

KIC 005308851

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|------|-----------------------------|-----------------|------------------------|------------------------|
| 005308851-01 | OBS | No | 1.976631 | 131.783979 | 6.5 | 20.554 | 7.6 | 11.3 | 2.12 | 8641 | 0.55 | 14696.04 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-----------------------|
| 005308851-01 | 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.

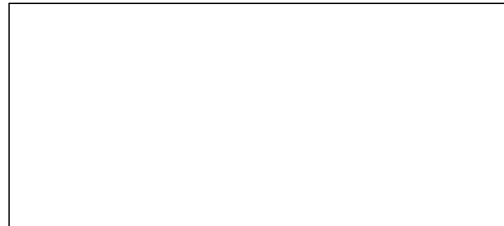
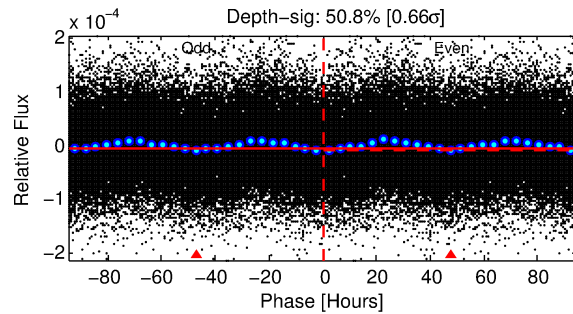
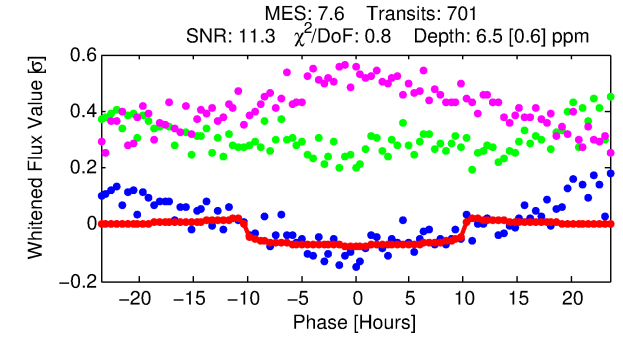
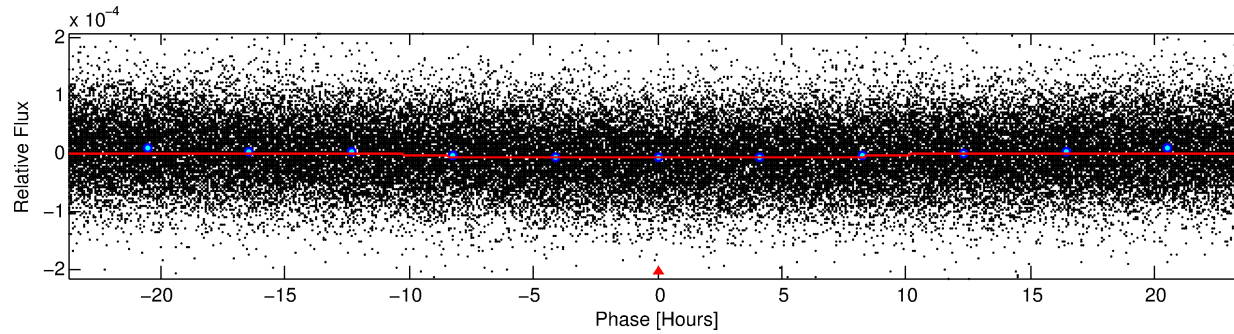
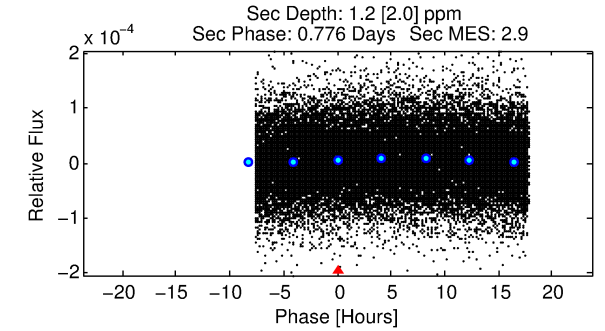
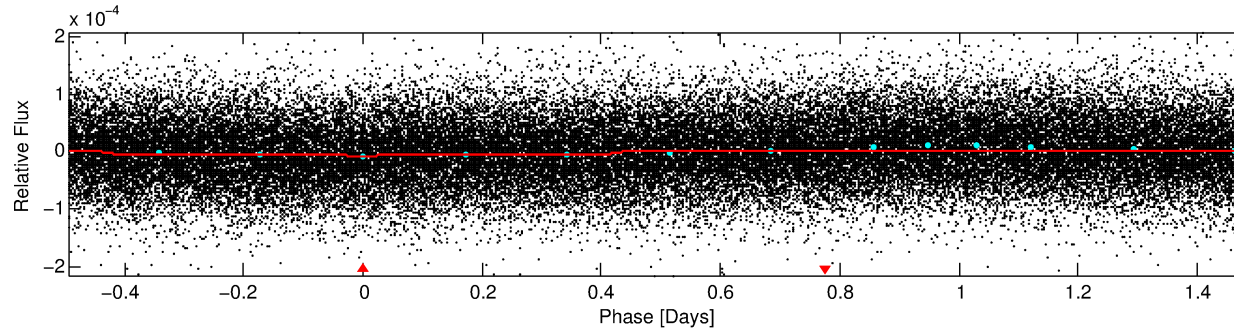
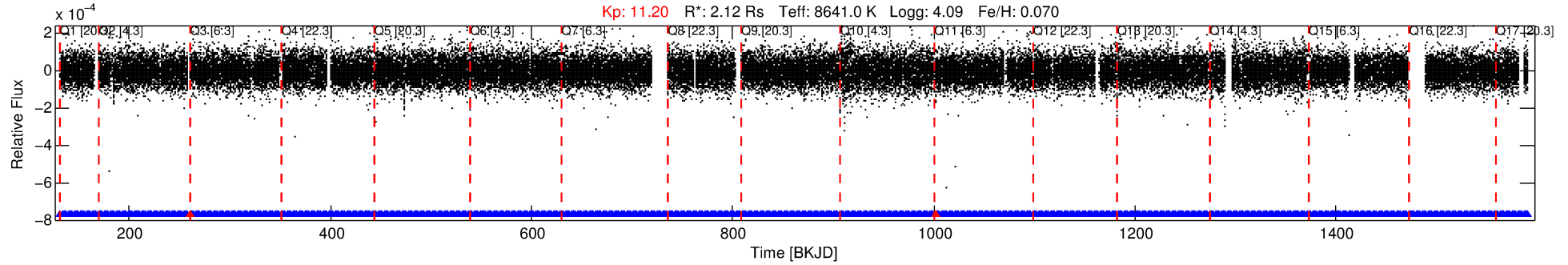
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005308851-01

No Significant Match Found

DV One-Page Summary

KIC: 5308851 Candidate: 1 of 1 Period: 1.977 d



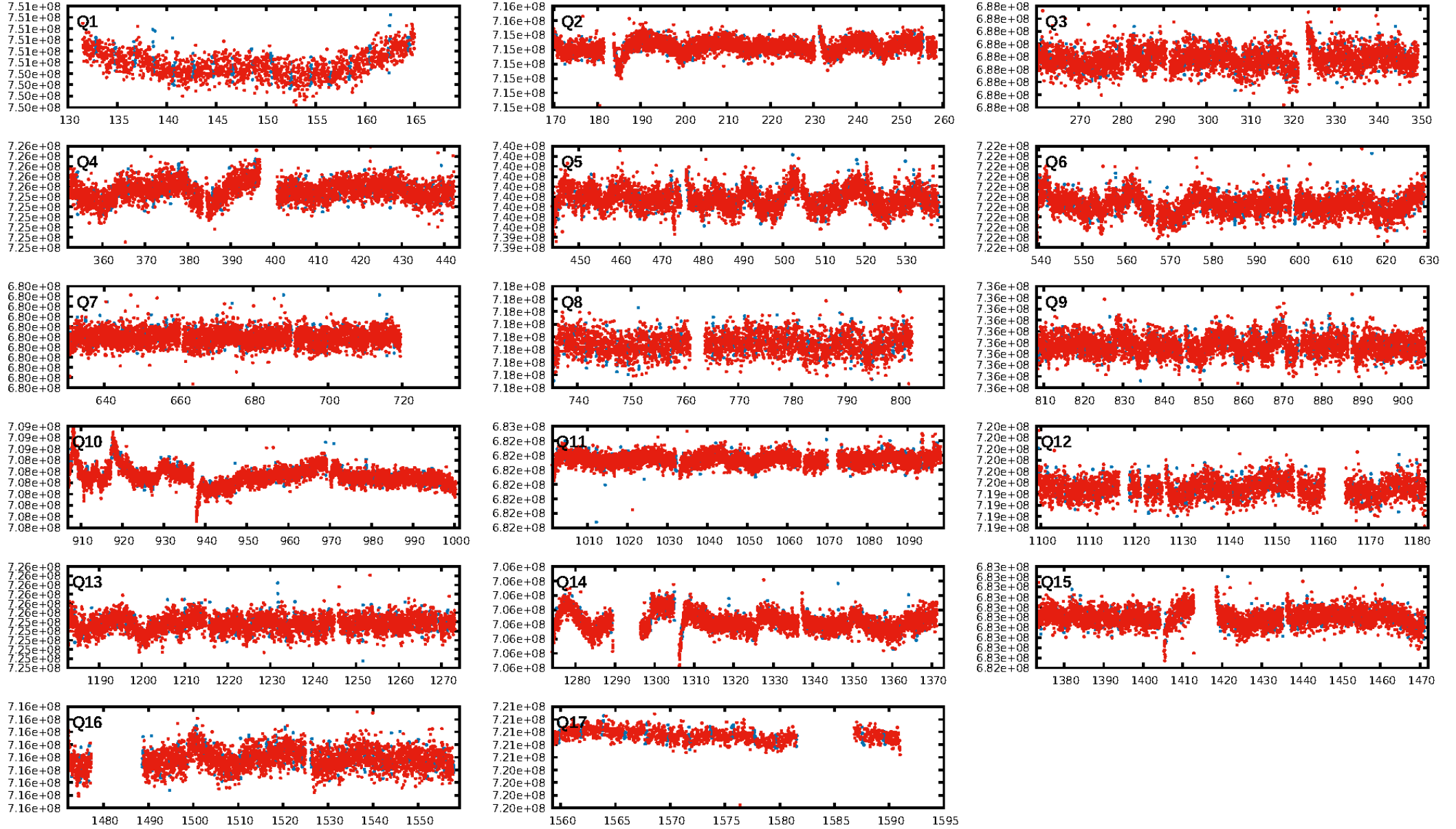
DV Fit Results:

