

KIC 009348924

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})
009348924-01	OBS	No	401.331951	192.536937	285.6	12.487	7.8	7.9	0.99	5574	1.80	0.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009348924-01	OBS	FP	0.03	1	0	0	0	INDIV_TRANS_MARSHALL

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

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

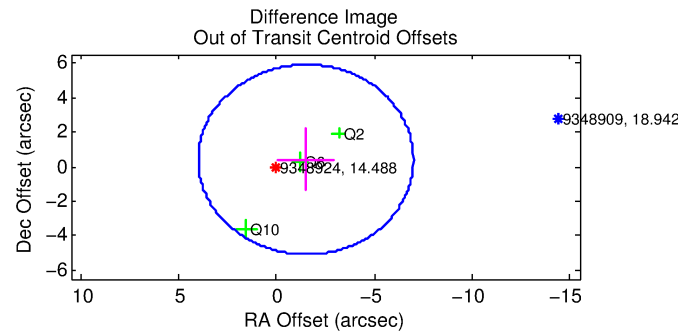
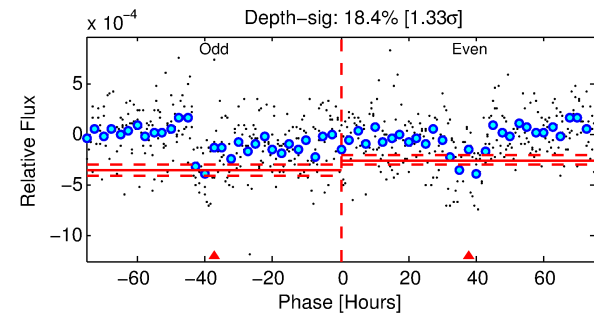
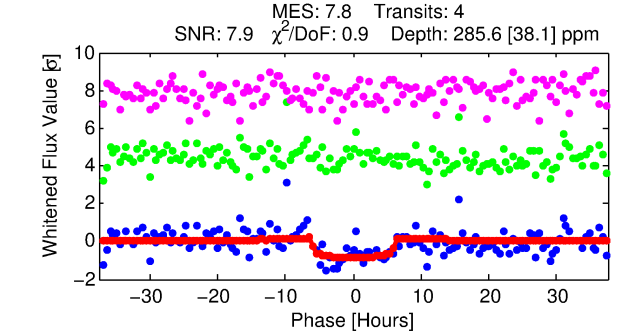
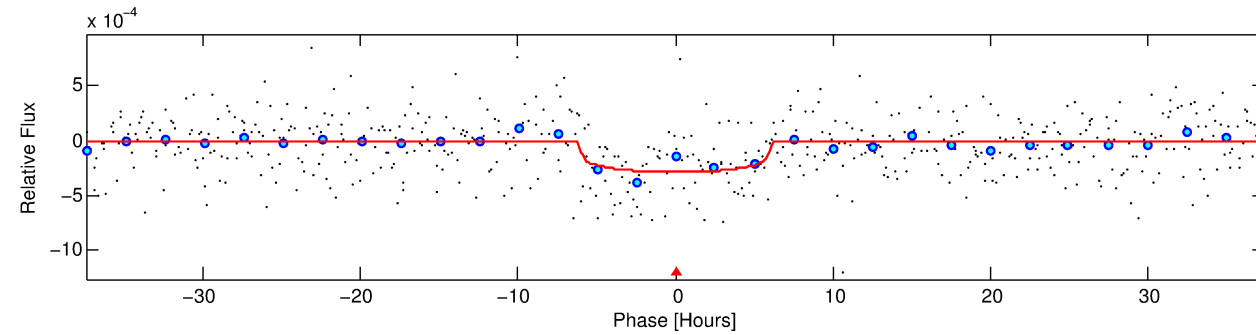
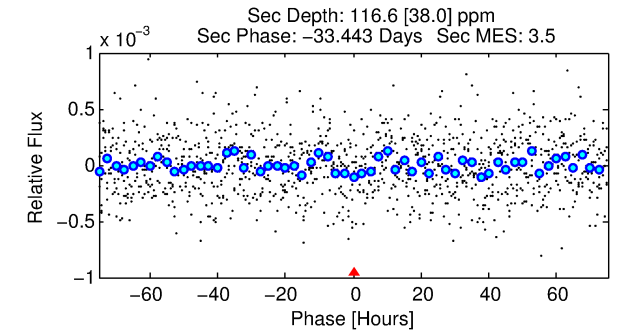
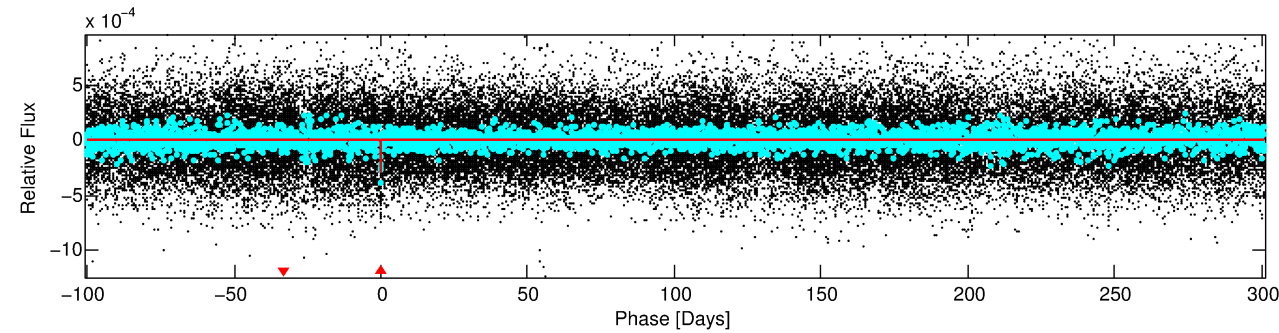
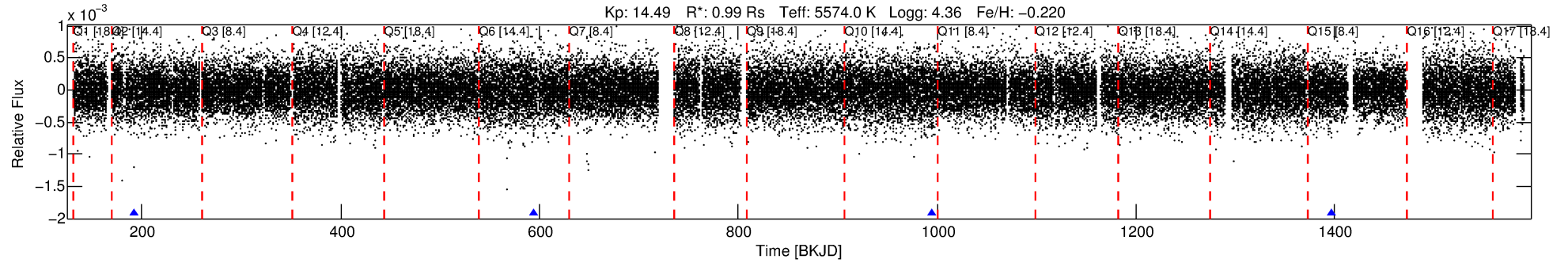
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009348924-01

