

KIC 012110876

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})
012110876-01	OBS	No	625.715700	271.421156	655.2	6.575	7.4	7.1	2.08	5112	6.02	1.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012110876-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—MOD_NONUNIQ_ALT—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.

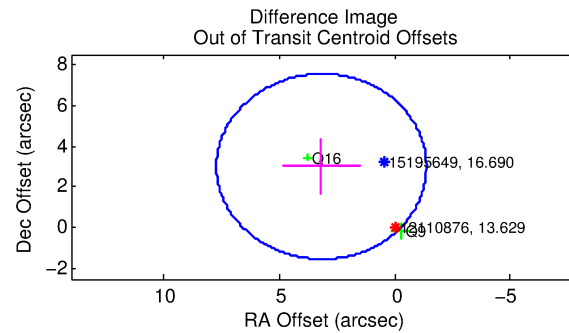
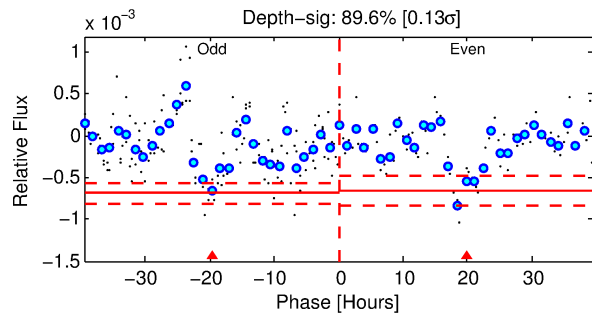
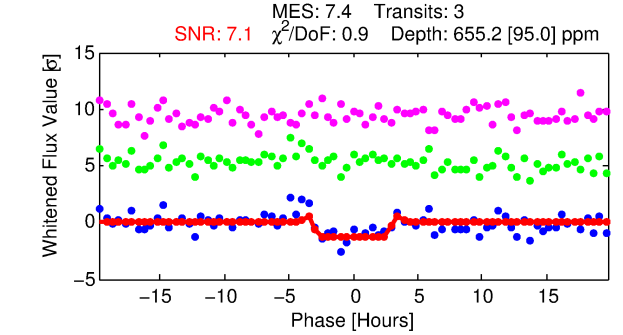
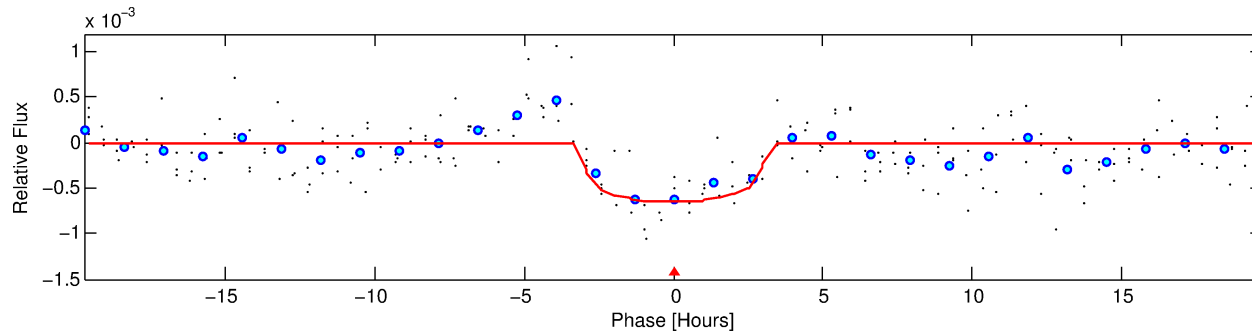
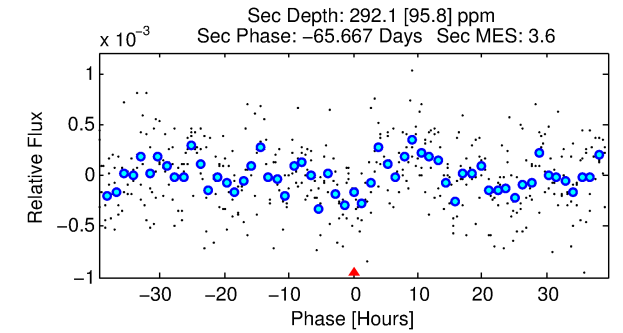
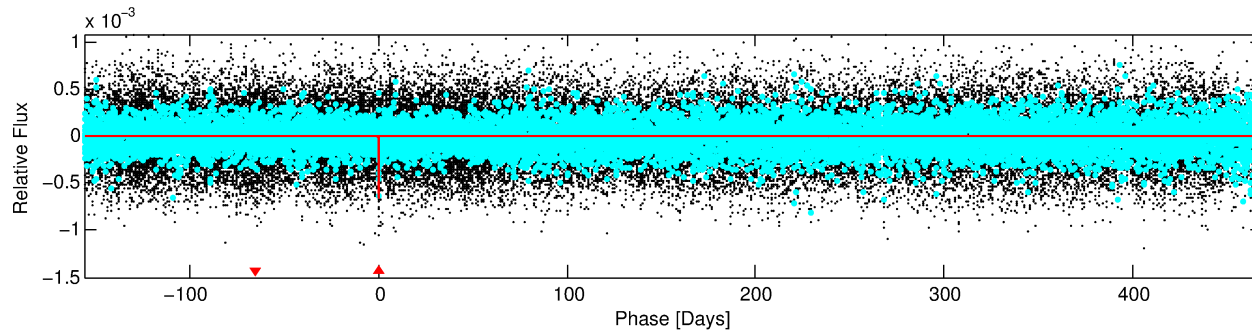
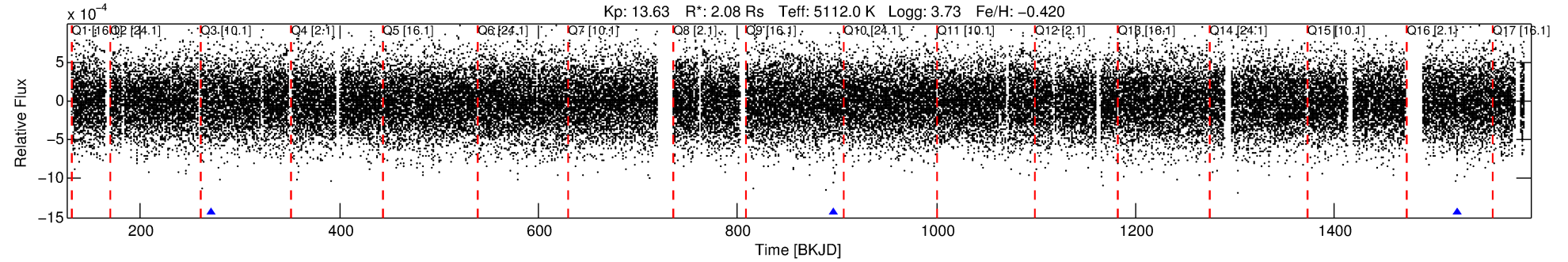
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012110876-01

No Significant Match Found

DV One-Page Summary

KIC: 12110876 Candidate: 1 of 1 Period: 625.716 d



DV Fit Results:

Period = 625.71570 [0.00893] d
Epoch = 271.4212 [0.0126] BKJD
Rp/R* = 0.0265 [0.0119]
a/R* = 446.12 [802.76]
b = 0.82 [0.71]
Seff = 1.45 [2.17]
Teff = 280 [105] K
Rp = 6.02 [5.20] Re
a = 1.3526 [1.1655] AU
Ag = 8120.83 [14444.44] [0.56 σ]
Teffp = 4104 [992] K [3.83 σ]

