

KIC 008740578

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})
008740578-01	OBS	No	442.037833	368.753709	618.9	6.729	10.6	7.8	0.84	5582	2.24	0.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008740578-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS

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

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

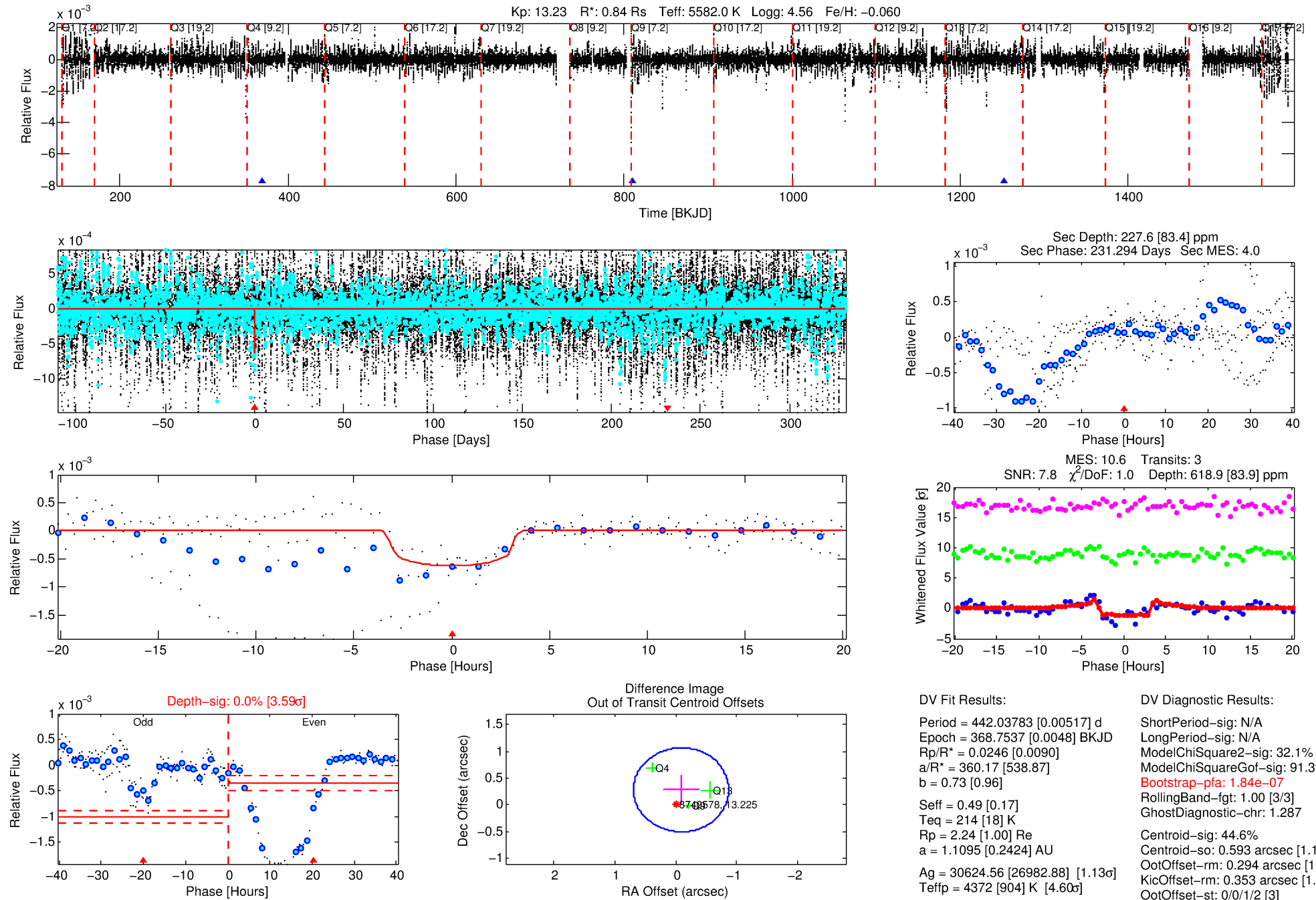
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008740578-01

No Significant Match Found

DV One-Page Summary

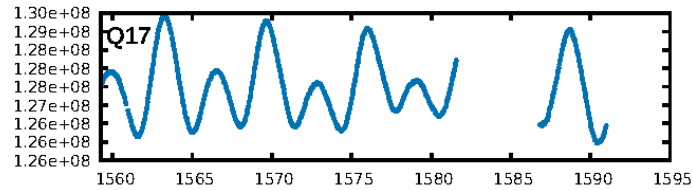
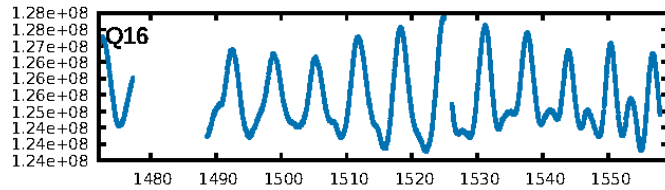
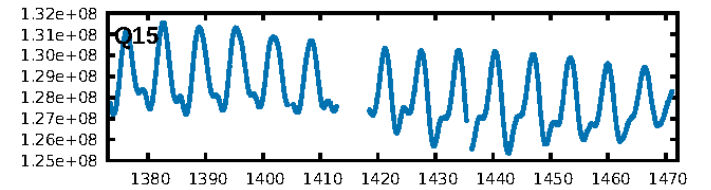
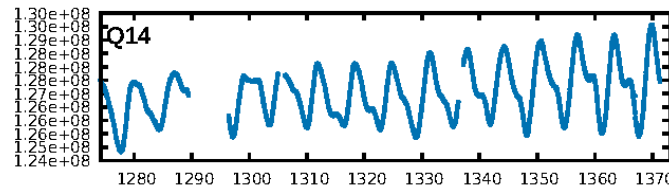
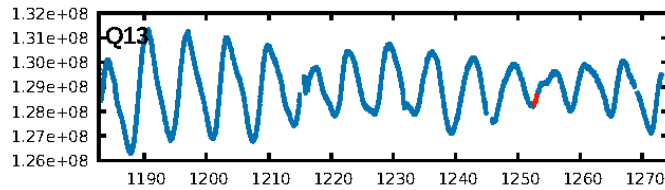
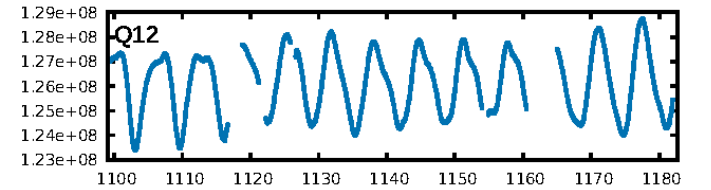
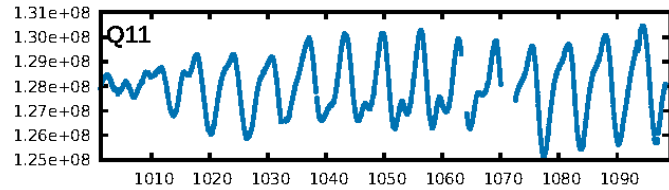
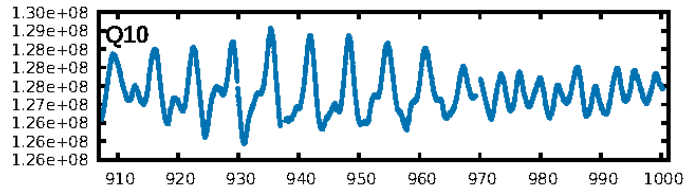
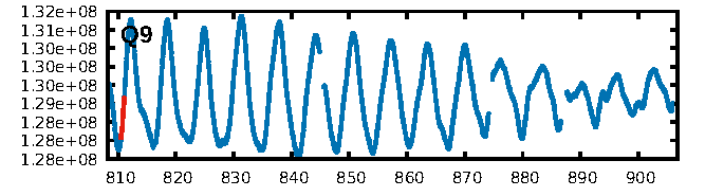
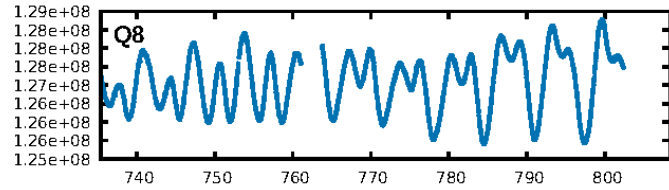
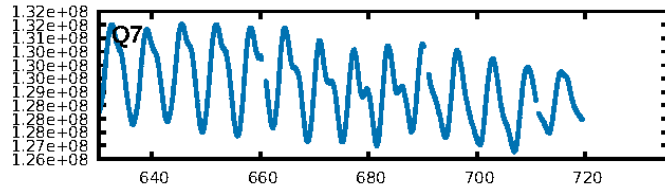
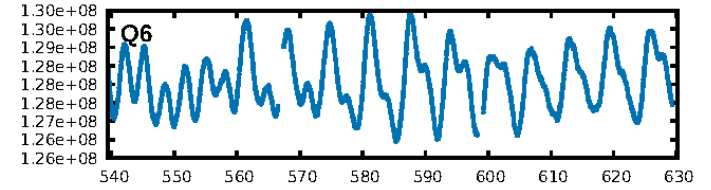
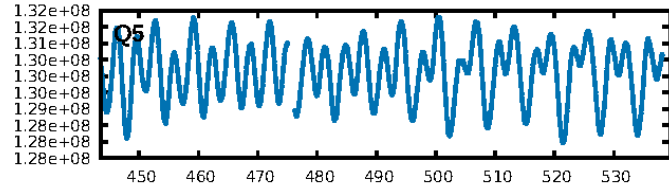
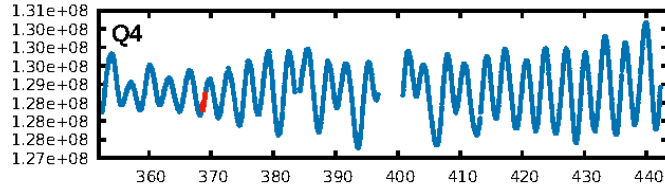
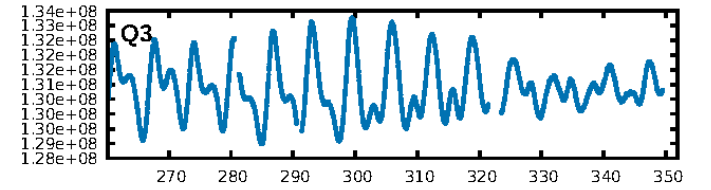
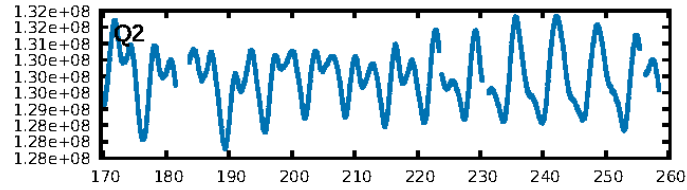
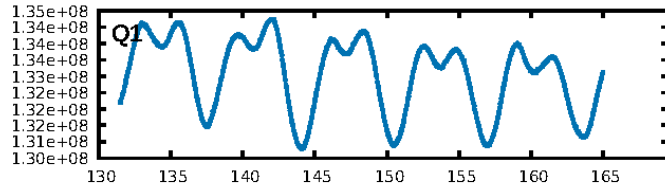
KIC: 8740578 Candidate: 1 of 1 Period: 442.038 d



