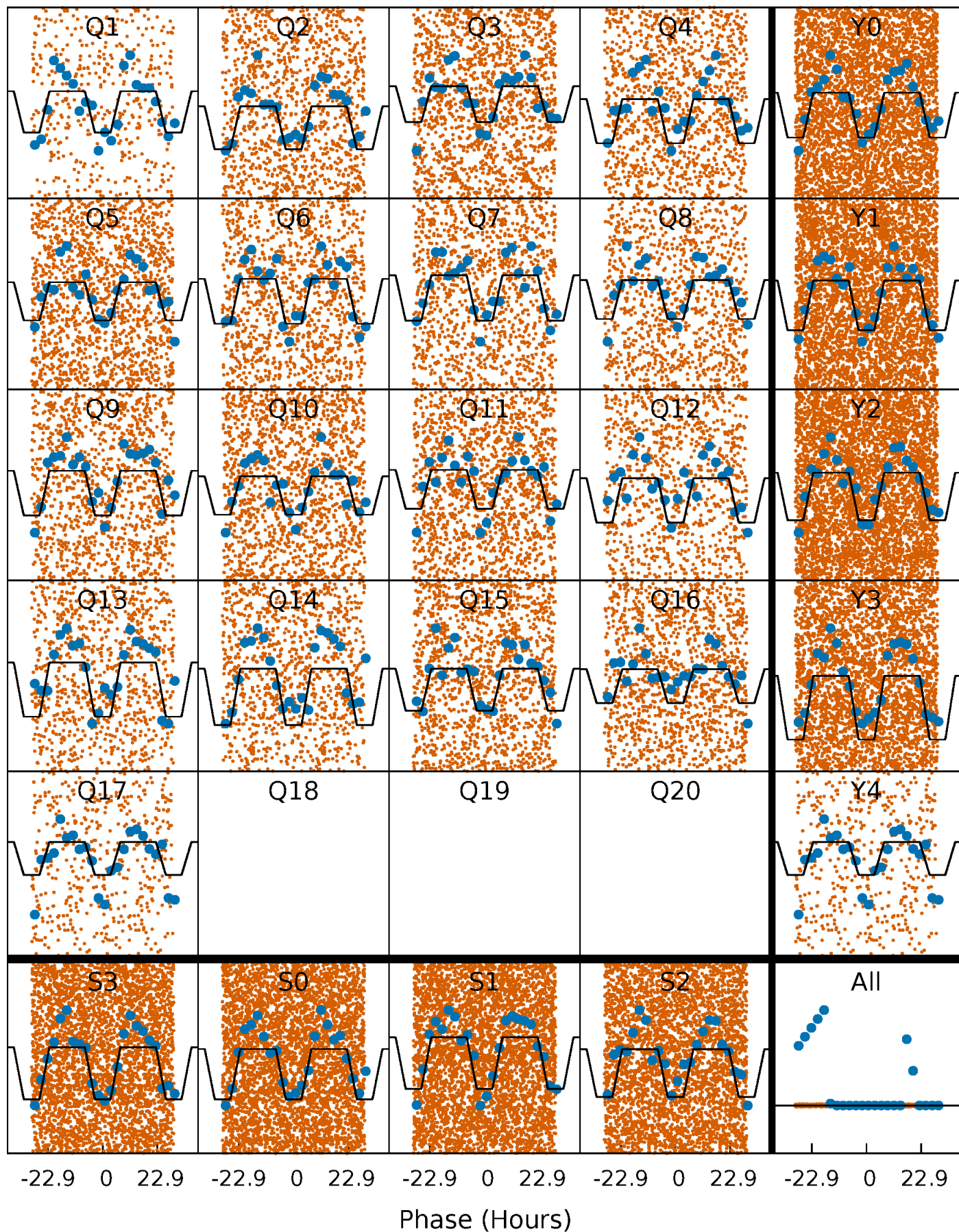
DV Quarter-Phased Transit Curves

TCE 006432054-01 P= 1.241506 Days $T_0=132.410275$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

