

KIC 008953078

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})
008953078-01	OBS	No	455.864465	359.232186	271.1	15.738	7.2	7.1	2.69	6174	4.70	5.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008953078-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_DV—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.

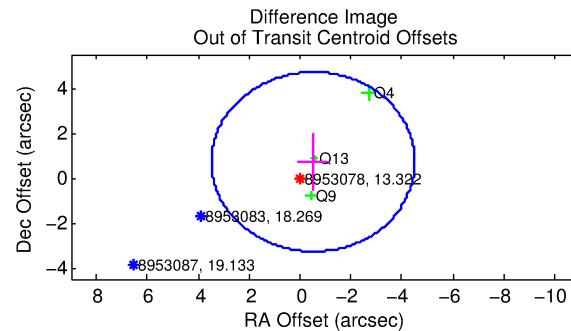
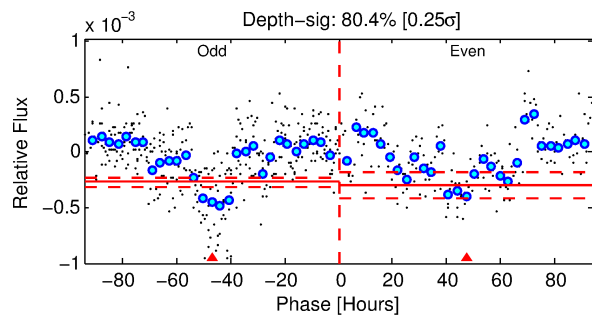
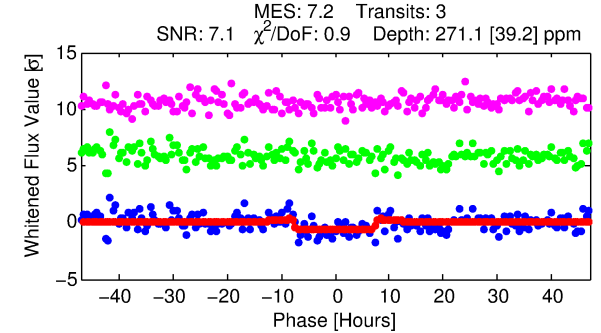
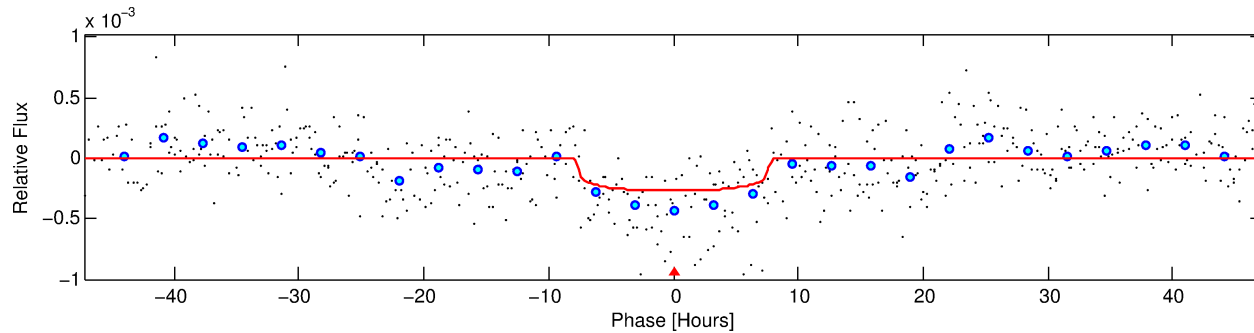
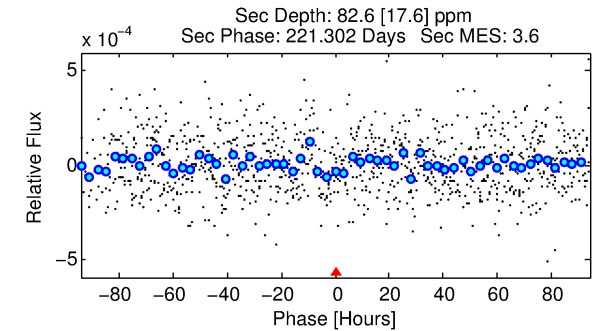
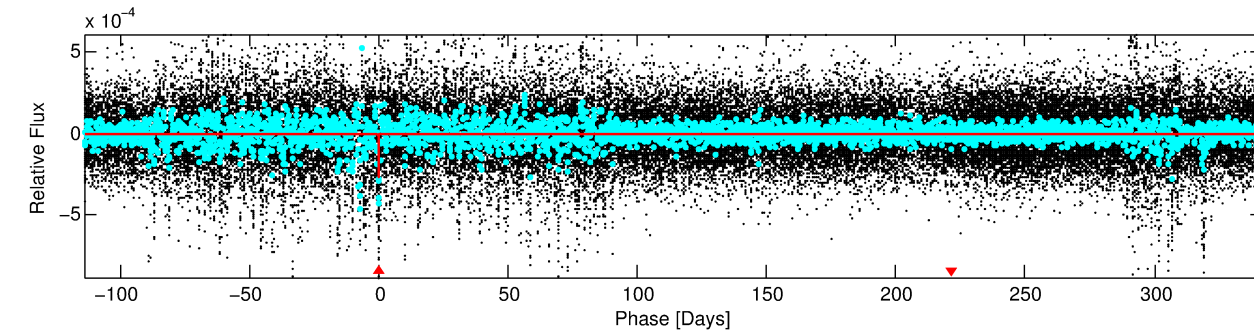
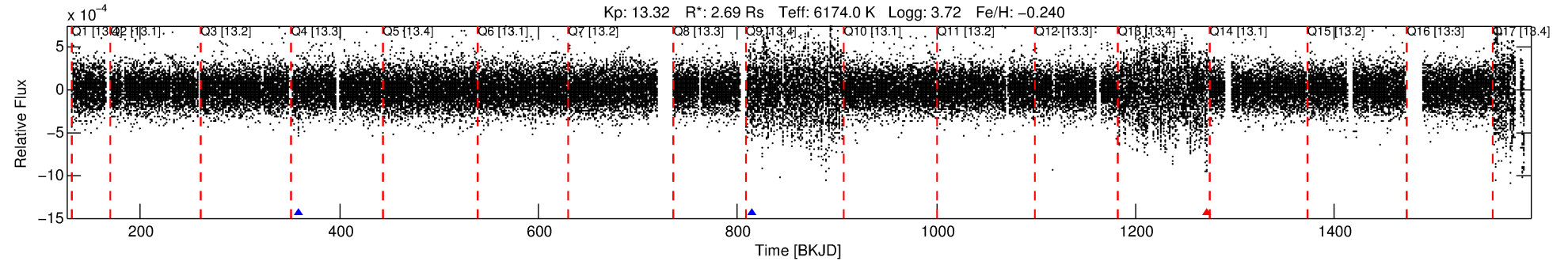
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008953078-01

No Significant Match Found

DV One-Page Summary

KIC: 8953078 Candidate: 1 of 1 Period: 455.864 d



DV Fit Results:

Period = 455.86446 [0.01121] d
Epoch = 359.2322 [0.0132] BKJD
Rp/R* = 0.0160 [0.0062]
a/R* = 167.24 [325.65]
b = 0.68 [1.55]
Seff = 5.67 [3.29]
Teff = 393 [57] K
Rp = 4.70 [2.45] Re
a = 1.2872 [0.4485] AU
Ag = 3402.65 [3331.51] [1.02 σ]
Teffp = 4646 [938] K [4.52 σ]

