

KIC 011962541

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 011962541-01 | OBS | No | 341.177398 | 327.424912 | 585.7 | 7.137 | 8.7 | 5.8 | 0.86 | 4879 | 2.34 | 0.48 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 011962541-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

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

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

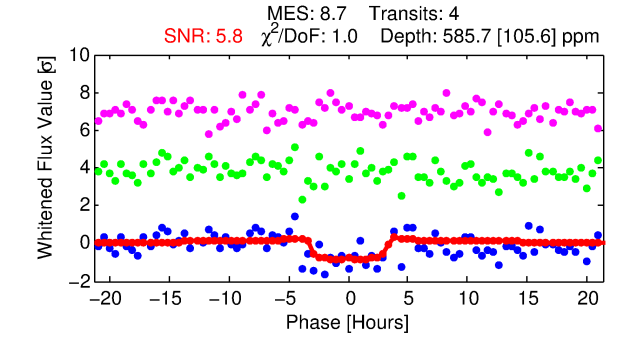
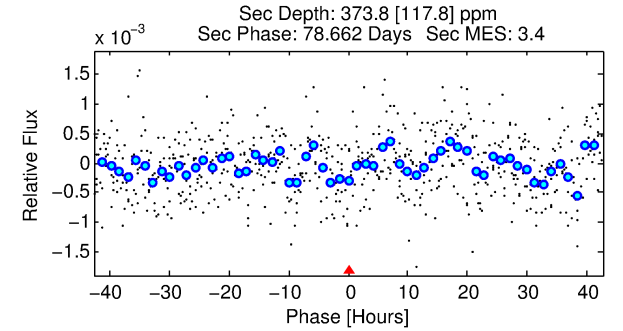
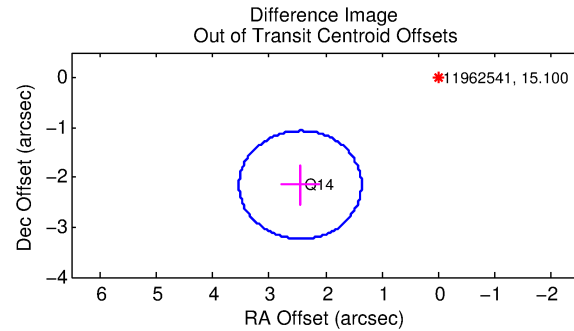
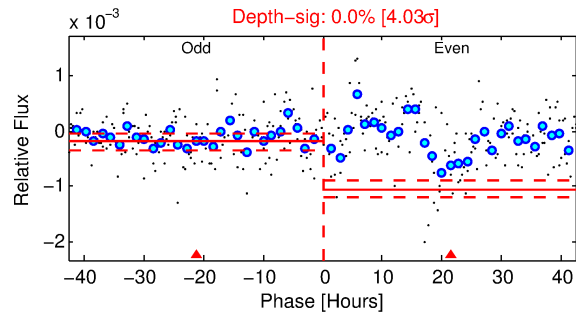
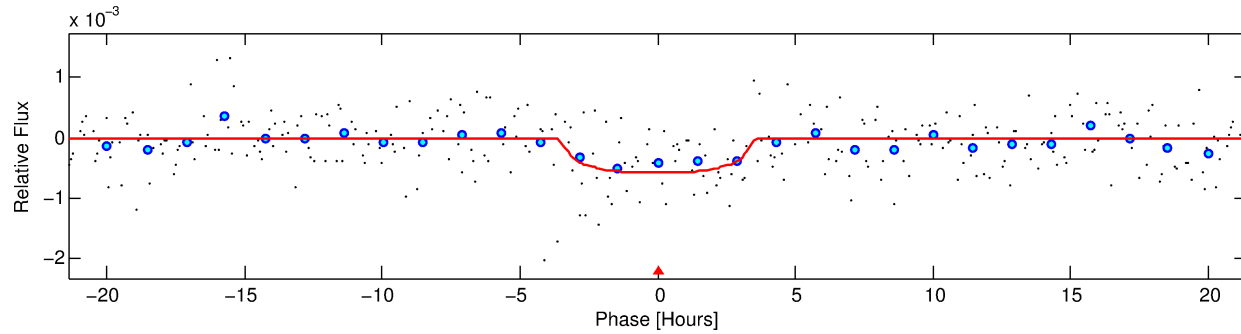
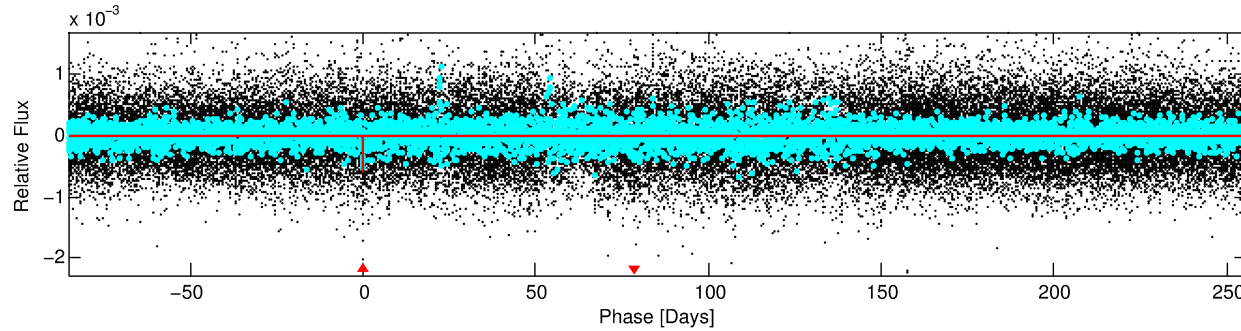
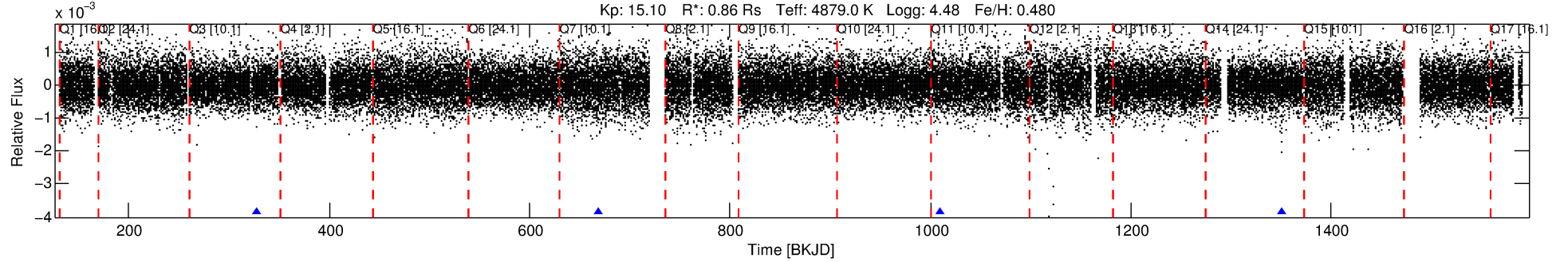
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011962541-01

No Significant Match Found

DV One-Page Summary

KIC: 11962541 Candidate: 1 of 1 Period: 341.177 d



DV Fit Results:

Period = 341.17740 [0.00823] d
Epoch = 327.4249 [0.0164] BKJD
Rp/R* = 0.0248 [0.0148]
a/R* = 237.34 [483.48]
b = 0.79 [0.97]
Seff = 0.48 [0.14]
Teq = 212 [15] K
Rp = 2.34 [1.42] Re
a = 0.8927 [0.1285] AU
Ag = 29953.84 [37858.77] [0.79σ]
Teff = 4307 [1338] K [3.06σ]

