

KIC 008108933

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})
008108933-01	OBS	No	368.815458	234.031507	1278.9	20.921	14.0	16.1	0.98	6004	6.68	1.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008108933-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_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.

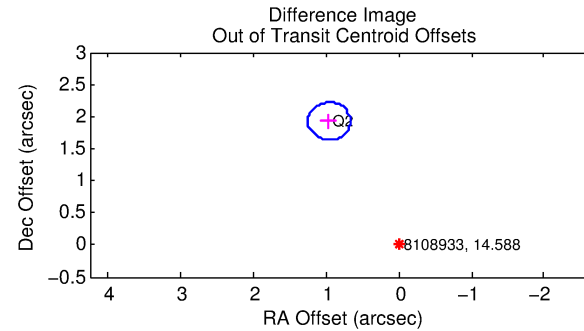
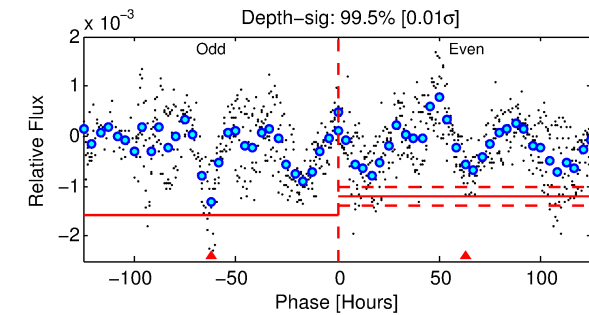
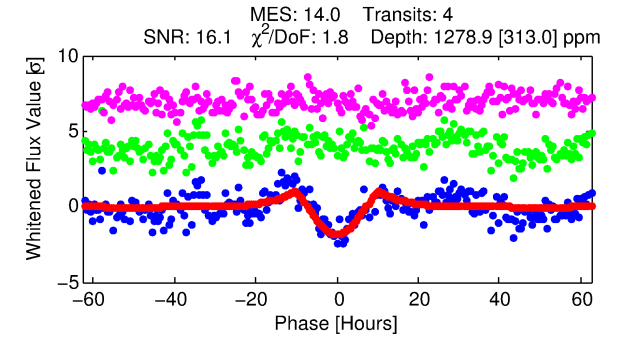
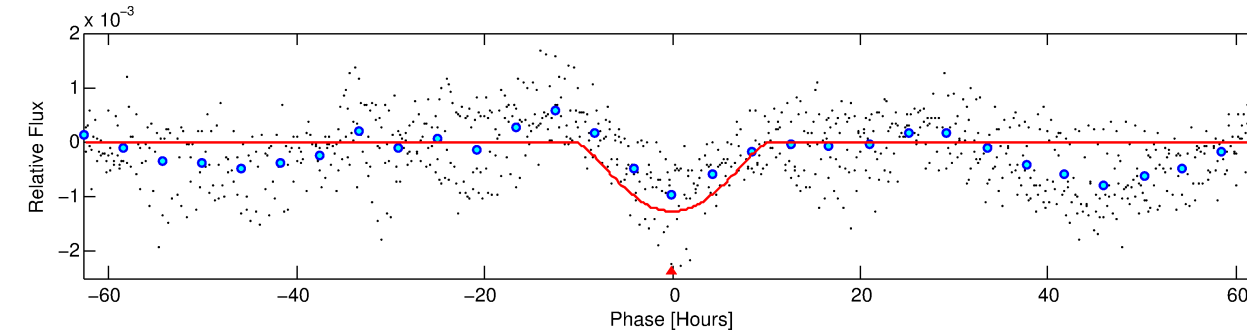
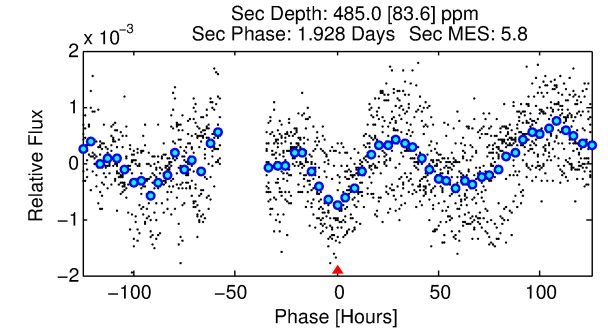
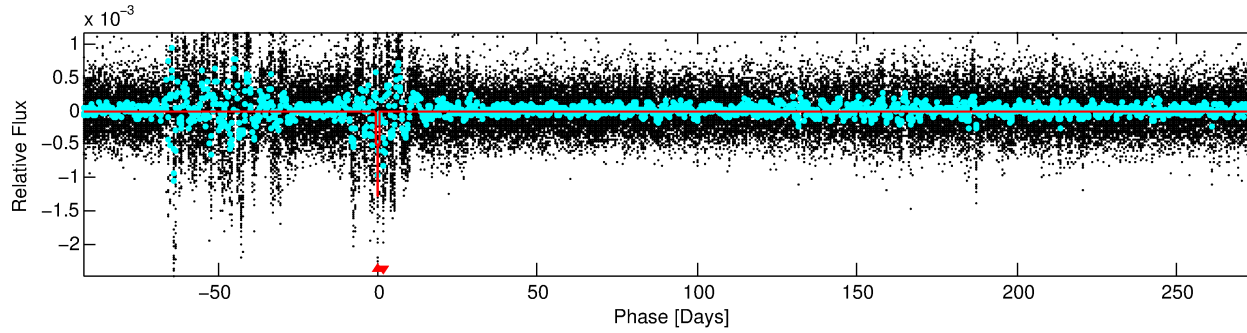
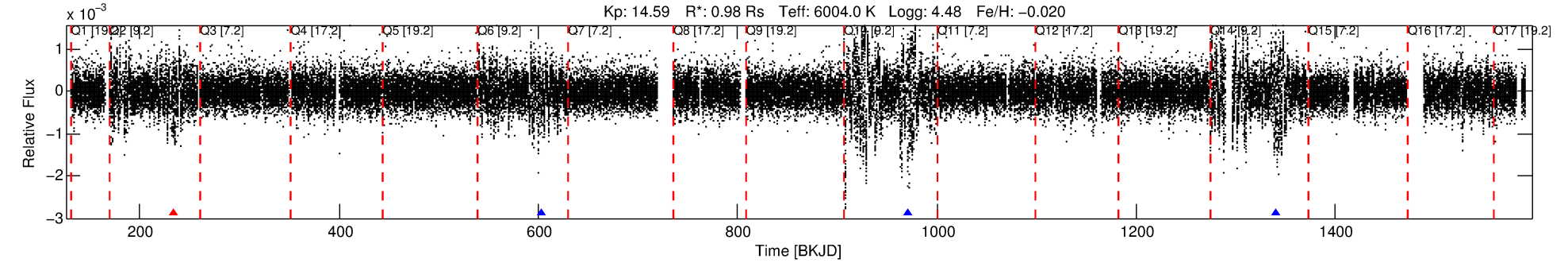
Ephemeris Match Information For 008108933-01

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
008108933-01	8108933	008108870-01	8108870	1:1	55.9	14	3	14.01	14.59	0.43	Direct-PRF	1	1.34	2.24

Notes: P₁:P₂ 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. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ 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: 8108933 Candidate: 1 of 1 Period: 368.815 d



DV Fit Results:

Period = 368.81546 [0.01414] d
Epoch = 234.0315 [0.0259] BKJD
Rp/R* = 0.0627 [0.1192]
a/R* = 48.46 [21.26]
b = 1.00 [0.16]
Seff = 1.05 [0.44]
Teq = 258 [27] K
Rp = 6.68 [12.89] Re
a = 1.0268 [0.2804] AU
Ag = 6300.65 [24111.90] [0.26σ]
Teffp = 3559 [3389] K [0.97σ]

