

KIC 008153678

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|------|-----------------------------|-----------------|------------------------|------------------------|
| 008153678-01 | OBS | No | 1.532114 | 132.982027 | 153.4 | 3.000 | 7.7 | -1.0 | 1.80 | 7196 | 2.27 | 8936.94 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 008153678-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS |

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

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

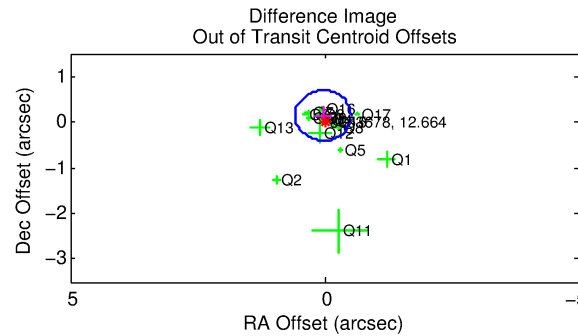
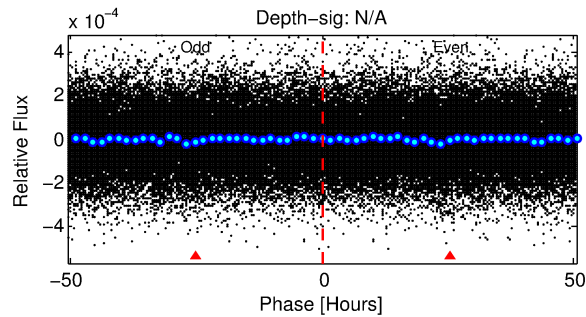
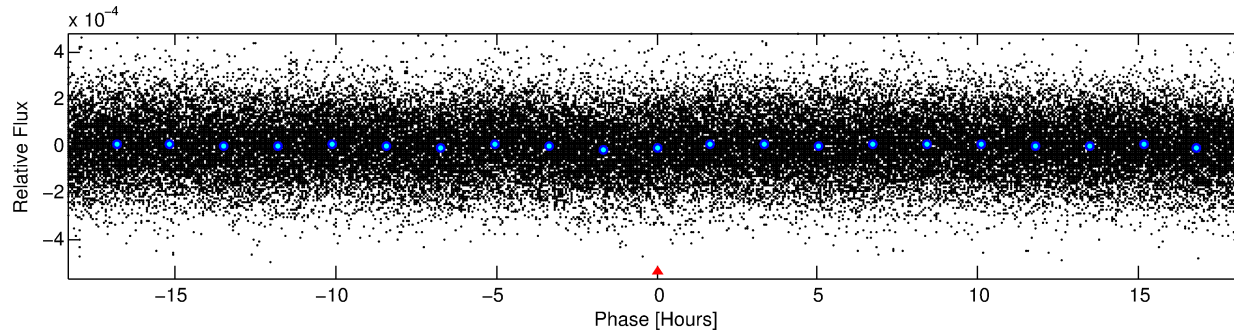
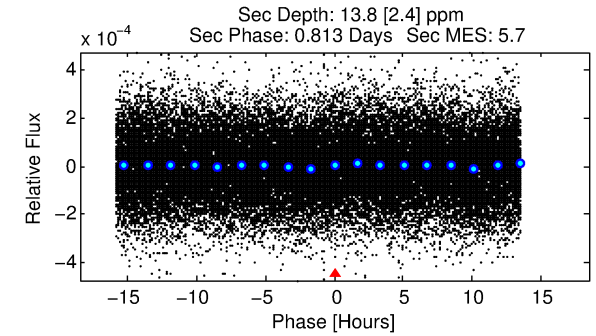
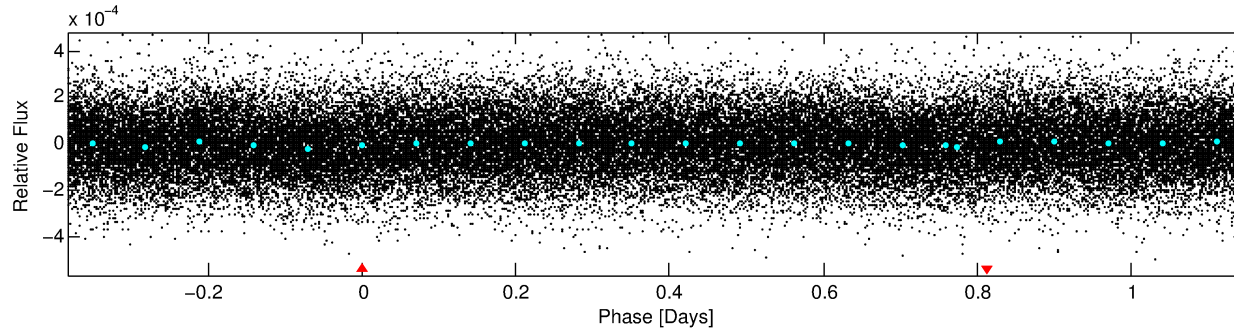
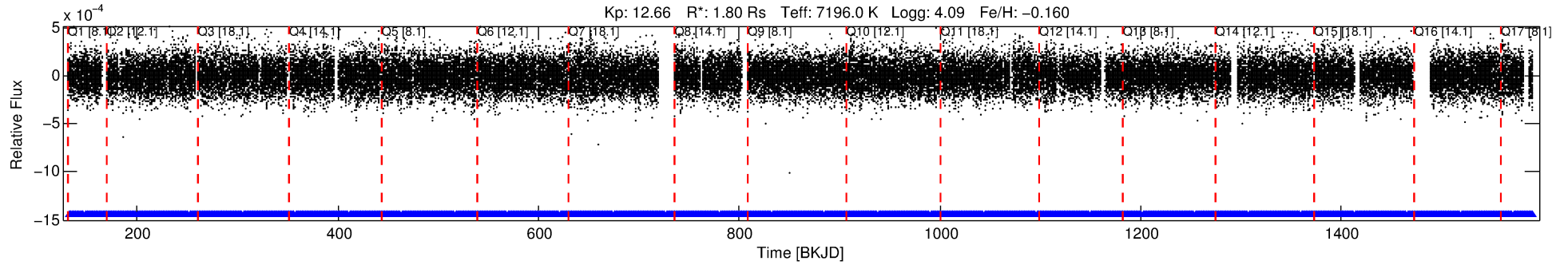
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008153678-01

No Significant Match Found

DV One-Page Summary

KIC: 8153678 Candidate: 1 of 1 Period: 1.532 d



TPS TCE Results:

Period = 1.53211 d
Epoch = 132.9820 BKJD

DV fit results are unavailable

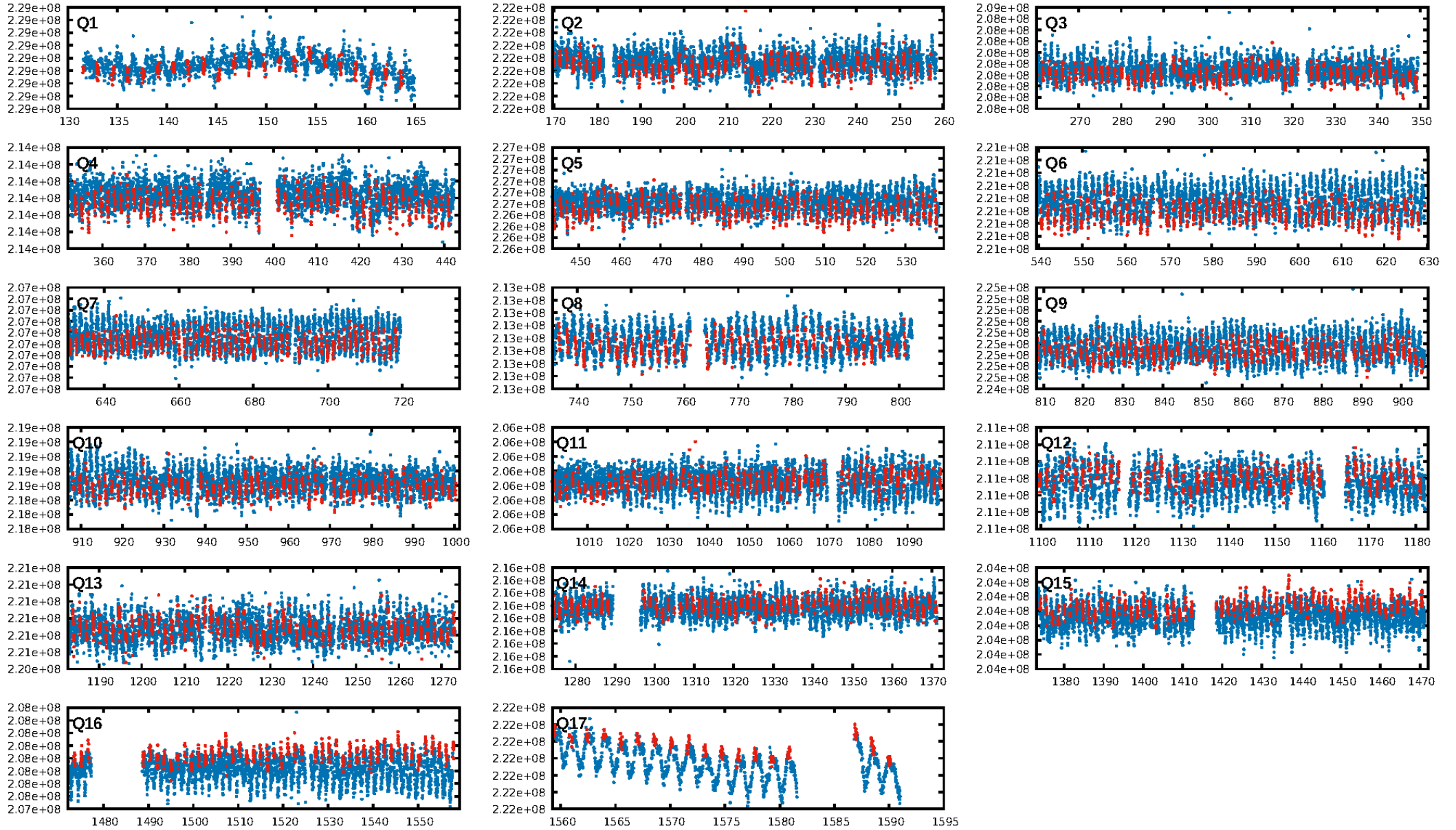
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.13e-13
RollingBand-fgt: 1.00 [843/843]
GhostDiagnostic-chr: 0.8201
Centroid-sig: 42.9%
Centroid-so: 0.373 arcsec [2.65σ]
OotOffset-rm: 0.147 arcsec [0.80σ]
KicOffset-rm: 0.289 arcsec [1.50σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 1.00 [17/17]

