

KIC 009752411

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})
009752411-01	OBS	No	516.194696	186.858774	161.5	17.547	7.8	6.4	1.60	5335	2.30	1.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009752411-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—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.

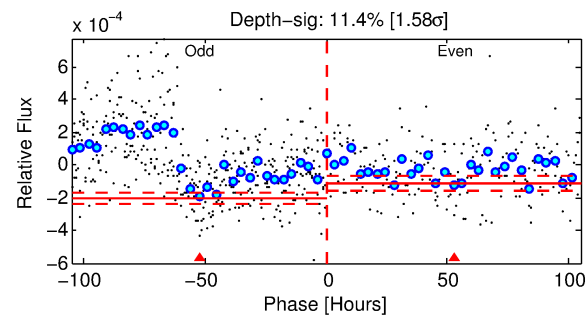
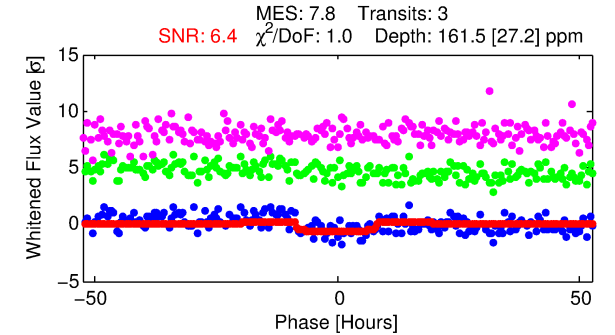
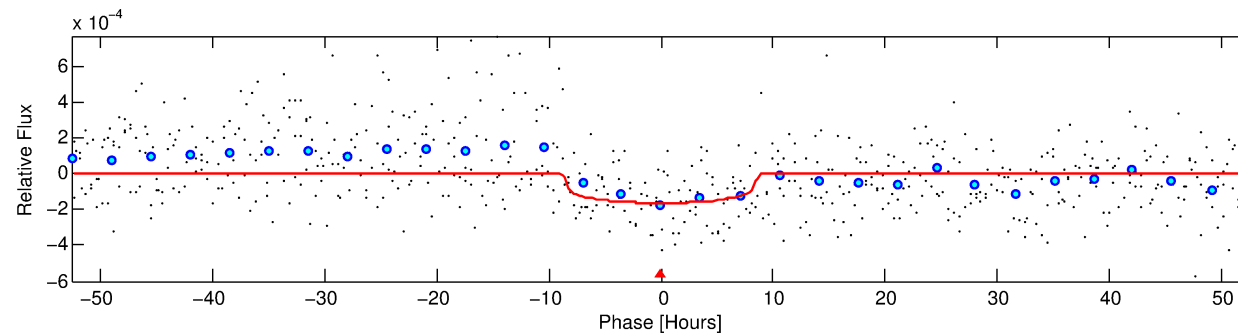
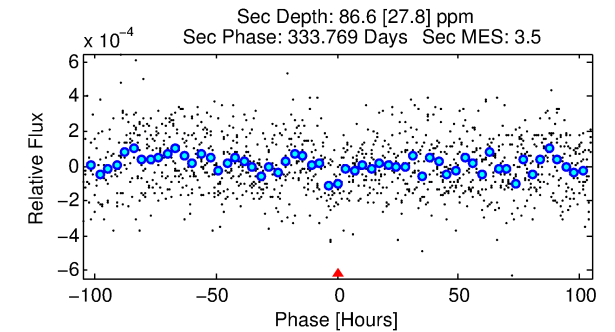
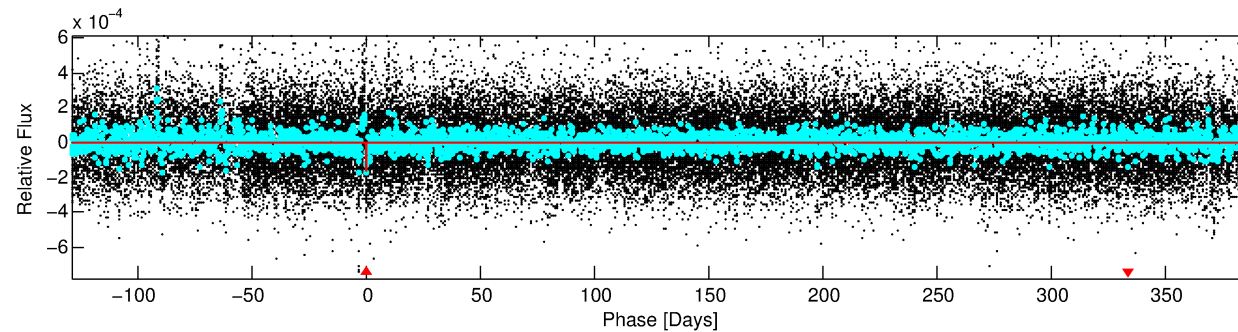
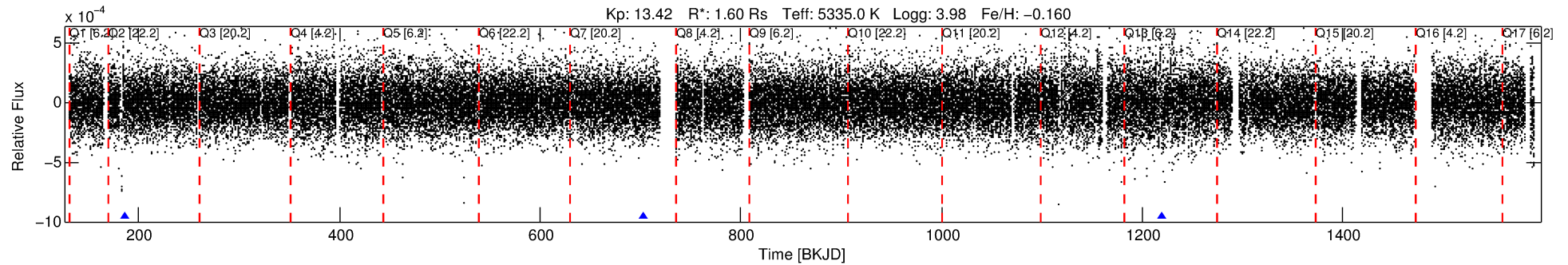
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009752411-01

