

KIC 009084472

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})
009084472-01	OBS	No	676.081381	162.866346	498.1	8.644	7.7	7.6	0.77	5397	1.78	0.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009084472-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

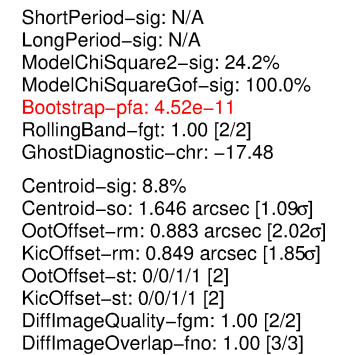
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

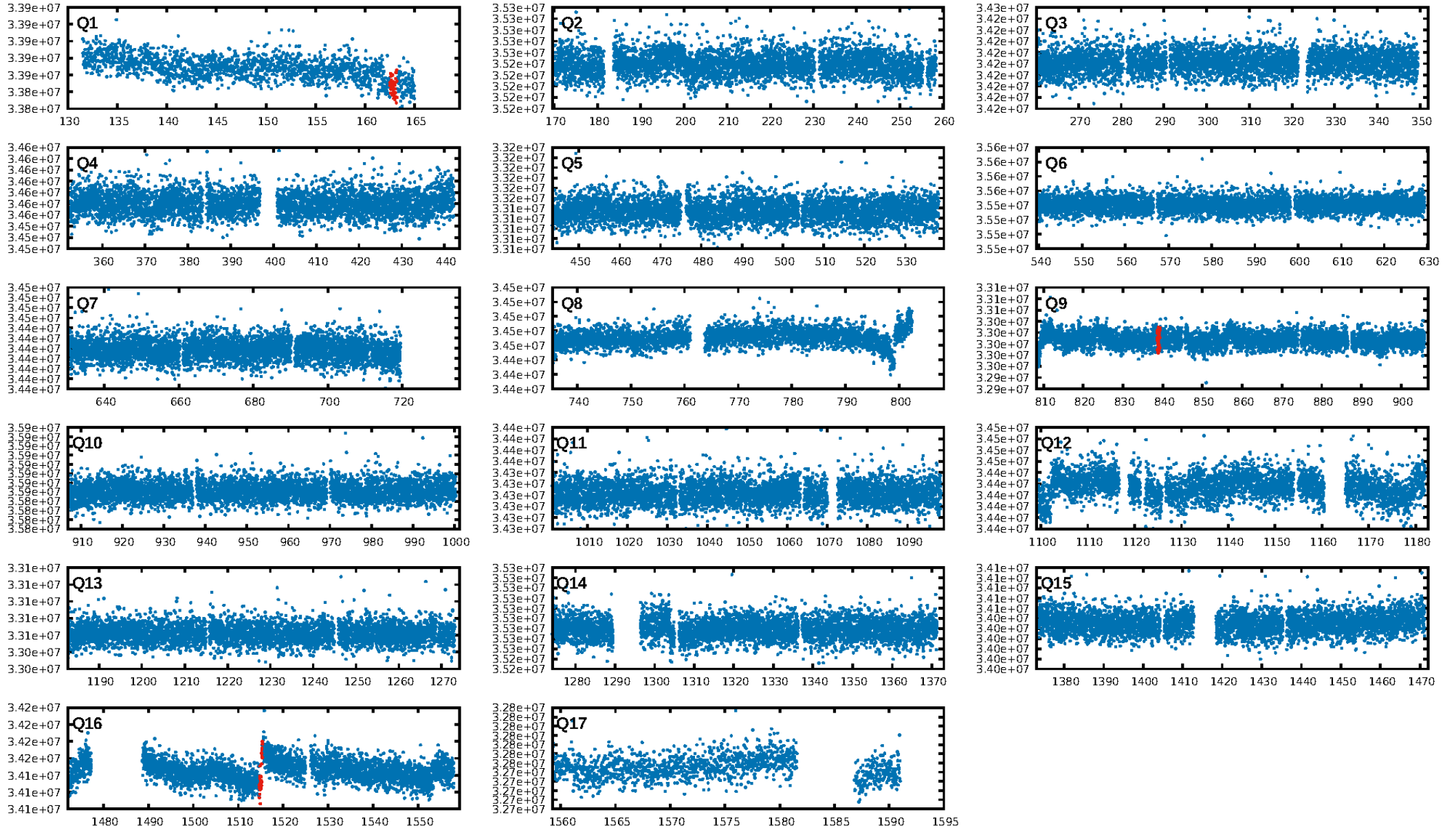
Ephemeris Match Information For 009084472-01

No Significant Match Found

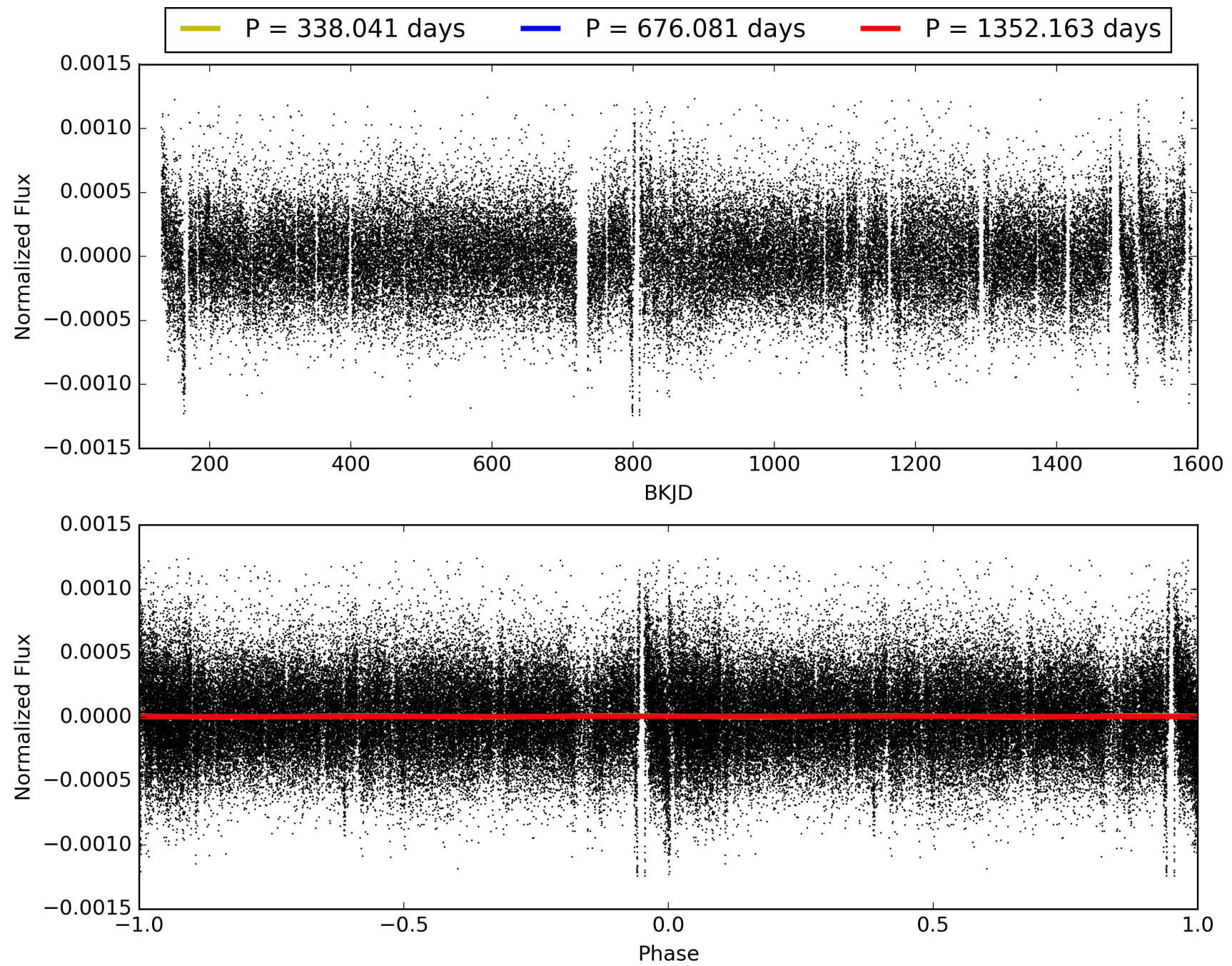
KIC: 9084472 Candidate: 1 of 1 Period: 676.081 d



