

KIC 009152123

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})
009152123-01	OBS	No	374.735880	133.062206	472.8	26.247	8.0	9.3	0.94	6026	2.13	1.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009152123-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

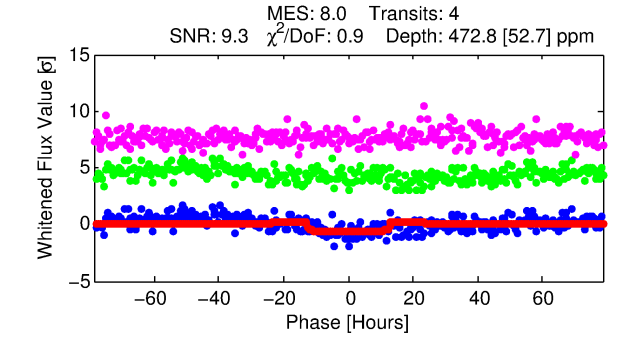
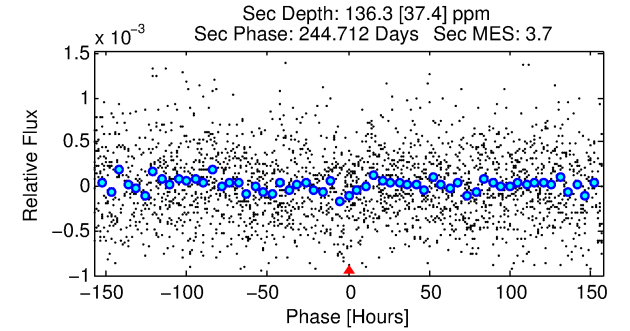
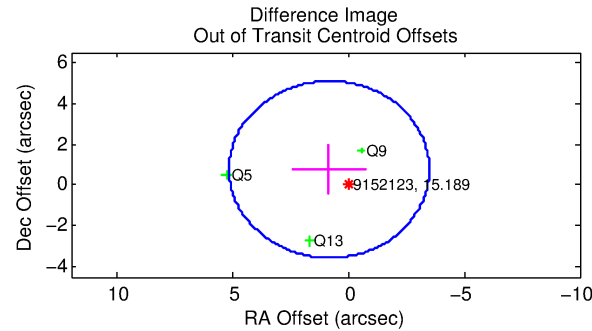
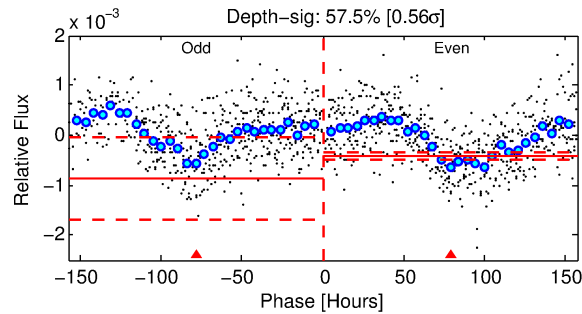
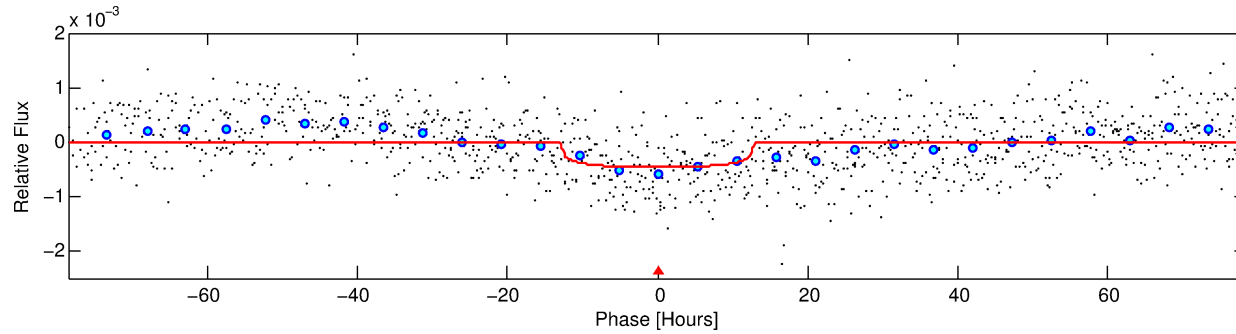
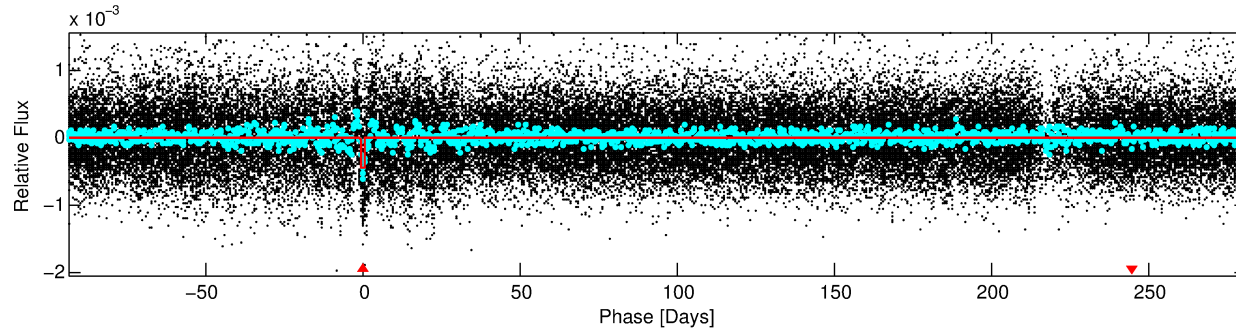
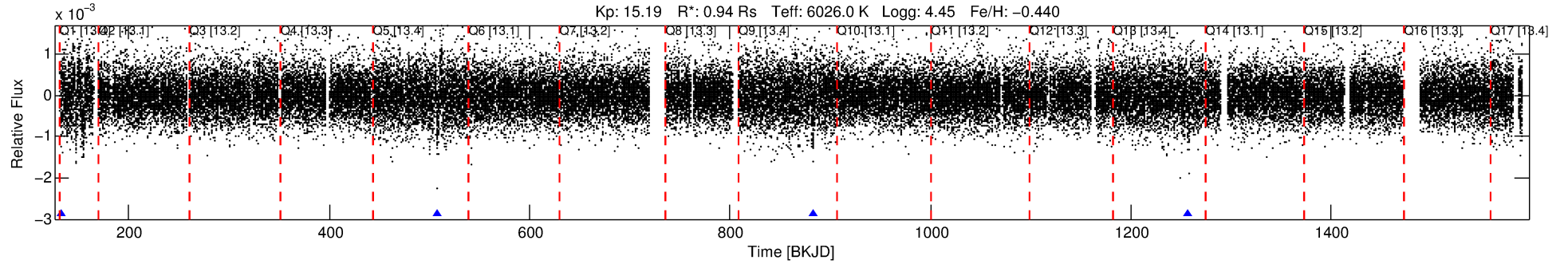
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009152123-01

No Significant Match Found

DV One-Page Summary

KIC: 9152123 Candidate: 1 of 1 Period: 374.736 d



DV Fit Results:

Period = 374.73588 [0.01496] d
Epoch = 133.0622 [0.0290] BKJD
Rp/R* = 0.0209 [0.0053]
a/R* = 89.60 [110.77]
b = 0.61 [1.30]
Seff = 1.08 [0.39]
Teq = 260 [23] K
Rp = 2.13 [0.81] Re
a = 0.9825 [0.2309] AU
Ag = 15882.16 [10592.08] [1.50 σ]
Teffp = 4509 [662] K [6.41 σ]

