

KIC 010404847

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})
010404847-01	OBS	No	521.392704	146.176657	1540.1	5.180	9.4	6.6	0.68	5467	2.72	0.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010404847-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_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.

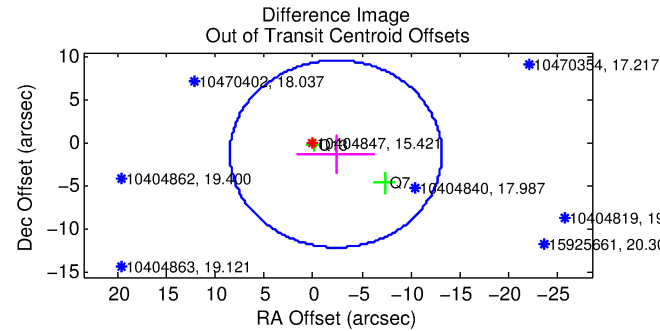
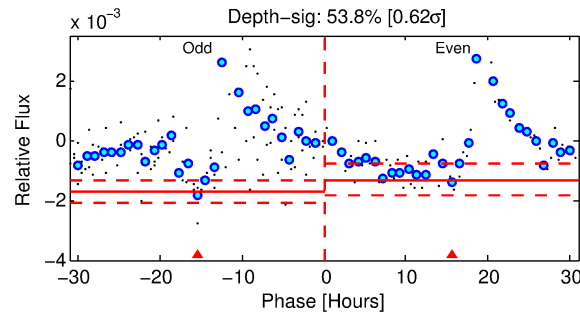
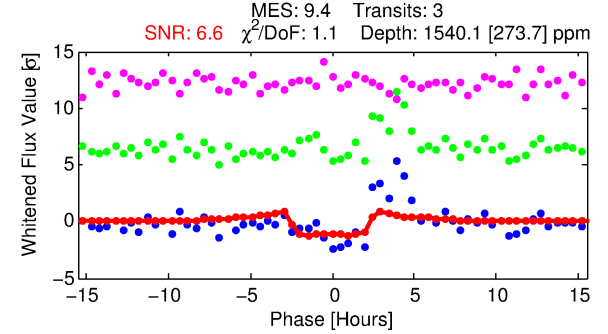
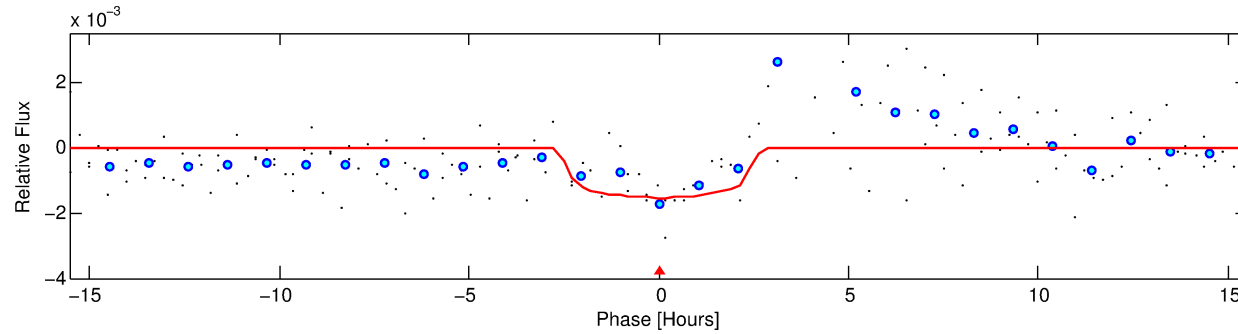
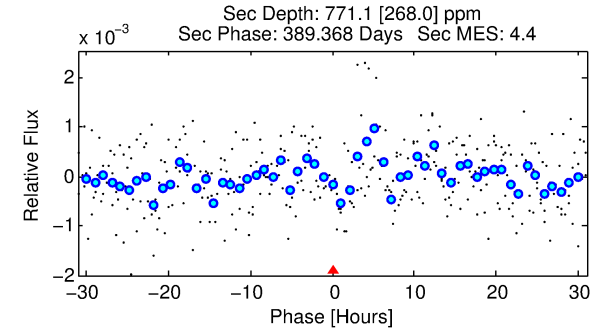
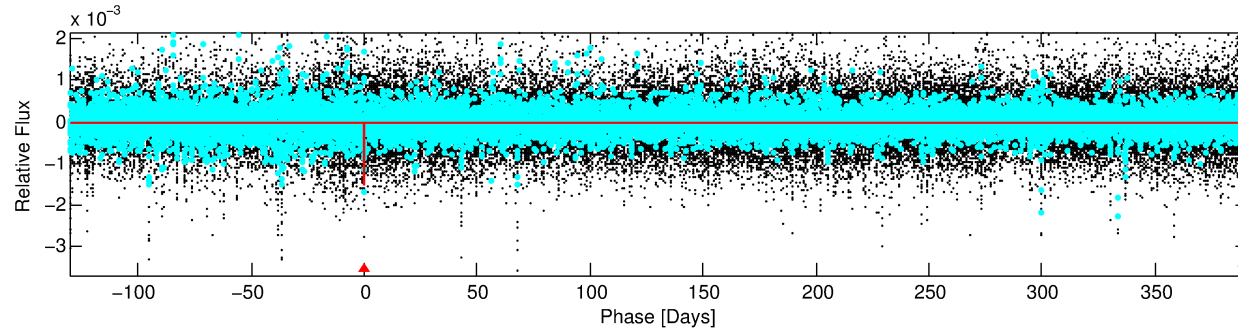
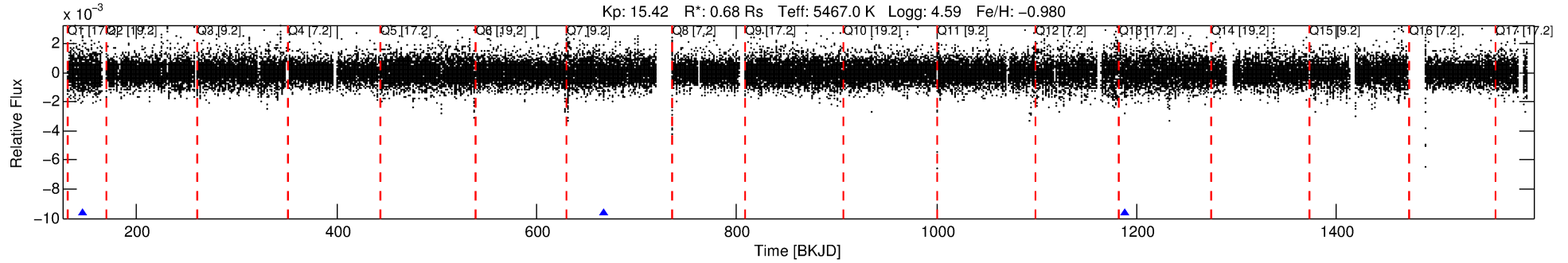
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010404847-01

No Significant Match Found

DV One-Page Summary

KIC: 10404847 Candidate: 1 of 1 Period: 521.393 d



DV Fit Results:

Period = 521.39270 [0.00805] d
Epoch = 146.1767 [0.0101] BKJD
Rp/R* = 0.0366 [0.0552]
a/R* = 728.11 [5169.62]
b = 0.42 [13.94]
Seff = 0.31 [0.06]
Teq = 190 [10] K
Rp = 2.72 [4.12] Re
a = 1.1013 [0.1038] AU
Ag = 69692.52 [212231.48] [0.33 σ]
Teffp = 4764 [3627] K [1.26 σ]