No Significant Match Found

DV One-Page Summary

KIC: 9348924 Candidate: 1 of 1 Period: 401.332 d



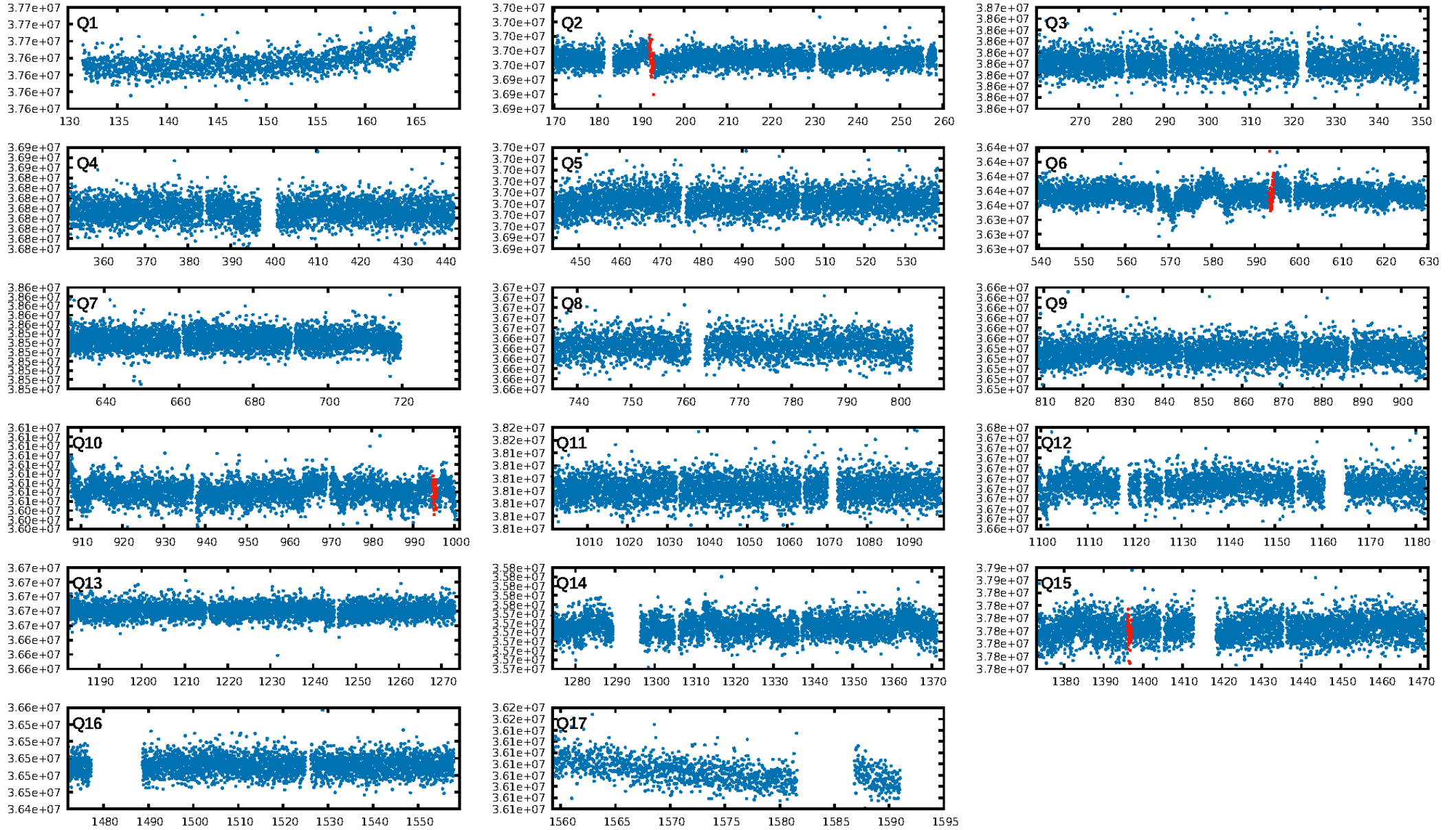
DV Fit Results:

Period = 401.33195 [0.00976] d
Epoch = 192.5369 [0.0201] BKJD
Rp/R* = 0.0166 [0.0092]
a/R* = 176.45 [421.28]
b = 0.72 [1.62]
Seff = 0.86 [0.39]
Teq = 246 [28] K
Rp = 1.80 [1.19] Re
a = 0.9953 [0.2972] AU
Ag = 19533.01 [24108.78] [0.81σ]
Teffp = 4492 [1306] K [3.25σ]

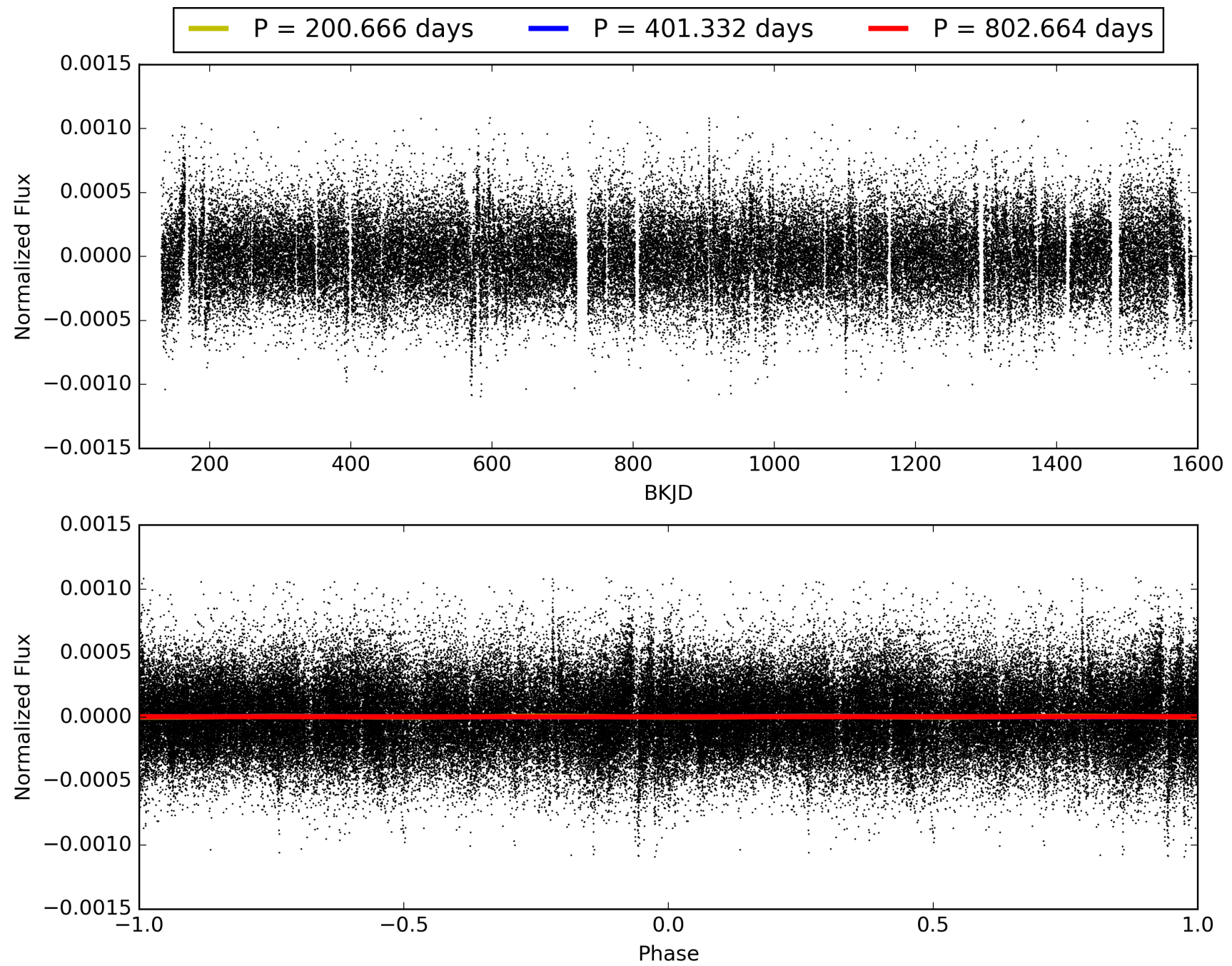
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 38.1%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 6.13e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.4152
Centroid-sig: 26.8%
Centroid-so: 1.611 arcsec [0.99σ]
OotOffset-rm: 1.558 arcsec [0.85σ]
KicOffset-rm: 1.553 arcsec [0.88σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 009348924-01, PDC Light Curves

