

KIC 008678567

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})
008678567-01	OBS	No	369.326025	234.473273	1288.0	18.032	9.6	9.6	0.87	5629	4.20	0.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008678567-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—CENT_FEW_DIFFS—HALO_GHOST

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

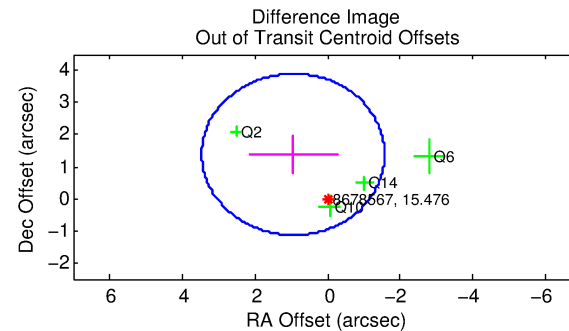
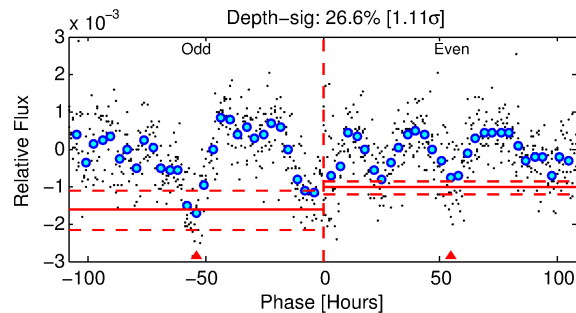
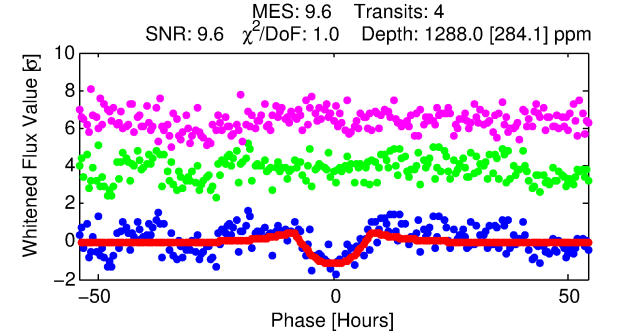
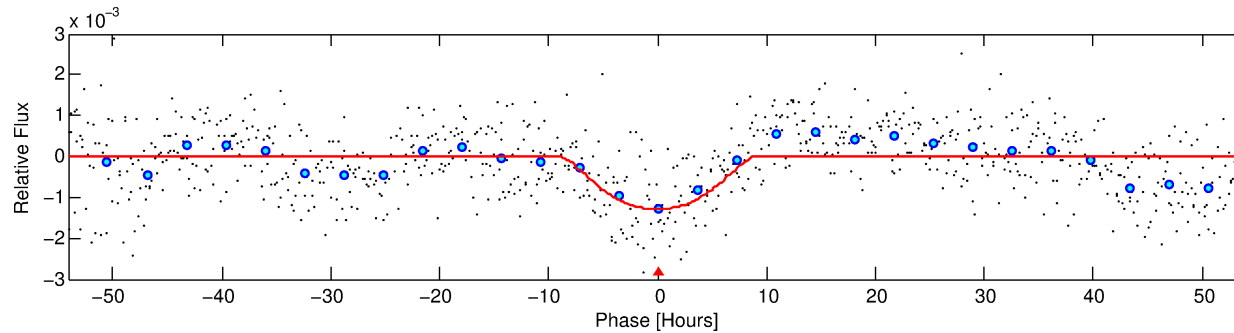
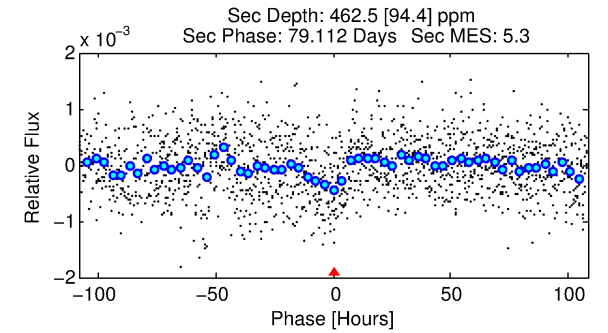
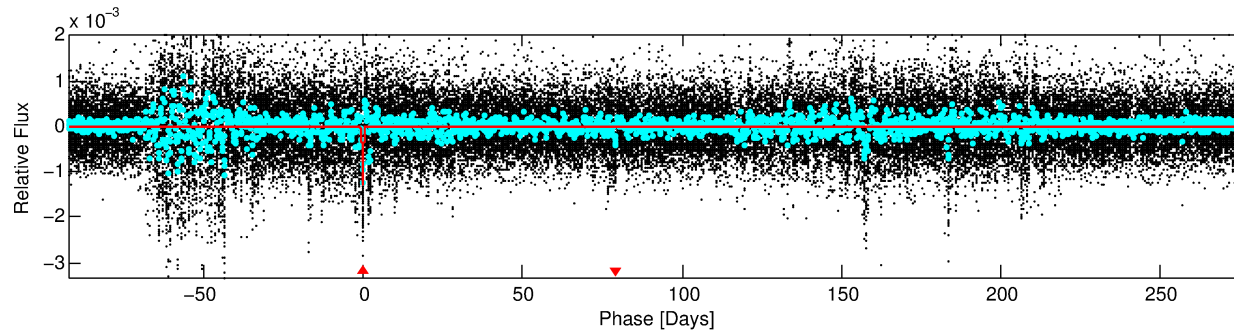
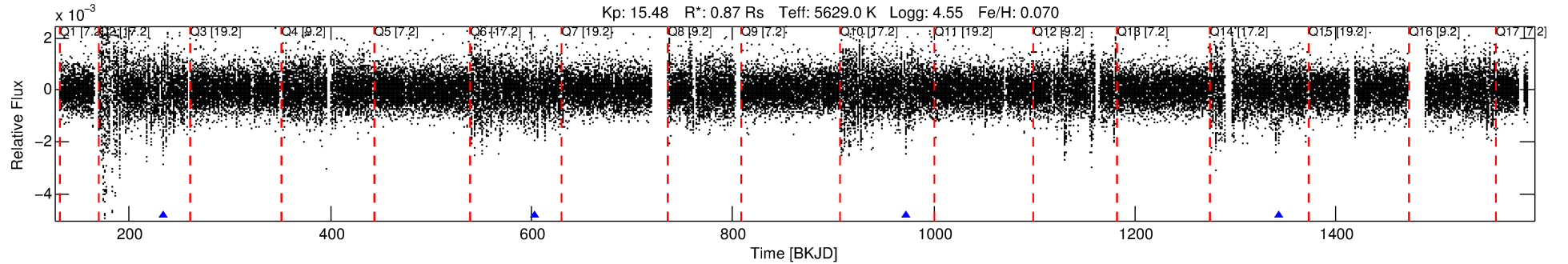
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008678567-01

No Significant Match Found

DV One-Page Summary

KIC: 8678567 Candidate: 1 of 1 Period: 369.326 d



DV Fit Results:

Period = 369.32602 [0.01648] d
Epoch = 234.4733 [0.0323] BKJD
Rp/R* = 0.0442 [0.0122]
a/R* = 63.62 [13.25]
b = 0.96 [0.03]
Seff = 0.68 [0.23]
Teq = 231 [20] K
Rp = 4.20 [1.57] Re
a = 1.0030 [0.2181] AU
Ag = 14539.94 [9771.87] [1.49σ]
Teffp = 3927 [591] K [6.25σ]

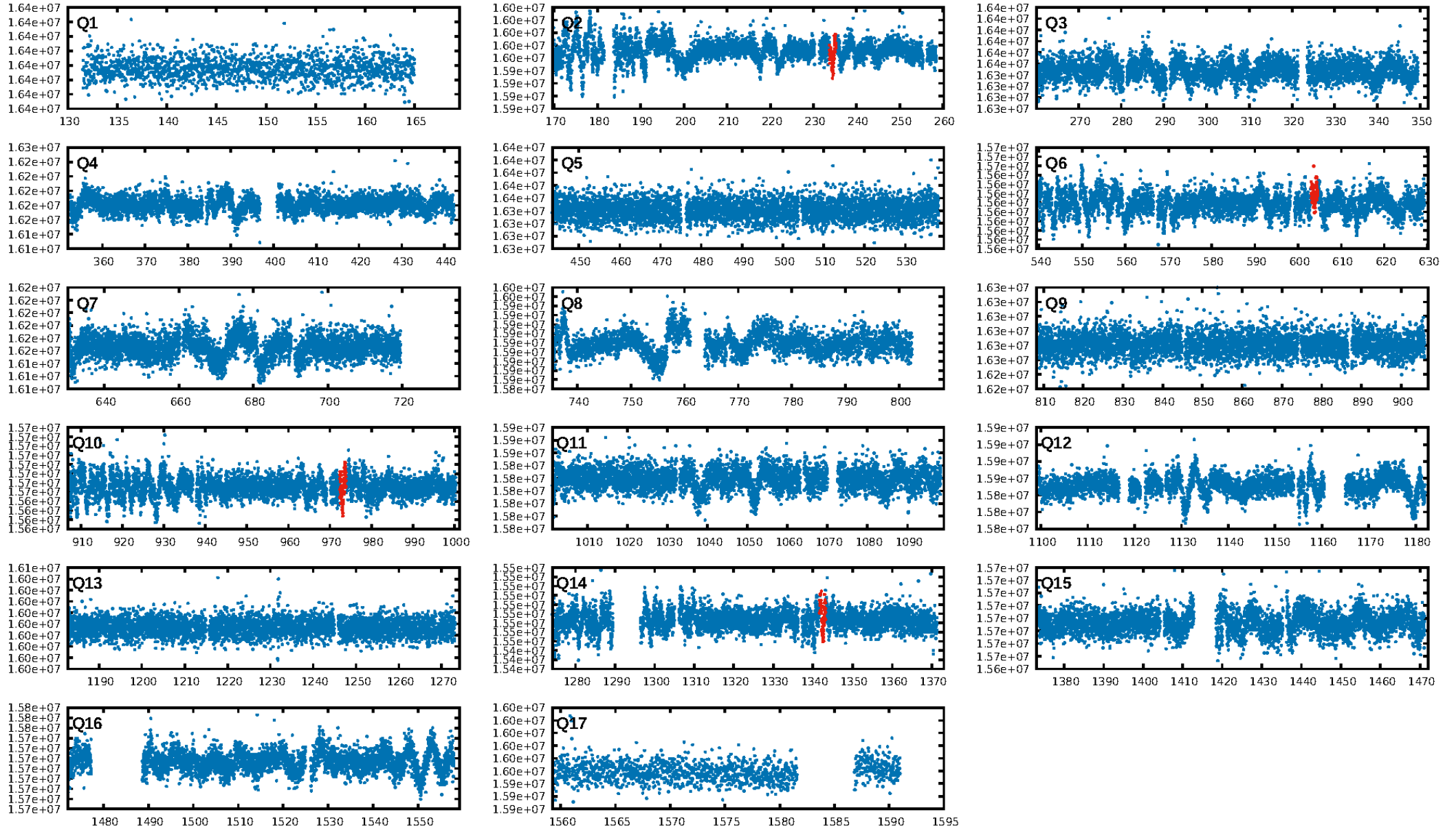
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.13e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.1053
Centroid-sig: 75.2%
Centroid-so: 0.823 arcsec [0.37σ]
OotOffset-rm: 1.675 arcsec [2.00σ]
KicOffset-rm: 1.692 arcsec [2.14σ]
OotOffset-st: 4/0/0/0 [4]
KicOffset-st: 4/0/0/0 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 1.00 [4/4]

