

KIC 004242692

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 004242692-01 | OBS | 3928.01 | 1.138547 | 132.463423 | 65.1 | 2.149 | 25.9 | 29.0 | 1.71 | 6520 | 1.59 | 9815.70 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--------------|
| 004242692-01 | OBS | PC | 1.00 | 0 | 0 | 0 | 0 | CENT_KIC_POS |

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

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

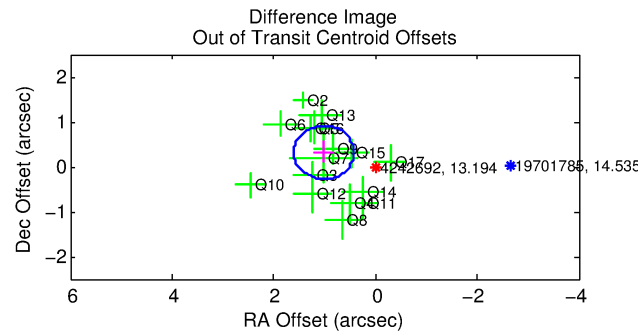
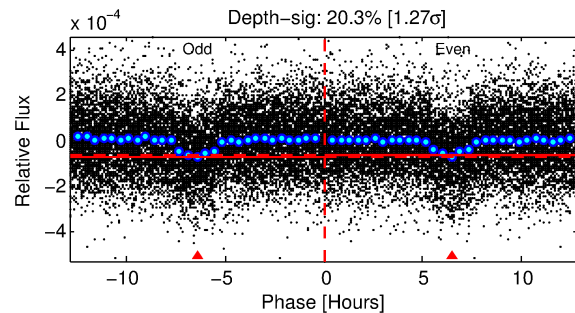
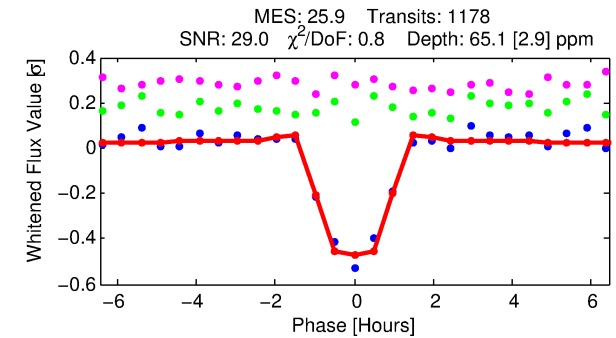
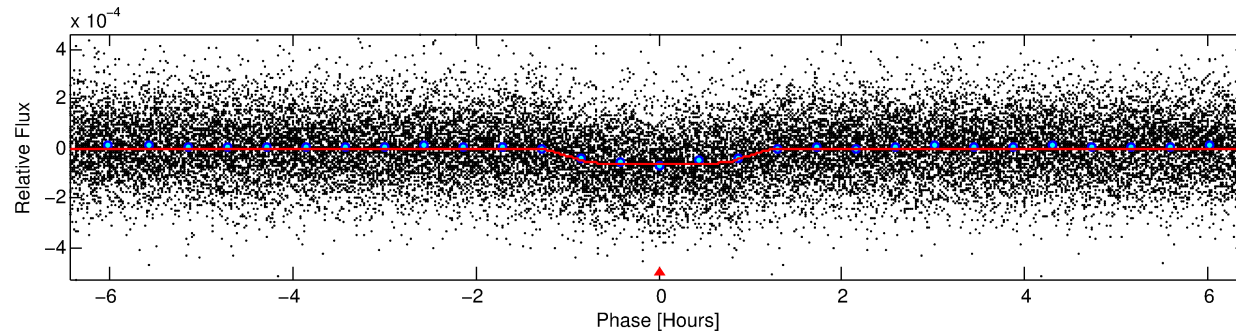
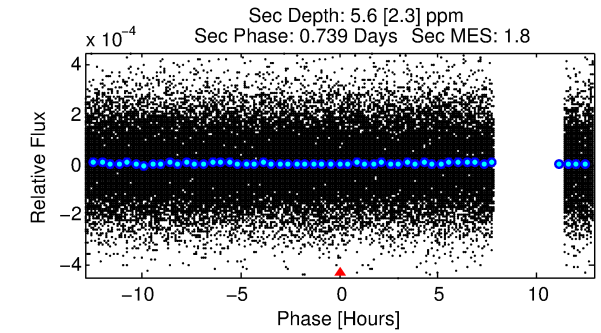
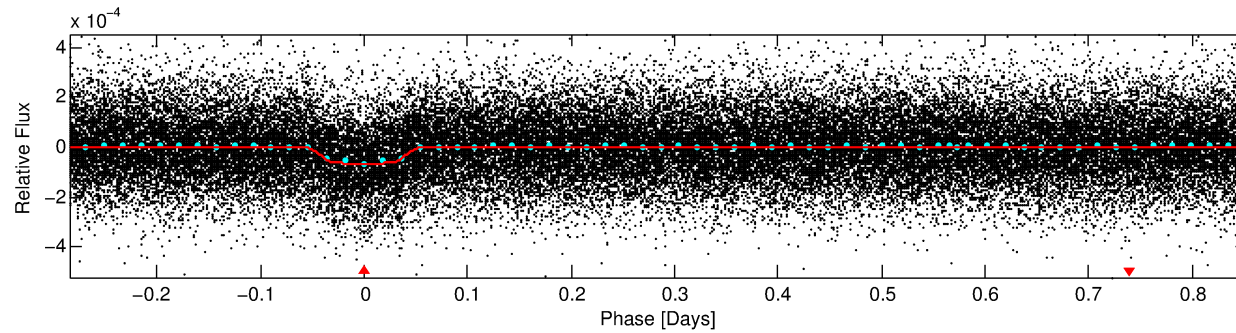
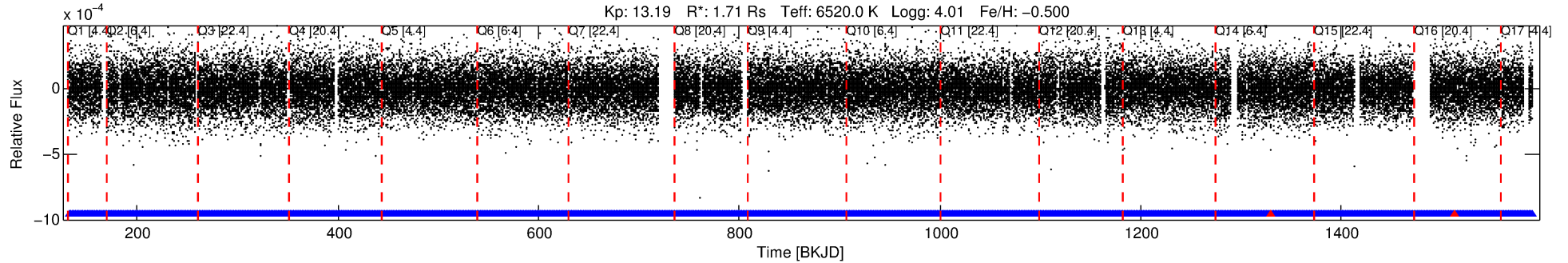
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004242692-01

No Significant Match Found

DV One-Page Summary

KIC: 4242692 Candidate: 1 of 1 Period: 1.139 d
KOI: K03928.01 Corr: 0.982



DV Fit Results:

Period = 1.13855 [0.00000] d
Epoch = 132.4634 [0.0009] BKJD
Rp/R* = 0.0085 [0.0014]
a/R* = 2.22 [1.63]
b = 0.88 [0.25]
Seff = 9815.71 [4699.38]
Teq = 2538 [304] K
Rp = 1.59 [0.55] Re
a = 0.0220 [0.0065] AU
Ag = 0.59 [0.41] [-1.00σ]
Teffp = 3439 [452] K [1.65σ]