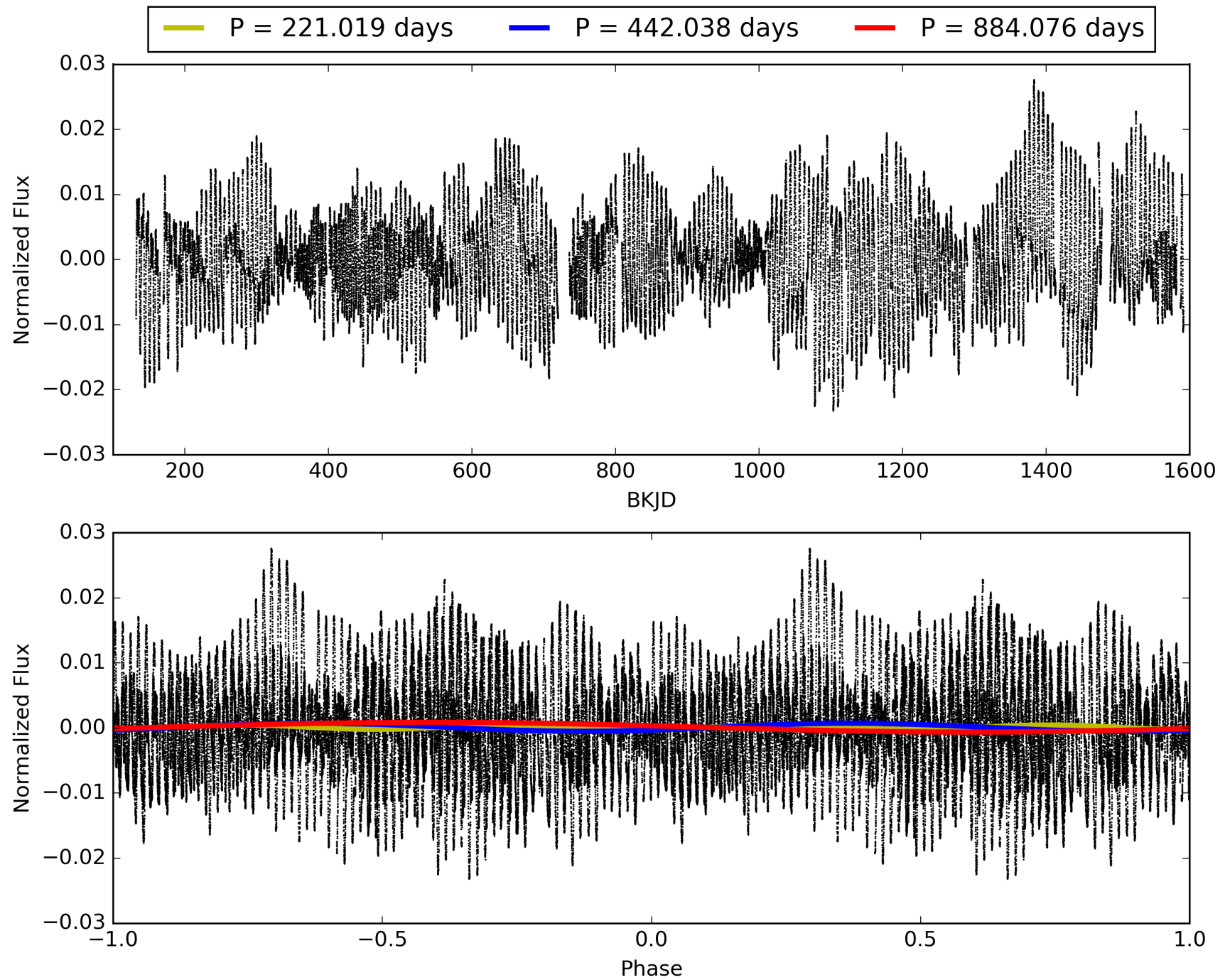
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:11:56 Z

