

KIC 009072693

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 009072693-01 | OBS | No | 0.680079 | 132.191342 | 2.4 | 6.489 | 8.1 | 2.6 | 2.18 | 6718 | 0.34 | 28380.12 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|-----------------------|
| 009072693-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—CENT_SATURATED |

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

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

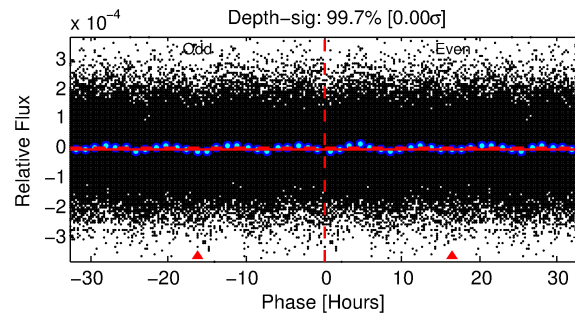
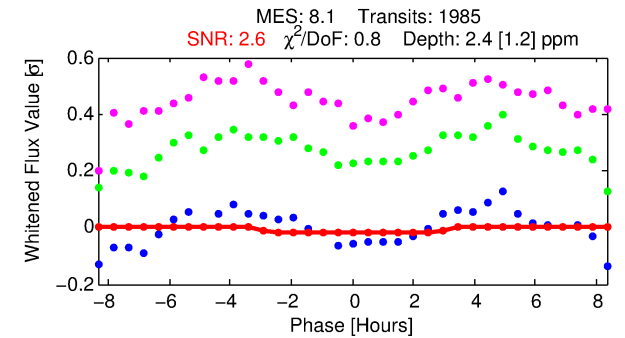
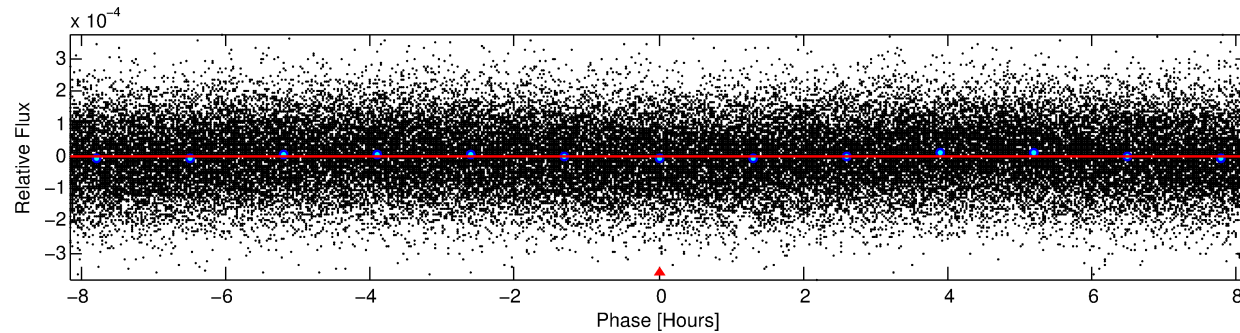
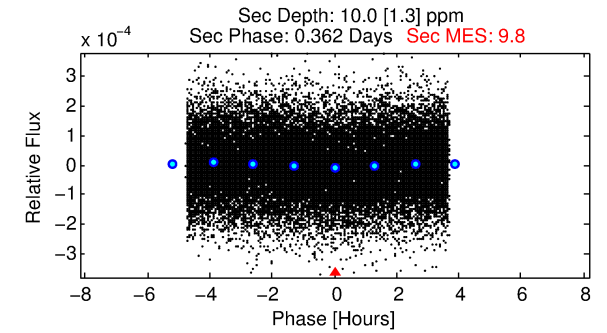
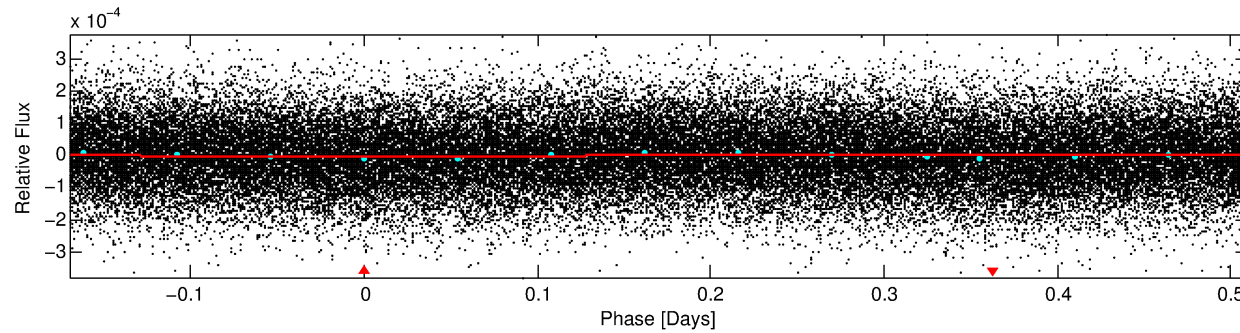
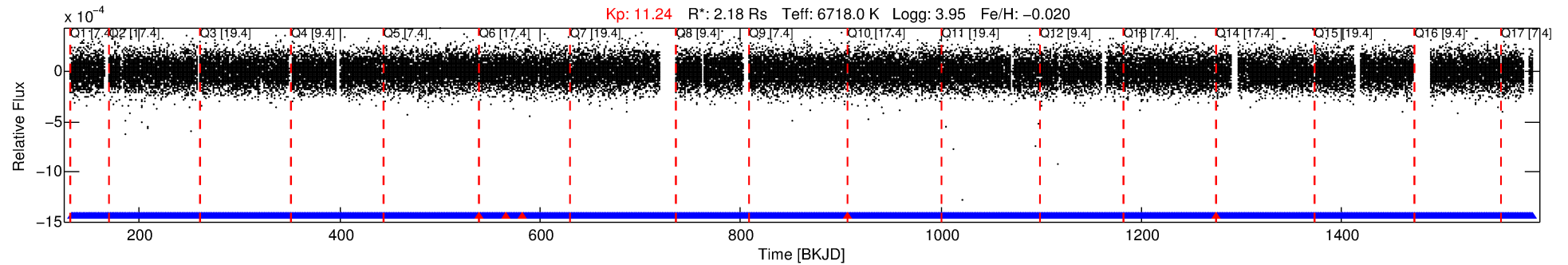
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009072693-01

No Significant Match Found

DV One-Page Summary

KIC: 9072693 Candidate: 1 of 1 Period: 0.680 d



DV Fit Results:

Period = 0.68008 [0.00005] d
Epoch = 132.1913 [0.0216] BKJD
 $R_p/R^* = 0.0014$ [0.0045]
 $a/R^* = 1.05$ [1.67]
 $b = 0.34$ [46.11]
 $S_{\text{eff}} = 28380.12$ [15897.10]
 $T_{\text{eq}} = 3310$ [463] K
 $R_p = 0.34$ [1.08] R_e
 $a = 0.0175$ [0.0061] AU
 $A_g = 14.24$ [89.25] [0.15σ]
 $T_{\text{eff}} = 9939$ [15529] K [0.43σ]

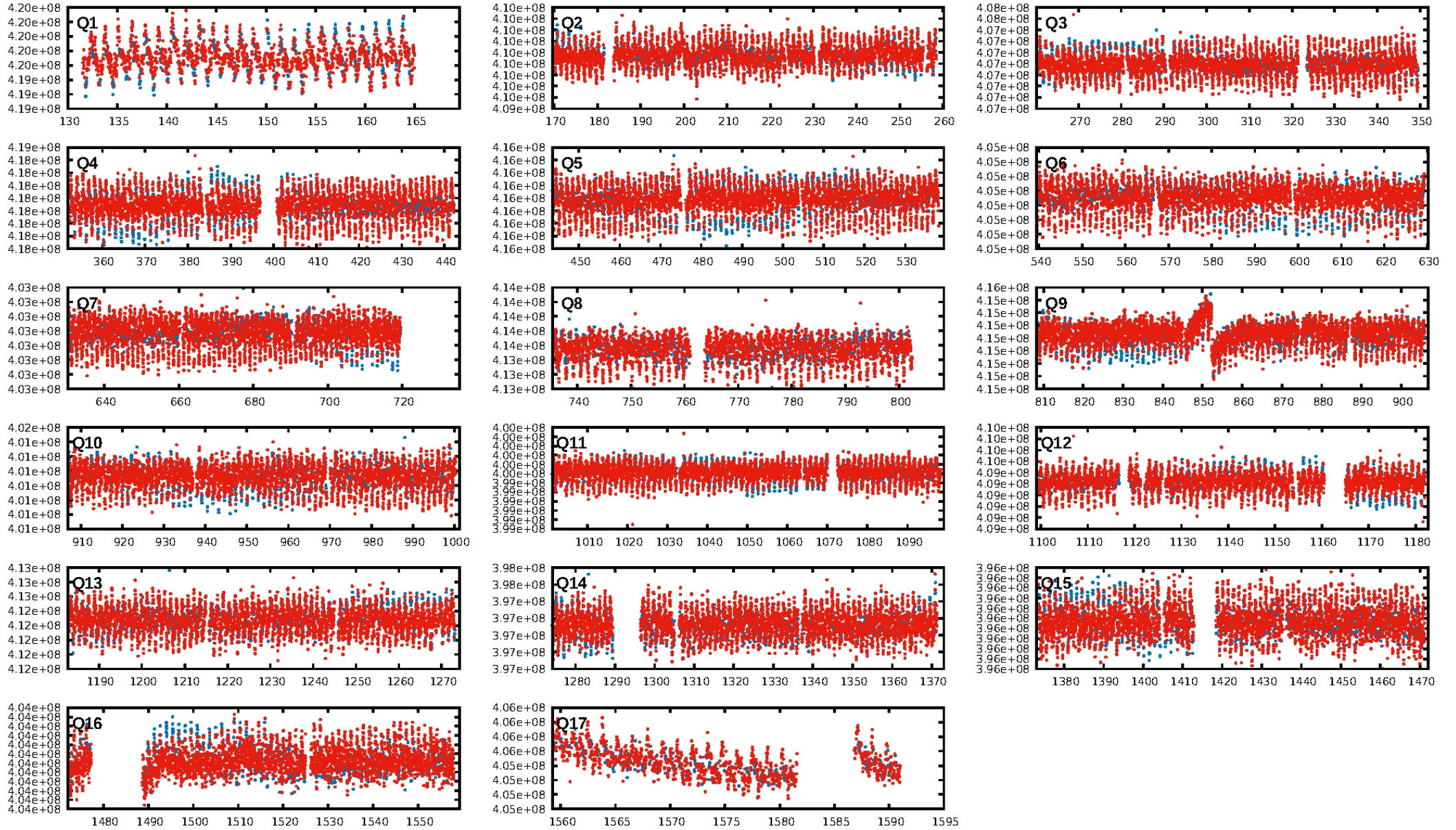
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1888/1895]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

