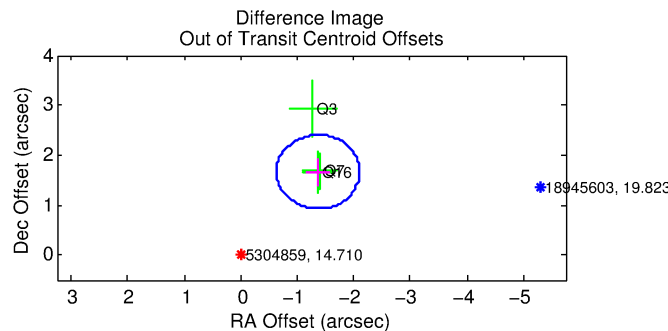
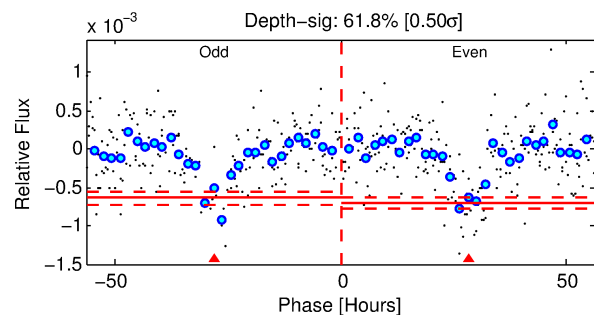
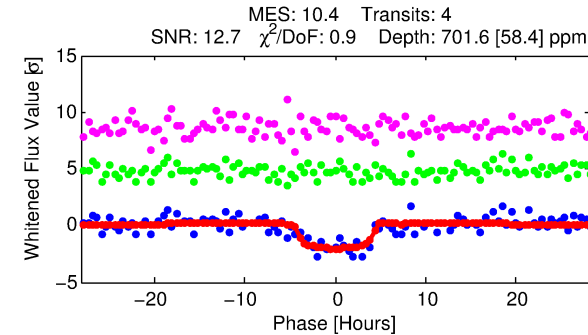
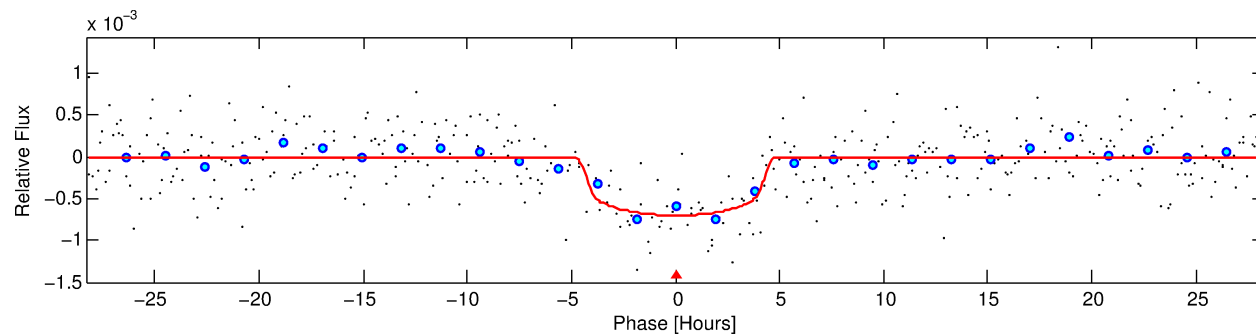
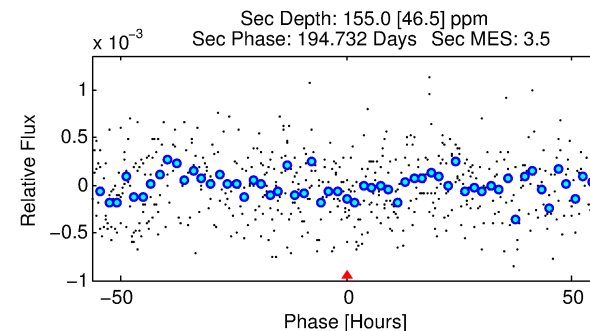
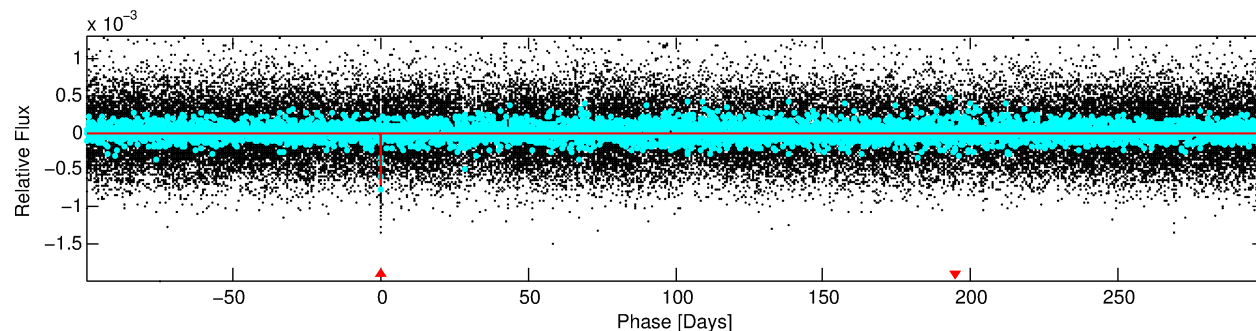
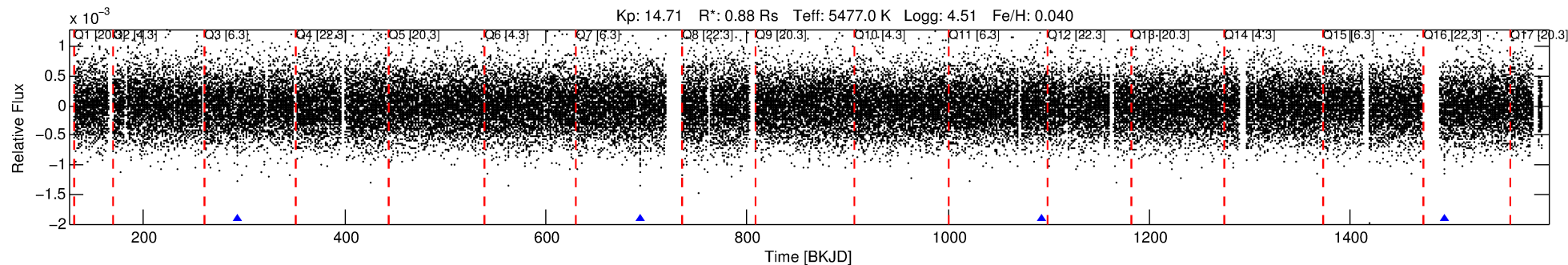


**WARNING: THIS DATA IS
SIMULATED, NOT OBSERVED**

DV One-Page Summary

KIC: 5304859 Candidate: 1 of 1 Period: 399.912 d

**WARNING: THIS DATA IS
SIMULATED, NOT OBSERVED**



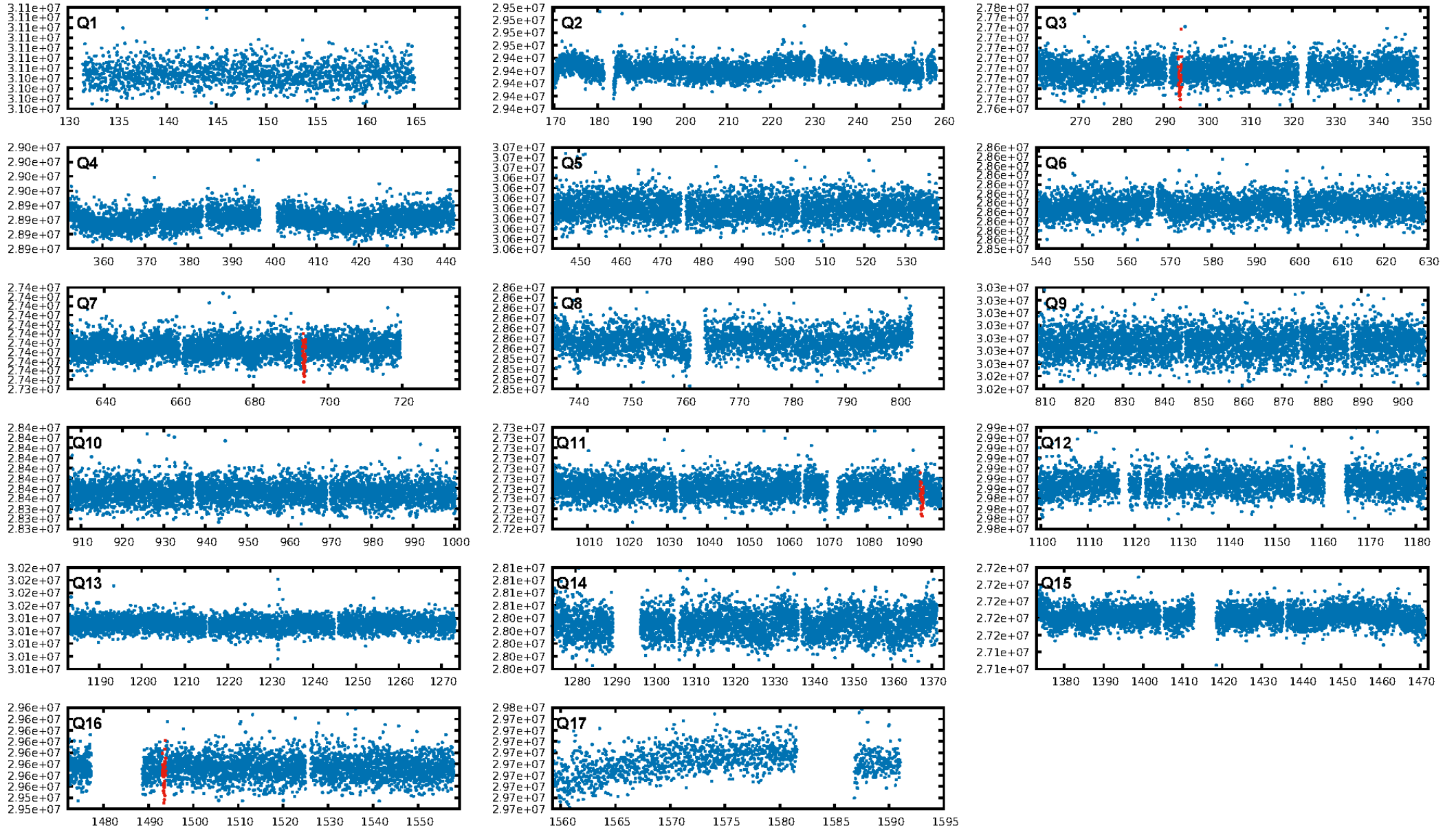
DV Fit Results:

