

KIC 004751561

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})
004751561-01	OBS	No	319.597030	240.971765	1076.7	9.191	8.4	7.9	0.85	5818	2.92	0.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004751561-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_ALT—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.

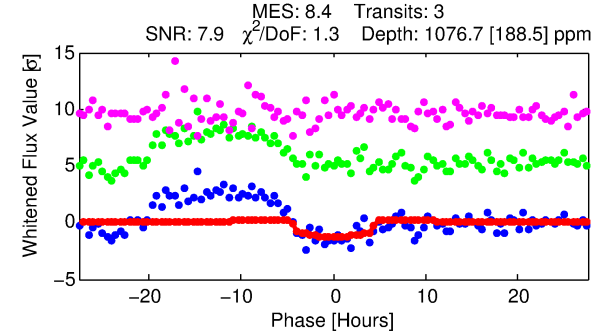
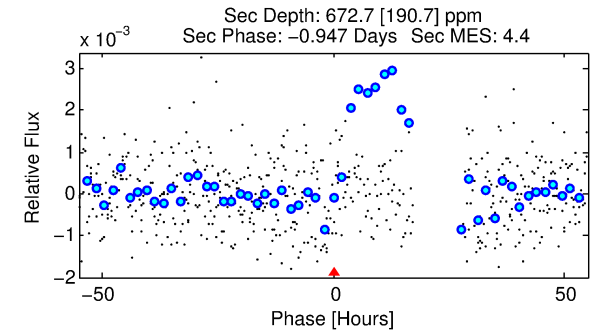
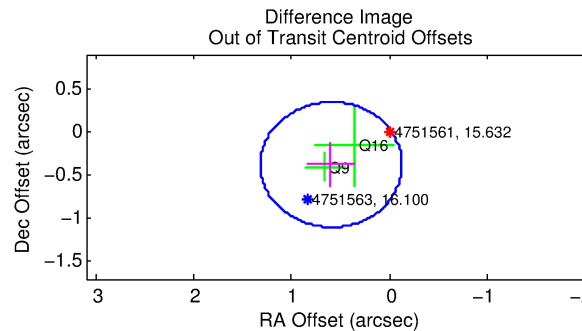
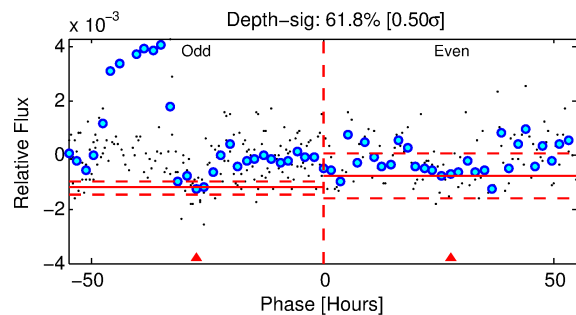
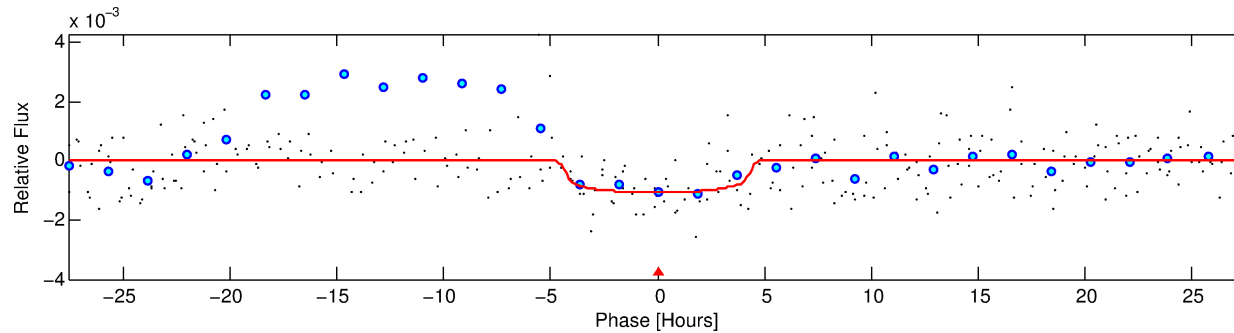
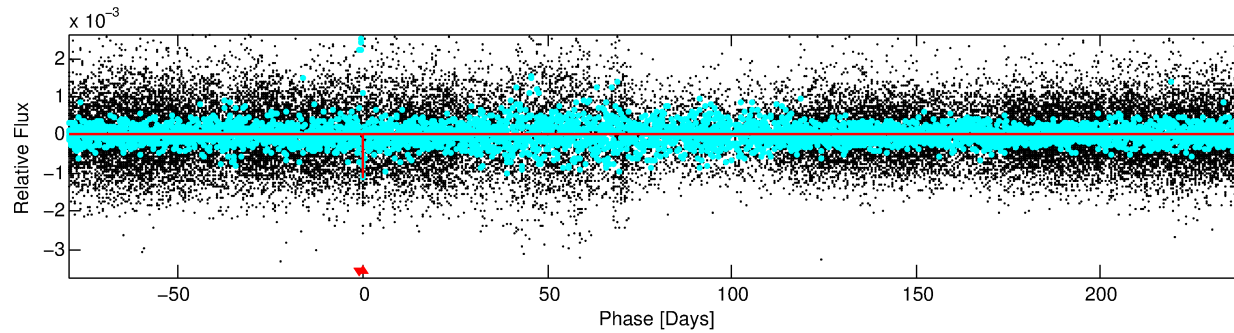
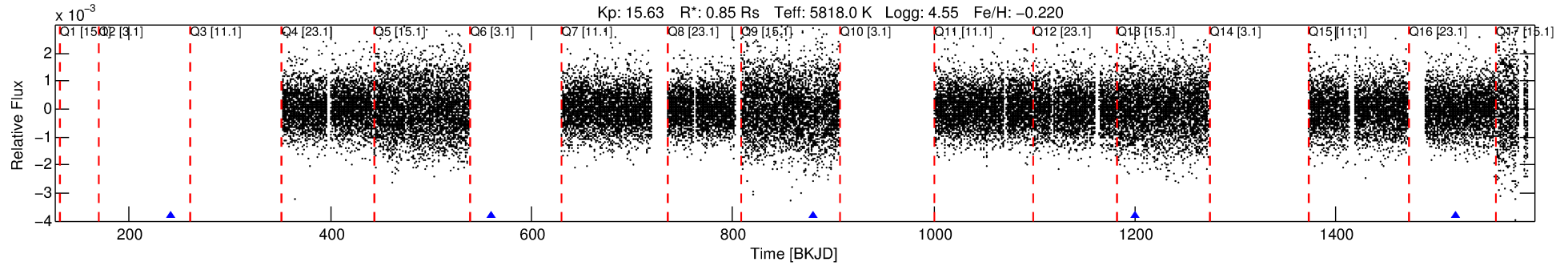
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004751561-01

No Significant Match Found

DV One-Page Summary

KIC: 4751561 Candidate: 1 of 1 Period: 319.597 d



DV Fit Results:

Period = 319.59703 [0.01730] d
Epoch = 240.9718 [0.0609] BKJD
Rp/R* = 0.0315 [0.0415]
a/R* = 217.44 [1305.67]
b = 0.63 [5.85]
Seff = 0.92 [0.31]
Teq = 250 [21] K
Rp = 2.92 [3.92] Re
a = 0.8961 [0.1956] AU
Ag = 34939.48 [93212.36] [0.37 σ]
Teffp = 5278 [3501] K [1.44 σ]