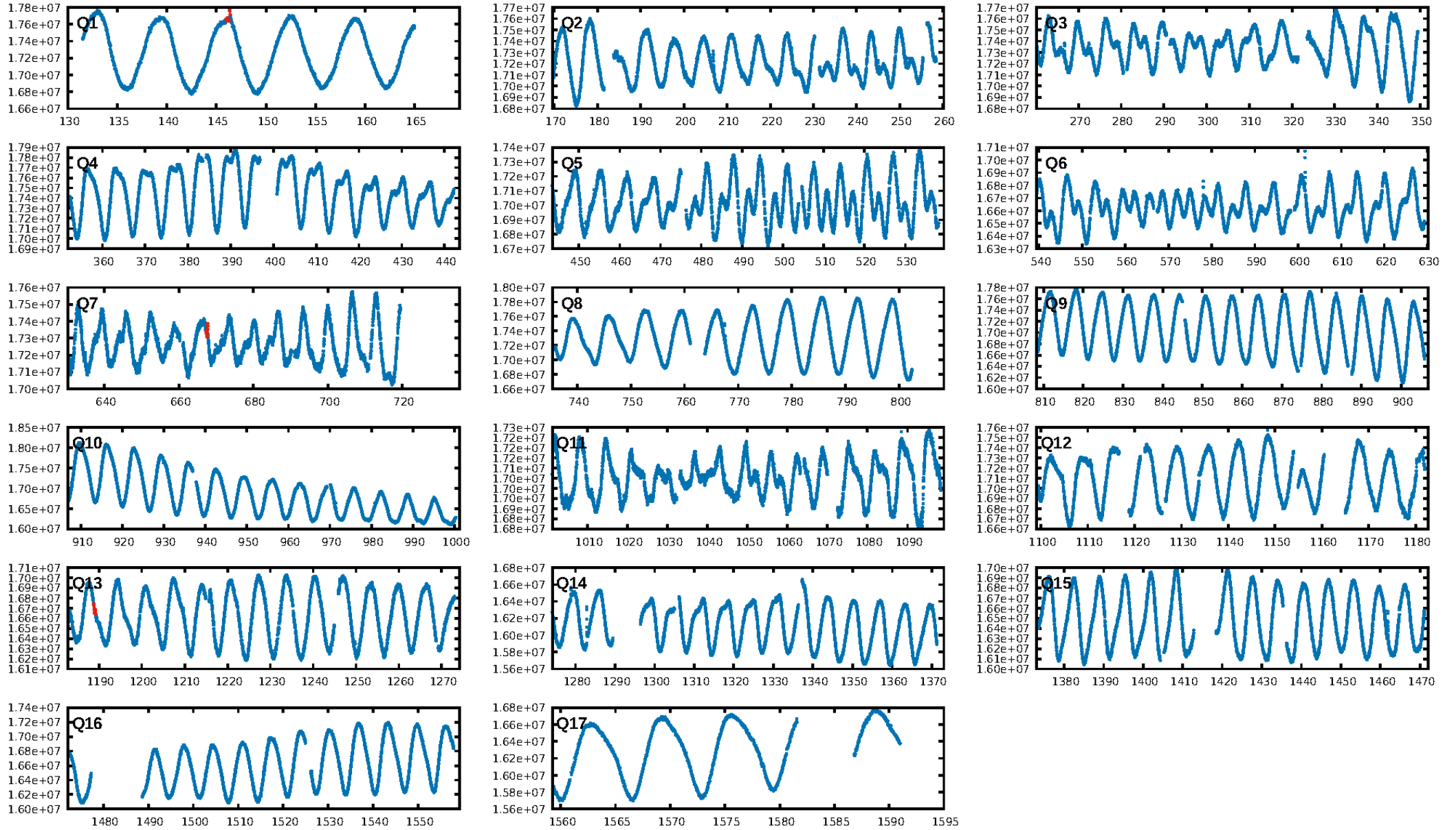
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 19.6%
ModelChiSquareGof-sig: 65.9%
Bootstrap-pfa: 7.94e-09
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -2.581
Centroid-sig: 17.5%
Centroid-so: 1.502 arcsec [1.14 σ]
OotOffset-rm: 2.646 arcsec [0.73 σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-rm: 2.599 arcsec [0.71 σ]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

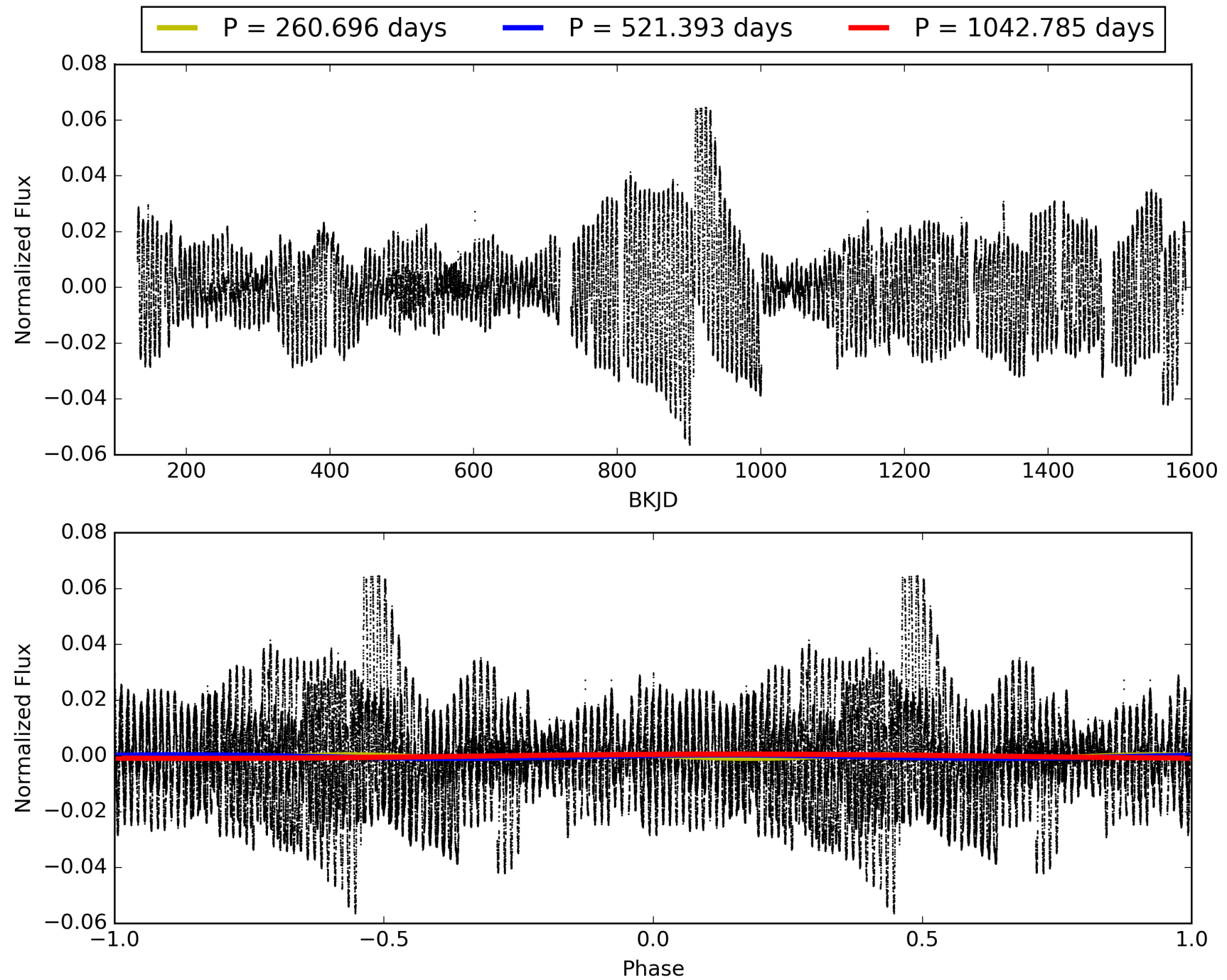
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:53:58 Z