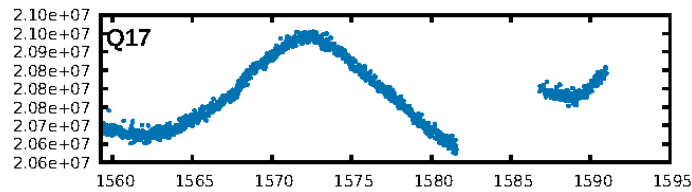
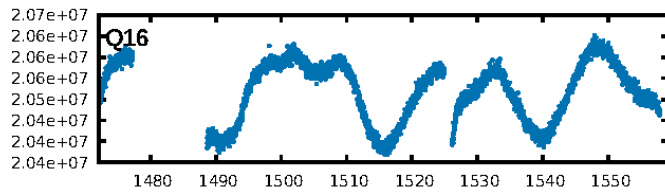
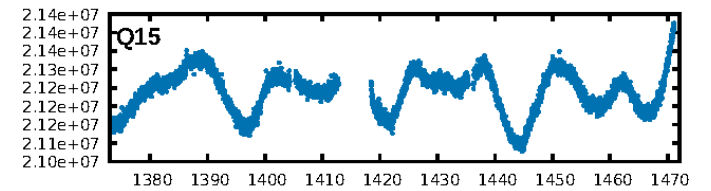
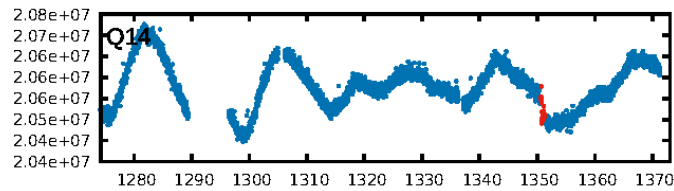
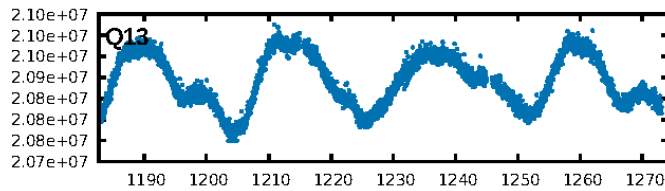
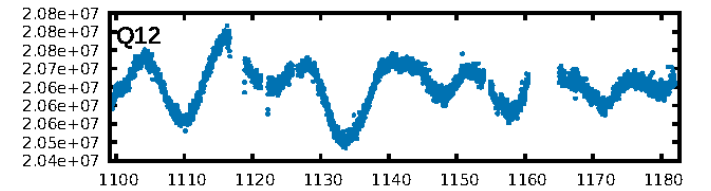
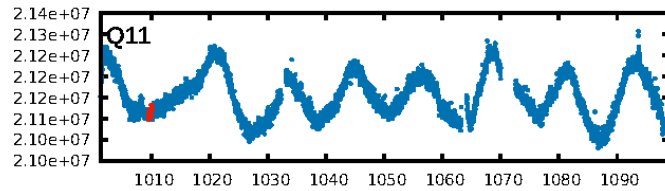
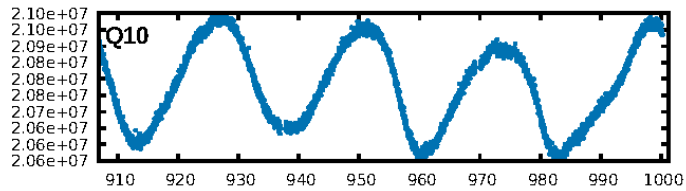
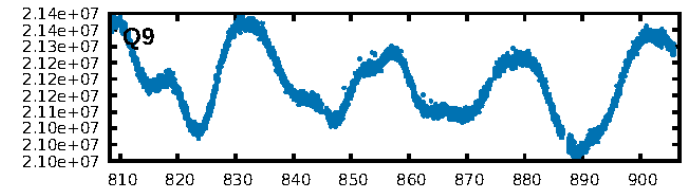
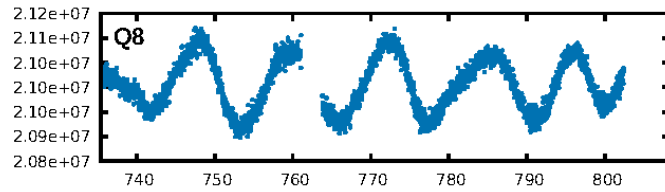
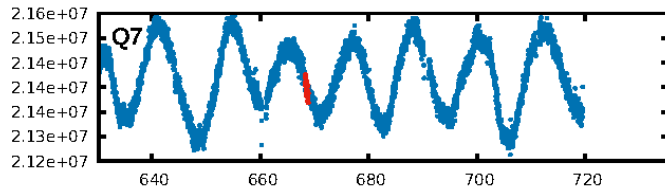
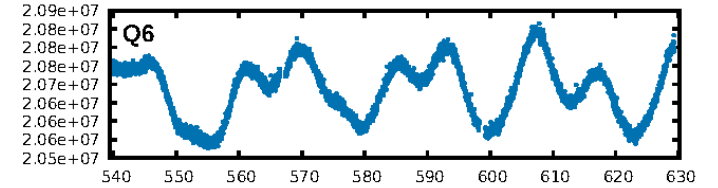
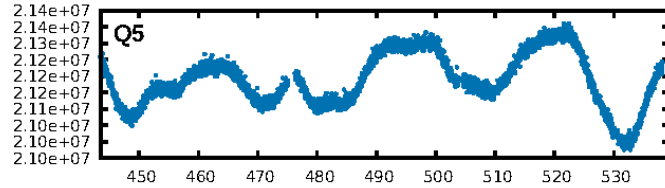
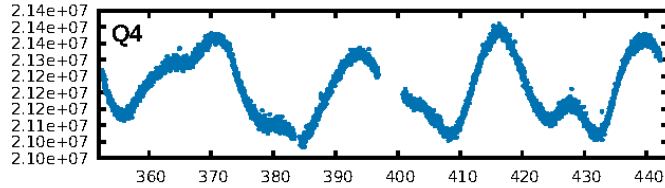
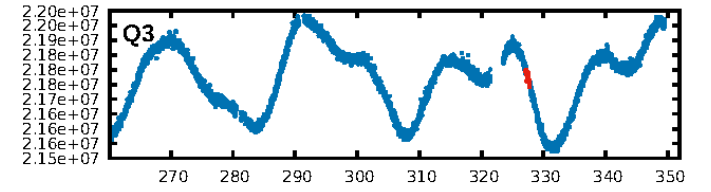
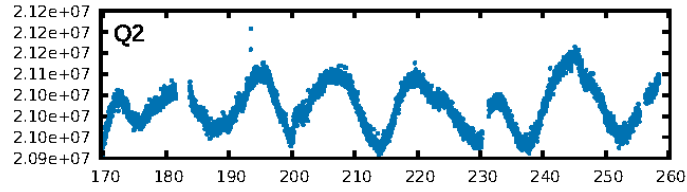
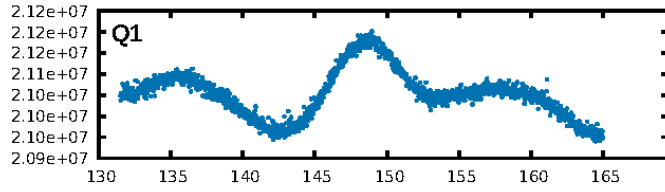
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 85.4%
Bootstrap-pfa: 1.36e-15
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -33.23
Centroid-sig: 2.5%
Centroid-so: 2.041 arcsec [1.42σ]
OotOffset-rm: 3.261 arcsec [9.03σ]
KicOffset-rm: 3.154 arcsec [8.74σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [4/4]

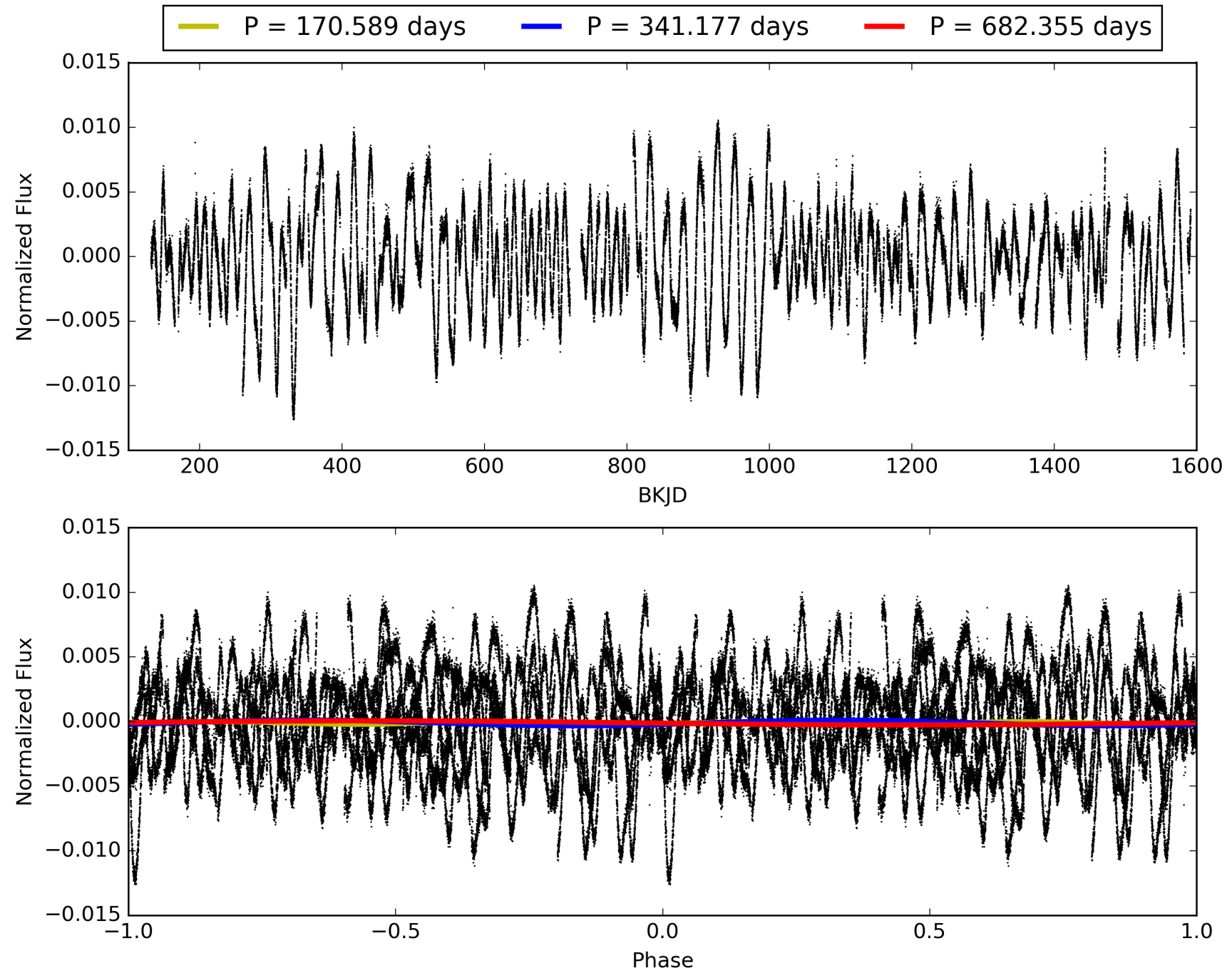
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:47:02 Z

