

KIC 008363997

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})
008363997-01	OBS	No	352.719534	452.715816	223.2	10.684	13.8	11.7	1.36	6328	2.34	2.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008363997-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—INCONSISTENT_TRANS

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

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

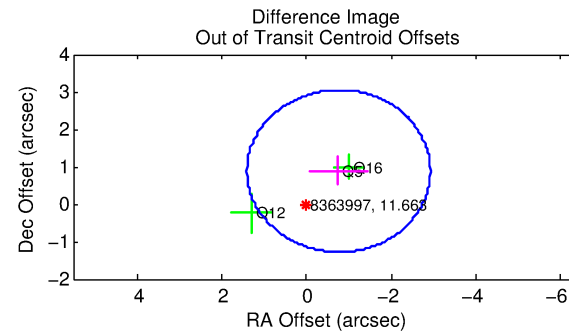
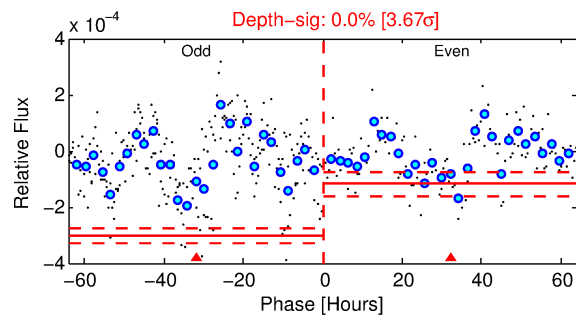
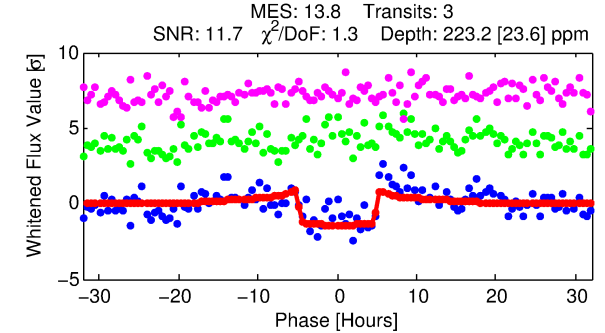
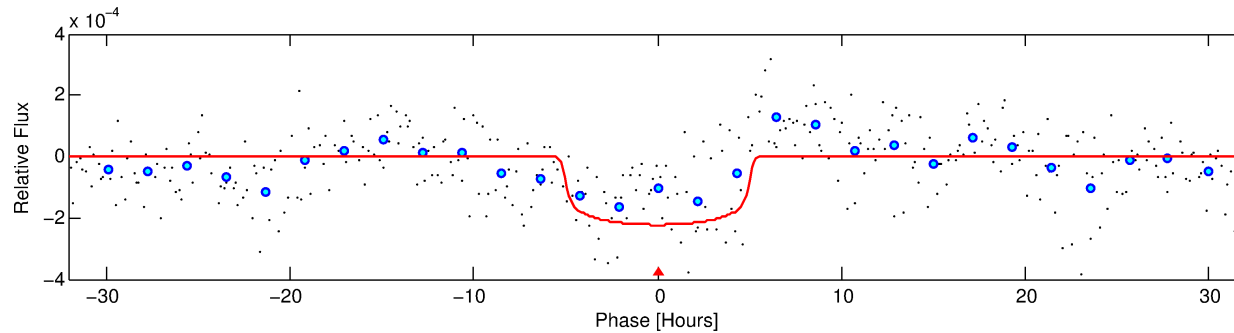
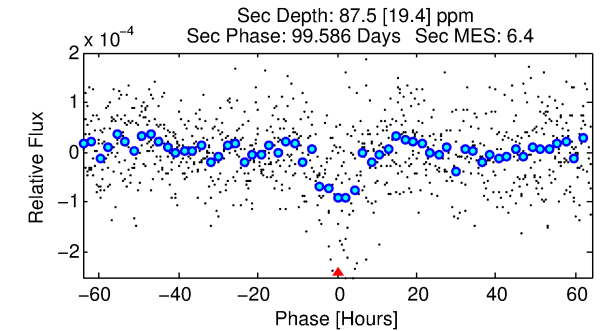
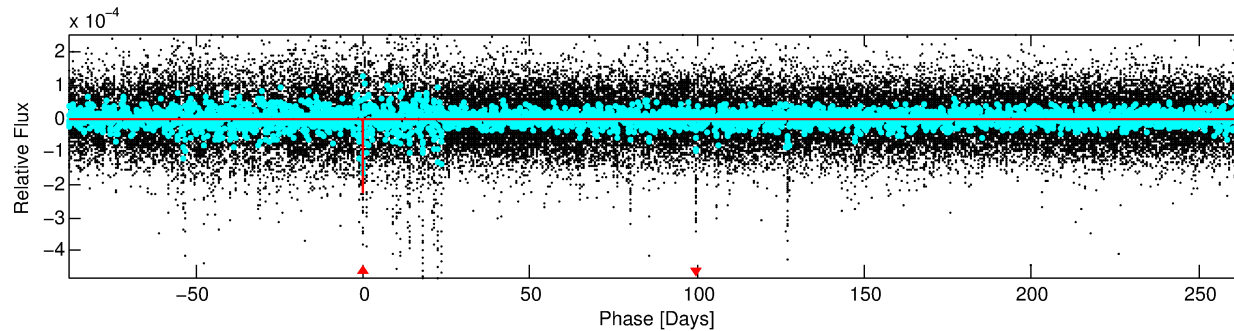
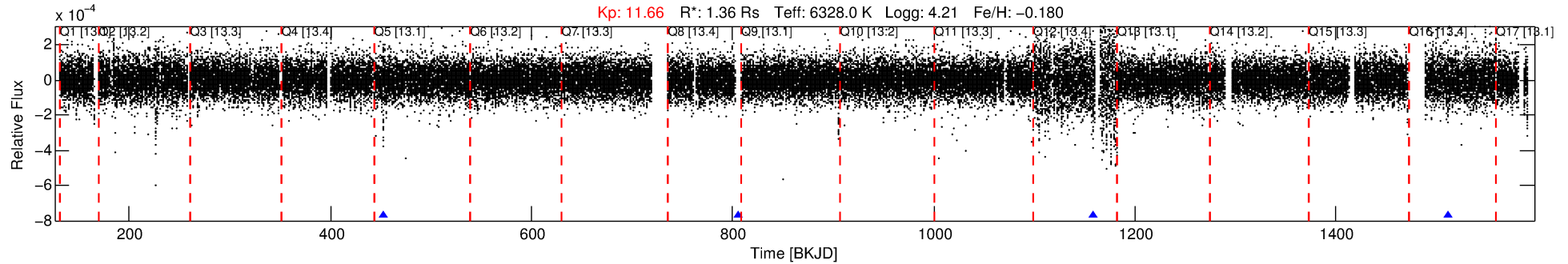
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008363997-01

No Significant Match Found

DV One-Page Summary

KIC: 8363997 Candidate: 1 of 1 Period: 352.720 d



DV Fit Results:

Period = 352.71953 [0.00467] d
Epoch = 452.7158 [0.0092] BKJD
Rp/R* = 0.0157 [0.0020]
a/R* = 130.98 [79.50]
b = 0.87 [0.17]
Seff = 2.64 [0.69]
Teq = 325 [21] K
Rp = 2.34 [0.51] Re
a = 1.0058 [0.1648] AU
Ag = 8903.29 [3767.70] [2.36σ]
Teff = 4882 [414] K [10.98σ]

