

KIC 008098960

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 008098960-01 | OBS | 6966.01 | 8.474807 | 138.480345 | 225.3 | 1.974 | 7.9 | 9.2 | 0.79 | 5564 | 1.41 | 87.80 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 008098960-01 | OBS | PC | 0.98 | 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.

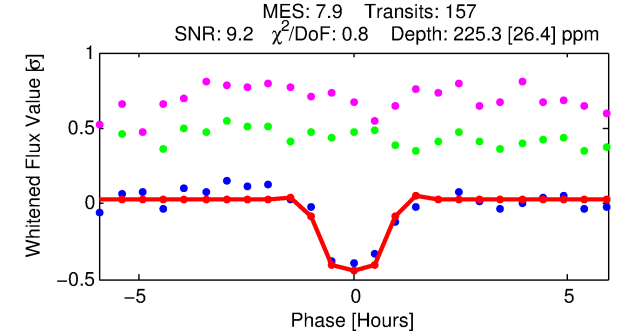
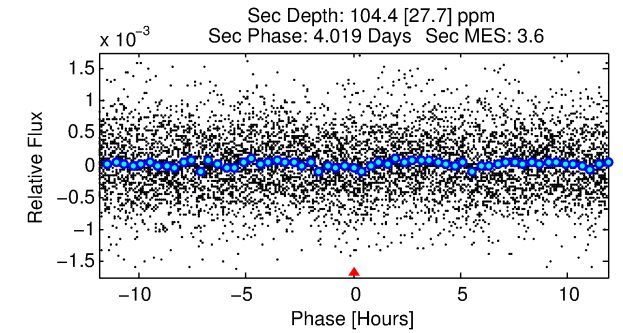
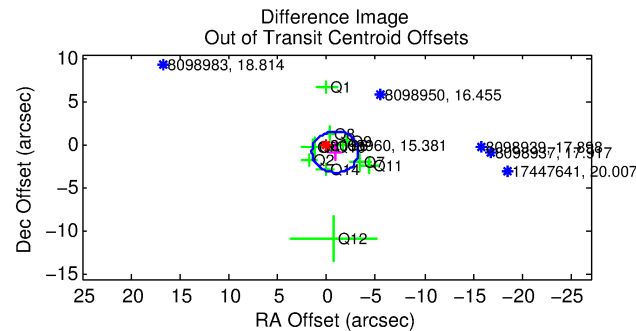
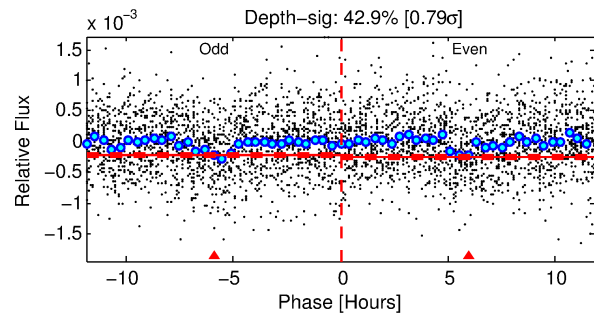
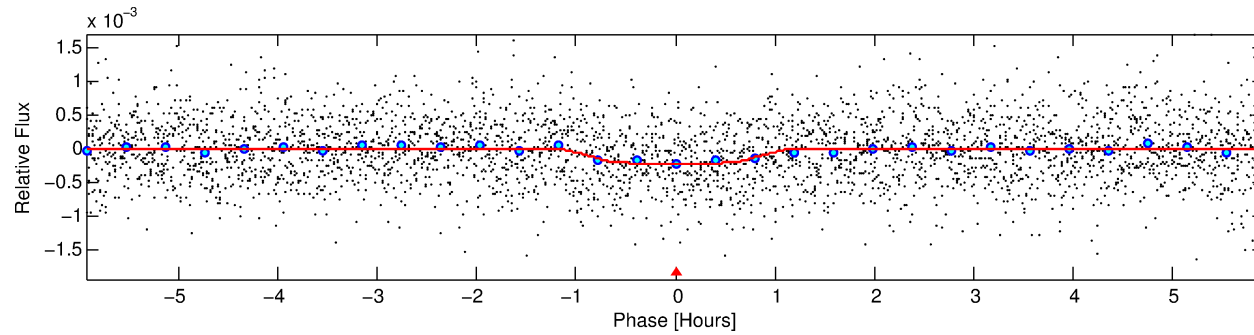
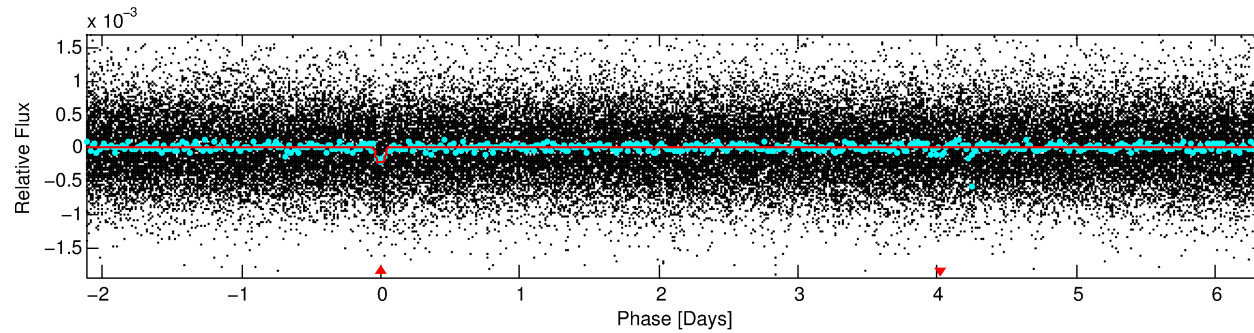
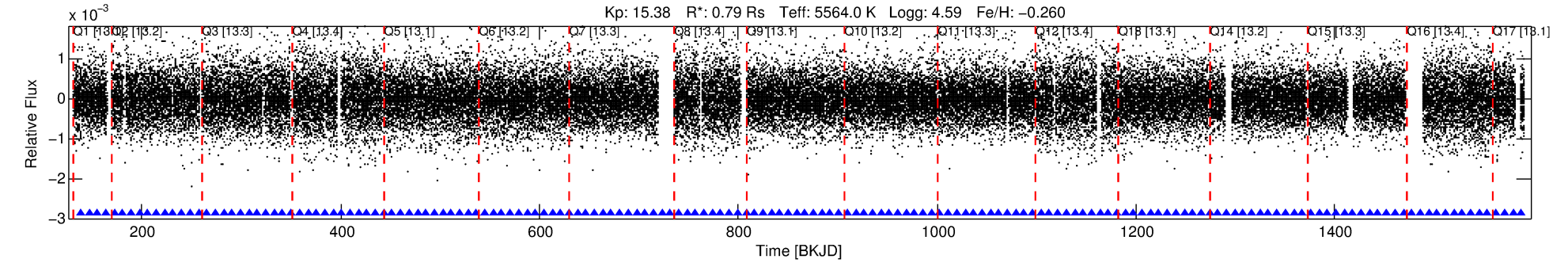
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008098960-01

No Significant Match Found

DV One-Page Summary

KIC: 8098960 Candidate: 1 of 1 Period: 8.475 d
KOI: K06966.01 Corr: 0.970



DV Fit Results:

Period = 8.47481 [0.00005] d
Epoch = 138.4803 [0.0046] BKJD
Rp/R* = 0.0165 [0.0116]
a/R* = 15.40 [49.99]
b = 0.90 [0.69]
Seff = 87.80 [23.05]
Teff = 781 [51] K
Rp = 1.41 [1.04] Re
a = 0.0776 [0.0131] AU
Ag = 174.03 [253.13] [0.68 σ]
Teffp = 4383 [1577] K [2.28 σ]

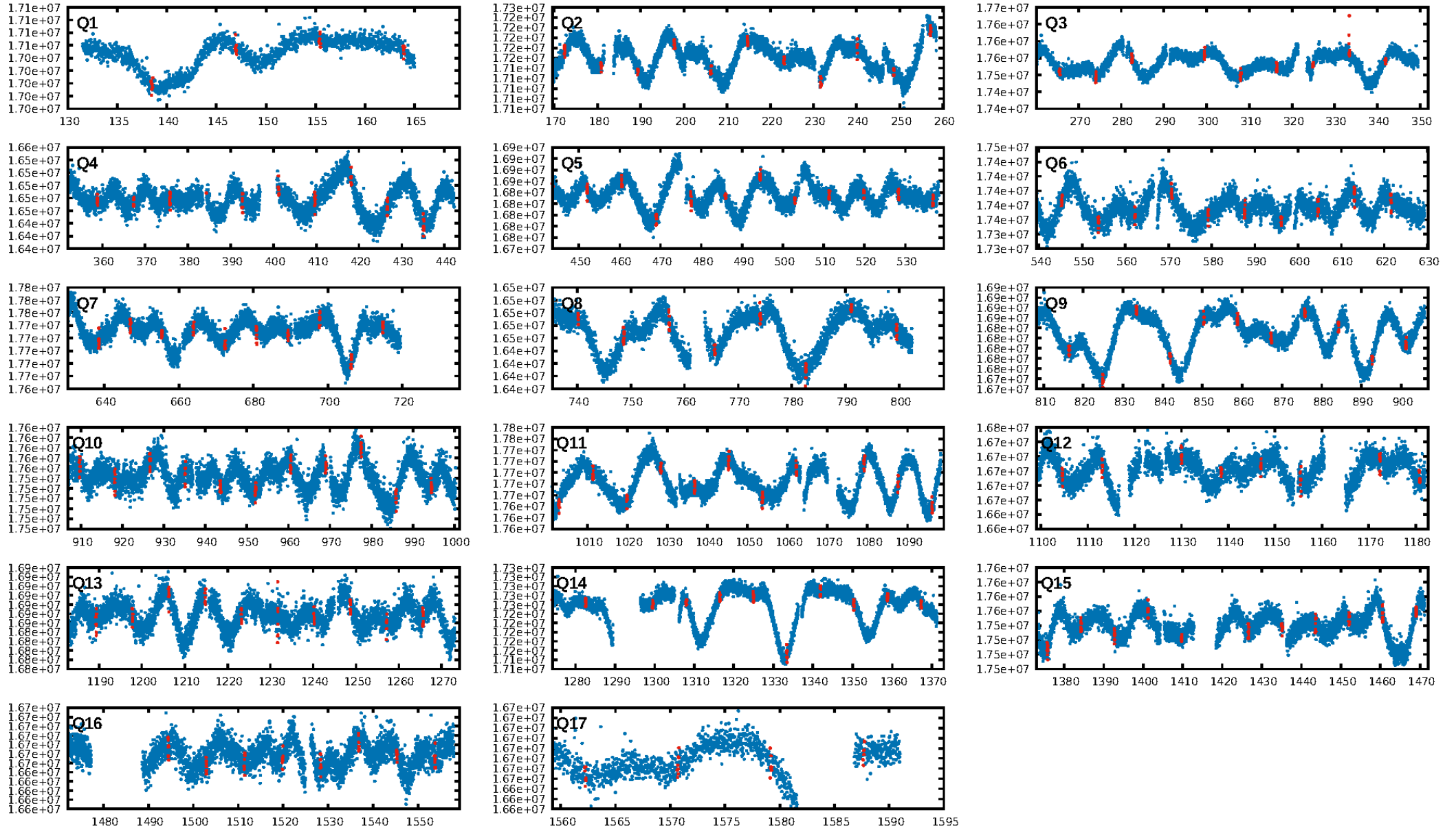
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.62e-15
RollingBand-fgt: 1.00 [149/149]
GhostDiagnostic-chr: -32.51
Centroid-sig: 9.2%
Centroid-so: 0.905 arcsec [0.68 σ]
OotOffset-rm: 1.182 arcsec [1.49 σ]
KicOffset-rm: 1.178 arcsec [1.57 σ]
OotOffset-st: 4/2/3/3 [12]
KicOffset-st: 4/2/3/3 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 1.00 [17/17]

