

KIC 008108870

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})
008108870-01	OBS	No	368.765308	233.769304	554.5	23.247	9.6	10.5	0.76	5979	3.44	0.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008108870-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—EPHEM_MATCH

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.

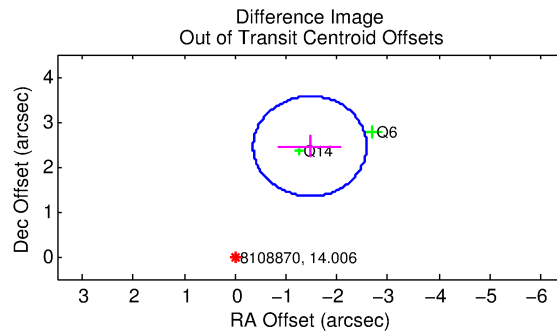
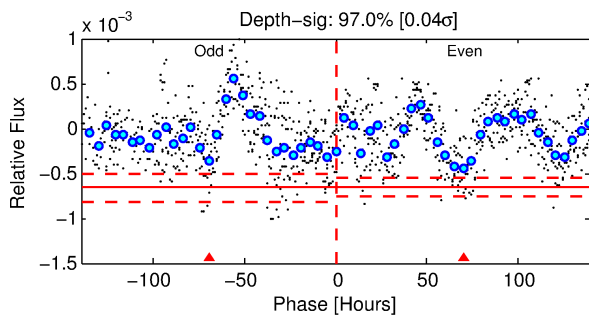
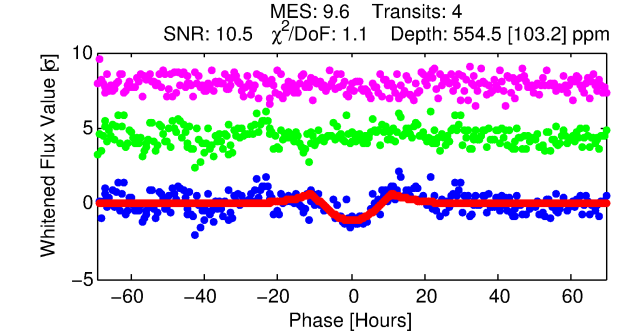
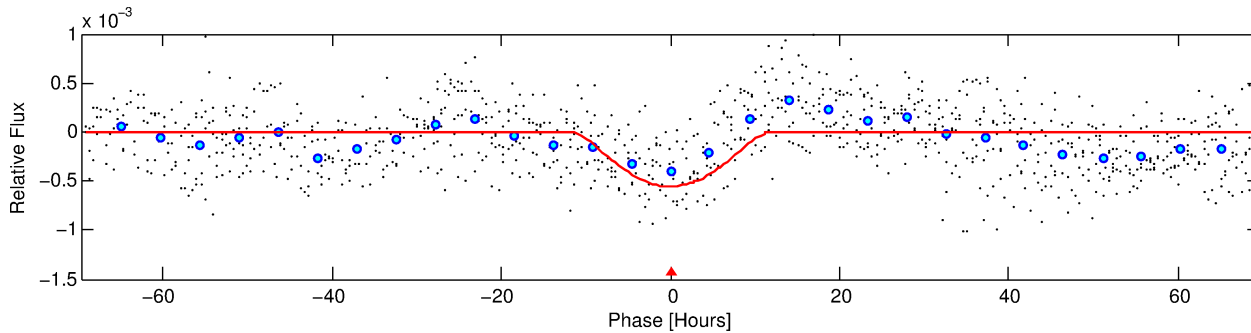
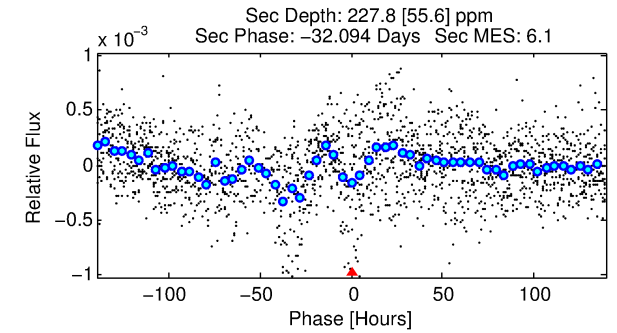
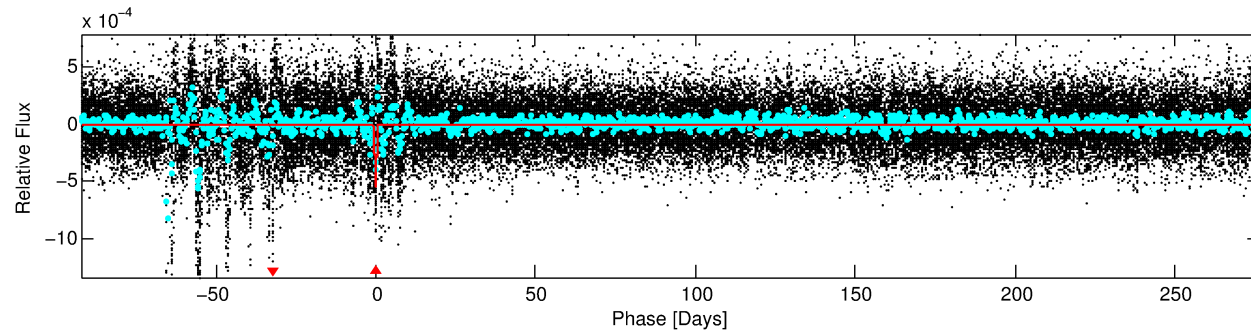
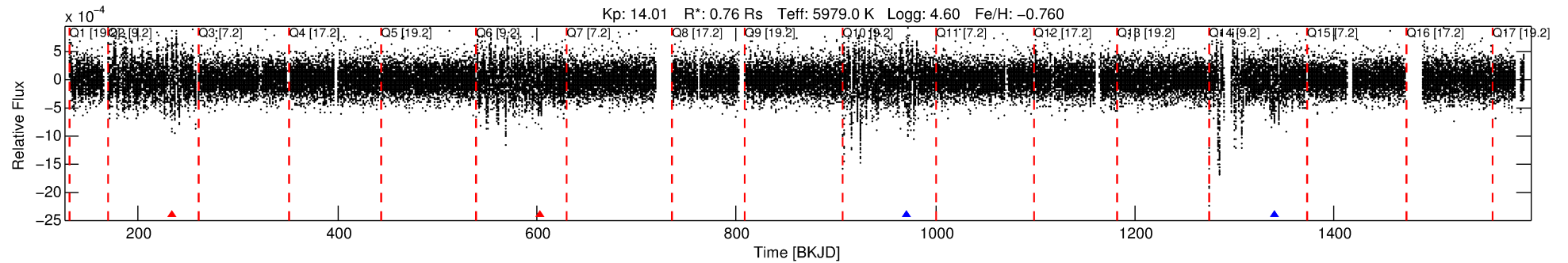
Ephemeris Match Information For 008108870-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008108870-01	8108870	008108933-01	8108933	1:1	55.9	-14	-3	14.59	14.01	2.31	Direct-PRF	1	1.34	2.24

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8108870 Candidate: 1 of 1 Period: 368.765 d



DV Fit Results:

Period = 368.76531 [0.01752] d
Epoch = 233.7693 [0.0343] BKJD
Rp/R* = 0.0415 [0.0784]
a/R* = 35.45 [17.00]
b = 1.00 [0.12]
Seff = 0.74 [0.24]
Teq = 236 [19] K
Rp = 3.44 [6.56] Re
a = 0.9487 [0.1939] AU
Ag = 9514.03 [36180.97] [0.26 σ]
Teffp = 3607 [3420] K [0.99 σ]

