

KIC 007970319

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})
007970319-01	OBS	No	369.290895	232.436185	943.1	33.333	8.7	10.0	0.61	4291	3.81	0.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007970319-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—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.

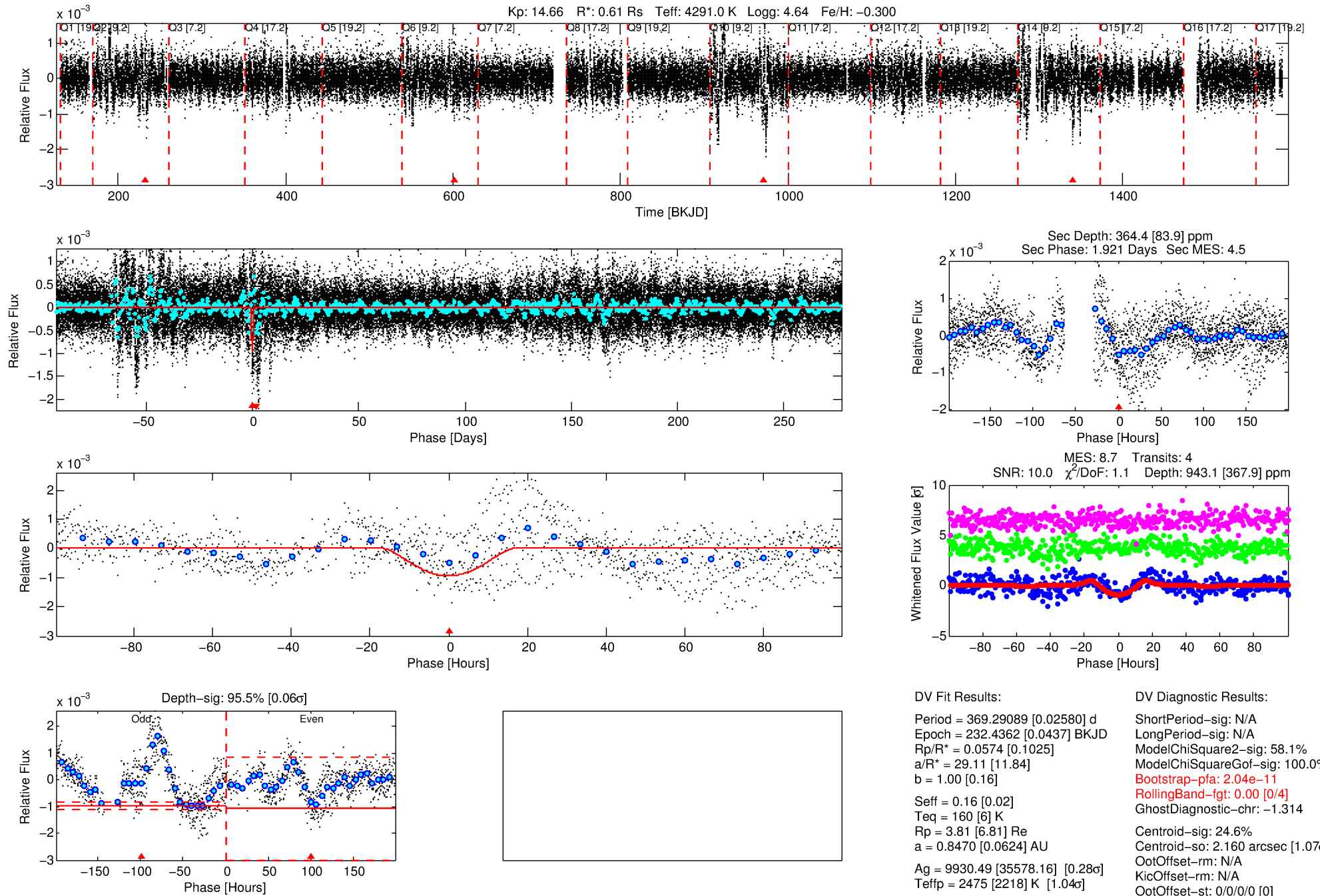
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007970319-01

No Significant Match Found

DV One-Page Summary

KIC: 7970319 Candidate: 1 of 1 Period: 369.291 d



DV Fit Results:

Period = 369.29089 [0.02580] d
Epoch = 232.4362 [0.0437] BKJD
Rp/R* = 0.0574 [0.1025]
a/R* = 29.11 [11.84]
b = 1.00 [0.16]
Seff = 0.16 [0.02]
Teq = 160 [6] K
Rp = 3.81 [6.81] Re
a = 0.8470 [0.0624] AU
Ag = 9930.49 [35578.16] [0.28 σ]
Teffp = 2475 [2218] K [1.04 σ]