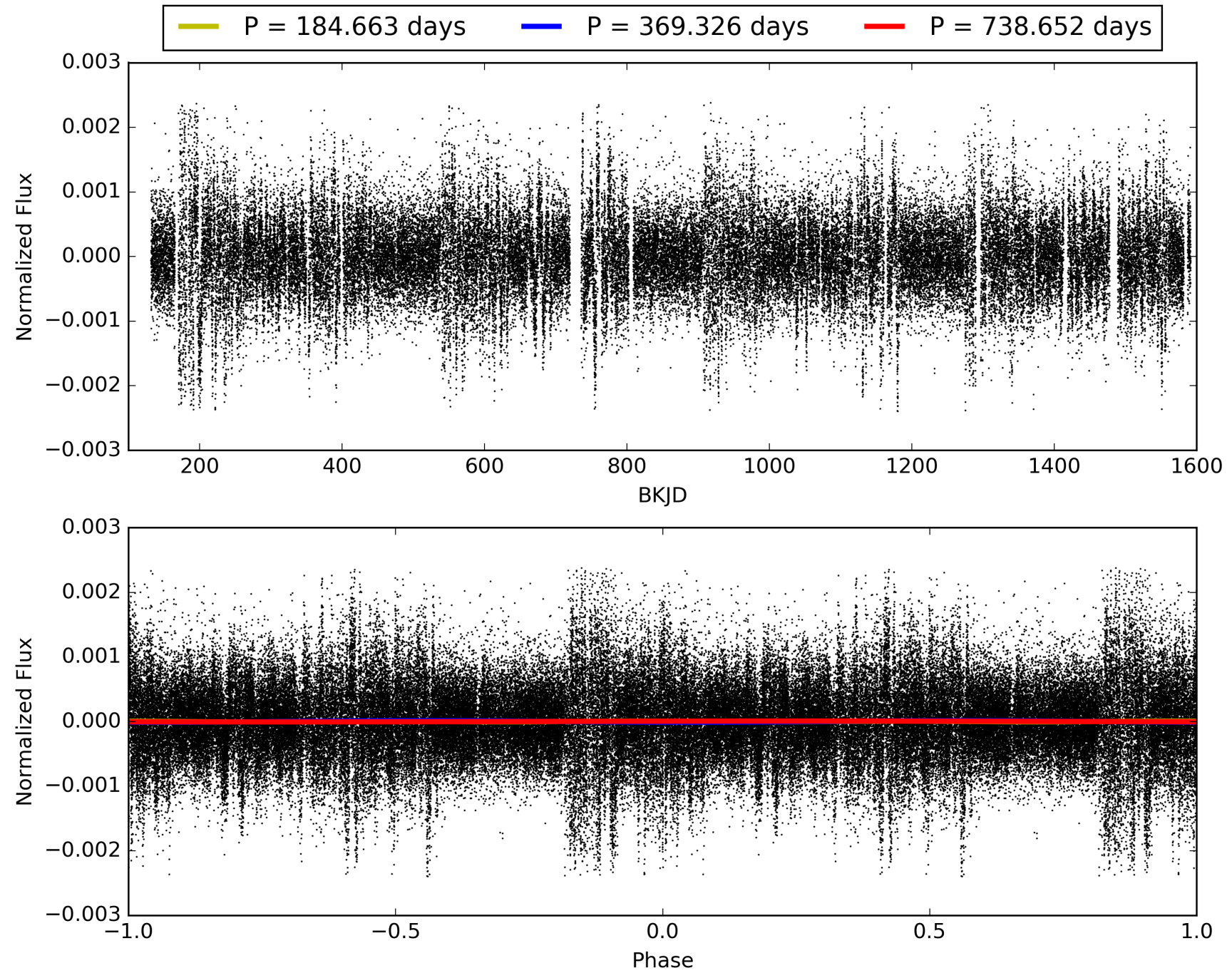
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:43:53 Z

