

KIC 009933239

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})
009933239-01	OBS	No	253.180435	222.817386	43.1	13.865	13.6	10.5	2.89	8806	2.17	46.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009933239-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

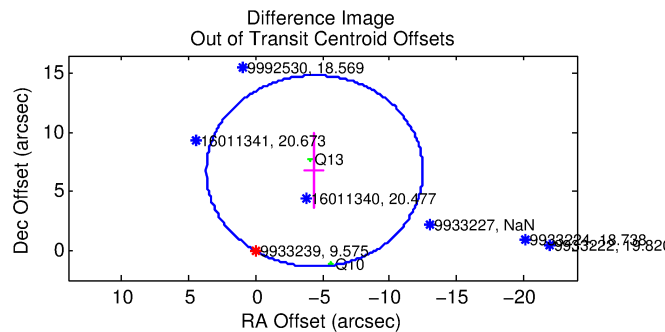
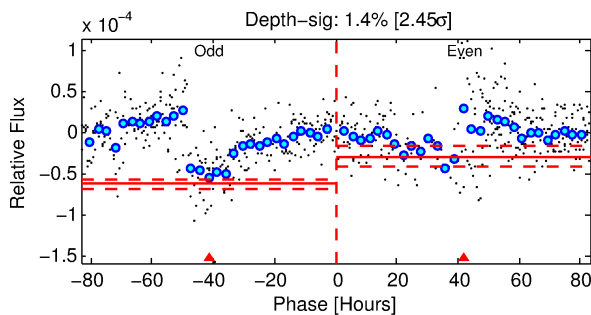
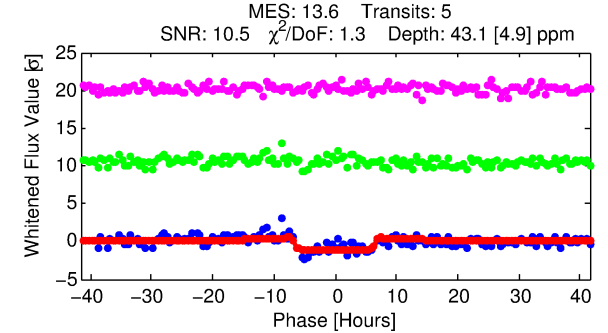
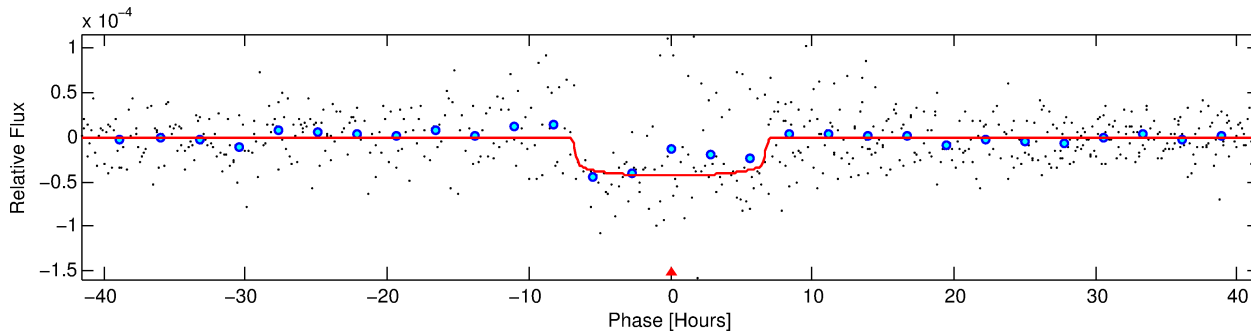
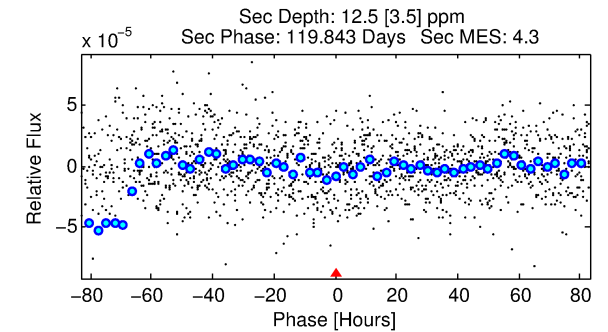
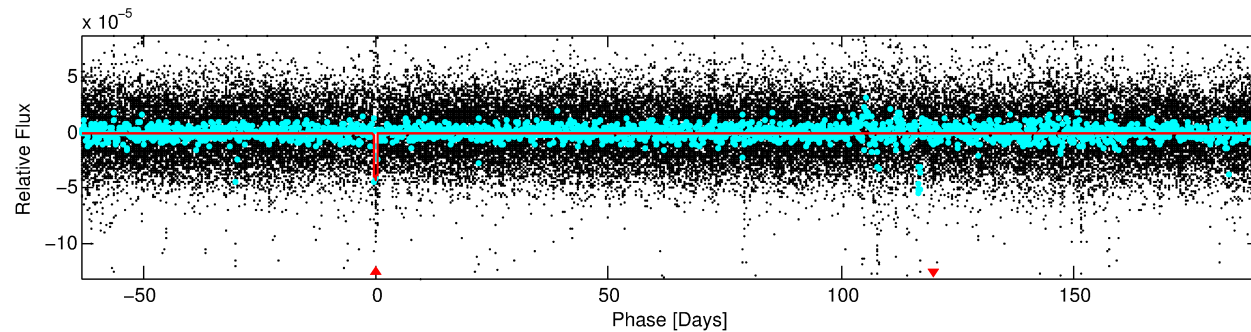
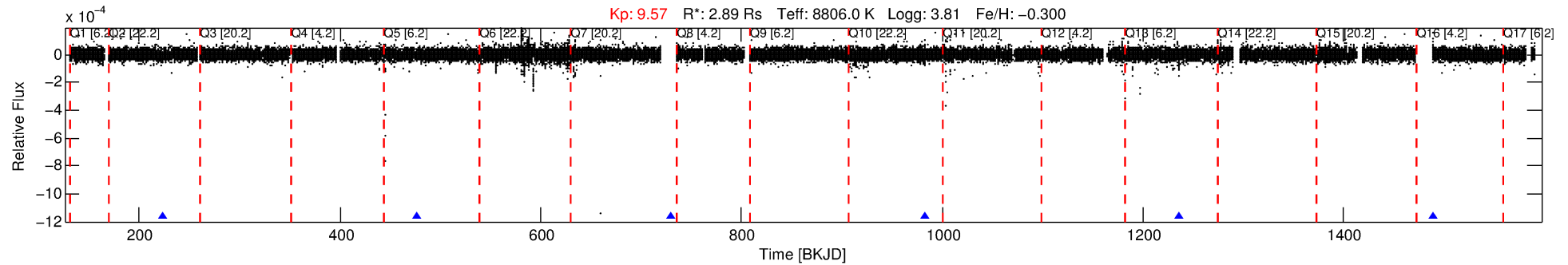
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009933239-01

No Significant Match Found

DV One-Page Summary

KIC: 9933239 Candidate: 1 of 1 Period: 253.180 d



DV Fit Results:

Period = 253.18043 [0.00412] d
Epoch = 222.8174 [0.0130] BKJD
Rp/R* = 0.0069 [0.0009]
a/R* = 67.02 [53.97]
b = 0.88 [0.20]
Seff = 46.63 [30.46]
Teq = 666 [109] K
Rp = 2.17 [0.92] Re
a = 0.9823 [0.3848] AU
Ag = 1409.90 [1039.98] [1.35σ]
Teff = 6313 [665] K [8.38σ]

