

KIC 007871315

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})
007871315-01	OBS	No	444.294240	373.672370	913.9	7.600	7.6	8.0	0.85	5657	2.74	0.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007871315-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

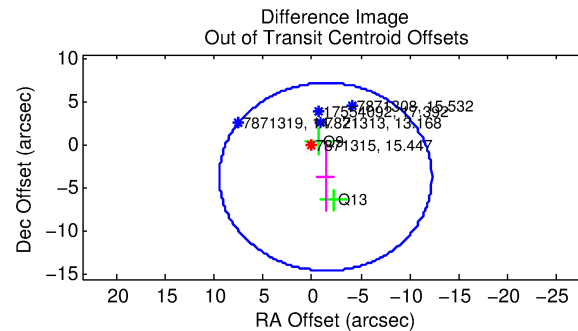
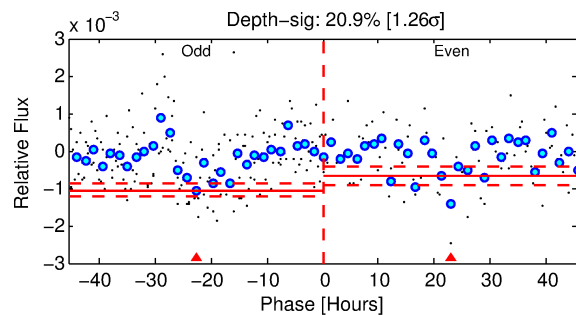
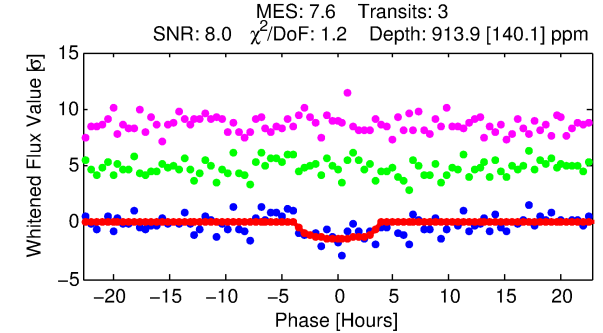
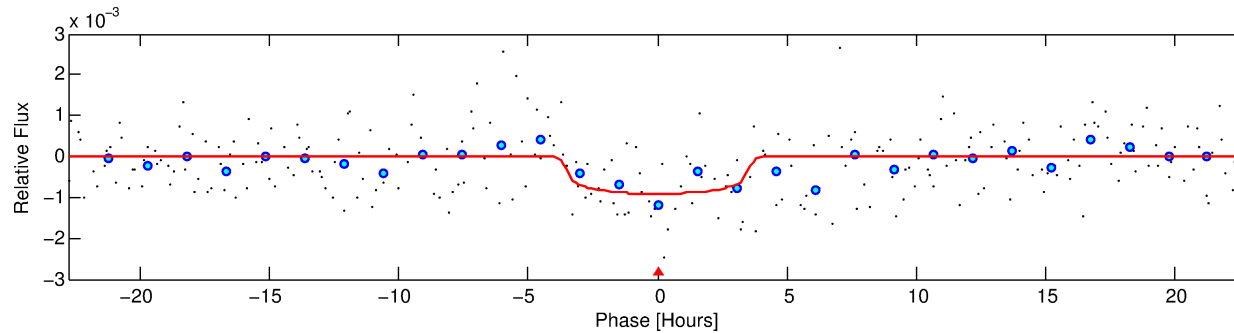
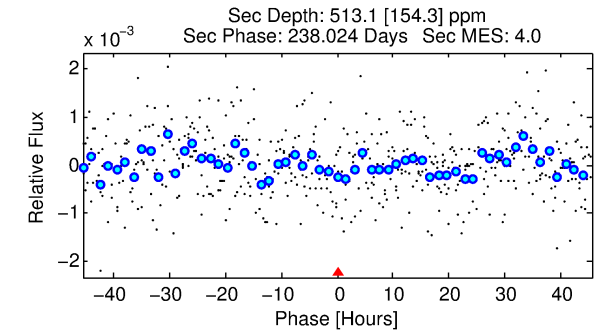
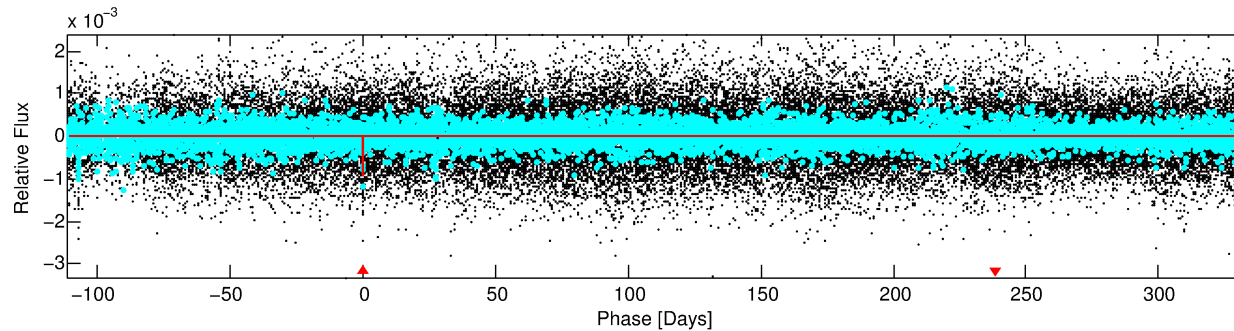
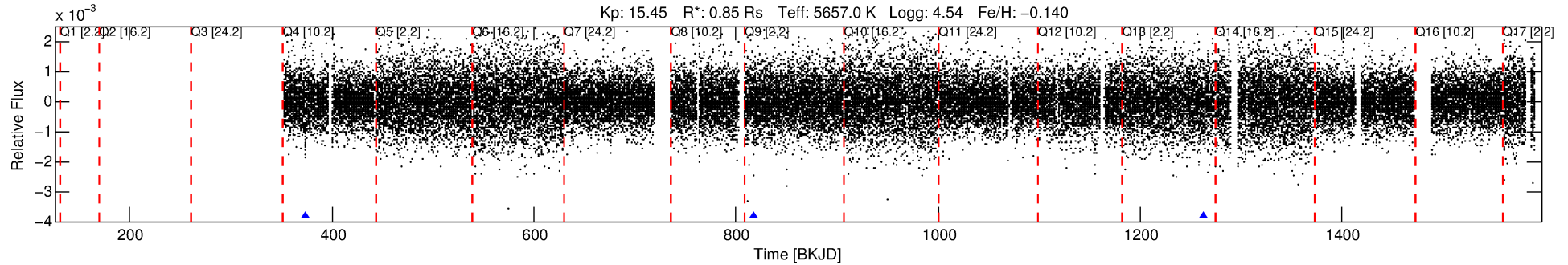
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007871315-01

No Significant Match Found

DV One-Page Summary

KIC: 7871315 Candidate: 1 of 1 Period: 444.294 d



DV Fit Results:

Period = 444.29424 [0.01419] d
Epoch = 373.6724 [0.0171] BKJD
Rp/R* = 0.0297 [0.0259]
a/R* = 332.54 [1233.77]
b = 0.71 [2.63]
Seff = 0.54 [0.19]
Teq = 218 [19] K
Rp = 2.74 [2.51] Re
a = 1.1059 [0.2519] AU
Ag = 45874.61 [82626.16] [0.56σ]
Teff = 4942 [2194] K [2.15σ]

