

KIC 008909833

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})
008909833-01	OBS	No	325.554882	343.799136	2220.4	2.682	9.5	7.0	0.52	3905	2.52	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008909833-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—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.

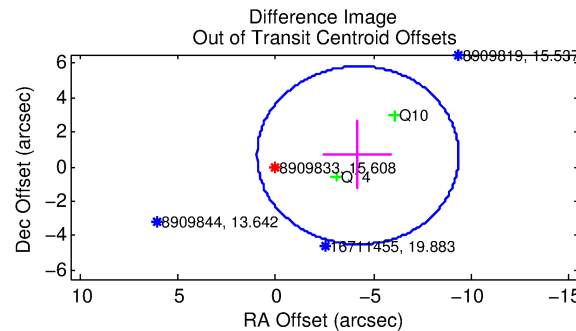
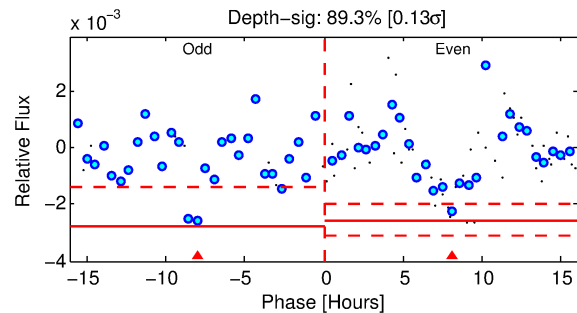
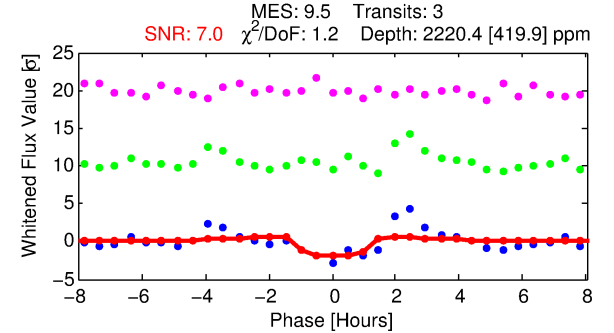
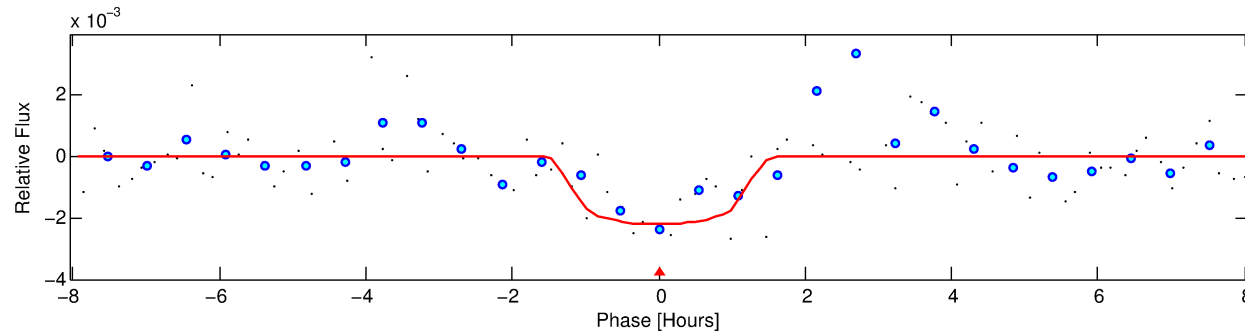
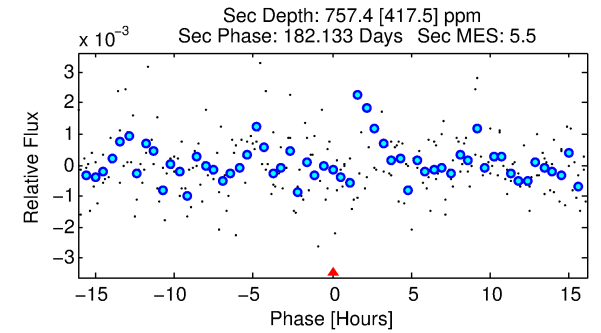
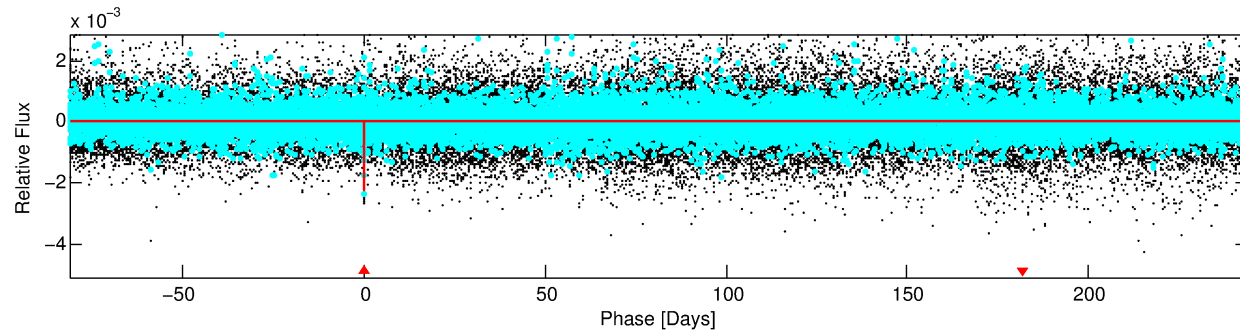
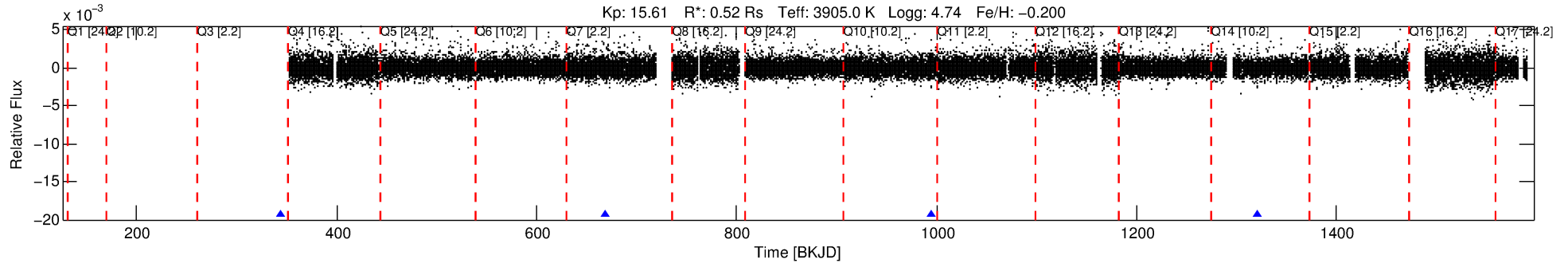
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008909833-01

No Significant Match Found

DV One-Page Summary

KIC: 8909833 Candidate: 1 of 1 Period: 325.555 d



DV Fit Results:

Period = 325.55488 [0.00609] d
Epoch = 343.7991 [0.0122] BKJD
Rp/R* = 0.0444 [0.0770]
a/R* = 829.07 [6010.34]
b = 0.54 [9.63]
Seff = 0.10 [0.01]
Teq = 143 [4] K
Rp = 2.53 [4.38] Re
a = 0.7539 [0.0346] AU
Ag = 37143.88 [130381.53] [0.28σ]
Teffp = 3074 [2698] K [1.09σ]