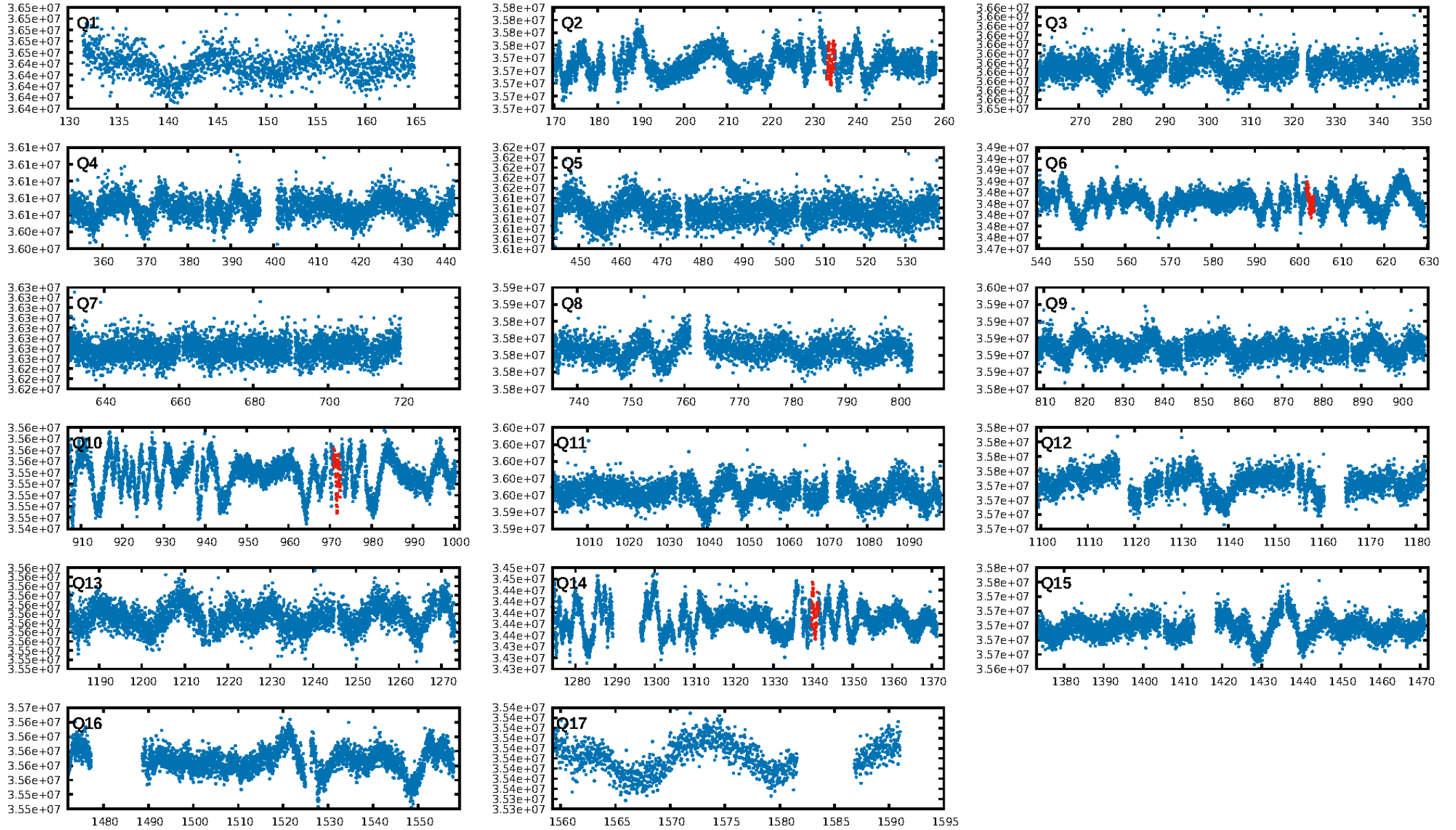
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 2.3%
Bootstrap-pfa: 1.87e-16
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 0.8428
Centroid-sig: 0.2%
Centroid-so: 2.876 arcsec [2.60σ]
OotOffset-rm: 2.153 arcsec [22.10σ]
KicOffset-rm: 2.216 arcsec [22.80σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

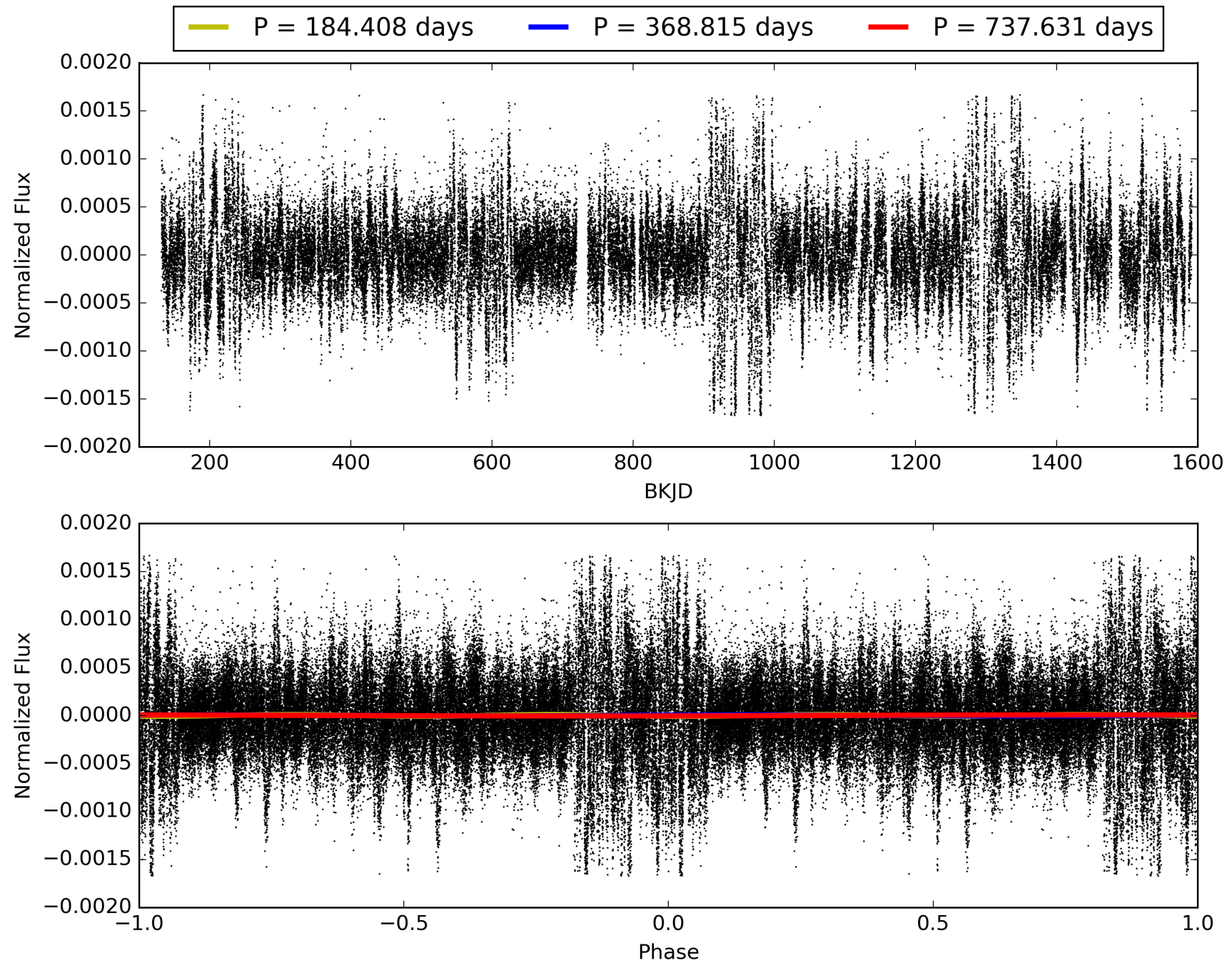
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:29:08 Z

