

KIC 010591310

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})
010591310-01	OBS	No	662.969983	223.549572	613.5	7.028	11.1	10.3	2.81	5665	7.37	2.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010591310-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_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.

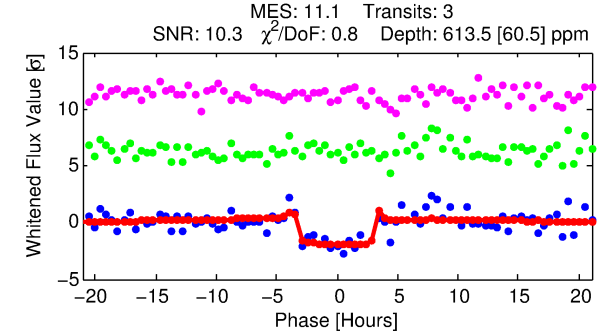
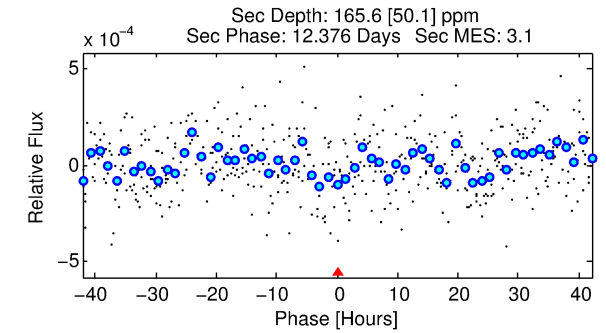
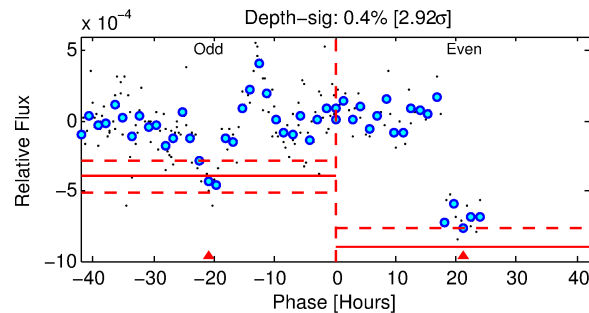
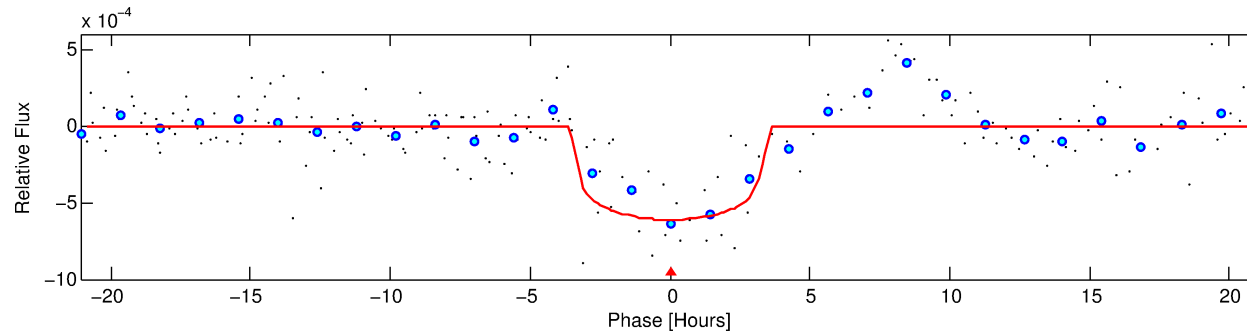
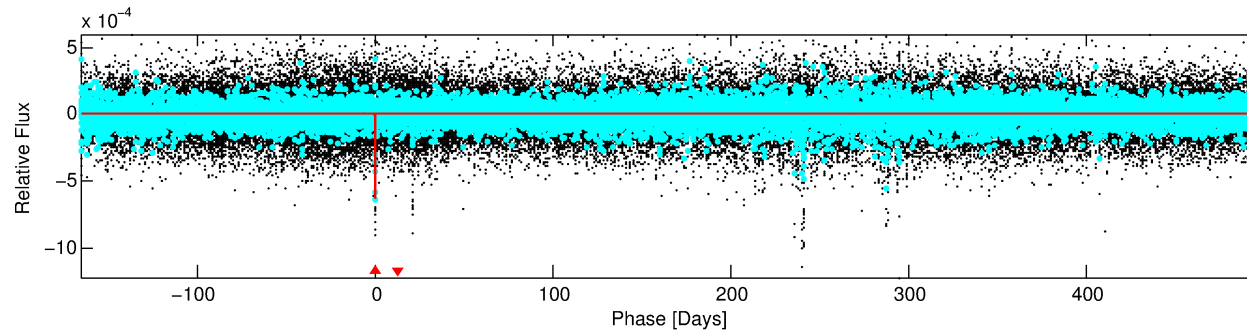
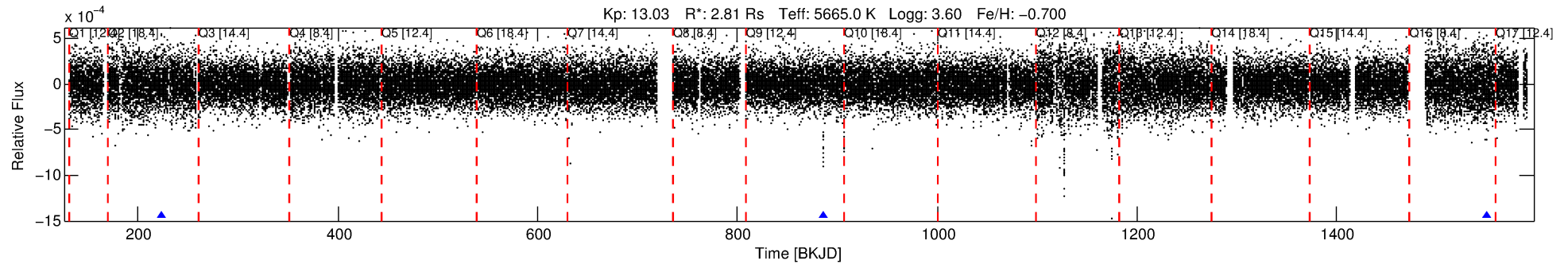
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010591310-01