Period = 1.97663 [0.00004] d
Epoch = 131.7840 [0.0097] BKJD
Rp/R* = 0.0024 [0.0011]
a/R* = 1.02 [0.12]
b = 0.34 [7.67]
Seff = 14696.04 [4882.55]
Teq = 2808 [233] K
Rp = 0.55 [0.29] Re
a = 0.0390 [0.0076] AU
Ag = 3.41 [6.33] [0.38σ]
Teffp = 5899 [2722] K [1.13σ]

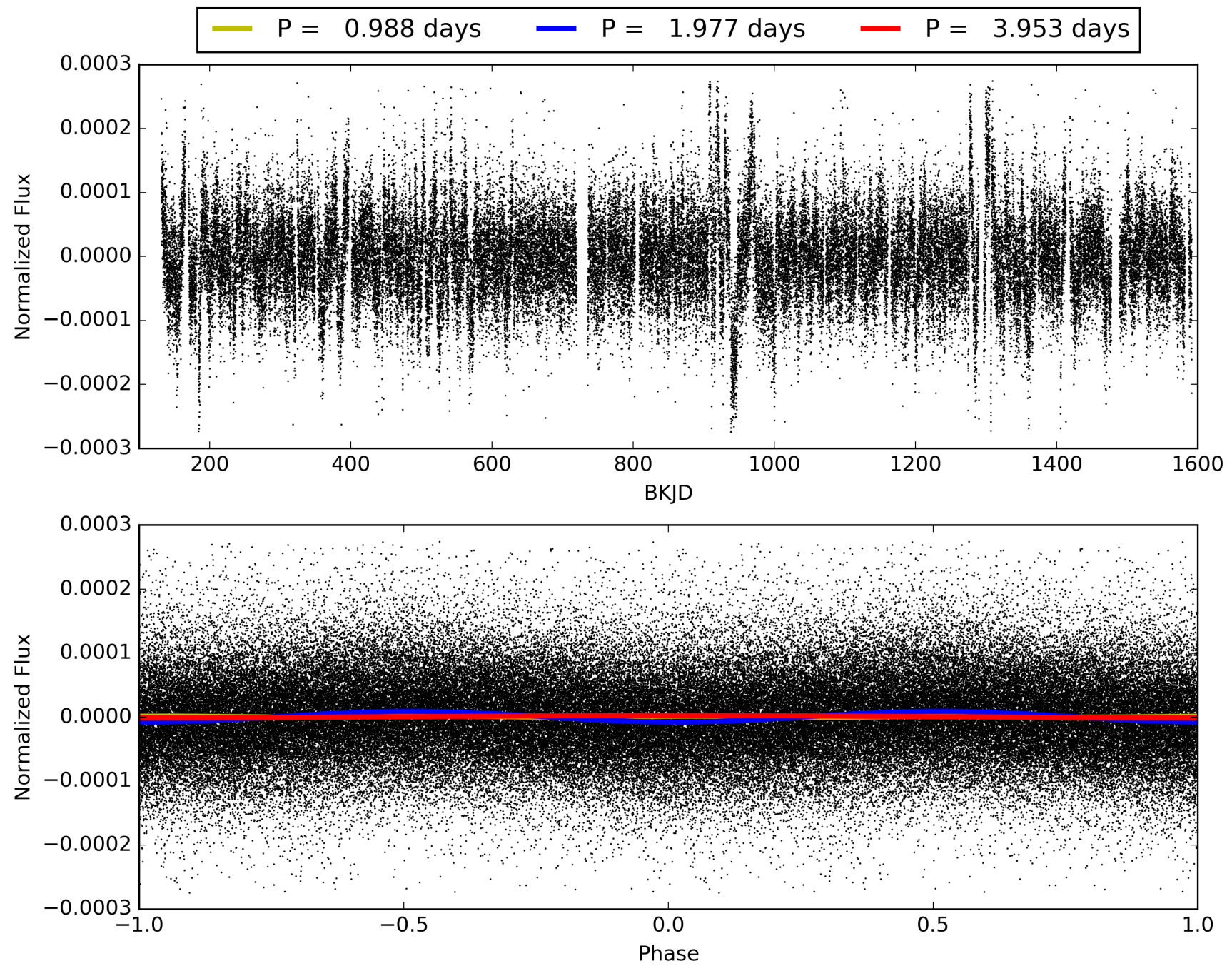
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [666/668]
GhostDiagnostic-chr: 2.201
Centroid-sig: 59.8%
Centroid-so: 0.599 arcsec [0.42σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005308851-01, PDC Light Curves