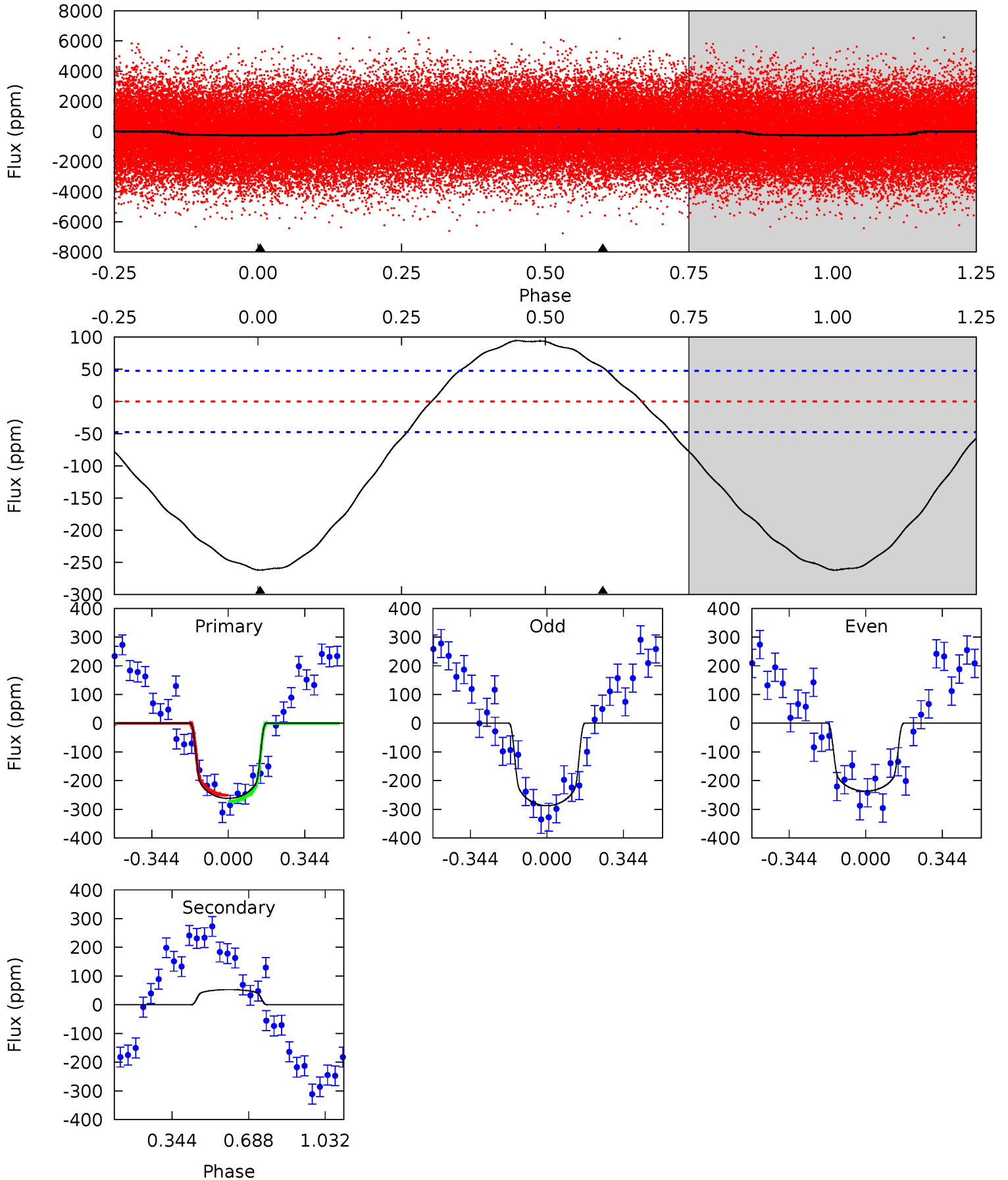
TCE 006432054-01 P= 1.241492 Days $T_0=132.421109$ (BKJD)



