

KIC 010339093

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})
010339093-01	OBS	No	454.606664	184.606983	1857.8	26.758	8.6	8.8	0.74	5256	6.24	0.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010339093-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

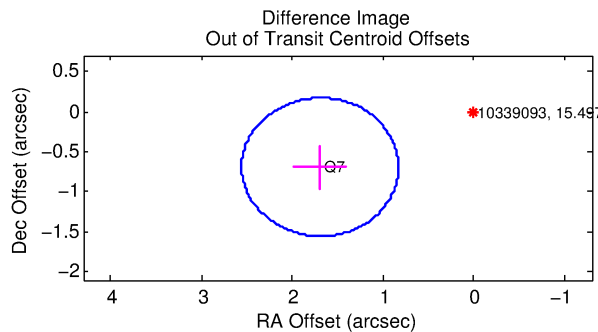
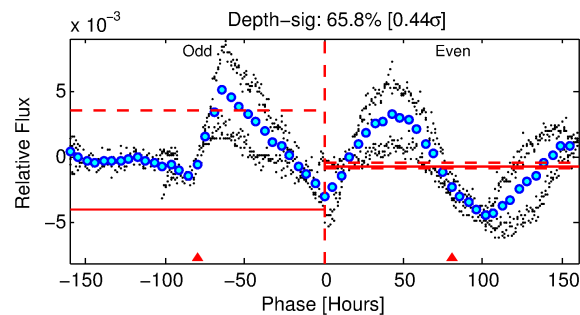
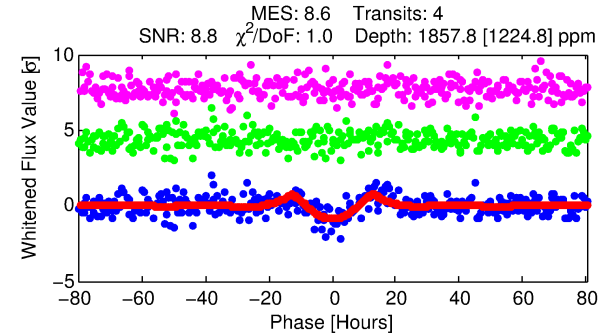
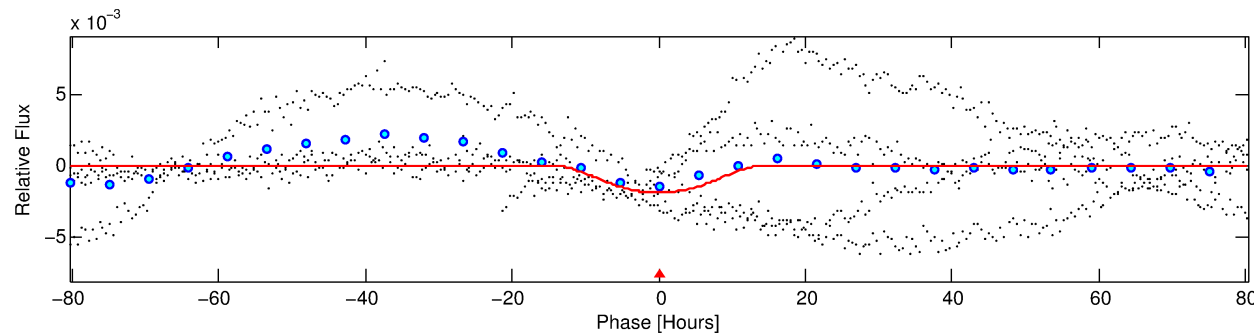
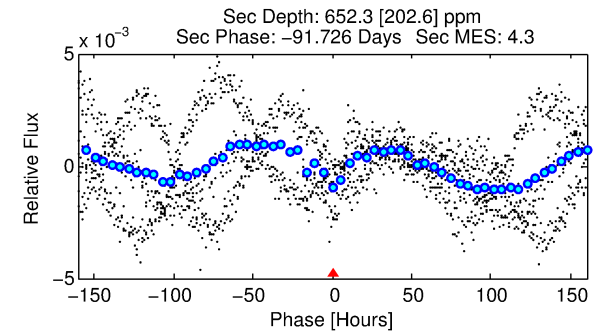
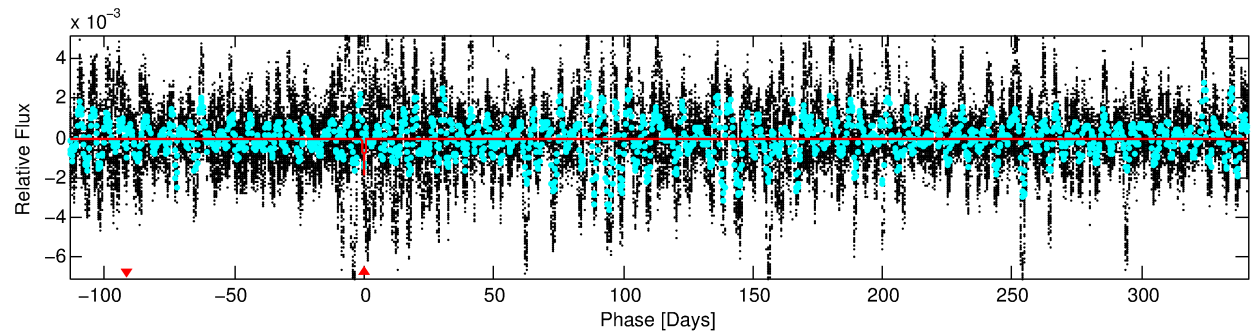
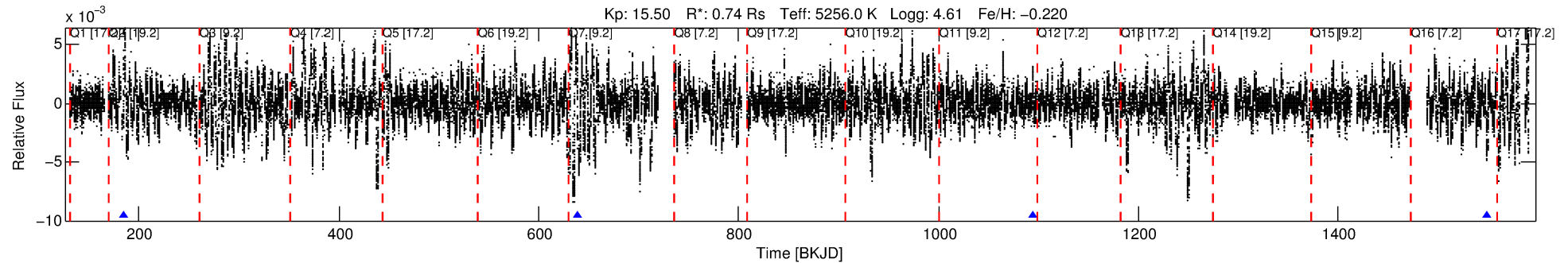
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010339093-01

No Significant Match Found

DV One-Page Summary

KIC: 10339093 Candidate: 1 of 1 Period: 454.607 d



DV Fit Results:

Period = 454.60666 [0.01825] d
Epoch = 184.6070 [0.0349] BKJD
Rp/R* = 0.0771 [0.1374]
a/R* = 51.96 [19.56]
b = 1.00 [0.16]
Seff = 0.32 [0.07]
Teq = 192 [10] K
Rp = 6.24 [11.15] Re
a = 1.0798 [0.1348] AU
Ag = 10761.35 [38536.73] [0.28σ]
Teffp = 3025 [2706] K [1.05σ]