TCE 009084472-01, PDC Light Curves

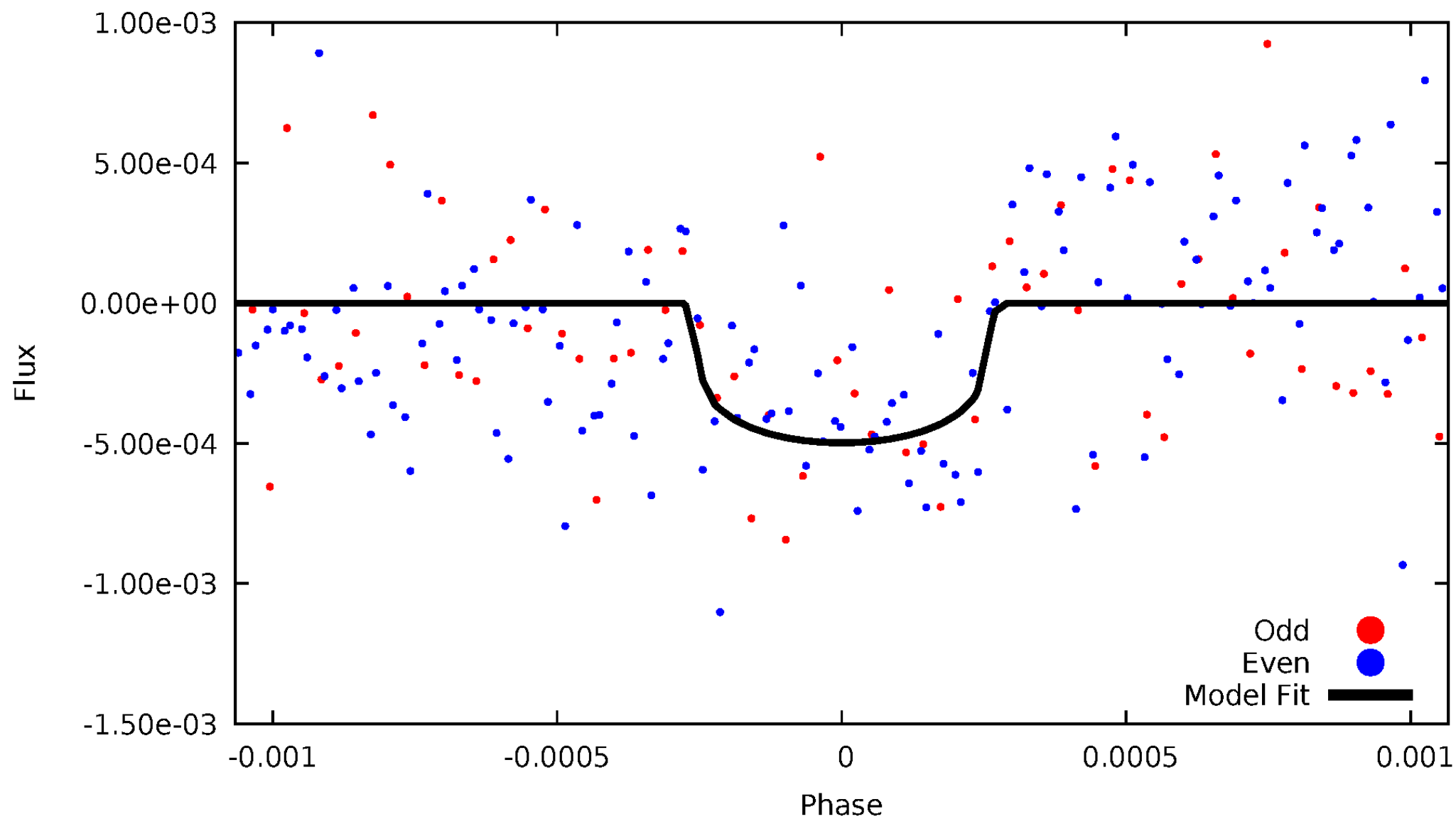


TCE 009084472-01



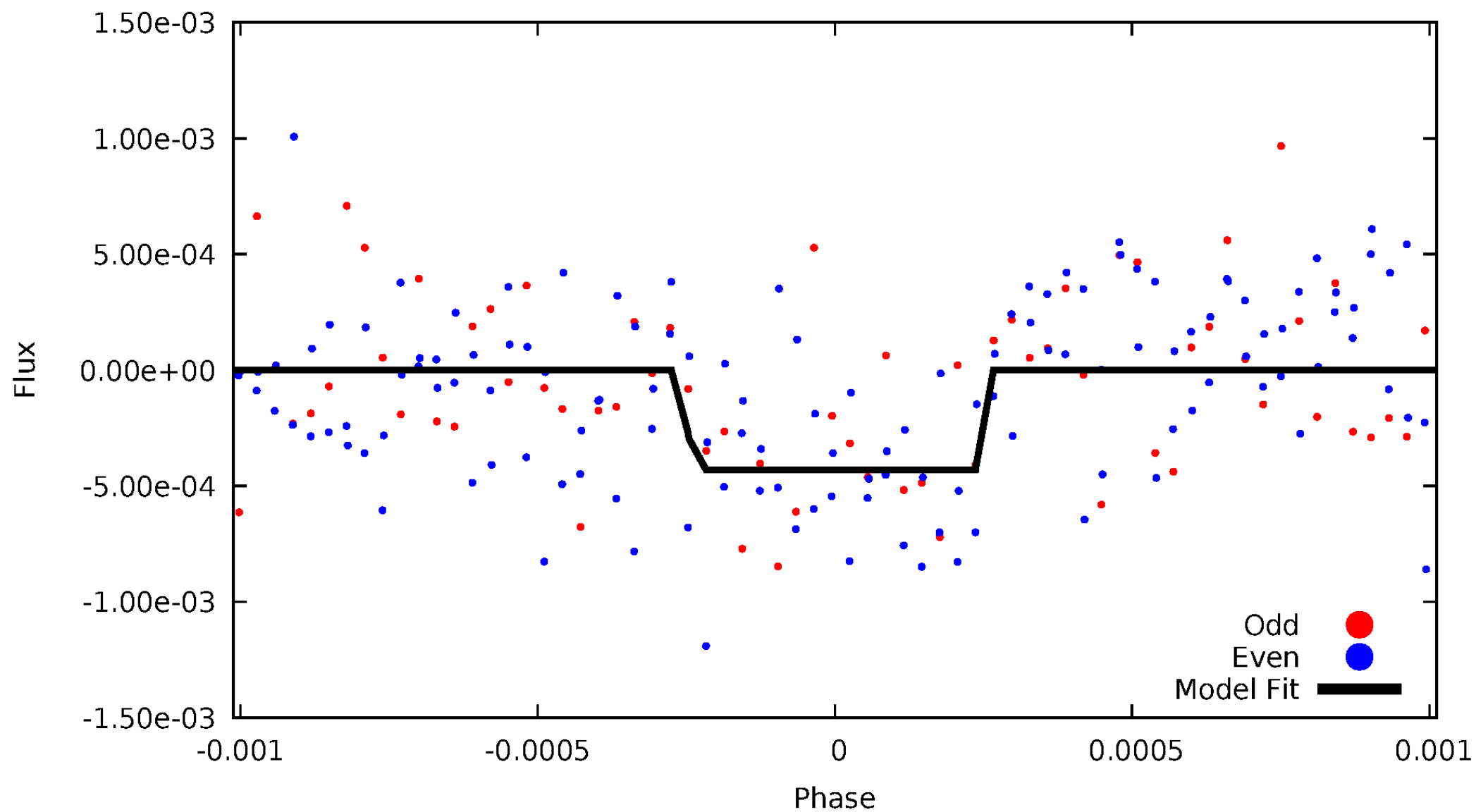
DV Odd/Even

TCE 009084472-01



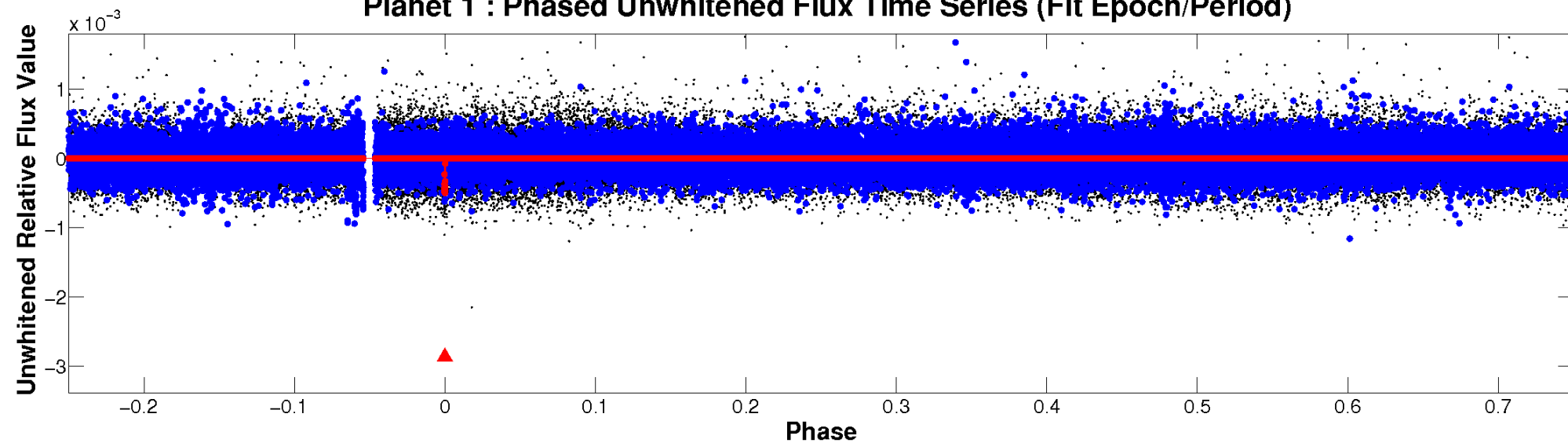
ALT Odd/Even

TCE 009084472-01

