

KIC 009340361

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})
009340361-01	OBS	No	494.310211	161.341848	140.2	21.589	7.8	7.0	1.82	6015	2.30	2.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009340361-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—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.

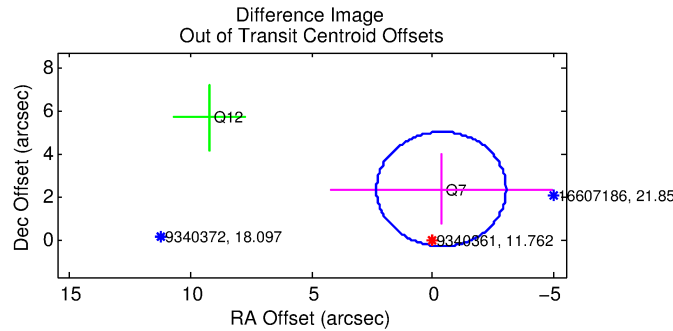
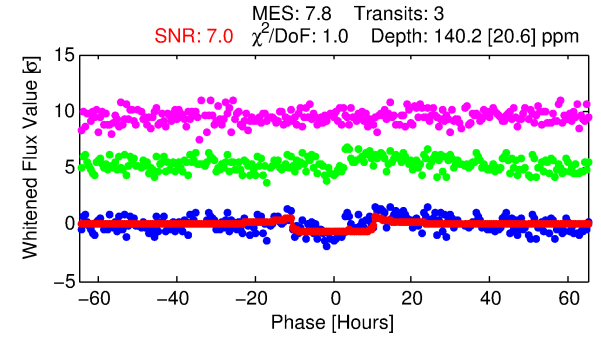
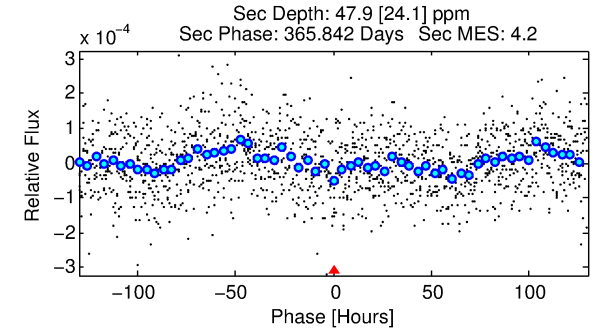
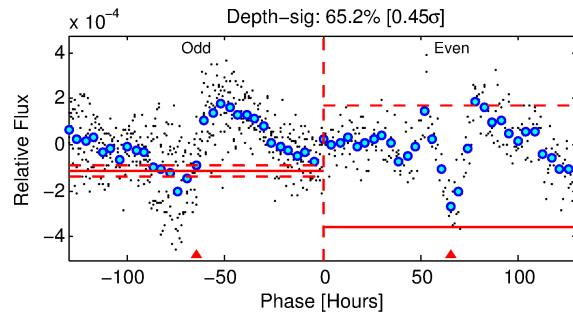
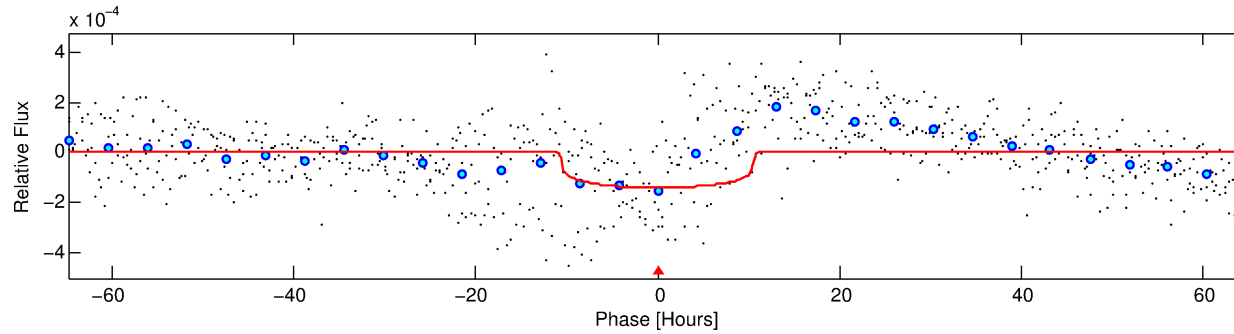
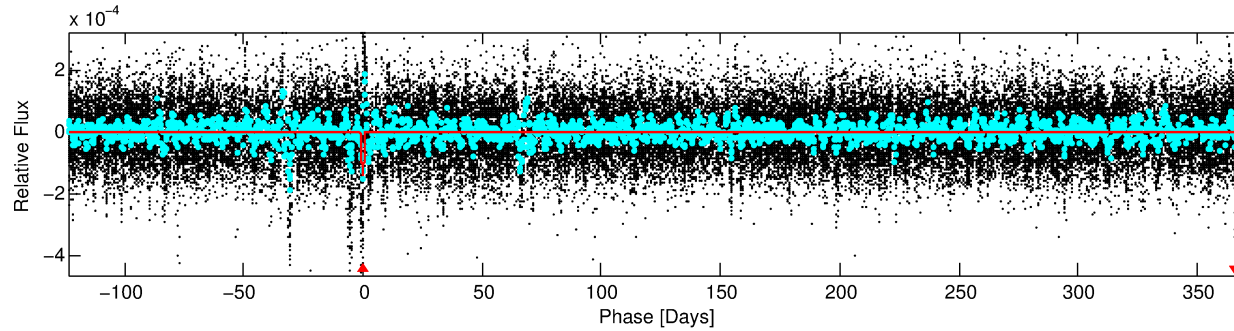
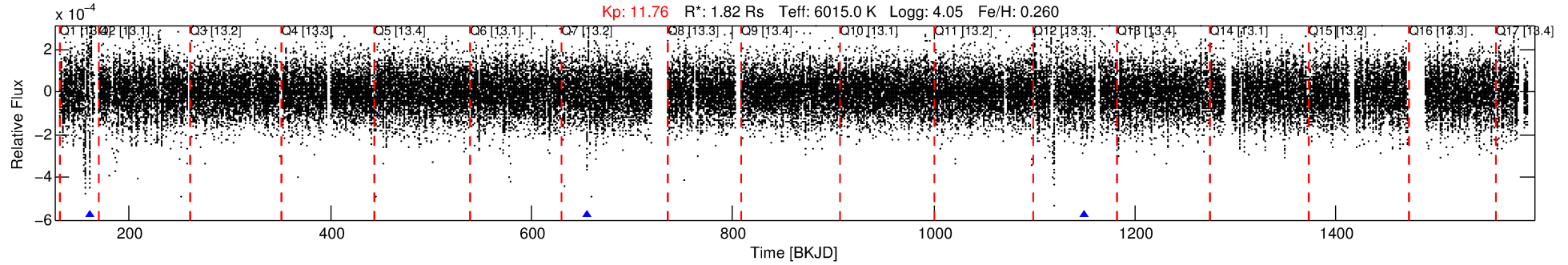
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009340361-01