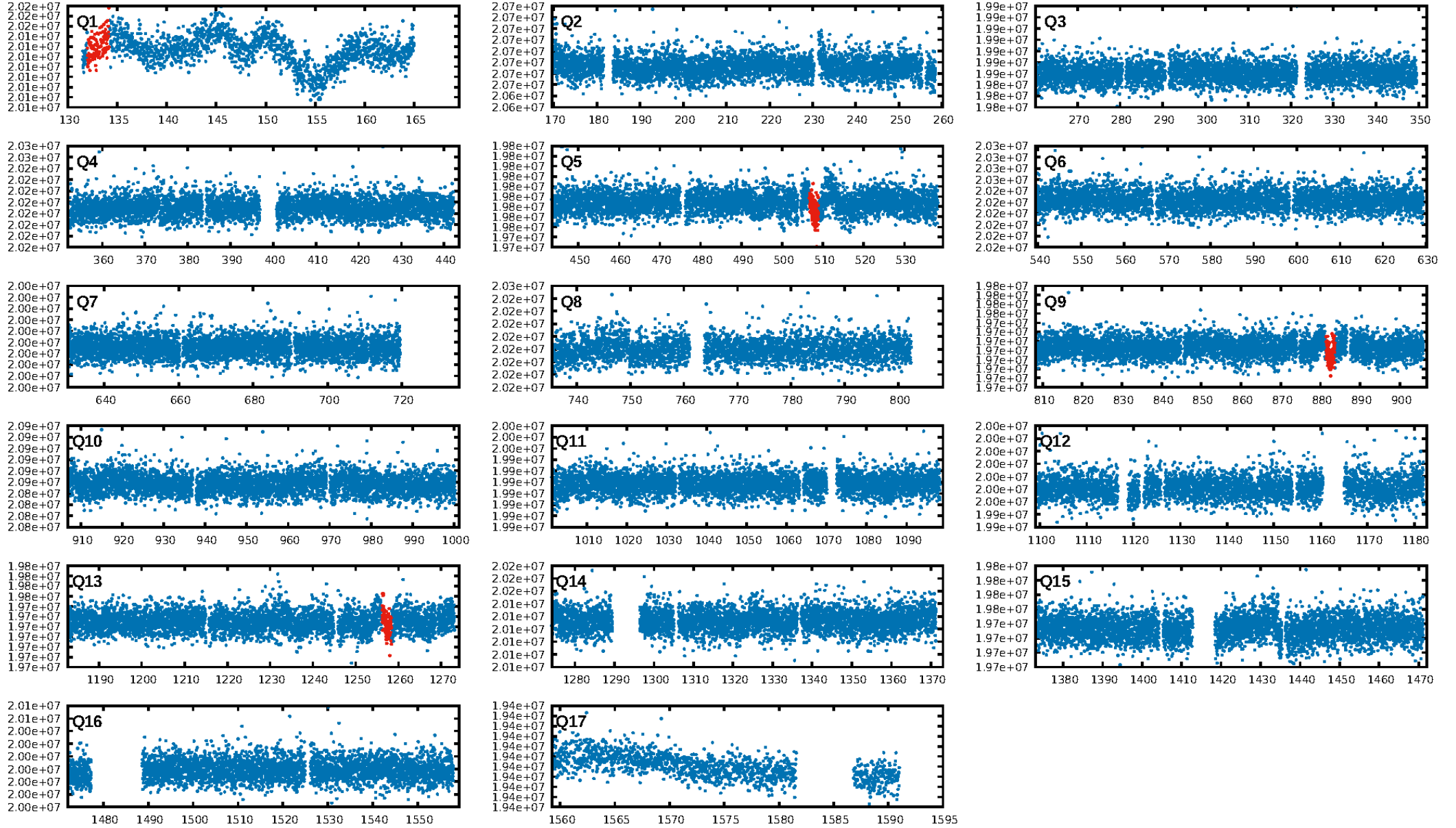
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.19e-16
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.168
Centroid-sig: 7.6%
Centroid-so: 2.685 arcsec [1.56 σ]
OotOffset-rm: 1.136 arcsec [0.79 σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-rm: 1.117 arcsec [0.80 σ]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

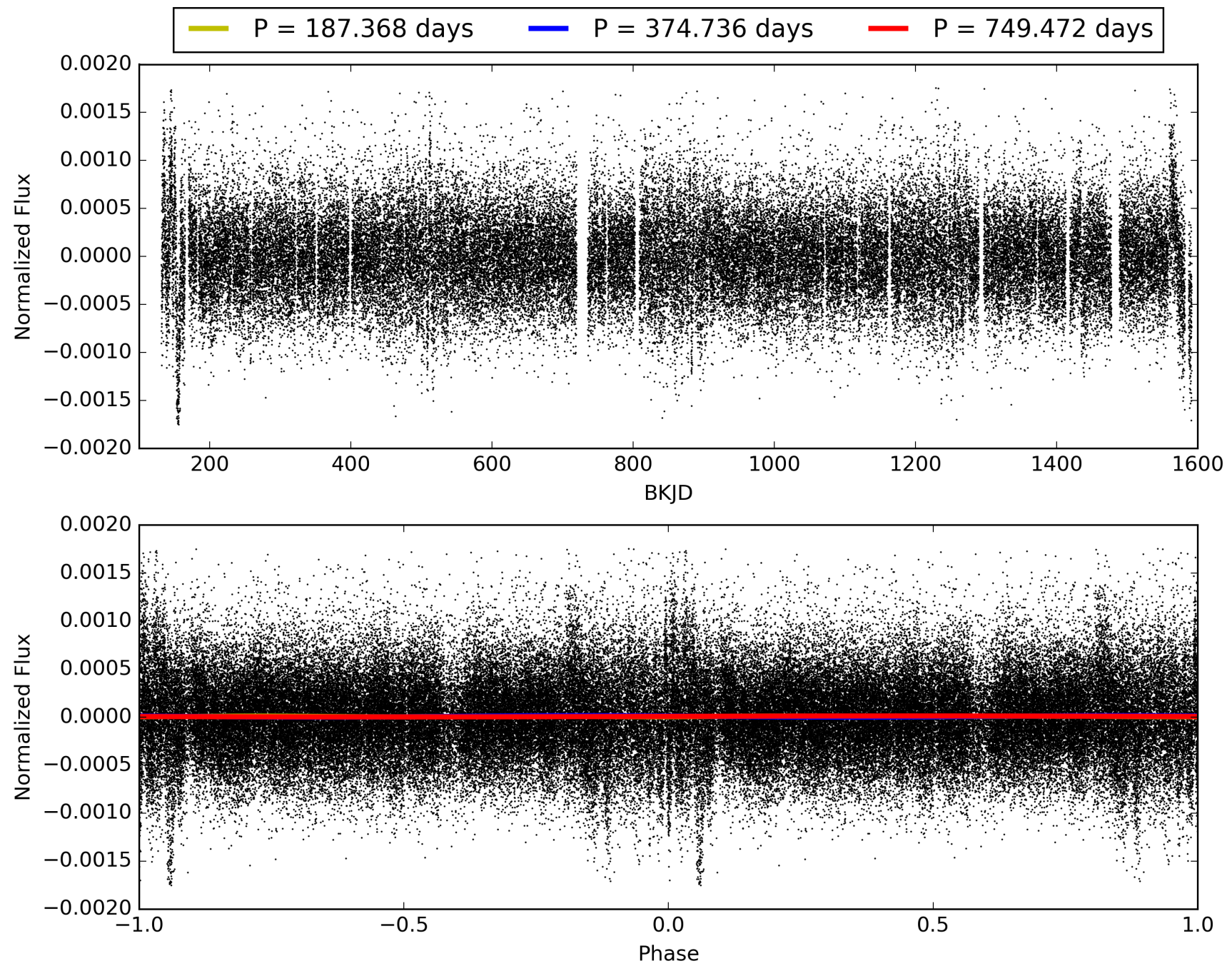
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:56:39 Z