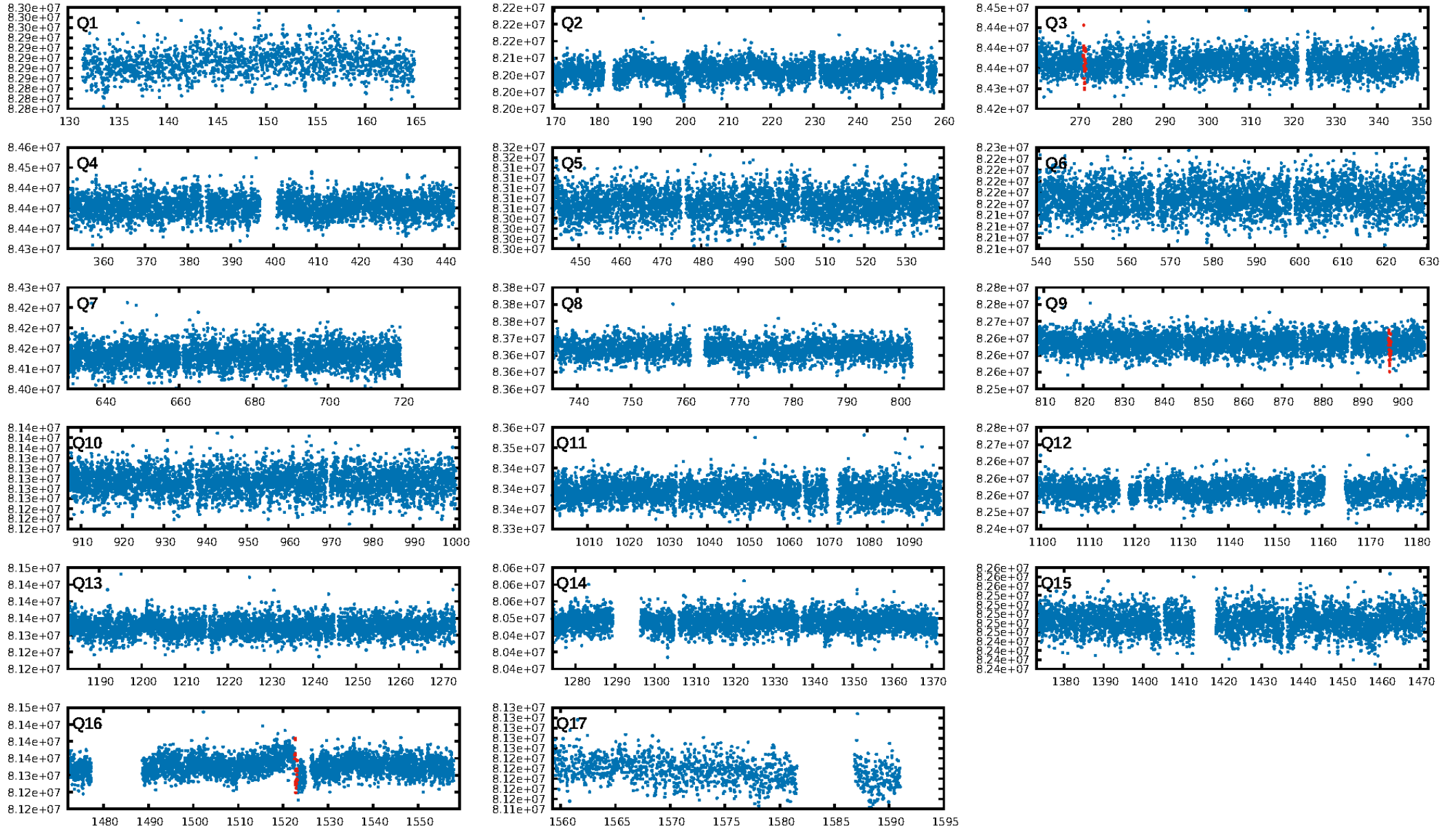
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 45.2%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.12e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.523
Centroid-sig: N/A
Centroid-so: 2.471 arcsec [2.45 σ]
OotOffset-rm: 4.367 arcsec [2.89 σ]
KicOffset-rm: 4.530 arcsec [1.78 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

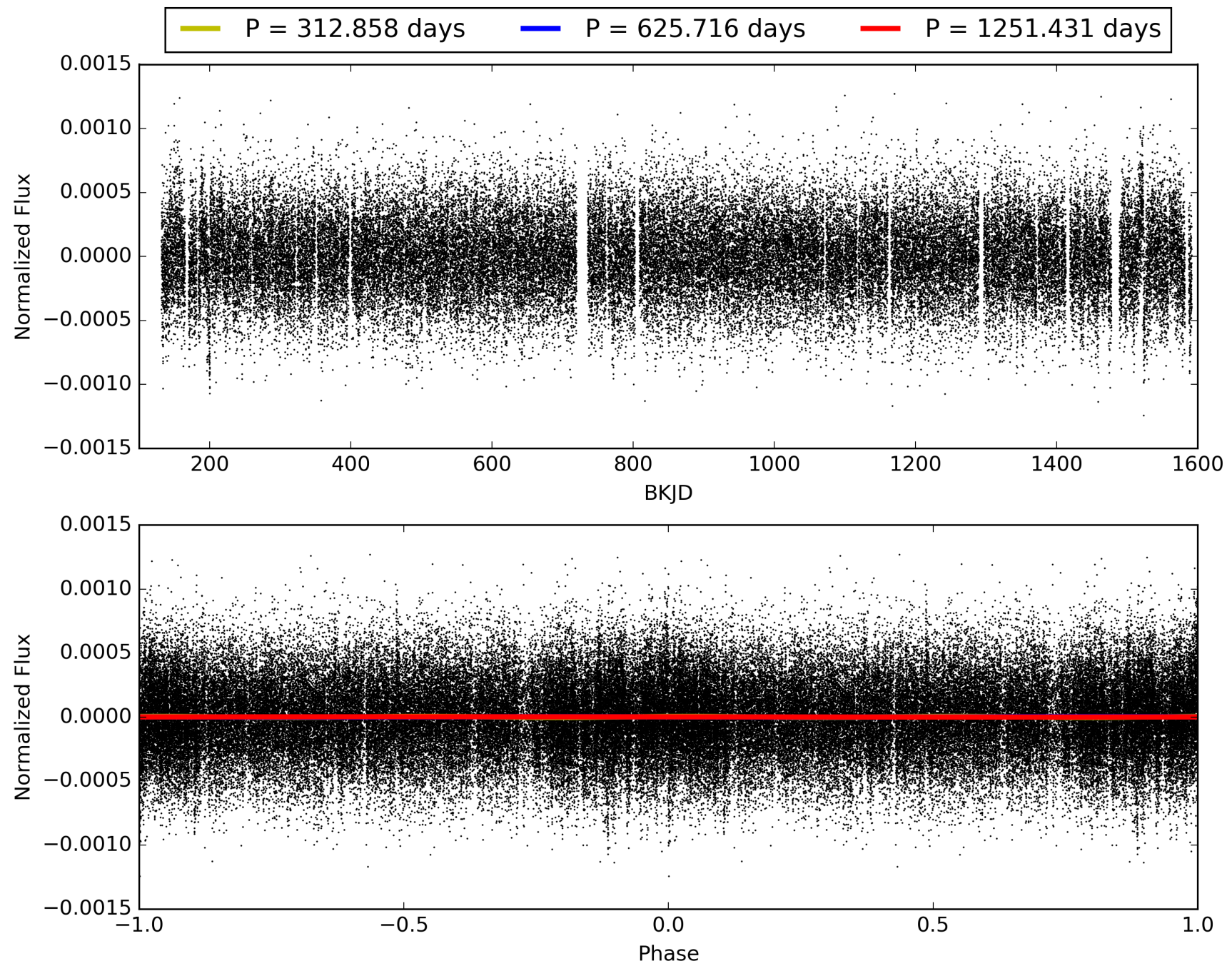
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:28:41 Z

