

KIC 005559631

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|--------|------|-----------------------------|-----------------|------------------------|------------------------|
| 005559631-01 | OBS | No | 0.620682 | 132.071611 | 284219.4 | 2.000 | 8951.1 | -1.0 | 1.75 | 6234 | 95.48 | 19535.64 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|----------------------------|
| 005559631-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_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.

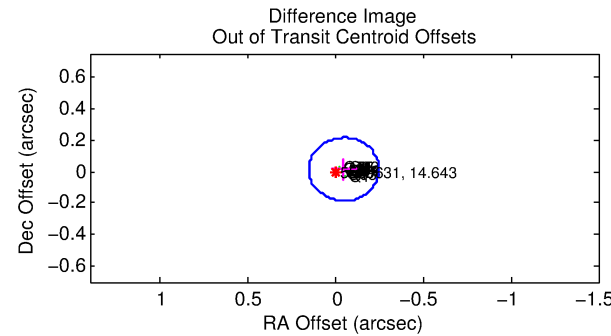
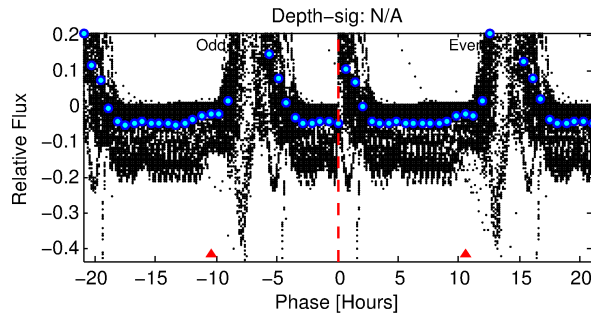
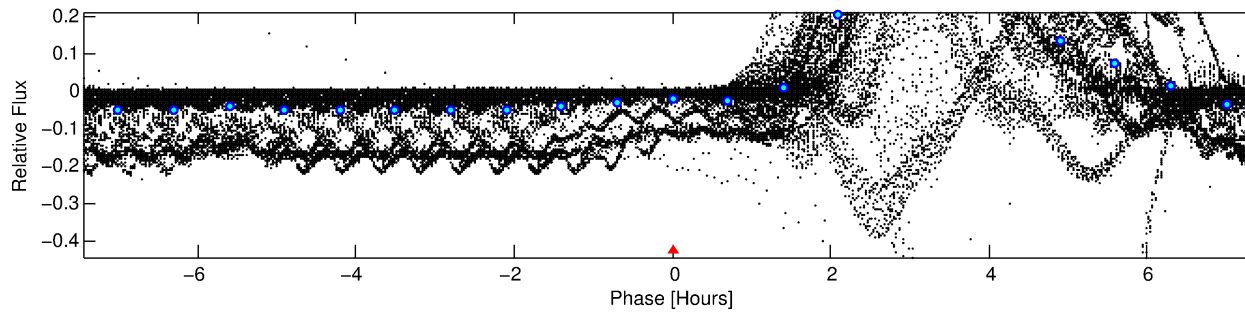
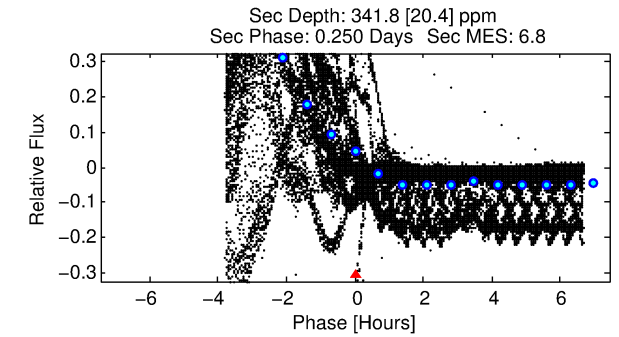
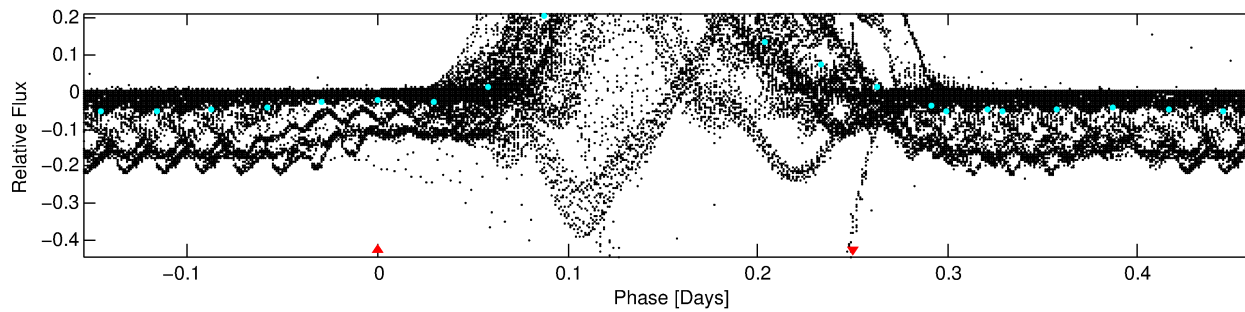
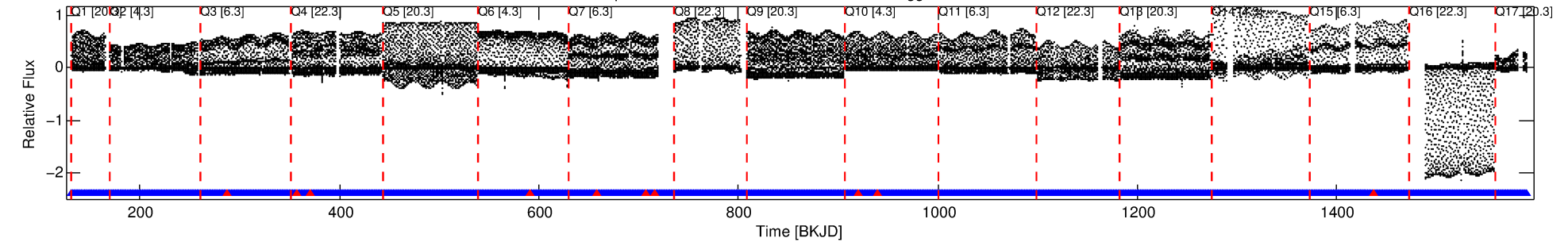
Ephemeris Match Information For 005559631-01

No Significant Match Found

DV One-Page Summary

KIC: 5559631 Candidate: 1 of 1 Period: 0.621 d

Kp: 14.64 R*: 1.75 Rs Teff: 6234.0 K Logg: 3.98 Fe/H: -0.380



TPS TCE Results:

Period = 0.62068 d
Epoch = 132.0716 BKJD

DV fit results are unavailable

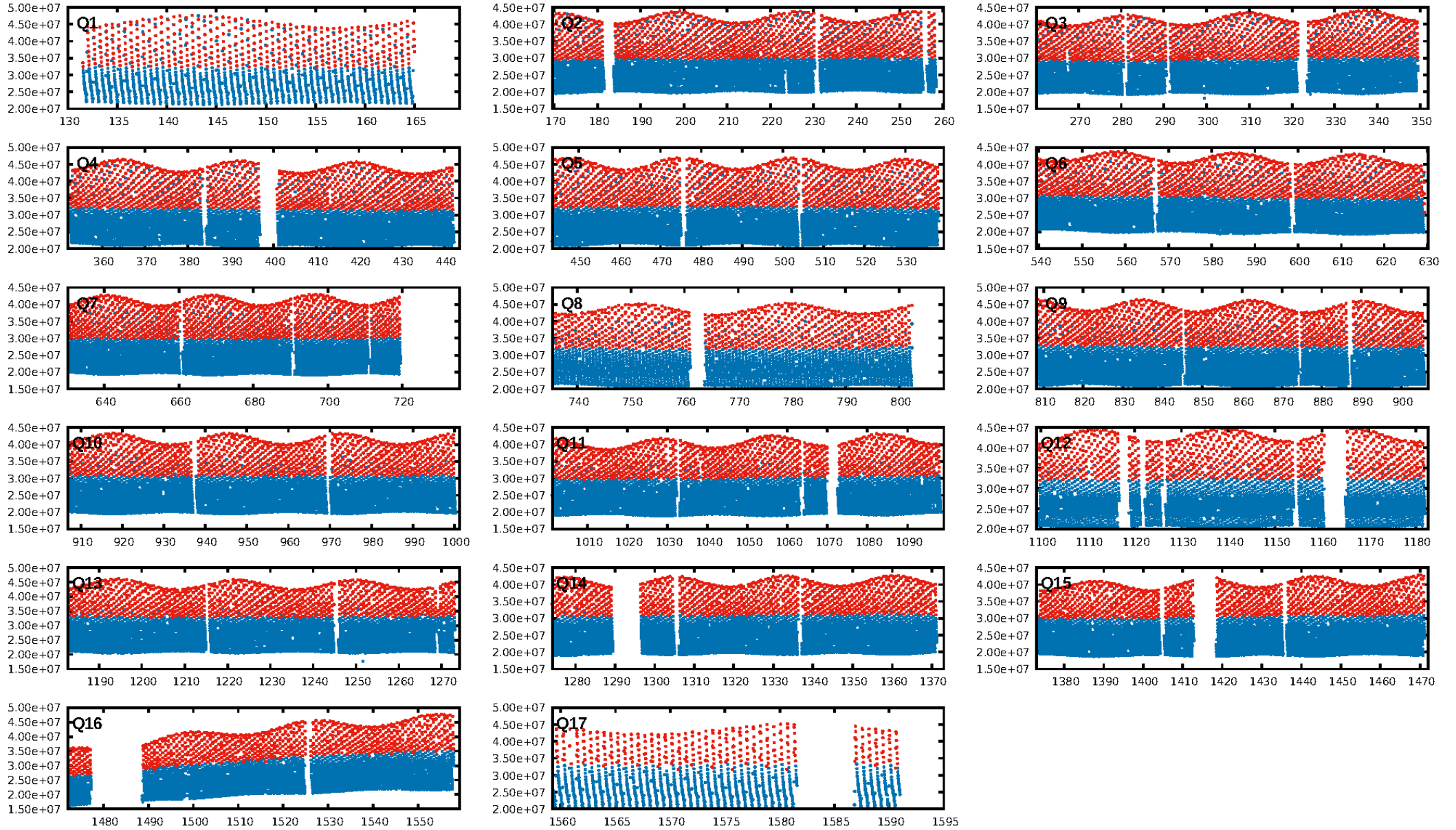
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [2058/2069]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.522 arcsec [735.56σ]
OotOffset-rm: 0.050 arcsec [0.75σ]
KicOffset-rm: 0.110 arcsec [1.54σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

