

KIC 011403530

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 011403530-01 | OBS | 3015.01 | 3.614600 | 133.090979 | 41.4 | 3.341 | 12.8 | 14.0 | 1.38 | 5799 | 1.06 | 901.77 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 011403530-01 | OBS | PC | 0.94 | 0 | 0 | 0 | 0 | NO_COMMENT |

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

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

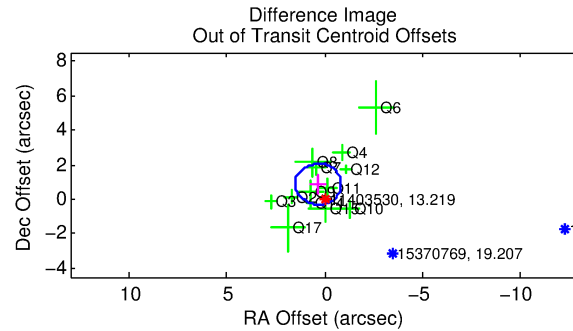
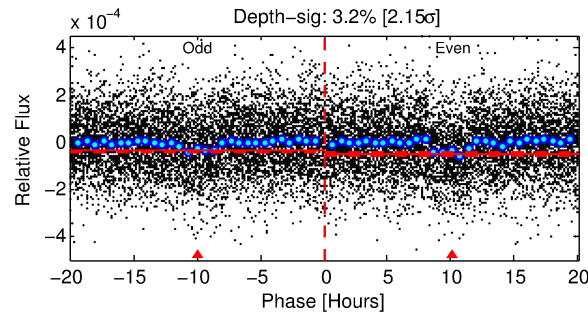
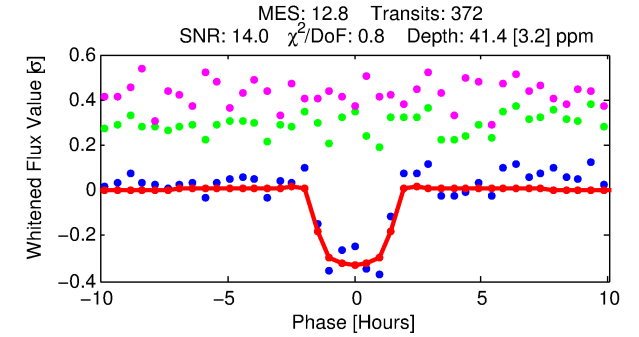
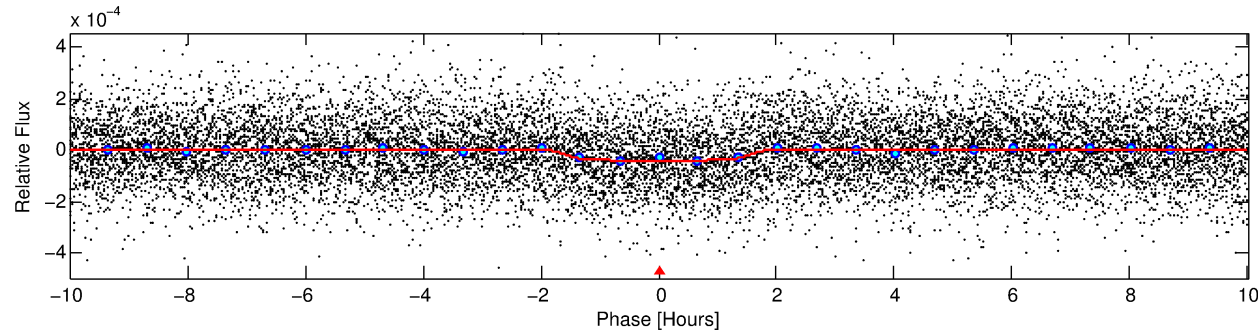
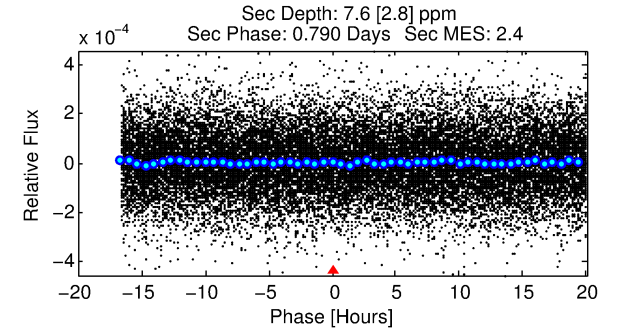
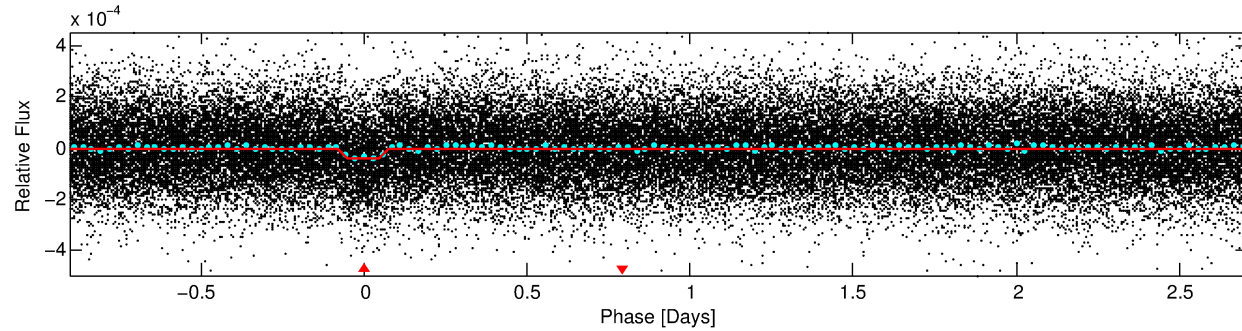
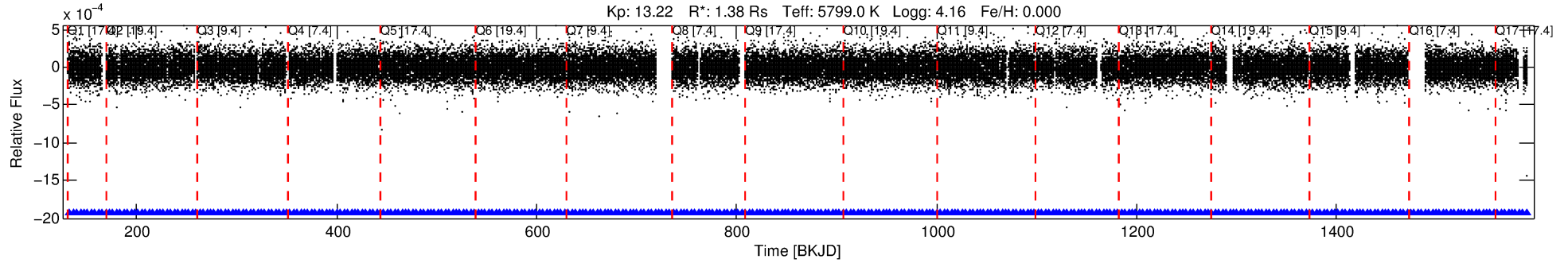
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011403530-01

No Significant Match Found

DV One-Page Summary

KIC: 11403530 Candidate: 1 of 1 Period: 3.615 d
KOI: K03015.01 Corr: 0.969



DV Fit Results:

Period = 3.61460 [0.00002] d
Epoch = 133.0910 [0.0037] BKJD
Rp/R* = 0.0070 [0.0026]
a/R* = 3.76 [6.30]
b = 0.91 [0.36]
Seff = 901.77 [299.43]
Teff = 1397 [116] K
Rp = 1.06 [0.45] Re
a = 0.0461 [0.0094] AU
Ag = 8.00 [7.03] [1.00σ]
Teffp = 3633 [746] K [2.96σ]

