

KIC 007367164

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 007367164-01 | OBS | 7835.01 | 3.765643 | 132.527826 | 92.6 | 1.602 | 7.4 | 7.9 | 0.88 | 5815 | 0.99 | 357.53 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------|
| 007367164-01 | OBS | PC | 0.82 | 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.

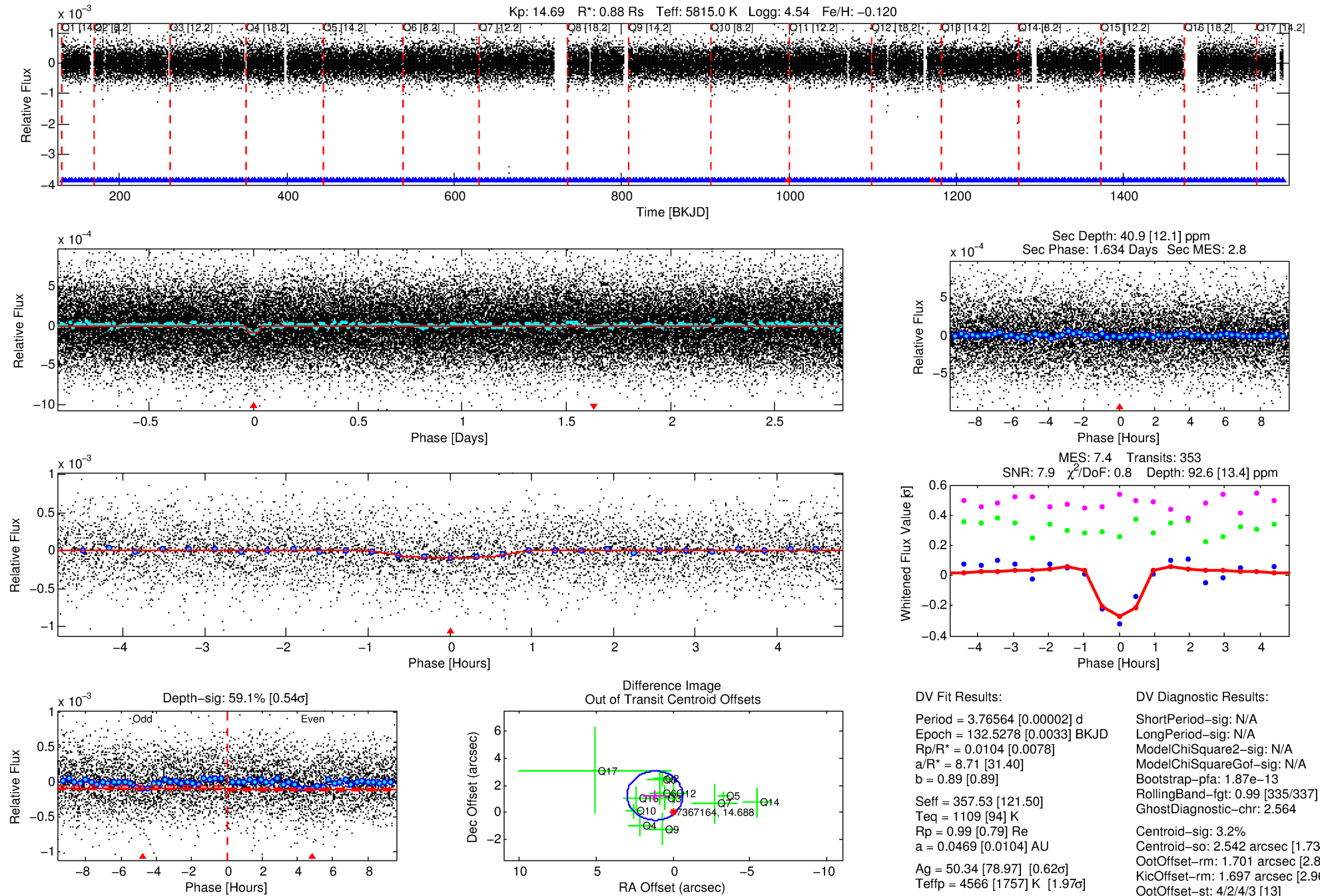
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007367164-01

No Significant Match Found

DV One-Page Summary

KIC: 7367164 Candidate: 1 of 1 Period: 3.766 d



DV Fit Results:

Period = 3.76564 [0.00002] d
Epoch = 132.5278 [0.0033] BKJD
Rp/R* = 0.0104 [0.0078]
a/R* = 8.71 [31.40]
b = 0.89 [0.89]
Seff = 357.53 [121.50]
Teff = 1109 [94] K
Rp = 0.99 [0.79] Re
a = 0.0469 [0.0104] AU
Ag = 50.34 [78.97] [0.62 σ]
Teffp = 4566 [1757] K [1.97 σ]

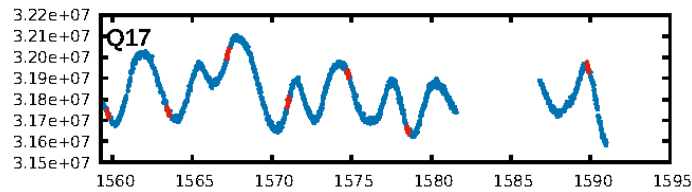
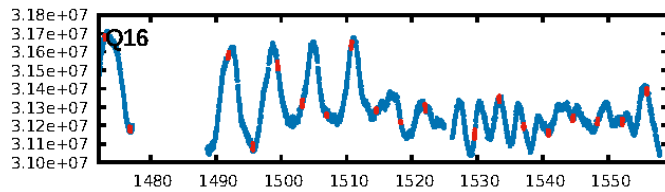
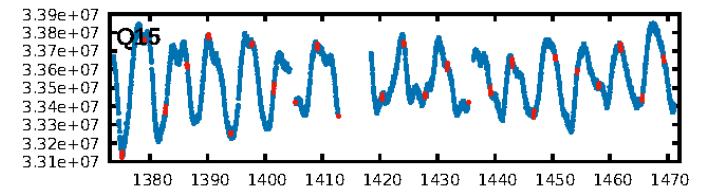
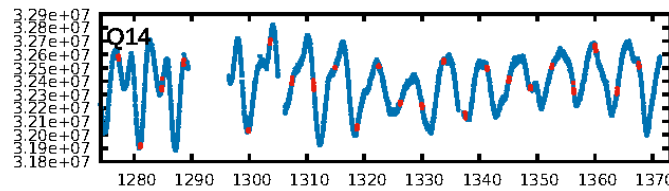
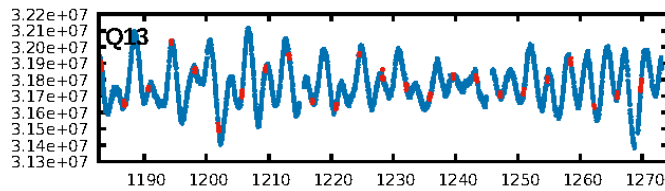
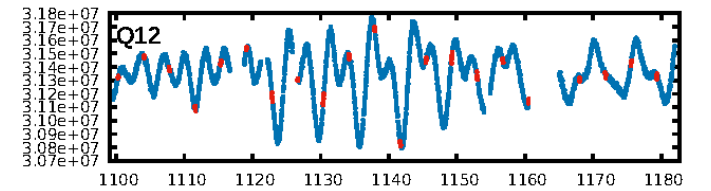
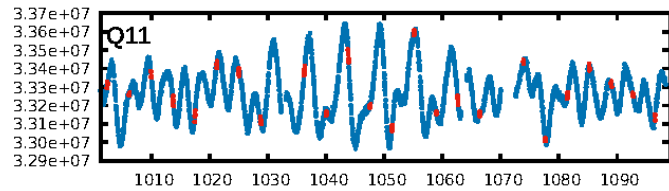
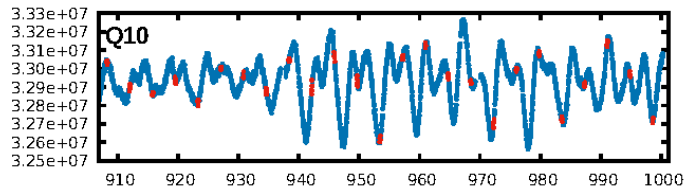
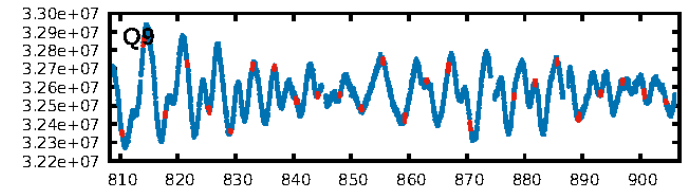
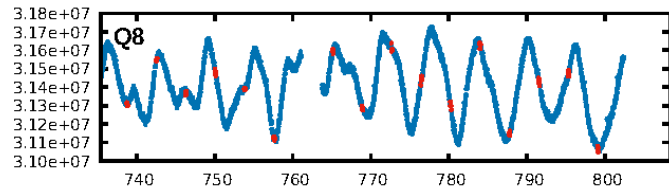
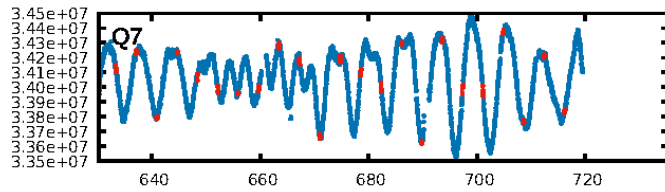
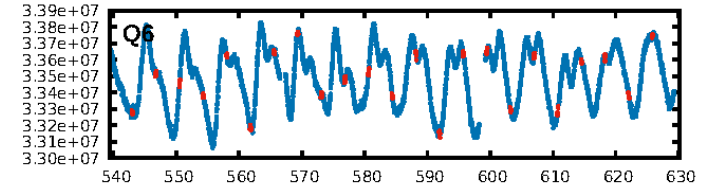
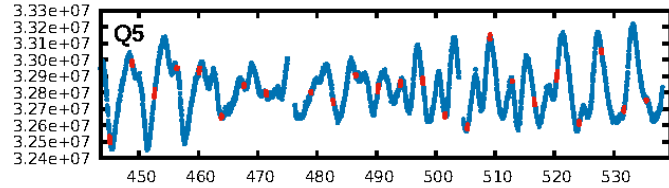
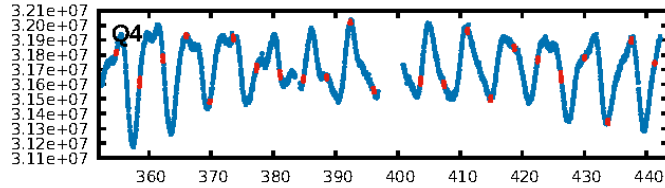
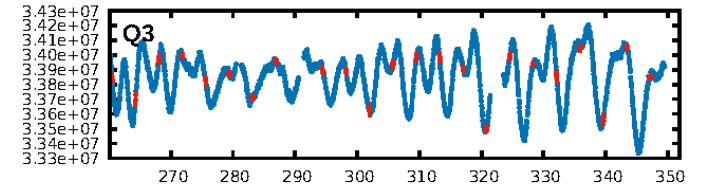
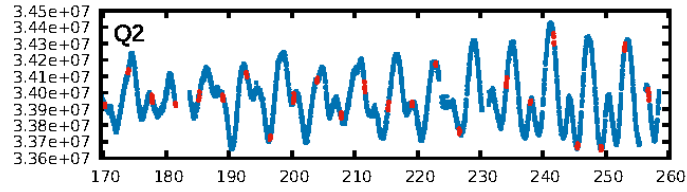
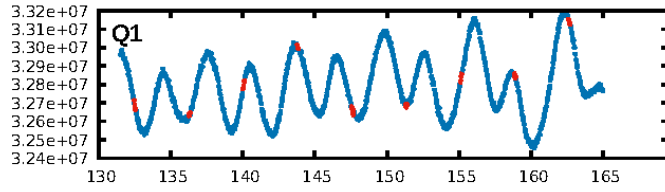
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.87e-13
RollingBand-fgt: 0.99 [335/337]
GhostDiagnostic-chr: 2.564
Centroid-sig: 3.2%
Centroid-so: 2.542 arcsec [1.73 σ]
OotOffset-rm: 1.701 arcsec [2.82 σ]
KicOffset-rm: 1.697 arcsec [2.96 σ]
OotOffset-st: 4/2/4/3 [13]
KicOffset-st: 4/2/4/3 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 1.00 [17/17]

