

KIC 010096977

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})
010096977-01	OBS	No	378.709320	447.646154	1862.0	6.049	12.3	5.9	0.36	3553	1.55	0.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010096977-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—MOD_TER_ALT—MOD_POS_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.

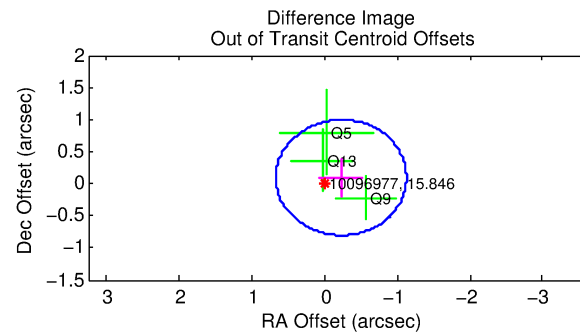
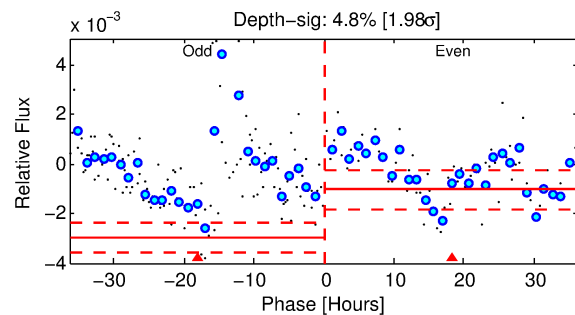
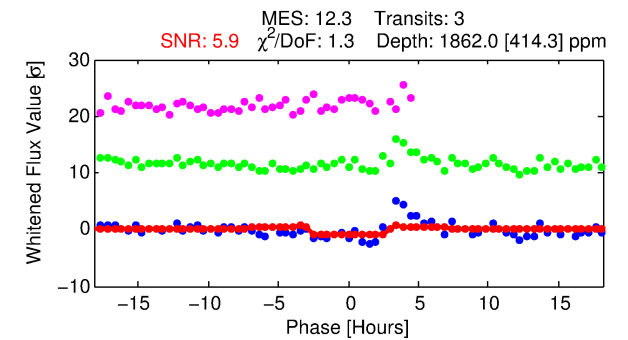
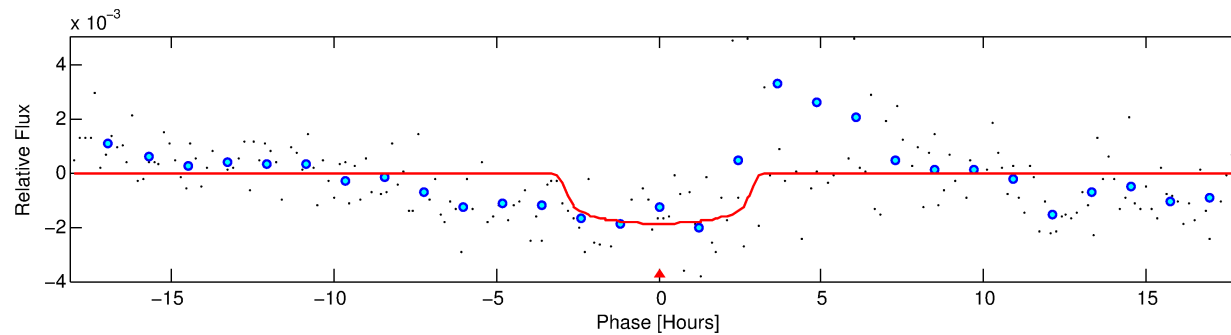
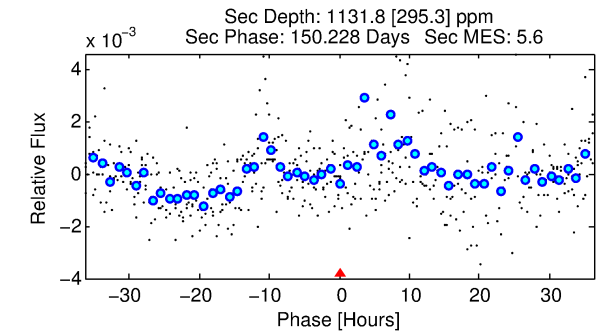
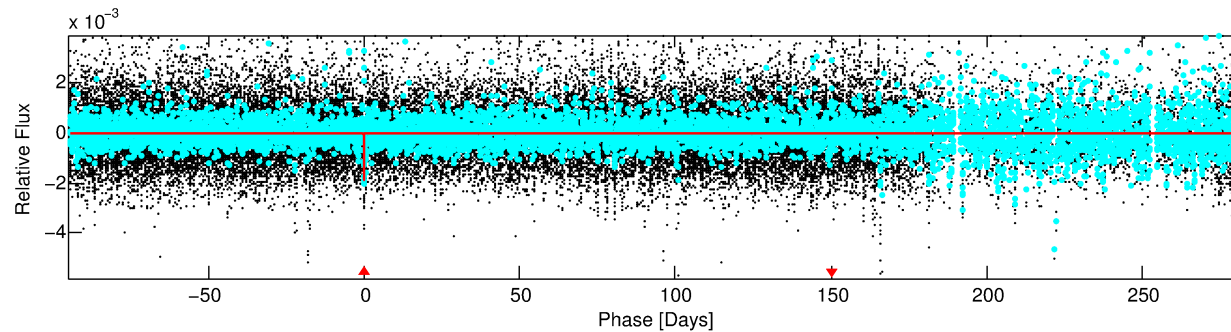
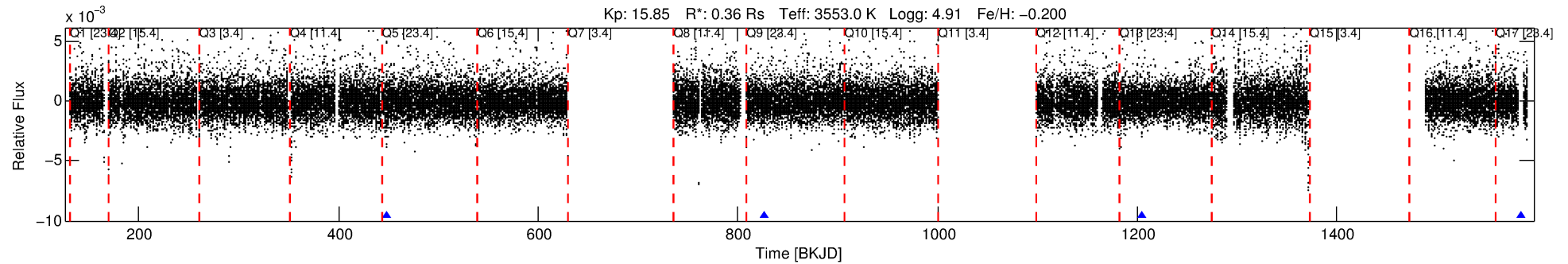
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010096977-01

No Significant Match Found

DV One-Page Summary

KIC: 10096977 Candidate: 1 of 1 Period: 378.709 d



DV Fit Results:

Period = 378.70932 [0.01039] d
Epoch = 447.6462 [0.0135] BKJD
Rp/R* = 0.0396 [0.0385]
a/R* = 473.67 [2065.48]
b = 0.32 [12.41]
Seff = 0.03 [0.01]
Teq = 109 [5] K
Rp = 1.55 [1.53] Re
a = 0.7399 [0.0917] AU
Ag = 142166.08 [279467.46] [0.51 σ]
Teffp = 3273 [1606] K [1.97 σ]