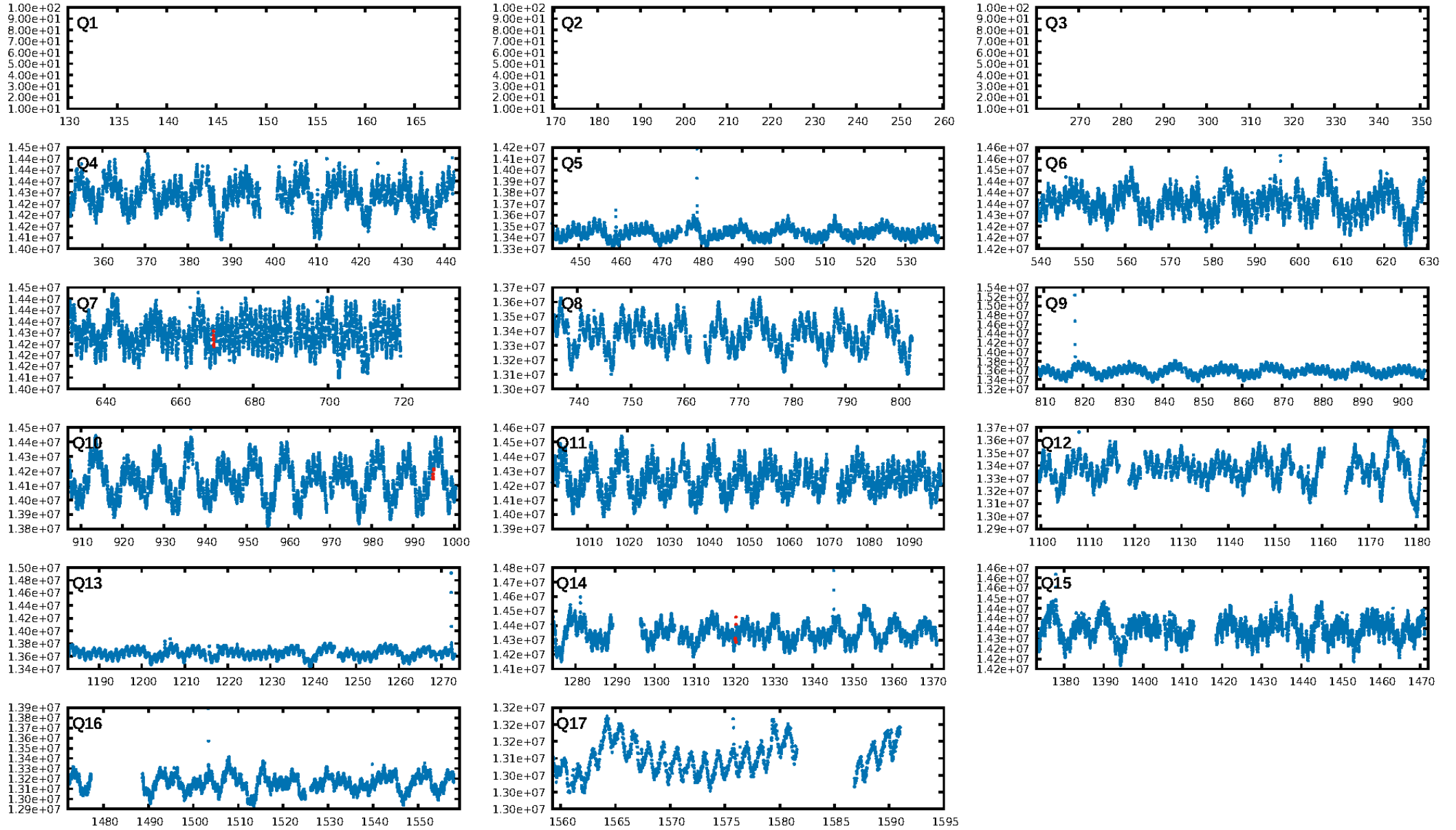
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 8.3%
ModelChiSquareGof-sig: 61.4%
Bootstrap-pfa: 5.16e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.12
Centroid-sig: 20.6%
Centroid-so: 2.745 arcsec [4.83σ]
OotOffset-rm: 4.256 arcsec [2.48σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-rm: 2.268 arcsec [1.23σ]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

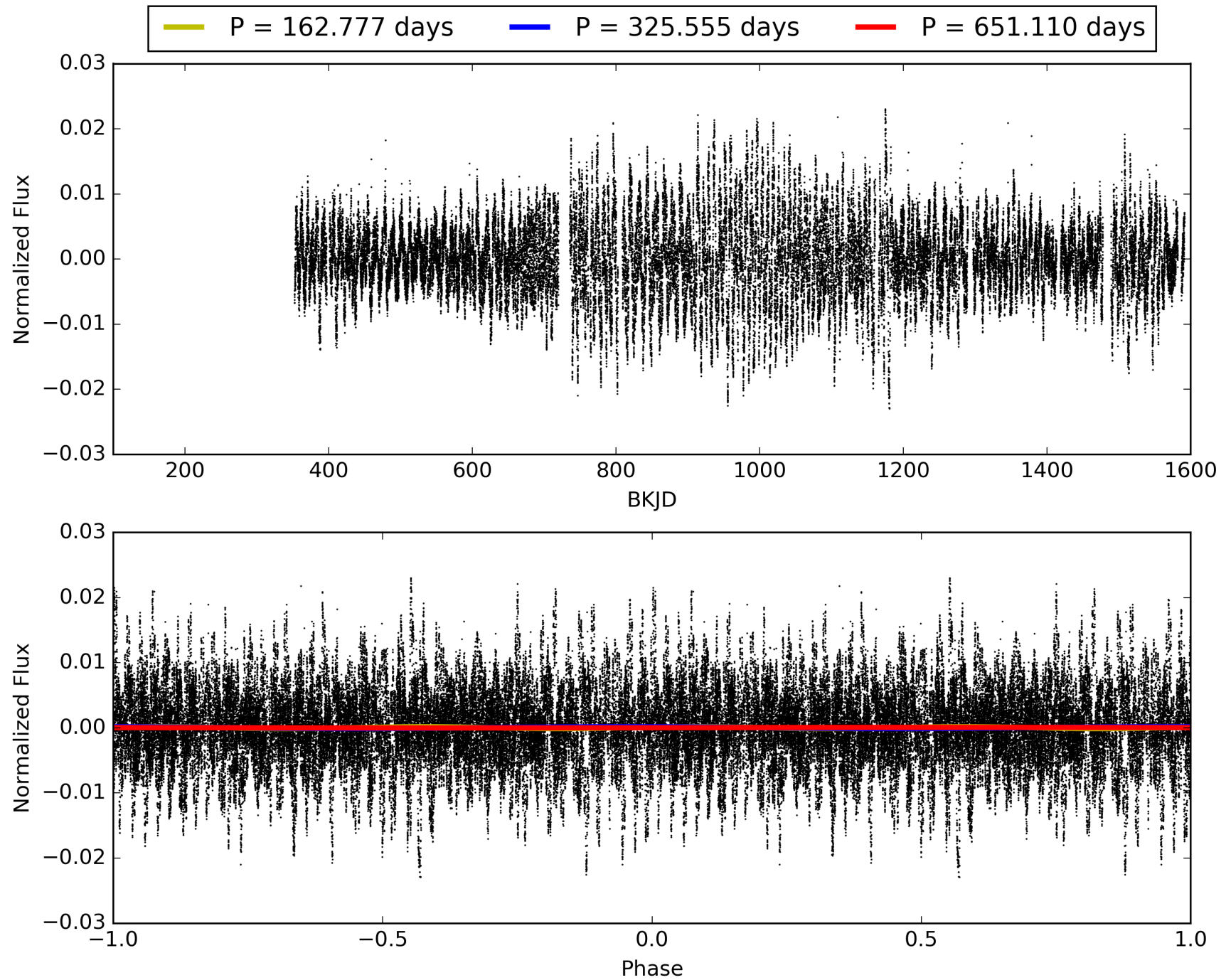
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:25:06 Z