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

TCE 010404847-01, PDC Light Curves

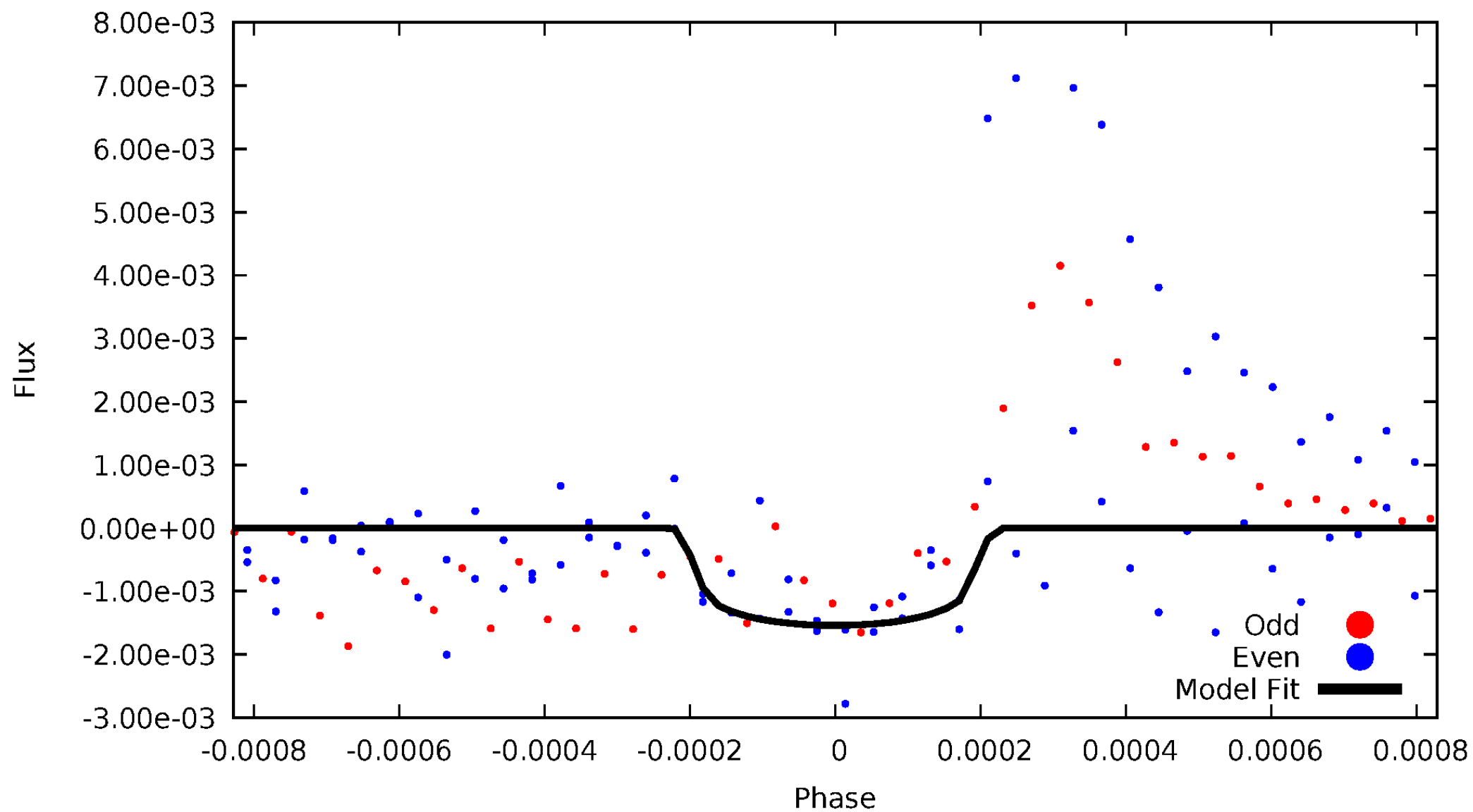


TCE 010404847-01



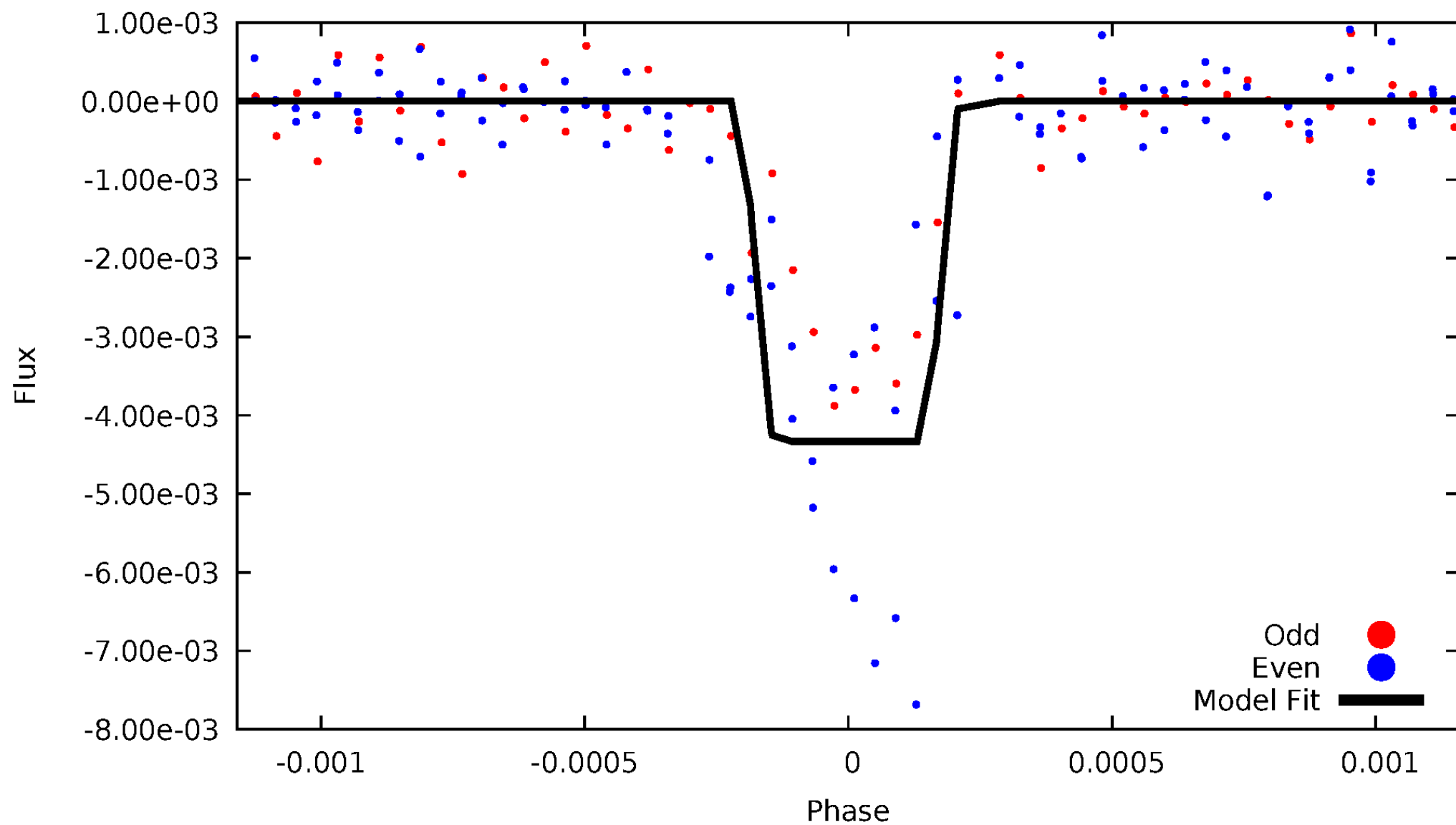
DV Odd/Even

TCE 010404847-01



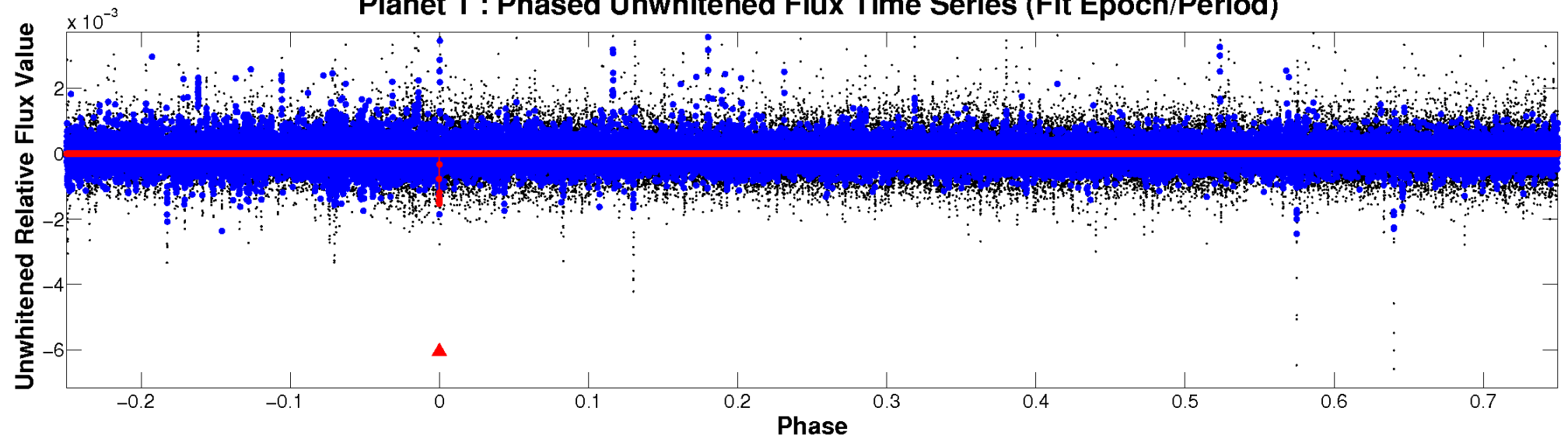
ALT Odd/Even

TCE 010404847-01

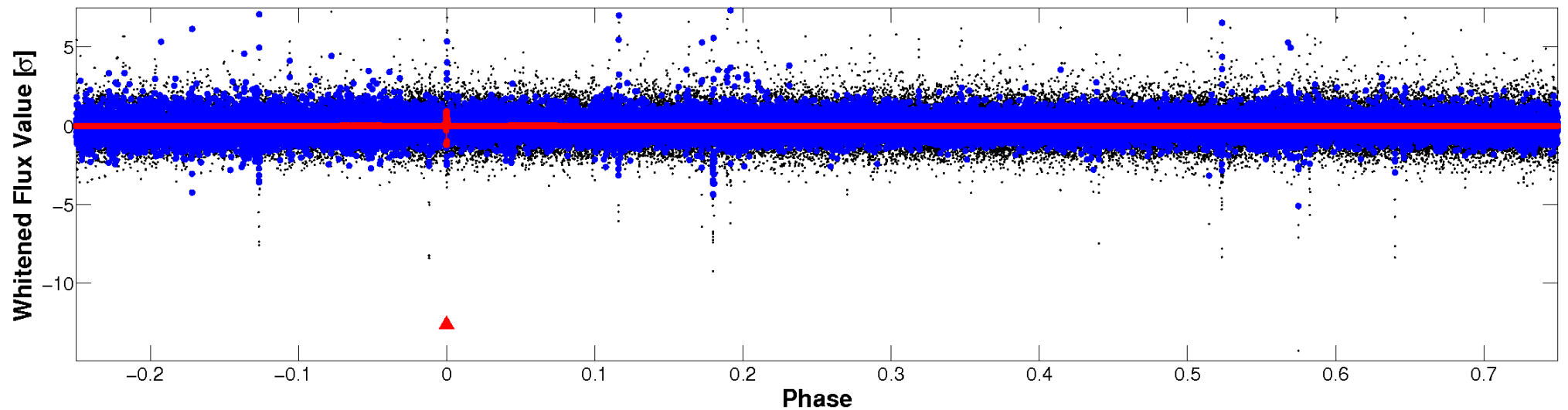


