

KIC 004544587

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|---------|------|-----------------------------|-----------------|------------------------|------------------------|
| 004544587-01 | OBS | No | 2.189103 | 132.078702 | 112189.9 | 2.500 | 27912.3 | -1.0 | 2.42 | 8435 | 82.54 | 14914.58 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-------------------------------|
| 004544587-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—LPP_ALT—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.

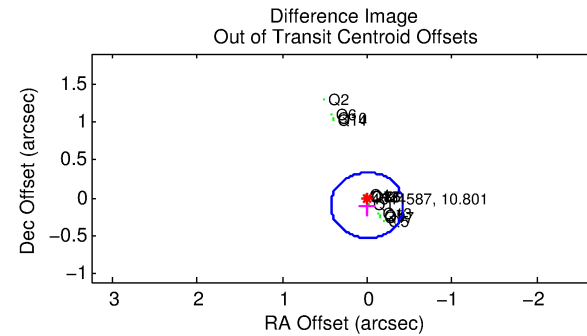
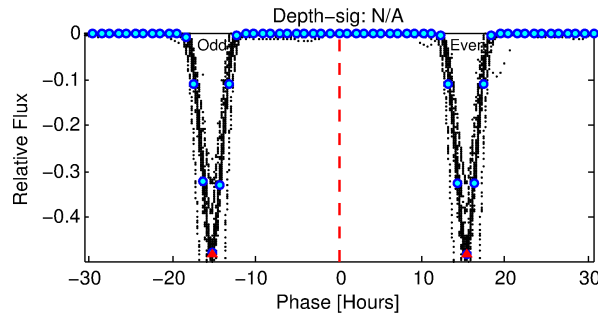
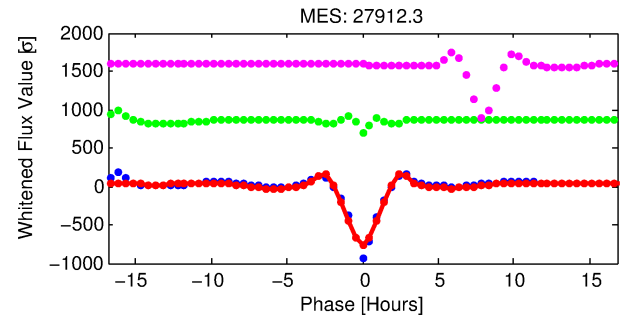
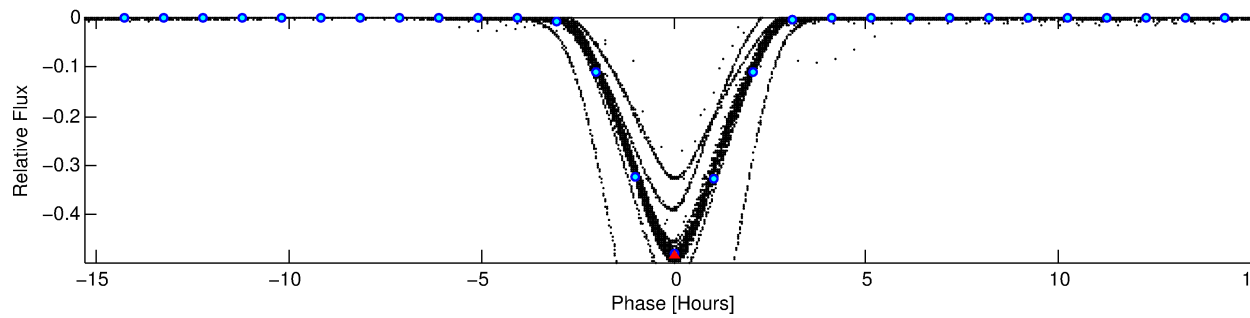
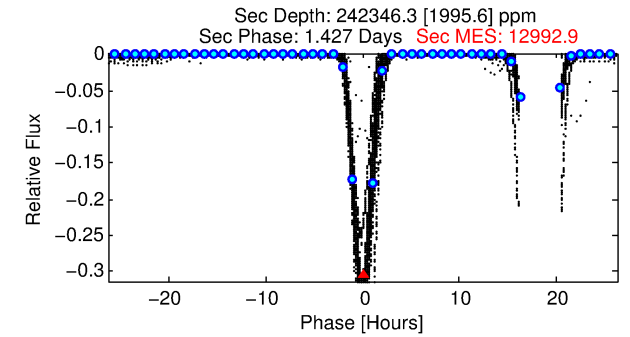
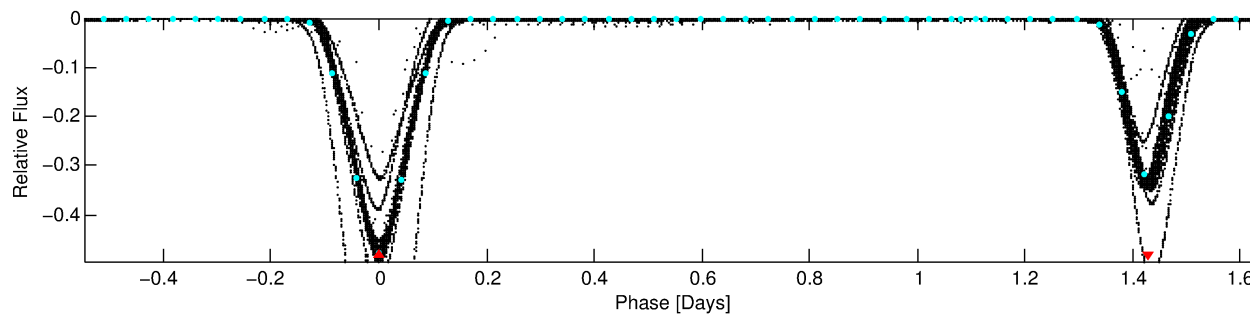
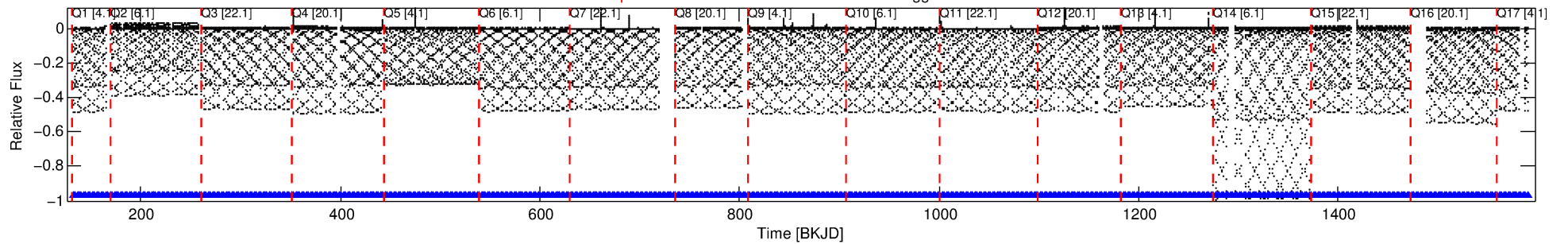
Ephemeris Match Information For 004544587-01

No Significant Match Found

DV One-Page Summary

KIC: 4544587 Candidate: 1 of 1 Period: 2.189 d

Kp: 10.80 R*: 2.42 Rs Teff: 8435.0 K Logg: 3.99 Fe/H: 0.070



TPS TCE Results:

Period = 2.18910 d
Epoch = 132.0787 BKJD

DV fit results are unavailable

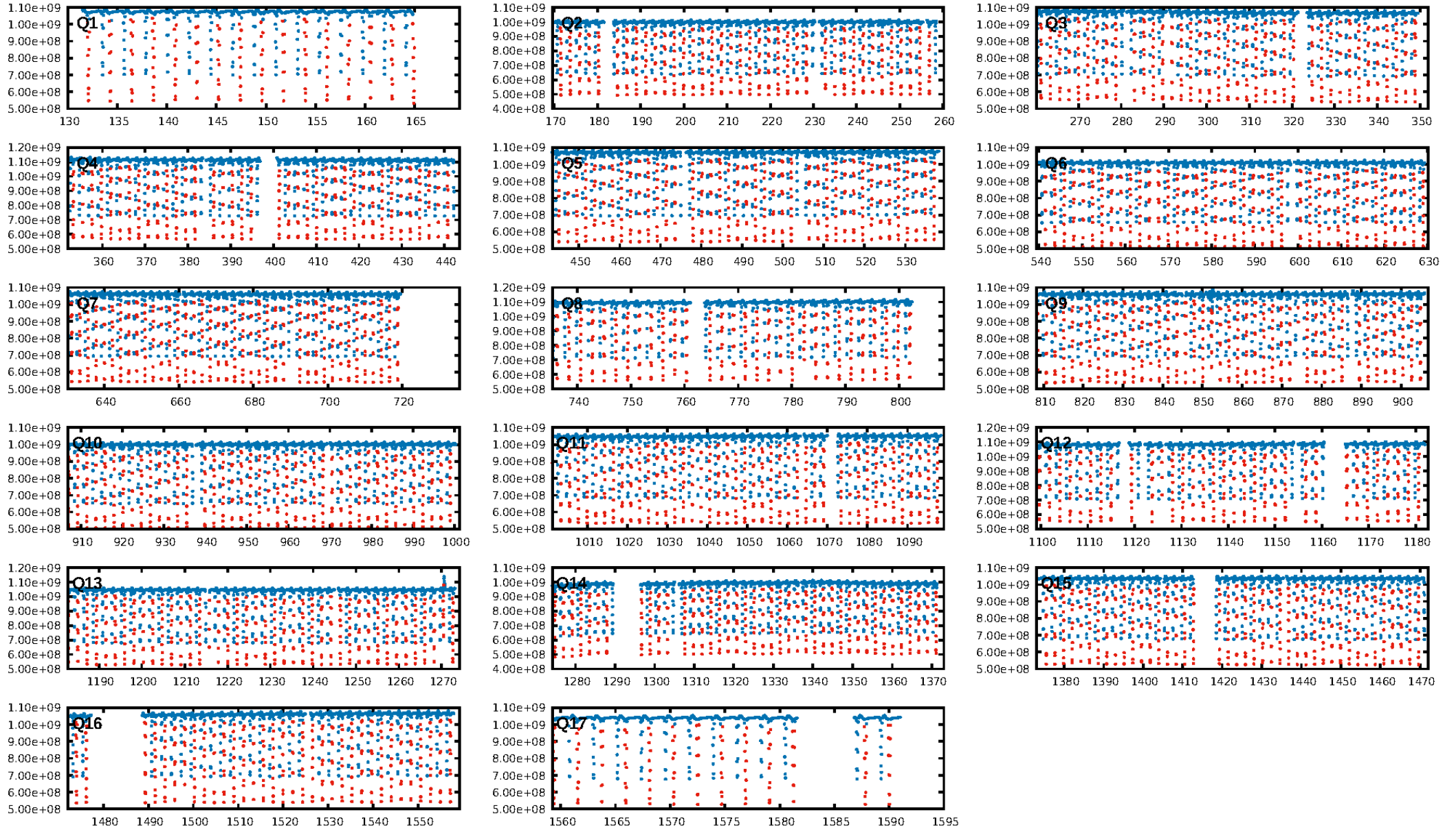
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [587/587]
GhostDiagnostic-chr: 1.296
Centroid-sig: N/A
Centroid-so: 0.176 arcsec [1280.54σ]
OotOffset-rm: 0.093 arcsec [0.65σ]
KicOffset-rm: 0.191 arcsec [0.96σ]
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]