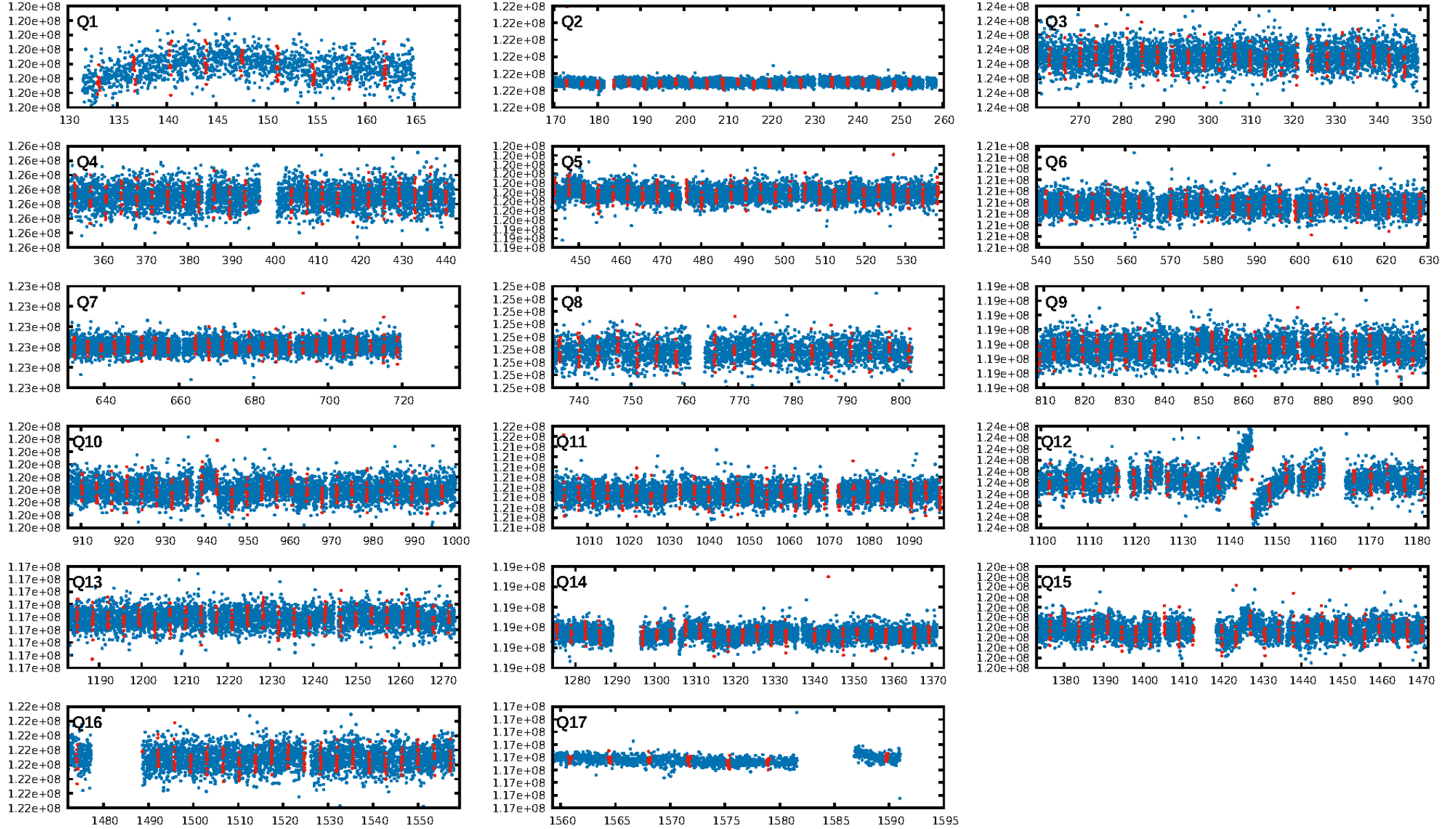
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.62e-37
RollingBand-fgt: 1.00 [356/356]
GhostDiagnostic-chr: 12.29
Centroid-sig: 1.0%
Centroid-so: 1.777 arcsec [2.18σ]
OotOffset-rm: 0.931 arcsec [2.37σ]
KicOffset-rm: 0.974 arcsec [2.59σ]
OotOffset-st: 4/4/3/2 [13]
KicOffset-st: 4/4/3/2 [13]
DiffImageQuality-fgm: 0.85 [11/13]
DiffImageOverlap-fno: 1.00 [17/17]

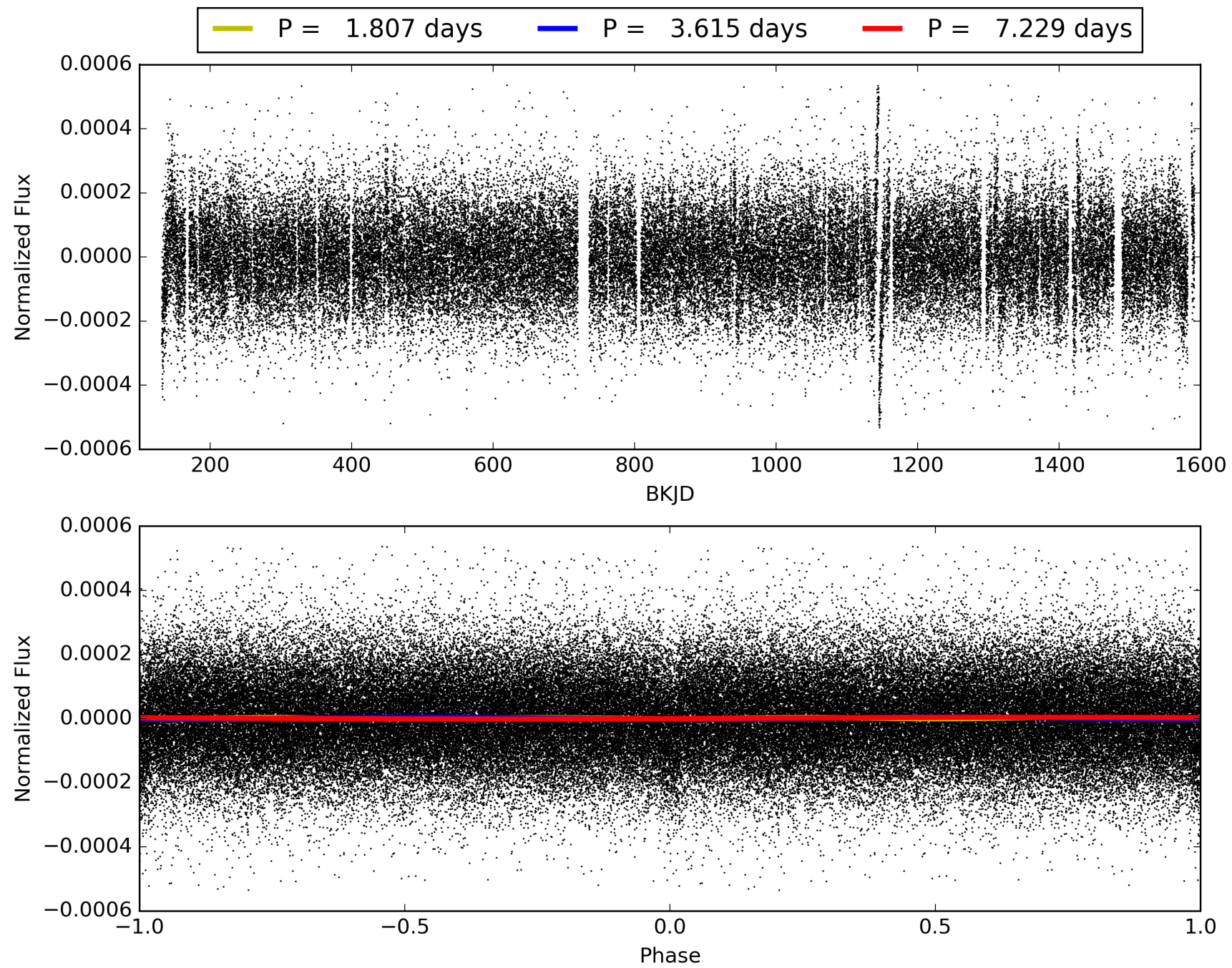
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:19:56 Z

