

KIC 004356766

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}) |
|--------------|----------|---------|---------------|--------------|-------------|------------------|--------|--------|-----------------------------|-----------------|------------------------|------------------------|
| 004356766-01 | OBS | 3669.01 | 1.731793 | 132.893836 | 54841.7 | 5.399 | 3001.4 | 1328.6 | 1.03 | 5761 | 41.60 | 1285.78 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 004356766-01 | OBS | FP | 0.01 | 0 | 1 | 0 | 0 | MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—DEEP_V_SHAPED—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_KIC_POS |

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.

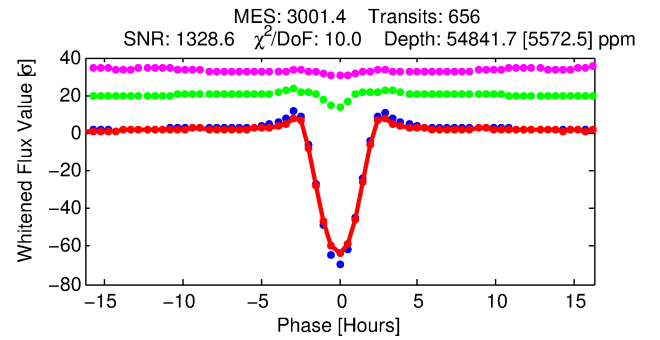
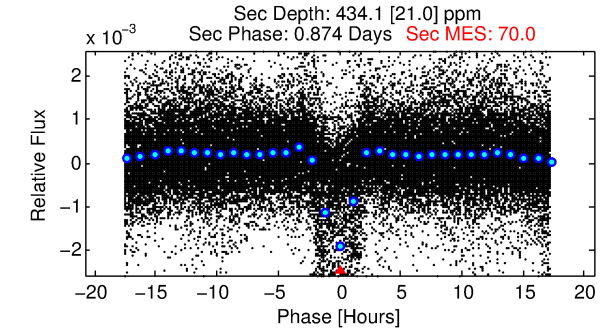
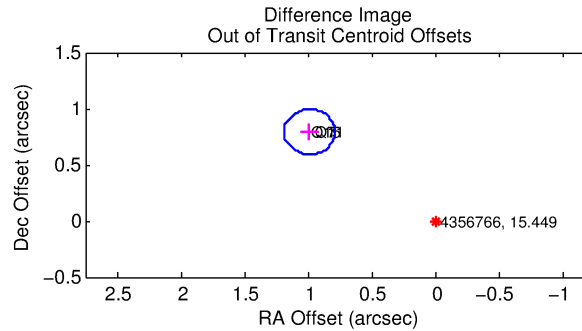
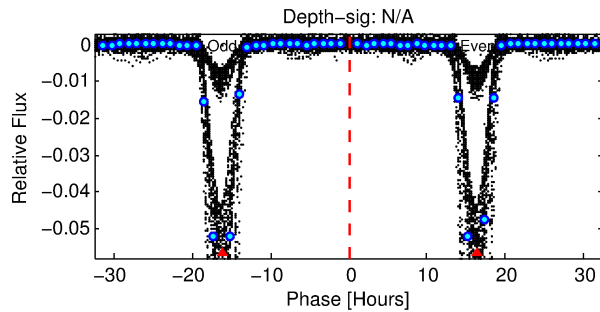
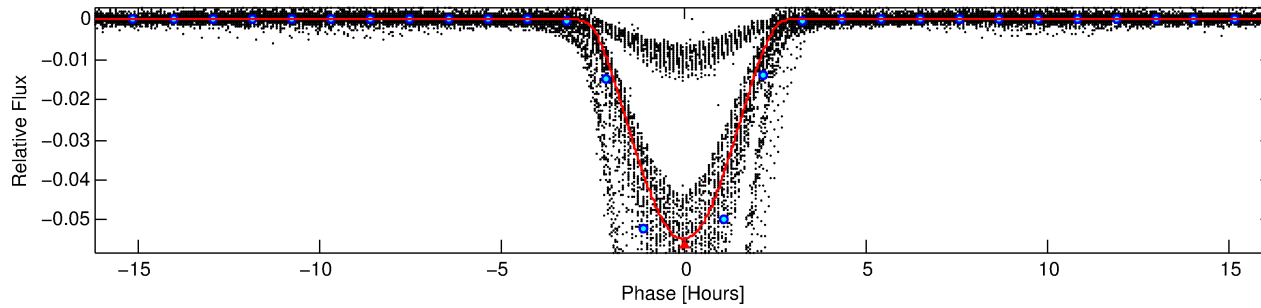
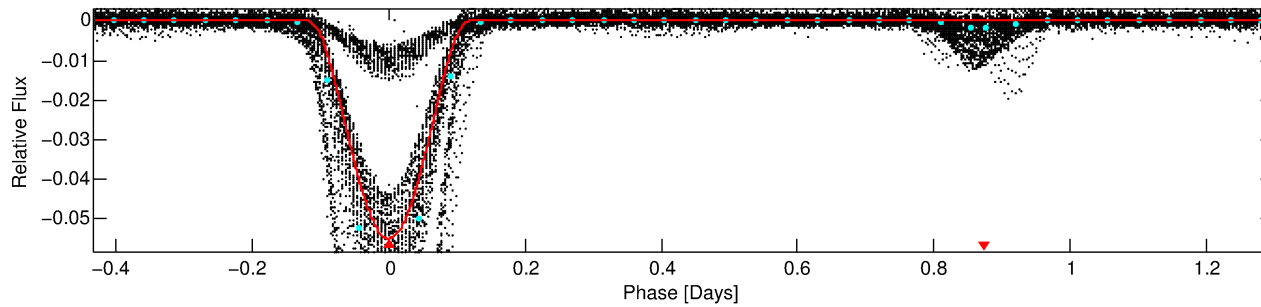
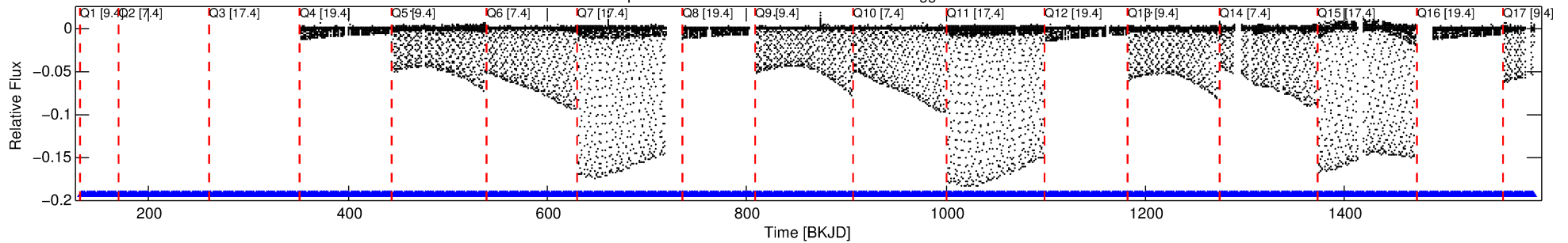
Ephemeris Match Information For 004356766-01

No Significant Match Found

DV One-Page Summary

KIC: 4356766 Candidate: 1 of 1 Period: 1.732 d
KOI: K03669.01 Corr: 0.967

Kp: 15.45 R*: 1.03 Rs Teff: 5761.0 K Logg: 4.43 Fe/H: 0.180



DV Fit Results:

Period = 1.73179 [0.00000] d
Epoch = 132.8938 [0.0001] BKJD
Rp/R* = 0.3705 [0.0418]
a/R* = 2.56 [0.02]
b = 1.00 [0.08]
Seff = 1285.78 [489.38]
Teff = 1527 [145] K
Rp = 41.60 [12.59] Re
a = 0.0285 [0.0068] AU
Ag = 0.11 [0.05] [-18.72σ]
Teffp = 1366 [92] K [-0.93σ]

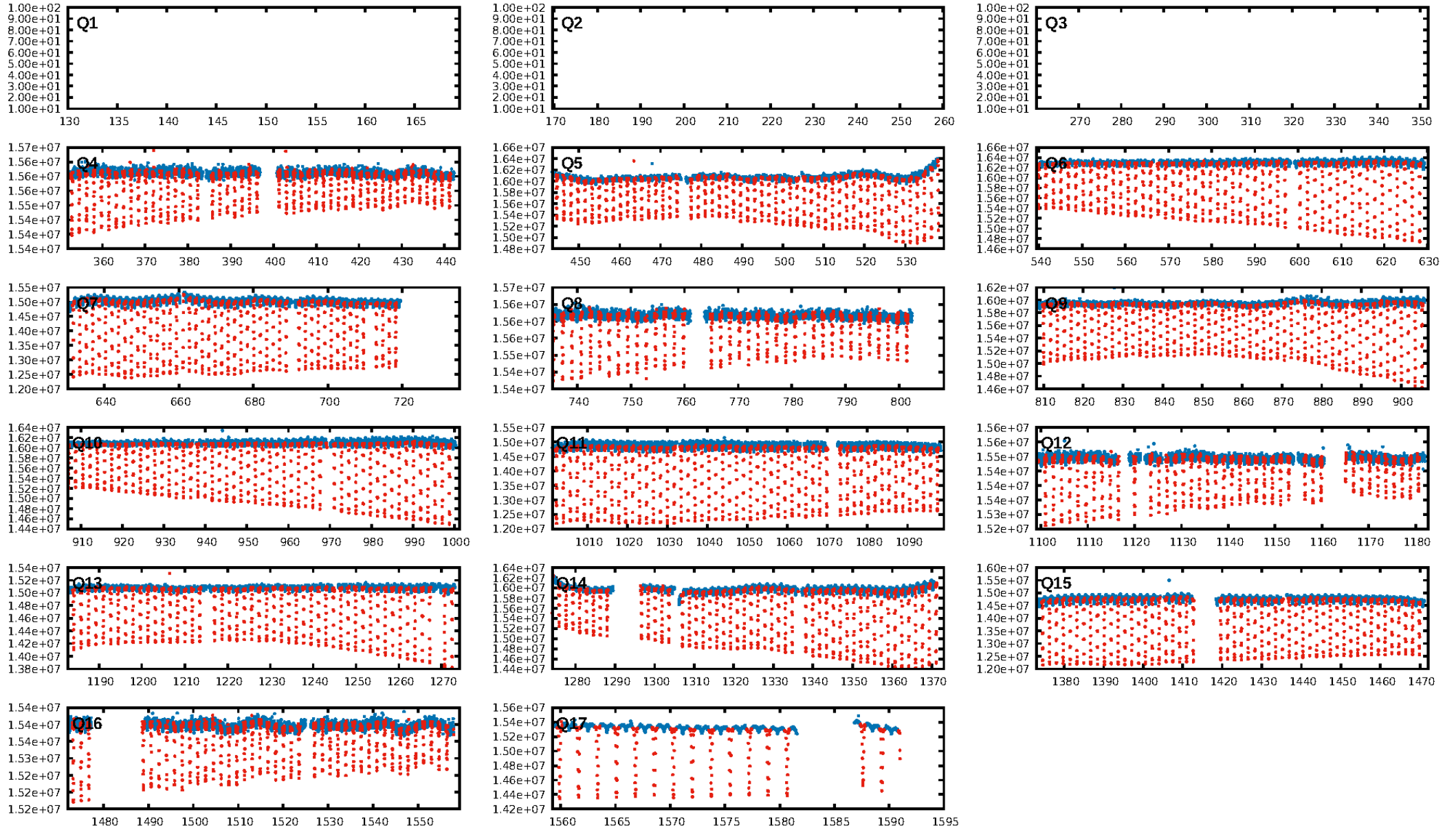
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [640/640]
GhostDiagnostic-chr: -0.5526
Centroid-sig: 0.0%
Centroid-so: 19.472 arcsec [3529.80σ]
OotOffset-rm: 1.266 arcsec [18.90σ]
KicOffset-rm: 6.583 arcsec [98.18σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [14/14]