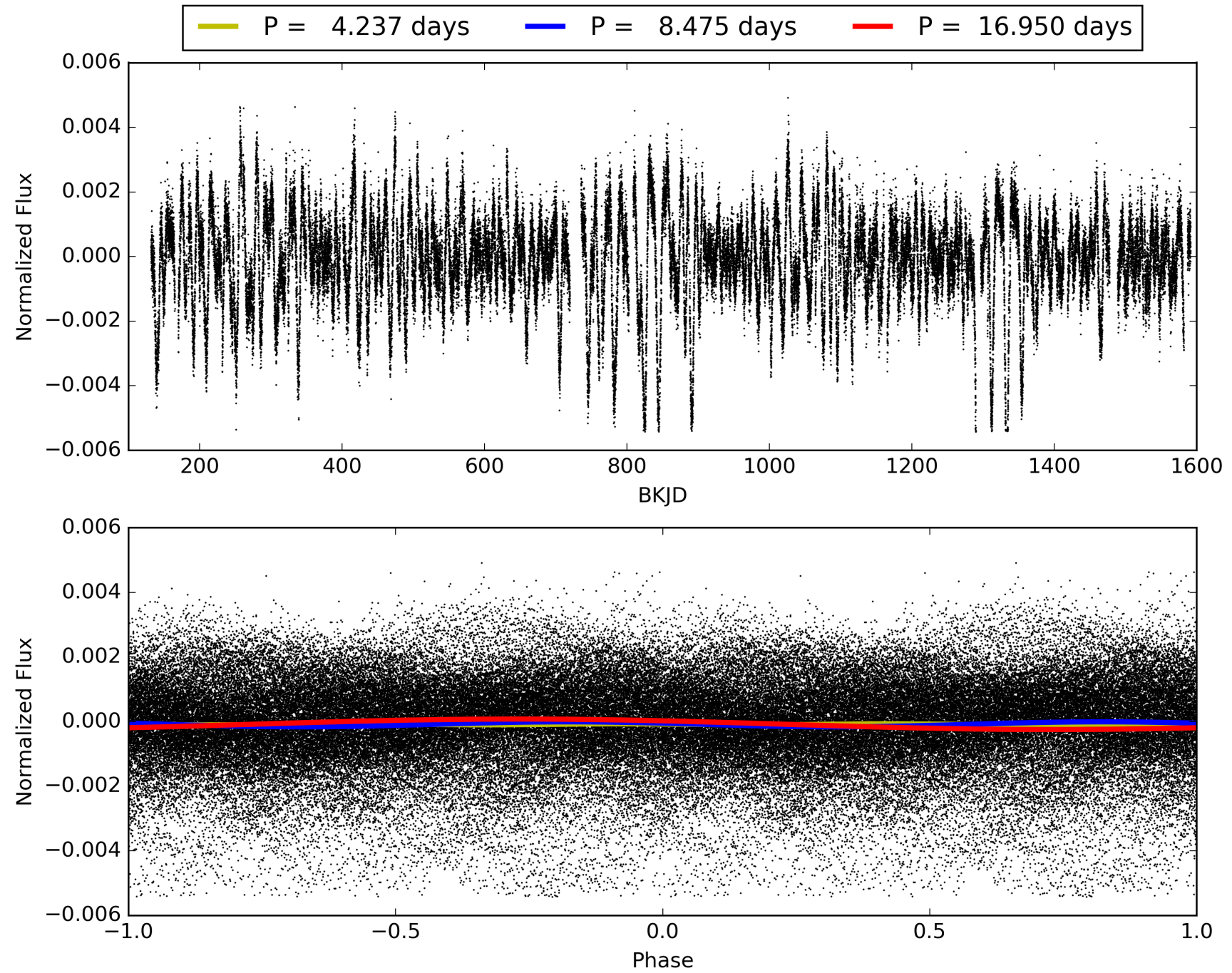
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:13:54 Z