No Significant Match Found

DV One-Page Summary

KIC: 9340361 Candidate: 1 of 1 Period: 494.310 d



DV Fit Results:

Period = 494.31021 [0.01577] d
Epoch = 161.3418 [0.0178] BKJD
Rp/R* = 0.0116 [0.0025]
a/R* = 128.54 [120.02]
b = 0.70 [0.70]
Seff = 2.13 [1.12]
Teq = 308 [40] K
Rp = 2.30 [0.94] Re
a = 1.3512 [0.4341] AU
Ag = 9098.88 [7608.45] [1.20 σ]
Teffp = 4653 [792] K [5.48 σ]

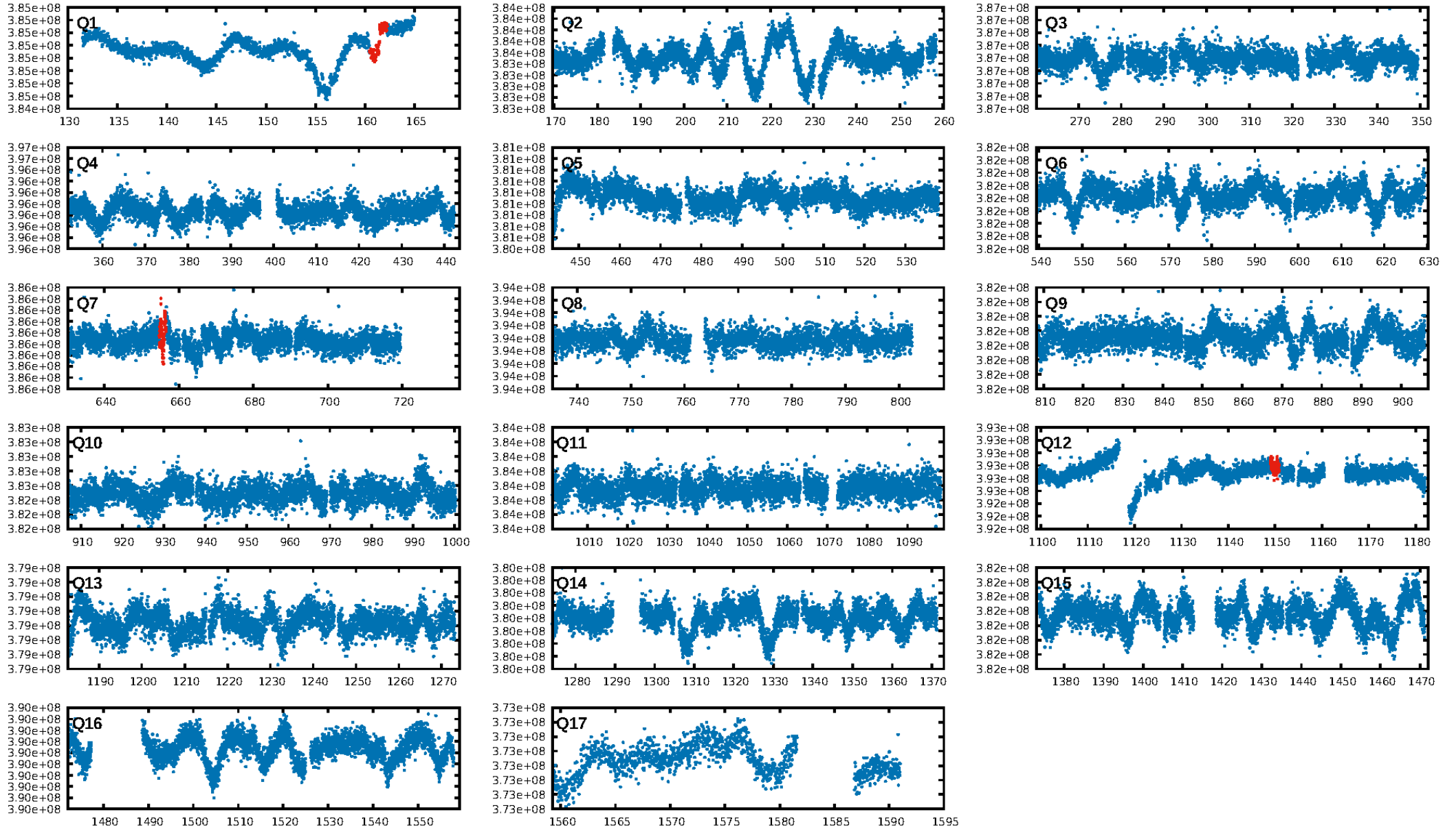
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 32.9%
ModelChiSquareGof-sig: 95.8%
Bootstrap-pfa: 9.00e-14
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 3.942
Centroid-sig: 18.2%
Centroid-so: 1.625 arcsec [1.24 σ]
OotOffset-rm: 2.380 arcsec [2.67 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 2.399 arcsec [3.09 σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