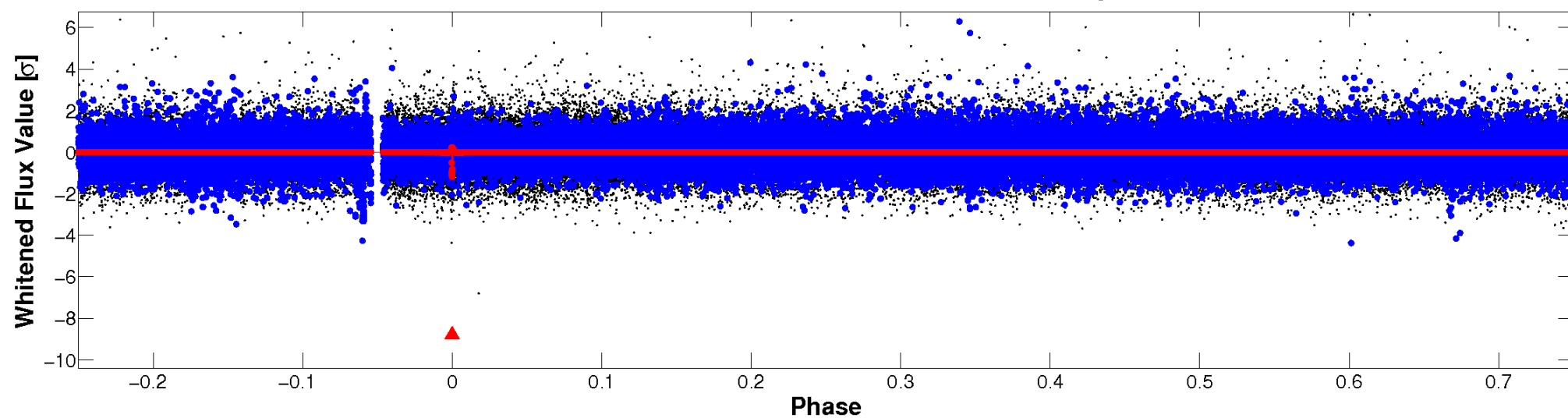


Non-Whitened Vs. Whitened Light Curve

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

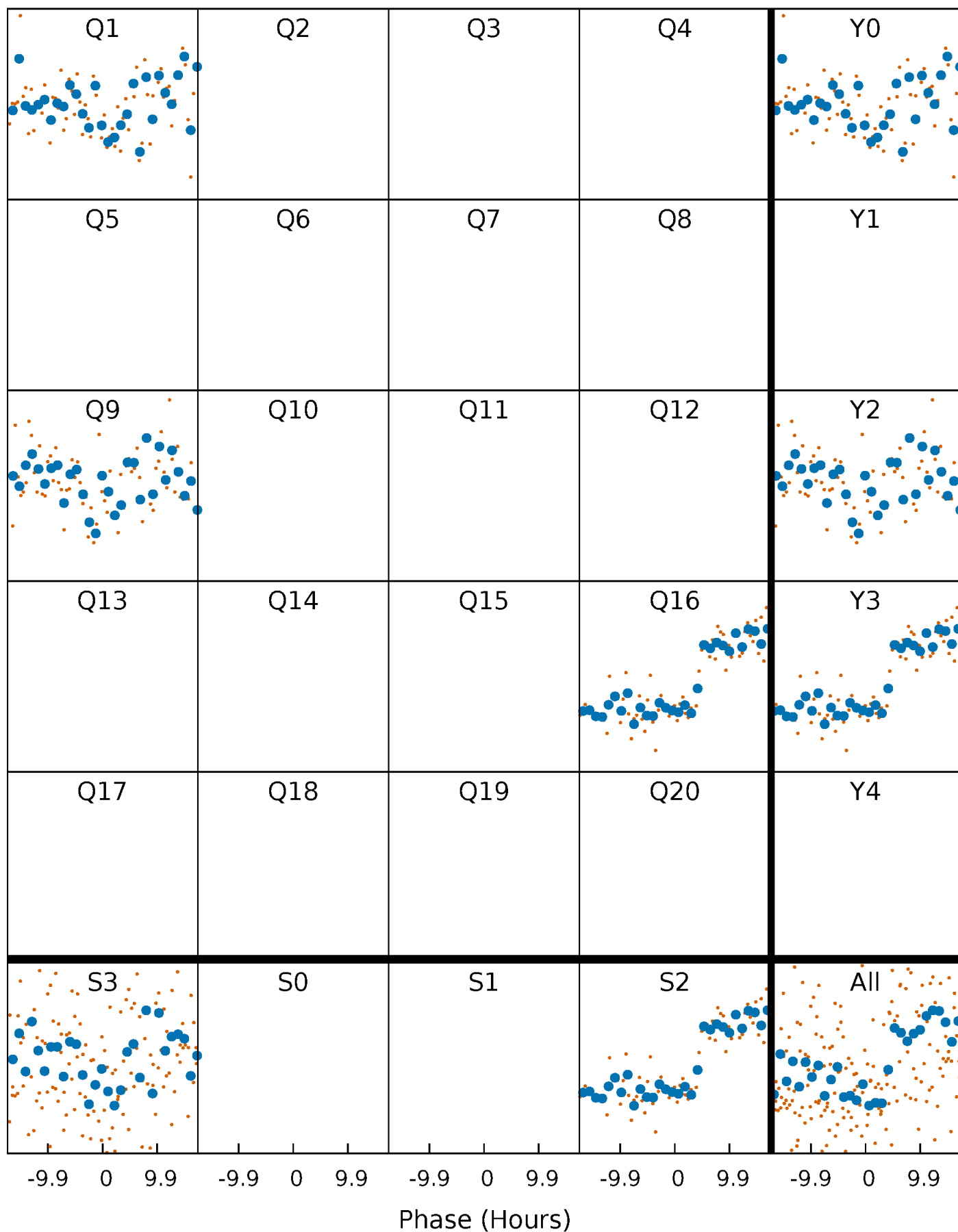


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



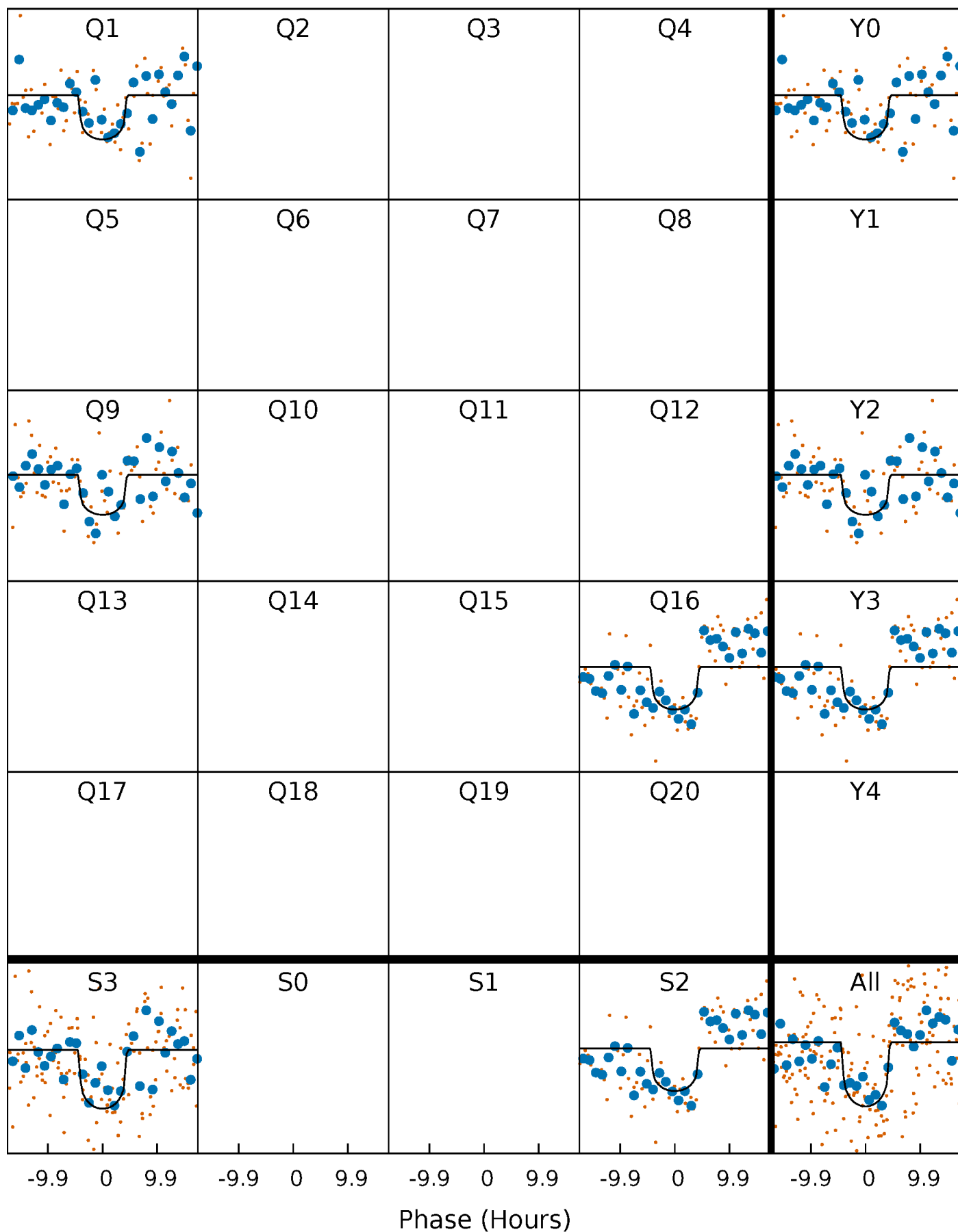
