

KIC 007533872

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})
007533872-01	OBS	No	399.555096	518.720876	430.4	35.488	10.5	14.8	0.98	6283	2.14	1.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007533872-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—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.

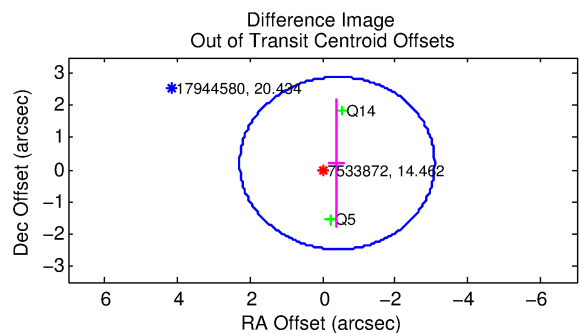
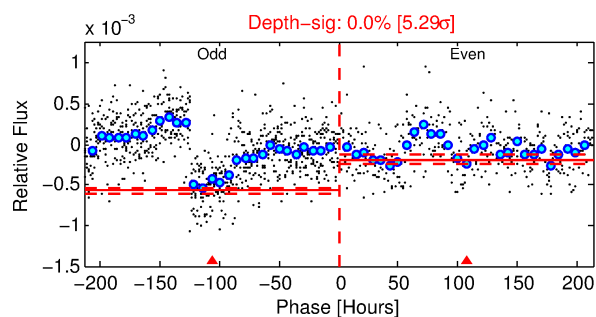
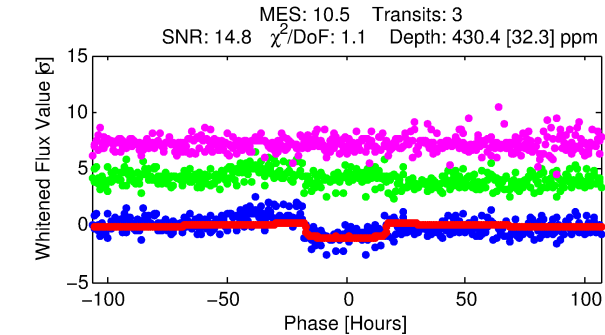
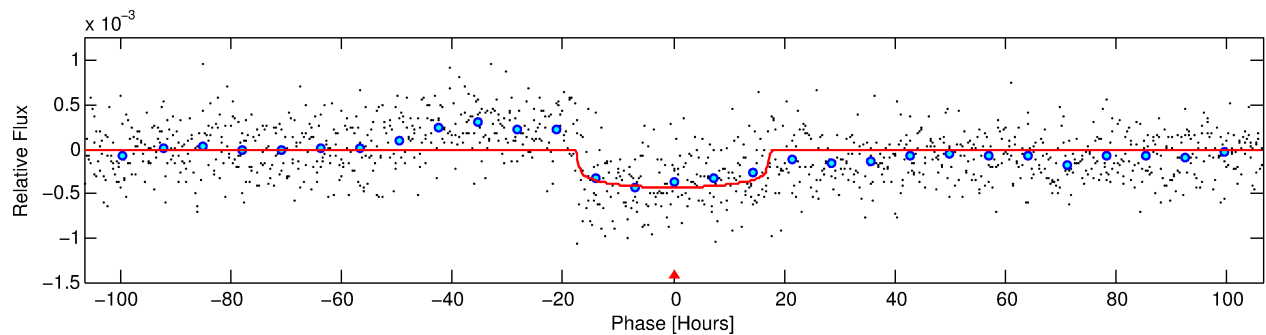
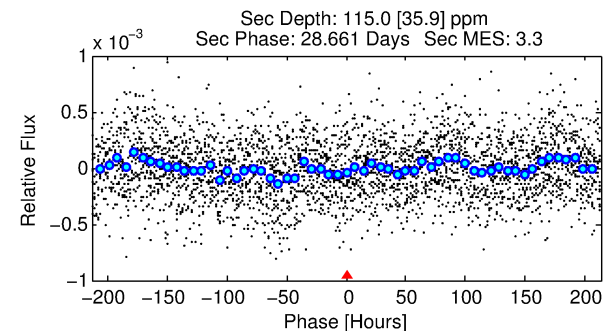
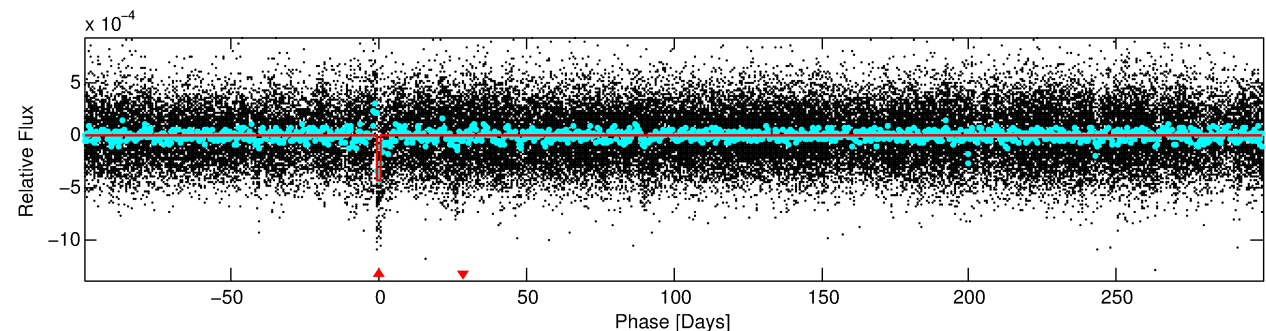
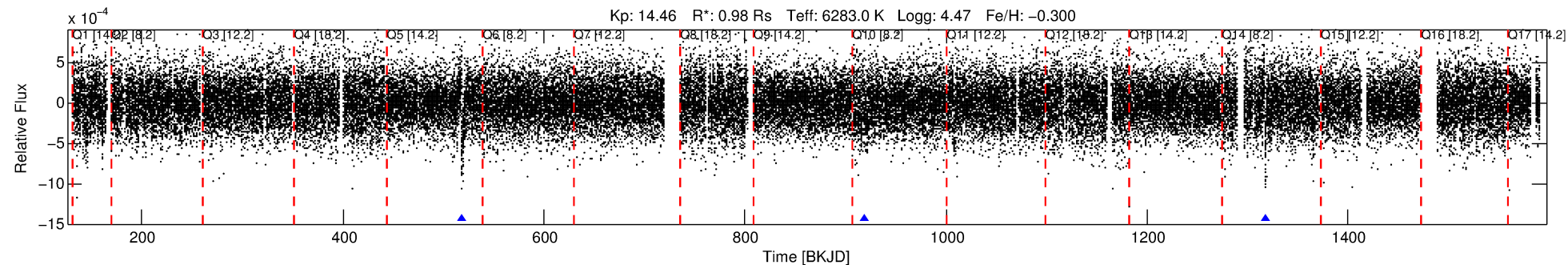
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007533872-01

No Significant Match Found

DV One-Page Summary

KIC: 7533872 Candidate: 1 of 1 Period: 399.555 d



DV Fit Results:

Period = 399.55510 [0.01755] d
Epoch = 518.7209 [0.0202] BKJD
Rp/R* = 0.0199 [0.0026]
a/R* = 70.78 [45.39]
b = 0.60 [0.68]
Seff = 1.16 [0.44]
Teq = 265 [25] K
Rp = 2.14 [0.69] Re
a = 1.0783 [0.2663] AU
Ag = 16101.18 [8690.49] [1.85 σ]
Teffp = 4612 [488] K [8.90 σ]