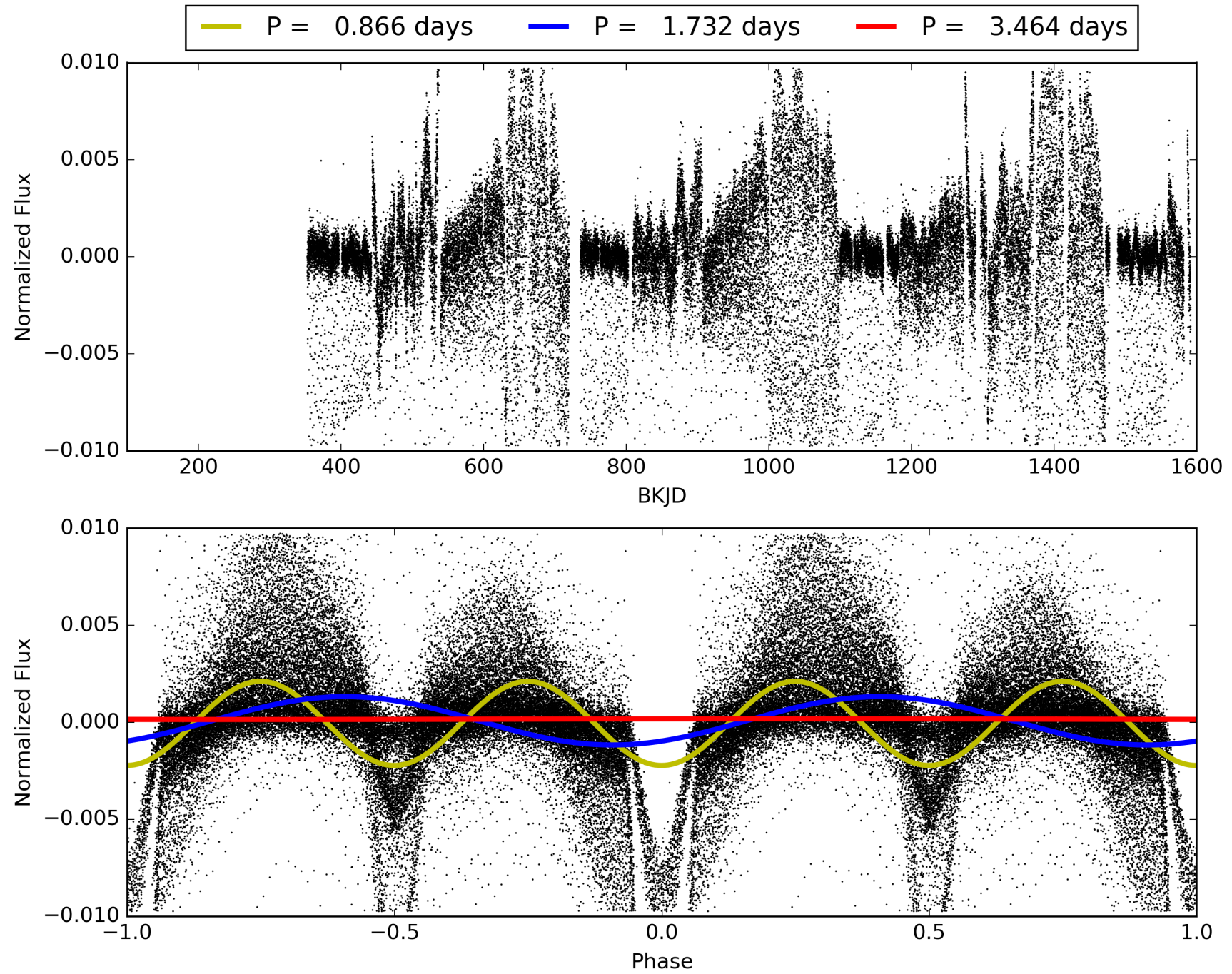
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:28:14 Z