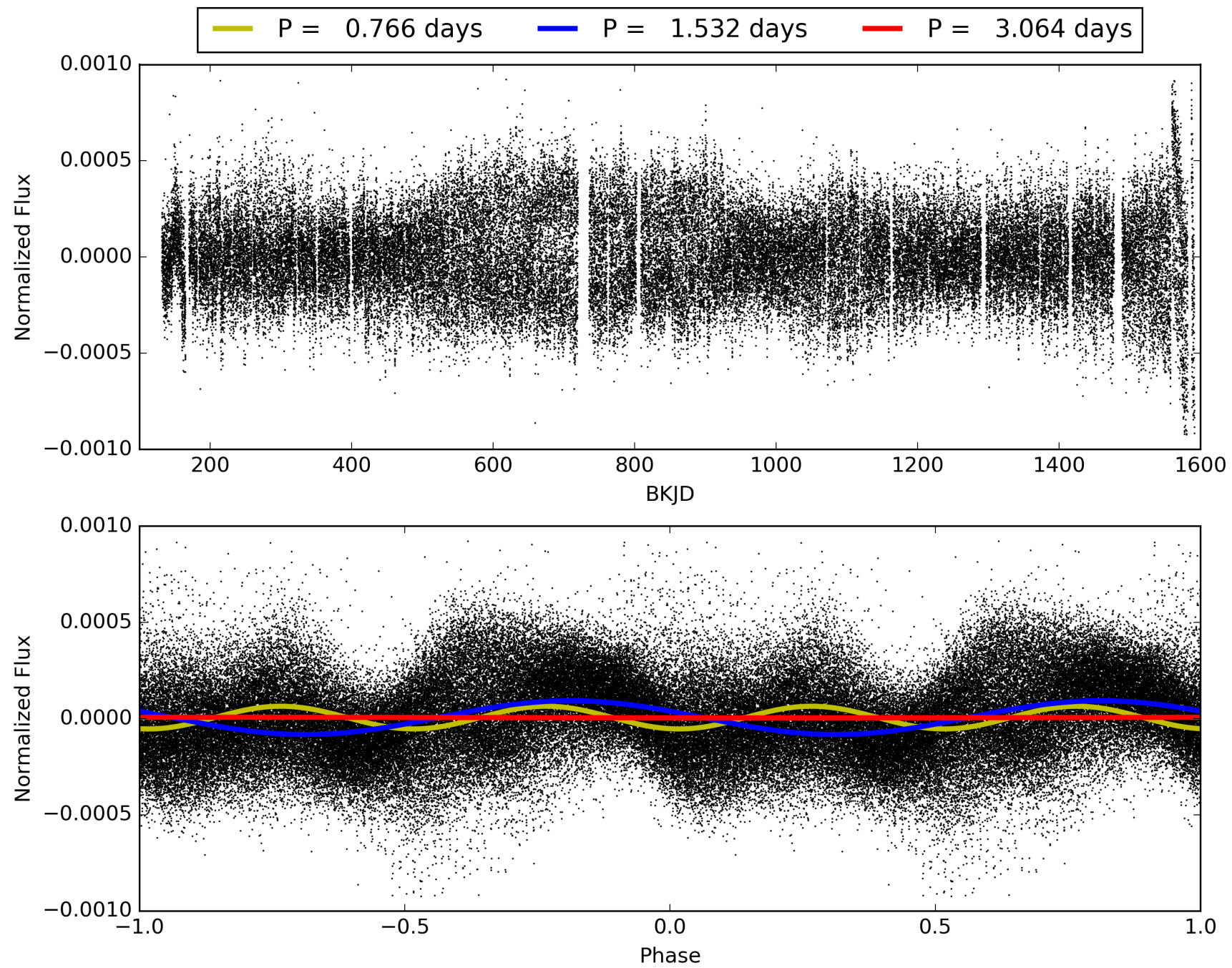
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:25:55 Z