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

TCE 008108933-01, PDC Light Curves

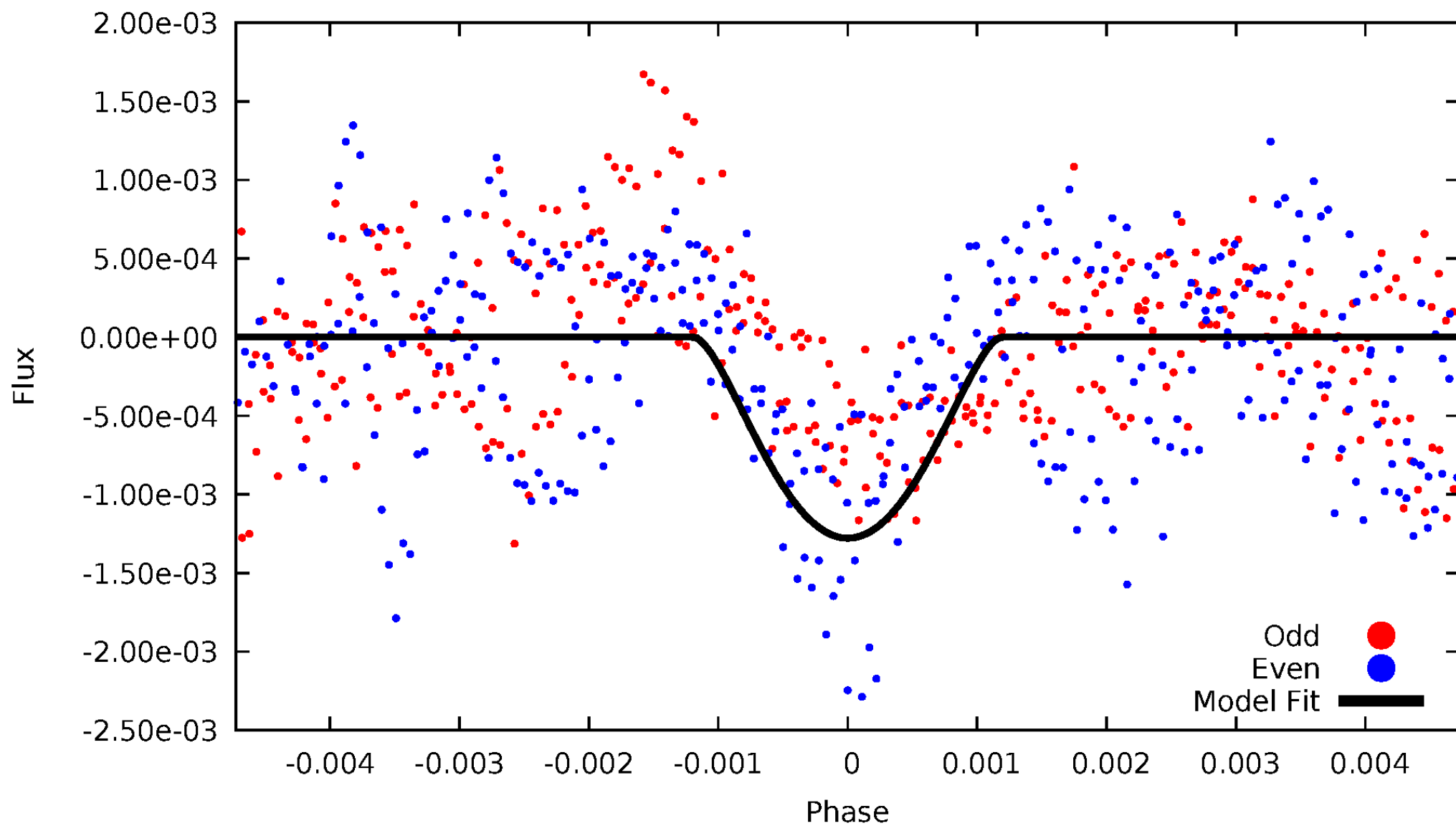


TCE 008108933-01



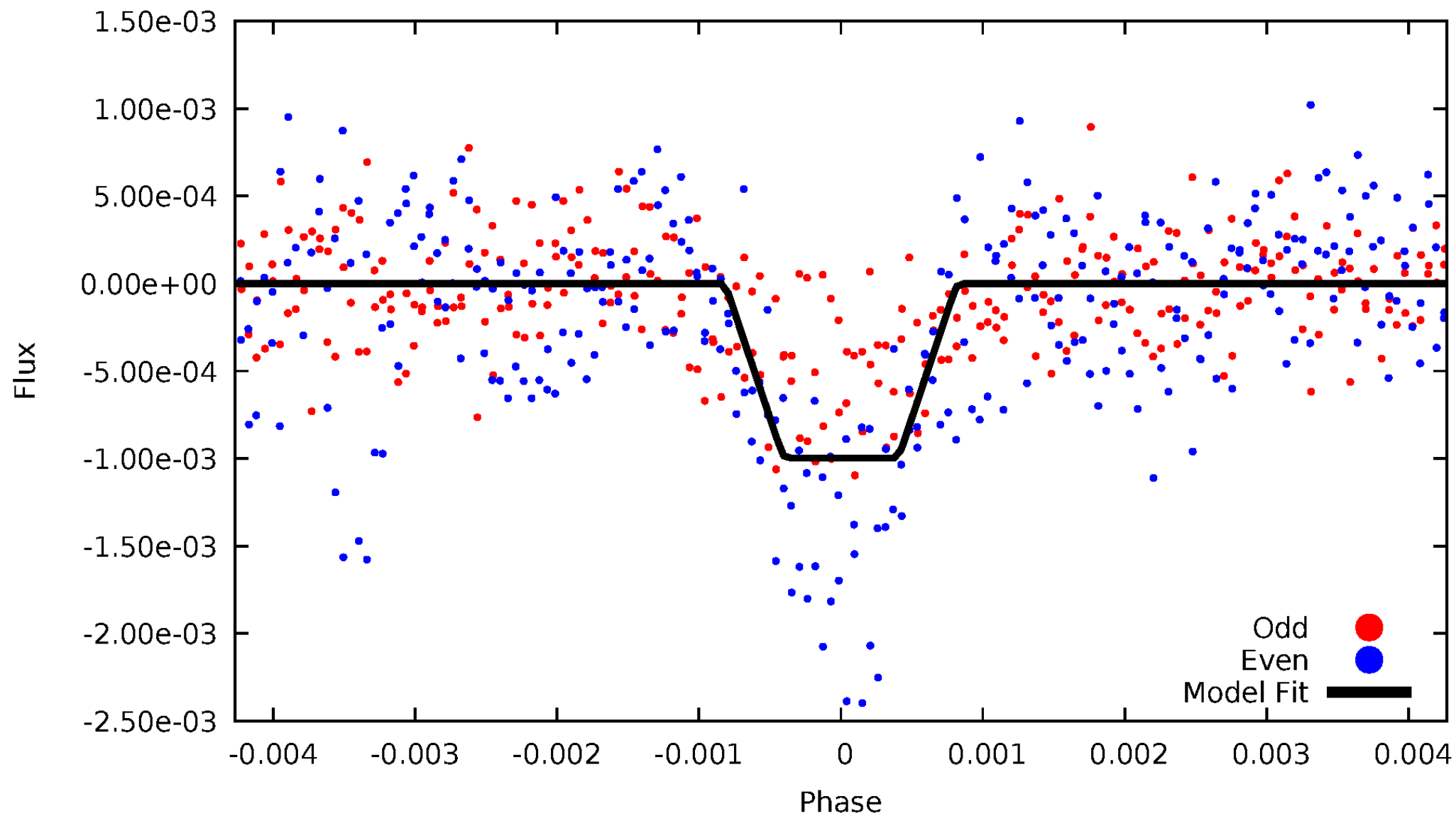
DV Odd/Even

TCE 008108933-01



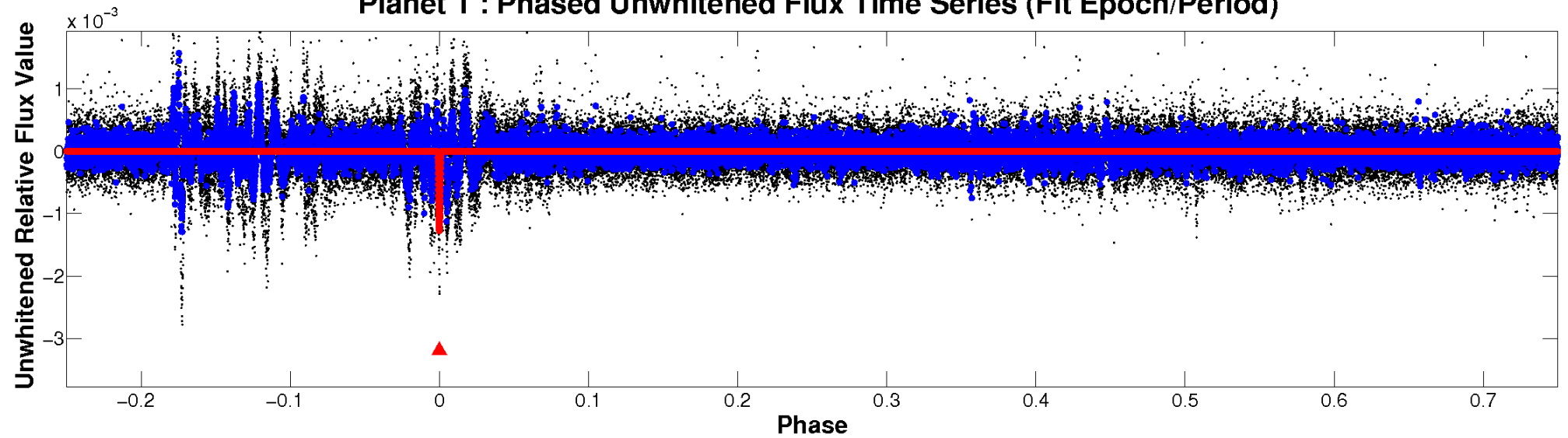
ALT Odd/Even

TCE 008108933-01

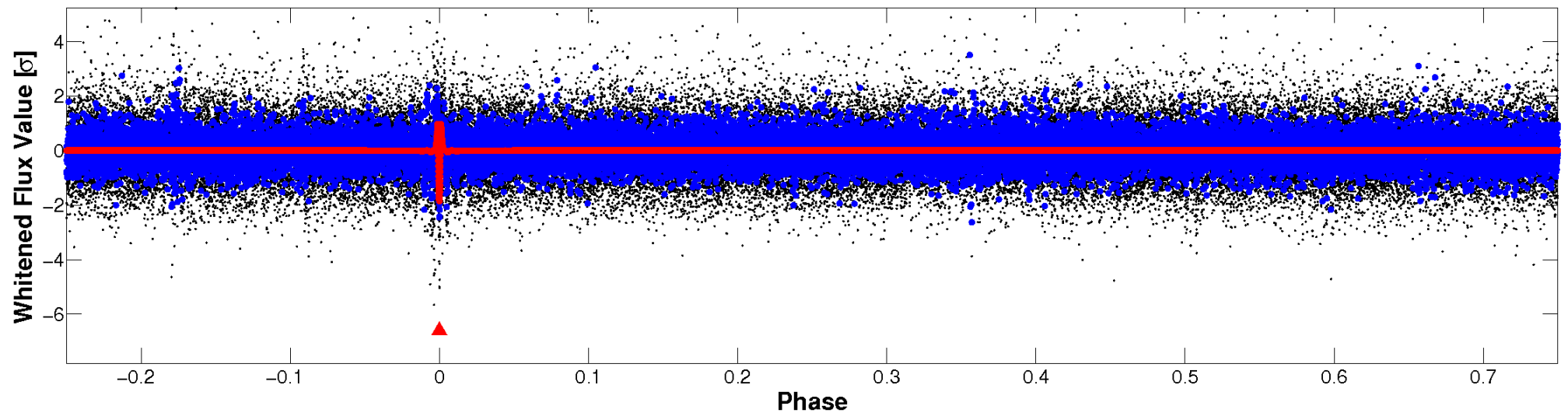


Non-Whitened Vs. Whitened Light Curve

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

