

KIC 009592859

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})
009592859-01	OBS	No	0.609569	131.593119	106.6	3.895	7.7	10.2	1.09	6379	1.21	8667.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009592859-01	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

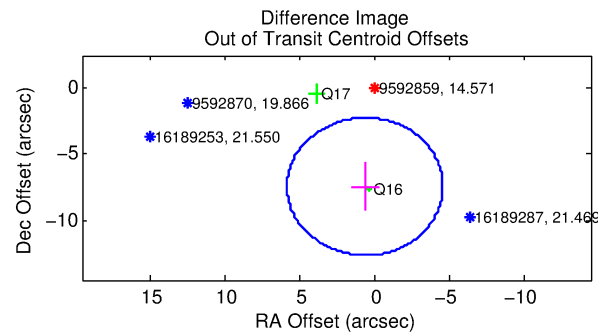
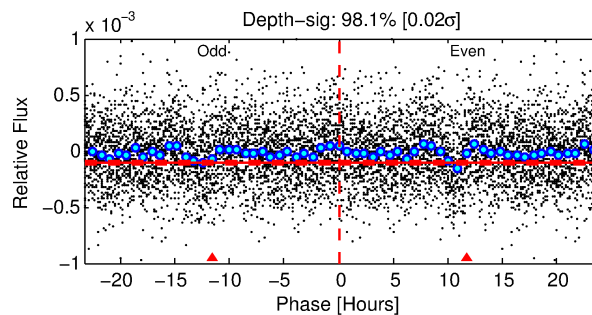
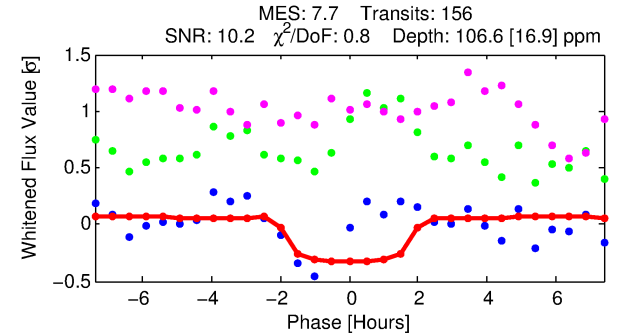
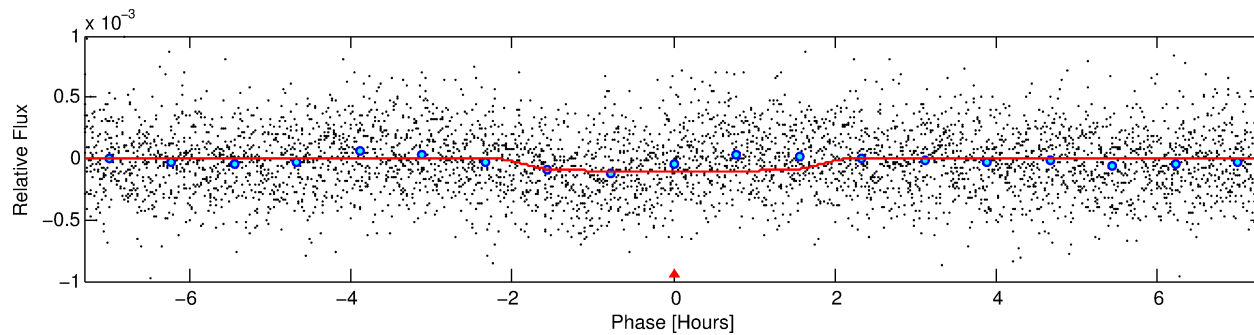
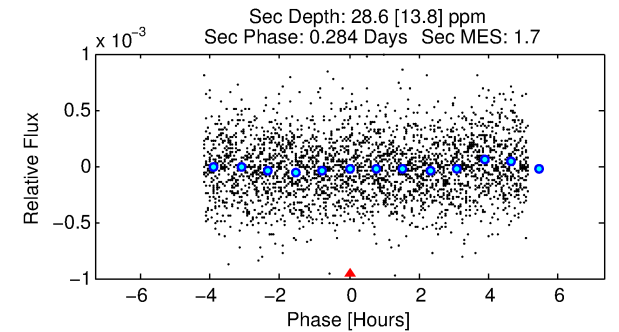
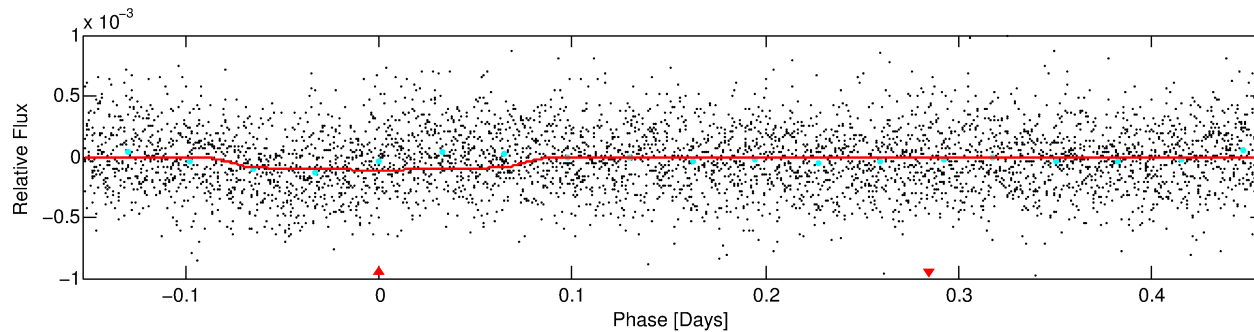
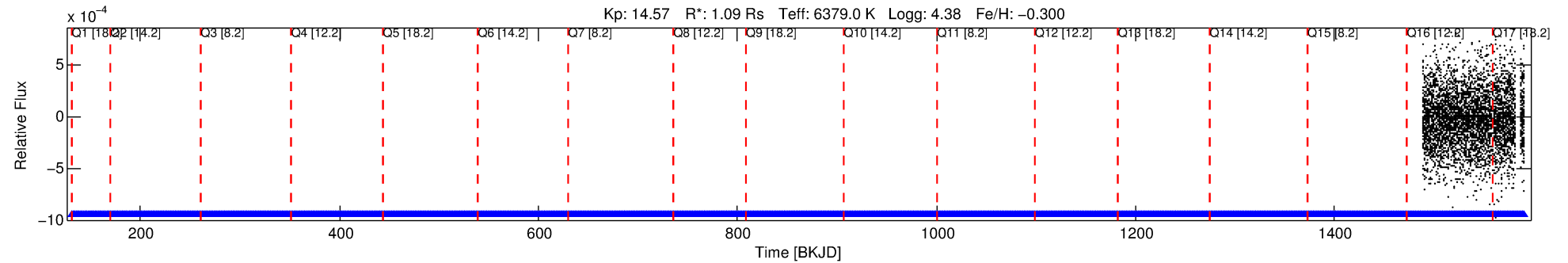
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009592859-01

No Significant Match Found

DV One-Page Summary

KIC: 9592859 Candidate: 1 of 1 Period: 0.610 d



DV Fit Results:

Period = 0.60957 [0.00001] d
Epoch = 131.5931 [0.0037] BKJD
Rp/R* = 0.0102 [0.0105]
a/R* = 1.19 [1.99]
b = 0.72 [3.74]
Seff = 8667.48 [3537.43]
Teq = 2460 [251] K
Rp = 1.21 [1.31] Re
a = 0.0142 [0.0038] AU
Ag = 2.18 [4.69] [0.25σ]
Teffp = 4622 [2456] K [0.88σ]