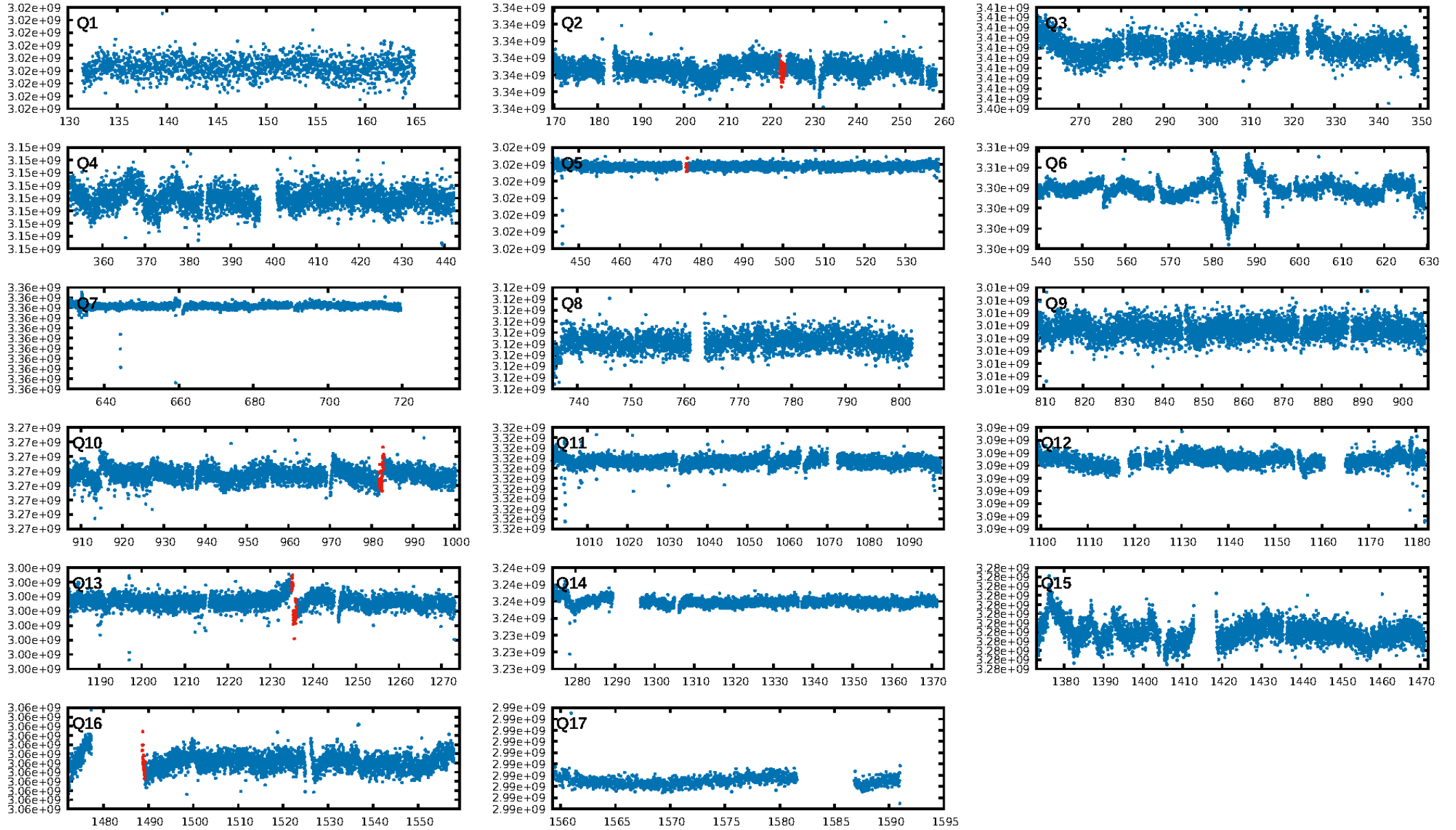
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 8.47e-22
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 5.757 arcsec [1.42σ]
OotOffset-rm: 8.031 arcsec [2.98σ]
KicOffset-rm: 6.901 arcsec [2.02σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

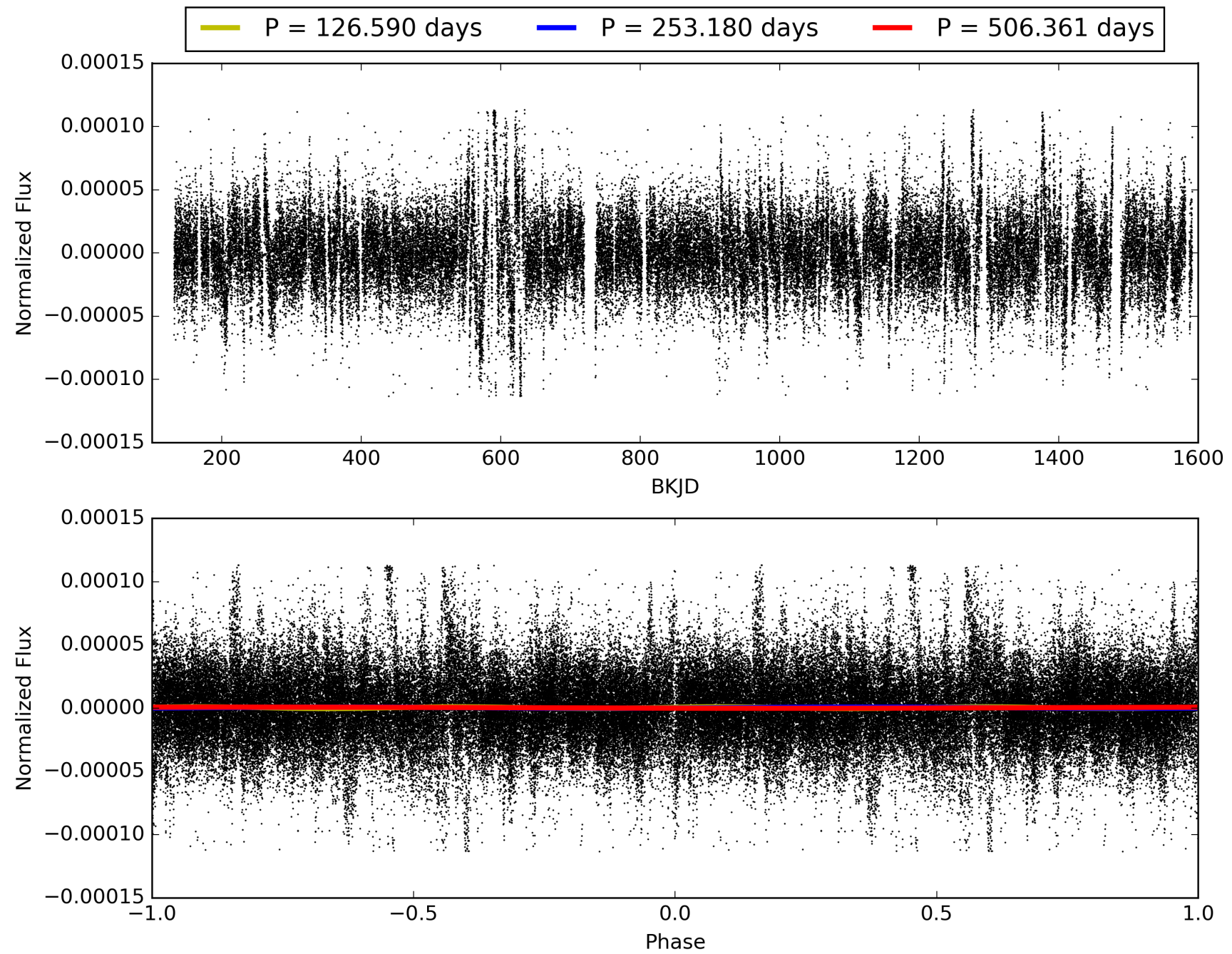
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:30:36 Z

