

KIC 003534576

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|------|-----------------------------|-----------------|------------------------|------------------------|
| 003534576-01 | OBS | No | 1.639767 | 131.996019 | 95.4 | 12.998 | 9.7 | 12.6 | 1.00 | 5780 | 0.97 | 1349.68 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-----------------------------|
| 003534576-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 0 | LPP_DV—CENT_RESOLVED_OFFSET |

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

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

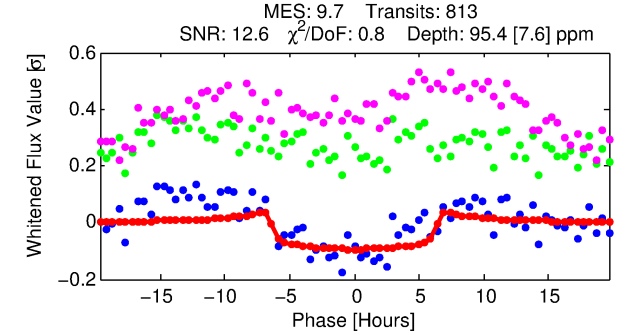
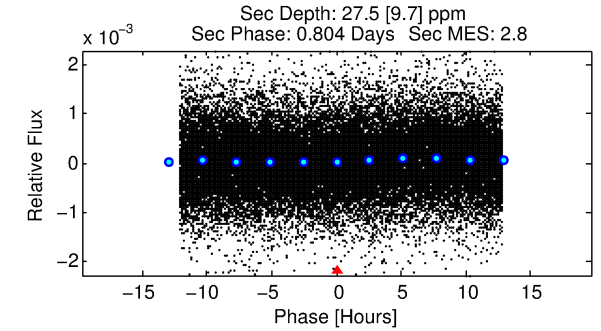
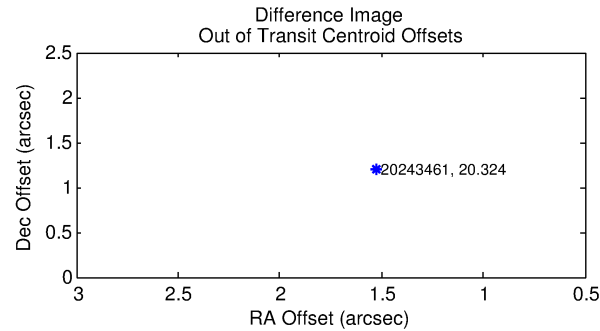
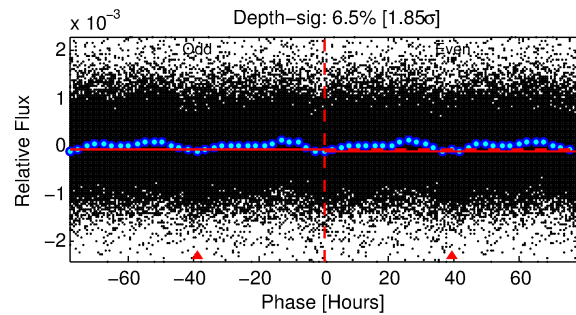
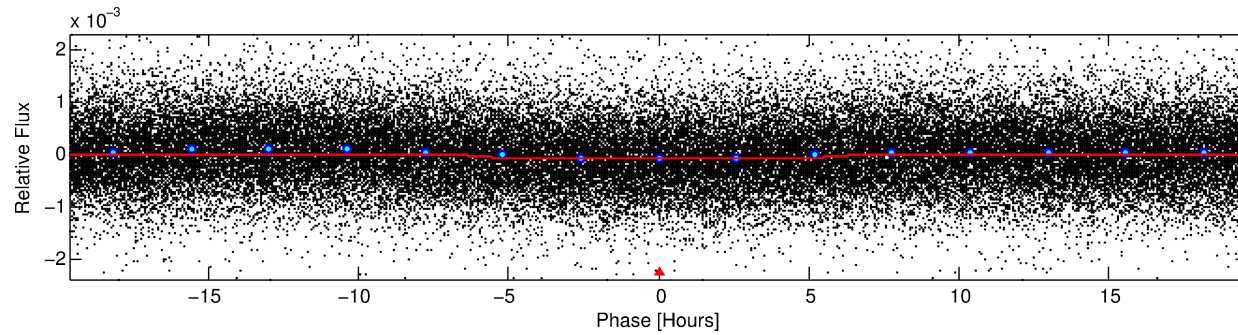
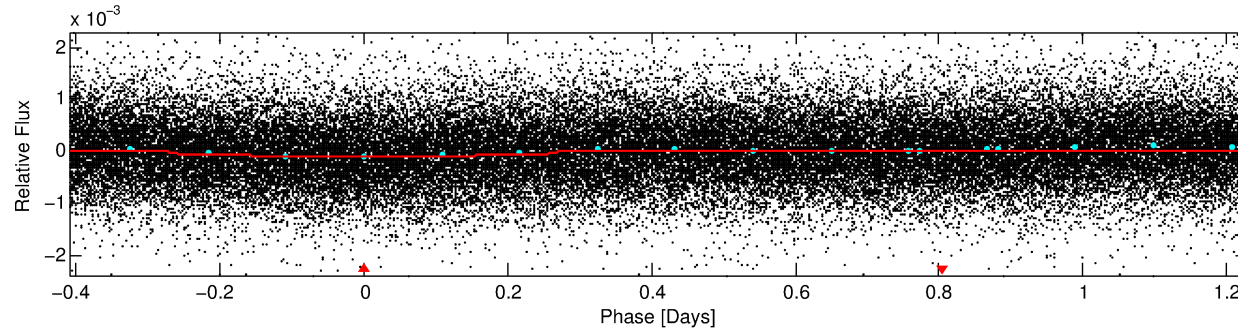
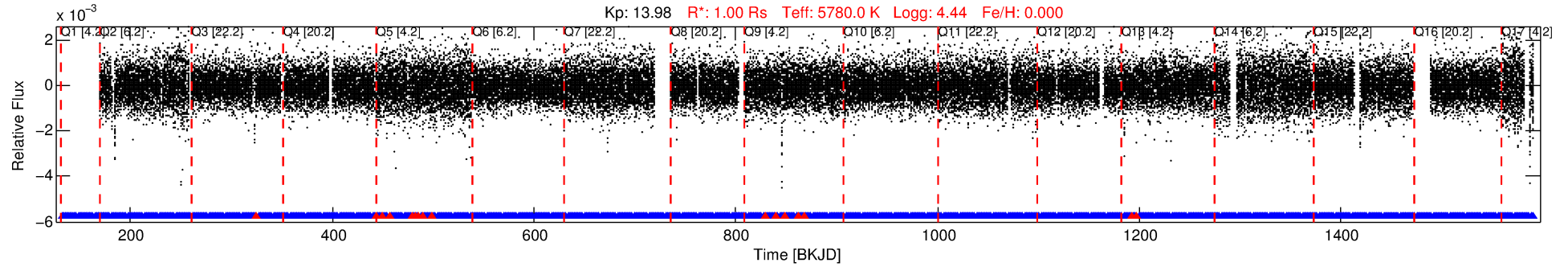
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003534576-01

No Significant Match Found

DV One-Page Summary

KIC: 3534576 Candidate: 1 of 1 Period: 1.640 d



DV Fit Results:

Period = 1.63977 [0.00002] d
Epoch = 131.9960 [0.0068] BKJD
Rp/R* = 0.0089 [0.0074]
a/R* = 1.17 [1.16]
b = 0.03 [140.93]
Seff = 1349.68 [0.02]
Teq = 1546 [0] K
Rp = 0.97 [0.80] Re
a = 0.0272 [0.0000] AU
Ag = 12.00 [20.44] [0.54 σ]
Teff = 4447 [1894] K [1.53 σ]