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

TCE 008098960-01, PDC Light Curves

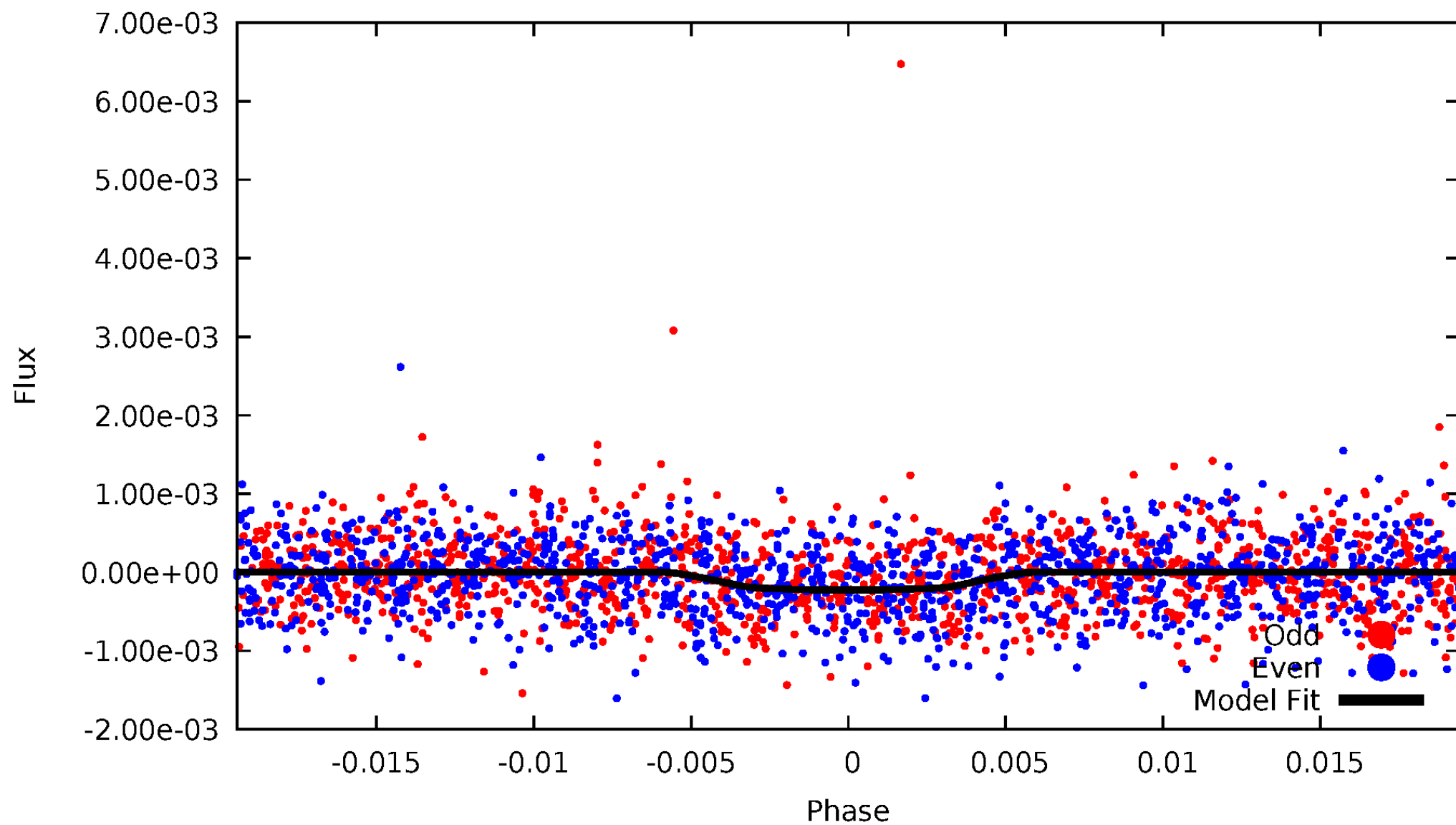


TCE 008098960-01



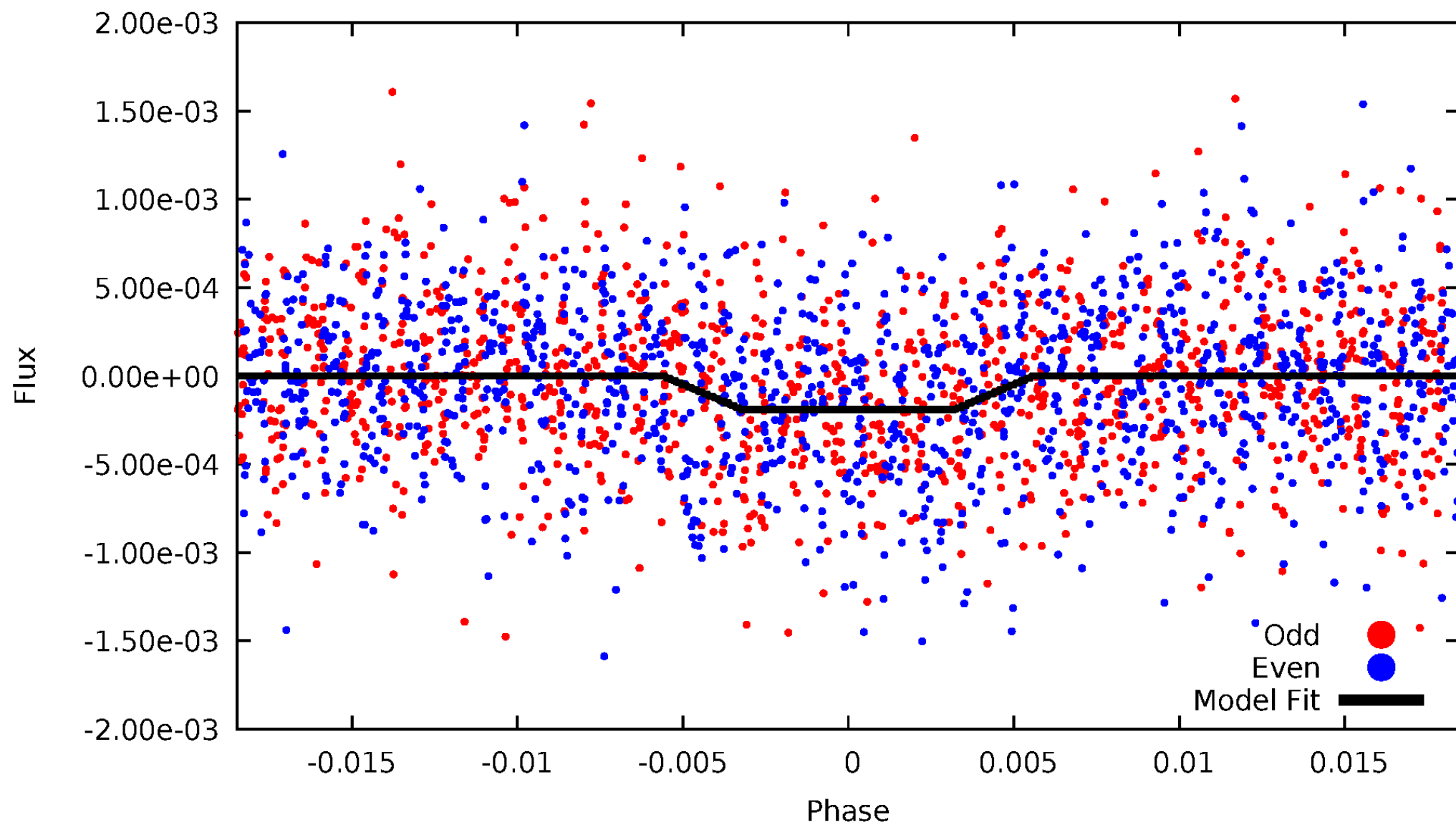
DV Odd/Even

TCE 008098960-01



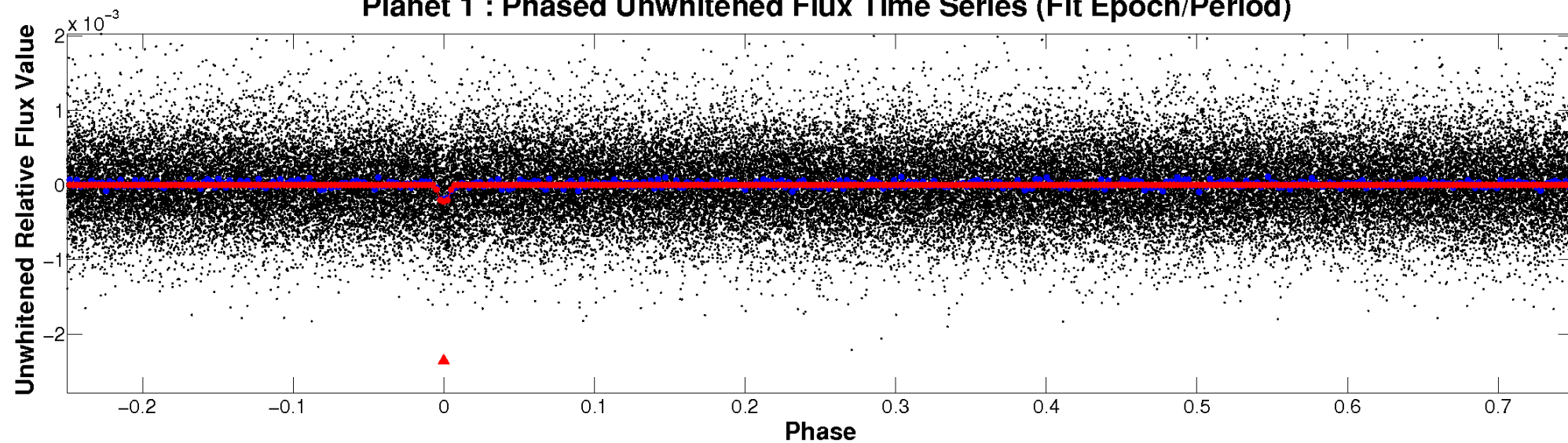
ALT Odd/Even

TCE 008098960-01

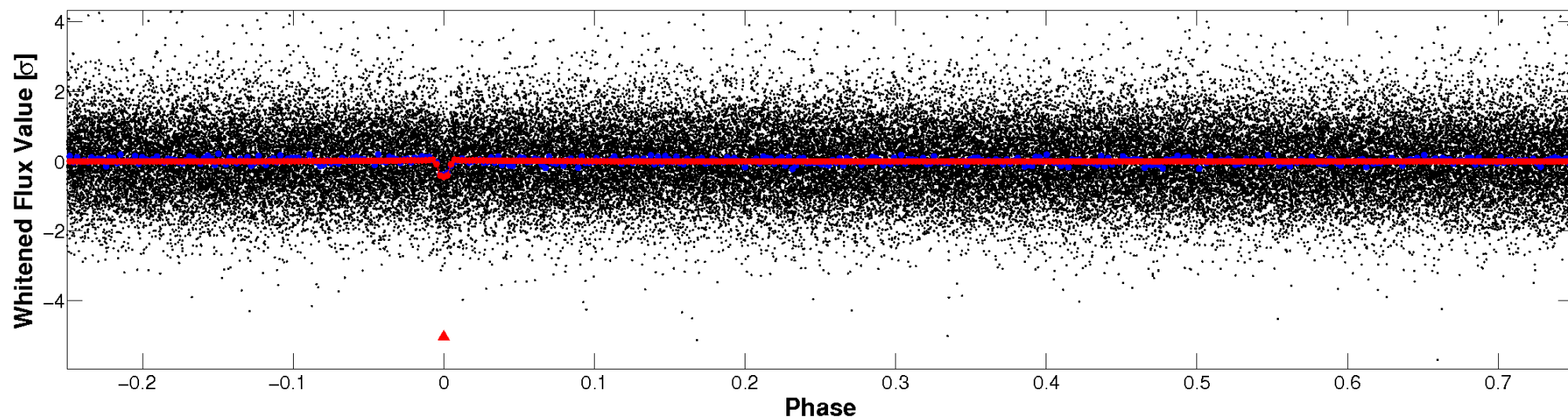


Non-Whitened Vs. Whitened Light Curve

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

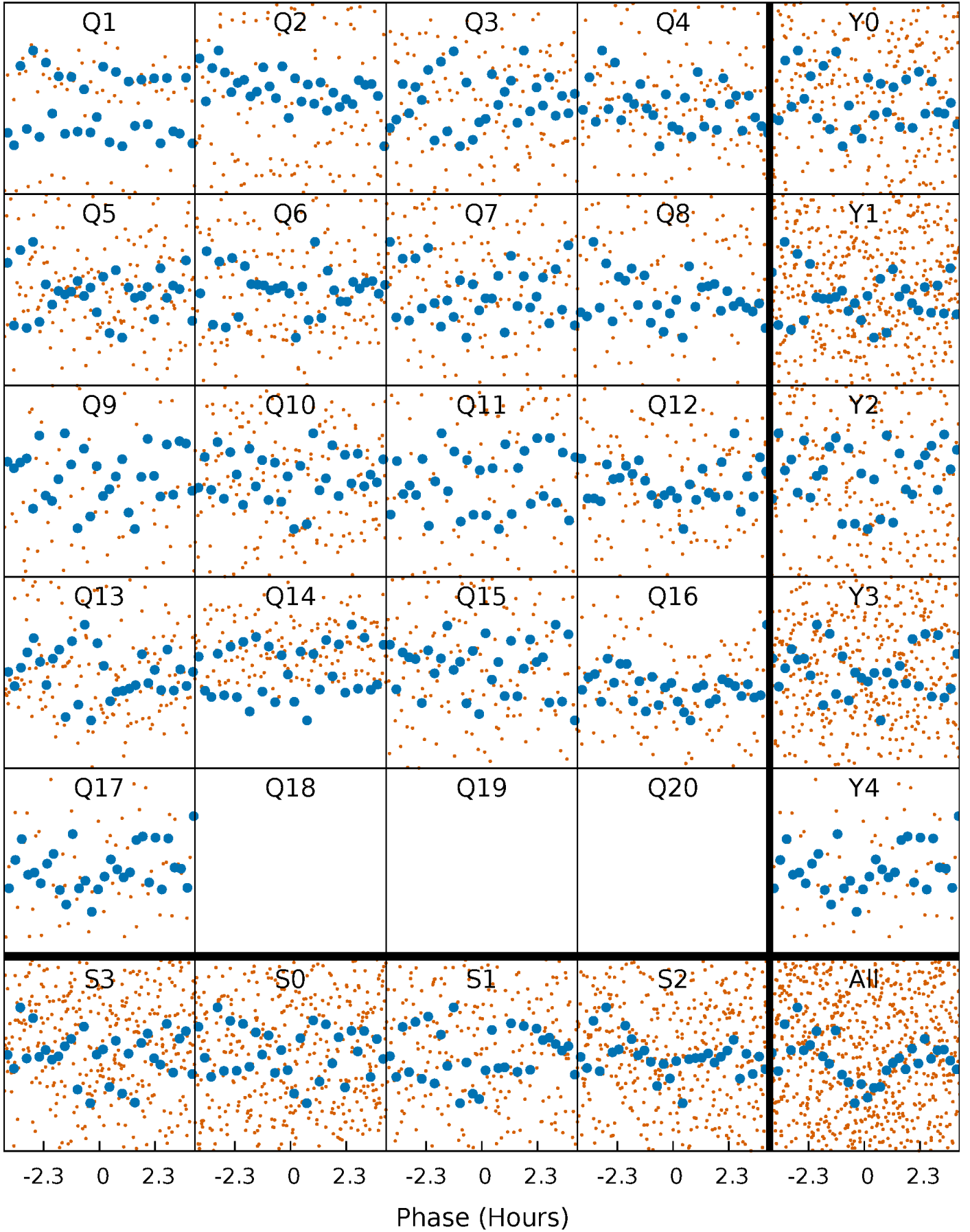


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



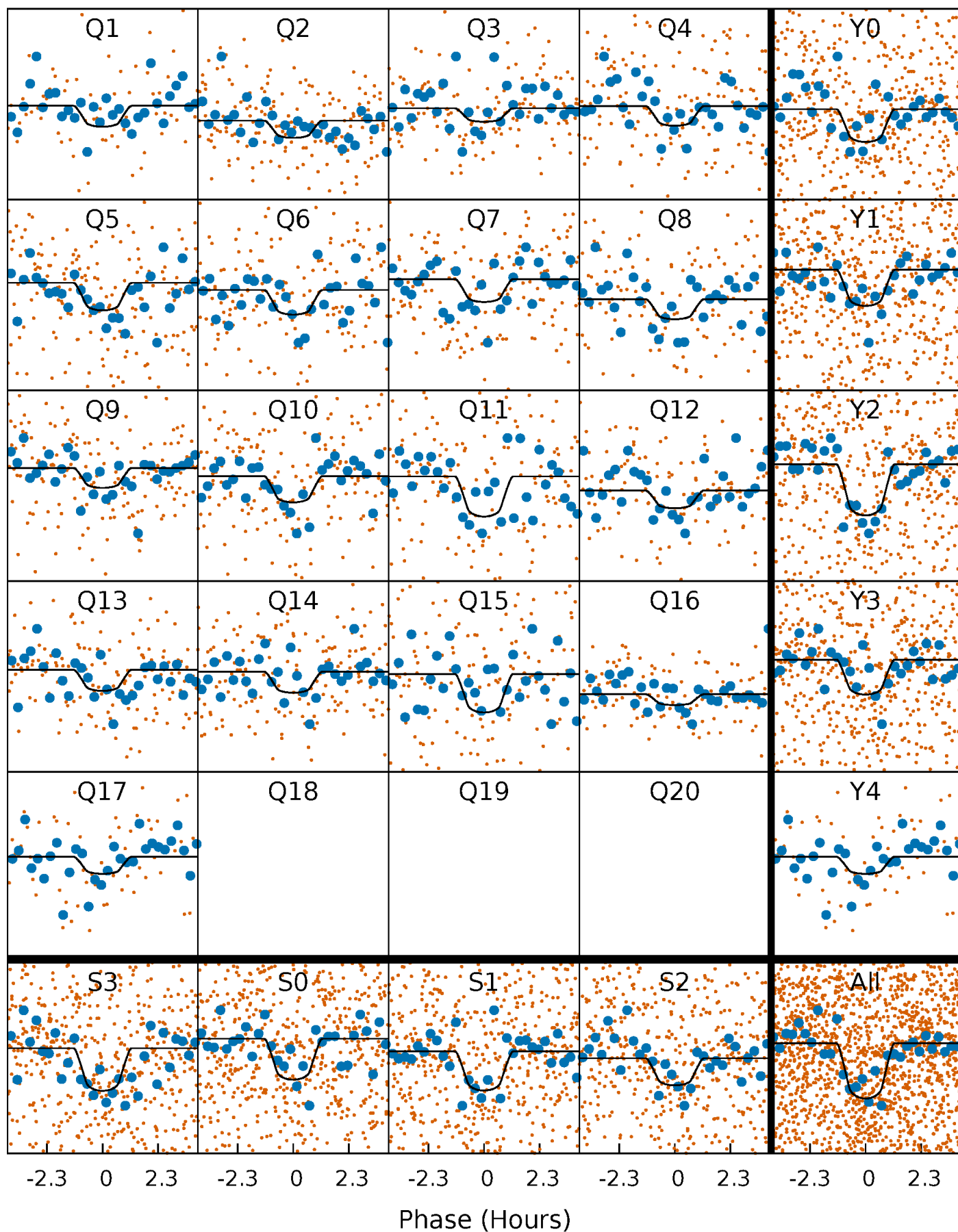
PDC Quarter-Phased Transit Curves

TCE 008098960-01 P= 8.474807 Days $T_0=138.480345$ (BKJD)



