

KIC 008373873

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})
008373873-01	OBS	No	367.351834	237.161584	1020.7	17.374	12.1	11.3	0.98	5786	3.90	1.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008373873-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS—EPHEM_MATCH

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.

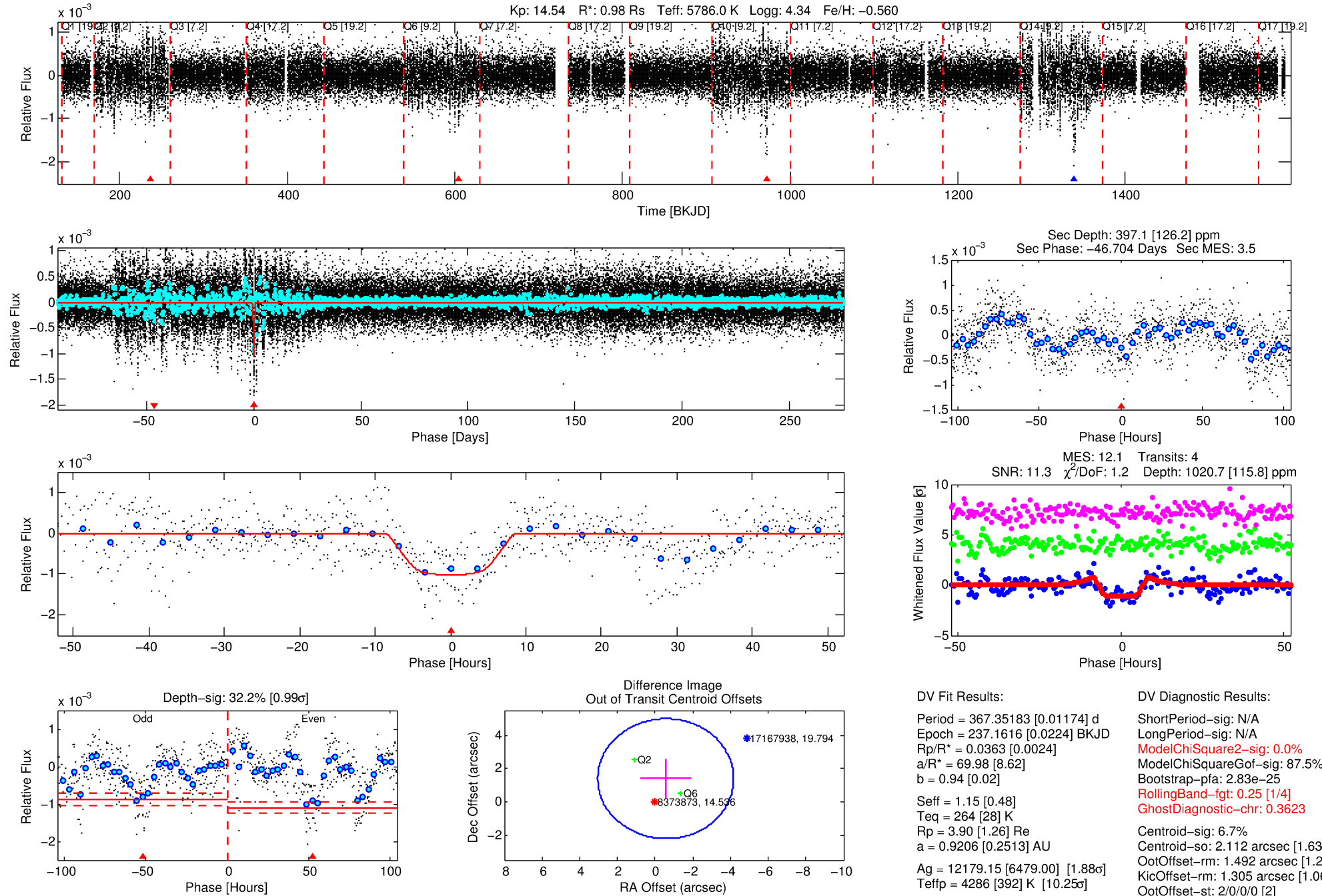
Ephemeris Match Information For 008373873-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008373873-01	8373873	008373988-01	8373988	1:1	84.9	-19	-9	14.00	14.54	0.55	Direct-PRF	1	1.23	2.47

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

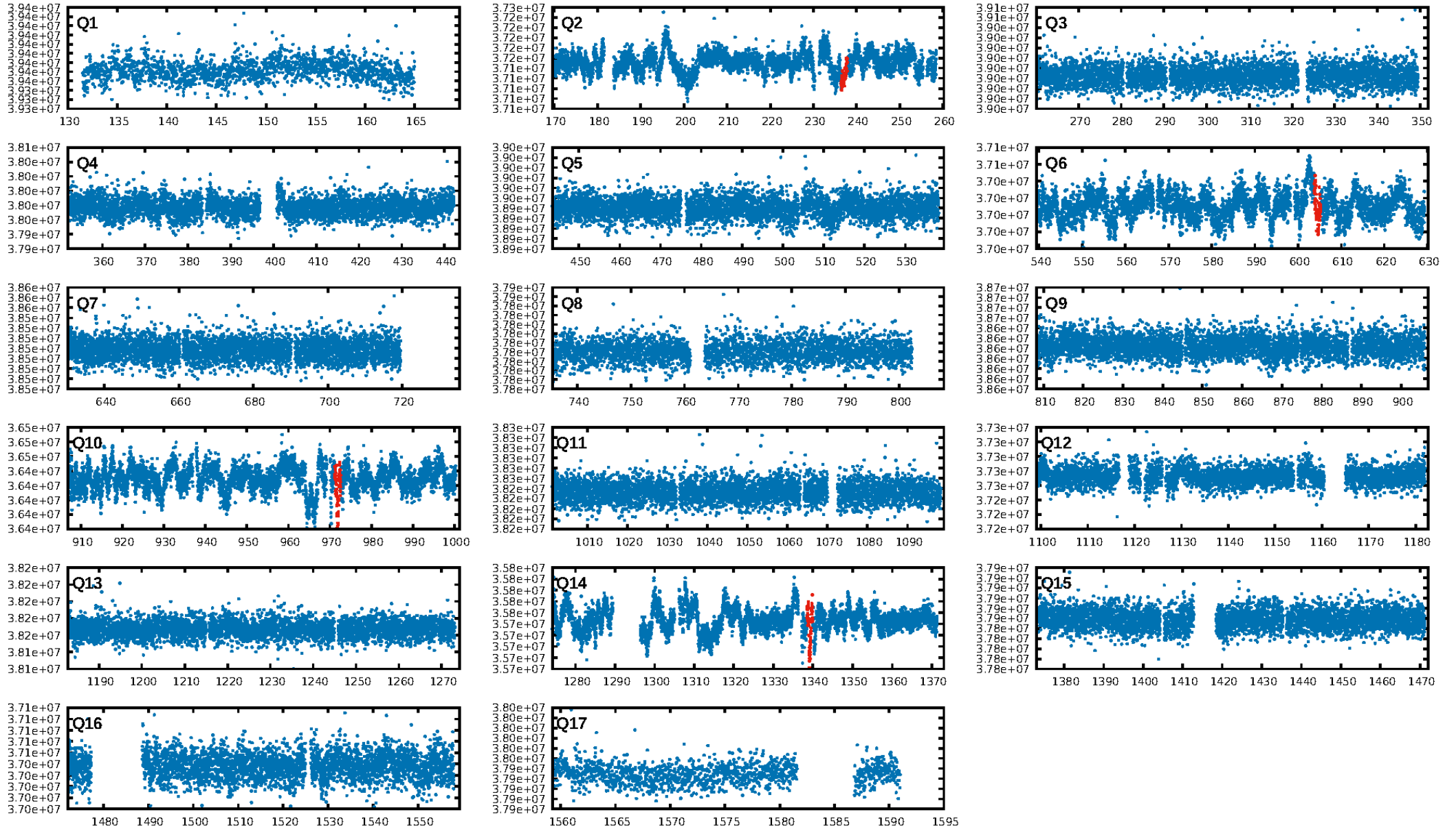
KIC: 8373873 Candidate: 1 of 1 Period: 367.352 d