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

TCE 008740578-01, PDC Light Curves

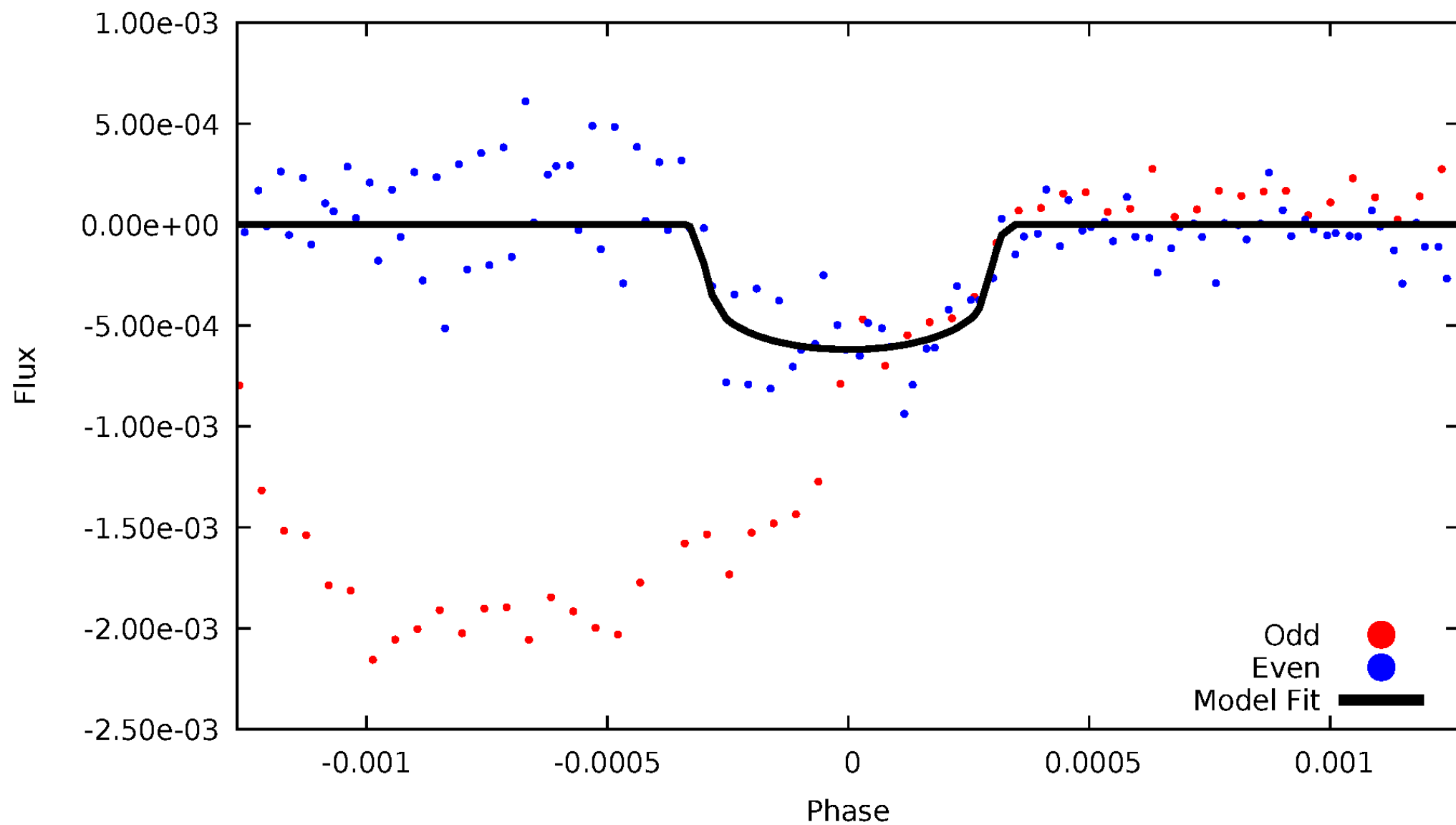


TCE 008740578-01



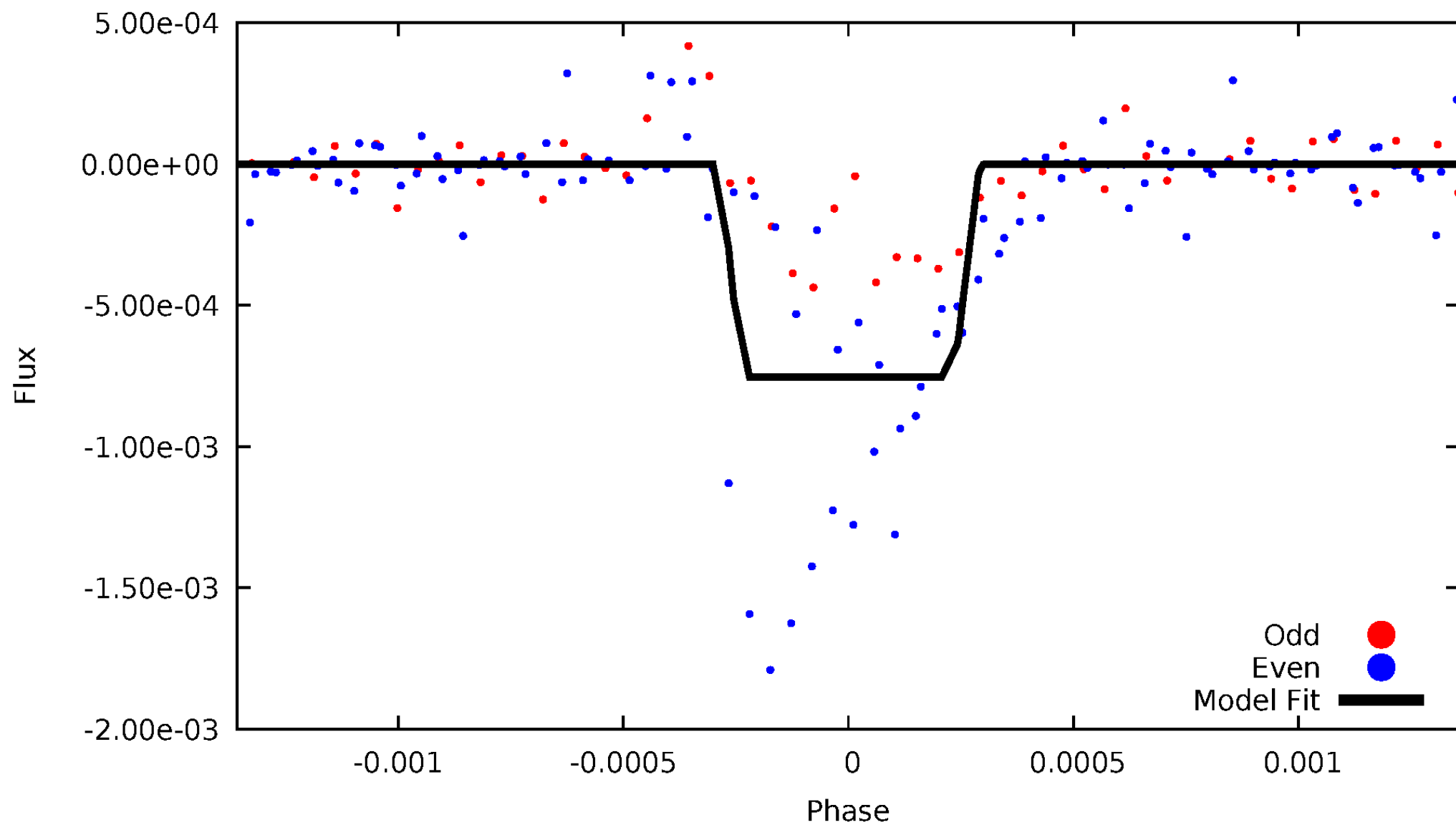
DV Odd/Even

TCE 008740578-01



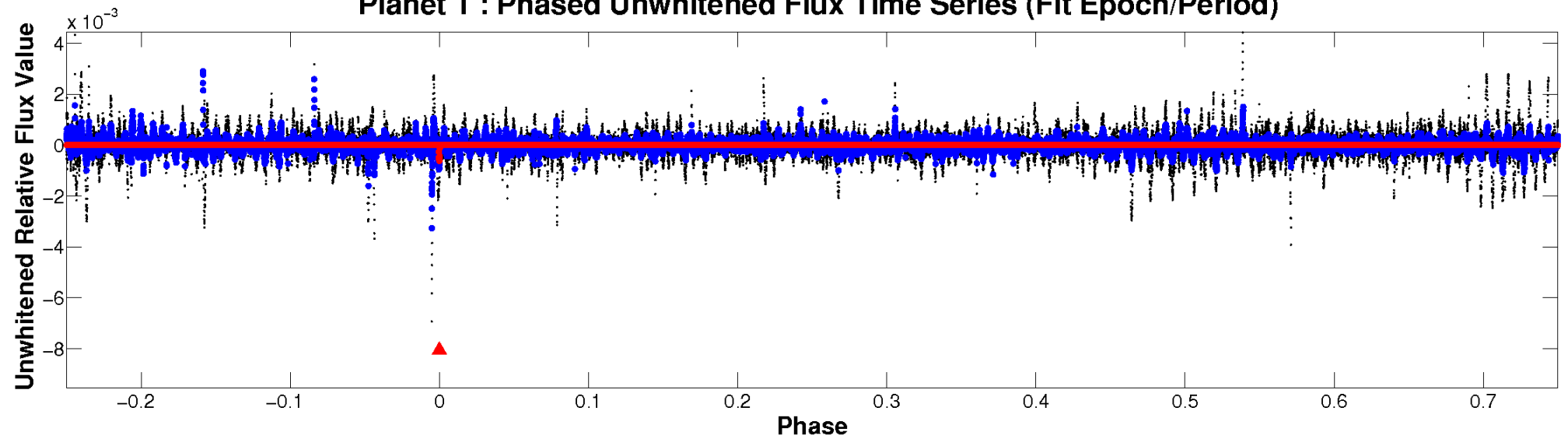
ALT Odd/Even

TCE 008740578-01

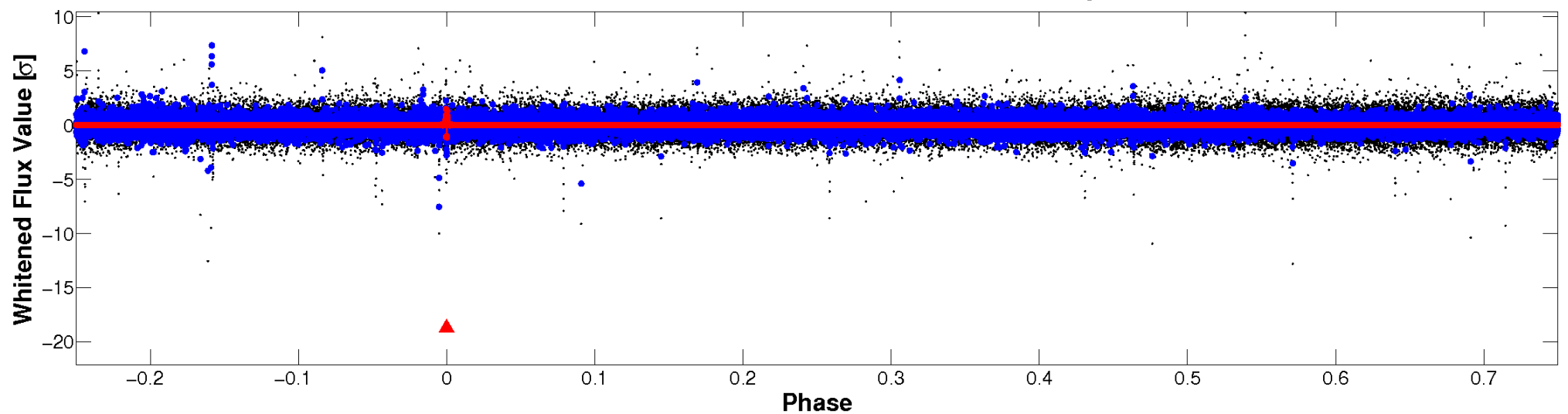