No Significant Match Found

DV One-Page Summary

KIC: 10591310 Candidate: 1 of 1 Period: 662.970 d



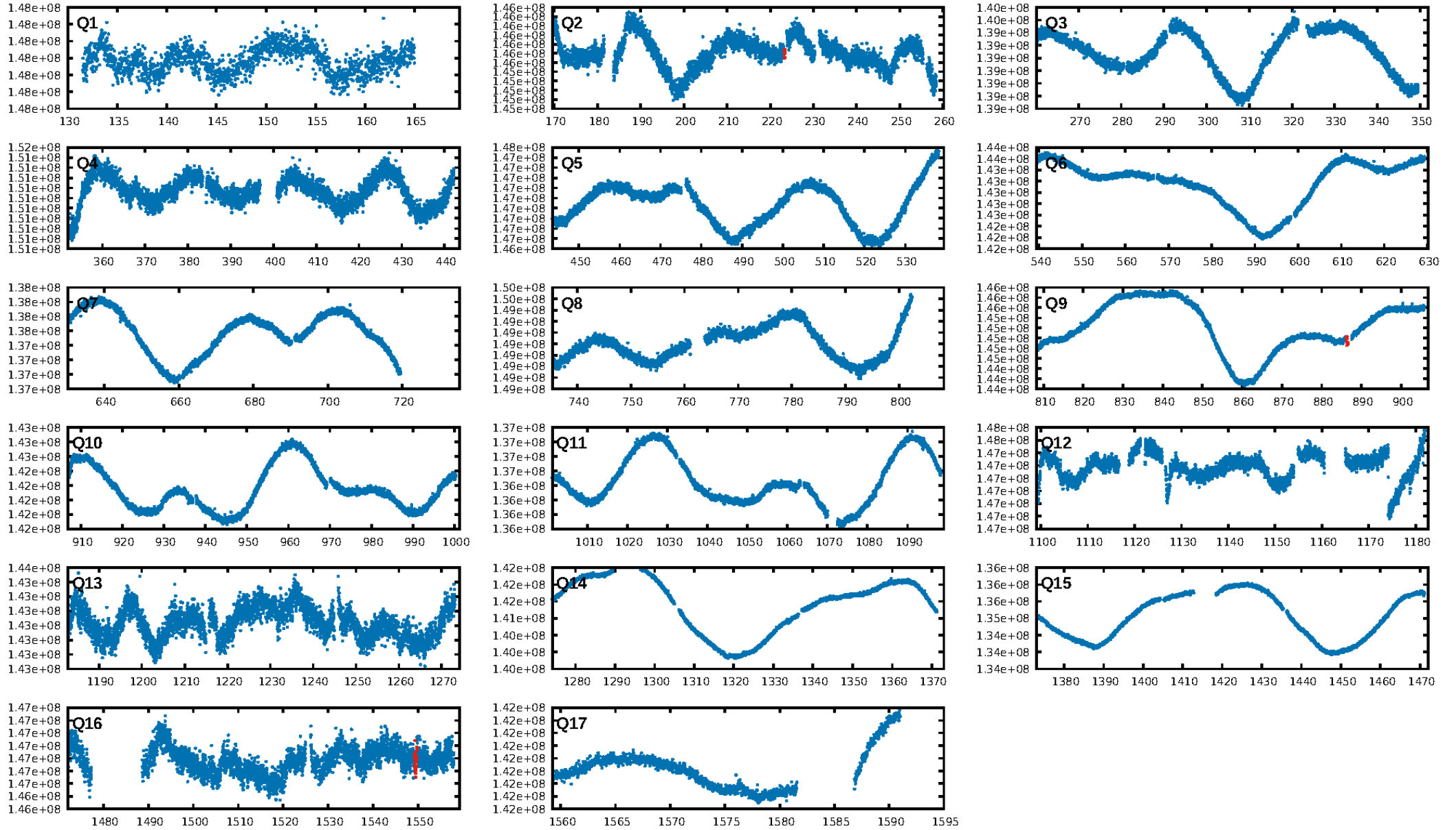
DV Fit Results:

Period = 662.96998 [0.01215] d
Epoch = 223.5496 [0.0167] BKJD
Rp/R* = 0.0241 [0.0086]
a/R* = 558.36 [927.75]
b = 0.67 [1.41]
Seff = 2.99 [1.24]
Teq = 335 [35] K
Rp = 7.37 [3.39] Re
a = 1.5599 [0.4018] AU
Ag = 4084.47 [3551.39] [1.15σ]
Teffp = 4143 [817] K [4.66σ]

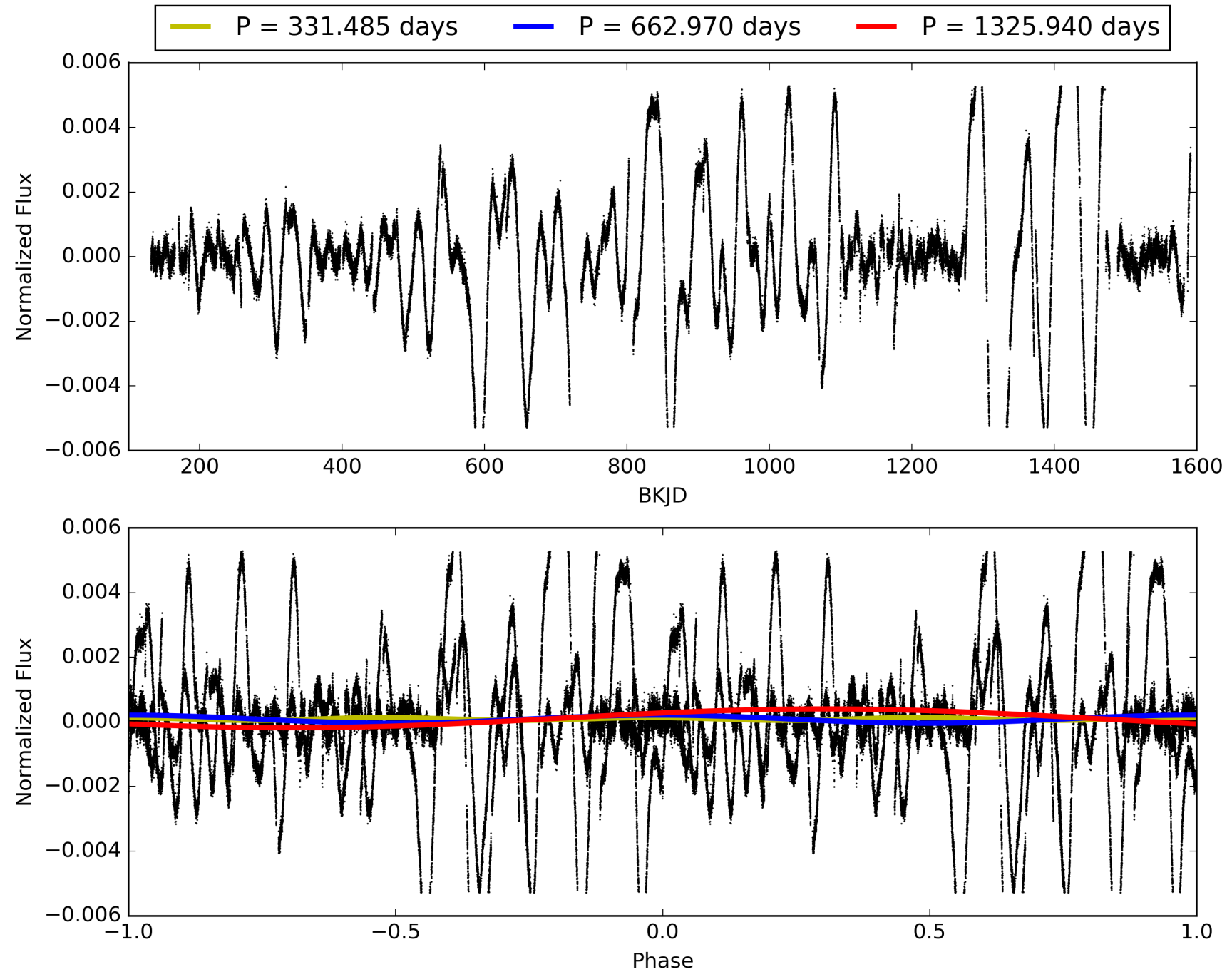
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.10e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.714
Centroid-sig: 19.1%
Centroid-so: 1.293 arcsec [2.67σ]
OotOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-rm: N/A
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

