

KIC 007120108

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007120108-01 | OBS | 2325.01 | 1.025865 | 131.651544 | 245.9 | 0.916 | 17.9 | 36.4 | 0.85 | 5123 | 1.64 | 1265.11 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 007120108-01 | OBS | PC | 1.00 | 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.

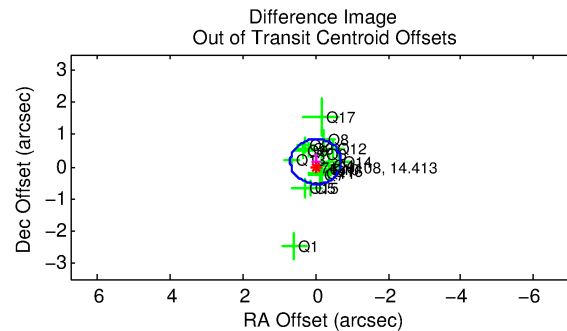
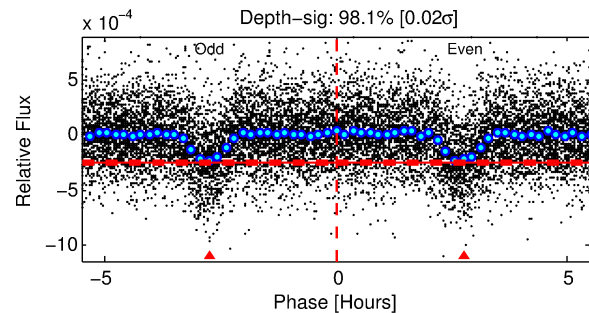
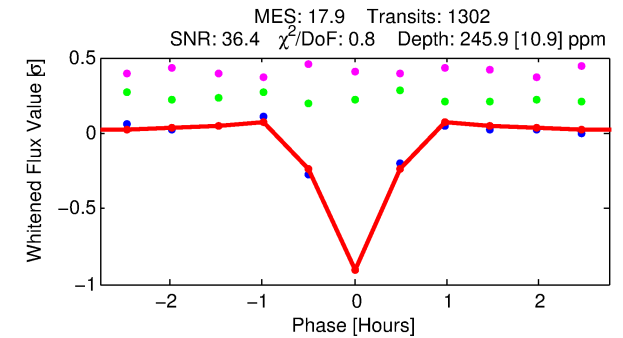
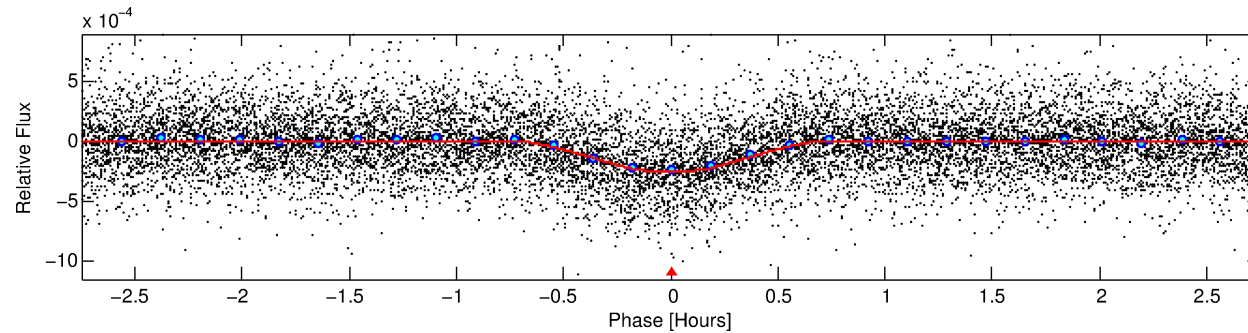
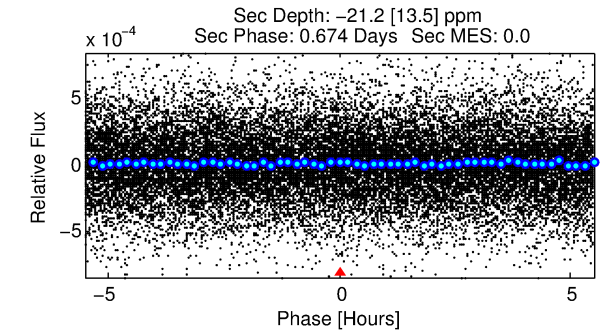
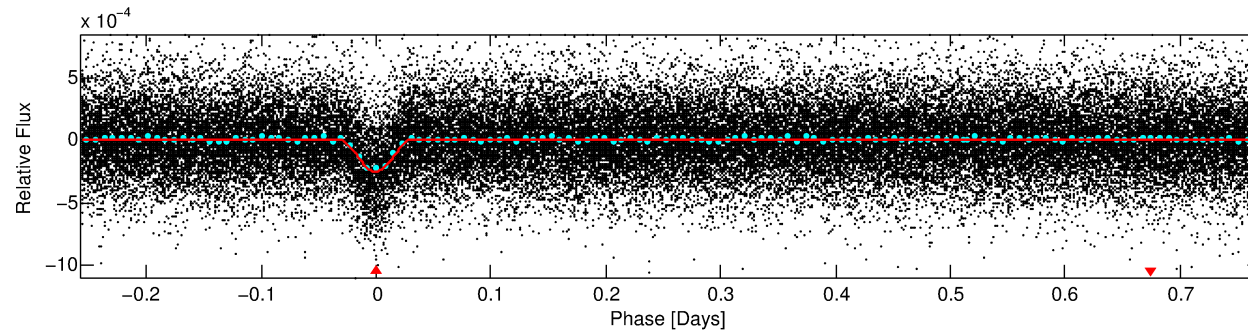
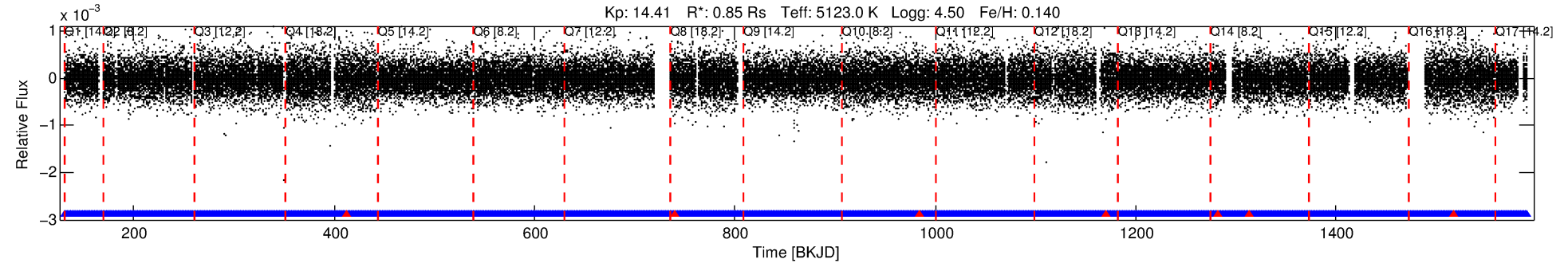
Ephemeris Match Information For 007120108-01

No Significant Match Found

DV One-Page Summary

KIC: 7120108 Candidate: 1 of 1 Period: 1.026 d

KOI: K02325.01 Corr: 0.907



DV Fit Results:

Period = 1.02587 [0.00000] d
Epoch = 131.6515 [0.0004] BKJD
Rp/R* = 0.0177 [0.0050]
a/R* = 4.18 [4.43]
b = 0.90 [0.25]
Seff = 1265.11 [161.21]
Teff = 1521 [48] K
Rp = 1.64 [0.47] Re
a = 0.0187 [0.0012] AU
Ag = N/A
Teffp = N/A

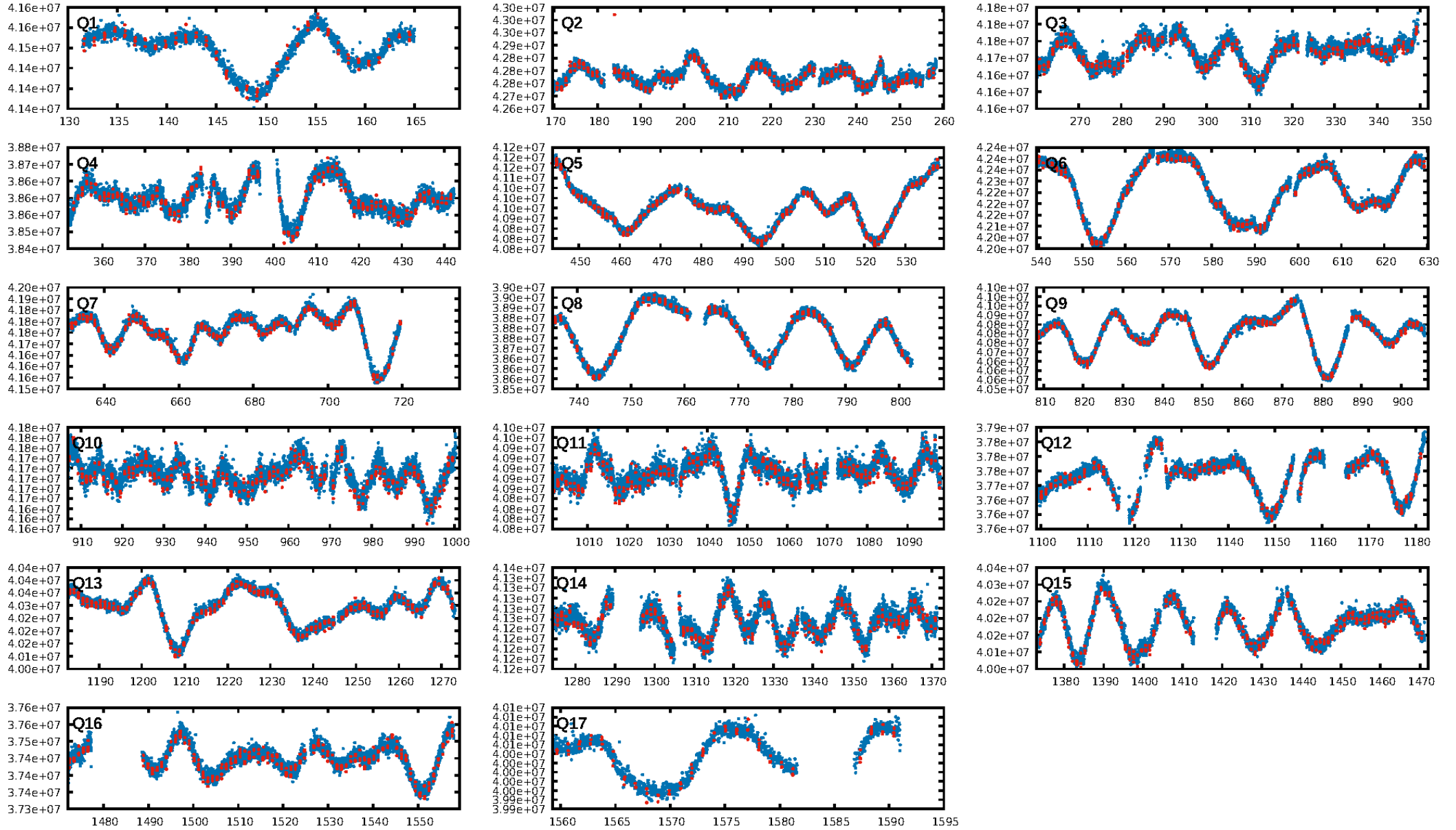
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.72e-67
RollingBand-fgt: 0.99 [1236/1243]
GhostDiagnostic-chr: 3.719
Centroid-sig: 35.9%
Centroid-so: 0.530 arcsec [1.64σ]
OotOffset-rm: 0.158 arcsec [0.68σ]
KicOffset-rm: 0.382 arcsec [2.36σ]
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]