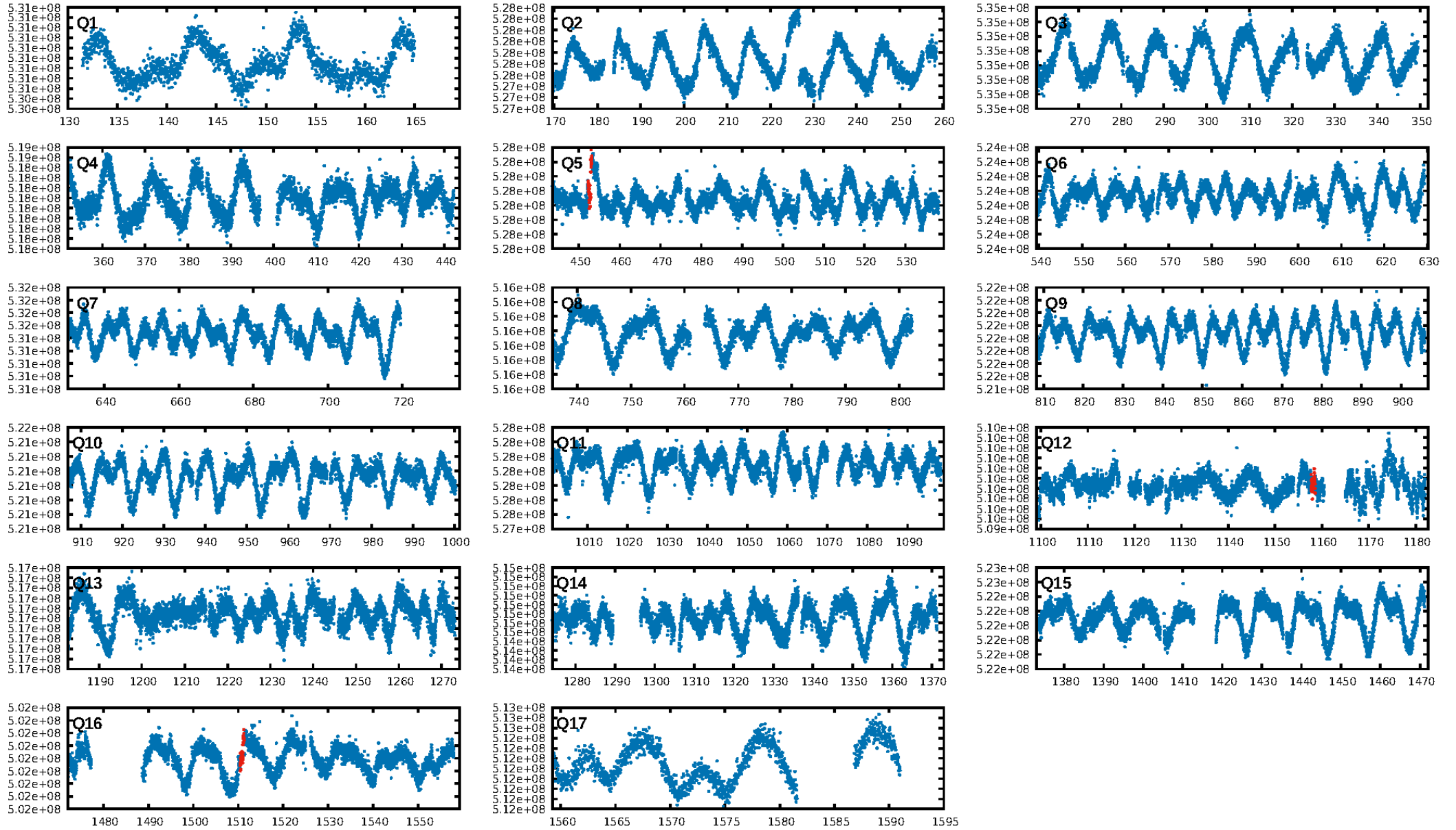
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 48.2%
Bootstrap-pfa: 1.64e-20
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.449
Centroid-sig: 18.5%
Centroid-so: 0.868 arcsec [1.18σ]
OotOffset-rm: 1.166 arcsec [1.61σ]
KicOffset-rm: 1.188 arcsec [2.41σ]
OotOffset-st: 0/0/2/1 [3]
KicOffset-st: 0/0/2/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

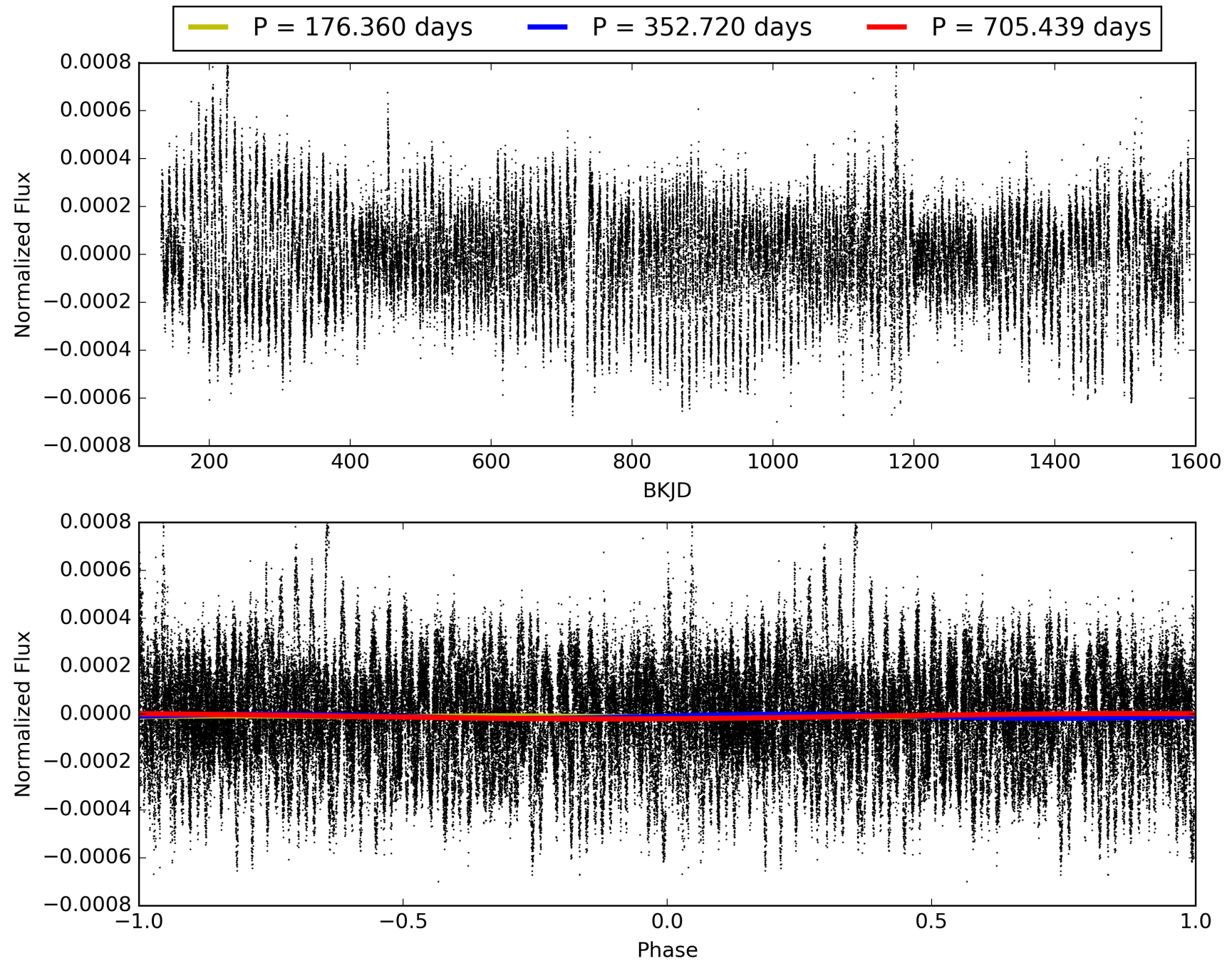
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:09:48 Z

