

KIC 009026393

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})
009026393-01	OBS	No	424.558329	231.156216	108.1	19.349	7.9	6.5	1.25	6191	1.43	1.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009026393-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

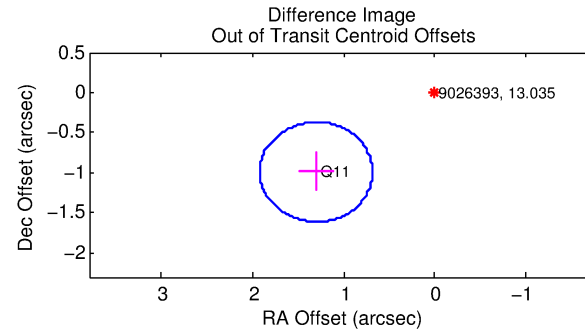
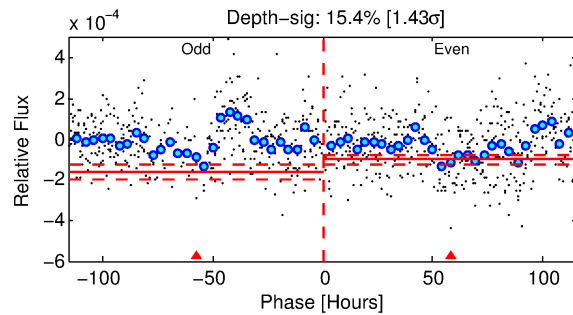
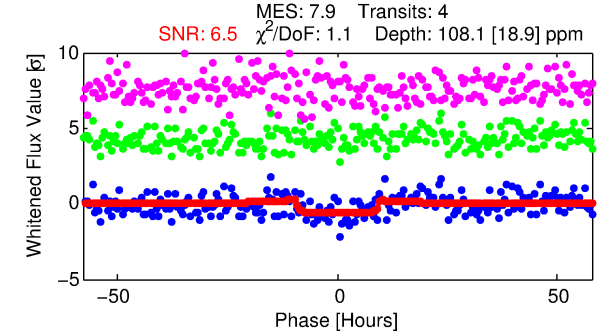
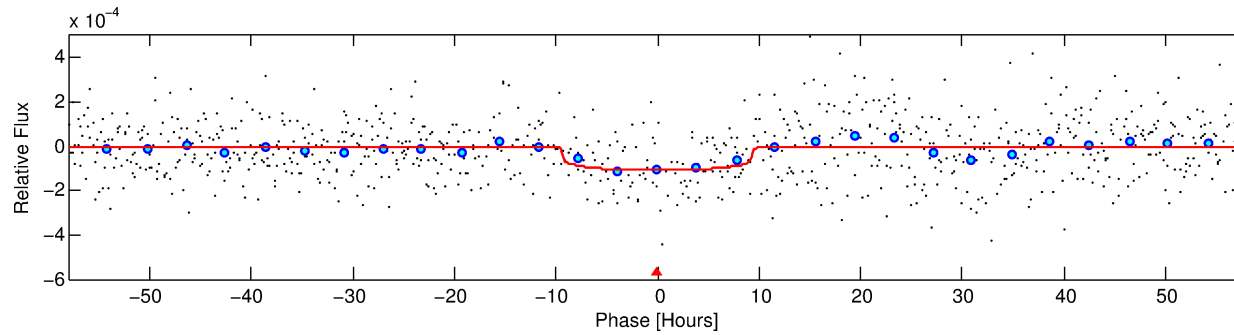
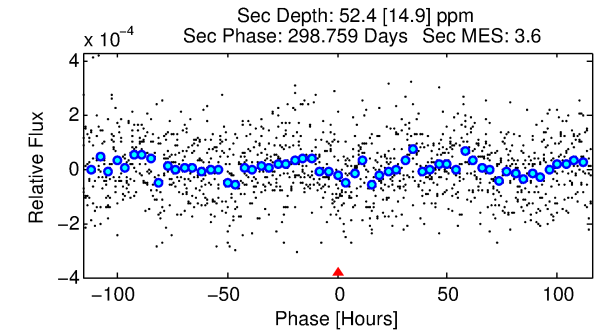
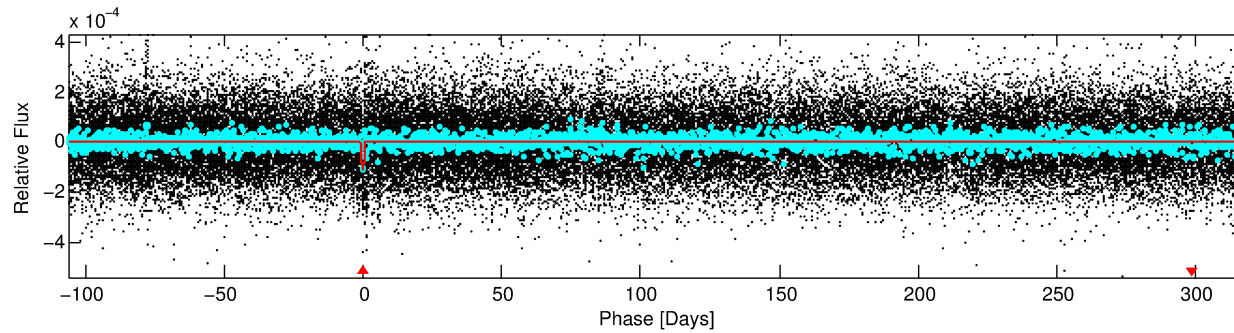
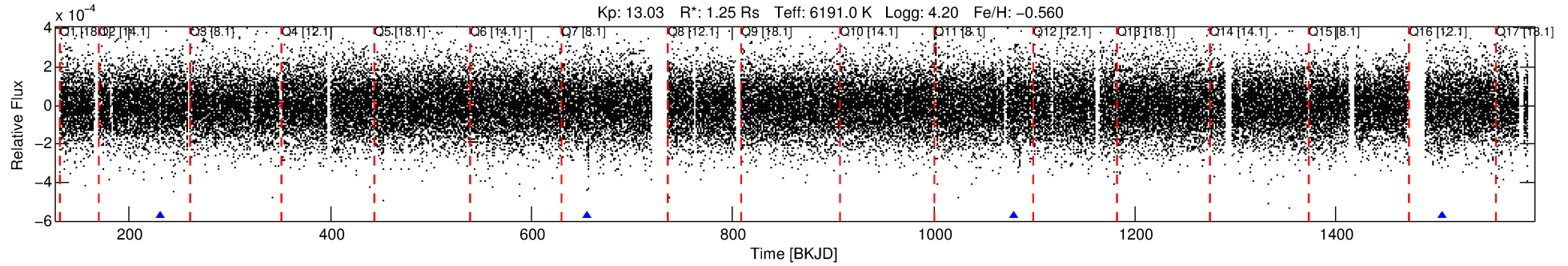
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009026393-01

No Significant Match Found

DV One-Page Summary

KIC: 9026393 Candidate: 1 of 1 Period: 424.558 d



DV Fit Results:

