

KIC 009147012

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})
009147012-01	OBS	5625.01	116.451635	161.990854	2344.5	23.619	20.0	24.6	0.74	5197	4.40	2.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009147012-01	OBS	PC	0.79	0	0	0	0	NO_COMMENT

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 009147012-01

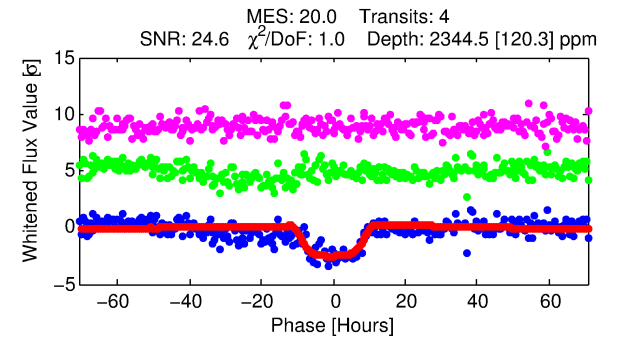
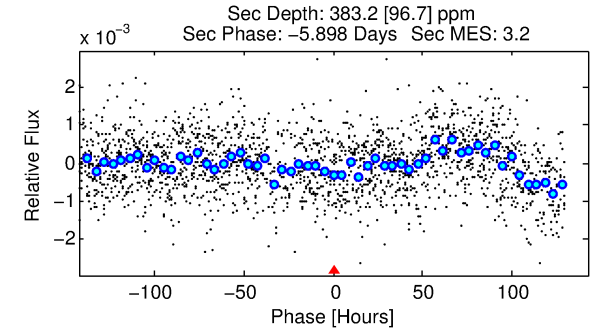
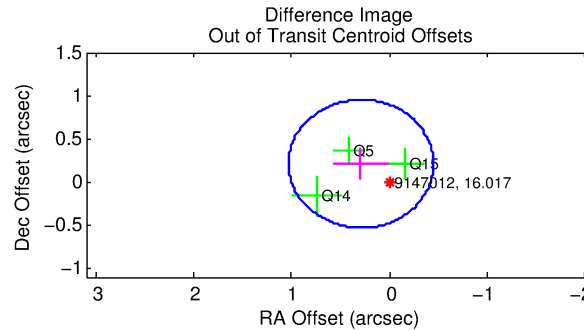
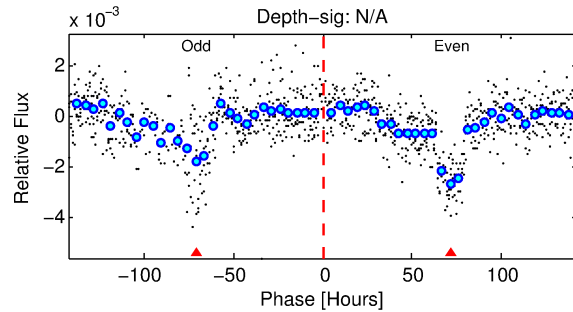
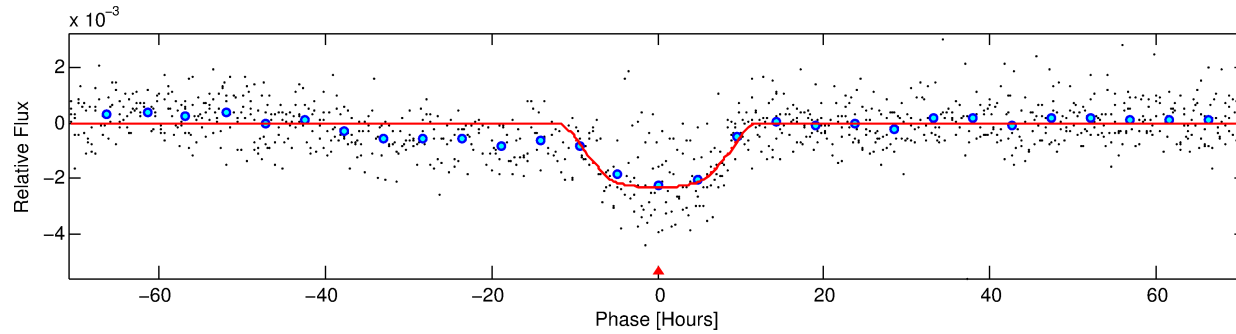
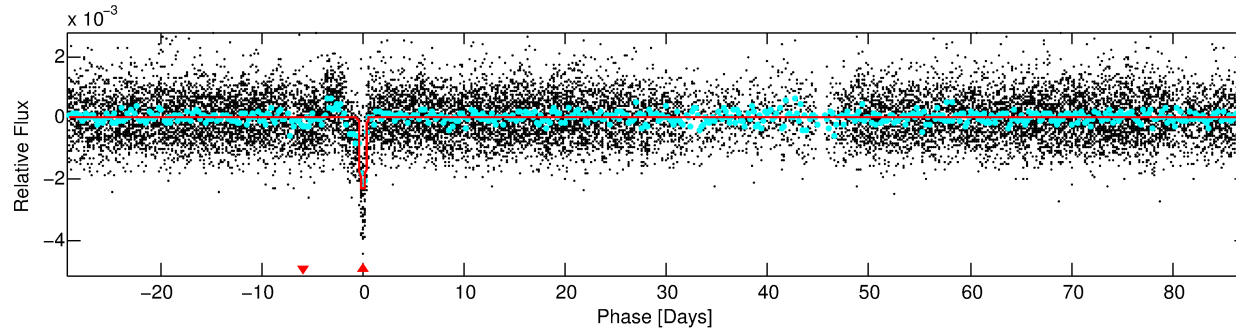
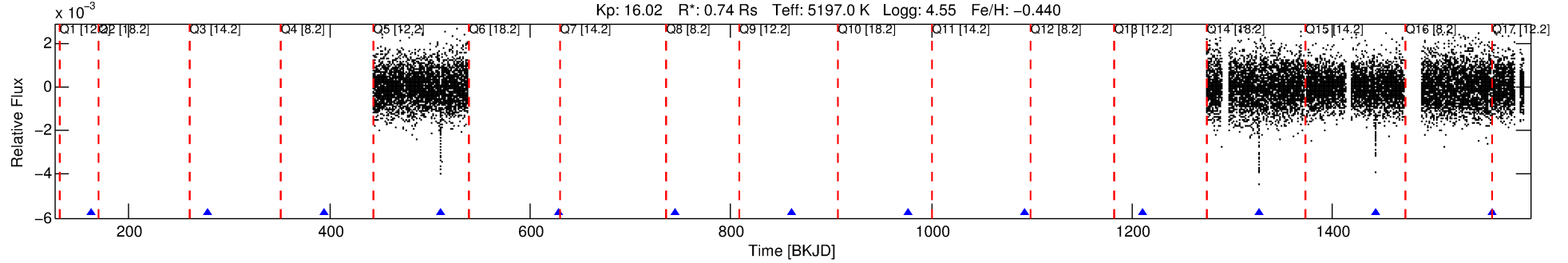
No Significant Match Found

DV One-Page Summary

KIC: 9147012 Candidate: 1 of 1 Period: 116.452 d

KOI: K05625.01 Corr: 0.828

Kp: 16.02 R*: 0.74 Rs Teff: 5197.0 K Logg: 4.55 Fe/H: -0.440



DV Fit Results:

Period = 116.45163 [0.00359] d
Epoch = 161.9909 [0.0338] BKJD
Rp/R* = 0.0548 [0.0024]
a/R* = 19.52 [2.08]
b = 0.92 [0.02]
Seff = 2.07 [0.43]
Teq = 306 [16] K
Rp = 4.40 [0.53] Re
a = 0.4140 [0.0418] AU
Ag = 1866.39 [576.47] [3.24σ]
Teffp = 3106 [234] K [11.93σ]