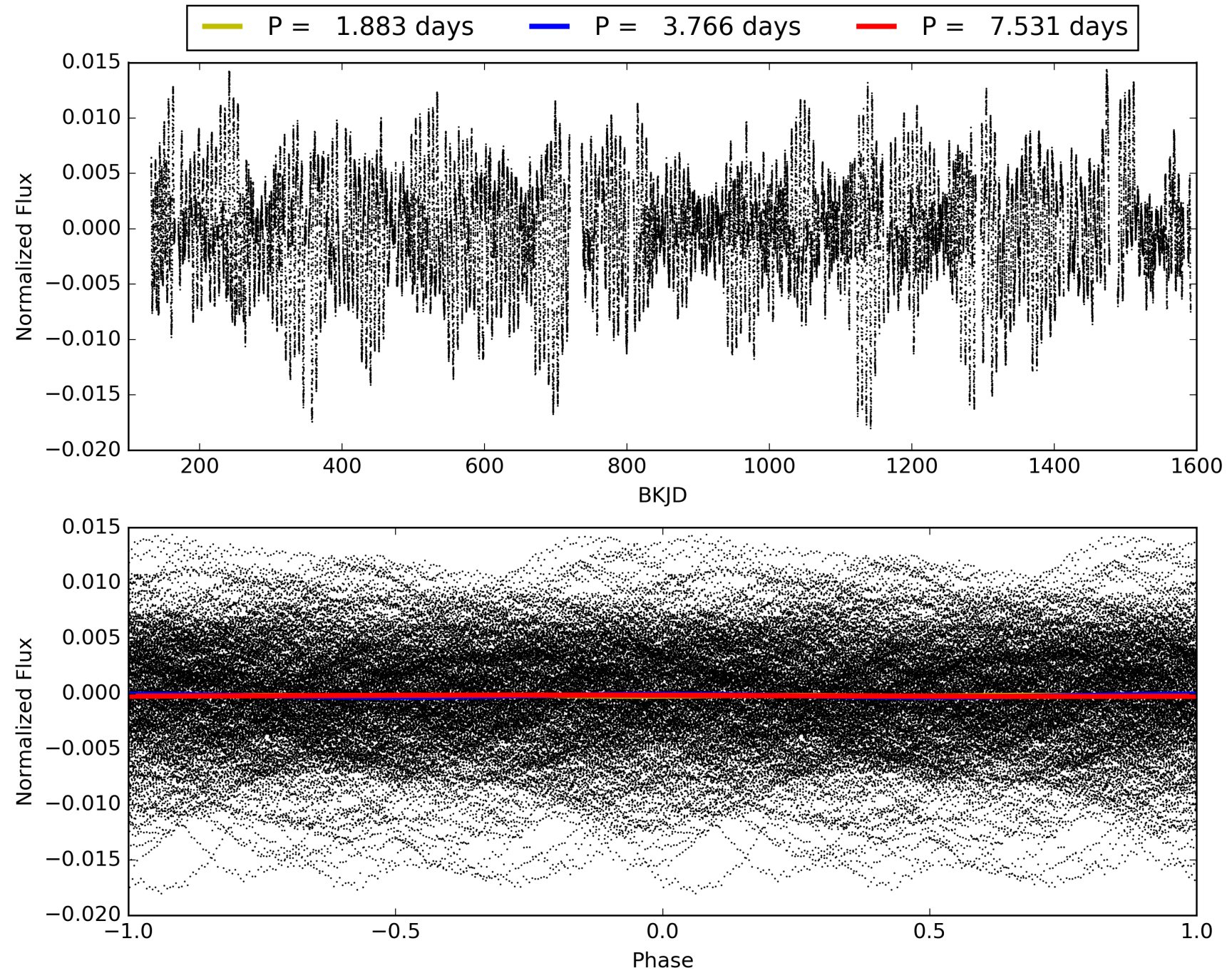
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:29:45 Z