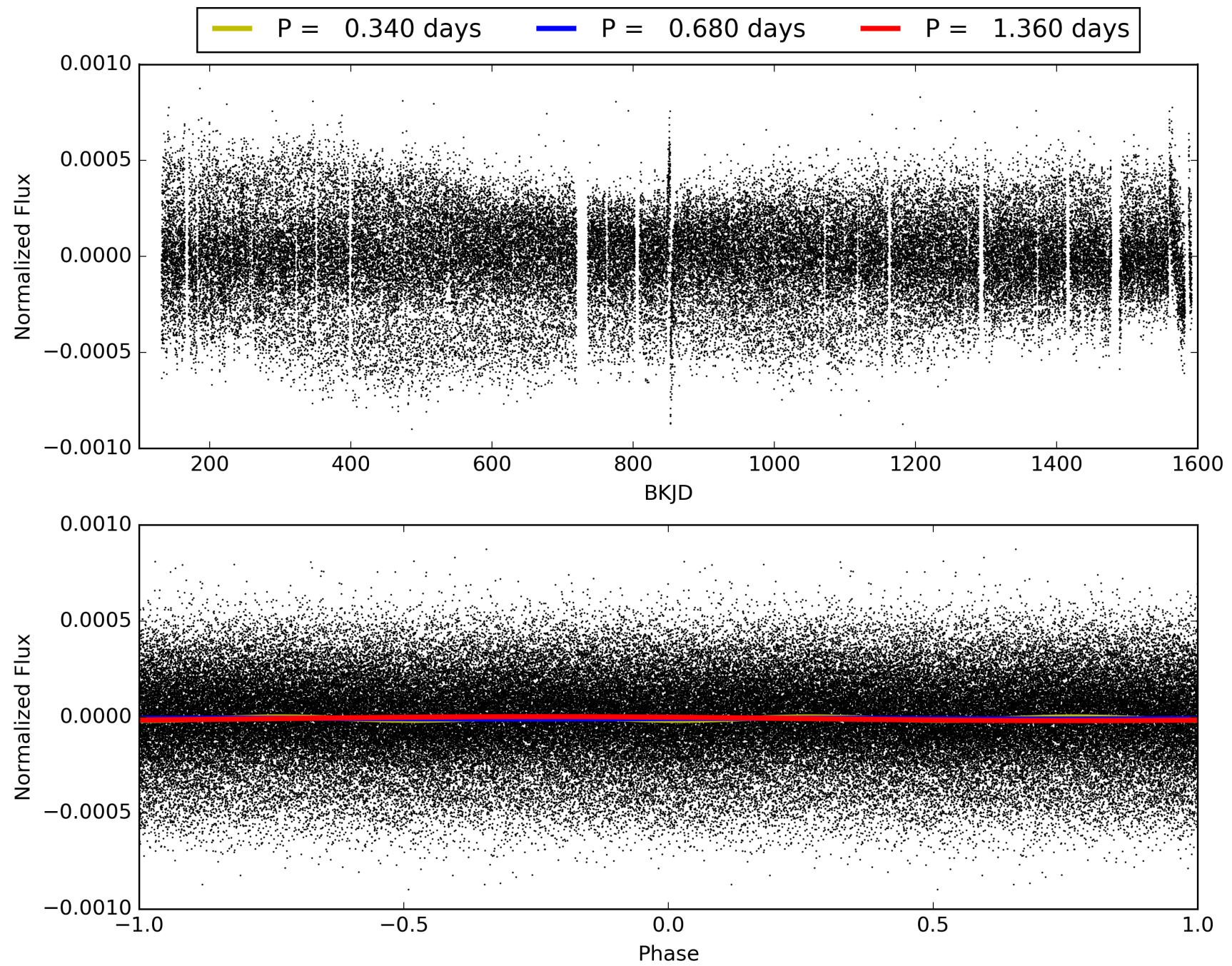
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:04:50 Z

