

KIC 007522821

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})
007522821-01	OBS	No	323.282415	325.966949	582.3	14.884	10.3	10.1	1.02	5378	2.44	1.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007522821-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

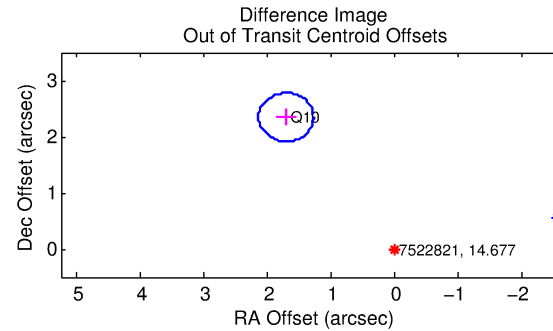
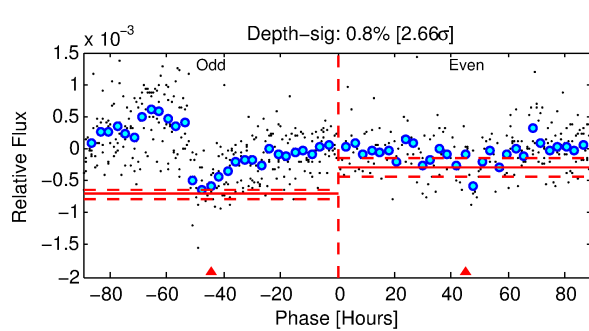
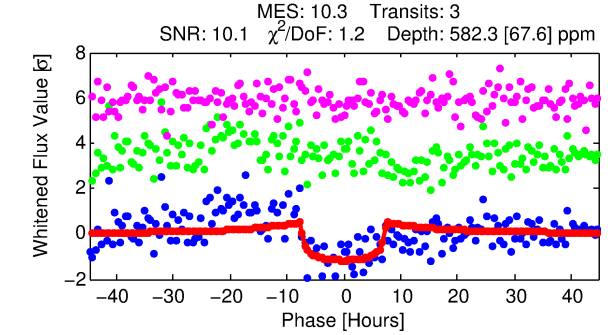
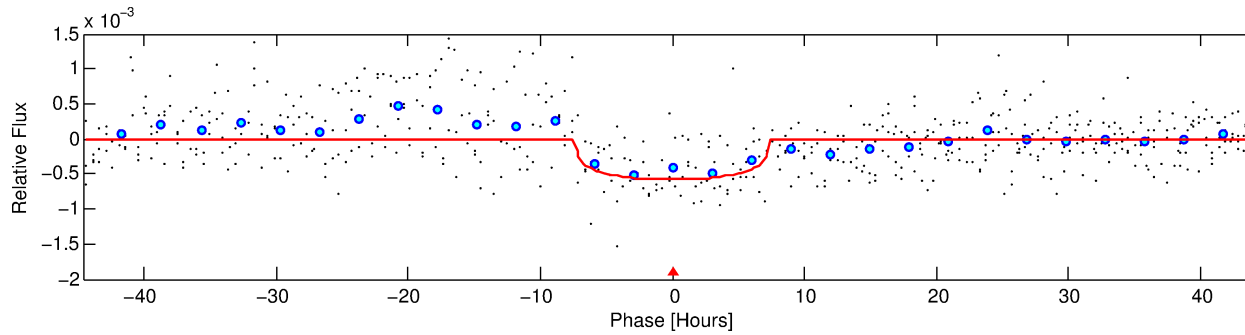
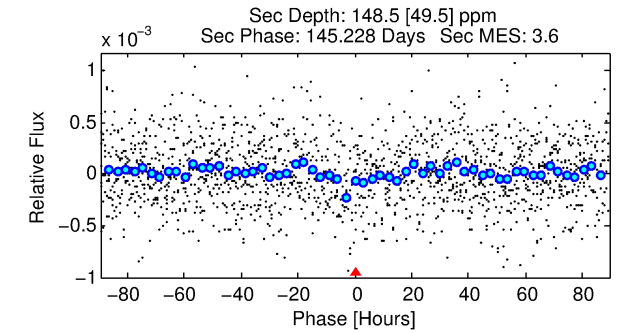
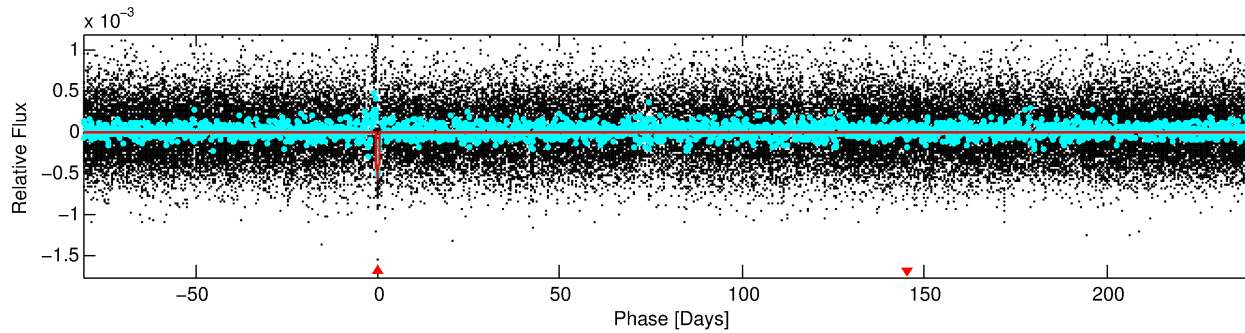
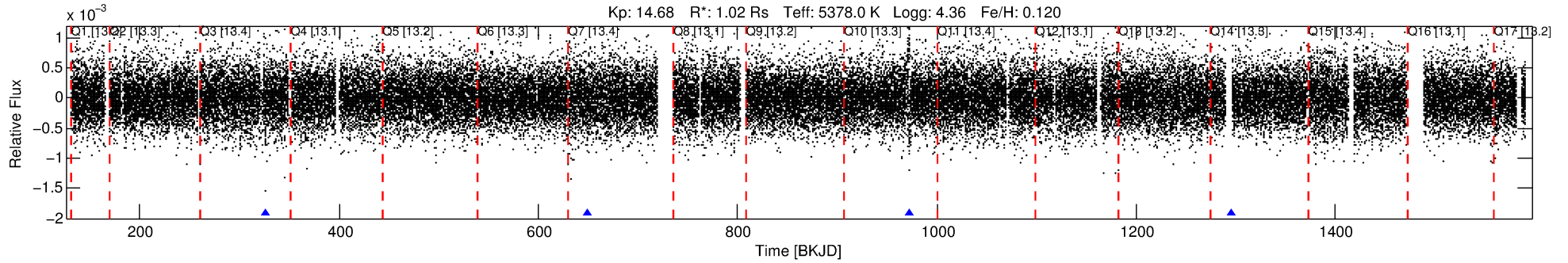
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007522821-01

No Significant Match Found

DV One-Page Summary

KIC: 7522821 Candidate: 1 of 1 Period: 323.282 d



DV Fit Results:

Period = 323.28242 [0.01224] d
Epoch = 325.9669 [0.0178] BKJD
Rp/R* = 0.0219 [0.0232]
a/R* = 161.92 [653.11]
b = 0.30 [12.14]
Seff = 1.01 [0.41]
eq = 256 [26] K
Rp = 2.44 [2.70] Re
a = 0.8791 [0.2323] AU
Ag = 10614.13 [23167.90] [0.46σ]
Teffp = 4014 [2160] K [1.74σ]