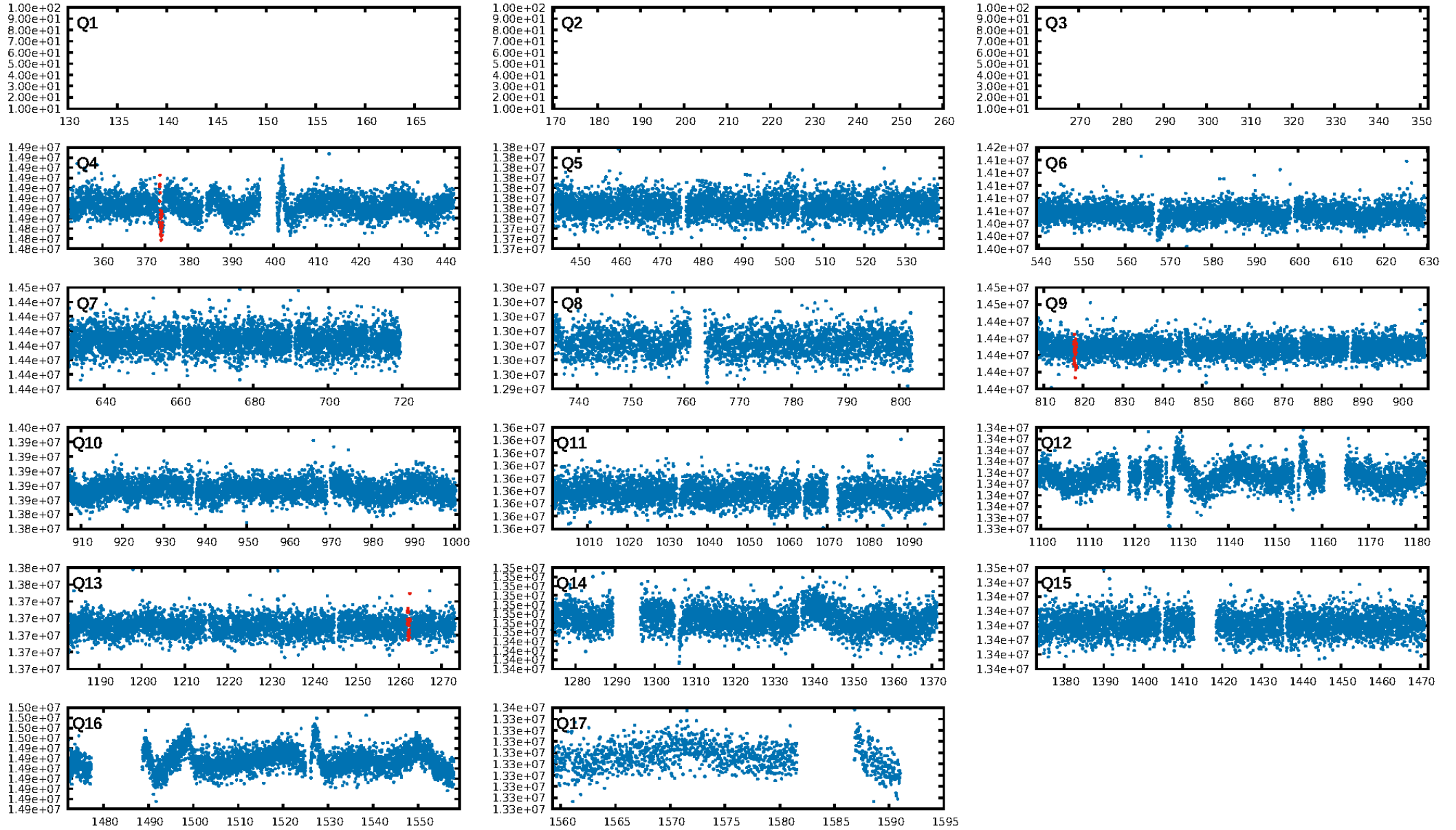
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 70.5%
Bootstrap-pfa: 2.85e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.487
Centroid-sig: 7.8%
Centroid-so: 0.667 arcsec [0.80σ]
OotOffset-rm: 3.933 arcsec [1.08σ]
KicOffset-rm: 2.384 arcsec [0.65σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

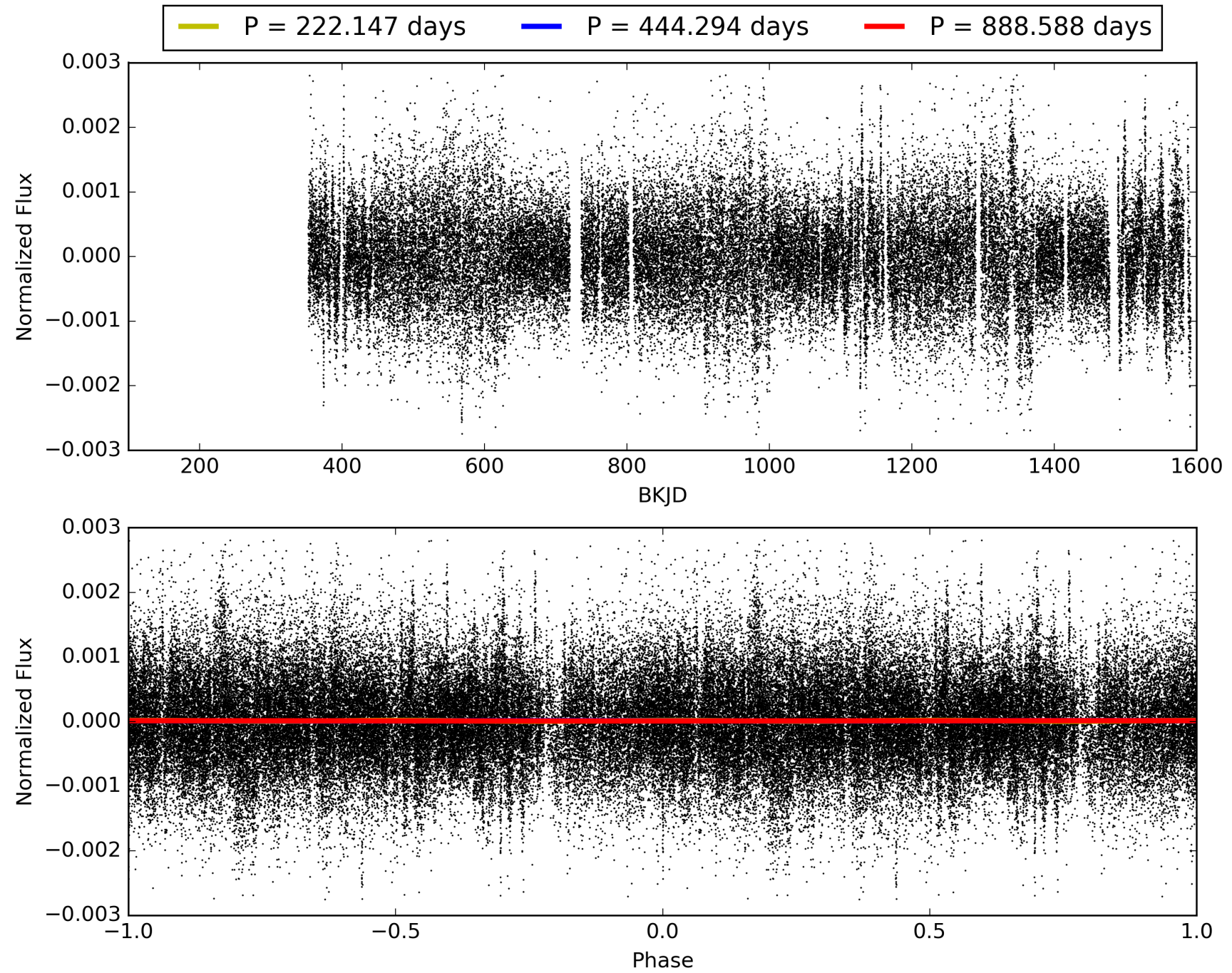
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:51:23 Z