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

TCE 008909833-01, PDC Light Curves

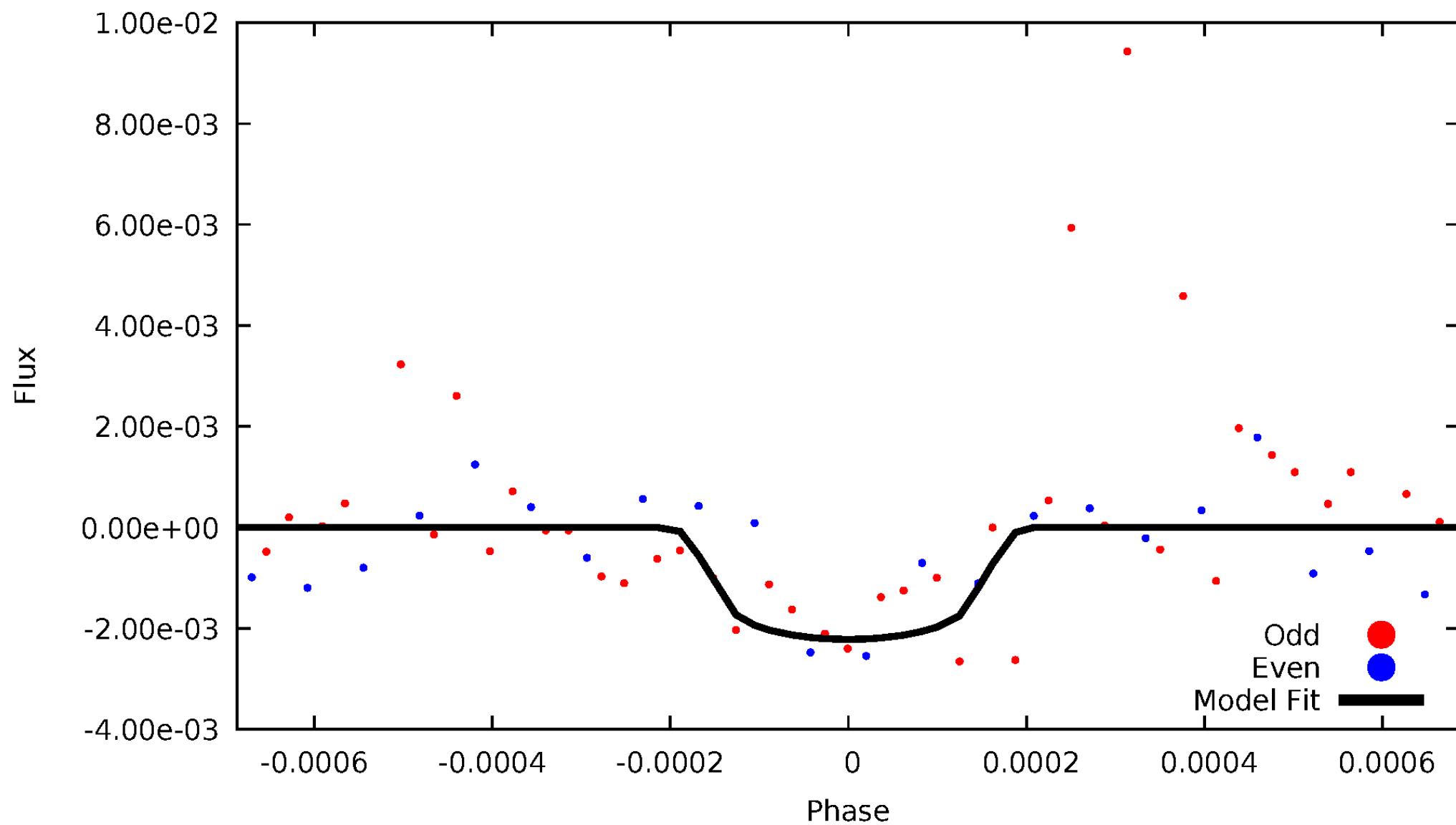


TCE 008909833-01



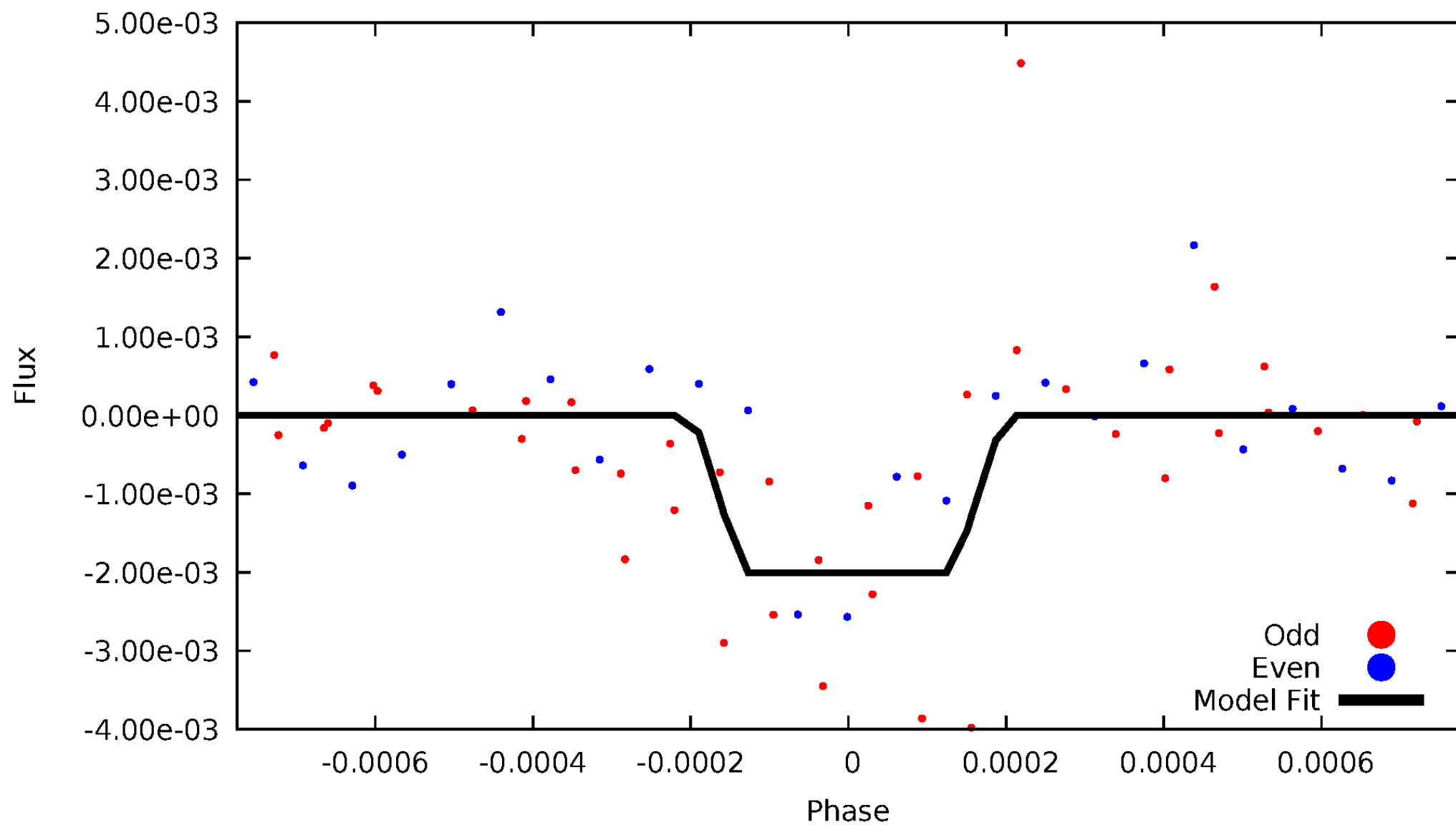
DV Odd/Even

TCE 008909833-01



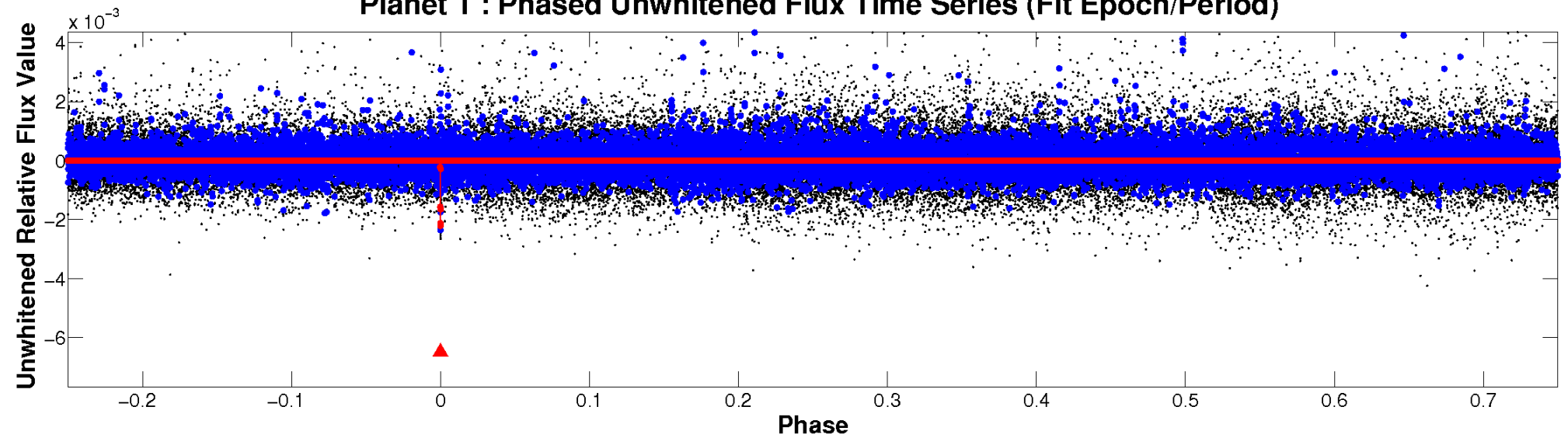
ALT Odd/Even

TCE 008909833-01

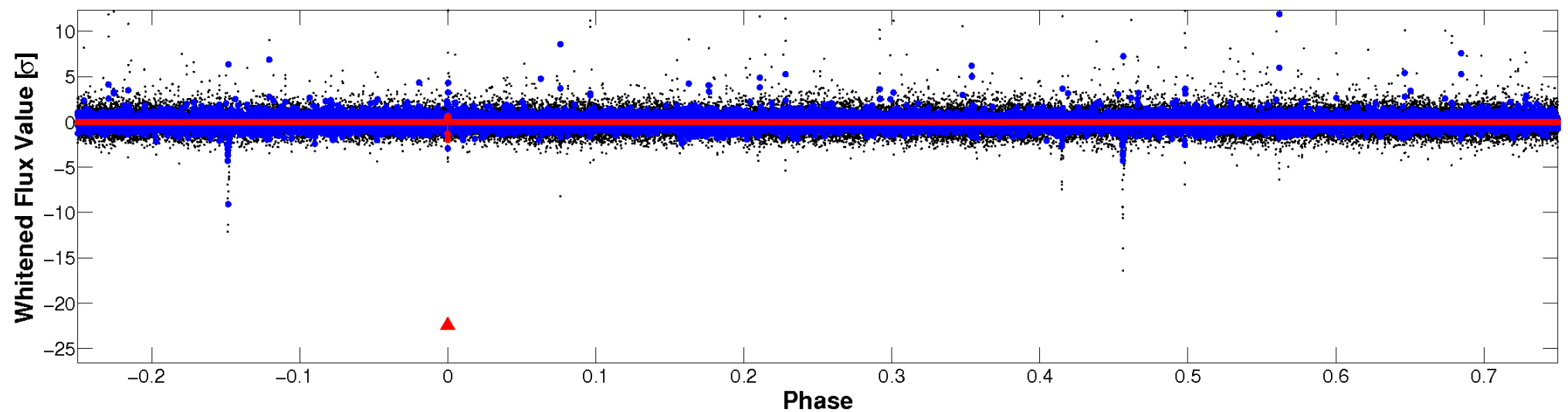


Non-Whitened Vs. Whitened Light Curve

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