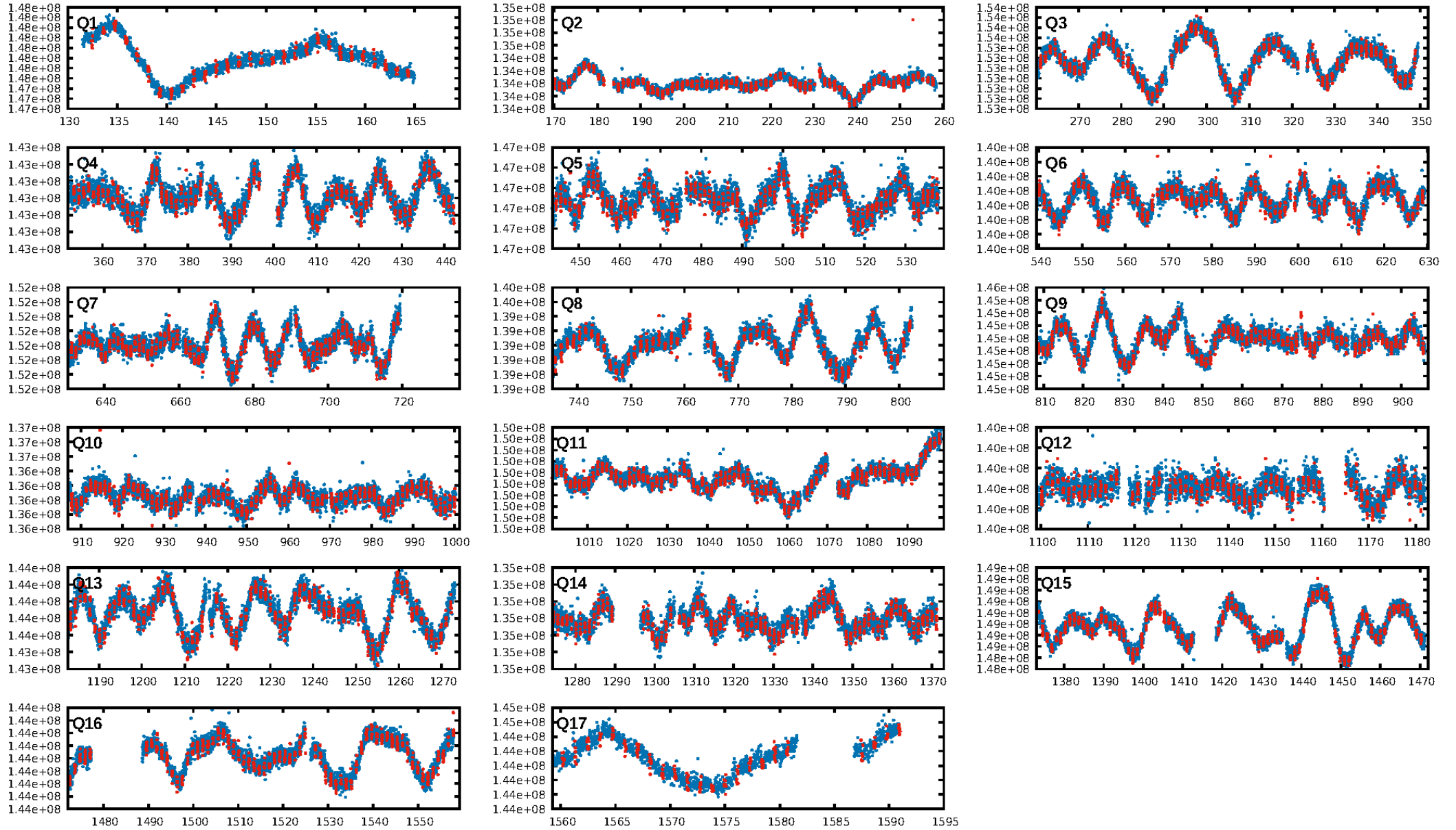
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.32e-135
RollingBand-fgt: 1.00 [1124/1126]
GhostDiagnostic-chr: 89.28
Centroid-sig: 9.2%
Centroid-so: 0.279 arcsec [0.69σ]
OotOffset-rm: 1.064 arcsec [5.40σ]
KicOffset-rm: 0.540 arcsec [2.61σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

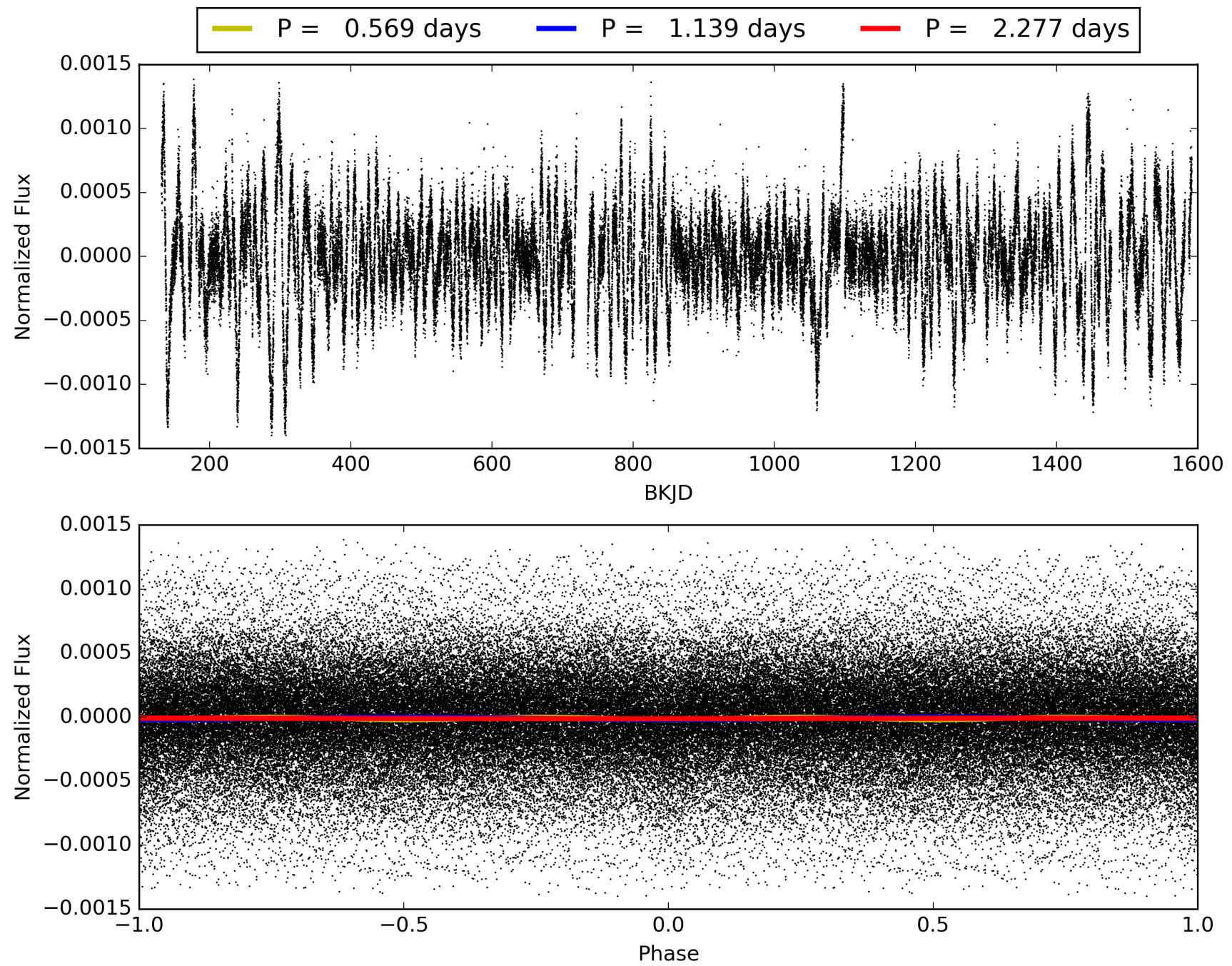
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:59:41 Z

