

KIC 009594723

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})
009594723-01	OBS	No	549.010813	243.542348	683.3	17.191	8.6	8.1	0.55	4289	1.50	0.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009594723-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

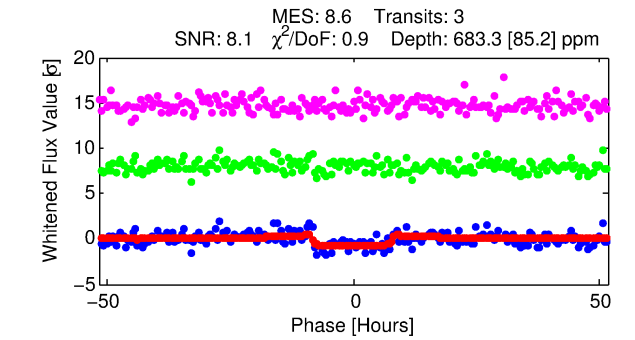
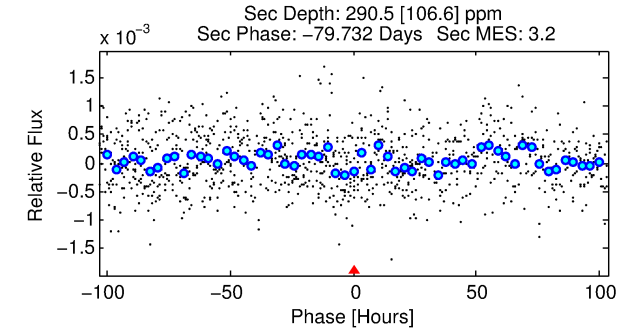
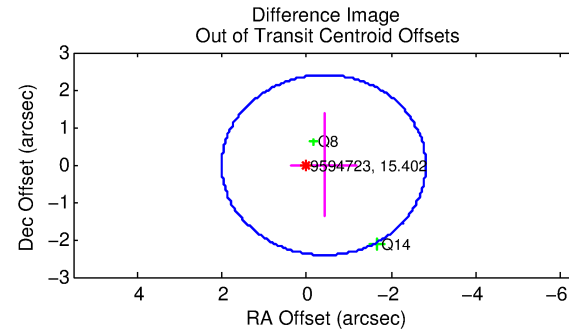
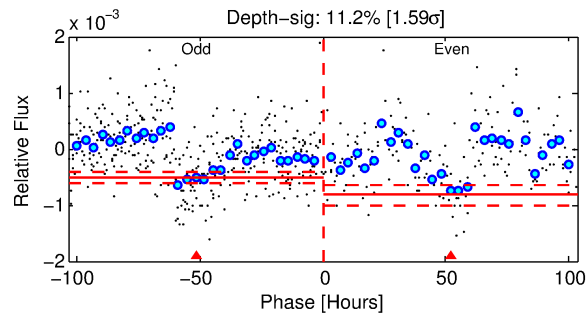
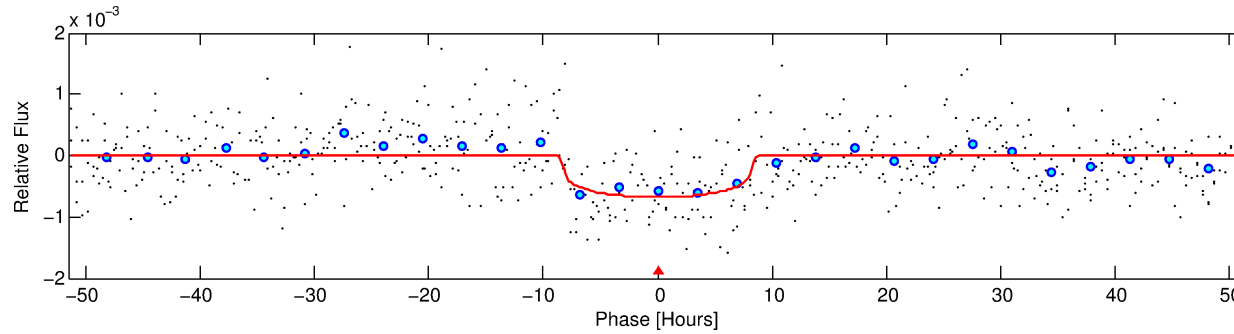
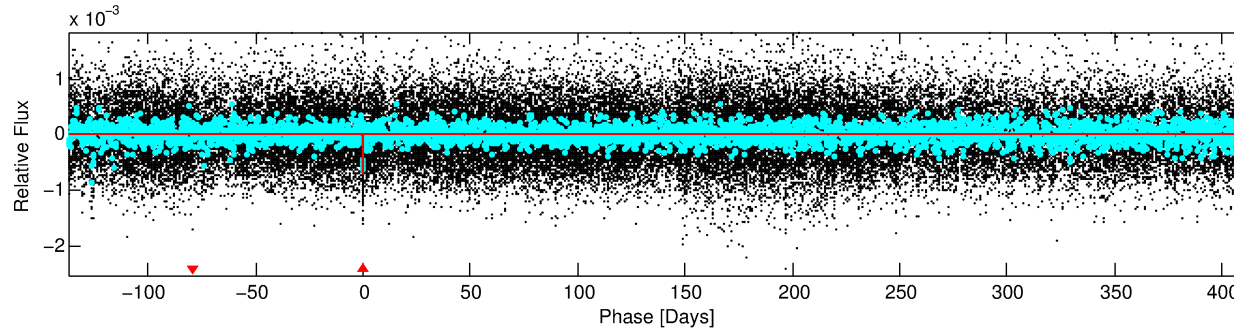
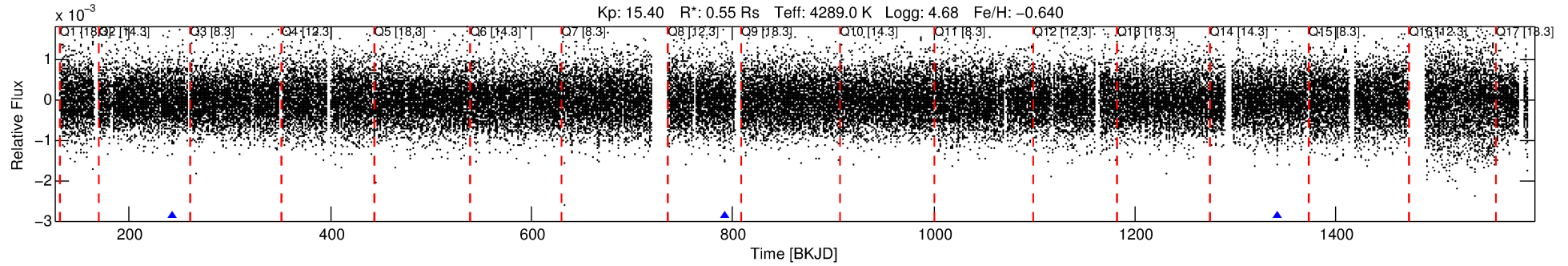
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009594723-01

No Significant Match Found

DV One-Page Summary

KIC: 9594723 Candidate: 1 of 1 Period: 549.011 d



DV Fit Results:

Period = 549.01081 [0.01464] d
Epoch = 243.5423 [0.0191] BKJD
Rp/R* = 0.0249 [0.0099]
a/R* = 201.37 [300.29]
b = 0.61 [1.56]
Seff = 0.08 [0.01]
Teq = 136 [6] K
Rp = 1.50 [0.62] Re
a = 1.0693 [0.0866] AU
Ag = 80841.76 [71427.33] [1.13 σ]
Teffp = 3551 [786] K [4.34 σ]

