

KIC 009652680

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})
009652680-01	OBS	No	457.543524	361.399331	826.1	5.485	18.9	3.7	0.82	5819	2.39	0.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009652680-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS— CENT_SATURATED—HALO_GHOST

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

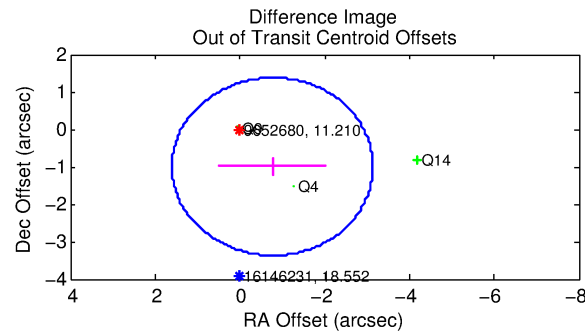
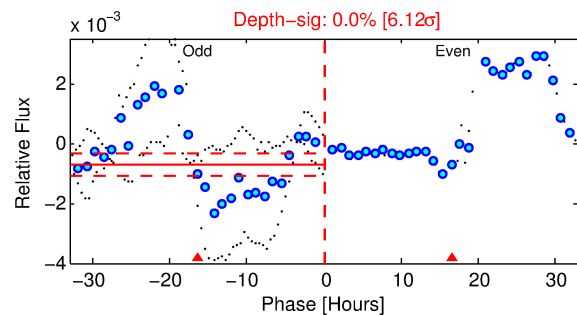
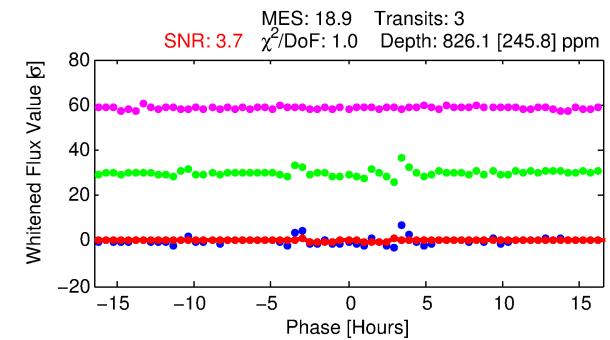
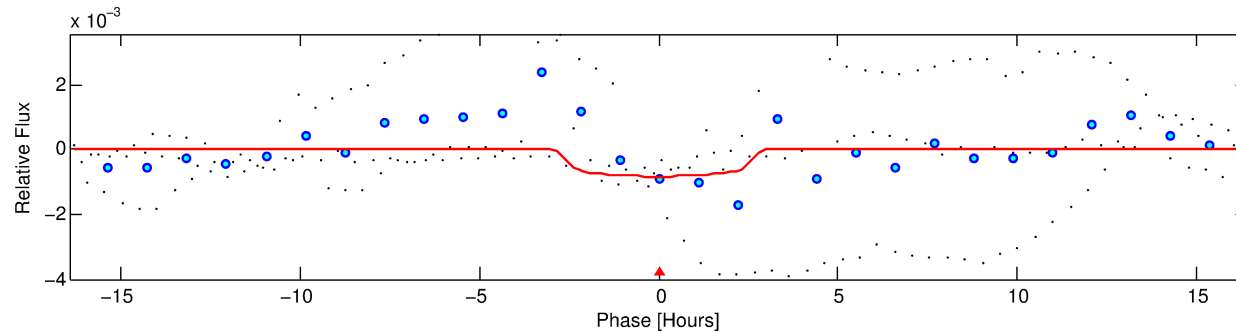
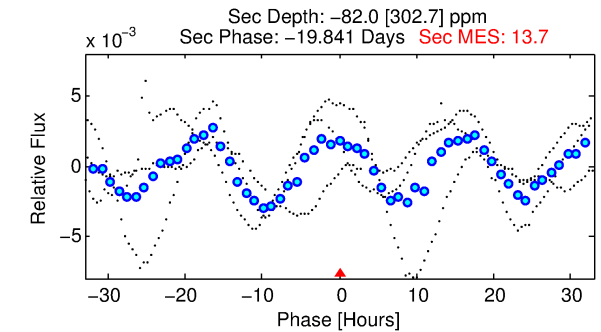
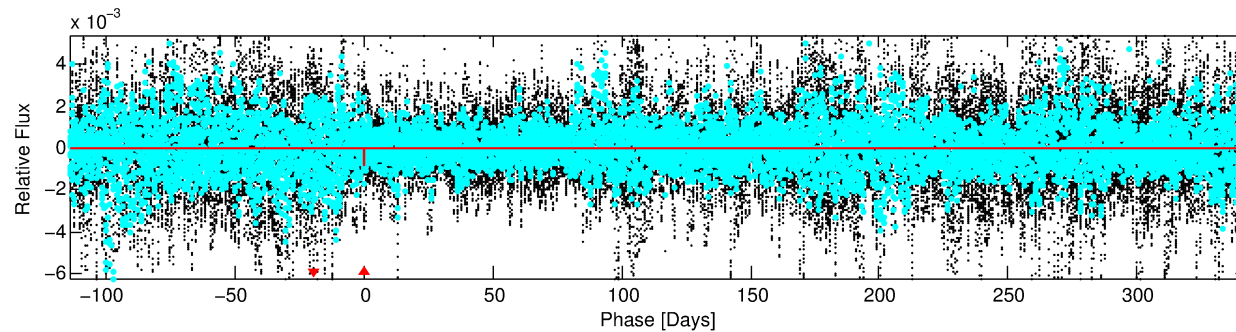
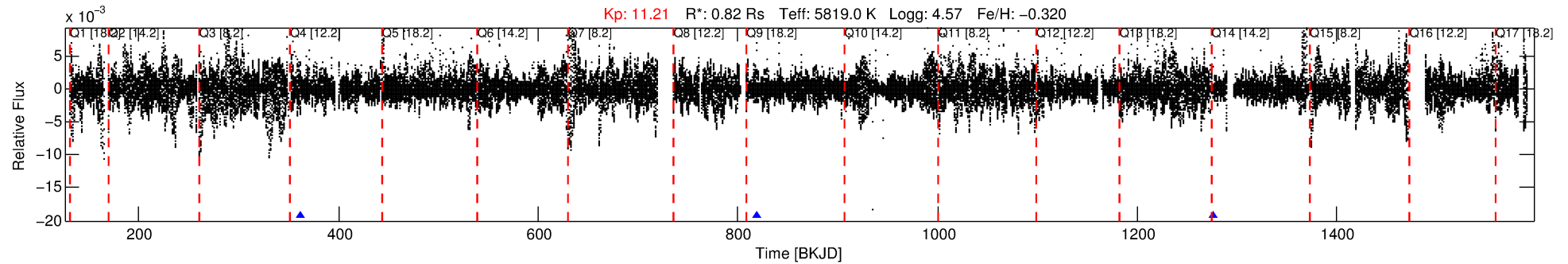
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009652680-01

No Significant Match Found

DV One-Page Summary

KIC: 9652680 Candidate: 1 of 1 Period: 457.544 d



DV Fit Results:

Period = 457.54352 [0.00474] d
Epoch = 361.3993 [0.0055] BKJD
Rp/R* = 0.0266 [0.0297]
a/R* = 608.11 [3151.66]
b = 0.38 [11.79]
Seff = 0.55 [0.18]
Teq = 220 [18] K
Rp = 2.39 [2.73] Re
a = 1.1253 [0.2330] AU
Ag = N/A
Teffp = N/A