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

TCE 007367164-01, PDC Light Curves

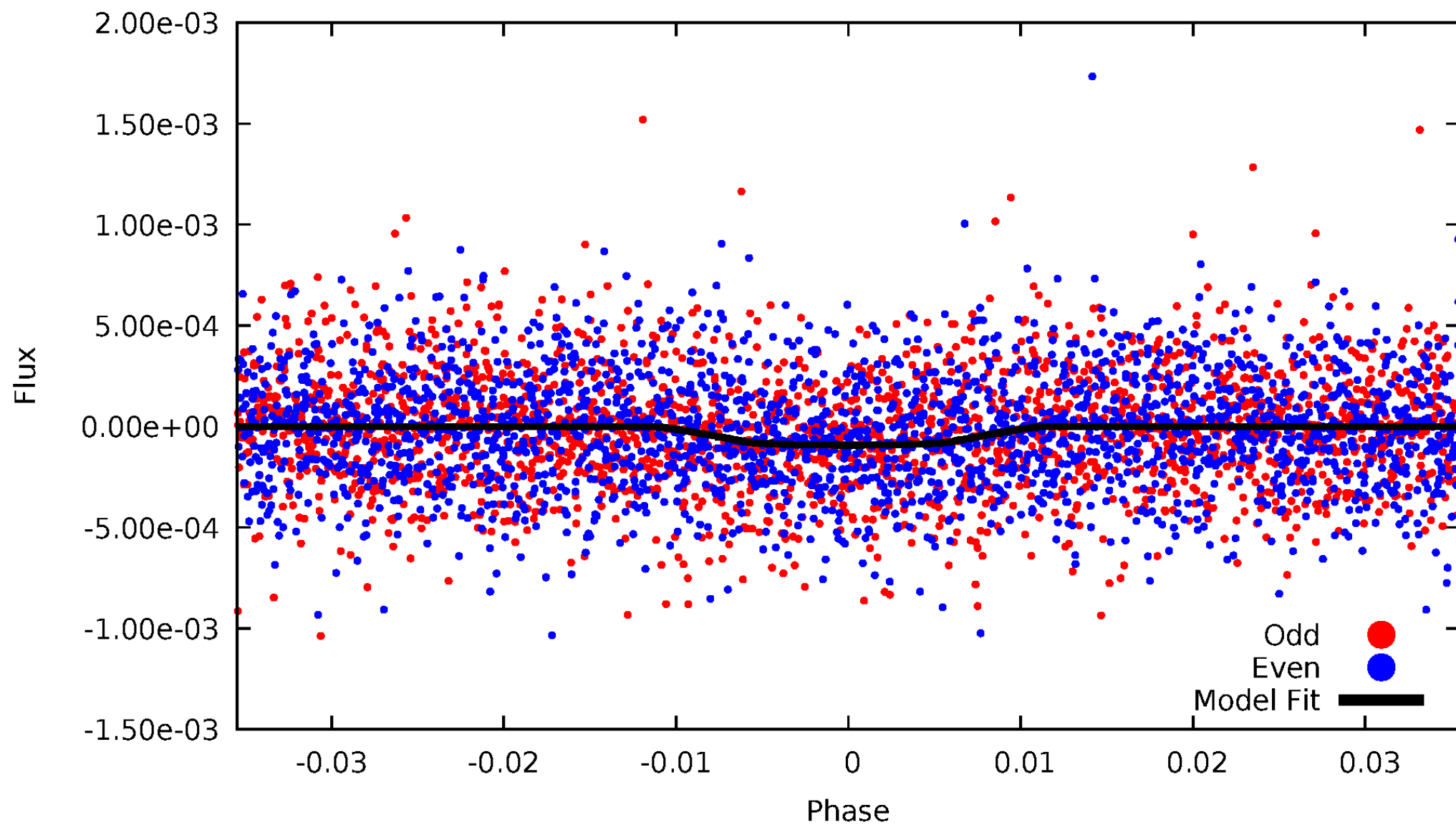


TCE 007367164-01



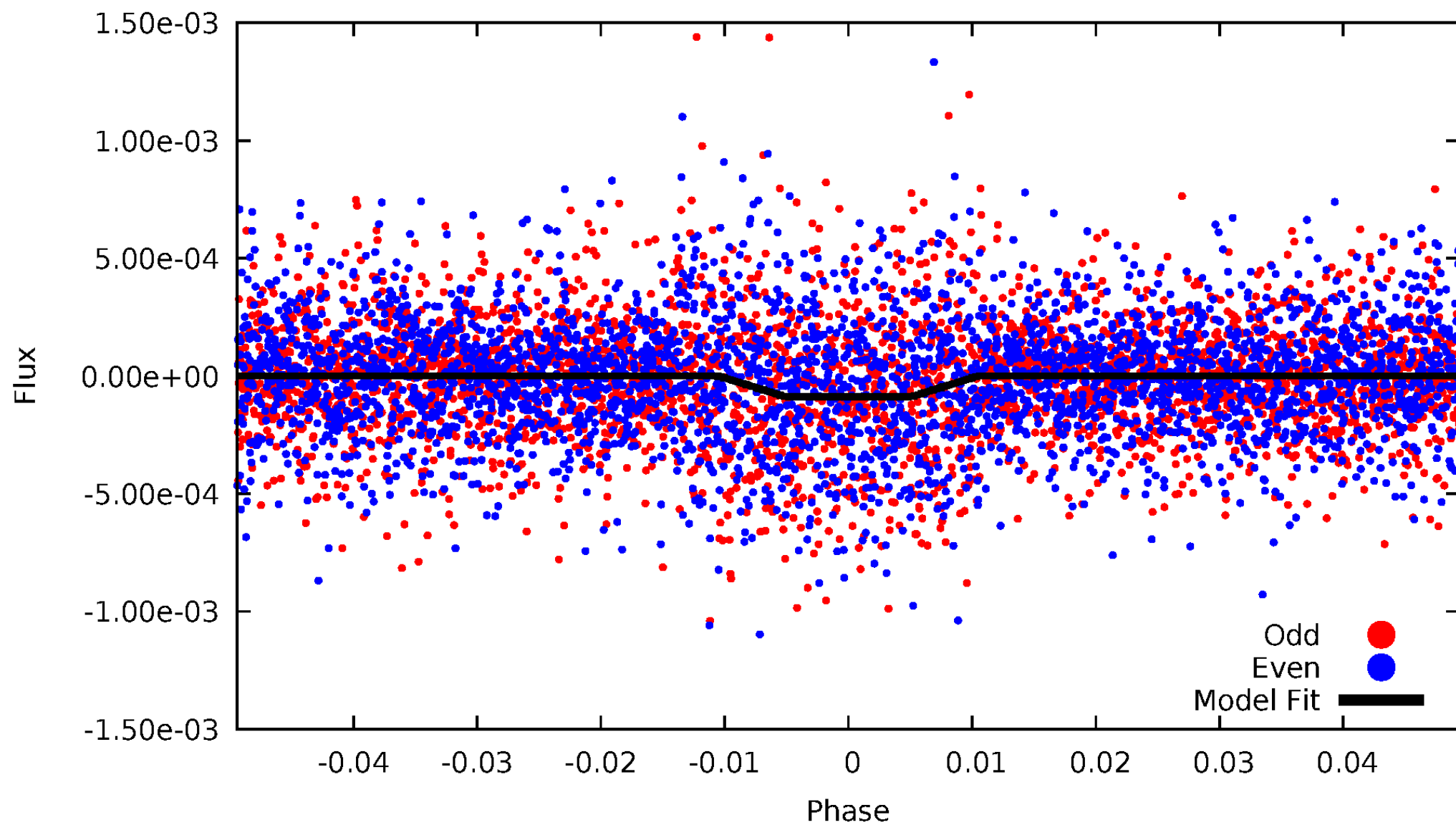
DV Odd/Even

TCE 007367164-01



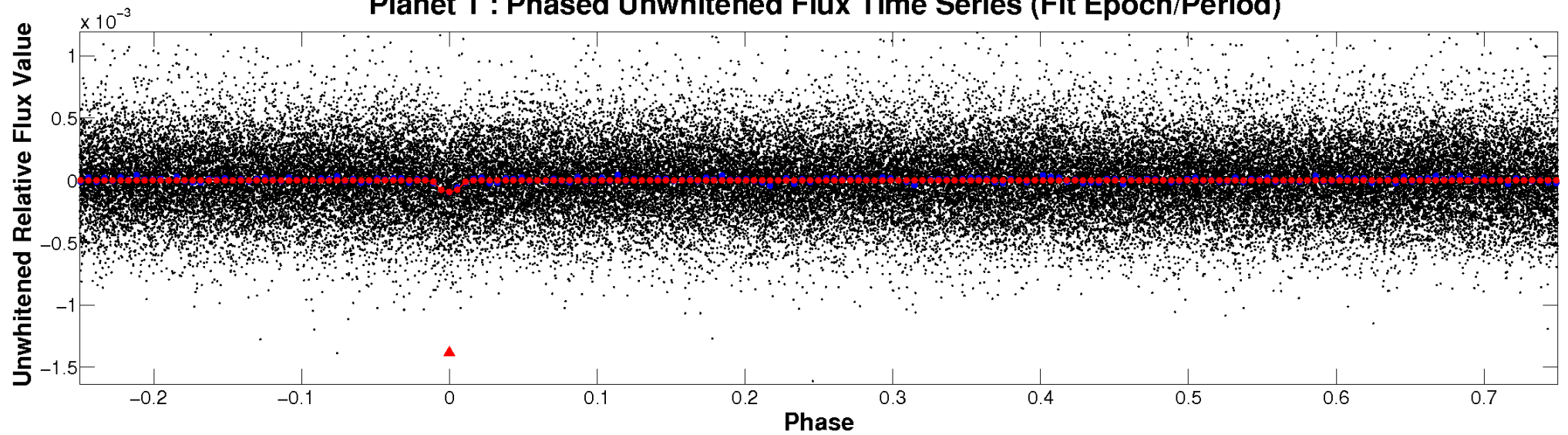
ALT Odd/Even

TCE 007367164-01

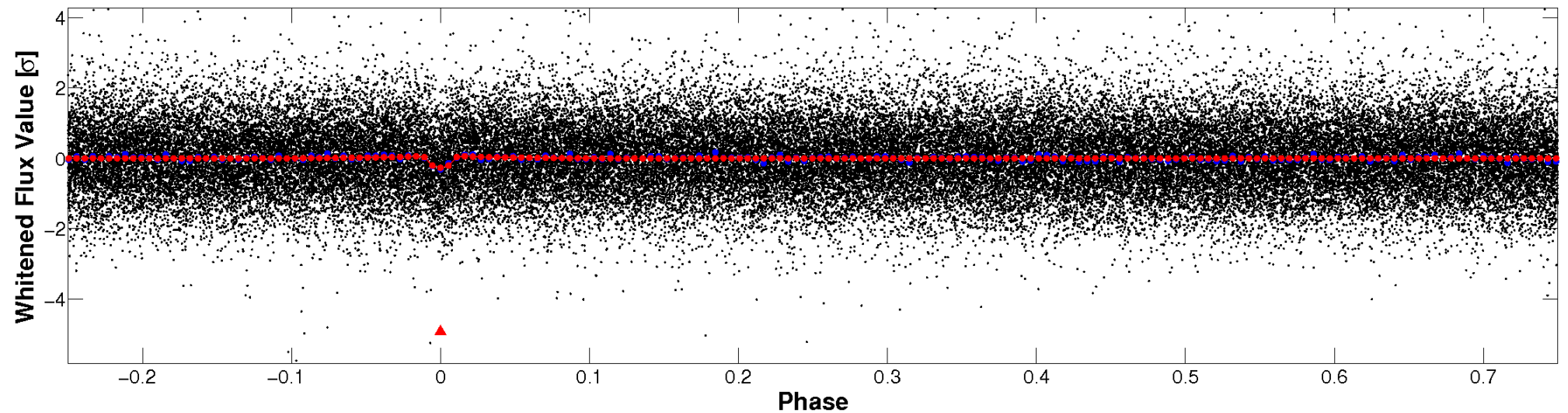


Non-Whitened Vs. Whitened Light Curve

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

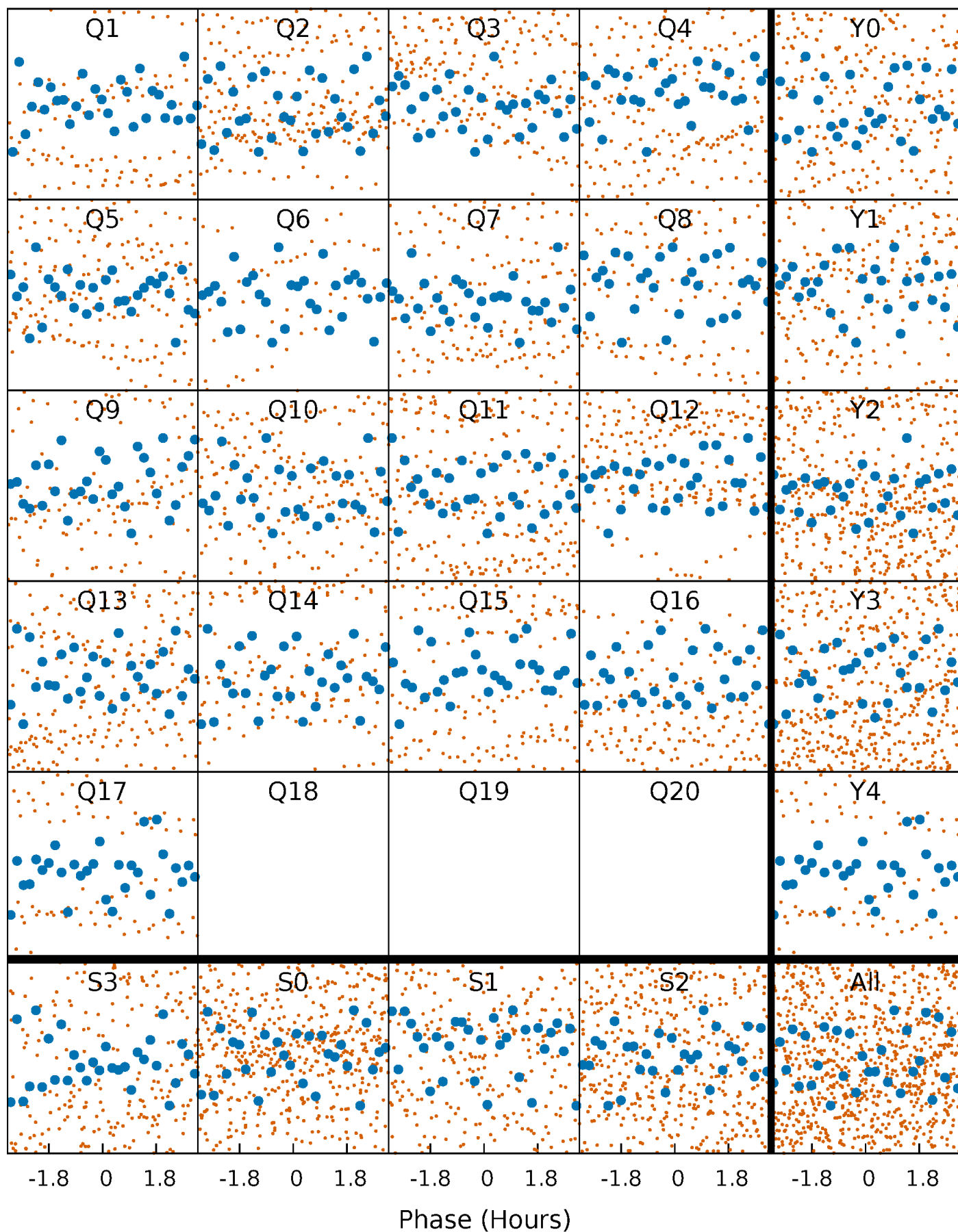


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



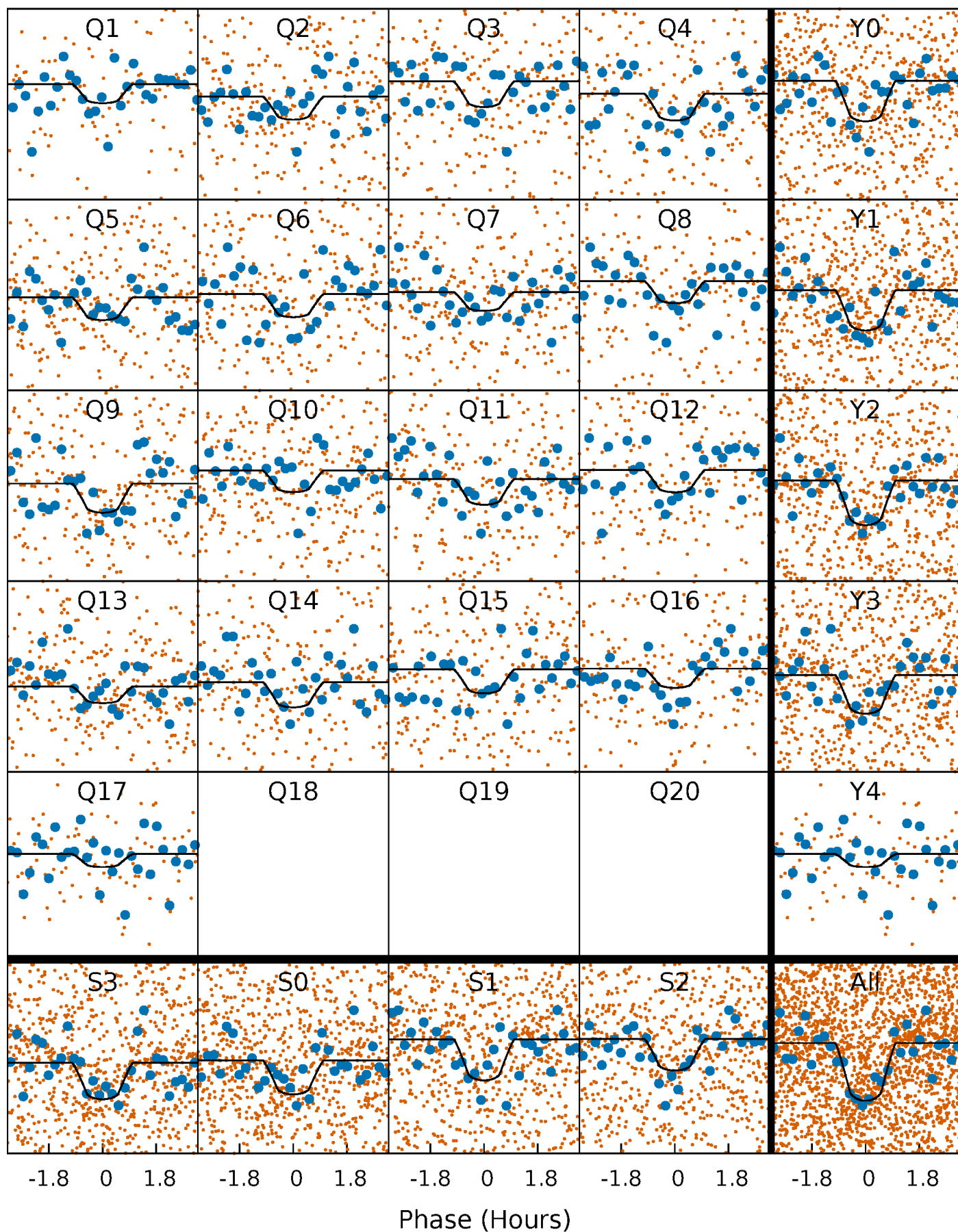
PDC Quarter-Phased Transit Curves

TCE 007367164-01 P= 3.765643 Days $T_0=132.527826$ (BKJD)