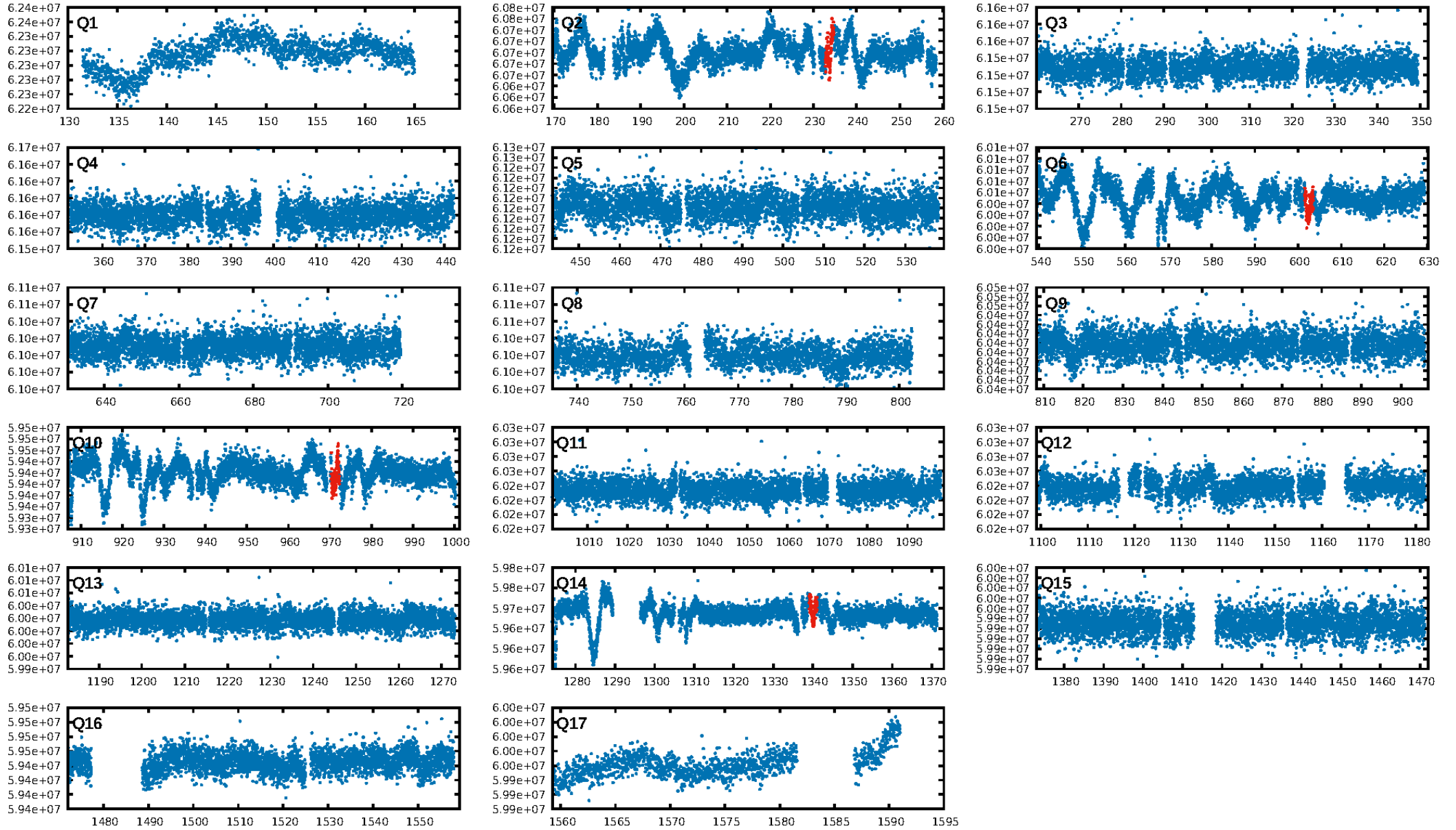
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 7.87e-13
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: 3.118
Centroid-sig: 46.4%
Centroid-so: 1.144 arcsec [0.57 σ]
OotOffset-rm: 2.859 arcsec [7.71 σ]
KicOffset-rm: 2.644 arcsec [6.87 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

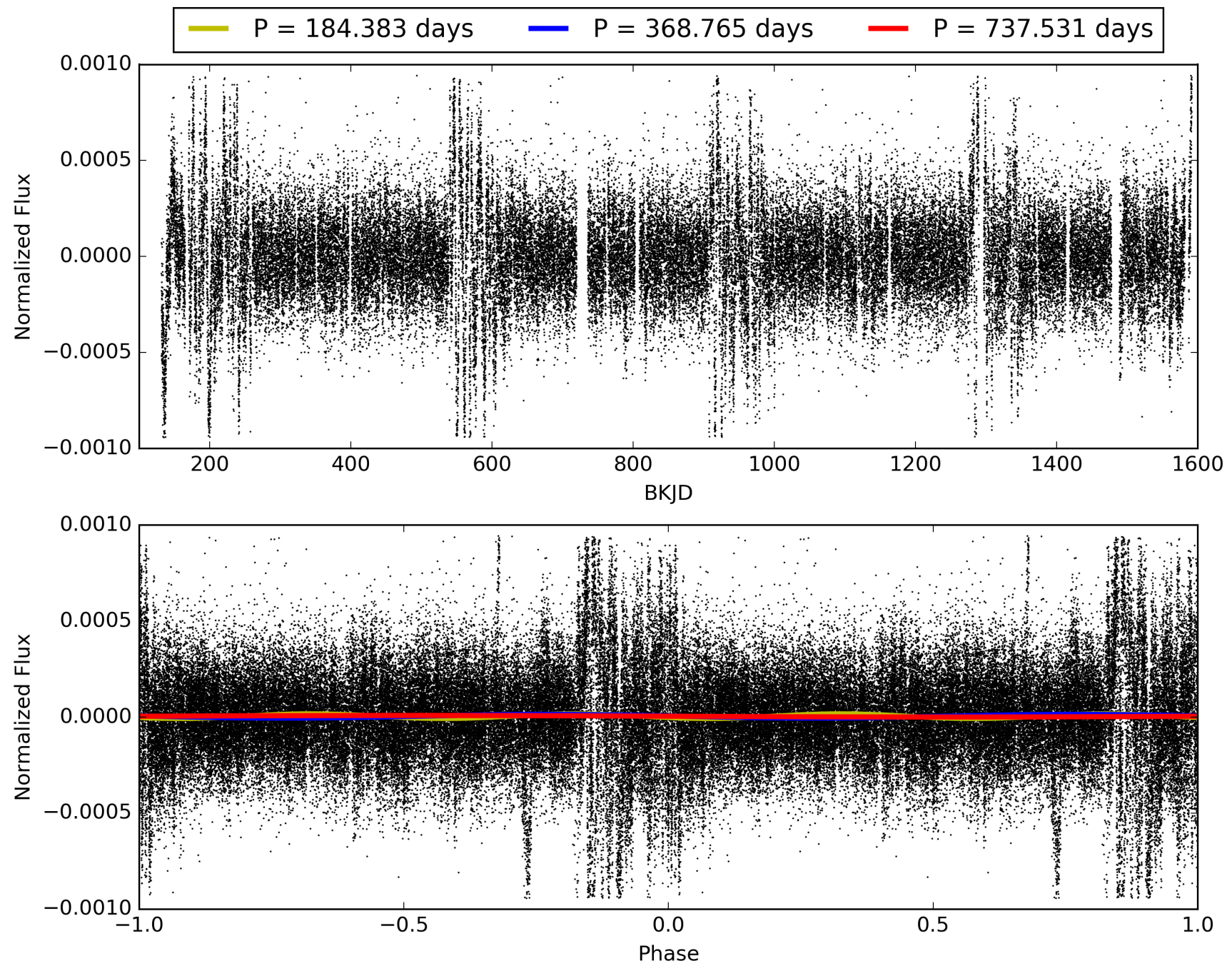
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:04:43 Z