Non-Whitened Vs. Whitened Light Curve

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

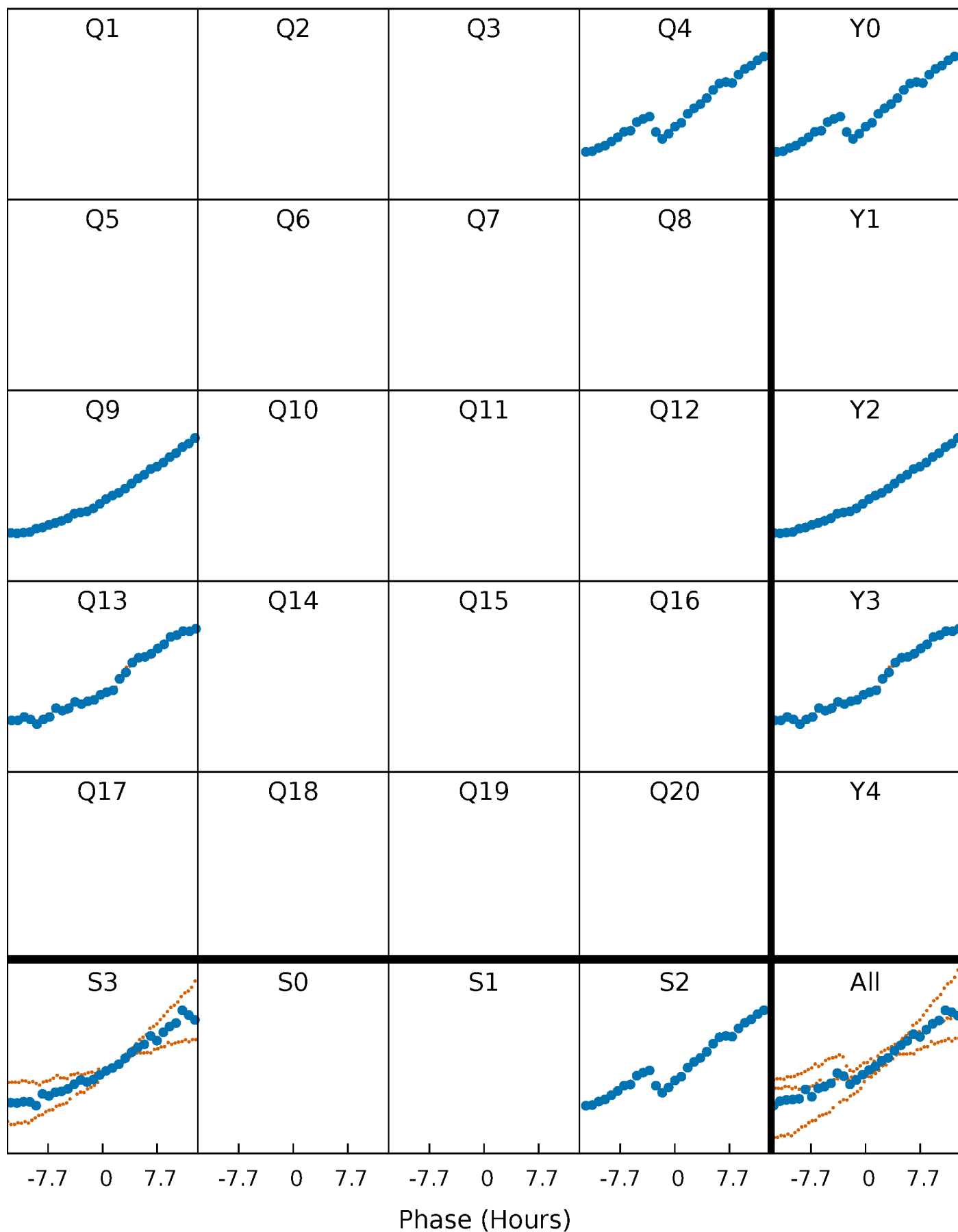


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



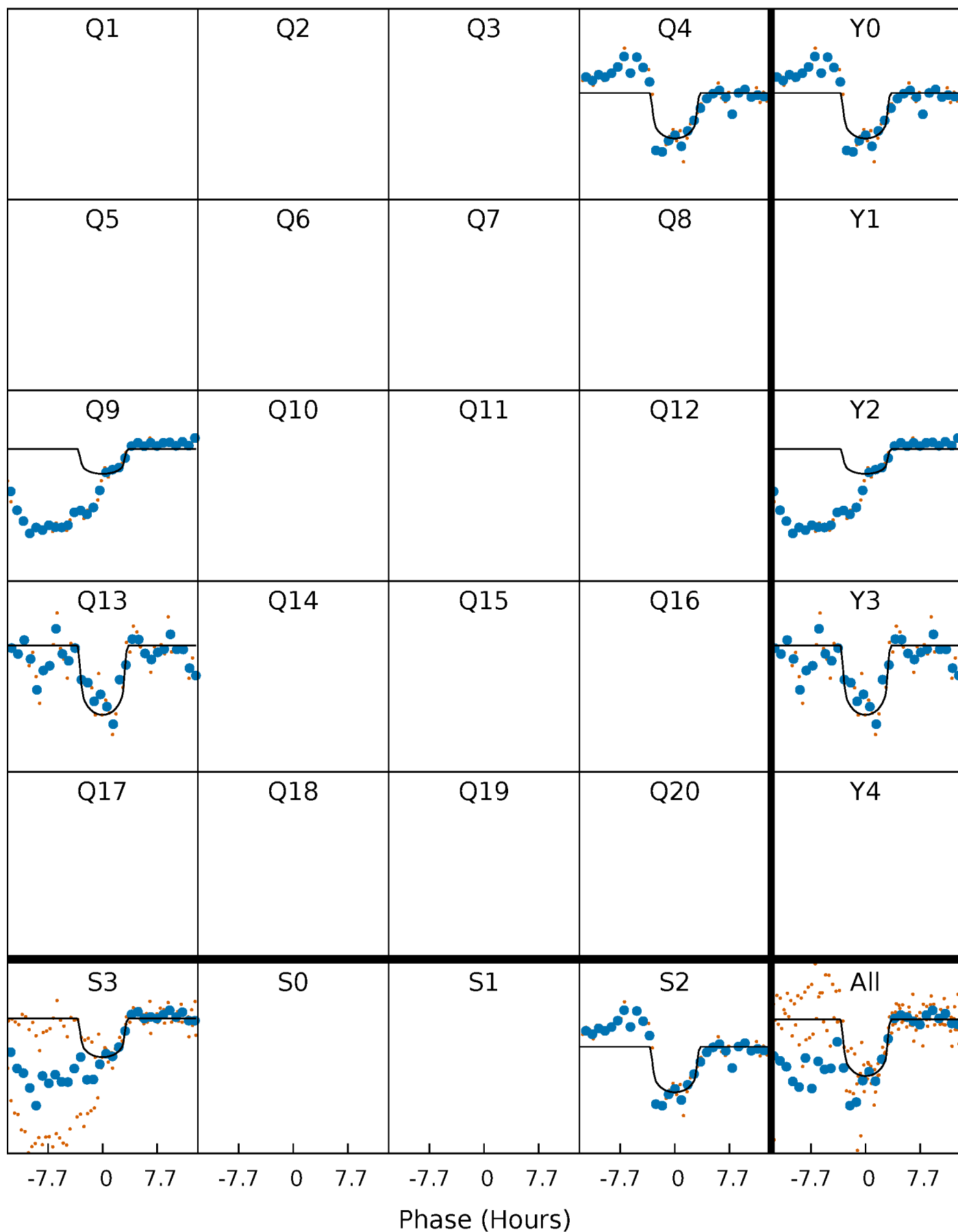
PDC Quarter-Phased Transit Curves

TCE 008740578-01 P=442.037833 Days $T_0=368.753709$ (BKJD)



