

KIC 007117348

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|------|-----------------------------|-----------------|------------------------|------------------------|
| 007117348-01 | OBS | No | 0.566804 | 131.831915 | 63.0 | 4.624 | 9.4 | 12.1 | 0.99 | 5705 | 0.79 | 5355.55 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007117348-01 | OBS | FP | 0.00 | 1 | 0 | 1 | 1 | LPP_DV—CENT_FEW_DIFFS—HALO_GHOST—EPHEM_MATCH |

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.

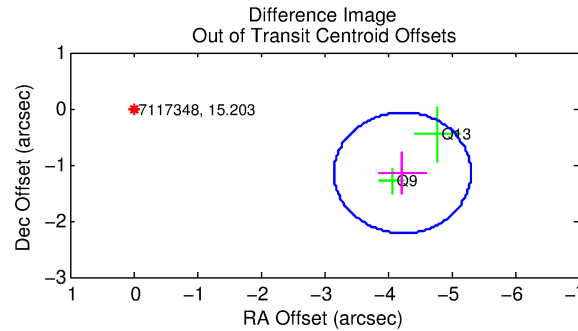
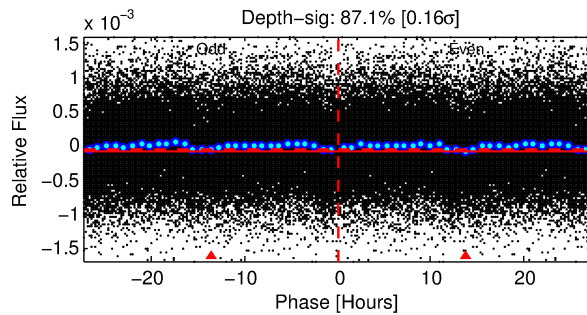
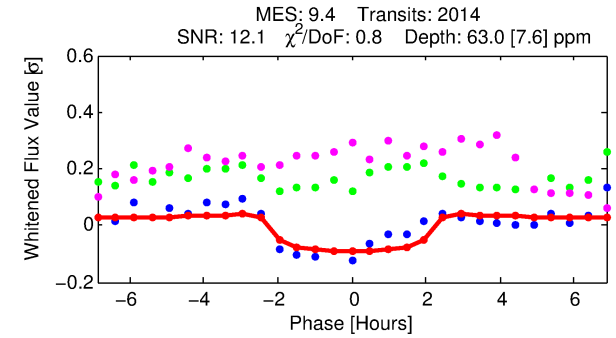
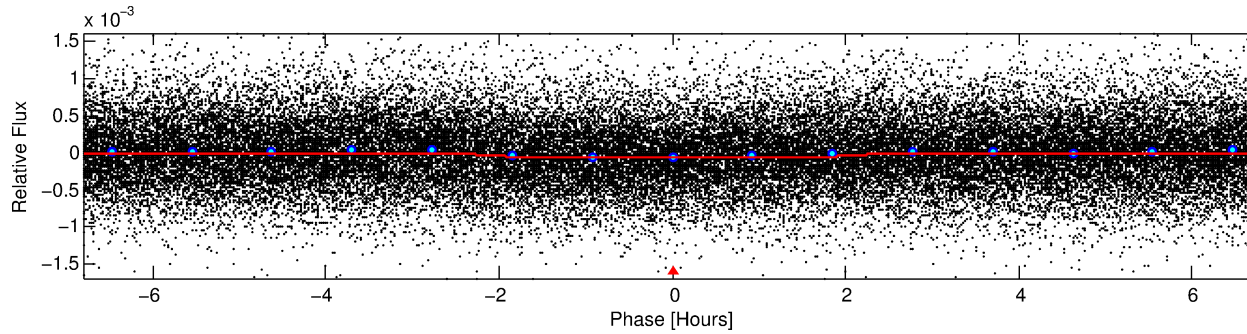
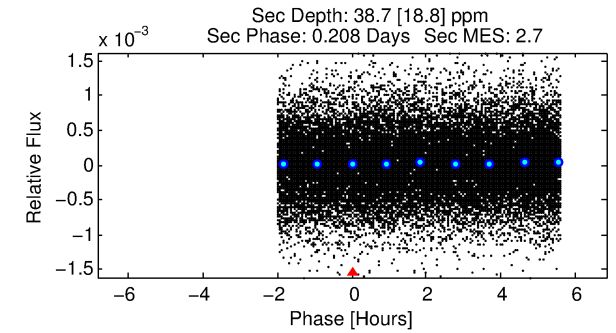
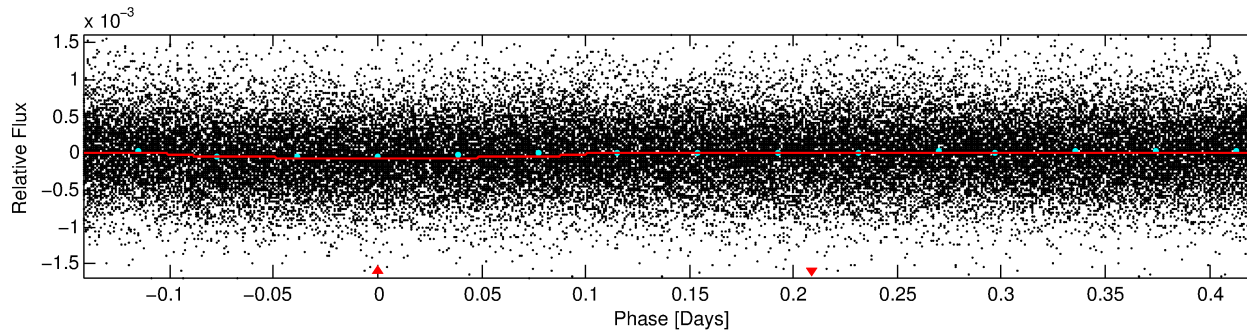
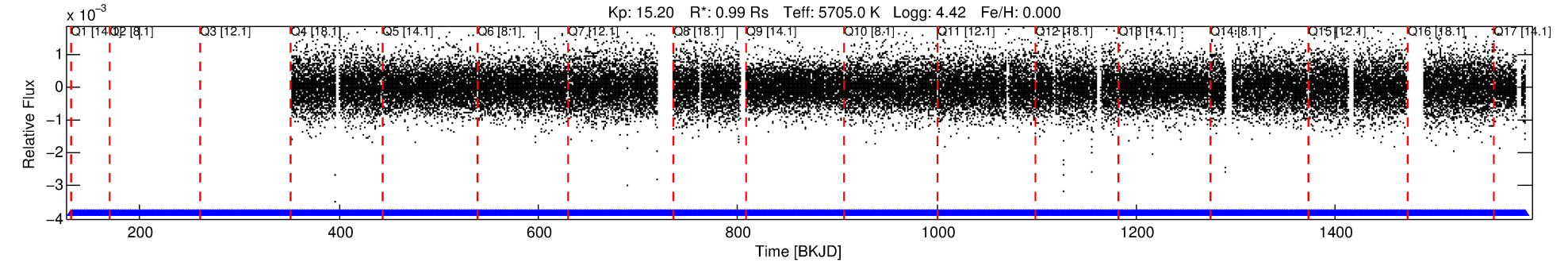
Ephemeris Match Information For 007117348-01

| TCE (1) | KIC | Parent (2) | Parent KIC | $P_1:P_2$ | Dist ($''$) | Δ Row | Δ Col | m_2 | m_1 | D_2/D_1 | Mechanism | Flag | σ_P | σ_T |
|--------------|---------|------------|------------|-----------|---------------|--------------|--------------|-------|-------|-----------|------------|------|------------|------------|
| 007117348-01 | 7117348 | RR-Lyr-pri | 7198959 | 1:1 | 994.2 | 237 | 78 | 7.86 | 15.20 | 9893.60 | Direct-PRF | 0 | 4.85 | 24.58 |

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7117348 Candidate: 1 of 1 Period: 0.567 d



DV Fit Results:

Period = 0.56680 [0.00001] d
Epoch = 131.8319 [0.0034] BKJD
Rp/R* = 0.0073 [0.0077]
a/R* = 1.13 [1.09]
b = 0.37 [10.52]
Seff = 5355.55 [1981.63]
Teq = 2181 [202] K
Rp = 0.79 [0.86] Re
a = 0.0132 [0.0031] AU
Ag = 5.94 [12.94] [0.38σ]
Teffp = 5264 [2838] K [1.08σ]

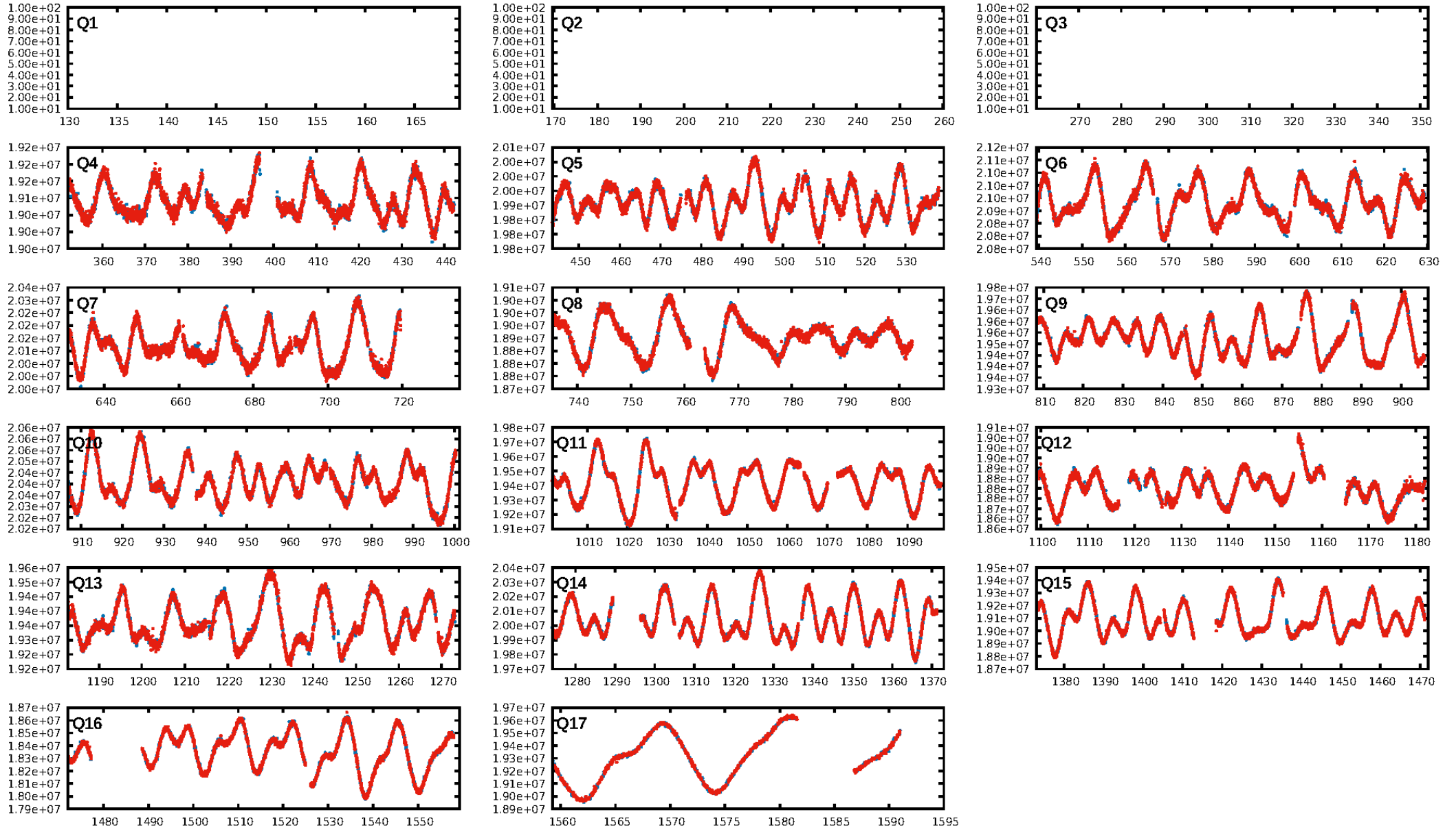
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1967/1967]
GhostDiagnostic-chr: 0.1201
Centroid-sig: 0.0%
Centroid-so: 0.527 arcsec [0.95σ]
OotOffset-rm: 4.383 arcsec [12.23σ]
KicOffset-rm: 1.407 arcsec [3.43σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [14/14]