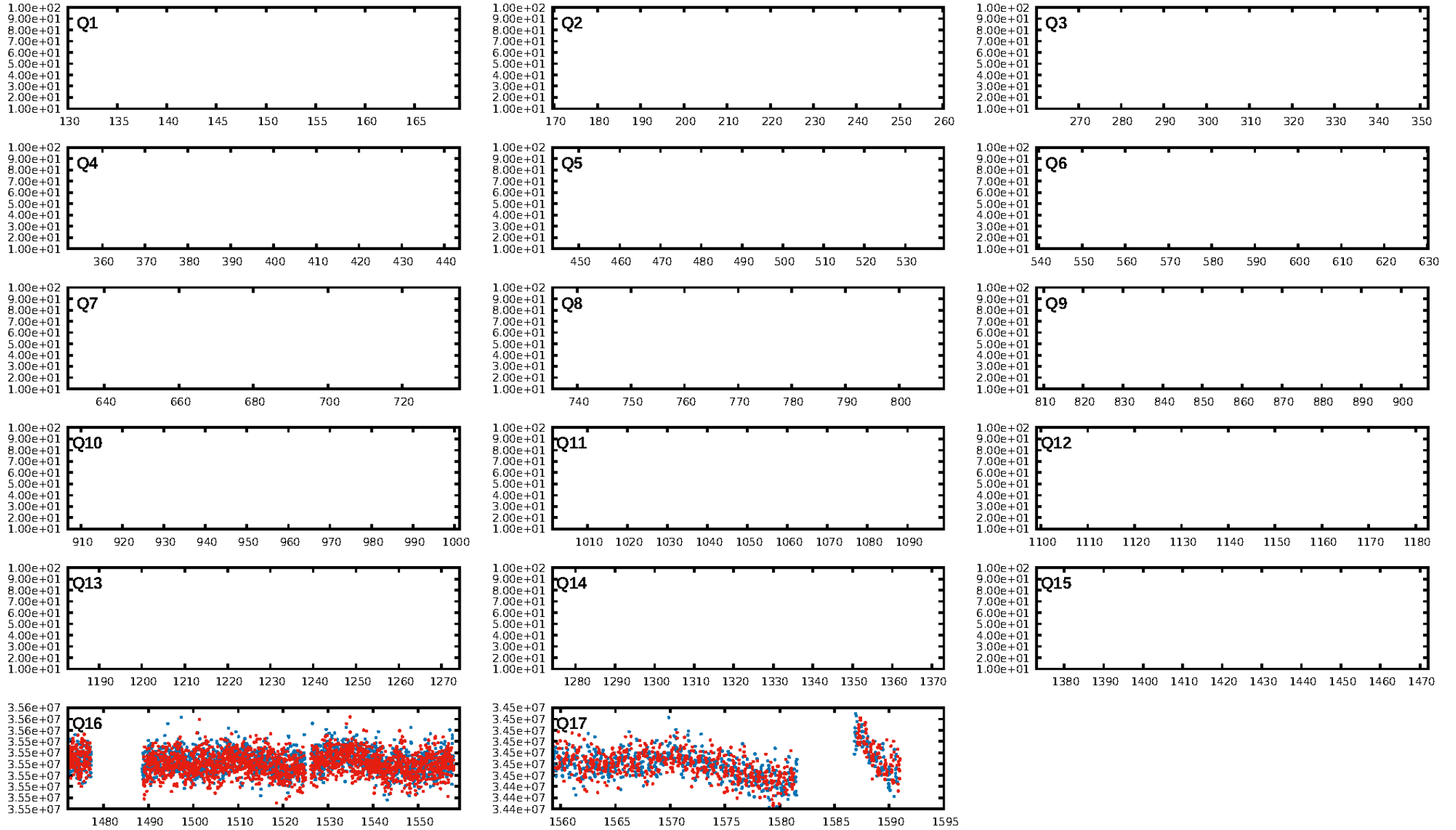
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.93e-09
RollingBand-fgt: 1.00 [112/112]
GhostDiagnostic-chr: -0.6894
Centroid-sig: 0.0%
Centroid-so: 3.472 arcsec [2.91σ]
OotOffset-rm: 7.458 arcsec [4.30σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 7.705 arcsec [2.37σ]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

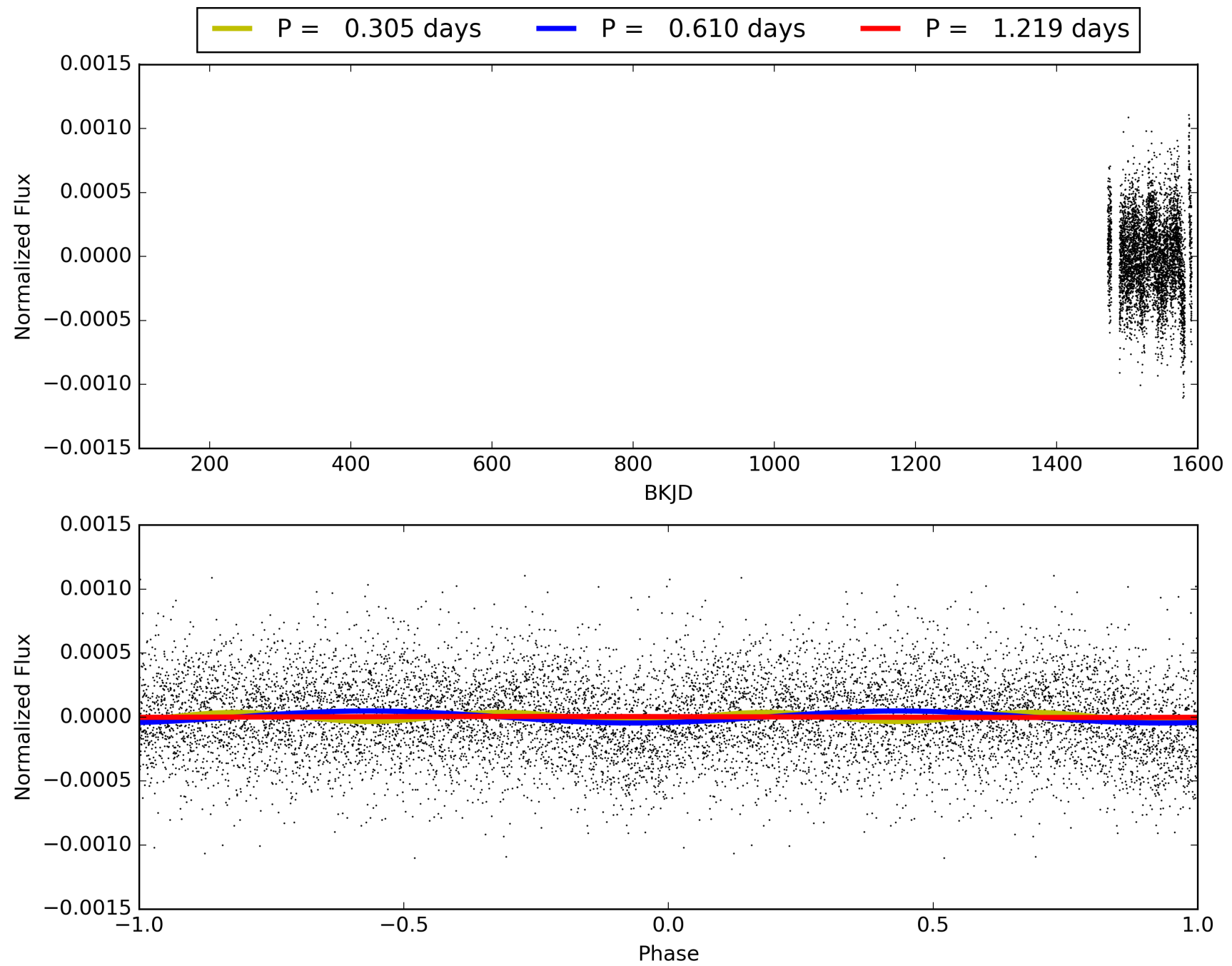
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:36:27 Z