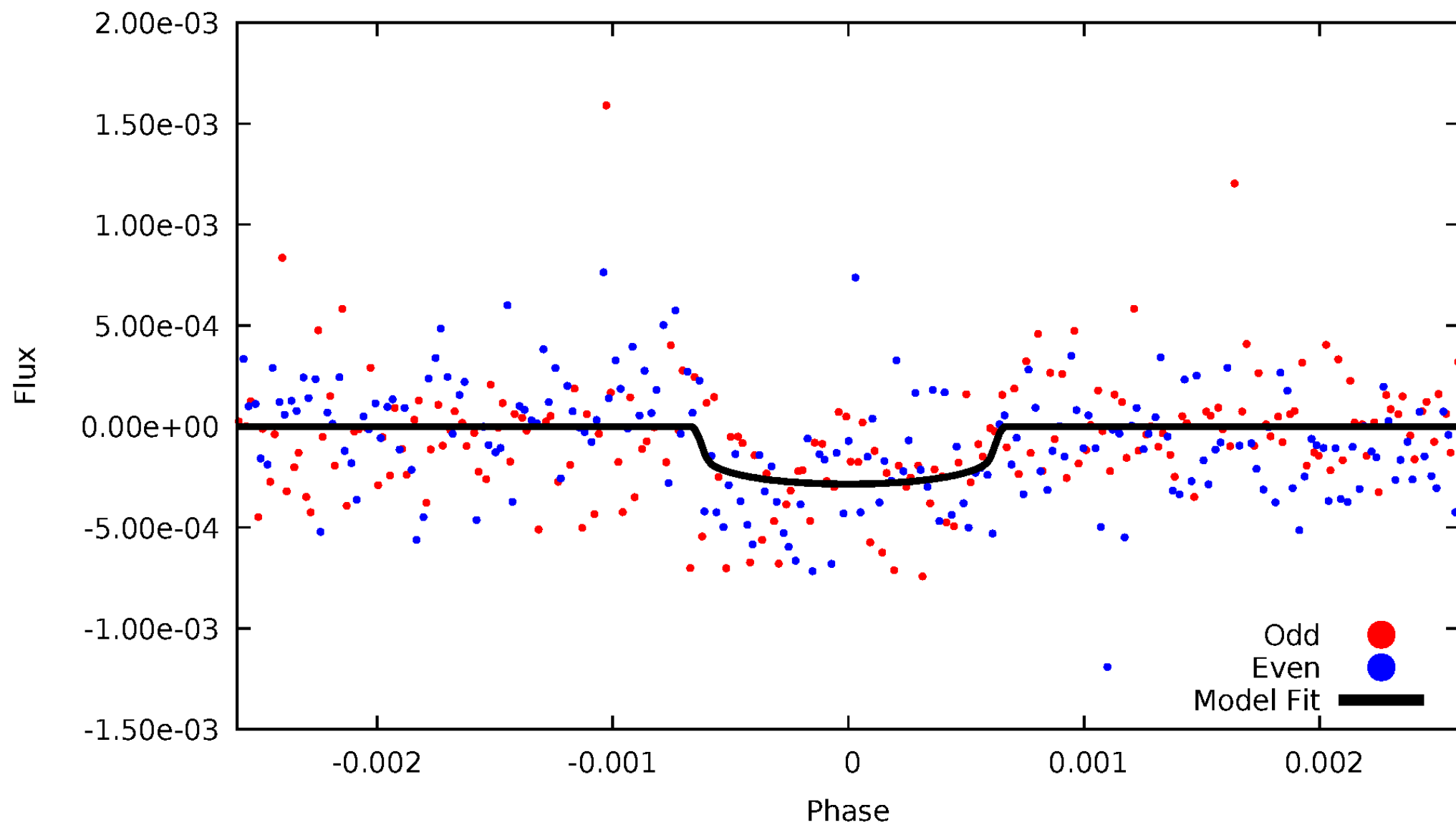


TCE 009348924-01



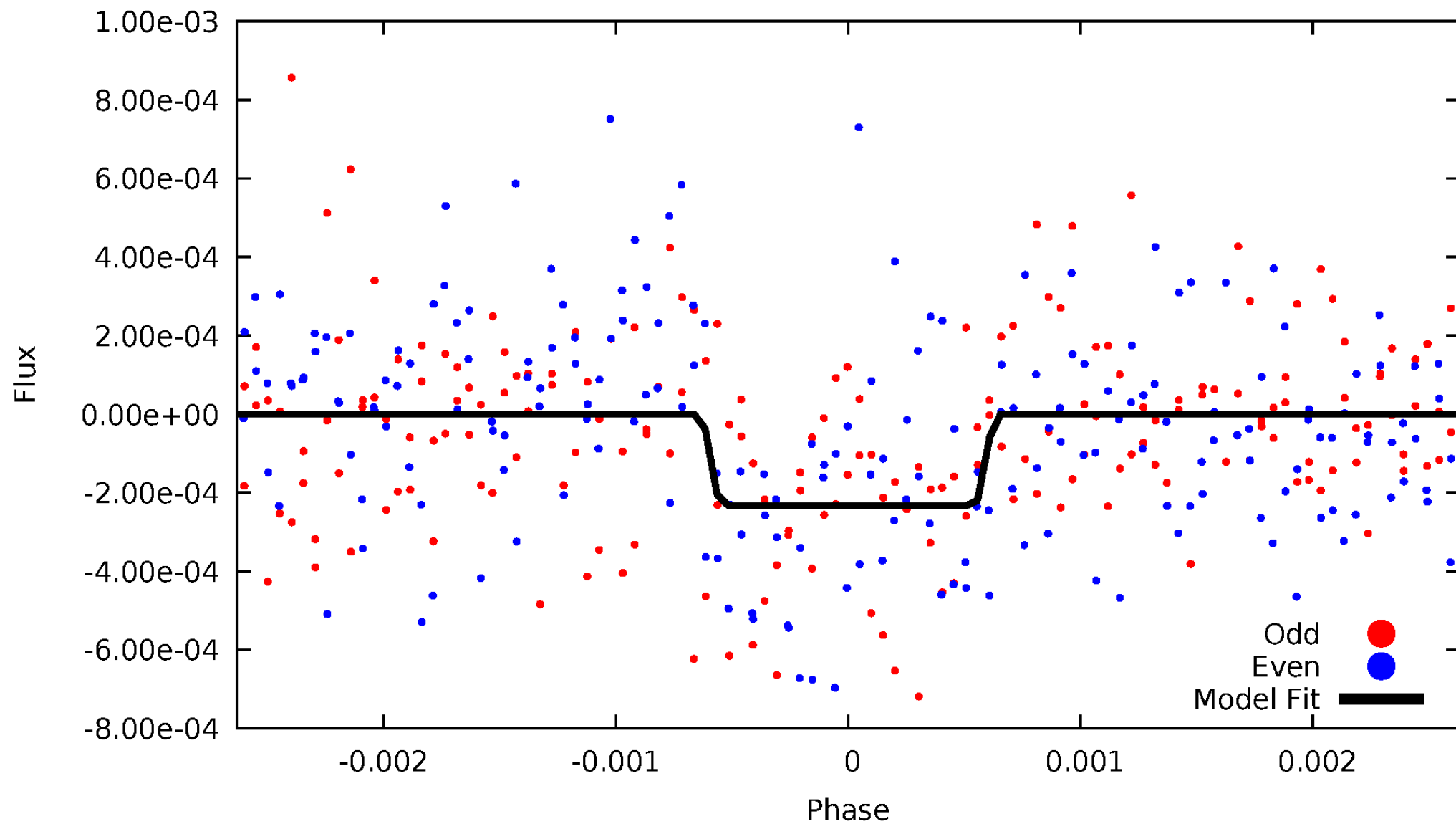
DV Odd/Even

TCE 009348924-01



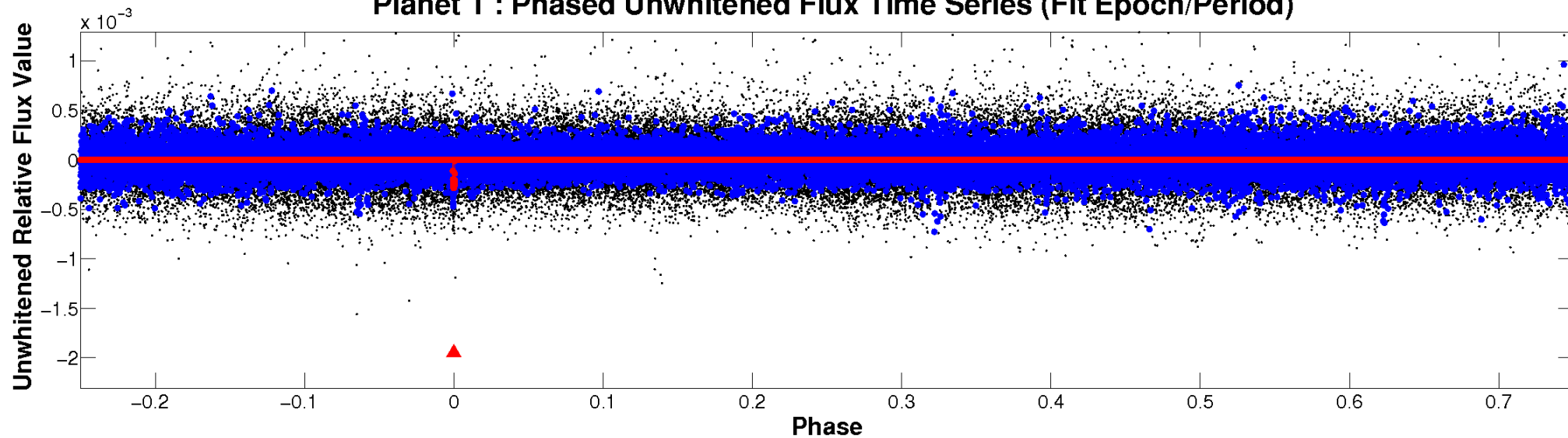
ALT Odd/Even

TCE 009348924-01

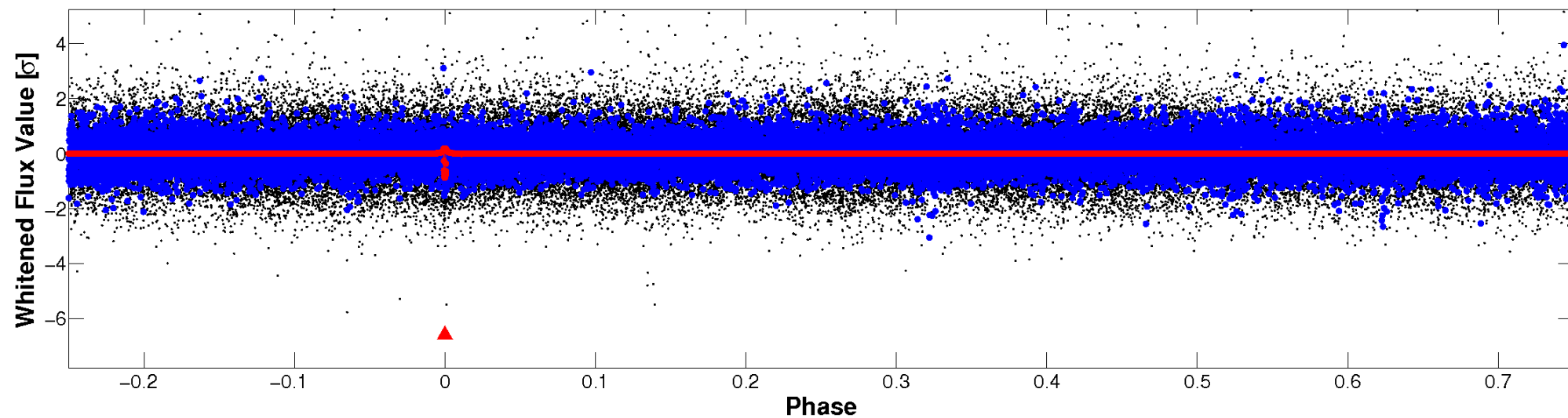


Non-Whitened Vs. Whitened Light Curve

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