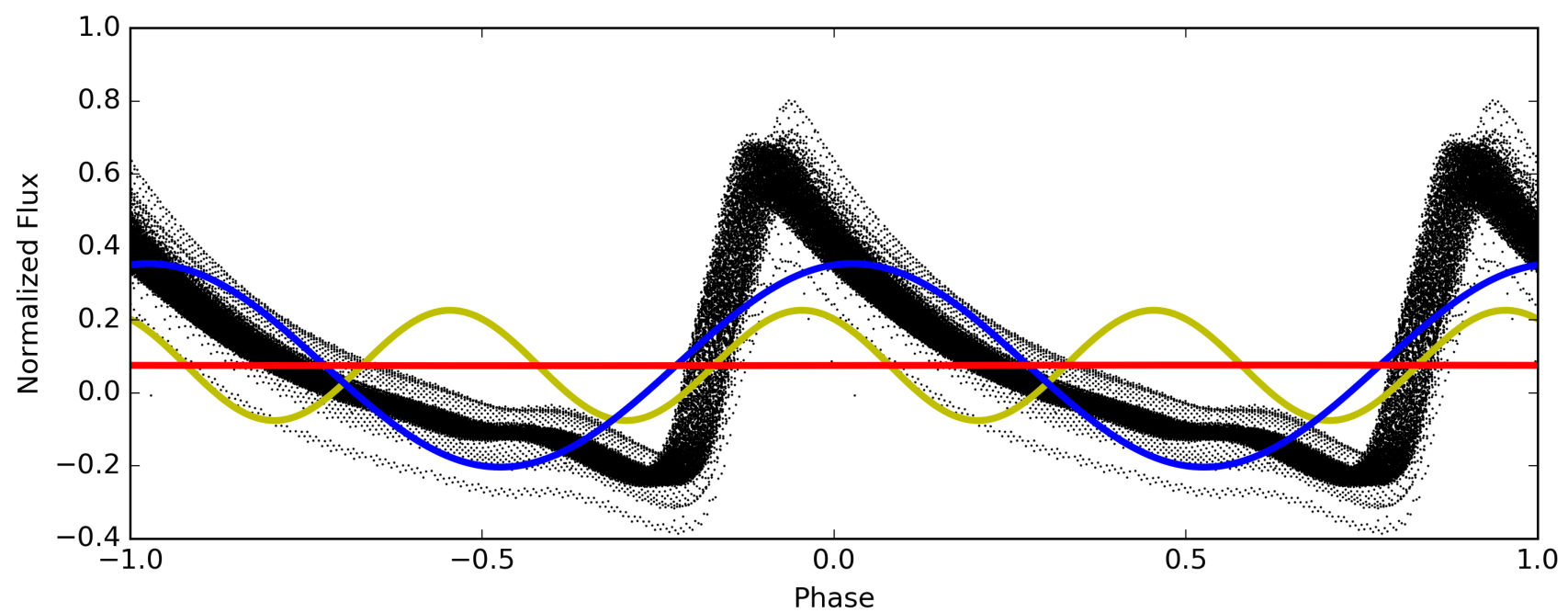
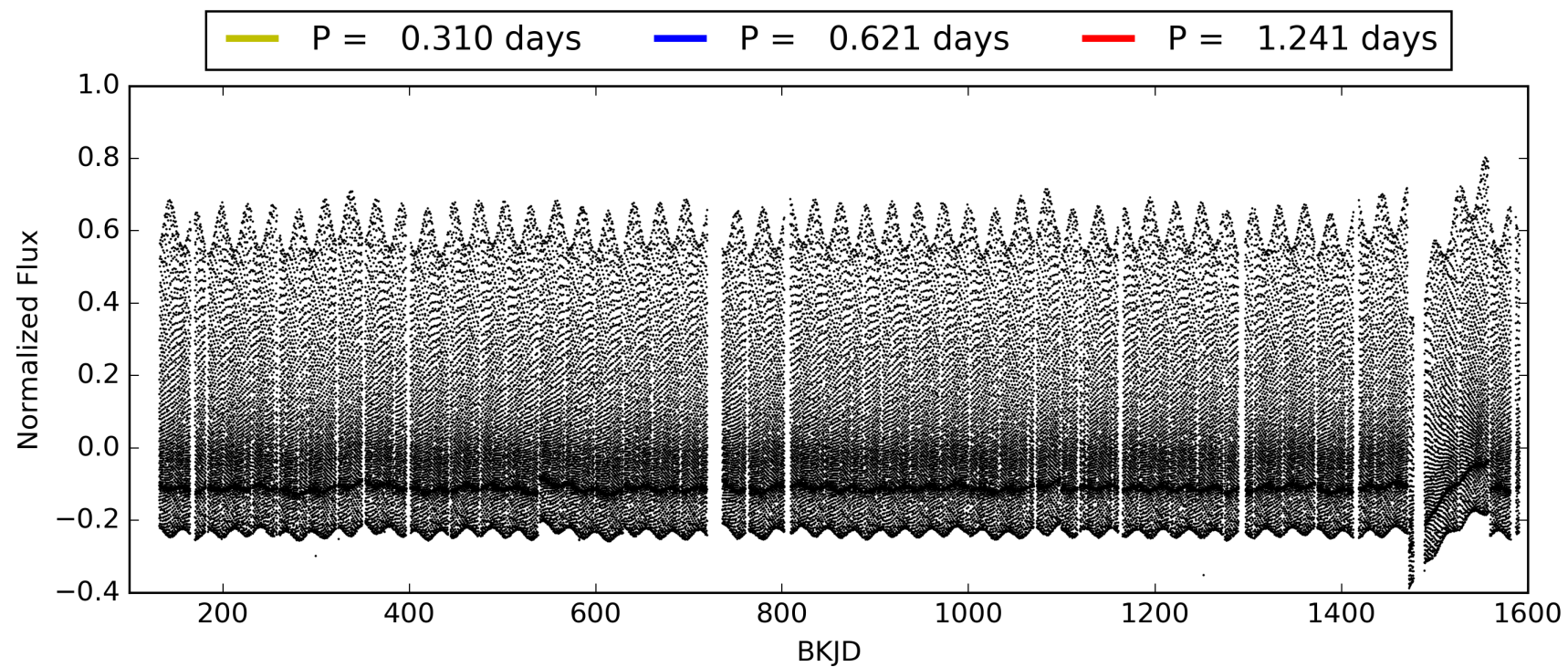
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:53:07 Z