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

TCE 004242692-01, PDC Light Curves

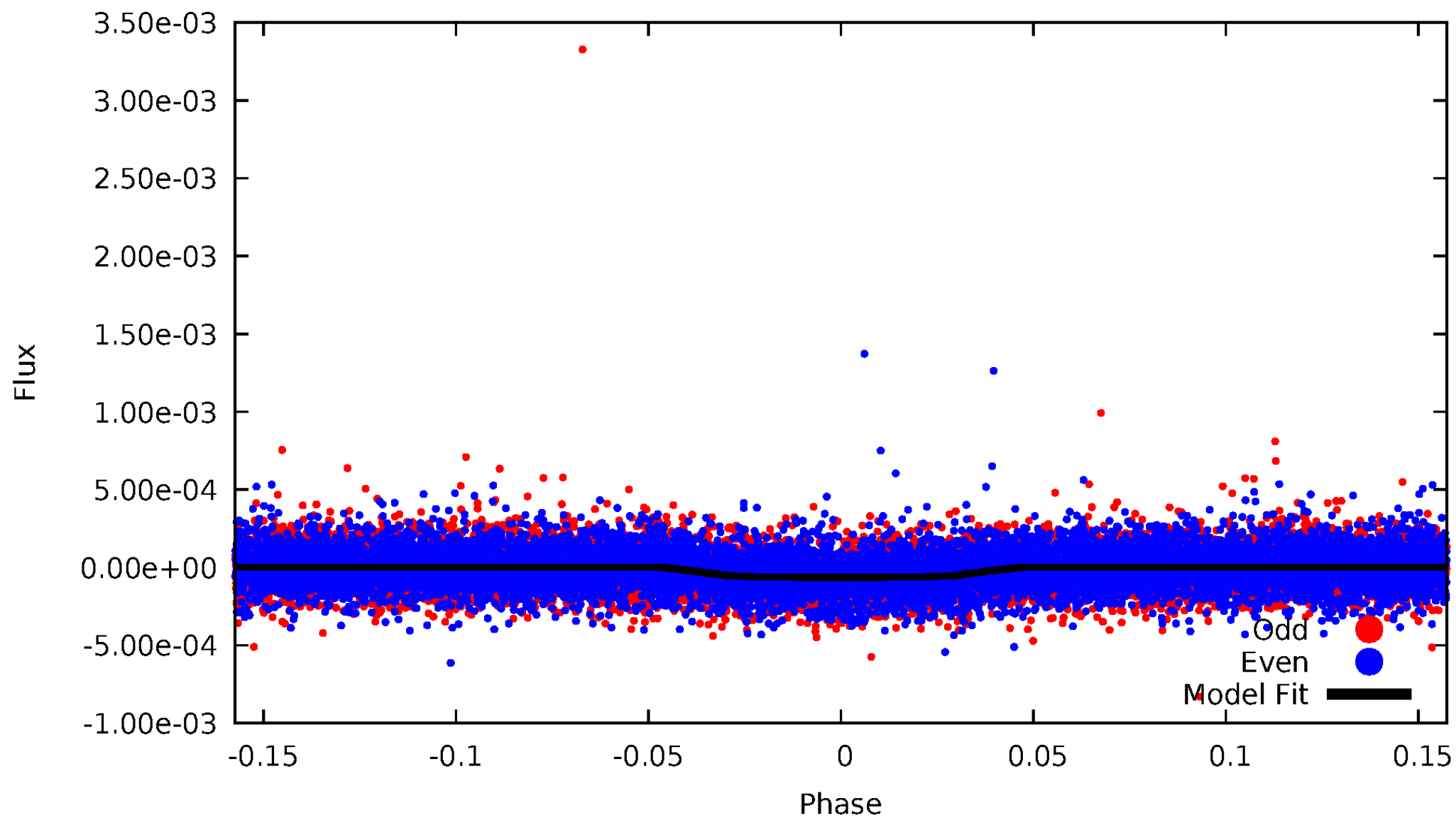


TCE 004242692-01



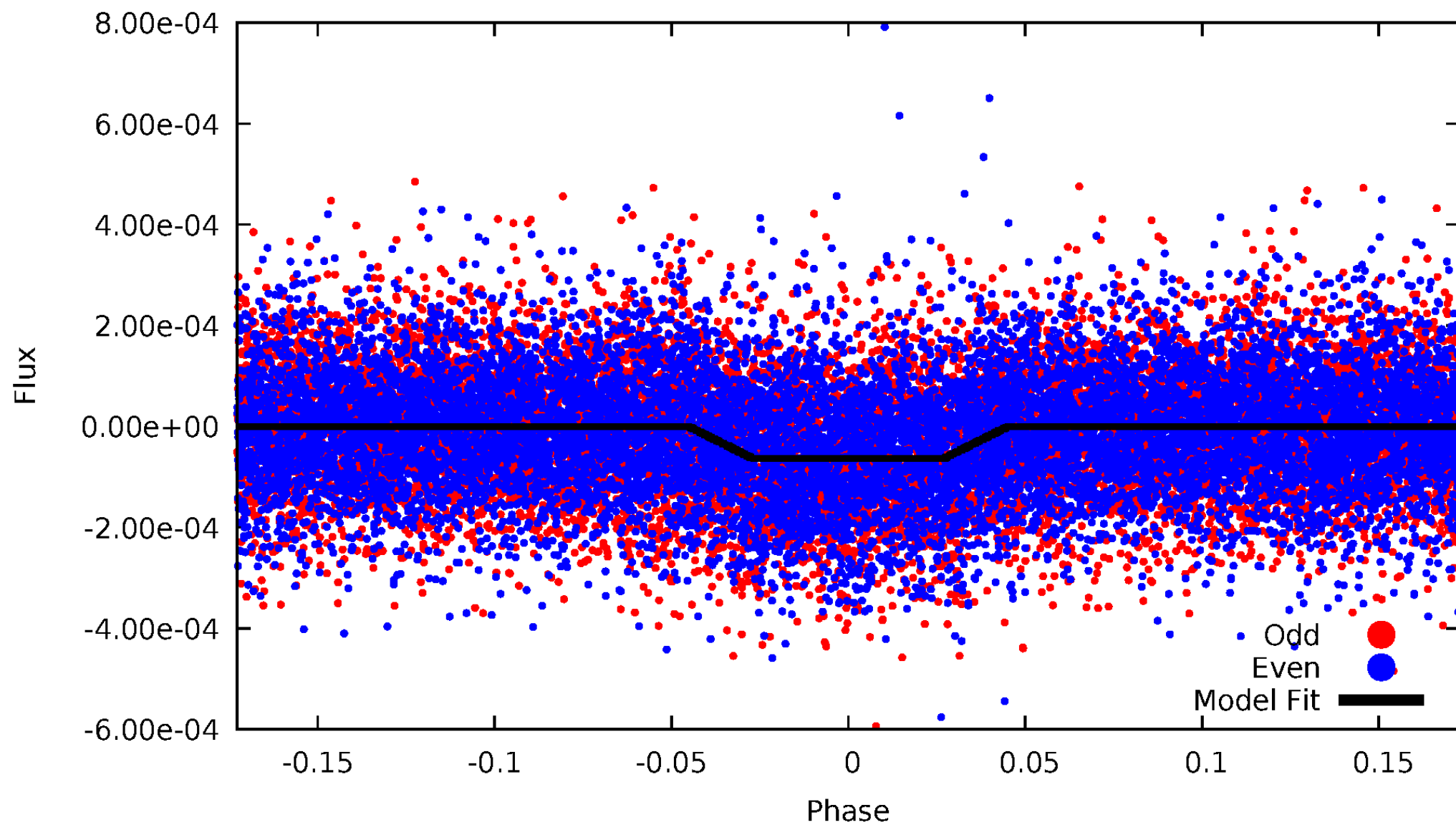
DV Odd/Even

TCE 004242692-01



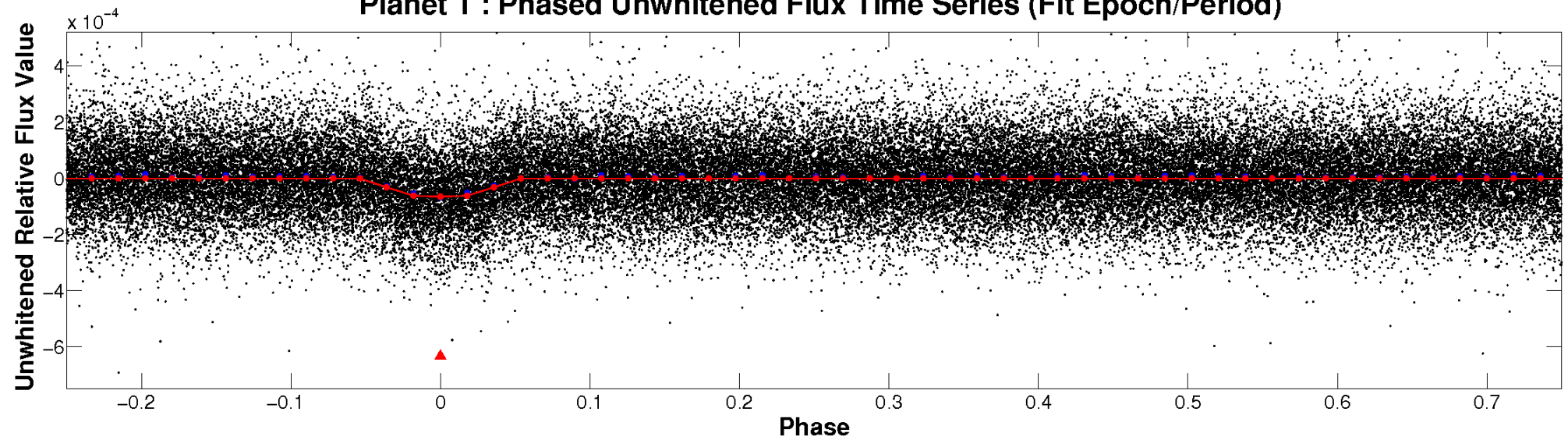
ALT Odd/Even

TCE 004242692-01

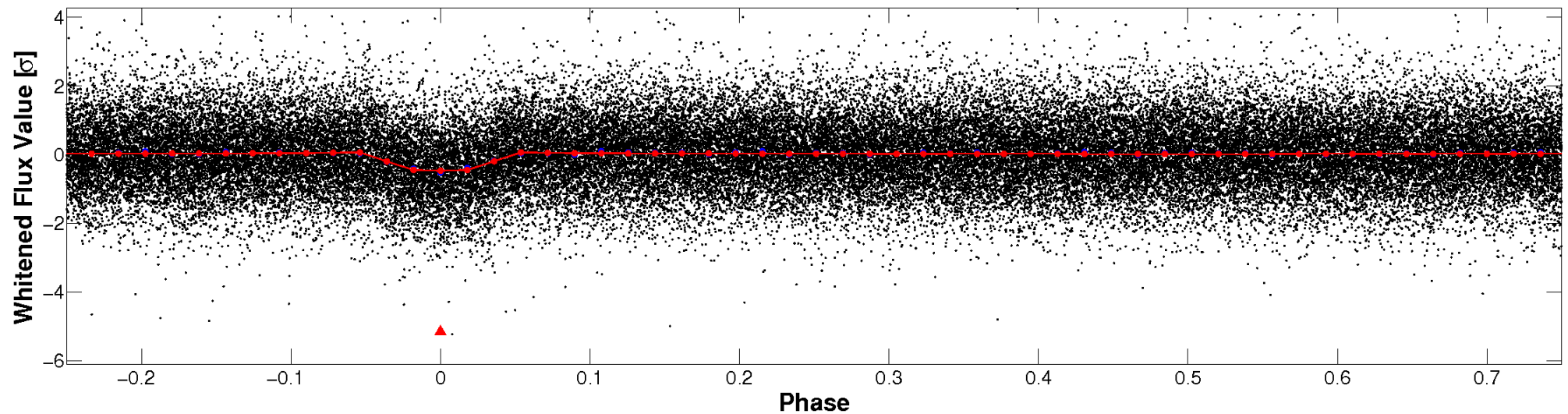