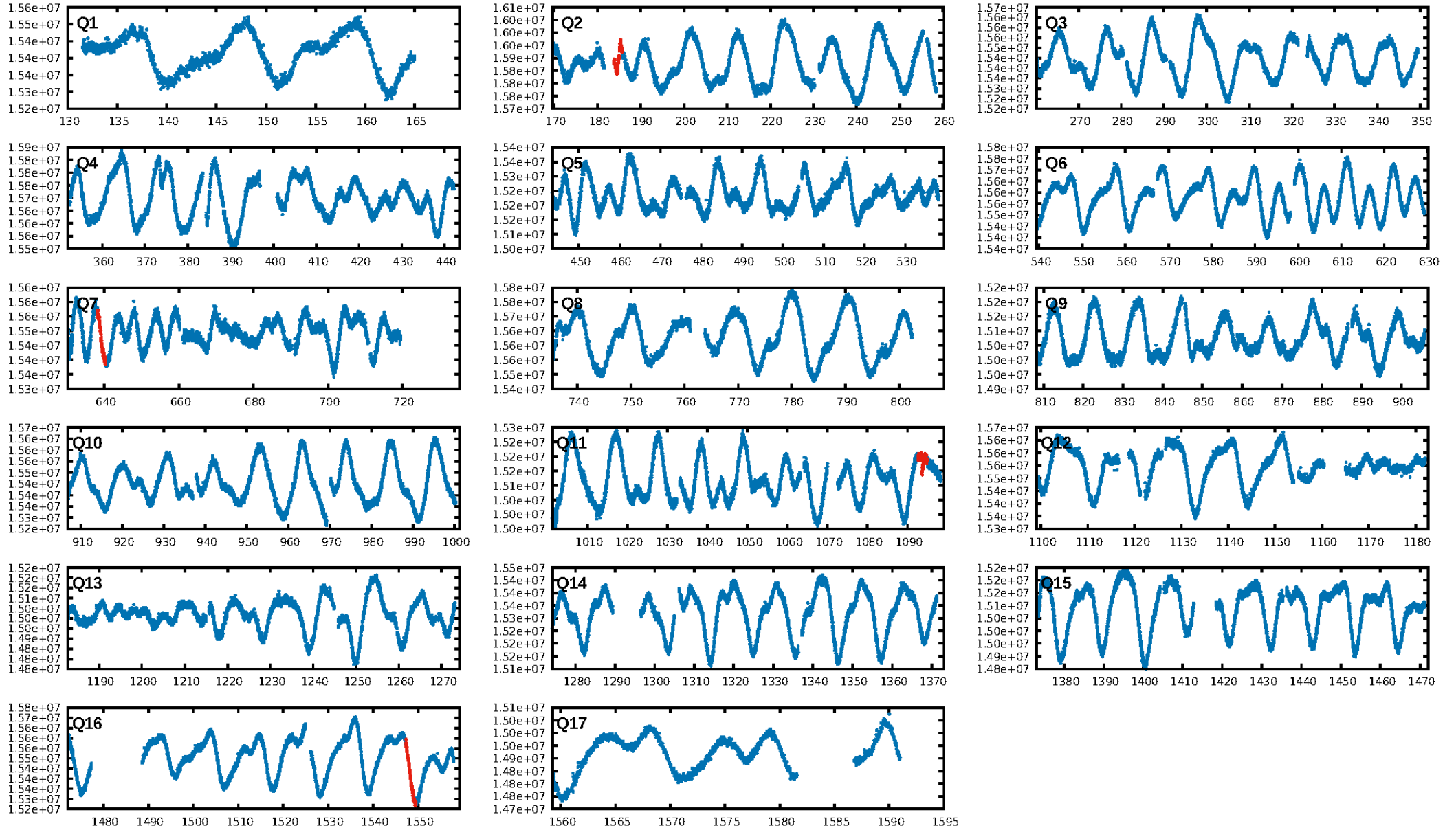
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.49e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.1829
Centroid-sig: 44.3%
Centroid-so: 0.589 arcsec [0.92σ]
OotOffset-rm: 1.830 arcsec [6.37σ]
KicOffset-rm: 1.662 arcsec [5.79σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

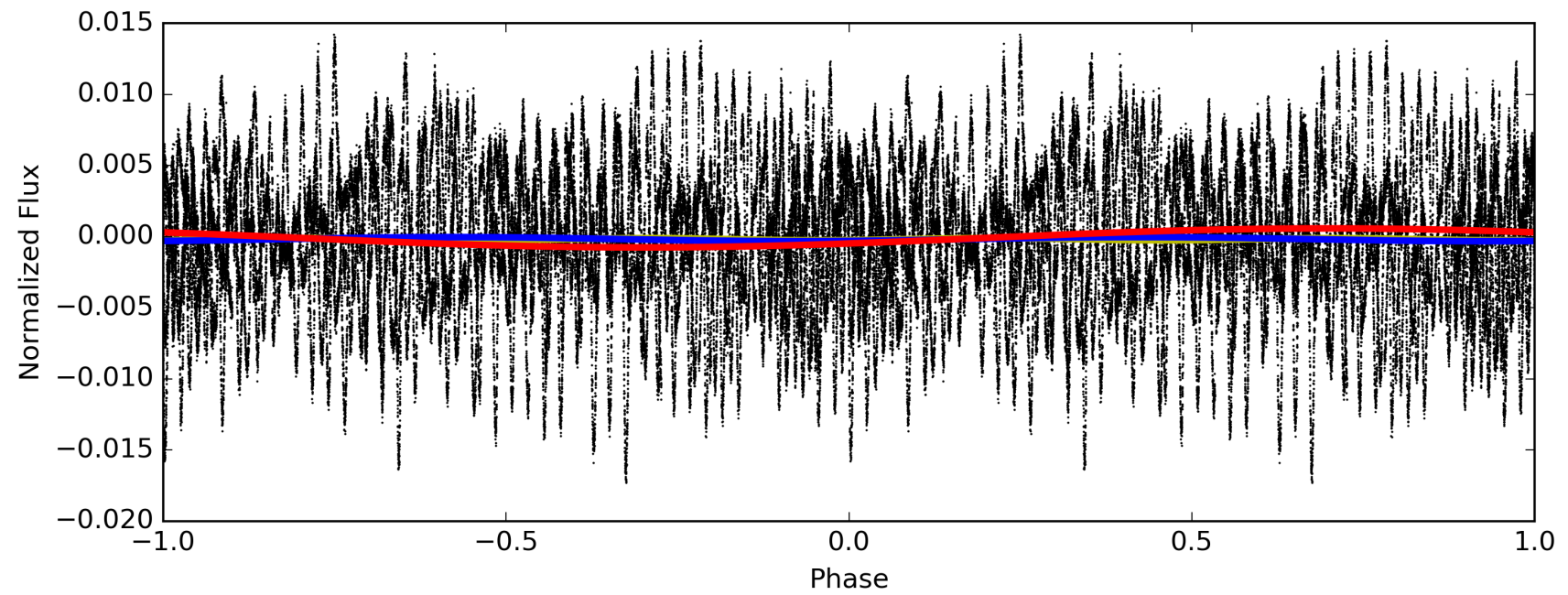
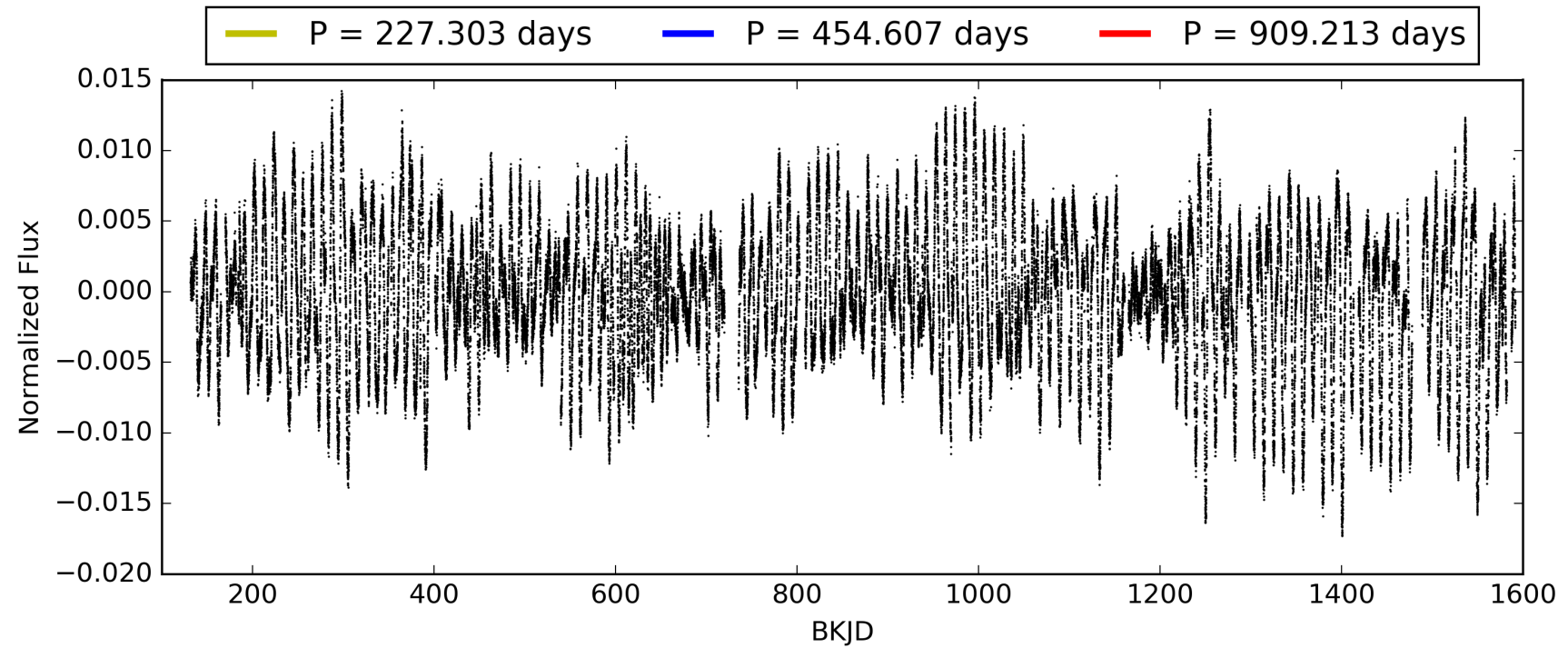
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:27:06 Z