Non-Whitened Vs. Whitened Light Curve

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

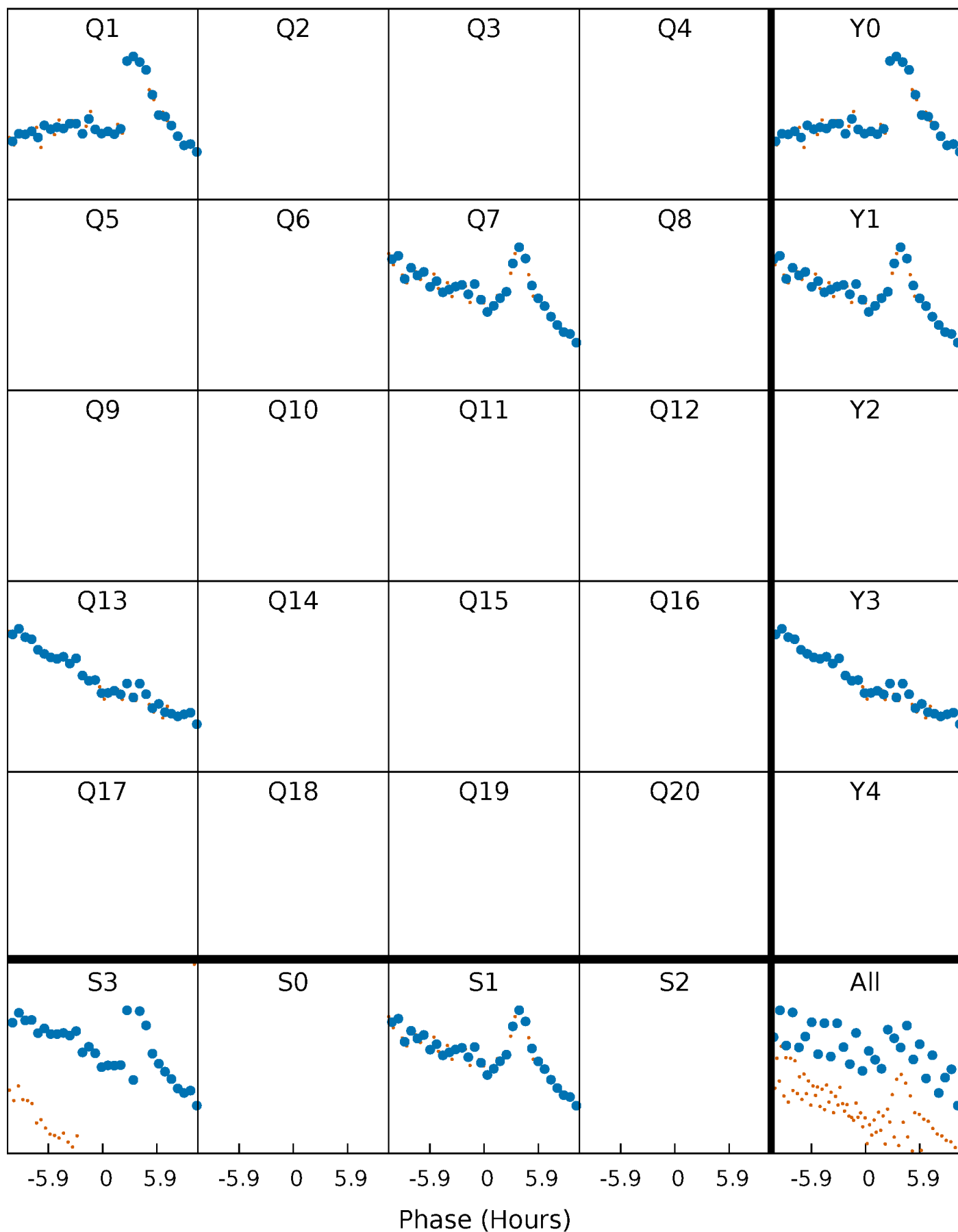


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



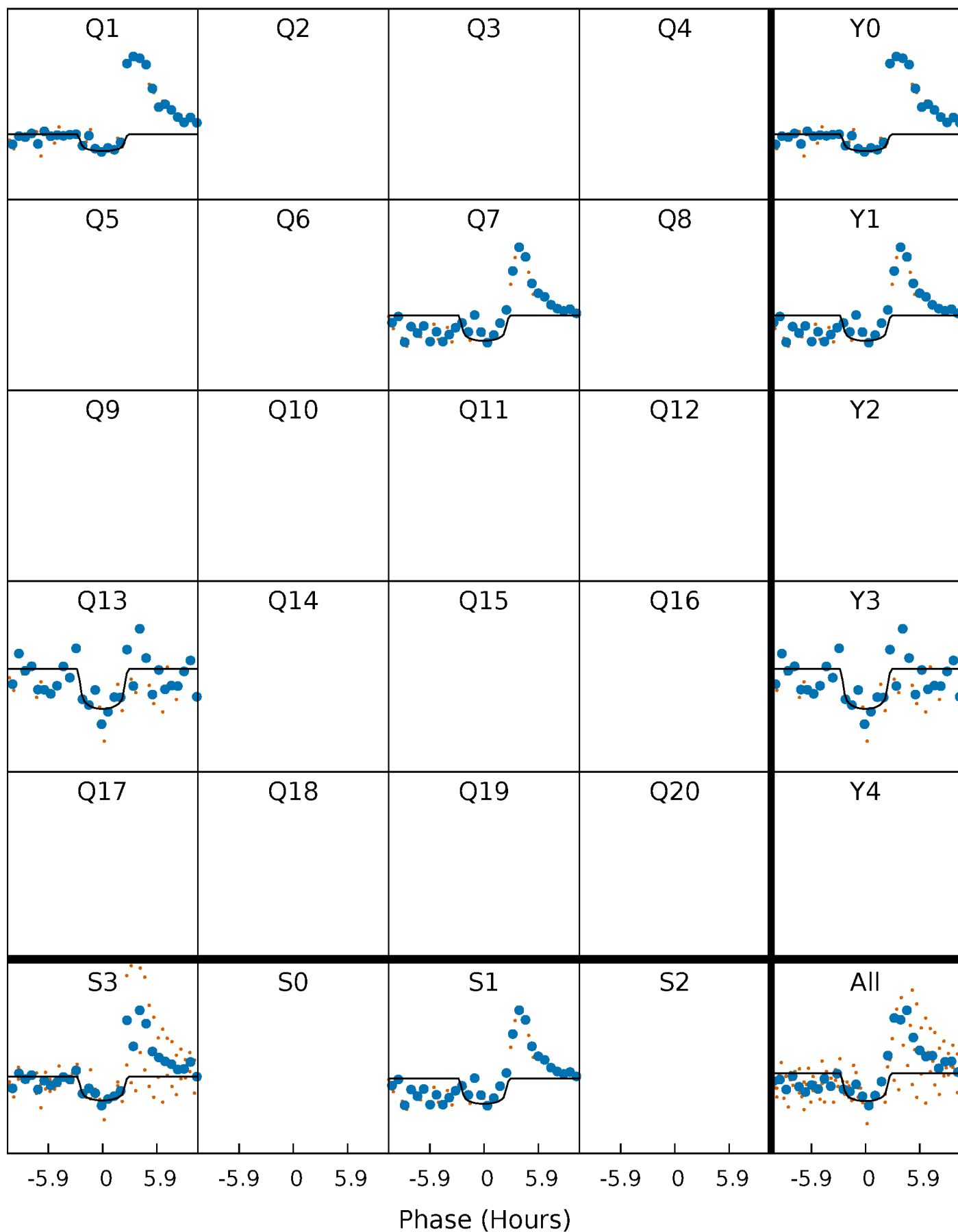
PDC Quarter-Phased Transit Curves

TCE 010404847-01 P=521.392704 Days $T_0=146.176657$ (BKJD)