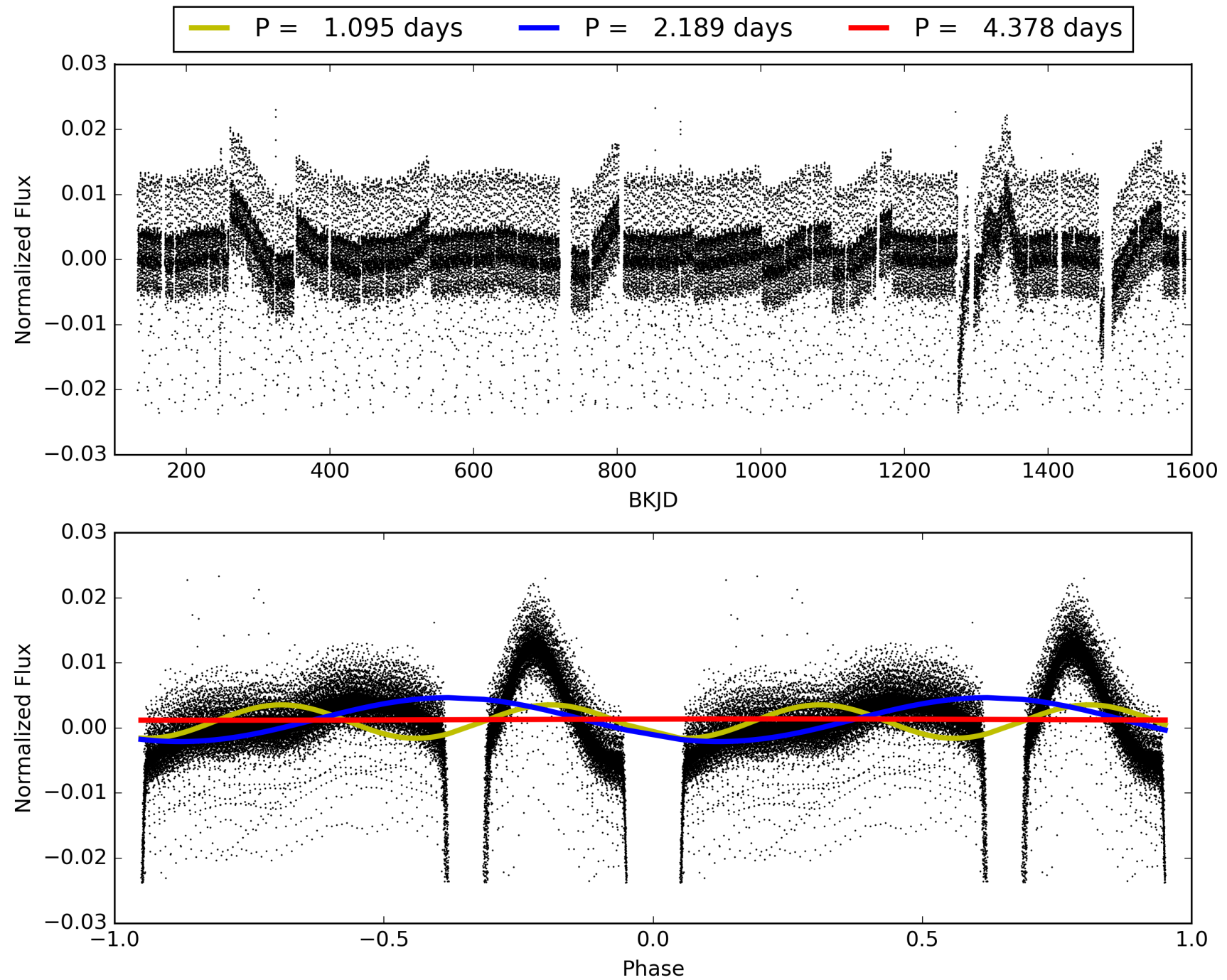
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:41:27 Z