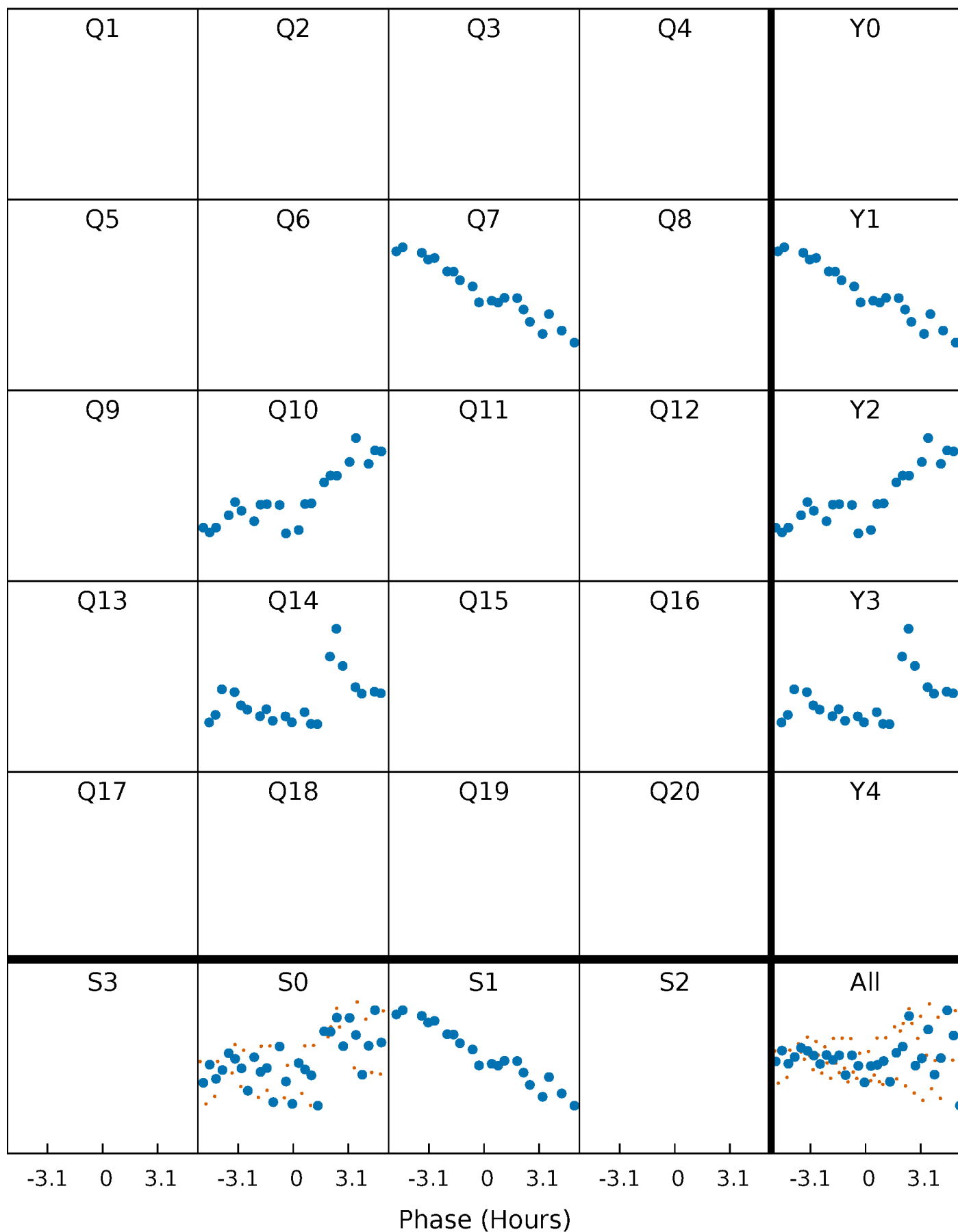


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



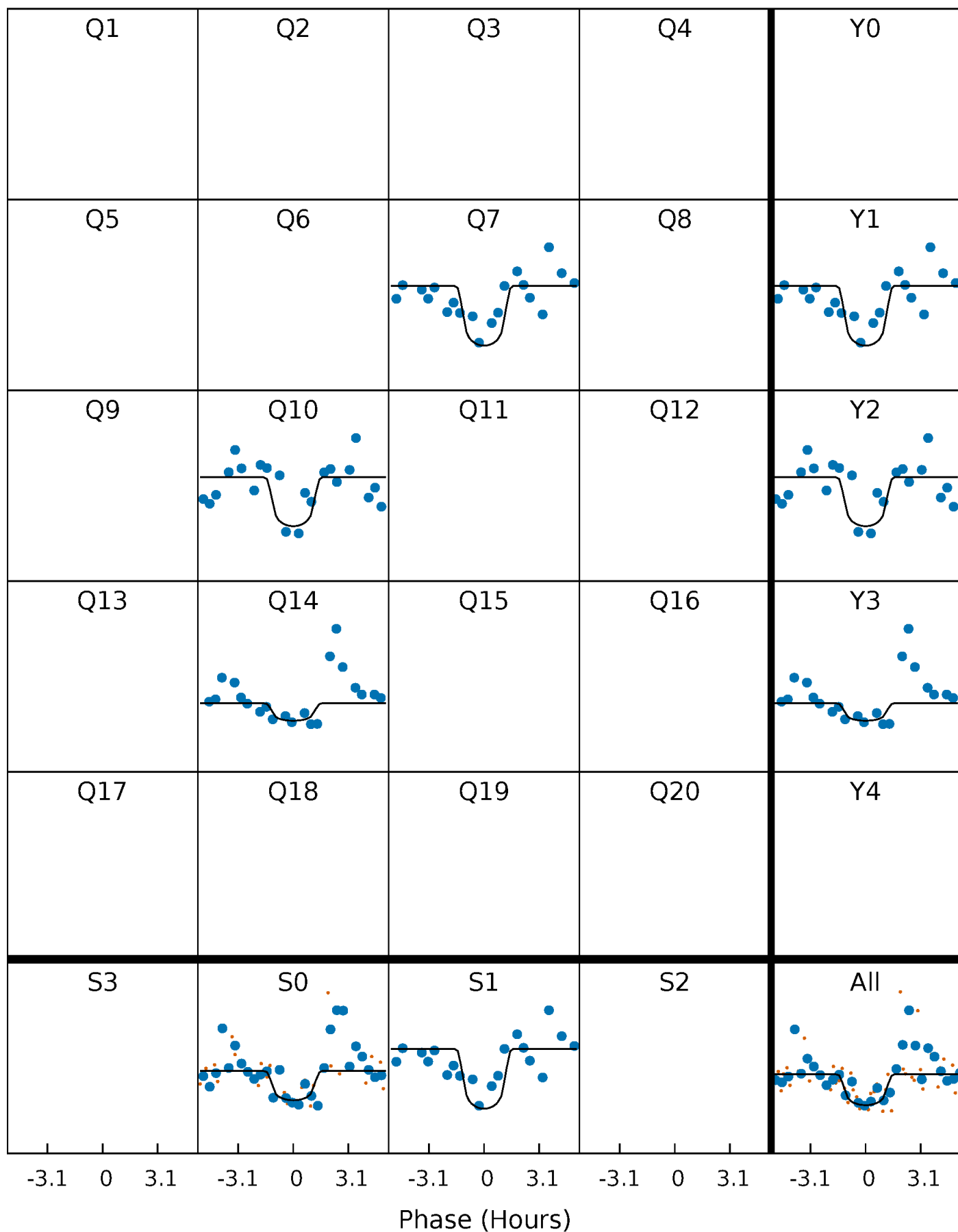
PDC Quarter-Phased Transit Curves

TCE 008909833-01 P=325.554882 Days $T_0=343.799136$ (BKJD)



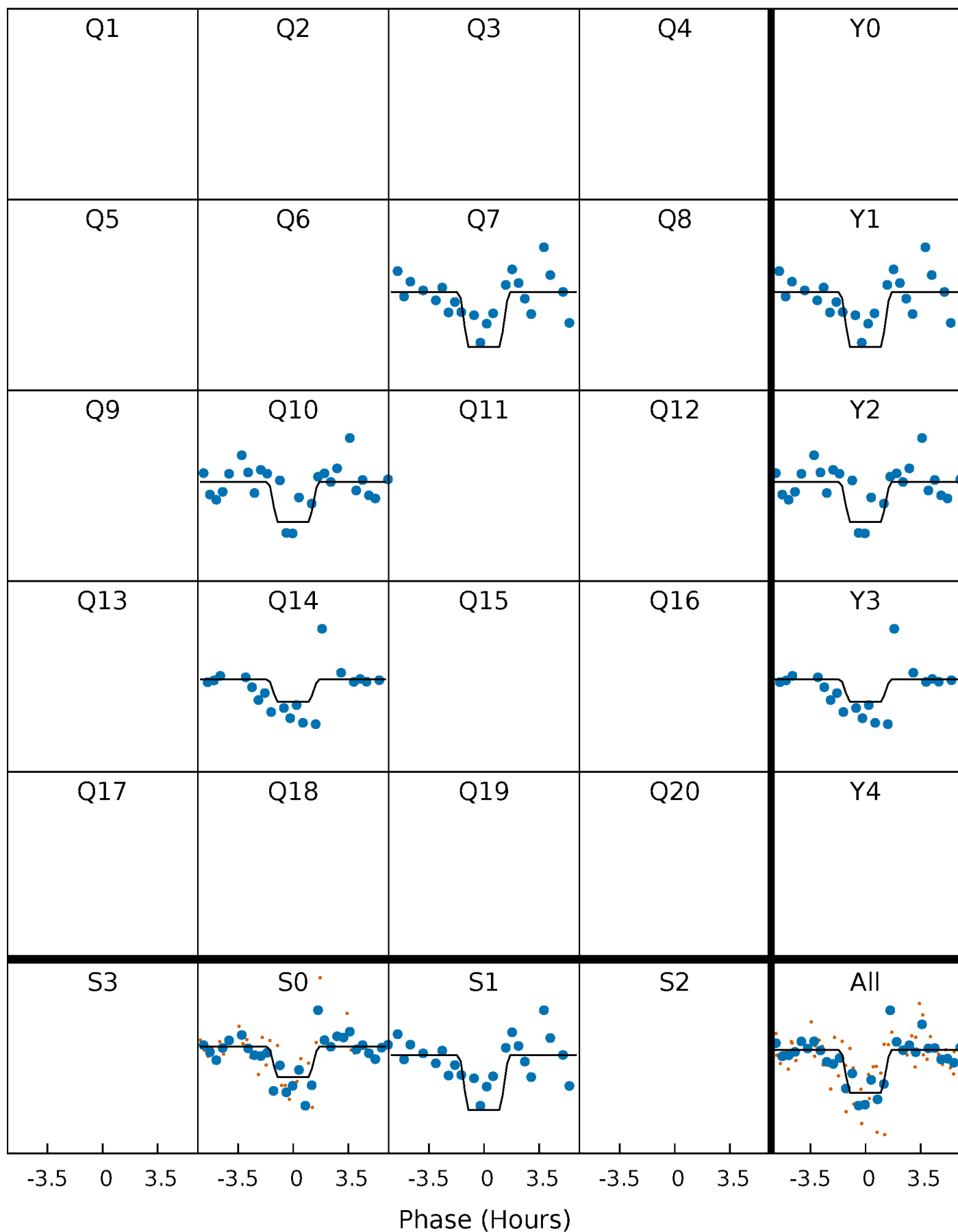
DV Quarter-Phased Transit Curves

TCE 008909833-01 P=325.554882 Days $T_0=343.799136$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