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

TCE 005559631-01, PDC Light Curves

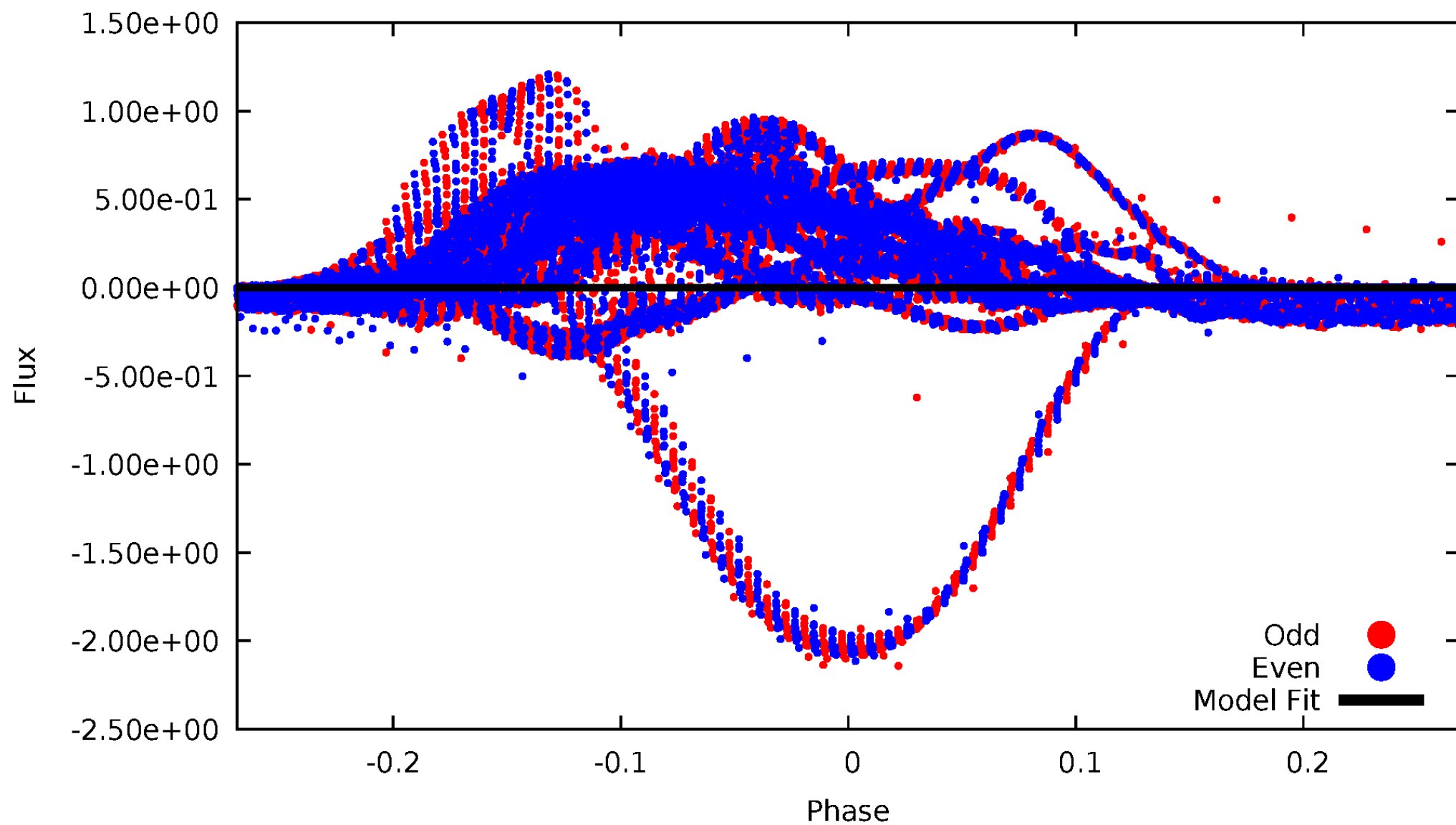


TCE 005559631-01



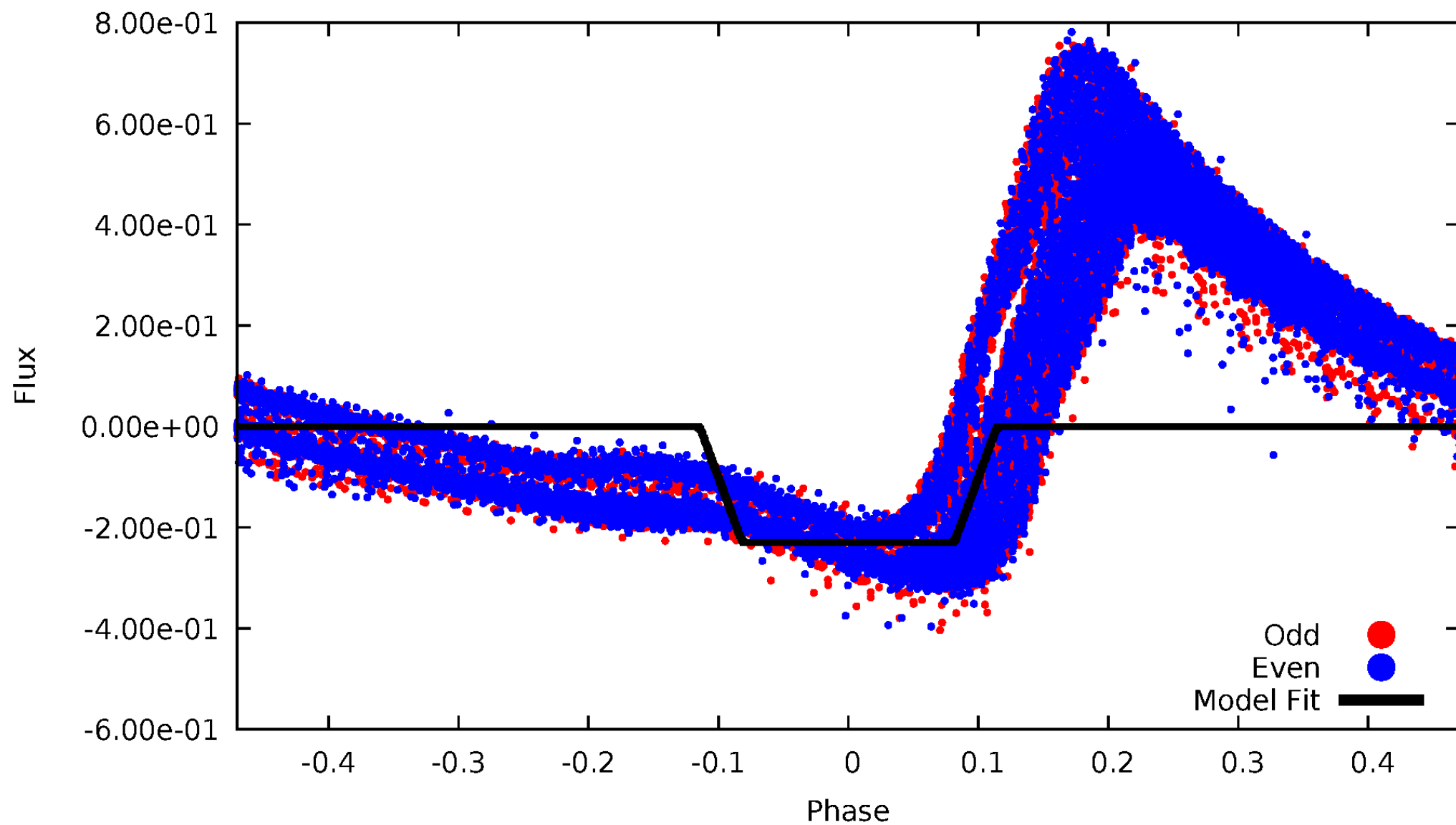
DV Odd/Even

TCE 005559631-01



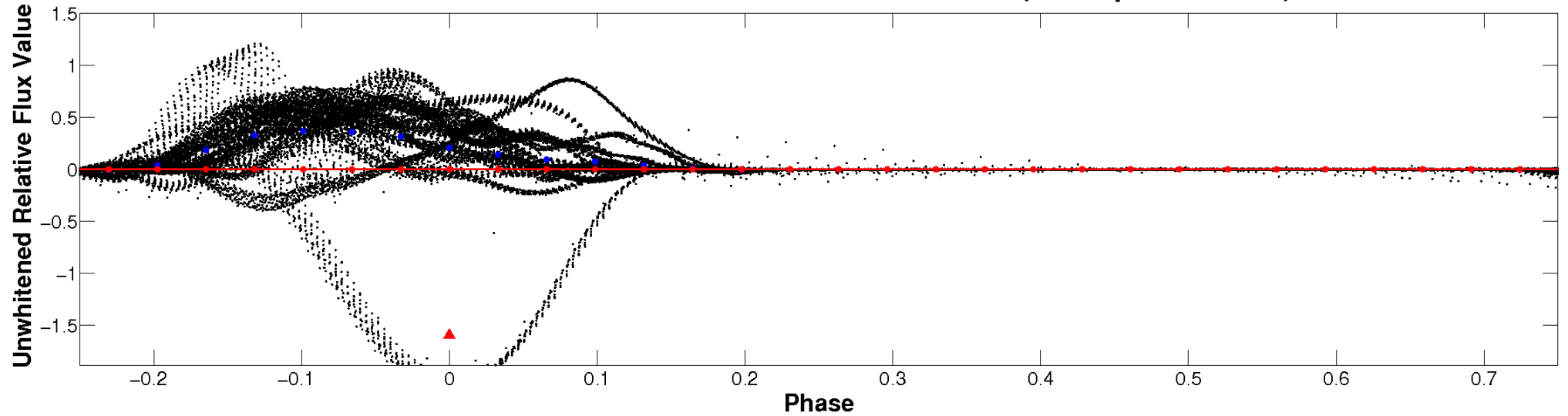
ALT Odd/Even

TCE 005559631-01

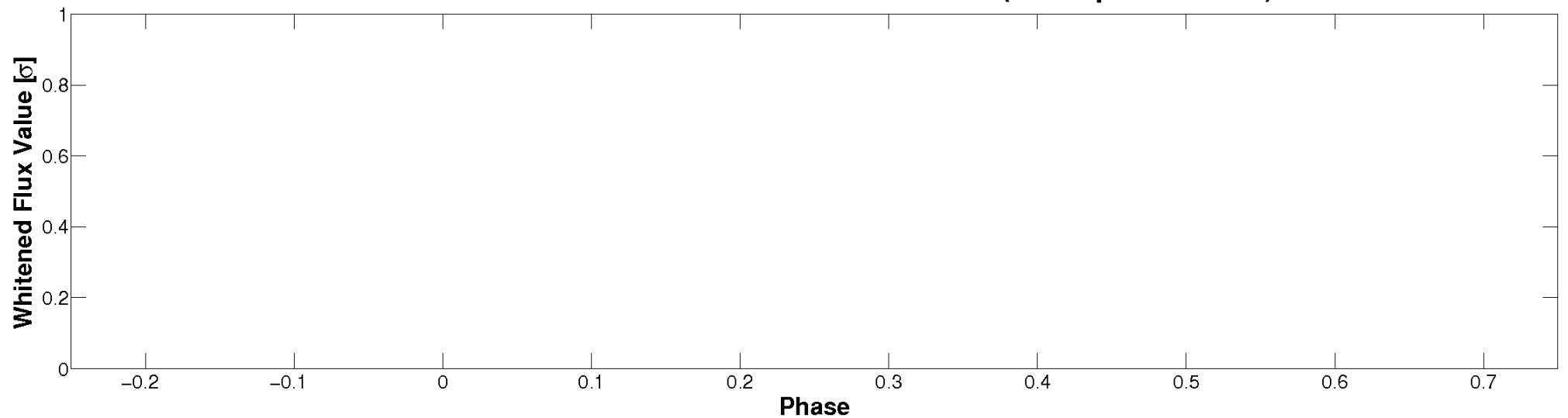