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

TCE 008153678-01, PDC Light Curves

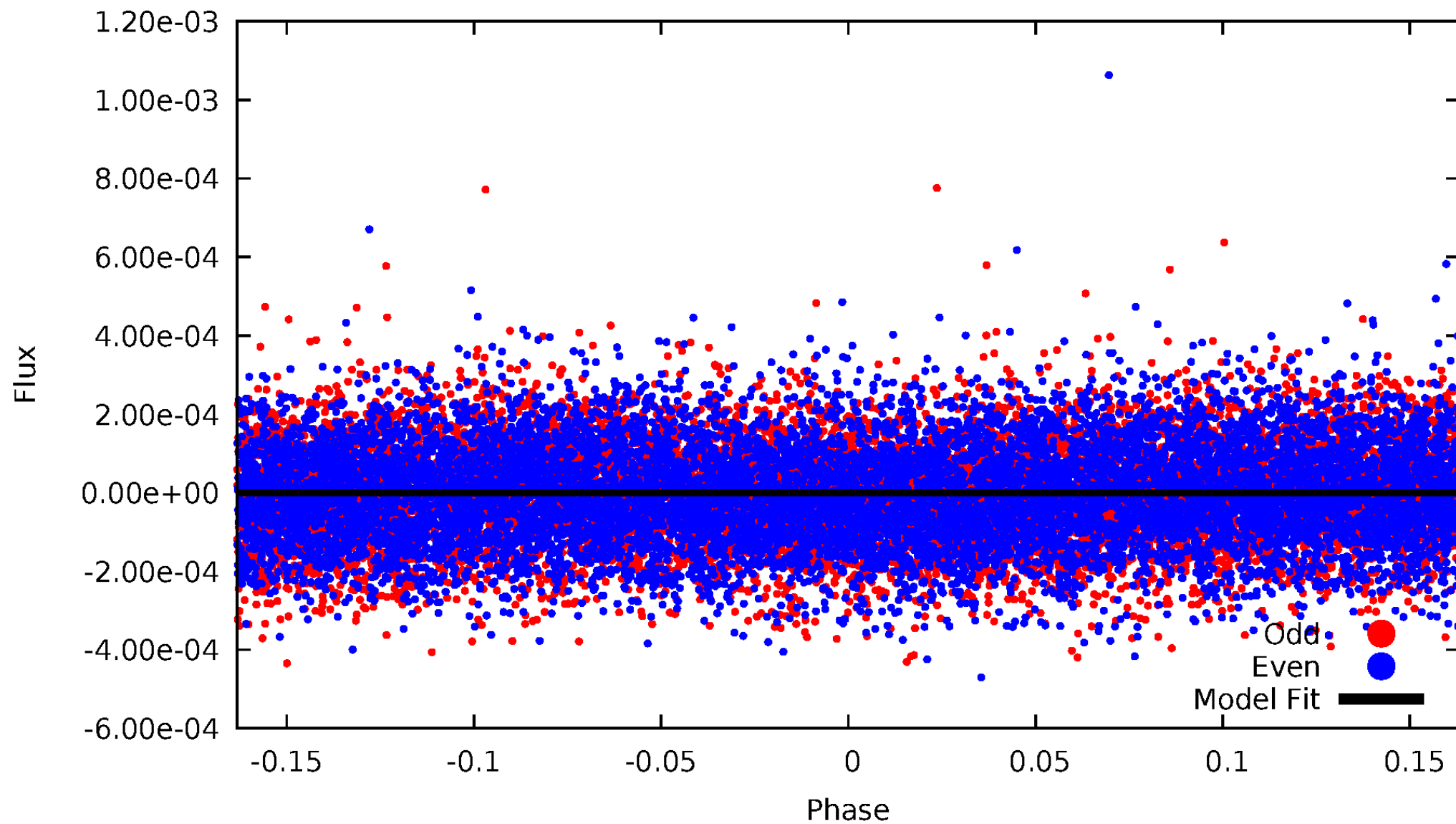


TCE 008153678-01



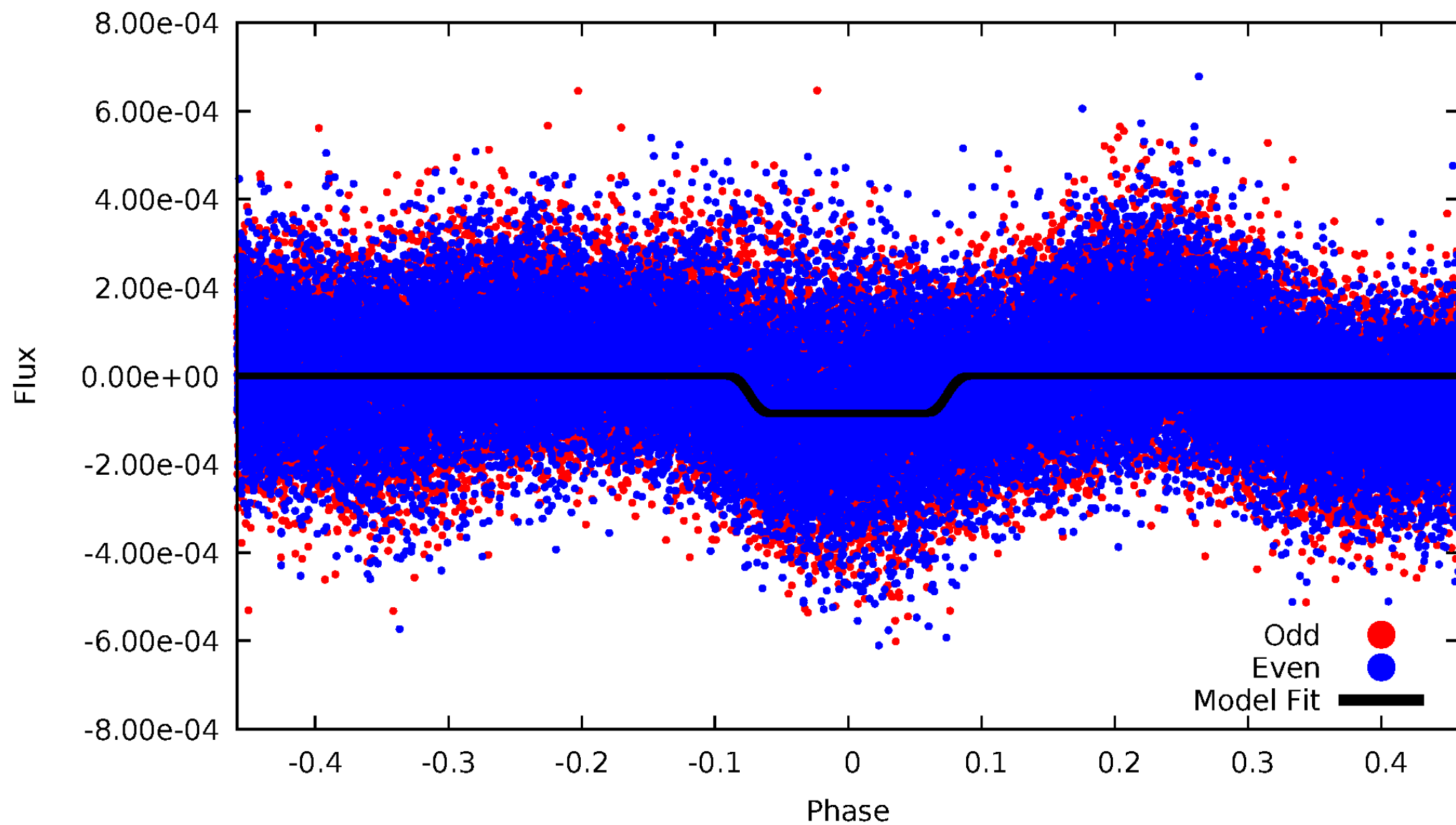
DV Odd/Even

TCE 008153678-01



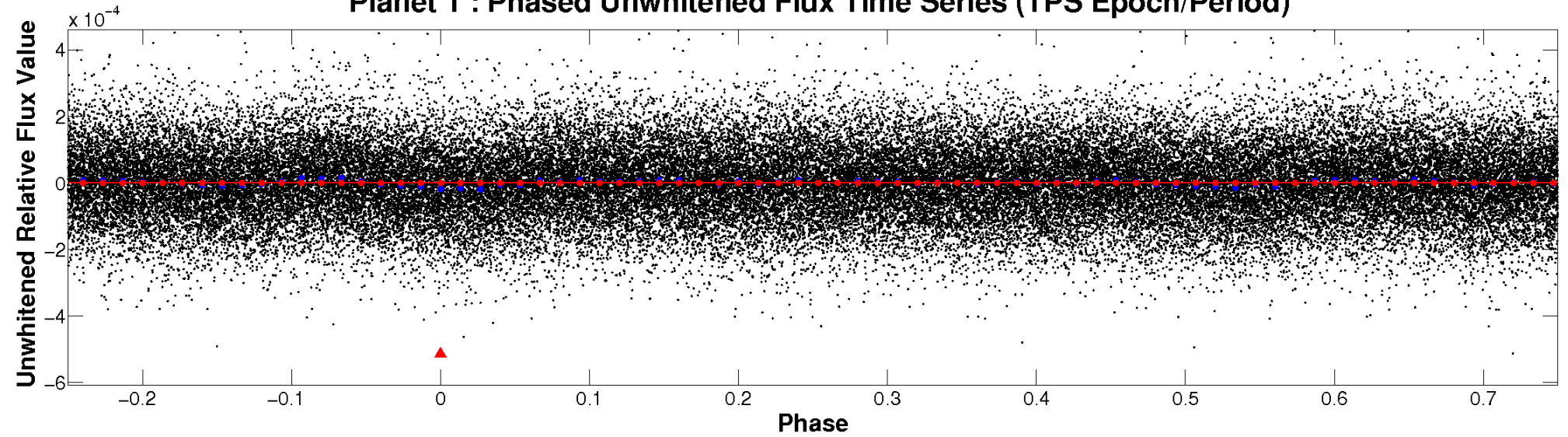
ALT Odd/Even

TCE 008153678-01

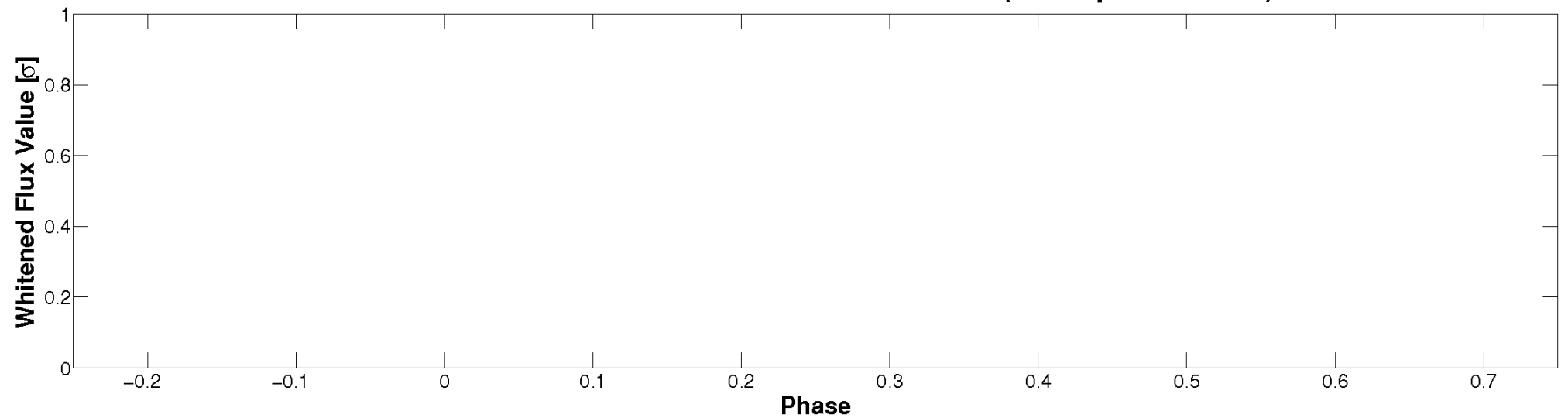