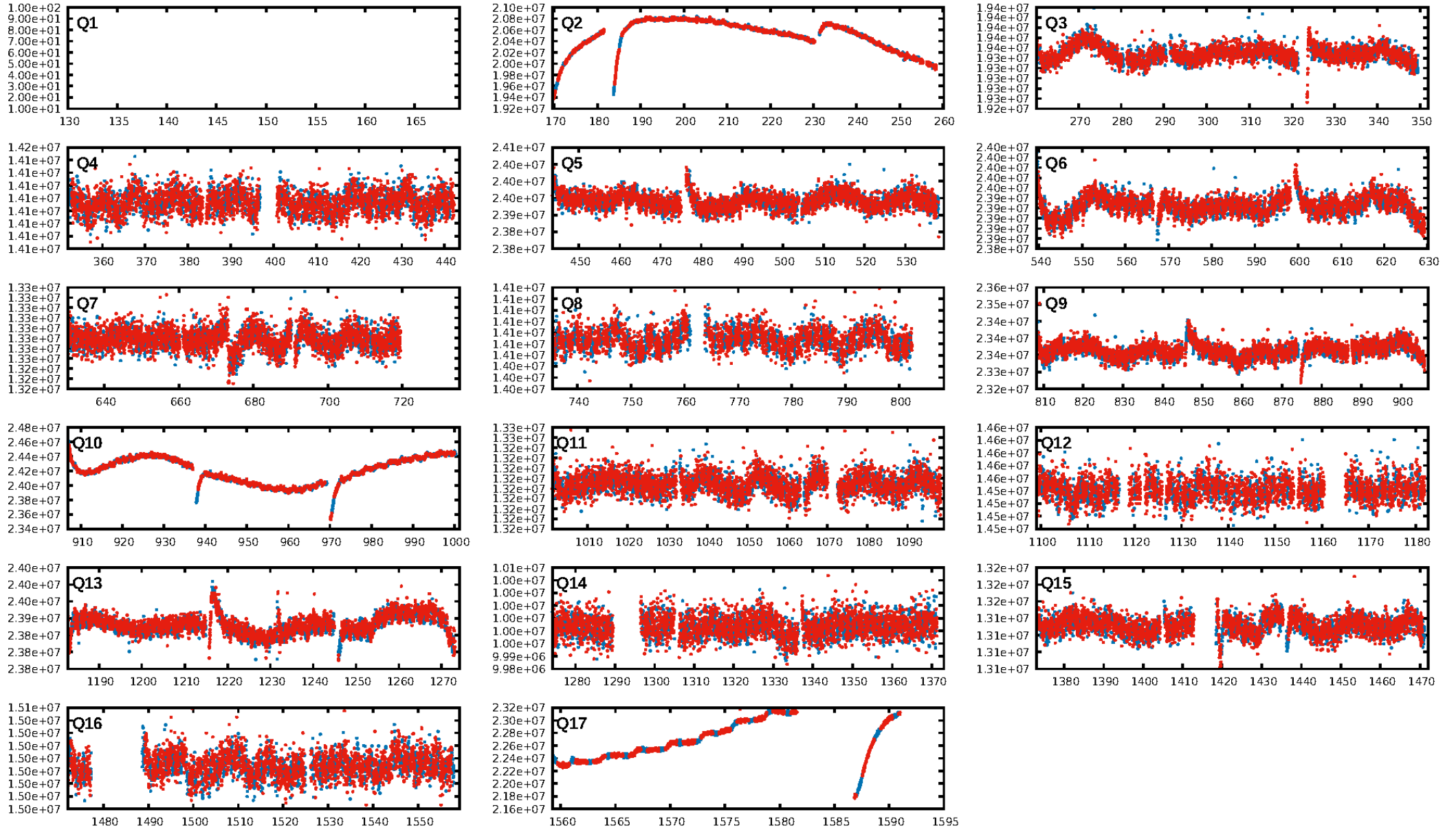
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [781/797]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 5.267 arcsec [15.94 σ]
OotOffset-rm: N/A
KicOffset-rm: 10.419 arcsec [20.74 σ]
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/3/0/4 [7]
DiffImageQuality-fgm: 0.71 [5/7]
DiffImageOverlap-fno: 1.00 [16/16]

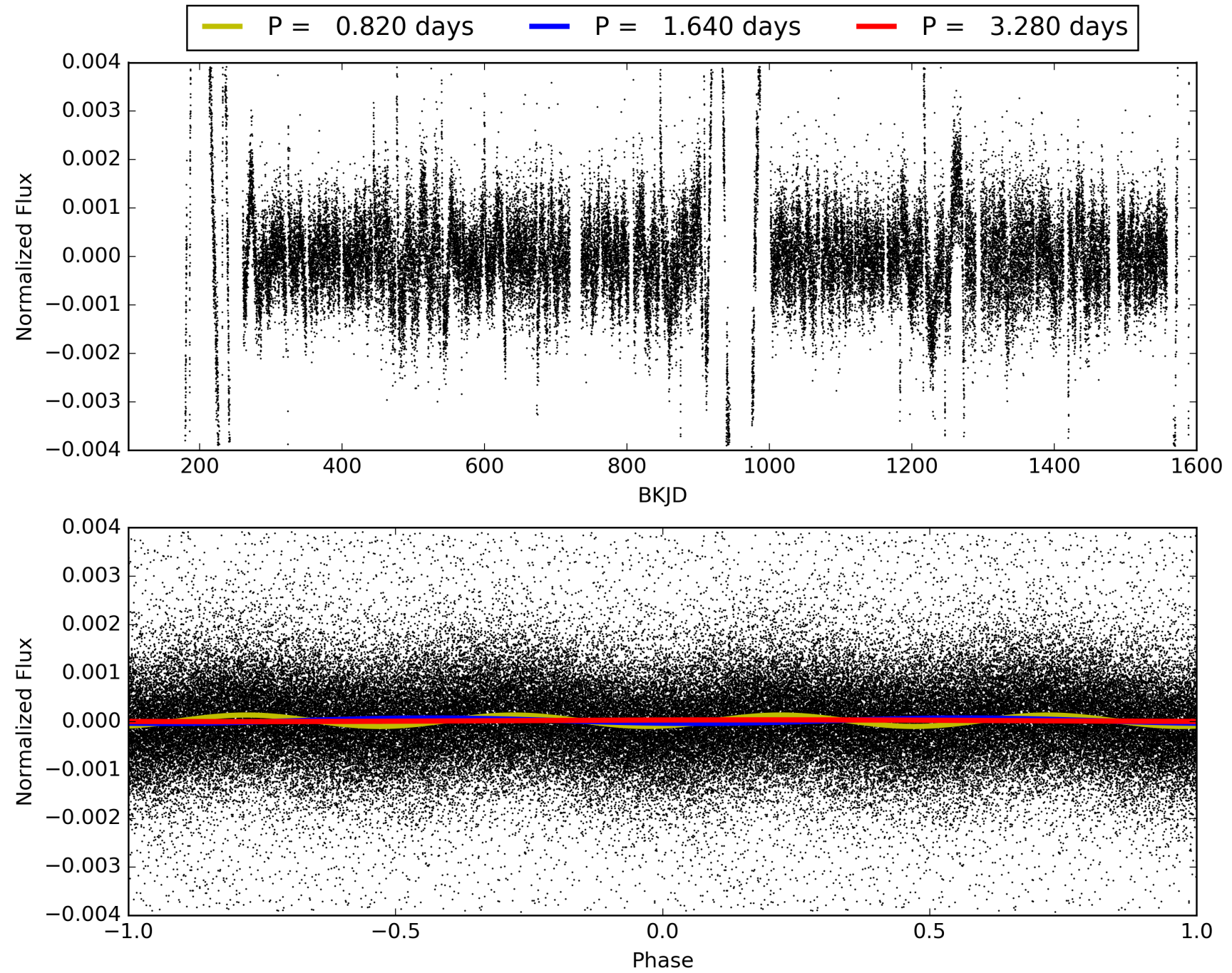
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:55:55 Z

