

KIC 007973757

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})
007973757-01	OBS	No	504.261362	546.106059	1443.4	5.554	7.3	7.4	0.80	5177	3.90	0.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007973757-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—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.

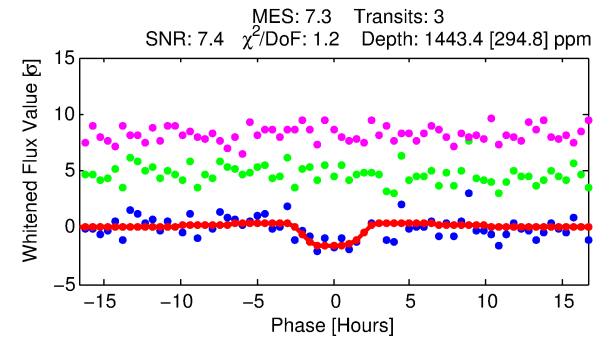
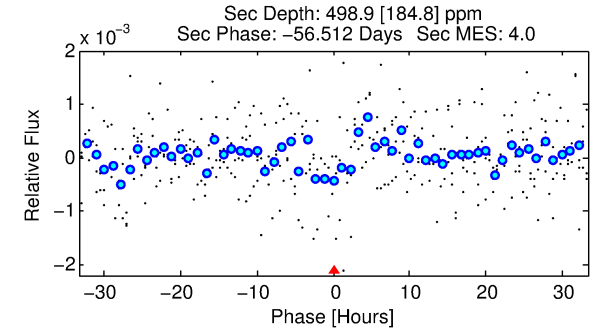
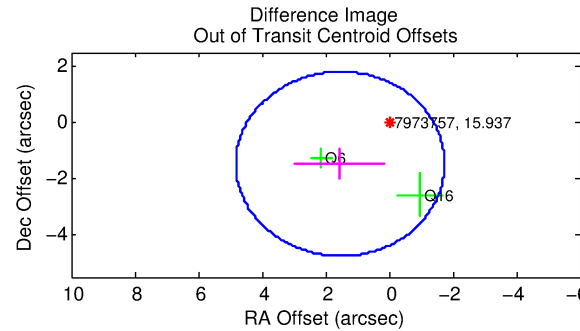
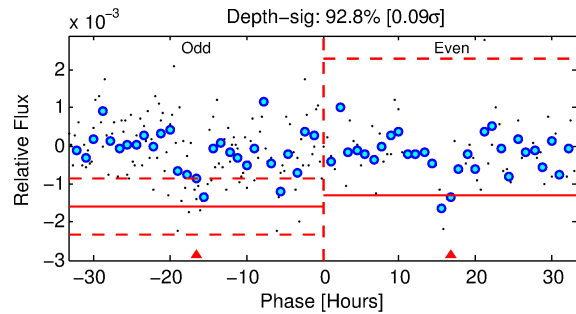
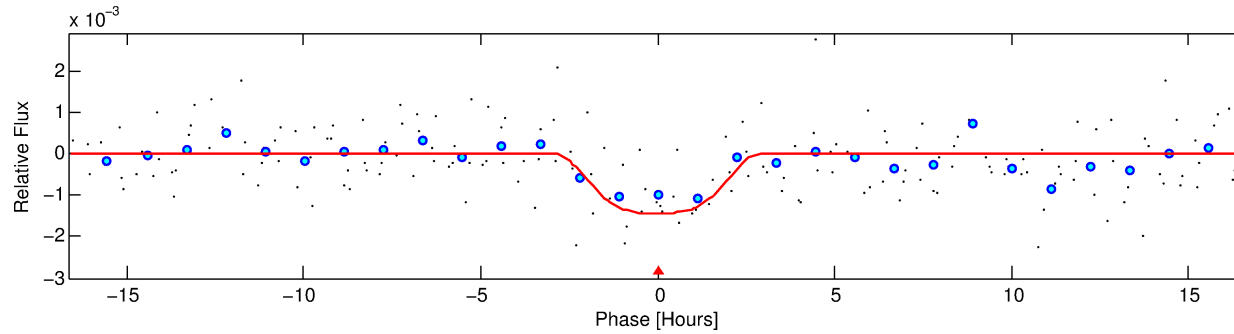
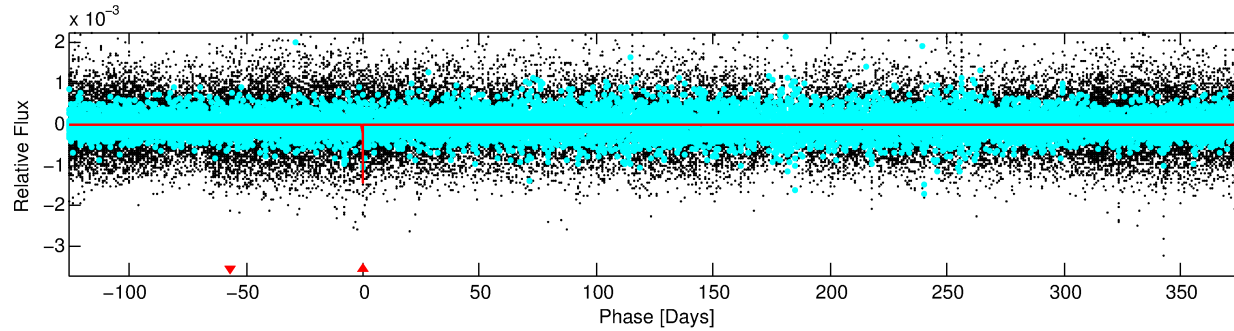
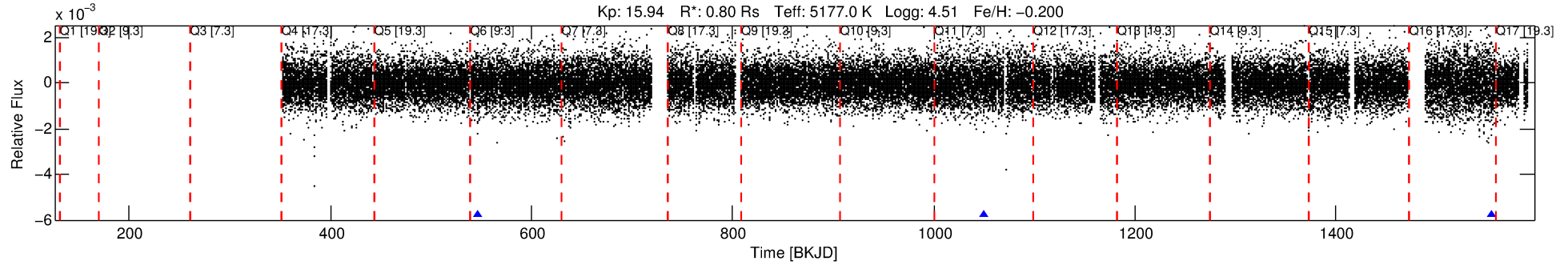
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007973757-01

No Significant Match Found

DV One-Page Summary

KIC: 7973757 Candidate: 1 of 1 Period: 504.261 d



DV Fit Results:

Period = 504.26136 [0.01301] d
Epoch = 546.1061 [0.0130] BKJD
Rp/R* = 0.0450 [0.0073]
a/R* = 311.63 [101.04]
b = 0.94 [0.04]
Seff = 0.32 [0.07]
Teq = 192 [11] K
Rp = 3.90 [0.81] Re
a = 1.1256 [0.1267] AU
Ag = 22849.52 [11921.74] [1.92σ]
Teffp = 3649 [471] K [7.33σ]