Non-Whitened Vs. Whitened Light Curve

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

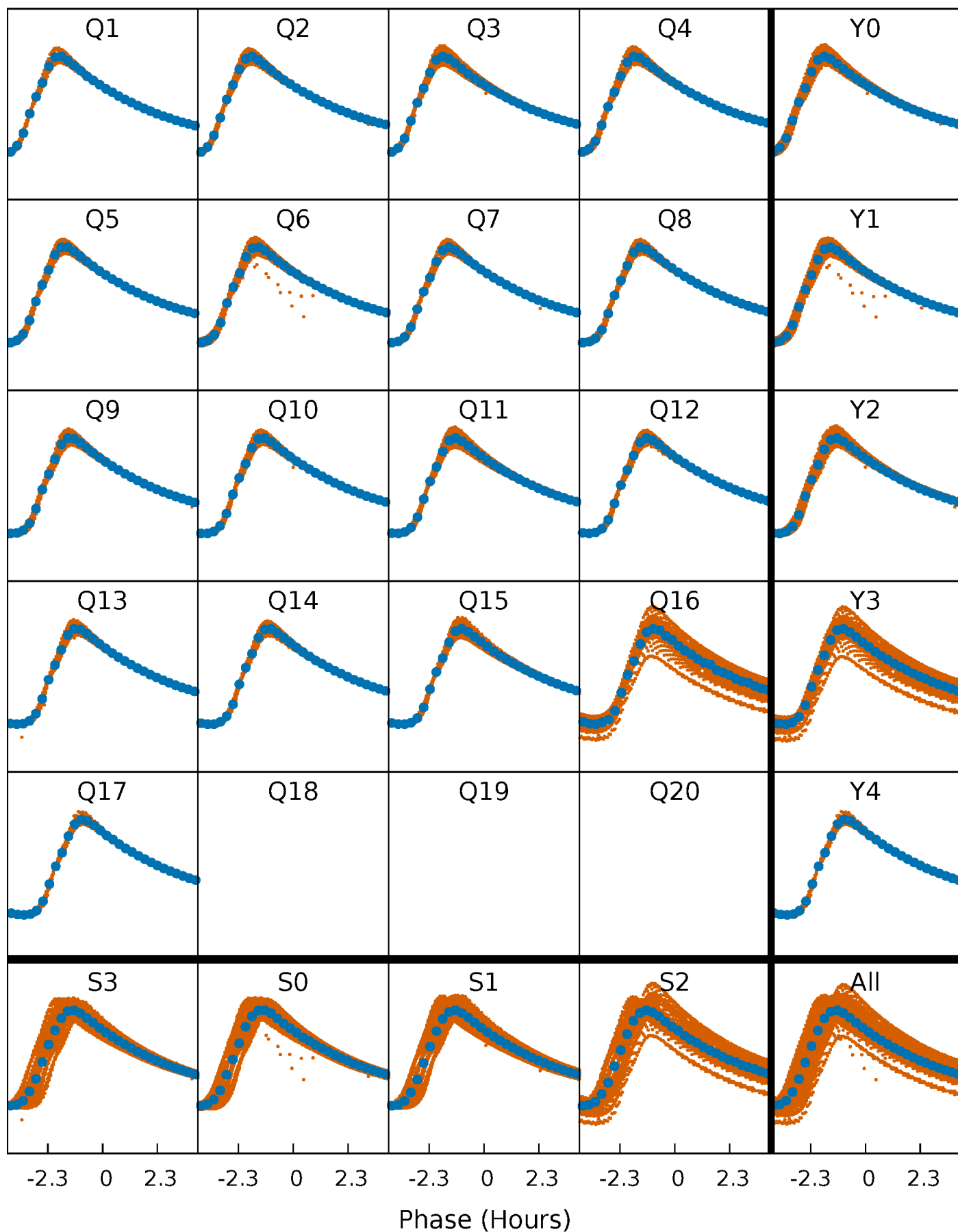


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



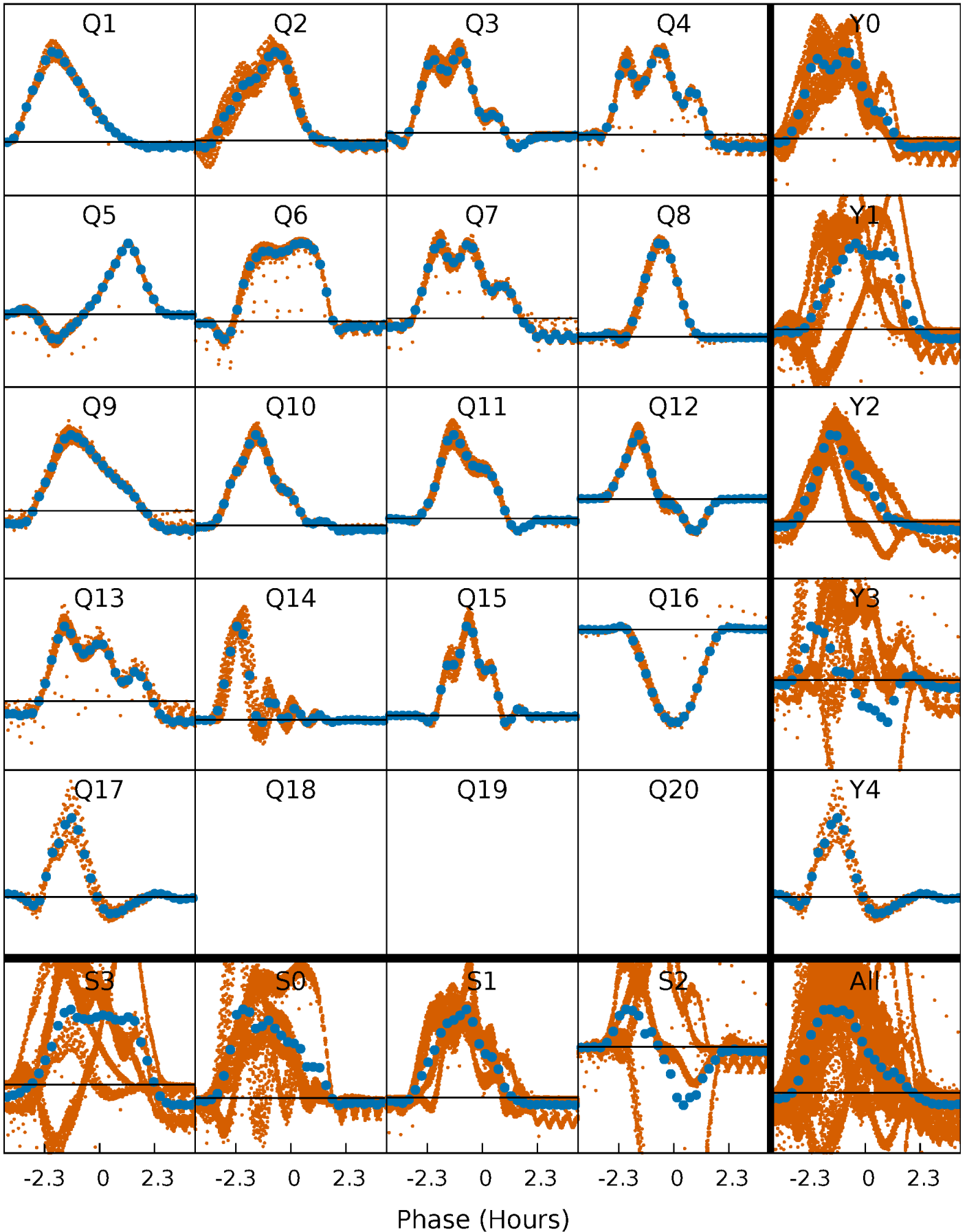
PDC Quarter-Phased Transit Curves

TCE 005559631-01 P= 0.620682 Days $T_0=132.071610$ (BKJD)