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

TCE 004544587-01, PDC Light Curves

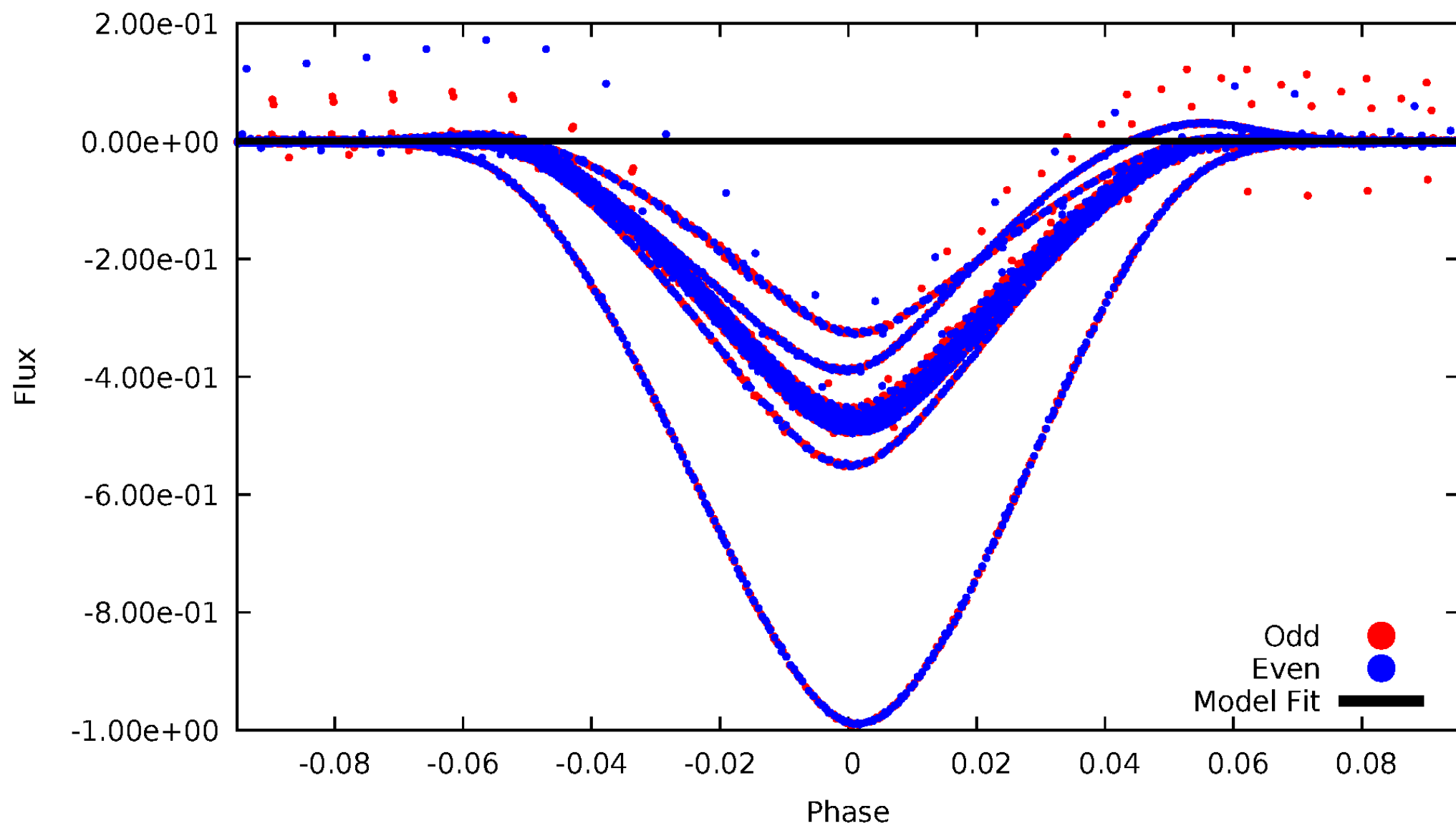


TCE 004544587-01



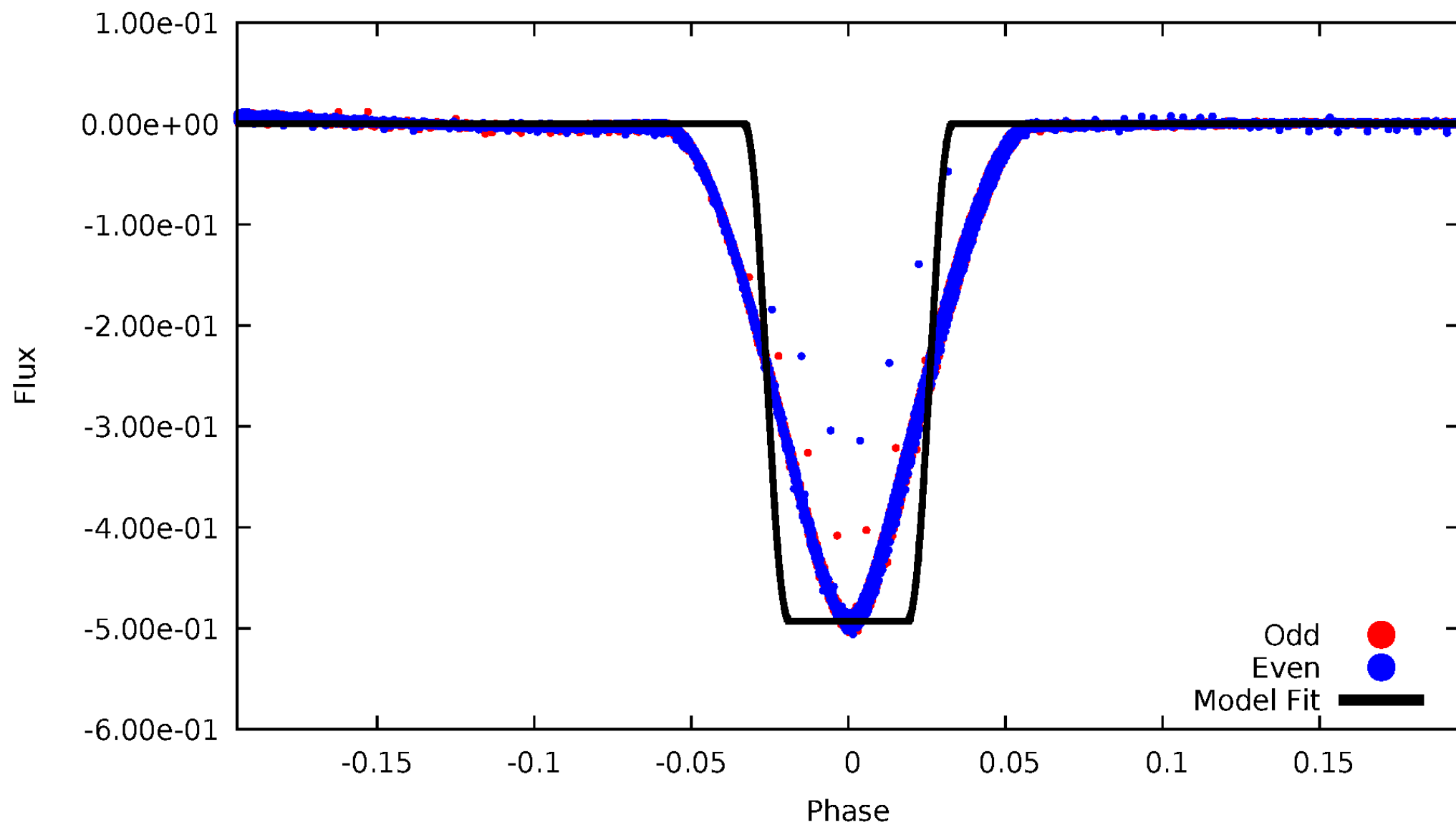
DV Odd/Even

TCE 004544587-01



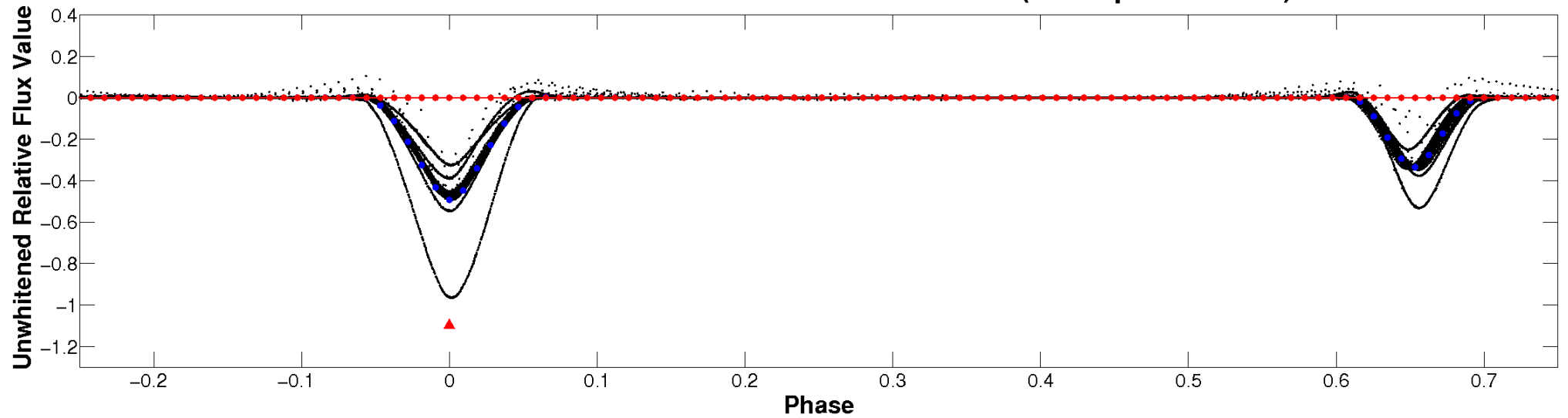
ALT Odd/Even

TCE 004544587-01



Non-Whitened Vs. Whitened Light Curve

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

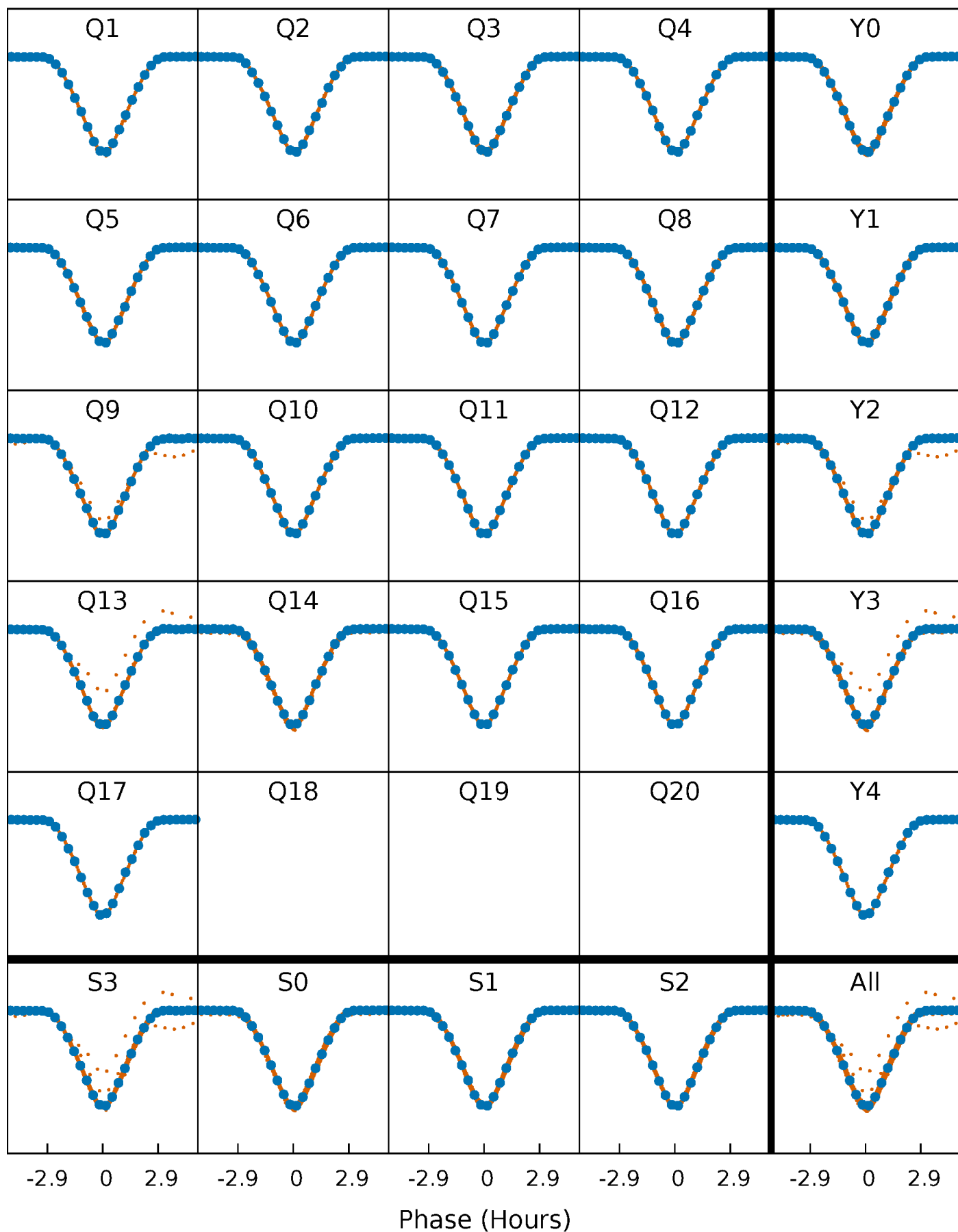