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

TCE 008363997-01, PDC Light Curves

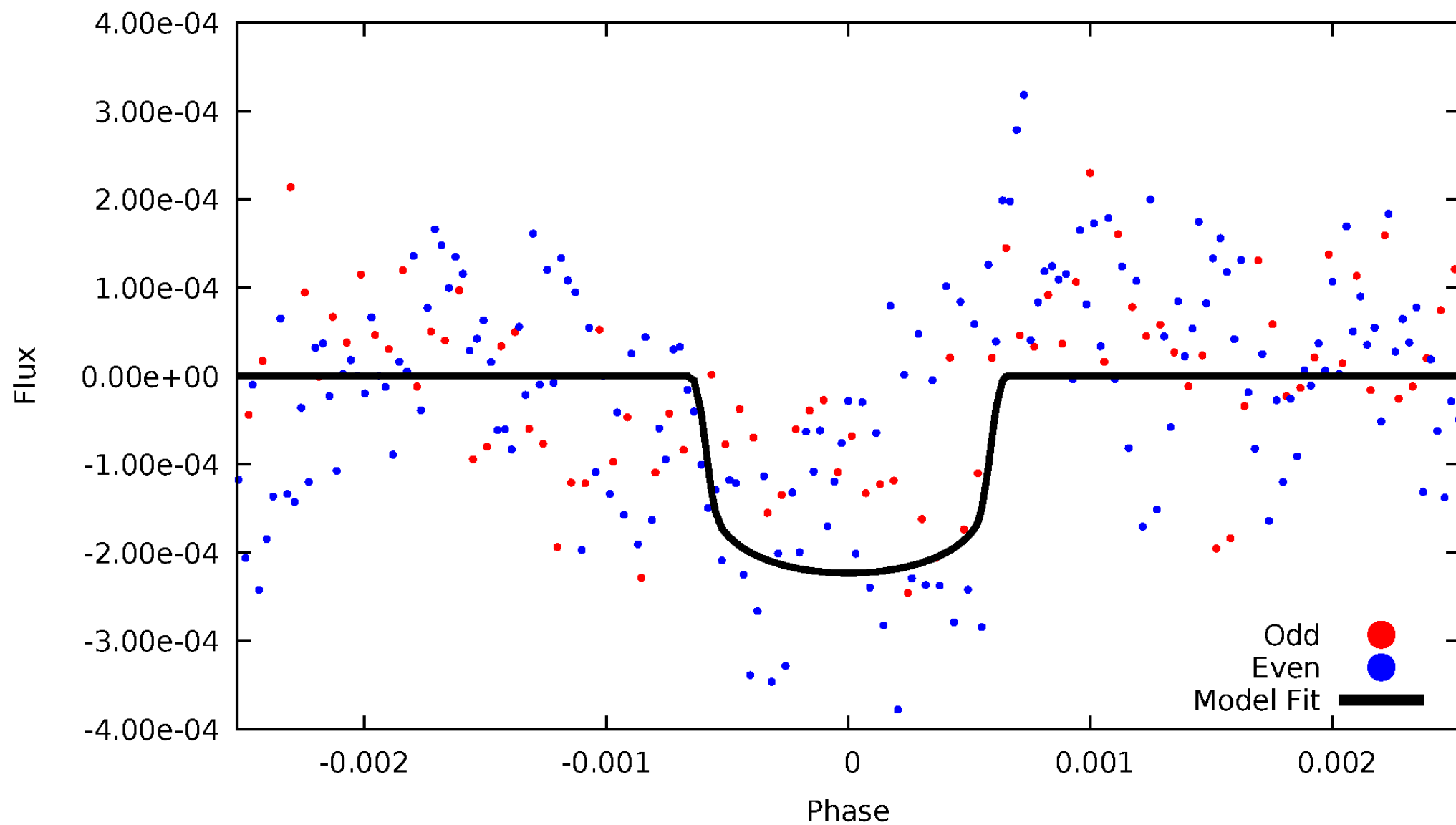


TCE 008363997-01



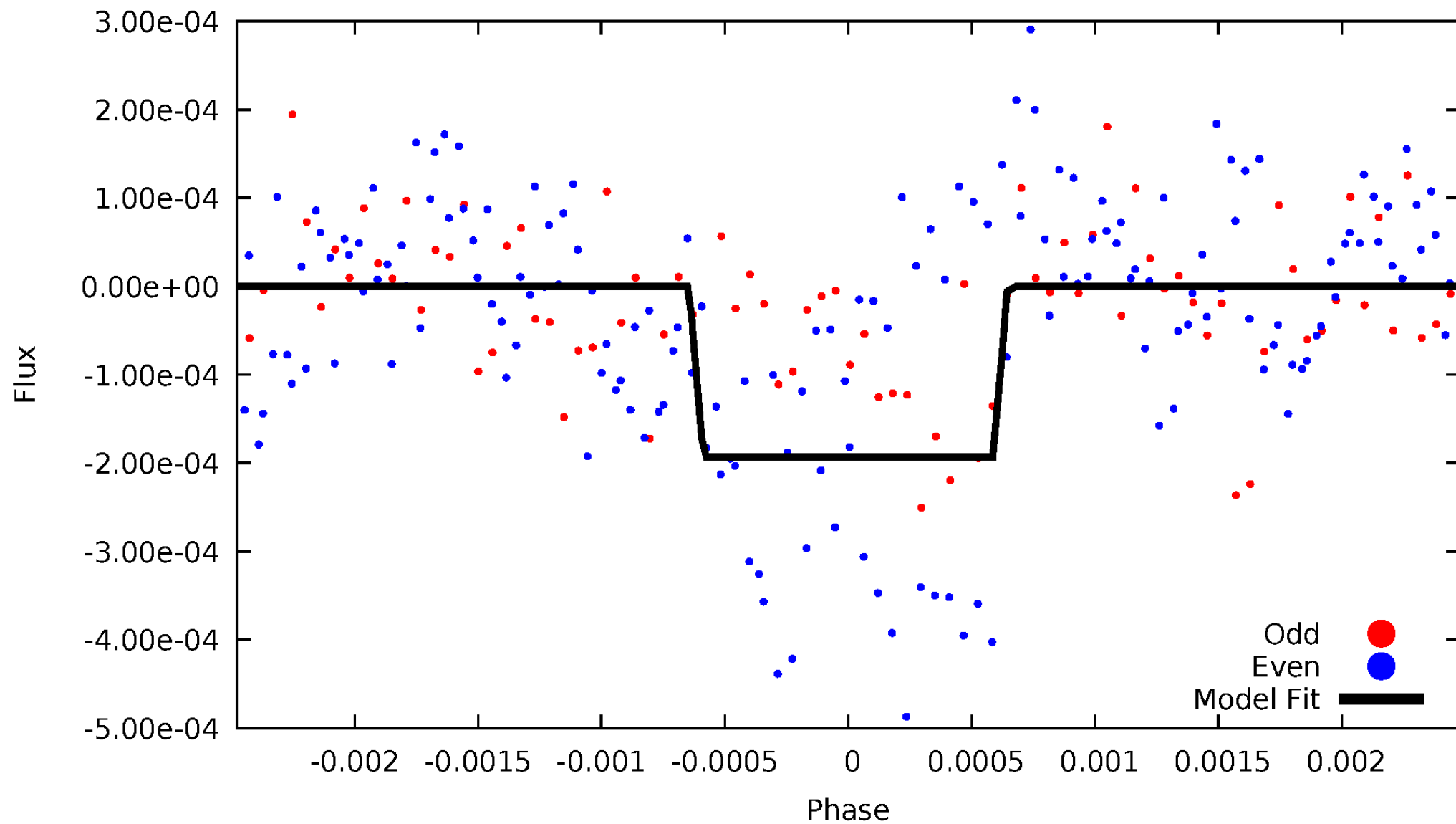
DV Odd/Even

TCE 008363997-01



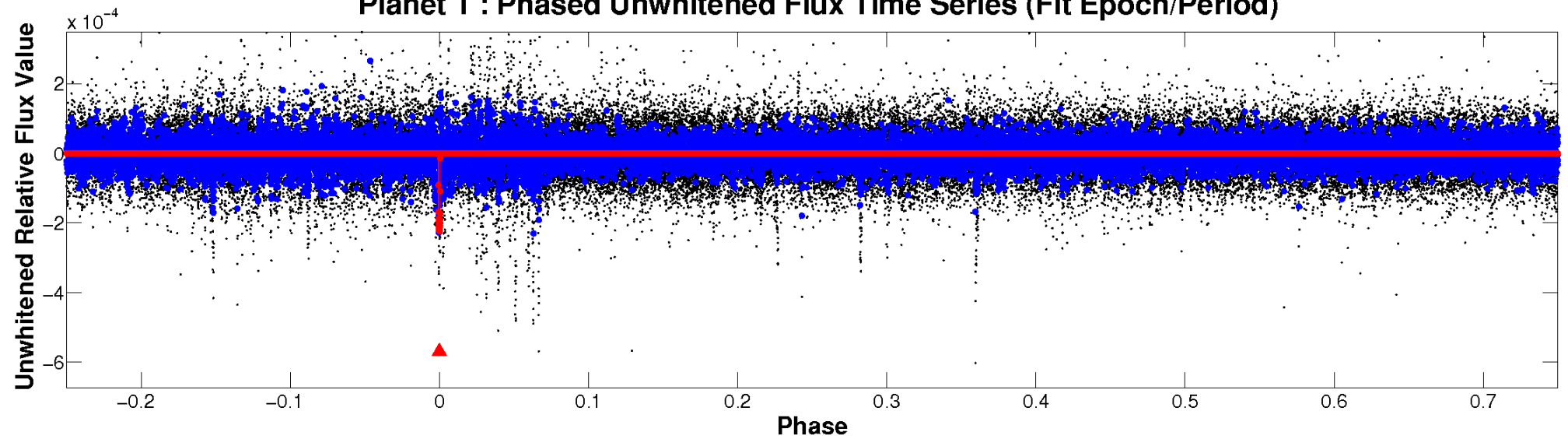
ALT Odd/Even