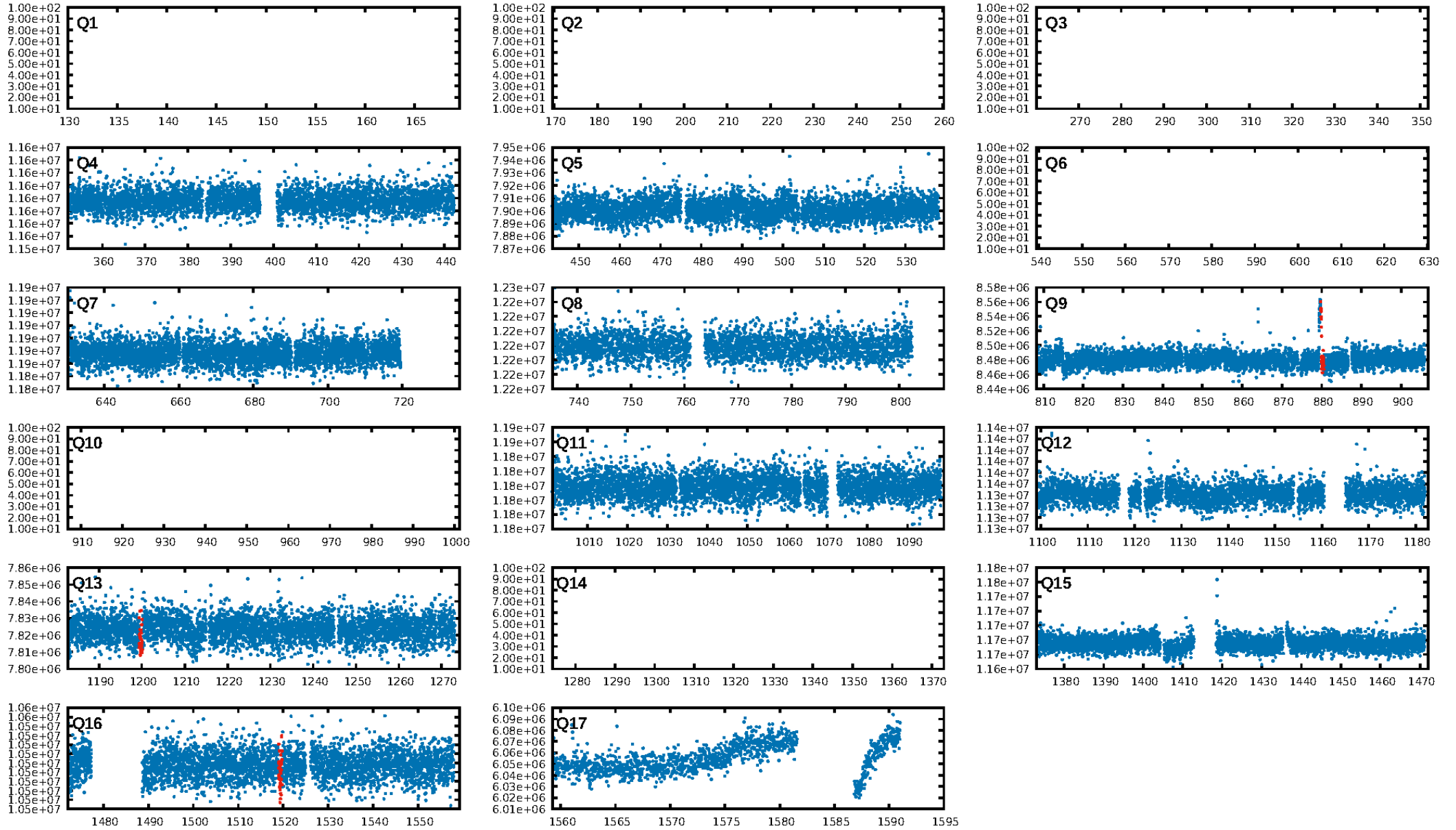
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 87.6%
Bootstrap-pfa: 7.93e-17
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -12.57
Centroid-sig: 42.5%
Centroid-so: 0.685 arcsec [0.73 σ]
OotOffset-rm: 0.706 arcsec [2.92 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 0.258 arcsec [0.66 σ]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

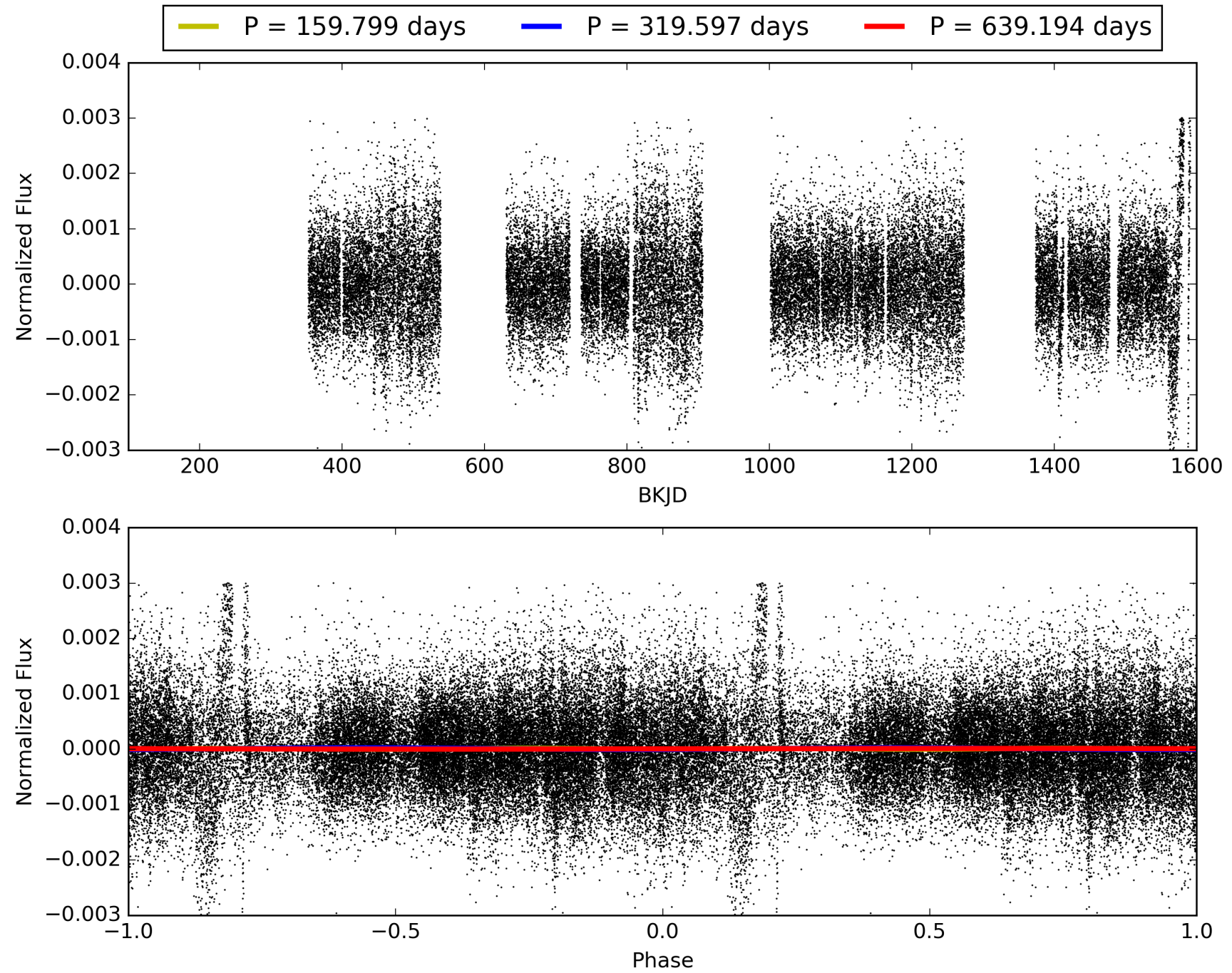
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:48:38 Z