No Significant Match Found

DV One-Page Summary

KIC: 9752411 Candidate: 1 of 1 Period: 516.195 d



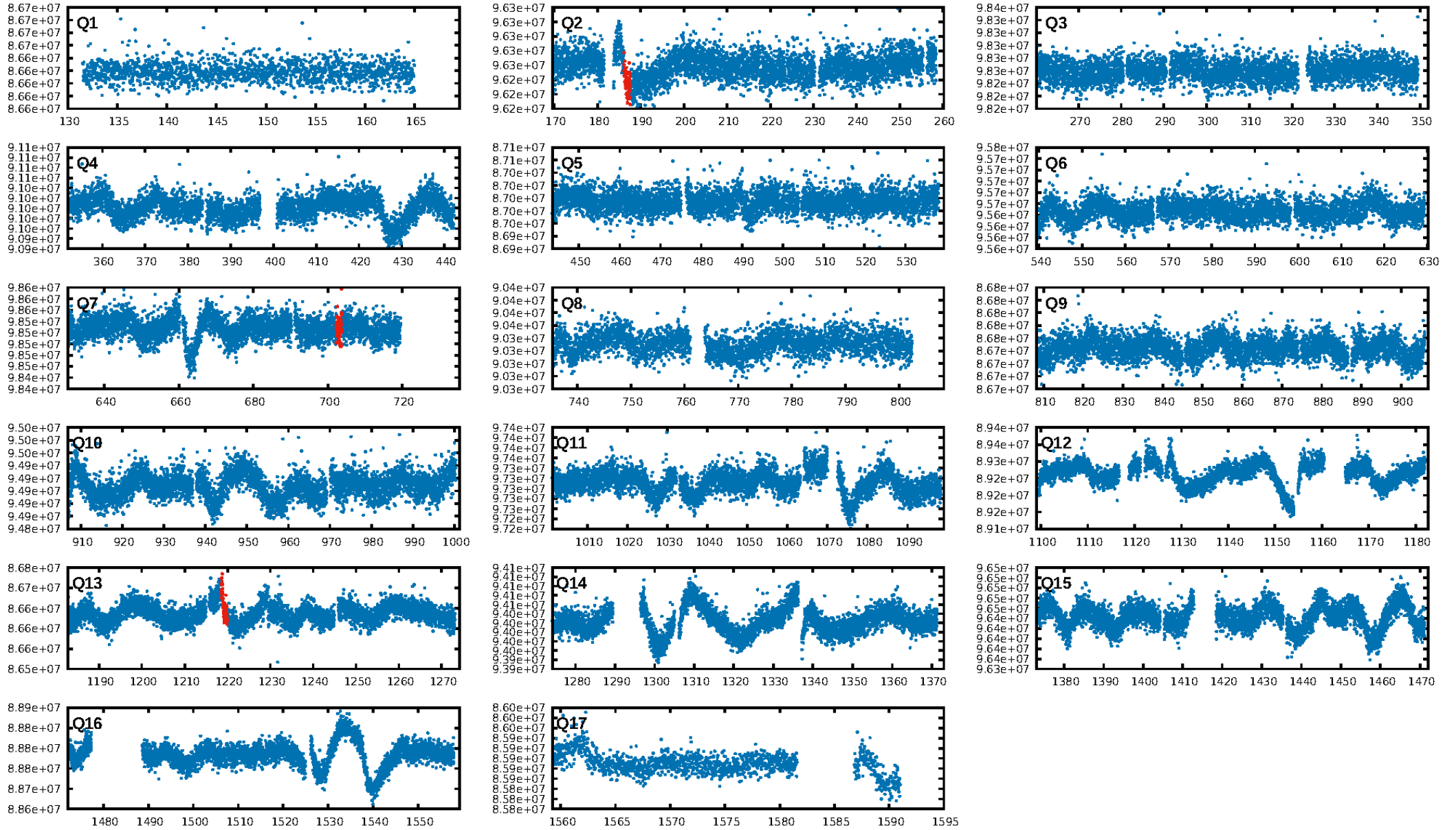
DV Fit Results:

Period = 516.19470 [0.02327] d
Epoch = 186.8588 [0.0274] BKJD
Rp/R* = 0.0132 [0.0045]
a/R* = 131.14 [178.54]
b = 0.83 [0.52]
Seff = 1.27 [1.20]
Teq = 270 [64] K
Rp = 2.30 [1.35] Re
a = 1.2090 [0.6570] AU
Ag = 13190.87 [15841.03] [0.83σ]
Teffp = 4482 [852] K [4.93σ]

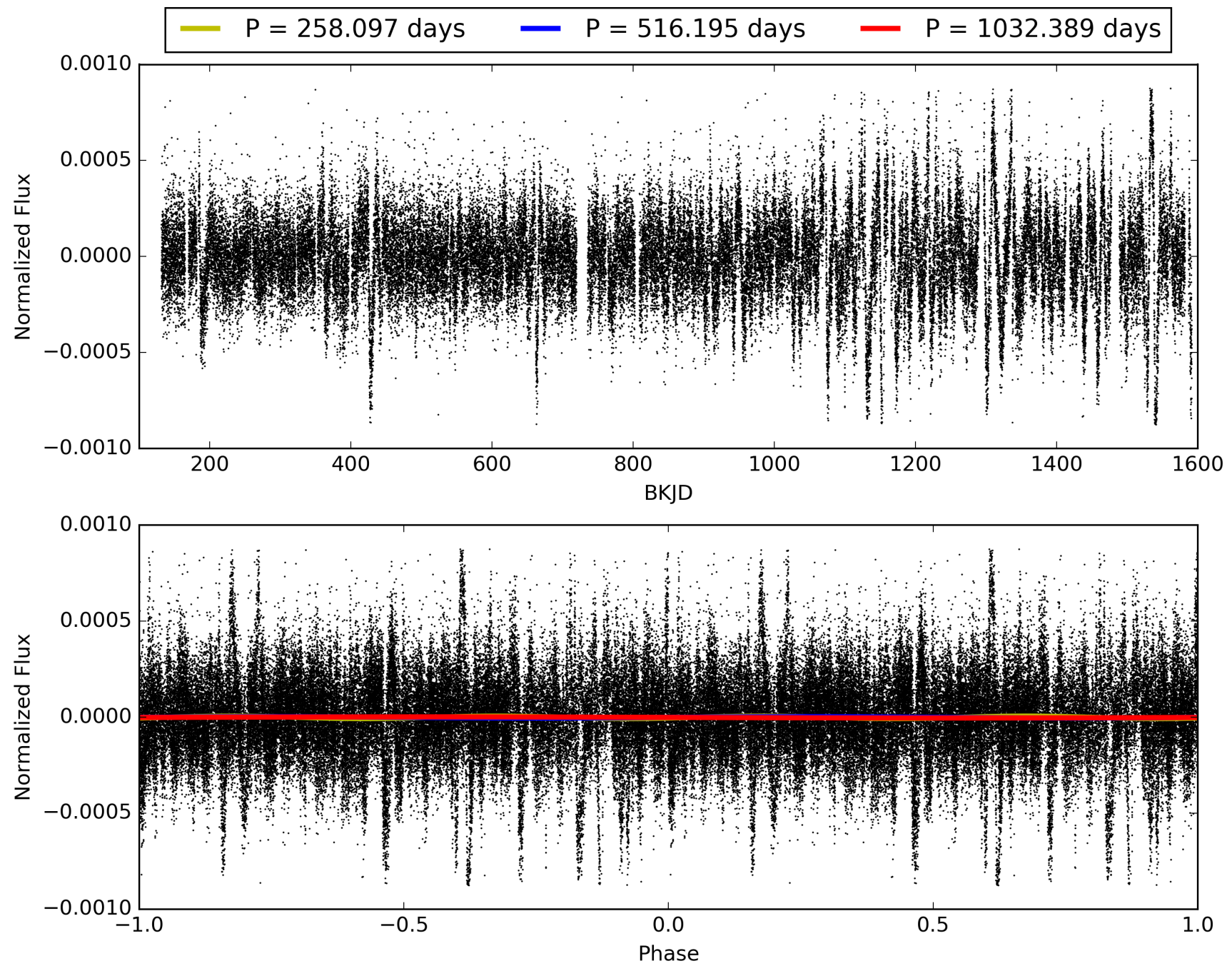
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 12.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 3.16e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -5.558
Centroid-sig: 69.8%
Centroid-so: 1.385 arcsec [0.58σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [2/2]