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

TCE 012110876-01, PDC Light Curves

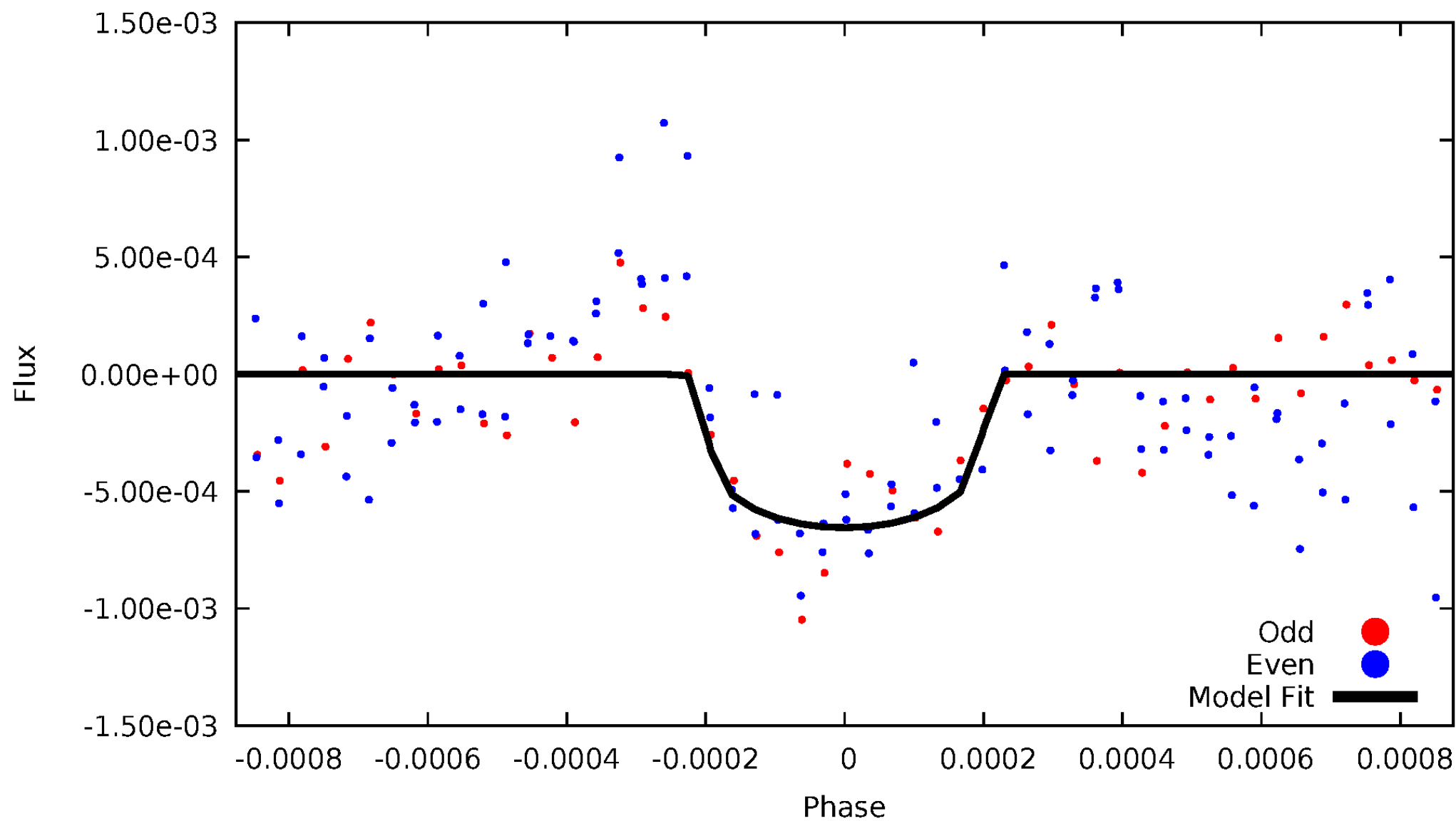


TCE 012110876-01



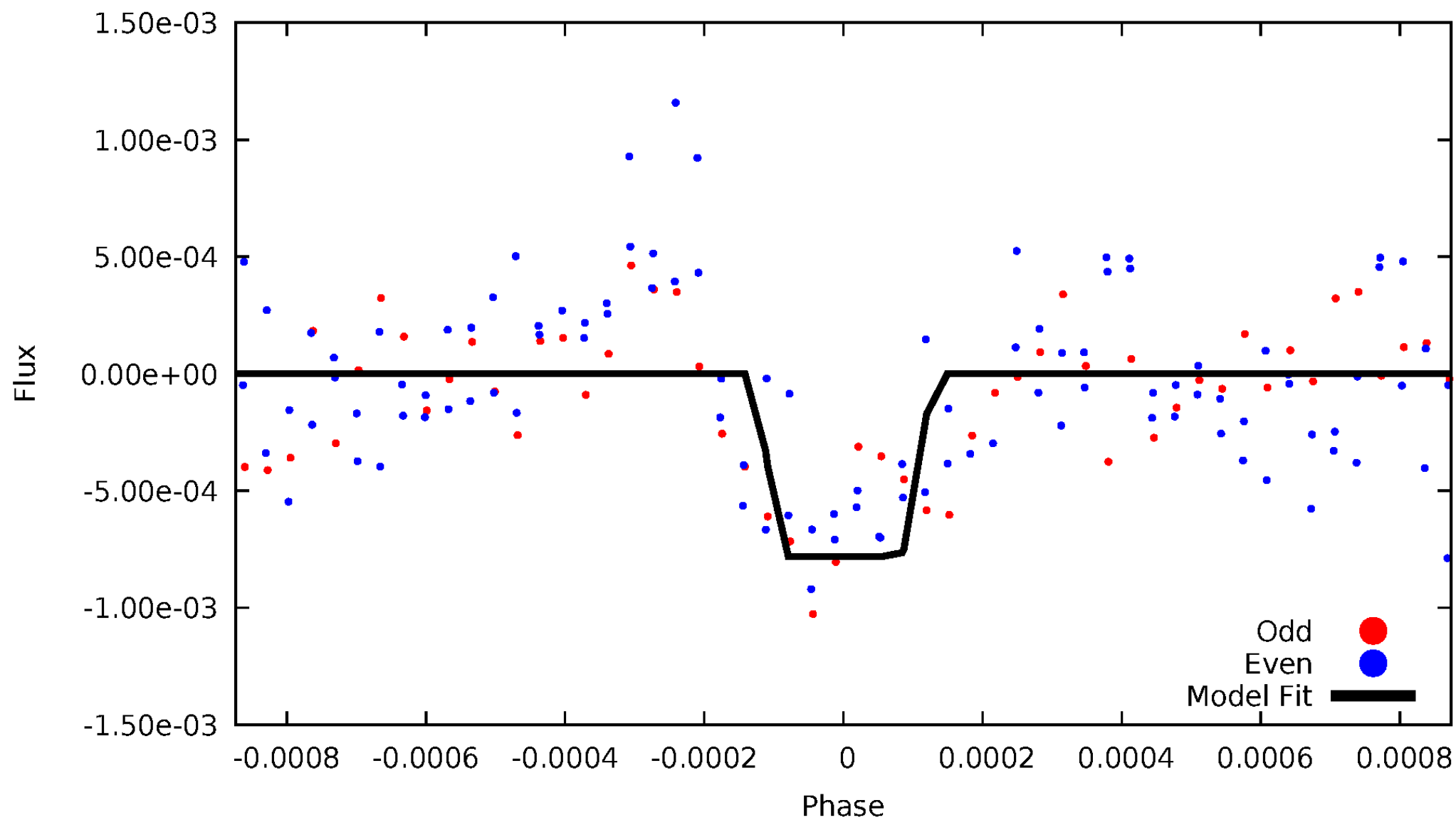
DV Odd/Even

TCE 012110876-01



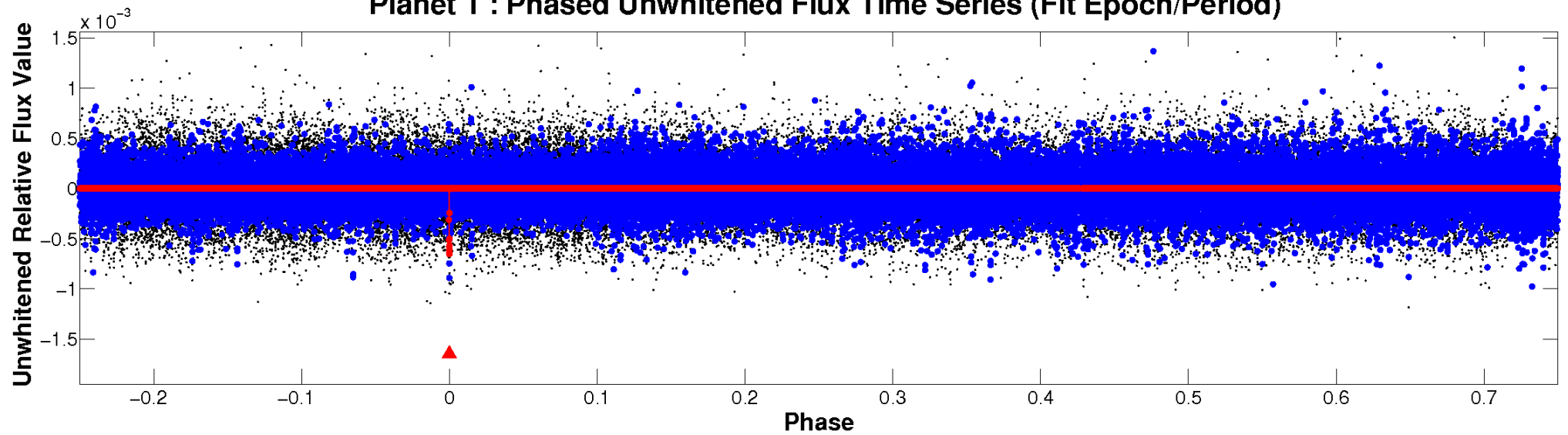
ALT Odd/Even