DV Model-Shift Uniqueness Test

006432054-01, P = 1.241506 Days, E = 131.168769 Days

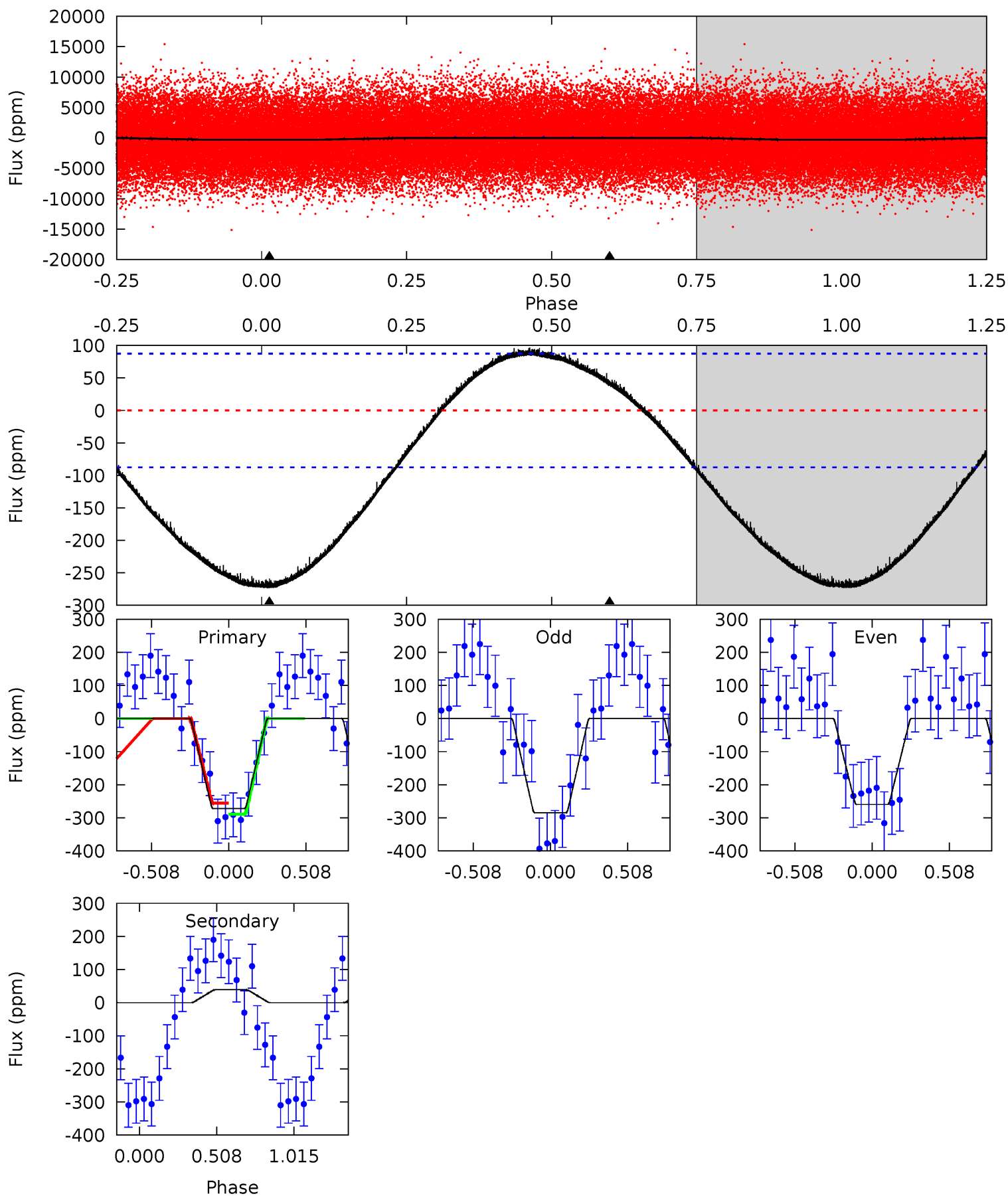
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 23.6 | -4.76 | 0 | 0 | 4.30 | 0.95 | 2.77 | 23.6 | 23.6 | -4.76 | -4.76 | 2.28 | 0.97 | 0.27 | 0.95 |



Alt Model-Shift Uniqueness Test

006432054-01, P = 1.241492 Days, E = 131.179617 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 13.1 | -1.87 | 0 | 0 | 4.21 | 0.66 | 1.48 | 13.1 | 13.1 | -1.87 | -1.87 | 0.61 | 1.44 | 0.26 | 0.81 |



Stellar Parameters For KIC 006432054

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 7411^{+132}_{-177} | $3.756^{+0.233}_{-0.062}$ | $0.020^{+0.150}_{-0.150}$ | $3.103^{+0.298}_{-0.953}$ | $2.000^{+0.035}_{-0.335}$ | $0.094^{+0.142}_{-0.019}$ |
| | +2%/-2% | +6%/-2% | +750%/-750% | +10%/-31% | +2%/-17% | +151%/-21% |
| Source | SPE4 | SPE4 | SPE4 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 006432054-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|-----------------------|----------------------------|
| DV | 53 ± 11 | $5.44^{+0.59}_{-0.81}$ | 4678^{+213}_{-324} | -5248^{+239}_{-234} | $-0.776^{+0.196}_{-0.360}$ |
| Alt. | 39 ± 21 | $5.69^{+0.70}_{-0.91}$ | 4695^{+203}_{-348} | -4957^{+451}_{-353} | $-0.525^{+0.304}_{-0.366}$ |