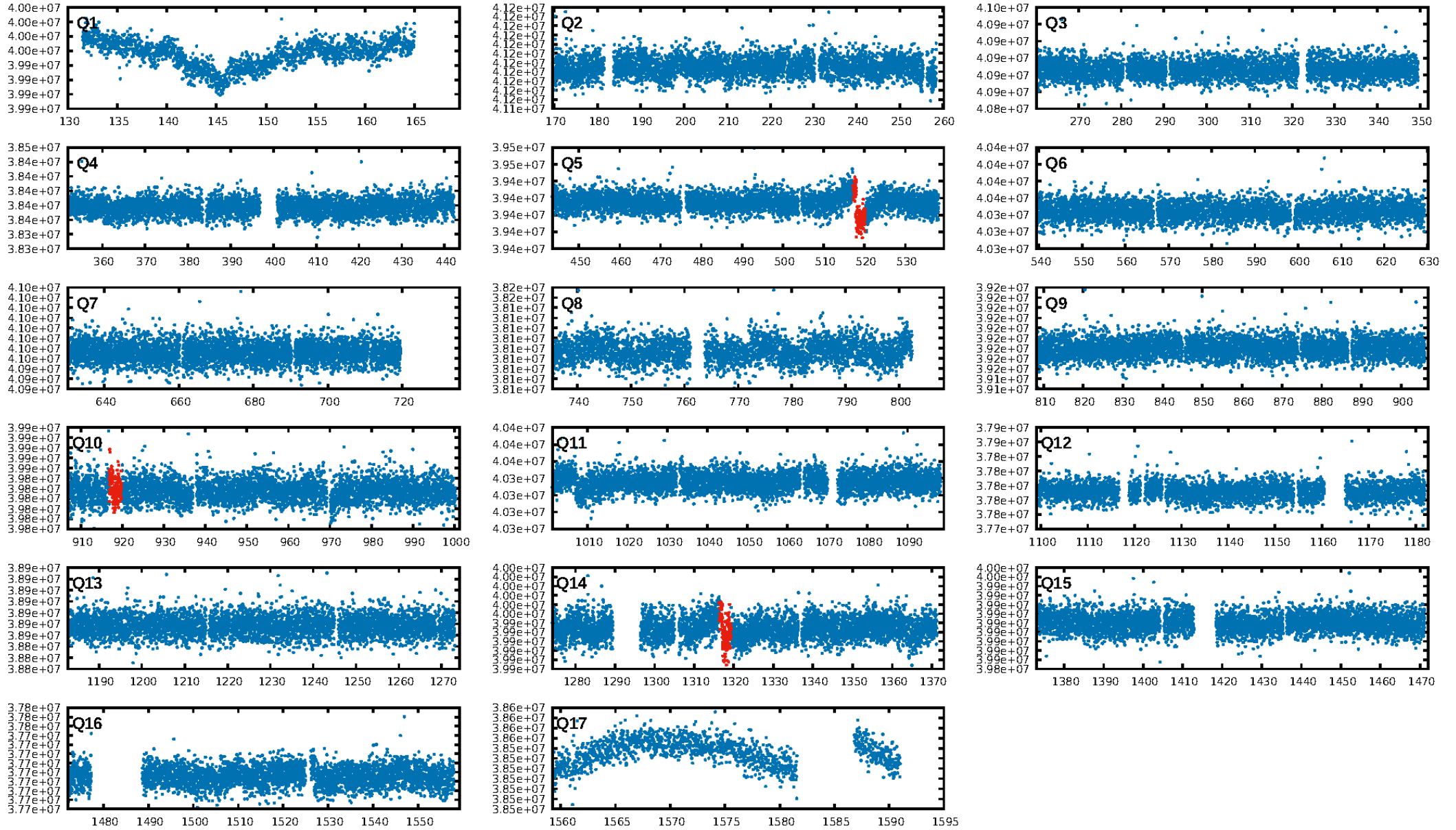
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 2.21e-21
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.738
Centroid-sig: 0.0%
Centroid-so: 2.028 arcsec [2.76 σ]
OotOffset-rm: 0.457 arcsec [0.51 σ]
KicOffset-rm: 0.390 arcsec [0.62 σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

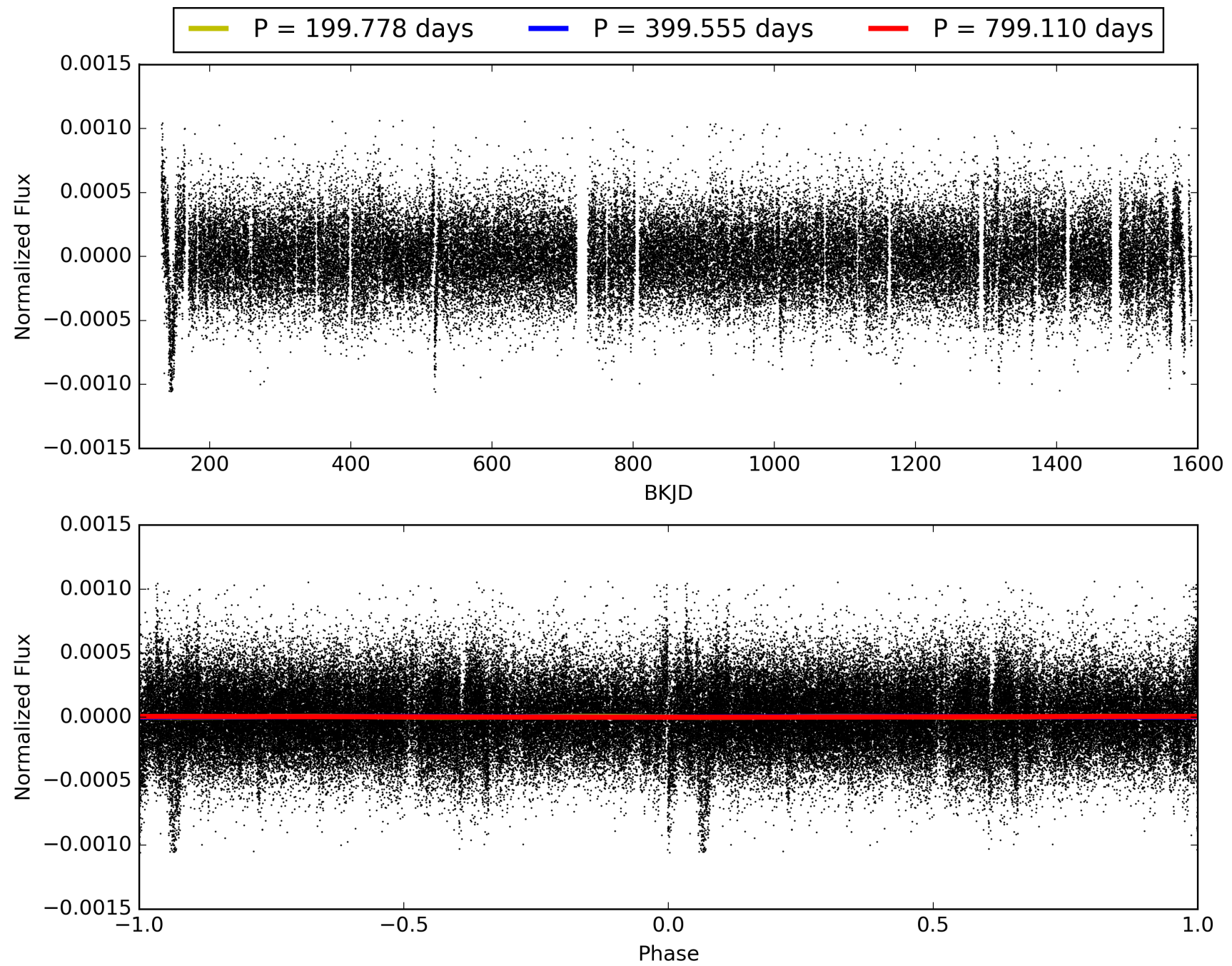
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:14:50 Z

