

KIC 003656905

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 003656905-01 | OBS | No | 1.178047 | 132.263070 | 16.9 | 3.151 | 7.9 | 6.9 | 3.28 | 6668 | 1.61 | 27939.75 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|------------------------|
| 003656905-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | LPP_DV—MOD_NONUNIQ_ALT |

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

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

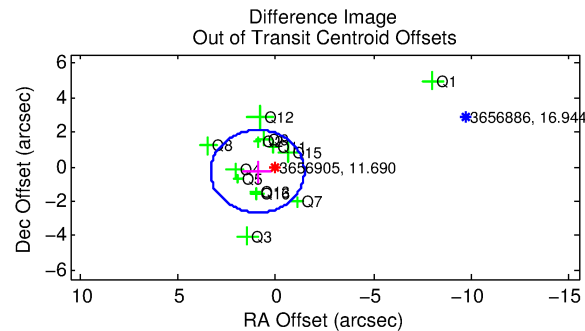
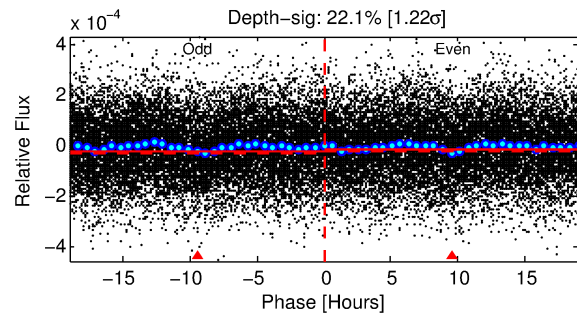
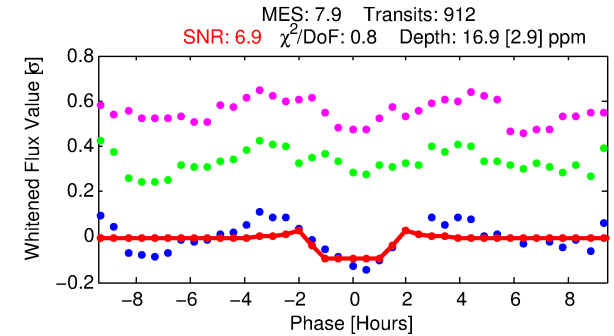
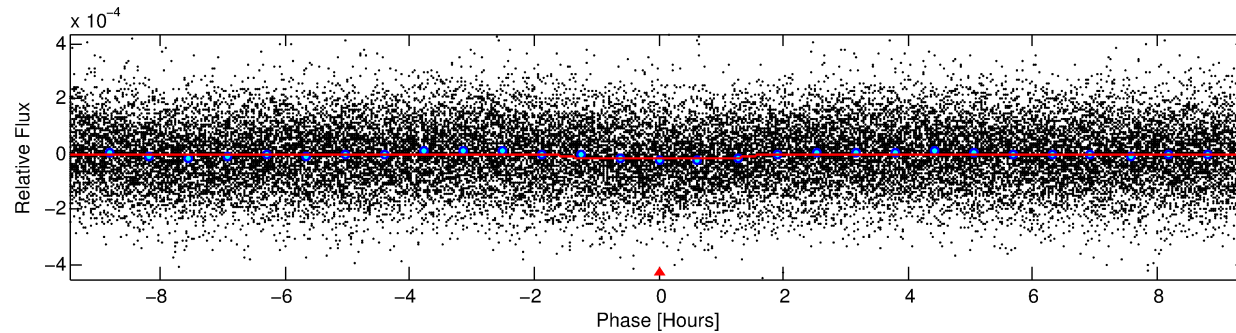
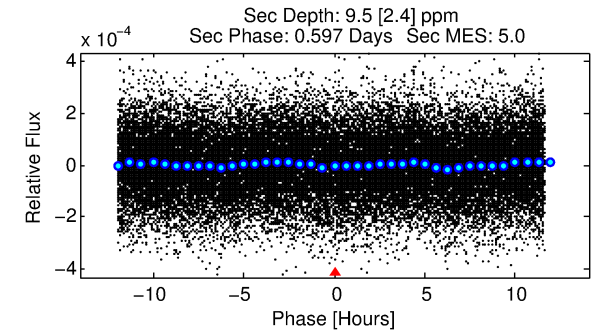
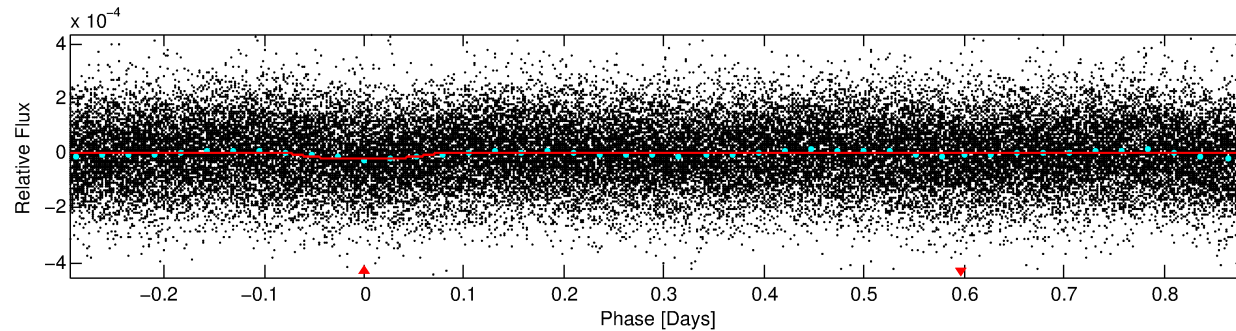
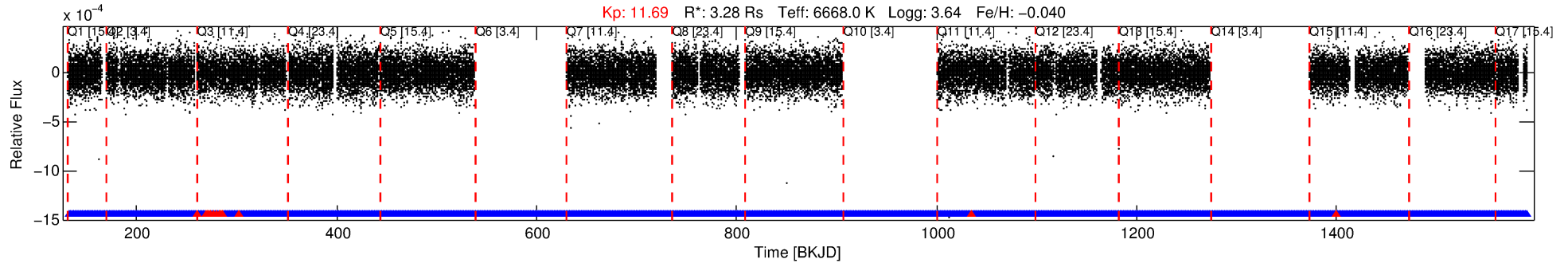
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003656905-01

No Significant Match Found

DV One-Page Summary

KIC: 3656905 Candidate: 1 of 1 Period: 1.178 d



DV Fit Results:

Period = 1.17805 [0.00002] d
Epoch = 132.2631 [0.0038] BKJD
Rp/R* = 0.0045 [0.0016]
a/R* = 1.45 [1.63]
b = 0.93 [0.32]
Seff = 27939.75 [15479.50]
Teff = 3297 [457] K
Rp = 1.61 [0.82] Re
a = 0.0261 [0.0089] AU
Ag = 1.37 [1.28] [0.29σ]
Teffp = 5519 [1056] K [1.93σ]

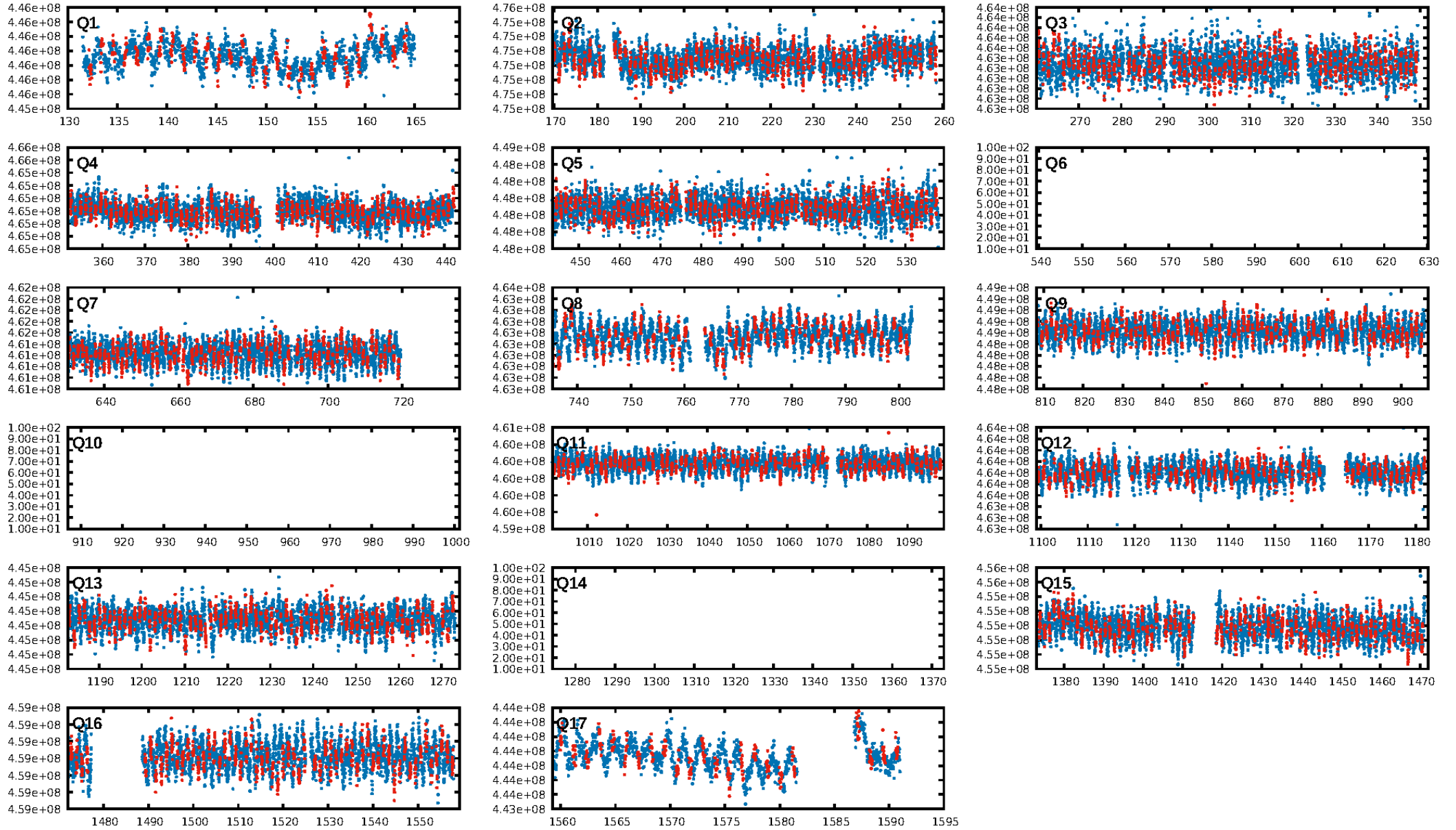
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.00e-12
RollingBand-fgt: 0.98 [846/861]
GhostDiagnostic-chr: 1.021
Centroid-sig: 6.2%
Centroid-so: 1.082 arcsec [1.32σ]
OotOffset-rm: 0.975 arcsec [1.22σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-rm: 0.792 arcsec [0.99σ]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [14/14]

