

KIC 009590257

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})
009590257-01	OBS	No	490.942194	593.027093	264.6	10.280	8.1	8.1	0.94	5926	1.66	0.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009590257-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—INCONSISTENT_TRANS

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

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

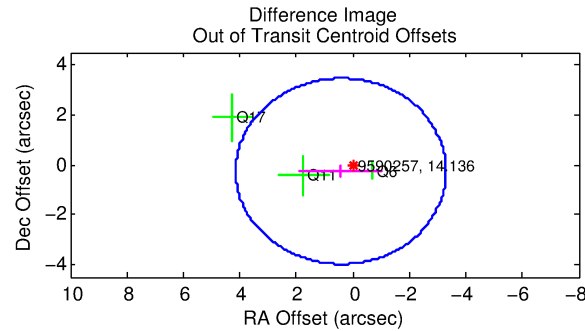
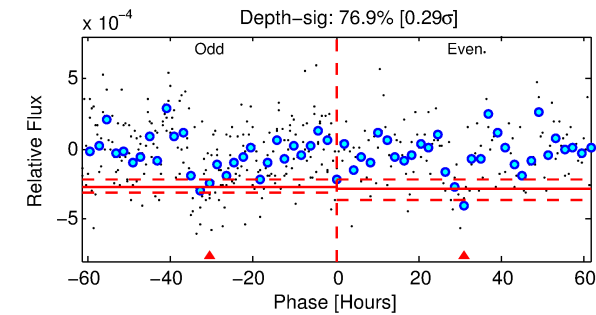
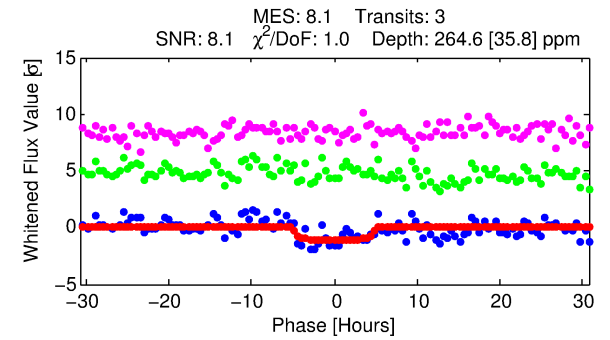
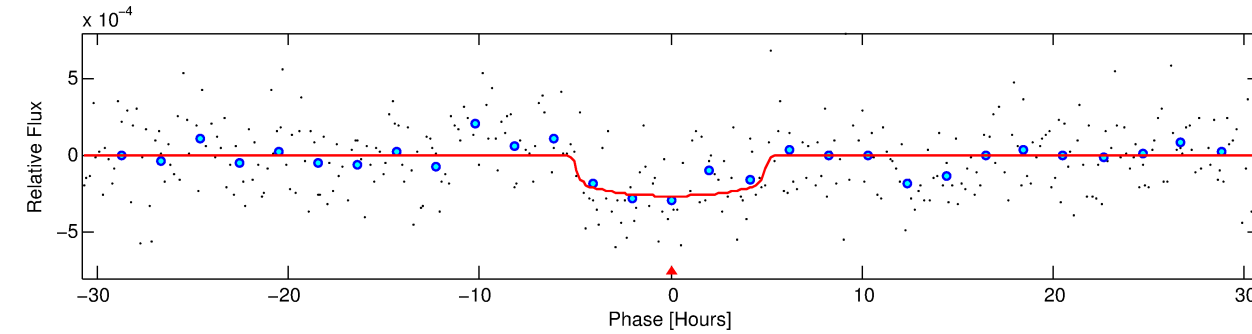
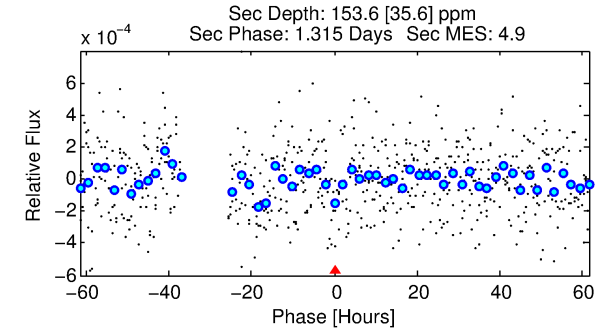
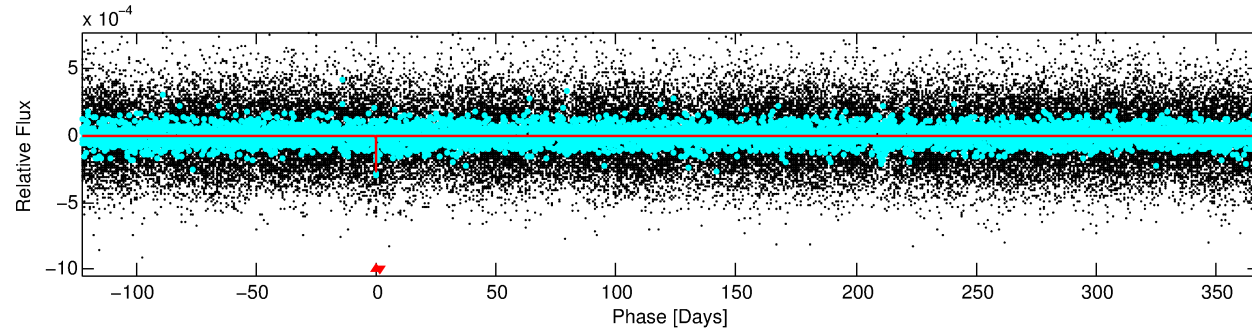
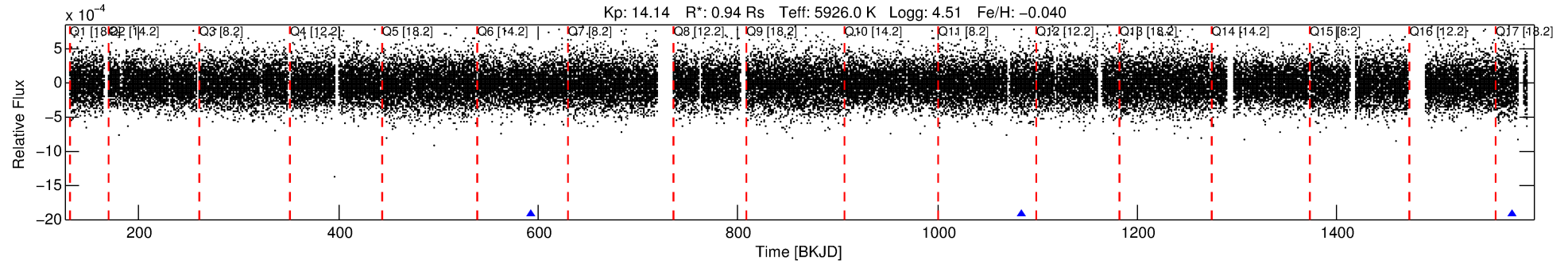
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009590257-01

No Significant Match Found

DV One-Page Summary

KIC: 9590257 Candidate: 1 of 1 Period: 490.942 d



DV Fit Results:

Period = 490.94219 [0.01561] d
Epoch = 593.0271 [0.0159] BKJD
Rp/R* = 0.0162 [0.0099]
a/R* = 247.10 [701.76]
b = 0.76 [1.61]
Seff = 0.64 [0.24]
Teq = 228 [22] K
Rp = 1.66 [1.12] Re
a = 1.2307 [0.3009] AU
Ag = 46281.77 [59626.32] [0.78σ]
Teffp = 5179 [1608] K [3.08σ]