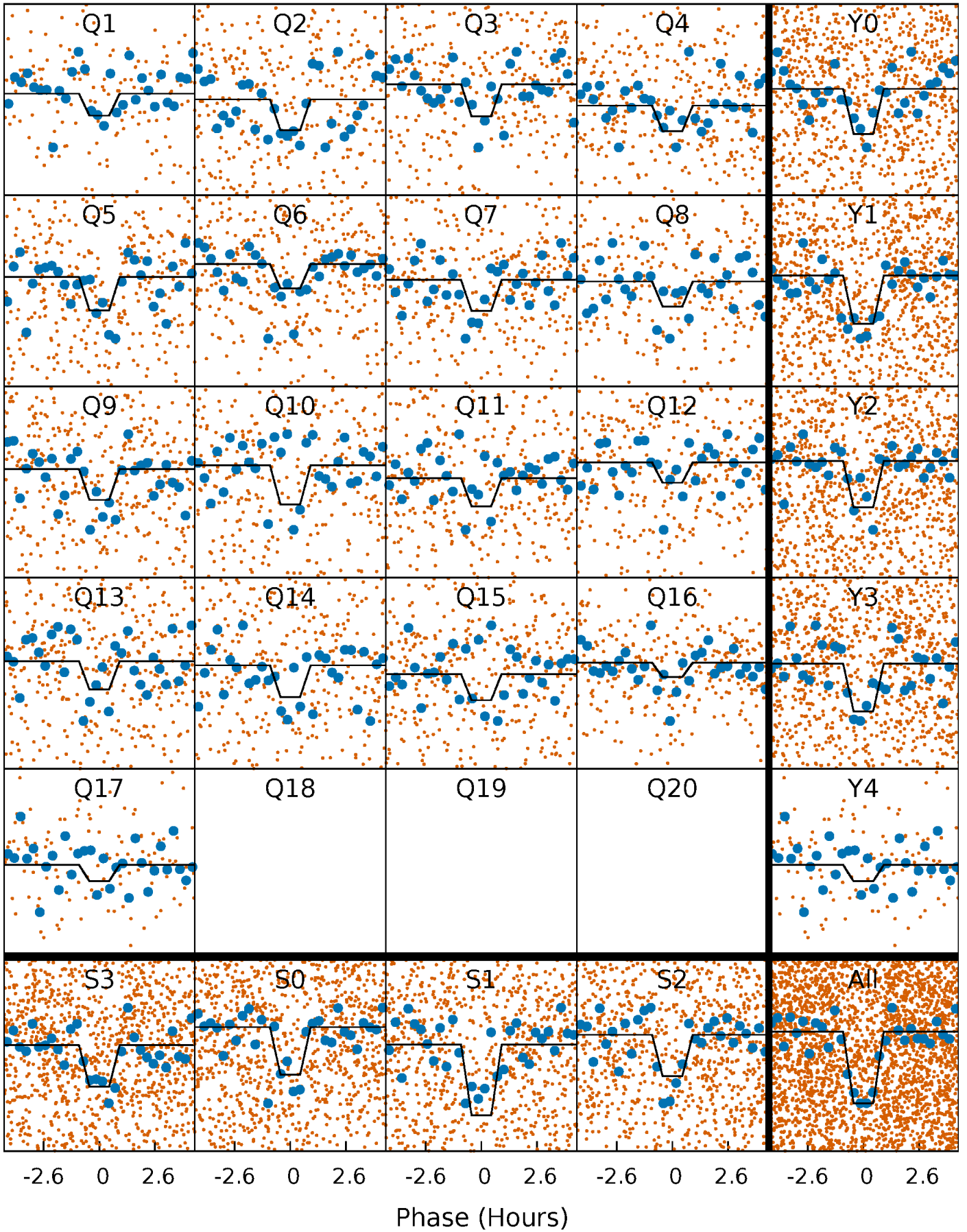
DV Quarter-Phased Transit Curves

TCE 007367164-01 P= 3.765643 Days $T_0=132.527826$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

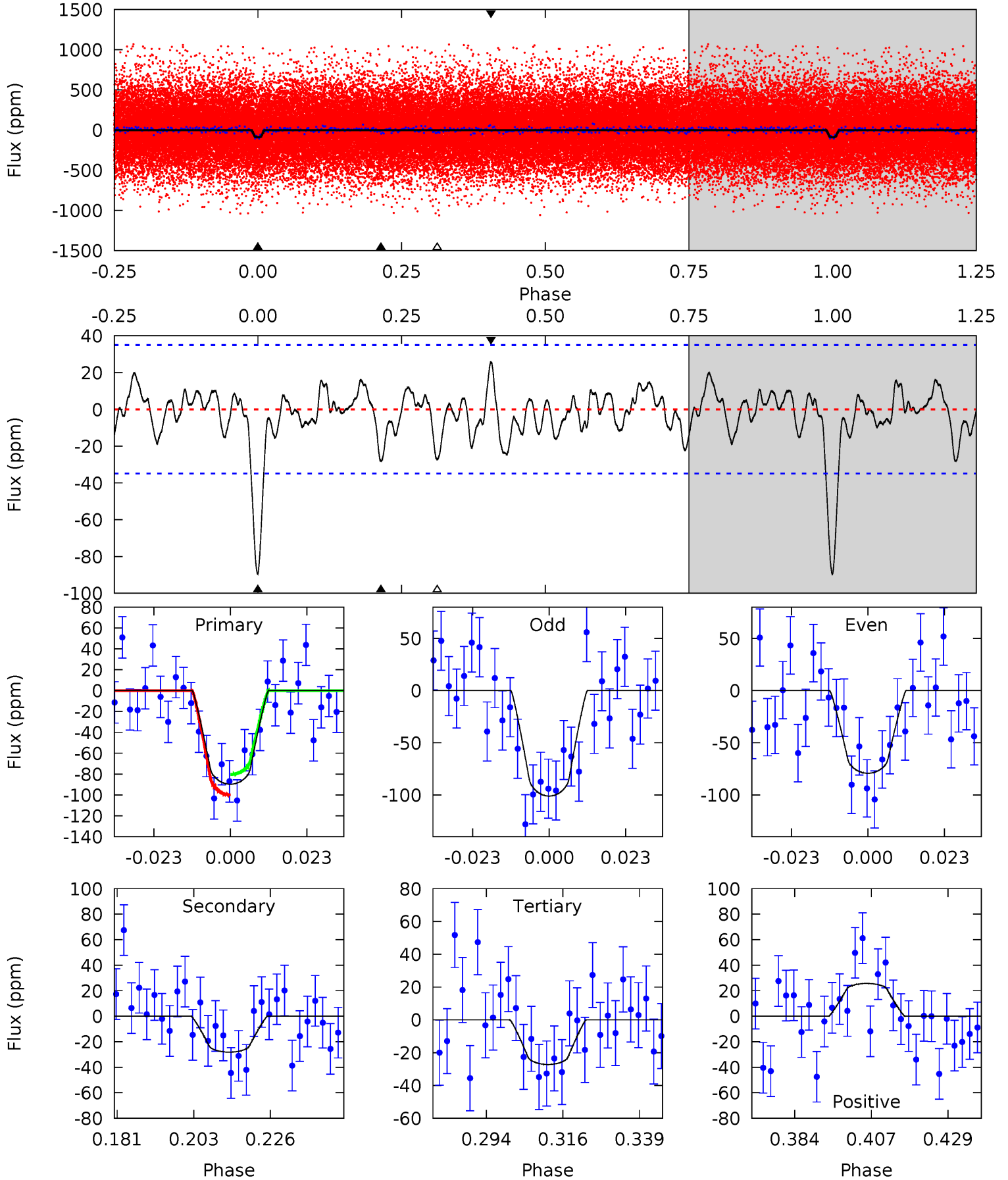
TCE 007367164-01 P= 3.765677 Days $T_0=132.519193$ (BKJD)



DV Model-Shift Uniqueness Test

007367164-01, P = 3.765643 Days, E = 128.762183 Days

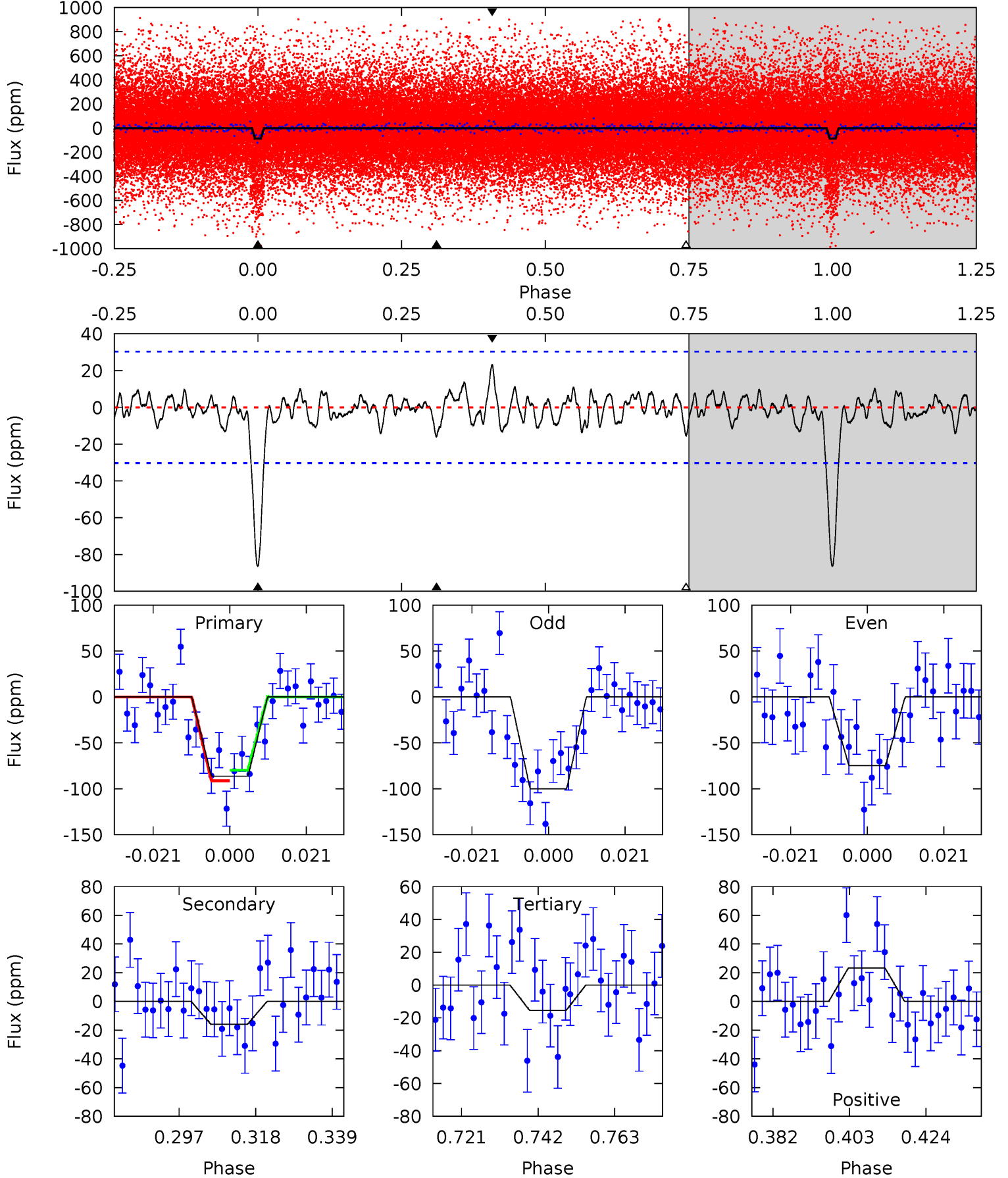
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.5 | 3.93 | 3.80 | 3.58 | 4.87 | 2.28 | 1.33 | 8.71 | 8.93 | 0.13 | 0.35 | 1.53 | 1.03 | 0.22 | 1.37 |