Period = 424.55833 [0.01699] d
Epoch = 231.1562 [0.0381] BKJD
Rp/R* = 0.0105 [0.0033]
a/R* = 106.04 [173.30]
b = 0.79 [0.79]
Seff = 1.81 [0.72]
Teq = 296 [30] K
Rp = 1.43 [0.57] Re
a = 1.0703 [0.2538] AU
Ag = 16078.10 [12762.80] [1.26σ]
Teffp = 5147 [904] K [5.36σ]

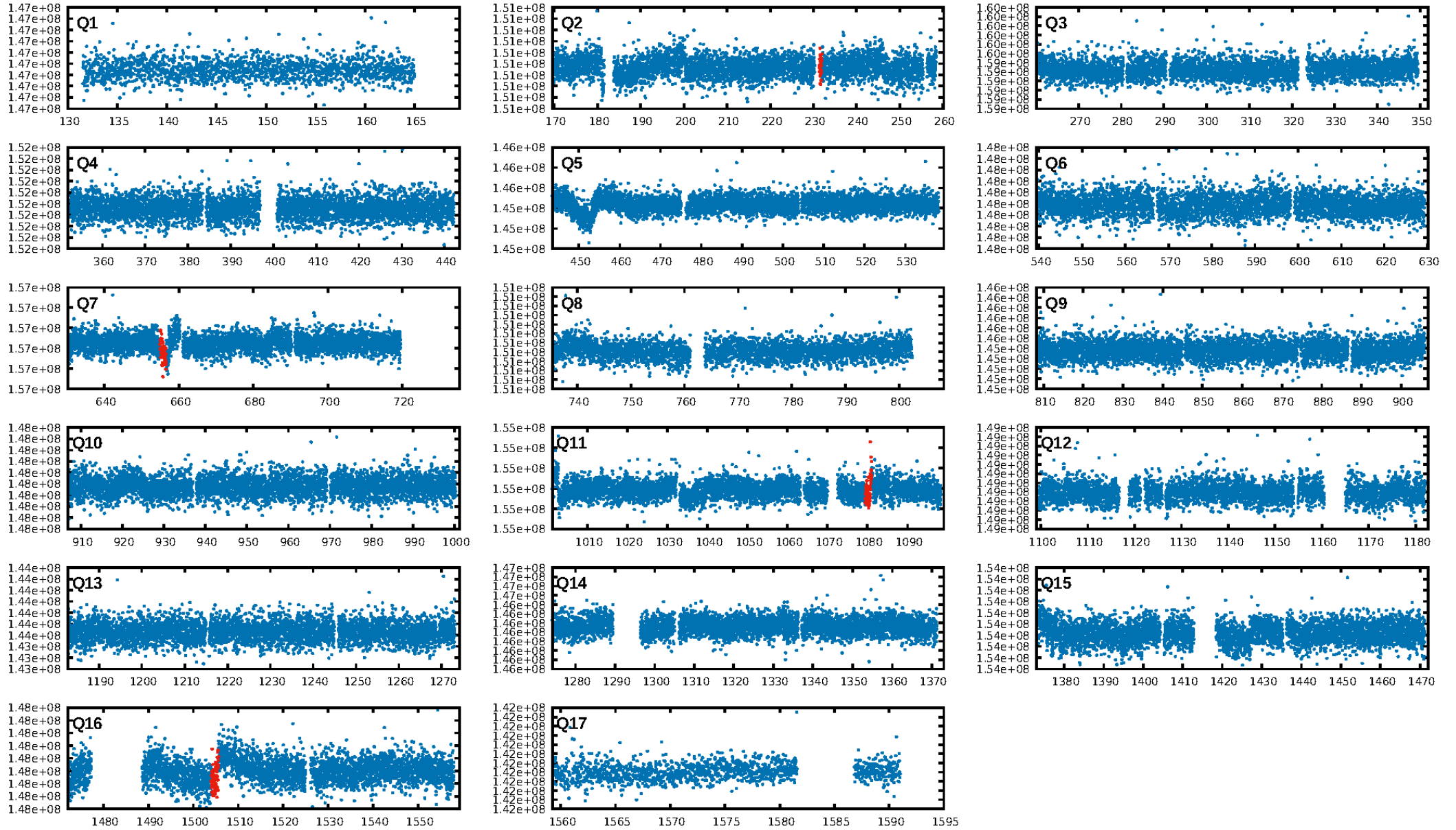
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 50.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.83e-08
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.821
Centroid-sig: 8.5%
Centroid-so: 2.856 arcsec [1.77σ]
OotOffset-rm: 1.636 arcsec [7.90σ]
KicOffset-rm: 1.876 arcsec [8.94σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

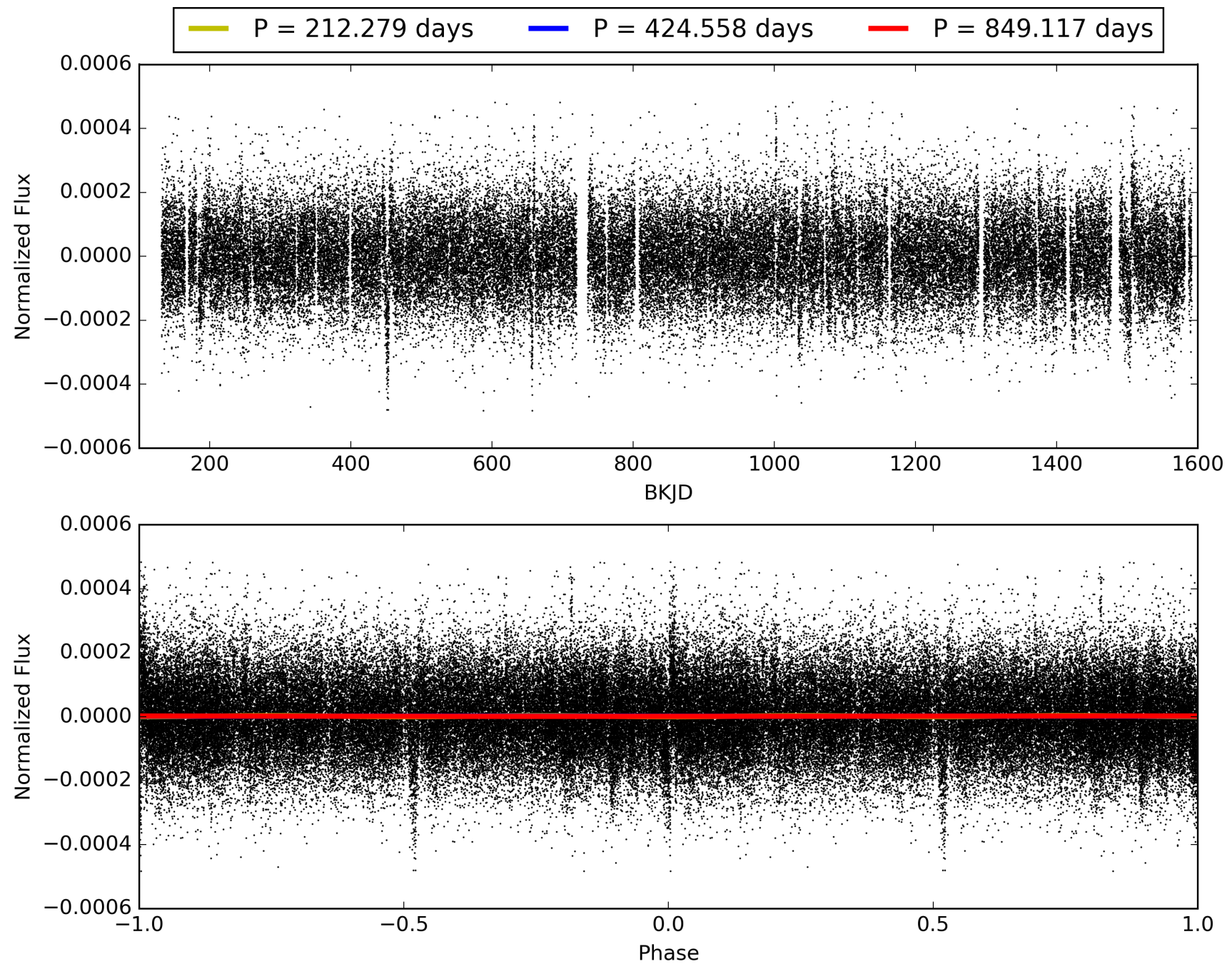
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:58:16 Z