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

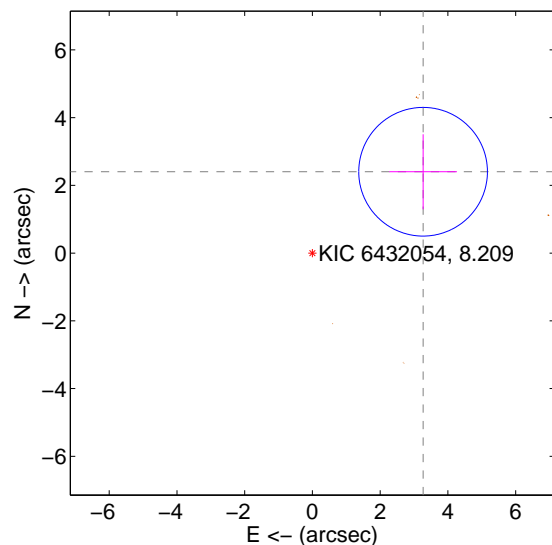
Supplemental centroid analysis for 006432054-01. **Kepler magnitude: 8.21.** Transit SNR 20.08

There are 0 quarters with good PRF difference image offsets

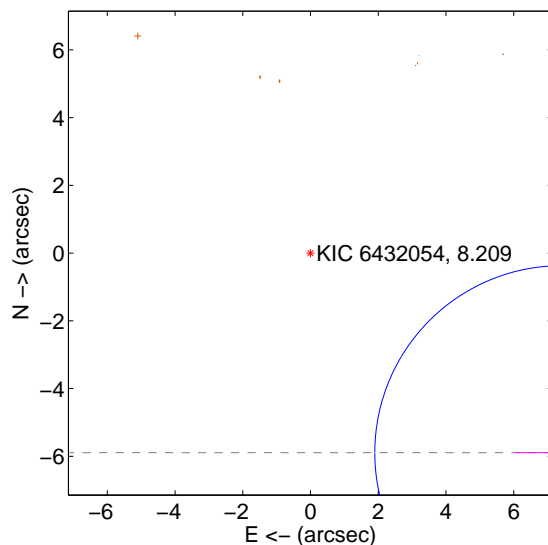
The OOT PRF centroid is offset from the target star catalog position by about 5.81 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 4.054 ± 0.633 | 6.40 | -3.267 ± 1.000 | 2.402 ± 1.107 |
| PRF-fit source offset from KIC position | 9.471 ± 1.840 | 5.15 | -7.417 ± 1.367 | -5.890 ± 1.423 |
| photometric centroid source offset | 1.69 ± 0.77 | 2.21 | -1.38 ± 0.82 | -0.98 ± 0.65 |

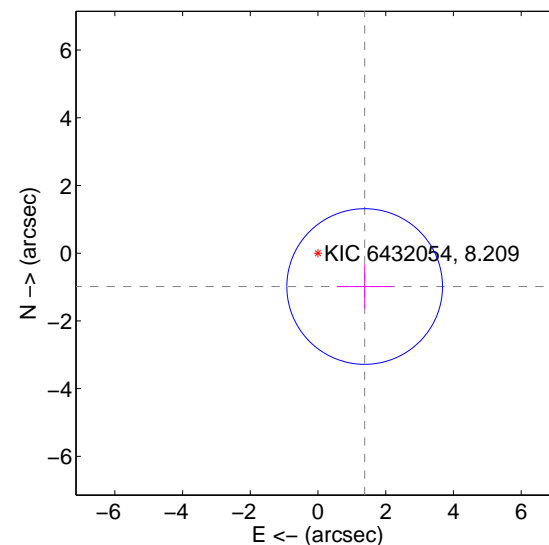
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