Alt Model-Shift Uniqueness Test

007367164-01, P = 3.765677 Days, E = 128.753516 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 13.9 | 2.56 | 2.48 | 3.75 | 4.88 | 2.30 | 0.98 | 11.4 | 10.1 | 0.08 | -1.20 | 2.04 | 0.92 | 0.21 | 0.92 |



Stellar Parameters For KIC 007367164

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5815^{+140}_{-157} | $4.540^{+0.044}_{-0.176}$ | $-0.120^{+0.300}_{-0.300}$ | $0.877^{+0.231}_{-0.077}$ | $0.973^{+0.104}_{-0.116}$ | $2.032^{+0.370}_{-0.995}$ |
| | +2%/-3% | +1%/-4% | +250%/-250% | +26%/-9% | +11%/-12% | +18%/-49% |
| 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 007367164-01 / KOI 7835.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|-----------------------|-------------------|
| DV | -28 ± 7 | $1.18^{+0.77}_{-0.66}$ | 1581^{+98}_{-69} | 4175^{+1745}_{-705} | 25^{+109}_{-16} |
| Alt. | -16 ± 6 | $1.06^{+0.73}_{-0.65}$ | 1576^{+95}_{-65} | 3830^{+1800}_{-691} | 15^{+94}_{-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 $A_{\text{obs}} \gg 1.0$

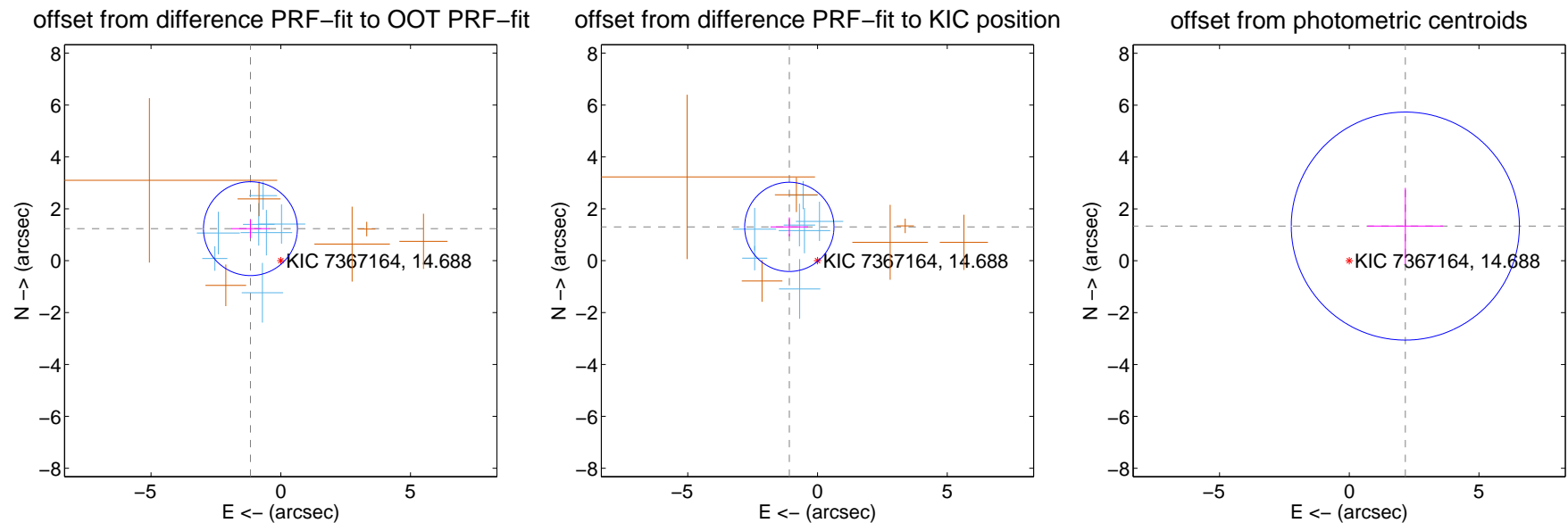
DV Centroid Data

Supplemental centroid analysis for 007367164-01. Kepler magnitude: 14.69. Transit SNR 7.89

There are 7 quarters with good PRF difference image offsets

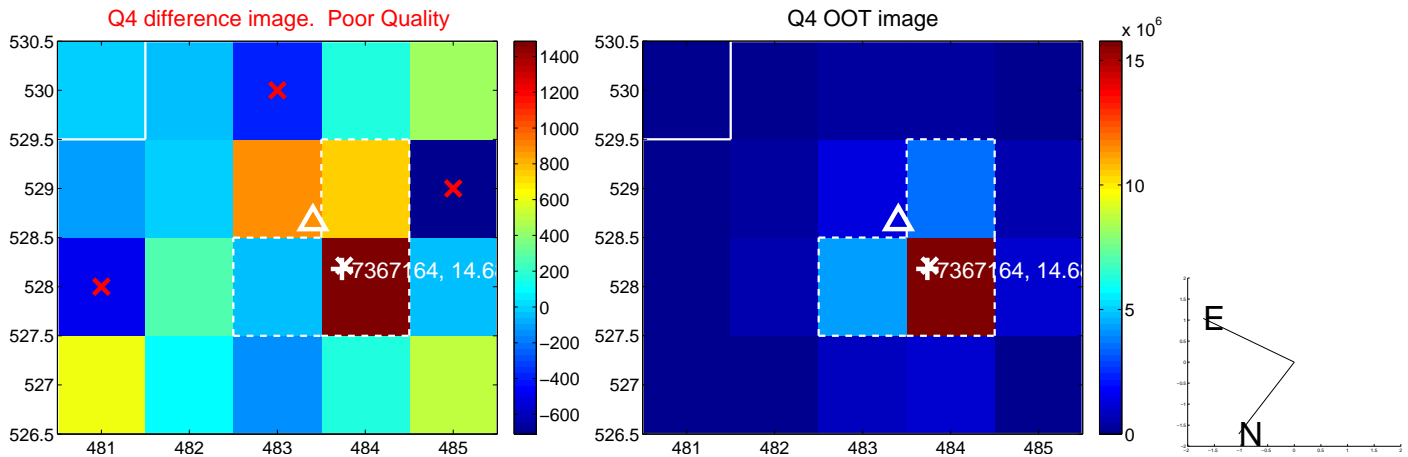
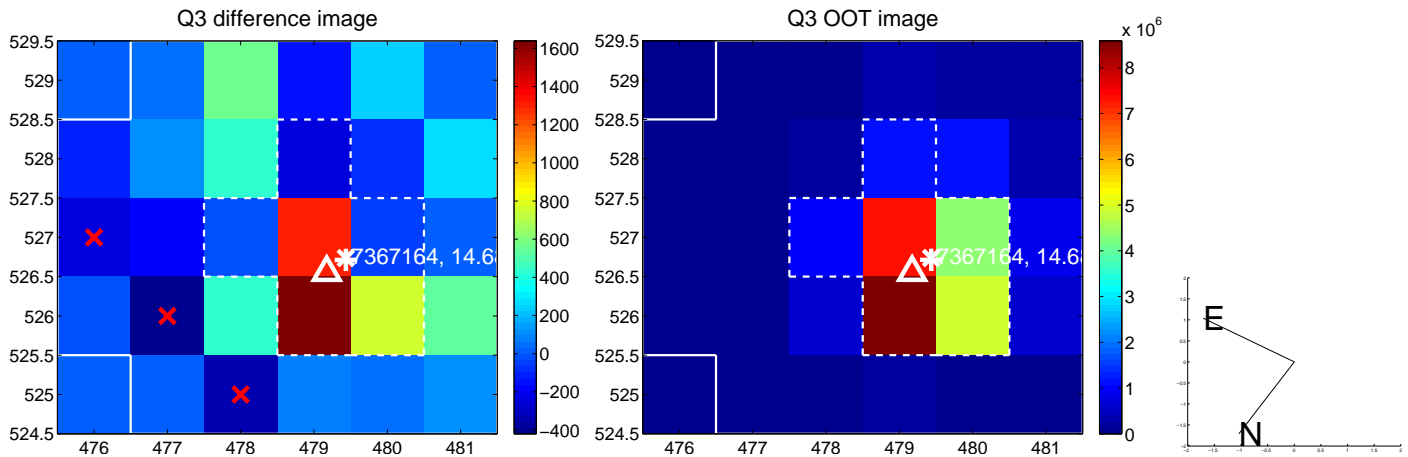
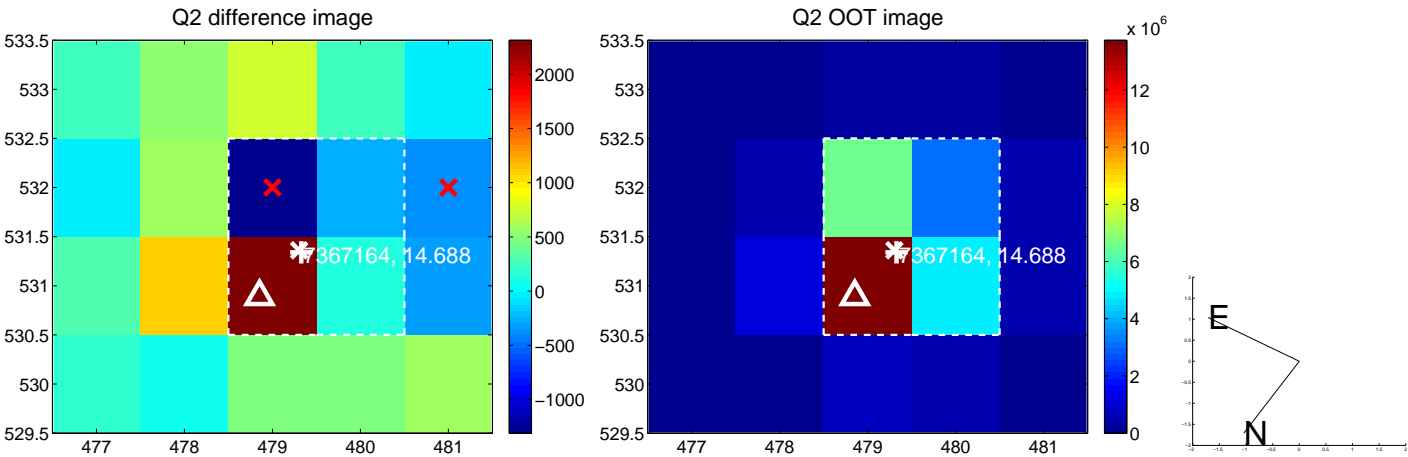
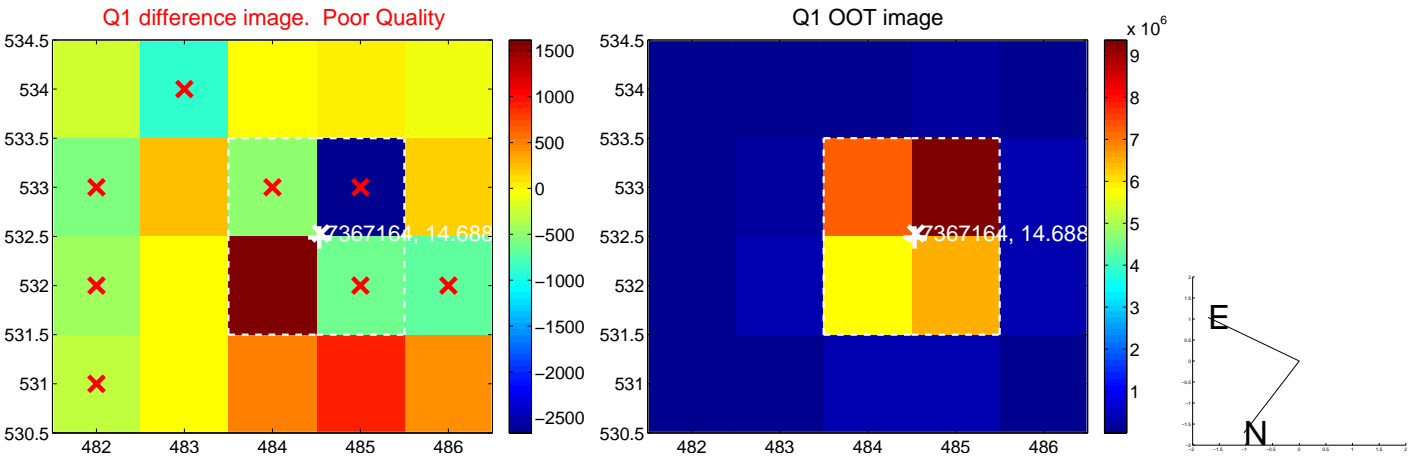
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 1.701 ± 0.603 | 2.82 | 1.169 ± 0.728 | 1.235 ± 0.361 |
| PRF-fit source offset from KIC position | 1.697 ± 0.573 | 2.96 | 1.086 ± 0.727 | 1.304 ± 0.363 |
| photometric centroid source offset | 2.54 ± 1.47 | 1.73 | -2.16 ± 1.46 | 1.34 ± 1.47 |