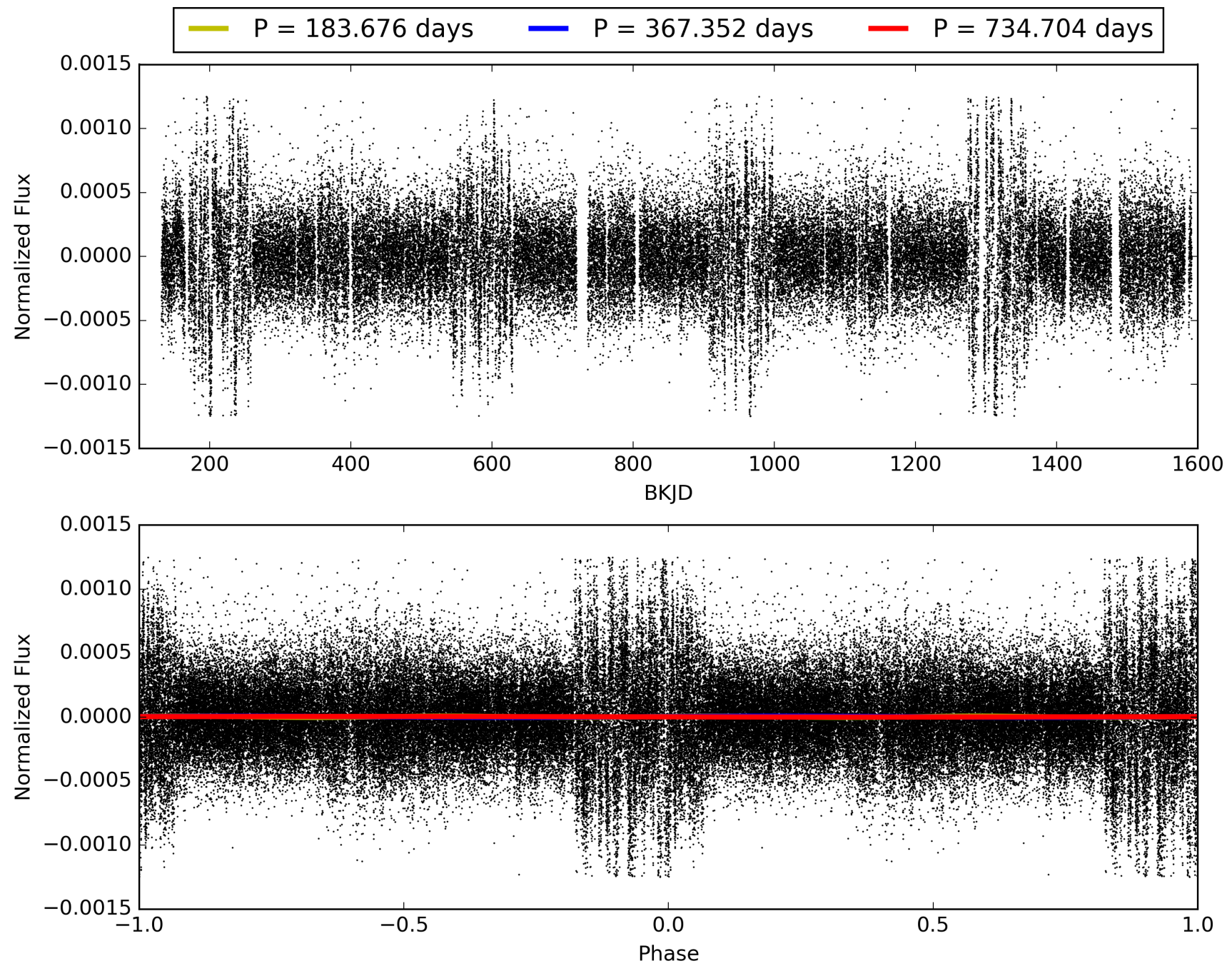
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:58:32 Z