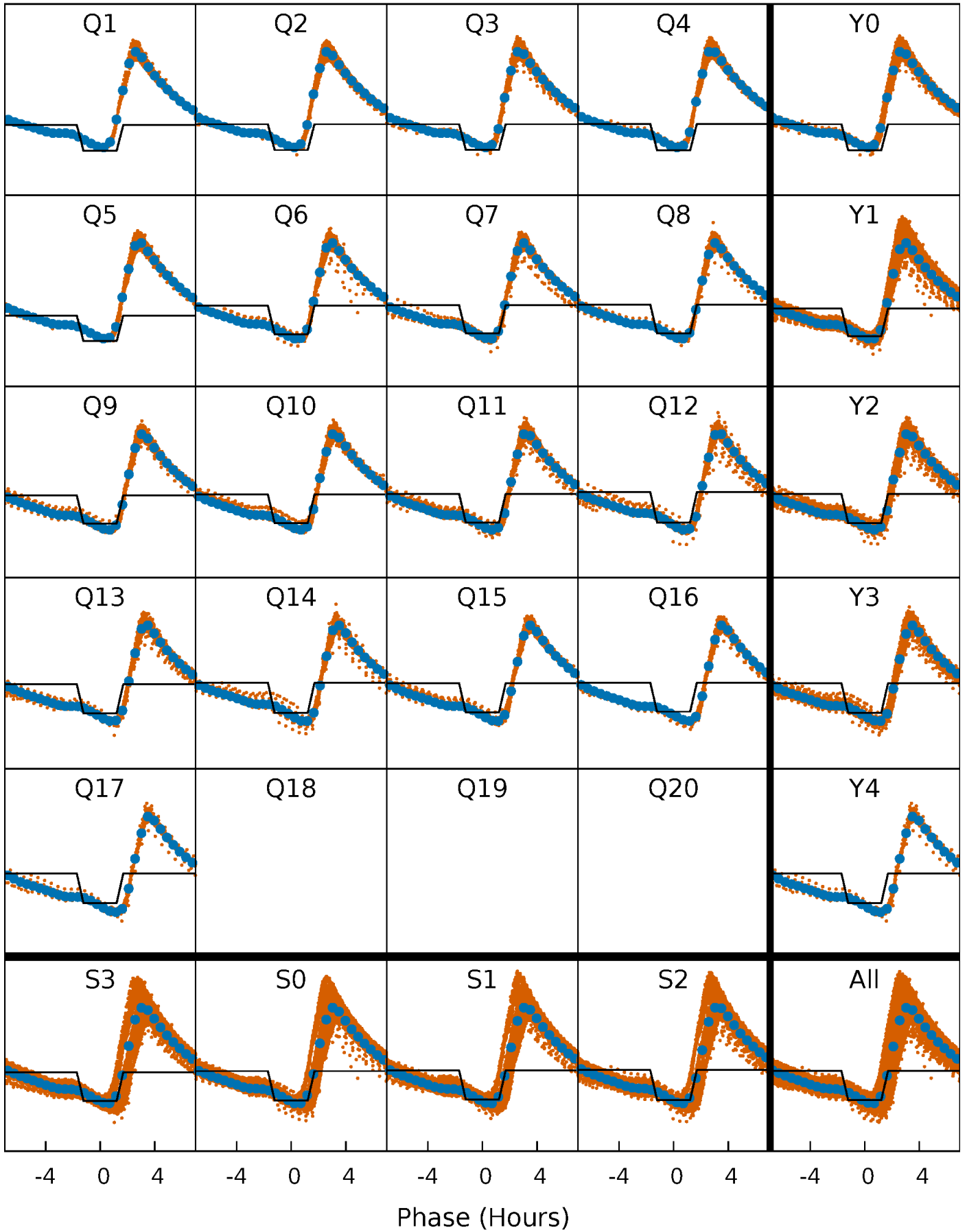
DV Quarter-Phased Transit Curves

TCE 005559631-01 P= 0.620682 Days $T_0=132.071610$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

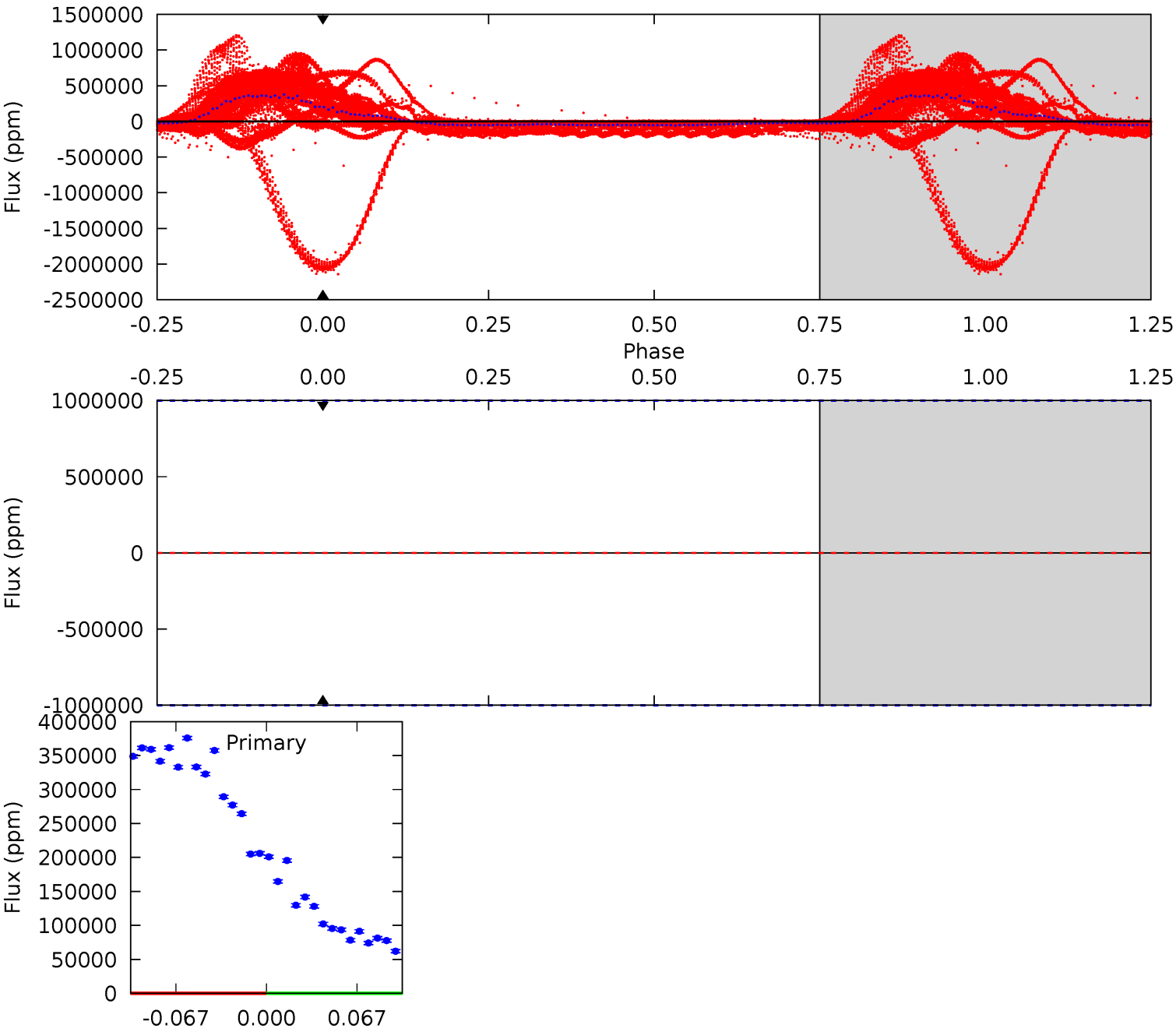
TCE 005559631-01 P= 0.620682 Days $T_0=131.886632$ (BKJD)