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

TCE 009072693-01, PDC Light Curves

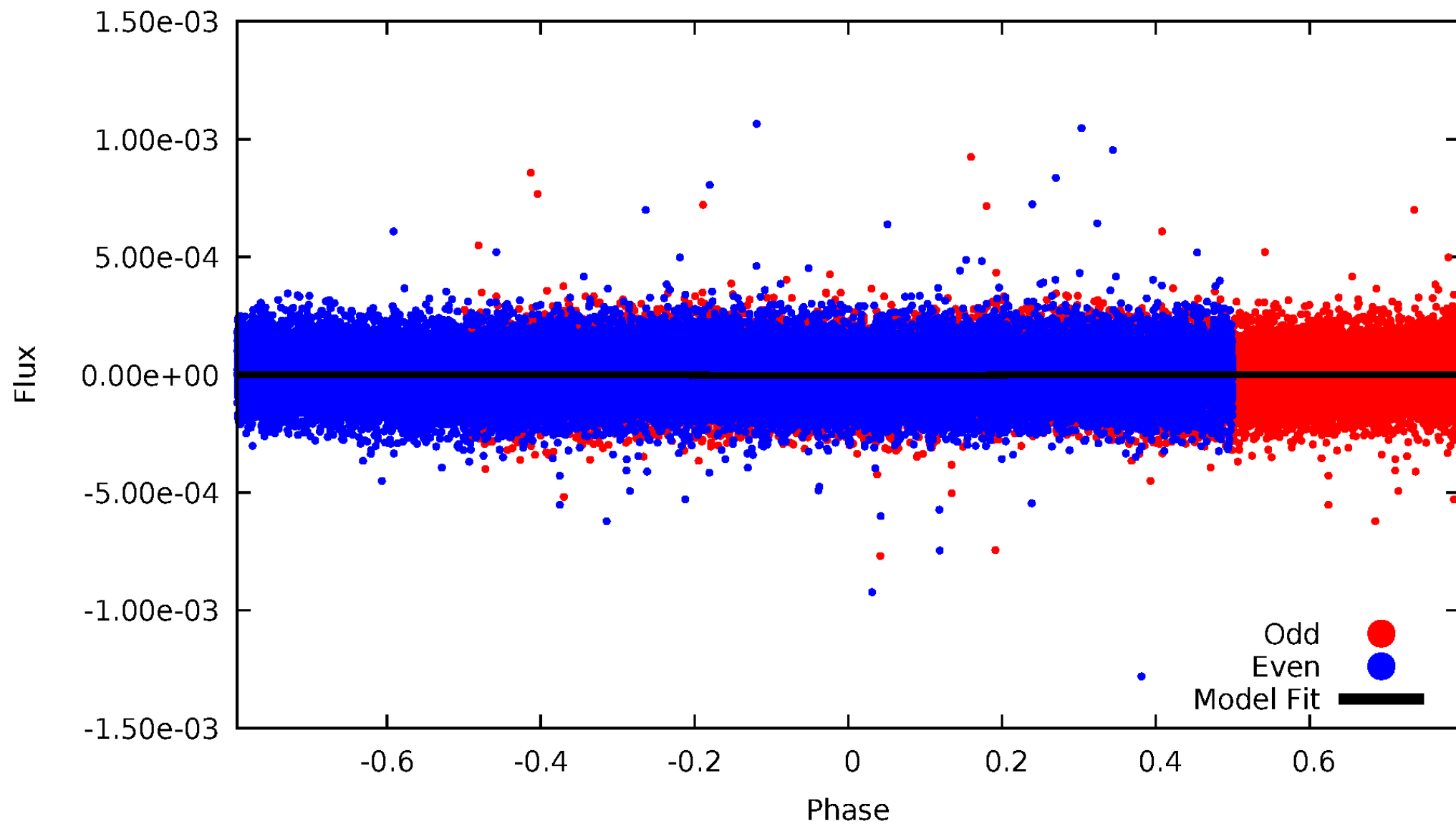


TCE 009072693-01



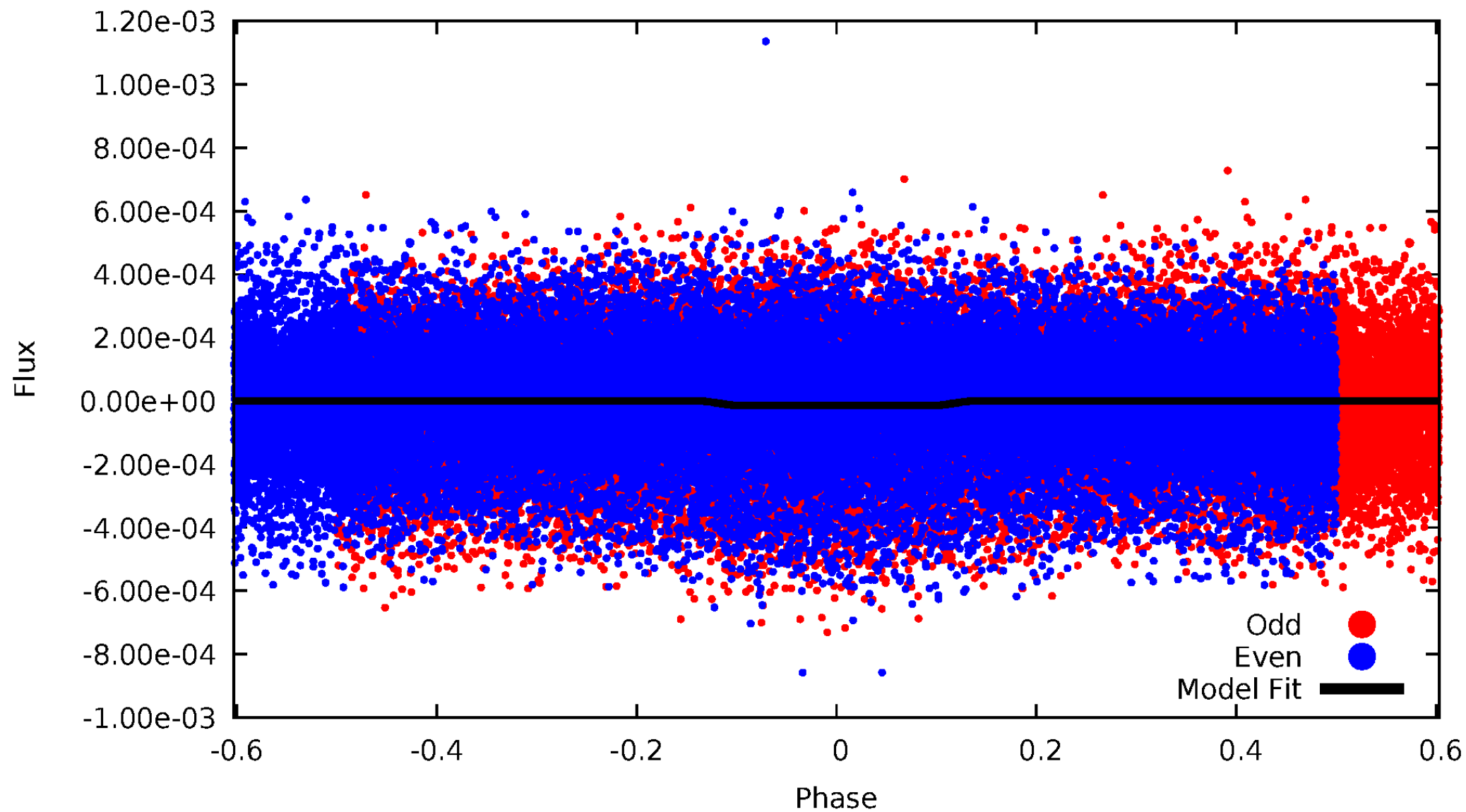
DV Odd/Even

TCE 009072693-01



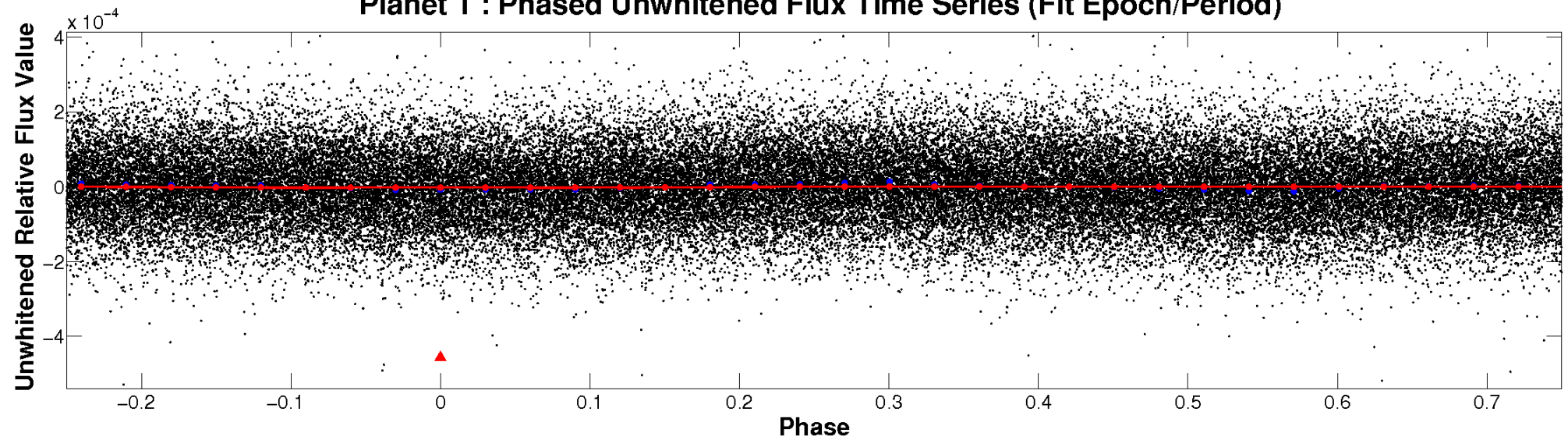
ALT Odd/Even

TCE 009072693-01

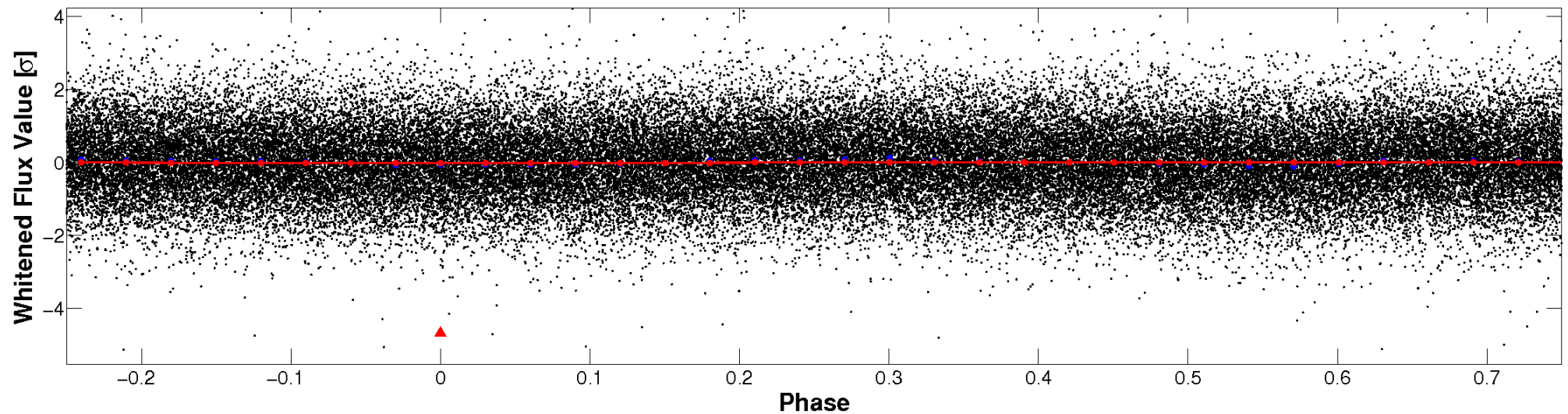


Non-Whitened Vs. Whitened Light Curve

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

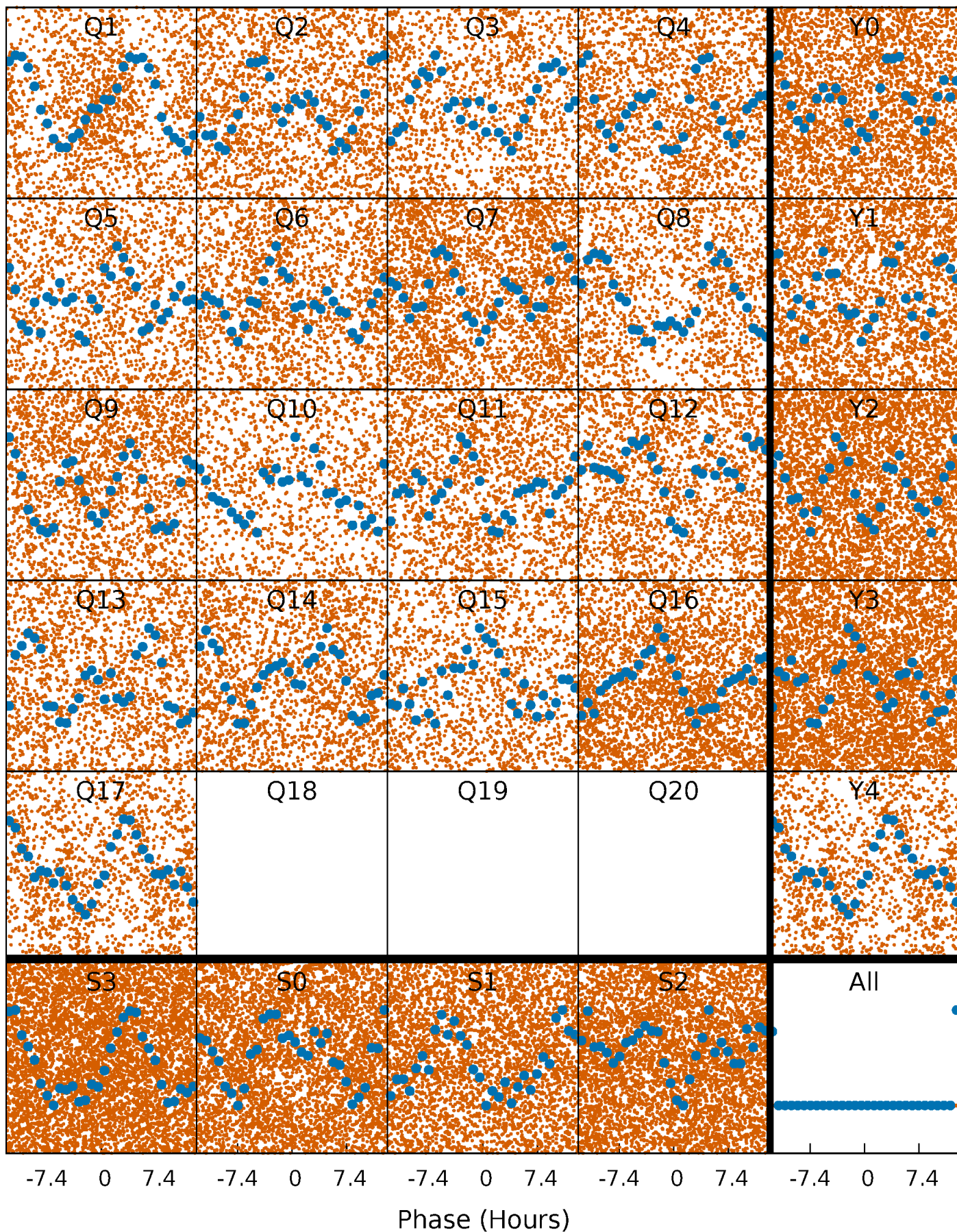