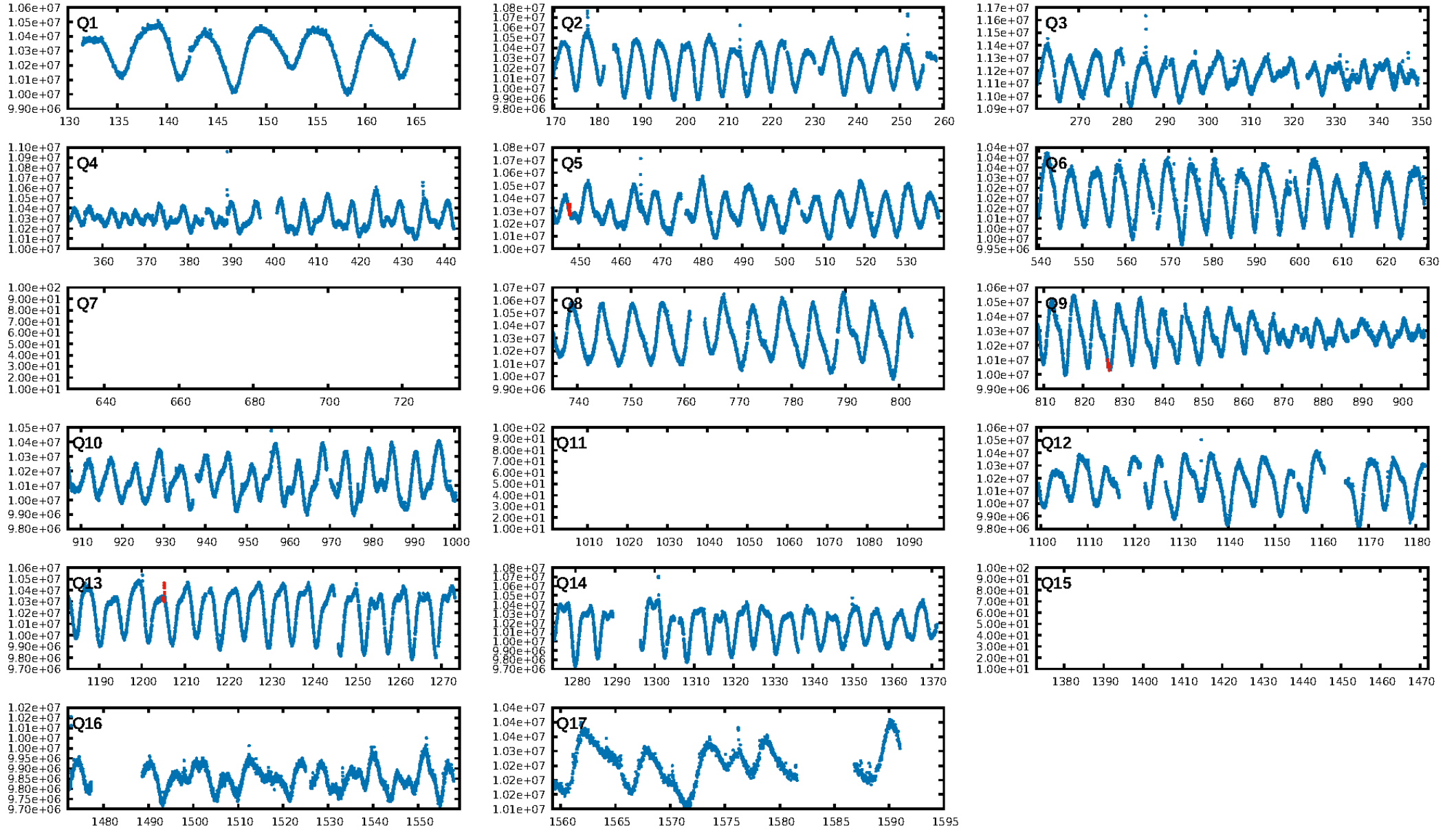
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.8%
ModelChiSquareGof-sig: 74.6%
Bootstrap-pfa: 3.37e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.426
Centroid-sig: 1.8%
Centroid-so: 3.682 arcsec [2.41 σ]
OotOffset-rm: 0.248 arcsec [0.83 σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-rm: 0.177 arcsec [0.55 σ]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

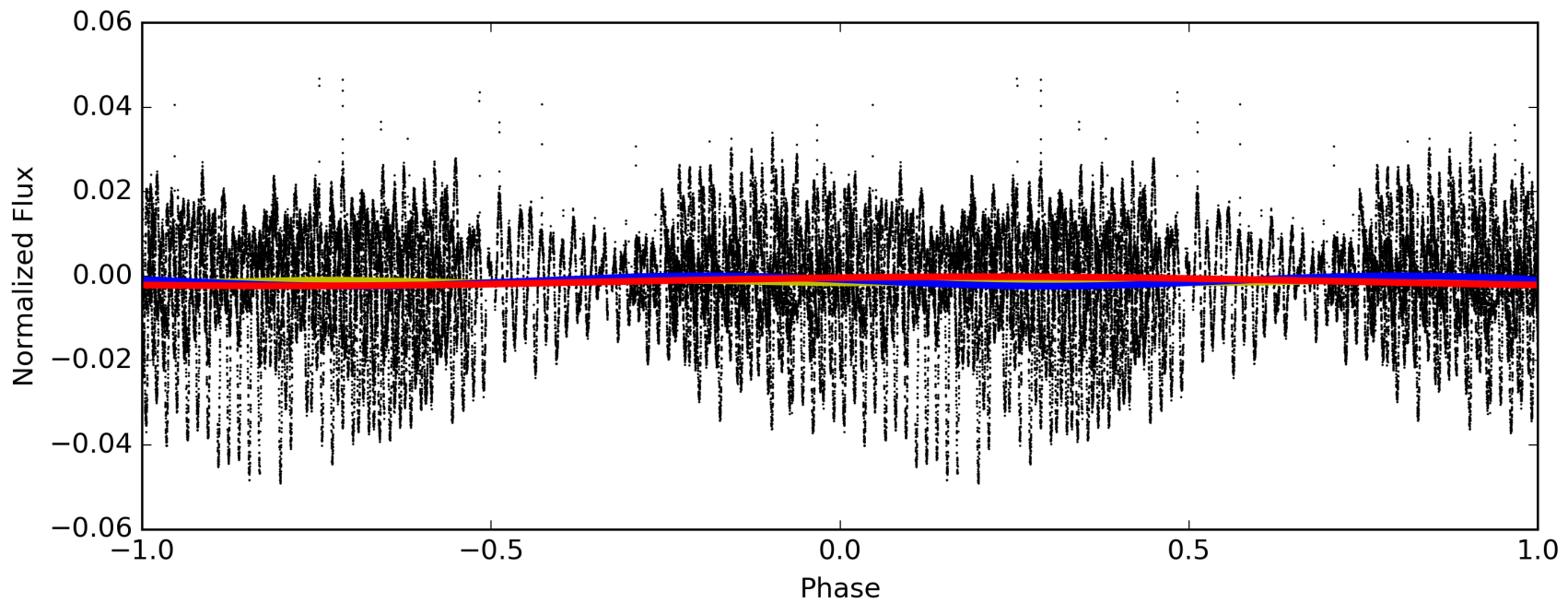
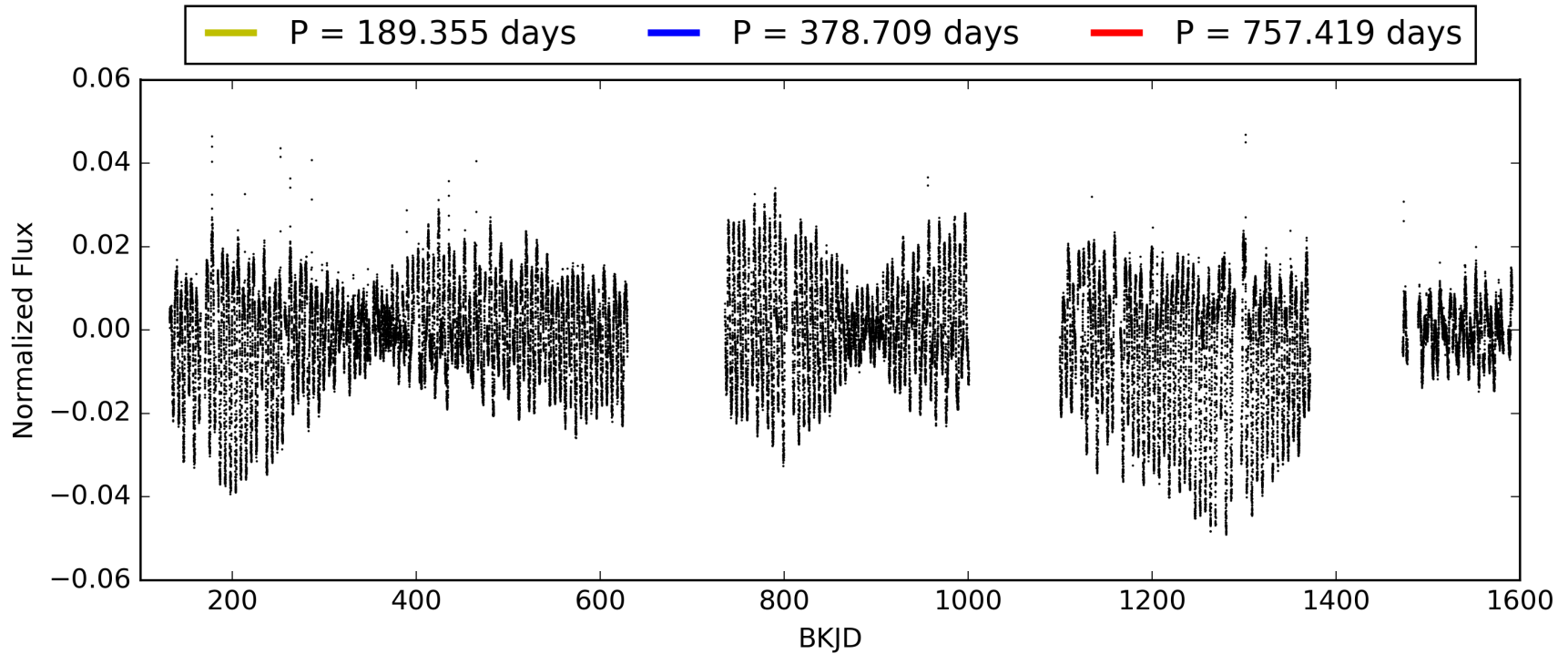
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:32:56 Z