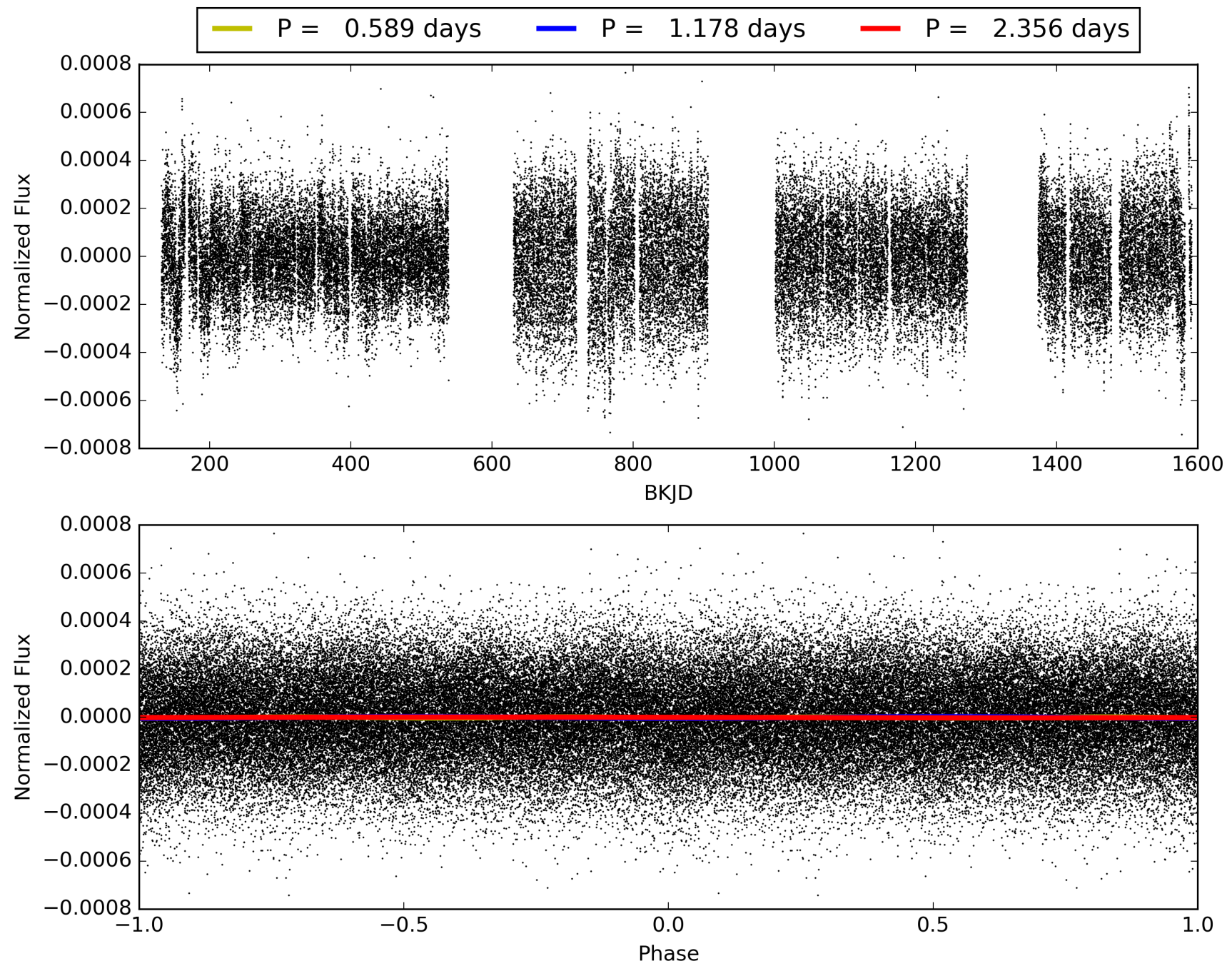
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:31:55 Z