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



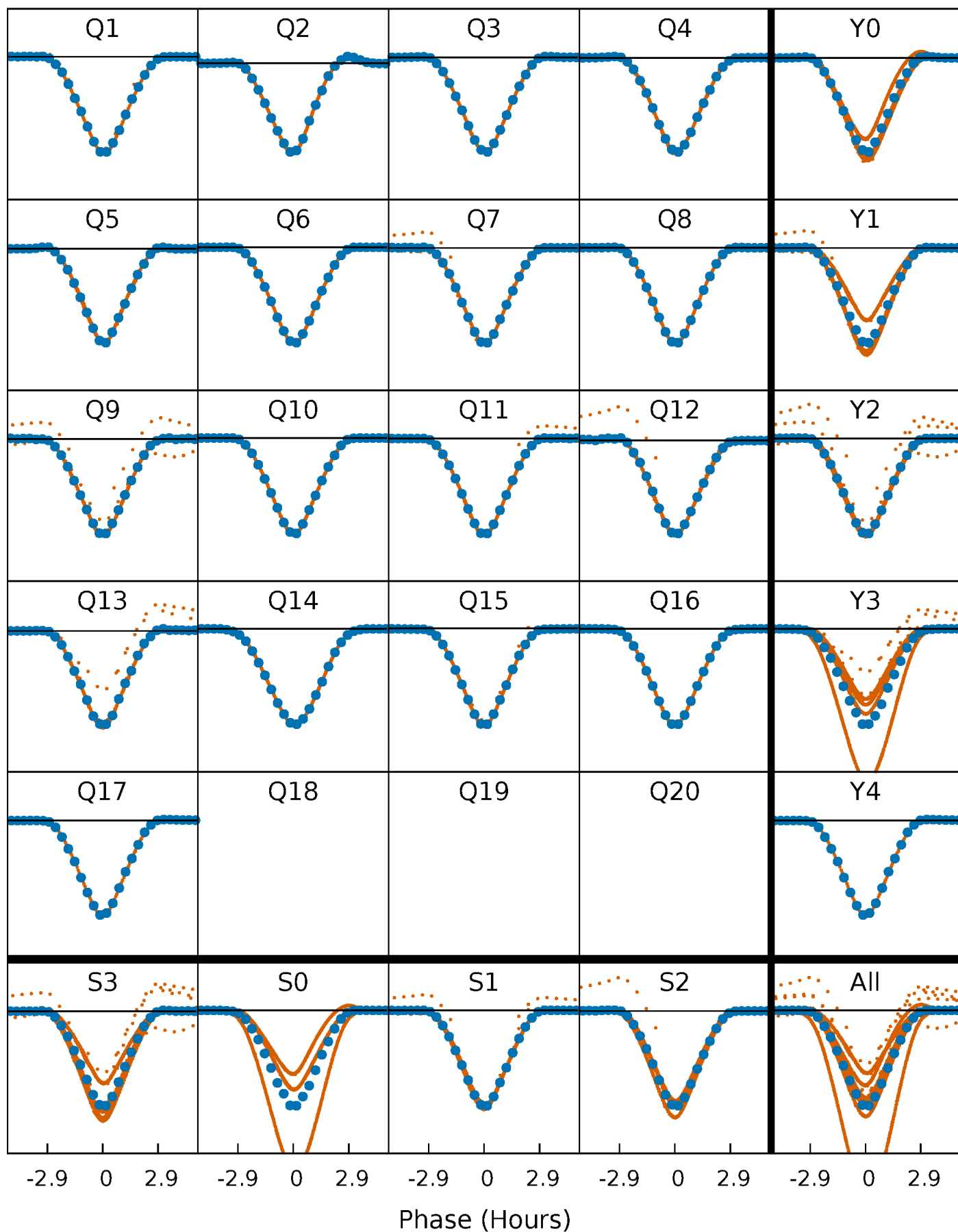
PDC Quarter-Phased Transit Curves

TCE 004544587-01 P= 2.189103 Days $T_0=132.078702$ (BKJD)



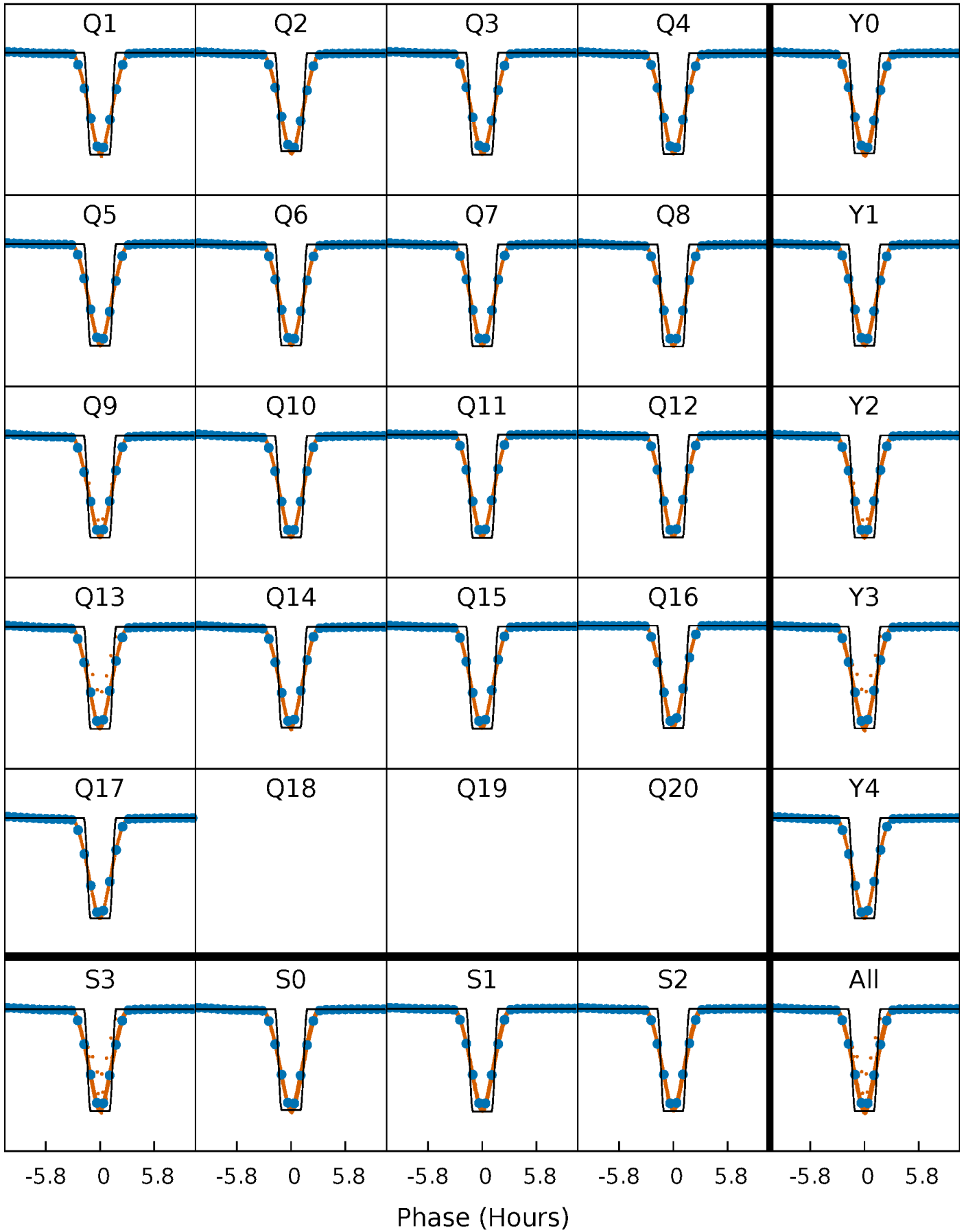
DV Quarter-Phased Transit Curves

TCE 004544587-01 P= 2.189103 Days $T_0=132.078702$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

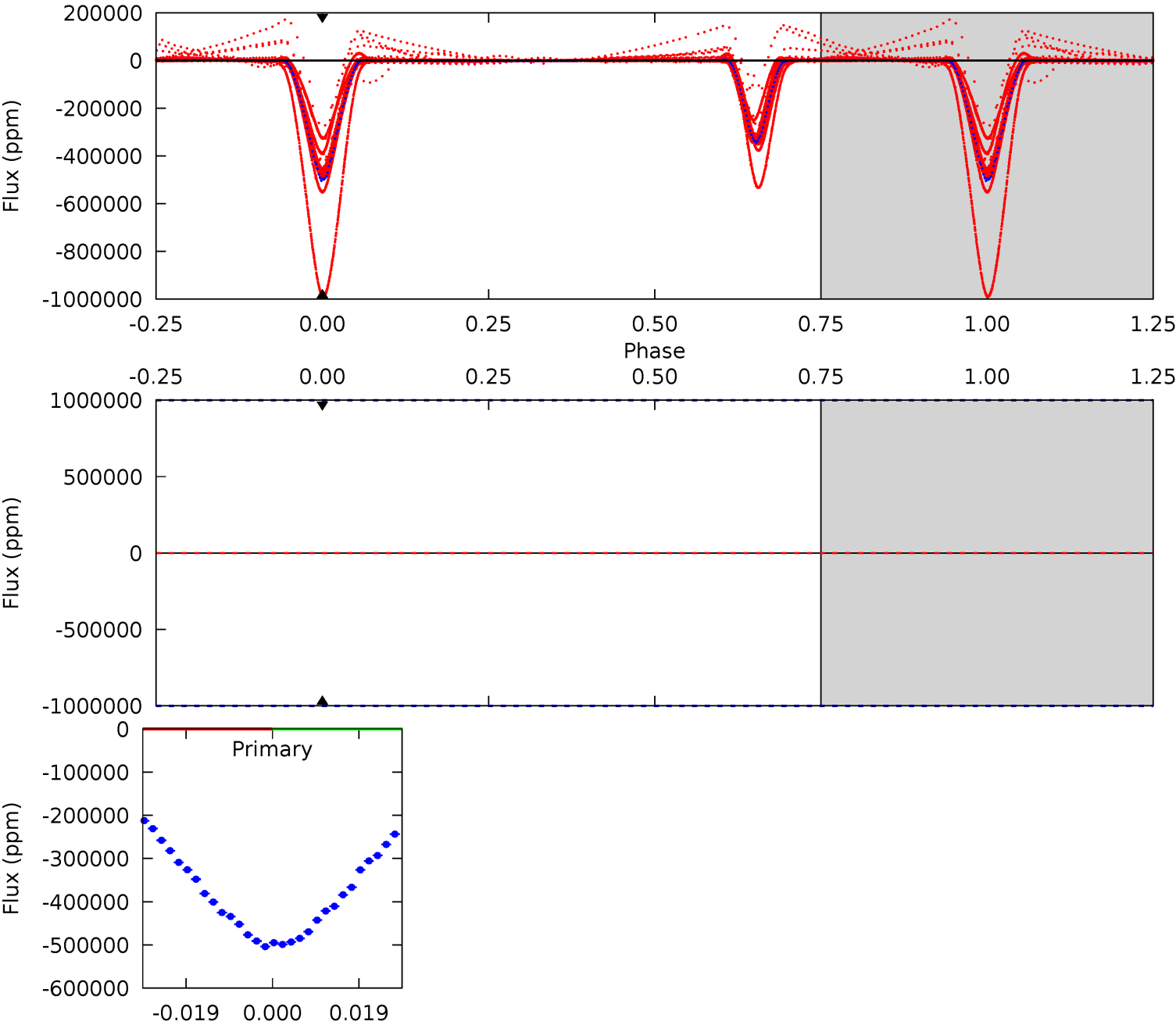
TCE 004544587-01 P= 2.189103 Days $T_0=132.079698$ (BKJD)