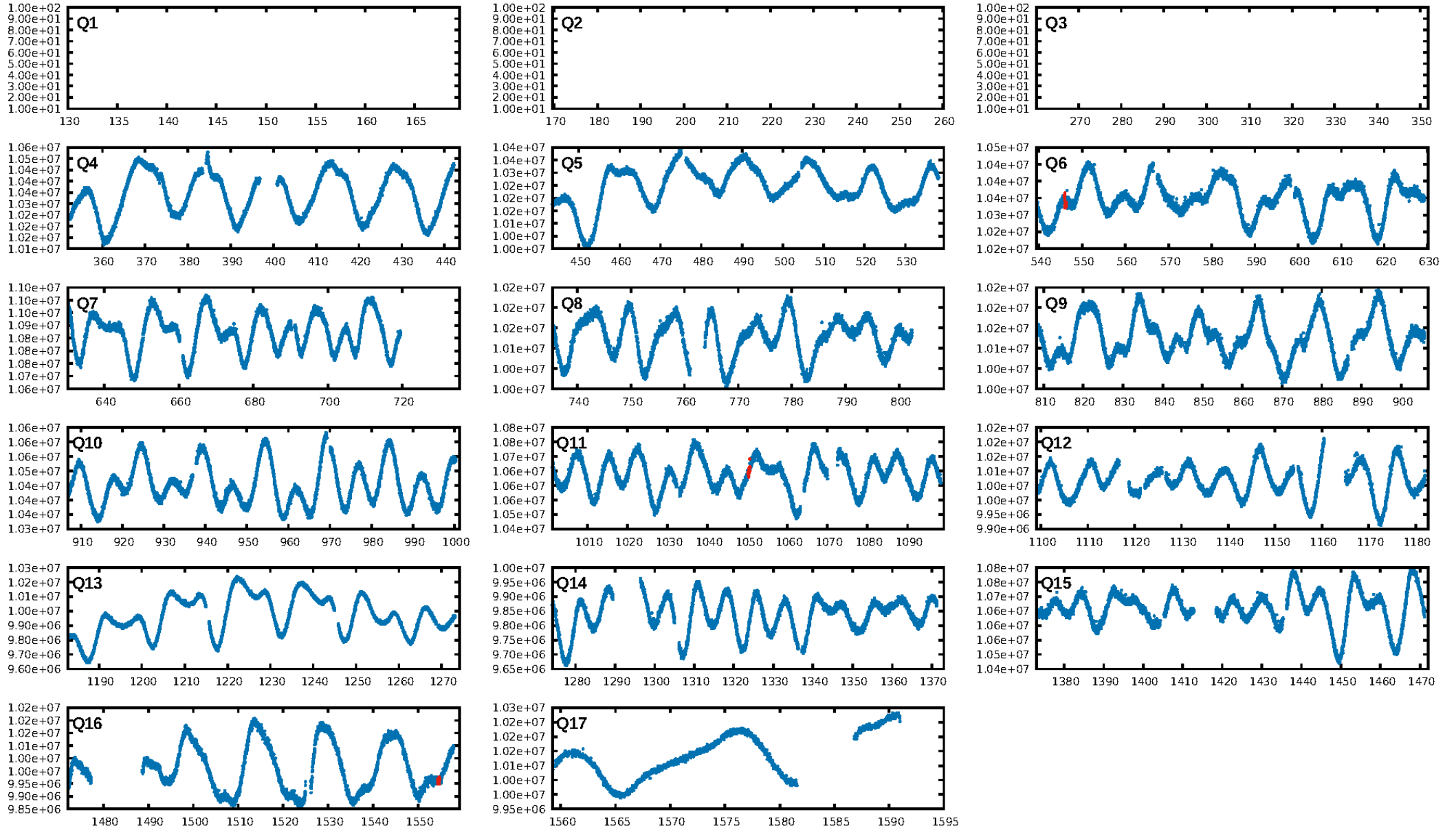
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 17.0%
ModelChiSquareGof-sig: 92.3%
Bootstrap-pfa: 8.34e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -42.82
Centroid-sig: 9.2%
Centroid-so: 2.373 arcsec [1.49σ]
OotOffset-rm: 2.128 arcsec [1.94σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-rm: 2.148 arcsec [2.10σ]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

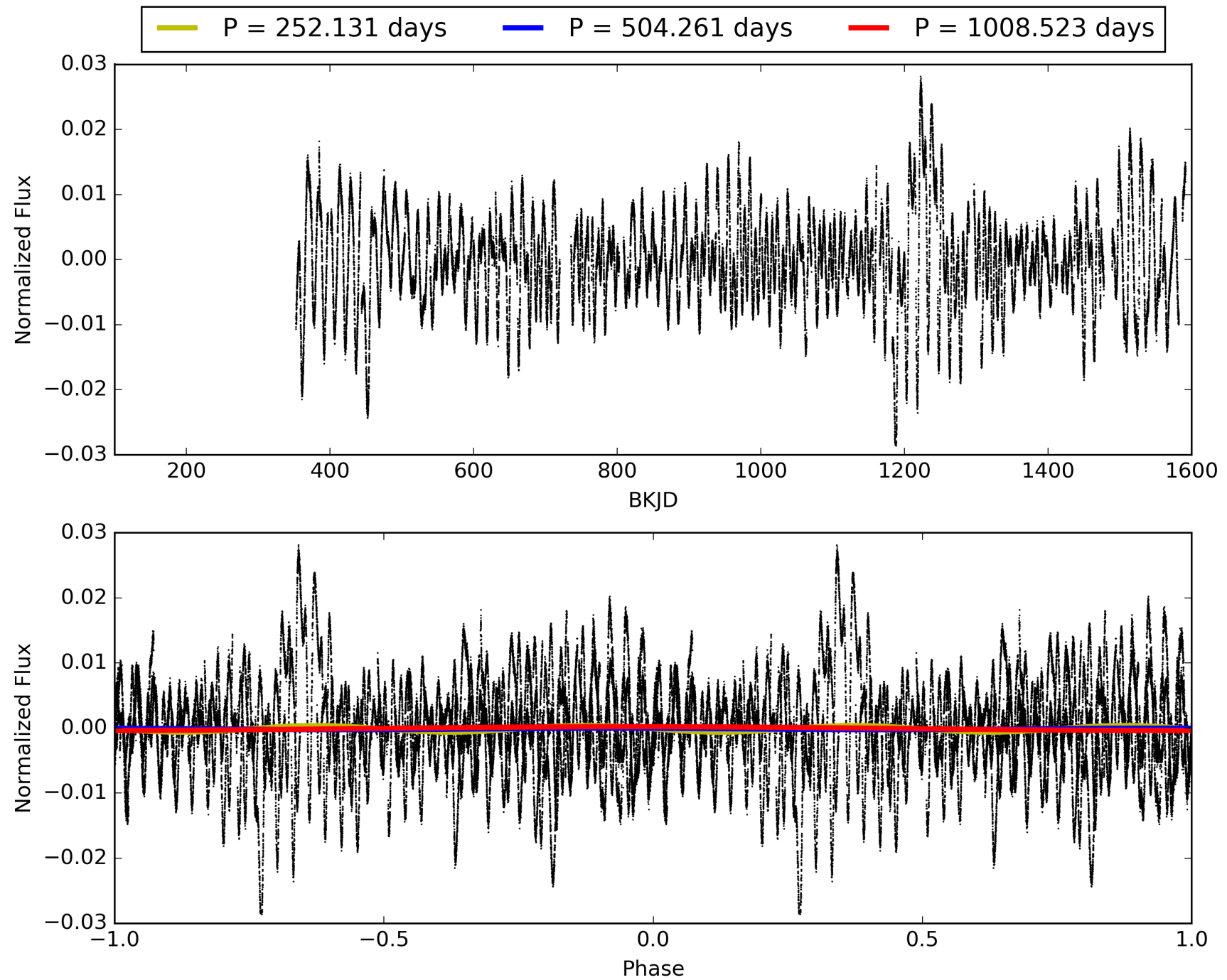
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:32:06 Z