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

TCE 008678567-01, PDC Light Curves

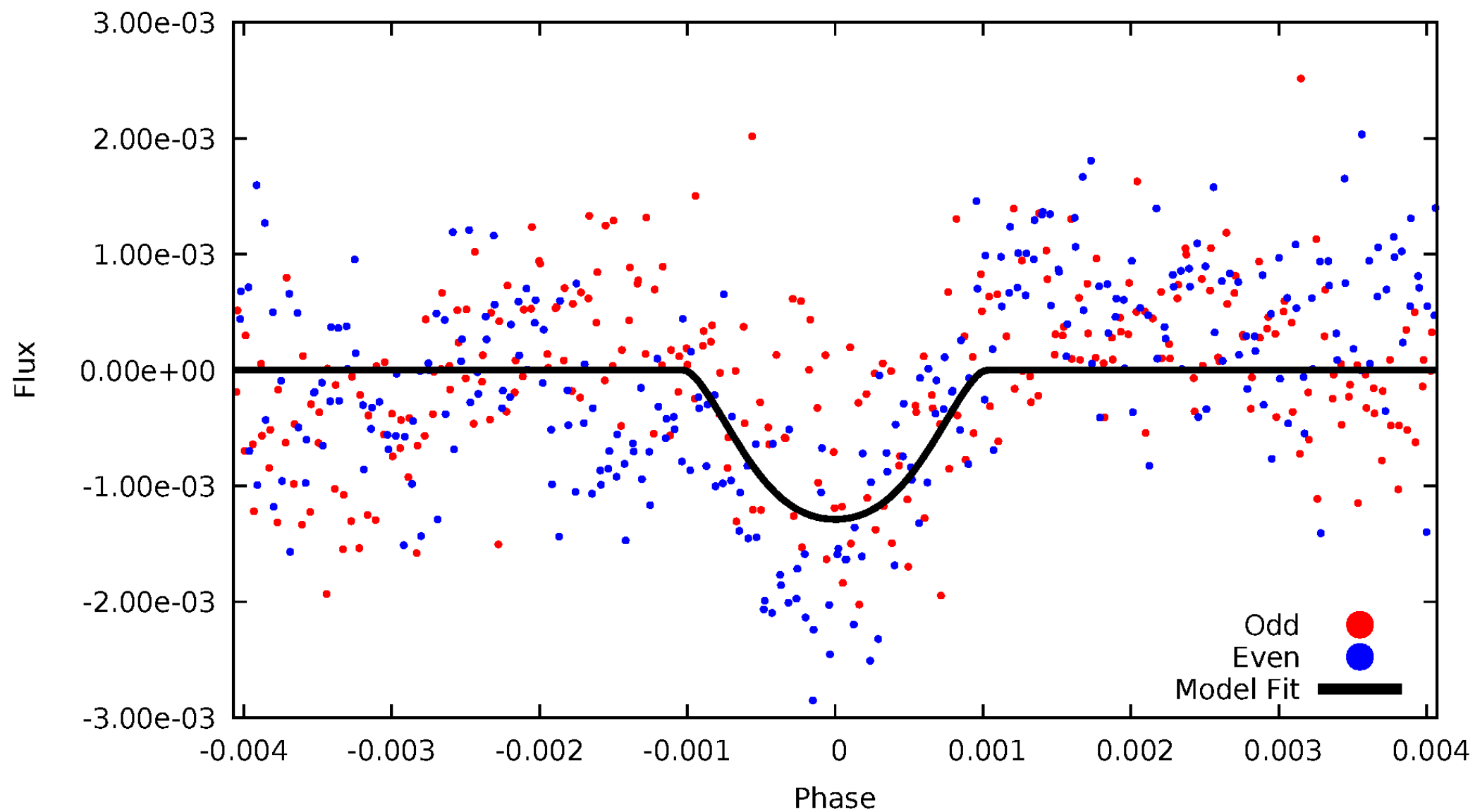


TCE 008678567-01



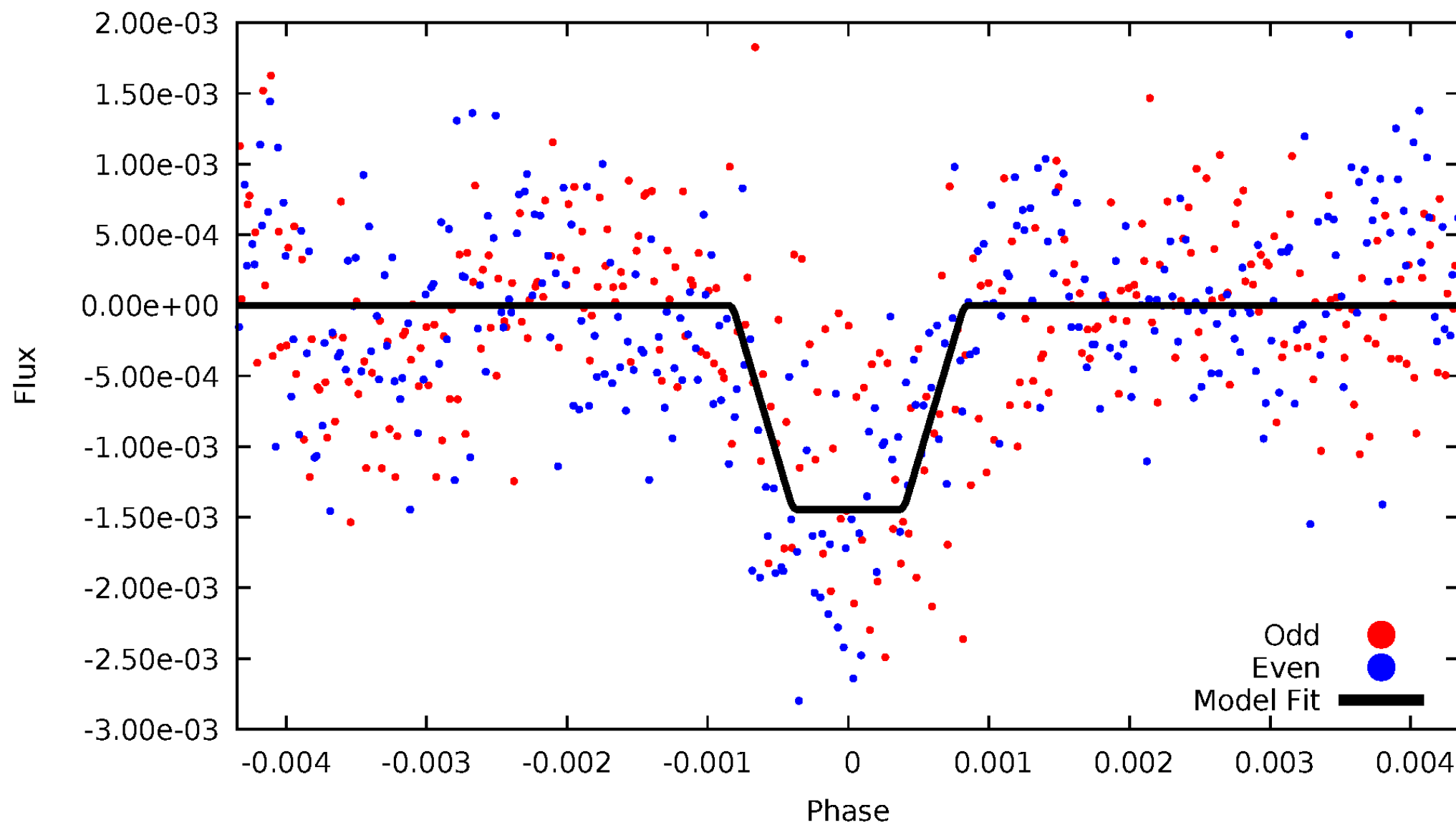
DV Odd/Even

TCE 008678567-01



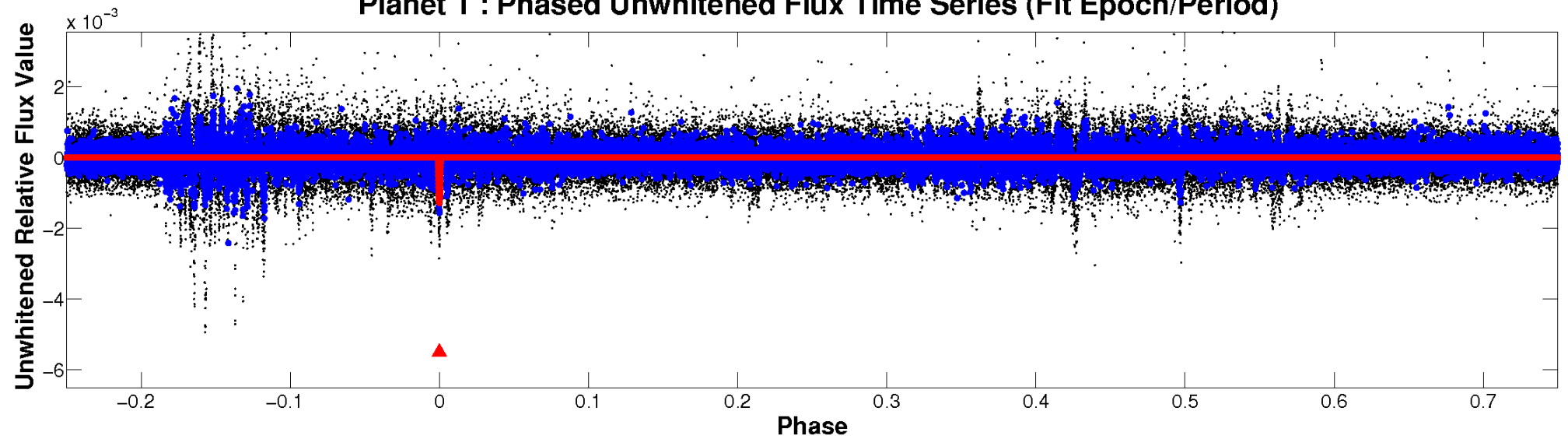
ALT Odd/Even

TCE 008678567-01

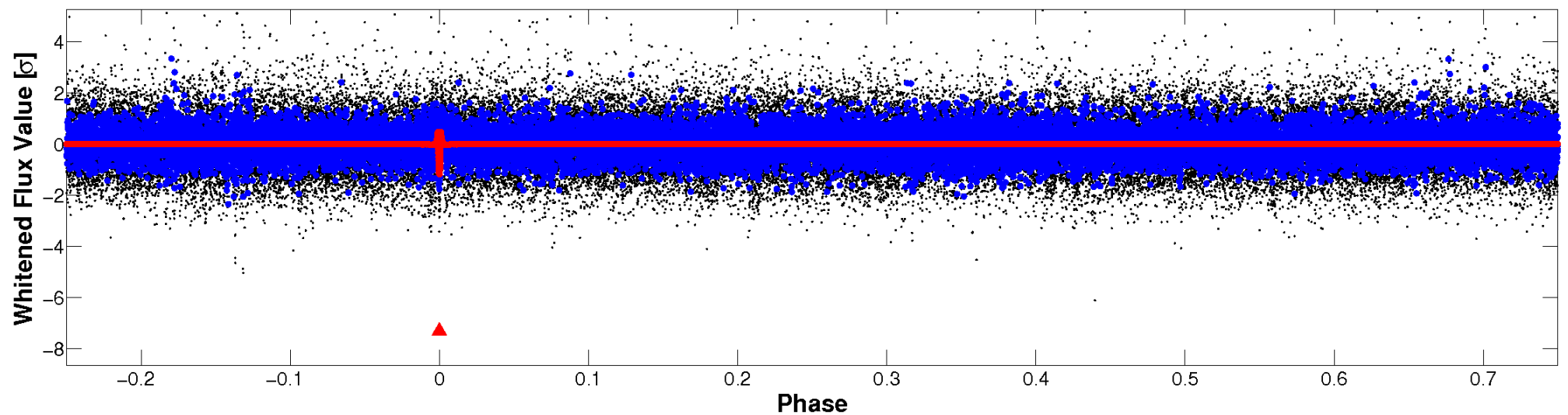


Non-Whitened Vs. Whitened Light Curve

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

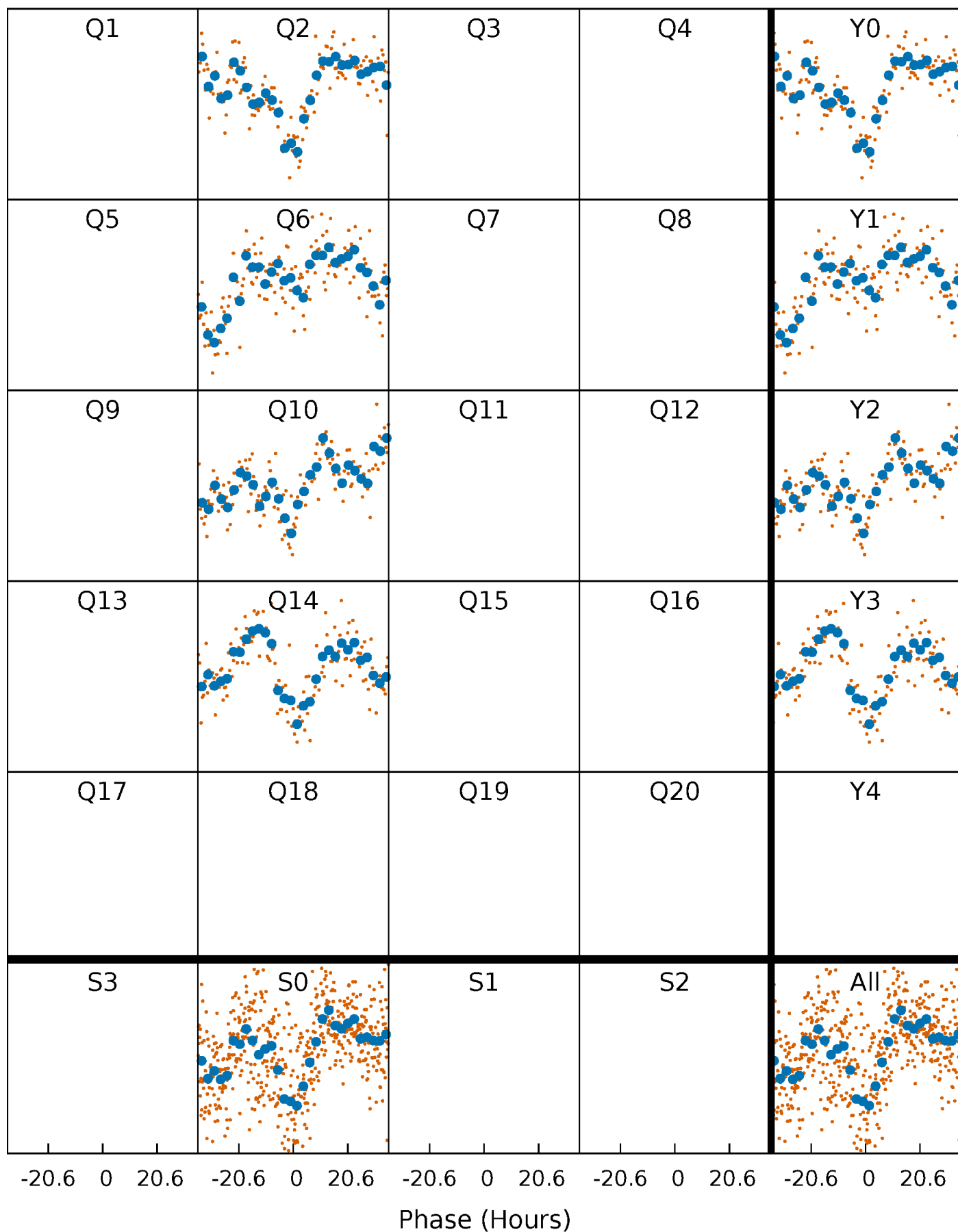


