

KIC 008363812

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})
008363812-01	OBS	No	495.479000	365.870766	674.2	13.714	7.7	6.7	0.96	5966	2.65	0.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008363812-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES

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

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

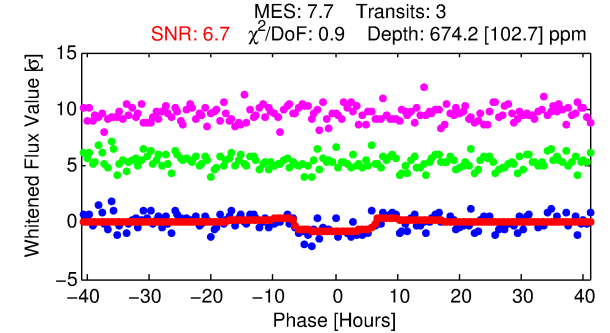
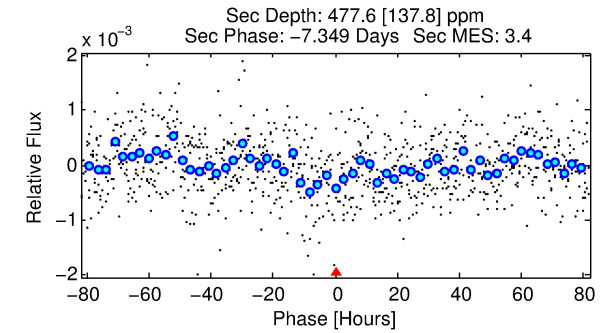
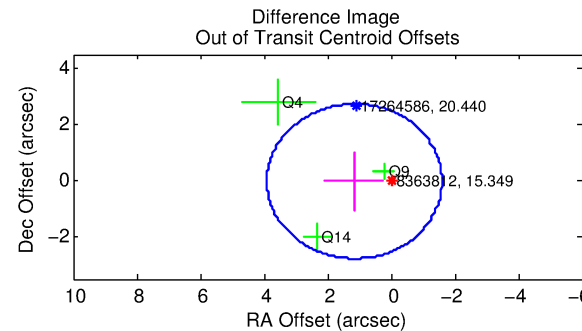
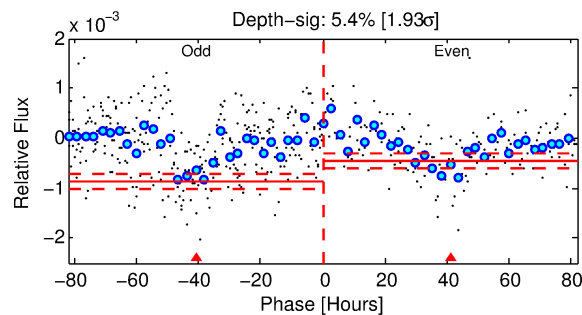
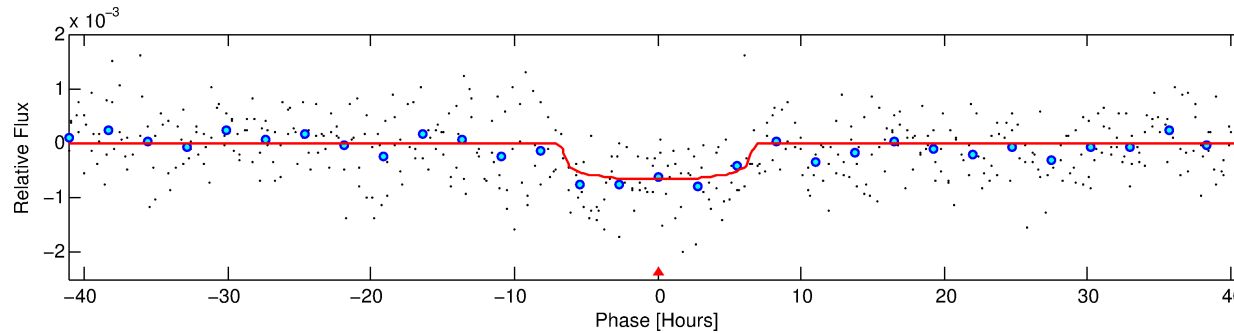
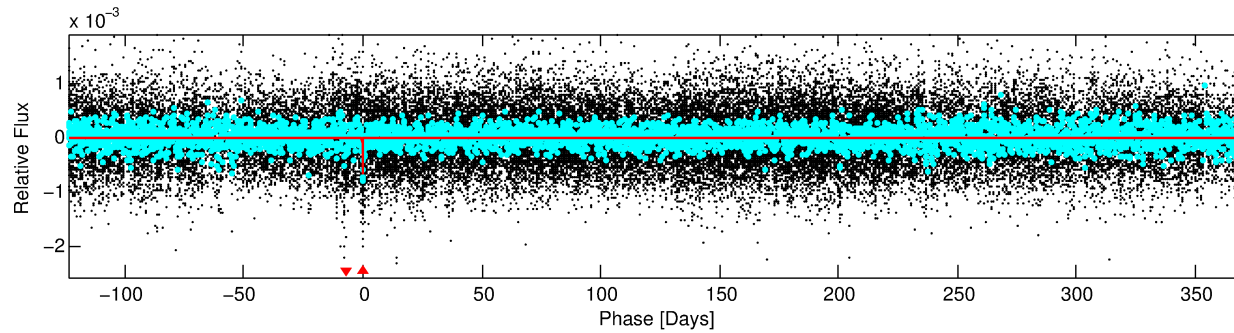
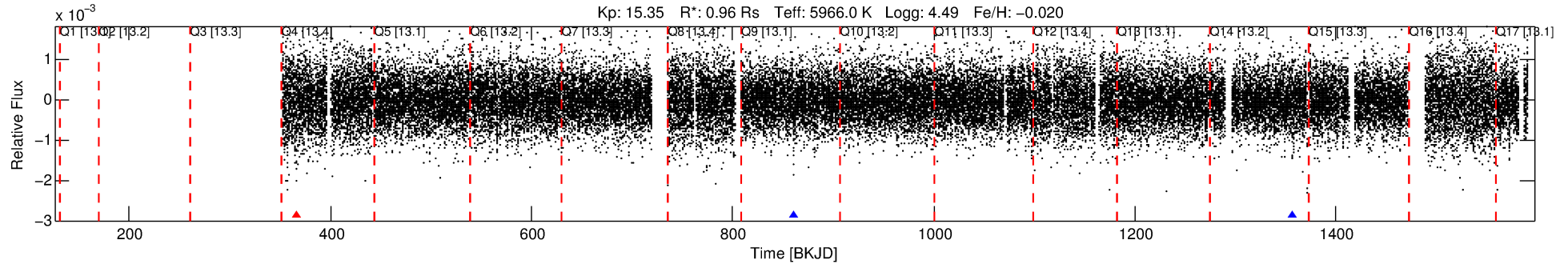
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008363812-01

No Significant Match Found

DV One-Page Summary

KIC: 8363812 Candidate: 1 of 1 Period: 495.479 d



DV Fit Results:

Period = 495.47900 [0.01580] d
Epoch = 365.8708 [0.0211] BKJD
Rp/R* = 0.0253 [0.0104]
a/R* = 211.59 [391.15]
b = 0.68 [1.48]
Seff = 0.68 [0.28]
Teq = 231 [24] K
Rp = 2.65 [1.37] Re
a = 1.2451 [0.3245] AU
Ag = 57960.27 [55276.89] [1.05 σ]
Teffp = 5547 [1231] K [4.32 σ]

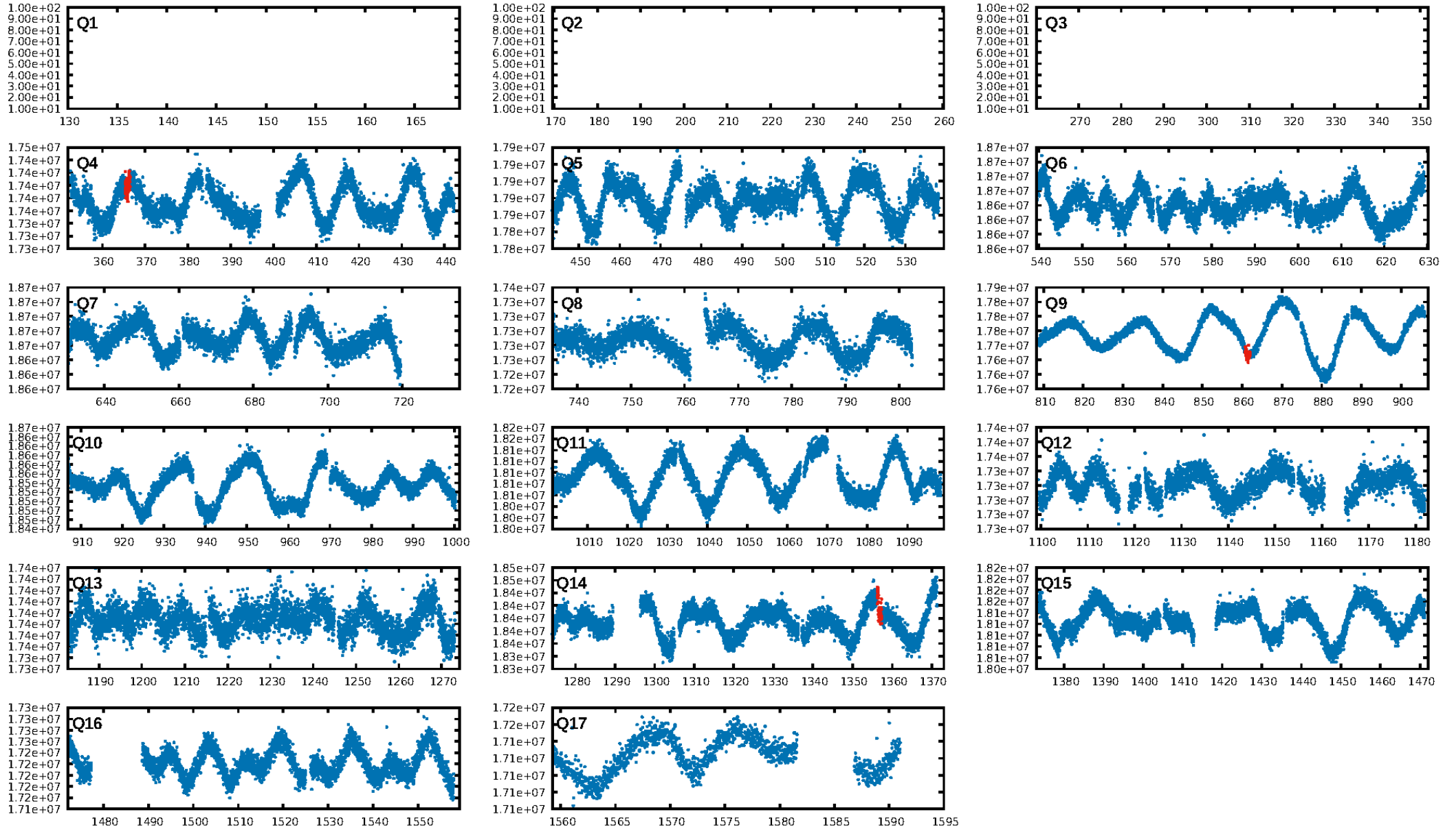
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 86.5%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 4.94e-11
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 3.692
Centroid-sig: 29.0%
Centroid-so: 3.059 arcsec [2.05 σ]
OotOffset-rm: 1.155 arcsec [1.26 σ]
KicOffset-rm: 0.816 arcsec [0.94 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