Period = 399.91233 [0.00582] d
Epoch = 293.7425 [0.0112] BKJD
Rp/R* = 0.0277 [0.0047]
a/R* = 190.97 [131.33]
b = 0.84 [0.24]
Seff = 0.59 [0.18]
Teff = 223 [17] K
Rp = 2.65 [0.75] Re
a = 1.0288 [0.1989] AU
Ag = 12823.94 [6874.29] [1.87 σ]
Teffp = 3670 [431] K [8.00 σ]

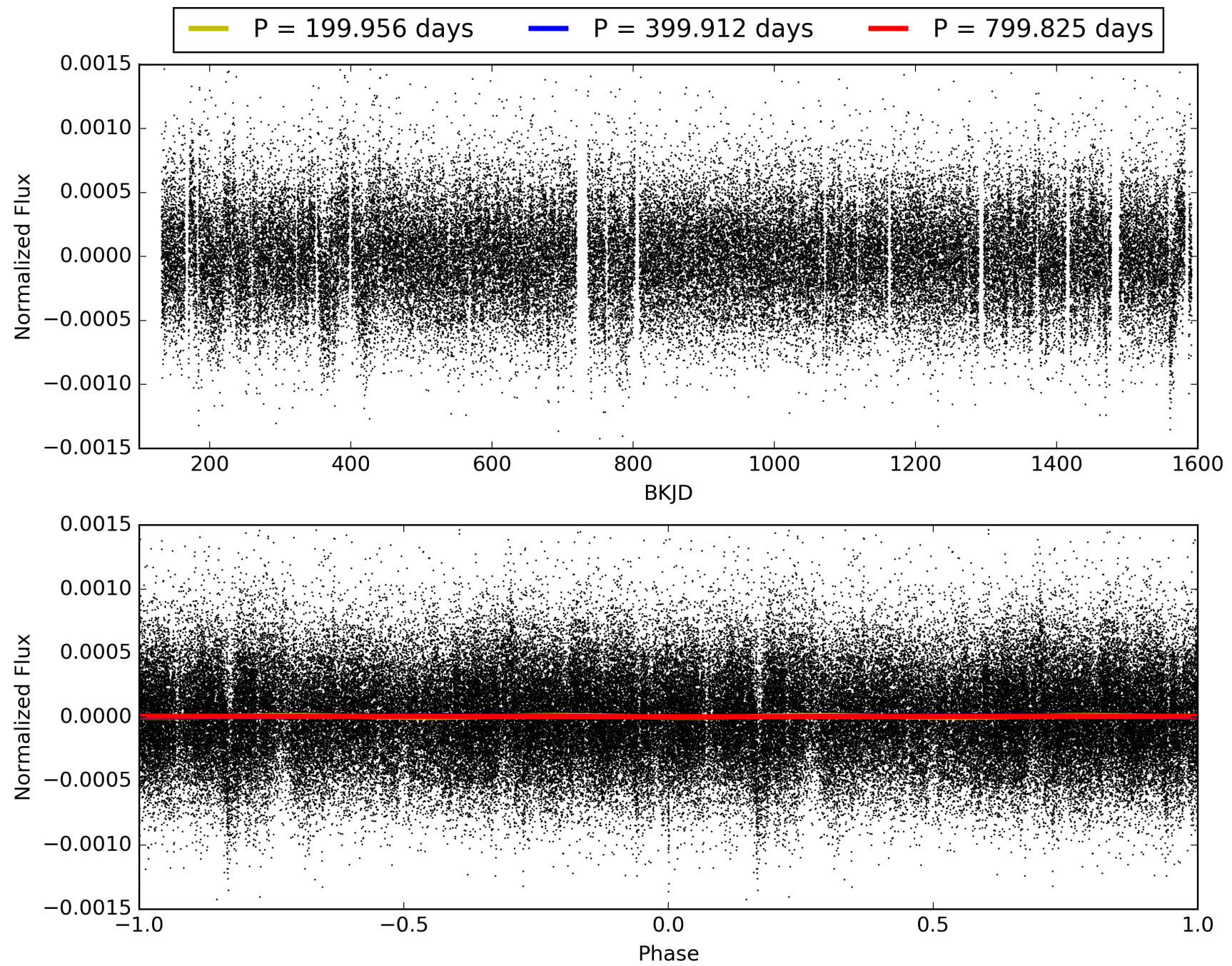
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 89.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.86e-23
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 3.764
Centroid-sig: 34.0%
Centroid-so: 1.717 arcsec [1.61 σ]
OotOffset-rm: 2.153 arcsec [8.75 σ]
KicOffset-rm: 1.885 arcsec [7.03 σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 005304859-01, PDC Light Curves