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

TCE 004751561-01, PDC Light Curves

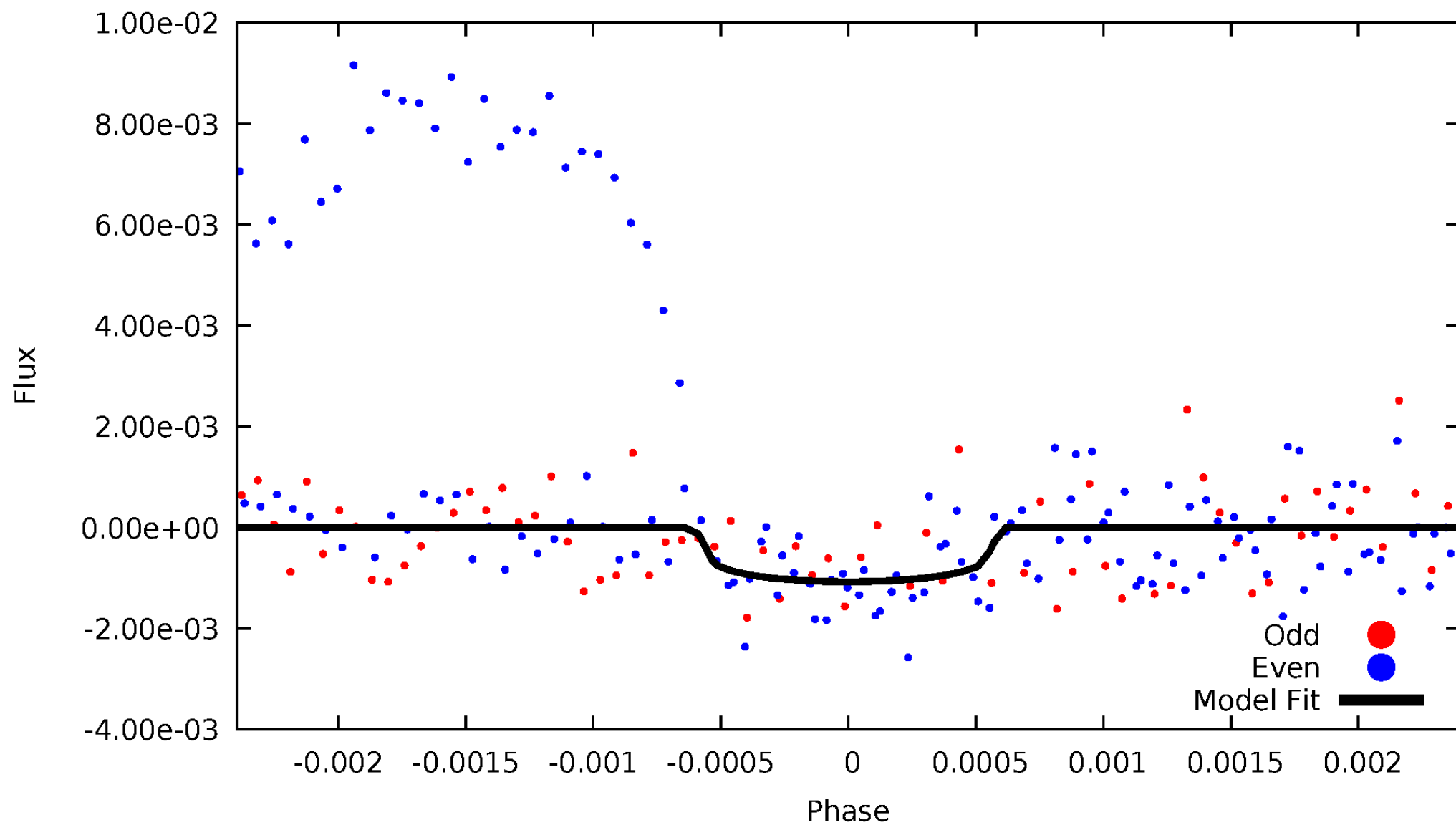


TCE 004751561-01



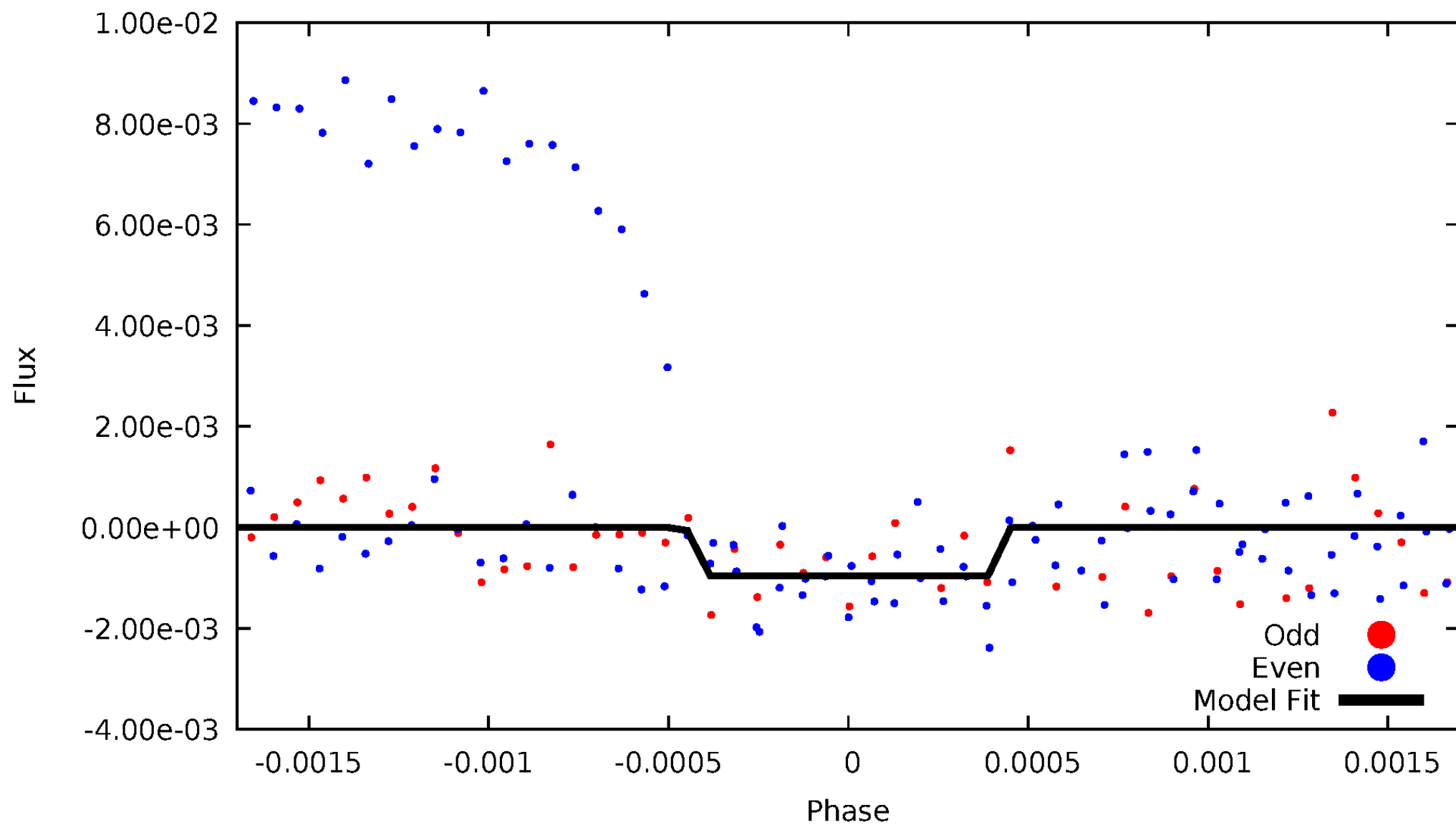
DV Odd/Even

TCE 004751561-01



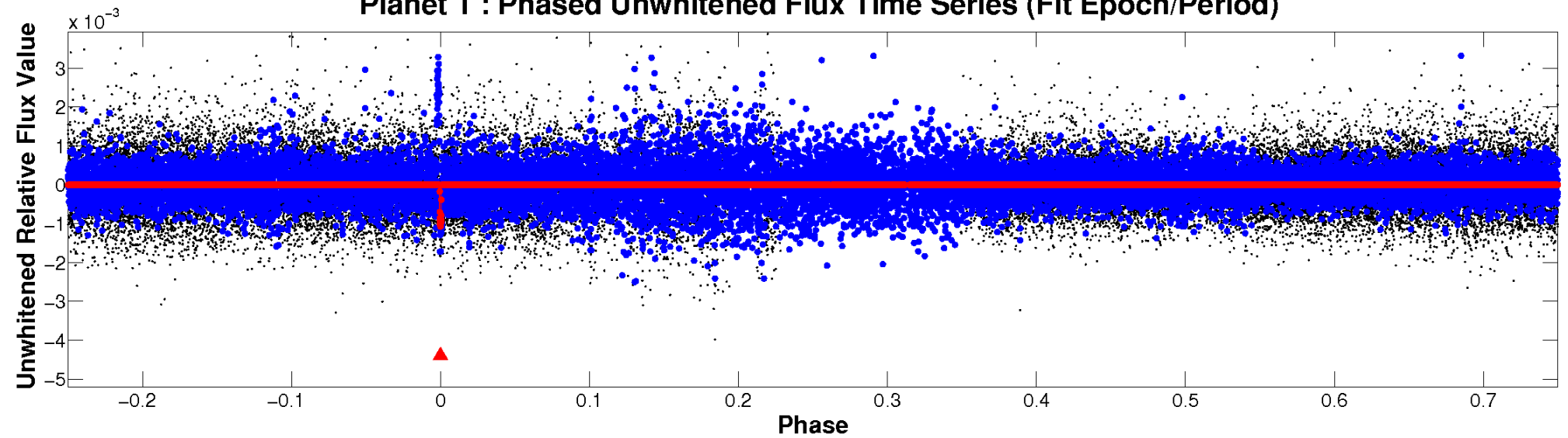
ALT Odd/Even

TCE 004751561-01

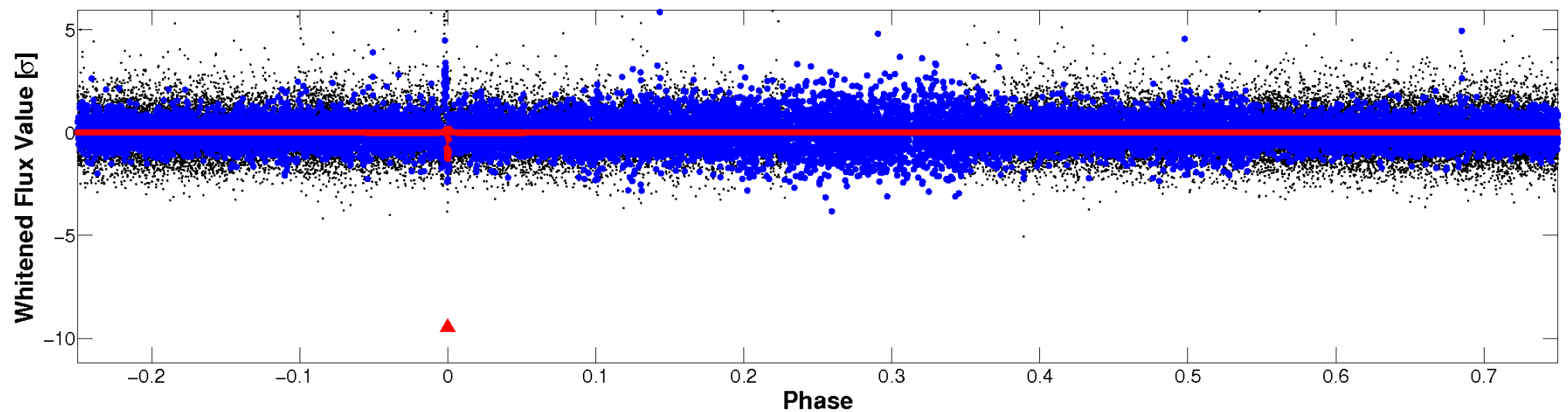