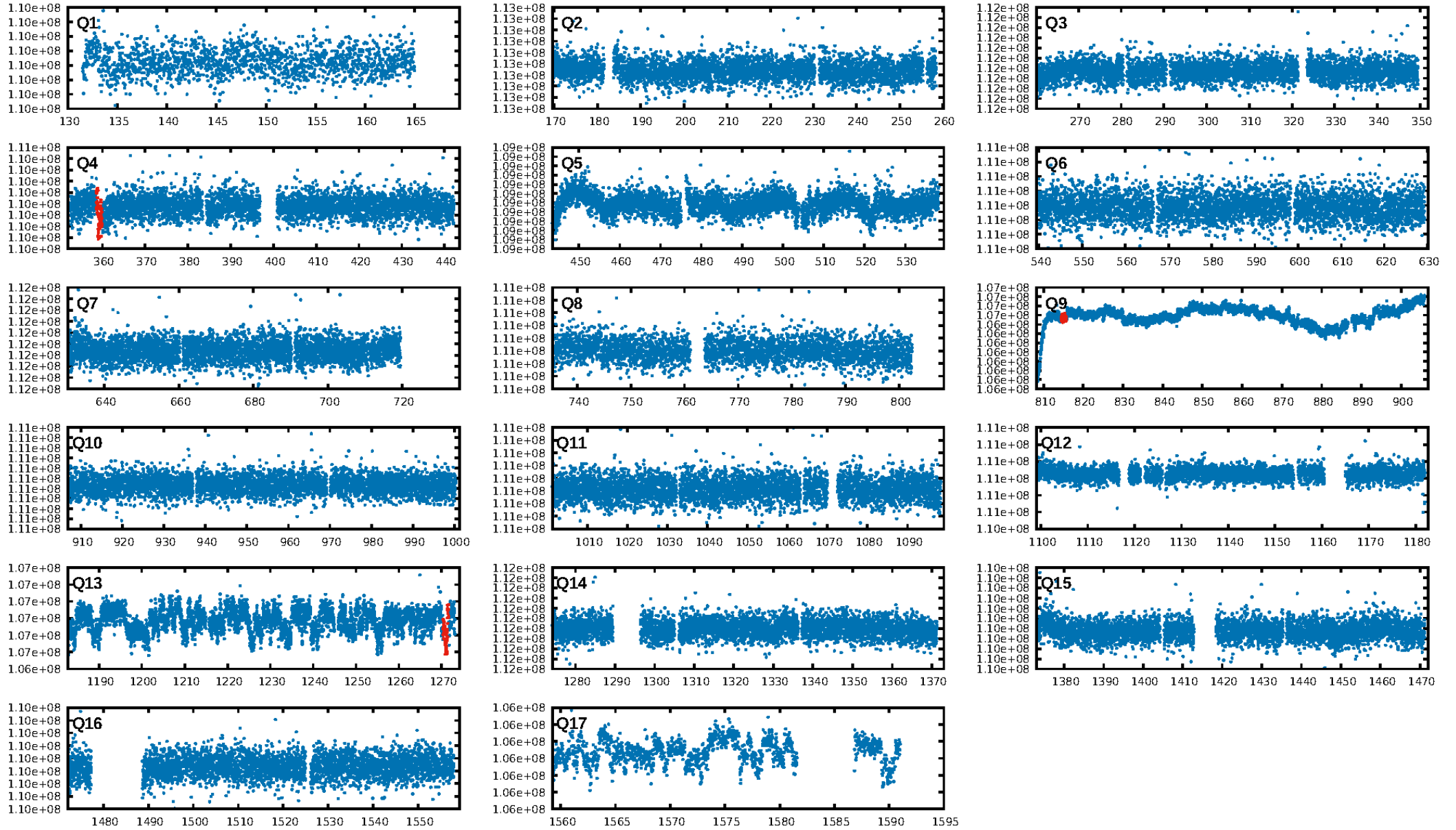
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 35.7%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.03e-09
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 2.539
Centroid-sig: 0.1%
Centroid-so: 3.134 arcsec [2.50 σ]
OotOffset-rm: 0.882 arcsec [0.66 σ]
KicOffset-rm: 0.896 arcsec [0.79 σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

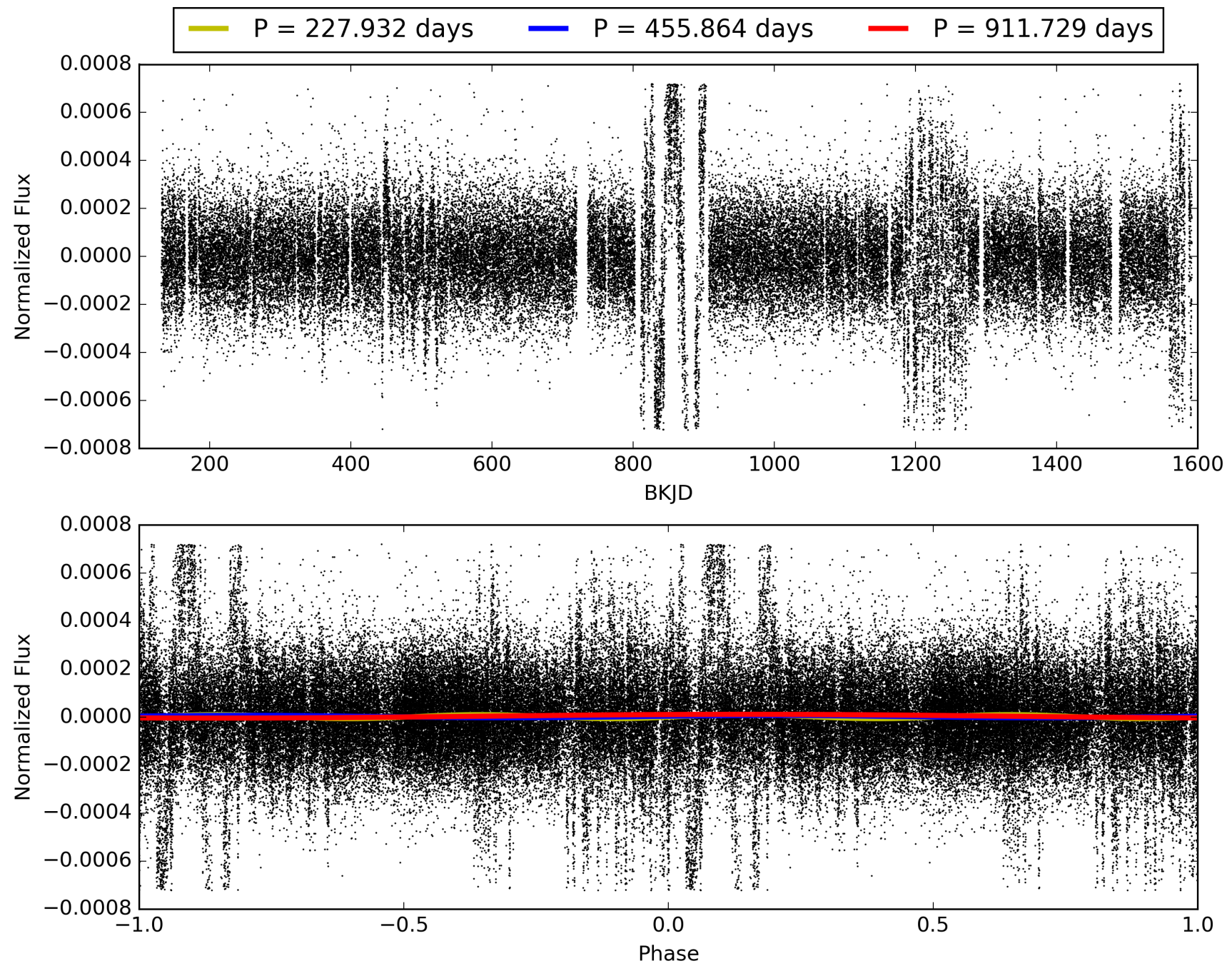
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:47:49 Z