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

TCE 003534576-01, PDC Light Curves

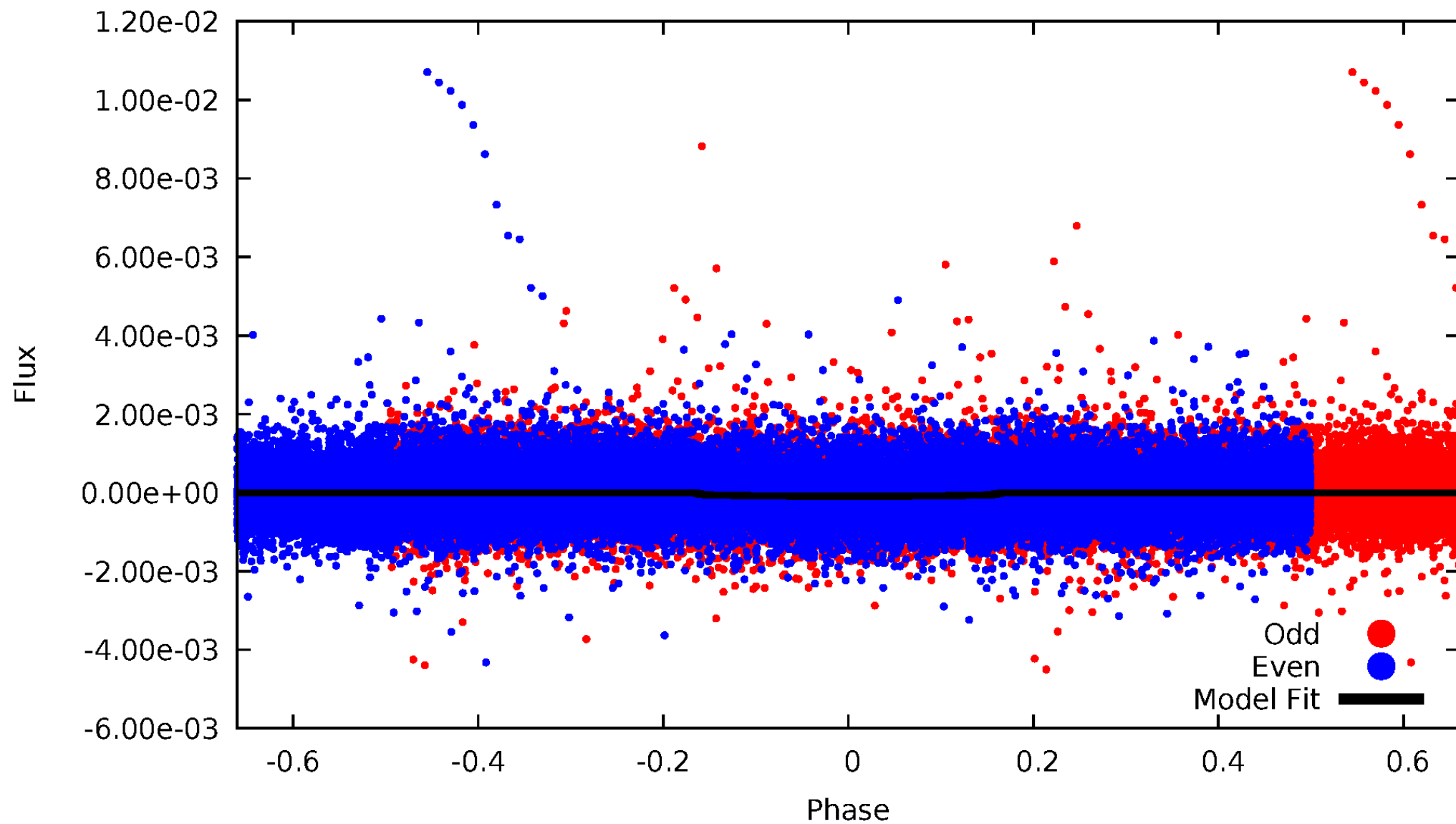


TCE 003534576-01



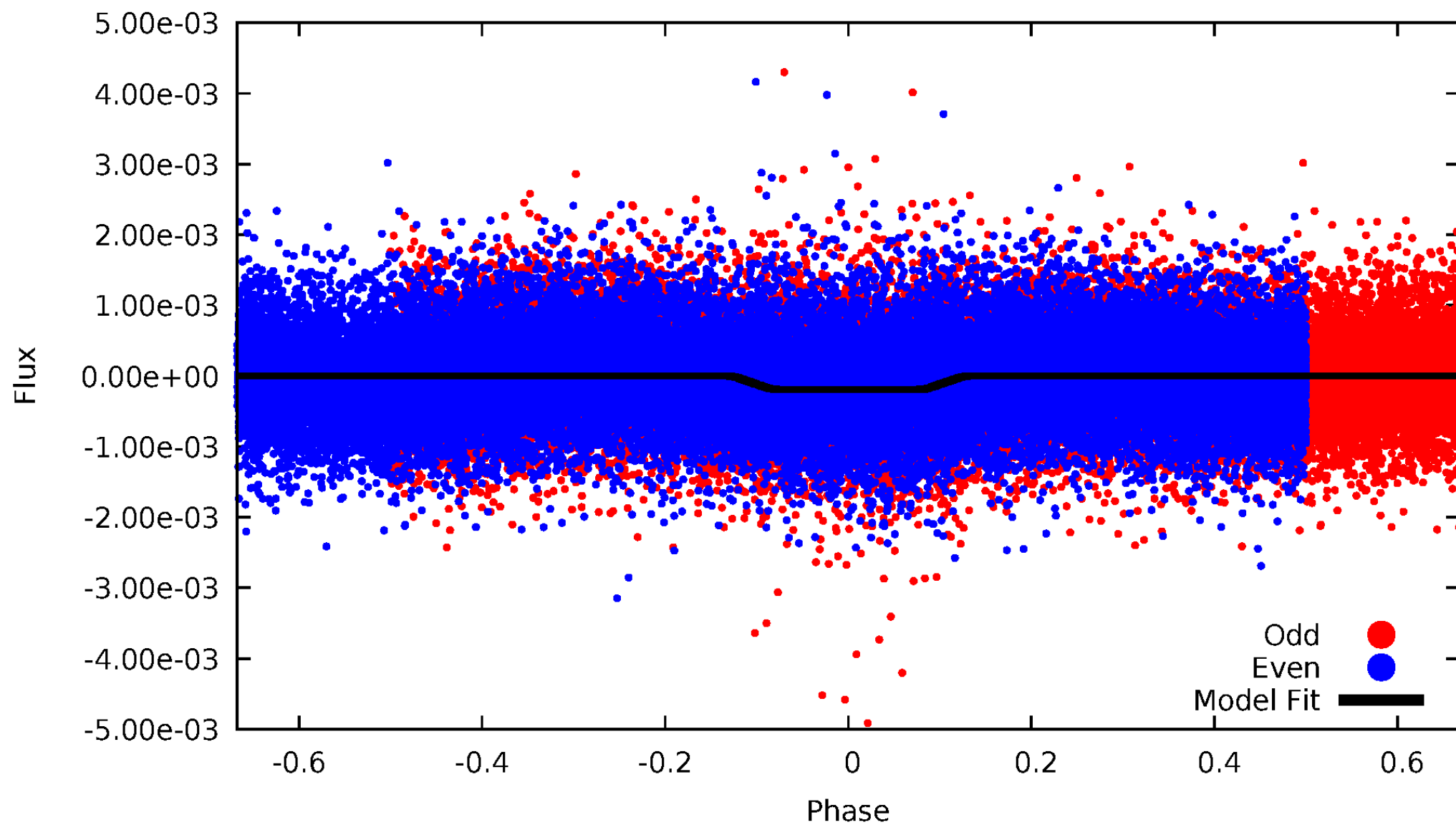
DV Odd/Even

TCE 003534576-01

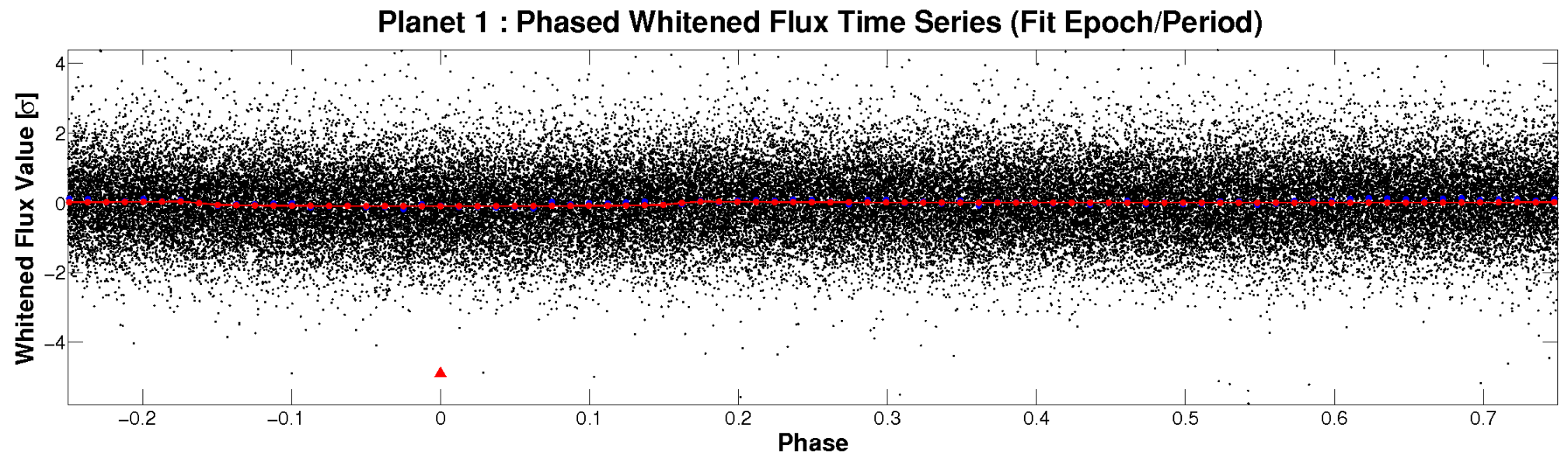
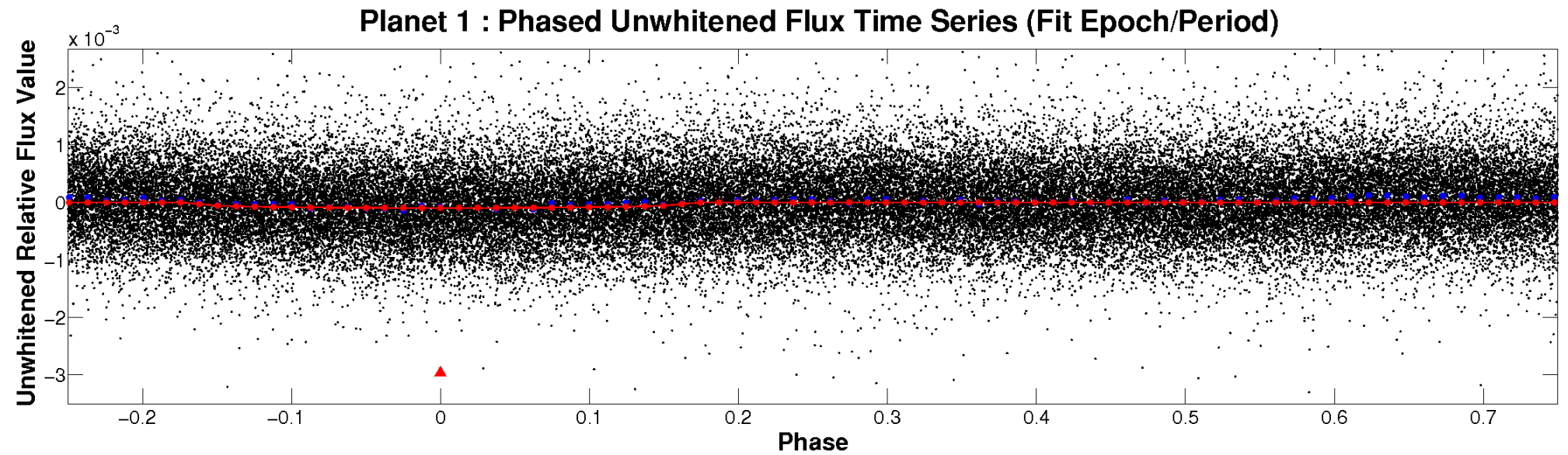