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

TCE 007533872-01, PDC Light Curves

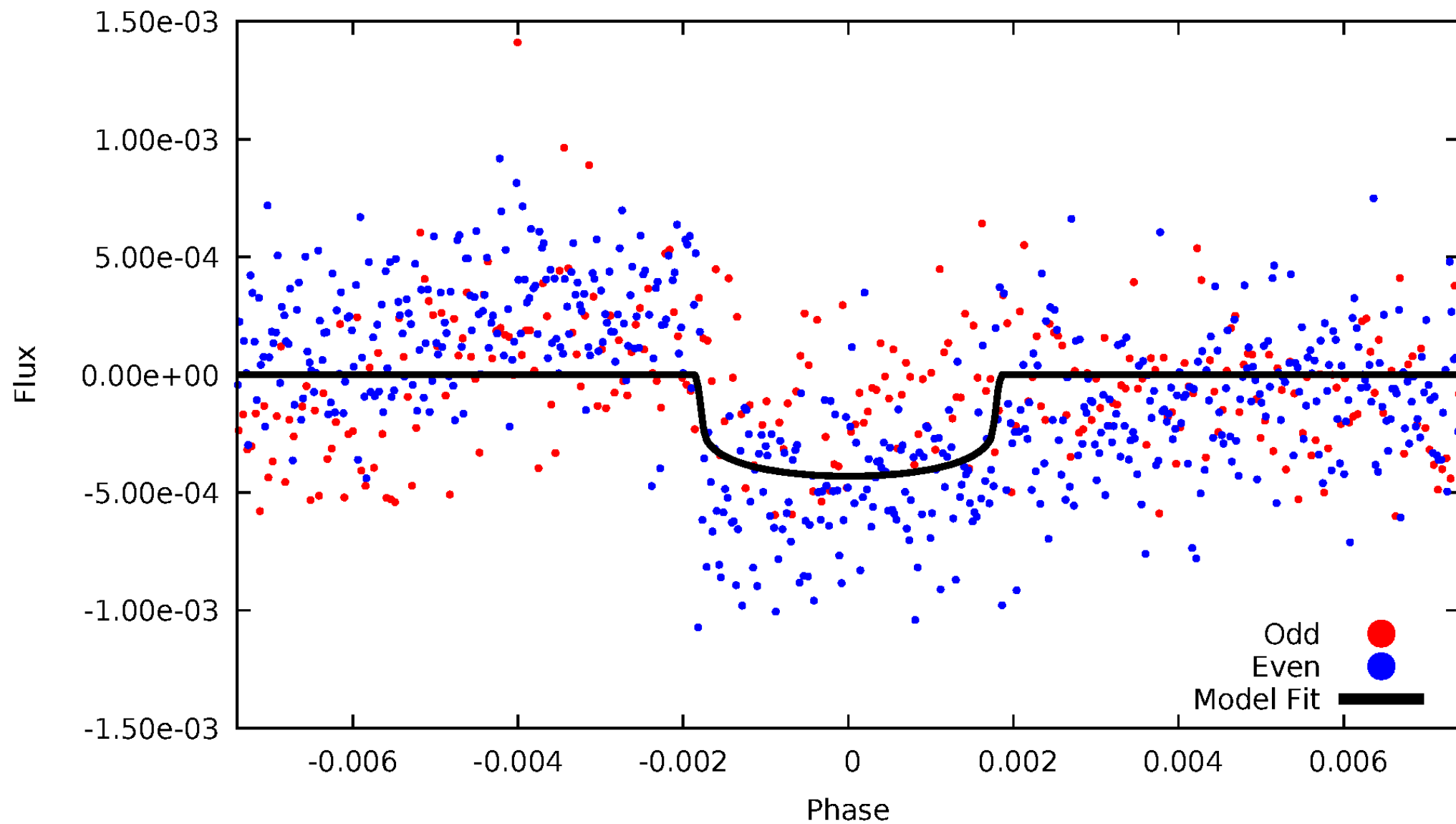


TCE 007533872-01



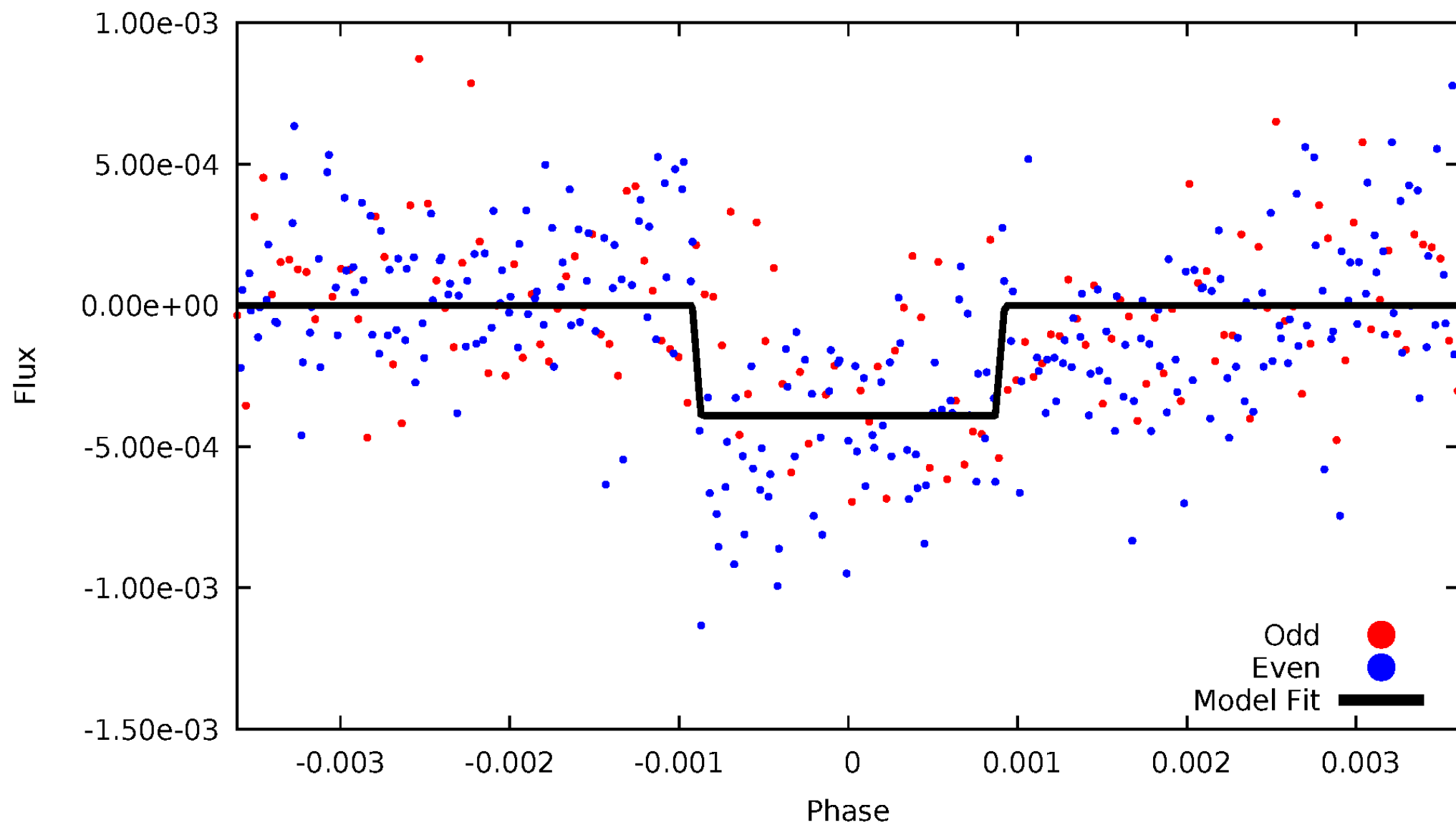
DV Odd/Even

TCE 007533872-01



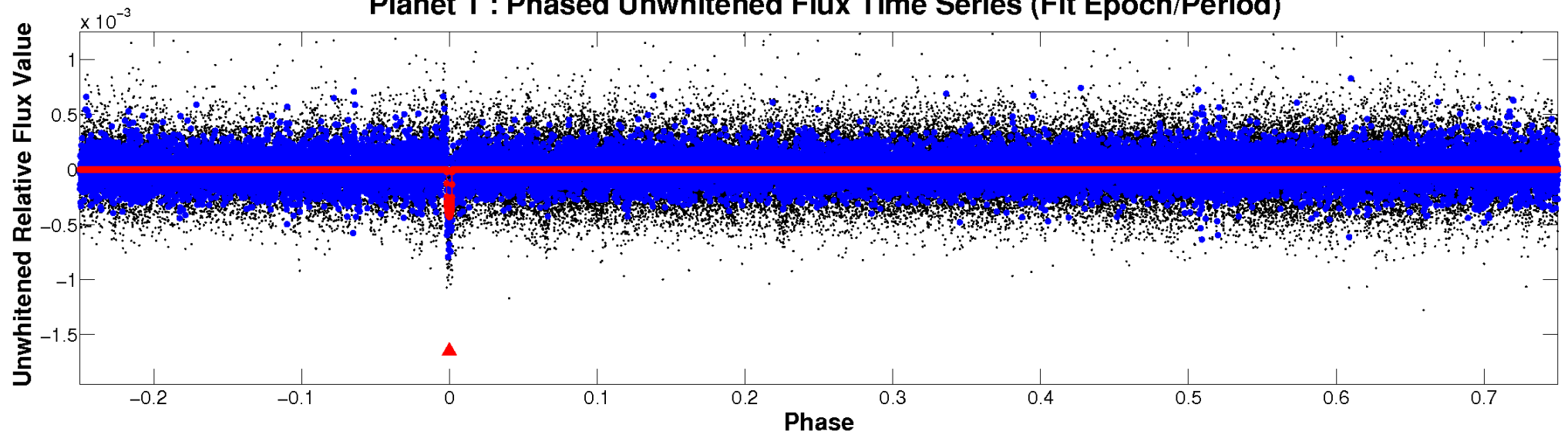
ALT Odd/Even

TCE 007533872-01

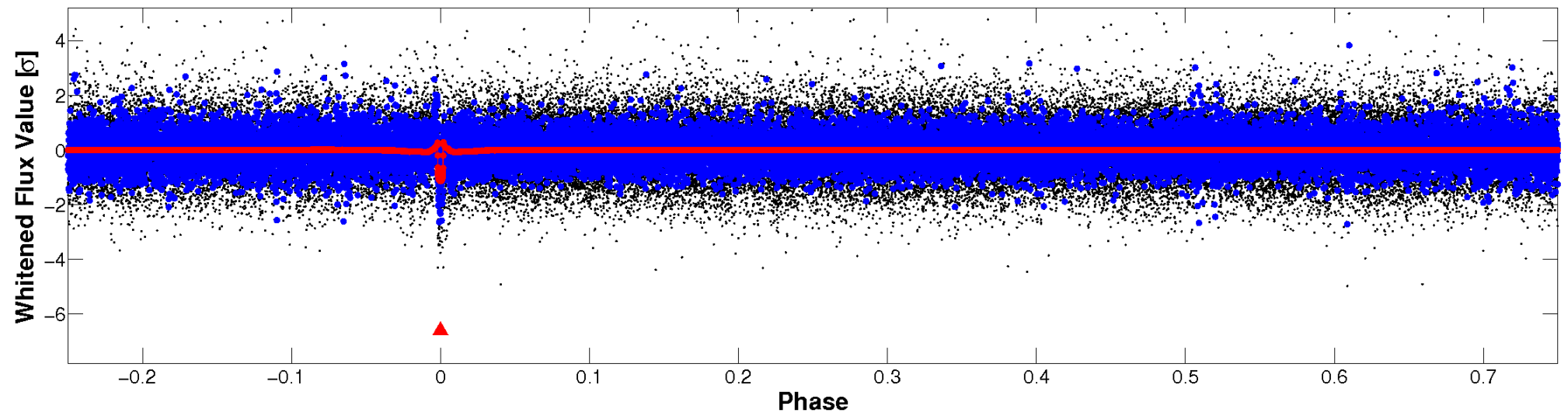