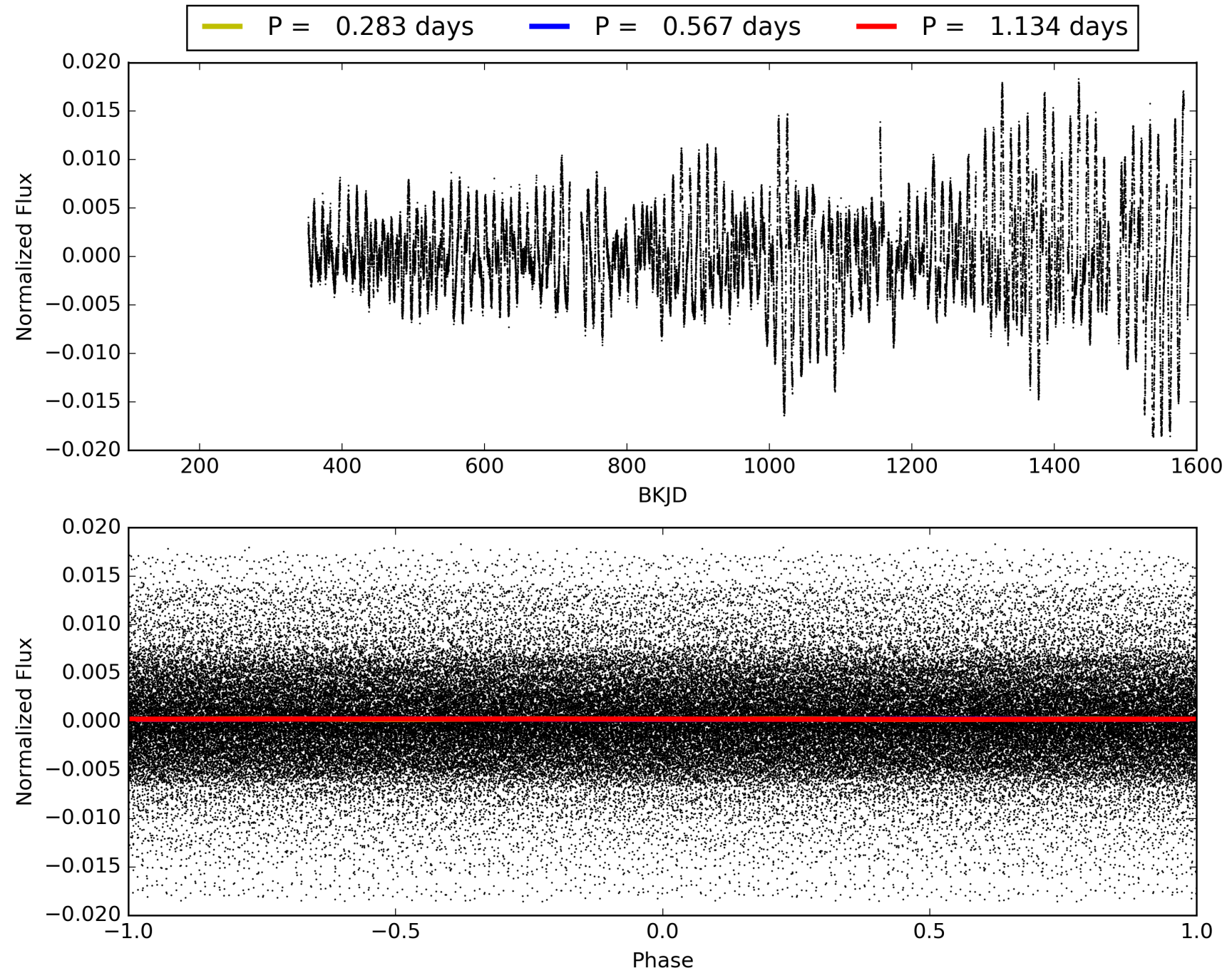
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:52:00 Z