ALT Odd/Even

TCE 003534576-01

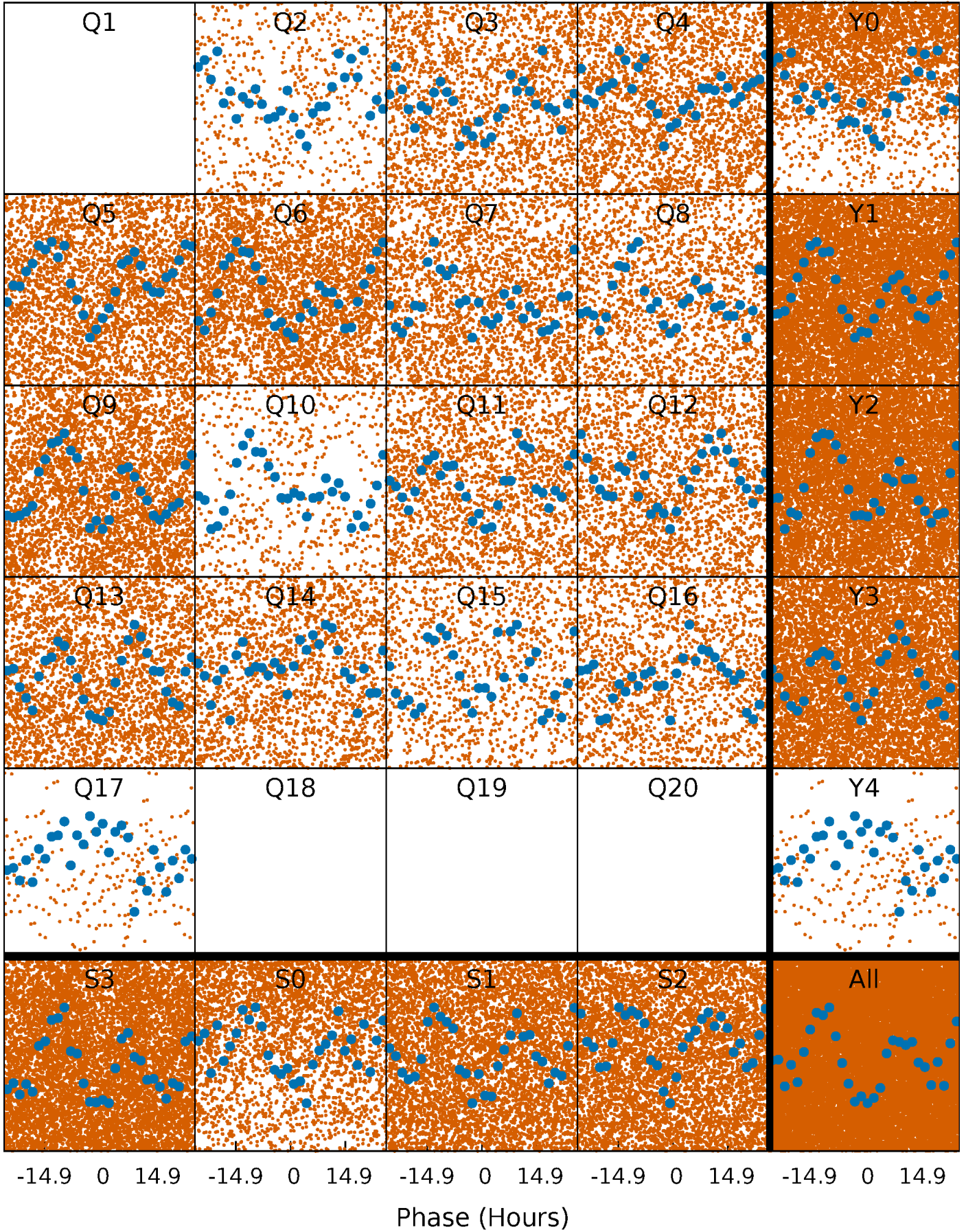


Non-Whitened Vs. Whitened Light Curve



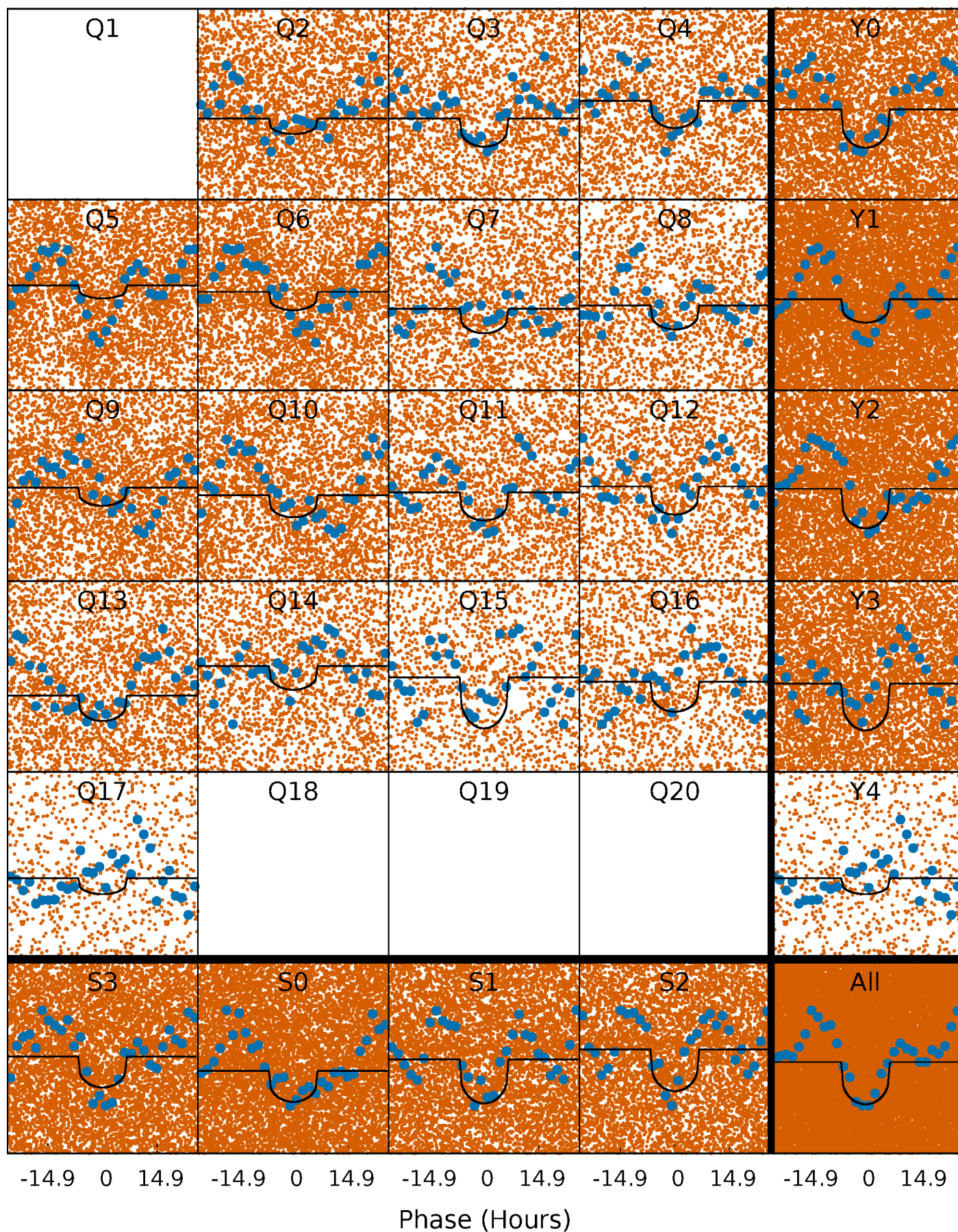
PDC Quarter-Phased Transit Curves

TCE 003534576-01 P= 1.639767 Days $T_0=131.996019$ (BKJD)