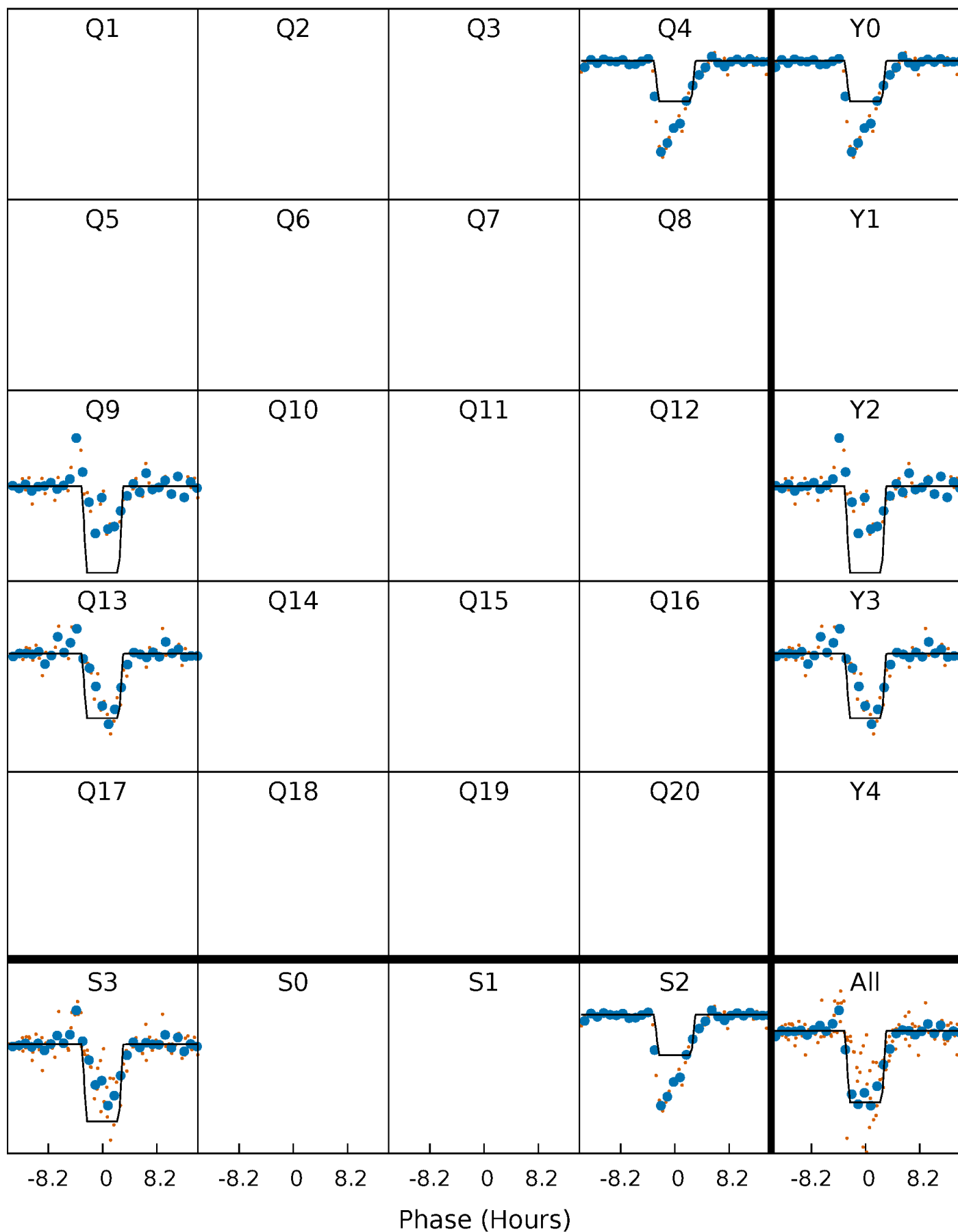
DV Quarter-Phased Transit Curves

TCE 008740578-01 P=442.037833 Days $T_0=368.753709$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

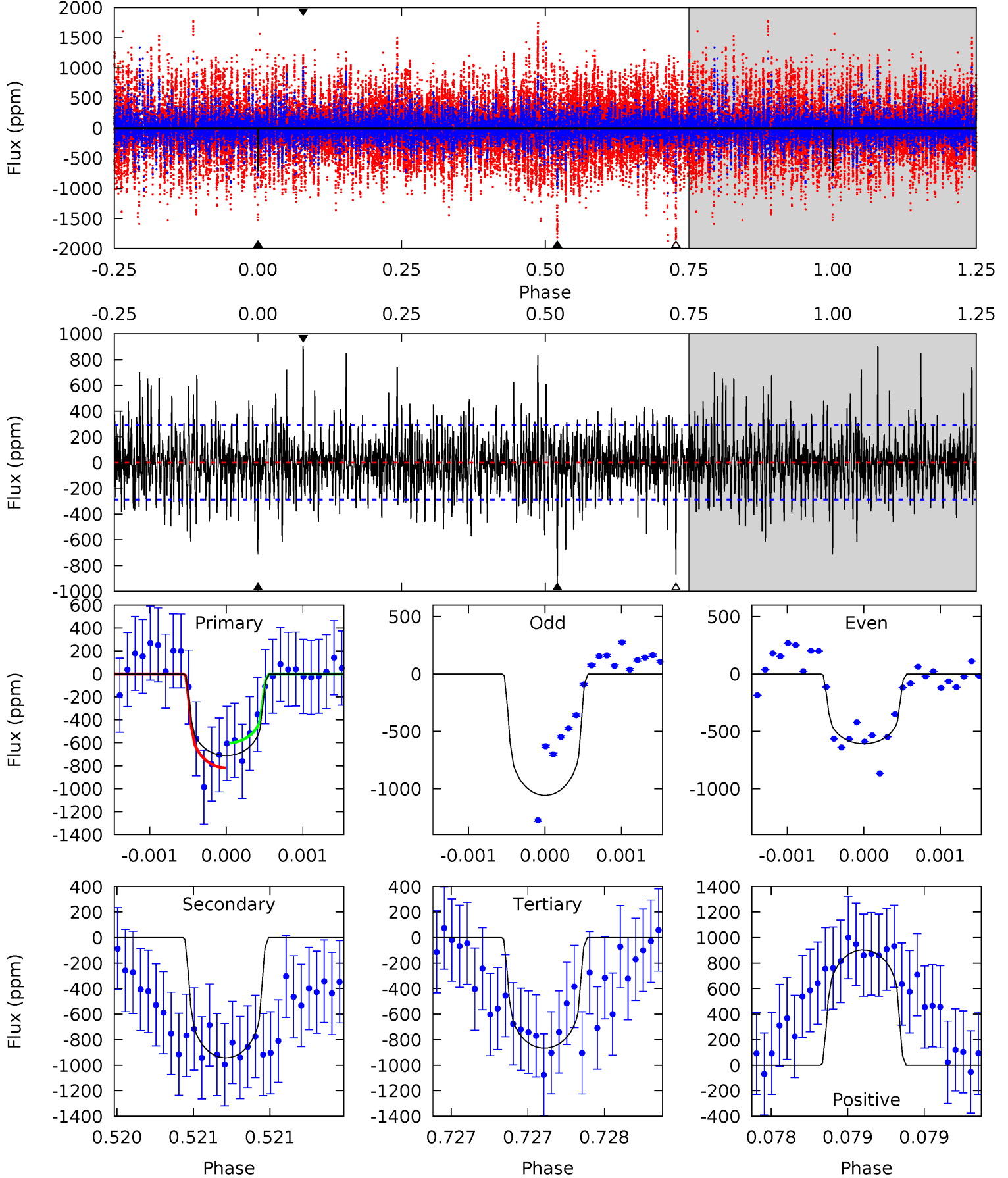
TCE 008740578-01 P=442.039203 Days $T_0=368.759052$ (BKJD)