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

TCE 007973757-01, PDC Light Curves

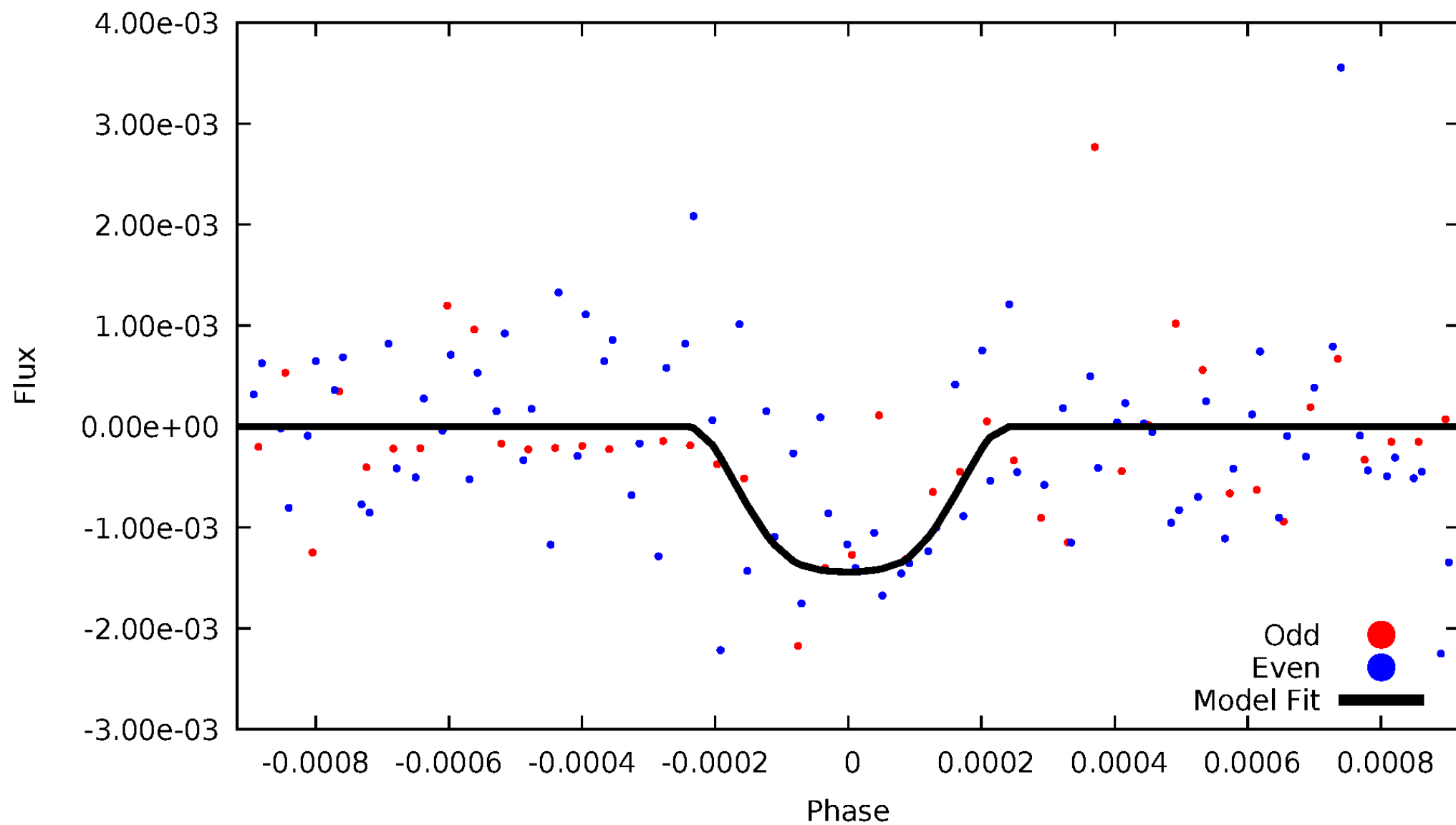


TCE 007973757-01



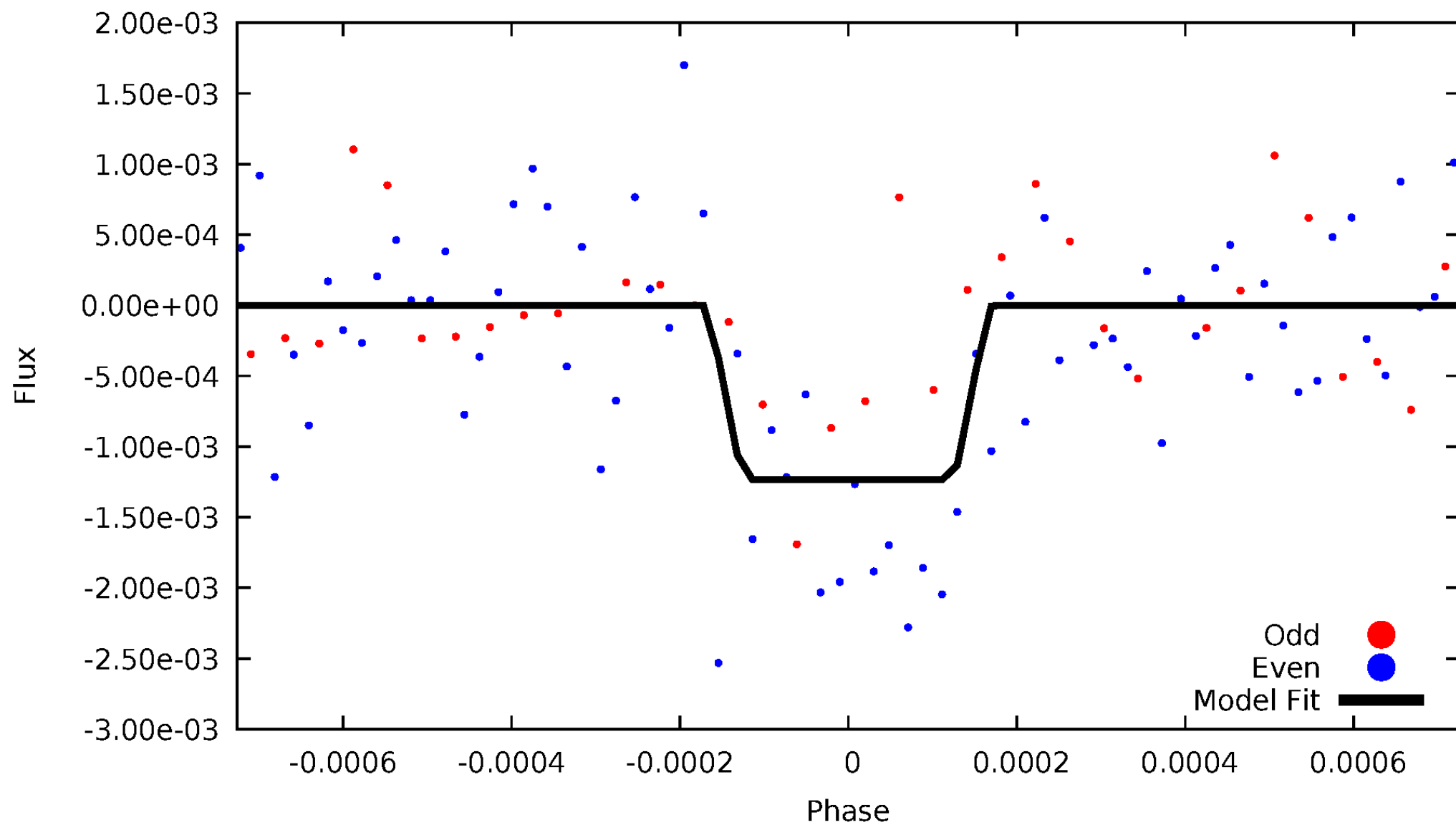
DV Odd/Even

TCE 007973757-01



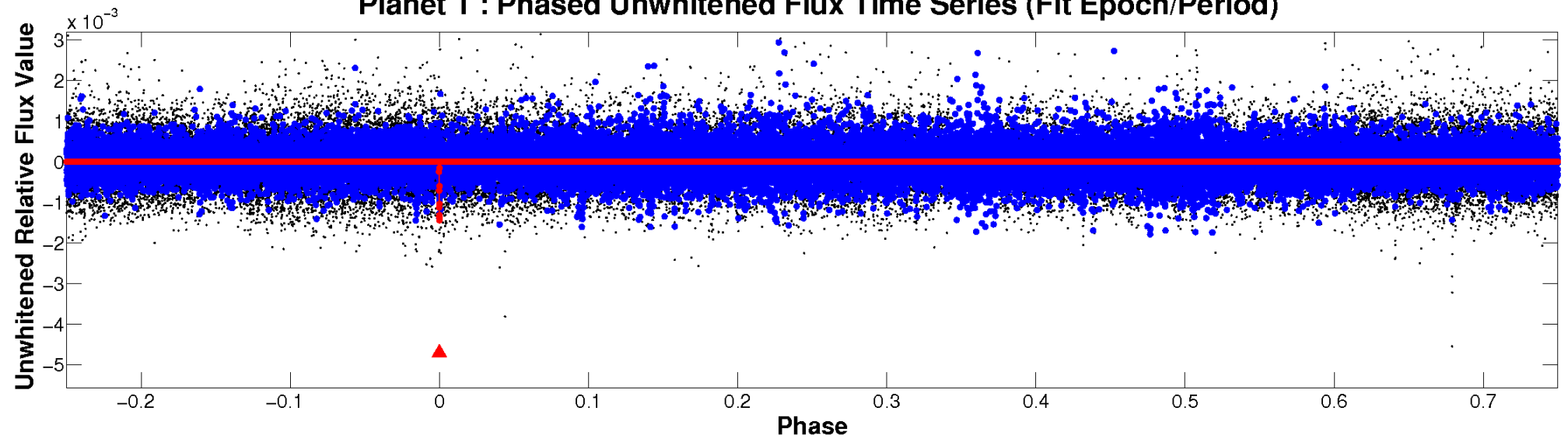
ALT Odd/Even

TCE 007973757-01

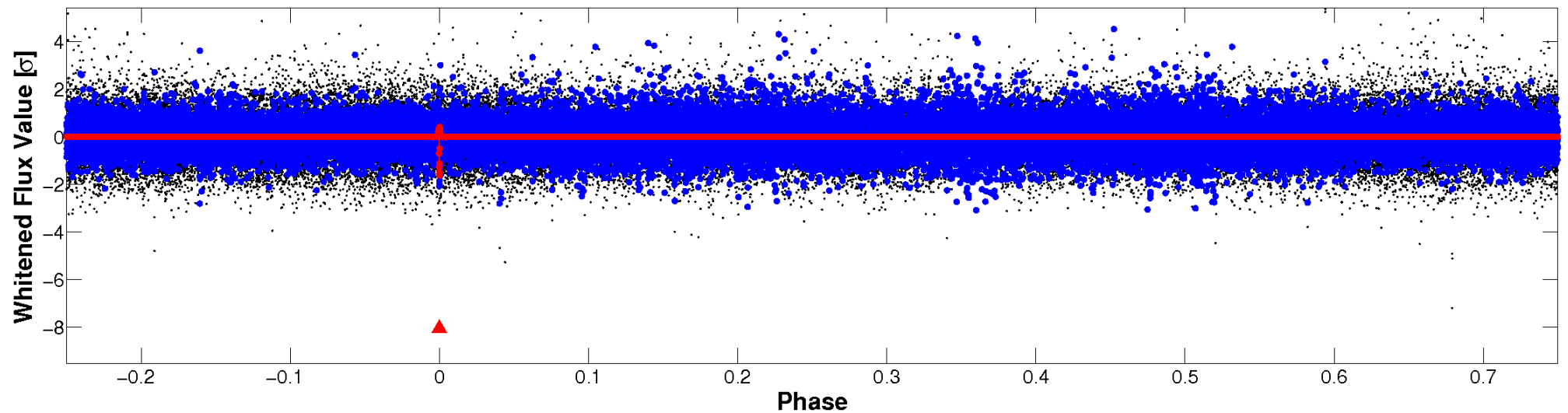