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

TCE 009026393-01, PDC Light Curves

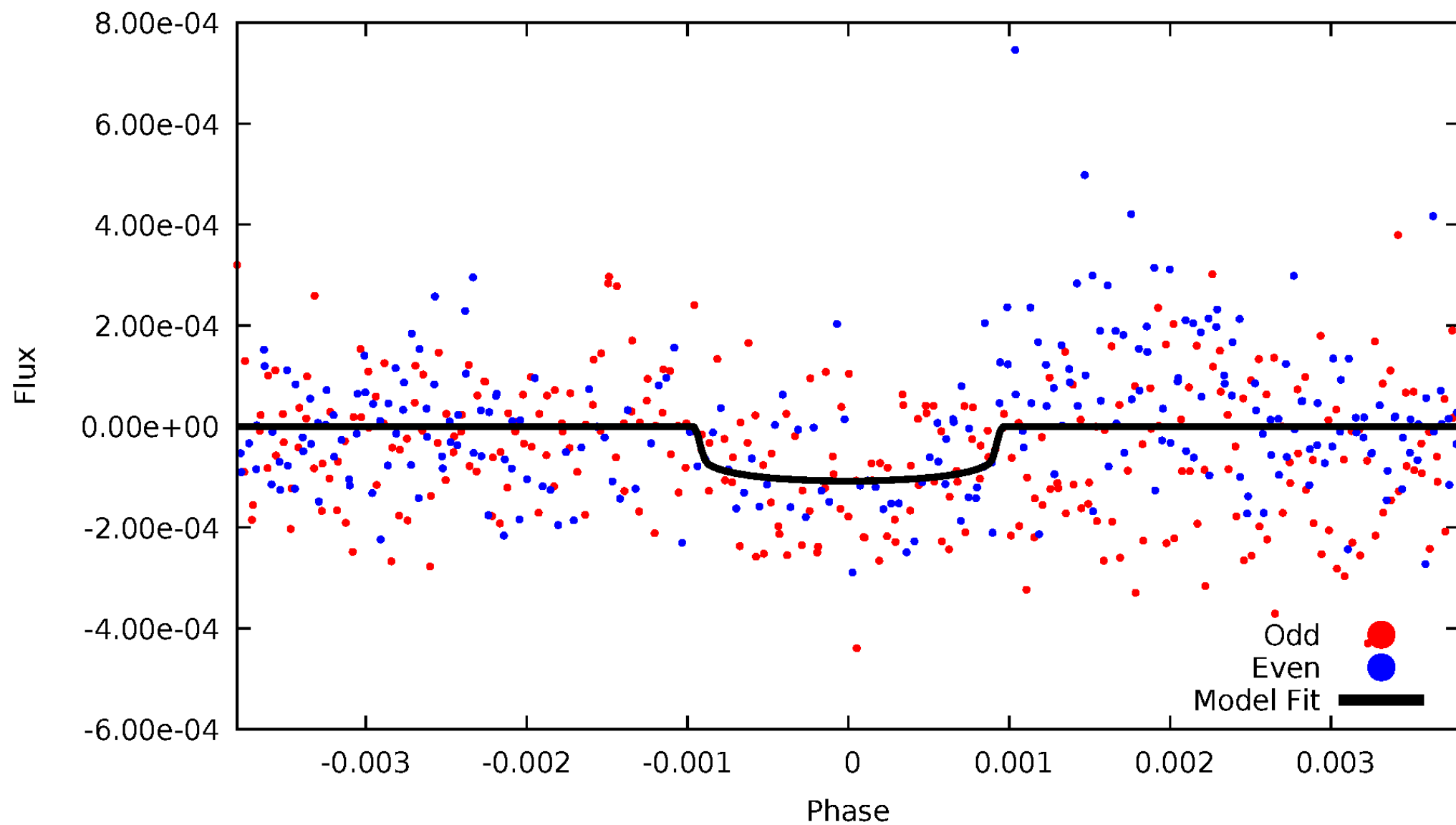


TCE 009026393-01



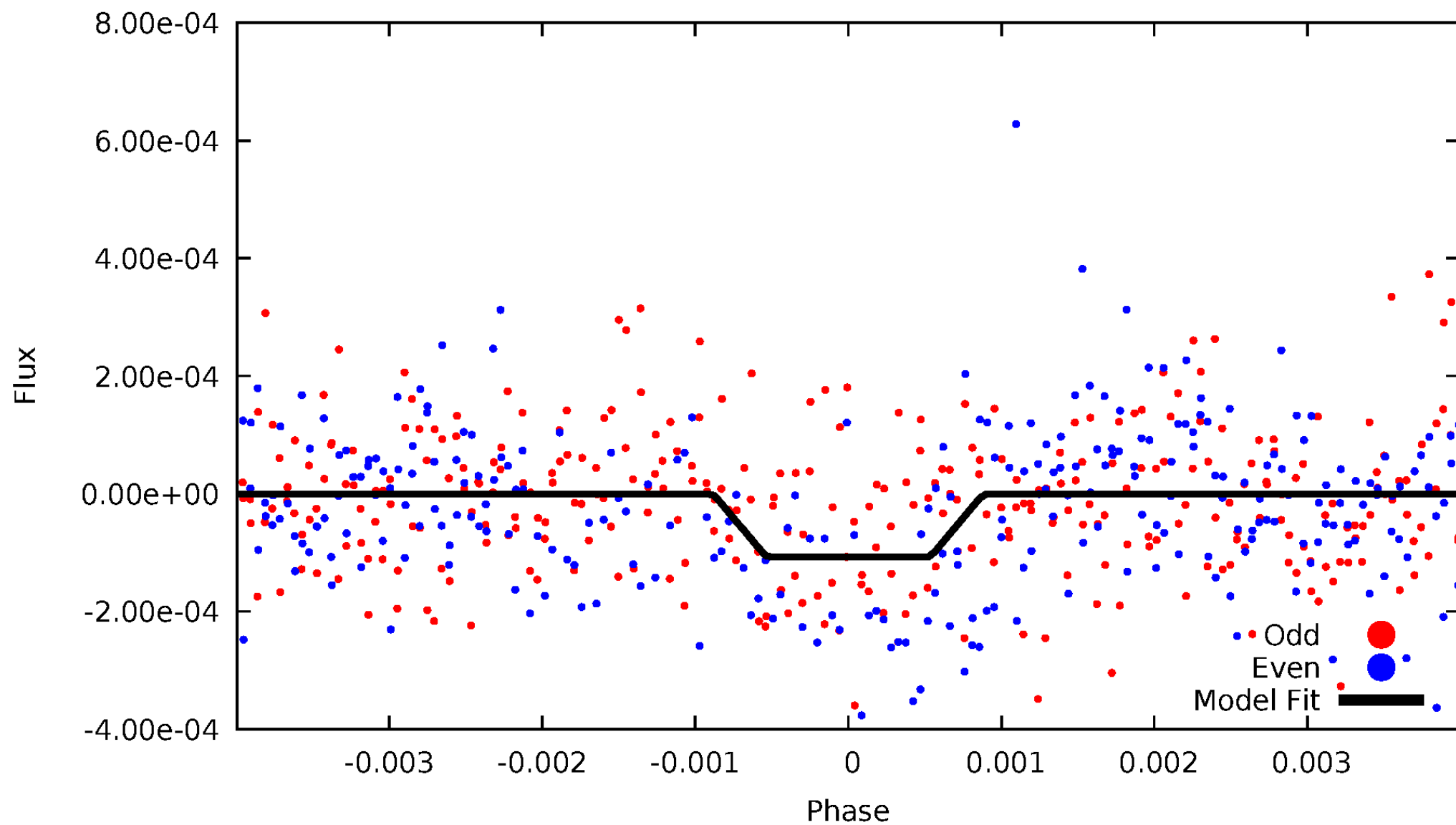
DV Odd/Even

TCE 009026393-01



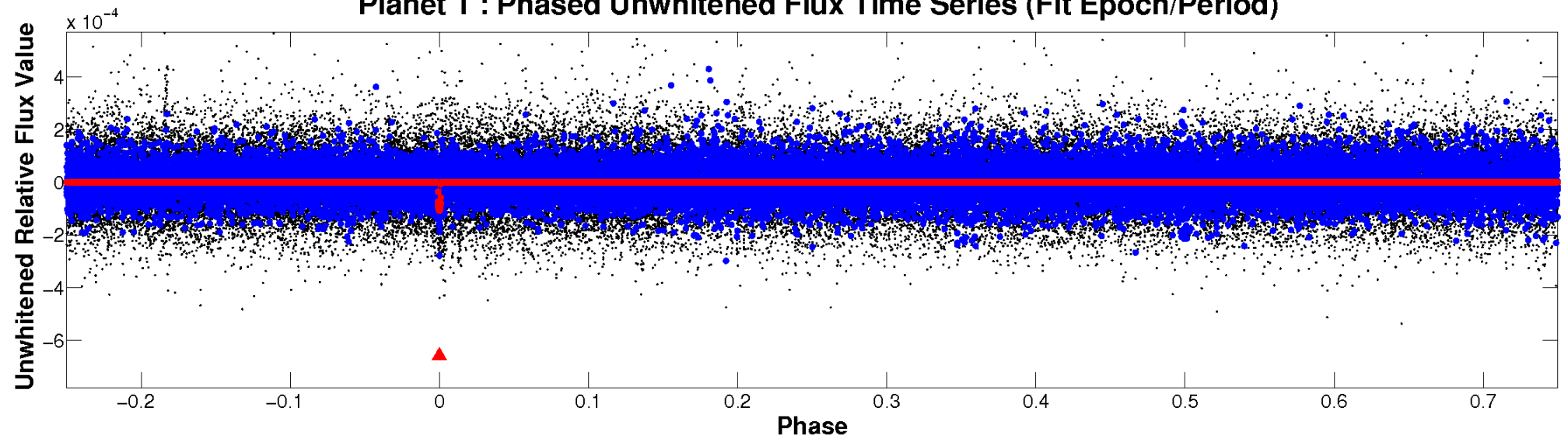