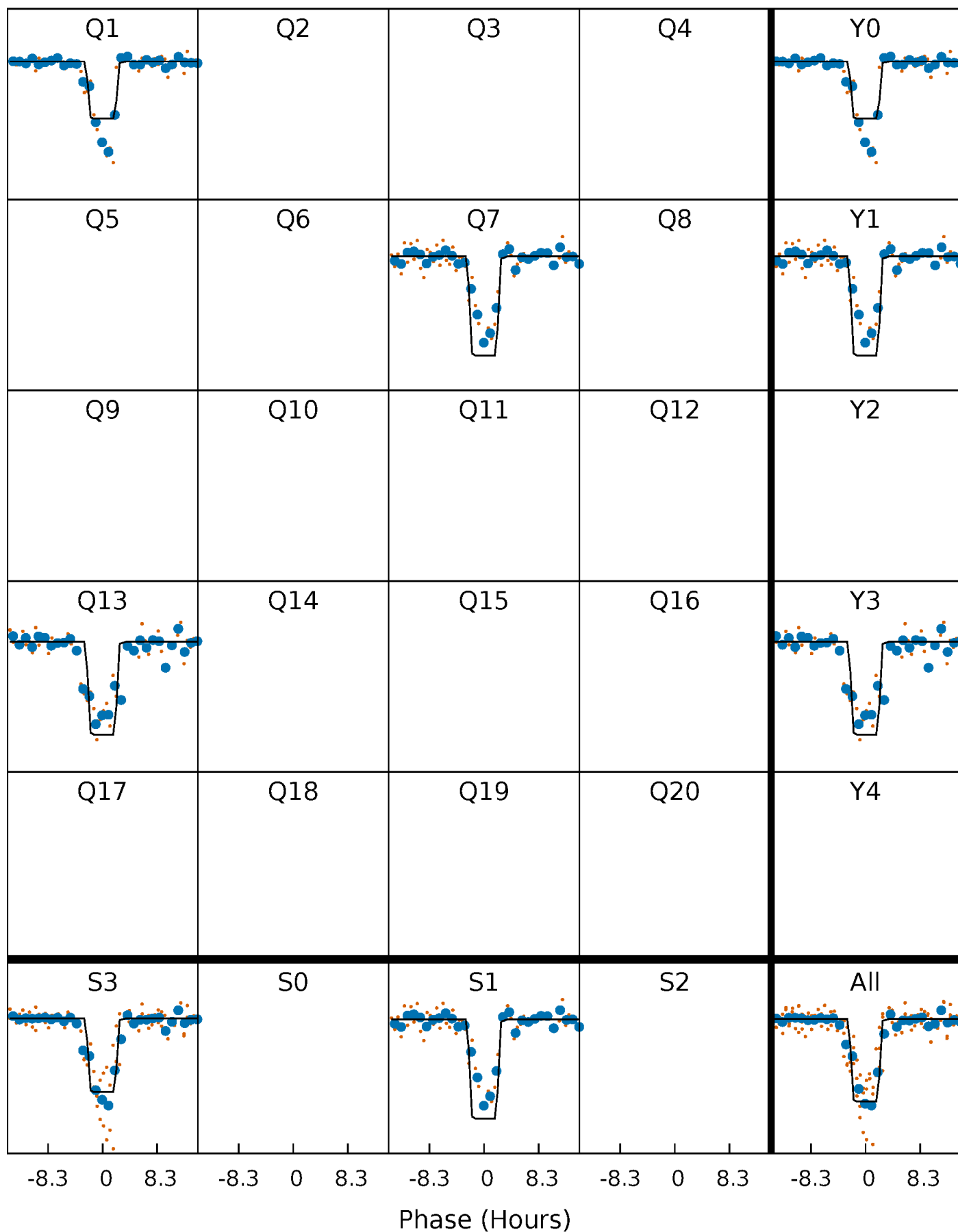
DV Quarter-Phased Transit Curves

TCE 010404847-01 P=521.392704 Days $T_0=146.176657$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

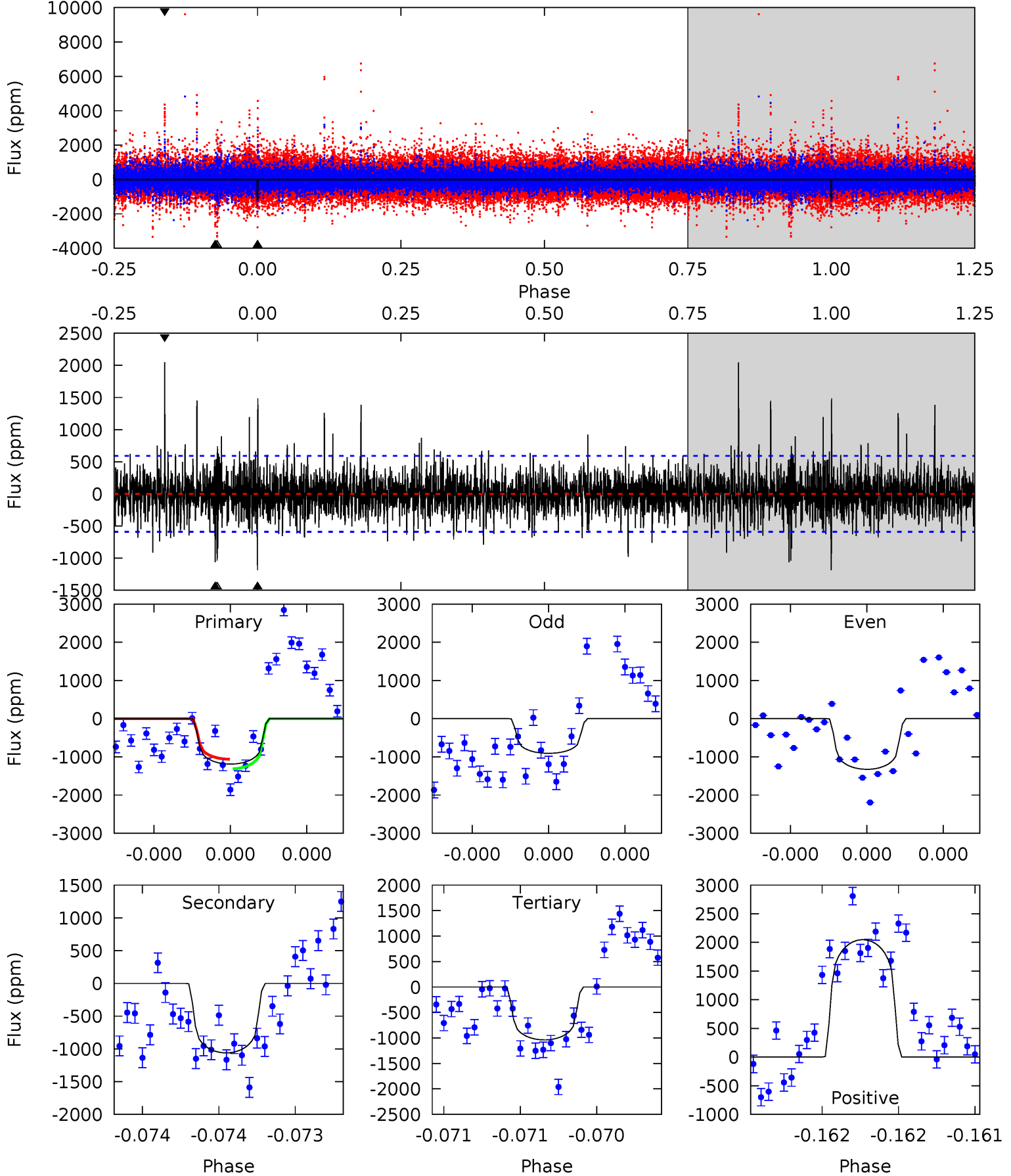
TCE 010404847-01 P=521.403151 Days $T_0=146.198447$ (BKJD)