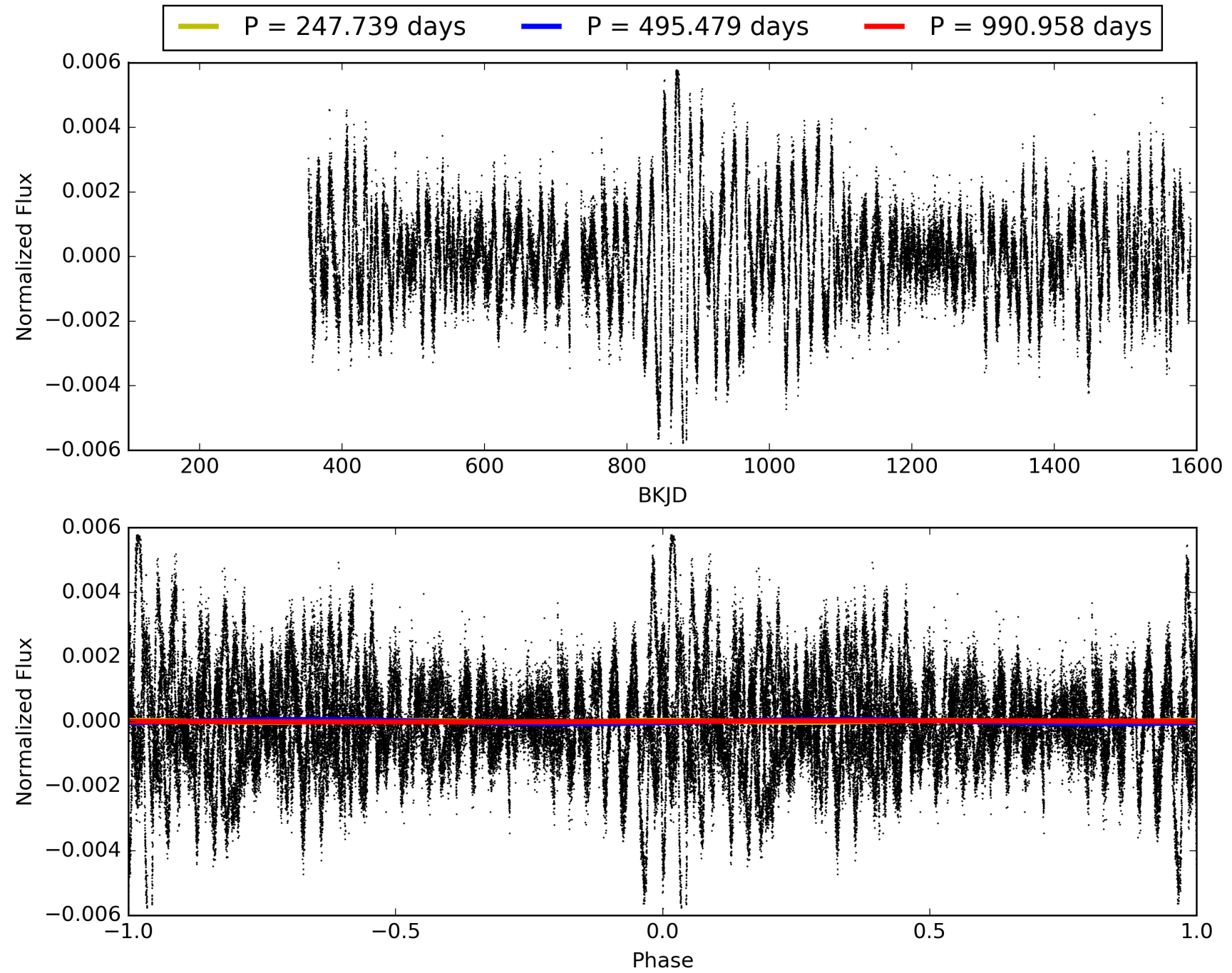
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:34:06 Z