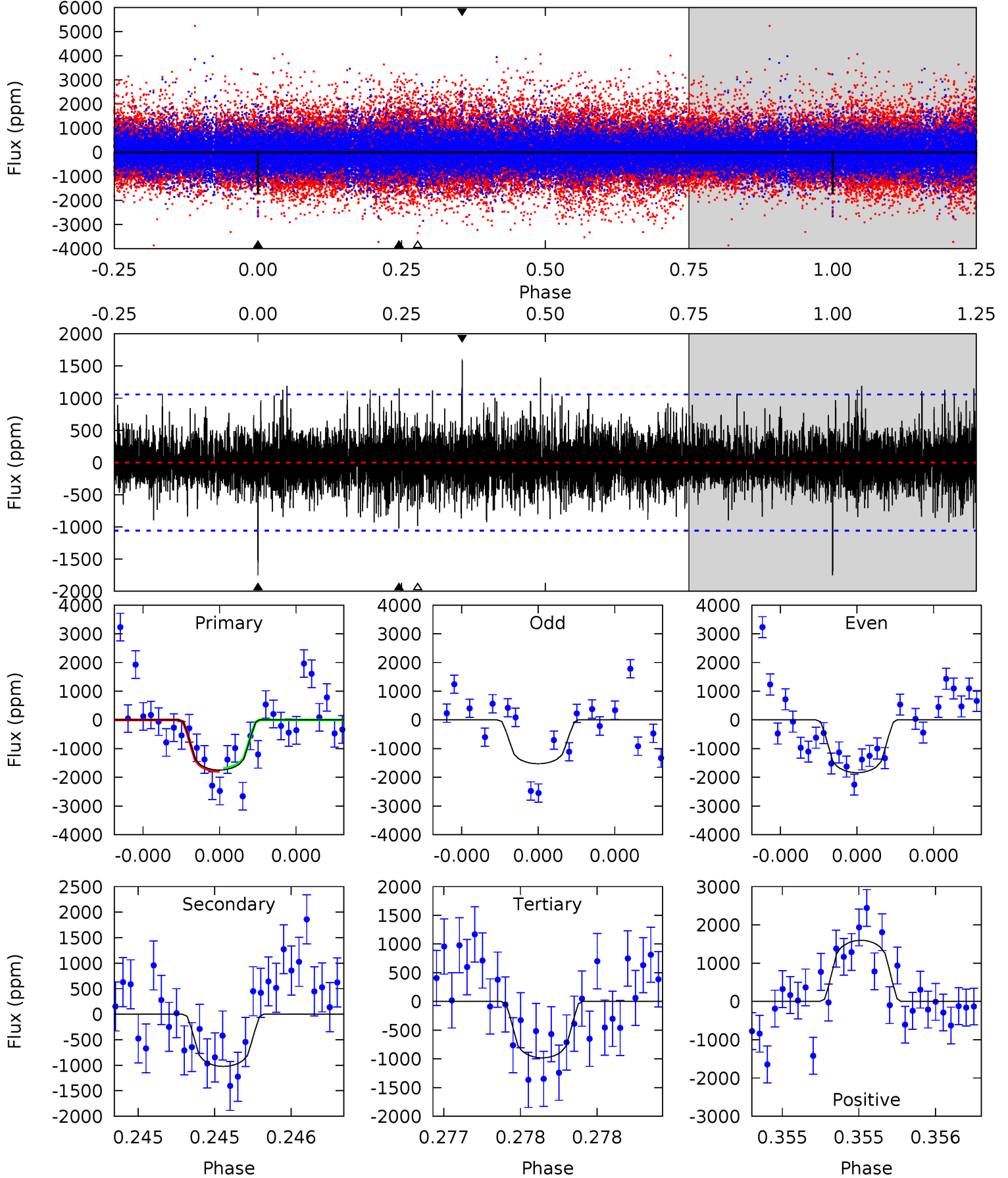
TCE 008909833-01 P=325.558177 Days $T_0=343.799530$ (BKJD)



DV Model-Shift Uniqueness Test

008909833-01, P = 325.554882 Days, E = 343.799136 Days

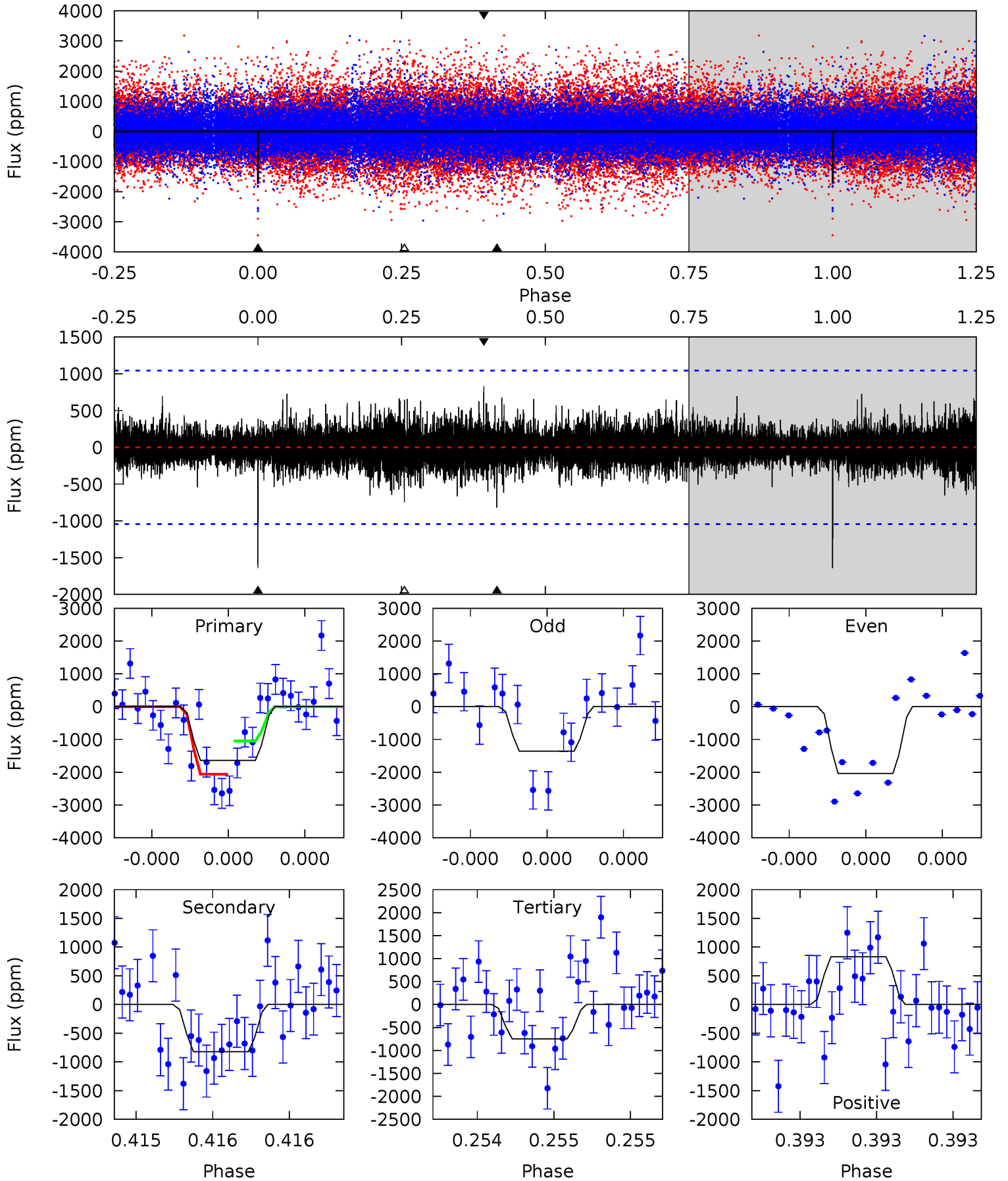
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.29	5.43	5.22	8.49	5.61	3.54	1.44	4.07	0.80	0.21	-3.06	0.73	1.14	0.48	0.27



Alt Model-Shift Uniqueness Test

008909833-01, P = 325.558177 Days, E = 343.799530 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.86	4.44	4.04	4.49	5.64	3.58	0.89	4.82	4.36	0.40	-0.06	1.78	1.42	0.34	2.71