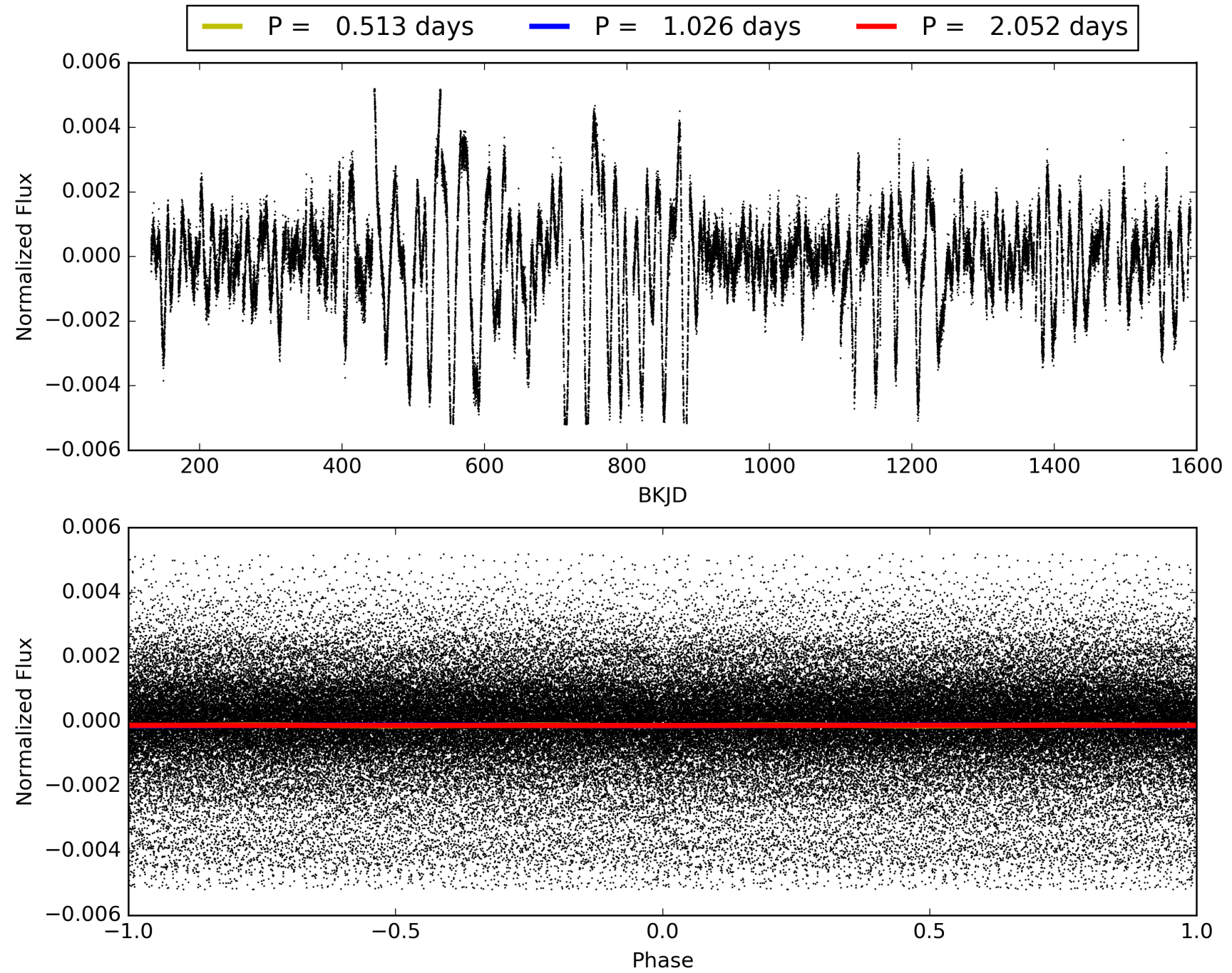
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:53:07 Z