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



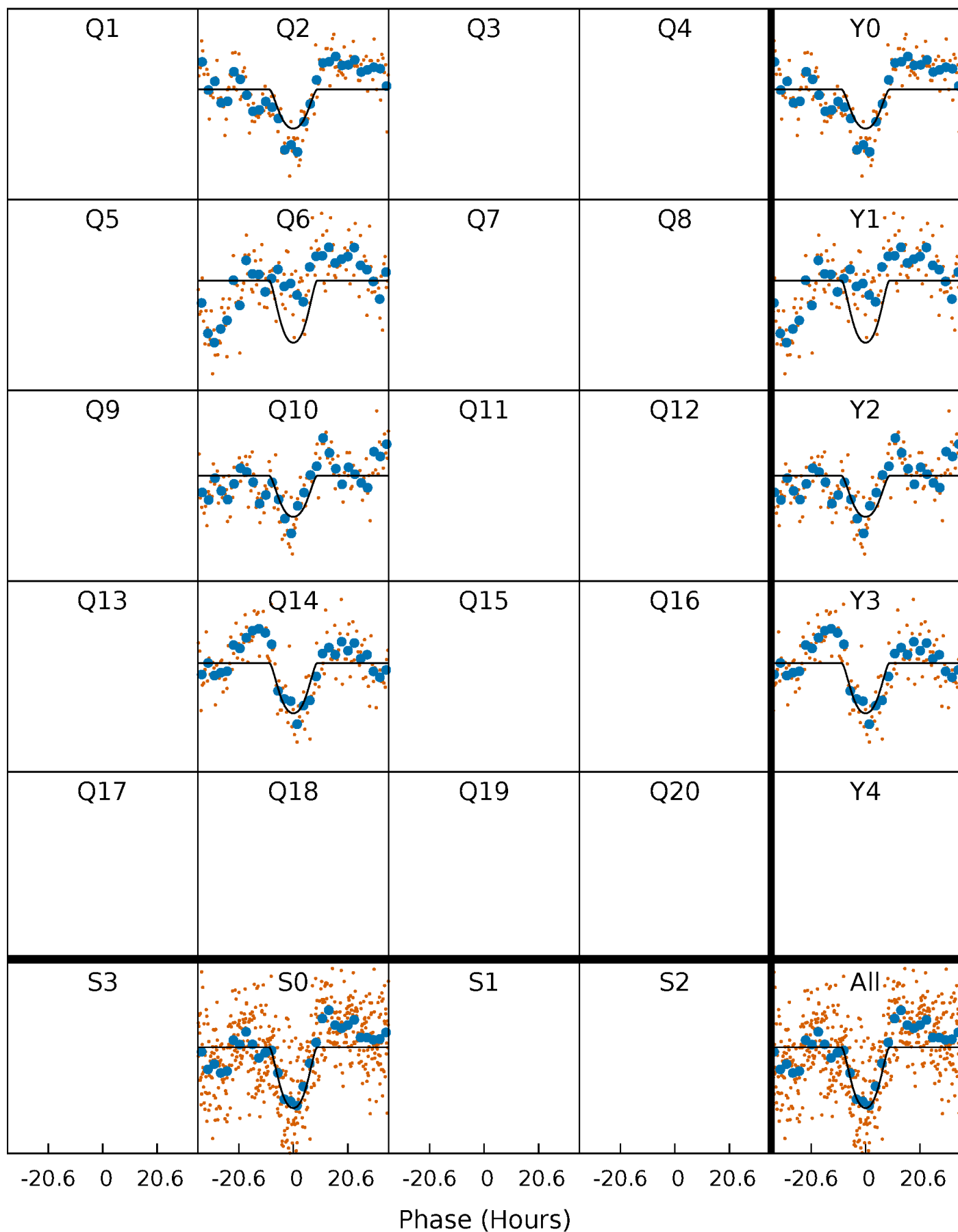
PDC Quarter-Phased Transit Curves

TCE 008678567-01 P=369.326025 Days $T_0=234.473273$ (BKJD)



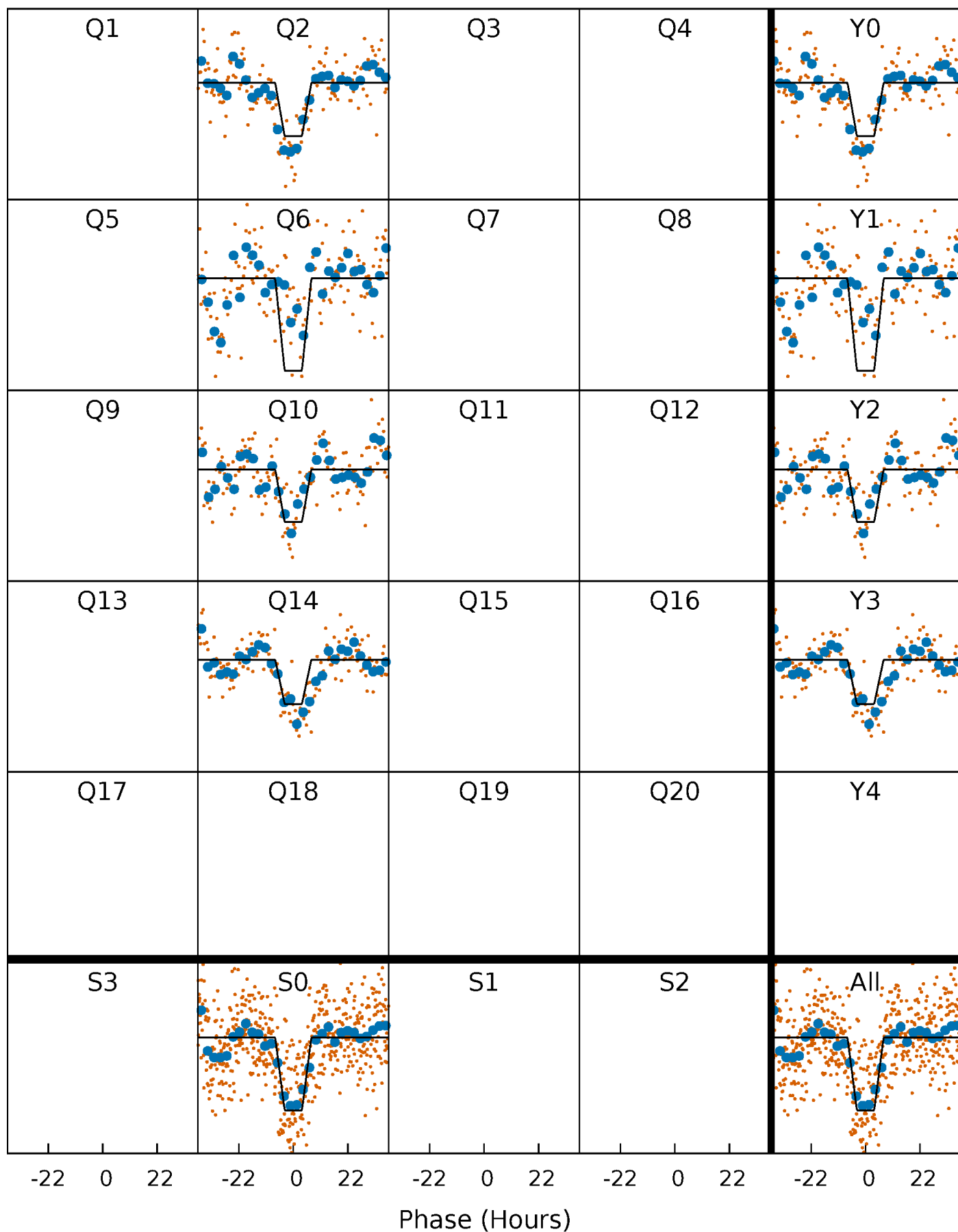
DV Quarter-Phased Transit Curves

TCE 008678567-01 P=369.326025 Days $T_0=234.473273$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

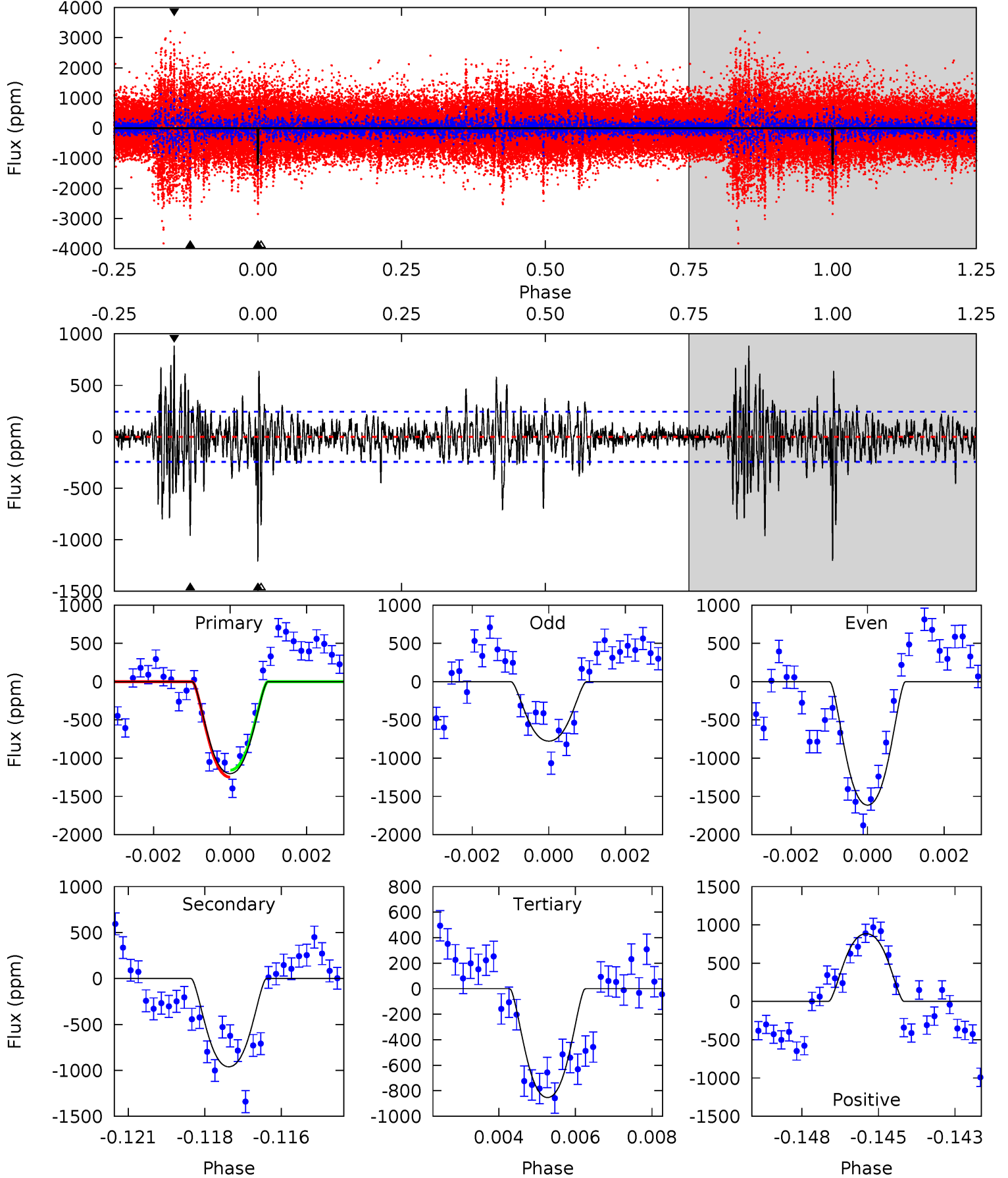
TCE 008678567-01 P=369.288919 Days $T_0=234.547123$ (BKJD)