TCE 008363997-01

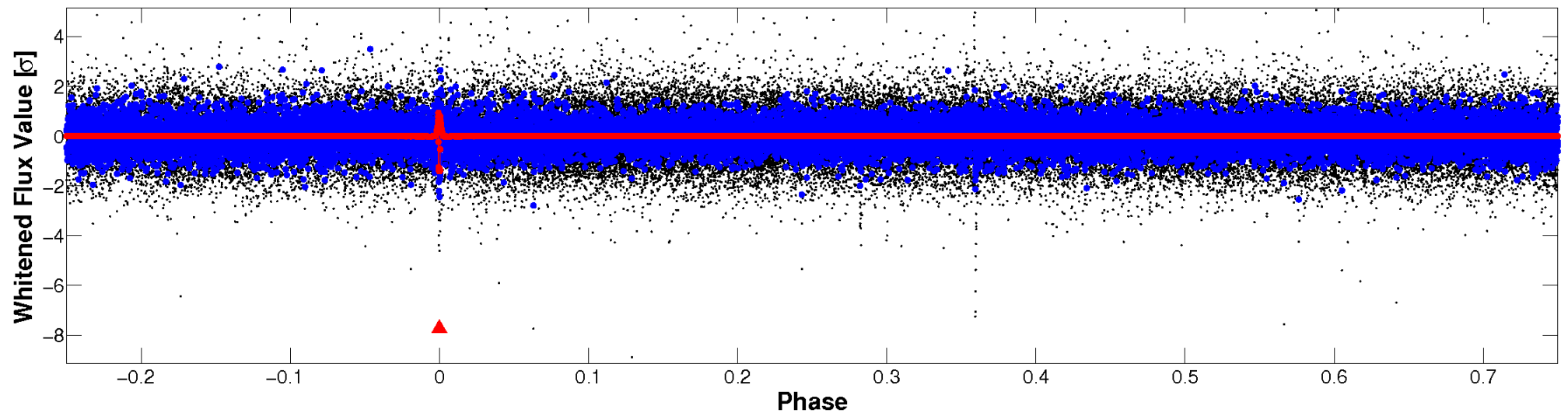


Non-Whitened Vs. Whitened Light Curve

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

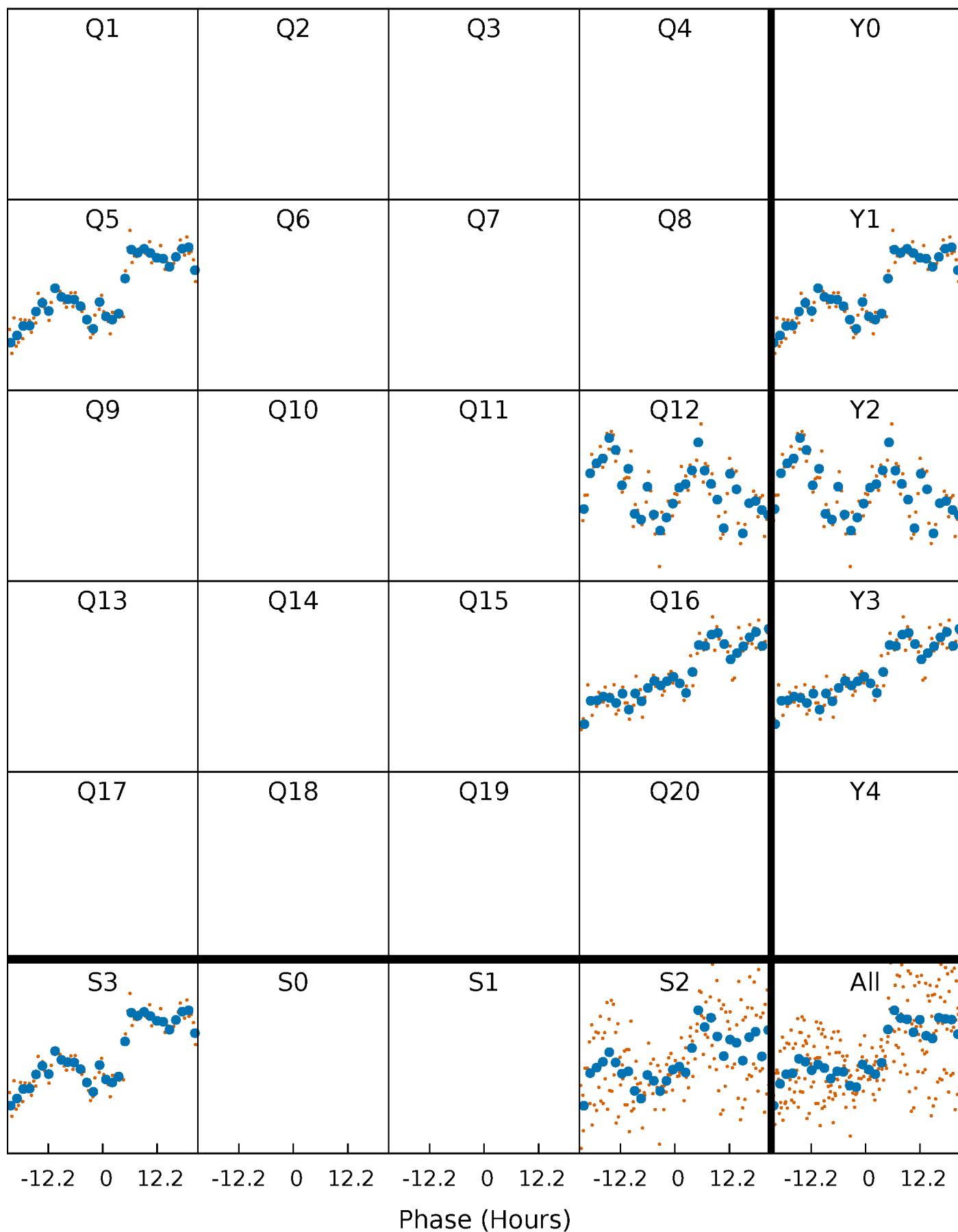


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



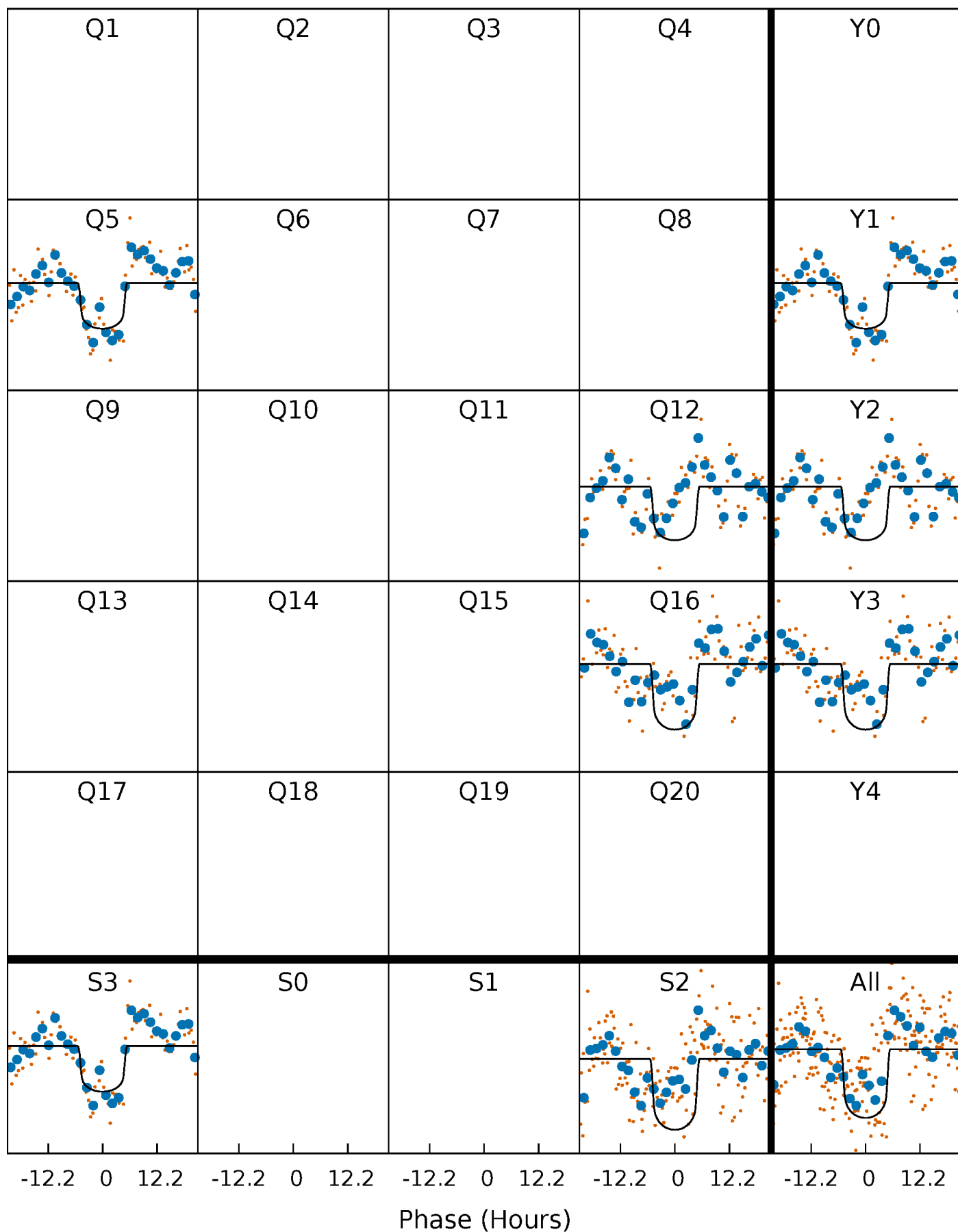