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

TCE 008373873-01, PDC Light Curves

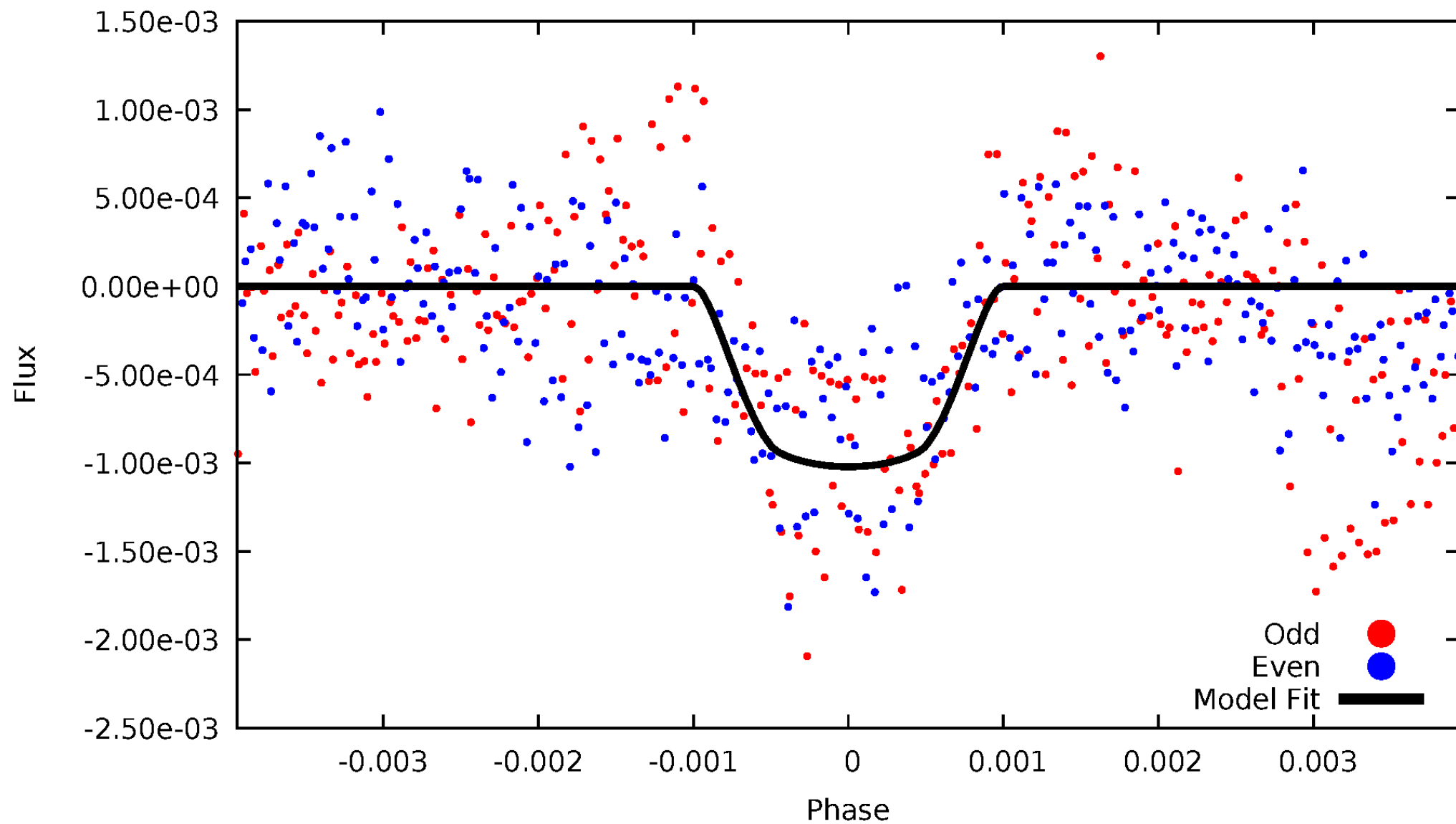


TCE 008373873-01



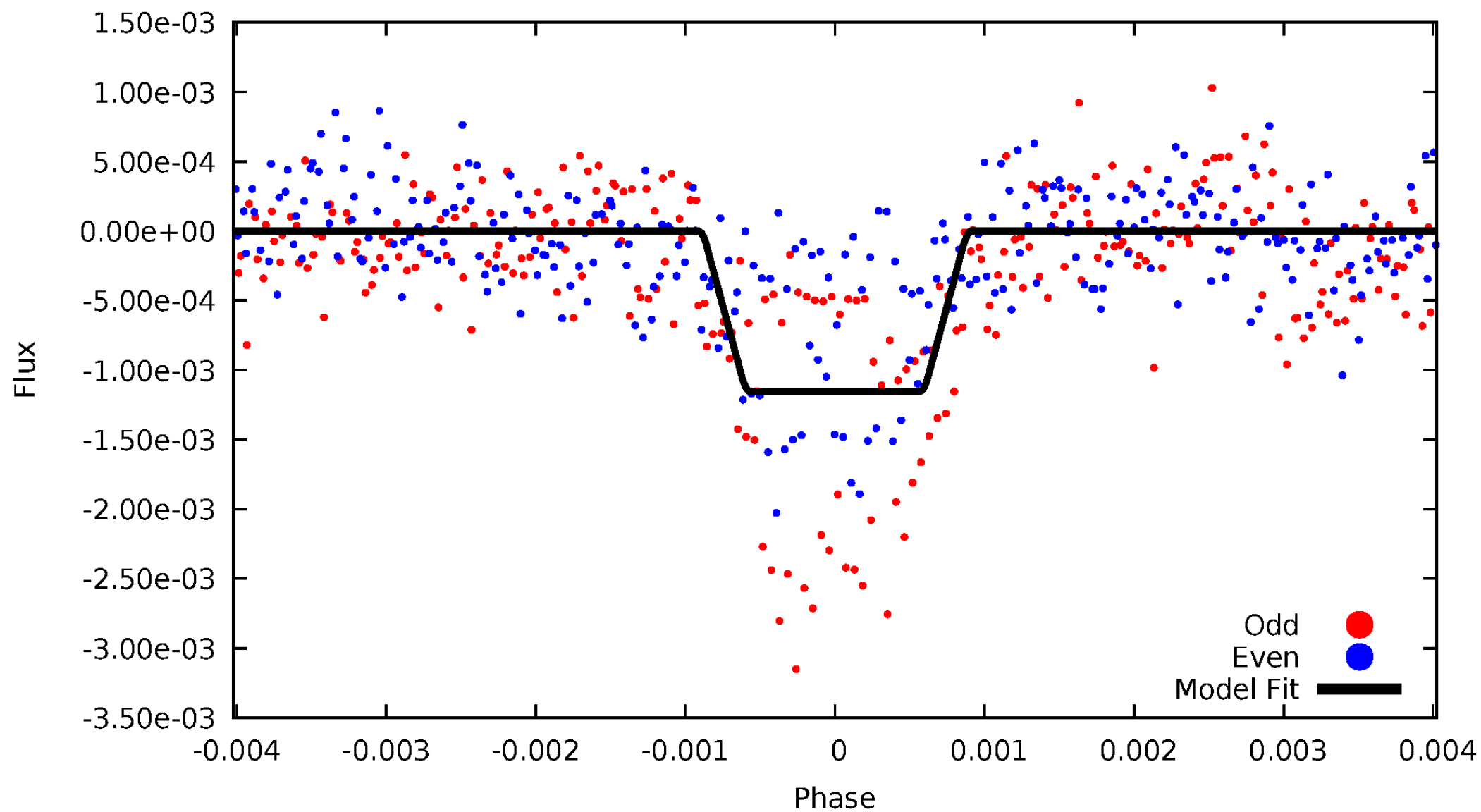
DV Odd/Even

TCE 008373873-01



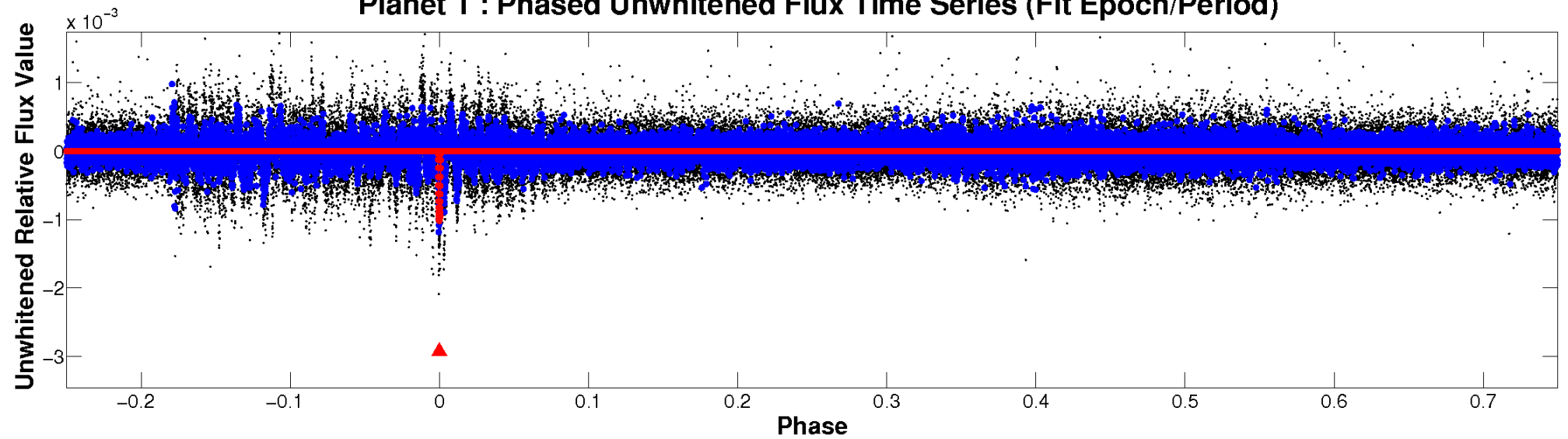
ALT Odd/Even

TCE 008373873-01

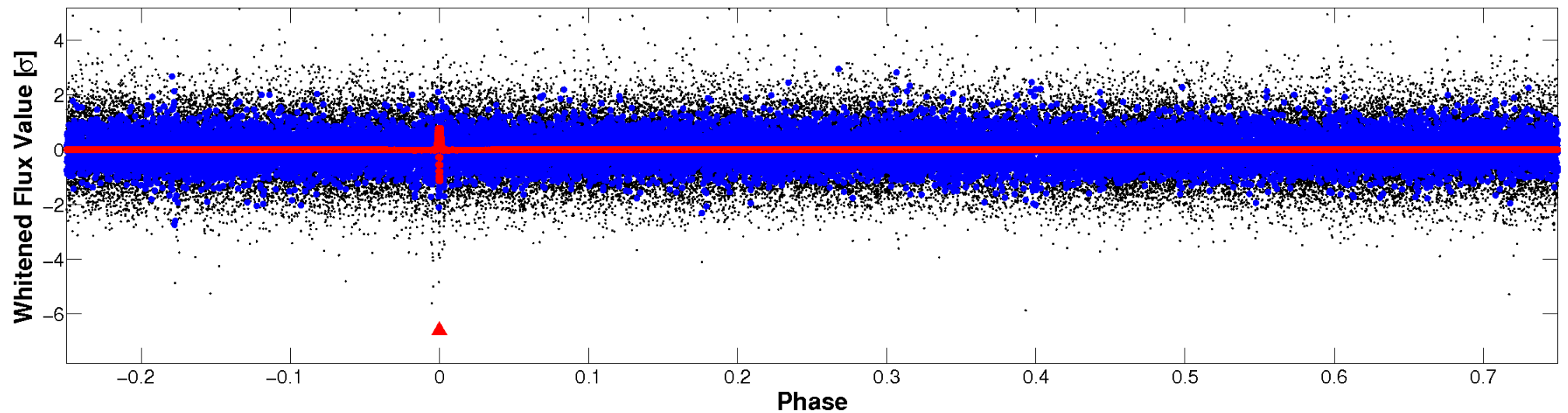