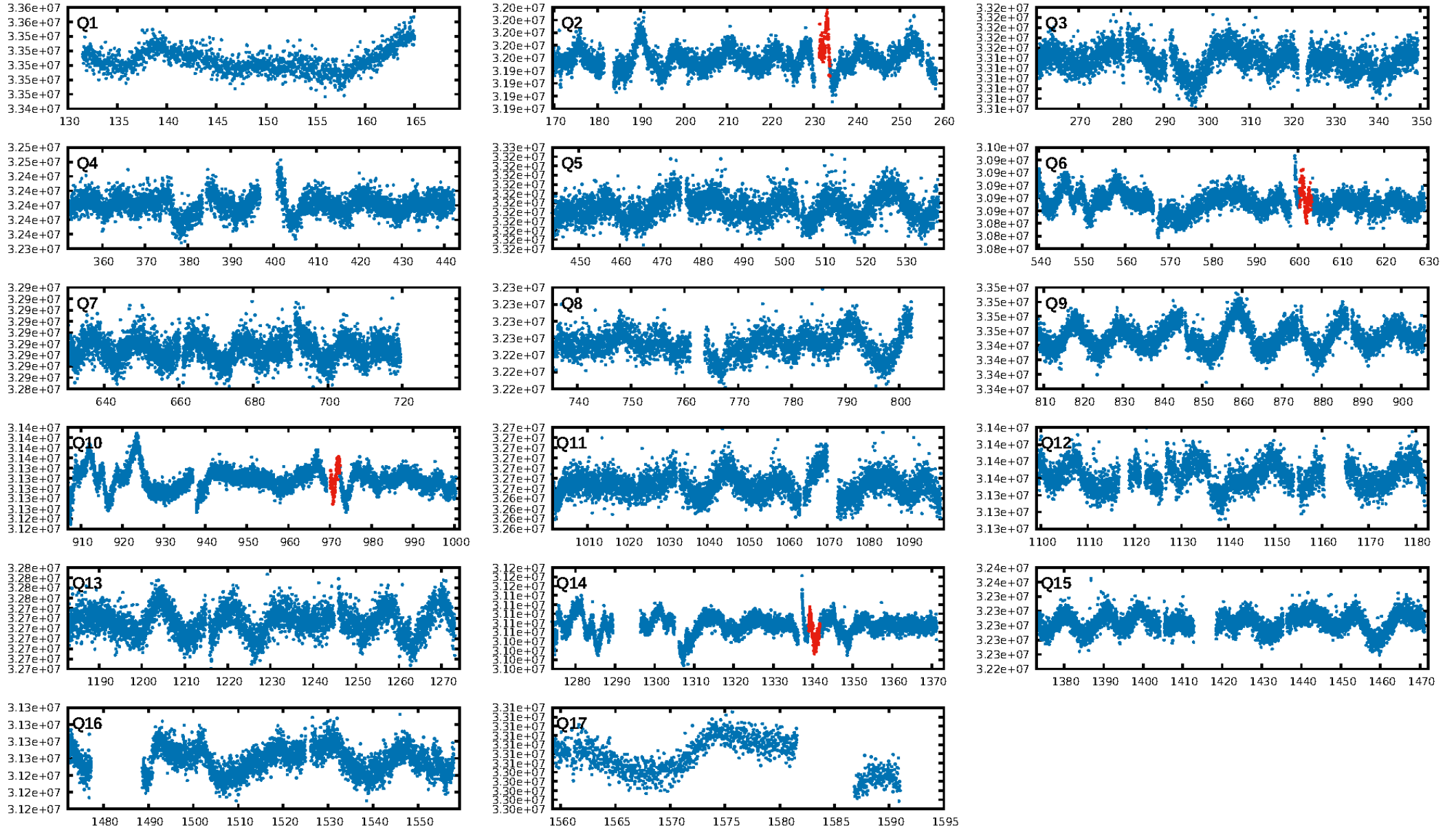
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 58.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.04e-11
RollingBand-fgt: 0.00 [0/4]
GhostDiagnostic-chr: -1.314
Centroid-sig: 24.6%
Centroid-so: 2.160 arcsec [1.07 σ]
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: N/A

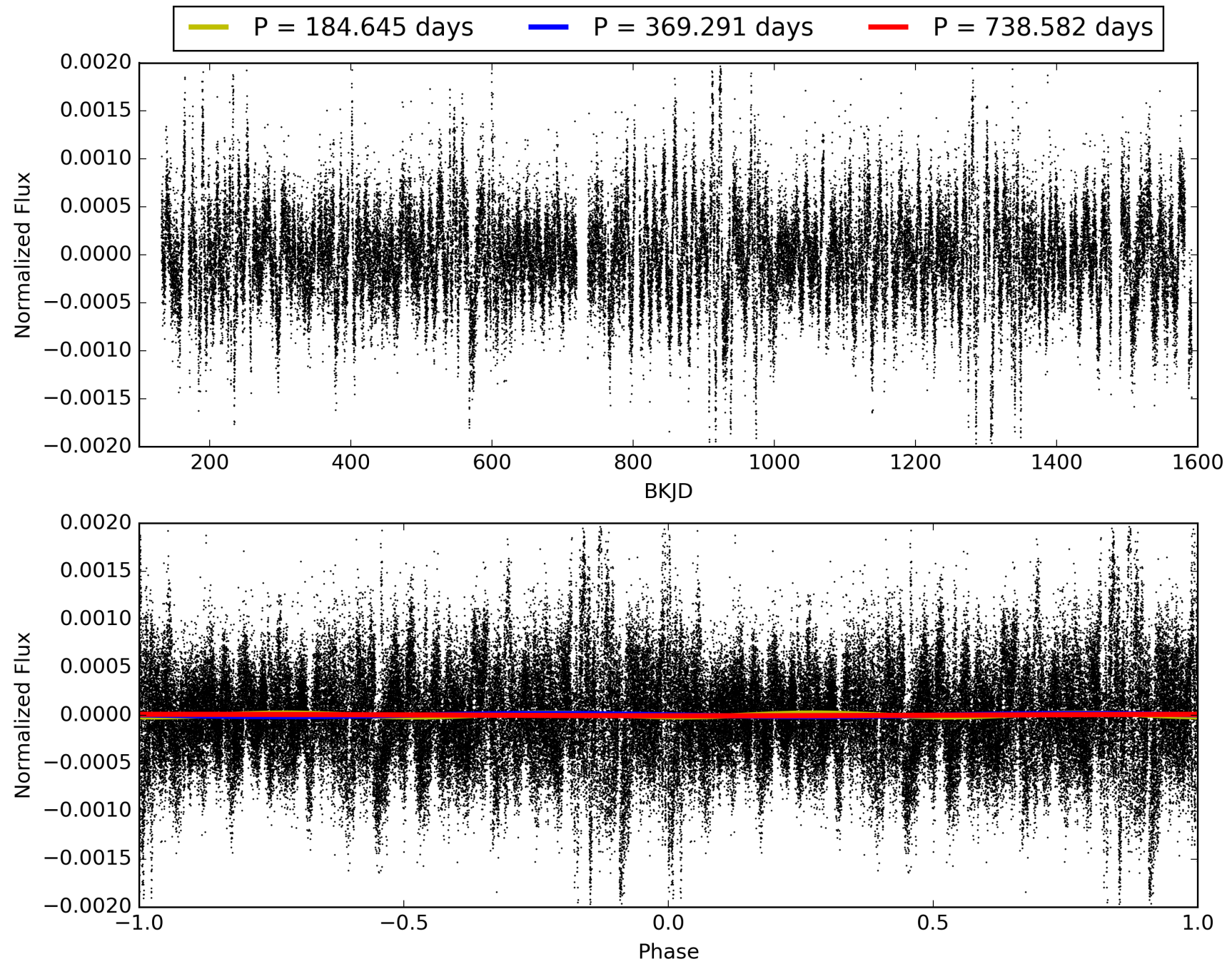
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:48:30 Z