Non-Whitened Vs. Whitened Light Curve

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

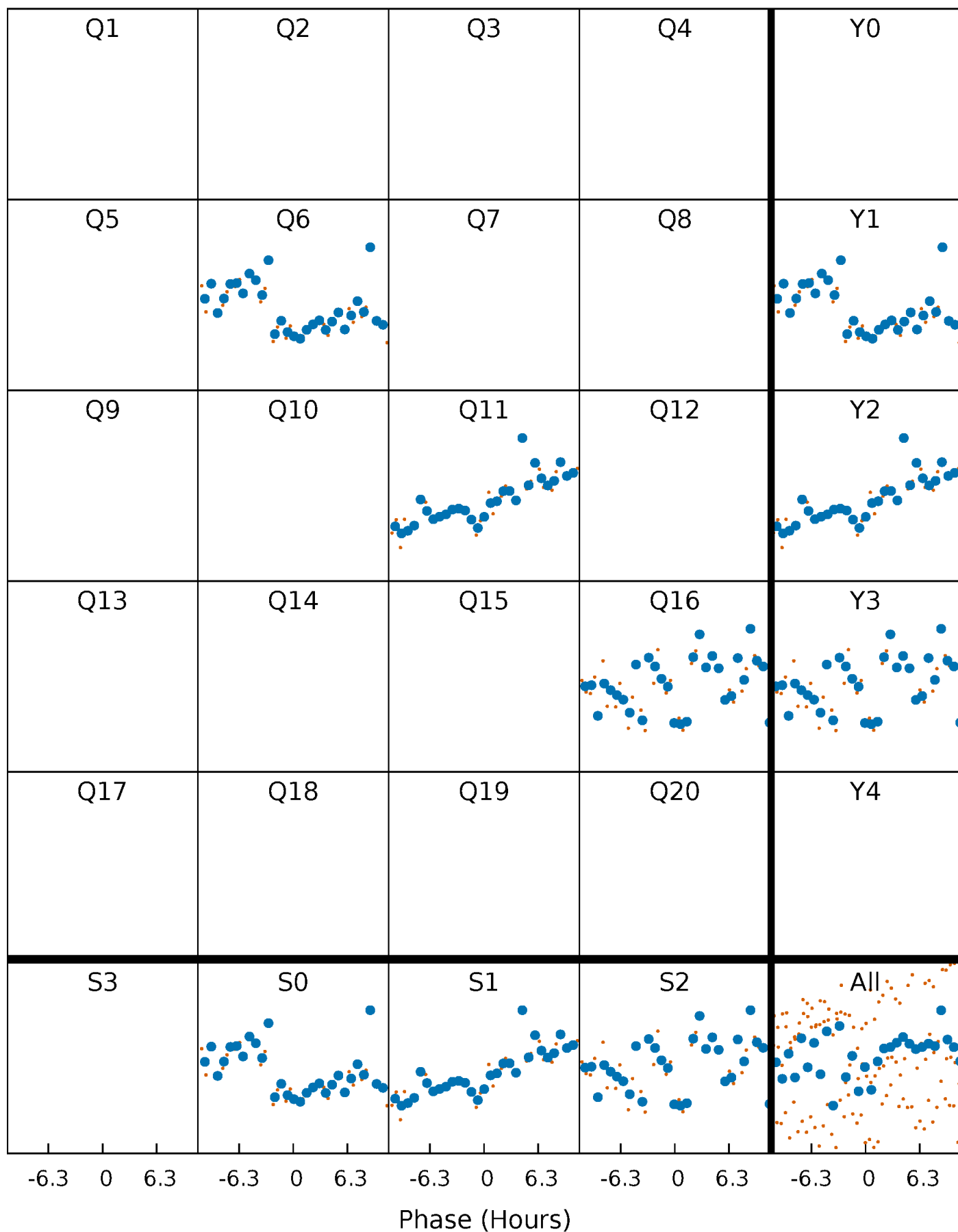


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



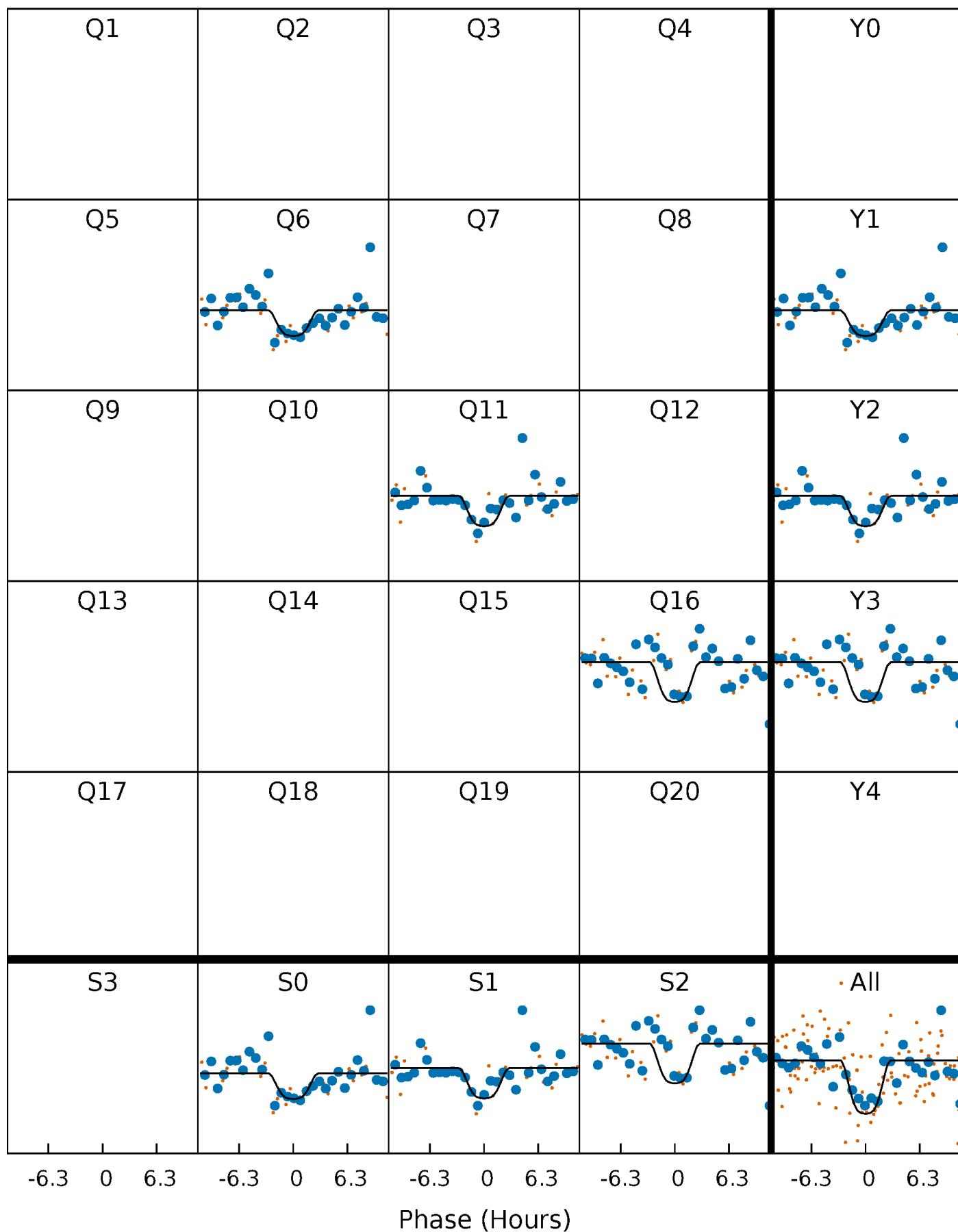
PDC Quarter-Phased Transit Curves

TCE 007973757-01 P=504.261363 Days $T_0=546.106059$ (BKJD)