PDC Quarter-Phased Transit Curves

TCE 008363997-01 $P=352.719534$ Days $T_0=452.715816$ (BKJD)



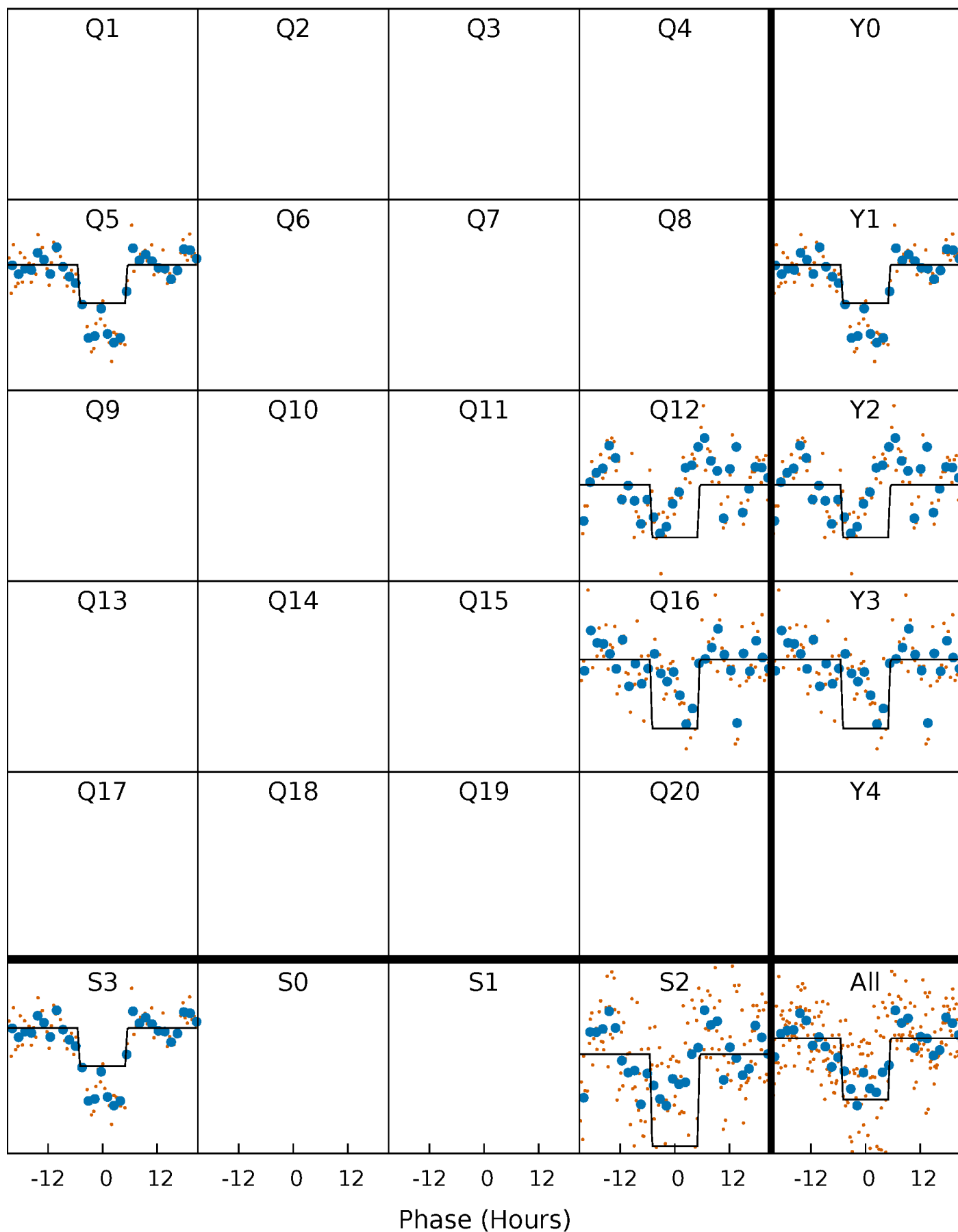
DV Quarter-Phased Transit Curves

TCE 008363997-01 P=352.719534 Days $T_0=452.715816$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