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

TCE 010339093-01, PDC Light Curves

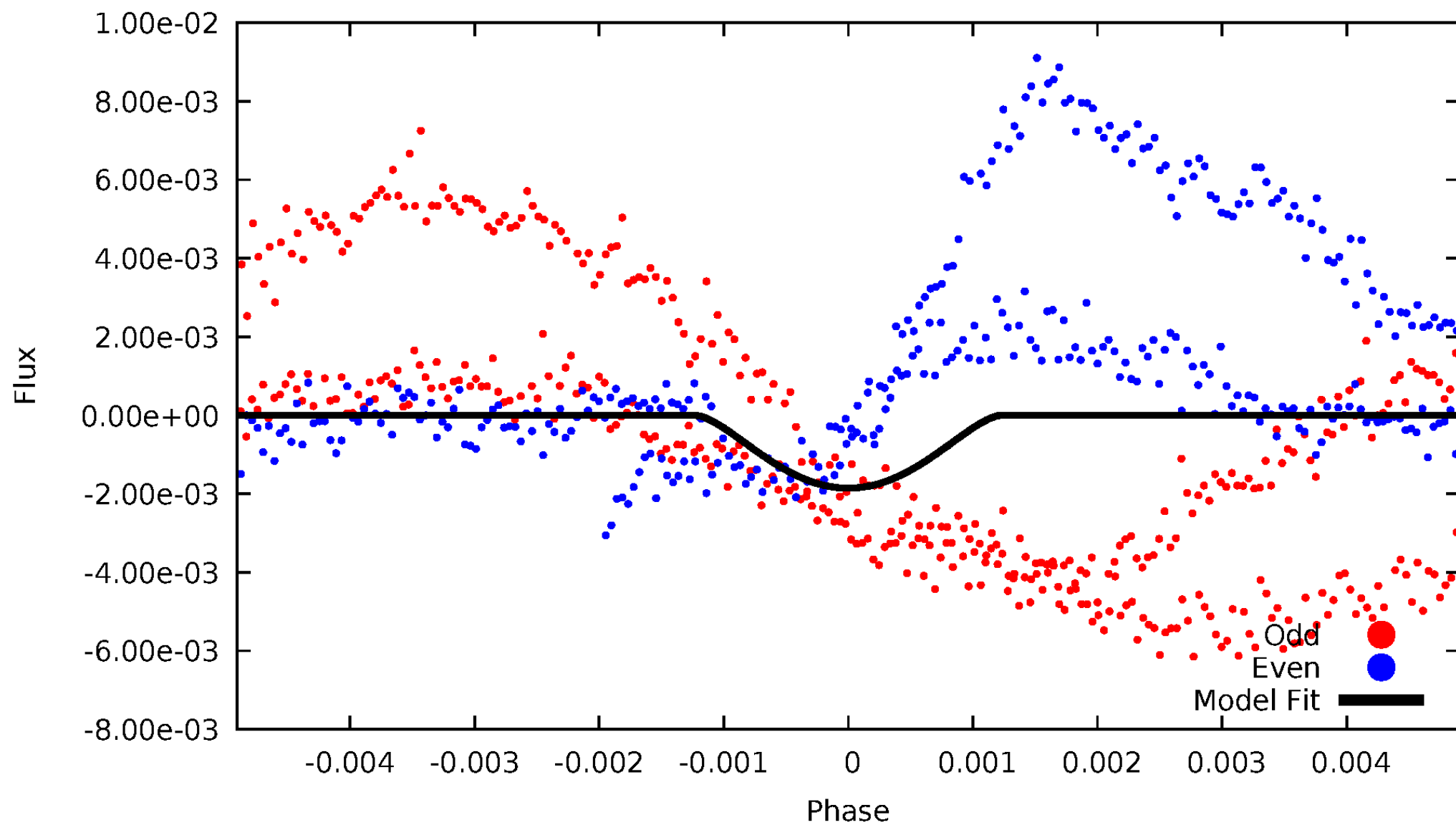


TCE 010339093-01



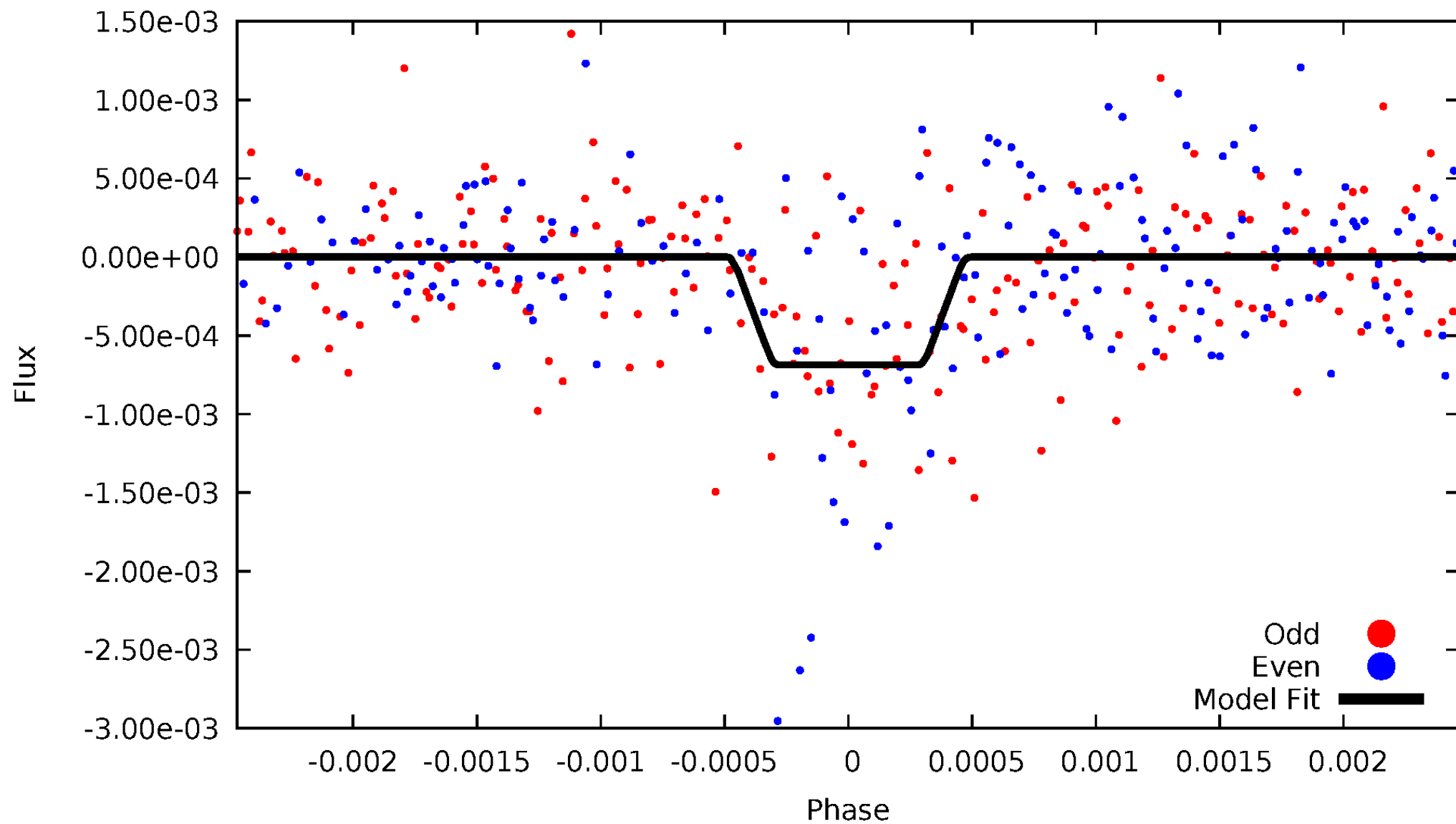
DV Odd/Even

TCE 010339093-01