Non-Whitened Vs. Whitened Light Curve

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

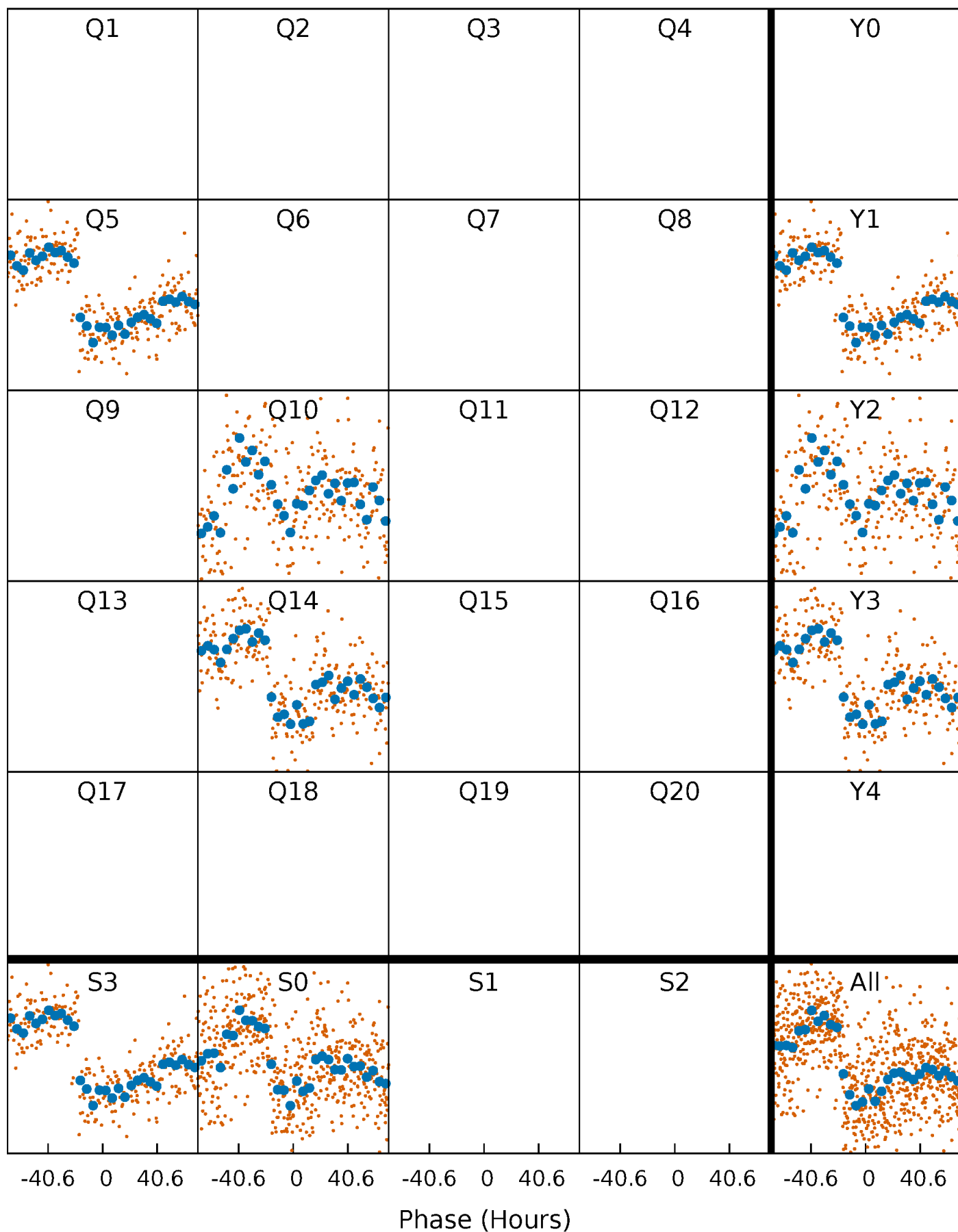


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



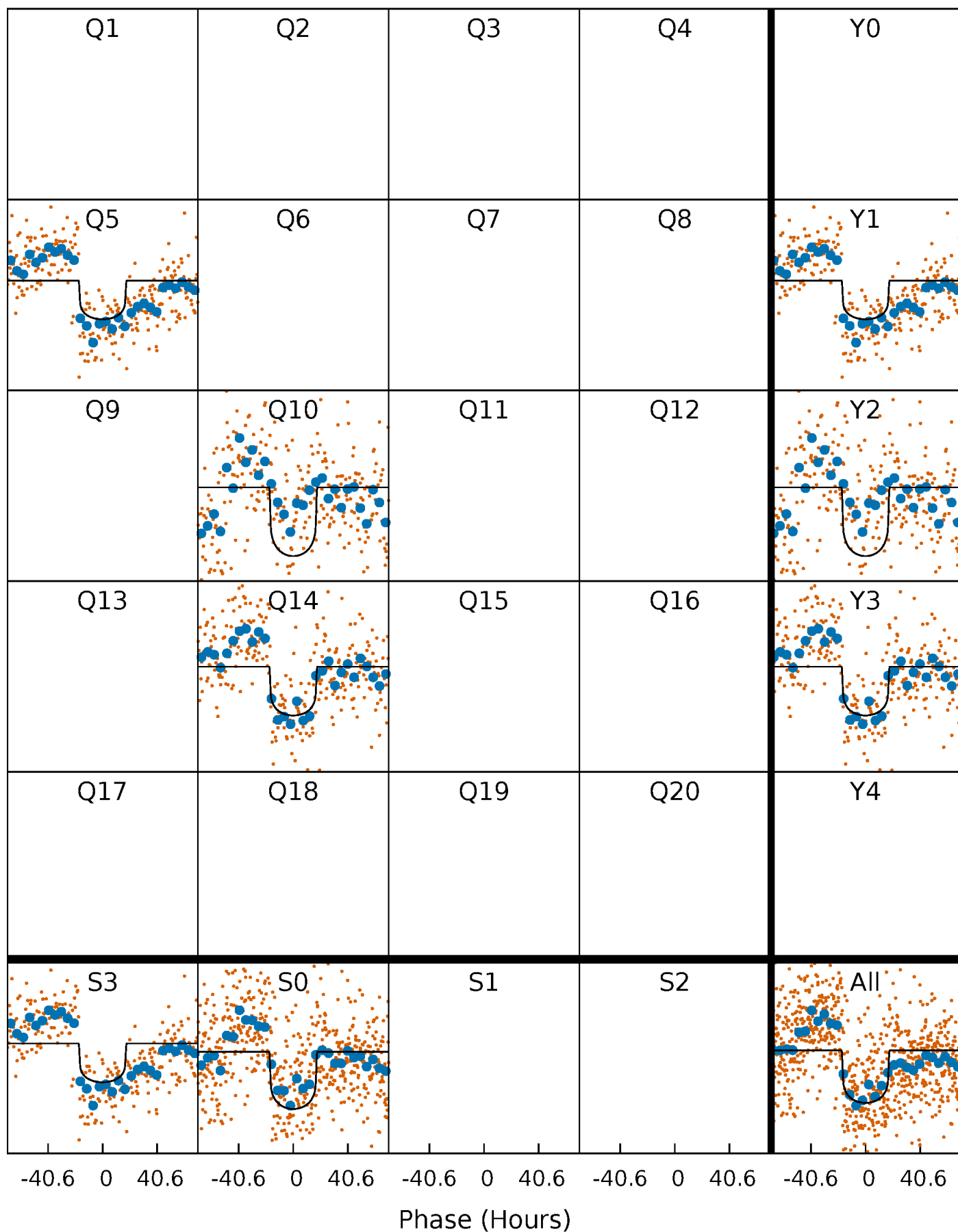
PDC Quarter-Phased Transit Curves

TCE 007533872-01 P=399.555096 Days $T_0=518.720876$ (BKJD)