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

TCE 008953078-01, PDC Light Curves

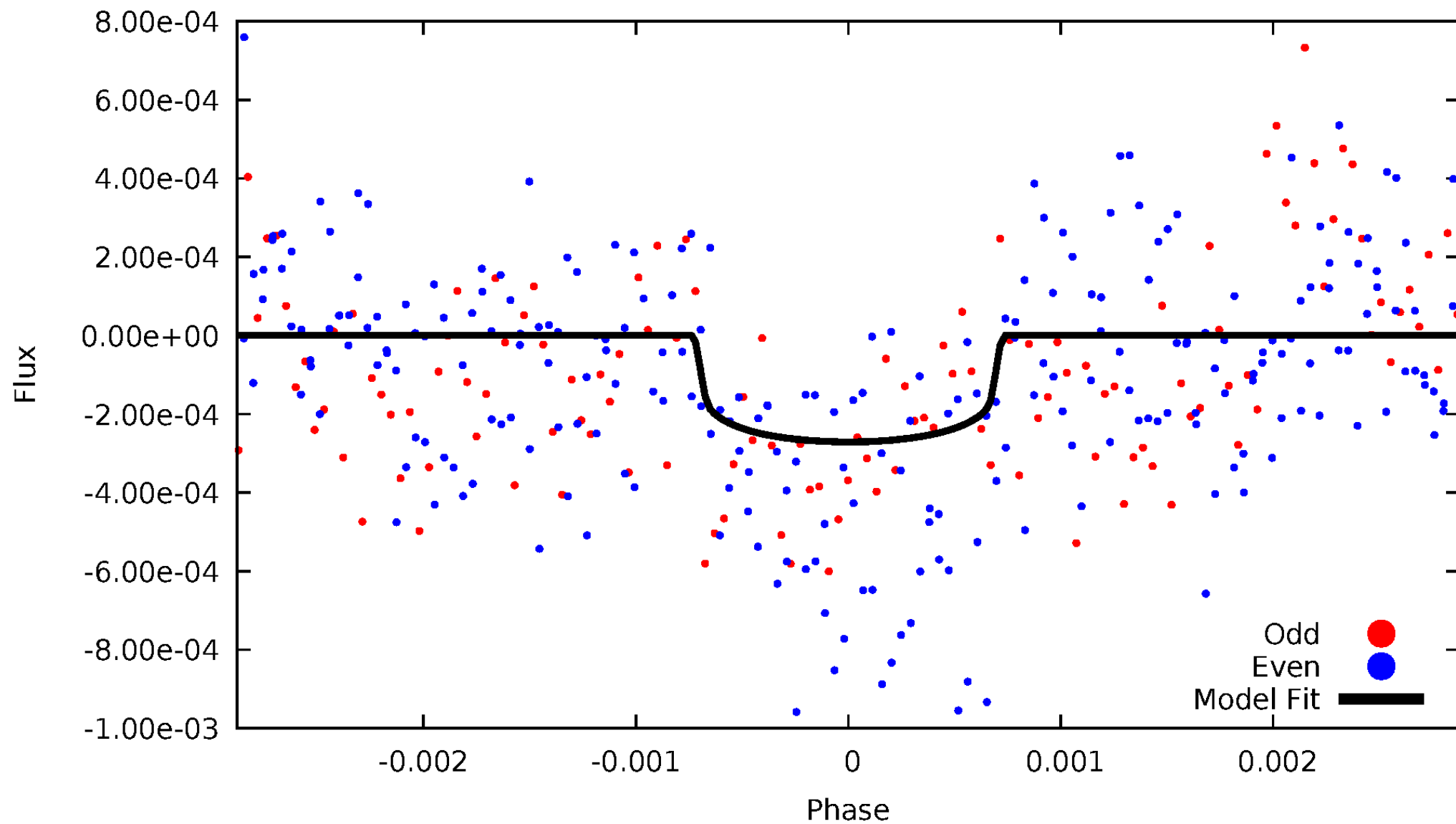


TCE 008953078-01



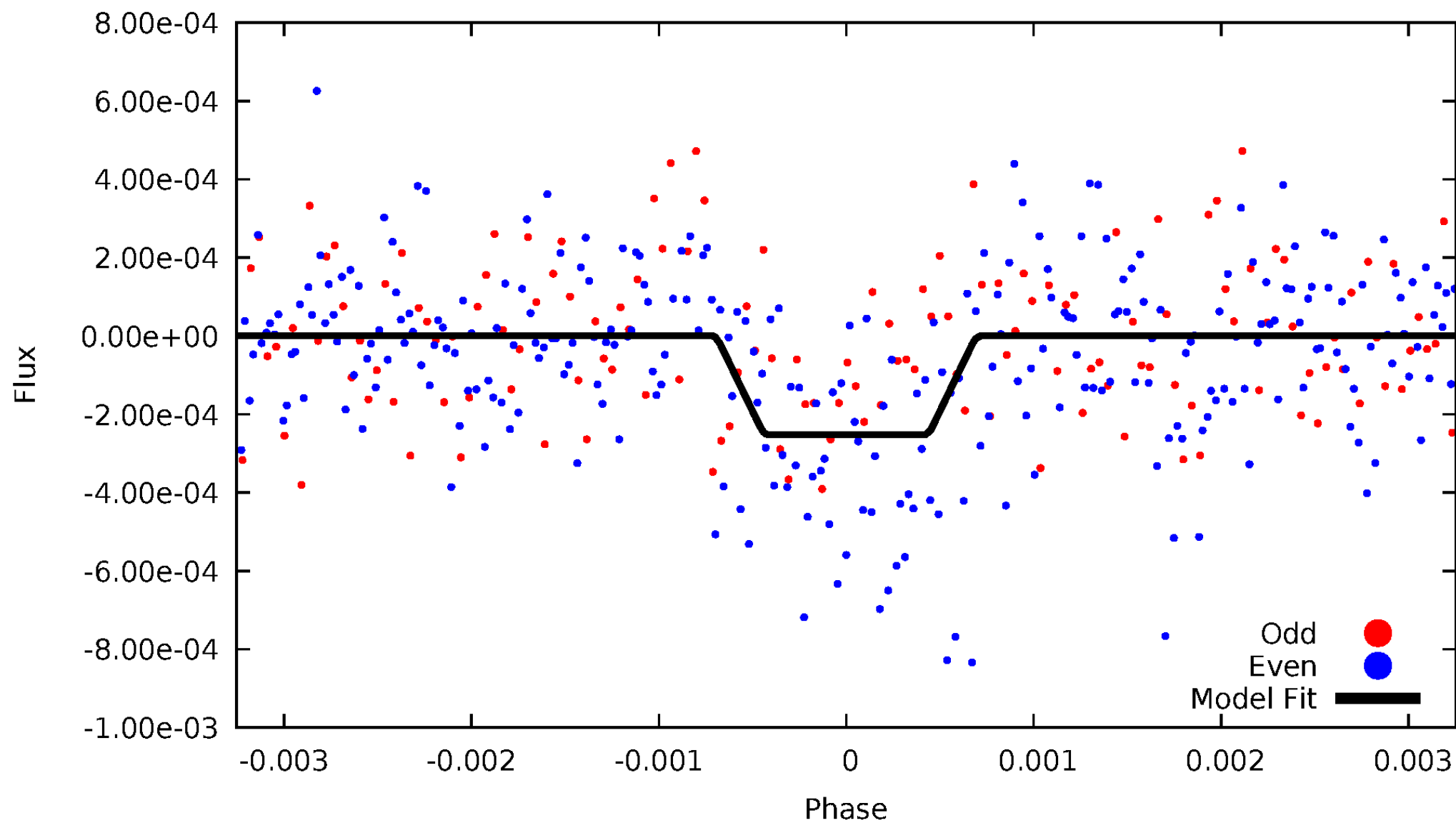
DV Odd/Even

TCE 008953078-01



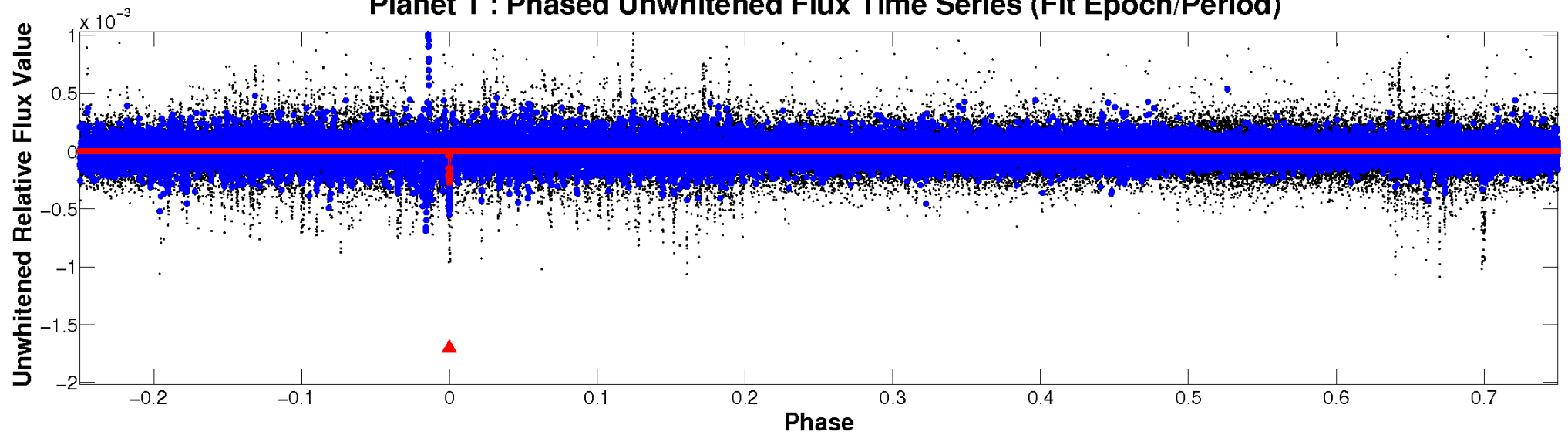
ALT Odd/Even

TCE 008953078-01