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

TCE 009592859-01, PDC Light Curves

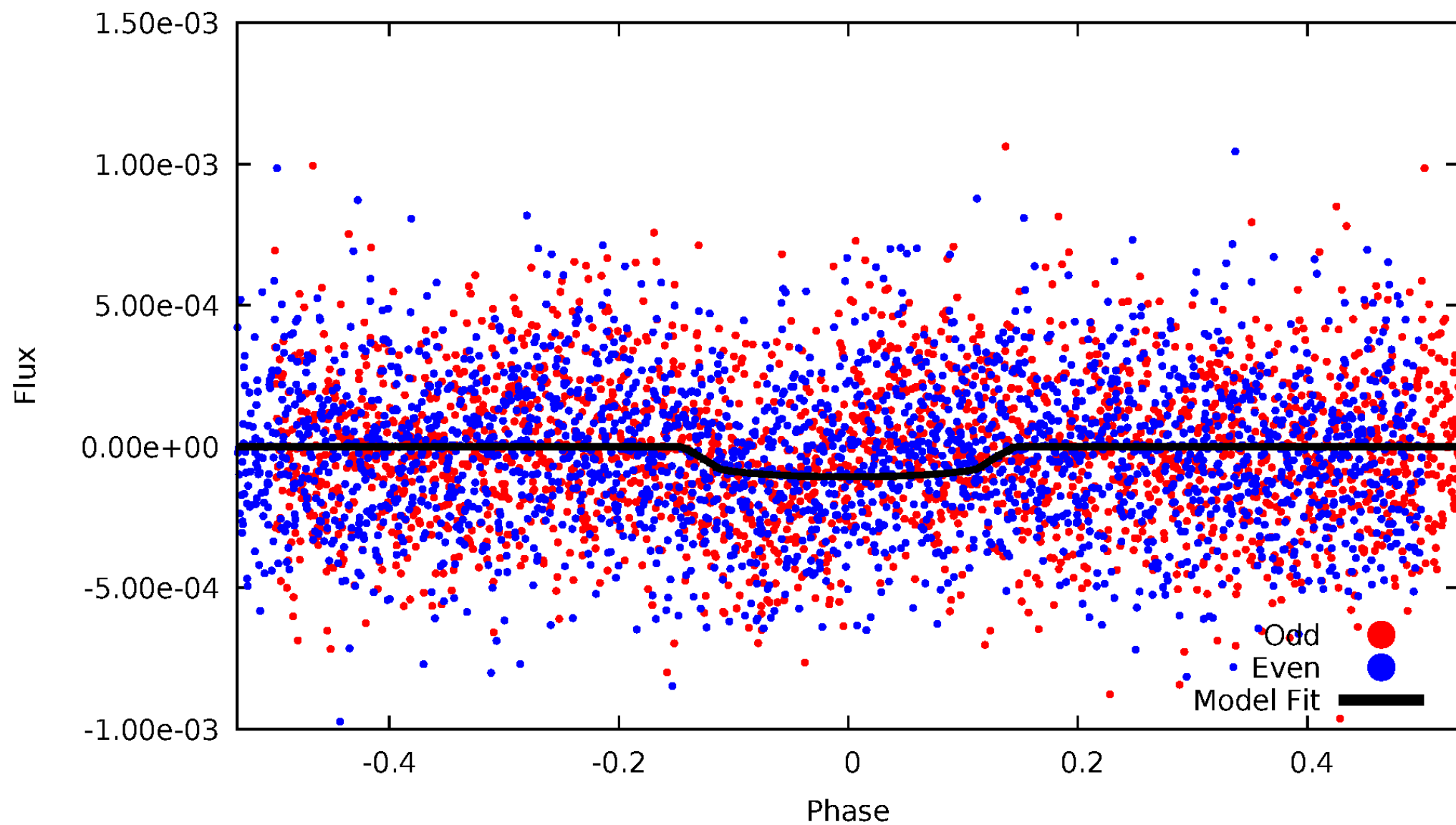


TCE 009592859-01



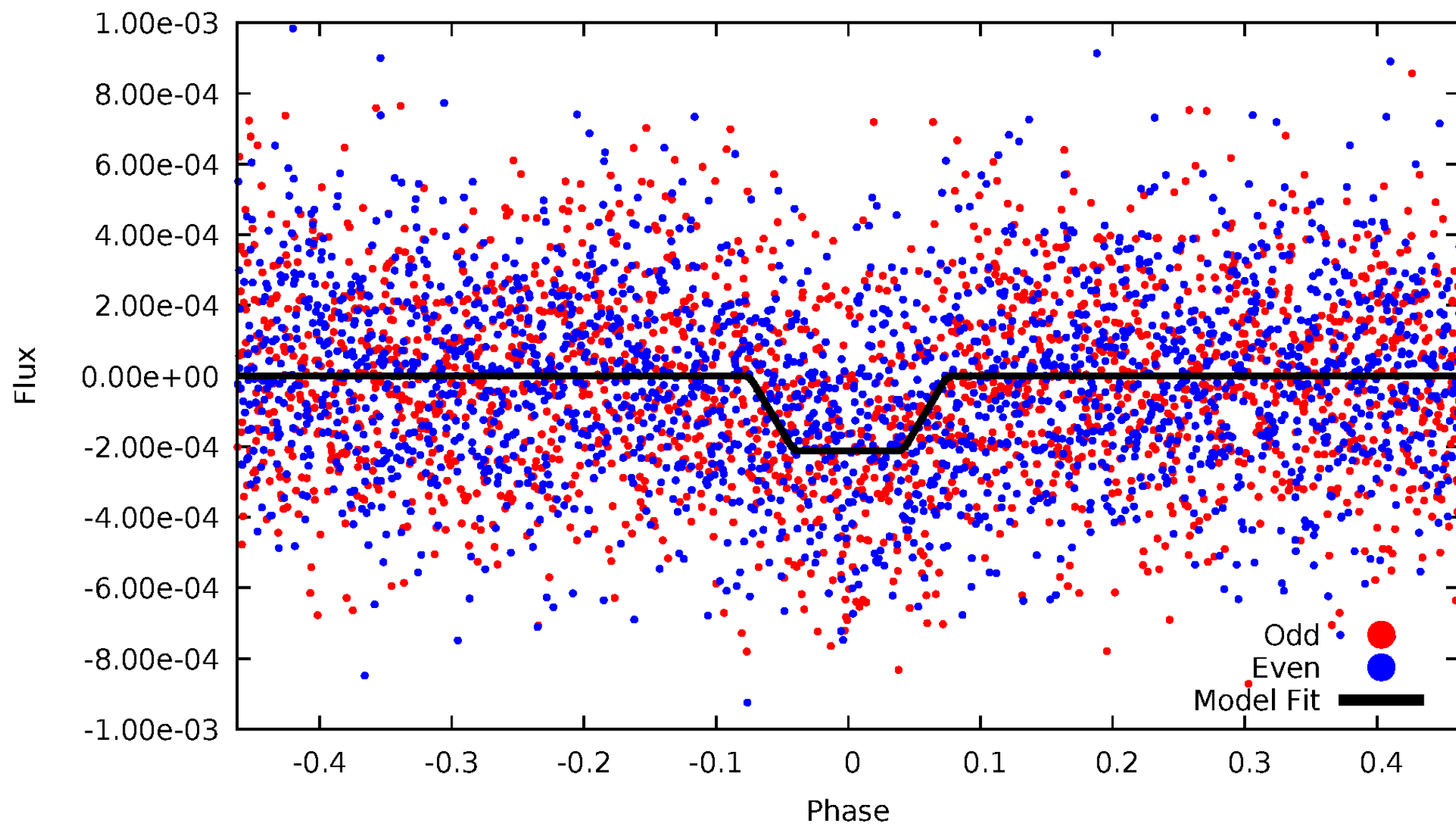
DV Odd/Even

TCE 009592859-01