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

TCE 007120108-01, PDC Light Curves

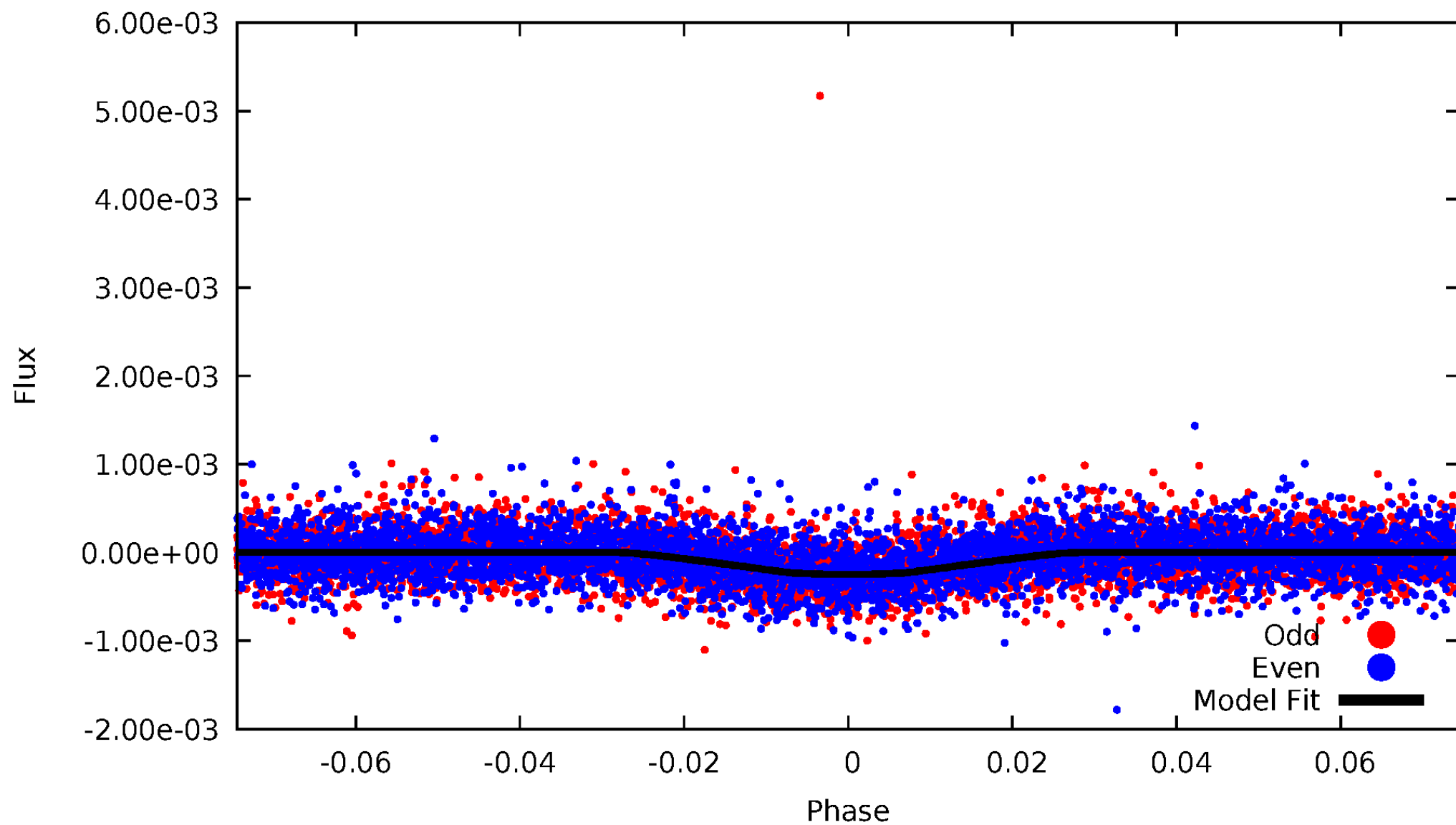


TCE 007120108-01



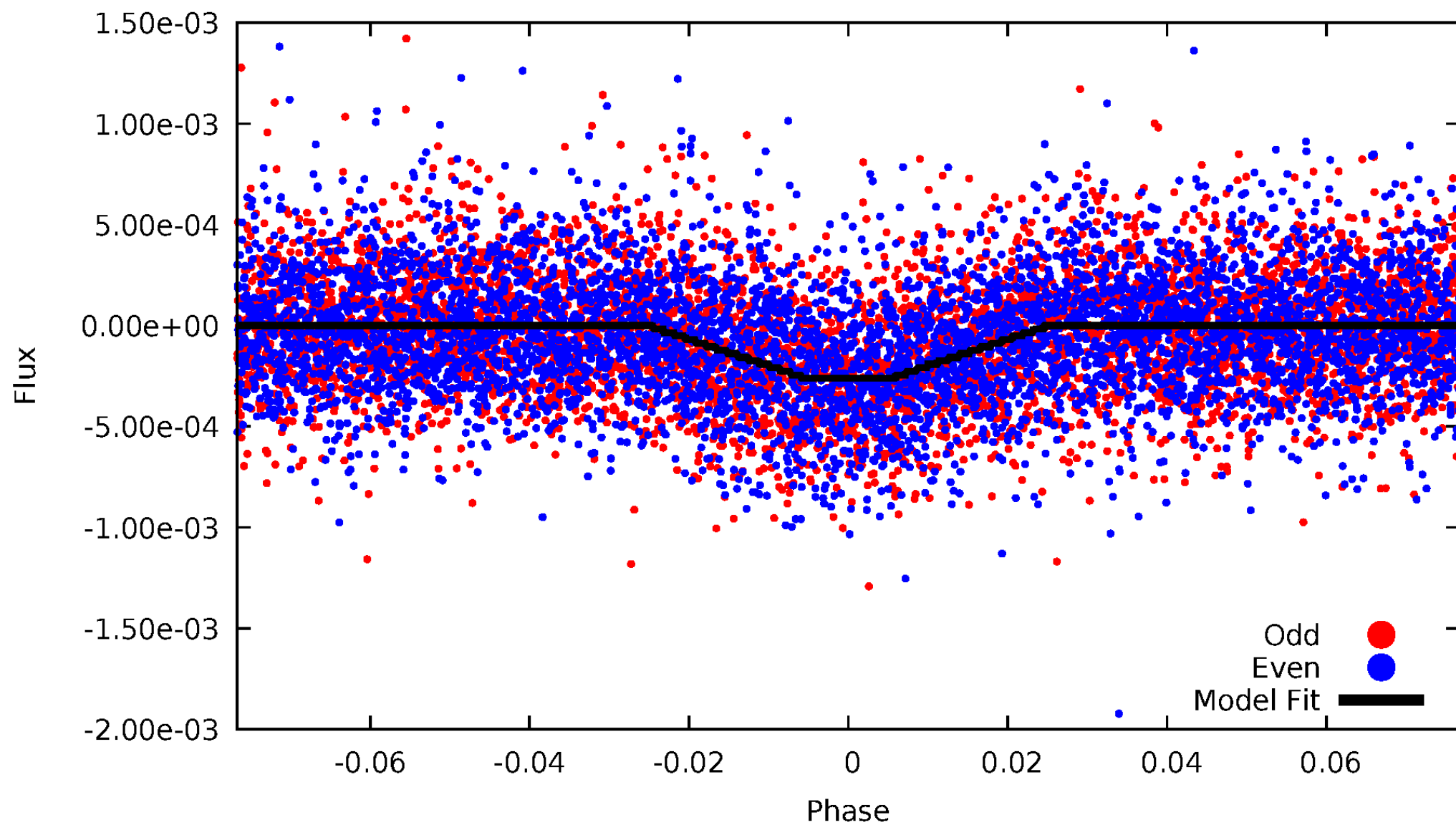
DV Odd/Even

TCE 007120108-01

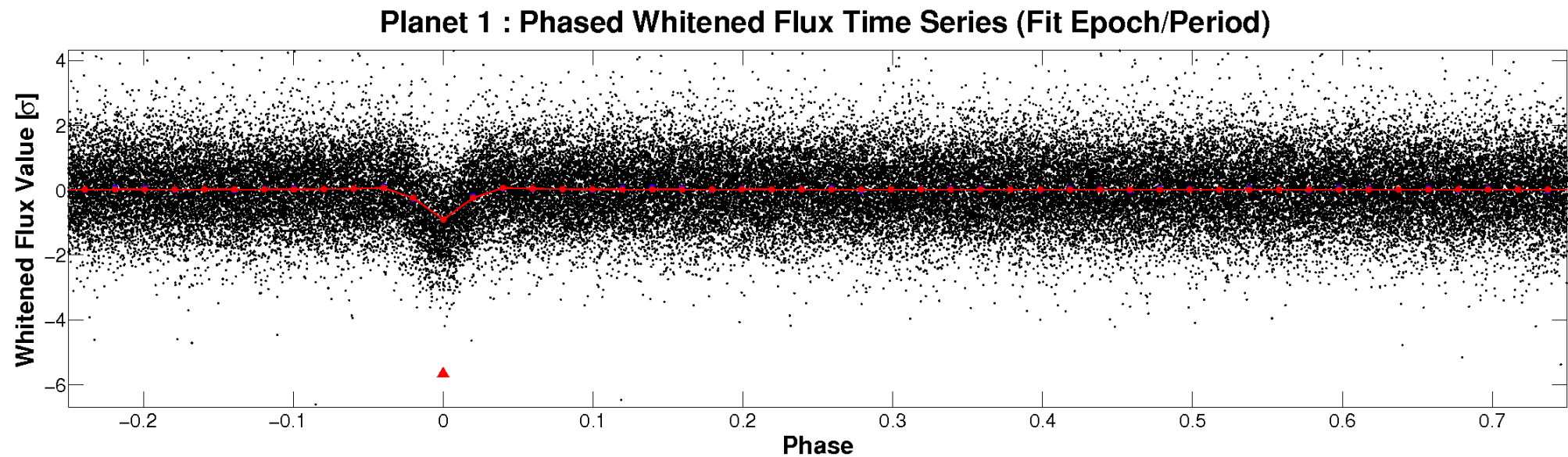
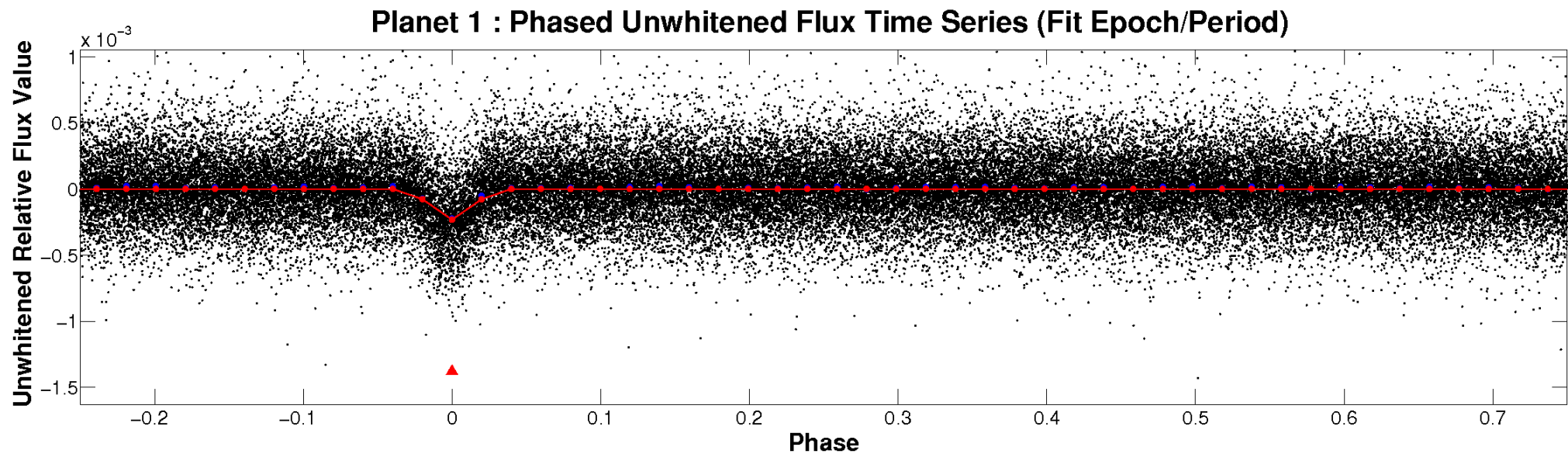