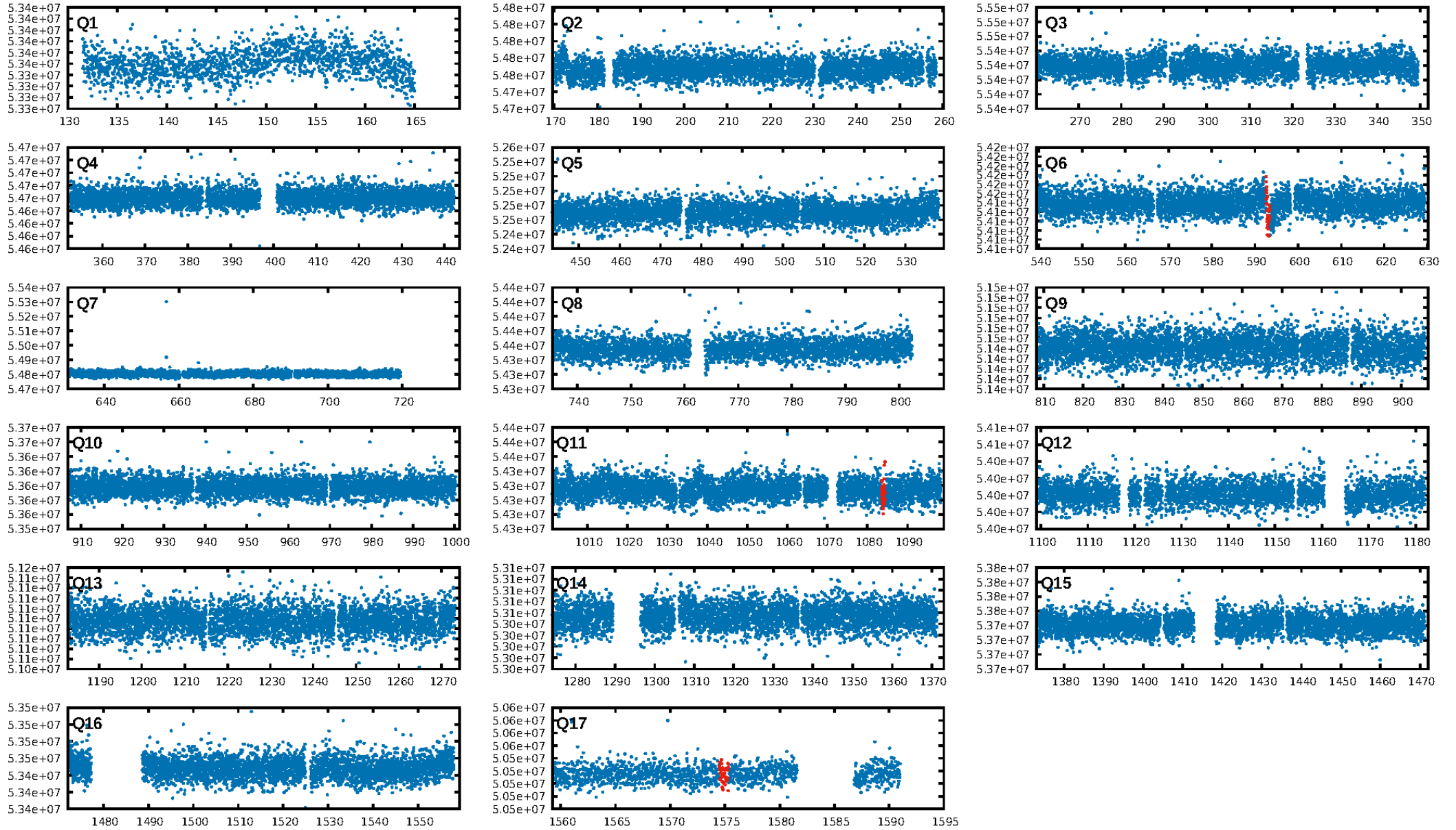
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.2%
ModelChiSquareGof-sig: 97.0%
Bootstrap-pfa: 7.02e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 4.488
Centroid-sig: 0.6%
Centroid-so: 2.419 arcsec [1.69σ]
OotOffset-rm: 0.496 arcsec [0.40σ]
KicOffset-rm: 0.485 arcsec [0.34σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

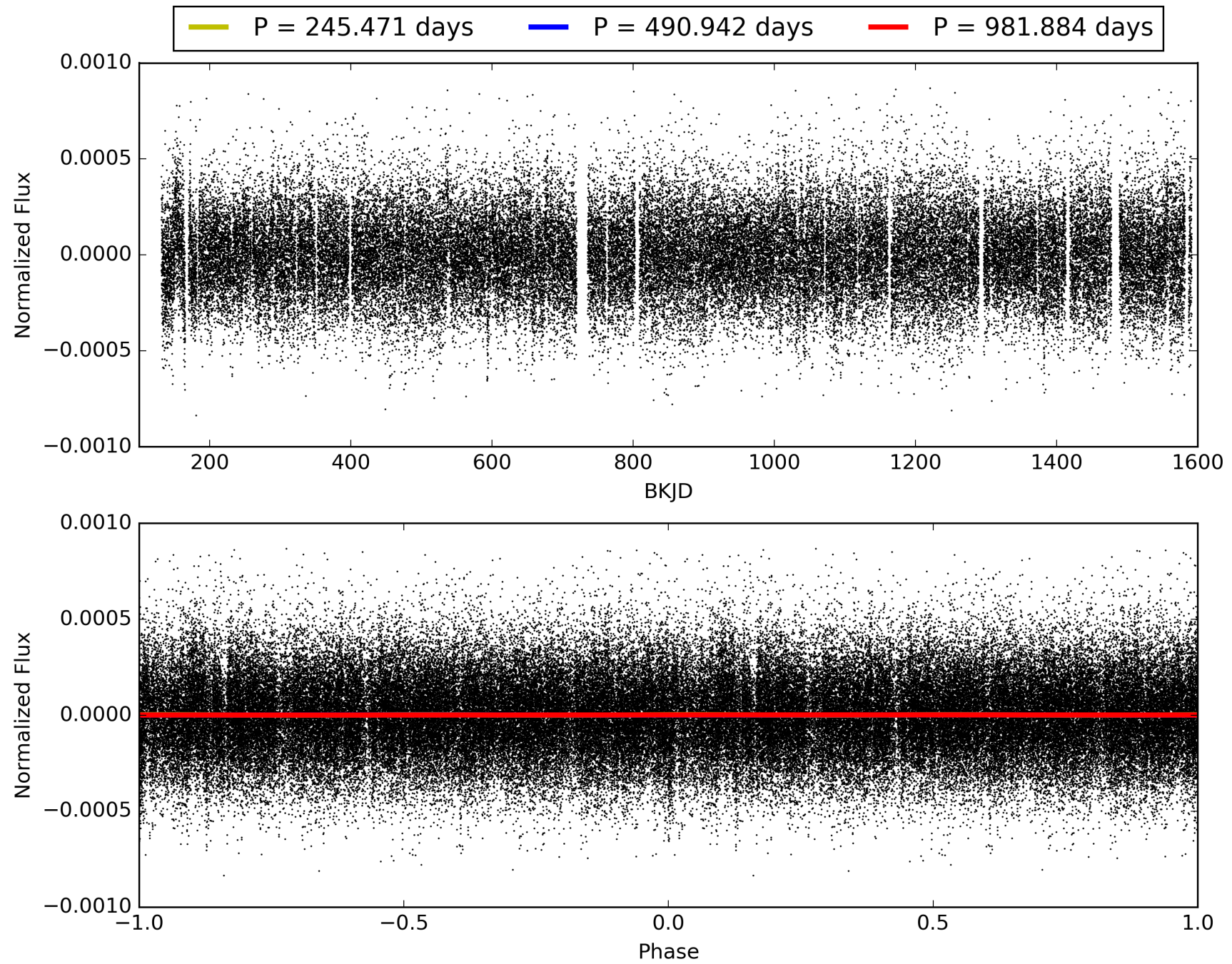
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:17:27 Z