Non-Whitened Vs. Whitened Light Curve

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

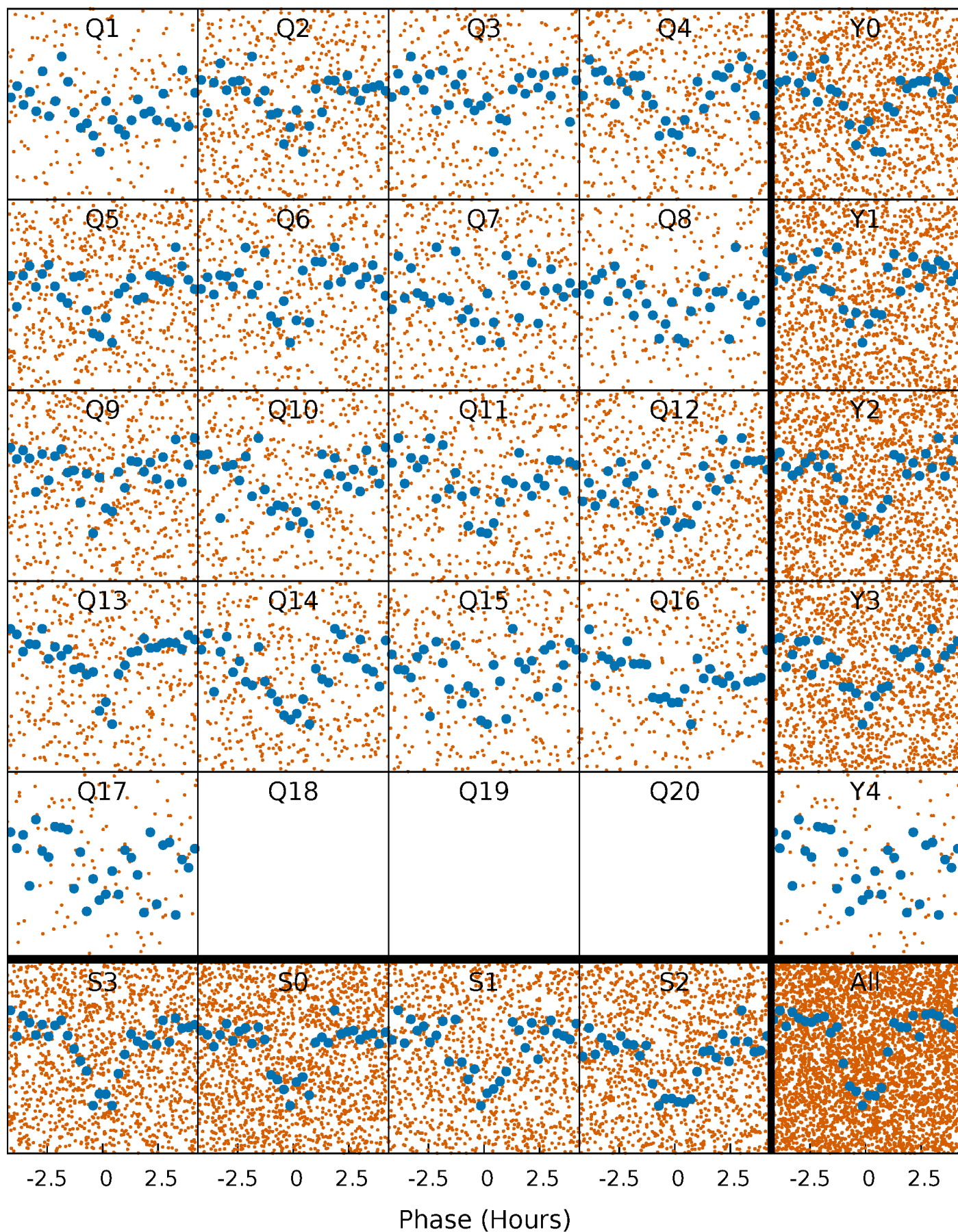


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



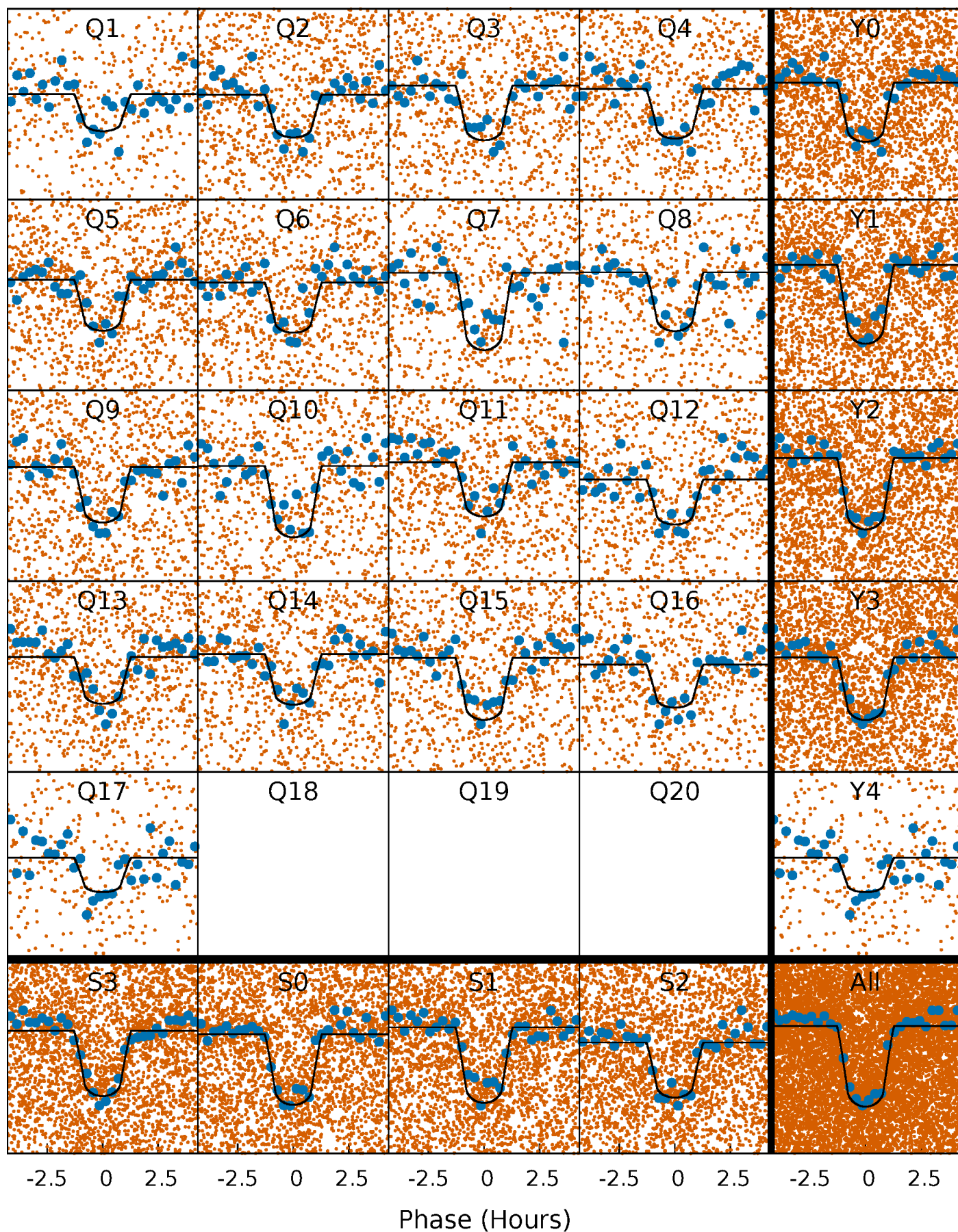
PDC Quarter-Phased Transit Curves

TCE 004242692-01 P= 1.138547 Days $T_0=132.463423$ (BKJD)