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

TCE 007871315-01, PDC Light Curves

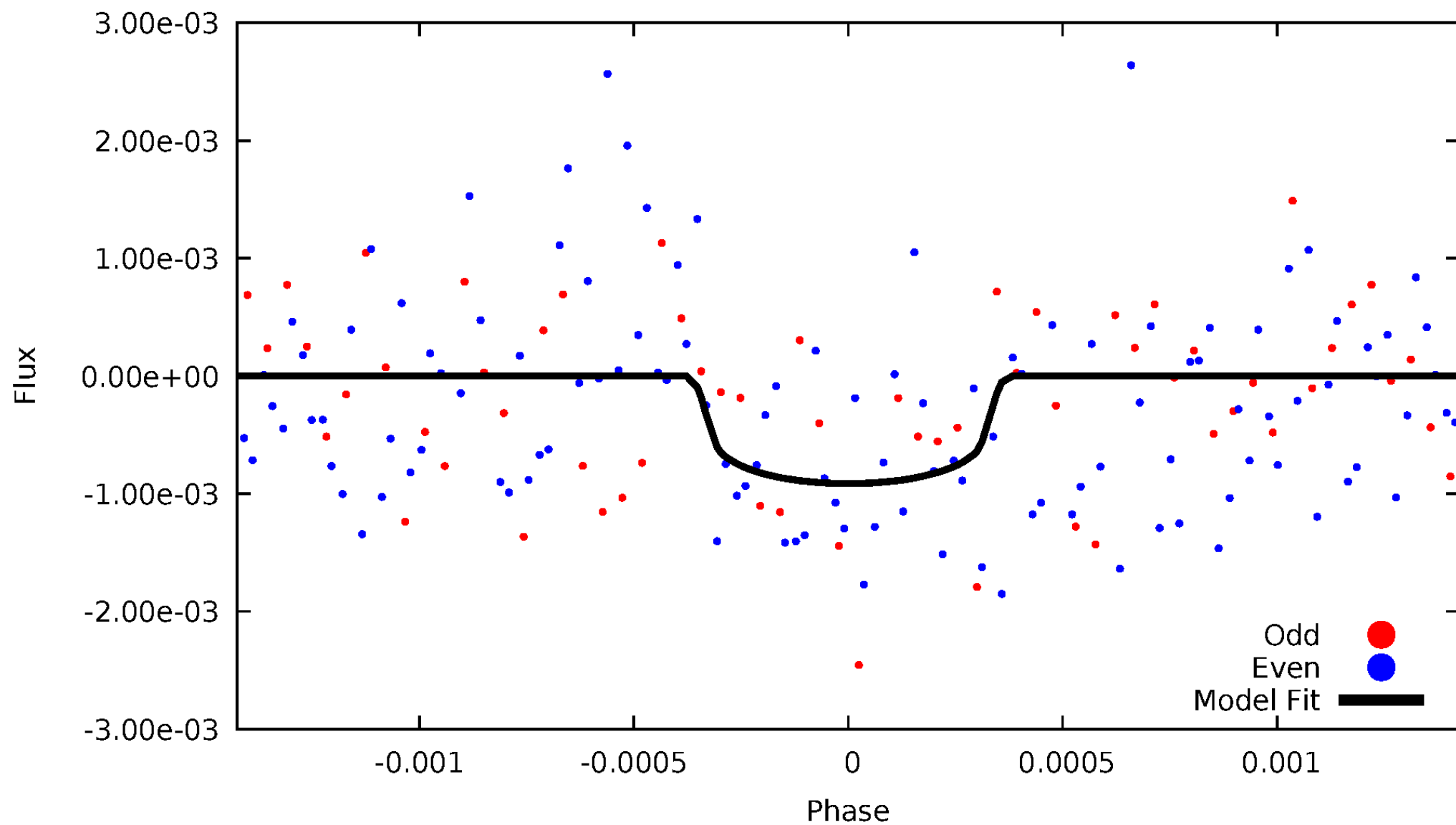


TCE 007871315-01



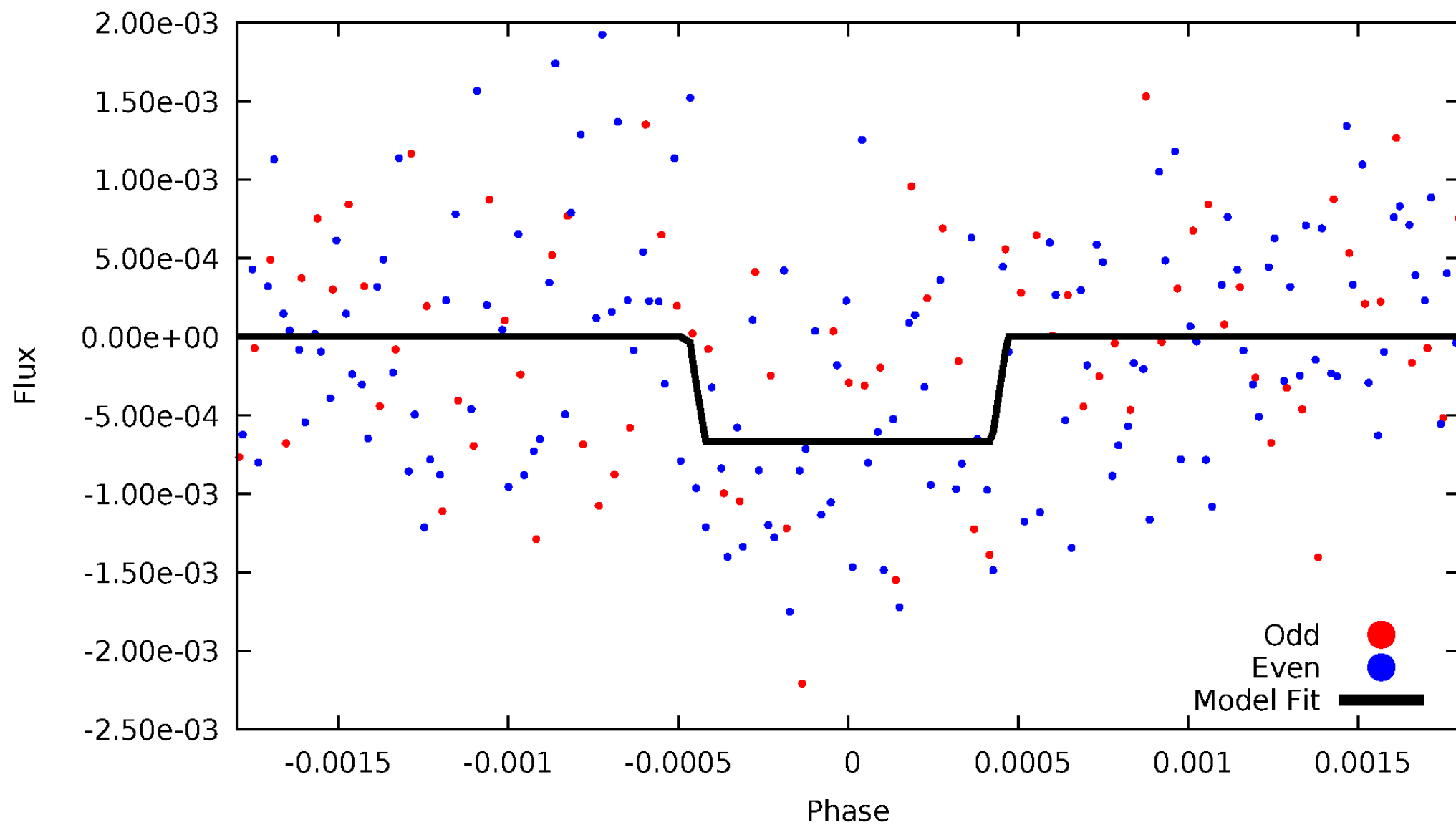
DV Odd/Even

TCE 007871315-01