DV Model-Shift Uniqueness Test

004544587-01, P = 2.189103 Days, E = 129.889599 Days

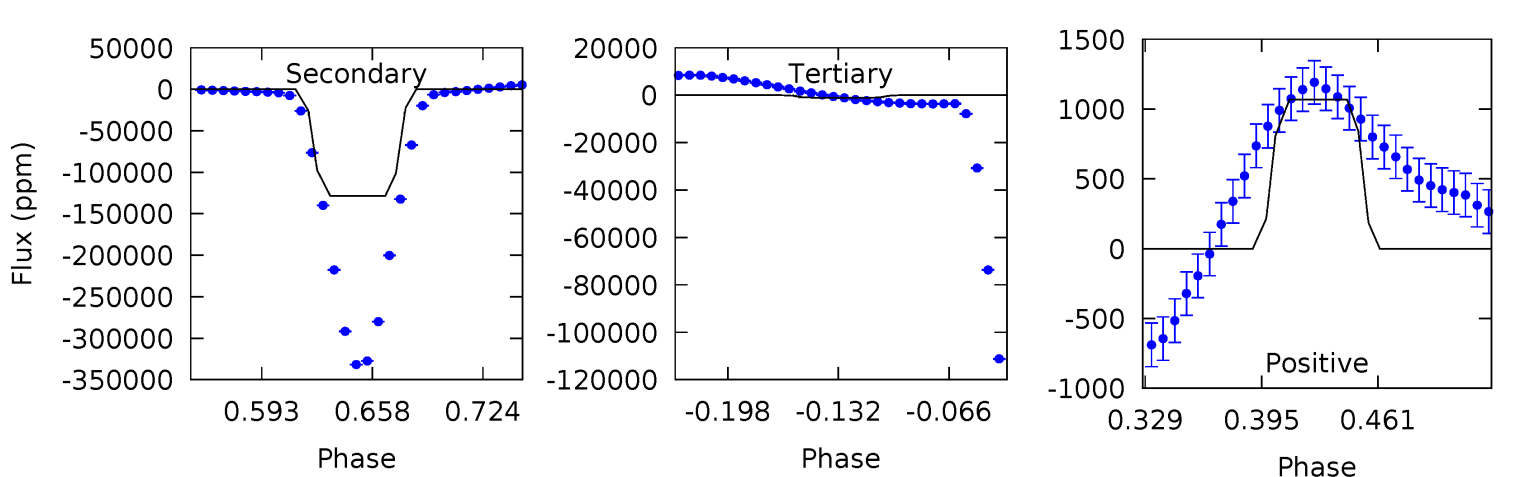
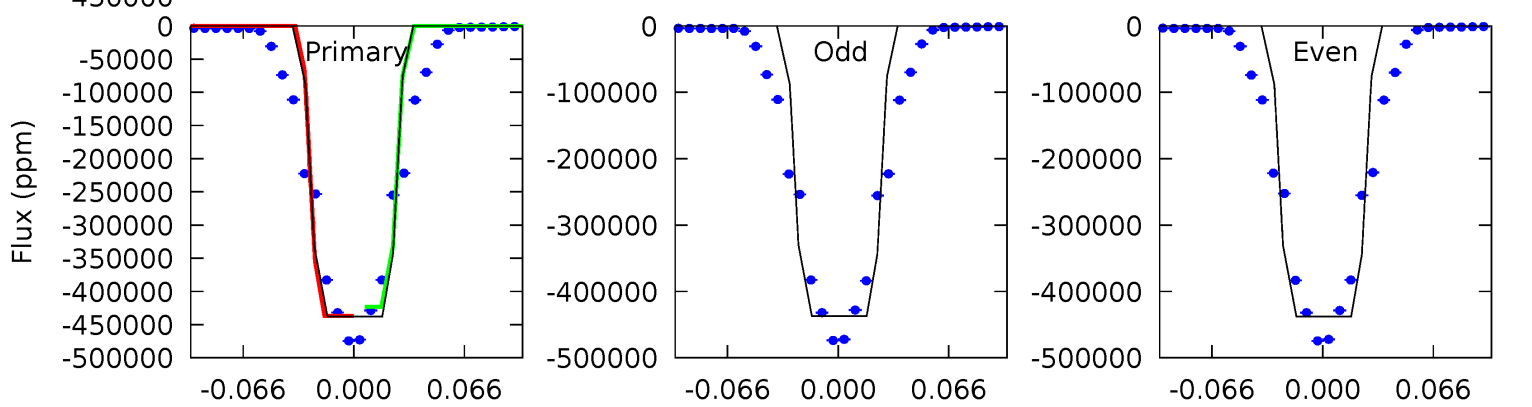
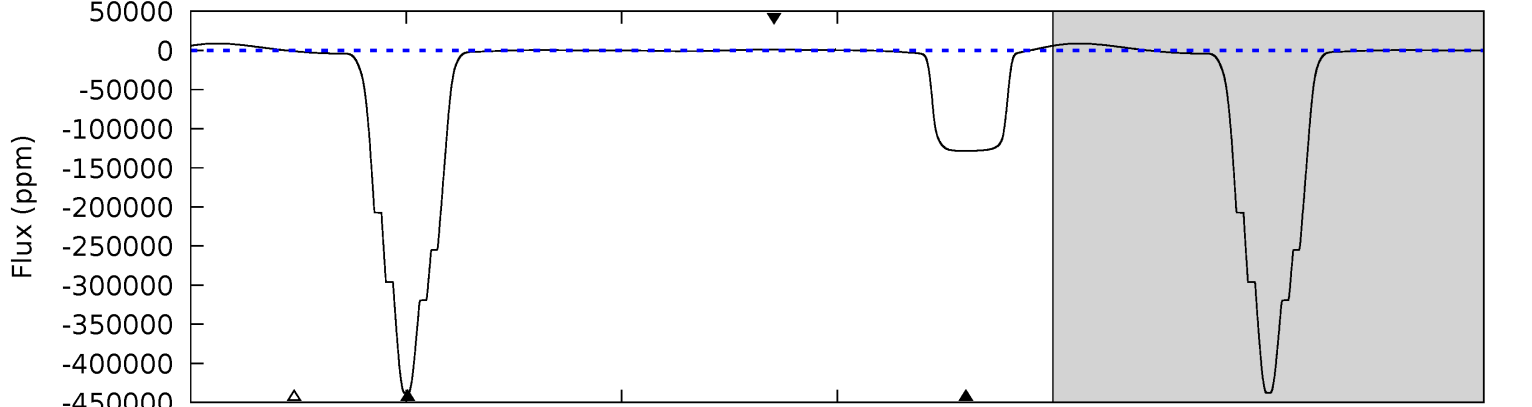
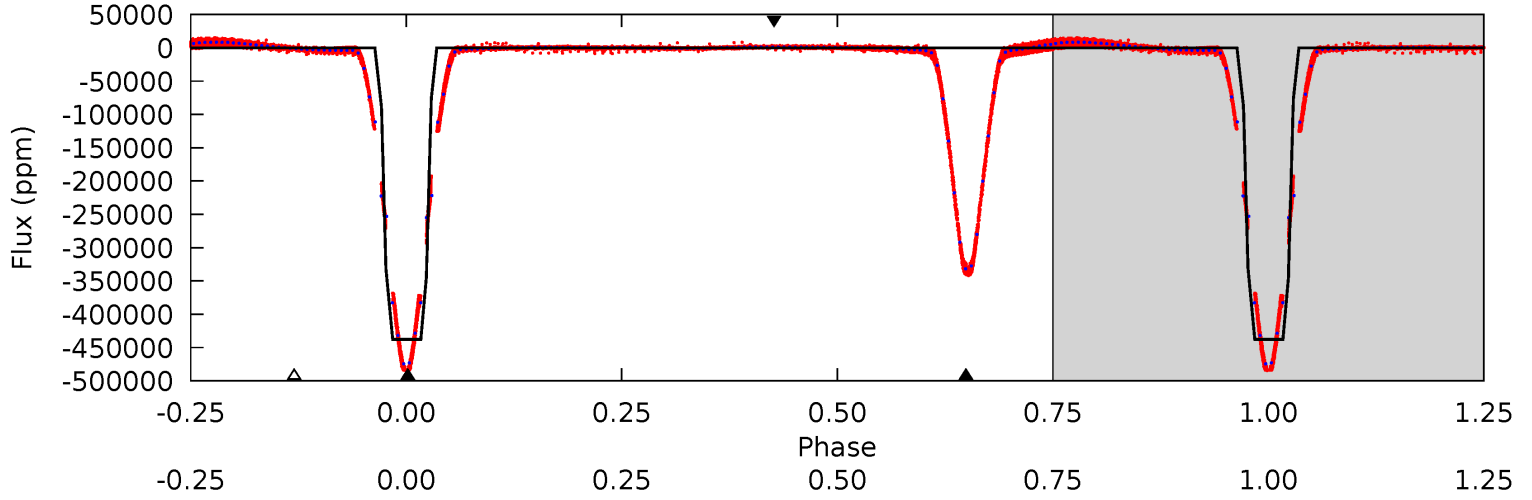
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|-----|-----|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-----|-------|-----|
| 0 | 0 | 0 | 0 | 1.00 | 1.00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



Alt Model-Shift Uniqueness Test

004544587-01, P = 2.189103 Days, E = 129.890595 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 6462 | 1899 | 16.4 | 15.8 | 4.65 | 1.84 | 41.6 | 6446 | 6447 | 1882 | 1883 | 4.78 | 1.00 | 0.02 | 6.41 |