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

TCE 009933239-01, PDC Light Curves

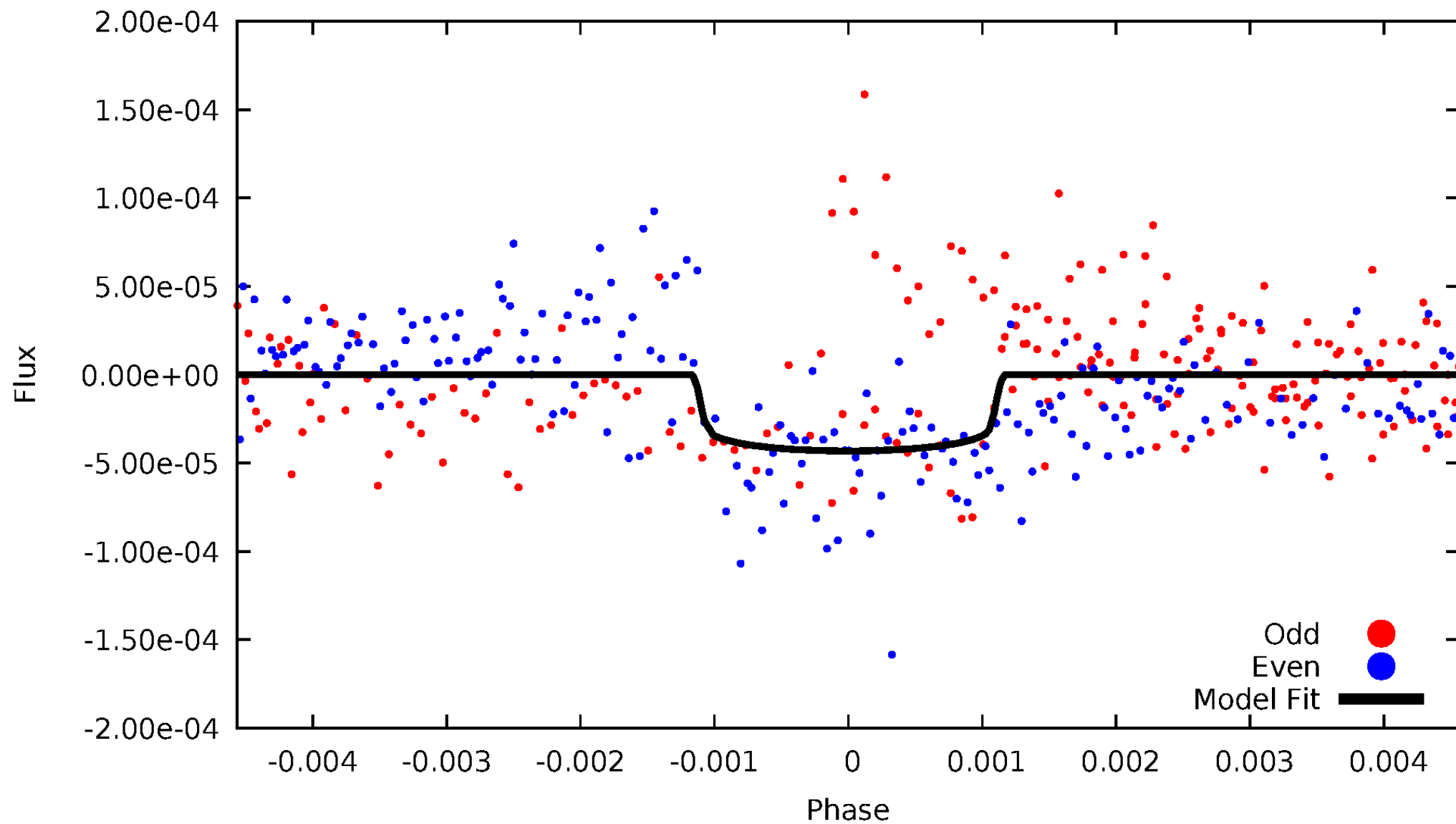


TCE 009933239-01



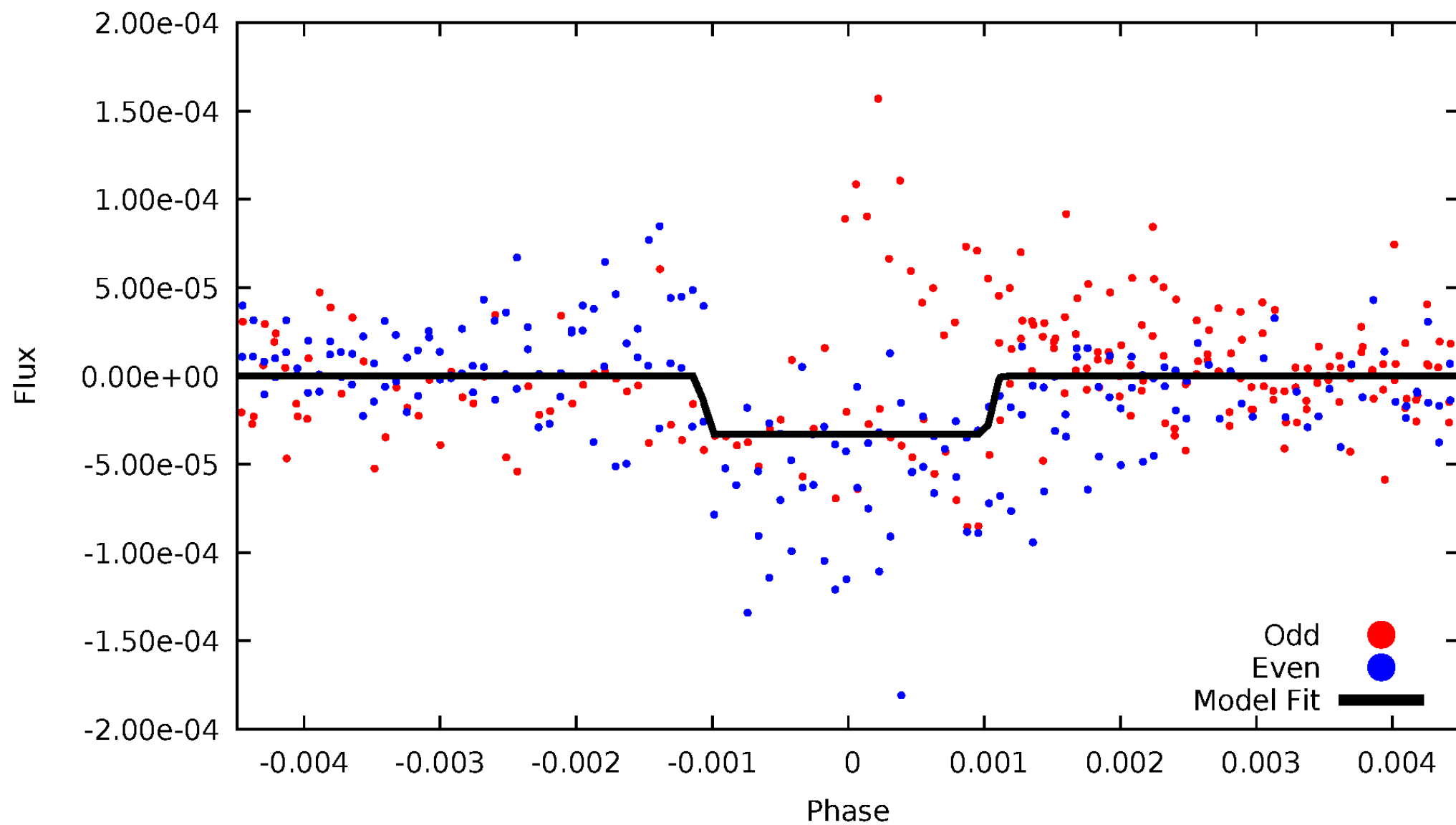
DV Odd/Even

TCE 009933239-01



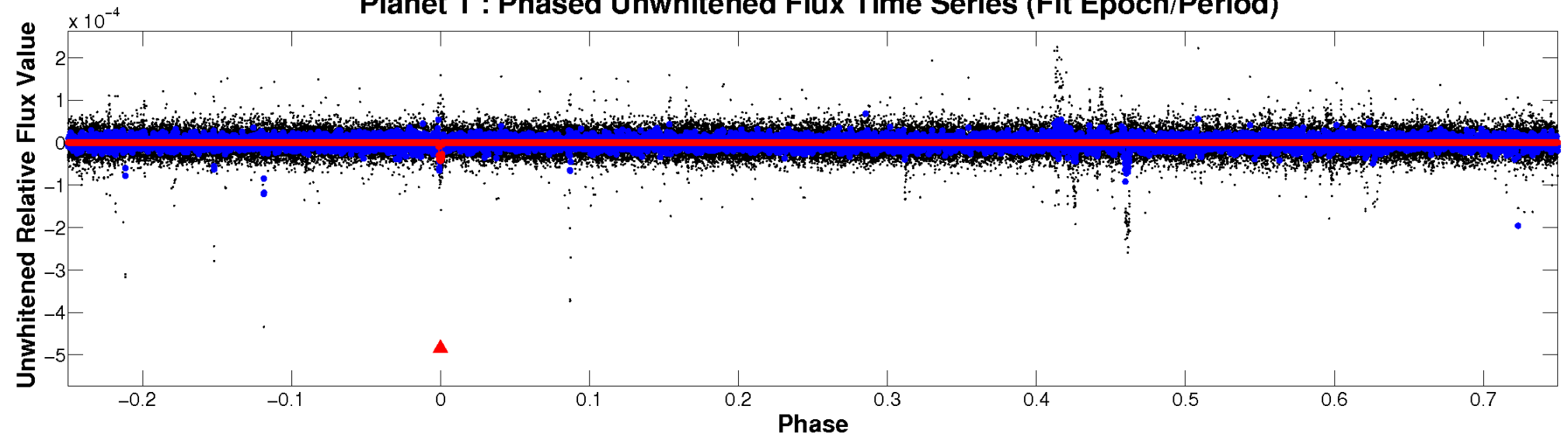
ALT Odd/Even

TCE 009933239-01