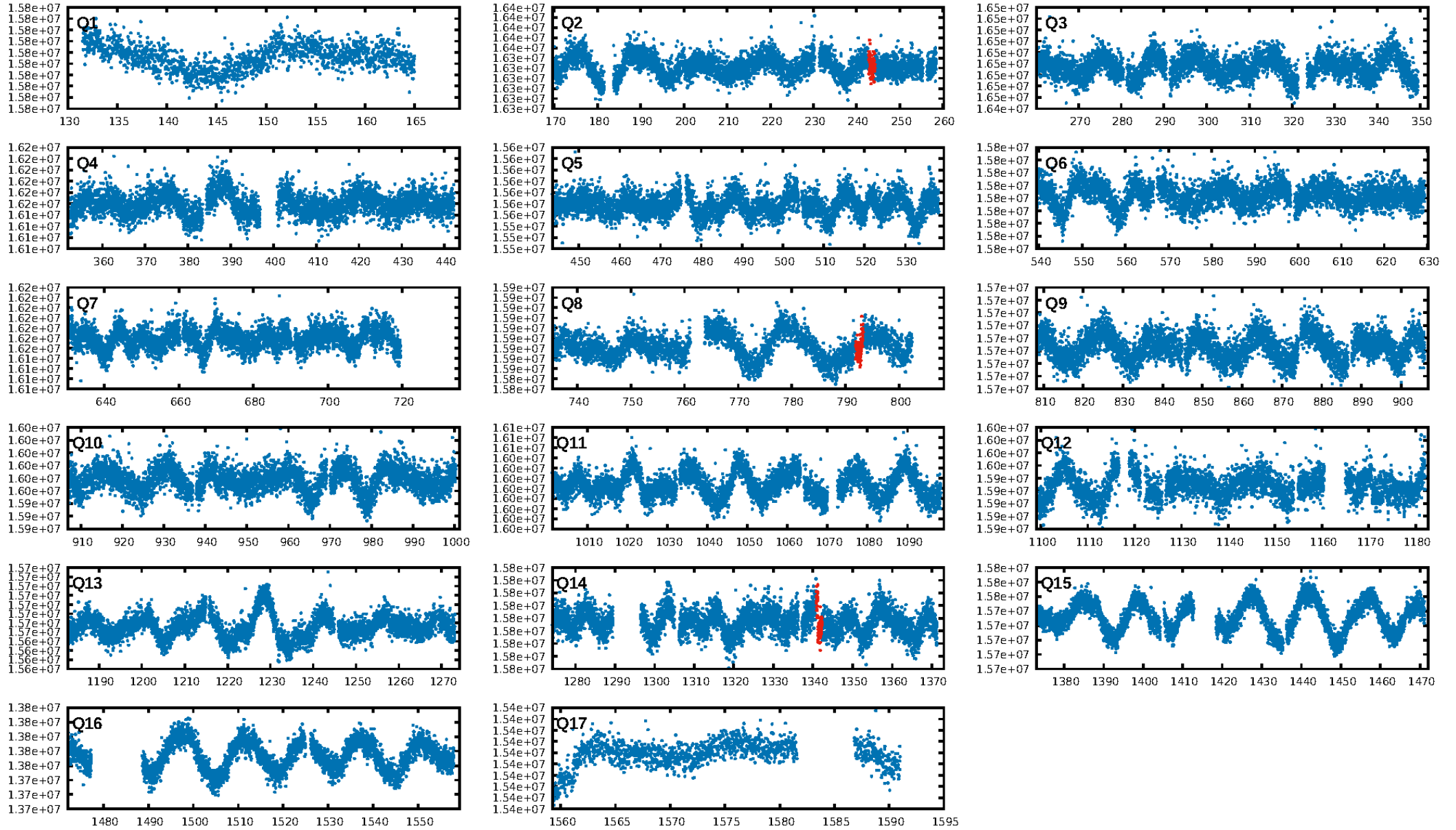
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.6%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.10e-19
GhostDiagnostic-chr: 1.903
Centroid-sig: 16.5%
Centroid-so: 3.221 arcsec [1.62 σ]
OotOffset-rm: 0.414 arcsec [0.52 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-rm: 5.954 arcsec [2.21 σ]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

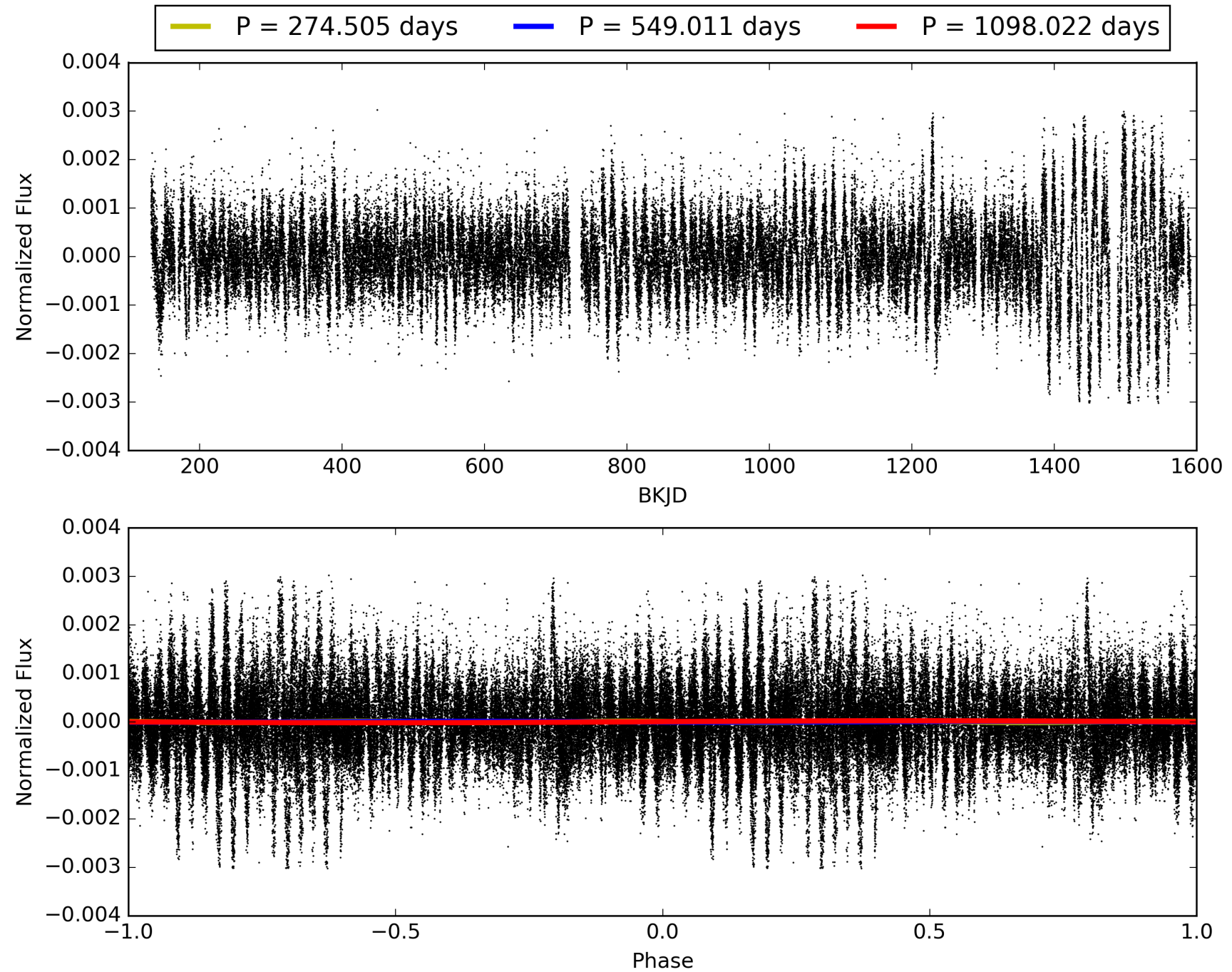
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:24:24 Z