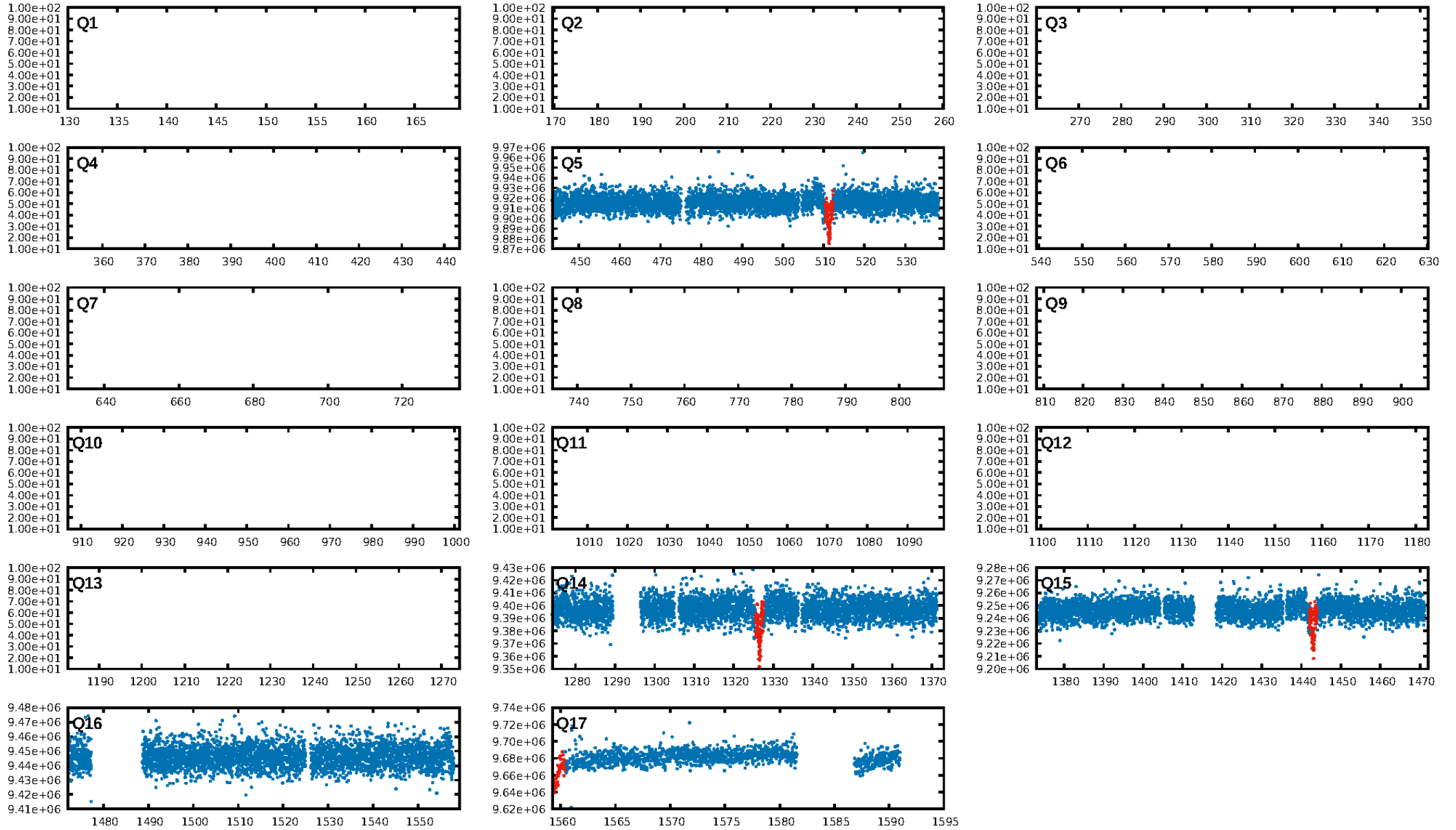
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 97.4%
Bootstrap-pfa: 2.17e-81
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.43
Centroid-sig: 8.0%
Centroid-so: 0.957 arcsec [2.18σ]
OotOffset-rm: 0.359 arcsec [1.45σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 0.363 arcsec [1.33σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

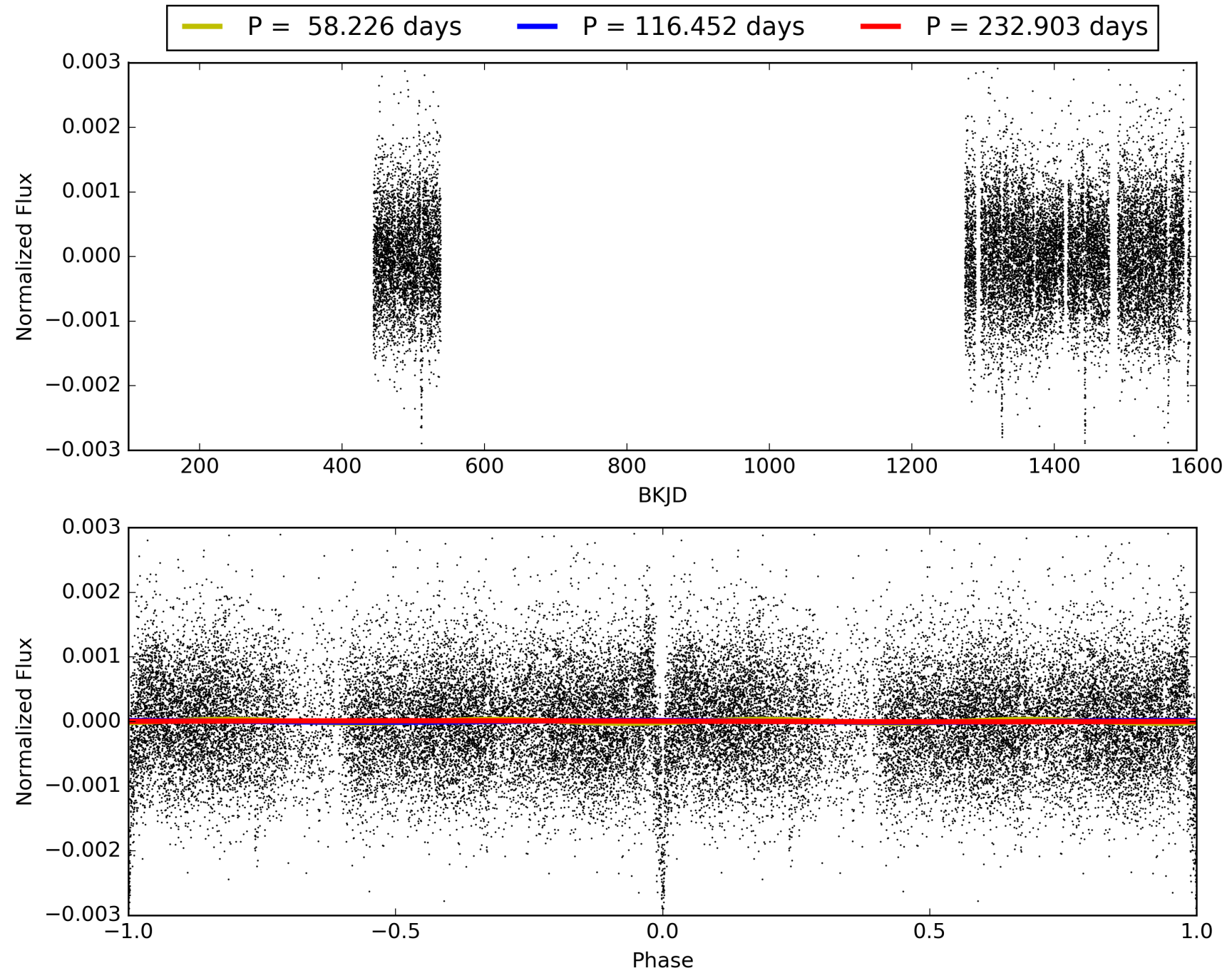
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:45:34 Z