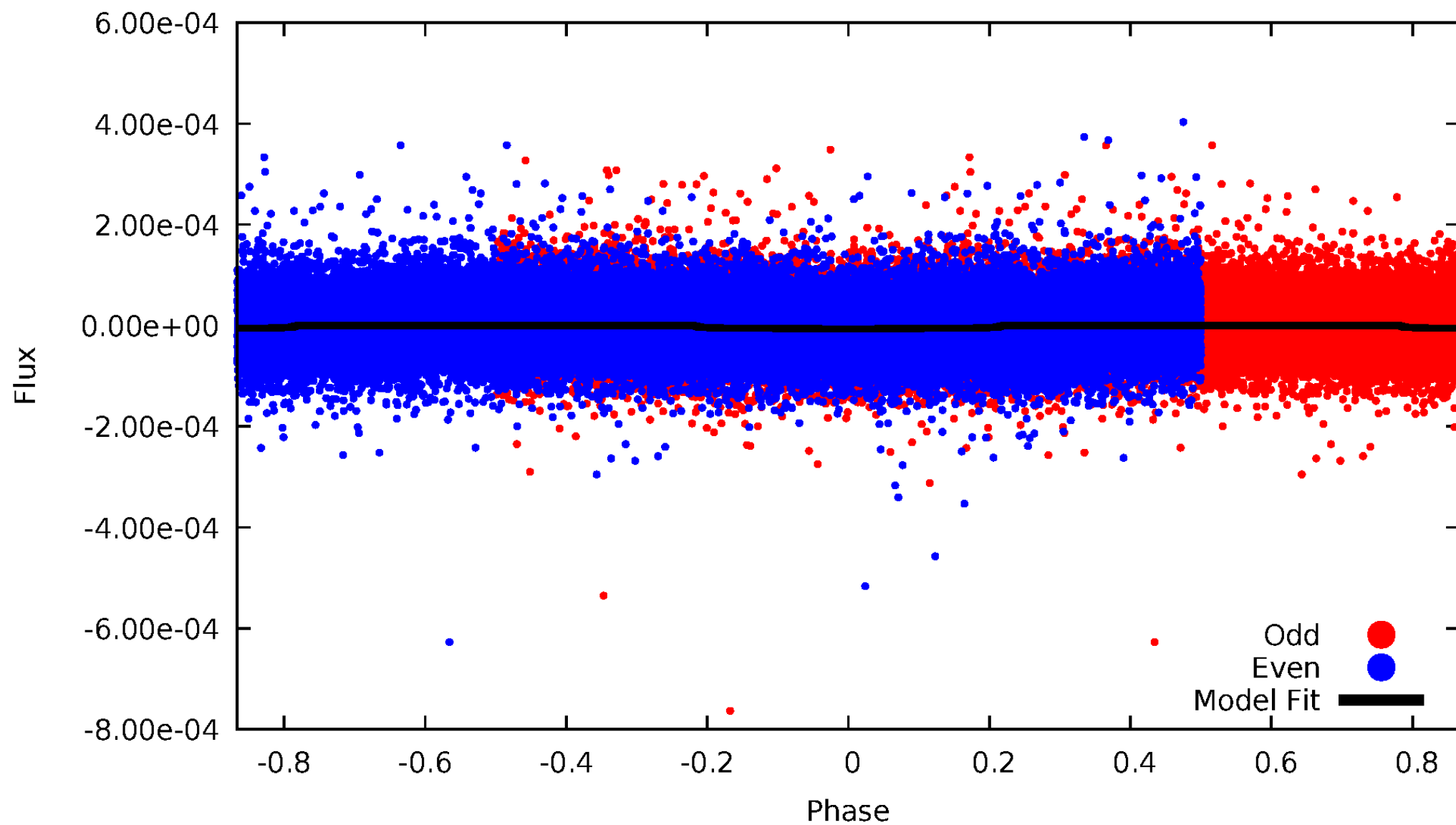


TCE 005308851-01



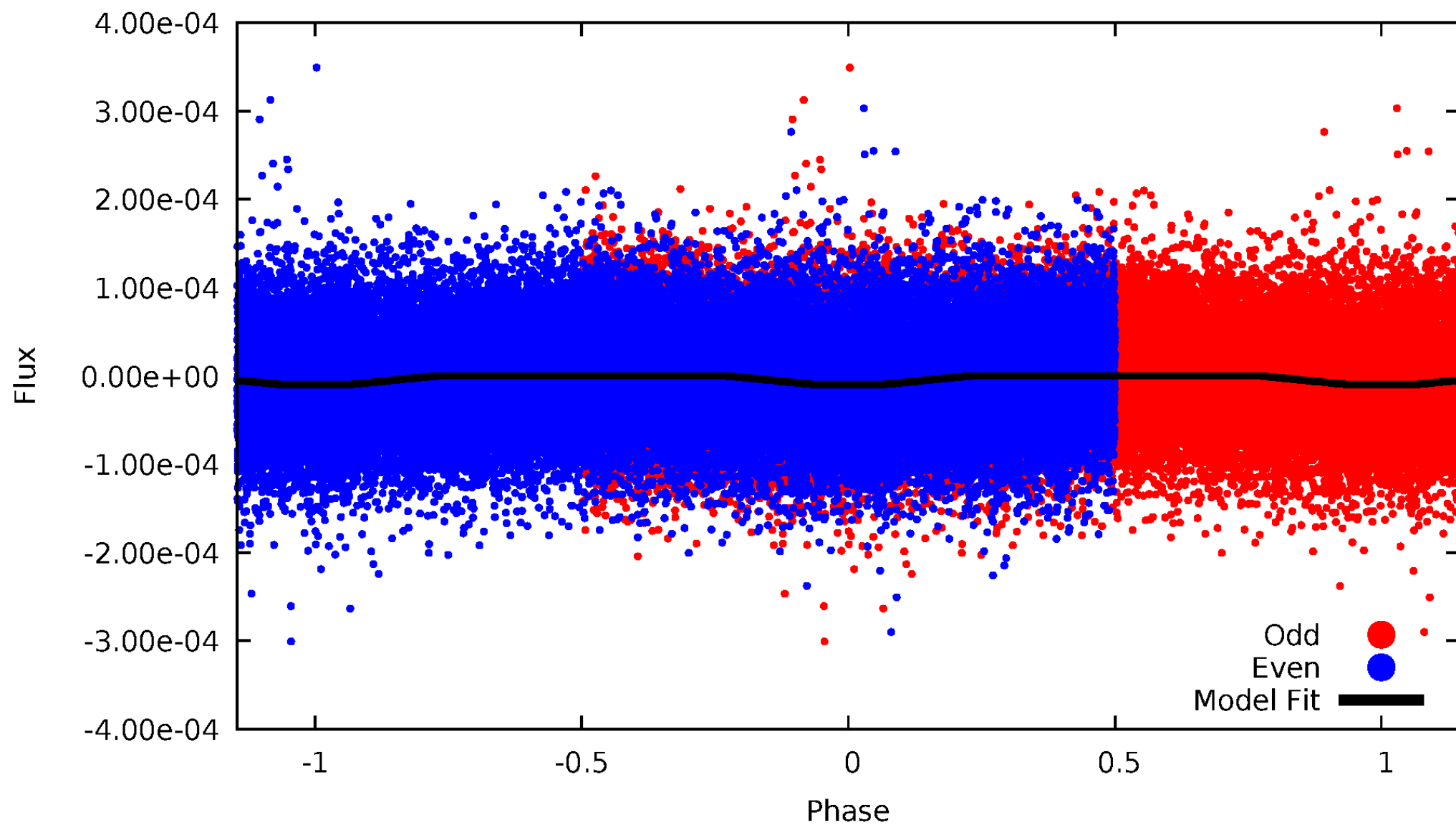
DV Odd/Even

TCE 005308851-01



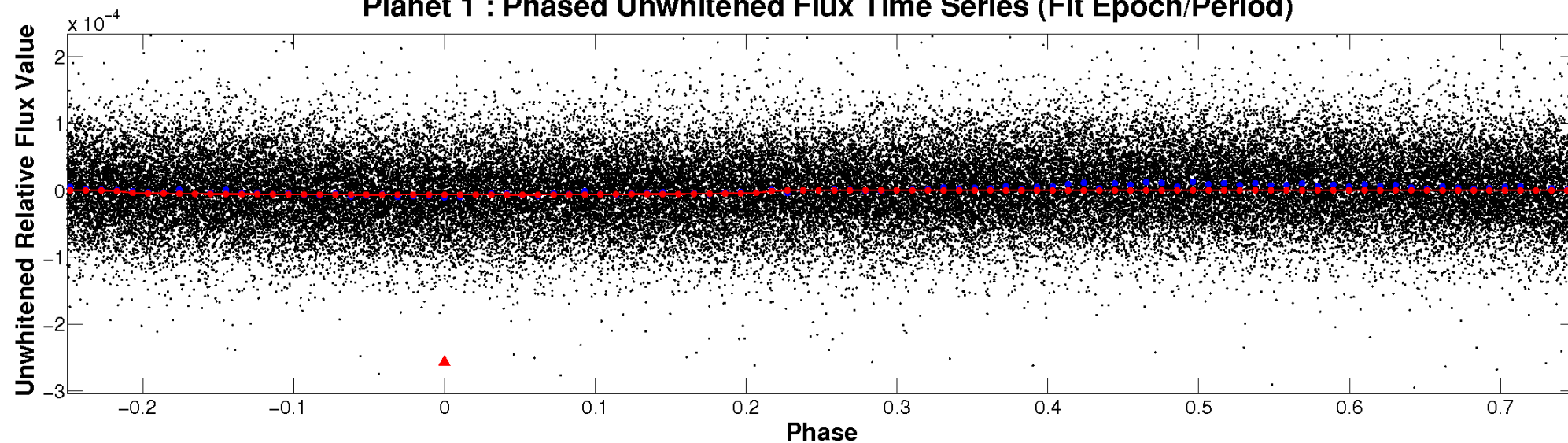
ALT Odd/Even

TCE 005308851-01

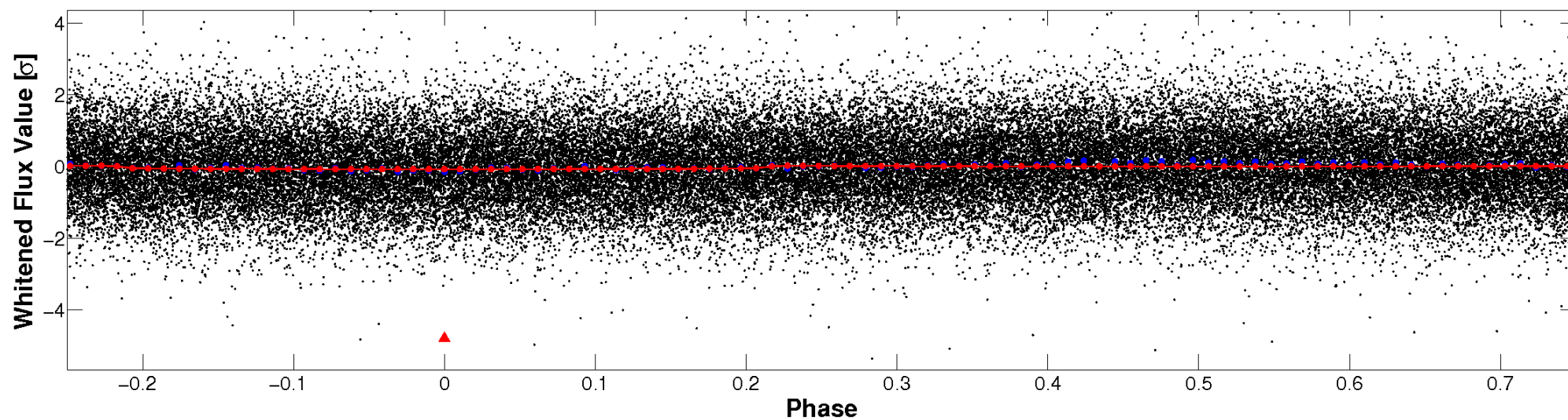


Non-Whitened Vs. Whitened Light Curve

