

KIC 005213902

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 005213902-01 | OBS | 1941.01 | 1.194809 | 132.181052 | 151.3 | 1.615 | 34.1 | 35.0 | 0.97 | 6198 | 1.40 | 2519.71 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------------------|
| 005213902-01 | OBS | FP | 0.00 | 0 | 0 | 1 | 0 | CENT_UNRESOLVED_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 005213902-01

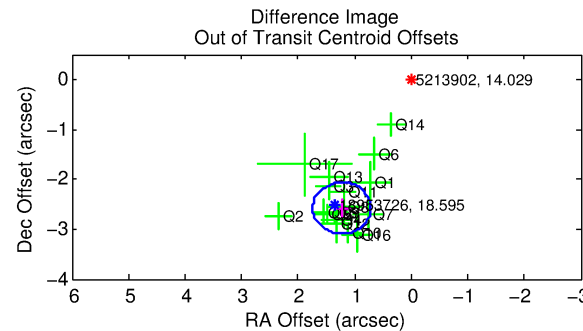
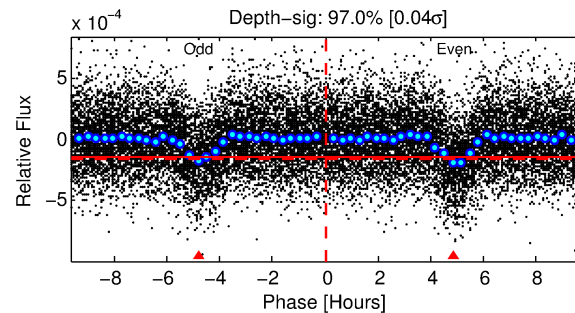
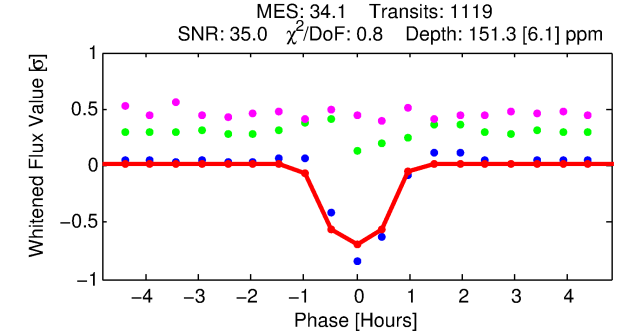
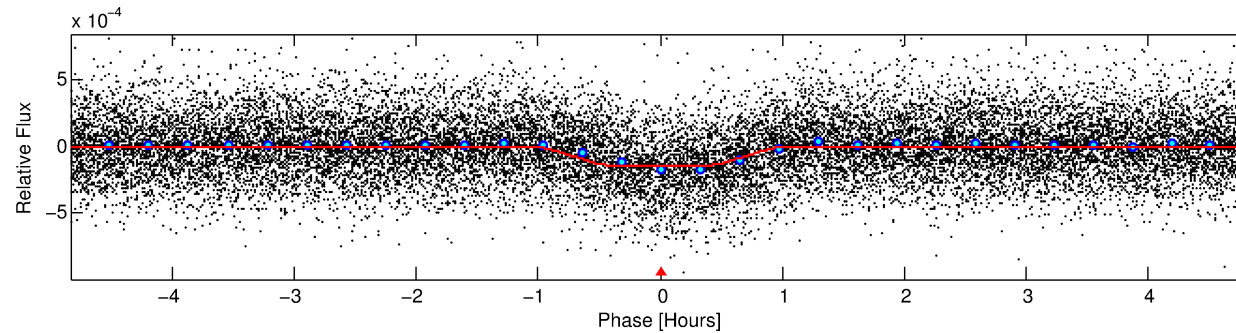
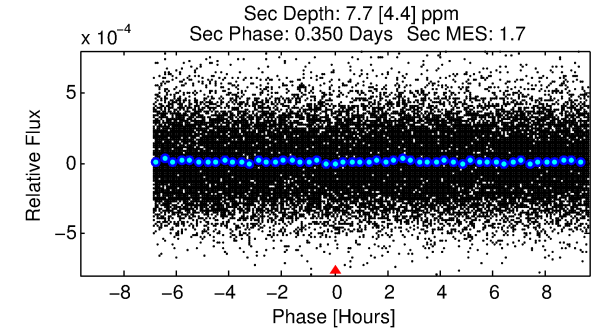
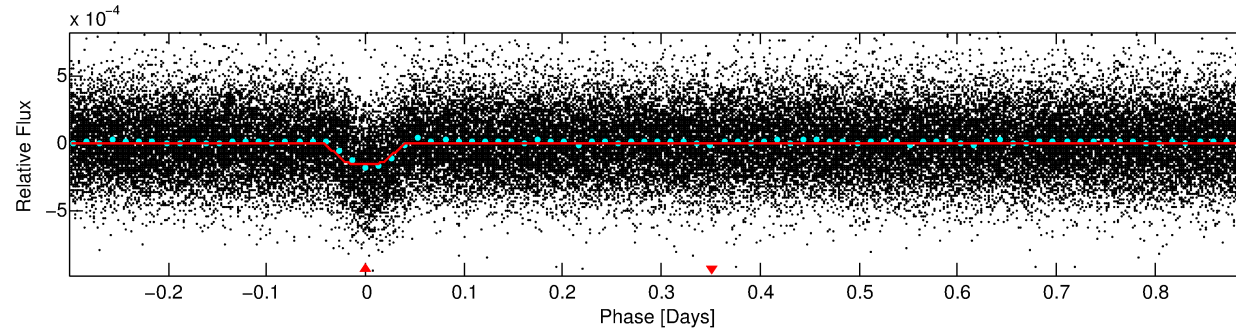
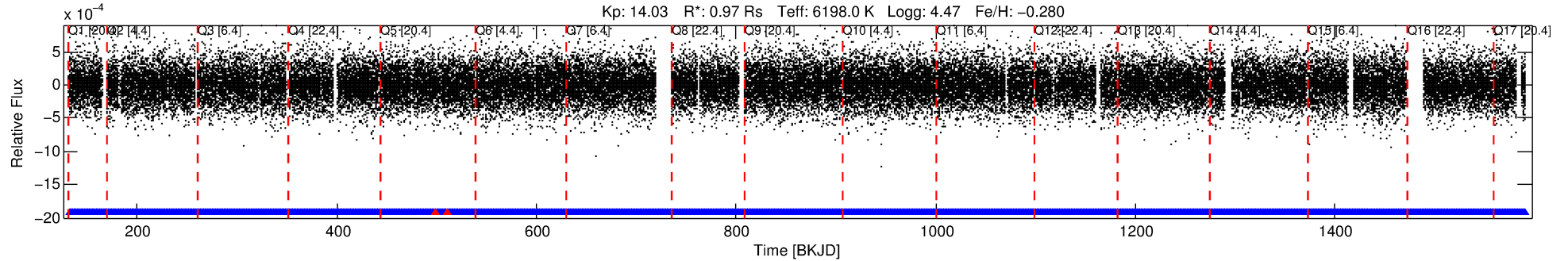
No Significant Match Found

DV One-Page Summary

KIC: 5213902 Candidate: 1 of 1 Period: 1.195 d

KOI: K01941.01 Corr: 0.914

Kp: 14.03 R*: 0.97 Rs Teff: 6198.0 K Logg: 4.47 Fe/H: -0.280



DV Fit Results:

Period = 1.19481 [0.00000] d
Epoch = 132.1811 [0.0007] BKJD
Rp/R* = 0.0133 [0.0029]
a/R* = 2.79 [2.95]
b = 0.90 [0.26]
Seff = 2519.71 [1039.04]
Teq = 1807 [186] K
Rp = 1.40 [0.54] Re
a = 0.0222 [0.0059] AU
Ag = 1.07 [0.87] [0.08σ]
Teffp = 2839 [517] K [1.88σ]

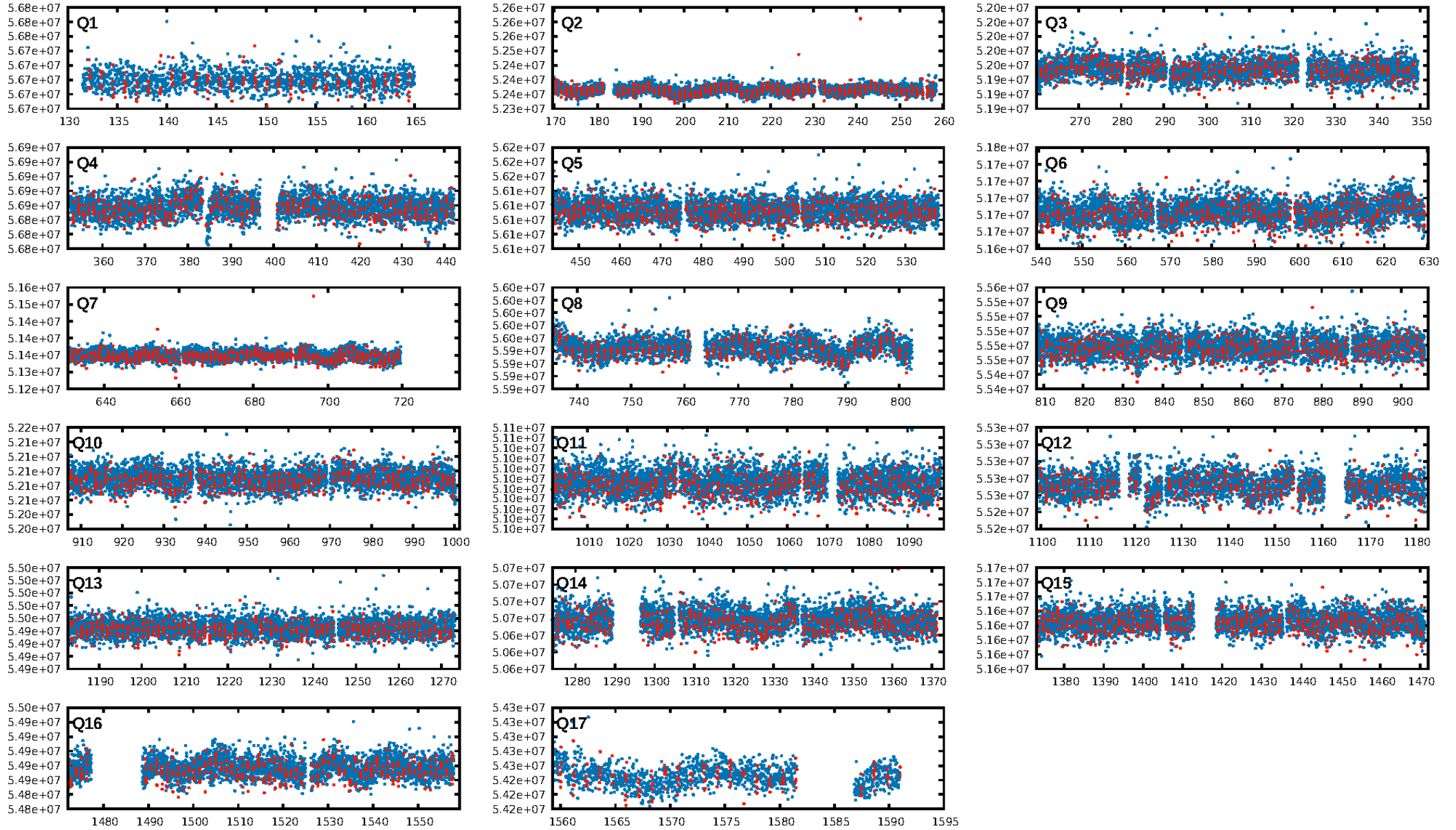
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.51e-242
RollingBand-fgt: 1.00 [1066/1068]
GhostDiagnostic-chr: 2.161
Centroid-sig: 0.0%
Centroid-so: 2.867 arcsec [7.61σ]
OotOffset-rm: 2.858 arcsec [16.73σ]
KicOffset-rm: 3.086 arcsec [18.35σ]
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]