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

TCE 009147012-01, PDC Light Curves

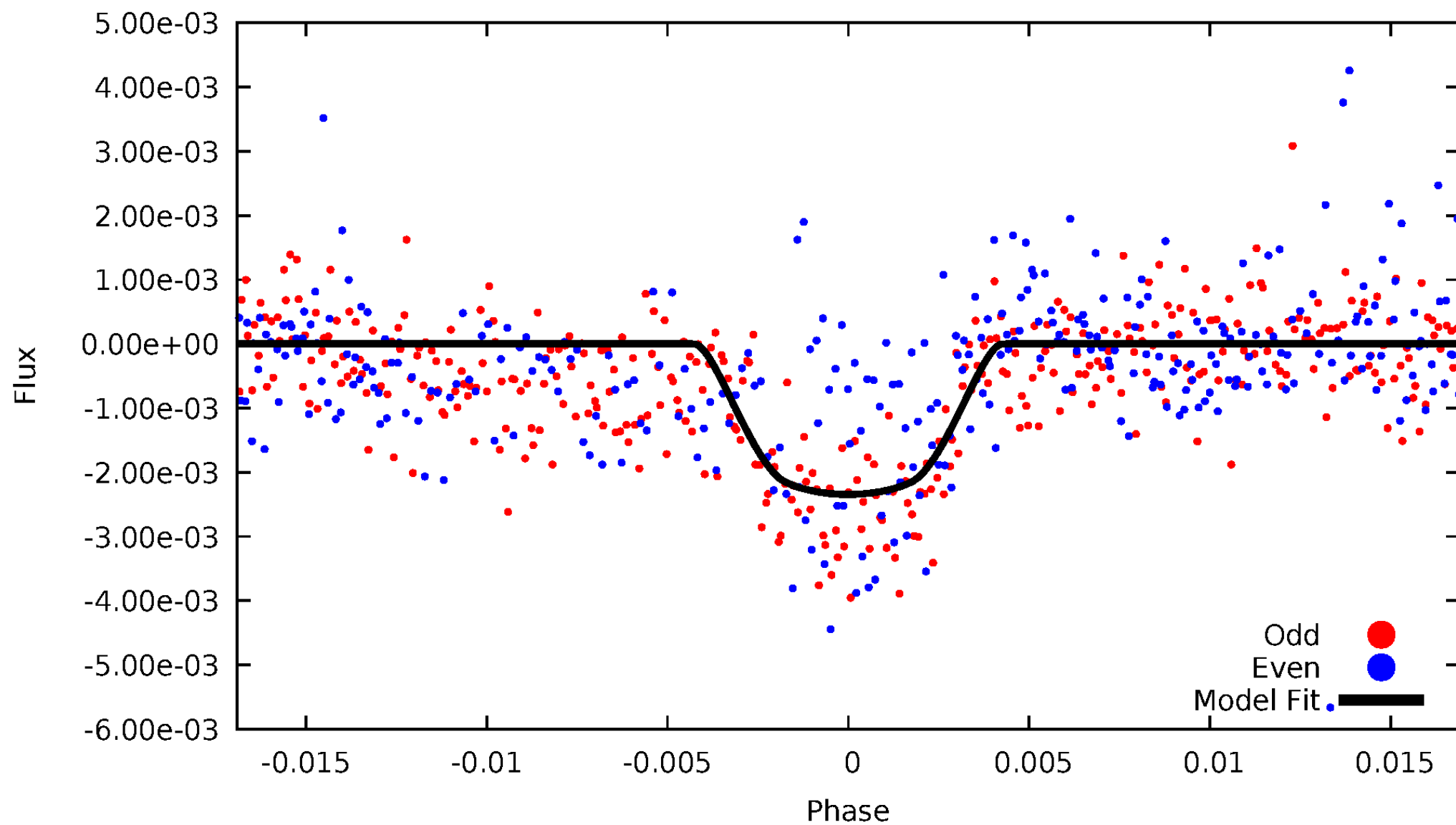


TCE 009147012-01



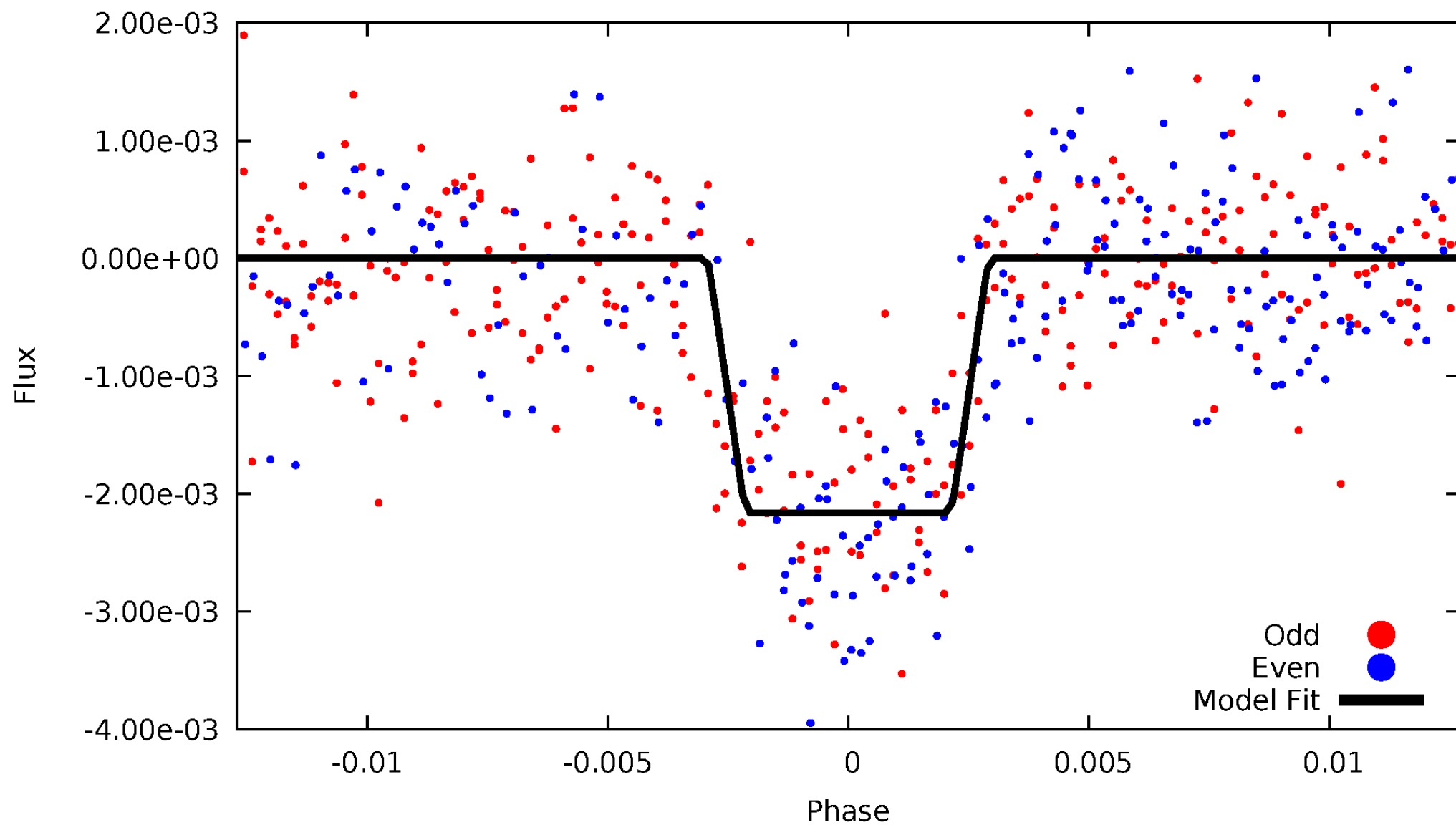
DV Odd/Even

TCE 009147012-01



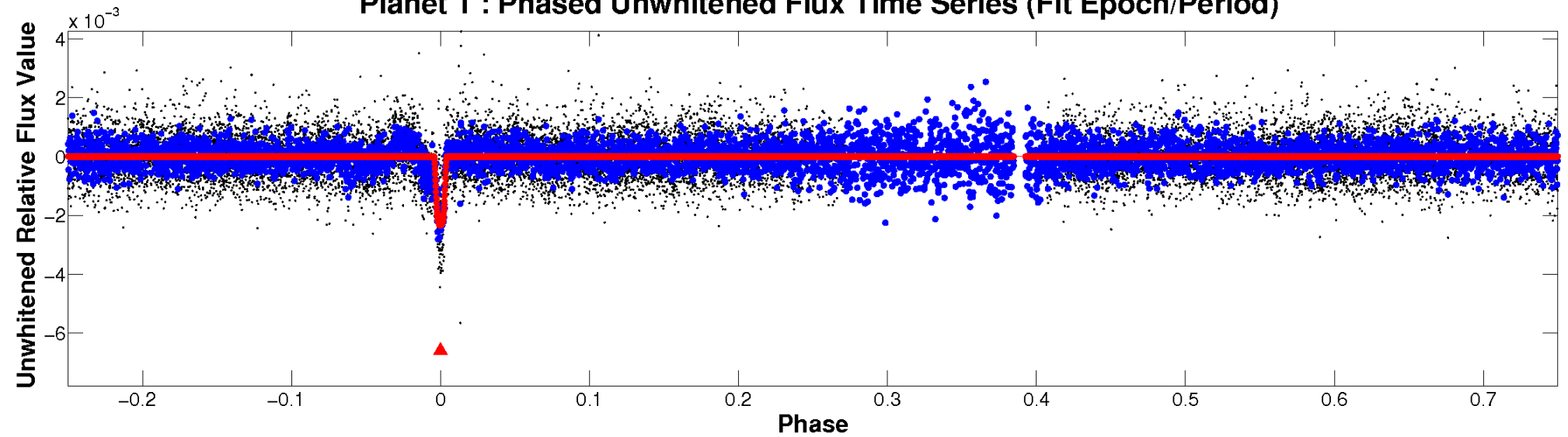
ALT Odd/Even