ALT Odd/Even

TCE 009026393-01

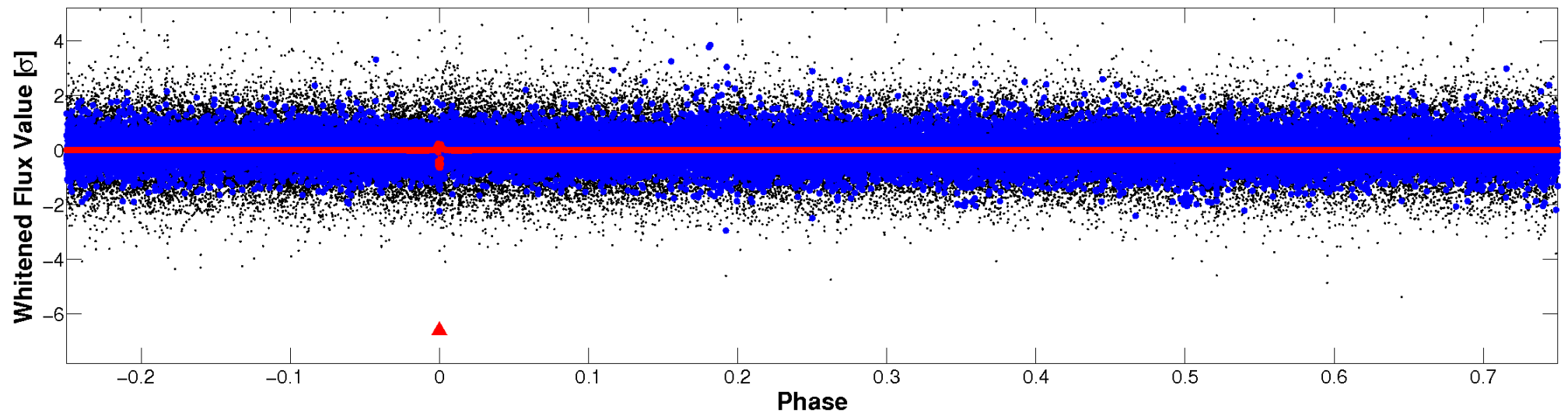


Non-Whitened Vs. Whitened Light Curve

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



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



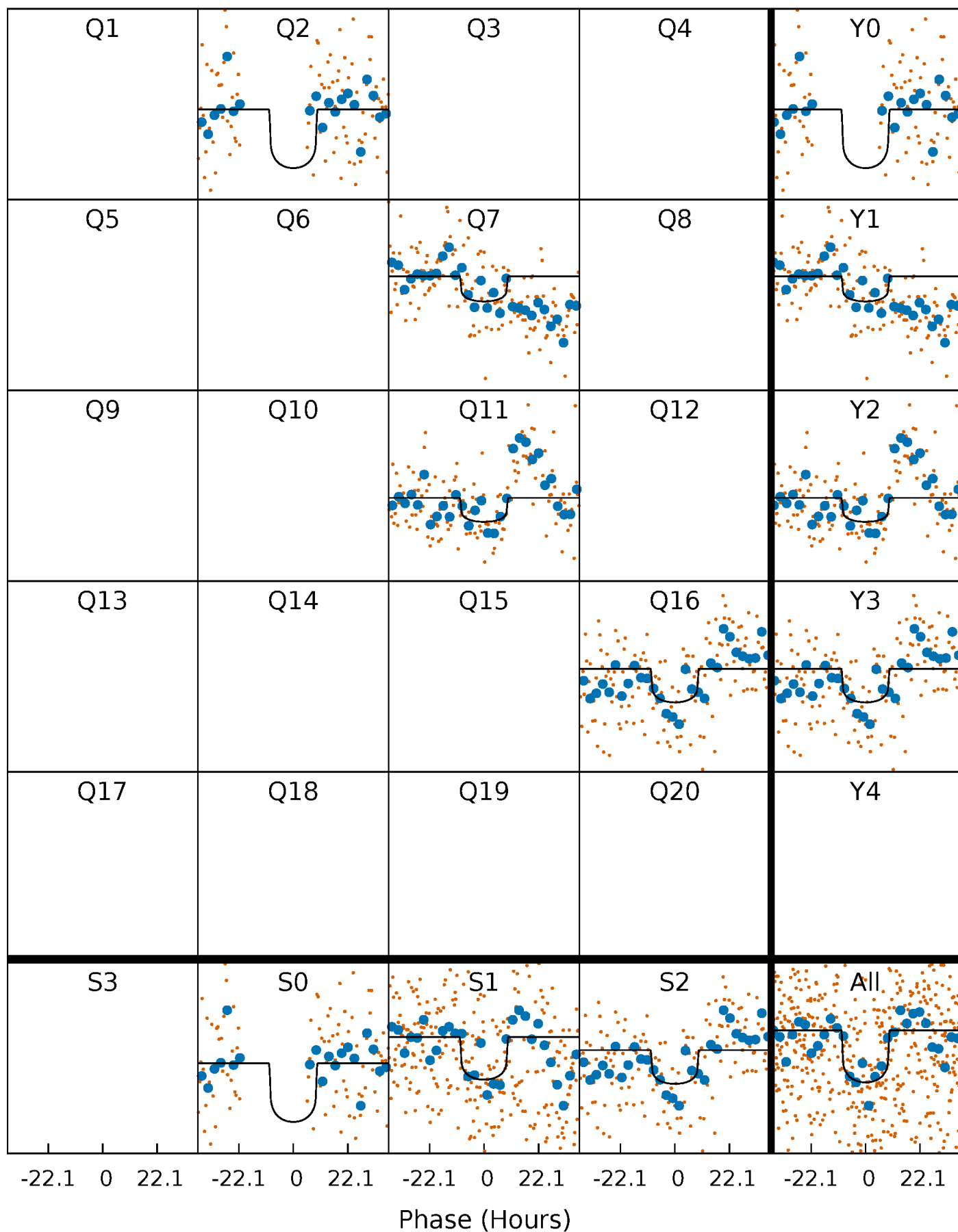