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



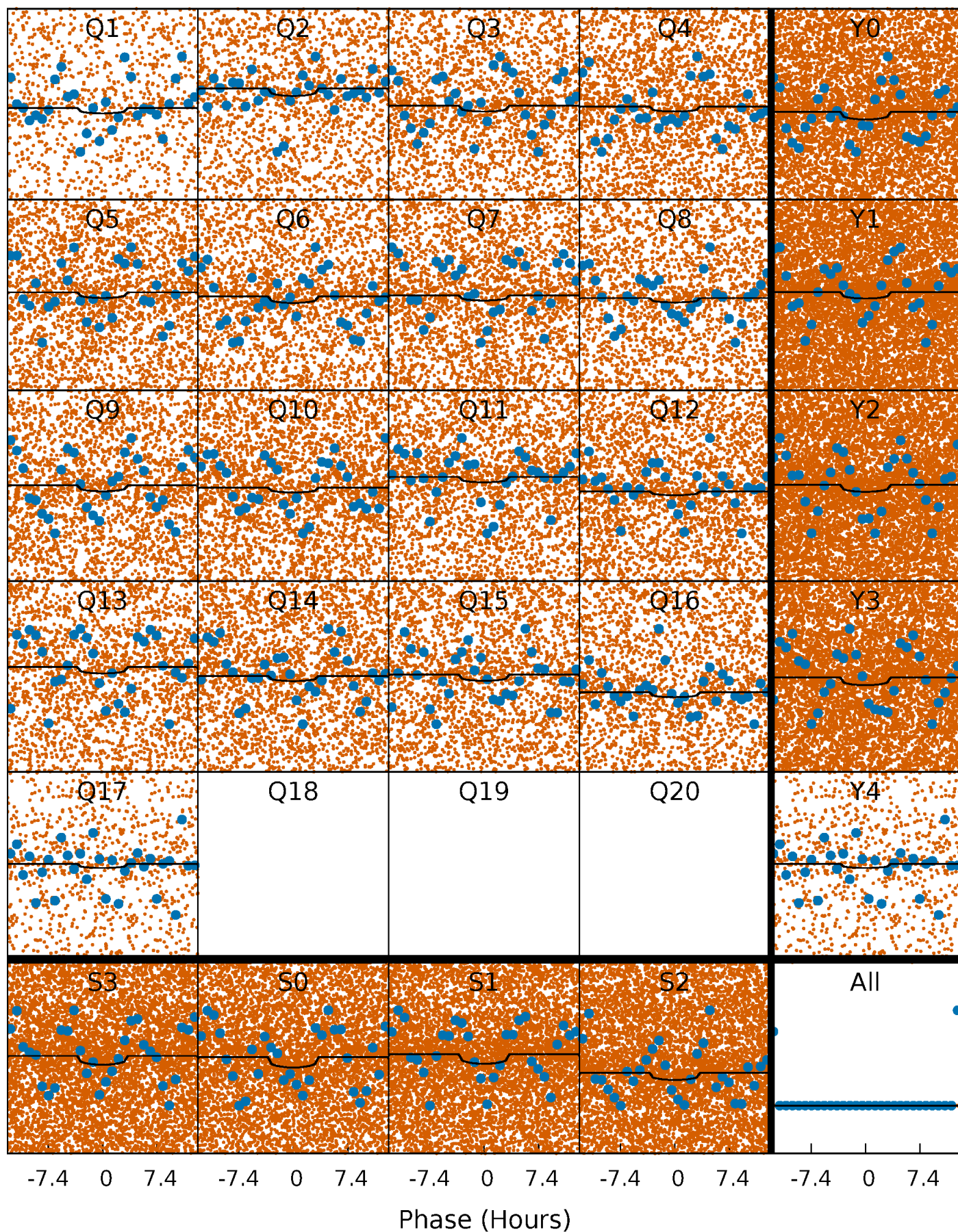
PDC Quarter-Phased Transit Curves

TCE 009072693-01 P= 0.680079 Days $T_0=132.191342$ (BKJD)



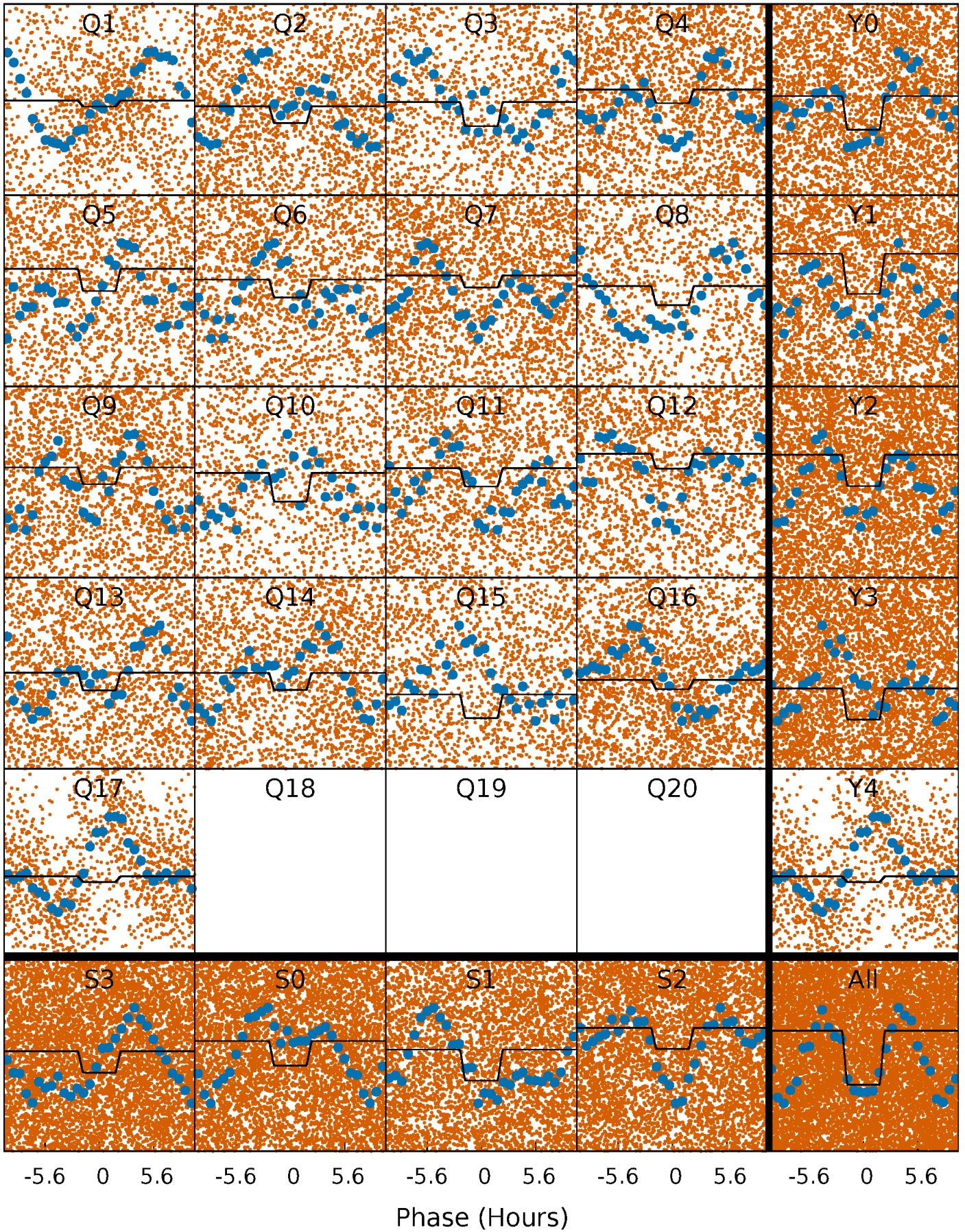
DV Quarter-Phased Transit Curves

TCE 009072693-01 P= 0.680079 Days $T_0=132.191342$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

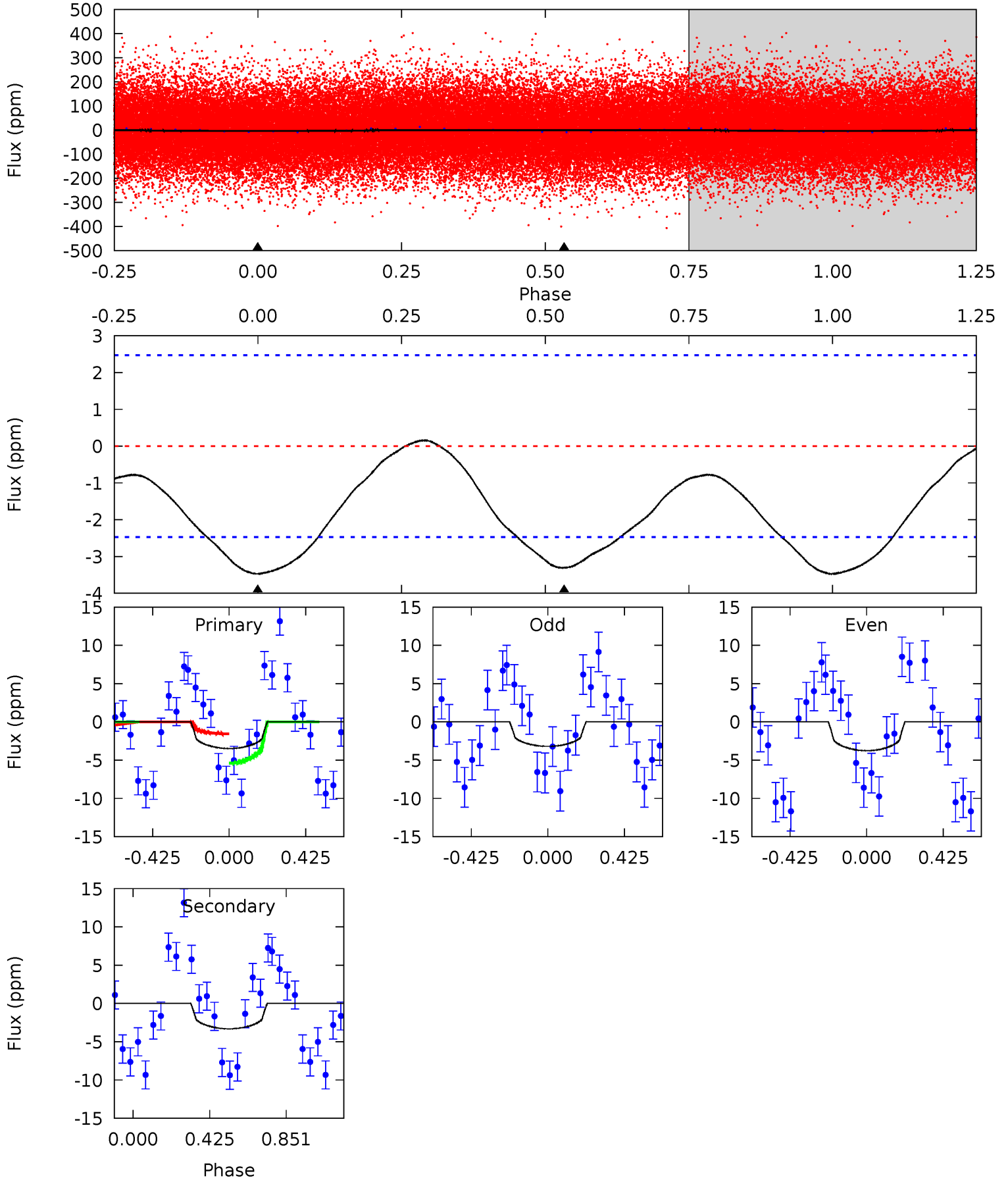
TCE 009072693-01 P= 0.680141 Days $T_0=132.145976$ (BKJD)