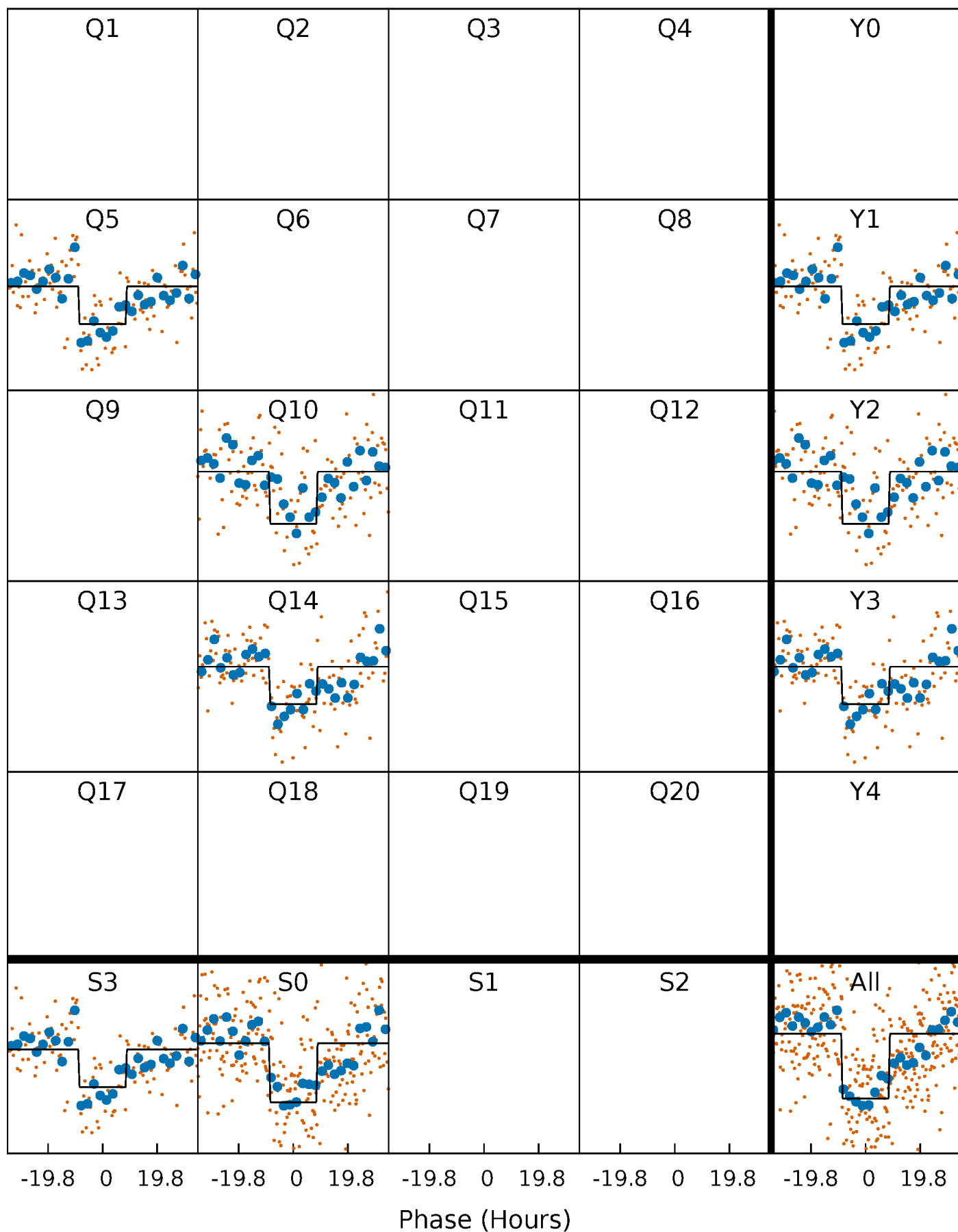
DV Quarter-Phased Transit Curves

TCE 007533872-01 $P=399.555096$ Days $T_0=518.720876$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

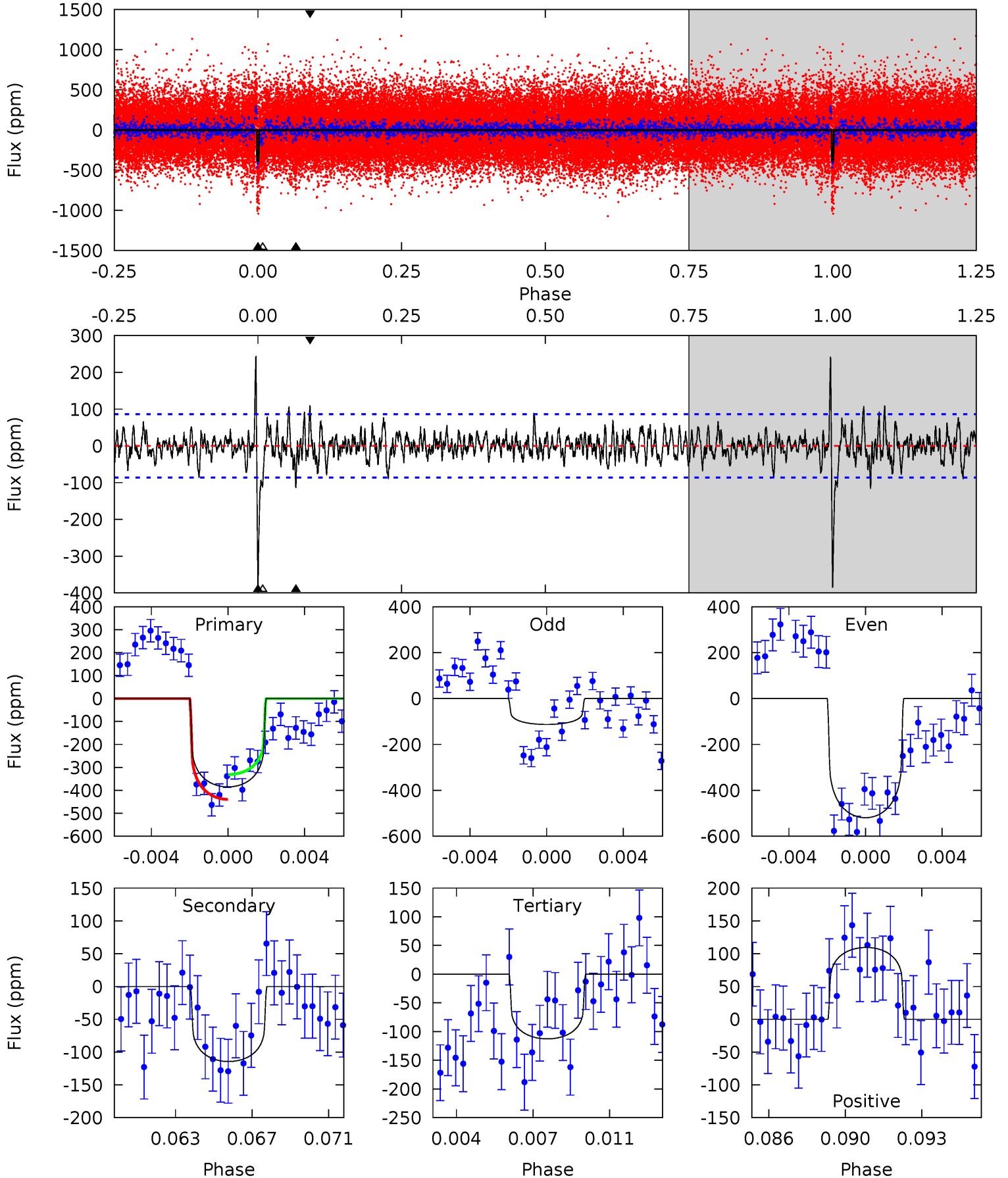
TCE 007533872-01 P=399.571455 Days $T_0=518.341568$ (BKJD)