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

TCE 008363812-01, PDC Light Curves

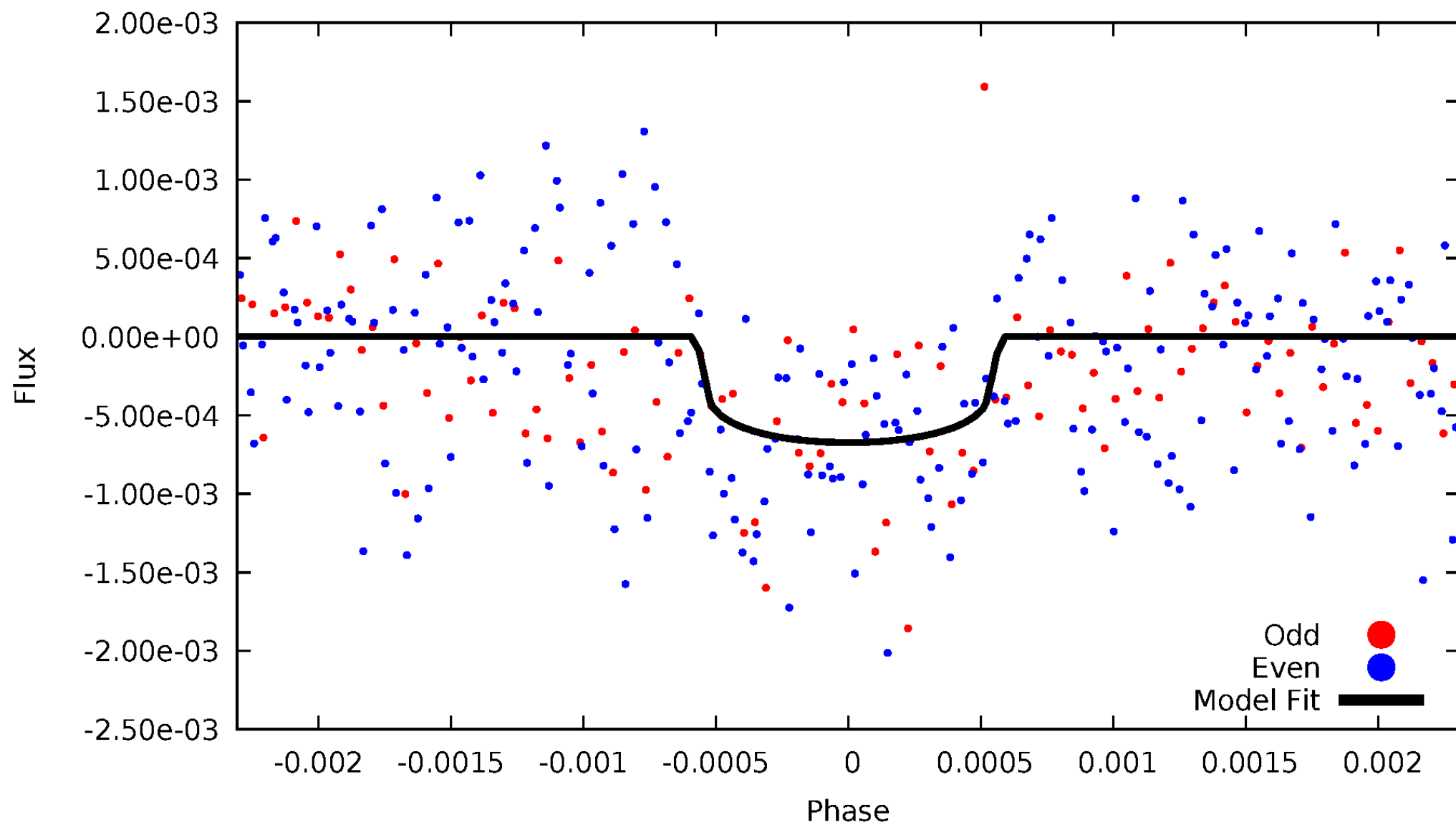


TCE 008363812-01



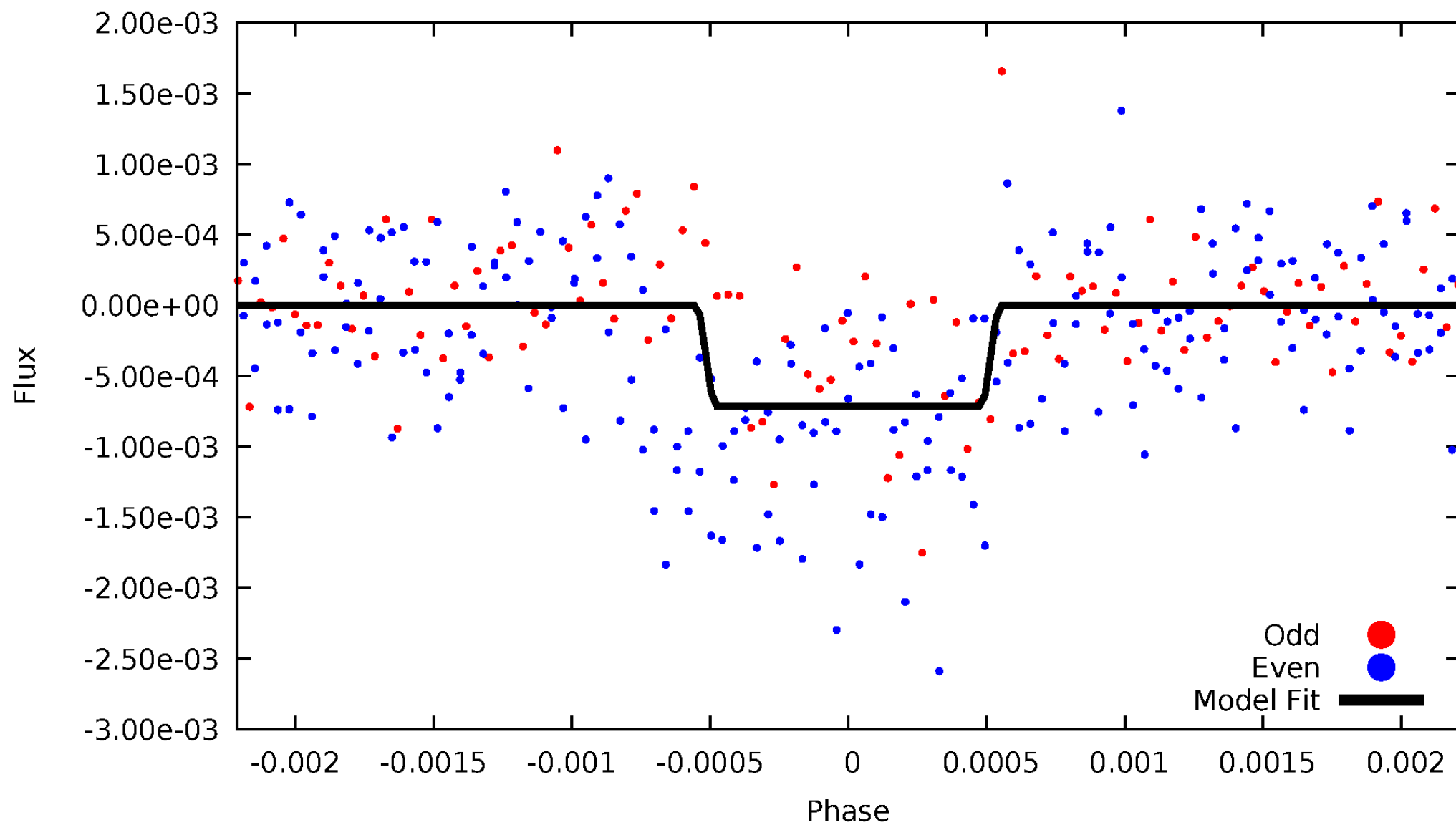
DV Odd/Even

TCE 008363812-01



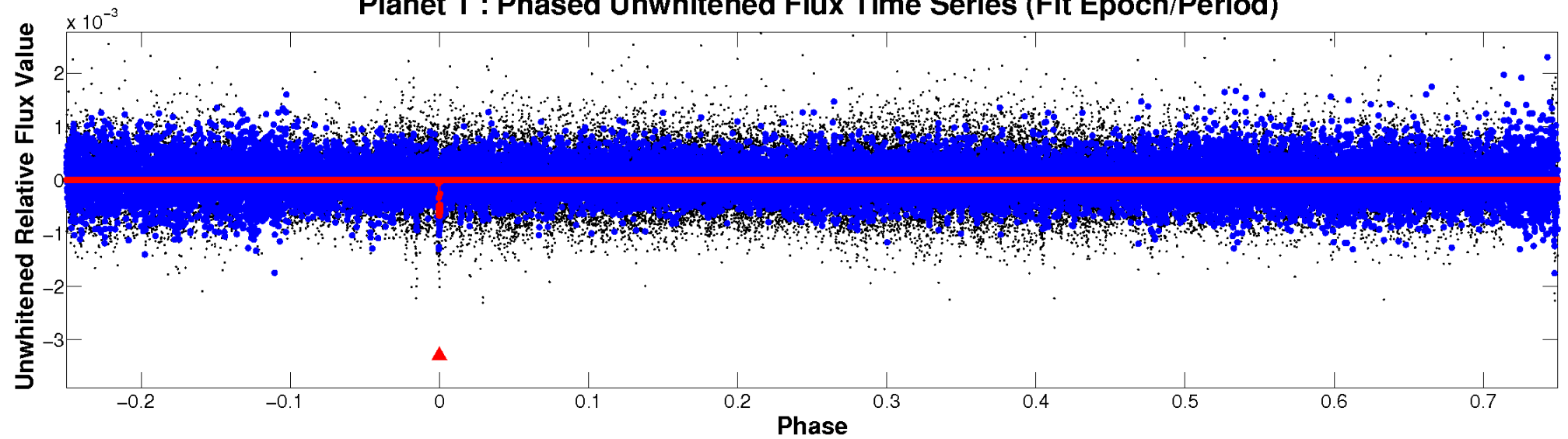
ALT Odd/Even

TCE 008363812-01

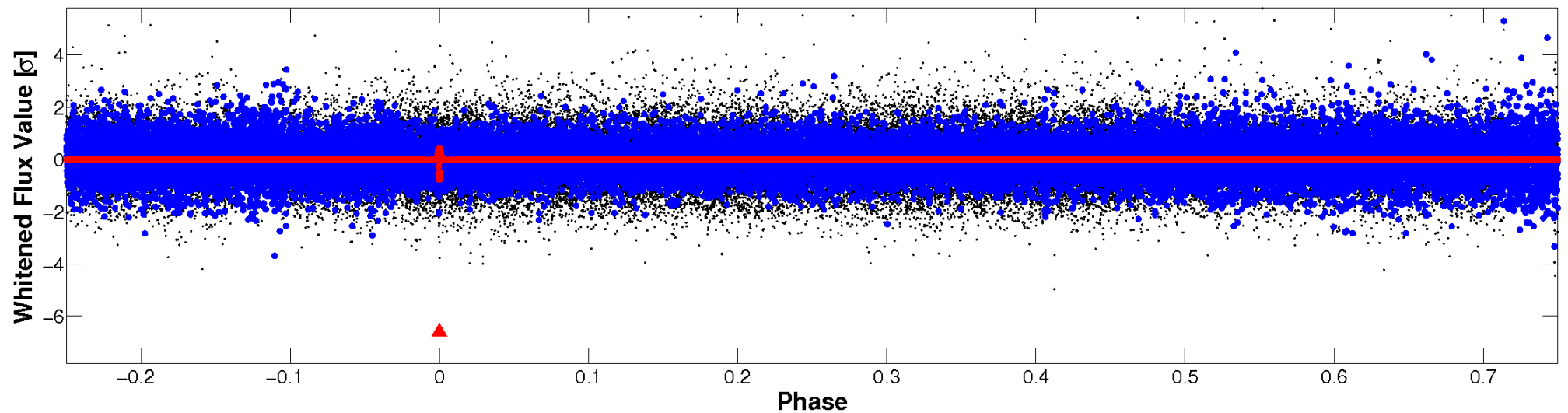


Non-Whitened Vs. Whitened Light Curve

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