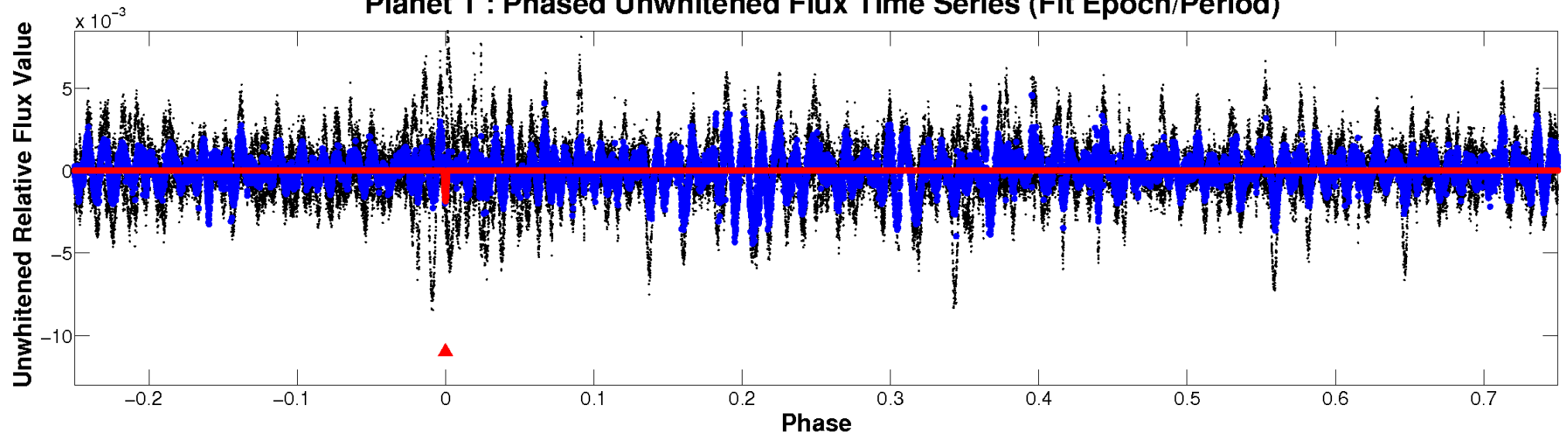
ALT Odd/Even

TCE 010339093-01

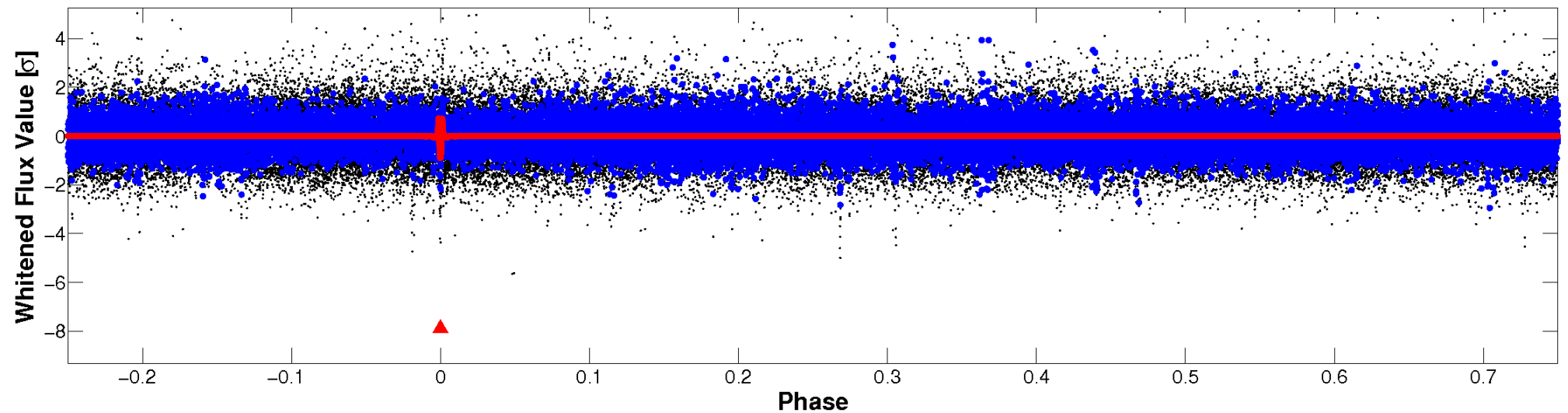


Non-Whitened Vs. Whitened Light Curve

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