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

TCE 009594723-01, PDC Light Curves

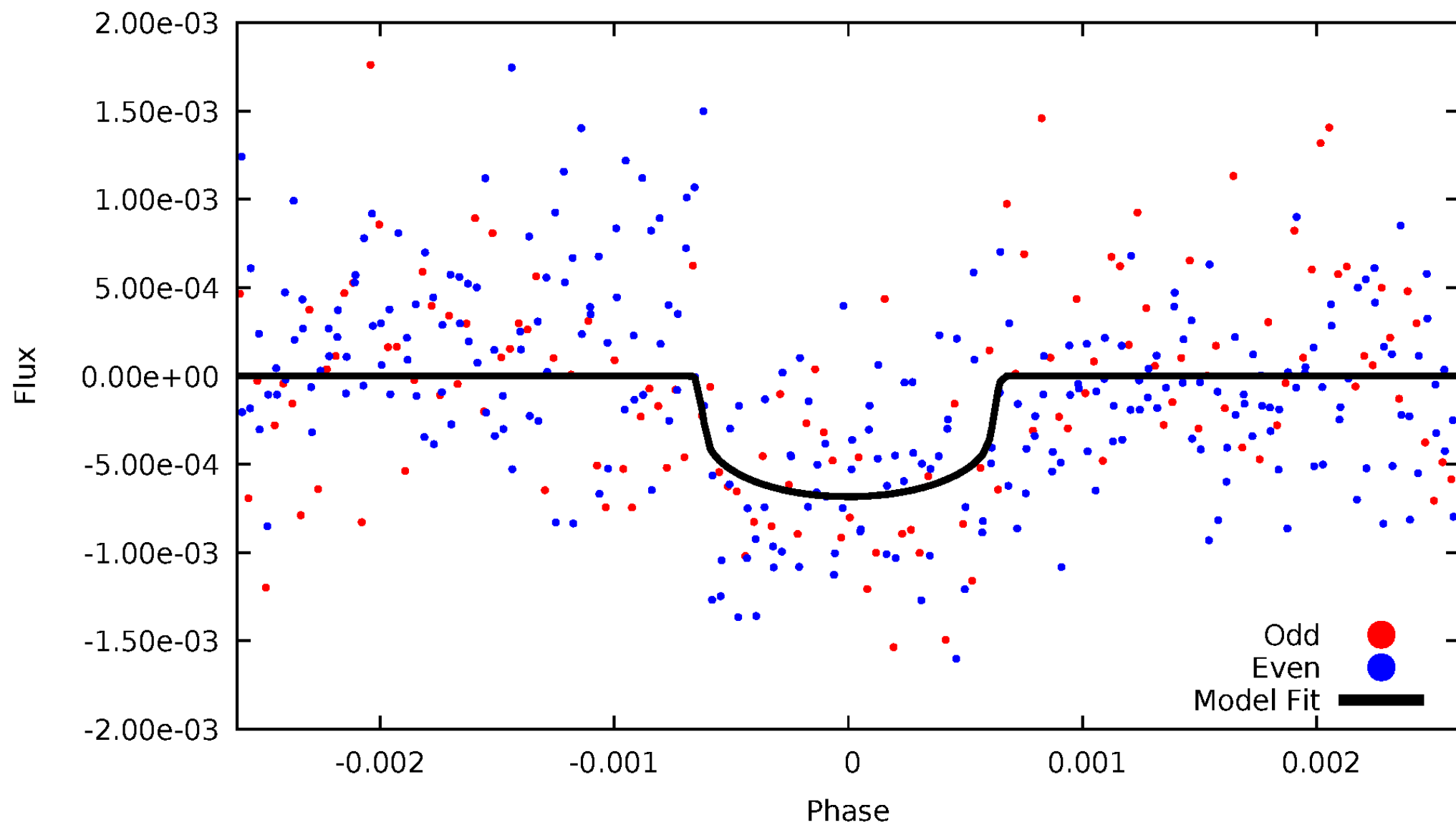


TCE 009594723-01



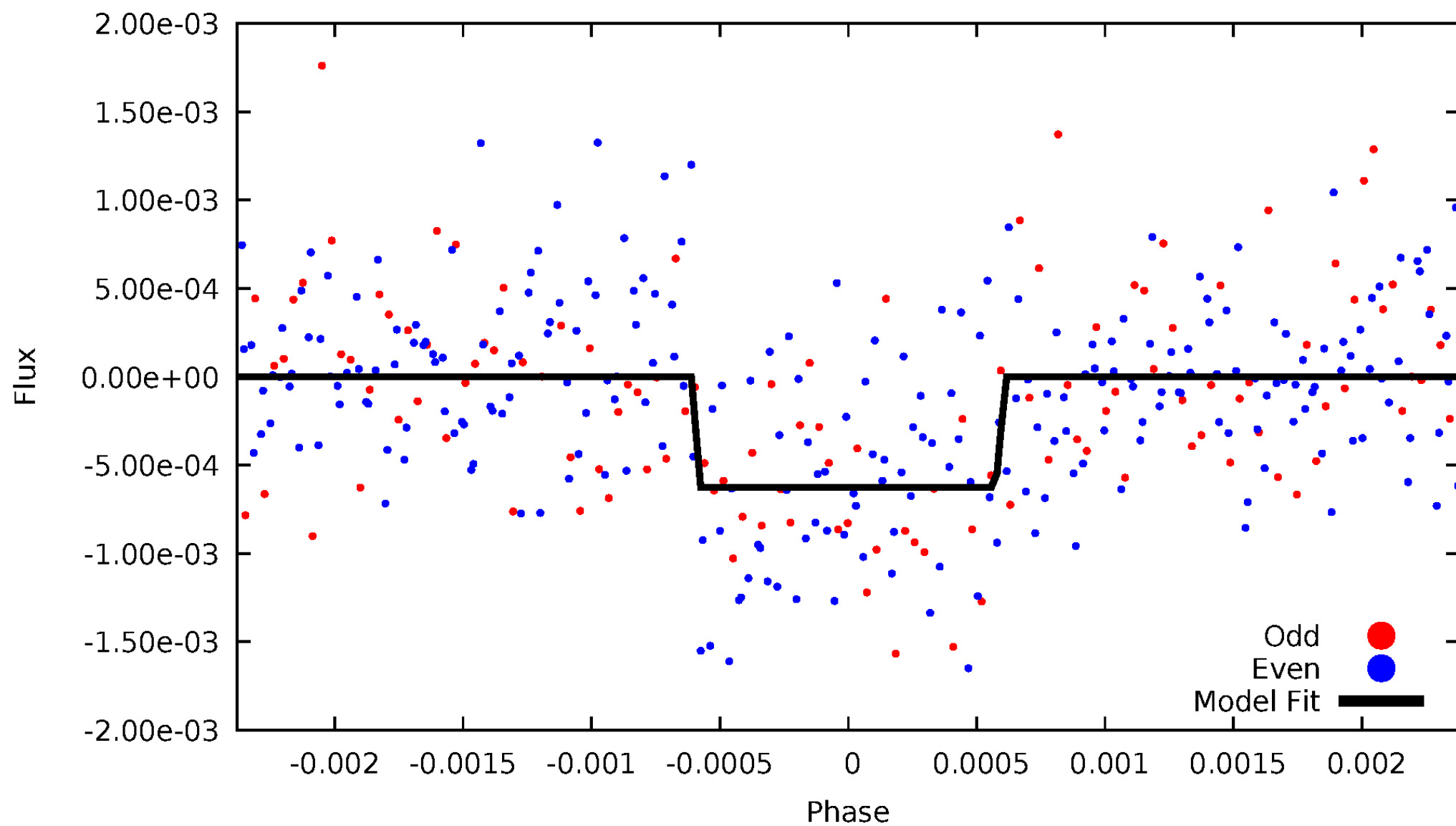
DV Odd/Even

TCE 009594723-01



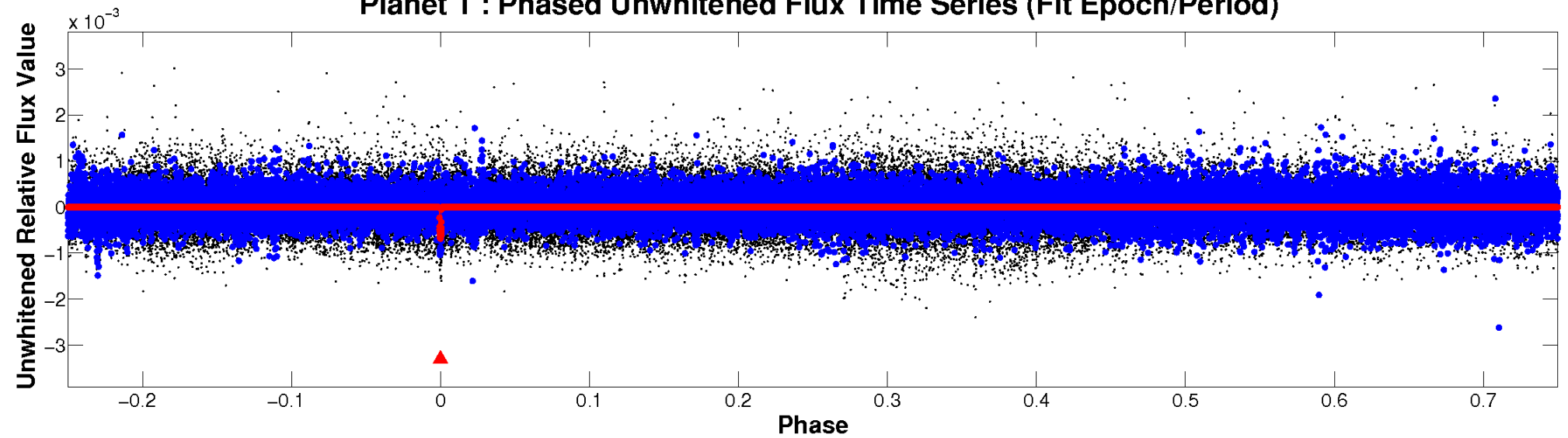
ALT Odd/Even