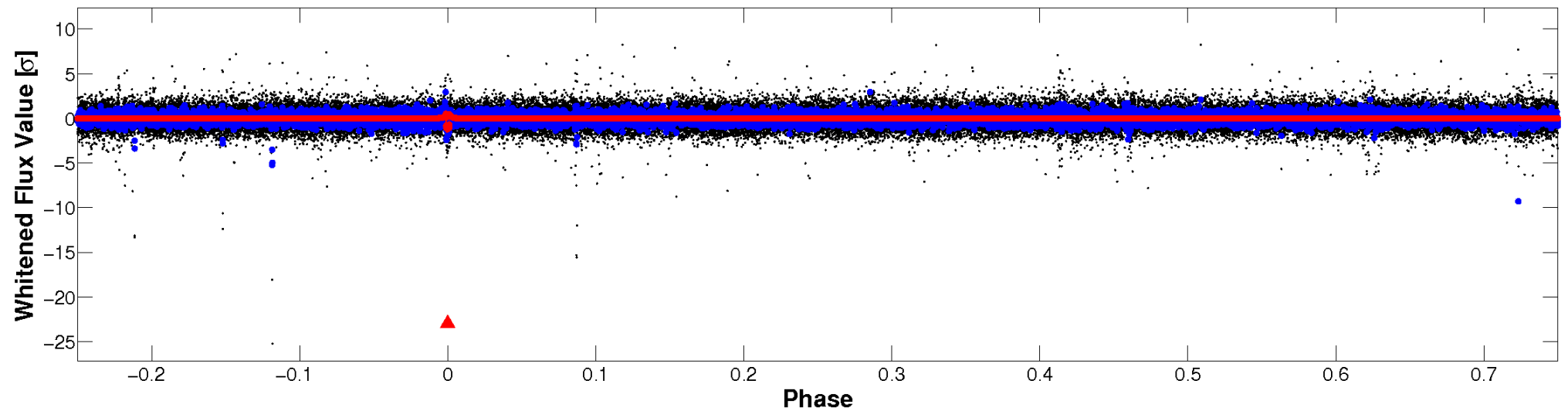


Non-Whitened Vs. Whitened Light Curve

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

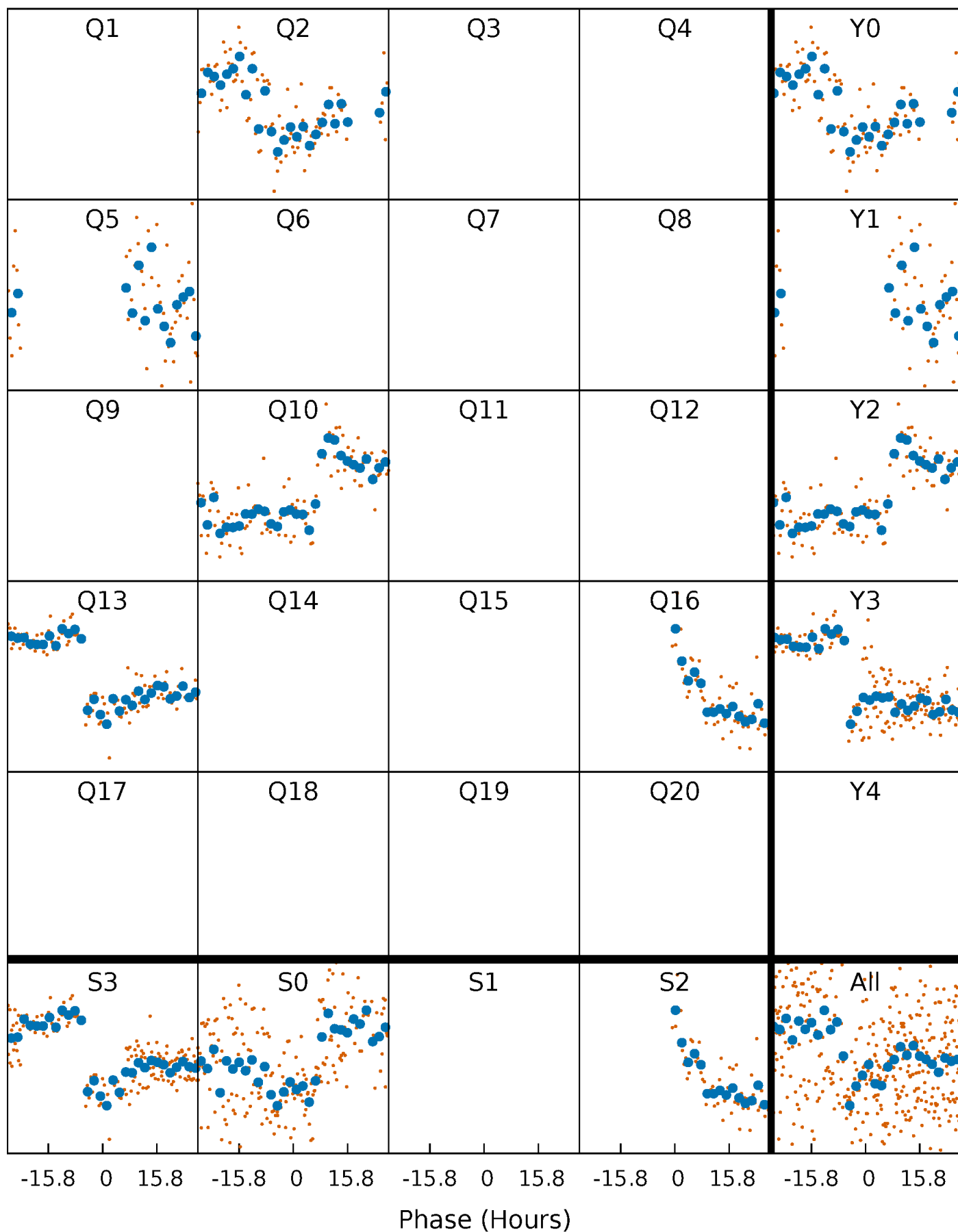


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



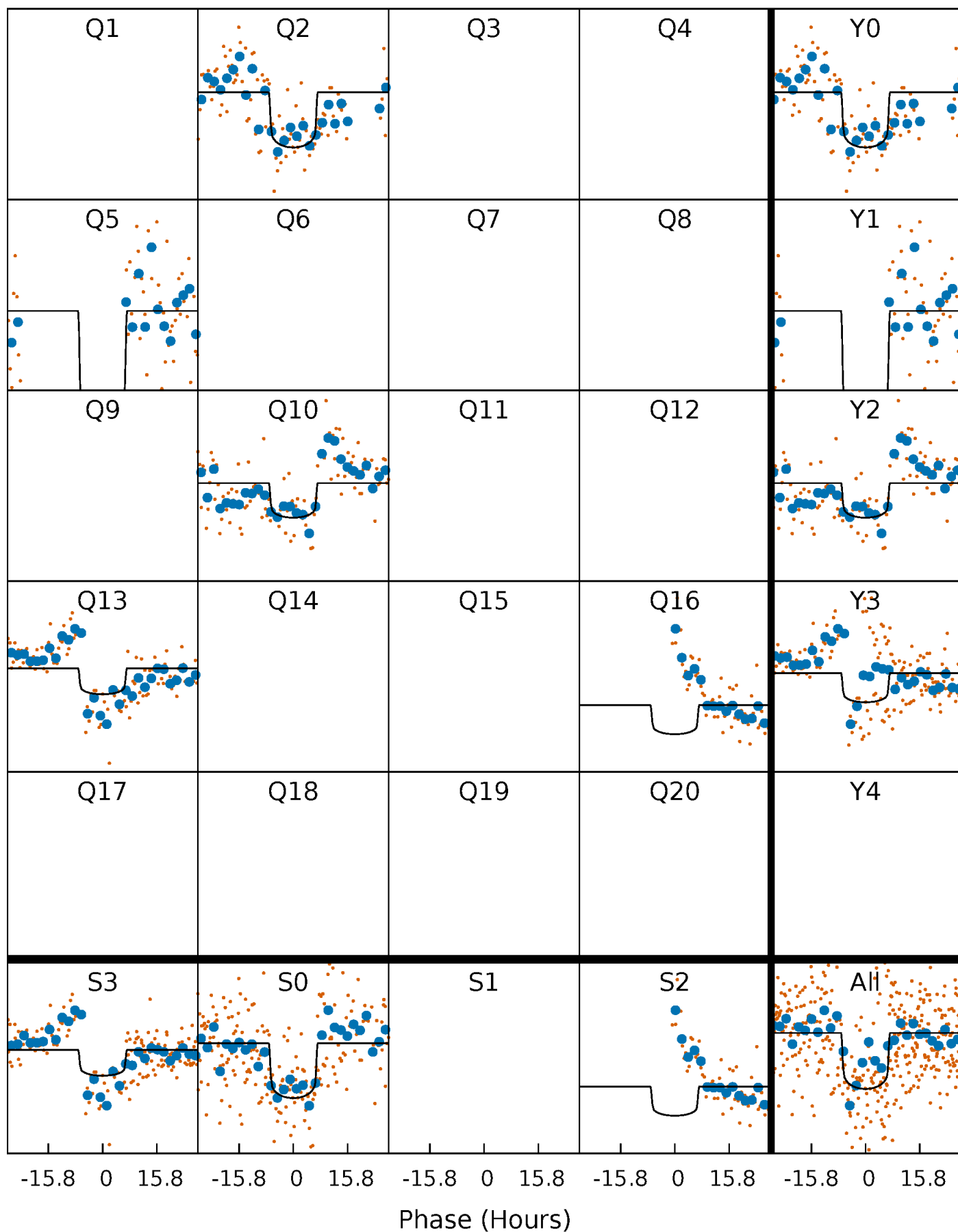
PDC Quarter-Phased Transit Curves