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

TCE 008108870-01, PDC Light Curves

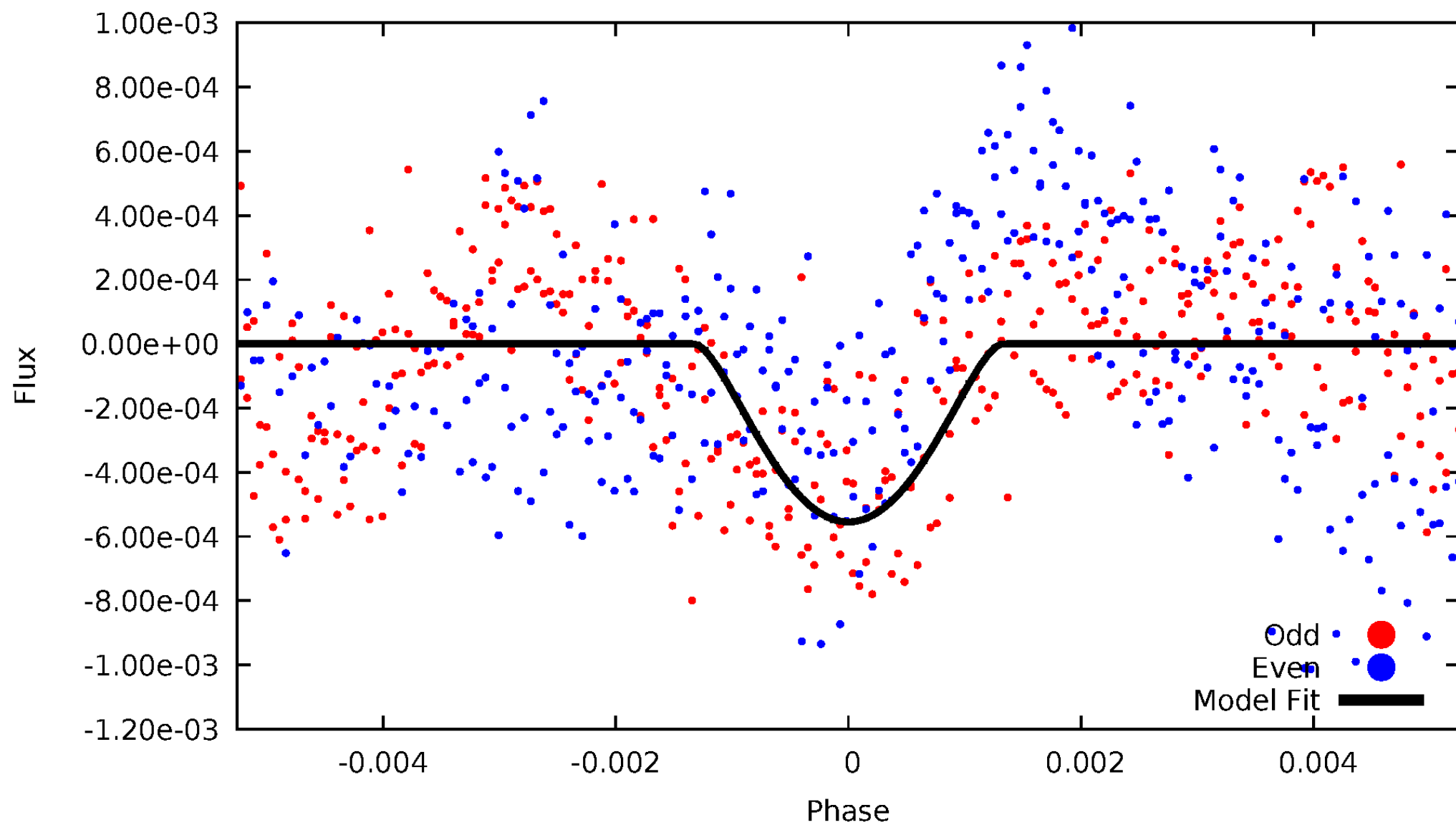


TCE 008108870-01



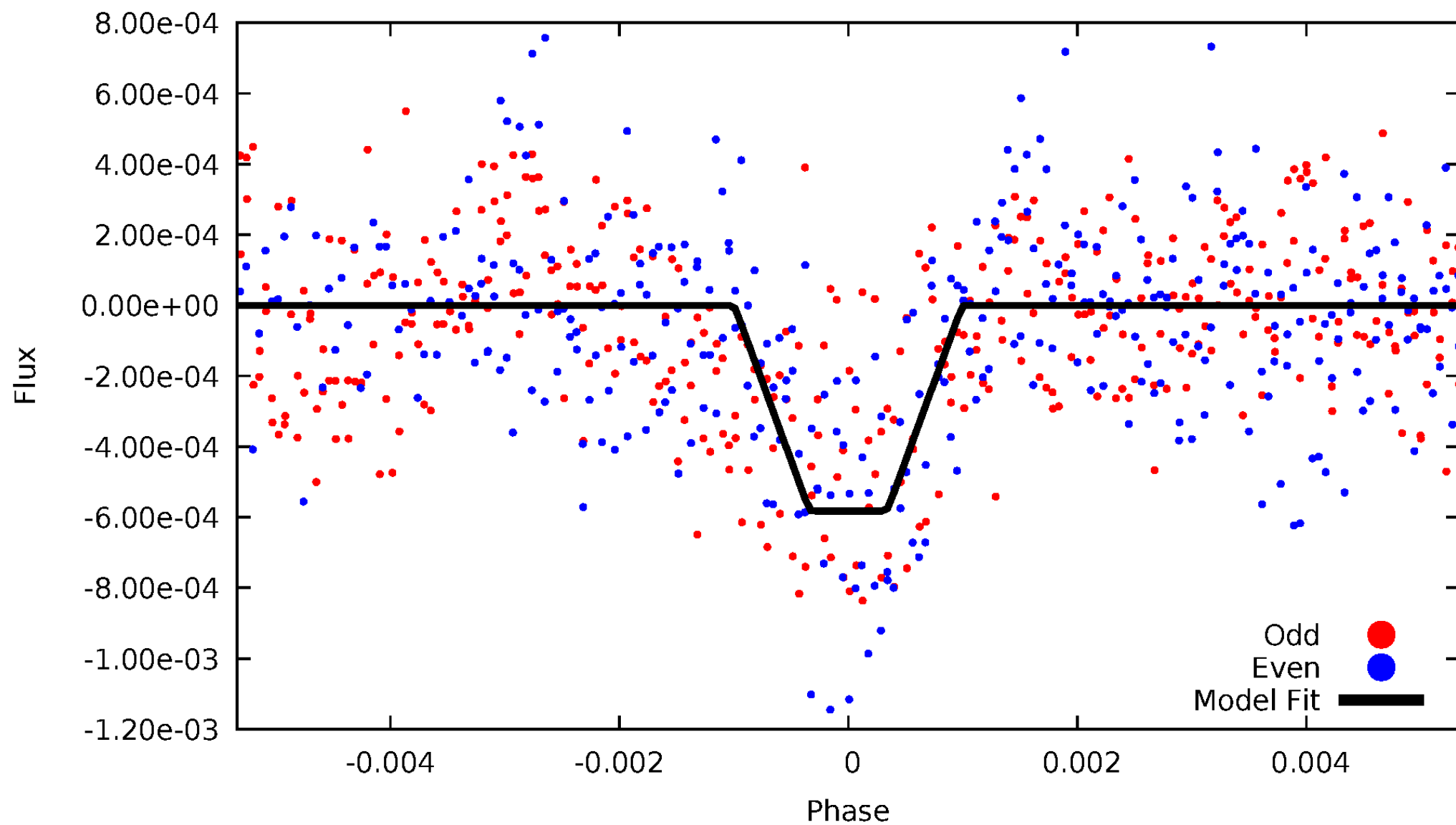
DV Odd/Even

TCE 008108870-01



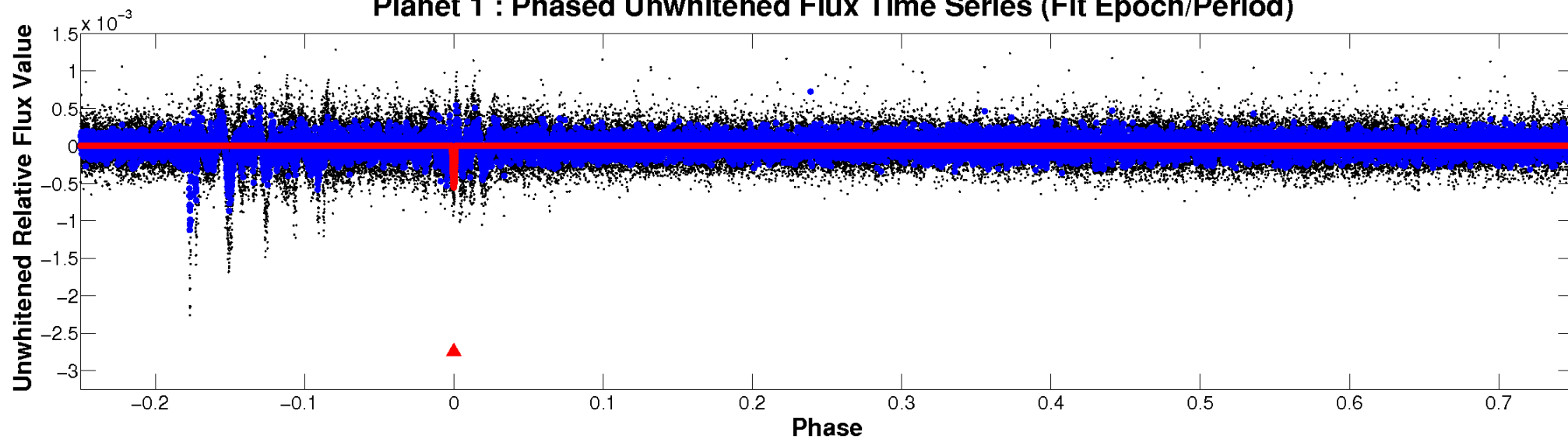
ALT Odd/Even

TCE 008108870-01