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

TCE 004356766-01, PDC Light Curves

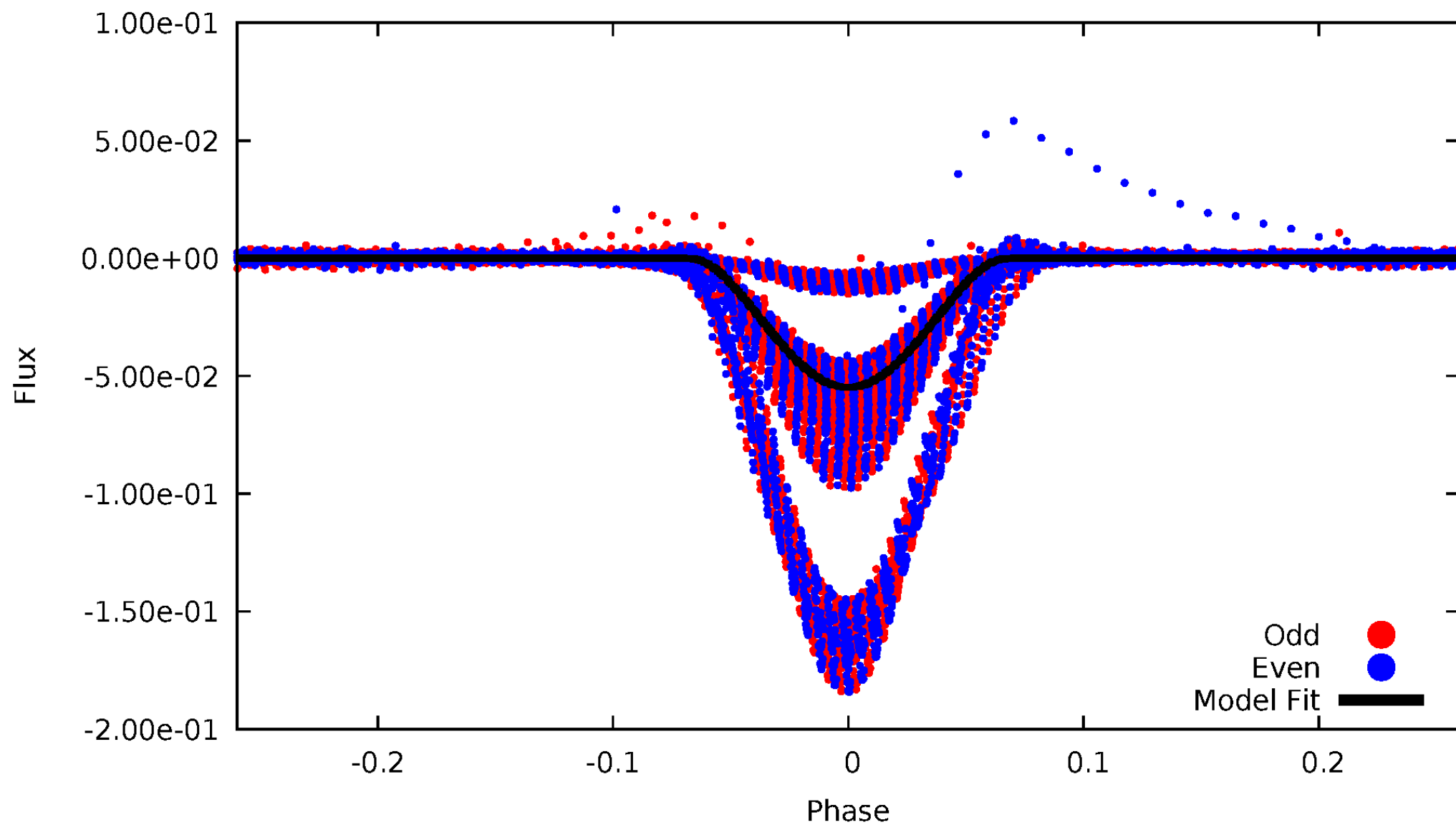


TCE 004356766-01



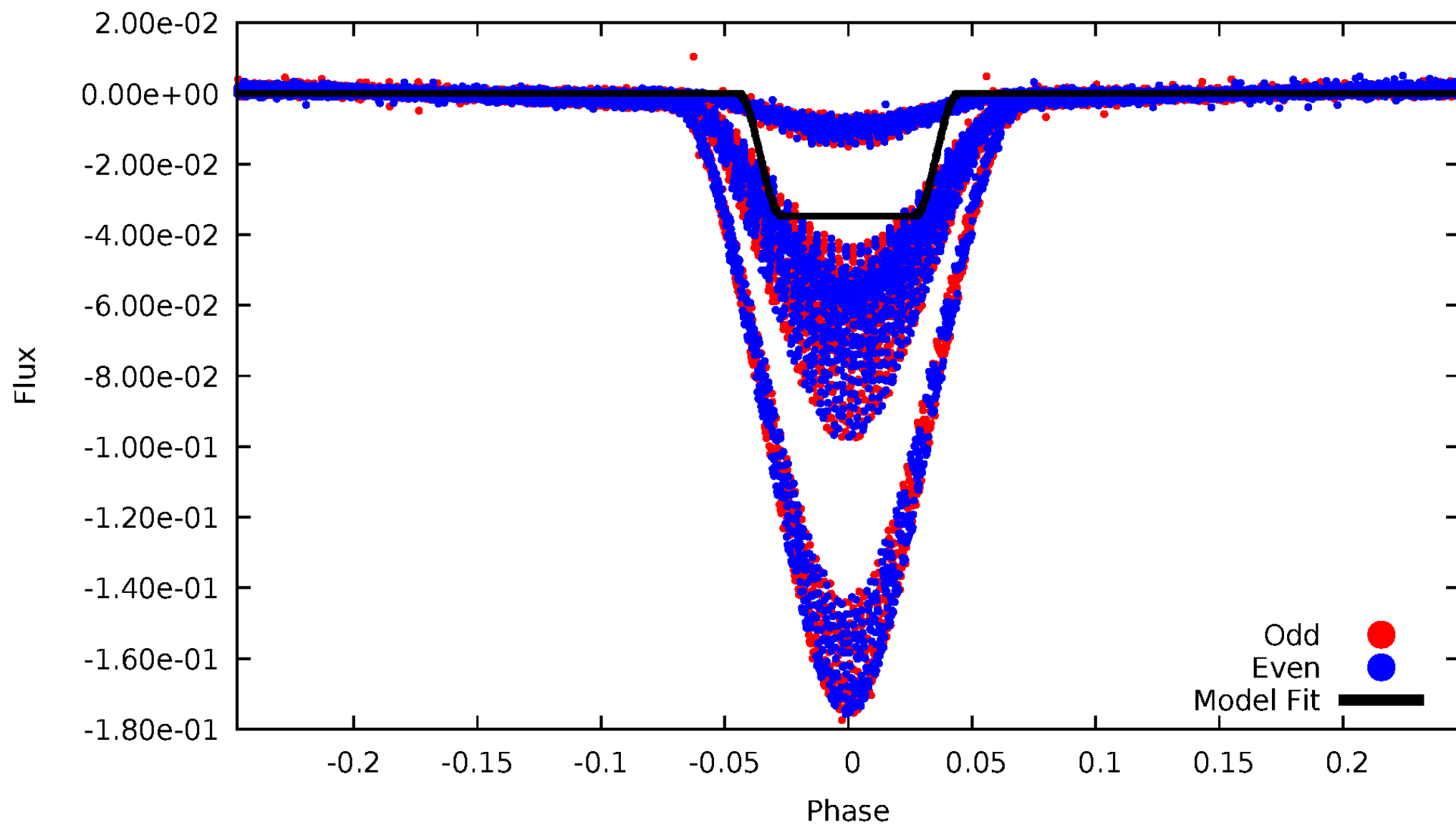
DV Odd/Even

TCE 004356766-01



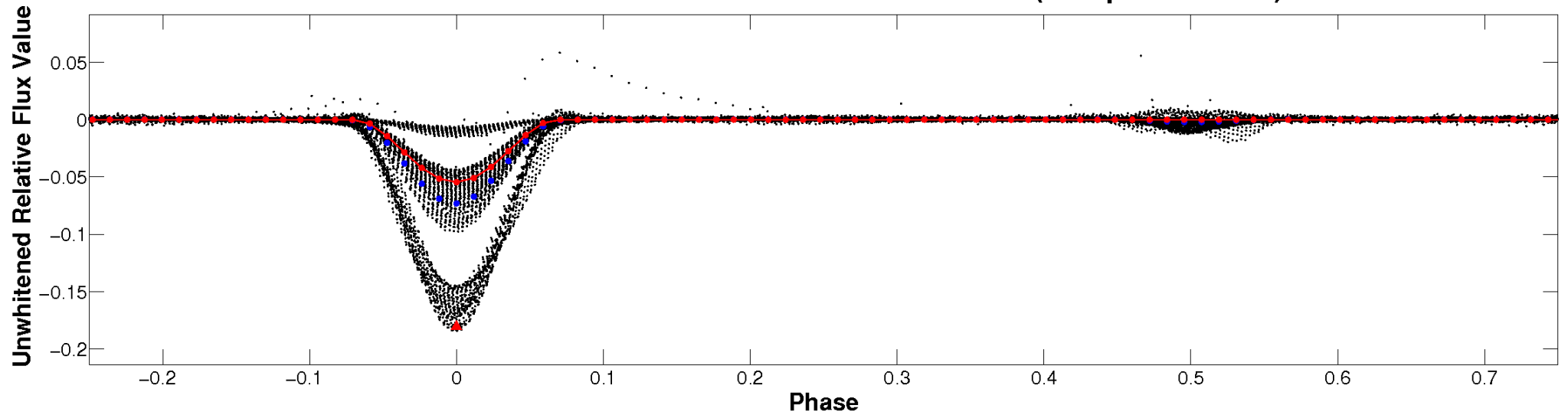
ALT Odd/Even

TCE 004356766-01

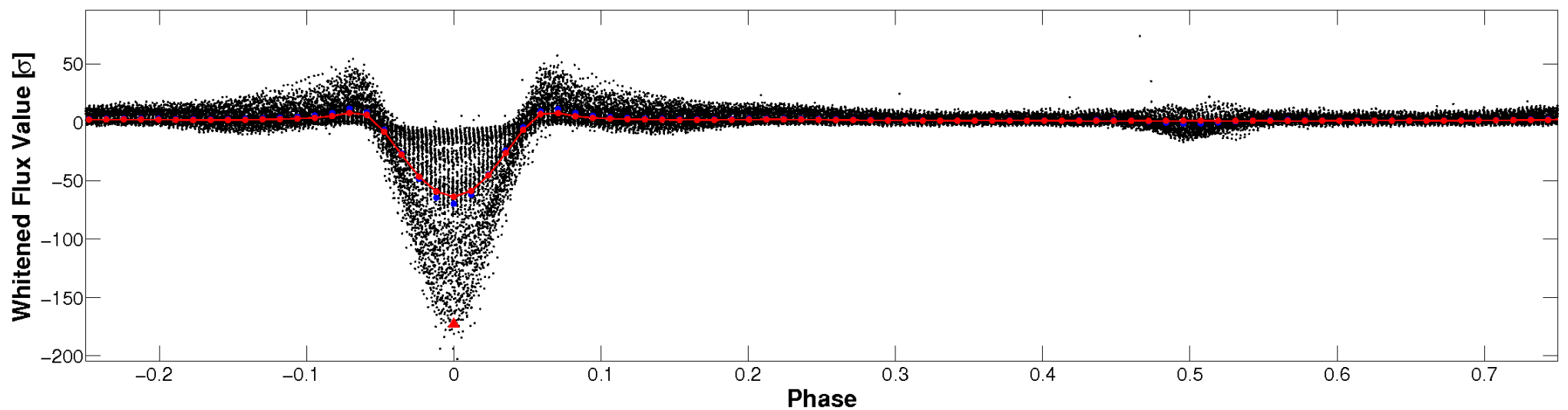


Non-Whitened Vs. Whitened Light Curve

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

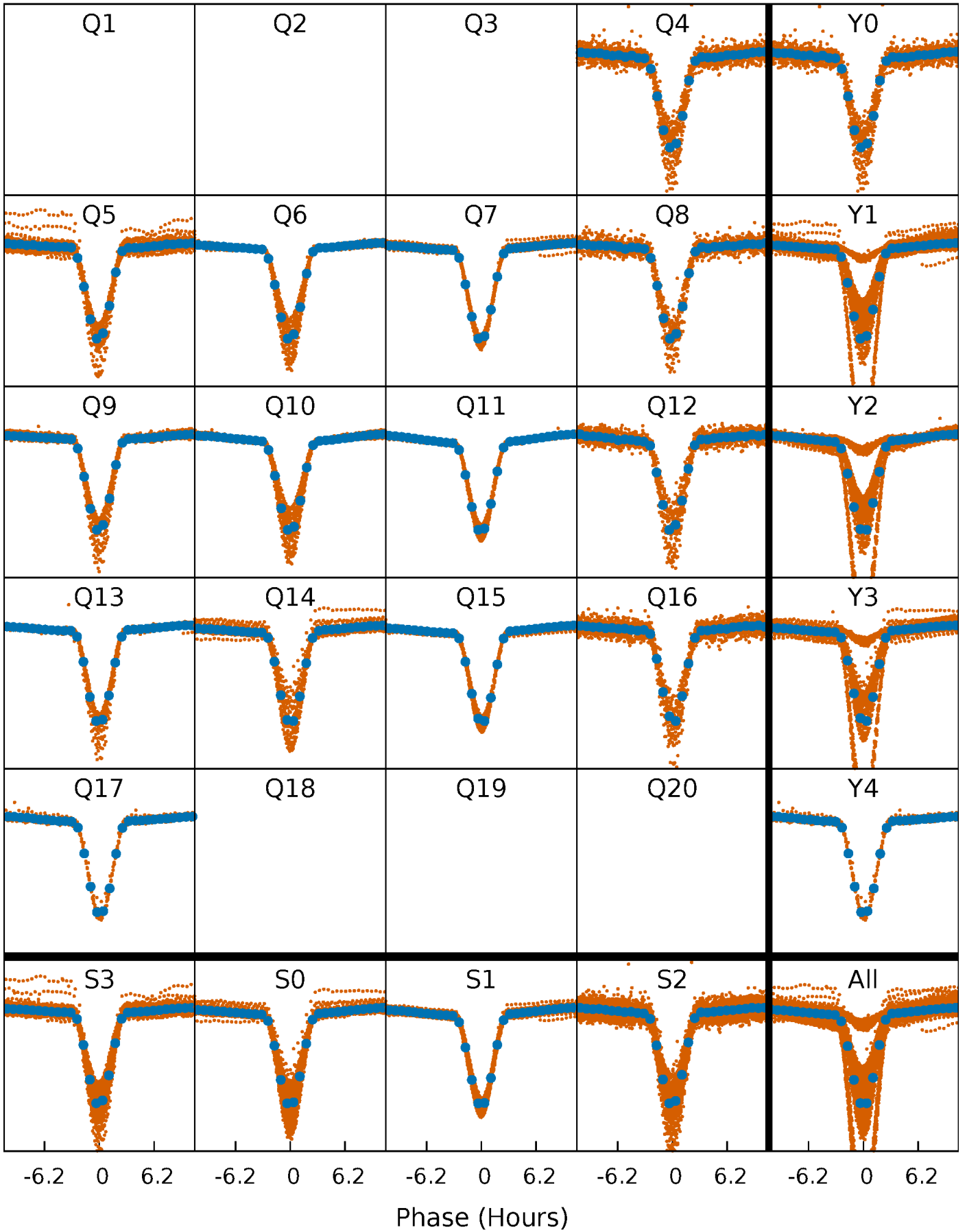


