

KIC 004651273

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})
004651273-01	OBS	No	463.434658	281.770188	818.9	6.222	8.8	5.1	0.55	3888	1.65	0.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004651273-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

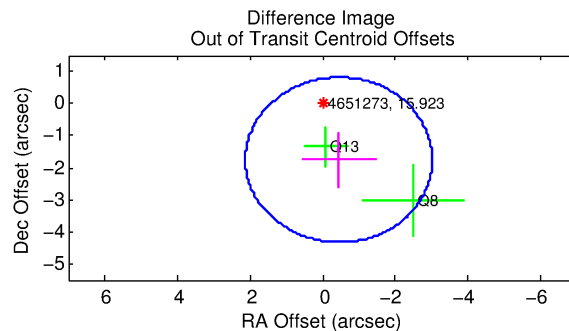
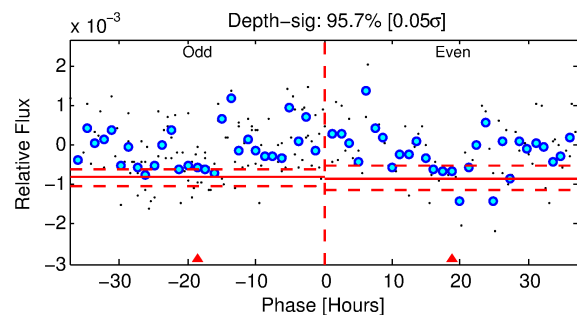
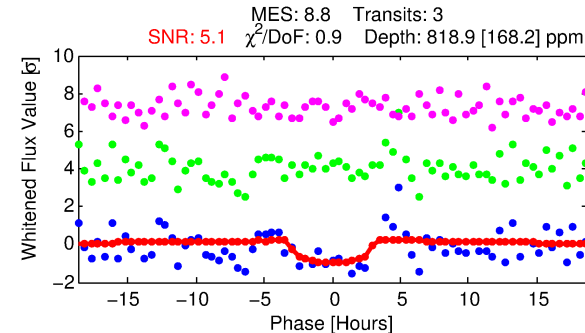
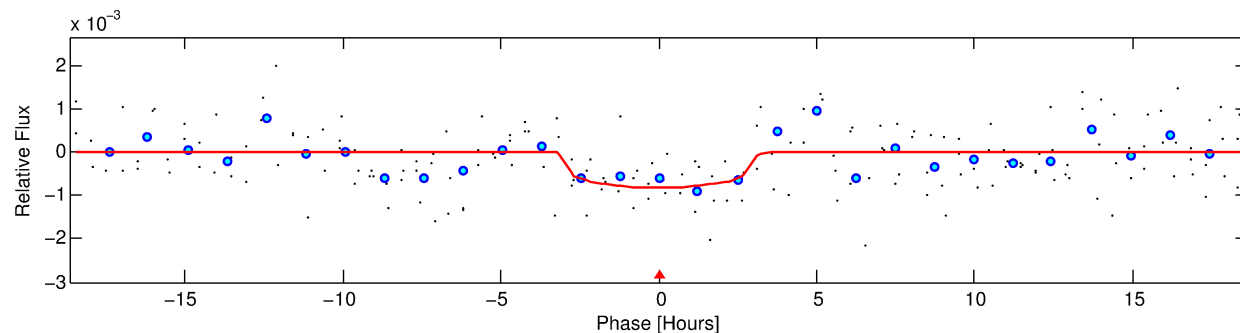
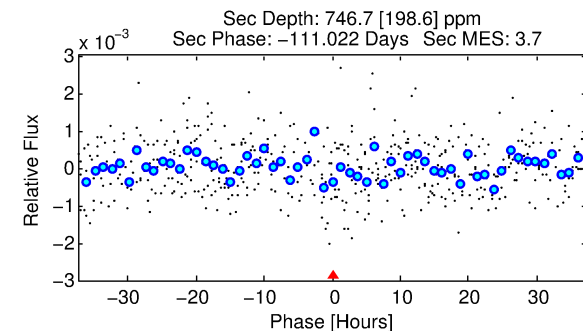
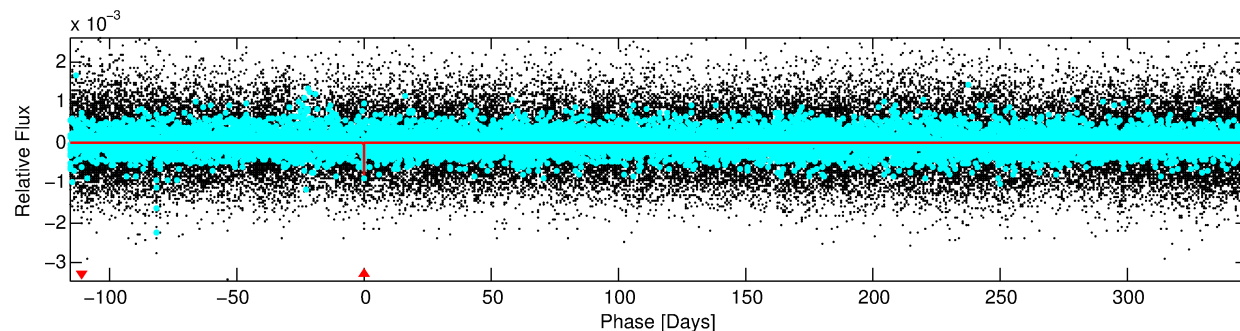
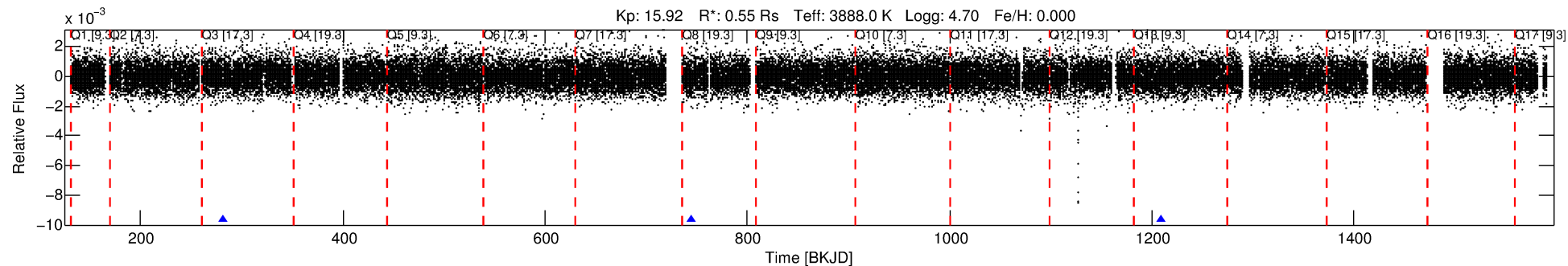
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004651273-01