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

TCE 009152123-01, PDC Light Curves

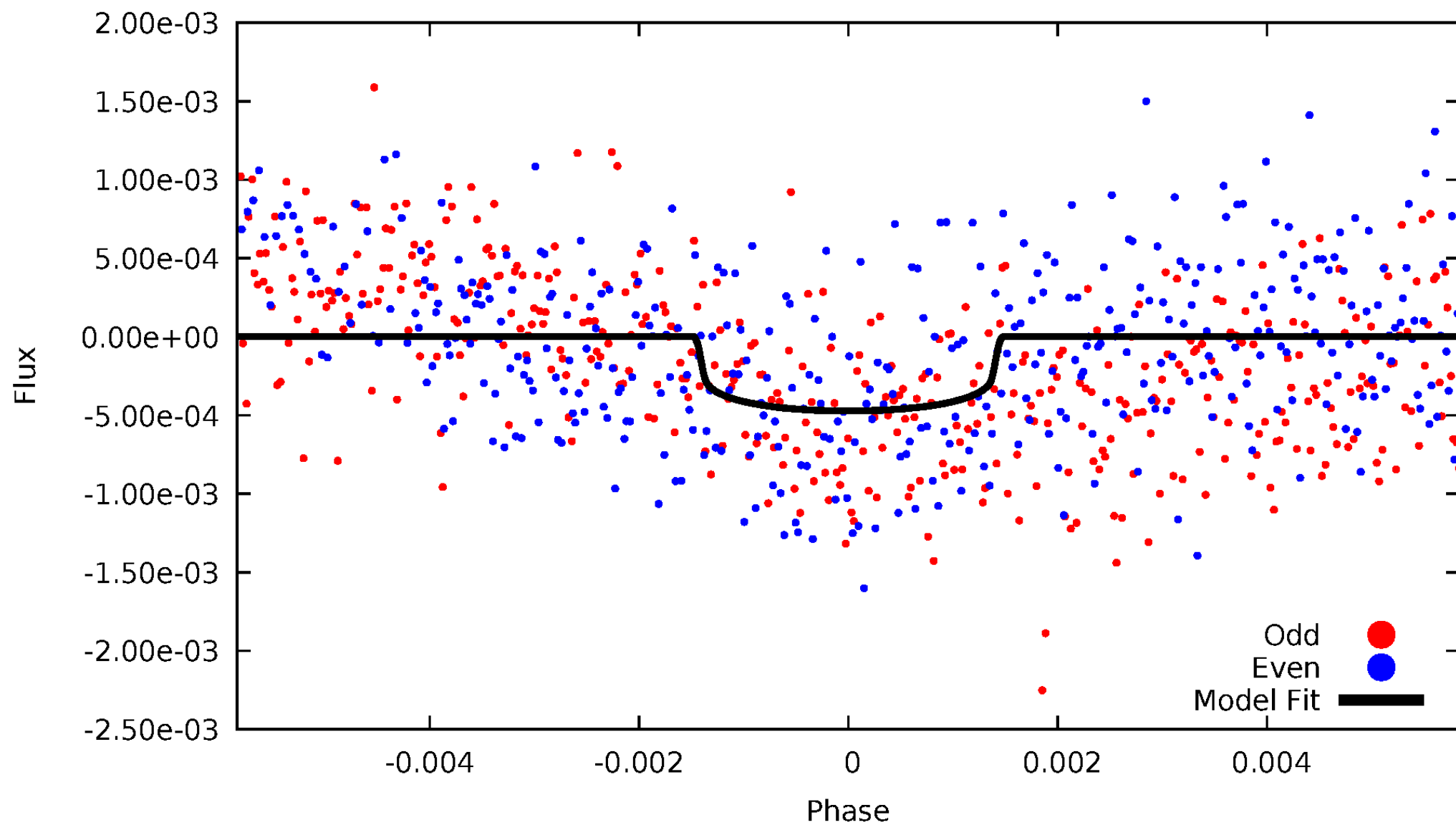


TCE 009152123-01



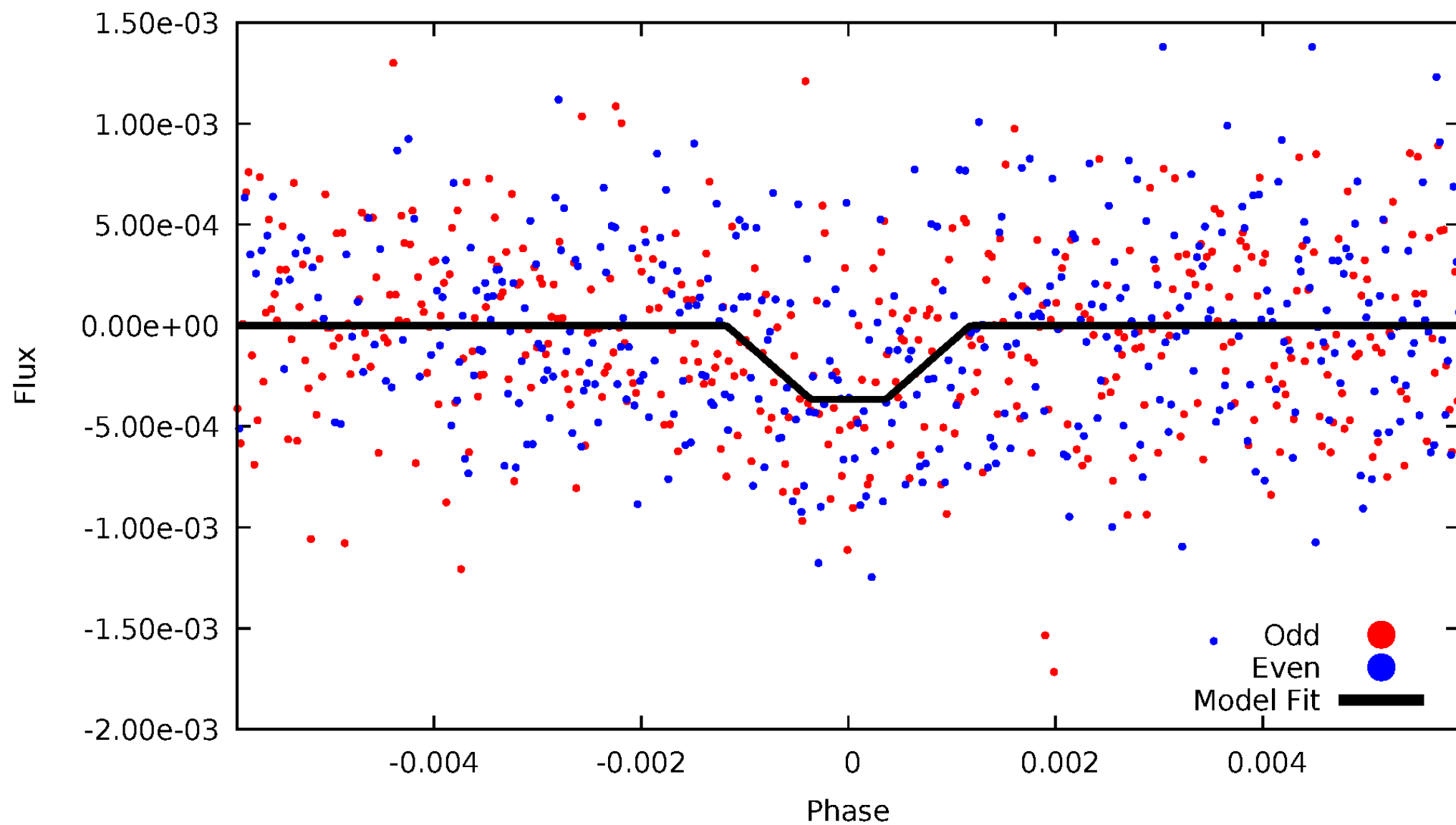
DV Odd/Even

TCE 009152123-01



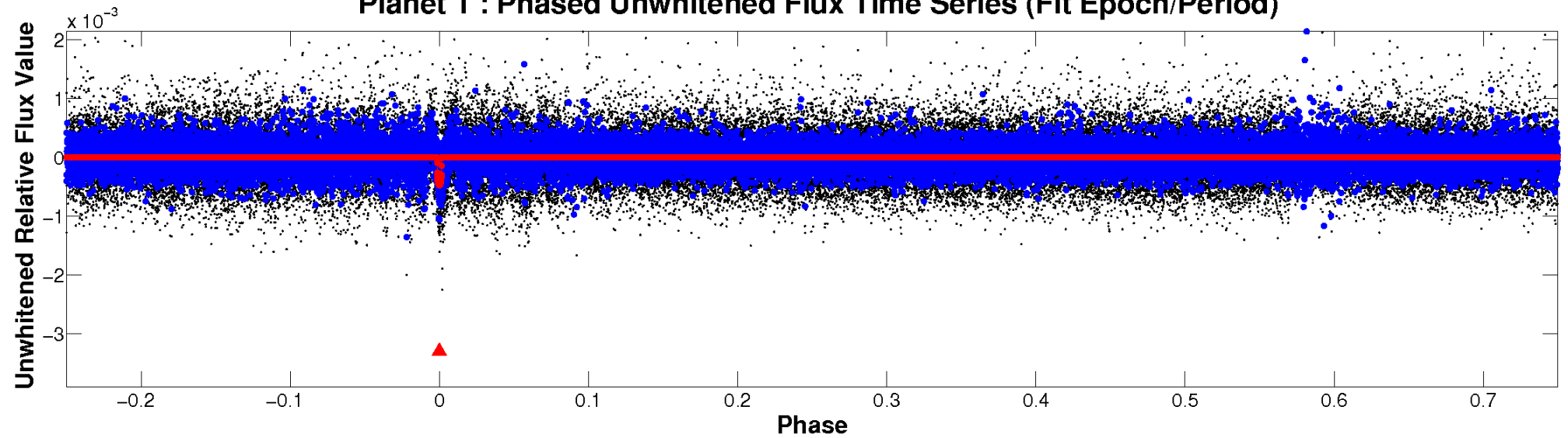
ALT Odd/Even

TCE 009152123-01

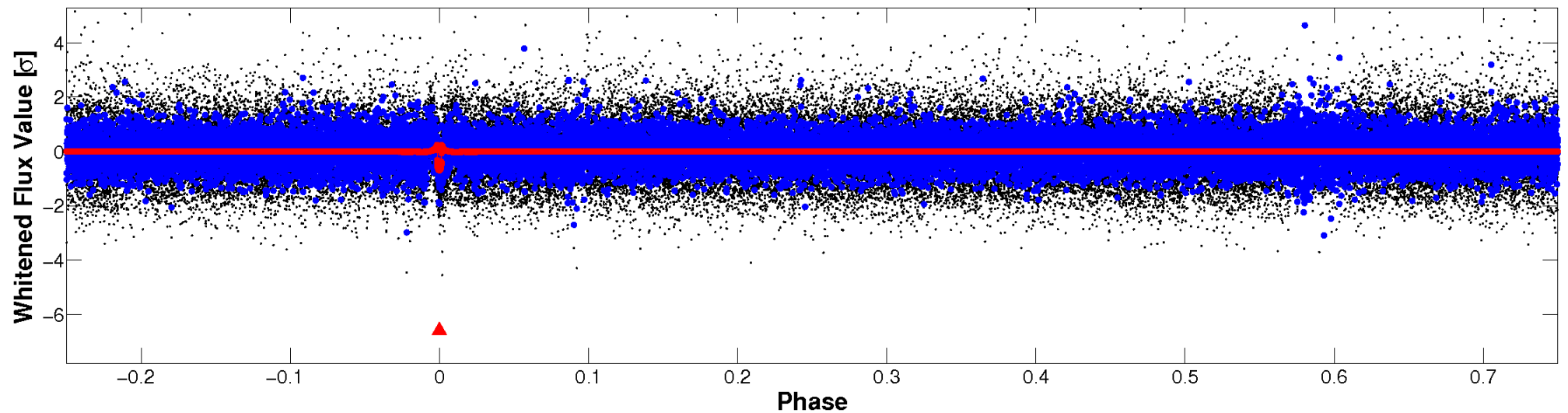