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

TCE 007117348-01, PDC Light Curves

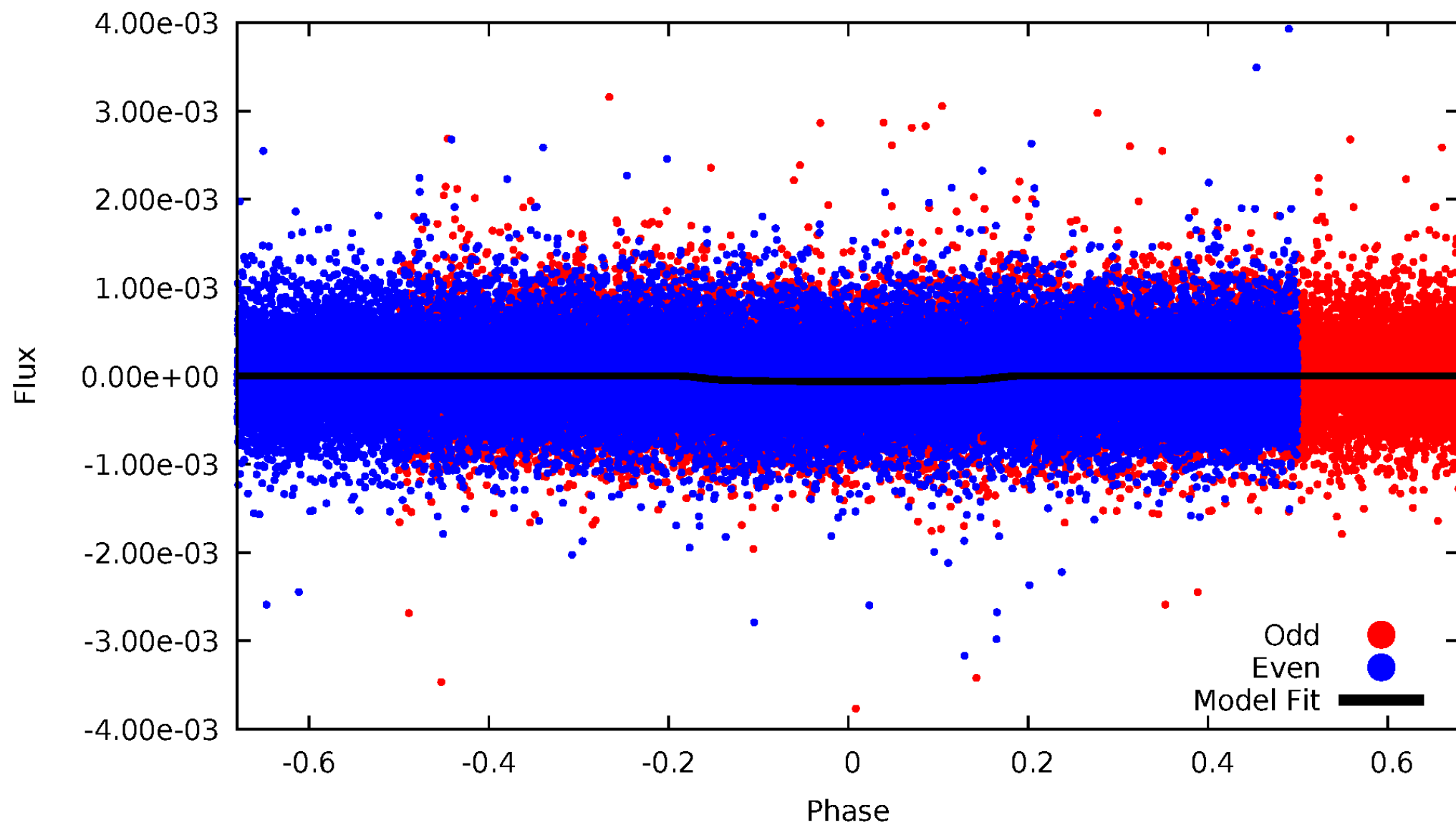


TCE 007117348-01



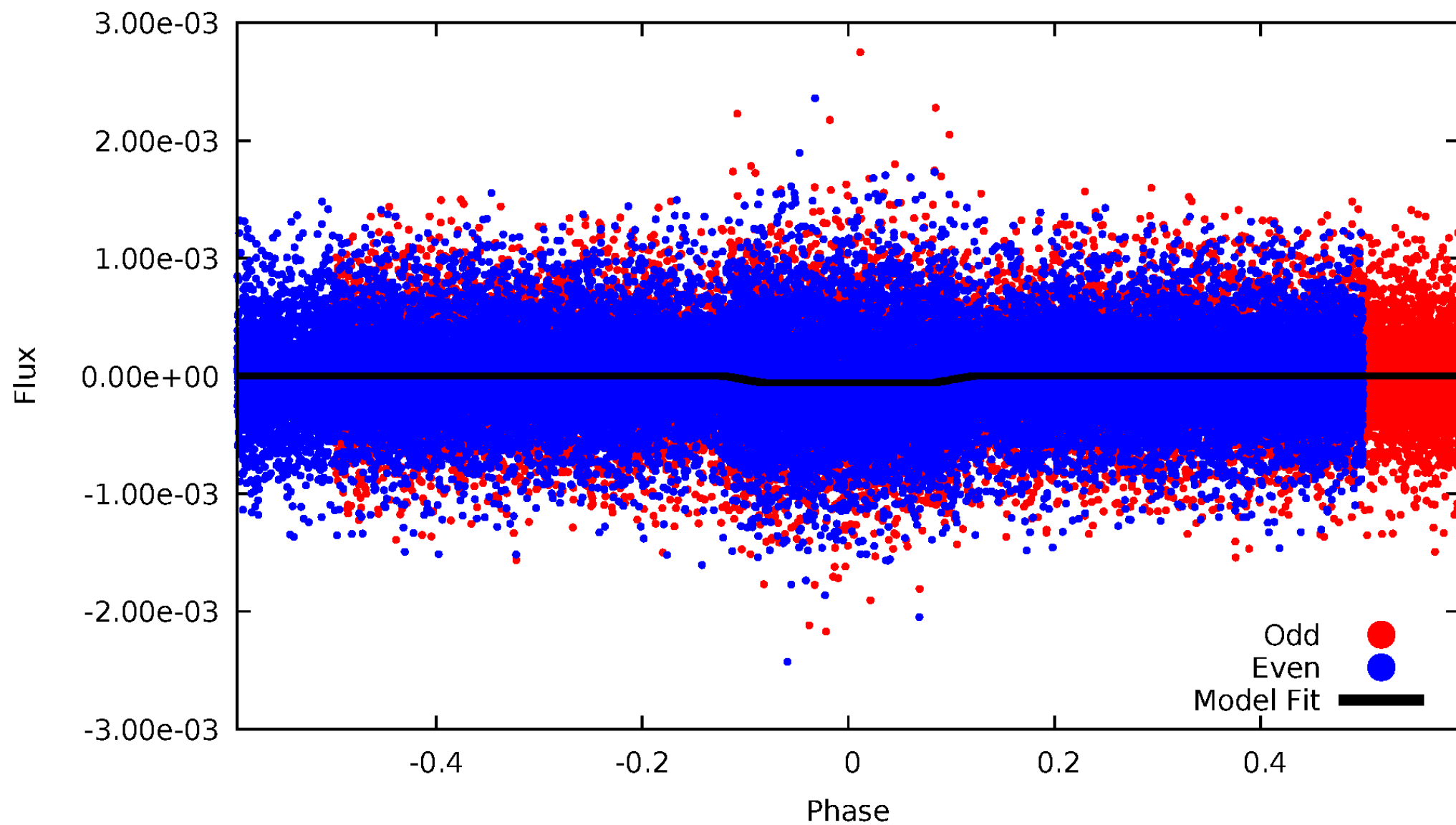
DV Odd/Even

TCE 007117348-01

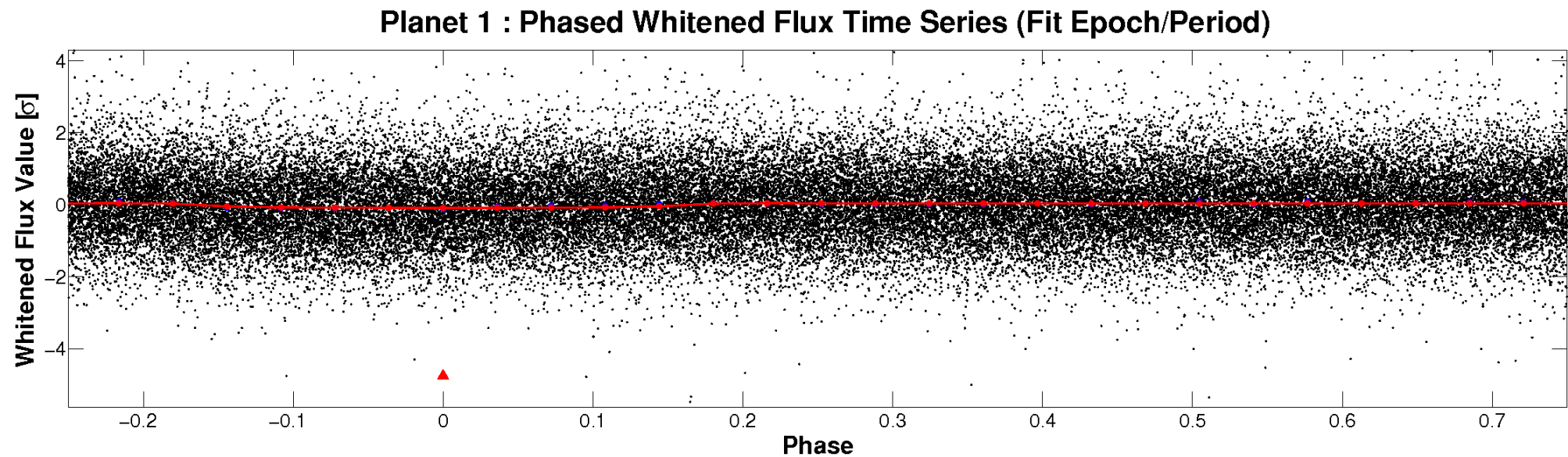
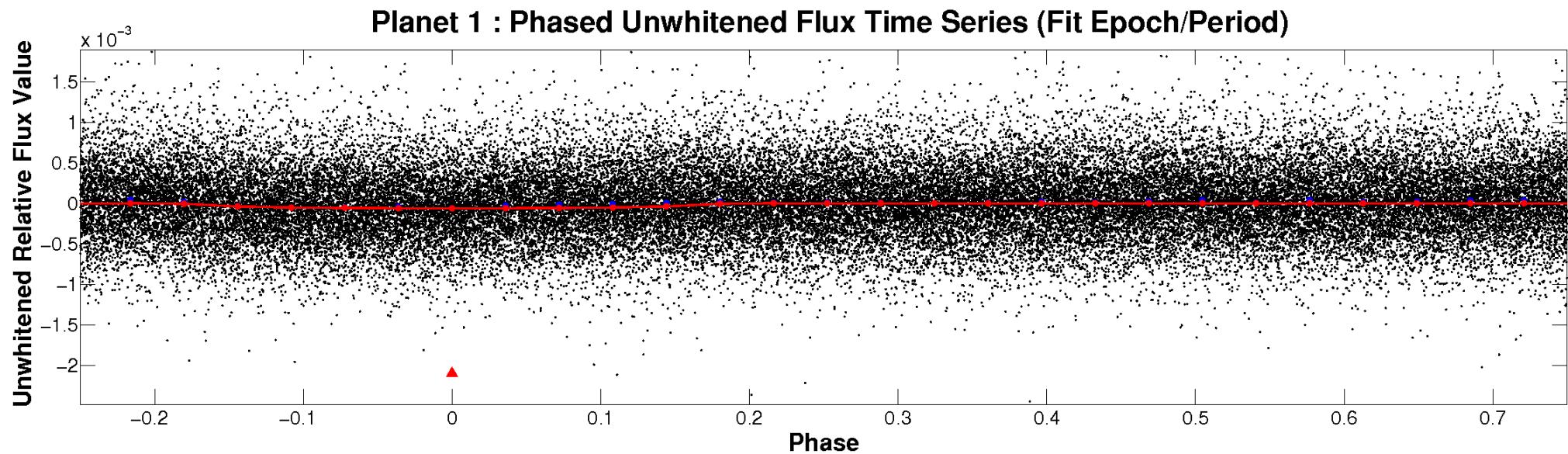


ALT Odd/Even

TCE 007117348-01

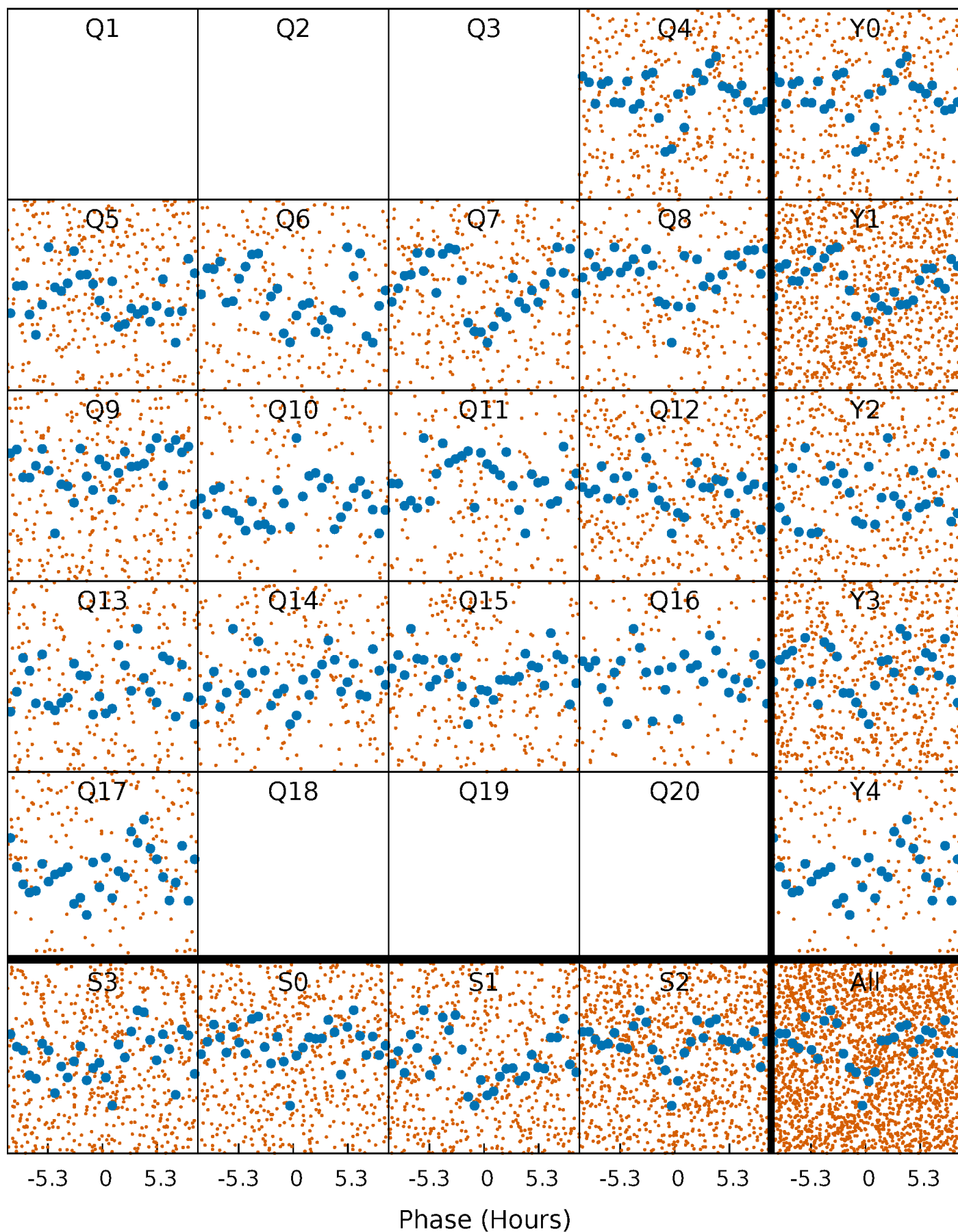


Non-Whitened Vs. Whitened Light Curve



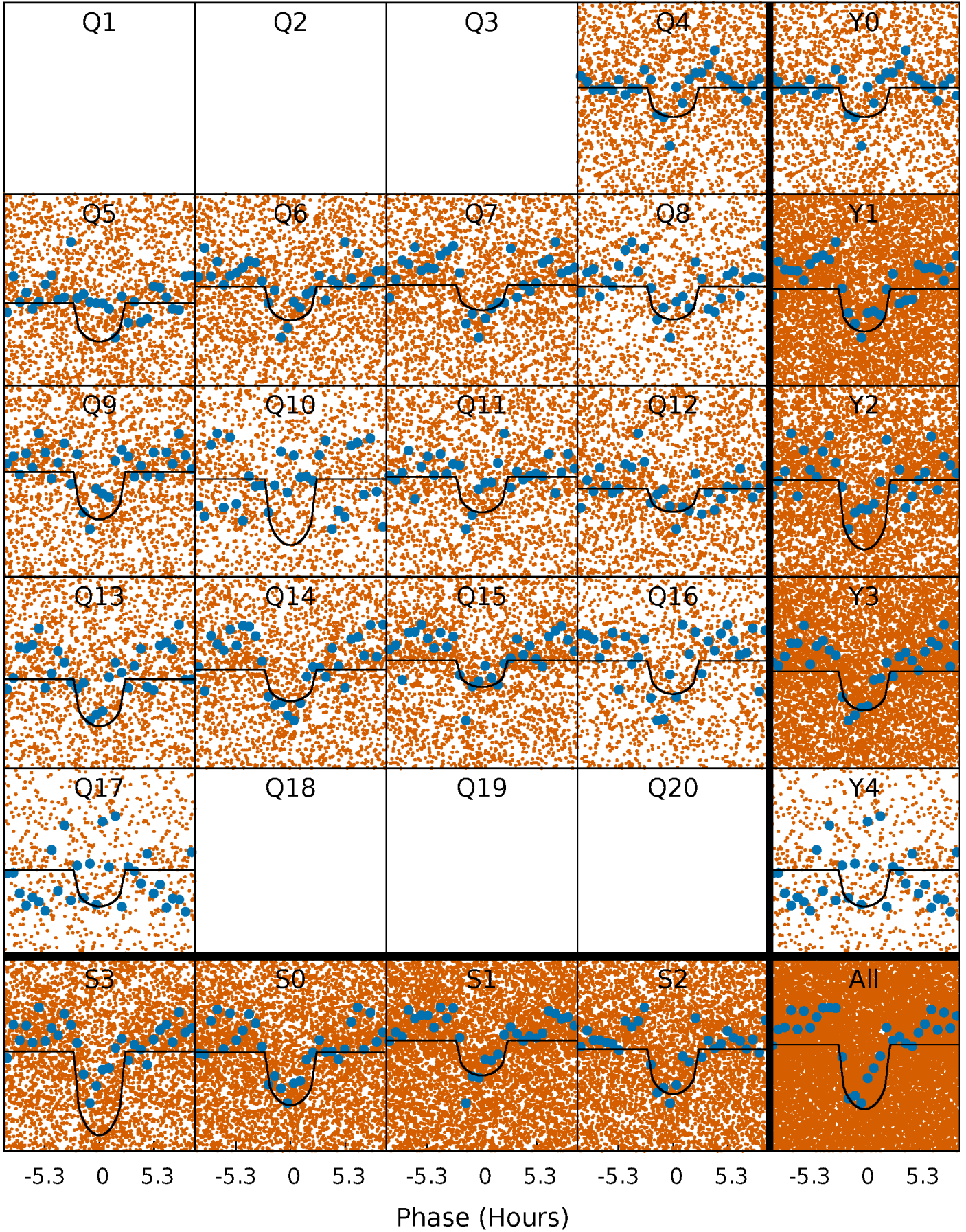
PDC Quarter-Phased Transit Curves

TCE 007117348-01 P= 0.566804 Days $T_0=131.831915$ (BKJD)