PDC Quarter-Phased Transit Curves

TCE 009084472-01 P=676.081381 Days $T_0=162.866346$ (BKJD)



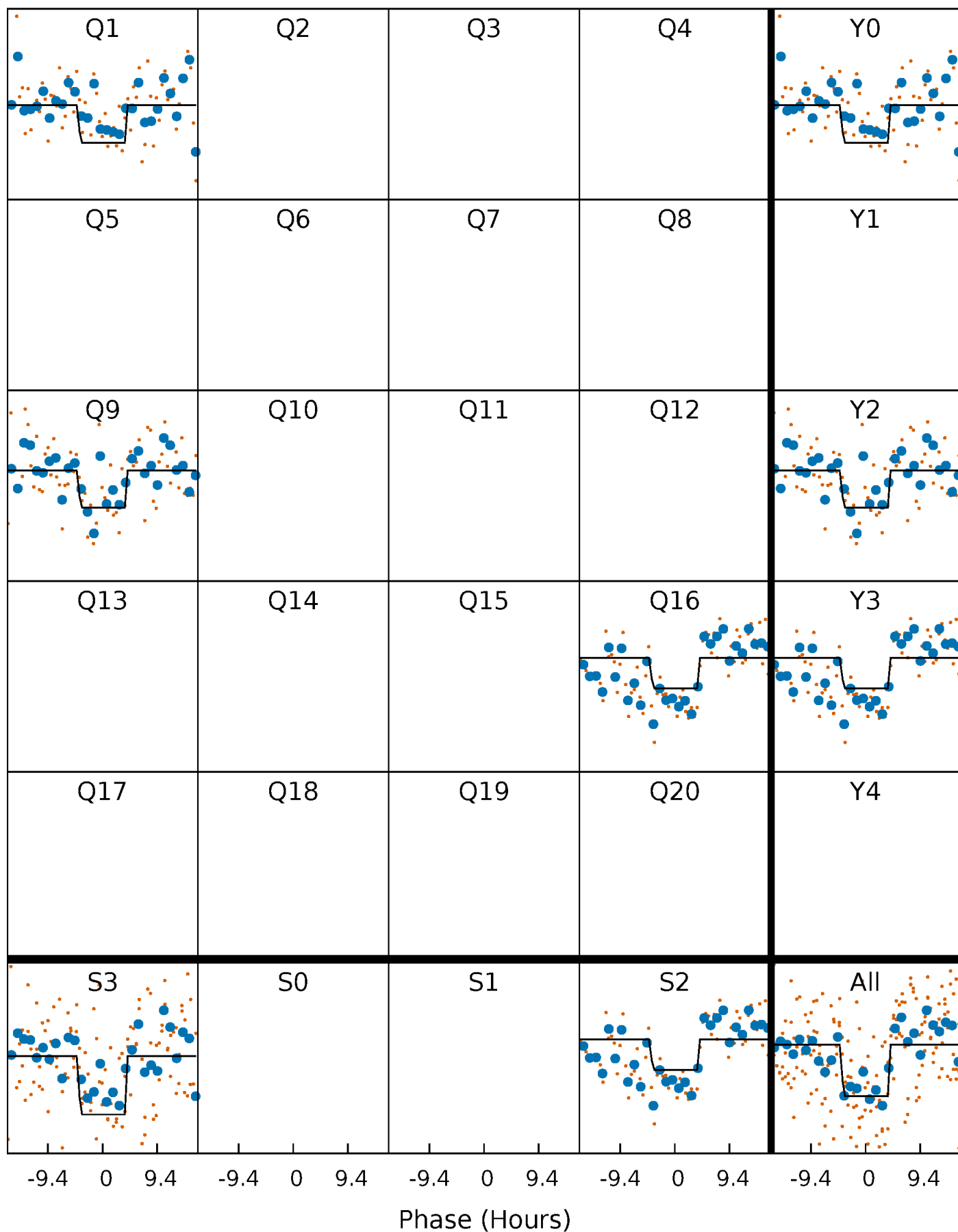
DV Quarter-Phased Transit Curves

TCE 009084472-01 P=676.081381 Days $T_0=162.866346$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