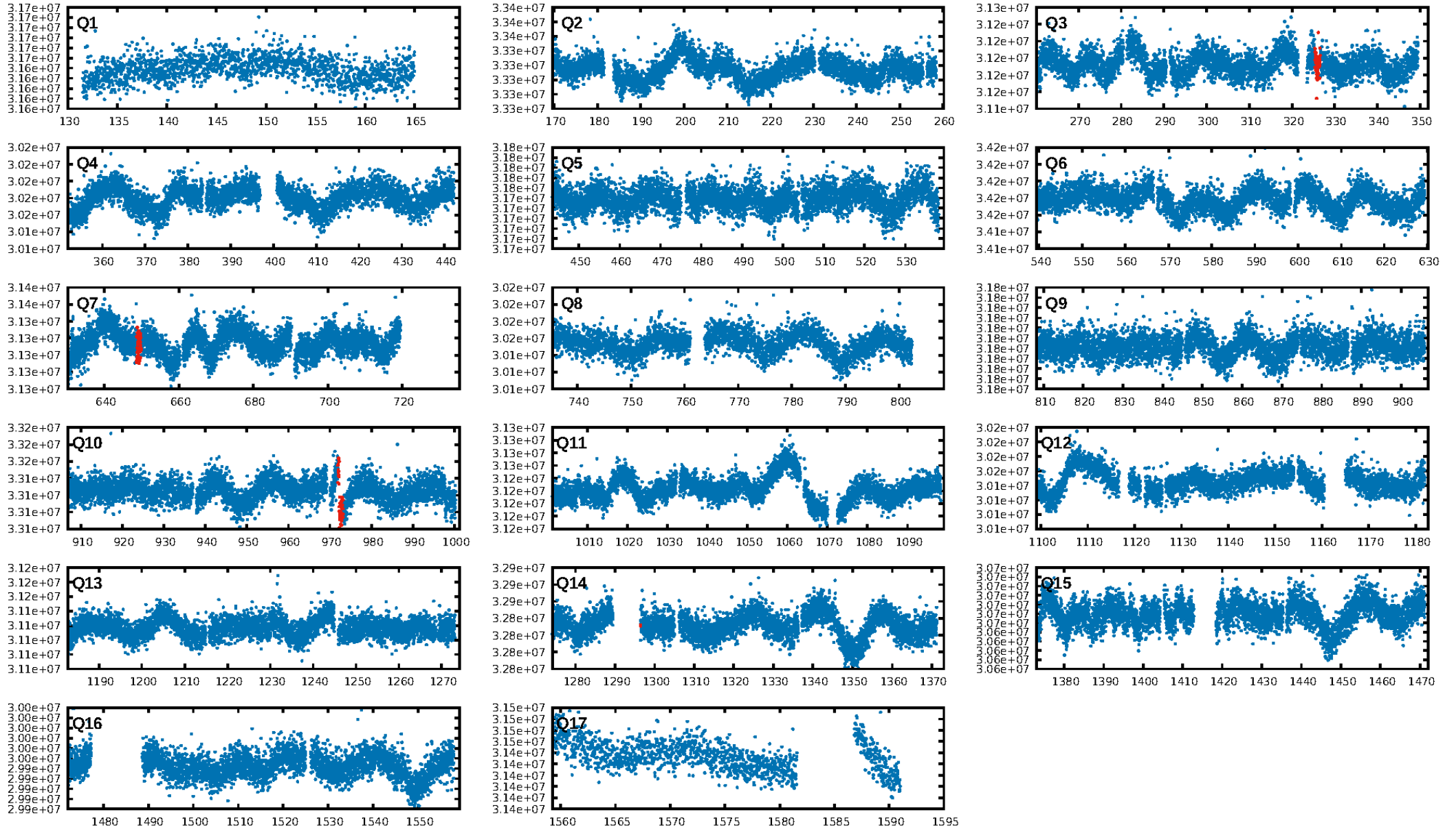
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 1.01e-17
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.226
Centroid-sig: 18.0%
Centroid-so: 0.776 arcsec [0.82σ]
OotOffset-rm: 2.902 arcsec [20.15σ]
KicOffset-rm: 2.851 arcsec [19.76σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

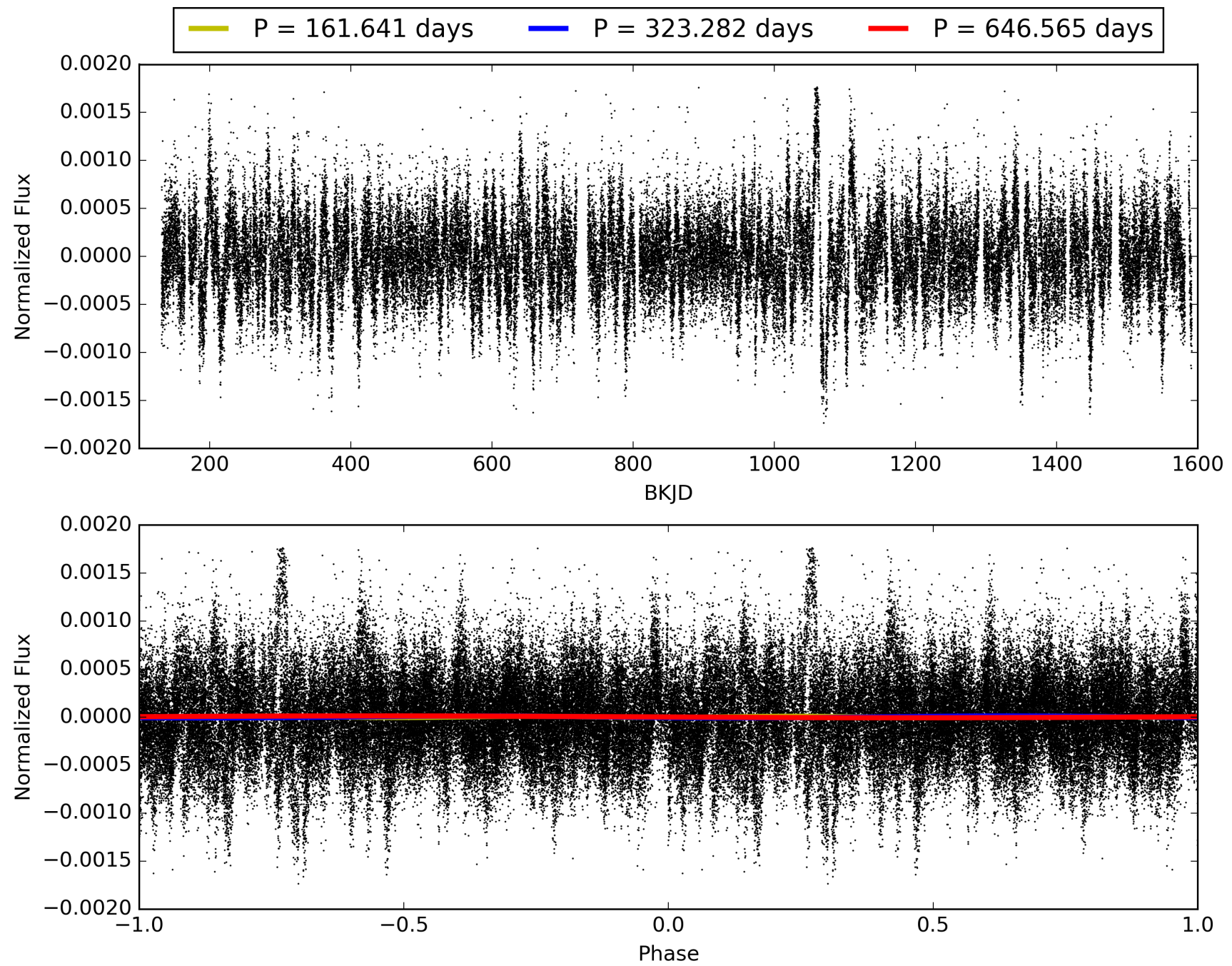
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:34:00 Z