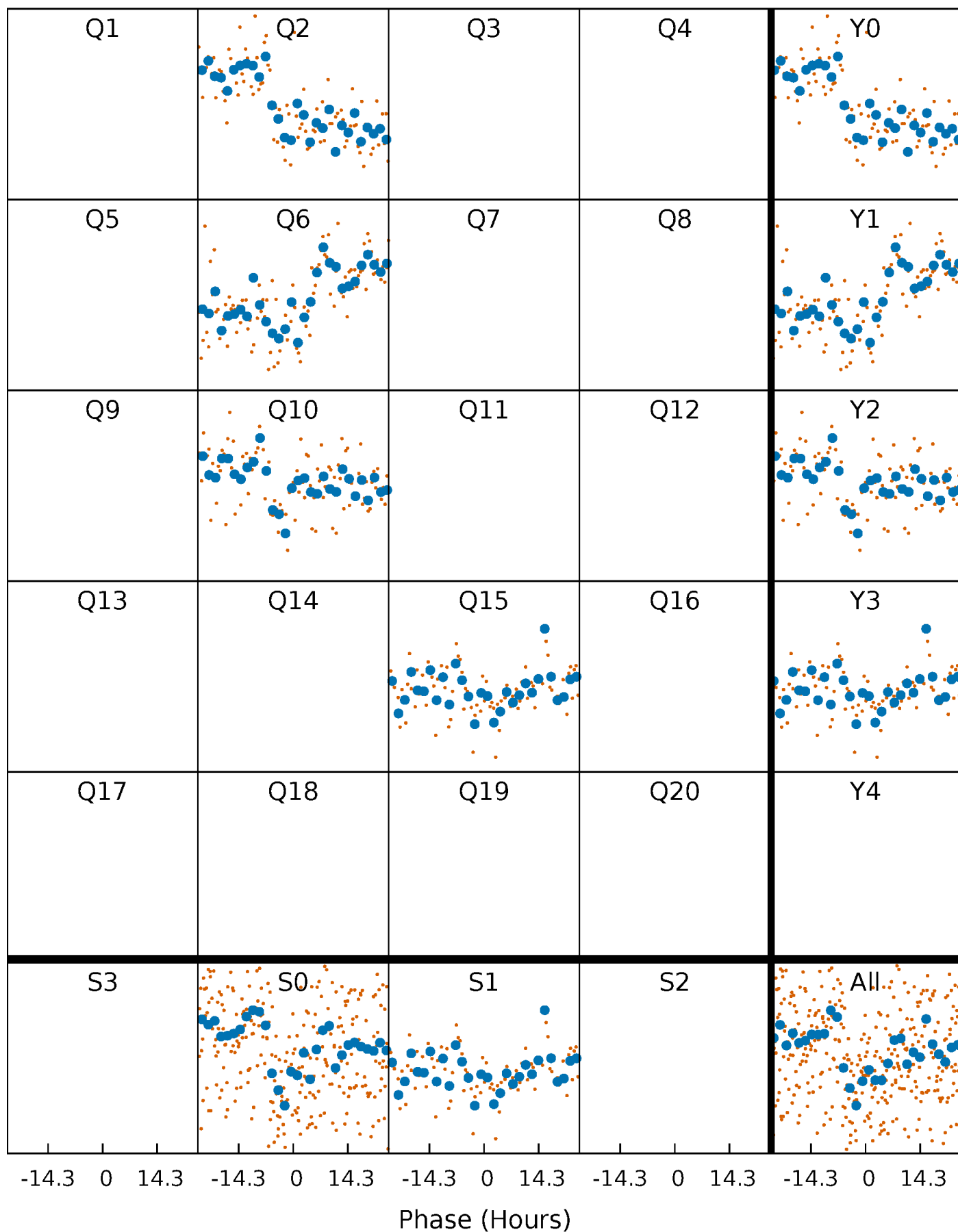


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



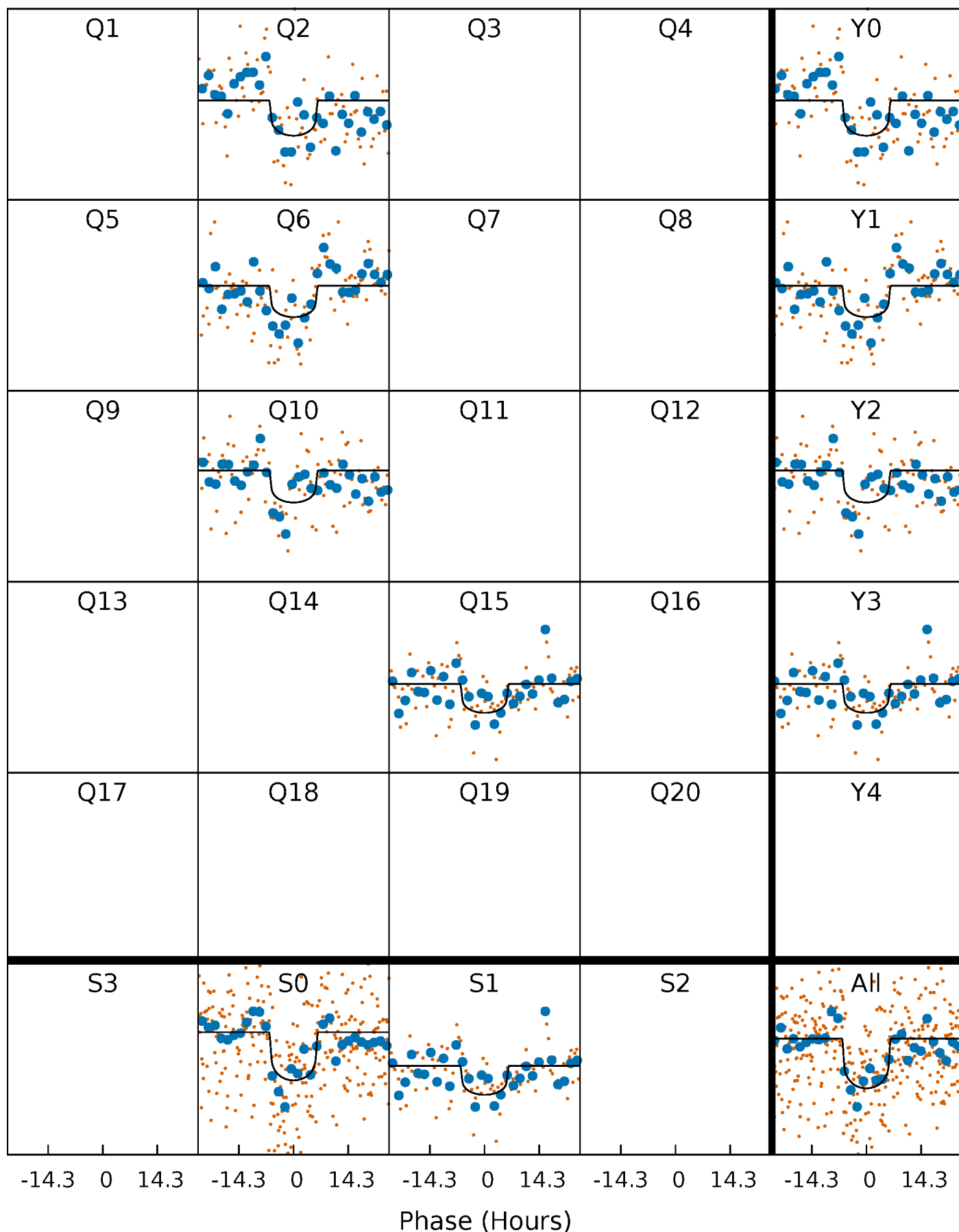
PDC Quarter-Phased Transit Curves

TCE 009348924-01 P=401.331951 Days $T_0=192.536937$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009348924-01 P=401.331951 Days $T_0=192.536937$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