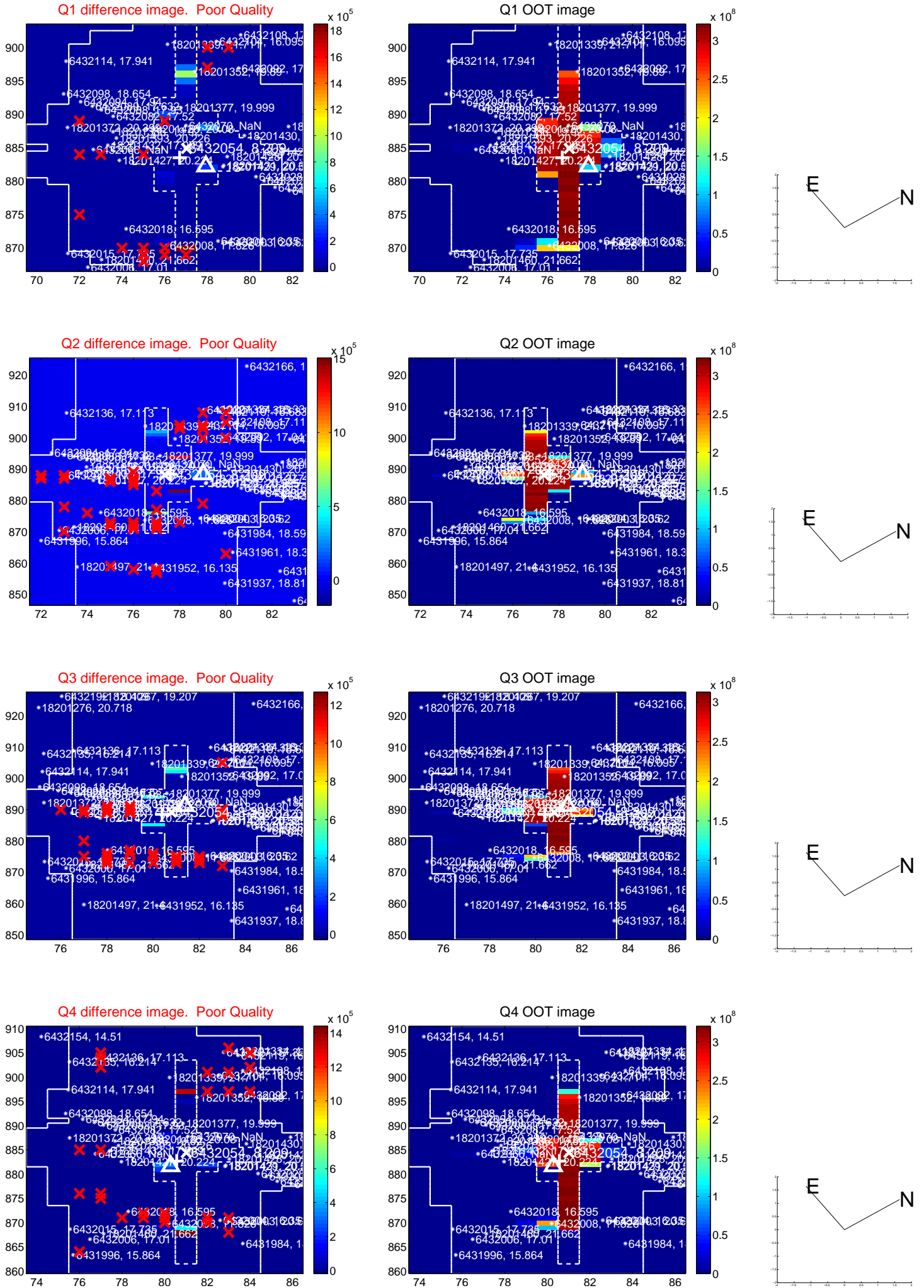


offset from photometric centroids