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



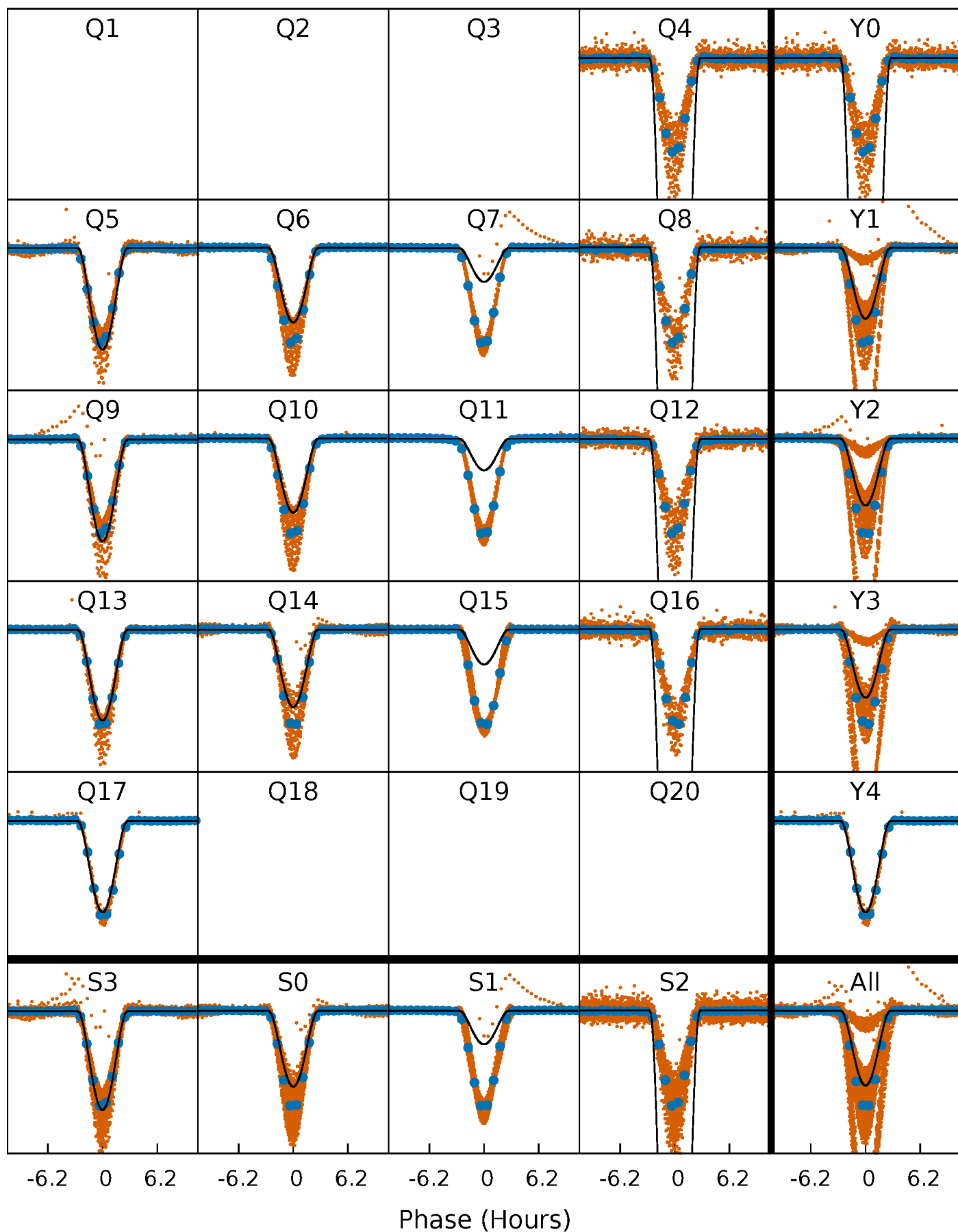
PDC Quarter-Phased Transit Curves

TCE 004356766-01 P= 1.731793 Days $T_0=132.893836$ (BKJD)



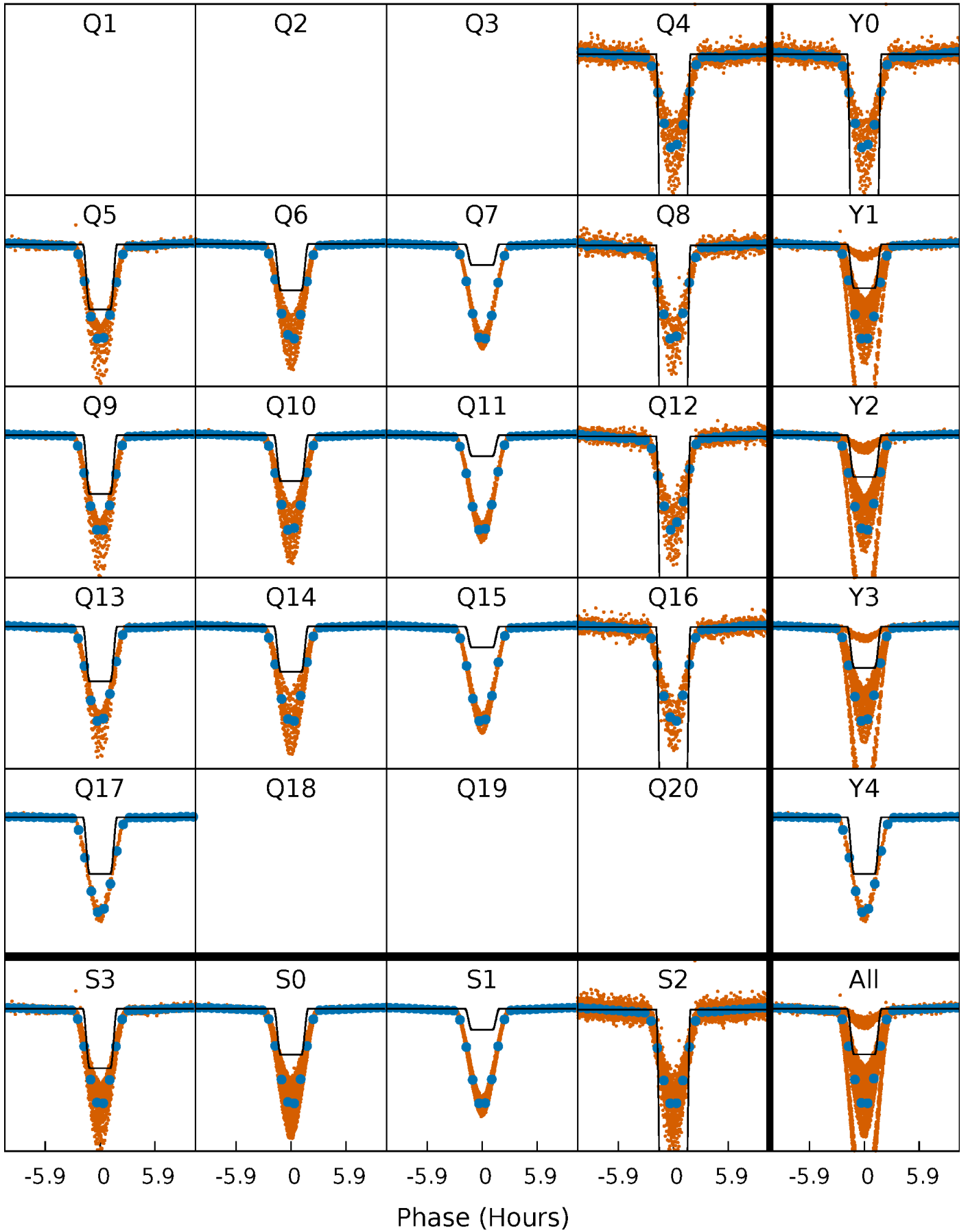
DV Quarter-Phased Transit Curves

TCE 004356766-01 P= 1.731793 Days $T_0=132.893836$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

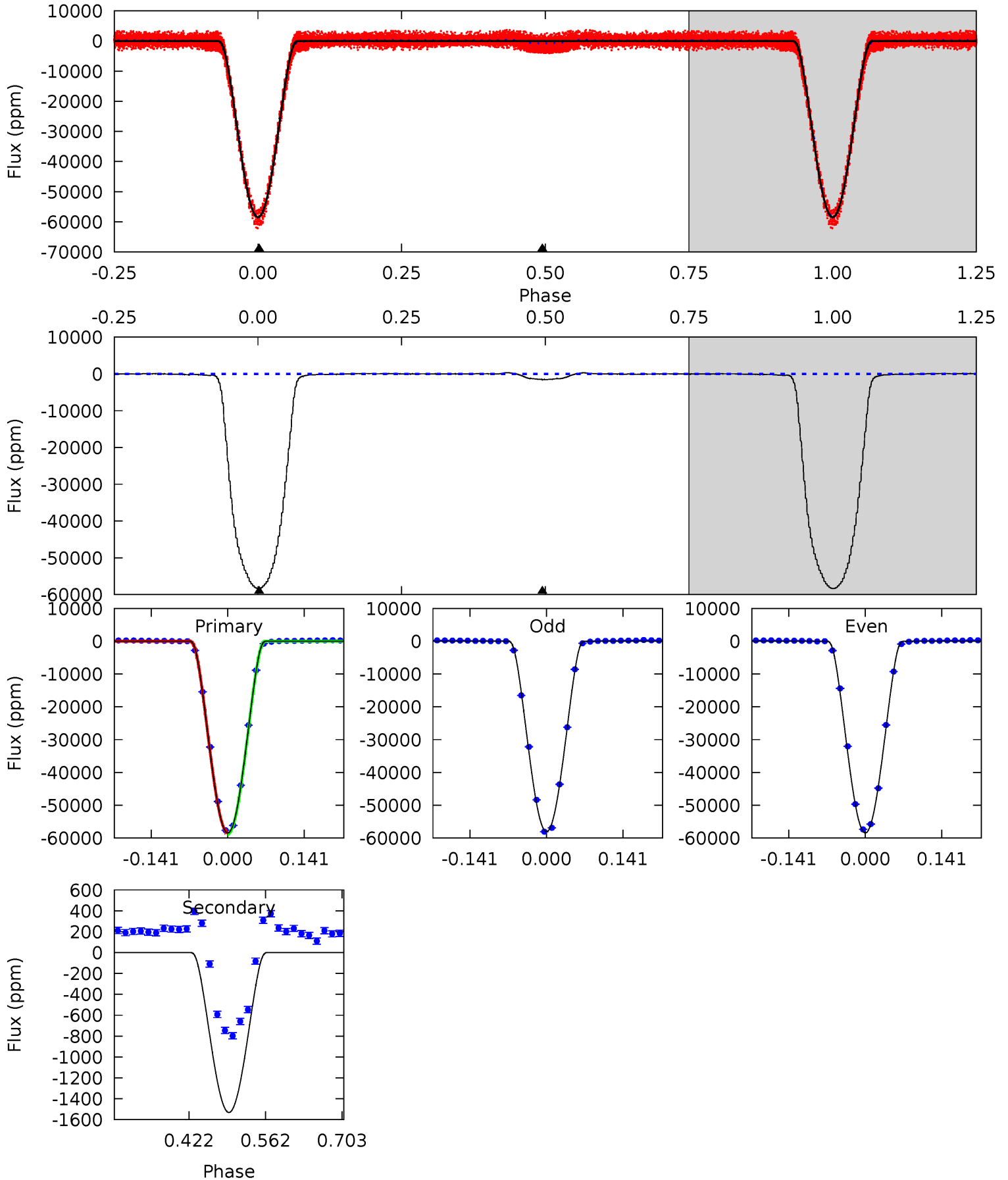
TCE 004356766-01 P= 1.731808 Days $T_0=132.885434$ (BKJD)