TCE 009752411-01, PDC Light Curves

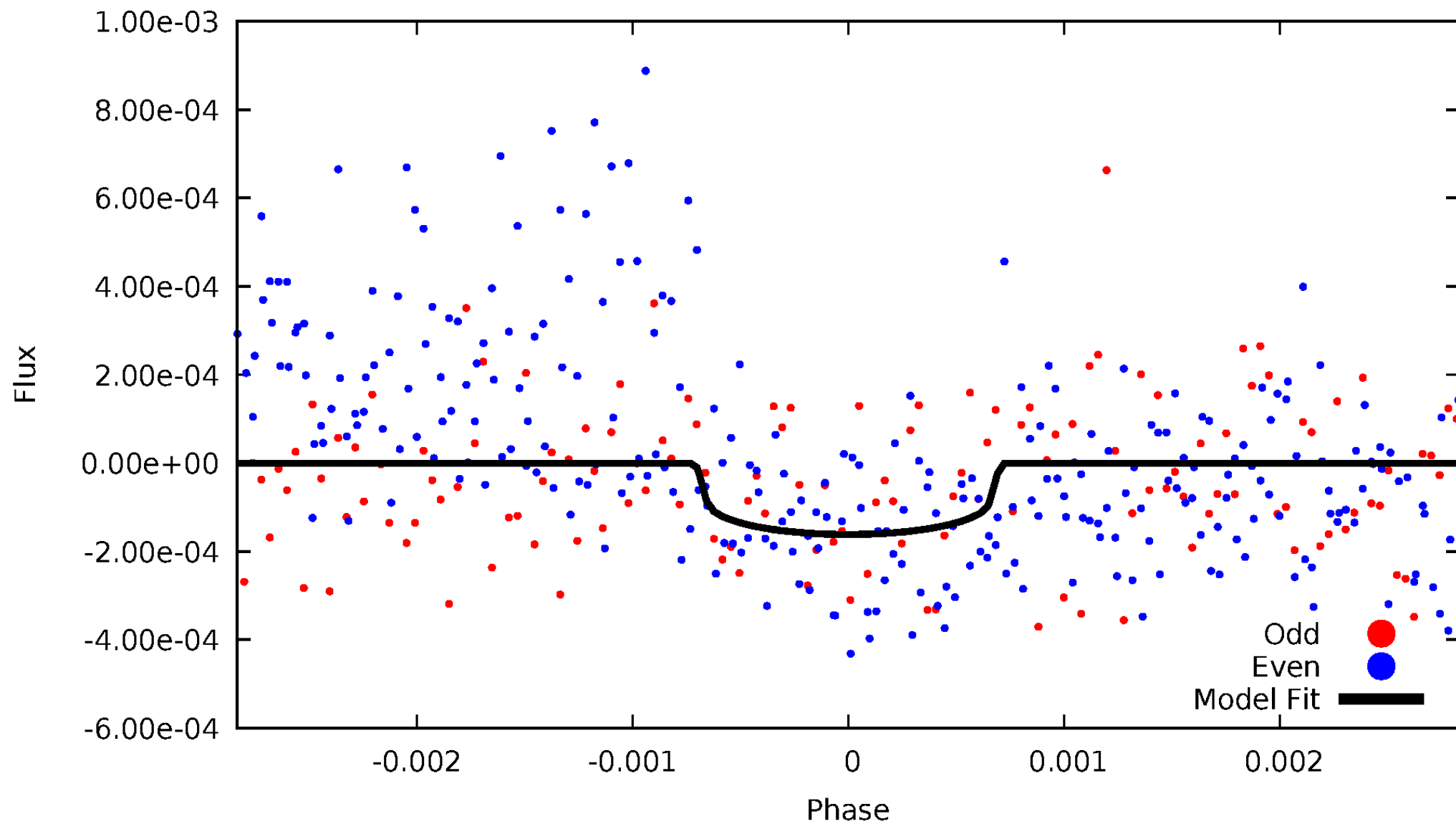


TCE 009752411-01



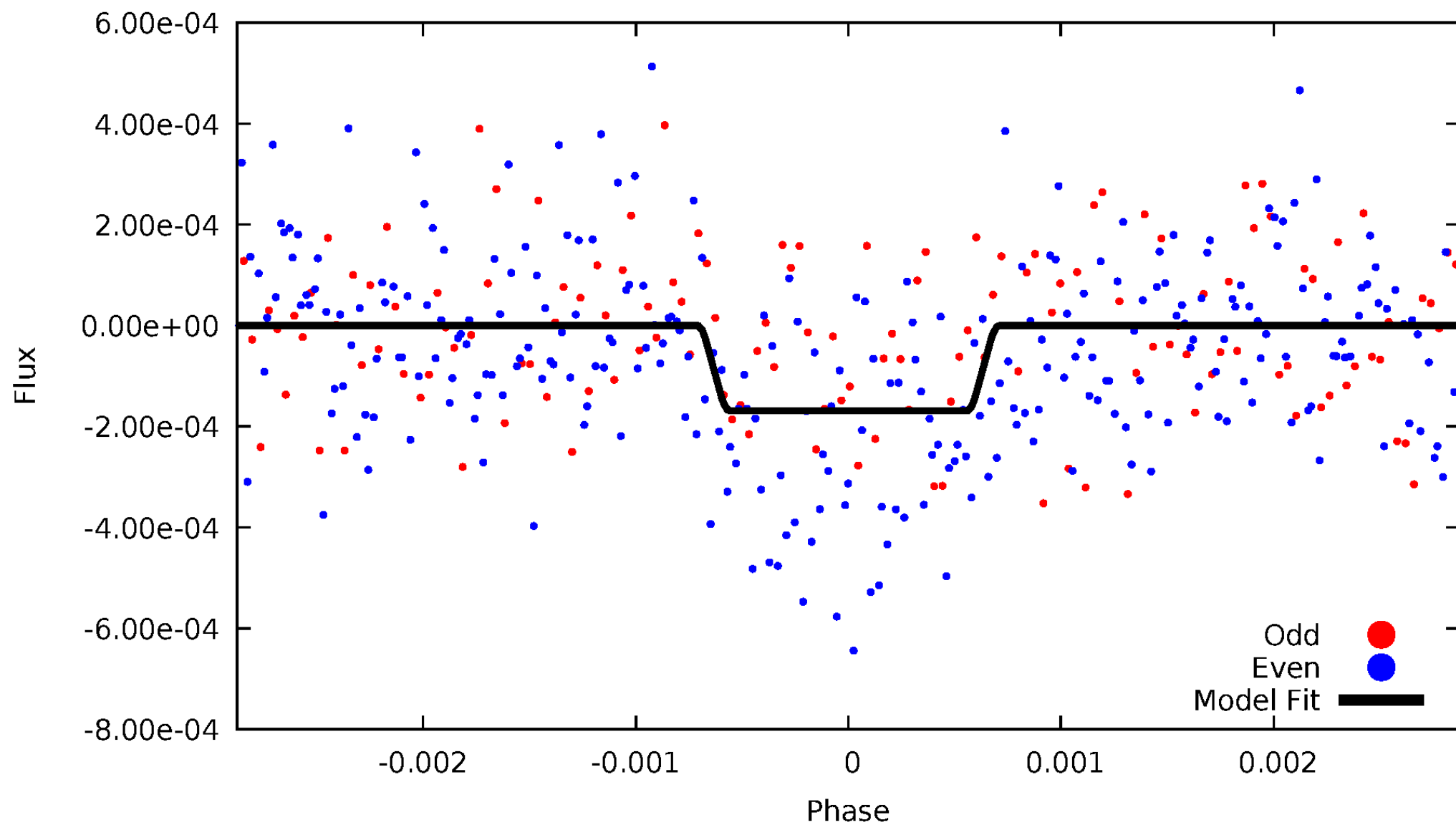
DV Odd/Even

TCE 009752411-01



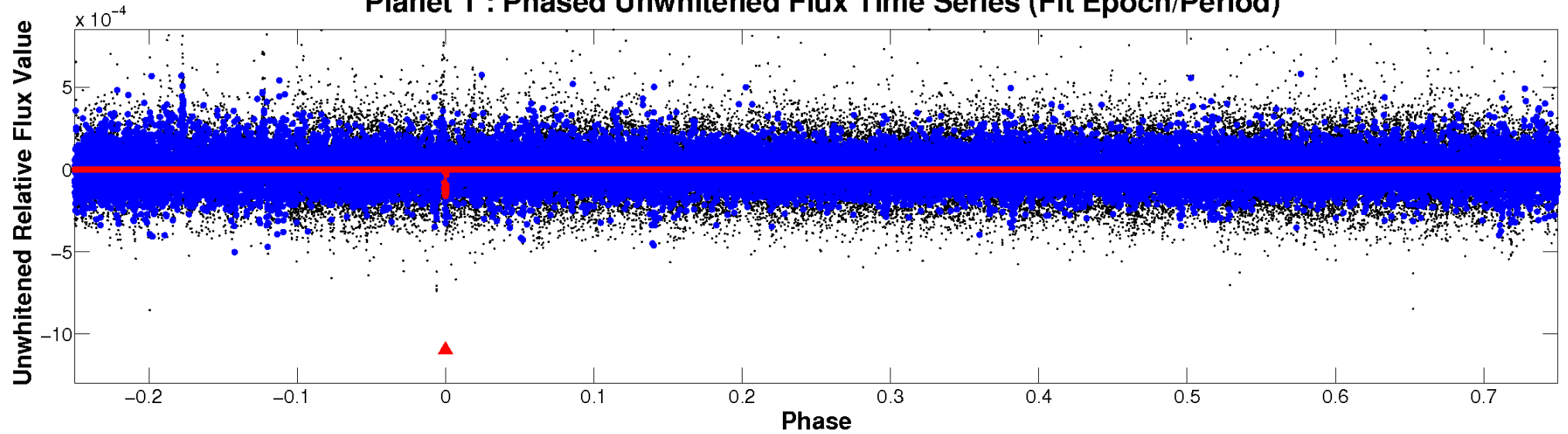
ALT Odd/Even

TCE 009752411-01