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

TCE 007970319-01, PDC Light Curves

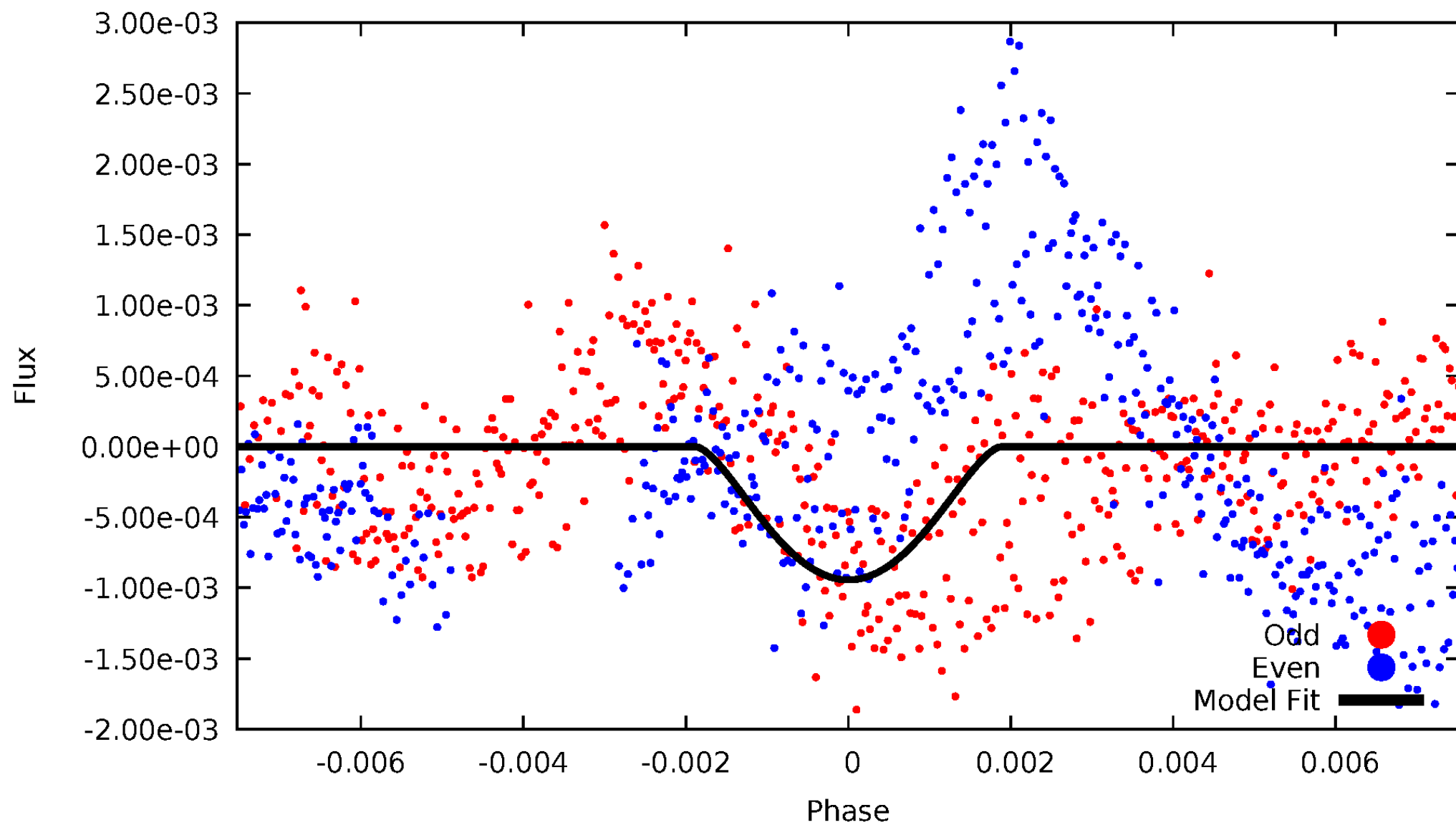


TCE 007970319-01



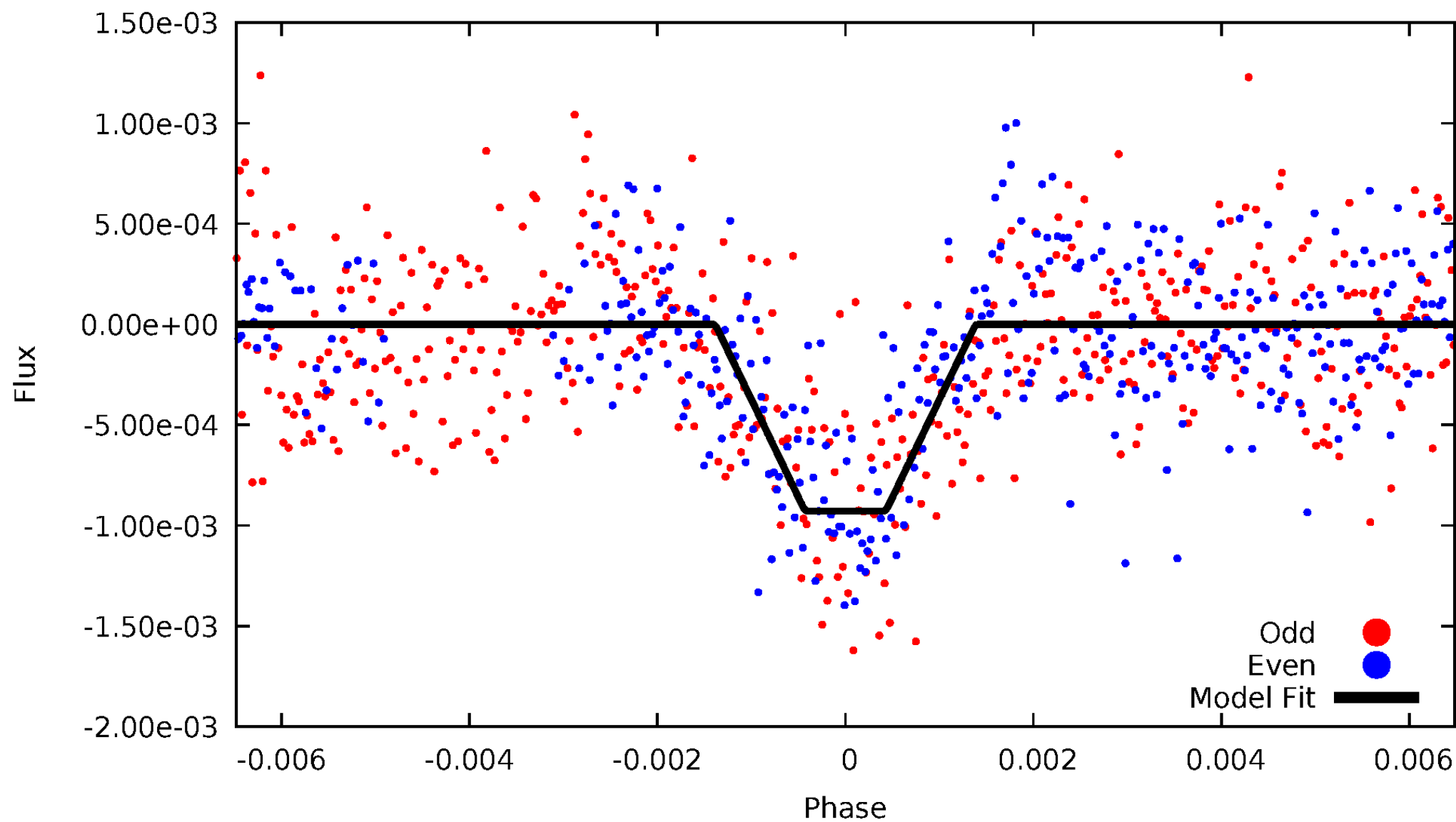
DV Odd/Even

TCE 007970319-01