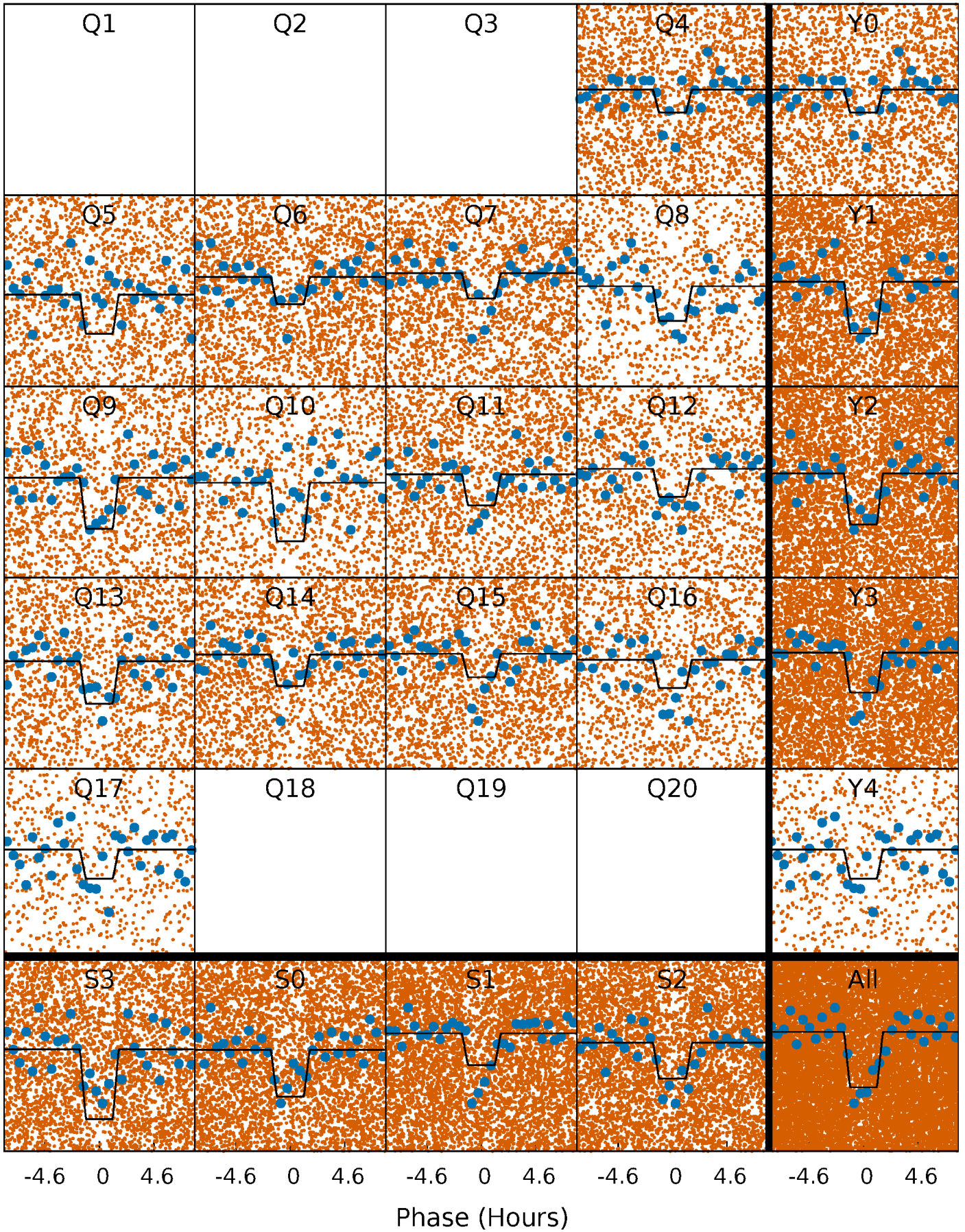
DV Quarter-Phased Transit Curves

TCE 007117348-01 P= 0.566804 Days $T_0=131.831915$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

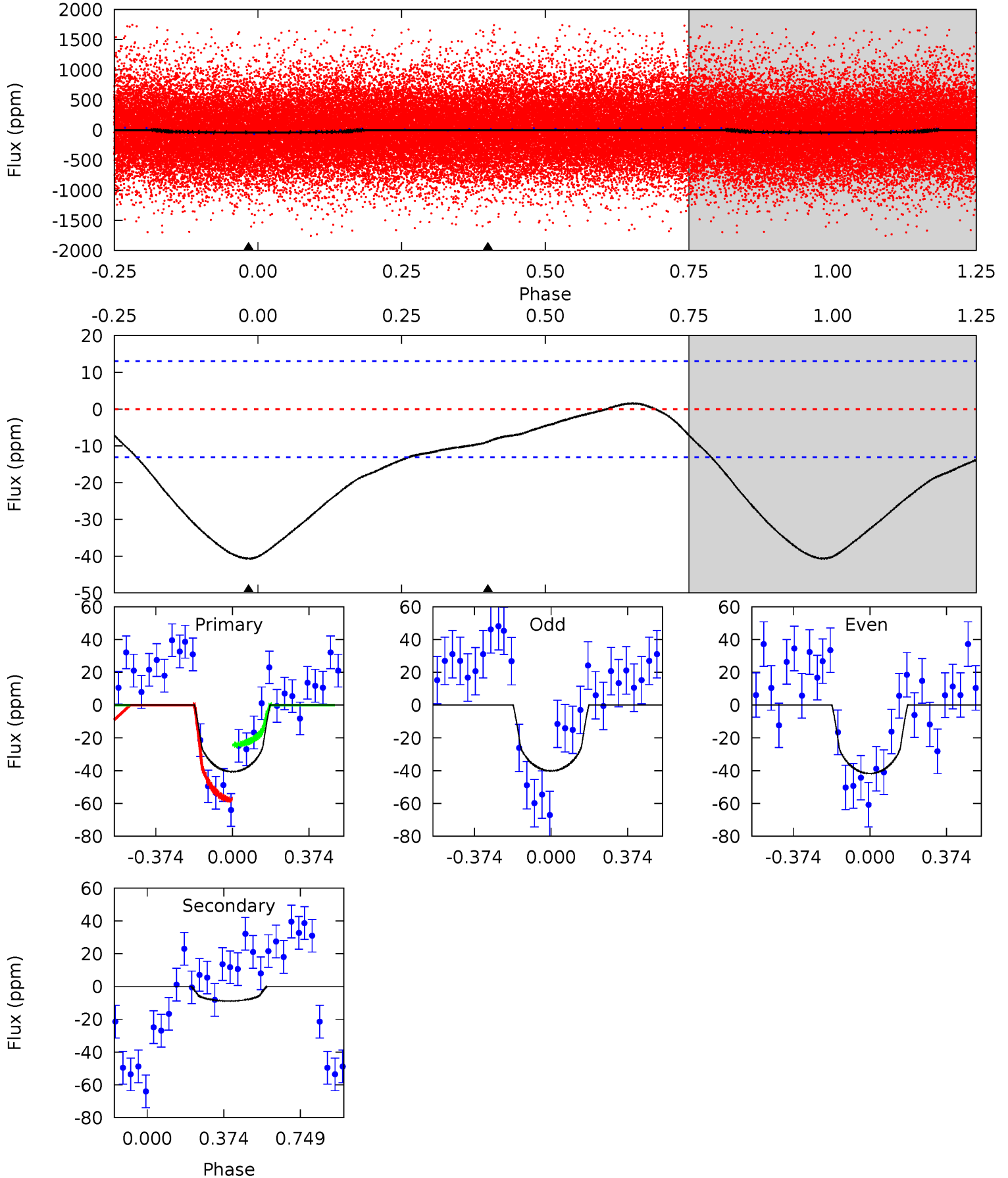
TCE 007117348-01 P= 0.566788 Days $T_0=131.822256$ (BKJD)



DV Model-Shift Uniqueness Test

007117348-01, P = 0.566804 Days, E = 131.831915 Days

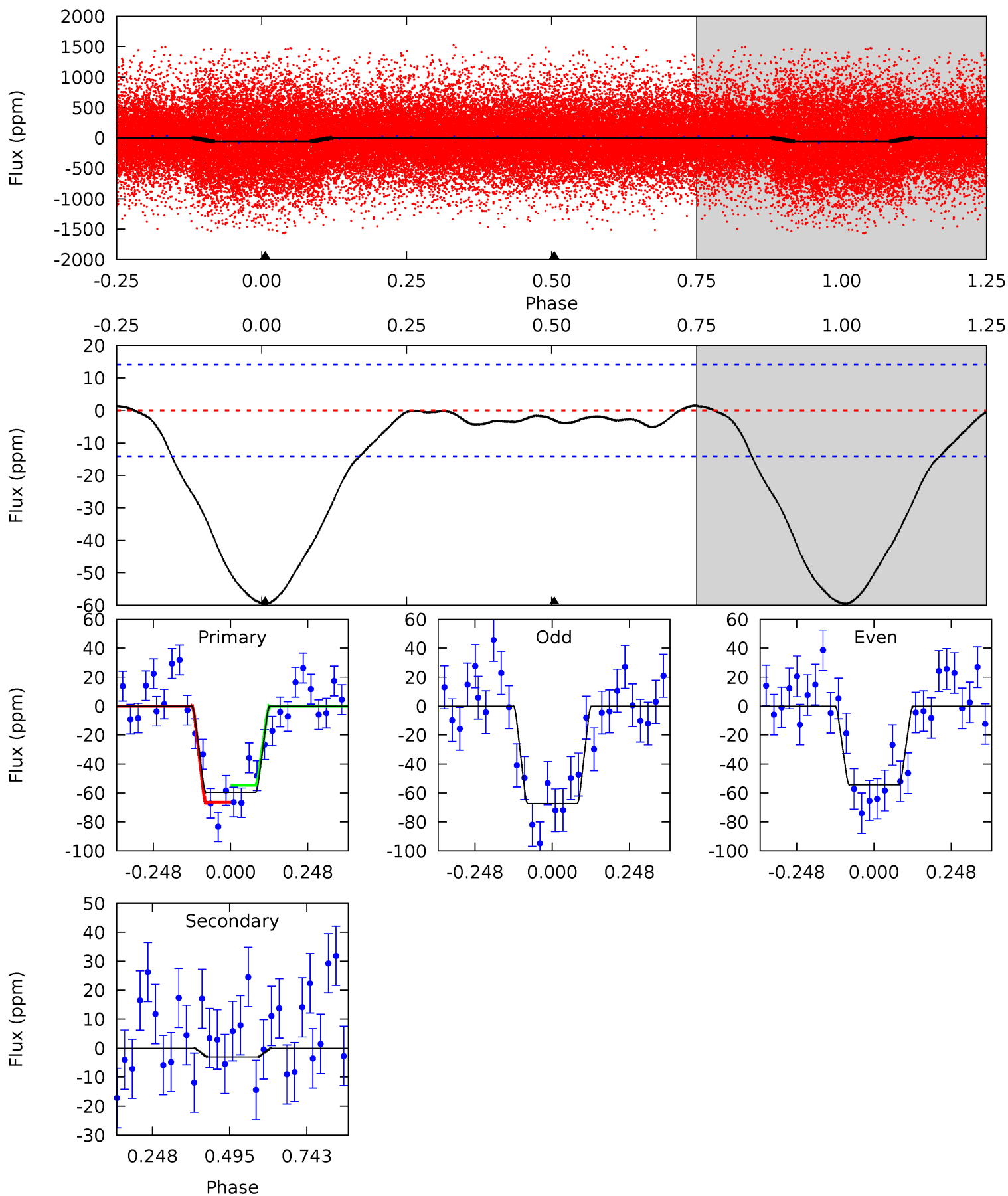
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 13.3 | 2.91 | 0 | 0 | 4.28 | 0.89 | 0.71 | 13.3 | 13.3 | 2.91 | 2.91 | 0.26 | 1.11 | 0.04 | 5.57 |