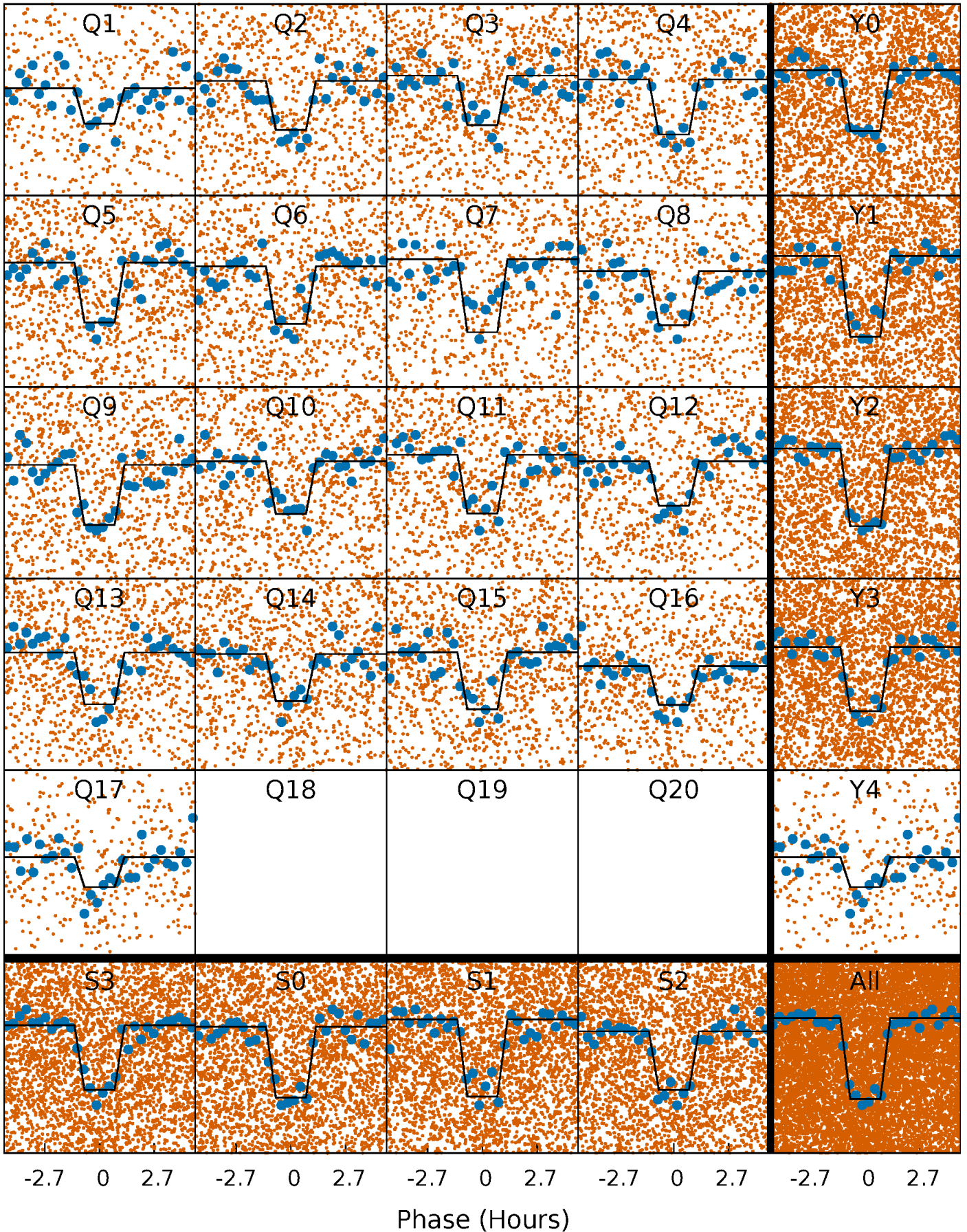
DV Quarter-Phased Transit Curves

TCE 004242692-01 P= 1.138547 Days $T_0=132.463423$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

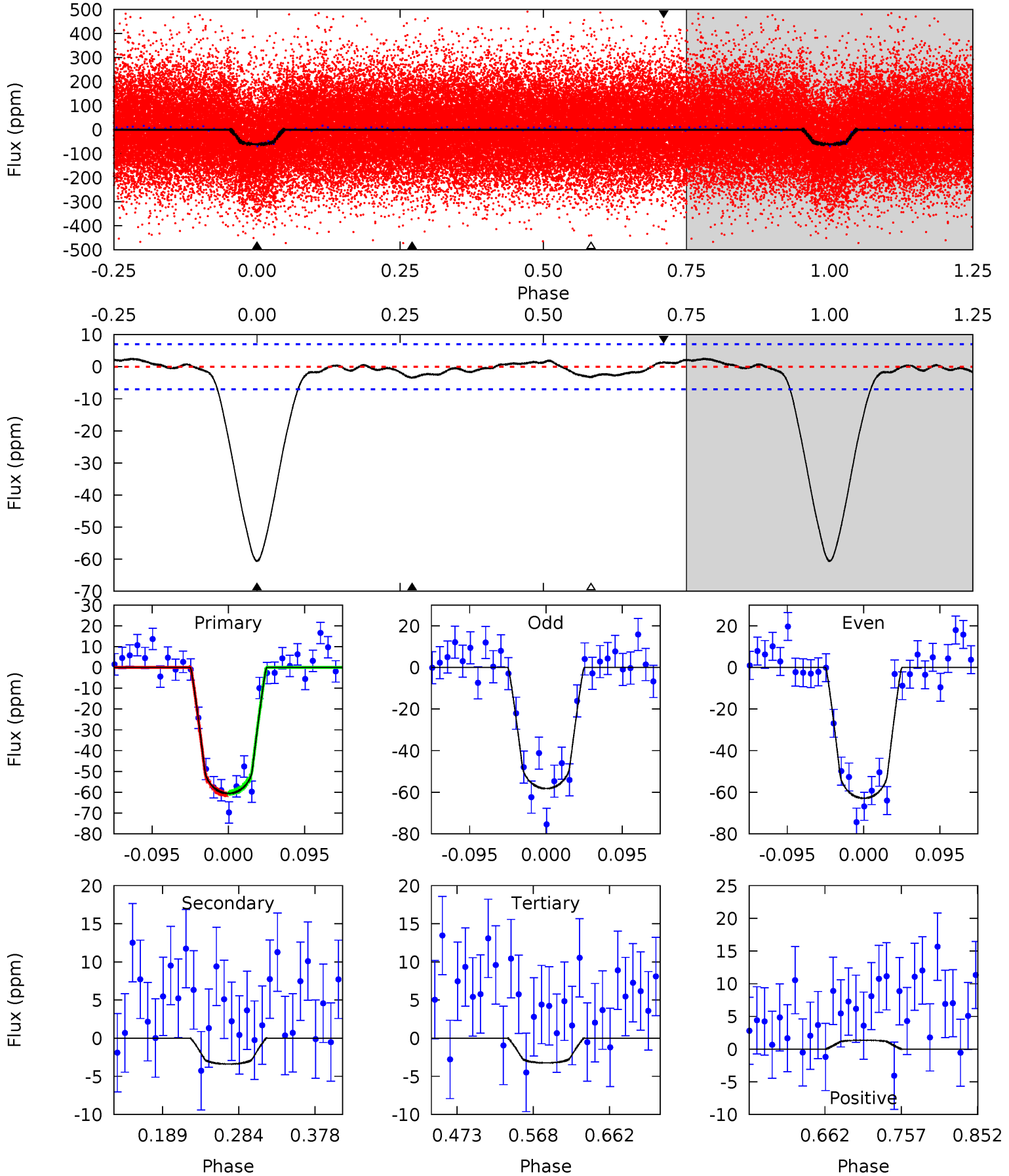
TCE 004242692-01 P= 1.138549 Days $T_0=132.462327$ (BKJD)



DV Model-Shift Uniqueness Test

004242692-01, P = 1.138547 Days, E = 131.324876 Days

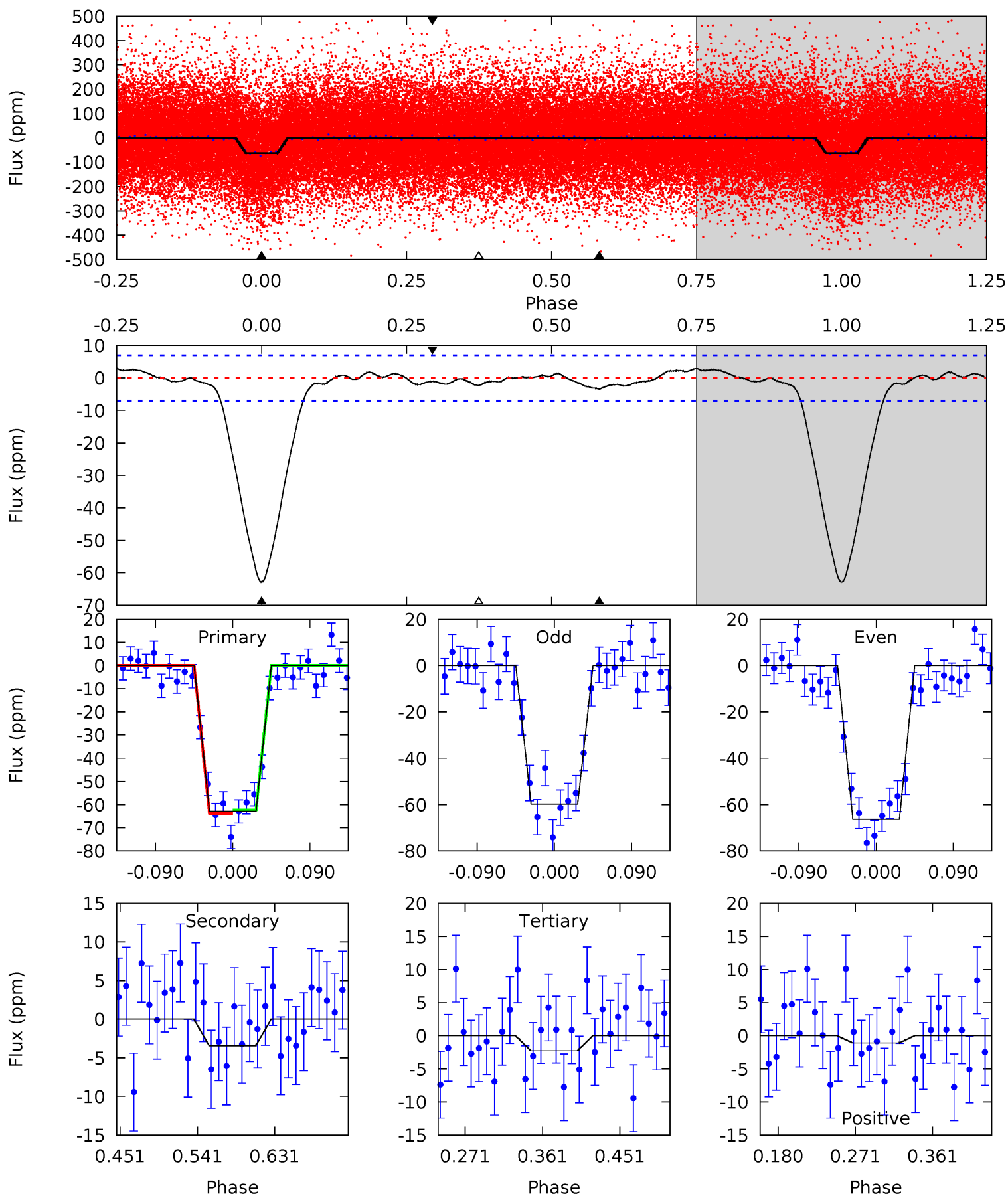
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 39.3 | 2.20 | 2.11 | 0.88 | 4.58 | 1.67 | 0.98 | 37.2 | 38.5 | 0.09 | 1.31 | 1.51 | 0.98 | 0.04 | 0.24 |