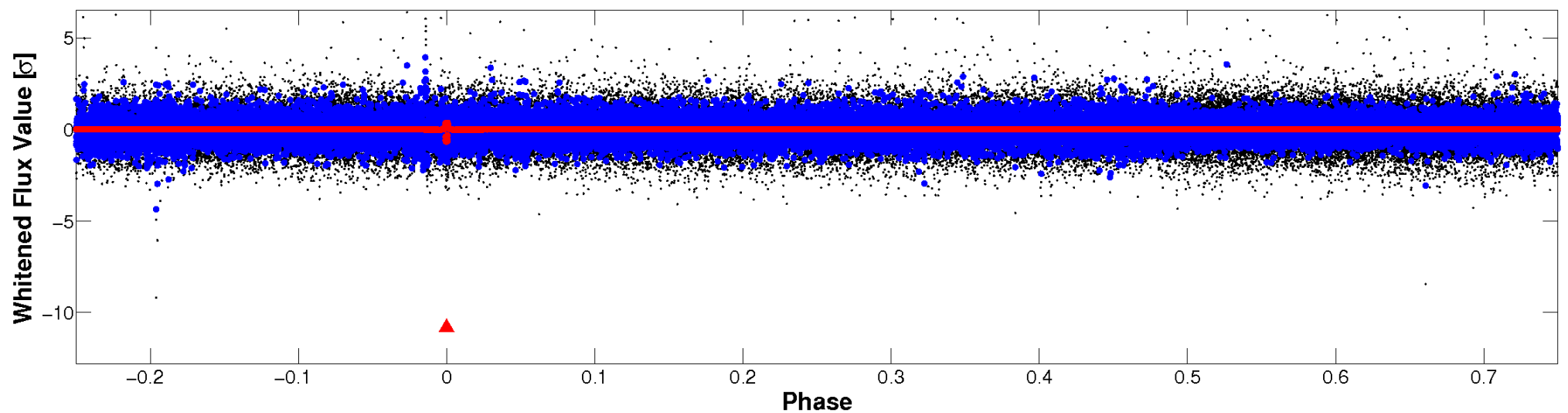


Non-Whitened Vs. Whitened Light Curve

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



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



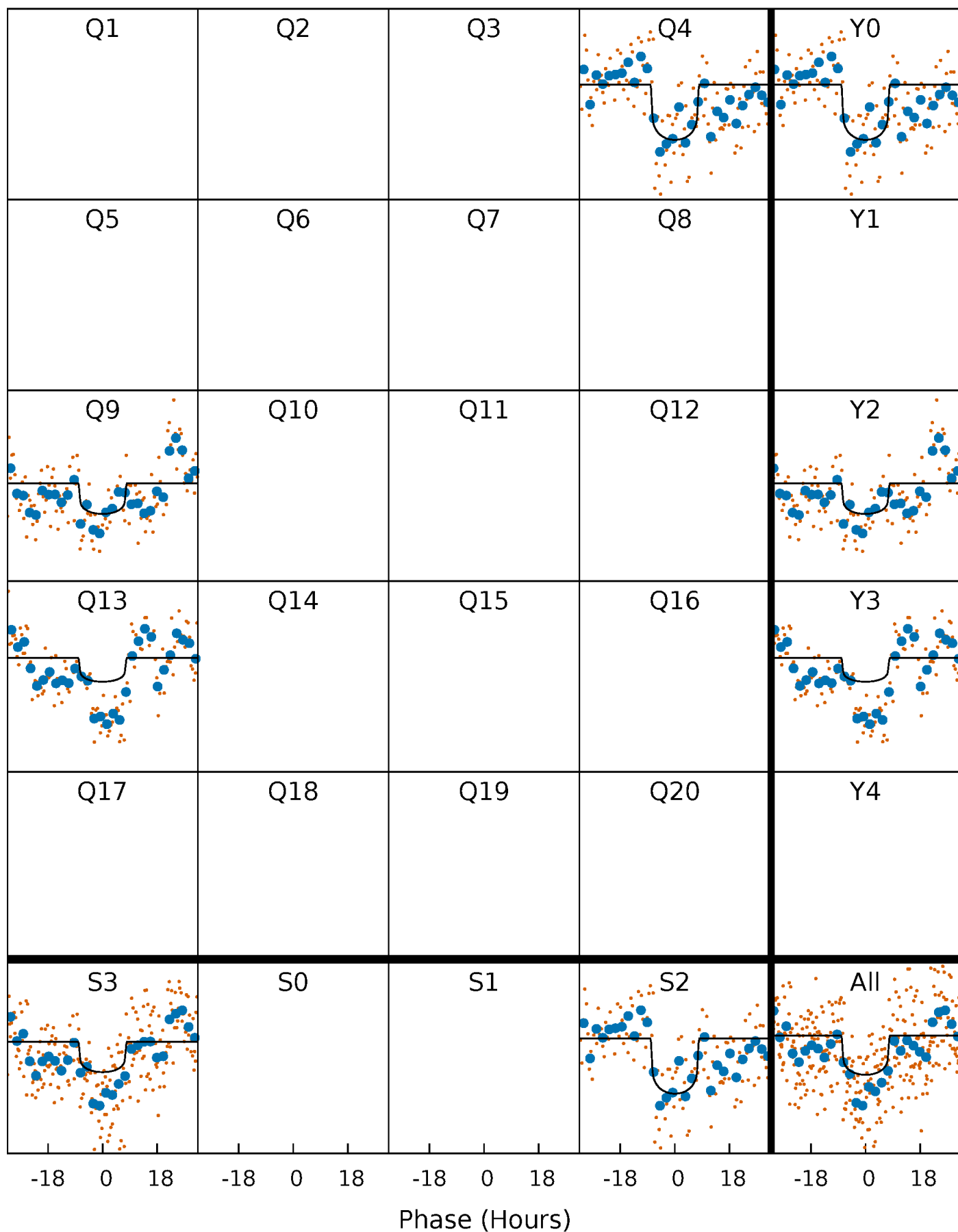
PDC Quarter-Phased Transit Curves

TCE 008953078-01 P=455.864465 Days $T_0=359.232186$ (BKJD)