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

TCE 011403530-01, PDC Light Curves

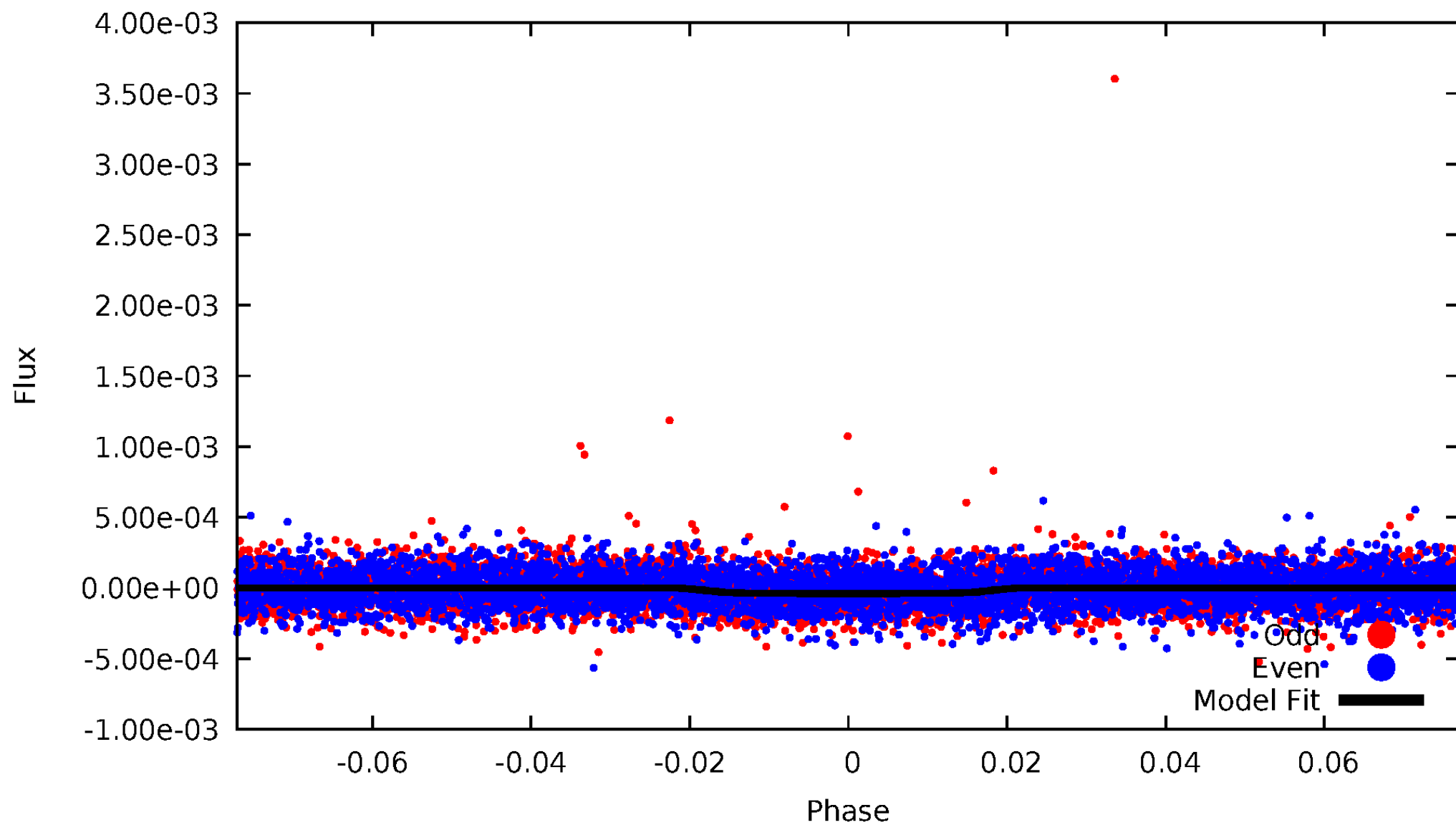


TCE 011403530-01



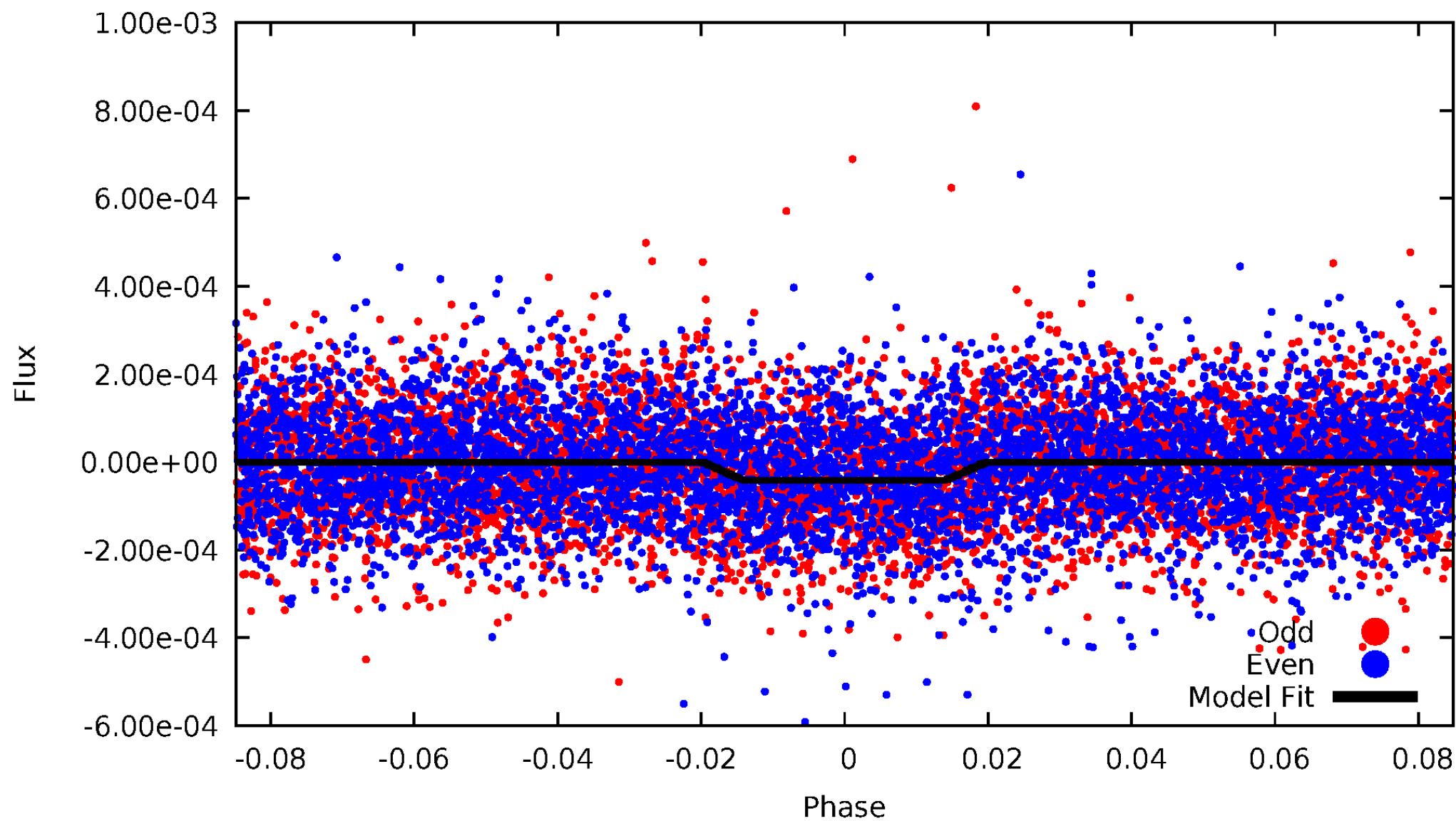
DV Odd/Even

TCE 011403530-01

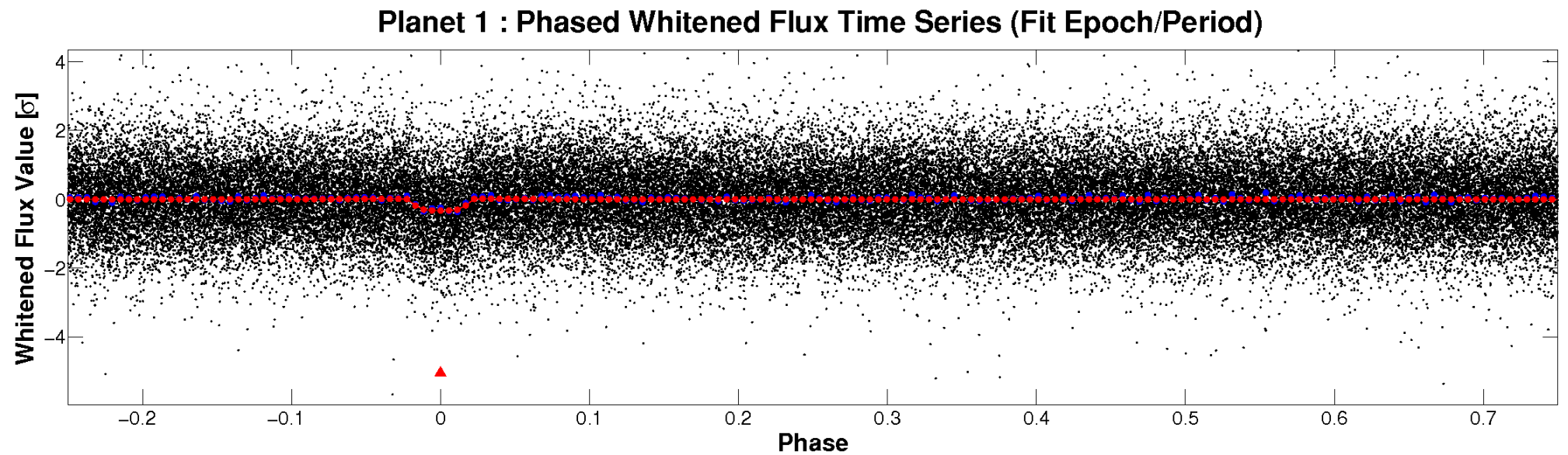
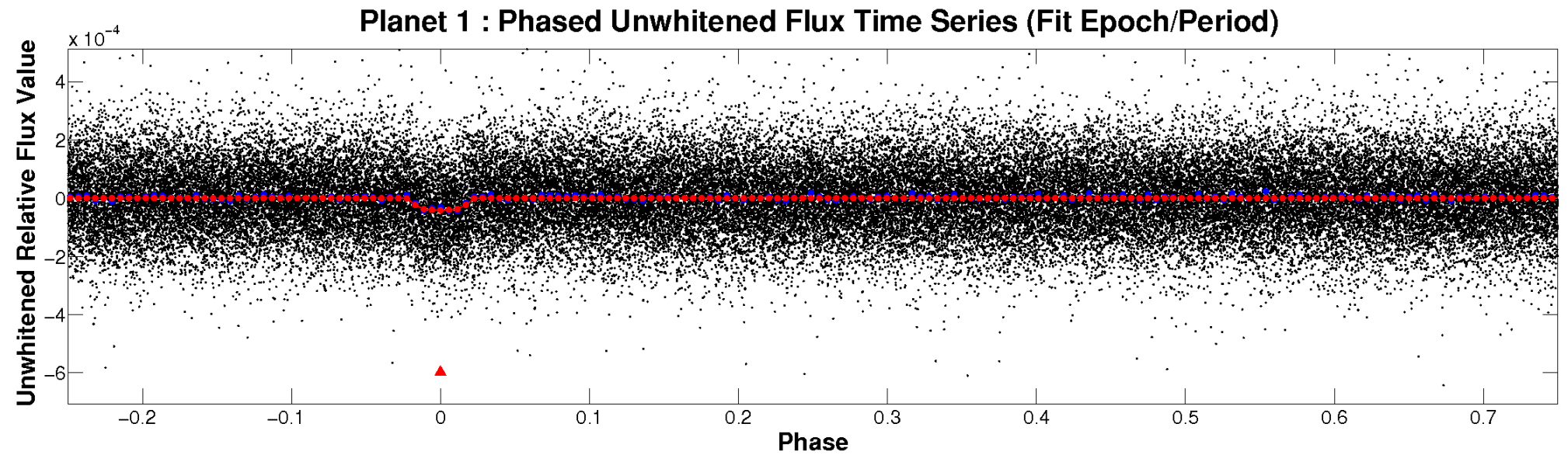