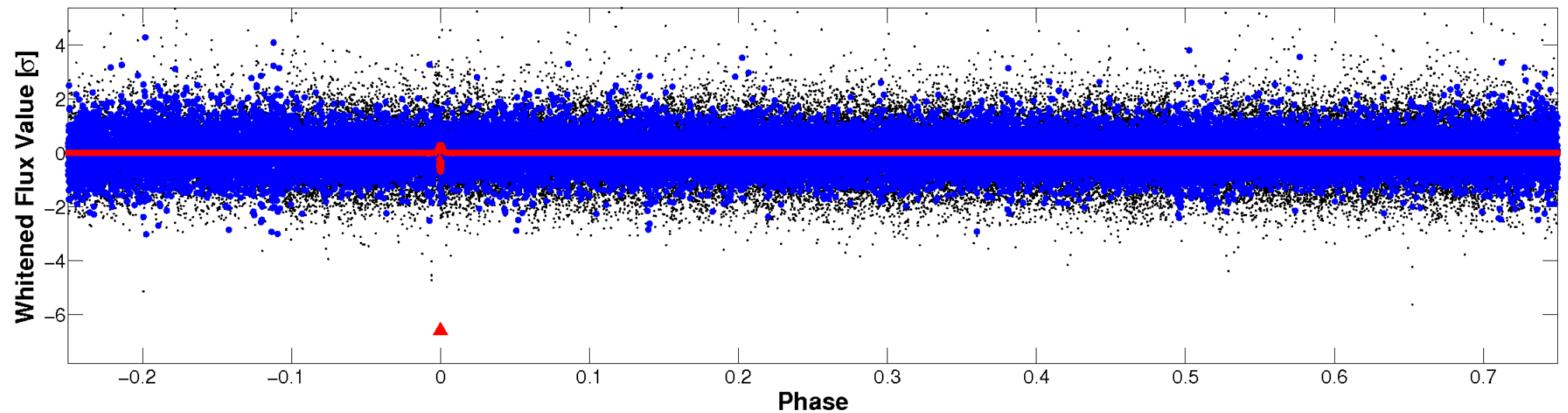


Non-Whitened Vs. Whitened Light Curve

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

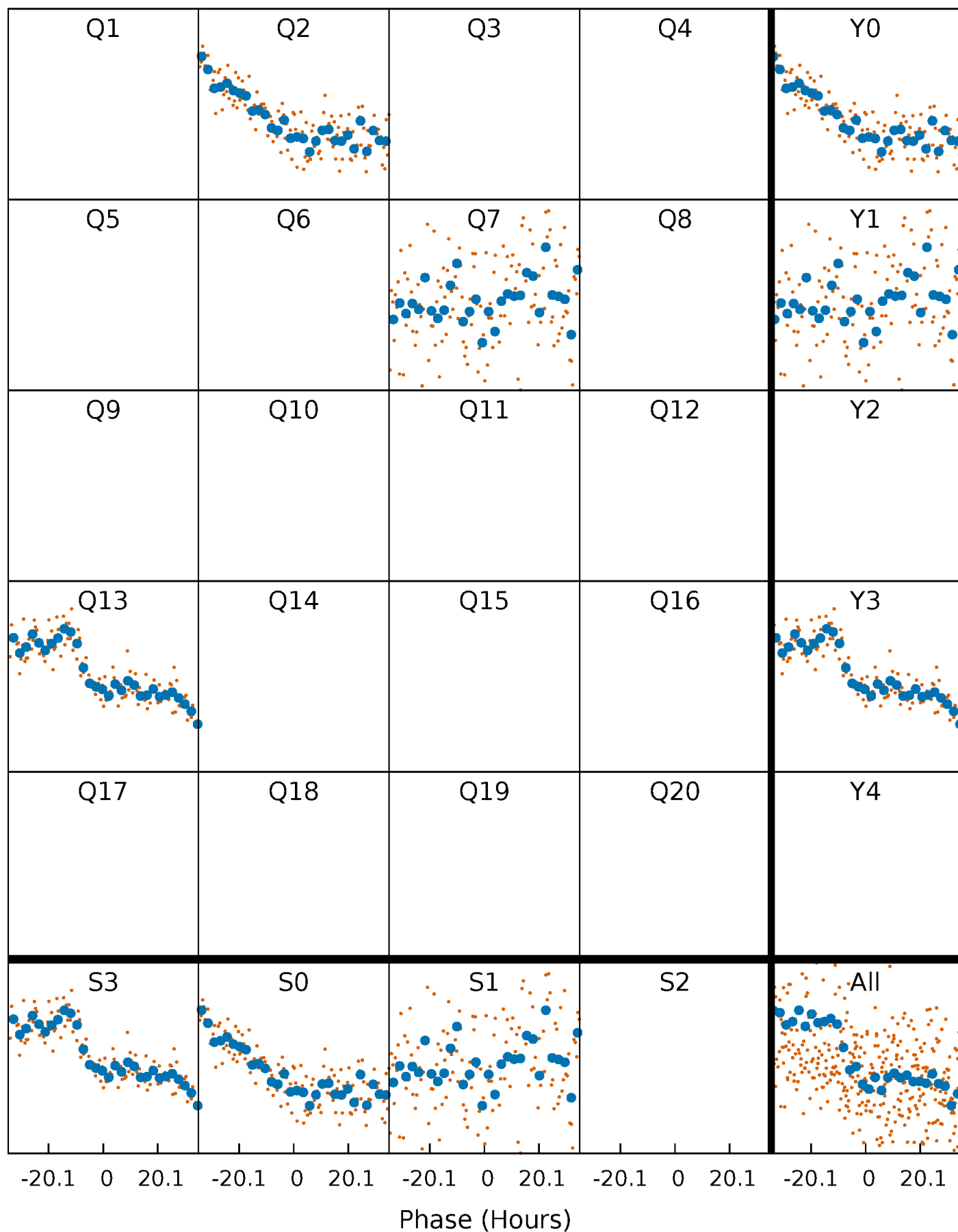


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 