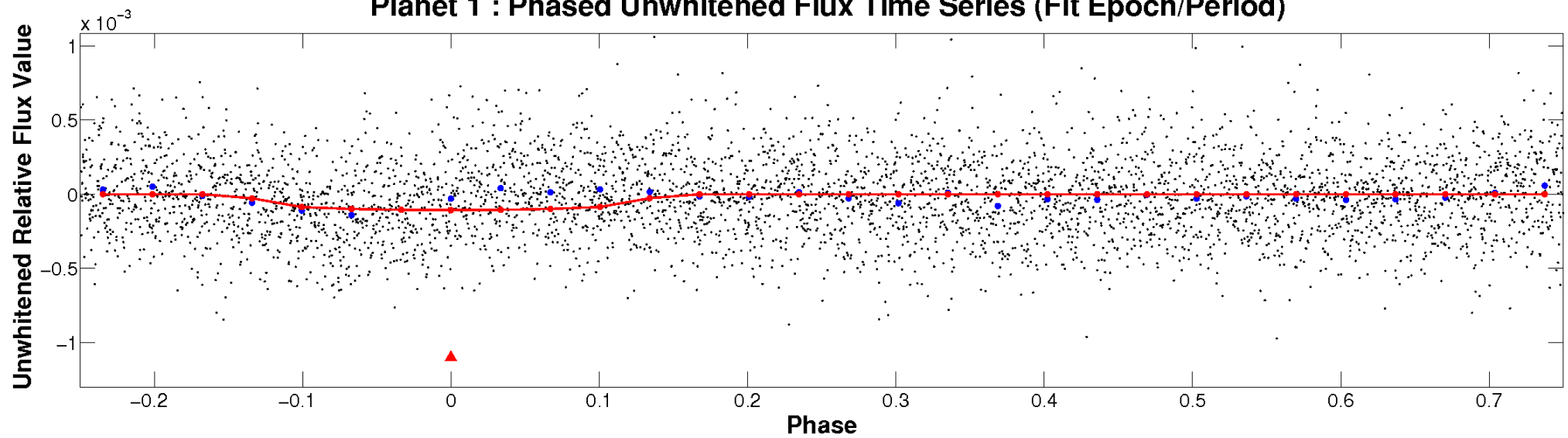
ALT Odd/Even

TCE 009592859-01

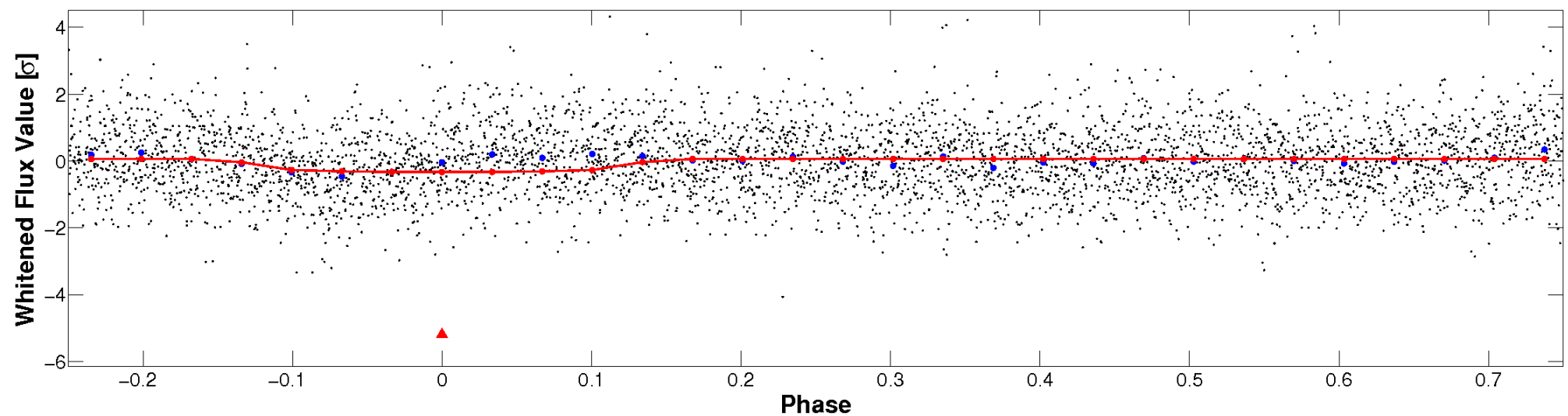


Non-Whitened Vs. Whitened Light Curve

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