Stellar Parameters For KIC 008909833

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3905^{+78}_{-86}	$4.736^{+0.030}_{-0.027}$	$-0.200^{+0.100}_{-0.100}$	$0.521^{+0.028}_{-0.031}$	$0.538^{+0.025}_{-0.033}$	$5.375^{+0.727}_{-0.580}$
	+2%/-2%	+1%/-1%	+50%/-50%	+5%/-6%	+5%/-6%	+14%/-11%
Source	PHO2	PHO2	PHO2	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008909833-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1023 ± 188	$4.29^{+3.73}_{-2.84}$	200^{+5}_{-5}	2992^{+1196}_{-474}	$17216^{+134854}_{-12333}$
Alt.	-821 ± 185	$4.32^{+3.56}_{-2.87}$	200^{+5}_{-5}	2875^{+1253}_{-411}	$13608^{+114308}_{-9527}$

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

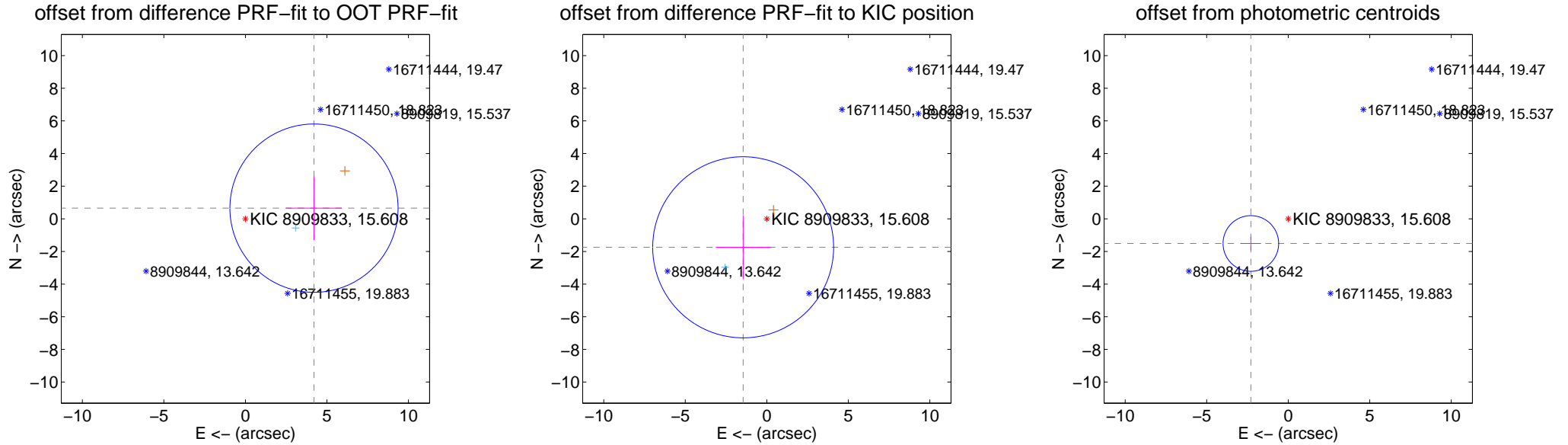
DV Centroid Data

Supplemental centroid analysis for 008909833-01. Kepler magnitude: 15.61. Transit SNR 6.97

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 6.12 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	4.256 ± 1.718	2.48	-4.205 ± 1.712	0.653 ± 1.950
PRF-fit source offset from KIC position	2.268 ± 1.849	1.23	1.450 ± 1.677	-1.744 ± 1.959
photometric centroid source offset	2.74 ± 0.57	4.83	2.29 ± 0.62	-1.51 ± 0.42



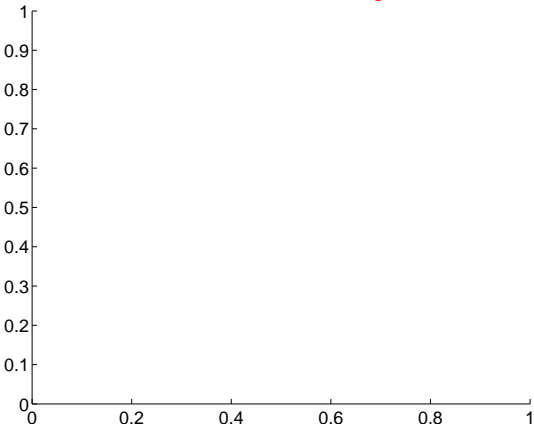
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