009752411-01 P=516.194696 Days $T_0=186.858774$ (BKJD)



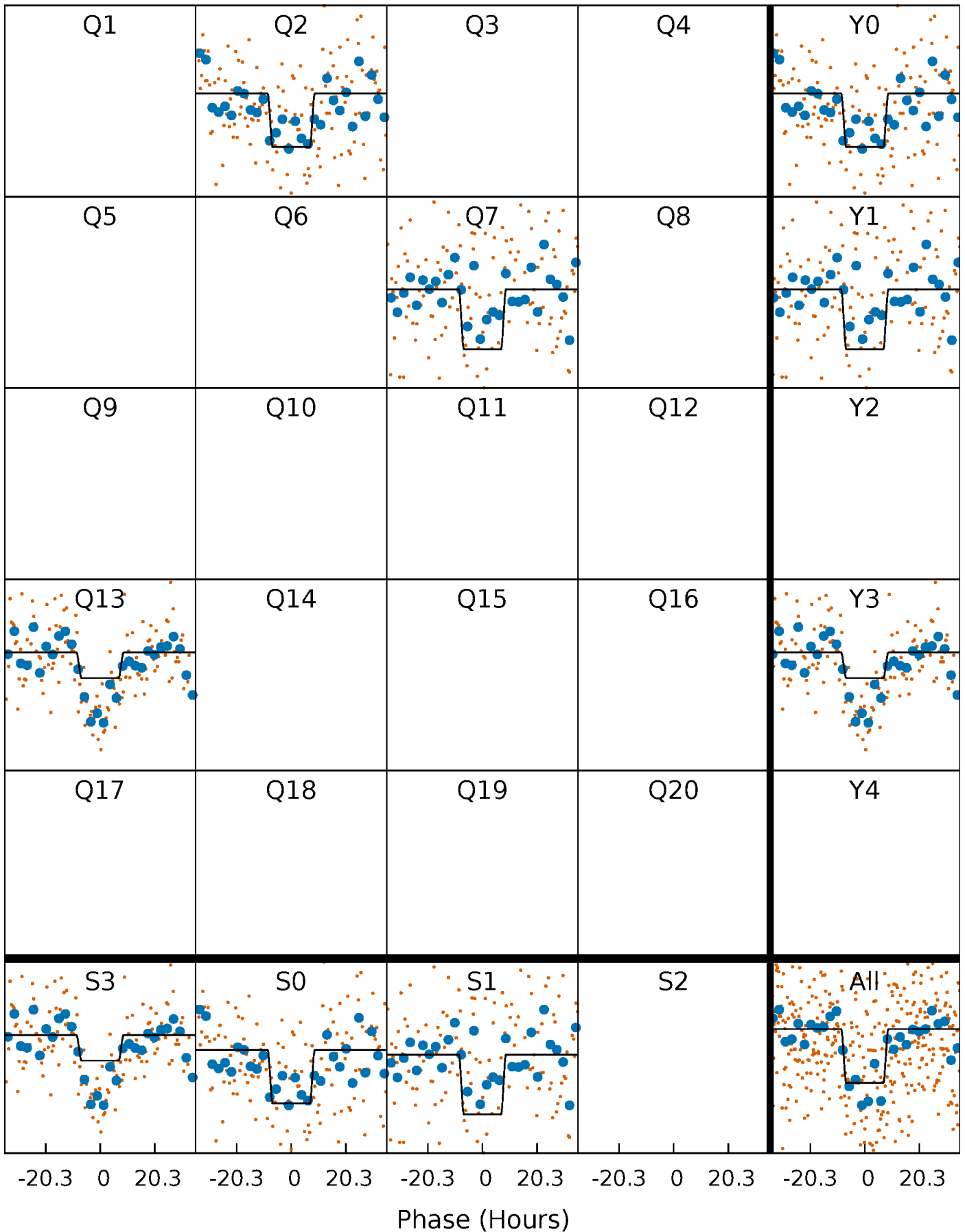
DV Quarter-Phased Transit Curves

TCE 009752411-01 P=516.194696 Days $T_0=186.858774$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