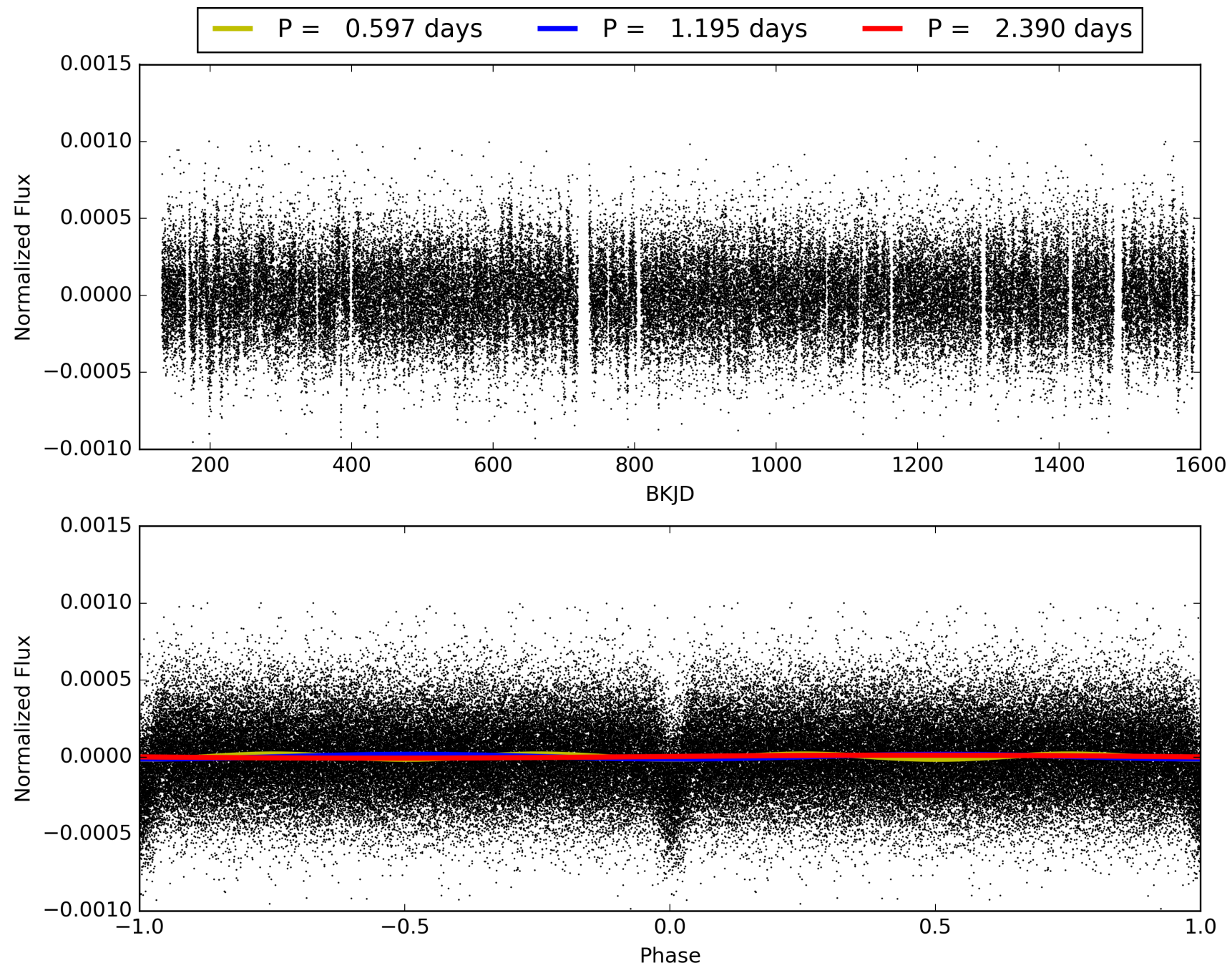
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:35:49 Z