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

TCE 011962541-01, PDC Light Curves

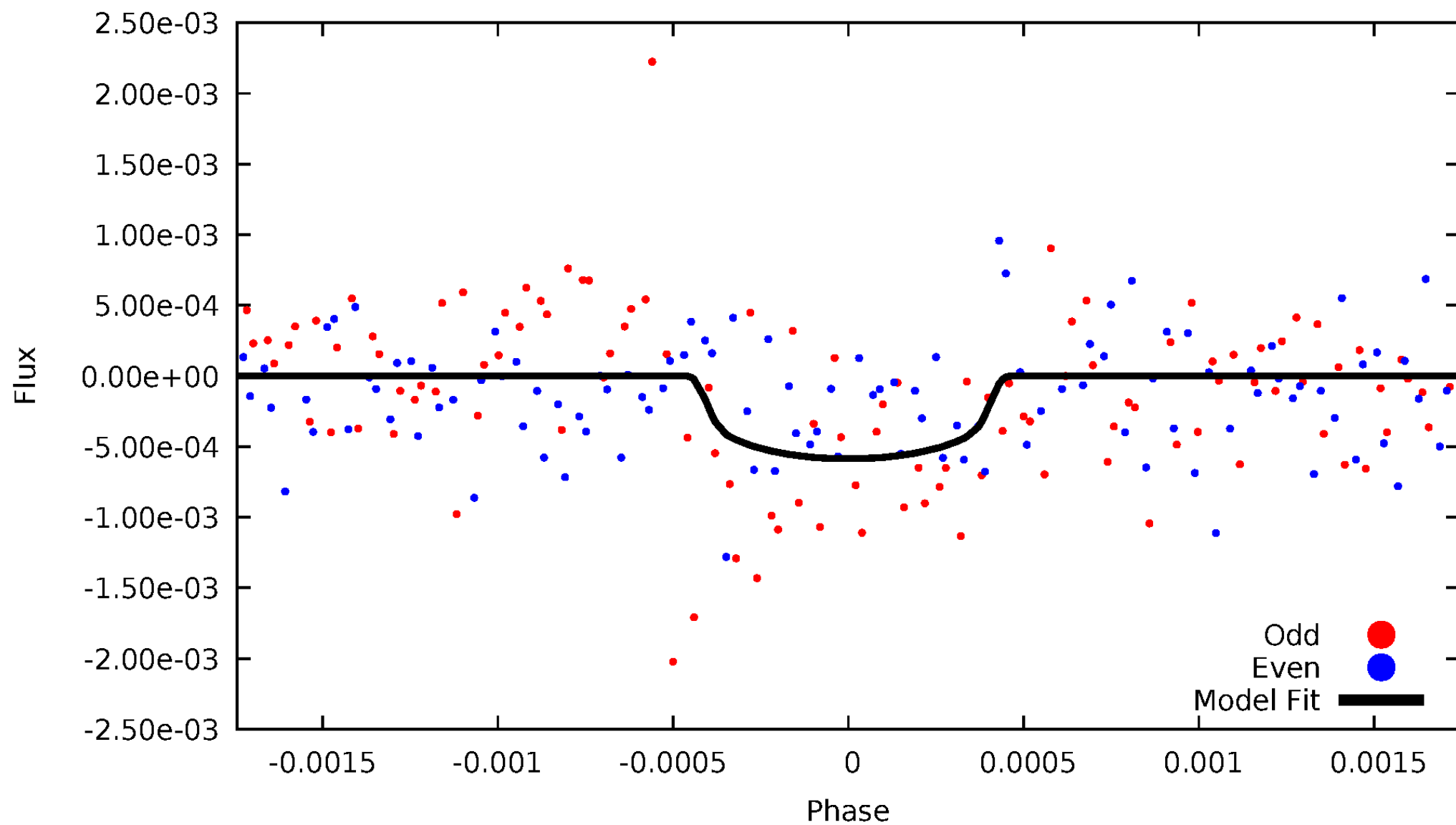


TCE 011962541-01



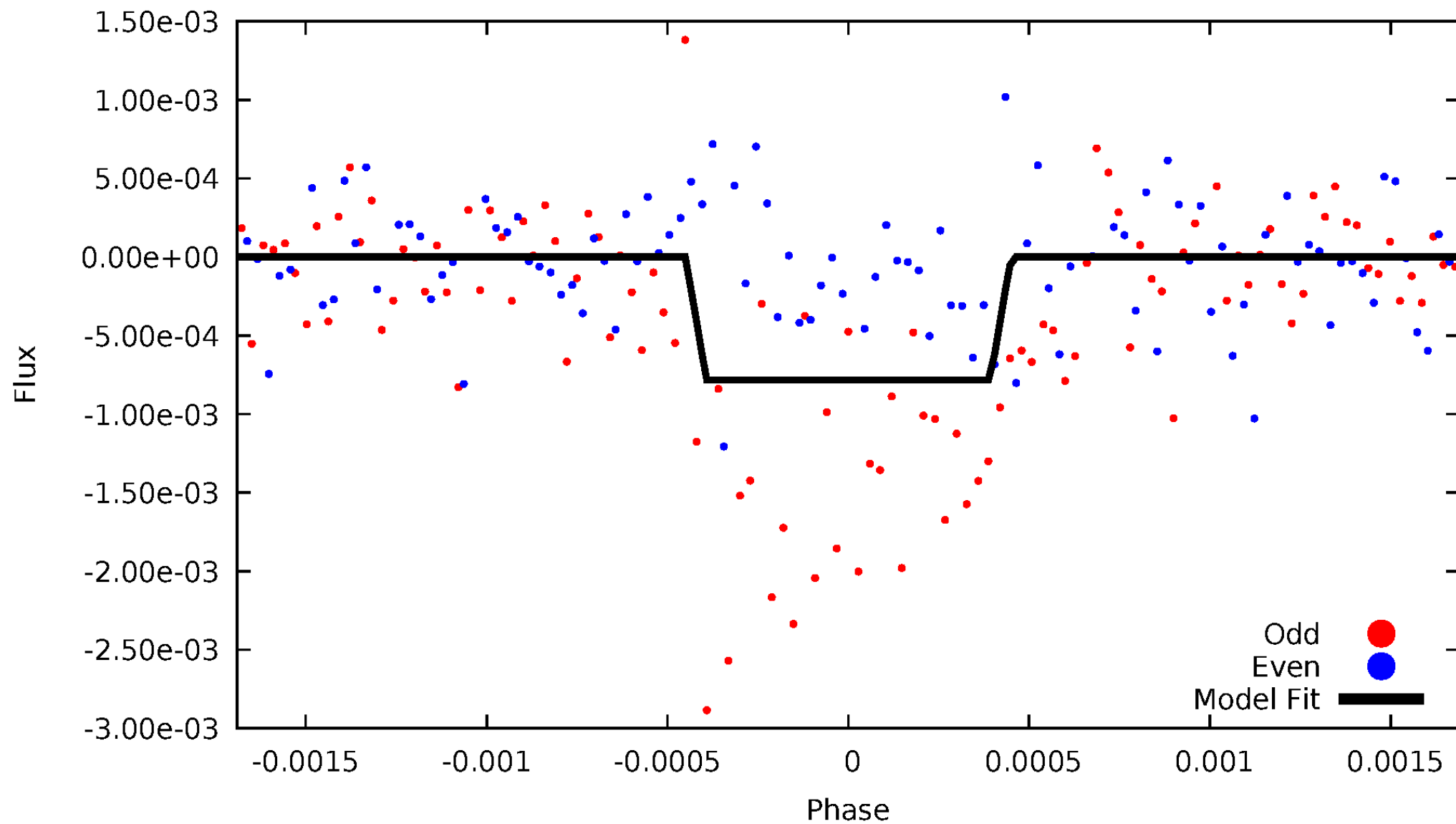
DV Odd/Even

TCE 011962541-01



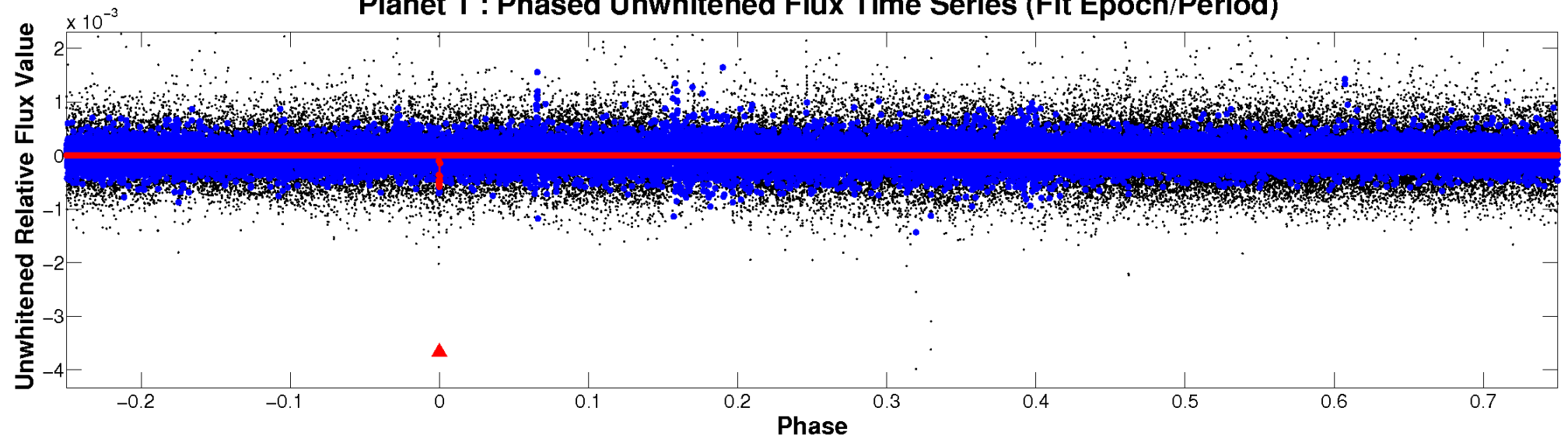
ALT Odd/Even

TCE 011962541-01