Non-Whitened Vs. Whitened Light Curve

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

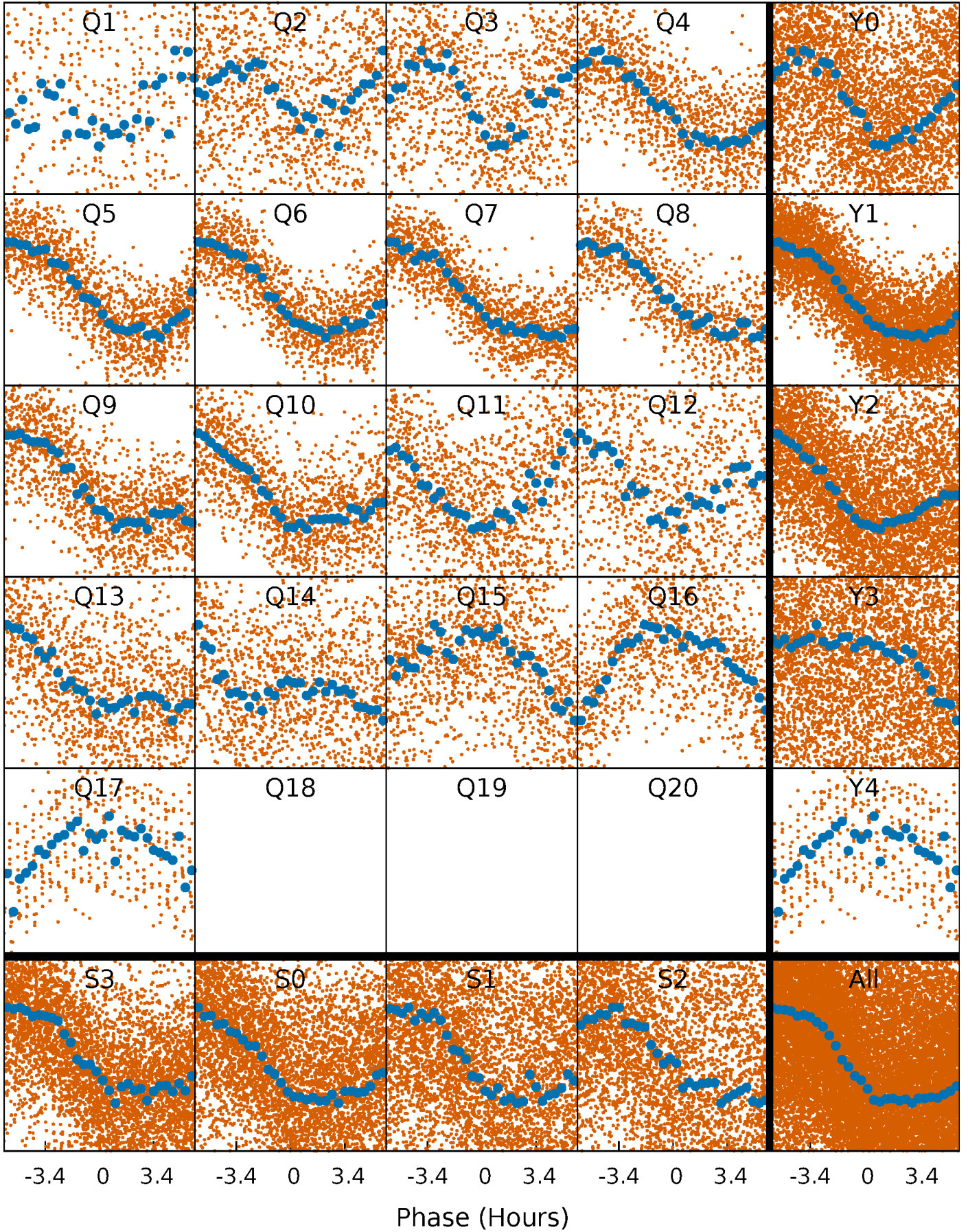


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



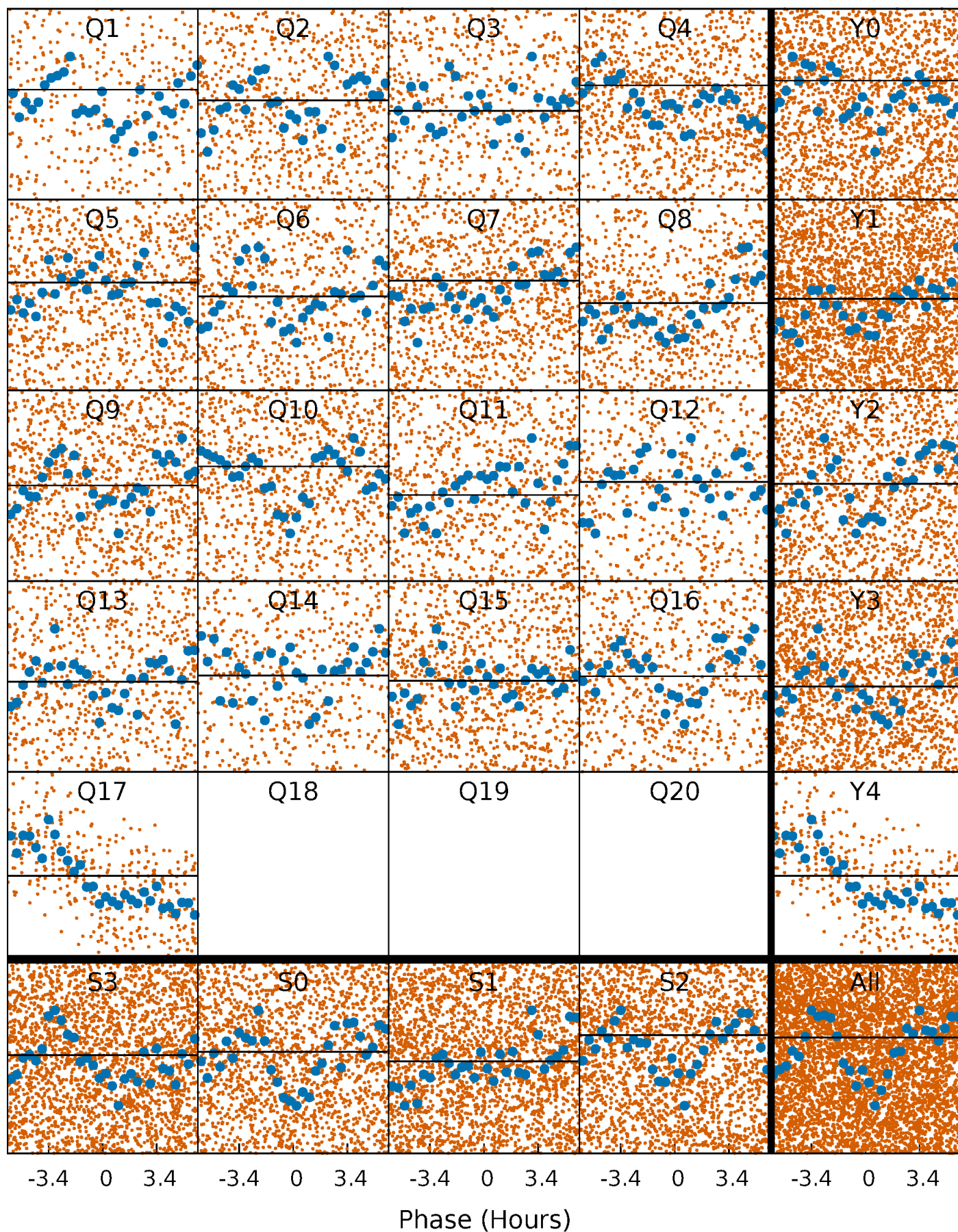
PDC Quarter-Phased Transit Curves

TCE 008153678-01 P= 1.532114 Days $T_0=132.982027$ (BKJD)