Non-Whitened Vs. Whitened Light Curve

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

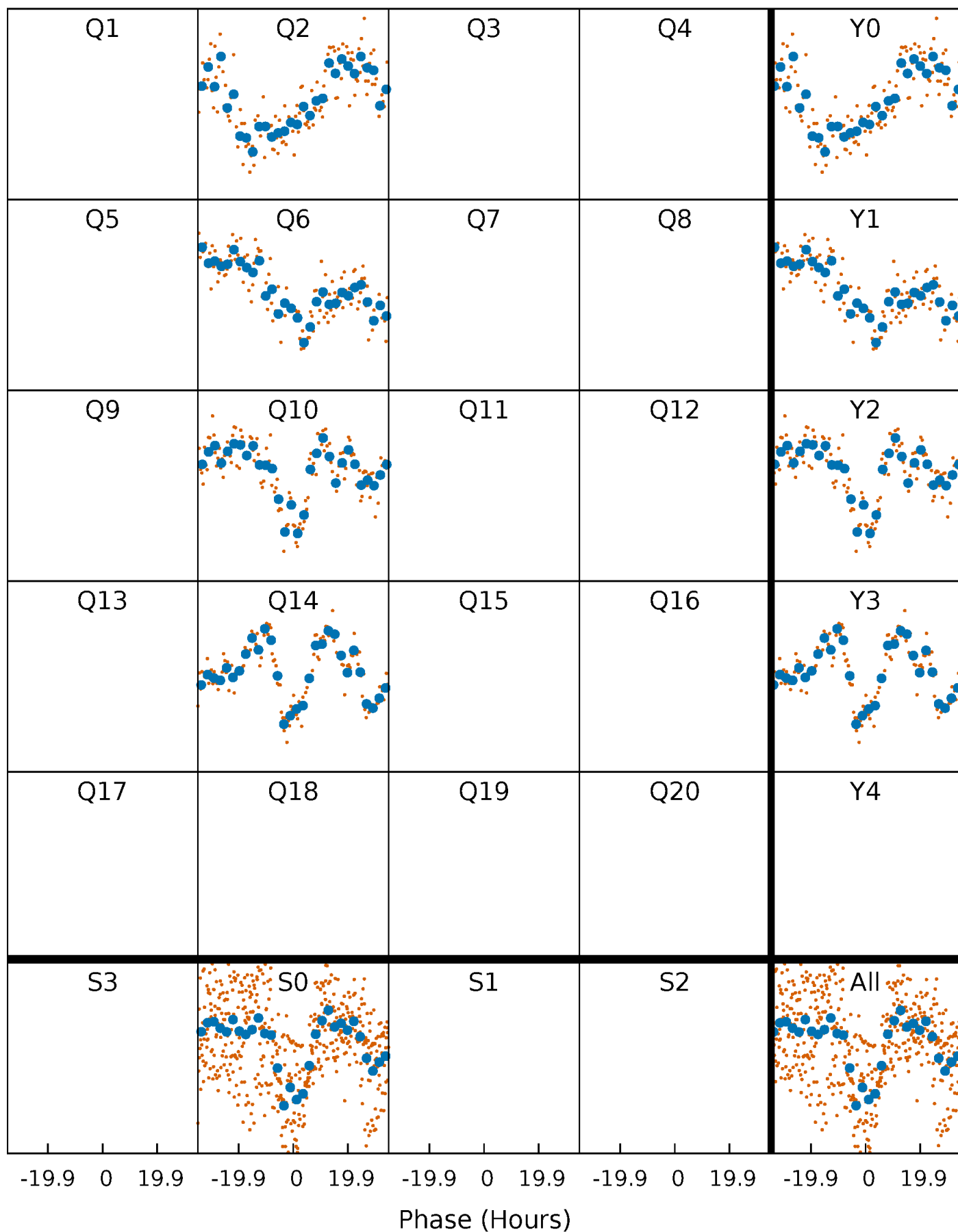


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



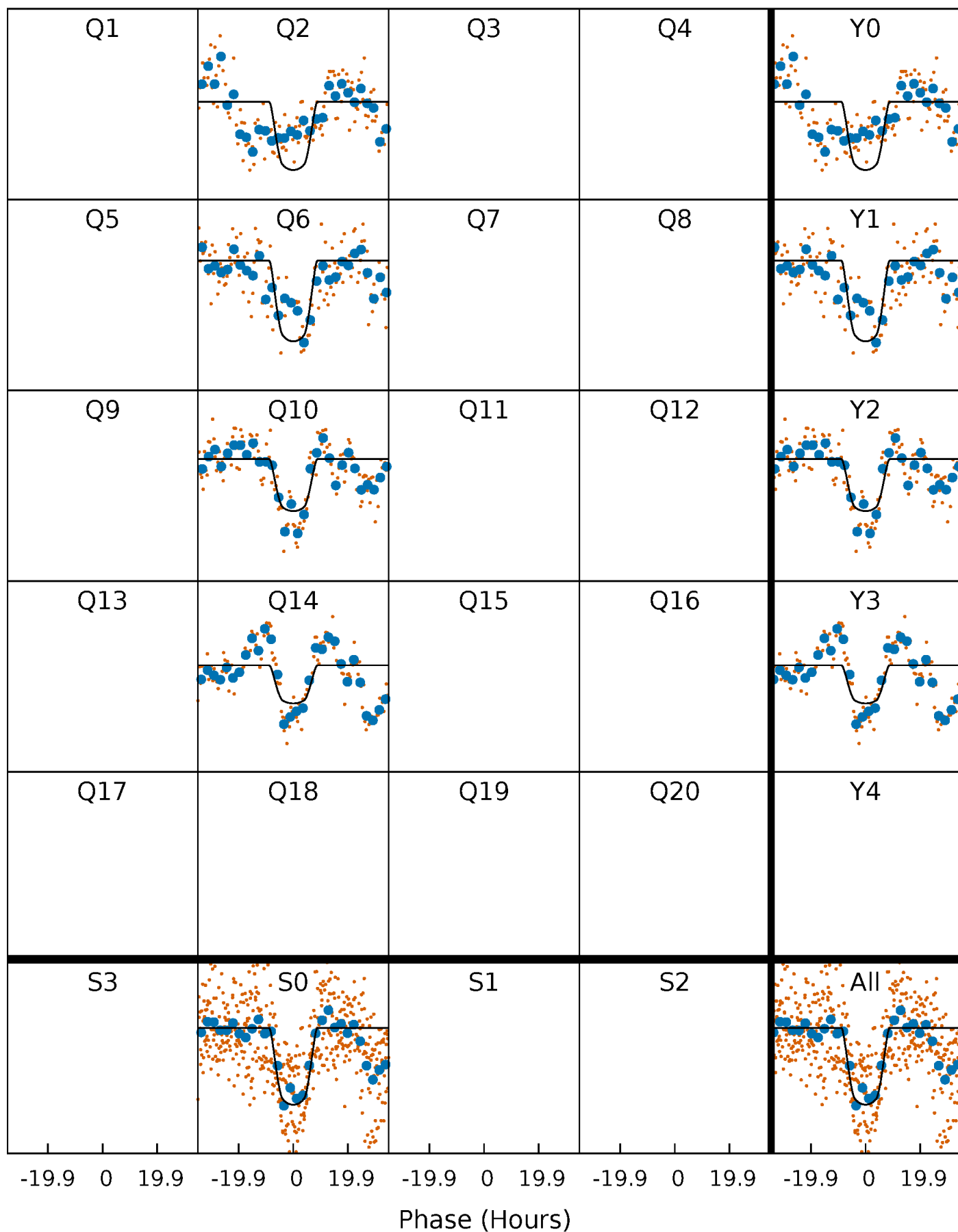
PDC Quarter-Phased Transit Curves

TCE 008373873-01 P=367.351834 Days $T_0=237.161584$ (BKJD)



