

KIC 007597197

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|------|-----------------------------|-----------------|------------------------|------------------------|
| 007597197-01 | OBS | No | 4.140169 | 131.999461 | 95.2 | 30.796 | 8.2 | 11.2 | 0.74 | 5047 | 0.70 | 157.26 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|----------|
| 007597197-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV |

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

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

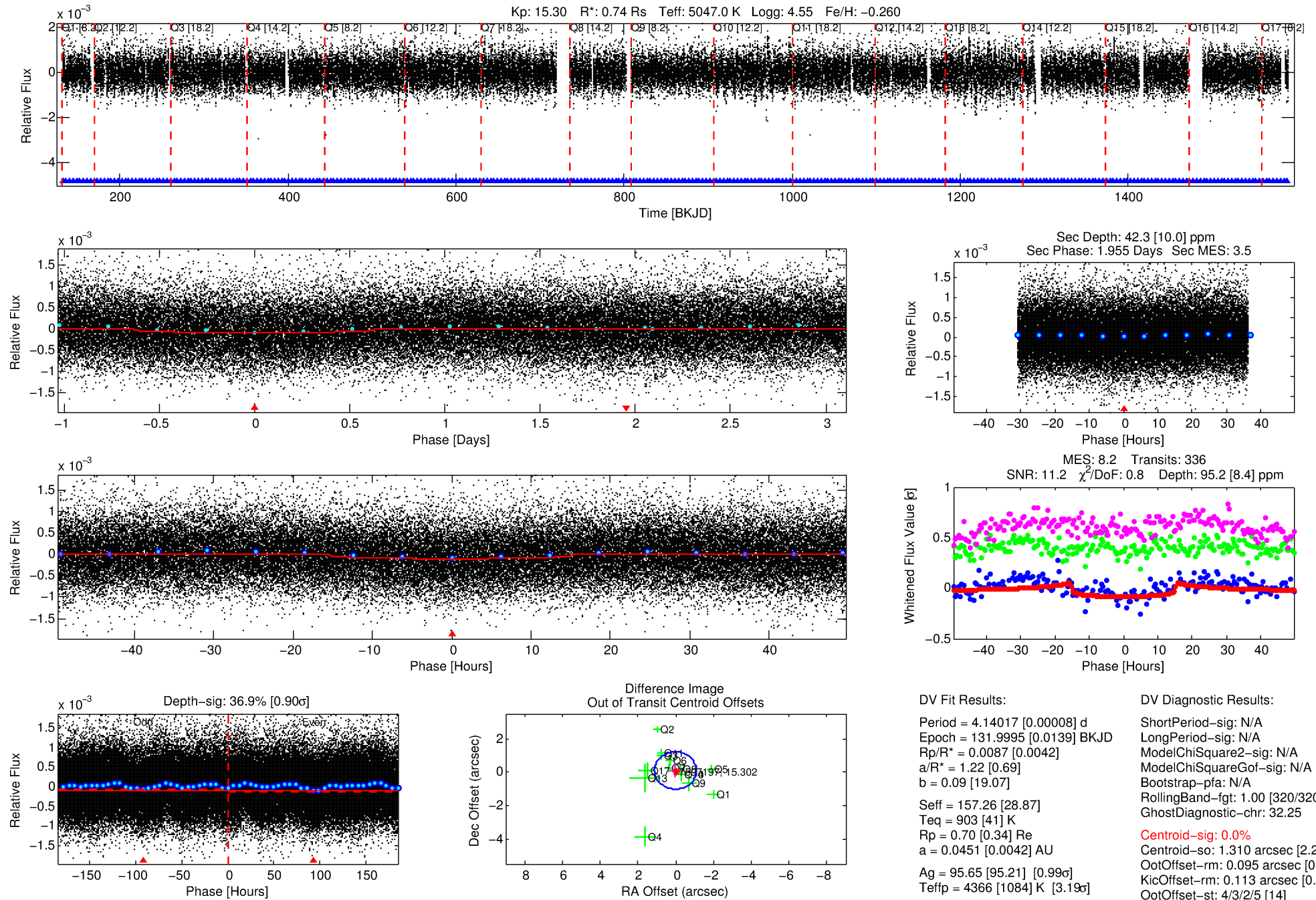
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007597197-01

No Significant Match Found

DV One-Page Summary

KIC: 7597197 Candidate: 1 of 1 Period: 4.140 d



DV Fit Results:

Period = 4.14017 [0.00008] d
Epoch = 131.9995 [0.0139] BKJD
Rp/R* = 0.0087 [0.0042]
a/R* = 1.22 [0.69]
b = 0.09 [19.07]
Seff = 157.26 [28.87]
Teff = 903 [41] K
Rp = 0.70 [0.34] Re
a = 0.0451 [0.0042] AU
Ag = 95.65 [95.21] [0.99 σ]
Teffp = 4366 [1084] K [3.19 σ]

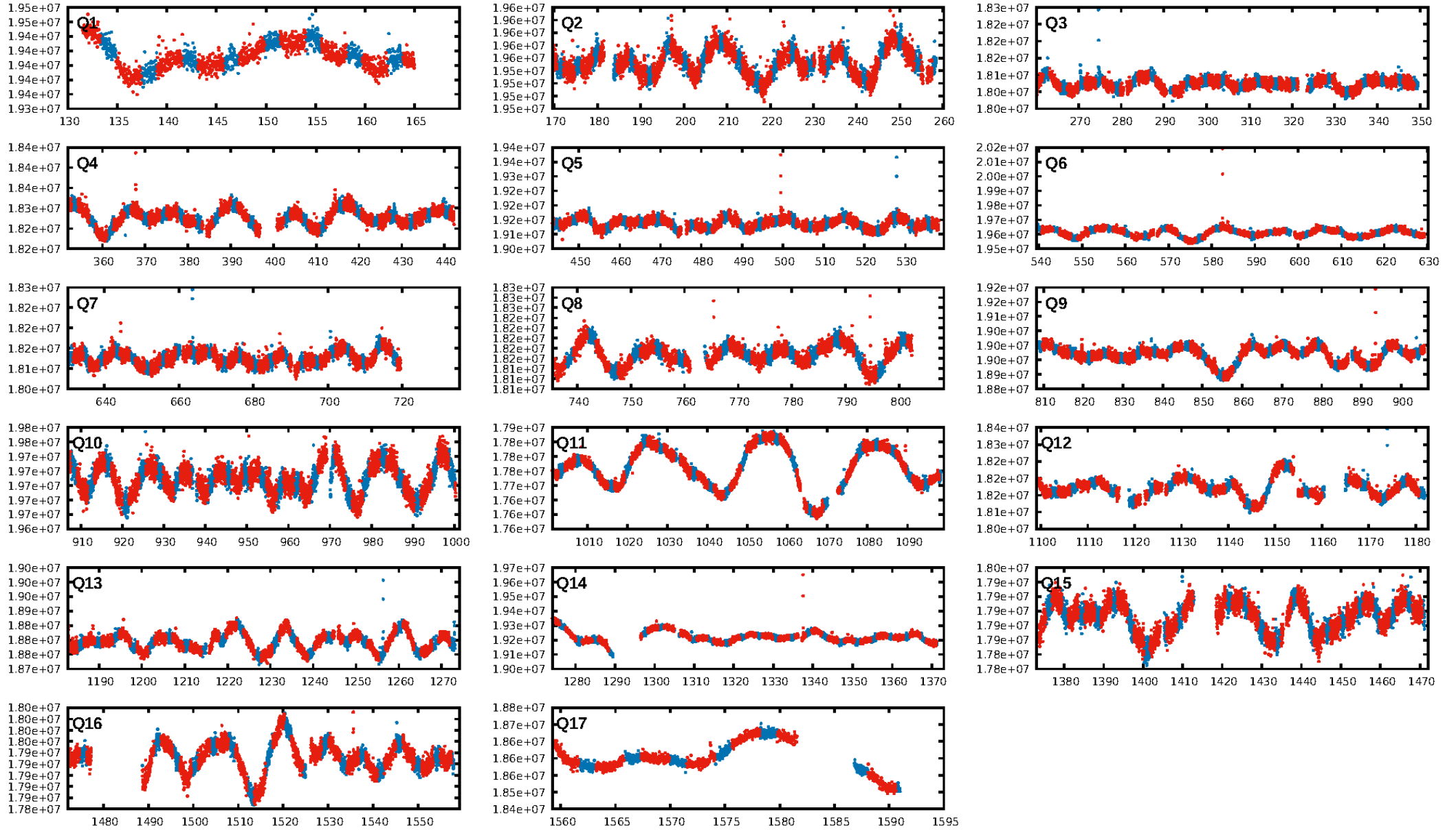
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [320/320]
GhostDiagnostic-chr: 32.25
Centroid-sig: 0.0%
Centroid-so: 1.310 arcsec [2.23 σ]
OotOffset-rm: 0.095 arcsec [0.26 σ]
KicOffset-rm: 0.113 arcsec [0.33 σ]
OotOffset-st: 4/3/2/5 [14]
KicOffset-st: 4/3/2/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [17/17]

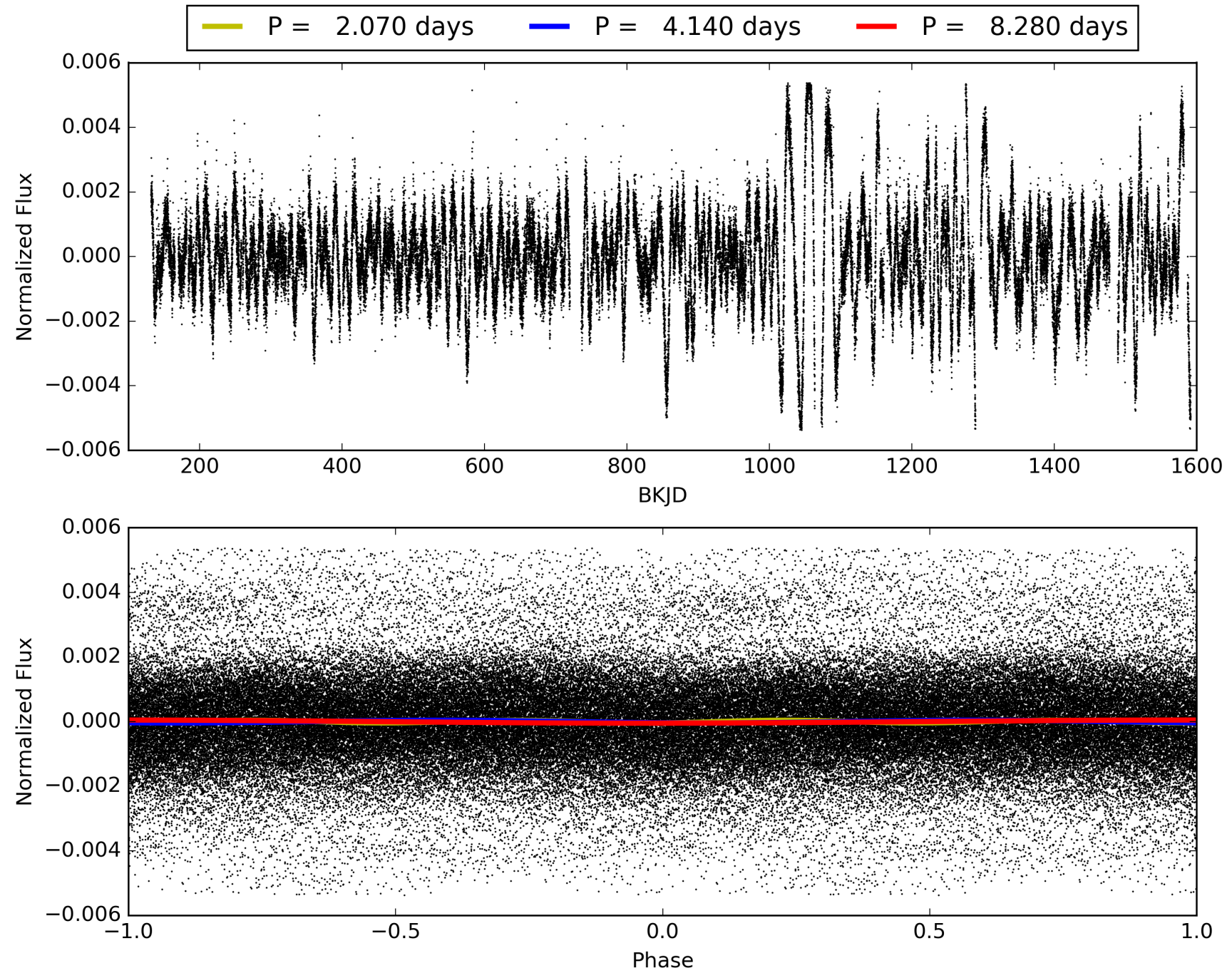
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:16:21 Z