Non-Whitened Vs. Whitened Light Curve

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

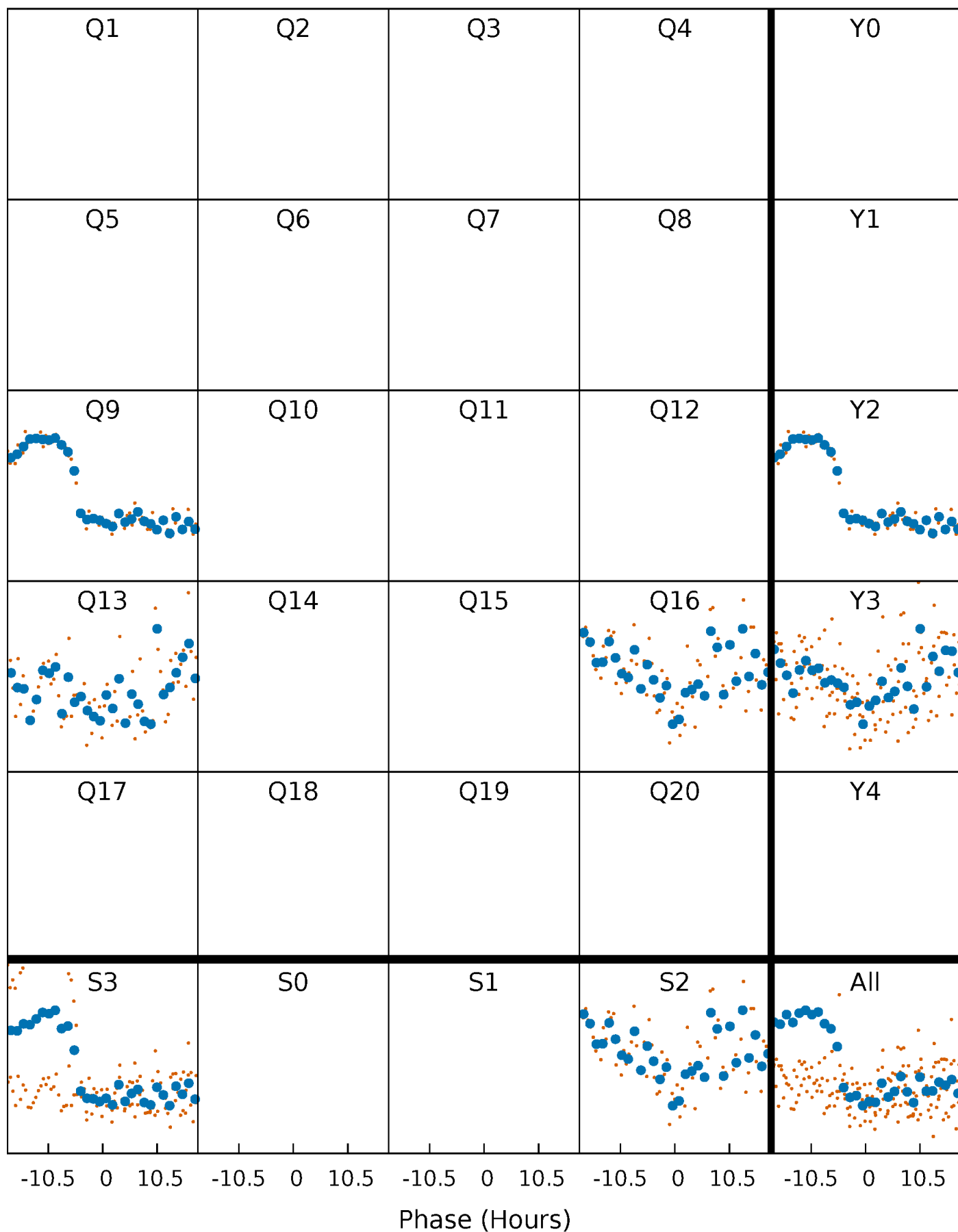


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



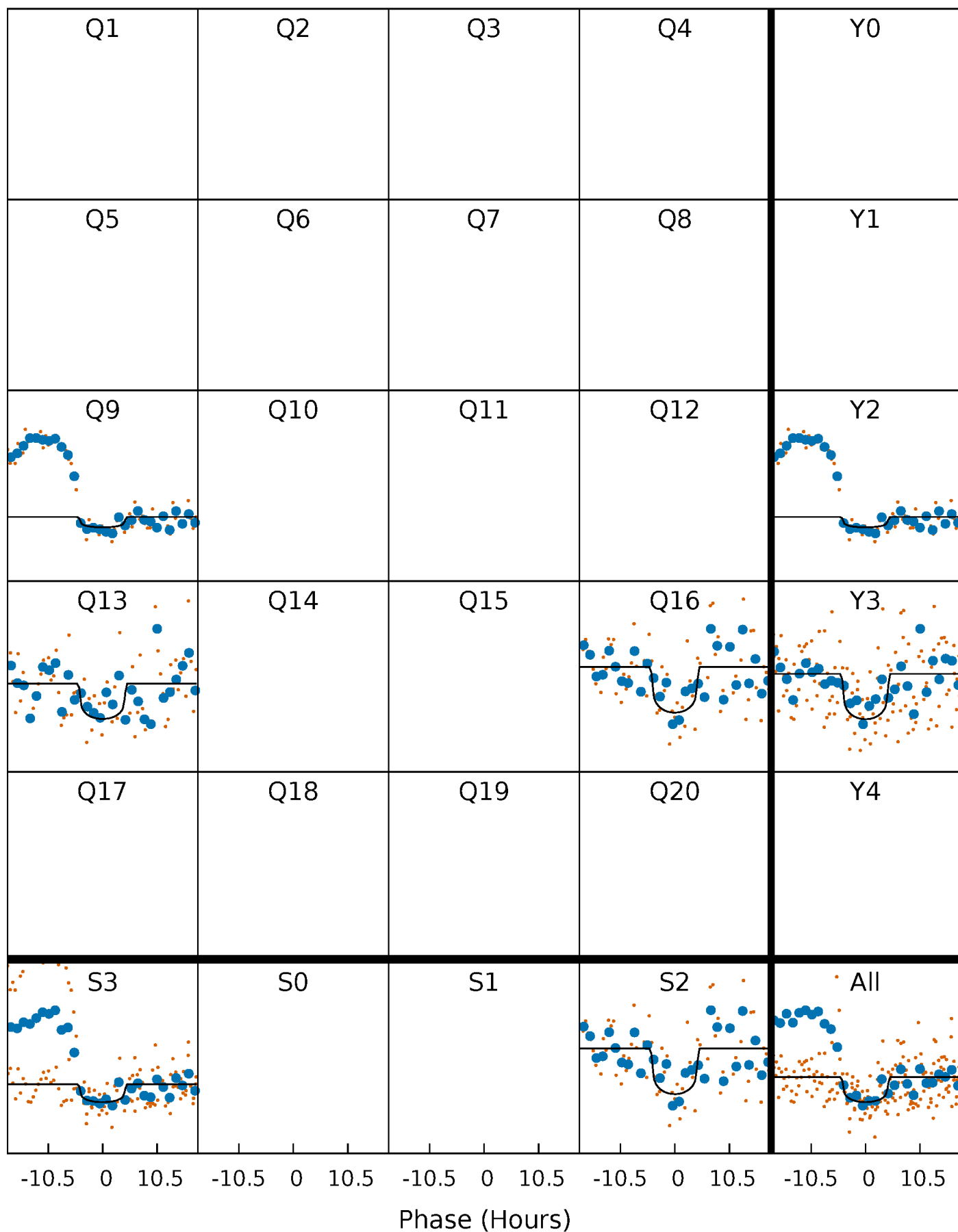
PDC Quarter-Phased Transit Curves

TCE 004751561-01 P=319.597030 Days $T_0=240.971765$ (BKJD)