TCE 009594723-01

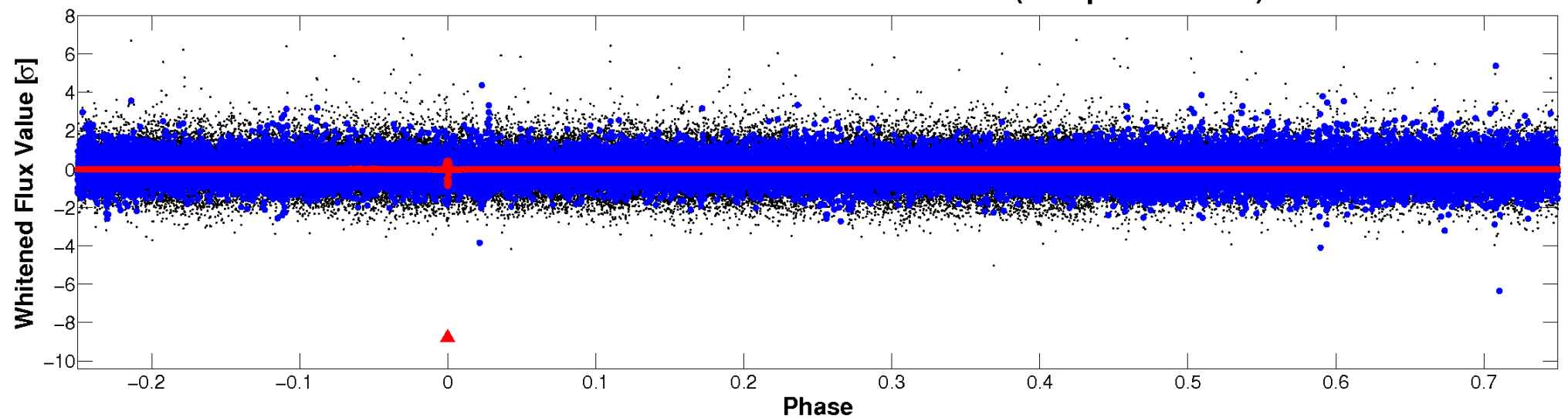


Non-Whitened Vs. Whitened Light Curve

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

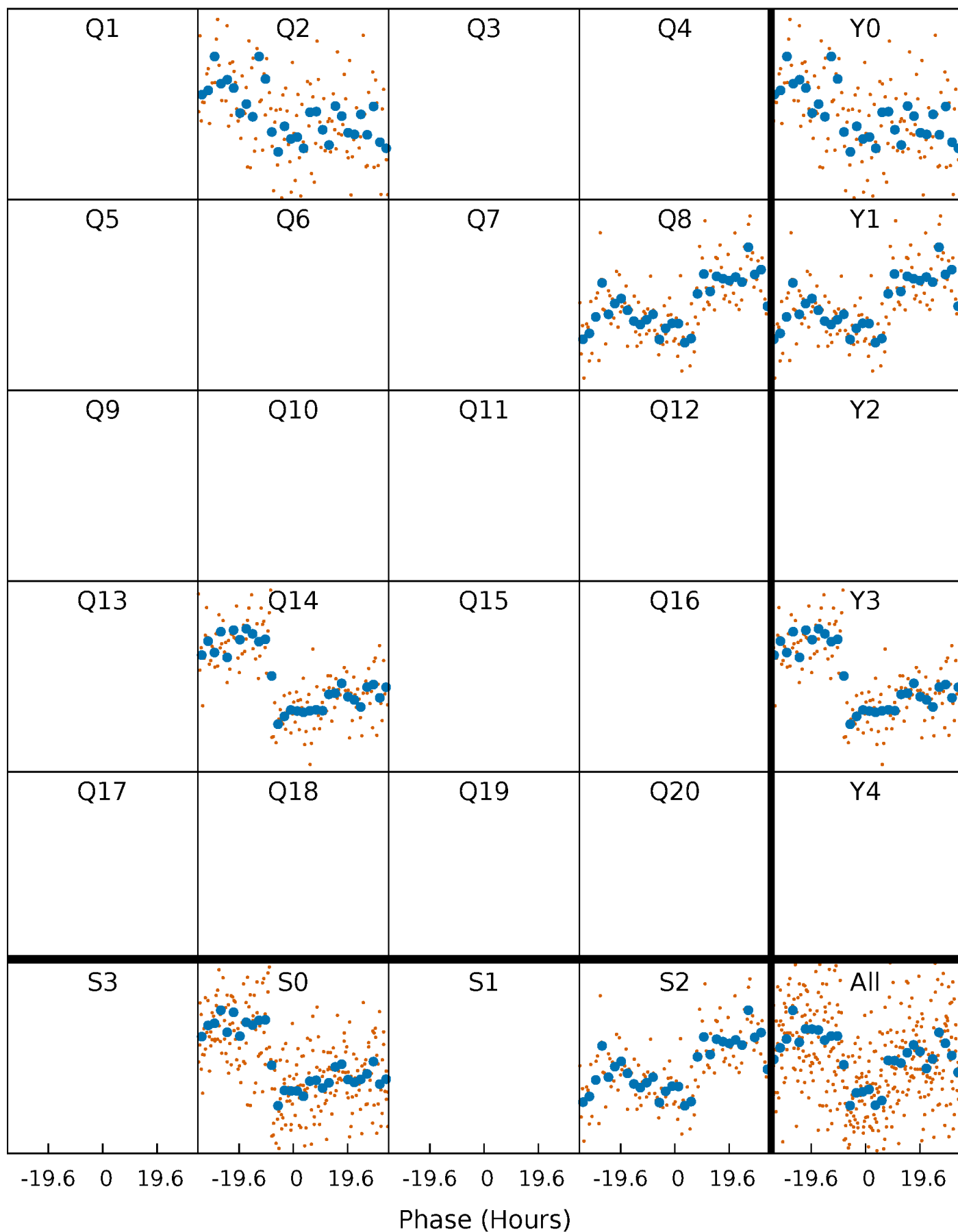


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



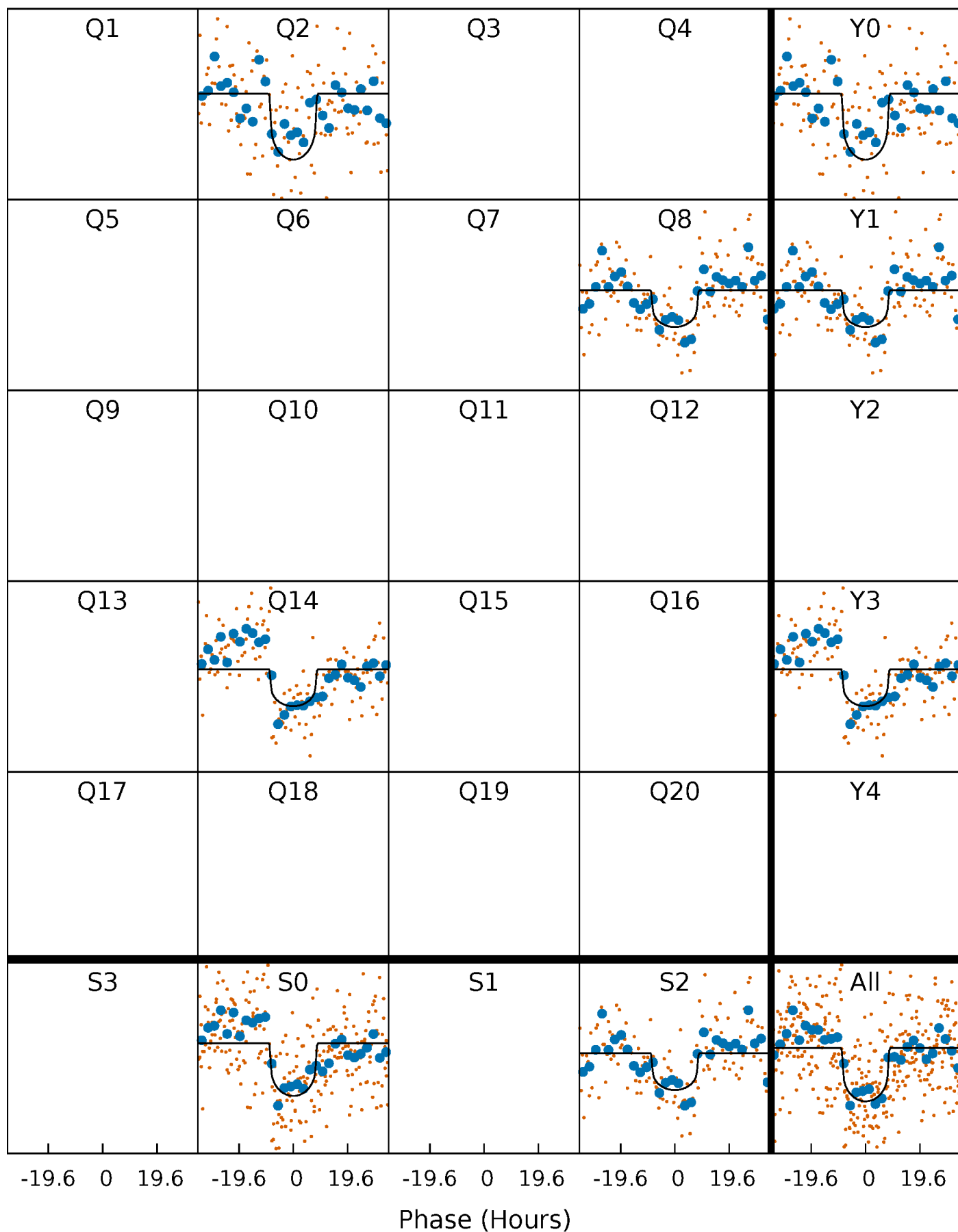