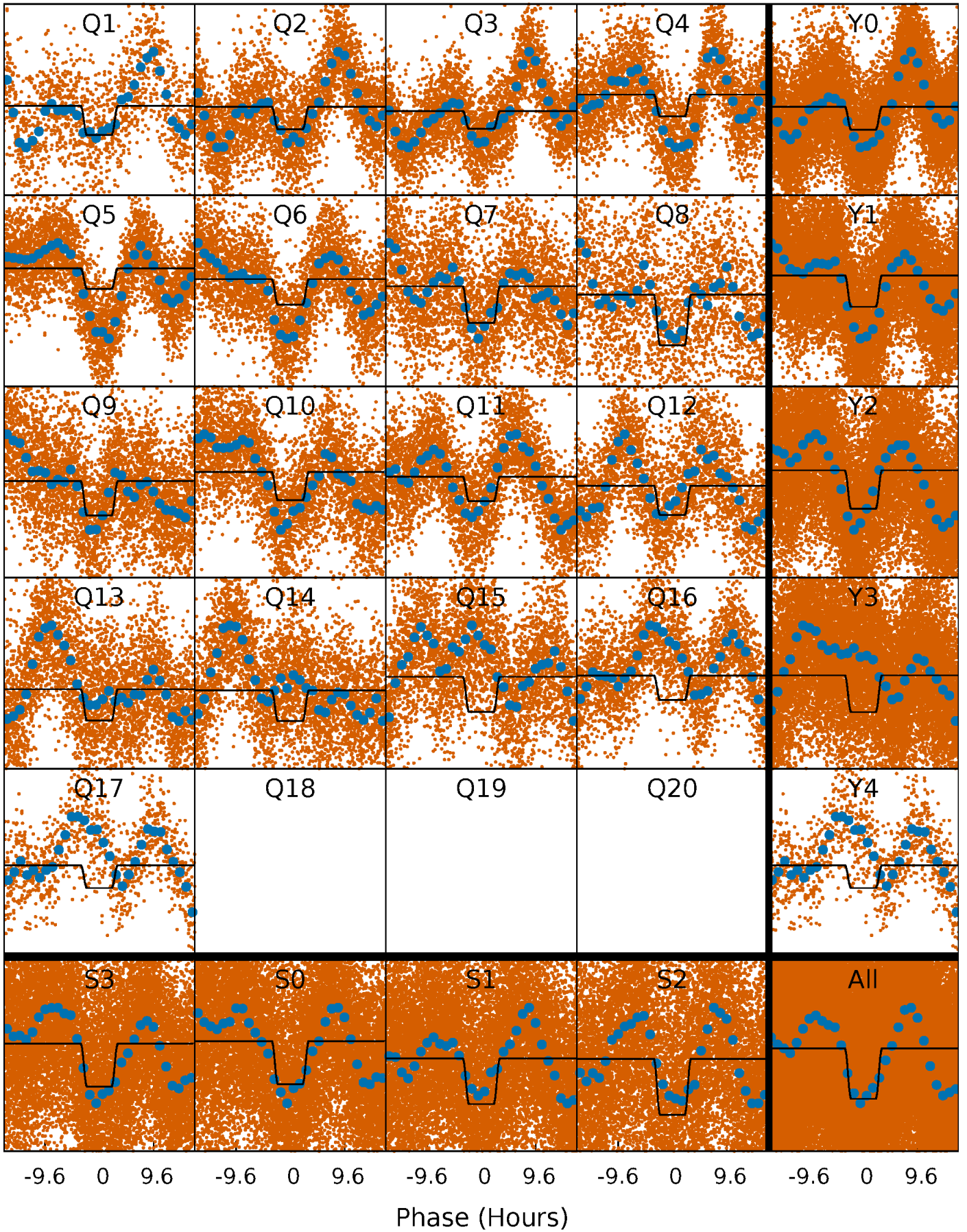
DV Quarter-Phased Transit Curves

TCE 008153678-01 P= 1.532114 Days $T_0=132.982027$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

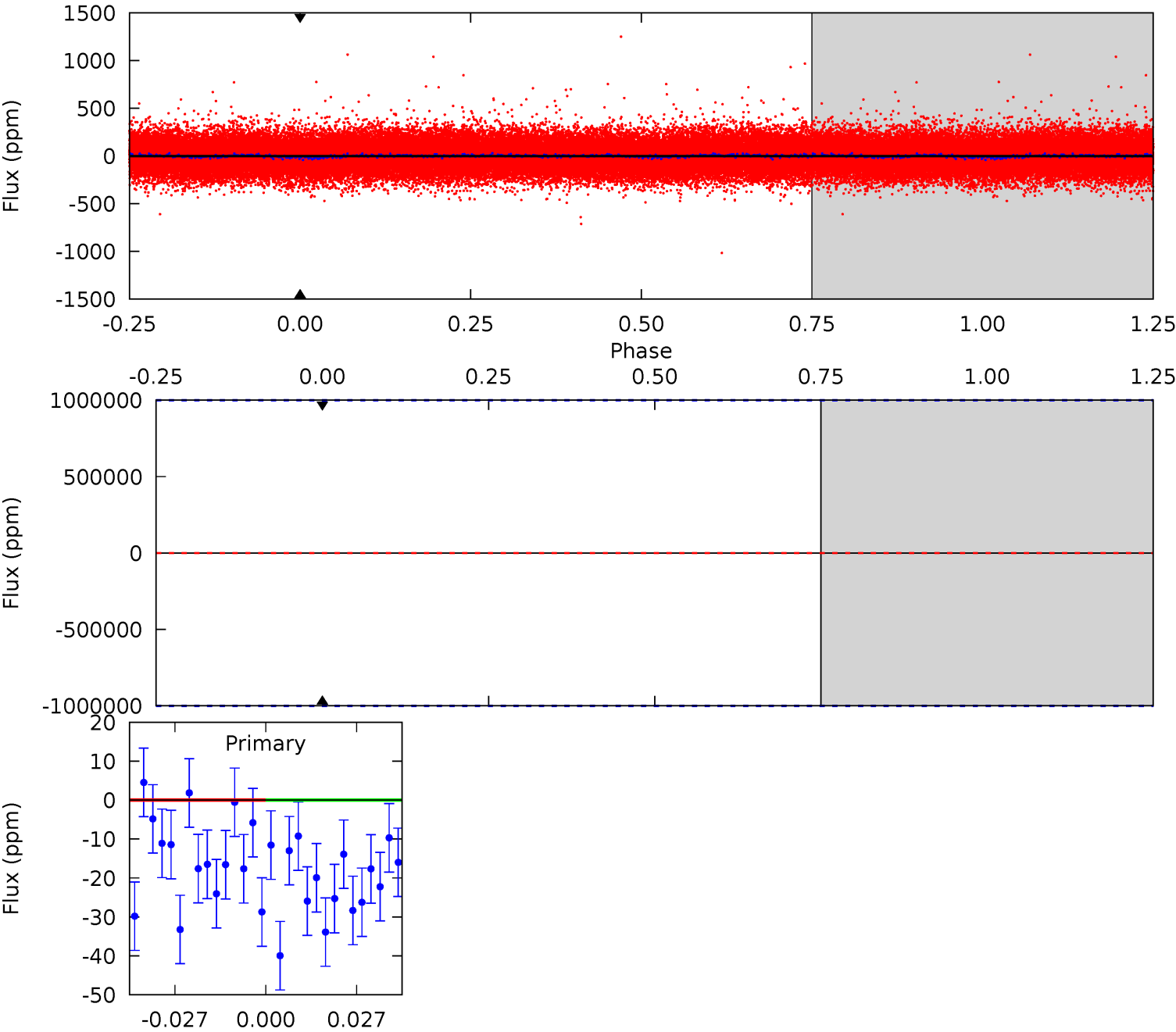
TCE 008153678-01 P= 1.532114 Days $T_0=133.054110$ (BKJD)



DV Model-Shift Uniqueness Test

008153678-01, P = 1.532114 Days, E = 131.449913 Days

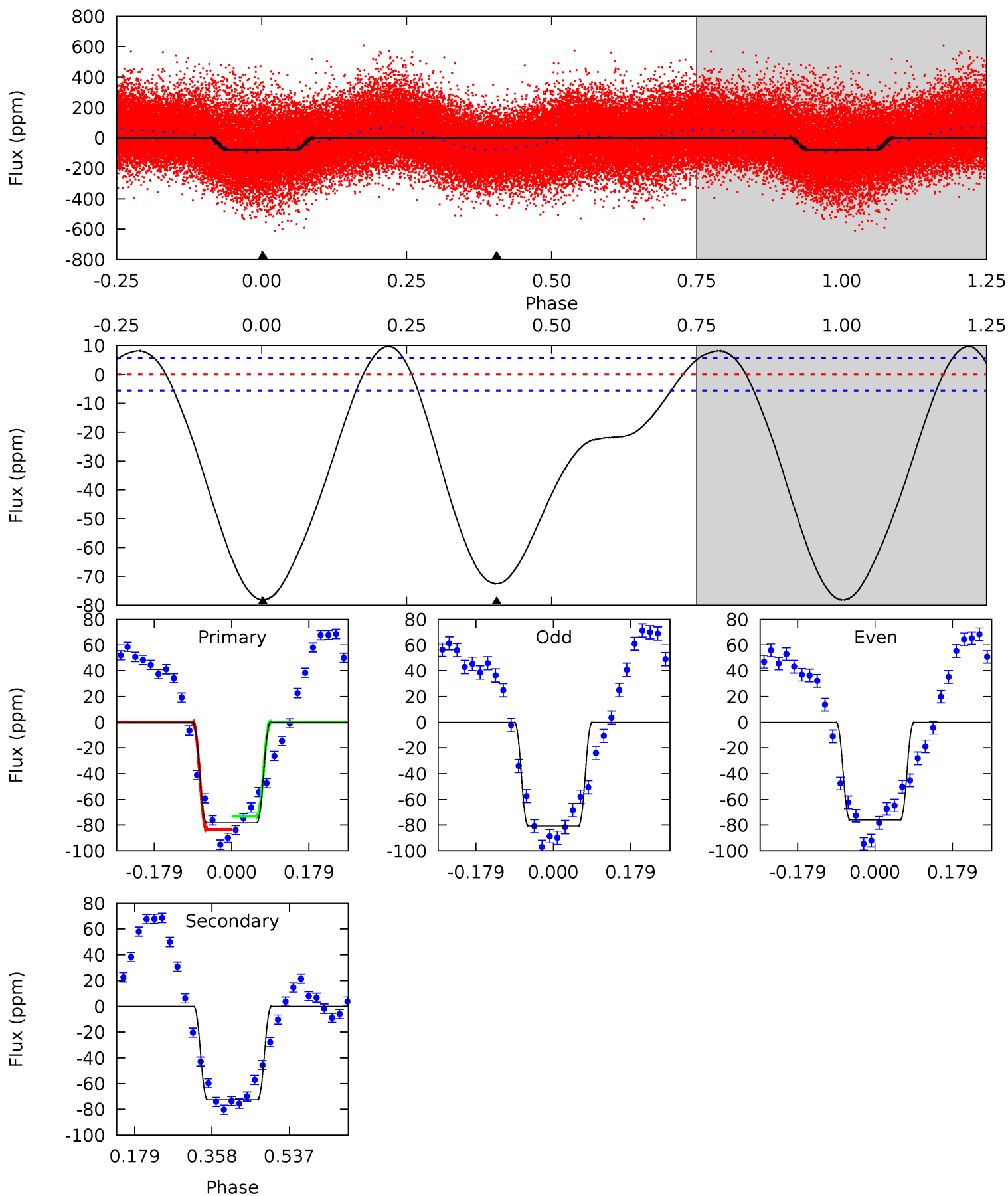
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00 | 1.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