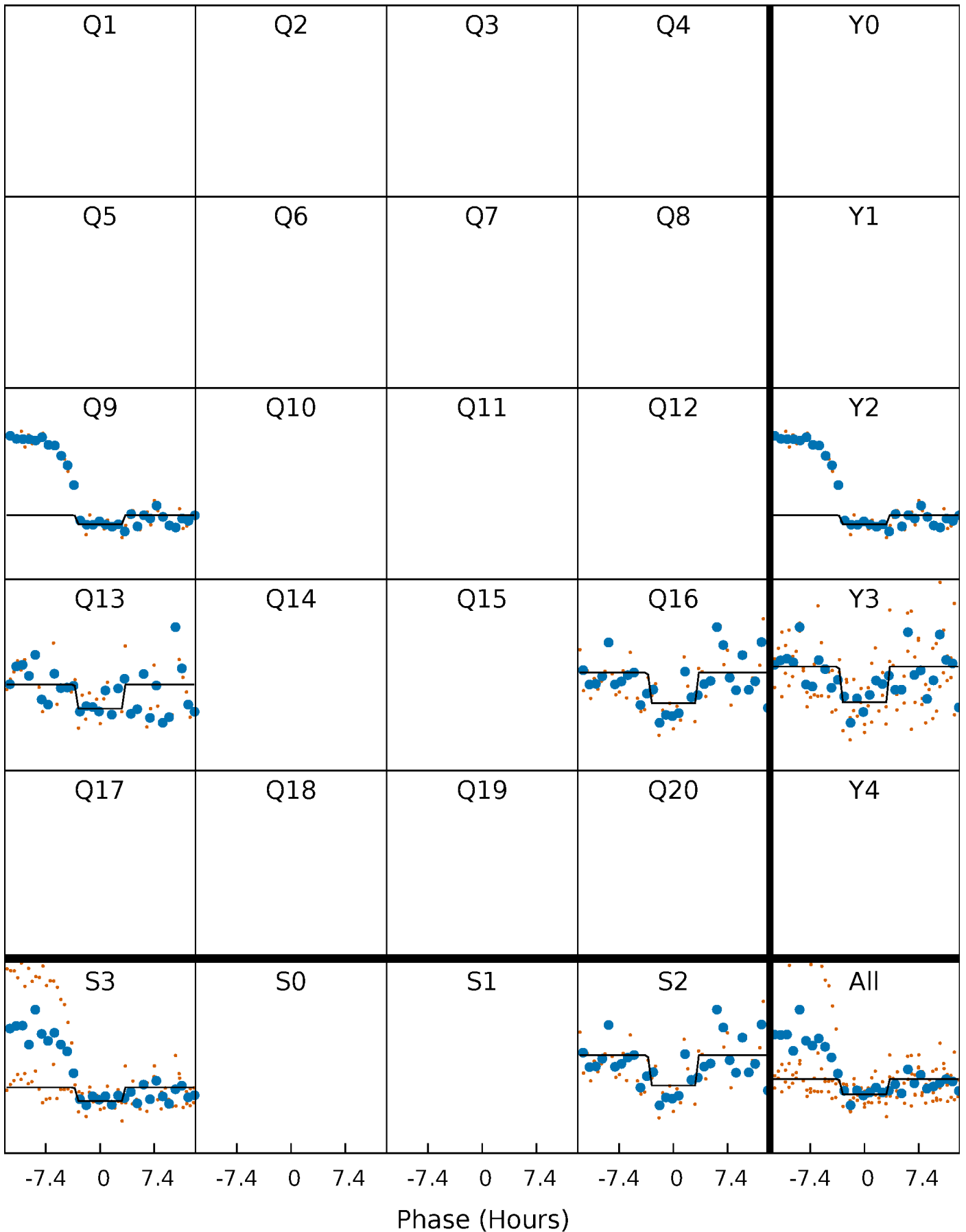
DV Quarter-Phased Transit Curves

TCE 004751561-01 $P=319.597030$ Days $T_0=240.971765$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

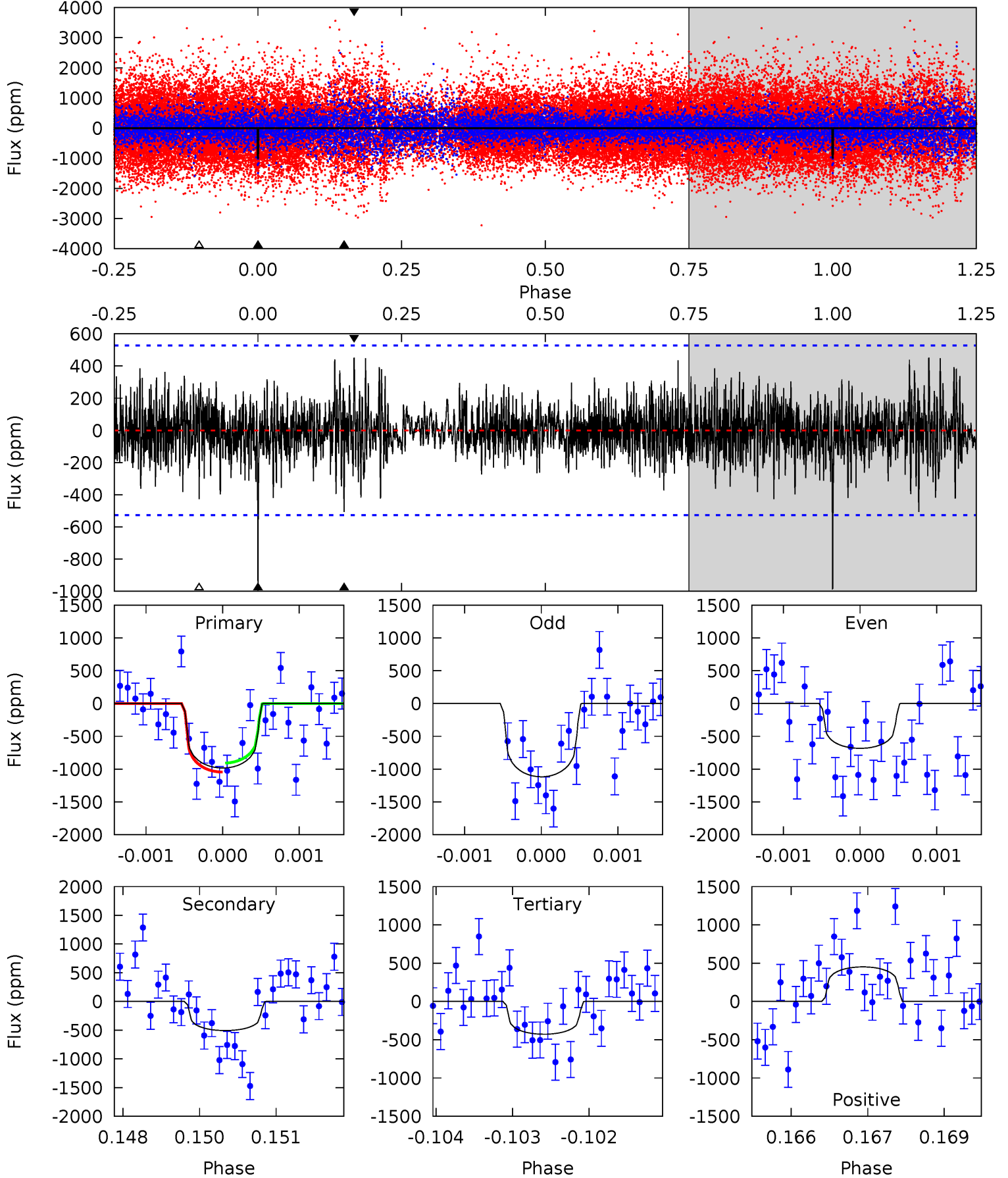
TCE 004751561-01 P=319.642179 Days $T_0=240.830953$ (BKJD)