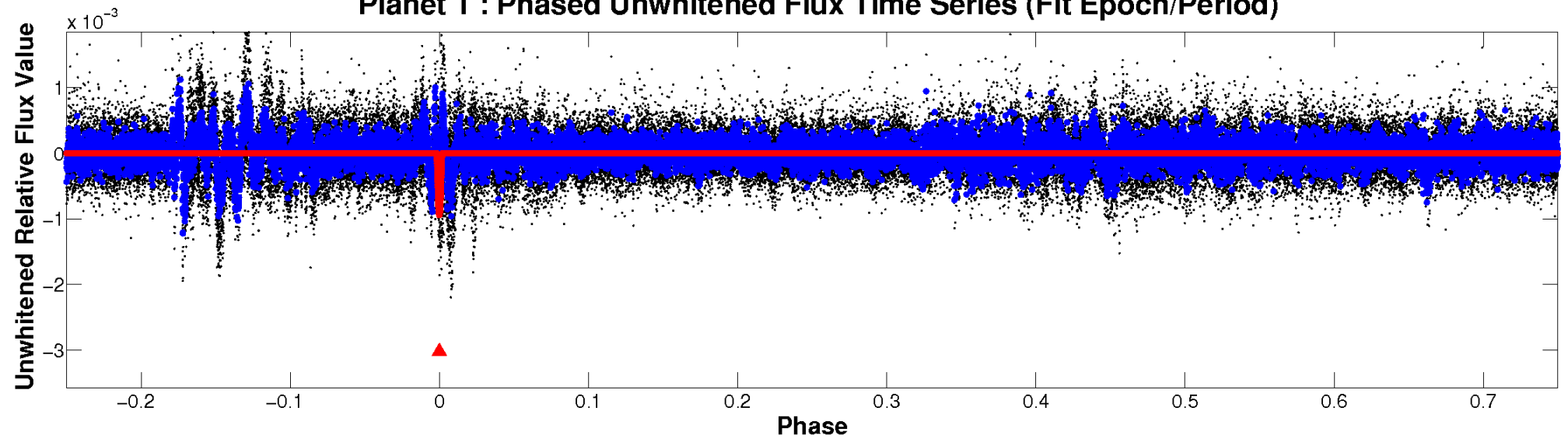
ALT Odd/Even

TCE 007970319-01

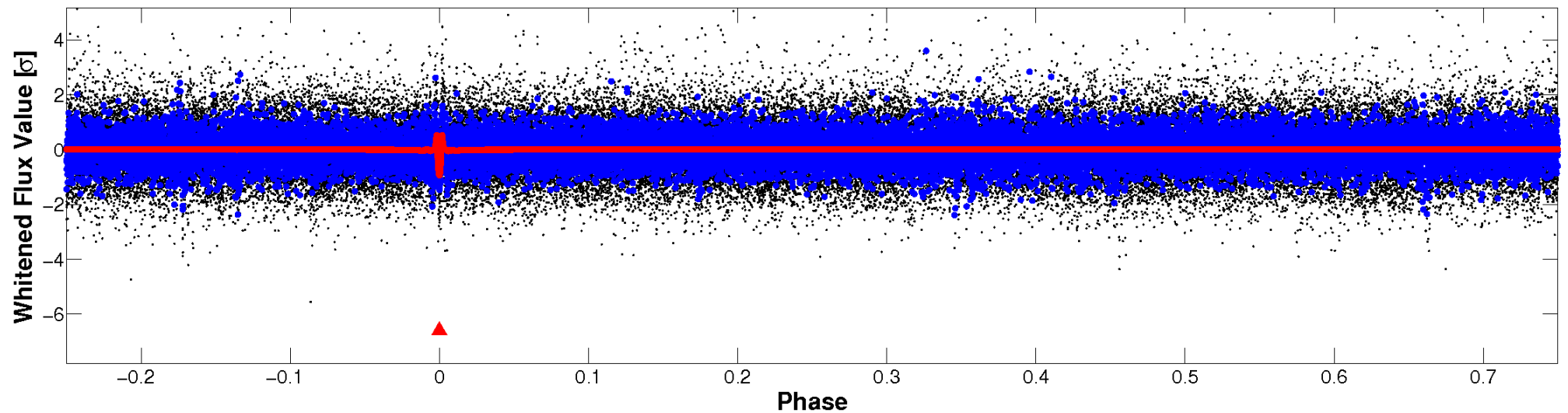


Non-Whitened Vs. Whitened Light Curve

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