Alt Model-Shift Uniqueness Test

008153678-01, P = 1.532114 Days, E = 129.989882 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 61.5 | 57.1 | 0 | 0 | 4.44 | 1.34 | 9.51 | 61.5 | 61.5 | 57.1 | 57.1 | 1.86 | 1.02 | 0.11 | 4.03 |



Stellar Parameters For KIC 008153678

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 7196^{+200}_{-275} | $4.093^{+0.175}_{-0.175}$ | $-0.160^{+0.250}_{-0.350}$ | $1.805^{+0.539}_{-0.441}$ | $1.473^{+0.218}_{-0.239}$ | $0.353^{+0.333}_{-0.171}$ |
| | +3%/-4% | +4%/-4% | +156%/-219% | +30%/-24% | +15%/-16% | +94%/-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 008153678-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-----------------|--------------------------|----------------------|--------------------------|-------------------------------|
| DV | 0 ± 1000000 | $14.20^{+14.71}_{-9.89}$ | 3464^{+259}_{-240} | 4580^{+33393}_{-34840} | $2.855^{+428.561}_{-341.006}$ |
| Alt. | -73 ± 1 | $13.73^{+15.63}_{-9.75}$ | 3465^{+272}_{-243} | -2876^{+7468}_{-428} | $0.181^{+2.038}_{-0.142}$ |

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 $A_{obs} \gg 1.0$

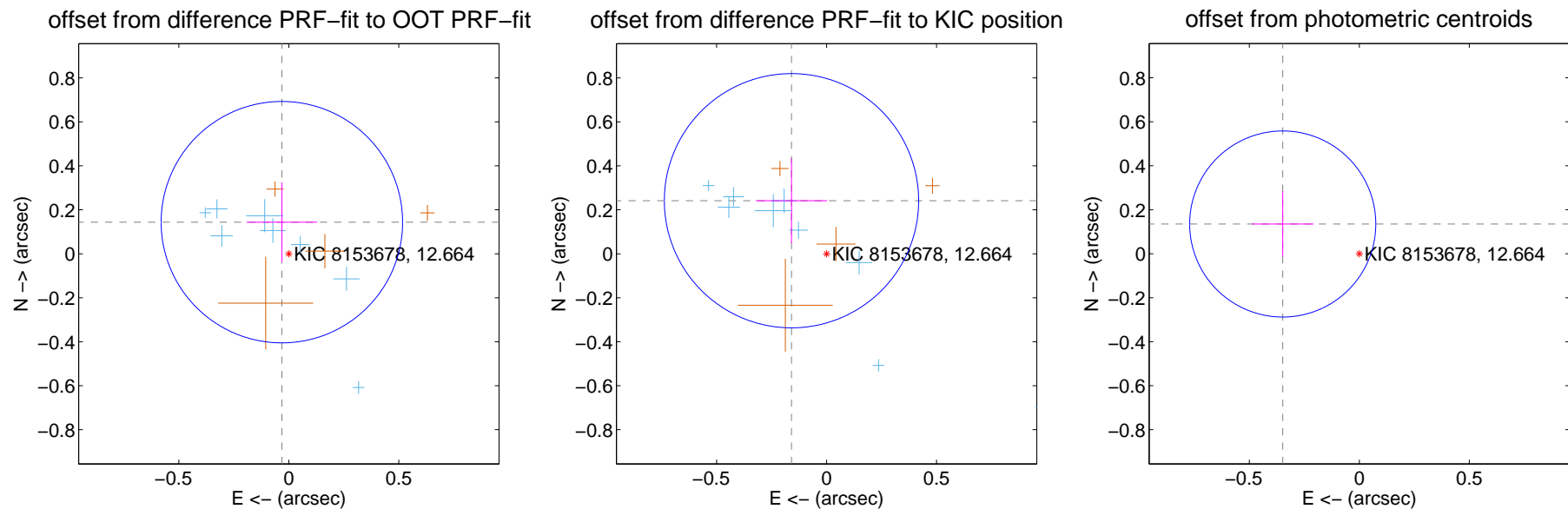
DV Centroid Data

Supplemental centroid analysis for 008153678-01. Kepler magnitude: 12.66. Transit SNR -1.00

There are 12 quarters with good PRF difference image offsets

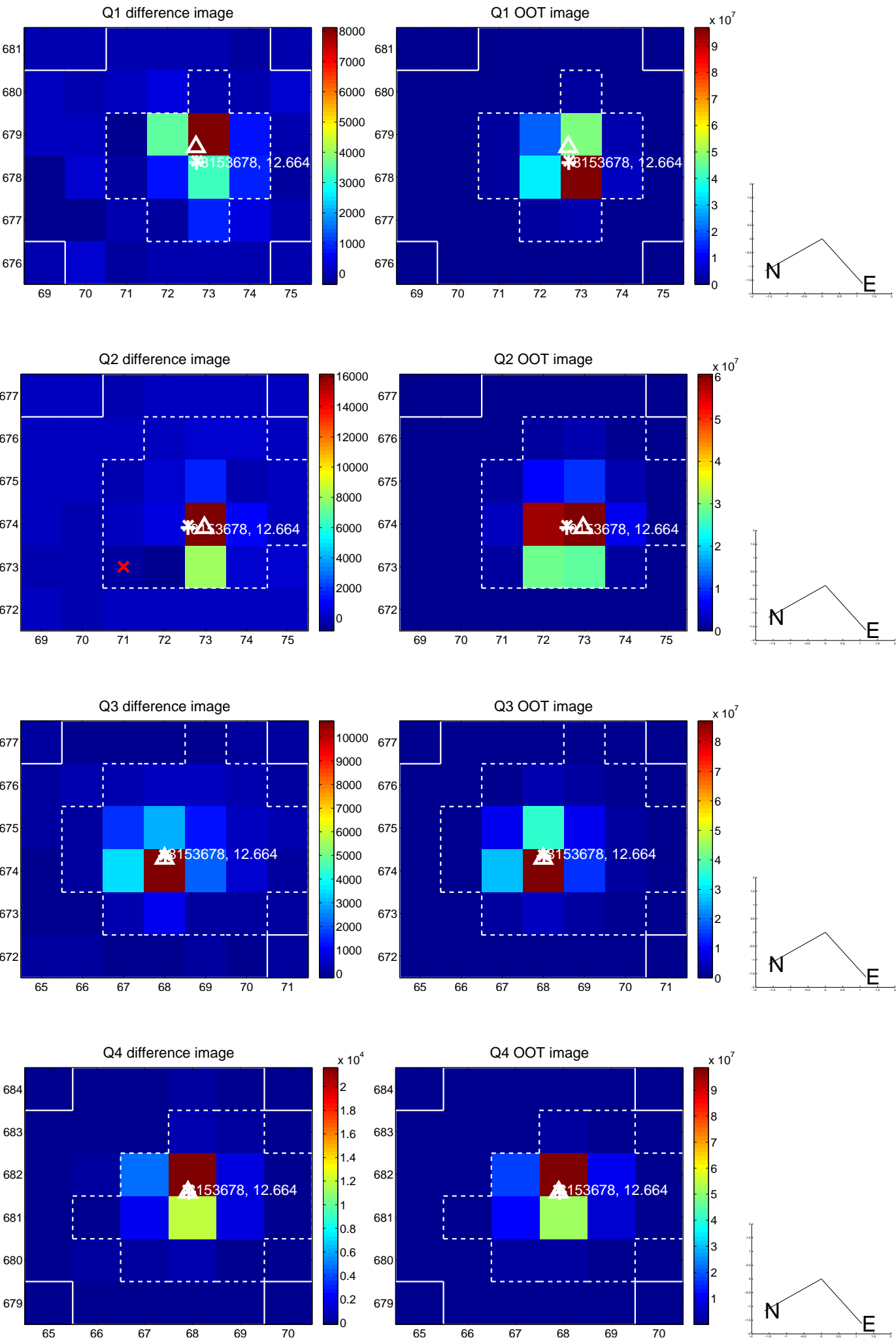
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.147 ± 0.183 | 0.80 | 0.032 ± 0.161 | 0.144 ± 0.181 |
| PRF-fit source offset from KIC position | 0.289 ± 0.193 | 1.50 | 0.160 ± 0.162 | 0.241 ± 0.193 |
| photometric centroid source offset | 0.37 ± 0.14 | 2.65 | 0.35 ± 0.14 | 0.14 ± 0.15 |