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

TCE 007597197-01, PDC Light Curves

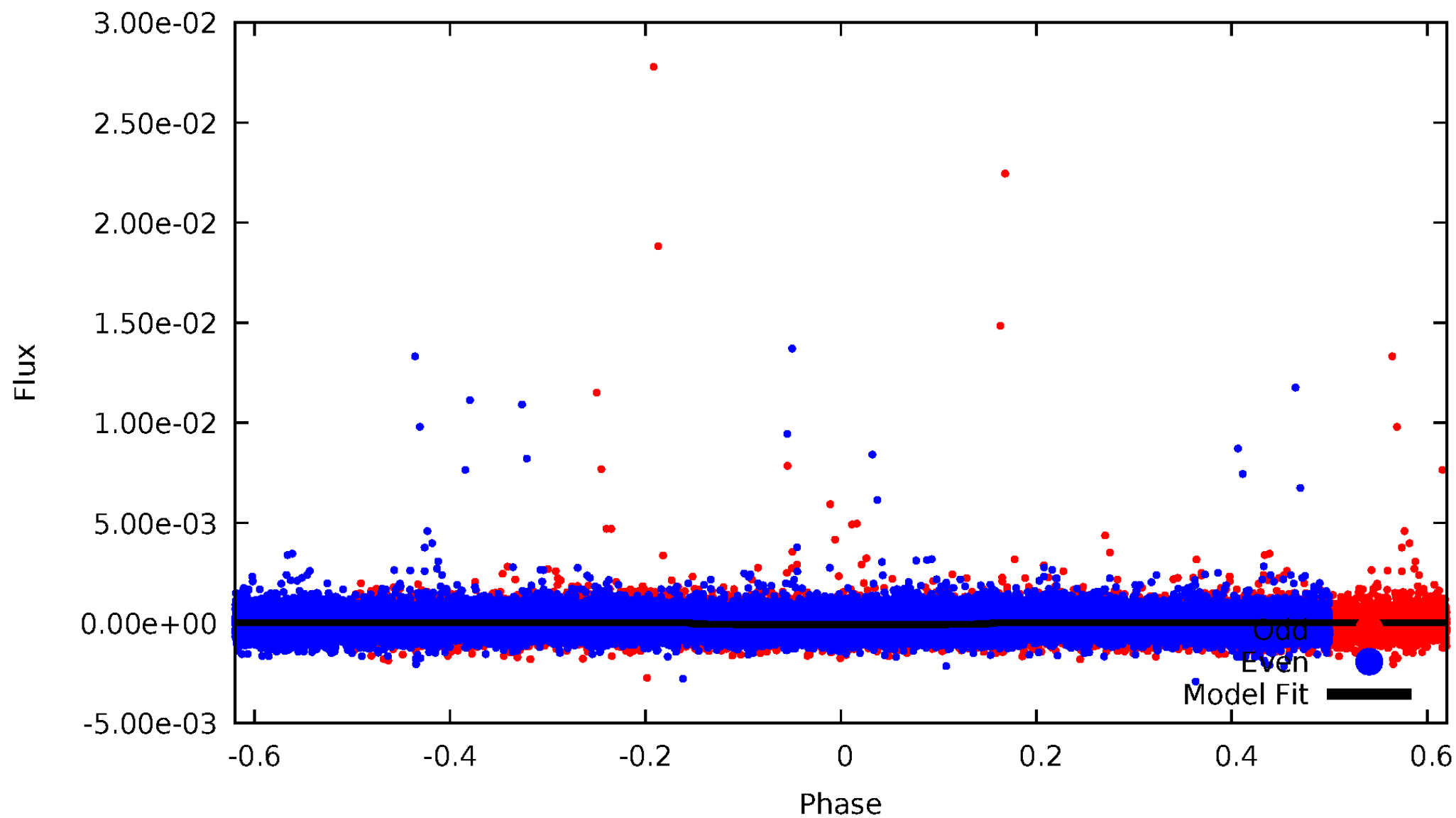


TCE 007597197-01



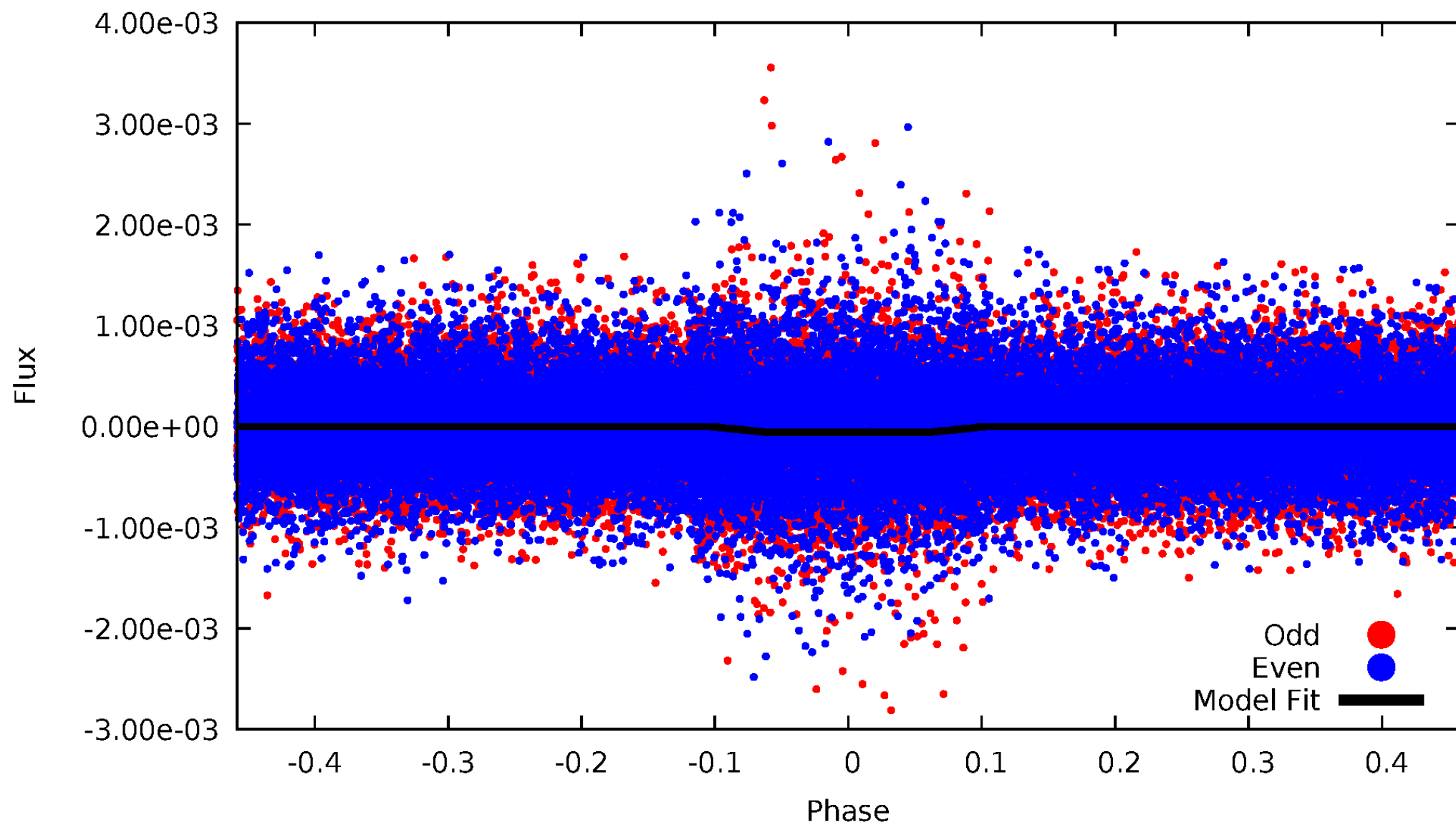
DV Odd/Even

TCE 007597197-01



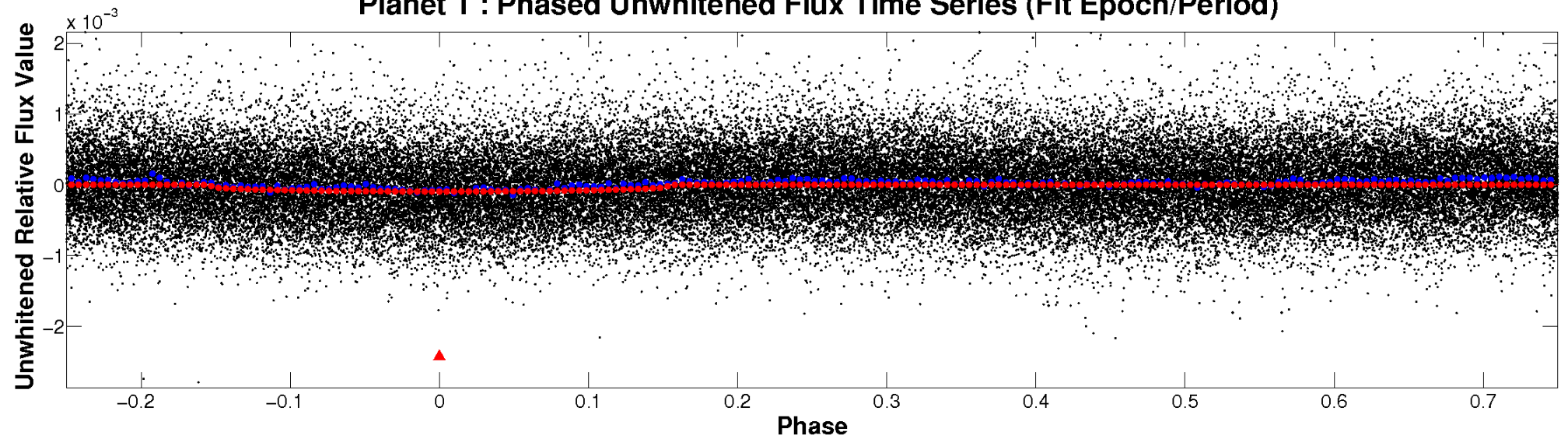
ALT Odd/Even

TCE 007597197-01

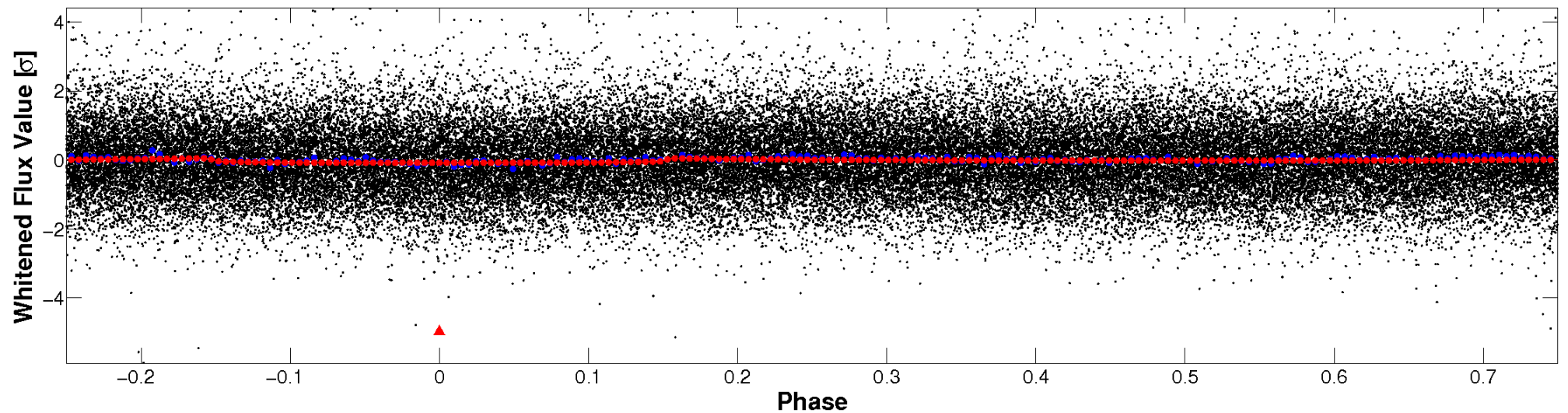