Non-Whitened Vs. Whitened Light Curve

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

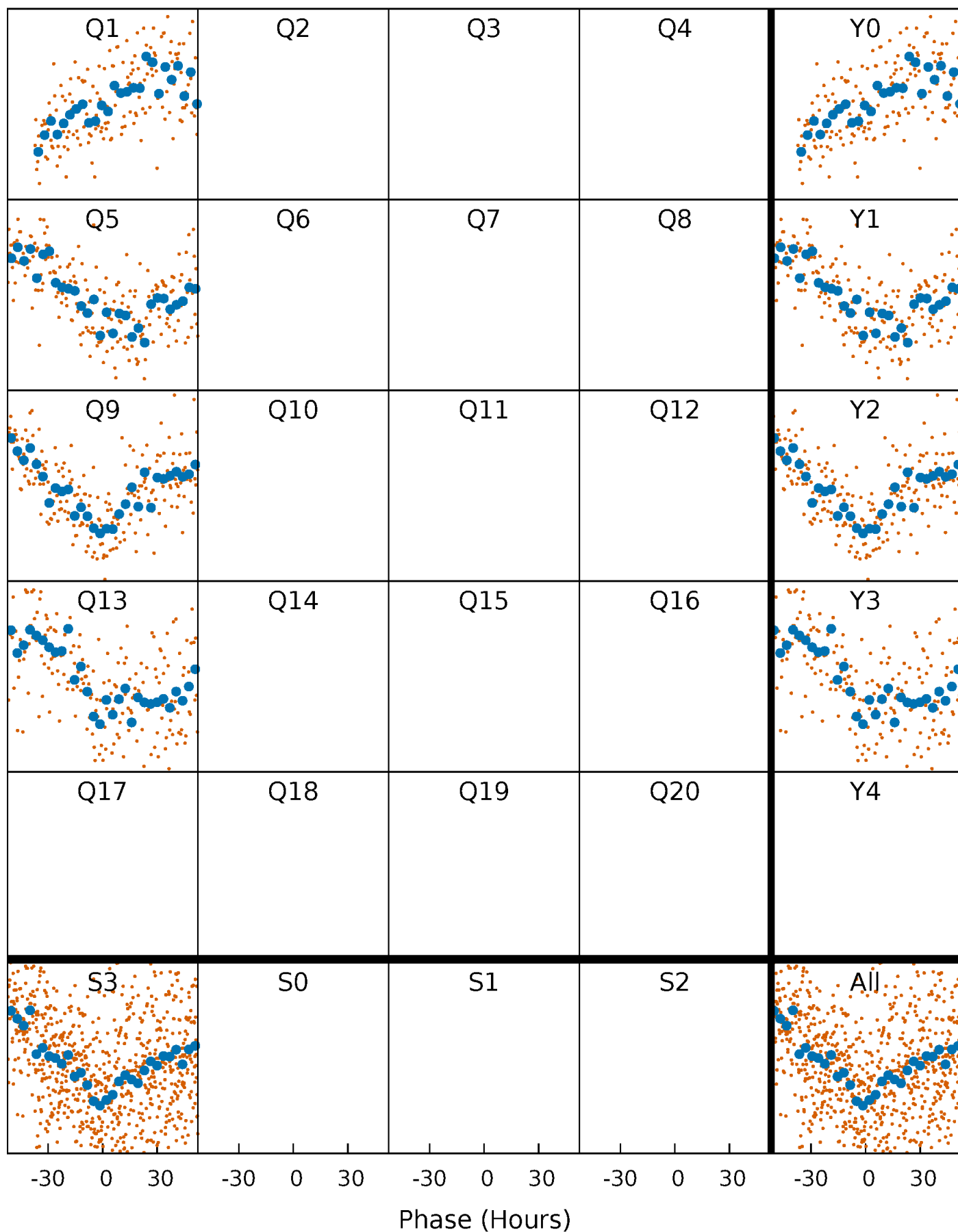


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



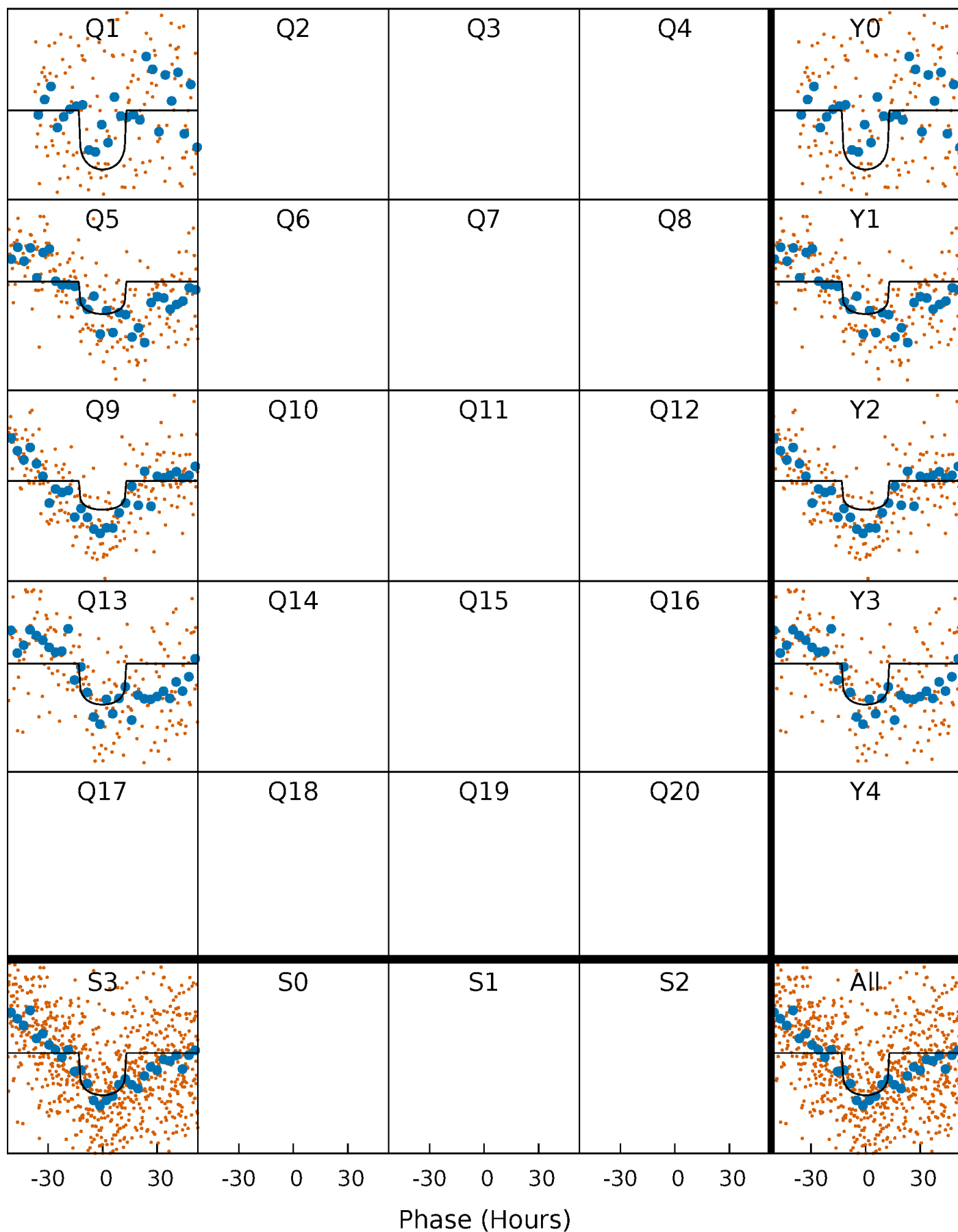
PDC Quarter-Phased Transit Curves

TCE 009152123-01 $P=374.735880$ Days $T_0=133.062206$ (BKJD)