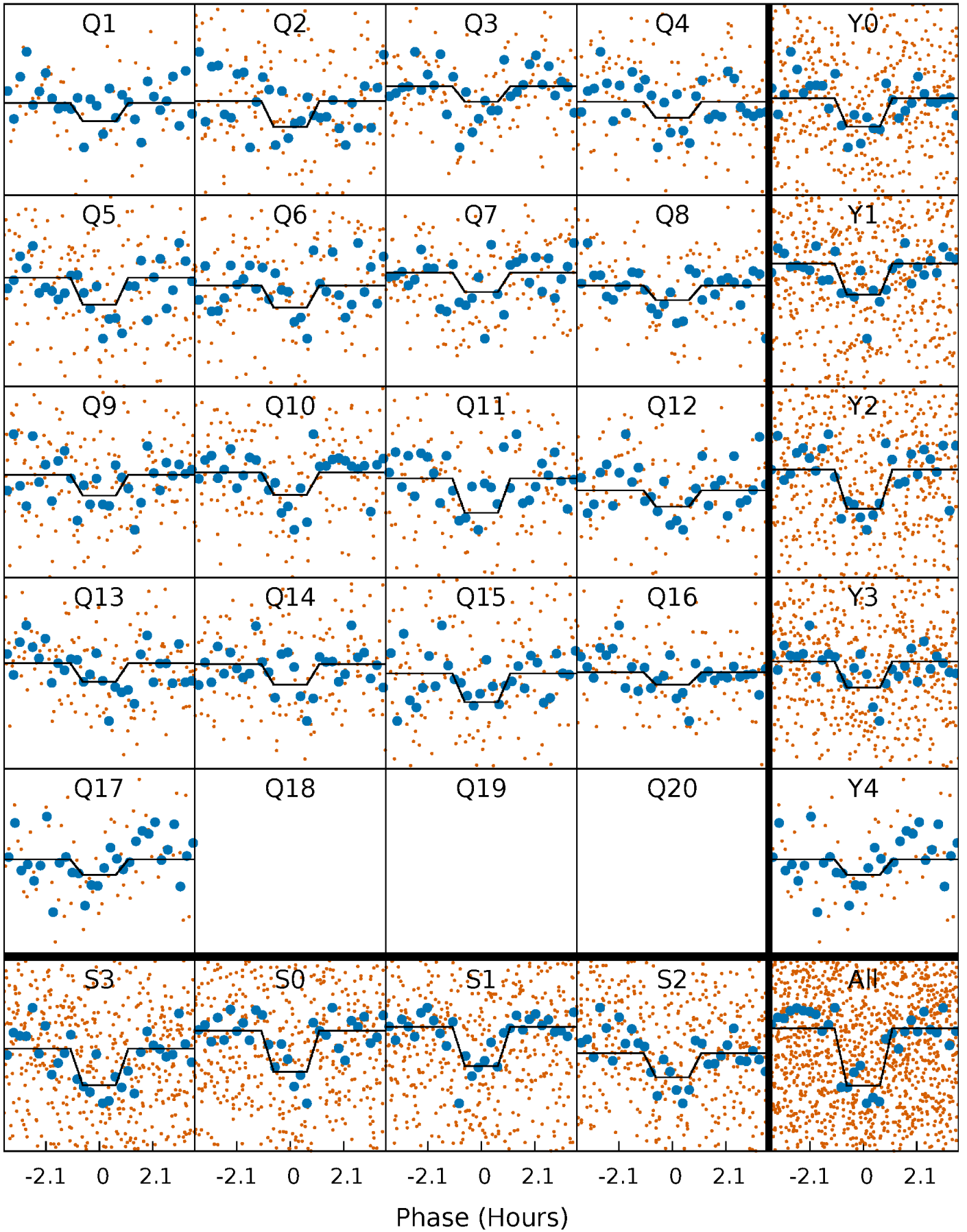
DV Quarter-Phased Transit Curves

TCE 008098960-01 P= 8.474807 Days $T_0=138.480345$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

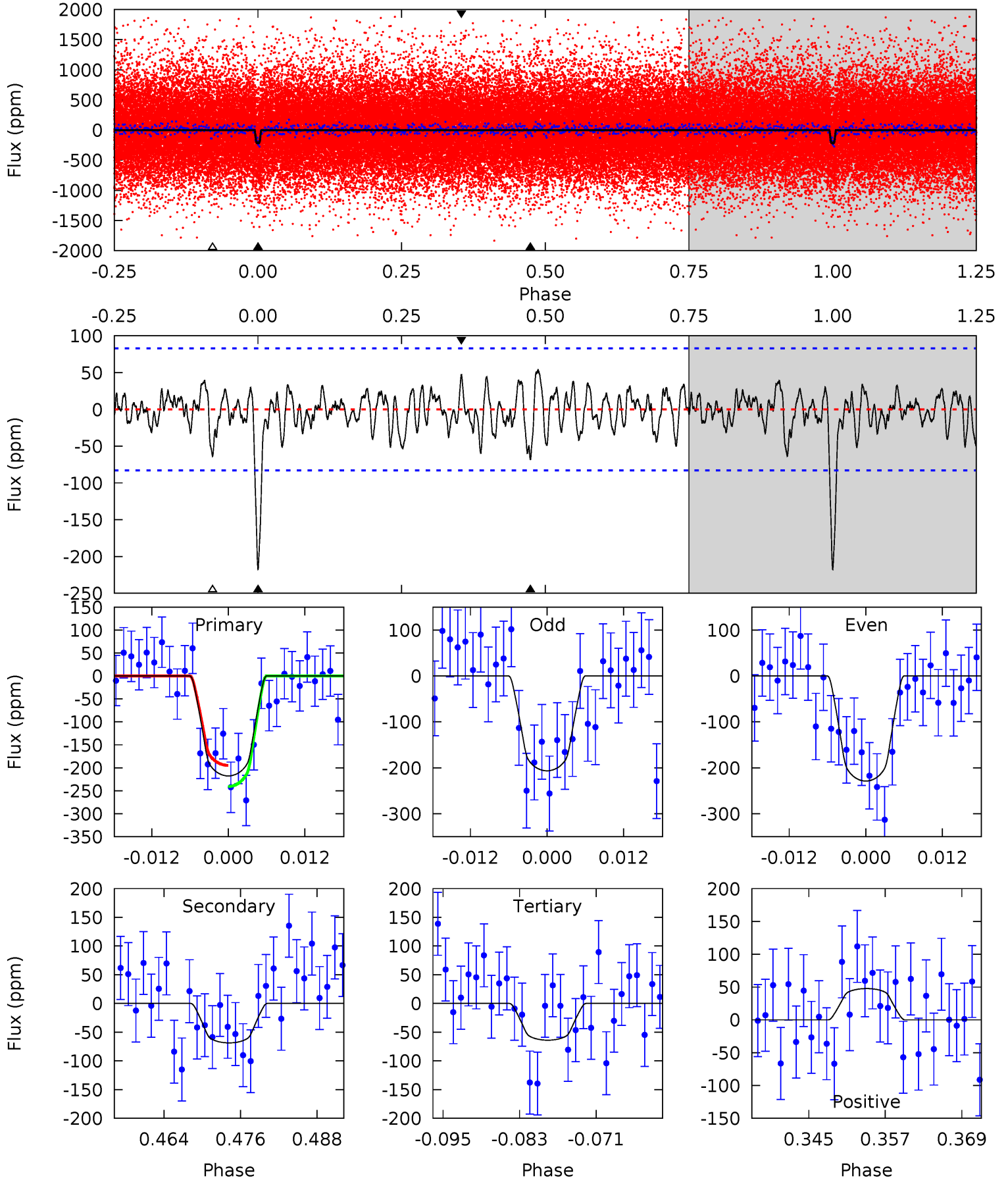
TCE 008098960-01 P= 8.474842 Days $T_0=138.477877$ (BKJD)



DV Model-Shift Uniqueness Test

008098960-01, P = 8.474807 Days, E = 130.005538 Days

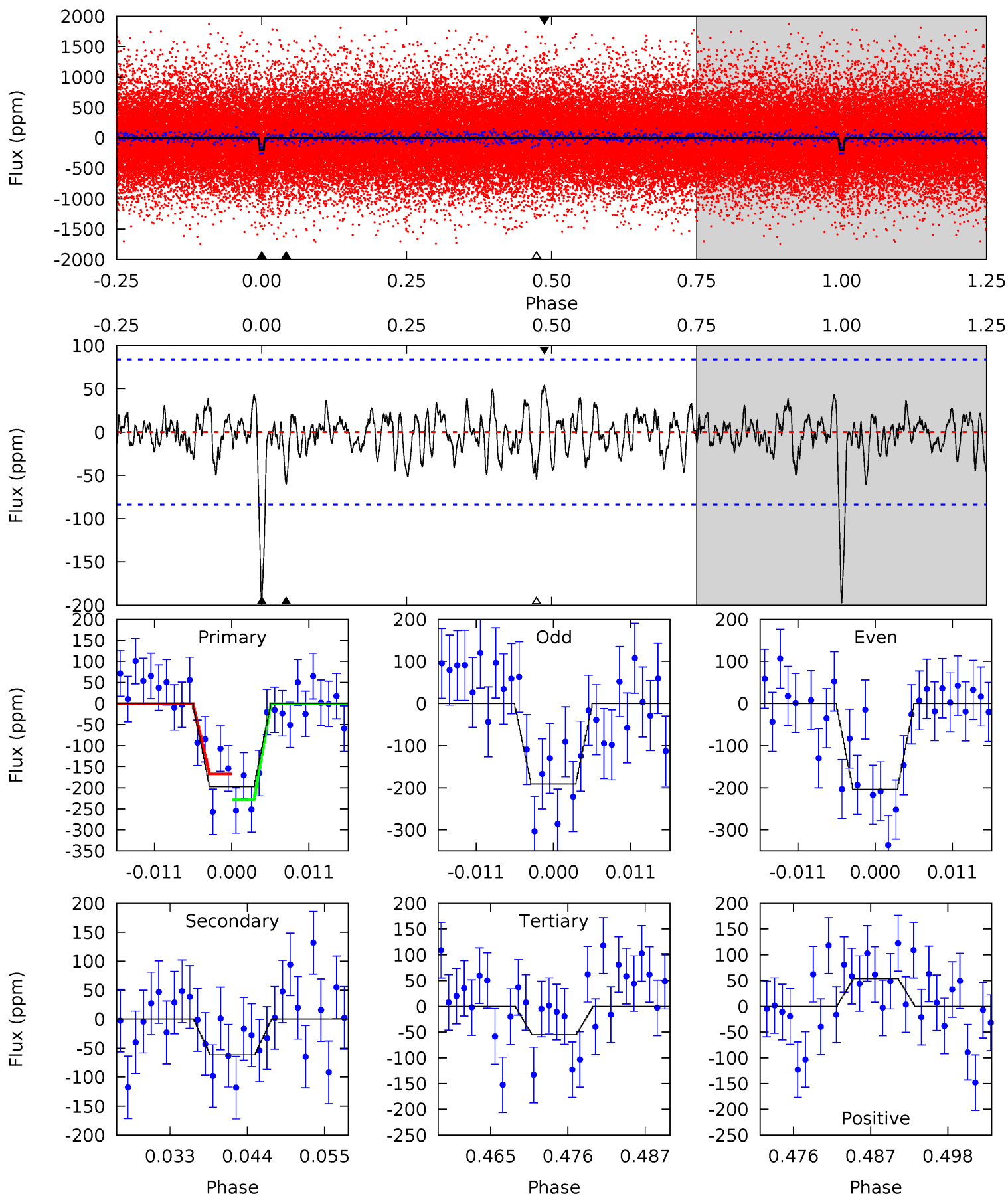
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 13.1 | 4.14 | 3.85 | 2.87 | 4.99 | 2.52 | 1.26 | 9.25 | 10.2 | 0.28 | 1.26 | 0.67 | 0.82 | 0.20 | 1.39 |