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

TCE 009590257-01, PDC Light Curves

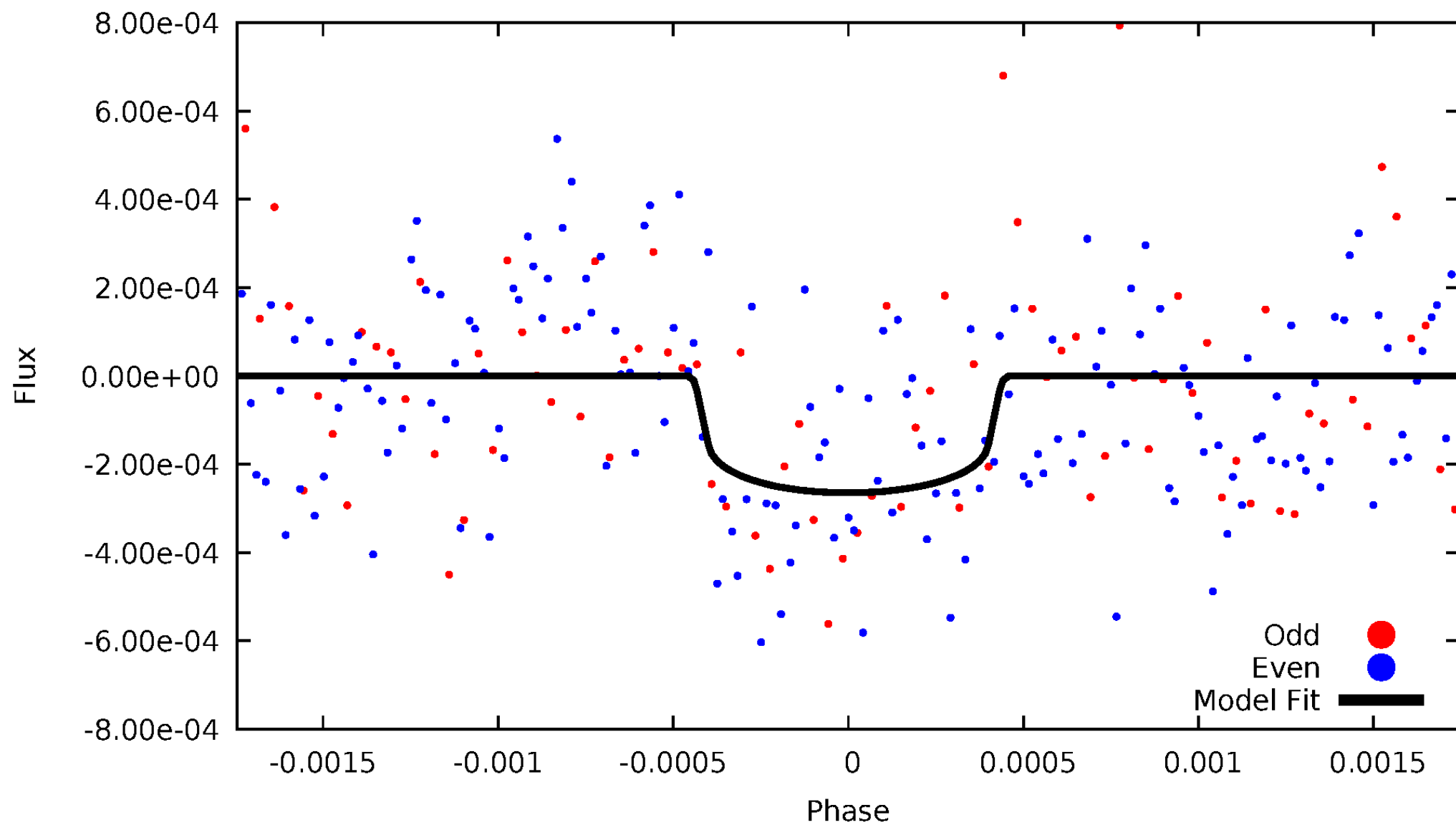


TCE 009590257-01



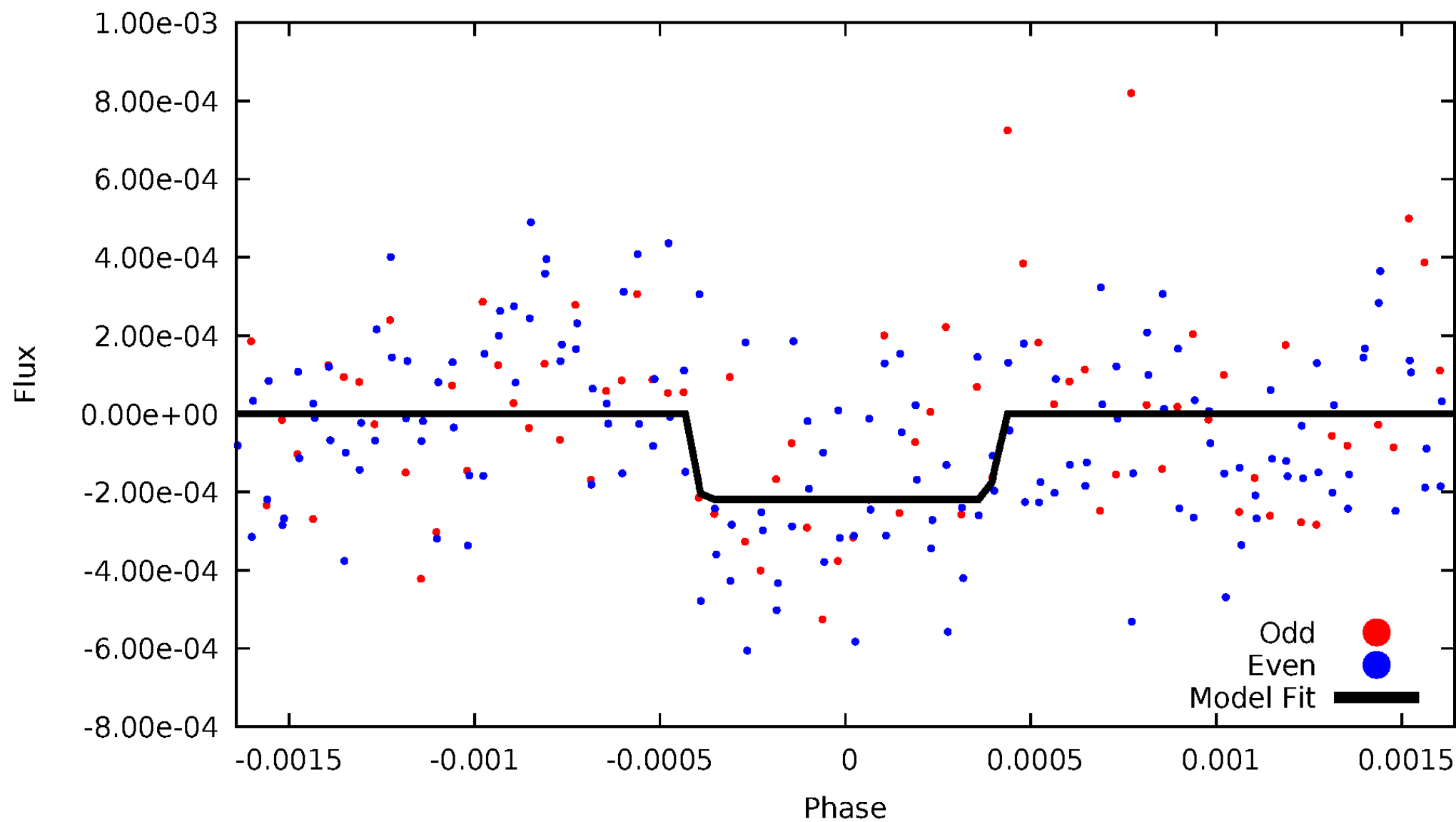
DV Odd/Even

TCE 009590257-01



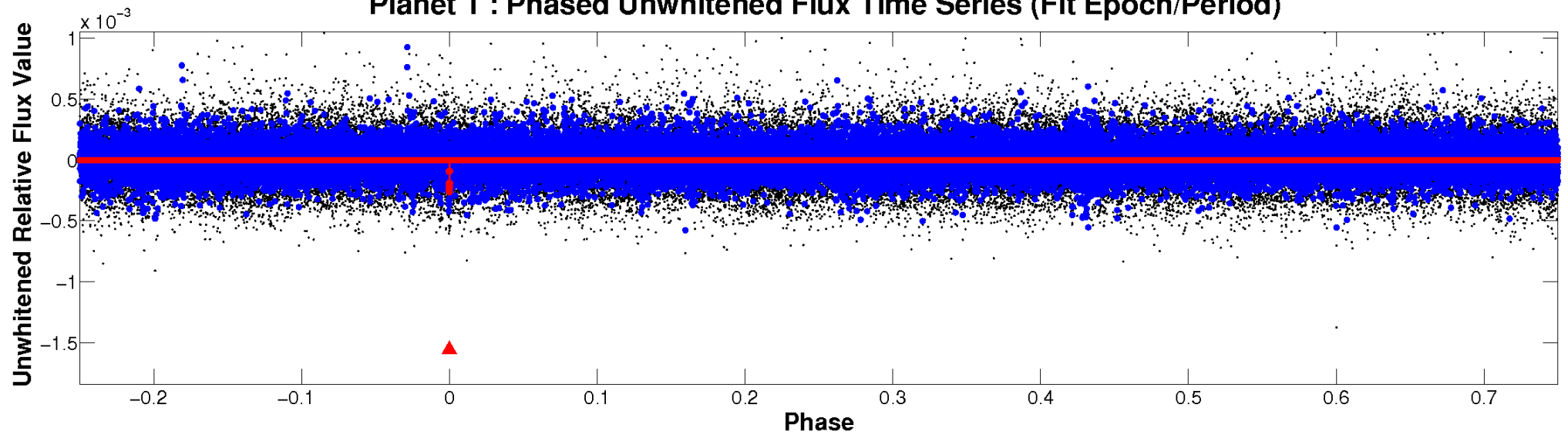
ALT Odd/Even