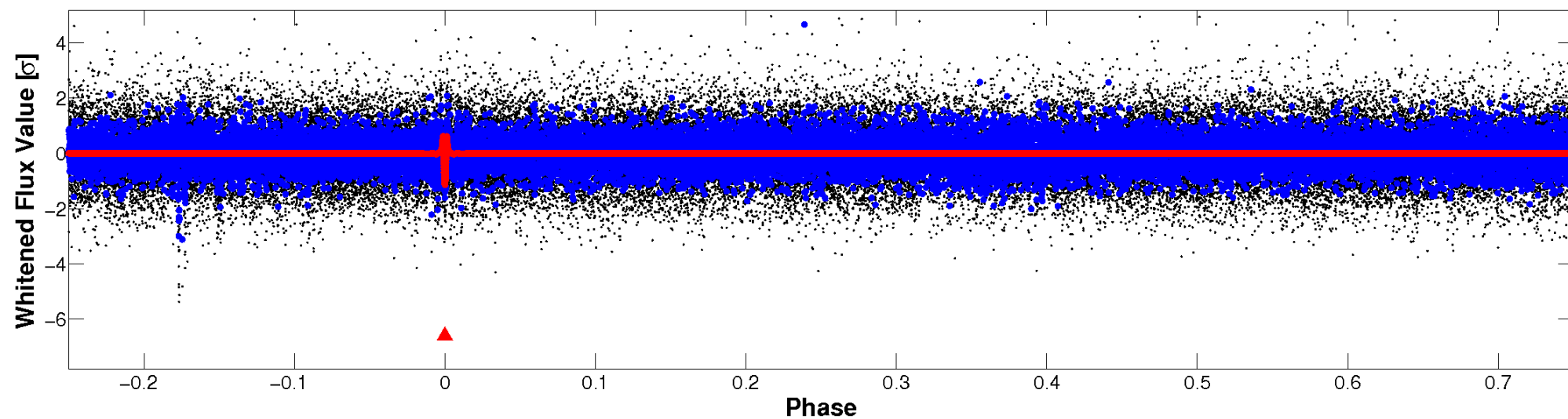


Non-Whitened Vs. Whitened Light Curve

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

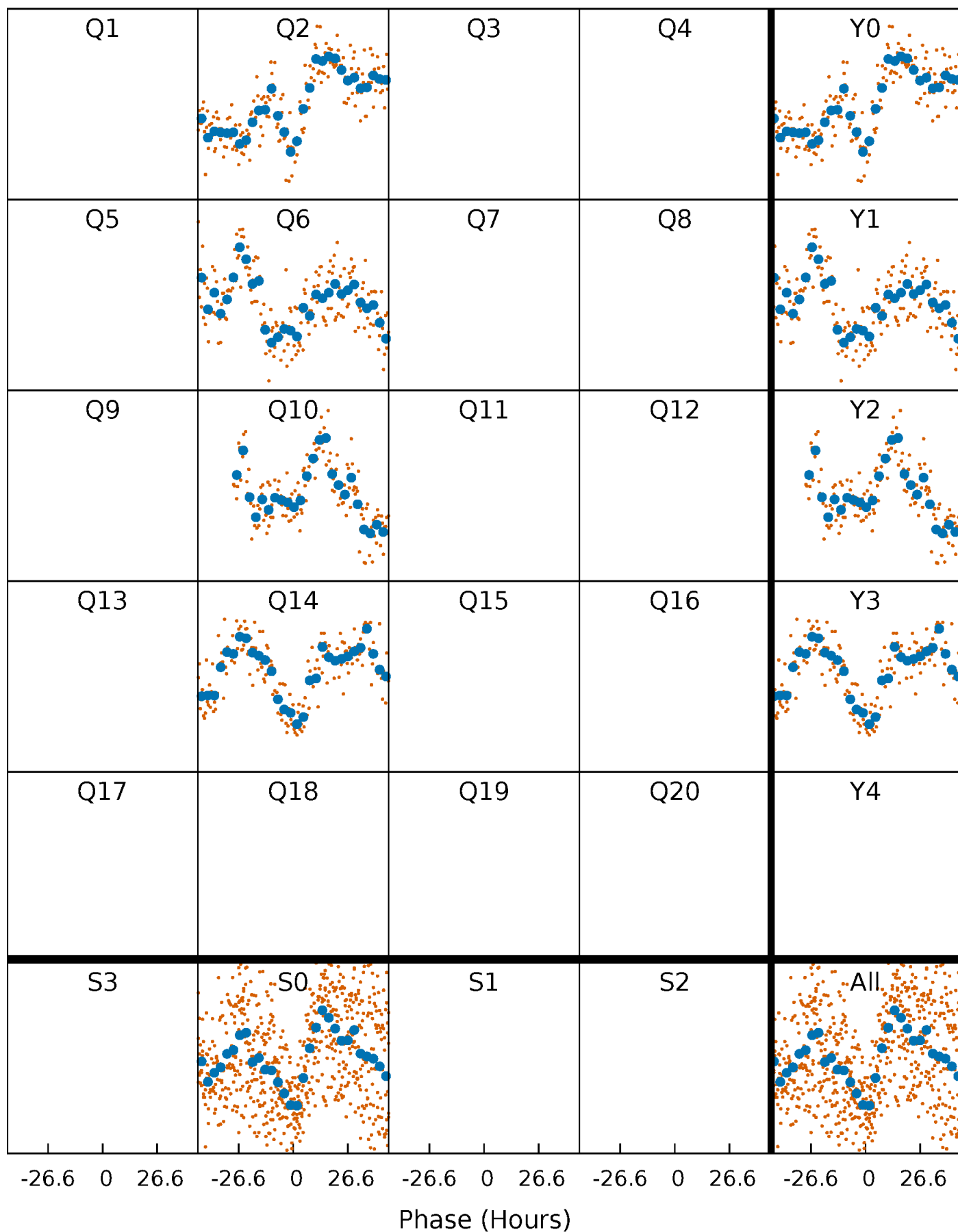


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



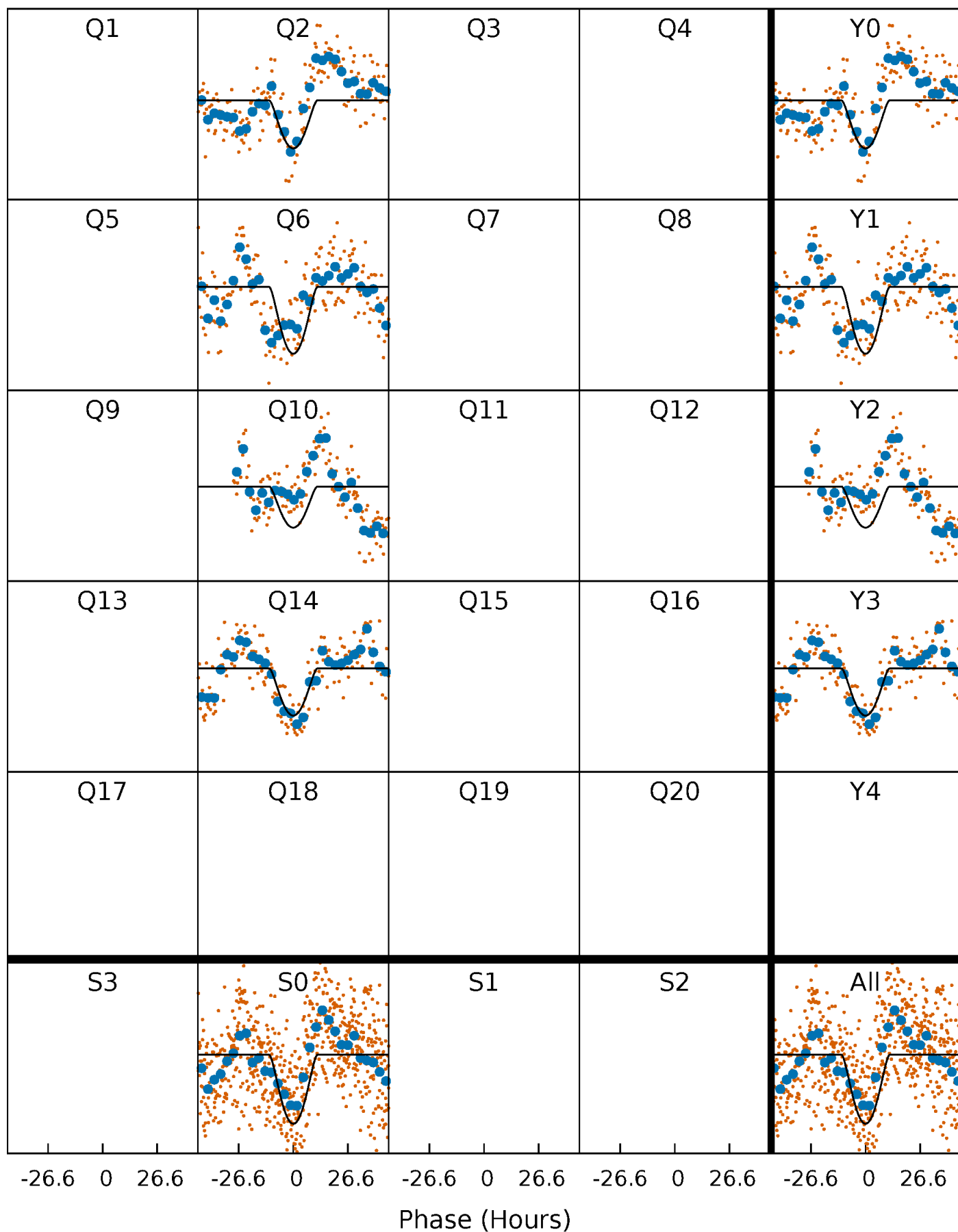
PDC Quarter-Phased Transit Curves