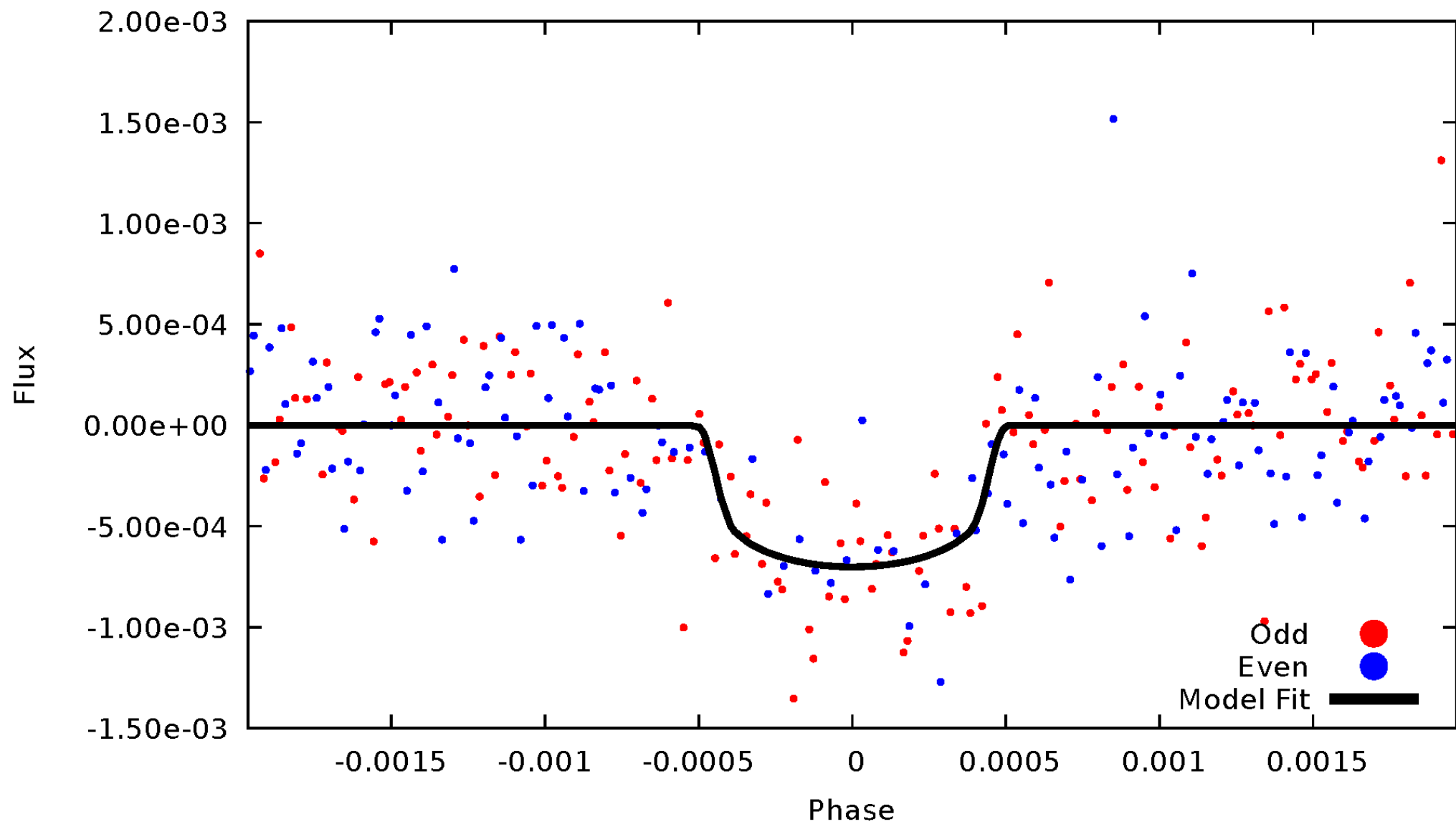


TCE 005304859-01



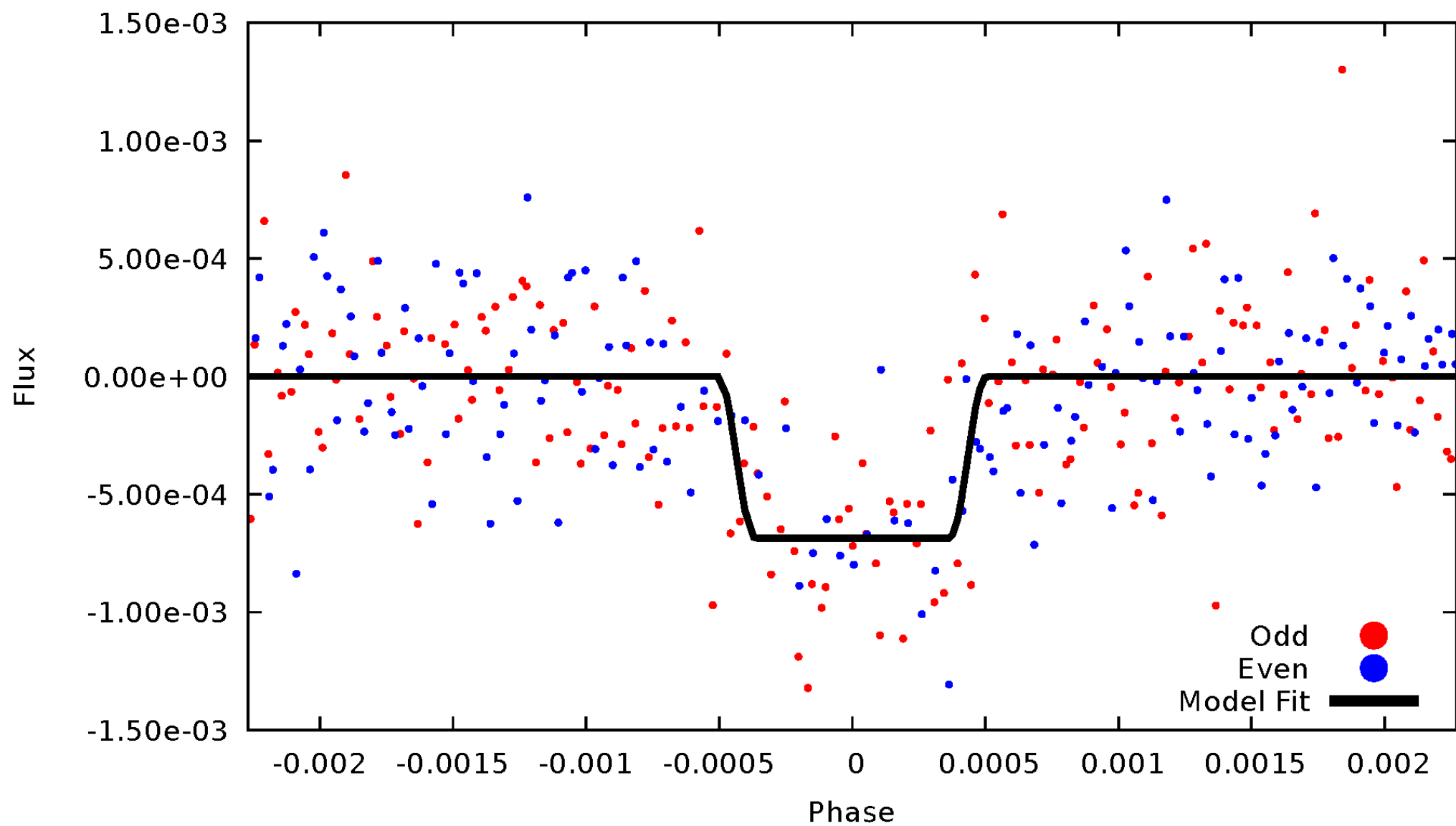
DV Odd/Even

TCE 005304859-01



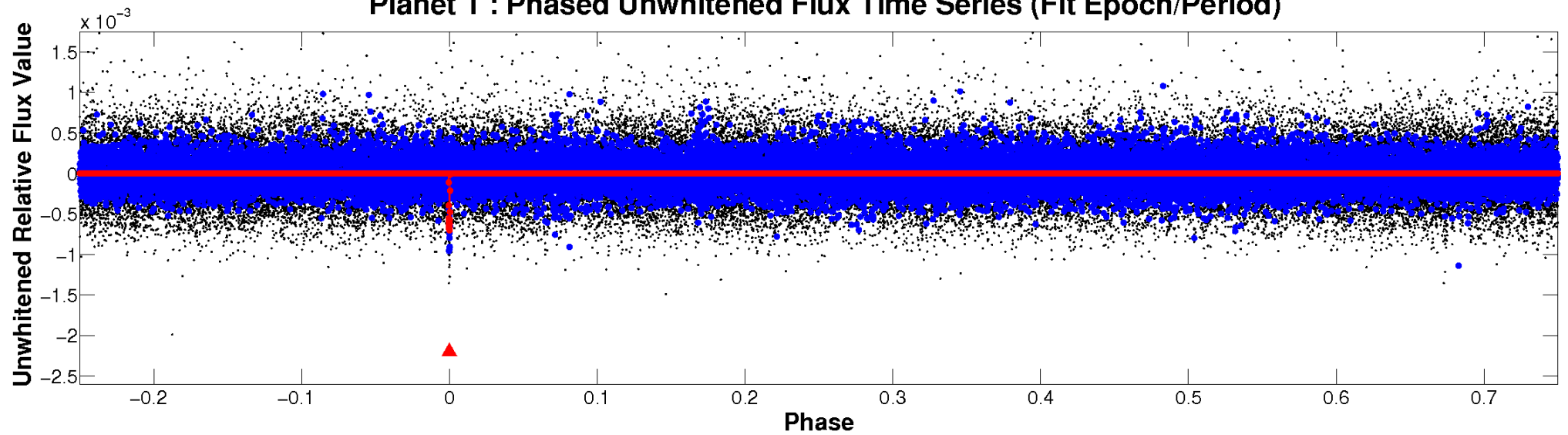
ALT Odd/Even

TCE 005304859-01

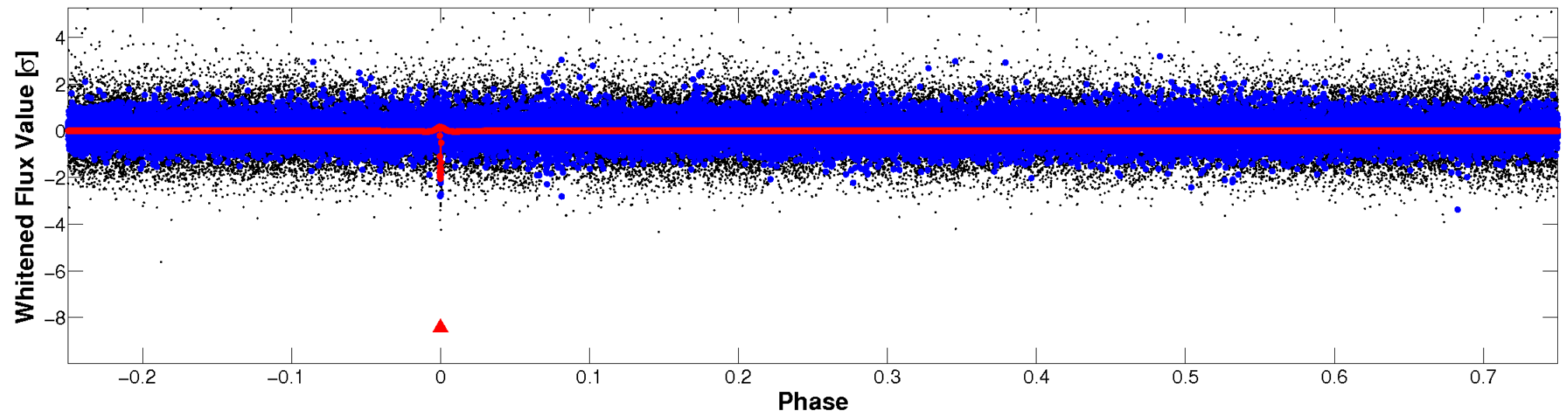


Non-Whitened Vs. Whitened Light Curve

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

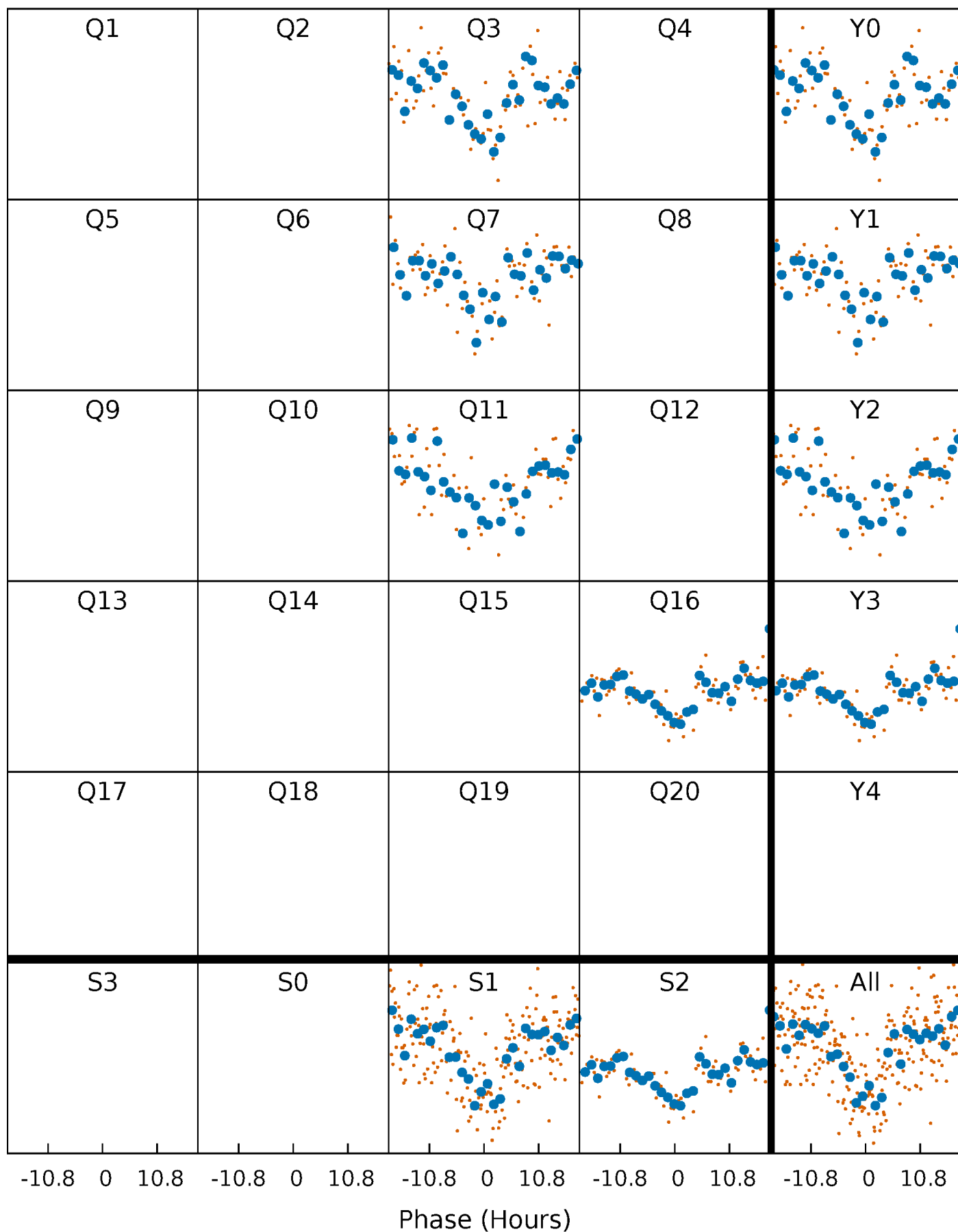