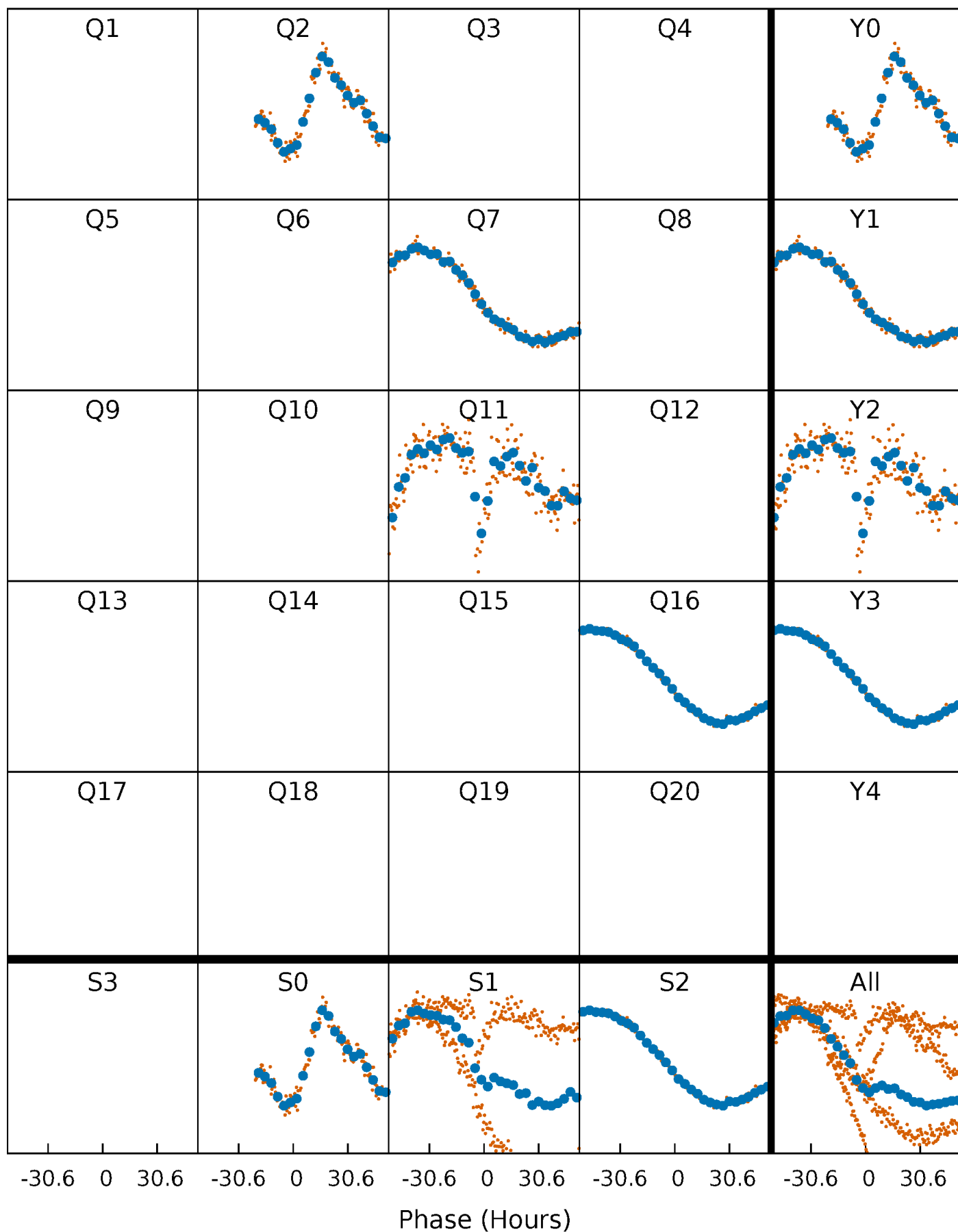


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



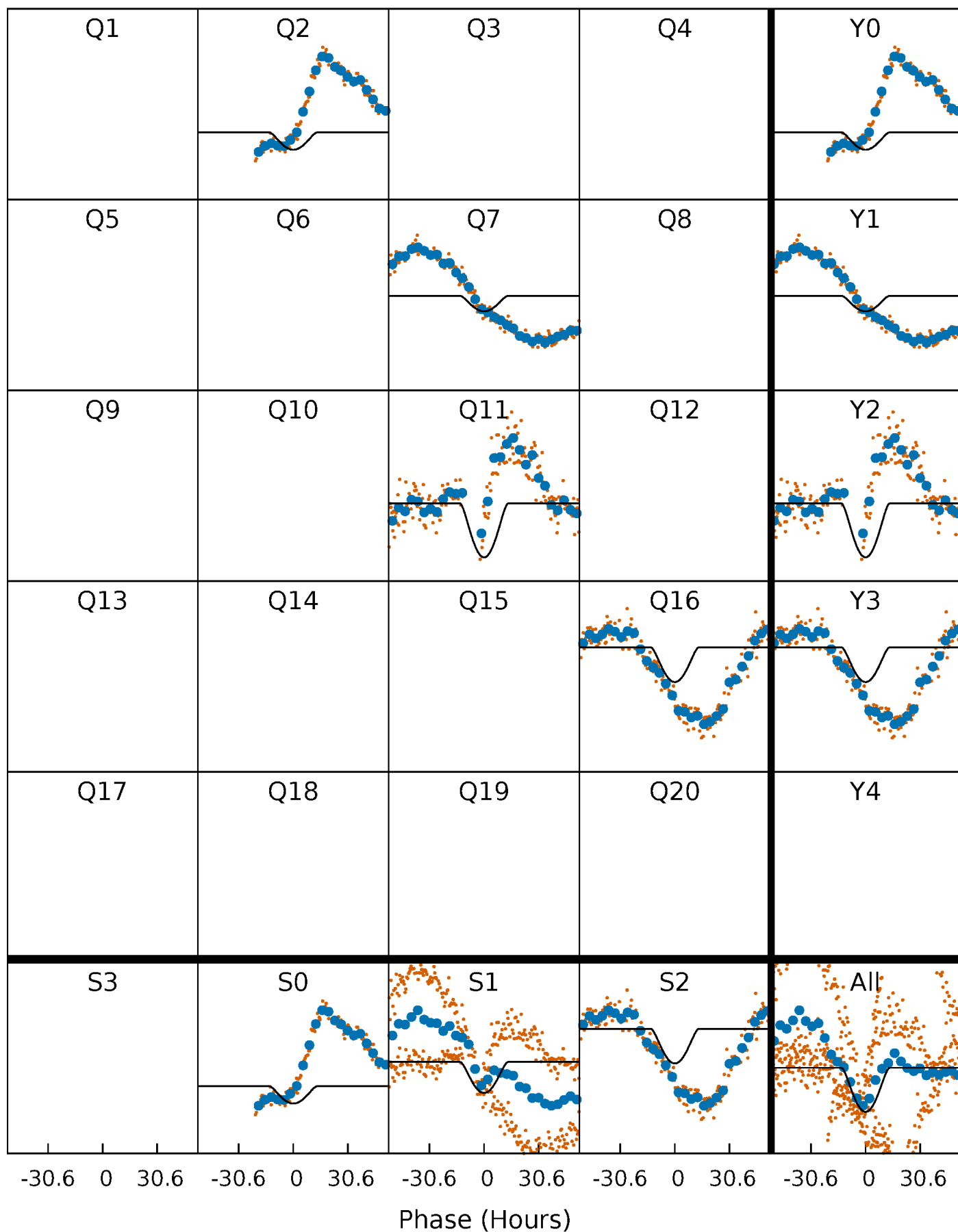
PDC Quarter-Phased Transit Curves

TCE 010339093-01 P=454.606664 Days $T_0=184.606983$ (BKJD)