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

TCE 003656905-01, PDC Light Curves

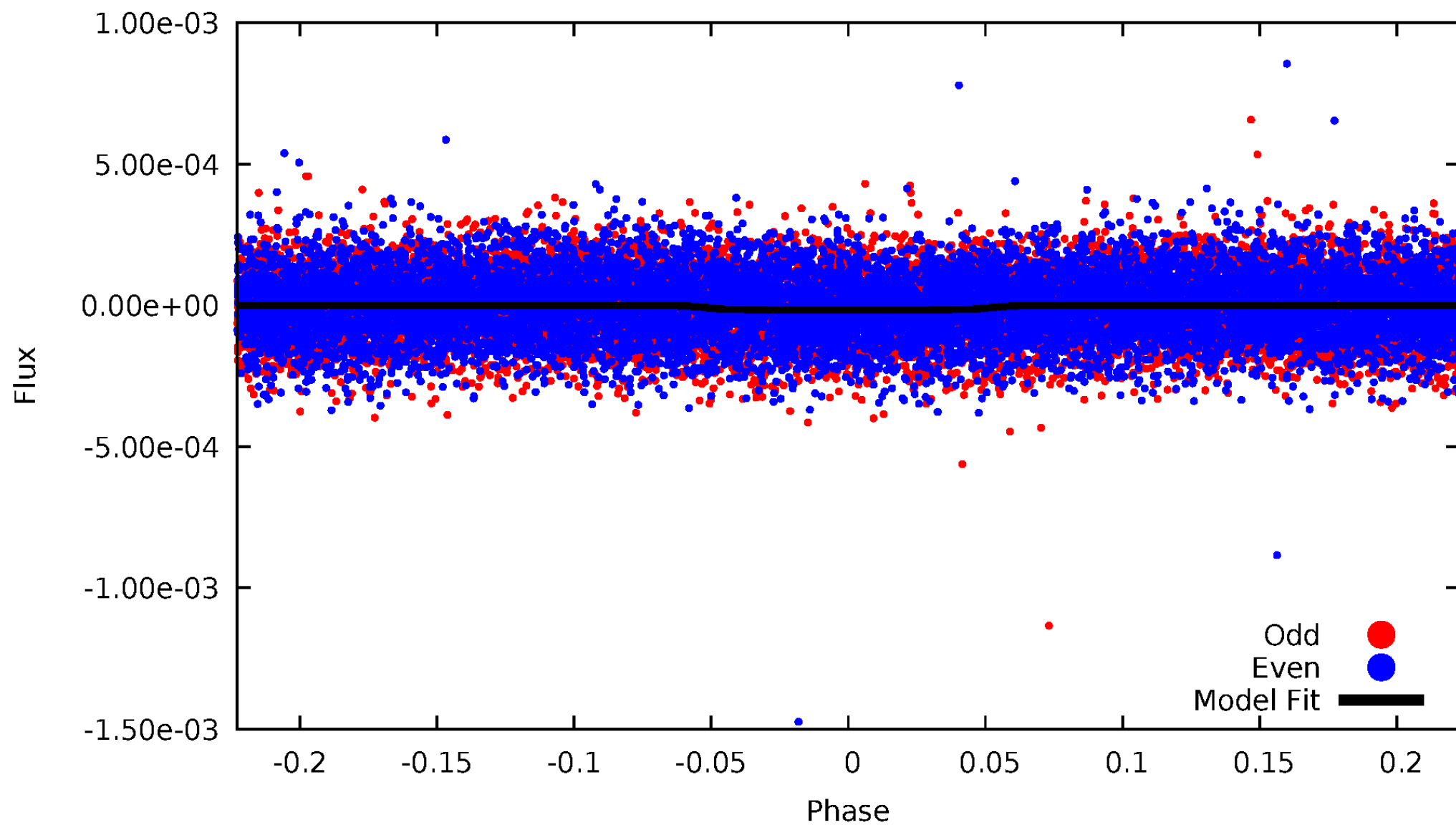


TCE 003656905-01



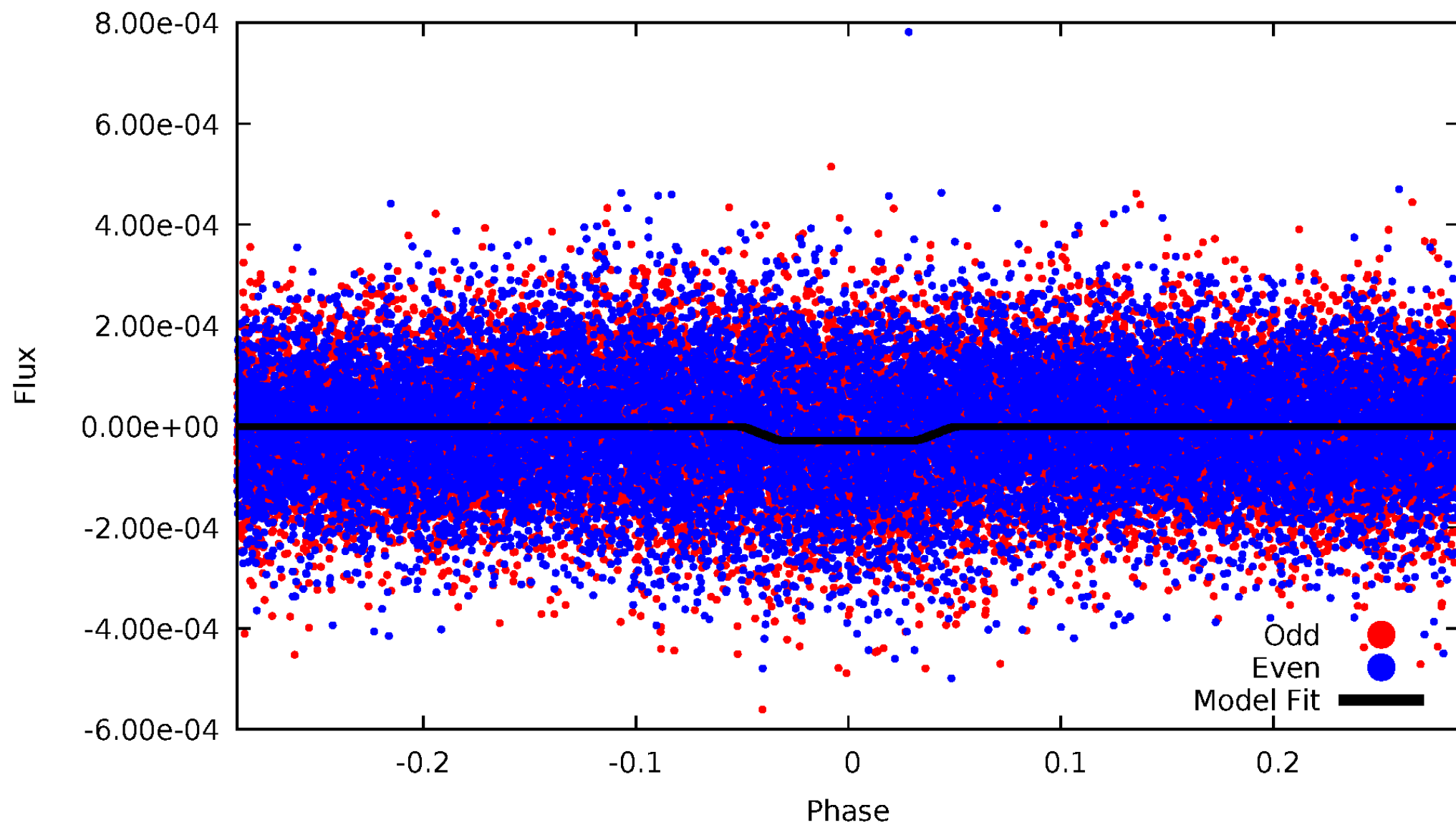
DV Odd/Even

TCE 003656905-01

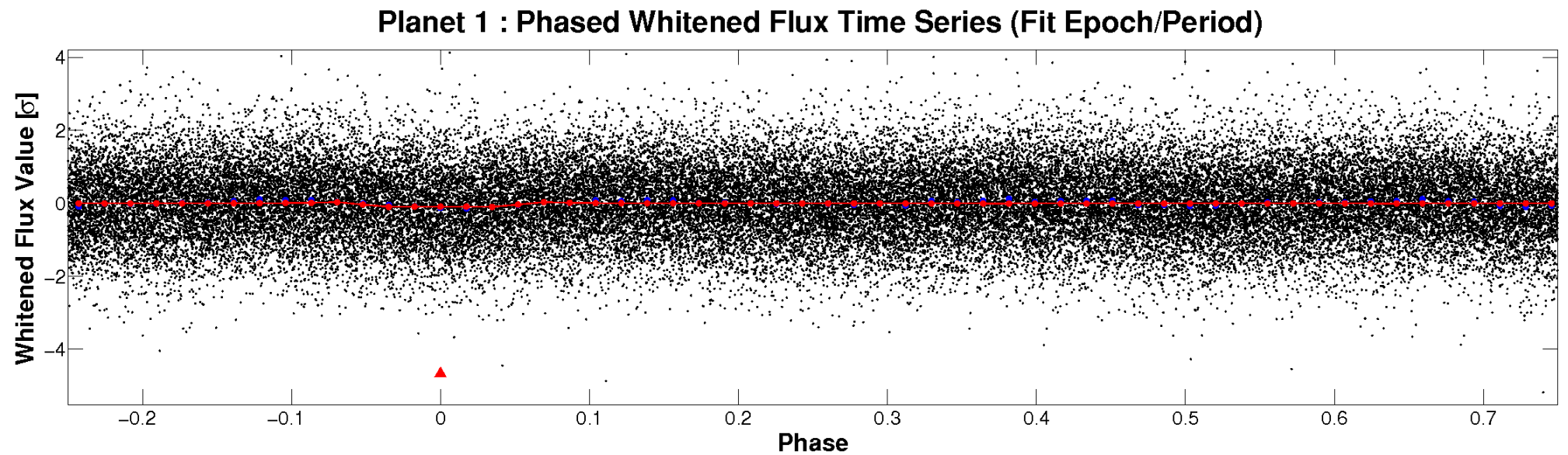
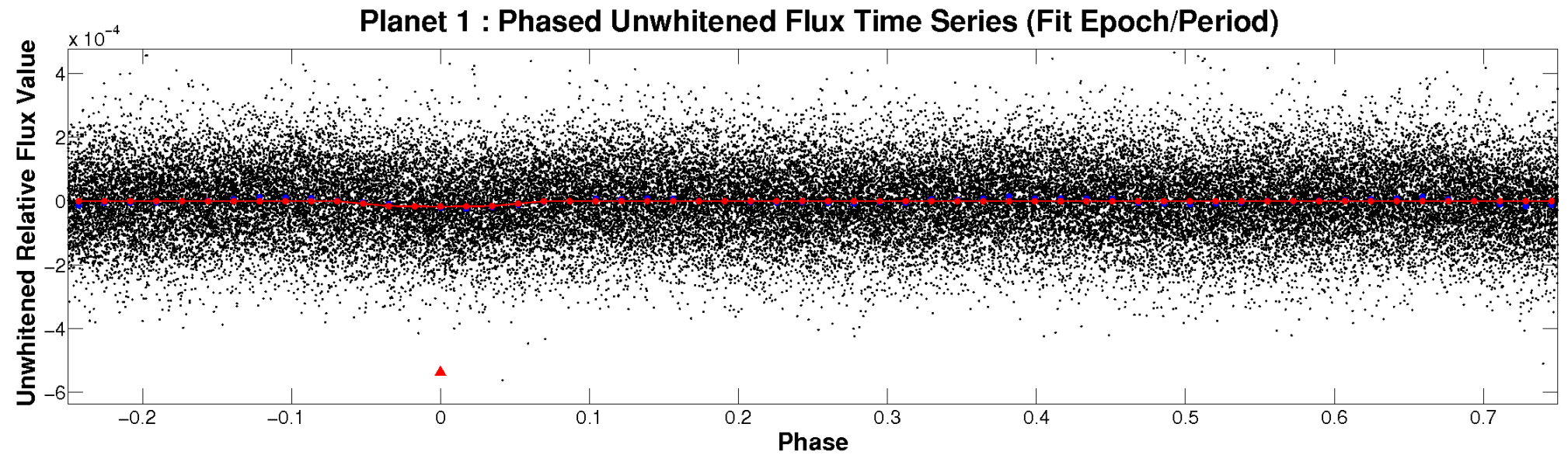