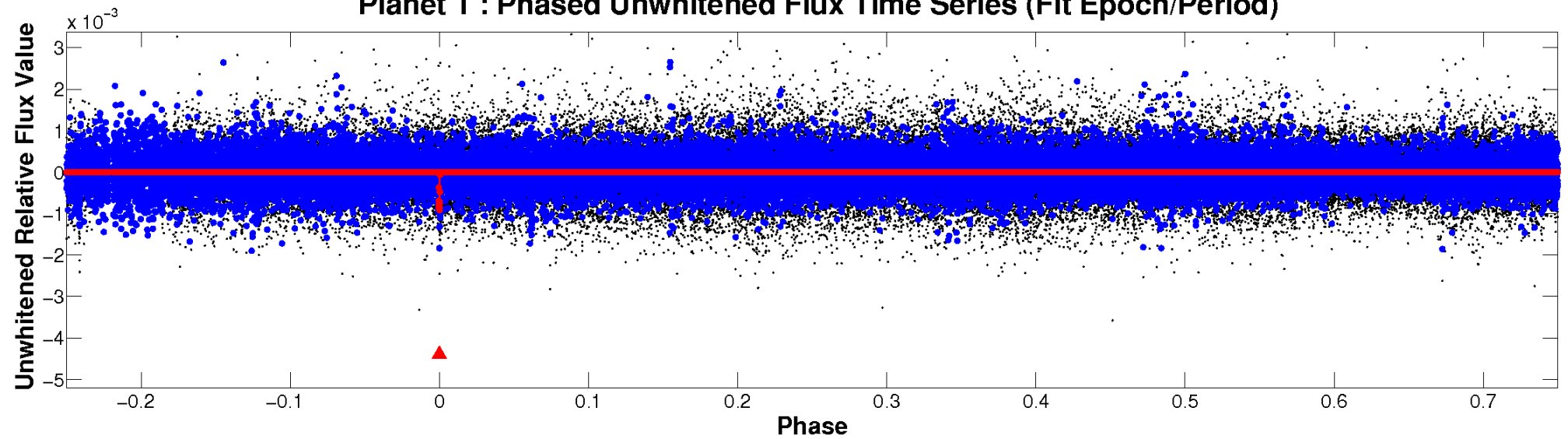
ALT Odd/Even

TCE 007871315-01

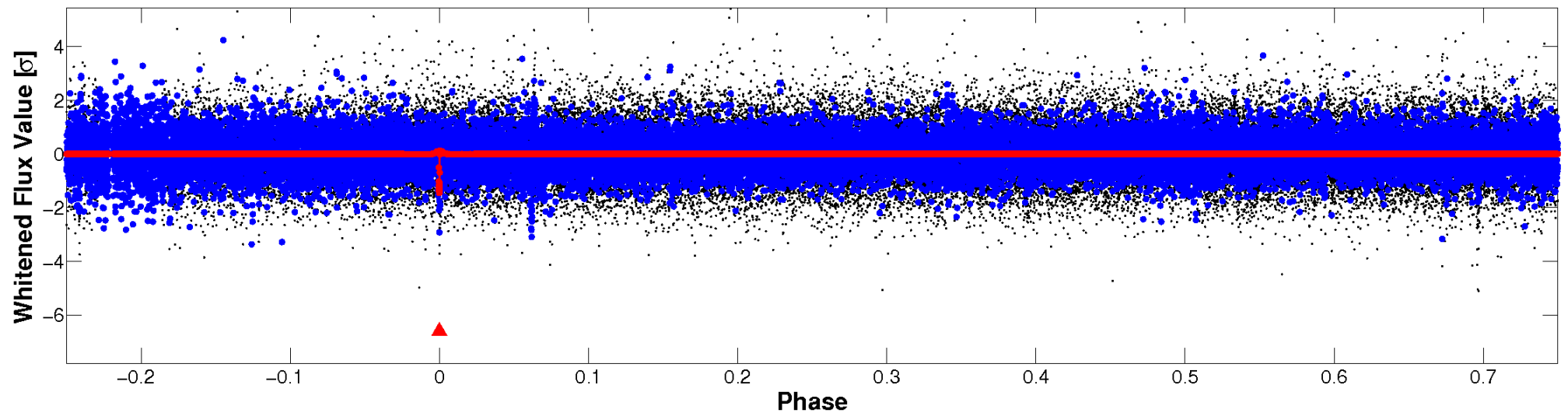


Non-Whitened Vs. Whitened Light Curve

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