ALT Odd/Even

TCE 011403530-01

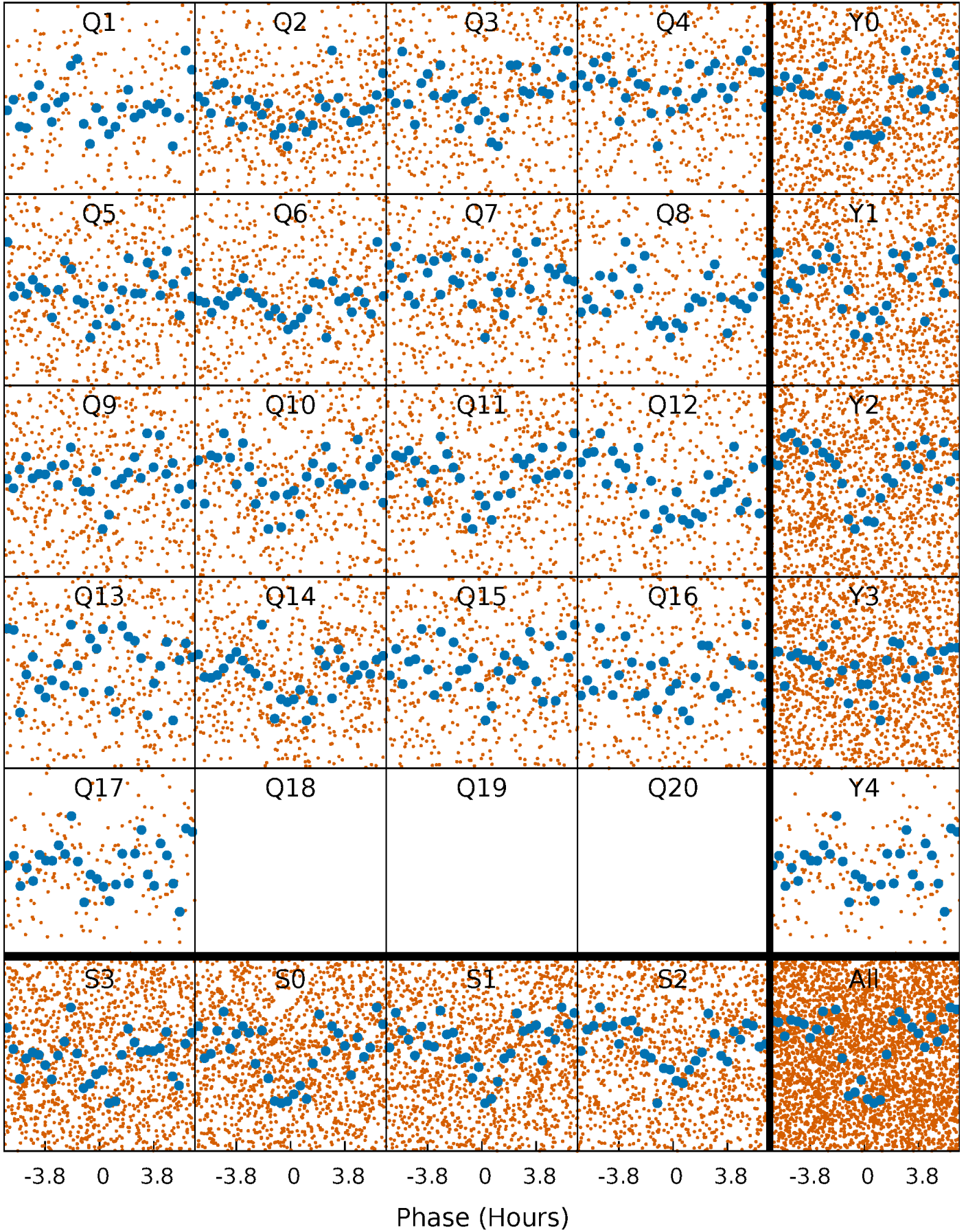


Non-Whitened Vs. Whitened Light Curve



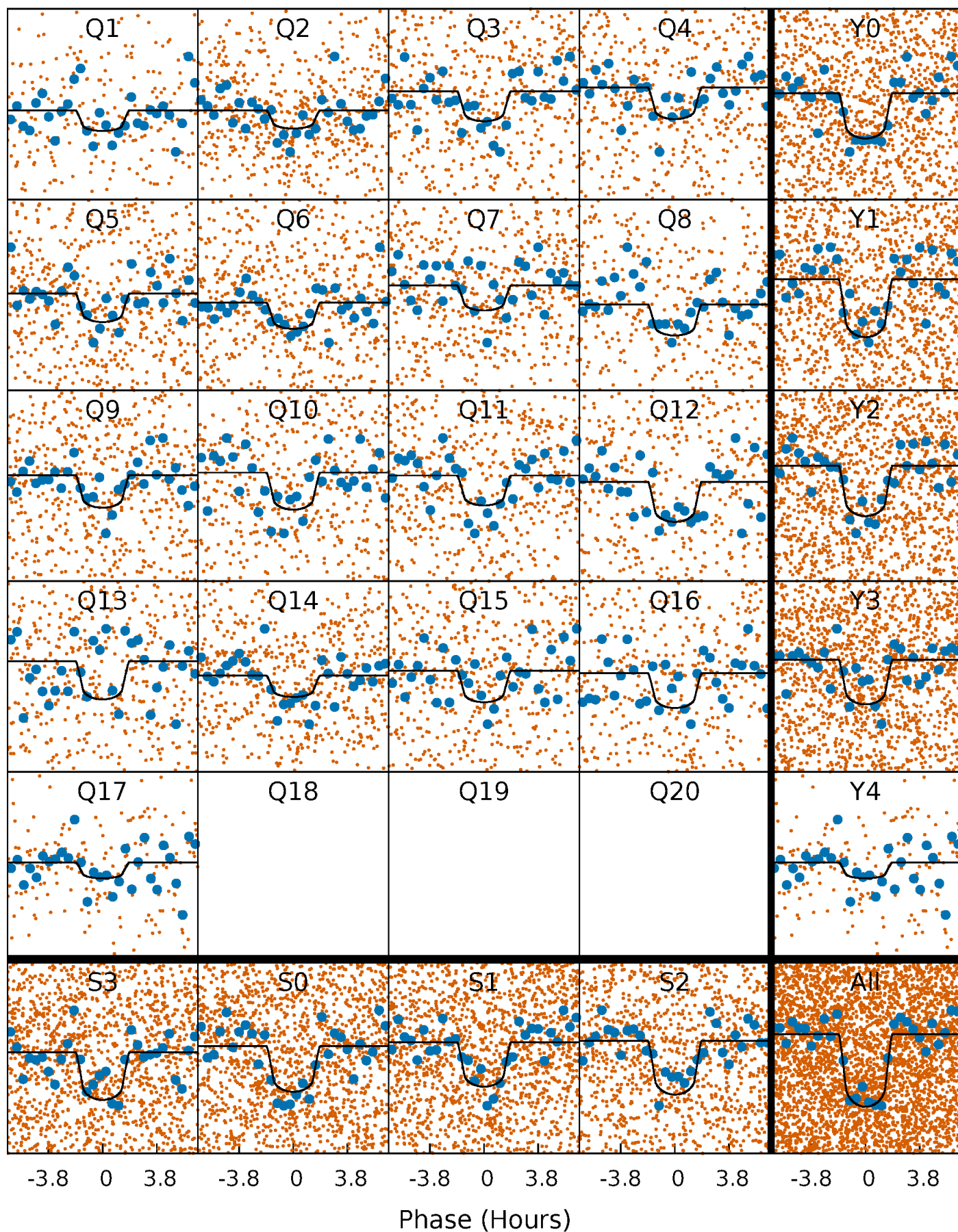
PDC Quarter-Phased Transit Curves

TCE 011403530-01 P= 3.614600 Days $T_0=133.090979$ (BKJD)