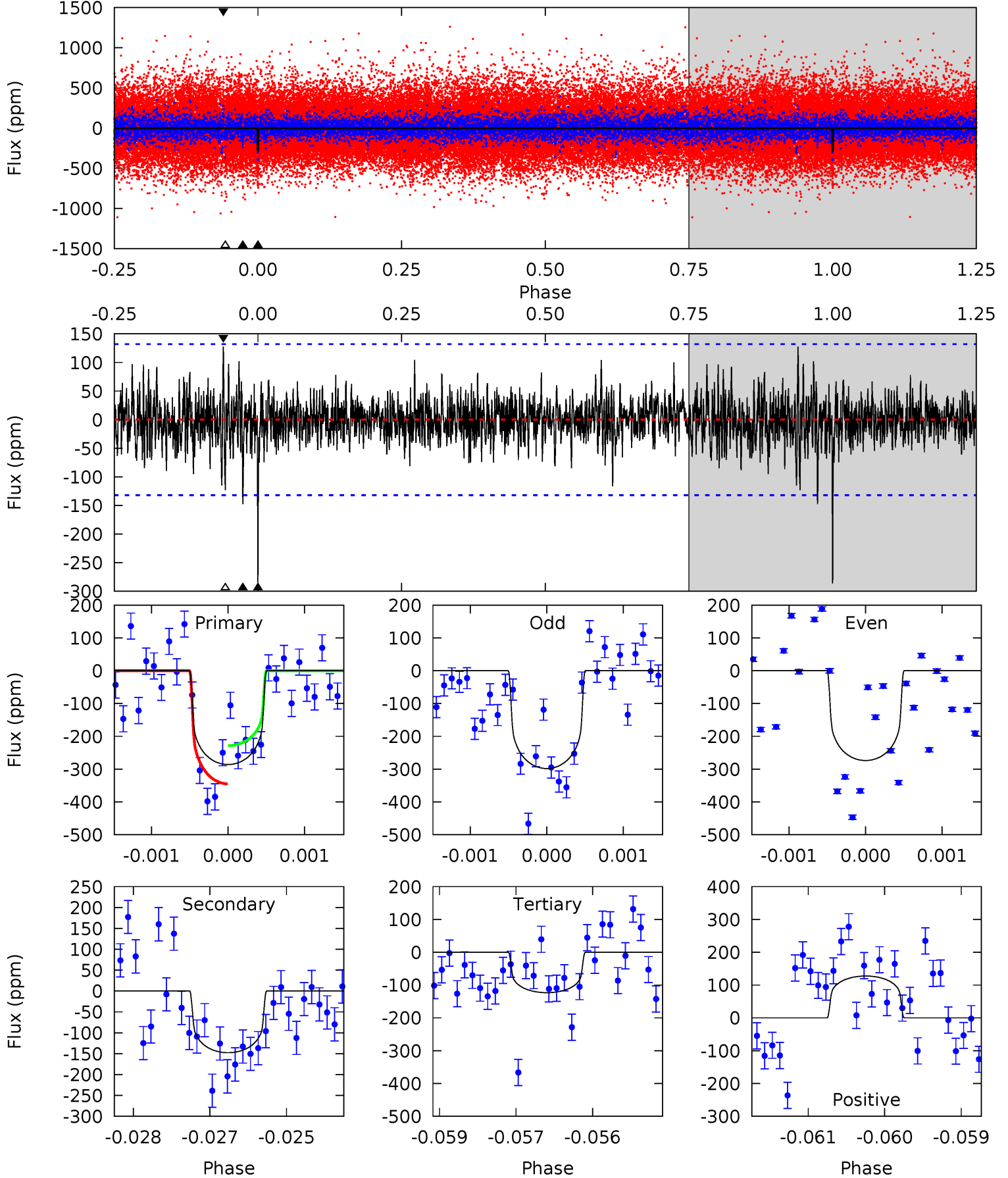
TCE 009348924-01 P=401.335552 Days $T_0=192.531118$ (BKJD)



DV Model-Shift Uniqueness Test

009348924-01, P = 401.331951 Days, E = 192.536937 Days

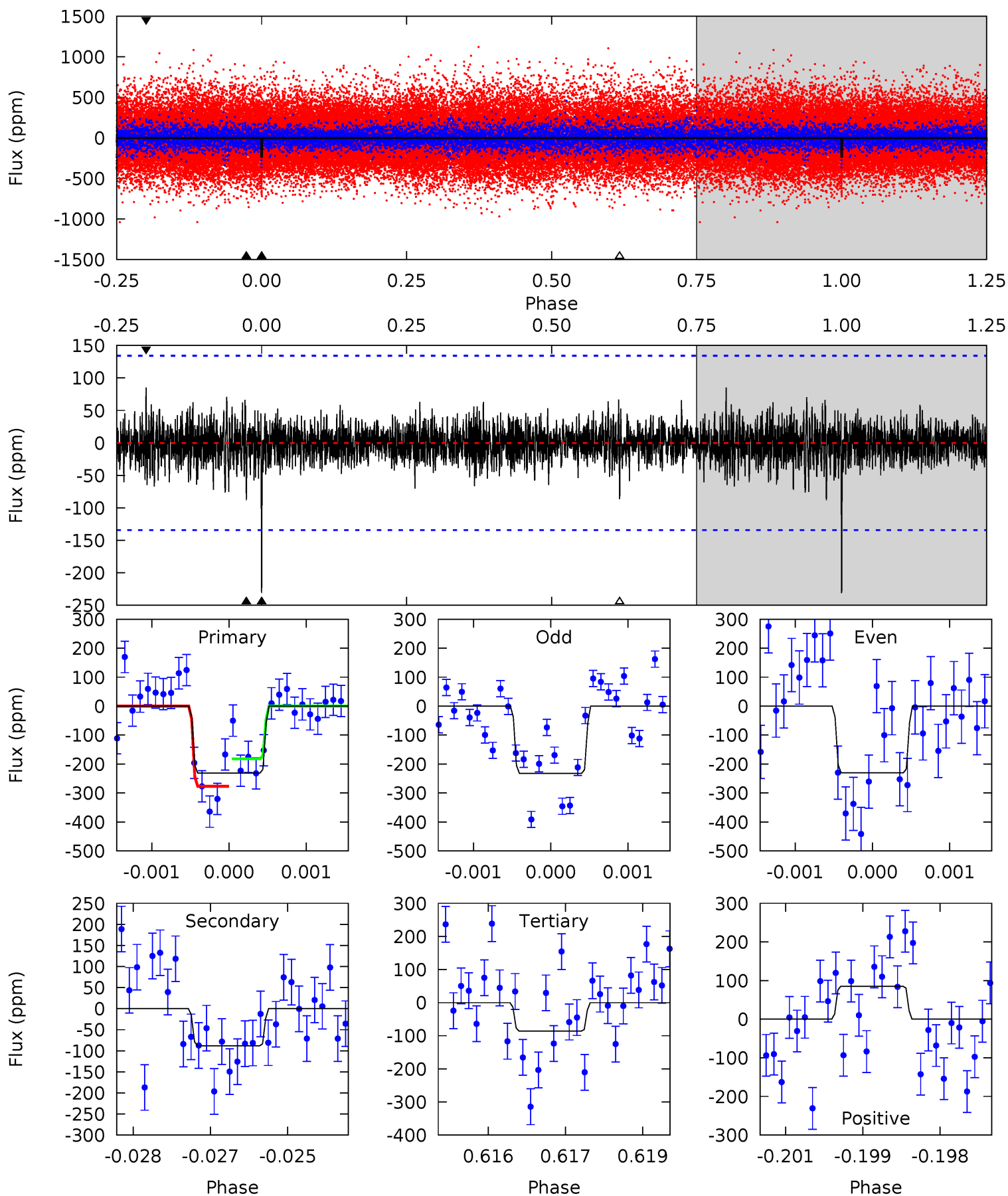
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	6.04	5.04	5.22	5.40	3.21	1.19	6.66	6.49	1.00	0.83	0.50	1.04	0.31	2.38