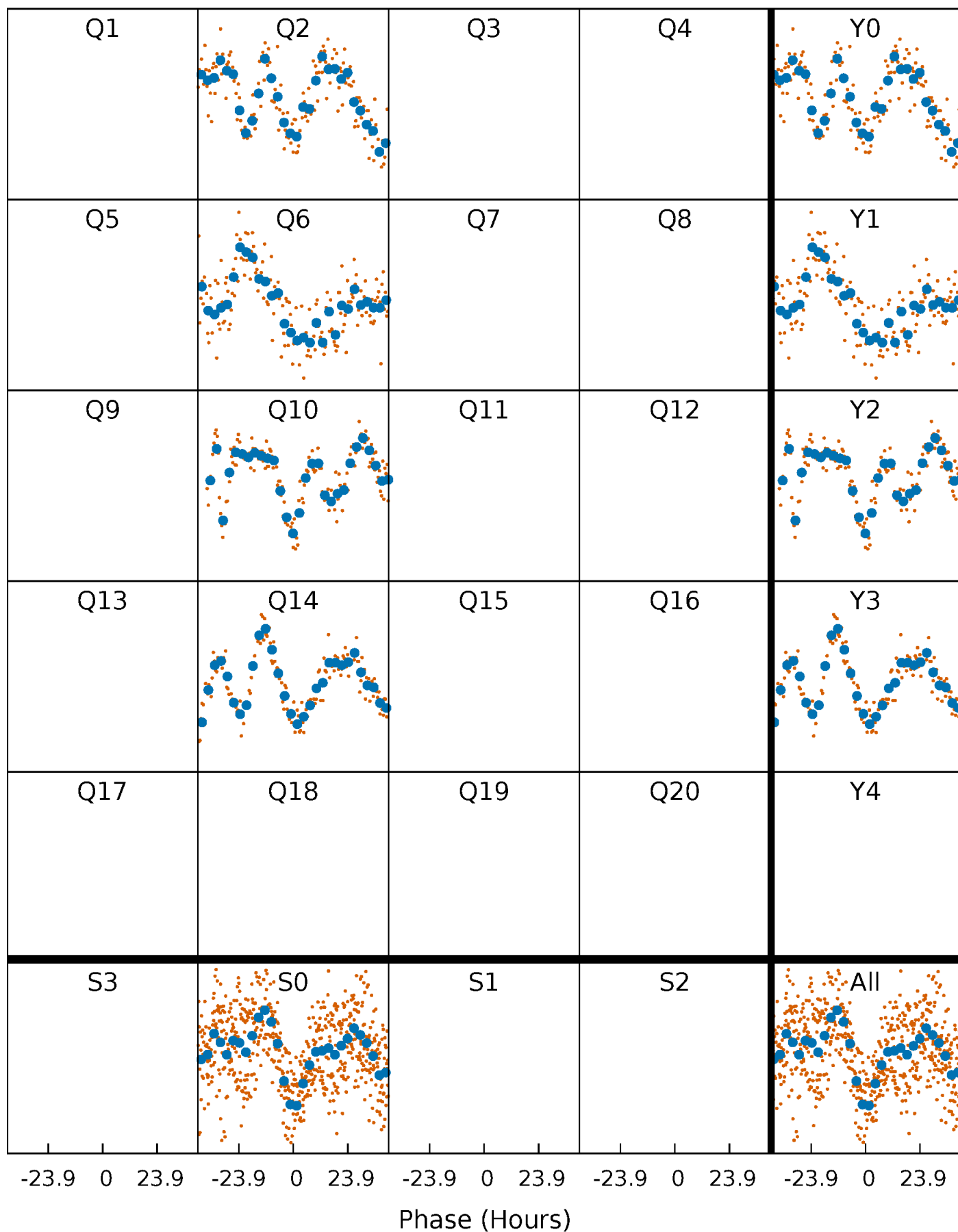


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008108933-01 P=368.815458 Days $T_0=234.031507$ (BKJD)



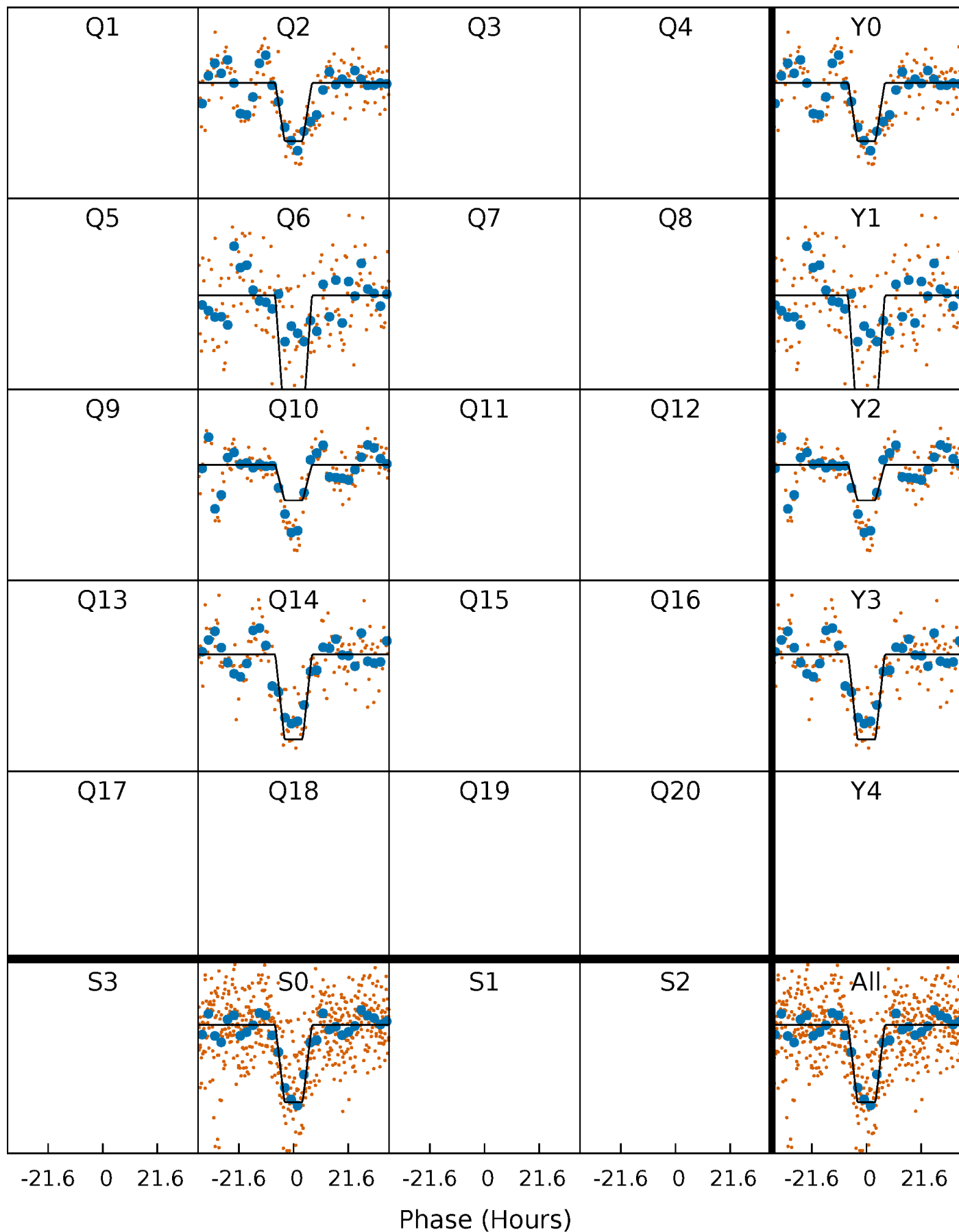
DV Quarter-Phased Transit Curves

TCE 008108933-01 P=368.815458 Days $T_0=234.031507$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

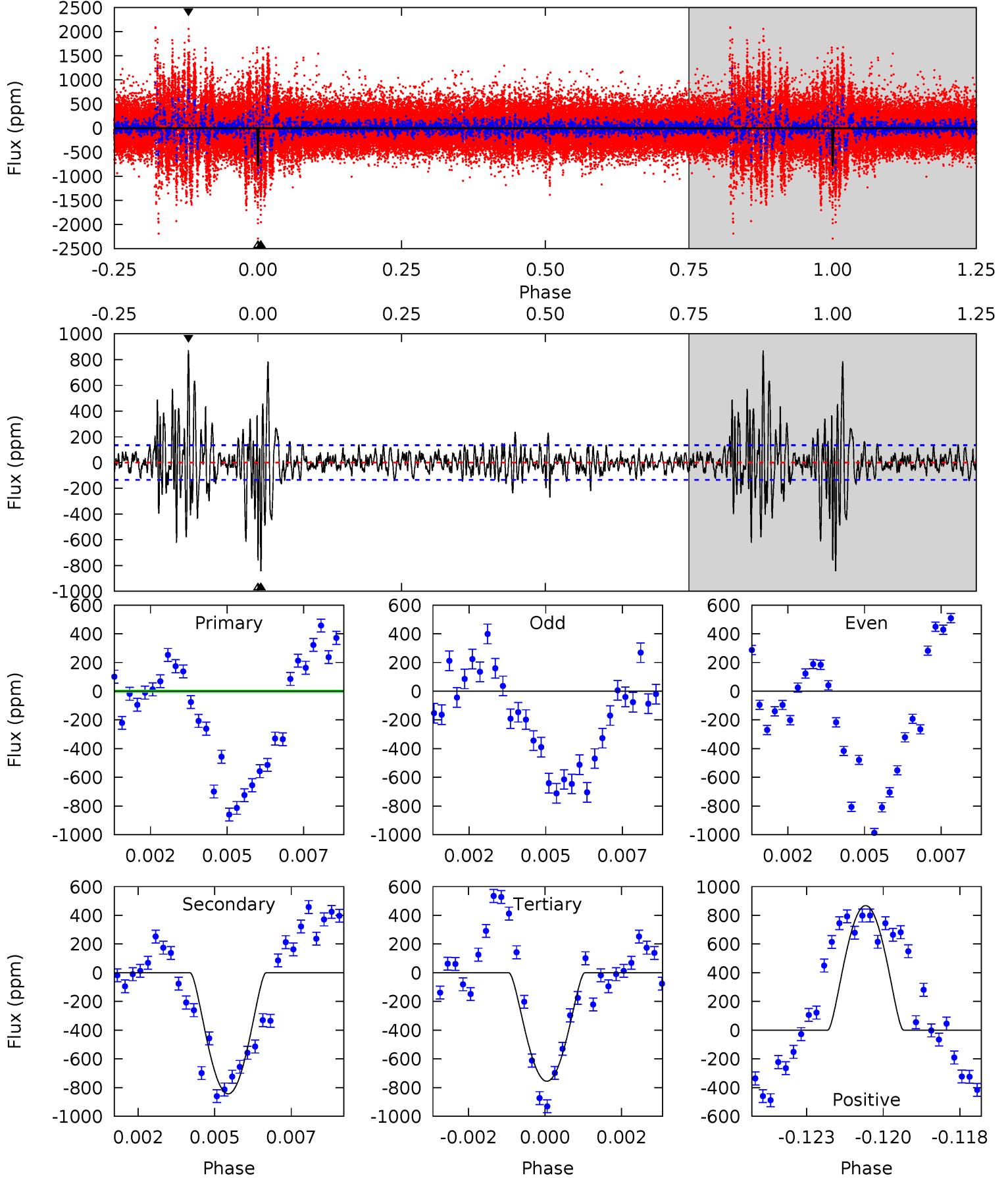
TCE 008108933-01 P=368.825758 Days $T_0=233.995743$ (BKJD)