PDC Quarter-Phased Transit Curves

TCE 009594723-01 P=549.010813 Days $T_0=243.542348$ (BKJD)



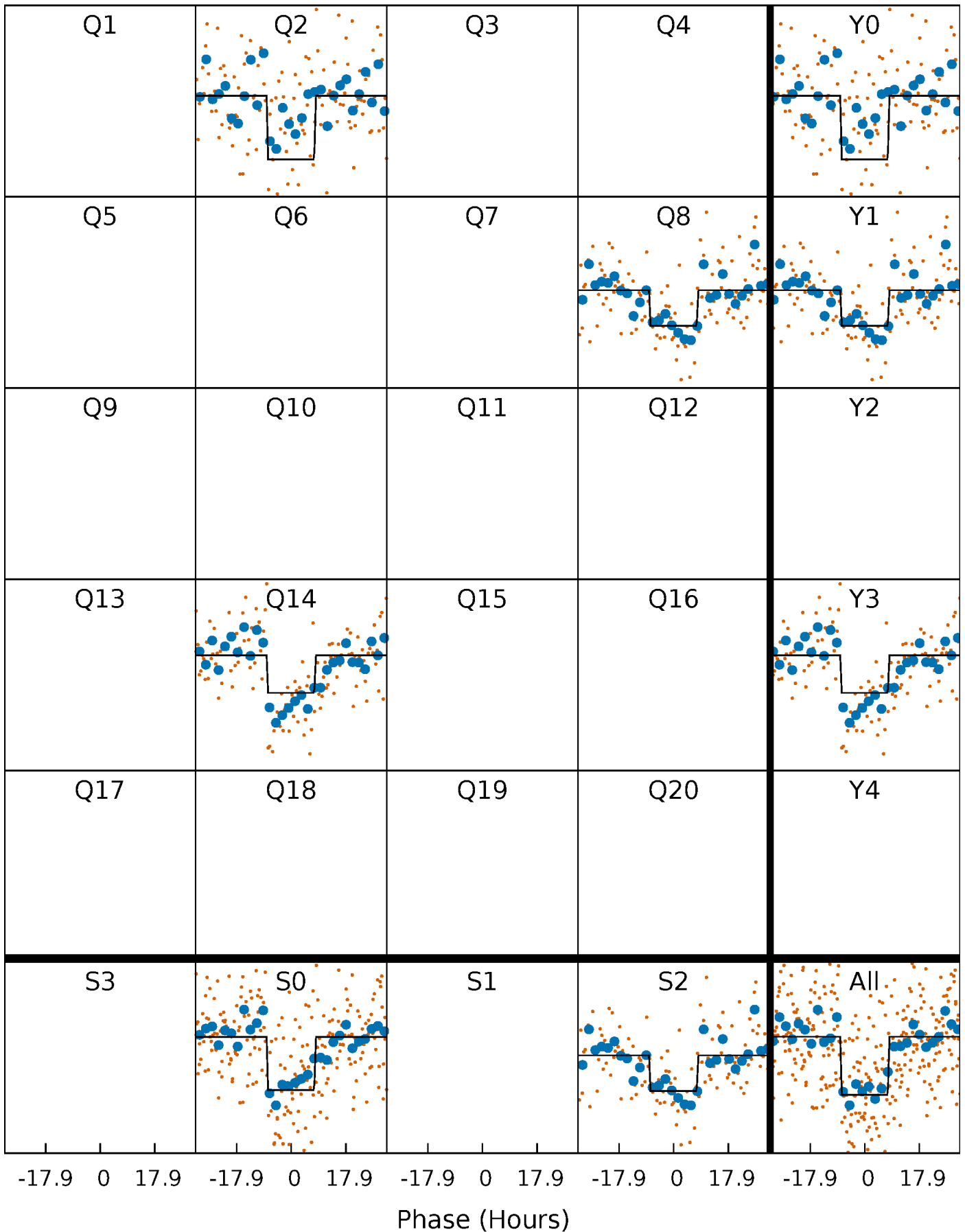
DV Quarter-Phased Transit Curves

TCE 009594723-01 P=549.010813 Days $T_0=243.542348$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