DV Model-Shift Uniqueness Test

009072693-01, P = 0.680079 Days, E = 131.511263 Days

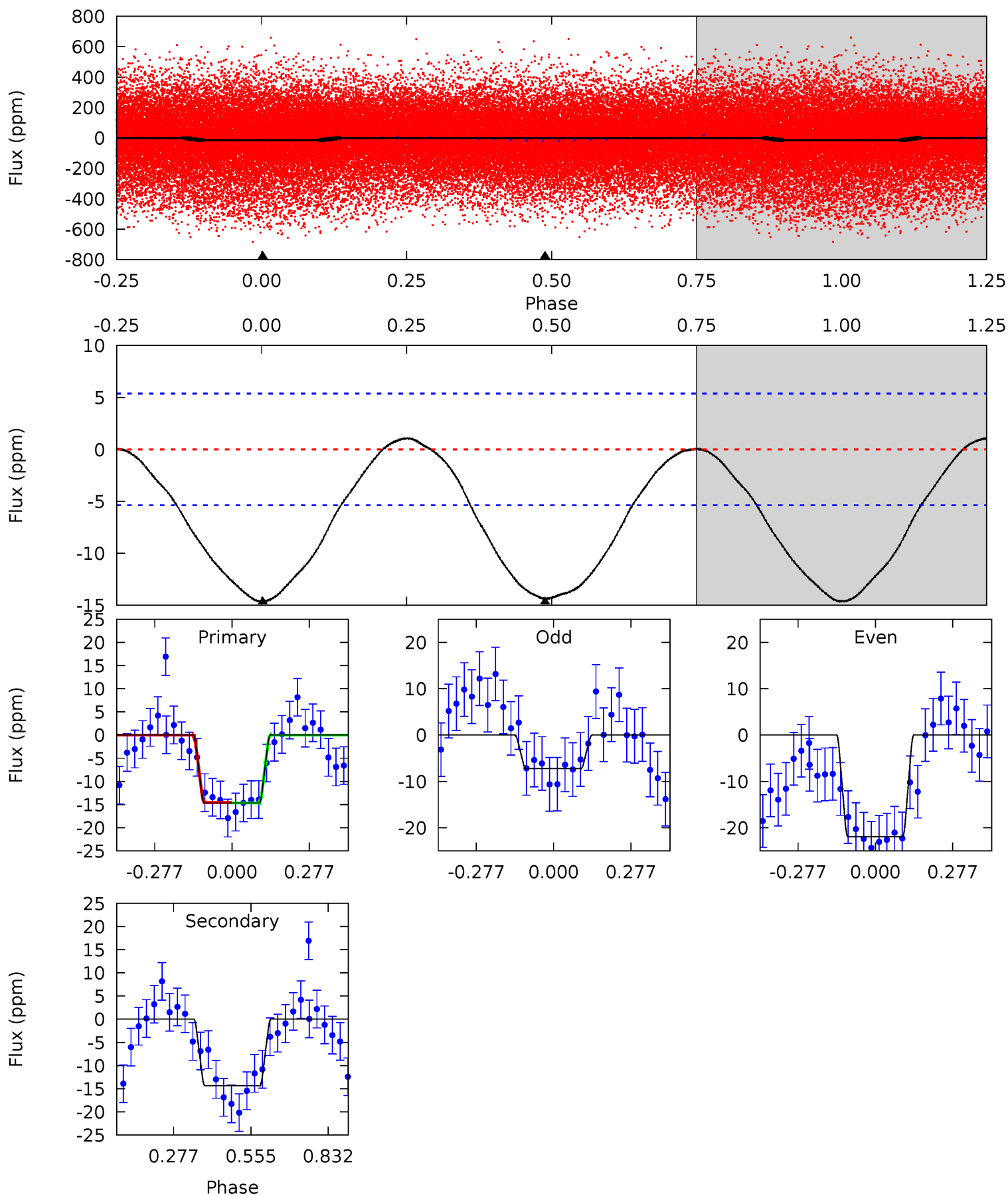
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 5.98 | 5.69 | 0 | 0 | 4.25 | 0.80 | 0.60 | 5.98 | 5.98 | 5.69 | 5.69 | 0.49 | 1.06 | 0.04 | 3.31 |



Alt Model-Shift Uniqueness Test

009072693-01, P = 0.680141 Days, E = 131.465835 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|-------|-------|------|
| 11.9 | 11.6 | 0 | 0 | 4.35 | 1.09 | 0.44 | 11.9 | 11.9 | 11.6 | 11.6 | 5.66 | -20.9 | 0.07 | 0.04 |



Stellar Parameters For KIC 009072693

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | R (R_{\odot}) | $M(M_{\odot})$ | p_{\star} ($\text{g}\cdot\text{cm}^{-3}$) |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 6718^{+189}_{-283} | $3.948^{+0.305}_{-0.164}$ | $-0.020^{+0.250}_{-0.300}$ | $2.177^{+0.560}_{-0.840}$ | $1.531^{+0.207}_{-0.336}$ | $0.209^{+0.459}_{-0.098}$ |
| | +3%/-4% | +8%/-4% | +1250%/-1500% | +26%/-39% | +14%/-22% | +220%/-47% |
| Source | PHO54 | PHO54 | PHO54 | DSEP | | |

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

Secondary Eclipse Parameters for KIC 009072693-01 / KOI

| Detrend | Depth (ppm) | R_p (R_{\oplus}) | T_{max} (K) | T_{obs} (K) | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|----------------------------|
| DV | -3 ± 1 | $0.82^{+0.92}_{-0.56}$ | 4587^{+349}_{-428} | 4406^{+4400}_{-7851} | $0.834^{+7.315}_{-0.652}$ |
| Alt. | -14 ± 1 | $1.16^{+1.05}_{-0.76}$ | 4550^{+395}_{-451} | 5354^{+4988}_{-1653} | $1.693^{+12.877}_{-1.212}$ |

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 009072693-01. **Kepler magnitude: 11.24.** Transit SNR 2.56