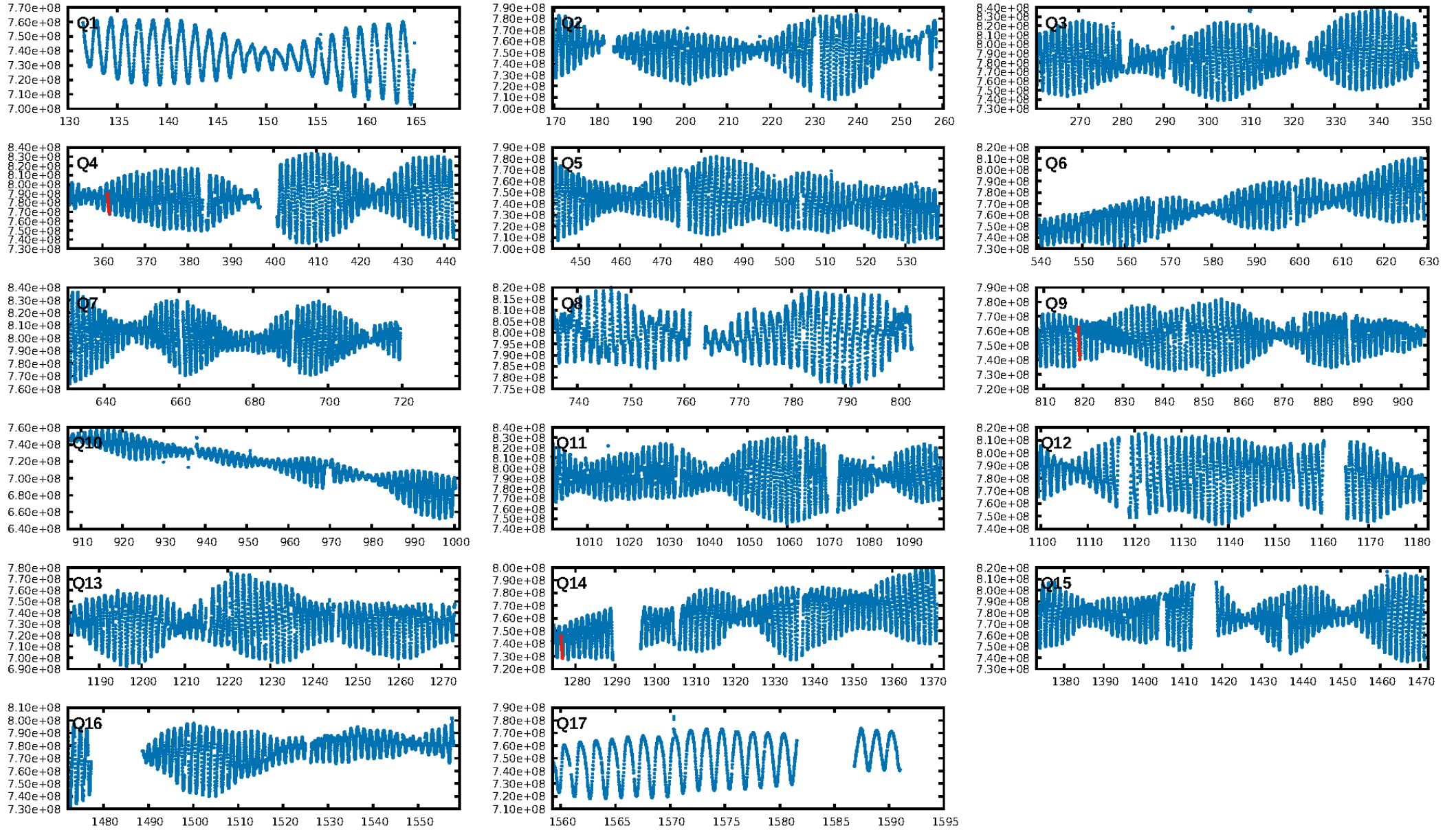
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 51.8%
ModelChiSquareGof-sig: 79.4%
Bootstrap-pfa: 2.76e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.08289
Centroid-sig: 37.5%
Centroid-so: 0.307 arcsec [0.69 σ]
OotOffset-rm: 1.262 arcsec [1.60 σ]
KicOffset-rm: 1.293 arcsec [1.50 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

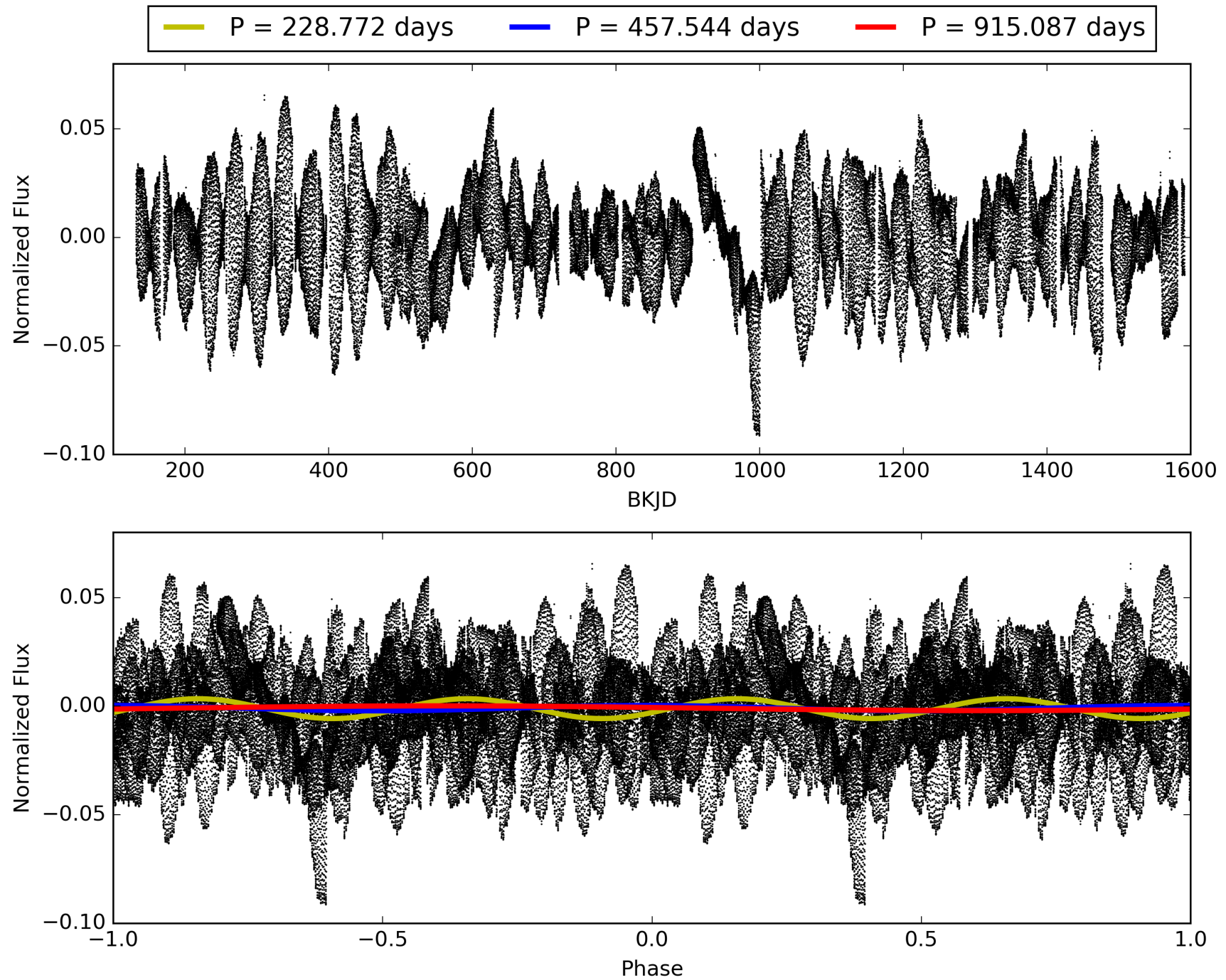
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:06:07 Z