DV Model-Shift Uniqueness Test

004356766-01, P = 1.731793 Days, E = 132.893836 Days

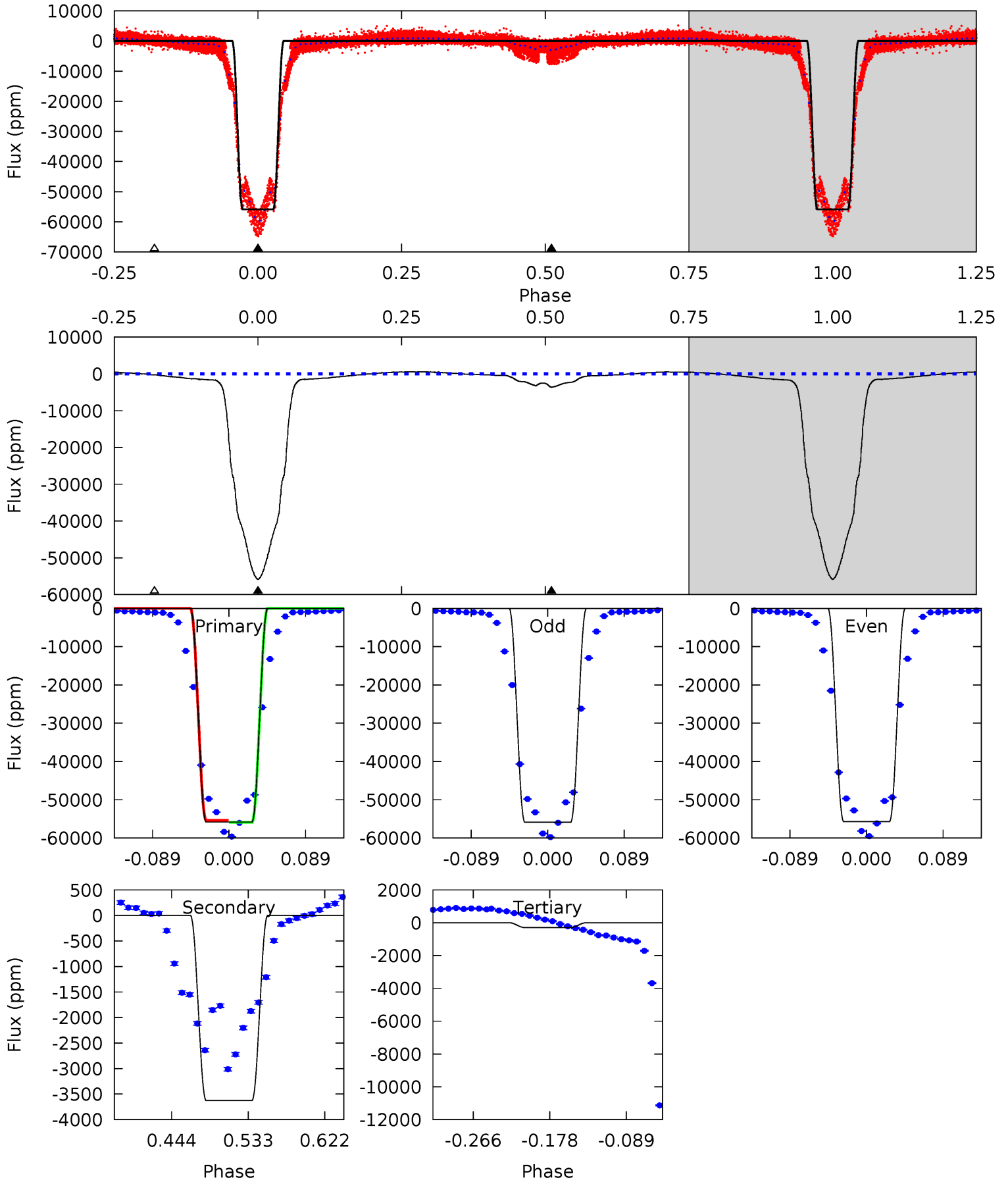
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 3569 | 93.5 | 0 | 0 | 4.49 | 1.47 | 3.18 | 3569 | 3569 | 93.5 | 93.5 | 13.1 | 1.26 | 0.01 | 0 |



Alt Model-Shift Uniqueness Test

004356766-01, P = 1.731808 Days, E = 132.885434 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 1520 | 98.7 | 7.95 | 0 | 4.59 | 1.70 | 16.1 | 1512 | 1520 | 90.8 | 98.7 | 2.53 | 1.21 | 0.01 | 0 |



Stellar Parameters For KIC 004356766

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 5761^{+180}_{-200} | $4.426^{+0.084}_{-0.196}$ | $0.180^{+0.200}_{-0.300}$ | $1.029^{+0.289}_{-0.124}$ | $1.031^{+0.122}_{-0.122}$ | $1.334^{+0.488}_{-0.690}$ |
| | +3%/-3% | +2%/-4% | +111%/-167% | +28%/-12% | +12%/-12% | +37%/-52% |
| 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 004356766-01 / KOI 3669.01

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|----------------|-------------------------|----------------------|-----------------------|---------------------------|
| DV | -1530 ± 16 | $42.27^{+7.83}_{-5.68}$ | 2158^{+163}_{-114} | 2200^{+230}_{-4202} | $0.375^{+0.124}_{-0.103}$ |
| Alt. | -3626 ± 37 | $21.16^{+5.96}_{-4.67}$ | 2160^{+158}_{-110} | 3654^{+329}_{-259} | $3.598^{+2.322}_{-1.388}$ |

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

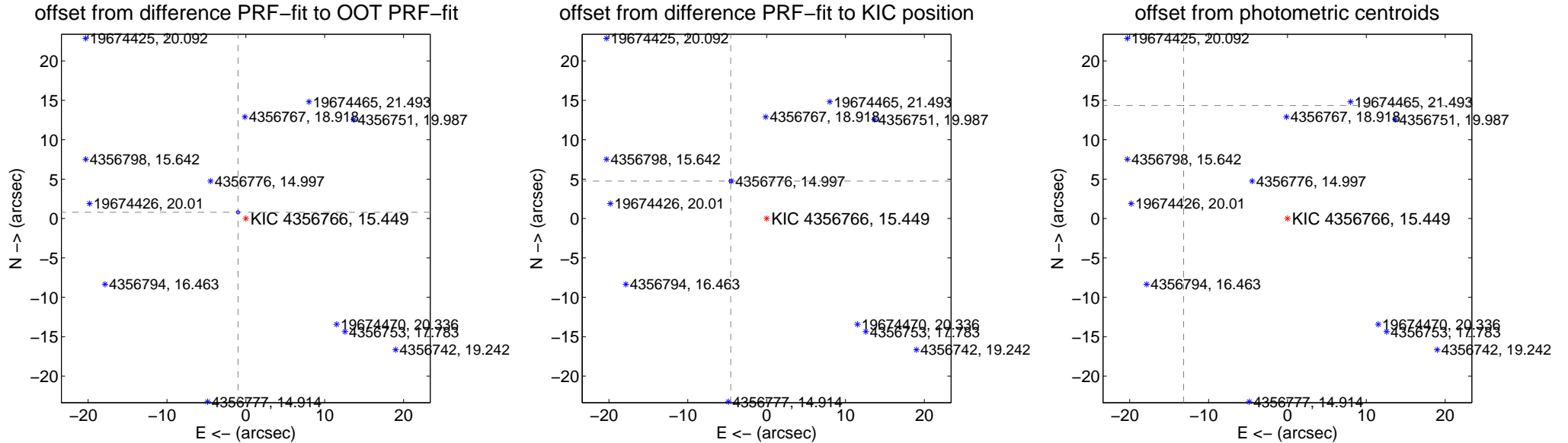
DV Centroid Data

Supplemental centroid analysis for 004356766-01. Kepler magnitude: 15.45. Transit SNR 1328.57