TCE 010591310-01, PDC Light Curves

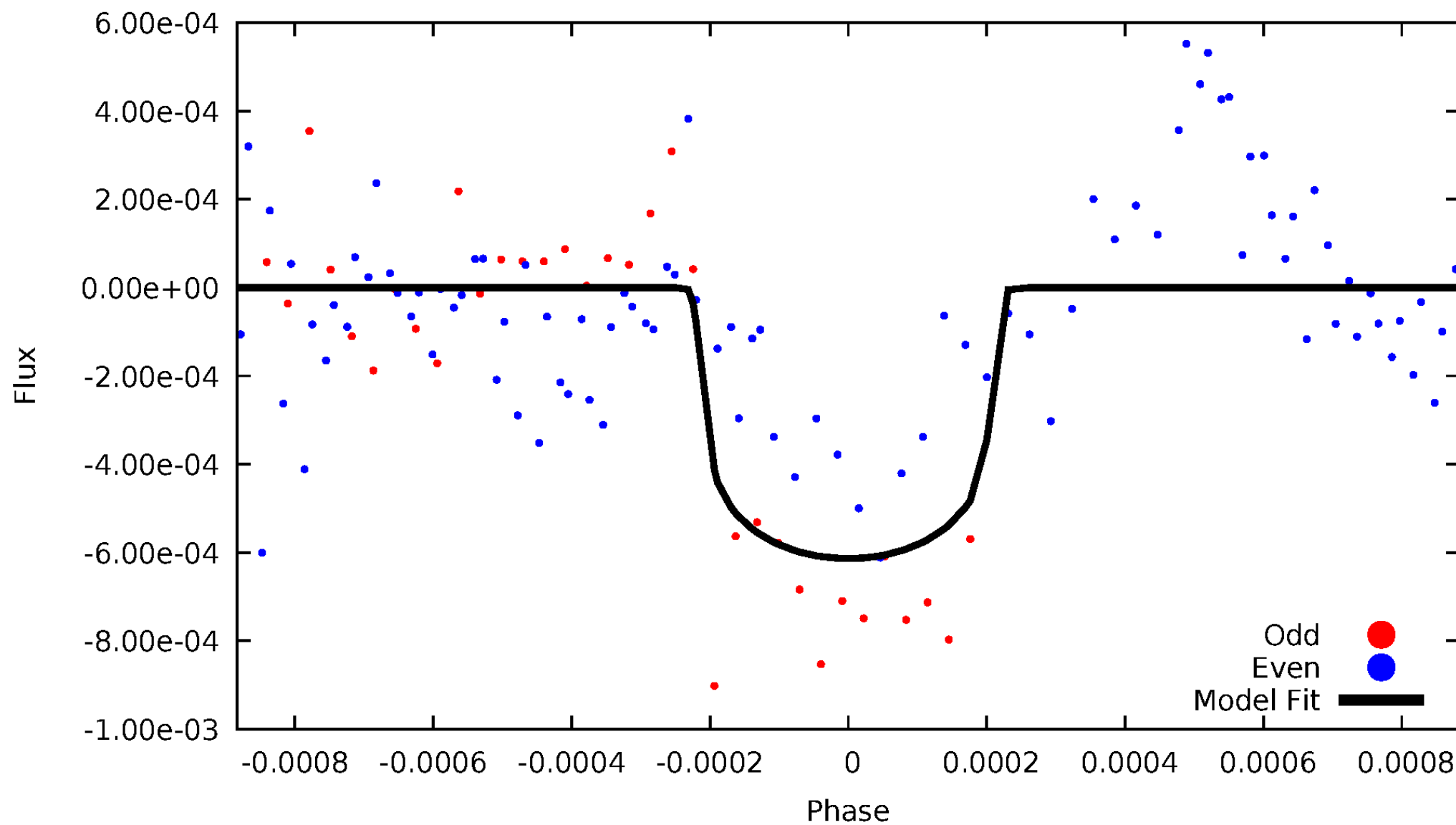


TCE 010591310-01



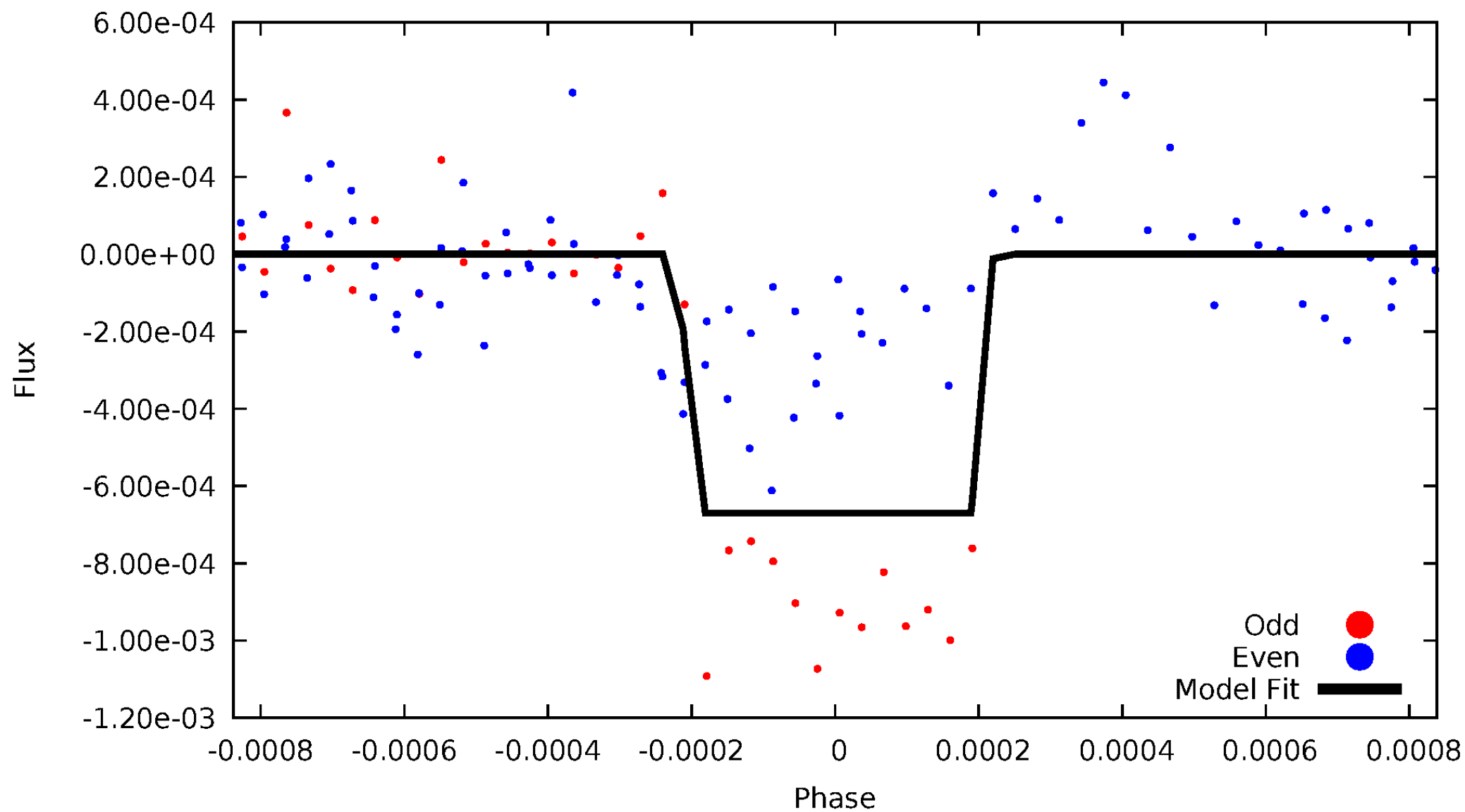
DV Odd/Even

TCE 010591310-01



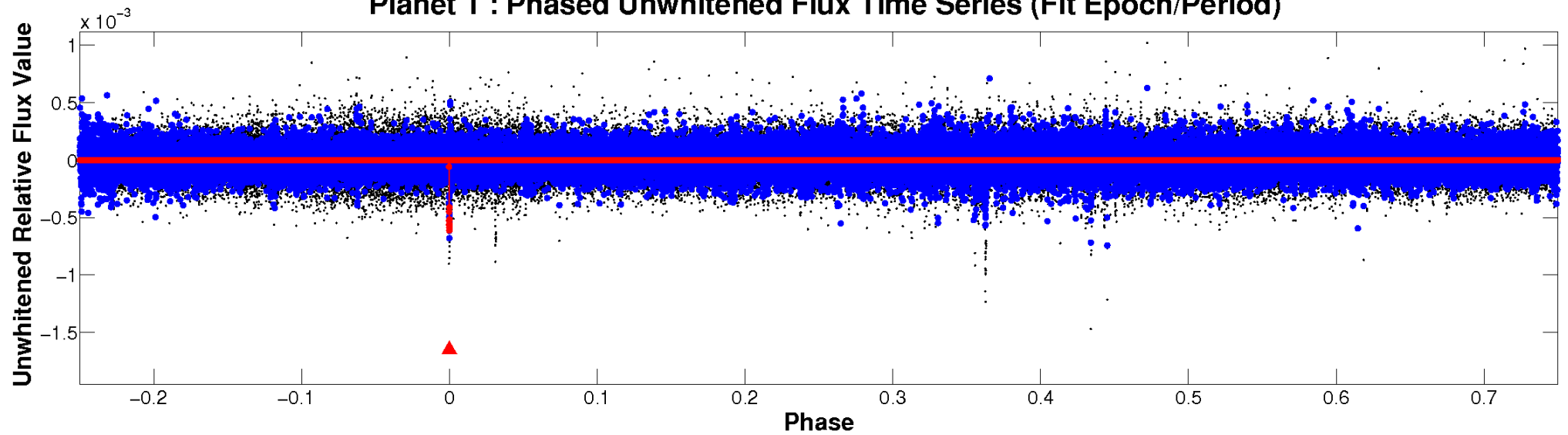