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



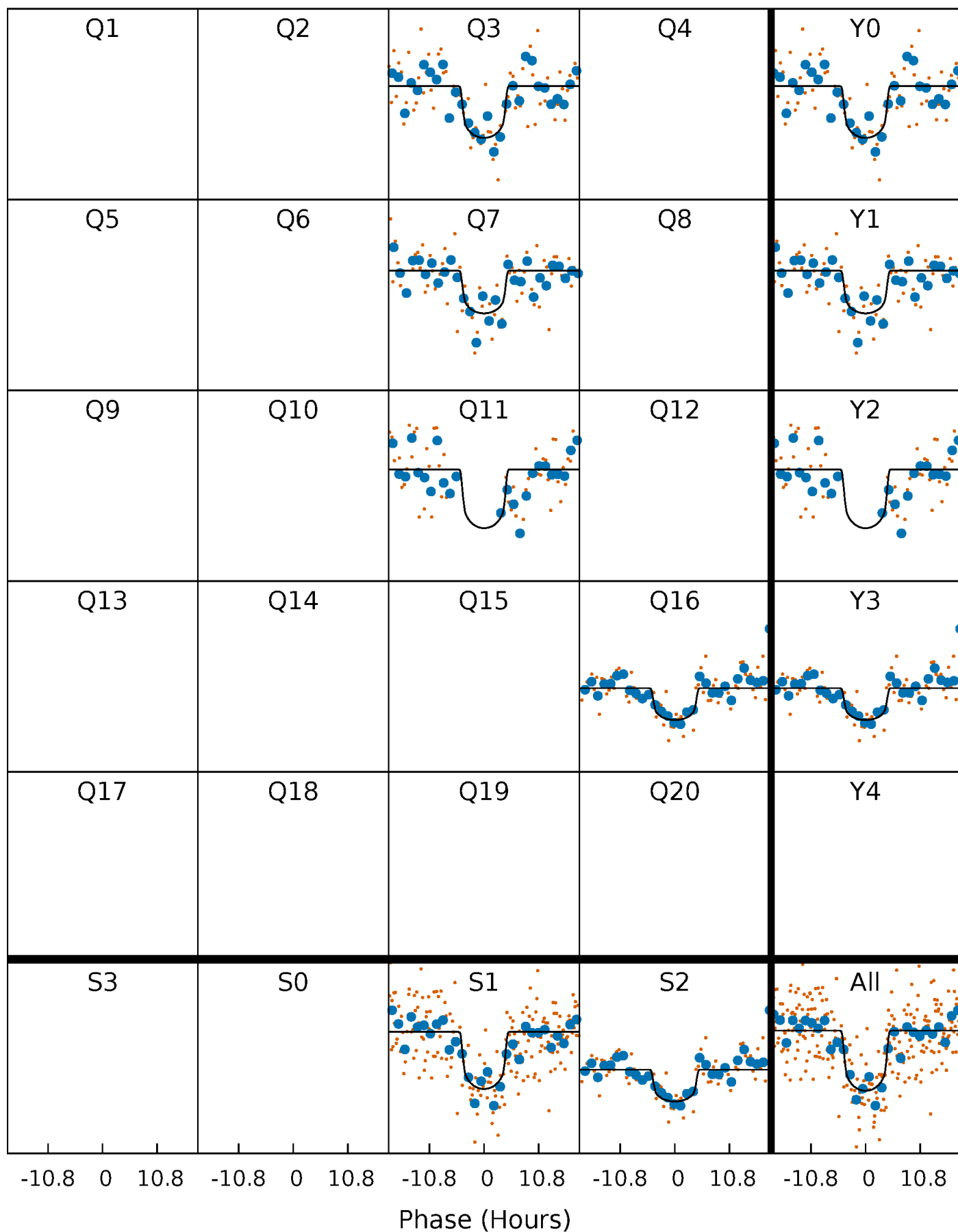
PDC Quarter-Phased Transit Curves

TCE 005304859-01 P=399.912328 Days $T_0=293.742538$ (BKJD)



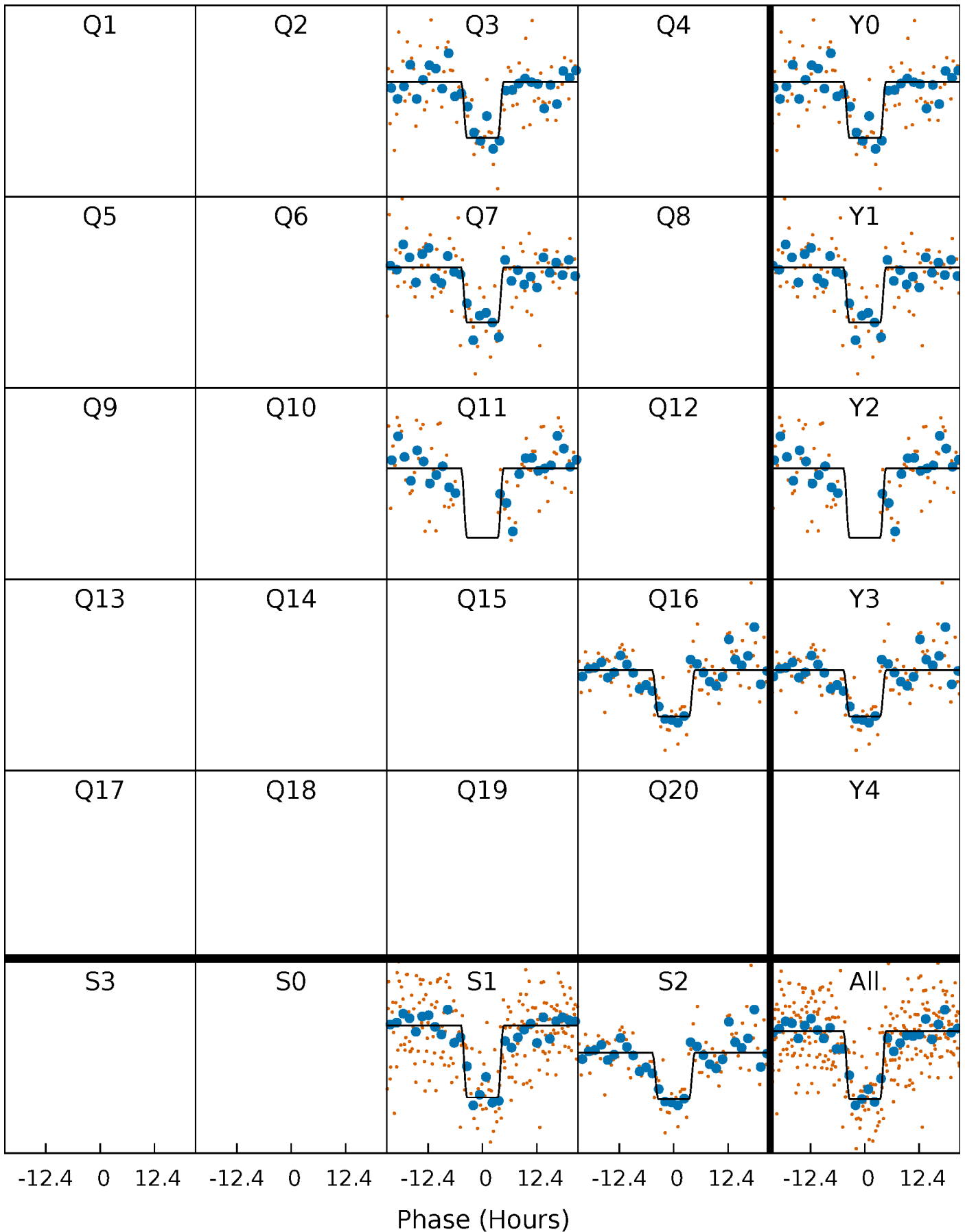
DV Quarter-Phased Transit Curves

TCE 005304859-01 $P=399.912328$ Days $T_0=293.742538$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