DV Model-Shift Uniqueness Test

008108933-01, P = 368.815458 Days, E = 234.031507 Days

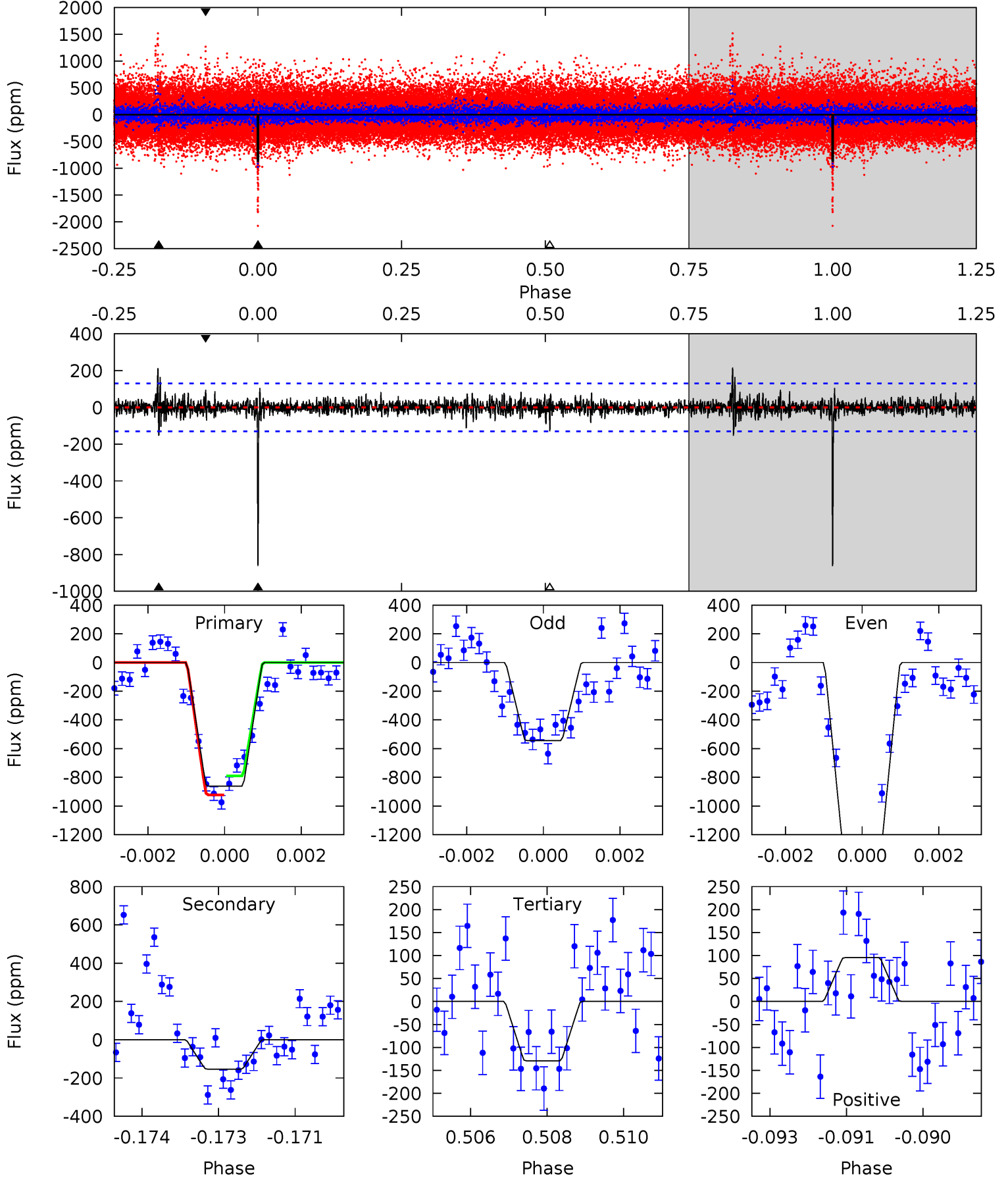
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.6	33.1	29.7	34.0	5.29	3.03	5.22	1.00	-3.39	3.45	-0.94	9.05	1.15	0.51	0.72



Alt Model-Shift Uniqueness Test

008108933-01, P = 368.825758 Days, E = 233.995743 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.4	6.32	5.32	3.92	5.36	3.15	1.05	30.1	31.5	1.00	2.39	16.4	1.02	0.20	2.73



Stellar Parameters For KIC 008108933

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6004^{+163}_{-199}	$4.484^{+0.054}_{-0.216}$	$-0.020^{+0.250}_{-0.300}$	$0.977^{+0.318}_{-0.106}$	$1.061^{+0.134}_{-0.147}$	$1.603^{+0.359}_{-0.850}$
	+3%/-3%	+1%/-5%	+1250%/-1500%	+33%/-11%	+13%/-14%	+22%/-53%
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 008108933-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-843 ± 25	$11.25^{+11.08}_{-7.83}$	368^{+24}_{-17}	3671^{+2211}_{-710}	3840^{+38221}_{-2877}
Alt.	-154 ± 24	$10.61^{+9.96}_{-7.29}$	369^{+26}_{-19}	2868^{+1230}_{-439}	746^{+7005}_{-538}

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 $A_{obs} \gg 1.0$

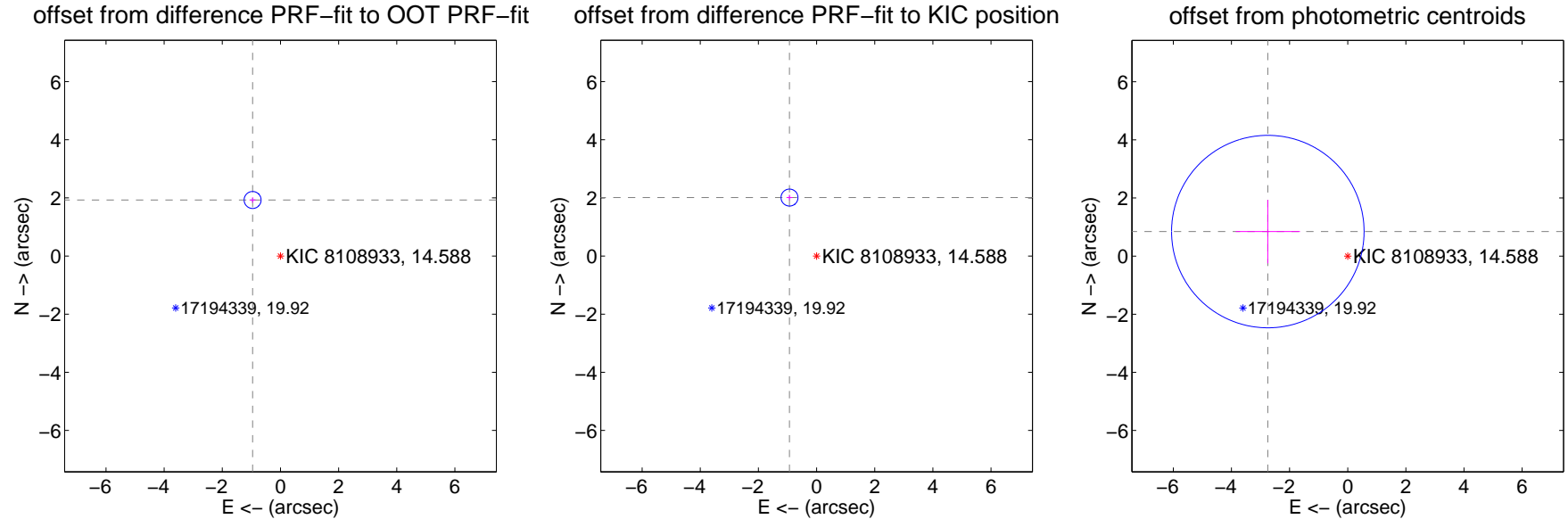
DV Centroid Data

Supplemental centroid analysis for 008108933-01. Kepler magnitude: 14.59. Transit SNR 16.14