No Significant Match Found

DV One-Page Summary

KIC: 4651273 Candidate: 1 of 1 Period: 463.435 d



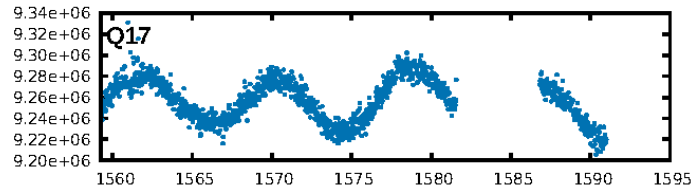
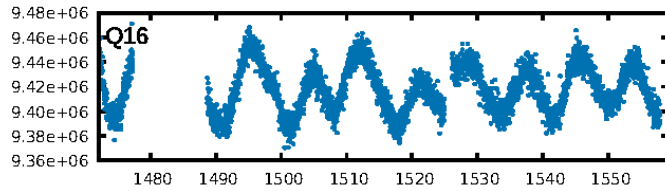
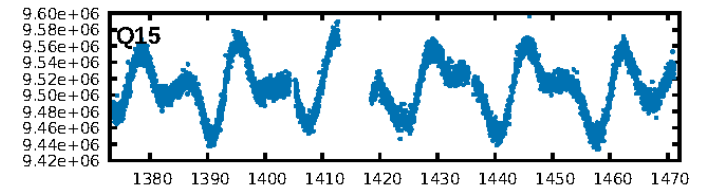
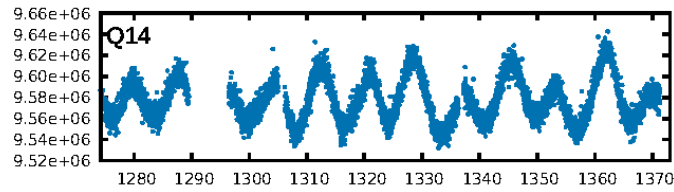
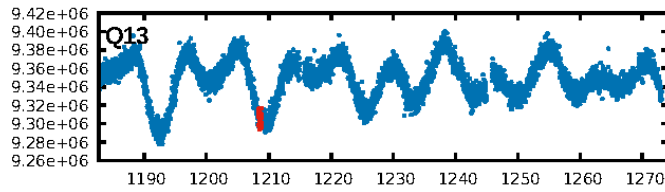
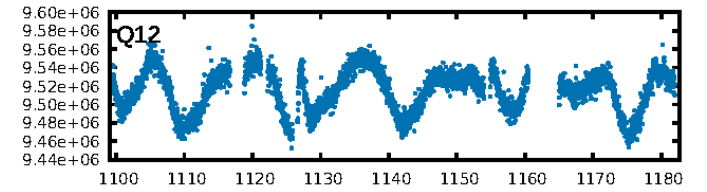
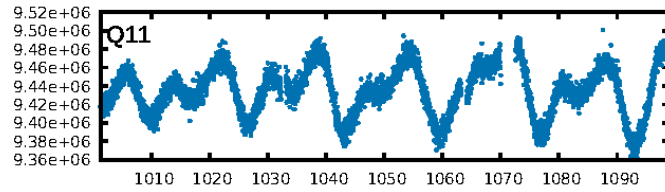
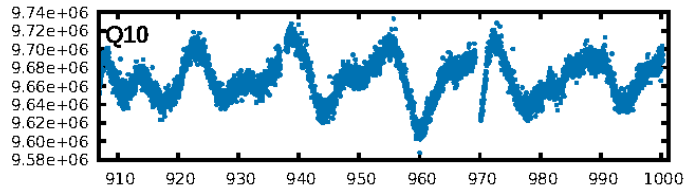
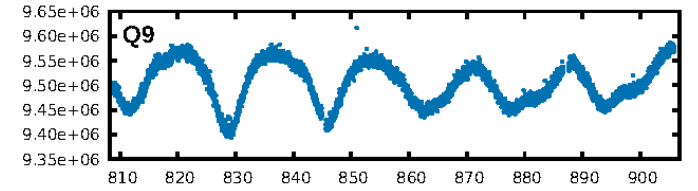
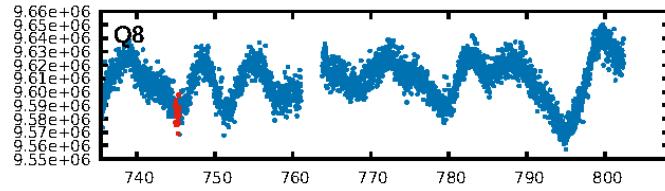
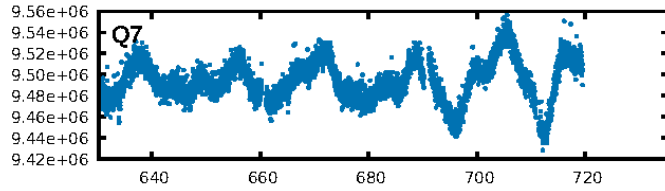
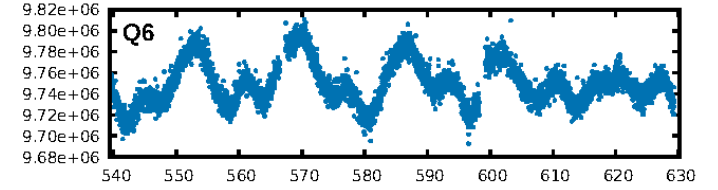
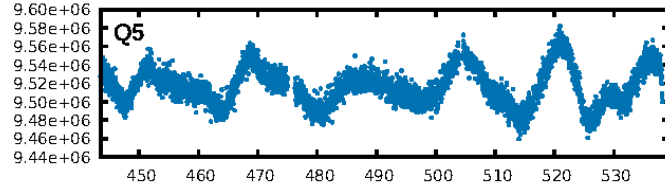
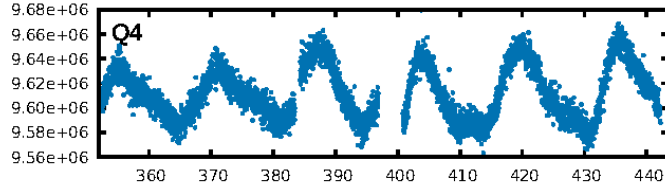
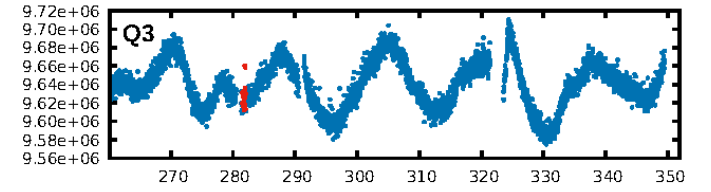
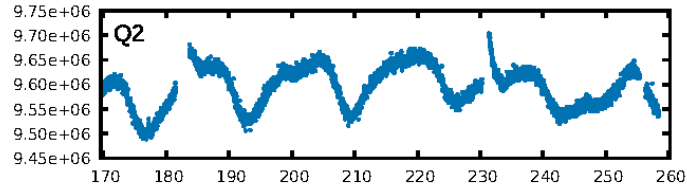
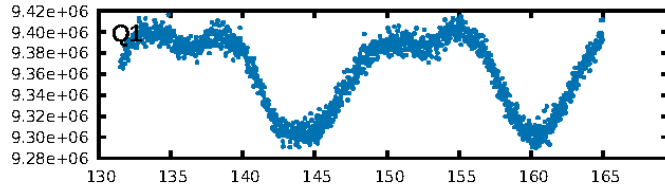
DV Fit Results:

Period = 463.43466 [0.01568] d
Epoch = 281.7702 [0.0194] BKJD
Rp/R* = 0.0273 [0.0402]
a/R* = 466.20 [2645.20]
b = 0.62 [5.70]
Seff = 0.07 [0.00]
Teq = 130 [2] K
Rp = 1.65 [2.42] Re
a = 0.9687 [0.0325] AU
Ag = 141906.42 [419044.76] [0.34σ]
Teffp = 3889 [2871] K [1.31σ]