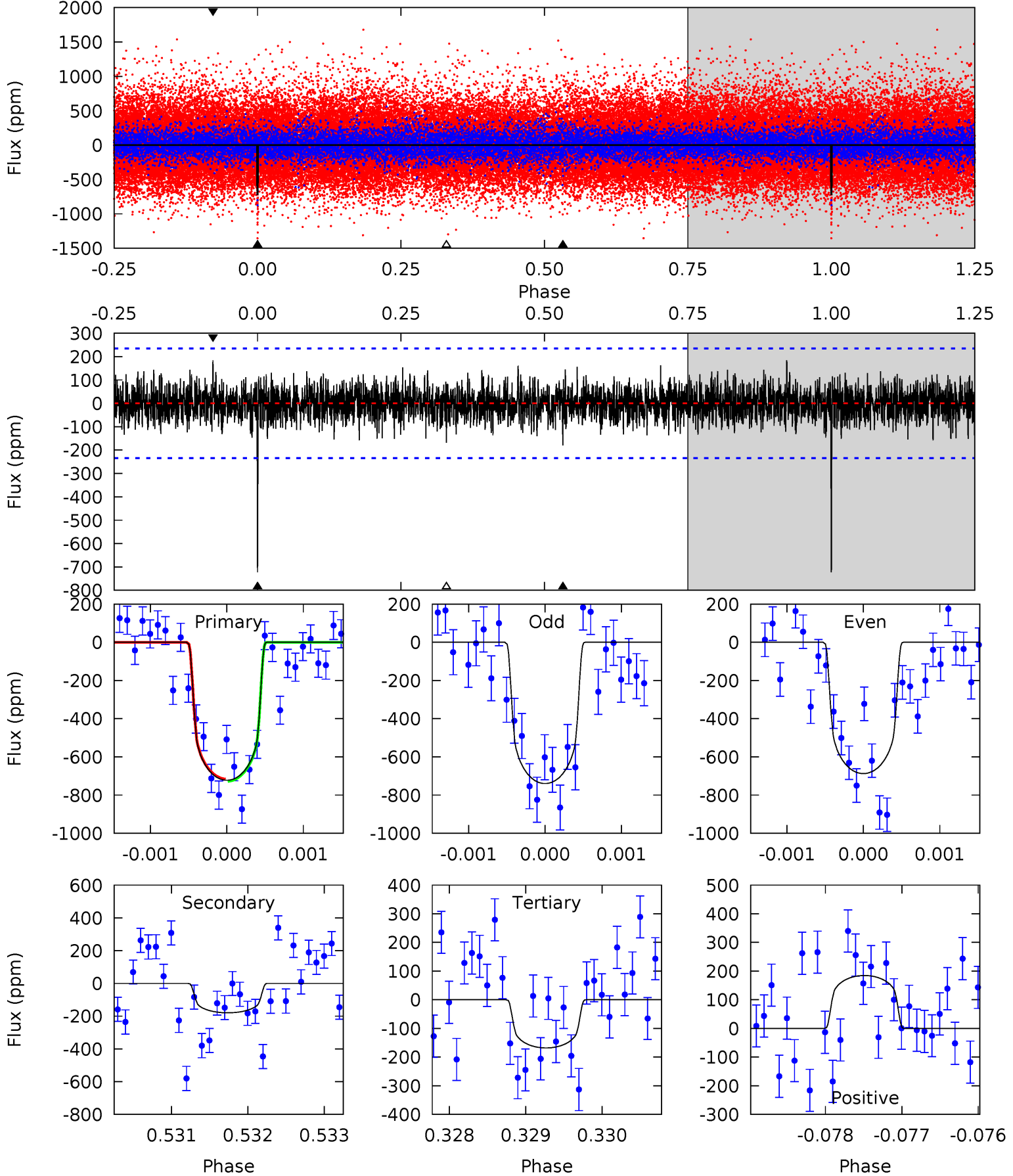
TCE 005304859-01 P=399.932448 Days $T_0=293.712485$ (BKJD)



DV Model-Shift Uniqueness Test

005304859-01, P = 399.912328 Days, E = 293.742538 Days

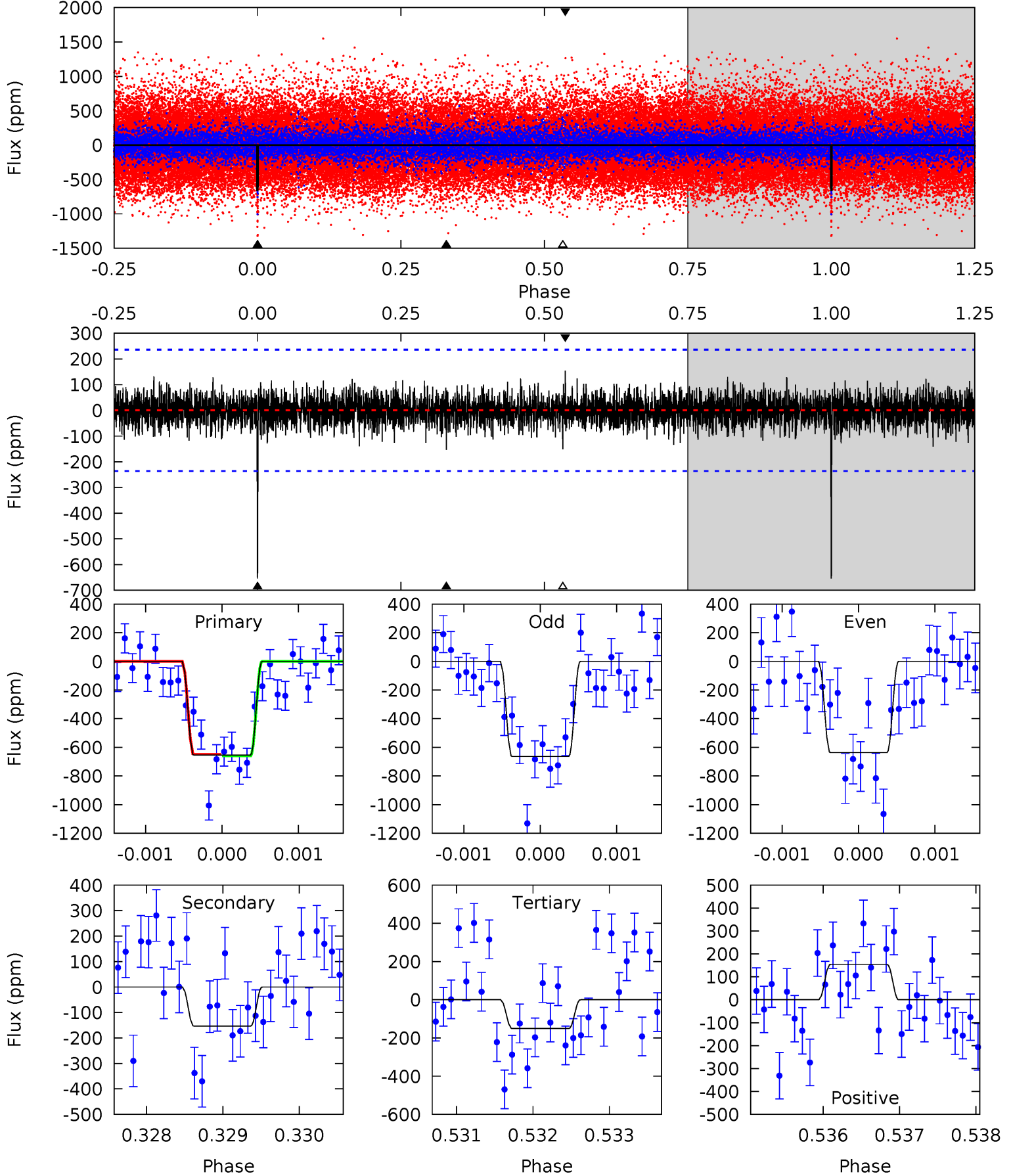
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	4.17	3.91	4.29	5.45	3.29	1.15	12.9	12.5	0.27	-0.12	0.58	1.02	0.20	0.13



Alt Model-Shift Uniqueness Test

005304859-01, P = 399.932448 Days, E = 293.712485 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	3.54	3.48	3.56	5.46	3.30	0.92	11.6	11.6	0.07	-0.02	0.30	0.90	0.19	0.13



Stellar Parameters For KIC 005304859

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5477^{+164}_{-164}	$4.510^{+0.053}_{-0.158}$	$0.040^{+0.250}_{-0.300}$	$0.877^{+0.198}_{-0.085}$	$0.907^{+0.082}_{-0.091}$	$1.893^{+0.498}_{-0.794}$
	+3%/-3%	+1%/-4%	+625%/-750%	+23%/-10%	+9%/-10%	+26%/-42%
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 005304859-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-180 ± 43	$2.74^{+0.55}_{-0.46}$	316^{+19}_{-15}	4065^{+358}_{-283}	13518^{+7568}_{-4632}
Alt.	-153 ± 43	$2.58^{+0.52}_{-0.50}$	317^{+19}_{-13}	4063^{+378}_{-341}	13270^{+8319}_{-5272}

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

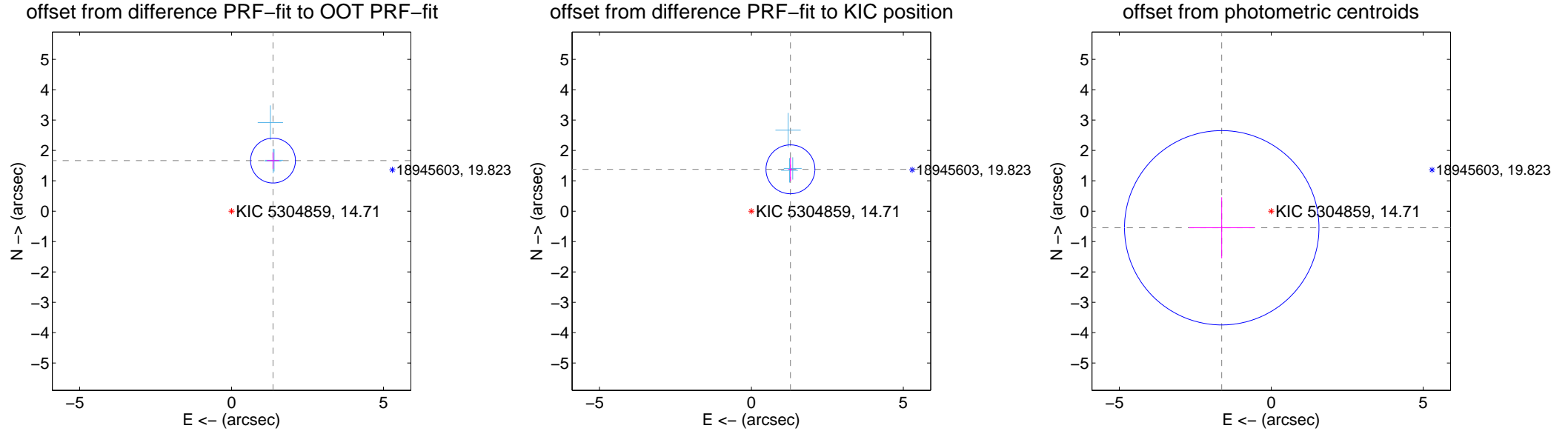
DV Centroid Data

Supplemental centroid analysis for 005304859-01. Kepler magnitude: 14.71. Transit SNR 12.73

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

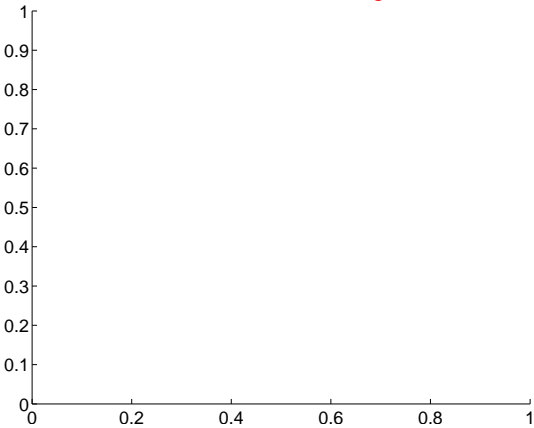
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.153 ± 0.246	8.75	-1.364 ± 0.204	1.666 ± 0.271
PRF-fit source offset from KIC position	1.885 ± 0.268	7.03	-1.285 ± 0.074	1.379 ± 0.382
photometric centroid source offset	1.72 ± 1.07	1.61	1.63 ± 1.07	-0.55 ± 1.01