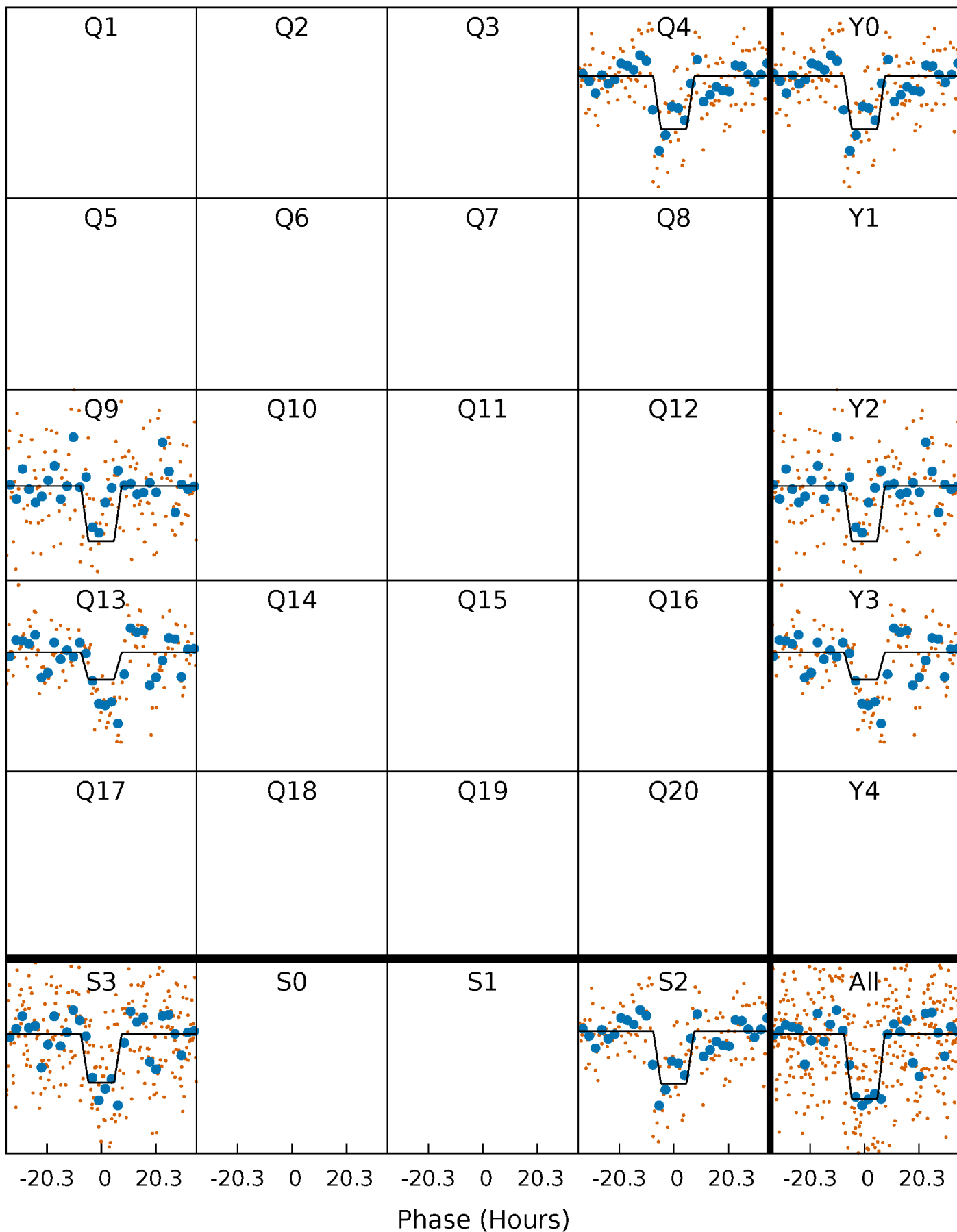
DV Quarter-Phased Transit Curves

TCE 008953078-01 $P=455.864465$ Days $T_0=359.232186$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

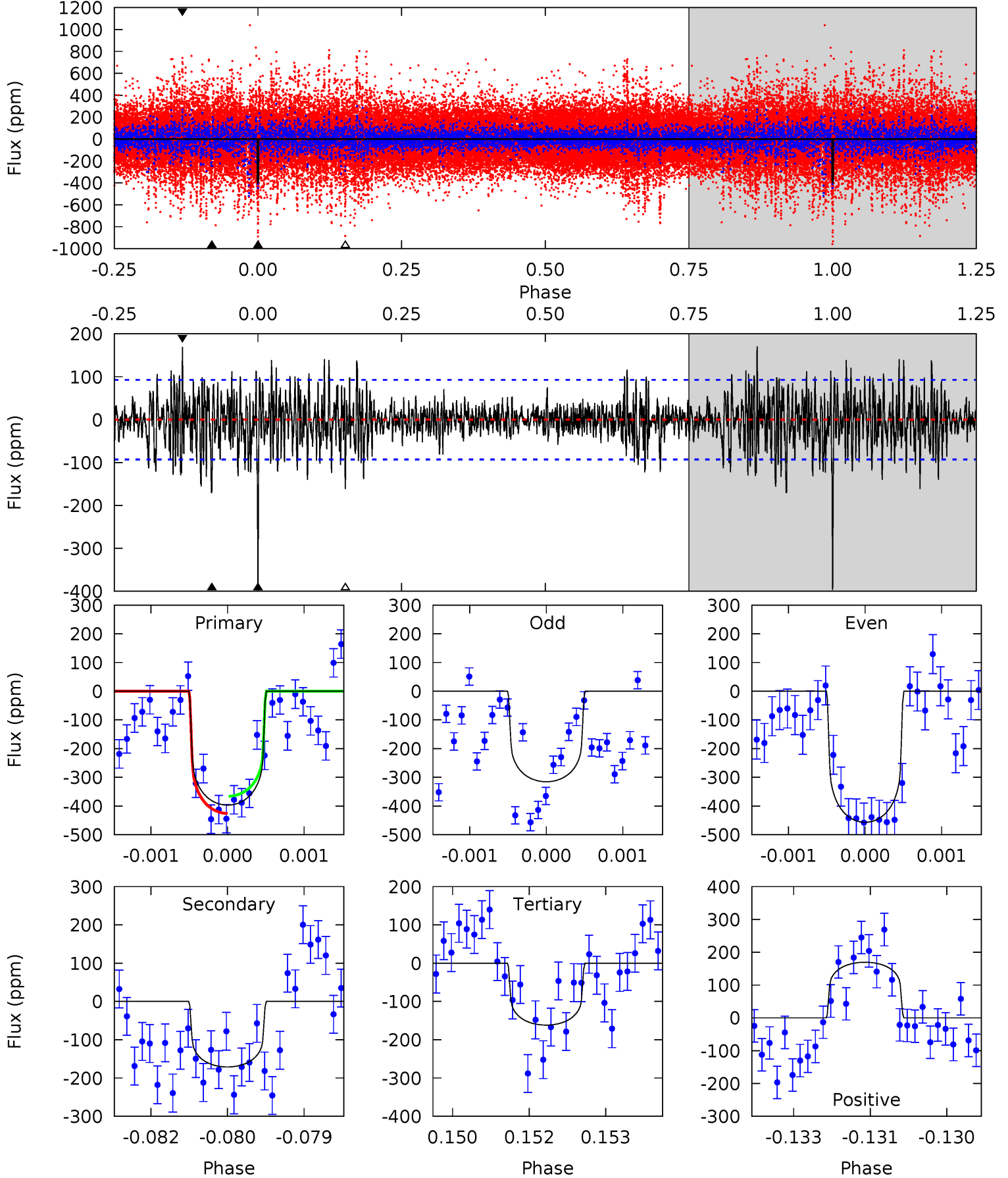
TCE 008953078-01 P=455.838668 Days $T_0=359.274804$ (BKJD)