Alt Model-Shift Uniqueness Test

008098960-01, P = 8.474842 Days, E = 130.003035 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 11.8 | 3.65 | 3.27 | 3.23 | 5.01 | 2.54 | 1.17 | 8.50 | 8.54 | 0.38 | 0.43 | 0.38 | 0.90 | 0.22 | 1.84 |



Stellar Parameters For KIC 008098960

| | $T_{\text{eff}} (K)$ | $\log(g)$ | $[\text{Fe}/\text{H}]$ | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5564^{+150}_{-150} | $4.587^{+0.032}_{-0.128}$ | $-0.260^{+0.300}_{-0.300}$ | $0.785^{+0.161}_{-0.064}$ | $0.878^{+0.082}_{-0.100}$ | $2.558^{+0.445}_{-0.975}$ |
| | +3%/-3% | +1%/-3% | +115%/-115% | +21%/-8% | +9%/-11% | +17%/-38% |
| 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 008098960-01 / KOI 6966.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|--------------|------------------------|----------------------|-----------------------|--------------------|
| DV | -69 ± 17 | $1.54^{+1.02}_{-0.89}$ | 1111^{+50}_{-42} | 4106^{+1752}_{-691} | 92^{+445}_{-61} |
| Alt. | -61 ± 17 | $1.36^{+1.06}_{-0.83}$ | 1108^{+53}_{-40} | 4148^{+2035}_{-687} | 101^{+547}_{-68} |

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

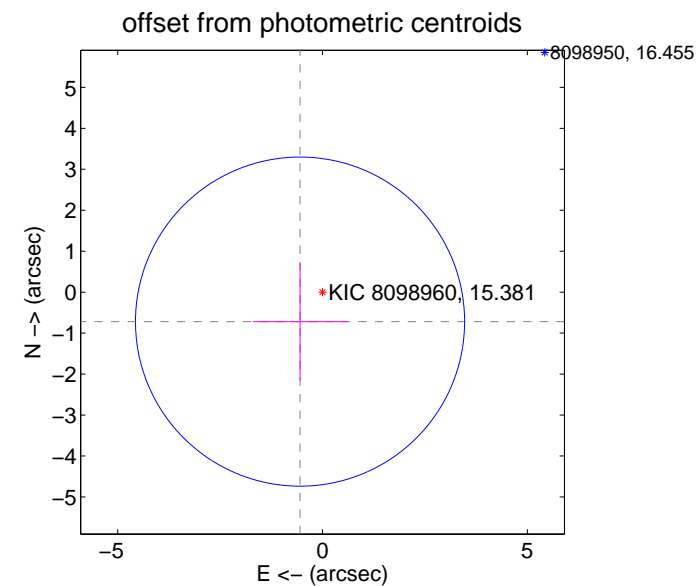
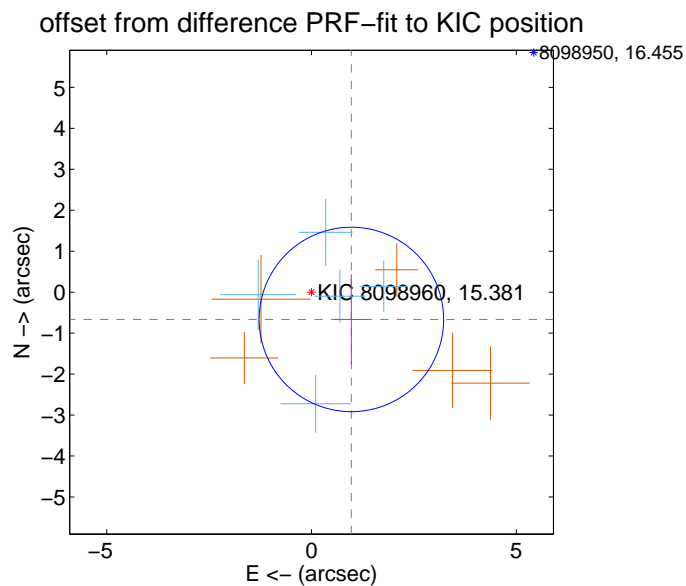
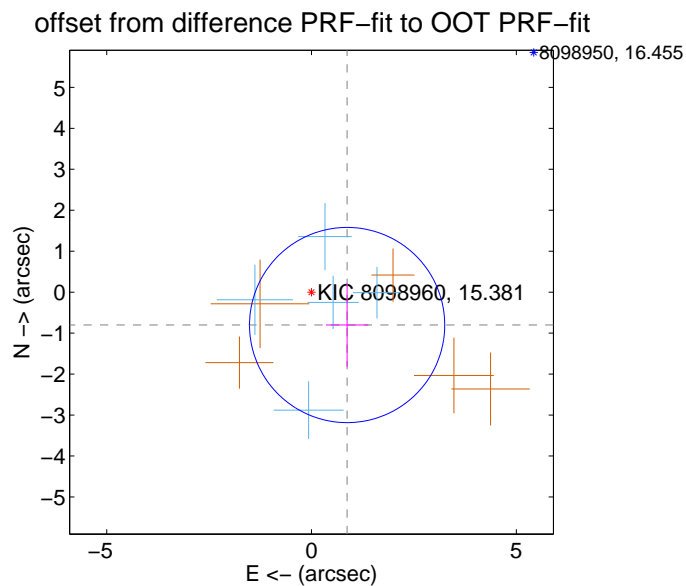
DV Centroid Data

Supplemental centroid analysis for 008098960-01. Kepler magnitude: 15.38. Transit SNR 9.23

There are 5 quarters with good PRF difference image offsets

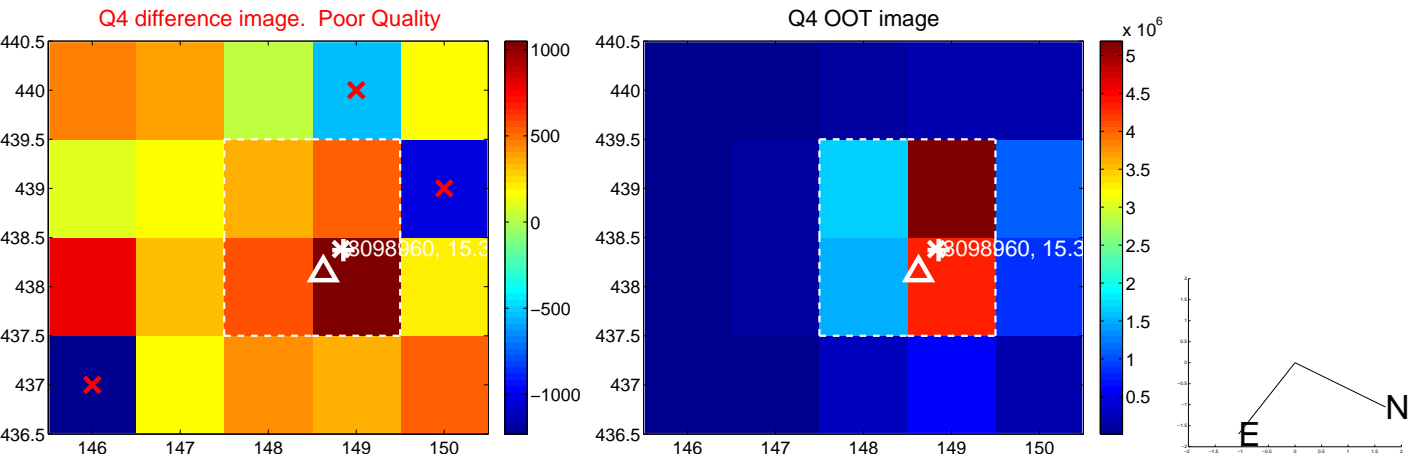
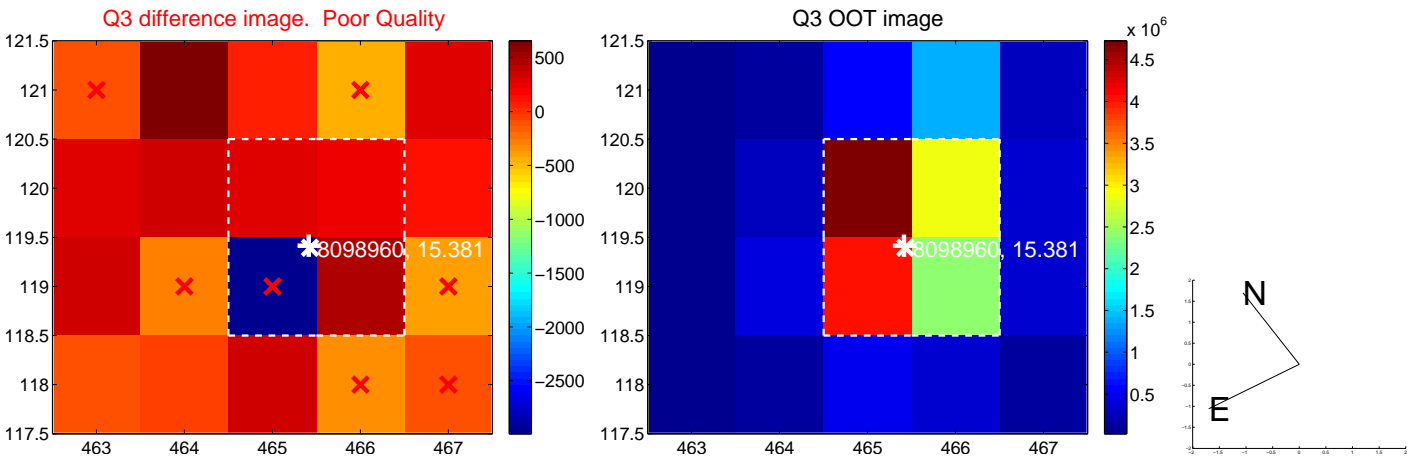
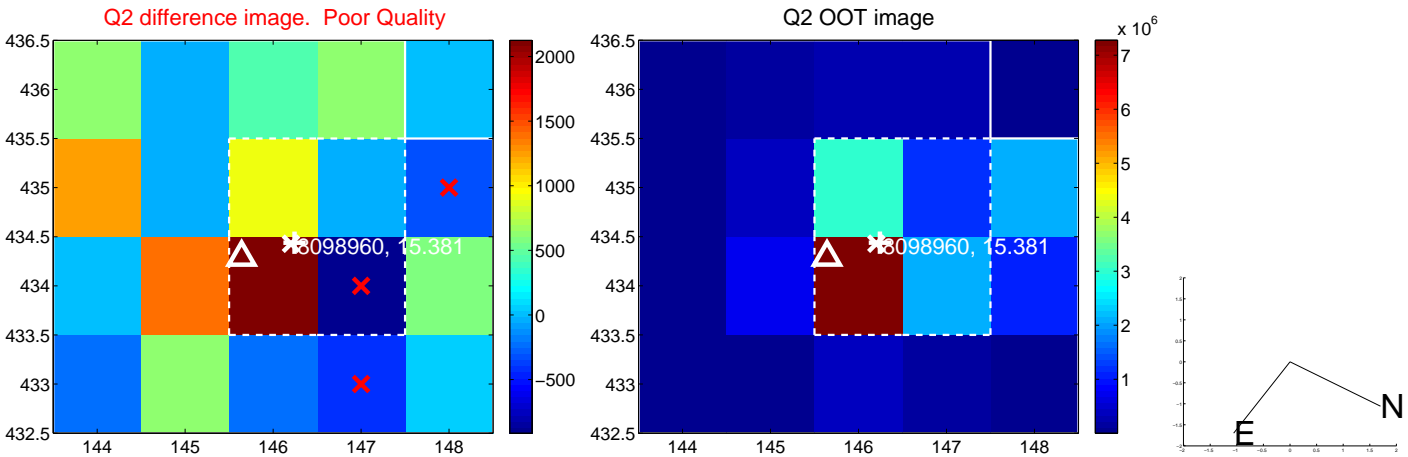
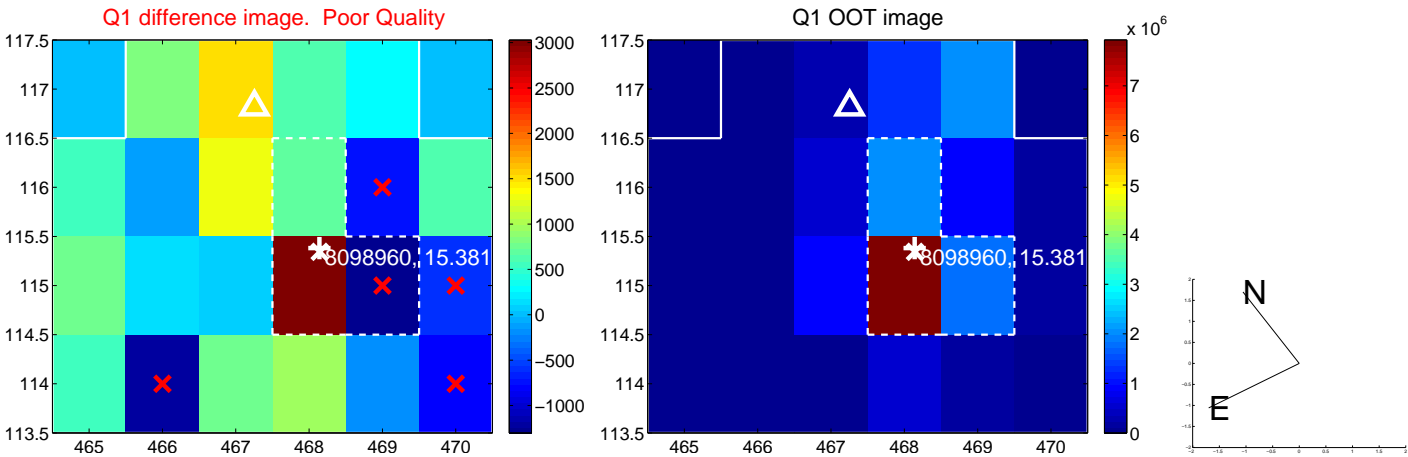
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 1.182 ± 0.794 | 1.49 | -0.869 ± 0.519 | -0.802 ± 1.015 |
| PRF-fit source offset from KIC position | 1.178 ± 0.750 | 1.57 | -0.972 ± 0.430 | -0.666 ± 1.101 |
| photometric centroid source offset | 0.91 ± 1.34 | 0.68 | 0.55 ± 1.16 | -0.72 ± 1.43 |