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

TCE 007522821-01, PDC Light Curves

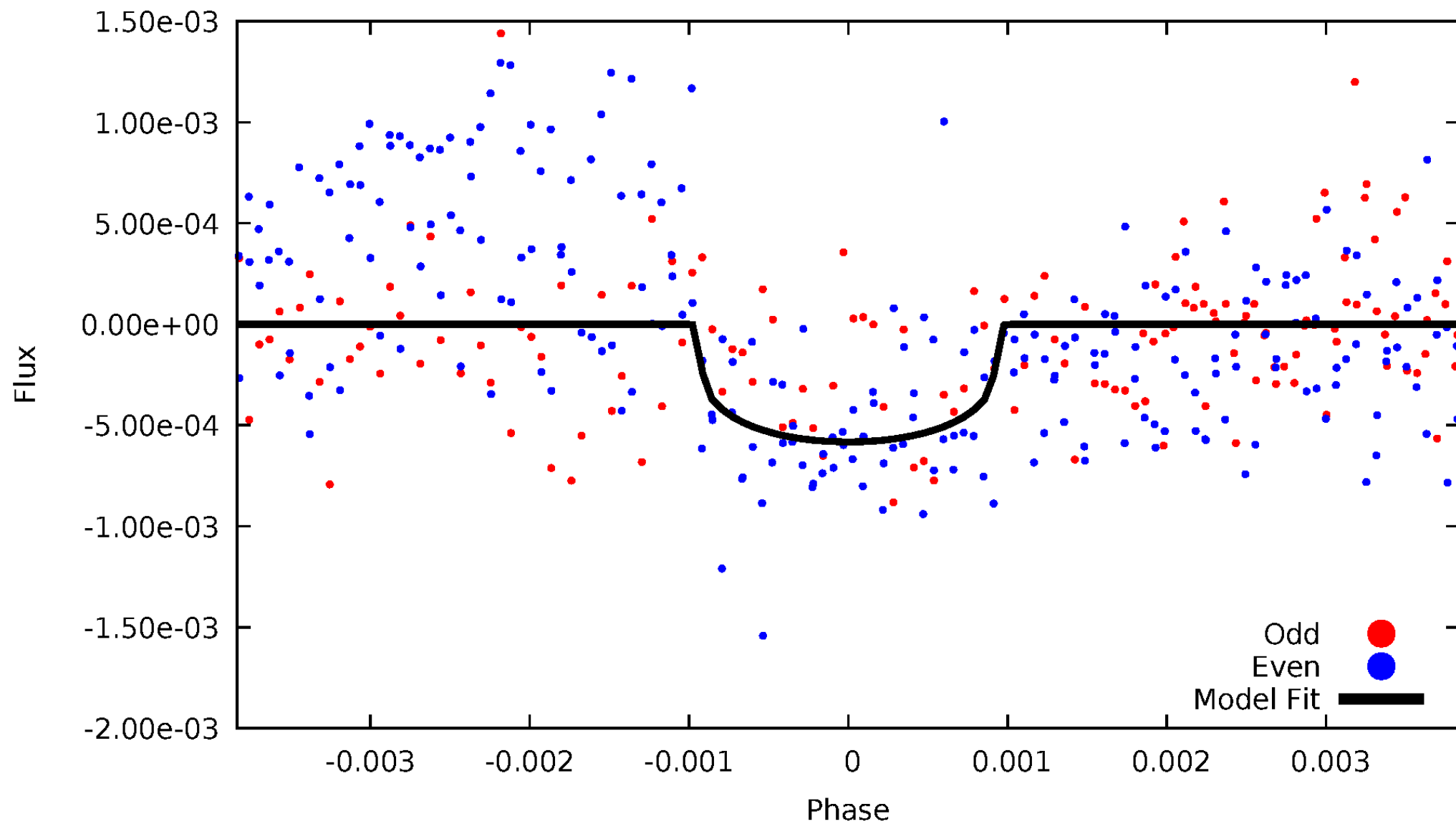


TCE 007522821-01



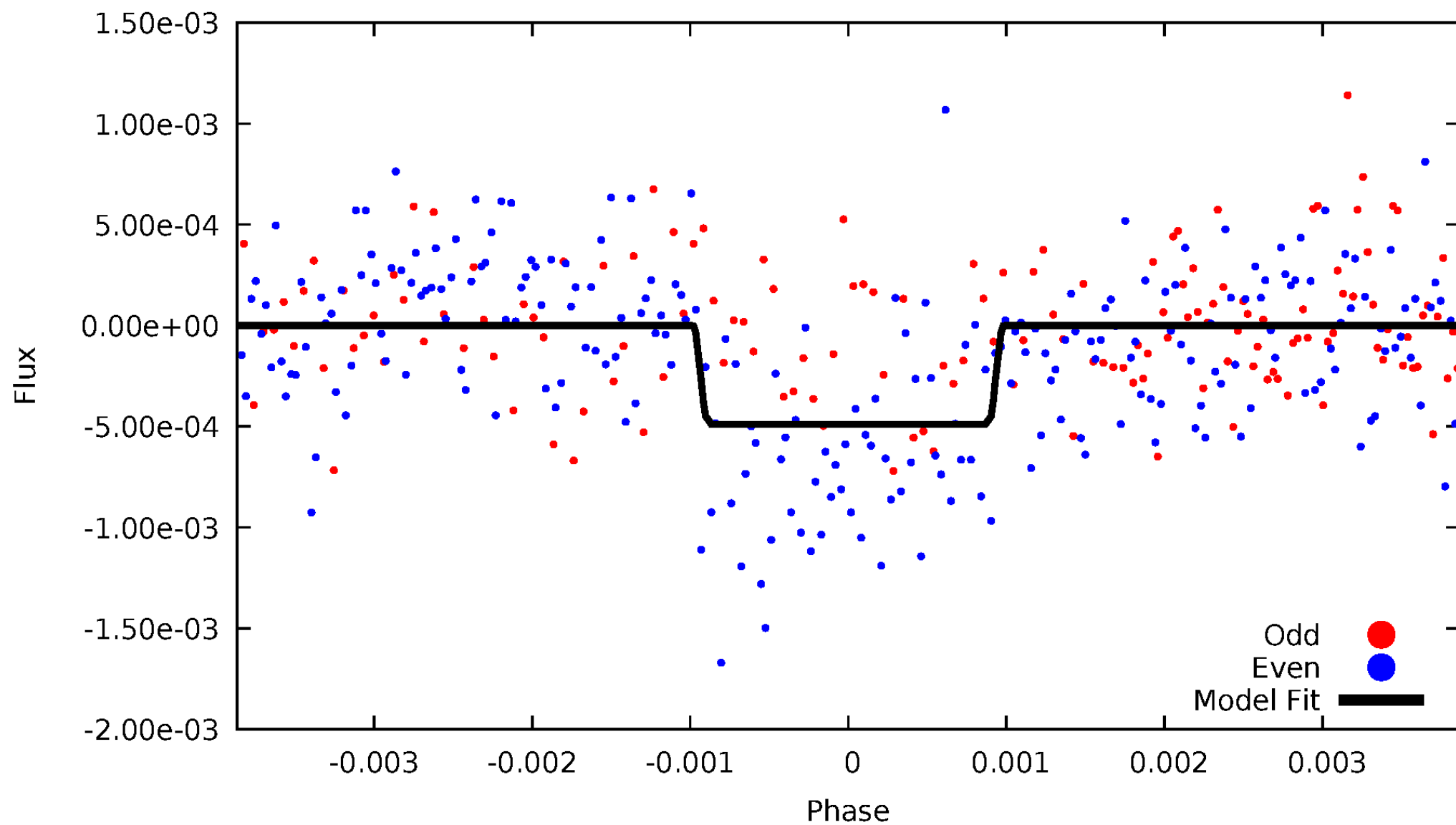
DV Odd/Even

TCE 007522821-01



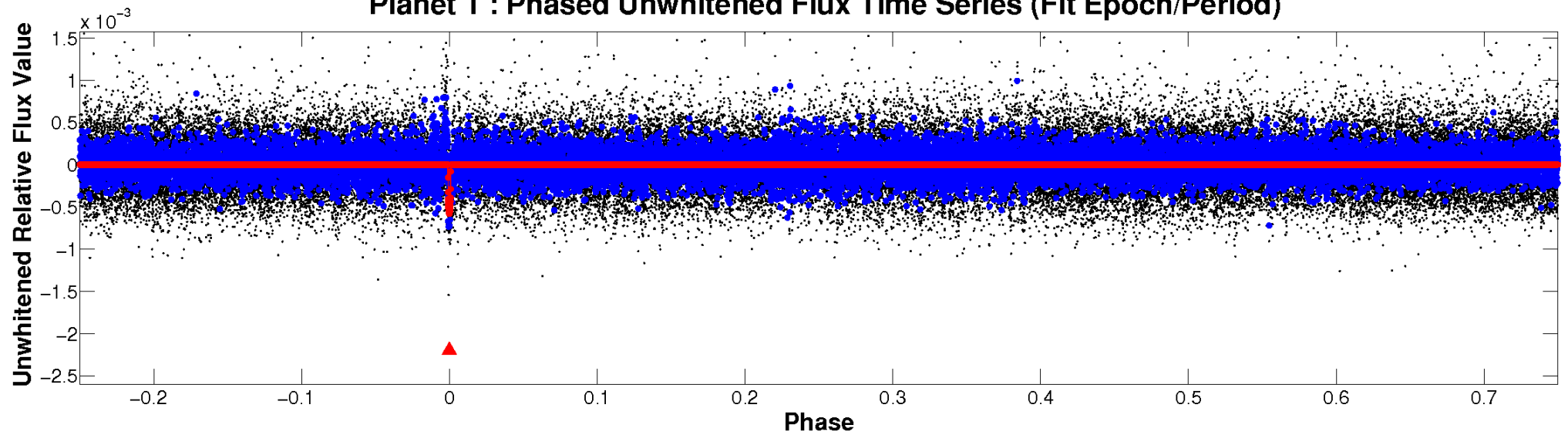
ALT Odd/Even

TCE 007522821-01