TCE 009933239-01 P=253.180435 Days $T_0=222.817386$ (BKJD)



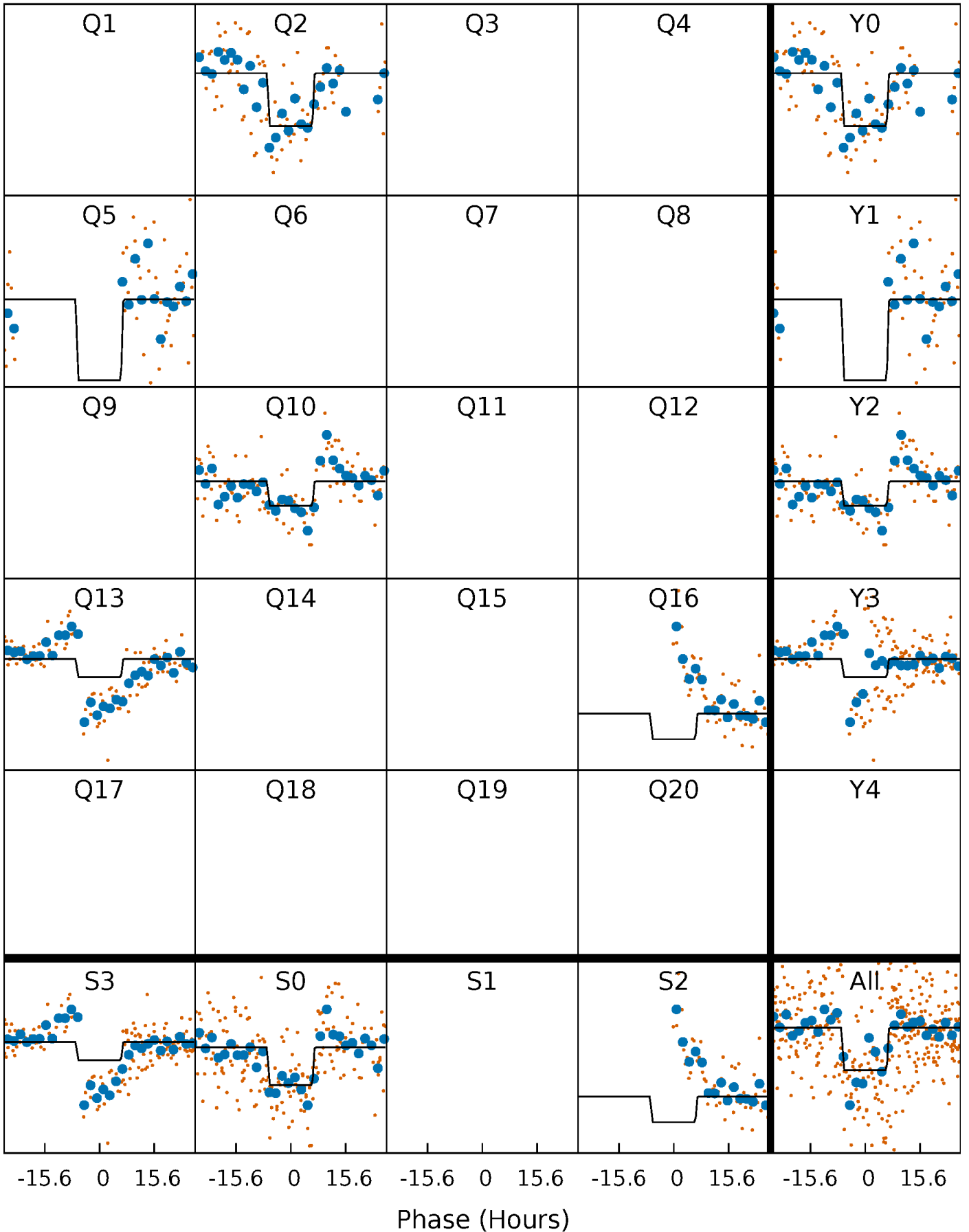
DV Quarter-Phased Transit Curves

TCE 009933239-01 P=253.180435 Days $T_0=222.817386$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

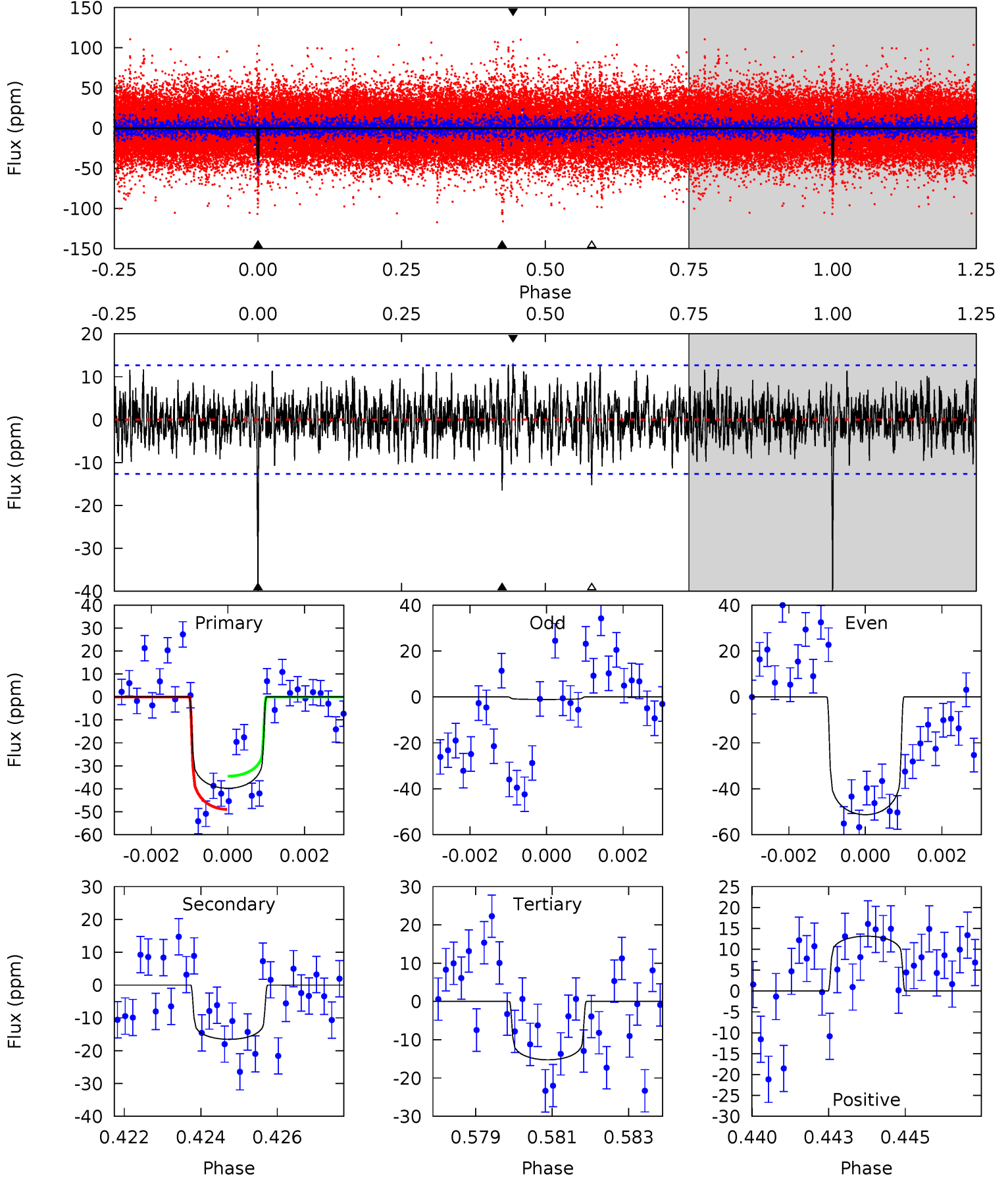
TCE 009933239-01 P=253.171808 Days $T_0=222.835719$ (BKJD)