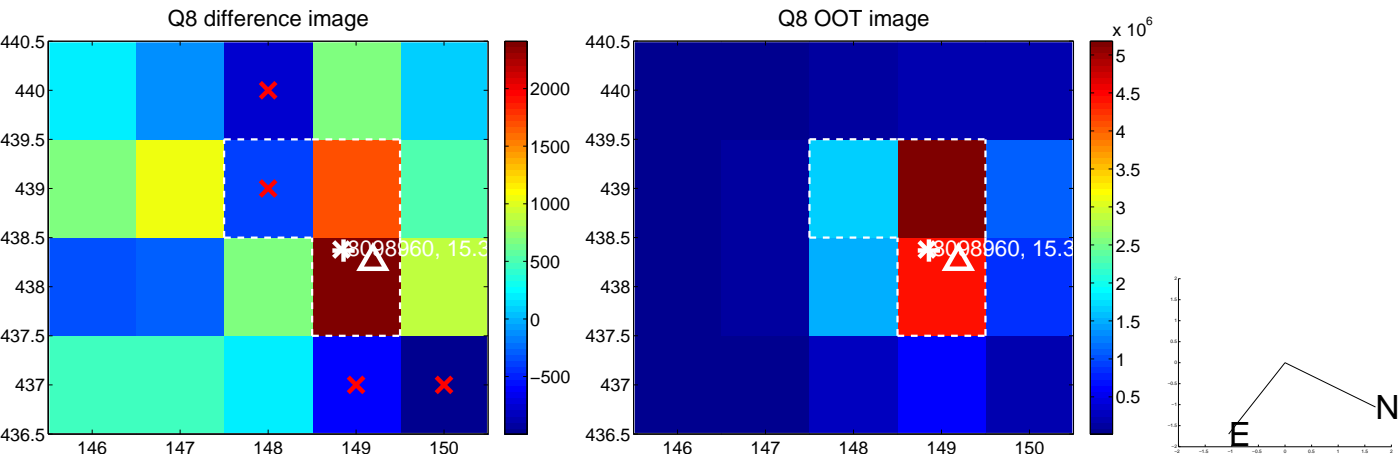
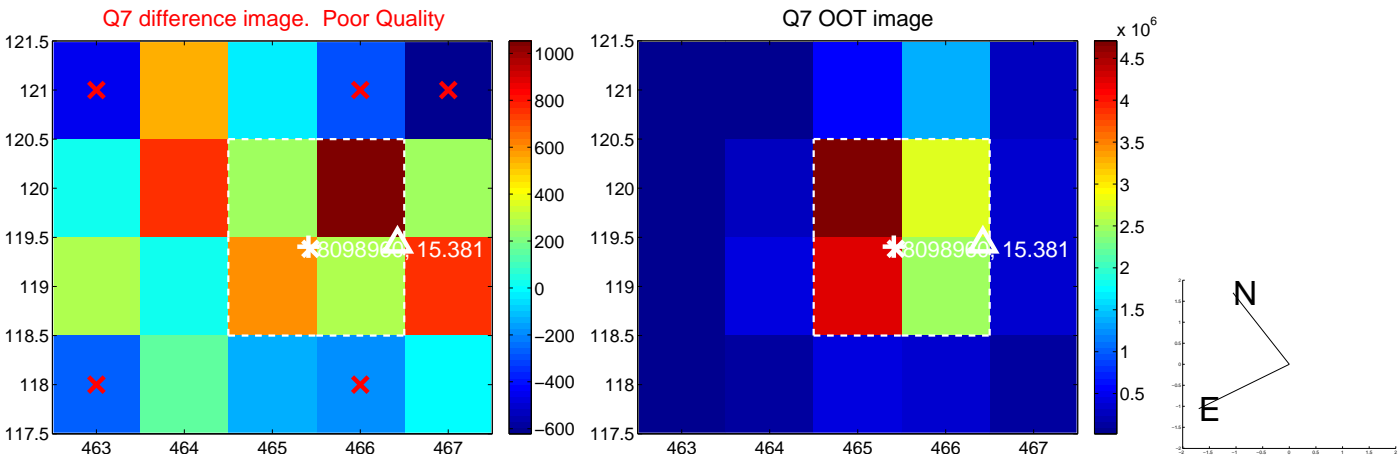
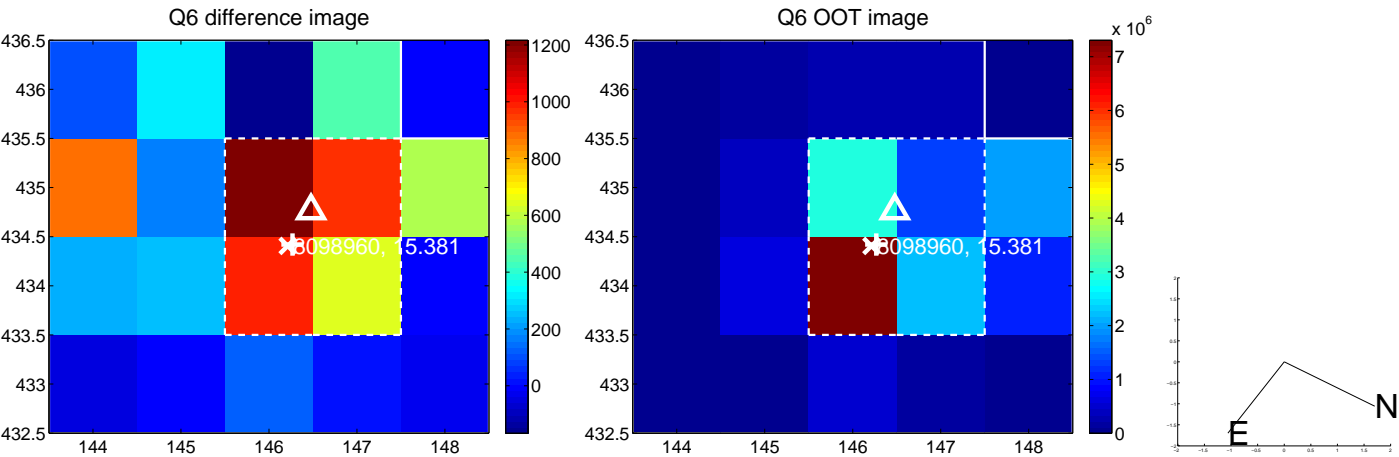
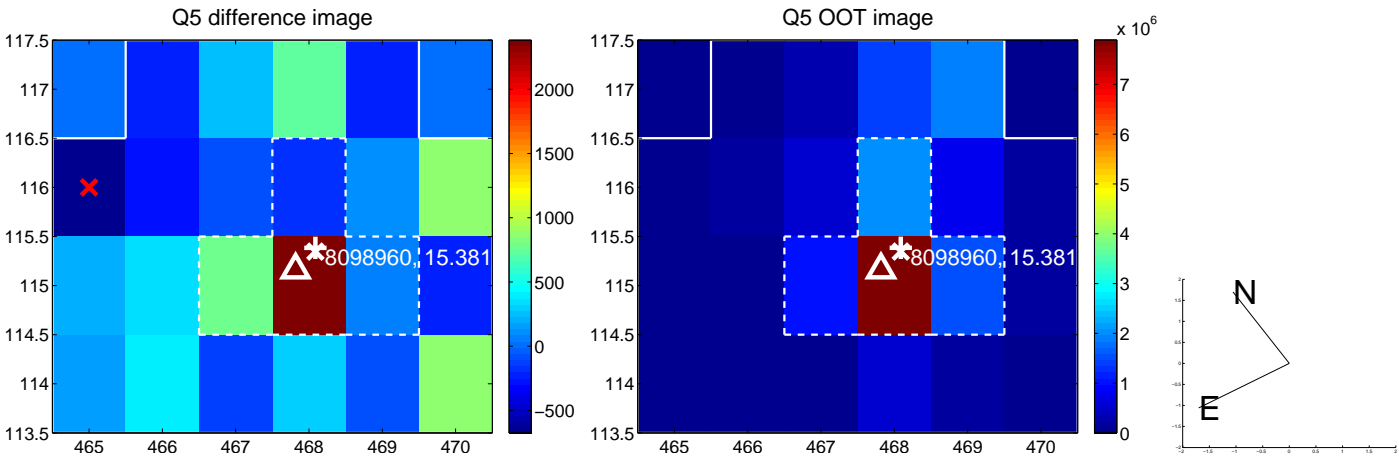