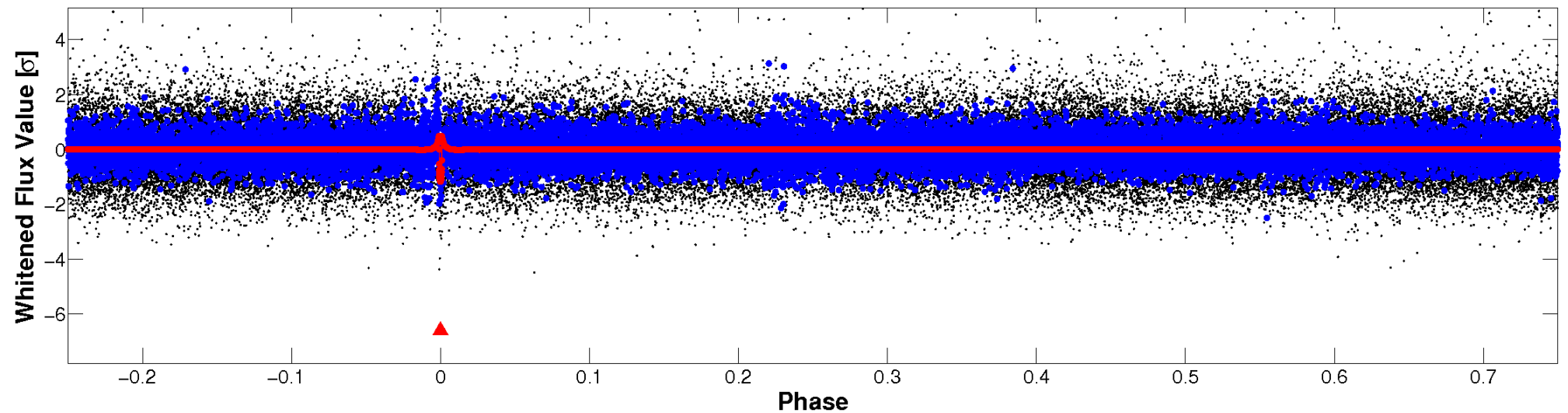


Non-Whitened Vs. Whitened Light Curve

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

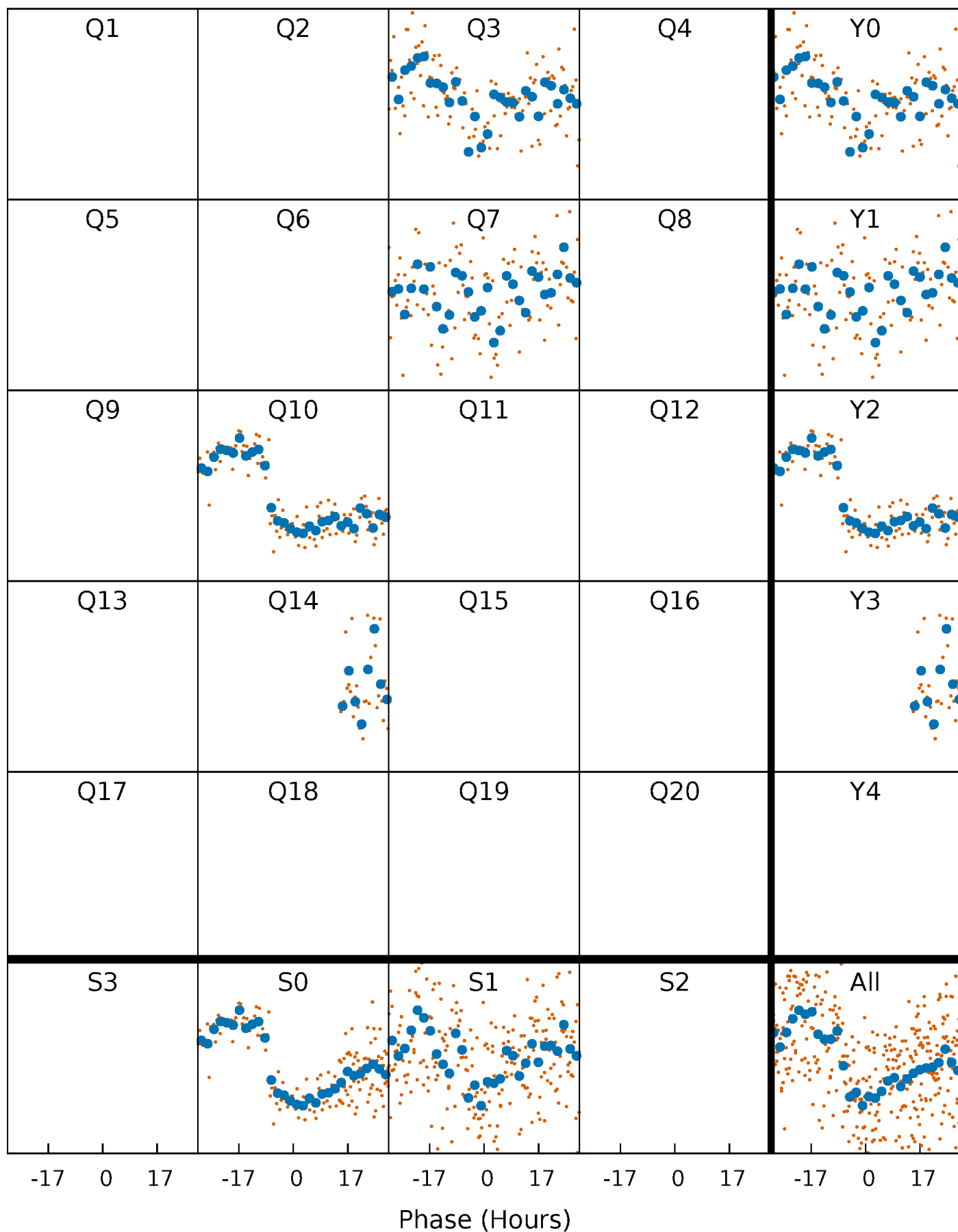


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



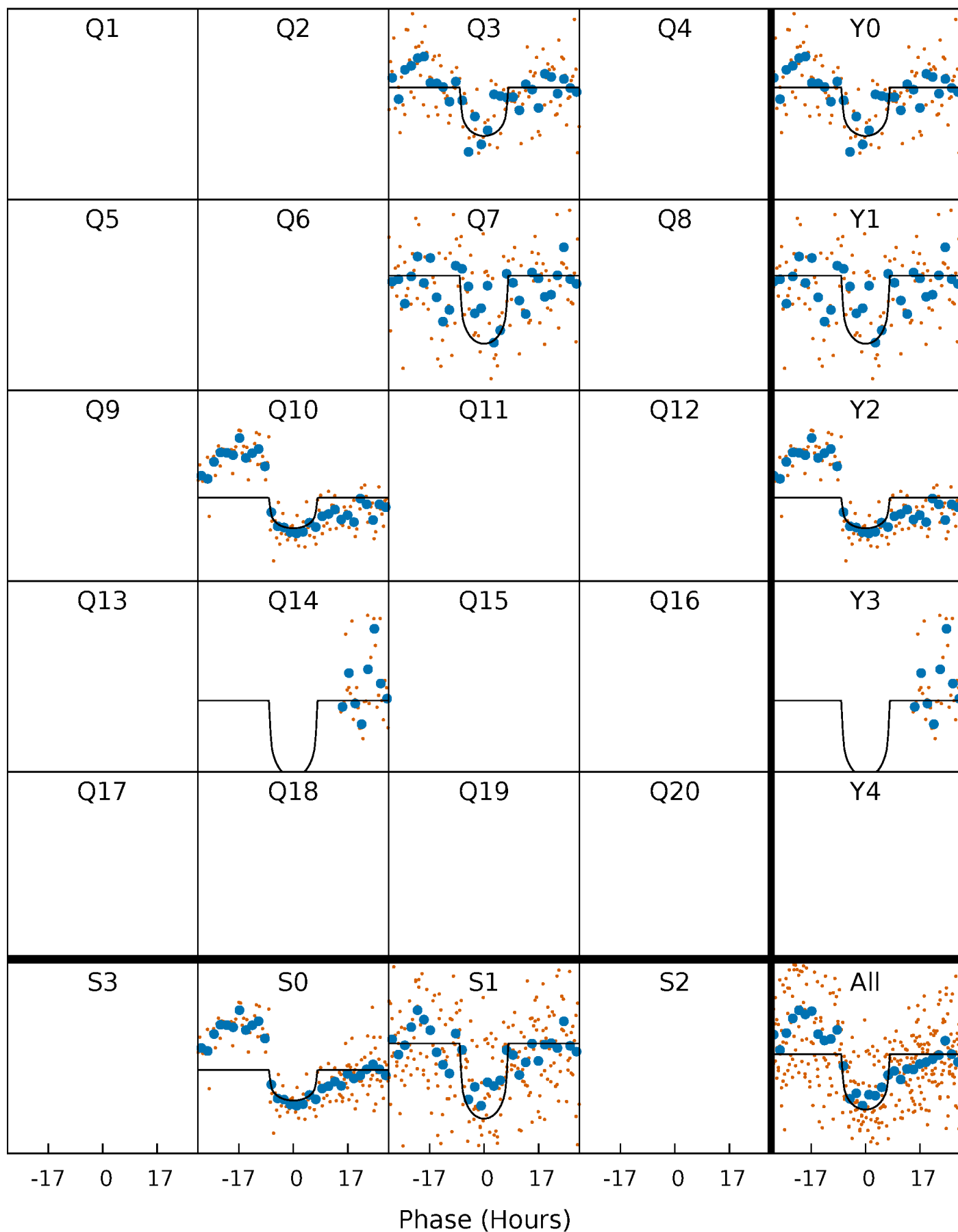
PDC Quarter-Phased Transit Curves