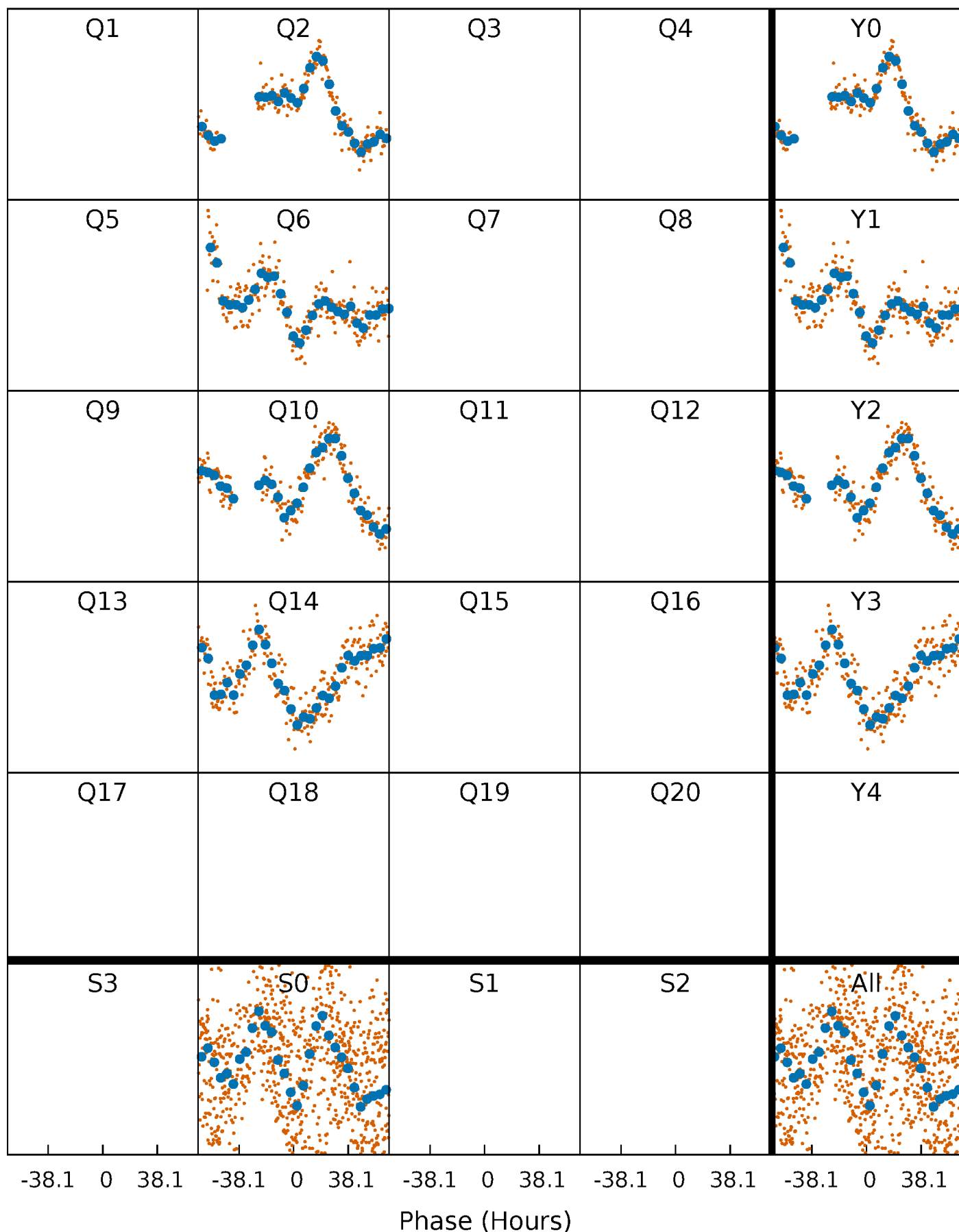


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



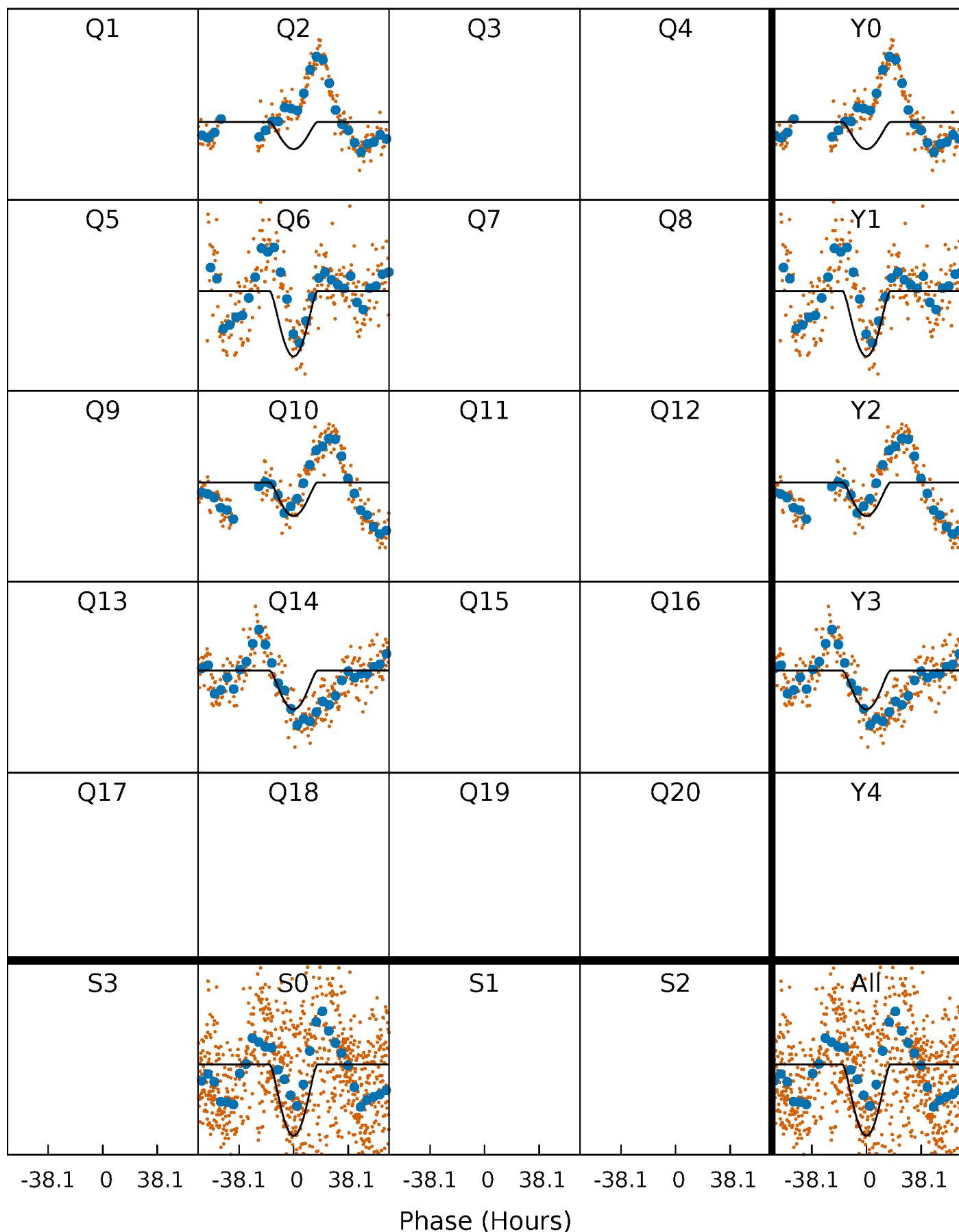
PDC Quarter-Phased Transit Curves

TCE 007970319-01 P=369.290895 Days $T_0=232.436185$ (BKJD)