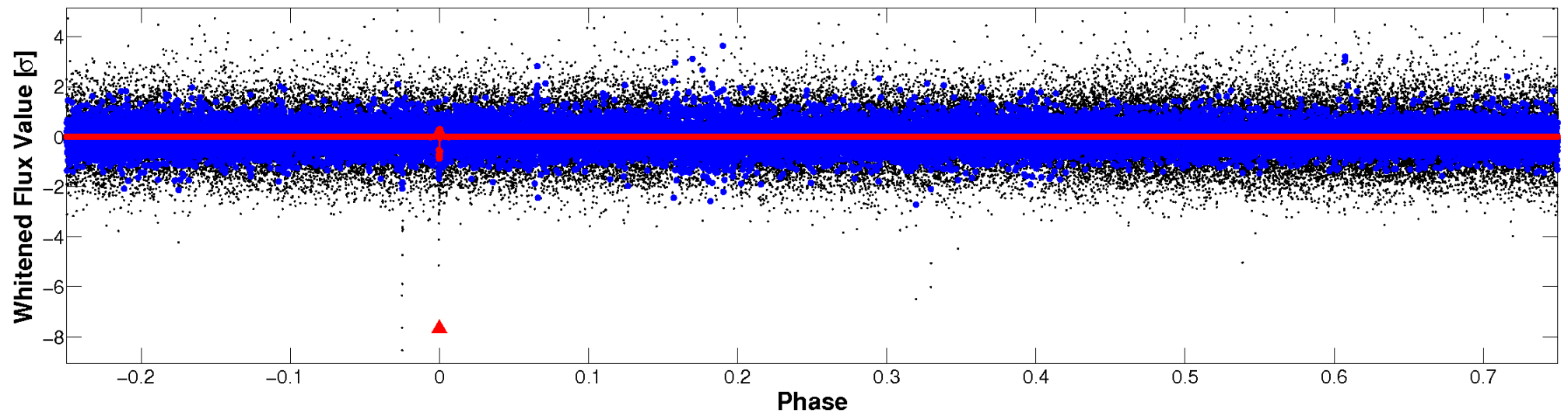


Non-Whitened Vs. Whitened Light Curve

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

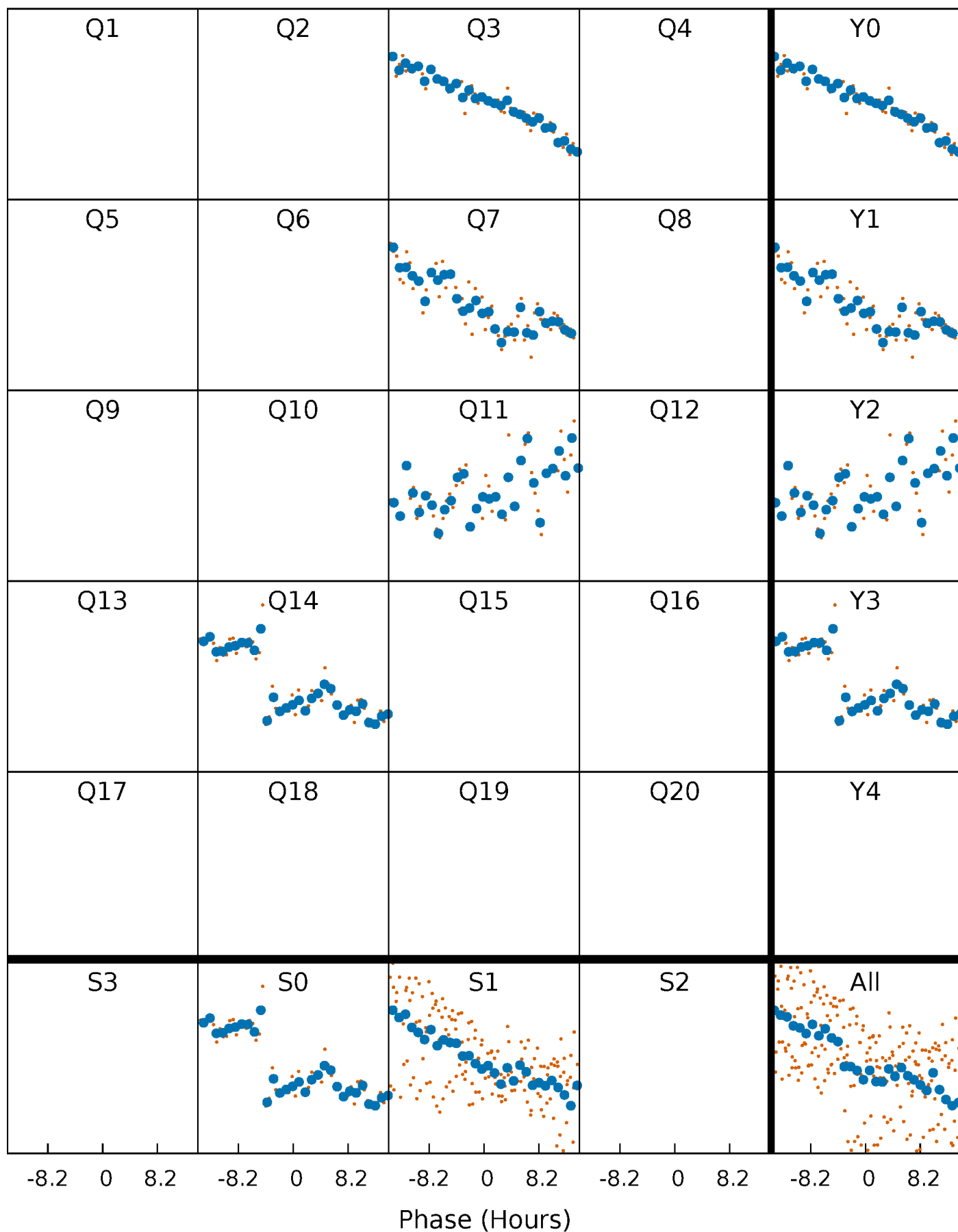


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



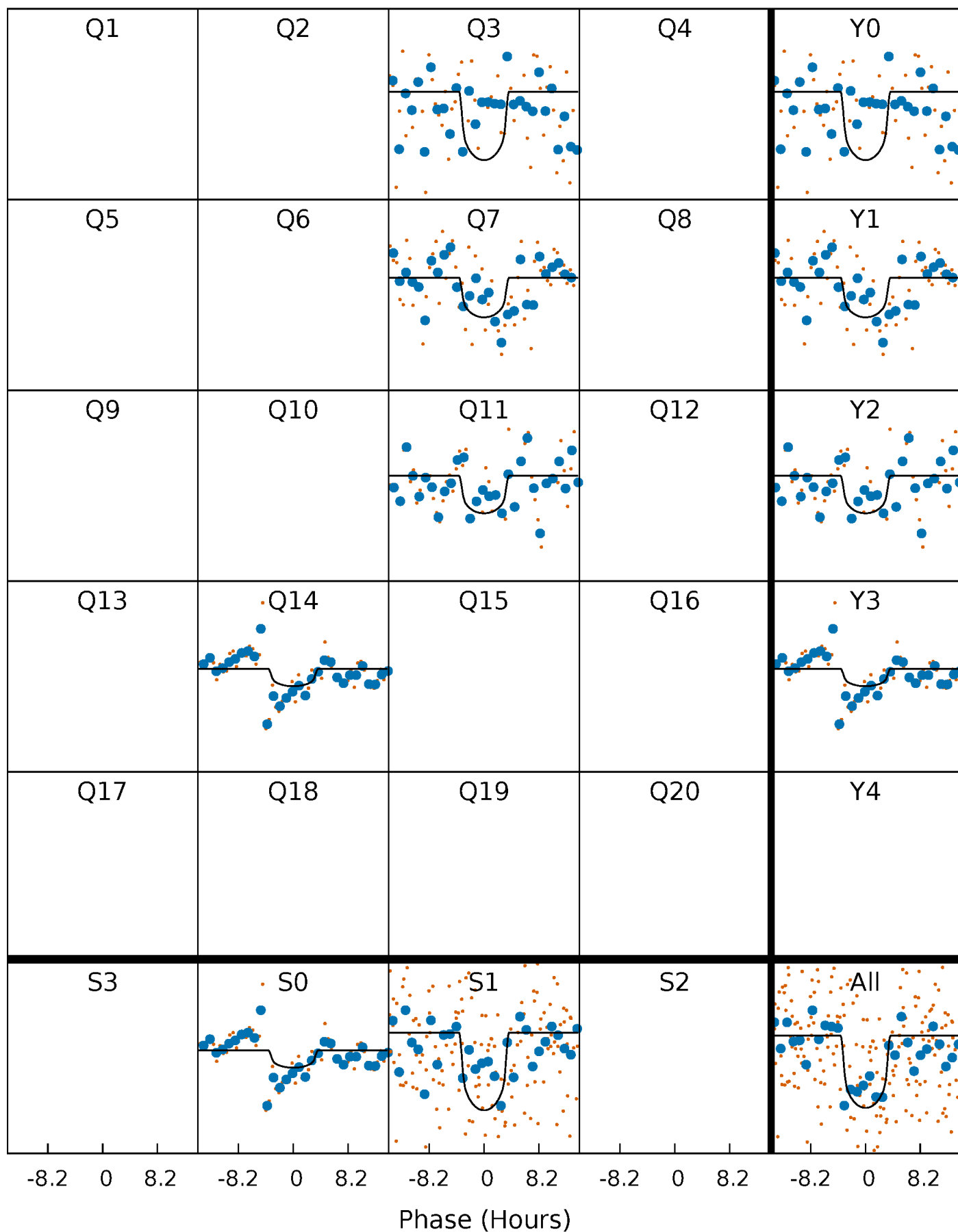
PDC Quarter-Phased Transit Curves