Alt Model-Shift Uniqueness Test

004242692-01, P = 1.138549 Days, E = 131.323778 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 41.2 | 2.25 | 1.48 | -0.71 | 4.59 | 1.69 | 0.90 | 39.7 | 41.9 | 0.77 | 2.97 | 2.16 | 1.02 | 0.04 | 0.54 |



Stellar Parameters For KIC 004242692

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | M (M_{\odot}) | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6520^{+175}_{-175} | $4.010^{+0.273}_{-0.117}$ | $-0.500^{+0.300}_{-0.300}$ | $1.713^{+0.351}_{-0.527}$ | $1.094^{+0.174}_{-0.157}$ | $0.307^{+0.483}_{-0.110}$ |
| | +3%/-3% | +7%/-3% | +60%/-60% | +20%/-31% | +16%/-14% | +158%/-36% |
| Source | PHO1 | FLK73 | 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 004242692-01 / KOI 3928.01

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|-----------------------|---------------------------|
| DV | -3 ± 2 | $1.53^{+0.36}_{-0.35}$ | 3499^{+226}_{-302} | 2762^{+717}_{-5738} | $0.376^{+0.383}_{-0.183}$ |
| Alt. | -3 ± 2 | $1.44^{+0.35}_{-0.32}$ | 3498^{+236}_{-287} | 3011^{+572}_{-5887} | $0.433^{+0.379}_{-0.223}$ |

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 $A_{obs} \gg 1.0$

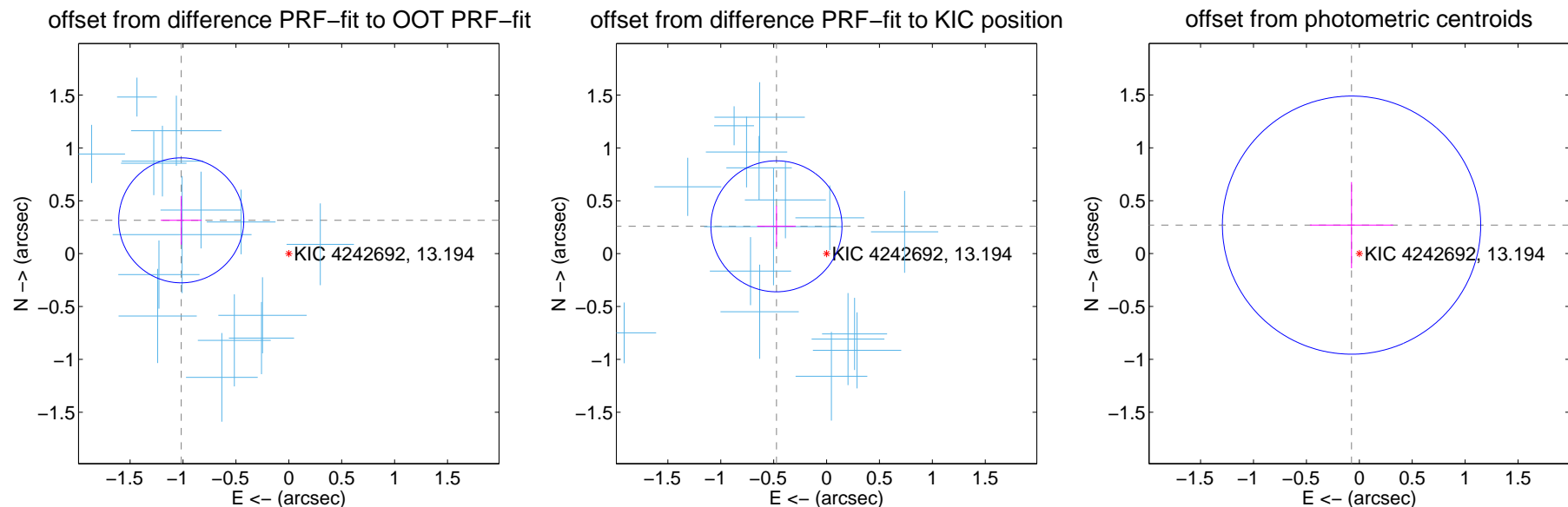
DV Centroid Data

Supplemental centroid analysis for 004242692-01. Kepler magnitude: 13.19. Transit SNR 29.04

There are 16 quarters with good PRF difference image offsets

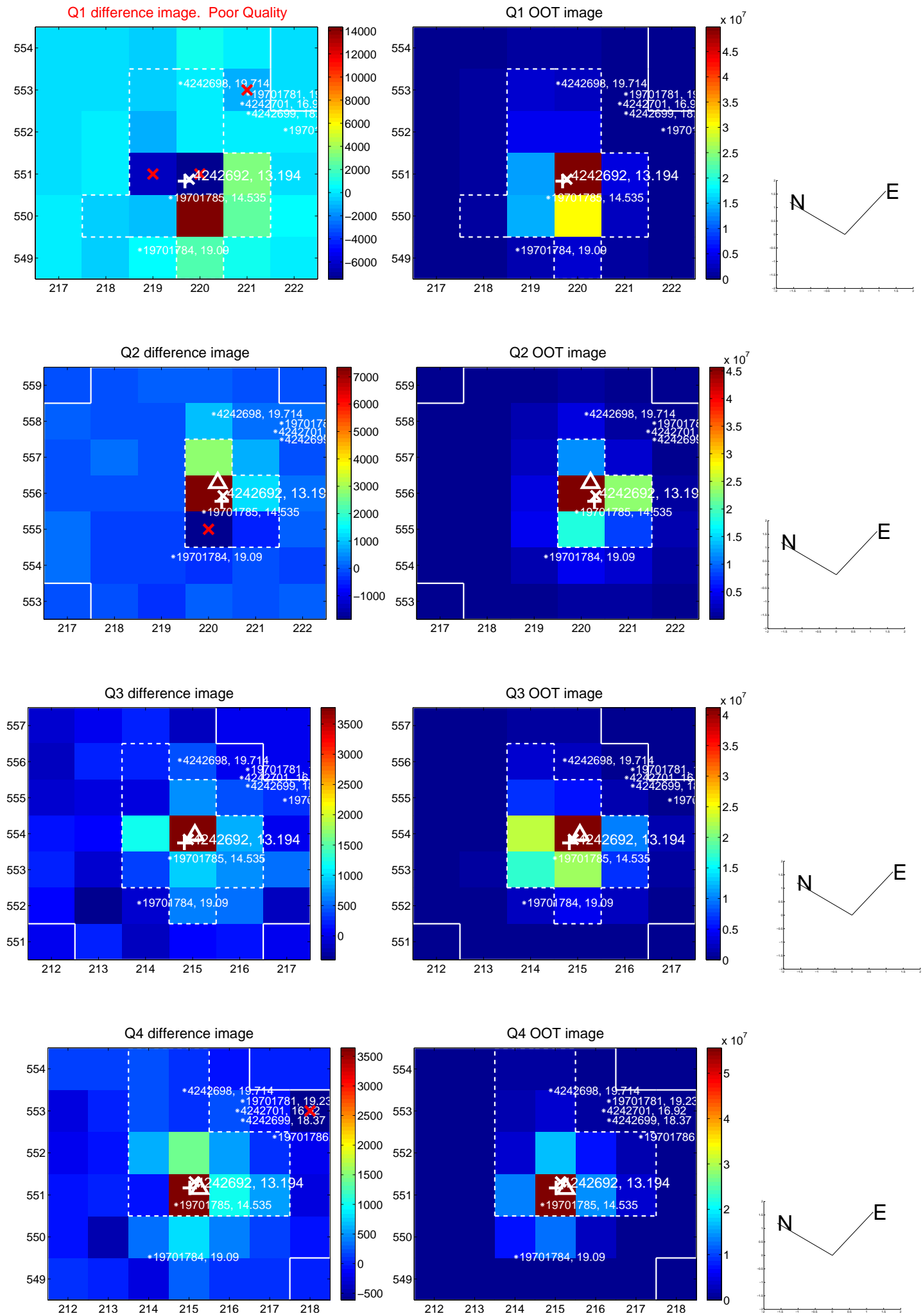
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|-------------------------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 1.064 ± 0.197 | 5.40 | 1.017 ± 0.193 | 0.315 ± 0.231 |
| PRF-fit source offset from KIC position | 0.540 ± 0.206 | 2.61 | 0.474 ± 0.183 | 0.259 ± 0.195 |
| photometric centroid source offset | 0.28 ± 0.41 | 0.69 | 0.07 ± 0.39 | 0.27 ± 0.41 |