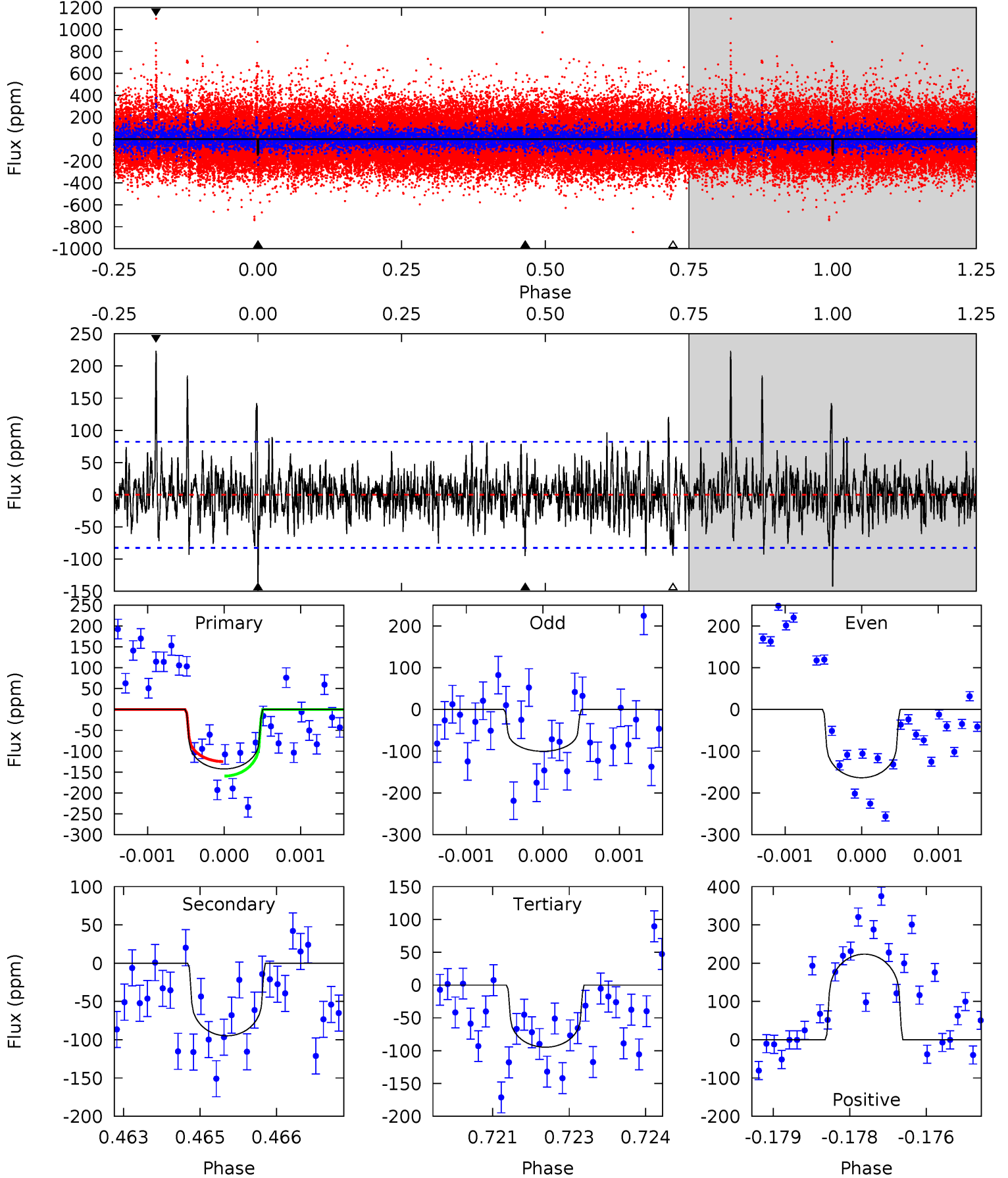
TCE 009752411-01 P=516.206215 Days $T_0=186.828183$ (BKJD)



DV Model-Shift Uniqueness Test

009752411-01, P = 516.194696 Days, E = 186.858774 Days

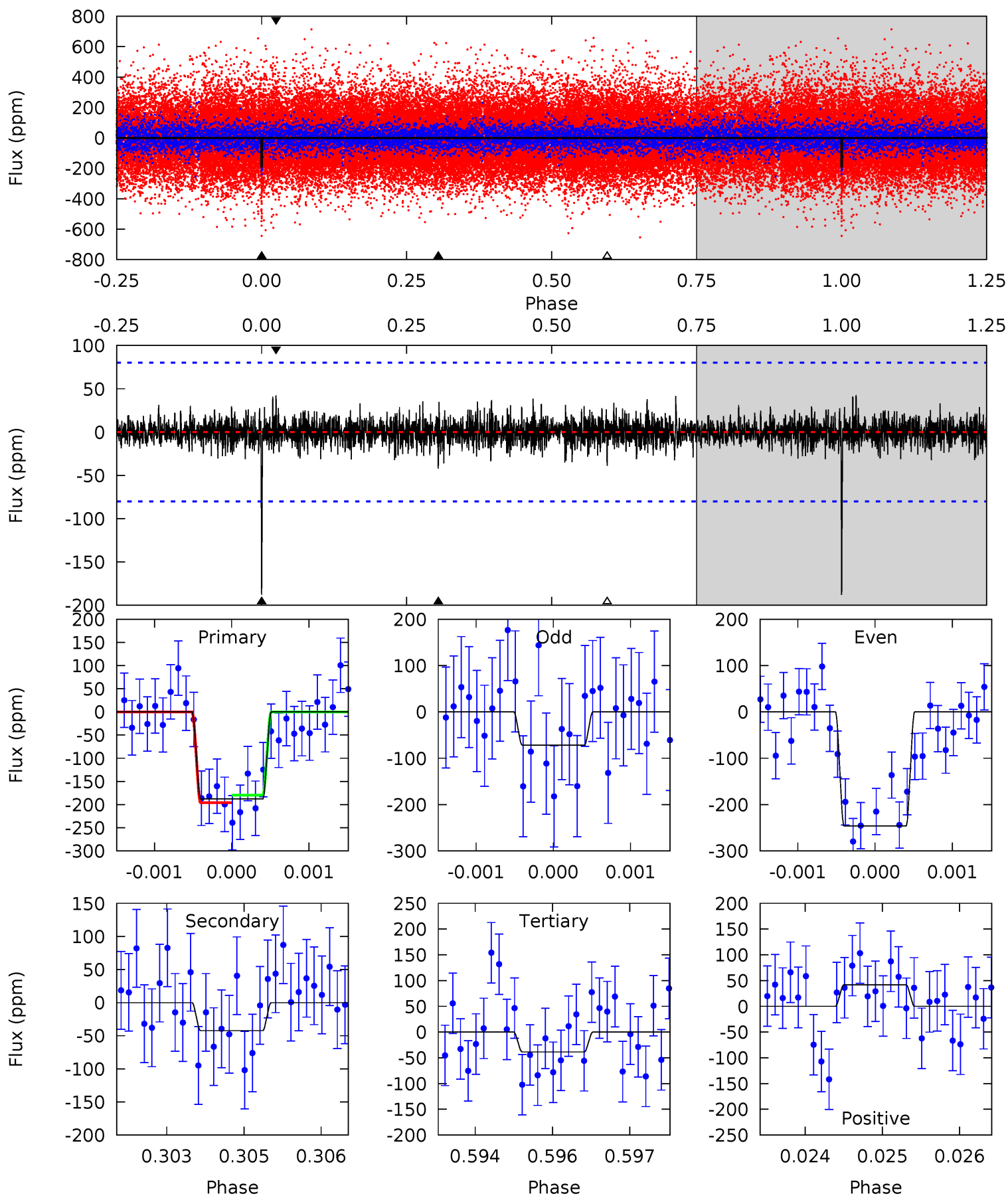
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.32	6.20	6.19	14.6	5.39	3.19	1.91	3.12	-5.30	0.01	-8.41	1.95	0.94	0.61	1.13