TCE 007522821-01 P=323.282415 Days $T_0=325.966949$ (BKJD)



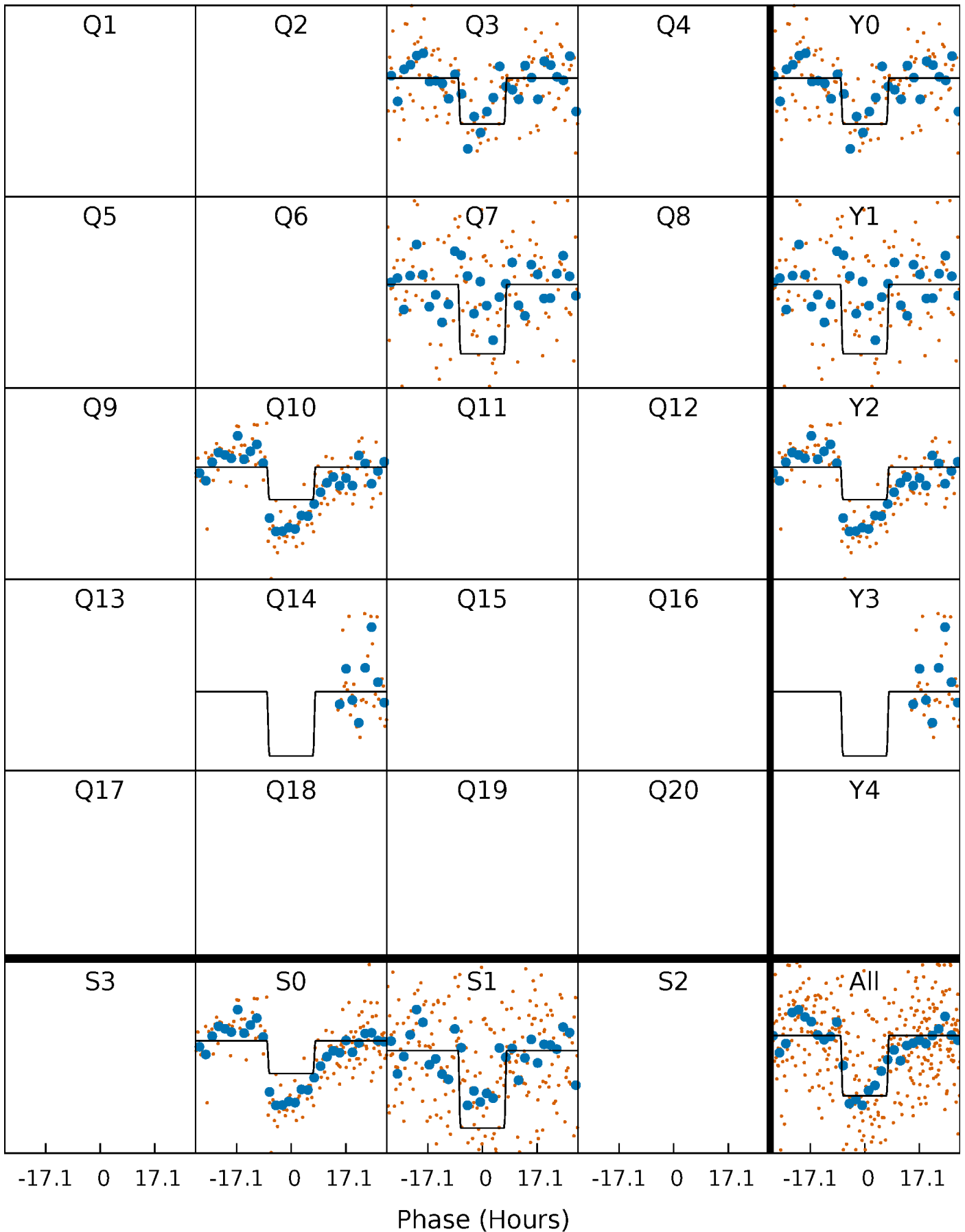
DV Quarter-Phased Transit Curves

TCE 007522821-01 P=323.282415 Days $T_0=325.966949$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

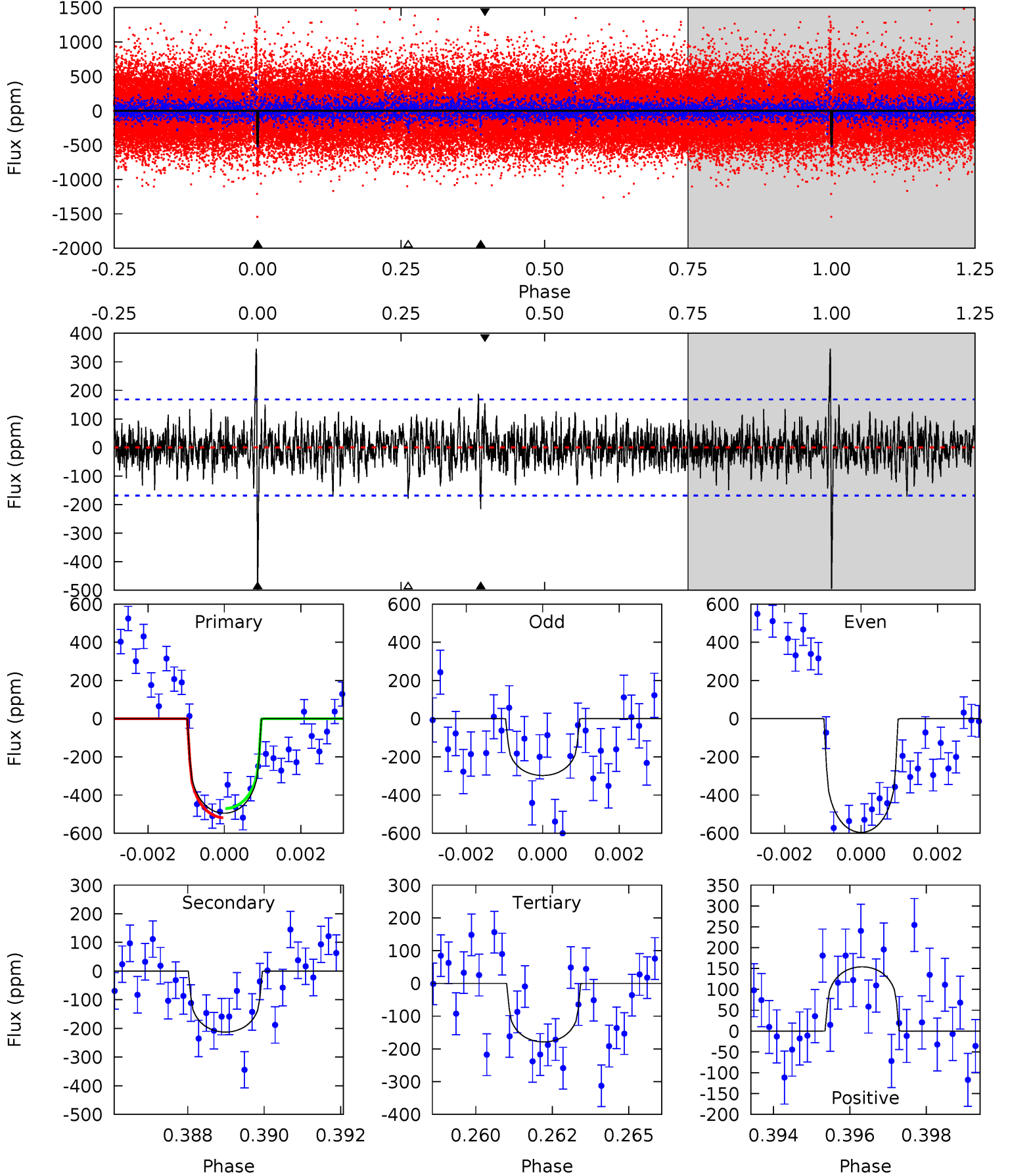
TCE 007522821-01 P=323.286164 Days $T_0=325.962787$ (BKJD)