TCE 009147012-01

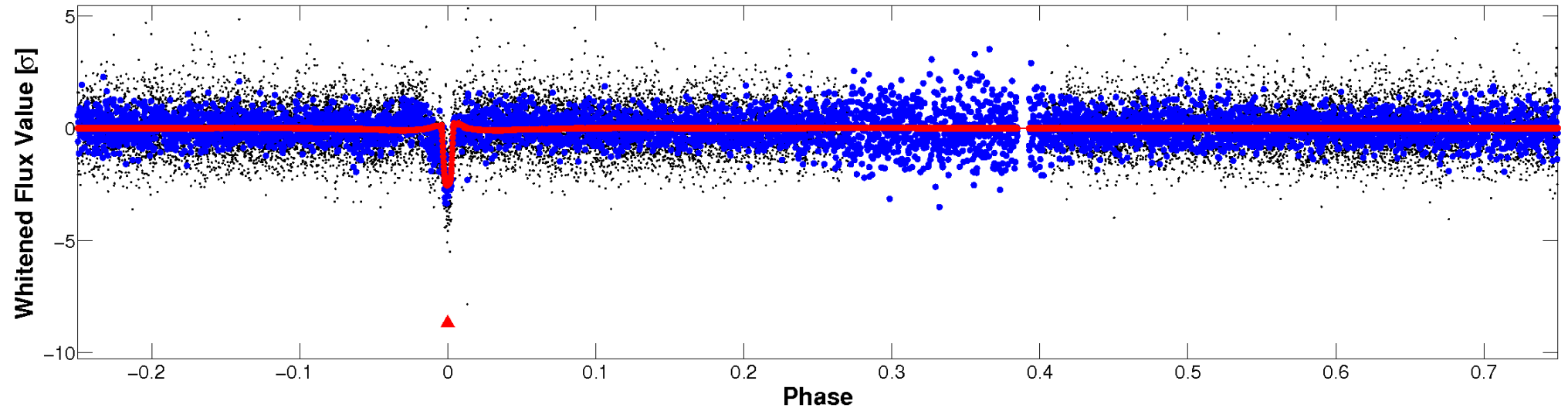


Non-Whitened Vs. Whitened Light Curve

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

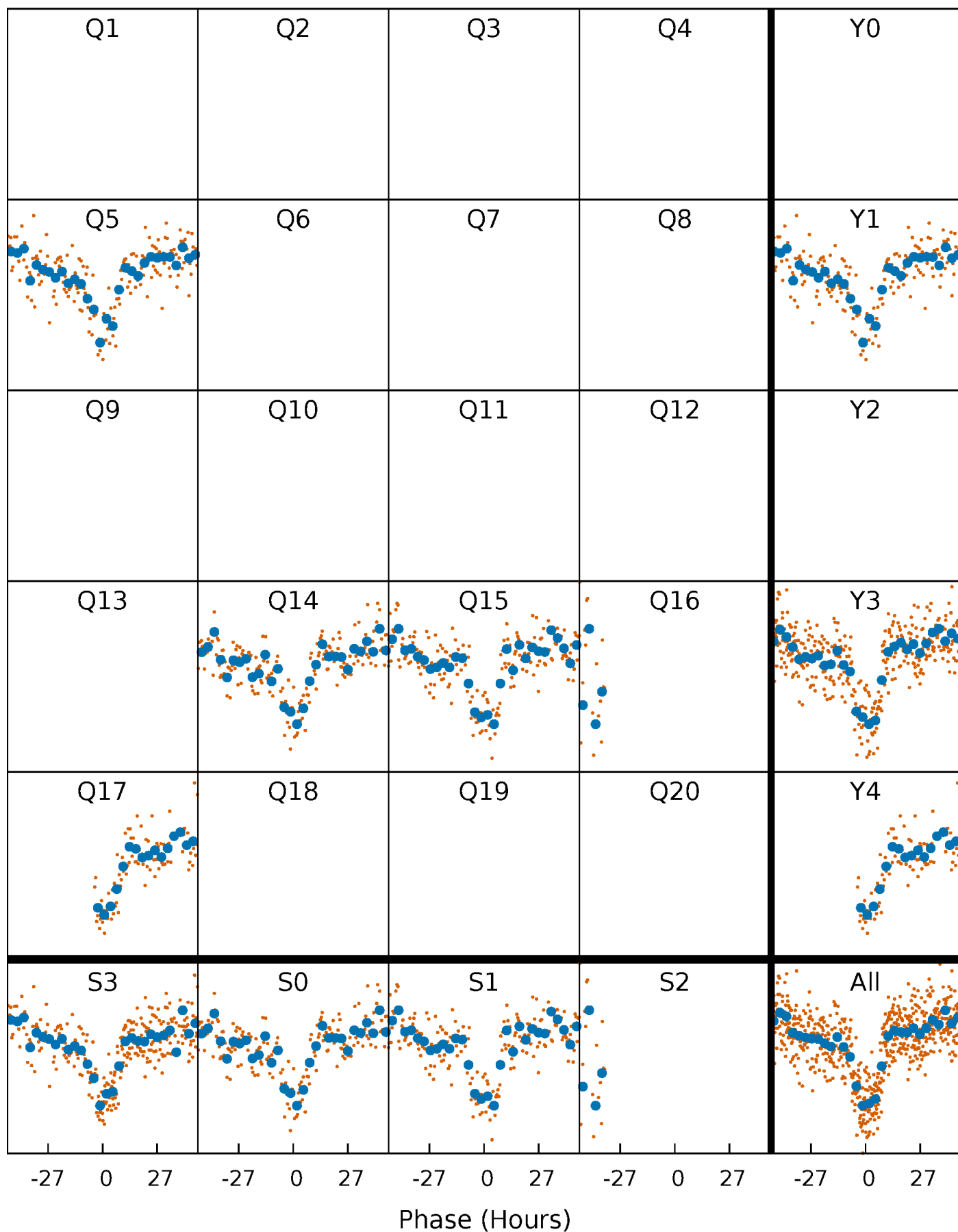


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



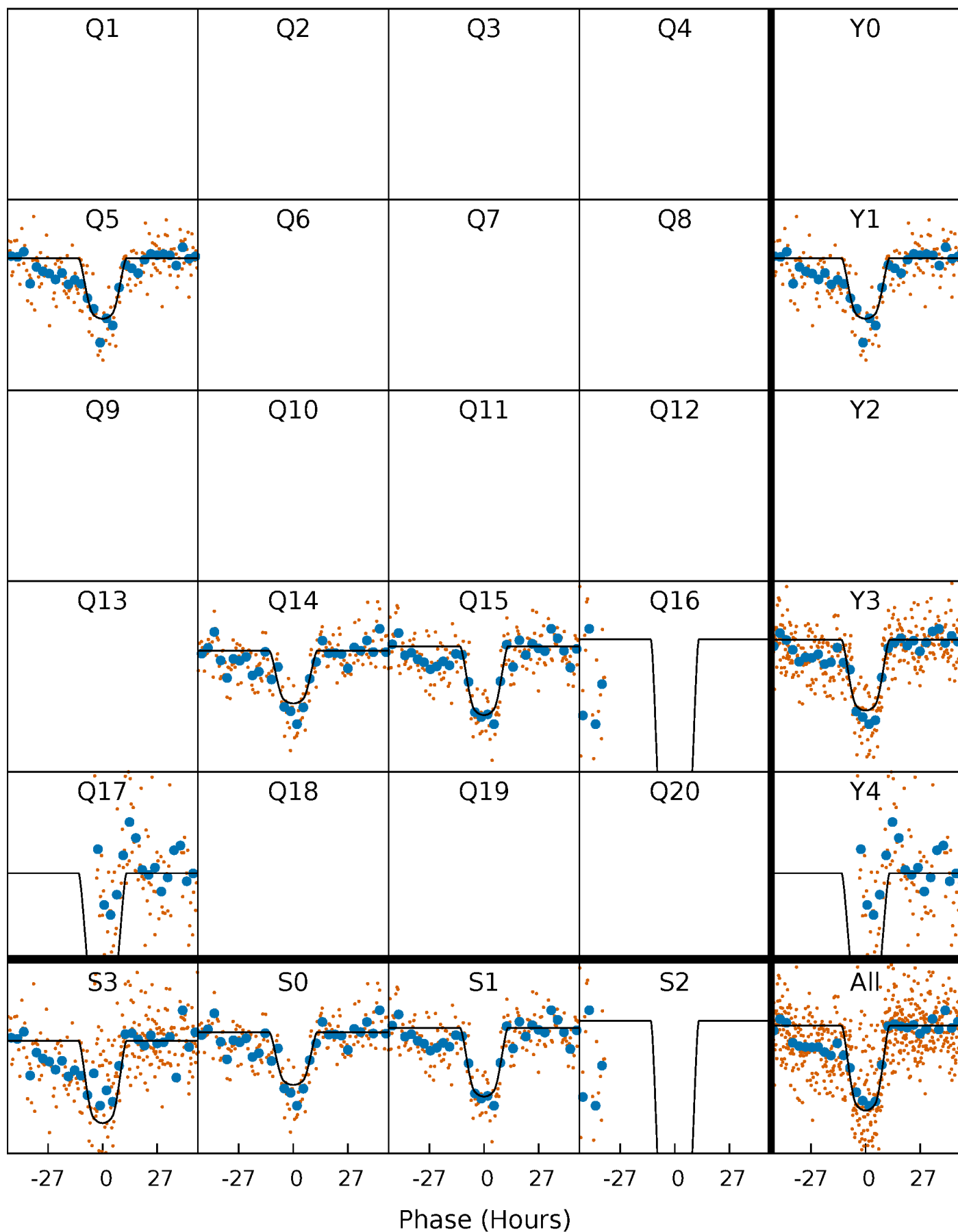