There are 0 quarters with good PRF difference image offsets

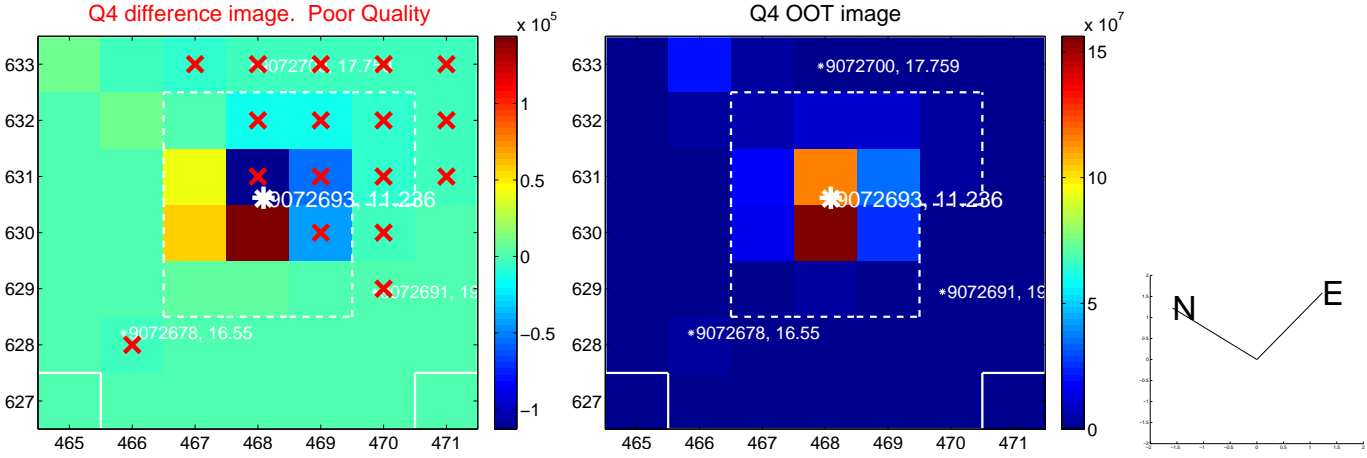
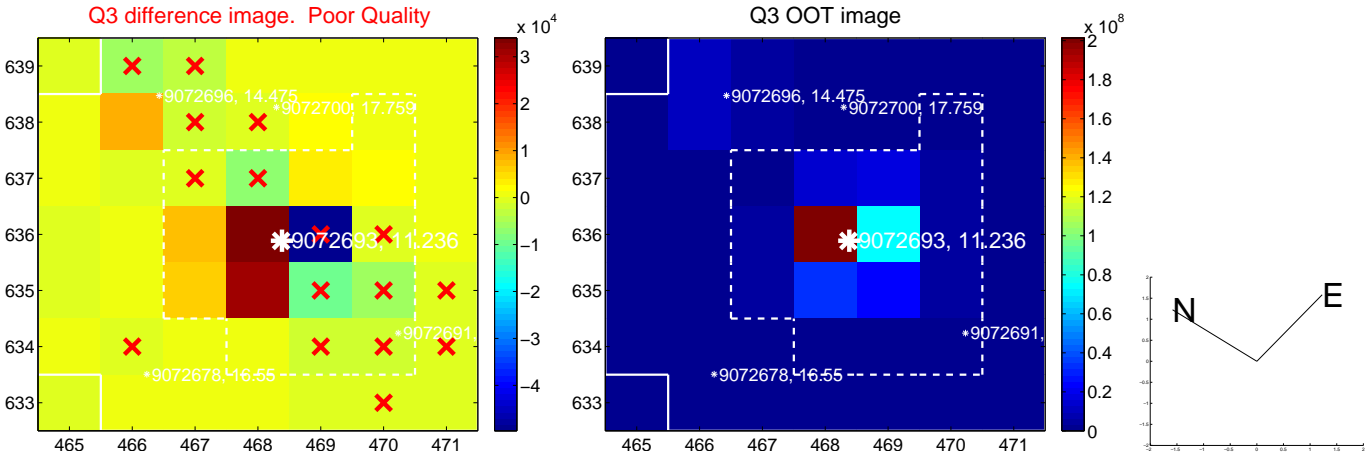
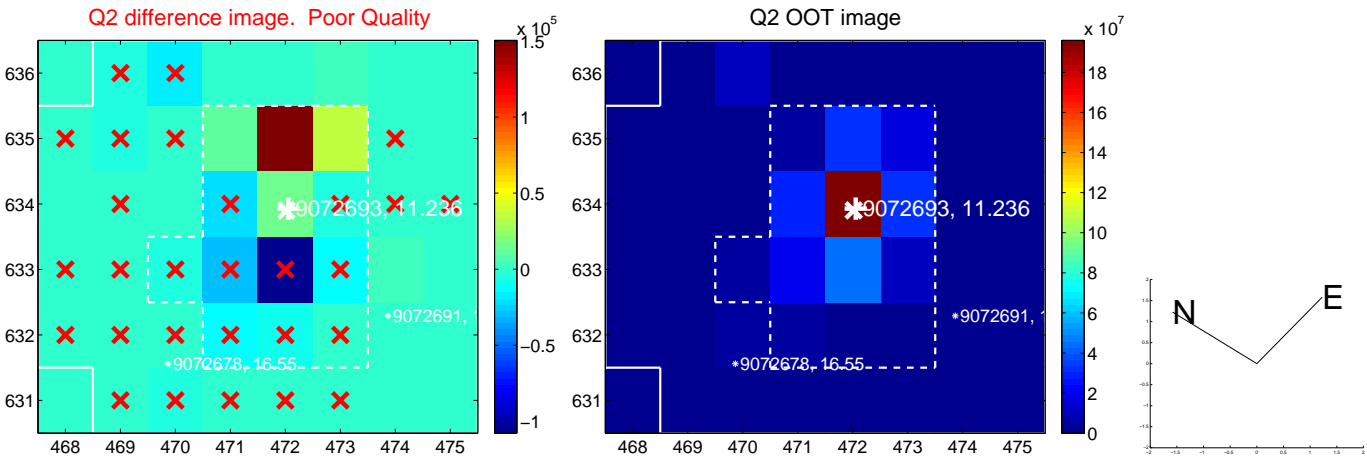
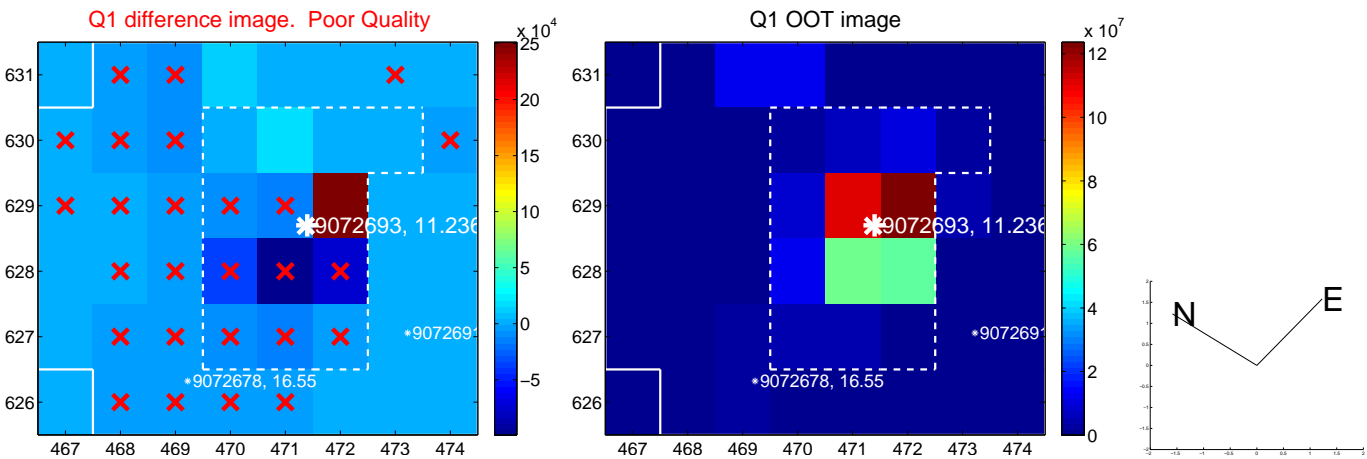
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------|--------------|
| PRF-fit source offset from OOT | — | — | — | — |
| PRF-fit source offset from KIC position | — | — | — | — |
| photometric centroid source offset | — | — | — | — |

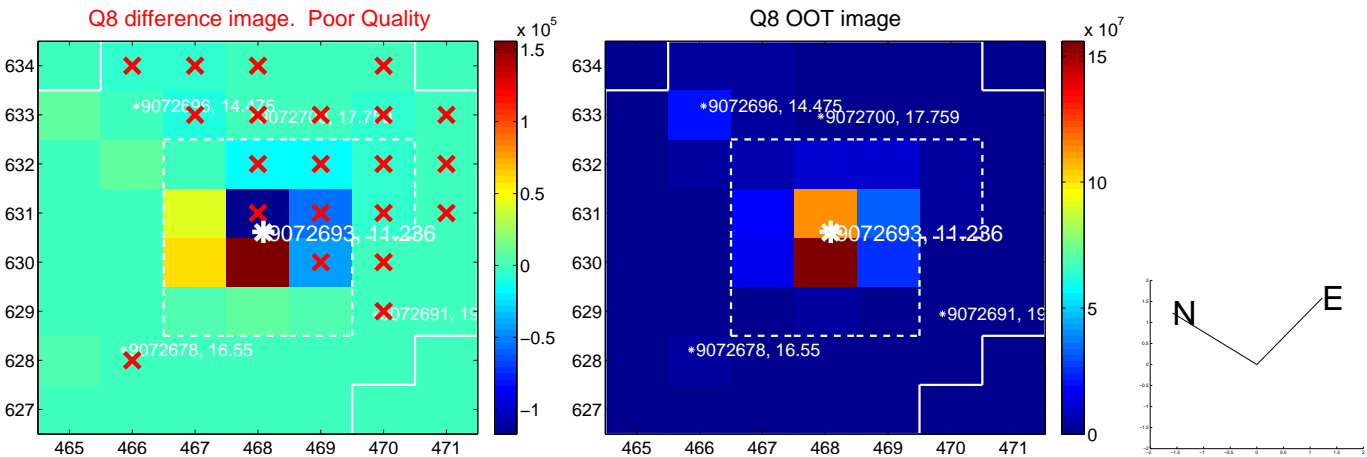
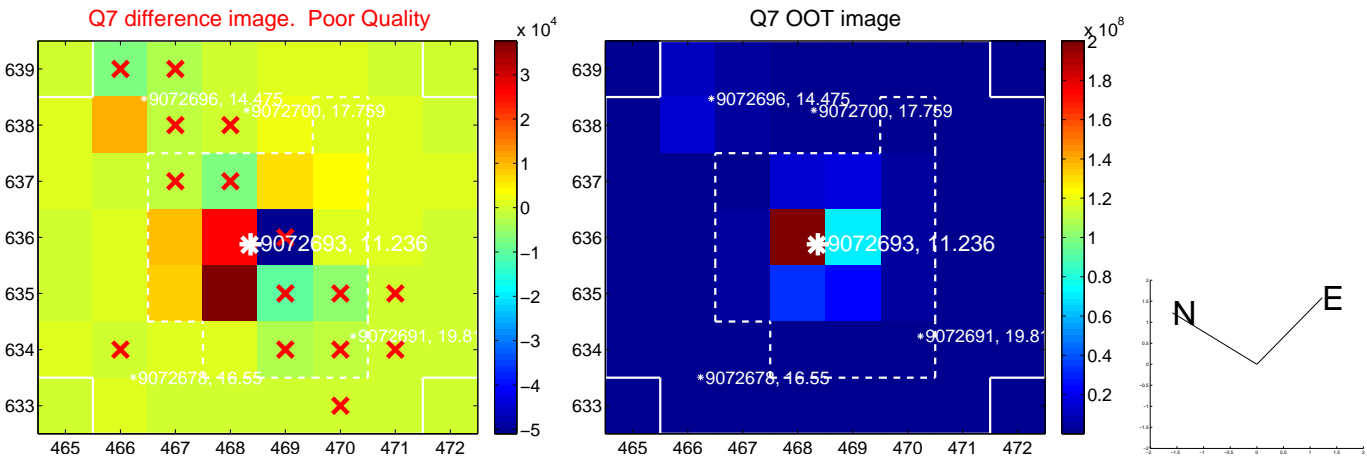
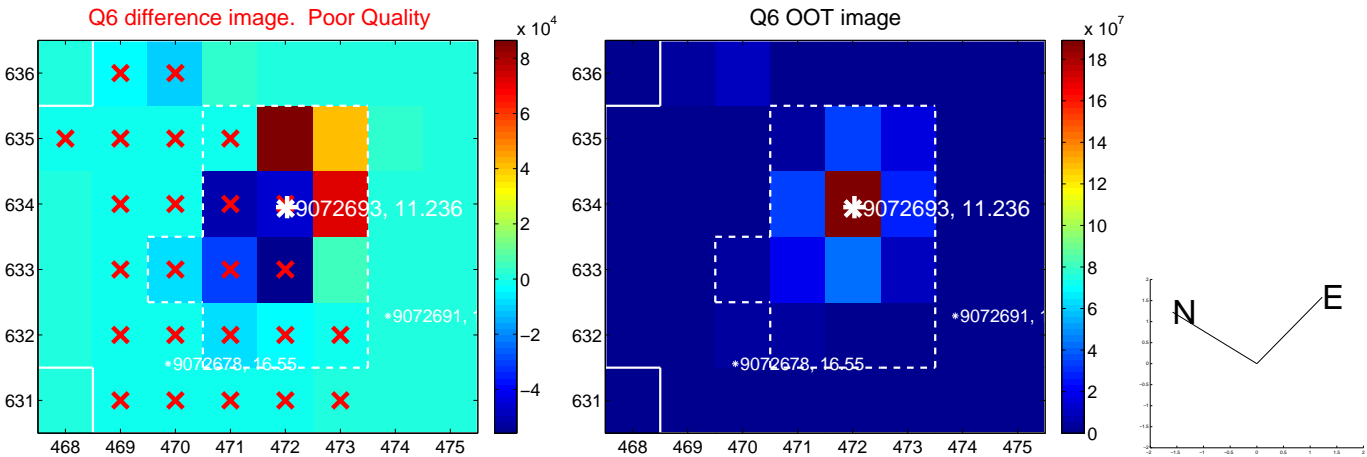
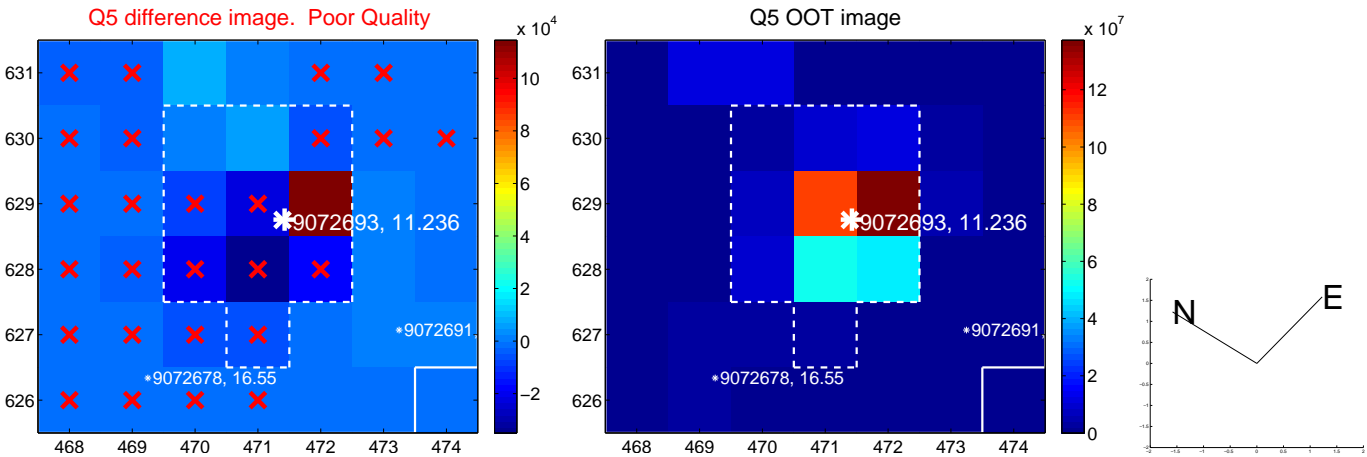