TCE 011962541-01 $P=341.177398$ Days $T_0=327.424912$ (BKJD)



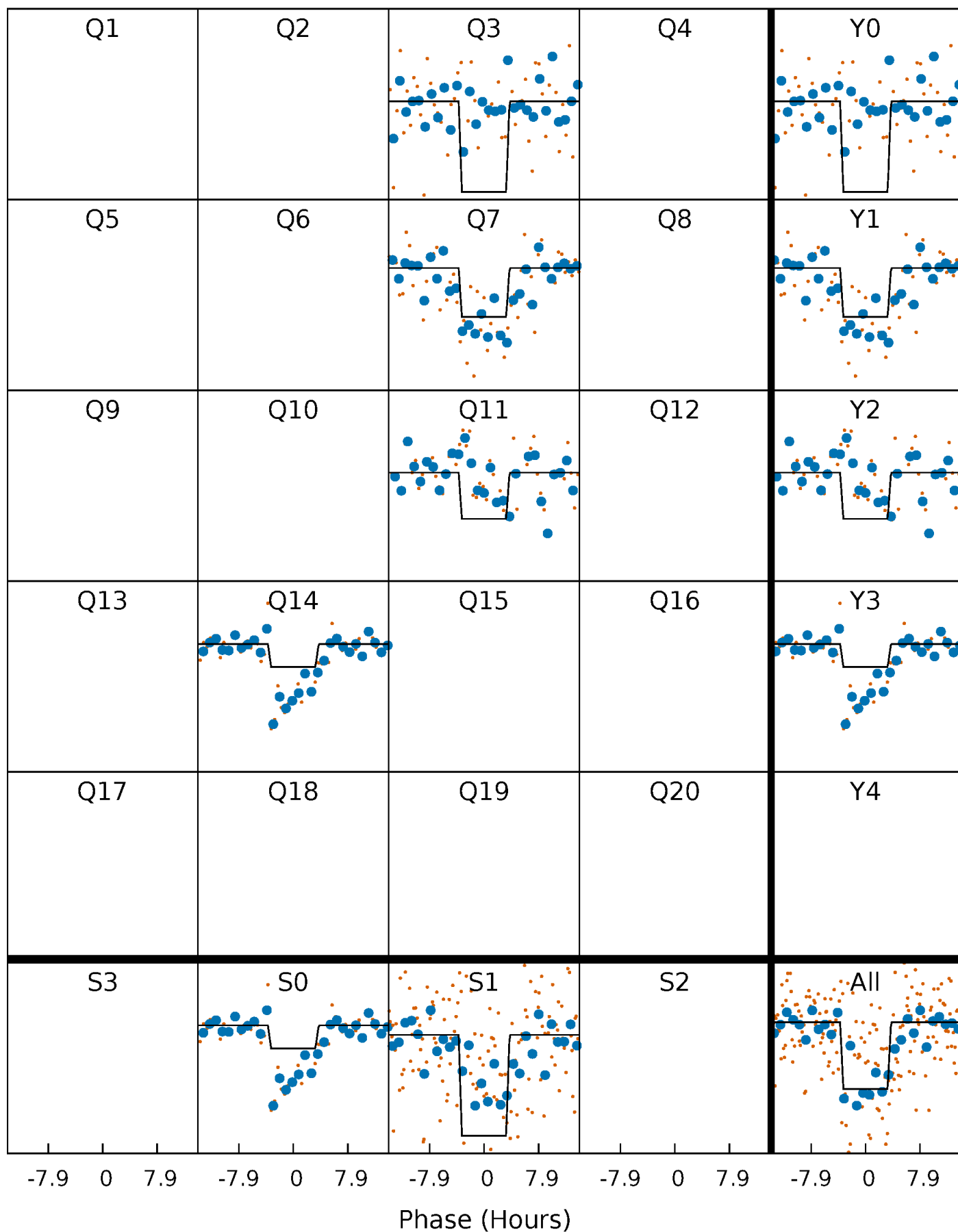
DV Quarter-Phased Transit Curves

TCE 011962541-01 P=341.177398 Days $T_0=327.424912$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

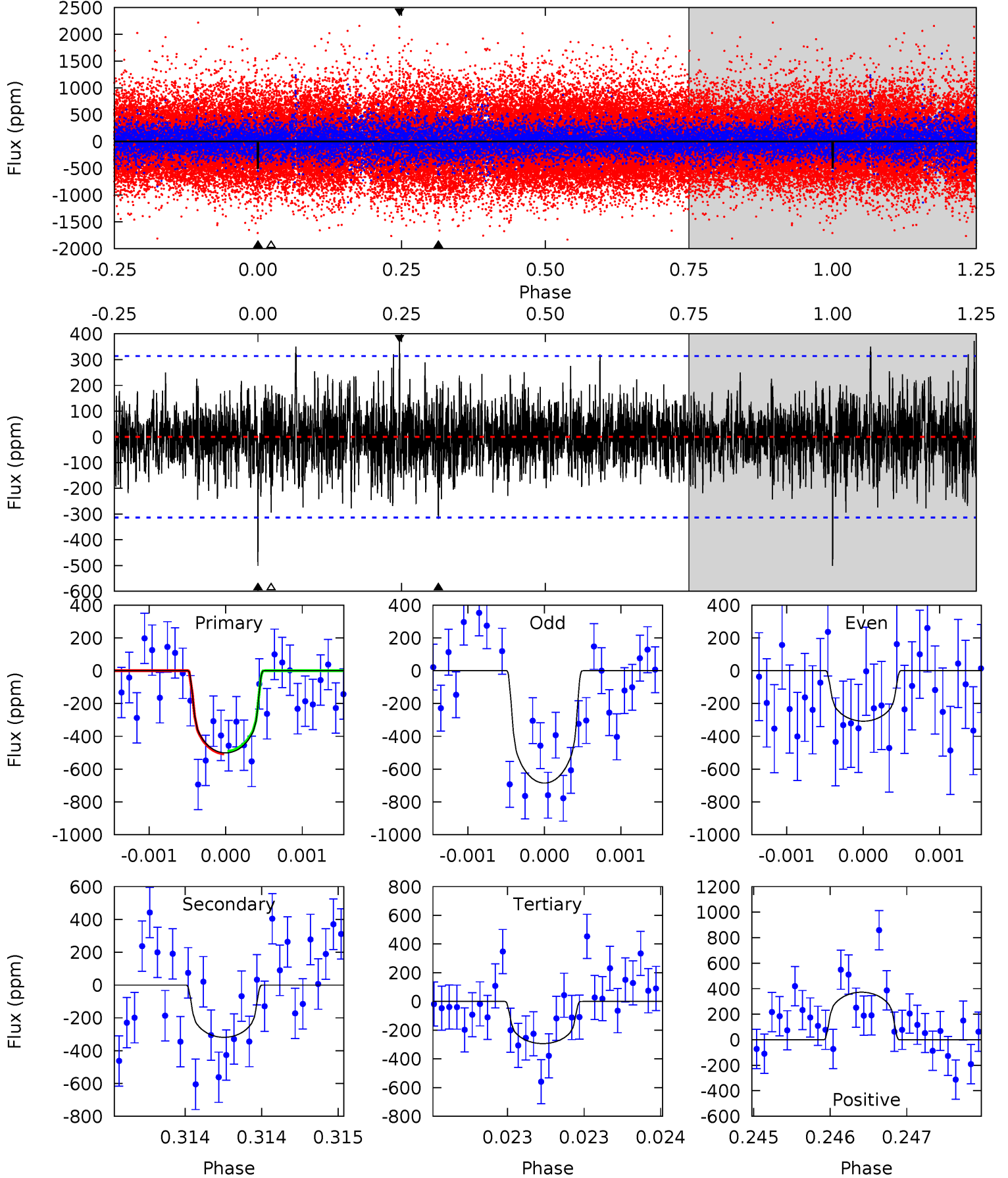
TCE 011962541-01 P=341.165529 Days $T_0=327.423407$ (BKJD)