Stellar Parameters For KIC 004544587

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|--|
| | 8435^{+234}_{-368} | $3.990^{+0.228}_{-0.123}$ | $0.070^{+0.150}_{-0.550}$ | $2.416^{+0.506}_{-0.759}$ | $2.078^{+0.332}_{-0.498}$ | $0.207^{+0.295}_{-0.079}$ |
| | +3%/-4% | +6%/-3% | +214%/-786% | +21%/-31% | +16%/-24% | +142%/-38% |
| 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 004544587-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|------------------|----------------------------|----------------------|--------------------------|------------------------------|
| DV | 0 ± 1000000 | $78.39^{+29.92}_{-25.20}$ | 3876^{+246}_{-309} | -3756^{+12803}_{-4523} | $-0.084^{+19.514}_{-14.066}$ |
| Alt. | -128594 ± 68 | $179.69^{+33.16}_{-35.11}$ | 3870^{+266}_{-293} | 5909^{+489}_{-417} | $4.526^{+2.057}_{-1.303}$ |

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 $A_{\text{obs}} \gg 1.0$

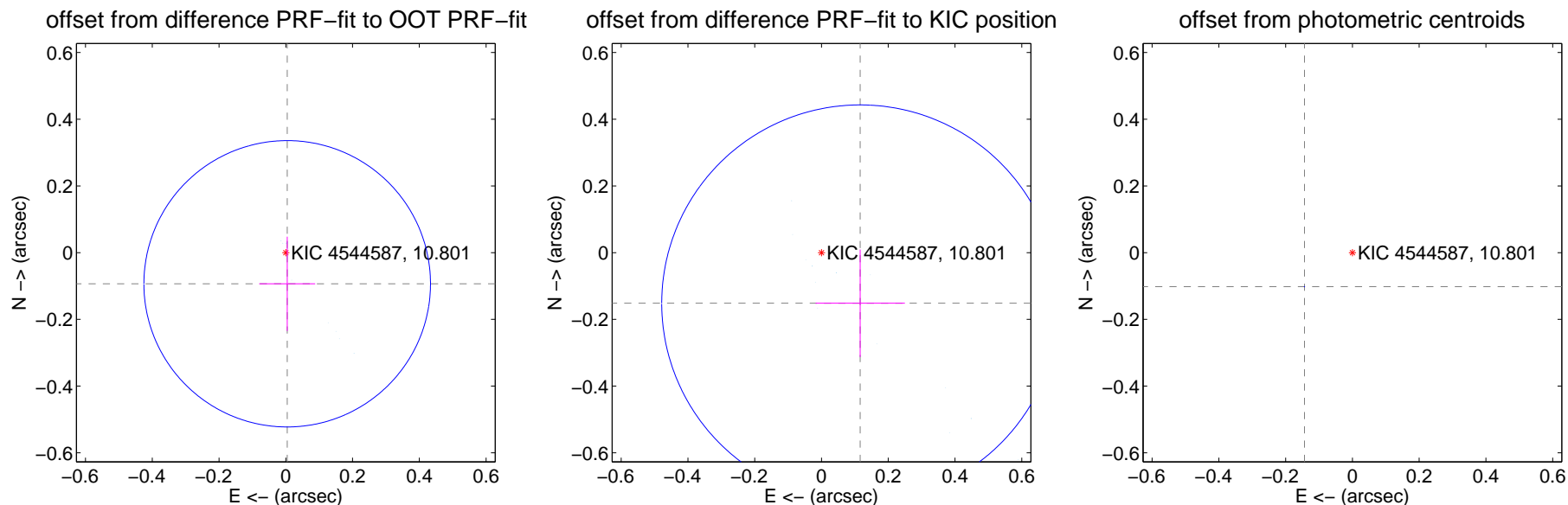
DV Centroid Data

Supplemental centroid analysis for 004544587-01. **Kepler magnitude: 10.80.** Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

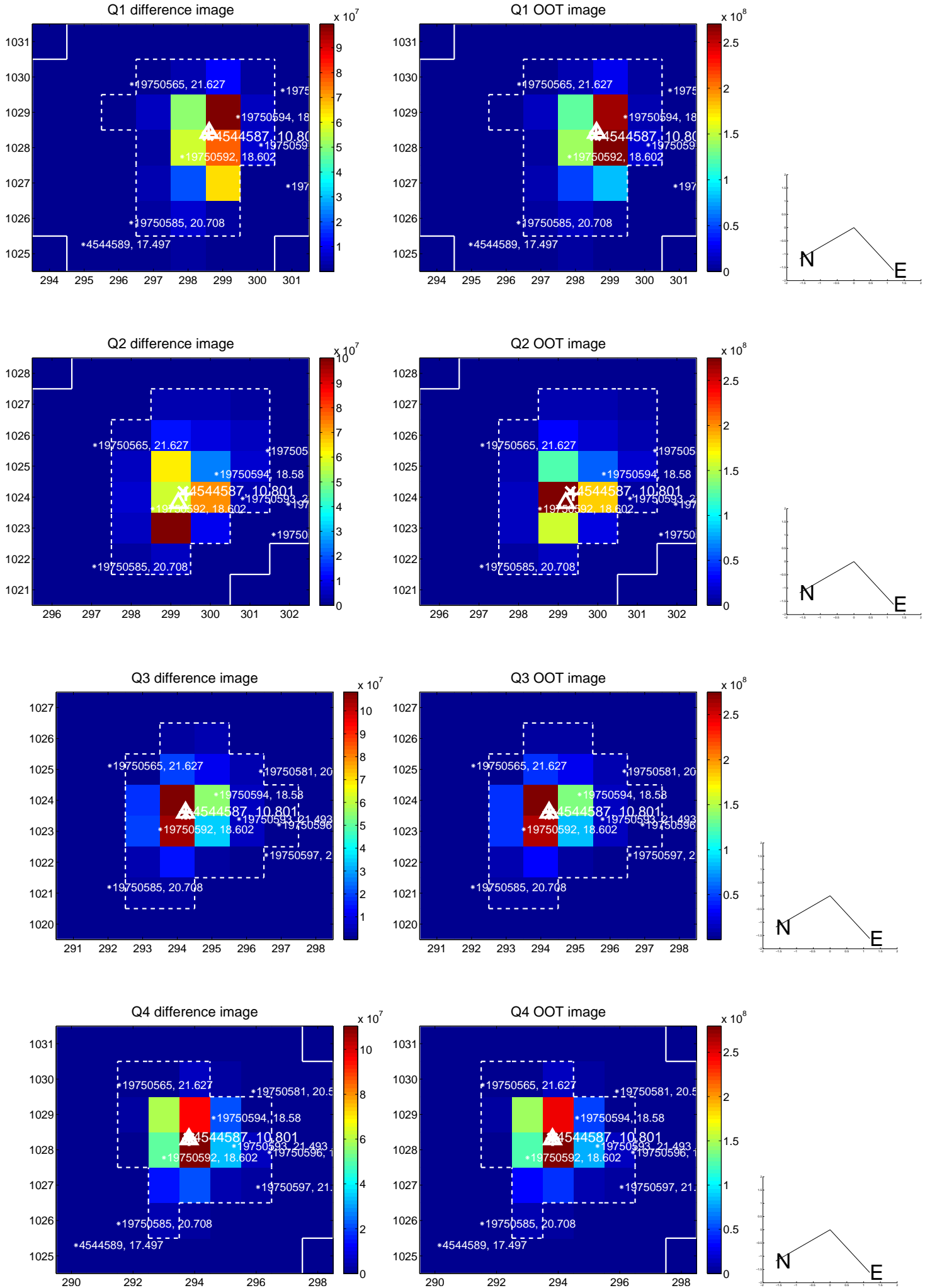
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|-----------------------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 0.093 ± 0.143 | 0.65 | -0.004 ± 0.084 | -0.093 ± 0.141 |
| PRF-fit source offset from KIC position | 0.191 ± 0.198 | 0.96 | -0.116 ± 0.134 | -0.152 ± 0.161 |
| photometric centroid source offset | 0.18 ± 0.00 | 1280.54 | 0.14 ± 0.00 | -0.10 ± 0.00 |