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

TCE 010096977-01, PDC Light Curves

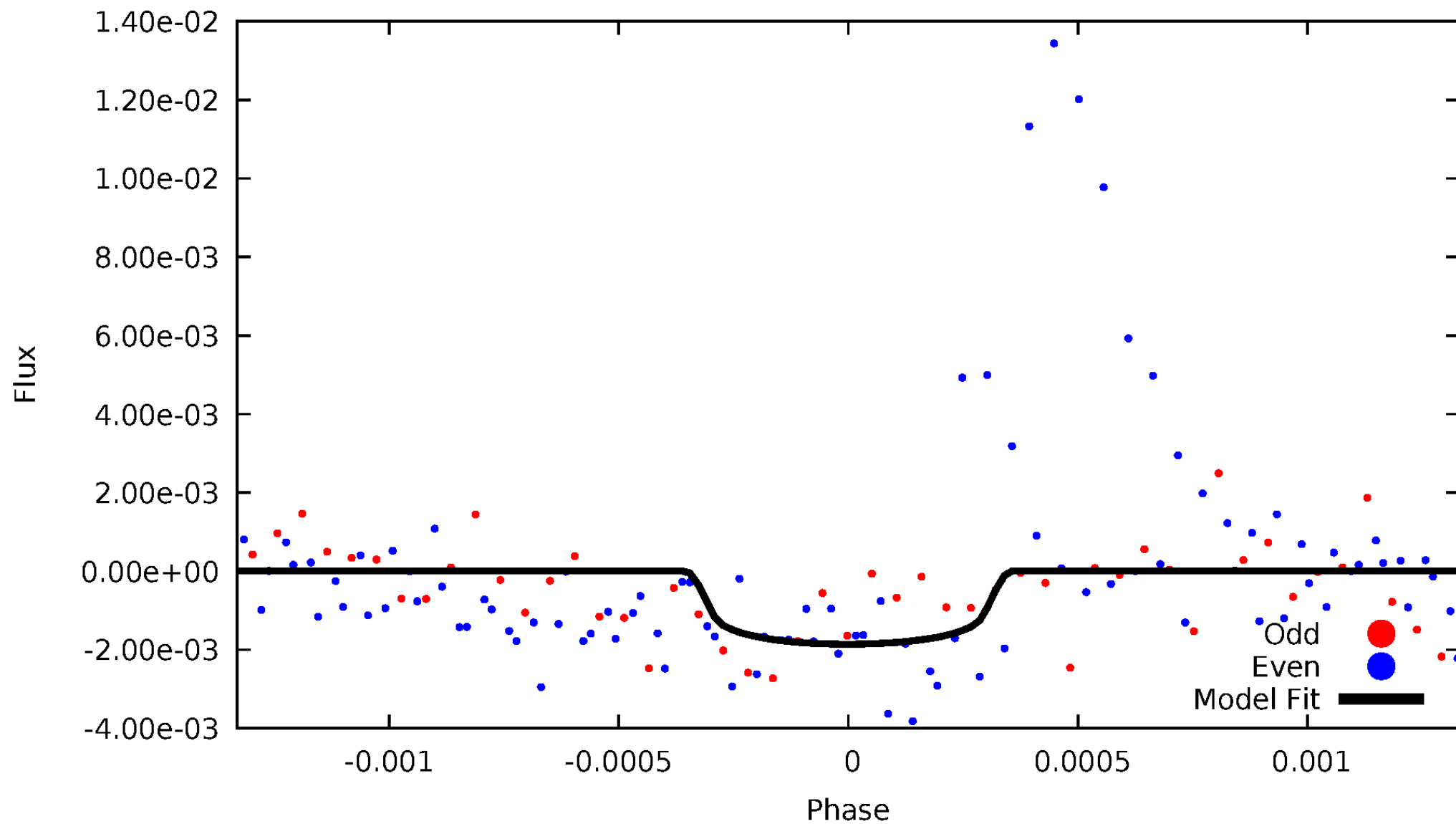


TCE 010096977-01



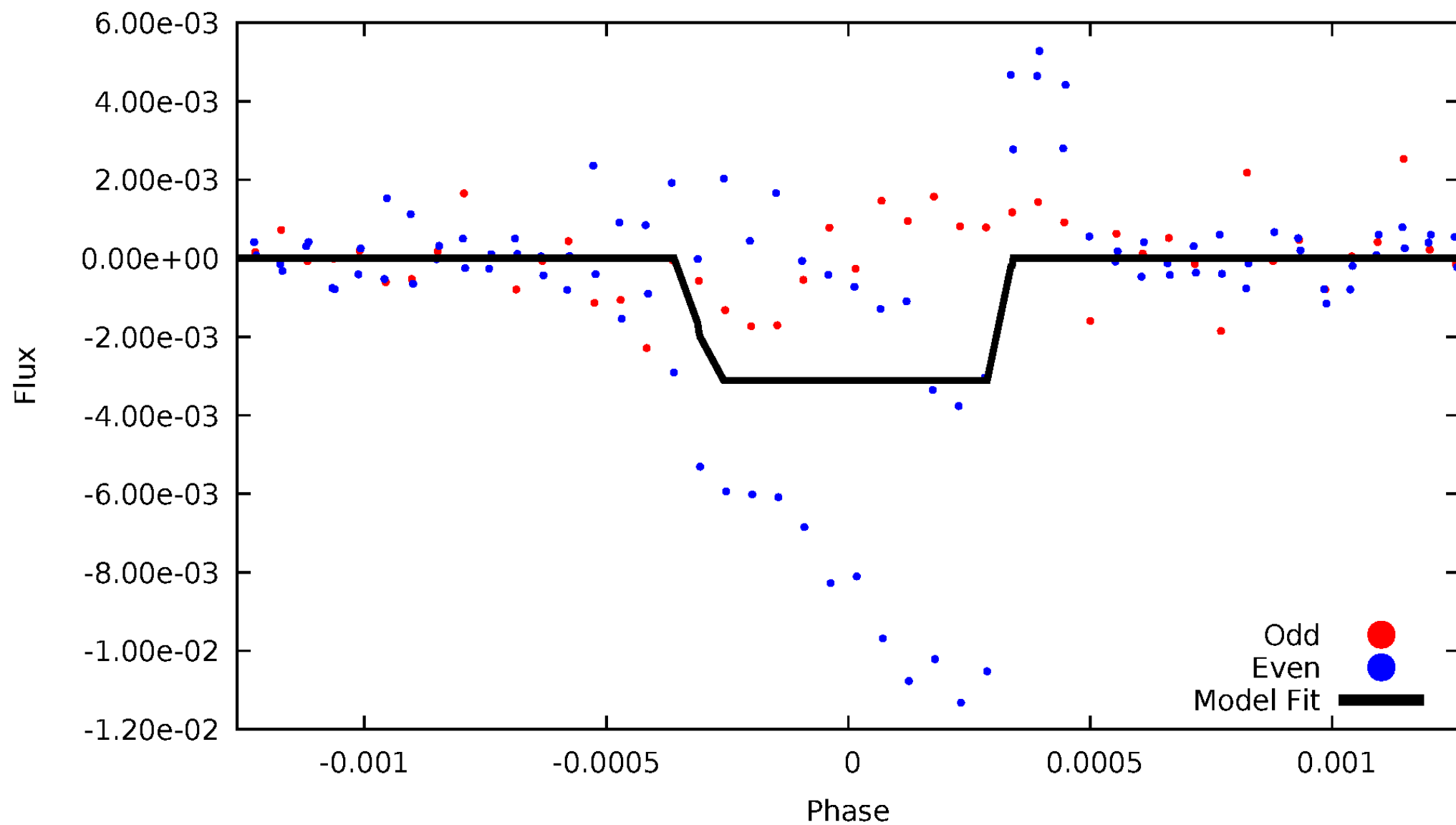
DV Odd/Even

TCE 010096977-01



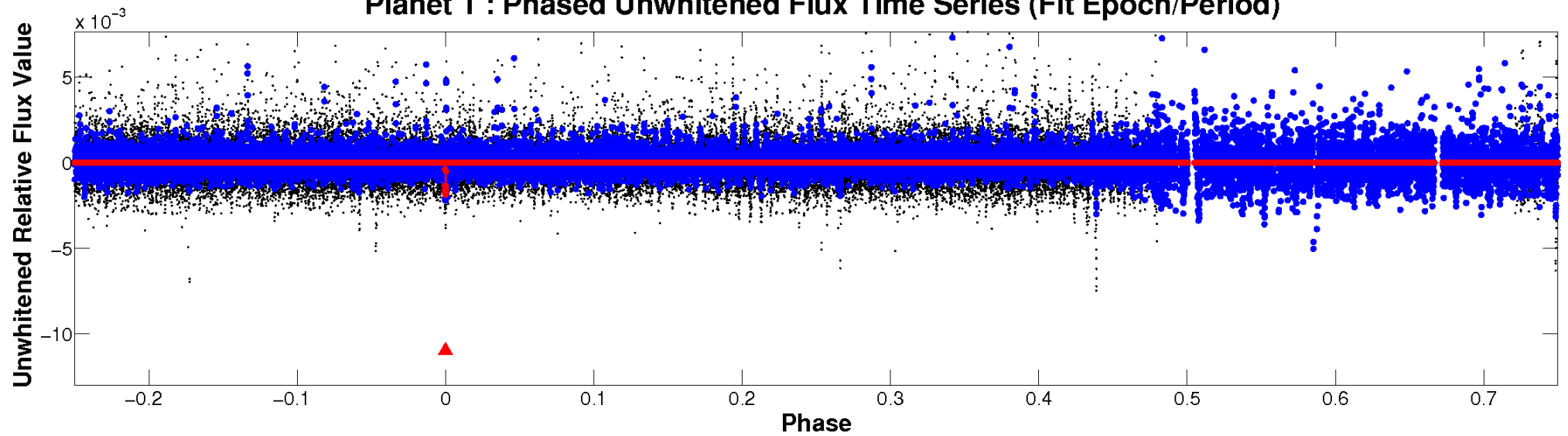
ALT Odd/Even

TCE 010096977-01

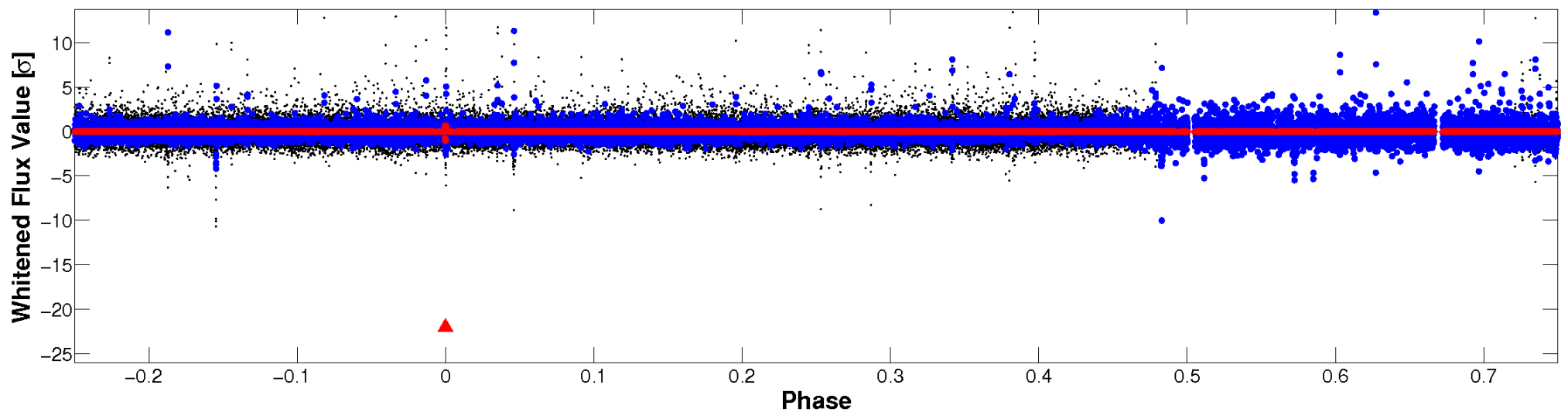