DV Model-Shift Uniqueness Test

008678567-01, P = 369.326025 Days, E = 234.473273 Days

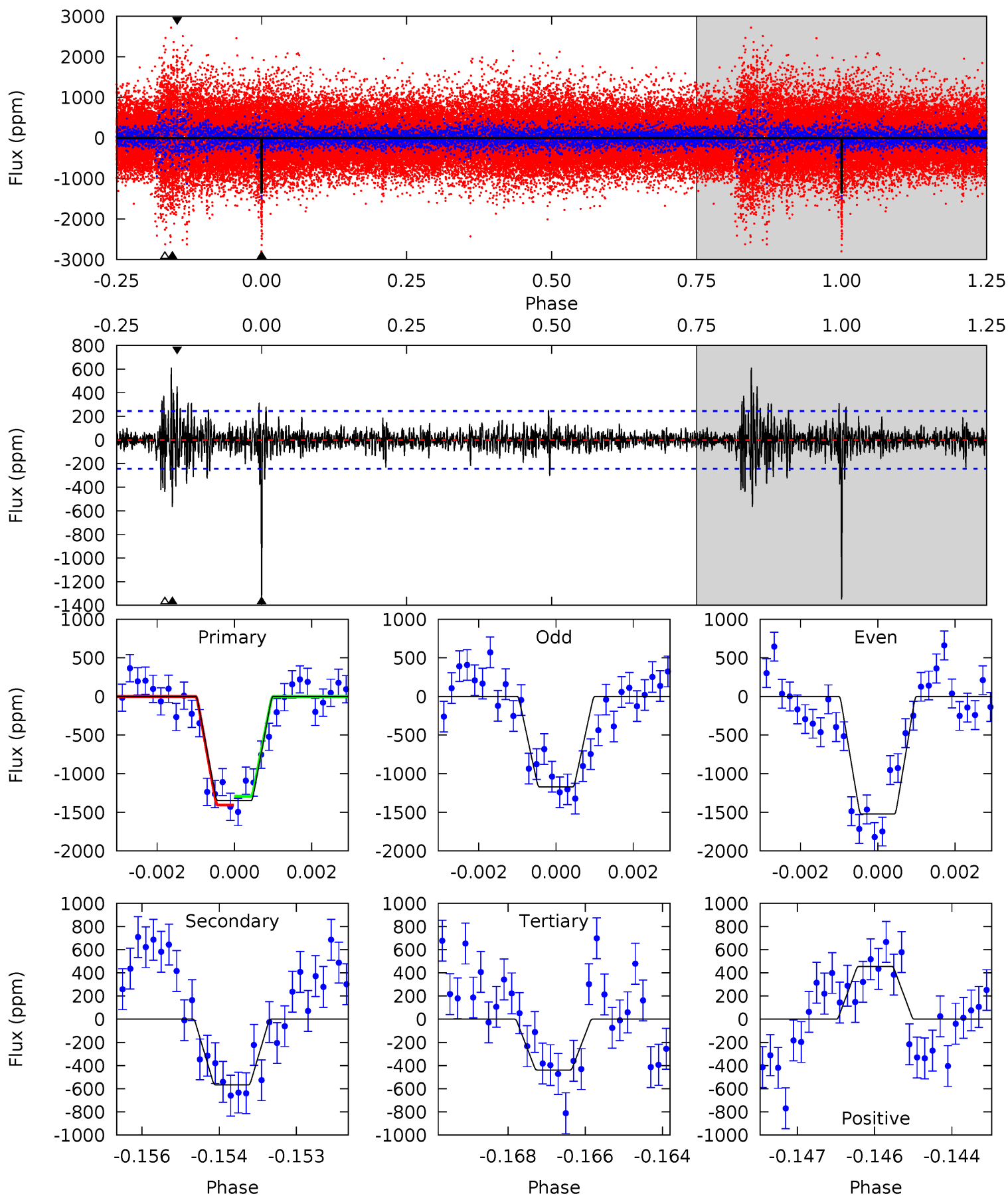
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.2	21.0	18.6	19.3	5.32	3.08	3.49	7.61	6.91	2.36	1.66	8.96	0.88	0.42	0.99



Alt Model-Shift Uniqueness Test

008678567-01, P = 369.288919 Days, E = 234.547123 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.5	12.4	9.60	9.94	5.36	3.14	1.67	19.9	19.6	2.78	2.45	3.80	0.89	0.31	1.25



Stellar Parameters For KIC 008678567

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5629^{+152}_{-169}	$4.553^{+0.032}_{-0.179}$	$0.070^{+0.250}_{-0.300}$	$0.870^{+0.220}_{-0.073}$	$0.987^{+0.083}_{-0.115}$	$2.107^{+0.360}_{-0.988}$
	+3%/-3%	+1%/-4%	+357%/-429%	+25%/-8%	+8%/-12%	+17%/-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 008678567-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-961 ± 46	$4.39^{+1.35}_{-1.28}$	330^{+21}_{-14}	4795^{+736}_{-425}	27232^{+24505}_{-11413}
Alt.	-567 ± 46	$3.79^{+1.28}_{-1.24}$	331^{+19}_{-15}	4592^{+807}_{-485}	21336^{+27575}_{-9580}

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

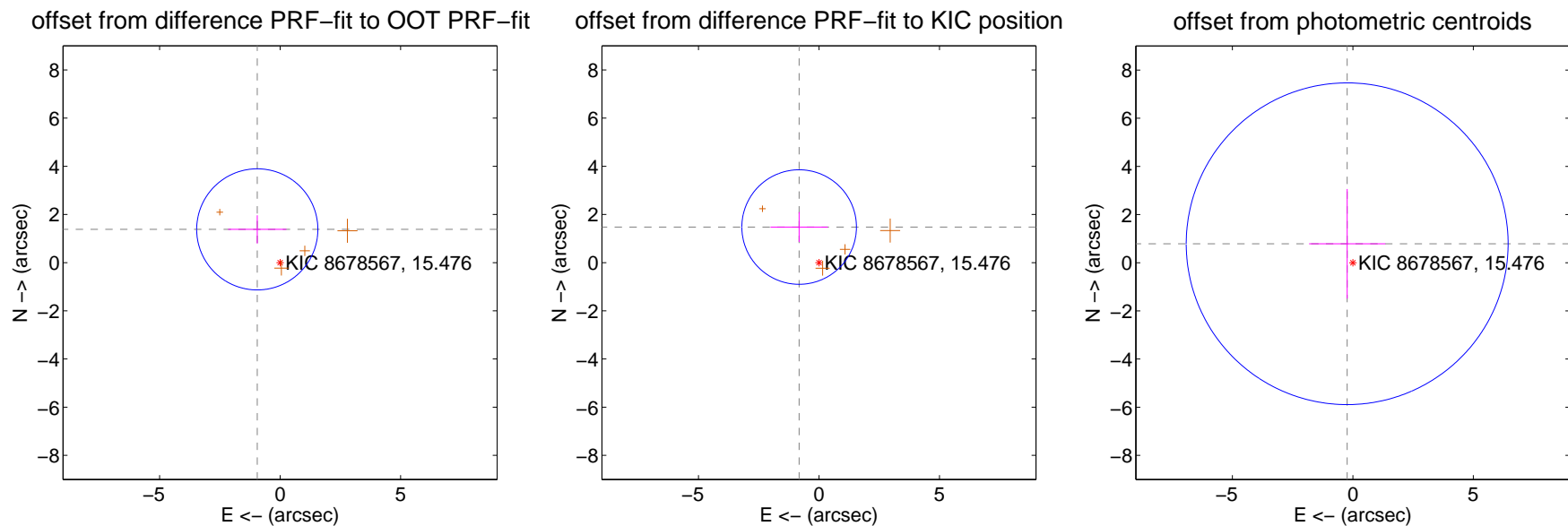
DV Centroid Data

Supplemental centroid analysis for 008678567-01. Kepler magnitude: 15.48. Transit SNR 9.59