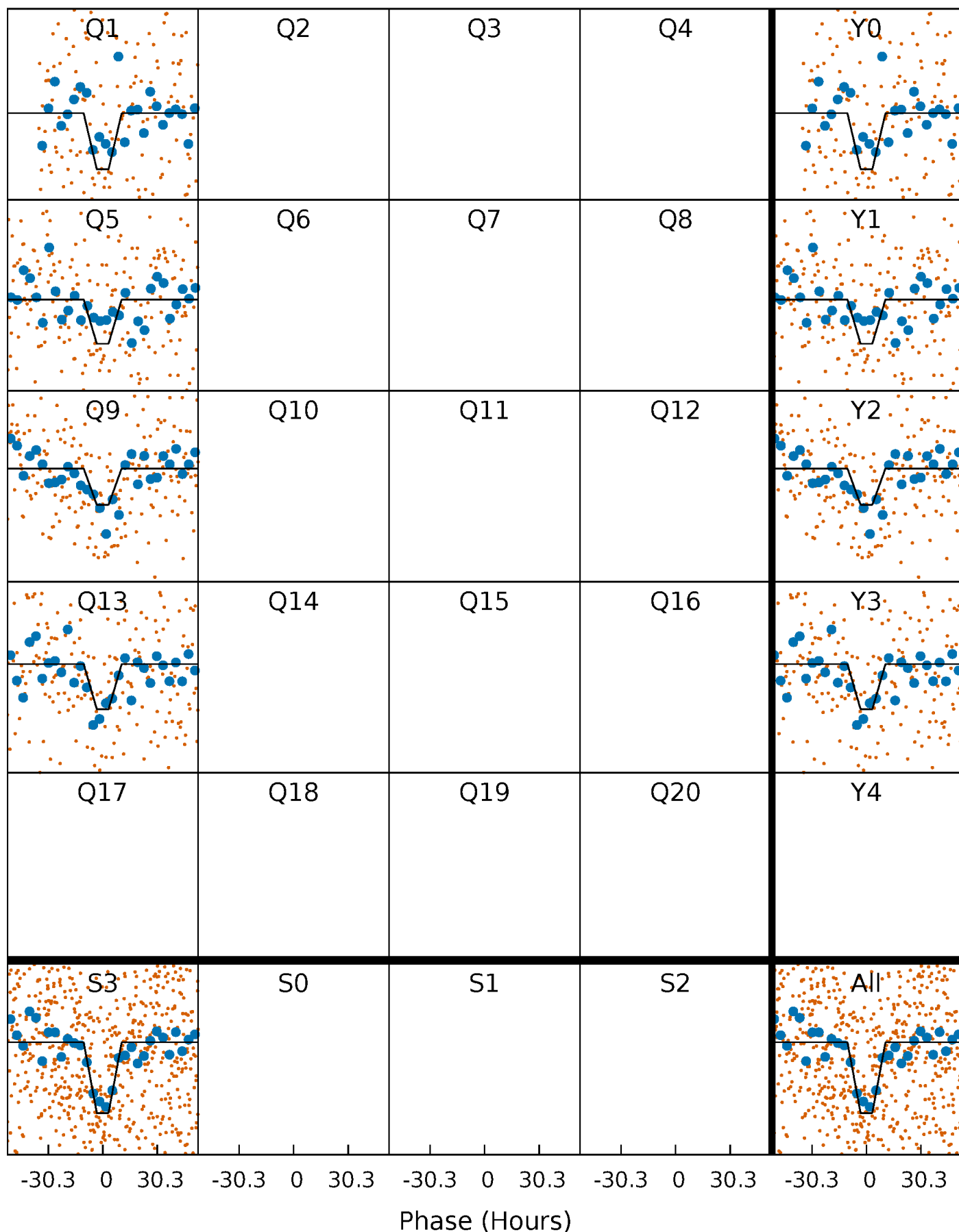
DV Quarter-Phased Transit Curves

TCE 009152123-01 $P=374.735880$ Days $T_0=133.062206$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

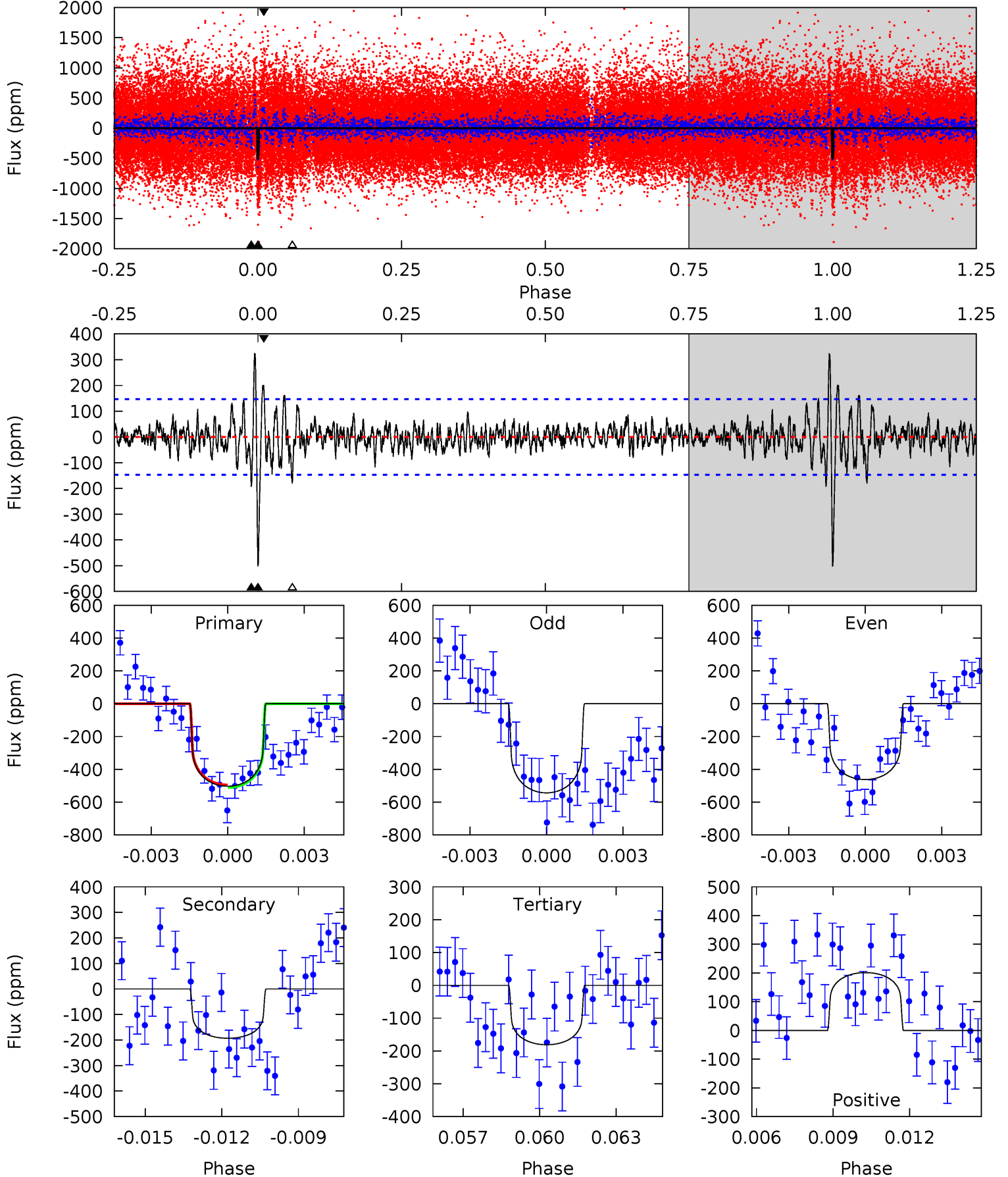
TCE 009152123-01 P=374.758302 Days $T_0=132.989417$ (BKJD)