ALT Odd/Even

TCE 010591310-01

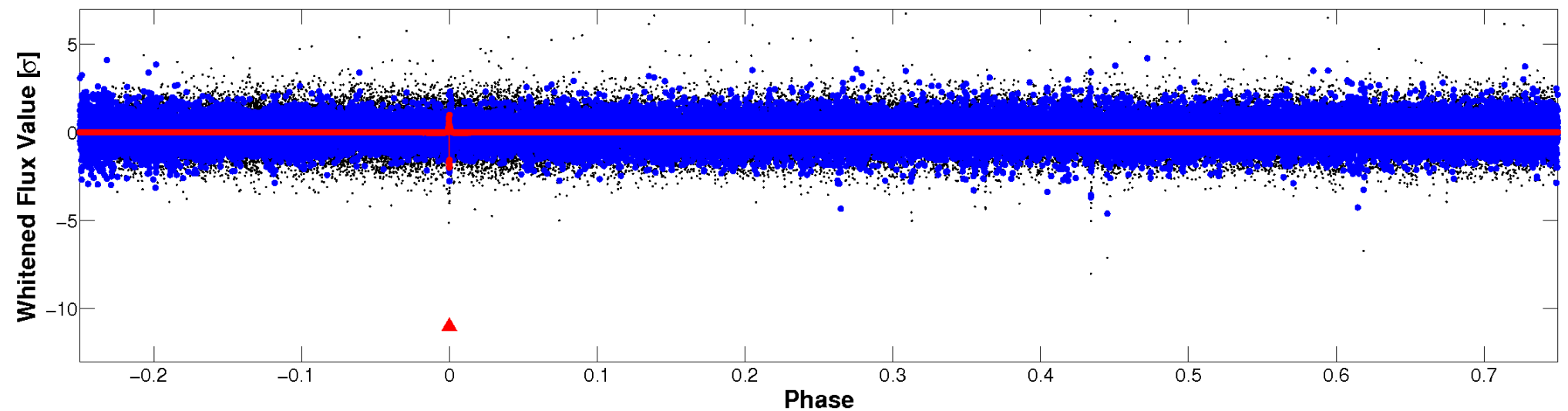


Non-Whitened Vs. Whitened Light Curve

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

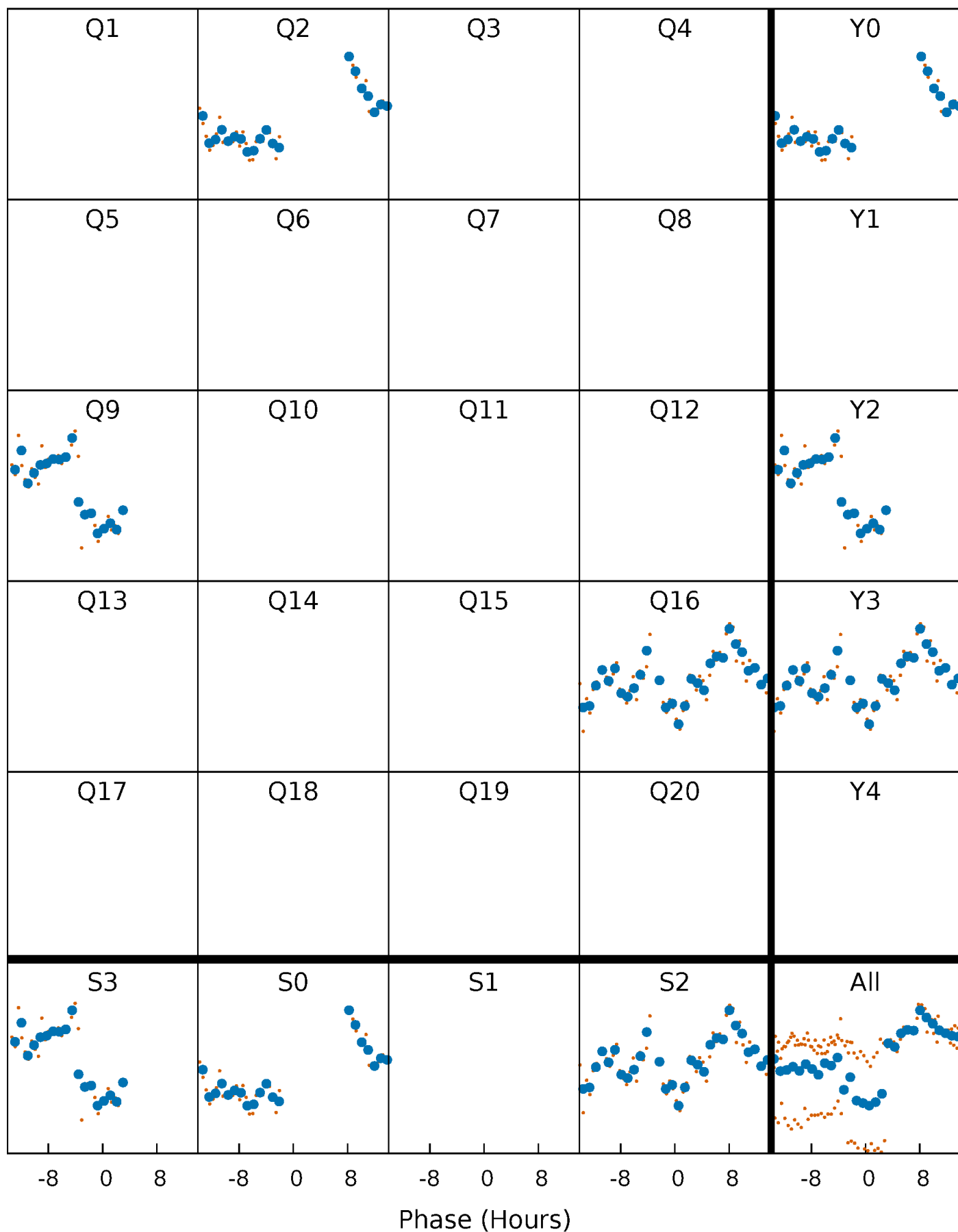