ALT Odd/Even

TCE 007120108-01

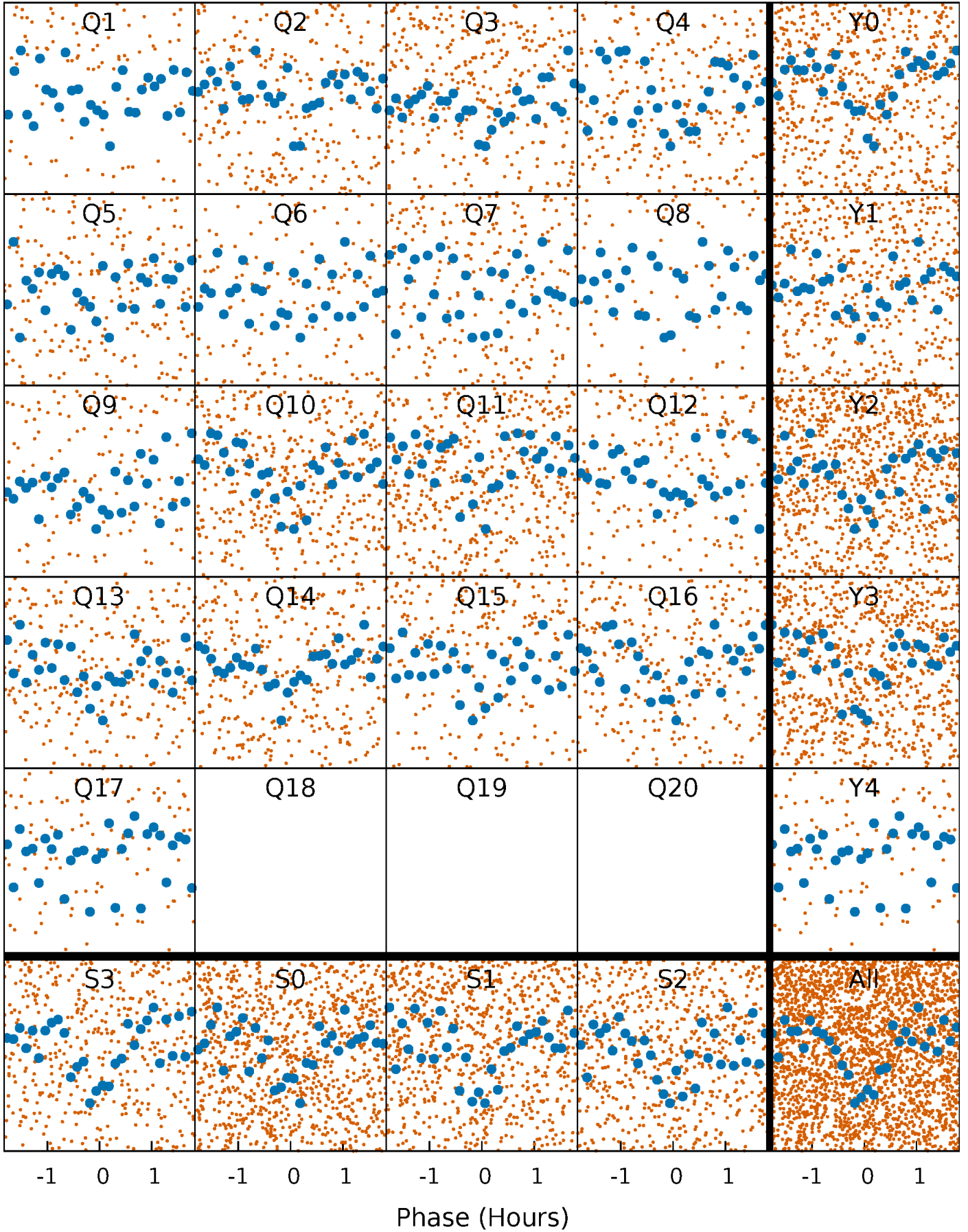


Non-Whitened Vs. Whitened Light Curve



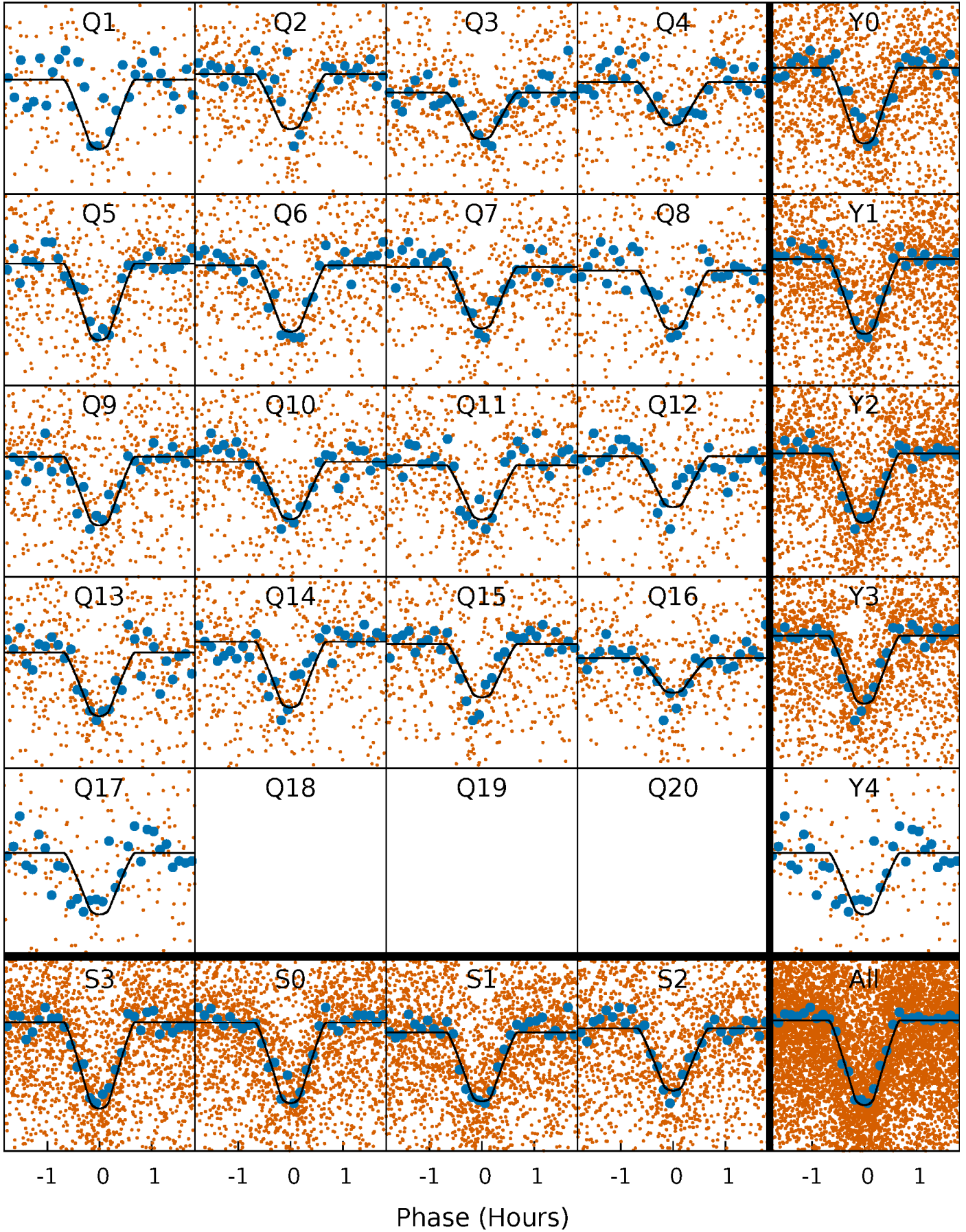
PDC Quarter-Phased Transit Curves

TCE 007120108-01 P= 1.025865 Days $T_0=131.651544$ (BKJD)



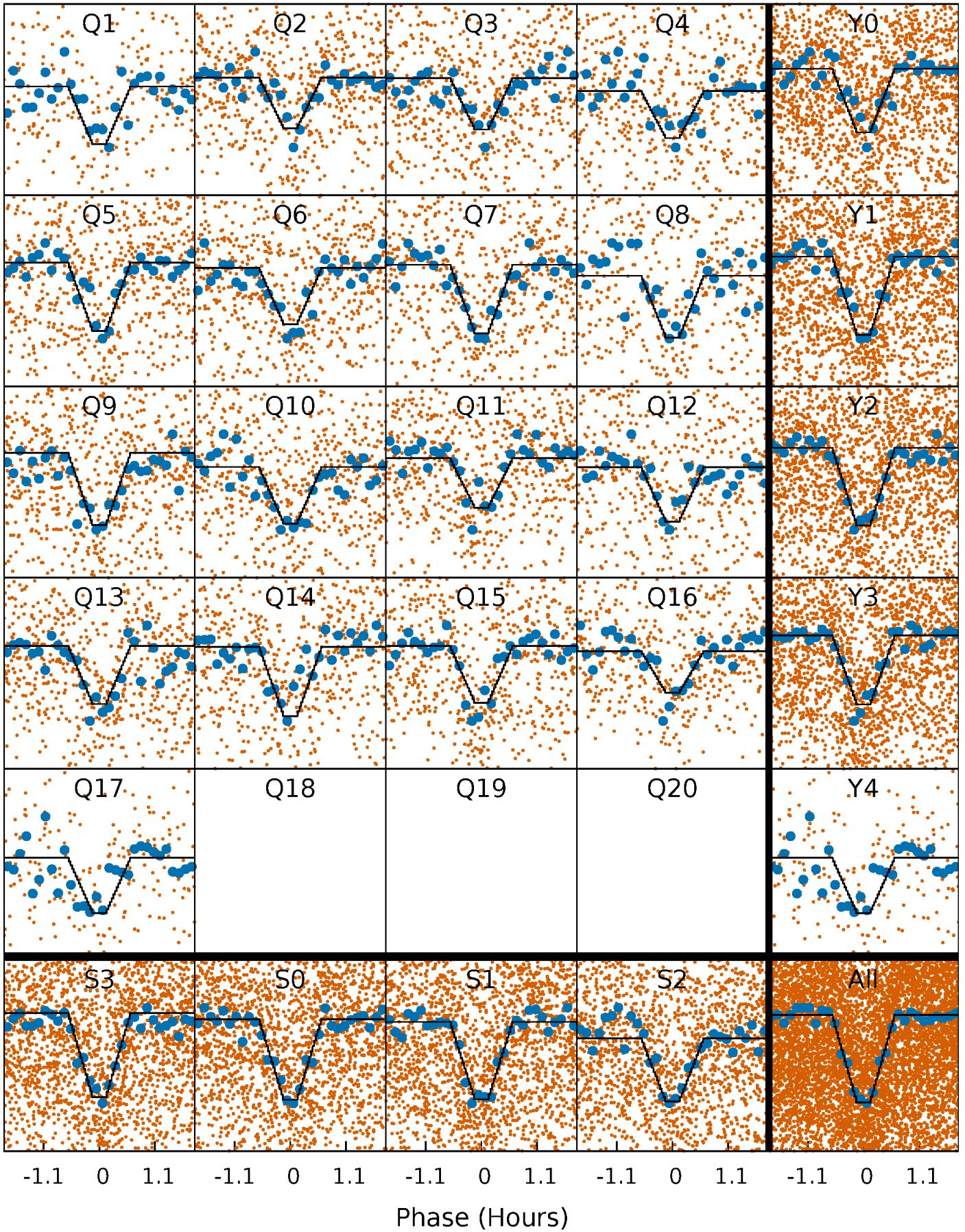
DV Quarter-Phased Transit Curves

TCE 007120108-01 P= 1.025865 Days $T_0=131.651544$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

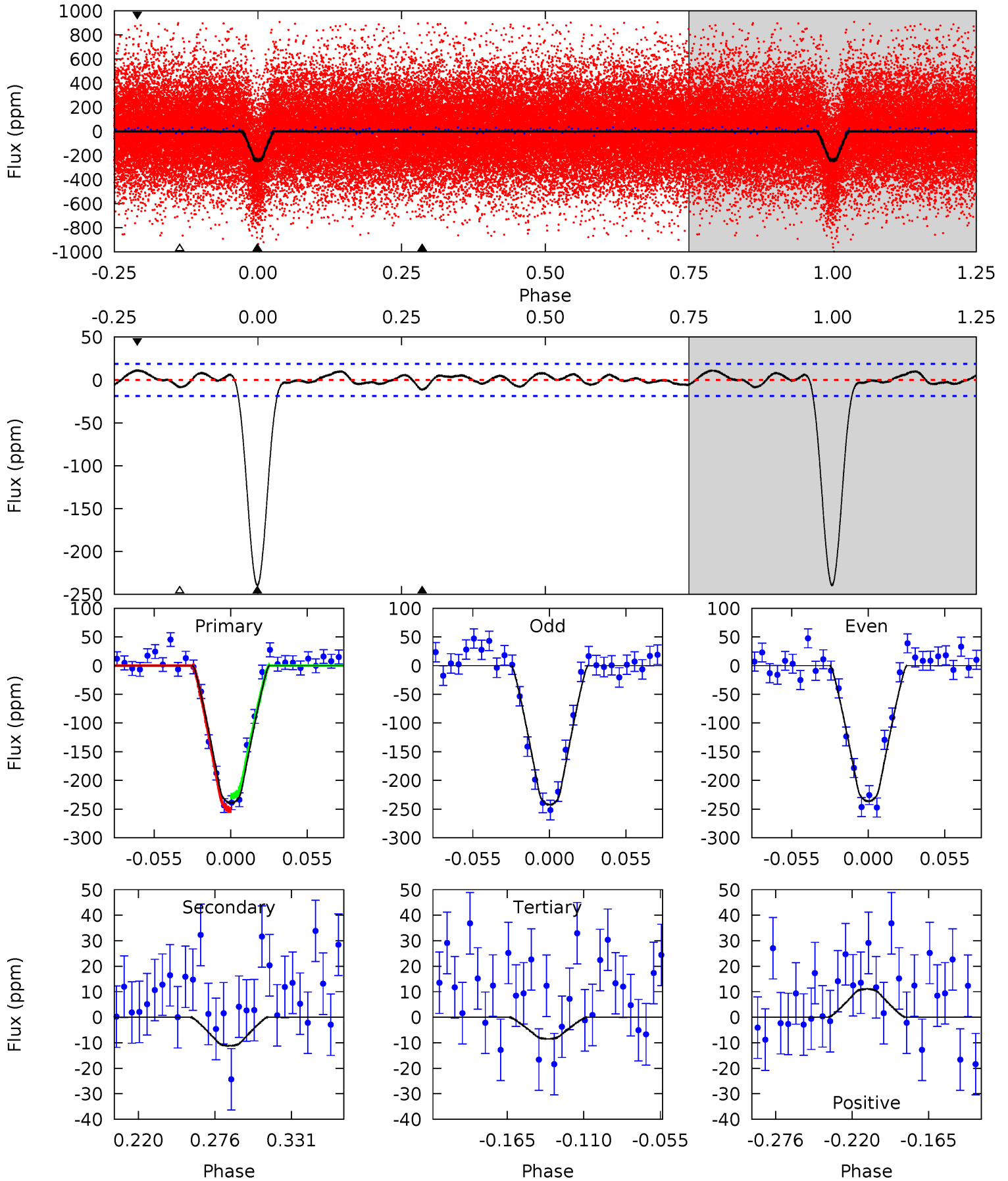
TCE 007120108-01 P= 1.025864 Days $T_0=131.651683$ (BKJD)