DV Model-Shift Uniqueness Test

011962541-01, P = 341.177398 Days, E = 327.424912 Days

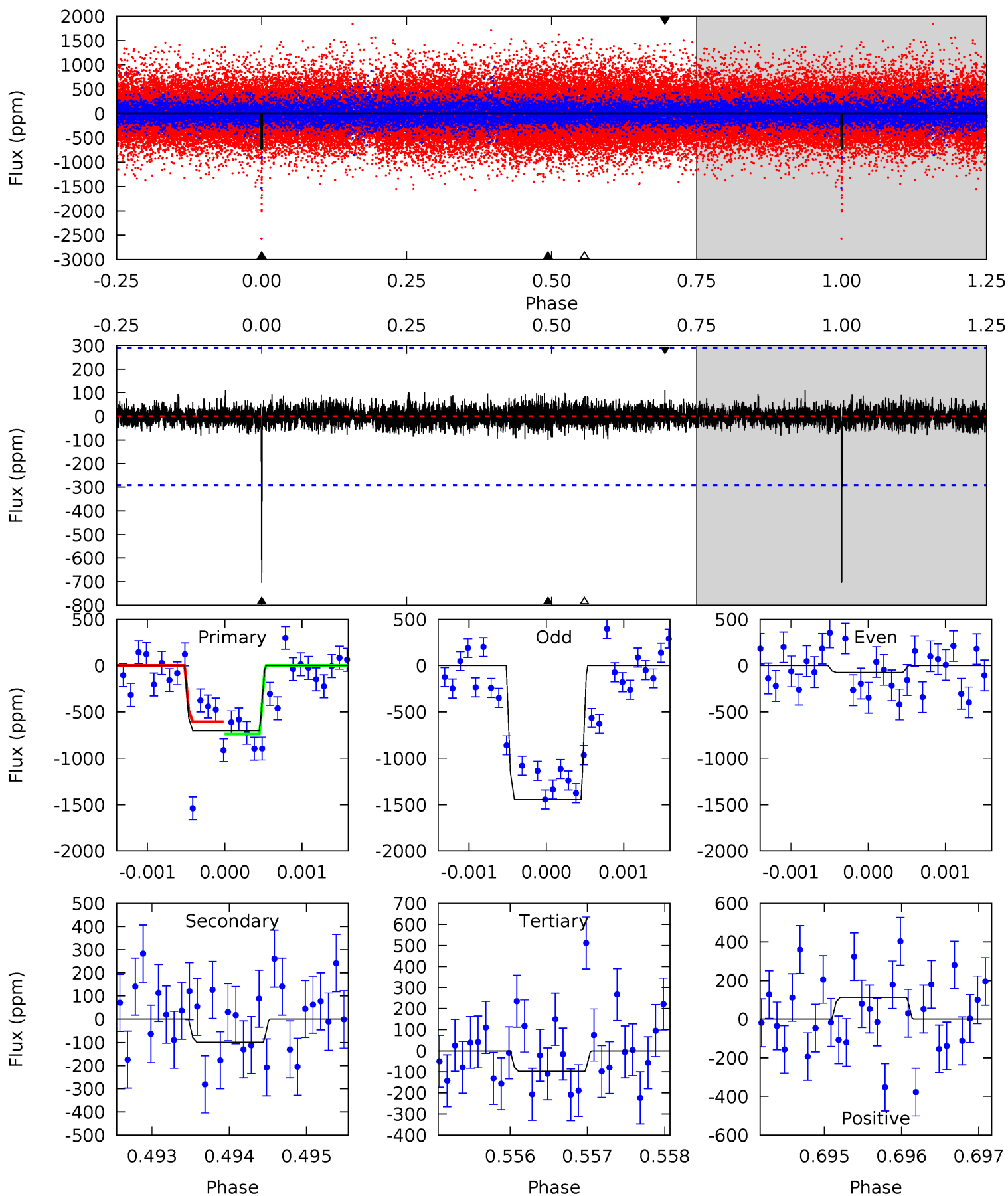
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 8.73 | 5.55 | 5.11 | 6.48 | 5.46 | 3.31 | 1.46 | 3.62 | 2.24 | 0.44 | -0.94 | 3.28 | 1.16 | 0.43 | 0.13 |



Alt Model-Shift Uniqueness Test

011962541-01, P = 341.165529 Days, E = 327.423407 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 | 1.86 | 1.83 | 2.10 | 5.48 | 3.33 | 0.49 | 11.4 | 11.2 | 0.03 | -0.24 | 13.6 | 1.38 | 0.14 | 1.25 |



Stellar Parameters For KIC 011962541

| | $T_{\text{eff}} (K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M (M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|---|
| | 4879^{+145}_{-130} | $4.476^{+0.105}_{-0.162}$ | $0.480^{+0.050}_{-0.300}$ | $0.864^{+0.085}_{-0.094}$ | $0.815^{+0.052}_{-0.041}$ | $1.780^{+0.750}_{-0.526}$ |
| | +3%/-3% | +2%/-4% | +10%/-62% | +10%/-11% | +6%/-5% | +42%/-30% |
| 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 011962541-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|---------------|------------------------|----------------------|-----------------------|---------------------------|
| DV | -318 ± 57 | $2.54^{+1.49}_{-1.28}$ | 298^{+13}_{-14} | 4173^{+1415}_{-624} | 21748^{+68346}_{-13108} |
| Alt. | -99 ± 53 | $2.73^{+1.35}_{-1.29}$ | 297^{+15}_{-13} | 3338^{+805}_{-503} | 5623^{+15696}_{-3762} |

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

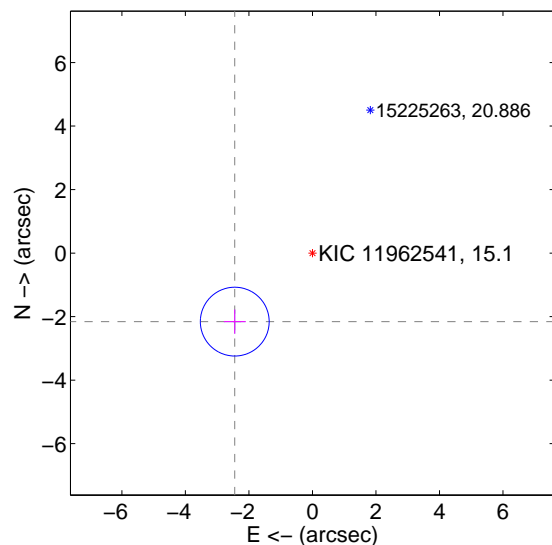
Supplemental centroid analysis for 011962541-01. Kepler magnitude: 15.10. Transit SNR 5.84

There are 1 quarters with good PRF difference image offsets

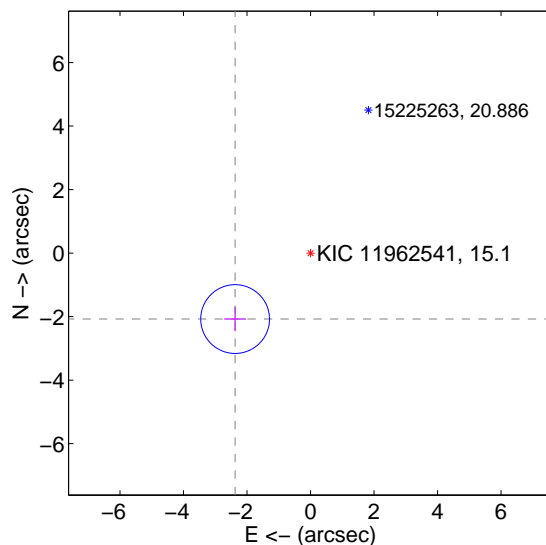
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|--------------------|
| PRF-fit source offset from OOT | 3.261 ± 0.361 | 9.03 | 2.446 ± 0.344 | -2.157 ± 0.382 |
| PRF-fit source offset from KIC position | 3.154 ± 0.361 | 8.74 | 2.374 ± 0.344 | -2.077 ± 0.382 |
| photometric centroid source offset | 2.04 ± 1.44 | 1.42 | 0.28 ± 1.40 | -2.02 ± 1.44 |