There are 0 quarters with good PRF difference image offsets

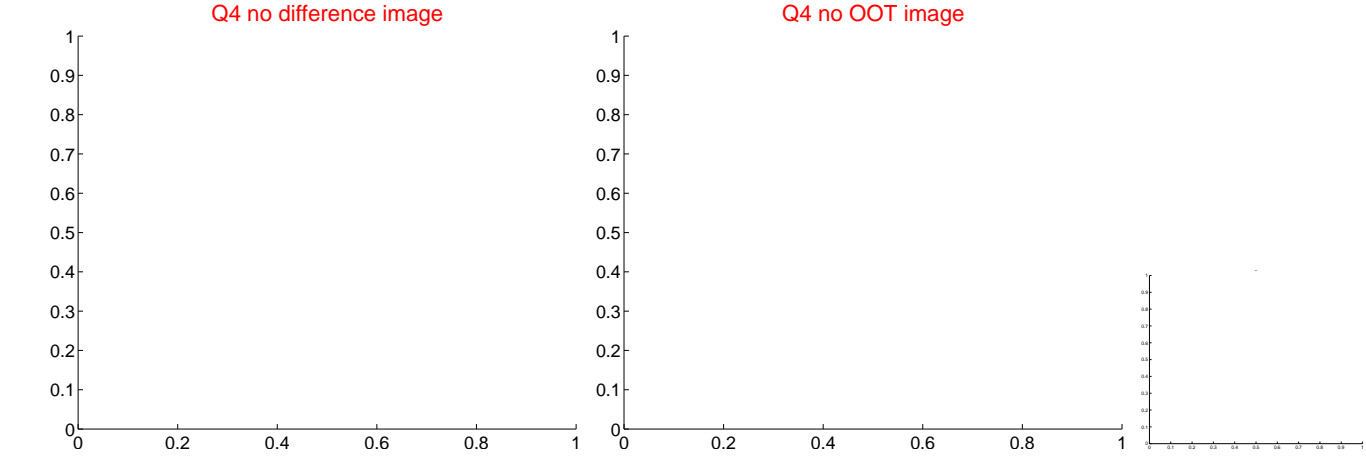
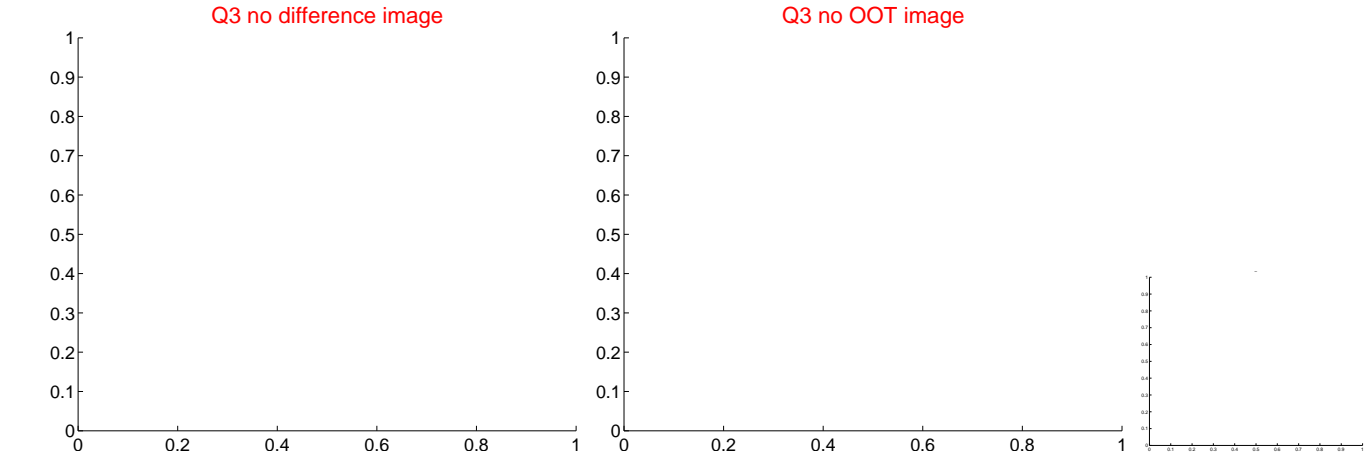
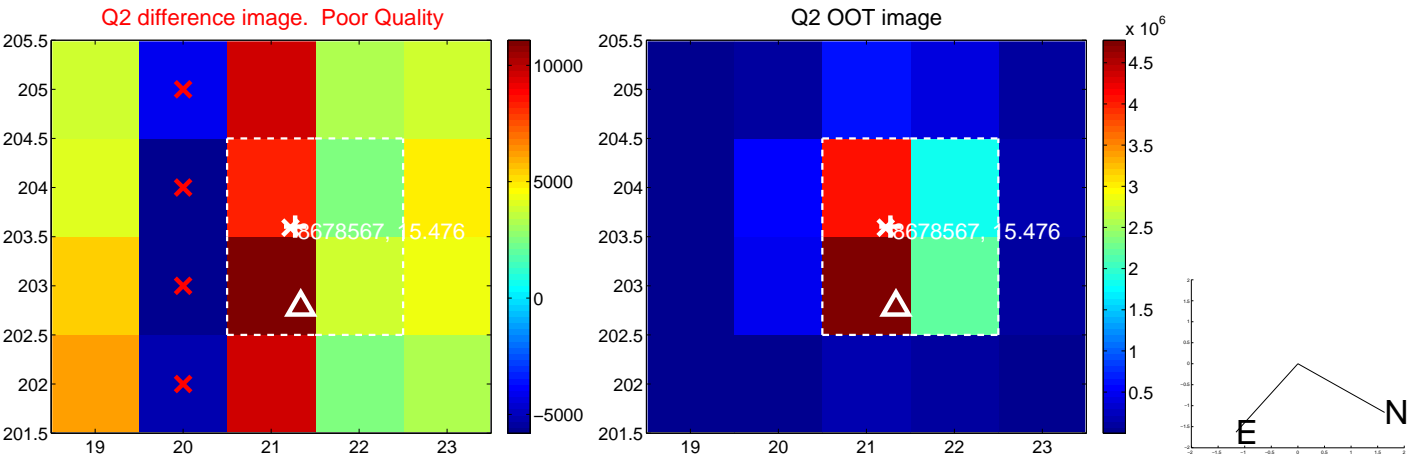
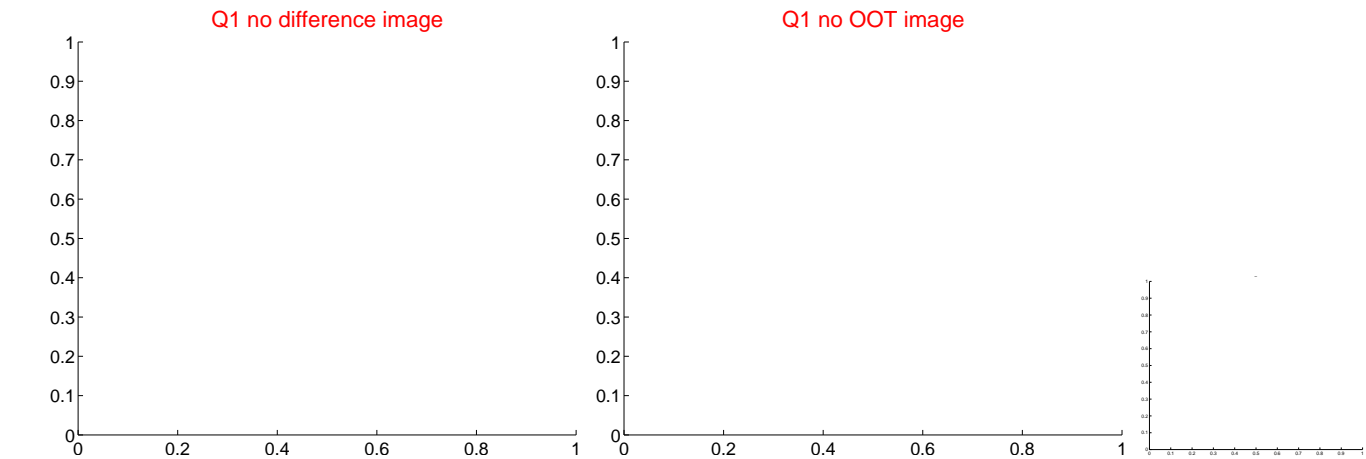
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.675 ± 0.838	2.00	0.948 ± 1.211	1.381 ± 0.585
PRF-fit source offset from KIC position	1.692 ± 0.792	2.14	0.824 ± 1.189	1.478 ± 0.620
photometric centroid source offset	0.82 ± 2.23	0.37	0.24 ± 1.58	0.79 ± 2.28