PDC Quarter-Phased Transit Curves

TCE 009026393-01 P=424.558329 Days $T_0=231.156216$ (BKJD)



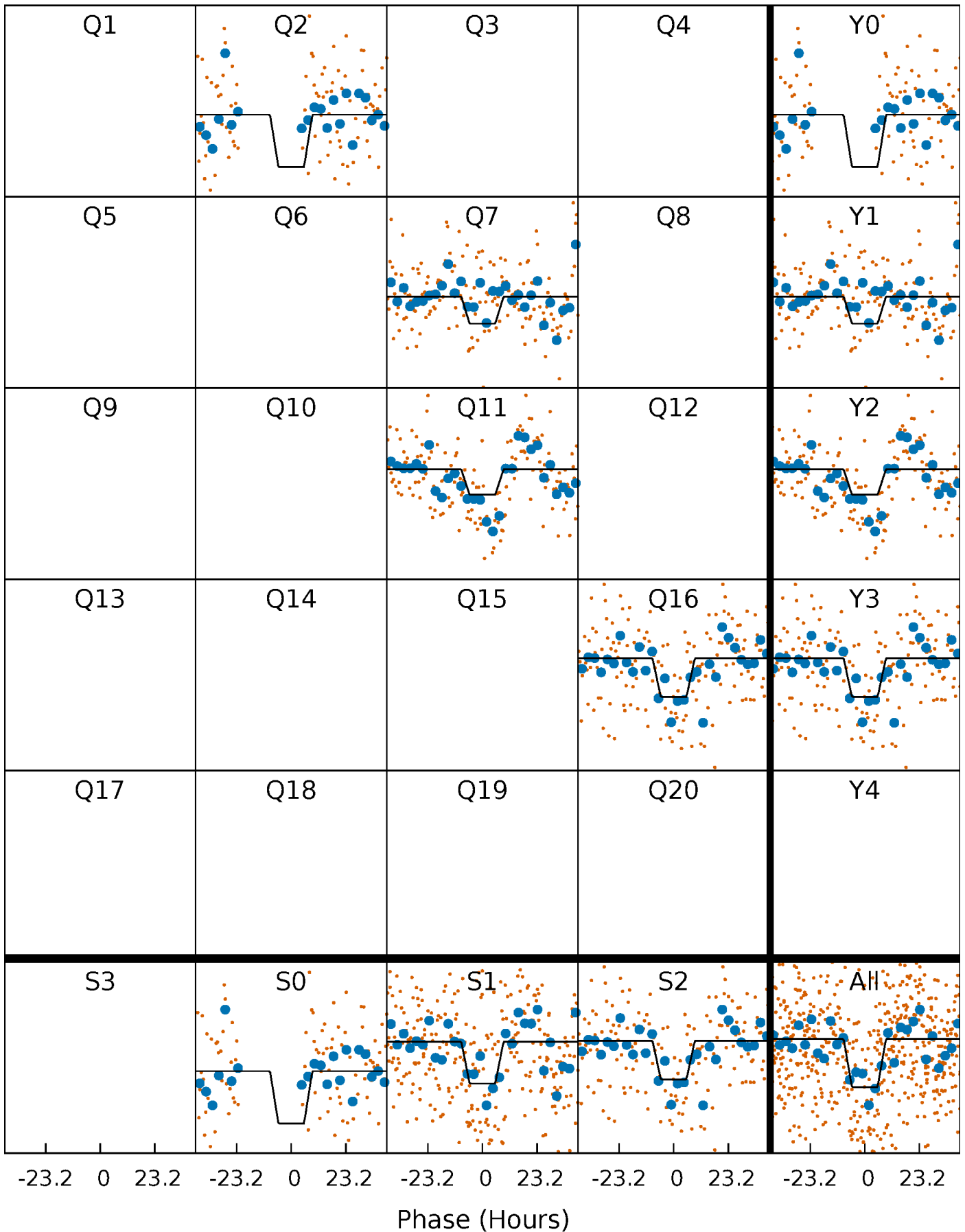
DV Quarter-Phased Transit Curves

TCE 009026393-01 P=424.558329 Days $T_0=231.156216$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