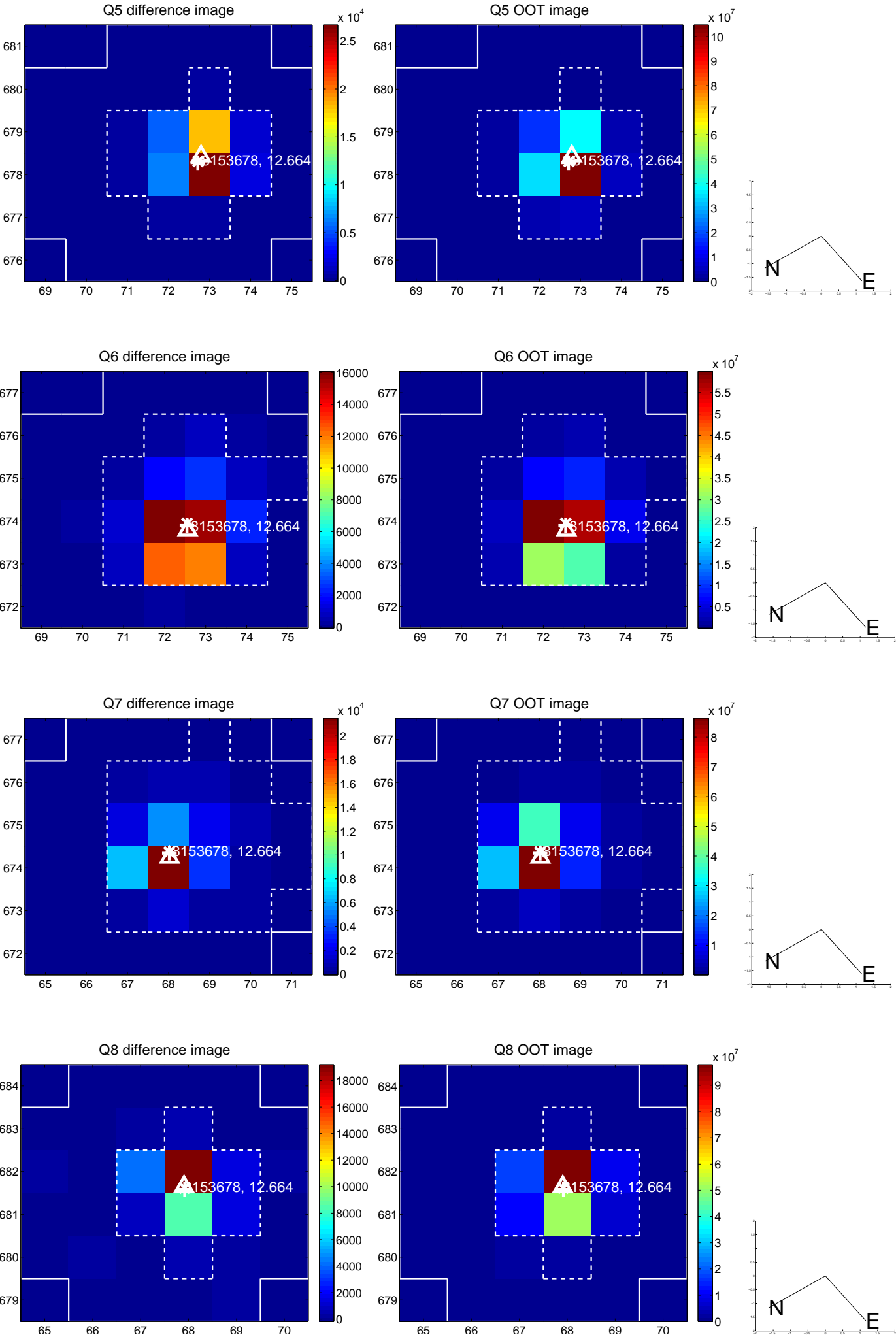


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

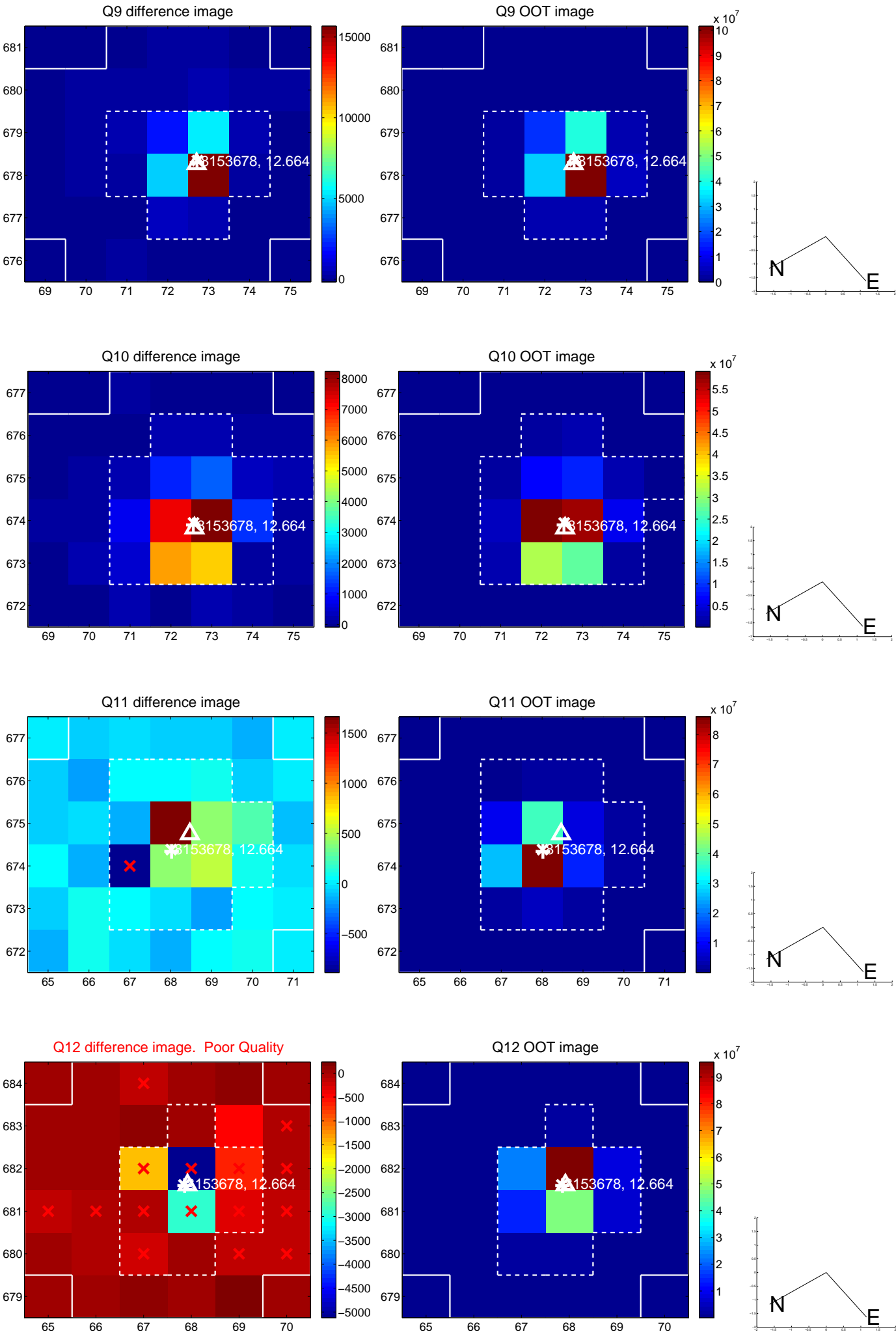
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