DV Model-Shift Uniqueness Test

007120108-01, P = 1.025865 Days, E = 130.625679 Days

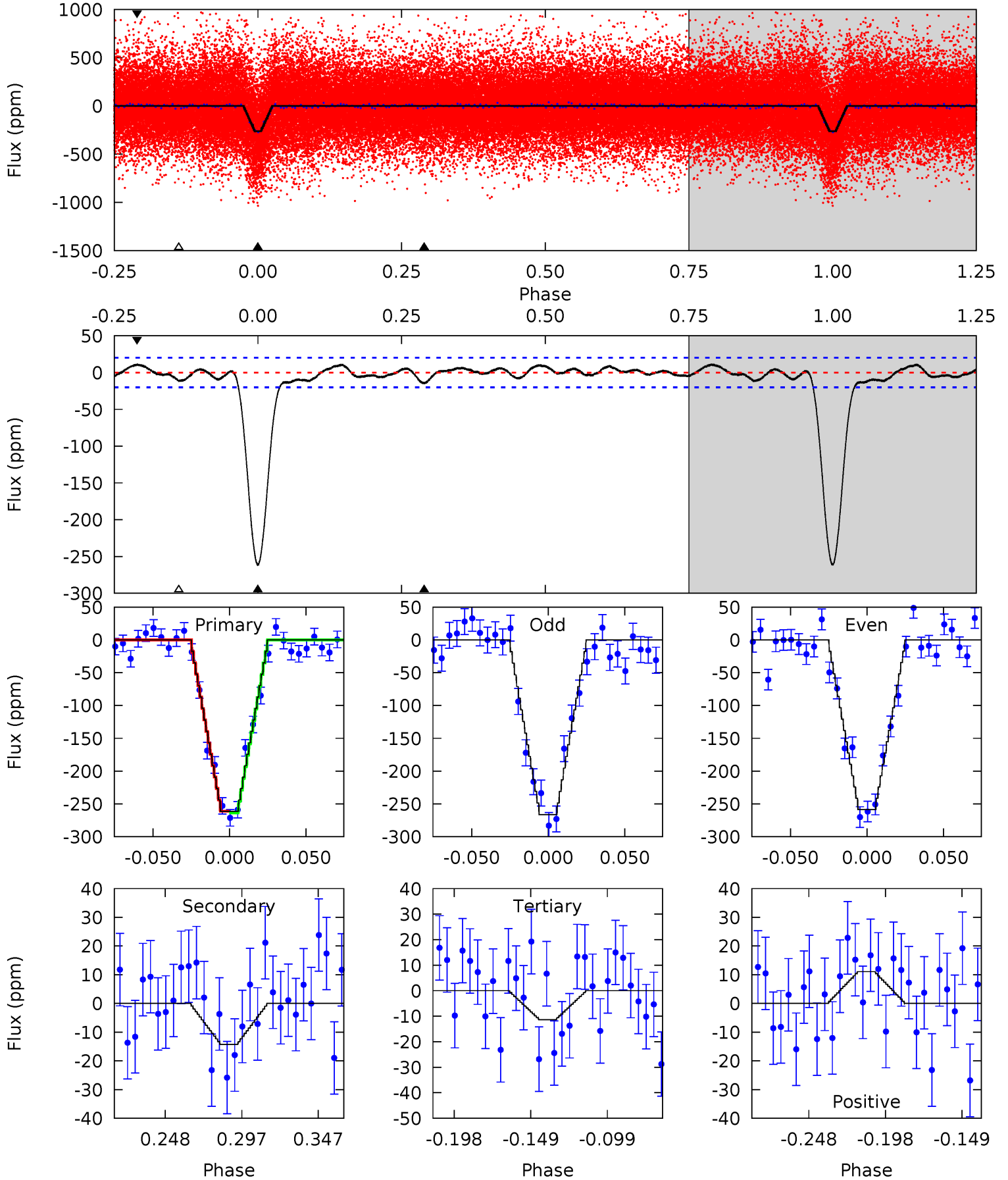
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 59.9 | 2.80 | 2.12 | 2.77 | 4.69 | 1.92 | 1.13 | 57.7 | 57.1 | 0.68 | 0.03 | 0.78 | 0.98 | 0.04 | 3.02 |



Alt Model-Shift Uniqueness Test

007120108-01, P = 1.025864 Days, E = 130.625819 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 61.2 | 3.34 | 2.65 | 2.60 | 4.71 | 1.96 | 1.31 | 58.5 | 58.6 | 0.68 | 0.74 | 0.89 | 1.00 | 0.04 | 0.30 |



Stellar Parameters For KIC 007120108

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|---------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5123^{+82}_{-82} | $4.501^{+0.066}_{-0.038}$ | $0.140^{+0.150}_{-0.150}$ | $0.847^{+0.044}_{-0.055}$ | $0.828^{+0.048}_{-0.035}$ | $1.922^{+0.480}_{-0.246}$ |
| | +2%/-2% | +1%/-1% | +107%/-107% | +5%/-6% | +6%/-4% | +25%/-13% |
| Source | SPE90 | SPE90 | SPE90 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 007120108-01 / KOI 2325.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|----------------------|---------------------------|
| DV | -11 ± 4 | $1.62^{+0.44}_{-0.44}$ | 2115^{+46}_{-48} | 2738^{+390}_{-463} | $0.846^{+0.854}_{-0.424}$ |
| Alt. | -14 ± 4 | $1.50^{+0.45}_{-0.45}$ | 2119^{+47}_{-52} | 2944^{+444}_{-368} | $1.203^{+1.410}_{-0.571}$ |

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

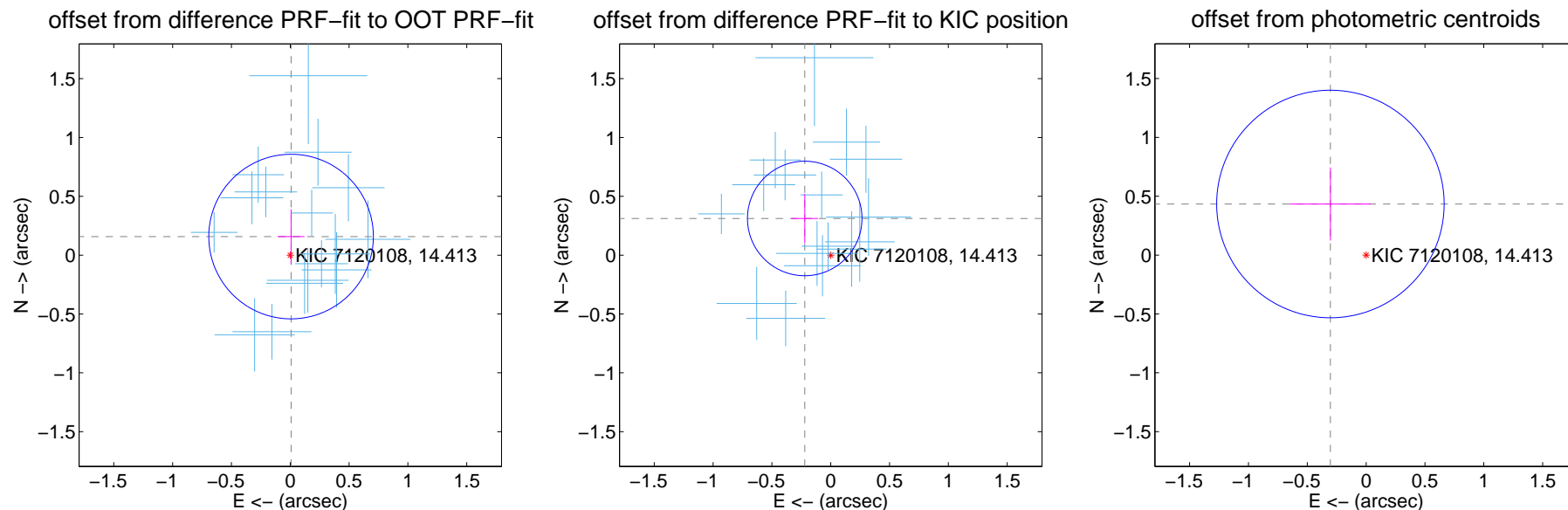
DV Centroid Data

Supplemental centroid analysis for 007120108-01. Kepler magnitude: 14.41. Transit SNR 36.41