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

TCE 009652680-01, PDC Light Curves

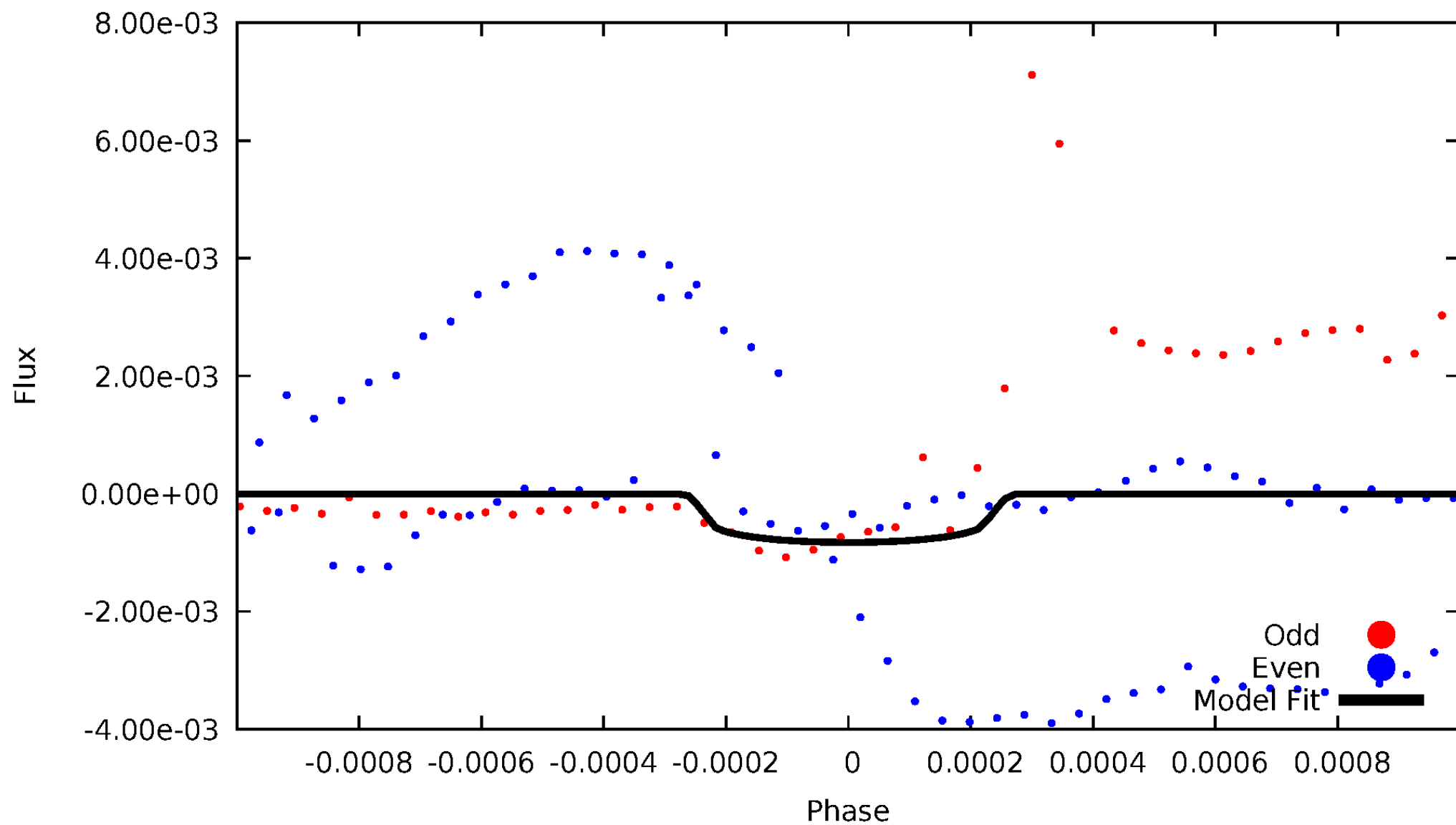


TCE 009652680-01



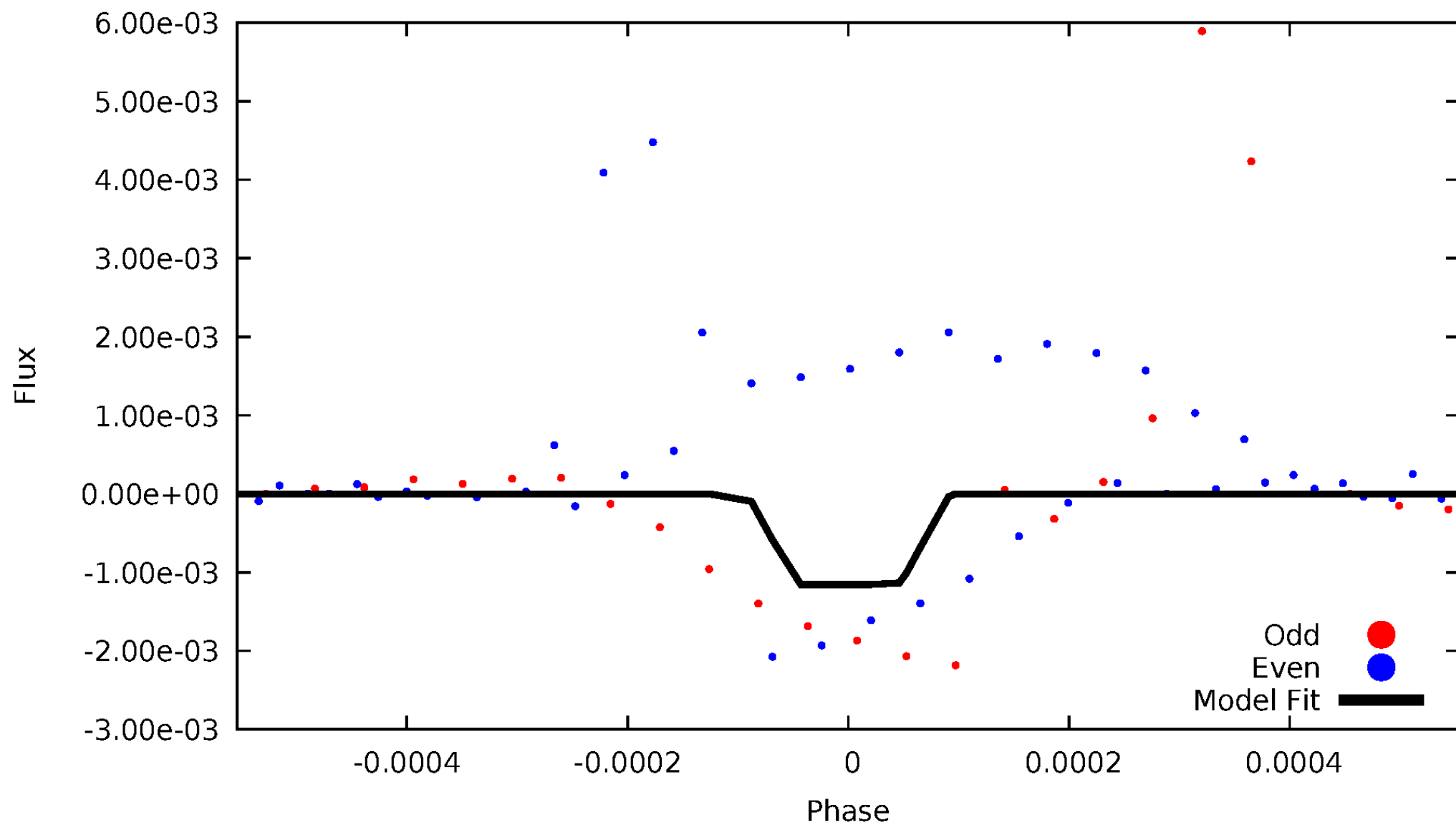
DV Odd/Even

TCE 009652680-01



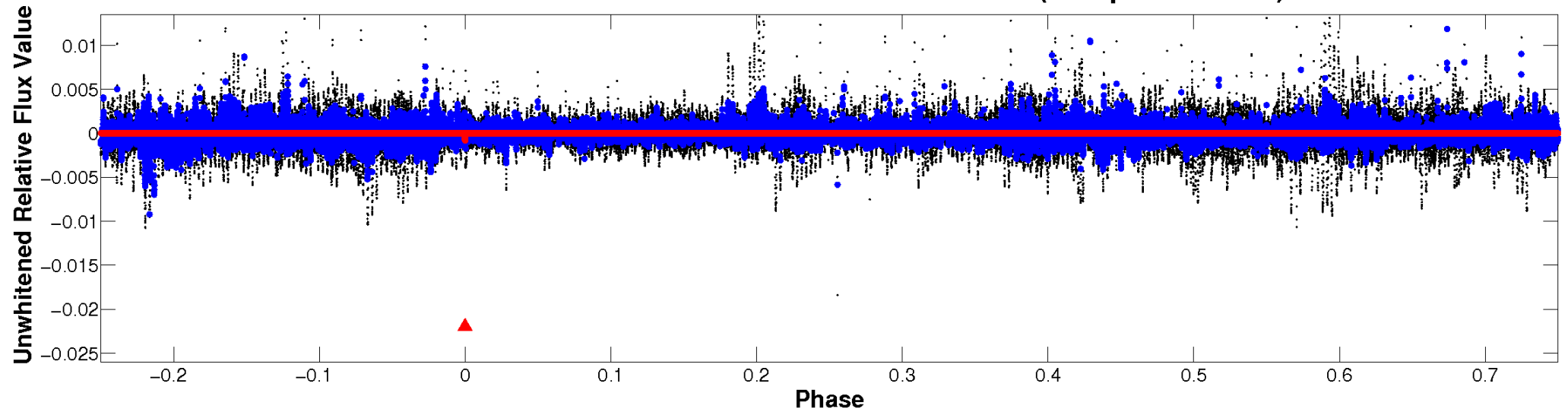
ALT Odd/Even

TCE 009652680-01

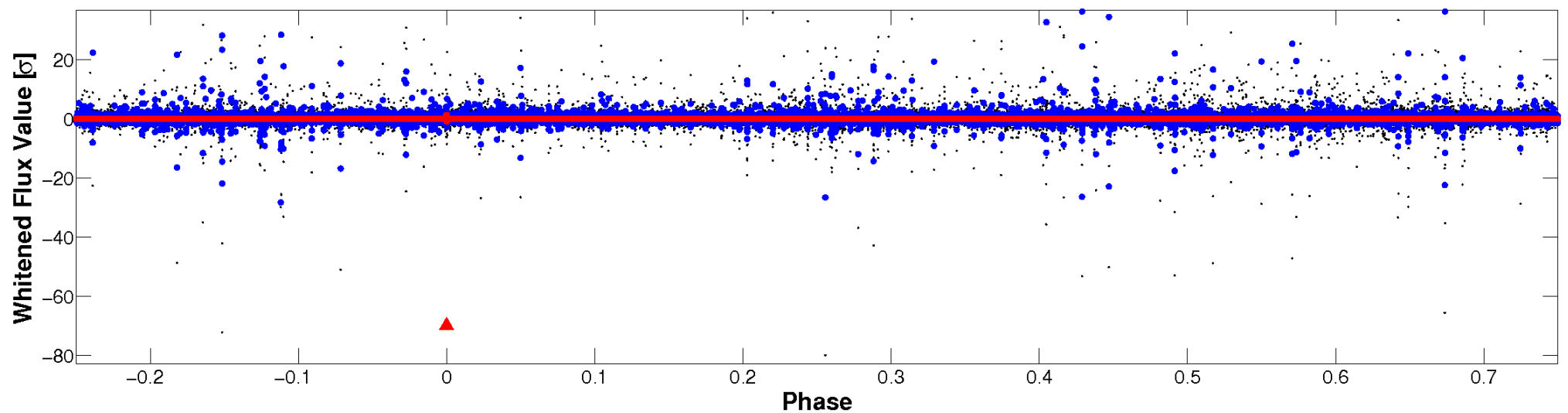