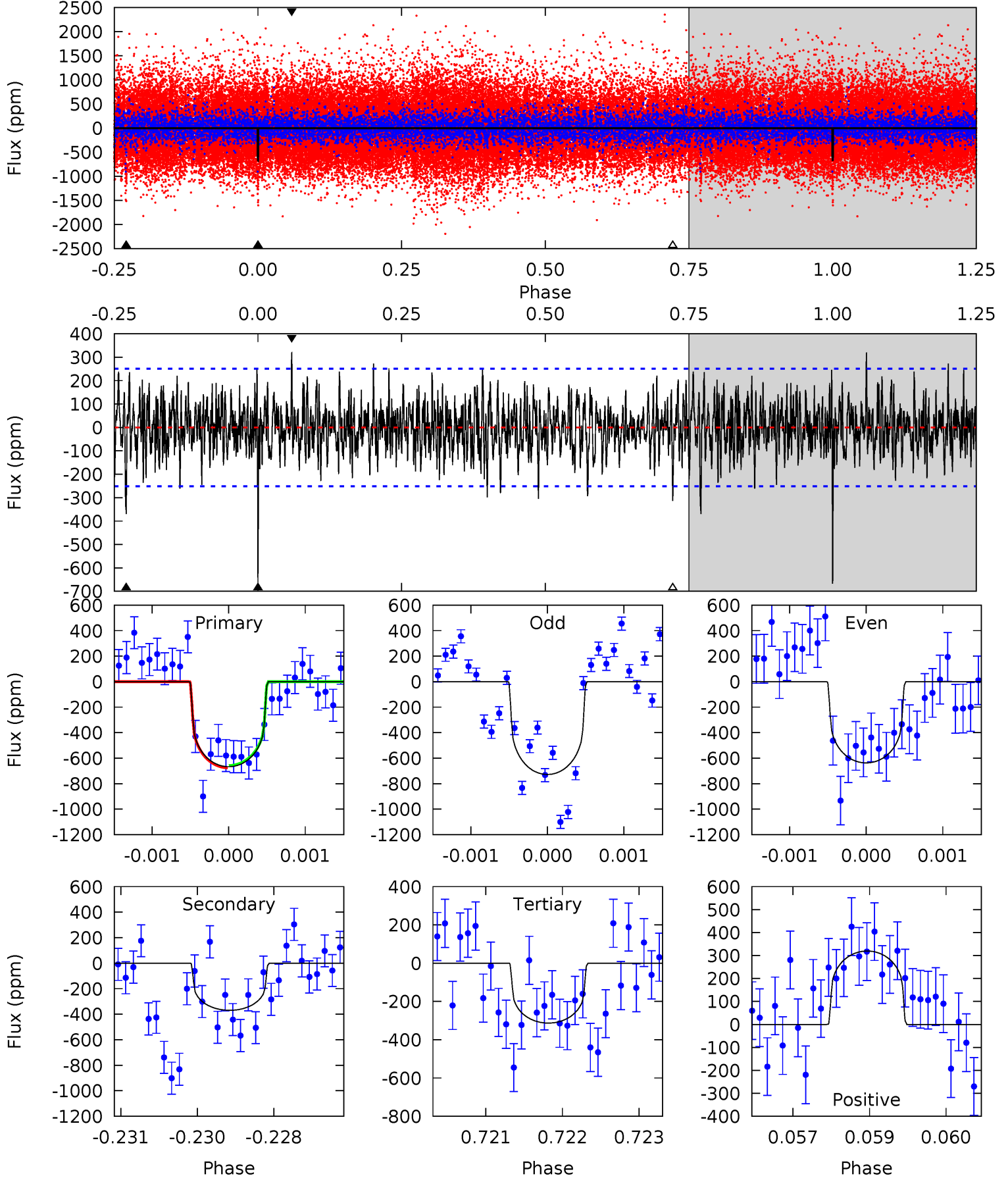
TCE 009594723-01 P=549.002079 Days $T_0=243.555894$ (BKJD)



DV Model-Shift Uniqueness Test

009594723-01, P = 549.010813 Days, E = 243.542348 Days

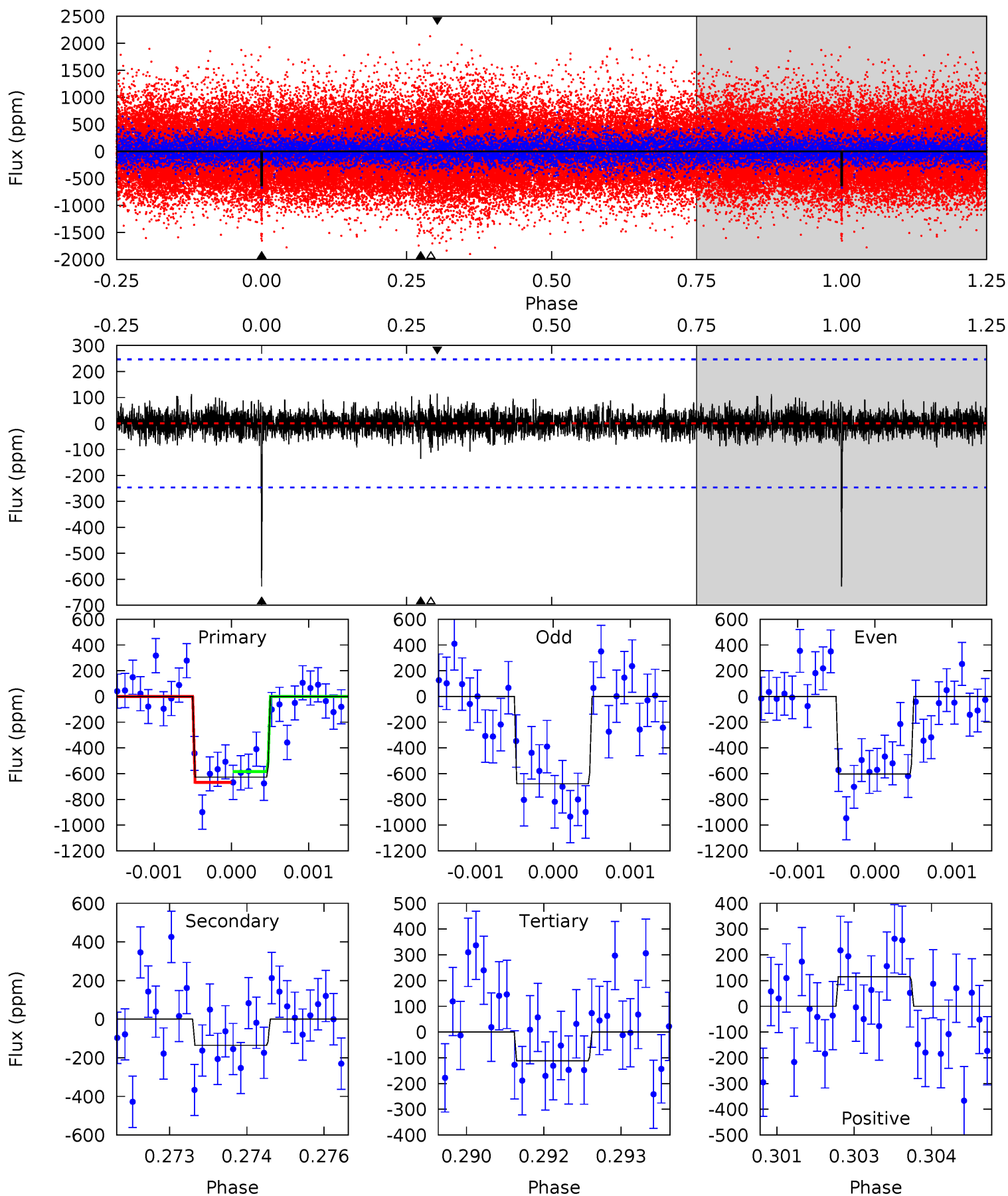
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	7.94	6.73	6.87	5.40	3.21	1.88	7.61	7.47	1.21	1.07	0.93	0.92	0.32	0.19



Alt Model-Shift Uniqueness Test

009594723-01, P = 549.002079 Days, E = 243.555894 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	2.98	2.44	2.53	5.42	3.23	0.64	11.3	11.2	0.54	0.45	0.79	0.92	0.16	0.92



Stellar Parameters For KIC 009594723

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4289^{+116}_{-142}	$4.684^{+0.063}_{-0.027}$	$-0.640^{+0.300}_{-0.300}$	$0.554^{+0.044}_{-0.054}$	$0.541^{+0.056}_{-0.041}$	$4.485^{+1.289}_{-0.570}$
	+3%/-3%	+1%/-1%	+47%/-47%	+8%/-10%	+10%/-8%	+29%/-13%
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 009594723-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-369 ± 46	$1.46^{+0.61}_{-0.57}$	188^{+7}_{-6}	3915^{+784}_{-449}	$108342^{+188824}_{-54266}$
Alt.	-136 ± 46	$1.53^{+0.57}_{-0.62}$	189^{+6}_{-7}	3317^{+590}_{-401}	38199^{+72398}_{-21872}