TCE 012110876-01

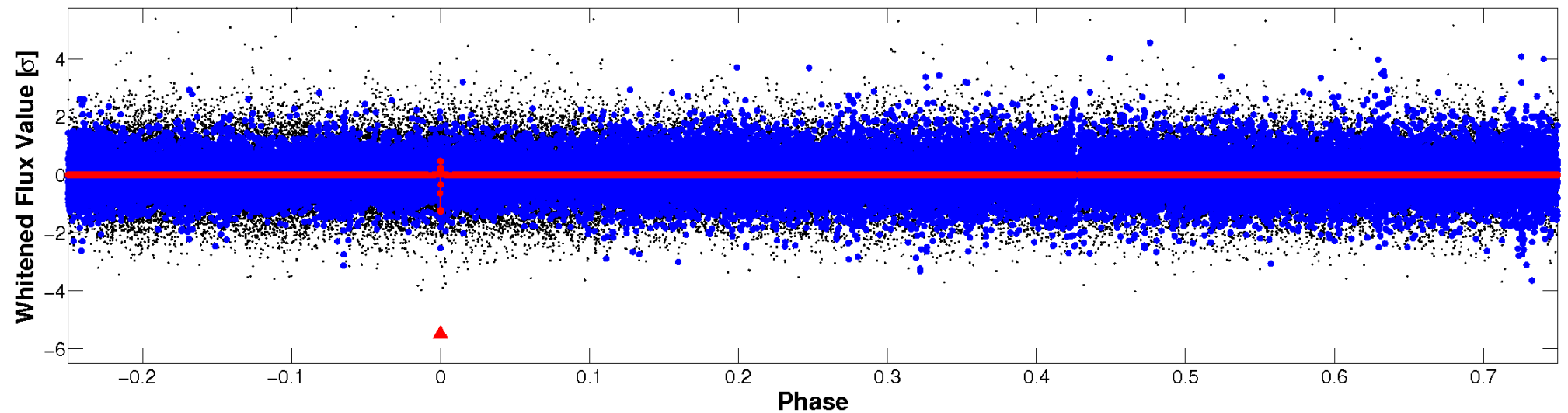


Non-Whitened Vs. Whitened Light Curve

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

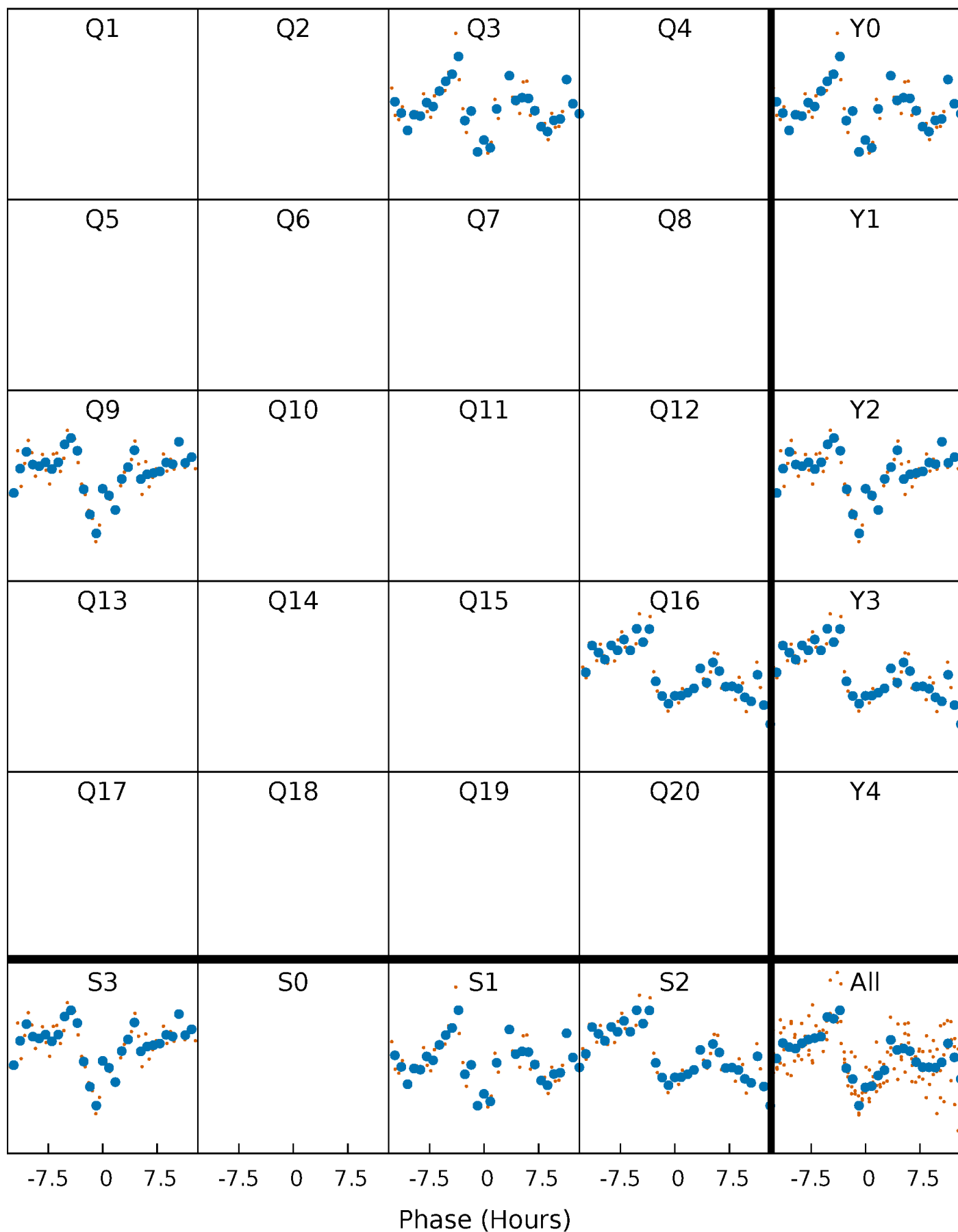


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



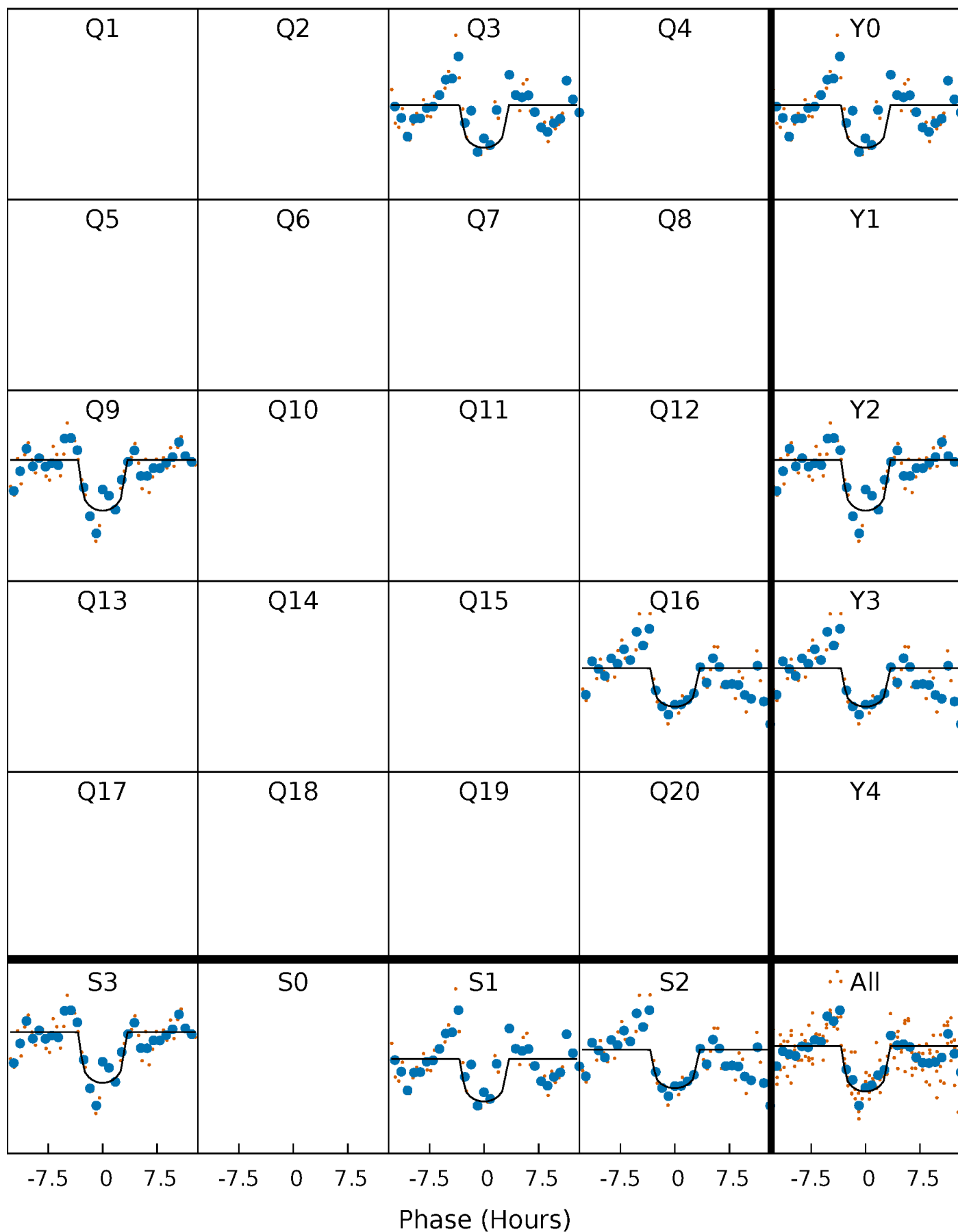