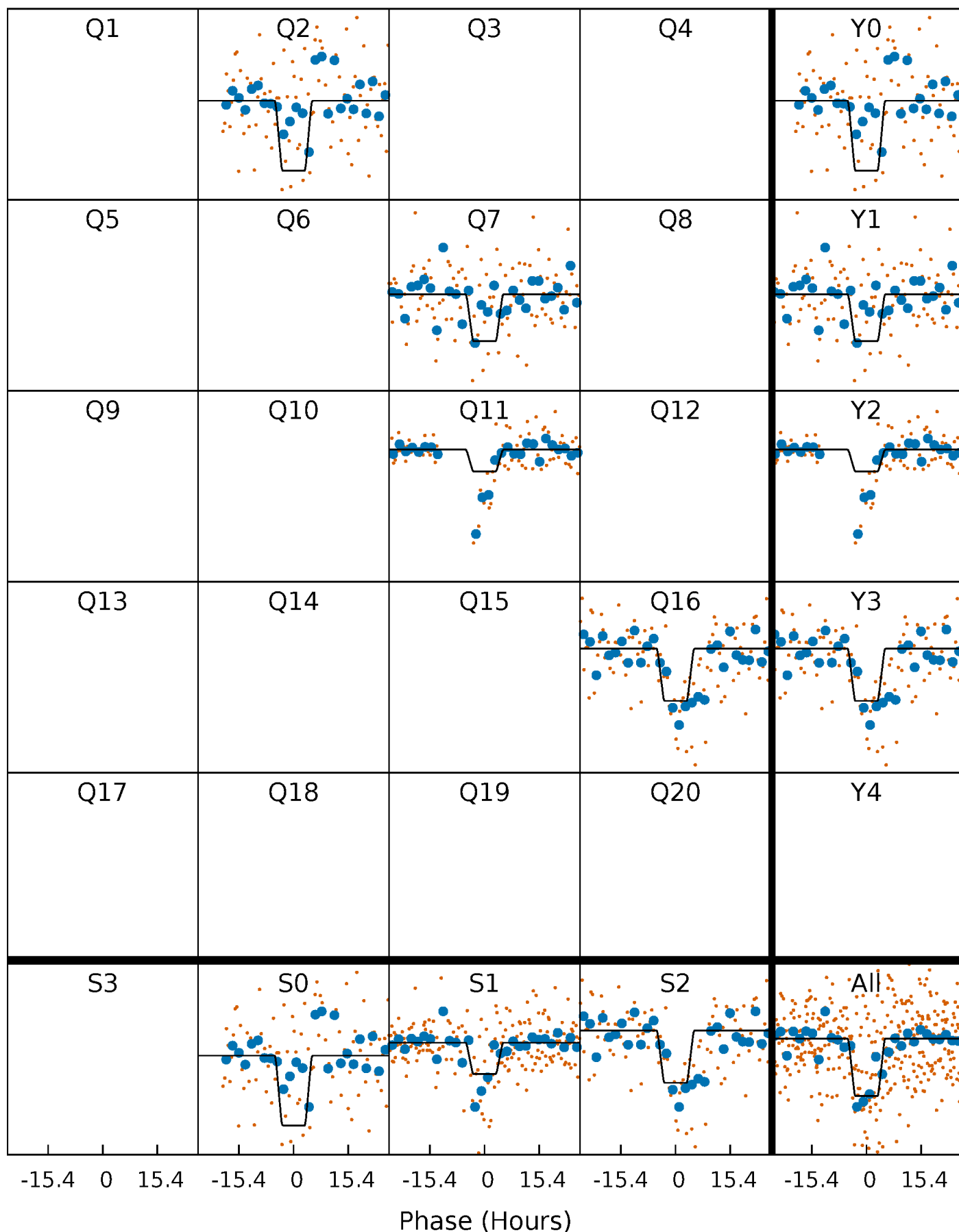
DV Quarter-Phased Transit Curves

TCE 010339093-01 P=454.606664 Days $T_0=184.606983$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

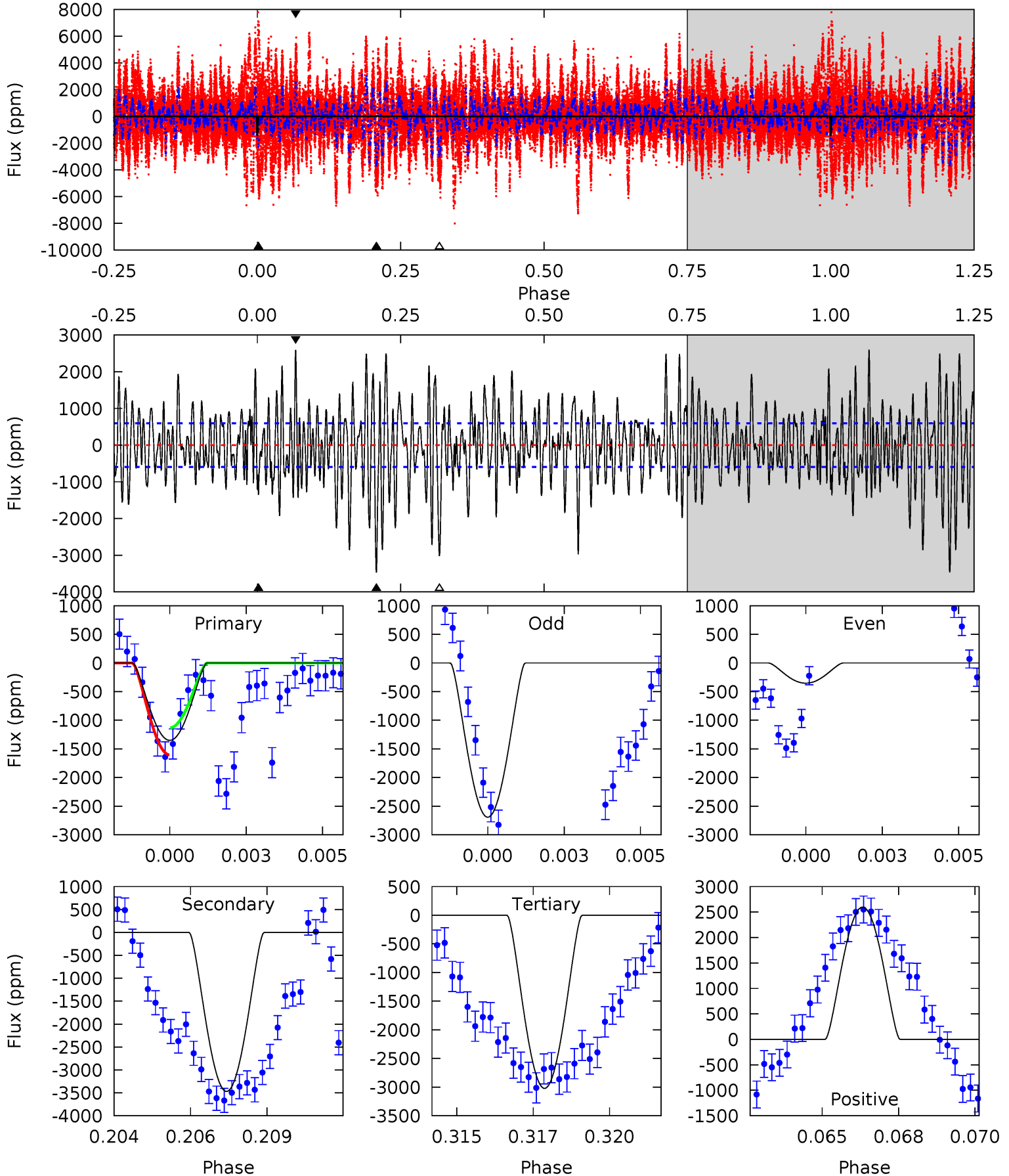
TCE 010339093-01 P=454.653521 Days $T_0=184.551201$ (BKJD)