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



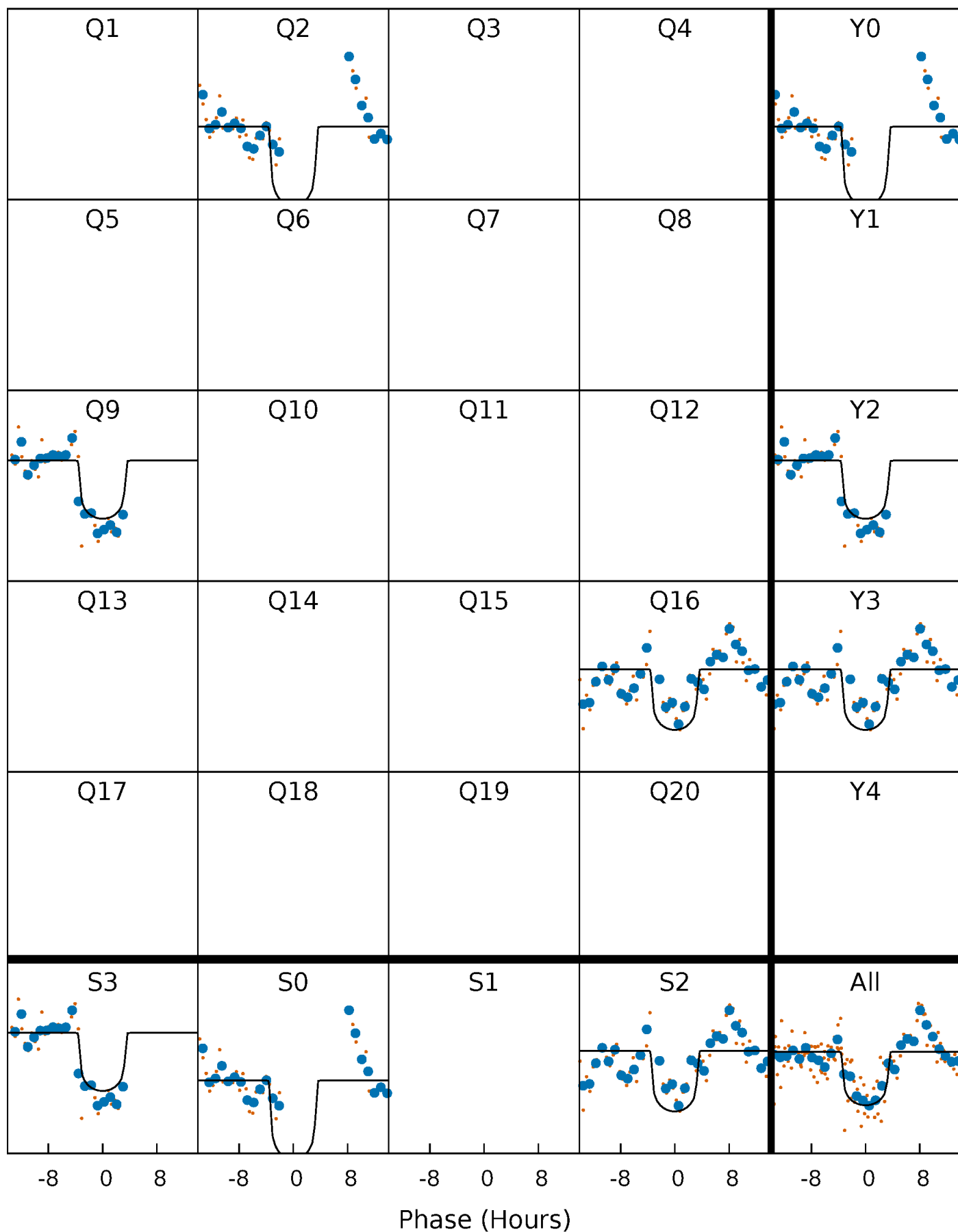
PDC Quarter-Phased Transit Curves

TCE 010591310-01 P=662.969983 Days $T_0=223.549572$ (BKJD)