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

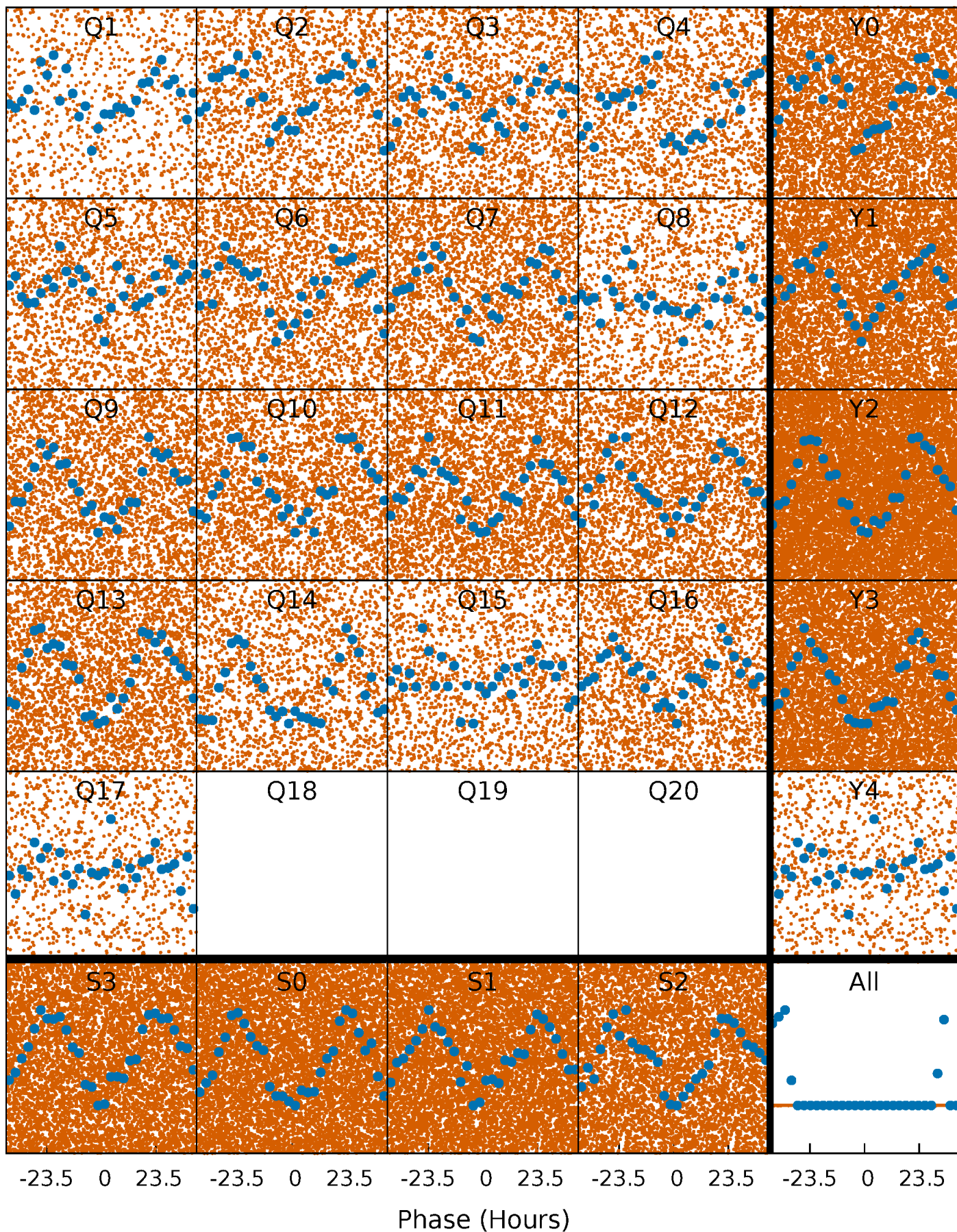


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



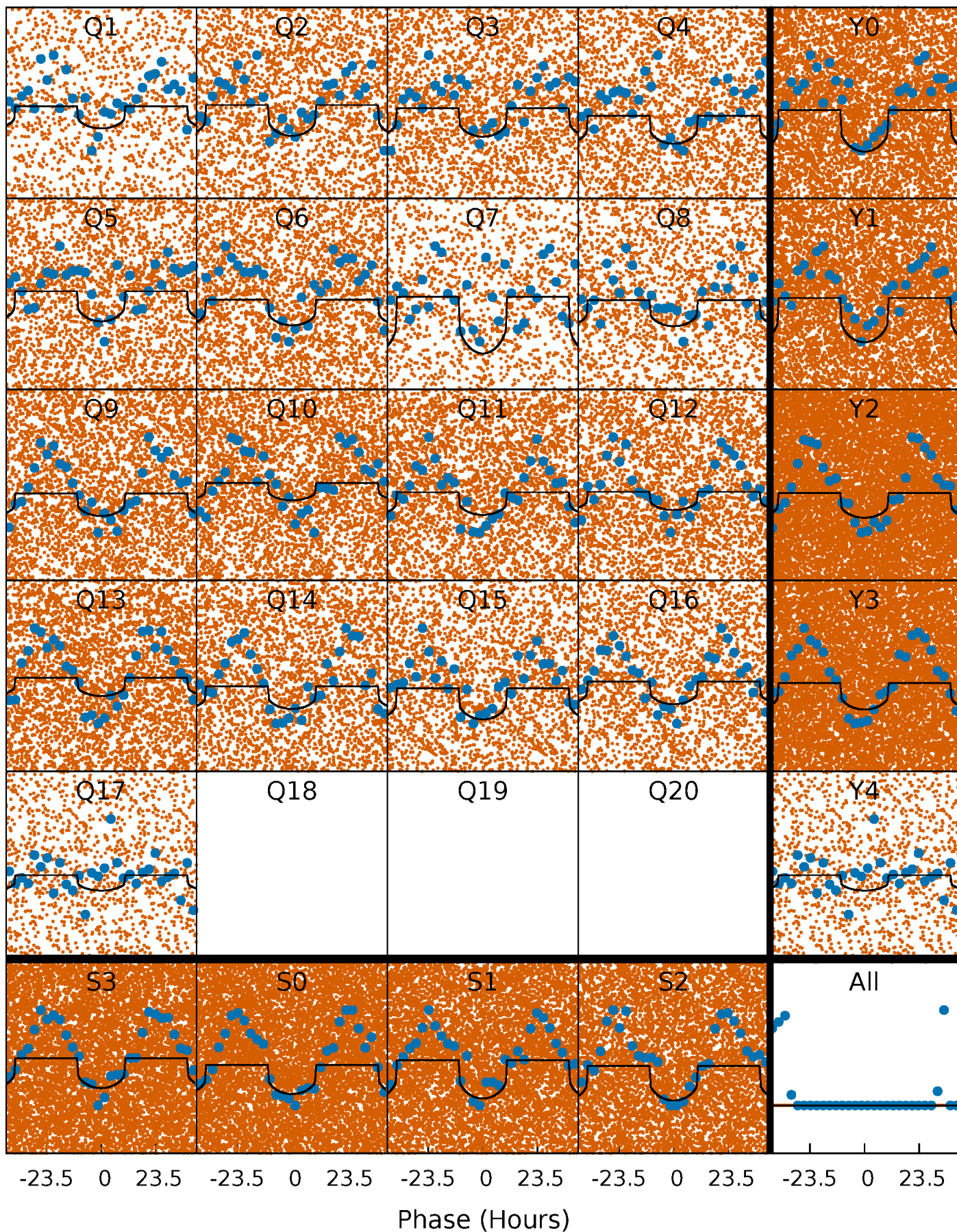
PDC Quarter-Phased Transit Curves

TCE 005308851-01 P= 1.976631 Days $T_0=131.783979$ (BKJD)