PDC Quarter-Phased Transit Curves

TCE 009147012-01 P=116.451635 Days $T_0=161.990854$ (BKJD)



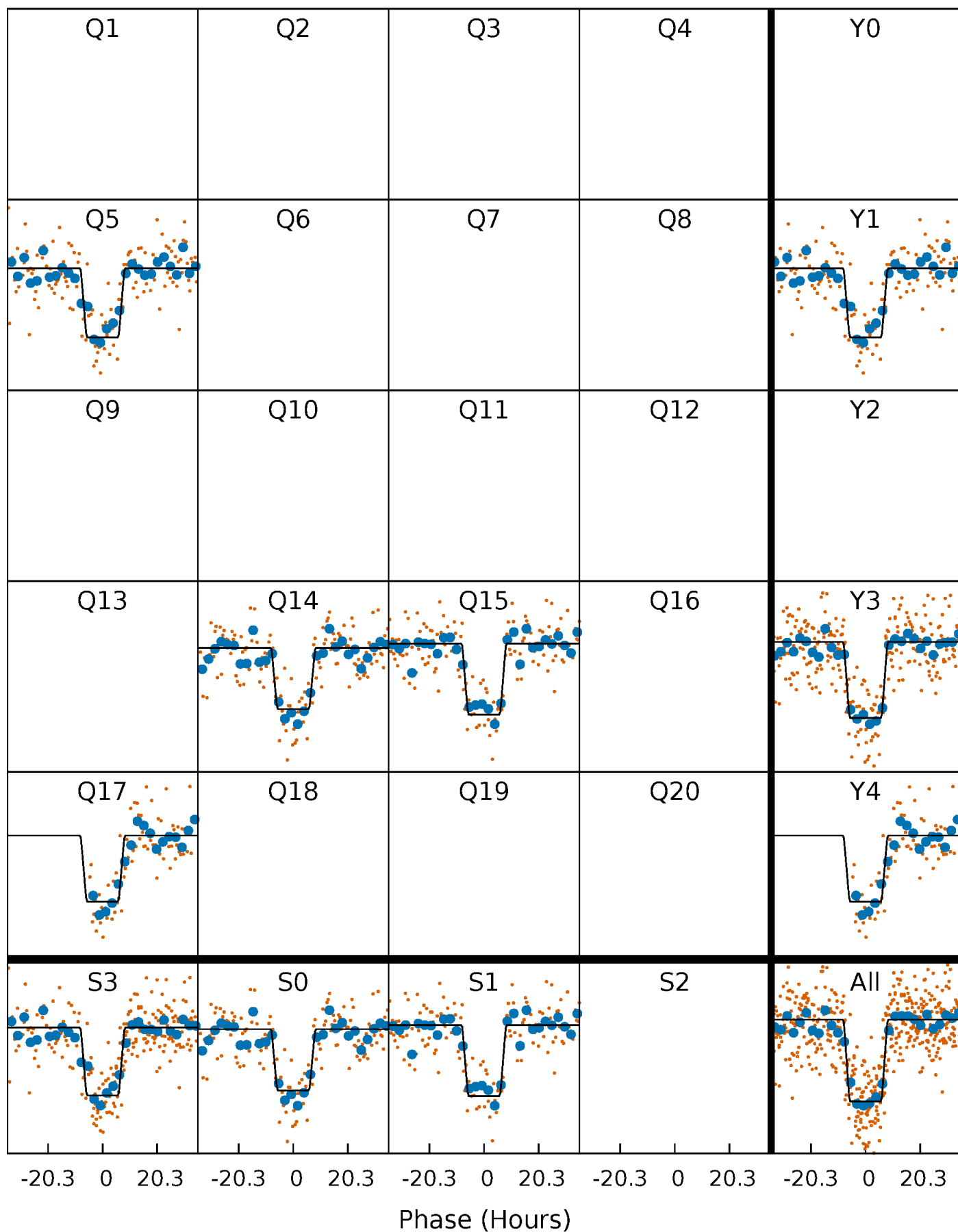
DV Quarter-Phased Transit Curves

TCE 009147012-01 P=116.451635 Days $T_0=161.990854$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