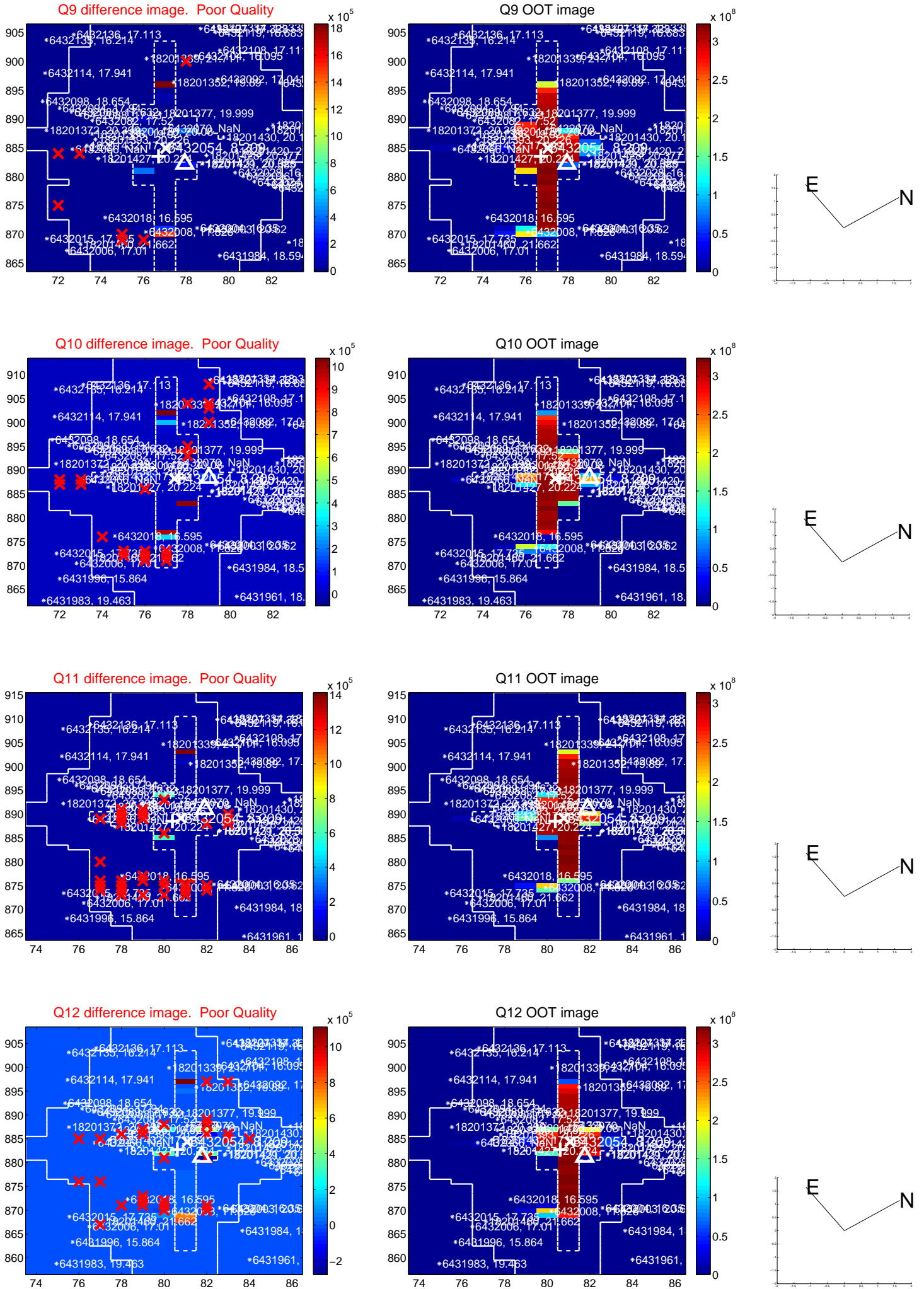


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