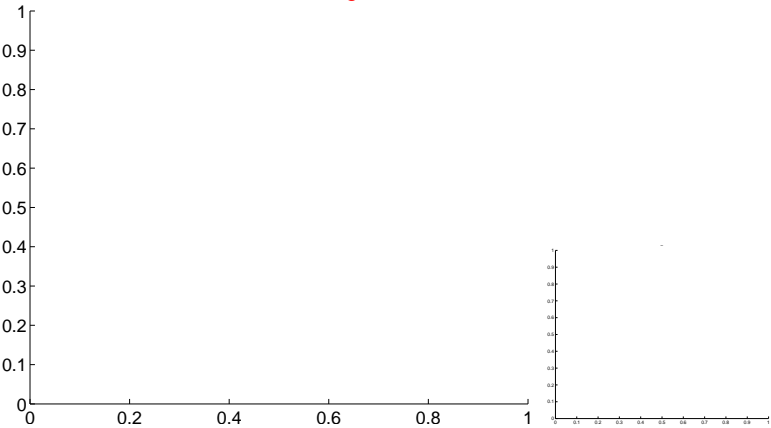
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

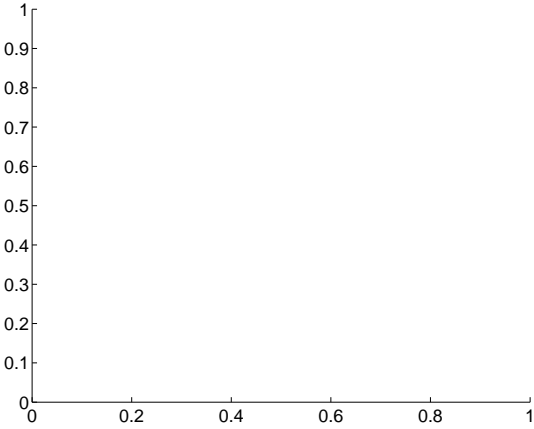
Q1 no difference image



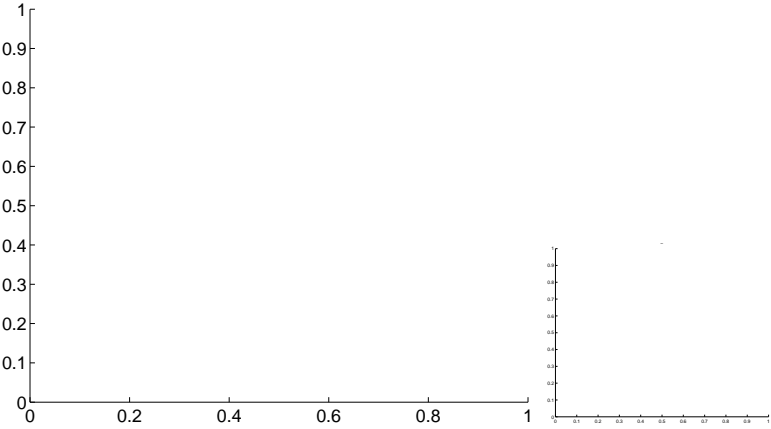
Q1 no OOT image



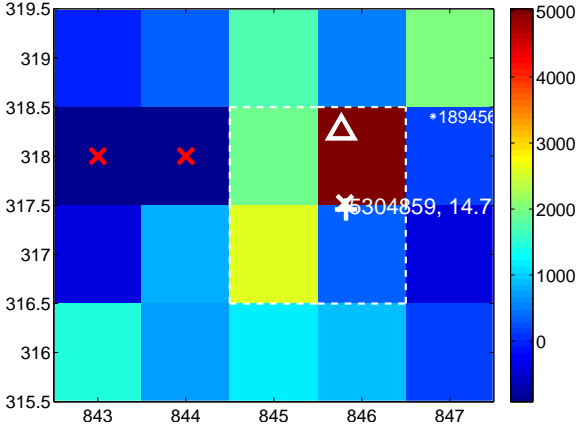
Q2 no difference image



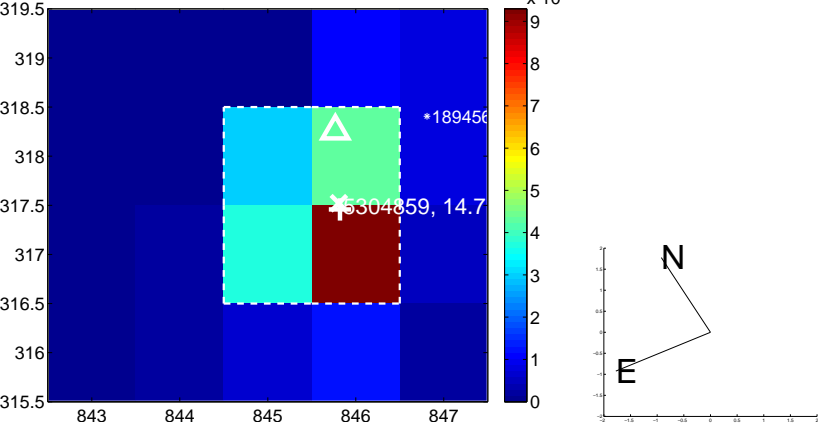
Q2 no OOT image



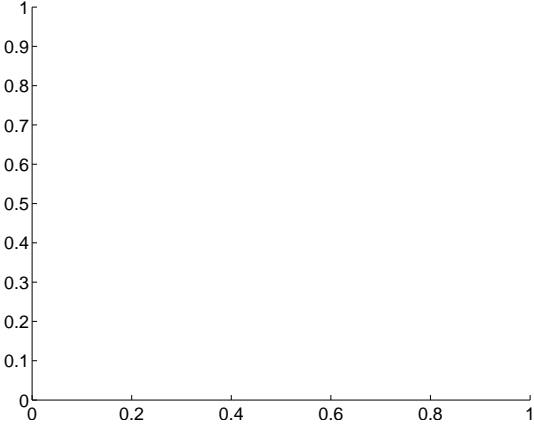
Q3 difference image



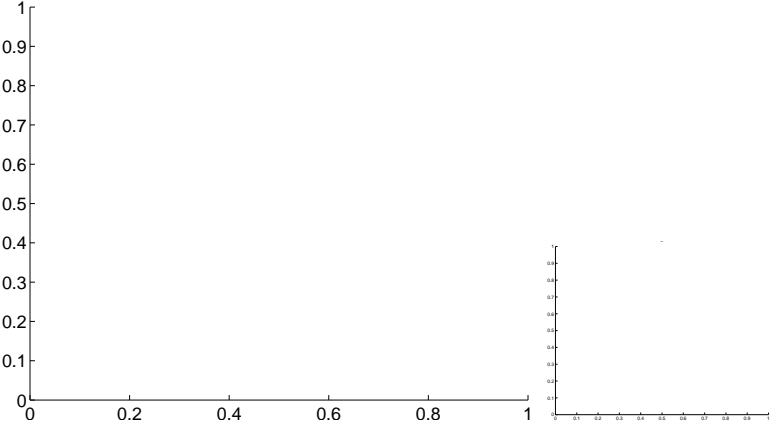
Q3 OOT image



Q4 no difference image

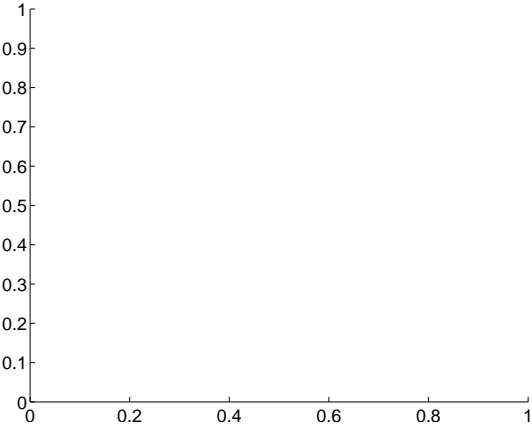


Q4 no OOT image

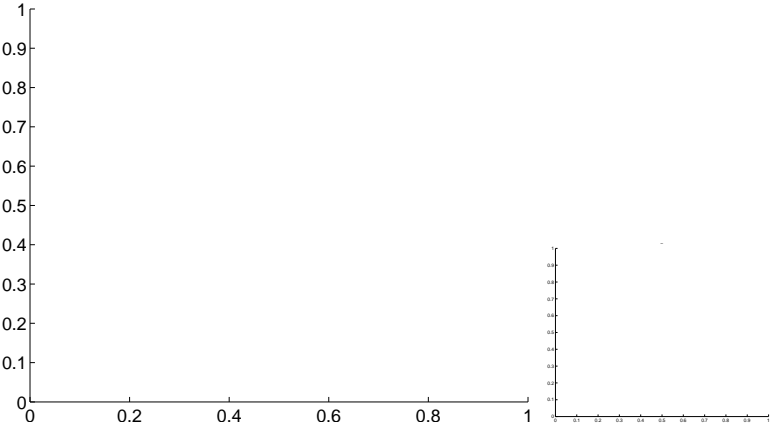