Alt Model-Shift Uniqueness Test

007117348-01, P = 0.566788 Days, E = 131.822256 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 18.5 | 0.93 | 0 | 0 | 4.37 | 1.16 | 0.34 | 18.5 | 18.5 | 0.93 | 0.93 | 1.97 | 0.83 | 0.02 | 1.80 |



Stellar Parameters For KIC 007117348

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5705^{+173}_{-190} | $4.424^{+0.101}_{-0.188}$ | $0.000^{+0.250}_{-0.300}$ | $0.989^{+0.281}_{-0.141}$ | $0.945^{+0.114}_{-0.102}$ | $1.377^{+0.593}_{-0.665}$ |
| | +3%/-3% | +2%/-4% | +inf%/-inf% | +28%/-14% | +12%/-11% | +43%/-48% |
| Source | KIC0 | 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 007117348-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|------------------------|---------------------------|
| DV | -9 ± 3 | $0.97^{+0.78}_{-0.59}$ | 3079^{+215}_{-170} | 3436^{+1803}_{-5938} | $0.842^{+4.810}_{-0.592}$ |
| Alt. | -3 ± 3 | $0.95^{+0.84}_{-0.59}$ | 3086^{+205}_{-180} | -2622^{+6875}_{-584} | $0.219^{+1.978}_{-0.229}$ |

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

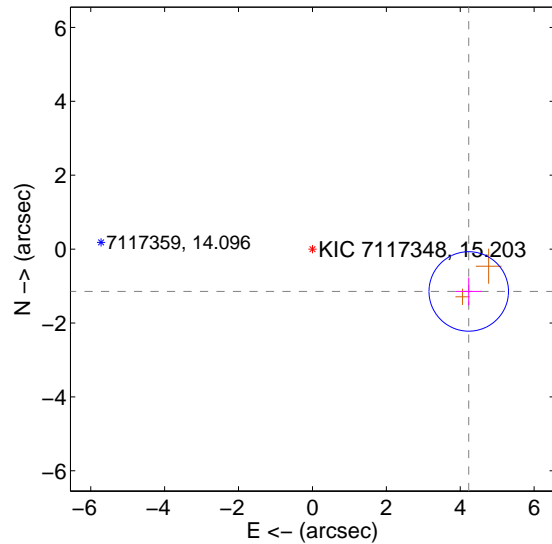
Supplemental centroid analysis for 007117348-01. Kepler magnitude: 15.20. Transit SNR 12.09

There are 0 quarters with good PRF difference image offsets

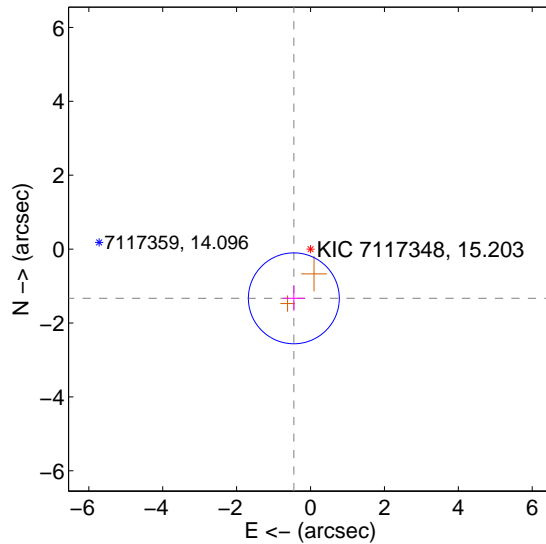
The OOT PRF centroid is offset from the target star catalog position by about 4.68 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 4.383 ± 0.359 | 12.23 | -4.231 ± 0.357 | -1.146 ± 0.374 |
| PRF-fit source offset from KIC position | 1.407 ± 0.410 | 3.43 | 0.451 ± 0.300 | -1.333 ± 0.335 |
| photometric centroid source offset | 0.53 ± 0.55 | 0.95 | 0.53 ± 0.55 | -0.01 ± 0.29 |

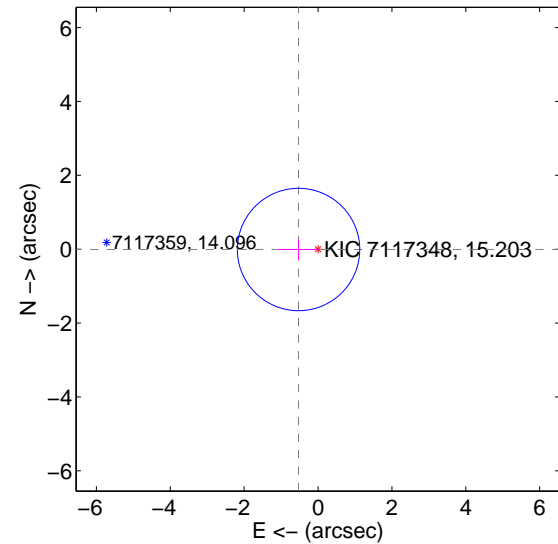
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

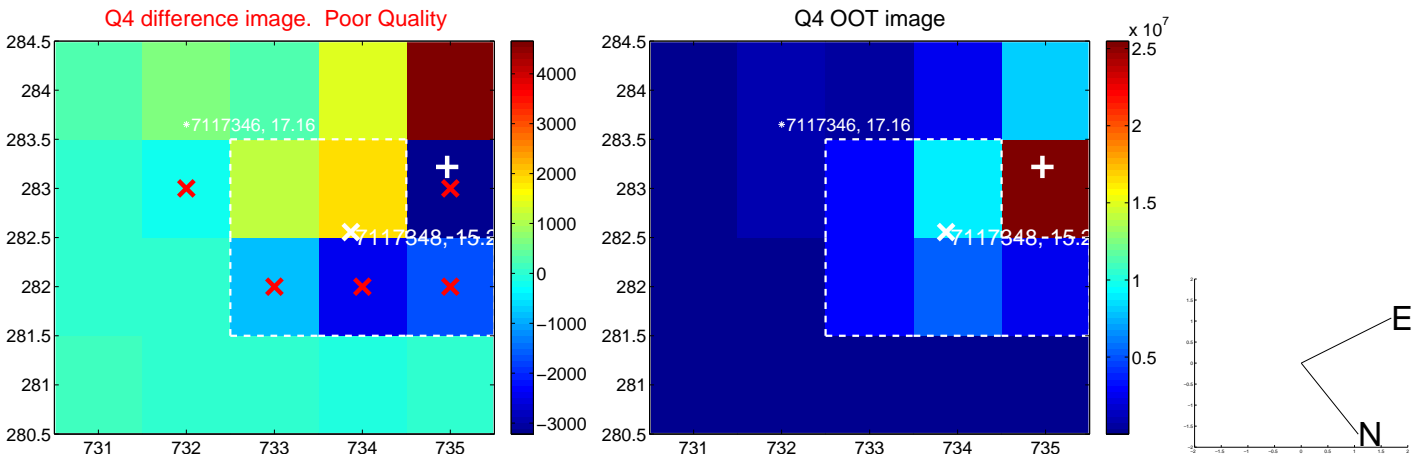
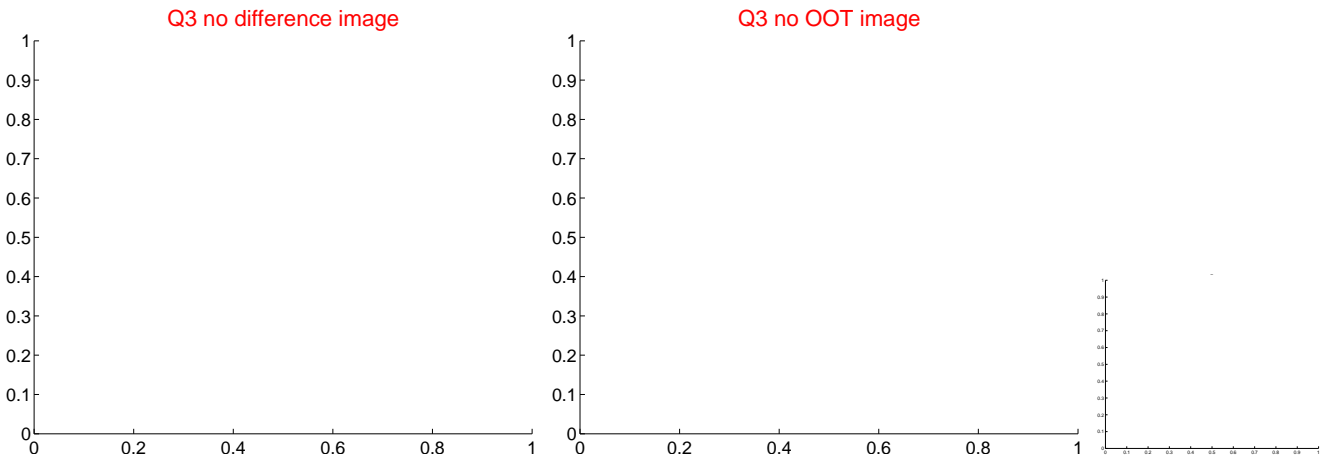
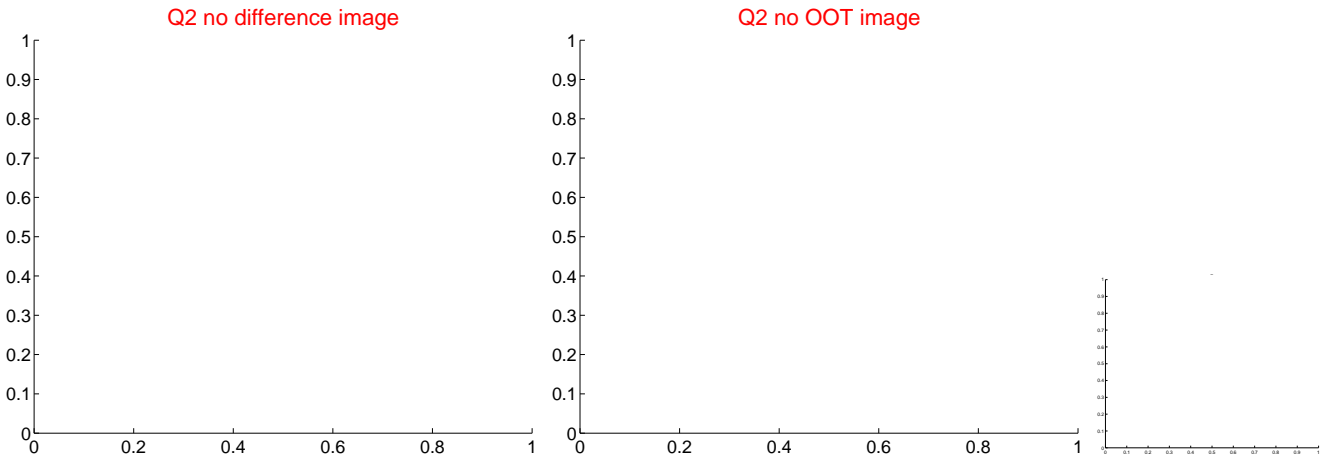
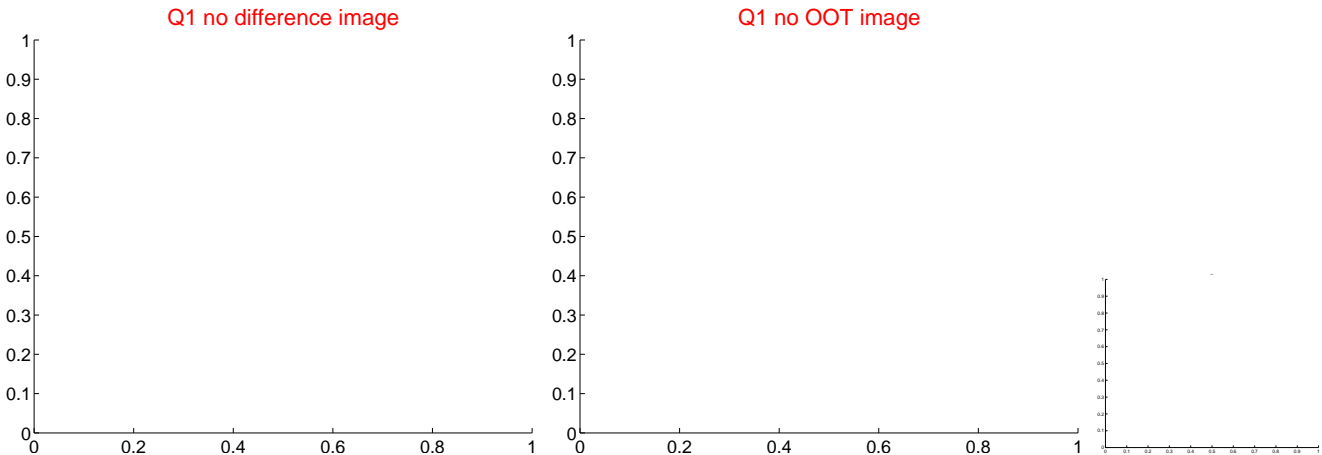