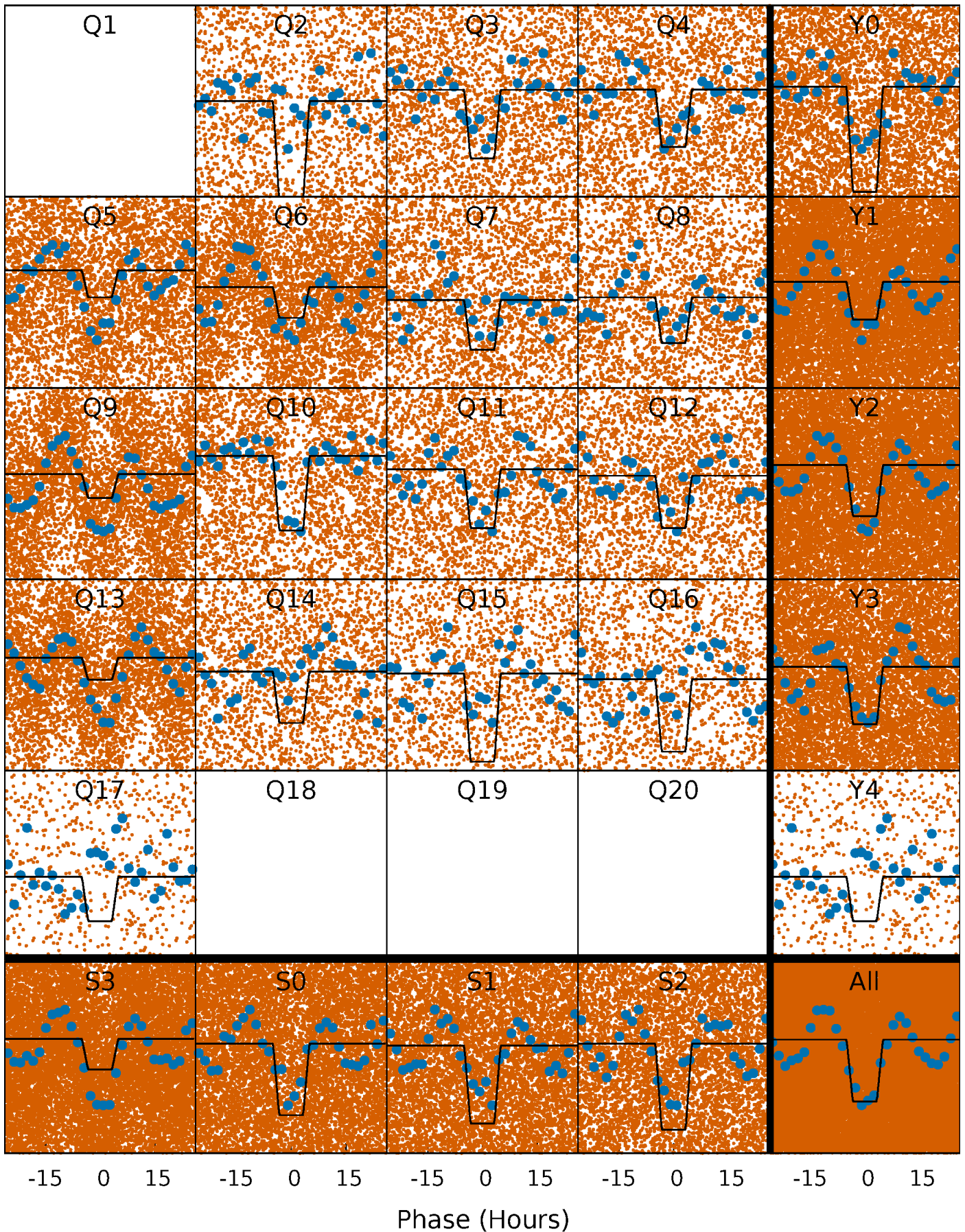
DV Quarter-Phased Transit Curves

TCE 003534576-01 P= 1.639767 Days $T_0=131.996019$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

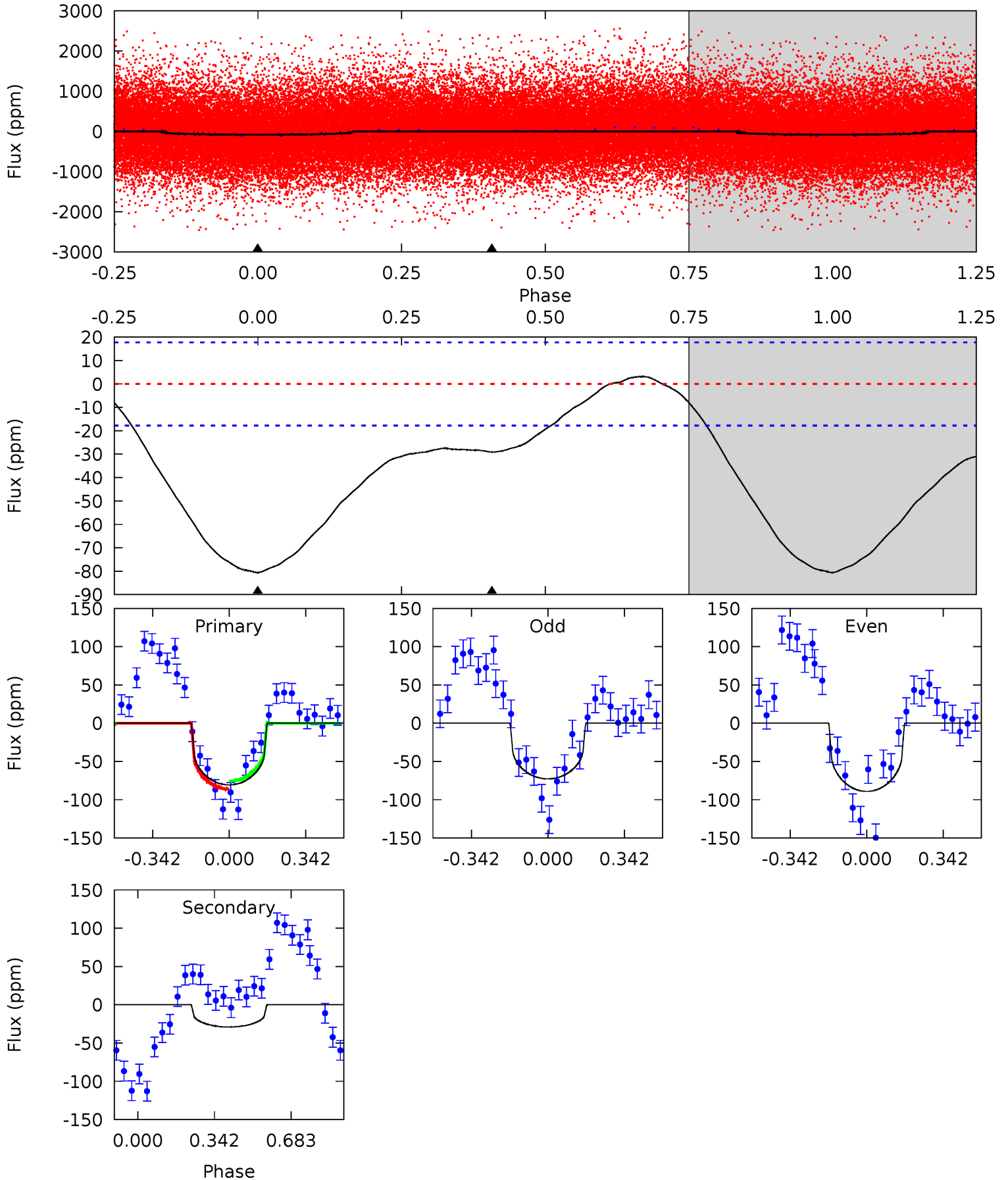
TCE 003534576-01 P= 1.639727 Days $T_0=131.987236$ (BKJD)



DV Model-Shift Uniqueness Test

003534576-01, P = 1.639767 Days, E = 131.996019 Days

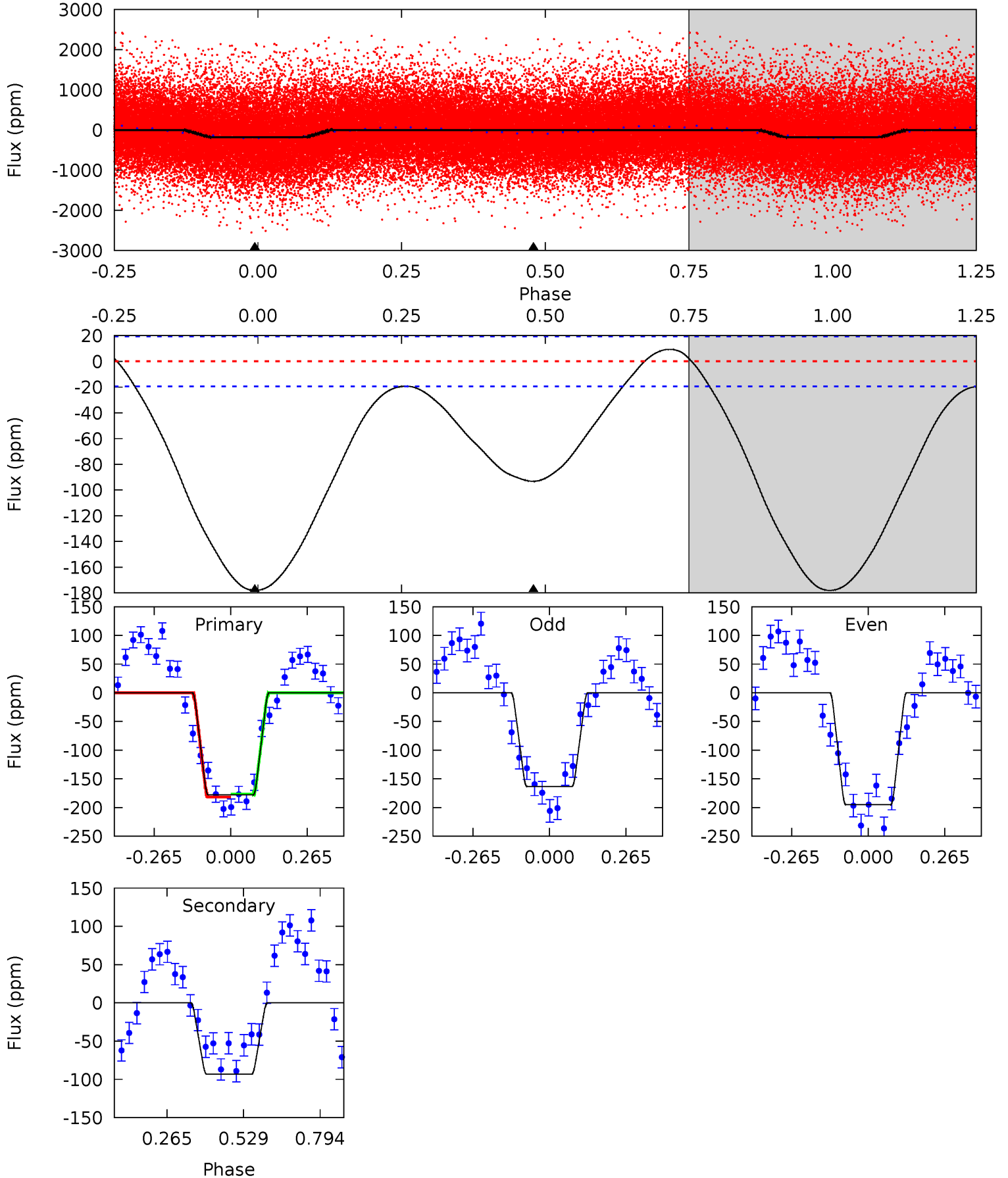
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 19.5 | 7.05 | 0 | 0 | 4.30 | 0.95 | 0.86 | 19.5 | 19.5 | 7.05 | 7.05 | 1.99 | 0.85 | 0.04 | 1.28 |