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

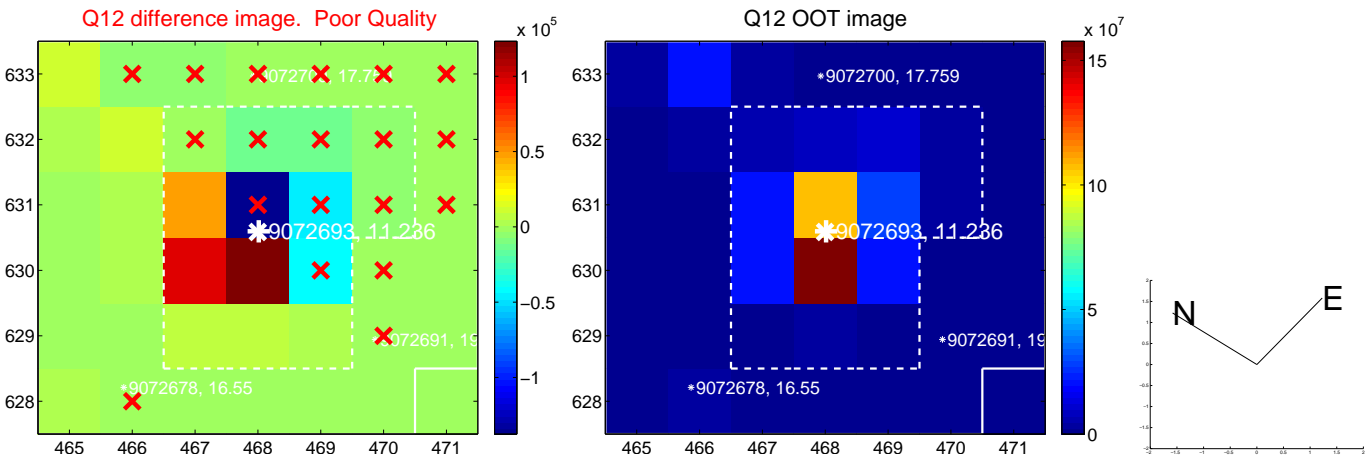
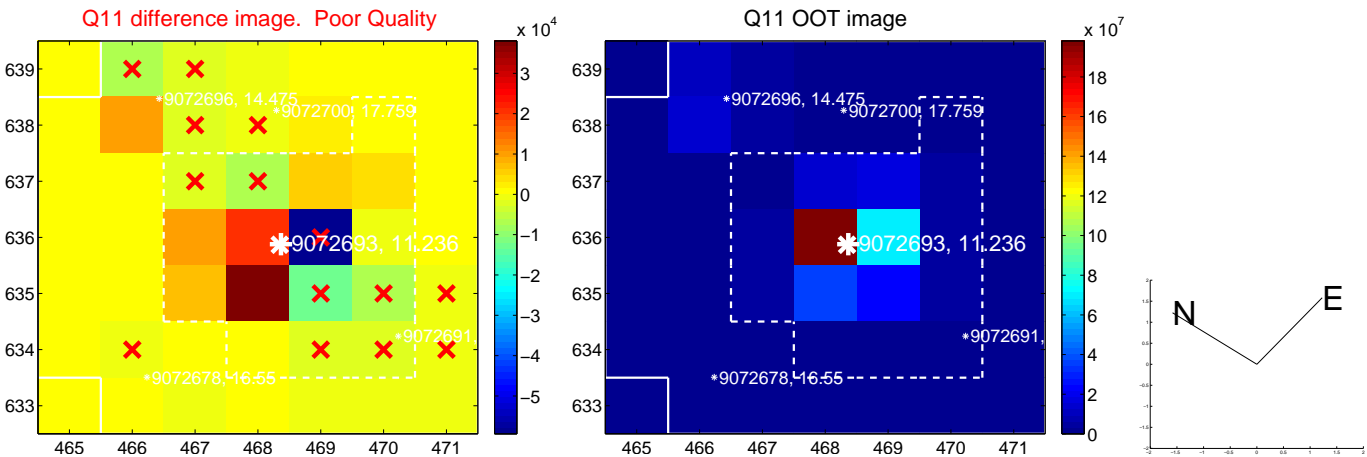
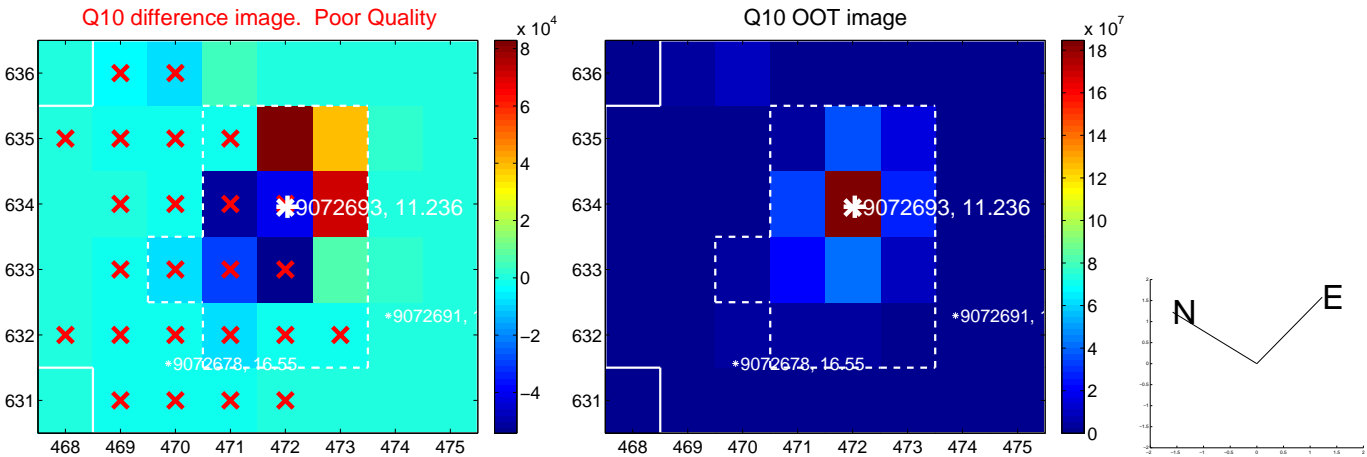
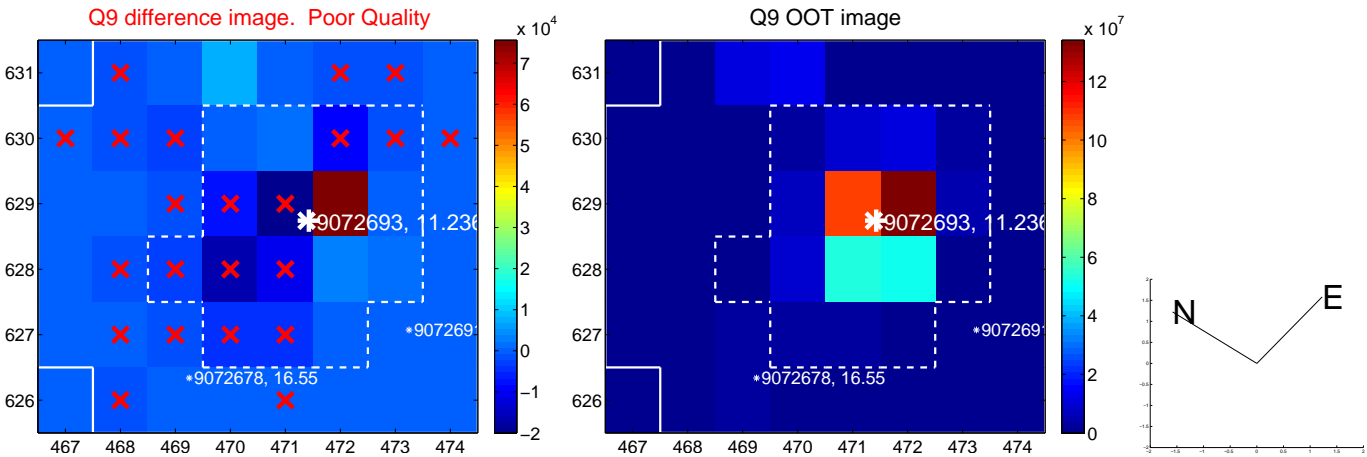
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