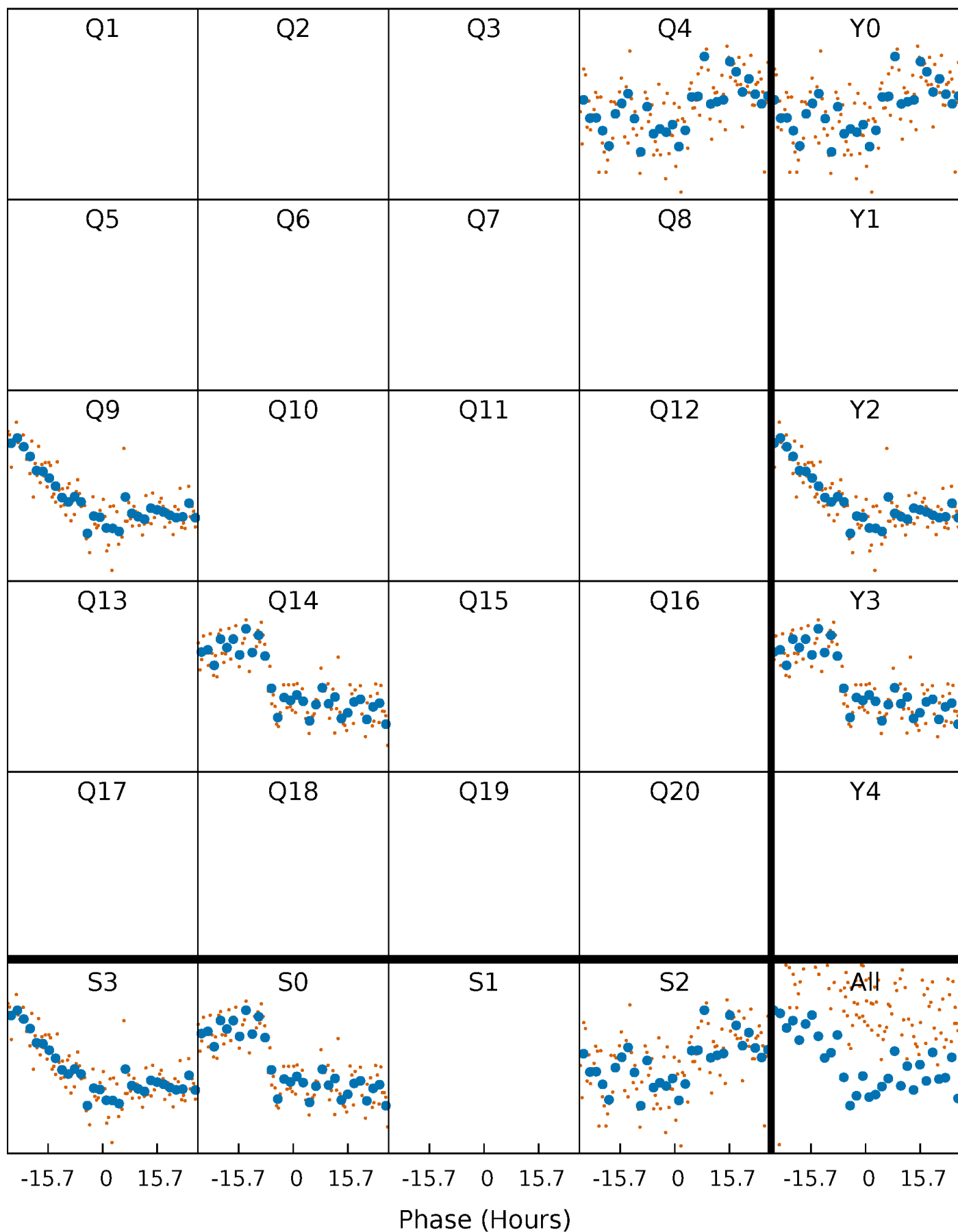


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



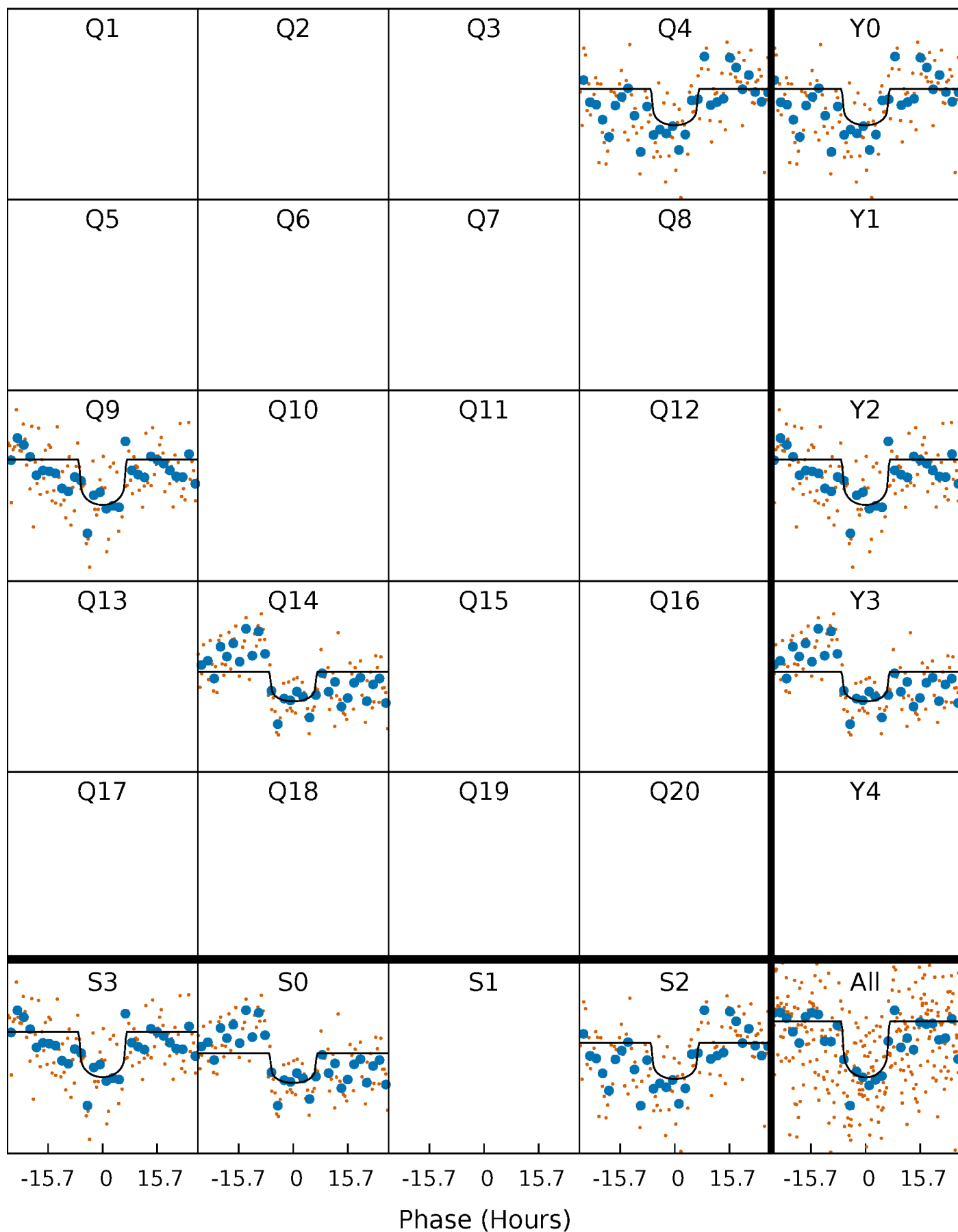
PDC Quarter-Phased Transit Curves

TCE 008363812-01 P=495.479000 Days $T_0=365.870766$ (BKJD)



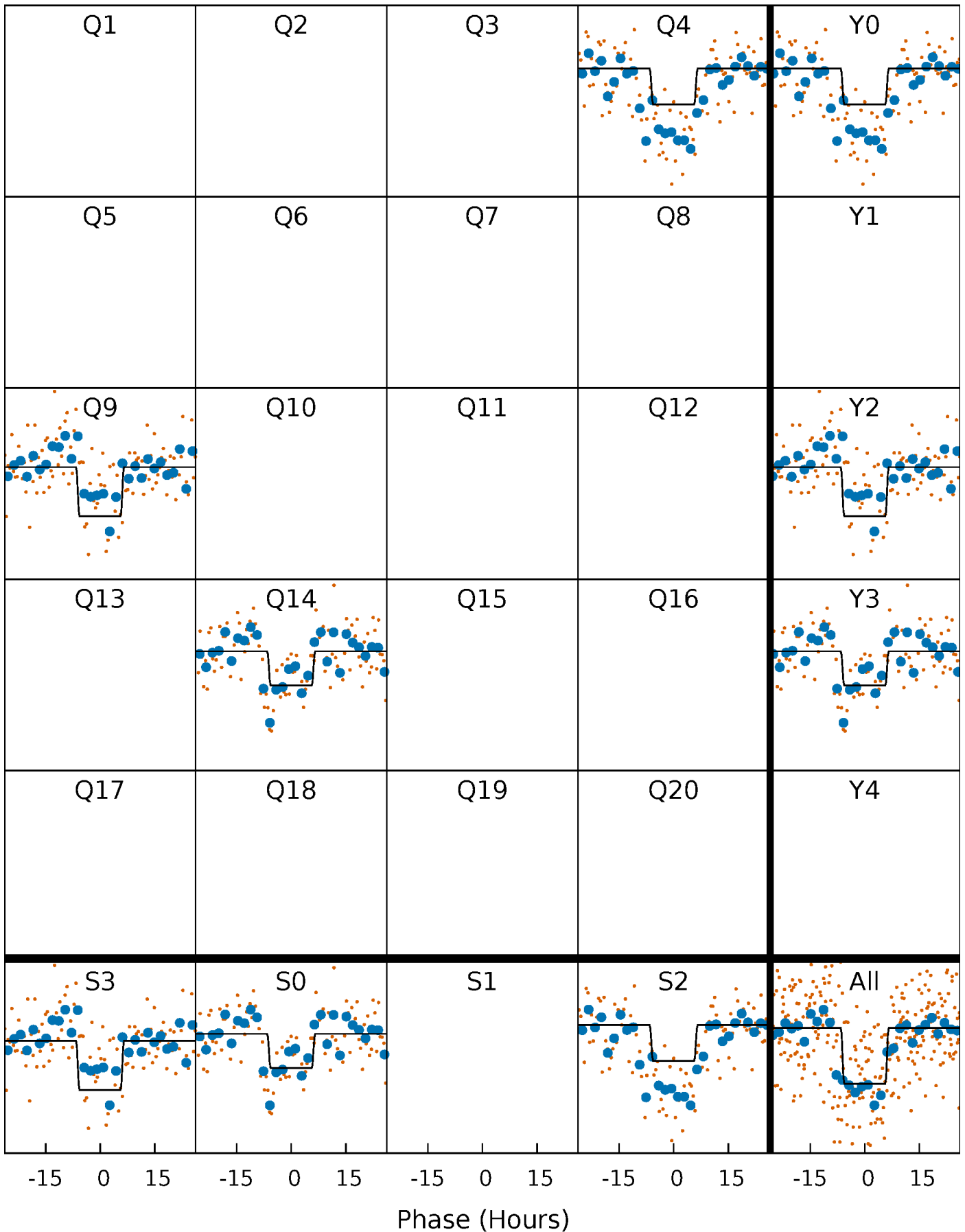
DV Quarter-Phased Transit Curves

TCE 008363812-01 $P=495.479000$ Days $T_0=365.870766$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