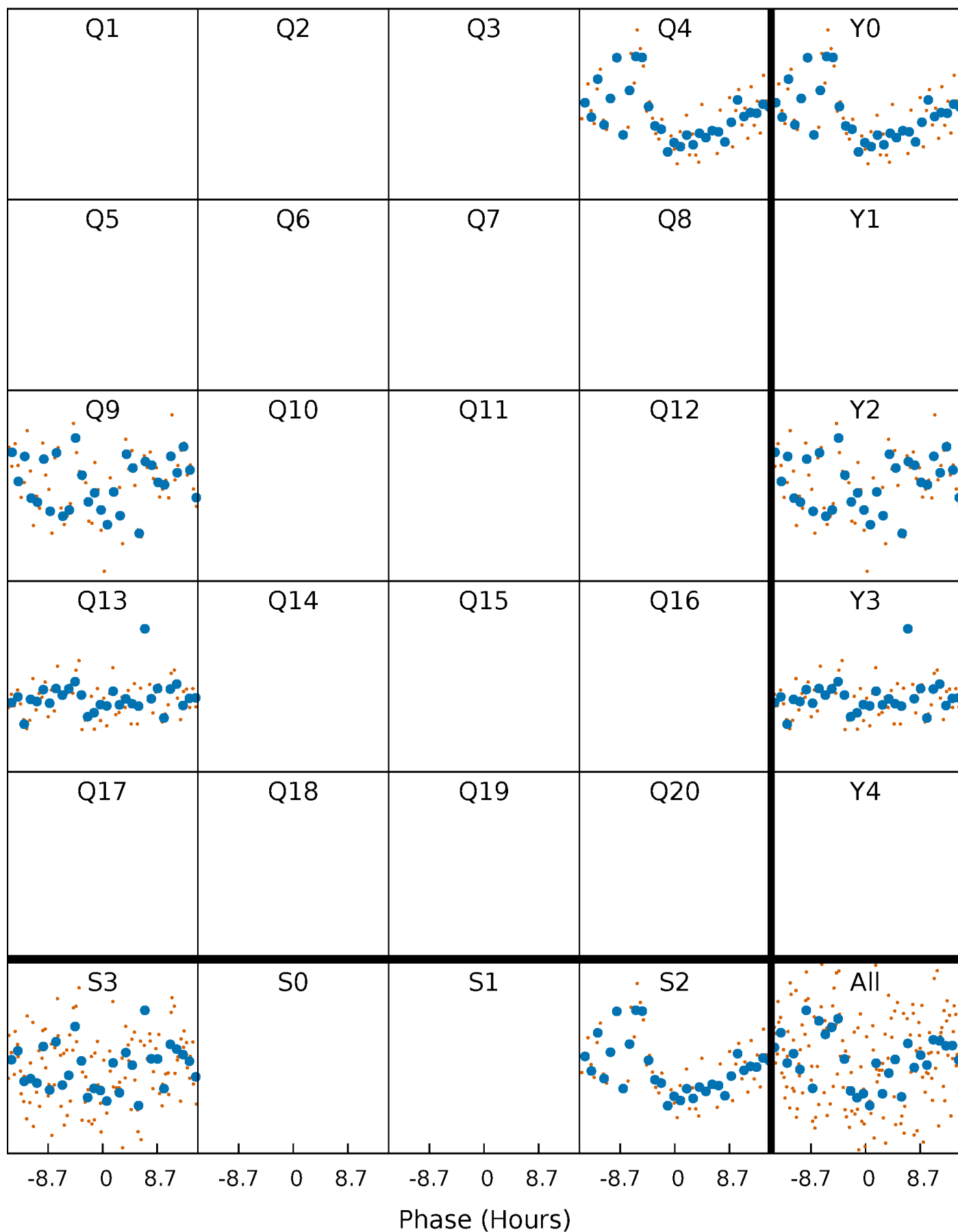


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



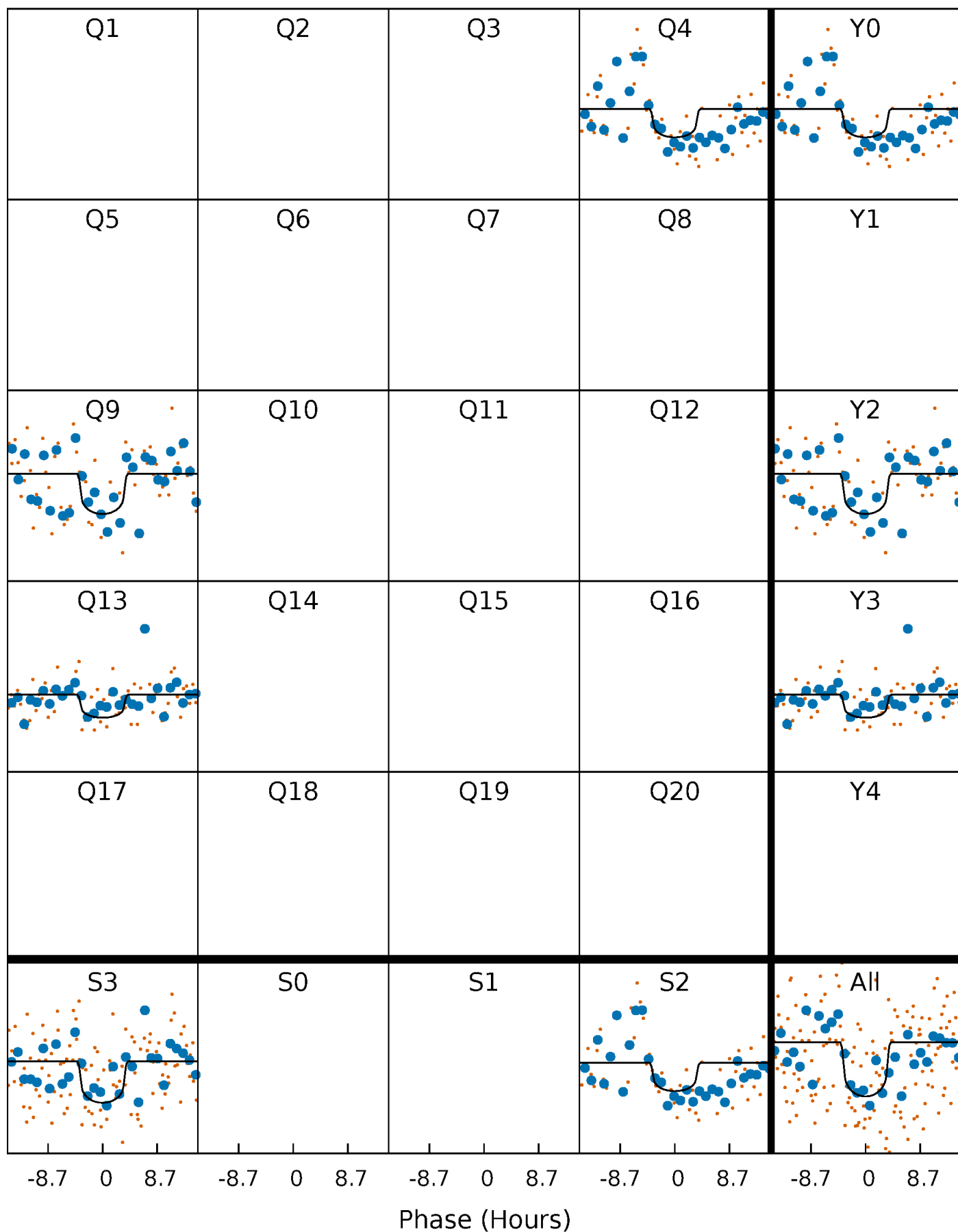
PDC Quarter-Phased Transit Curves

TCE 007871315-01 P=444.294240 Days $T_0=373.672370$ (BKJD)