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

TCE 005213902-01, PDC Light Curves

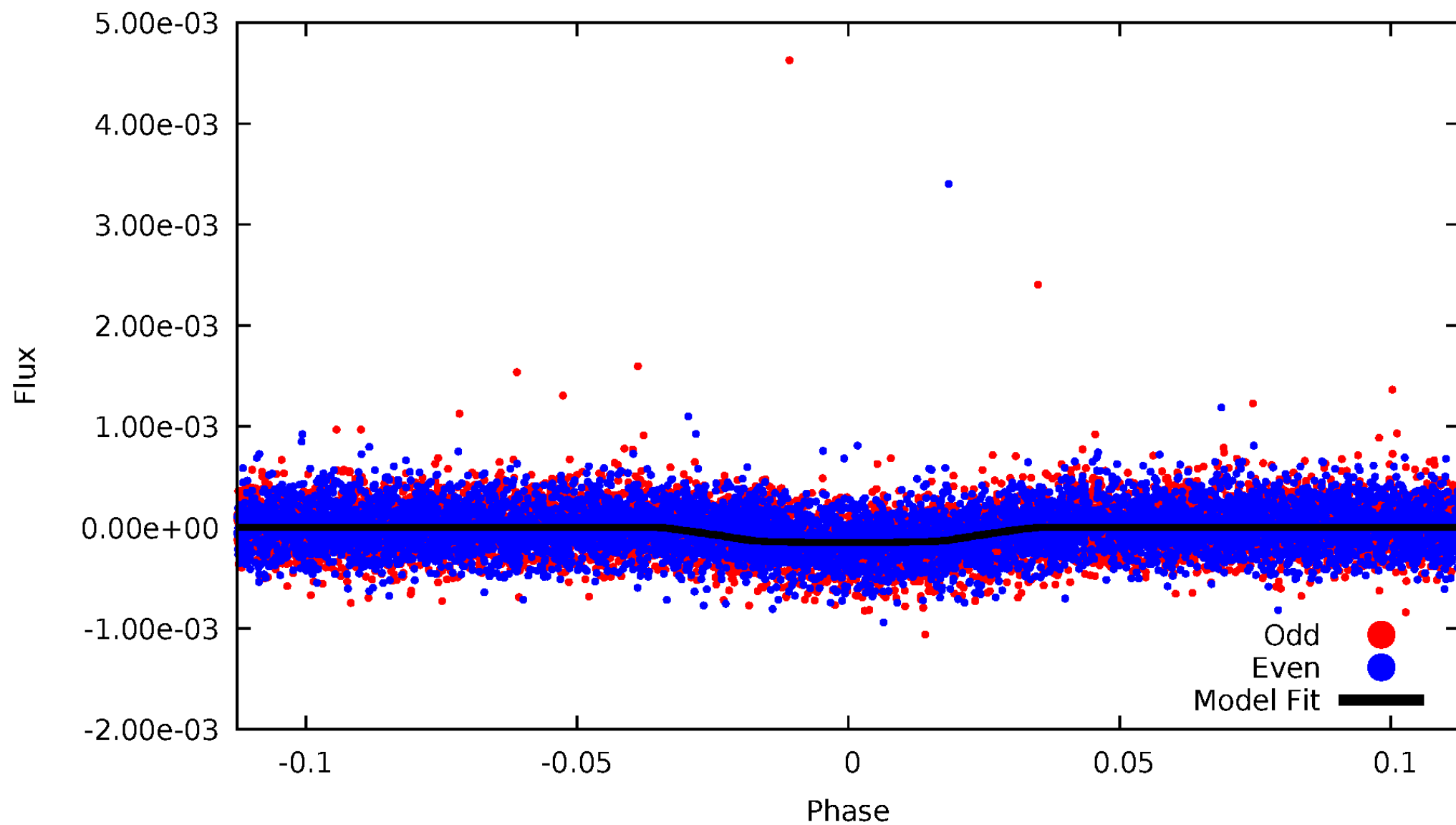


TCE 005213902-01



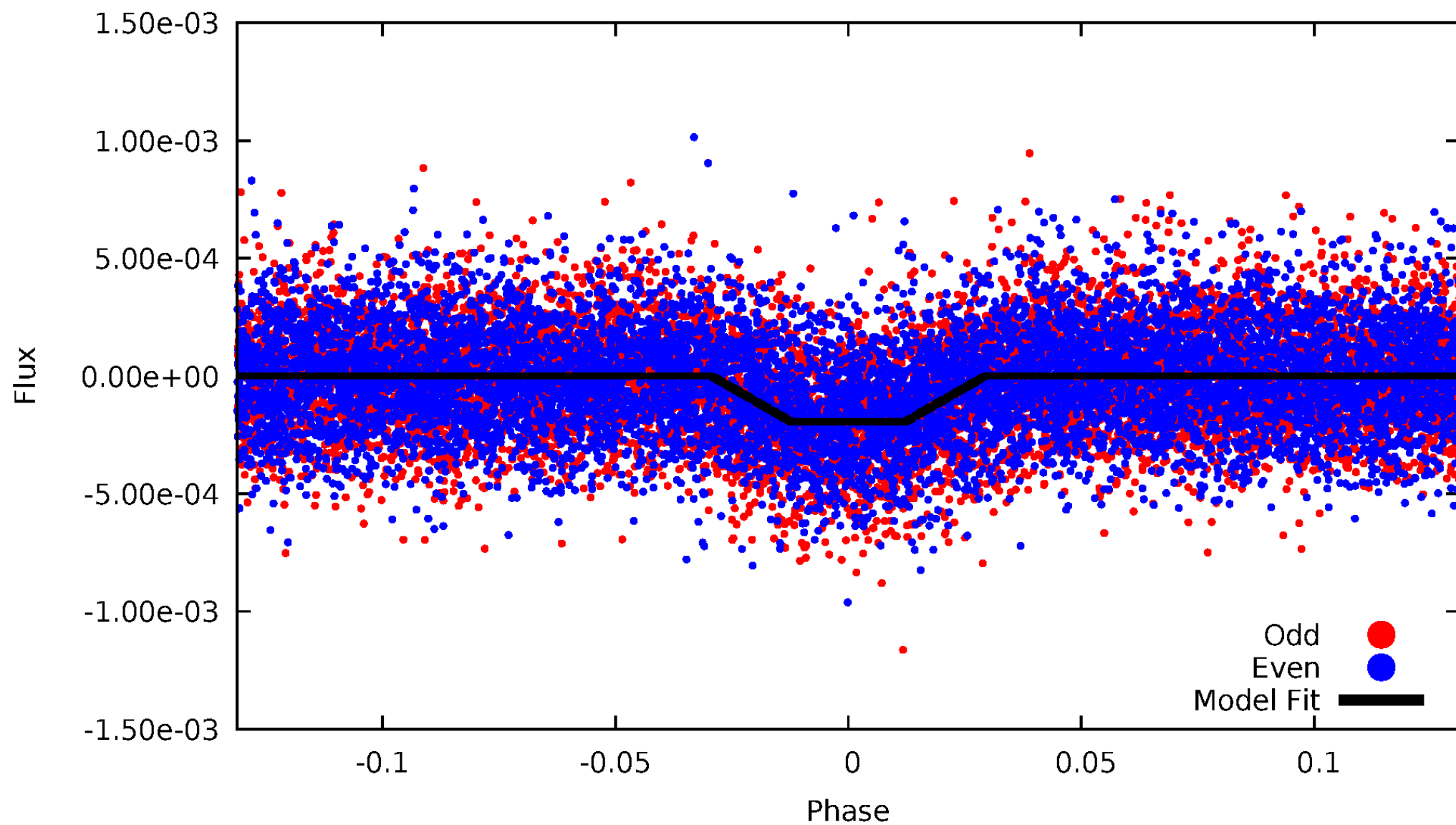
DV Odd/Even

TCE 005213902-01



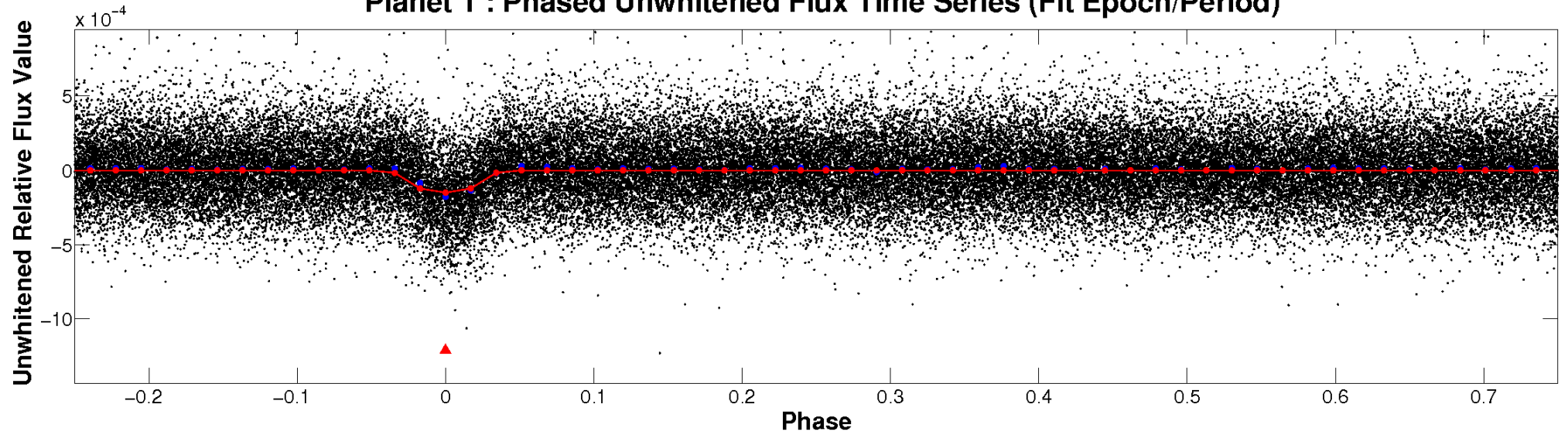
ALT Odd/Even

TCE 005213902-01

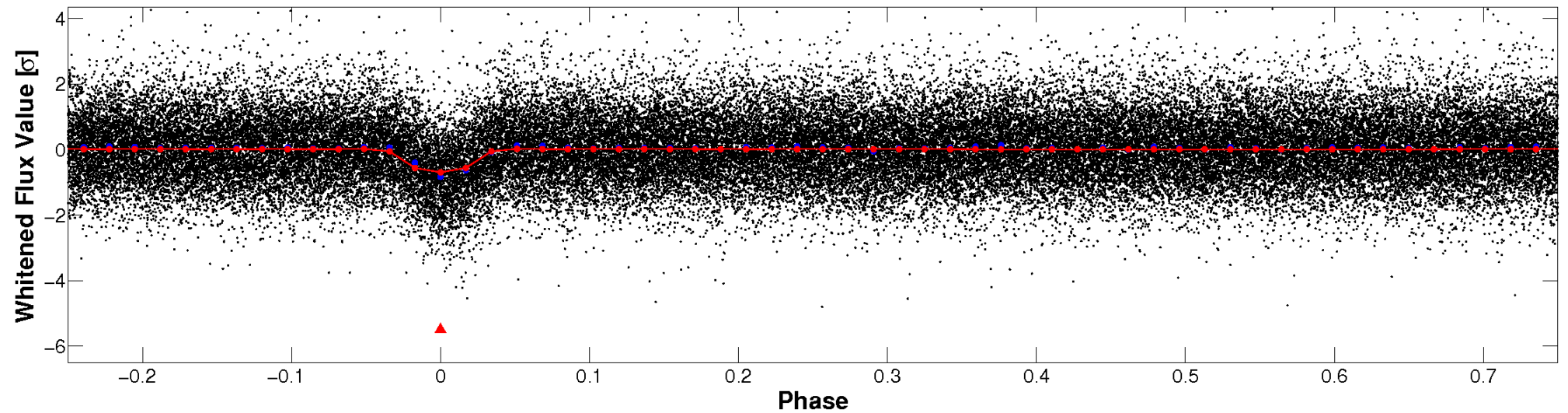


Non-Whitened Vs. Whitened Light Curve

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

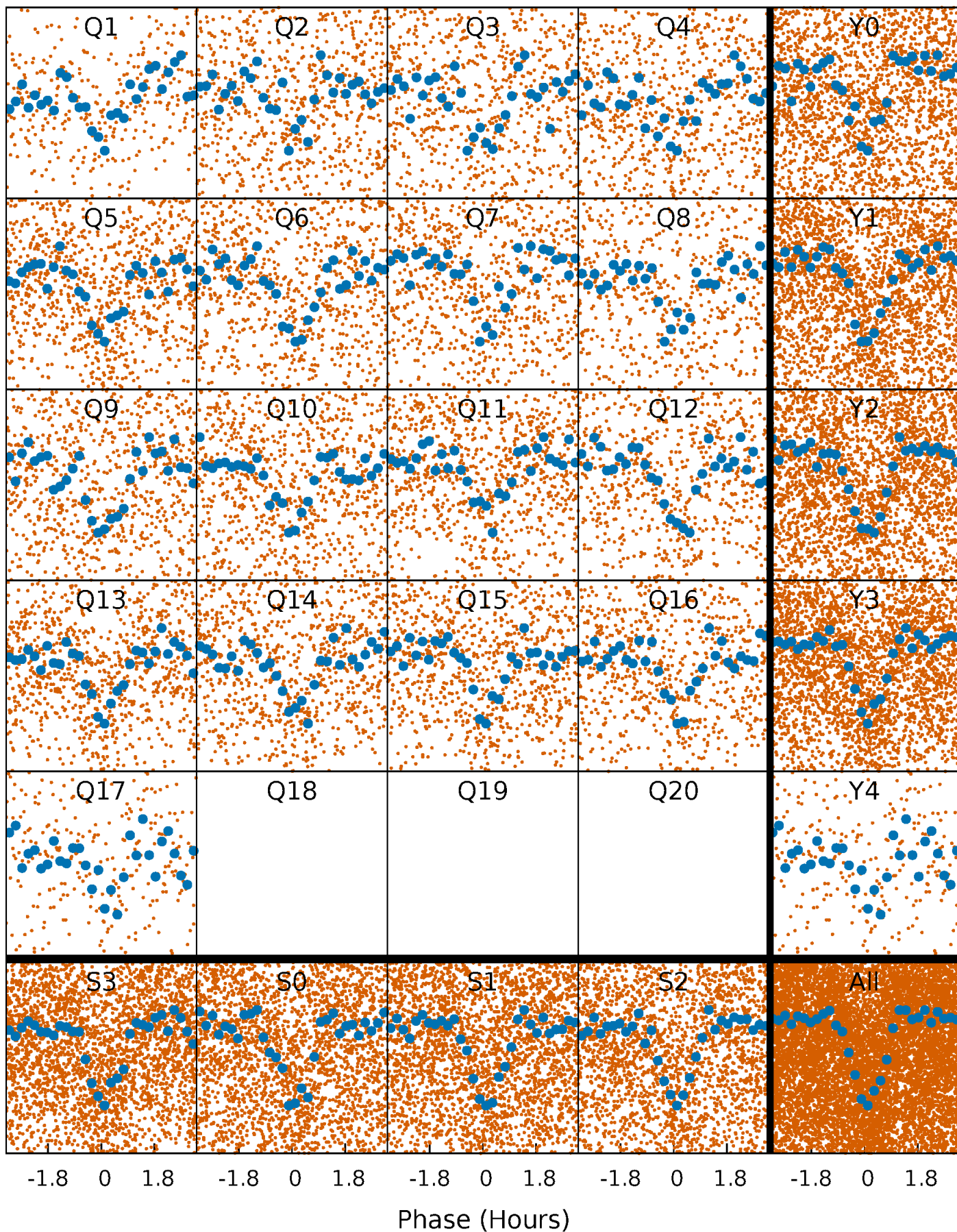


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



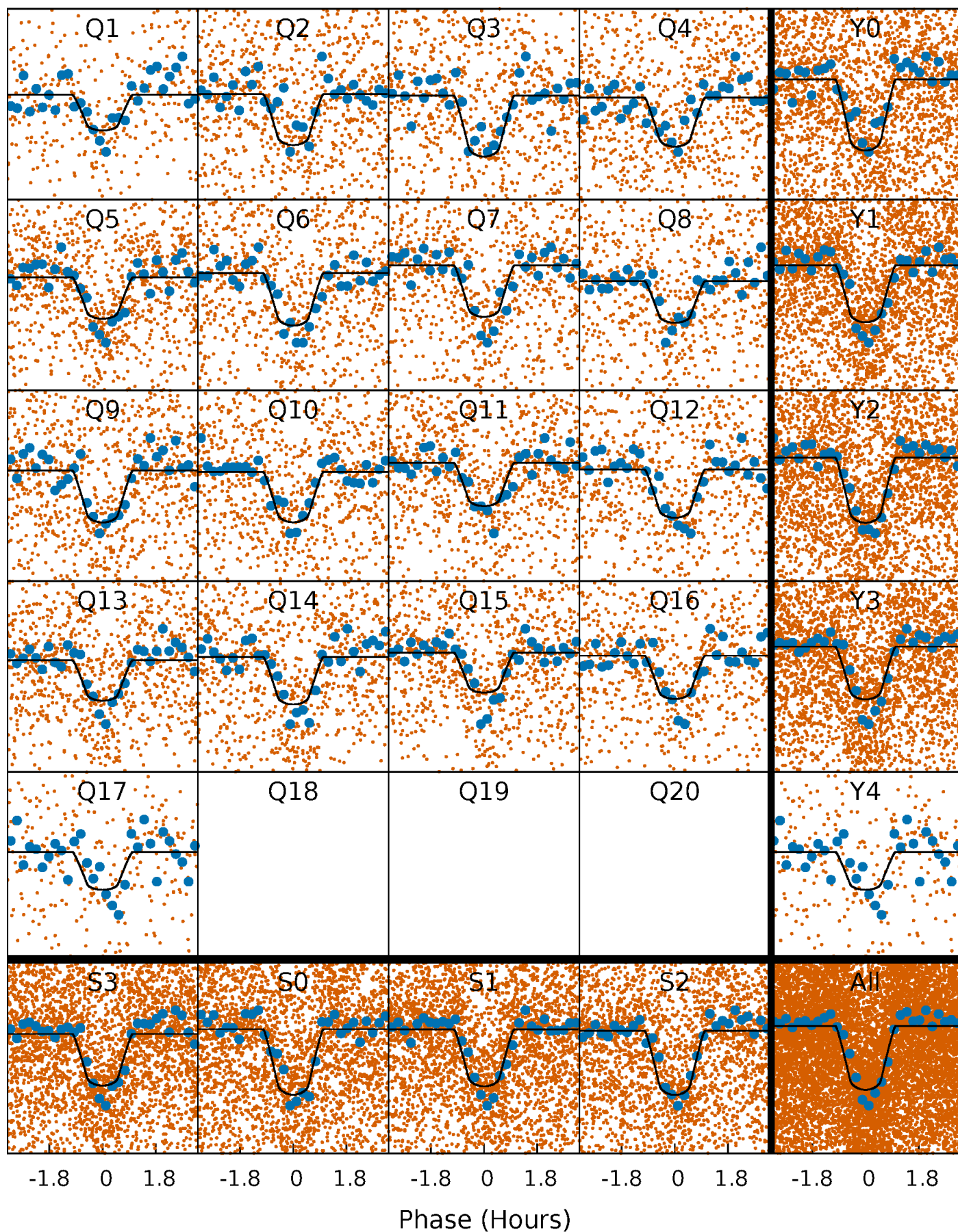
PDC Quarter-Phased Transit Curves

TCE 005213902-01 P= 1.194809 Days $T_0=132.181052$ (BKJD)