TCE 009590257-01

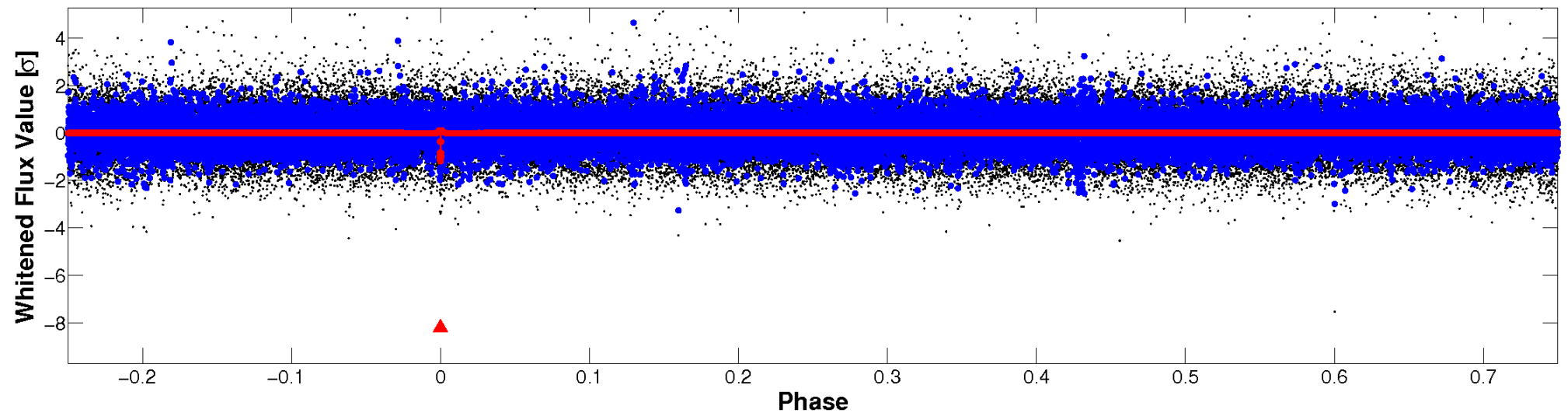


Non-Whitened Vs. Whitened Light Curve

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

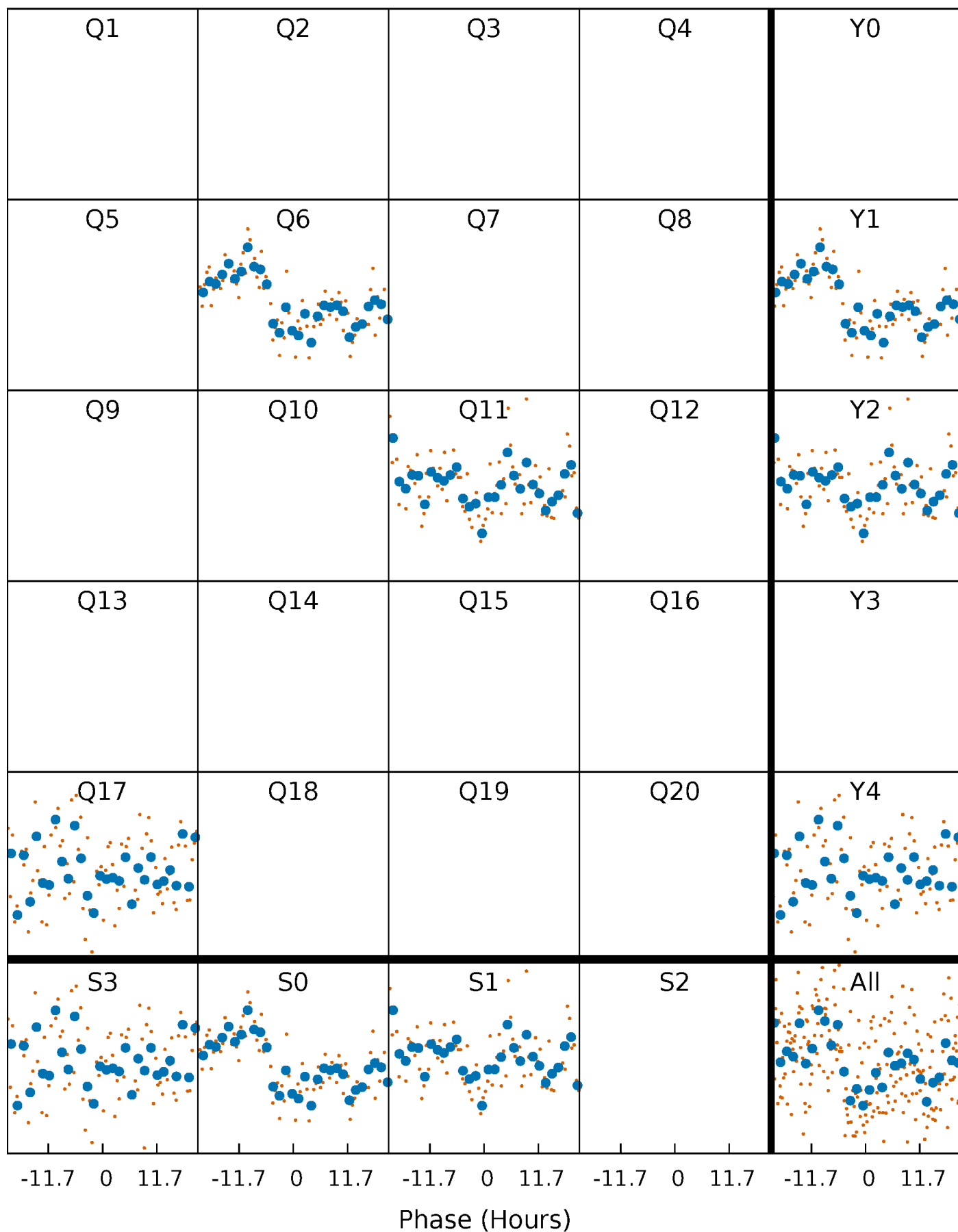


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



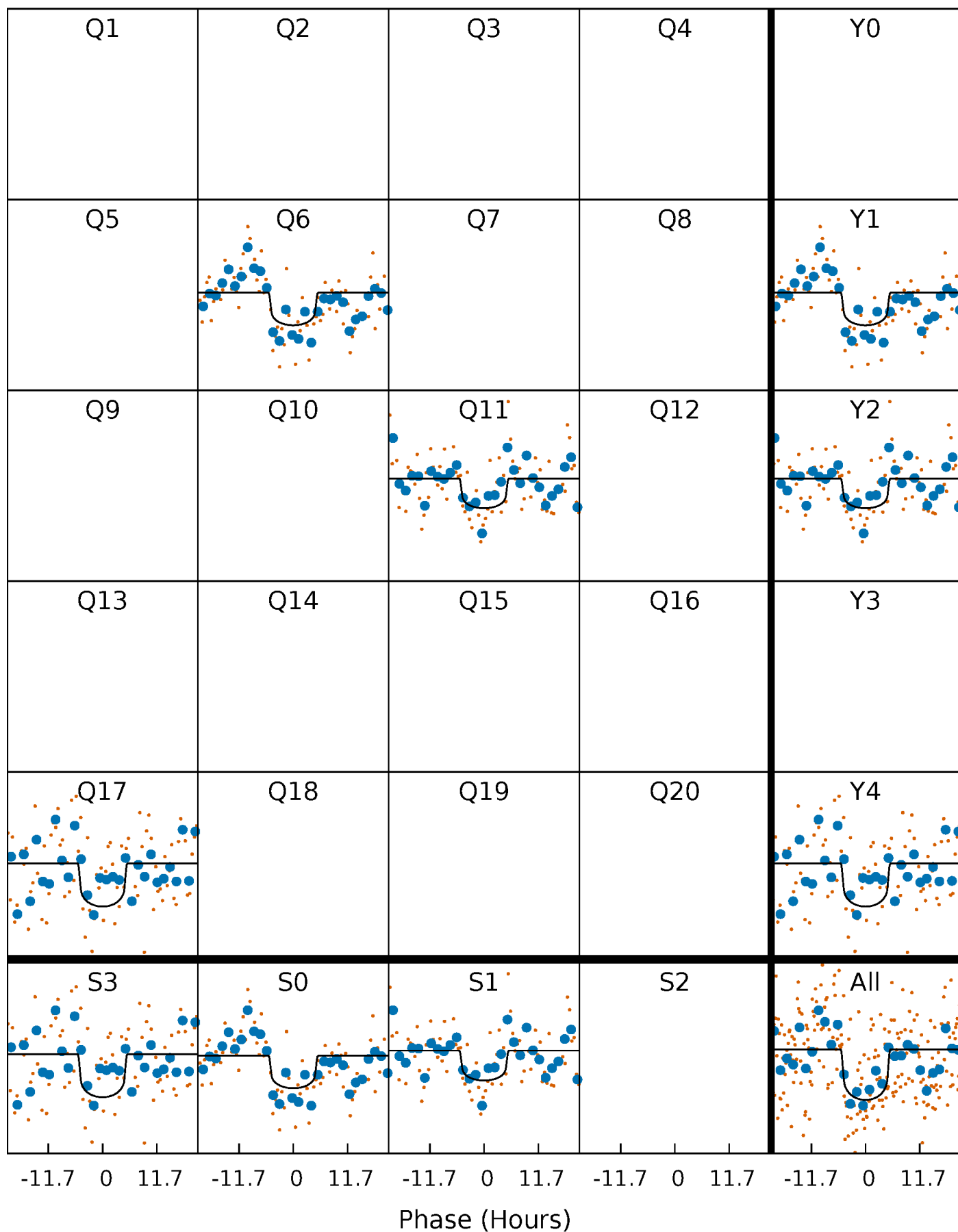