There are 3 quarters with good PRF difference image offsets

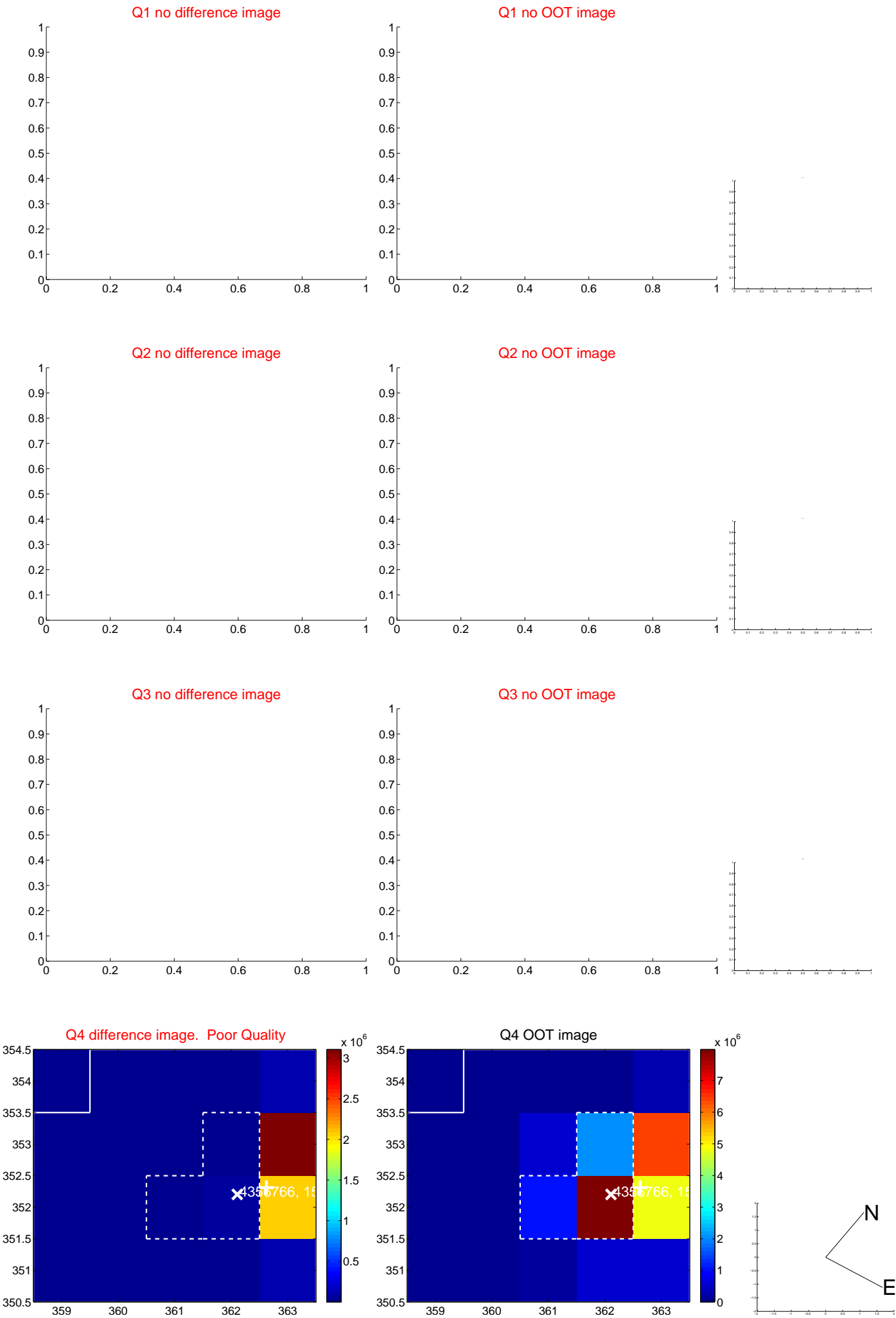
The OOT PRF centroid is offset from the target star catalog position by about 5.33 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 1.266 ± 0.067 | 18.90 | 0.988 ± 0.067 | 0.791 ± 0.067 |
| PRF-fit source offset from KIC position | 6.583 ± 0.067 | 98.18 | 4.557 ± 0.067 | 4.751 ± 0.067 |
| photometric centroid source offset | 19.47 ± 0.01 | 3529.79 | 13.16 ± 0.01 | 14.35 ± 0.01 |

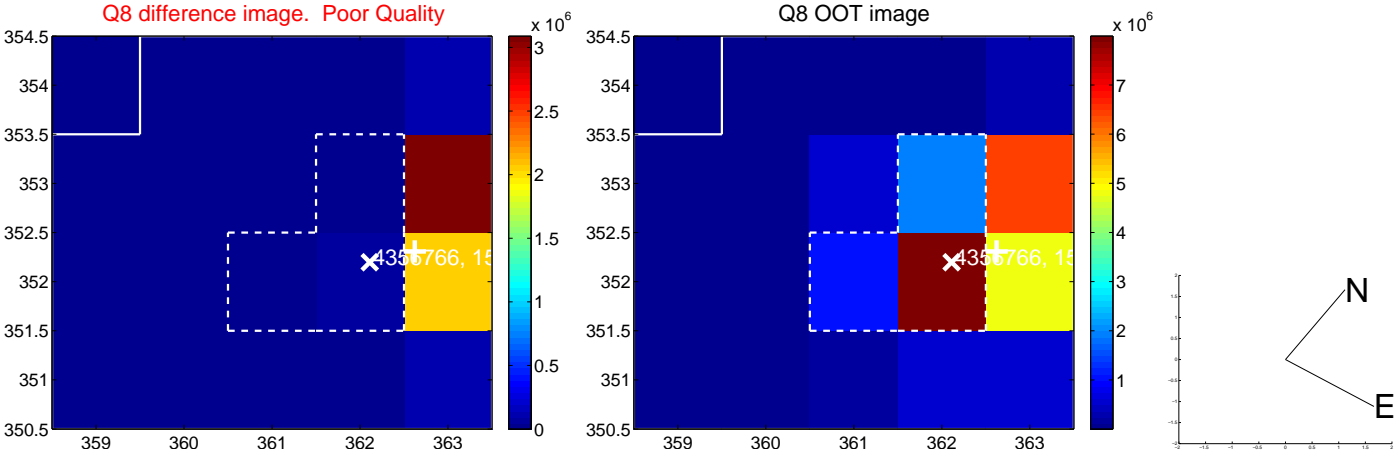
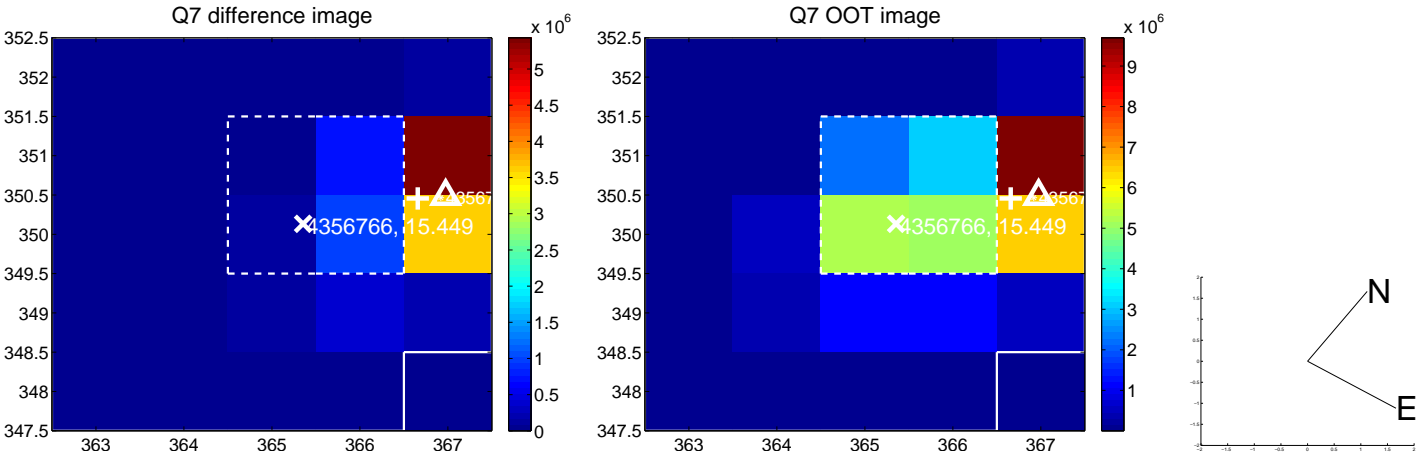
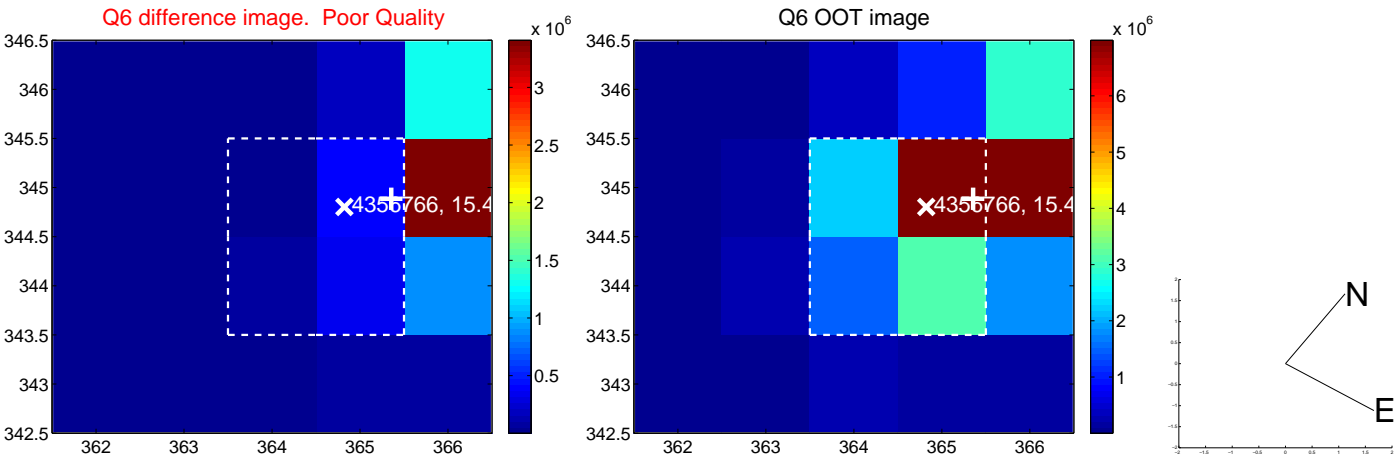
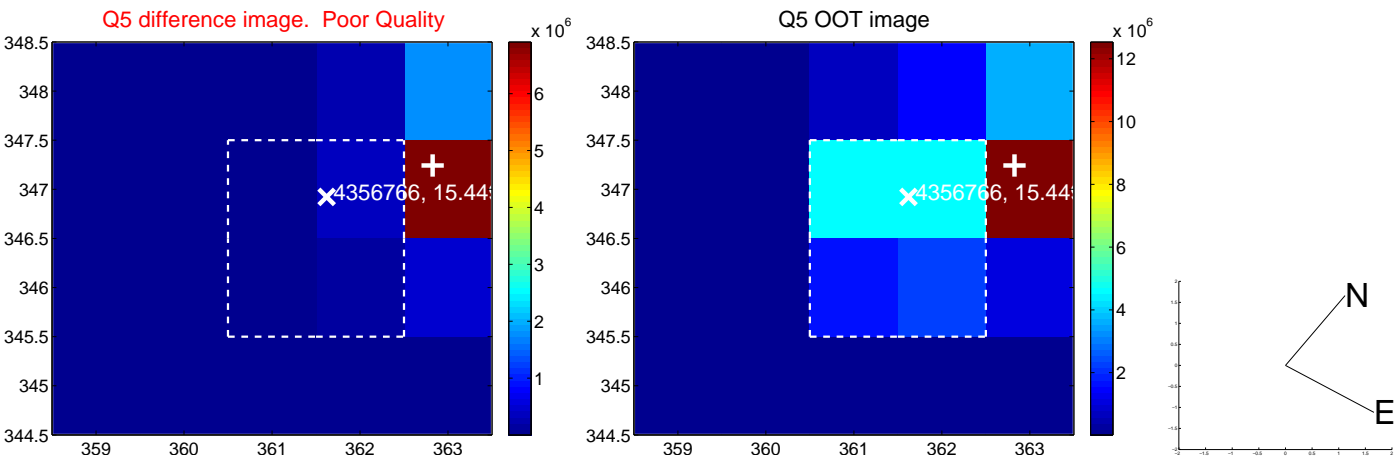