There are 17 quarters with good PRF difference image offsets

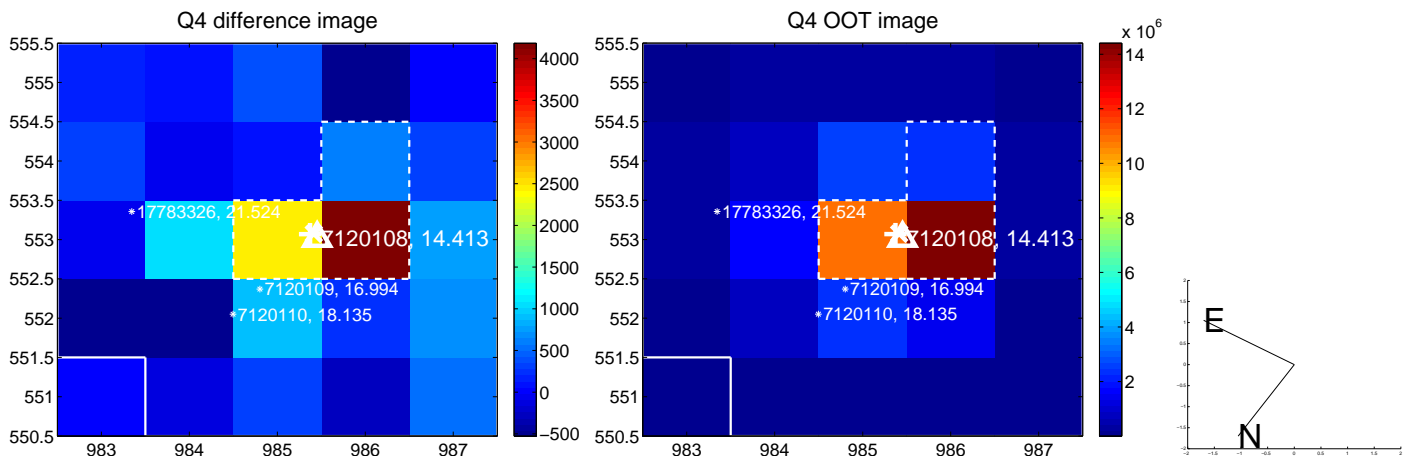
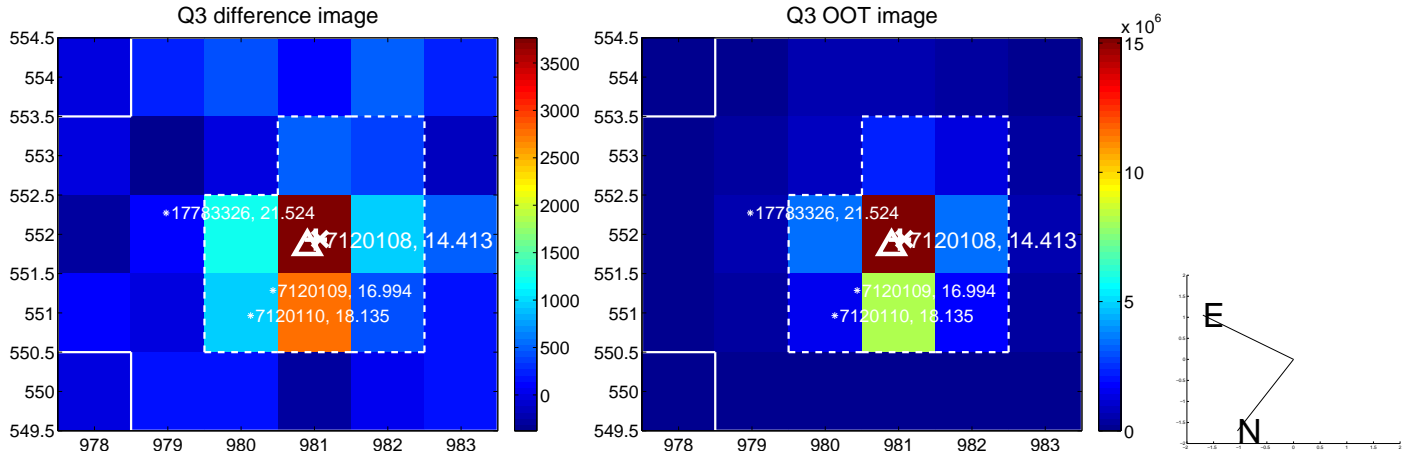
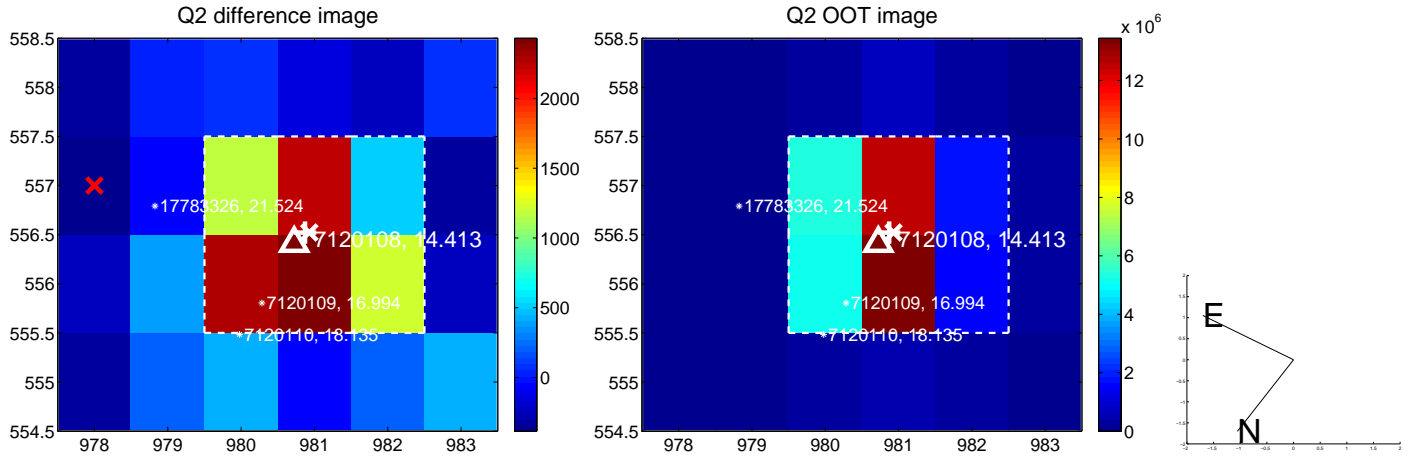
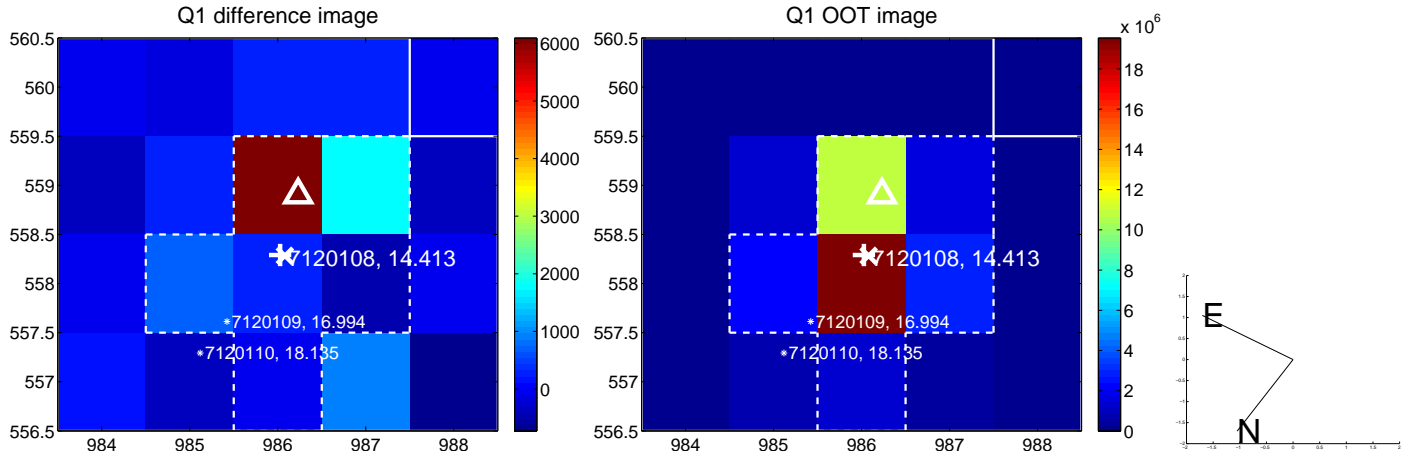
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|-------------------|
| PRF-fit source offset from OOT | 0.158 ± 0.233 | 0.68 | -0.007 ± 0.114 | 0.158 ± 0.232 |
| PRF-fit source offset from KIC position | 0.382 ± 0.162 | 2.36 | 0.221 ± 0.113 | 0.312 ± 0.208 |
| photometric centroid source offset | 0.53 ± 0.32 | 1.64 | 0.30 ± 0.35 | 0.43 ± 0.31 |