PDC Quarter-Phased Transit Curves

TCE 009590257-01 P=490.942194 Days $T_0=593.027093$ (BKJD)



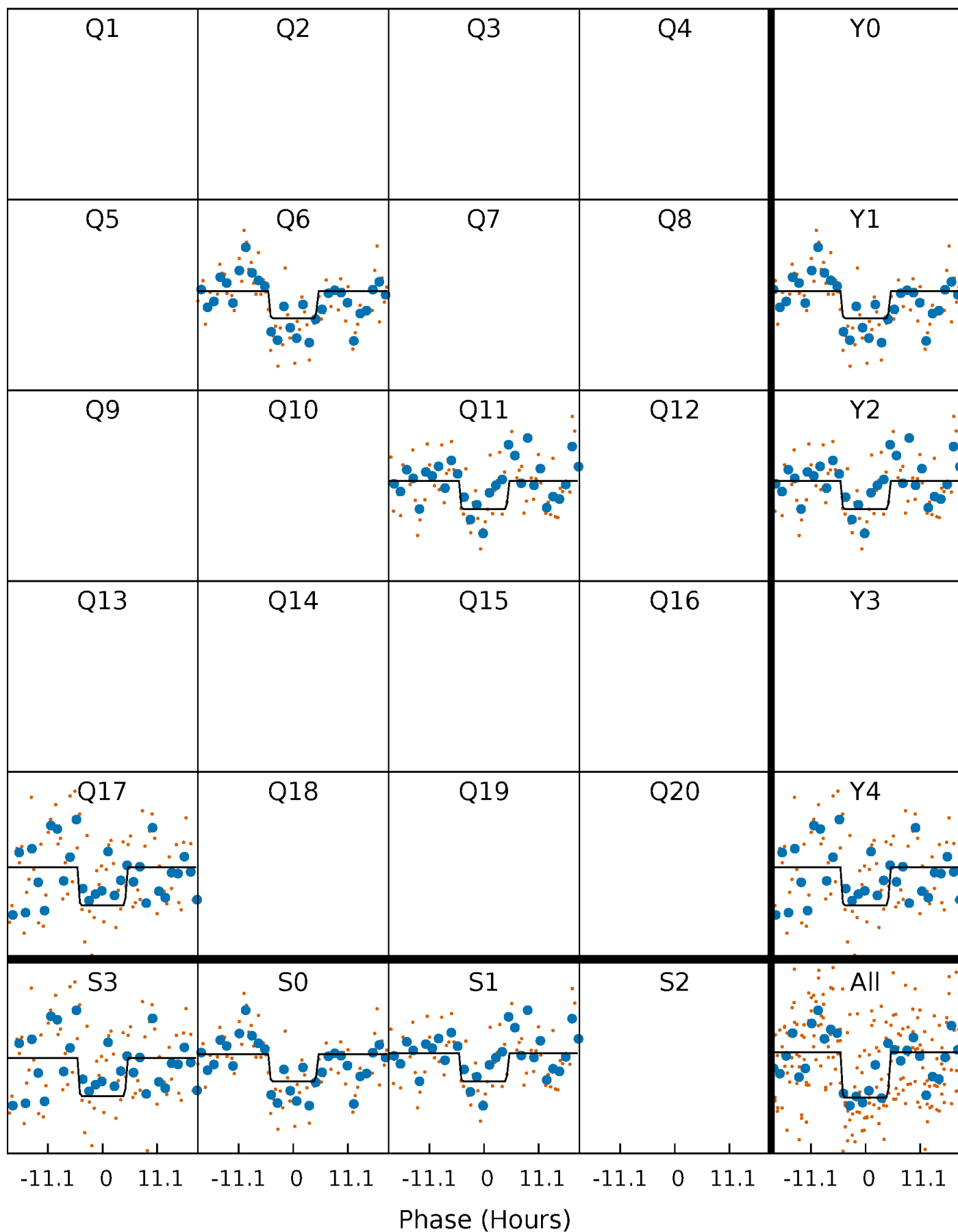
DV Quarter-Phased Transit Curves

TCE 009590257-01 P=490.942194 Days $T_0=593.027093$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