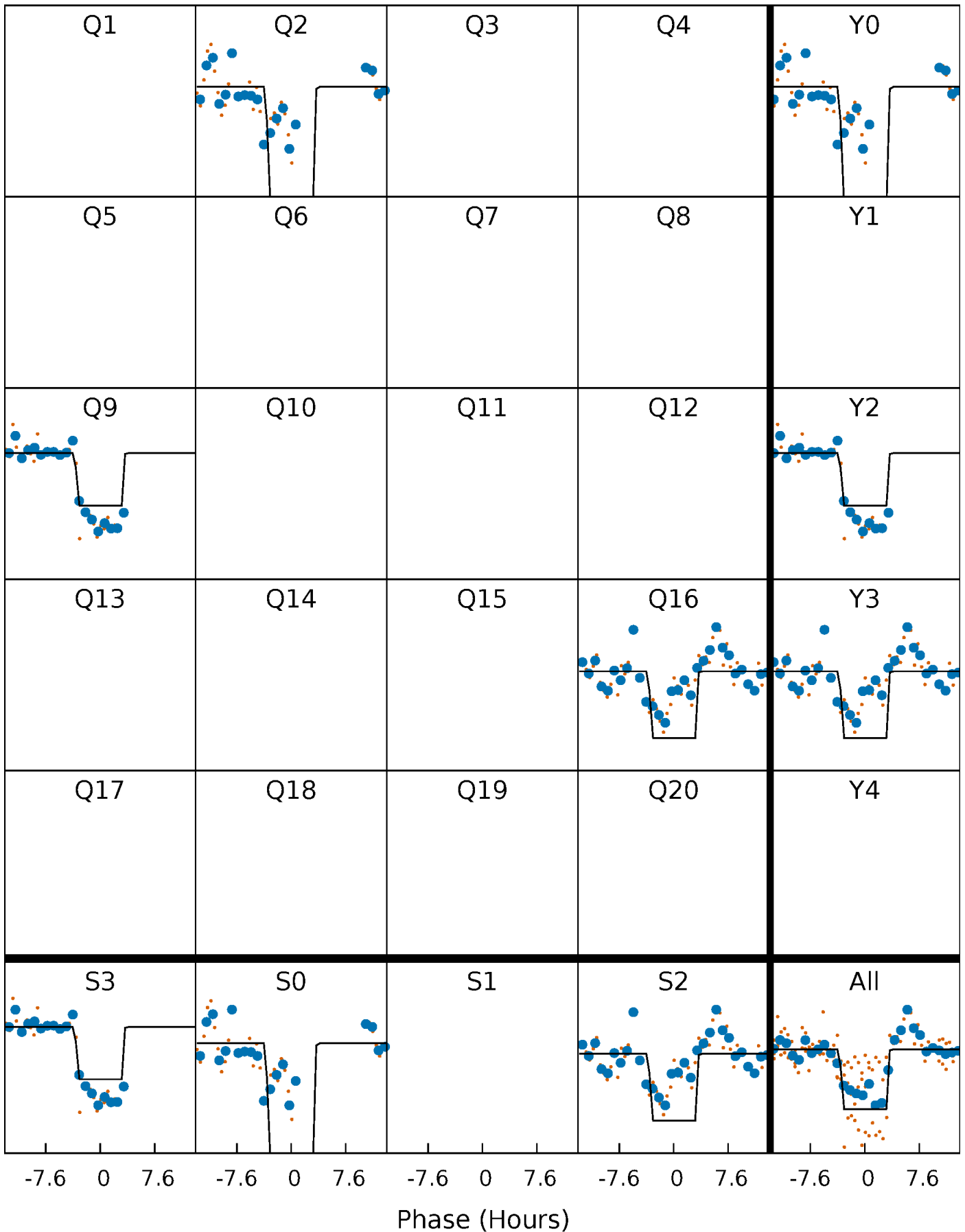
DV Quarter-Phased Transit Curves

TCE 010591310-01 P=662.969983 Days $T_0=223.549572$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