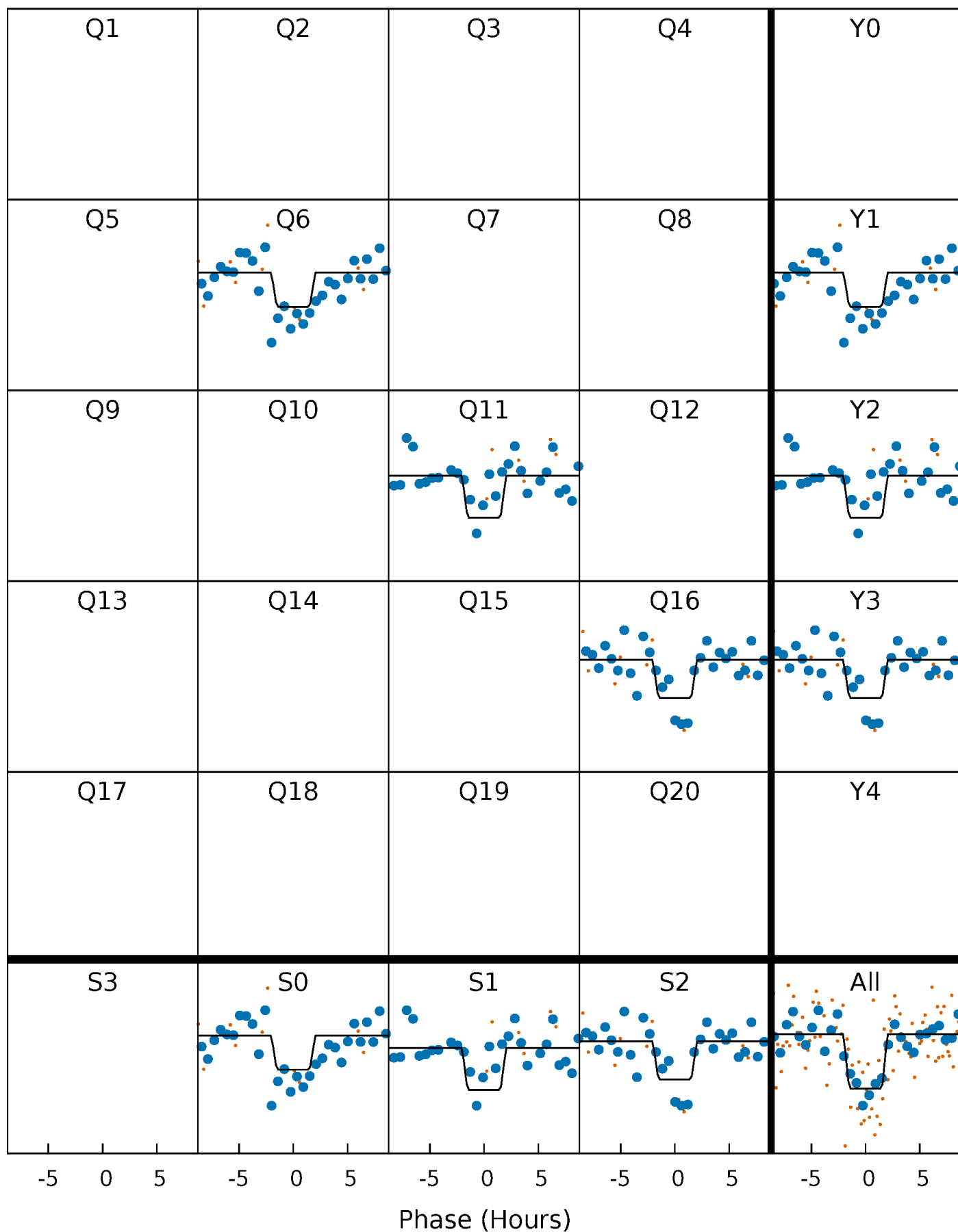
DV Quarter-Phased Transit Curves

TCE 007973757-01 P=504.261363 Days $T_0=546.106059$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

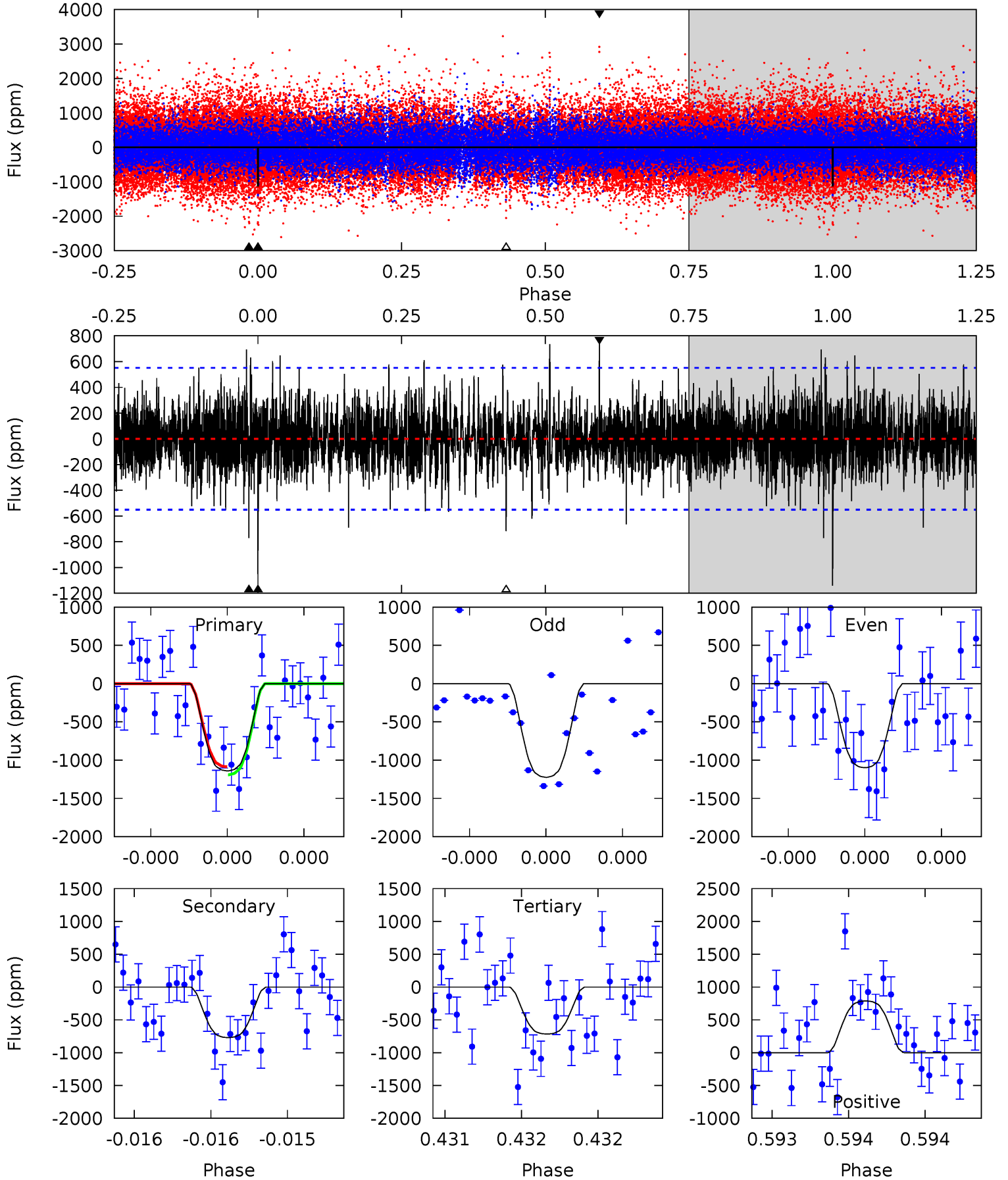
TCE 007973757-01 P=504.273016 Days $T_0=546.087106$ (BKJD)



DV Model-Shift Uniqueness Test

007973757-01, $P = 504.261363$ Days, $E = 41.844696$ Days

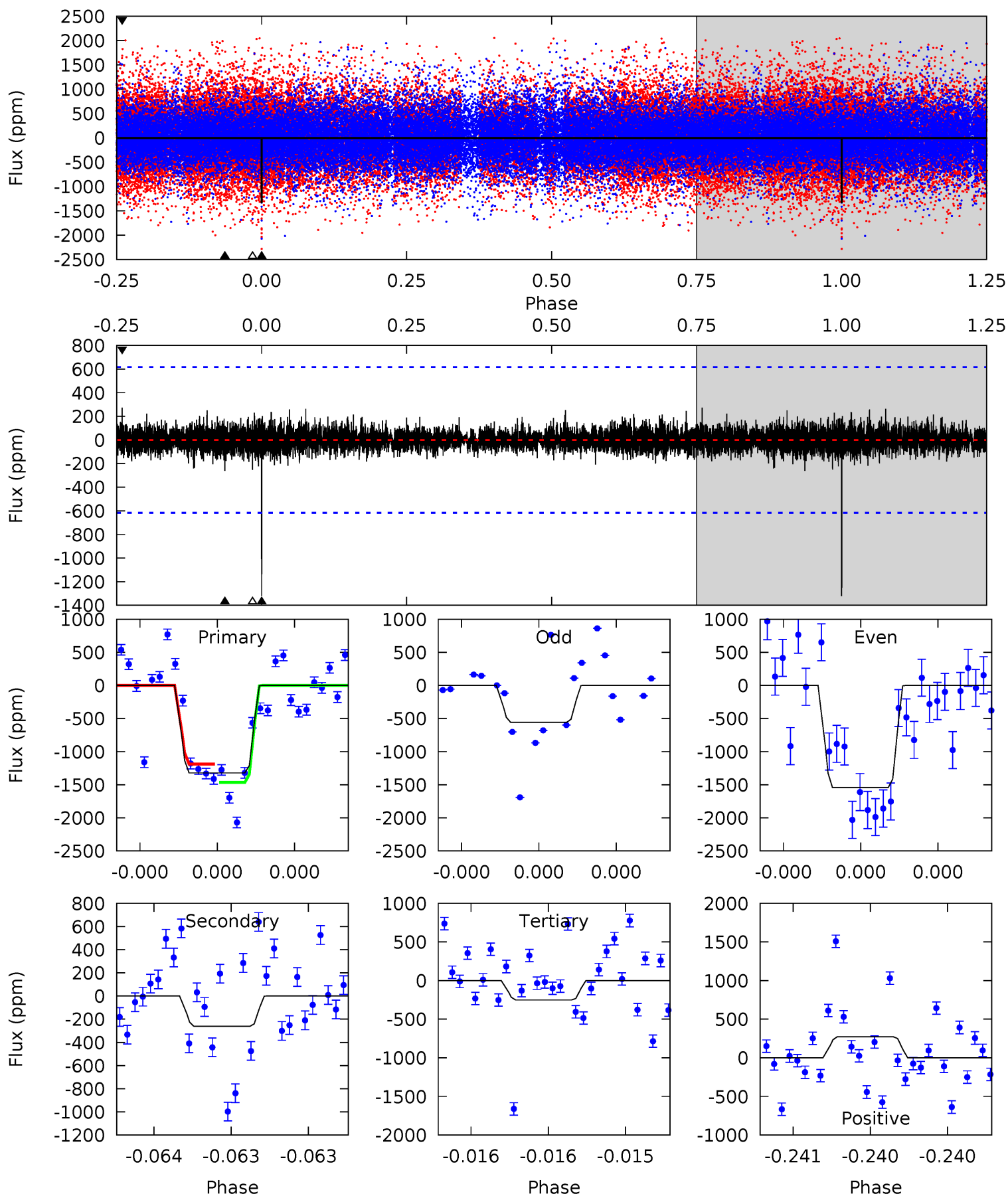
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	7.80	7.25	7.98	5.58	3.48	1.64	4.29	3.56	0.55	-0.18	0.61	0.93	0.41	0.53