TCE 008108870-01 P=368.765308 Days $T_0=233.769304$ (BKJD)



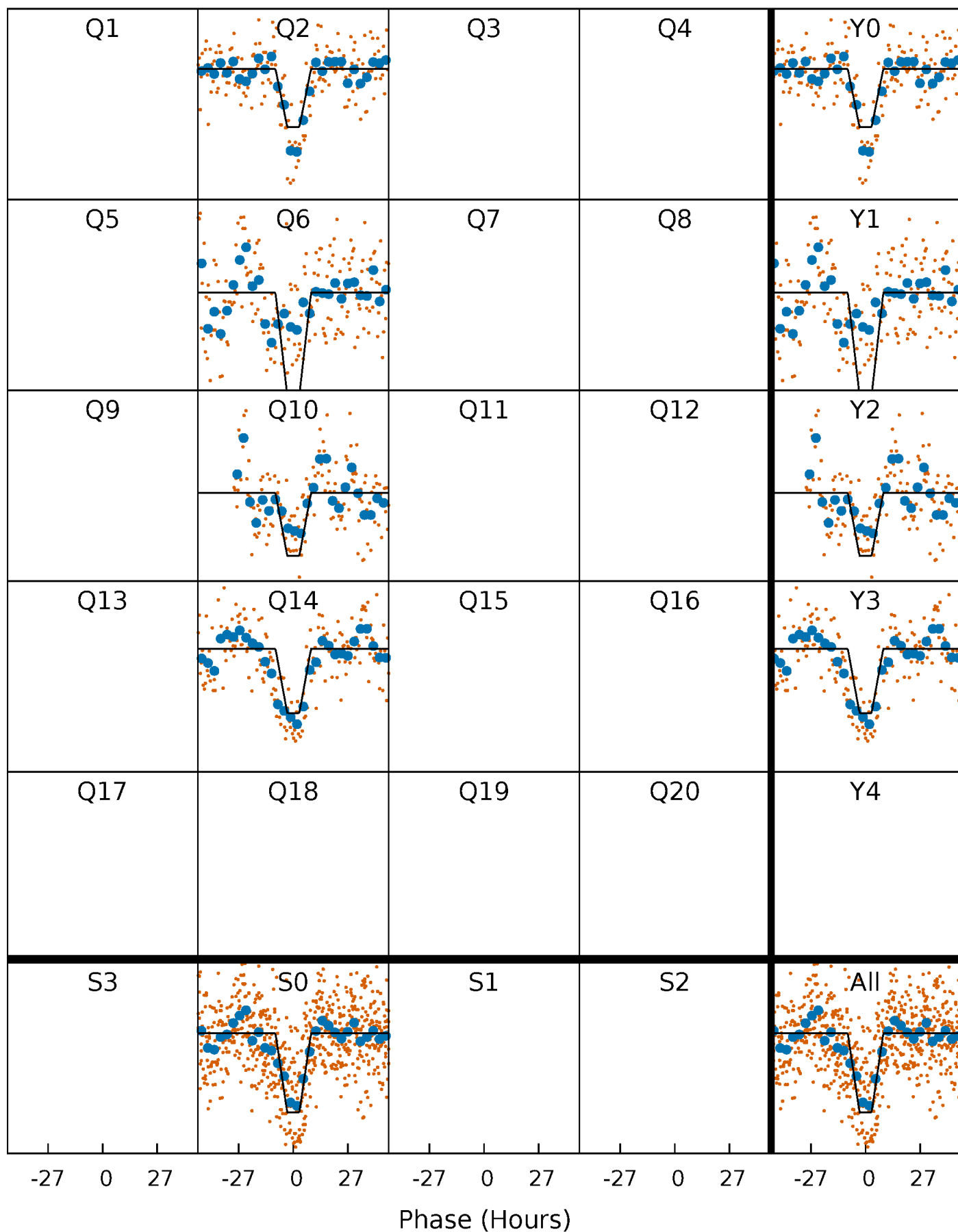
DV Quarter-Phased Transit Curves

TCE 008108870-01 P=368.765308 Days $T_0=233.769304$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

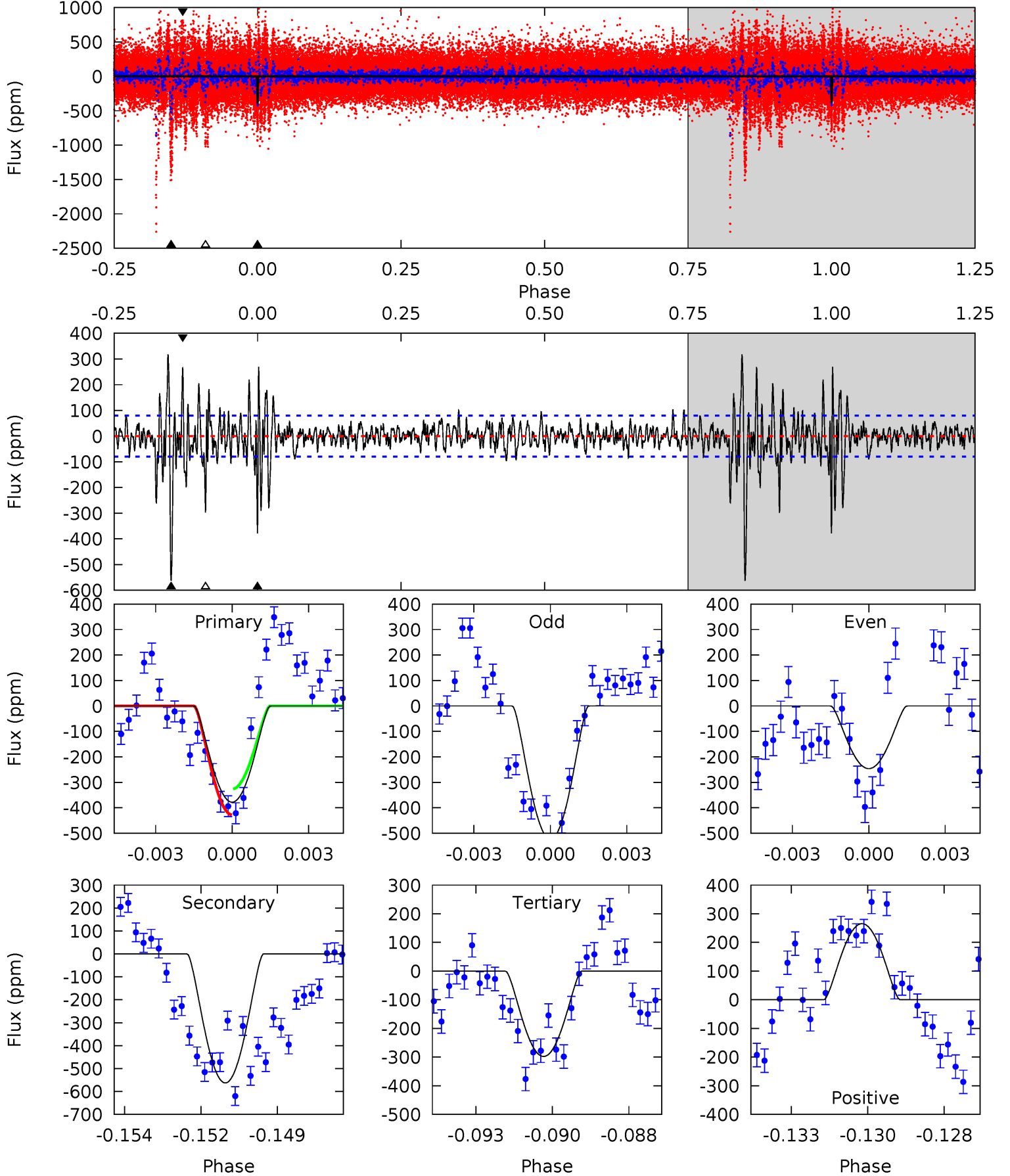
TCE 008108870-01 P=368.784891 Days $T_0=233.740832$ (BKJD)