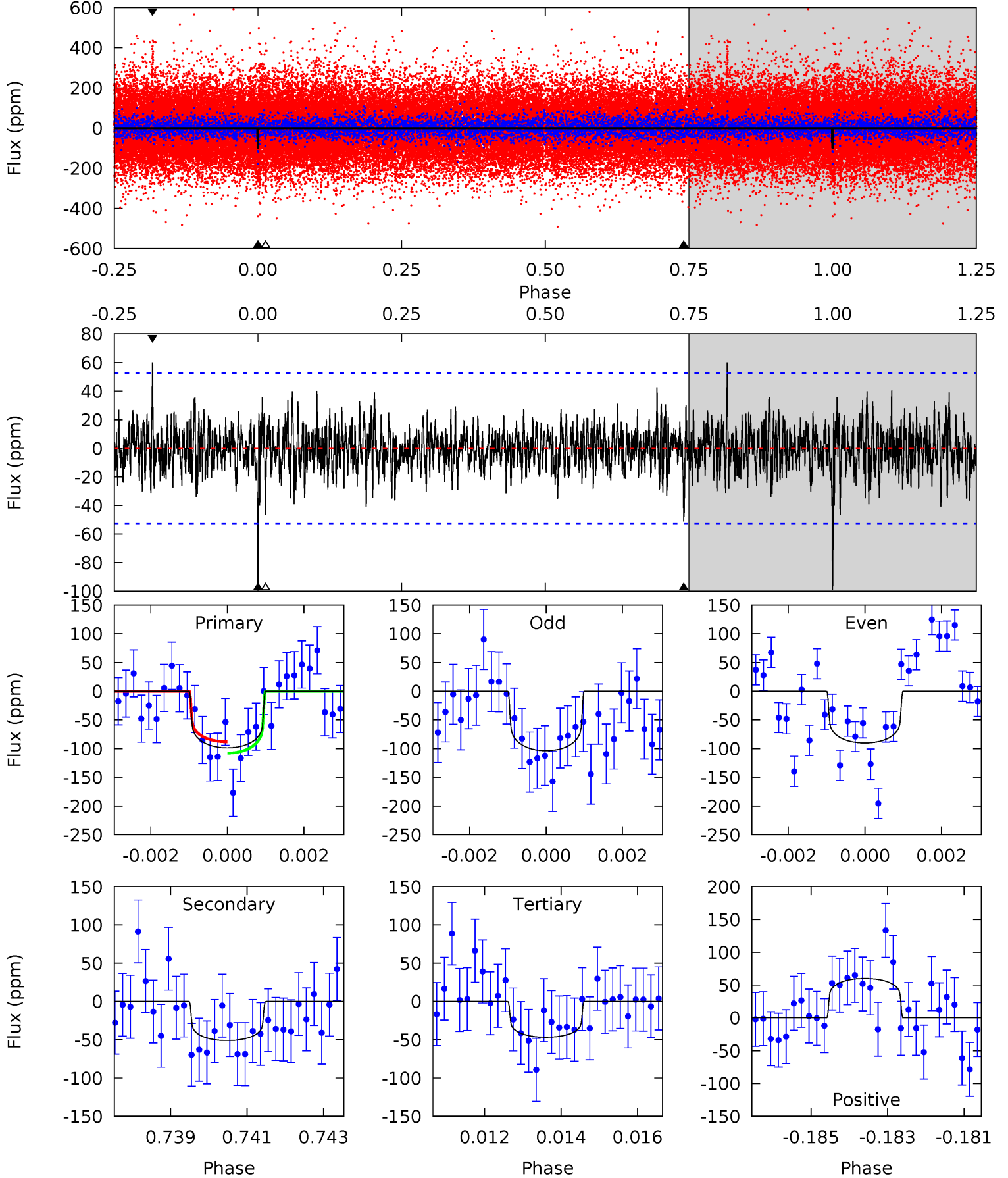
TCE 009026393-01 P=424.527643 Days $T_0=231.191752$ (BKJD)



DV Model-Shift Uniqueness Test

009026393-01, P = 424.558329 Days, E = 231.156216 Days

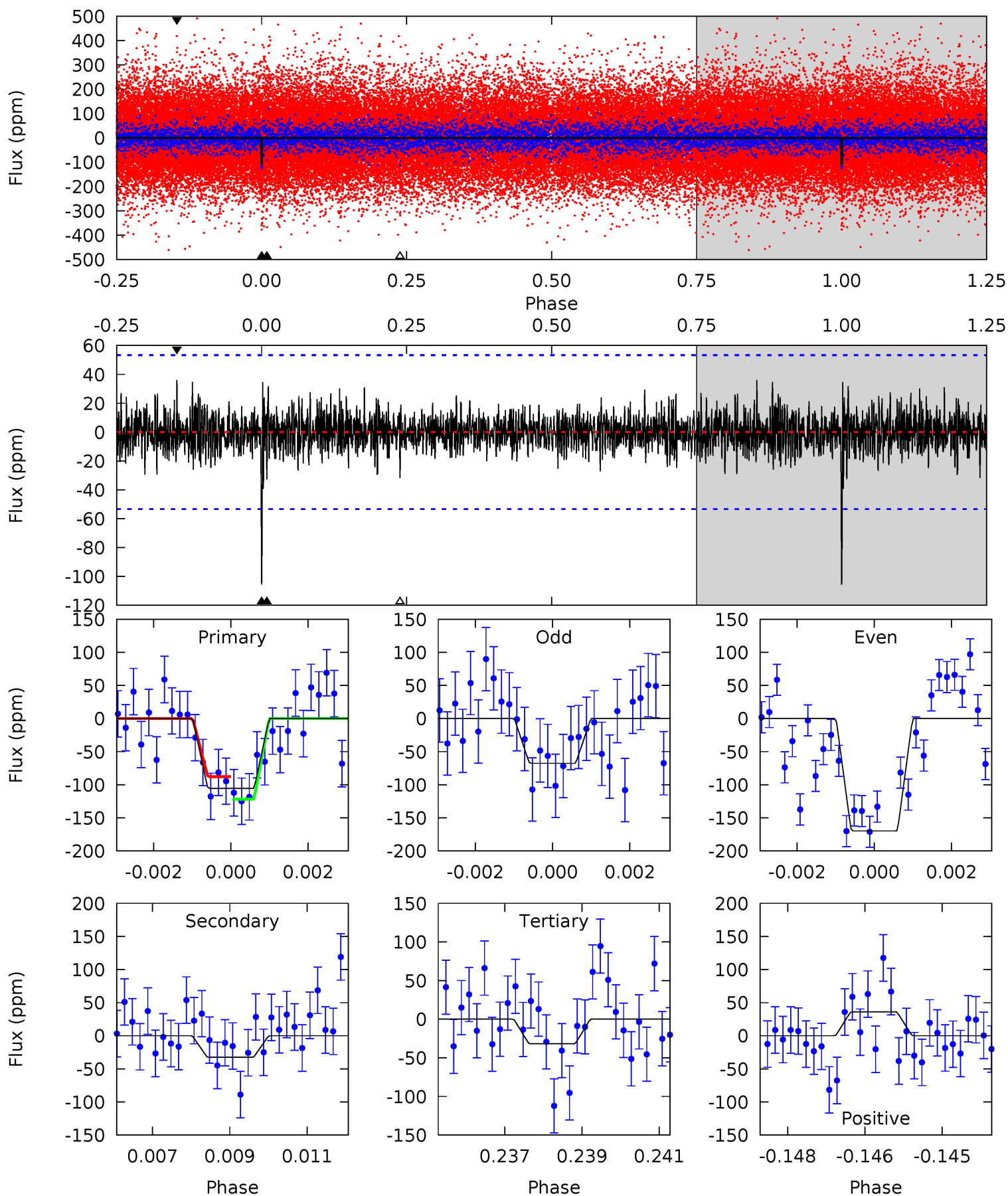
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	5.18	4.75	6.10	5.33	3.10	1.27	5.28	3.93	0.43	-0.92	0.67	0.82	0.38	1.00