offset from photometric centroids

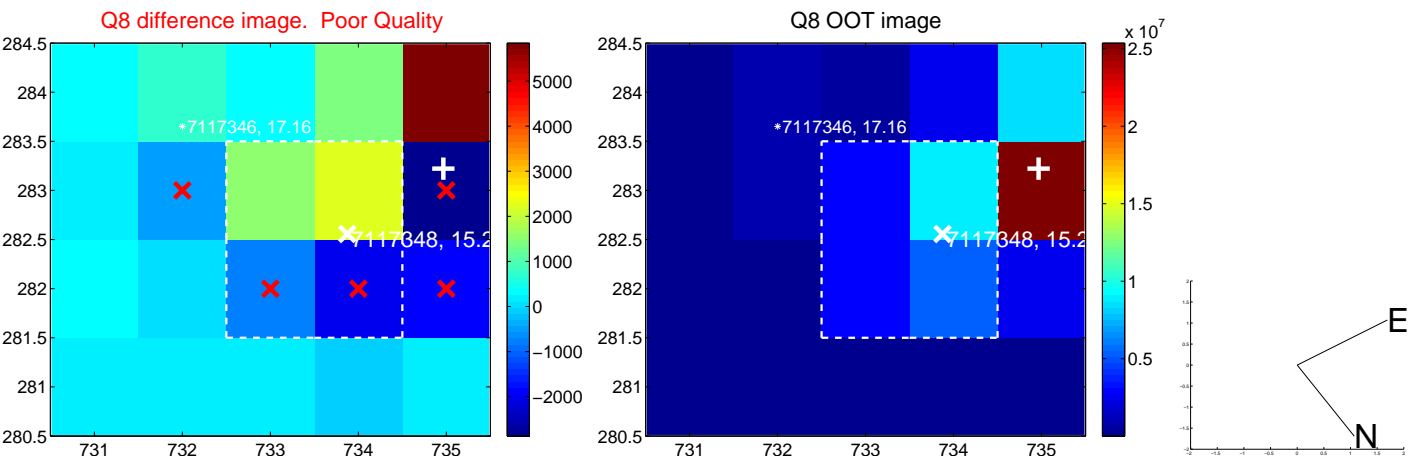
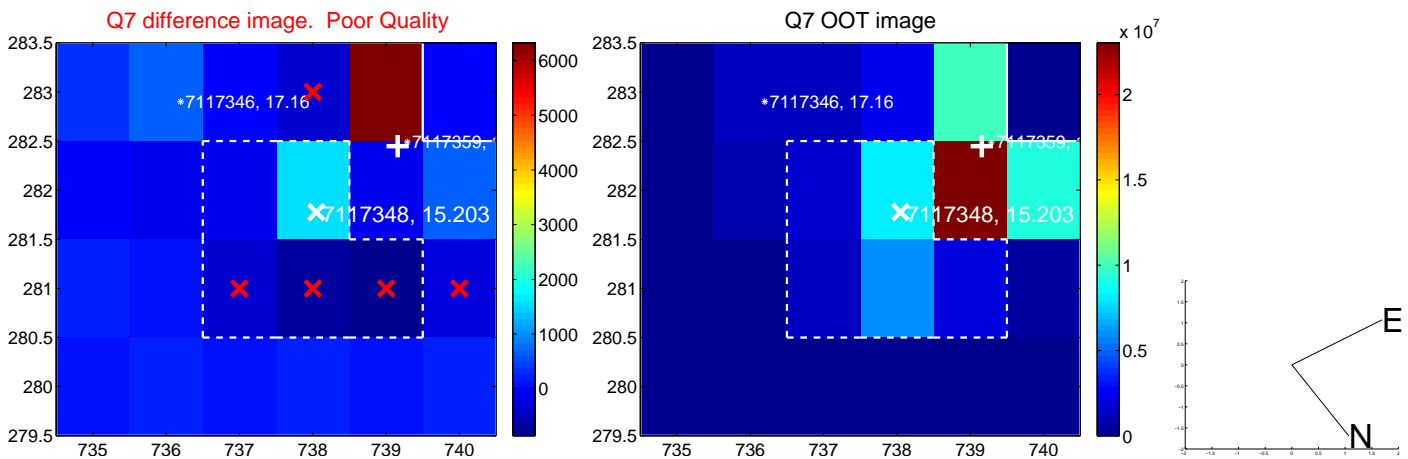
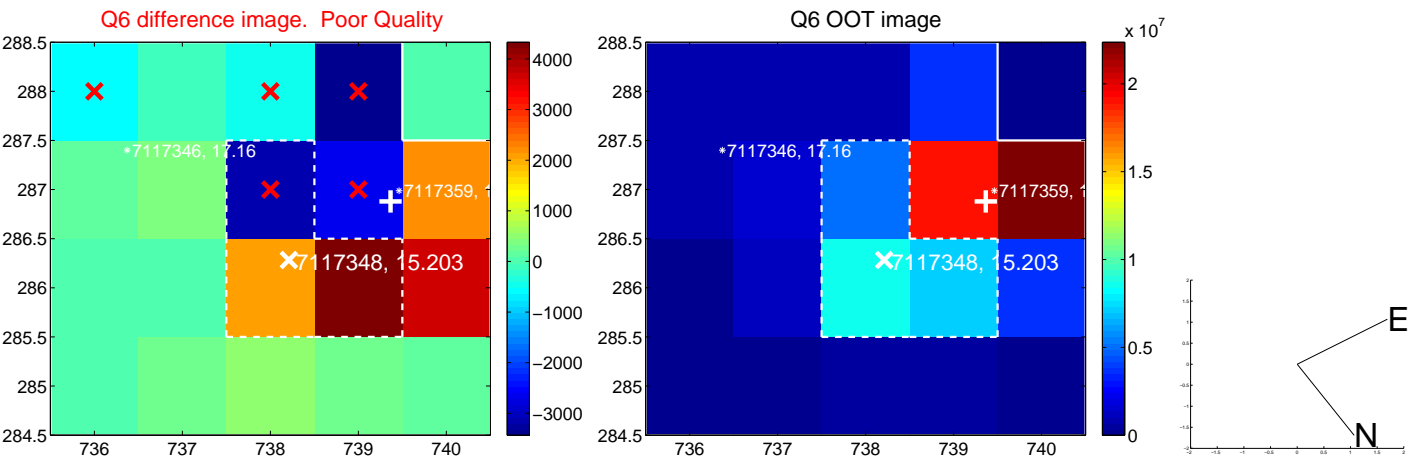
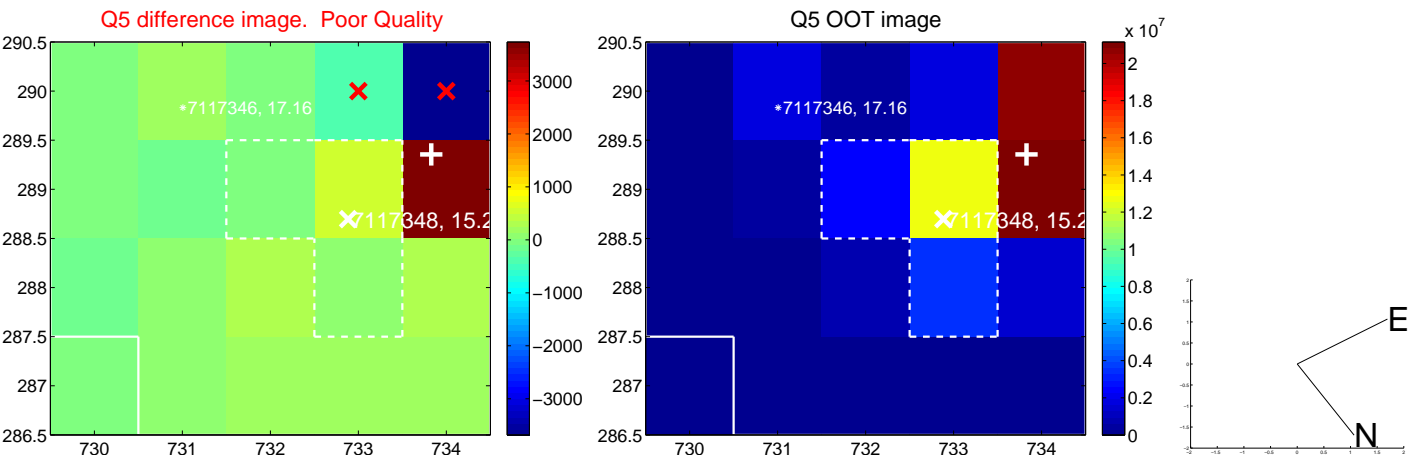