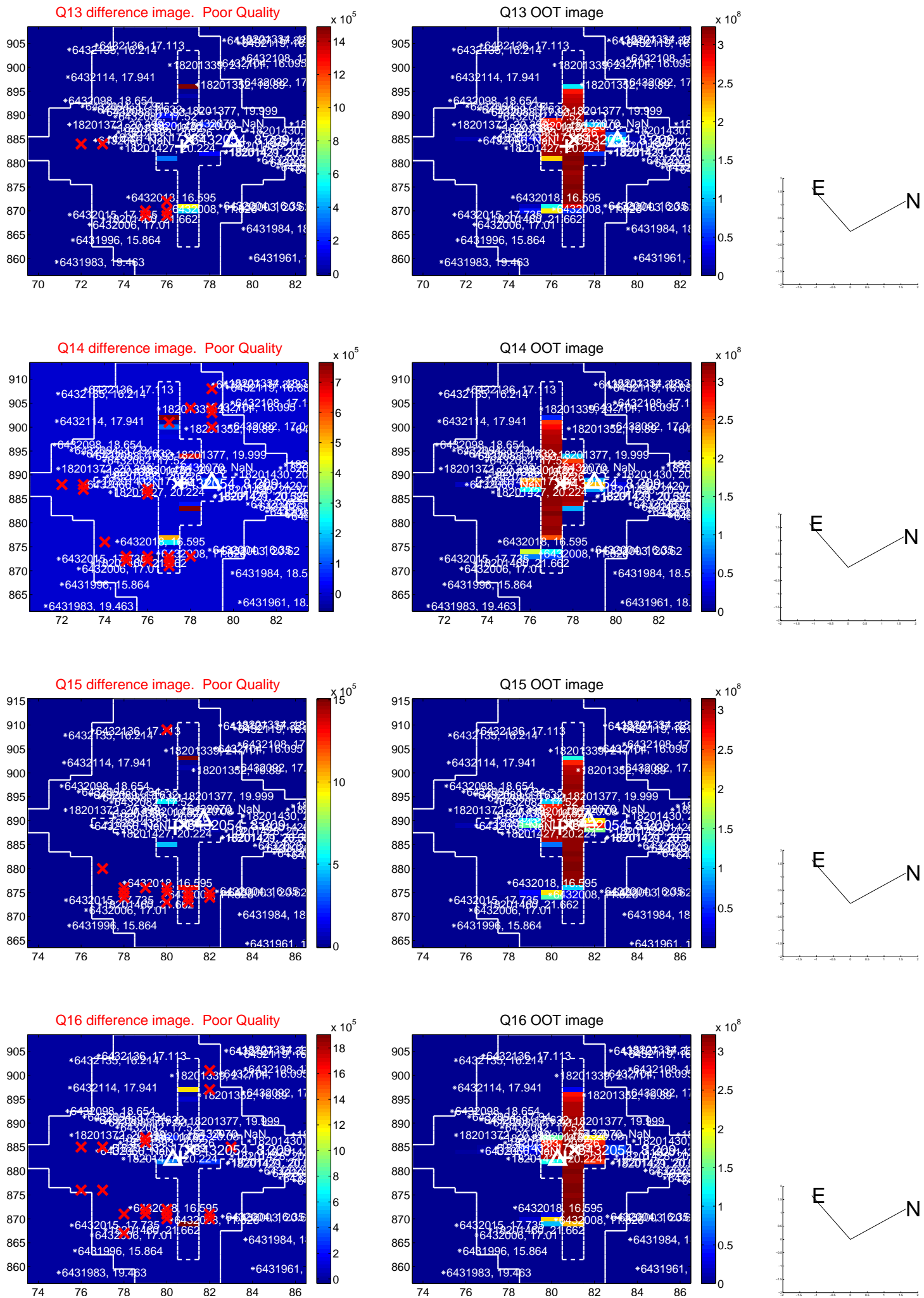
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