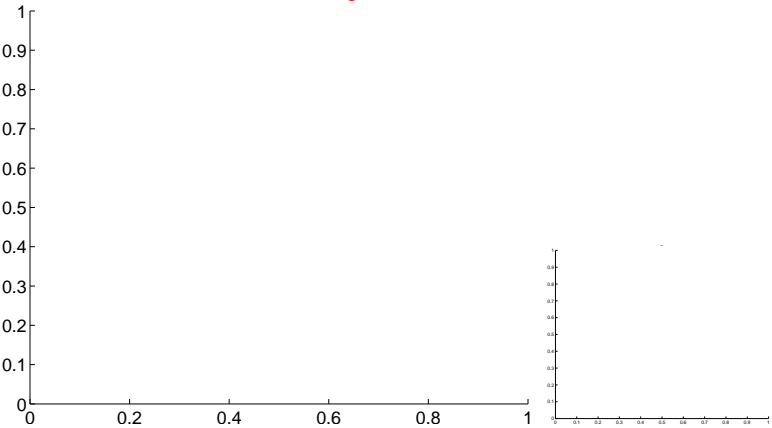


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

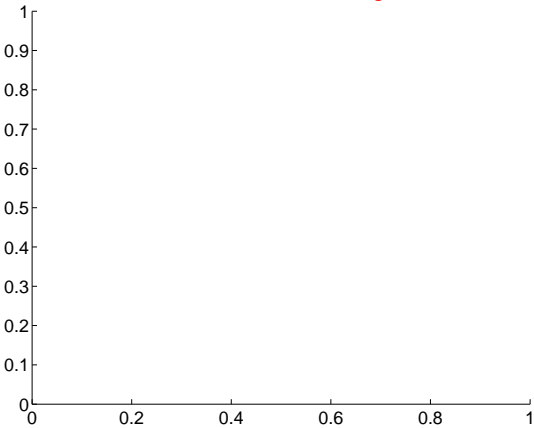
Q5 no difference image



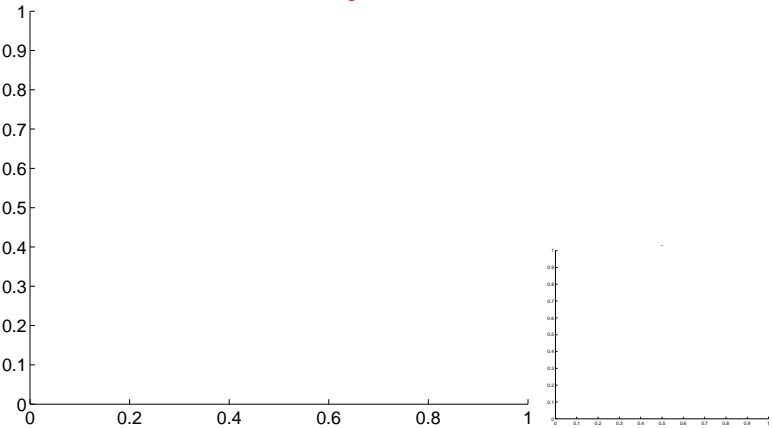
Q5 no OOT image



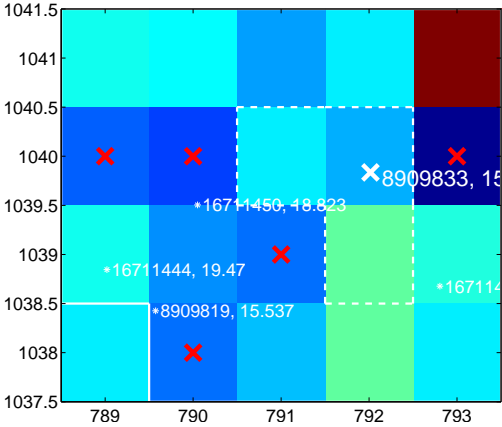
Q6 no difference image



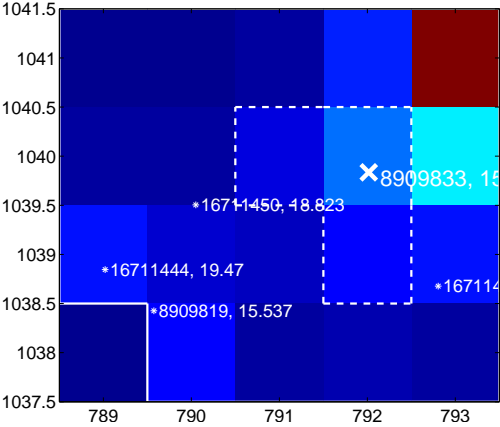
Q6 no OOT image



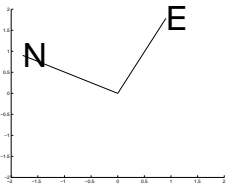
Q7 difference image. Poor Quality



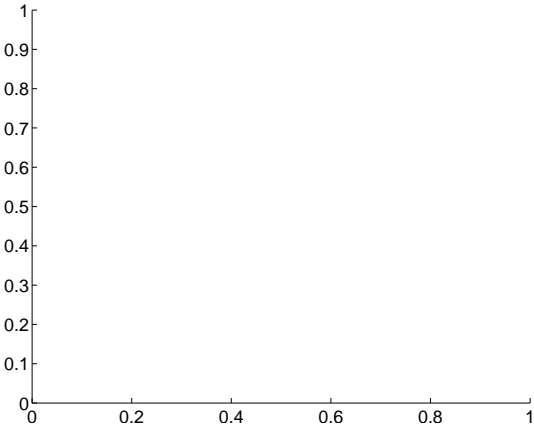
Q7 OOT image



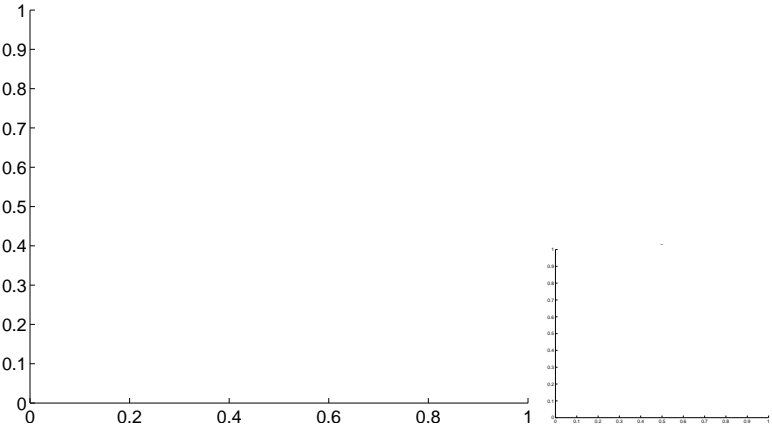
$\times 10^7$



Q8 no difference image



Q8 no OOT image



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

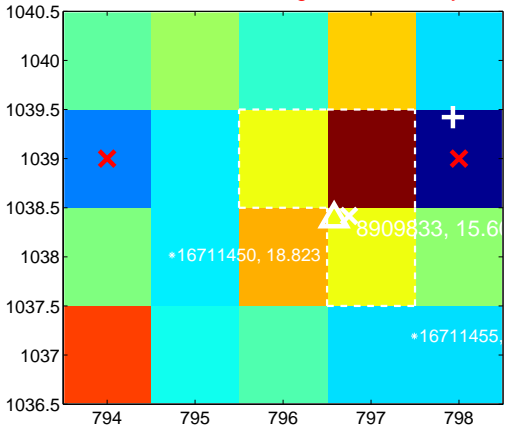
Q9 no difference image



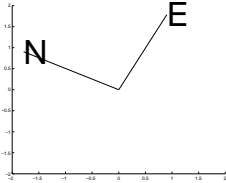
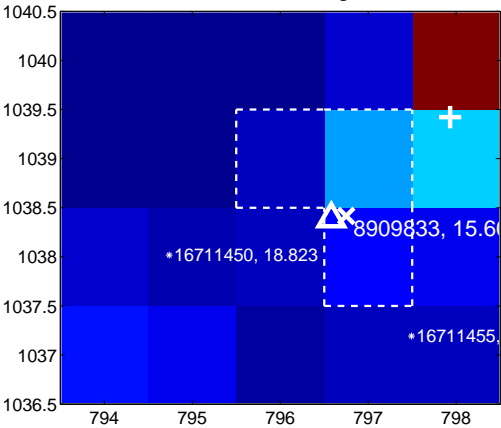
Q9 no OOT image