Non-Whitened Vs. Whitened Light Curve

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

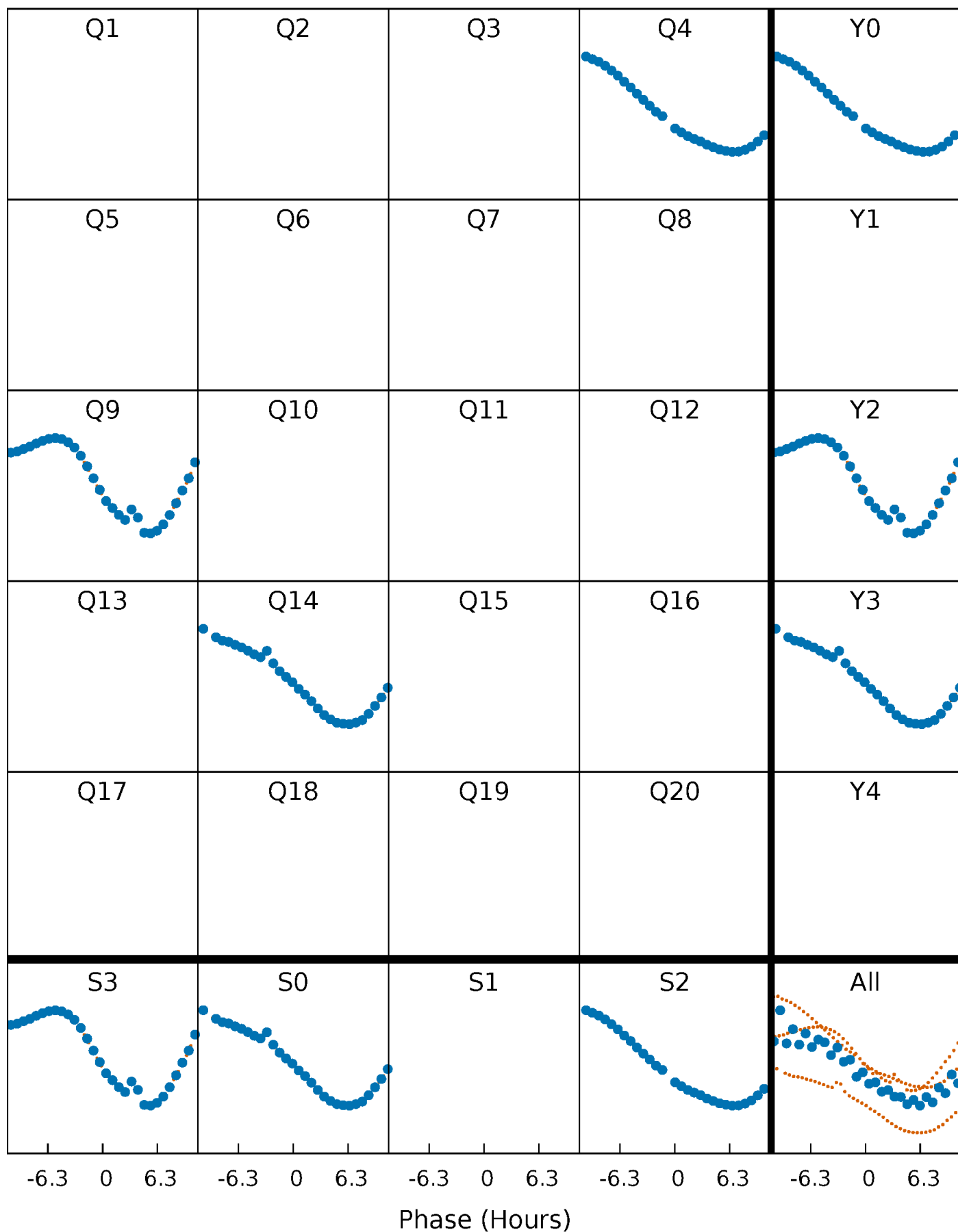


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



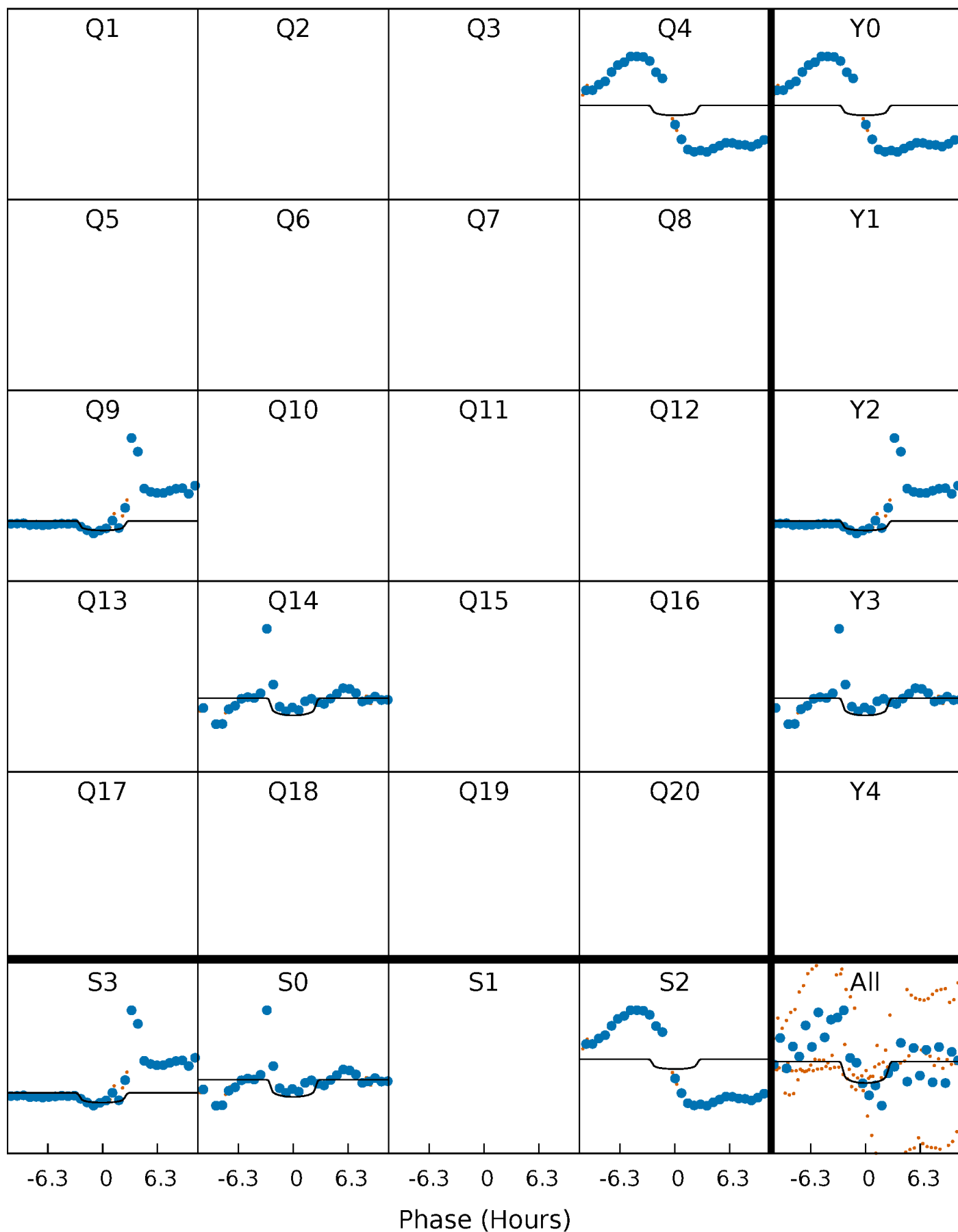
PDC Quarter-Phased Transit Curves

TCE 009652680-01 P=457.543524 Days $T_0=361.399331$ (BKJD)