Alt Model-Shift Uniqueness Test

009026393-01, P = 424.527643 Days, E = 231.191752 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	3.27	3.19	3.61	5.35	3.12	0.93	7.40	6.98	0.08	-0.34	4.99	1.25	0.25	1.70



Stellar Parameters For KIC 009026393

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6191^{+167}_{-167}	$4.199^{+0.228}_{-0.123}$	$-0.560^{+0.300}_{-0.250}$	$1.254^{+0.246}_{-0.301}$	$0.905^{+0.131}_{-0.087}$	$0.647^{+0.759}_{-0.265}$
	+3%/-3%	+5%/-3%	+54%/-45%	+20%/-24%	+14%/-10%	+117%/-41%
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 009026393-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-51 ± 10	$1.42^{+0.50}_{-0.50}$	409^{+26}_{-29}	5198^{+1053}_{-626}	16914^{+22026}_{-8371}
Alt.	-33 ± 10	$1.40^{+0.48}_{-0.47}$	407^{+26}_{-26}	4720^{+911}_{-603}	10548^{+15231}_{-5465}

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 $A_{\text{obs}} \gg 1.0$

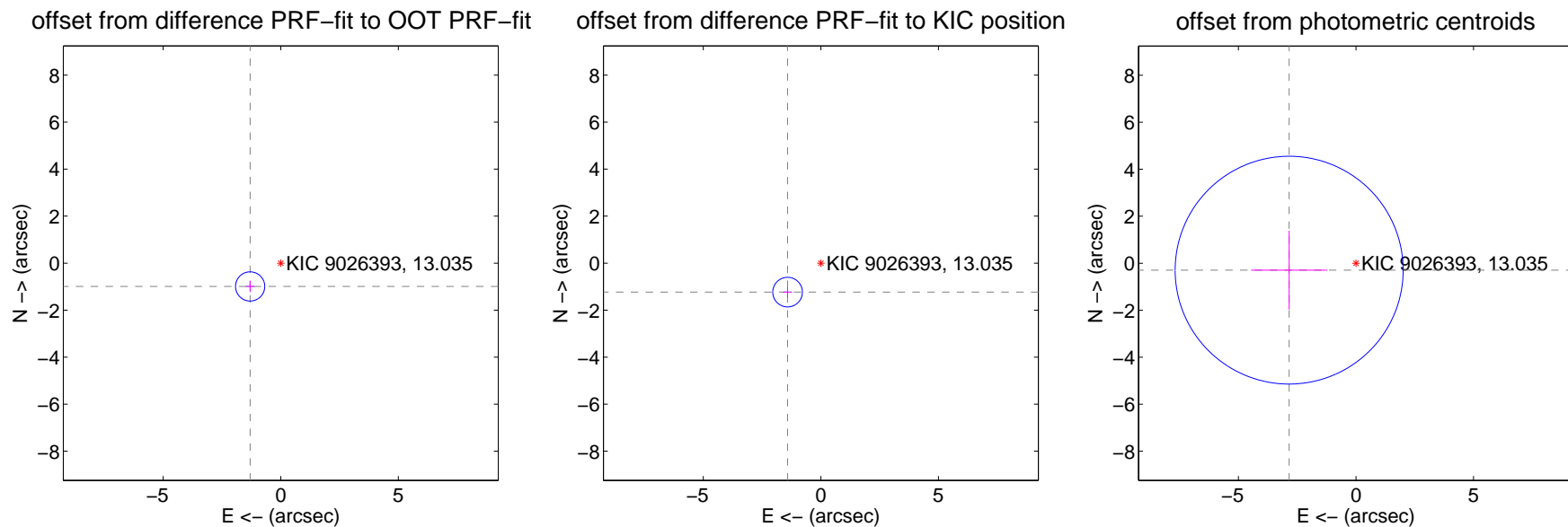
DV Centroid Data

Supplemental centroid analysis for 009026393-01. Kepler magnitude: 13.04. Transit SNR 6.55

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.636 ± 0.207	7.90	1.301 ± 0.189	-0.991 ± 0.235
PRF-fit source offset from KIC position	1.876 ± 0.210	8.94	1.415 ± 0.189	-1.233 ± 0.235
photometric centroid source offset	2.86 ± 1.62	1.77	2.84 ± 1.62	-0.30 ± 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.