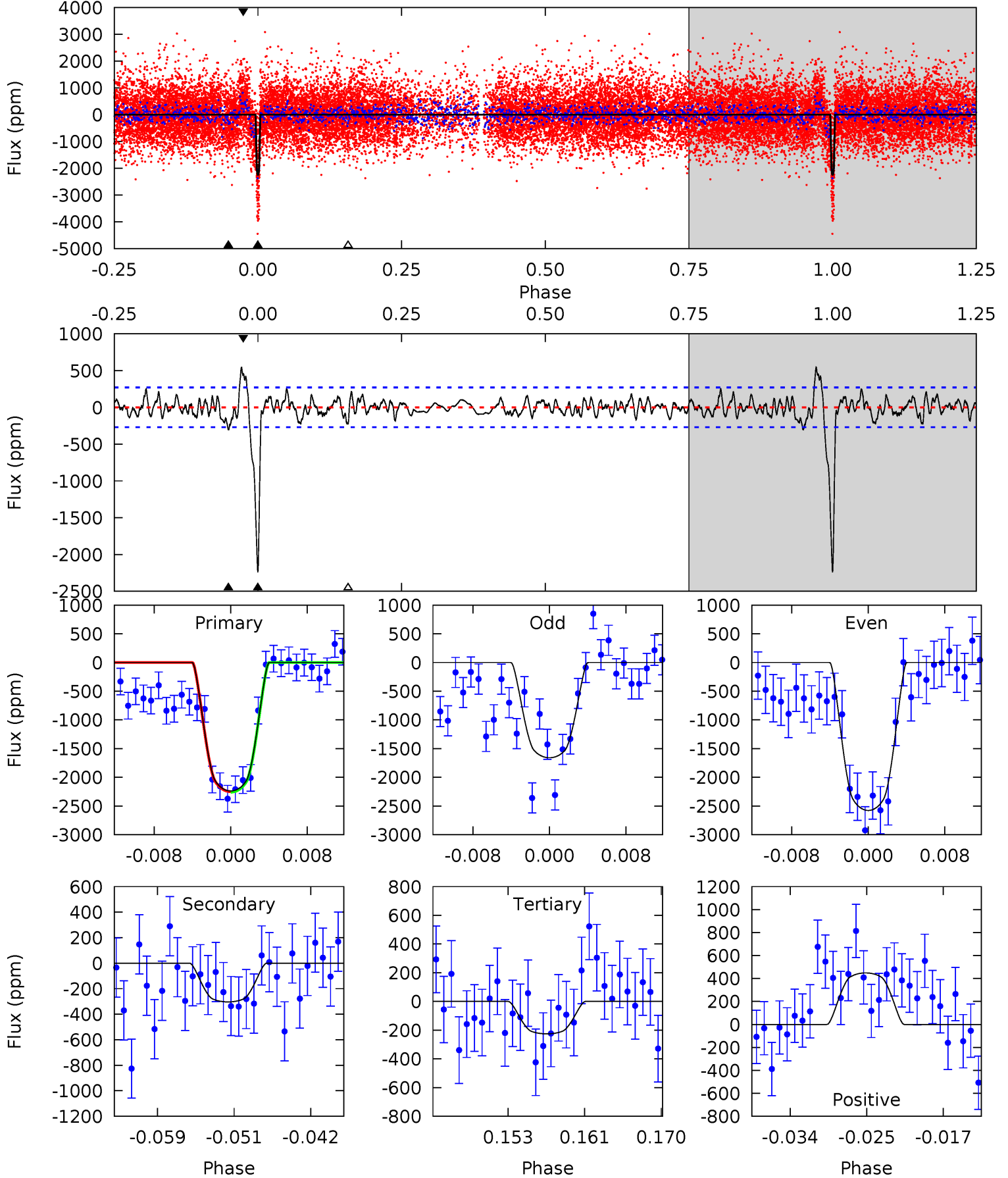
TCE 009147012-01 P=116.450858 Days $T_0=162.033659$ (BKJD)



DV Model-Shift Uniqueness Test

009147012-01, P = 116.451635 Days, E = 161.990854 Days

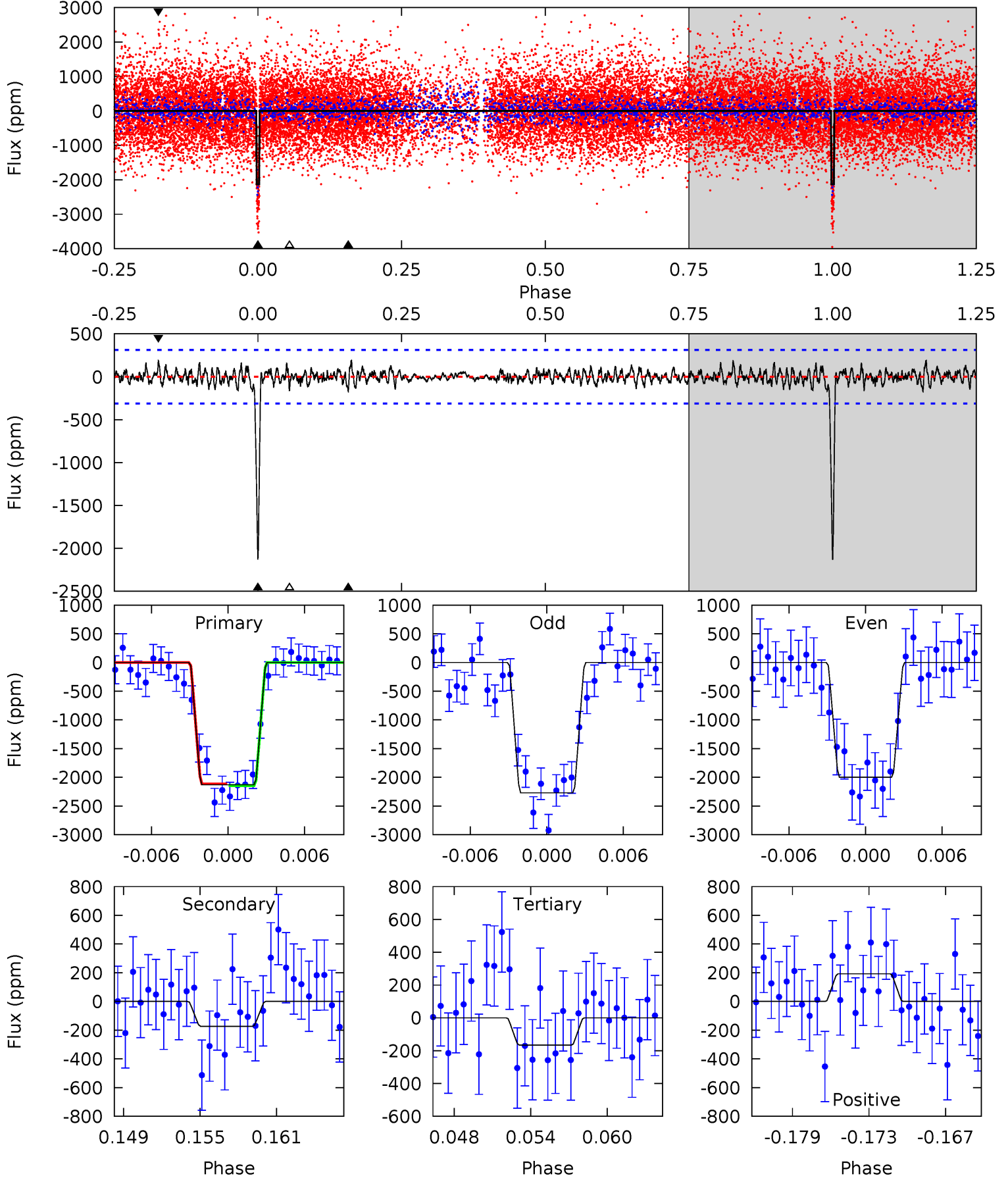
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.9	5.68	4.22	8.39	5.06	2.63	2.07	37.6	33.5	1.46	-2.71	8.64	0.79	0.20	0.07



Alt Model-Shift Uniqueness Test

009147012-01, P = 116.450858 Days, E = 162.033659 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.9	2.83	2.72	3.15	5.12	2.75	0.93	32.2	31.8	0.11	-0.32	2.21	0.99	0.08	0.23



Stellar Parameters For KIC 009147012

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5197^{+181}_{-181}	$4.548^{+0.088}_{-0.064}$	$-0.440^{+0.350}_{-0.300}$	$0.736^{+0.083}_{-0.083}$	$0.697^{+0.101}_{-0.043}$	$2.462^{+0.923}_{-0.566}$
	+3%/-3%	+2%/-1%	+80%/-68%	+11%/-11%	+14%/-6%	+38%/-23%
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 009147012-01 / KOI 5625.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-304 ± 53	$4.40^{+0.36}_{-0.32}$	425^{+19}_{-20}	3402^{+134}_{-131}	1487^{+382}_{-303}
Alt.	-173 ± 61	$3.74^{+0.29}_{-0.31}$	425^{+19}_{-19}	3274^{+198}_{-192}	1162^{+482}_{-398}

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

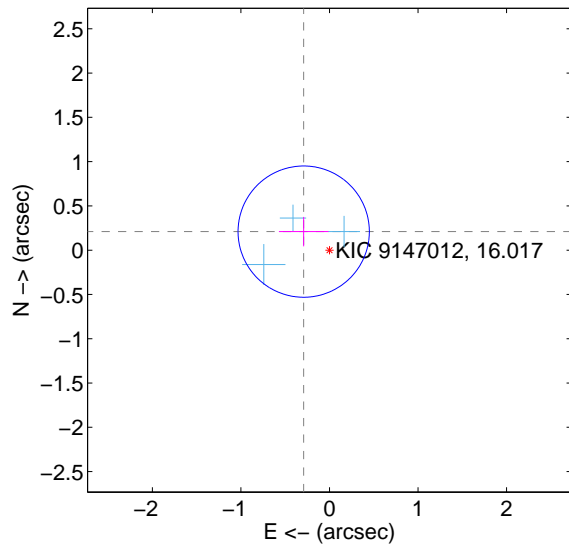
Supplemental centroid analysis for 009147012-01. Kepler magnitude: 16.02. Transit SNR 24.59