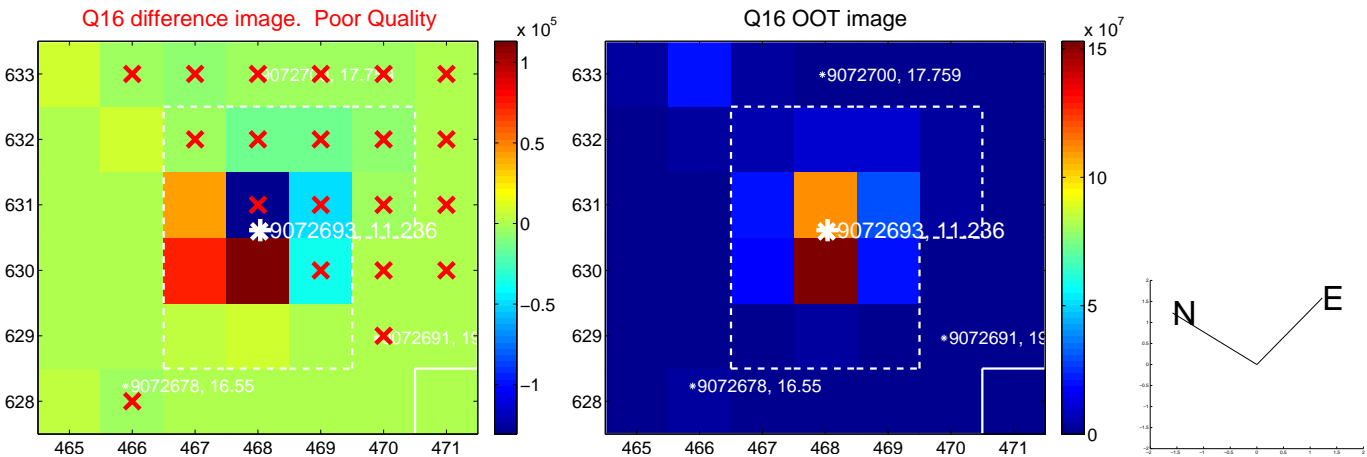
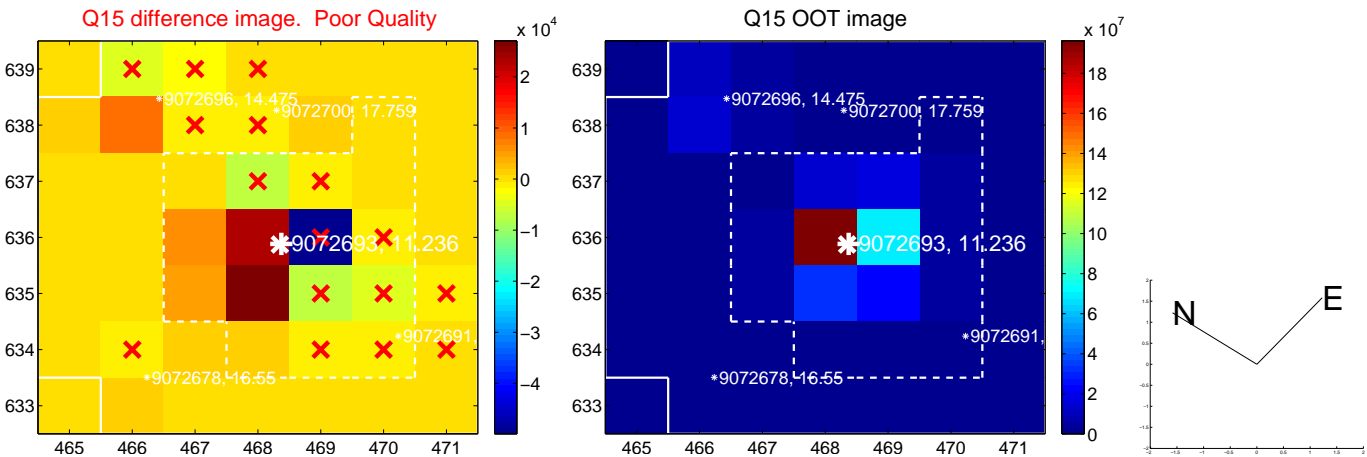
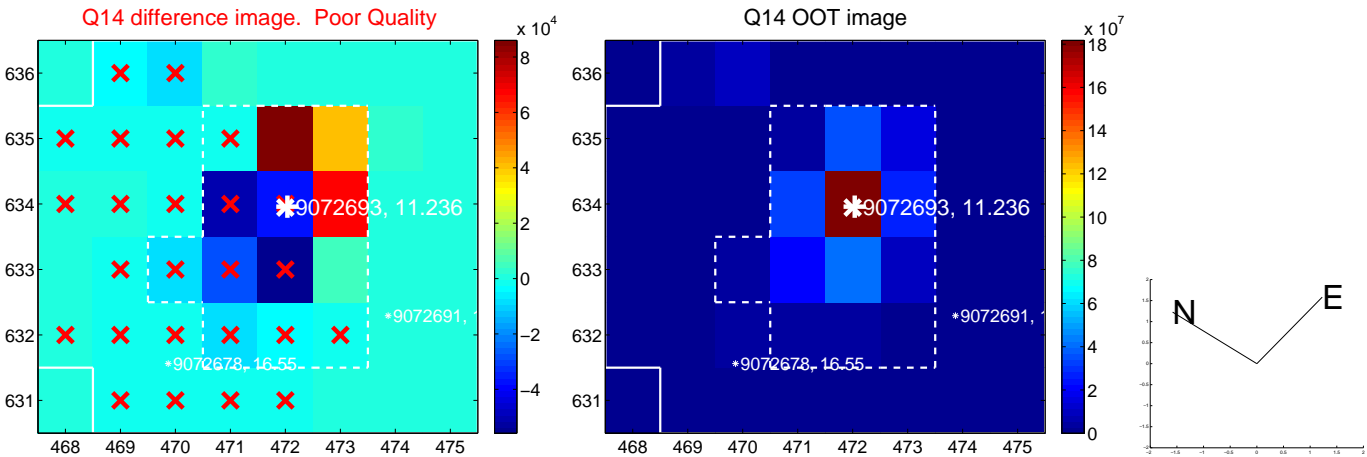
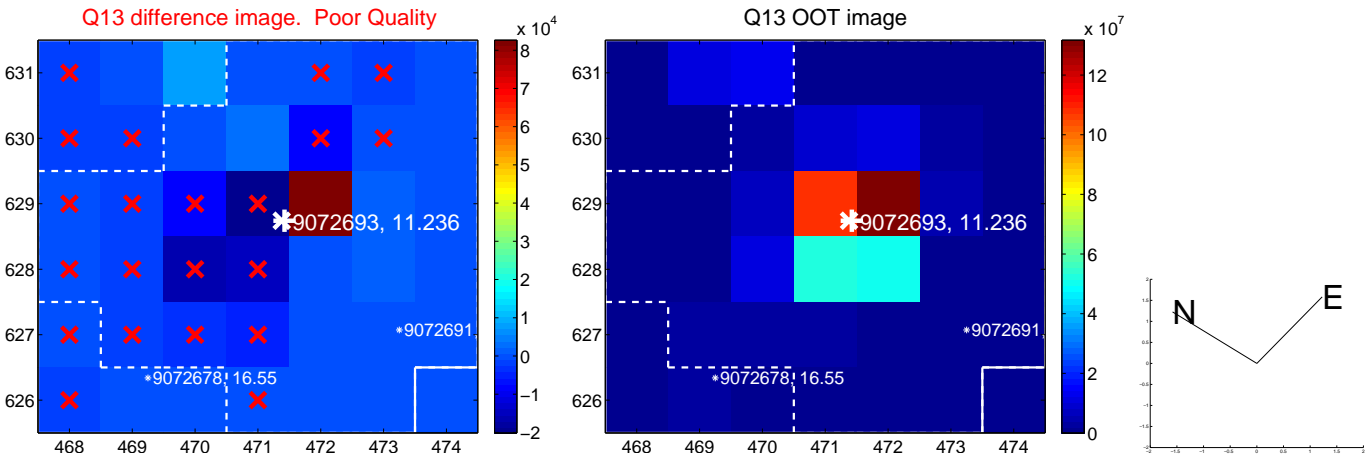
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



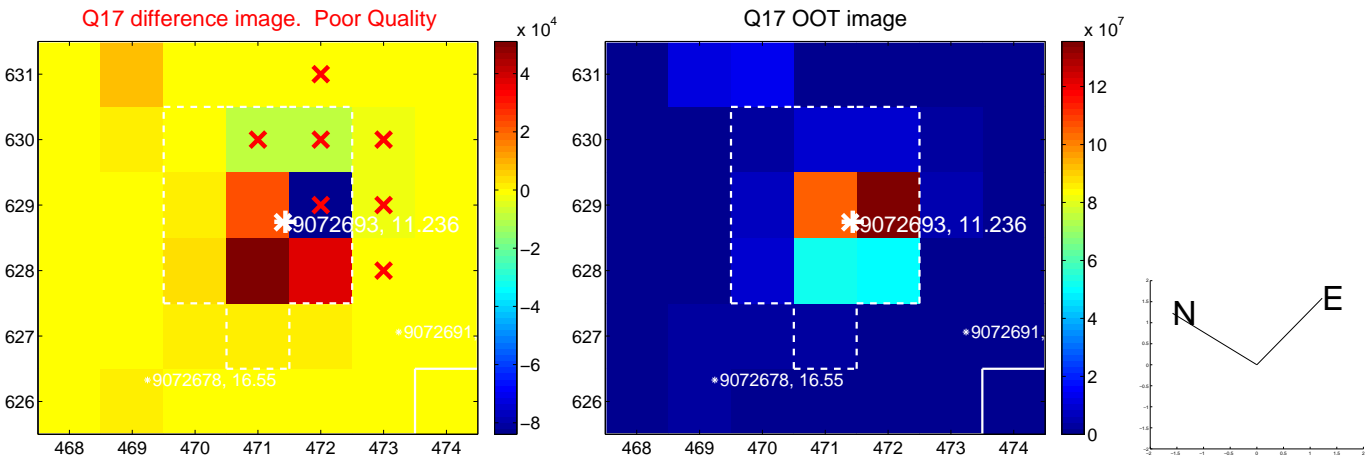
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