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

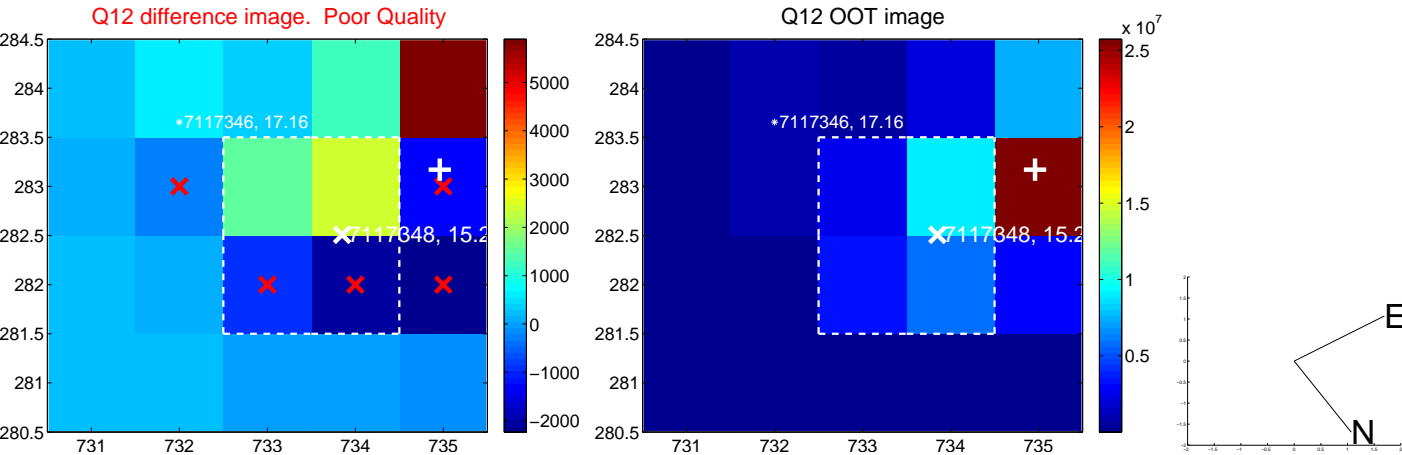
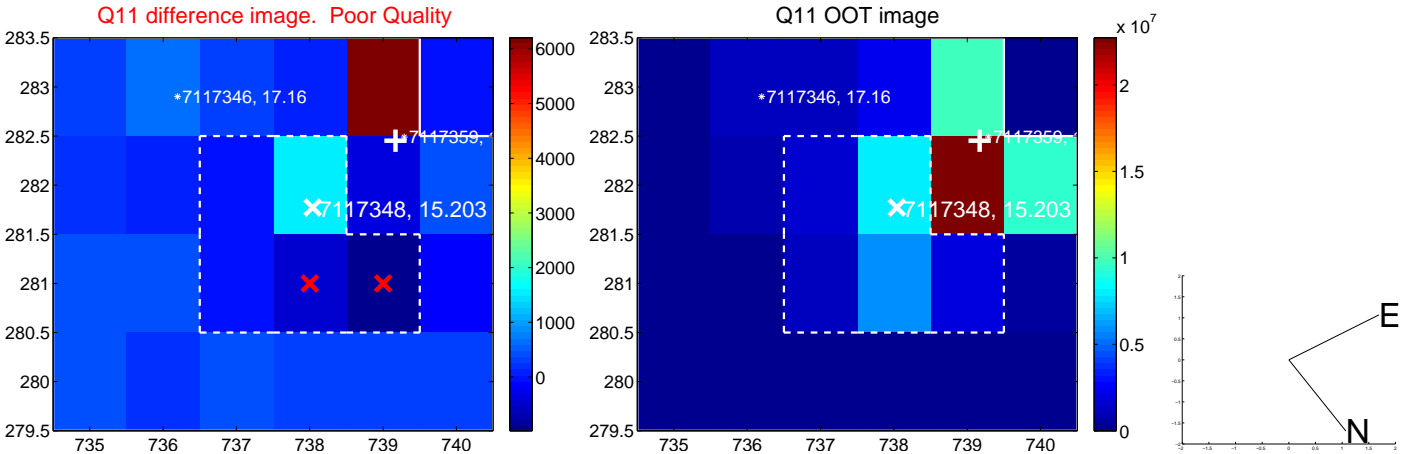
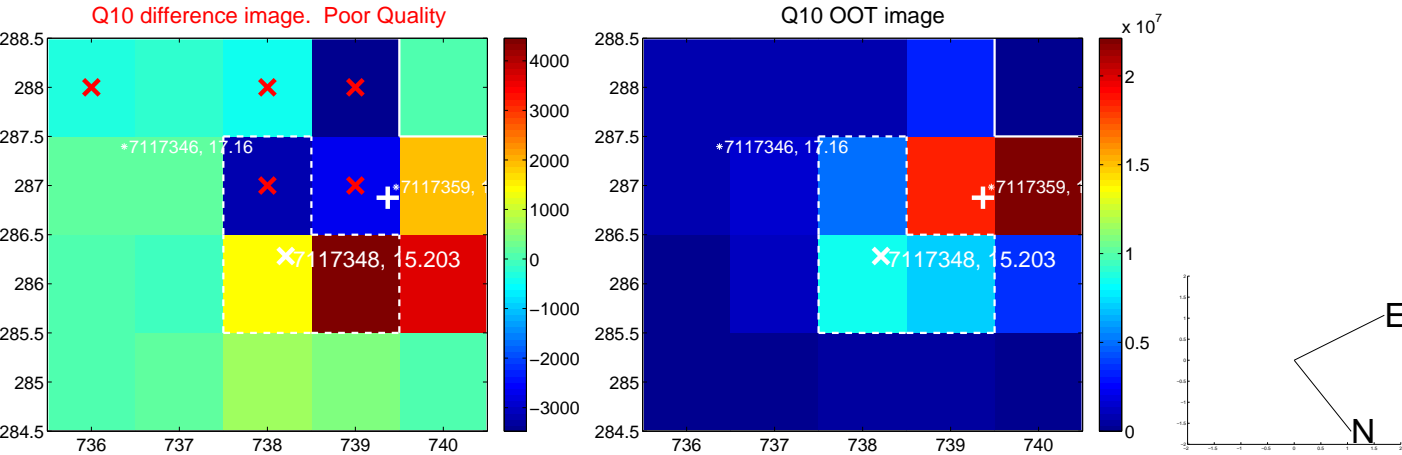
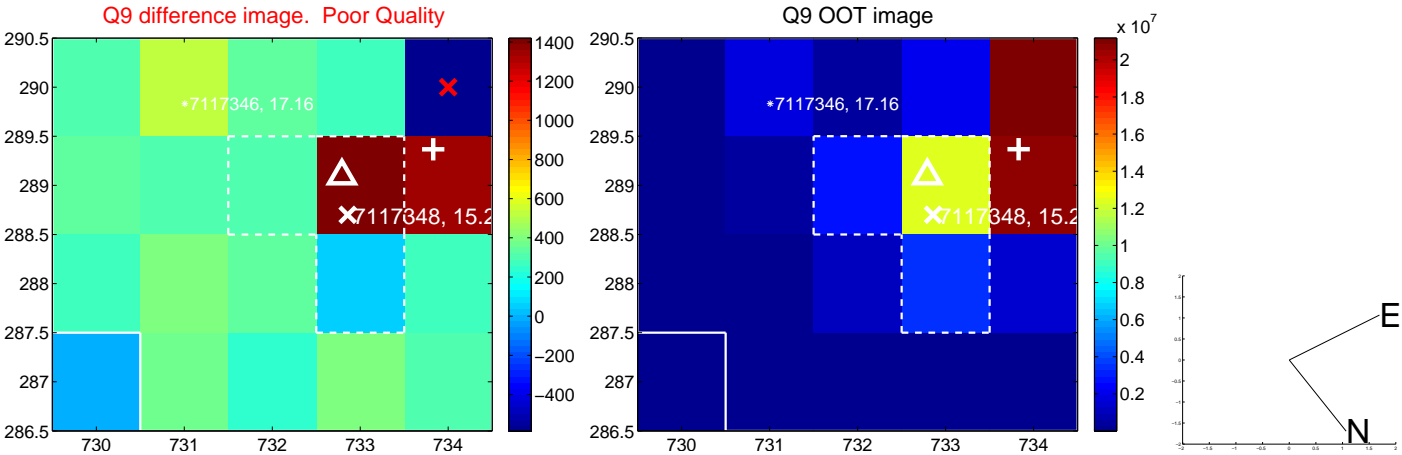
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