Non-Whitened Vs. Whitened Light Curve

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

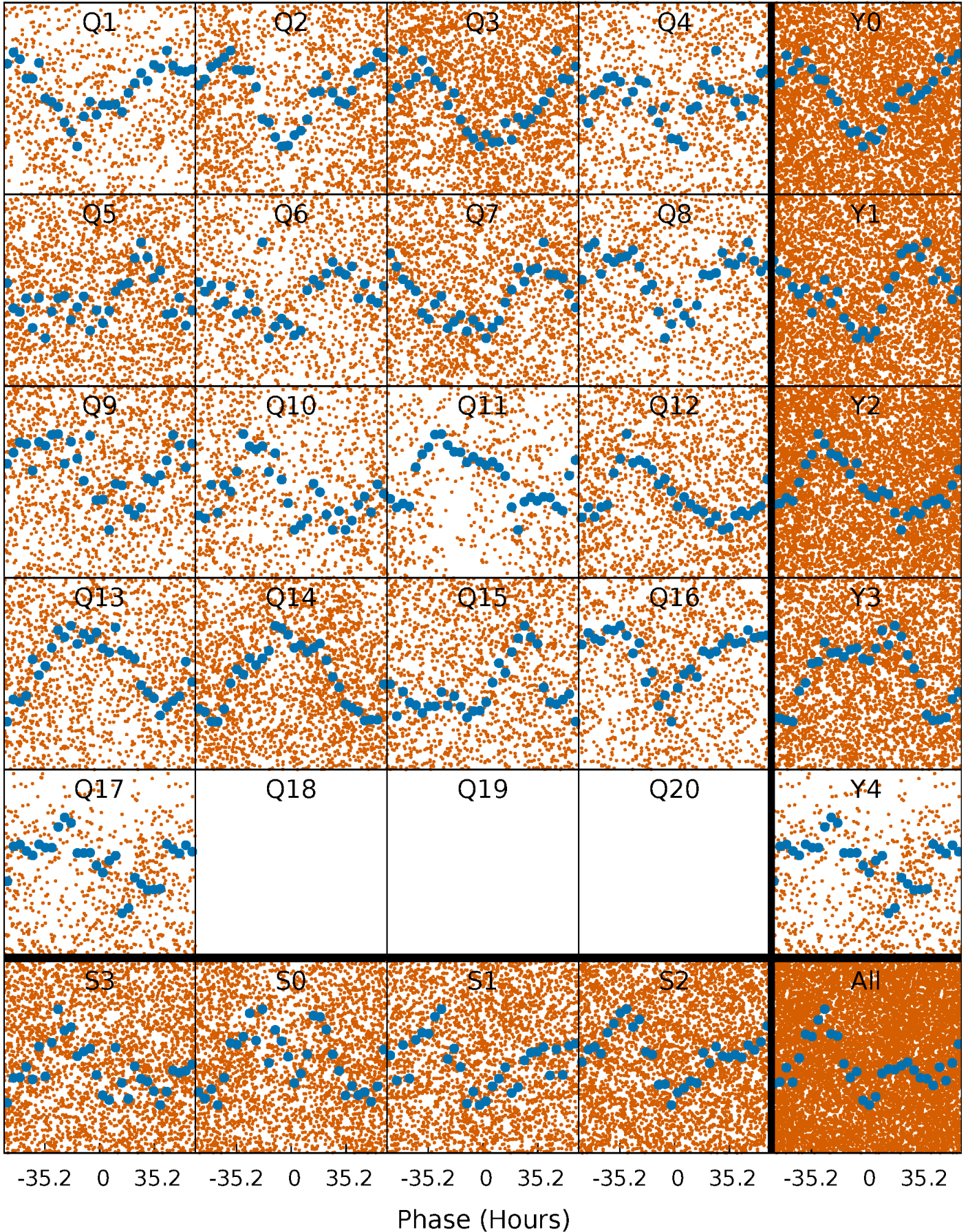


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



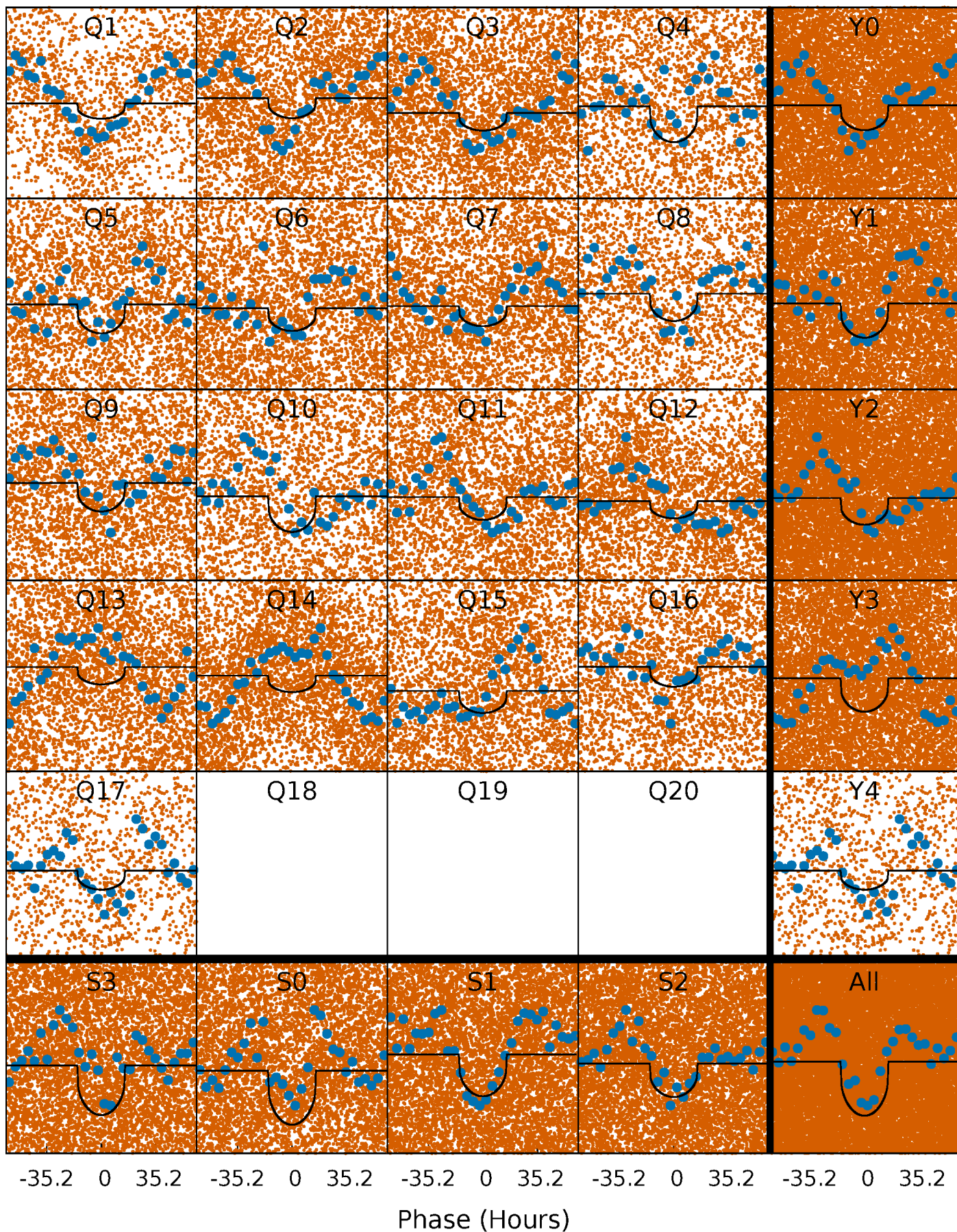
PDC Quarter-Phased Transit Curves

TCE 007597197-01 P= 4.140169 Days $T_0=131.999461$ (BKJD)