DV Model-Shift Uniqueness Test

007533872-01, $P = 399.555096$ Days, $E = 119.165780$ Days

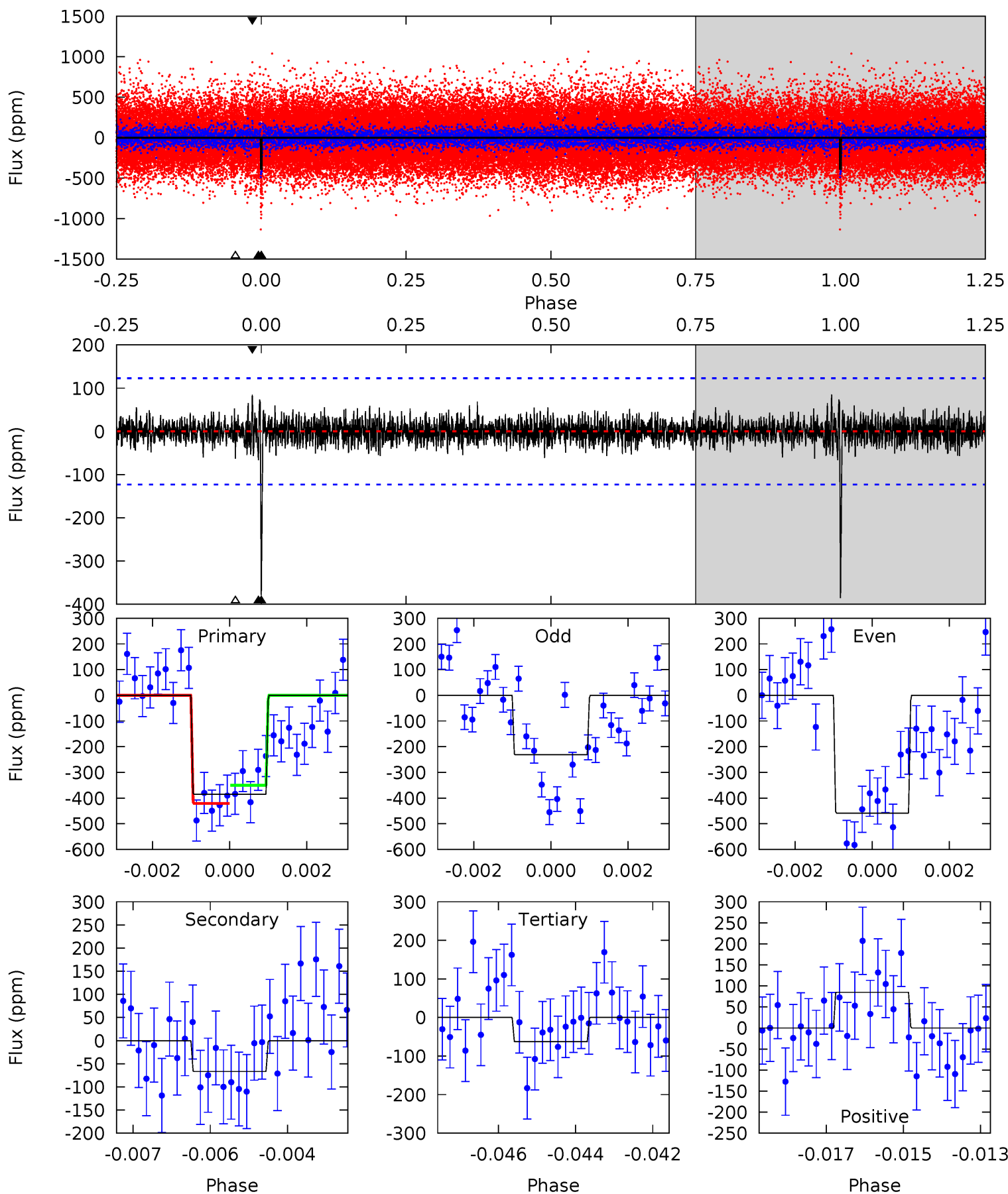
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.3	6.92	6.81	6.62	5.21	2.90	1.76	16.5	16.7	0.10	0.30	11.5	0.82	0.39	3.26



Alt Model-Shift Uniqueness Test

007533872-01, P = 399.571455 Days, E = 118.770113 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	2.90	2.73	3.69	5.34	3.11	0.81	14.0	13.1	0.16	-0.79	4.62	0.88	0.18	1.53



Stellar Parameters For KIC 007533872

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6283^{+176}_{-198}	$4.472^{+0.052}_{-0.195}$	$-0.300^{+0.250}_{-0.350}$	$0.984^{+0.290}_{-0.097}$	$1.047^{+0.129}_{-0.143}$	$1.548^{+0.412}_{-0.786}$
	+3%/-3%	+1%/-4%	+83%/-117%	+29%/-10%	+12%/-14%	+27%/-51%
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 007533872-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-114 ± 17	$2.21^{+0.44}_{-0.35}$	377^{+25}_{-19}	4733^{+329}_{-284}	14373^{+6500}_{-4192}
Alt.	-67 ± 23	$2.22^{+0.42}_{-0.34}$	378^{+25}_{-18}	4257^{+365}_{-384}	8189^{+4916}_{-3467}

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 $A_{obs} \gg 1.0$

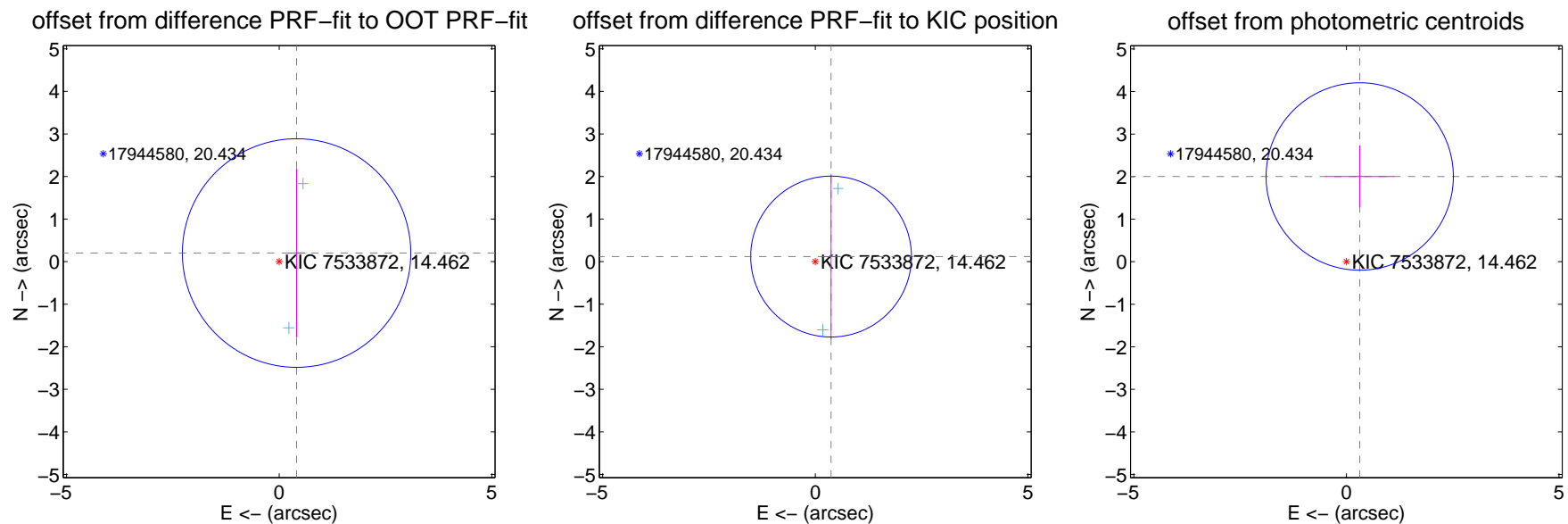
DV Centroid Data

Supplemental centroid analysis for 007533872-01. Kepler magnitude: 14.46. Transit SNR 14.83

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.457 ± 0.895	0.51	-0.410 ± 0.205	0.202 ± 1.980
PRF-fit source offset from KIC position	0.390 ± 0.630	0.62	-0.372 ± 0.220	0.120 ± 1.941
photometric centroid source offset	2.03 ± 0.73	2.76	-0.31 ± 0.81	2.00 ± 0.73