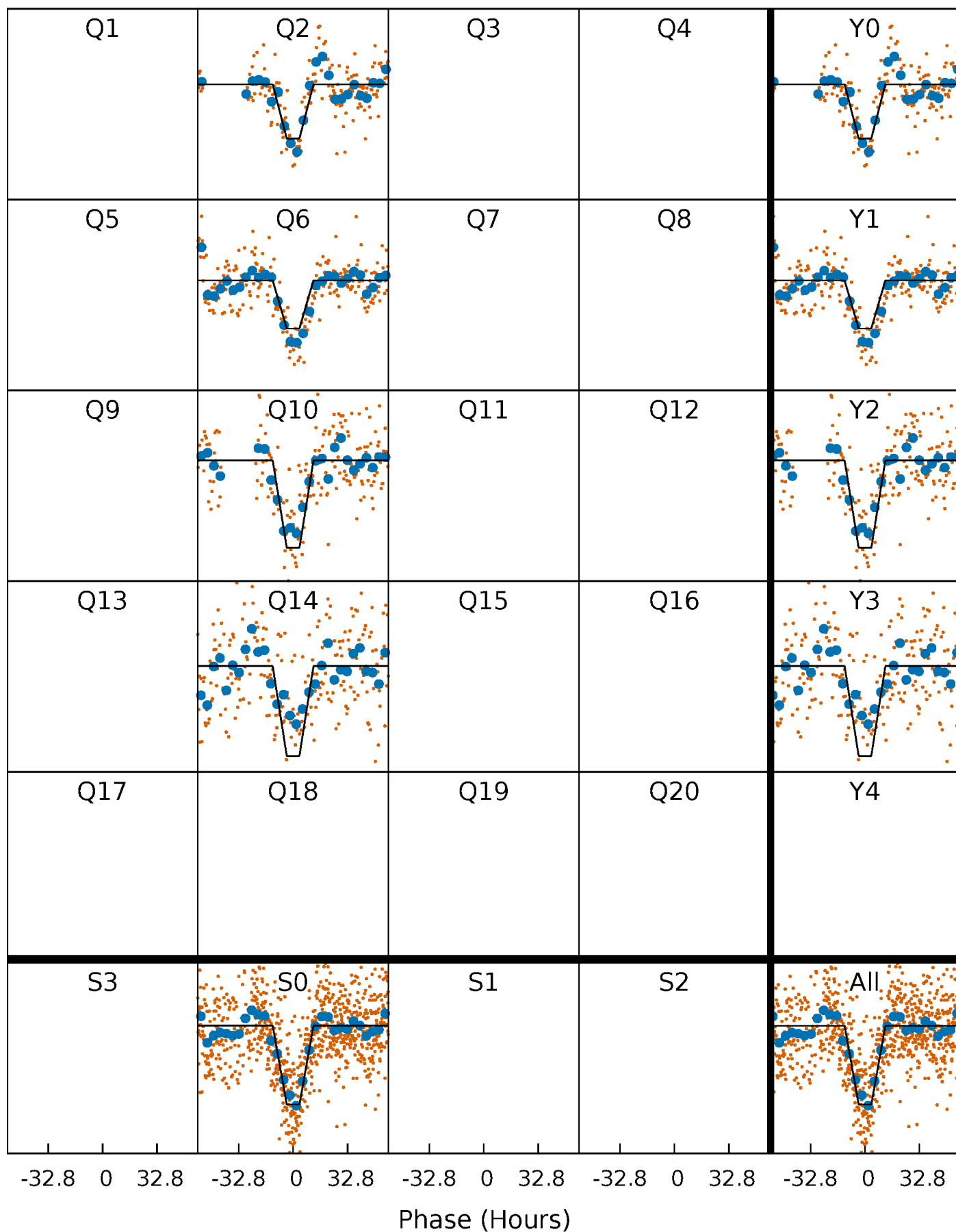
DV Quarter-Phased Transit Curves

TCE 007970319-01 P=369.290895 Days $T_0=232.436185$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

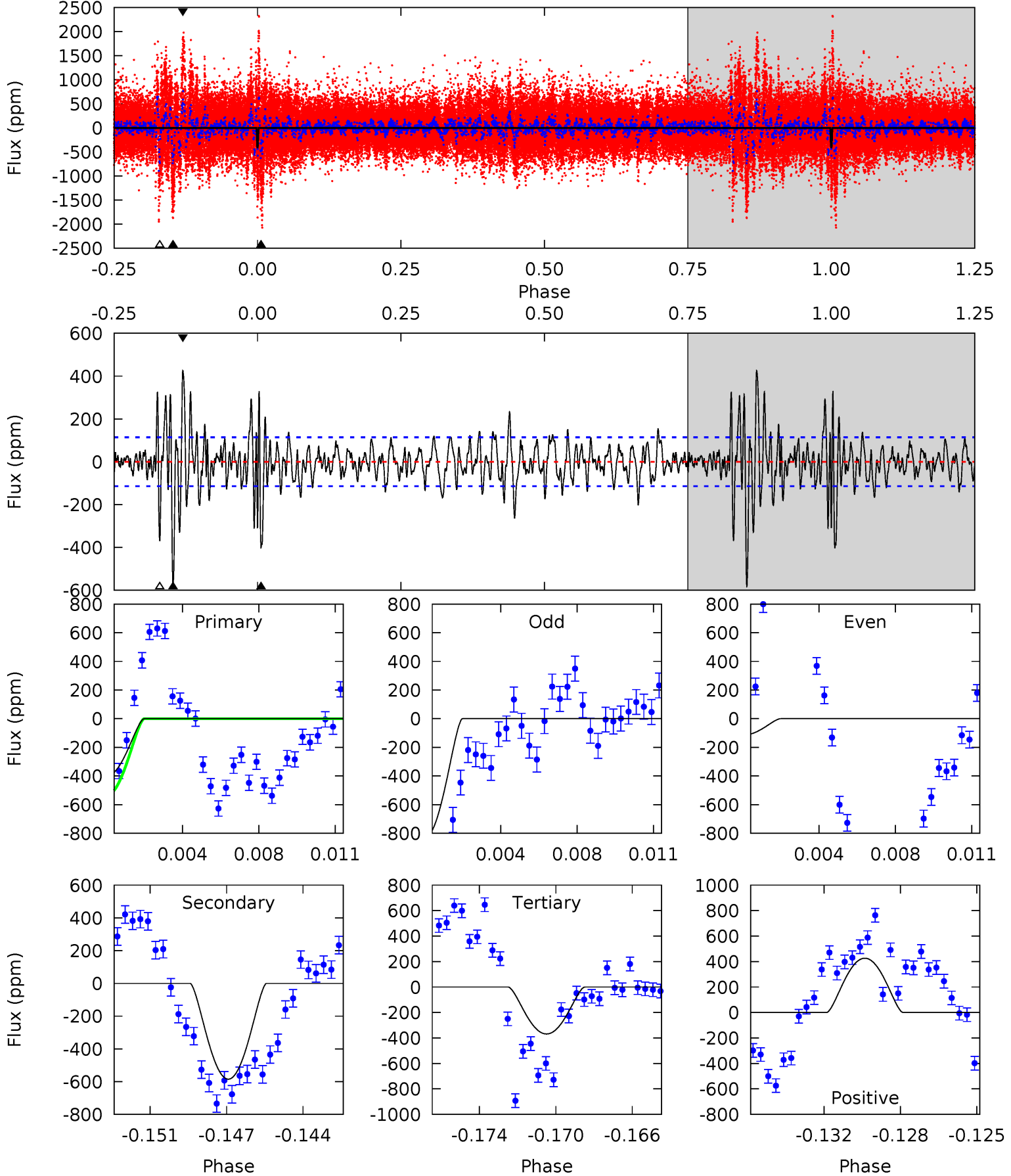
TCE 007970319-01 P=369.241240 Days $T_0=232.541539$ (BKJD)