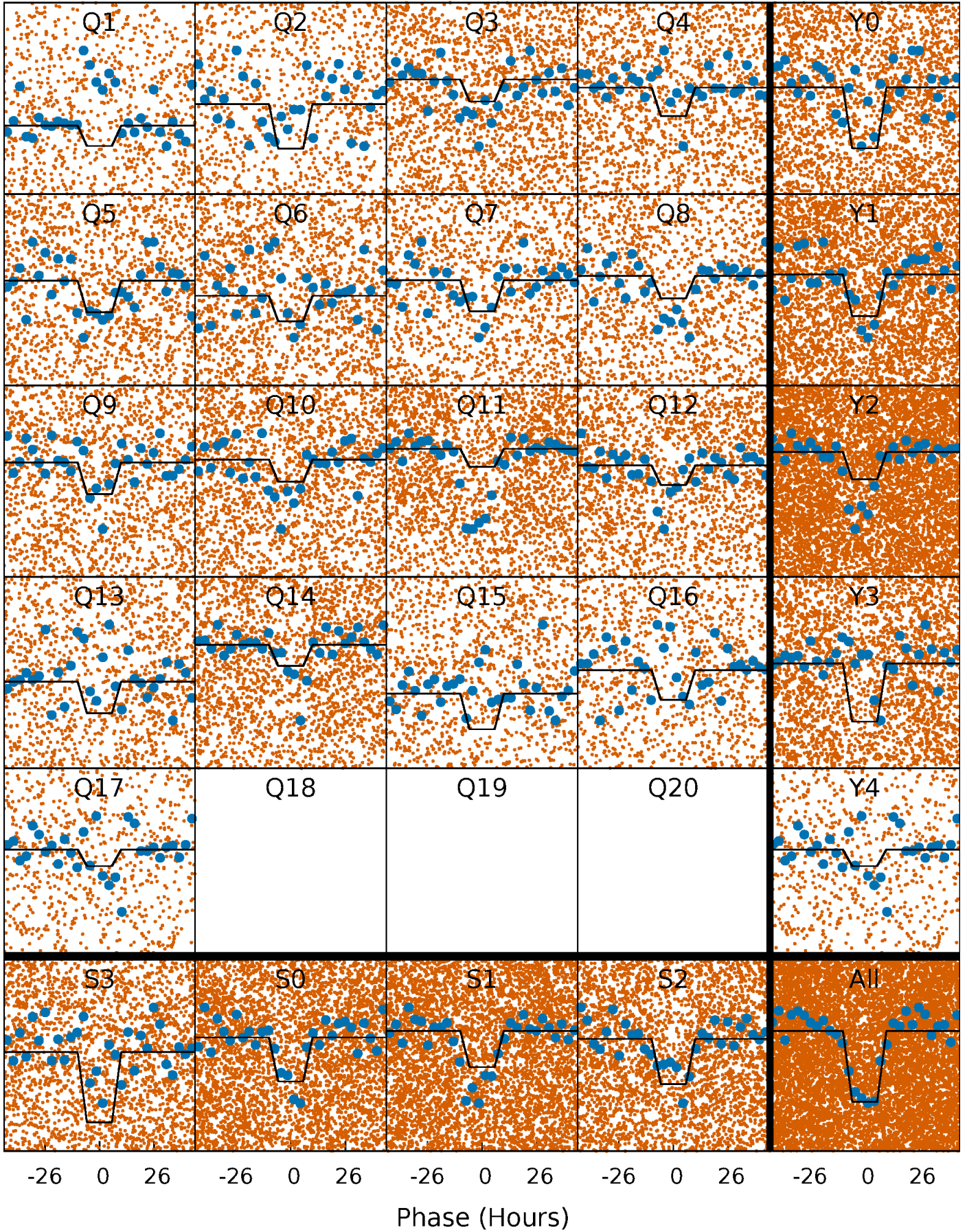
DV Quarter-Phased Transit Curves

TCE 007597197-01 P= 4.140169 Days $T_0=131.999461$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

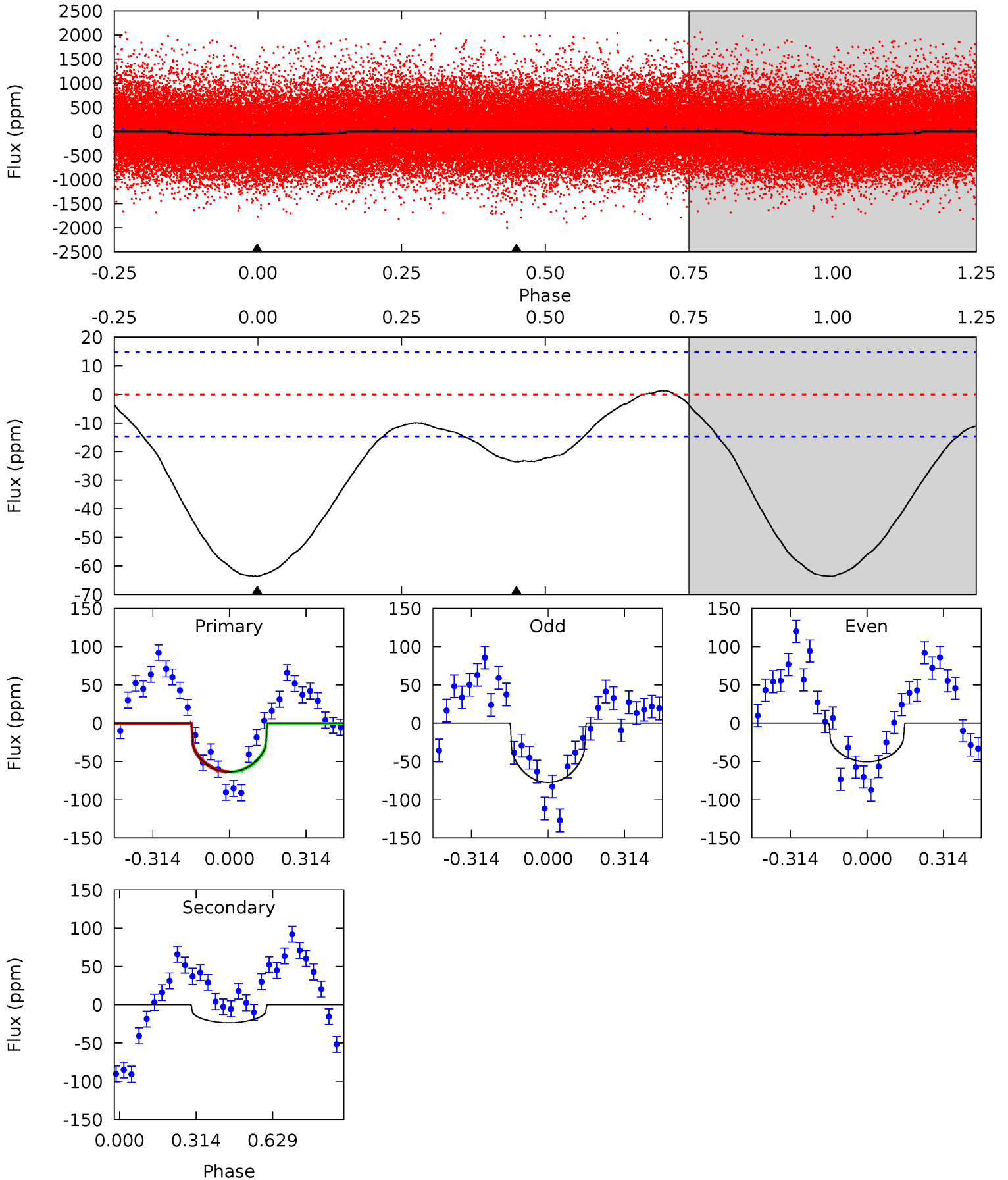
TCE 007597197-01 P= 4.141221 Days $T_0=131.991410$ (BKJD)



DV Model-Shift Uniqueness Test

007597197-01, P = 4.140169 Days, E = 127.859292 Days

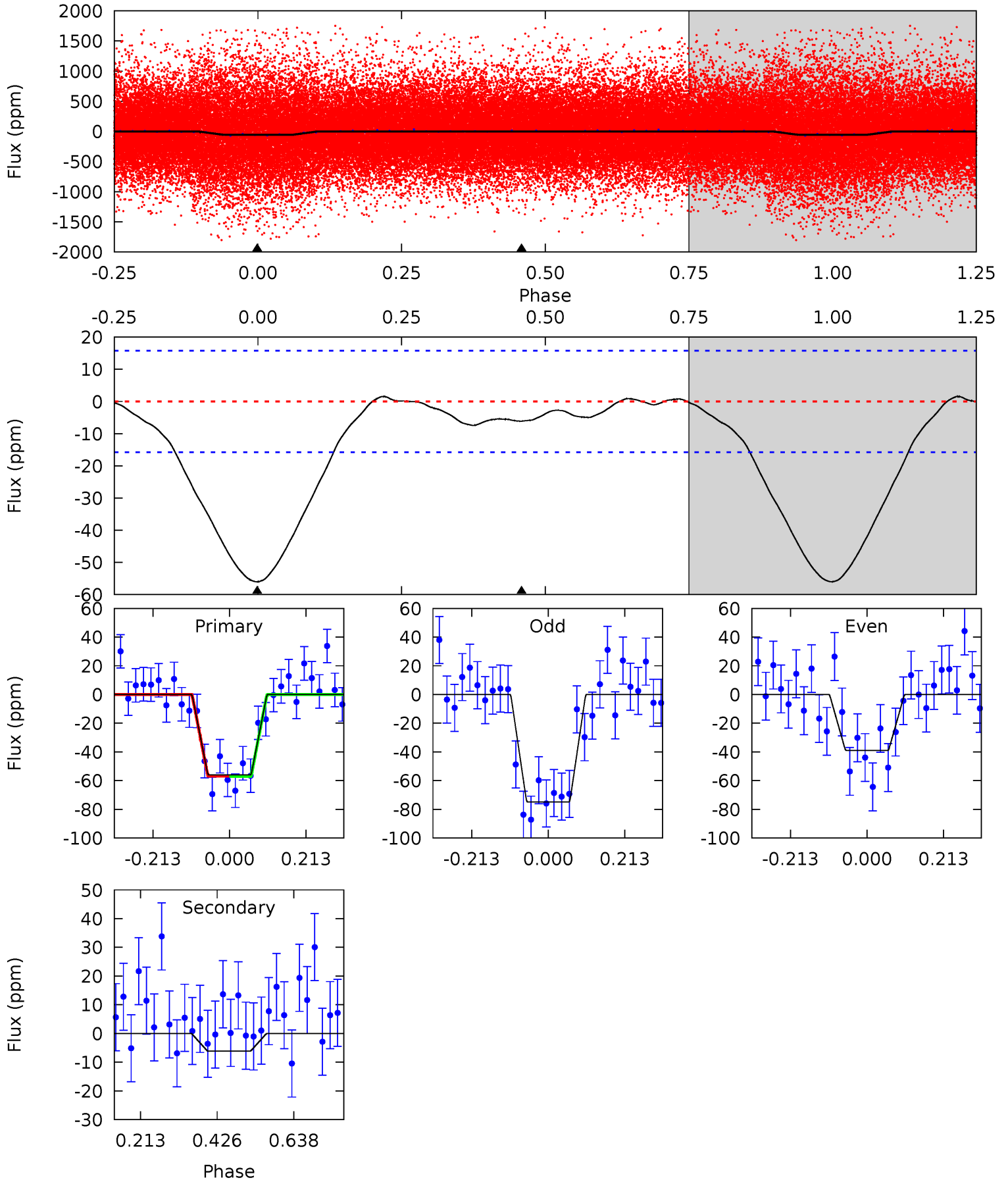
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 18.6 | 6.92 | 0 | 0 | 4.32 | 1.01 | 0.98 | 18.6 | 18.6 | 6.92 | 6.92 | 3.96 | 0.78 | 0.02 | 0.06 |