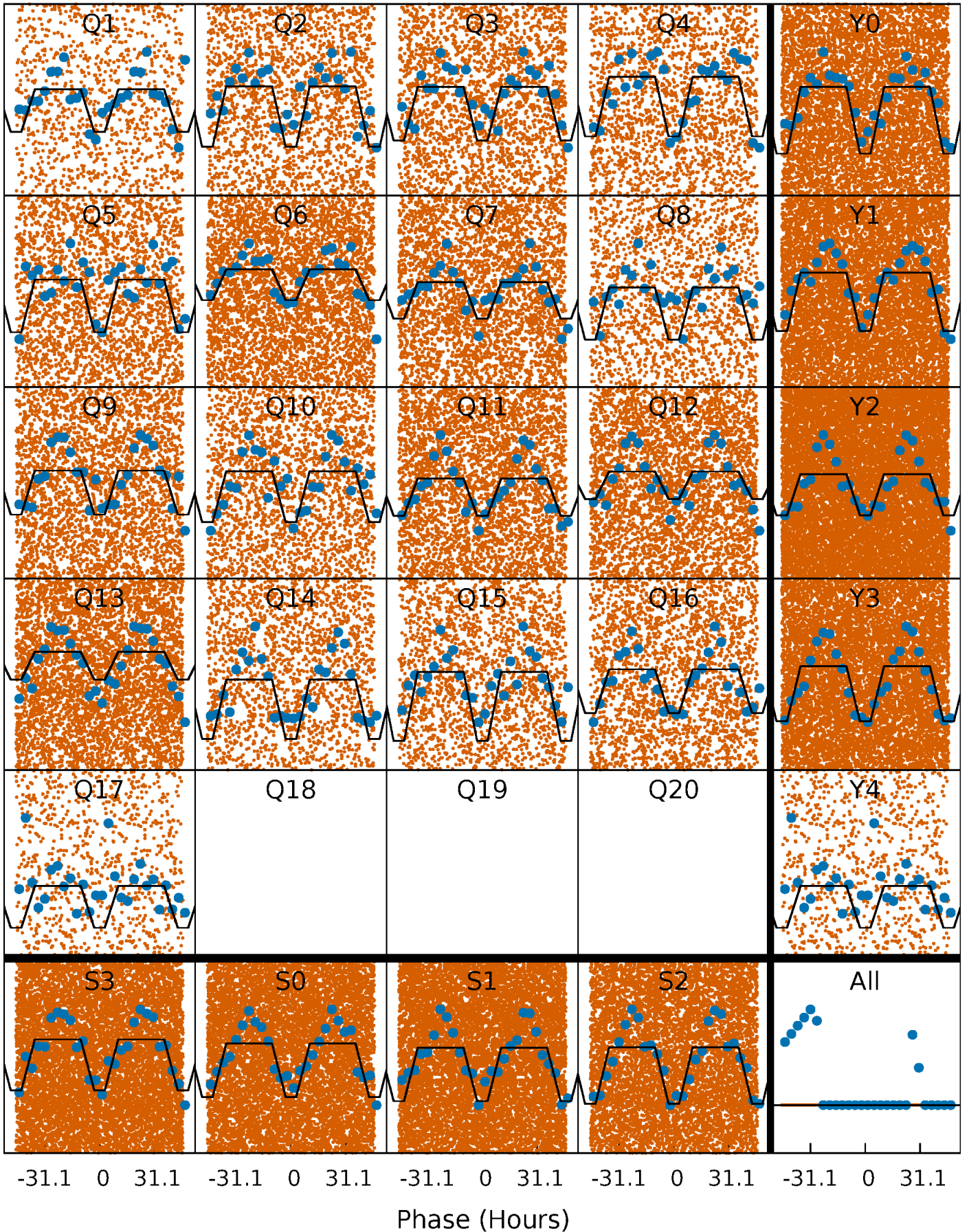
DV Quarter-Phased Transit Curves

TCE 005308851-01 P= 1.976631 Days $T_0=131.783979$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

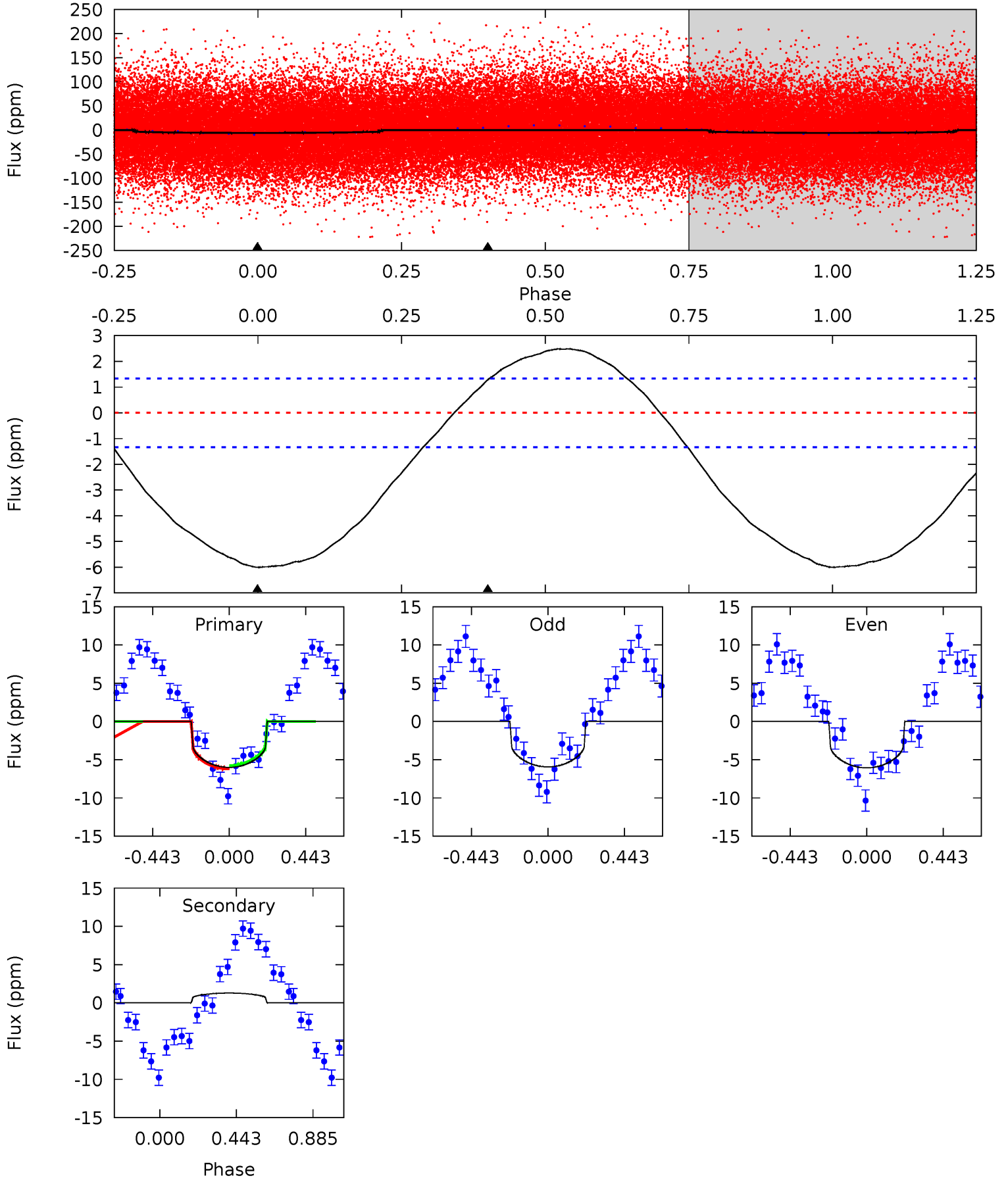
TCE 005308851-01 P= 1.976499 Days $T_0=131.808443$ (BKJD)



DV Model-Shift Uniqueness Test

005308851-01, P = 1.976631 Days, E = 129.807348 Days

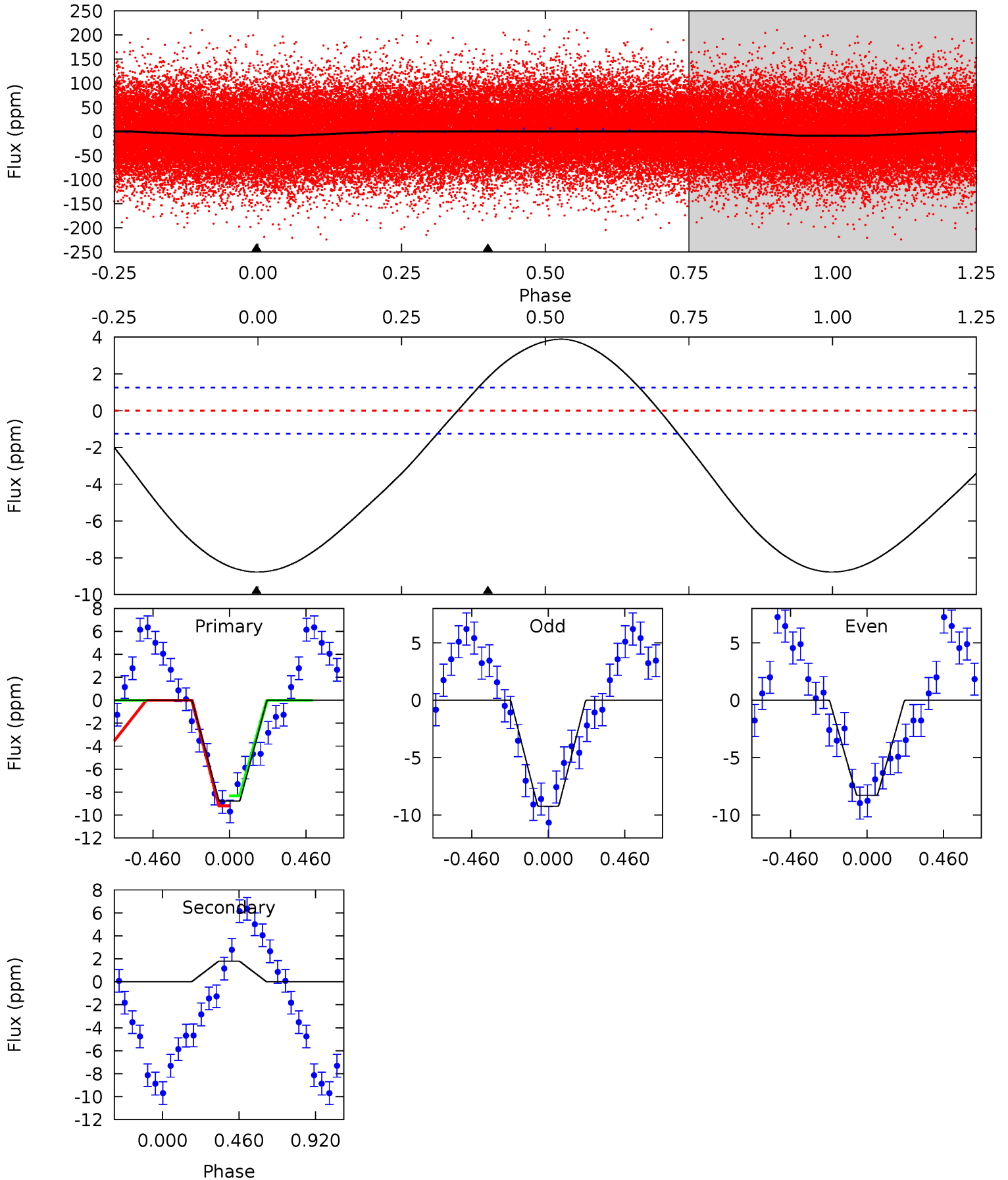
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 19.1 | -4.08 | 0 | 0 | 4.24 | 0.77 | 2.51 | 19.1 | 19.1 | -4.08 | -4.08 | 0.20 | 1.12 | 0.29 | 0.65 |