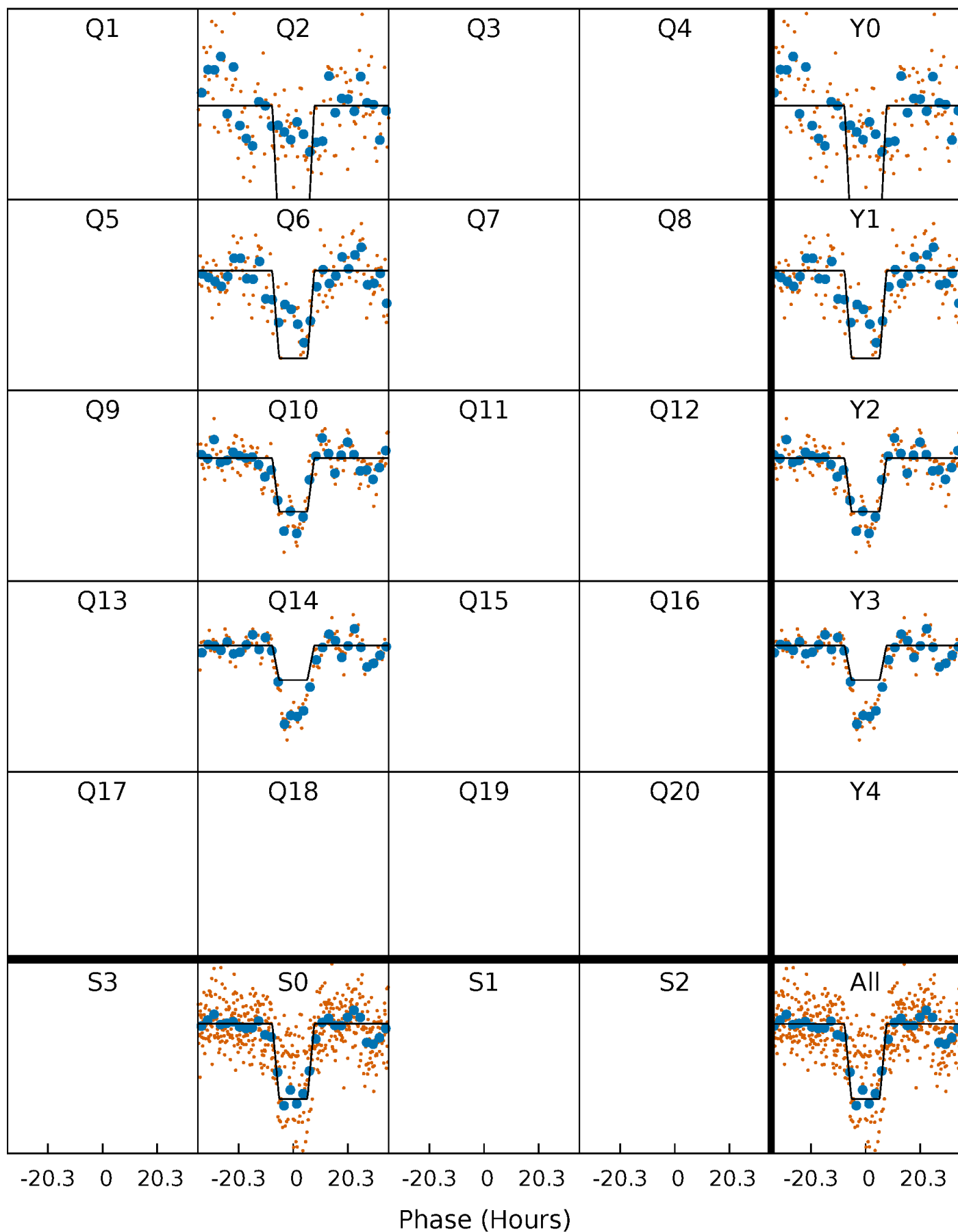
DV Quarter-Phased Transit Curves

TCE 008373873-01 P=367.351834 Days $T_0=237.161584$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

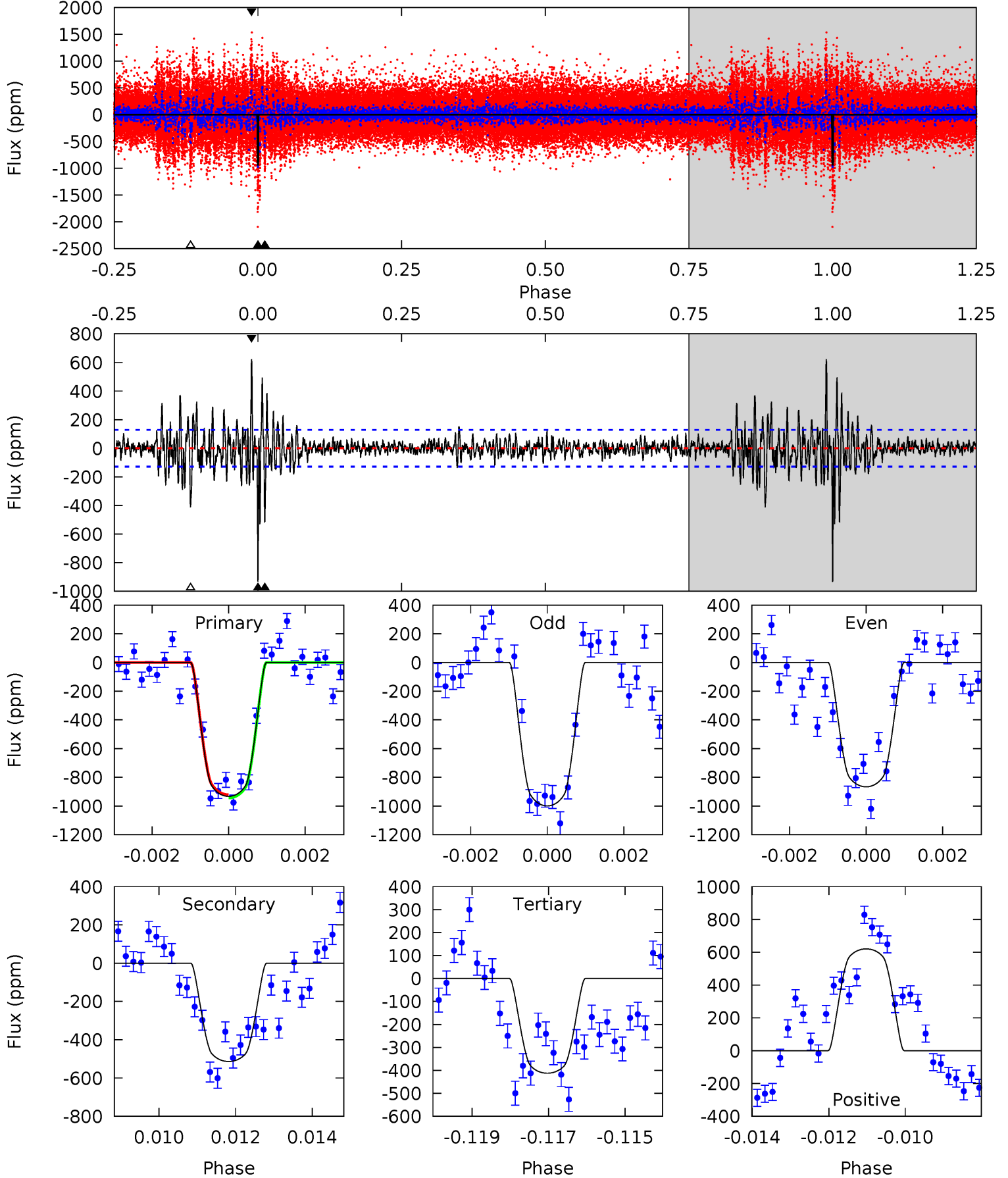
TCE 008373873-01 P=367.347731 Days $T_0=237.171842$ (BKJD)