Alt Model-Shift Uniqueness Test

003534576-01, P = 1.639727 Days, E = 131.987236 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 40.0 | 20.9 | 0 | 0 | 4.36 | 1.12 | 2.96 | 40.0 | 40.0 | 20.9 | 20.9 | 3.58 | 1.08 | 0.05 | 0.58 |



Stellar Parameters For KIC 003534576

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|---------------------|---------------------------|---------------------------|---------------------------|----------------------------|---|
| | 5780^{+1}_{-1} | $4.438^{+1.000}_{-1.000}$ | $0.000^{+1.000}_{-1.000}$ | $1.000^{+1.000}_{-1.000}$ | $-1.000^{+1.000}_{-1.000}$ | $-1.000^{+1.000}_{-1.000}$ |
| | +0%/-0% | +23%/-23% | +inf%/-inf% | +100%/-100% | +100%/-100% | +100%/-100% |
| Source | Solar | Solar | Solar | Solar | | |

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

Secondary Eclipse Parameters for KIC 003534576-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|---------------------|-----------------------|-----------------|
| DV | -29 ± 4 | $1.07^{+0.74}_{-0.65}$ | 2162^{+97}_{-99} | 4445^{+2487}_{-796} | 10^{+58}_{-7} |
| Alt. | -93 ± 4 | $1.54^{+0.74}_{-0.78}$ | 2157^{+100}_{-98} | 4876^{+1952}_{-755} | 16^{+50}_{-9} |

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 $A_{obs} \gg 1.0$

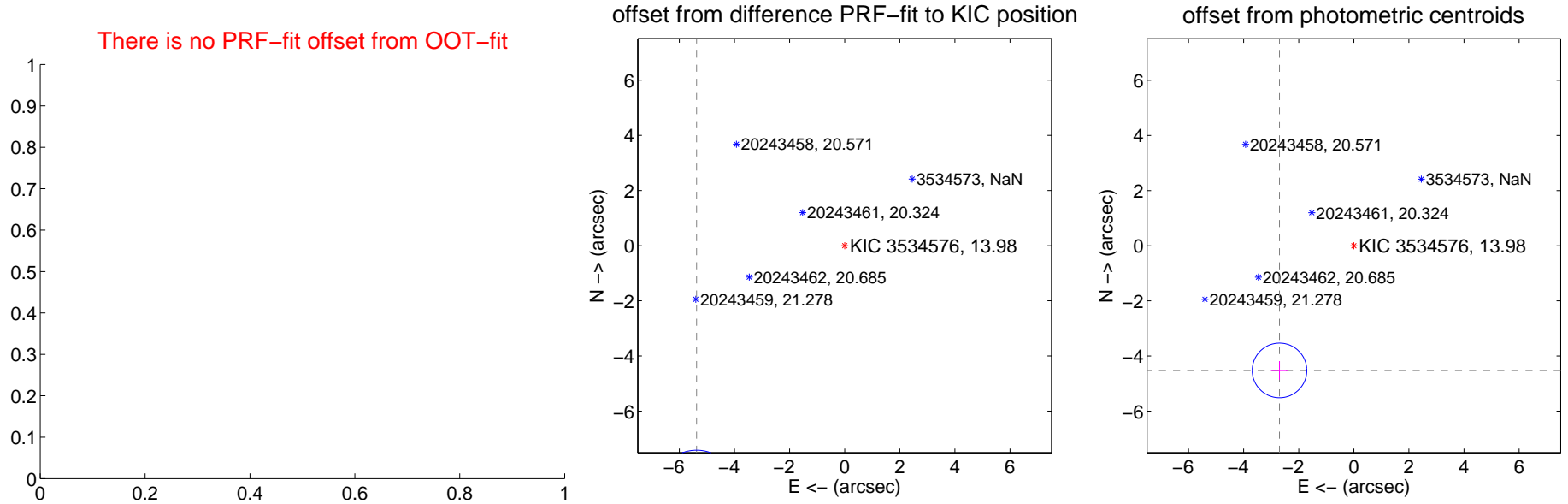
DV Centroid Data

Supplemental centroid analysis for 003534576-01. Kepler magnitude: 13.98. Transit SNR 12.56

There are 5 quarters with good PRF difference image offsets

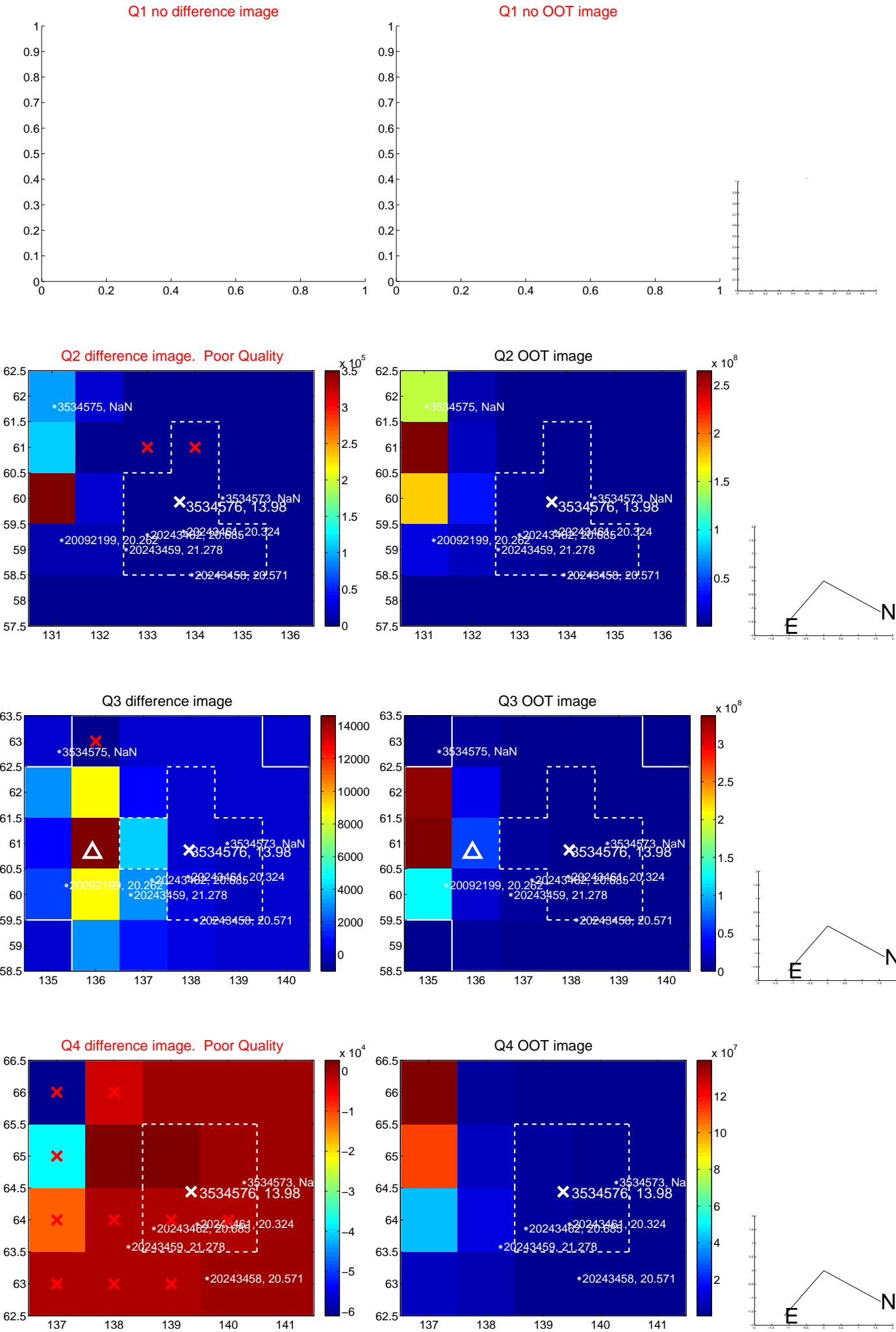
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | — | — | — | — |
| PRF-fit source offset from KIC position | 10.419 \pm 0.502 | 20.74 | 5.375 \pm 0.213 | -8.926 \pm 0.572 |
| photometric centroid source offset | 5.27 \pm 0.33 | 15.94 | 2.70 \pm 0.31 | -4.52 \pm 0.34 |