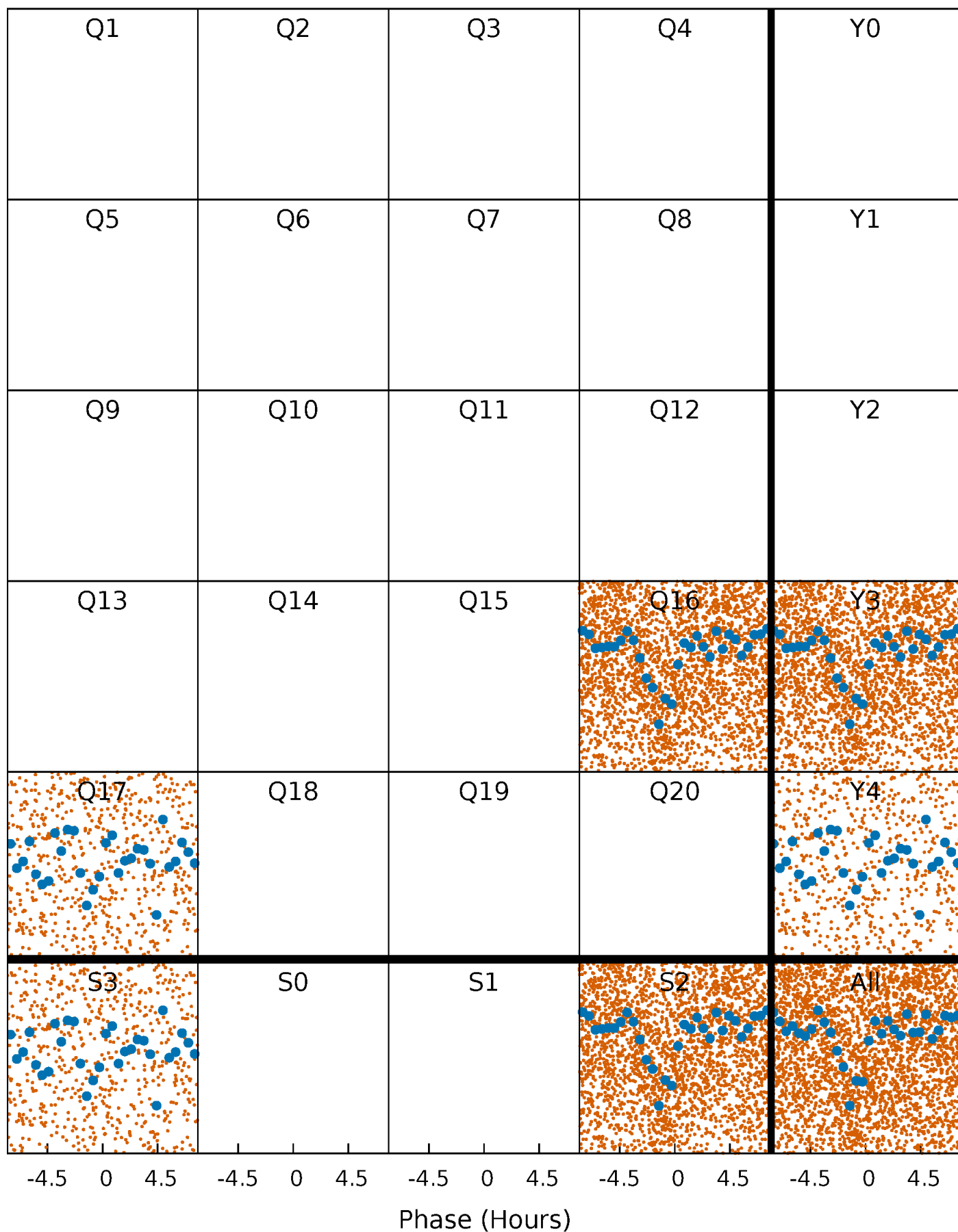


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



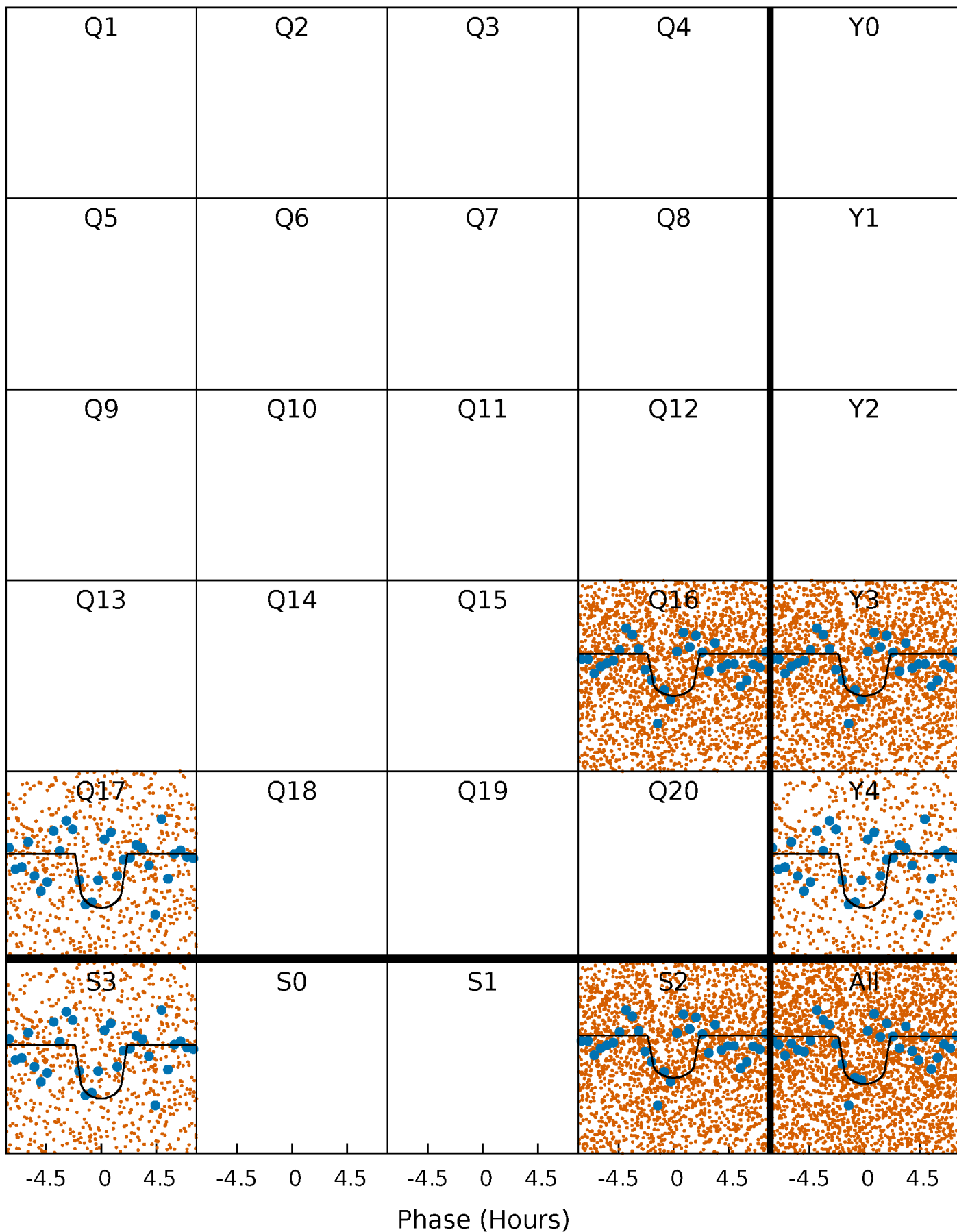
PDC Quarter-Phased Transit Curves

TCE 009592859-01 P= 0.609569 Days $T_0=131.593120$ (BKJD)