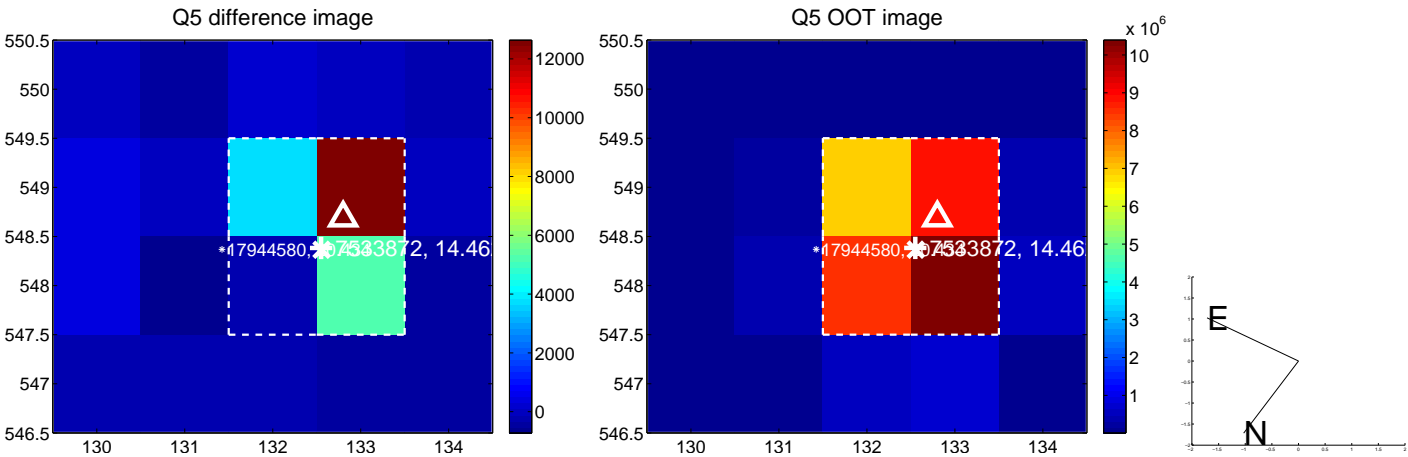


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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.

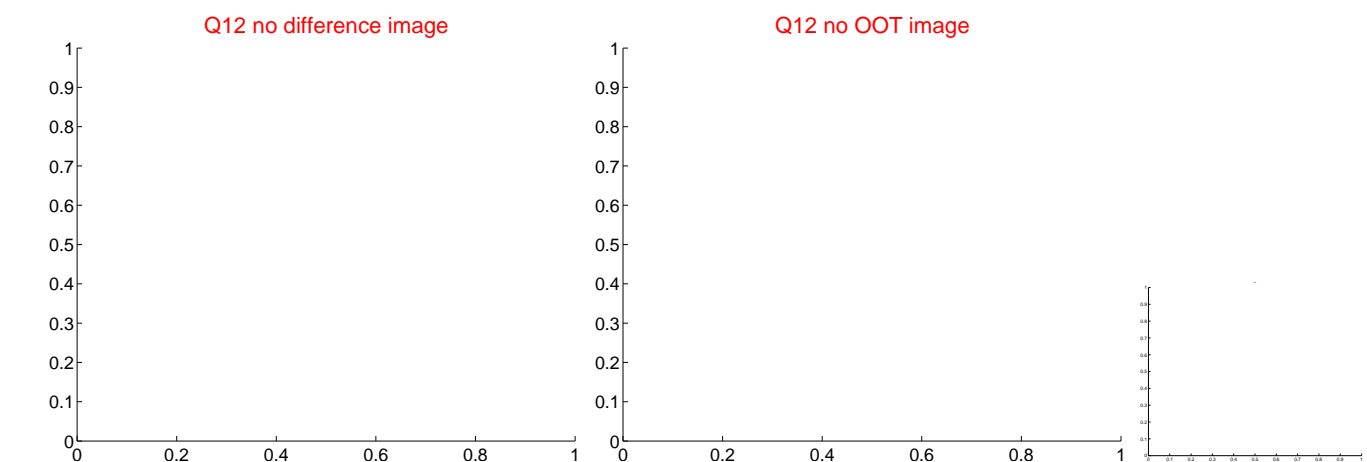
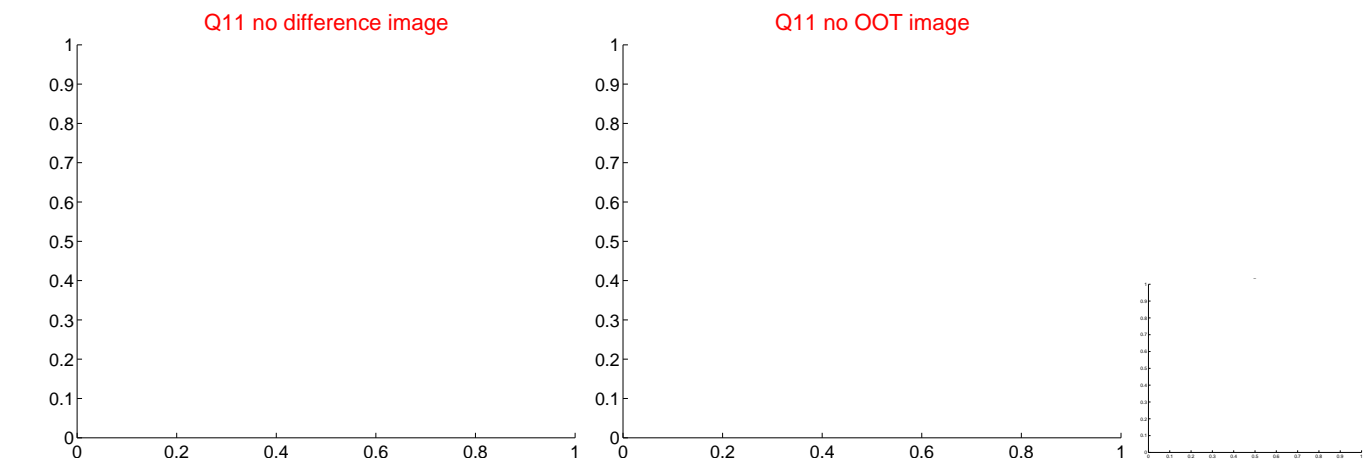
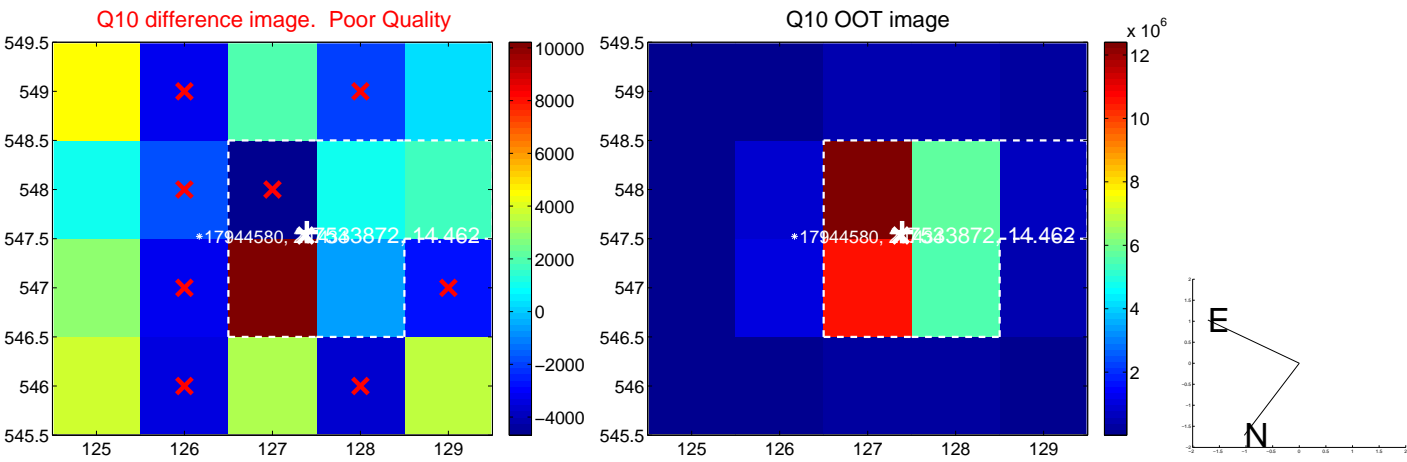
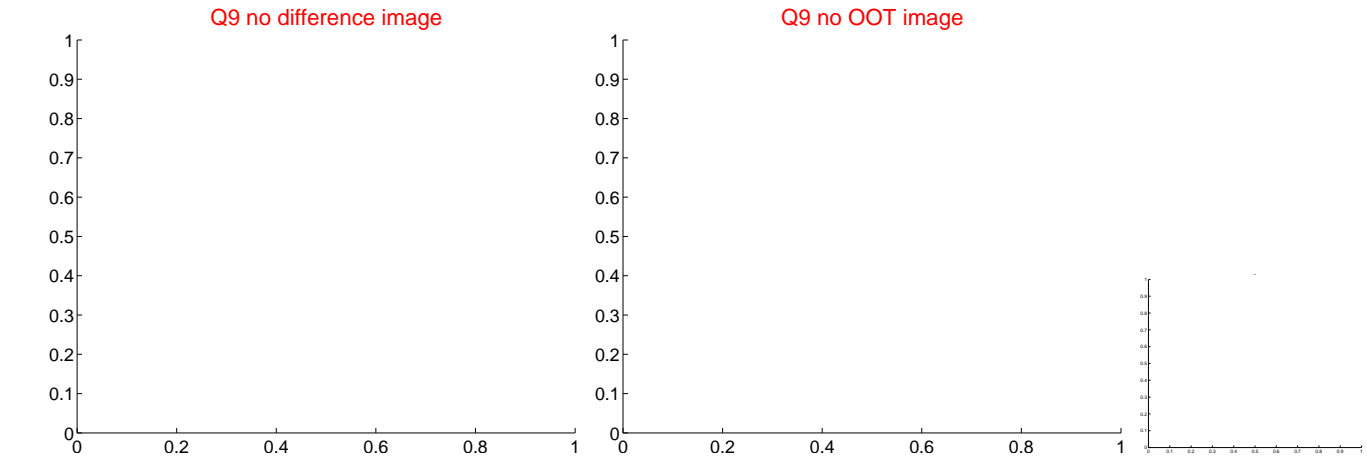
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