PDC Quarter-Phased Transit Curves

TCE 012110876-01 P=625.715700 Days $T_0=271.421156$ (BKJD)



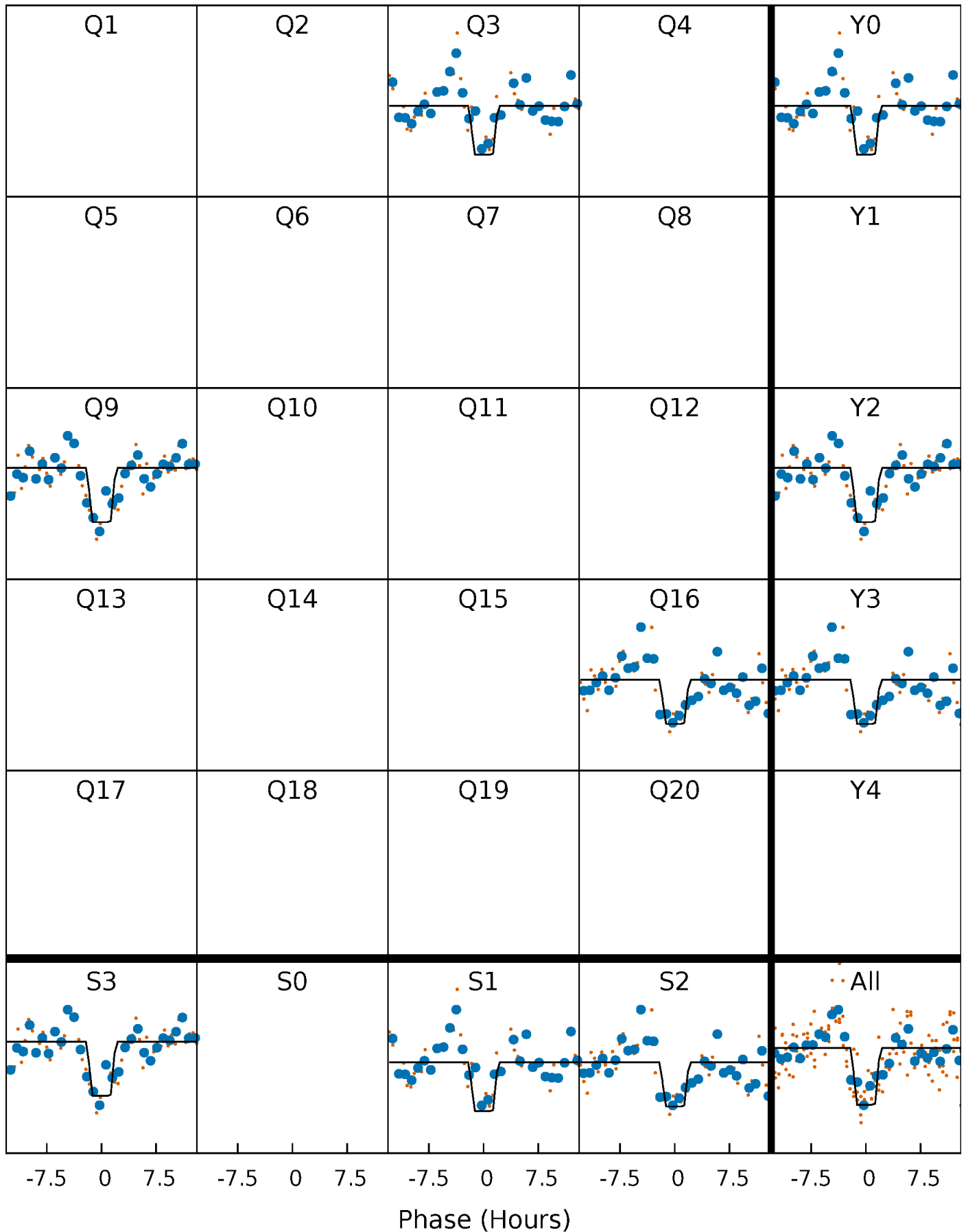
DV Quarter-Phased Transit Curves

TCE 012110876-01 P=625.715700 Days $T_0=271.421156$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