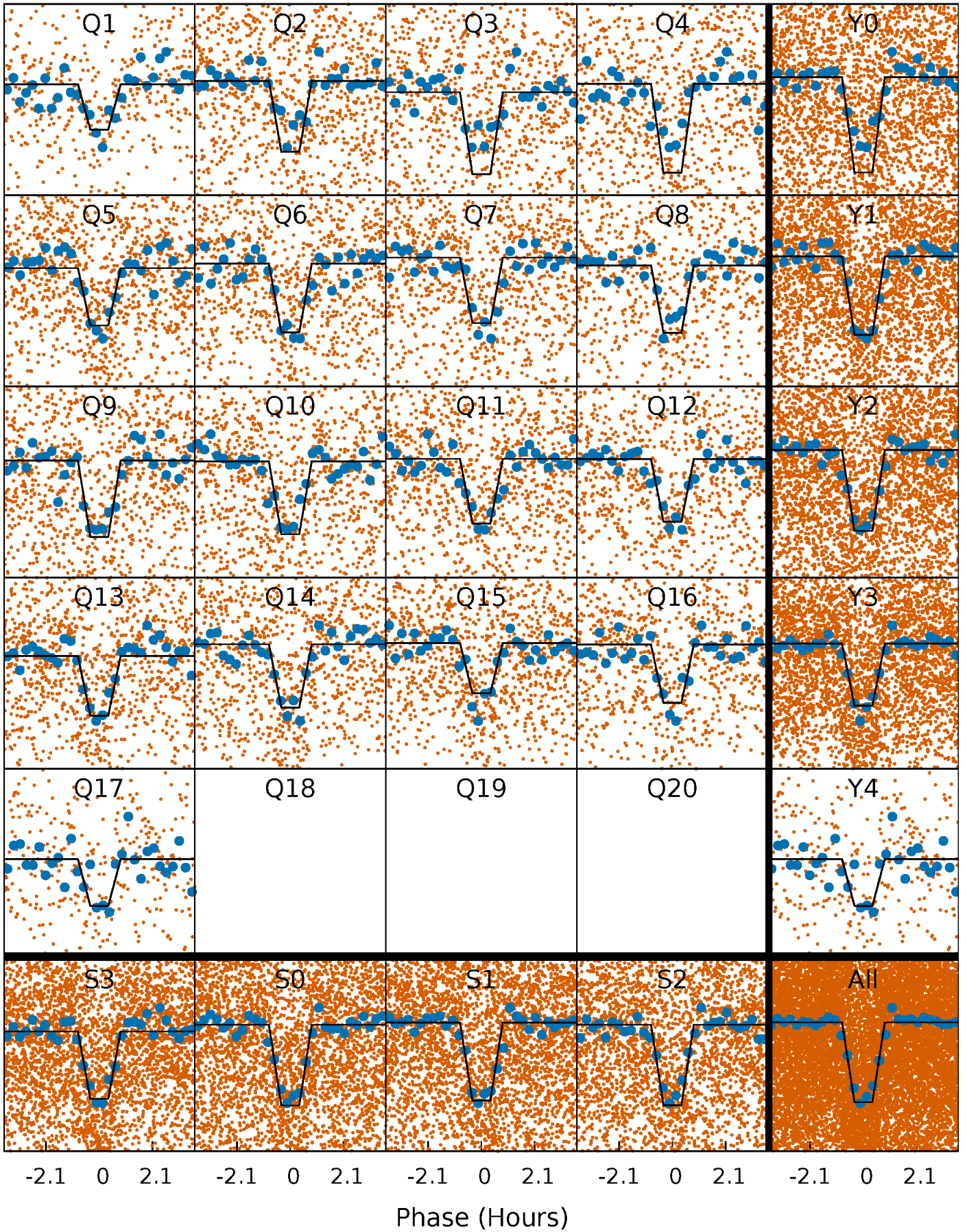
DV Quarter-Phased Transit Curves

TCE 005213902-01 P= 1.194809 Days $T_0=132.181052$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

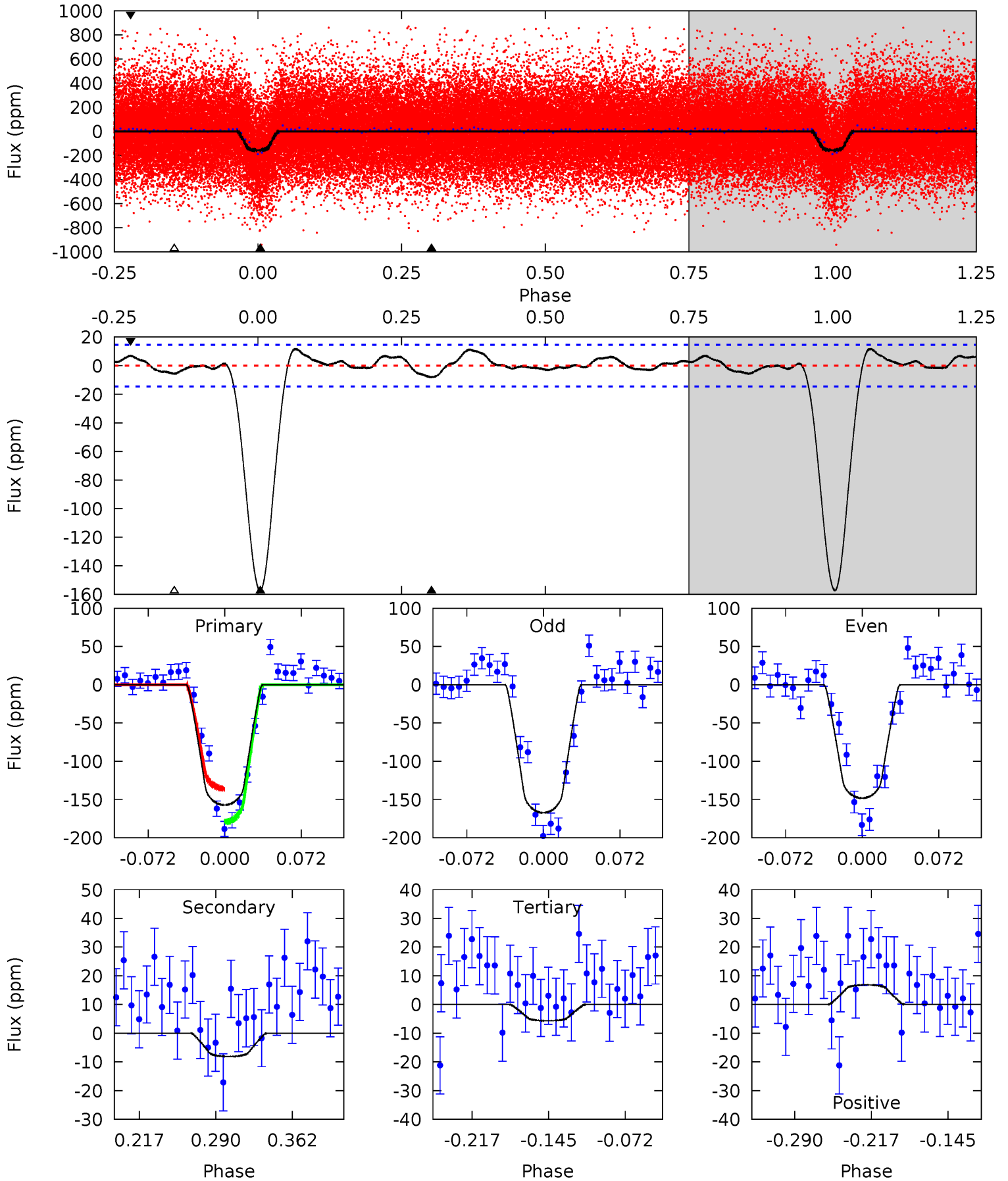
TCE 005213902-01 P= 1.194816 Days $T_0=132.180689$ (BKJD)



DV Model-Shift Uniqueness Test

005213902-01, P = 1.194809 Days, E = 130.986243 Days

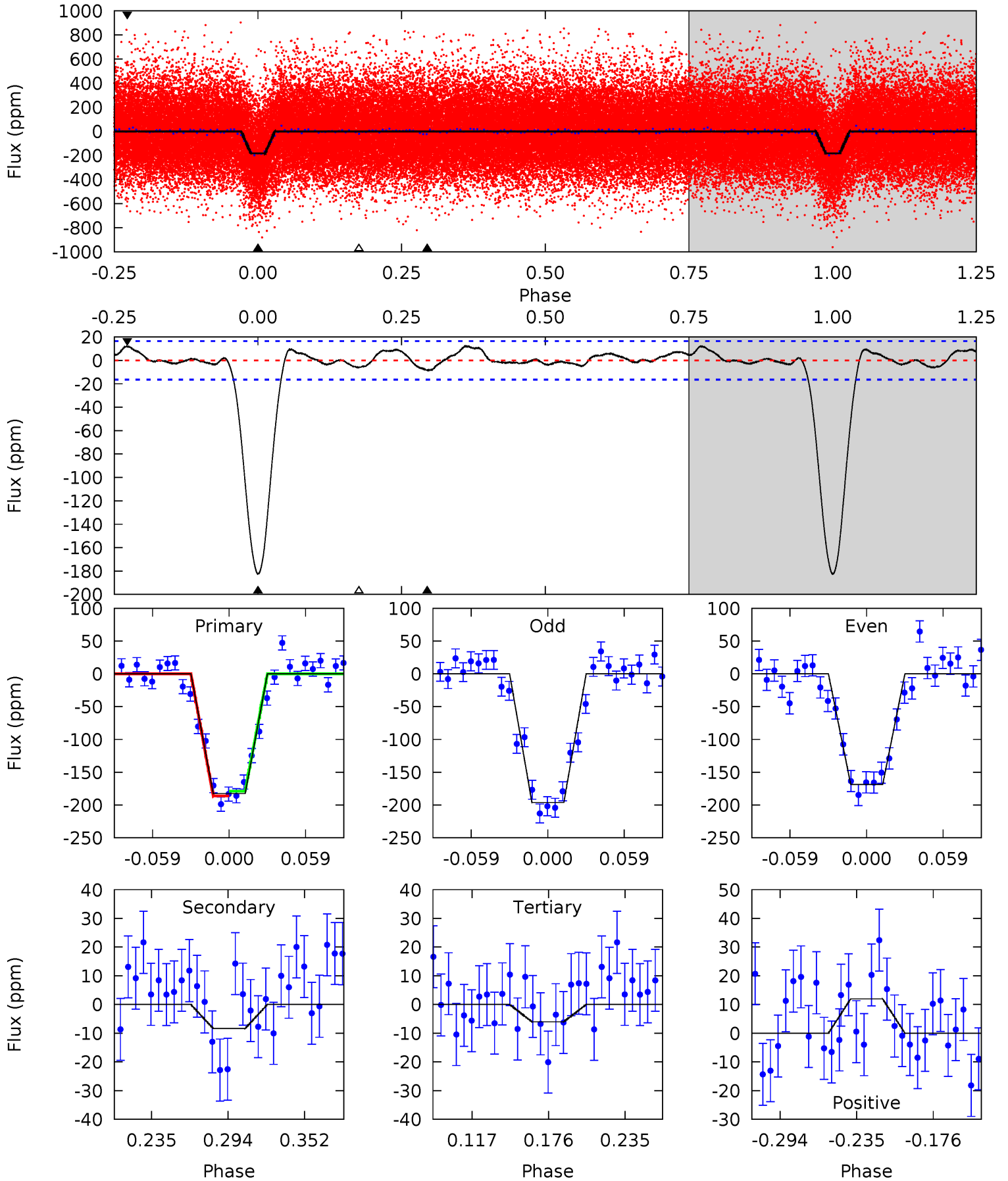
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 49.9 | 2.59 | 1.81 | 2.18 | 4.63 | 1.80 | 1.07 | 48.1 | 47.8 | 0.78 | 0.41 | 3.05 | 0.97 | 0.07 | 6.94 |