DV Model-Shift Uniqueness Test

009152123-01, P = 374.735880 Days, E = 133.062206 Days

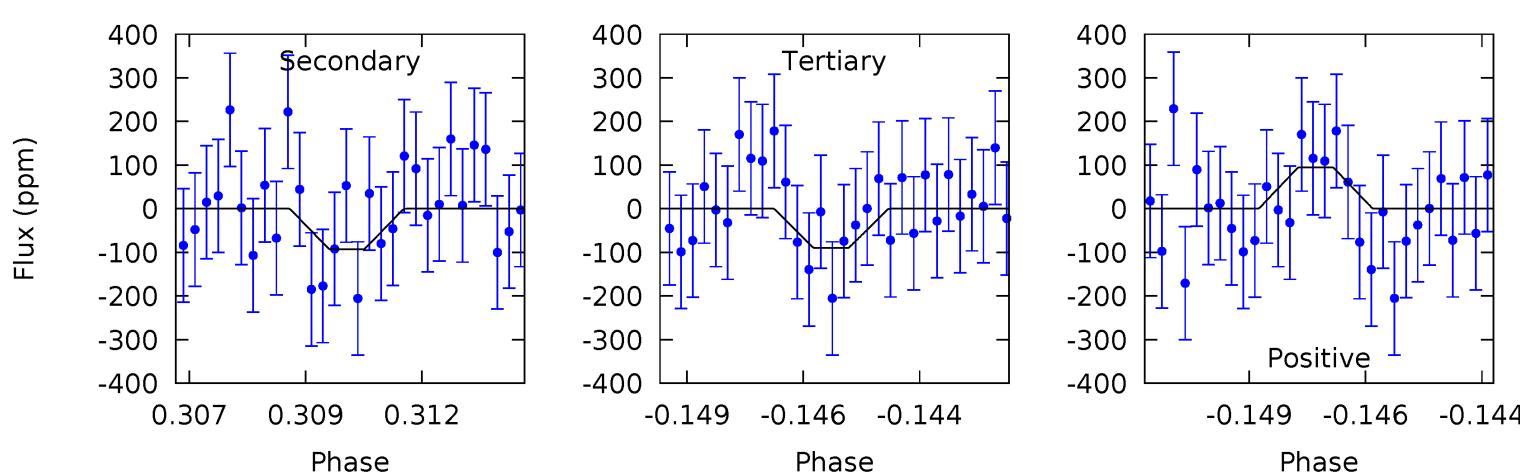
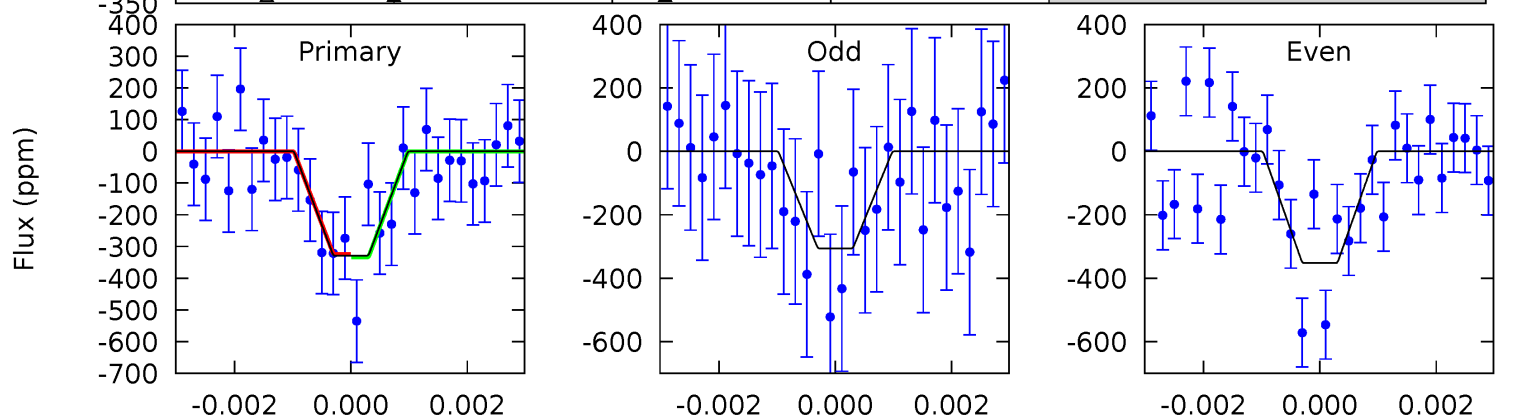
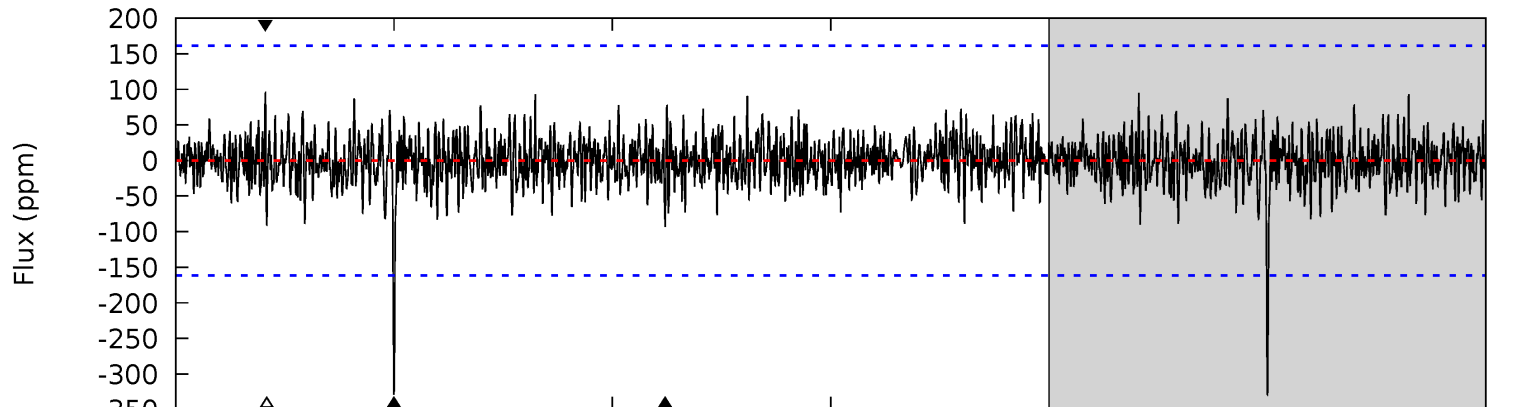
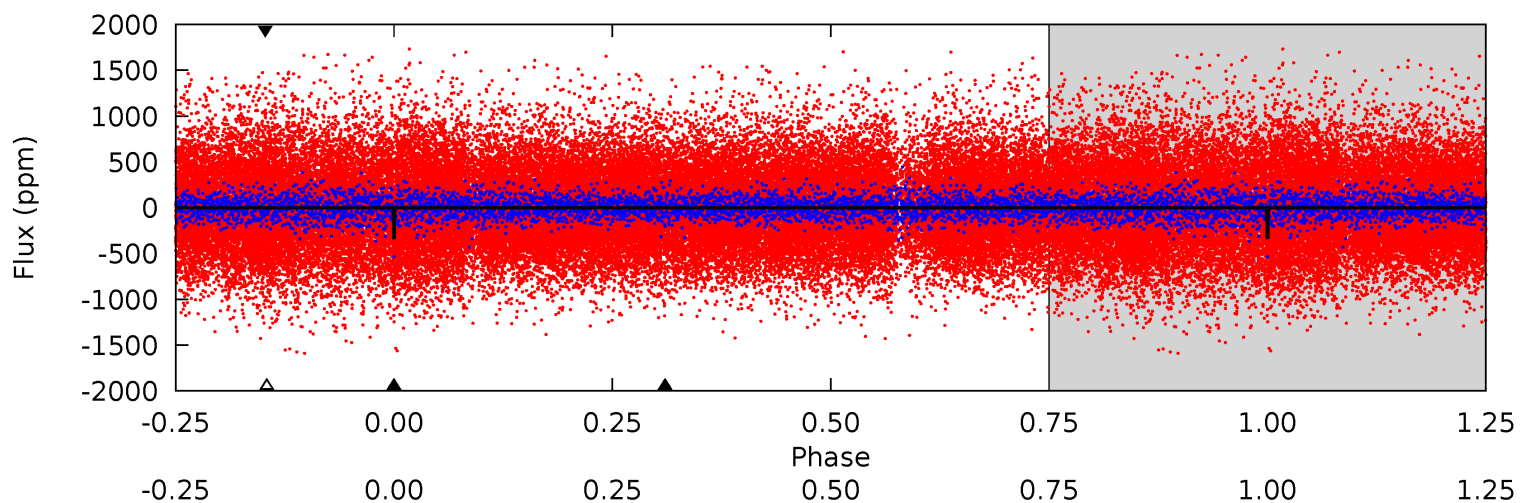
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	6.91	6.47	7.20	5.25	2.97	1.63	11.5	10.8	0.43	-0.30	1.45	0.93	0.39	0.27



Alt Model-Shift Uniqueness Test

009152123-01, P = 374.758302 Days, E = 132.989417 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	3.05	2.95	3.11	5.29	3.04	0.90	7.83	7.67	0.10	-0.06	0.76	1.05	0.22	0.16



Stellar Parameters For KIC 009152123

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6026^{+179}_{-179}	$4.448^{+0.098}_{-0.182}$	$-0.440^{+0.300}_{-0.300}$	$0.938^{+0.266}_{-0.114}$	$0.901^{+0.110}_{-0.090}$	$1.538^{+0.670}_{-0.759}$
	+3%/-3%	+2%/-4%	+68%/-68%	+28%/-12%	+12%/-10%	+44%/-49%
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 009152123-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-193 ± 28	$2.21^{+0.65}_{-0.59}$	366^{+28}_{-19}	4980^{+680}_{-477}	20822^{+17966}_{-8678}
Alt.	-93 ± 31	$2.01^{+0.59}_{-0.60}$	366^{+25}_{-19}	4432^{+728}_{-480}	11743^{+12951}_{-5804}