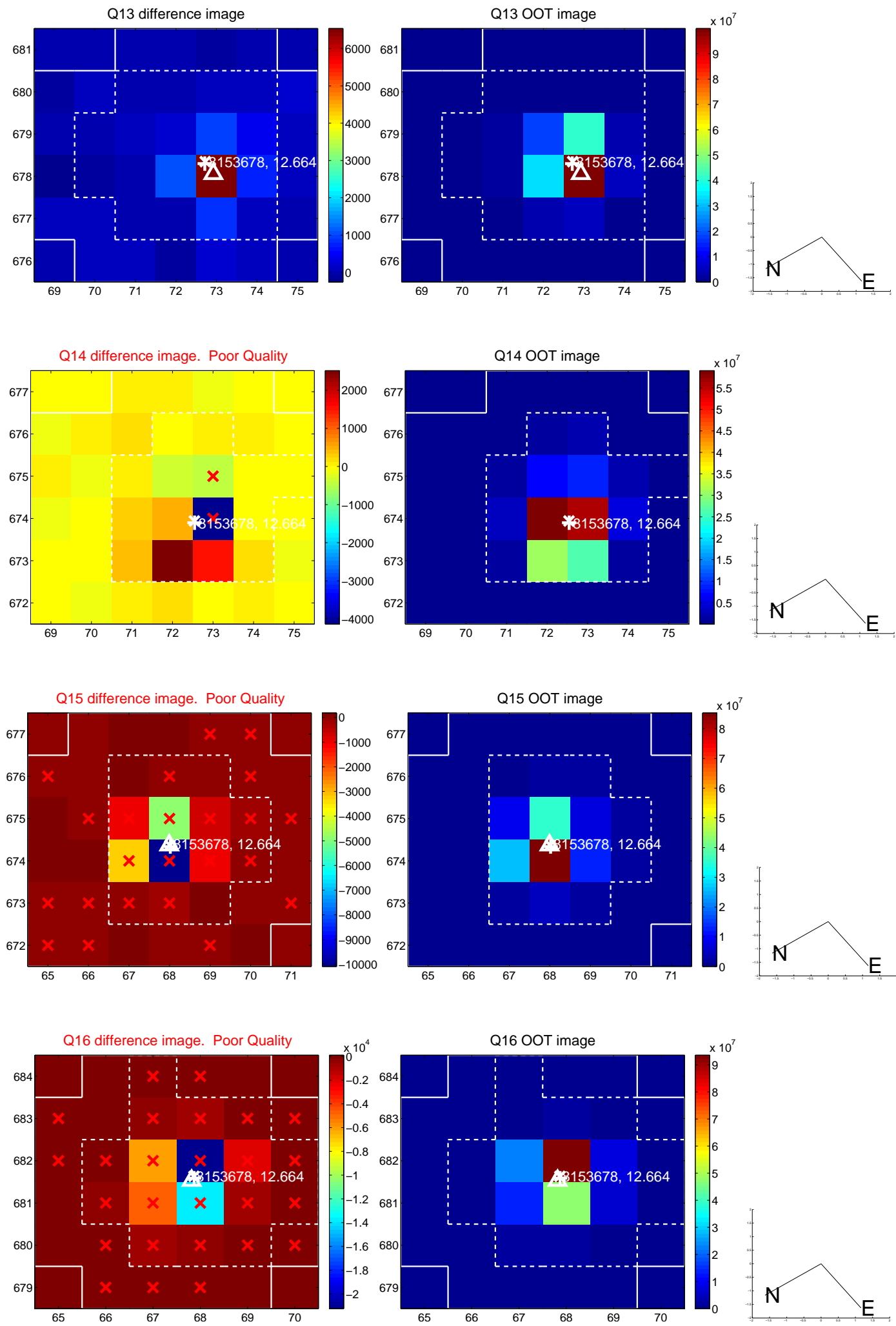
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



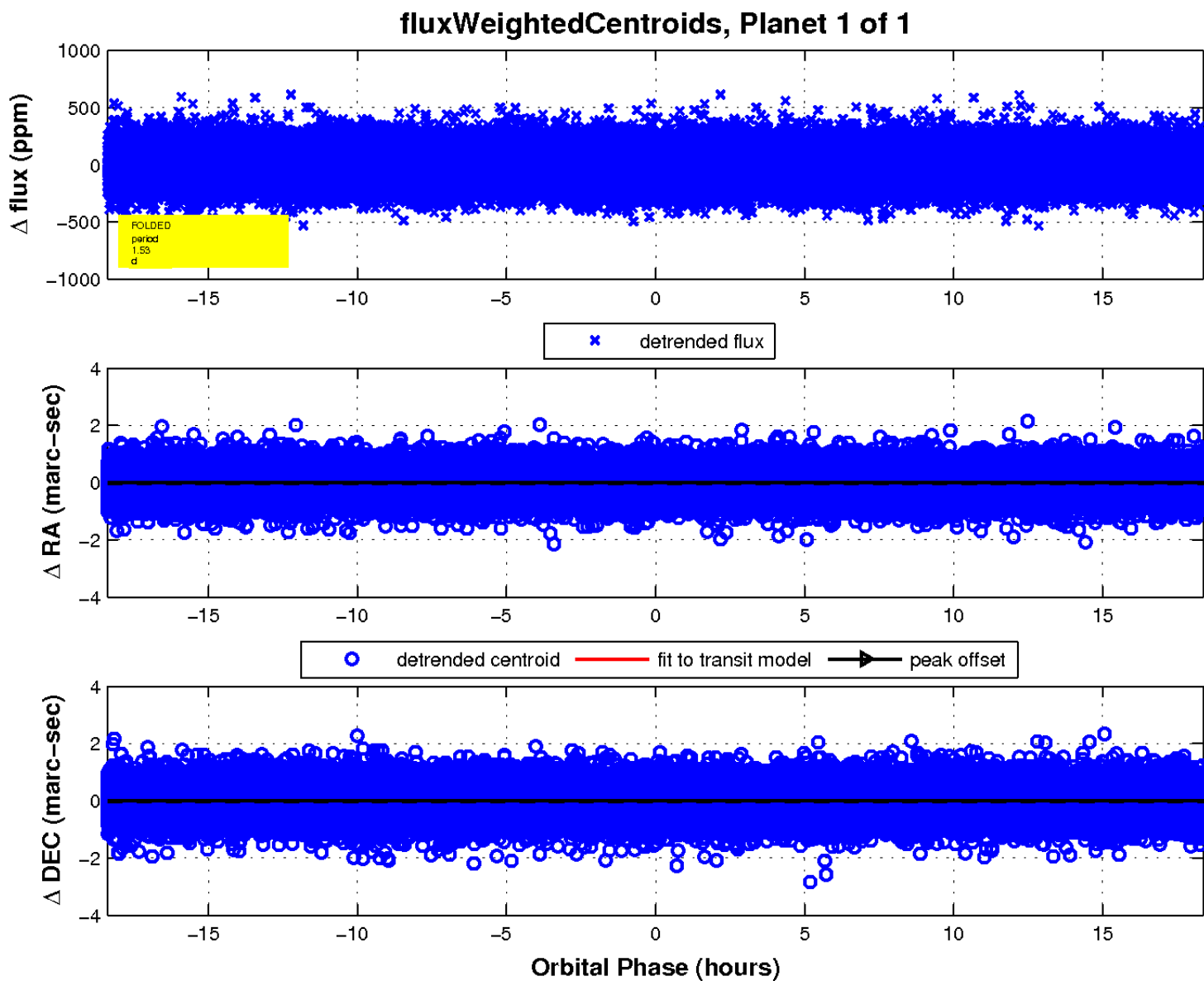
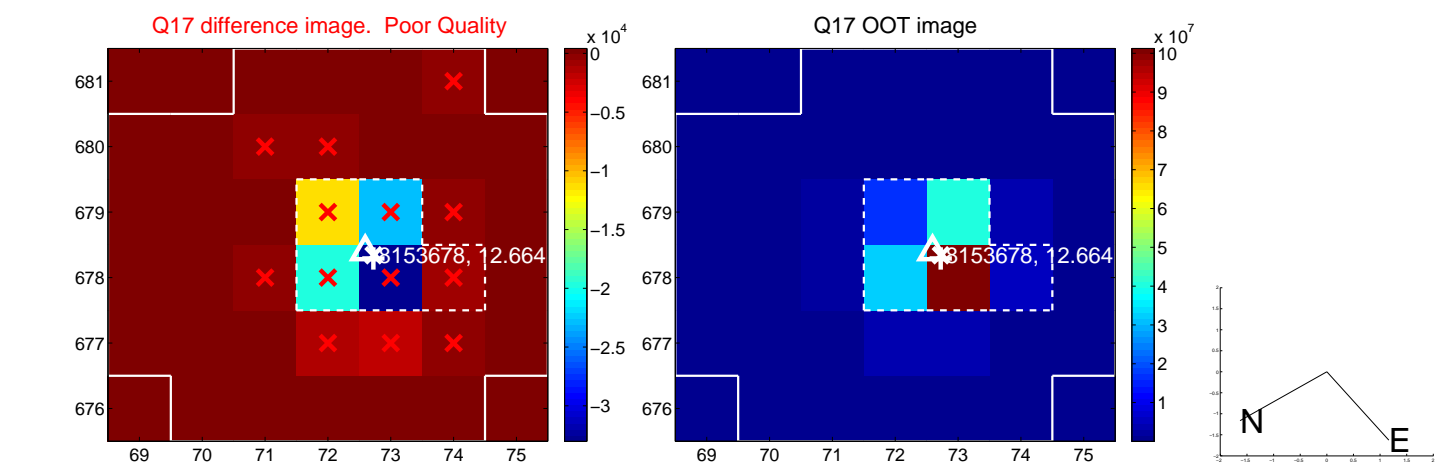
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