Alt Model-Shift Uniqueness Test

005213902-01, P = 1.194816 Days, E = 130.985873 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 51.9 | 2.37 | 1.71 | 3.40 | 4.68 | 1.89 | 1.26 | 50.2 | 48.5 | 0.66 | -1.03 | 3.89 | 0.97 | 0.06 | 1.02 |



Stellar Parameters For KIC 005213902

| | $T_{\text{eff}}(K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6198^{+175}_{-197} | $4.475^{+0.054}_{-0.216}$ | $-0.280^{+0.250}_{-0.300}$ | $0.970^{+0.305}_{-0.102}$ | $1.024^{+0.144}_{-0.129}$ | $1.583^{+0.457}_{-0.835}$ |
| | +3%/-3% | +1%/-5% | +89%/-107% | +31%/-11% | +14%/-13% | +29%/-53% |
| 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 005213902-01 / KOI 1941.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|---------------------------|
| DV | -8 ± 3 | $1.49^{+0.37}_{-0.36}$ | 2576^{+195}_{-126} | 3166^{+442}_{-495} | $0.933^{+0.853}_{-0.466}$ |
| Alt. | -8 ± 4 | $1.56^{+0.38}_{-0.37}$ | 2580^{+199}_{-131} | 3149^{+393}_{-539} | $0.908^{+0.759}_{-0.457}$ |

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

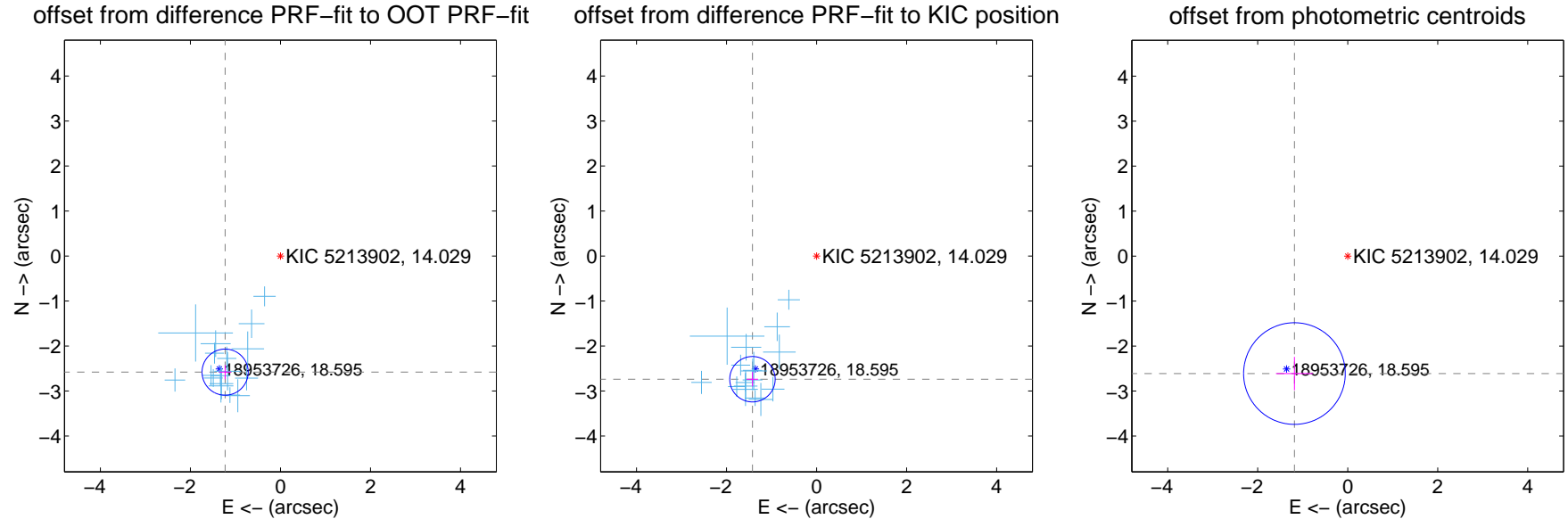
DV Centroid Data

Supplemental centroid analysis for 005213902-01. Kepler magnitude: 14.03. Transit SNR 34.98

There are 17 quarters with good PRF difference image offsets

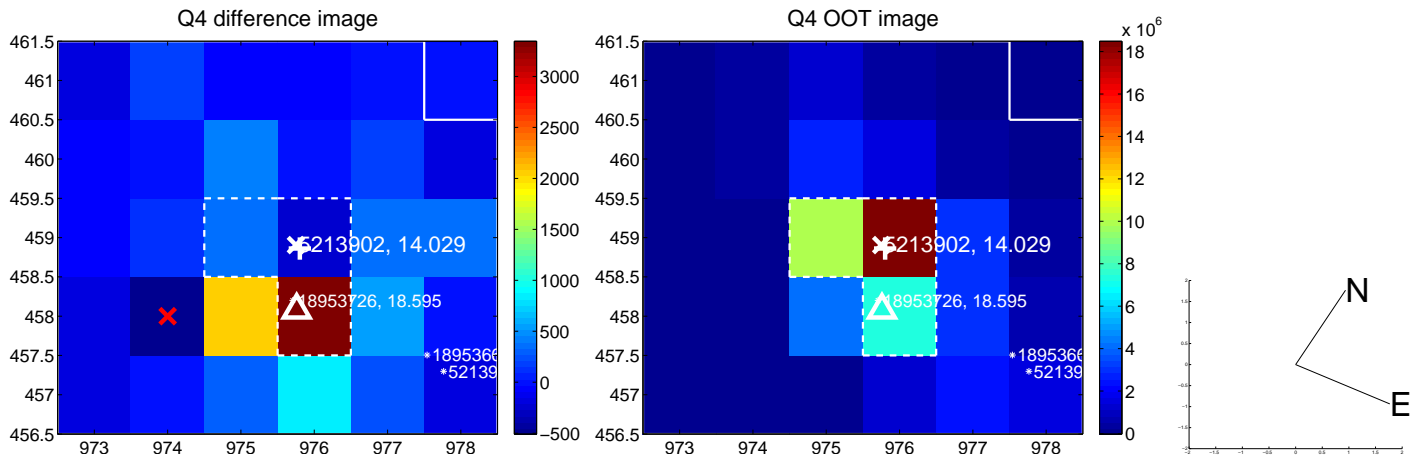
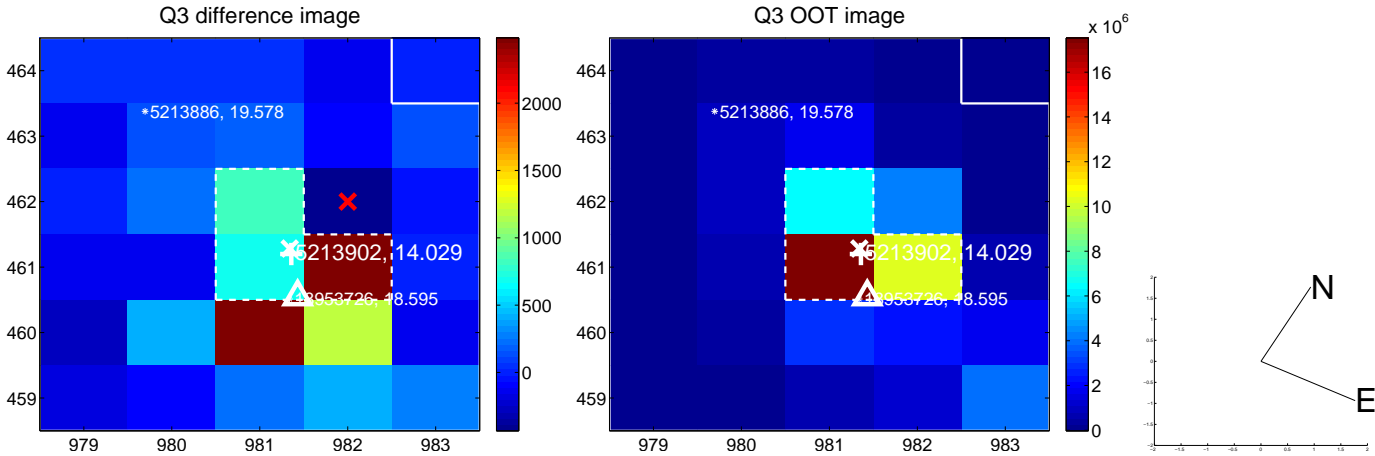
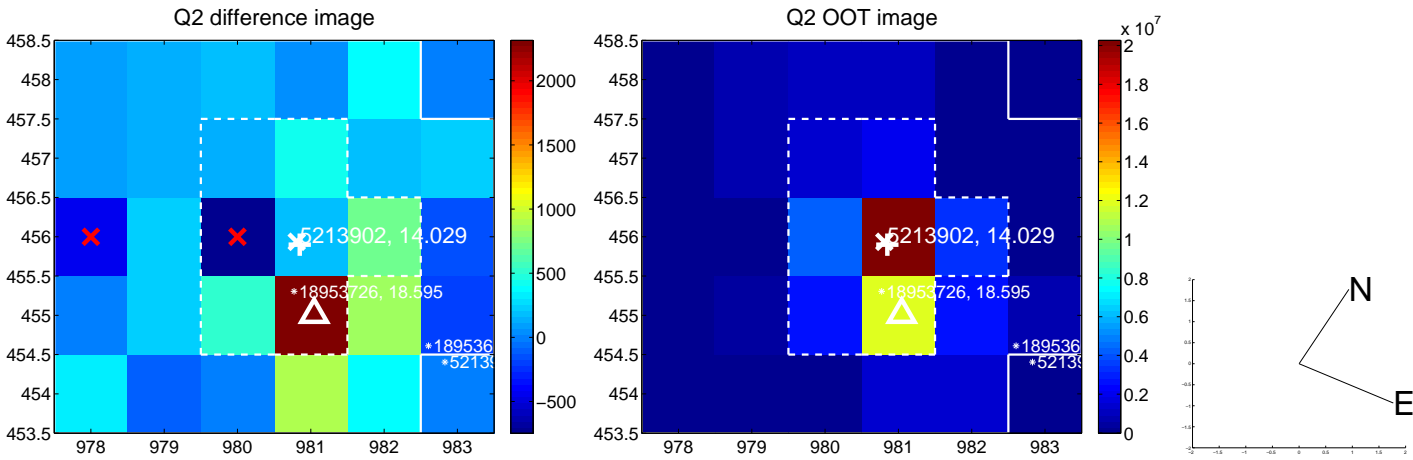
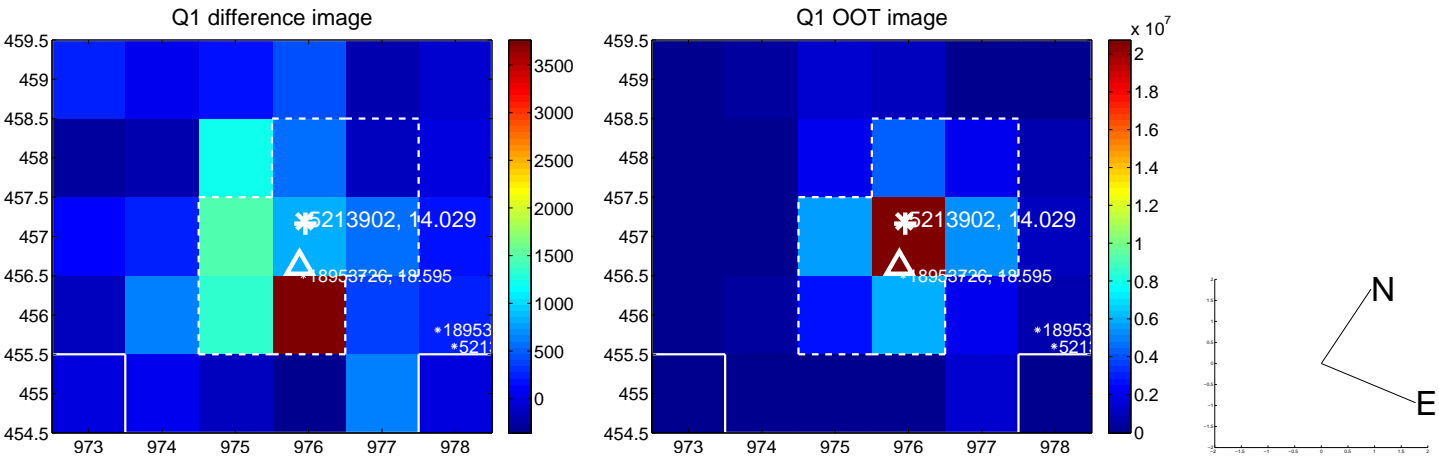
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 2.858 ± 0.171 | 16.73 | 1.229 ± 0.132 | -2.580 ± 0.158 |
| PRF-fit source offset from KIC position | 3.086 ± 0.168 | 18.35 | 1.425 ± 0.126 | -2.738 ± 0.160 |
| photometric centroid source offset | 2.87 ± 0.38 | 7.61 | 1.18 ± 0.41 | -2.61 ± 0.37 |