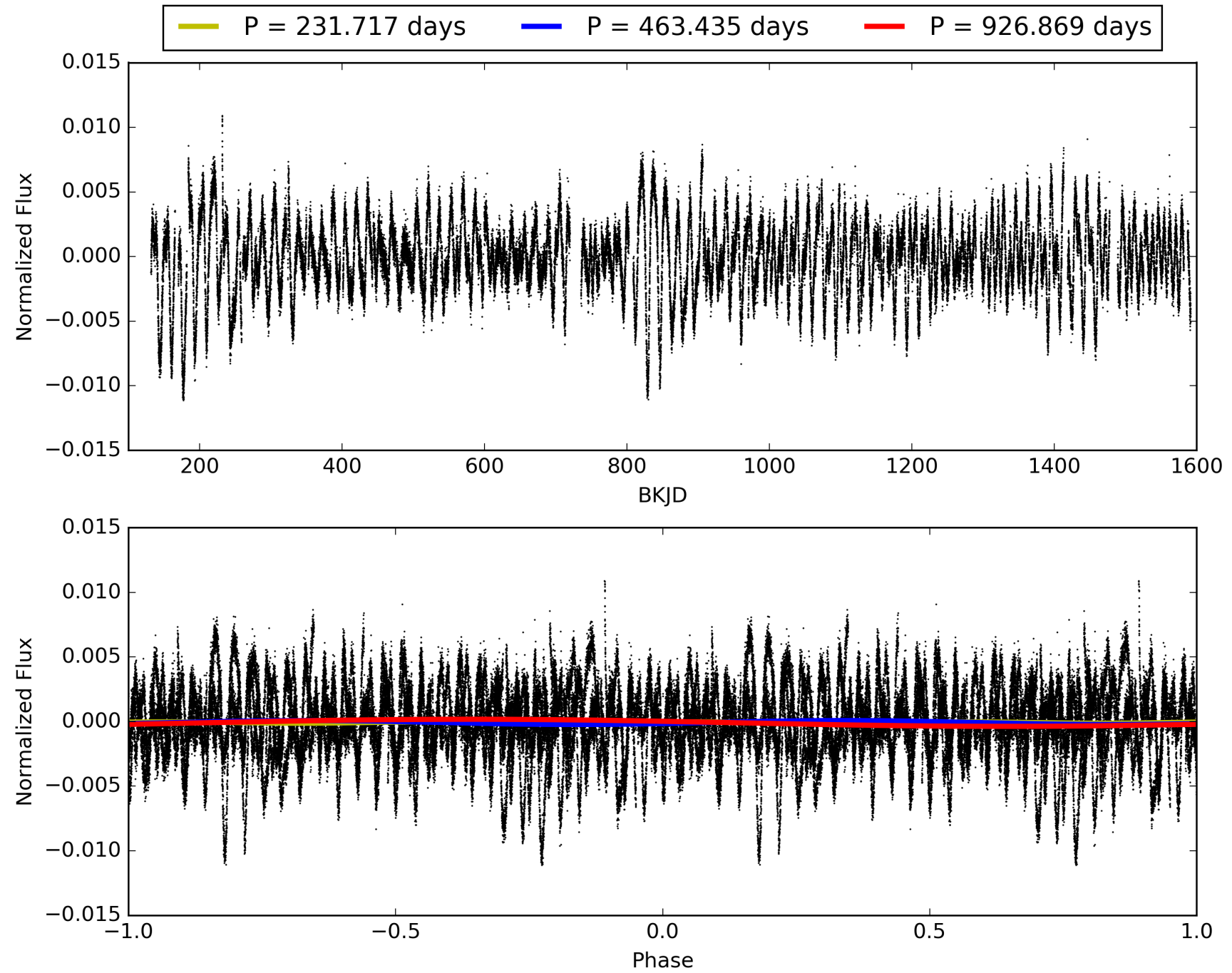
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 60.7%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 2.98e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8692
Centroid-sig: 7.8%
Centroid-so: 2.890 arcsec [1.19σ]
OotOffset-rm: 1.812 arcsec [2.12σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 1.941 arcsec [2.40σ]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 004651273-01, PDC Light Curves