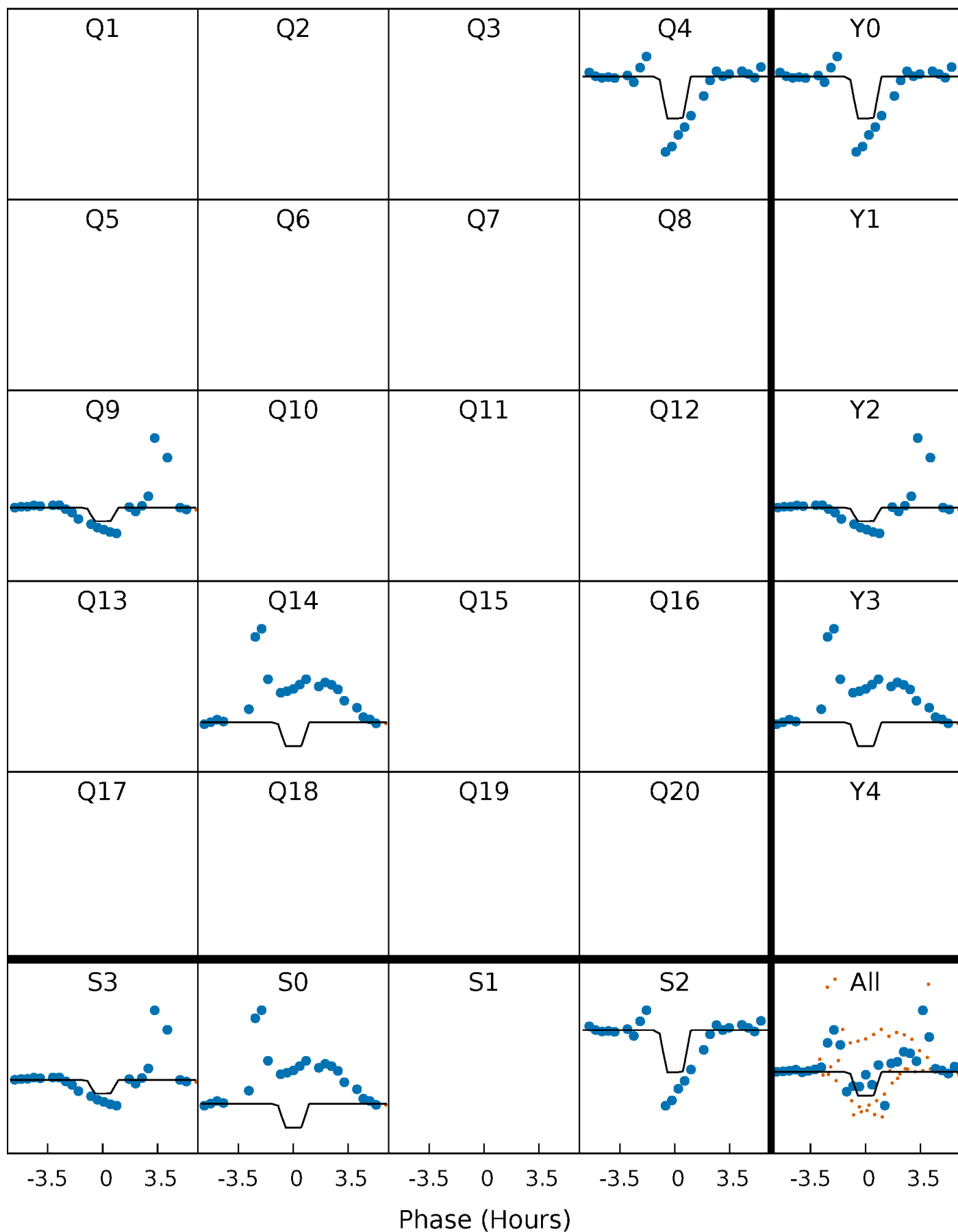
DV Quarter-Phased Transit Curves

TCE 009652680-01 P=457.543524 Days $T_0=361.399331$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

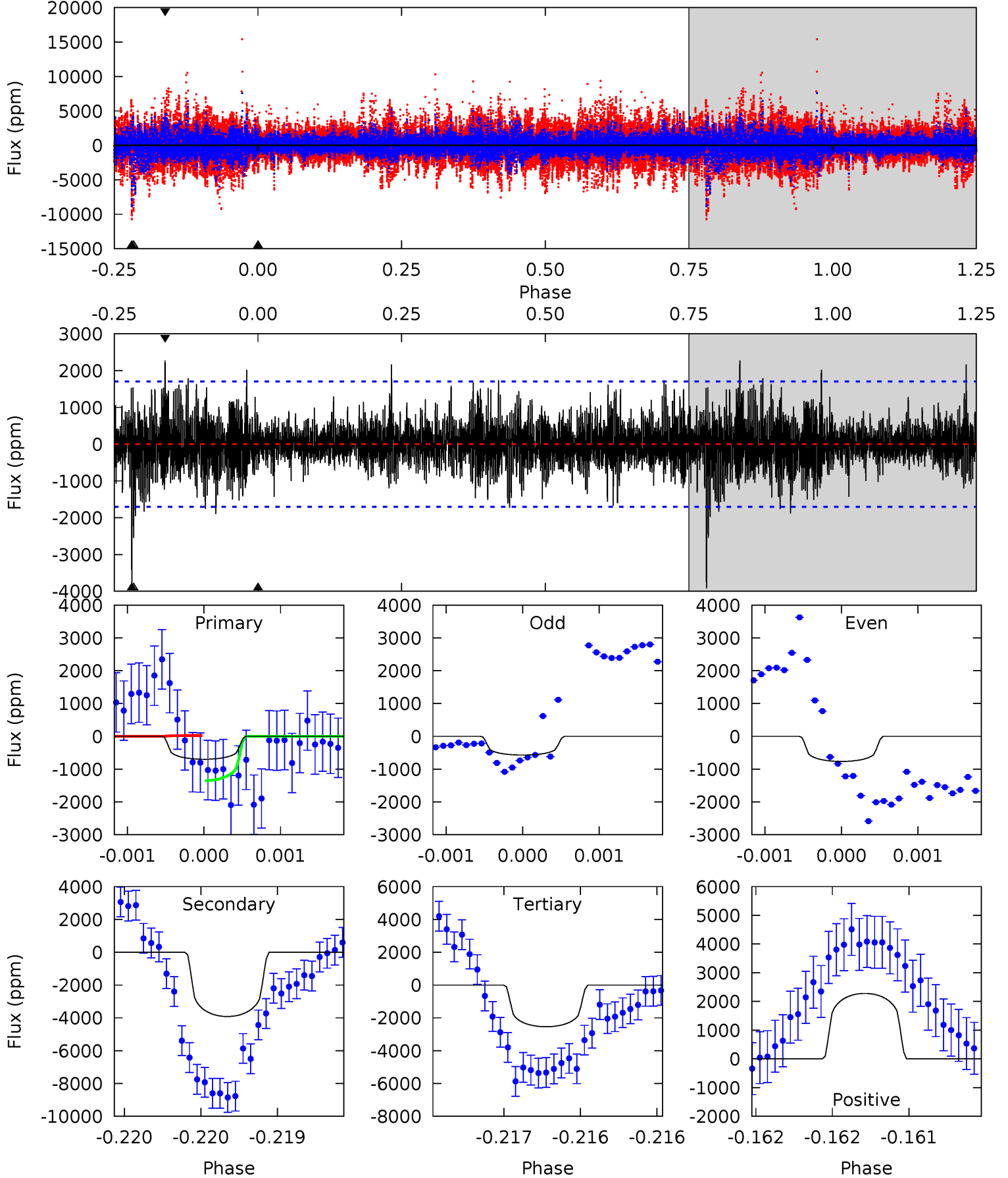
TCE 009652680-01 P=457.514220 Days $T_0=361.419423$ (BKJD)