DV Model-Shift Uniqueness Test

010404847-01, P = 521.392704 Days, E = 146.176657 Days

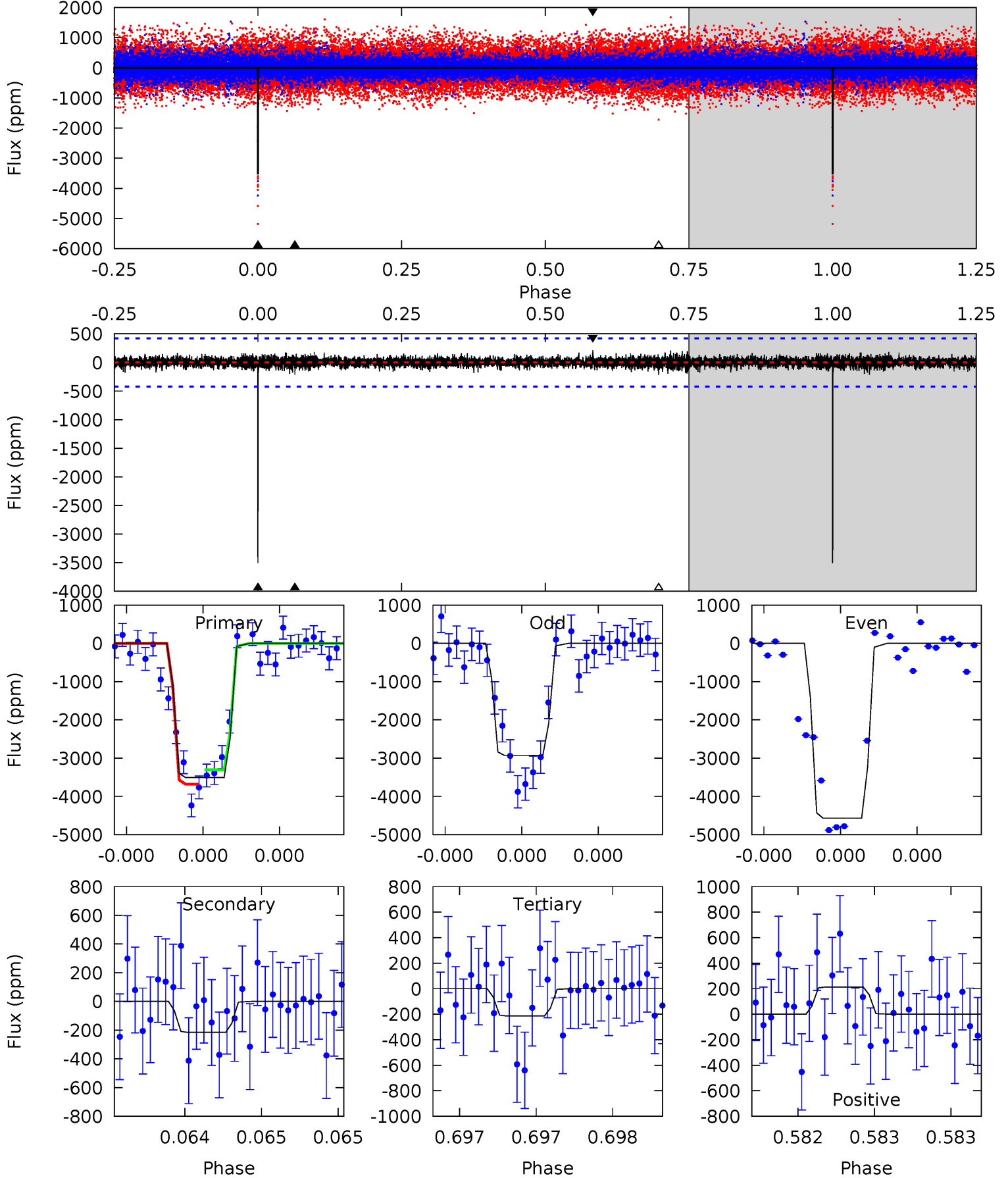
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	10.0	9.82	19.4	5.59	3.51	2.14	1.42	-8.13	0.22	-9.33	1.80	1.12	0.63	1.19



Alt Model-Shift Uniqueness Test

010404847-01, P = 521.403151 Days, E = 146.198447 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.4	2.84	2.82	2.82	5.58	3.50	0.57	43.5	43.5	0.02	0.02	12.0	1.17	0.06	2.49



Stellar Parameters For KIC 010404847

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5467^{+192}_{-173}	$4.588^{+0.083}_{-0.068}$	$-0.980^{+0.300}_{-0.300}$	$0.681^{+0.071}_{-0.064}$	$0.655^{+0.073}_{-0.024}$	$2.919^{+0.894}_{-0.625}$
	+4%/-3%	+2%/-1%	+31%/-31%	+10%/-9%	+11%/-4%	+31%/-21%
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 010404847-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1061 ± 106	$4.10^{+3.55}_{-2.89}$	264^{+12}_{-11}	4381^{+3438}_{-839}	$43156^{+436268}_{-30857}$
Alt.	-215 ± 76	$5.76^{+3.81}_{-3.54}$	265^{+11}_{-11}	3025^{+1147}_{-412}	4332^{+25457}_{-2864}

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

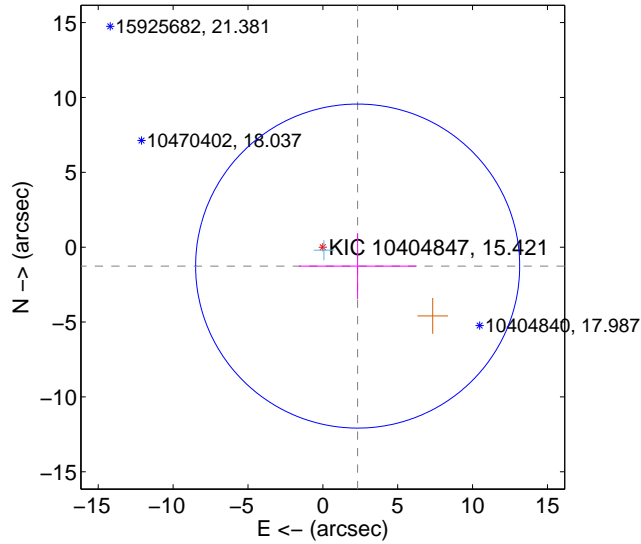
Supplemental centroid analysis for 010404847-01. Kepler magnitude: 15.42. Transit SNR 6.61

There are 1 quarters with good PRF difference image offsets

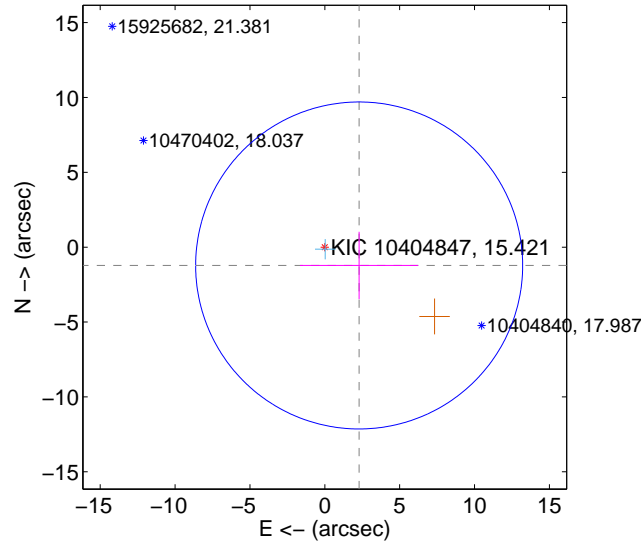
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.646 ± 3.607	0.73	-2.325 ± 3.928	-1.264 ± 2.196
PRF-fit source offset from KIC position	2.599 ± 3.640	0.71	-2.294 ± 3.947	-1.222 ± 2.249
photometric centroid source offset	1.50 ± 1.31	1.14	-0.73 ± 1.26	-1.31 ± 1.33

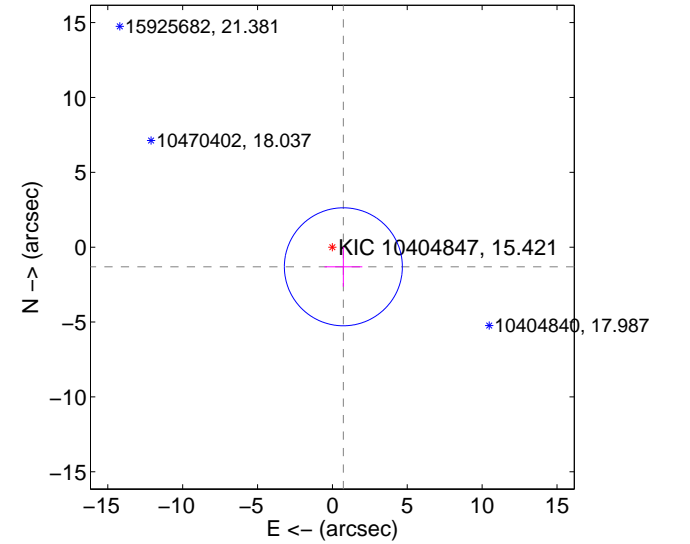
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