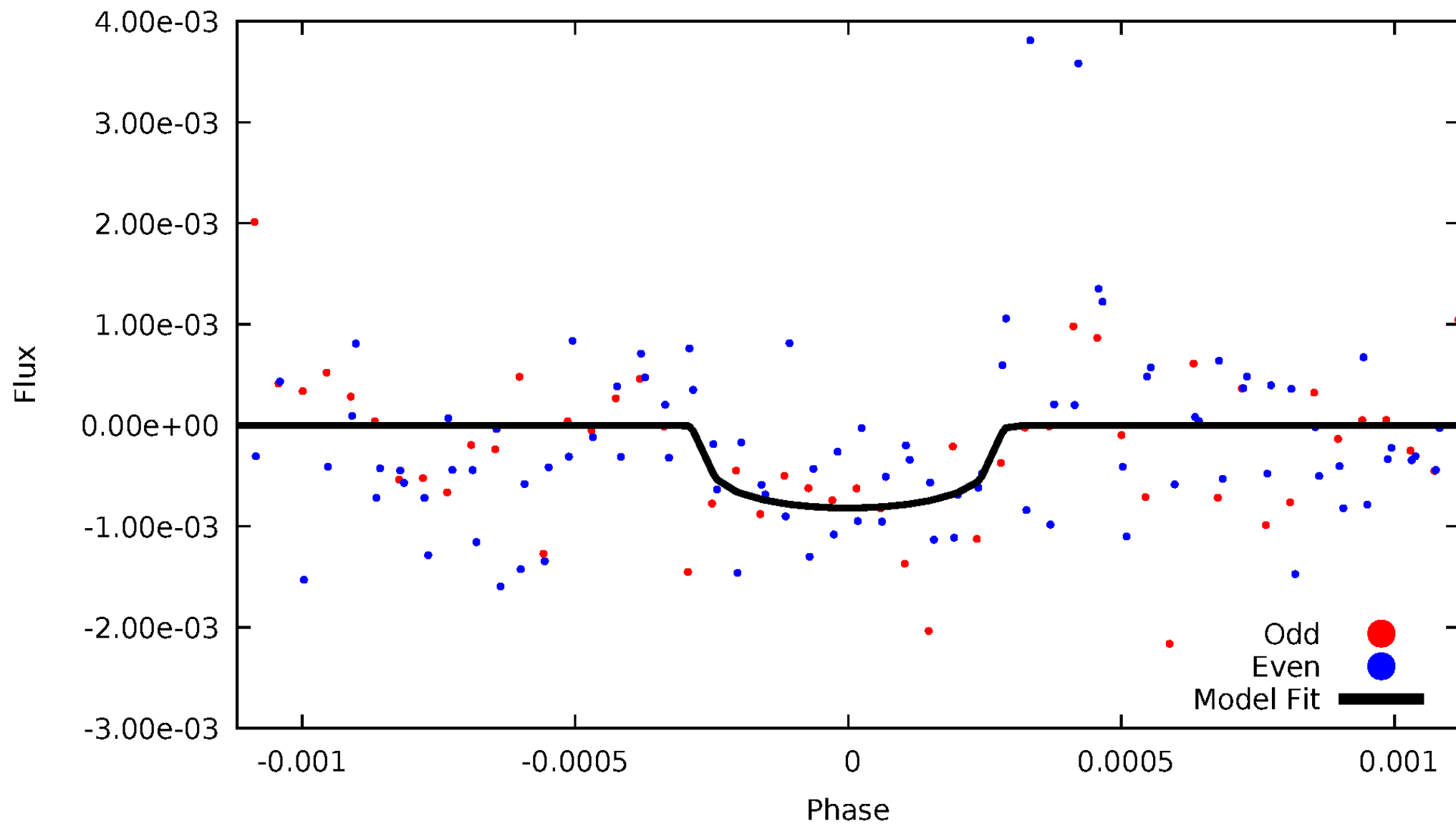


TCE 004651273-01



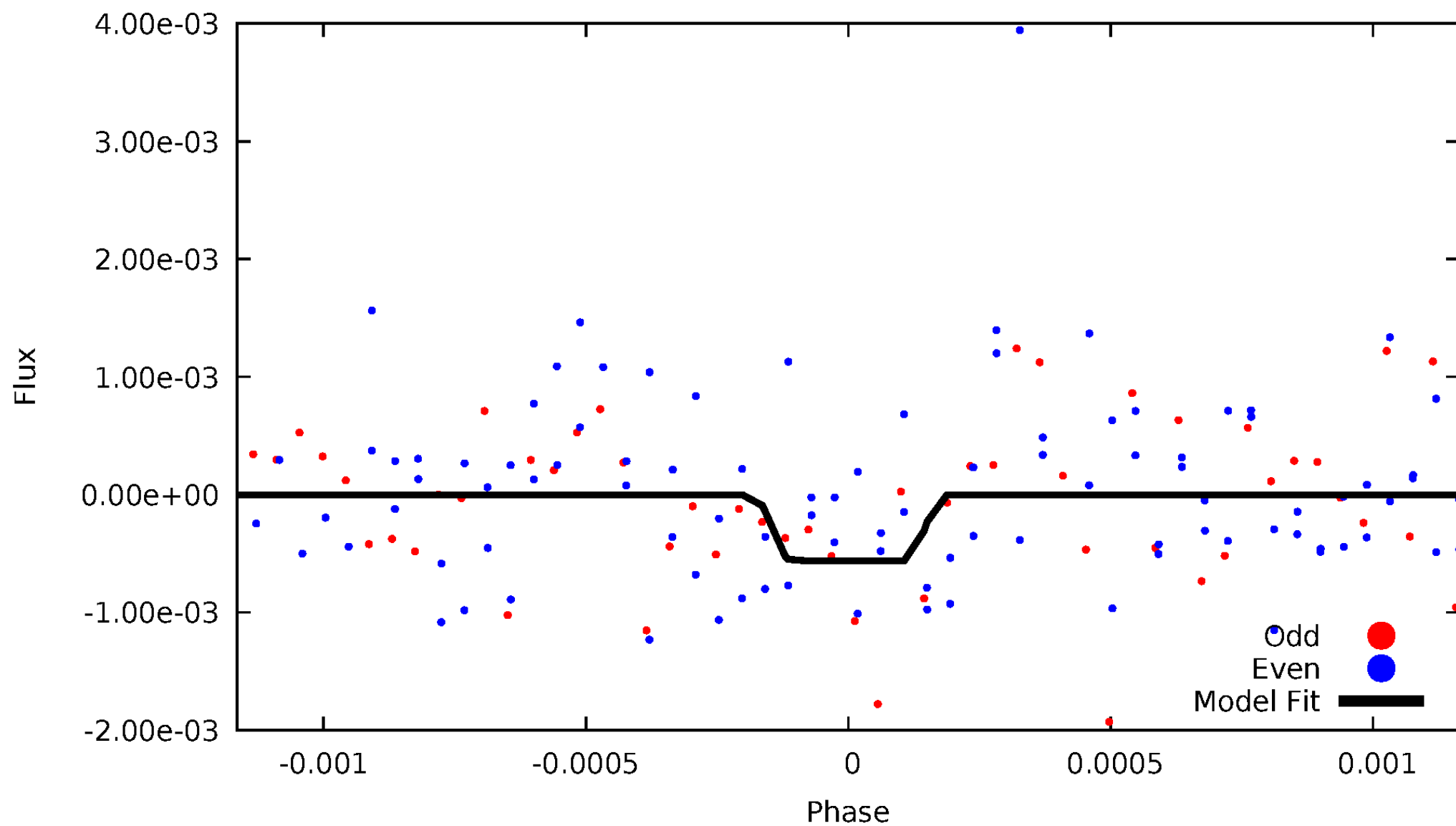
DV Odd/Even

TCE 004651273-01



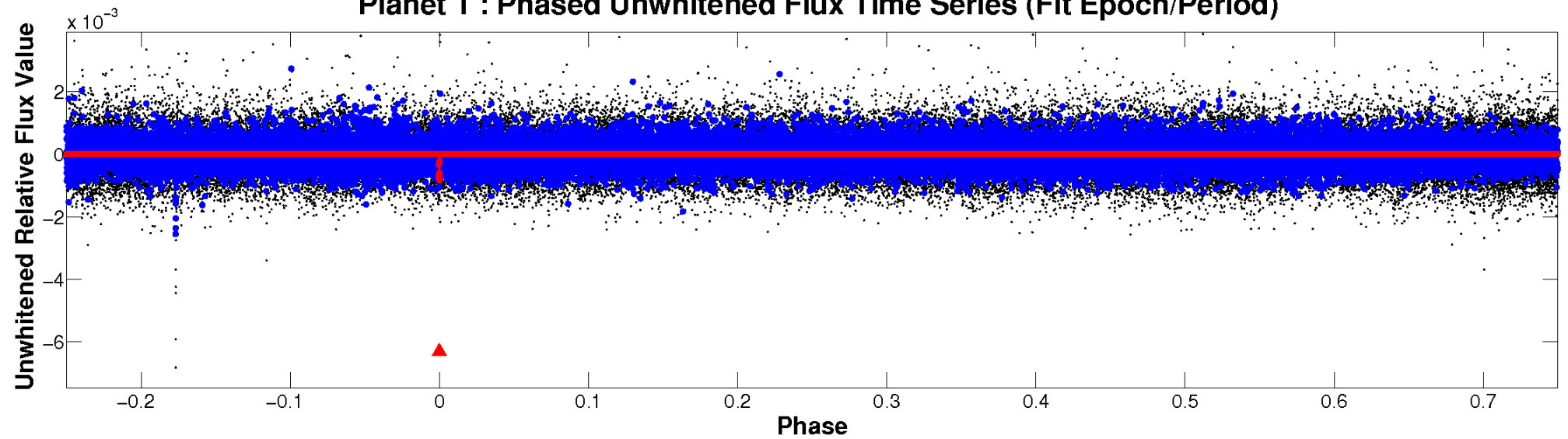
ALT Odd/Even

TCE 004651273-01

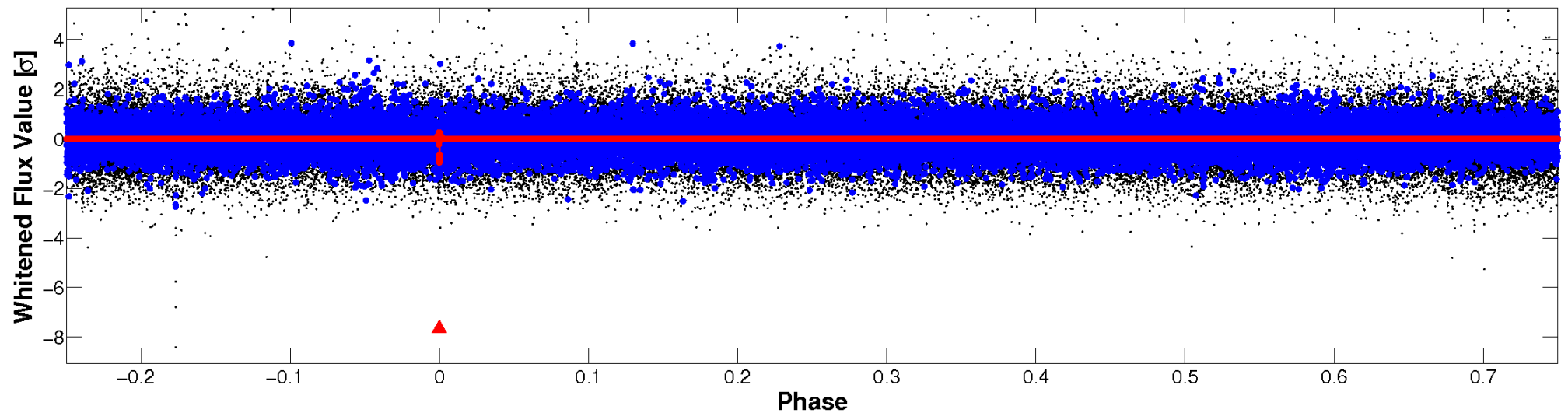


Non-Whitened Vs. Whitened Light Curve