DV Model-Shift Uniqueness Test

008953078-01, P = 455.864465 Days, E = 359.232186 Days

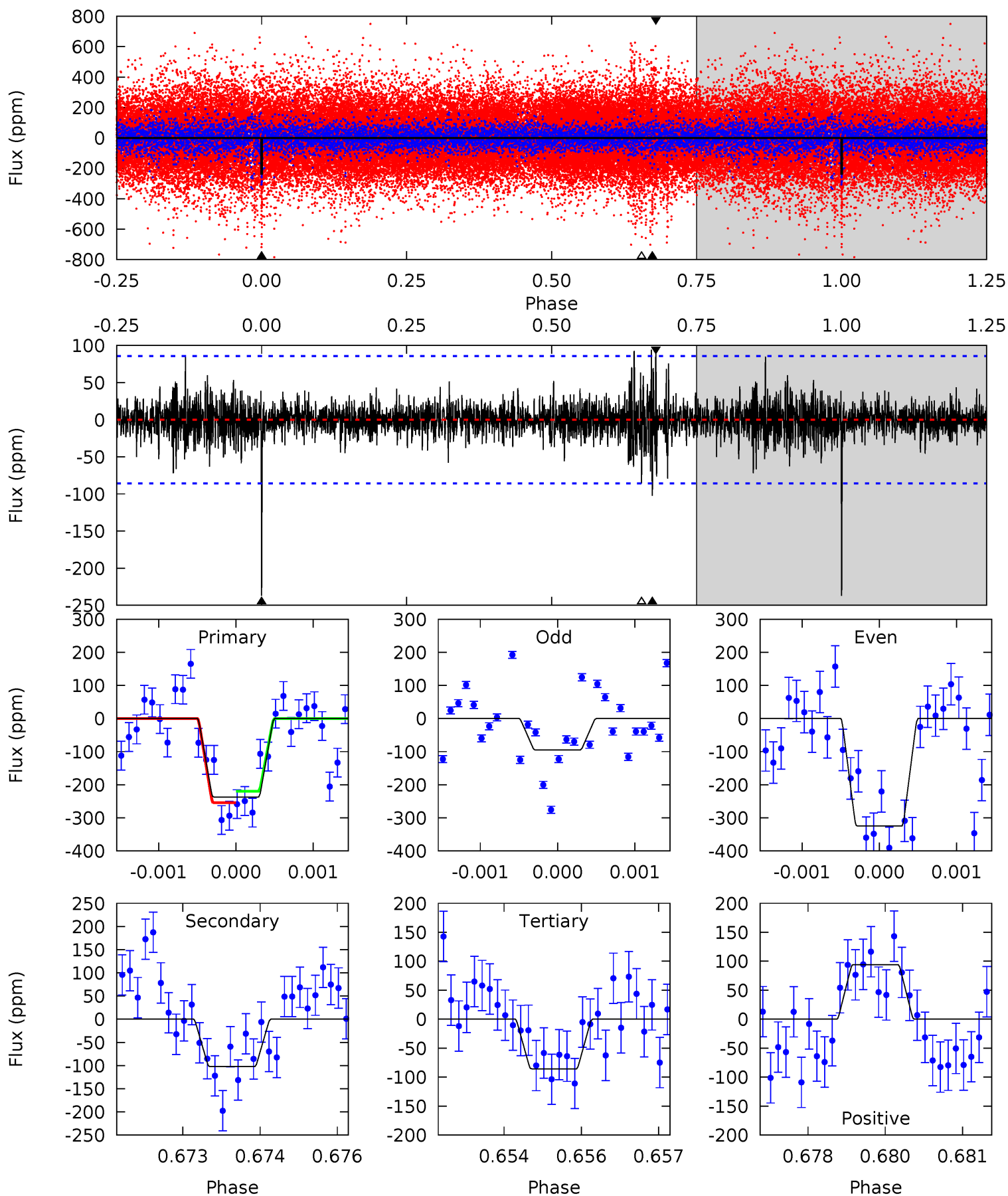
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.0	9.93	9.38	9.83	5.38	3.18	2.25	13.6	13.2	0.55	0.09	3.57	1.30	0.30	1.73



Alt Model-Shift Uniqueness Test

008953078-01, P = 455.838668 Days, E = 359.274804 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	6.42	5.38	5.91	5.39	3.19	1.14	9.50	8.97	1.04	0.51	6.74	1.10	0.28	1.10



Stellar Parameters For KIC 008953078

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6174^{+189}_{-170}	$3.716^{+0.336}_{-0.105}$	$-0.240^{+0.350}_{-0.300}$	$2.686^{+0.436}_{-0.944}$	$1.369^{+0.237}_{-0.316}$	$0.100^{+0.224}_{-0.032}$
	+3%/-3%	+9%/-3%	+146%/-125%	+16%/-35%	+17%/-23%	+225%/-33%
Source	PHO1	FLK73	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 008953078-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-171 ± 17	$4.44^{+2.02}_{-1.76}$	541^{+33}_{-48}	5585^{+1678}_{-775}	7852^{+15029}_{-4092}
Alt.	-102 ± 16	$4.36^{+2.14}_{-1.71}$	544^{+33}_{-56}	5015^{+1187}_{-668}	4808^{+8586}_{-2600}

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

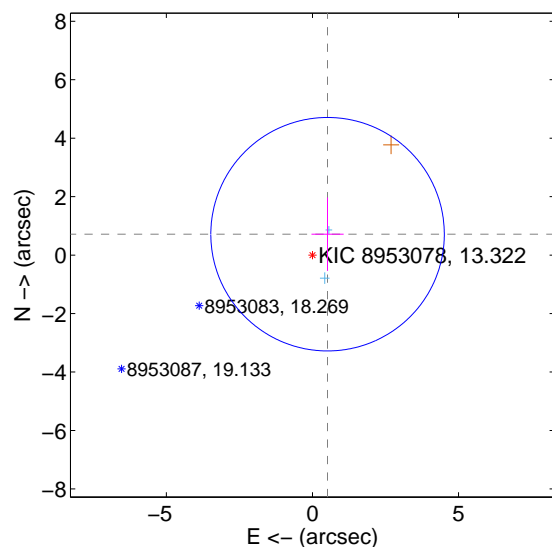
Supplemental centroid analysis for 008953078-01. Kepler magnitude: 13.32. Transit SNR 7.14

There are 2 quarters with good PRF difference image offsets

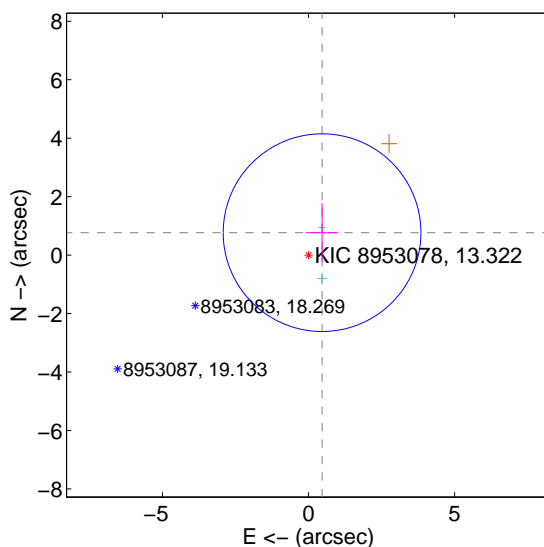
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.882 ± 1.331	0.66	-0.517 ± 0.551	0.715 ± 1.255
PRF-fit source offset from KIC position	0.896 ± 1.127	0.79	-0.463 ± 0.559	0.767 ± 1.006
photometric centroid source offset	3.13 ± 1.26	2.50	-2.60 ± 1.19	1.74 ± 1.39

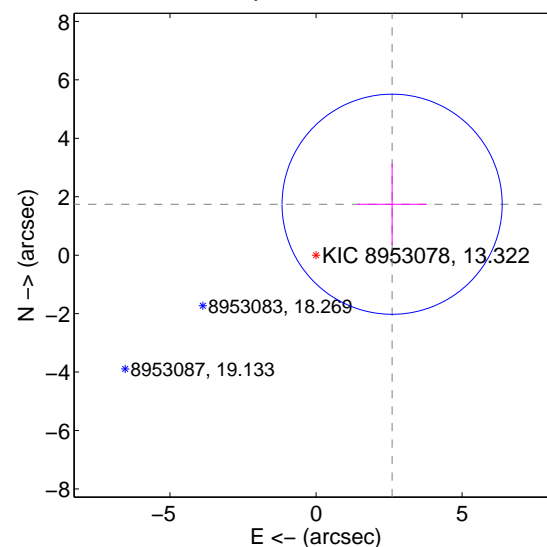
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