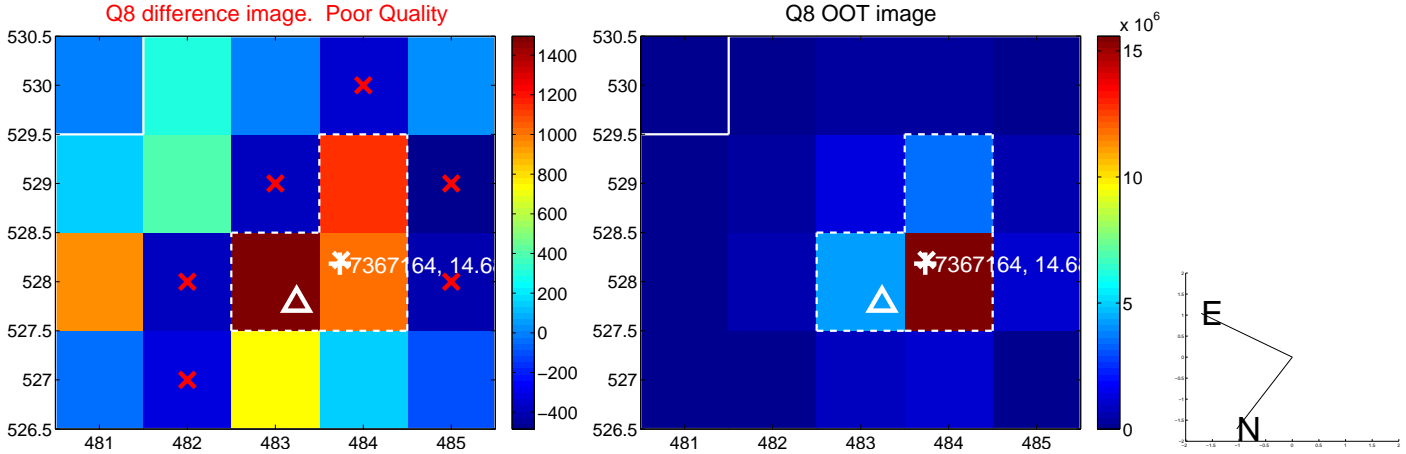
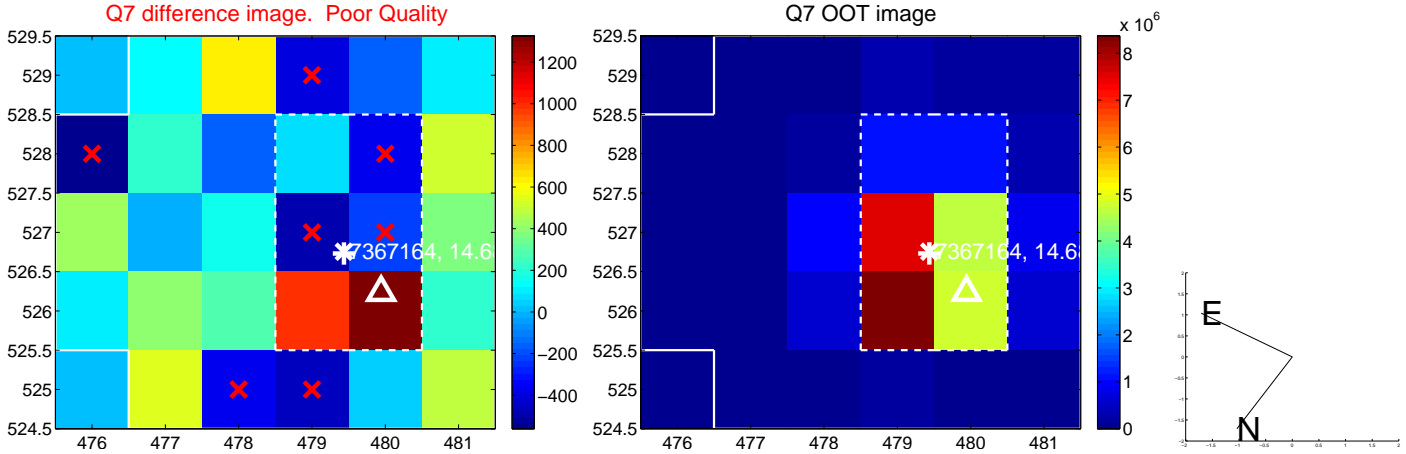
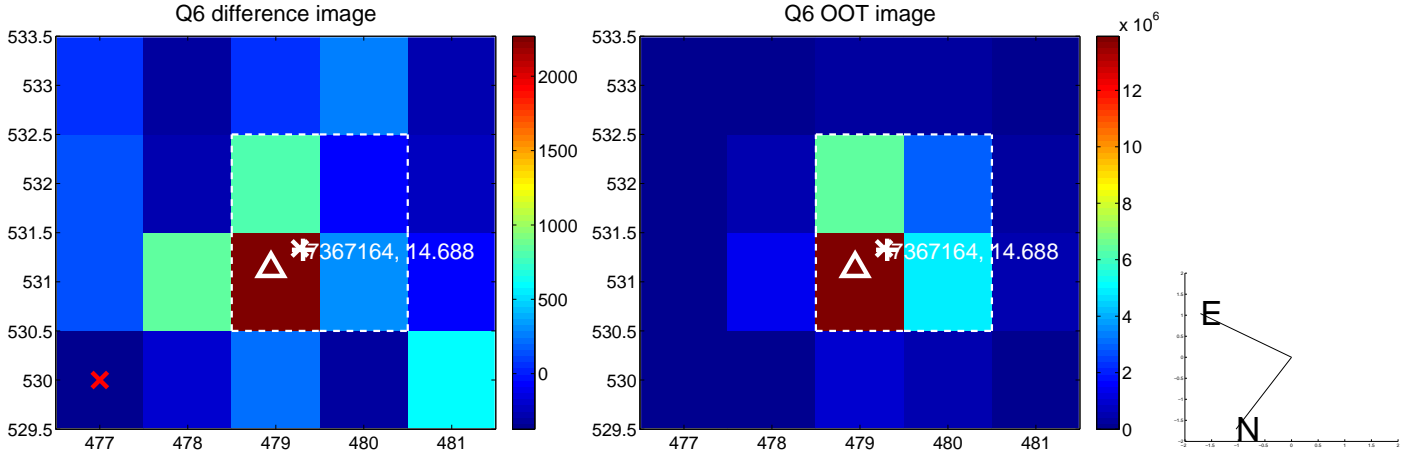
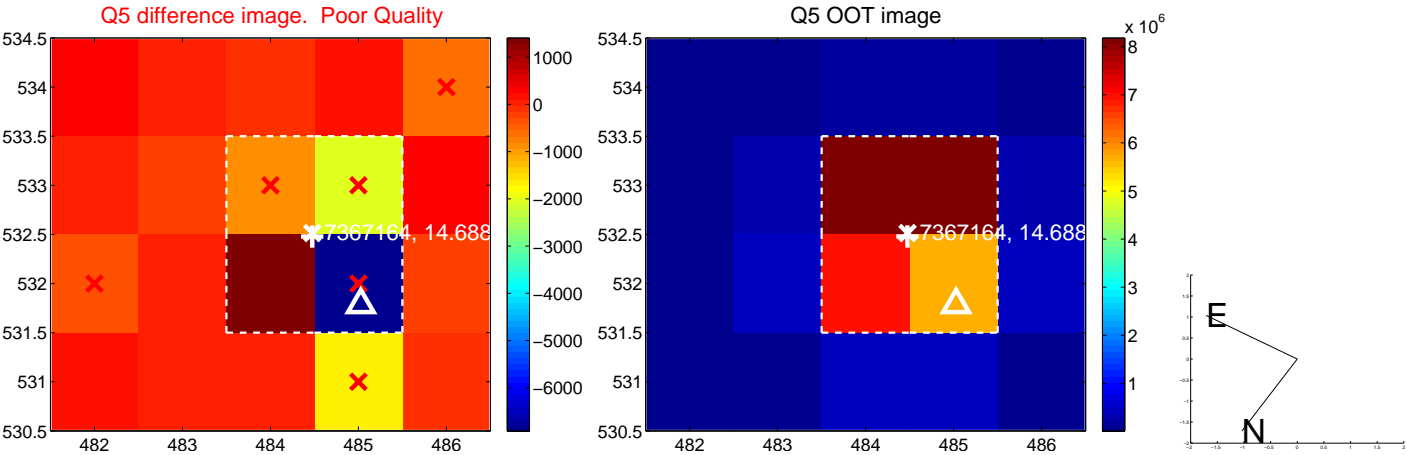