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

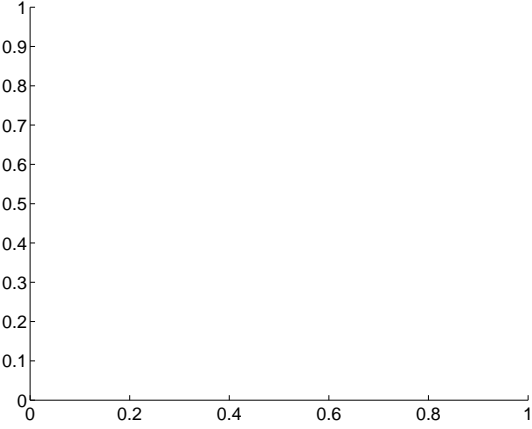
Q5 no difference image



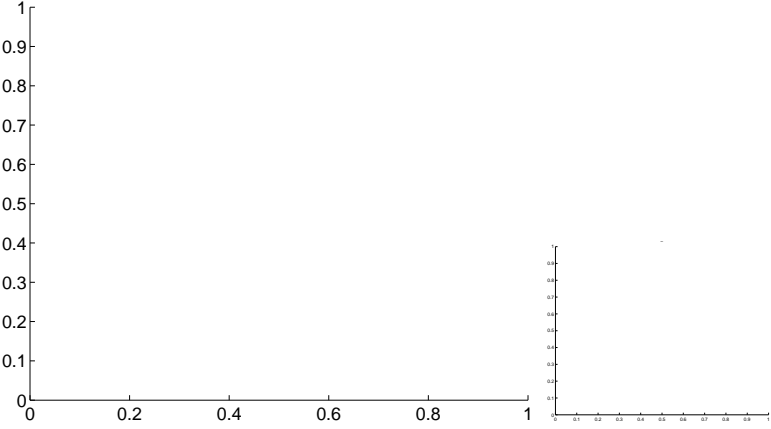
Q5 no OOT image



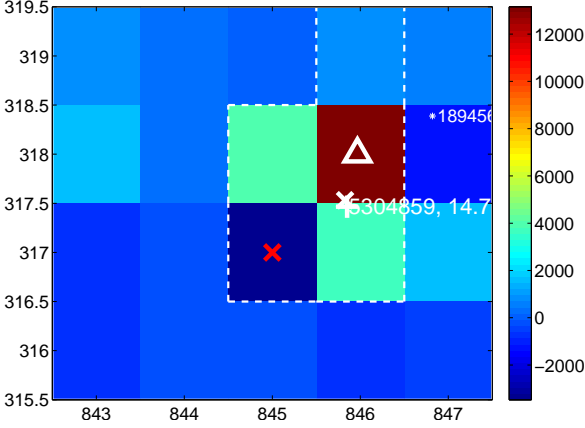
Q6 no difference image



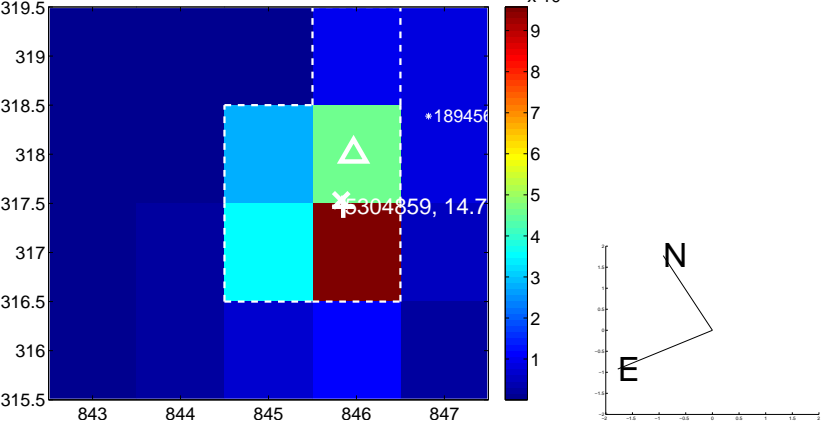
Q6 no OOT image



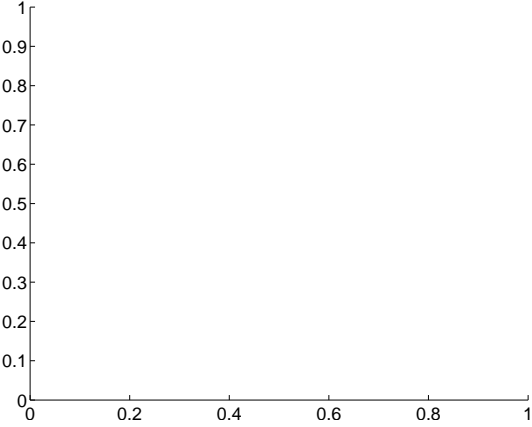
Q7 difference image



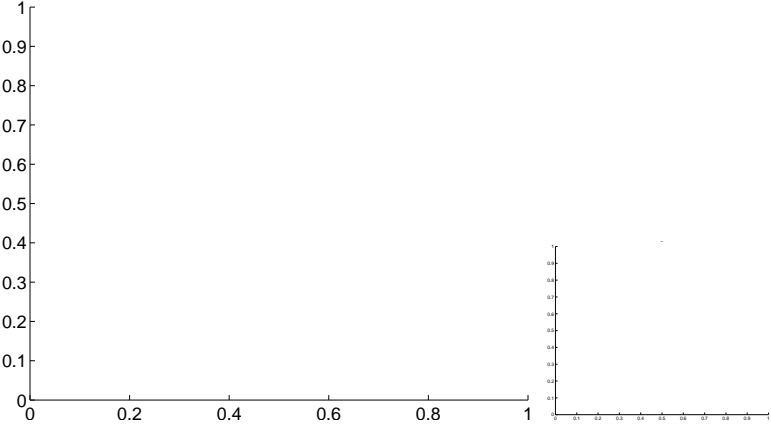
Q7 OOT image



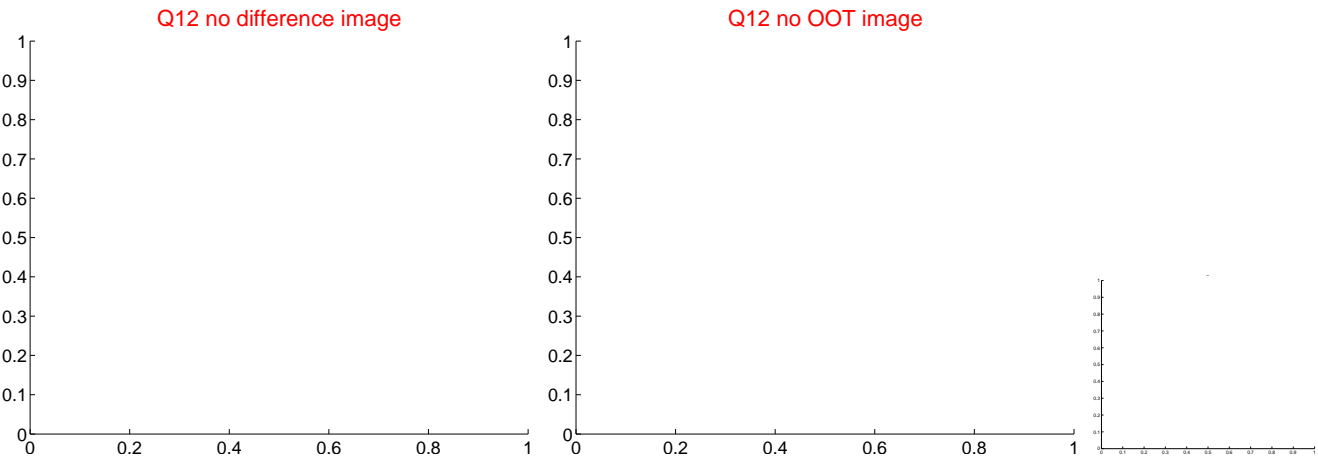
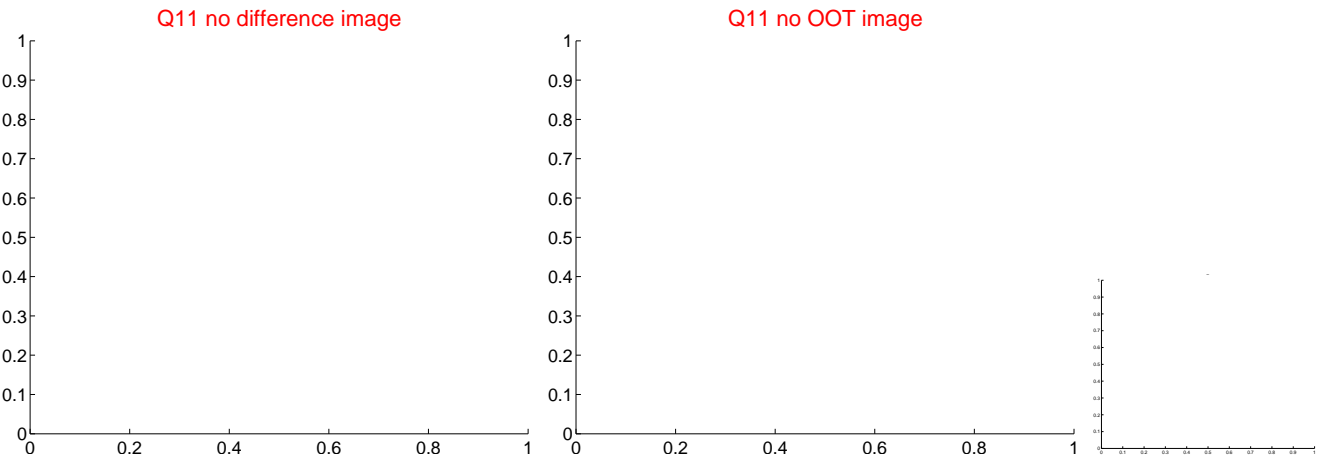
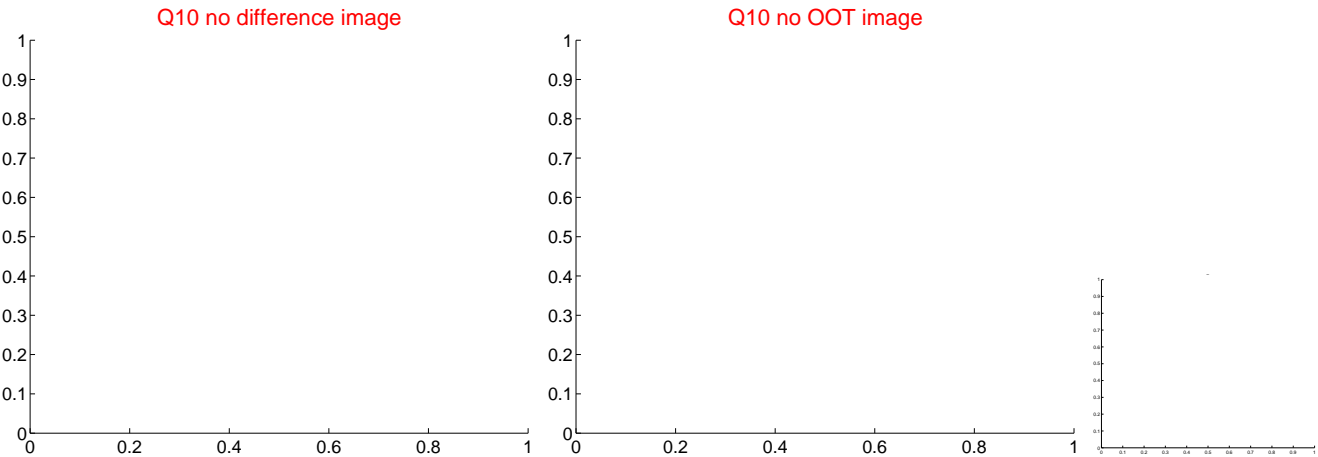
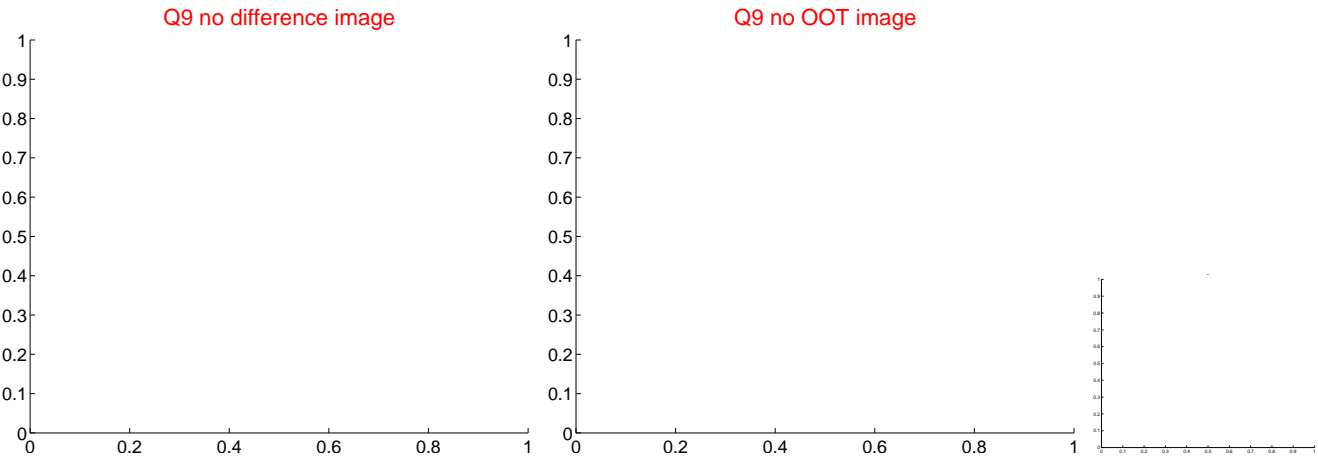
Q8 no difference image