ALT Odd/Even

TCE 003656905-01

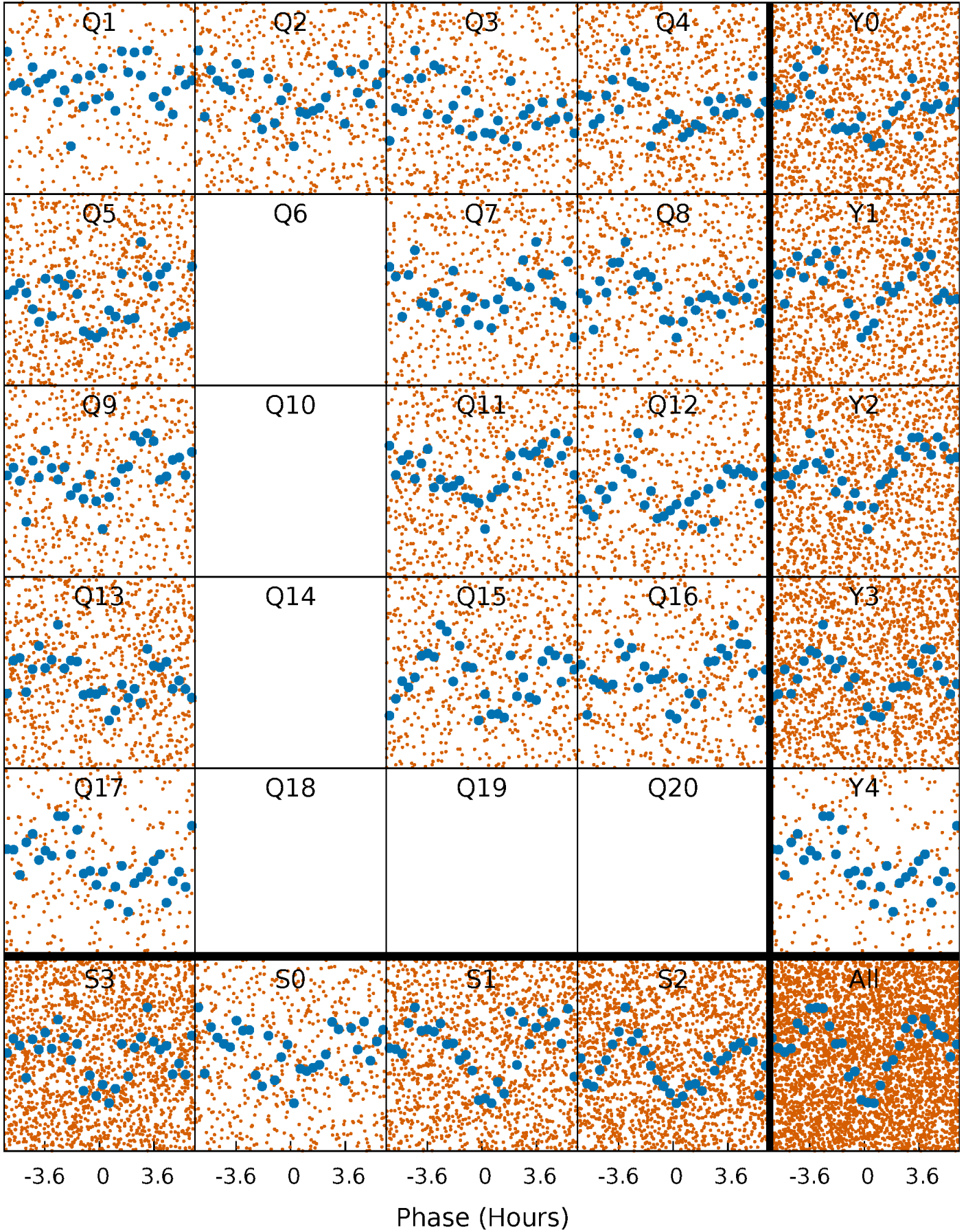


Non-Whitened Vs. Whitened Light Curve



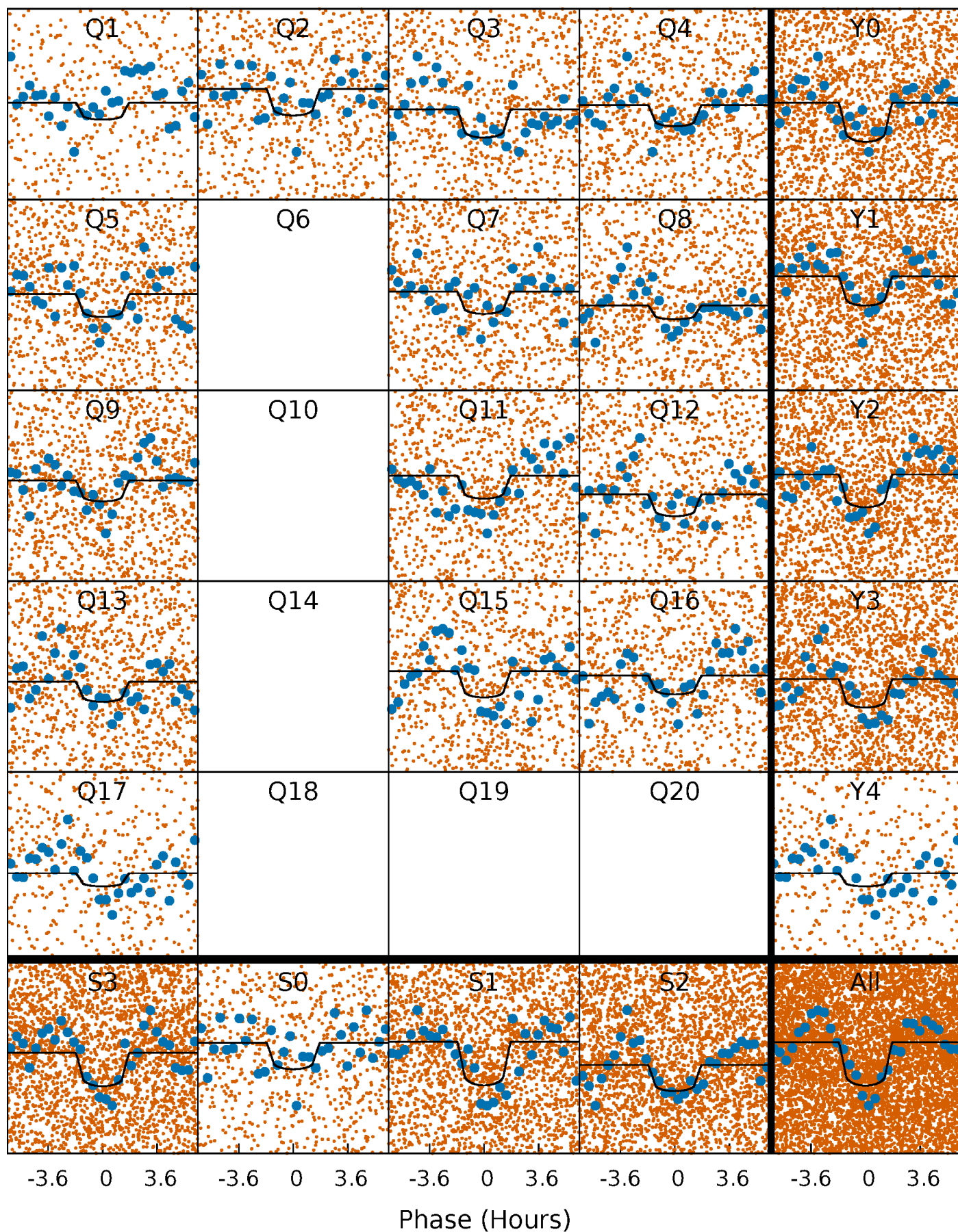
PDC Quarter-Phased Transit Curves

TCE 003656905-01 P= 1.178047 Days $T_0=132.263070$ (BKJD)



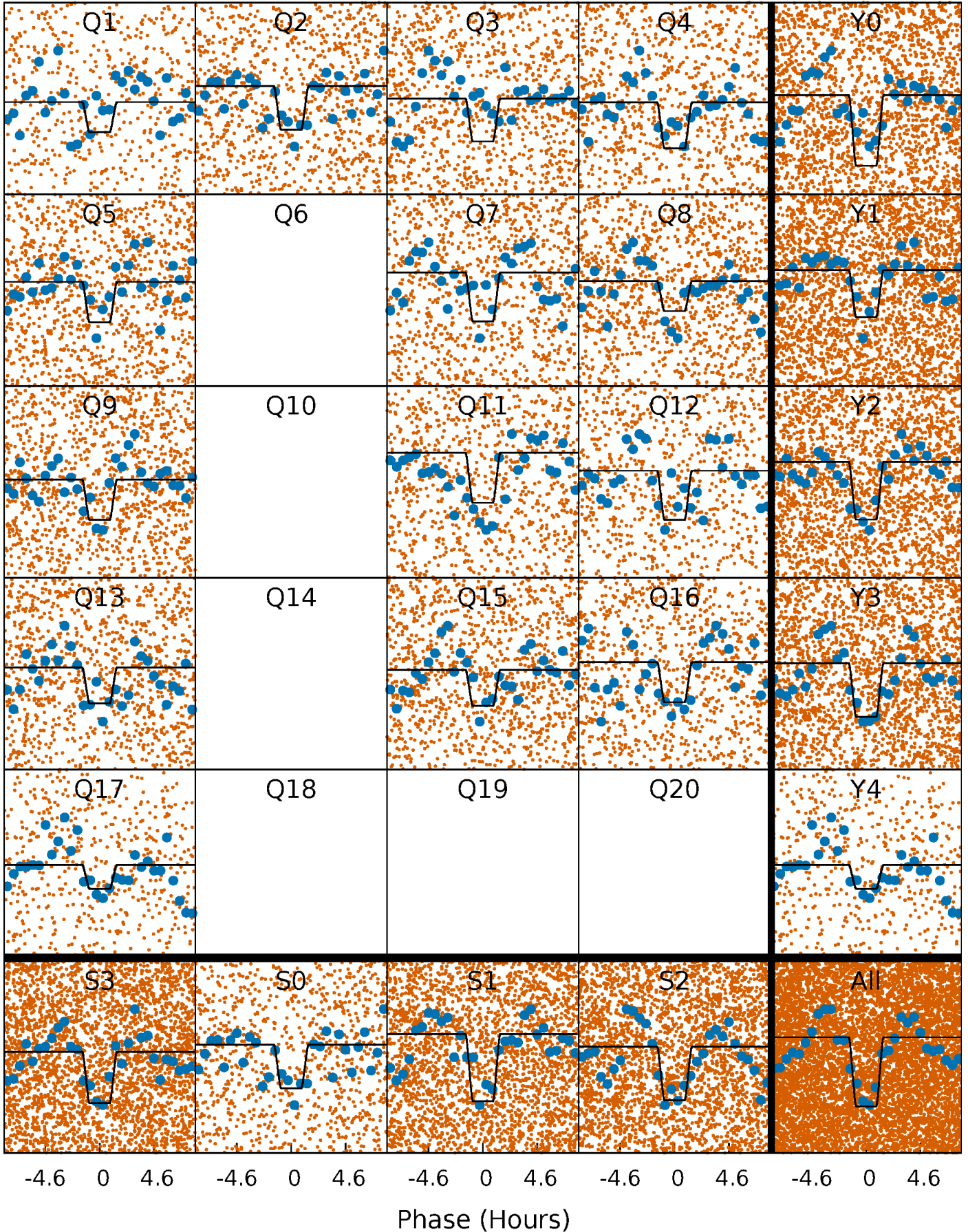
DV Quarter-Phased Transit Curves

TCE 003656905-01 P= 1.178047 Days $T_0=132.263070$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

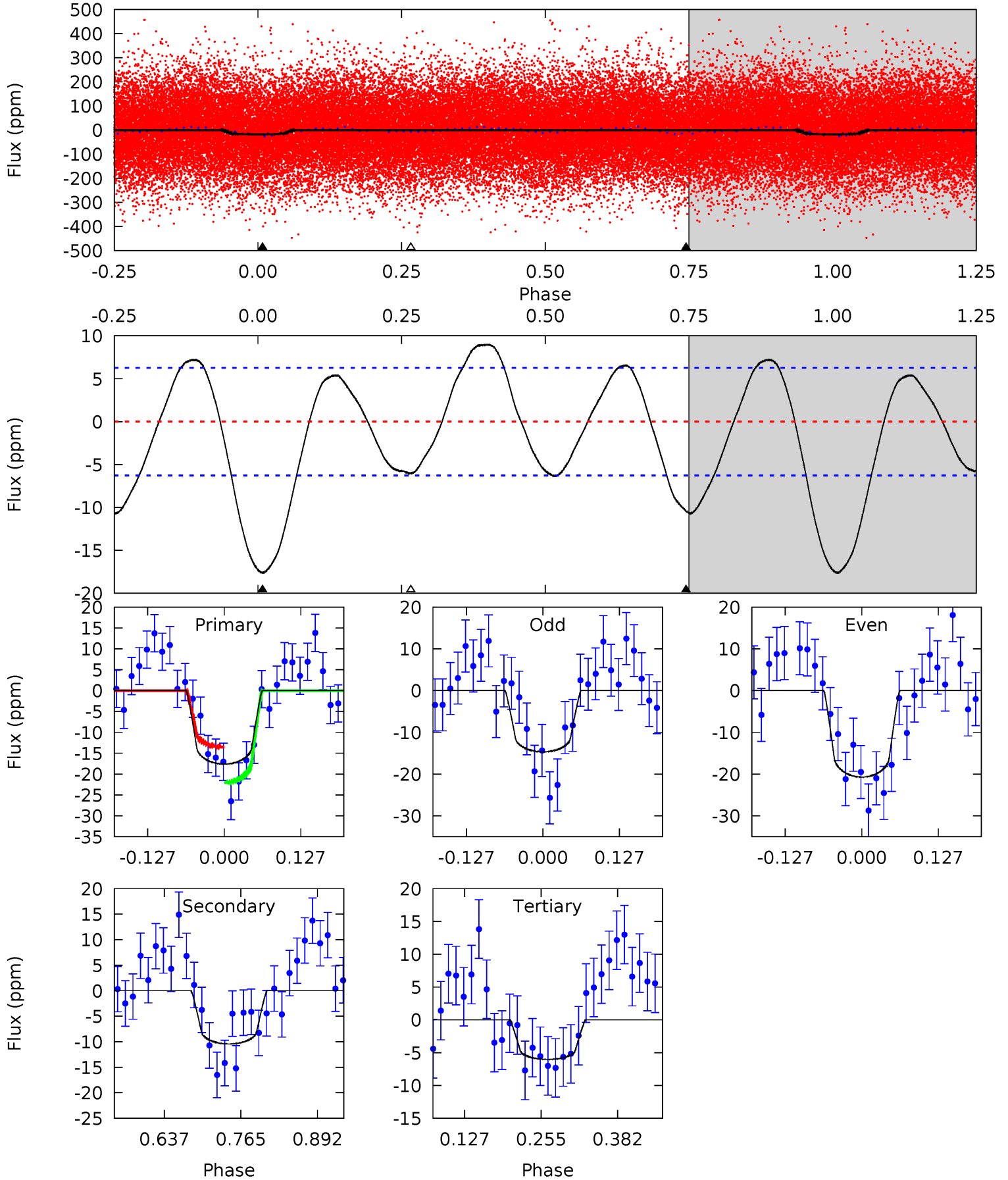
TCE 003656905-01 P= 1.178067 Days $T_0=132.260532$ (BKJD)