Alt Model-Shift Uniqueness Test

005308851-01, P = 1.976499 Days, E = 129.831944 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|-------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 29.7 | -6.07 | 0 | 0 | 4.23 | 0.74 | 3.64 | 29.7 | 29.7 | -6.07 | -6.07 | 1.61 | 0.96 | 0.31 | 1.48 |



Stellar Parameters For KIC 005308851

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 8641^{+238}_{-408} | $4.094^{+0.145}_{-0.145}$ | $0.070^{+0.250}_{-0.600}$ | $2.118^{+0.453}_{-0.504}$ | $2.031^{+0.329}_{-0.493}$ | $0.301^{+0.260}_{-0.119}$ |
| | +3%/-5% | +4%/-4% | +357%/-857% | +21%/-24% | +16%/-24% | +86%/-39% |
| 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 005308851-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|----------------------------|
| DV | 1 ± 0 | $0.57^{+0.26}_{-0.27}$ | 3921^{+251}_{-282} | -5716^{+792}_{-1969} | $-3.290^{+1.857}_{-8.163}$ |
| Alt. | 2 ± 0 | $0.71^{+0.29}_{-0.24}$ | 3913^{+259}_{-262} | -5578^{+675}_{-1237} | $-2.918^{+1.477}_{-4.102}$ |

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

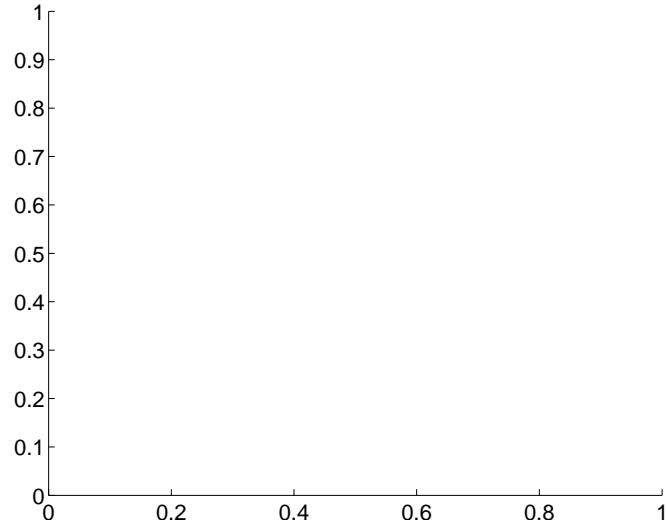
Supplemental centroid analysis for 005308851-01. **Kepler magnitude: 11.20.** Transit SNR 11.33

There are 0 quarters with good PRF difference image offsets

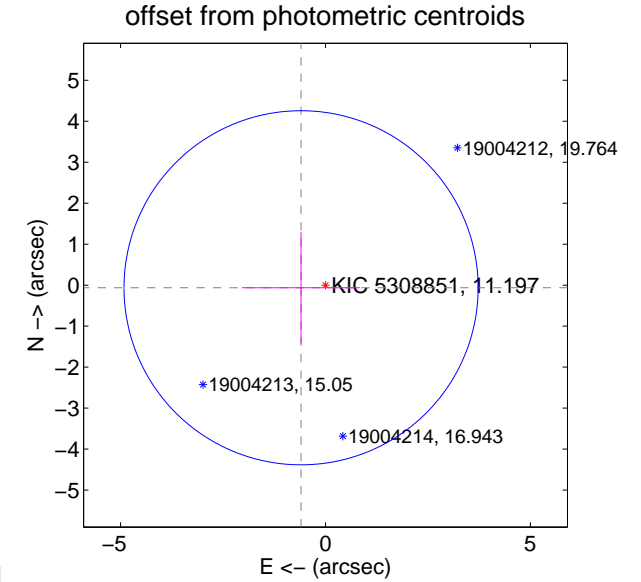
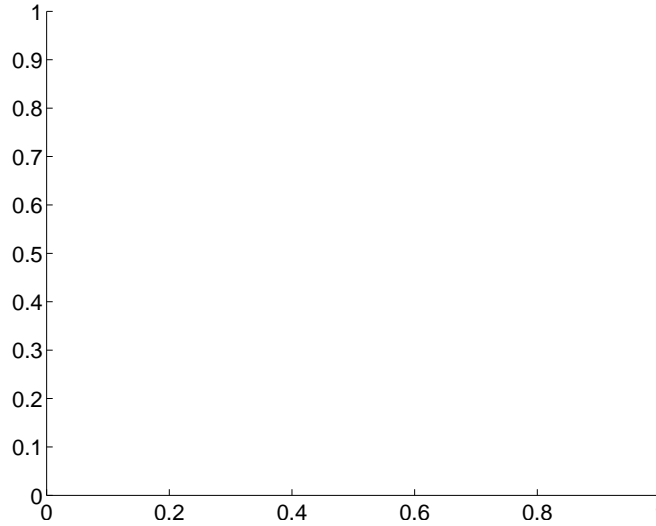
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-----------------|------------------|
| PRF-fit source offset from OOT | — | — | — | — |
| PRF-fit source offset from KIC position | — | — | — | — |
| photometric centroid source offset | 0.60 ± 1.44 | 0.42 | 0.60 ± 1.44 | -0.06 ± 1.36 |