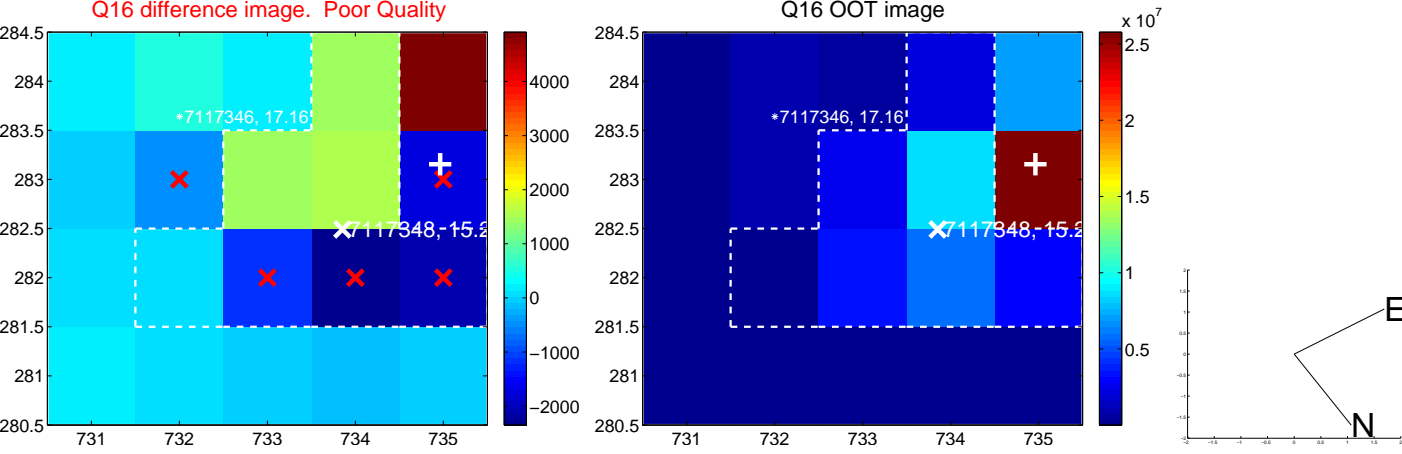
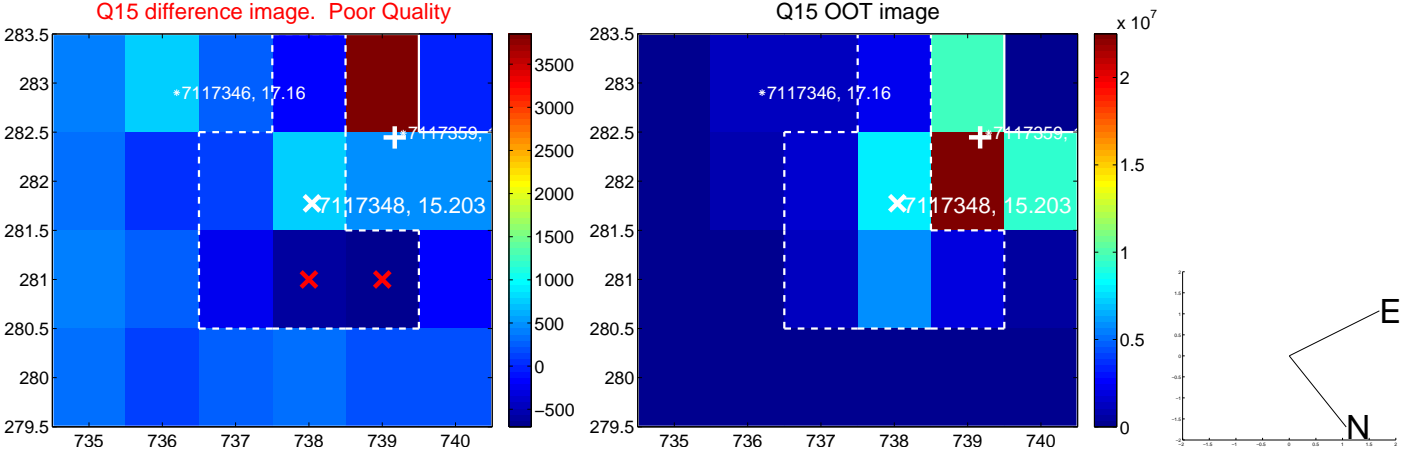
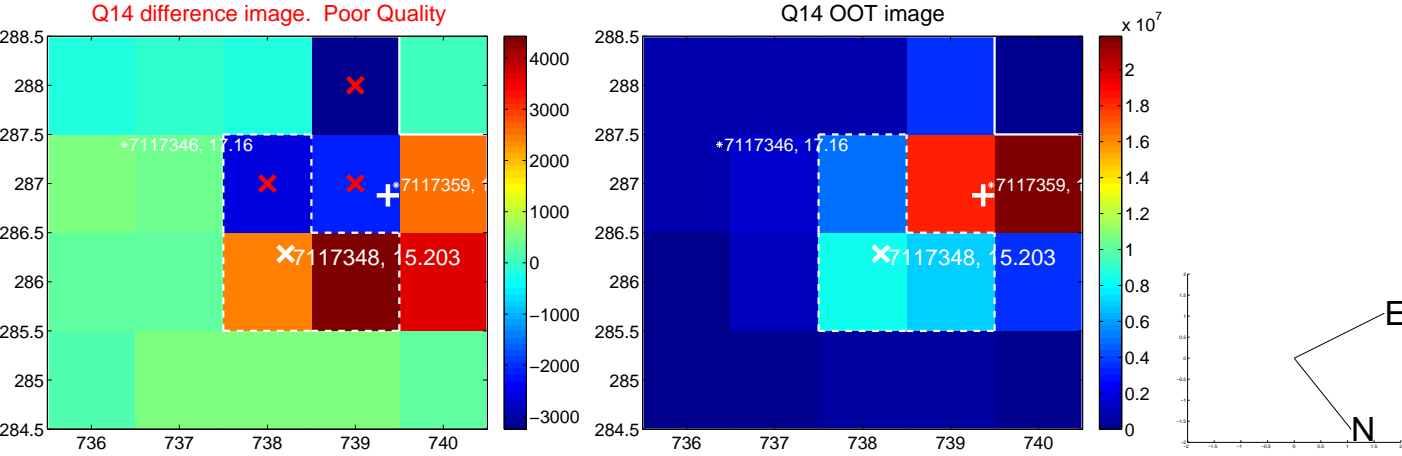
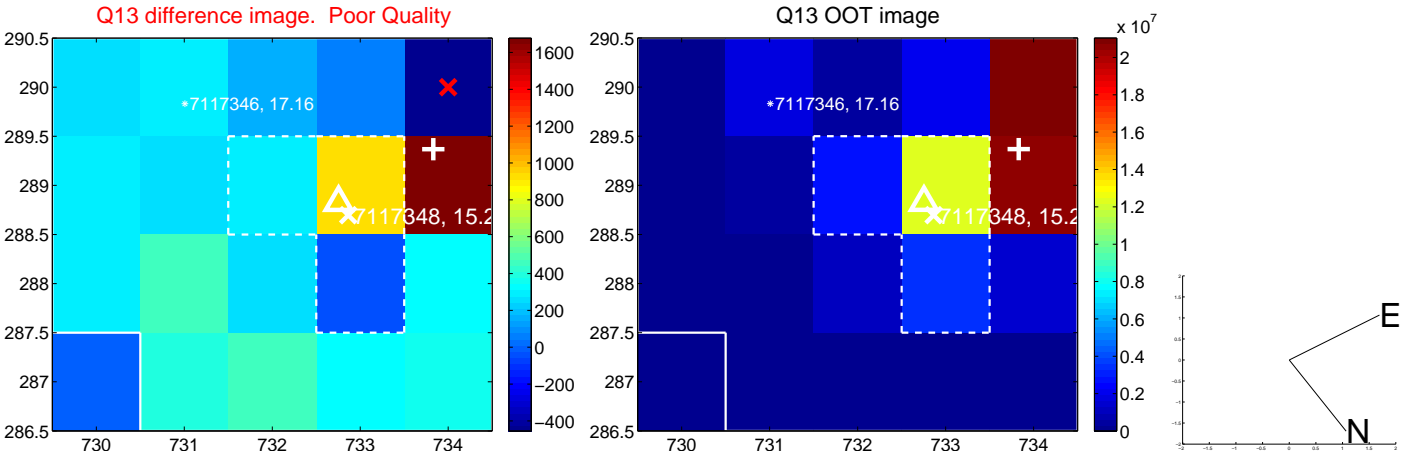
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



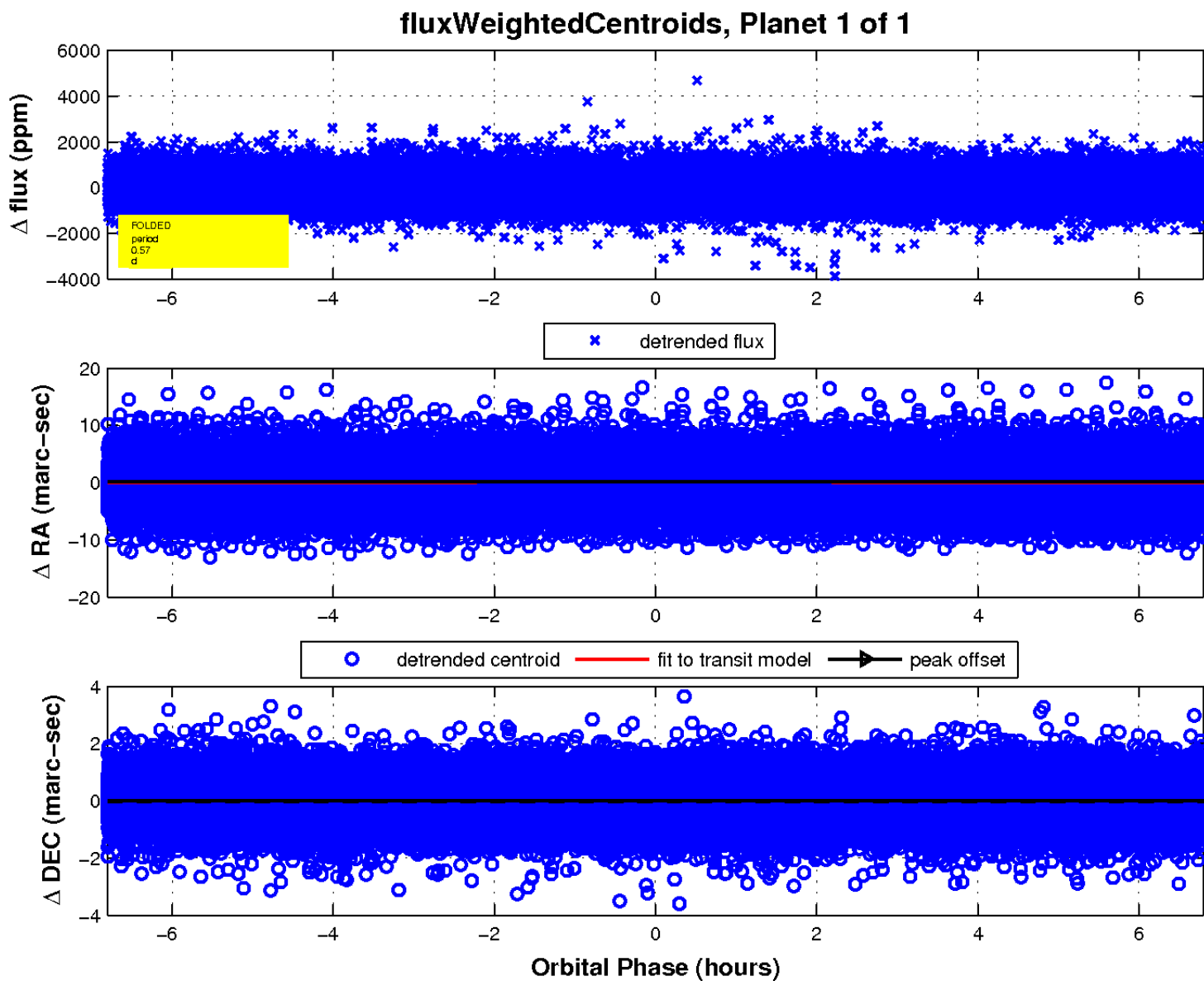
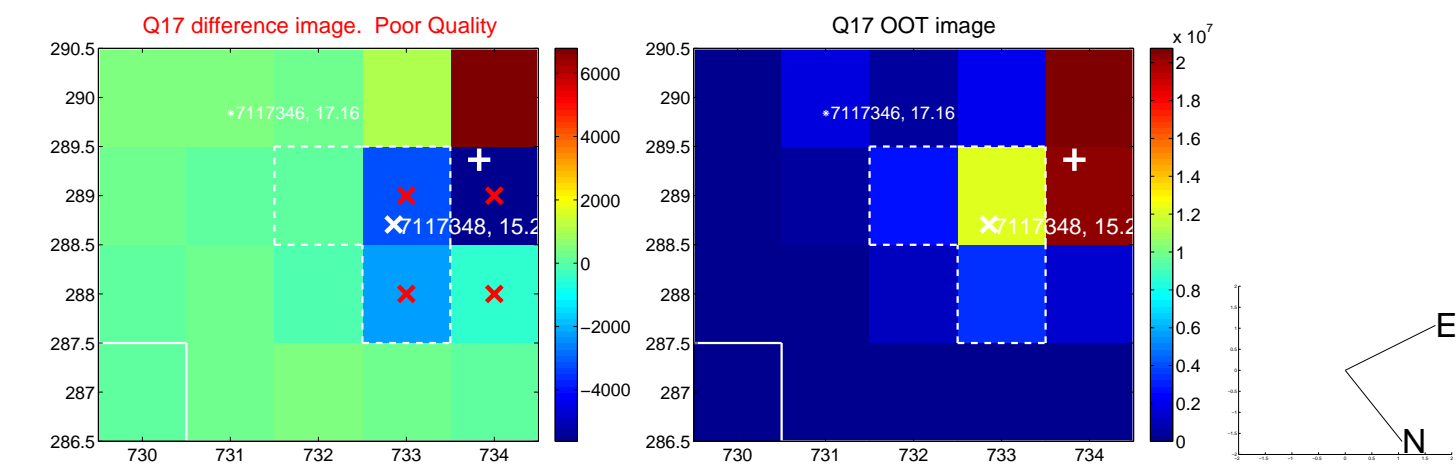
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