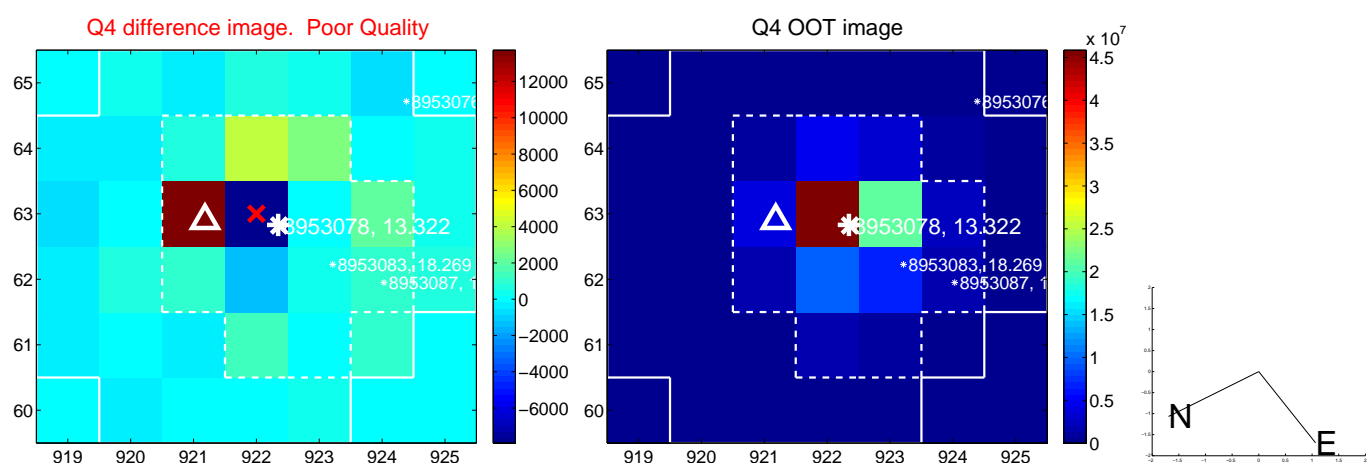
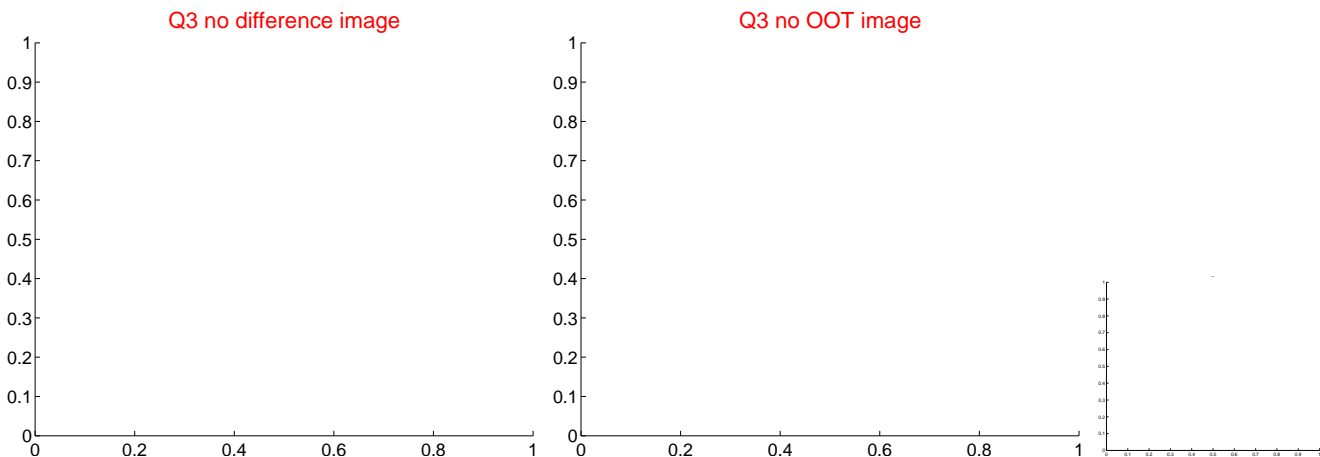
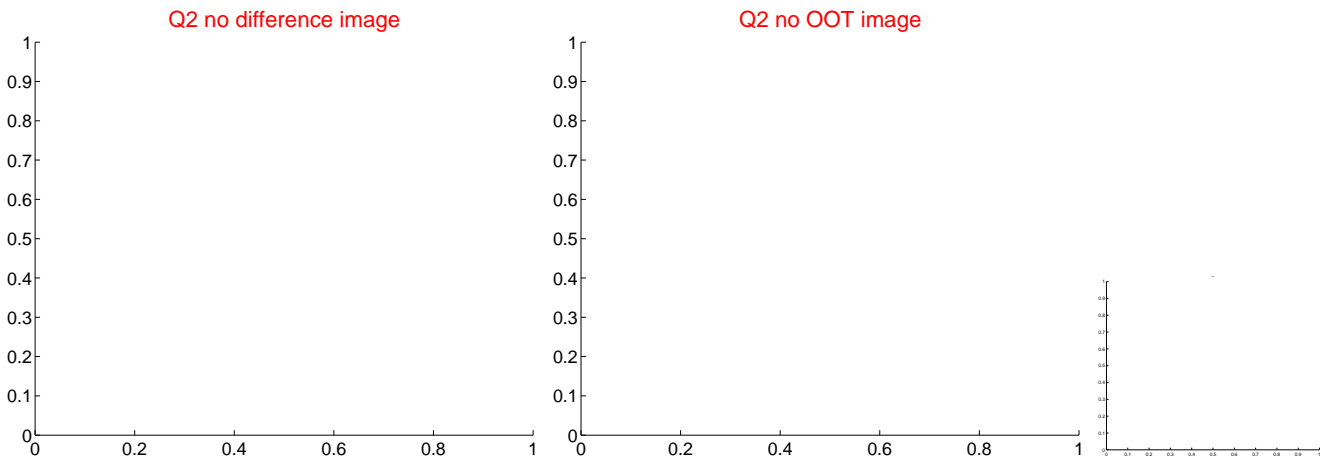
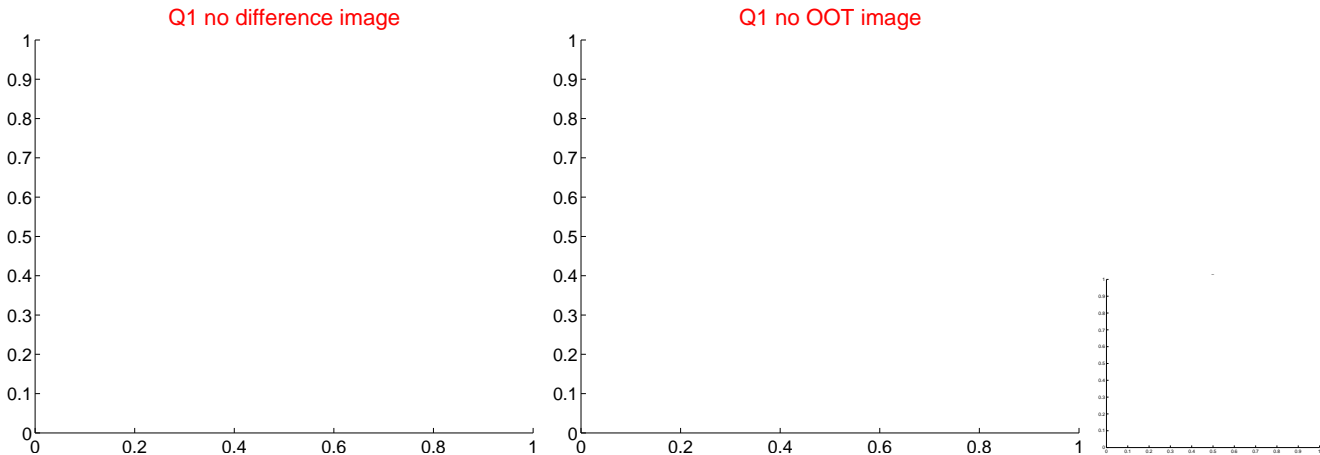


offset from photometric centroids



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.