DV Model-Shift Uniqueness Test

007970319-01, P = 369.290895 Days, E = 232.436185 Days

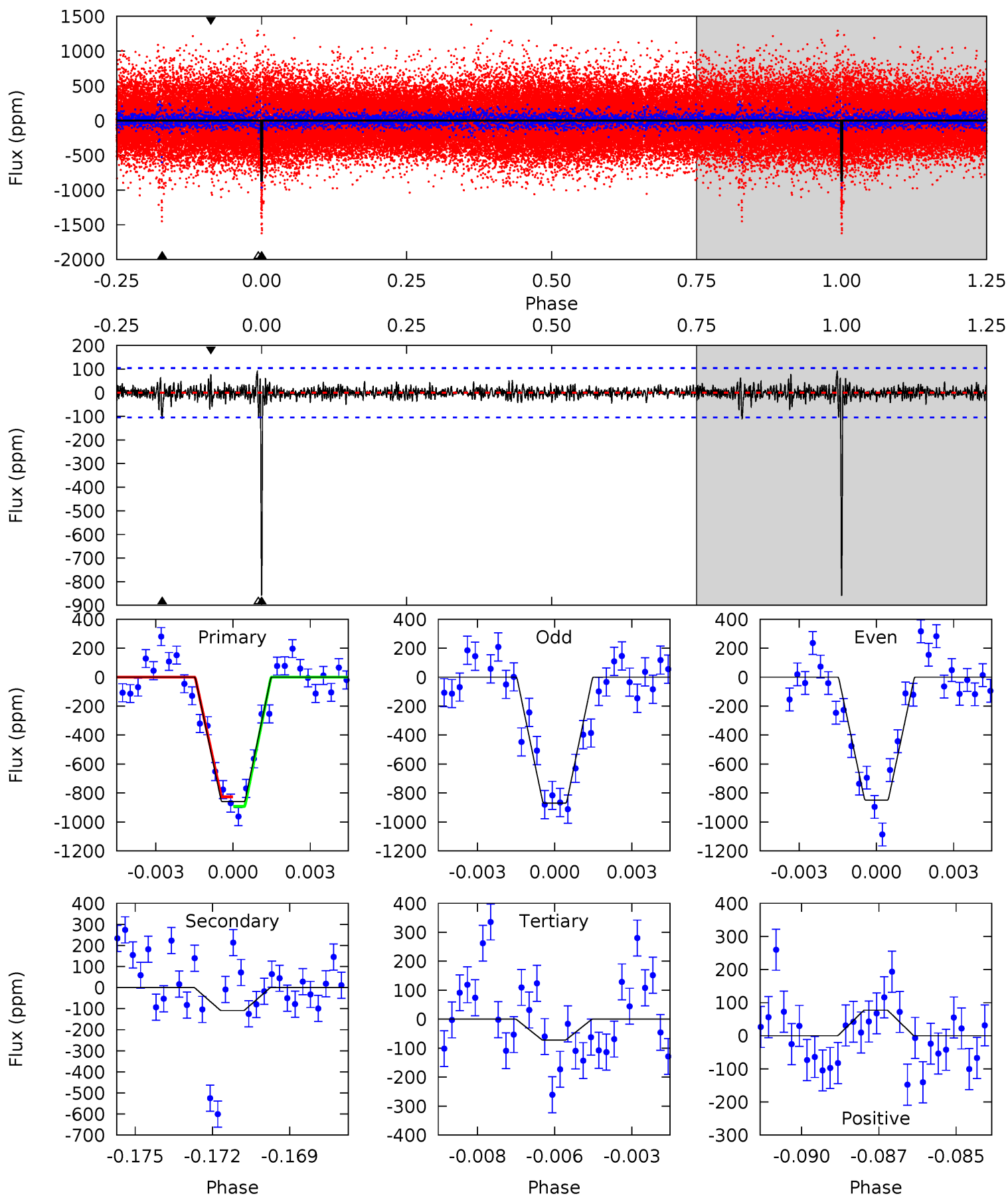
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	26.8	16.9	19.5	5.21	2.90	3.77	1.57	-1.06	9.89	7.26	17.0	0.73	0.42	4.78



Alt Model-Shift Uniqueness Test

007970319-01, P = 369.241240 Days, E = 232.541539 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.2	5.48	3.62	3.88	5.26	2.99	0.84	39.6	39.3	1.86	1.60	0.52	1.01	0.10	1.67



Stellar Parameters For KIC 007970319

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4291^{+116}_{-129}	$4.644^{+0.053}_{-0.025}$	$-0.300^{+0.300}_{-0.300}$	$0.608^{+0.045}_{-0.056}$	$0.594^{+0.066}_{-0.050}$	$3.717^{+0.862}_{-0.426}$
	+3%/-3%	+1%/-1%	+100%/-100%	+7%/-9%	+11%/-8%	+23%/-11%
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 007970319-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-585 ± 22	$6.40^{+5.31}_{-4.43}$	223^{+7}_{-7}	2788^{+1145}_{-416}	5700^{+53349}_{-4040}
Alt.	-109 ± 20	$5.60^{+5.21}_{-3.79}$	223^{+7}_{-8}	2332^{+806}_{-321}	1439^{+12299}_{-1068}

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

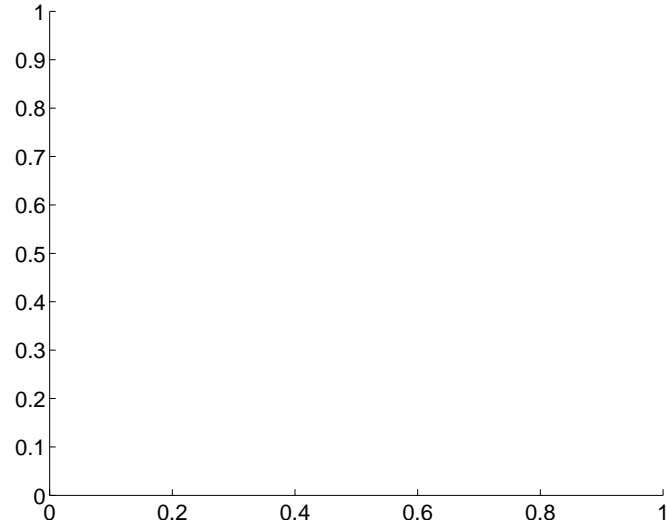
Supplemental centroid analysis for 007970319-01. Kepler magnitude: 14.66. Transit SNR 10.04