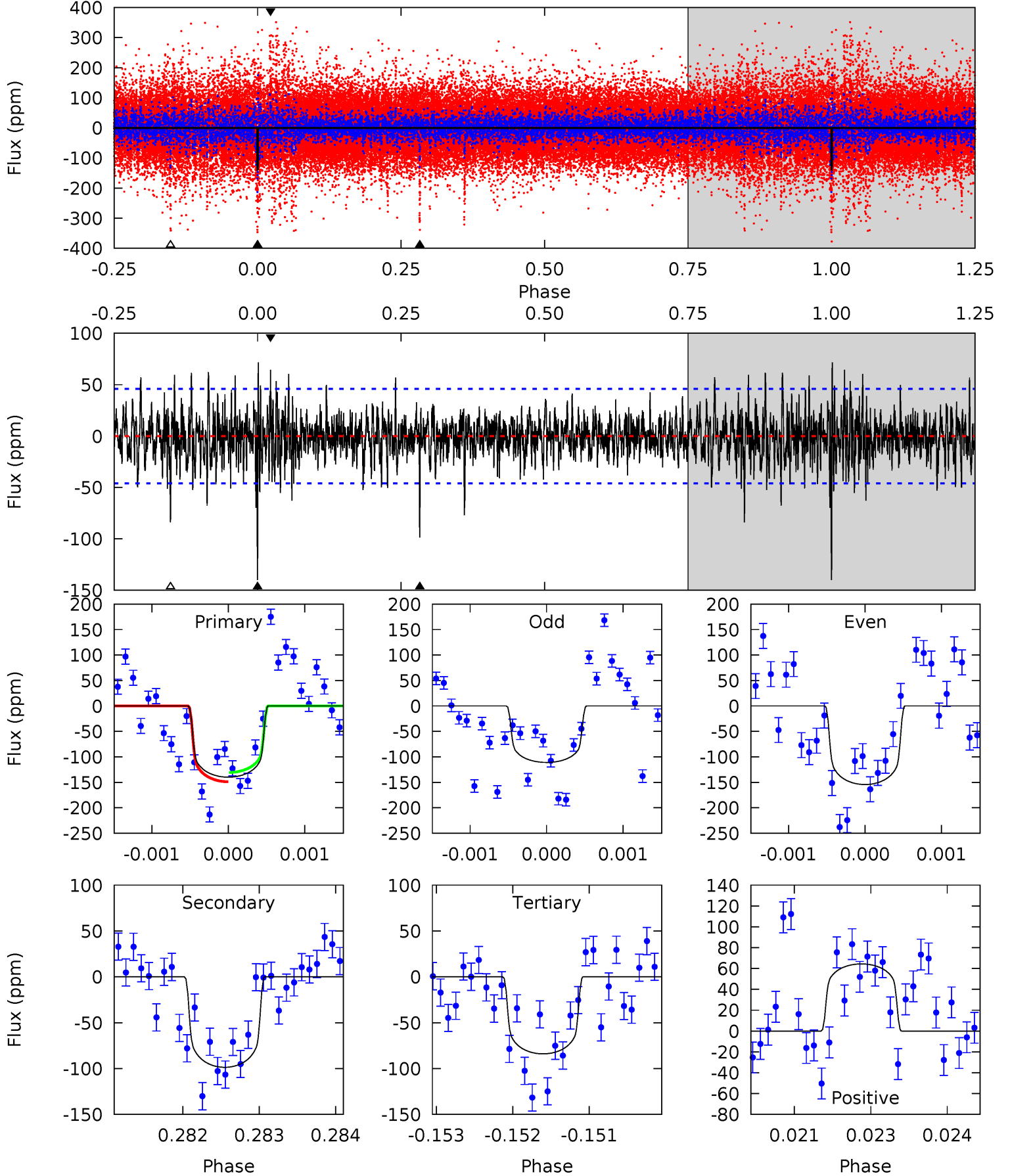
TCE 008363997-01 P=352.717302 Days $T_0=452.704737$ (BKJD)



DV Model-Shift Uniqueness Test

008363997-01, $P = 352.719534$ Days, $E = 99.996282$ Days

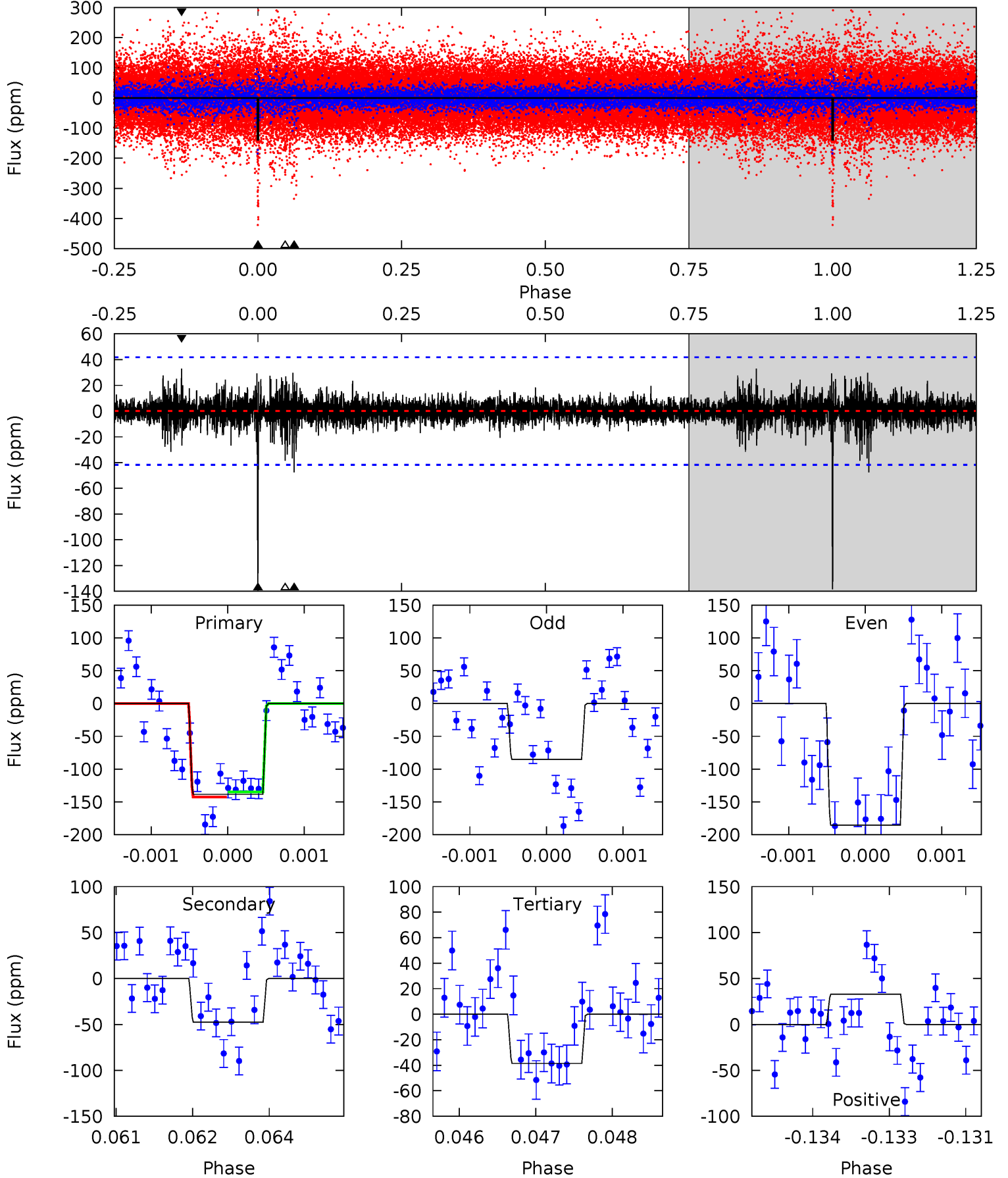
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	11.6	9.88	7.57	5.41	3.23	1.91	6.57	8.88	1.73	4.03	2.40	1.26	0.34	1.07



Alt Model-Shift Uniqueness Test

008363997-01, $P = 352.717302$ Days, $E = 99.987435$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	6.15	4.99	4.27	5.41	3.22	0.80	12.9	13.6	1.16	1.89	6.22	1.78	0.19	0.49



Stellar Parameters For KIC 008363997

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6328^{+76}_{-76}	$4.206^{+0.149}_{-0.122}$	$-0.180^{+0.150}_{-0.150}$	$1.364^{+0.240}_{-0.240}$	$1.090^{+0.105}_{-0.067}$	$0.605^{+0.425}_{-0.213}$
	+1%/-1%	+4%/-3%	+83%/-83%	+18%/-18%	+10%/-6%	+70%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008363997-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-99 ± 9	$2.32^{+0.37}_{-0.35}$	452^{+22}_{-22}	5100^{+334}_{-263}	10289^{+4098}_{-2722}
Alt.	-48 ± 8	$2.04^{+0.41}_{-0.35}$	452^{+22}_{-23}	4630^{+306}_{-292}	6351^{+3169}_{-2045}