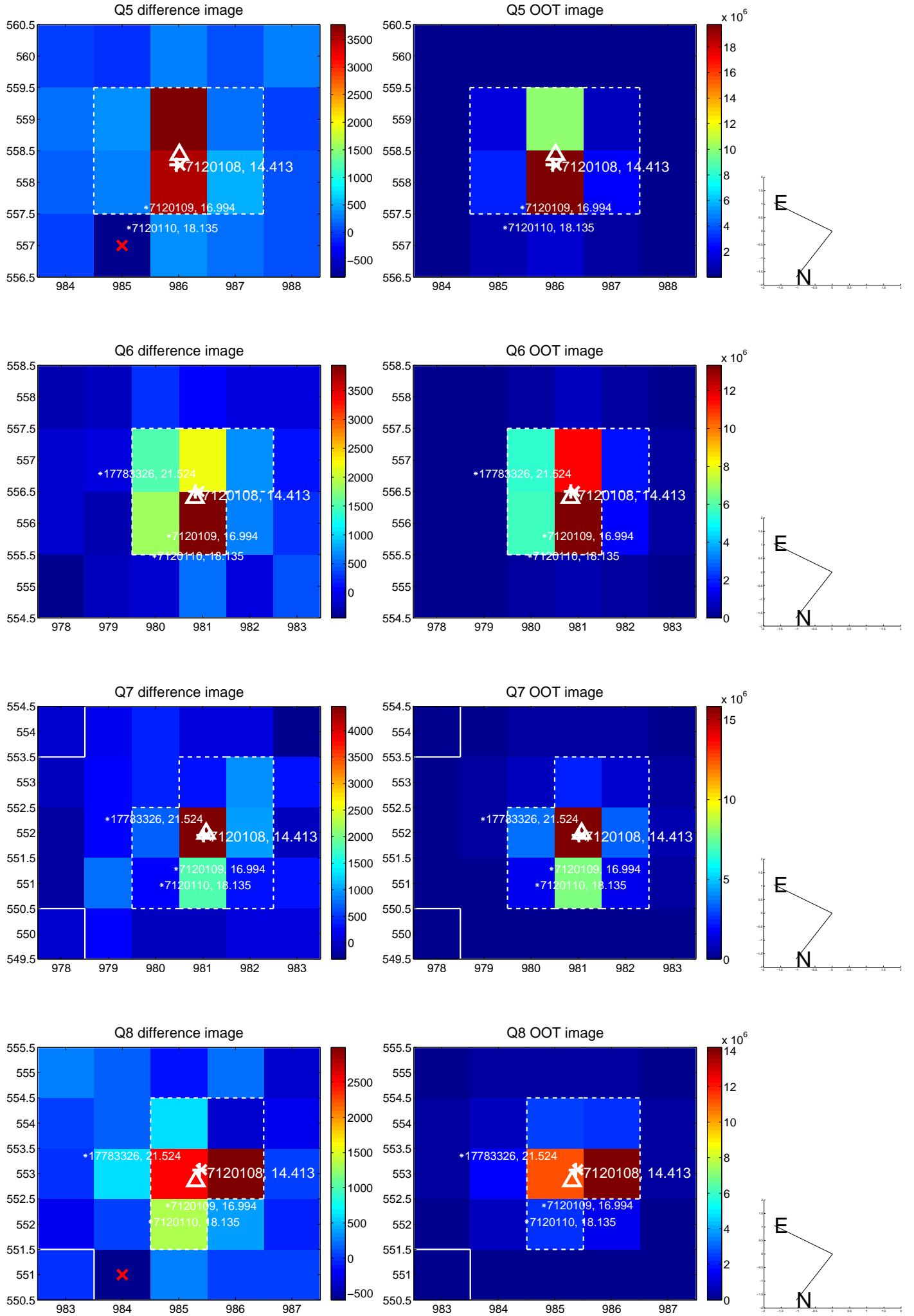


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

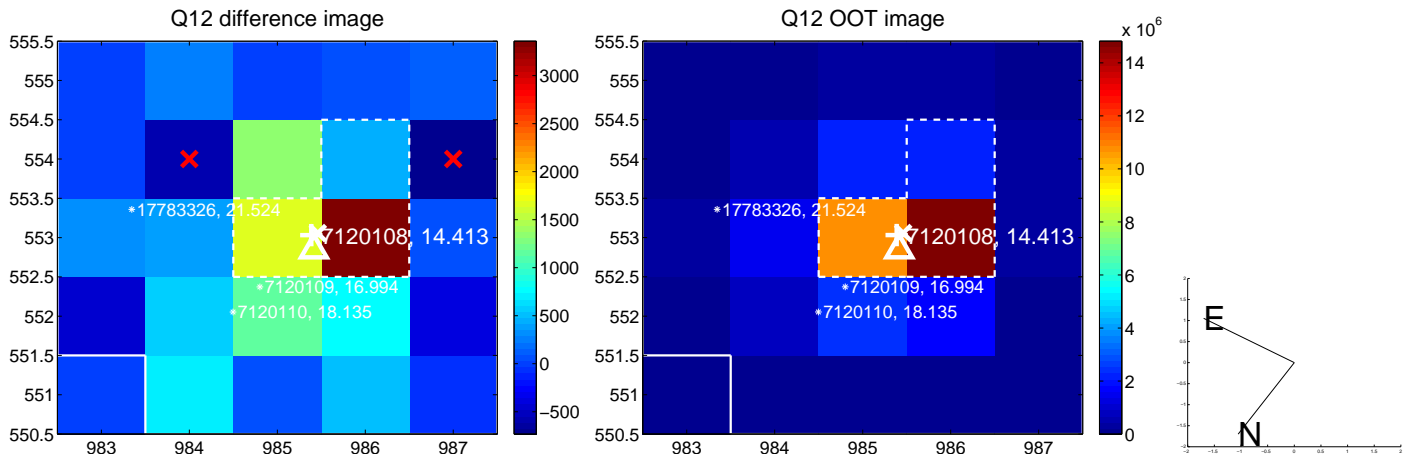
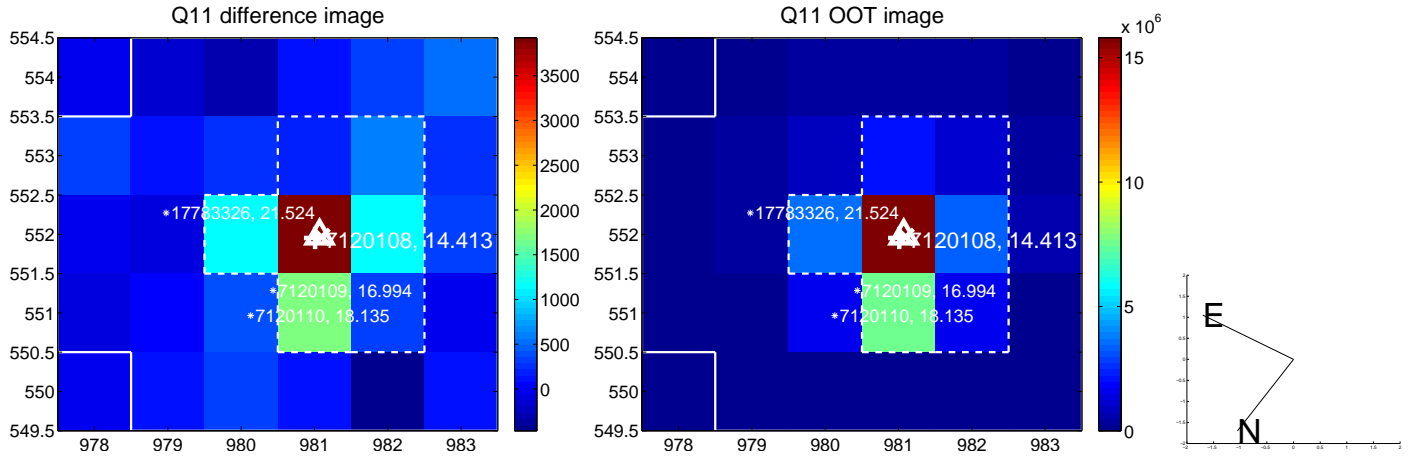
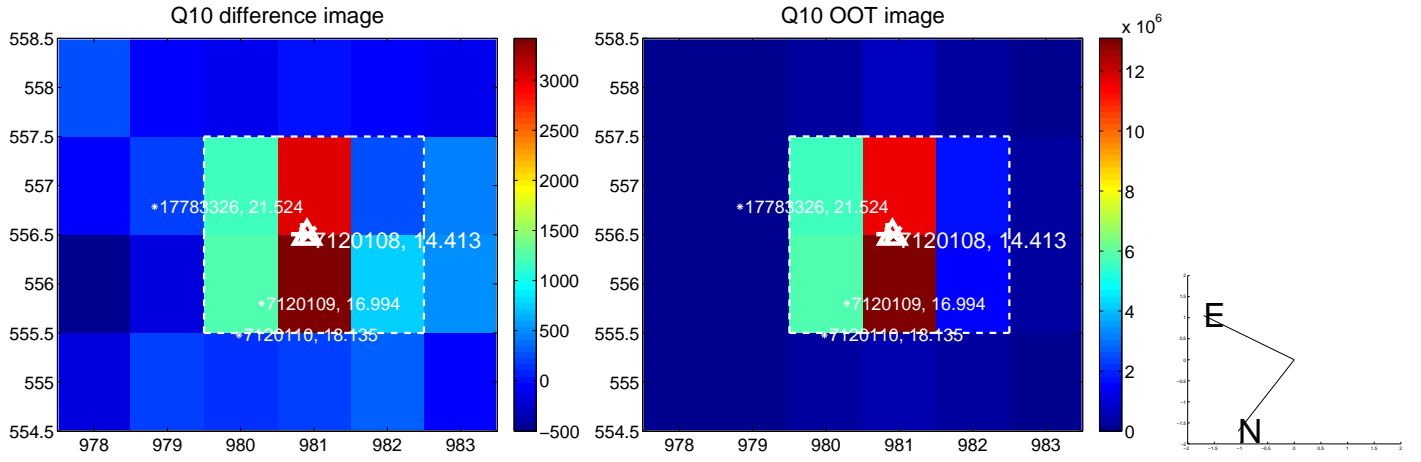
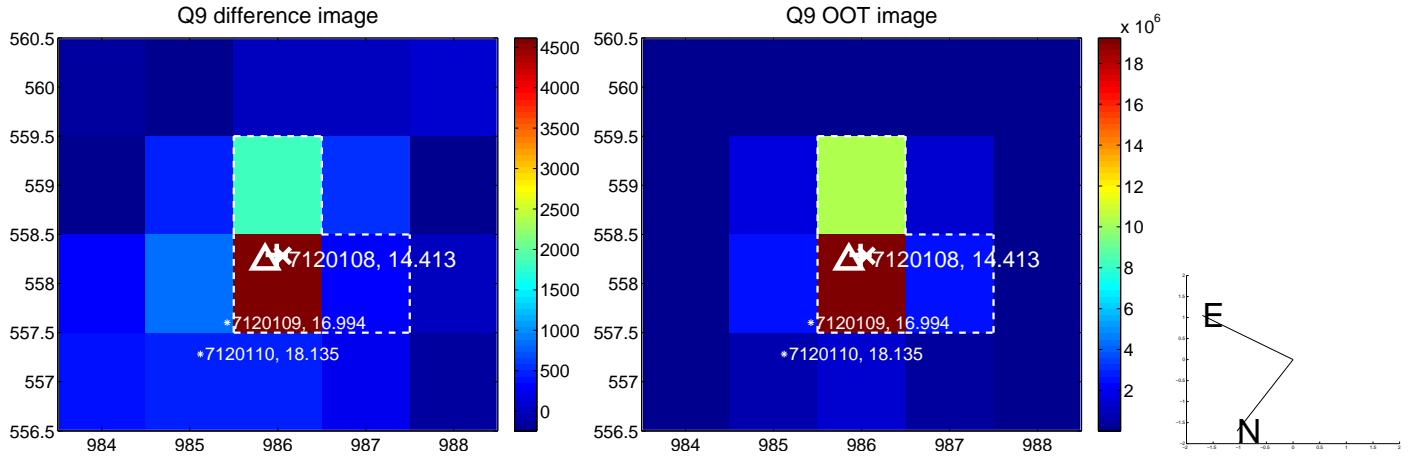
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