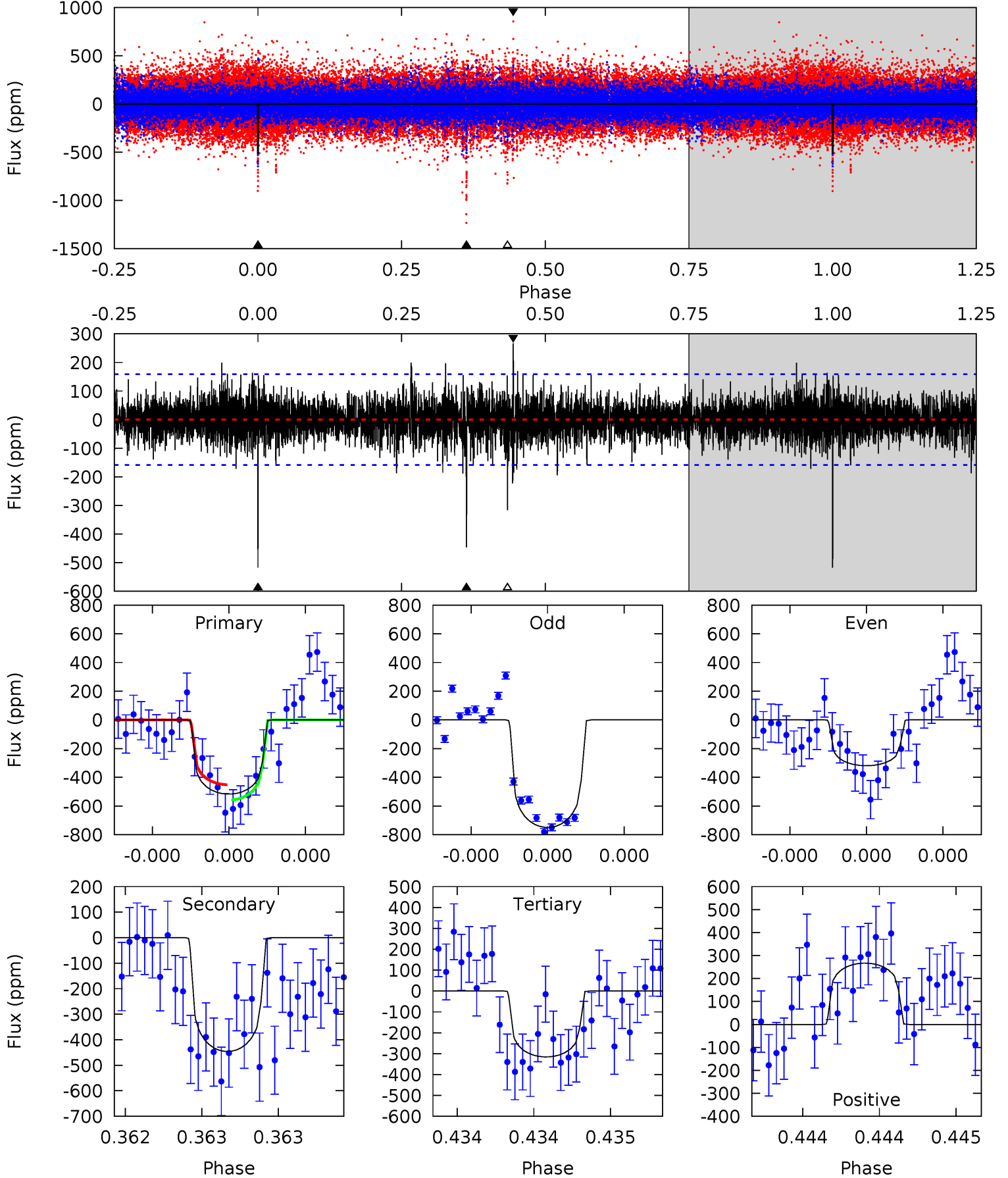
TCE 010591310-01 P=663.069022 Days $T_0=223.440595$ (BKJD)



DV Model-Shift Uniqueness Test

010591310-01, P = 662.969983 Days, E = 223.549572 Days

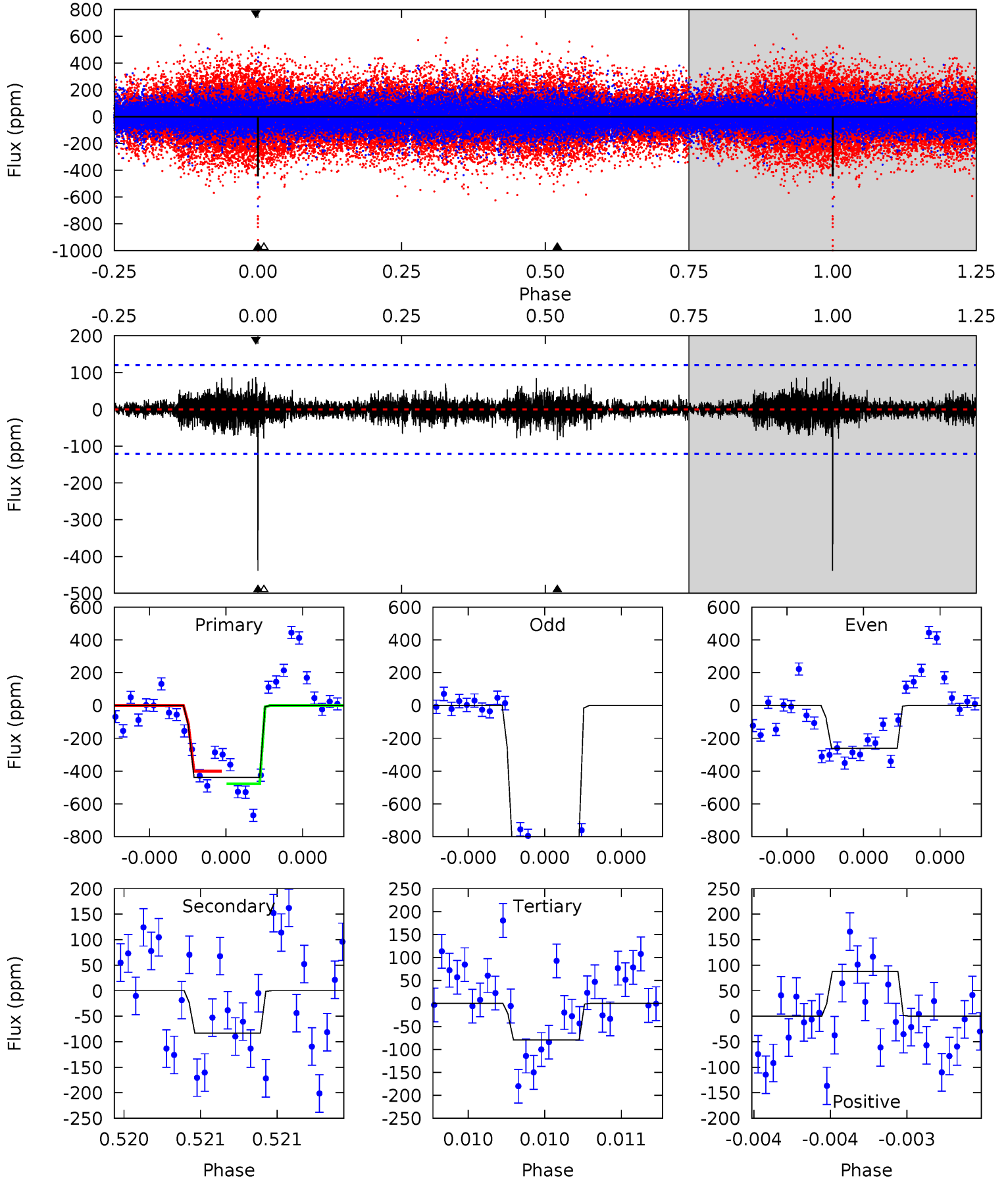
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	15.7	11.1	9.40	5.59	3.51	1.67	7.08	8.80	4.59	6.30	7.50	1.27	0.34	1.82



Alt Model-Shift Uniqueness Test

010591310-01, P = 663.069022 Days, E = 223.440595 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	3.86	3.69	4.07	5.60	3.52	0.77	16.7	16.3	0.16	-0.21	15.8	1.63	0.17	0