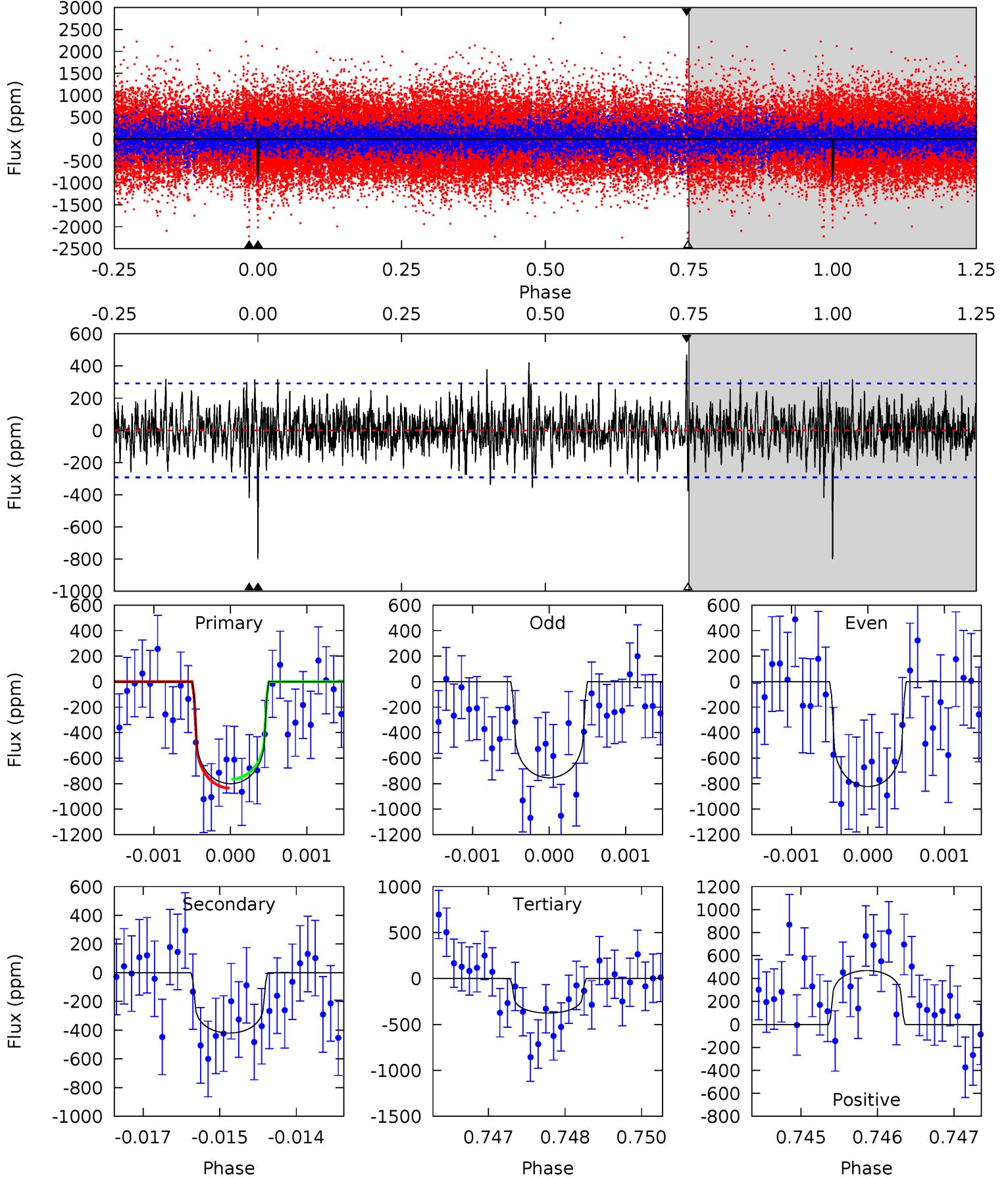
TCE 008363812-01 P=495.547886 Days $T_0=365.781247$ (BKJD)



DV Model-Shift Uniqueness Test

008363812-01, P = 495.479000 Days, E = 365.870766 Days

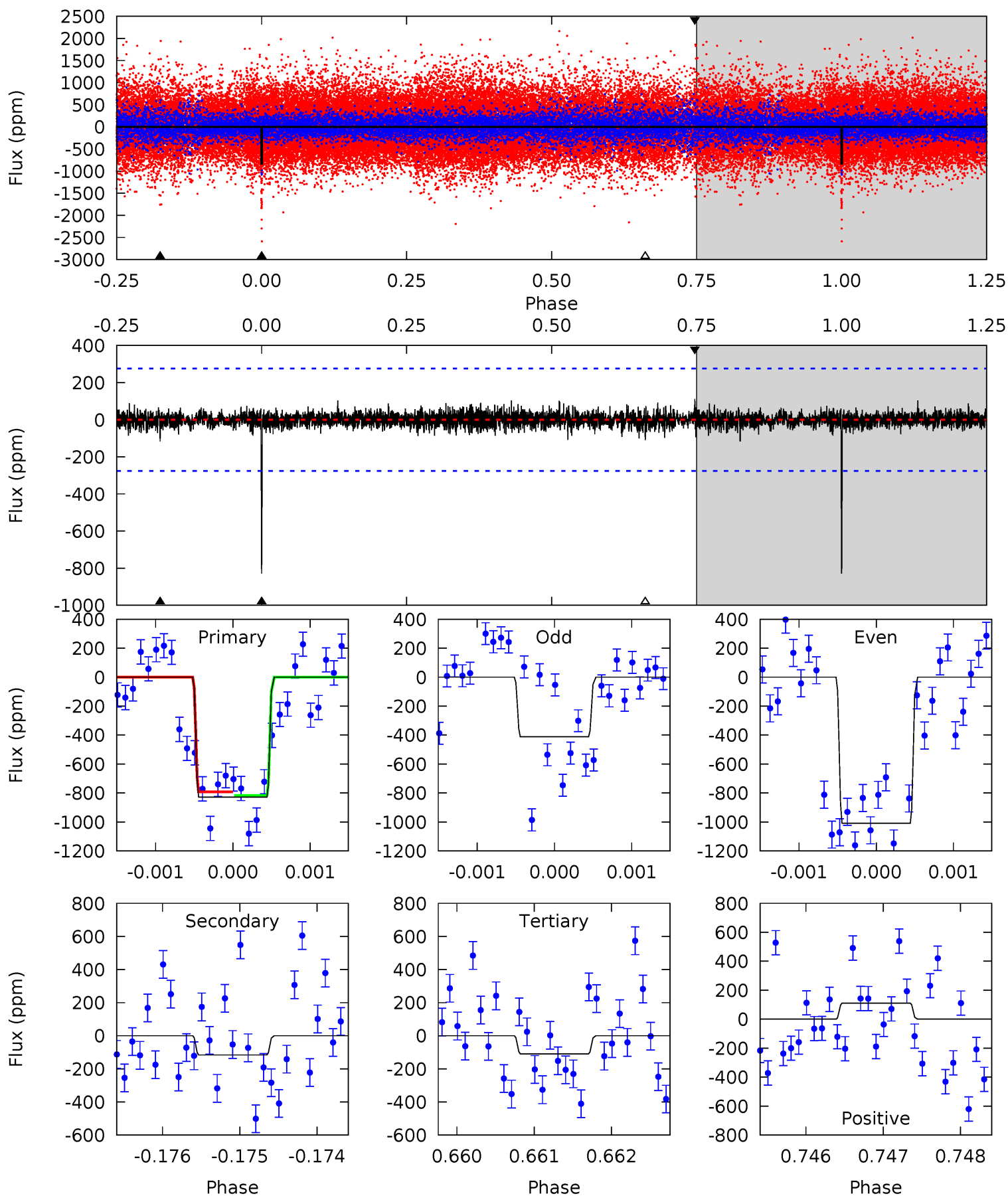
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	7.81	7.00	8.72	5.42	3.24	1.85	7.87	6.15	0.81	-0.91	0.62	0.96	0.37	0.66



Alt Model-Shift Uniqueness Test

008363812-01, P = 495.547886 Days, E = 365.781247 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	2.29	2.16	2.20	5.44	3.27	0.50	14.2	14.1	0.12	0.09	5.66	1.24	0.12	0.23



Stellar Parameters For KIC 008363812

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5966^{+184}_{-226}	$4.493^{+0.052}_{-0.208}$	$-0.020^{+0.250}_{-0.300}$	$0.961^{+0.297}_{-0.099}$	$1.049^{+0.124}_{-0.138}$	$1.665^{+0.463}_{-0.863}$
	+3%/-4%	+1%/-5%	+1250%/-1500%	+31%/-10%	+12%/-13%	+28%/-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 008363812-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-420 ± 54	$2.88^{+1.15}_{-1.25}$	330^{+26}_{-17}	5342^{+1545}_{-709}	44682^{+86980}_{-23181}
Alt.	-116 ± 51	$2.93^{+1.27}_{-1.16}$	330^{+24}_{-17}	4061^{+933}_{-558}	10984^{+20148}_{-6591}

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

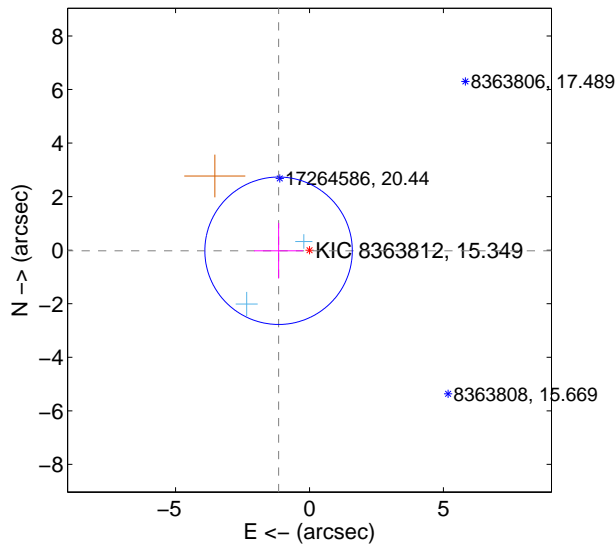
Supplemental centroid analysis for 008363812-01. Kepler magnitude: 15.35. Transit SNR 6.66