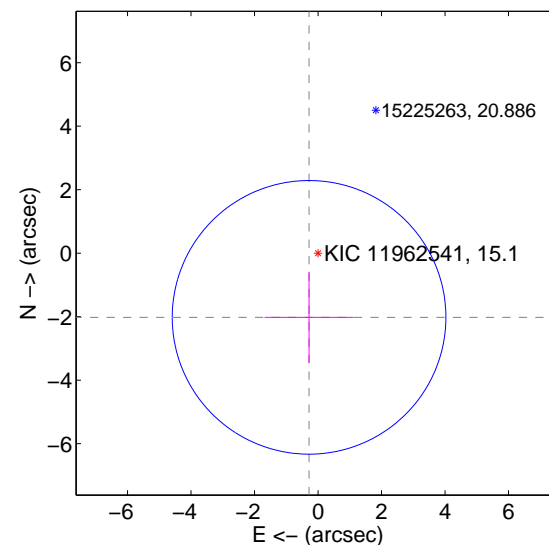
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

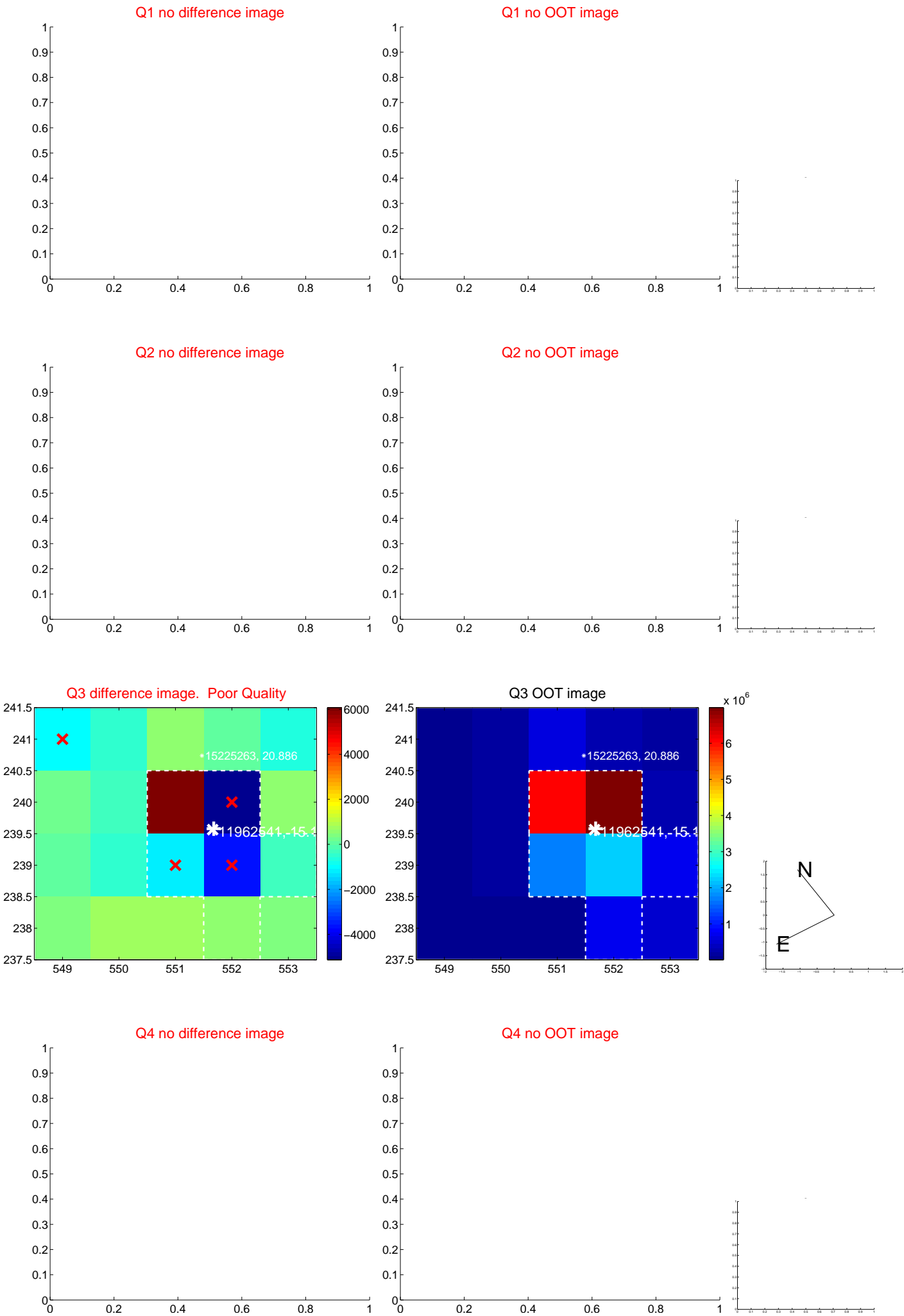


offset from photometric centroids

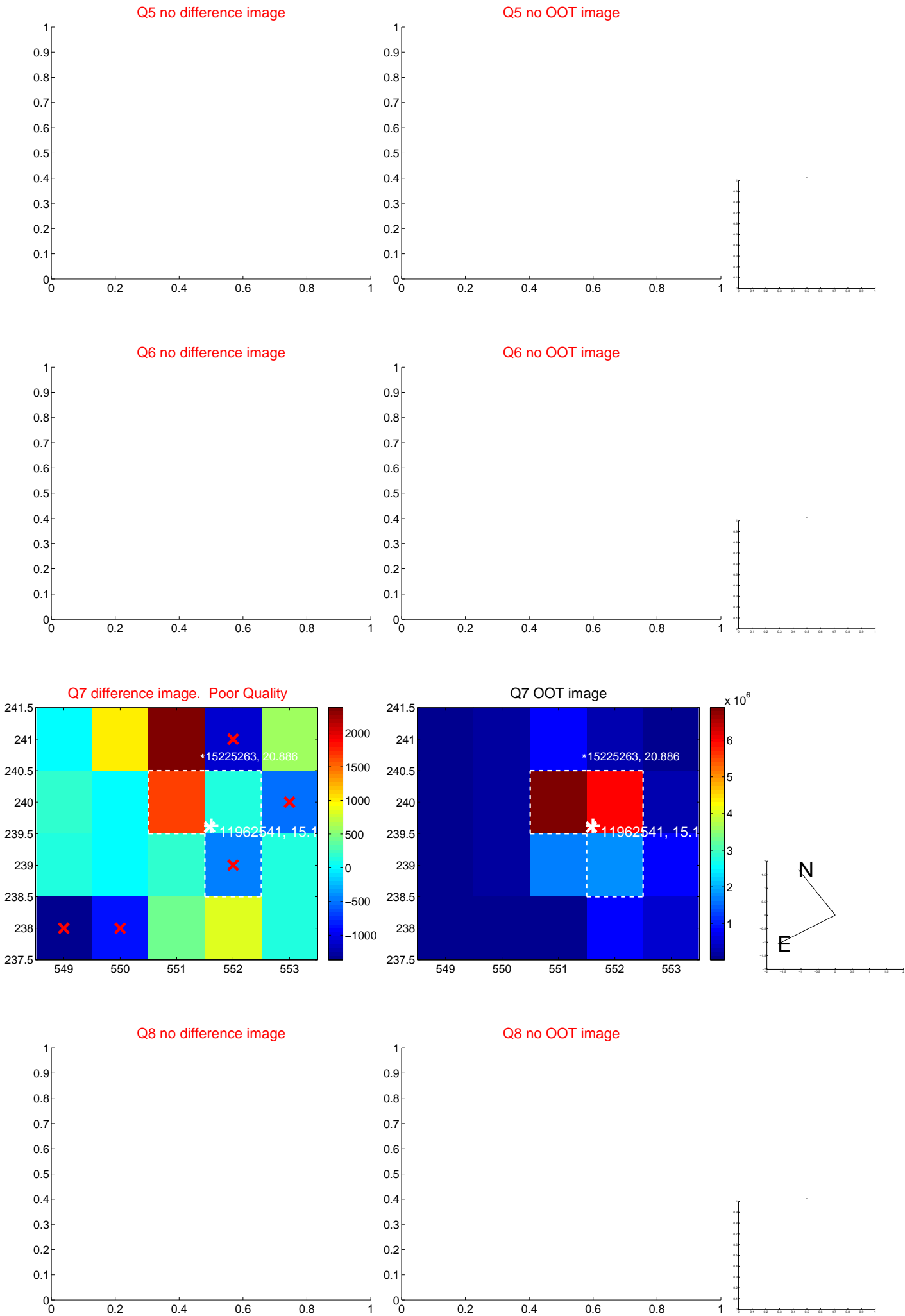


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

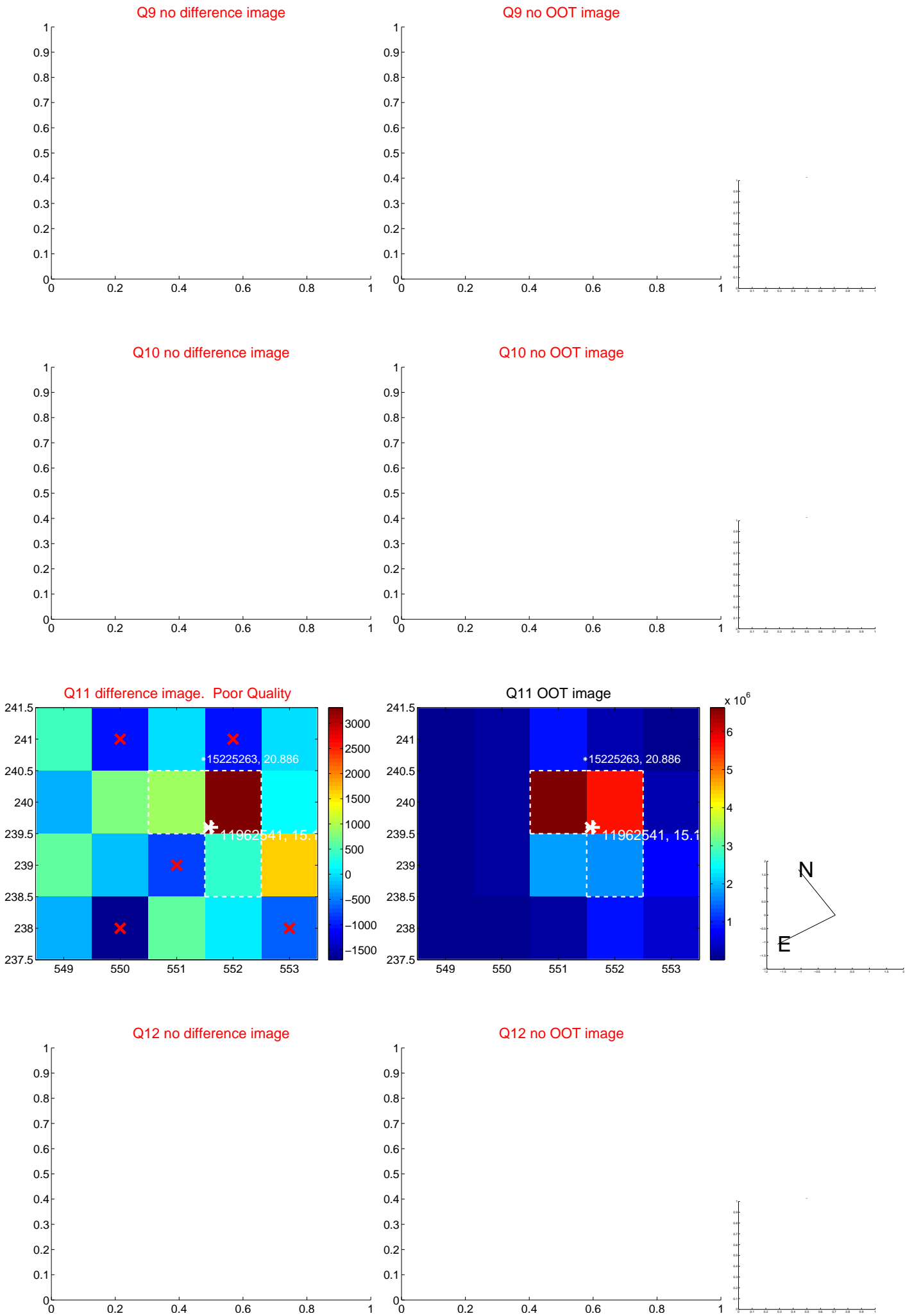