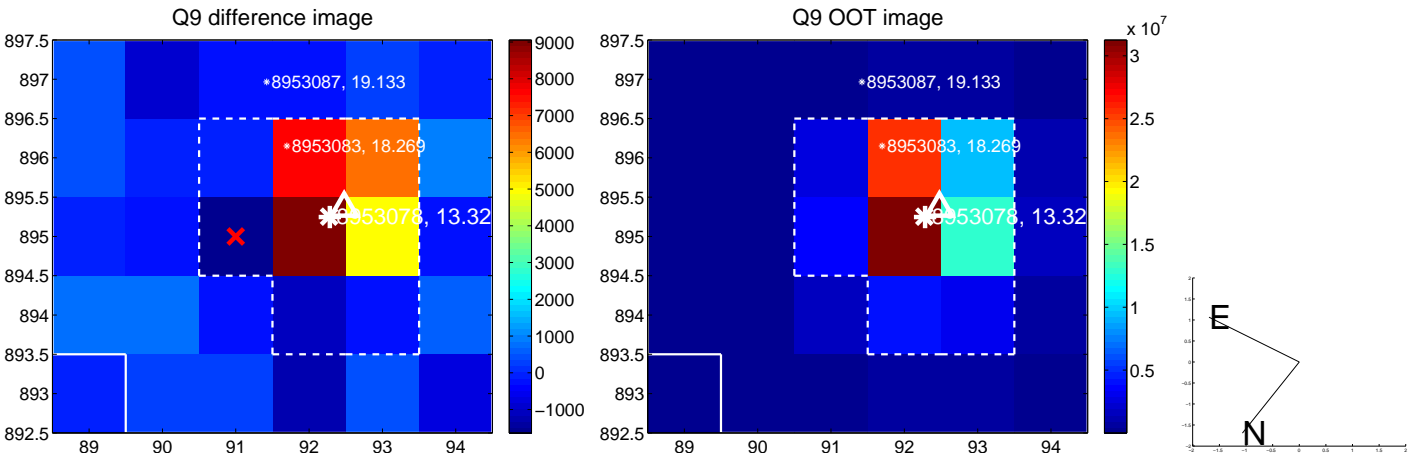
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



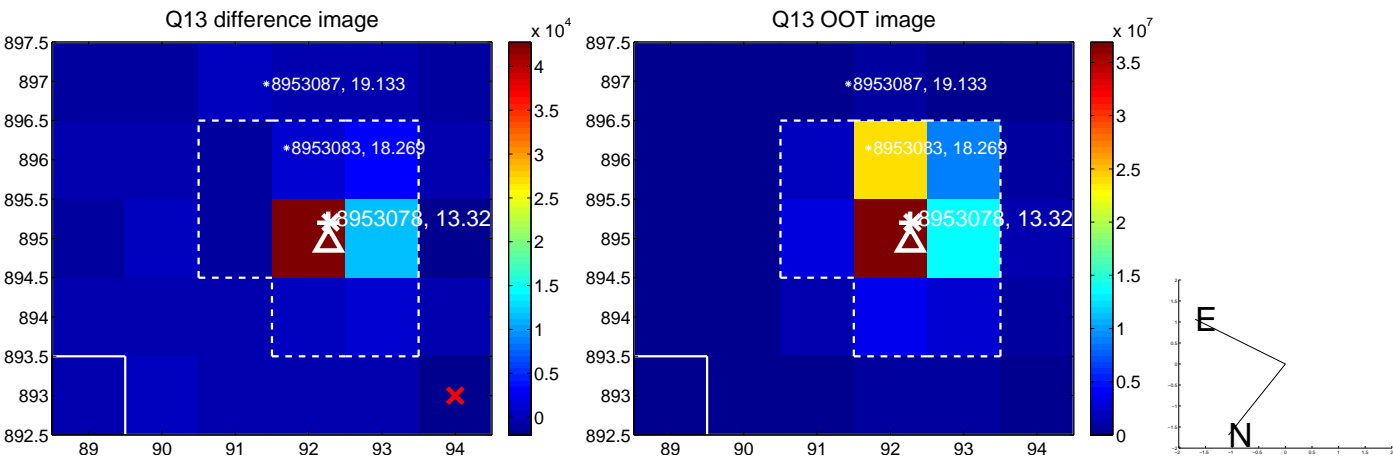
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



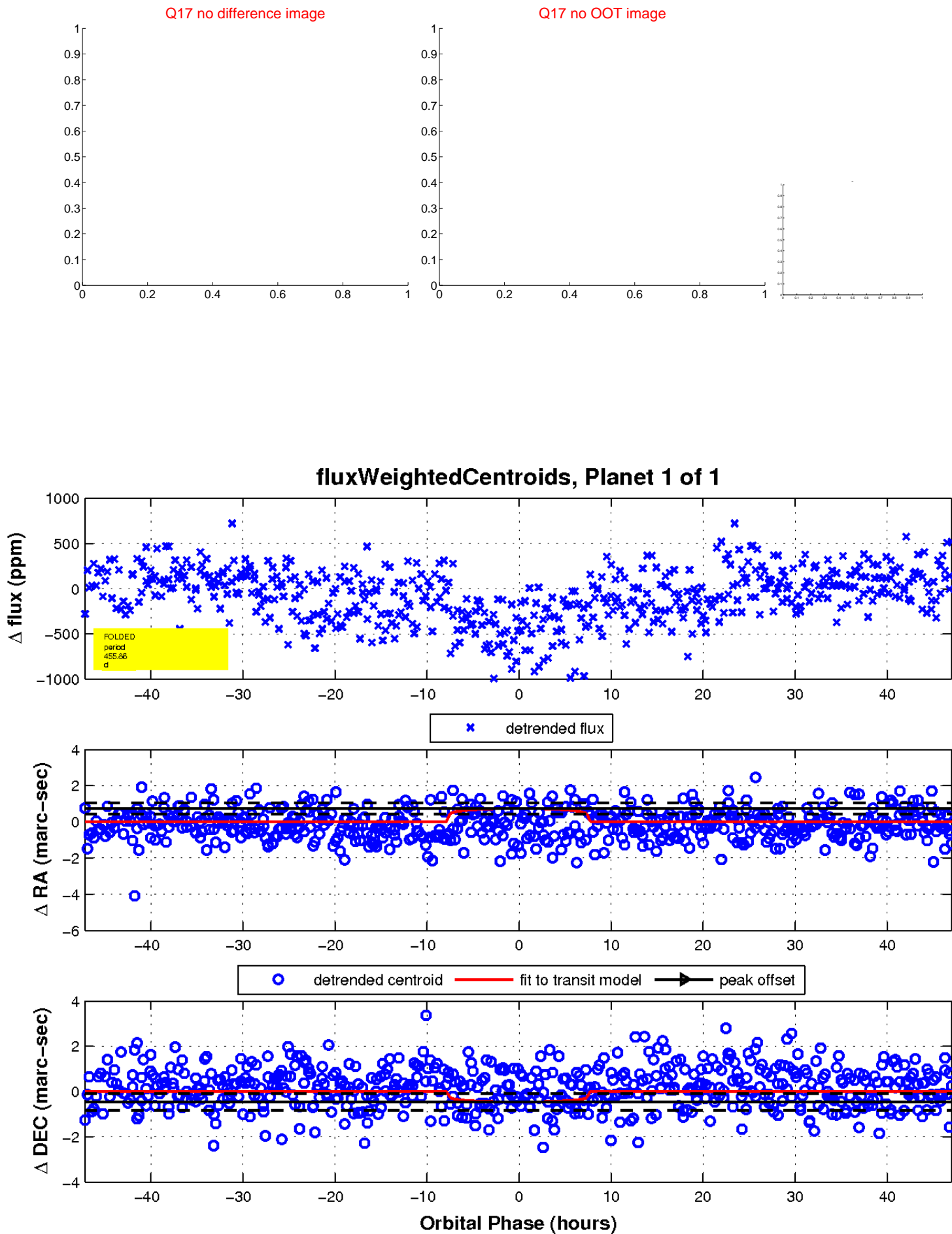
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