DV Model-Shift Uniqueness Test

008108870-01, P = 368.765308 Days, E = 233.769304 Days

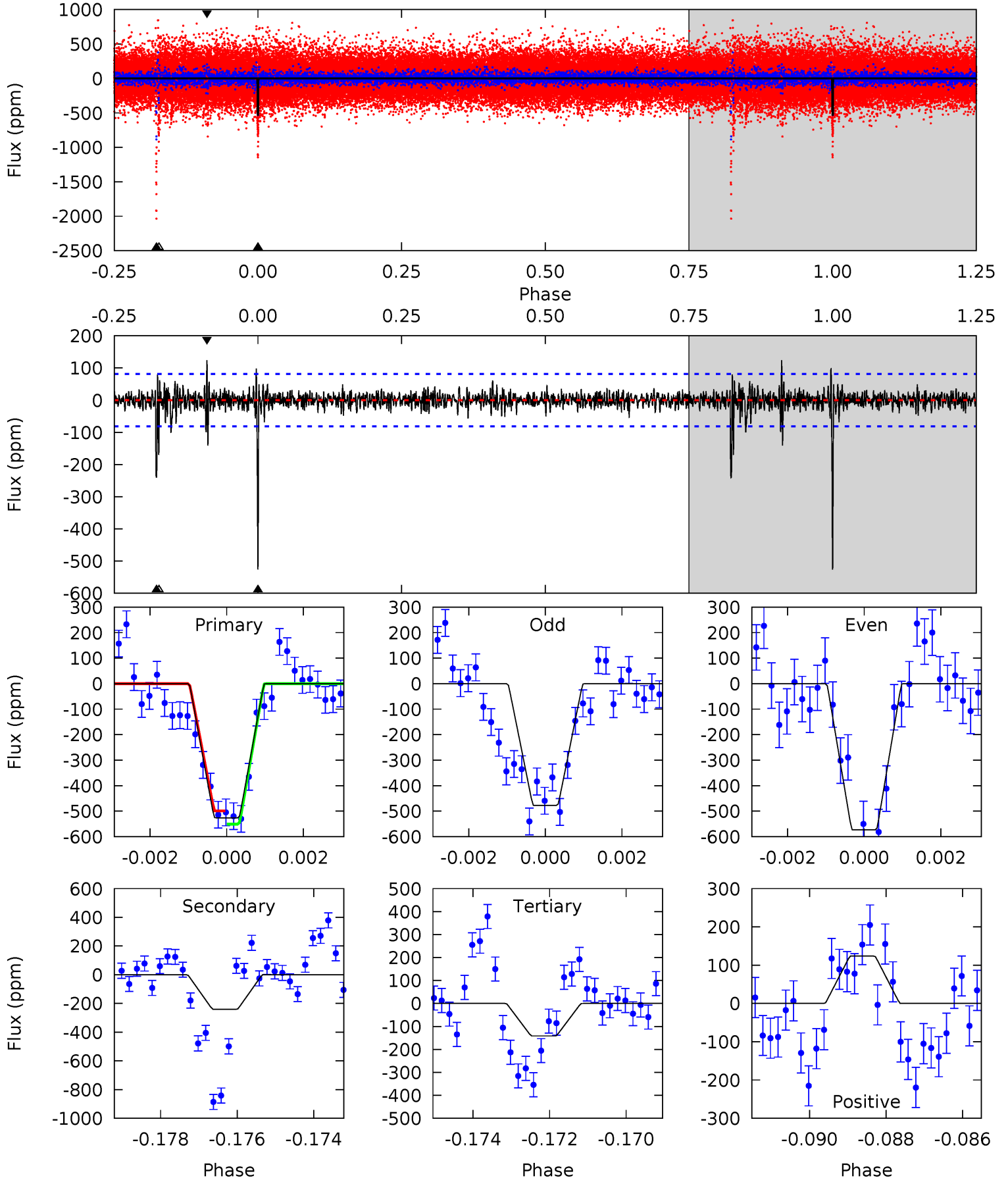
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.0	37.2	19.7	17.6	5.27	3.00	3.63	5.29	7.43	17.5	19.6	9.02	0.97	0.36	3.35



Alt Model-Shift Uniqueness Test

008108870-01, P = 368.784891 Days, E = 233.740832 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.4	15.7	9.26	8.10	5.32	3.08	1.25	25.1	26.3	6.49	7.65	3.15	0.94	0.19	1.68



Stellar Parameters For KIC 008108870

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5979^{+161}_{-161}	$4.598^{+0.032}_{-0.168}$	$-0.760^{+0.300}_{-0.300}$	$0.761^{+0.181}_{-0.057}$	$0.841^{+0.071}_{-0.079}$	$2.687^{+0.431}_{-1.264}$
	+3%/-3%	+1%/-4%	+39%/-39%	+24%/-7%	+8%/-9%	+16%/-47%
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 008108870-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-563 ± 15	$6.22^{+6.18}_{-4.01}$	337^{+18}_{-13}	3791^{+1916}_{-715}	6996^{+48849}_{-5221}
Alt.	-241 ± 15	$5.38^{+5.69}_{-3.79}$	337^{+19}_{-14}	3463^{+2166}_{-638}	4018^{+42879}_{-3073}

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

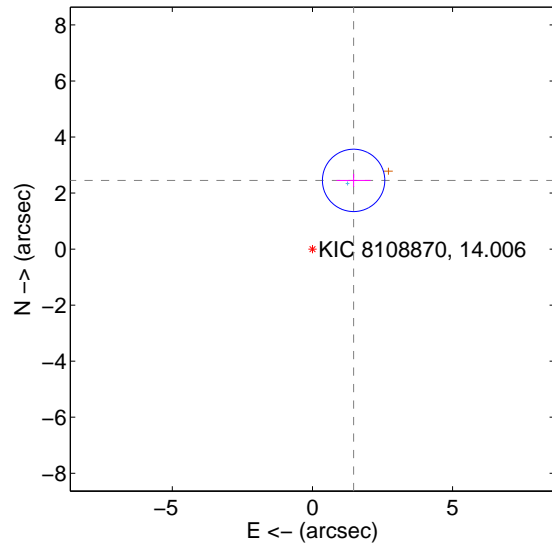
Supplemental centroid analysis for 008108870-01. Kepler magnitude: 14.01. Transit SNR 10.48

There are 1 quarters with good PRF difference image offsets

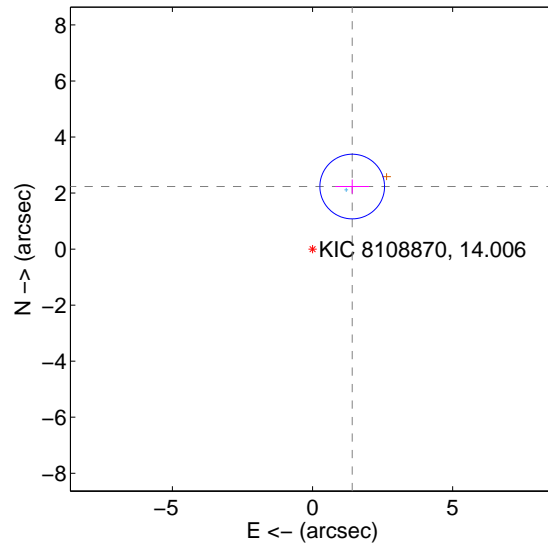
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.859 ± 0.371	7.71	-1.469 ± 0.609	2.452 ± 0.233
PRF-fit source offset from KIC position	2.644 ± 0.385	6.87	-1.416 ± 0.602	2.233 ± 0.249
photometric centroid source offset	1.14 ± 2.02	0.57	-0.50 ± 2.16	1.03 ± 1.98