Alt Model-Shift Uniqueness Test

007597197-01, P = 4.141221 Days, E = 127.850189 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.6 | 1.71 | 0 | 0 | 4.40 | 1.25 | 0.36 | 15.6 | 15.6 | 1.71 | 1.71 | 5.01 | 1.36 | 0.03 | 0.01 |



Stellar Parameters For KIC 007597197

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5047^{+151}_{-136} | $4.551^{+0.078}_{-0.048}$ | $-0.260^{+0.300}_{-0.300}$ | $0.742^{+0.071}_{-0.079}$ | $0.714^{+0.100}_{-0.050}$ | $2.461^{+0.775}_{-0.410}$ |
| | +3%/-3% | +2%/-1% | +115%/-115% | +10%/-11% | +14%/-7% | +31%/-17% |
| 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 007597197-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|-----------------------|-------------------|
| DV | -24 ± 3 | $0.69^{+0.36}_{-0.29}$ | 1254^{+51}_{-44} | 4020^{+1014}_{-516} | 55^{+113}_{-30} |
| Alt. | -6 ± 4 | $0.65^{+0.33}_{-0.35}$ | 1259^{+44}_{-49} | 3280^{+934}_{-544} | 16^{+57}_{-11} |

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

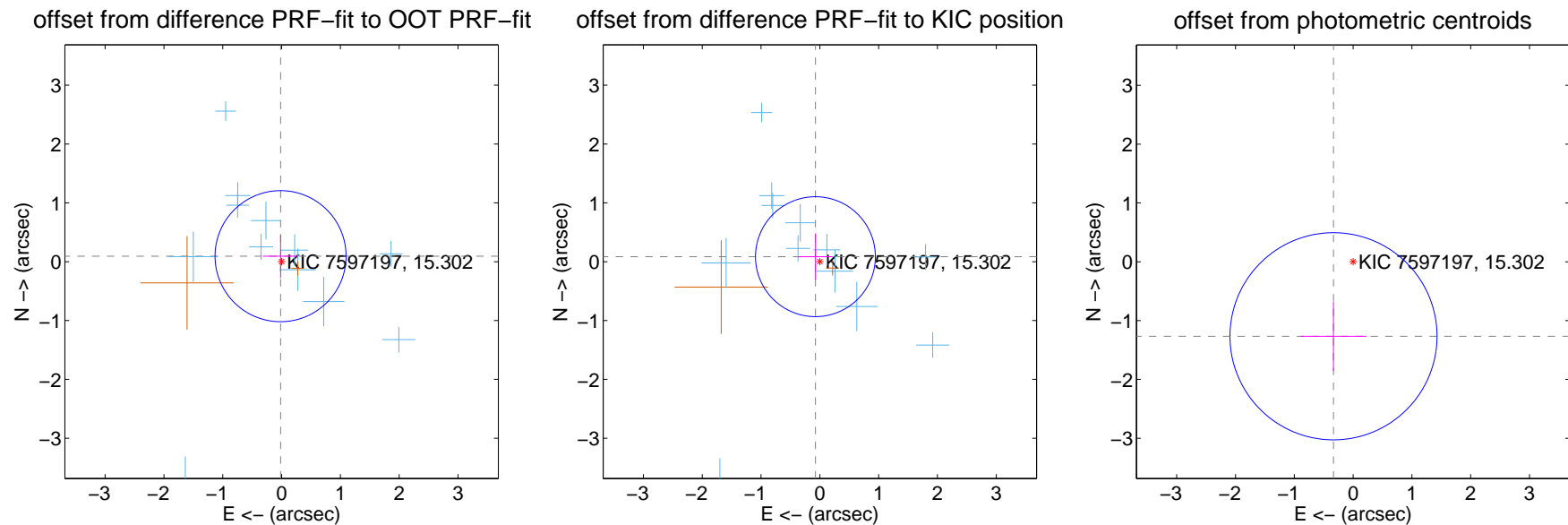
DV Centroid Data

Supplemental centroid analysis for 007597197-01. Kepler magnitude: 15.30. Transit SNR 11.16

There are 12 quarters with good PRF difference image offsets

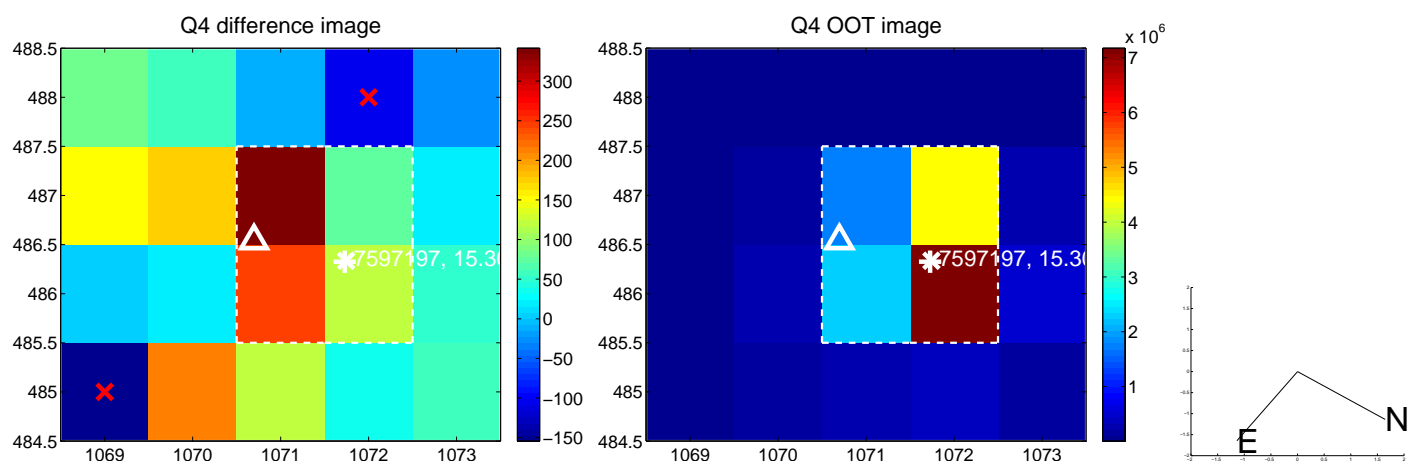
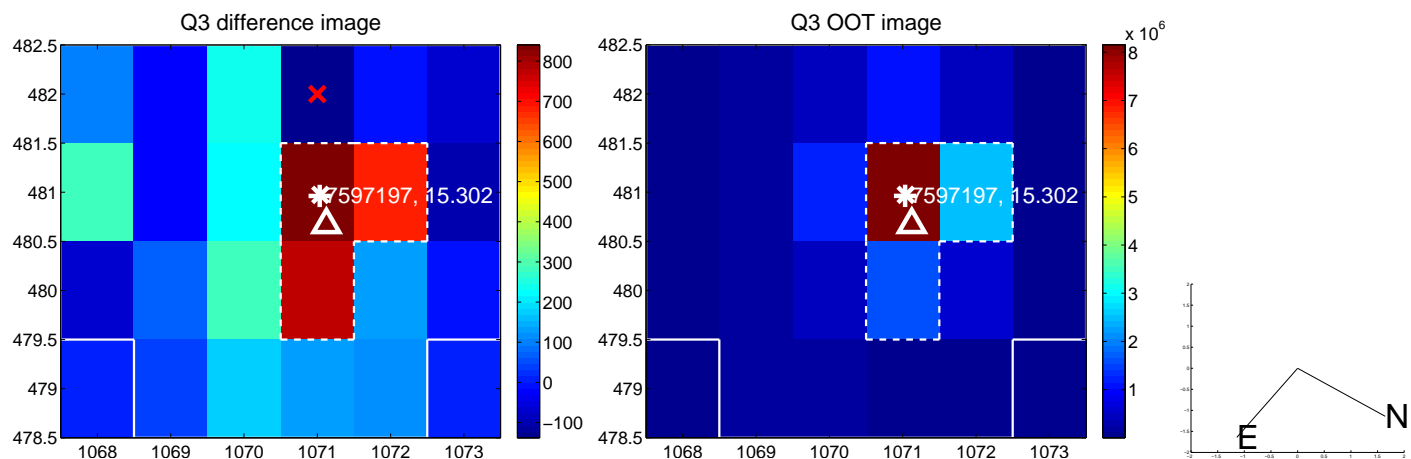
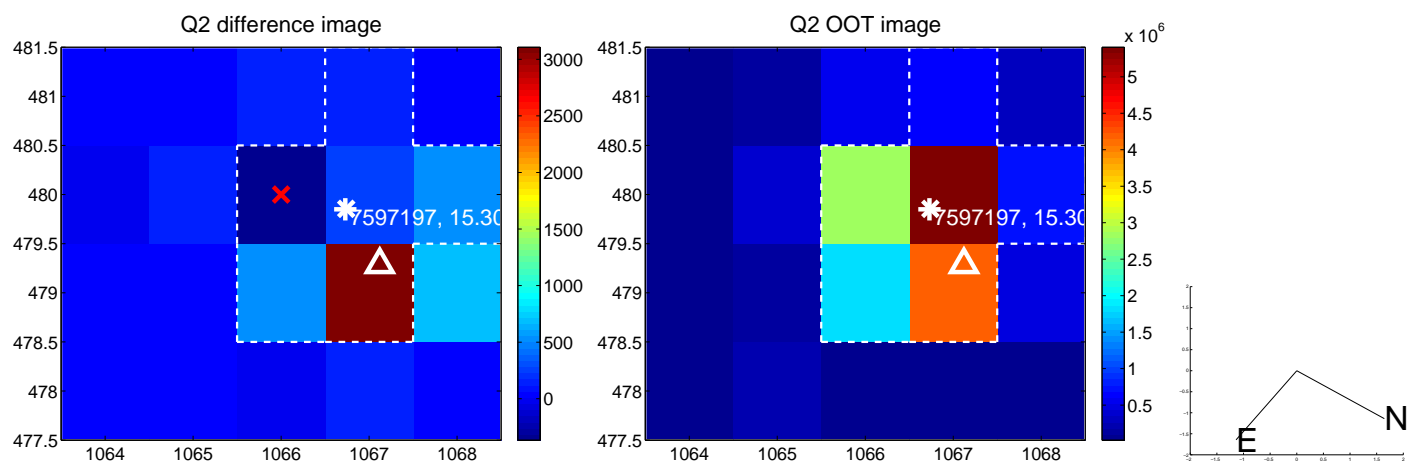
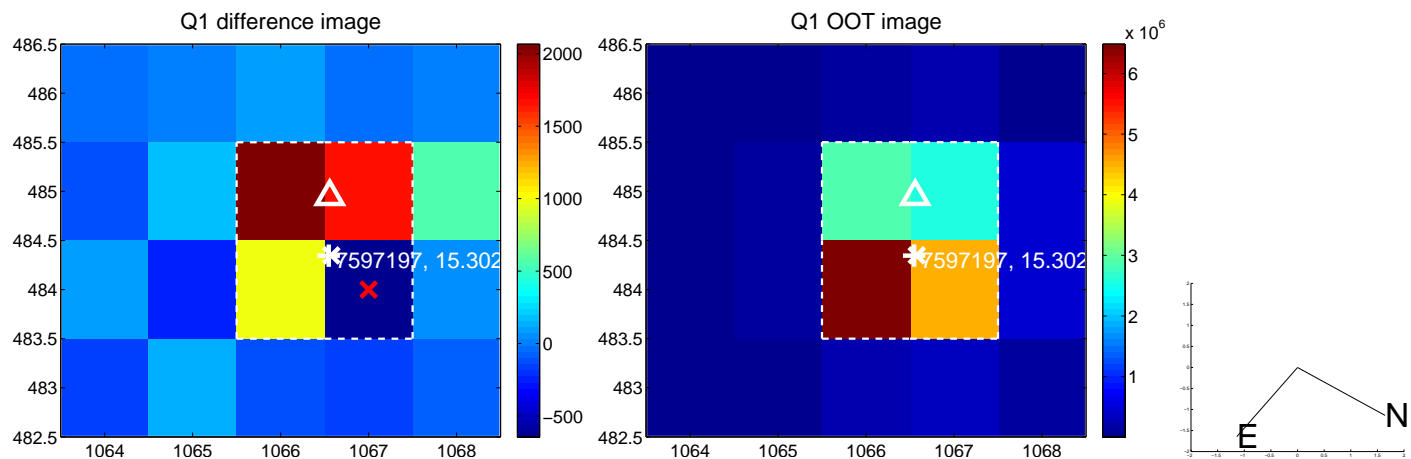
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 0.095 ± 0.371 | 0.26 | 0.017 ± 0.298 | 0.094 ± 0.372 |
| PRF-fit source offset from KIC position | 0.113 ± 0.340 | 0.33 | 0.075 ± 0.294 | 0.085 ± 0.395 |
| photometric centroid source offset | 1.31 ± 0.59 | 2.23 | 0.33 ± 0.56 | -1.27 ± 0.59 |