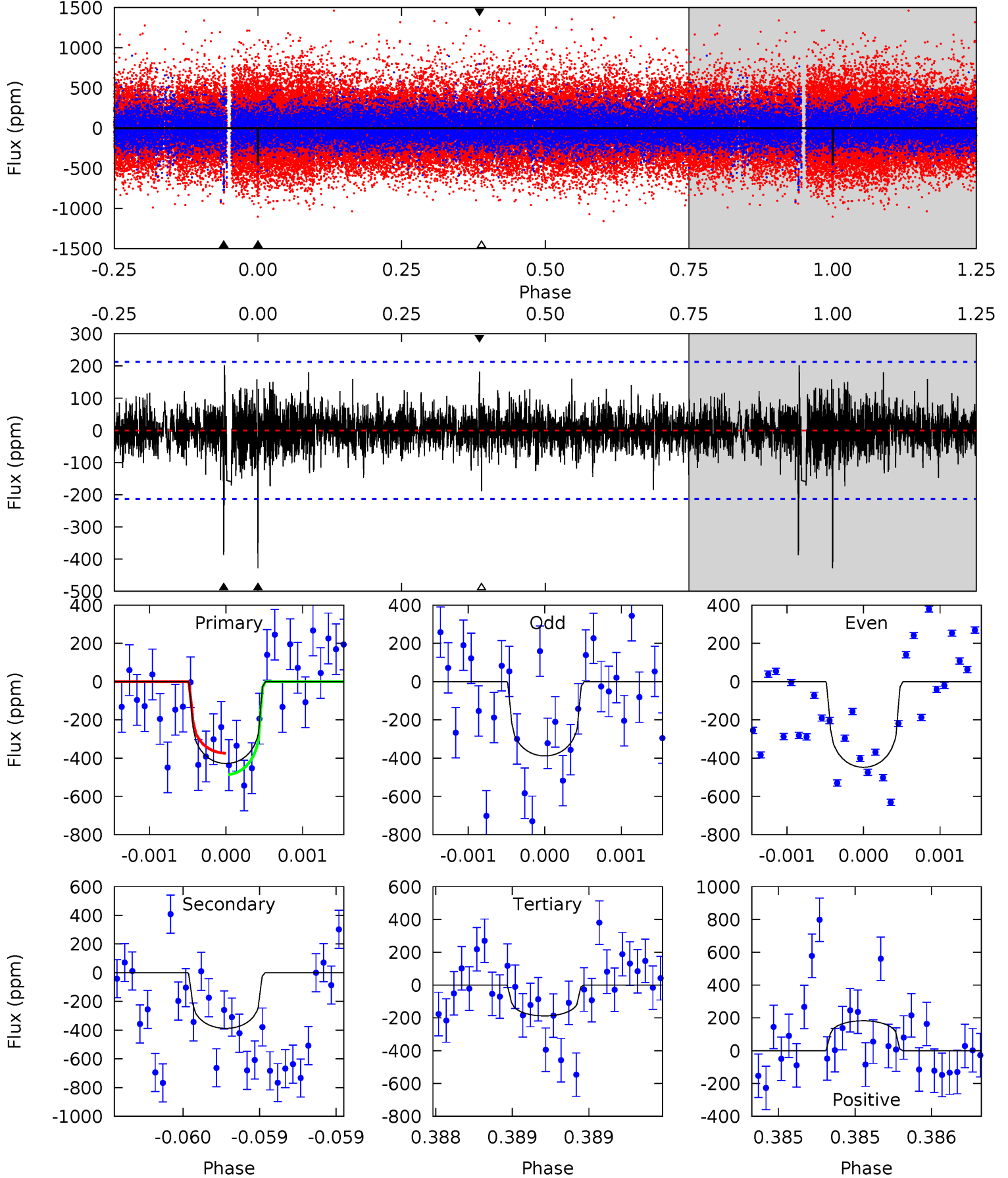
TCE 009084472-01 P=676.085200 Days $T_0=162.860776$ (BKJD)



DV Model-Shift Uniqueness Test

009084472-01, P = 676.081381 Days, E = 162.866346 Days

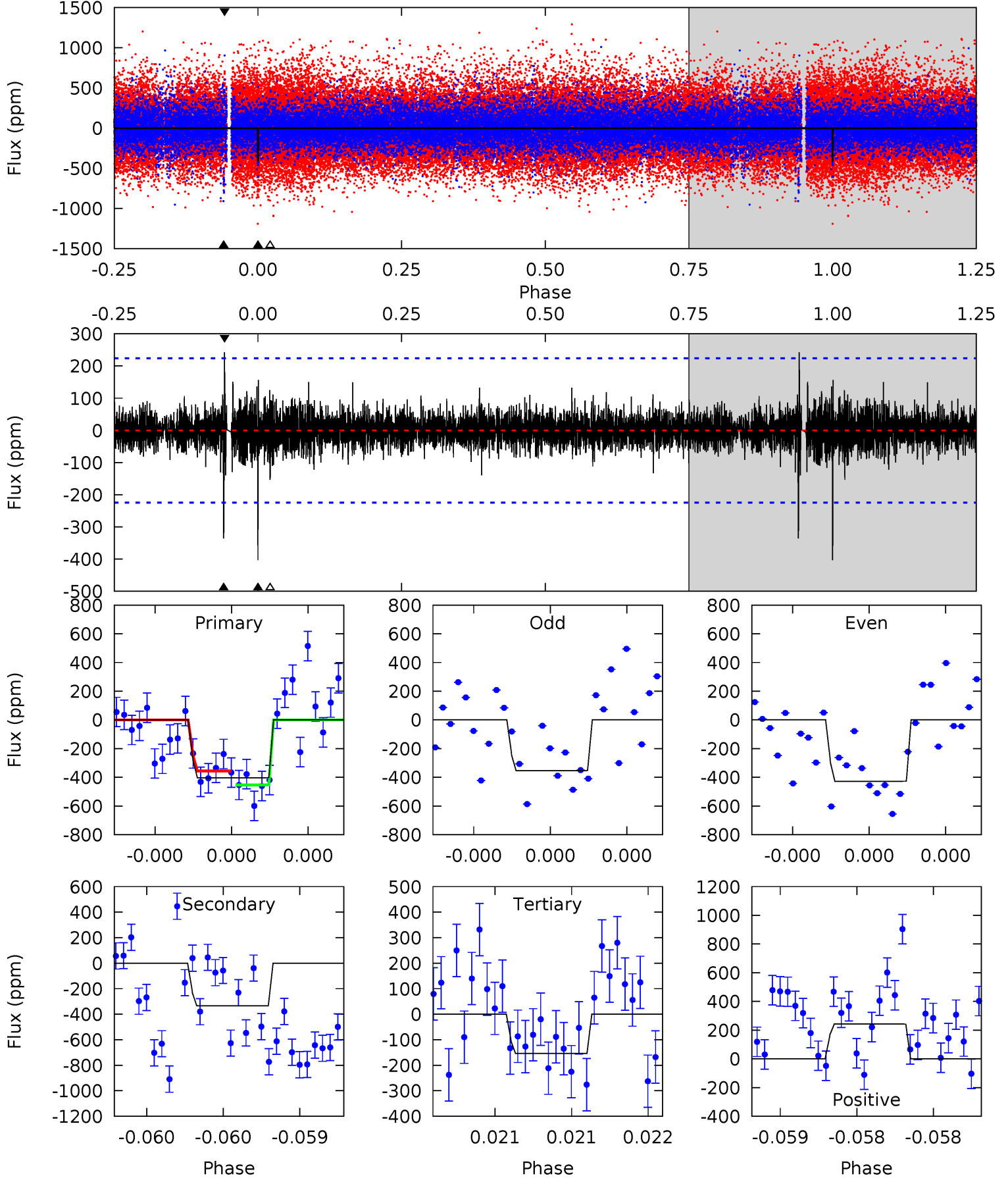
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	10.1	4.90	4.74	5.55	3.45	1.14	6.24	6.40	5.19	5.35	0.73	1.10	0.32	1.45