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

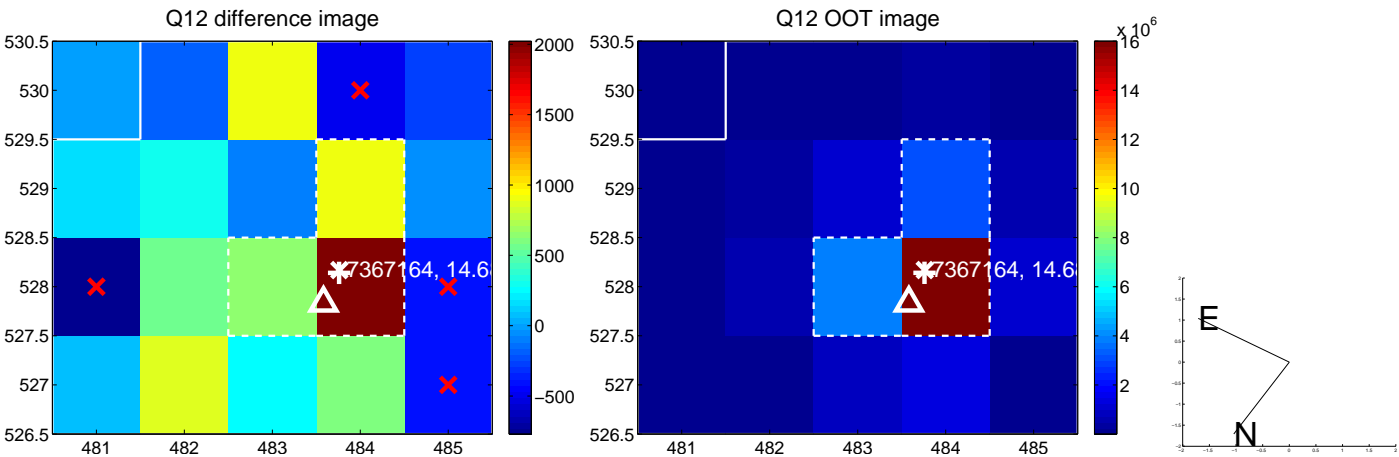
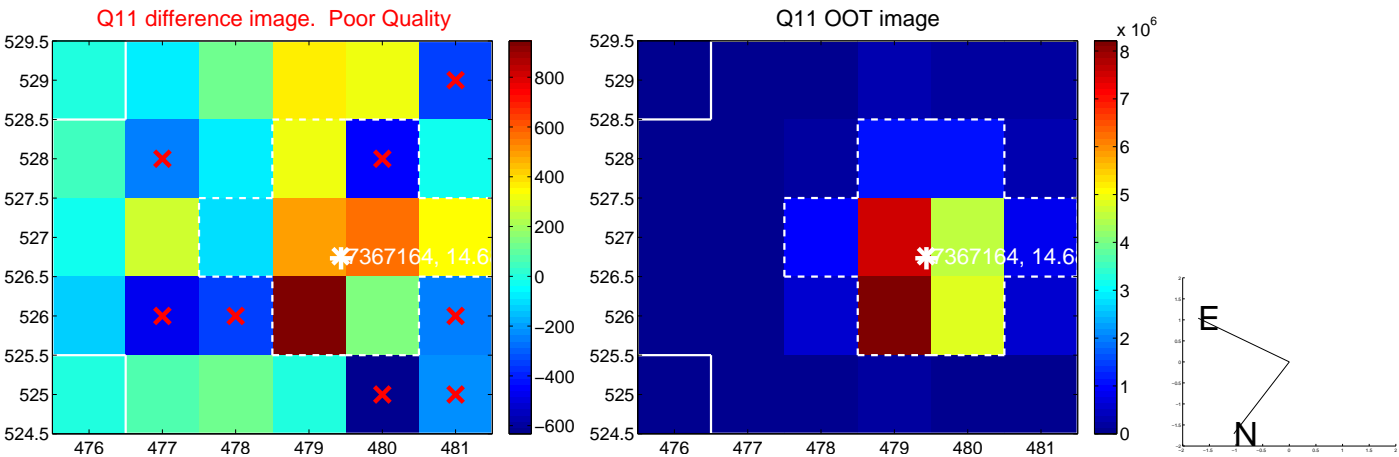
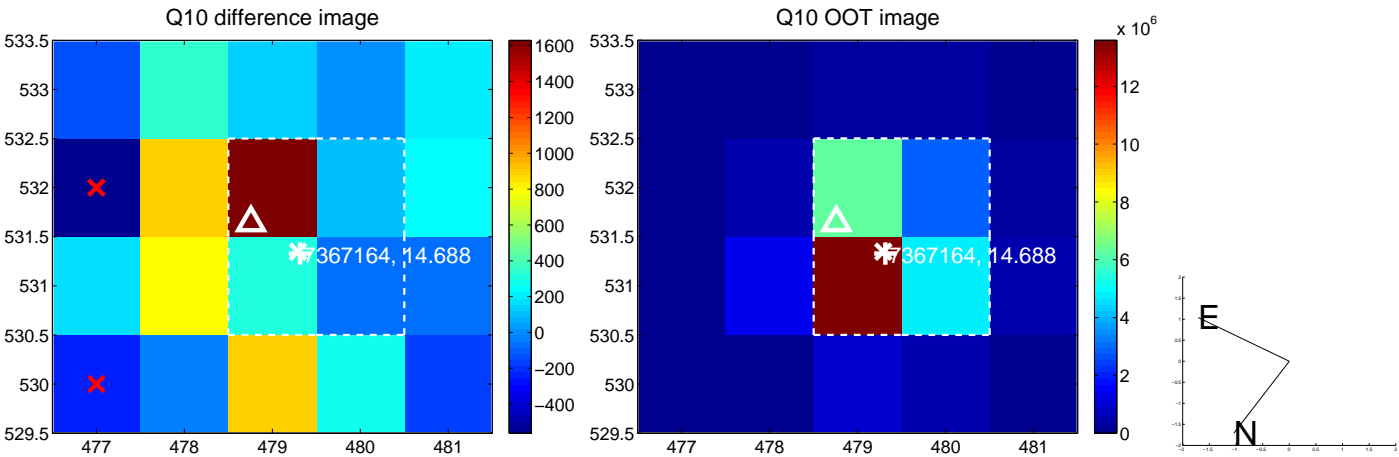
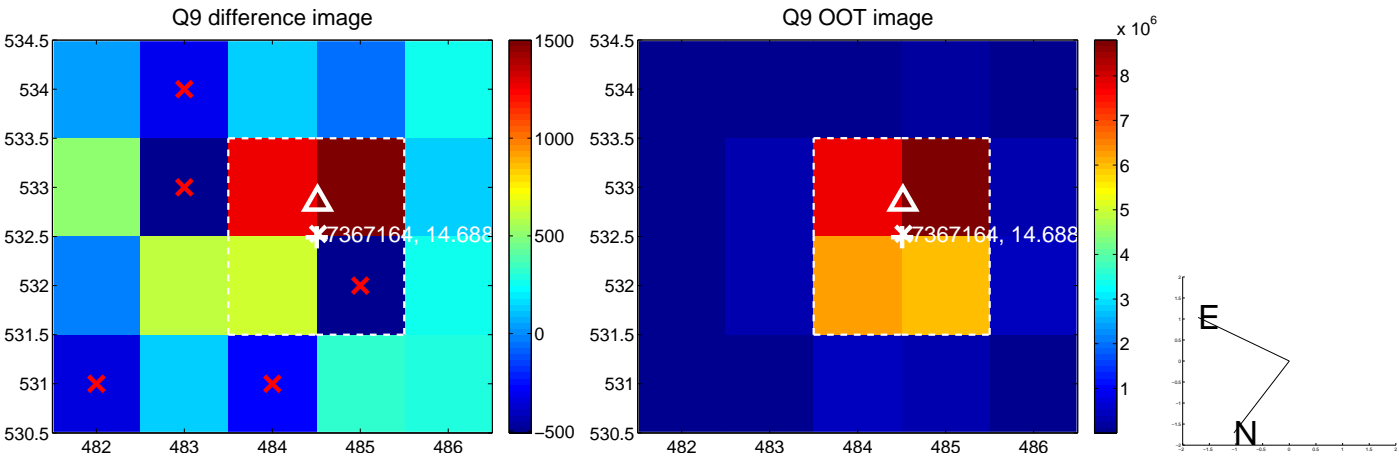
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