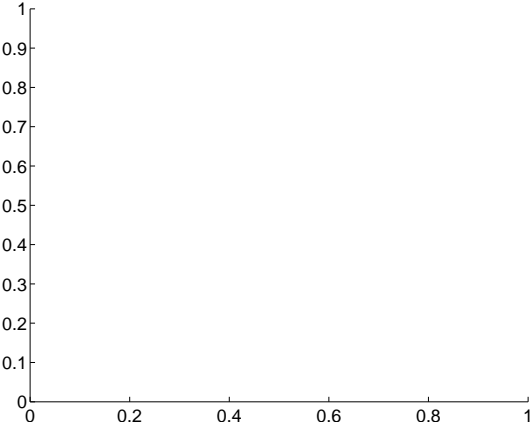
Q10 difference image. Poor Quality



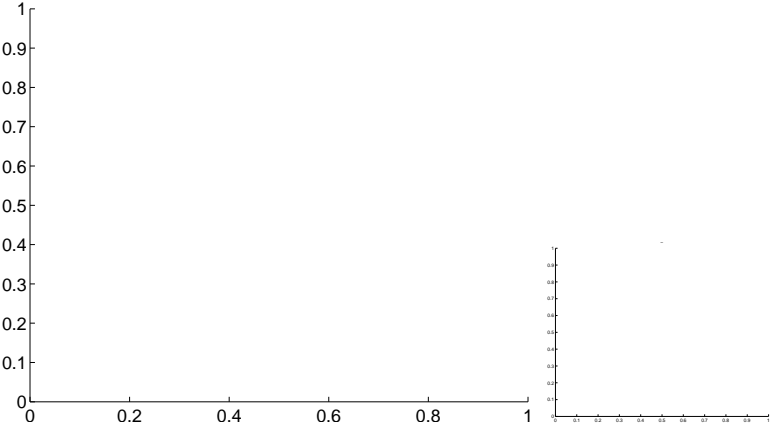
Q10 OOT image



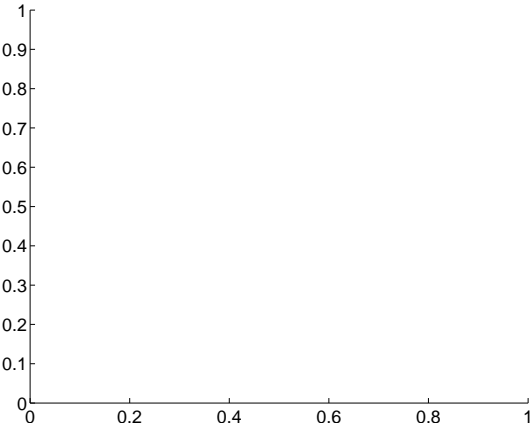
Q11 no difference image



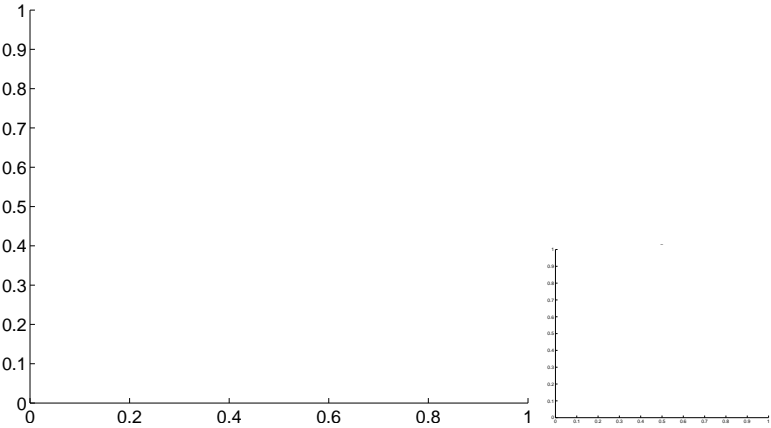
Q11 no OOT image



Q12 no difference image

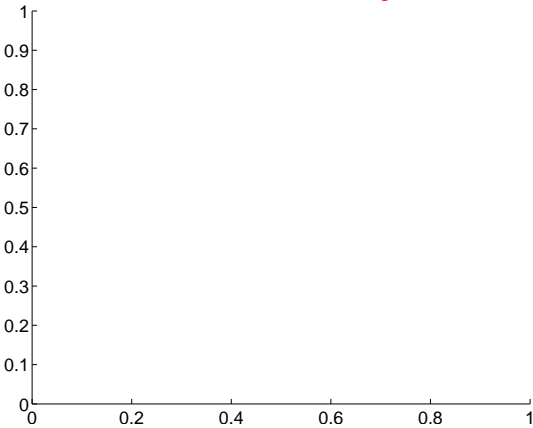


Q12 no OOT image

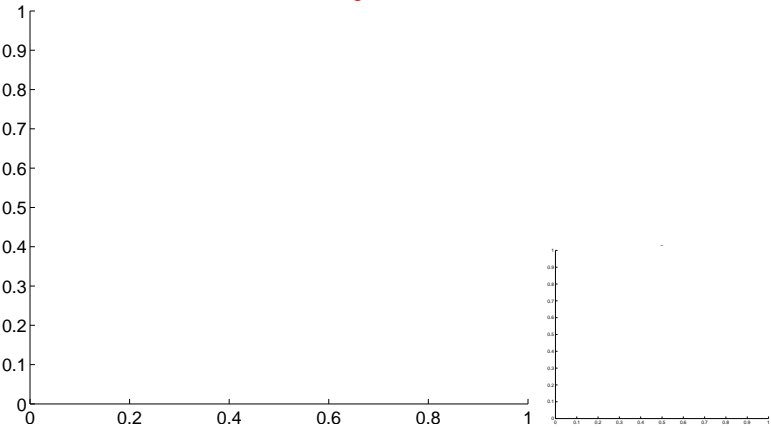


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

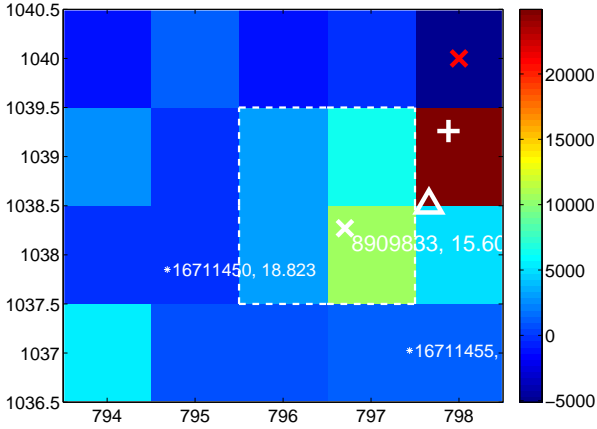
Q13 no difference image



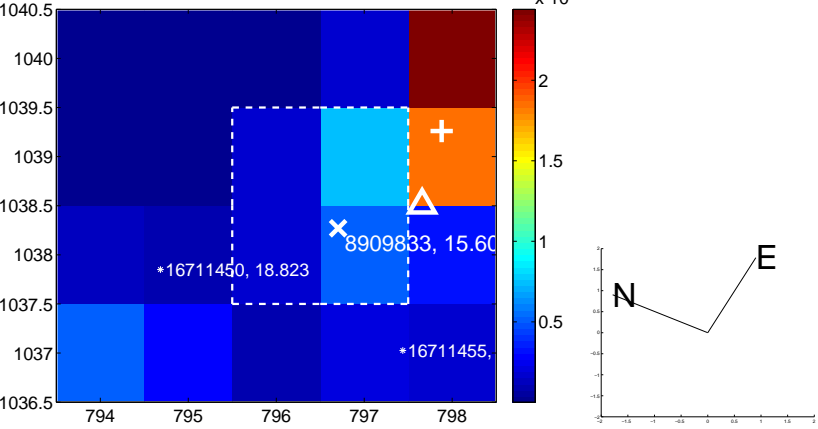
Q13 no OOT image



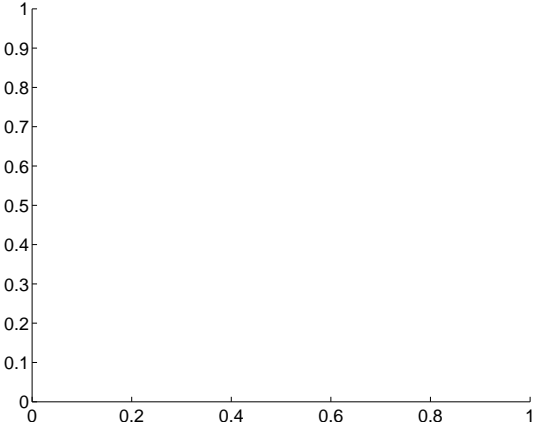
Q14 difference image



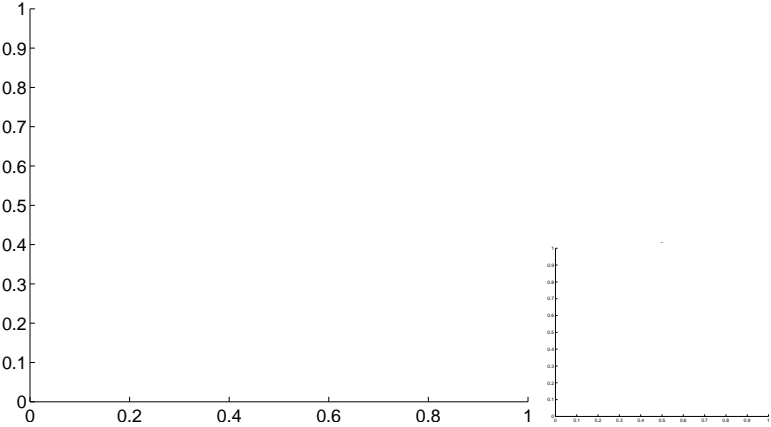
Q14 OOT image



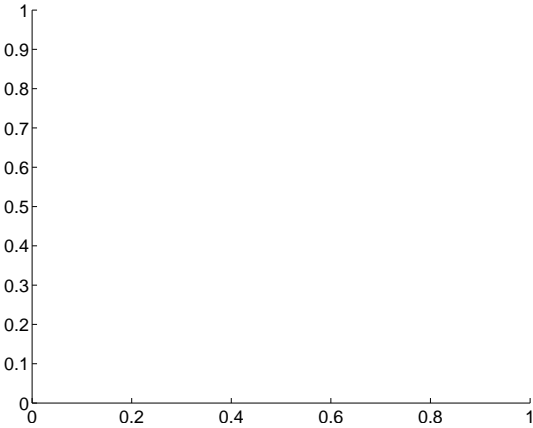
Q15 no difference image



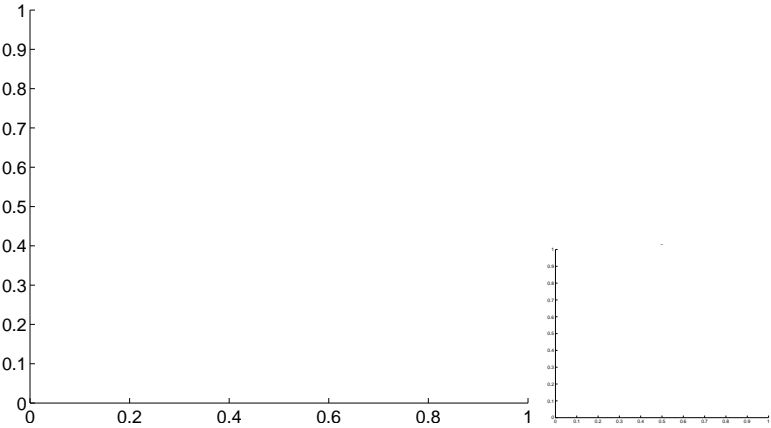
Q15 no OOT image



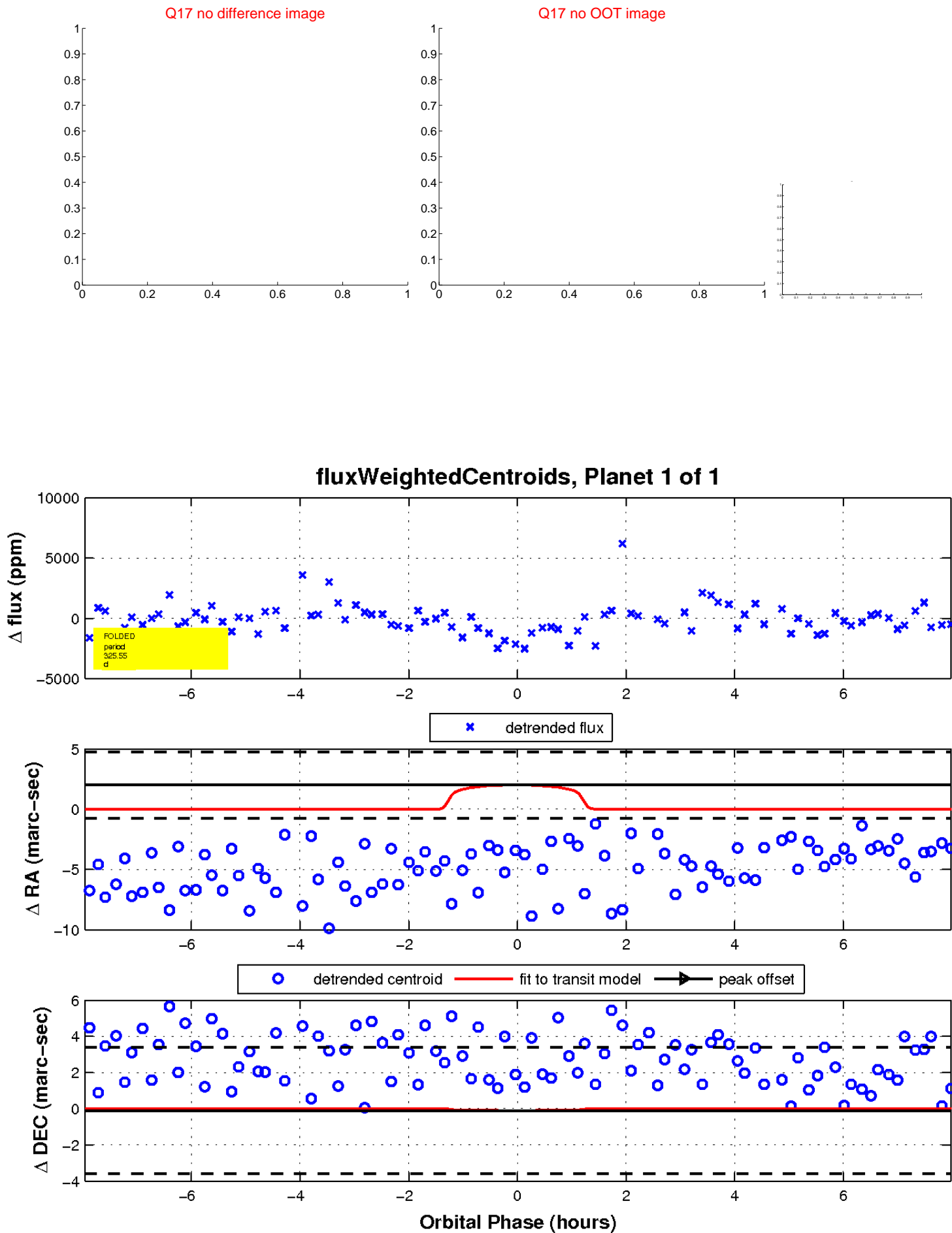
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