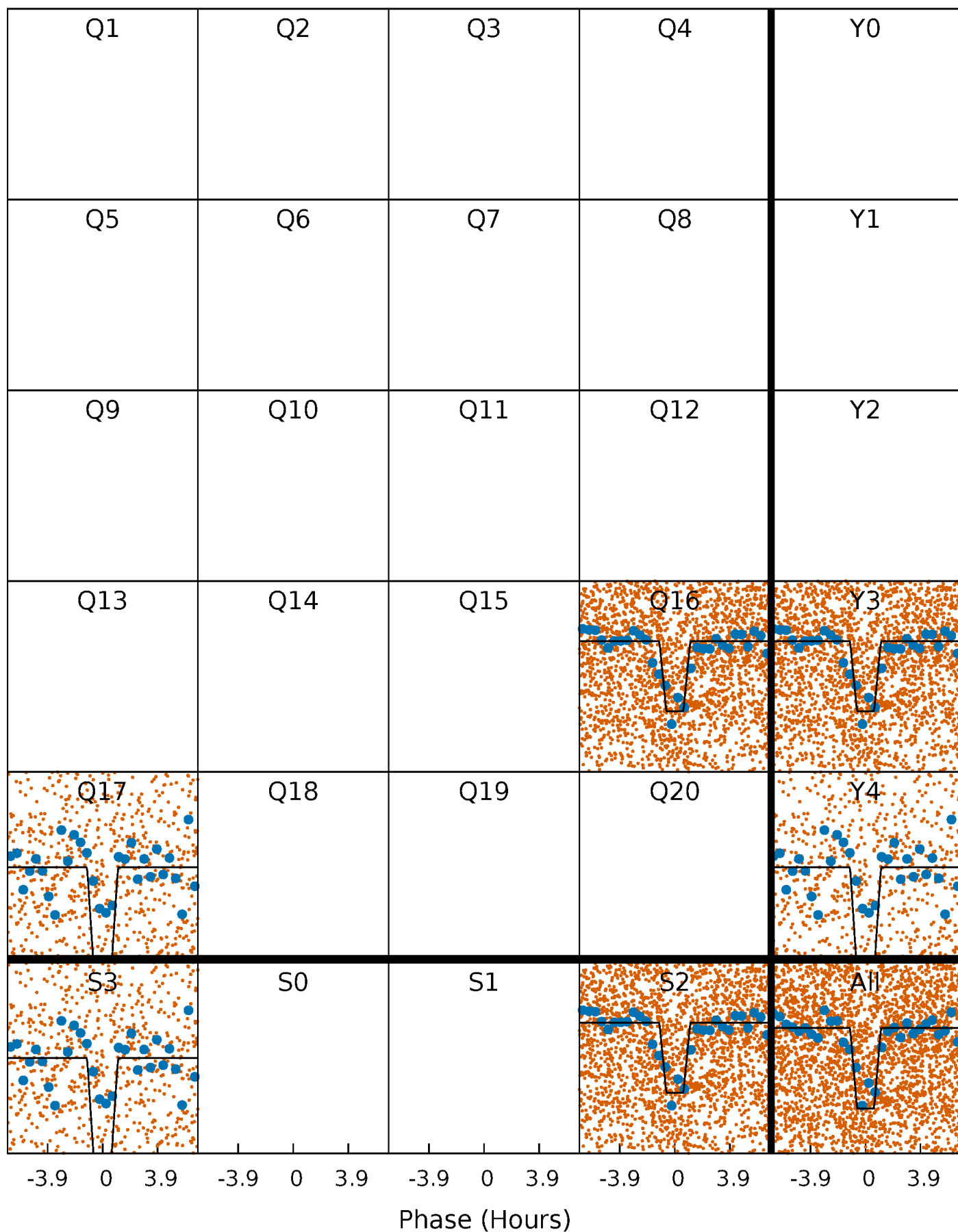
DV Quarter-Phased Transit Curves

TCE 009592859-01 P= 0.609569 Days $T_0=131.593120$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

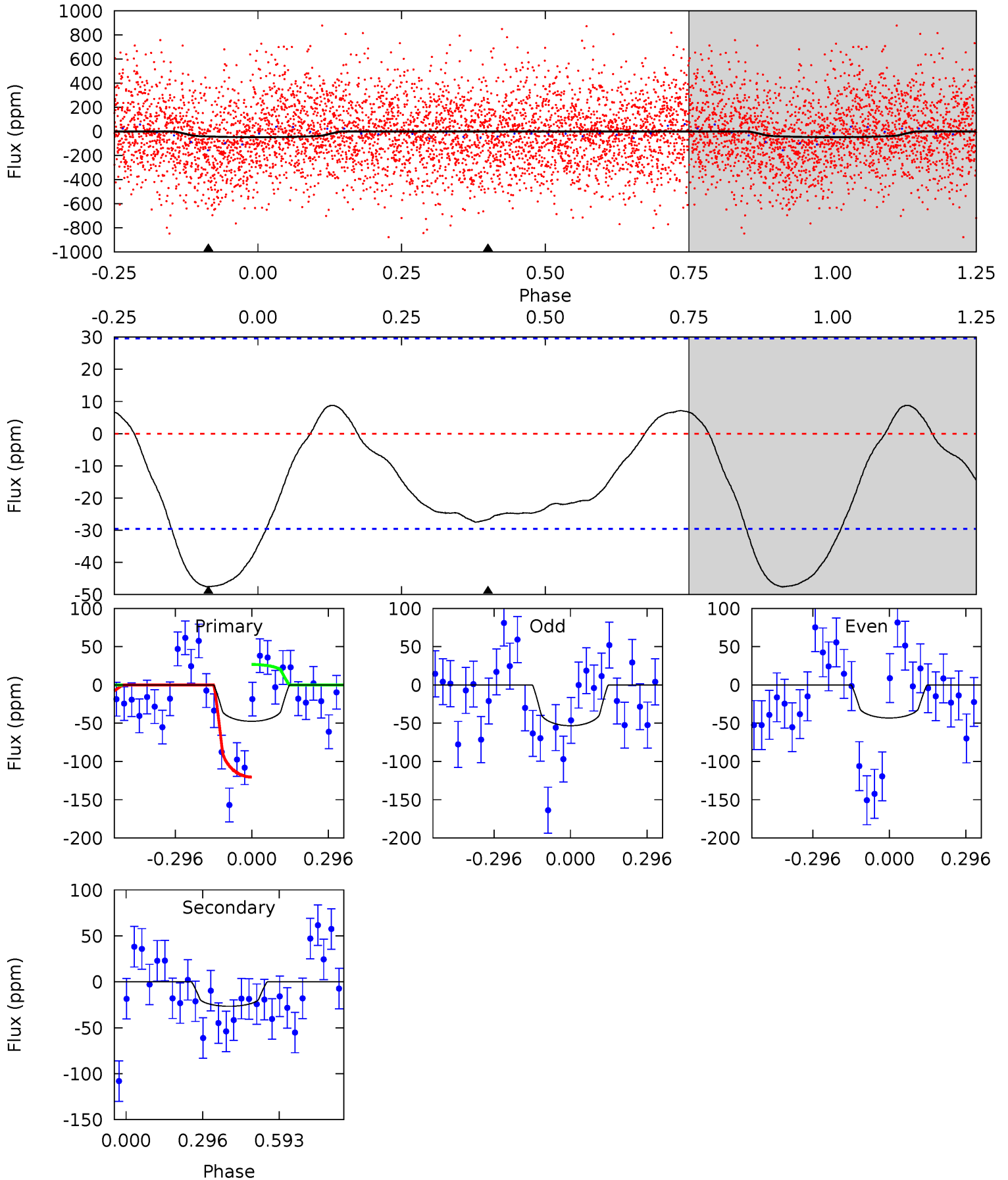
TCE 009592859-01 P= 0.609549 Days $T_0=131.593409$ (BKJD)



DV Model-Shift Uniqueness Test

009592859-01, P = 0.609569 Days, E = 131.593120 Days

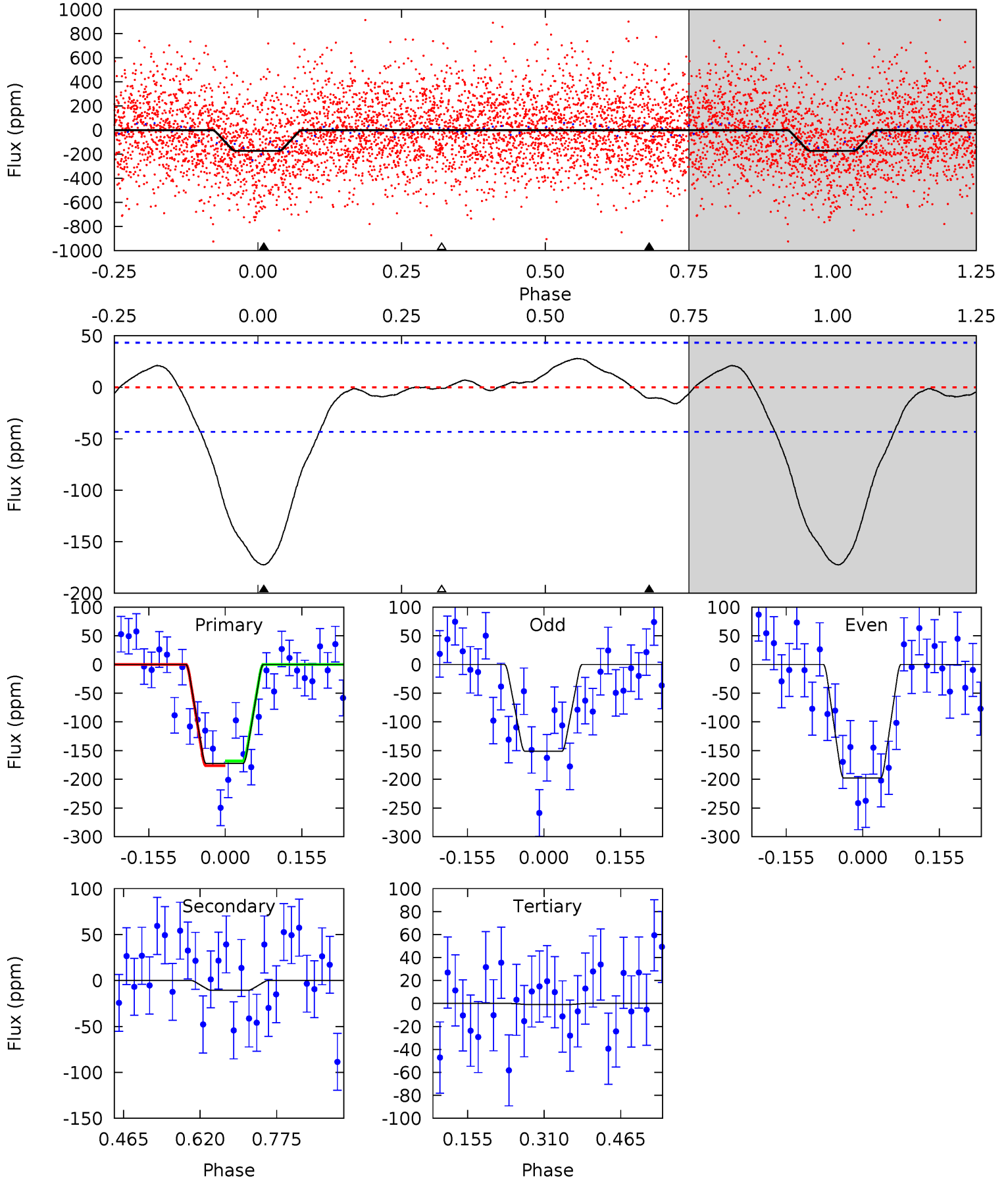
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.96	3.90	0	0	4.33	1.04	0.84	6.96	6.96	3.90	3.90	0.74	1.03	0.16	6.56