There are 3 quarters with good PRF difference image offsets

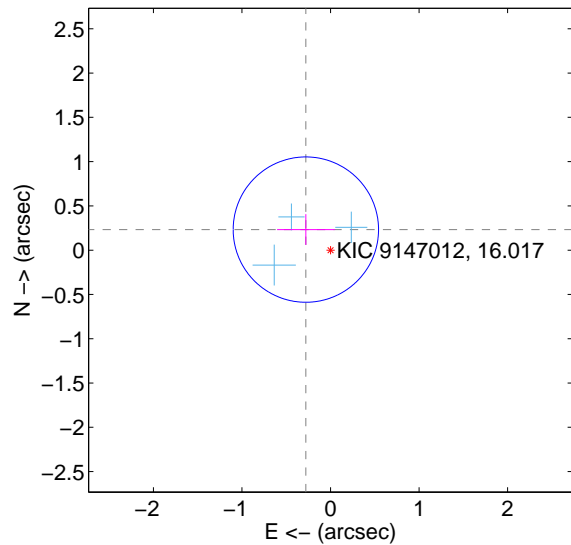
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.359 ± 0.247	1.45	0.291 ± 0.280	0.210 ± 0.166
PRF-fit source offset from KIC position	0.363 ± 0.274	1.33	0.278 ± 0.325	0.232 ± 0.174
photometric centroid source offset	0.96 ± 0.44	2.18	0.91 ± 0.44	-0.30 ± 0.41

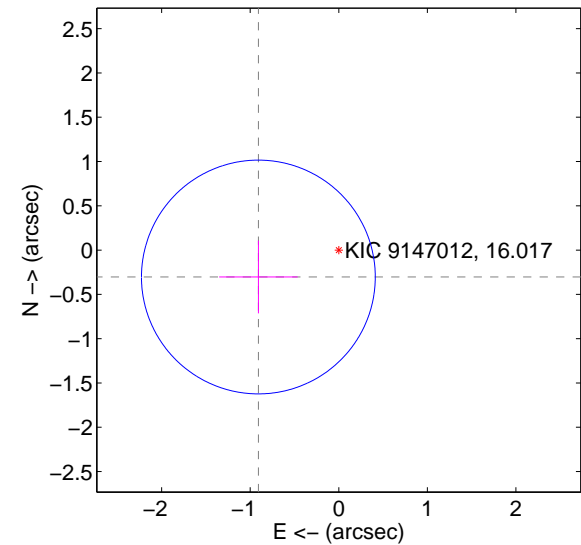
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