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

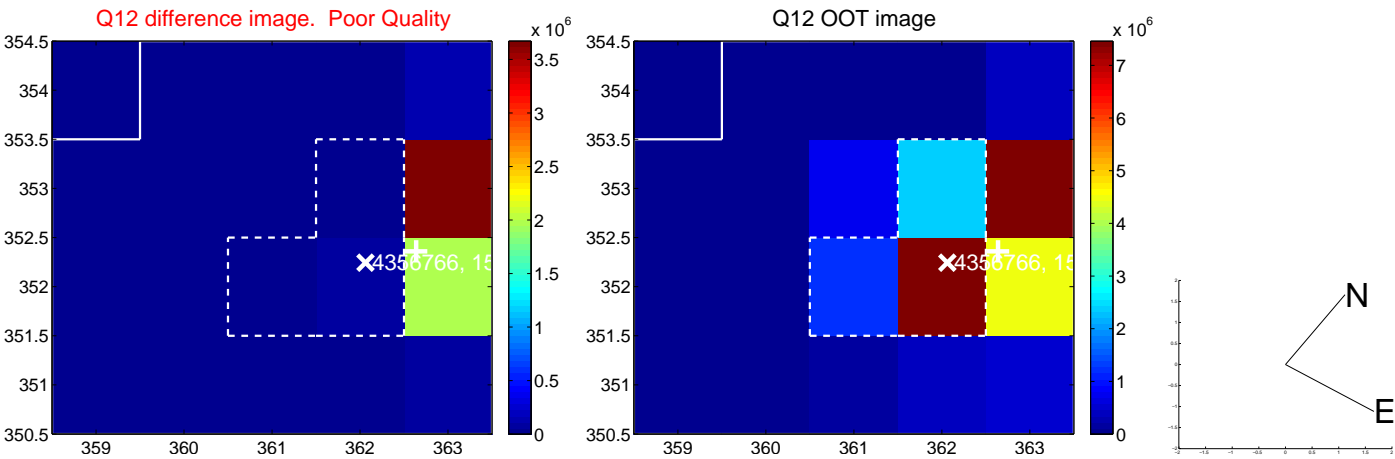
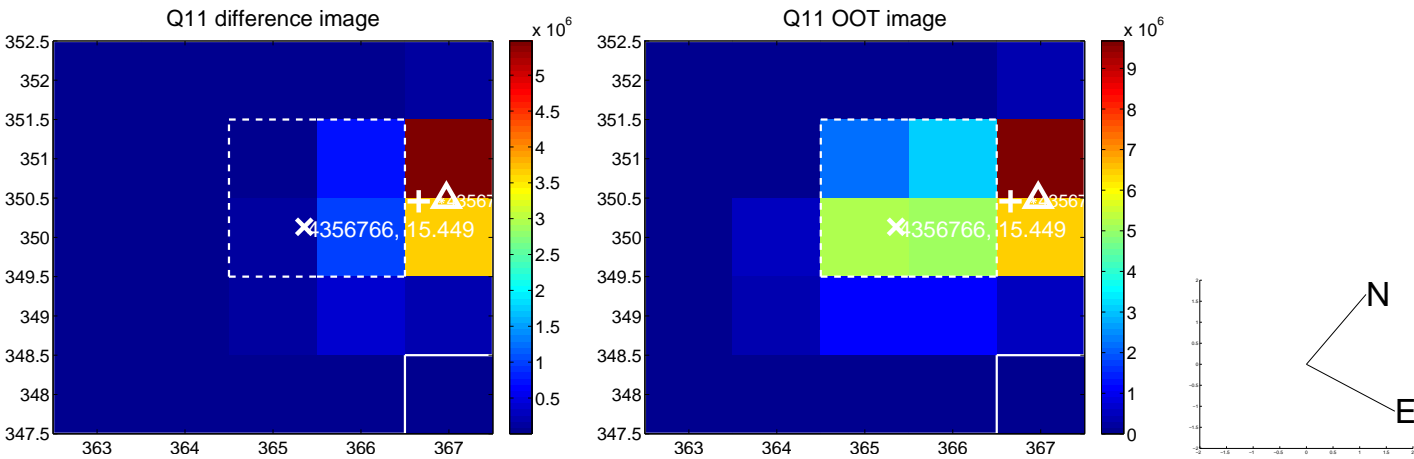
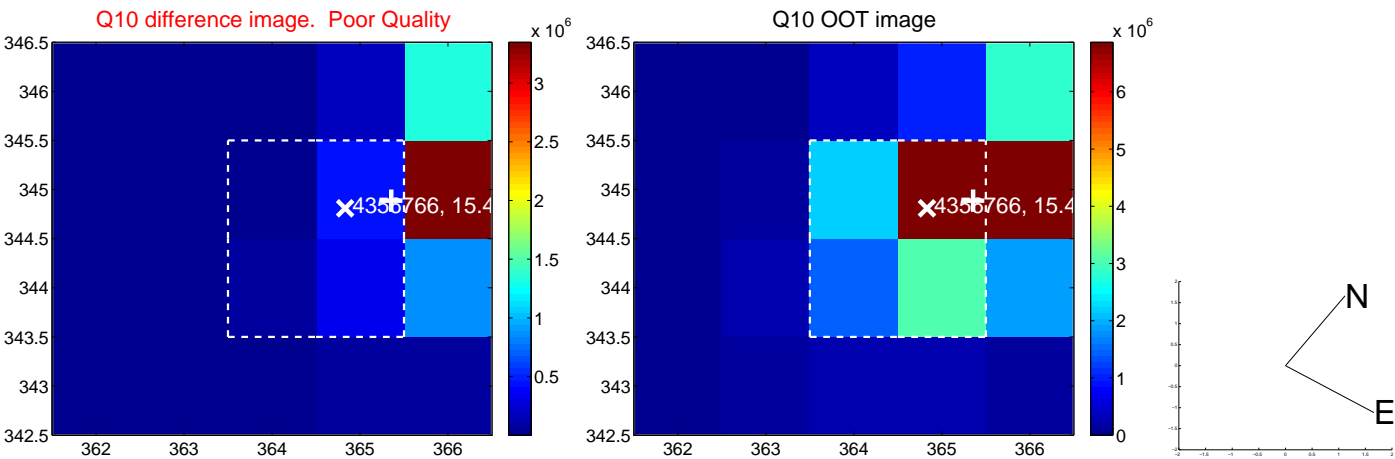
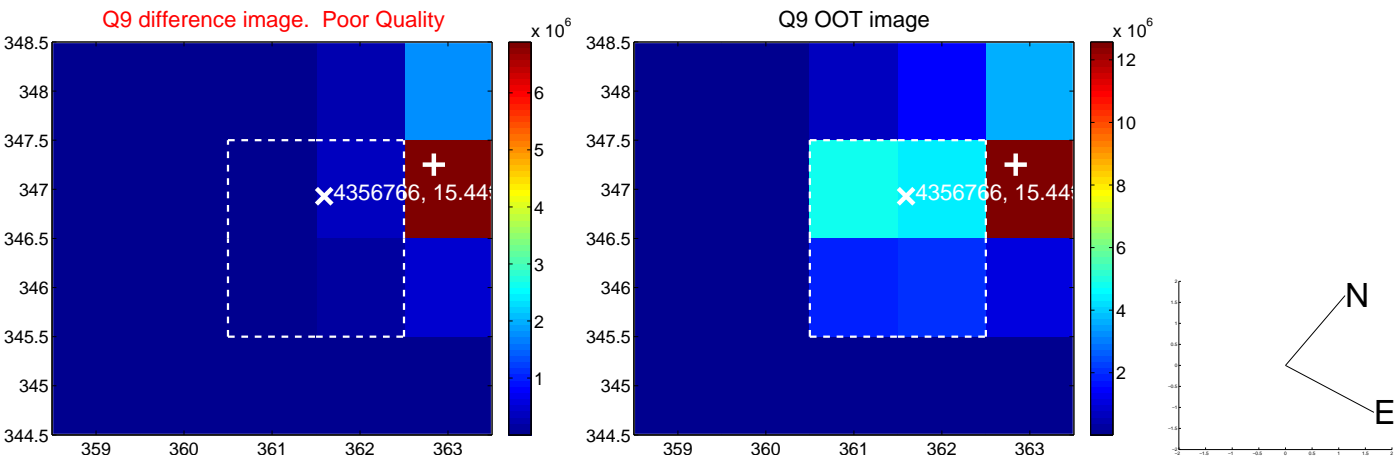
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