DV Model-Shift Uniqueness Test

009933239-01, P = 253.180435 Days, E = 222.817386 Days

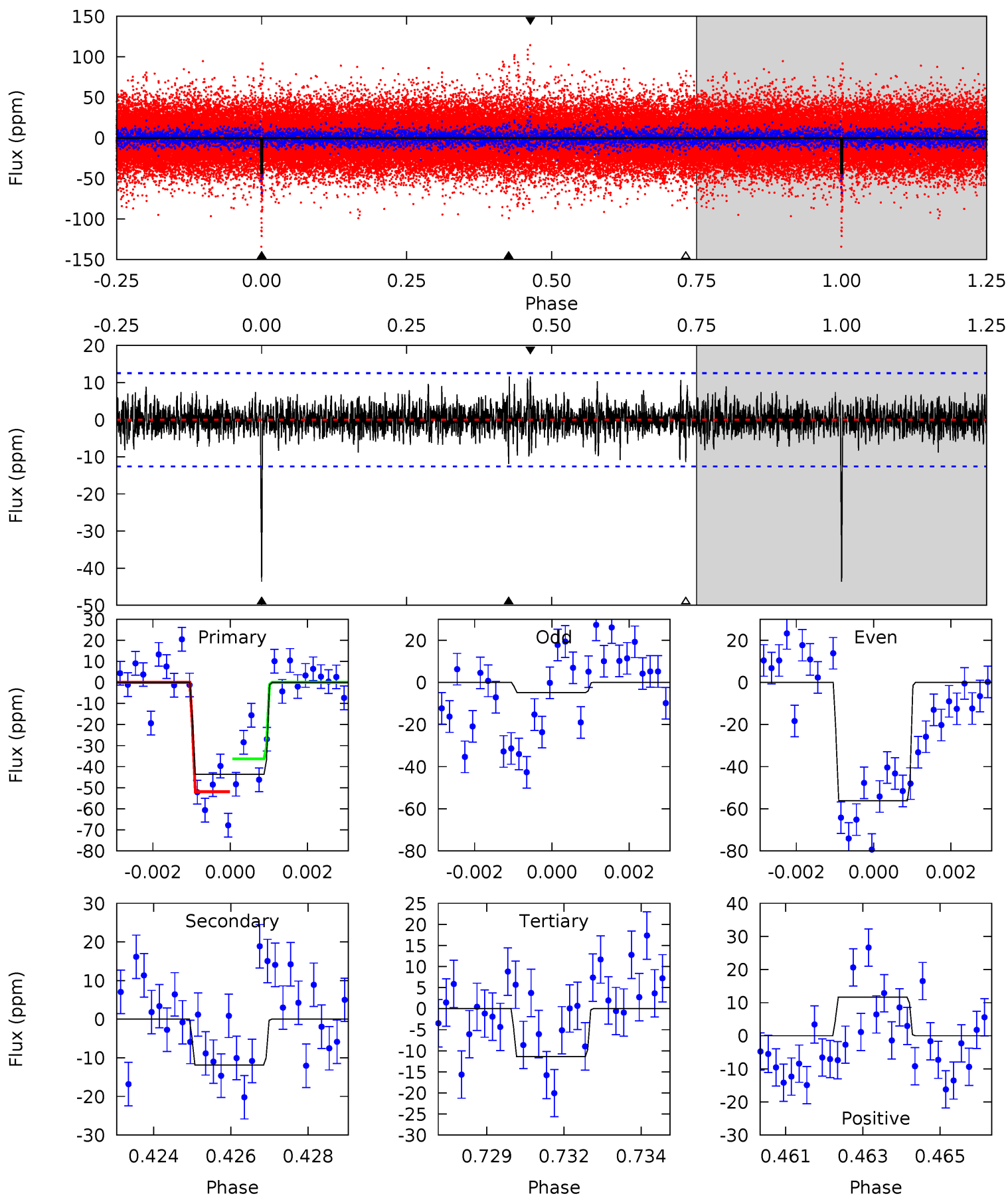
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	6.93	6.39	5.50	5.30	3.04	1.61	10.3	11.2	0.54	1.43	10.6	0.46	0.25	3.00



Alt Model-Shift Uniqueness Test

009933239-01, P = 253.171808 Days, E = 222.835719 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	5.02	4.82	4.94	5.31	3.06	1.15	13.6	13.5	0.19	0.08	11.2	0.60	0.21	3.28



Stellar Parameters For KIC 009933239

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8806^{+277}_{-381}	$3.811^{+0.371}_{-0.159}$	$-0.300^{+0.500}_{-0.300}$	$2.890^{+0.848}_{-1.166}$	$1.971^{+0.473}_{-0.387}$	$0.115^{+0.360}_{-0.052}$
	+3%/-4%	+10%/-4%	+167%/-100%	+29%/-40%	+24%/-20%	+313%/-46%
Source	KIC0	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 009933239-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-17 ± 2	$2.08^{+0.54}_{-0.47}$	905^{+85}_{-92}	6414^{+611}_{-450}	2026^{+1350}_{-695}
Alt.	-12 ± 2	$1.72^{+0.46}_{-0.42}$	910^{+80}_{-100}	6472^{+747}_{-601}	2069^{+1657}_{-766}

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

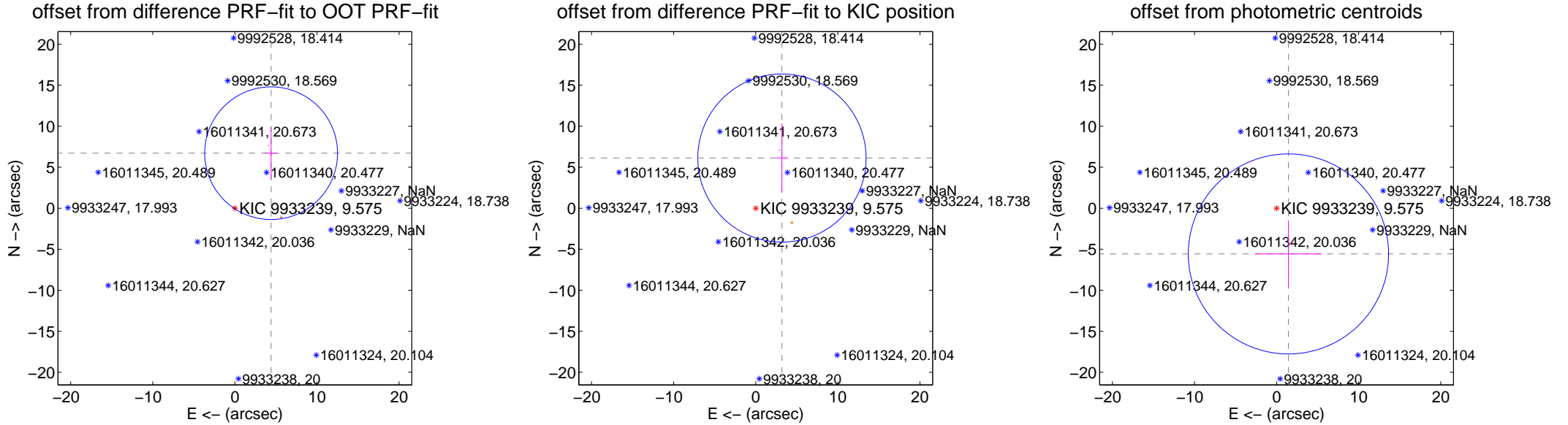
DV Centroid Data

Supplemental centroid analysis for 009933239-01. **Kepler magnitude: 9.57.** Transit SNR 10.50