DV Model-Shift Uniqueness Test

009652680-01, P = 457.543524 Days, E = 361.399331 Days

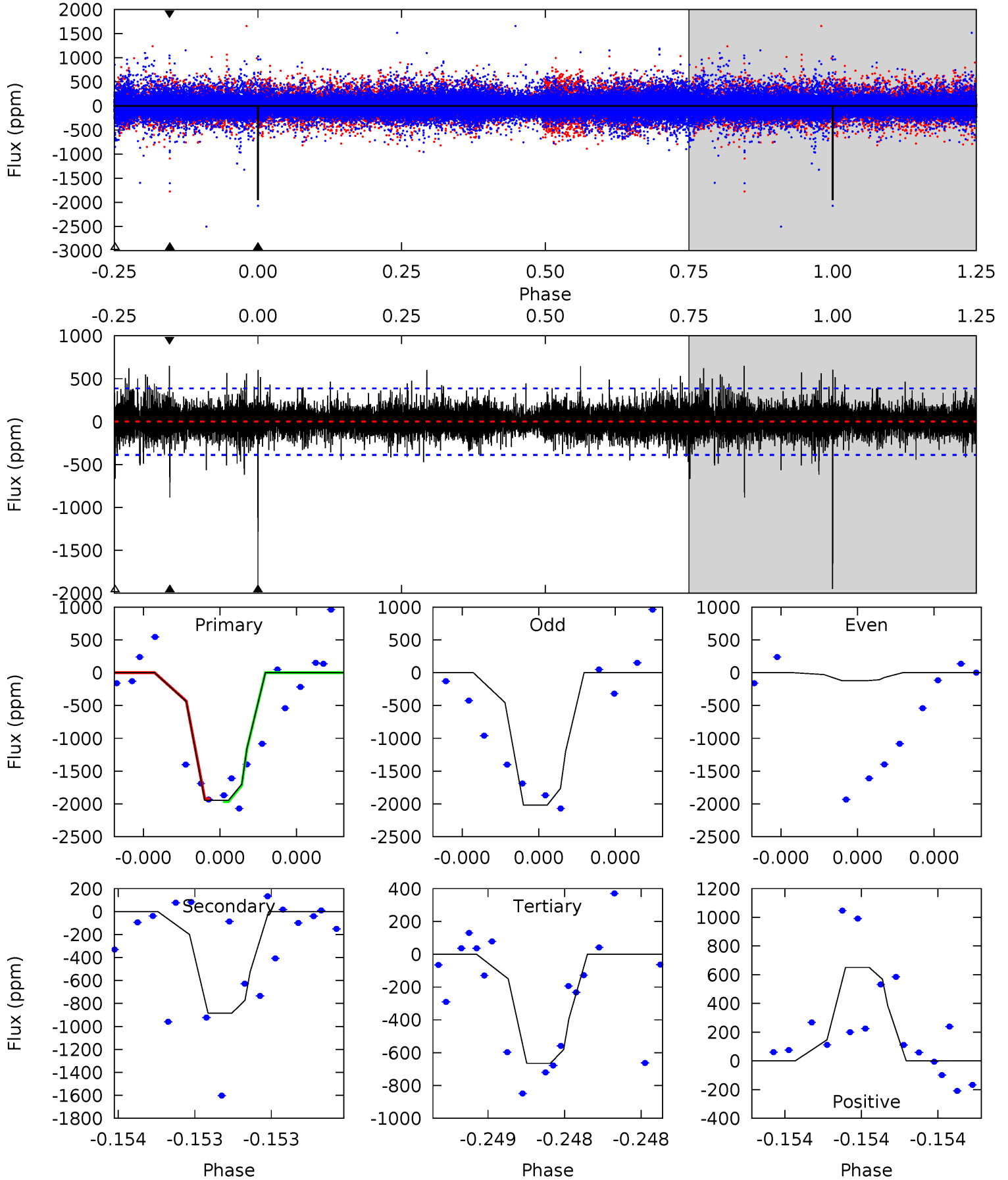
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.29	12.8	8.30	7.45	5.57	3.48	1.69	-6.01	-5.16	4.50	5.35	0.28	1.26	0.37	2.15



Alt Model-Shift Uniqueness Test

009652680-01, P = 457.514220 Days, E = 361.419423 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.8	13.1	9.85	9.64	5.74	3.74	1.53	19.0	19.2	3.26	3.47	14.9	0.40	0.25	0.32



Stellar Parameters For KIC 009652680

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5819^{+131}_{-160}	$4.565^{+0.032}_{-0.168}$	$-0.320^{+0.300}_{-0.300}$	$0.823^{+0.200}_{-0.067}$	$0.910^{+0.090}_{-0.111}$	$2.301^{+0.481}_{-1.047}$
	+2%/-3%	+1%/-4%	+94%/-94%	+24%/-8%	+10%/-12%	+21%/-46%
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 009652680-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3918 ± 306	$3.19^{+2.63}_{-2.04}$	313^{+18}_{-11}	8103^{+10892}_{-2278}	$266557^{+1754956}_{-188100}$
Alt.	-885 ± 68	$3.68^{+2.49}_{-2.11}$	313^{+18}_{-13}	5174^{+2632}_{-1018}	$46740^{+189945}_{-31298}$

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

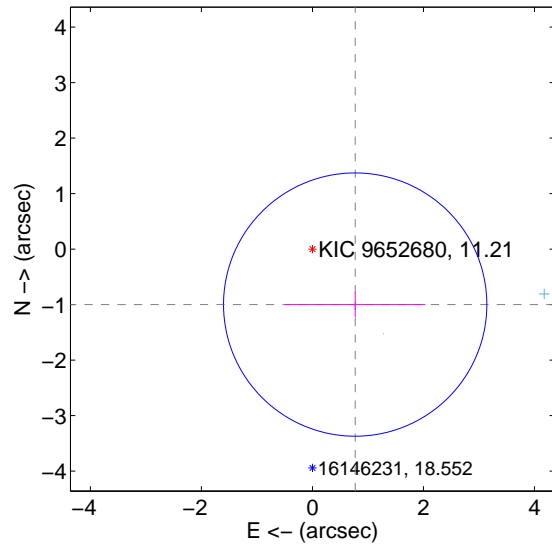
Supplemental centroid analysis for 009652680-01. **Kepler magnitude: 11.21.** Transit SNR 3.70

There are 3 quarters with good PRF difference image offsets

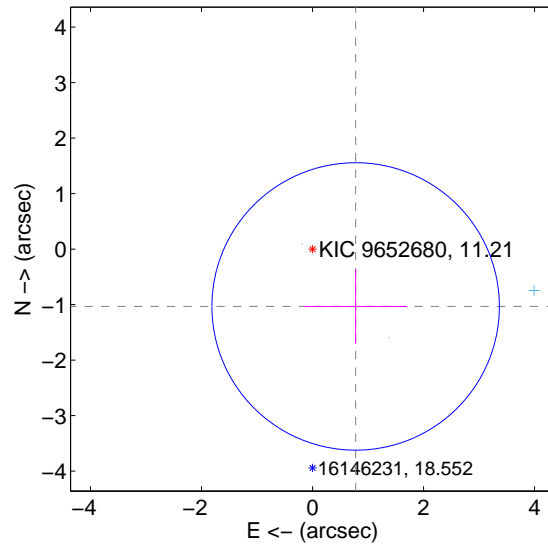
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.262 ± 0.790	1.60	-0.770 ± 1.262	-0.999 ± 0.232
PRF-fit source offset from KIC position	1.293 ± 0.863	1.50	-0.777 ± 0.928	-1.033 ± 0.674
photometric centroid source offset	0.31 ± 0.45	0.69	-0.10 ± 0.30	-0.29 ± 0.46

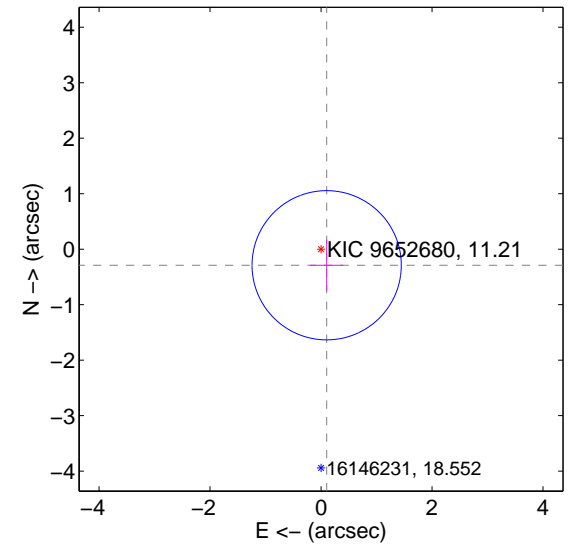
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