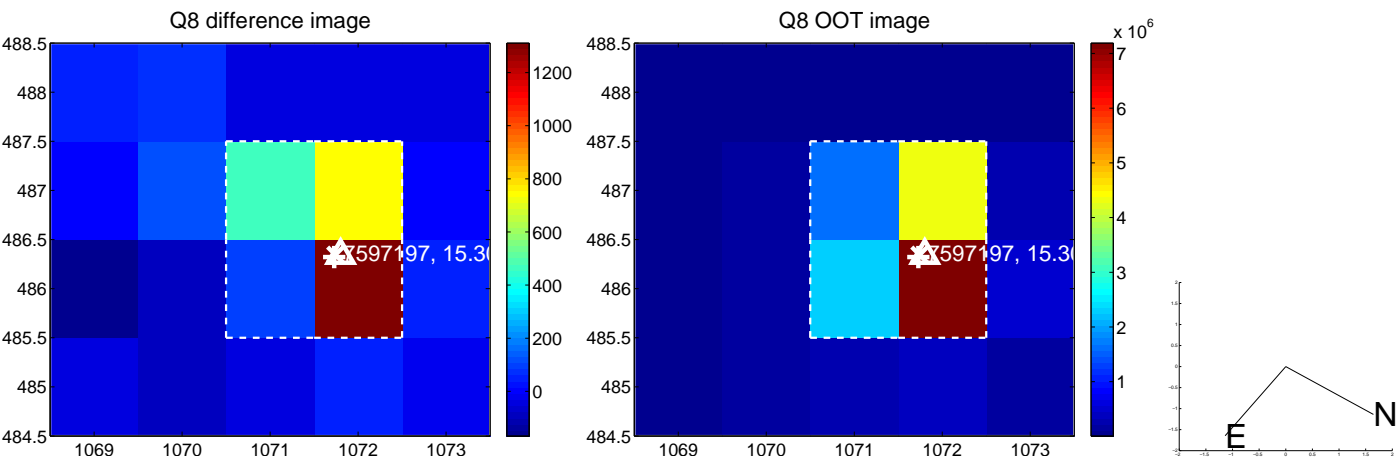
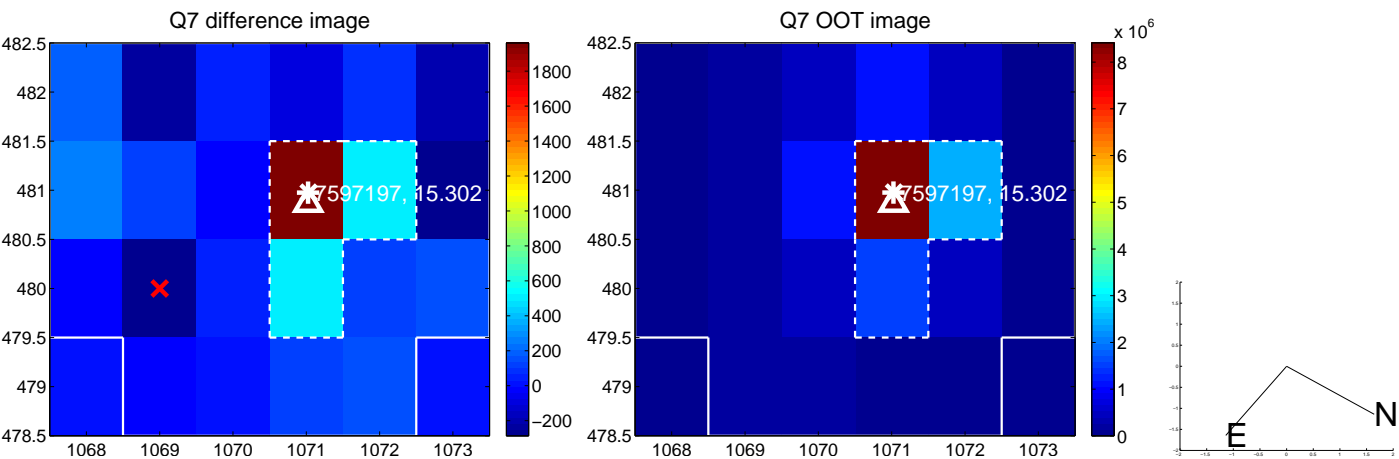
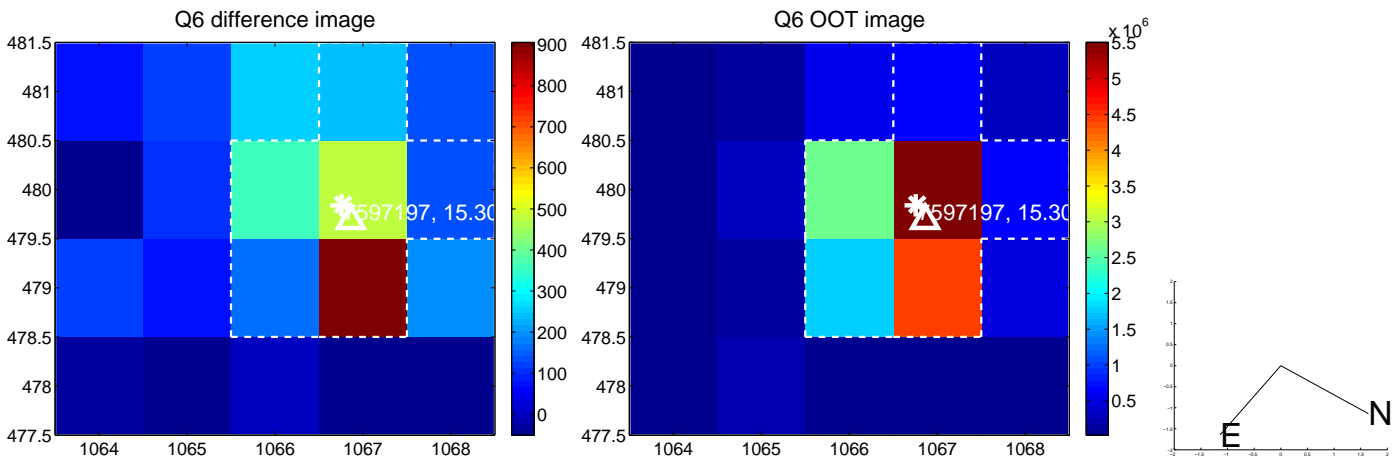
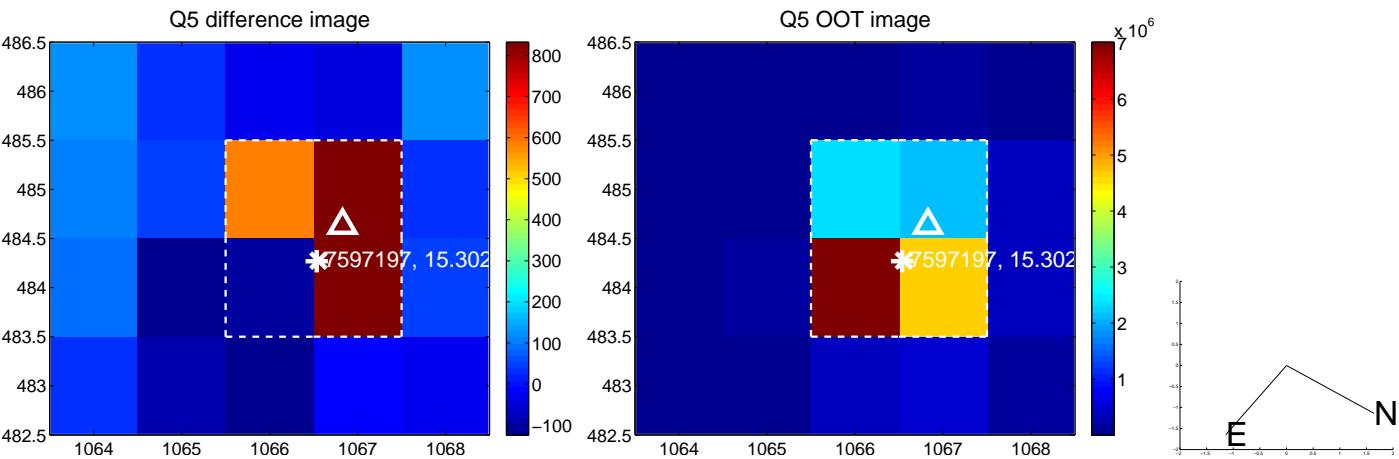