There are 0 quarters with good PRF difference image offsets

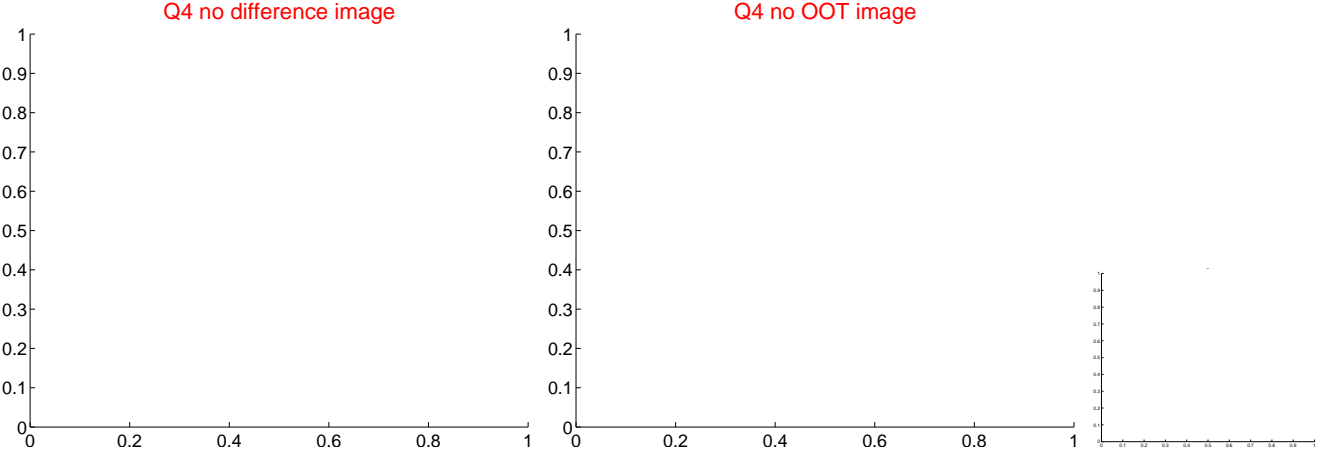
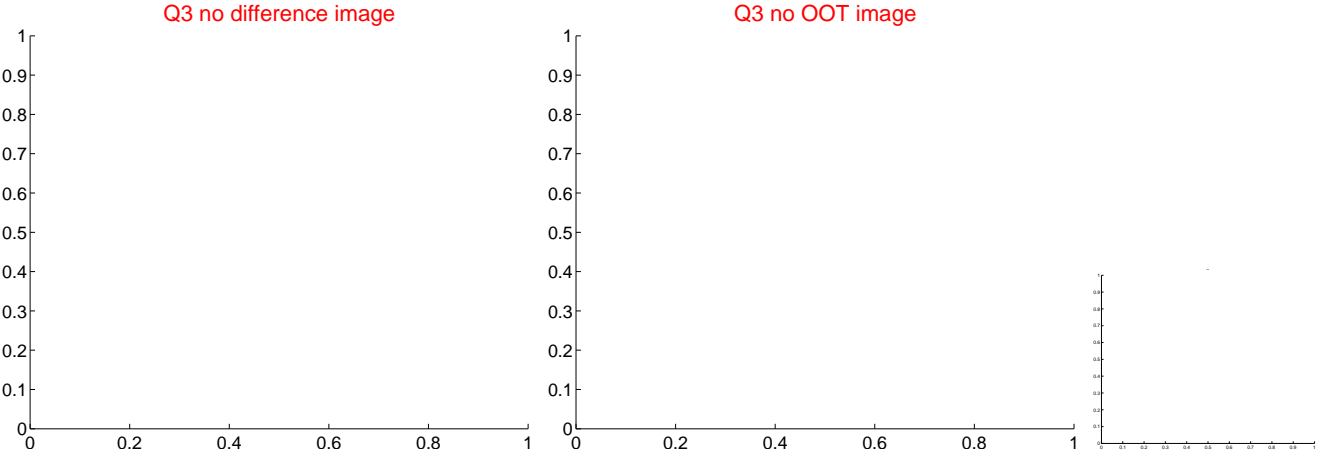
The direct PRF centroid is offset from the target star catalog position by about 1.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.031 ± 2.697	2.98	-4.410 ± 0.723	6.712 ± 3.192
PRF-fit source offset from KIC position	6.901 ± 3.417	2.02	-3.190 ± 0.728	6.119 ± 4.231
photometric centroid source offset	5.76 ± 4.07	1.42	-1.44 ± 4.06	-5.57 ± 4.07



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.



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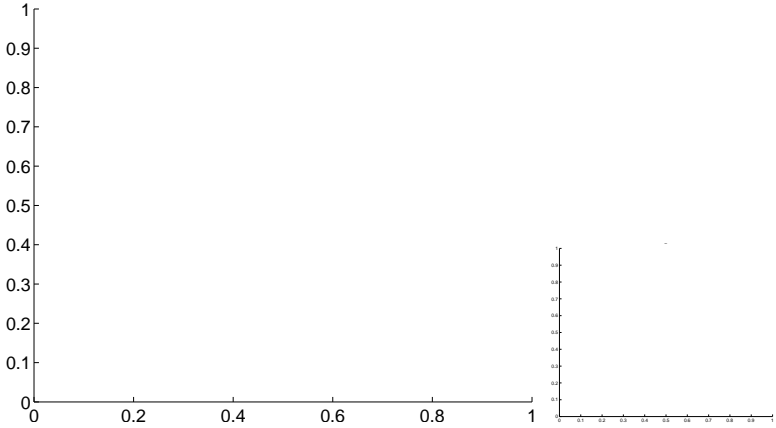