Alt Model-Shift Uniqueness Test

009348924-01, P = 401.335552 Days, E = 192.531118 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.33	3.56	3.48	3.44	5.41	3.22	0.81	5.85	5.89	0.08	0.12	0.04	1.00	0.27	1.92



Stellar Parameters For KIC 009348924

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5574^{+183}_{-183}	$4.355^{+0.172}_{-0.237}$	$-0.220^{+0.300}_{-0.250}$	$0.994^{+0.353}_{-0.218}$	$0.816^{+0.130}_{-0.060}$	$1.171^{+0.993}_{-0.672}$
	+3%/-3%	+4%/-5%	+136%/-114%	+36%/-22%	+16%/-7%	+85%/-57%
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 009348924-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-148 ± 24	$1.88^{+1.05}_{-0.98}$	345^{+33}_{-23}	4845^{+1997}_{-768}	23480^{+77625}_{-13975}
Alt.	-88 ± 25	$1.71^{+1.13}_{-0.88}$	347^{+29}_{-26}	4529^{+1682}_{-763}	16020^{+57177}_{-10211}

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

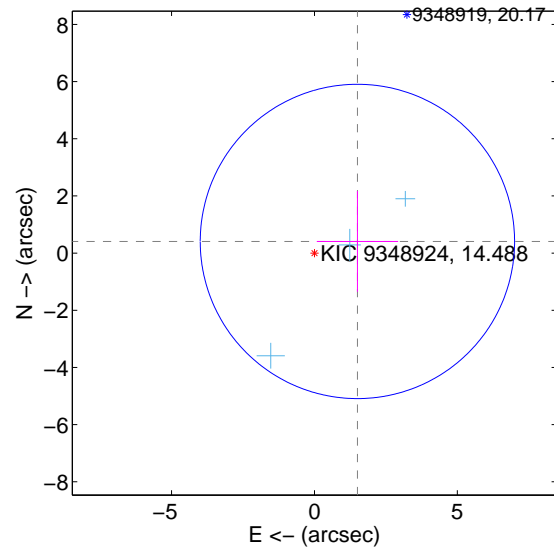
Supplemental centroid analysis for 009348924-01. Kepler magnitude: 14.49. Transit SNR 7.85

There are 3 quarters with good PRF difference image offsets

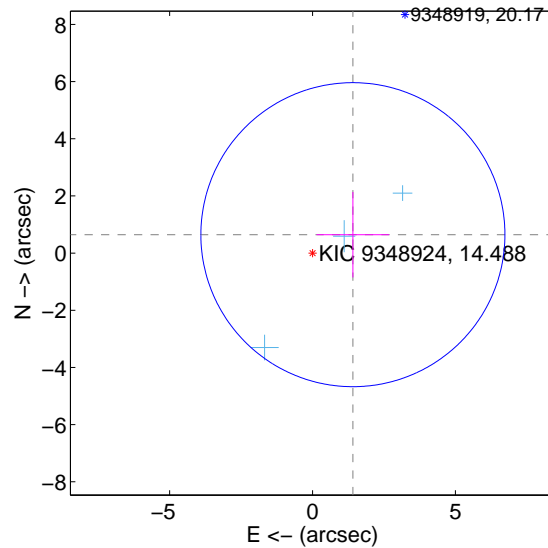
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.558 ± 1.833	0.85	-1.503 ± 1.423	0.408 ± 1.763
PRF-fit source offset from KIC position	1.553 ± 1.773	0.88	-1.412 ± 1.270	0.644 ± 1.495
photometric centroid source offset	1.61 ± 1.63	0.99	1.37 ± 1.61	-0.86 ± 1.70

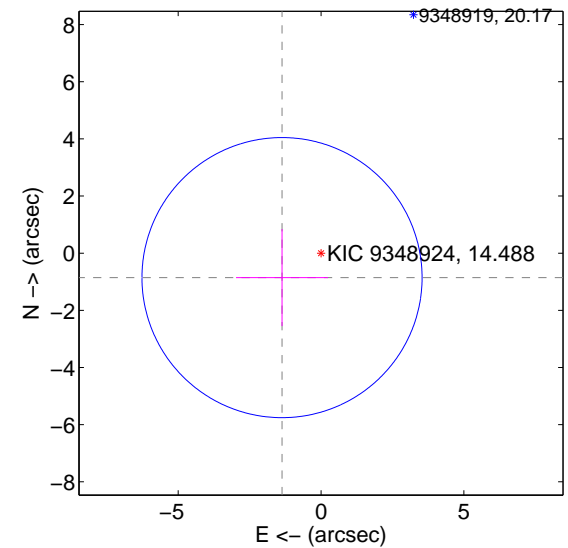
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



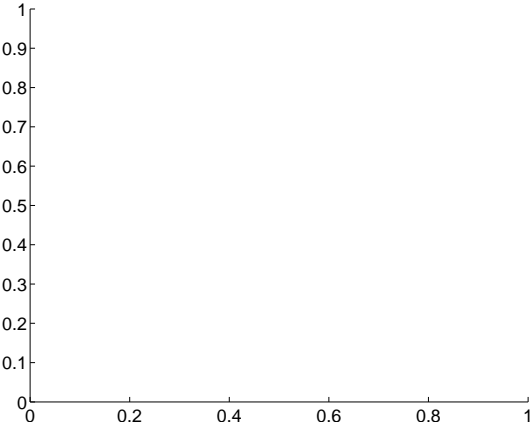
offset from photometric centroids



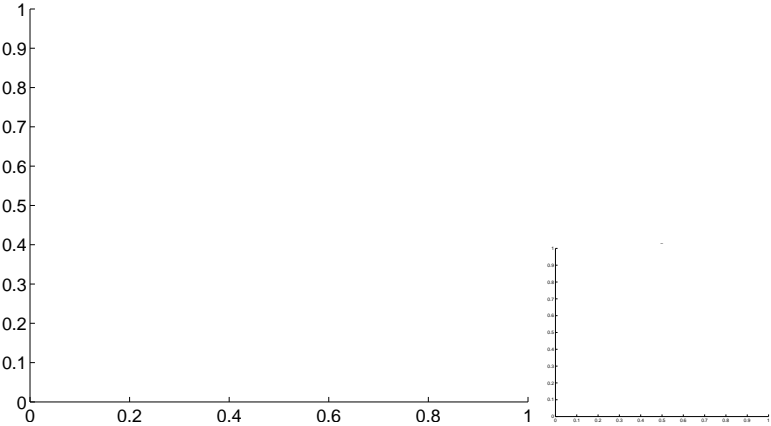
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