Alt Model-Shift Uniqueness Test

009752411-01, P = 516.206215 Days, E = 186.828183 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	2.84	2.60	2.82	5.39	3.20	0.69	10.0	9.83	0.25	0.03	5.56	1.43	0.18	0.55



Stellar Parameters For KIC 009752411

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5335^{+159}_{-143}	$3.978^{+0.574}_{-0.246}$	$-0.160^{+0.350}_{-0.250}$	$1.597^{+0.686}_{-0.762}$	$0.884^{+0.086}_{-0.105}$	$0.306^{+1.868}_{-0.187}$
	+3%/-3%	+14%/-6%	+219%/-156%	+43%/-48%	+10%/-12%	+611%/-61%
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 009752411-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-95 ± 15	$2.16^{+1.08}_{-0.87}$	372^{+42}_{-55}	4641^{+960}_{-499}	16373^{+27225}_{-9330}
Alt.	-42 ± 15	$2.10^{+1.00}_{-0.80}$	371^{+45}_{-53}	4002^{+767}_{-462}	7293^{+13303}_{-4506}

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

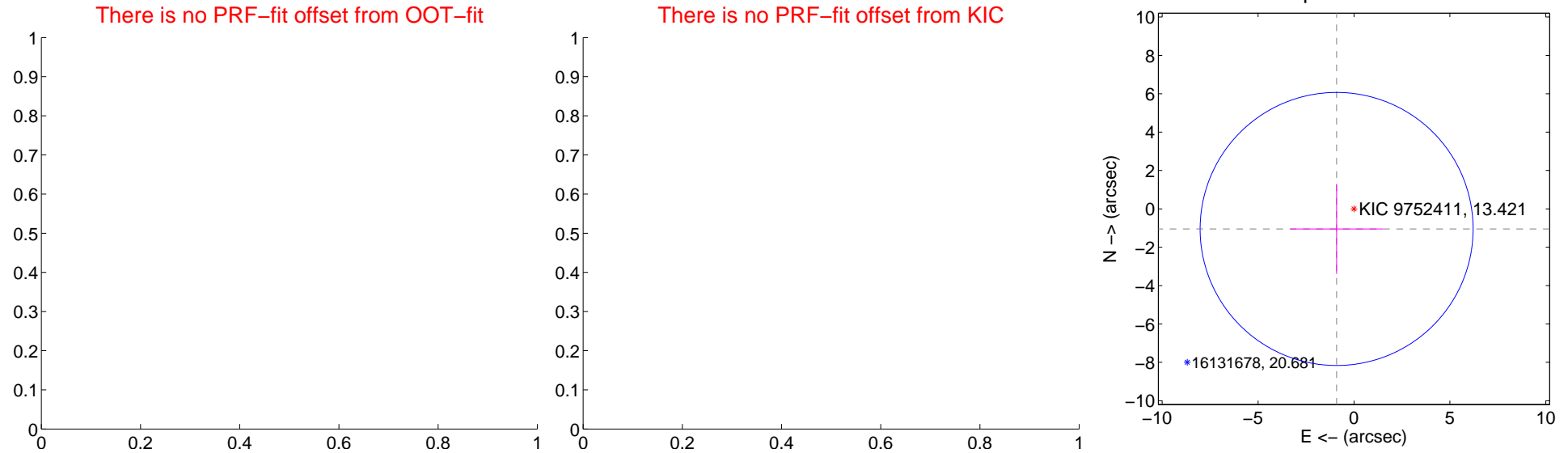
DV Centroid Data

Supplemental centroid analysis for 009752411-01. Kepler magnitude: 13.42. Transit SNR 6.41

There are 0 quarters with good PRF difference image offsets

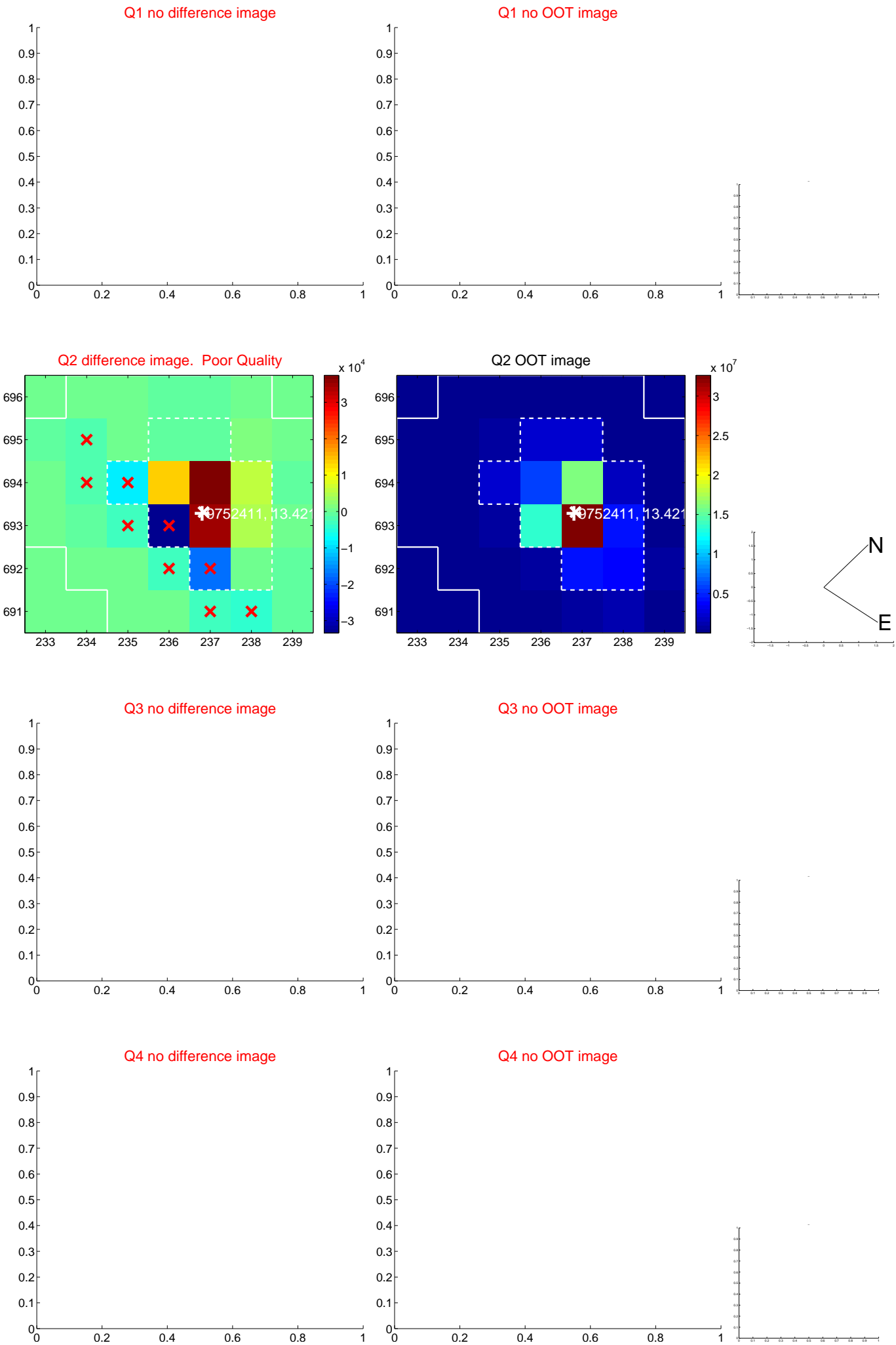
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	1.39 ± 2.37	0.58	0.91 ± 2.41	-1.05 ± 2.34



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.