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

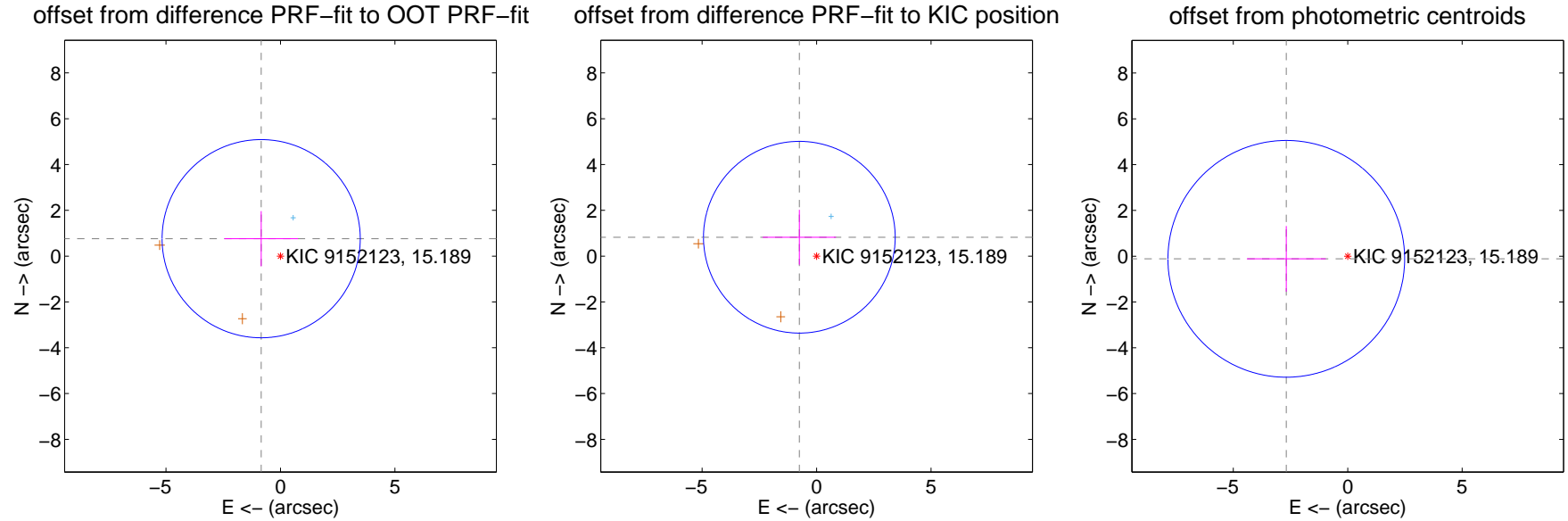
DV Centroid Data

Supplemental centroid analysis for 009152123-01. Kepler magnitude: 15.19. Transit SNR 9.28

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.136 ± 1.442	0.79	0.842 ± 1.611	0.762 ± 1.205
PRF-fit source offset from KIC position	1.117 ± 1.395	0.80	0.752 ± 1.601	0.825 ± 1.198
photometric centroid source offset	2.69 ± 1.72	1.56	2.68 ± 1.72	-0.12 ± 1.43

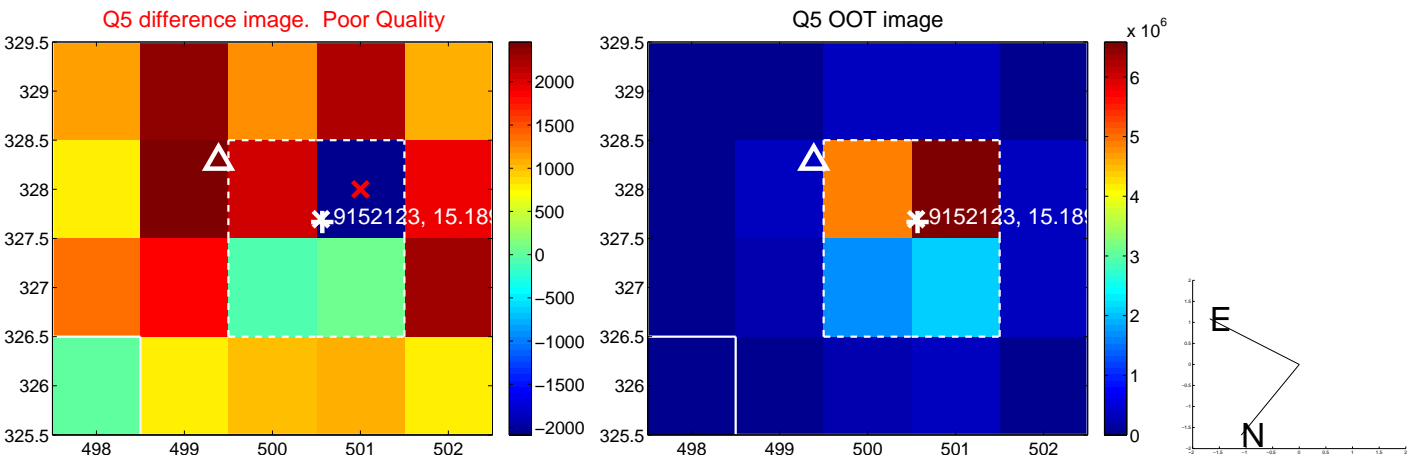


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

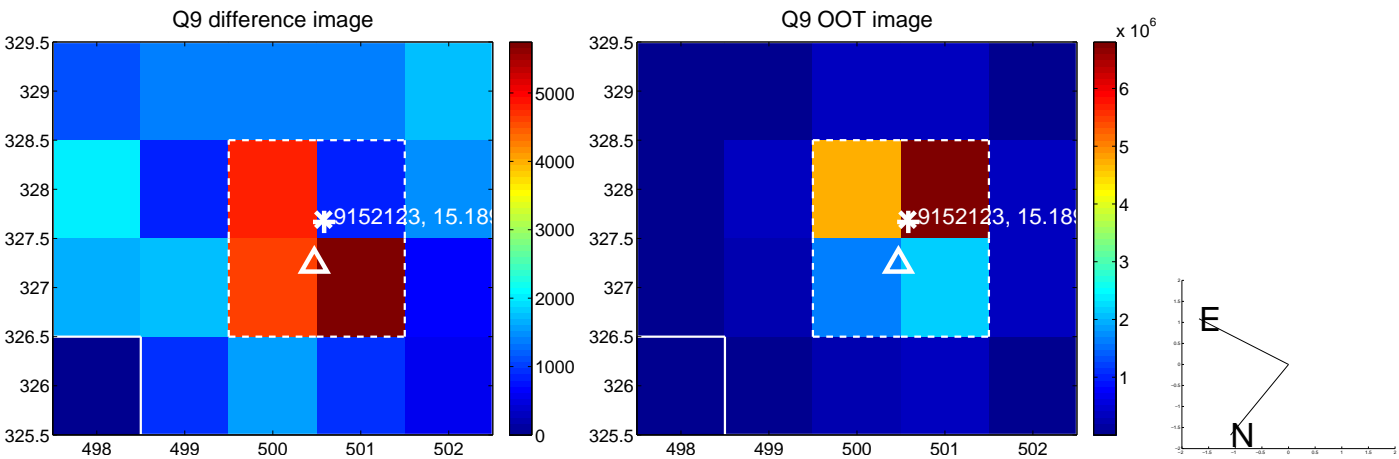
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