DV Model-Shift Uniqueness Test

005559631-01, P = 0.620682 Days, E = 131.450928 Days

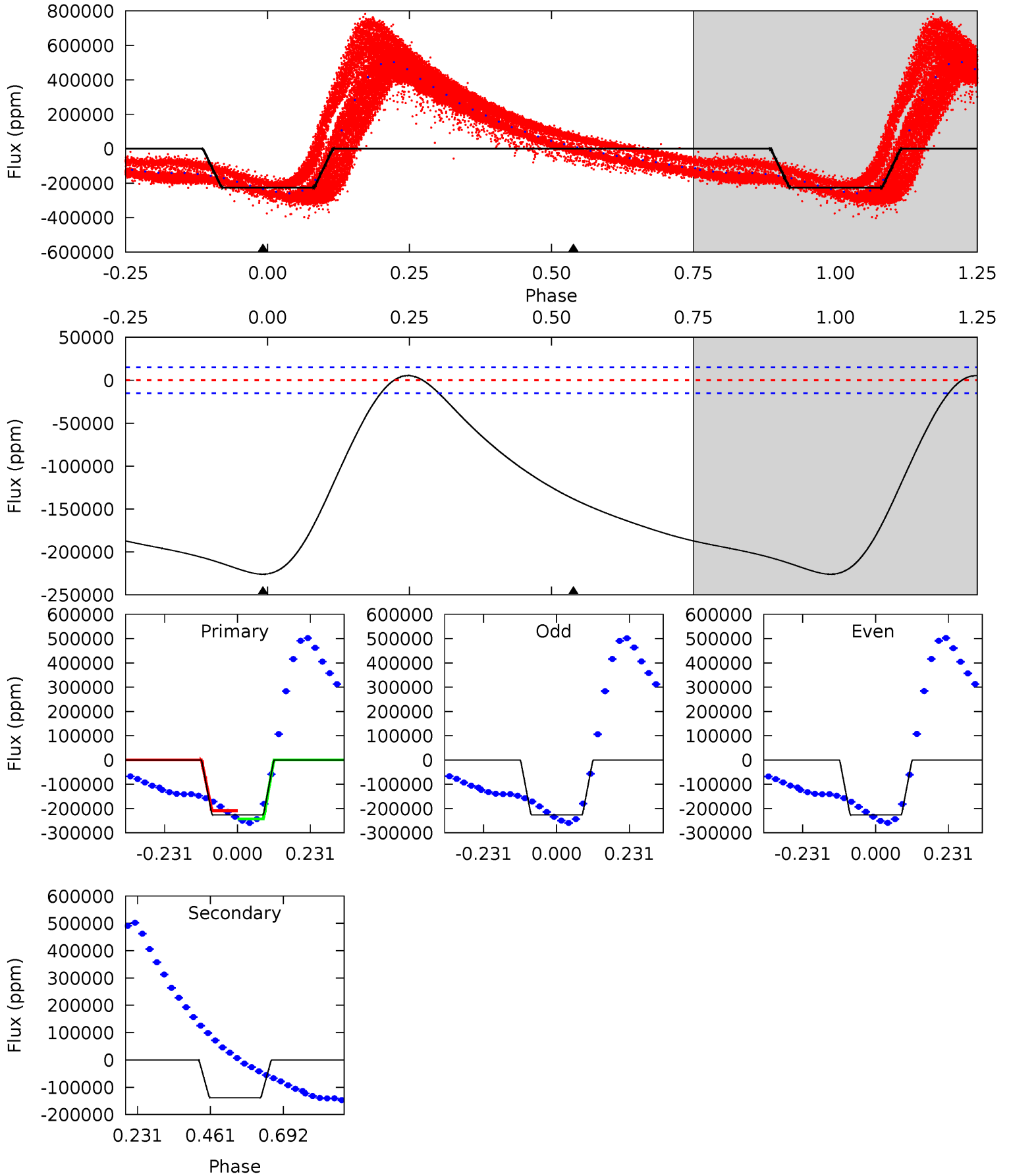
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00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



Alt Model-Shift Uniqueness Test

005559631-01, P = 0.620682 Days, E = 131.265950 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 66.1 | 40.5 | 0 | 0 | 4.39 | 1.20 | 10.2 | 66.1 | 66.1 | 40.5 | 40.5 | 0.03 | 0.92 | 0.02 | 6.15 |



Stellar Parameters For KIC 005559631

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6234^{+201}_{-251} | $3.981^{+0.412}_{-0.137}$ | $-0.380^{+0.300}_{-0.300}$ | $1.750^{+0.465}_{-0.697}$ | $1.069^{+0.157}_{-0.174}$ | $0.281^{+0.977}_{-0.109}$ |
| | +3%/-4% | +10%/-3% | +79%/-79% | +27%/-40% | +15%/-16% | +348%/-39% |
| 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 005559631-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|--------------------|---------------------------|----------------------|-------------------------|---------------------------|
| DV | 0 ± 1000000 | $89.44^{+25.79}_{-24.69}$ | 4093^{+351}_{-468} | -3421^{+8494}_{-1704} | $0.114^{+1.770}_{-1.456}$ |
| Alt. | -138216 ± 3415 | $85.00^{+24.16}_{-23.96}$ | 4106^{+348}_{-459} | 5575^{+775}_{-596} | $2.623^{+2.324}_{-1.025}$ |

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 $A_{obs} \gg 1.0$

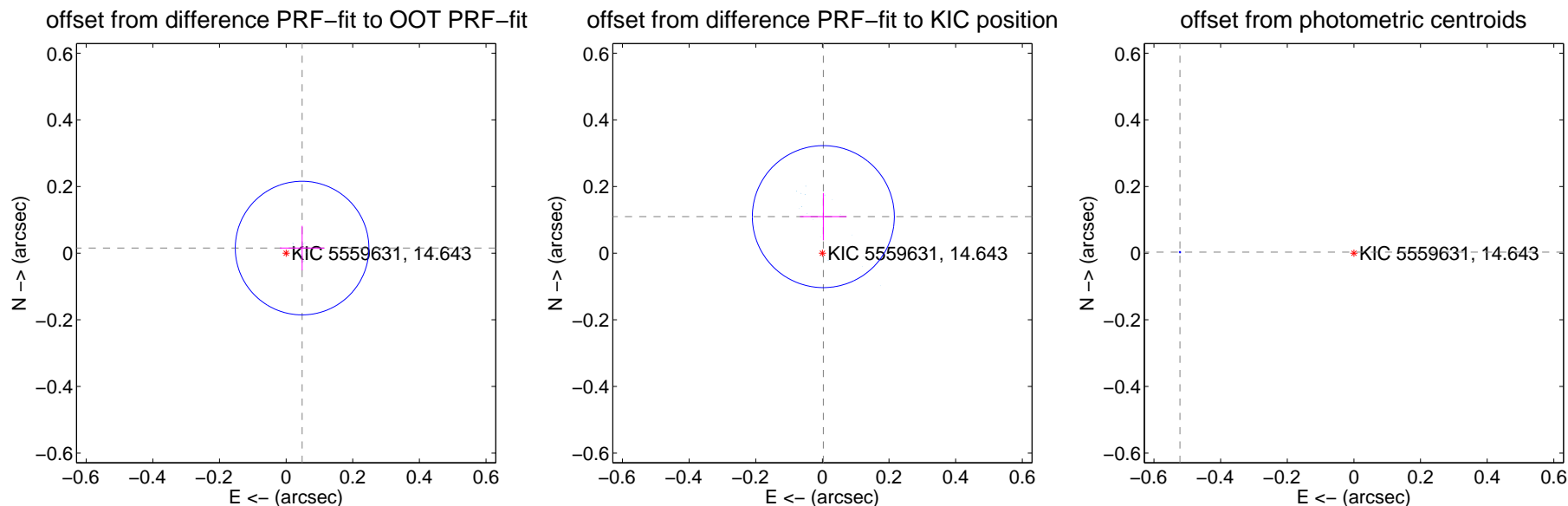
DV Centroid Data

Supplemental centroid analysis for 005559631-01. Kepler magnitude: 14.64. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

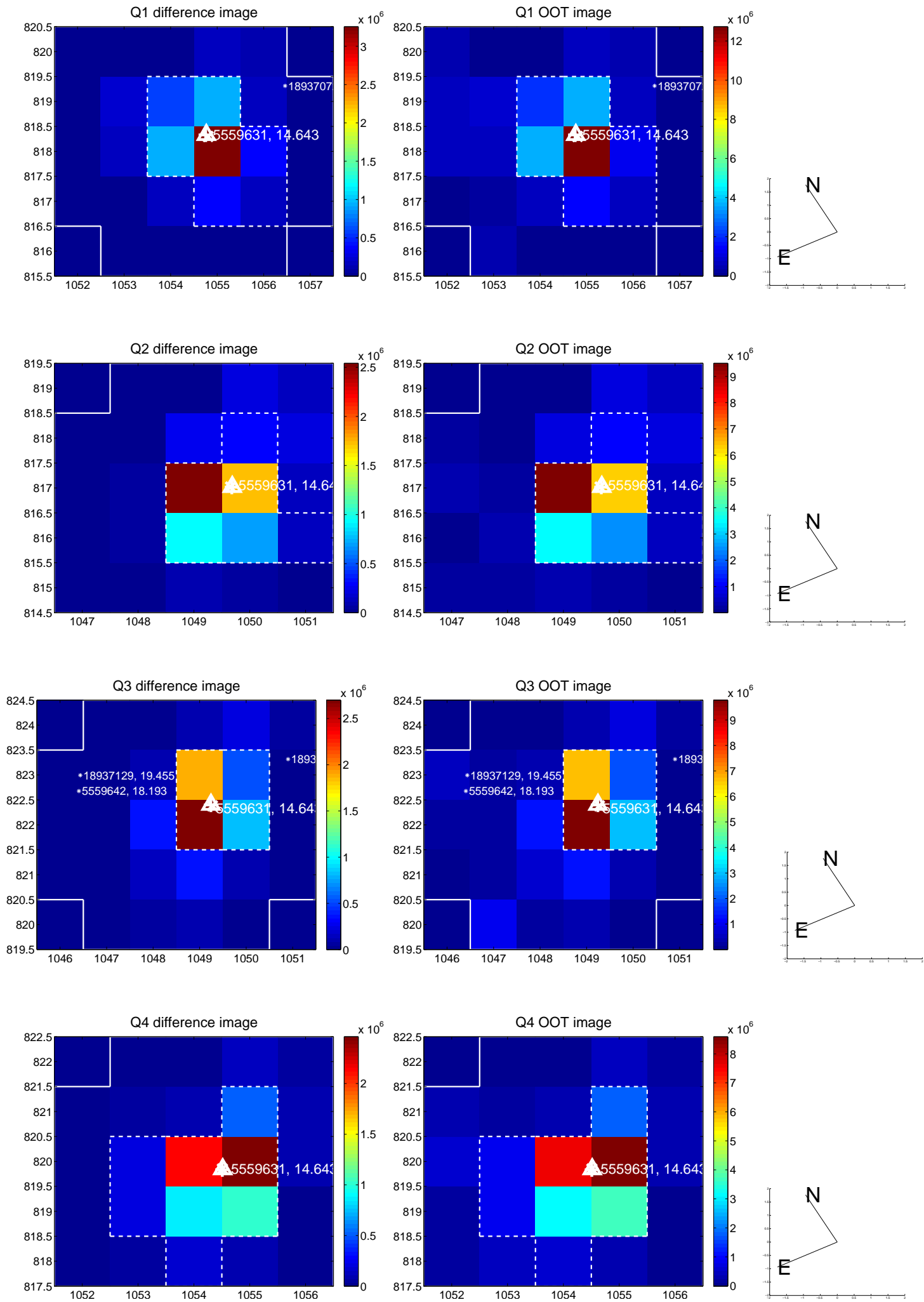
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.050 ± 0.067 | 0.75 | -0.048 ± 0.067 | 0.015 ± 0.067 |
| PRF-fit source offset from KIC position | 0.110 ± 0.071 | 1.54 | -0.003 ± 0.070 | 0.110 ± 0.071 |
| photometric centroid source offset | 0.52 ± 0.00 | 735.56 | 0.52 ± 0.00 | 0.00 ± 0.00 |