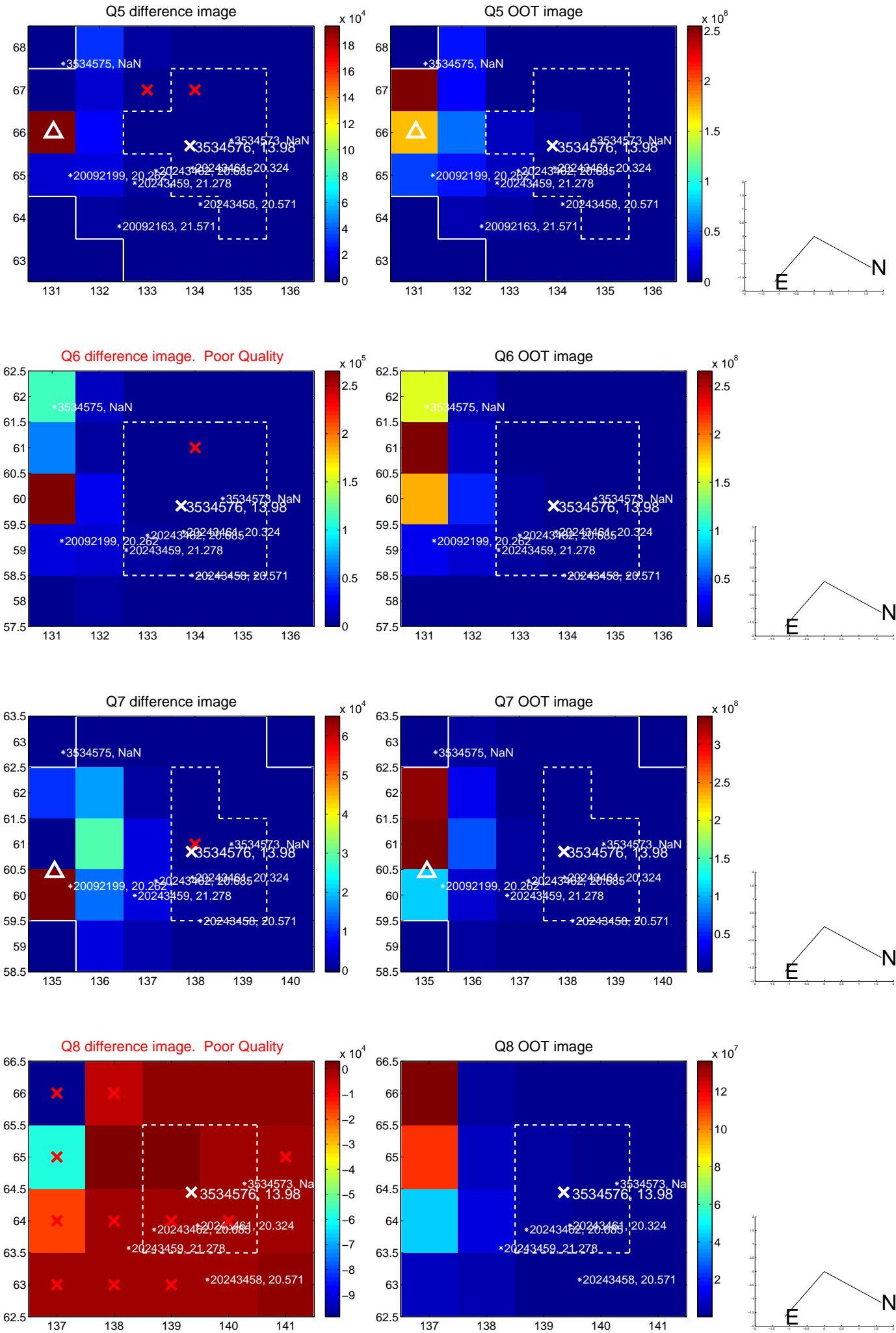


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

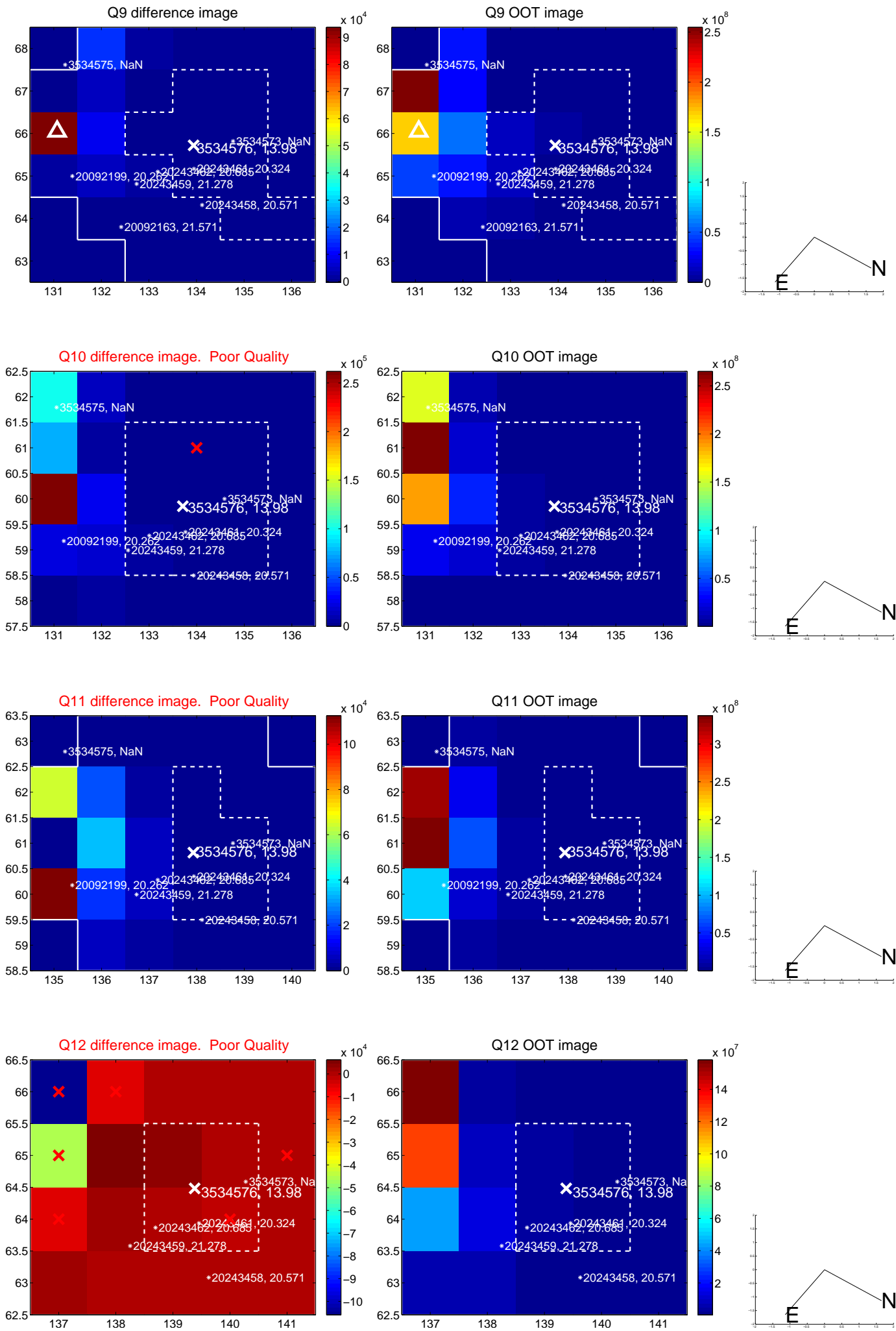
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