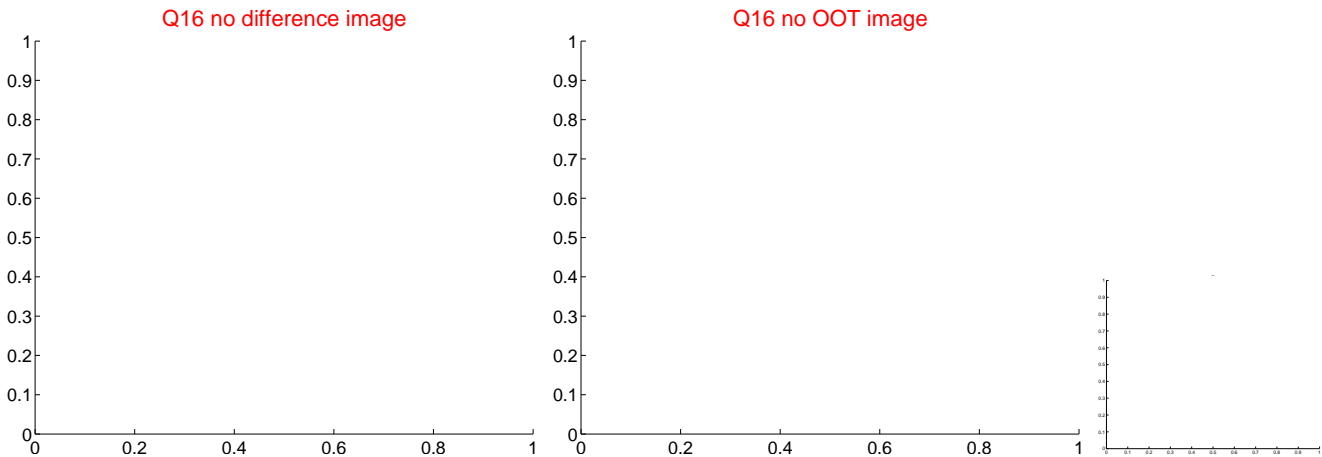
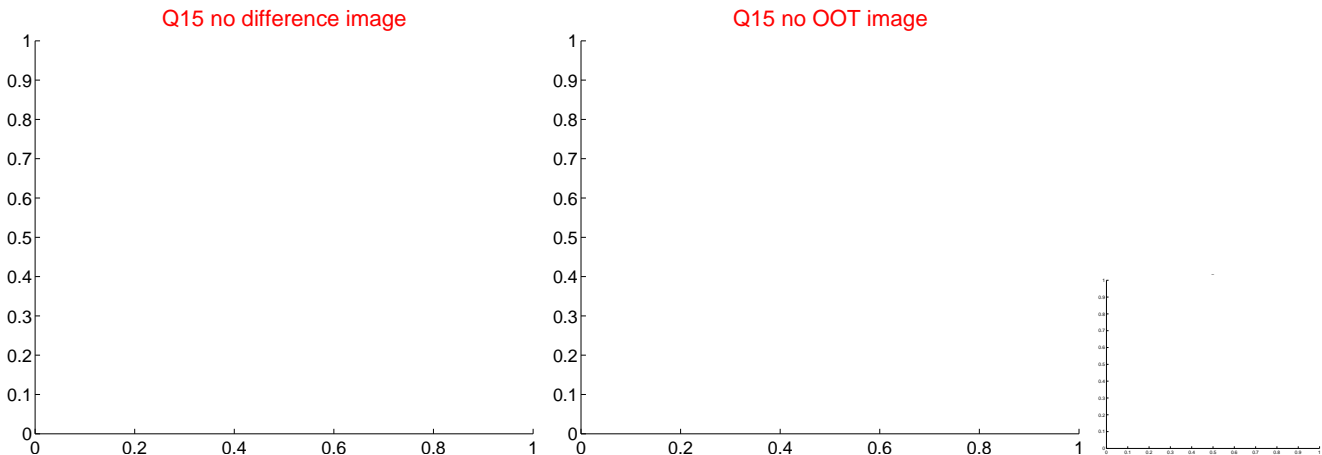
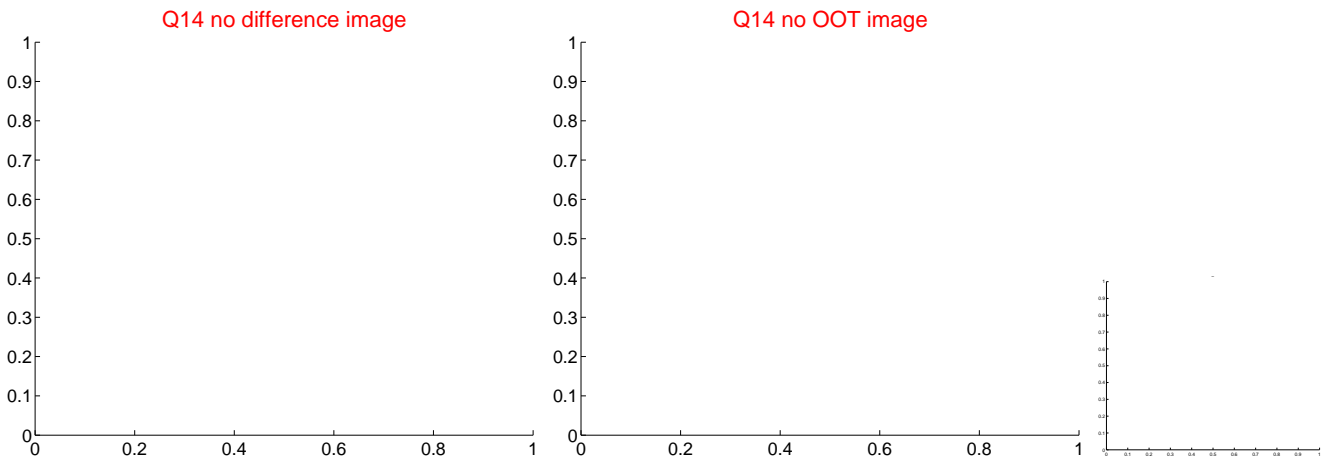
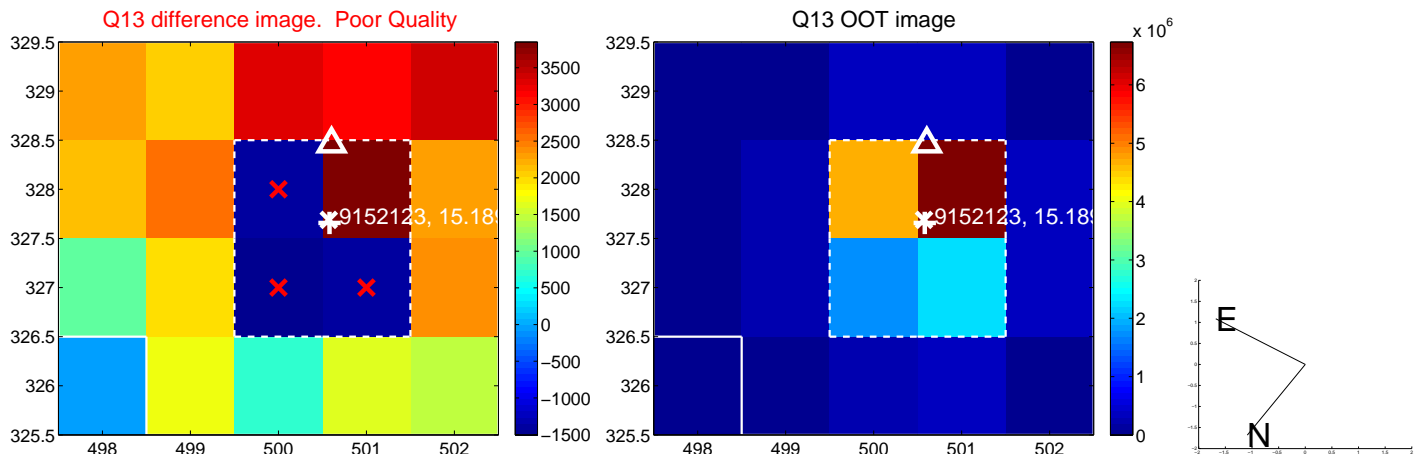
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



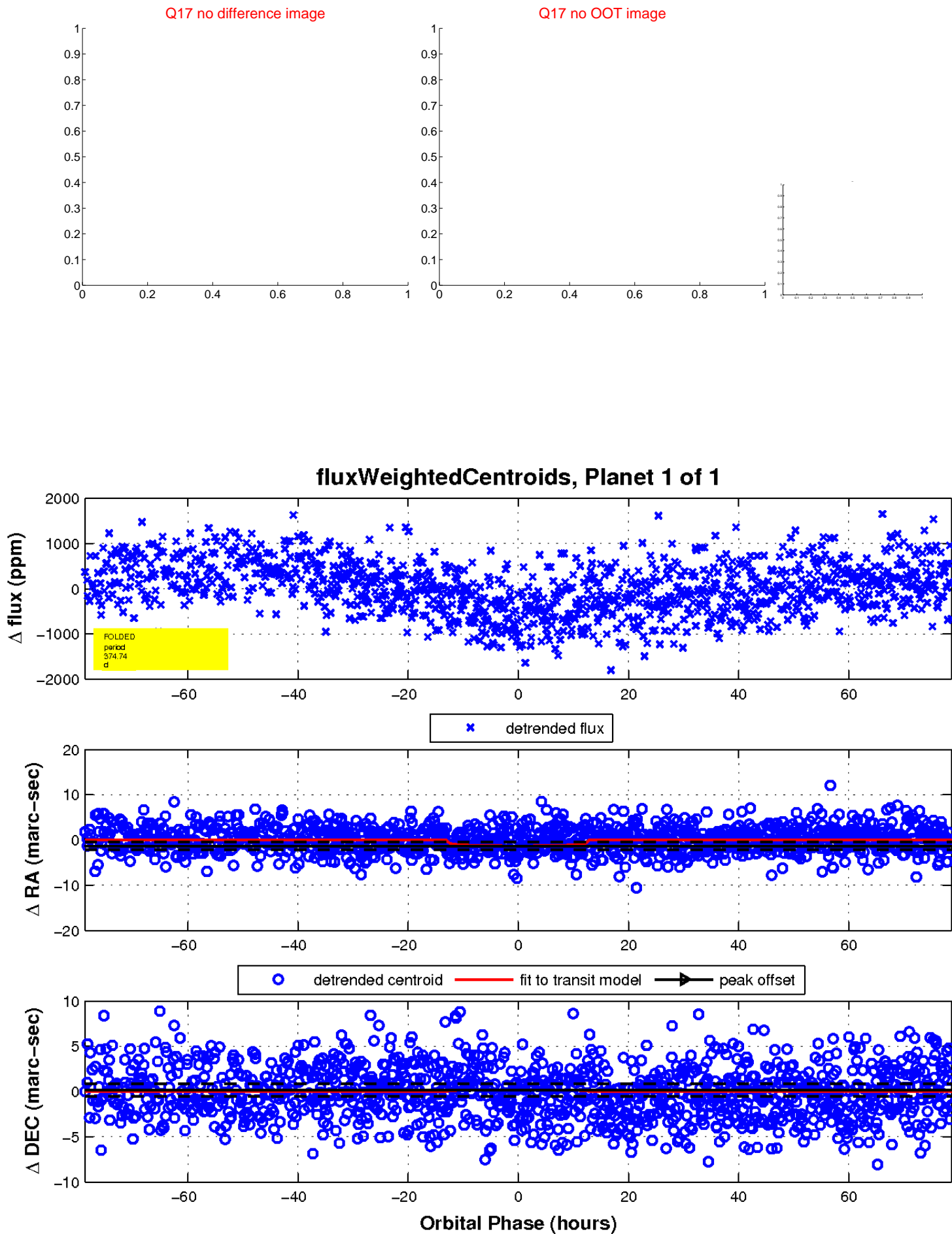
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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.



UKIRT Image

Declination