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

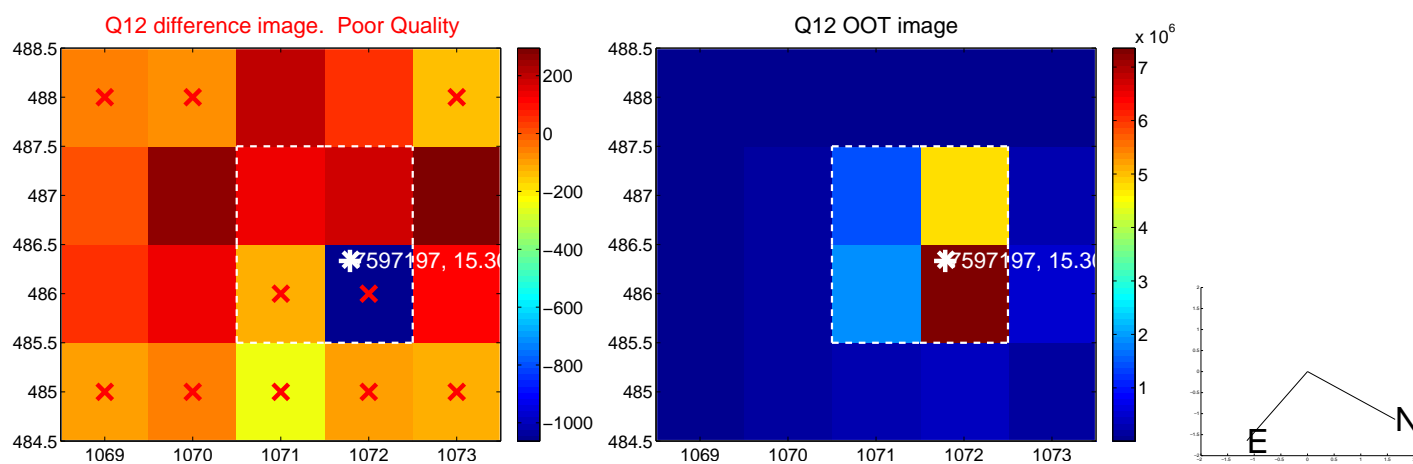
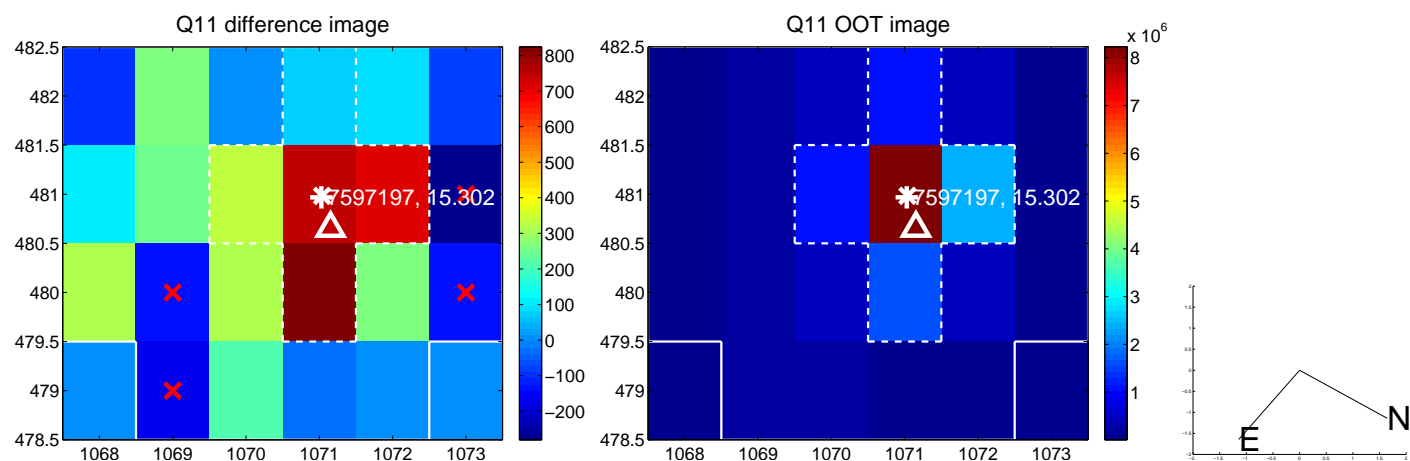
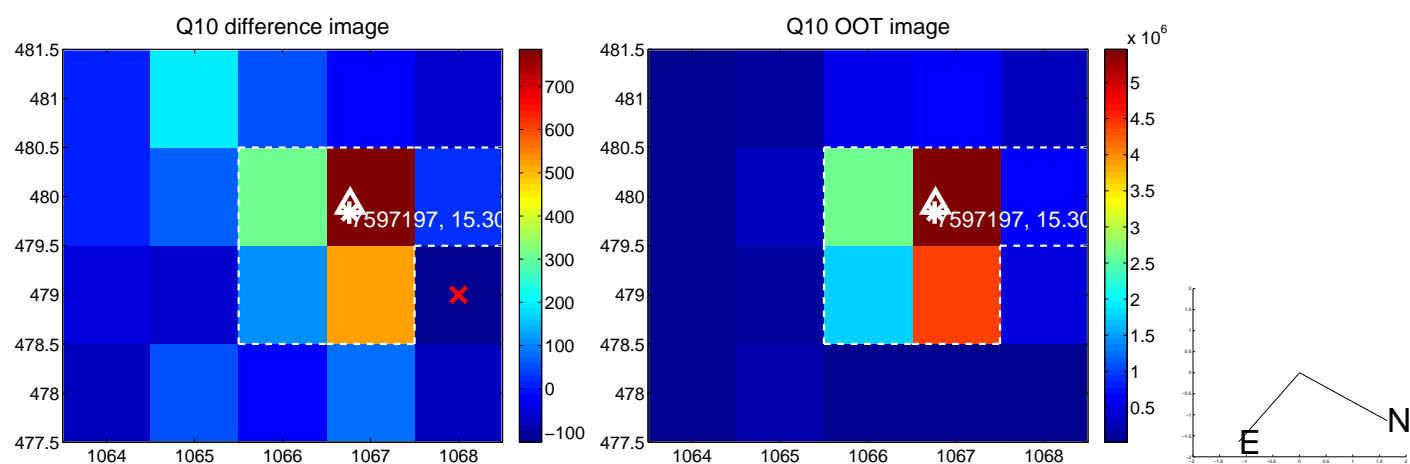
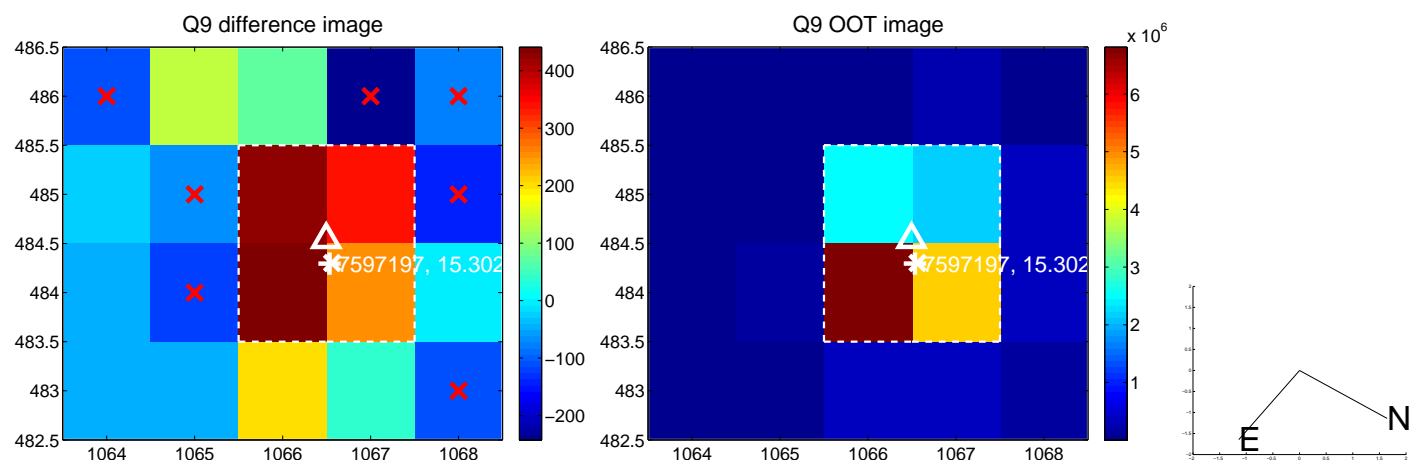
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