Alt Model-Shift Uniqueness Test

009592859-01, P = 0.609549 Days, E = 131.593409 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.8	1.09	0.10	0	4.47	1.42	0.76	17.7	17.8	0.99	1.09	2.40	0.97	0.14	0.43



Stellar Parameters For KIC 009592859

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6379^{+176}_{-242}	$4.380^{+0.101}_{-0.203}$	$-0.300^{+0.250}_{-0.300}$	$1.089^{+0.352}_{-0.151}$	$1.033^{+0.172}_{-0.114}$	$1.125^{+0.513}_{-0.563}$
	+3%/-4%	+2%/-5%	+83%/-100%	+32%/-14%	+17%/-11%	+46%/-50%
Source	KIC0	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 009592859-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-27 ± 7	$1.56^{+1.24}_{-0.95}$	3480^{+258}_{-215}	4058^{+2456}_{-1371}	$1.255^{+7.017}_{-0.893}$
Alt.	-11 ± 10	$1.88^{+1.28}_{-1.03}$	3461^{+227}_{-203}	-2402^{+6645}_{-993}	$0.273^{+1.249}_{-0.255}$

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 $A_{obs} \gg 1.0$

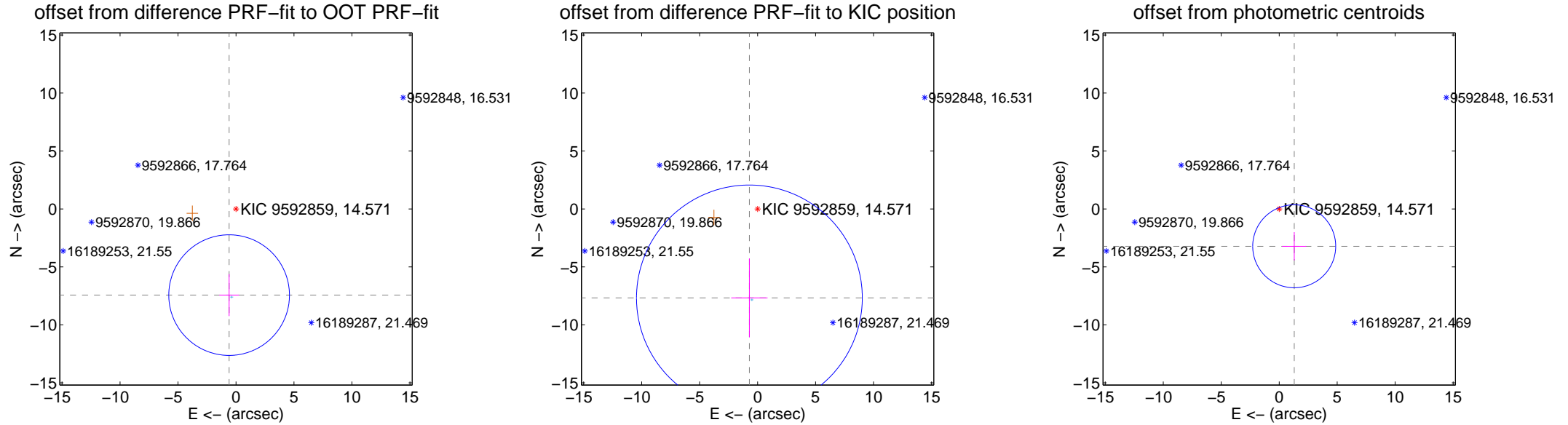
DV Centroid Data

Supplemental centroid analysis for 009592859-01. Kepler magnitude: 14.57. Transit SNR 10.19

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.458 \pm 1.735	4.30	0.593 \pm 0.851	-7.434 \pm 1.808
PRF-fit source offset from KIC position	7.705 \pm 3.245	2.37	0.707 \pm 1.568	-7.673 \pm 3.403
photometric centroid source offset	3.47 \pm 1.19	2.91	-1.29 \pm 1.04	-3.22 \pm 1.22



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 are from the UKIRT catalog.

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



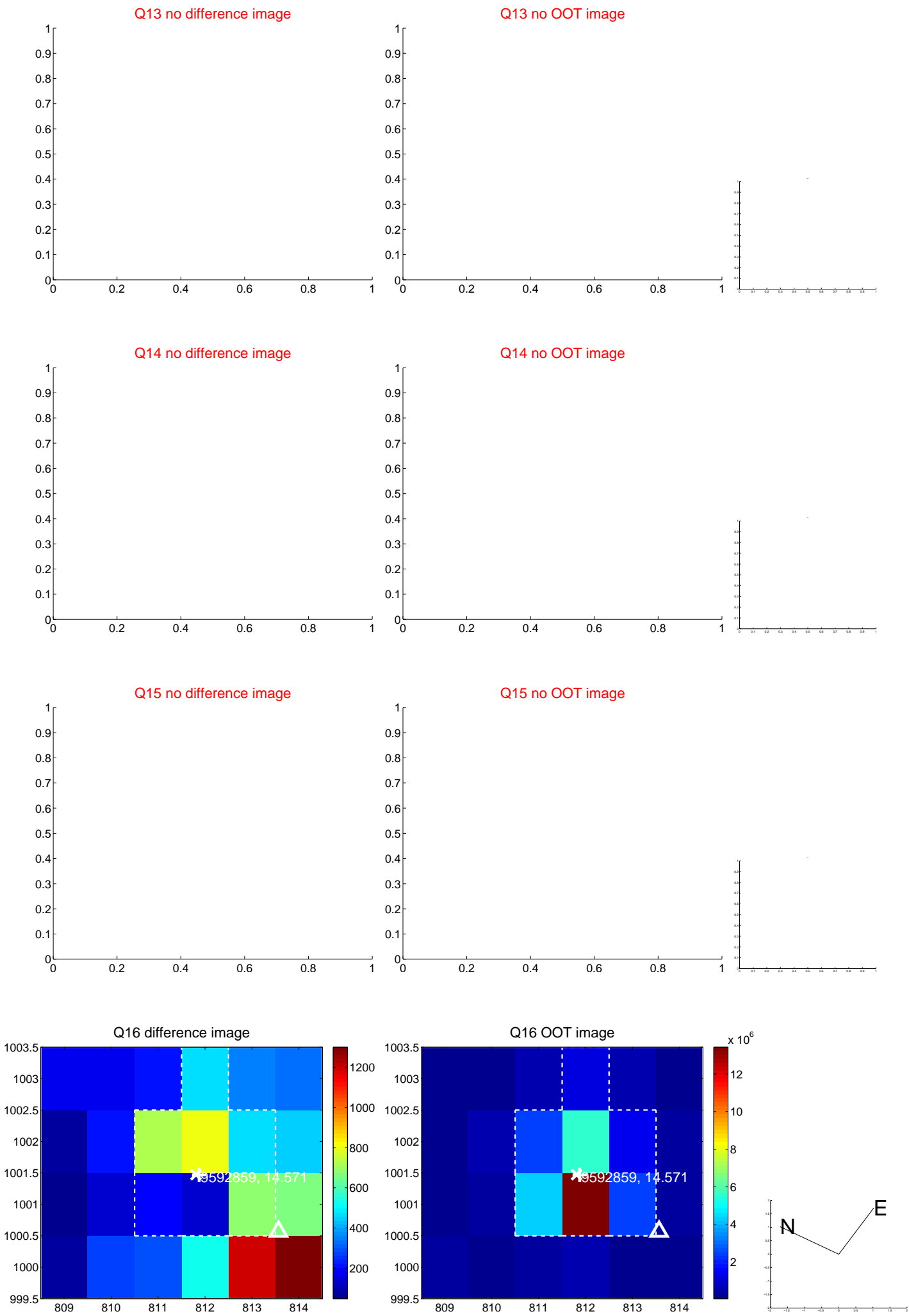
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