Alt Model-Shift Uniqueness Test

009084472-01, P = 676.085200 Days, E = 162.860776 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	8.34	3.83	6.04	5.58	3.49	0.86	6.20	3.99	4.52	2.30	0.87	1.14	0.38	1.21



Stellar Parameters For KIC 009084472

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5397^{+236}_{-214}	$4.556^{+0.059}_{-0.102}$	$-0.360^{+0.300}_{-0.300}$	$0.767^{+0.142}_{-0.076}$	$0.771^{+0.110}_{-0.064}$	$2.411^{+0.713}_{-0.777}$
	+4%/-4%	+1%/-2%	+83%/-83%	+19%/-10%	+14%/-8%	+30%/-32%
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 009084472-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-387 ± 38	$2.17^{+1.64}_{-1.45}$	249^{+14}_{-12}	4860^{+3588}_{-953}	$87419^{+627464}_{-58732}$
Alt.	-335 ± 40	$2.10^{+1.66}_{-1.30}$	250^{+14}_{-12}	4723^{+2994}_{-897}	$79894^{+480271}_{-54874}$

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

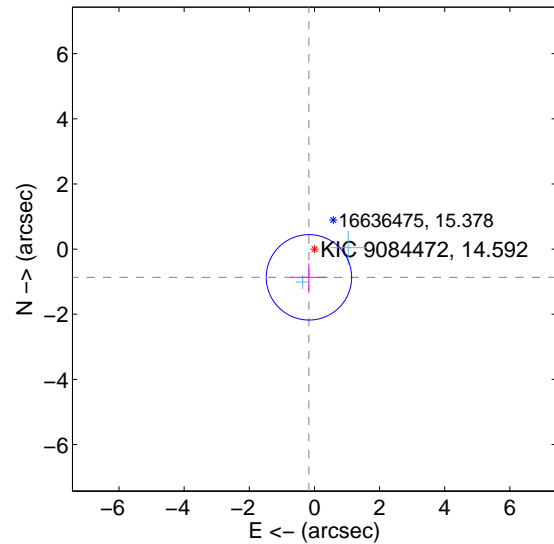
Supplemental centroid analysis for 009084472-01. Kepler magnitude: 14.59. Transit SNR 7.61

There are 2 quarters with good PRF difference image offsets

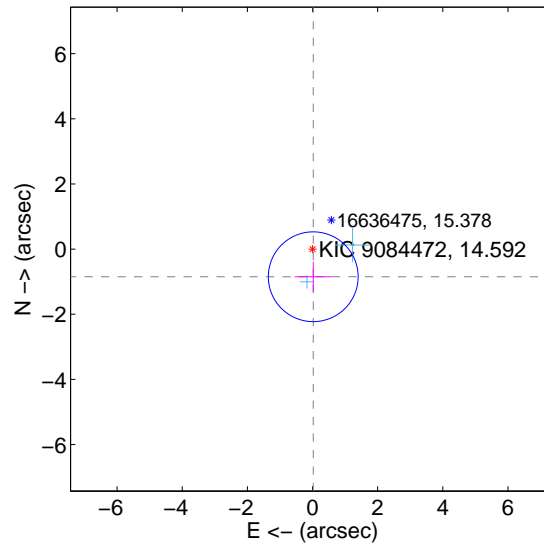
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.883 ± 0.437	2.02	0.169 ± 0.566	-0.867 ± 0.431
PRF-fit source offset from KIC position	0.849 ± 0.459	1.85	-0.022 ± 0.567	-0.849 ± 0.459
photometric centroid source offset	1.65 ± 1.51	1.09	0.38 ± 1.38	-1.60 ± 1.52

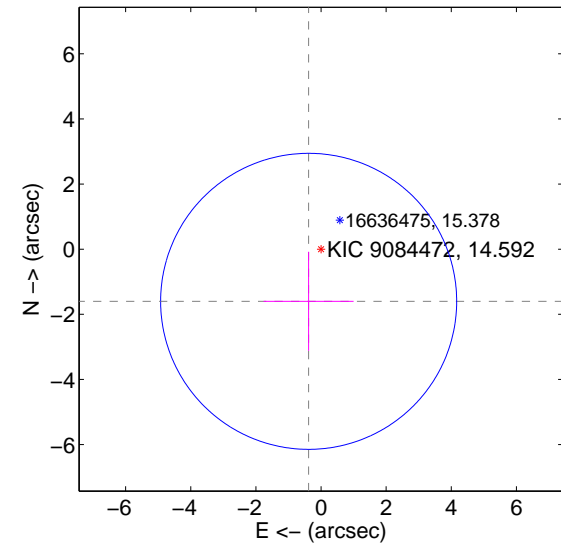
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