Q5 no difference image



Q5 no OOT image



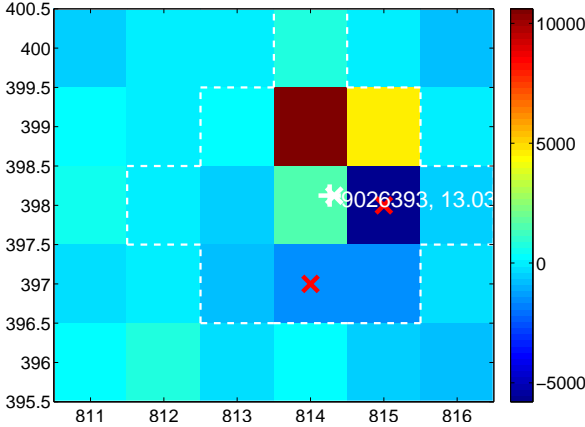
Q6 no difference image



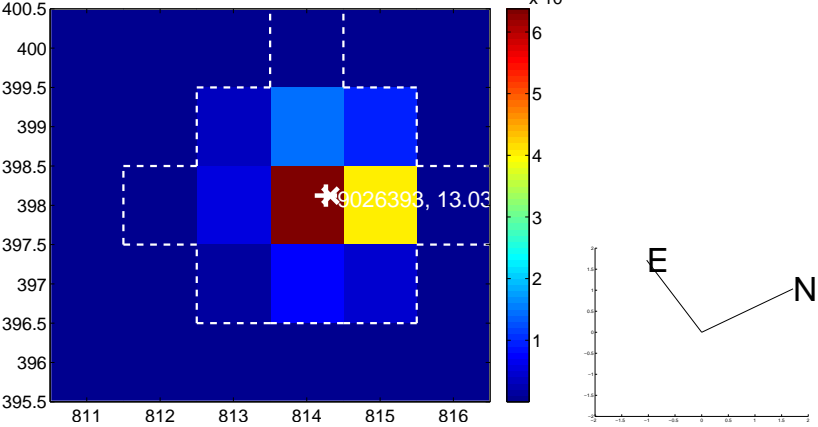
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



Q8 no OOT image



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

Q9 no difference image



Q9 no OOT image



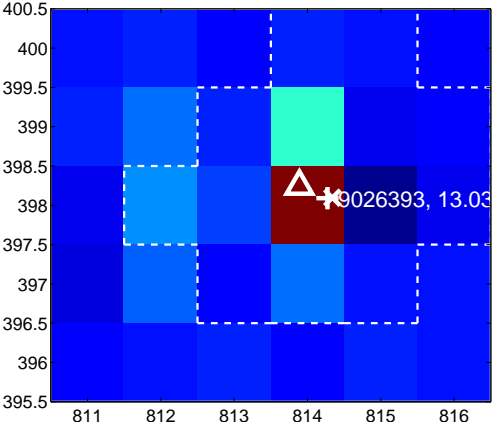
Q10 no difference image



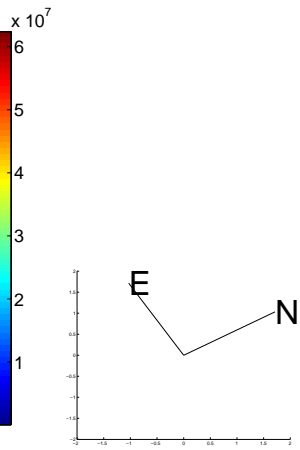
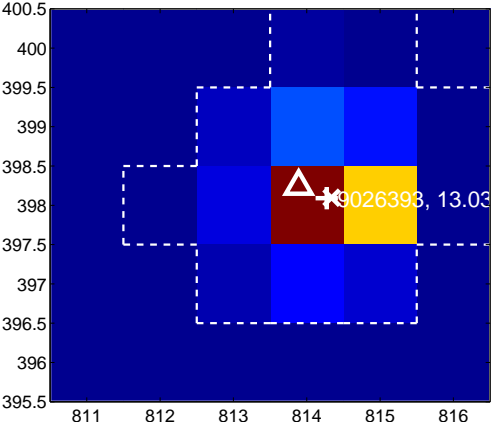
Q10 no OOT image



Q11 difference image



Q11 OOT image



Q12 no difference image



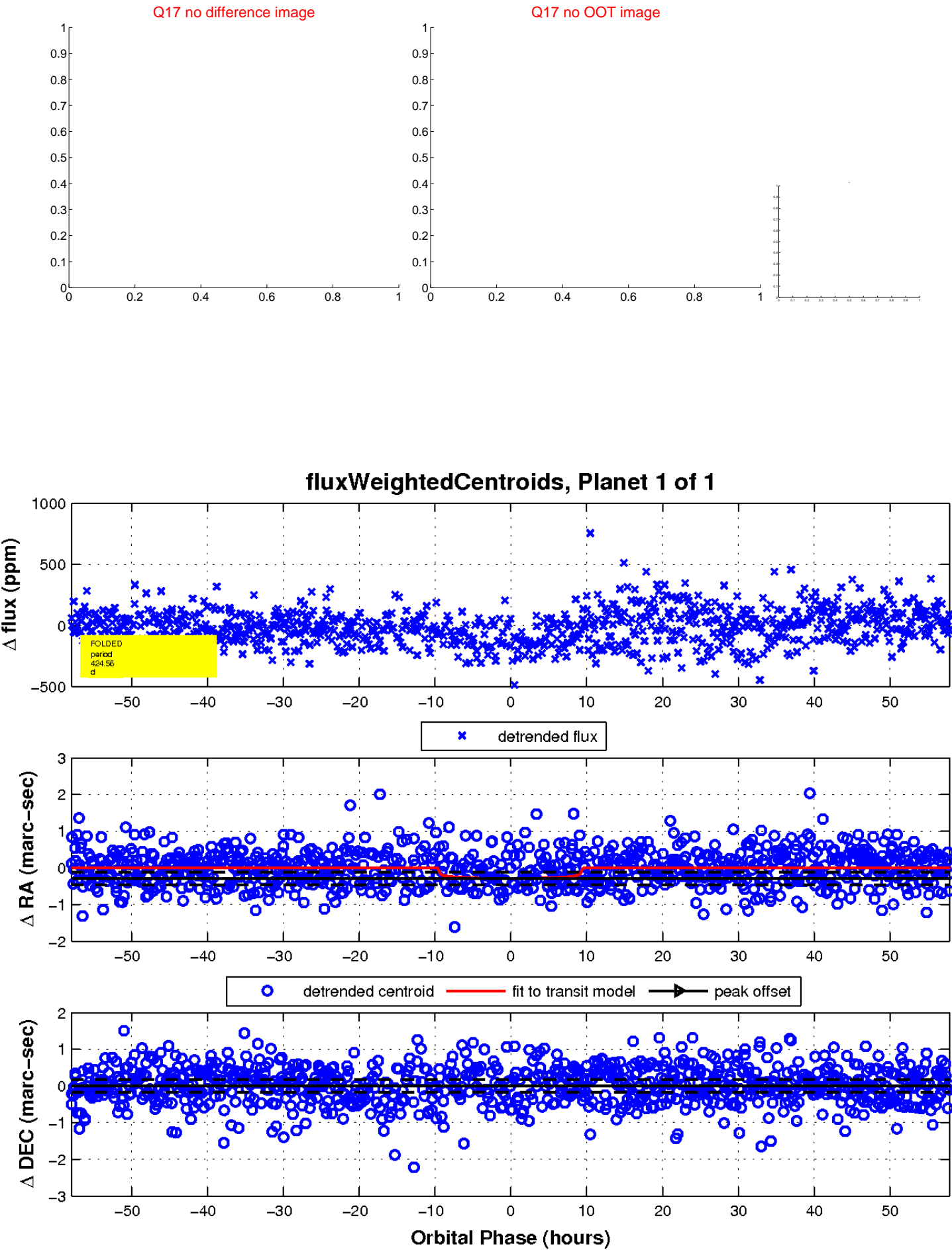
Q12 no OOT image



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