There are 0 quarters with good PRF difference image offsets

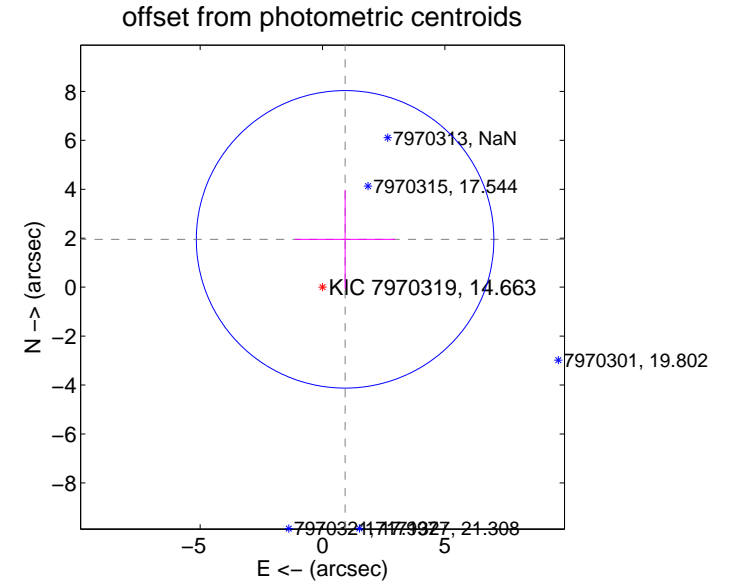
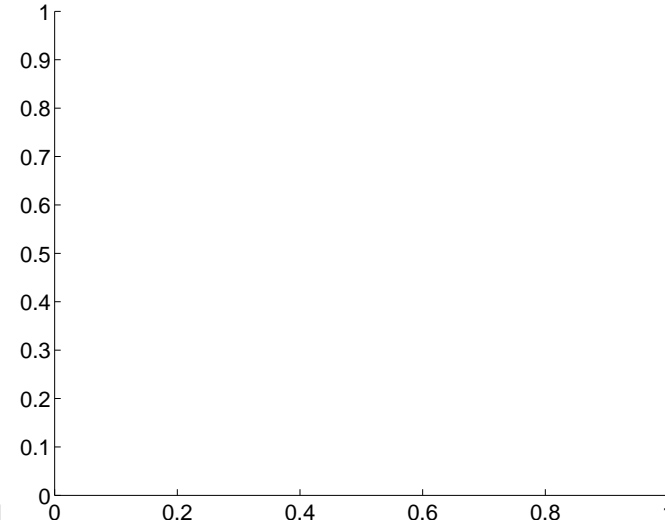
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	2.16 ± 2.03	1.07	-0.92 ± 2.04	1.95 ± 2.02

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



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.



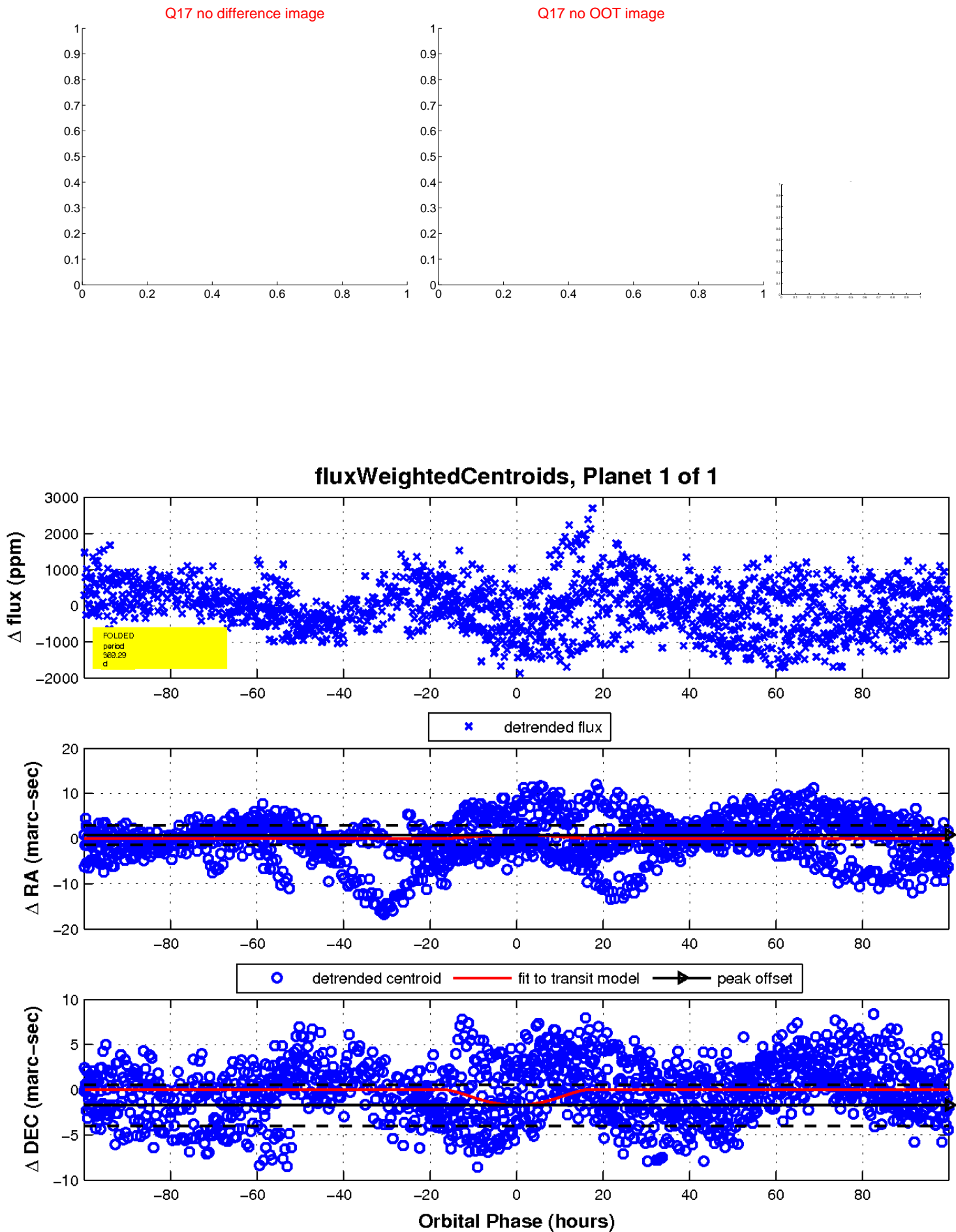
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