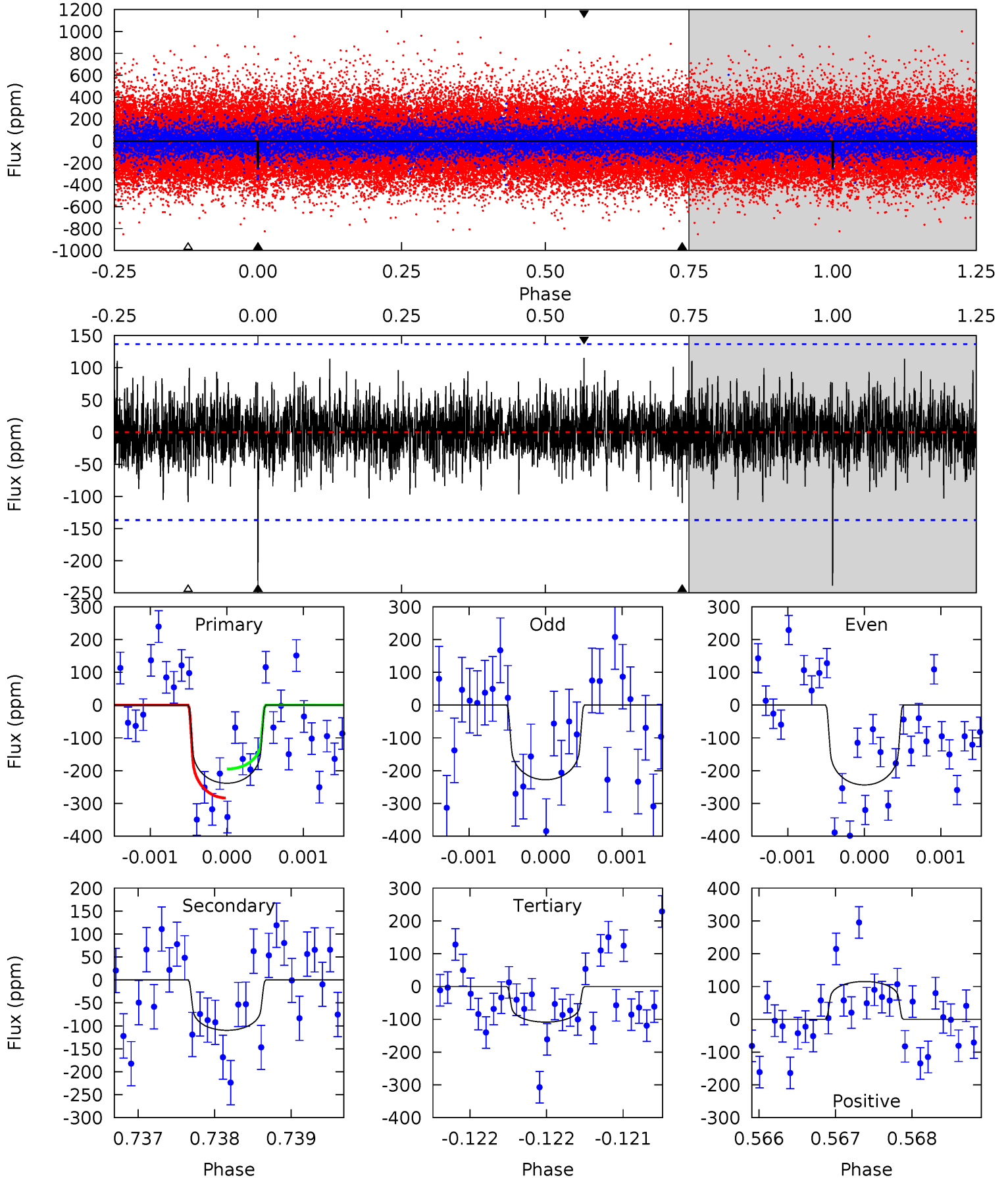
TCE 009590257-01 $P=490.936712$ Days $T_0=593.034902$ (BKJD)



DV Model-Shift Uniqueness Test

009590257-01, P = 490.942194 Days, E = 102.084899 Days

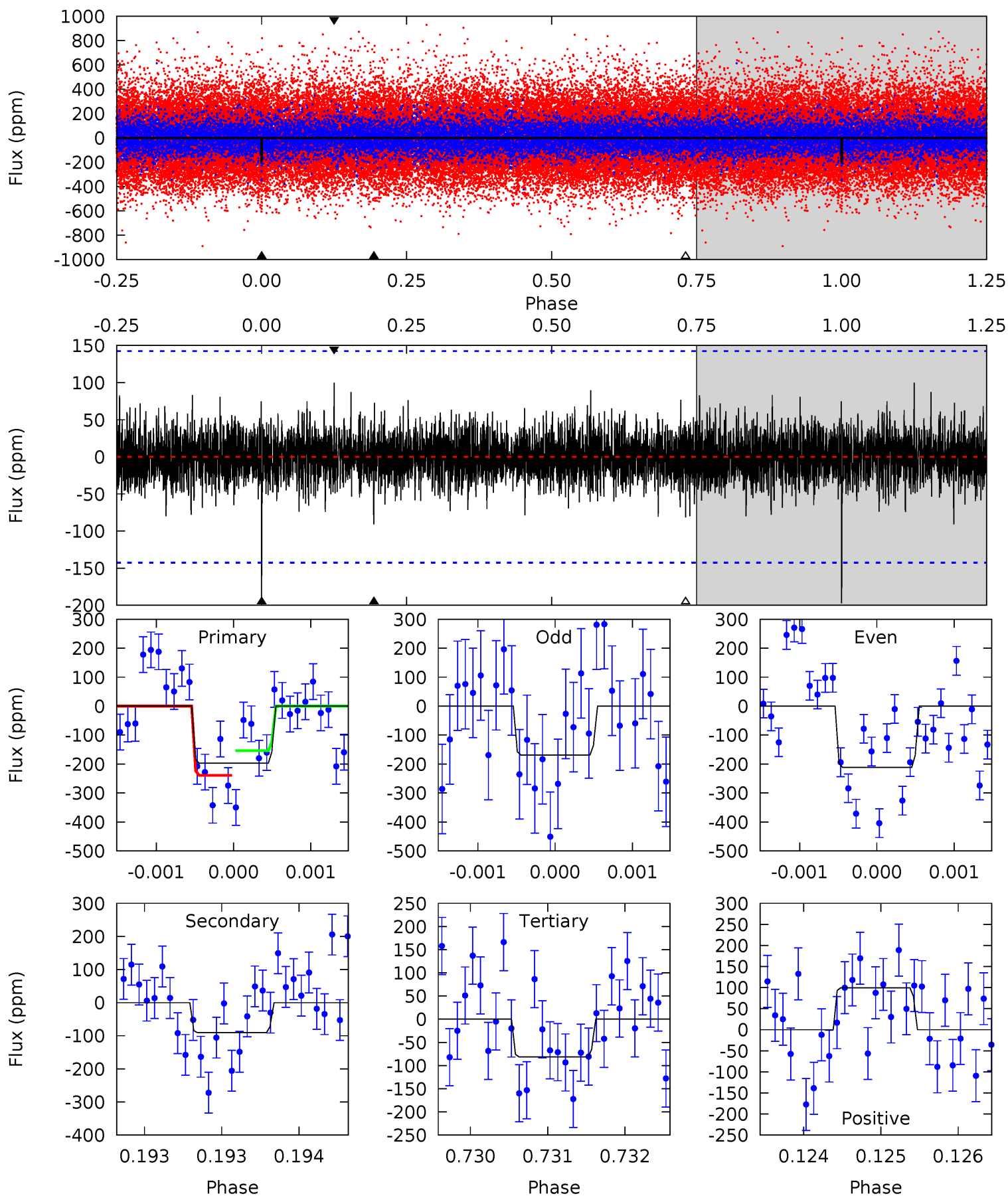
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.54	4.40	4.35	4.61	5.47	3.32	1.21	5.20	4.94	0.05	-0.21	0.30	1.05	0.33	1.78



Alt Model-Shift Uniqueness Test

009590257-01, P = 490.936712 Days, E = 102.098190 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.60	3.49	3.14	3.84	5.49	3.35	0.88	4.47	3.76	0.36	-0.35	0.77	1.17	0.34	1.64



Stellar Parameters For KIC 009590257

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5926^{+158}_{-176}	$4.506^{+0.050}_{-0.200}$	$-0.040^{+0.250}_{-0.300}$	$0.939^{+0.268}_{-0.089}$	$1.030^{+0.115}_{-0.140}$	$1.752^{+0.445}_{-0.856}$
	+3%/-3%	+1%/-4%	+625%/-750%	+29%/-9%	+11%/-14%	+25%/-49%
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 009590257-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-110 ± 25	$1.79^{+1.03}_{-0.89}$	327^{+22}_{-16}	4816^{+1752}_{-817}	27336^{+84730}_{-17049}
Alt.	-91 ± 26	$1.63^{+1.11}_{-0.92}$	325^{+22}_{-15}	4750^{+2505}_{-799}	$26841^{+127077}_{-17372}$