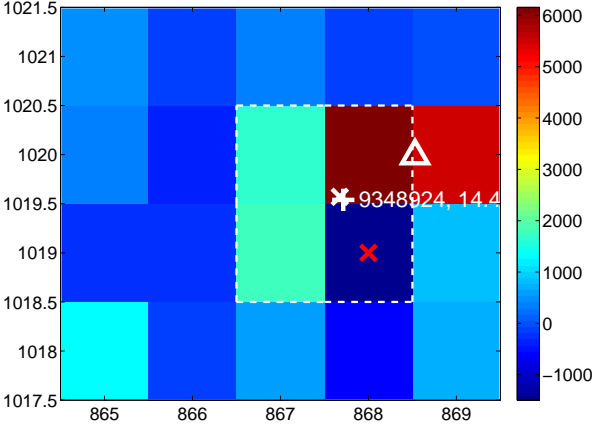
Q1 no difference image



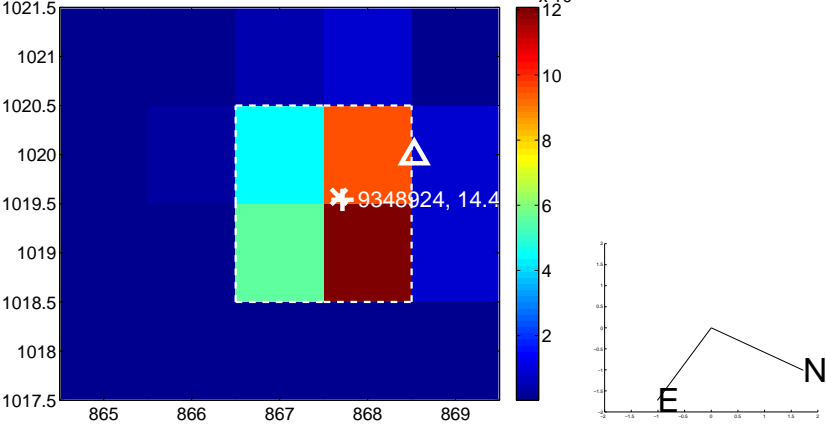
Q1 no OOT image



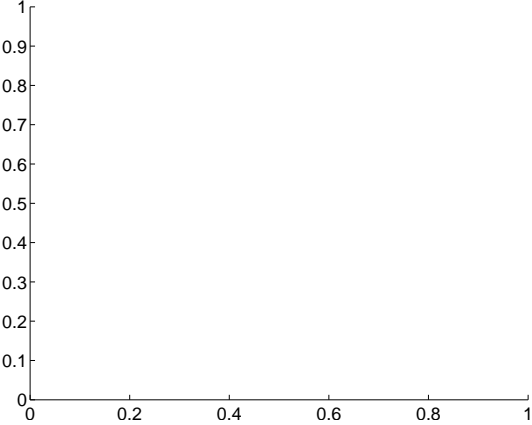
Q2 difference image



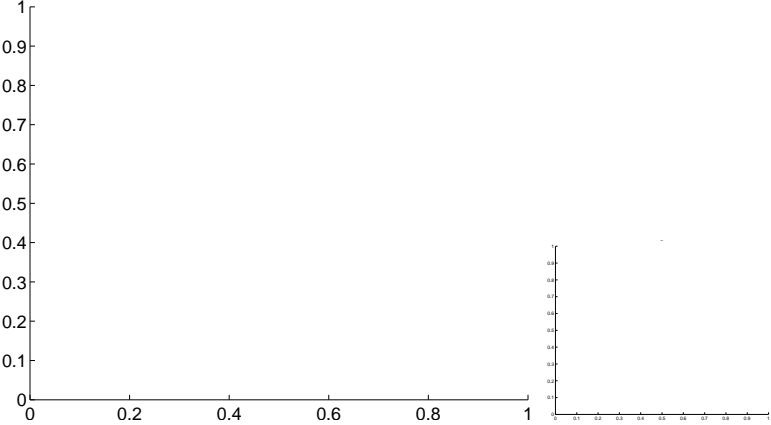
Q2 OOT image



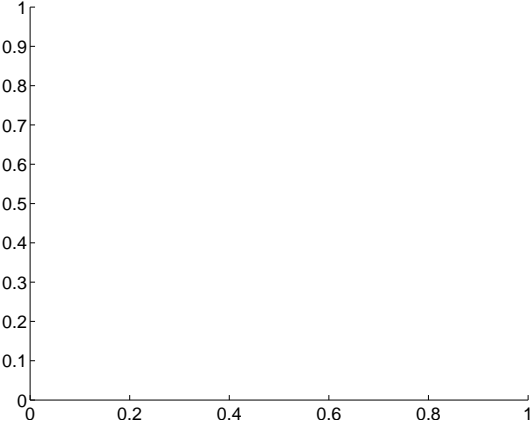
Q3 no difference image



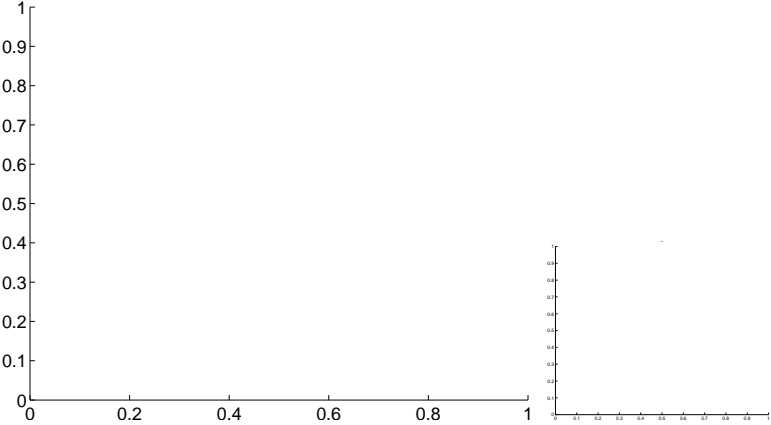
Q3 no OOT image



Q4 no difference image



Q4 no OOT image



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

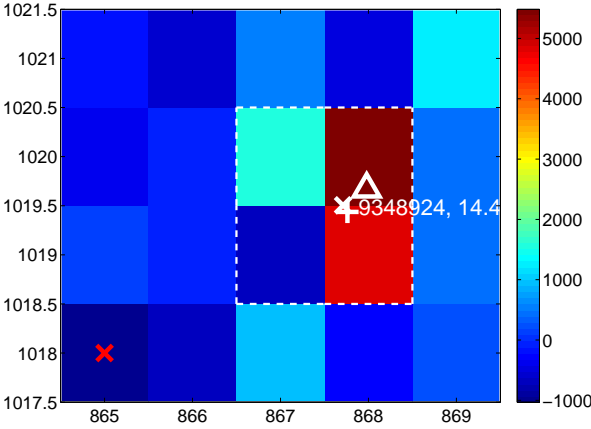
Q5 no difference image



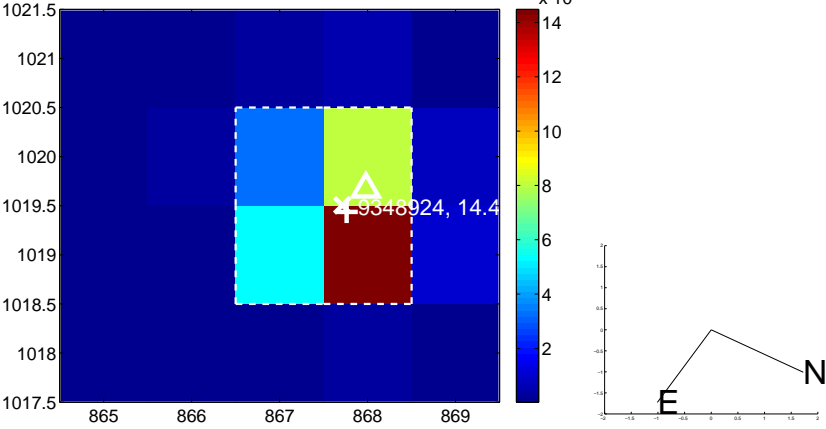
Q5 no OOT image



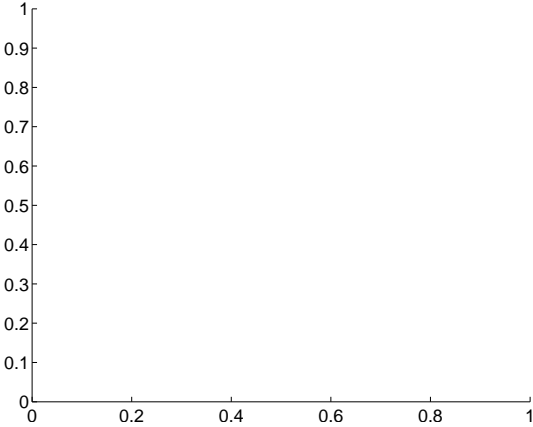
Q6 difference image



Q6 OOT image



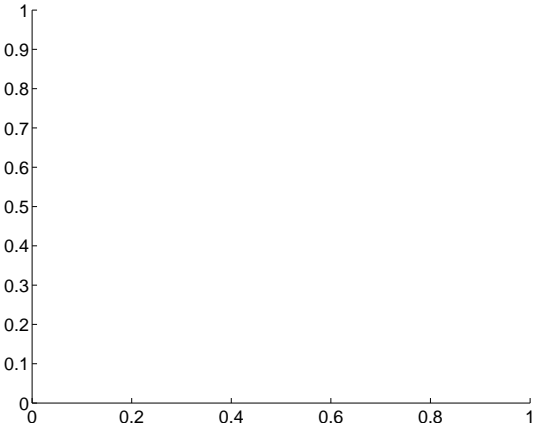
Q7 no difference image



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.