DV Model-Shift Uniqueness Test

008373873-01, P = 367.351834 Days, E = 237.161584 Days

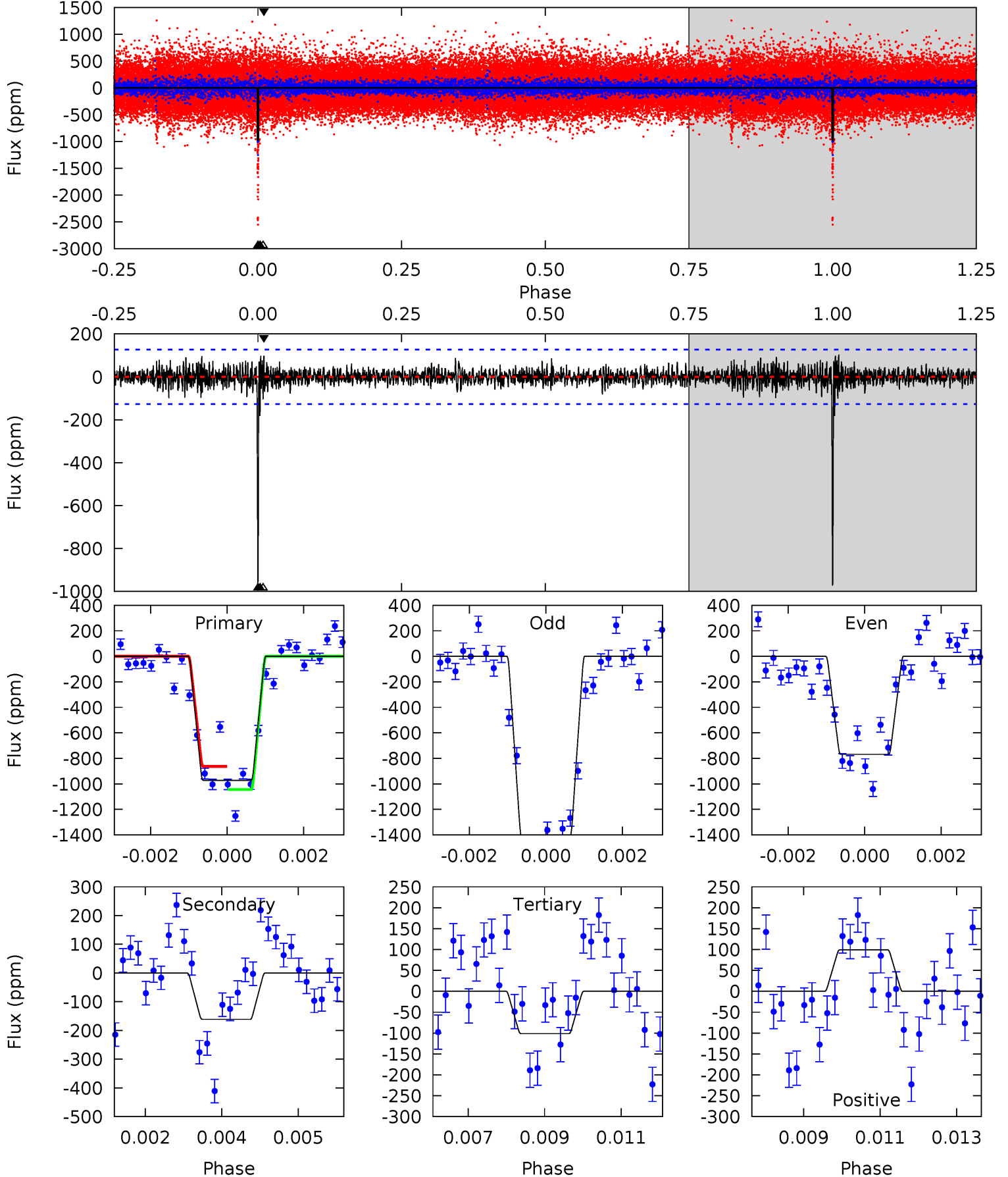
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.6	21.2	17.0	25.6	5.32	3.09	3.33	21.5	12.9	4.19	-4.42	2.73	0.94	0.40	0.45



Alt Model-Shift Uniqueness Test

008373873-01, P = 367.347731 Days, E = 237.171842 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.0	6.80	4.28	4.18	5.35	3.12	1.06	36.8	36.8	2.52	2.62	14.2	1.12	0.09	3.78



Stellar Parameters For KIC 008373873

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5786^{+174}_{-157}	$4.339^{+0.225}_{-0.225}$	$-0.560^{+0.300}_{-0.250}$	$0.984^{+0.312}_{-0.234}$	$0.771^{+0.112}_{-0.043}$	$1.139^{+1.190}_{-0.632}$
	+3%/-3%	+5%/-5%	+54%/-45%	+32%/-24%	+15%/-6%	+104%/-55%
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 008373873-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-514 ± 24	$3.95^{+0.82}_{-0.60}$	372^{+33}_{-30}	4721^{+180}_{-172}	15382^{+6318}_{-4656}
Alt.	-161 ± 24	$3.67^{+0.75}_{-0.55}$	370^{+32}_{-28}	3886^{+159}_{-149}	5636^{+2372}_{-1801}

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

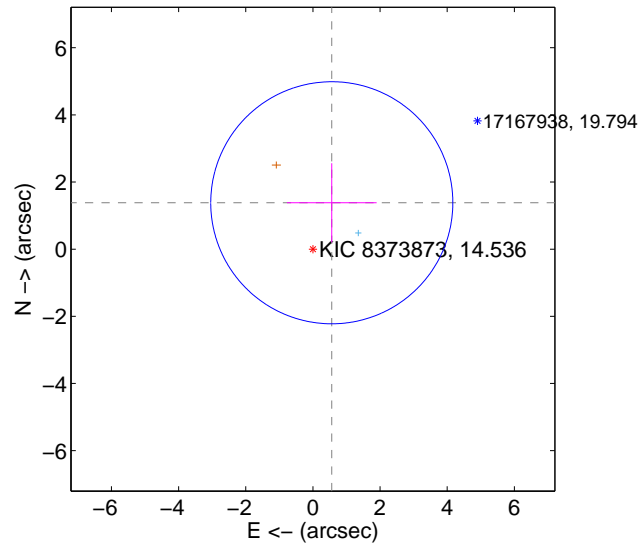
Supplemental centroid analysis for 008373873-01. Kepler magnitude: 14.54. Transit SNR 11.26

There are 1 quarters with good PRF difference image offsets

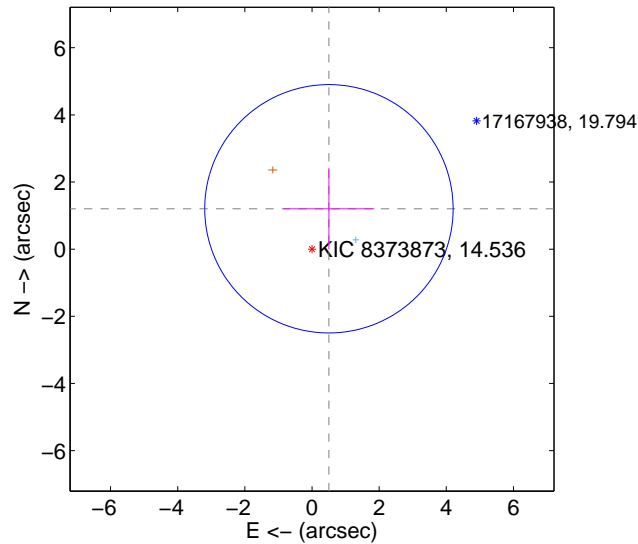
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.492 ± 1.202	1.24	-0.562 ± 1.335	1.382 ± 1.178
PRF-fit source offset from KIC position	1.305 ± 1.233	1.06	-0.504 ± 1.354	1.203 ± 1.211
photometric centroid source offset	2.11 ± 1.30	1.63	-1.51 ± 1.26	-1.48 ± 1.34

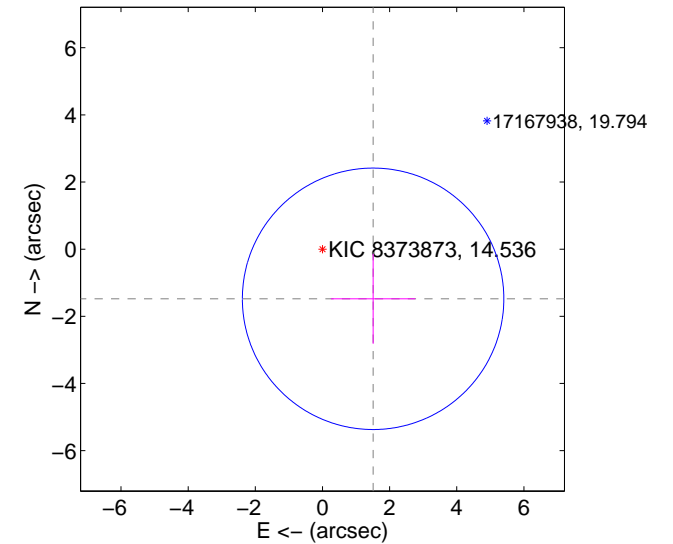
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