DV Model-Shift Uniqueness Test

003656905-01, P = 1.178047 Days, E = 131.085023 Days

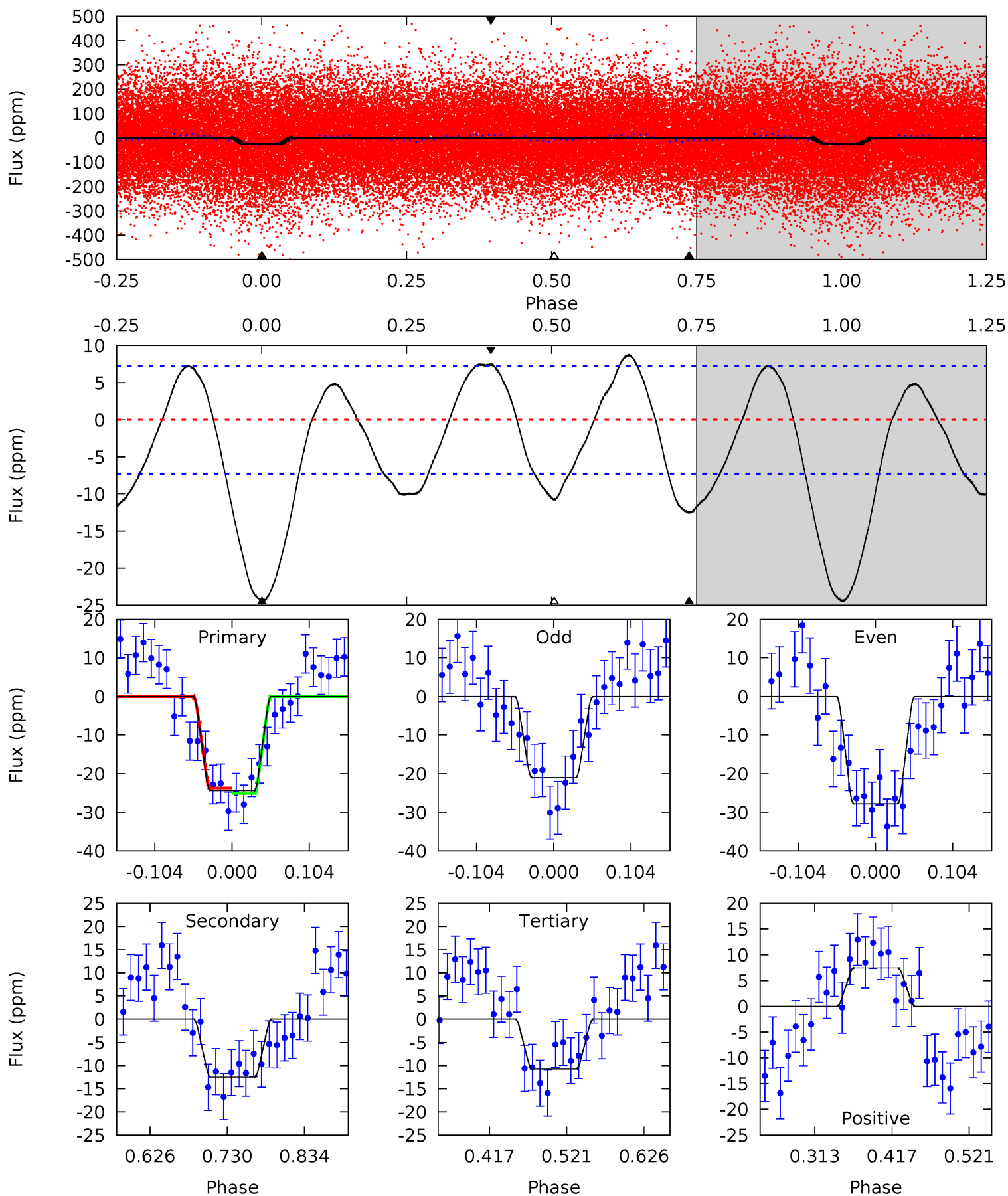
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 12.7 | 7.52 | 4.34 | 0 | 4.51 | 1.52 | 3.56 | 8.34 | 12.7 | 3.17 | 7.52 | 2.18 | 0.99 | 0.34 | 3.05 |



Alt Model-Shift Uniqueness Test

003656905-01, P = 1.178067 Days, E = 131.082465 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.3 | 7.83 | 6.74 | 4.67 | 4.56 | 1.62 | 3.91 | 8.53 | 10.6 | 1.09 | 3.17 | 2.12 | 1.05 | 0.26 | 0.44 |



Stellar Parameters For KIC 003656905

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|--|
| | 6668^{+160}_{-200} | $3.639^{+0.315}_{-0.056}$ | $-0.040^{+0.300}_{-0.250}$ | $3.276^{+0.397}_{-1.191}$ | $1.705^{+0.198}_{-0.322}$ | $0.068^{+0.159}_{-0.017}$ |
| | +2%/-3% | +9%/-2% | +750%/-625% | +12%/-36% | +12%/-19% | +233%/-24% |
| Source | PHO1 | FLK73 | 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 003656905-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|-----------------------|---------------------------|
| DV | -10 ± 1 | $1.51^{+0.58}_{-0.56}$ | 4479^{+223}_{-420} | 5336^{+1505}_{-808} | $1.729^{+2.646}_{-0.824}$ |
| Alt. | -13 ± 2 | $1.73^{+0.66}_{-0.57}$ | 4473^{+259}_{-376} | 5232^{+1162}_{-813} | $1.592^{+1.987}_{-0.770}$ |

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

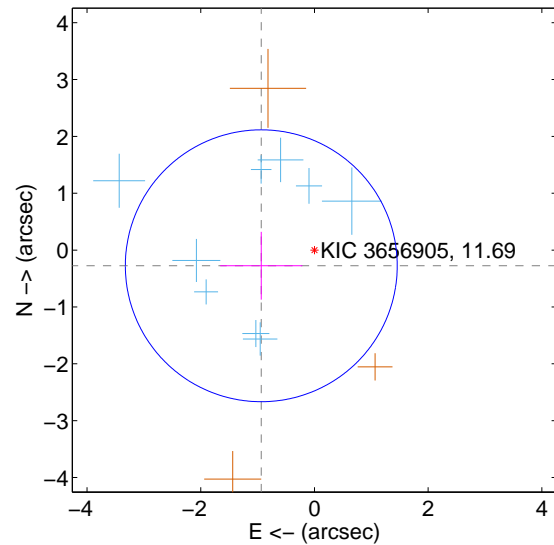
Supplemental centroid analysis for 003656905-01. **Kepler magnitude: 11.69.** Transit SNR 6.89

There are 9 quarters with good PRF difference image offsets

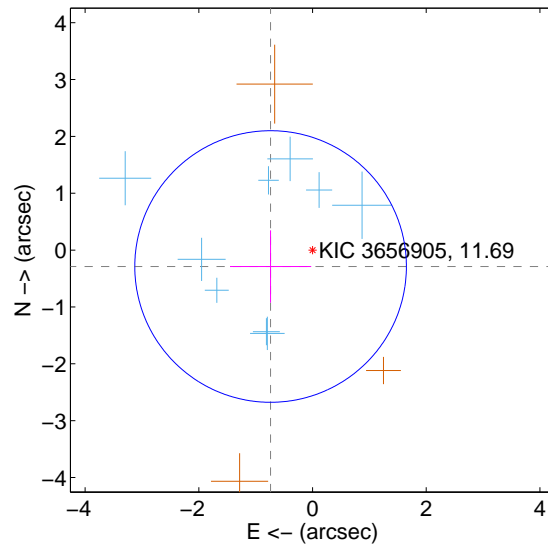
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 0.975 ± 0.797 | 1.22 | 0.935 ± 0.723 | -0.276 ± 0.596 |
| PRF-fit source offset from KIC position | 0.792 ± 0.796 | 0.99 | 0.737 ± 0.715 | -0.289 ± 0.635 |
| photometric centroid source offset | 1.08 ± 0.82 | 1.32 | -0.40 ± 0.74 | -1.01 ± 0.83 |

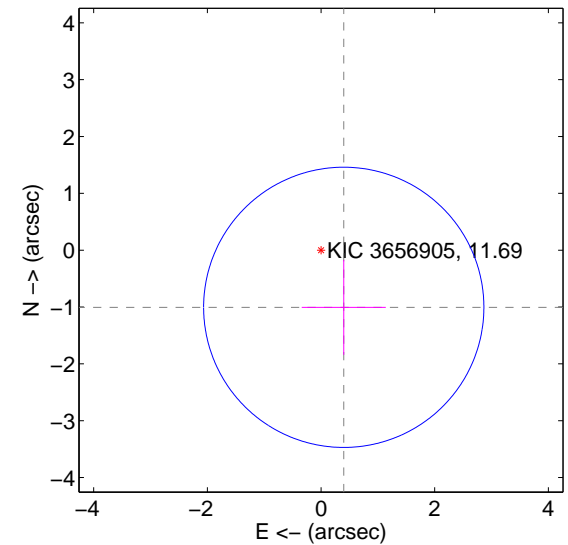
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