Non-Whitened Vs. Whitened Light Curve

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

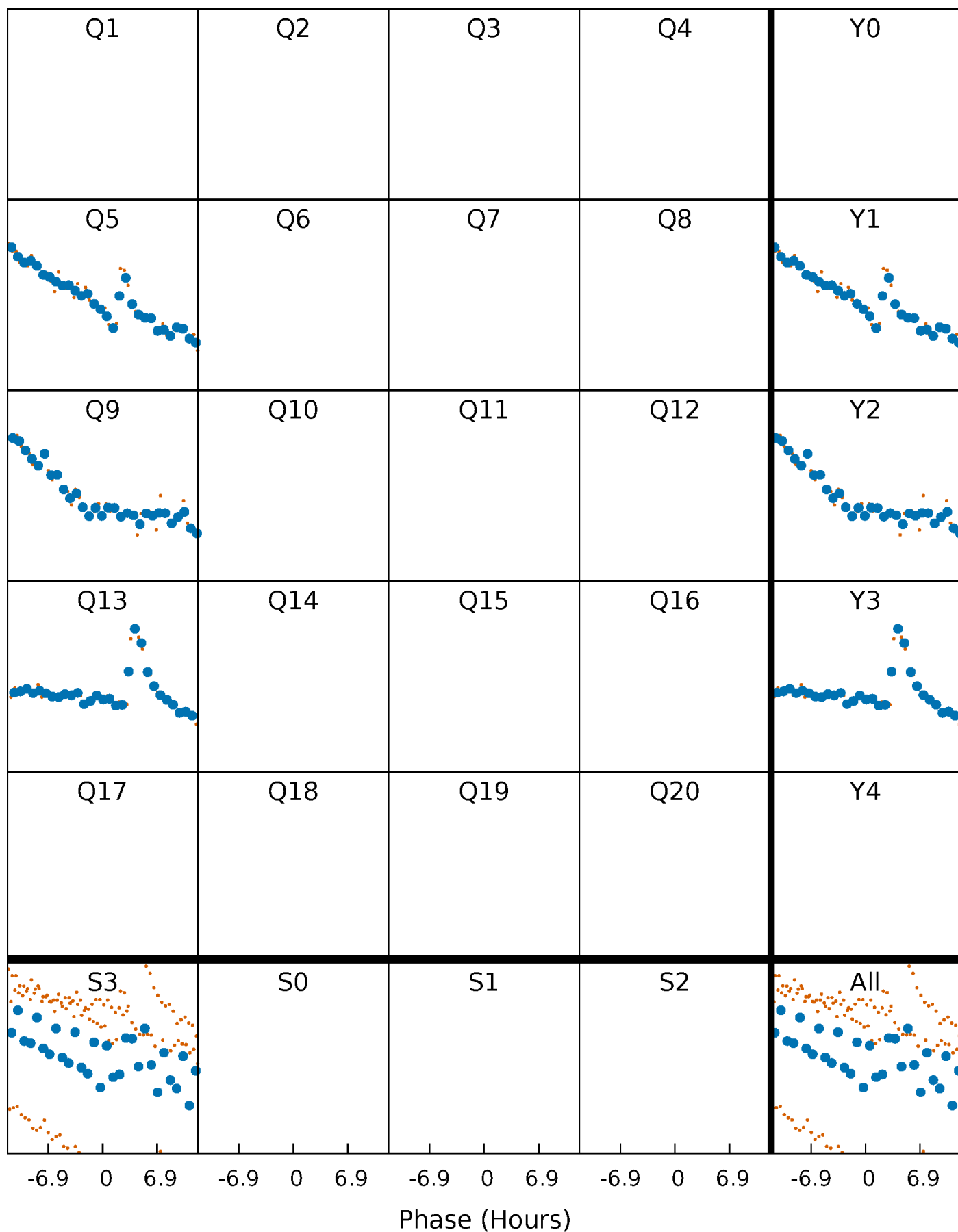


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



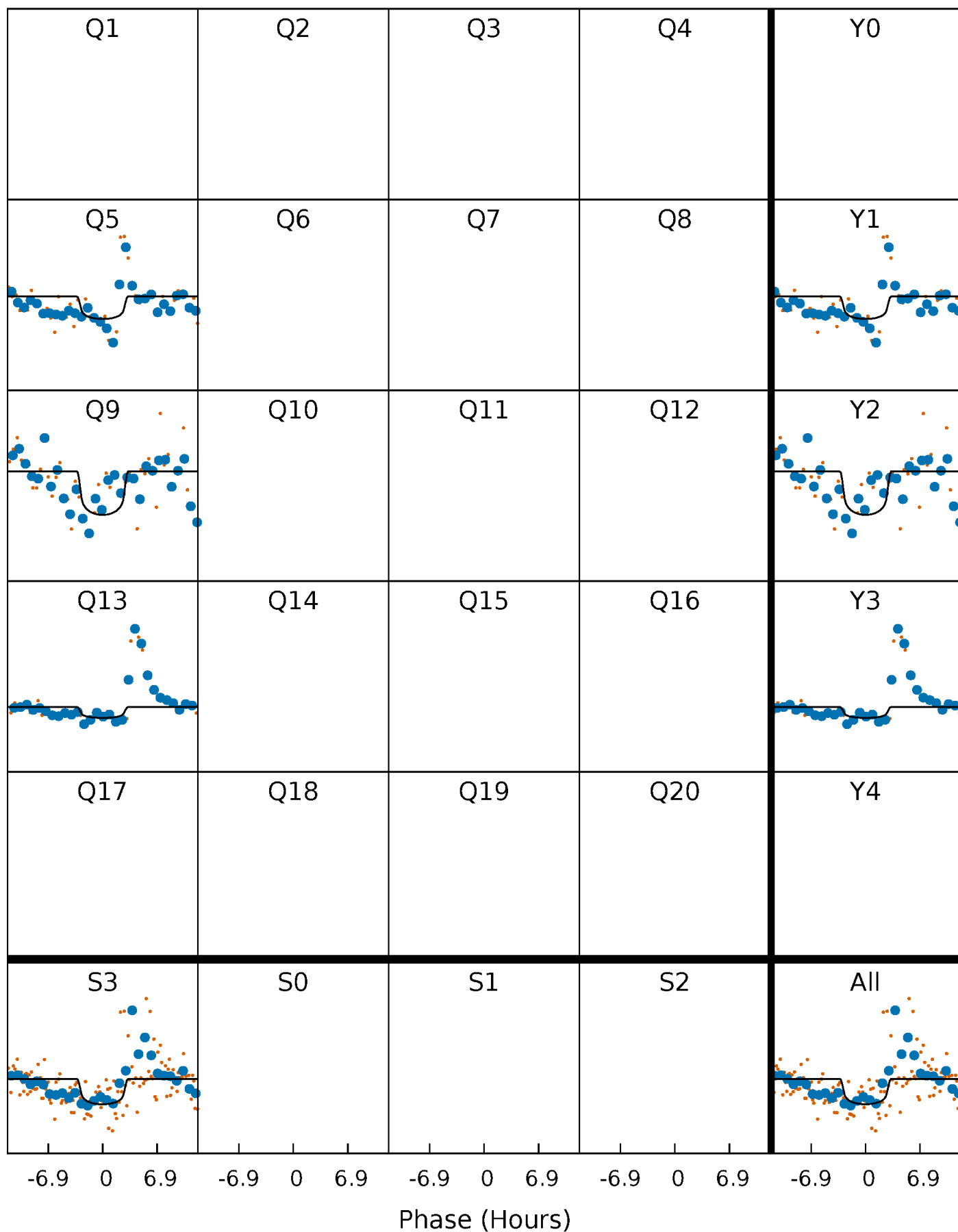
PDC Quarter-Phased Transit Curves

TCE 010096977-01 P=378.709320 Days $T_0=447.646154$ (BKJD)