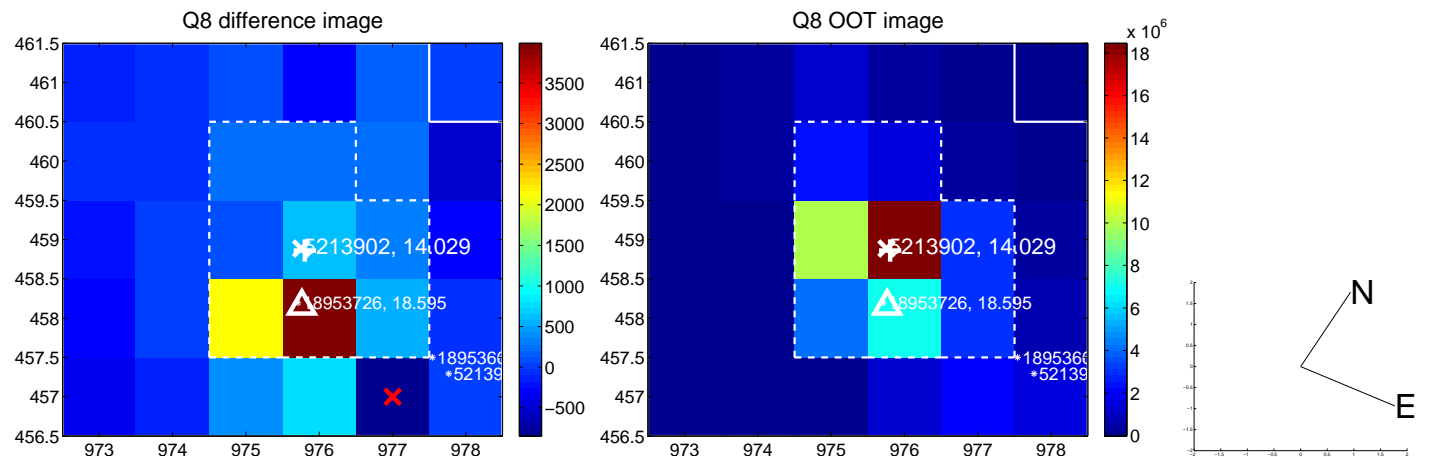
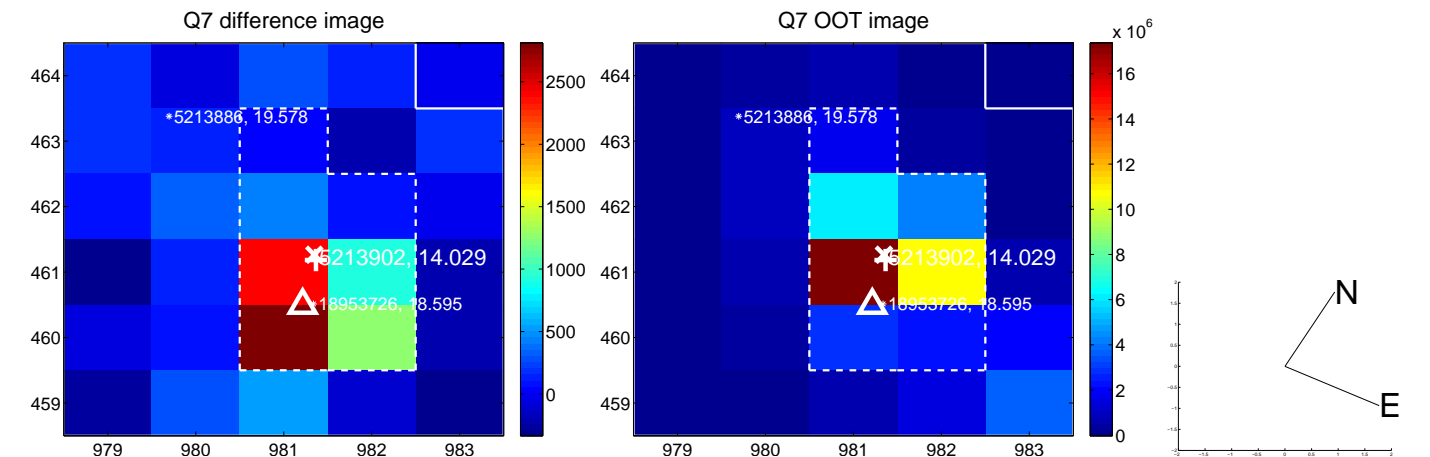
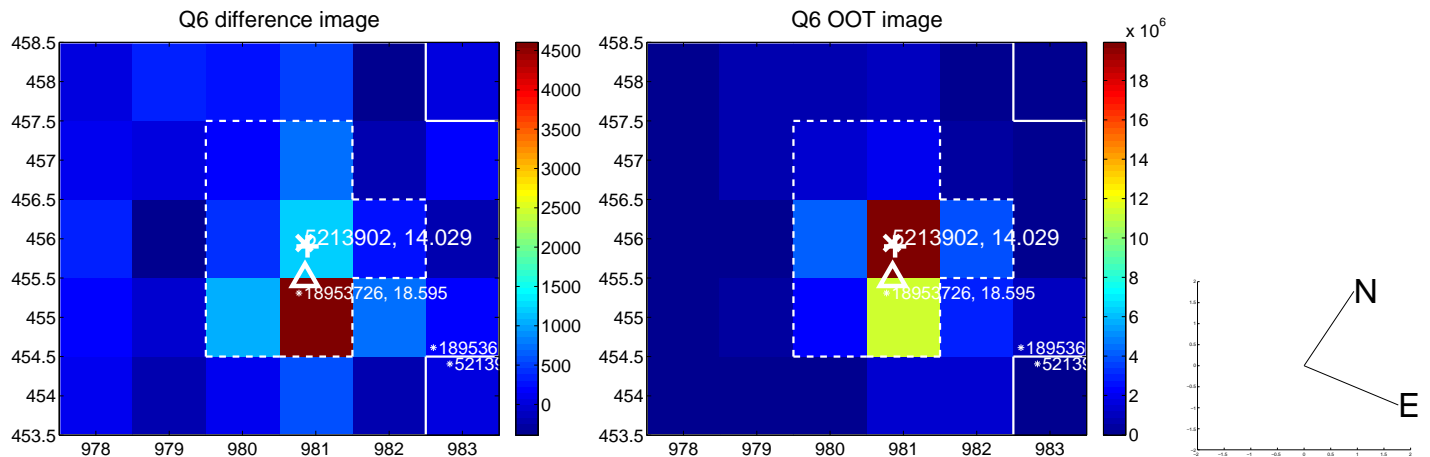
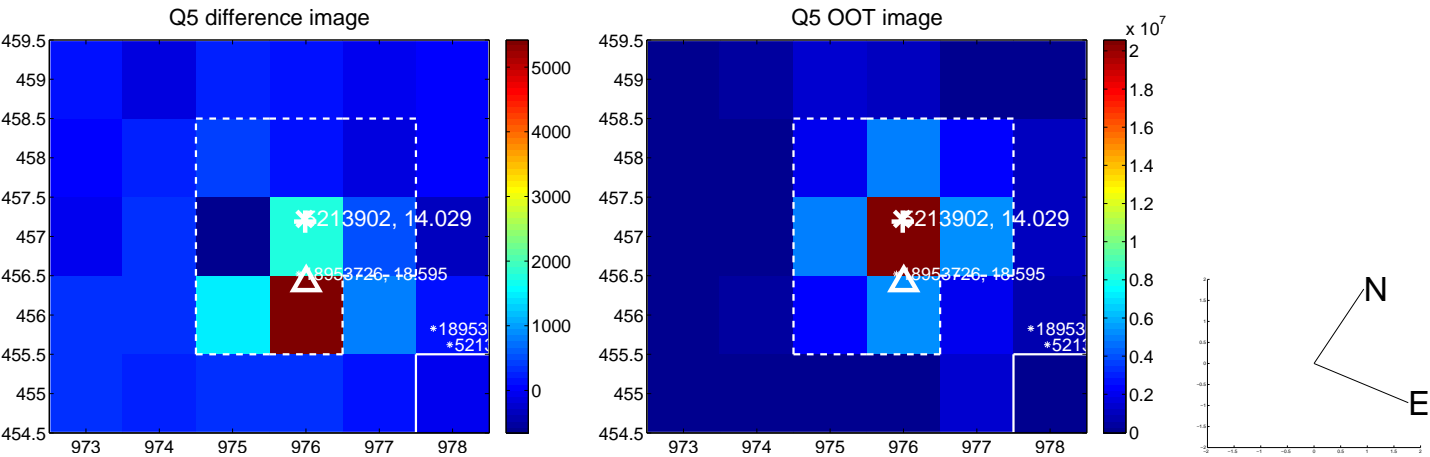