DV Model-Shift Uniqueness Test

004751561-01, P = 319.597030 Days, E = 240.971765 Days

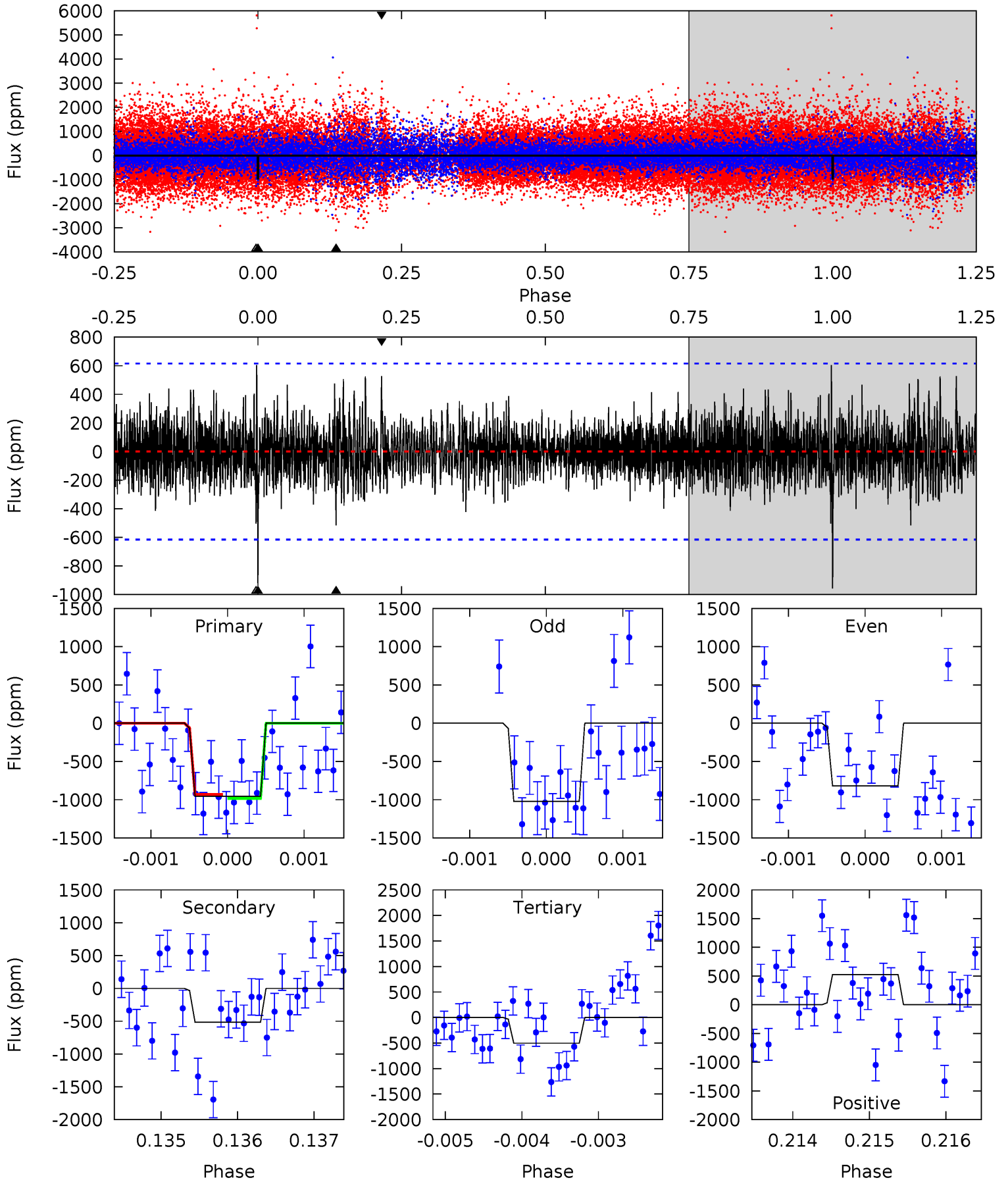
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	5.21	4.40	4.64	5.42	3.24	1.21	5.71	5.46	0.81	0.57	2.02	1.08	0.31	0.70



Alt Model-Shift Uniqueness Test

004751561-01, P = 319.642179 Days, E = 240.830953 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.50	4.58	4.47	4.68	5.47	3.32	1.11	4.03	3.83	0.11	-0.10	0.85	0.94	0.39	0.23



Stellar Parameters For KIC 004751561

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5818^{+181}_{-201}	$4.554^{+0.042}_{-0.168}$	$-0.220^{+0.300}_{-0.300}$	$0.848^{+0.224}_{-0.075}$	$0.937^{+0.098}_{-0.120}$	$2.166^{+0.480}_{-0.976}$
	+3%/-3%	+1%/-4%	+136%/-136%	+26%/-9%	+10%/-13%	+22%/-45%
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 004751561-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-507 ± 97	$4.24^{+3.36}_{-2.74}$	357^{+23}_{-16}	4411^{+2516}_{-859}	12587^{+90424}_{-8878}
Alt.	-516 ± 113	$3.90^{+3.49}_{-2.56}$	355^{+20}_{-16}	4431^{+2961}_{-871}	$13755^{+101587}_{-9811}$

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 $A_{obs} \gg 1.0$

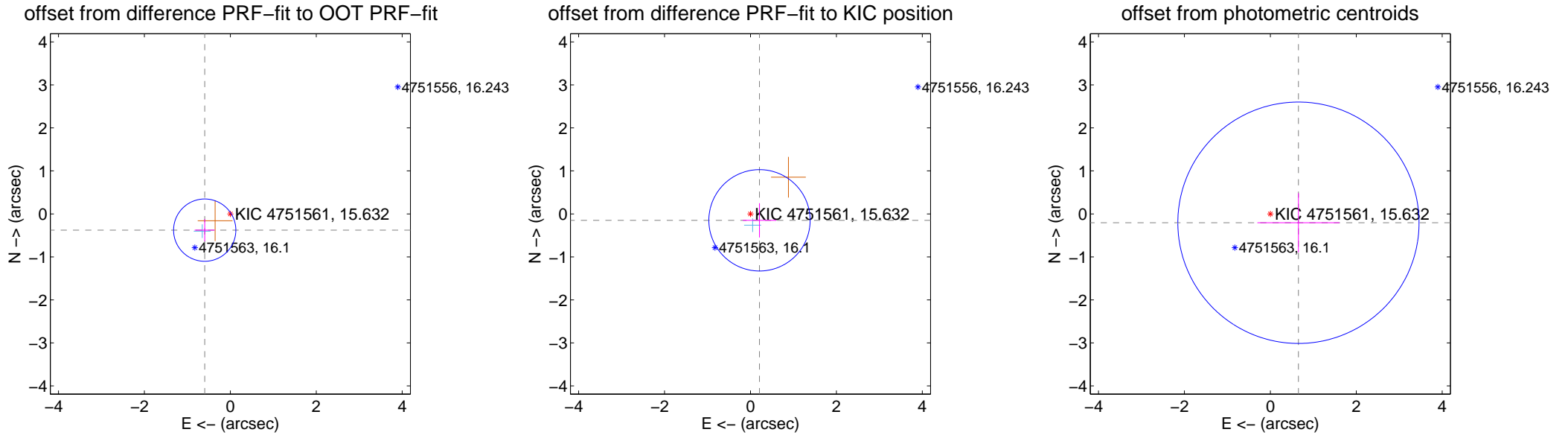
DV Centroid Data

Supplemental centroid analysis for 004751561-01. Kepler magnitude: 15.63. Transit SNR 7.95

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.60 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.706 ± 0.242	2.92	0.596 ± 0.235	-0.377 ± 0.258
PRF-fit source offset from KIC position	0.258 ± 0.393	0.66	-0.210 ± 0.390	-0.149 ± 0.399
photometric centroid source offset	0.69 ± 0.94	0.73	-0.65 ± 0.96	-0.21 ± 0.69



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.