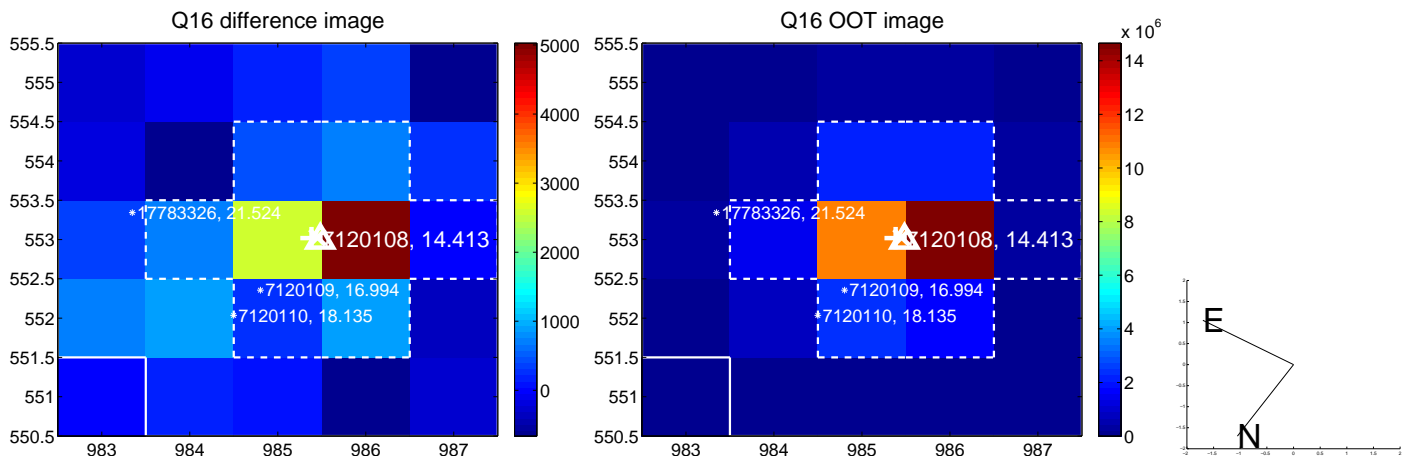
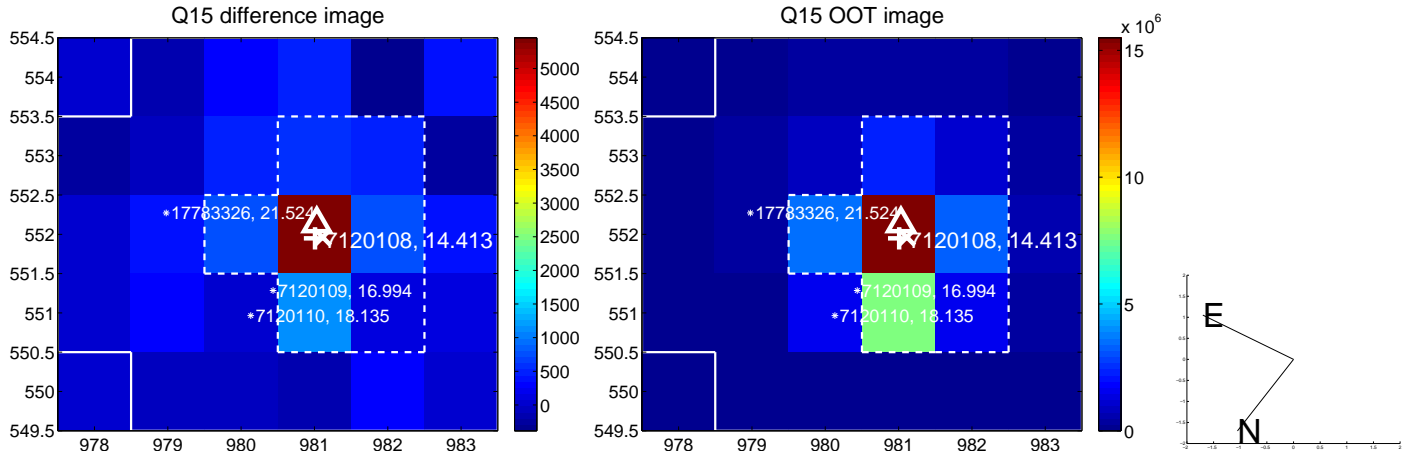
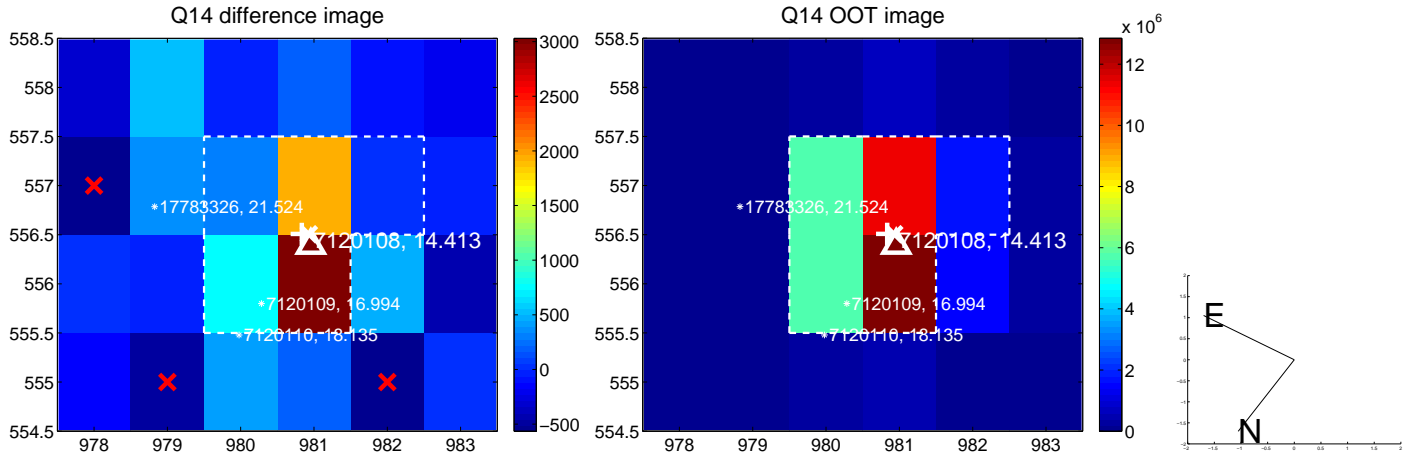
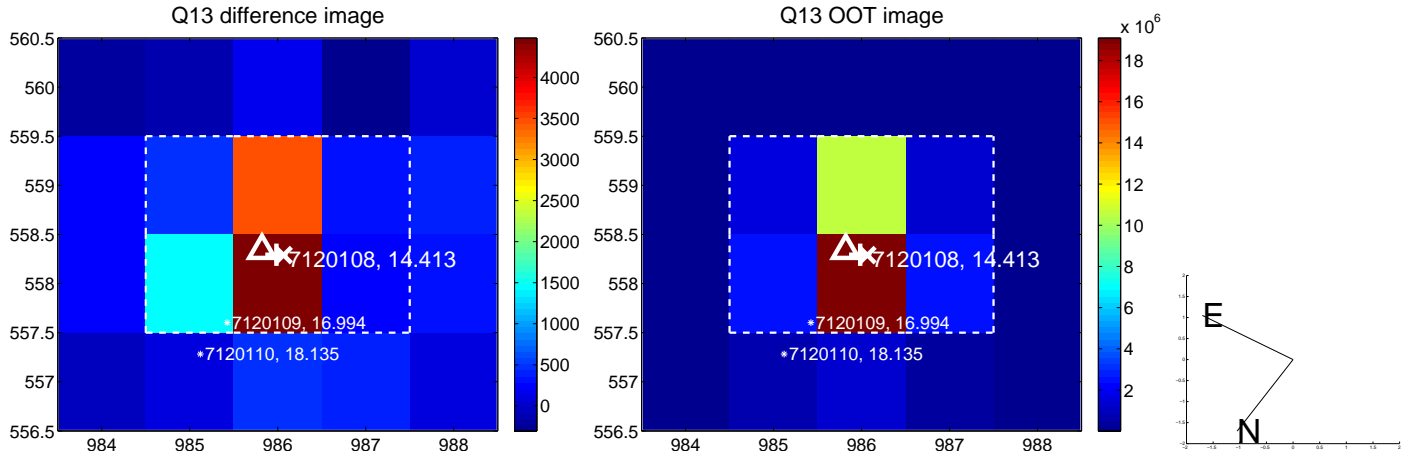
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



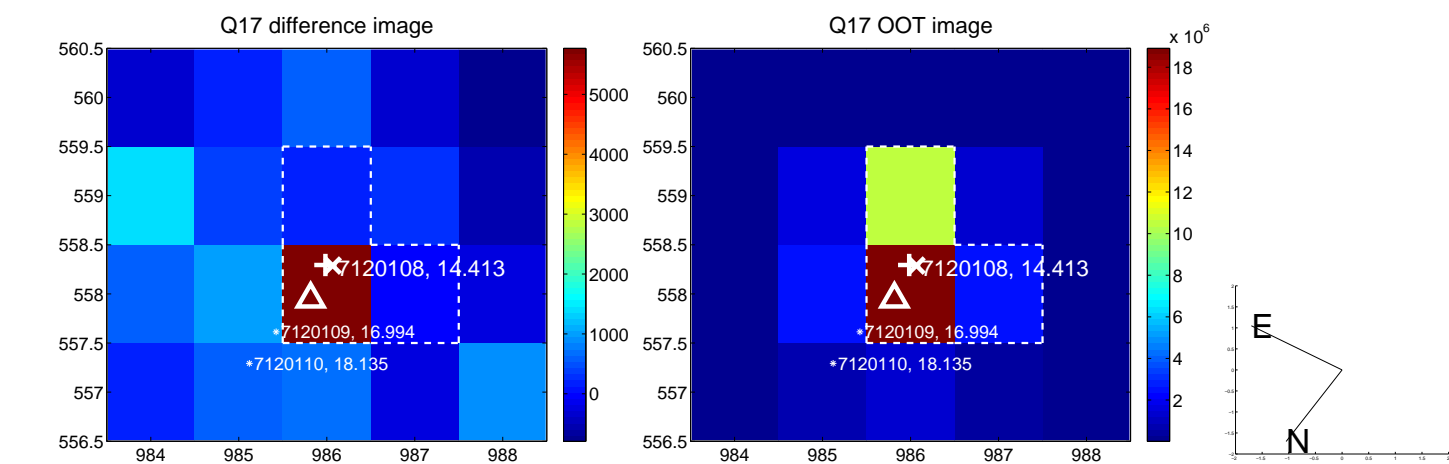
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



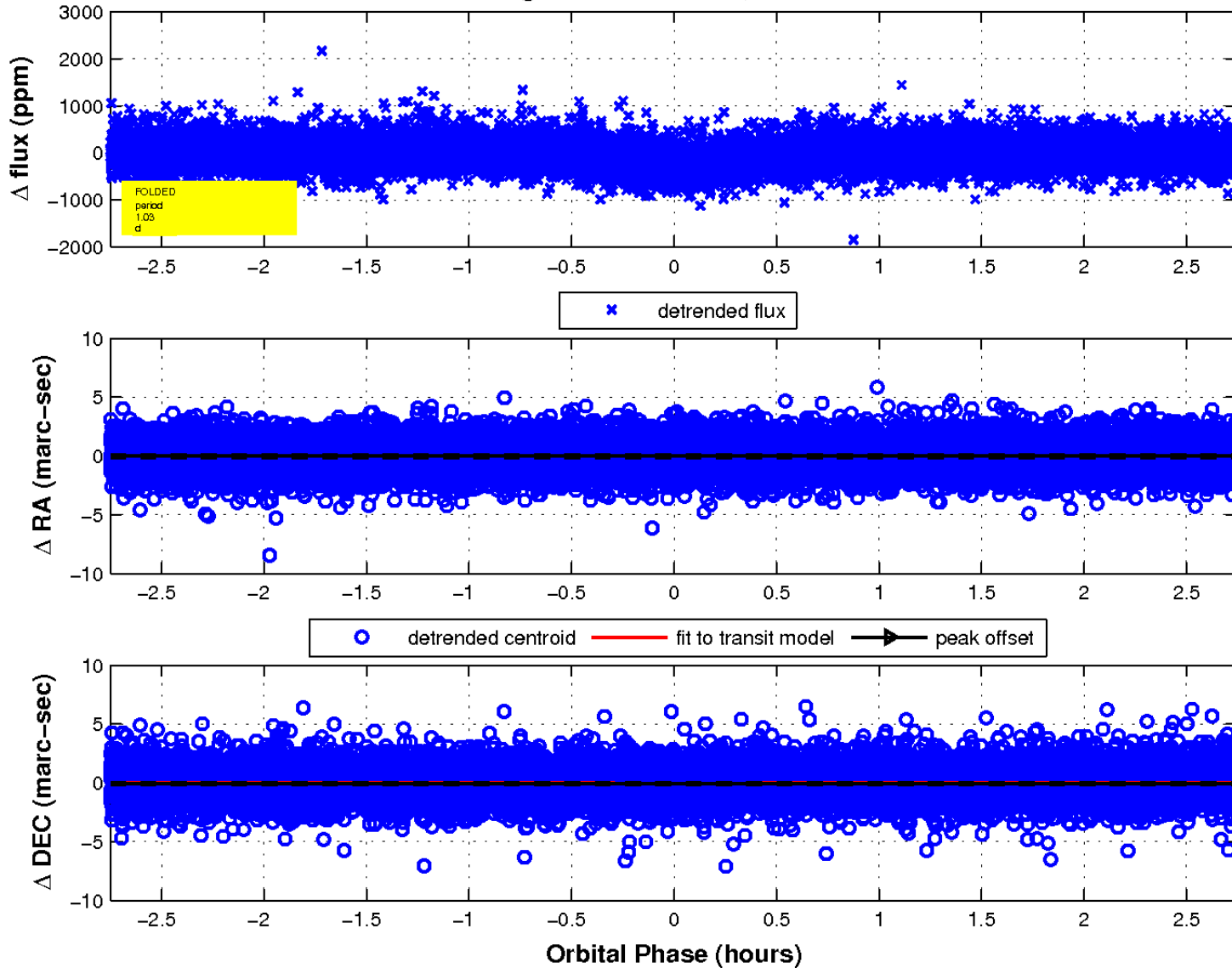
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