There are 1 quarters with good PRF difference image offsets

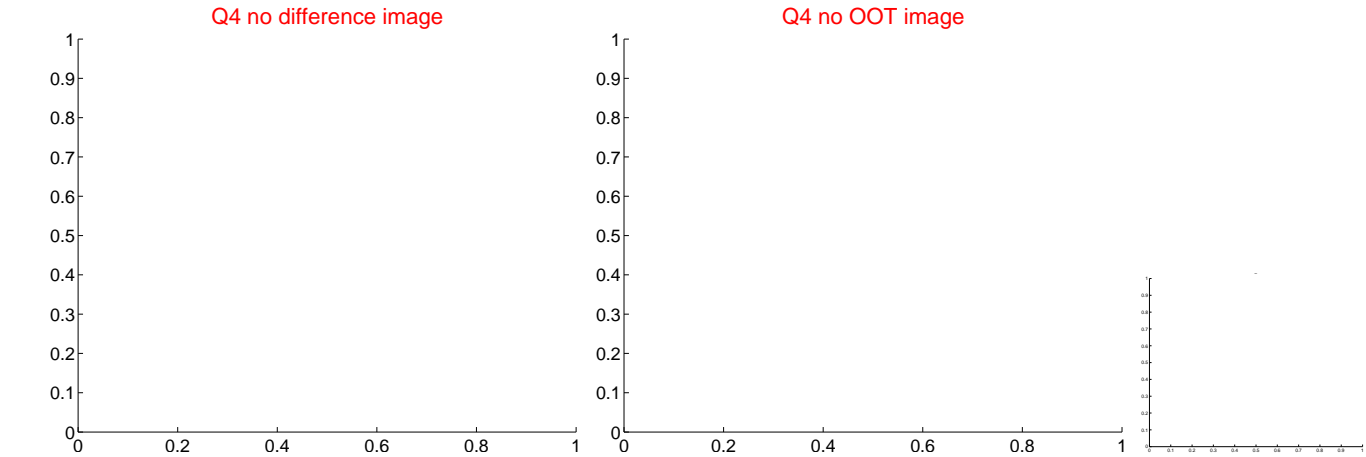
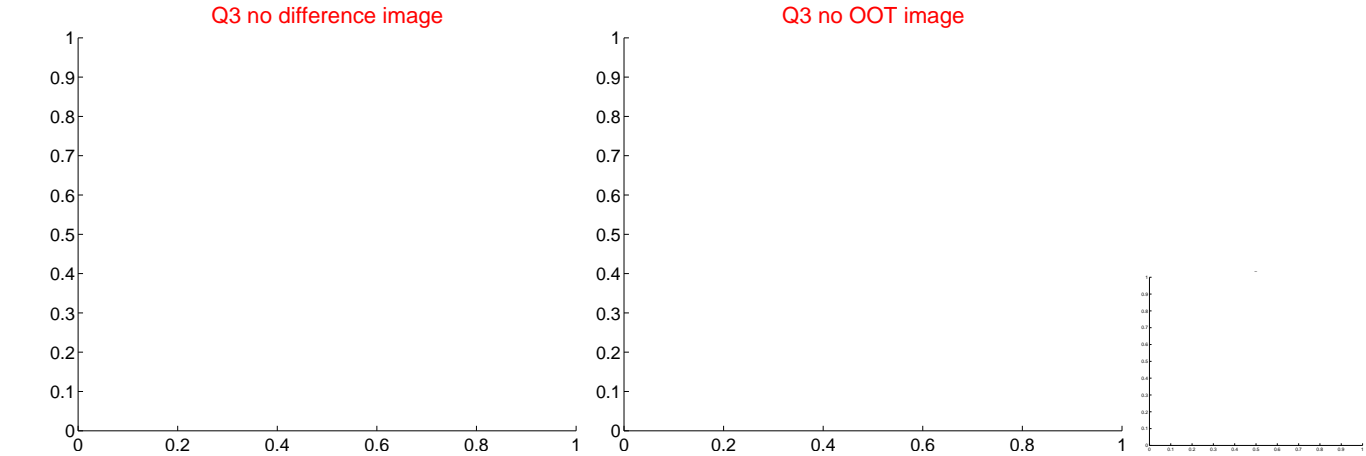
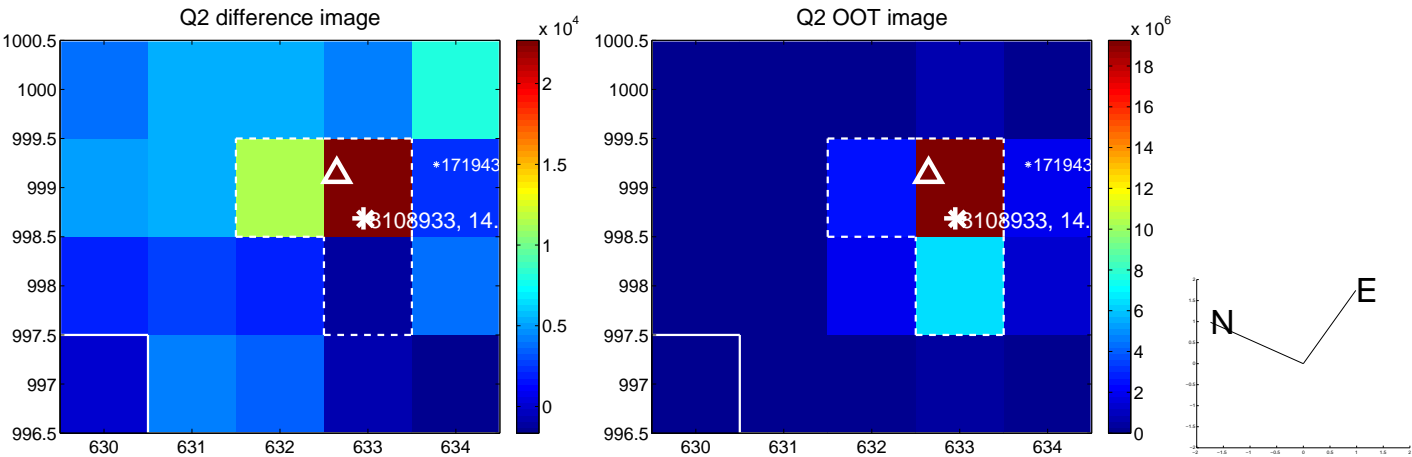
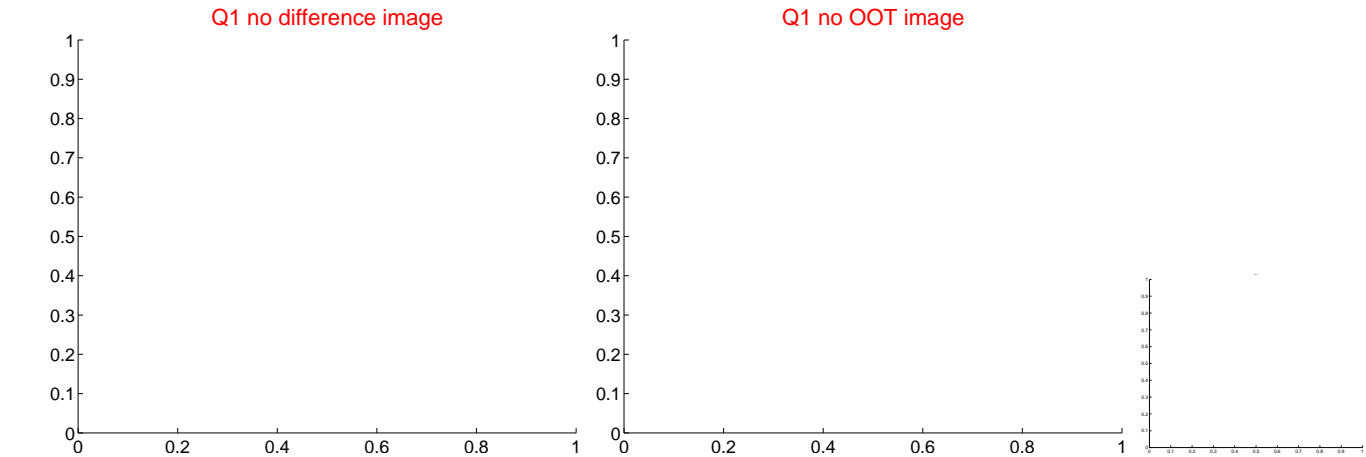
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.153 ± 0.097	22.10	0.958 ± 0.104	1.928 ± 0.096
PRF-fit source offset from KIC position	2.216 ± 0.097	22.80	0.931 ± 0.104	2.011 ± 0.096
photometric centroid source offset	2.88 ± 1.10	2.60	2.75 ± 1.11	0.84 ± 1.09



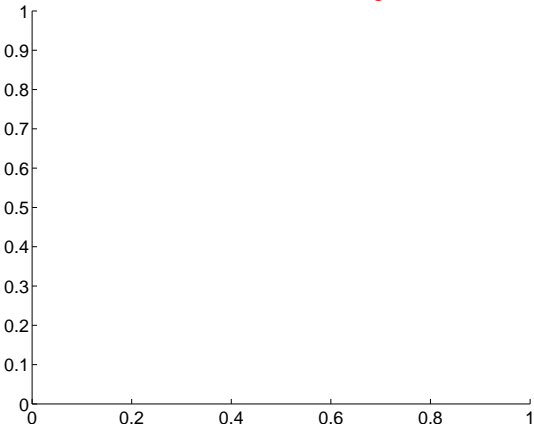
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