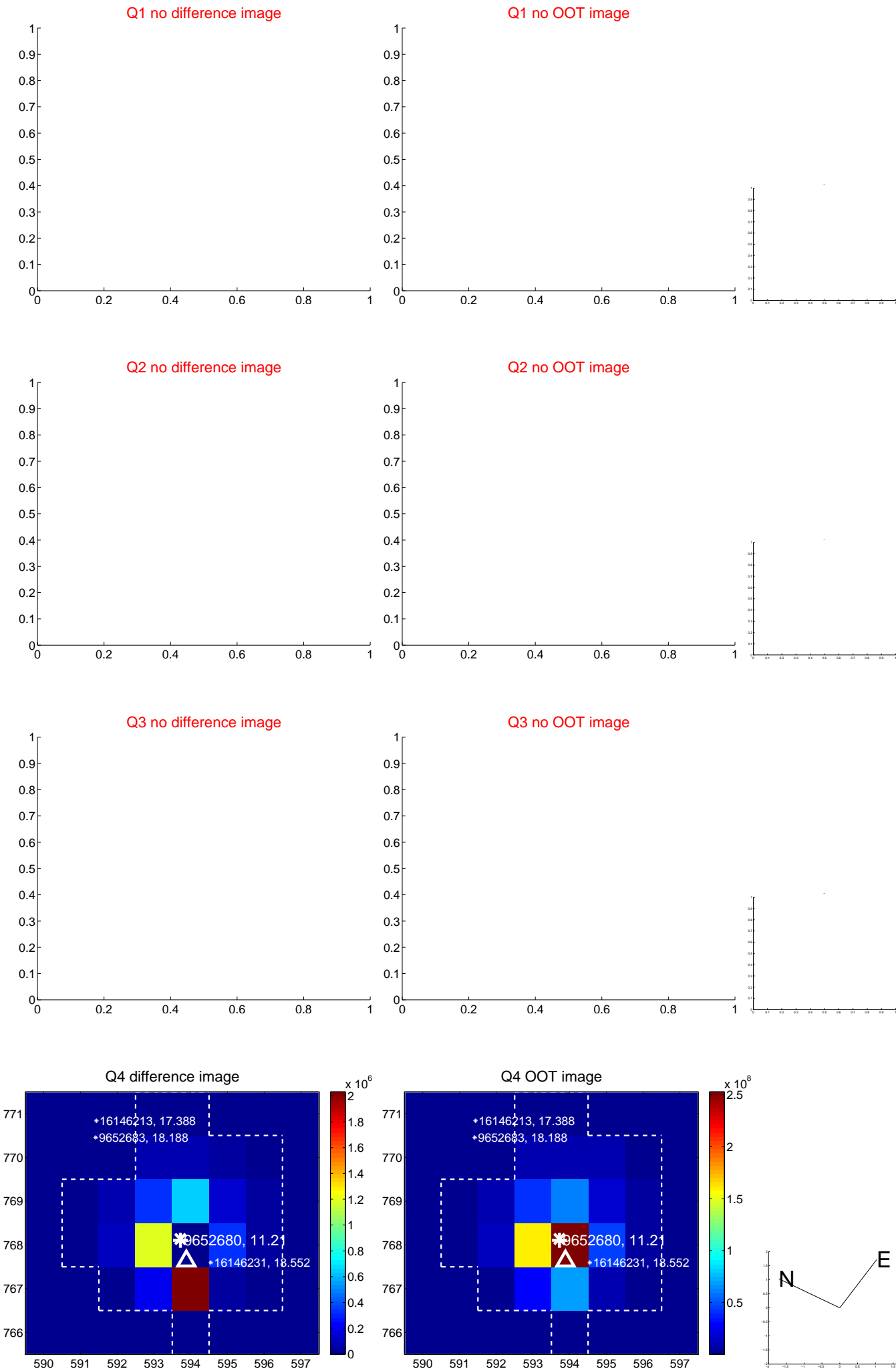


offset from photometric centroids



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.

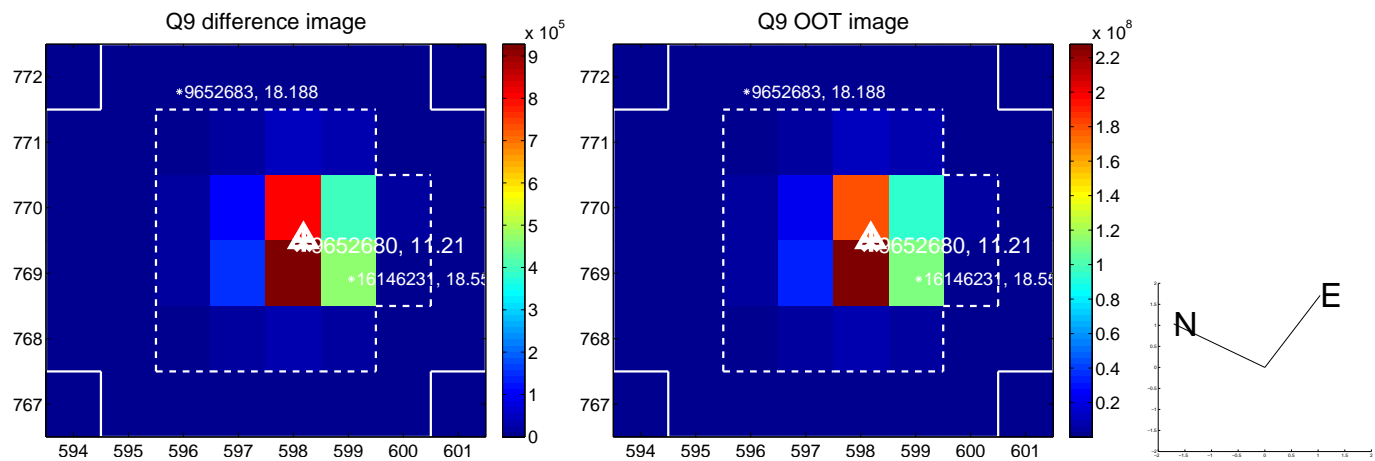
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