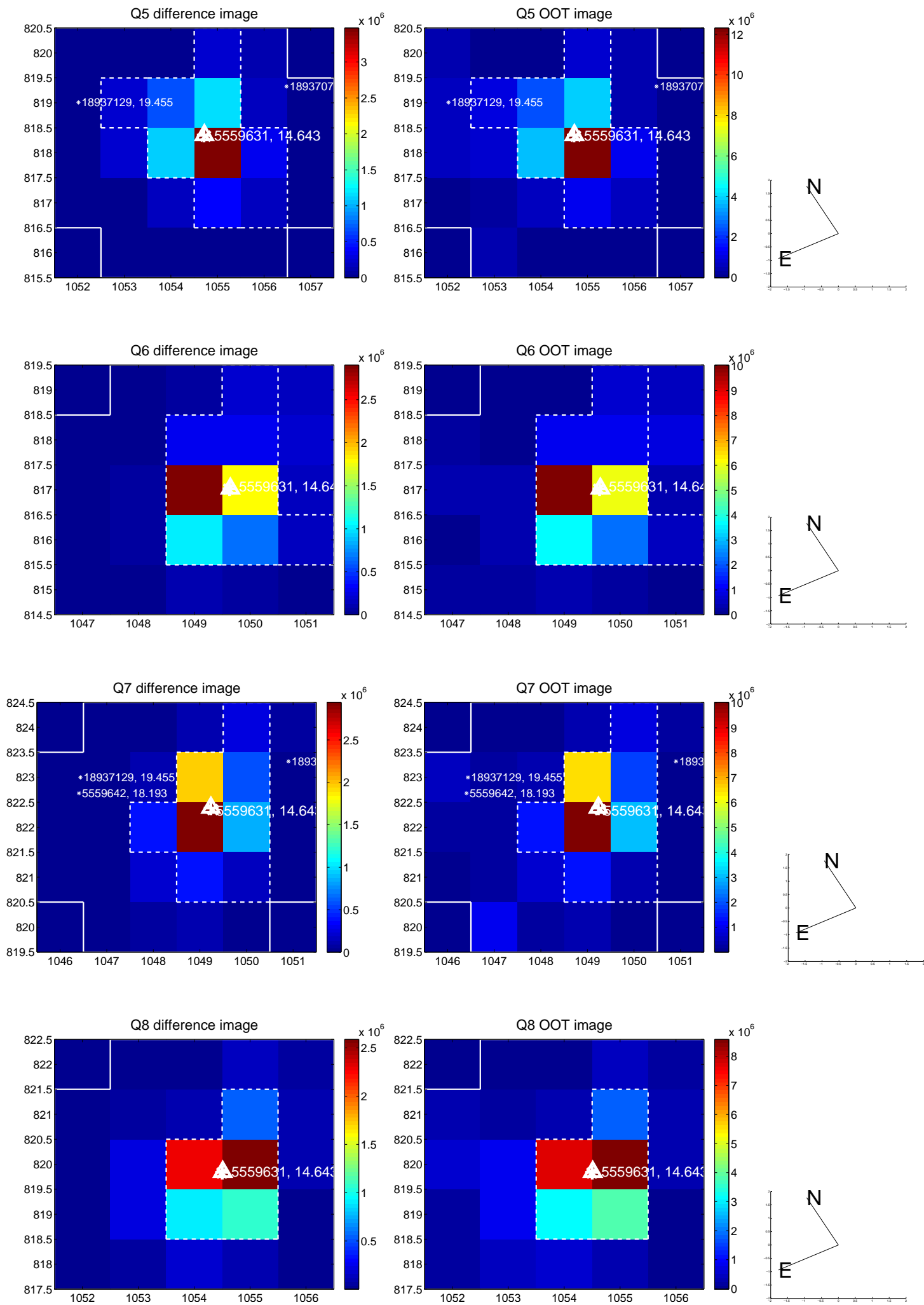


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

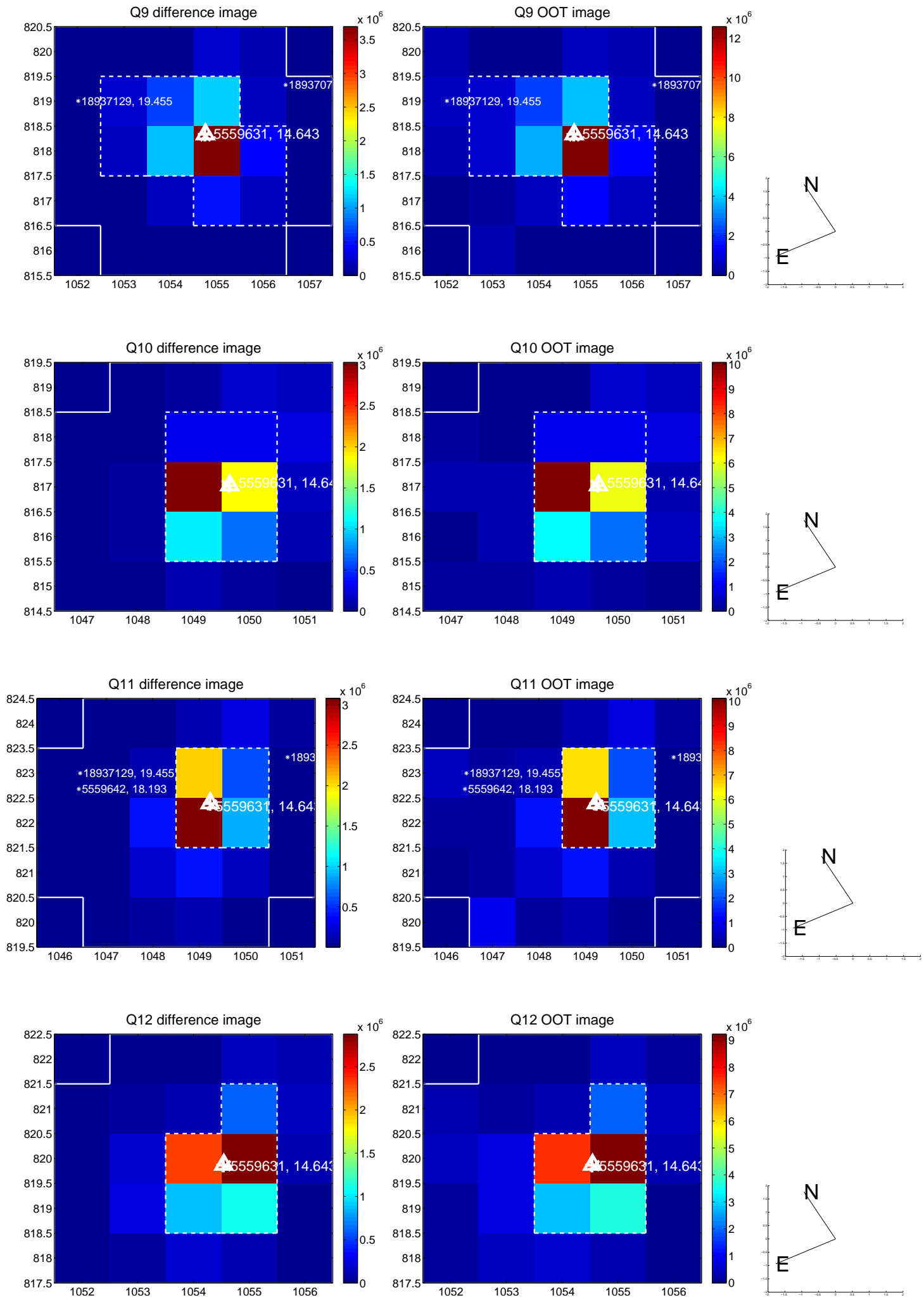
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