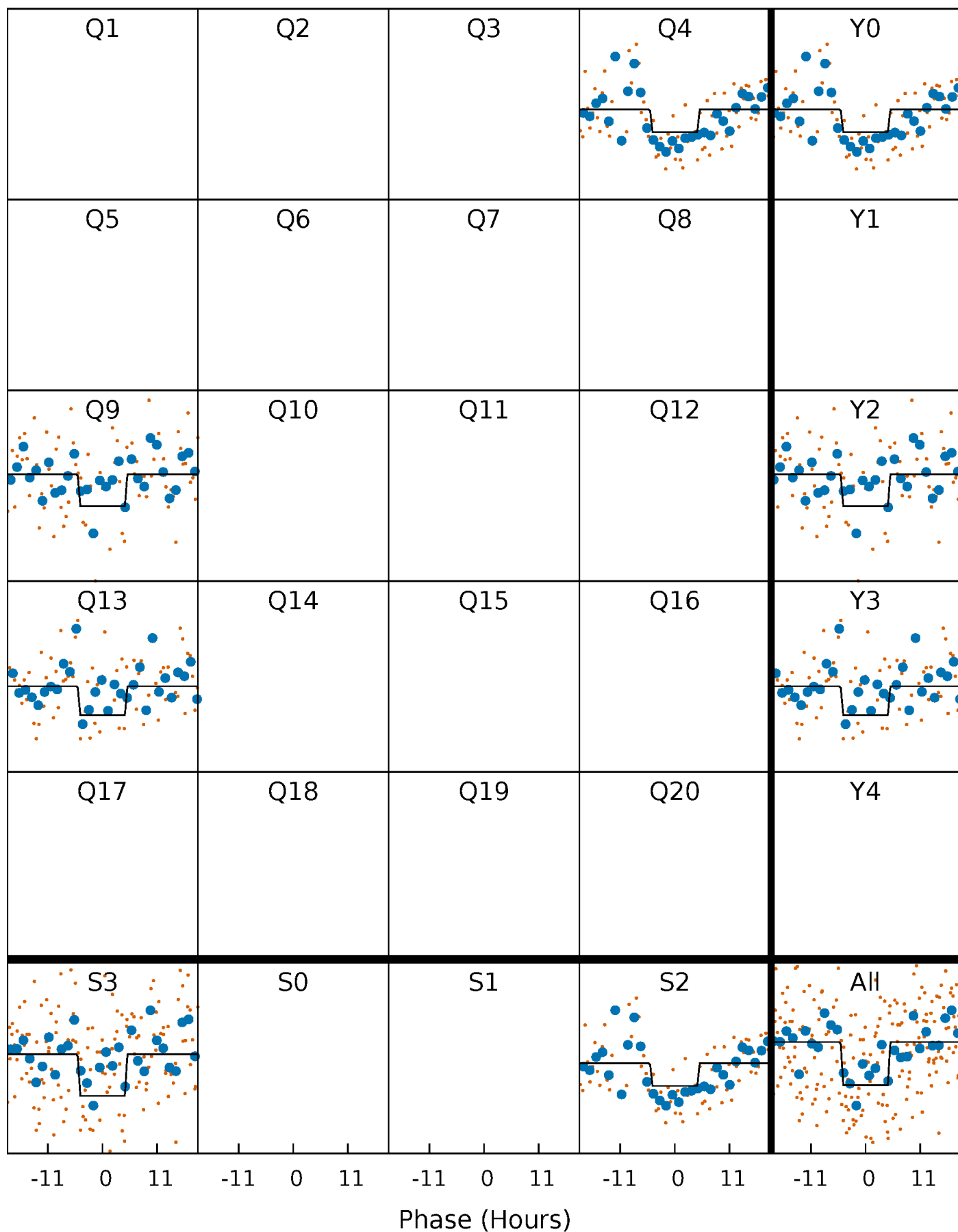
DV Quarter-Phased Transit Curves

TCE 007871315-01 P=444.294240 Days $T_0=373.672370$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

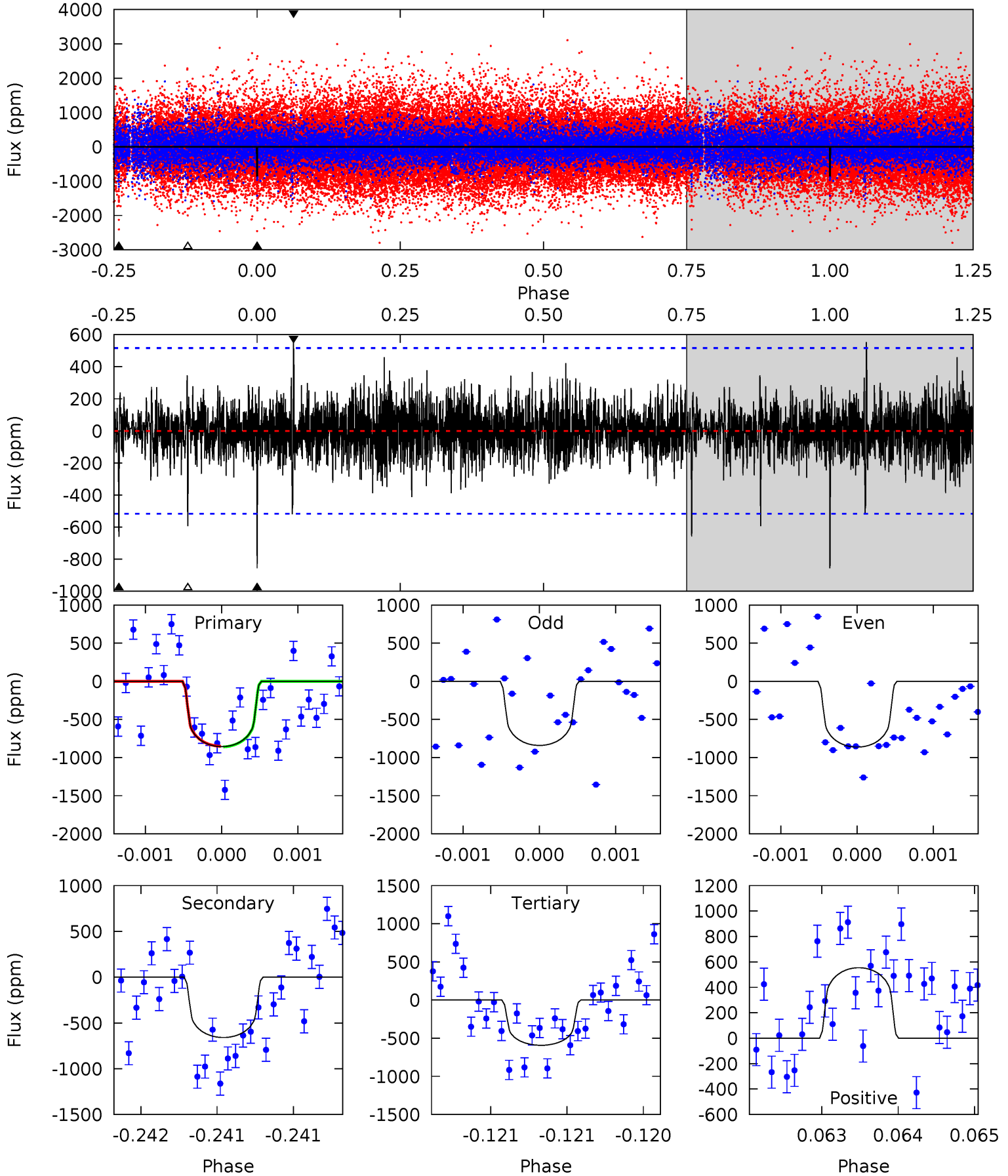
TCE 007871315-01 P=444.273273 Days $T_0=373.764679$ (BKJD)