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 $A_{\text{obs}} \gg 1.0$

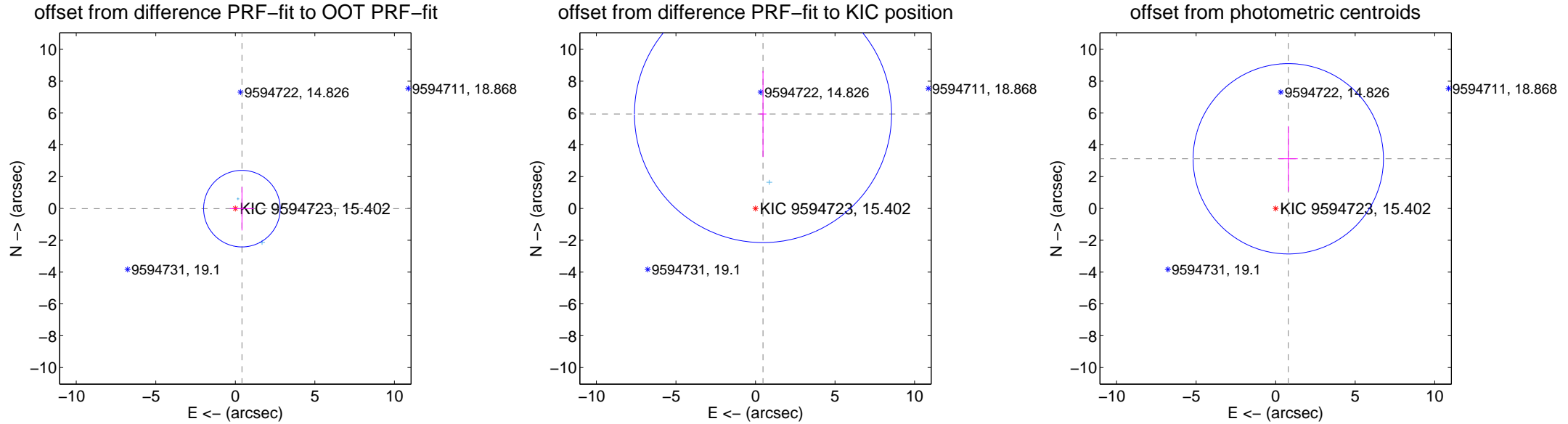
DV Centroid Data

Supplemental centroid analysis for 009594723-01. Kepler magnitude: 15.40. Transit SNR 8.08

There are 2 quarters with good PRF difference image offsets

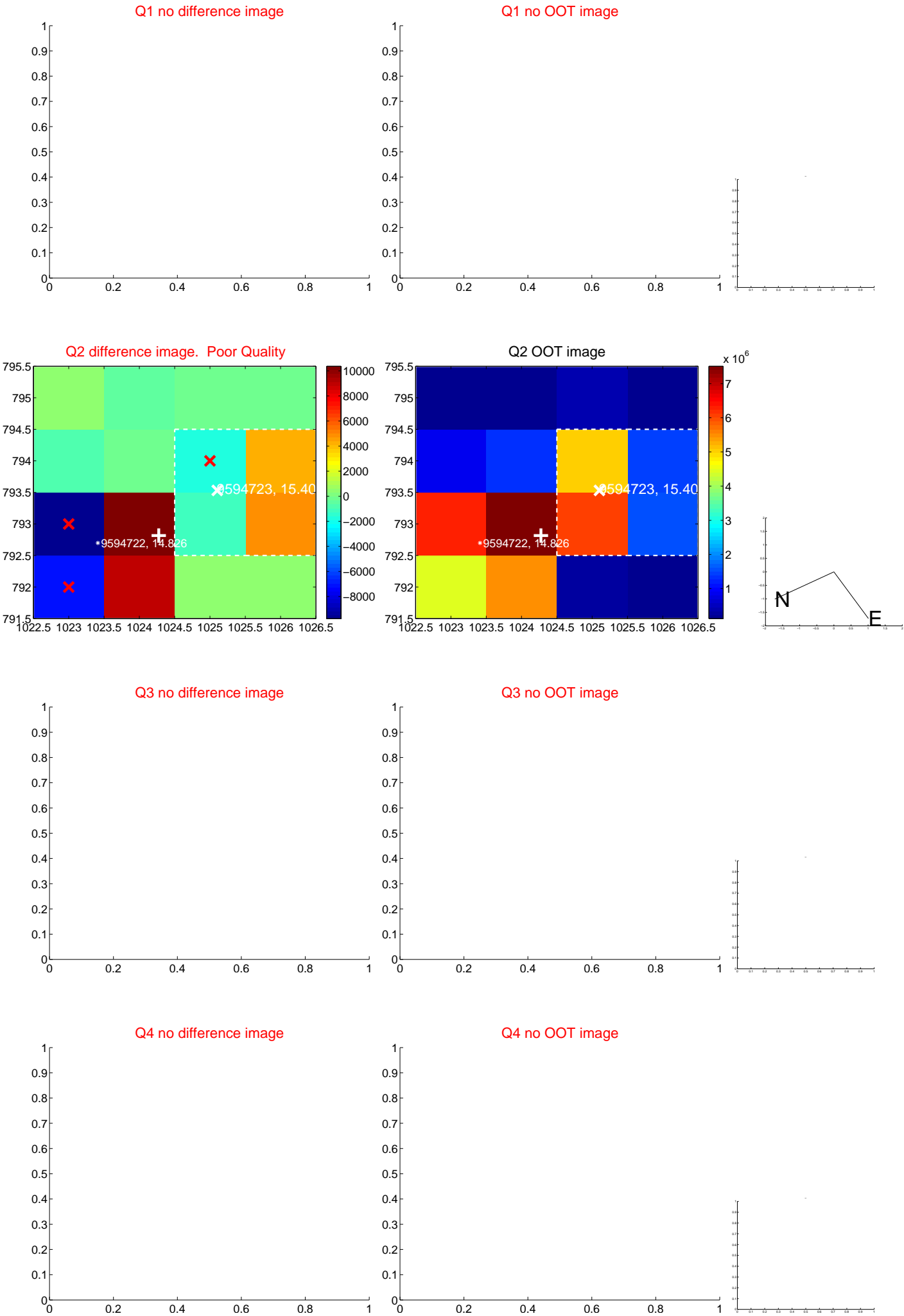
The OOT PRF centroid is offset from the target star catalog position by about 3.86 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.414 ± 0.802	0.52	-0.413 ± 0.760	-0.013 ± 1.371
PRF-fit source offset from KIC position	5.954 ± 2.694	2.21	-0.472 ± 0.216	5.935 ± 2.702
photometric centroid source offset	3.22 ± 1.99	1.62	-0.80 ± 0.59	3.12 ± 2.05