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

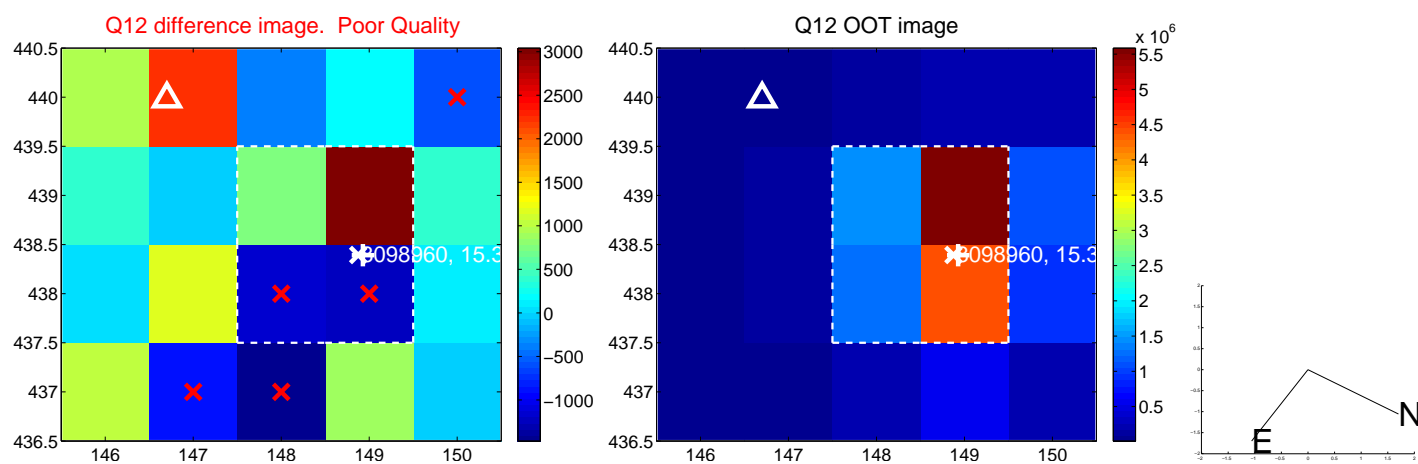
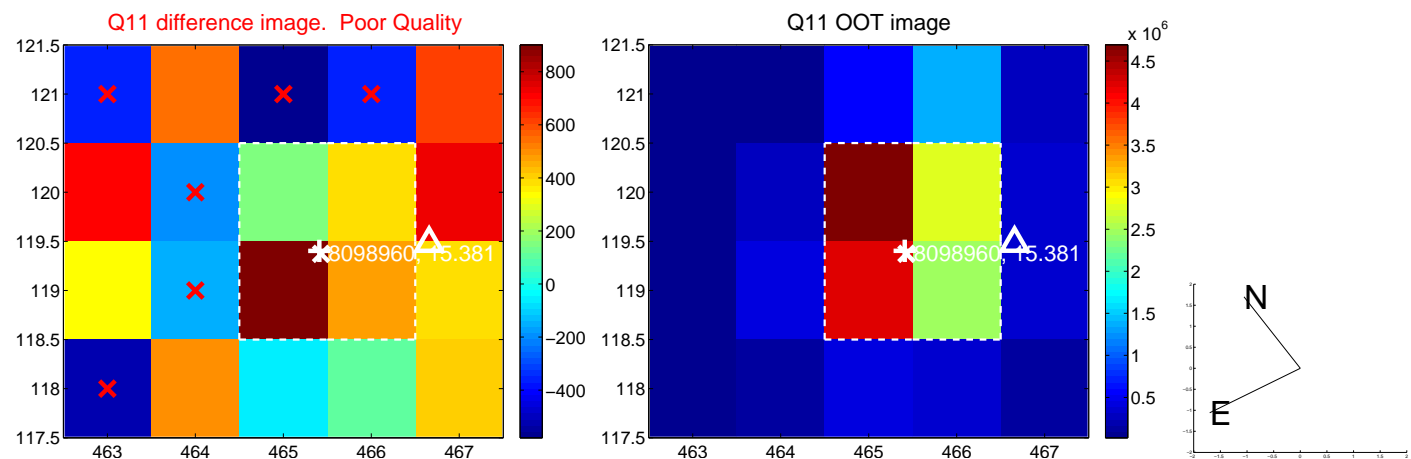
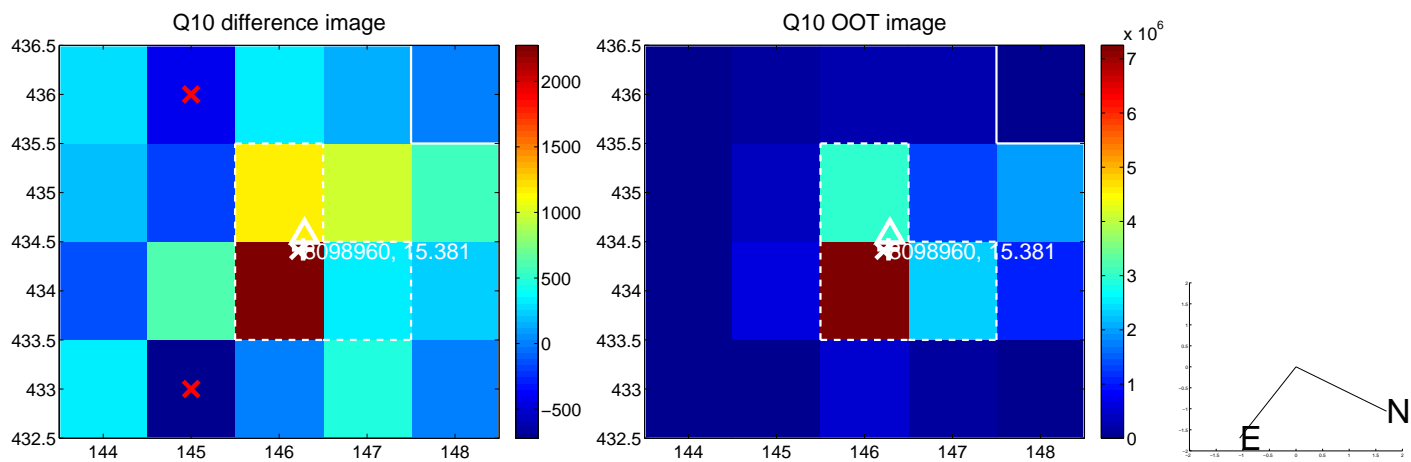
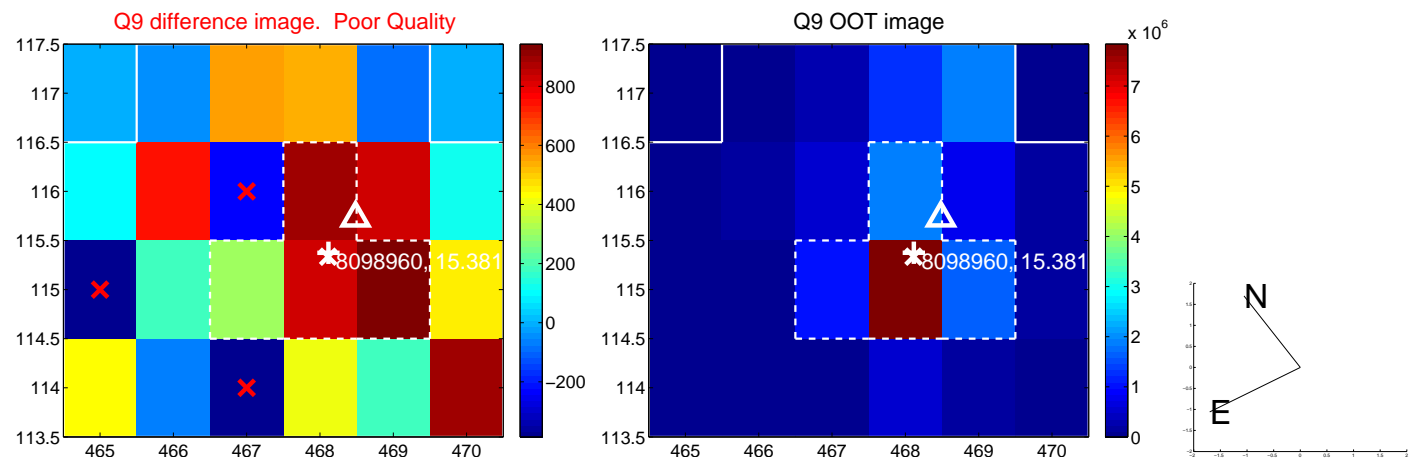
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