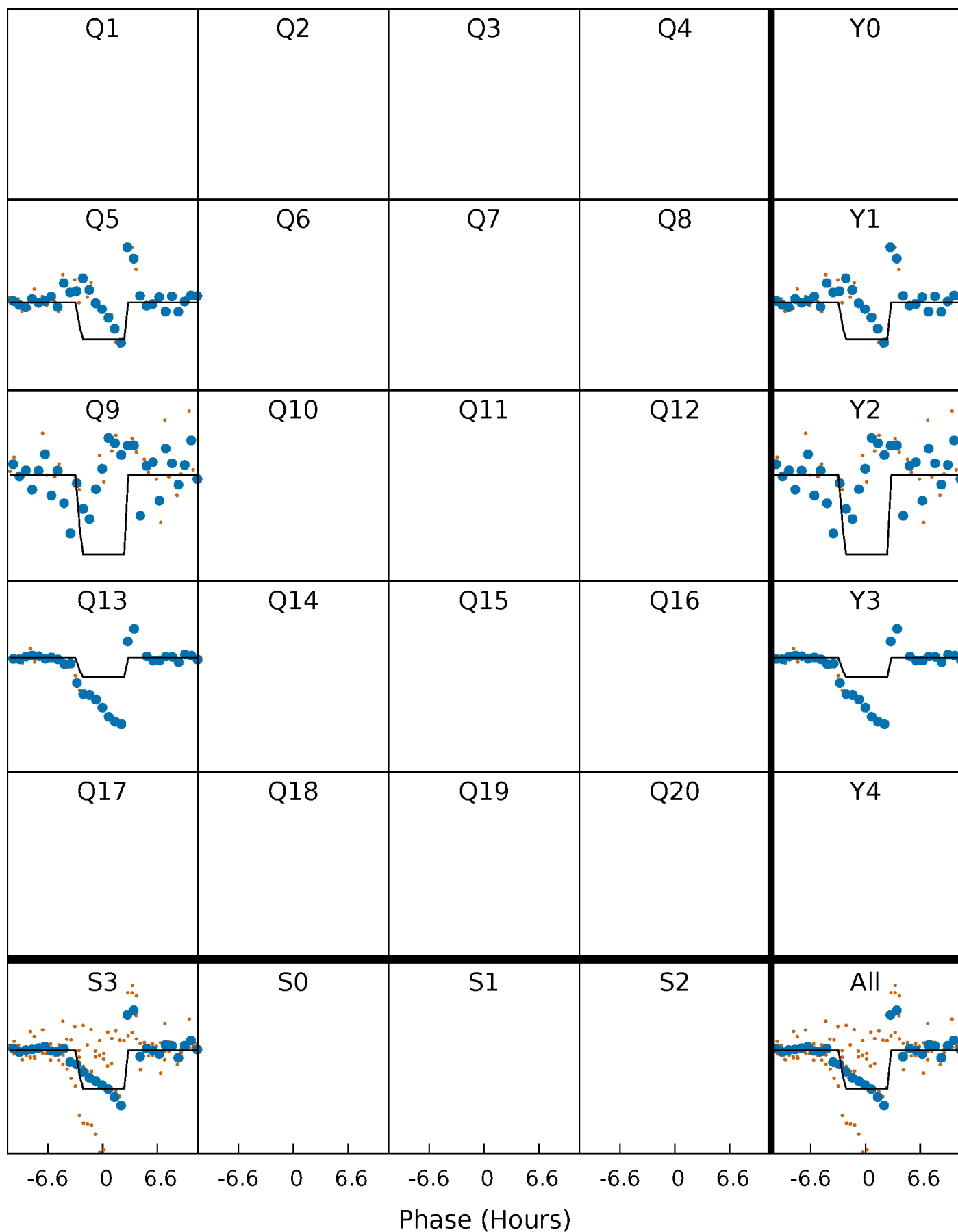
DV Quarter-Phased Transit Curves

TCE 010096977-01 $P=378.709320$ Days $T_0=447.646154$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

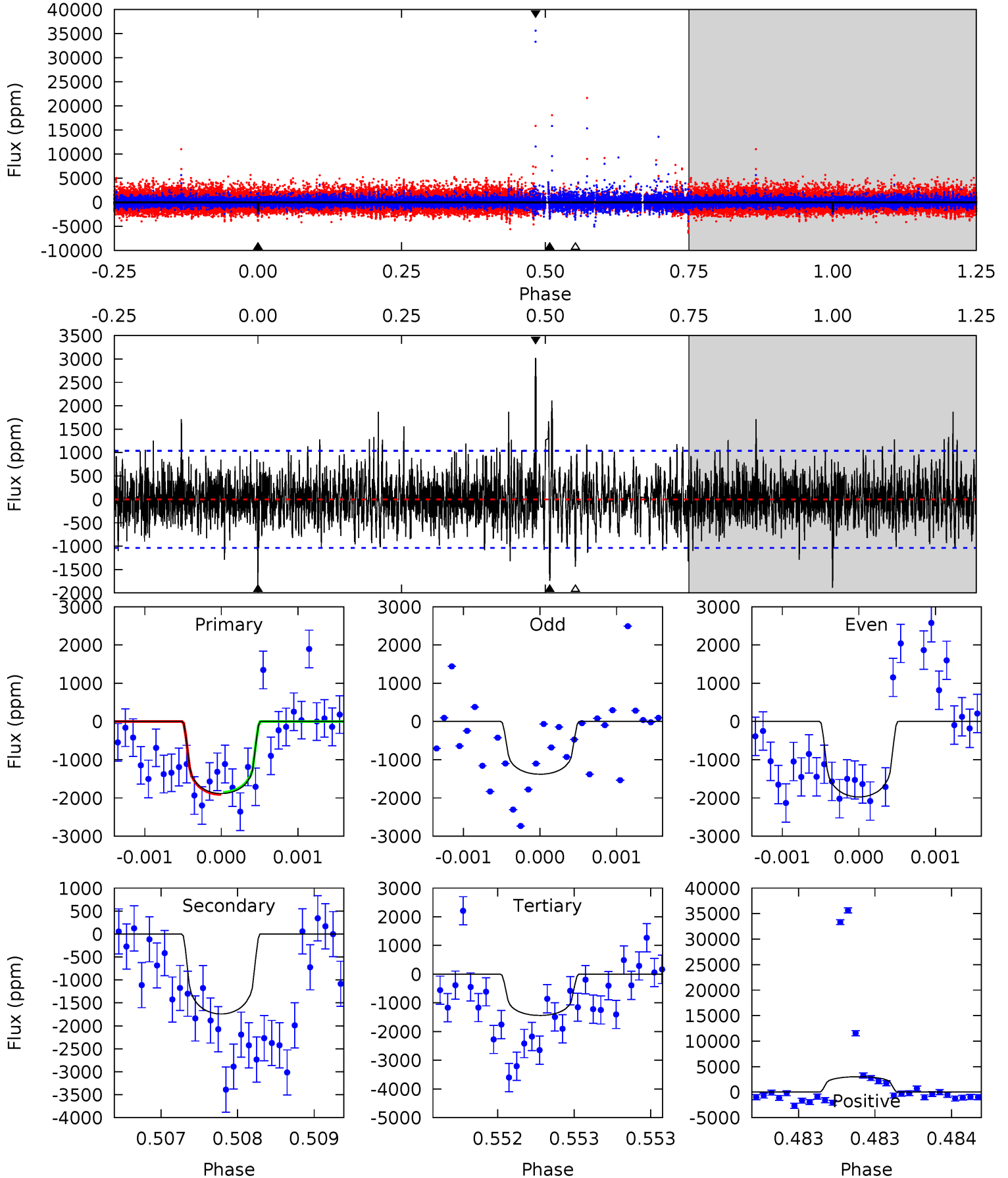
TCE 010096977-01 P=378.736035 Days $T_0=447.612833$ (BKJD)