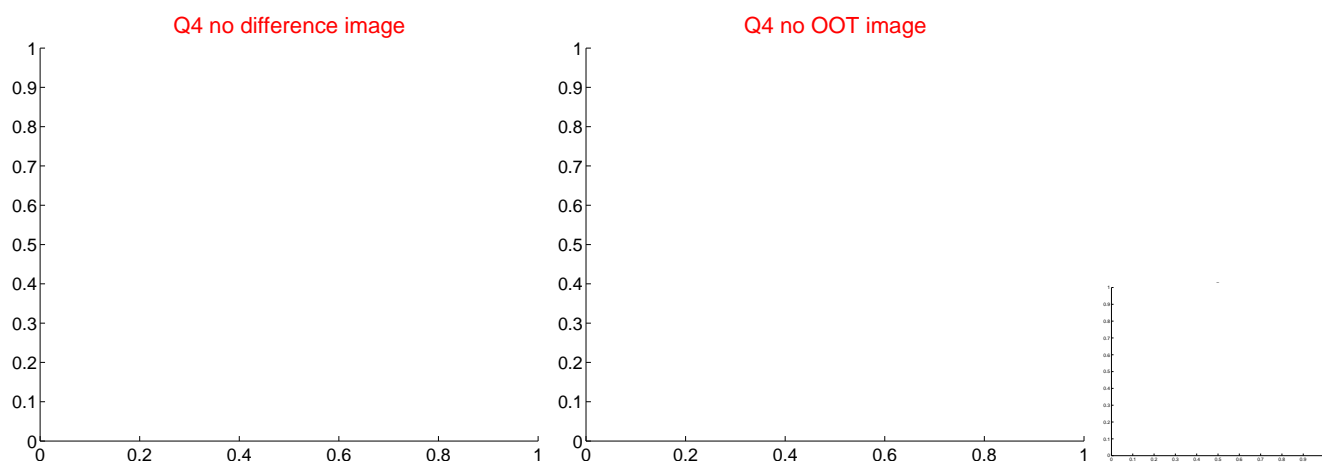
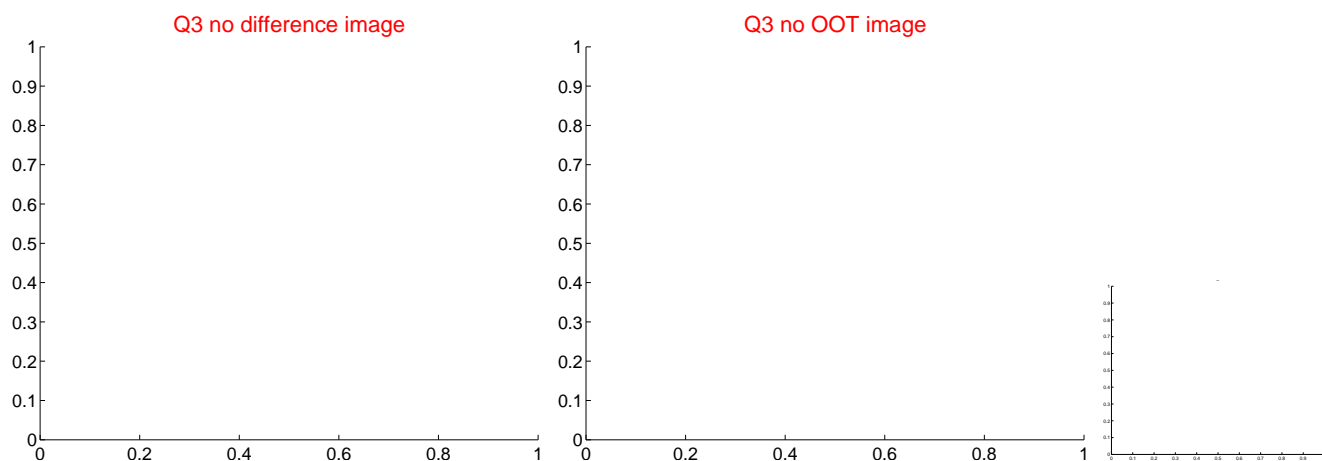
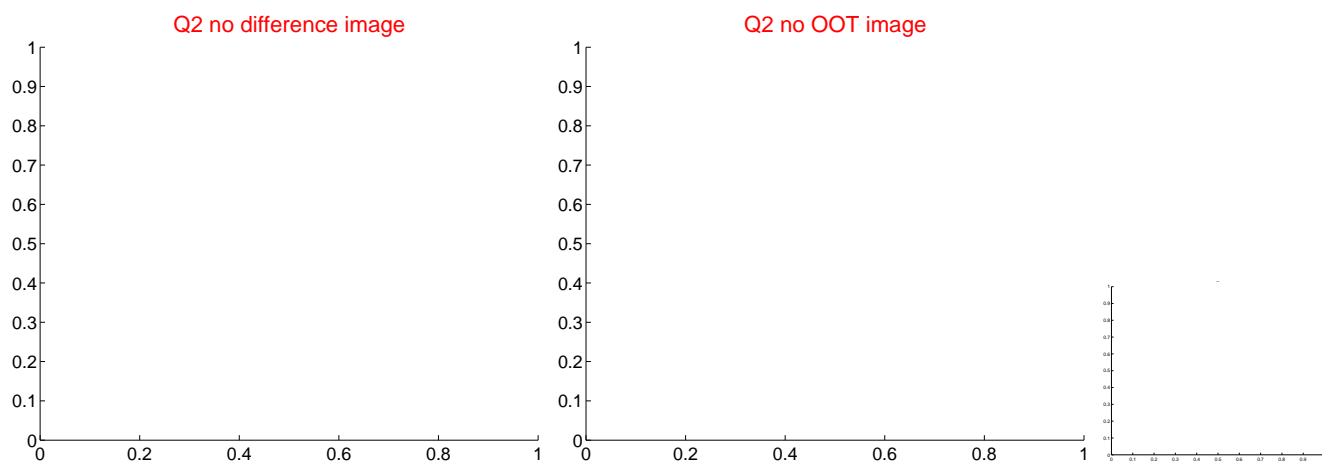
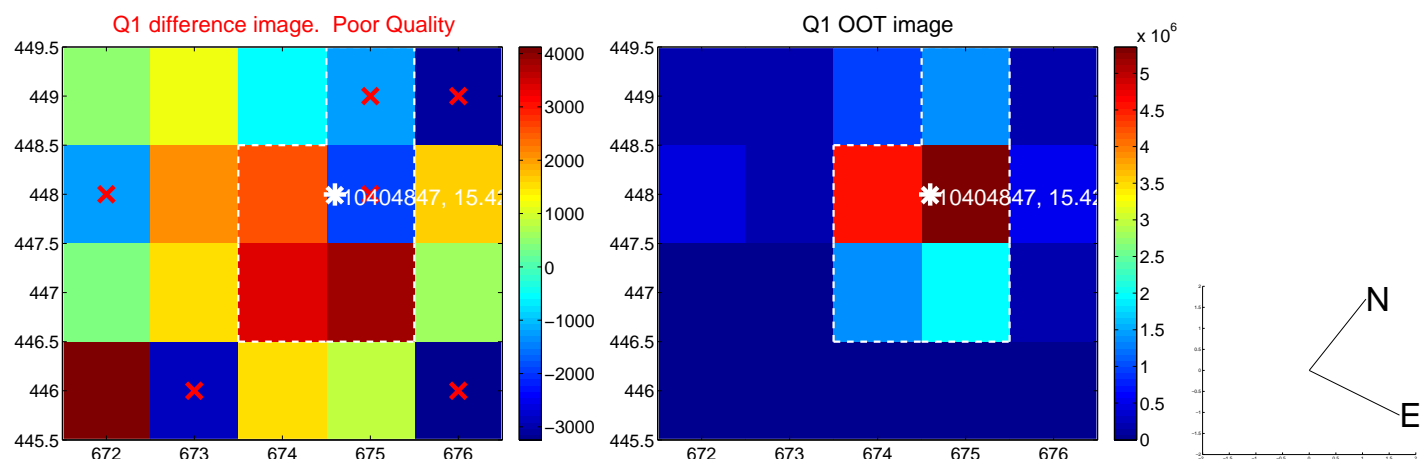