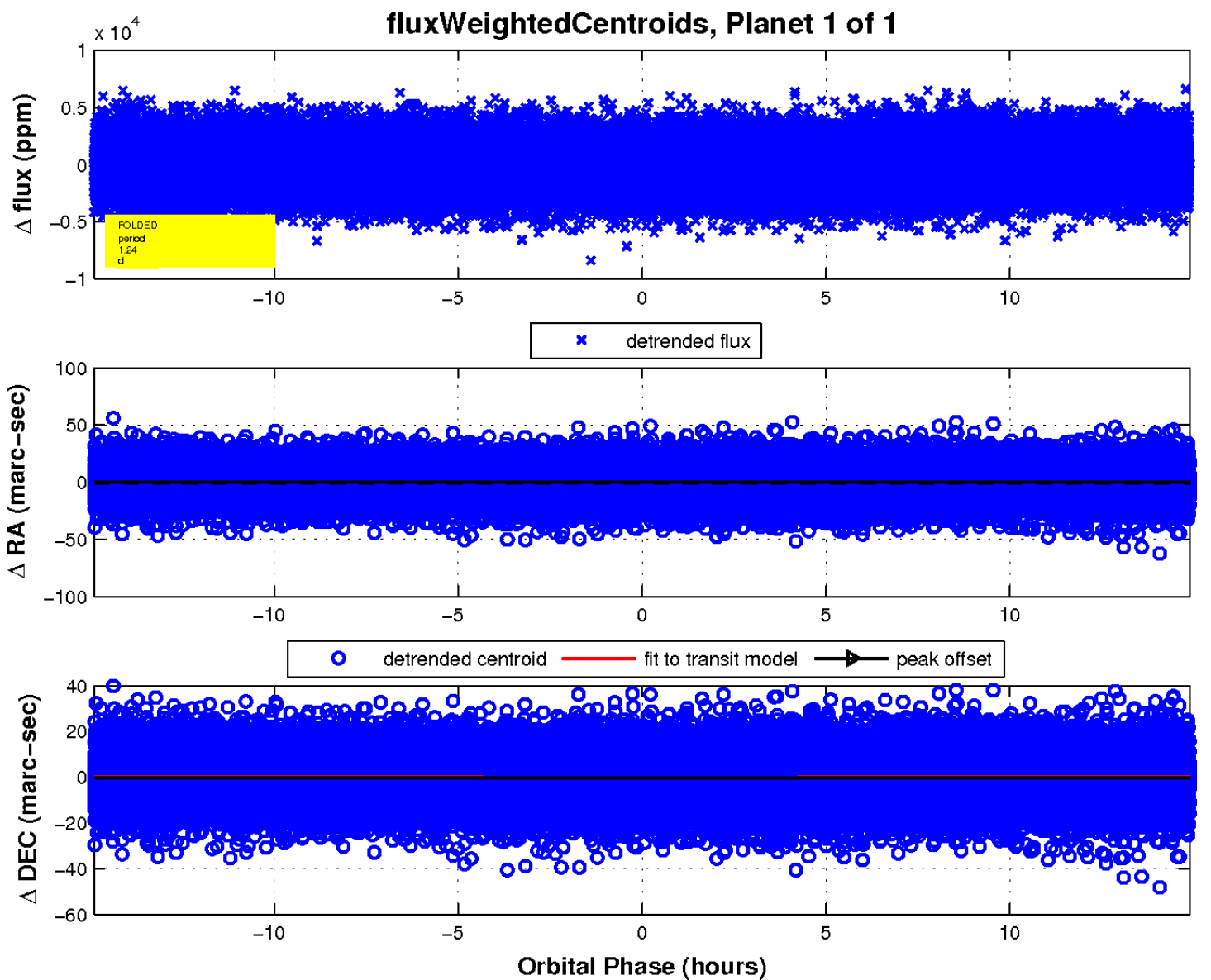
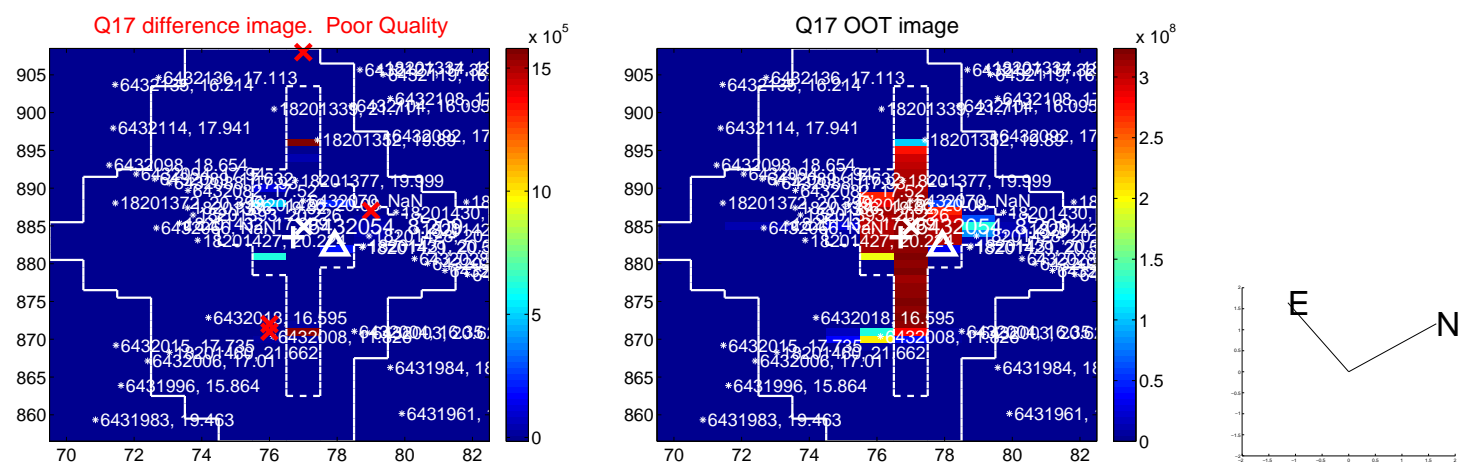
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