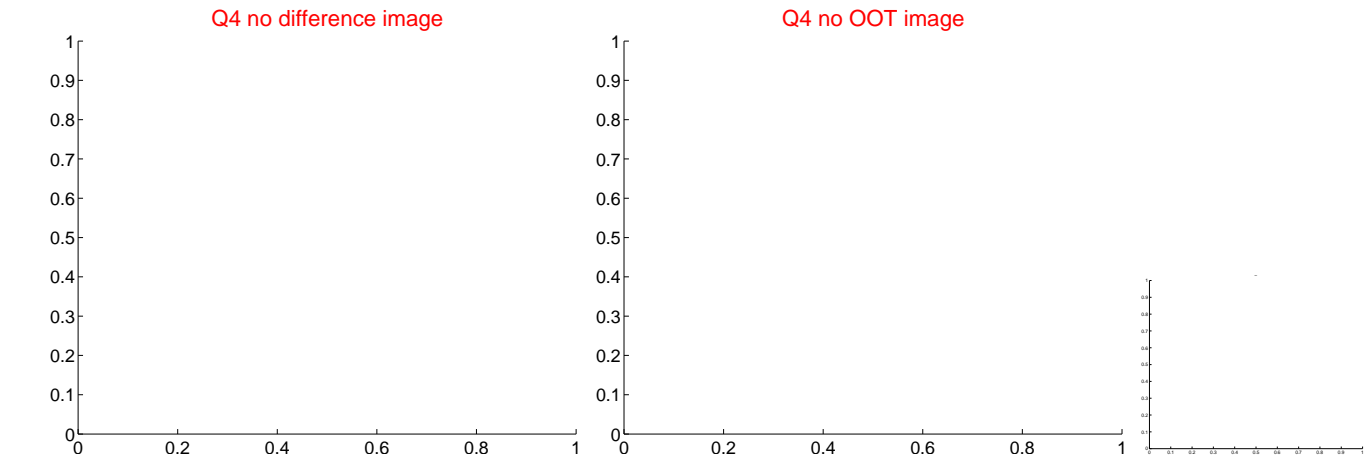
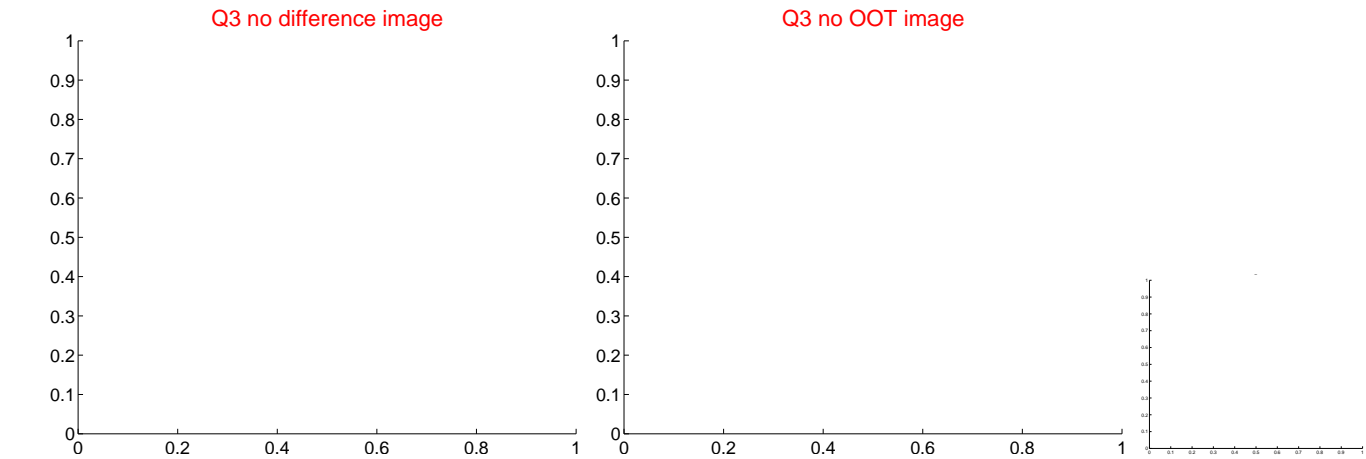
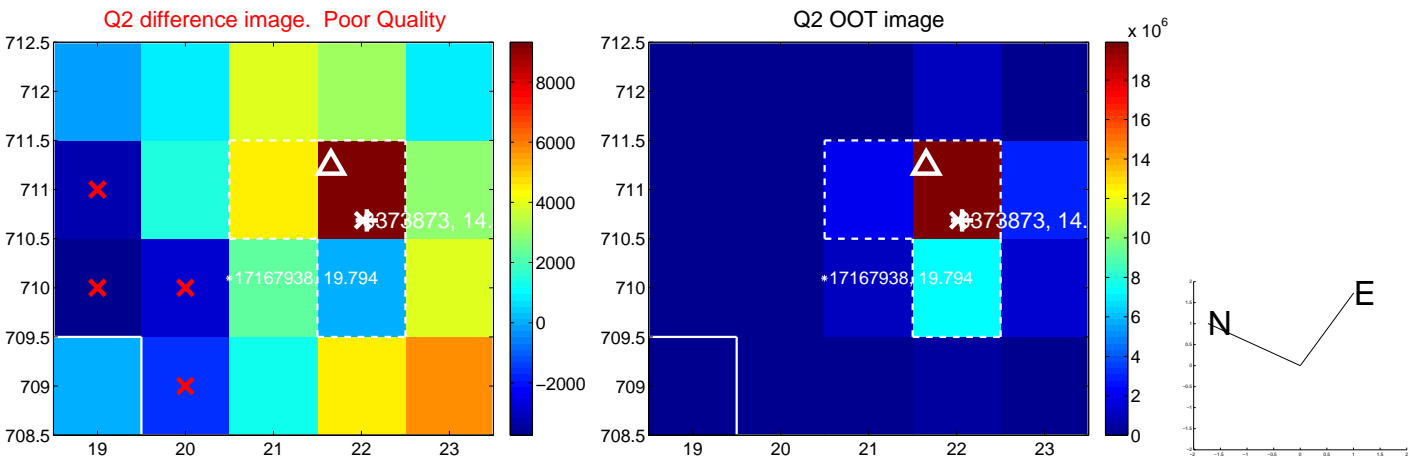
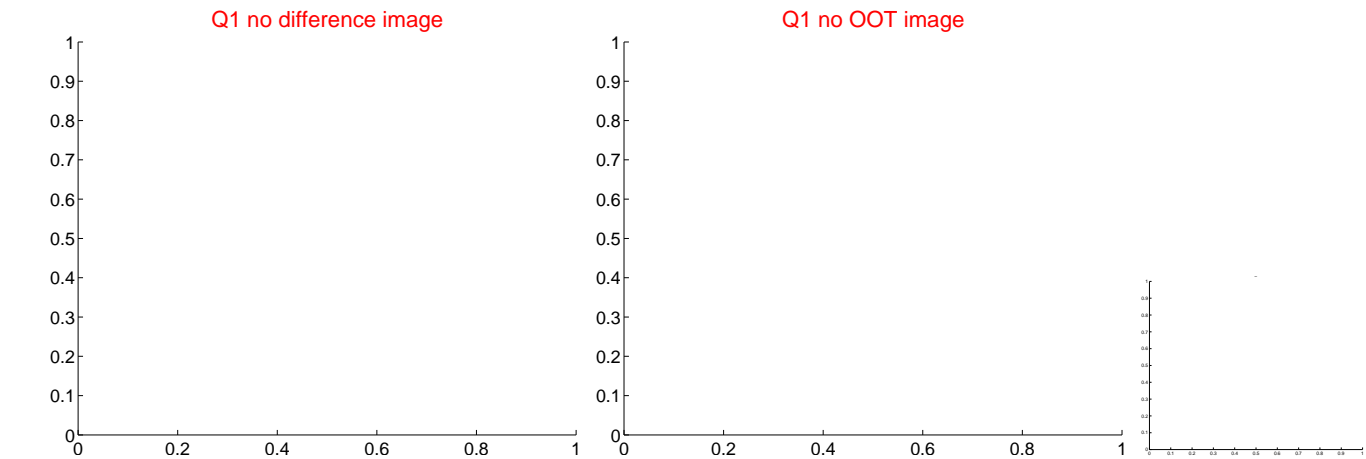