There are 2 quarters with good PRF difference image offsets

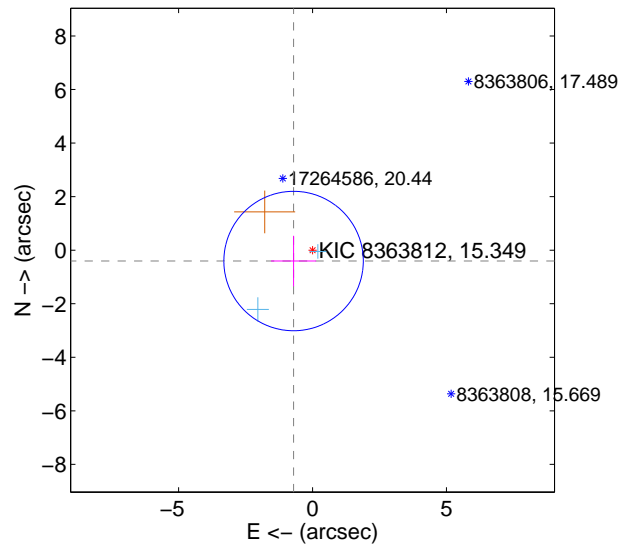
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.155 ± 0.918	1.26	1.155 ± 0.918	-0.022 ± 1.035
PRF-fit source offset from KIC position	0.816 ± 0.868	0.94	0.708 ± 0.841	-0.406 ± 0.944
photometric centroid source offset	3.06 ± 1.49	2.05	-2.97 ± 1.50	-0.72 ± 1.39

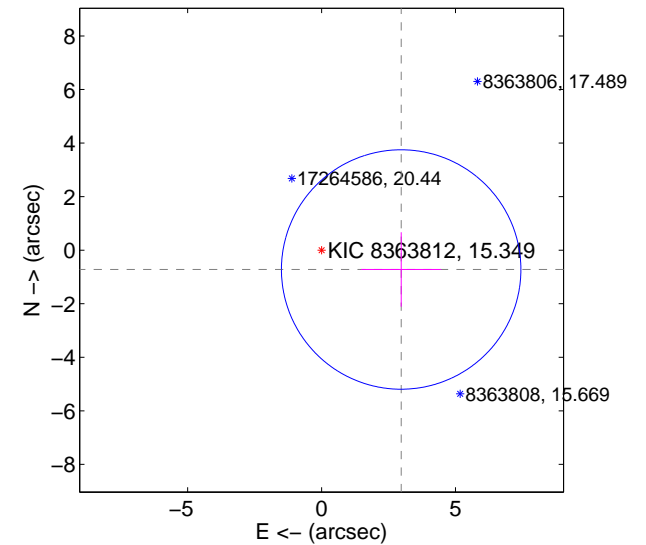
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



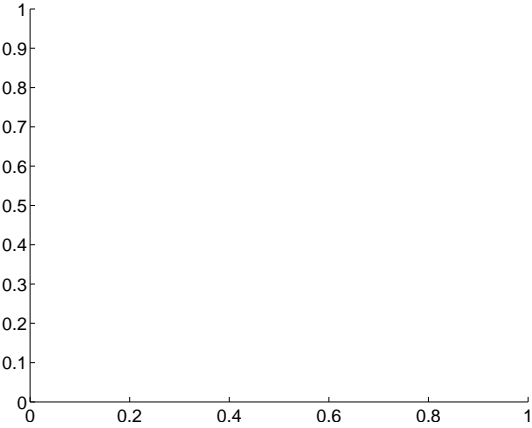
offset from photometric centroids



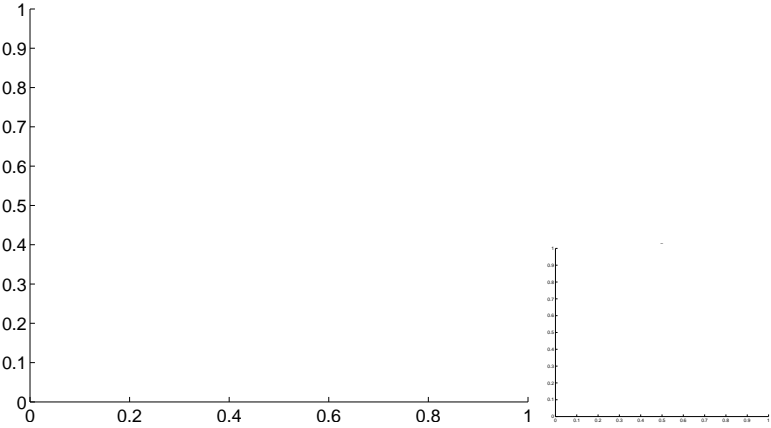
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