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

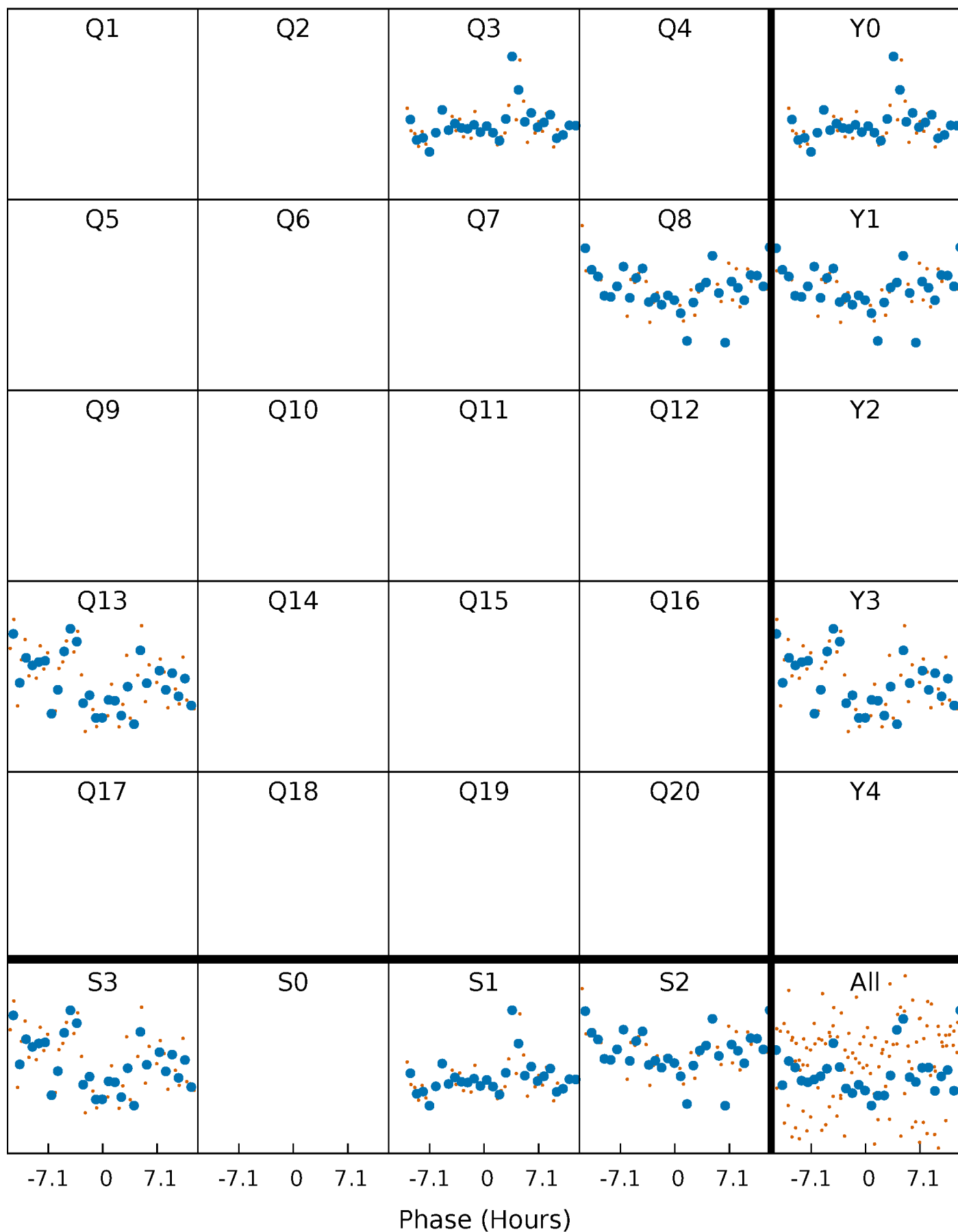


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



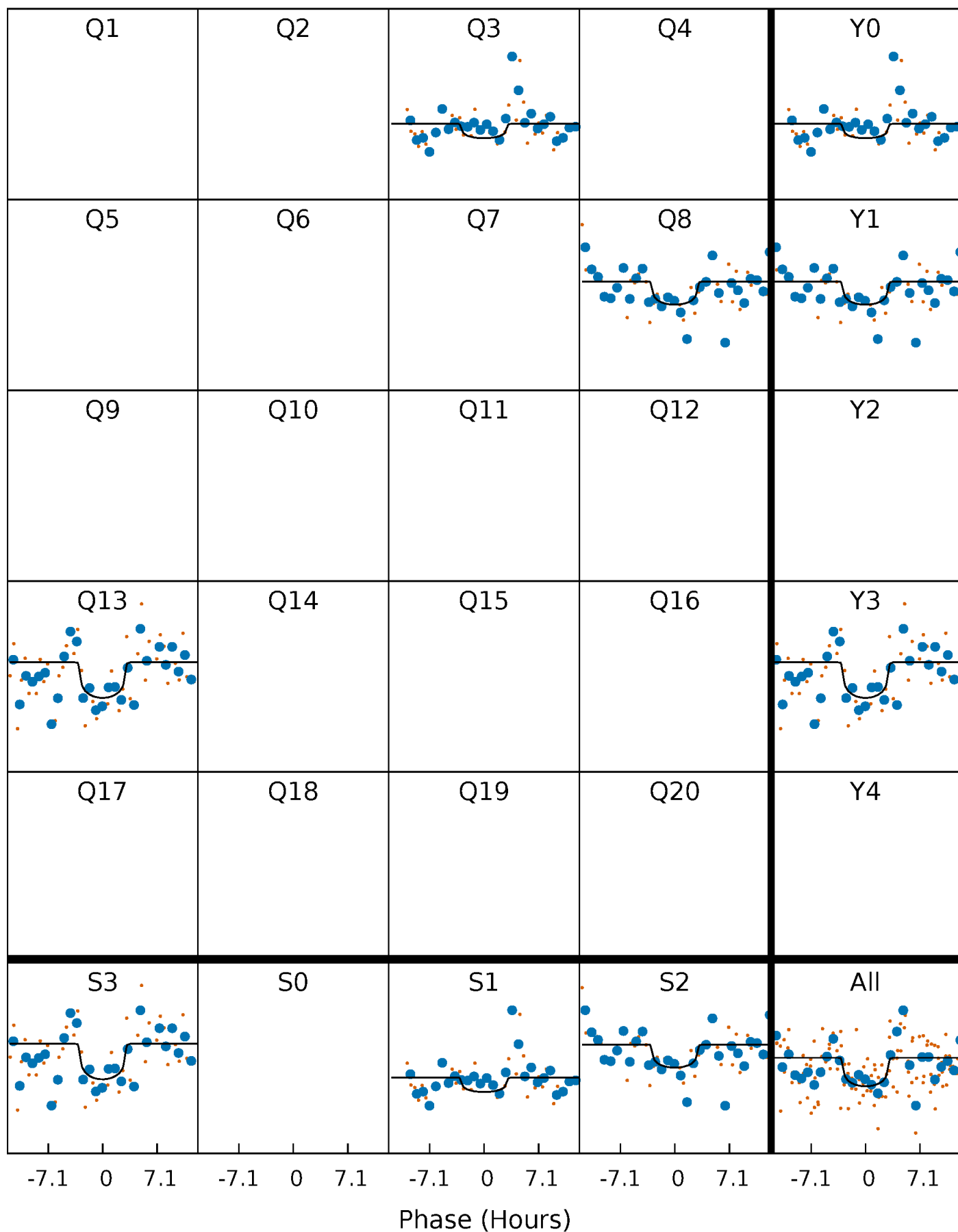
PDC Quarter-Phased Transit Curves

TCE 004651273-01 P=463.434658 Days $T_0=281.770188$ (BKJD)