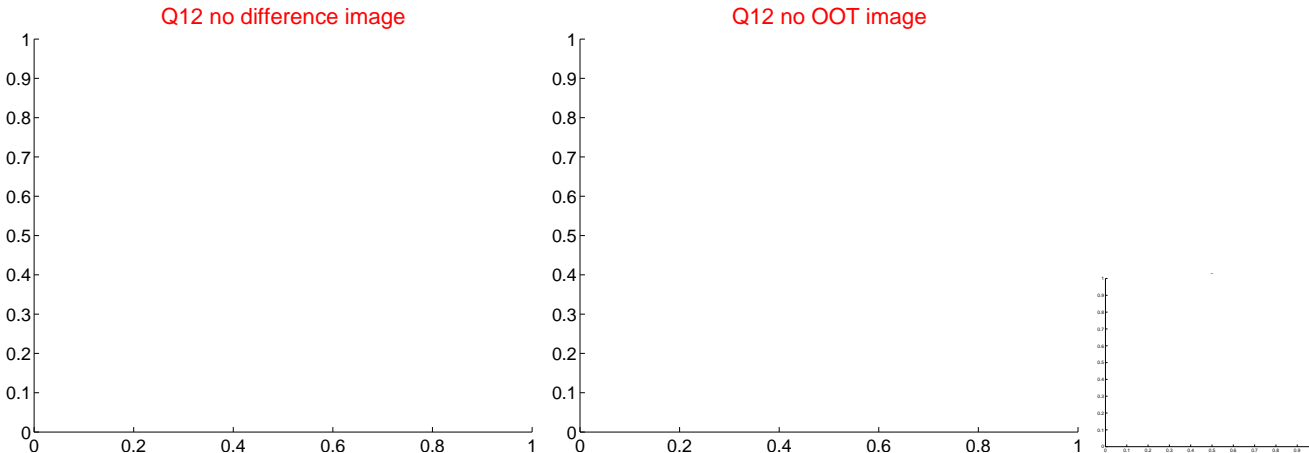
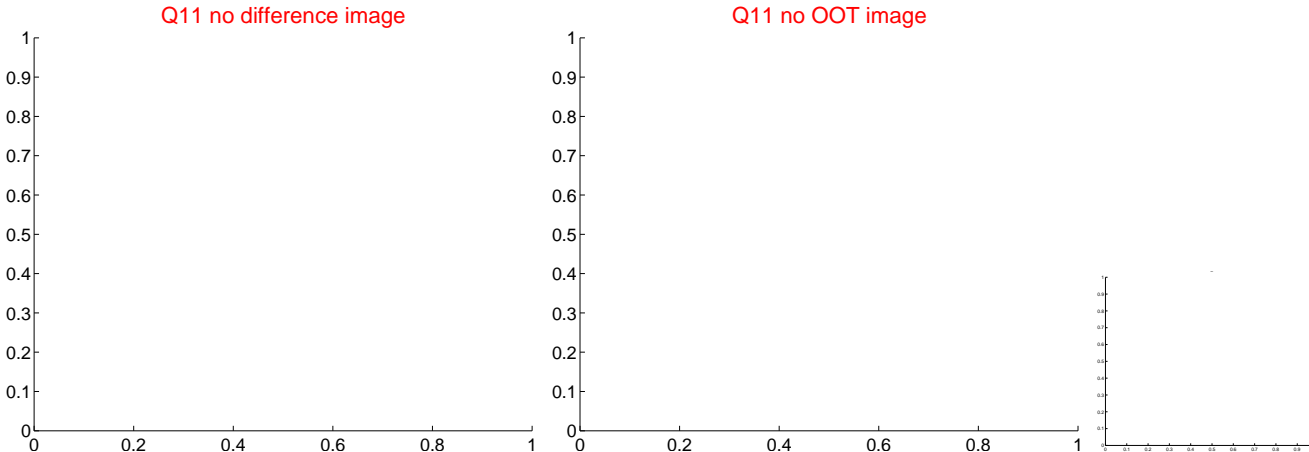
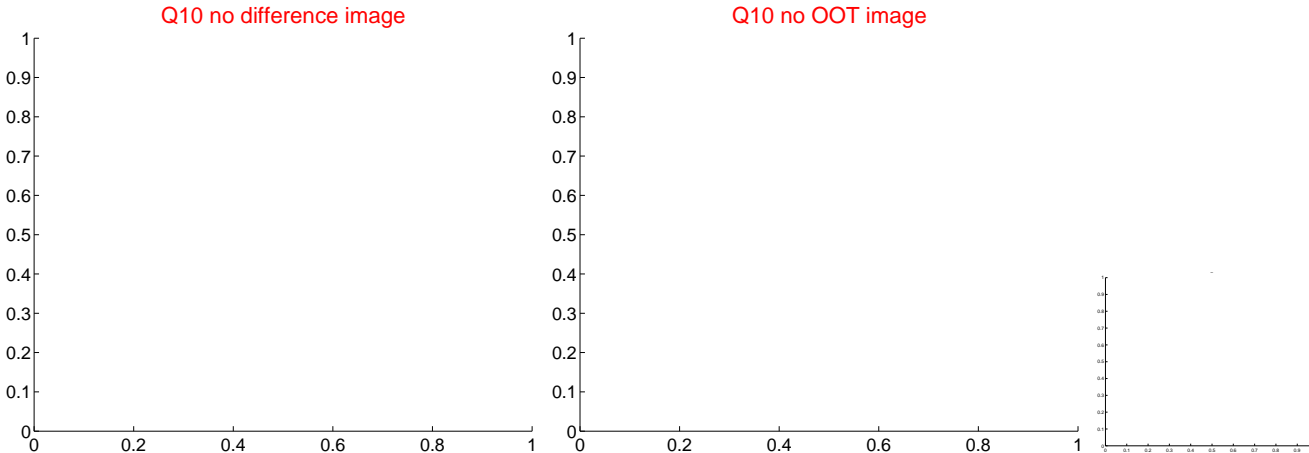
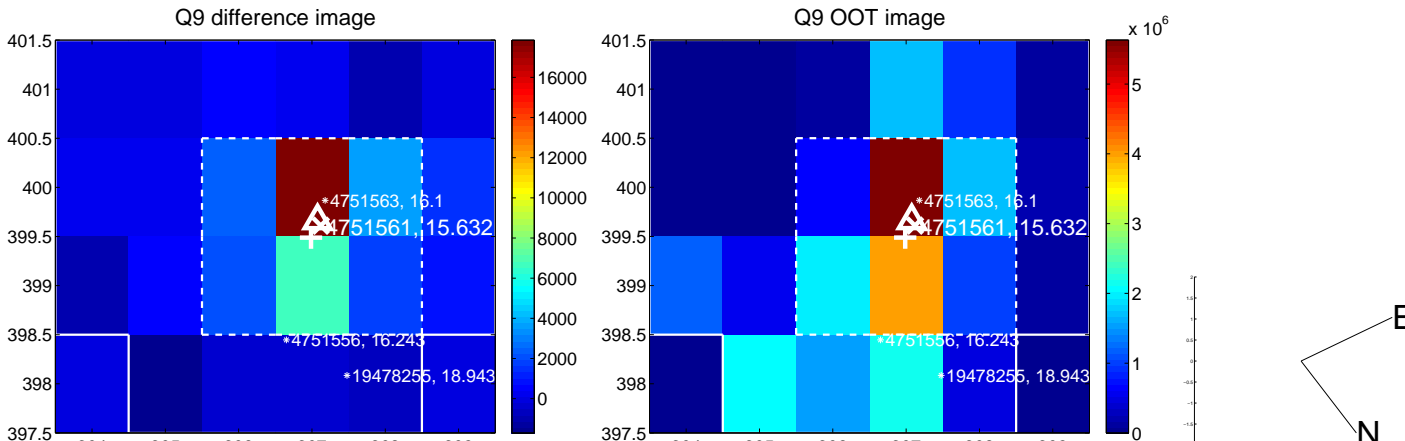
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