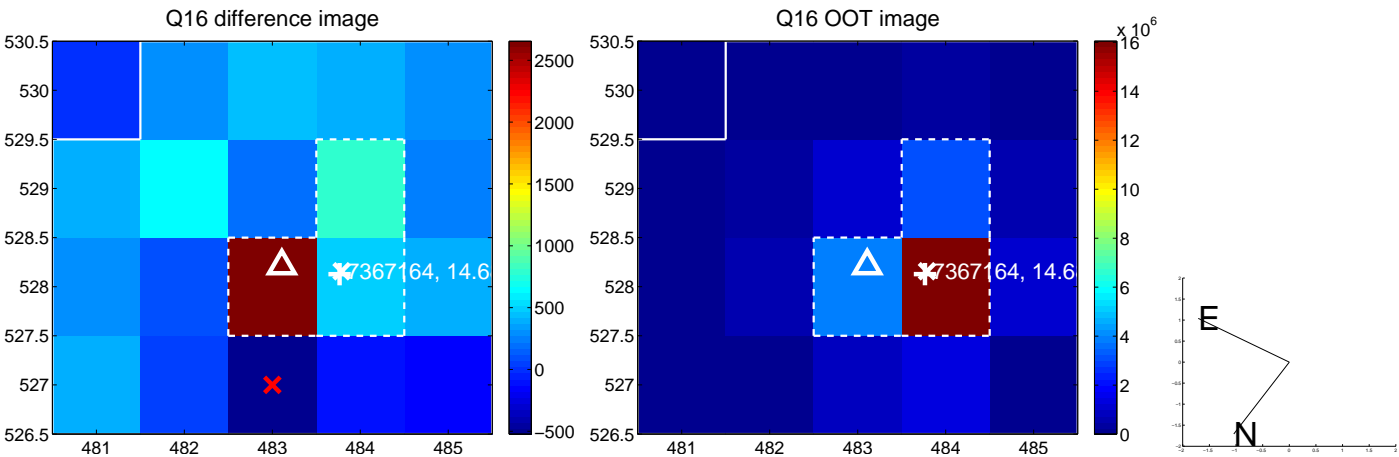
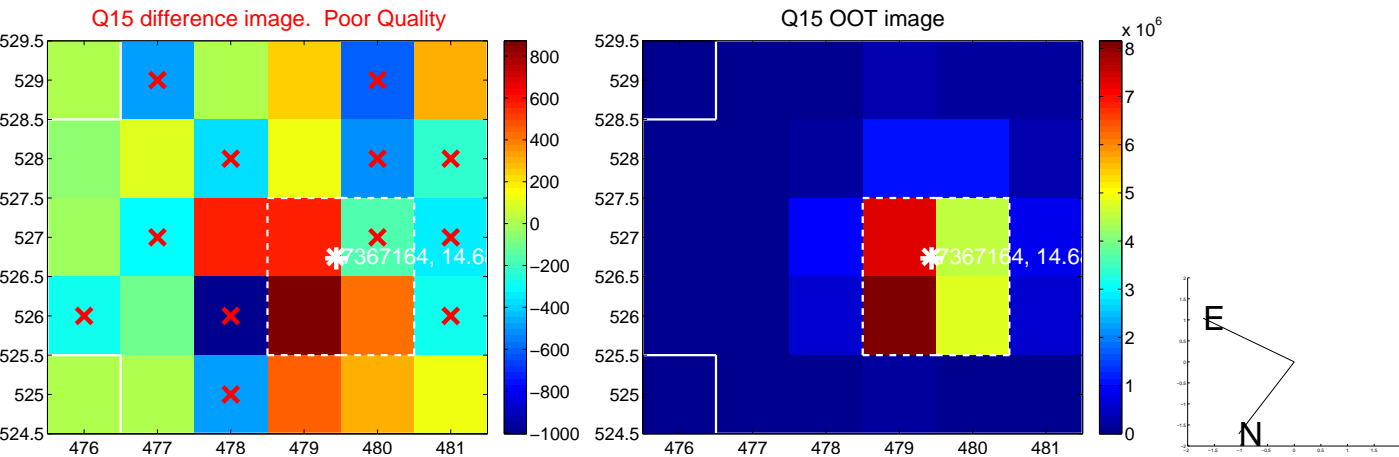
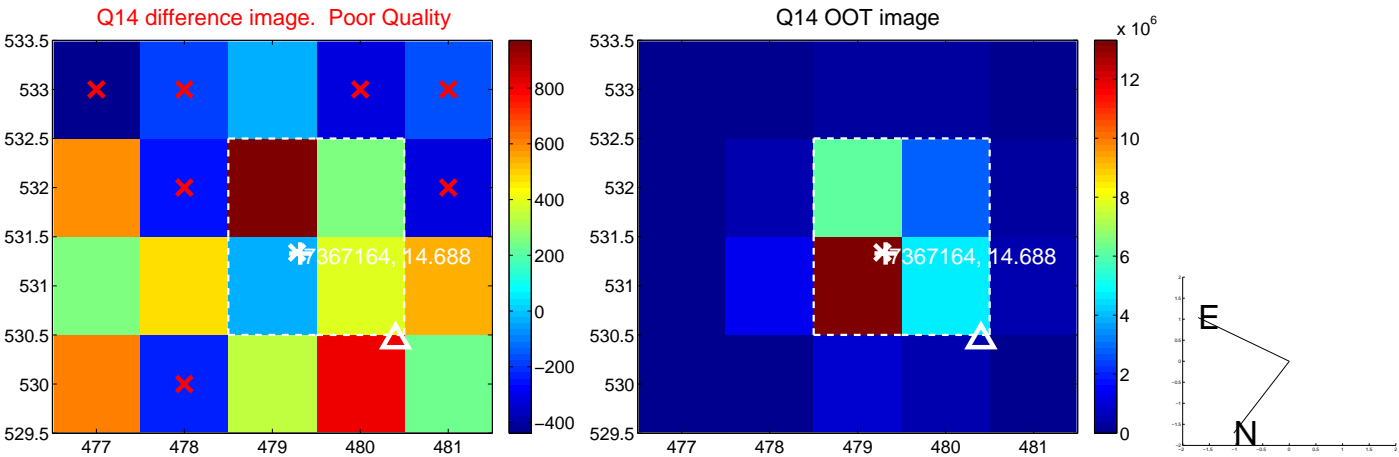
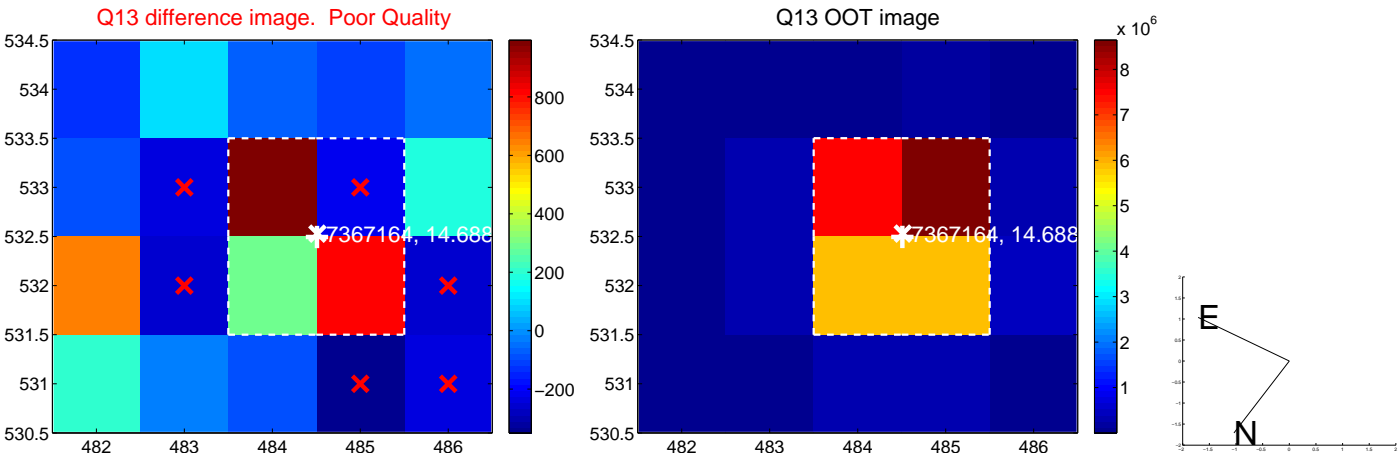
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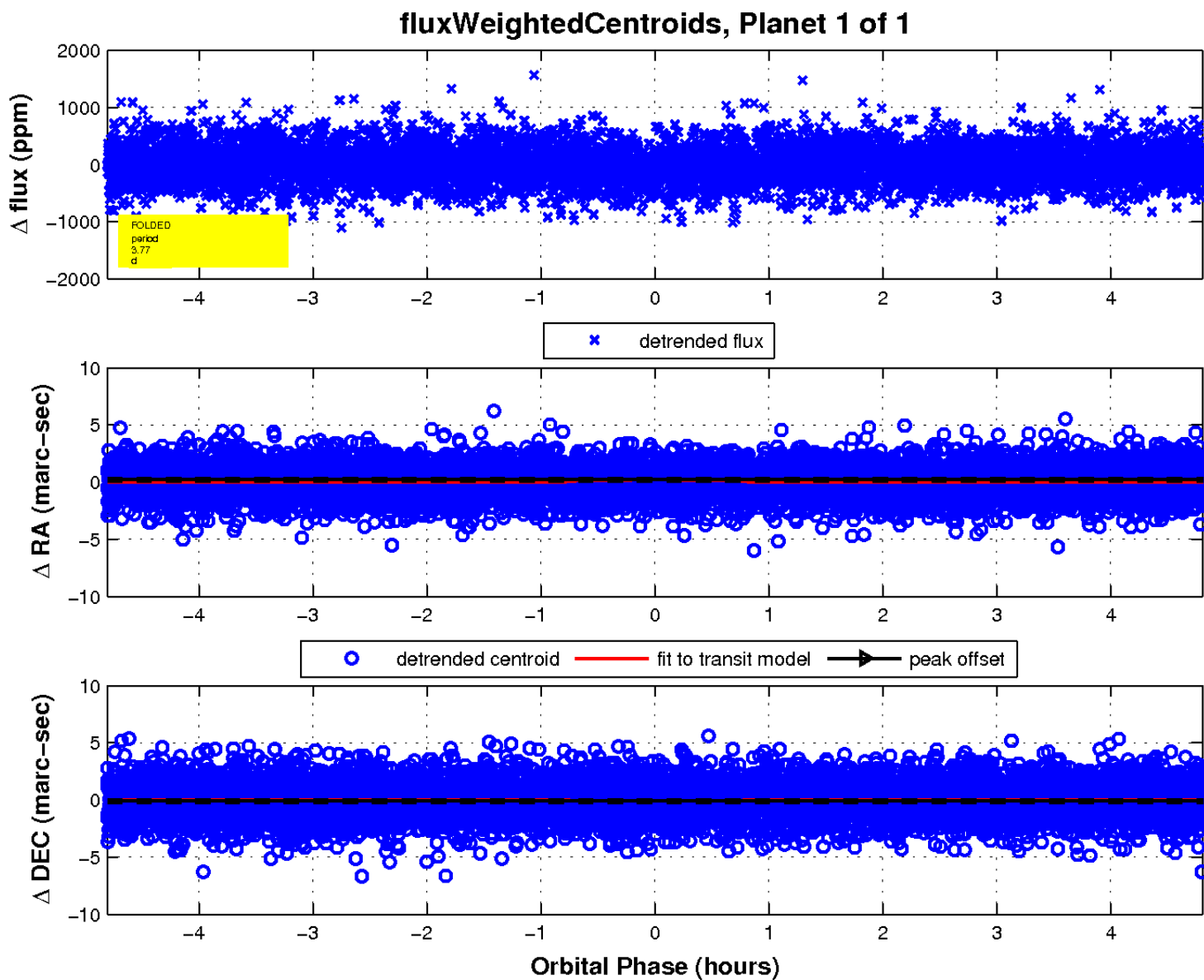
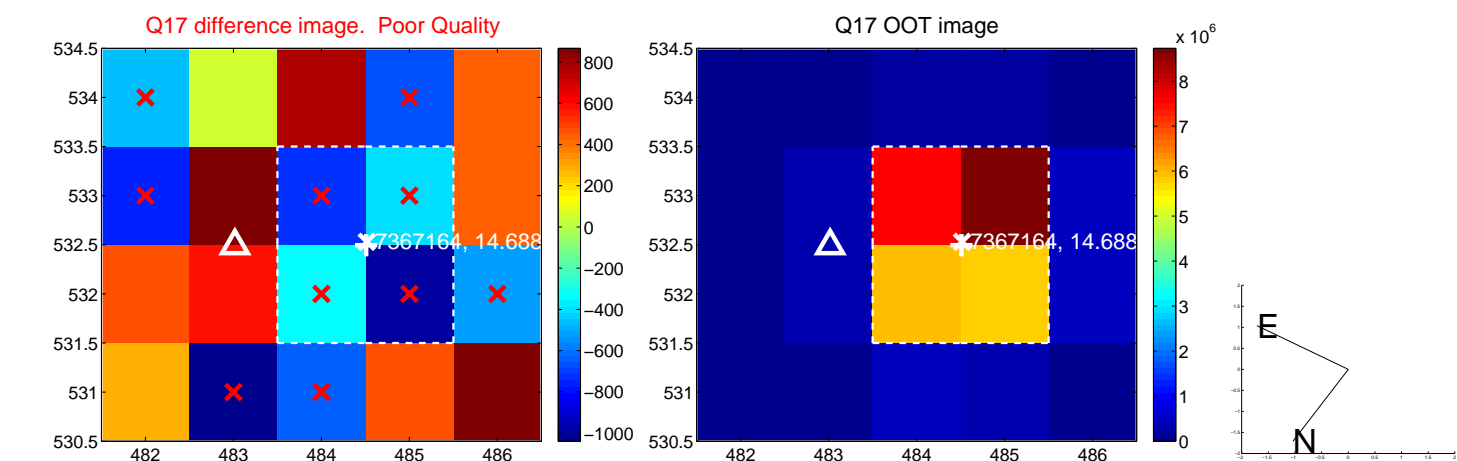
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