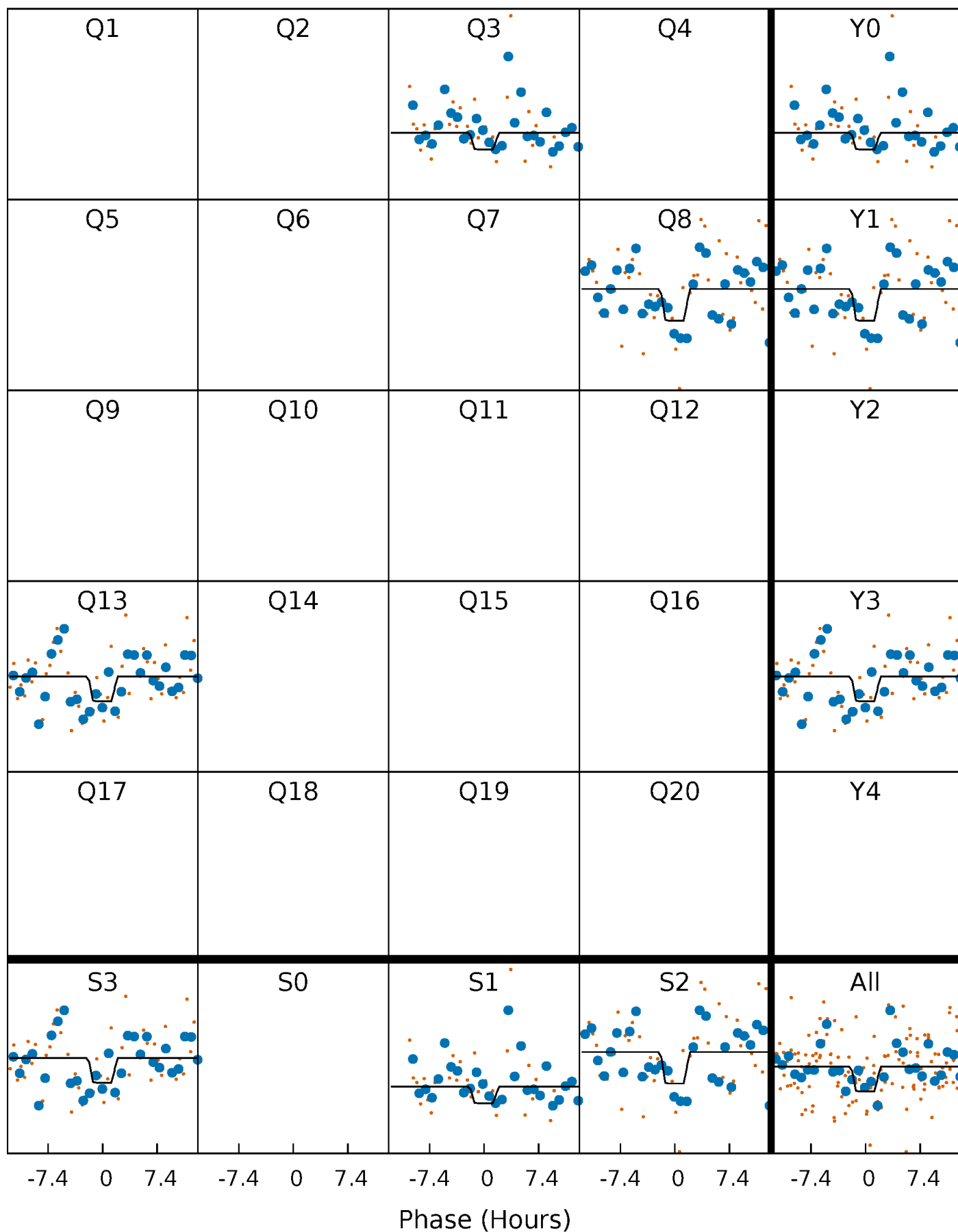
DV Quarter-Phased Transit Curves

TCE 004651273-01 P=463.434658 Days $T_0=281.770188$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

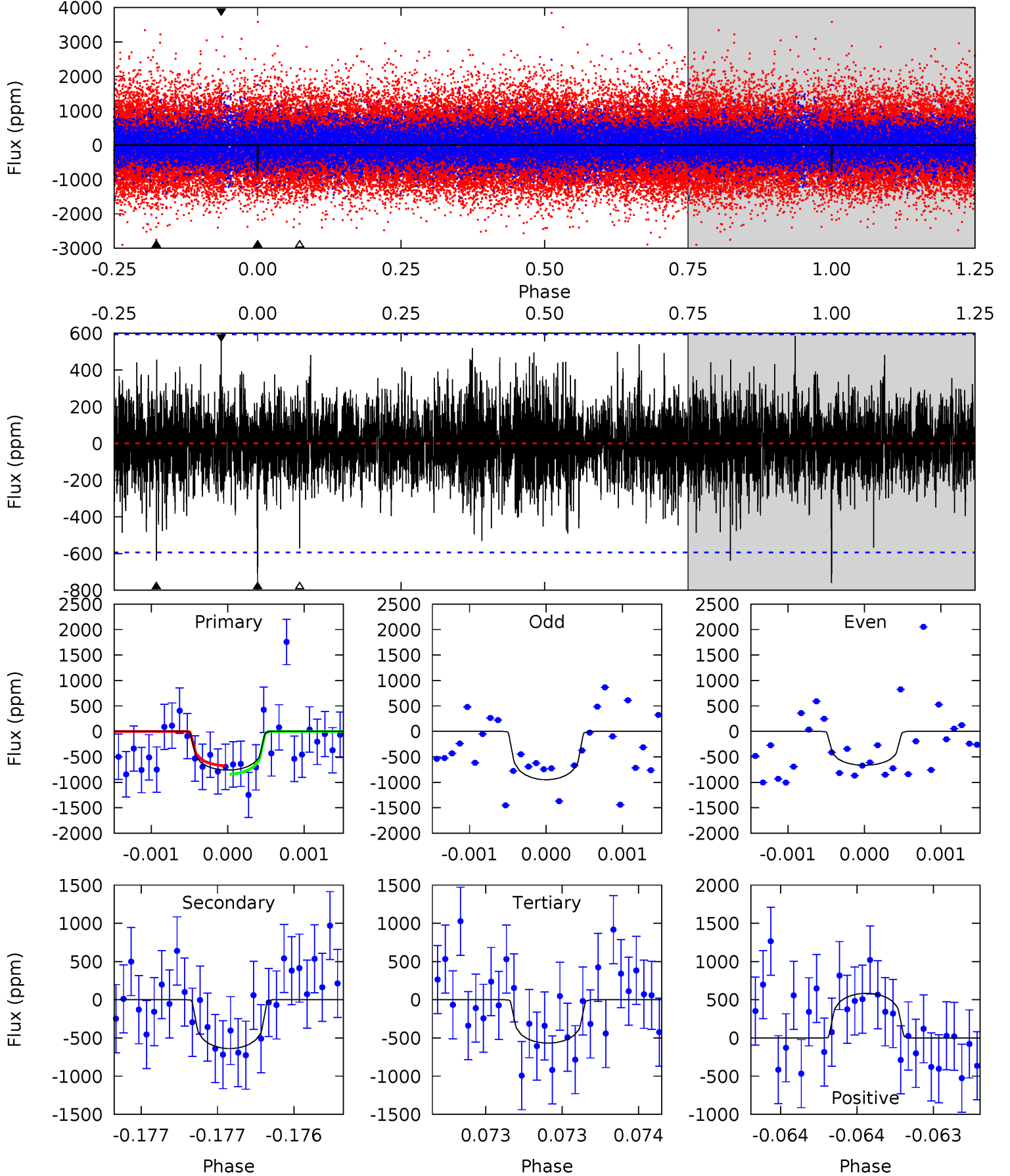
TCE 004651273-01 P=463.474008 Days $T_0=281.773047$ (BKJD)