Q5 no difference image



Q5 no OOT image



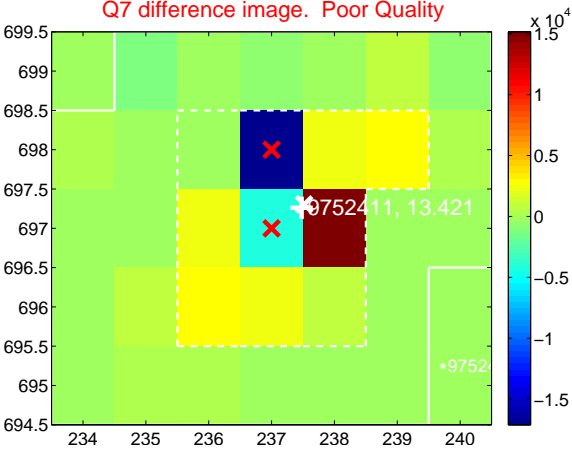
Q6 no difference image



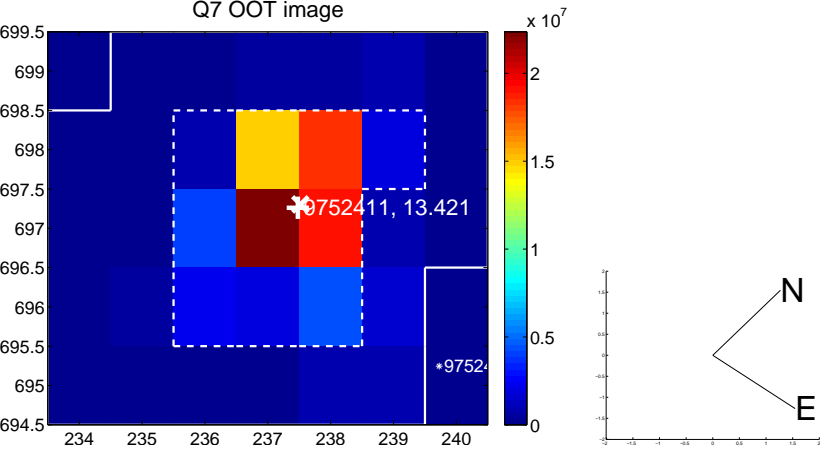
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



Q8 no OOT image



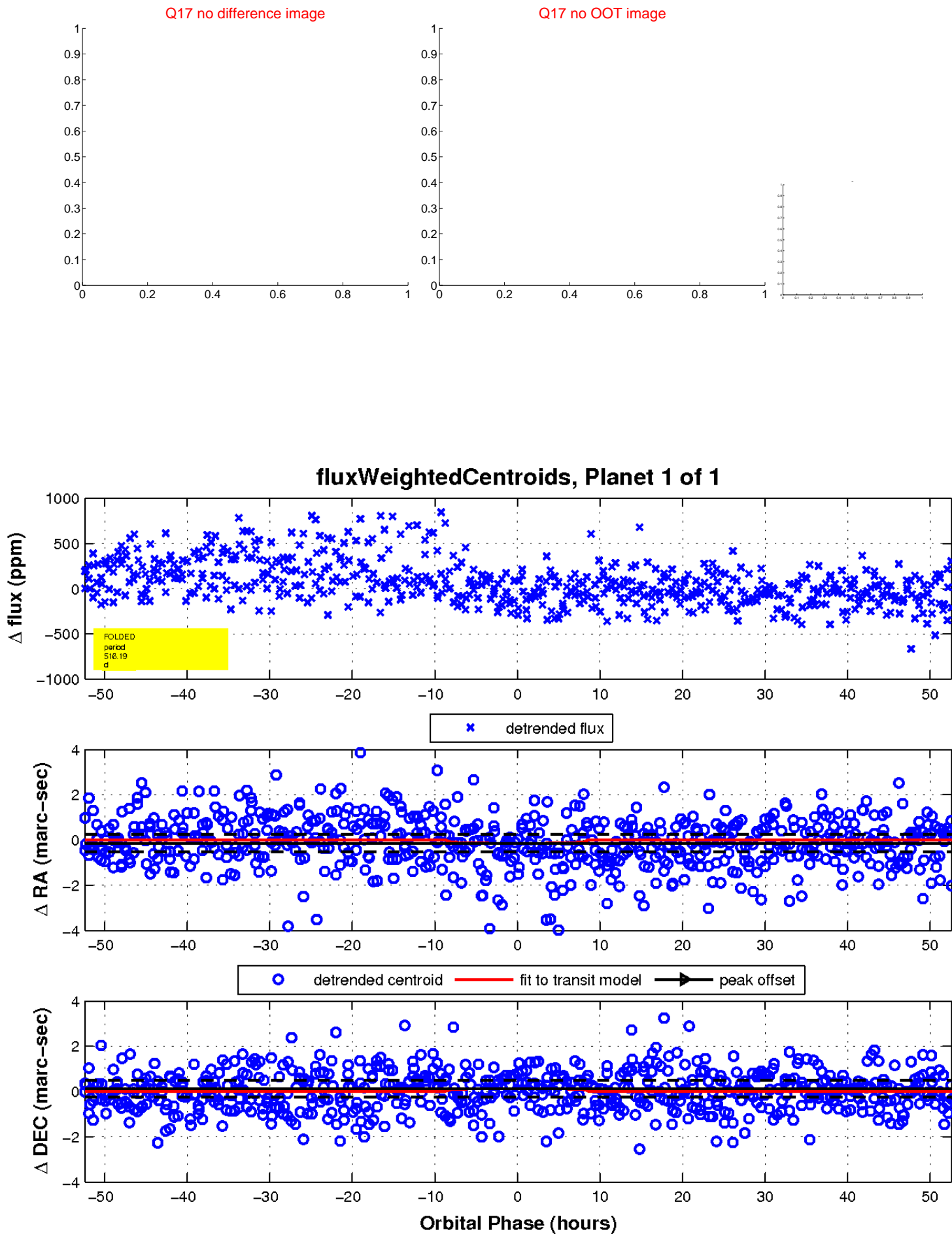
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \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