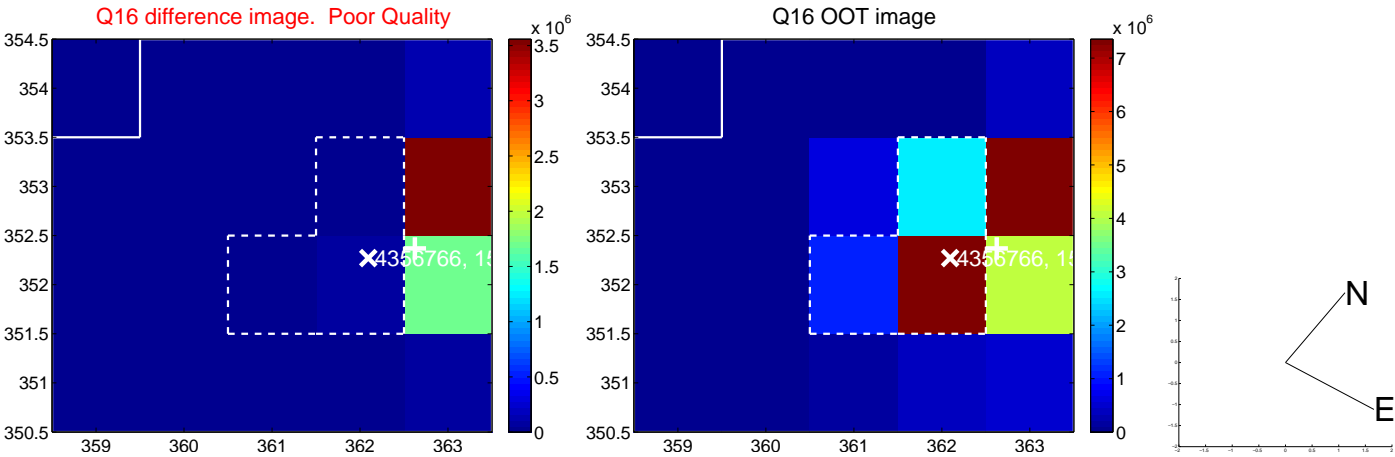
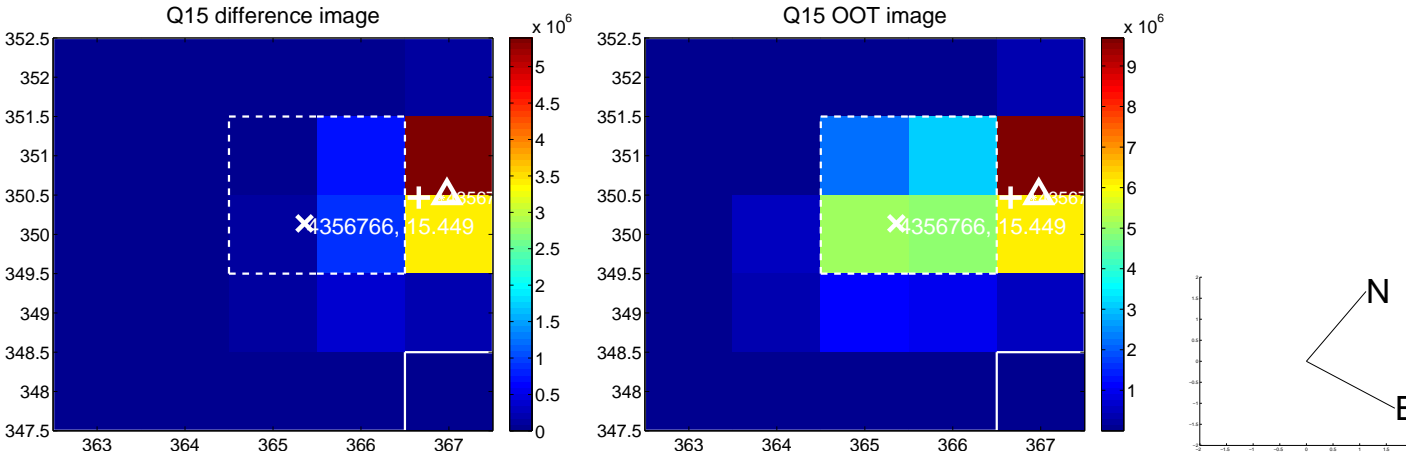
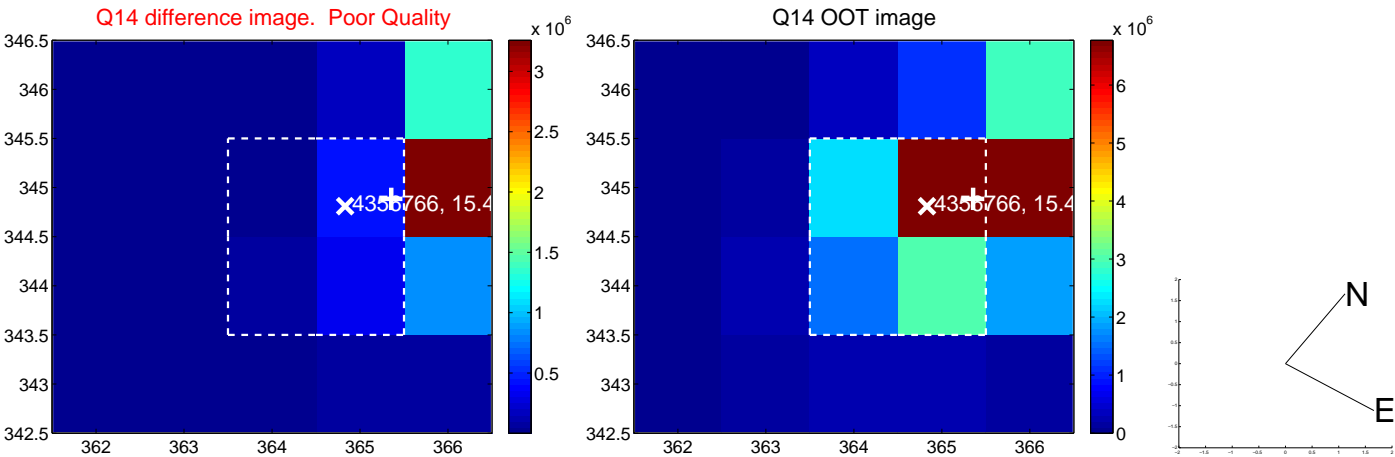
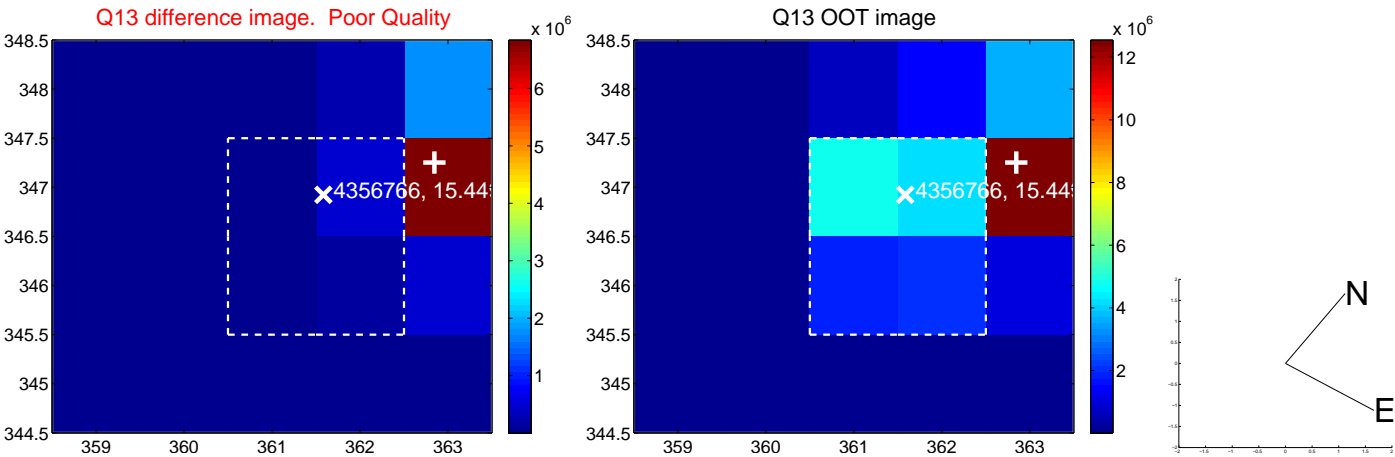
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



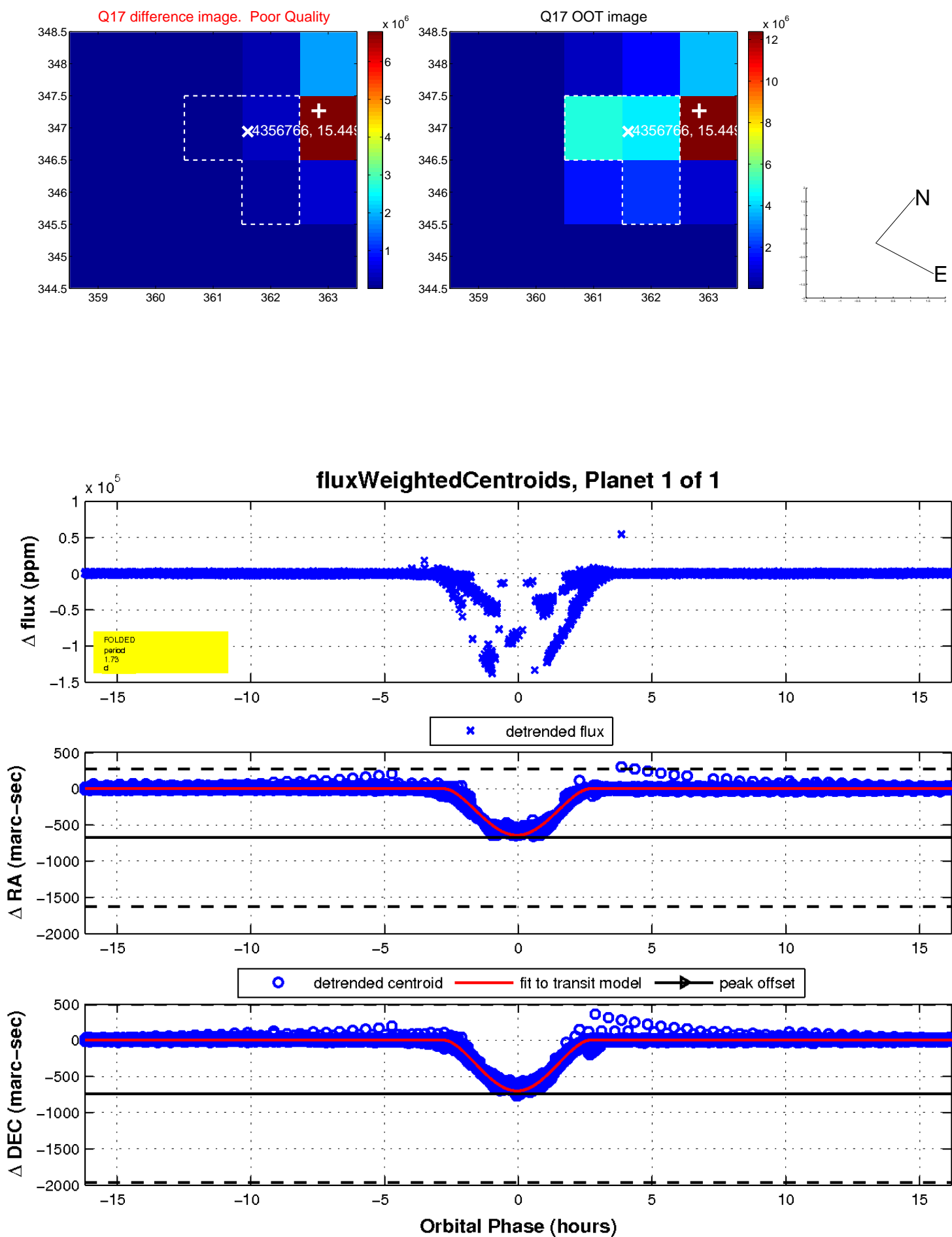
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