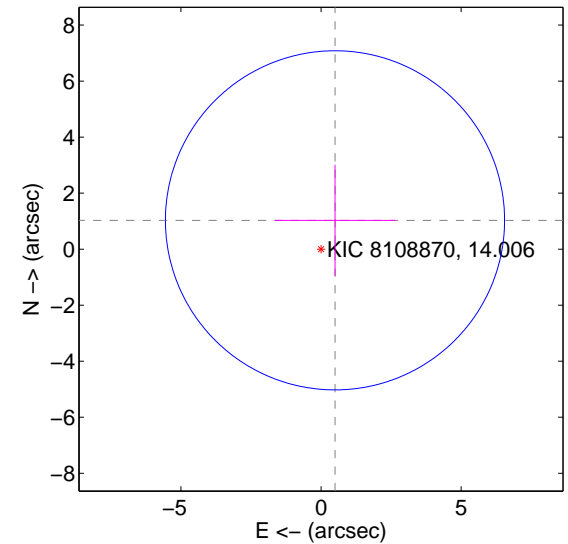
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

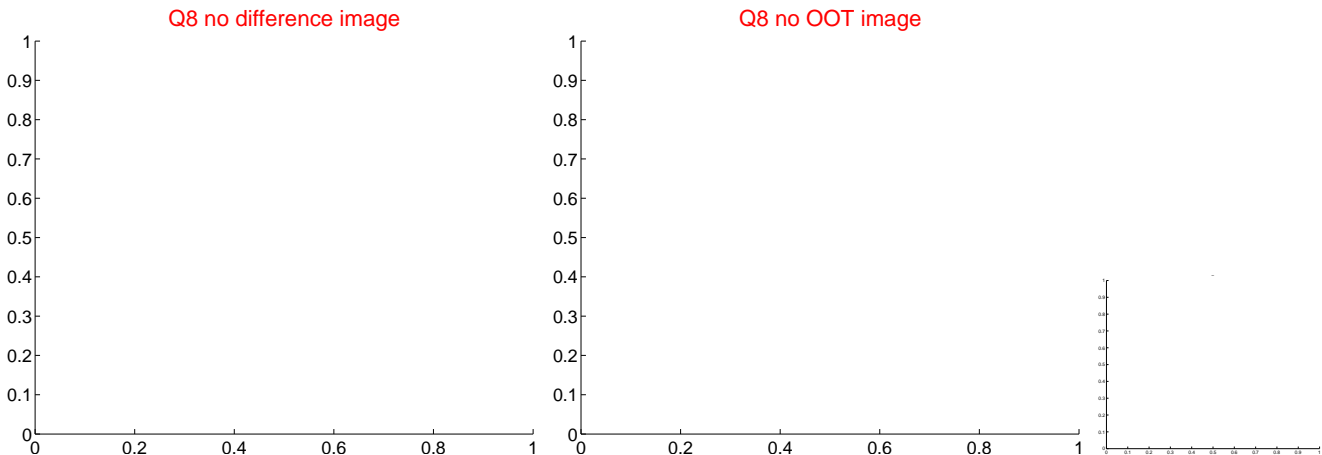
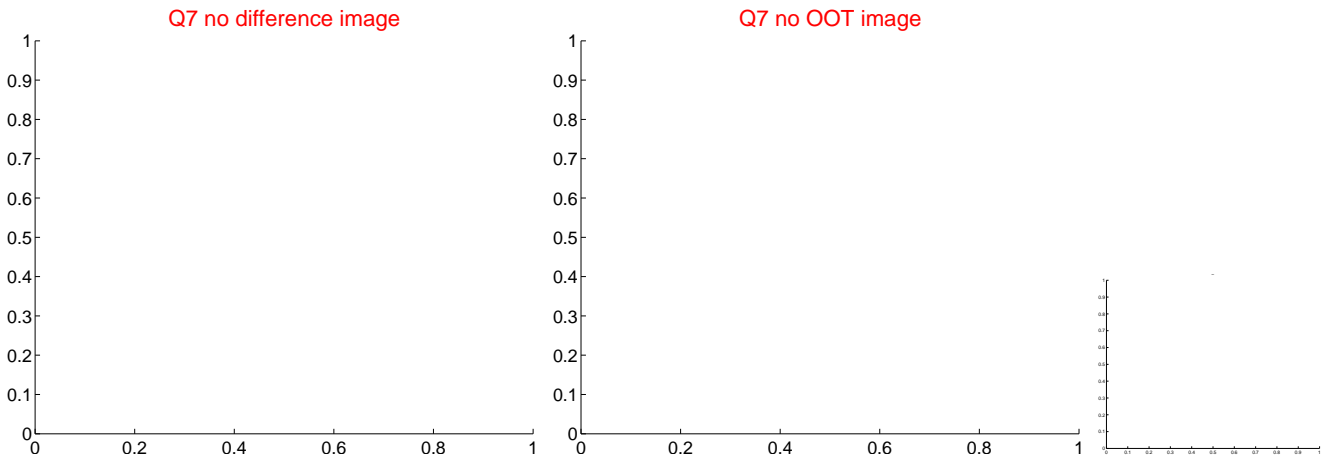
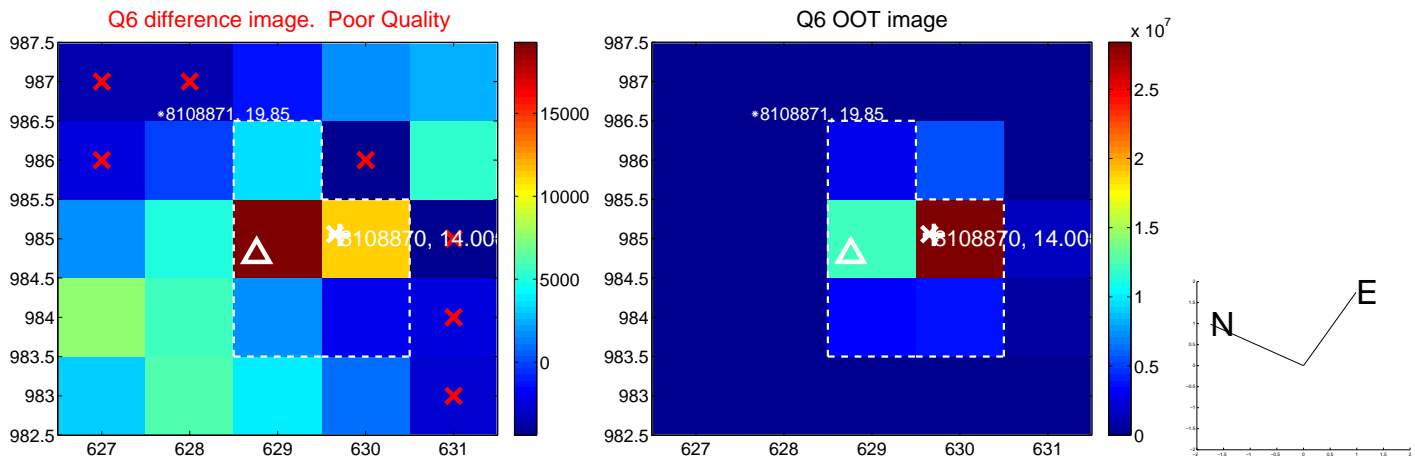
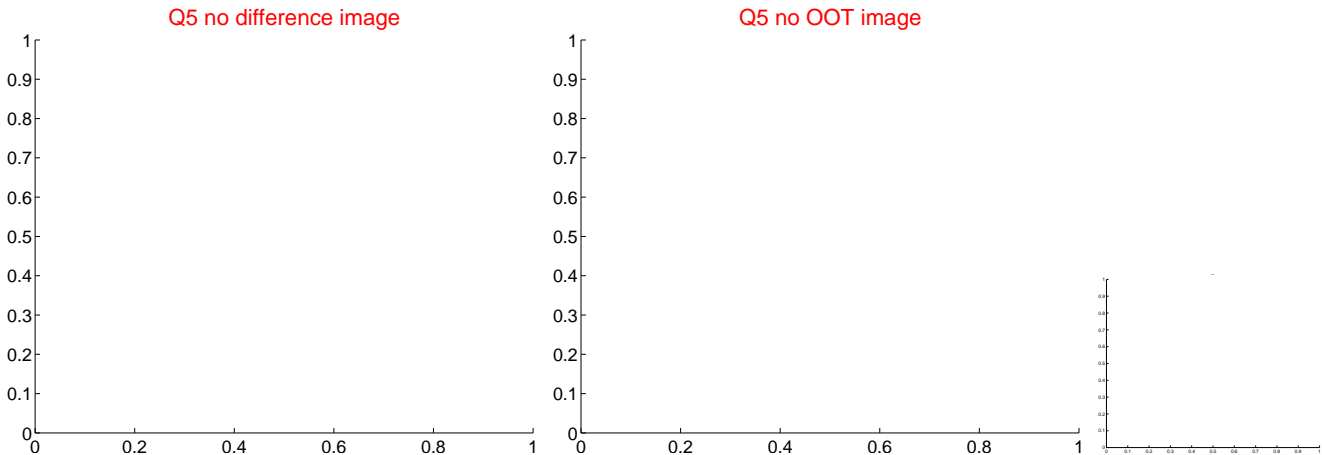