DV Model-Shift Uniqueness Test

008740578-01, P = 442.037833 Days, E = 368.753709 Days

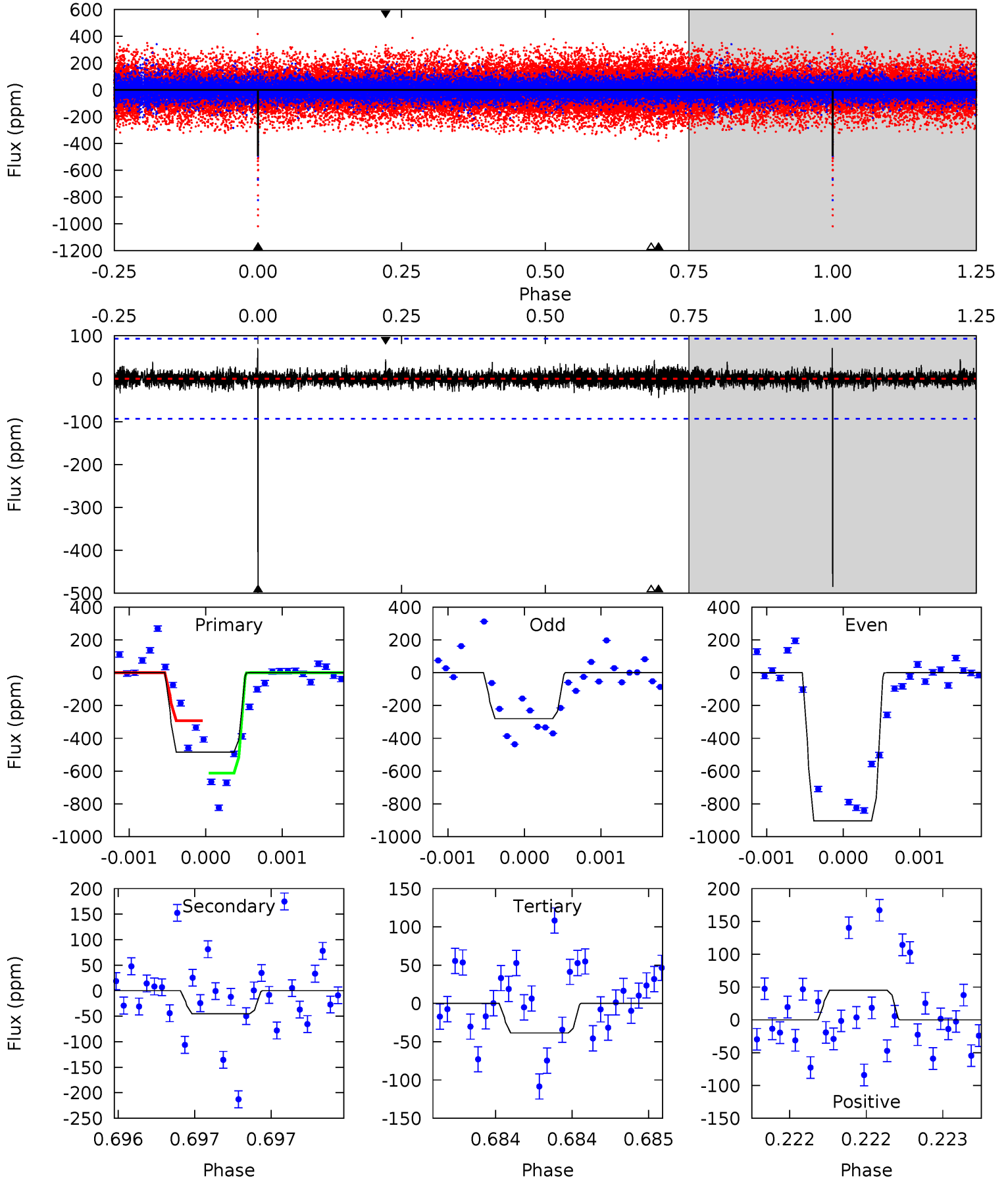
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	18.1	16.6	17.4	5.54	3.42	3.45	-2.97	-3.69	1.46	0.73	3.35	1.10	0.49	2.09



Alt Model-Shift Uniqueness Test

008740578-01, P = 442.039203 Days, E = 368.759052 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.8	2.69	2.29	2.68	5.55	3.45	0.51	26.5	26.2	0.40	0.01	20.1	1.30	0.13	9.21



Stellar Parameters For KIC 008740578

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5582^{+149}_{-149}	$4.563^{+0.032}_{-0.179}$	$-0.060^{+0.300}_{-0.300}$	$0.836^{+0.213}_{-0.071}$	$0.936^{+0.081}_{-0.112}$	$2.252^{+0.401}_{-1.091}$
	+3%/-3%	+1%/-4%	+500%/-500%	+25%/-8%	+9%/-12%	+18%/-48%
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 008740578-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-942 ± 52	$2.35^{+0.87}_{-0.86}$	306^{+17}_{-13}	6205^{+1851}_{-881}	$113628^{+161341}_{-53598}$
Alt.	-45 ± 17	$2.60^{+0.89}_{-0.84}$	305^{+18}_{-12}	3321^{+451}_{-366}	4405^{+5523}_{-2415}

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

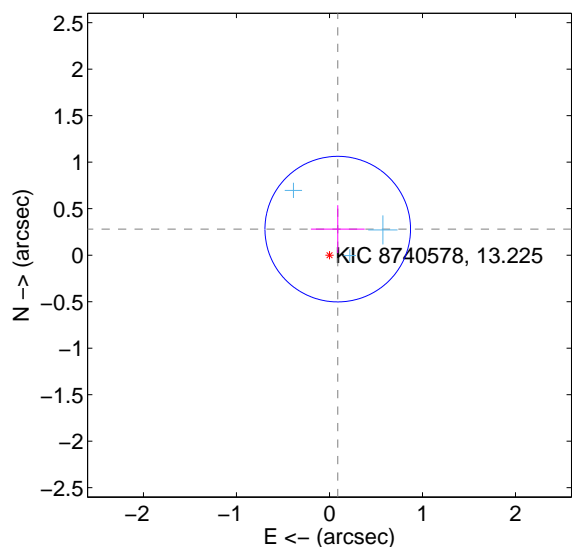
Supplemental centroid analysis for 008740578-01. Kepler magnitude: 13.22. Transit SNR 7.81

There are 3 quarters with good PRF difference image offsets

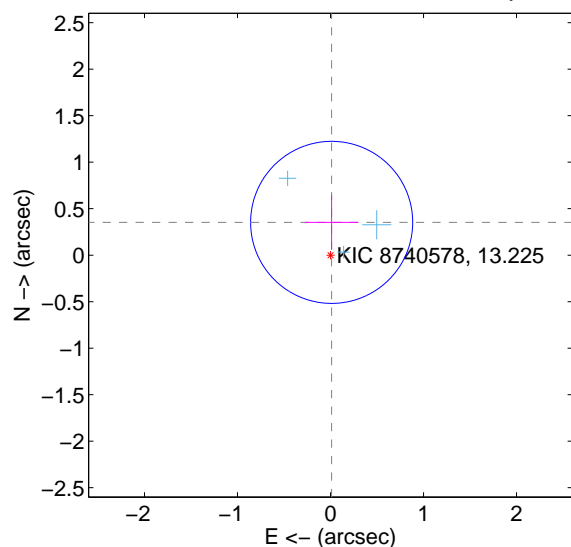
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.294 ± 0.261	1.13	-0.089 ± 0.290	0.280 ± 0.258
PRF-fit source offset from KIC position	0.353 ± 0.290	1.22	-0.012 ± 0.288	0.353 ± 0.290
photometric centroid source offset	0.59 ± 0.53	1.13	0.41 ± 0.46	0.43 ± 0.58