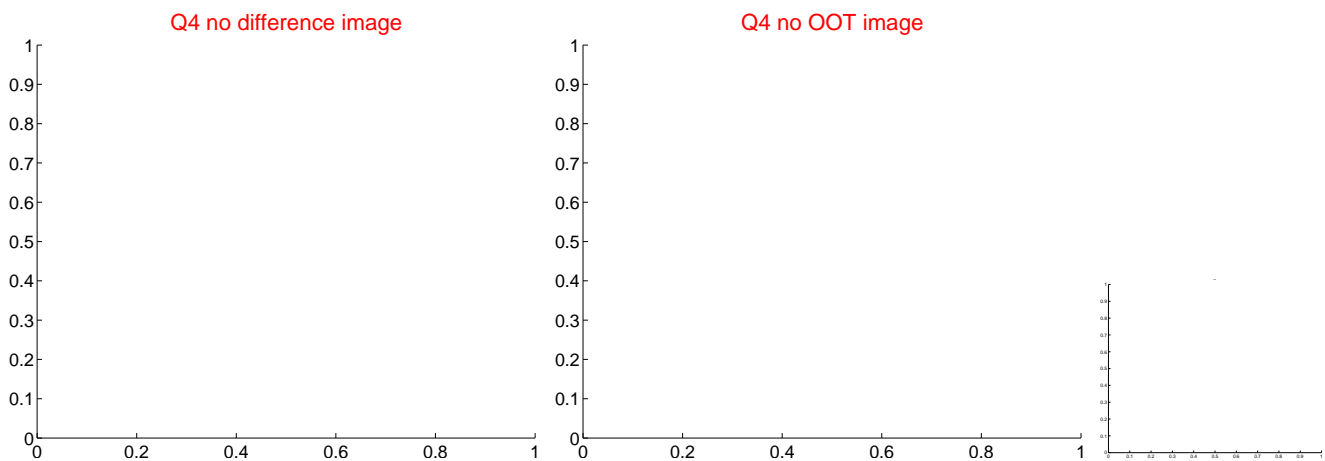
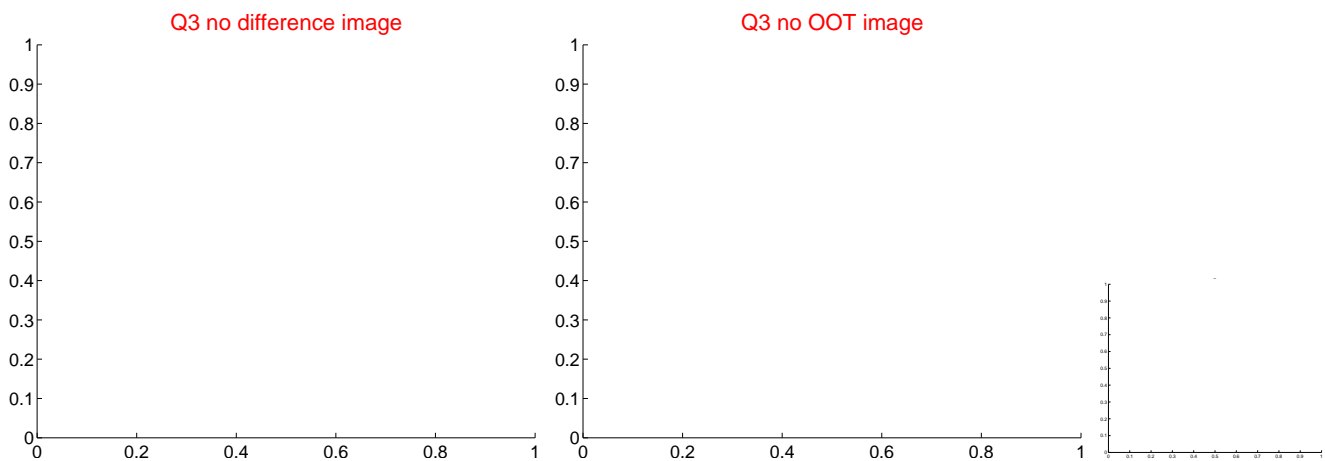
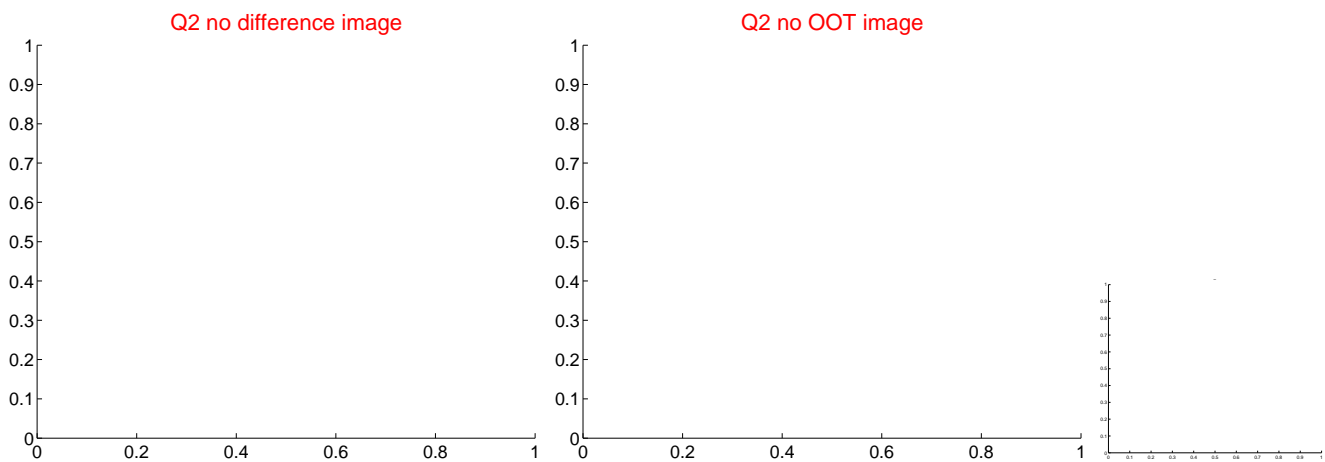
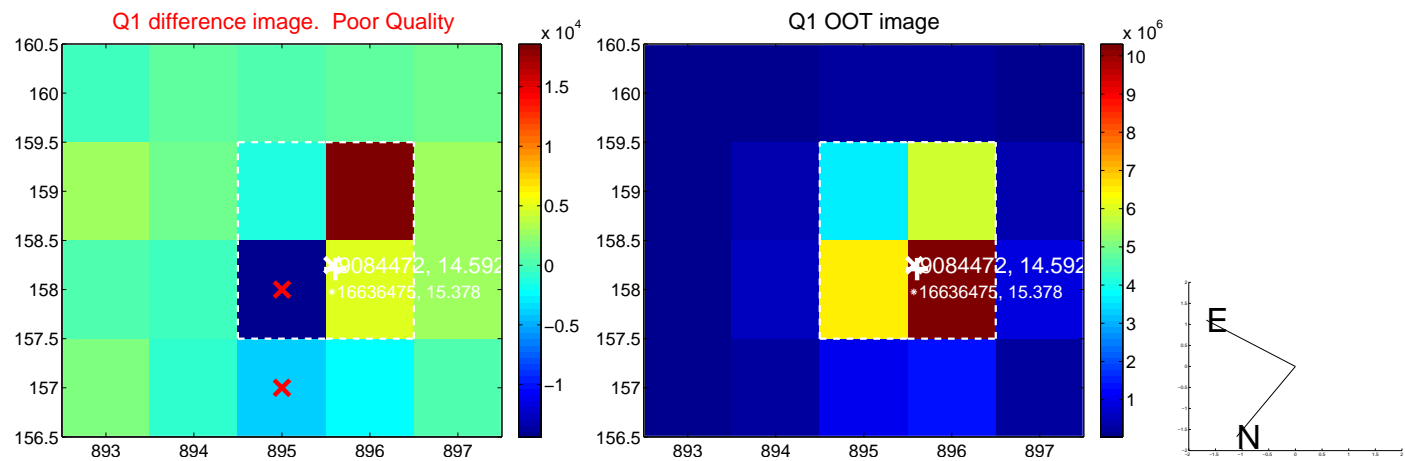


offset from photometric centroids



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.

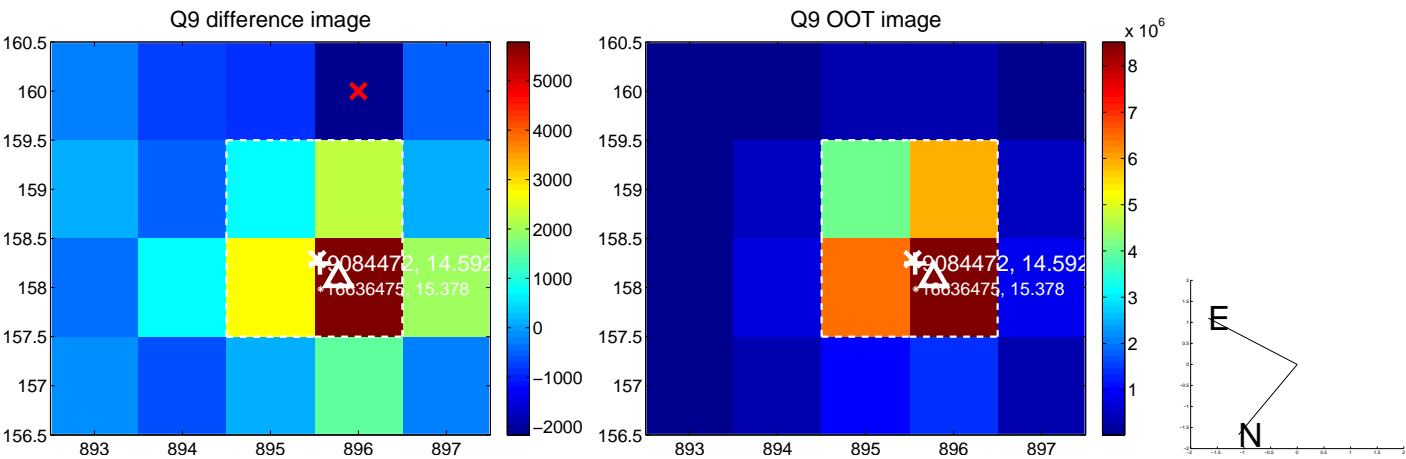
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