DV Model-Shift Uniqueness Test

007522821-01, P = 323.282415 Days, E = 2.684534 Days

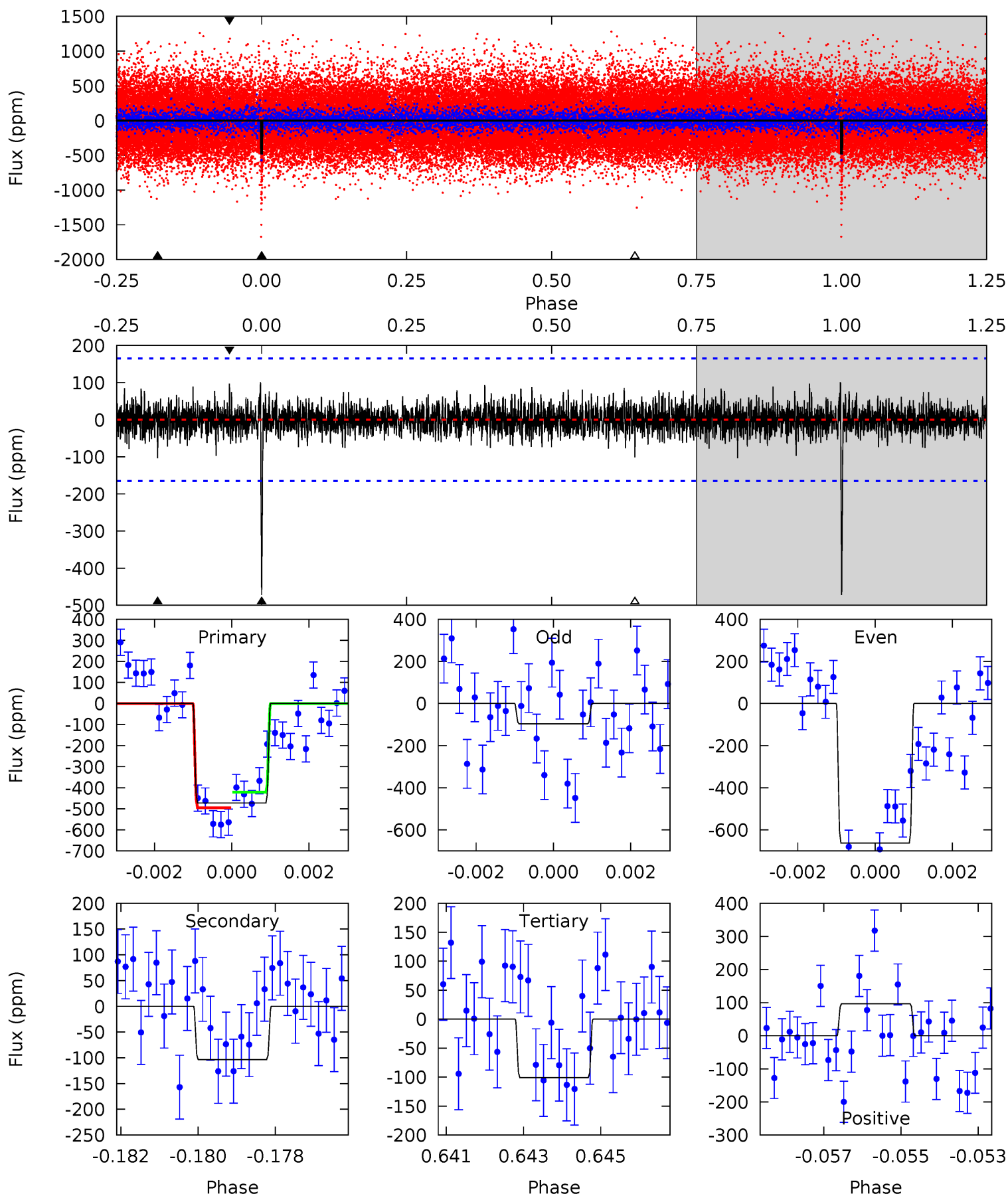
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	6.73	5.65	4.87	5.32	3.09	1.50	10.0	10.8	1.07	1.86	4.43	1.09	0.41	0.75



Alt Model-Shift Uniqueness Test

007522821-01, P = 323.286164 Days, E = 2.676623 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	3.34	3.26	3.13	5.33	3.10	0.83	12.0	12.1	0.08	0.22	8.58	1.30	0.18	1.18



Stellar Parameters For KIC 007522821

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5378^{+164}_{-147}	$4.357^{+0.171}_{-0.209}$	$0.120^{+0.250}_{-0.250}$	$1.022^{+0.322}_{-0.198}$	$0.866^{+0.098}_{-0.065}$	$1.142^{+0.963}_{-0.601}$
	+3%/-3%	+4%/-5%	+208%/-208%	+32%/-19%	+11%/-8%	+84%/-53%
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 007522821-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-213 ± 32	$2.96^{+2.37}_{-1.90}$	360^{+30}_{-24}	4258^{+2355}_{-764}	10522^{+69556}_{-7394}
Alt.	-103 ± 31	$3.04^{+2.62}_{-1.95}$	358^{+30}_{-22}	3703^{+1741}_{-642}	4799^{+28964}_{-3429}

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

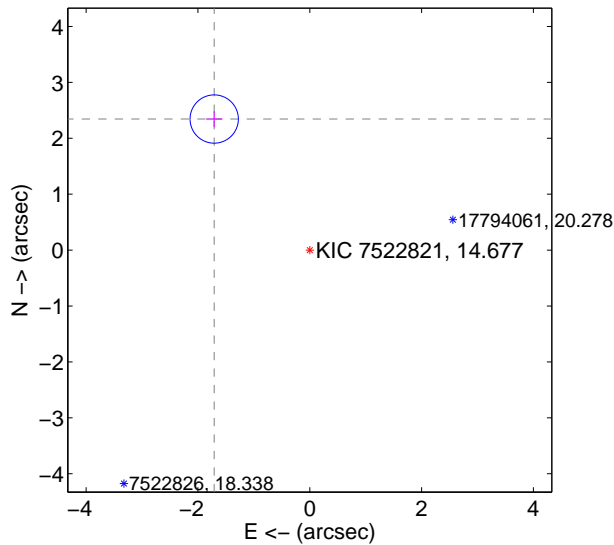
Supplemental centroid analysis for 007522821-01. Kepler magnitude: 14.68. Transit SNR 10.08

There are 1 quarters with good PRF difference image offsets

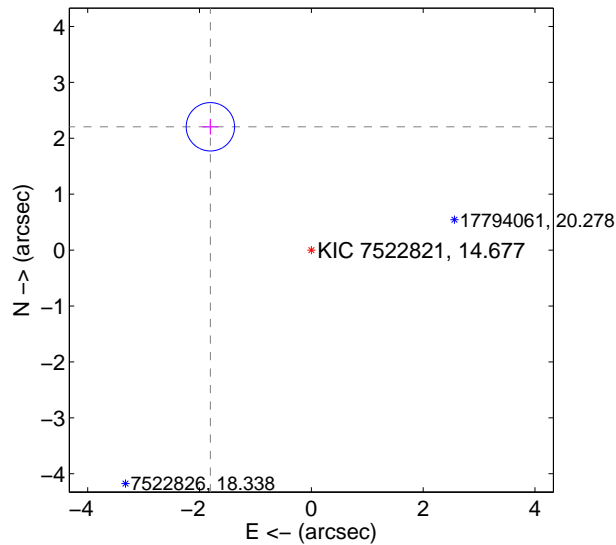
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.902 ± 0.144	20.15	1.709 ± 0.147	2.345 ± 0.142
PRF-fit source offset from KIC position	2.851 ± 0.144	19.76	1.806 ± 0.147	2.206 ± 0.142
photometric centroid source offset	0.78 ± 0.94	0.82	0.17 ± 1.03	0.76 ± 0.94