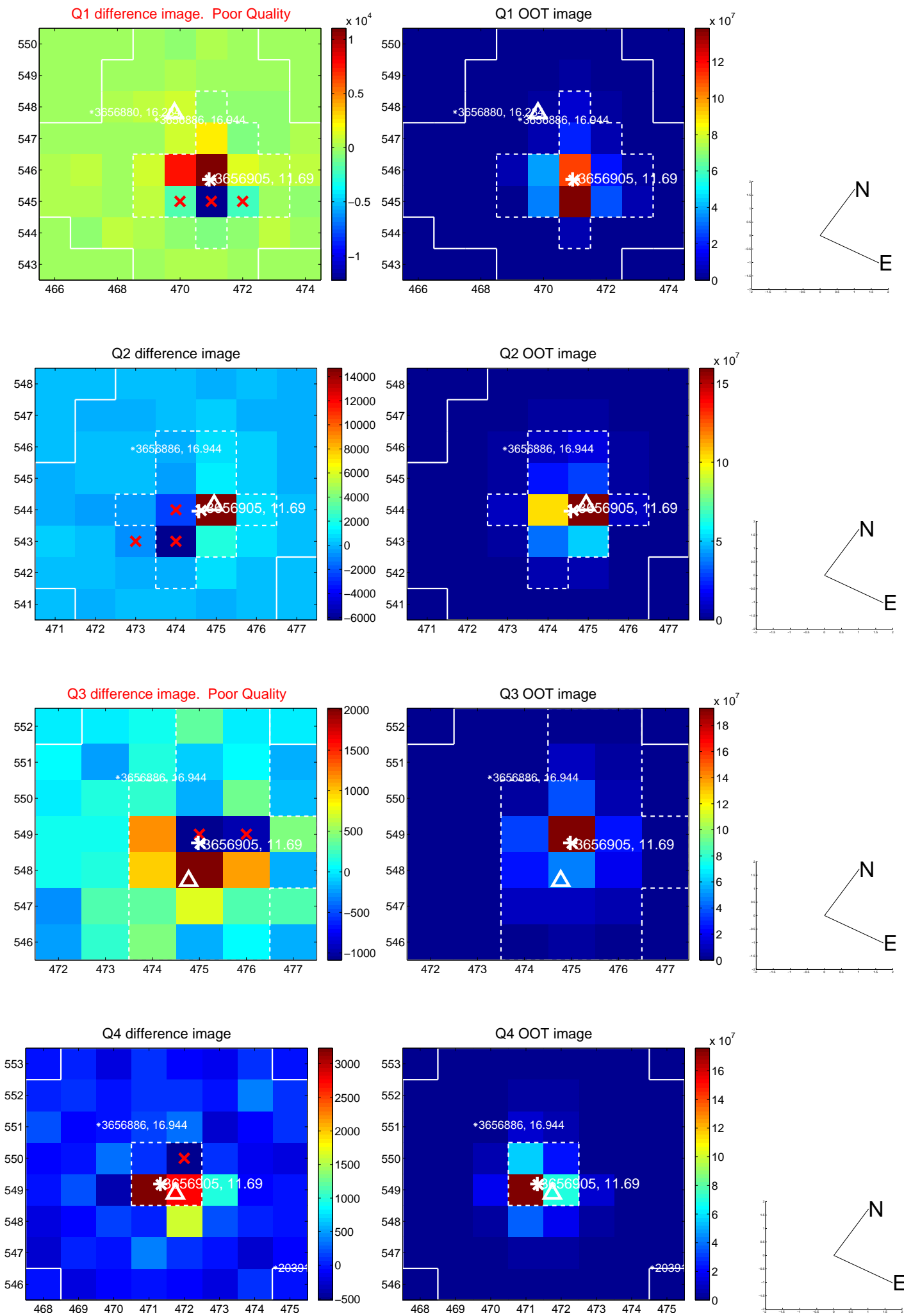


offset from photometric centroids

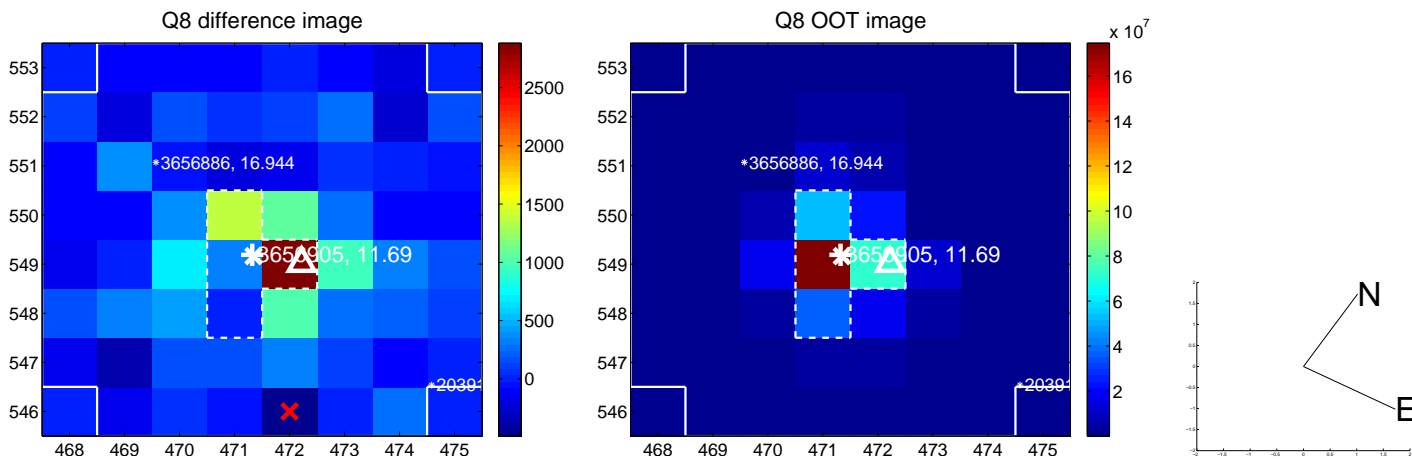
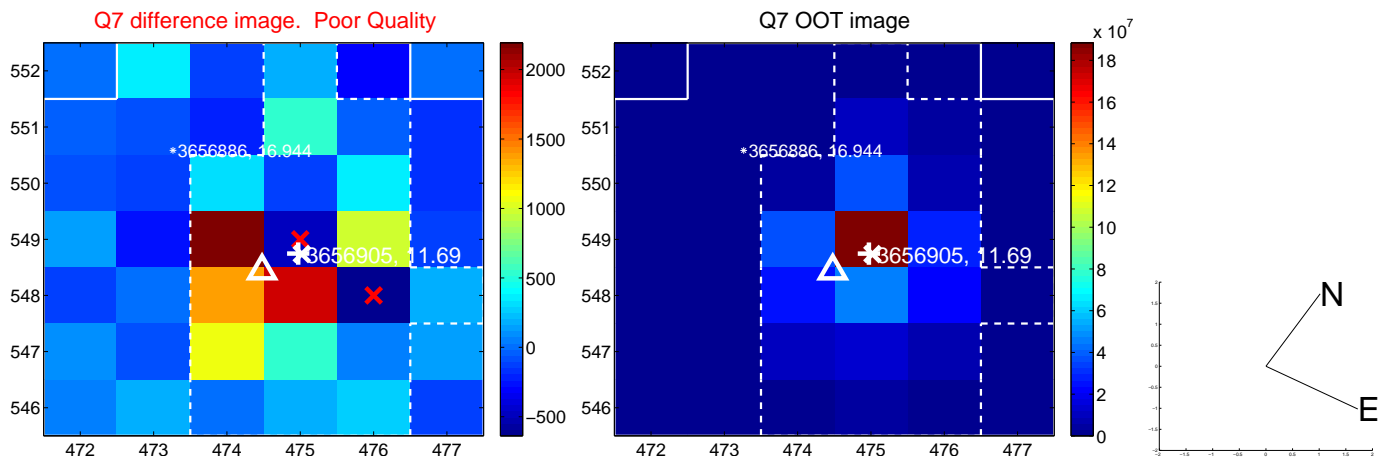
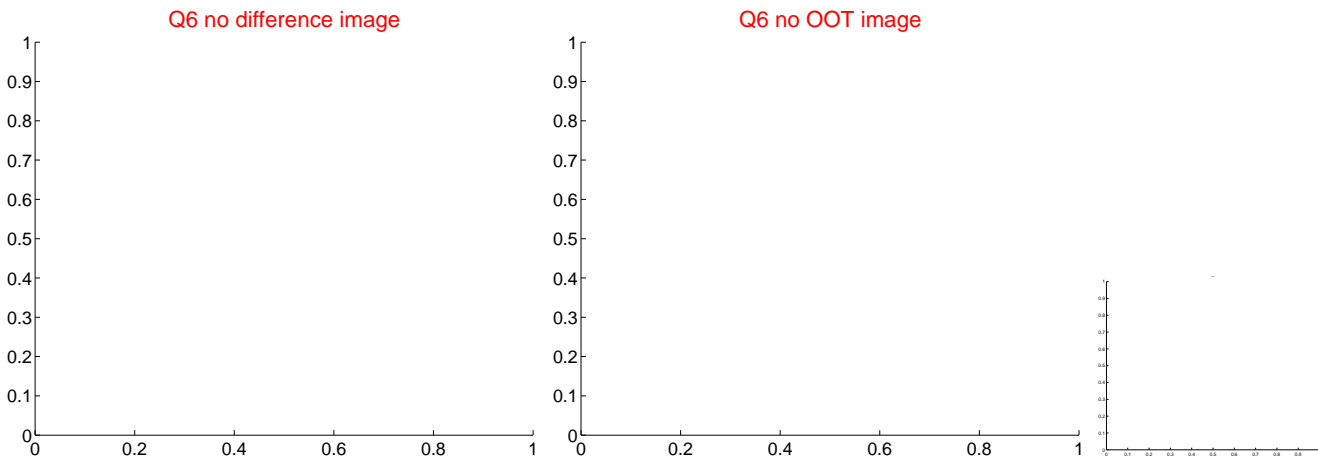
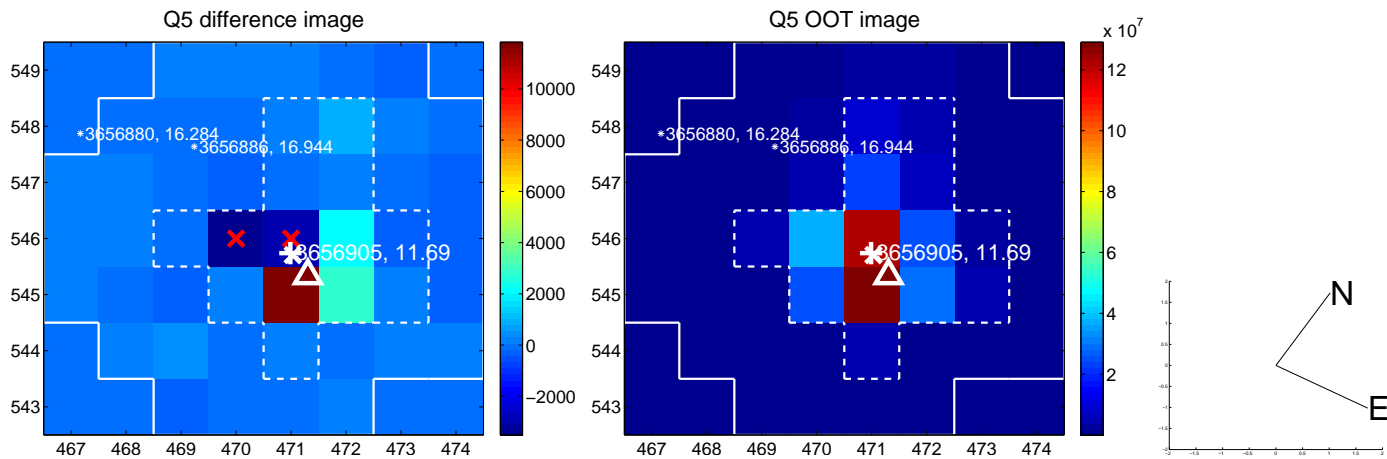