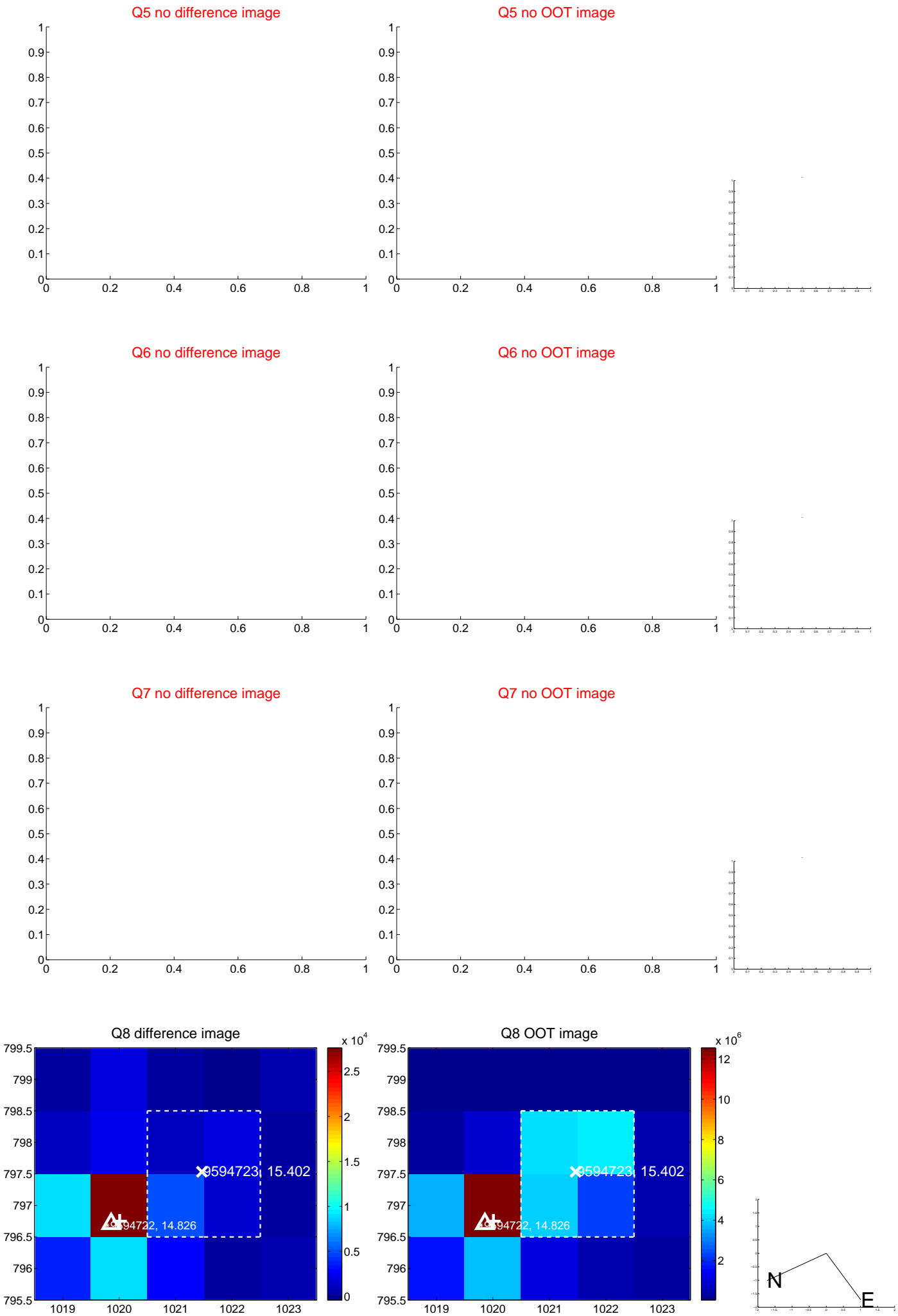


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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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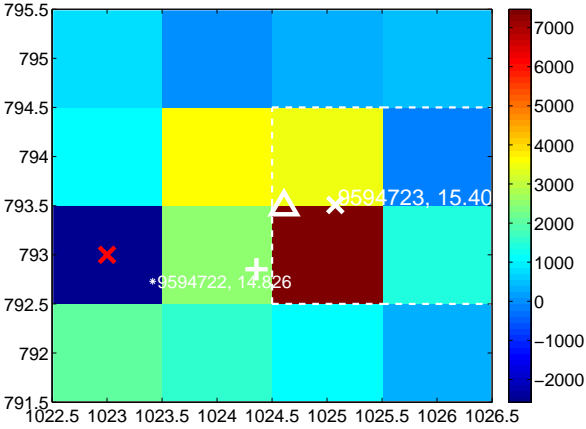
Q13 no difference image



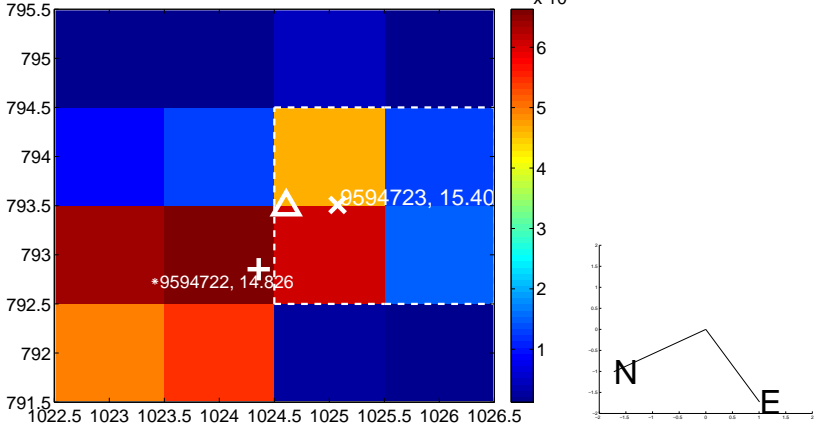
Q13 no OOT image



Q14 difference image



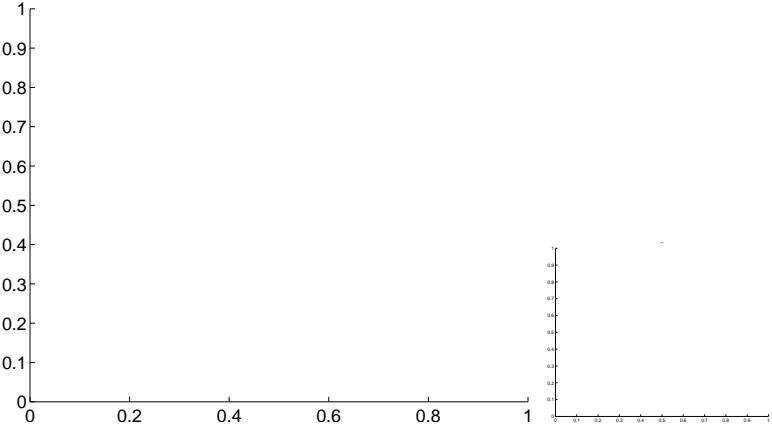
Q14 OOT image



Q15 no difference image



Q15 no OOT image



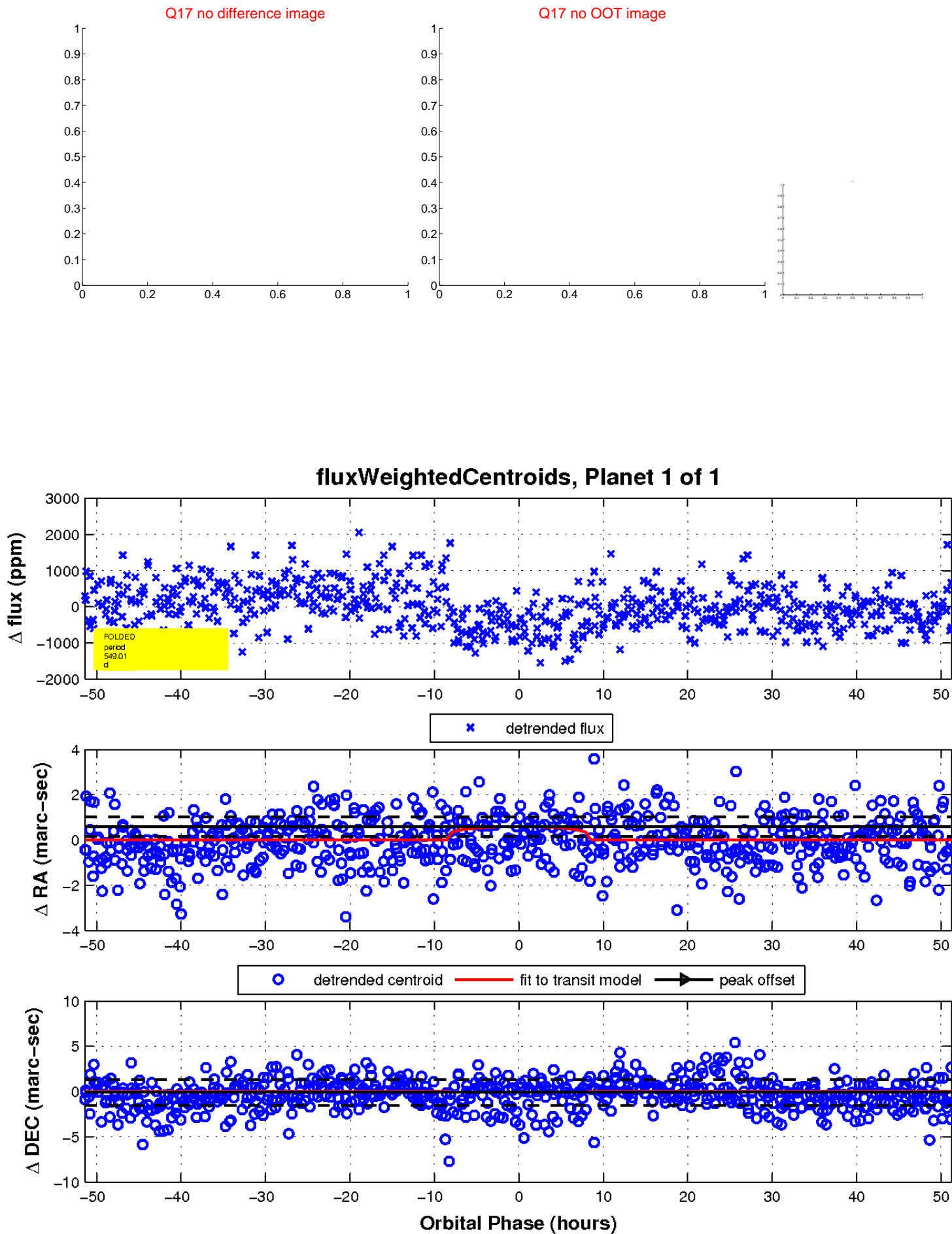
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