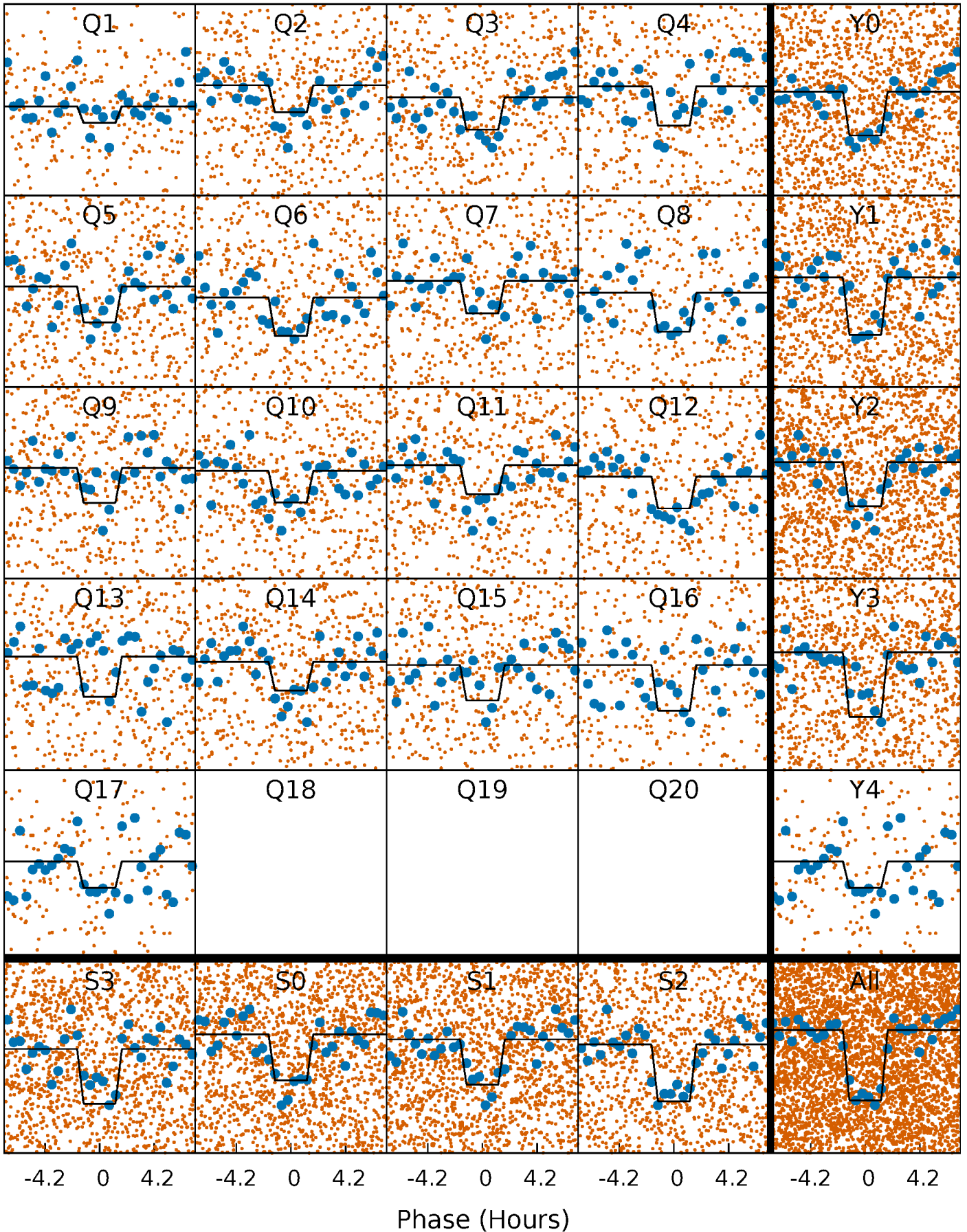
DV Quarter-Phased Transit Curves

TCE 011403530-01 P= 3.614600 Days $T_0=133.090979$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

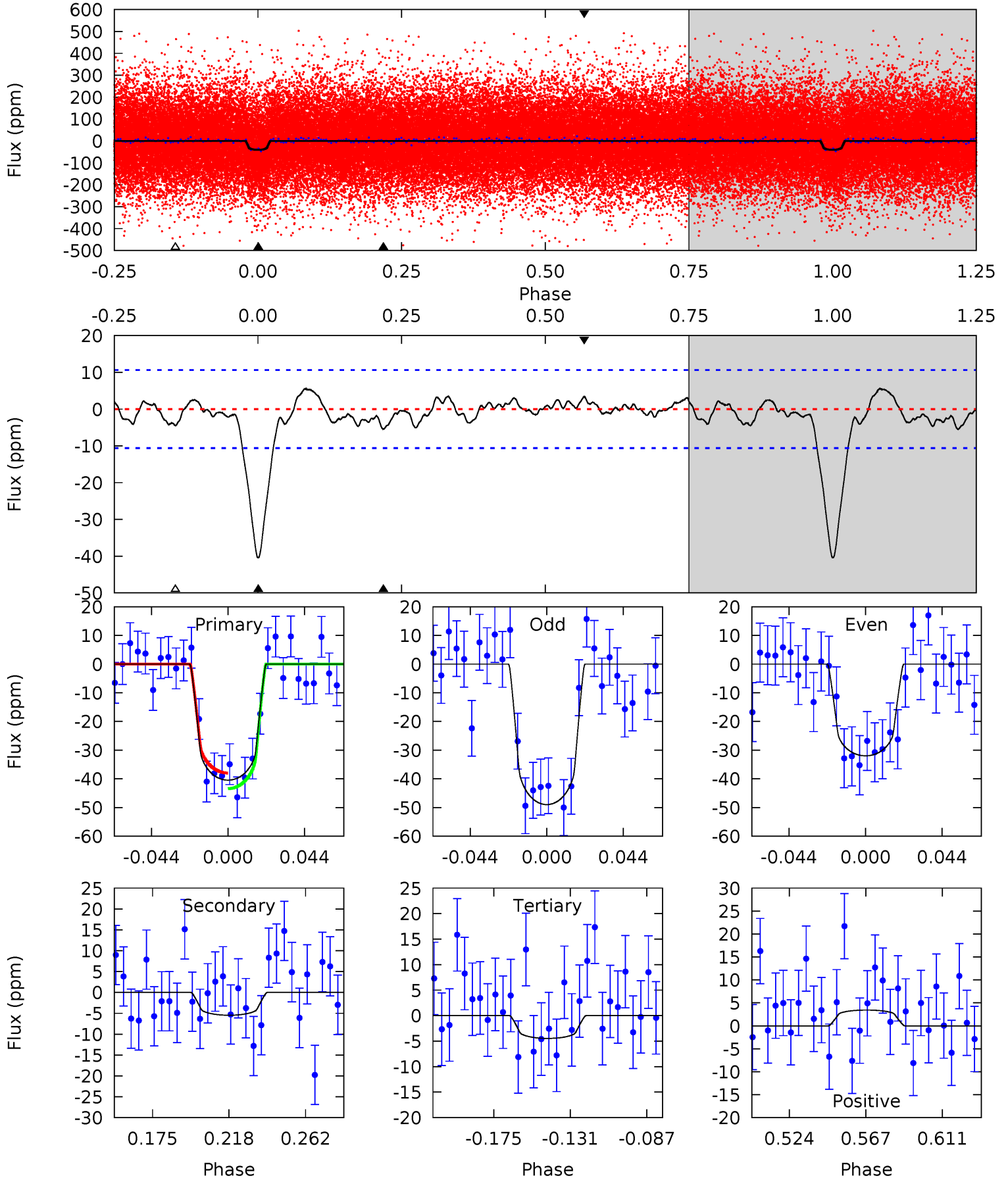
TCE 011403530-01 P= 3.614598 Days $T_0=133.091630$ (BKJD)