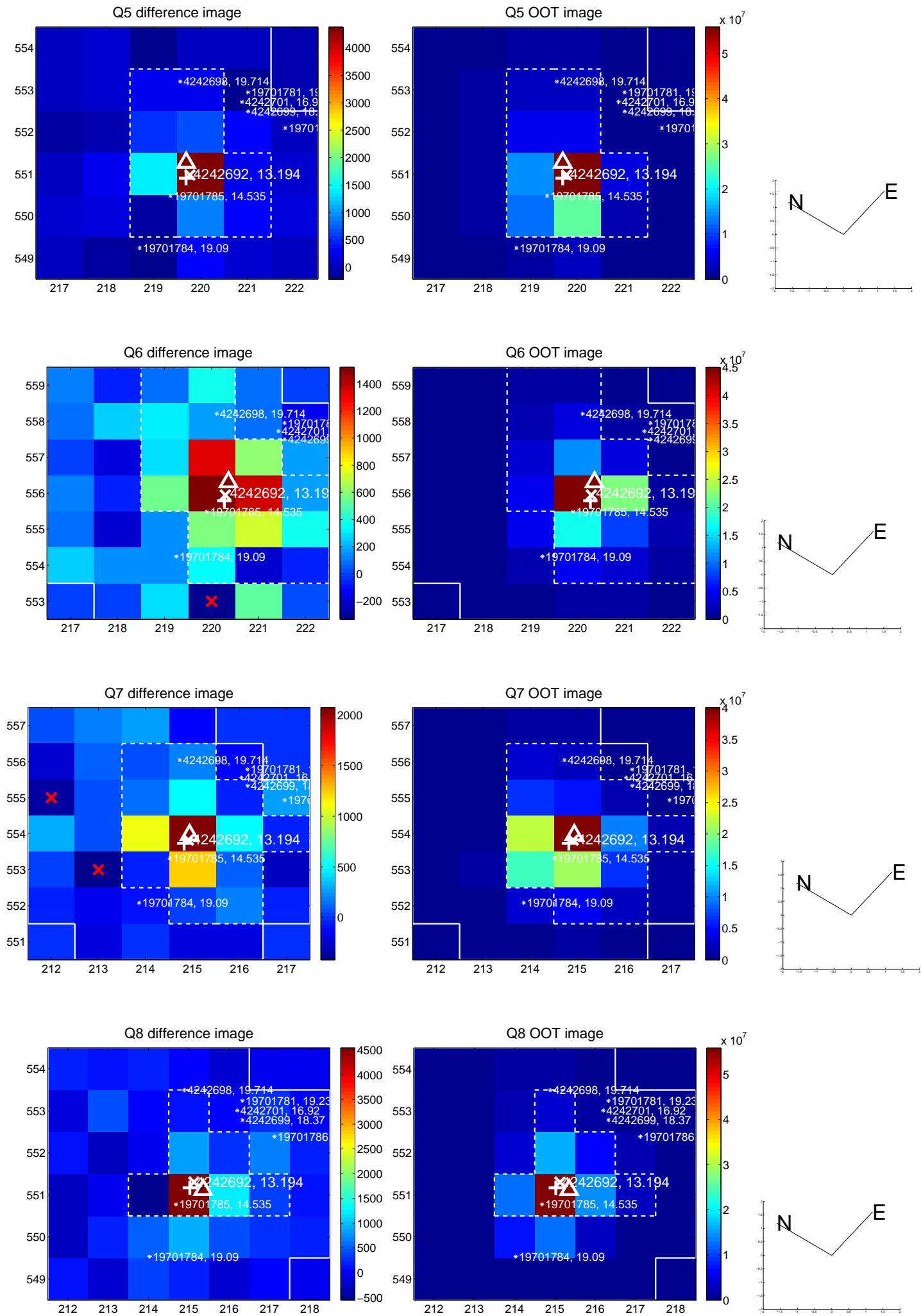


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

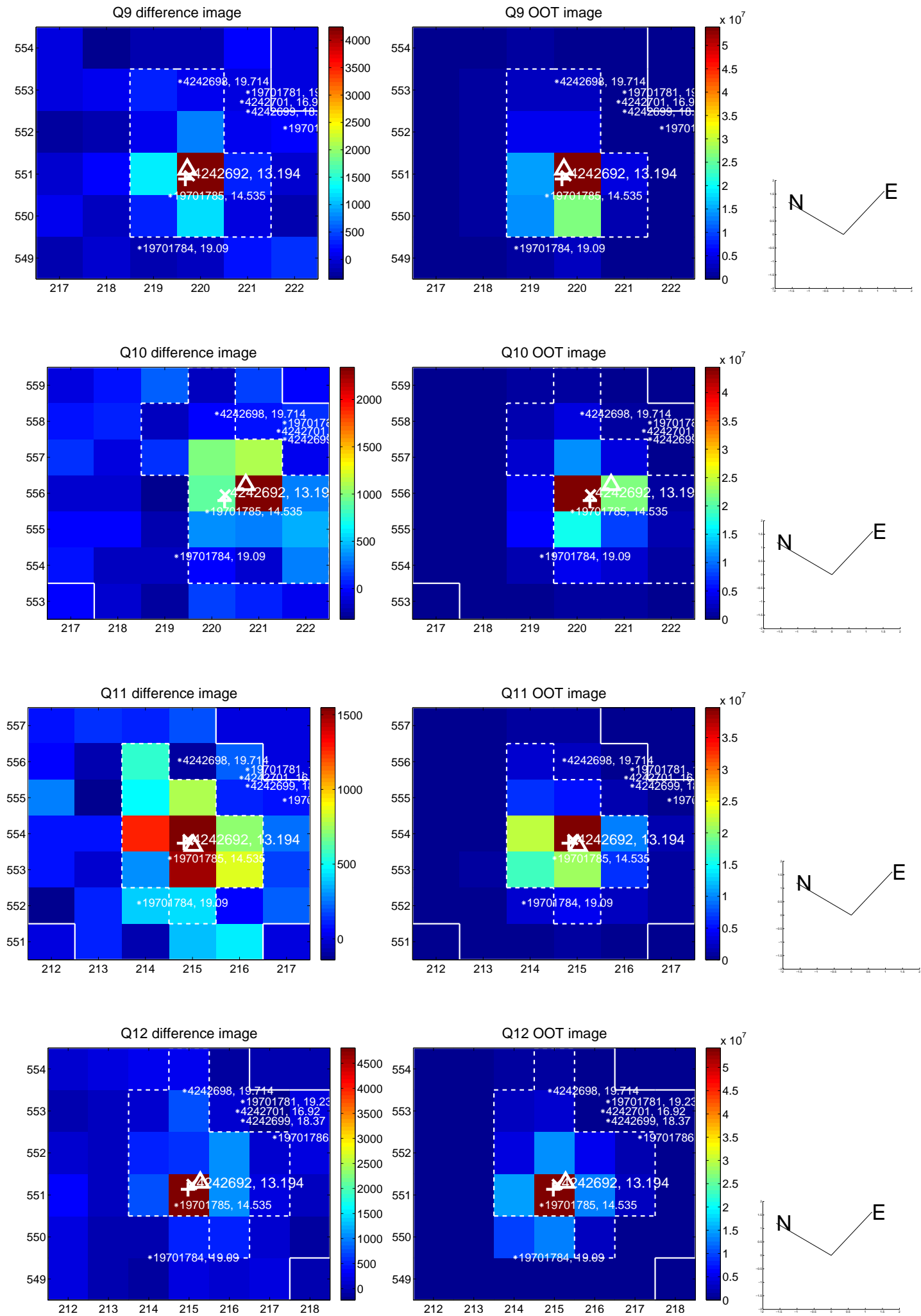
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