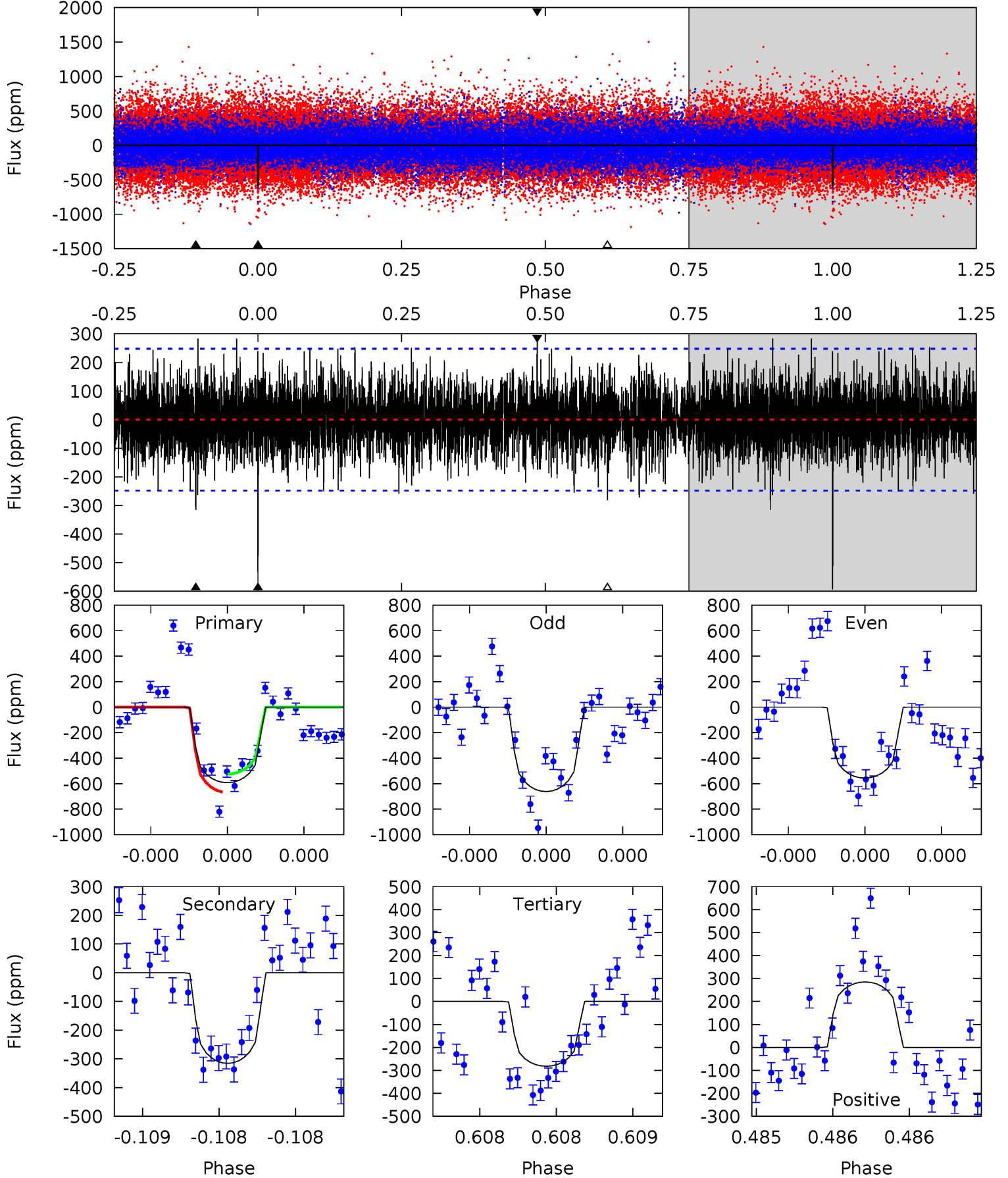
TCE 012110876-01 P=625.716474 Days $T_0=271.409117$ (BKJD)



DV Model-Shift Uniqueness Test

012110876-01, P = 625.715700 Days, E = 271.421156 Days

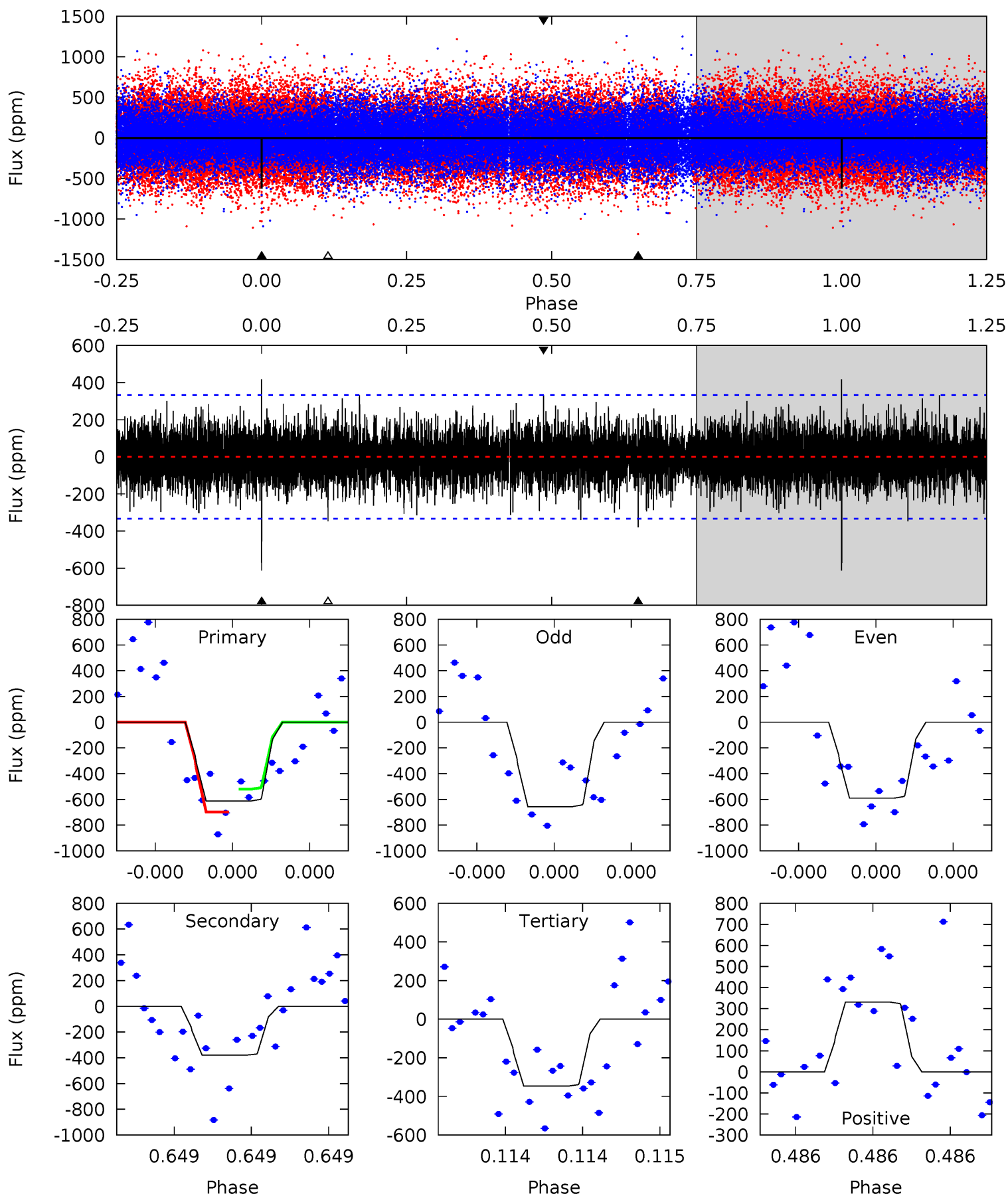
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	7.11	6.36	6.42	5.59	3.50	1.75	6.99	6.93	0.76	0.69	1.14	0.89	0.32	1.58