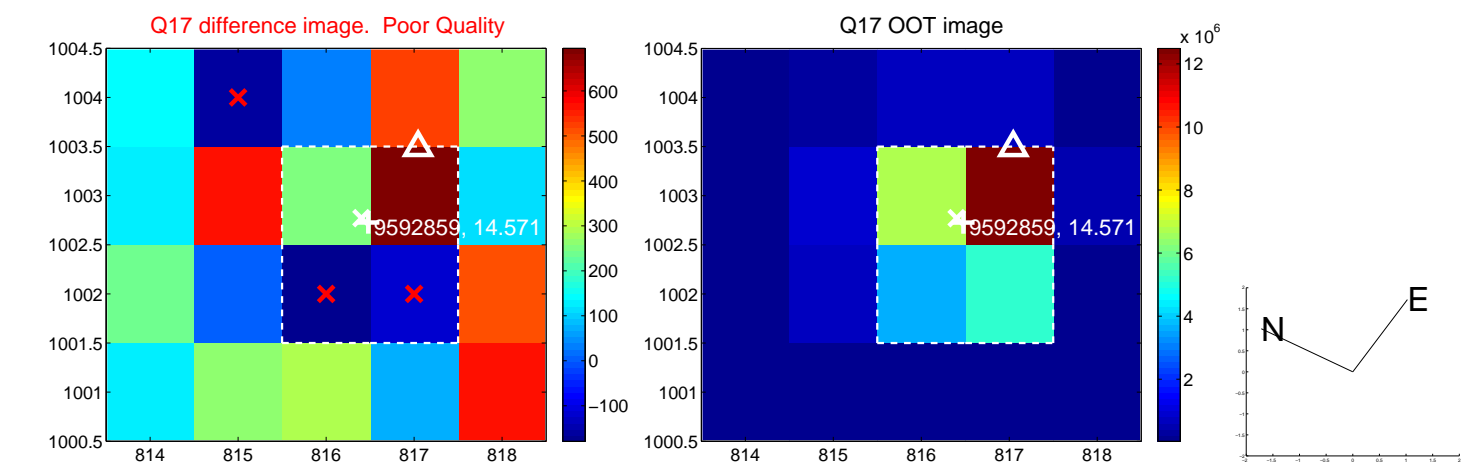
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



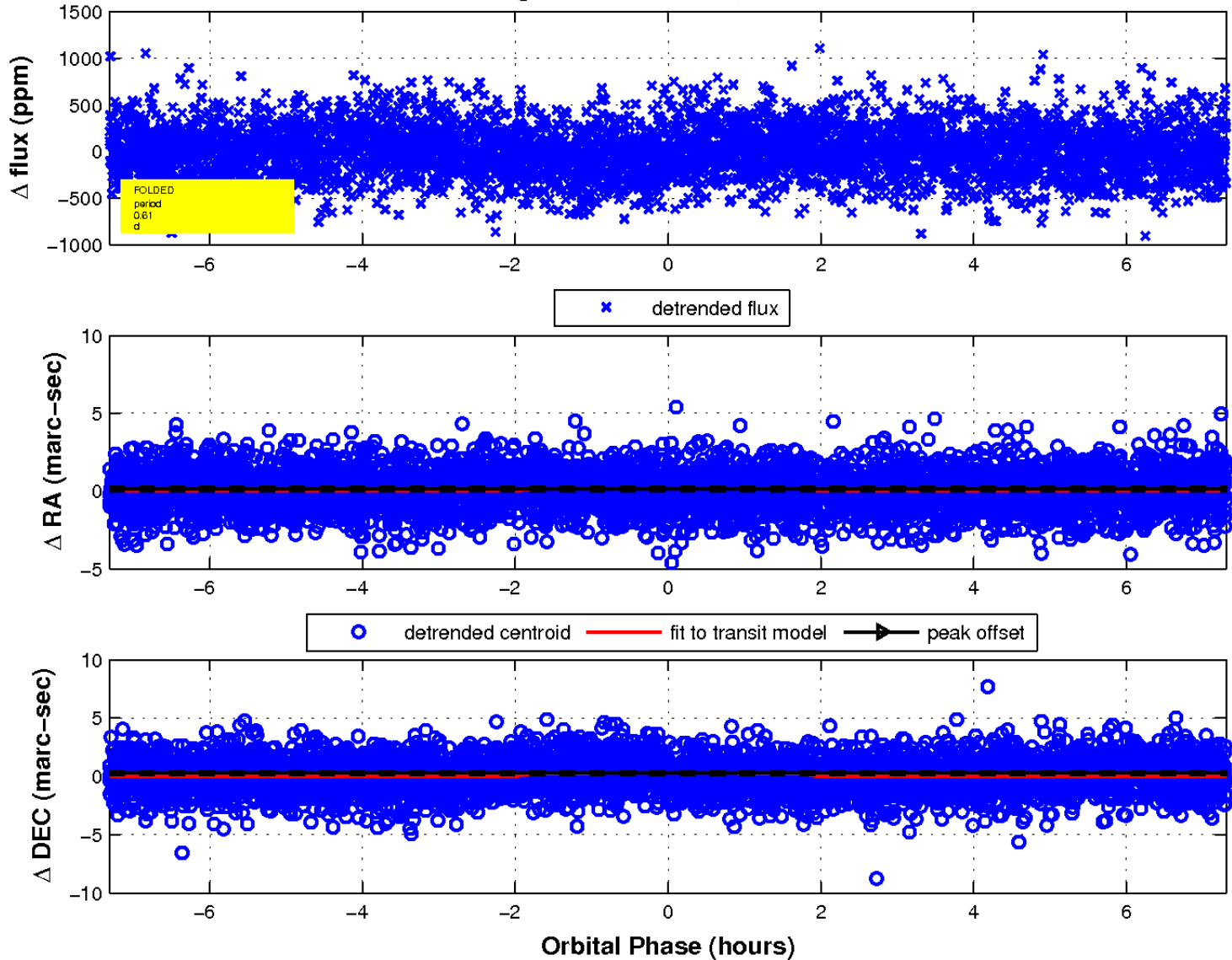
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