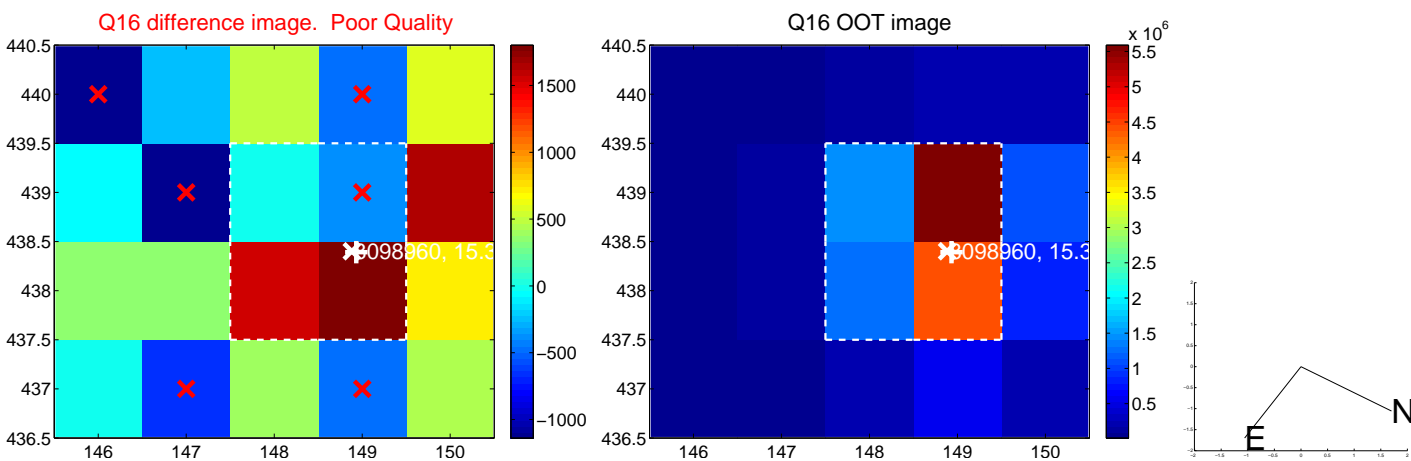
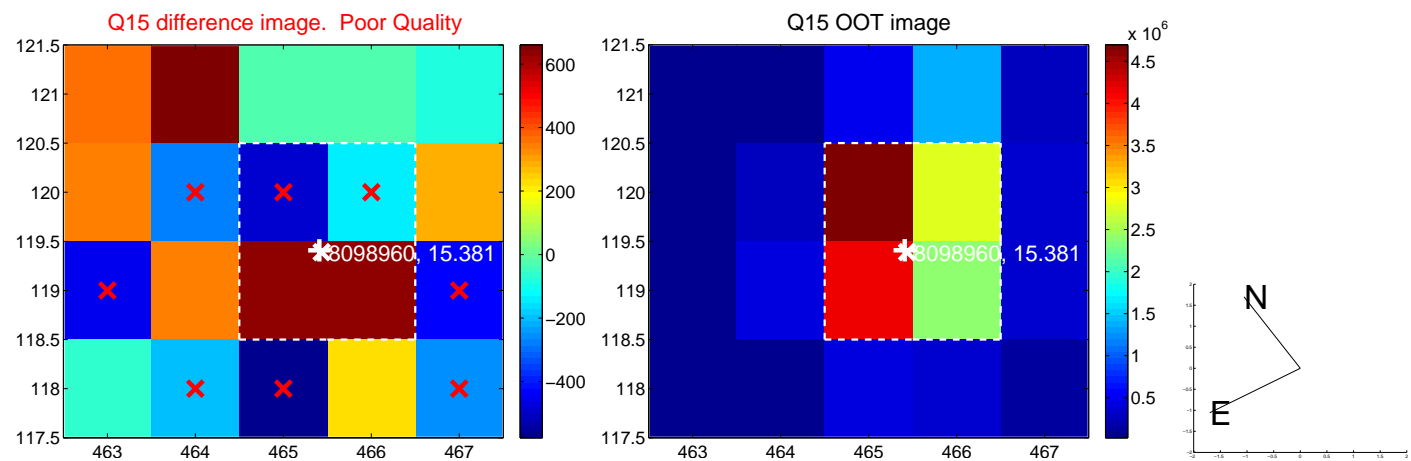
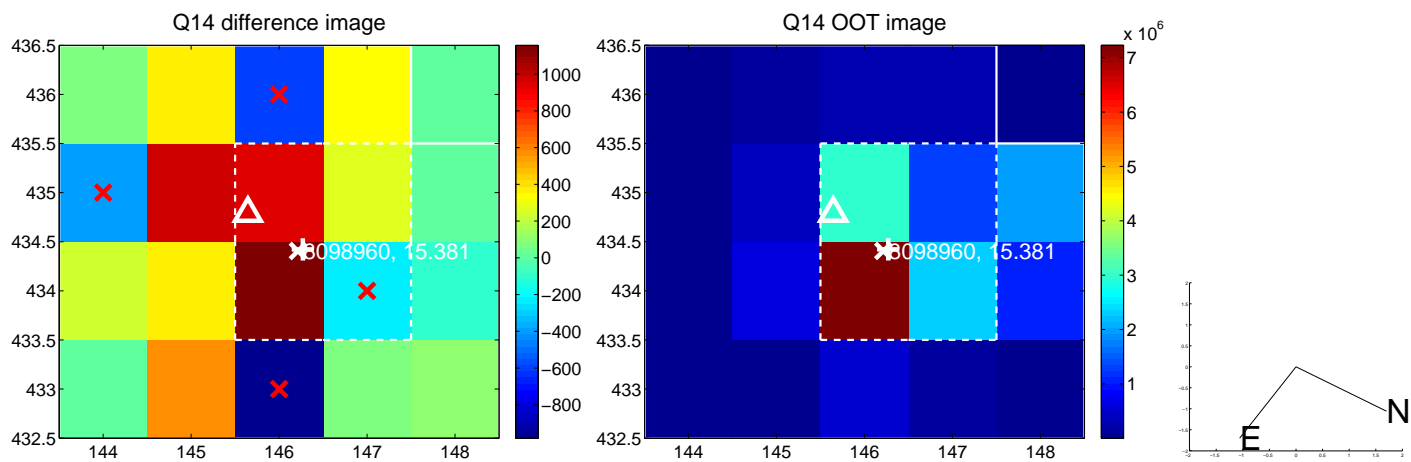
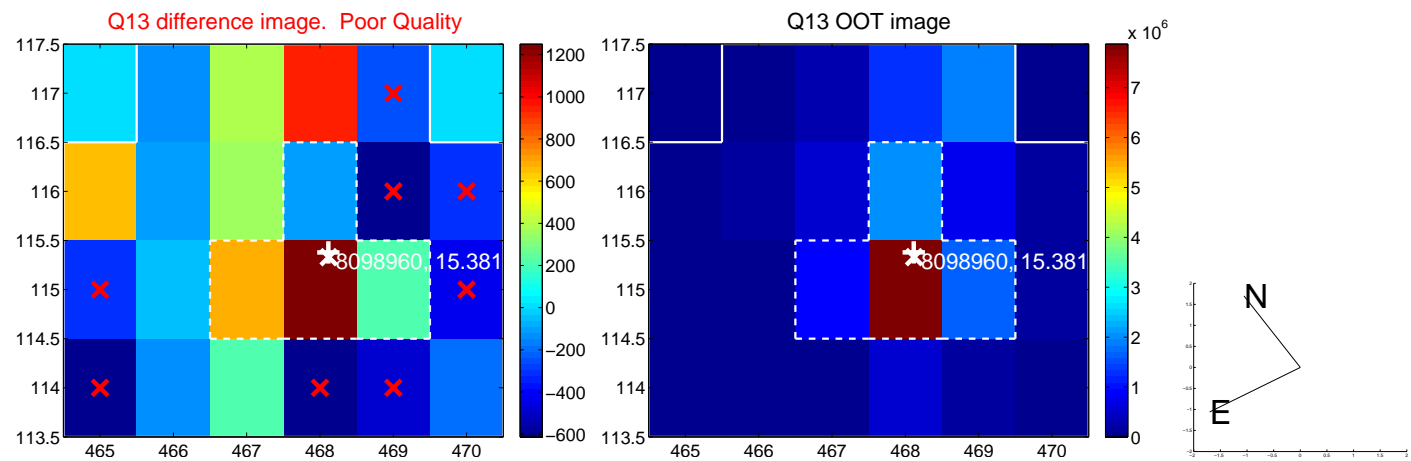
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



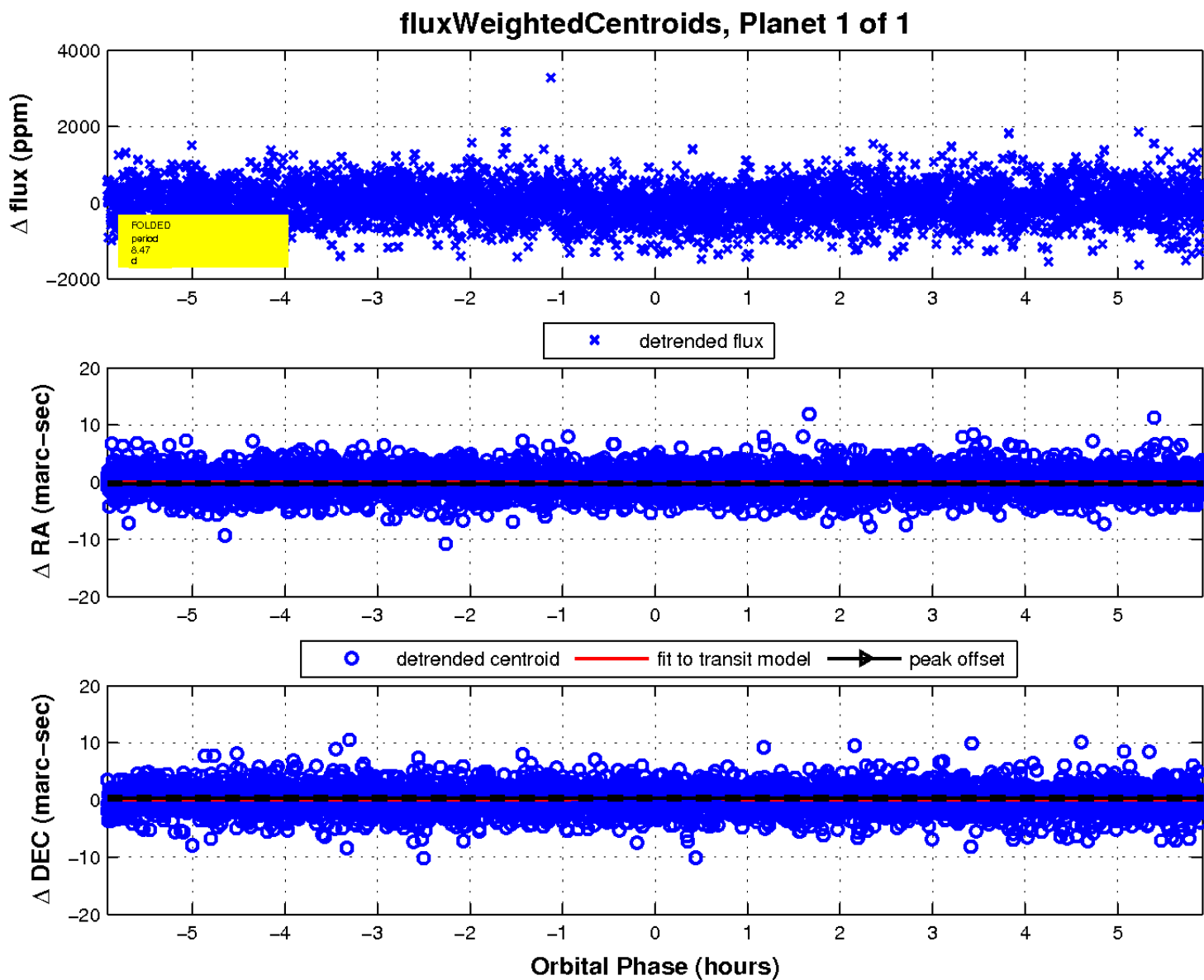
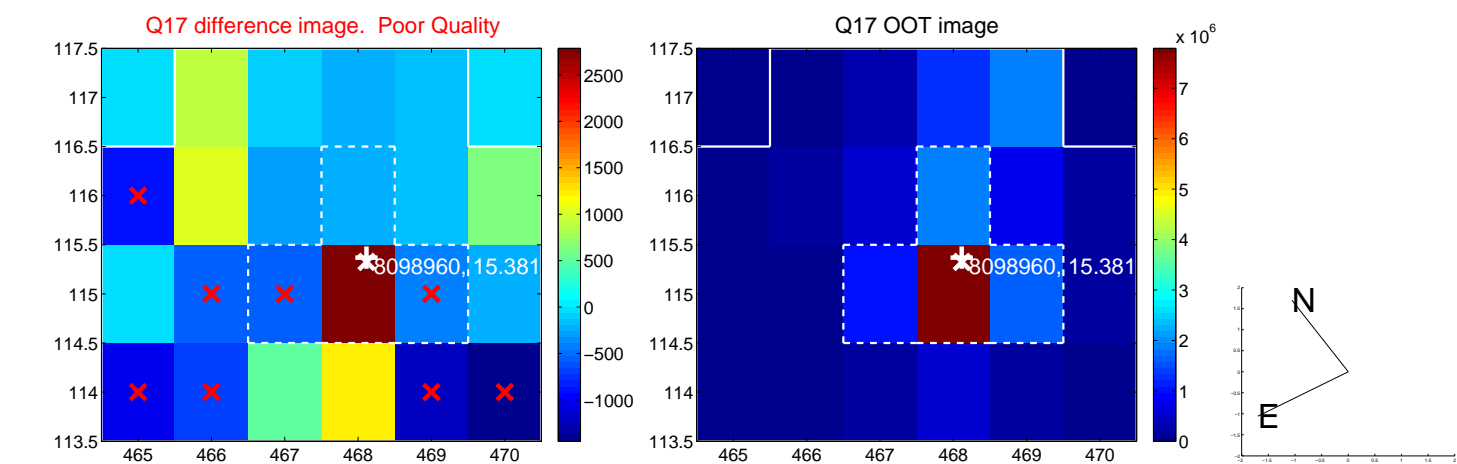
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