Alt Model-Shift Uniqueness Test

007973757-01, P = 504.273016 Days, E = 41.814090 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	2.40	2.30	2.50	5.65	3.61	0.51	9.79	9.60	0.10	-0.10	4.41	0.85	0.17	1.27



Stellar Parameters For KIC 007973757

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5177^{+196}_{-179}	$4.511^{+0.094}_{-0.085}$	$-0.200^{+0.300}_{-0.300}$	$0.795^{+0.103}_{-0.093}$	$0.746^{+0.106}_{-0.057}$	$2.094^{+0.801}_{-0.530}$
	+4%/-3%	+2%/-2%	+150%/-150%	+13%/-12%	+14%/-8%	+38%/-25%
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 007973757-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-771 ± 99	$3.94^{+0.68}_{-0.75}$	268^{+13}_{-12}	4269^{+352}_{-275}	35013^{+18053}_{-9844}
Alt.	-262 ± 109	$3.08^{+0.74}_{-0.70}$	268^{+14}_{-13}	3820^{+450}_{-405}	19456^{+15871}_{-10127}

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 $A_{obs} \gg 1.0$

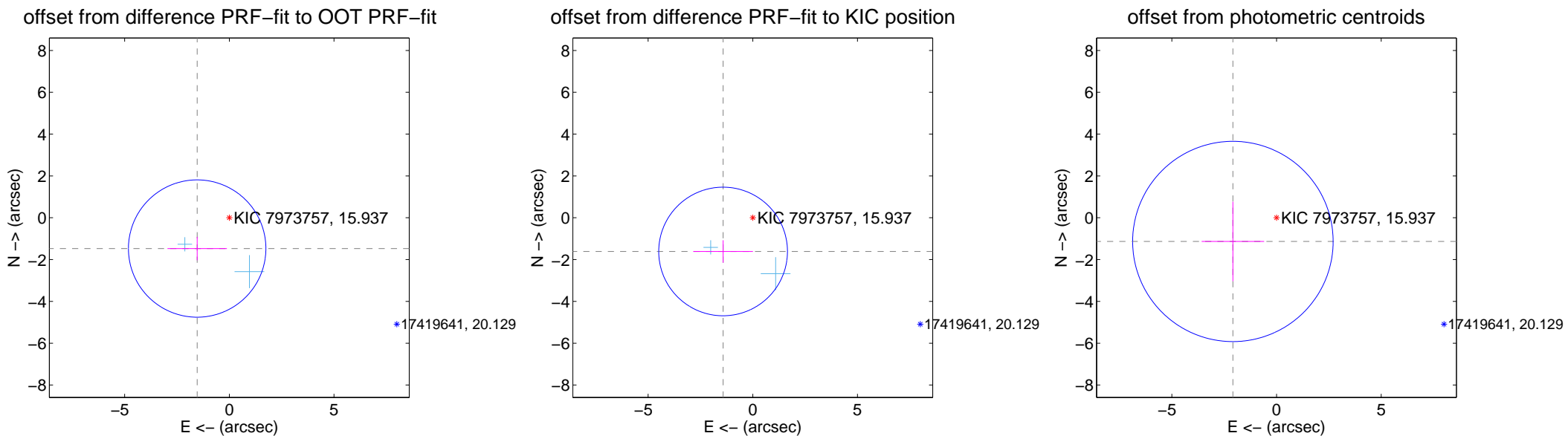
DV Centroid Data

Supplemental centroid analysis for 007973757-01. Kepler magnitude: 15.94. Transit SNR 7.38

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	2.128 ± 1.095	1.94	1.536 ± 1.419	-1.473 ± 0.558
PRF-fit source offset from KIC position	2.148 ± 1.025	2.10	1.419 ± 1.426	-1.613 ± 0.538
photometric centroid source offset	2.37 ± 1.60	1.49	2.08 ± 1.49	-1.13 ± 1.90



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.

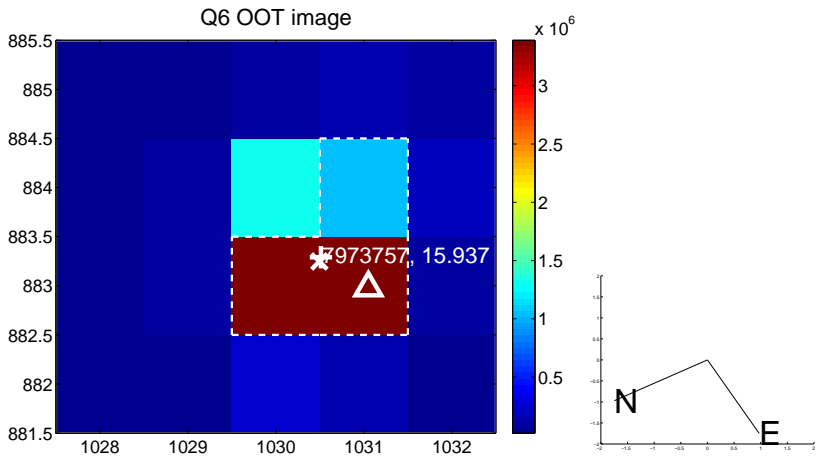
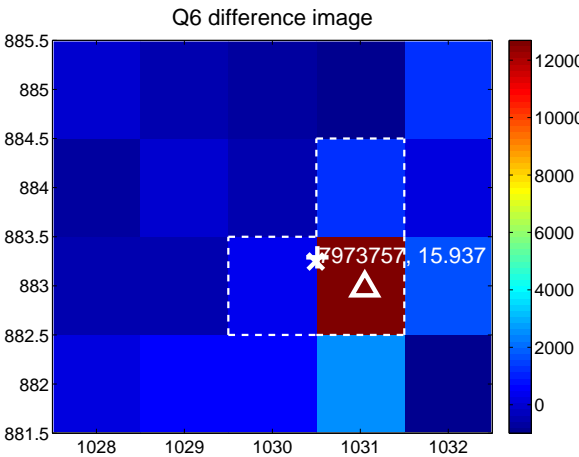