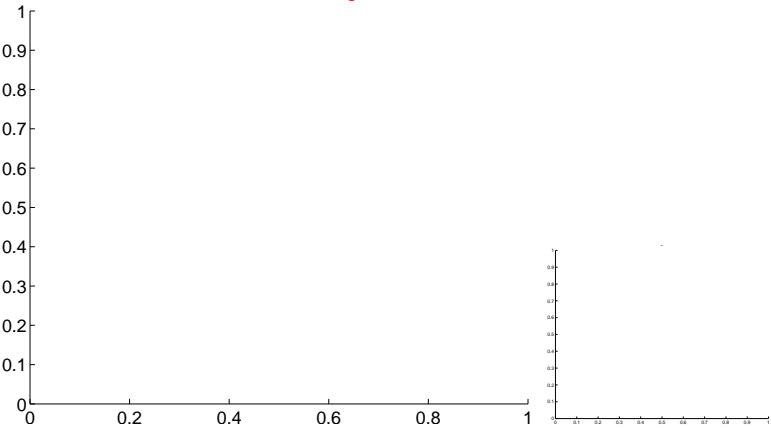


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

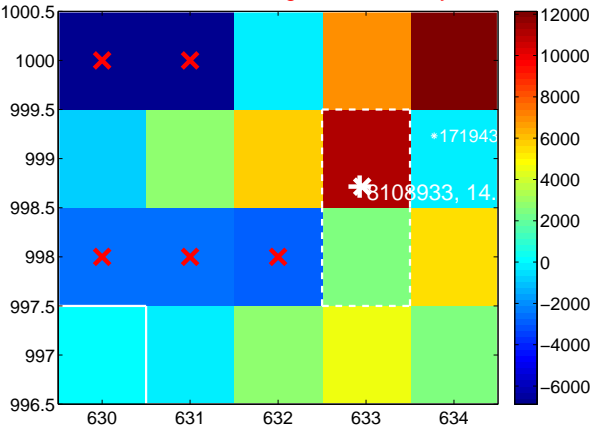
Q5 no difference image



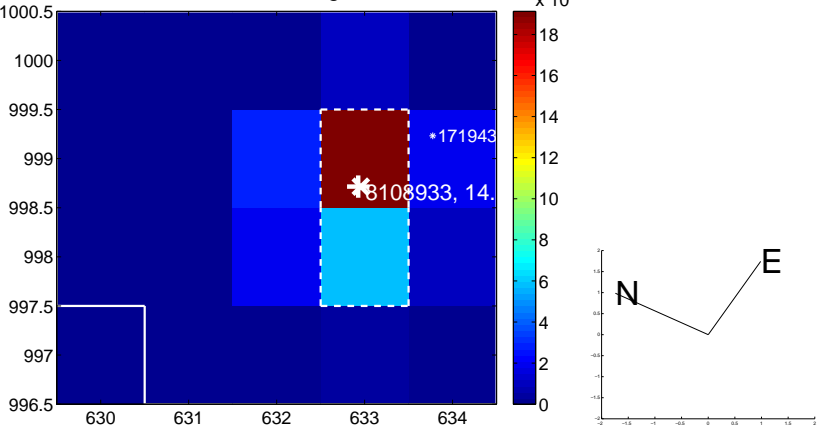
Q5 no OOT image



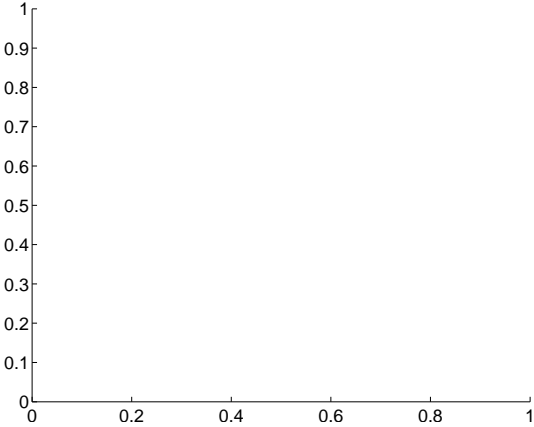
Q6 difference image. Poor Quality



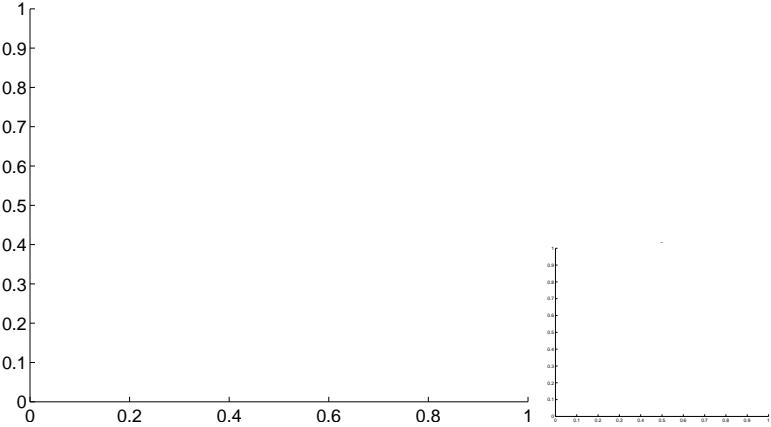
Q6 OOT image



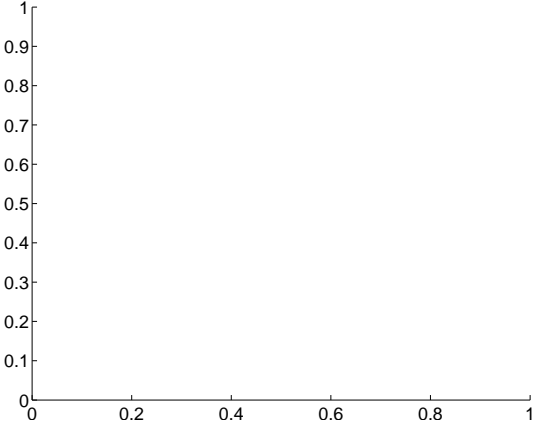