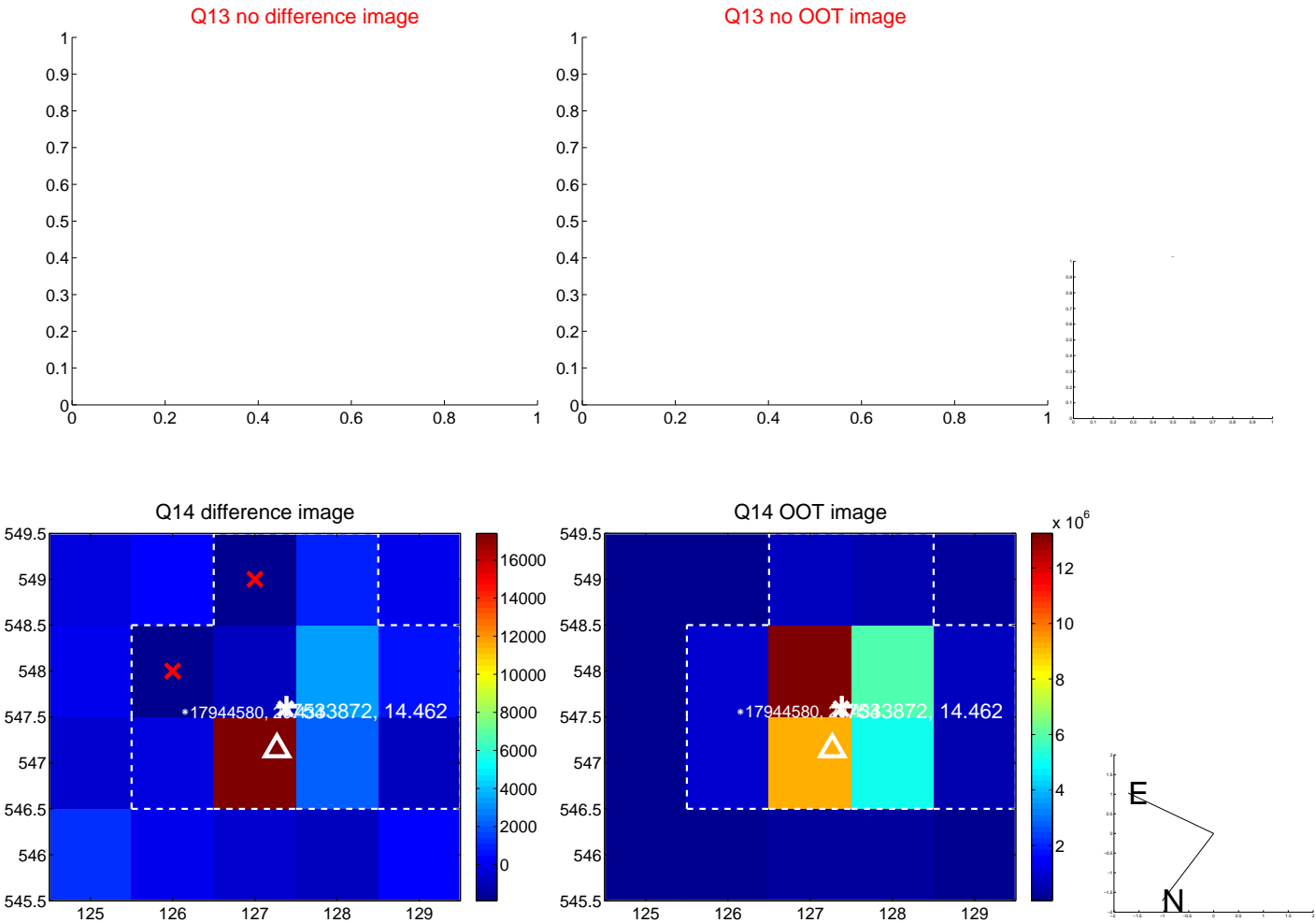
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



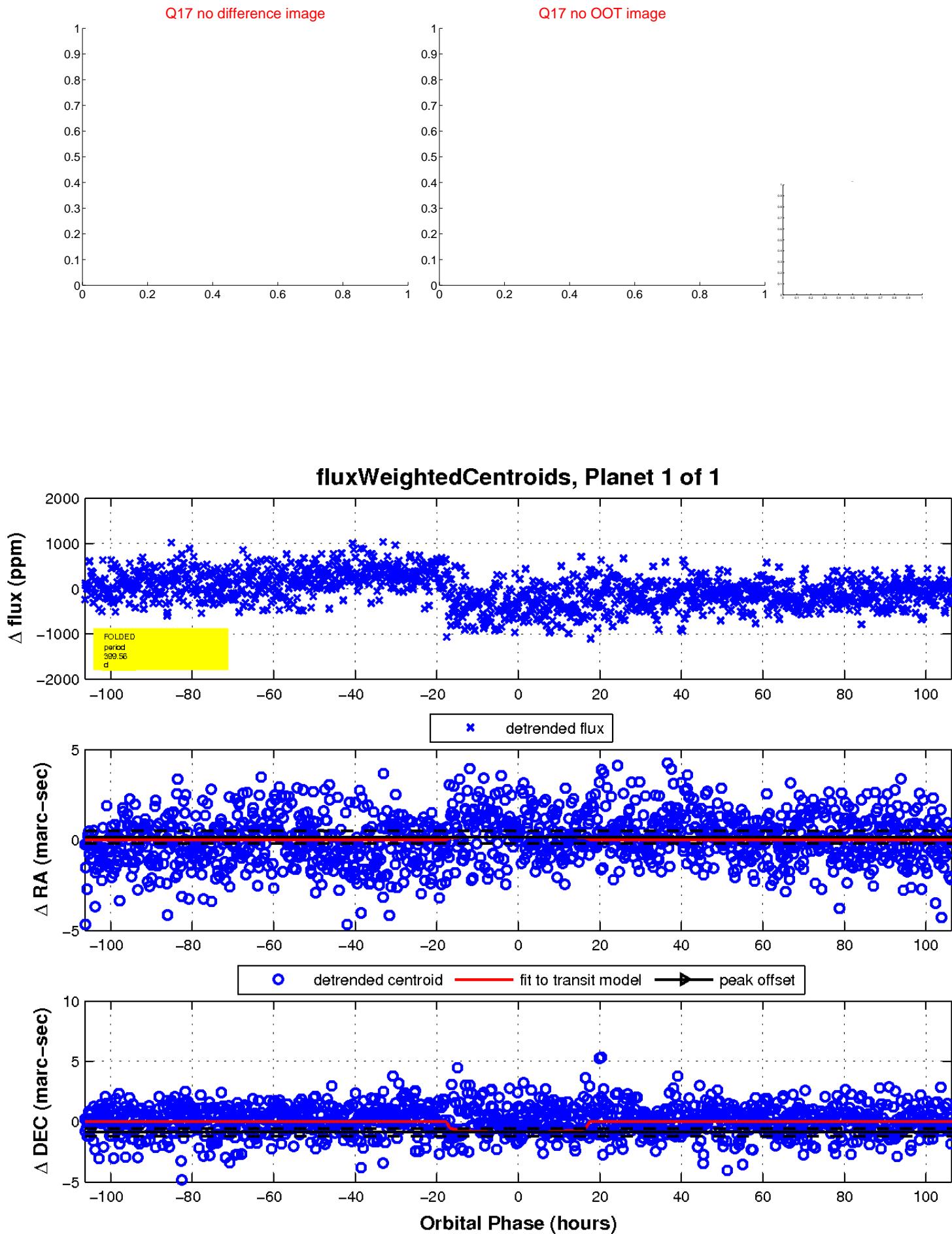
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