Alt Model-Shift Uniqueness Test

012110876-01, P = 625.716474 Days, E = 271.409117 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	6.49	5.93	5.67	5.71	3.68	1.51	4.55	4.81	0.56	0.82	0.53	0.93	0.40	1.51



Stellar Parameters For KIC 012110876

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5112^{+121}_{-166}	$3.728^{+0.922}_{-0.307}$	$-0.420^{+0.250}_{-0.350}$	$2.079^{+1.150}_{-1.533}$	$0.843^{+0.189}_{-0.189}$	$0.132^{+3.686}_{-0.093}$
	+2%/-3%	+25%/-8%	+60%/-83%	+55%/-74%	+22%/-22%	+2788%/-70%
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 012110876-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-316 ± 44	$5.39^{+3.65}_{-2.94}$	384^{+55}_{-82}	4313^{+1184}_{-544}	11084^{+41181}_{-7130}
Alt.	-379 ± 58	$5.77^{+3.76}_{-3.12}$	385^{+55}_{-82}	4431^{+1106}_{-577}	11226^{+40359}_{-7051}

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

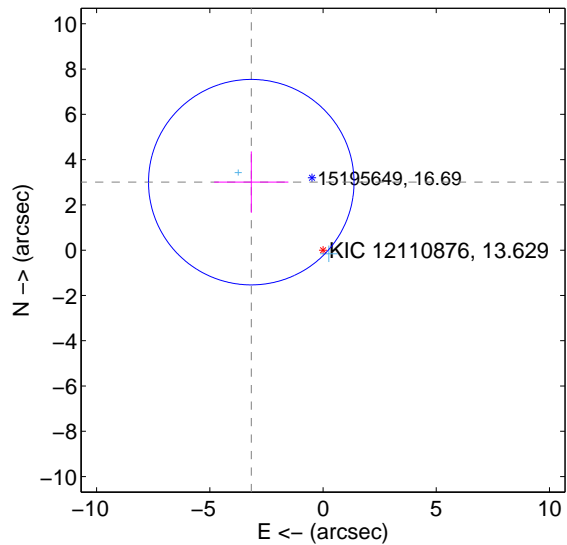
Supplemental centroid analysis for 012110876-01. Kepler magnitude: 13.63. Transit SNR 7.06

There are 2 quarters with good PRF difference image offsets

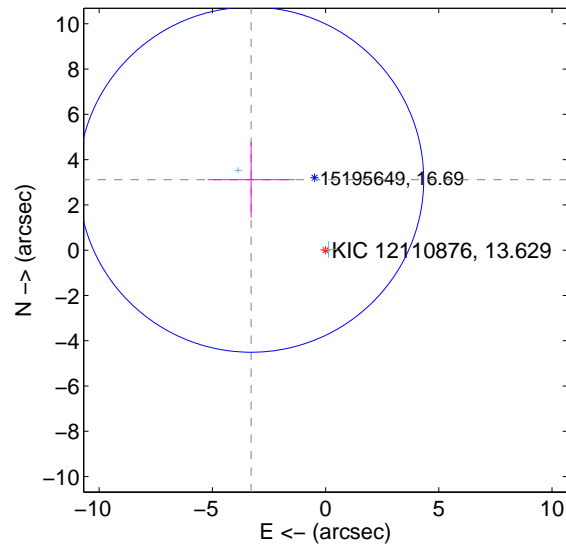
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.367 ± 1.513	2.89	3.169 ± 1.641	3.004 ± 1.355
PRF-fit source offset from KIC position	4.530 ± 2.541	1.78	3.290 ± 1.914	3.114 ± 1.675
photometric centroid source offset	2.47 ± 1.01	2.45	0.15 ± 0.80	2.47 ± 1.01

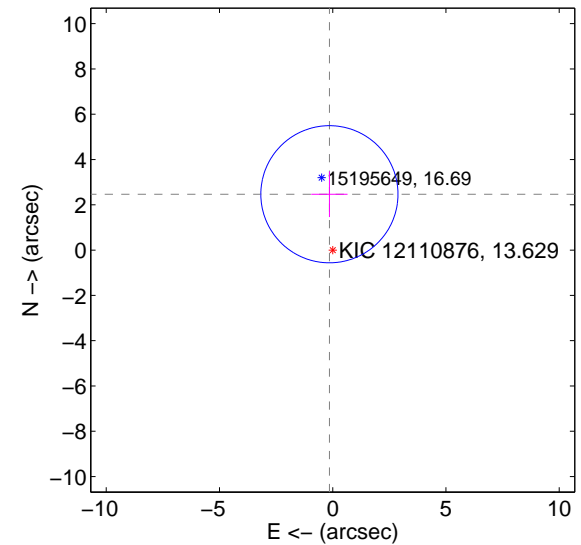
offset from difference PRF-fit to OOT PRF-fit



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.

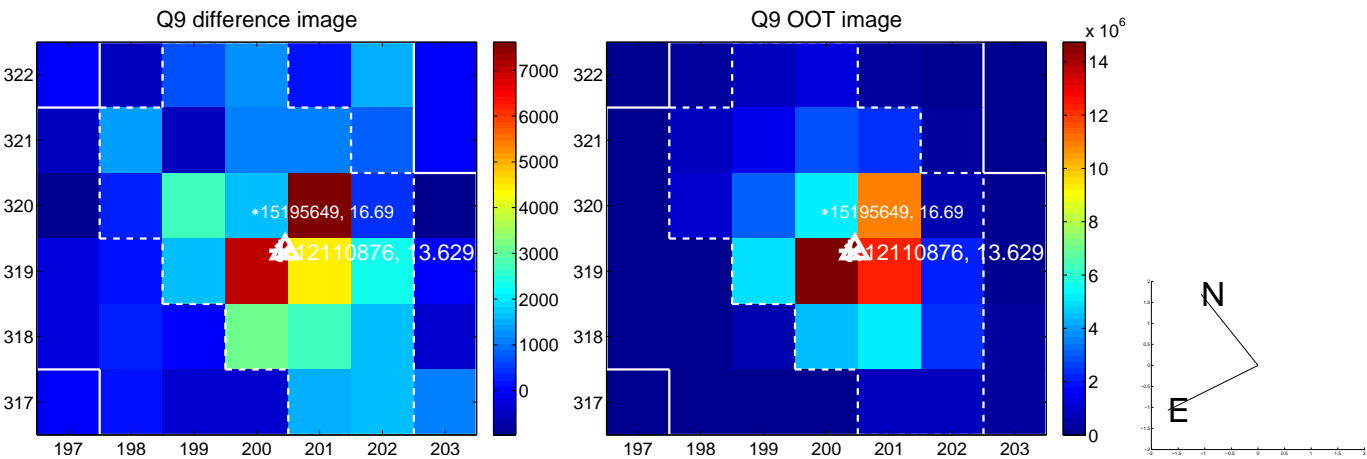
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