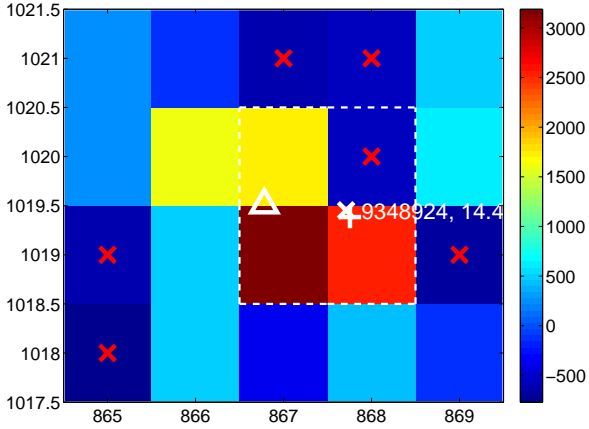
Q9 no difference image



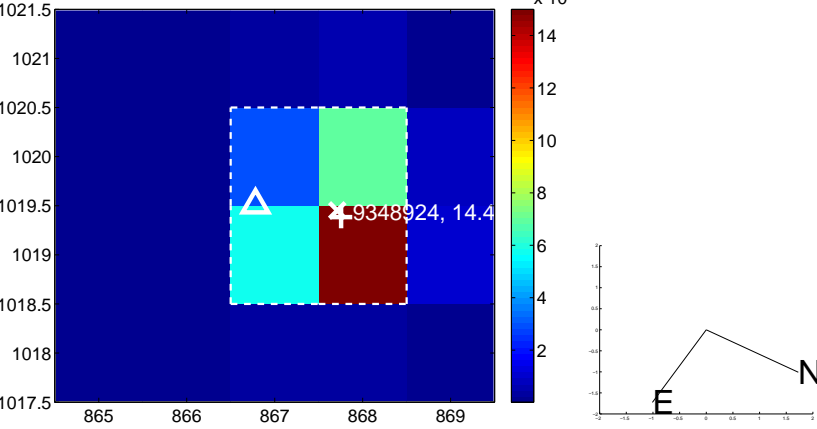
Q9 no OOT image



Q10 difference image



Q10 OOT image



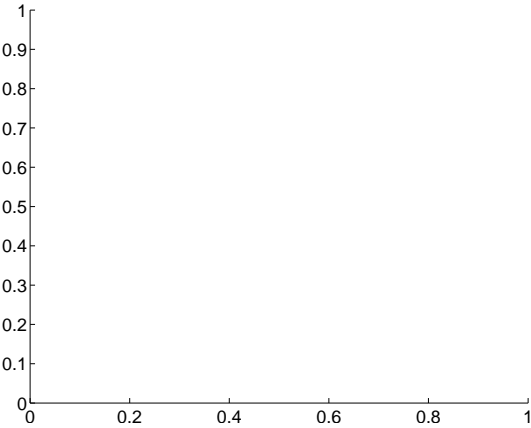
Q11 no difference image



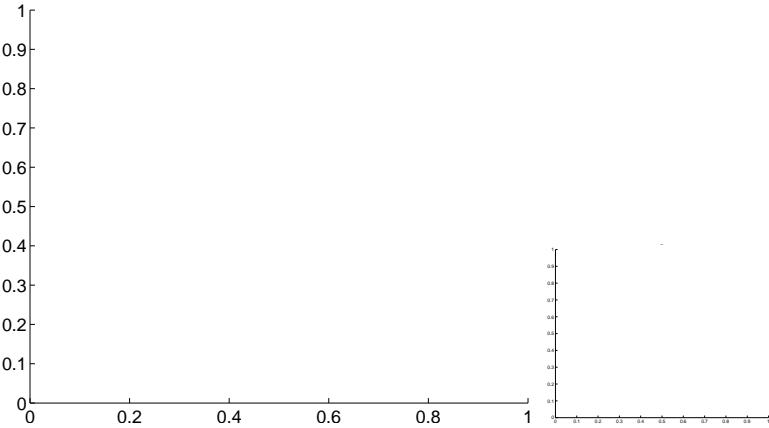
Q11 no OOT image



Q12 no difference image



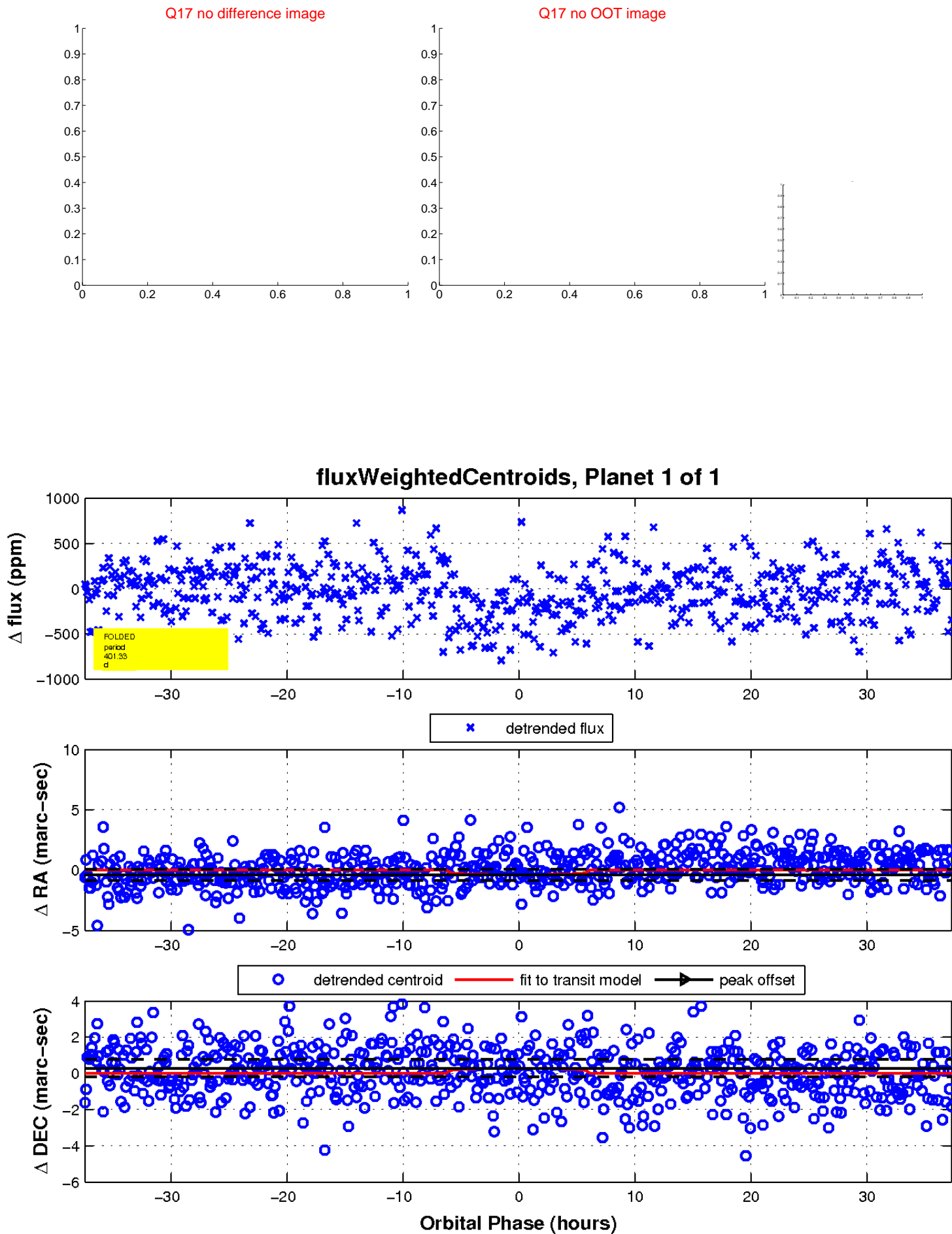
Q12 no OOT image



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