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

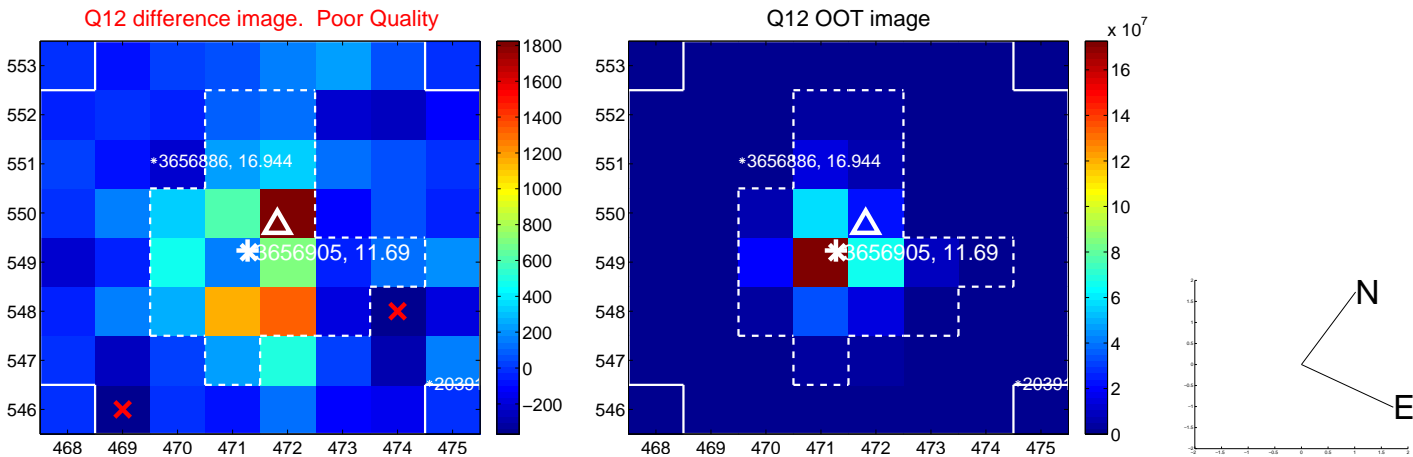
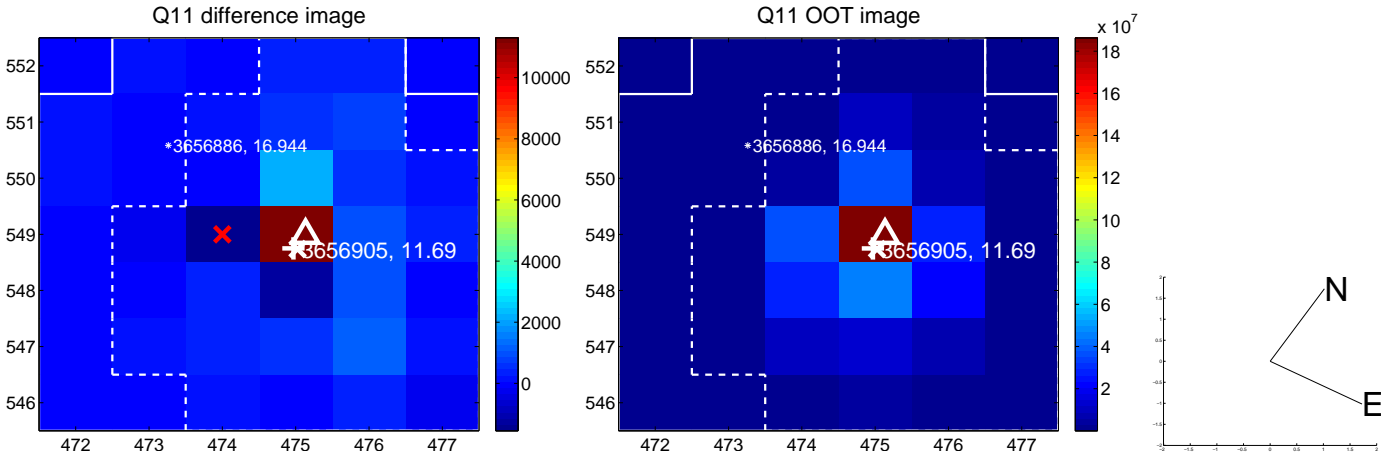
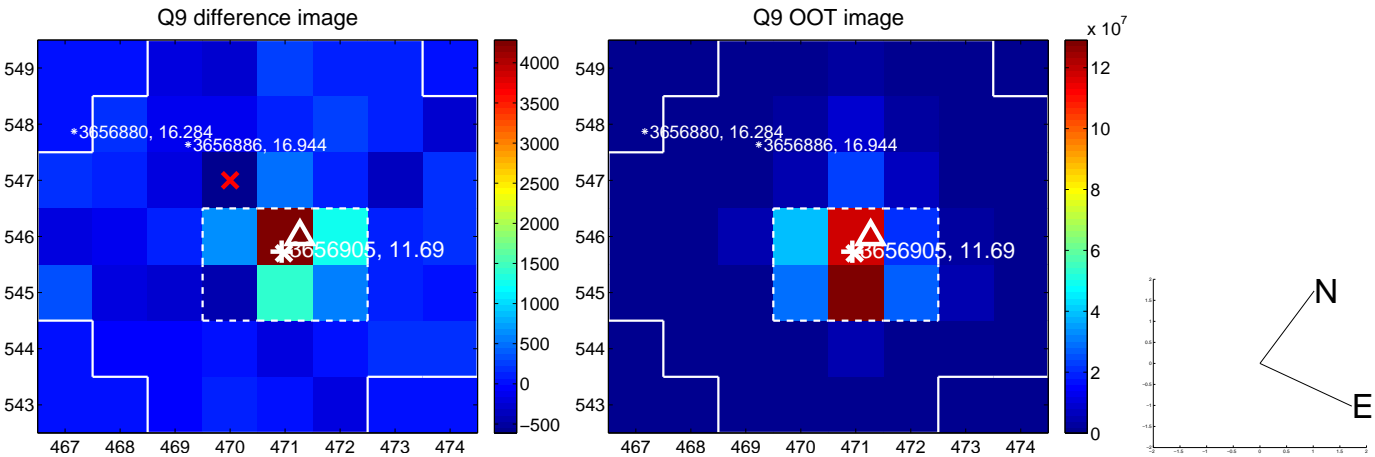
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