DV Model-Shift Uniqueness Test

010339093-01, P = 454.606664 Days, E = 184.606983 Days

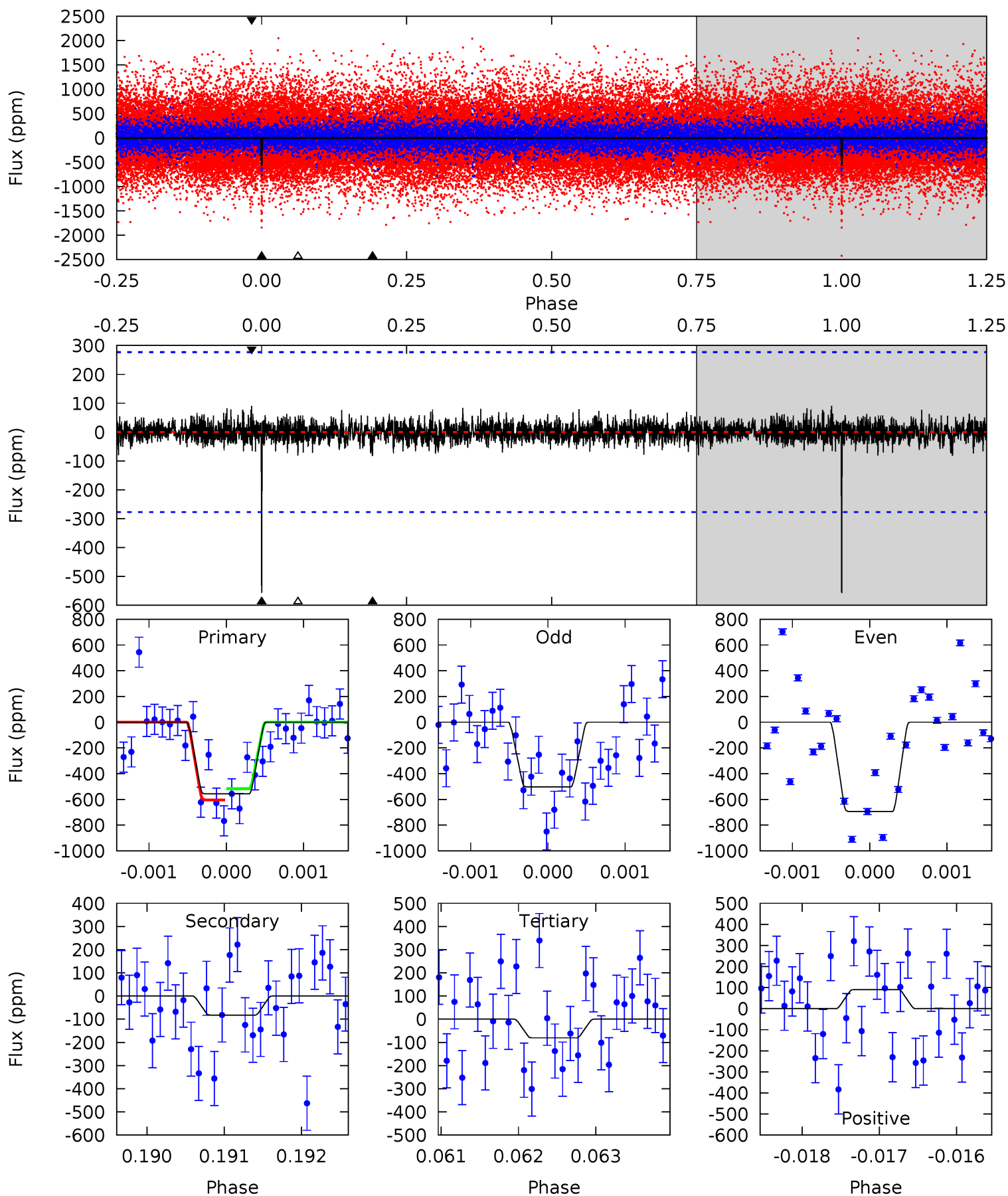
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	30.7	26.7	23.0	5.28	3.02	7.78	-14.8	-11.0	3.96	7.72	10.1	1.42	0.43	2.12



Alt Model-Shift Uniqueness Test

010339093-01, P = 454.653521 Days, E = 184.551201 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	1.62	1.59	1.78	5.46	3.30	0.43	9.38	9.19	0.03	-0.16	1.88	1.33	0.14	0.85



Stellar Parameters For KIC 010339093

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5256^{+158}_{-158}	$4.608^{+0.036}_{-0.096}$	$-0.220^{+0.300}_{-0.300}$	$0.741^{+0.112}_{-0.060}$	$0.820^{+0.070}_{-0.093}$	$2.840^{+0.484}_{-0.818}$
	+3%/-3%	+1%/-2%	+136%/-136%	+15%/-8%	+9%/-11%	+17%/-29%
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 010339093-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3469 ± 113	$10.09^{+10.19}_{-6.82}$	271^{+11}_{-10}	3950^{+2430}_{-794}	$21728^{+183986}_{-16362}$
Alt.	-82 ± 51	$8.68^{+9.93}_{-5.95}$	271^{+11}_{-10}	2332^{+922}_{-387}	539^{+6057}_{-443}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

DV Centroid Data

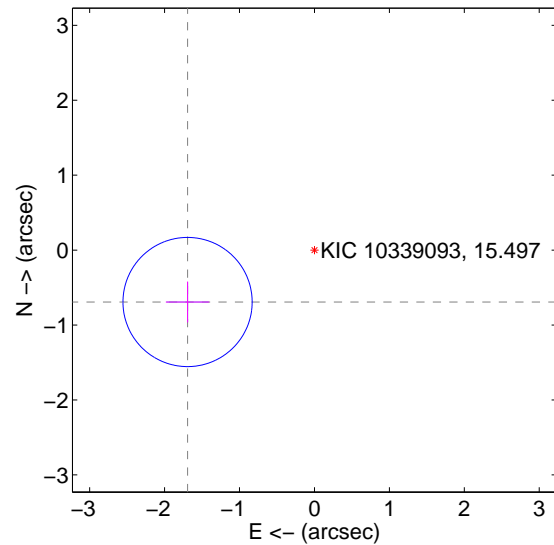
Supplemental centroid analysis for 010339093-01. Kepler magnitude: 15.50. Transit SNR 8.83

There are 1 quarters with good PRF difference image offsets

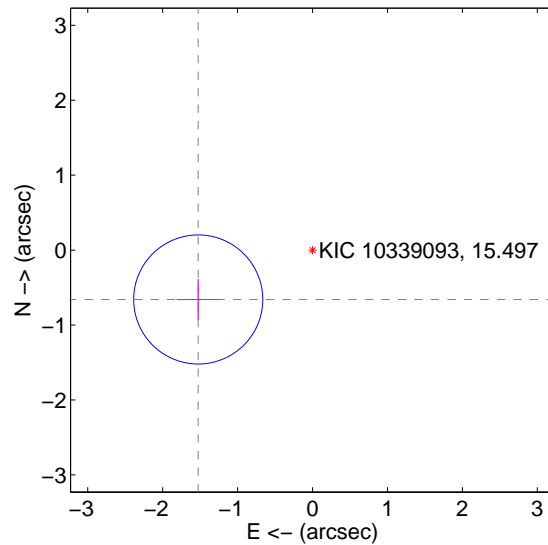
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.830 ± 0.287	6.37	1.693 ± 0.290	-0.693 ± 0.273
PRF-fit source offset from KIC position	1.662 ± 0.287	5.79	1.526 ± 0.290	-0.659 ± 0.273
photometric centroid source offset	0.59 ± 0.64	0.92	0.58 ± 0.64	0.08 ± 0.60

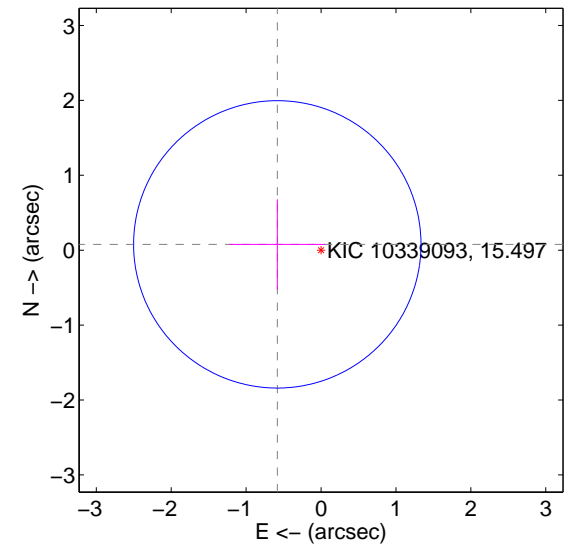
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