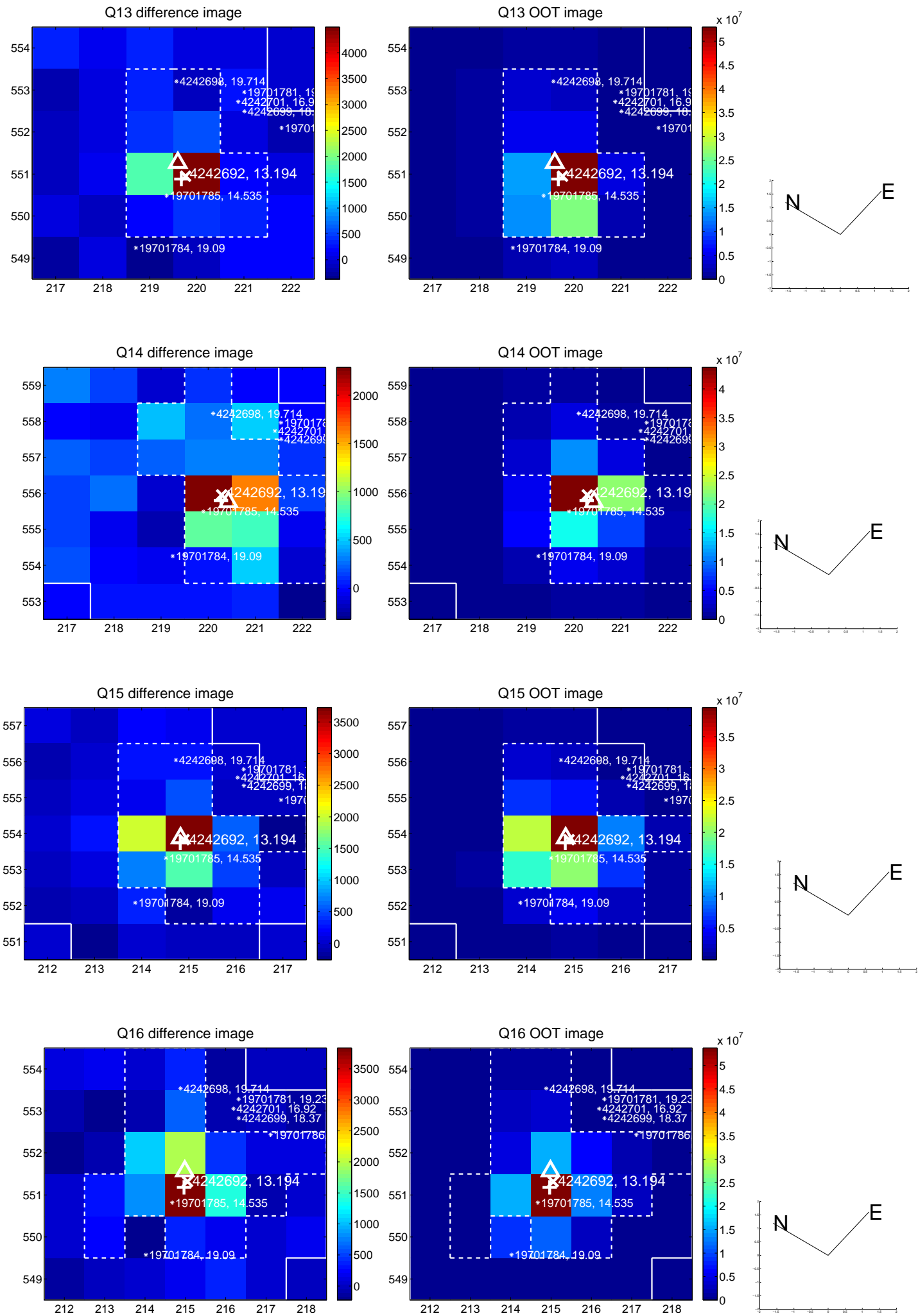
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



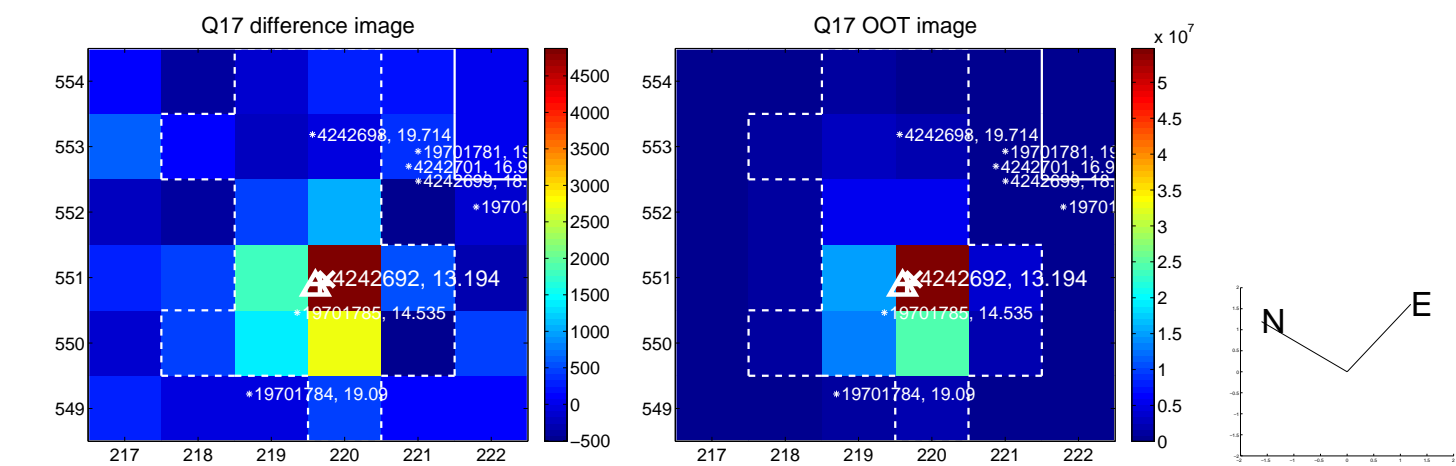
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



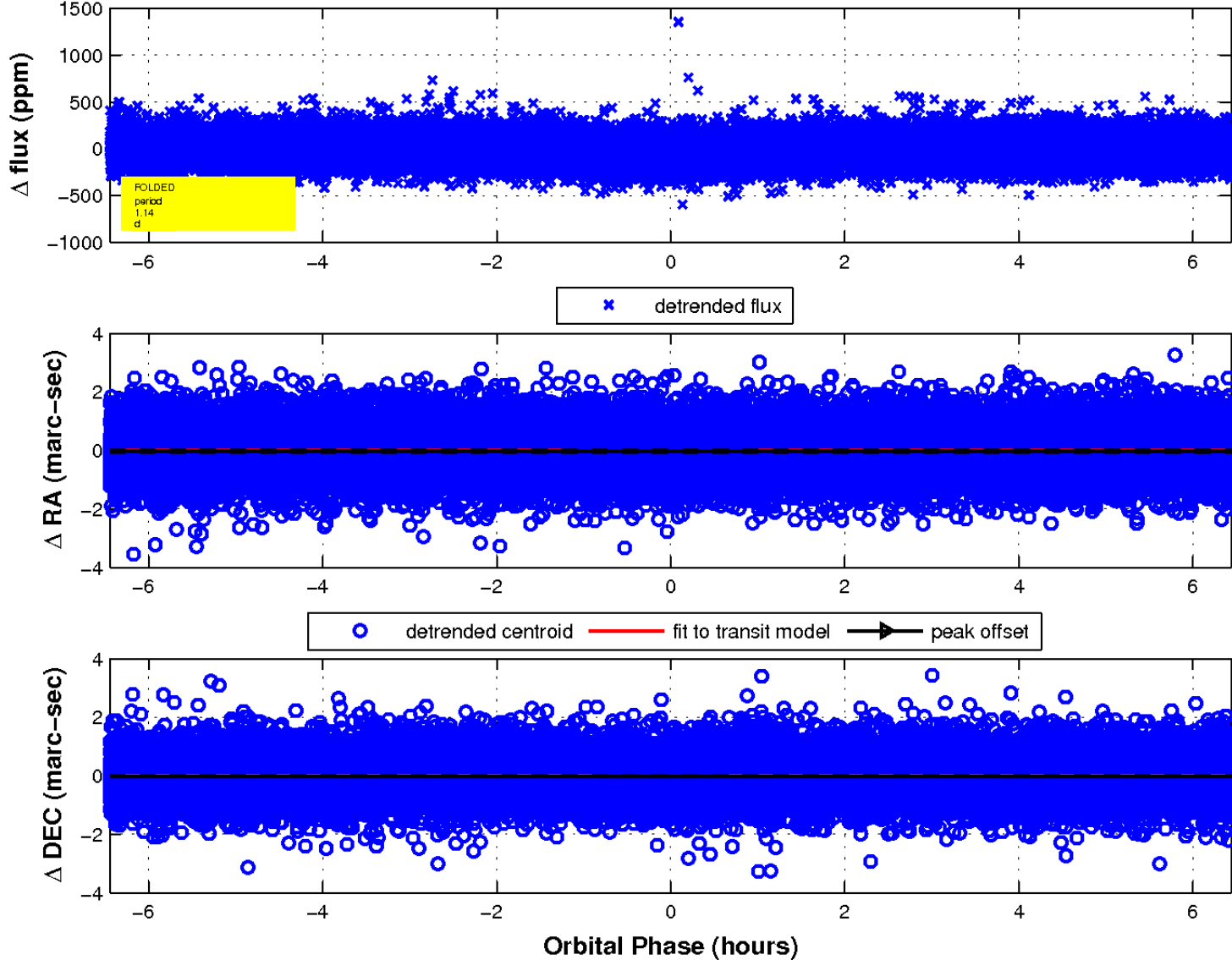
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