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



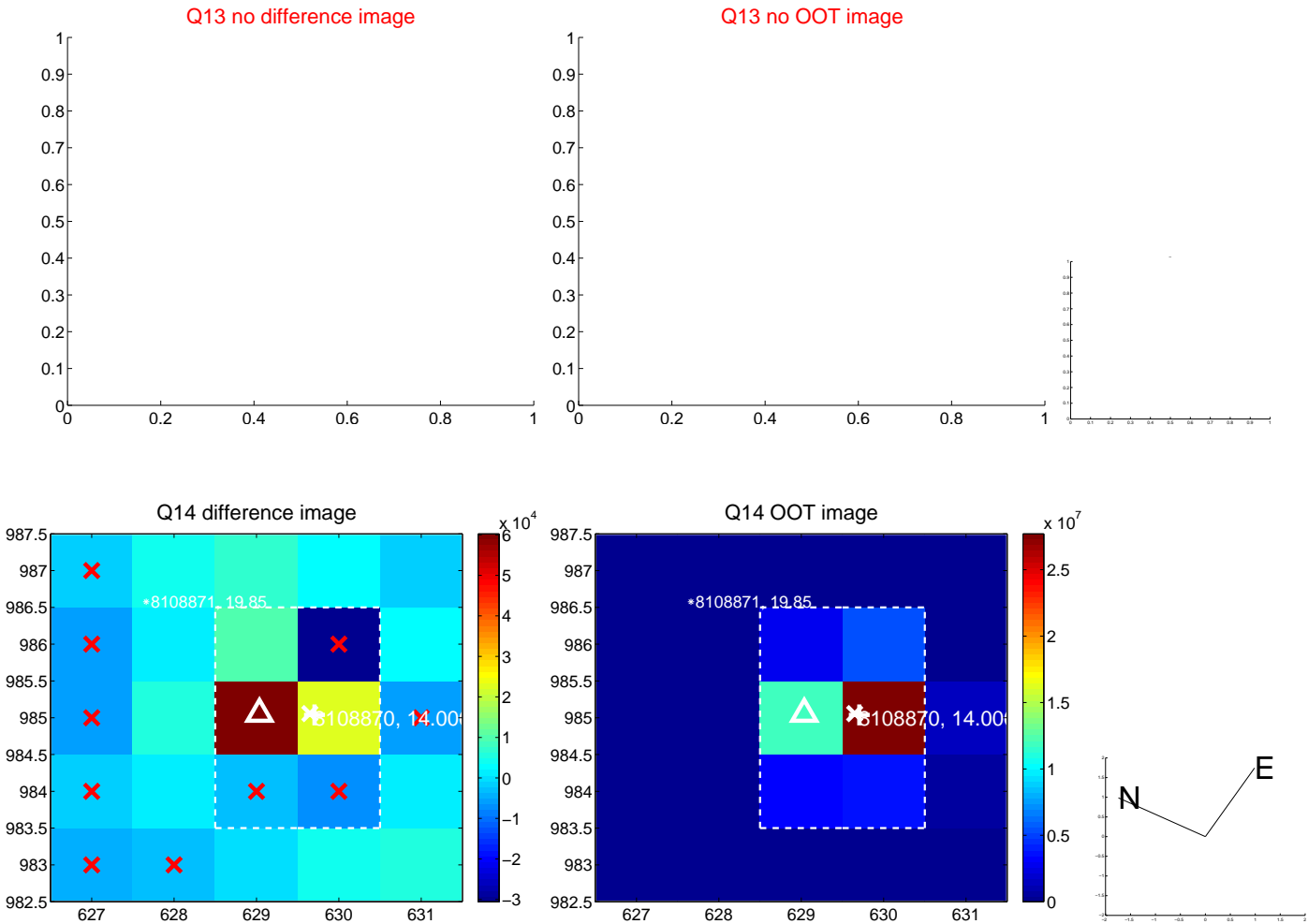
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



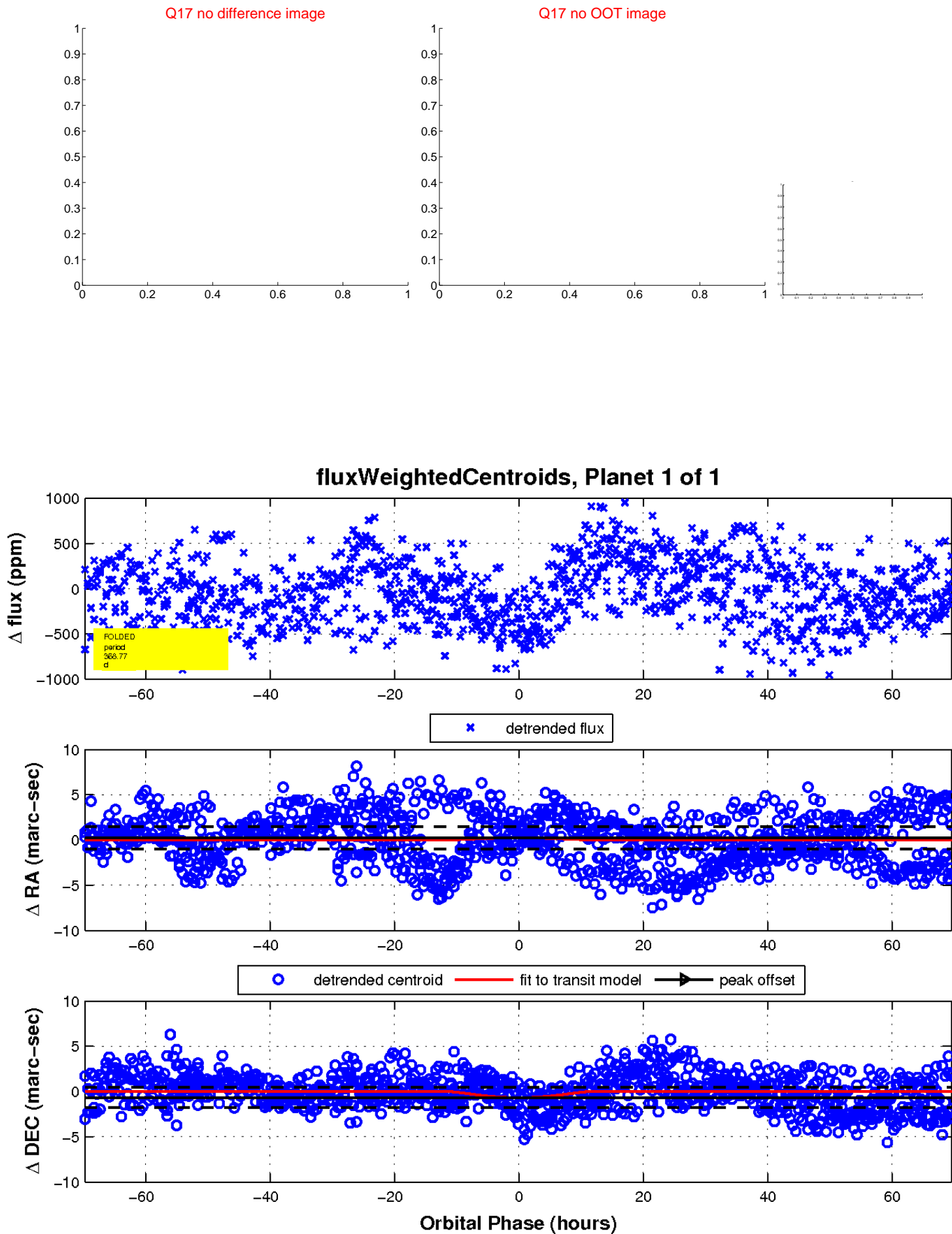
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