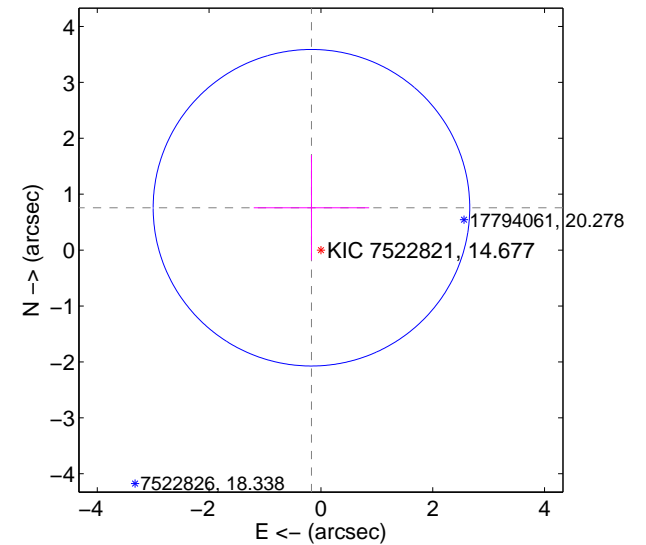
offset from difference PRF-fit to OOT PRF-fit



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.

Q1 no difference image



Q1 no OOT image



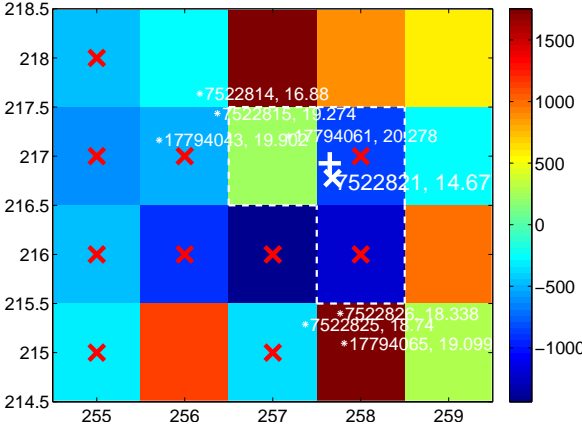
Q2 no difference image



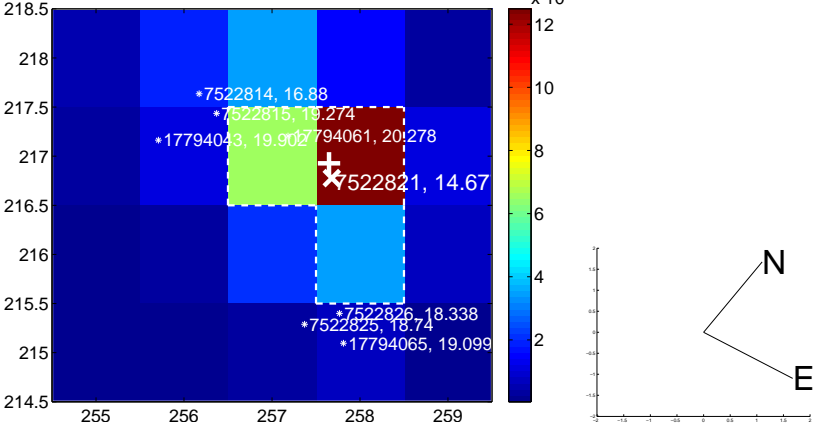
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image