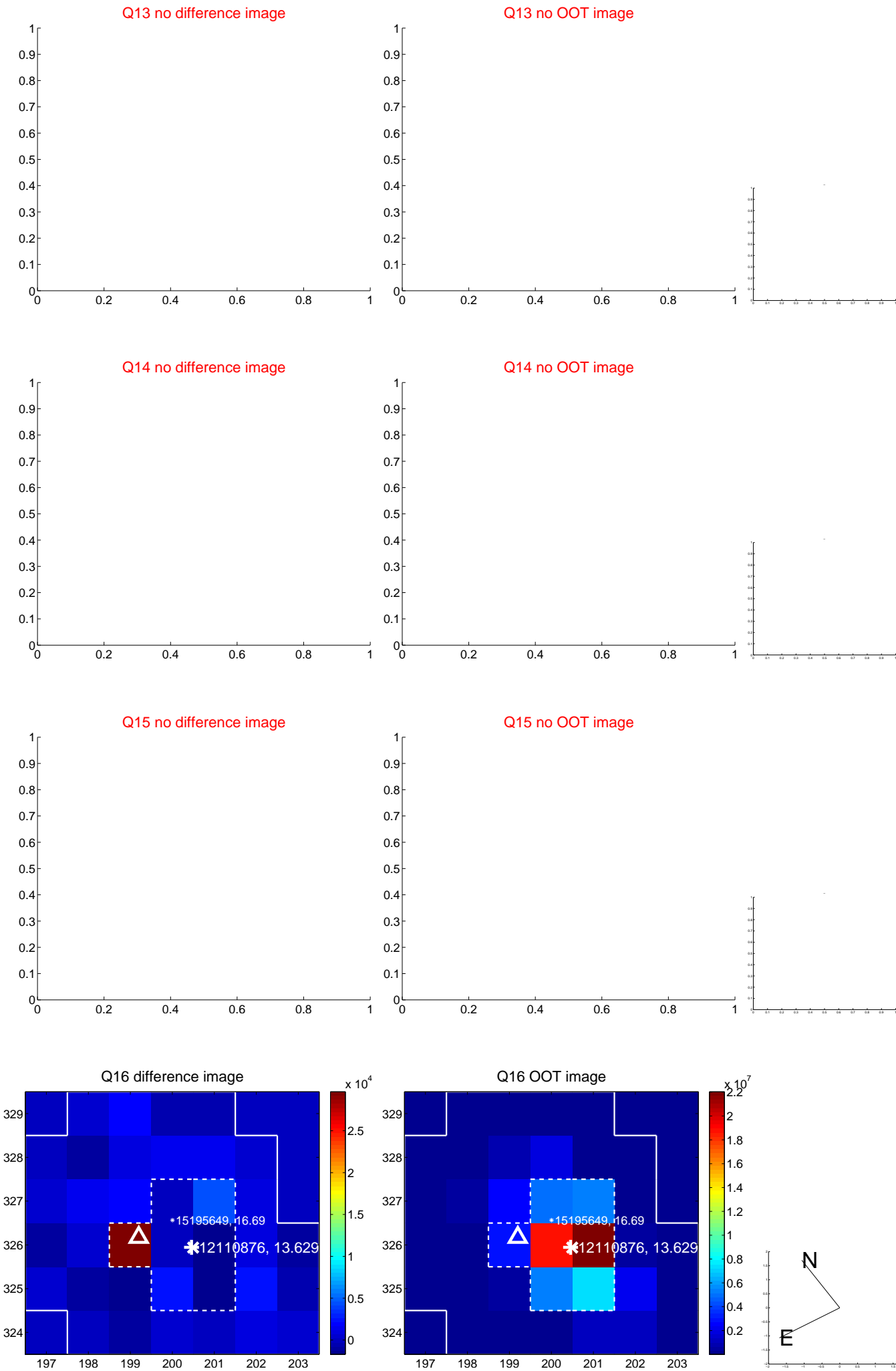
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



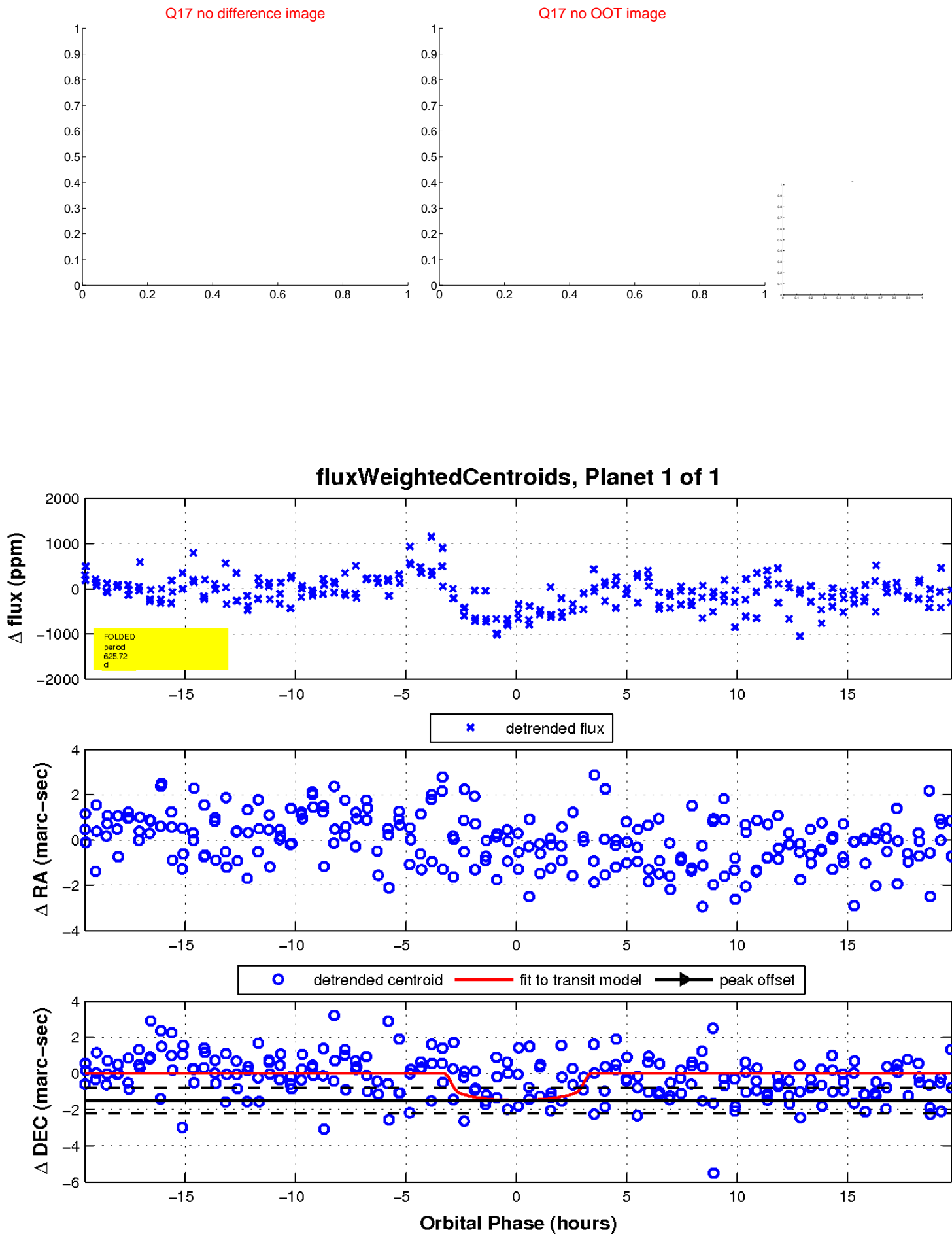
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