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

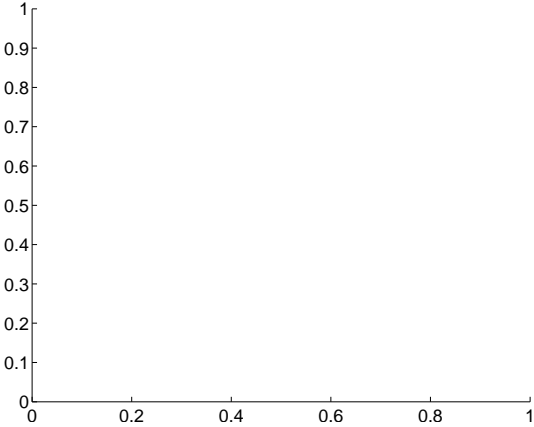
Q5 no difference image



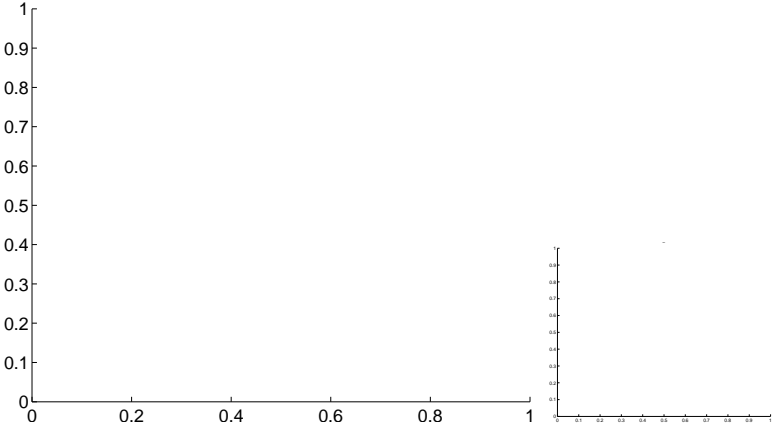
Q5 no OOT image



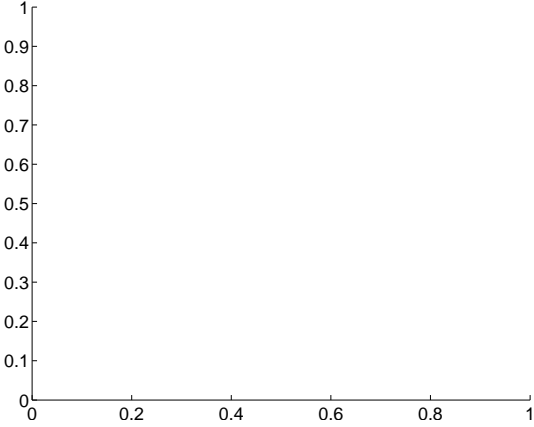
Q7 no difference image



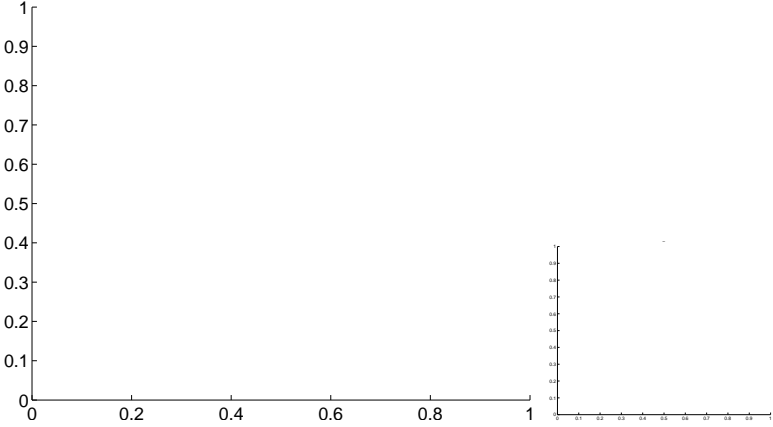
Q7 no OOT image



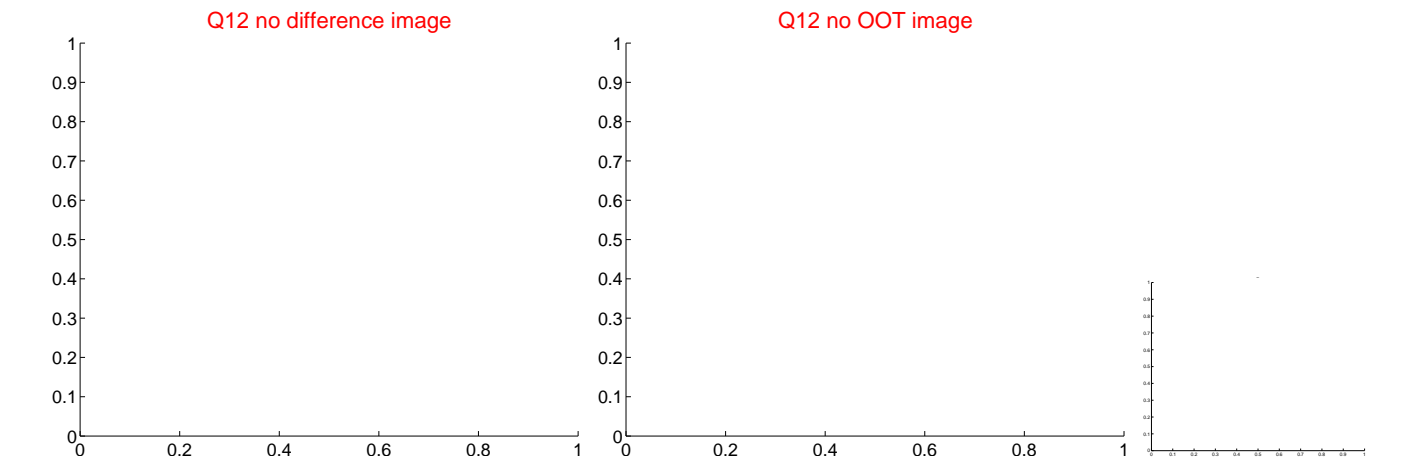
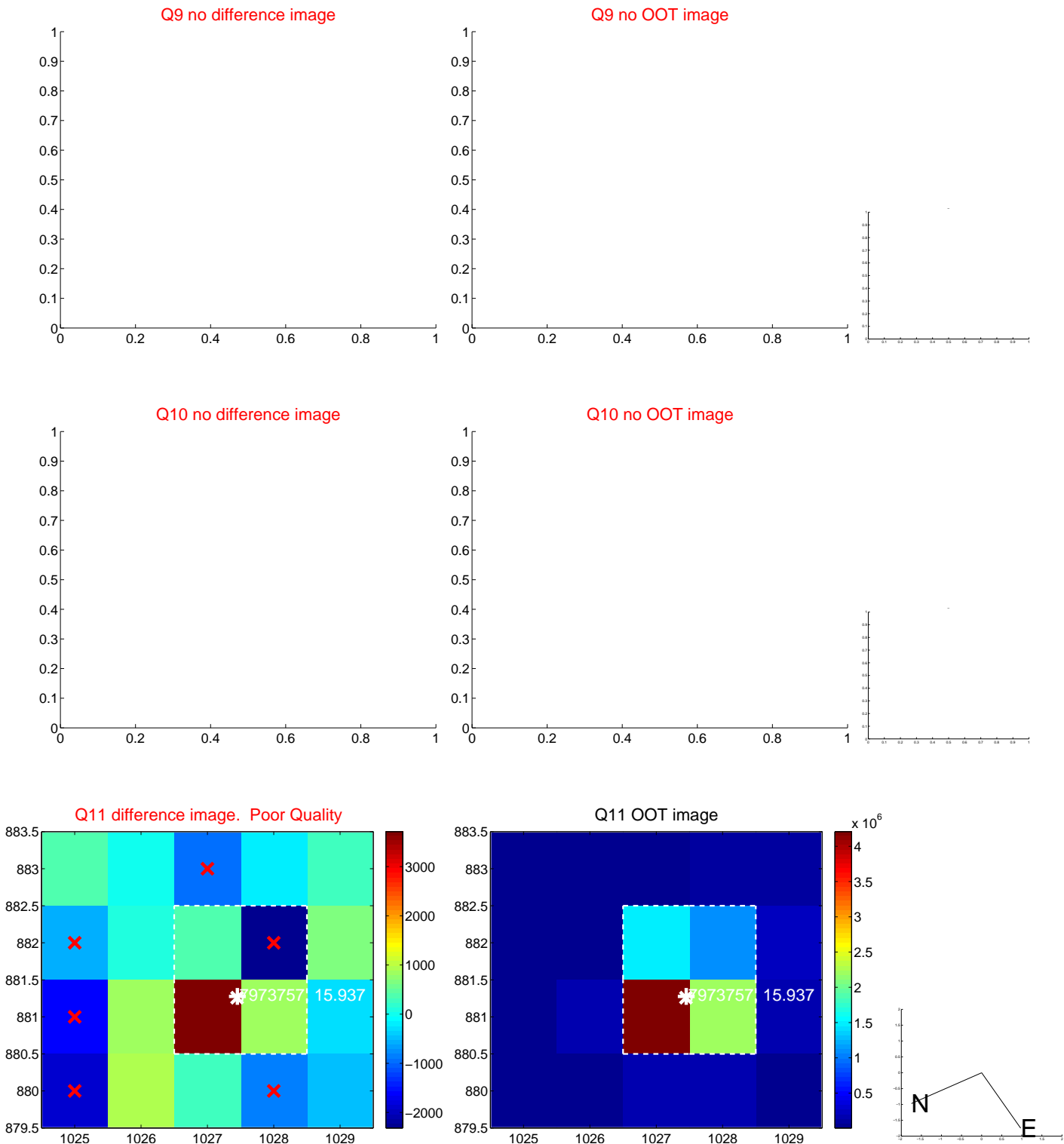
Q8 no difference image