DV Model-Shift Uniqueness Test

011403530-01, P = 3.614600 Days, E = 129.476379 Days

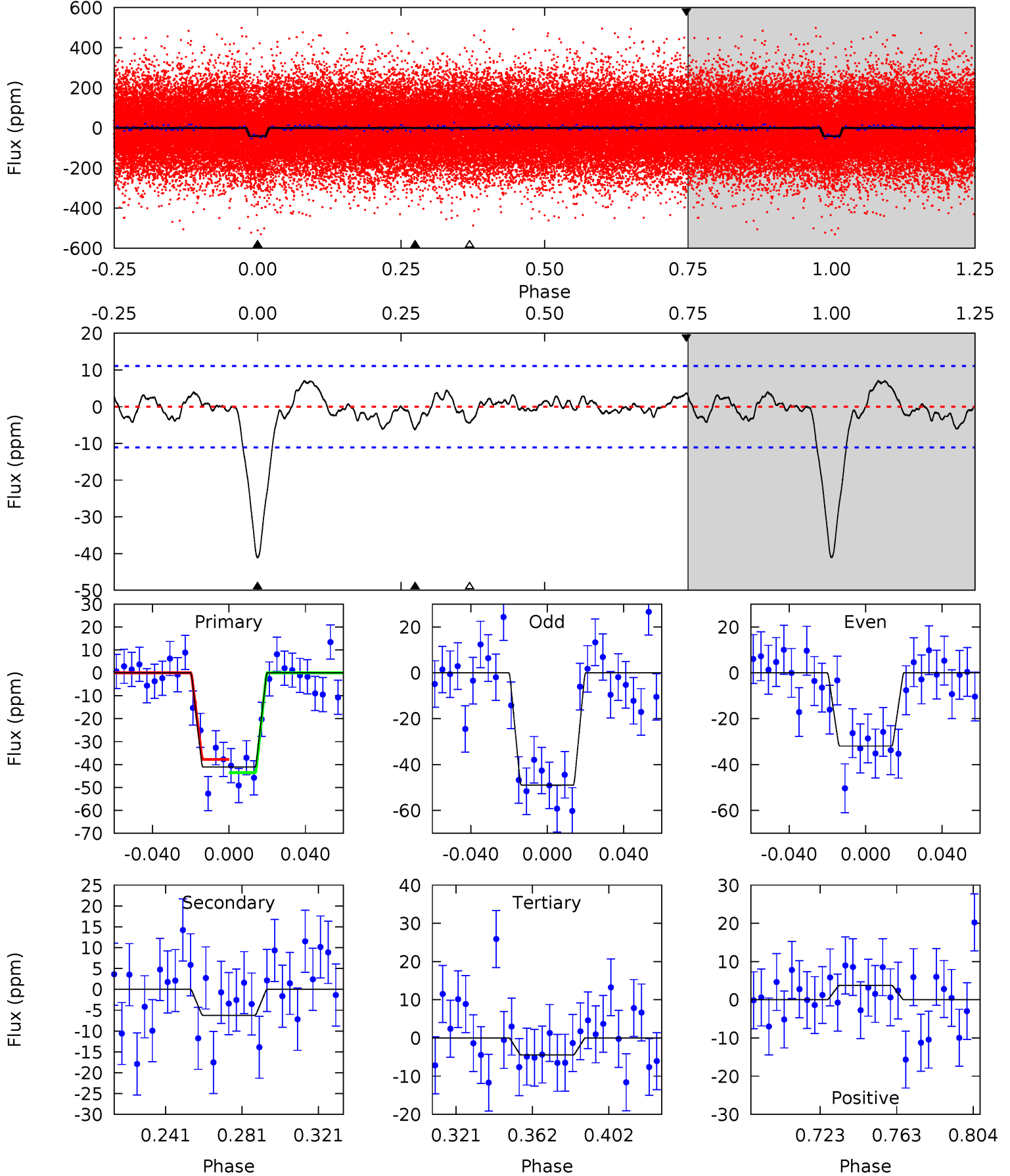
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 18.0 | 2.44 | 1.99 | 1.53 | 4.74 | 2.02 | 0.98 | 16.0 | 16.5 | 0.44 | 0.90 | 3.80 | 1.03 | 0.12 | 1.21 |



Alt Model-Shift Uniqueness Test

011403530-01, P = 3.614598 Days, E = 129.477032 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 17.6 | 2.66 | 1.90 | 1.60 | 4.75 | 2.05 | 1.03 | 15.7 | 16.0 | 0.76 | 1.06 | 3.64 | 1.00 | 0.15 | 1.24 |



Stellar Parameters For KIC 011403530

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5799^{+117}_{-105} | $4.161^{+0.188}_{-0.101}$ | $0.000^{+0.150}_{-0.150}$ | $1.375^{+0.221}_{-0.295}$ | $0.999^{+0.089}_{-0.080}$ | $0.542^{+0.496}_{-0.159}$ |
| | +2%/-2% | +5%/-2% | +inf%/-inf% | +16%/-21% | +9%/-8% | +92%/-29% |
| Source | SPE59 | SPE59 | SPE59 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 011403530-01 / KOI 3015.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|----------------------------|
| DV | -5 ± 2 | $1.03^{+0.40}_{-0.39}$ | 1942^{+91}_{-120} | 3704^{+710}_{-517} | $5.789^{+10.467}_{-3.385}$ |
| Alt. | -6 ± 2 | $0.95^{+0.40}_{-0.39}$ | 1934^{+101}_{-111} | 3891^{+863}_{-506} | $7.910^{+14.247}_{-4.440}$ |

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

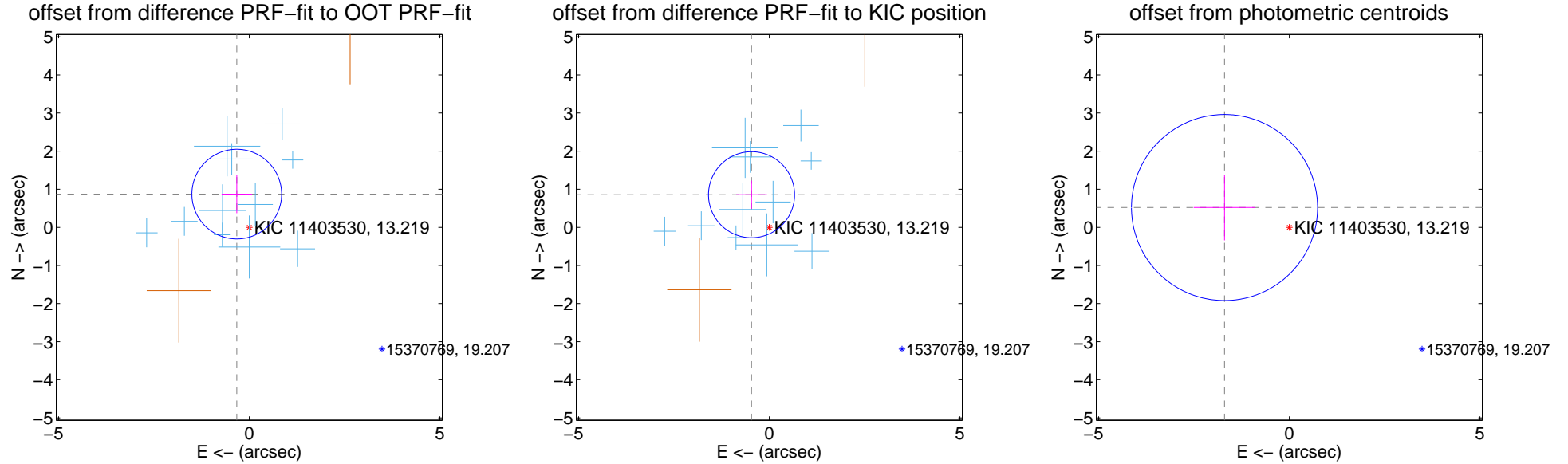
DV Centroid Data

Supplemental centroid analysis for 011403530-01. Kepler magnitude: 13.22. Transit SNR 13.96

There are 11 quarters with good PRF difference image offsets

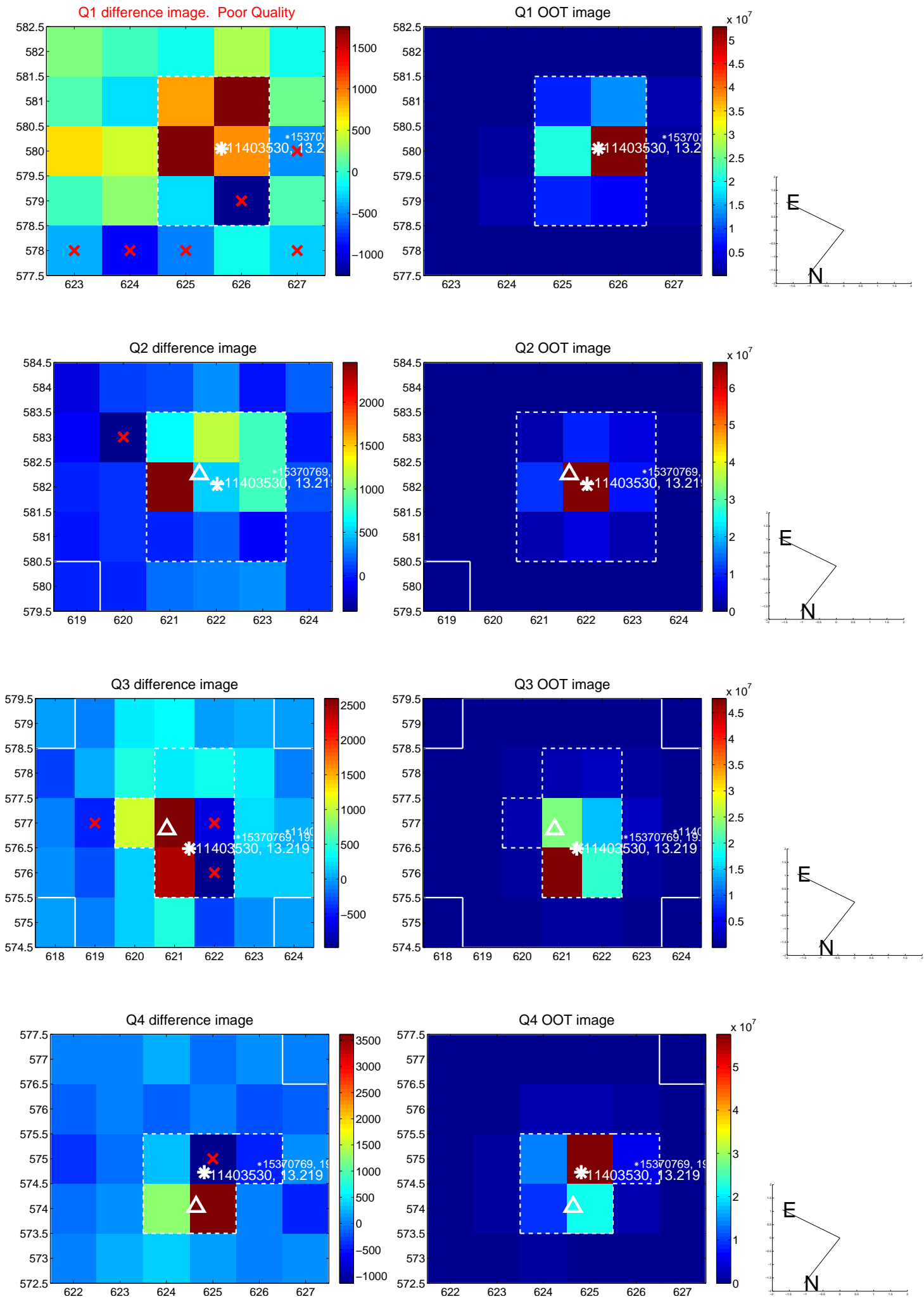
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.931 ± 0.392 | 2.37 | 0.328 ± 0.397 | 0.872 ± 0.501 |
| PRF-fit source offset from KIC position | 0.974 ± 0.376 | 2.59 | 0.465 ± 0.403 | 0.856 ± 0.368 |
| photometric centroid source offset | 1.78 ± 0.81 | 2.18 | 1.70 ± 0.81 | 0.52 ± 0.86 |