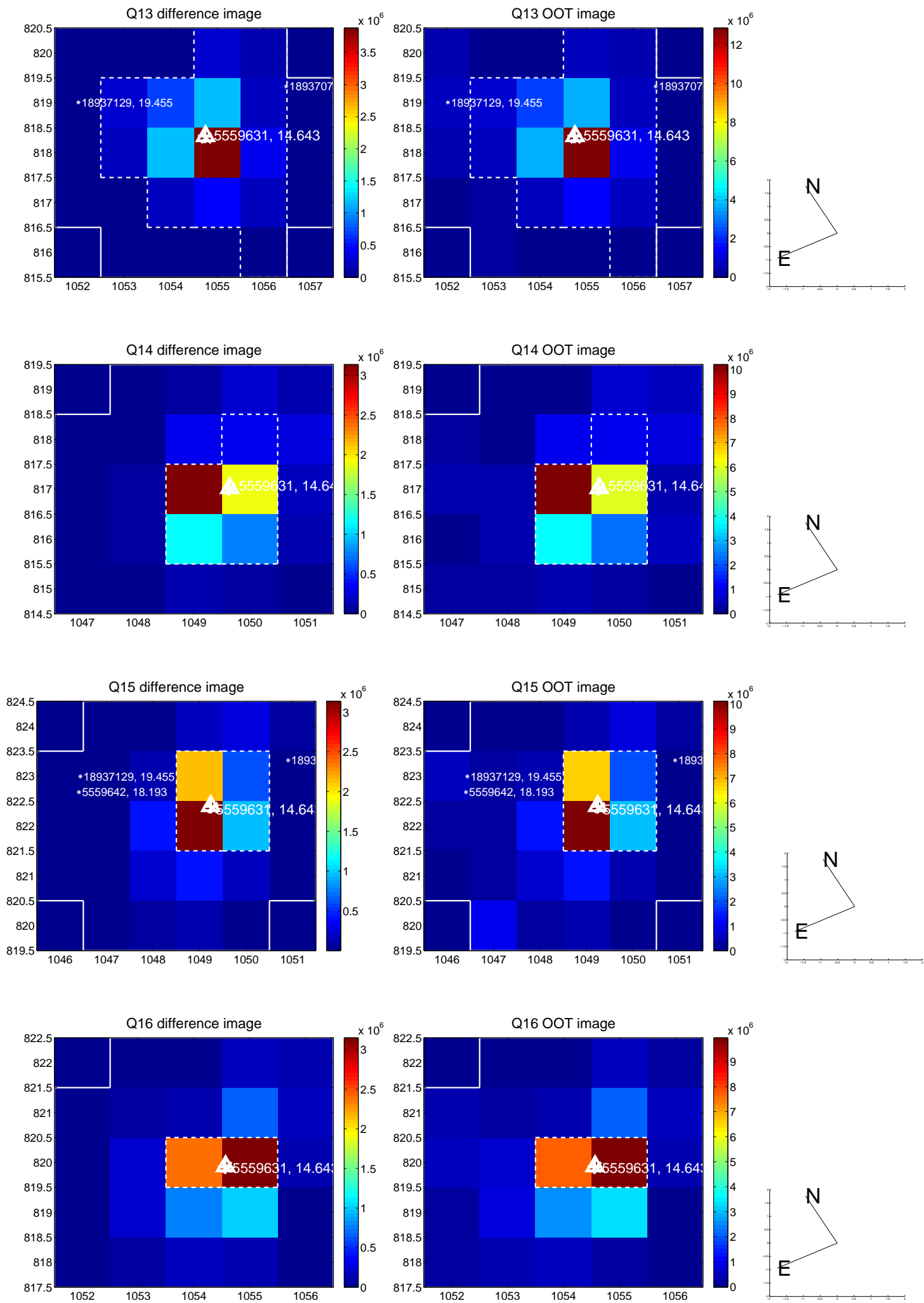
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



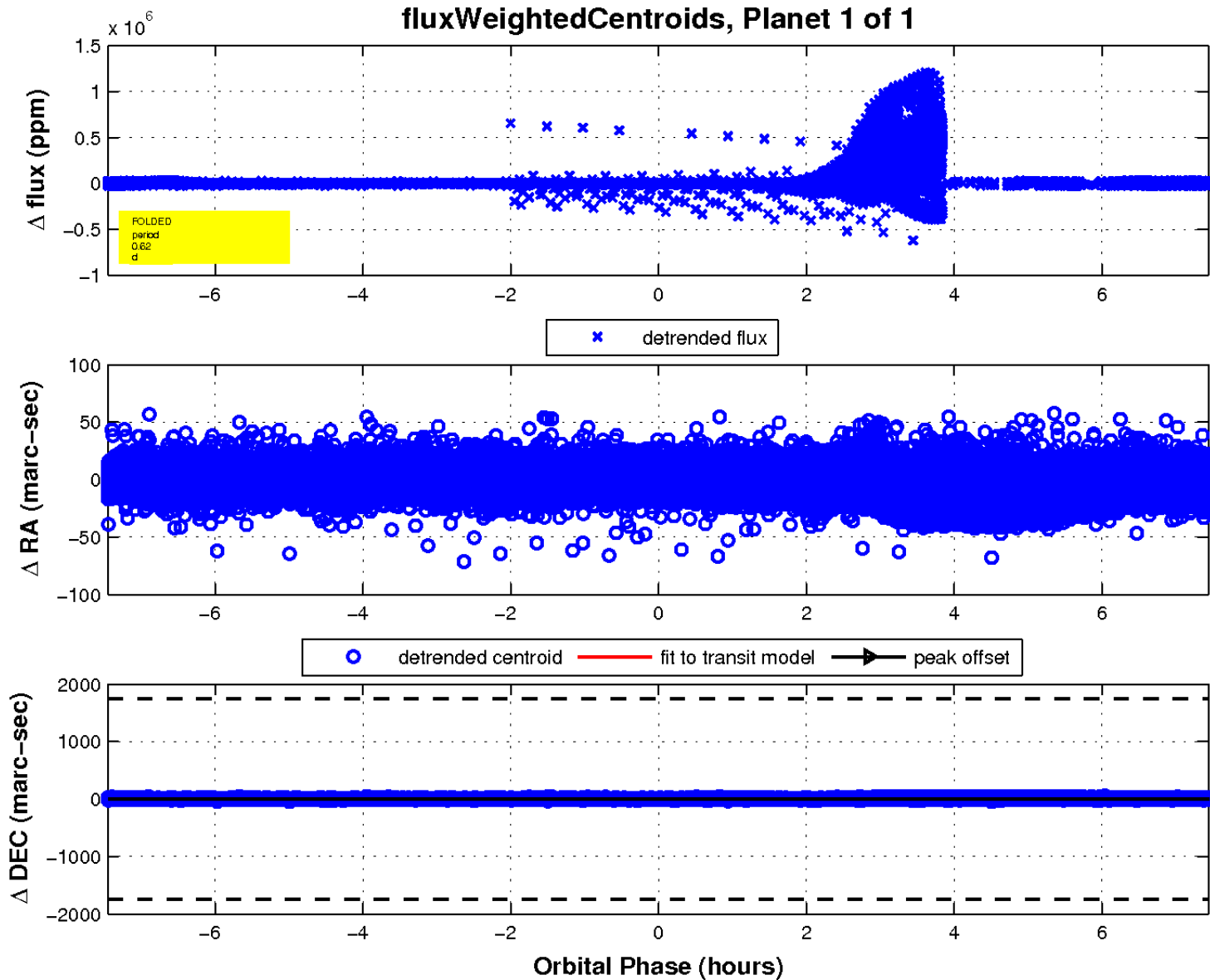
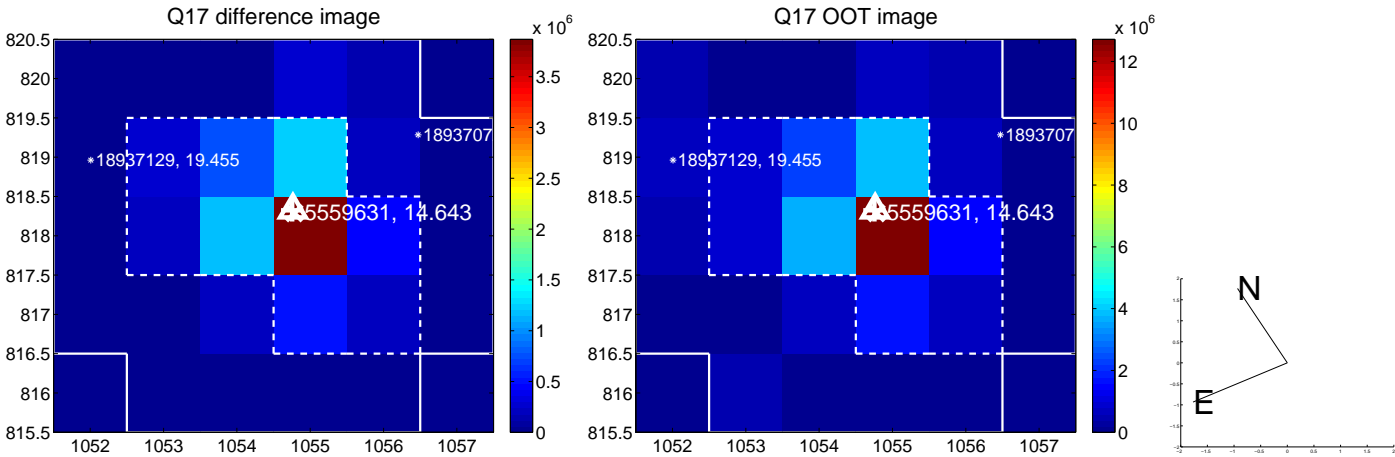
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