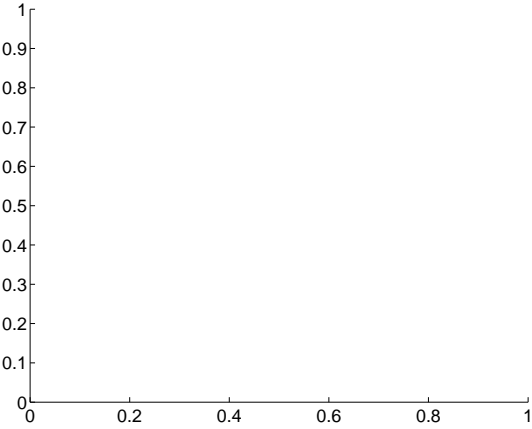
Q1 no difference image



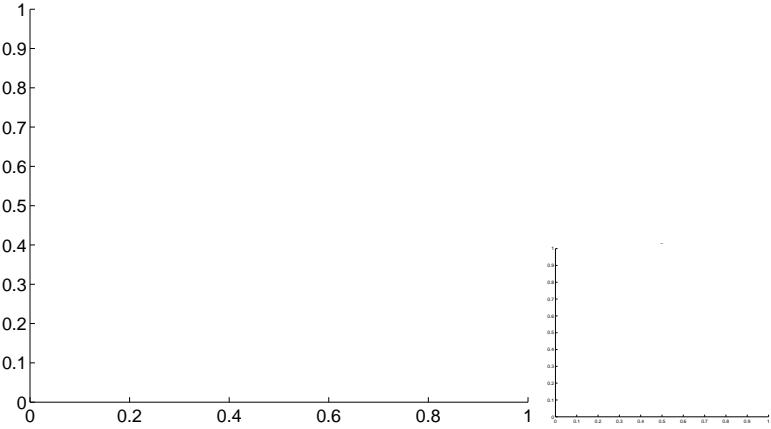
Q1 no OOT image



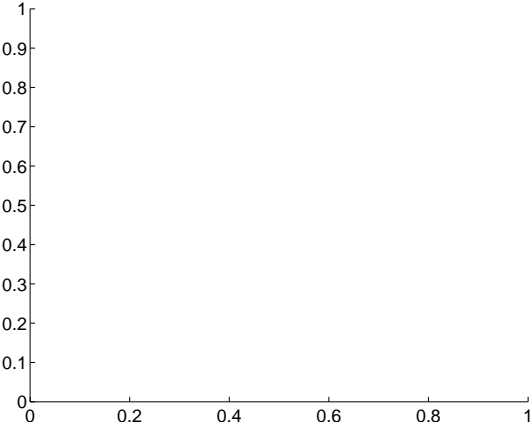
Q2 no difference image



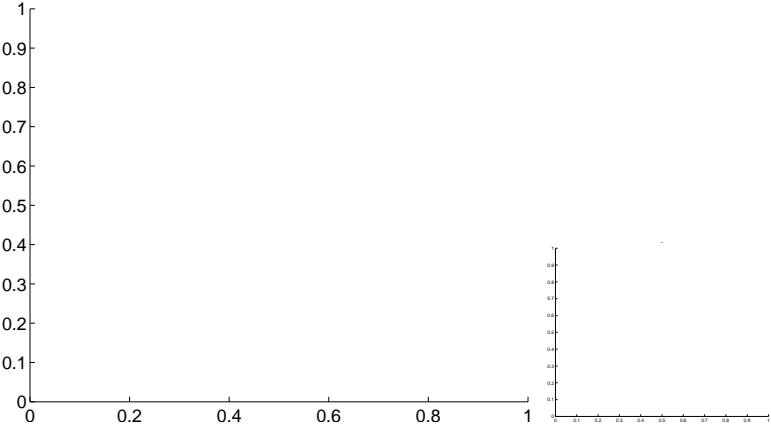
Q2 no OOT image



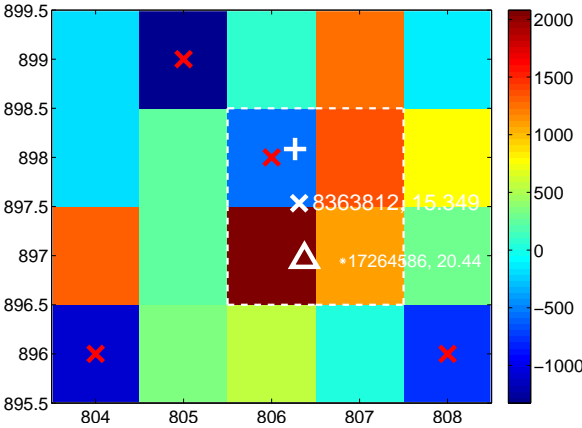
Q3 no difference image



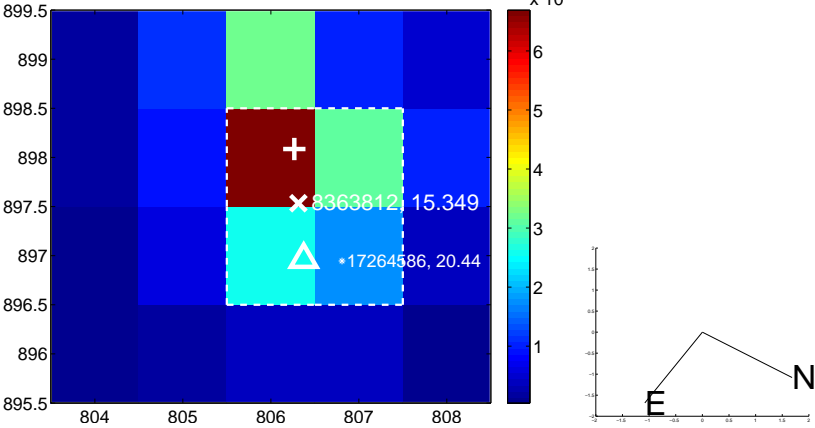
Q3 no OOT image



Q4 difference image. Poor Quality



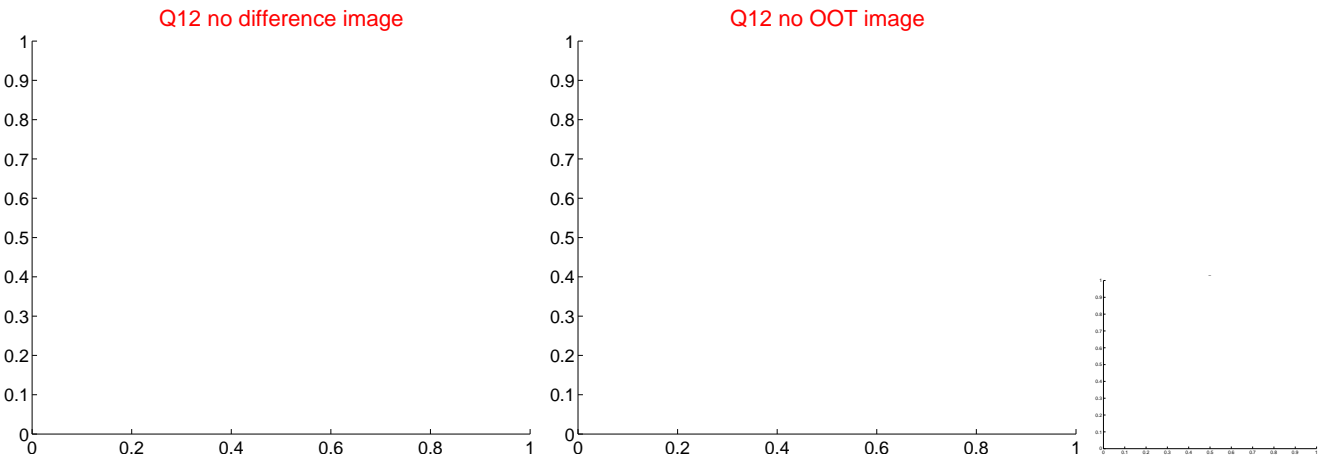
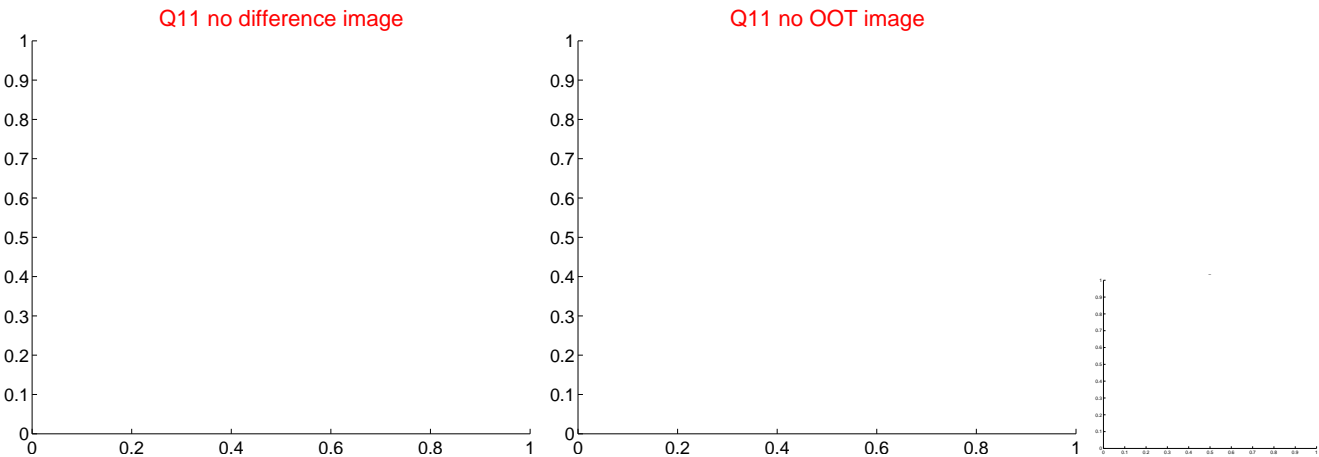
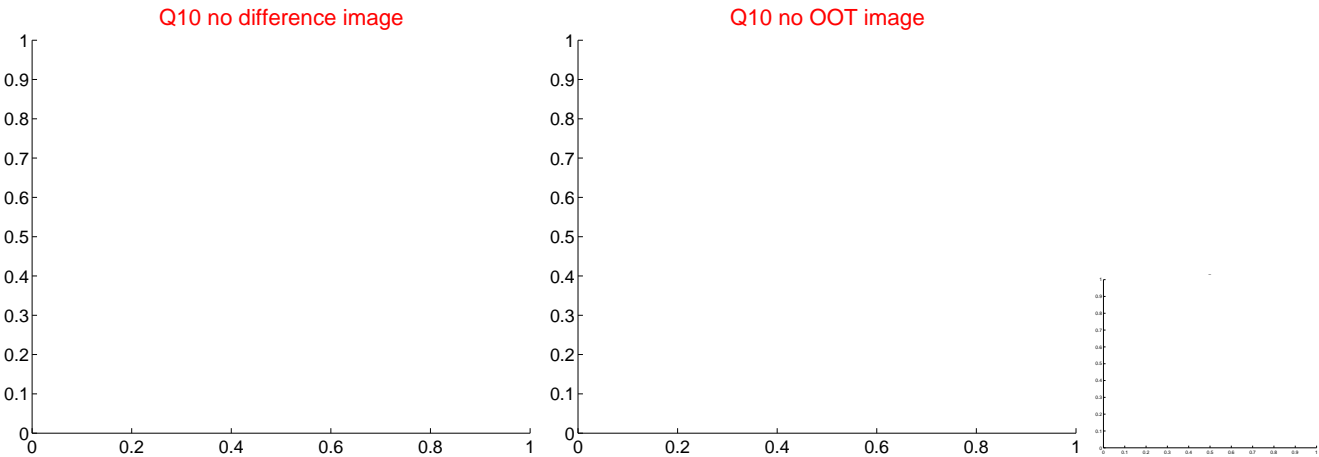
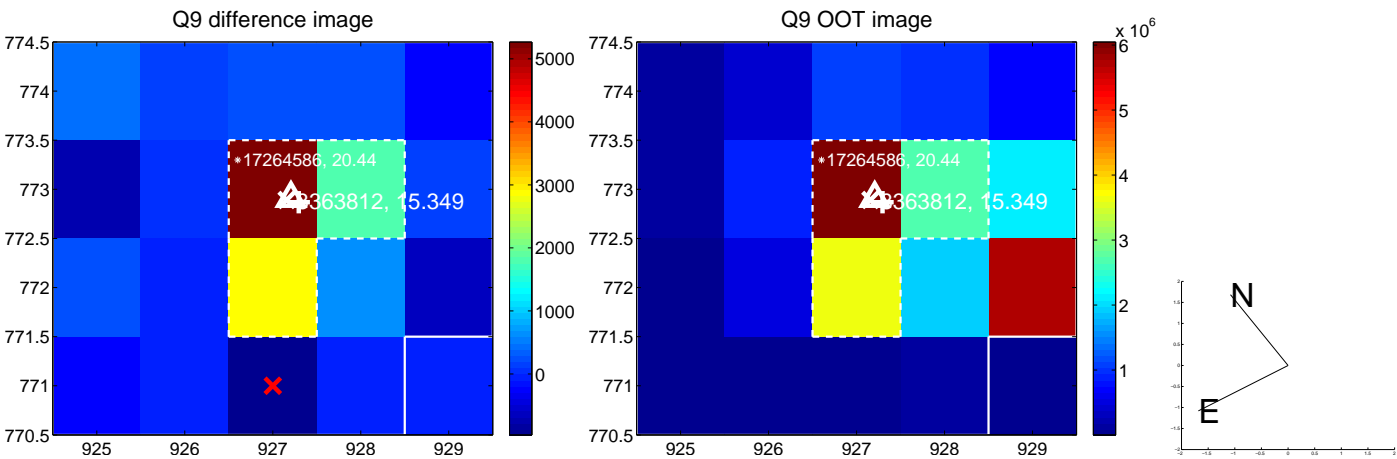
Q4 OOT image