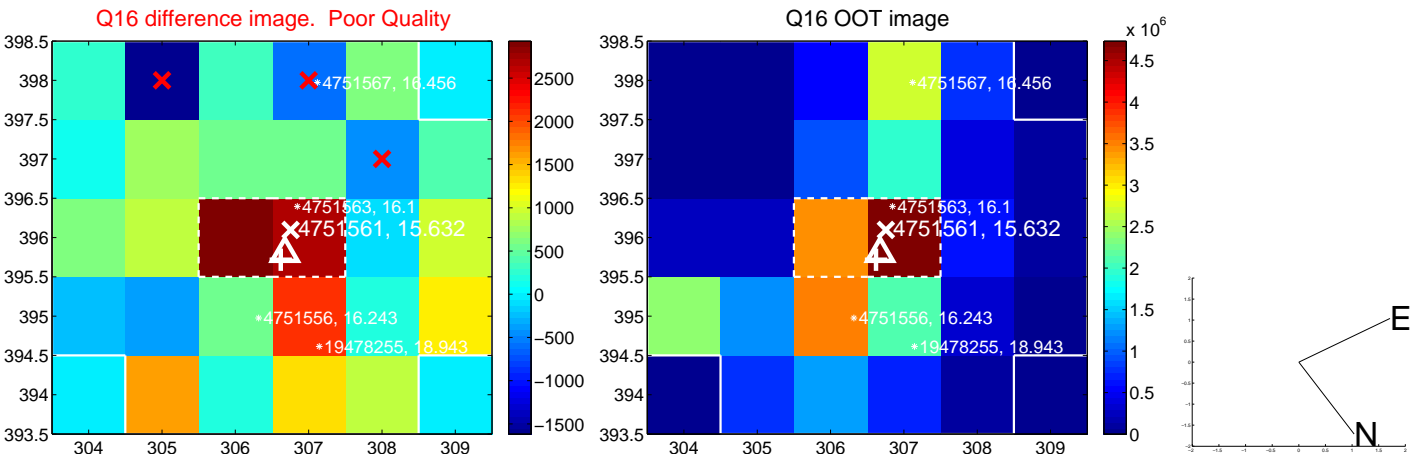
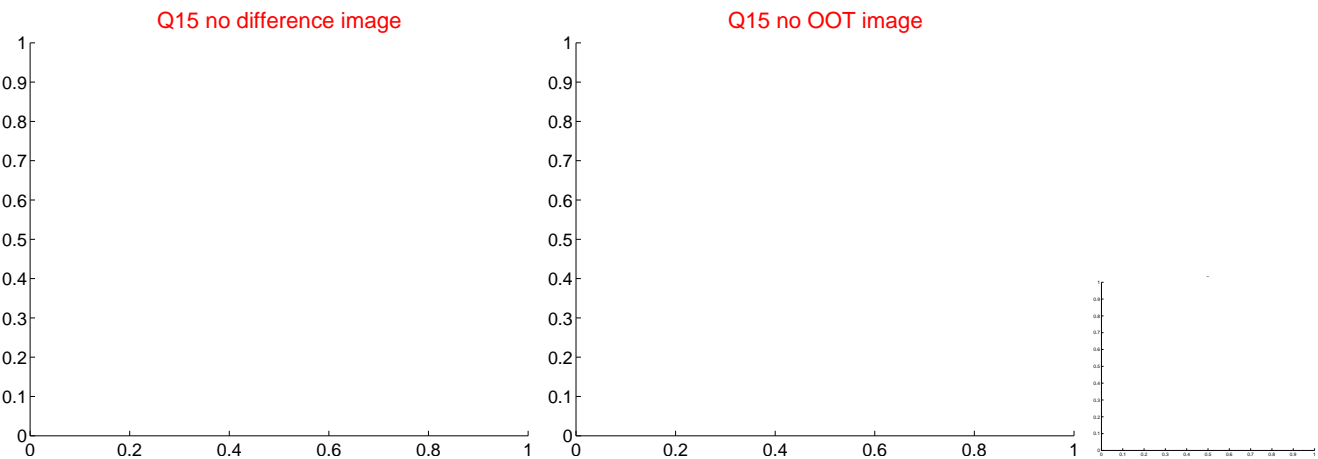
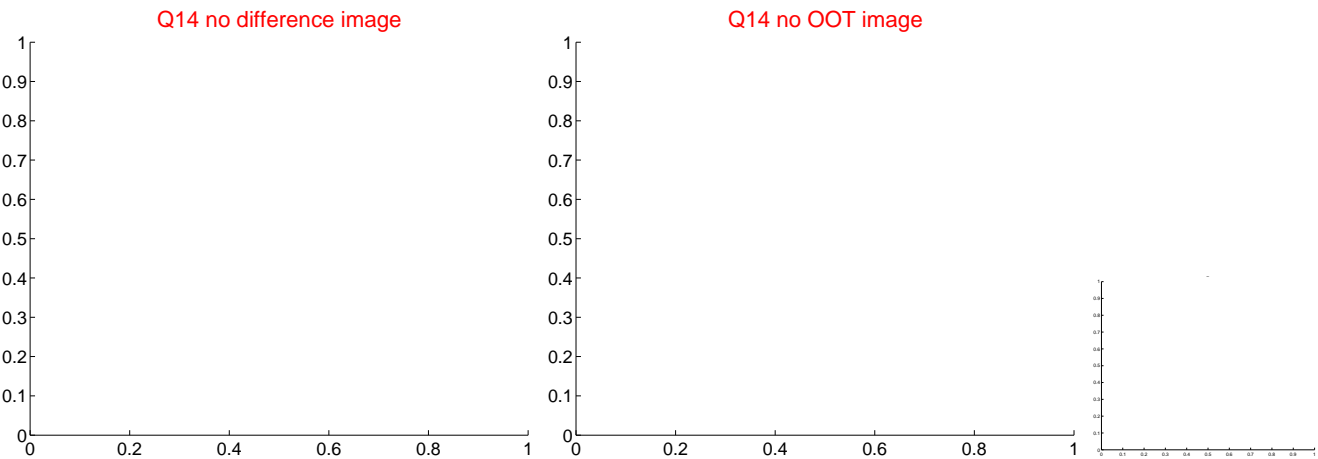
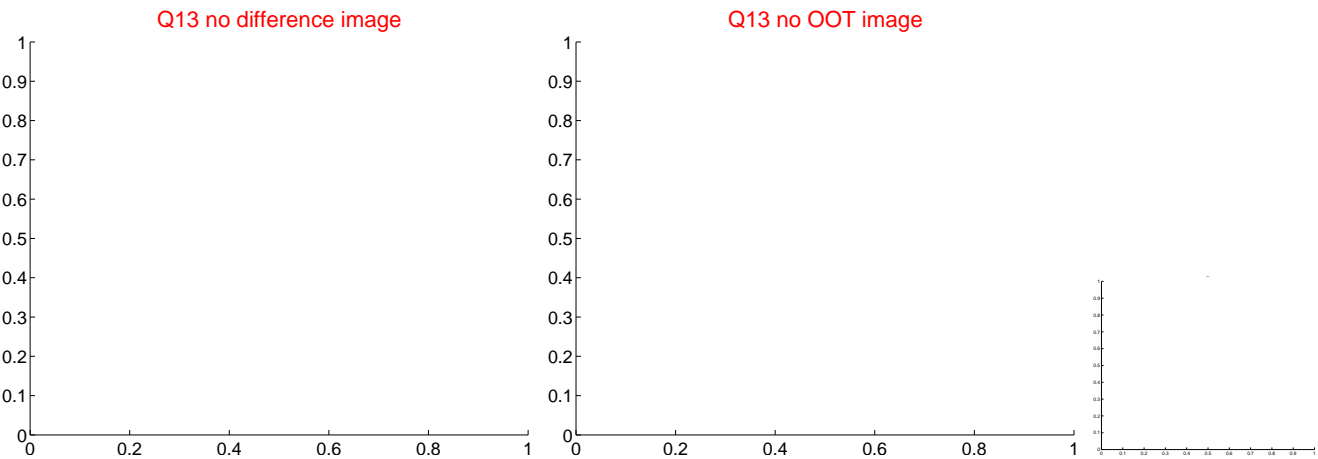
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



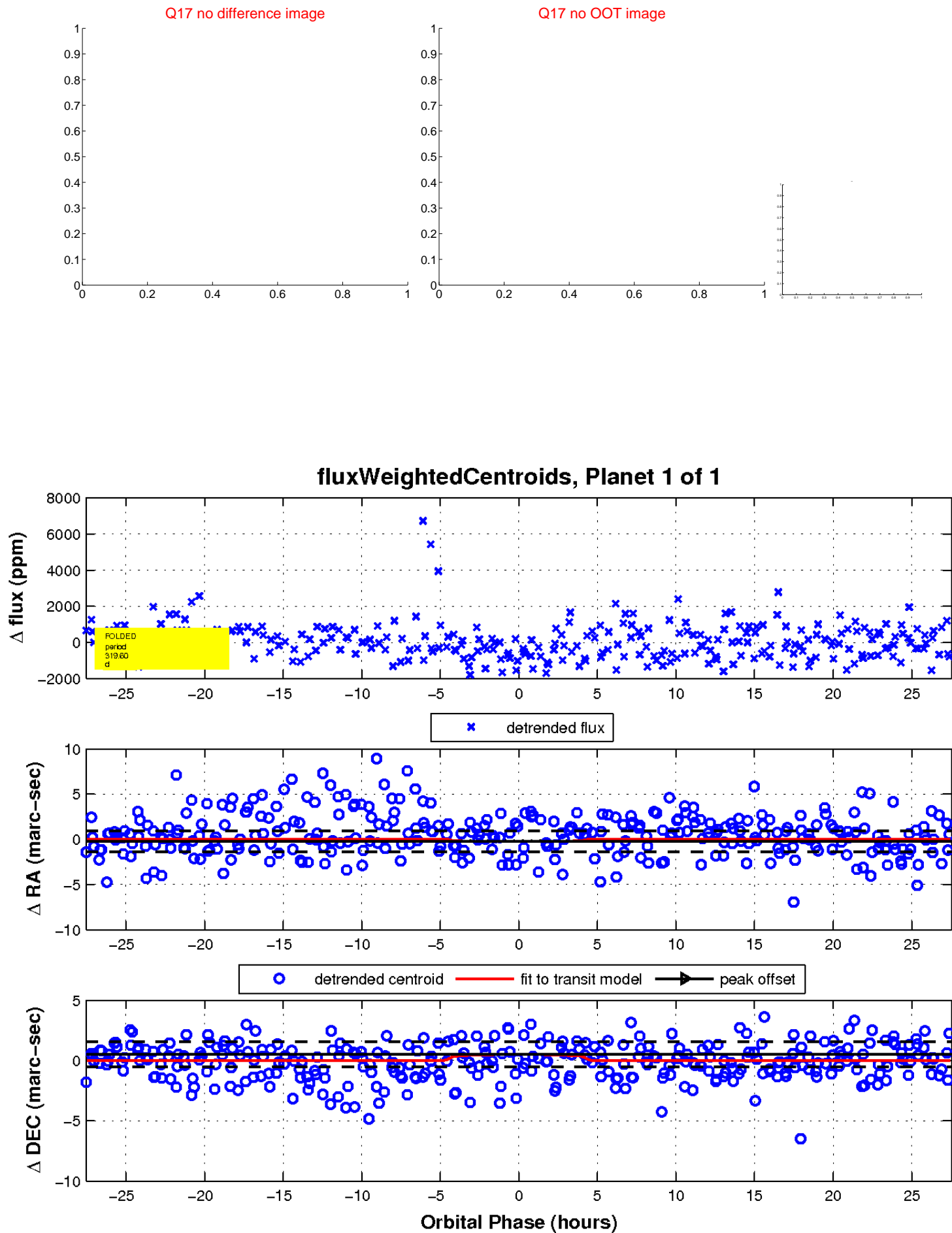
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