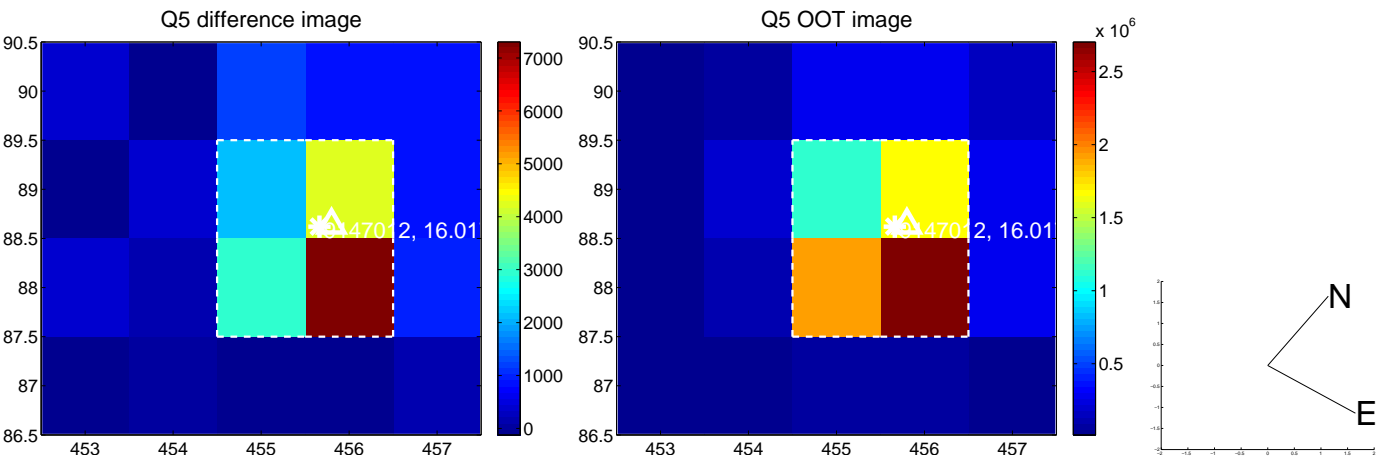


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

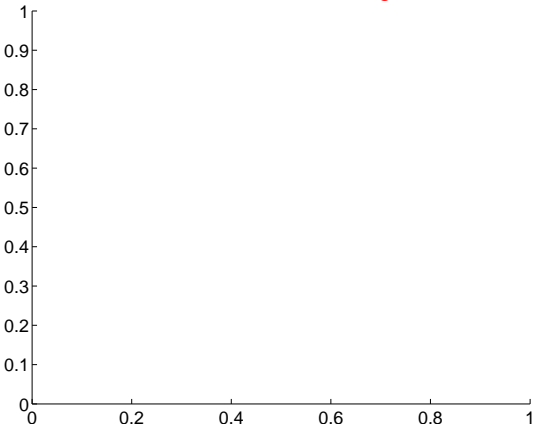


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

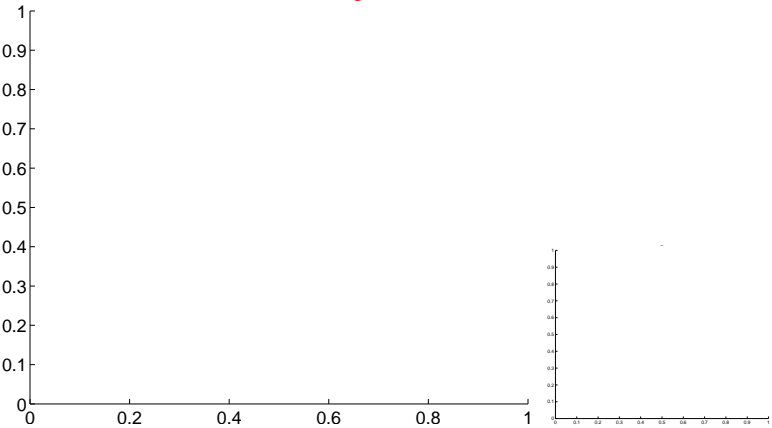


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

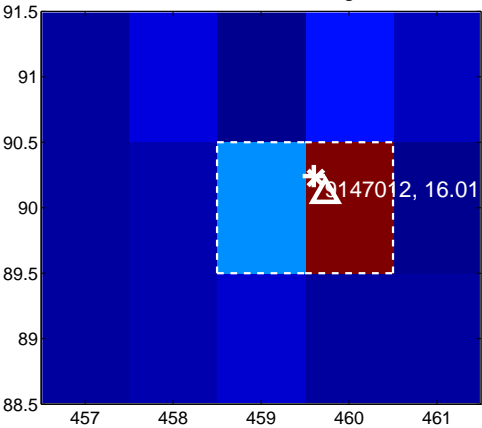
Q13 no difference image



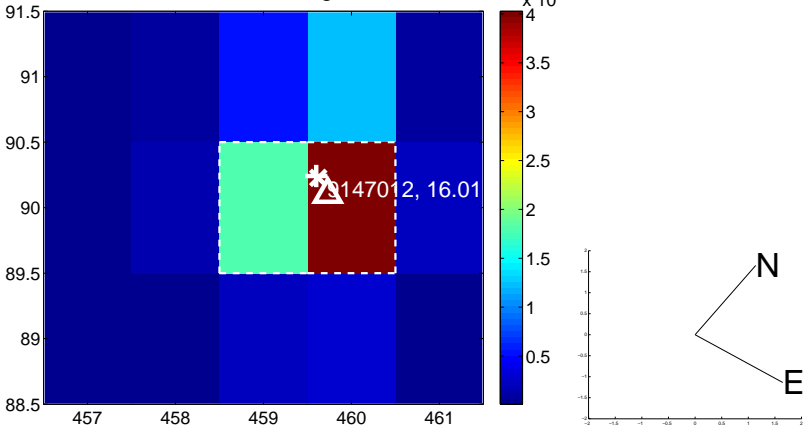
Q13 no OOT image



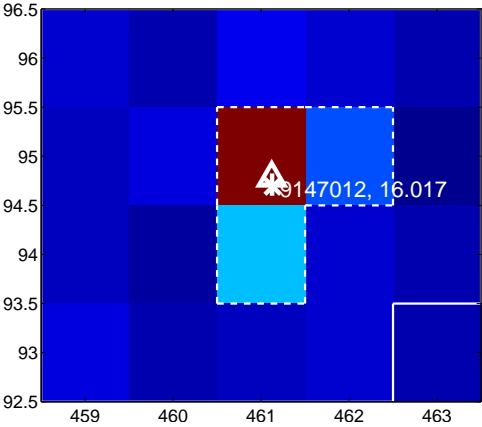
Q14 difference image



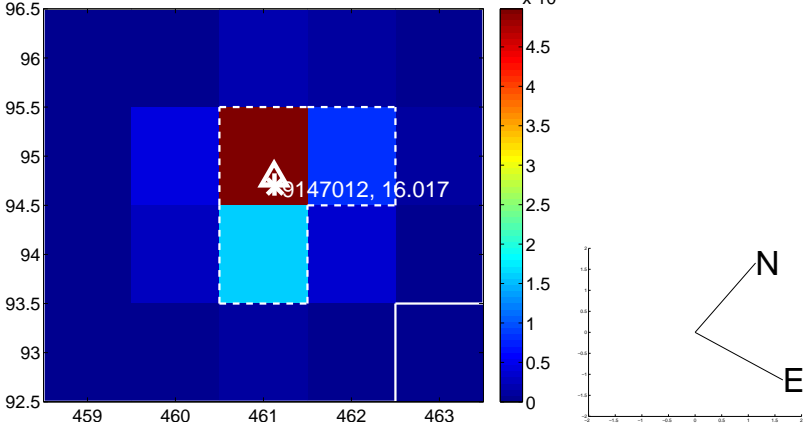
Q14 OOT image



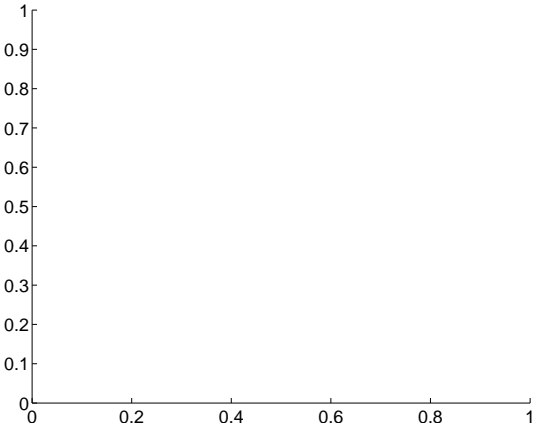
Q15 difference image



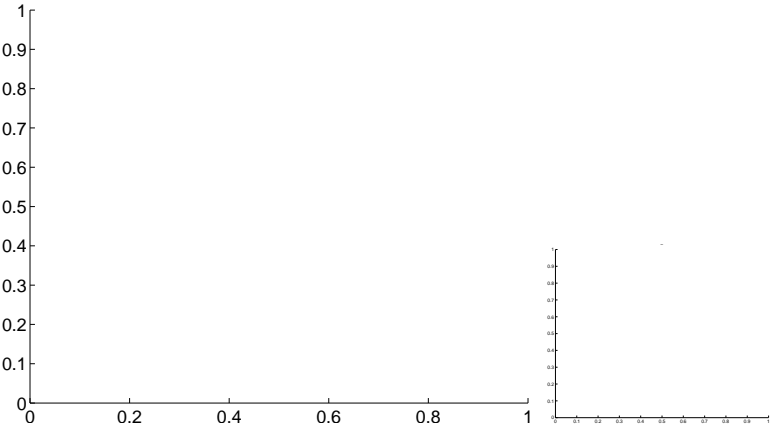
Q15 OOT image



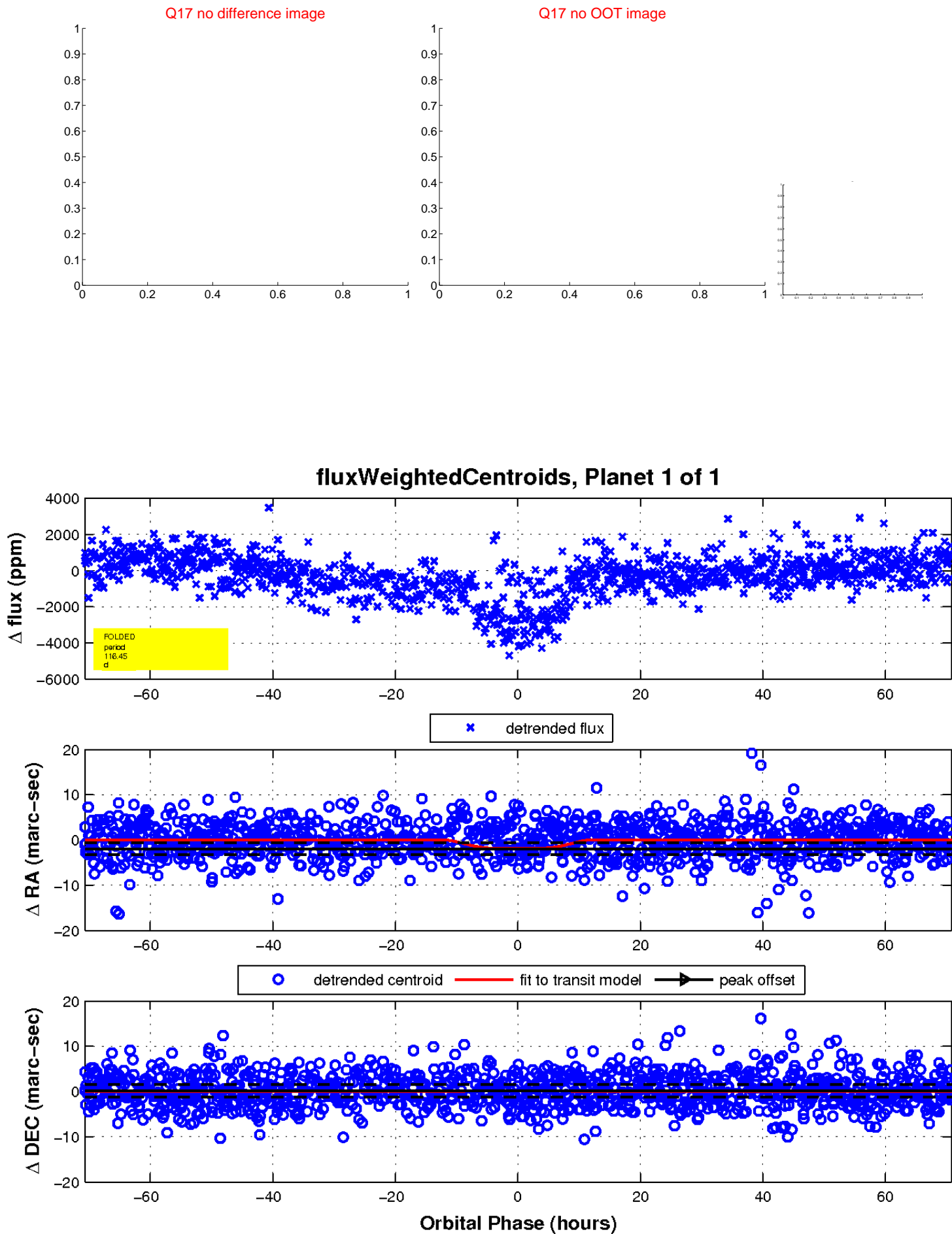
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