DV Model-Shift Uniqueness Test

004651273-01, P = 463.434658 Days, E = 281.770188 Days

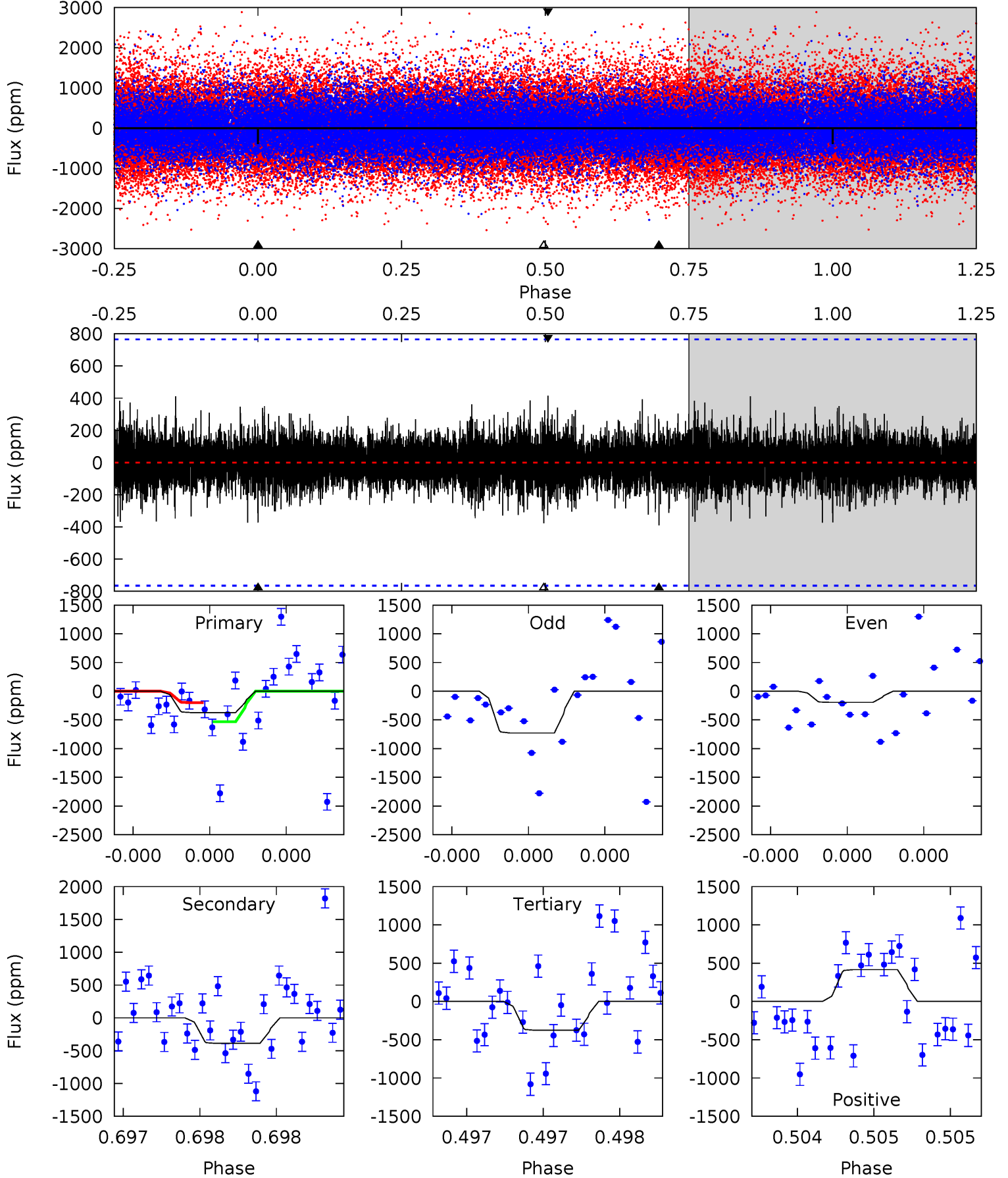
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.09	5.96	5.29	5.46	5.55	3.44	1.31	1.79	1.63	0.67	0.50	1.25	0.81	0.44	0.78



Alt Model-Shift Uniqueness Test

004651273-01, P = 463.474008 Days, E = 281.773047 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.75	2.87	2.78	3.07	5.65	3.60	0.68	-0.03	-0.32	0.10	-0.20	1.84	0.91	0.52	1.23



Stellar Parameters For KIC 004651273

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3888^{+46}_{-50}	$4.704^{+0.022}_{-0.016}$	$0.000^{+0.100}_{-0.100}$	$0.553^{+0.020}_{-0.024}$	$0.565^{+0.023}_{-0.023}$	$4.694^{+0.475}_{-0.328}$
	+1%/-1%	+0%/-0%	+inf%/-inf%	+4%/-4%	+4%/-4%	+10%/-7%
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 004651273-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-638 ± 107	$2.37^{+2.37}_{-1.47}$	181^{+2}_{-3}	3355^{+1271}_{-588}	$58232^{+310944}_{-43433}$
Alt.	-389 ± 135	$2.39^{+1.95}_{-1.61}$	181^{+3}_{-3}	3115^{+1405}_{-498}	$34814^{+289229}_{-25425}$

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 $A_{obs} \gg 1.0$

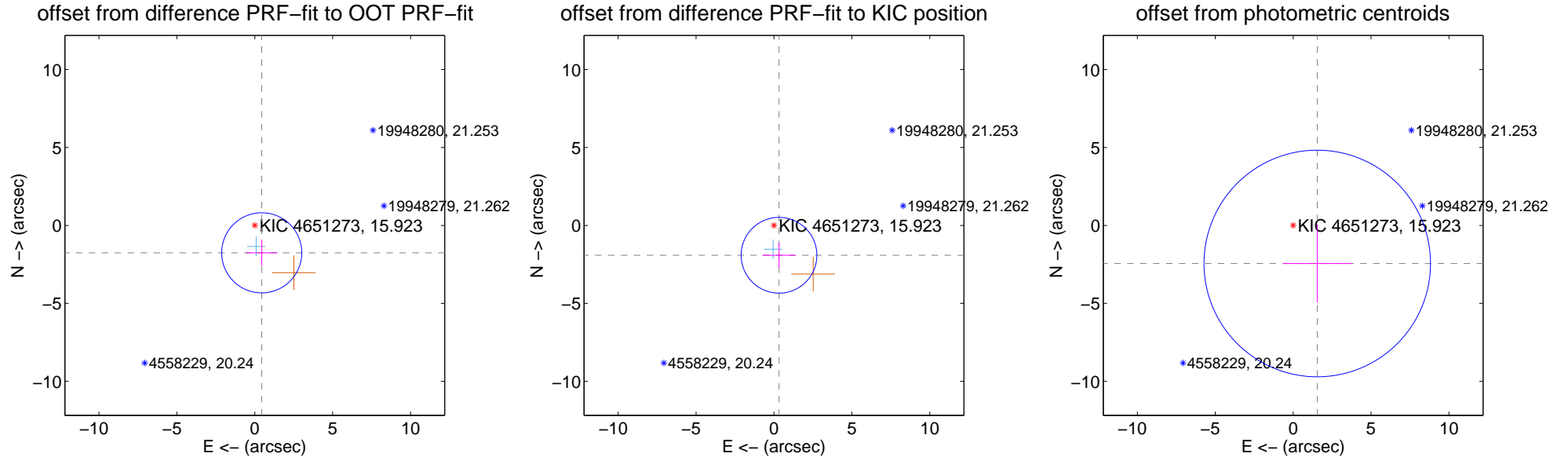
DV Centroid Data

Supplemental centroid analysis for 004651273-01. Kepler magnitude: 15.92. Transit SNR 5.14

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.812 ± 0.857	2.12	-0.445 ± 1.004	-1.757 ± 0.847
PRF-fit source offset from KIC position	1.941 ± 0.810	2.40	-0.324 ± 1.066	-1.914 ± 0.802
photometric centroid source offset	2.89 ± 2.42	1.19	-1.55 ± 2.20	-2.44 ± 2.51