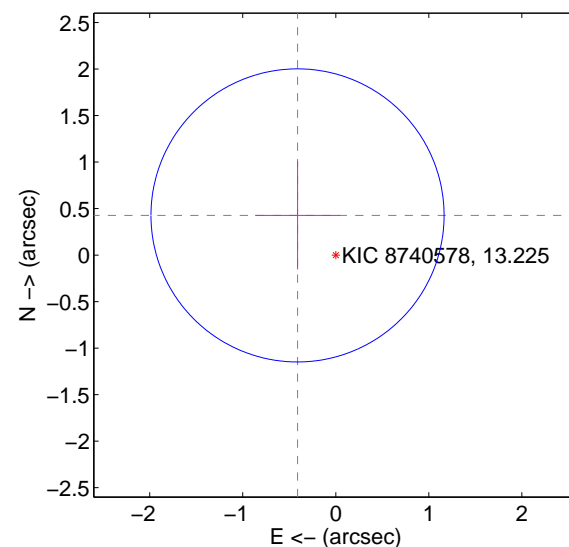
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

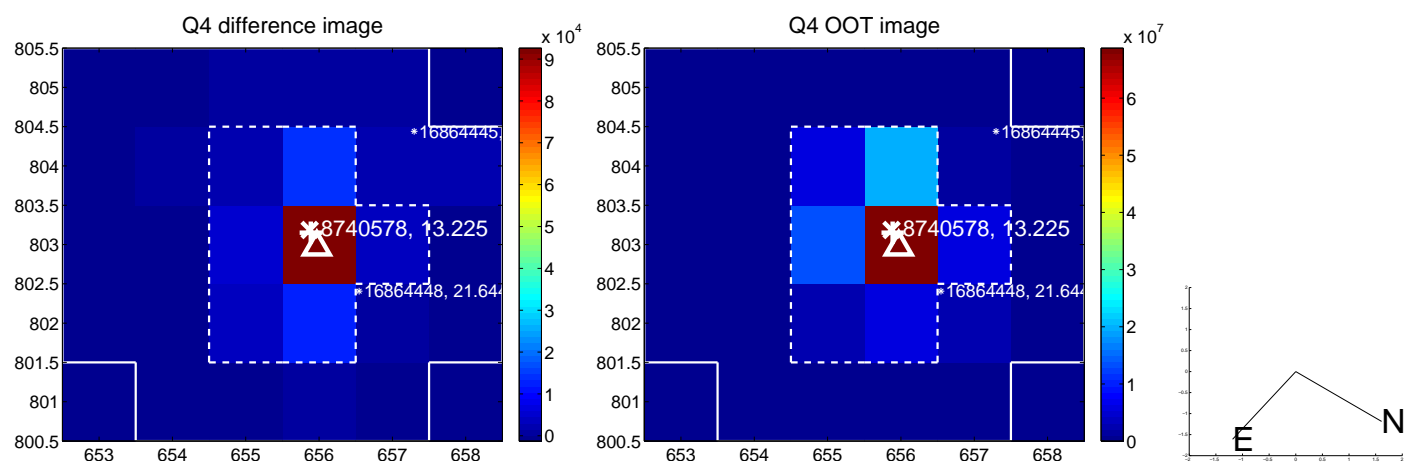
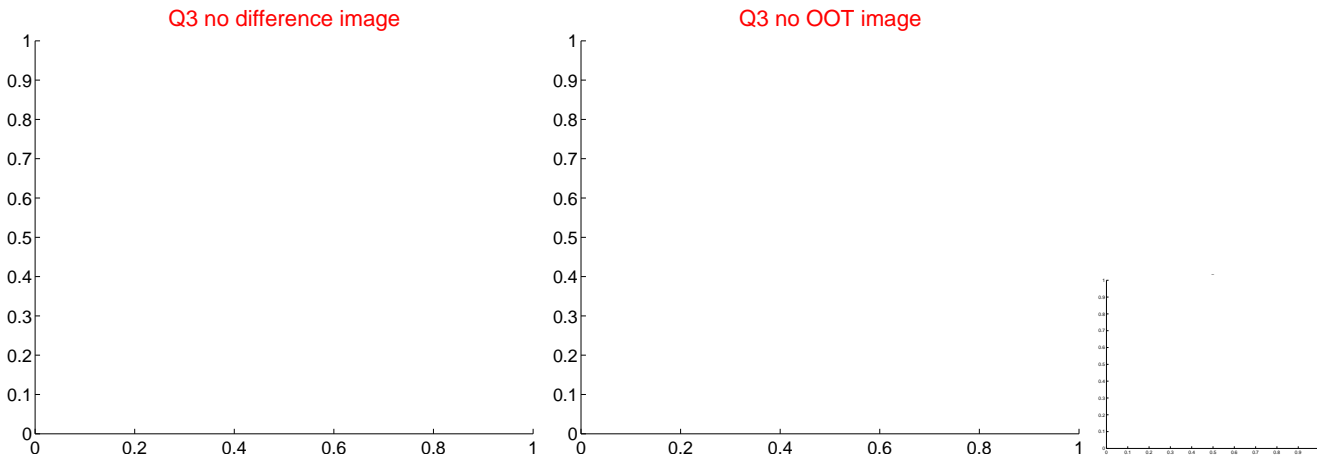
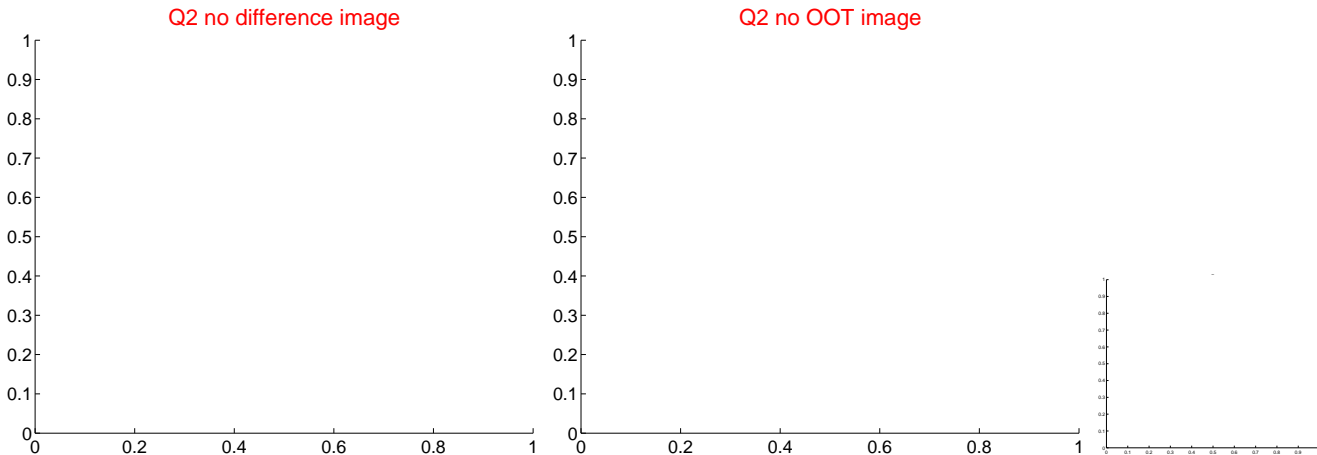
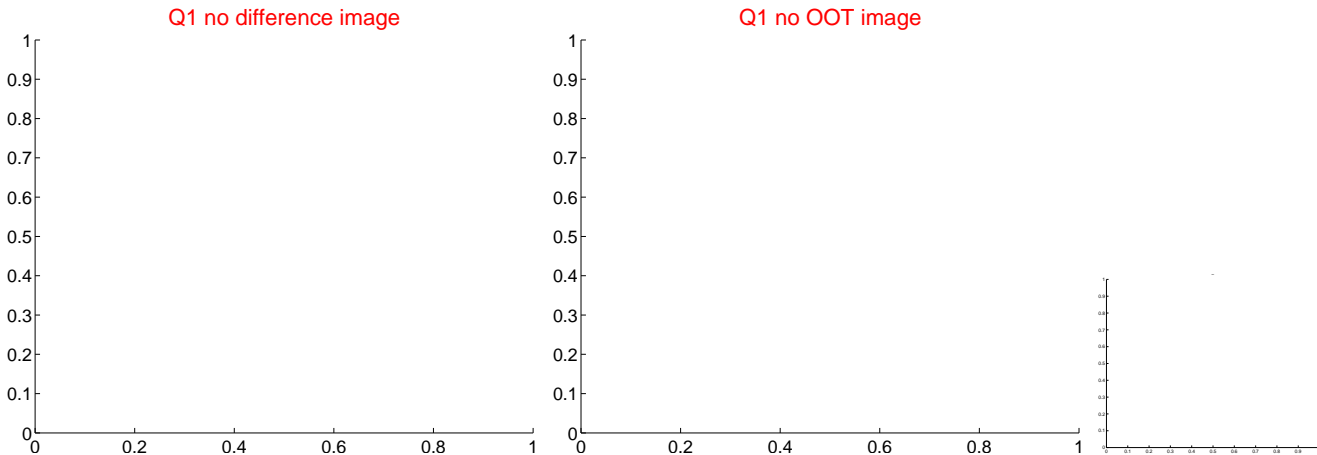


offset from photometric centroids



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.