offset from photometric centroids

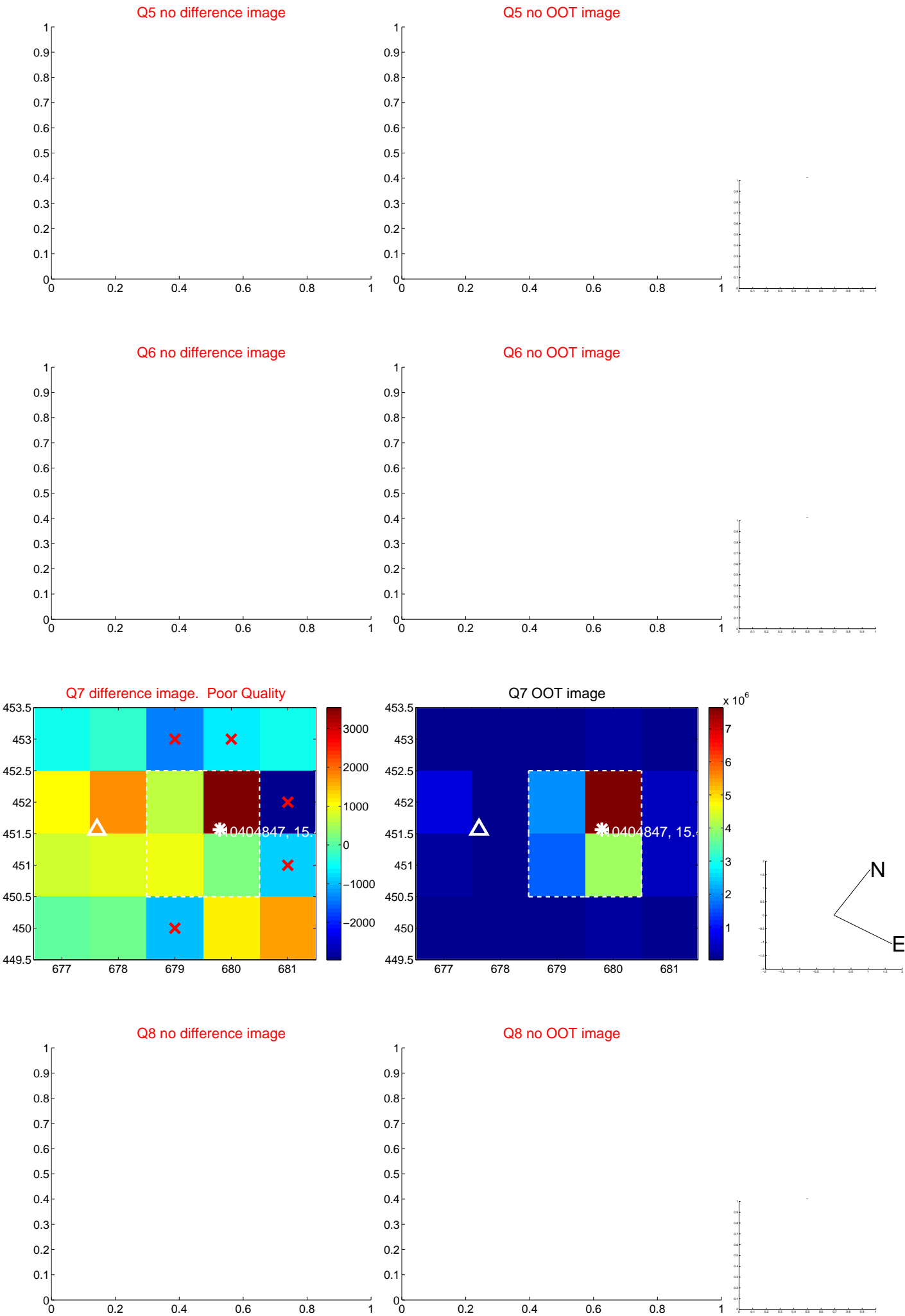


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



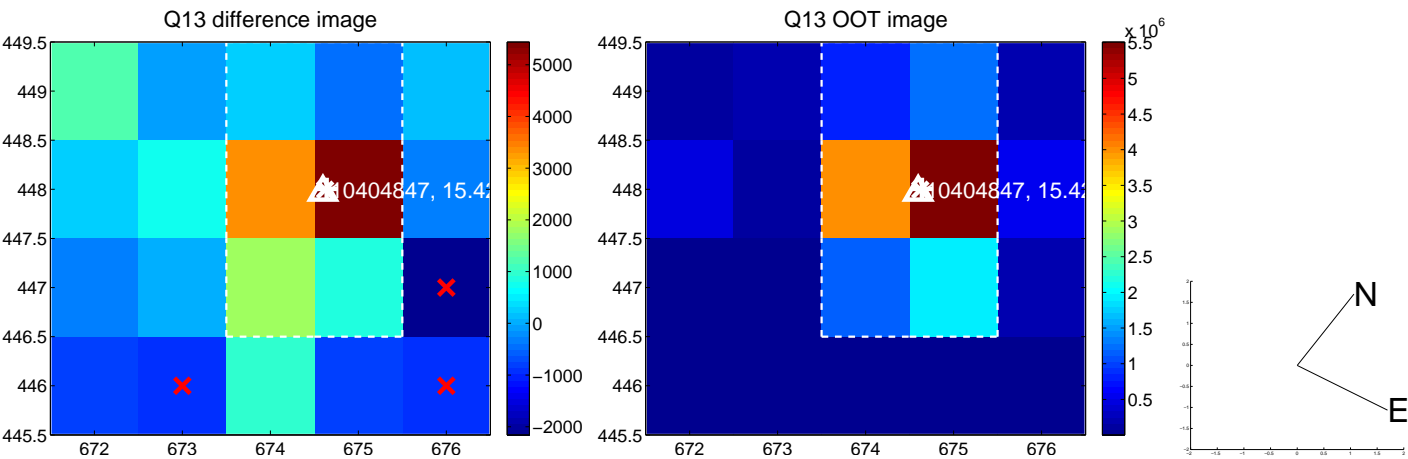
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



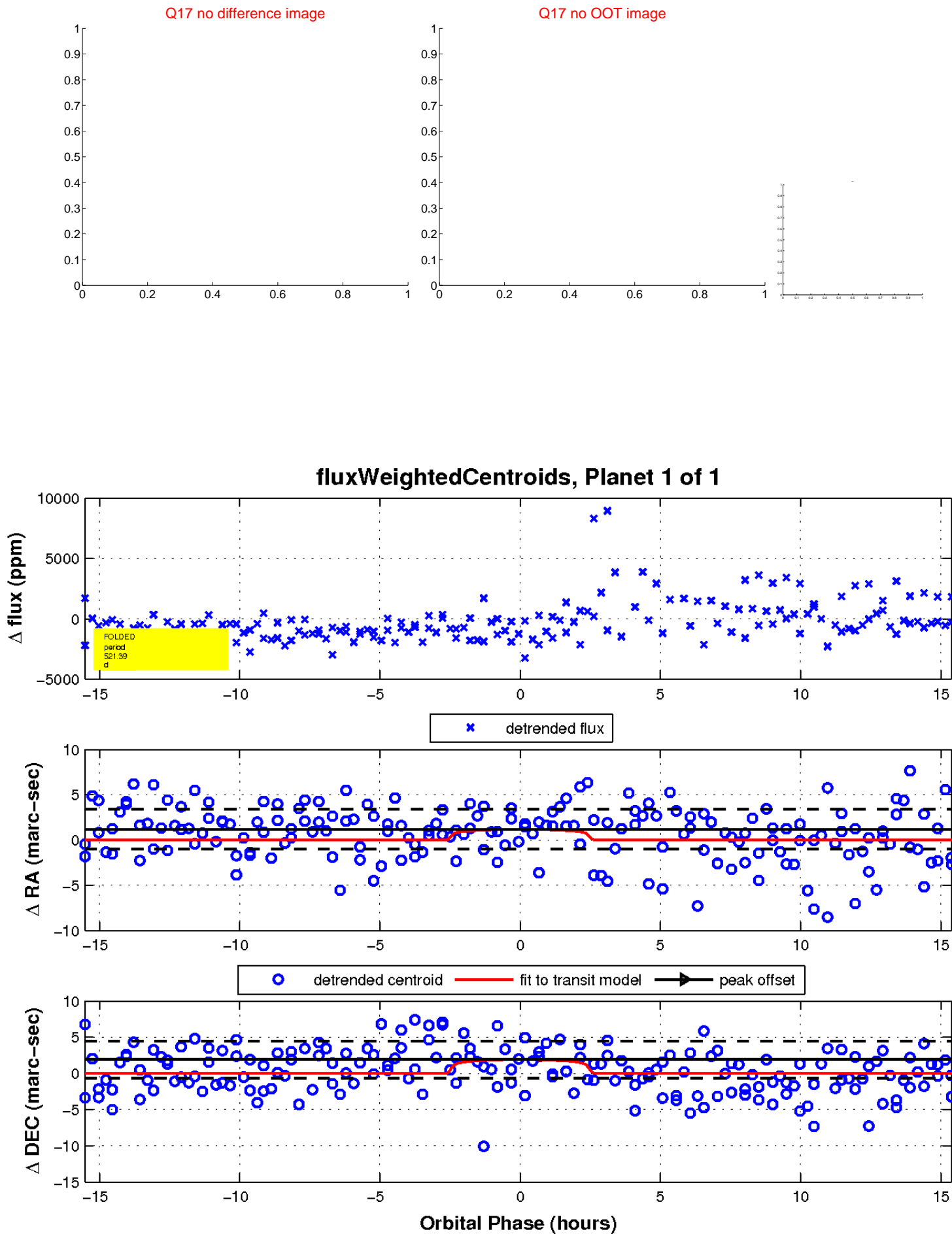
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