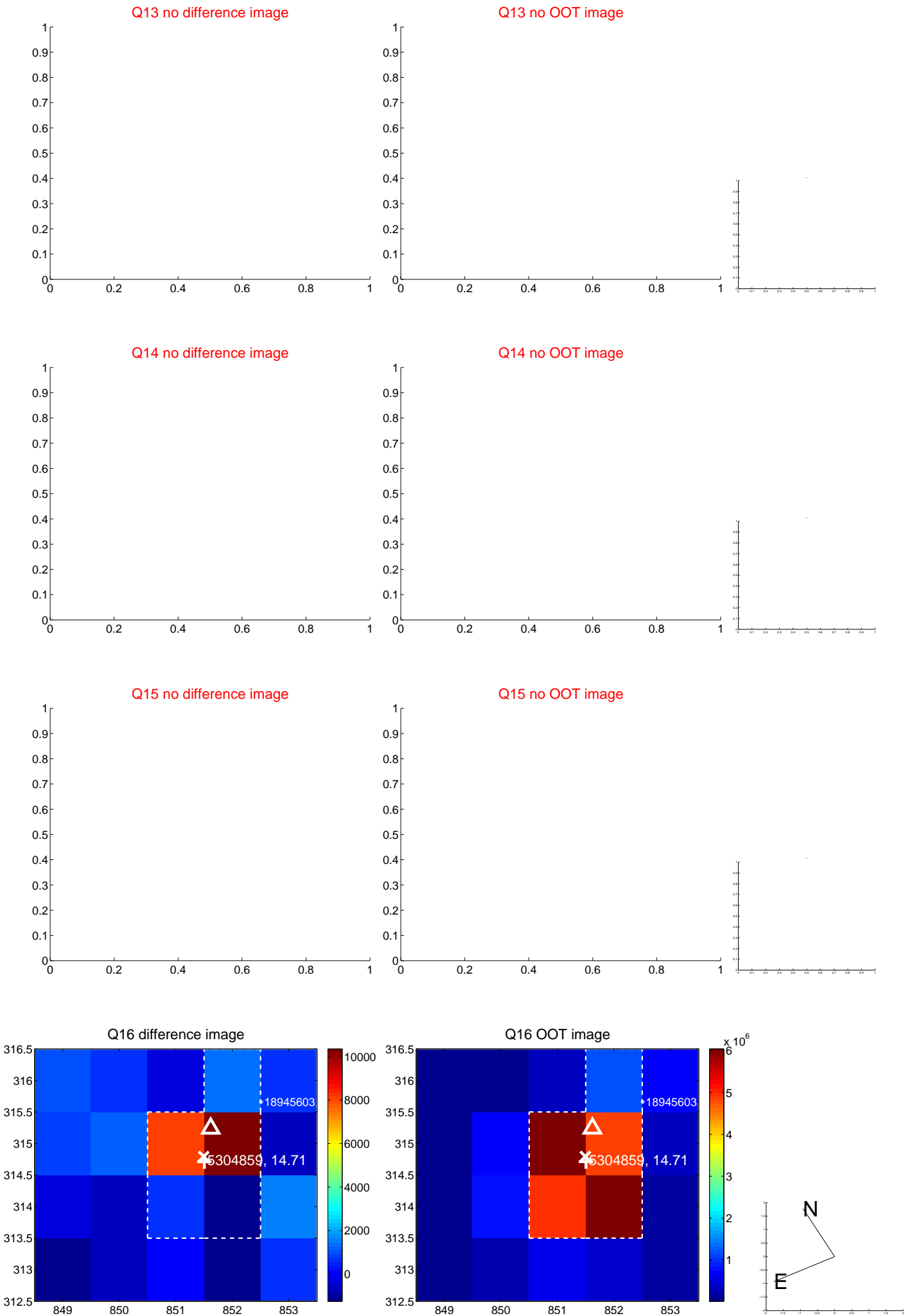
Q8 no OOT image



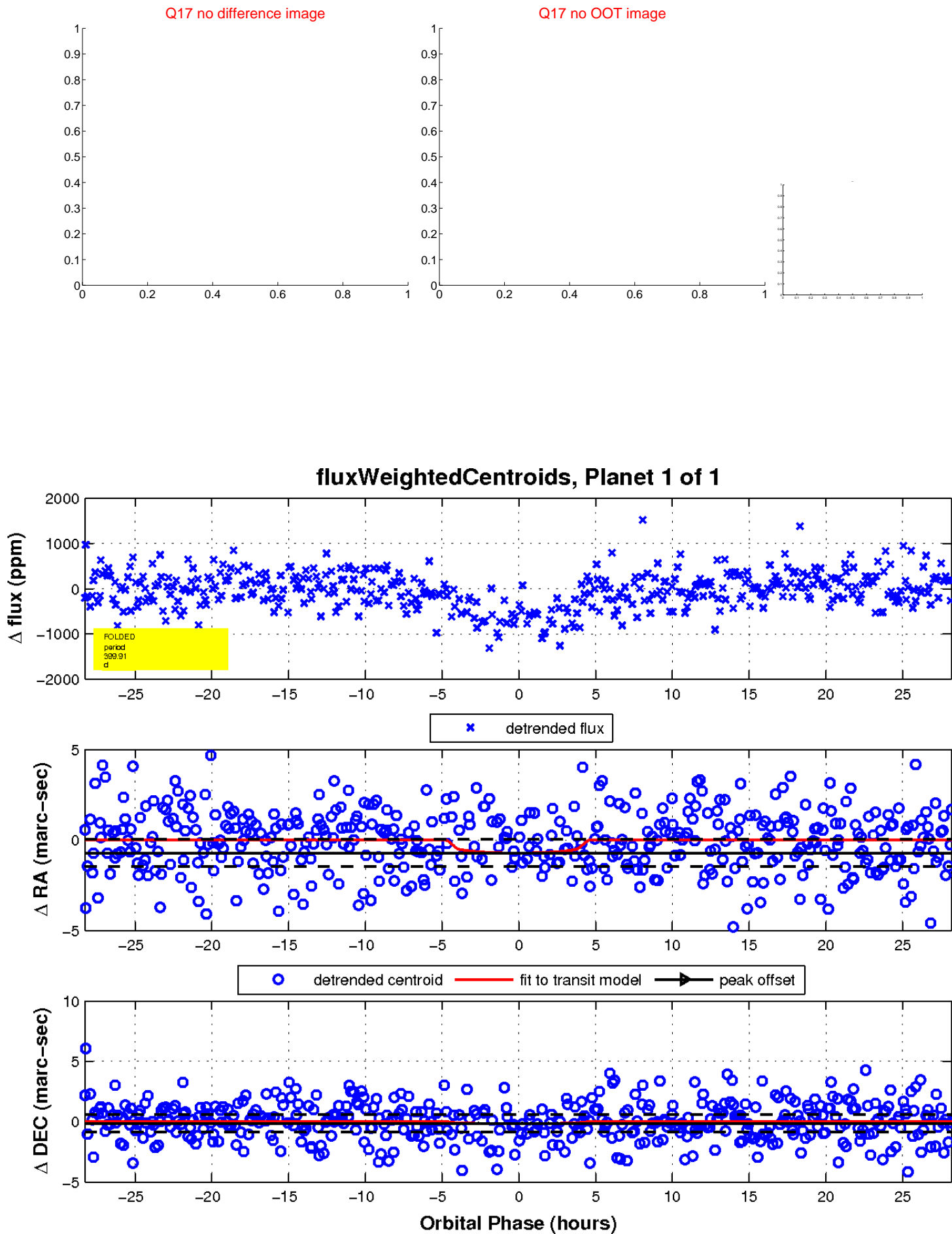
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