DV Model-Shift Uniqueness Test

007871315-01, P = 444.294240 Days, E = 373.672370 Days

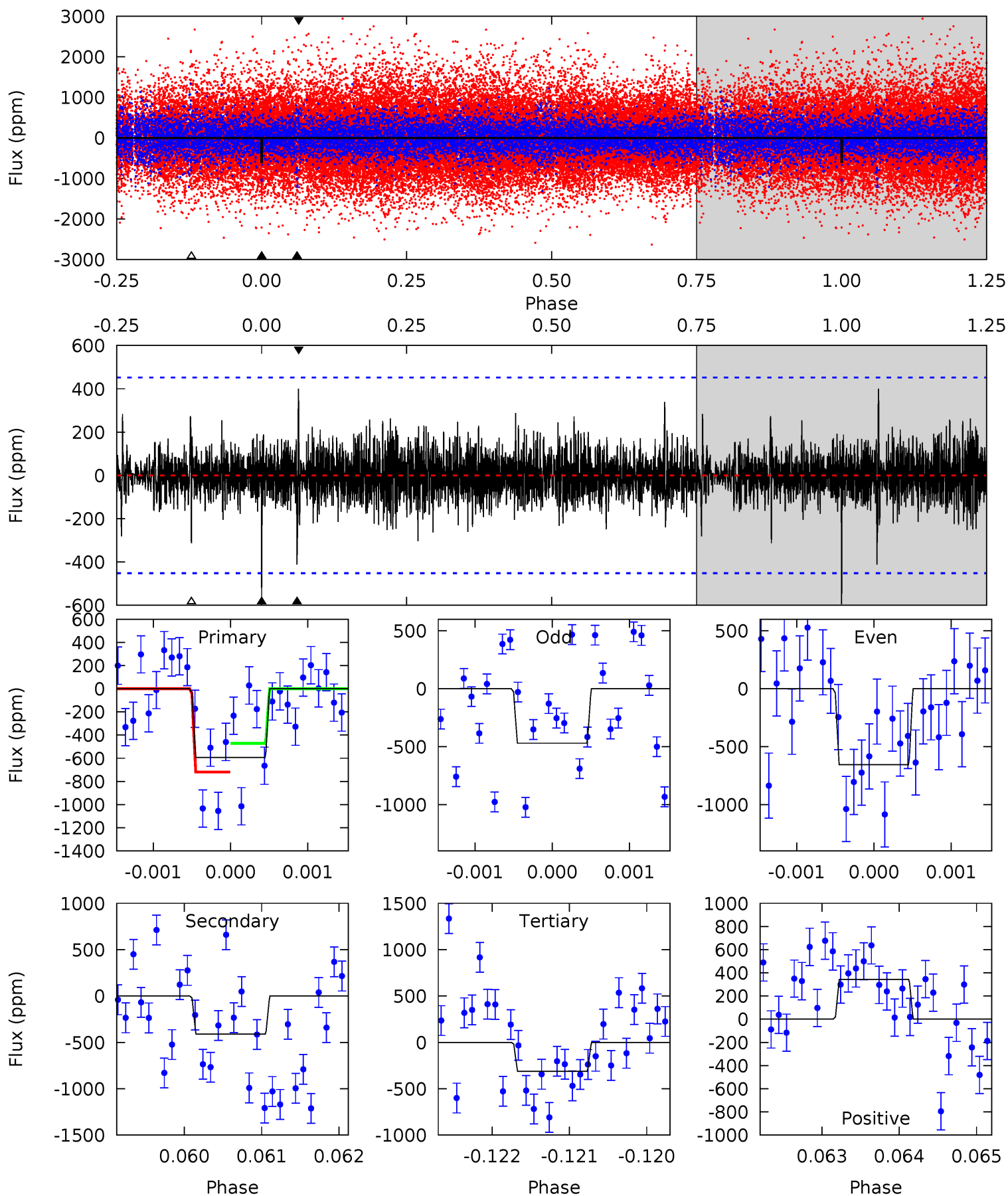
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.13	7.03	6.32	5.91	5.51	3.38	1.22	2.81	3.22	0.71	1.12	0.11	1.02	0.39	0.04



Alt Model-Shift Uniqueness Test

007871315-01, P = 444.273273 Days, E = 373.764679 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.18	4.98	3.79	4.16	5.46	3.31	0.93	3.39	3.02	1.19	0.81	1.05	1.28	0.40	1.51



Stellar Parameters For KIC 007871315

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5657^{+186}_{-186}	$4.543^{+0.044}_{-0.176}$	$-0.140^{+0.300}_{-0.300}$	$0.847^{+0.233}_{-0.078}$	$0.915^{+0.104}_{-0.104}$	$2.119^{+0.506}_{-1.006}$
	+3%/-3%	+1%/-4%	+214%/-214%	+28%/-9%	+11%/-11%	+24%/-47%
Source	KIC0	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 007871315-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-659 ± 94	$3.17^{+2.20}_{-1.87}$	311^{+21}_{-15}	5096^{+3027}_{-1008}	$44300^{+209255}_{-29860}$
Alt.	-412 ± 83	$2.91^{+2.32}_{-1.75}$	312^{+21}_{-15}	4739^{+2537}_{-935}	$31227^{+166595}_{-21521}$

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 $A_{obs} \gg 1.0$

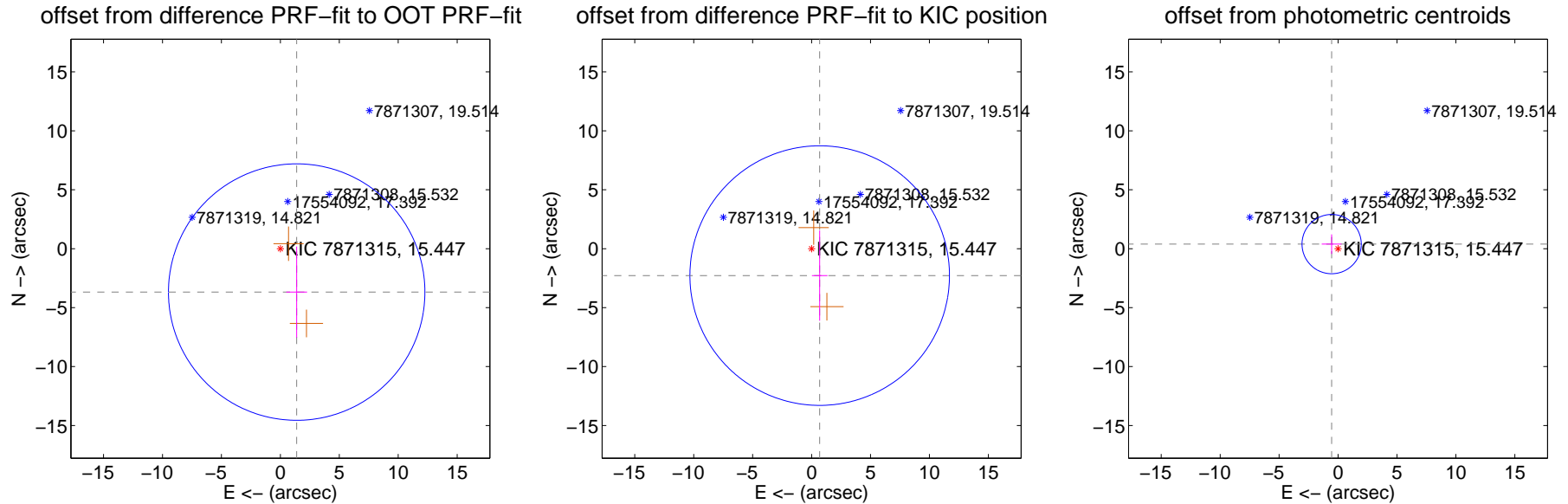
DV Centroid Data

Supplemental centroid analysis for 007871315-01. Kepler magnitude: 15.45. Transit SNR 7.97

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.69 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.933 ± 3.626	1.08	-1.385 ± 0.885	-3.681 ± 3.860
PRF-fit source offset from KIC position	2.384 ± 3.670	0.65	-0.689 ± 0.657	-2.282 ± 3.828
photometric centroid source offset	0.67 ± 0.84	0.80	0.54 ± 0.84	0.39 ± 0.83



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.