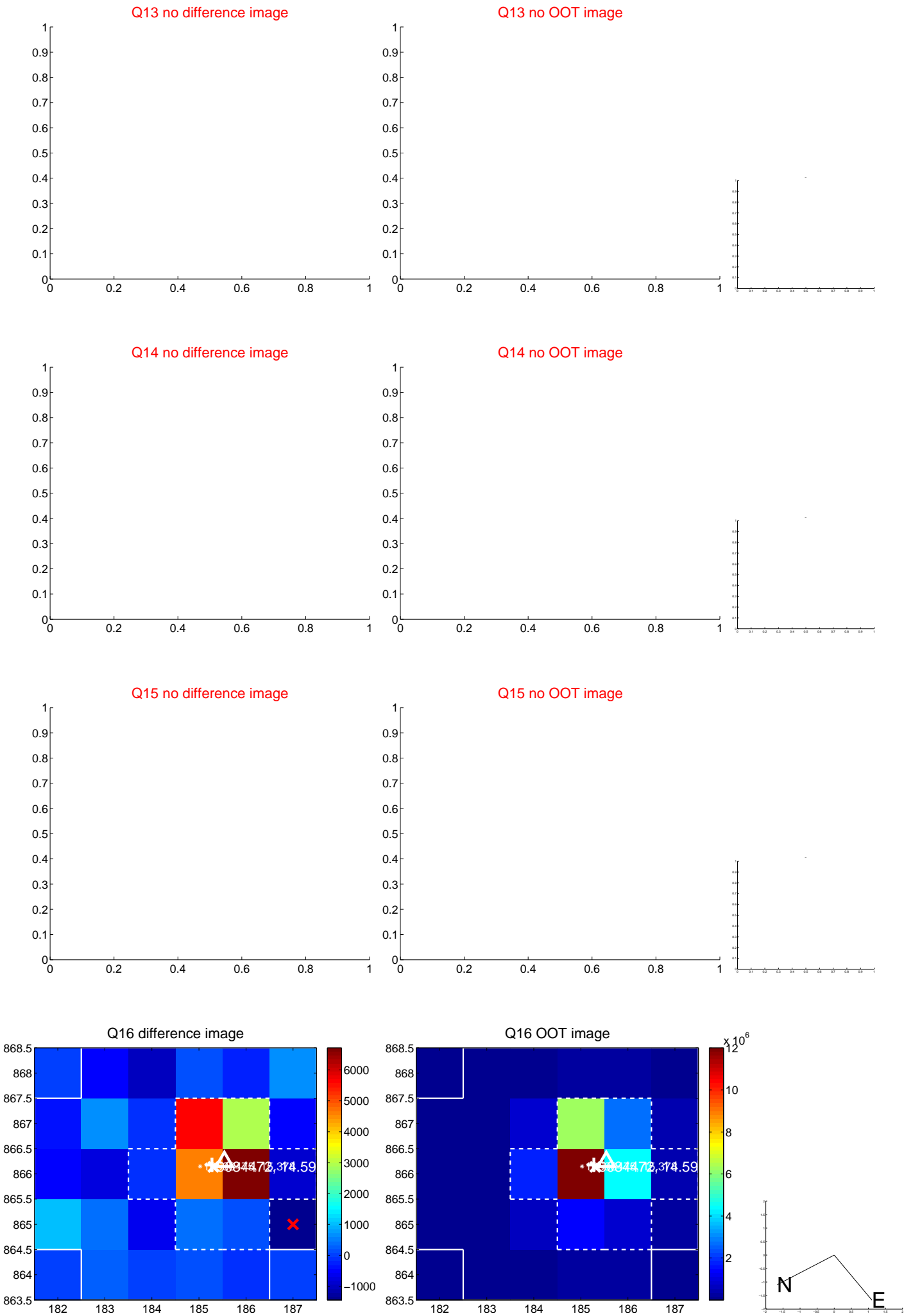
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



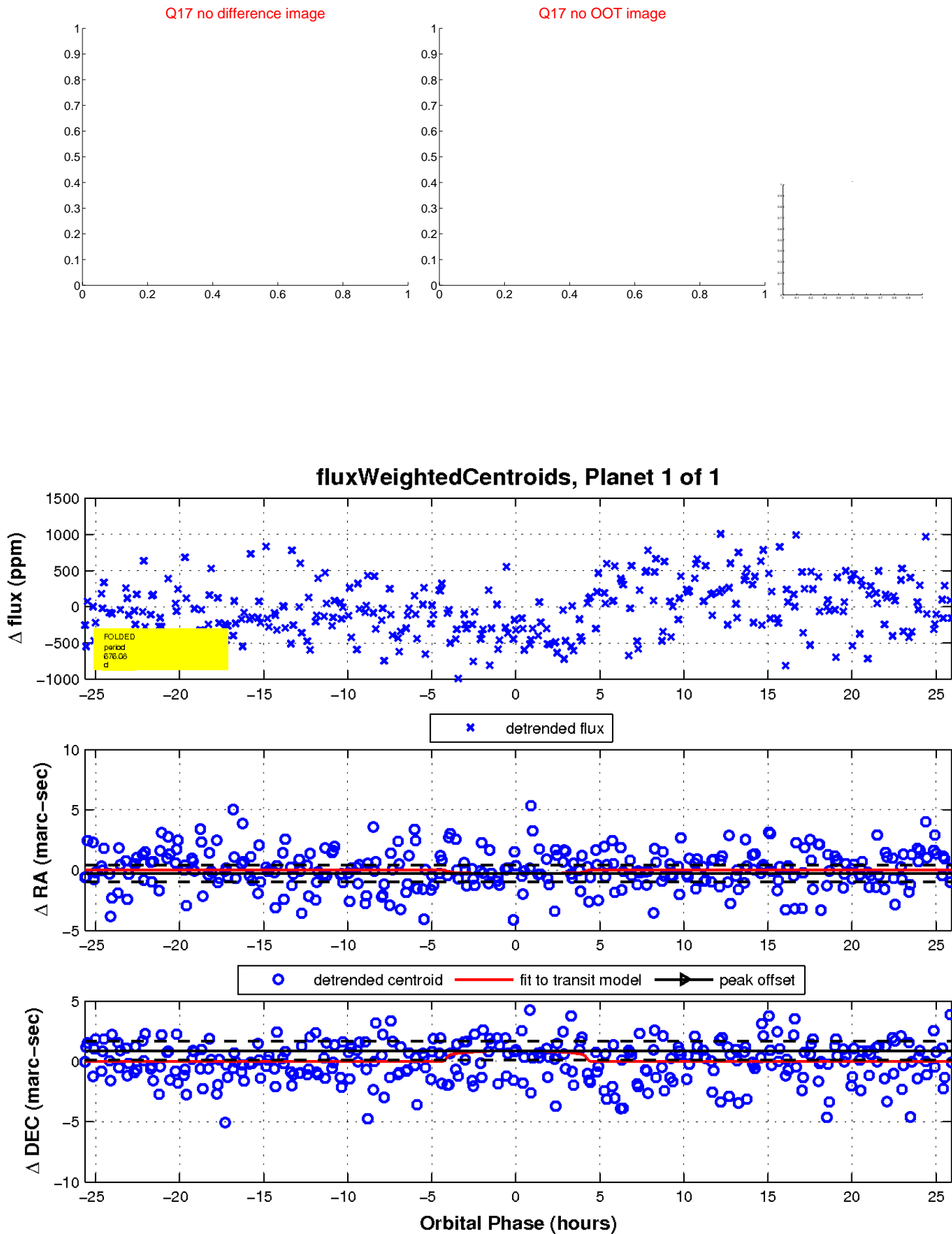
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UKIRT Image