Q4 no OOT image

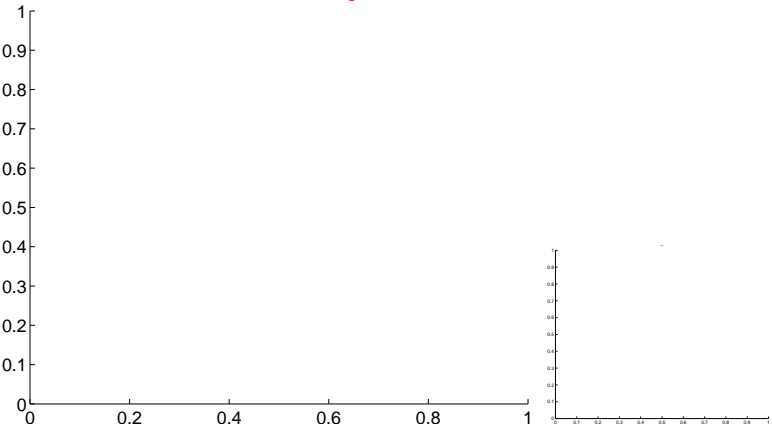


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

Q5 no difference image



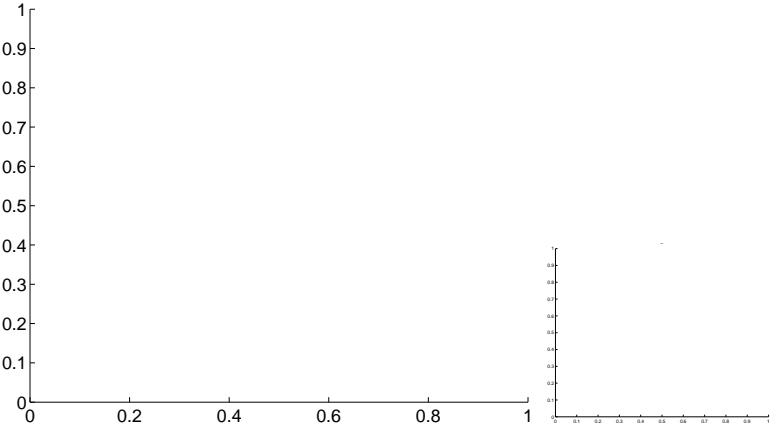
Q5 no OOT image



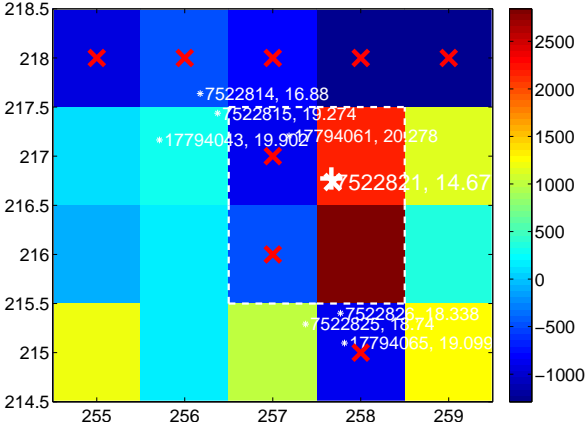
Q6 no difference image



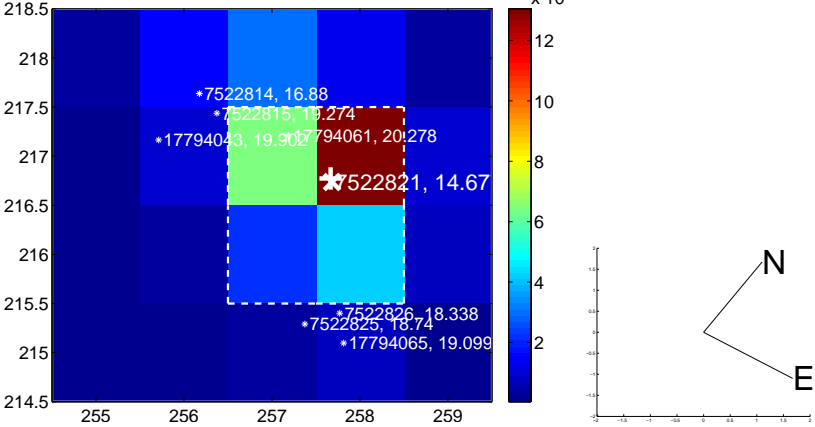
Q6 no OOT image



Q7 difference image. Poor Quality



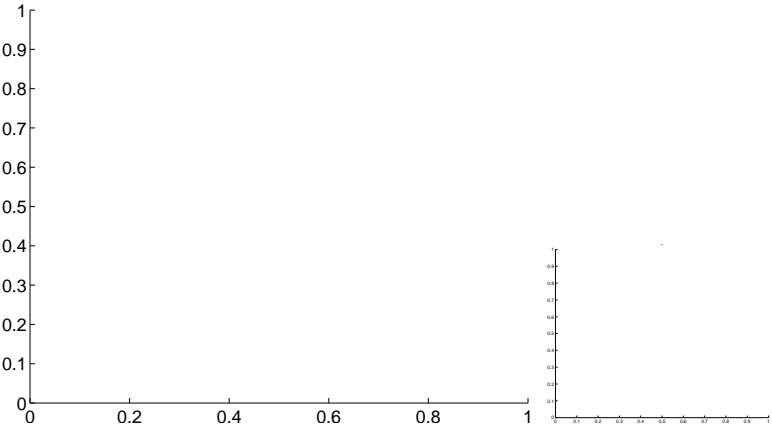
Q7 OOT image



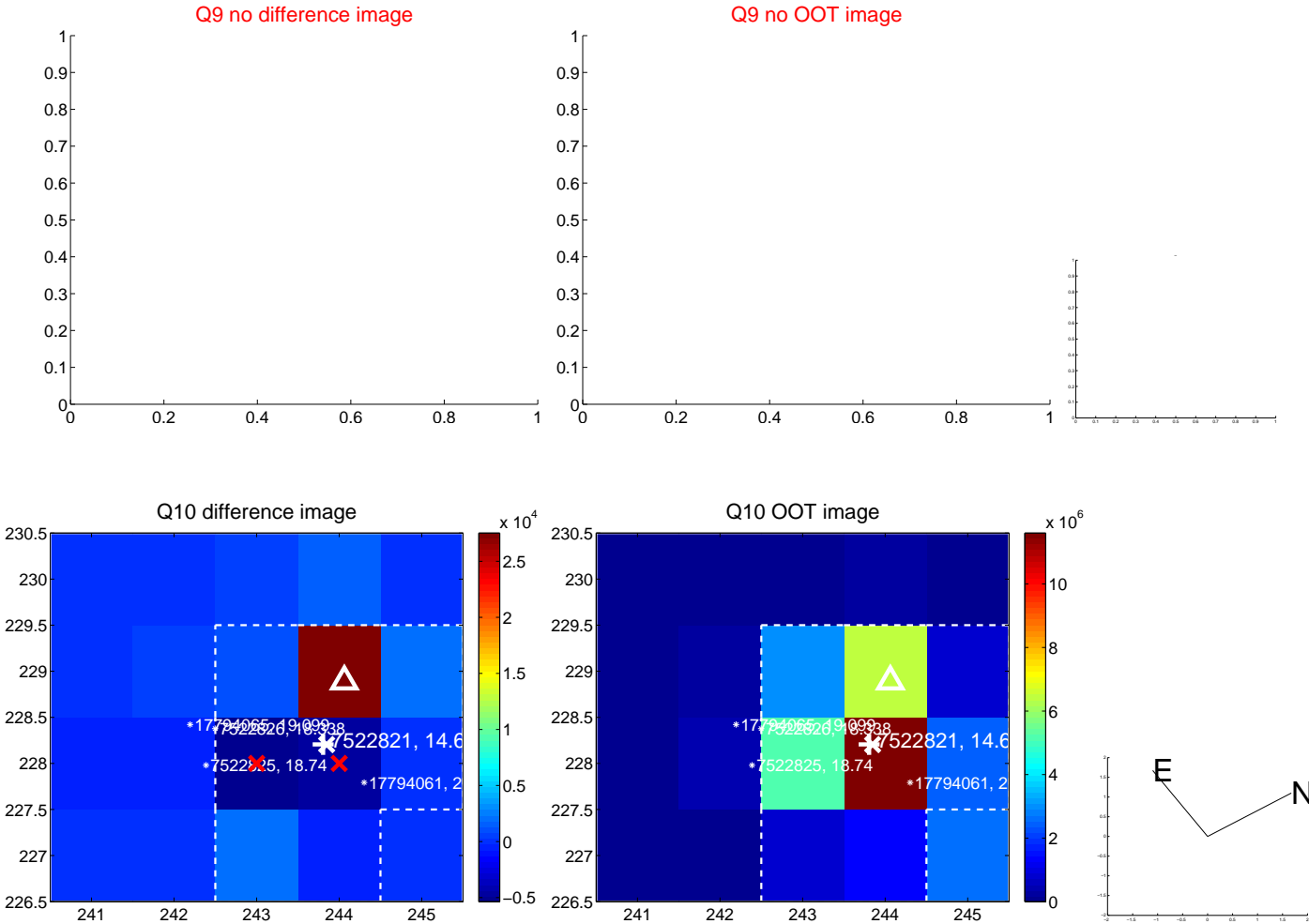
Q8 no difference image



Q8 no OOT image



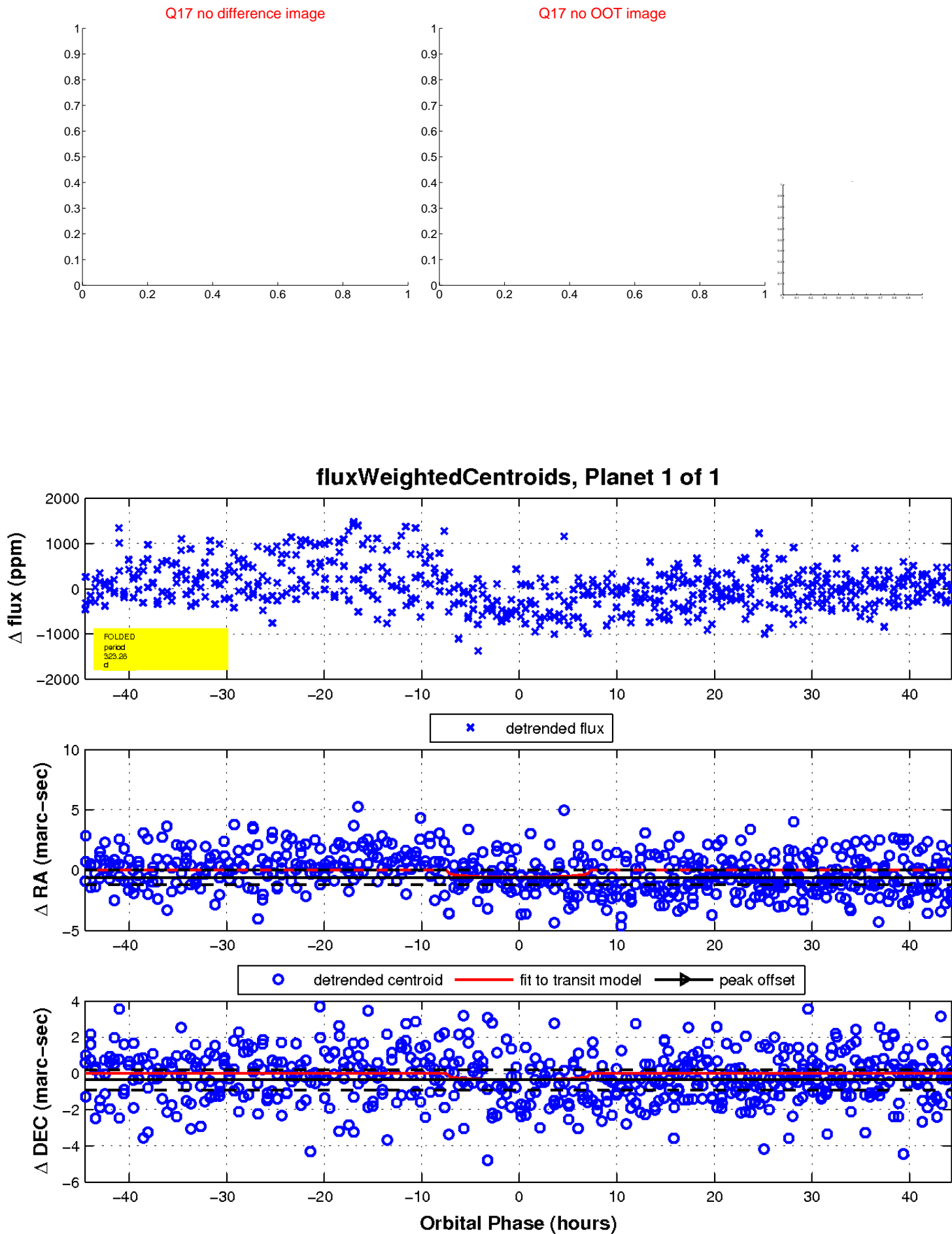
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