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 $A_{obs} \gg 1.0$

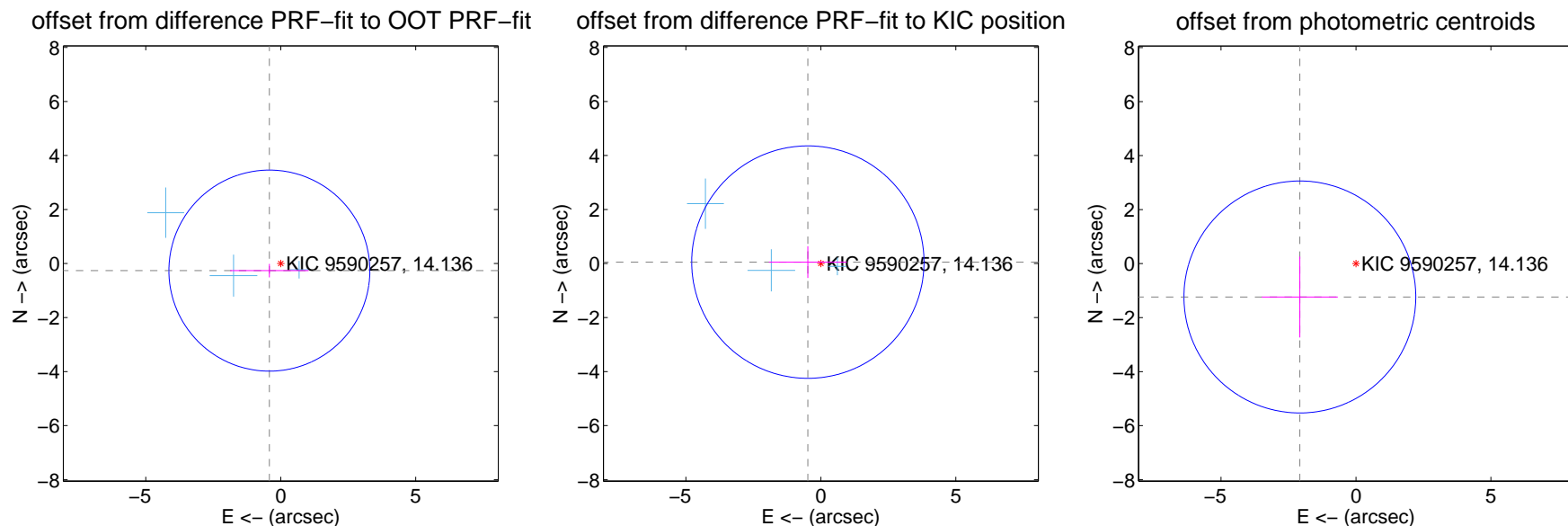
DV Centroid Data

Supplemental centroid analysis for 009590257-01. Kepler magnitude: 14.14. Transit SNR 8.13

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.496 ± 1.241	0.40	0.421 ± 1.453	-0.262 ± 0.250
PRF-fit source offset from KIC position	0.485 ± 1.434	0.34	0.482 ± 1.442	0.053 ± 0.588
photometric centroid source offset	2.42 ± 1.43	1.69	2.08 ± 1.41	-1.24 ± 1.50



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.