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

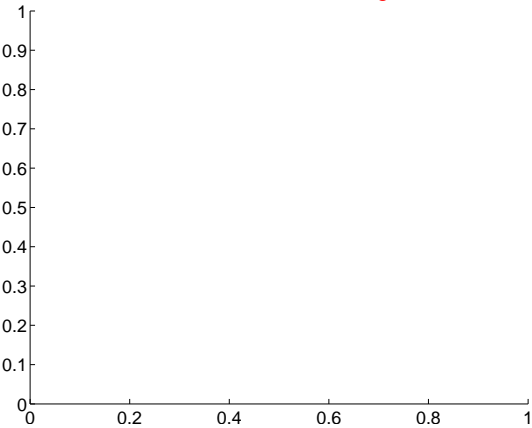


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

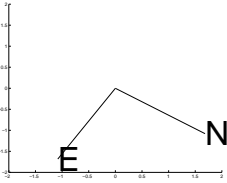
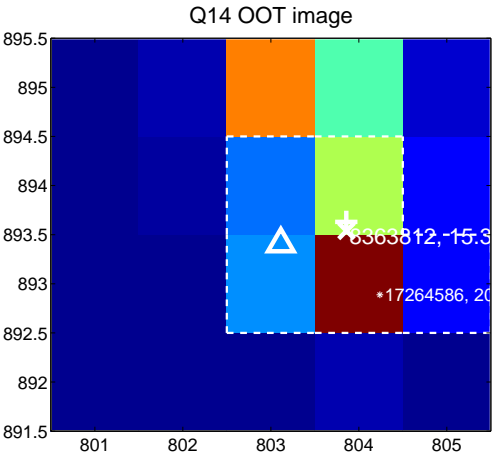
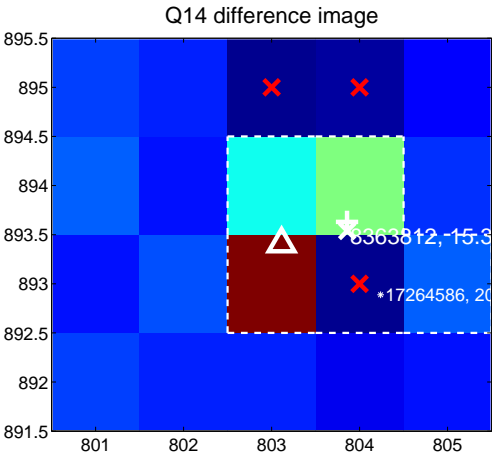
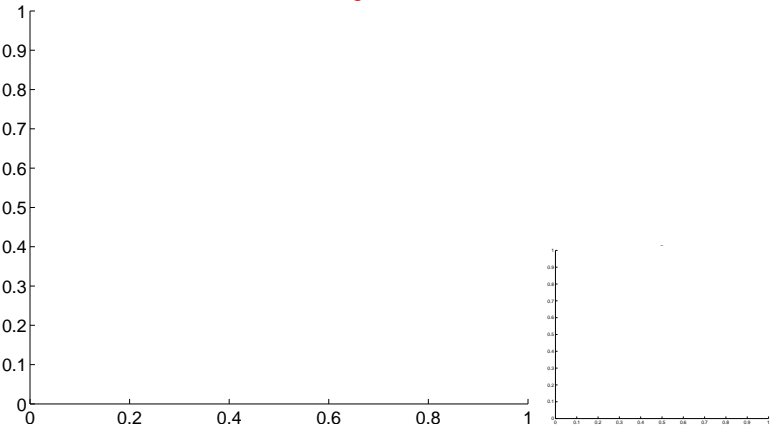


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

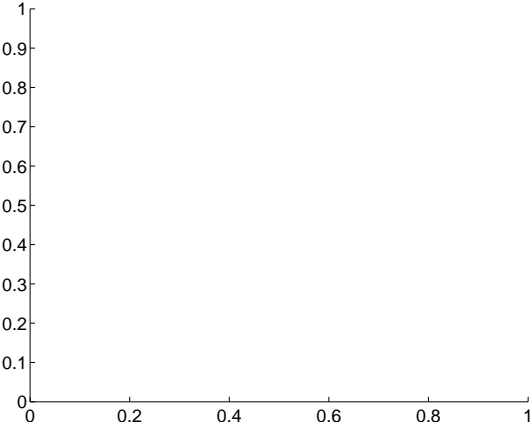
Q13 no difference image



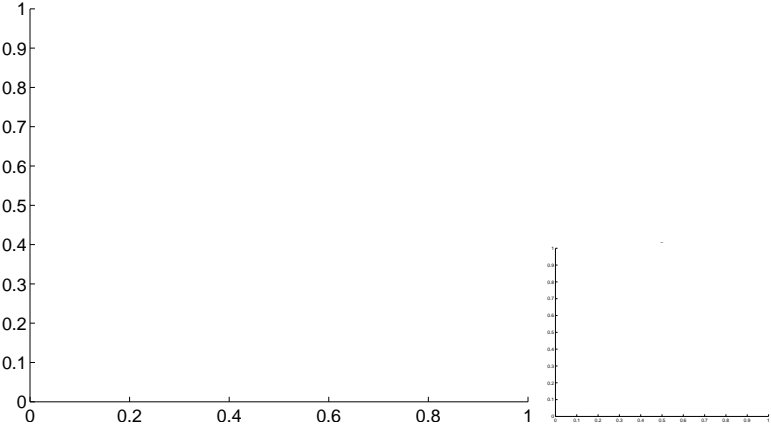
Q13 no OOT image



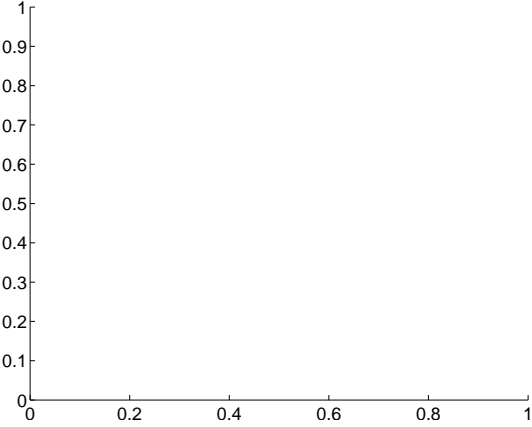
Q15 no difference image



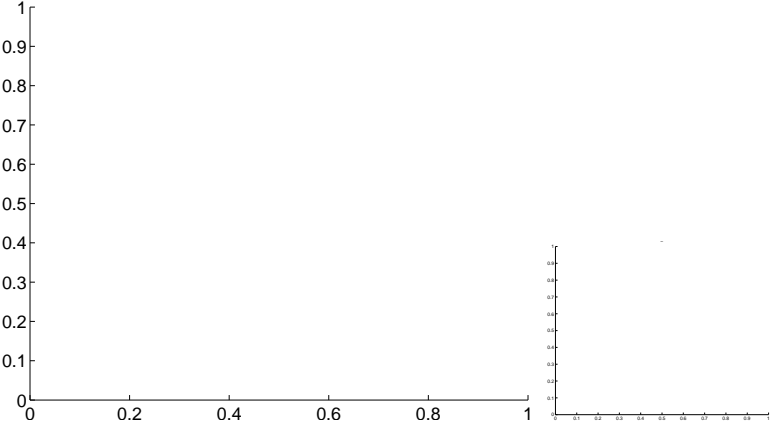
Q15 no OOT image



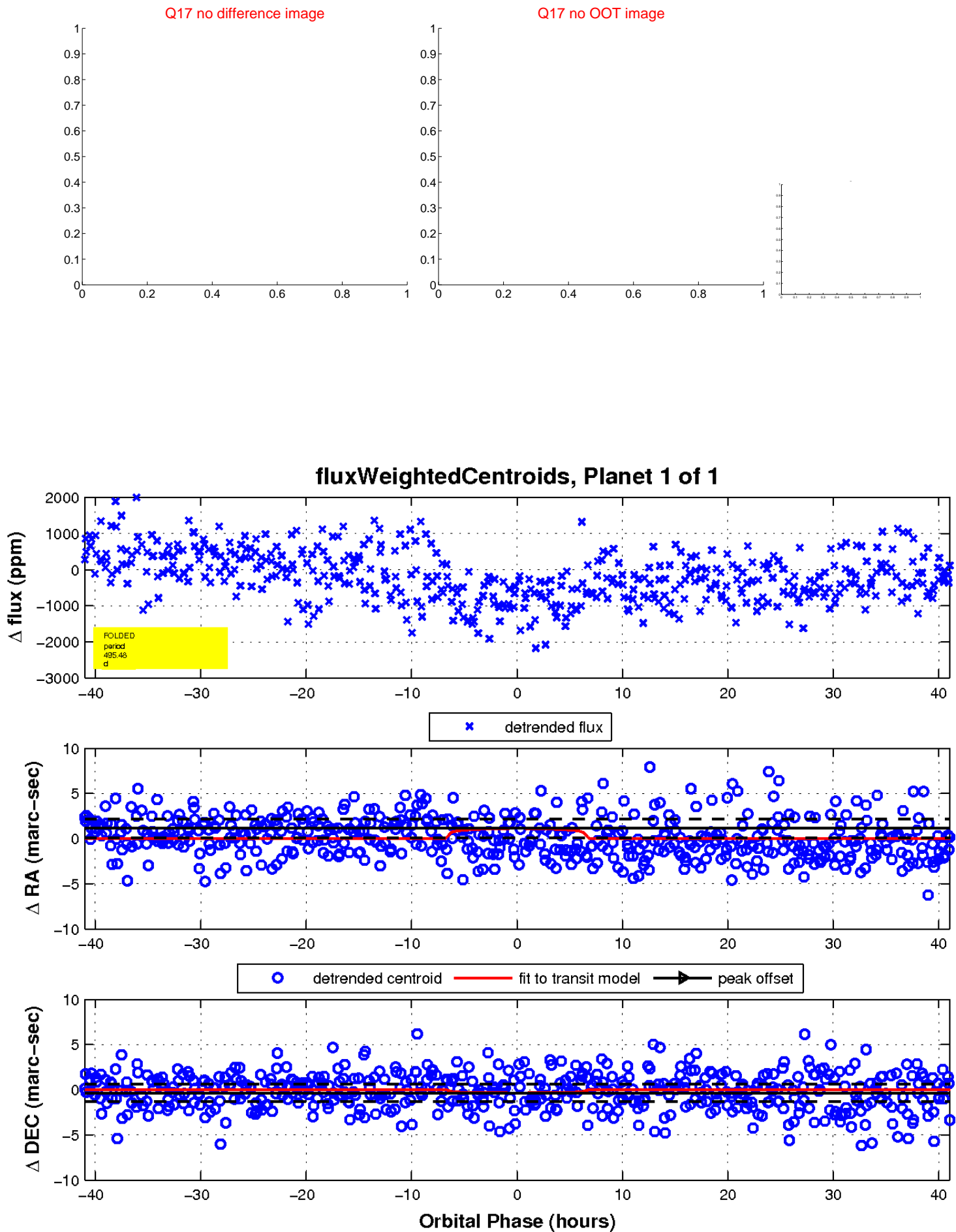
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