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

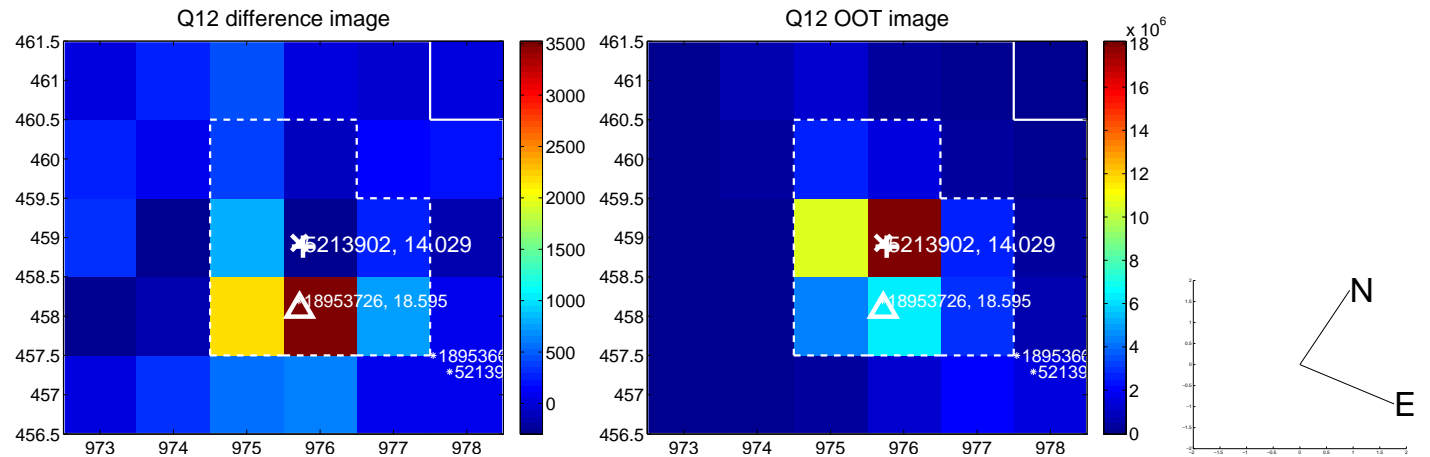
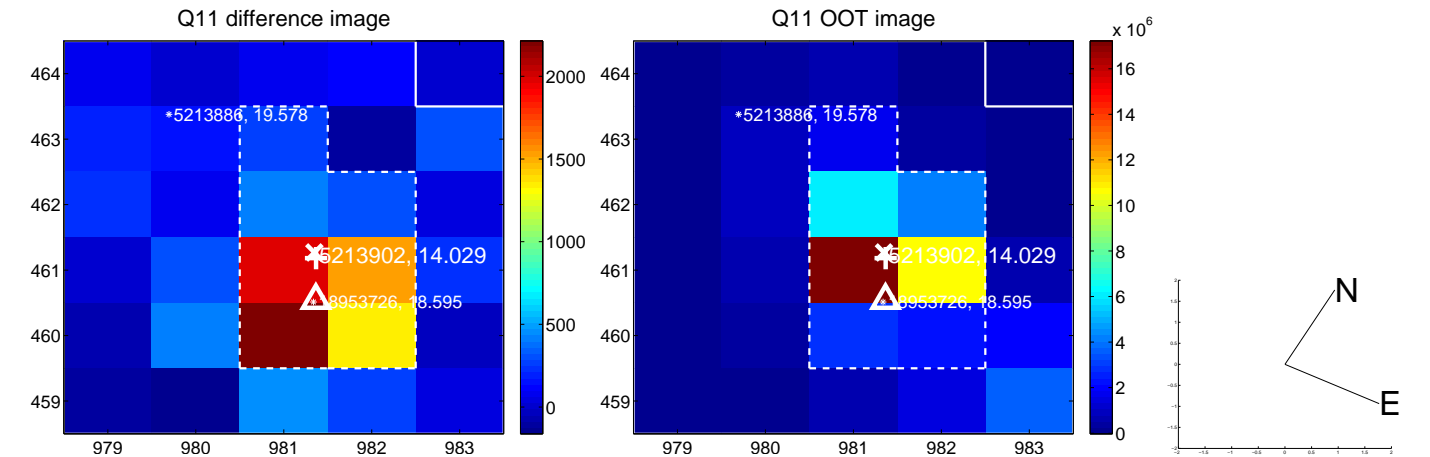
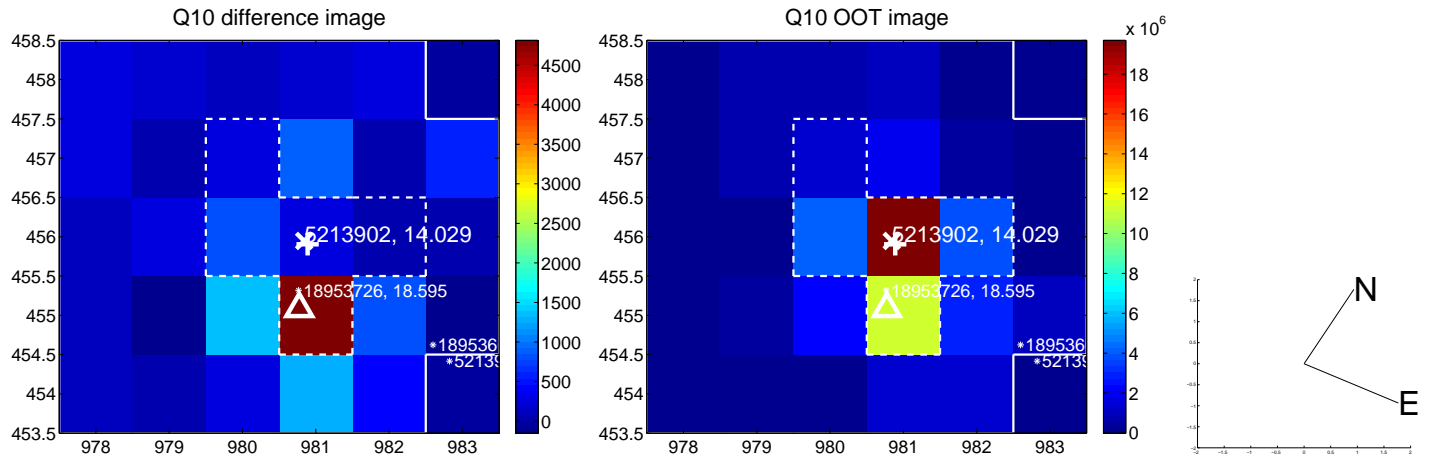
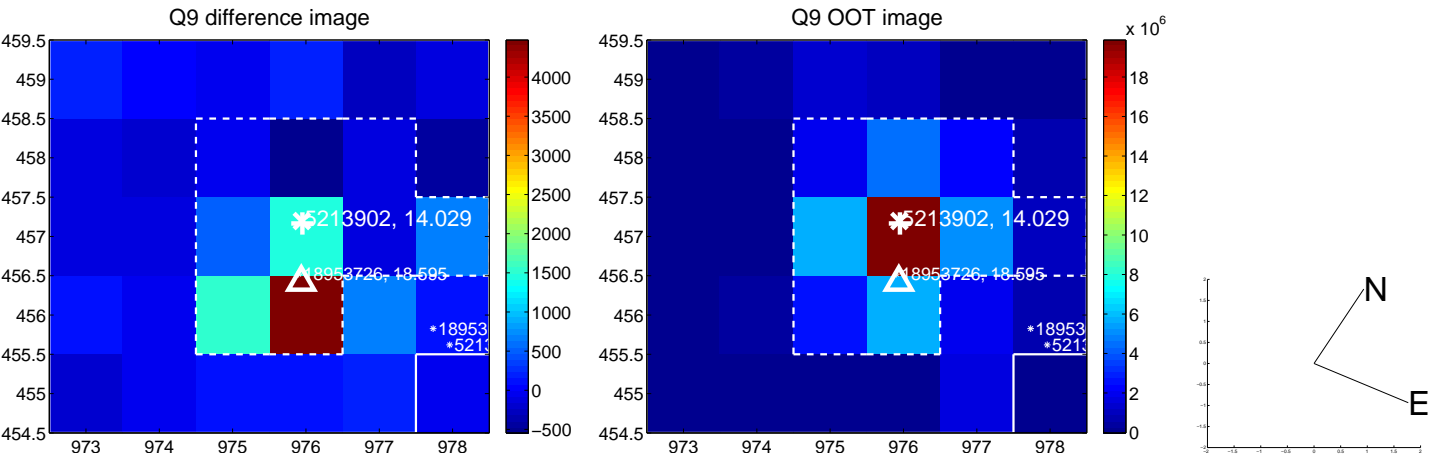
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