DV Model-Shift Uniqueness Test

010096977-01, $P = 378.709320$ Days, $E = 68.936834$ Days

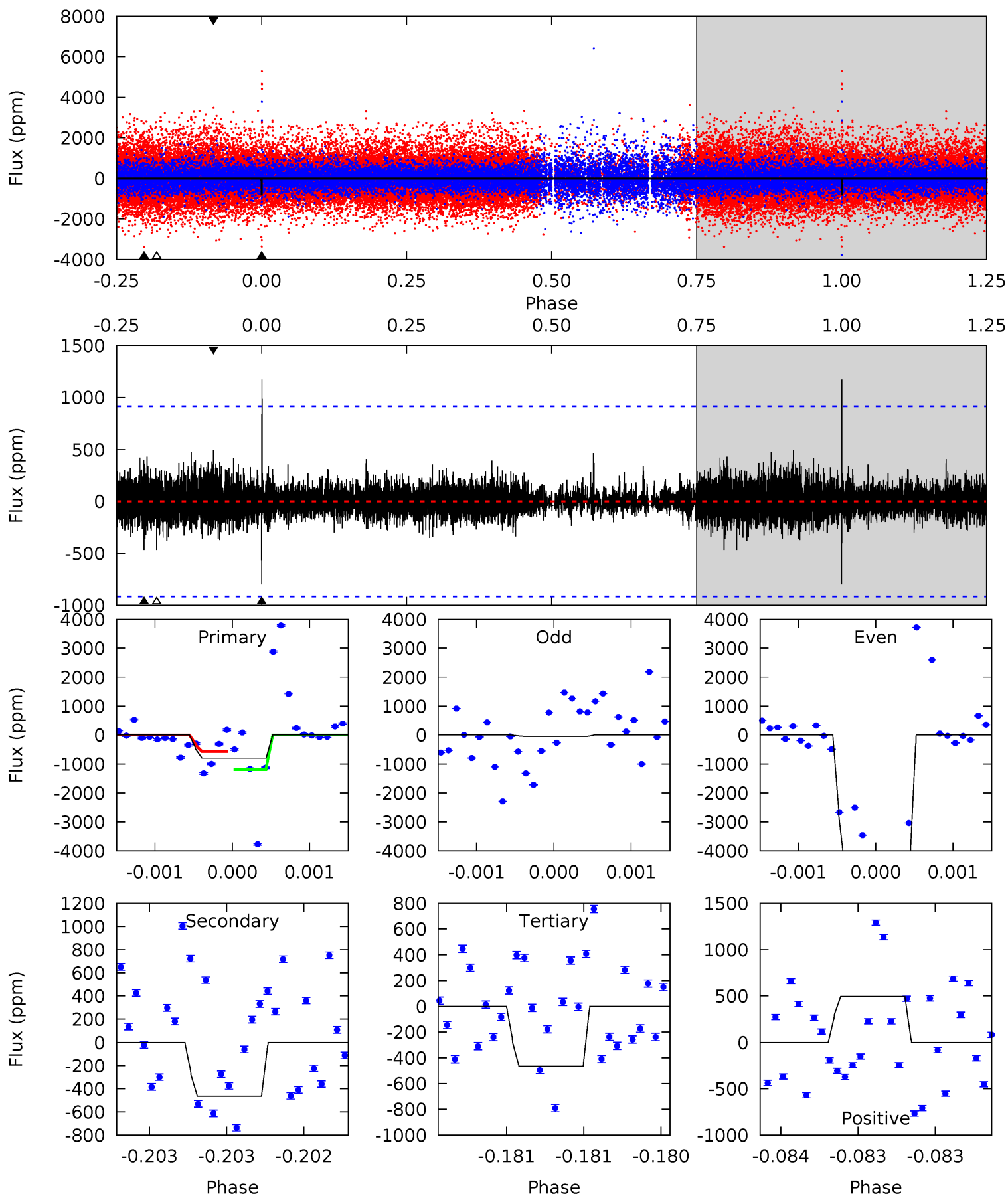
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	9.26	7.64	16.0	5.51	3.39	2.06	2.37	-6.03	1.62	-6.79	1.43	1.13	0.62	0.14



Alt Model-Shift Uniqueness Test

010096977-01, P = 378.736035 Days, E = 68.876798 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.83	2.81	2.81	2.99	5.53	3.41	0.57	2.02	1.84	0.00	-0.18	17.6	3.74	0.59	0



Stellar Parameters For KIC 010096977

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3553^{+80}_{-89}	$4.906^{+0.070}_{-0.063}$	$-0.200^{+0.150}_{-0.200}$	$0.358^{+0.060}_{-0.060}$	$0.379^{+0.055}_{-0.082}$	$11.630^{+4.945}_{-2.926}$
	+2%/-3%	+1%/-1%	+75%/-100%	+17%/-17%	+15%/-22%	+43%/-25%
Source	PHO2	PHO2	PHO2	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010096977-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1742 ± 188	$1.85^{+1.41}_{-1.15}$	152^{+6}_{-6}	3406^{+1435}_{-509}	$150329^{+892972}_{-102582}$
Alt.	-465 ± 166	$2.28^{+1.47}_{-1.30}$	152^{+6}_{-6}	2651^{+680}_{-336}	$26021^{+104715}_{-17535}$

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 $A_{obs} \gg 1.0$

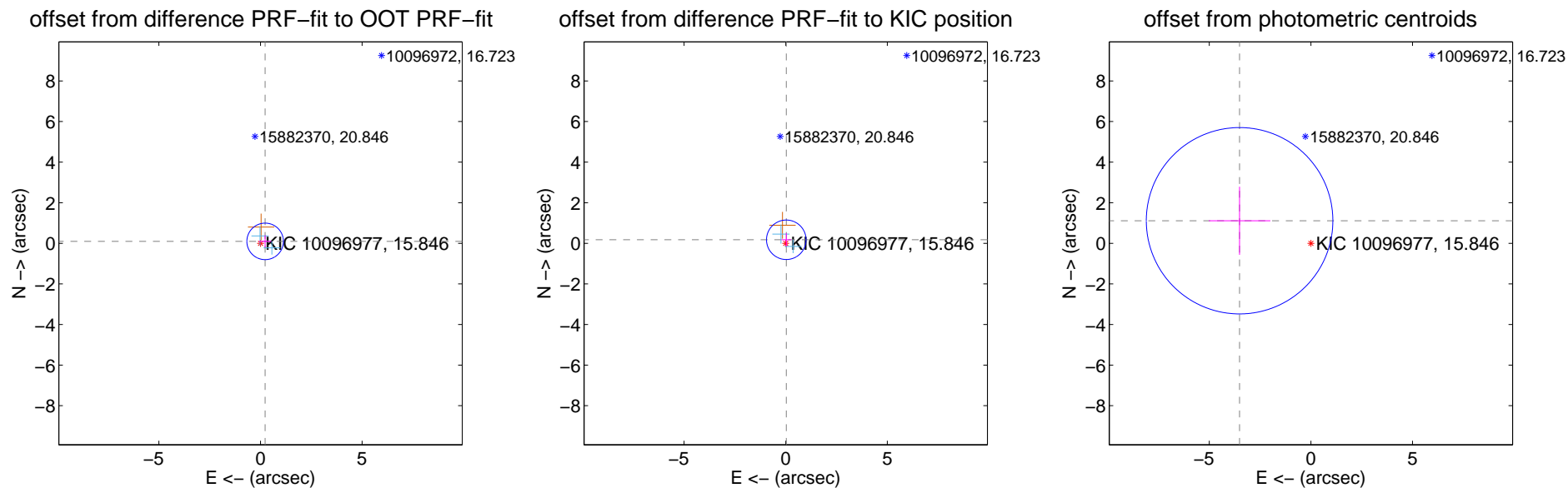
DV Centroid Data

Supplemental centroid analysis for 010096977-01. Kepler magnitude: 15.85. Transit SNR 5.93

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.248 ± 0.300	0.83	-0.229 ± 0.300	0.095 ± 0.300
PRF-fit source offset from KIC position	0.177 ± 0.324	0.55	-0.029 ± 0.236	0.174 ± 0.326
photometric centroid source offset	3.68 ± 1.53	2.41	3.51 ± 1.51	1.11 ± 1.68