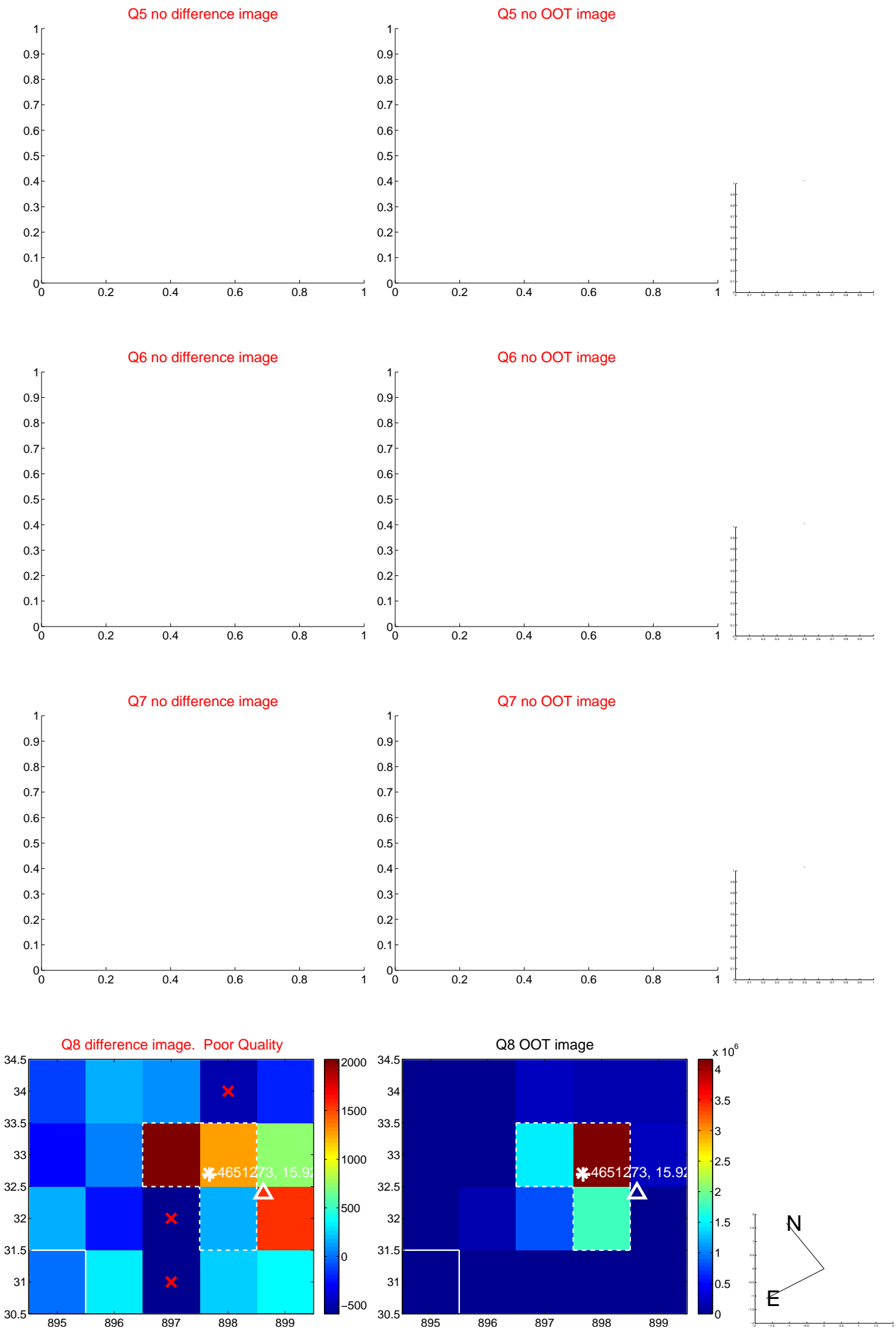


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



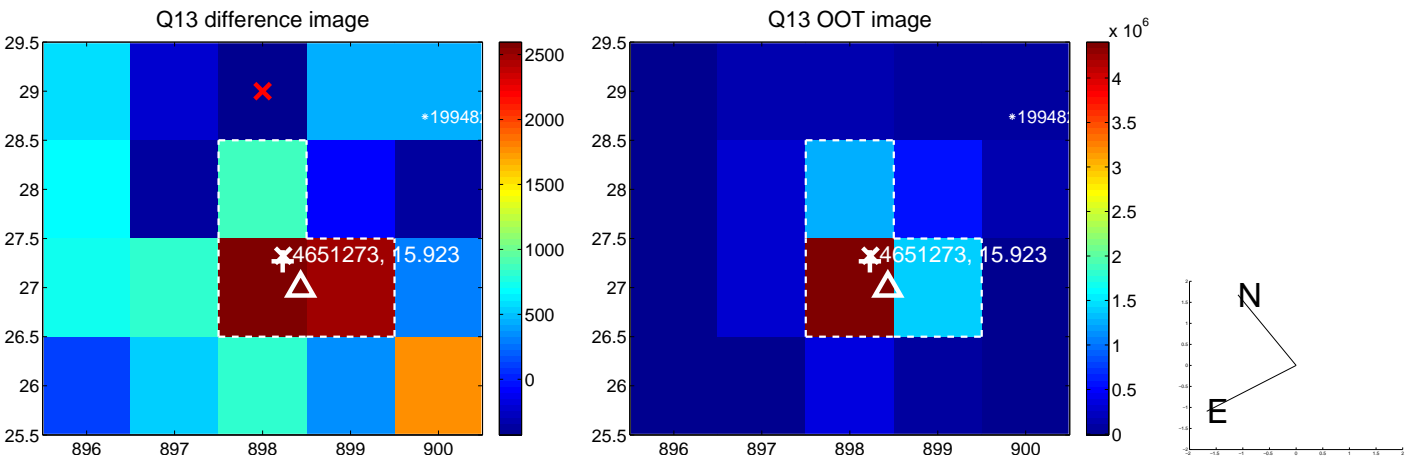
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



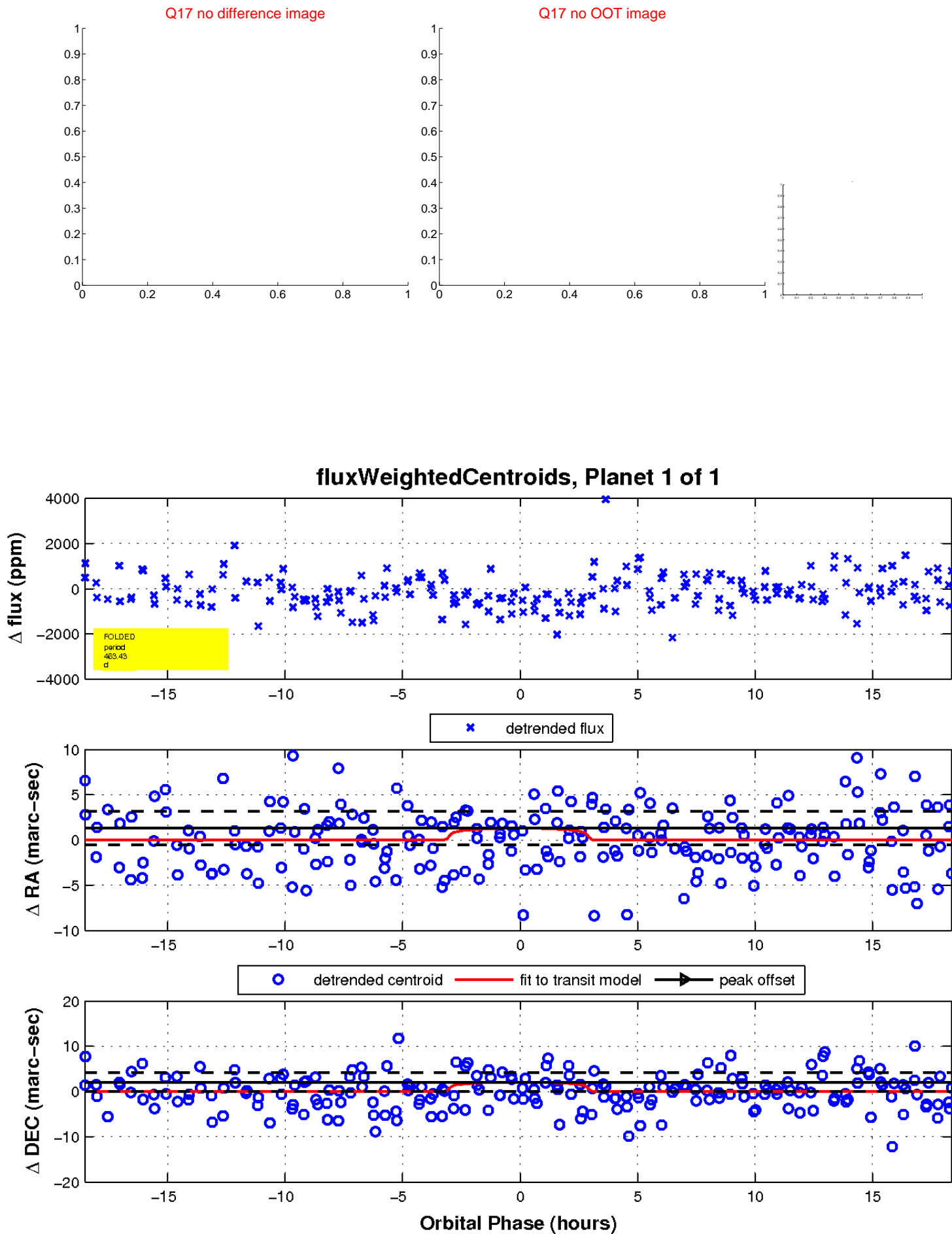
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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.



UKIRT Image

Declination