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 $A_{obs} \gg 1.0$

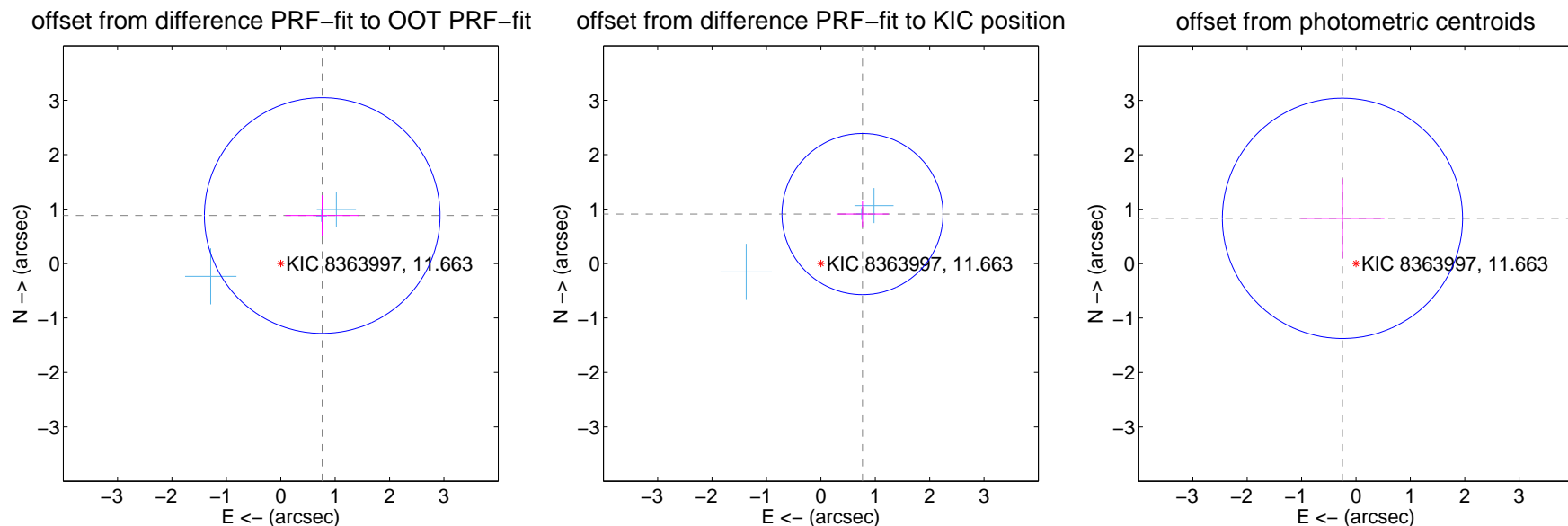
DV Centroid Data

Supplemental centroid analysis for 008363997-01. **Kepler magnitude: 11.66.** Transit SNR 11.70

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.166 ± 0.722	1.61	-0.762 ± 0.679	0.882 ± 0.372
PRF-fit source offset from KIC position	1.188 ± 0.493	2.41	-0.766 ± 0.479	0.909 ± 0.248
photometric centroid source offset	0.87 ± 0.74	1.18	0.25 ± 0.77	0.83 ± 0.73

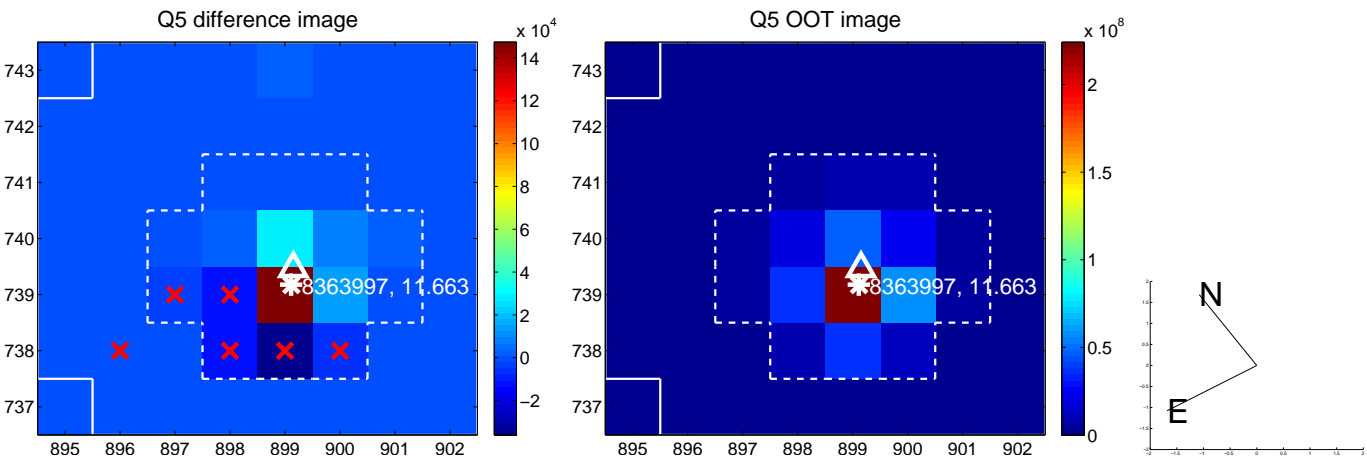


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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 \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q9 no difference image