Q7 no difference image



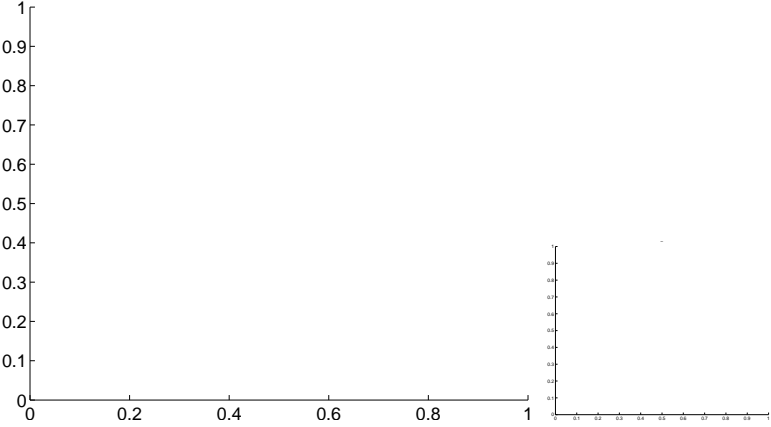
Q7 no OOT image



Q8 no difference image



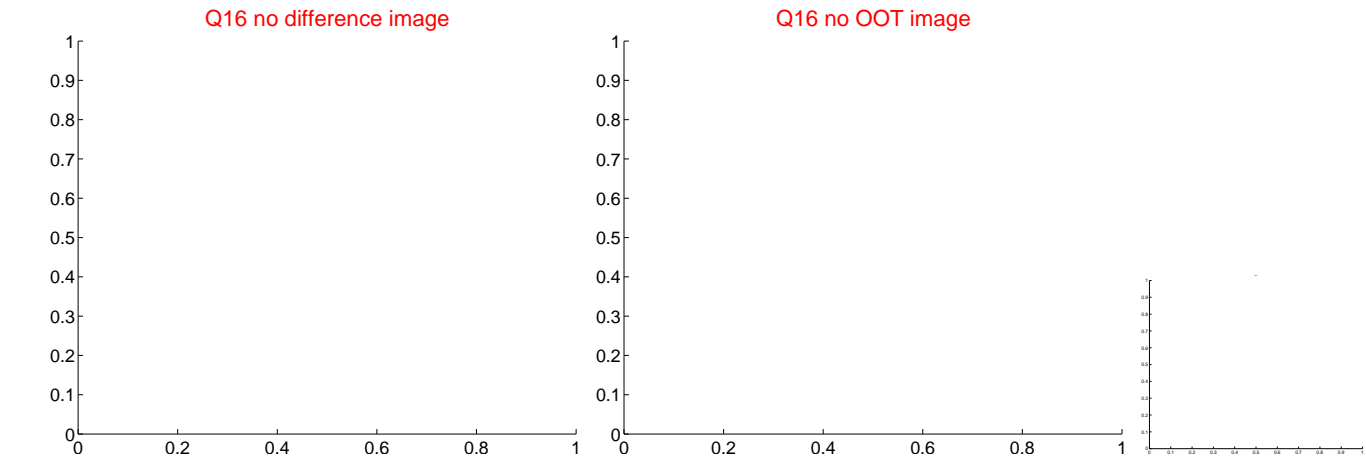
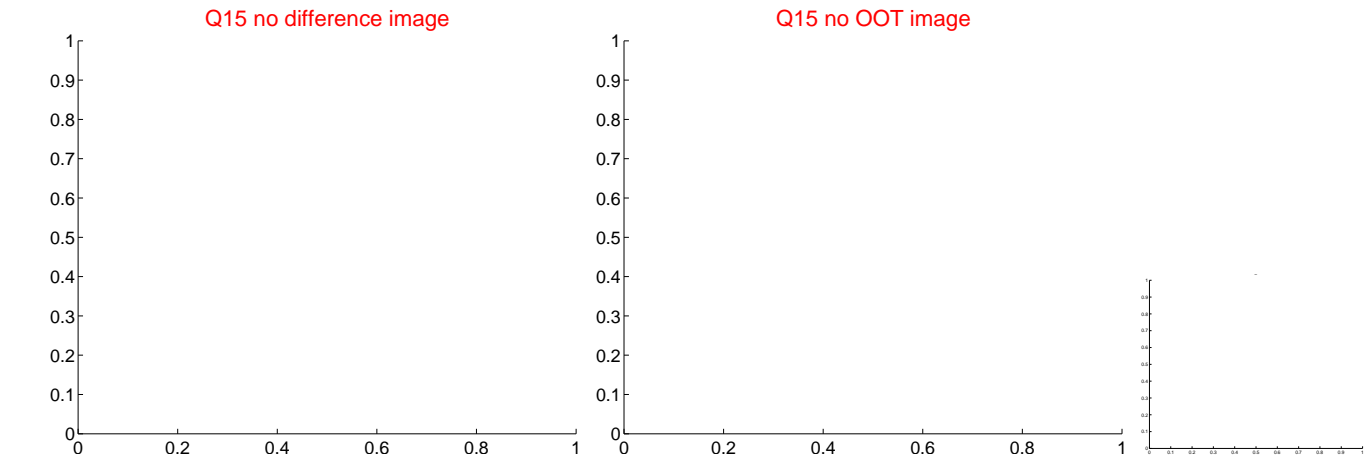
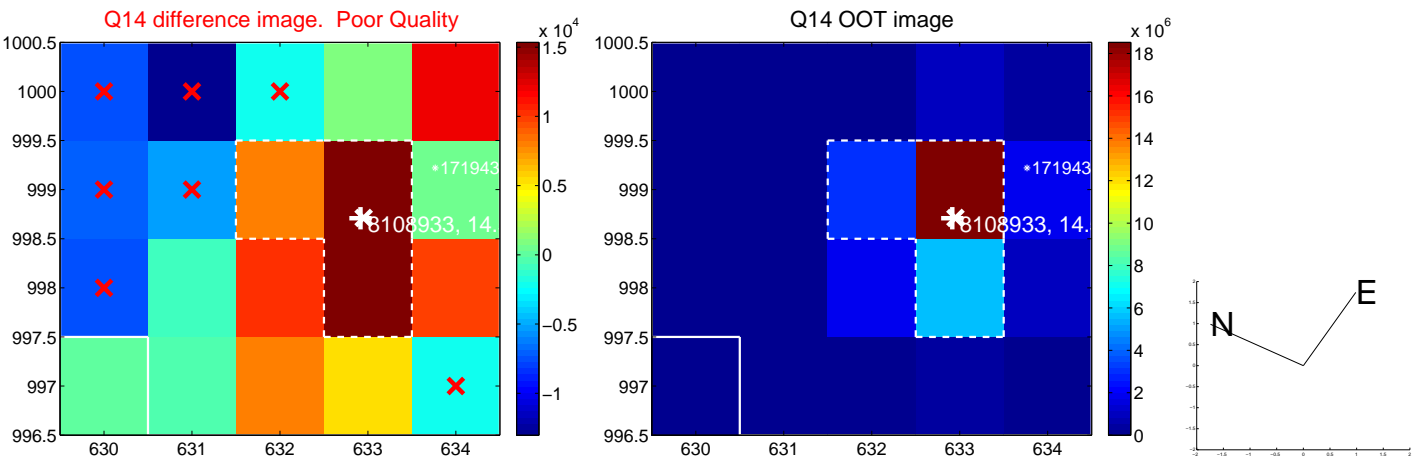
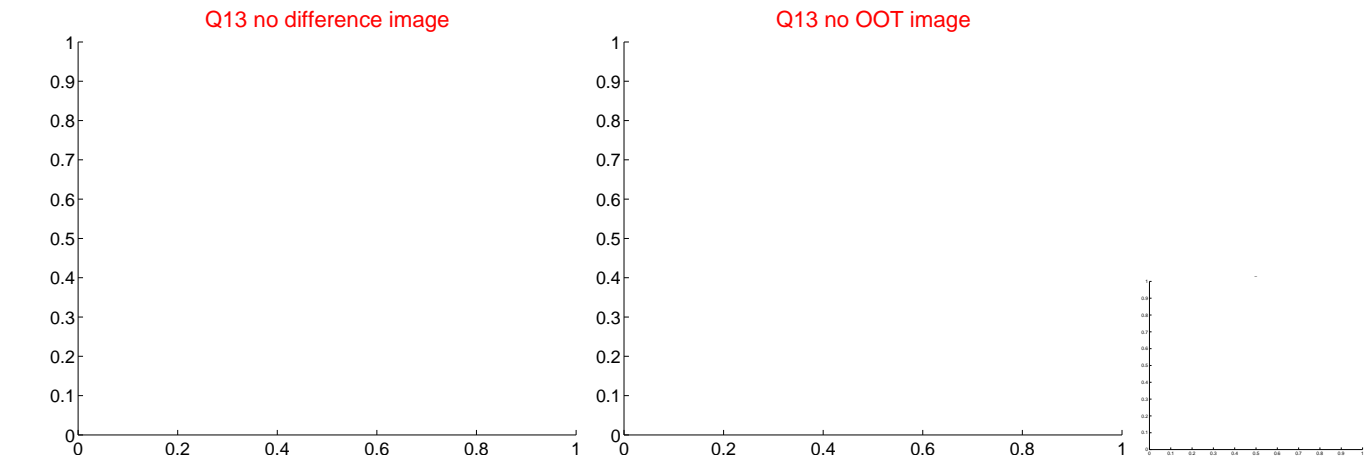
Q8 no OOT image



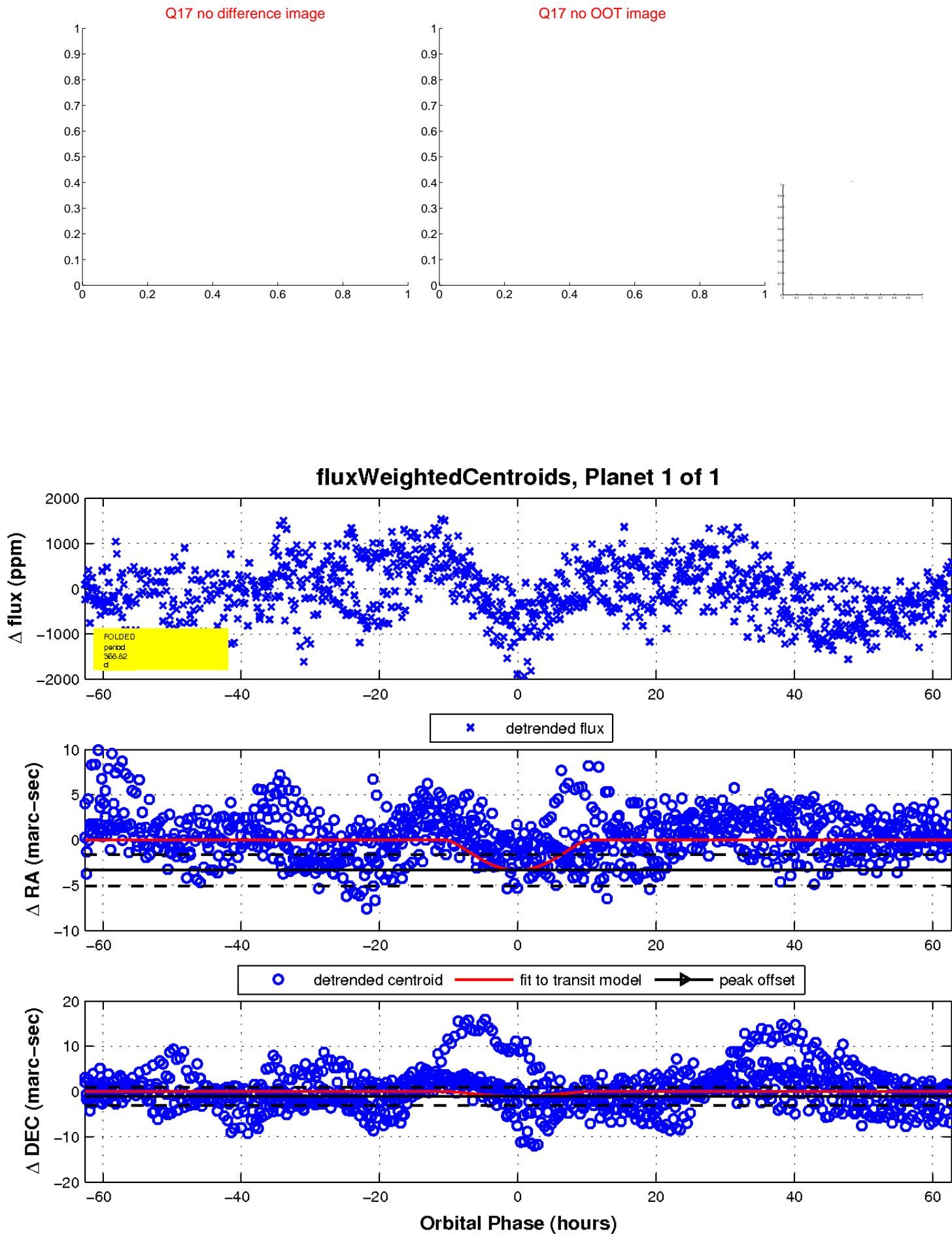
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