offset from photometric centroids

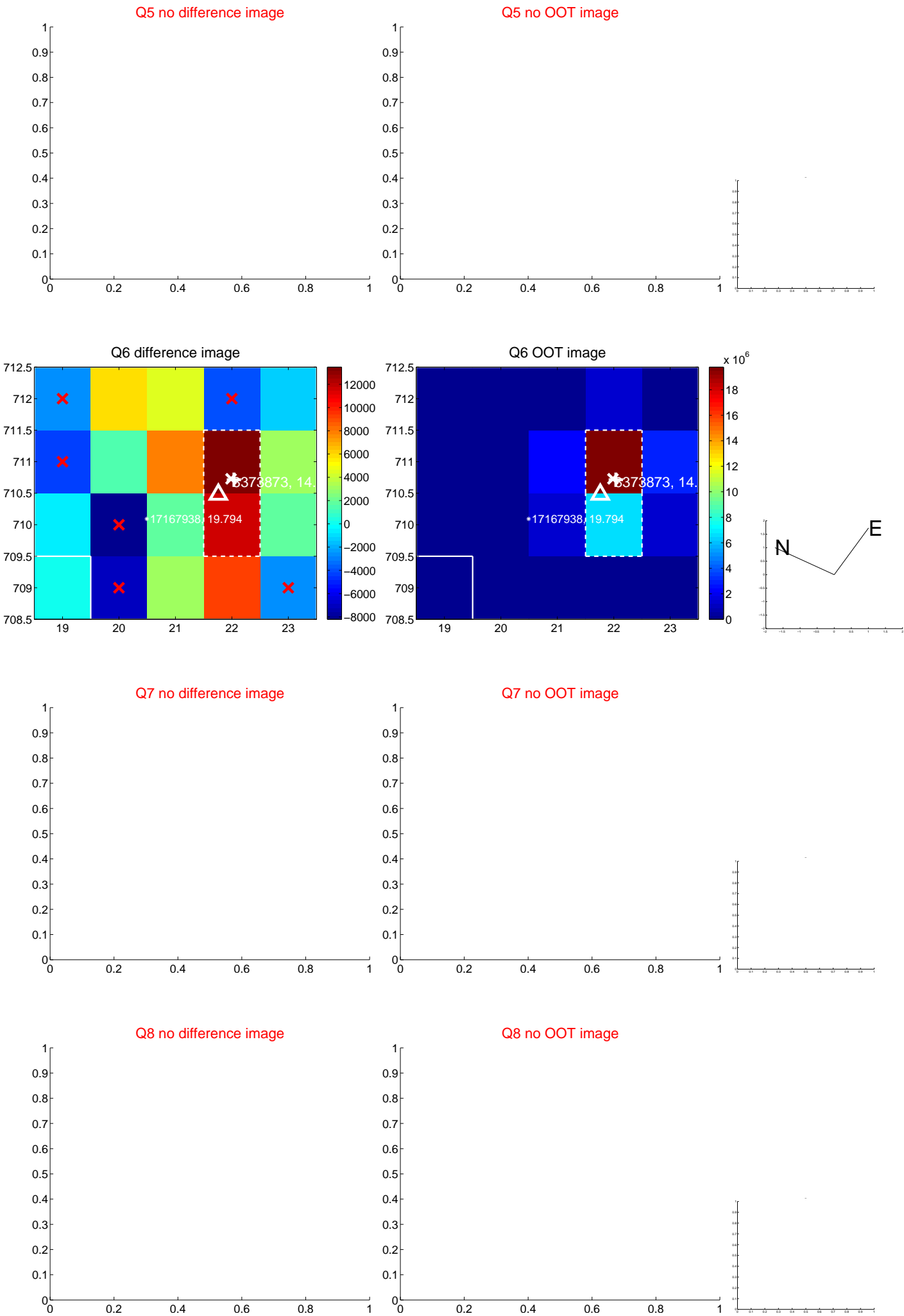


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



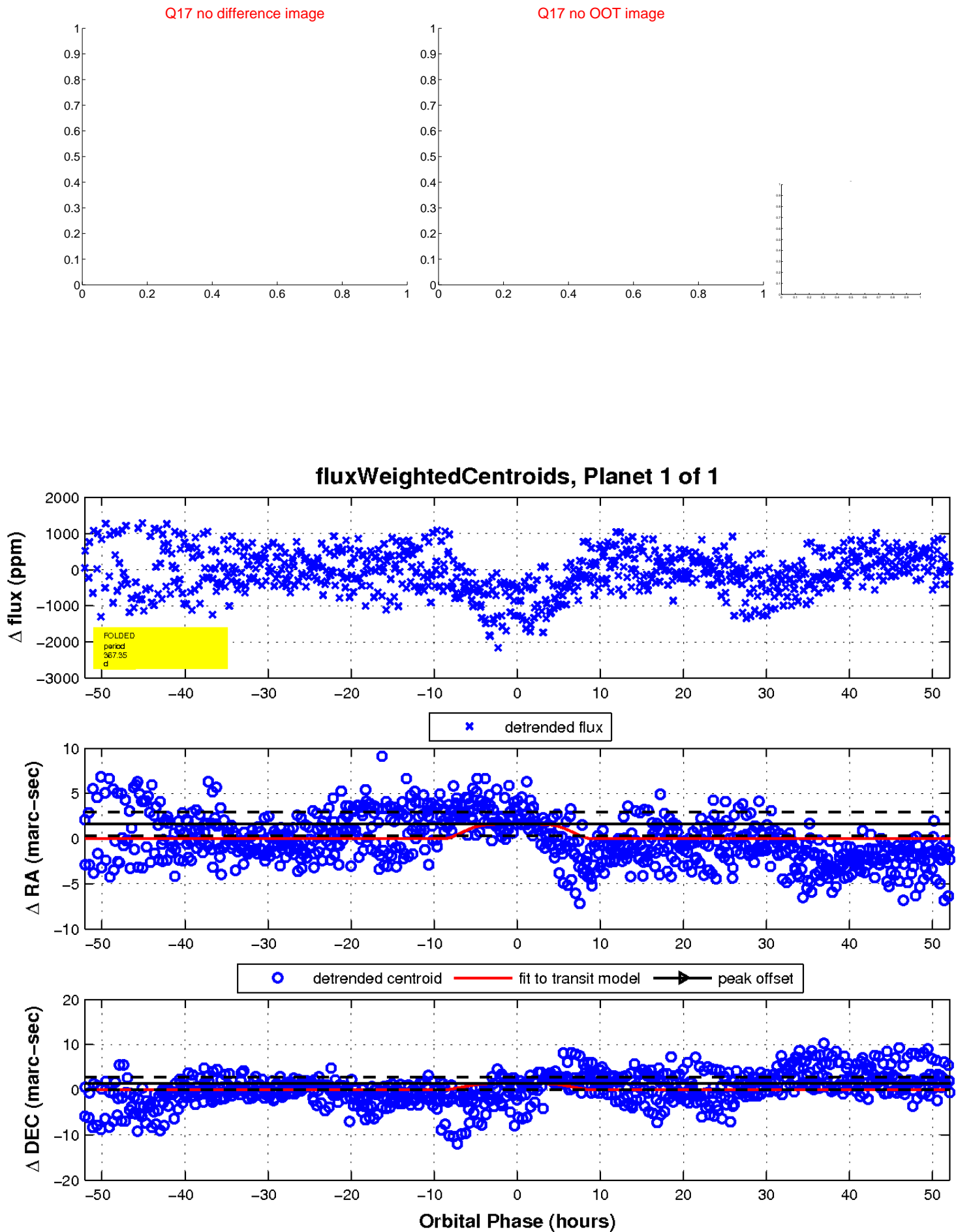
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