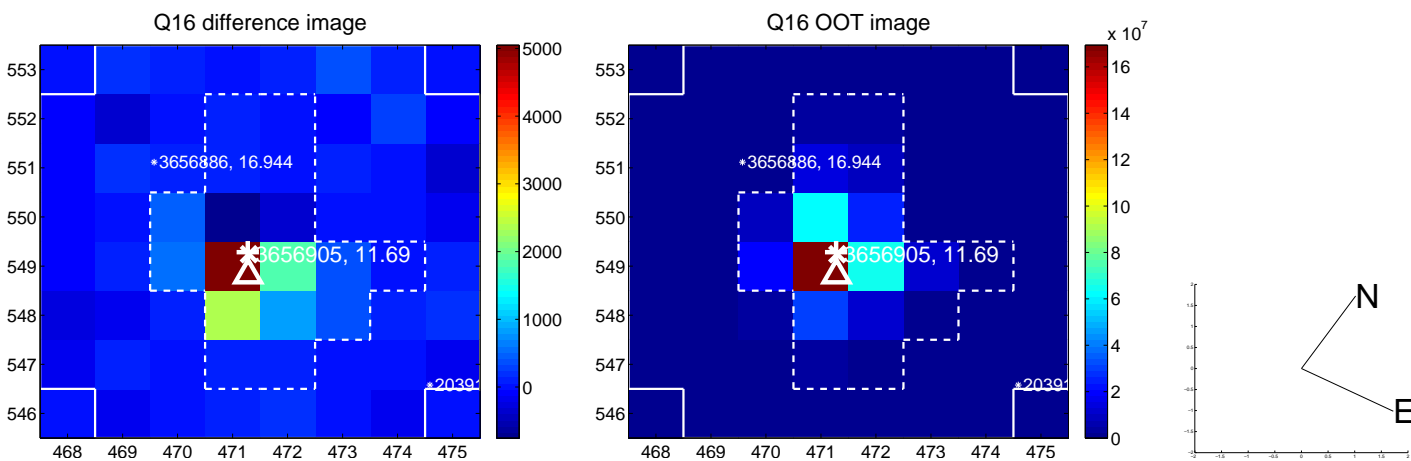
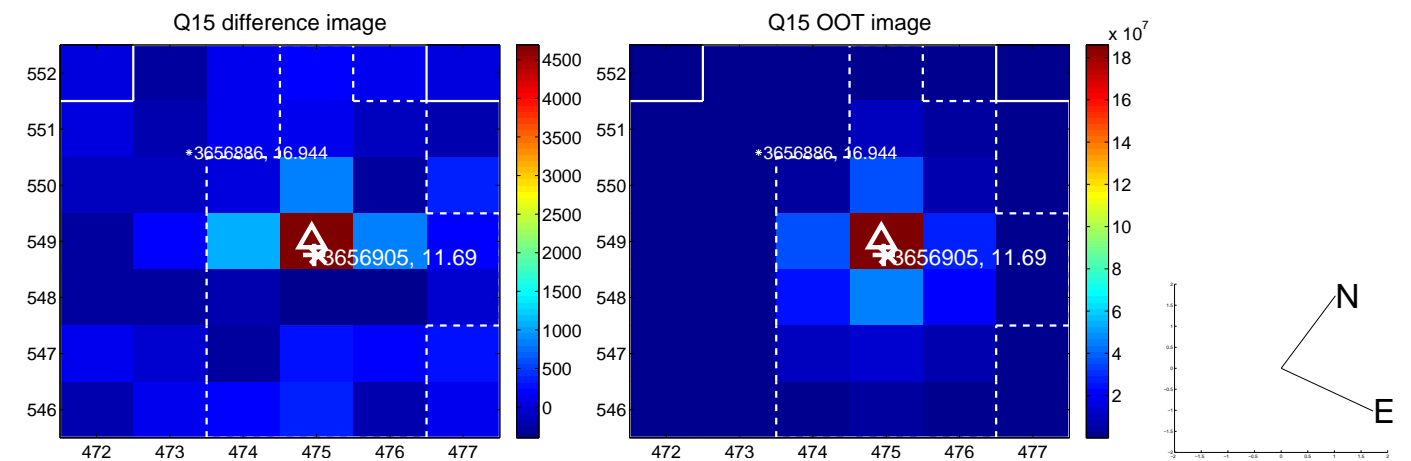
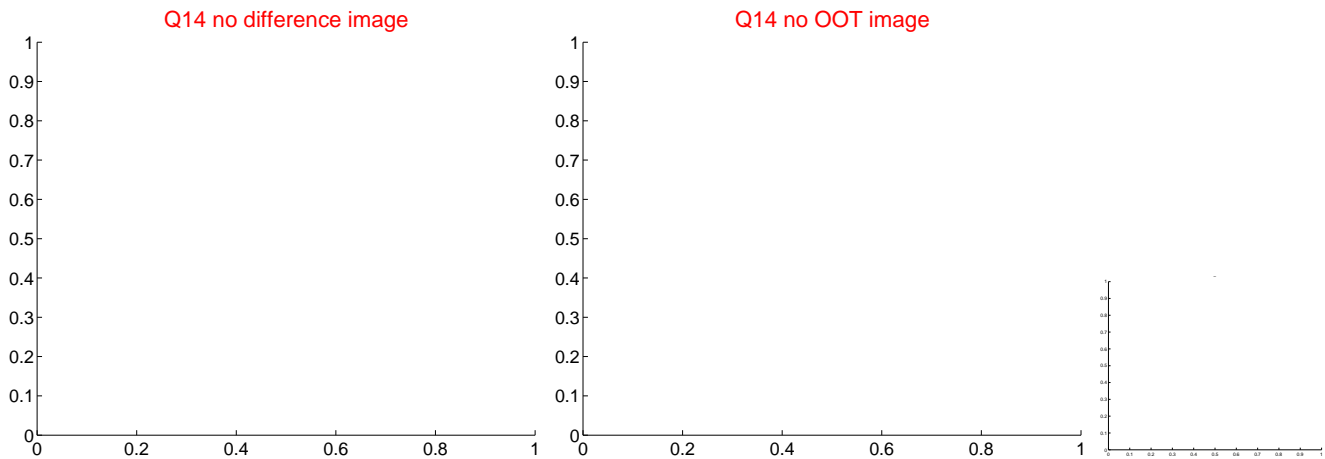
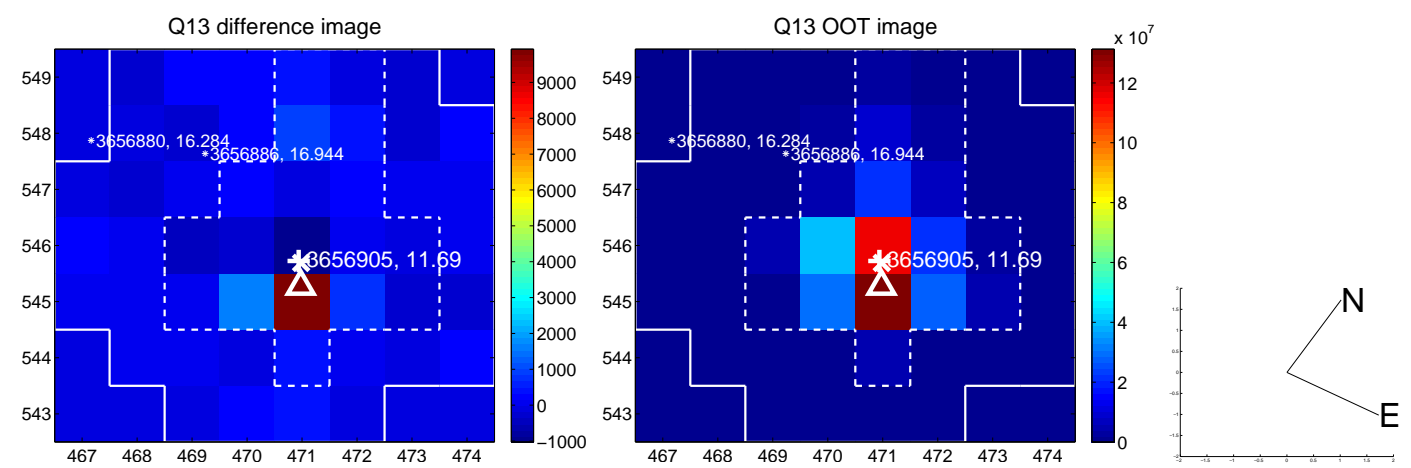
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



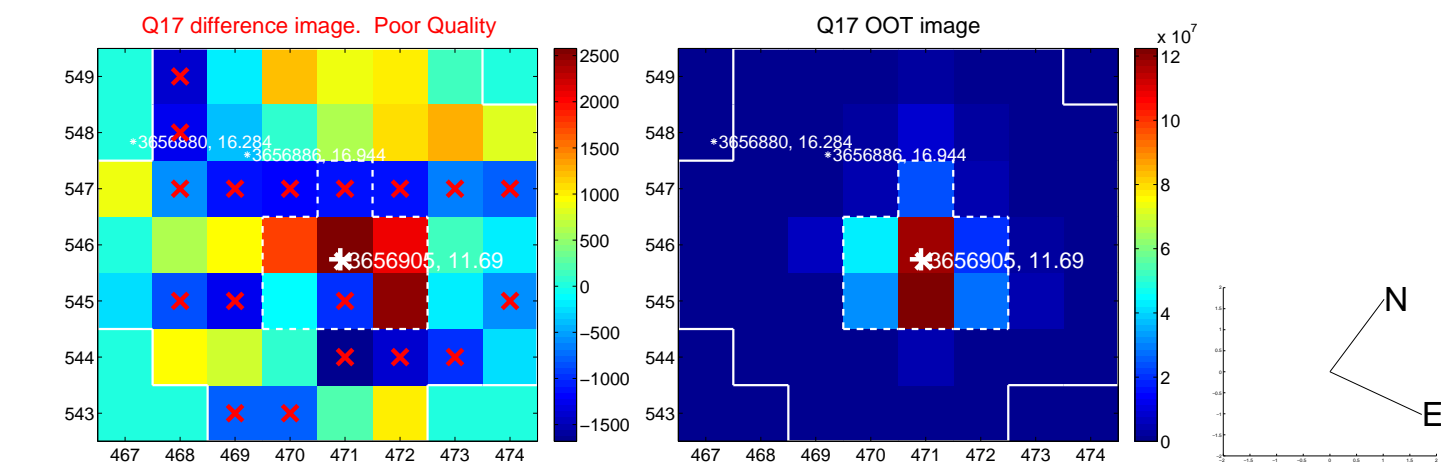
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



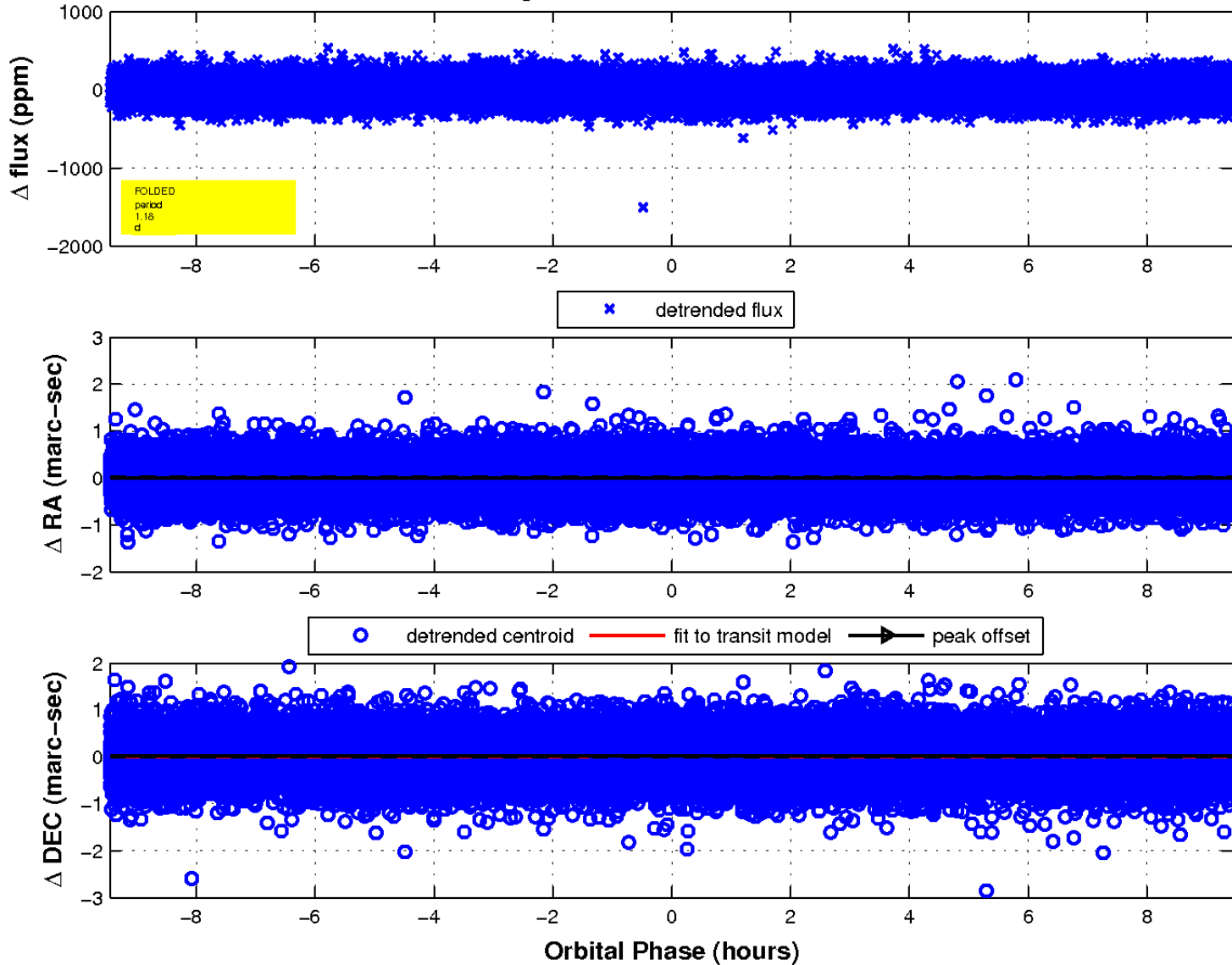
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