There is no PRF-fit offset from OOT-fit

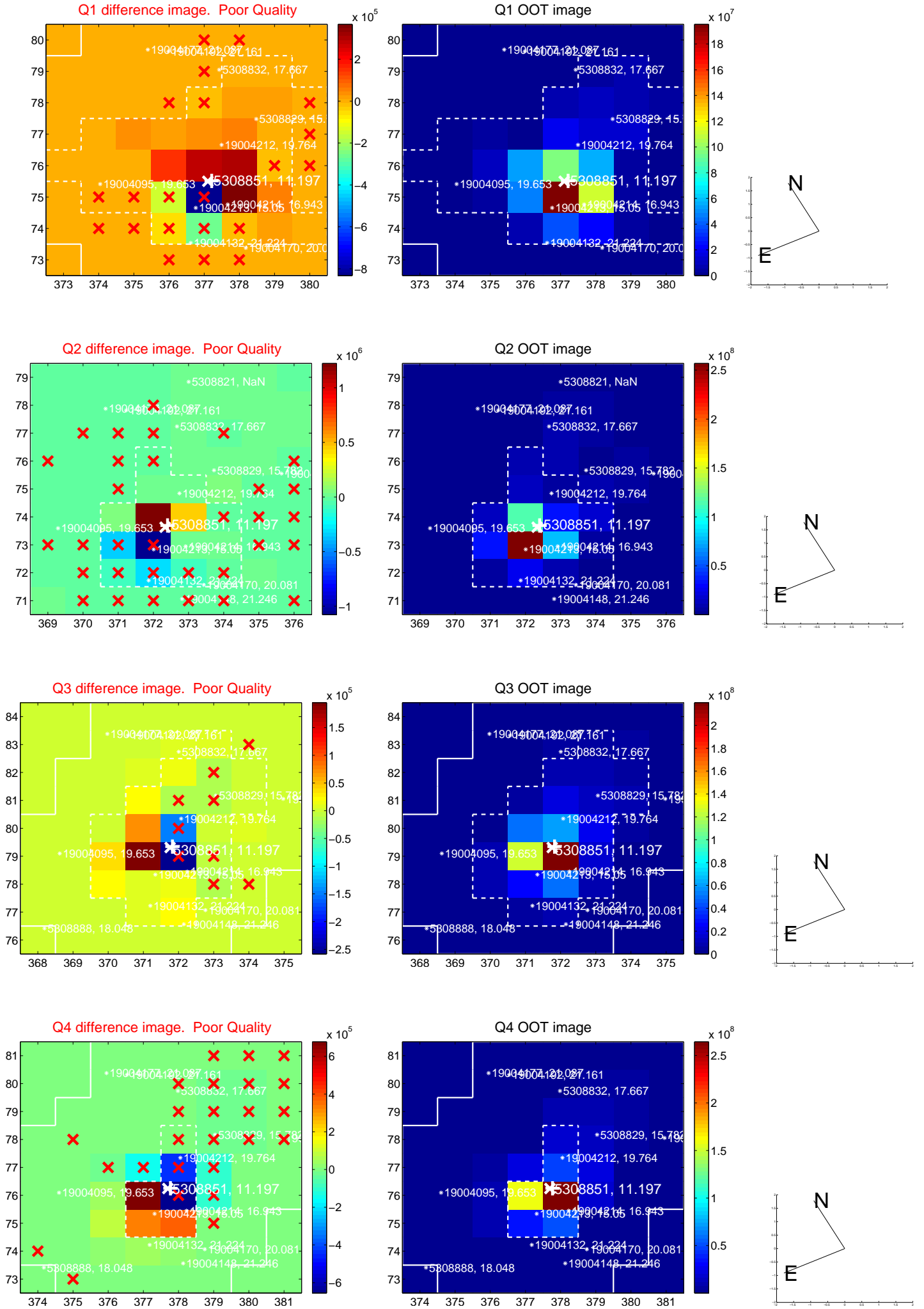


There is no PRF-fit offset from KIC

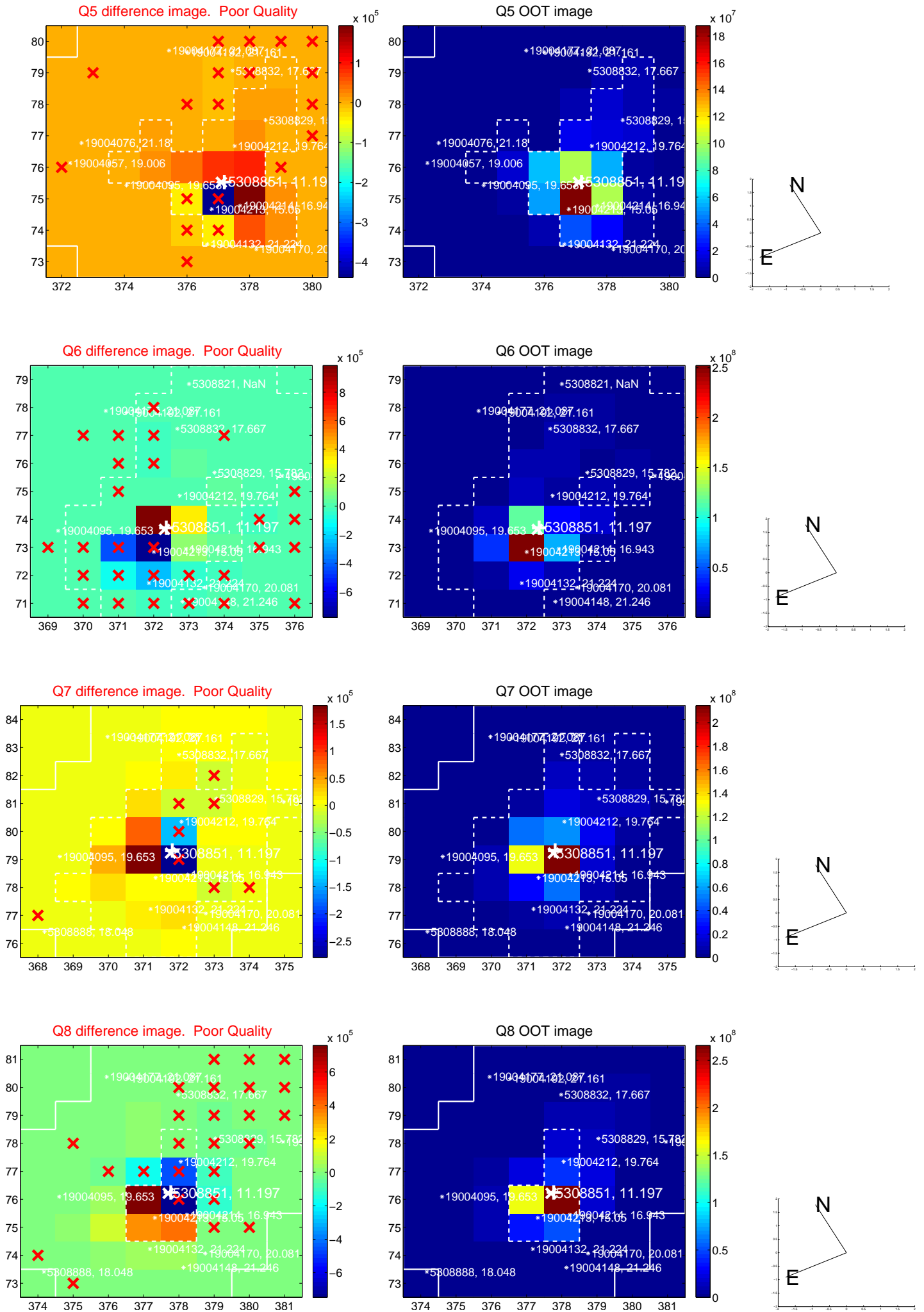


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

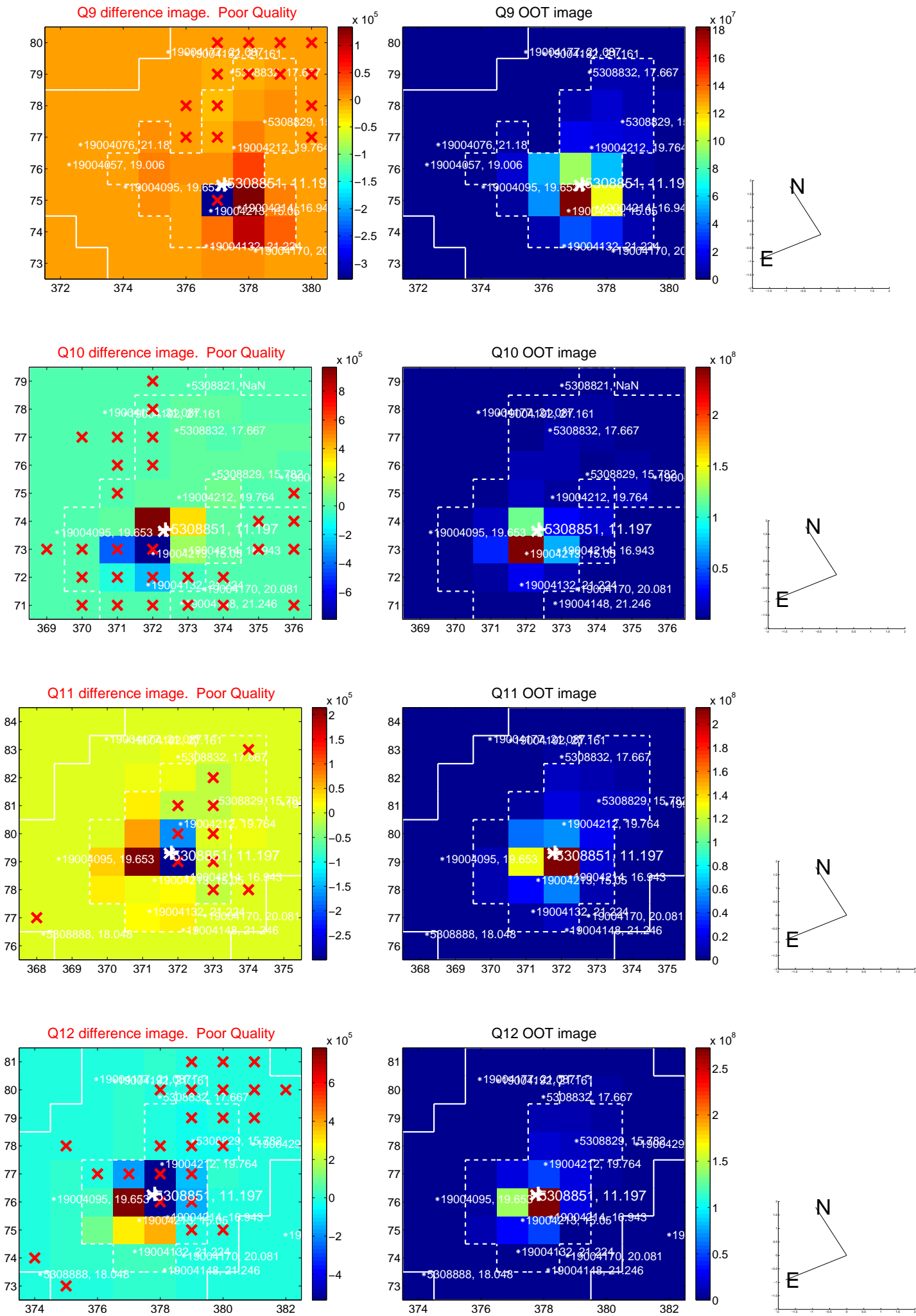
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