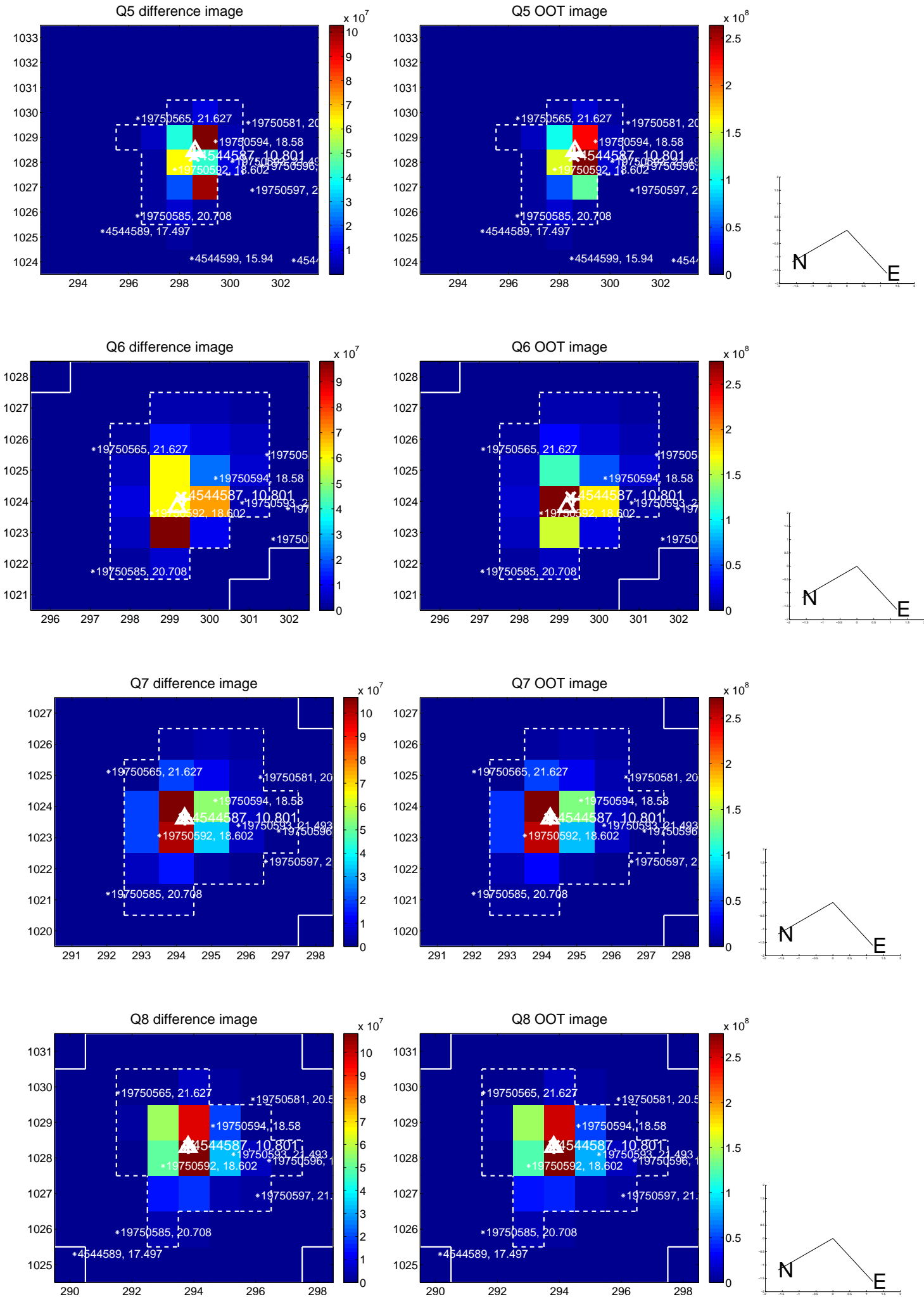


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

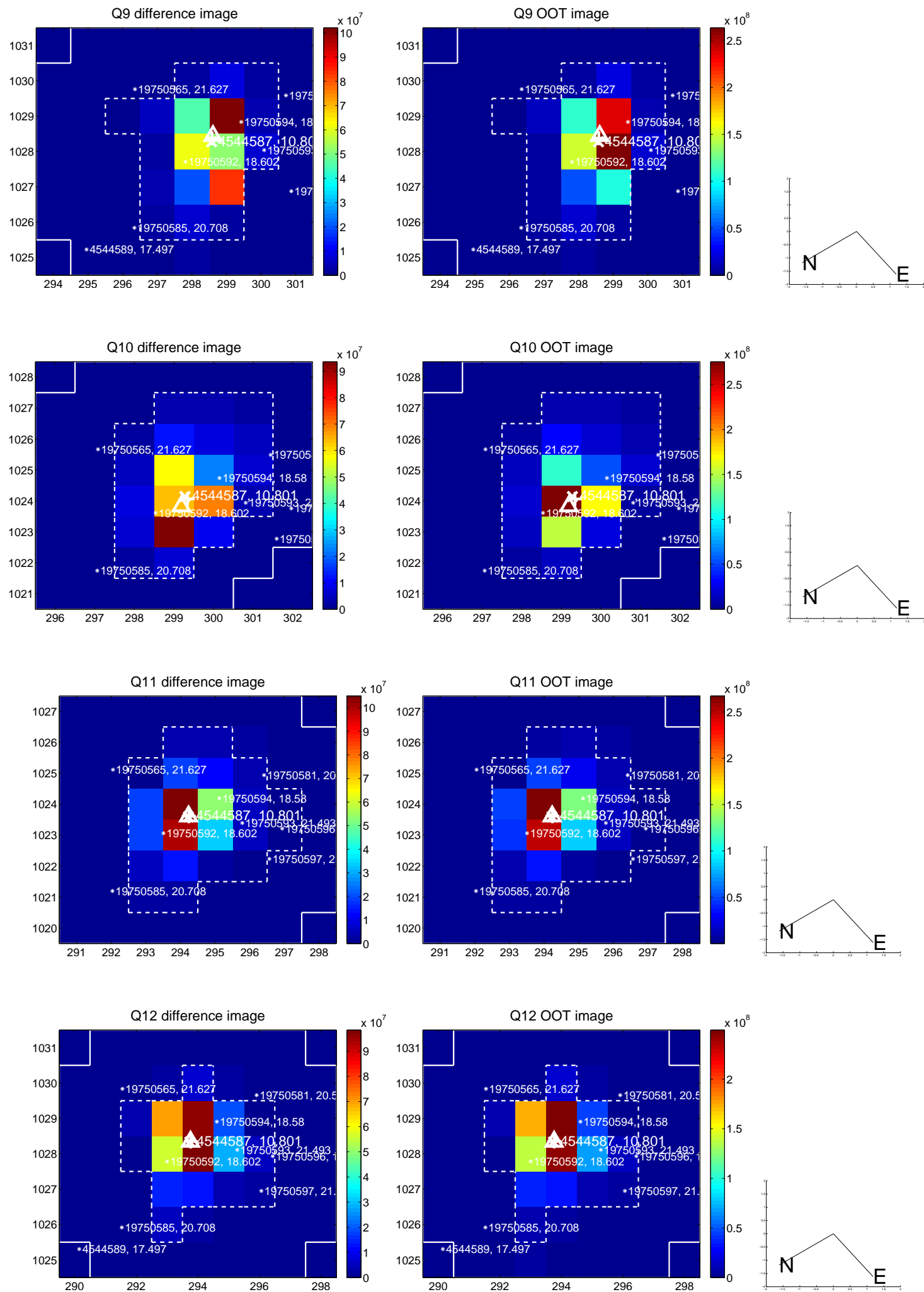
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



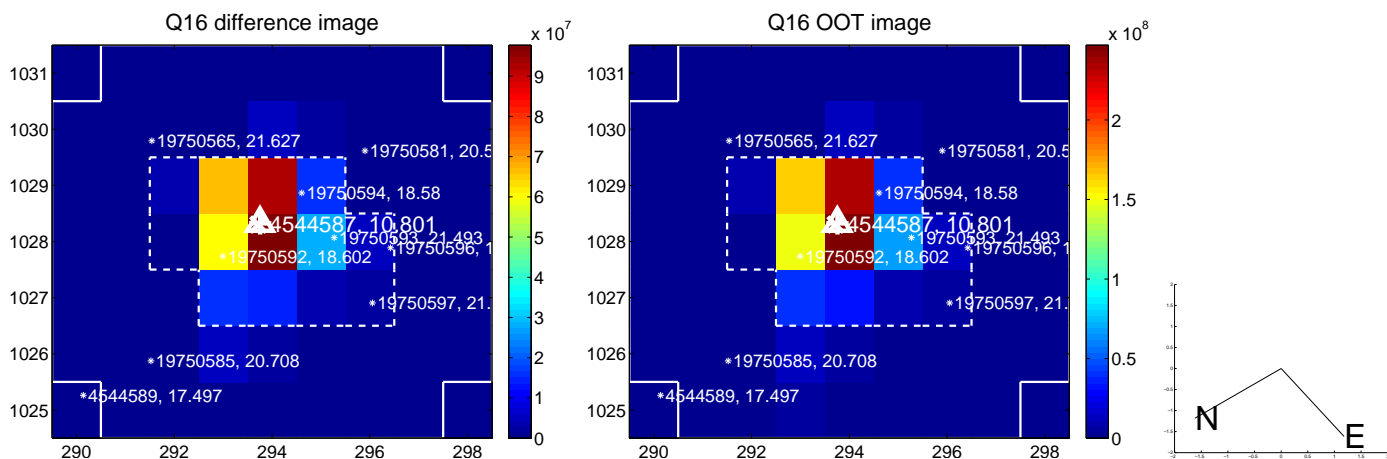
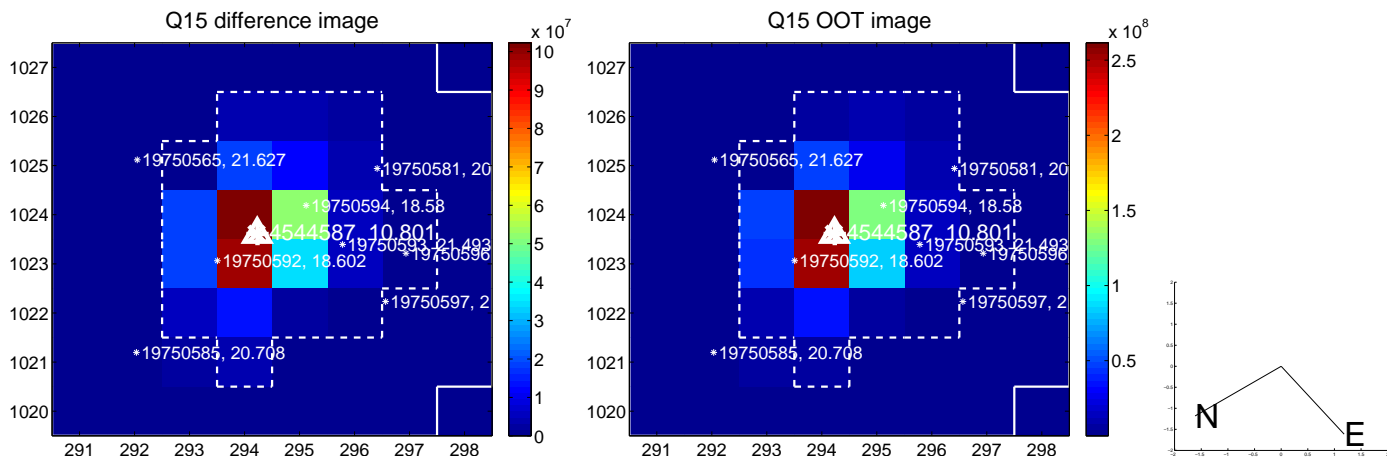
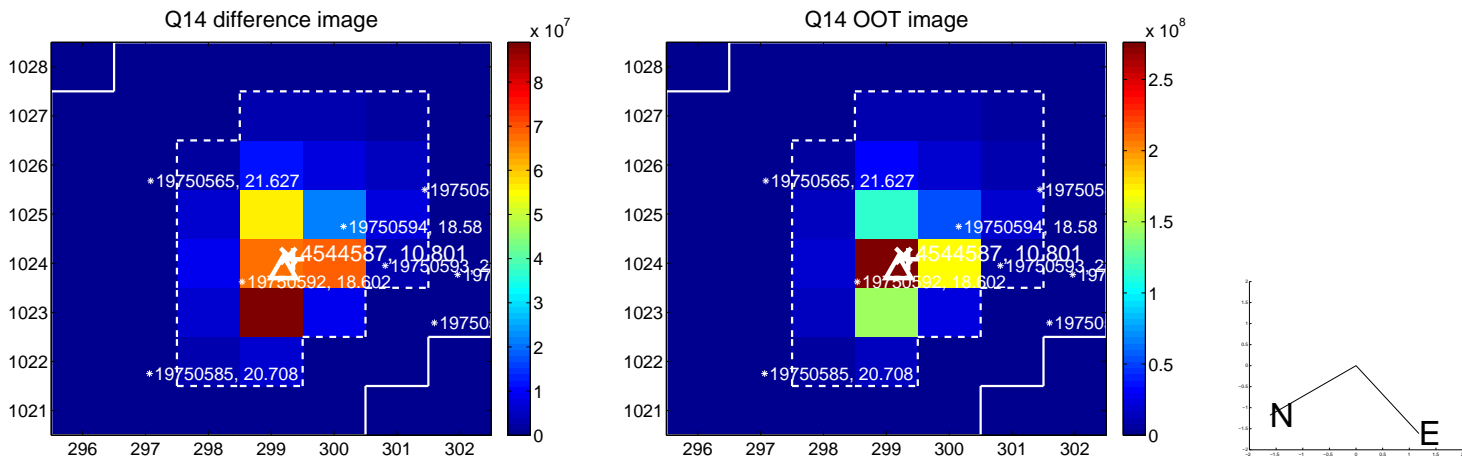
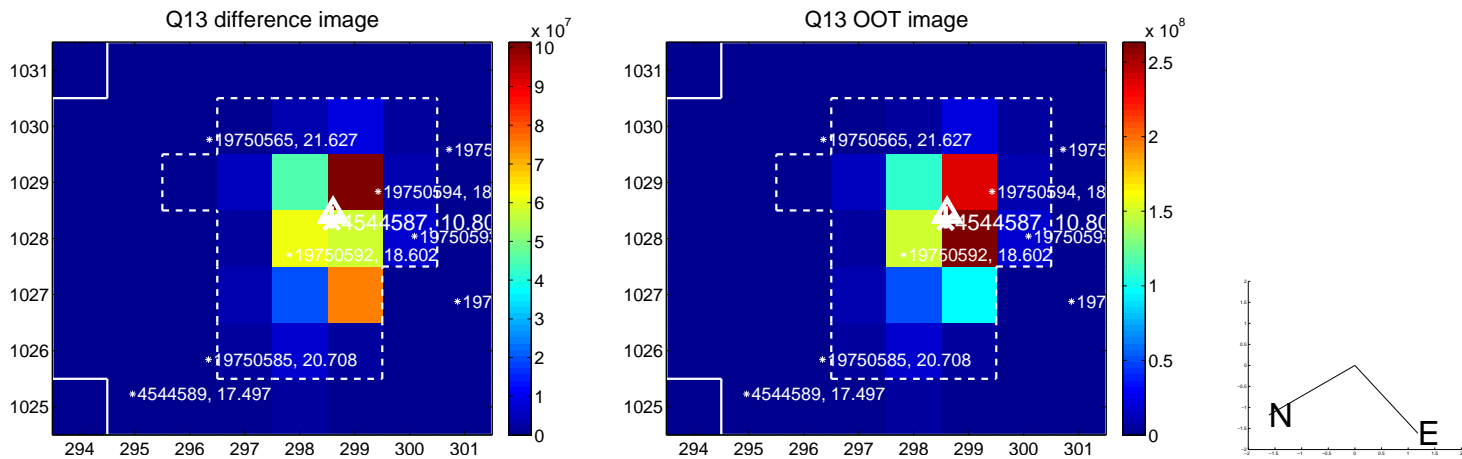
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