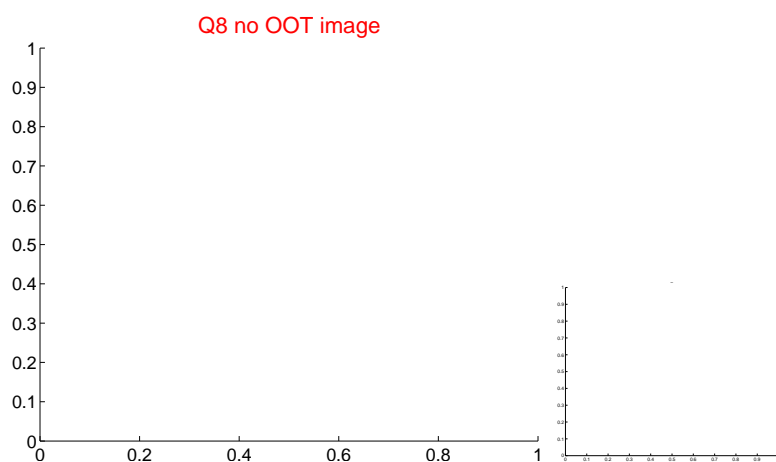
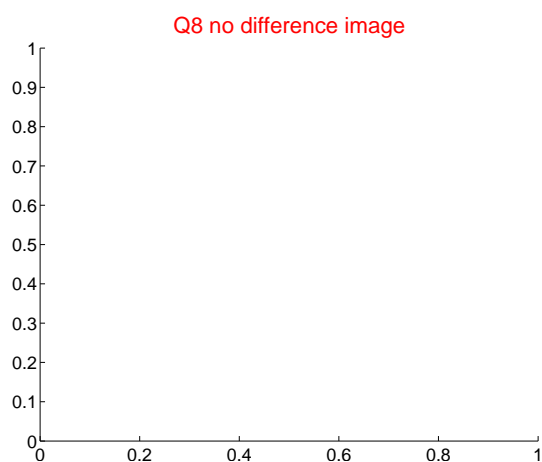
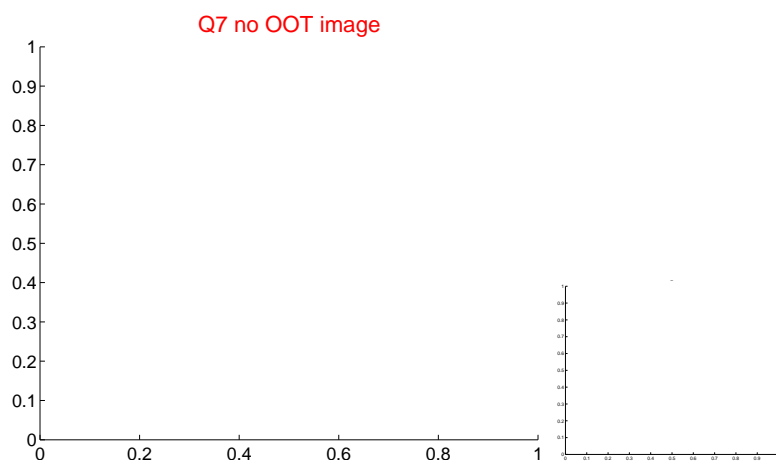
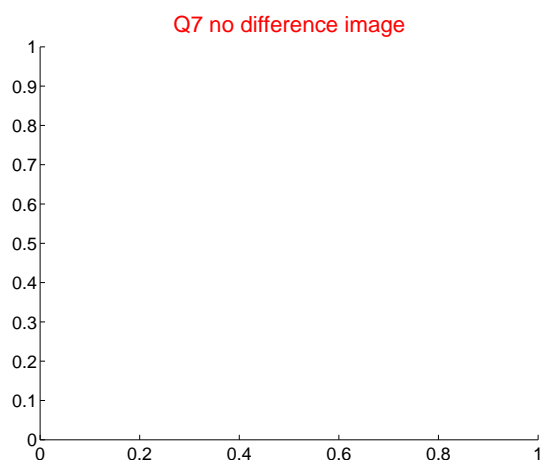
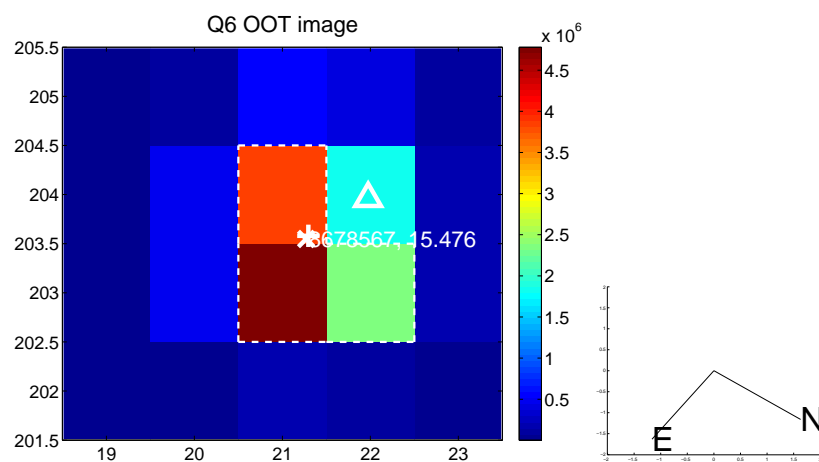
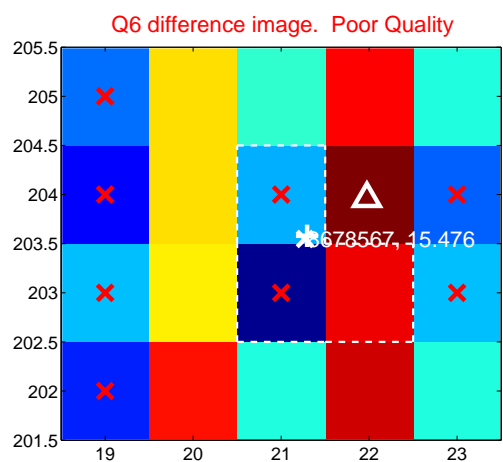
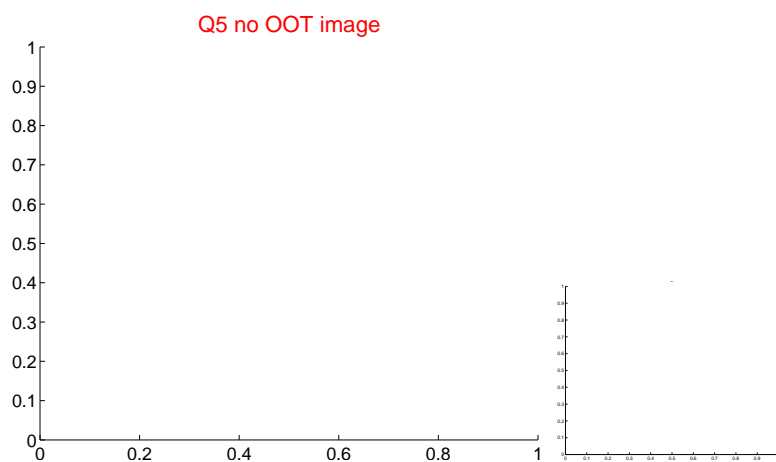
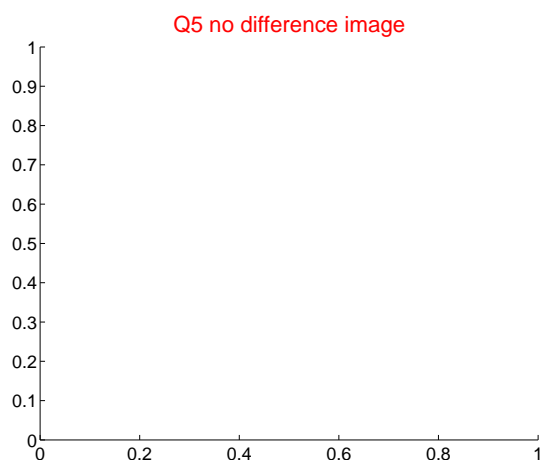


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

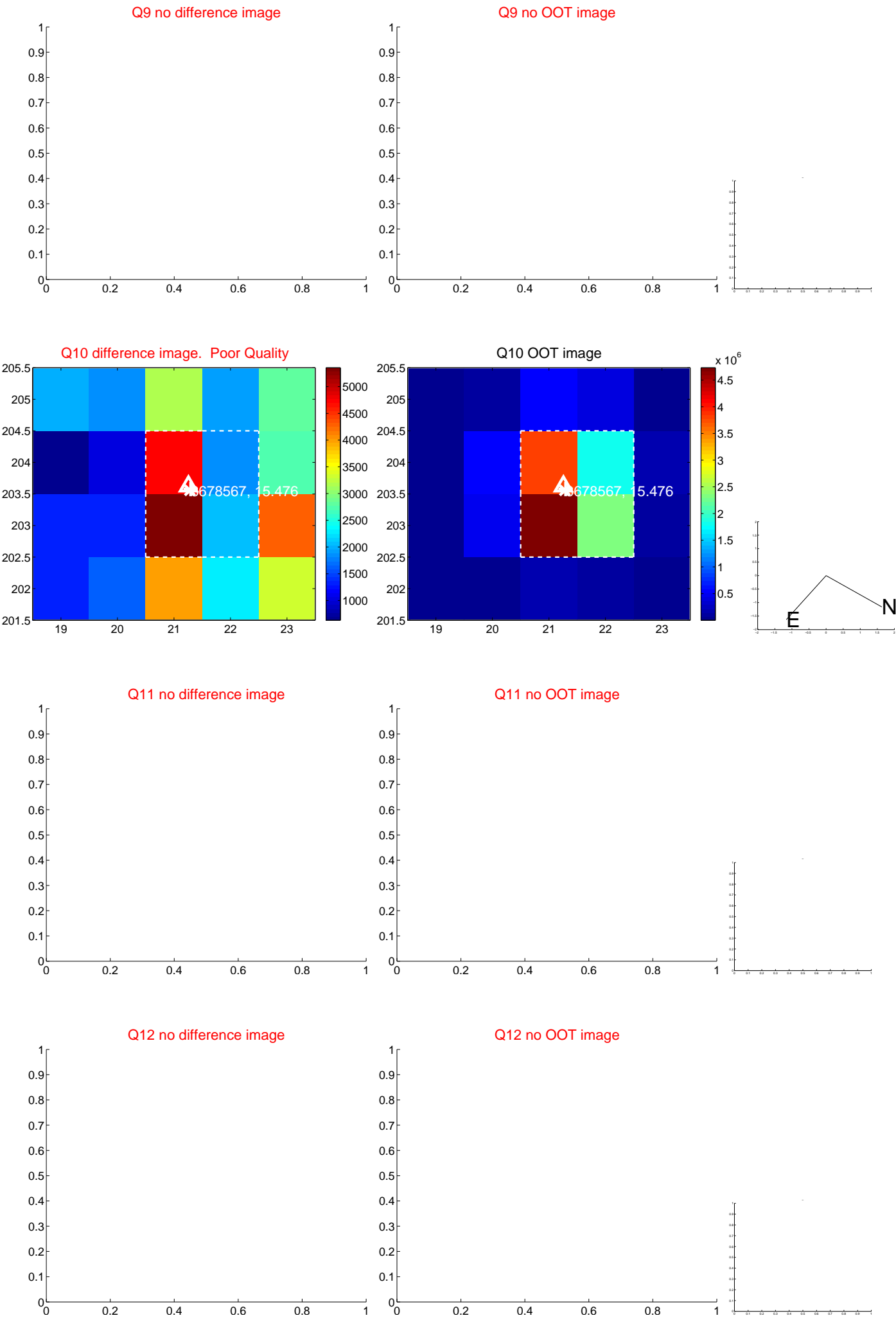
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