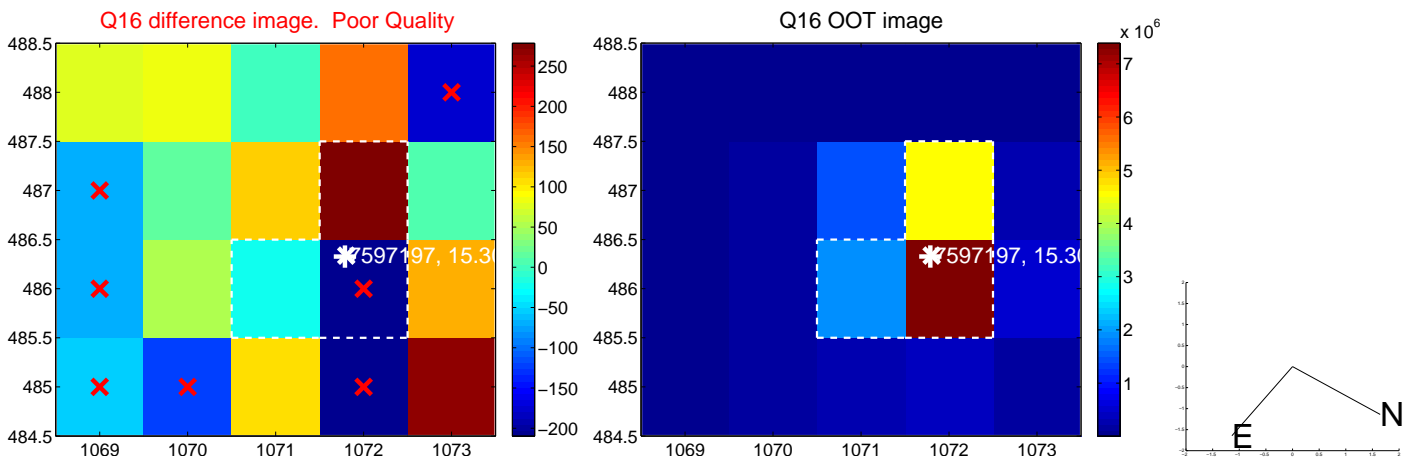
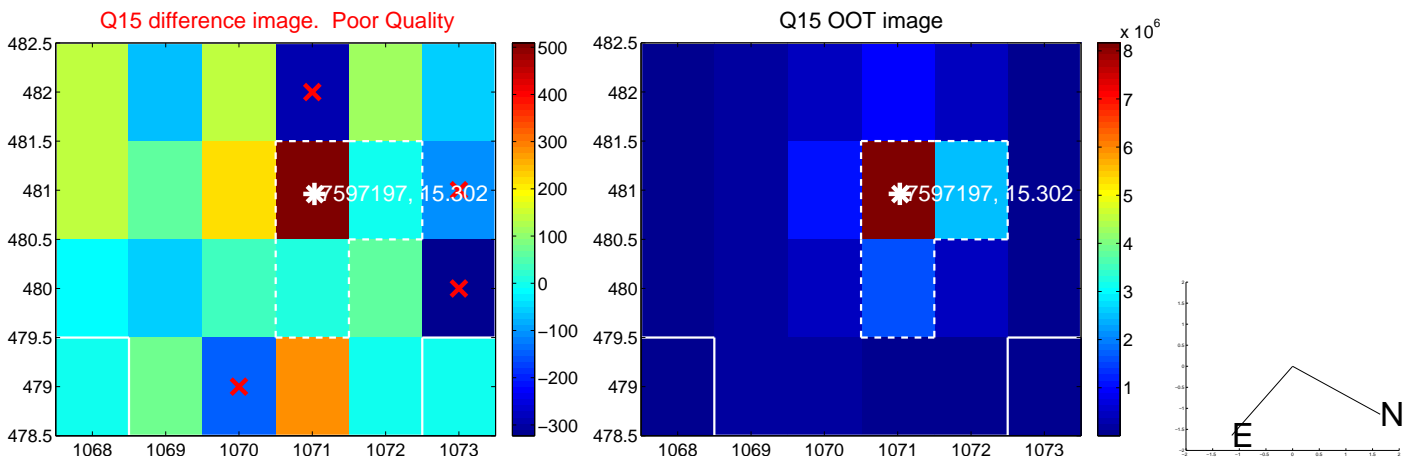
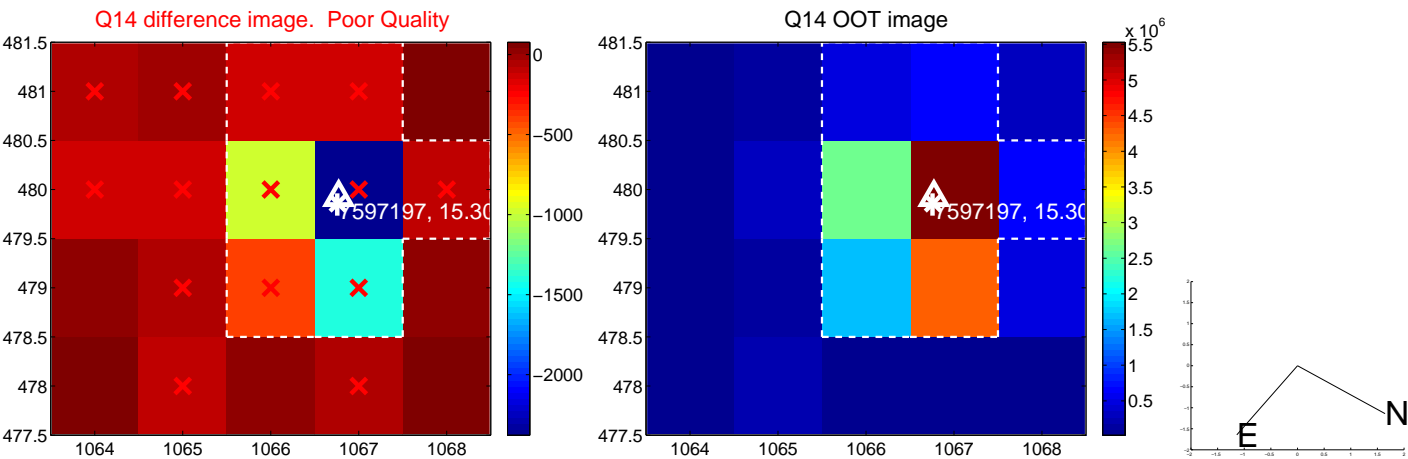
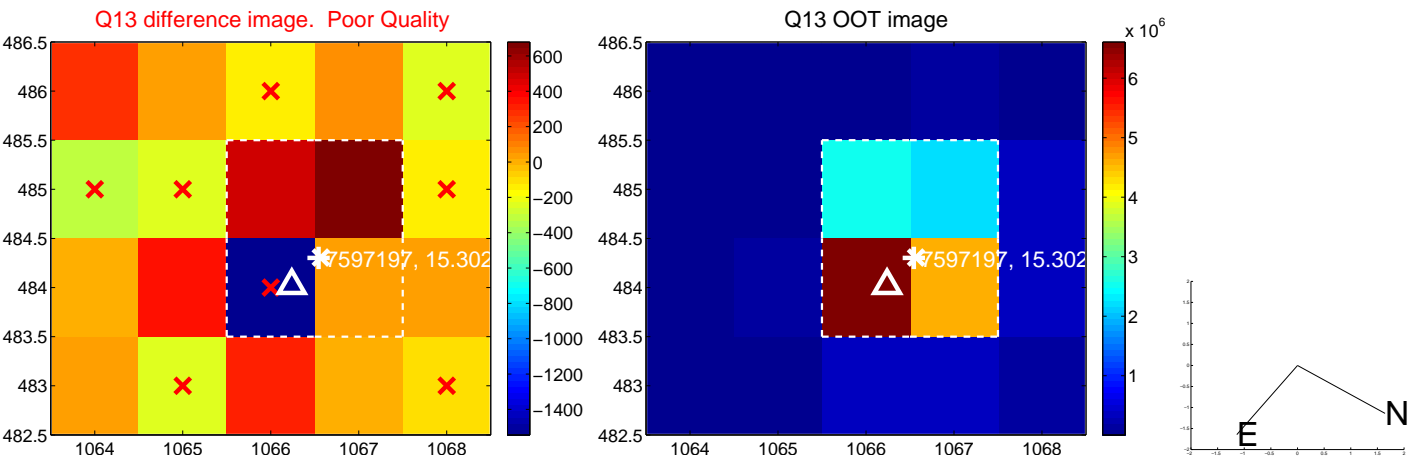
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



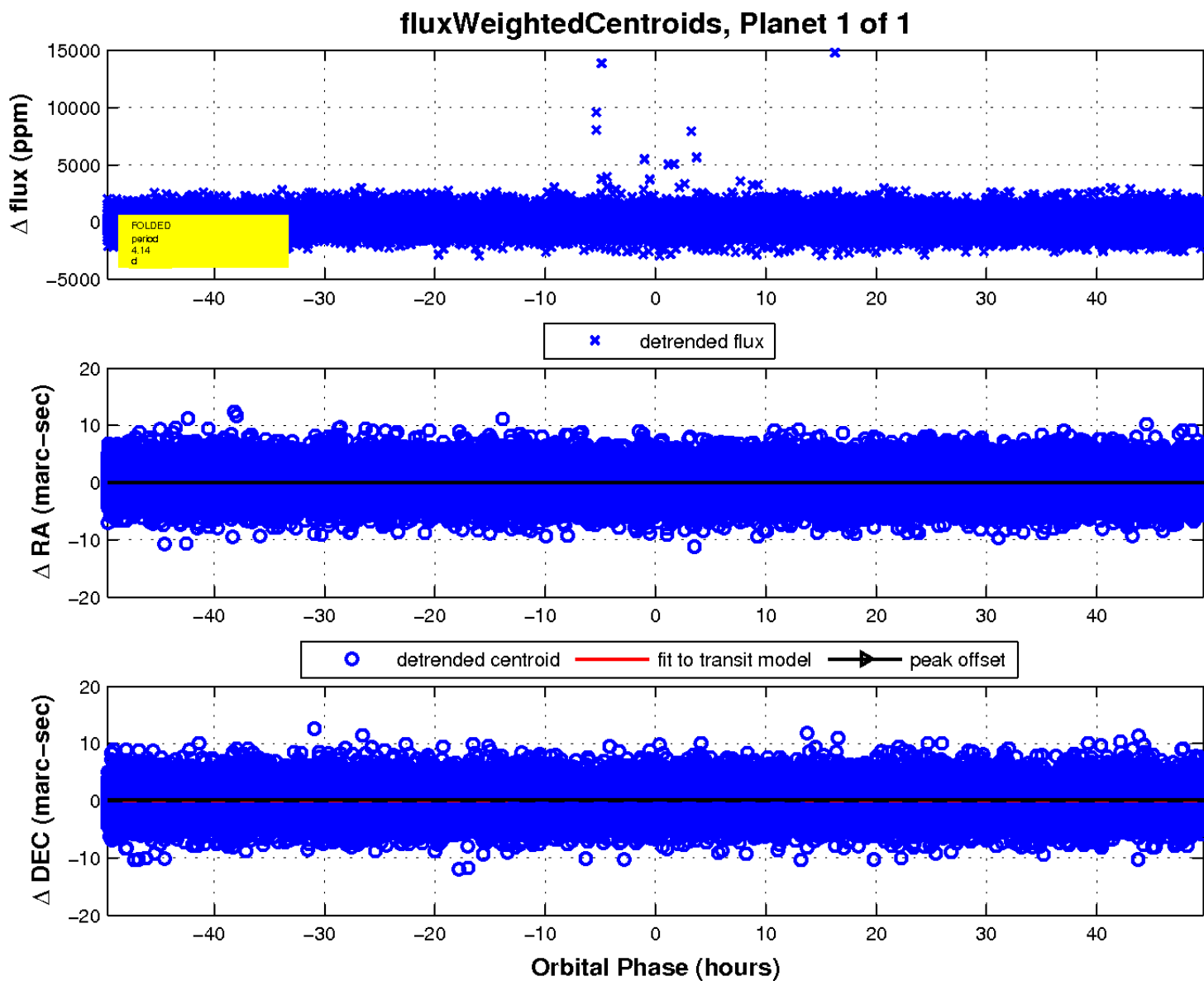
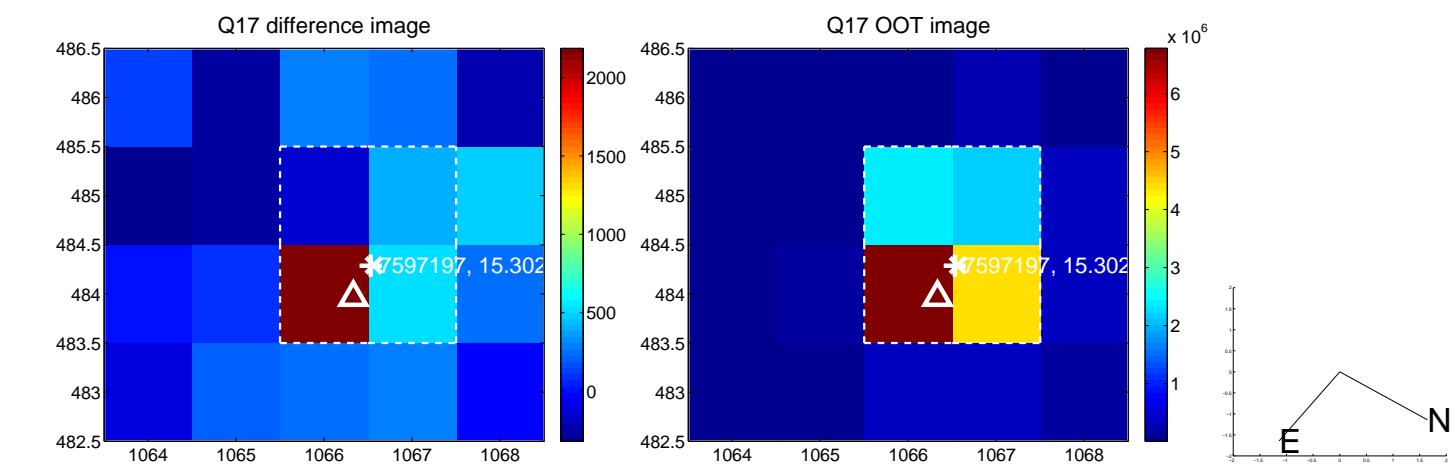
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