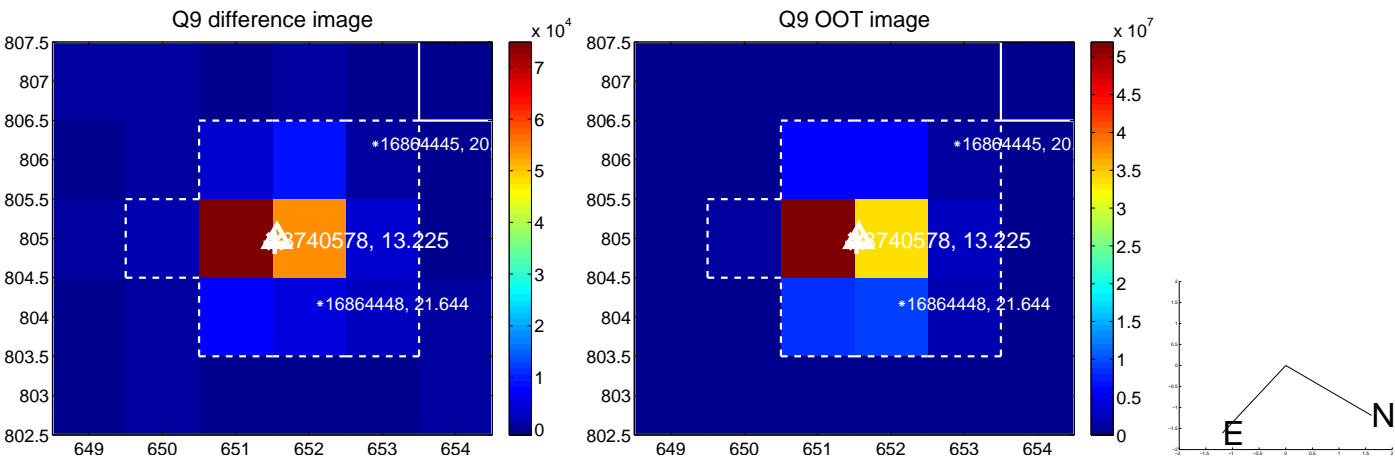
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



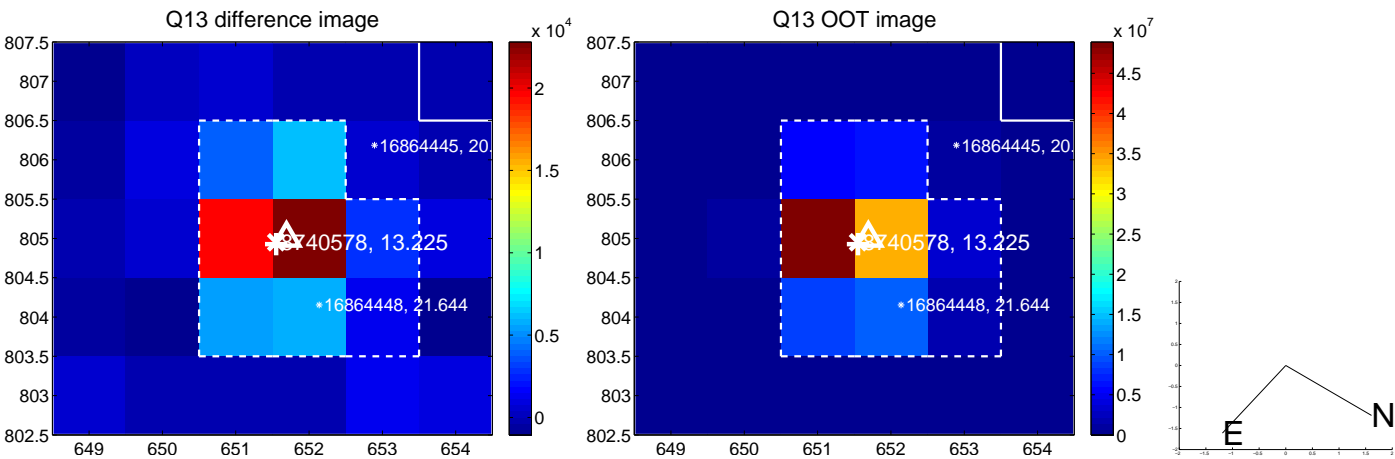
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



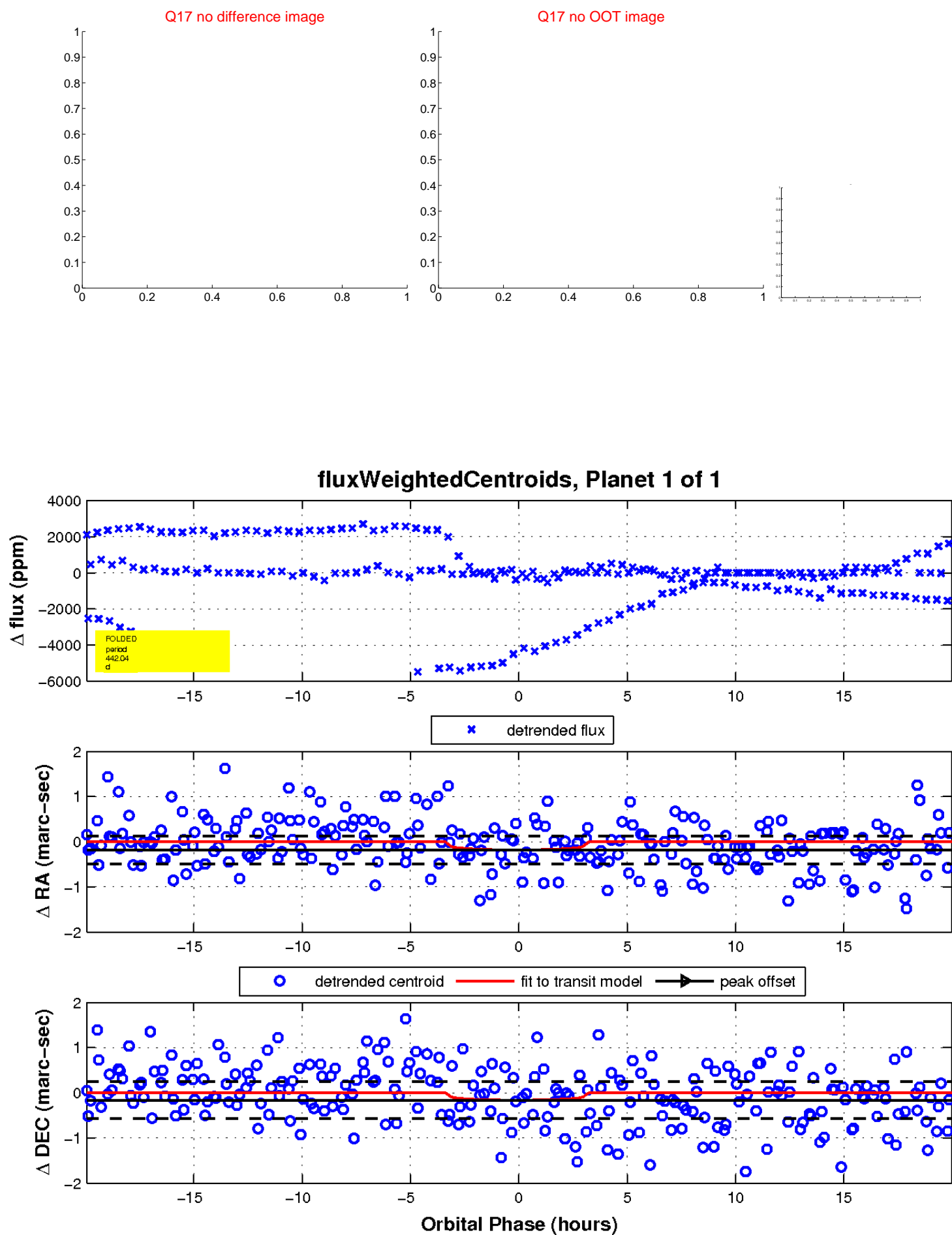
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