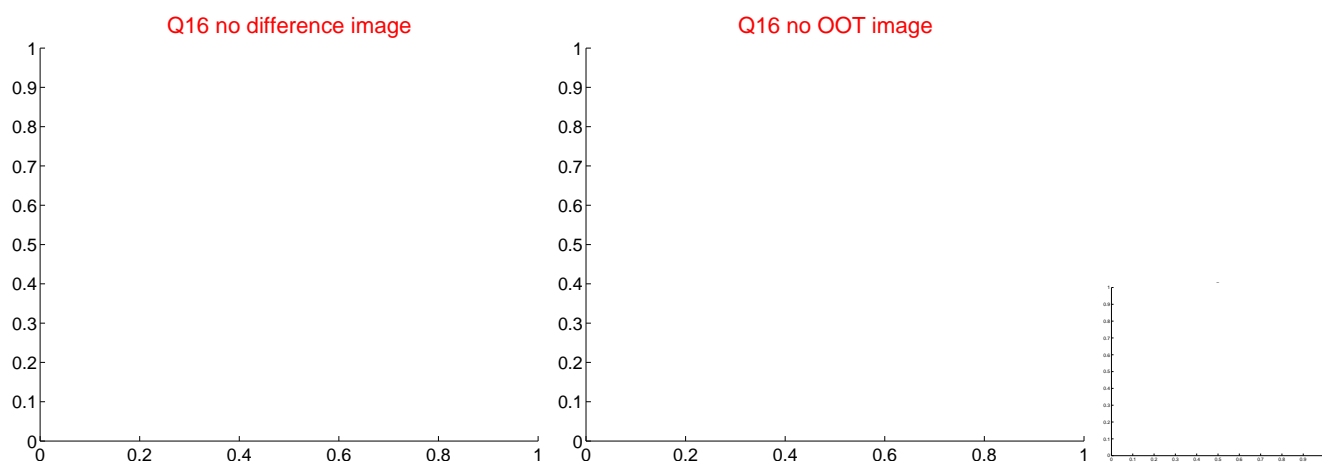
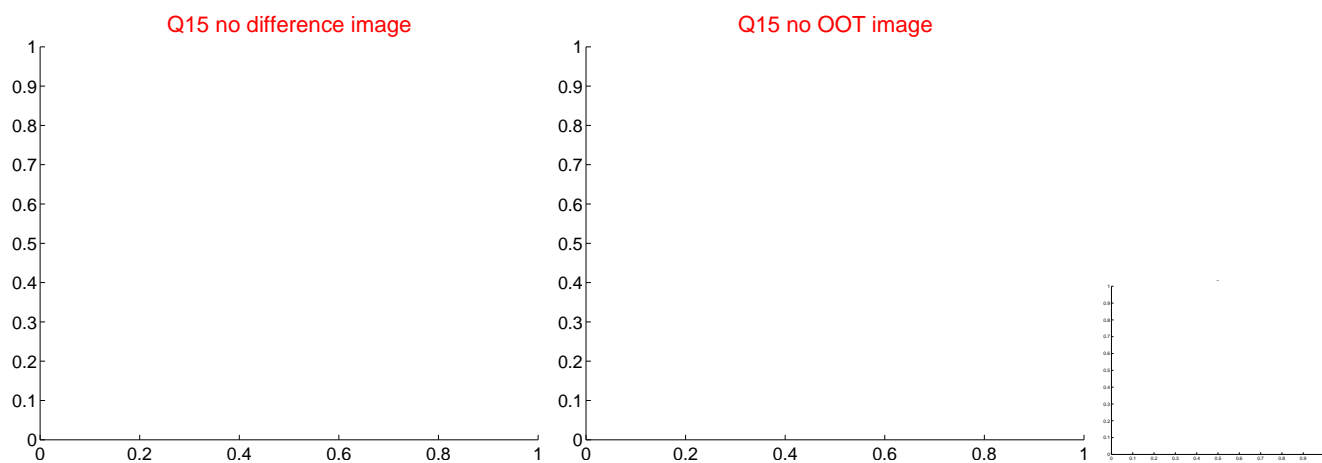
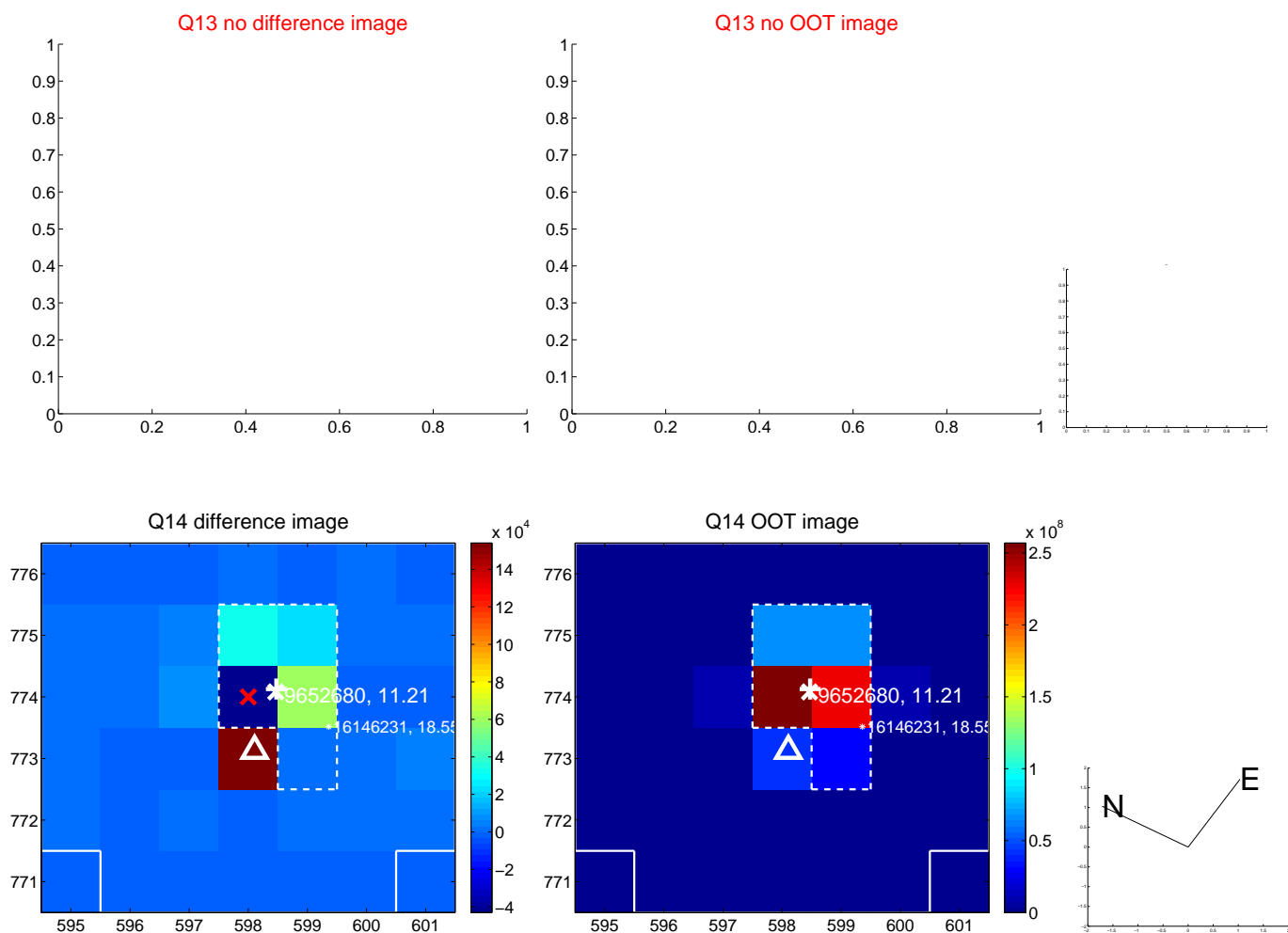
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



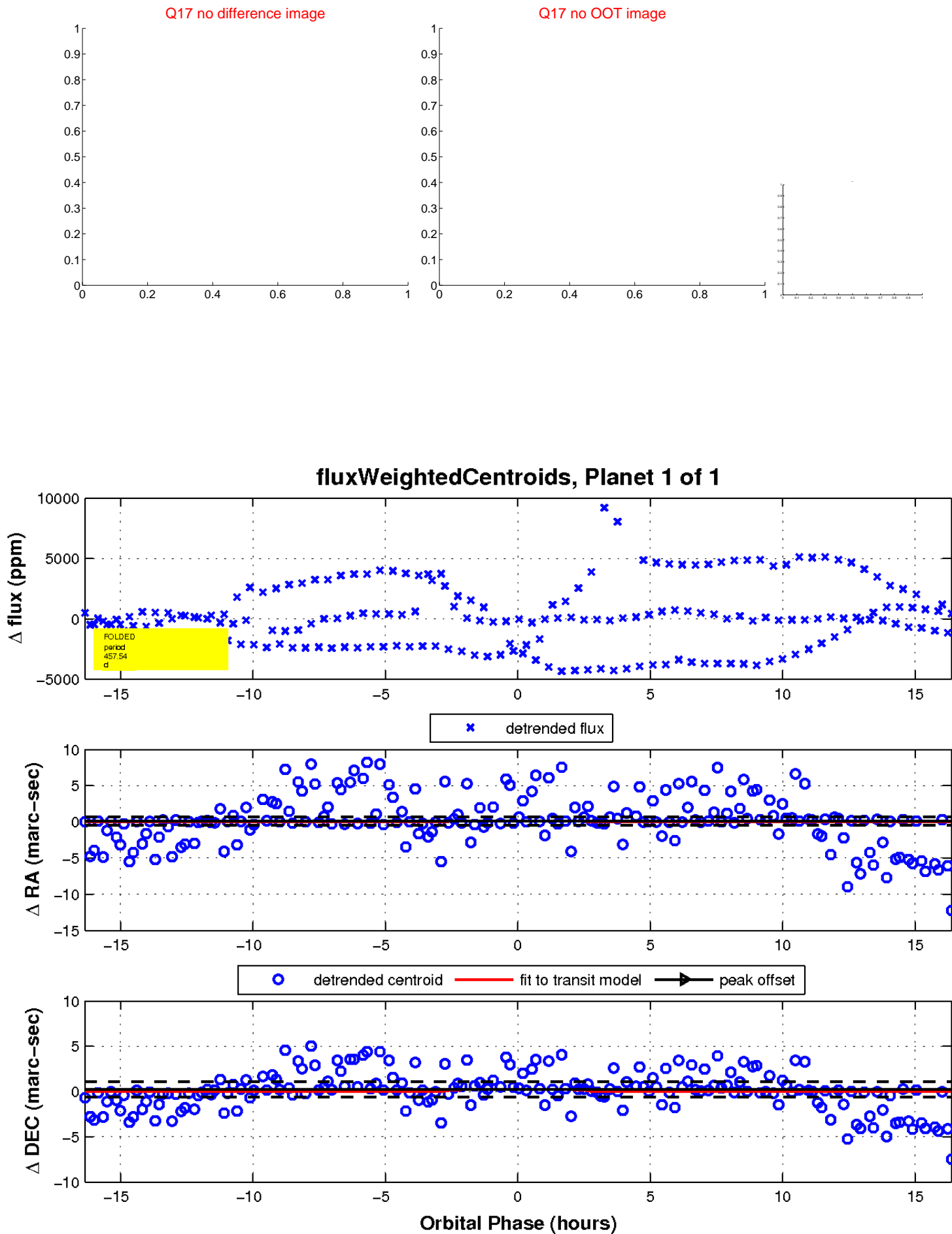
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