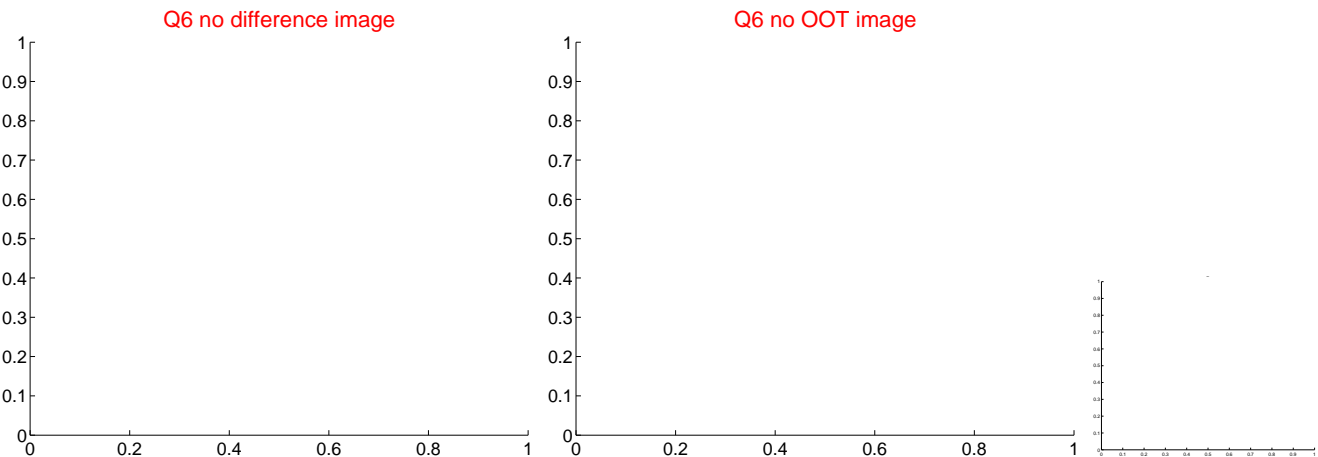
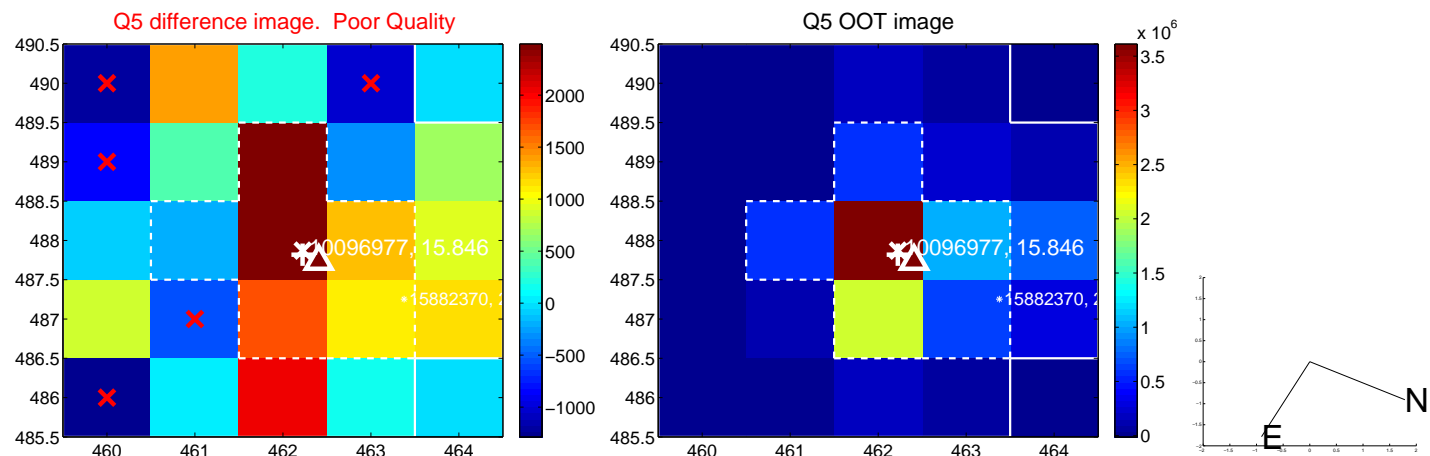


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

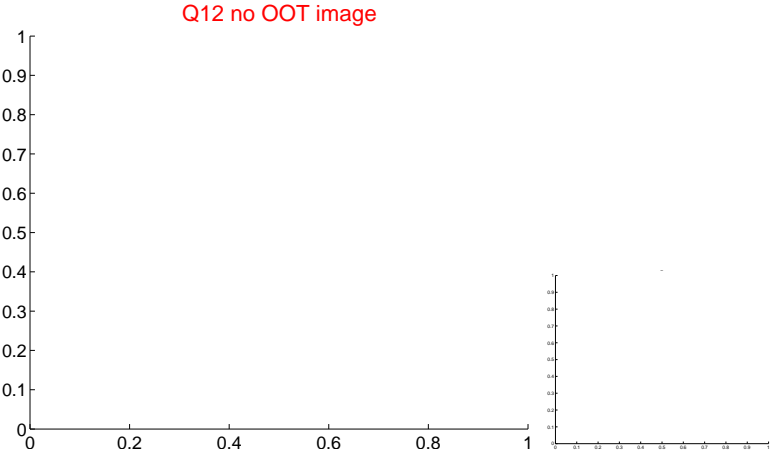
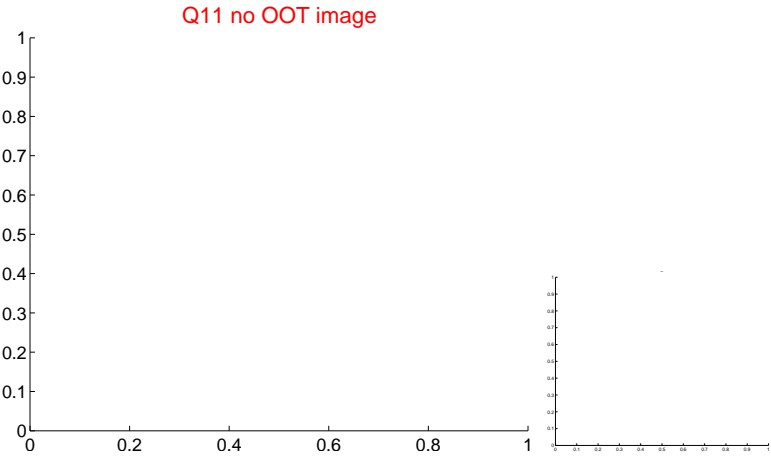
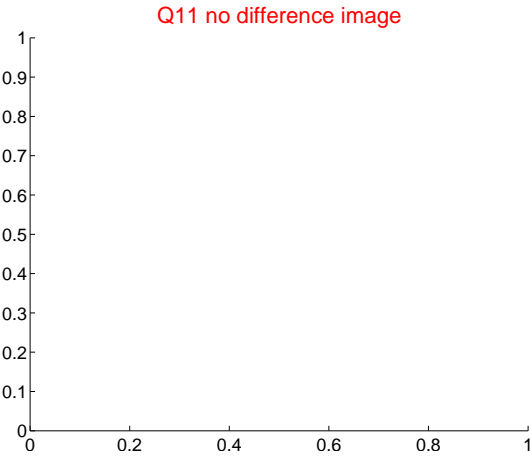
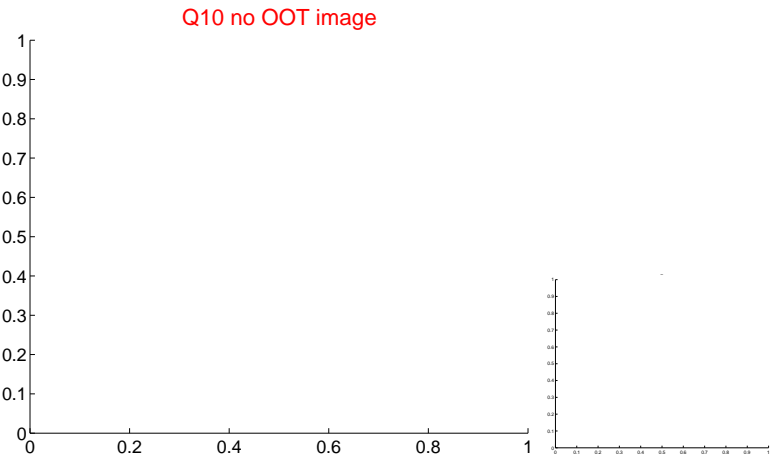
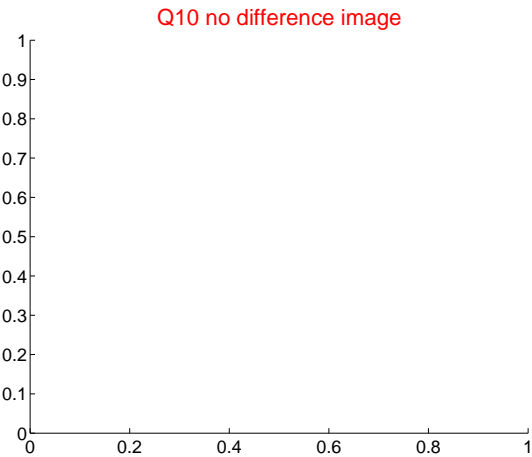
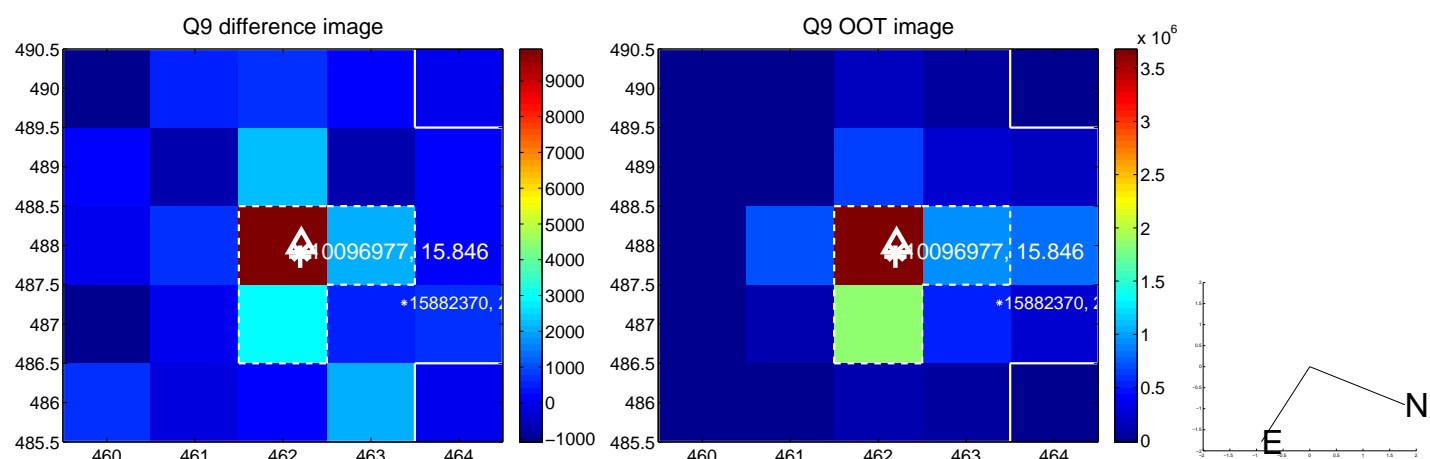
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