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

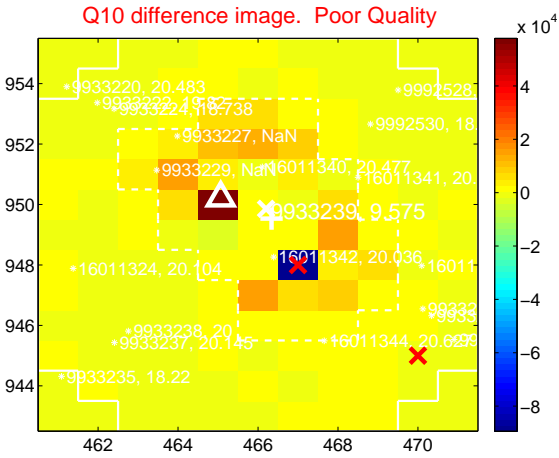
Q9 no difference image



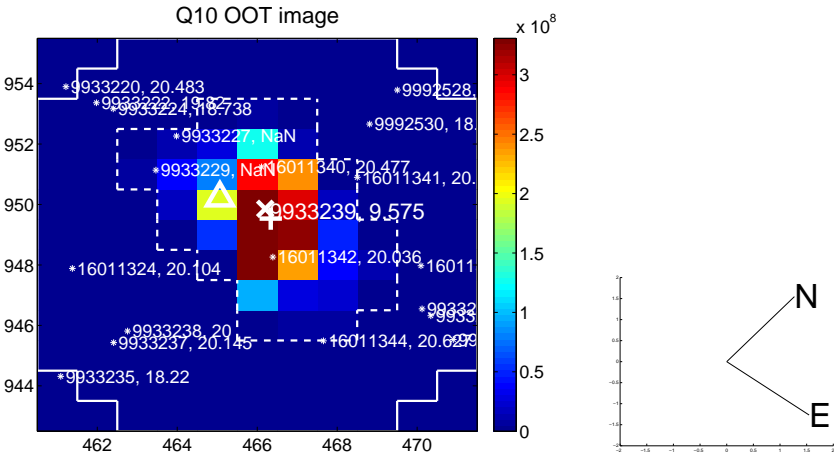
Q9 no OOT image



Q10 difference image. Poor Quality



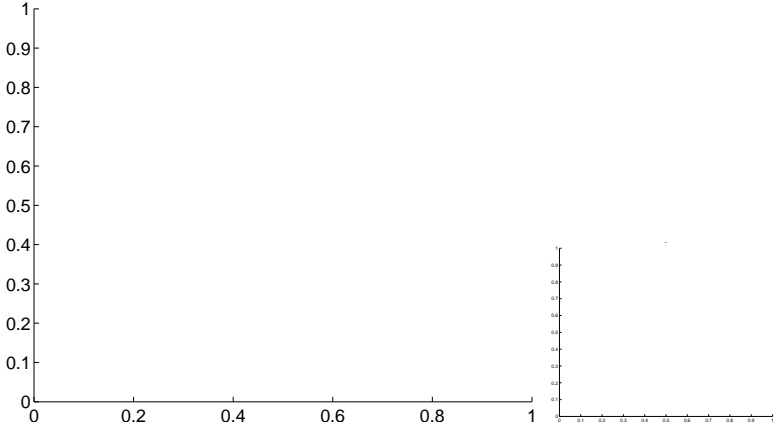
Q10 OOT image



Q11 no difference image



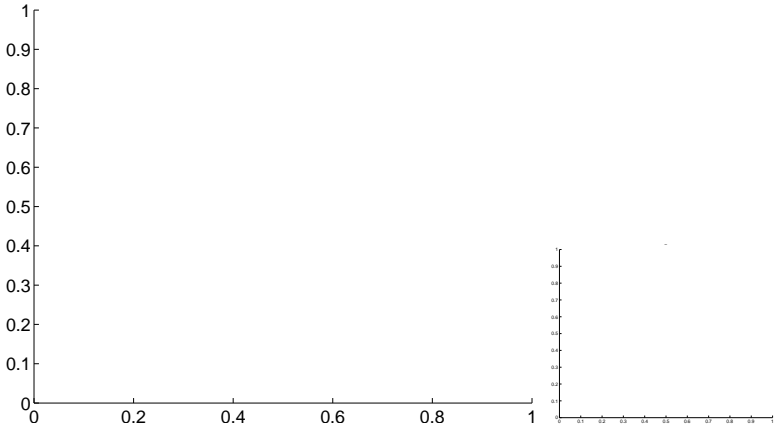
Q11 no OOT image



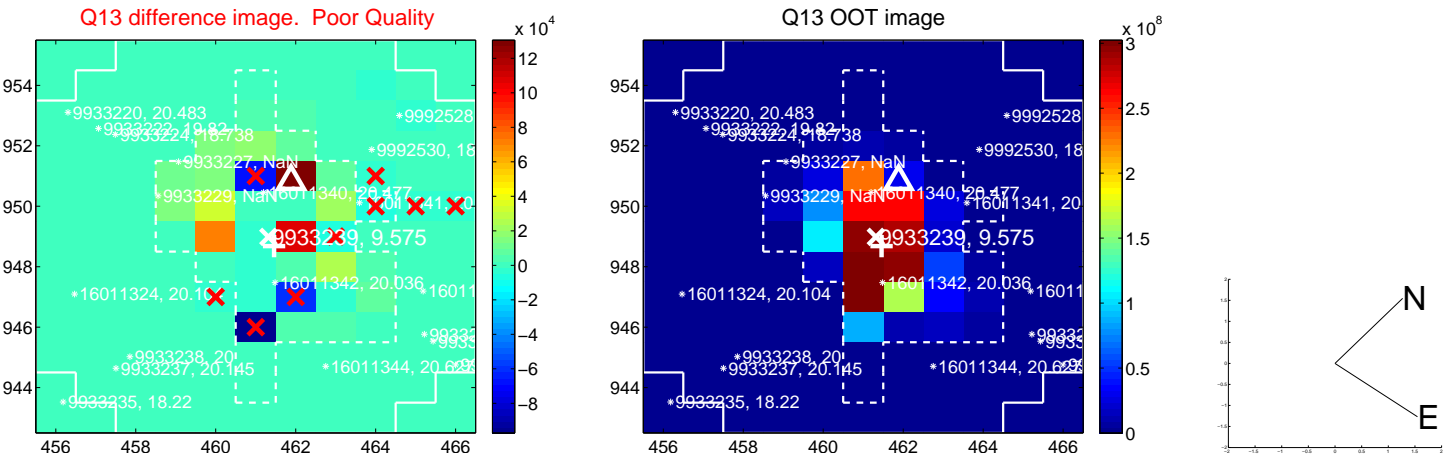
Q12 no difference image



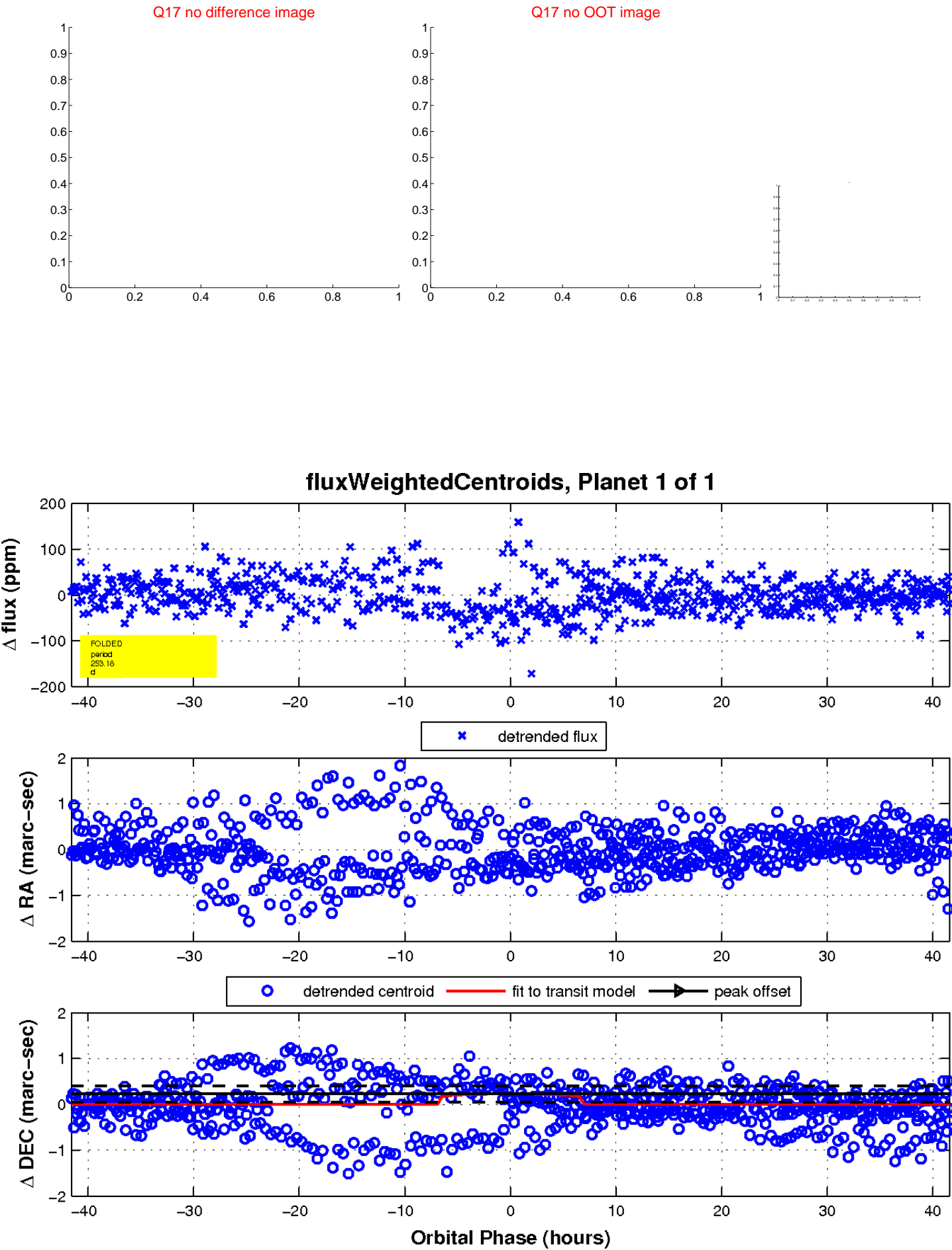
Q12 no OOT image



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