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

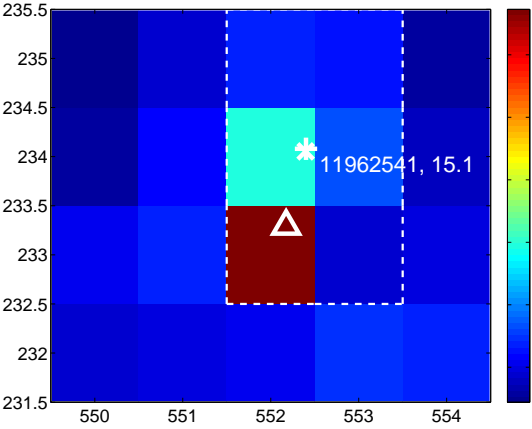
Q13 no difference image



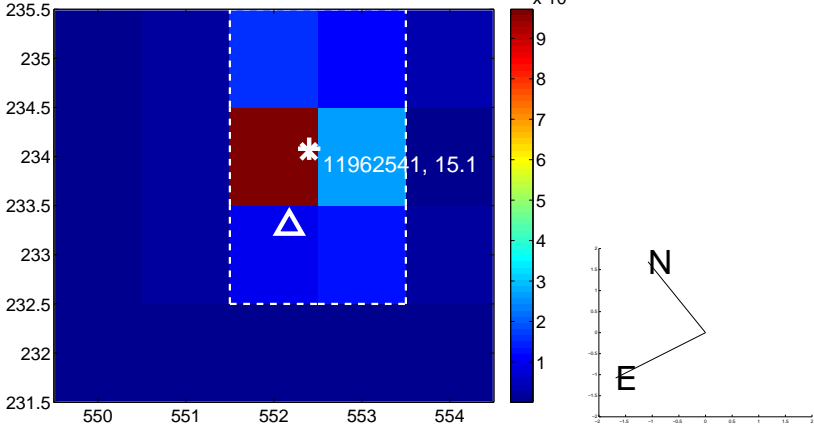
Q13 no OOT image



Q14 difference image



Q14 OOT image



Q15 no difference image



Q15 no OOT image



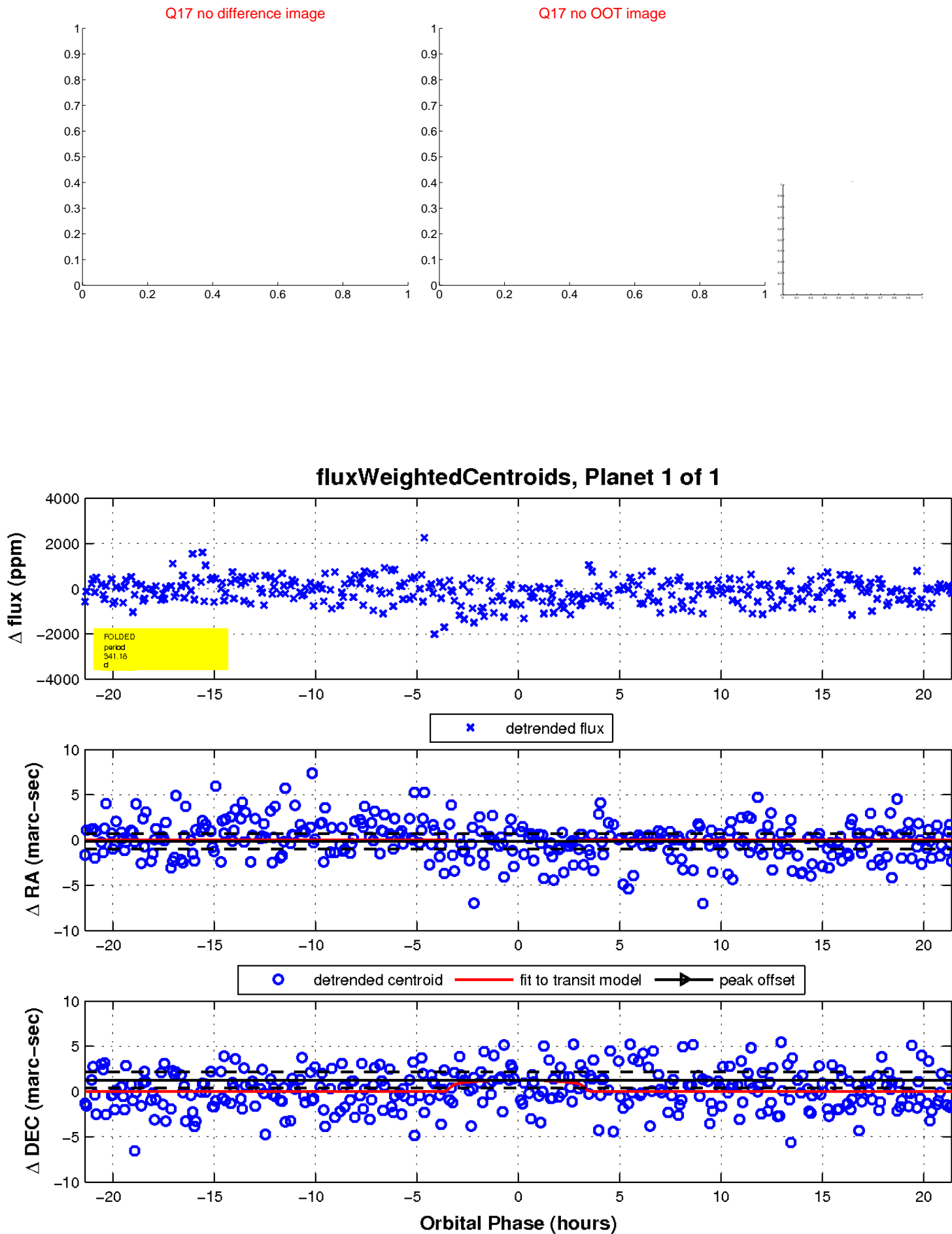
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