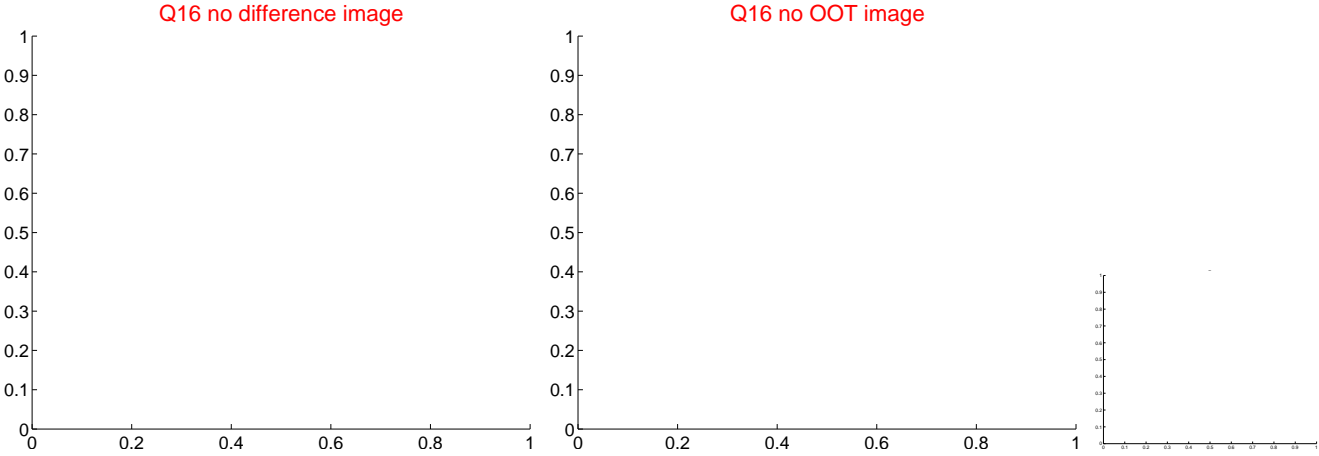
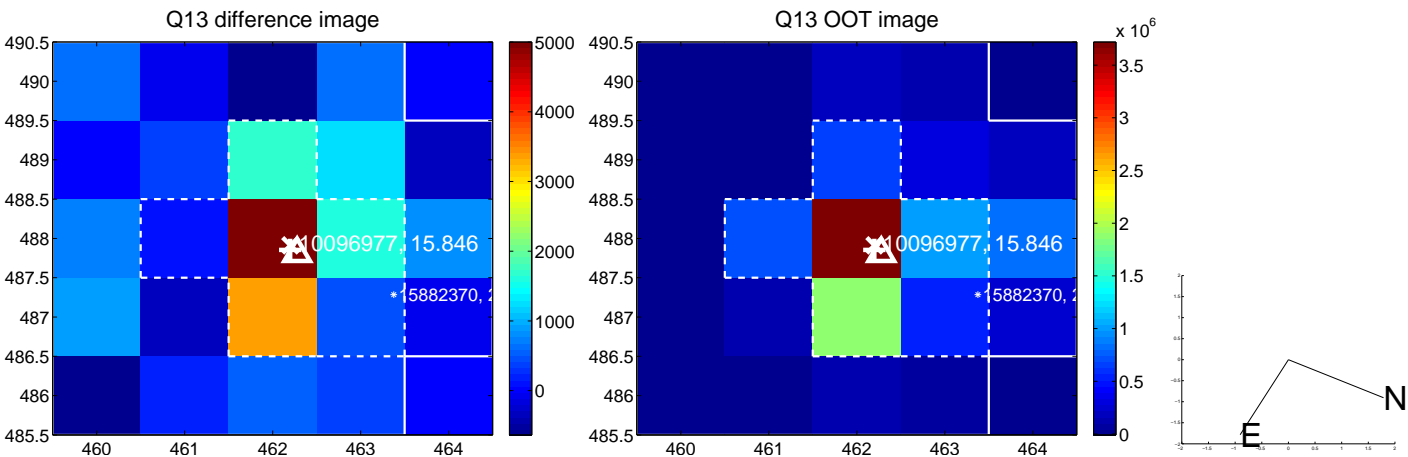
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



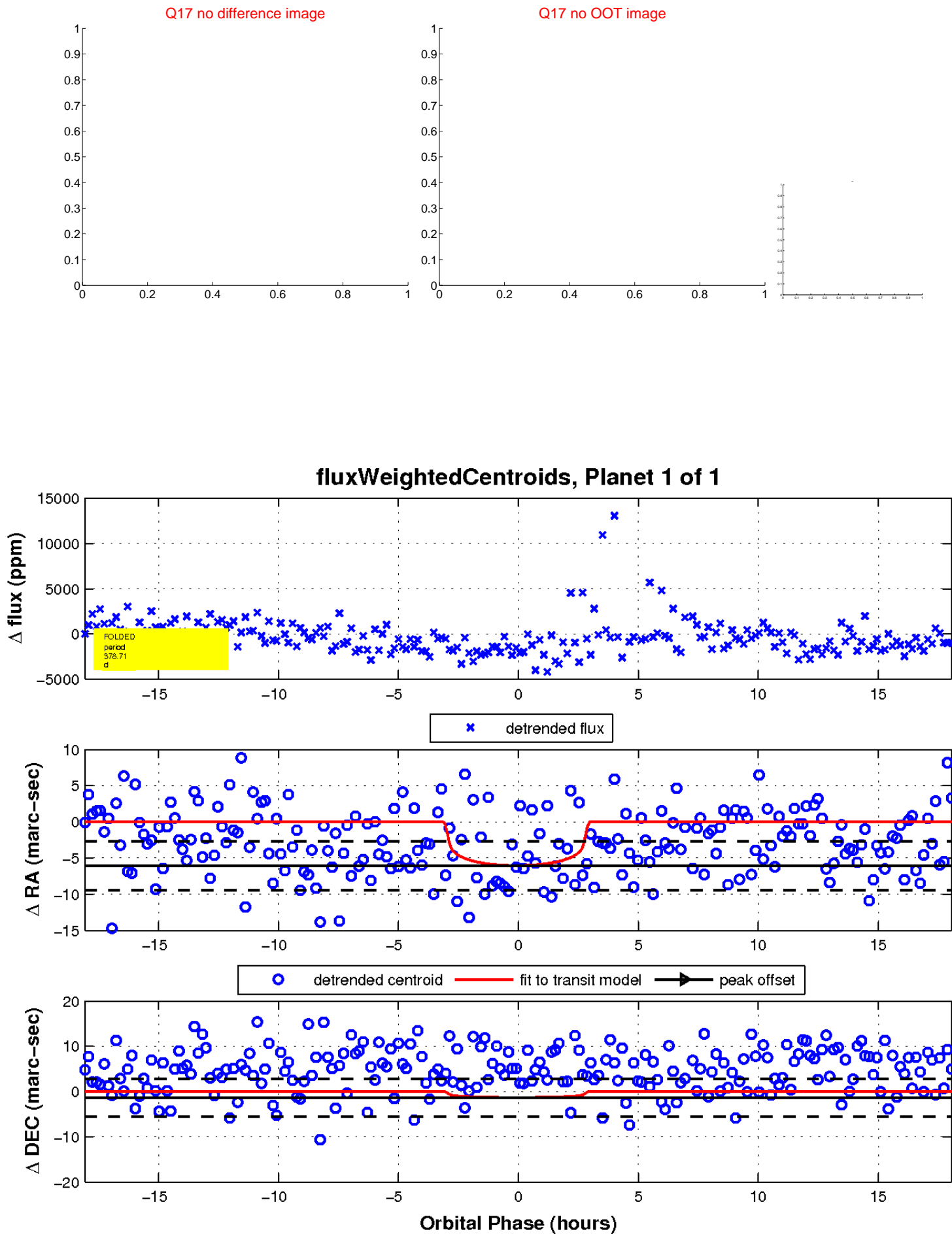
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