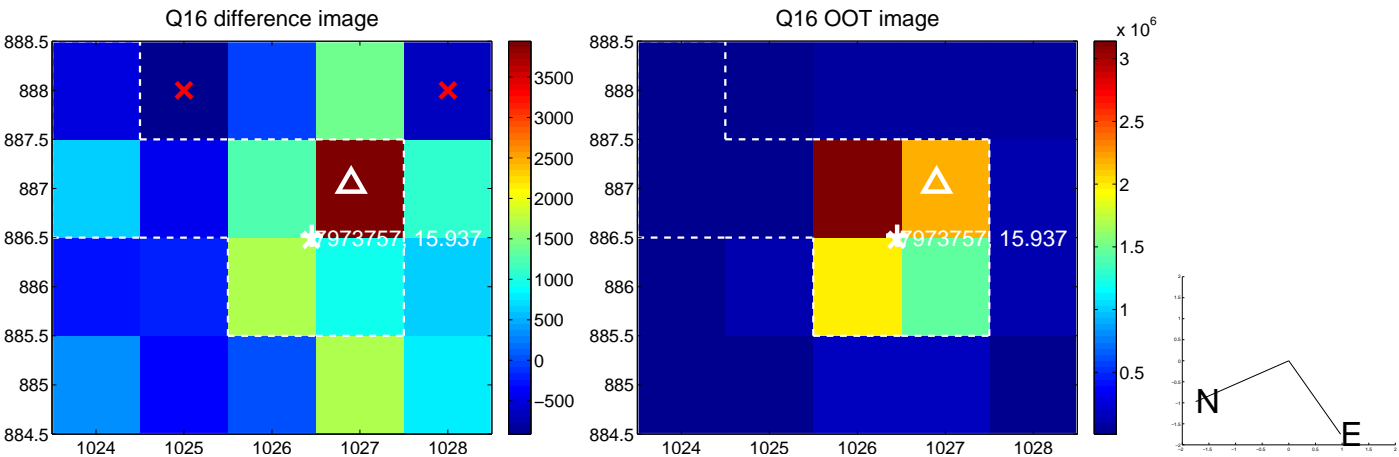
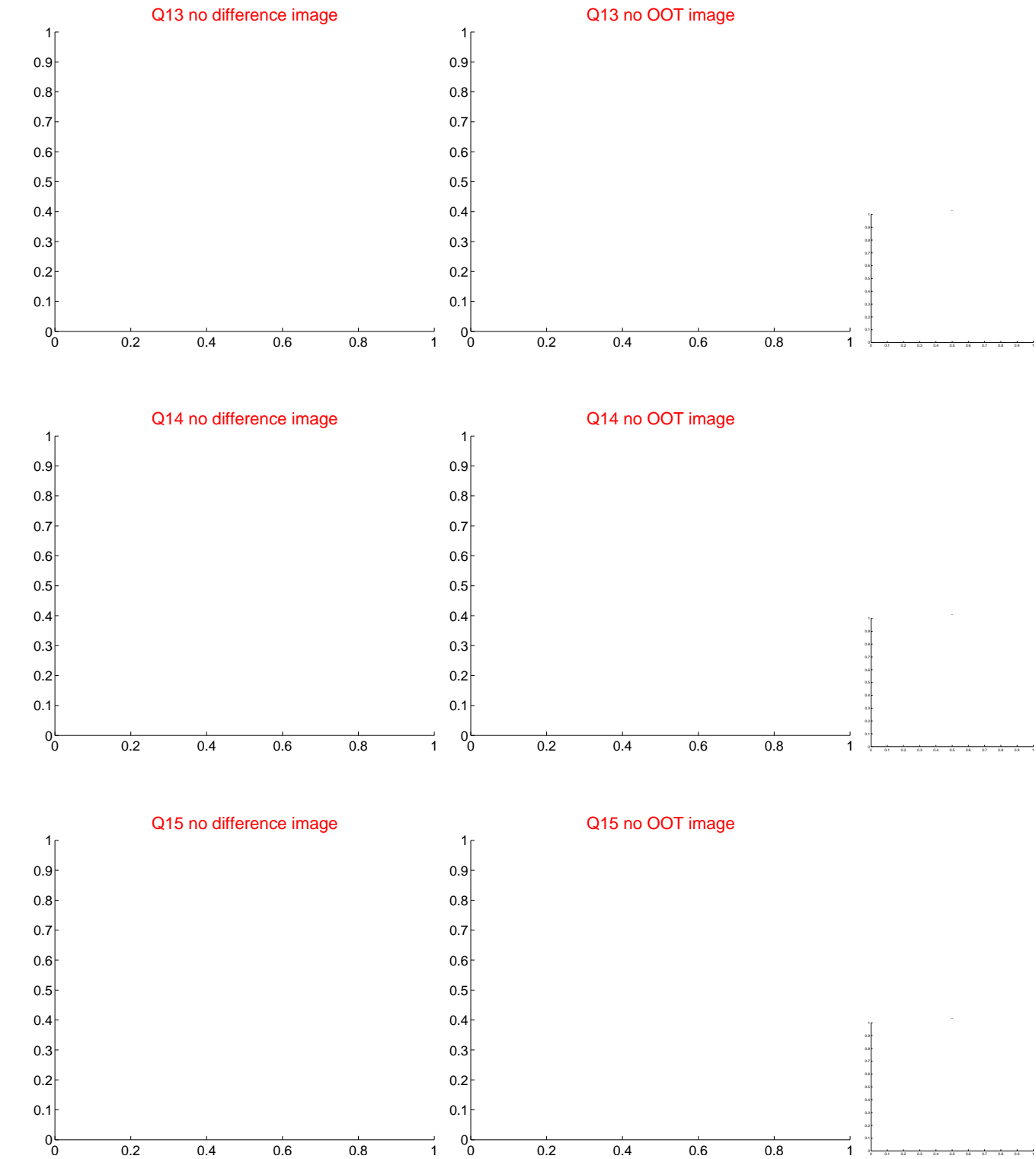
Q8 no OOT image



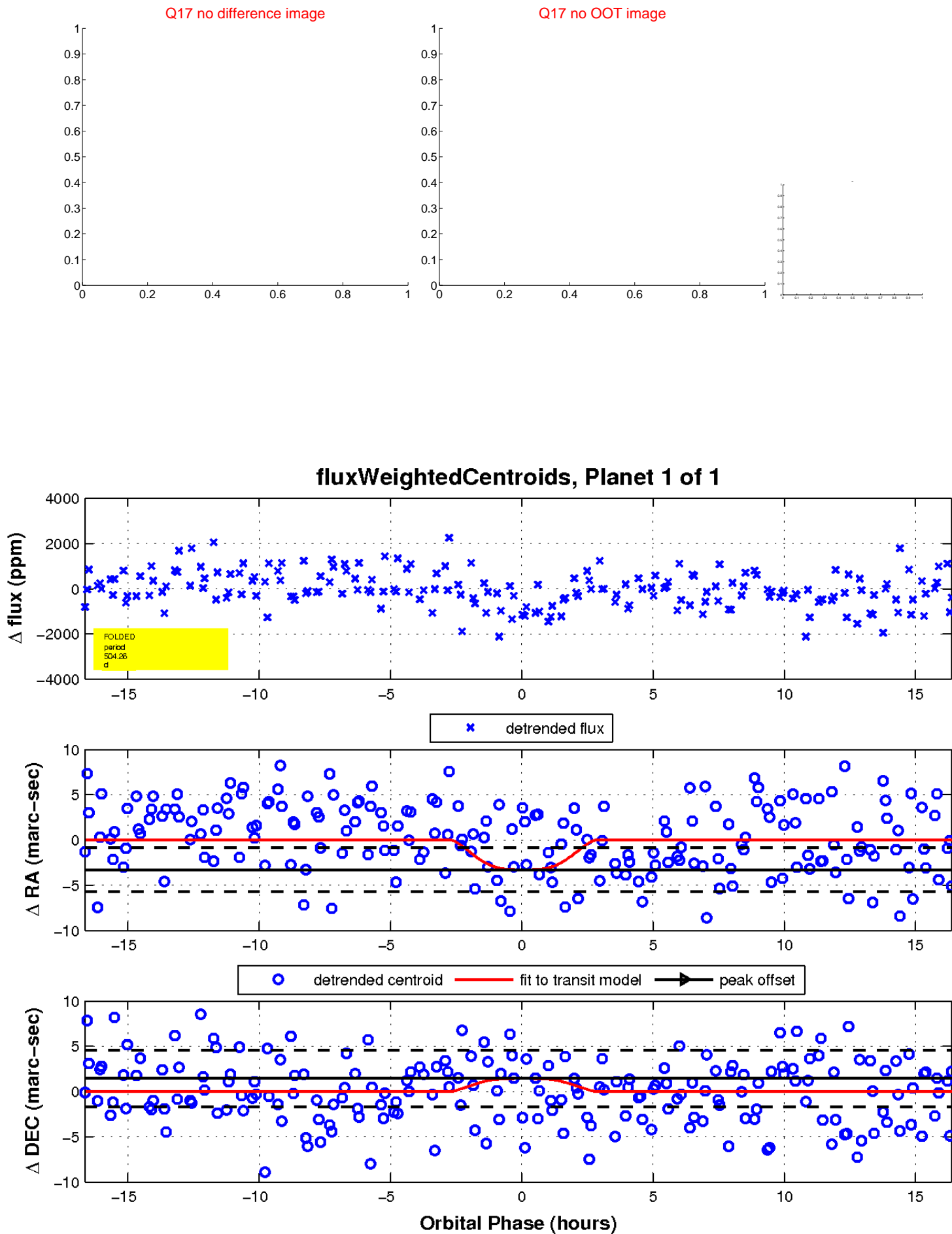
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