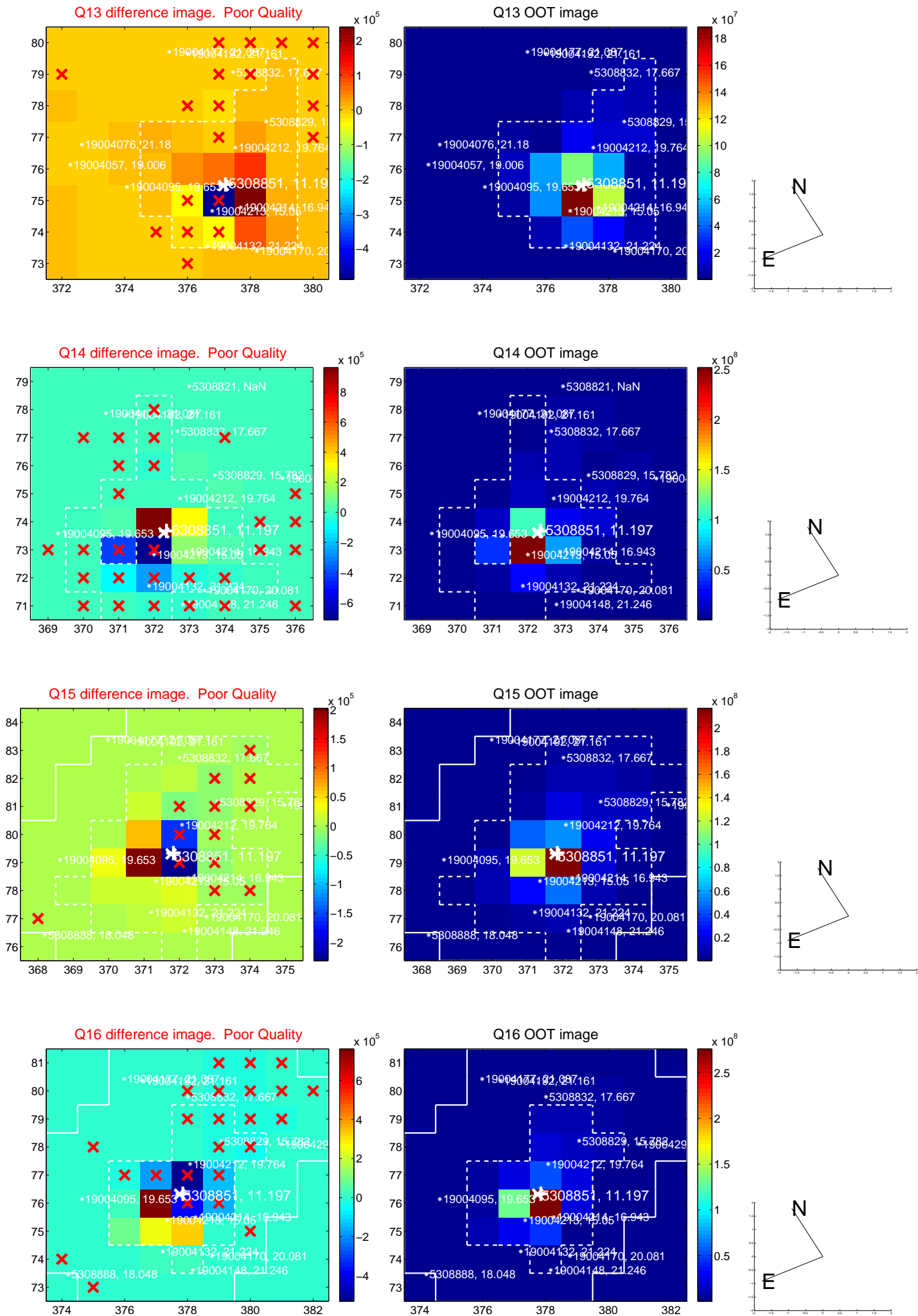
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



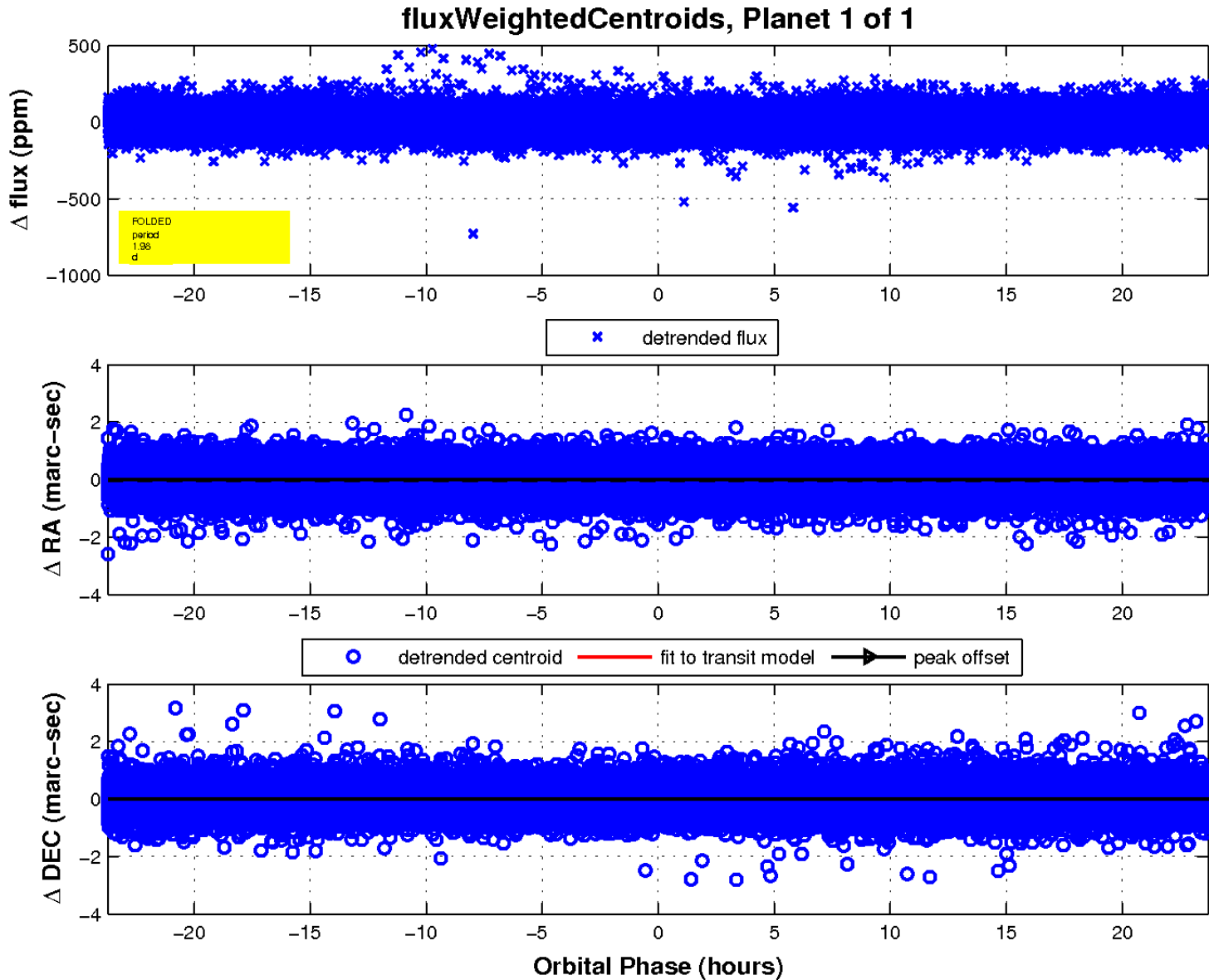
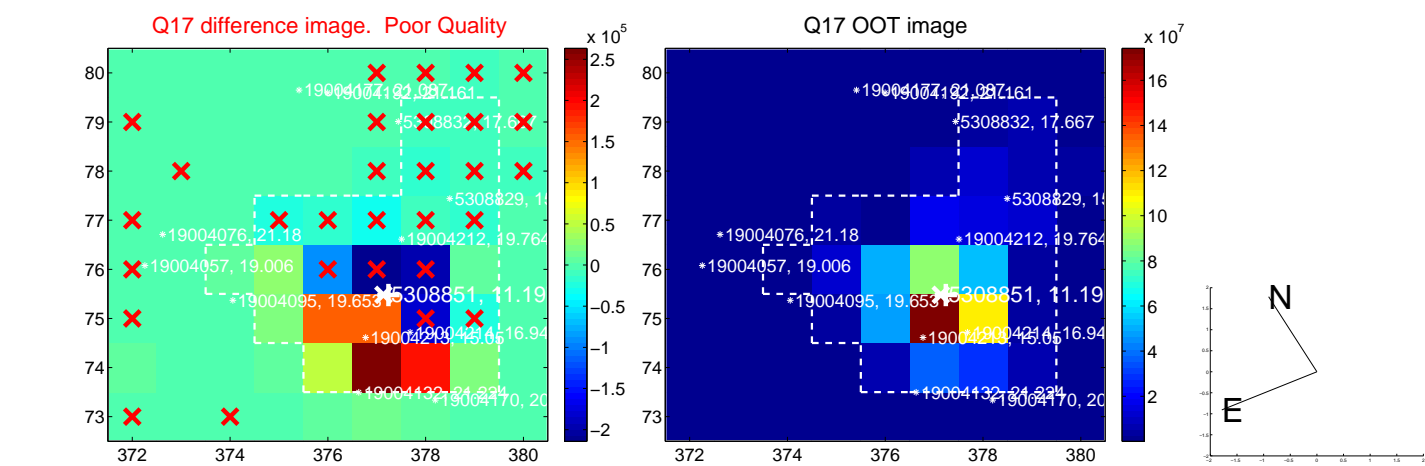
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