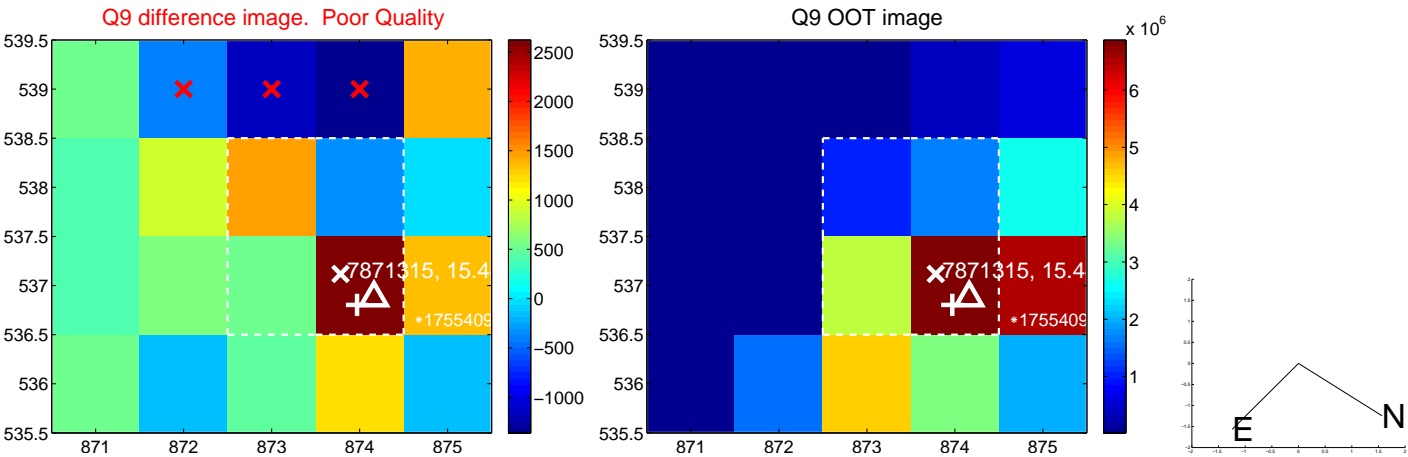
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



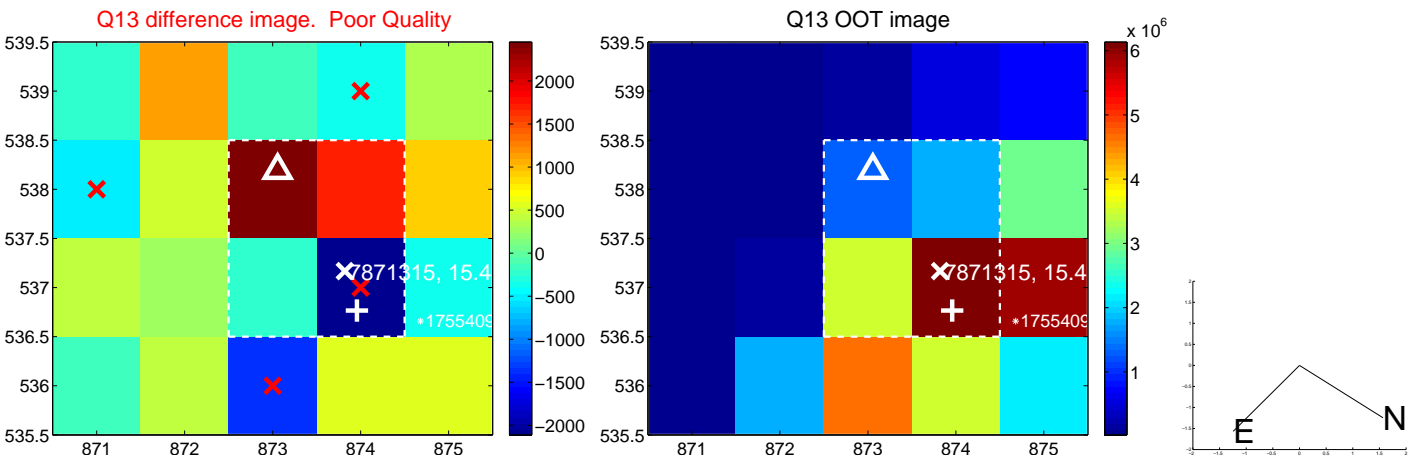
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



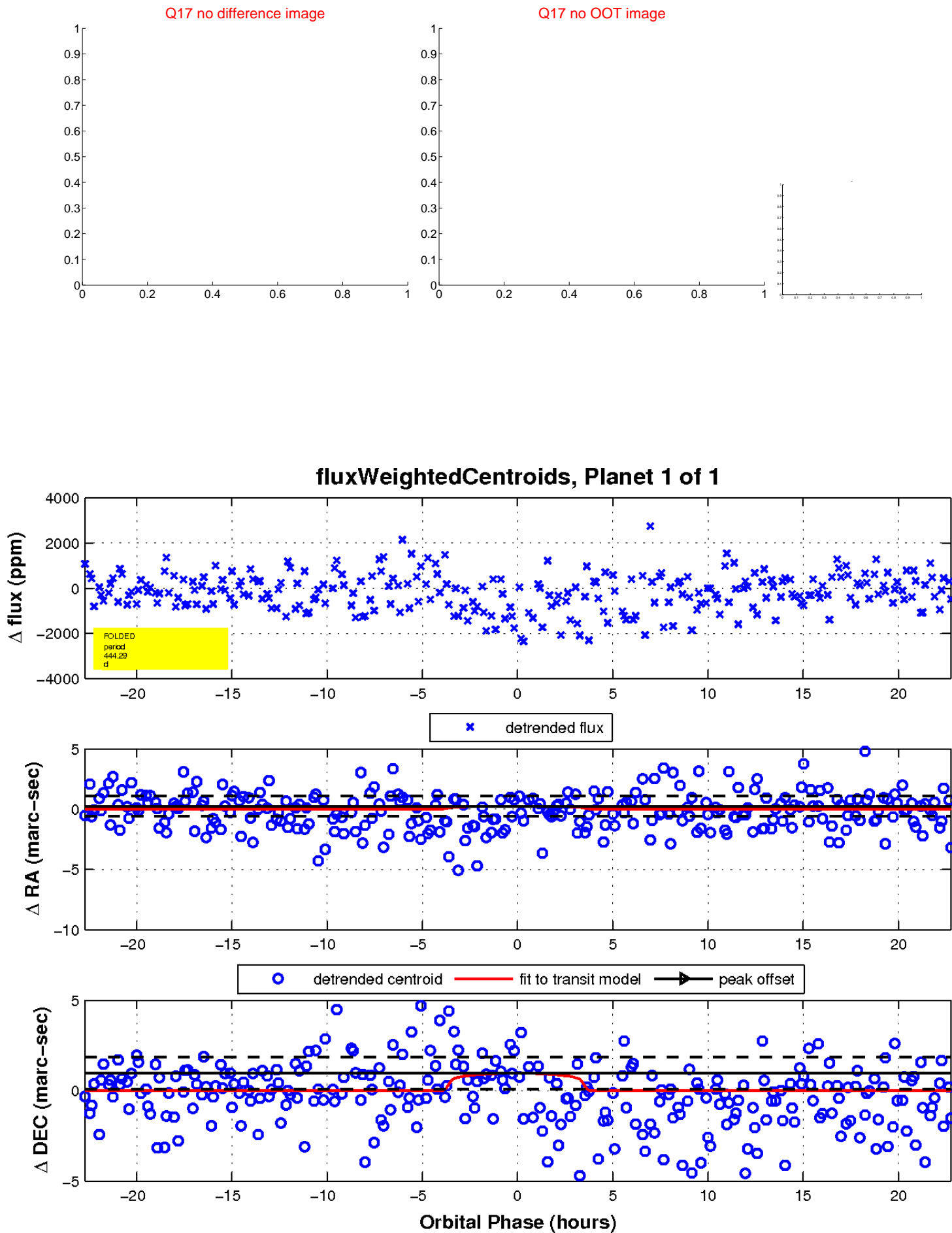
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