Stellar Parameters For KIC 010591310

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5665^{+158}_{-197}	$3.603^{+0.222}_{-0.148}$	$-0.700^{+0.300}_{-0.300}$	$2.806^{+0.665}_{-0.813}$	$1.151^{+0.171}_{-0.257}$	$0.073^{+0.108}_{-0.031}$
	+3%/-3%	+6%/-4%	+43%/-43%	+24%/-29%	+15%/-22%	+147%/-42%
Source	PHO1	FLK73	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 010591310-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-446 ± 28	$7.17^{+2.74}_{-2.70}$	466^{+31}_{-37}	5304^{+1412}_{-641}	11347^{+18006}_{-5375}
Alt.	-83 ± 22	$7.79^{+2.98}_{-2.44}$	465^{+34}_{-36}	3714^{+551}_{-383}	1740^{+2185}_{-872}

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 $A_{obs} \gg 1.0$

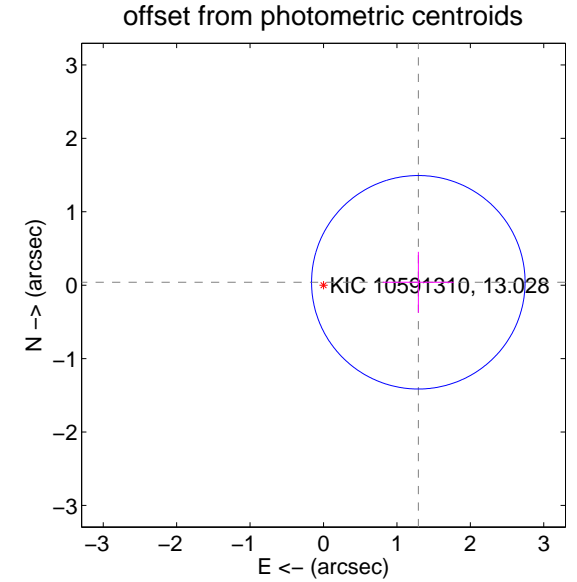
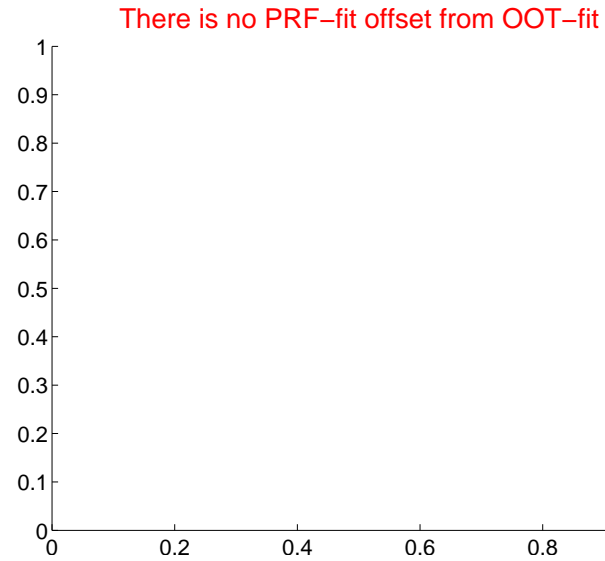
DV Centroid Data

Supplemental centroid analysis for 010591310-01. Kepler magnitude: 13.03. Transit SNR 10.25

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	1.29 ± 0.48	2.67	-1.29 ± 0.48	0.04 ± 0.41



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.



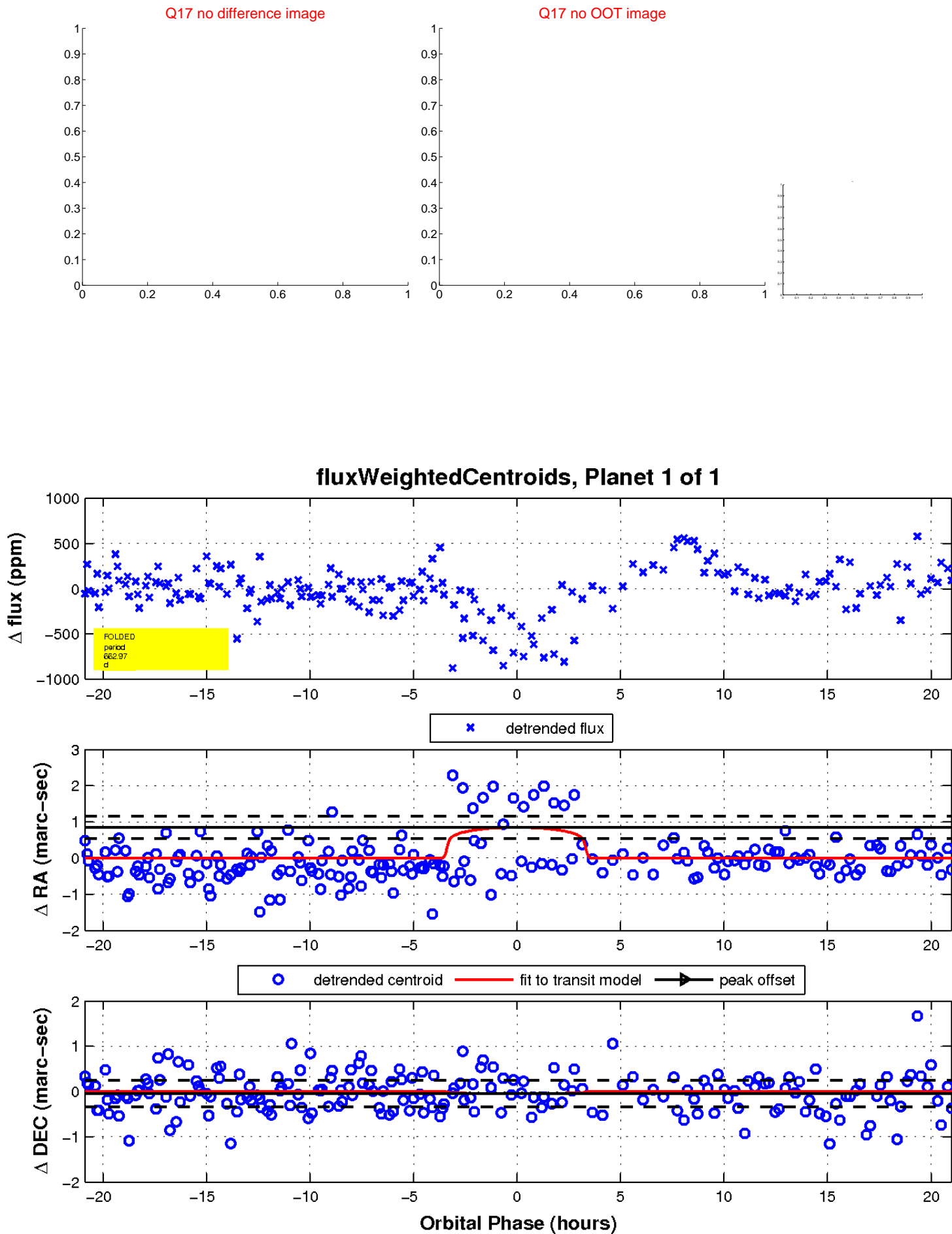
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