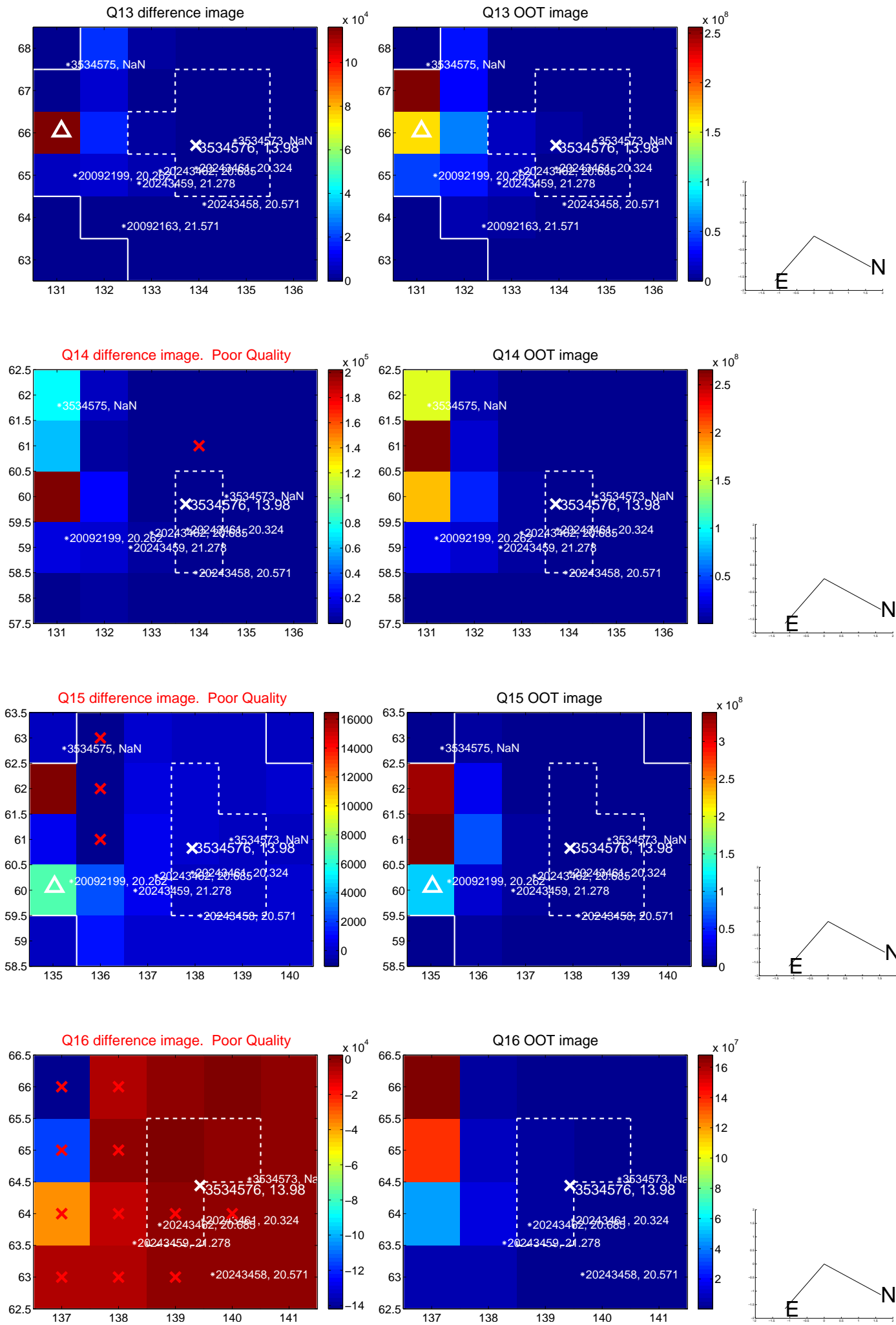
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



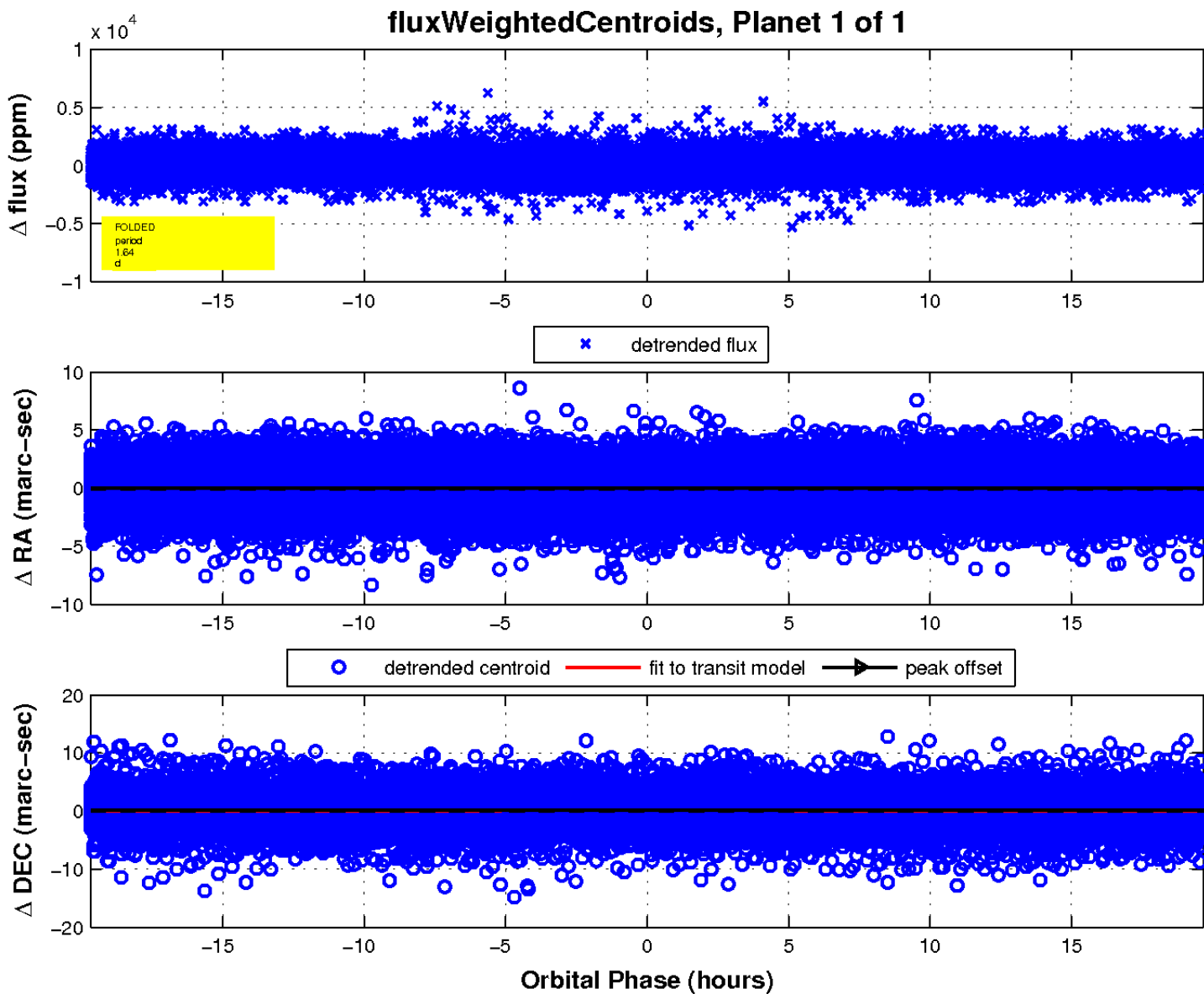
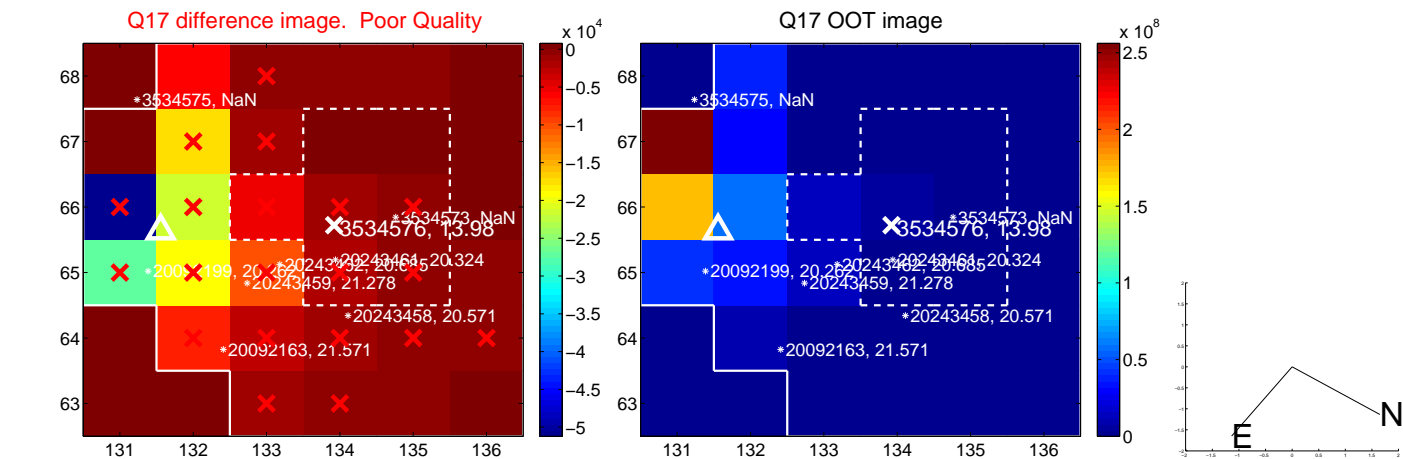
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