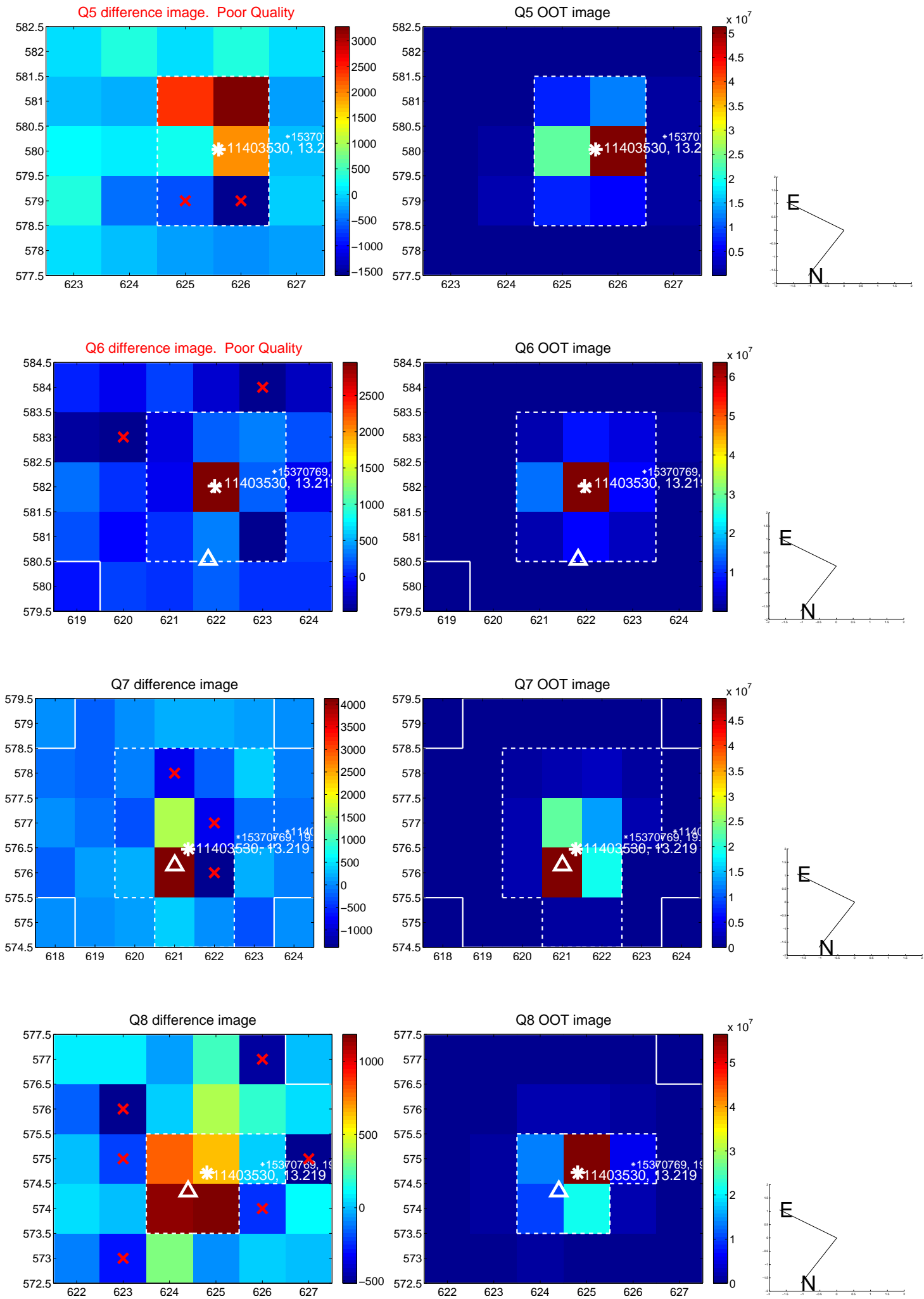


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

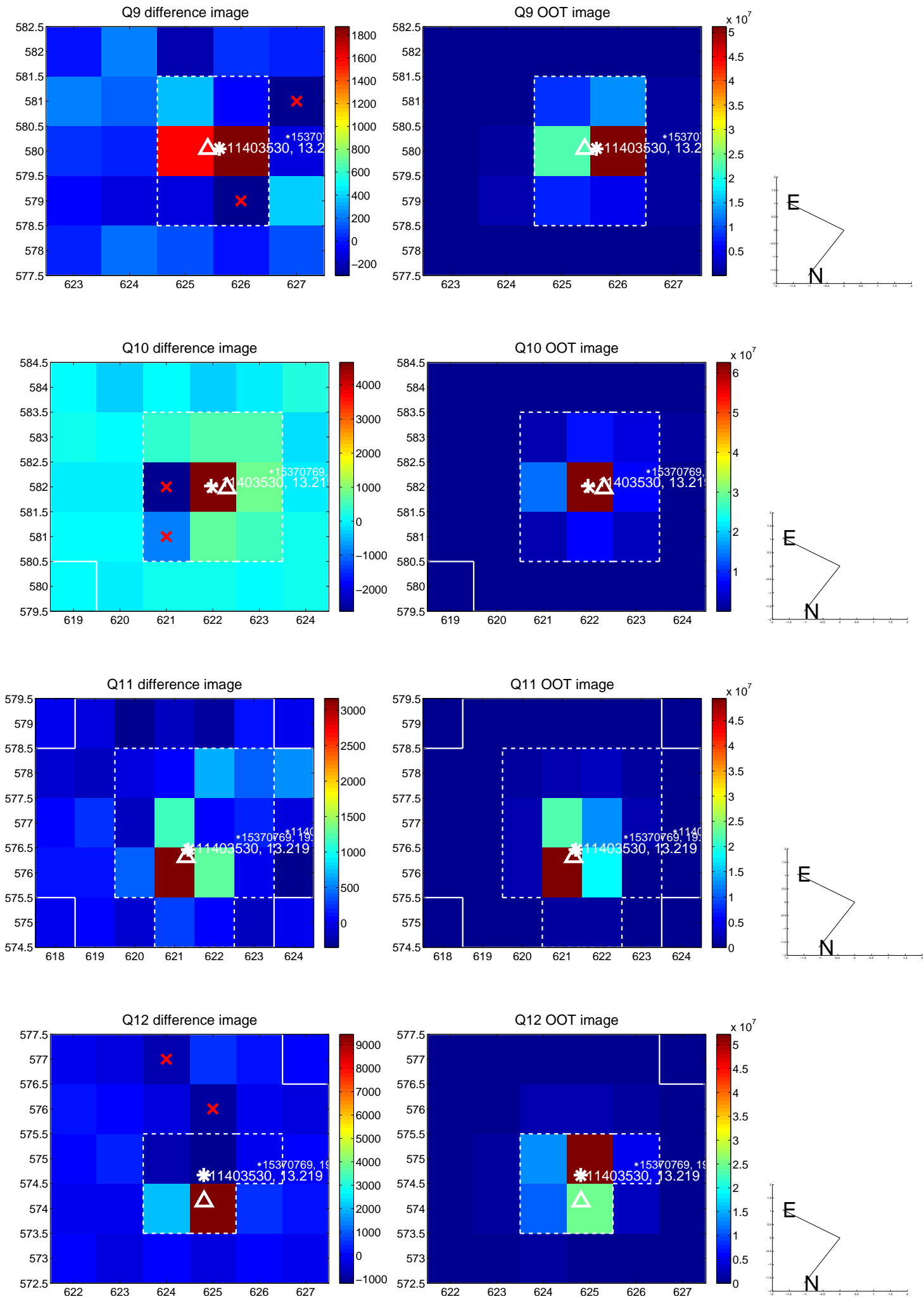
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