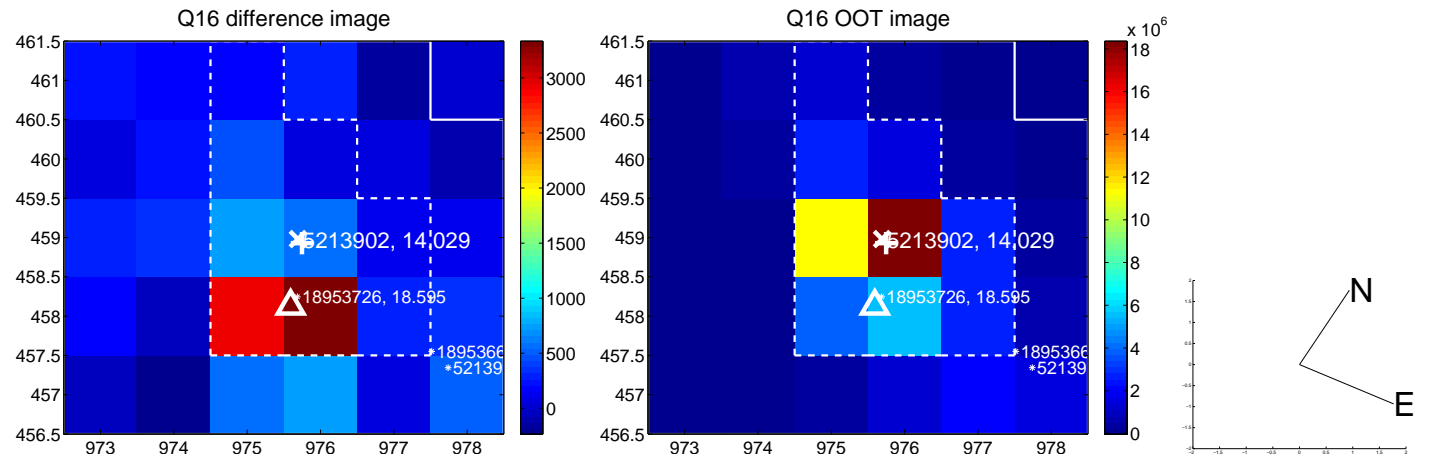
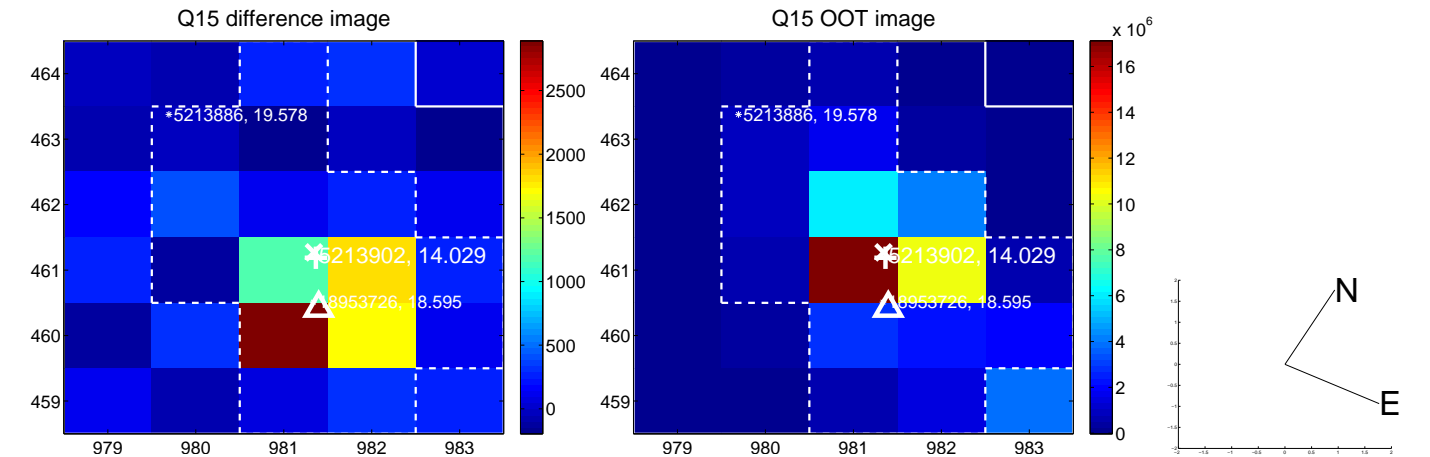
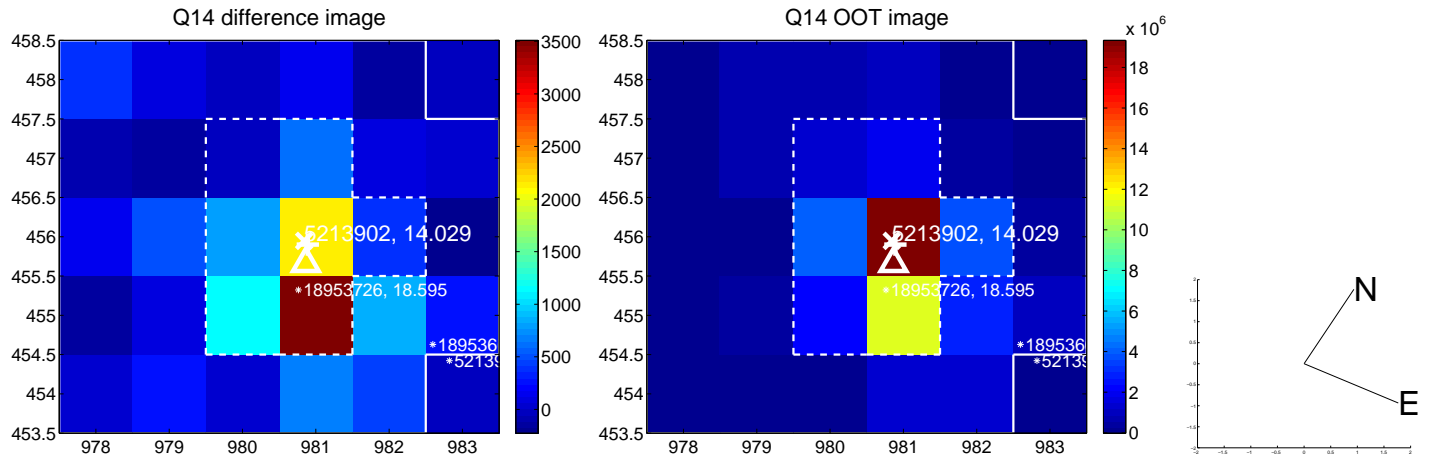
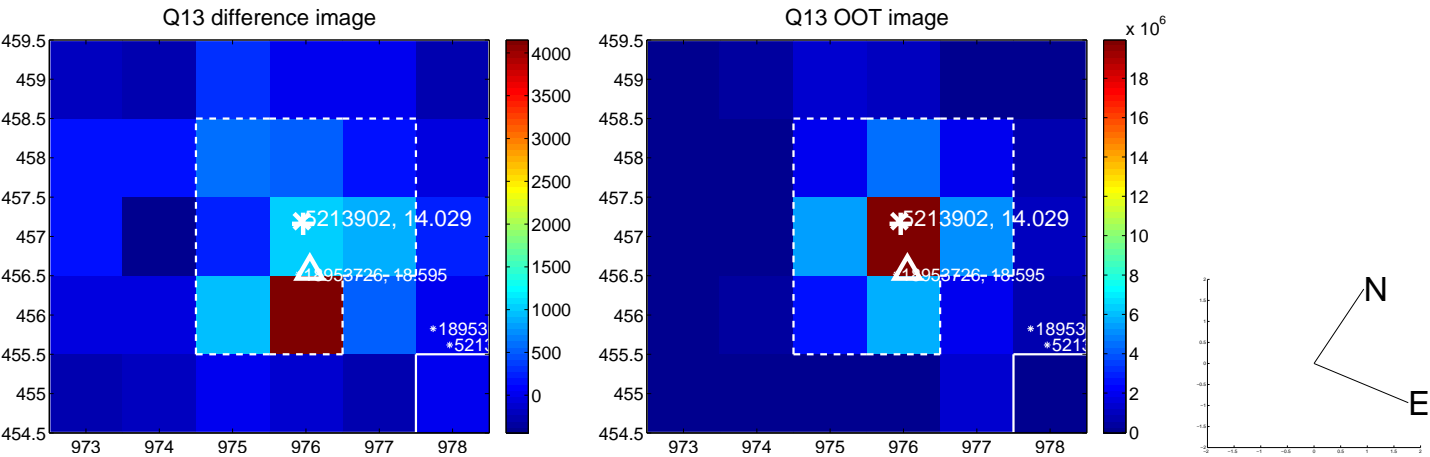
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



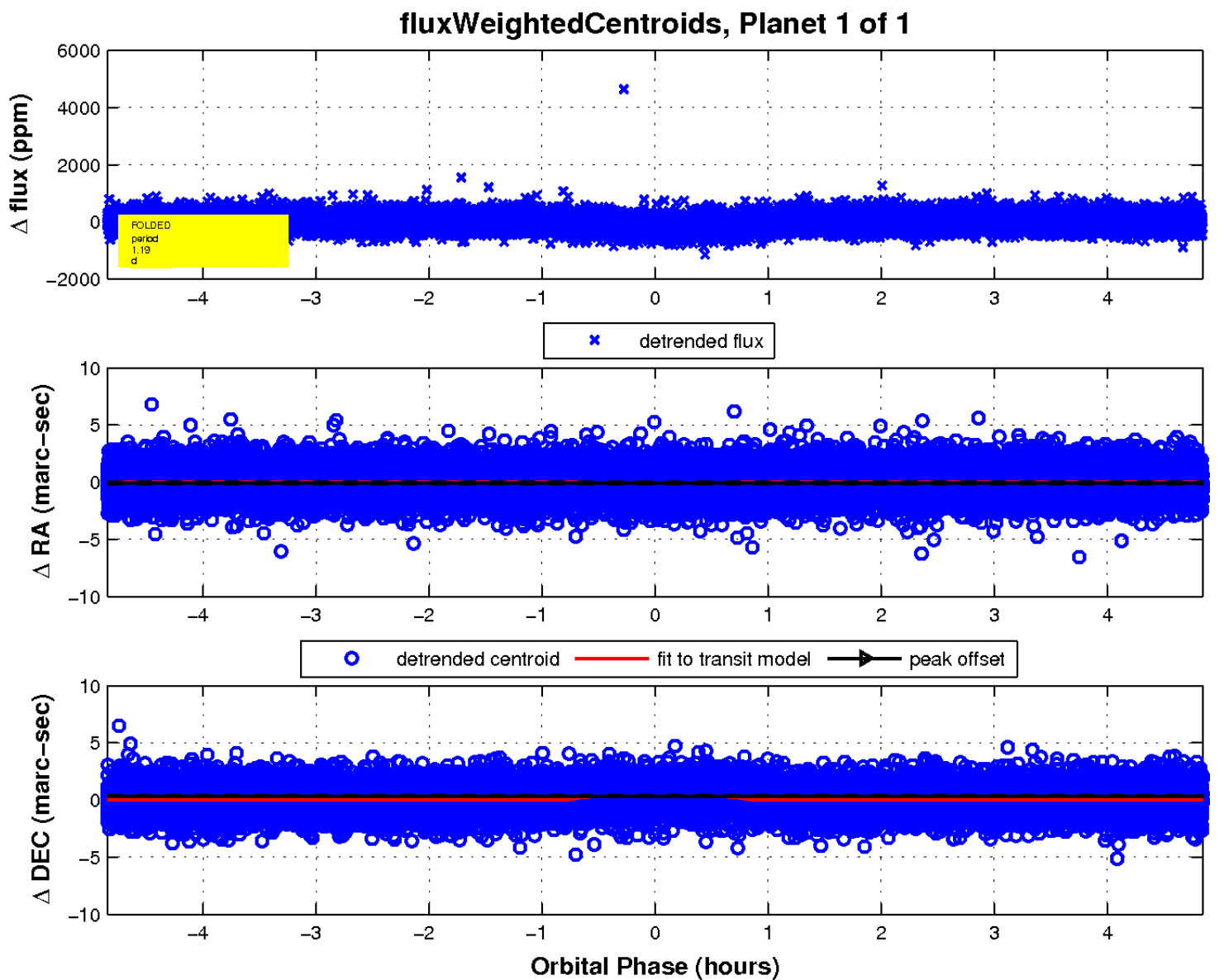
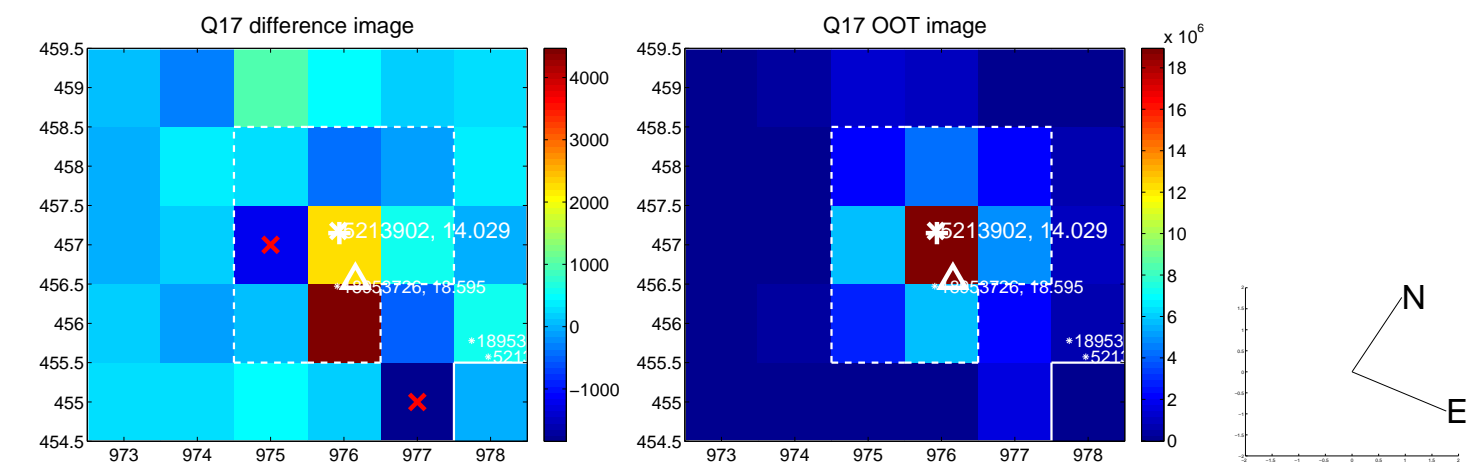
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



UKIRT Image

Declination