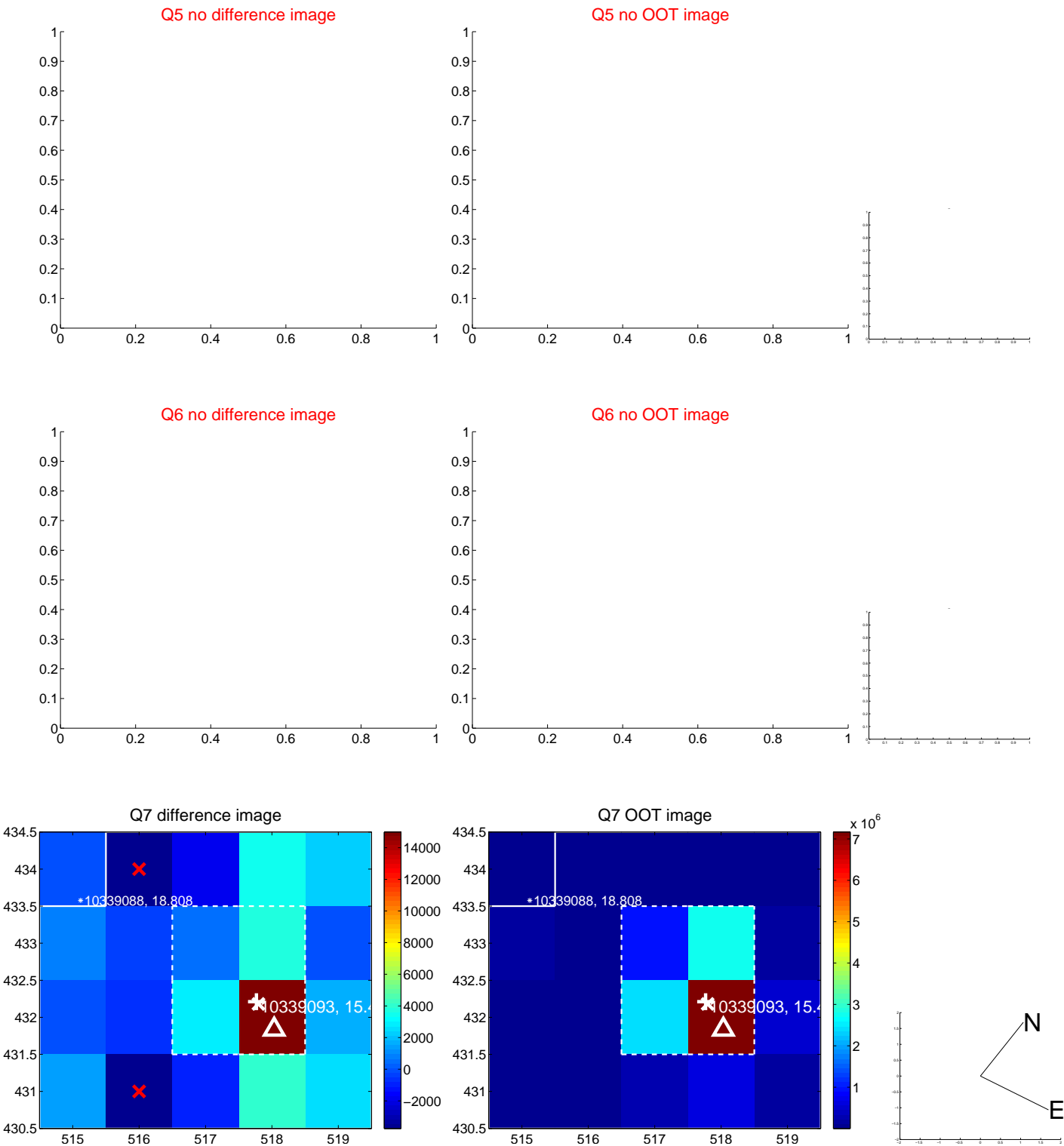


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



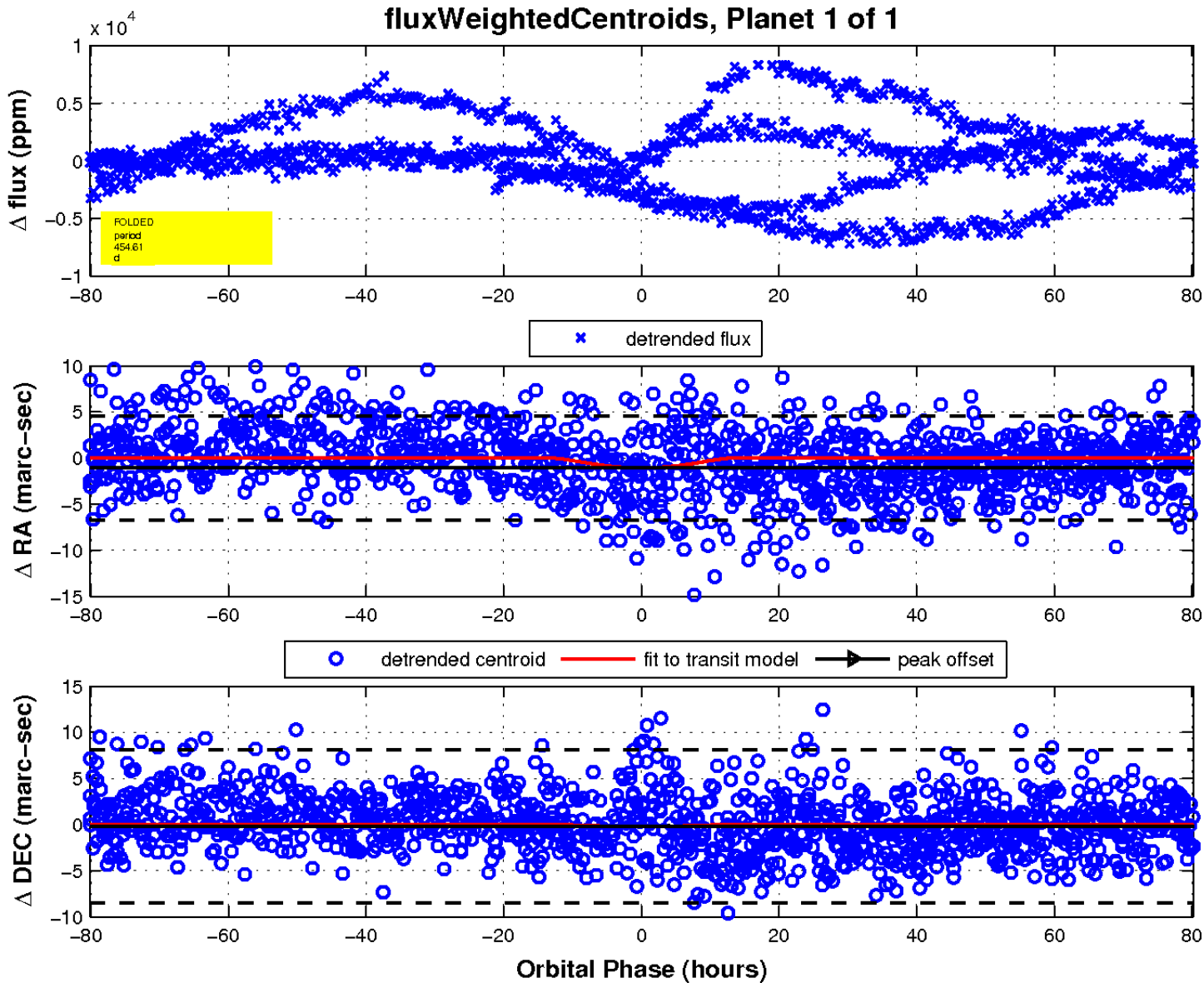
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Q17 no difference image

Q17 no OOT image



UKIRT Image

Declination