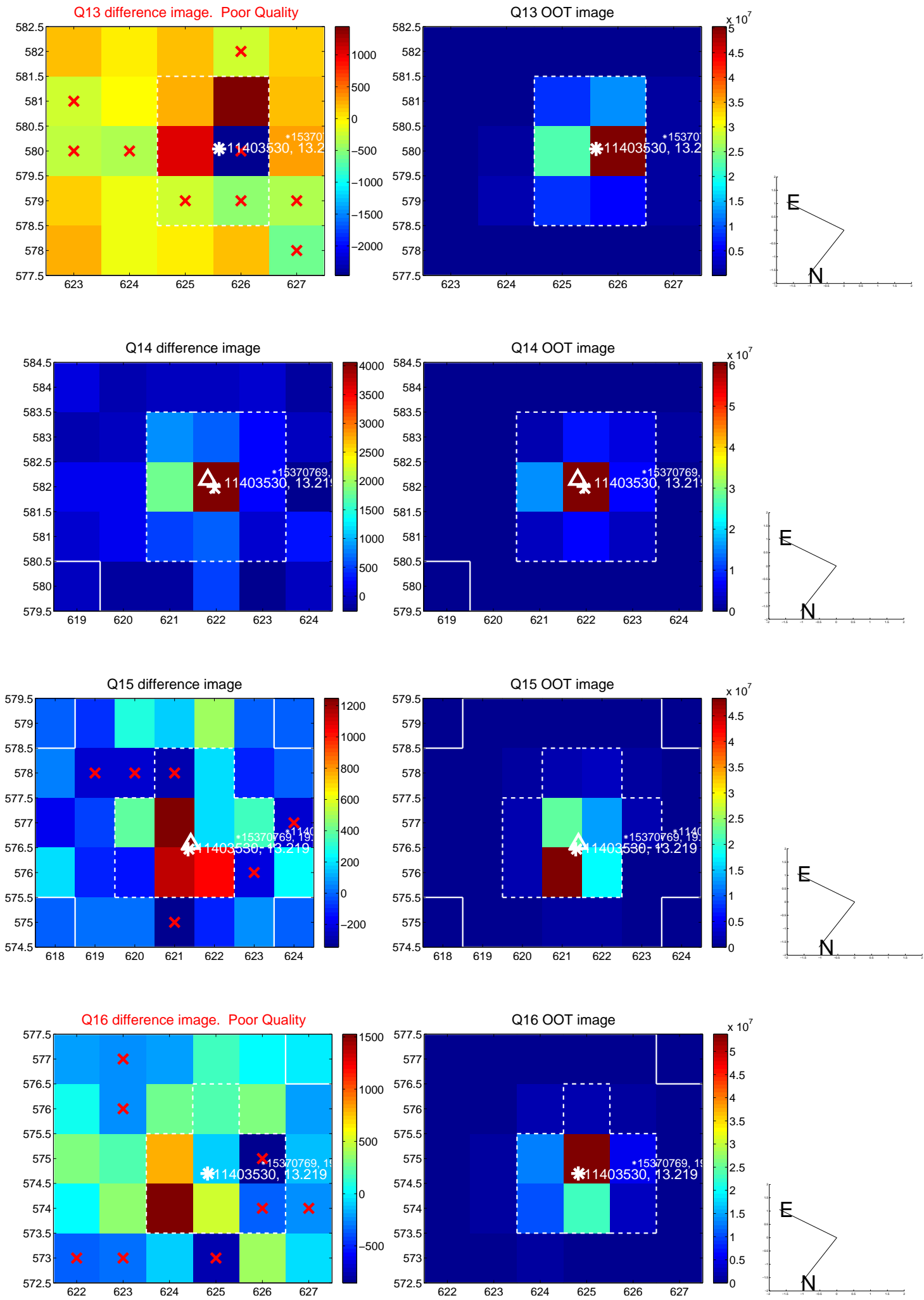
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



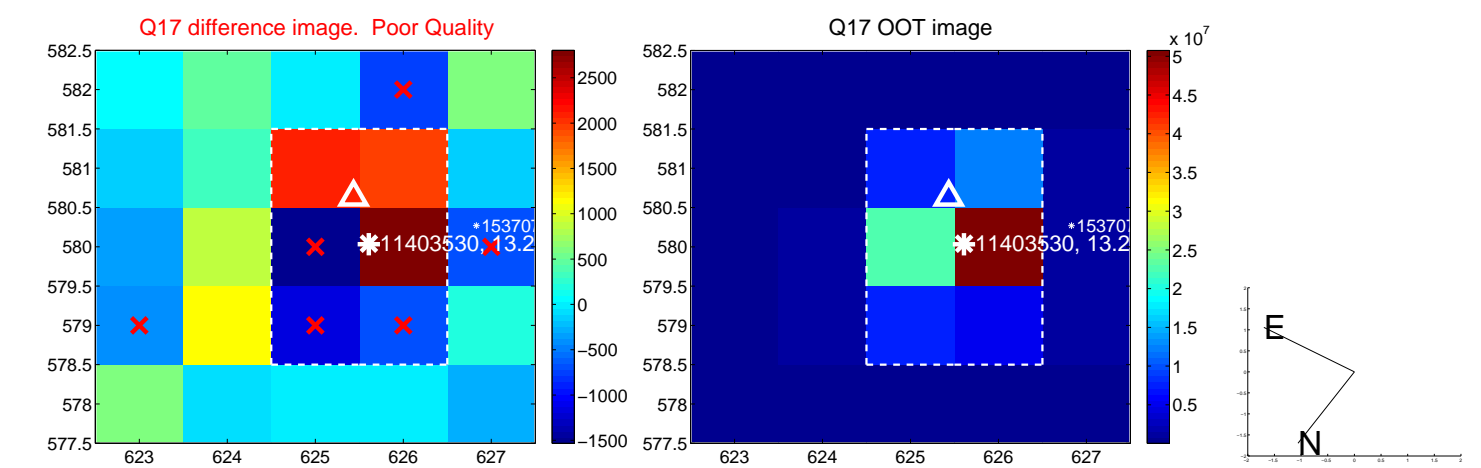
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



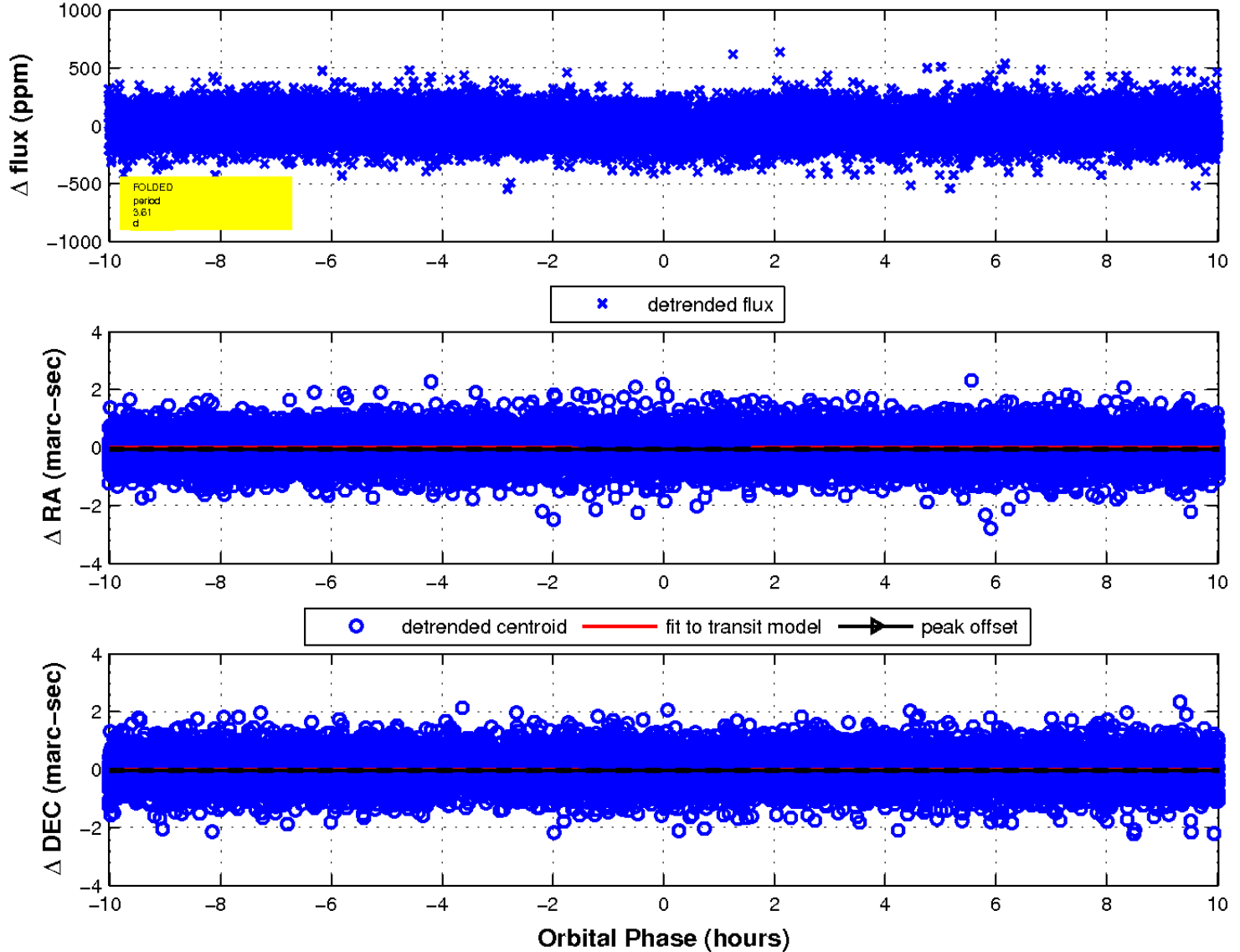
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