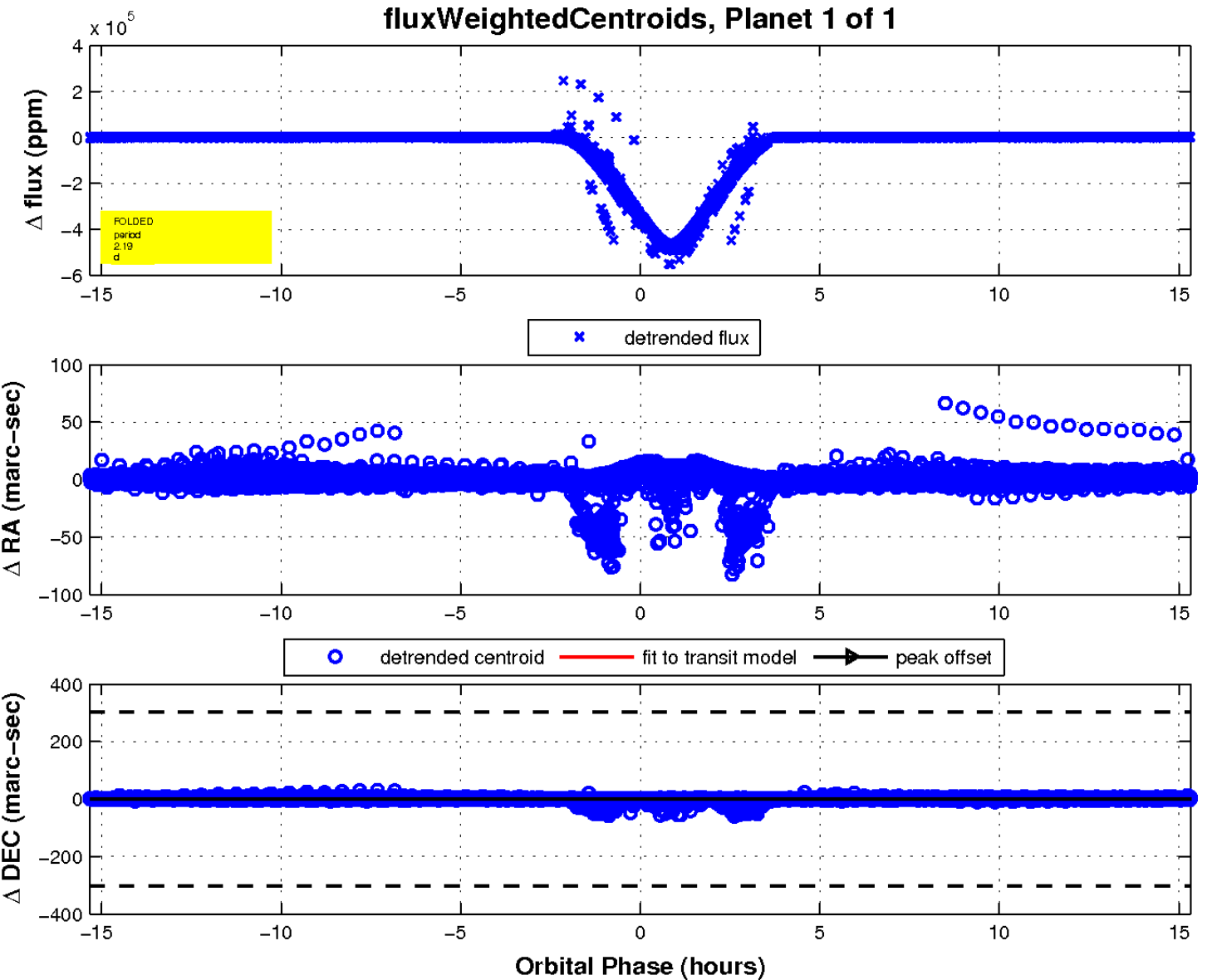
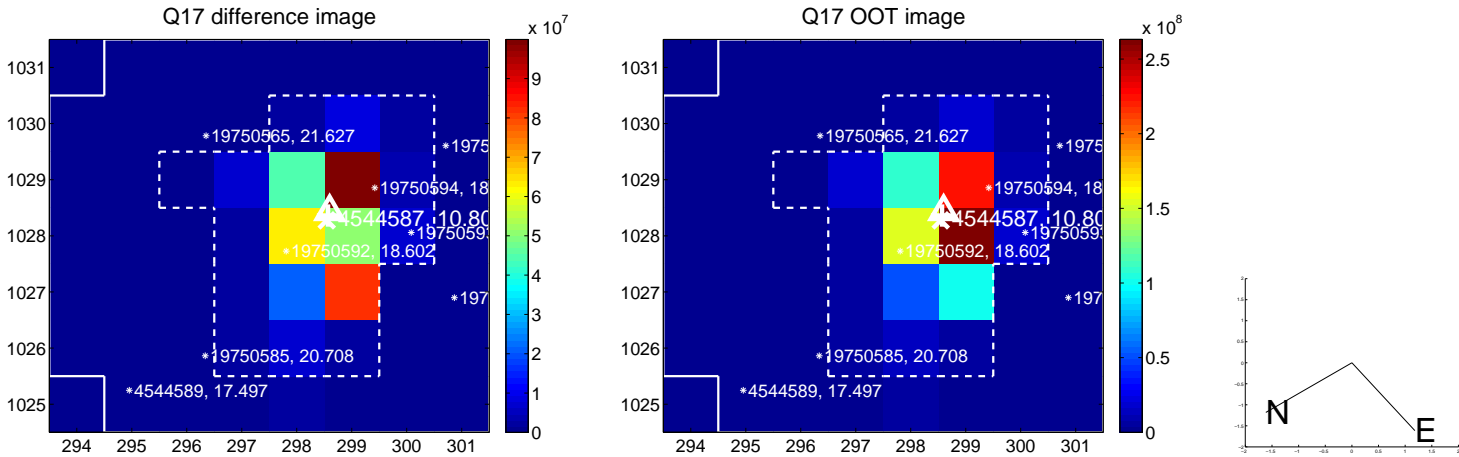
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