Q9 no OOT image



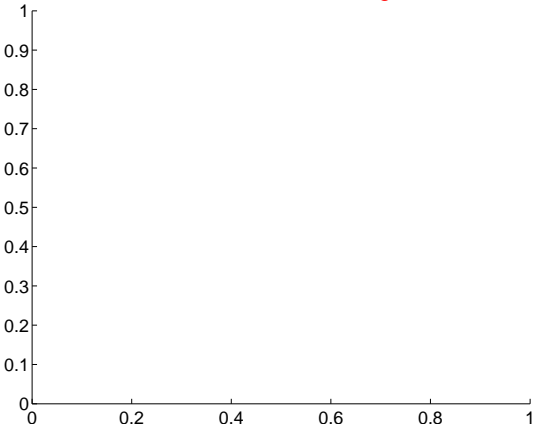
Q10 no difference image



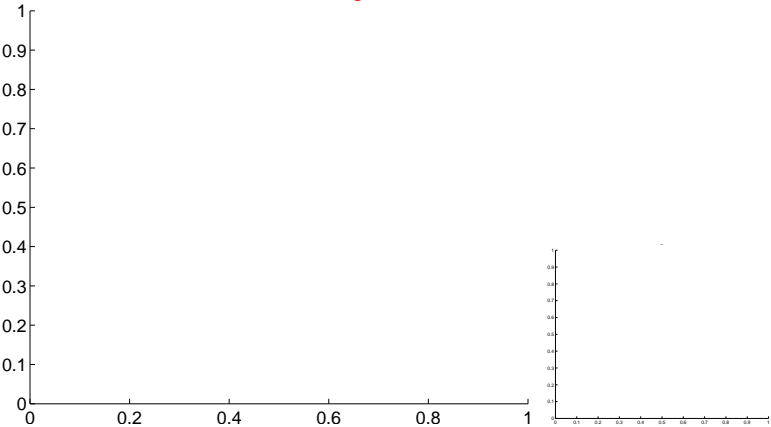
Q10 no OOT image



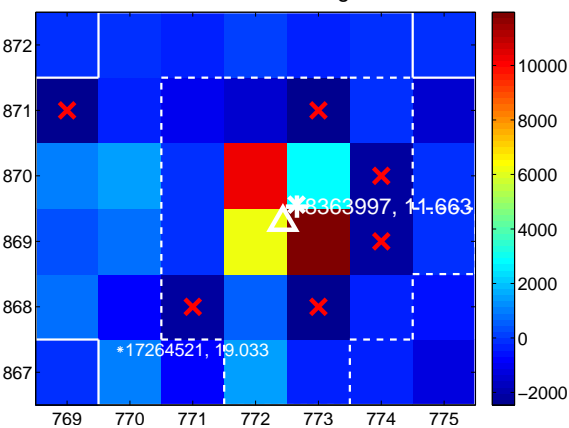
Q11 no difference image



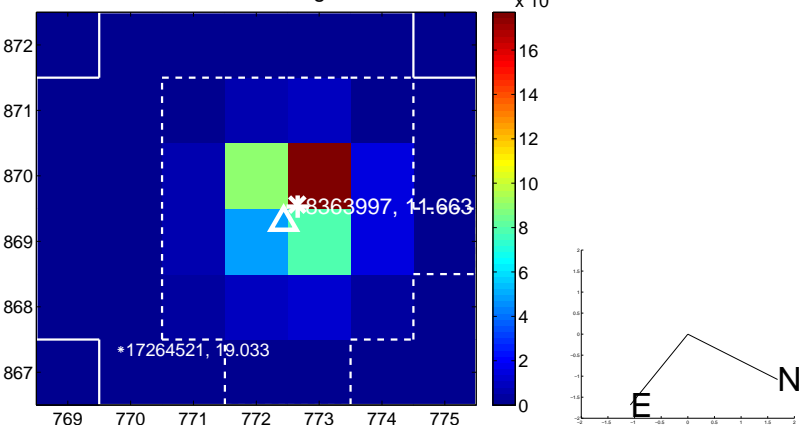
Q11 no OOT image



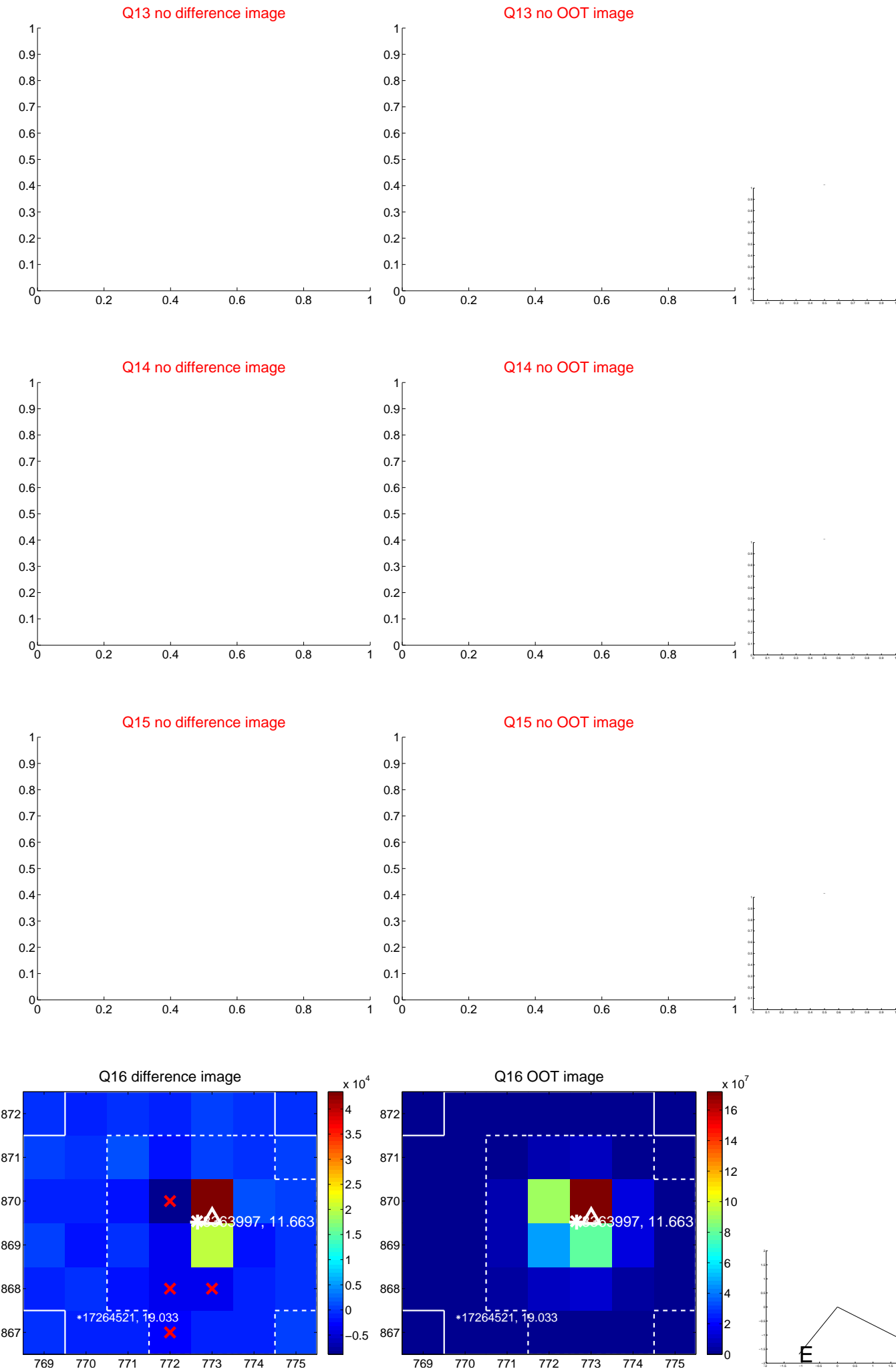
Q12 difference image



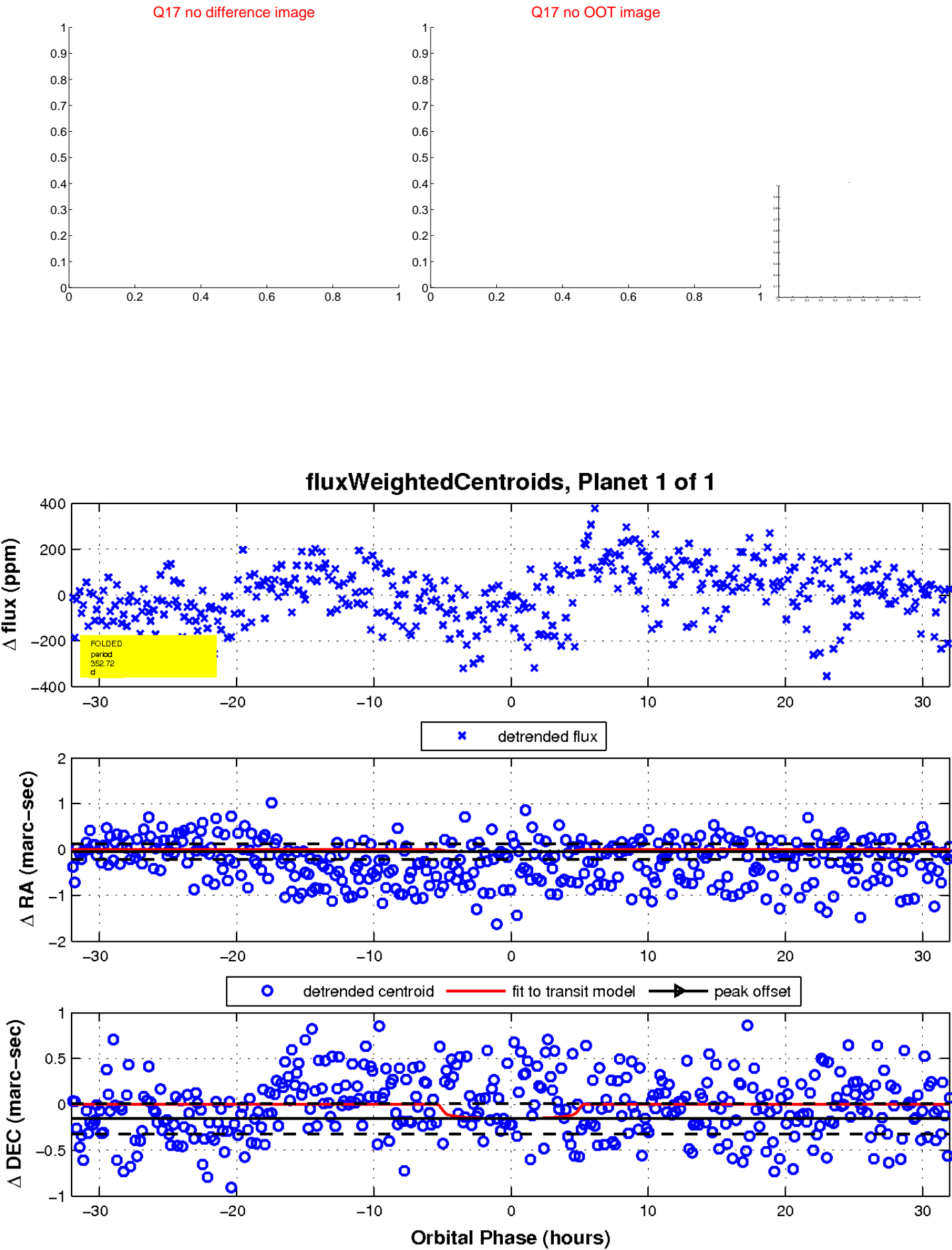
Q12 OOT image



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.



UKIRT Image

Declination