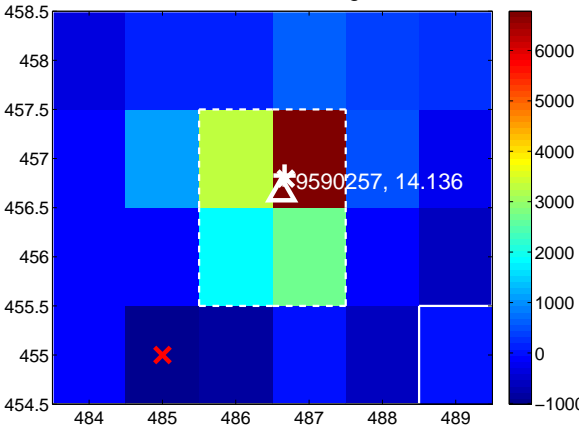
Q5 no difference image



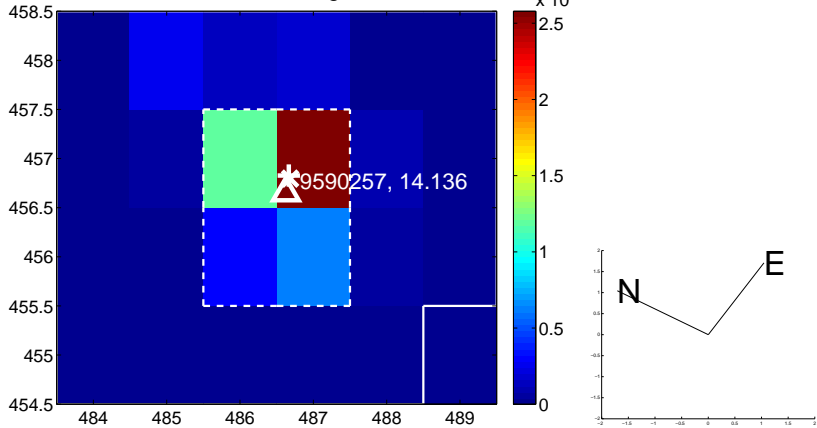
Q5 no OOT image



Q6 difference image



Q6 OOT image



Q7 no difference image



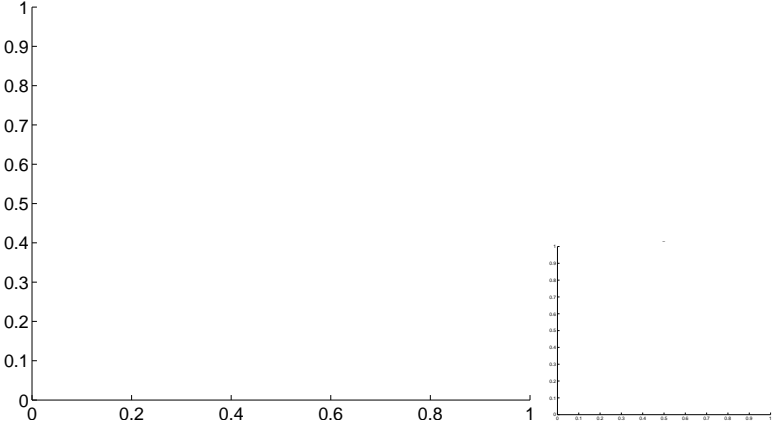
Q7 no OOT image



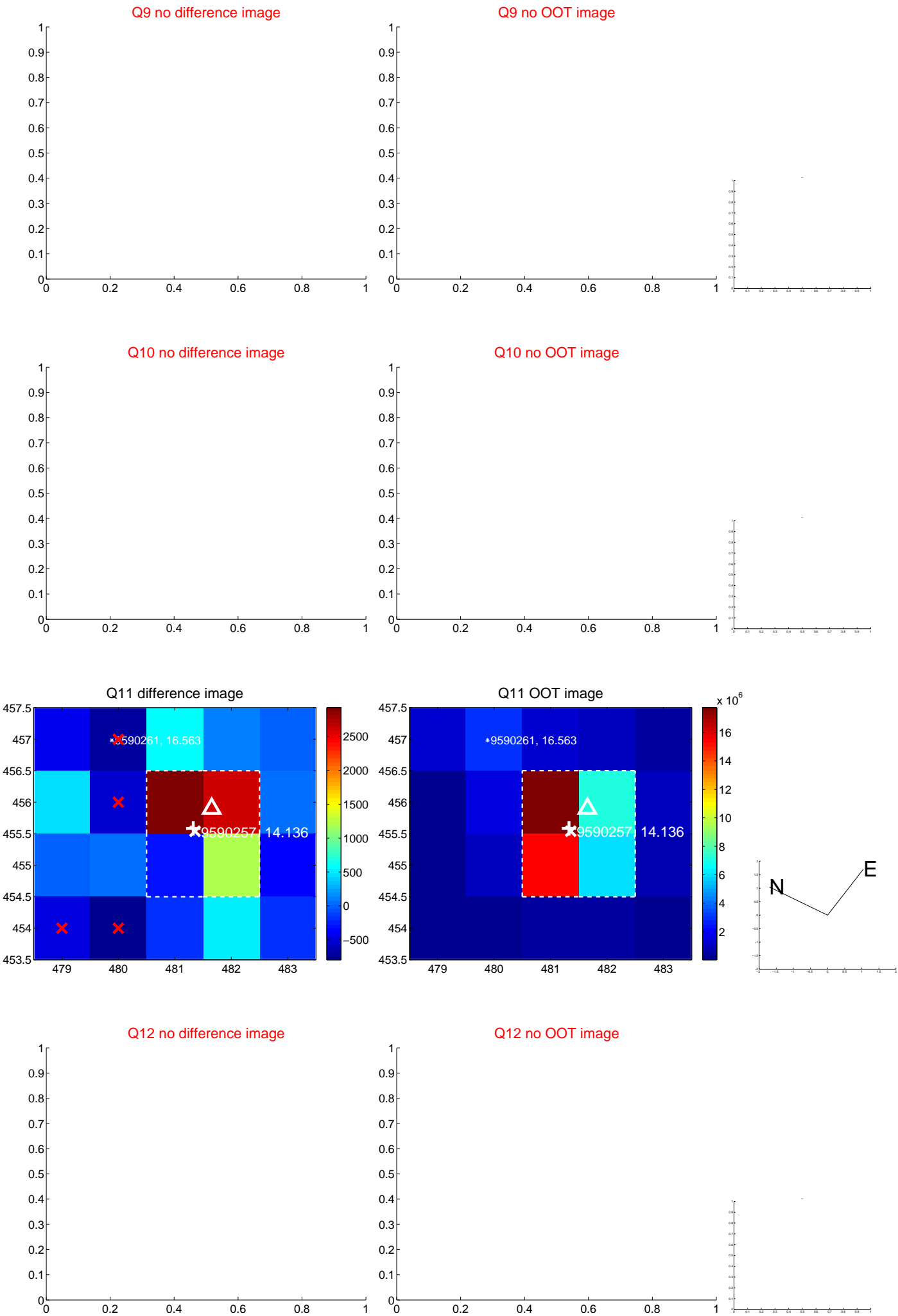
Q8 no difference image



Q8 no OOT image



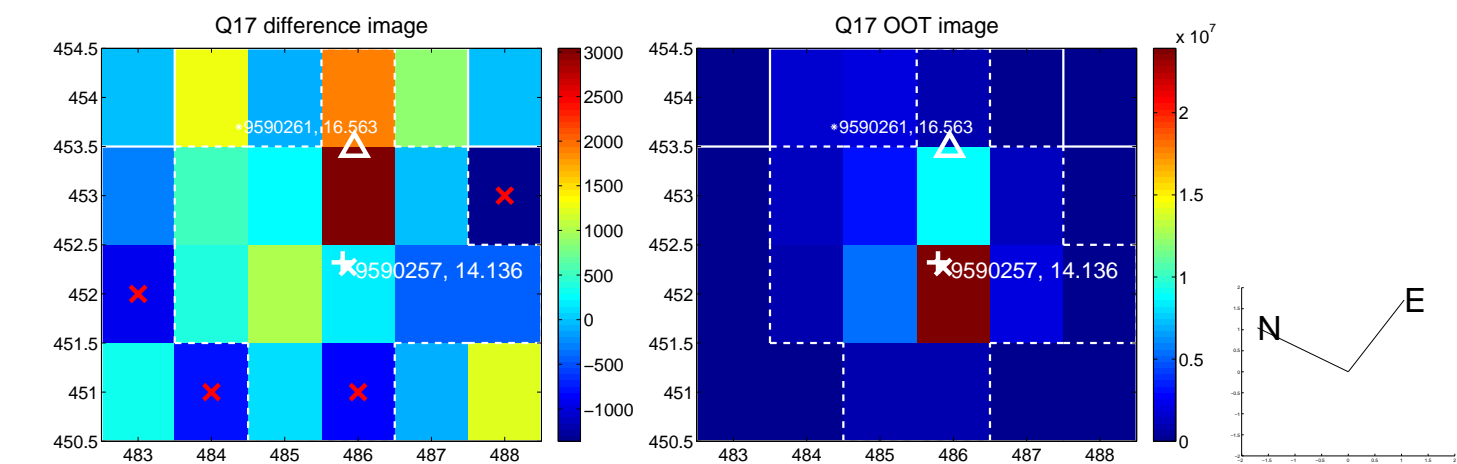
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



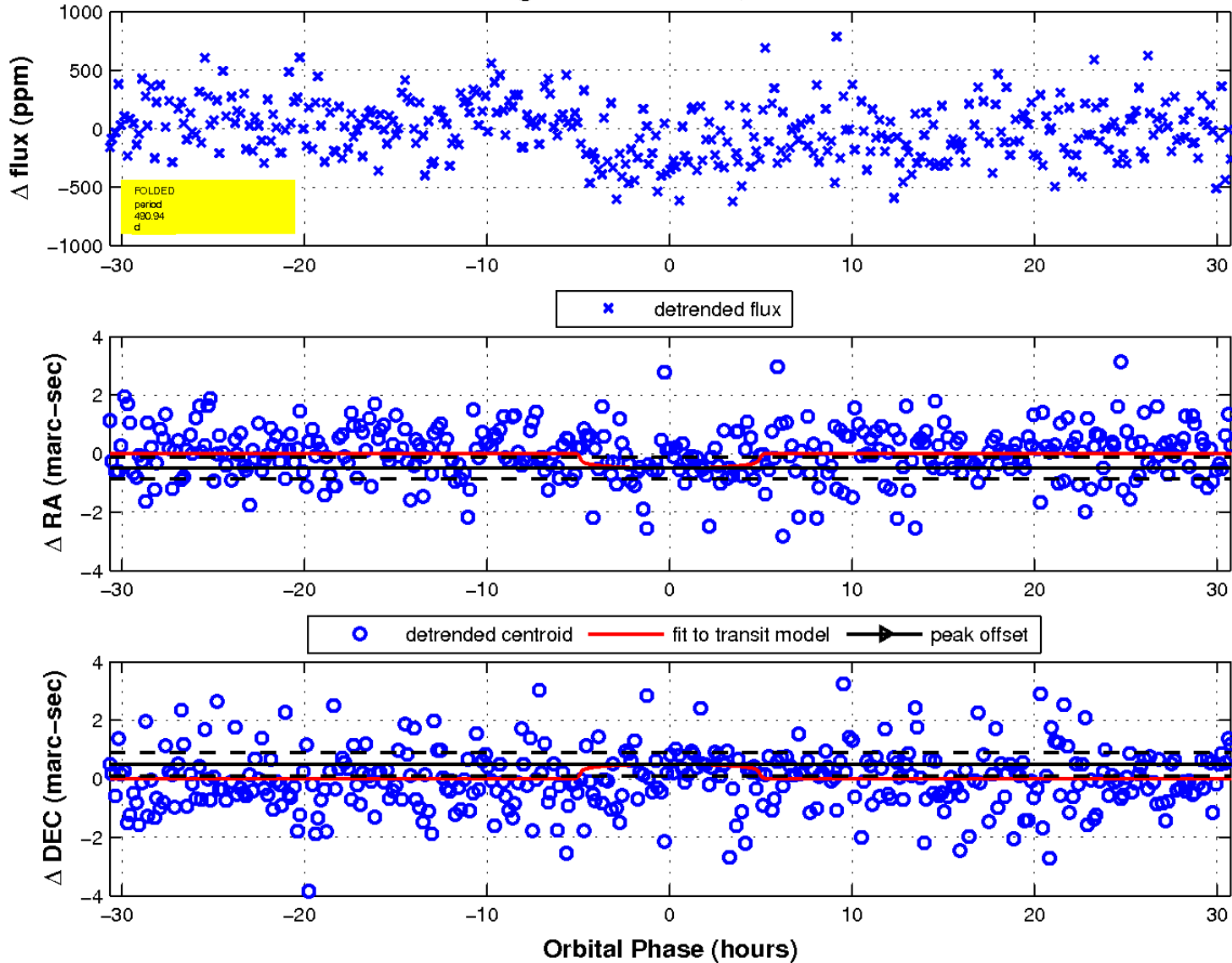
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



Declination