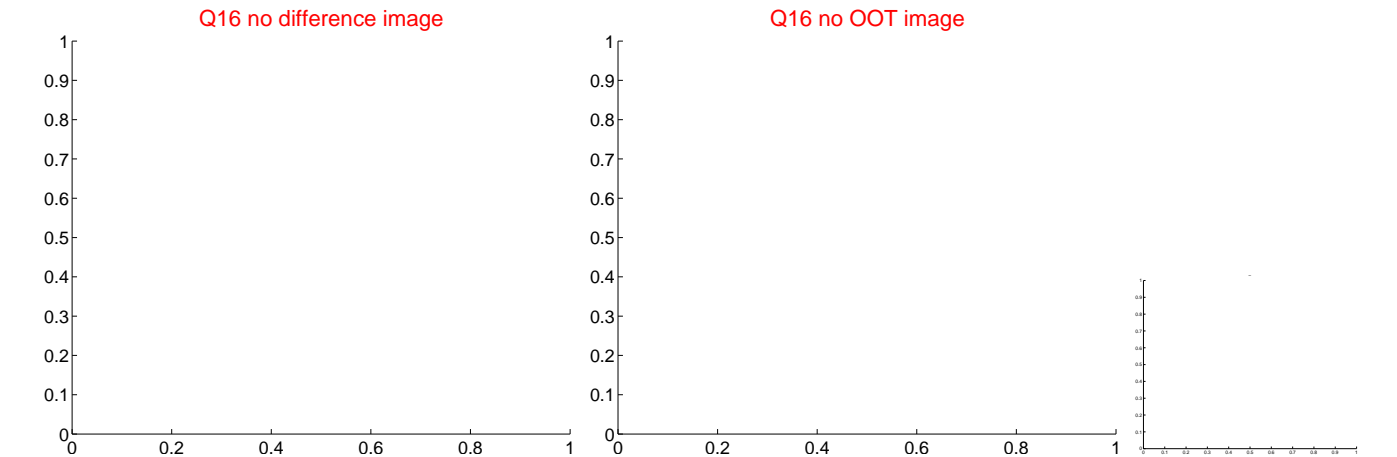
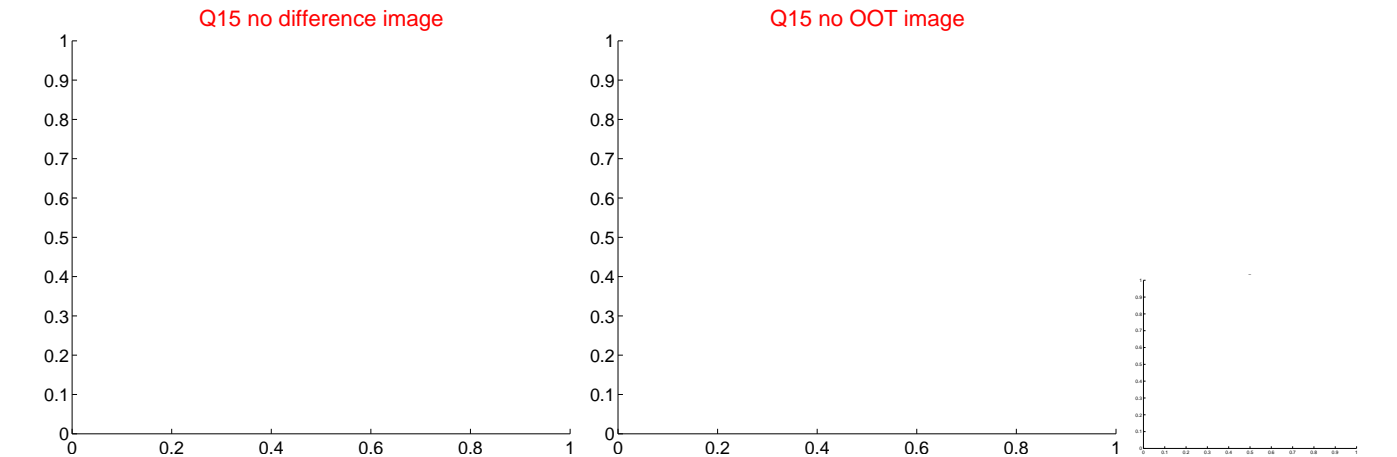
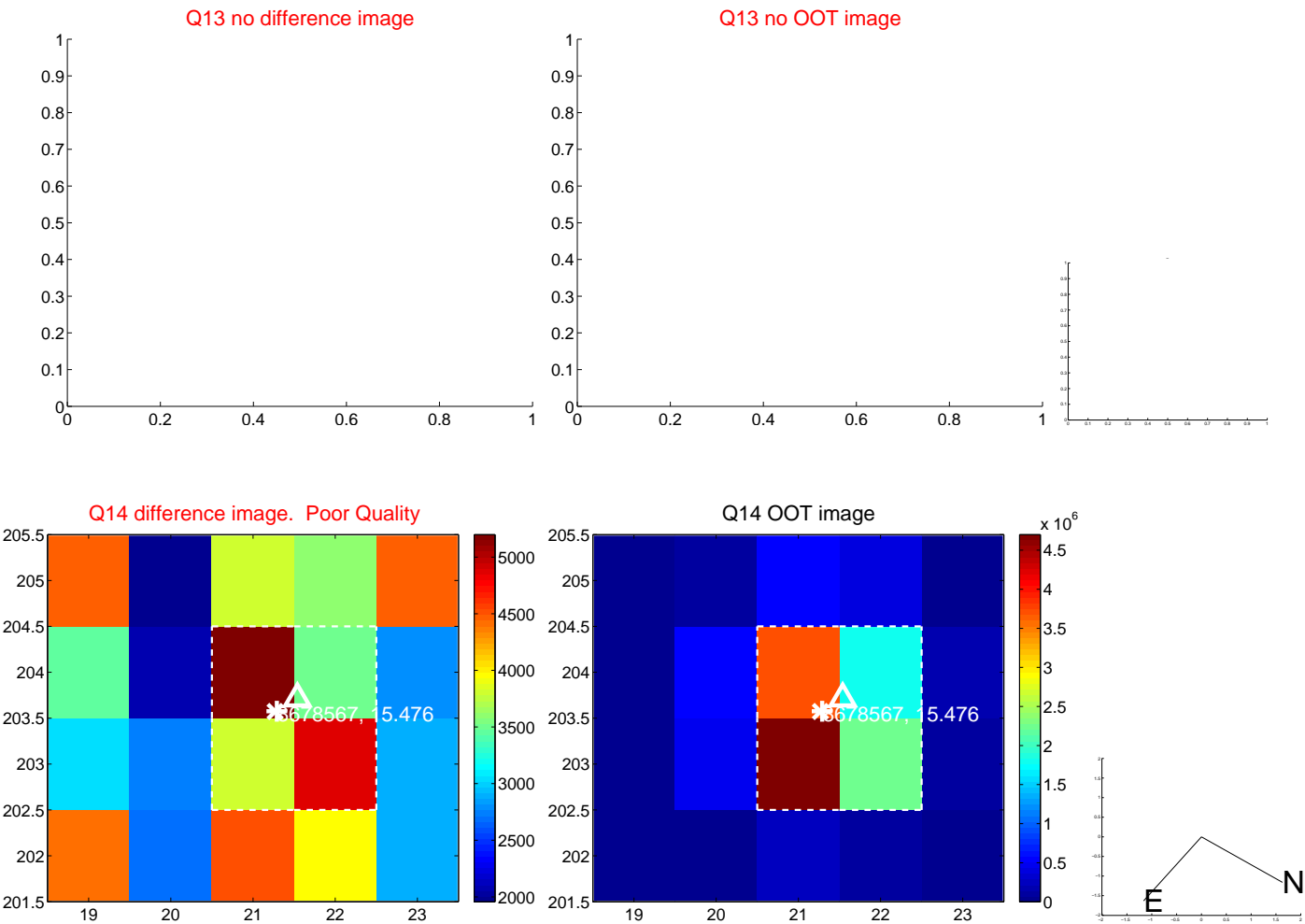
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



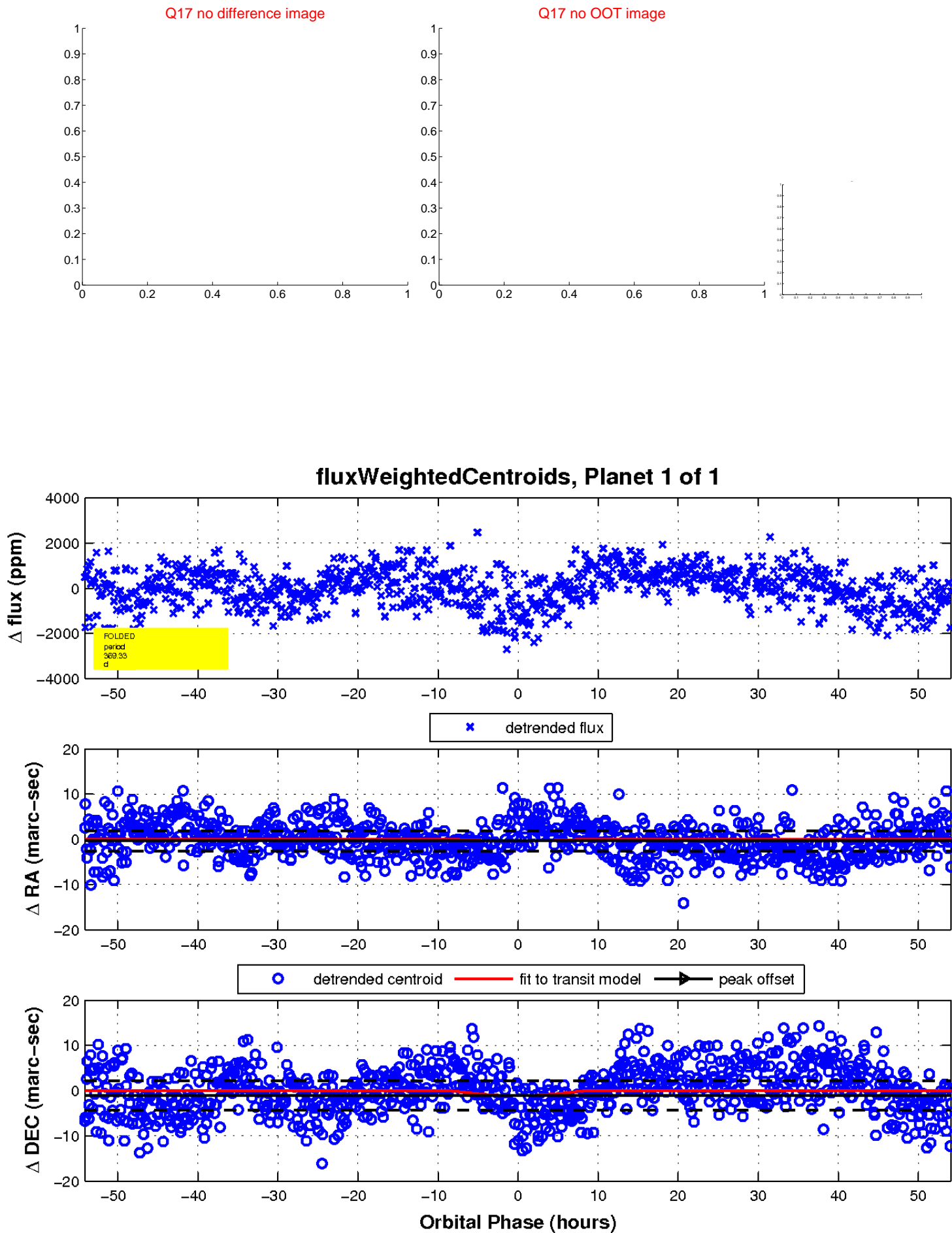
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