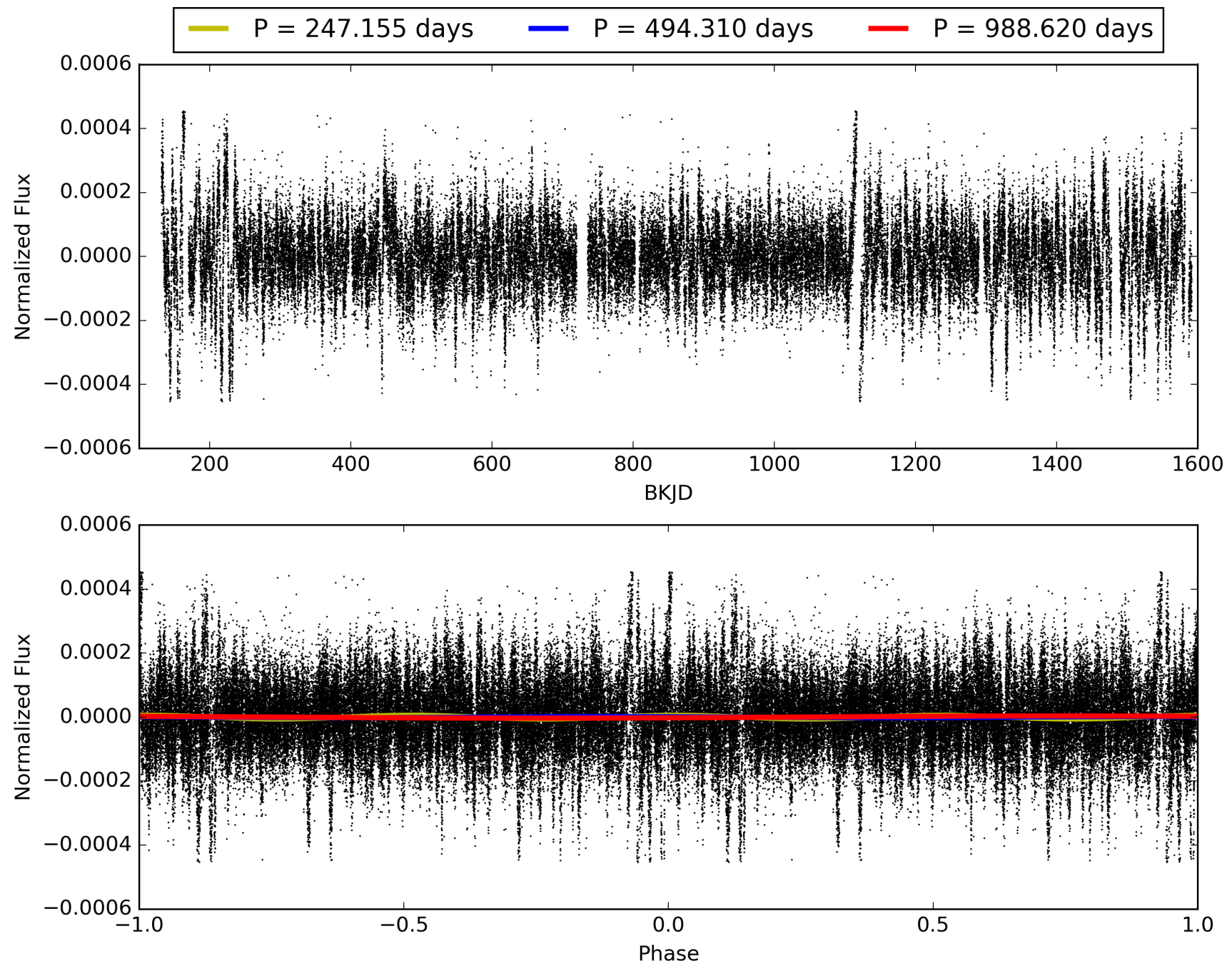
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:24:02 Z

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

TCE 009340361-01, PDC Light Curves

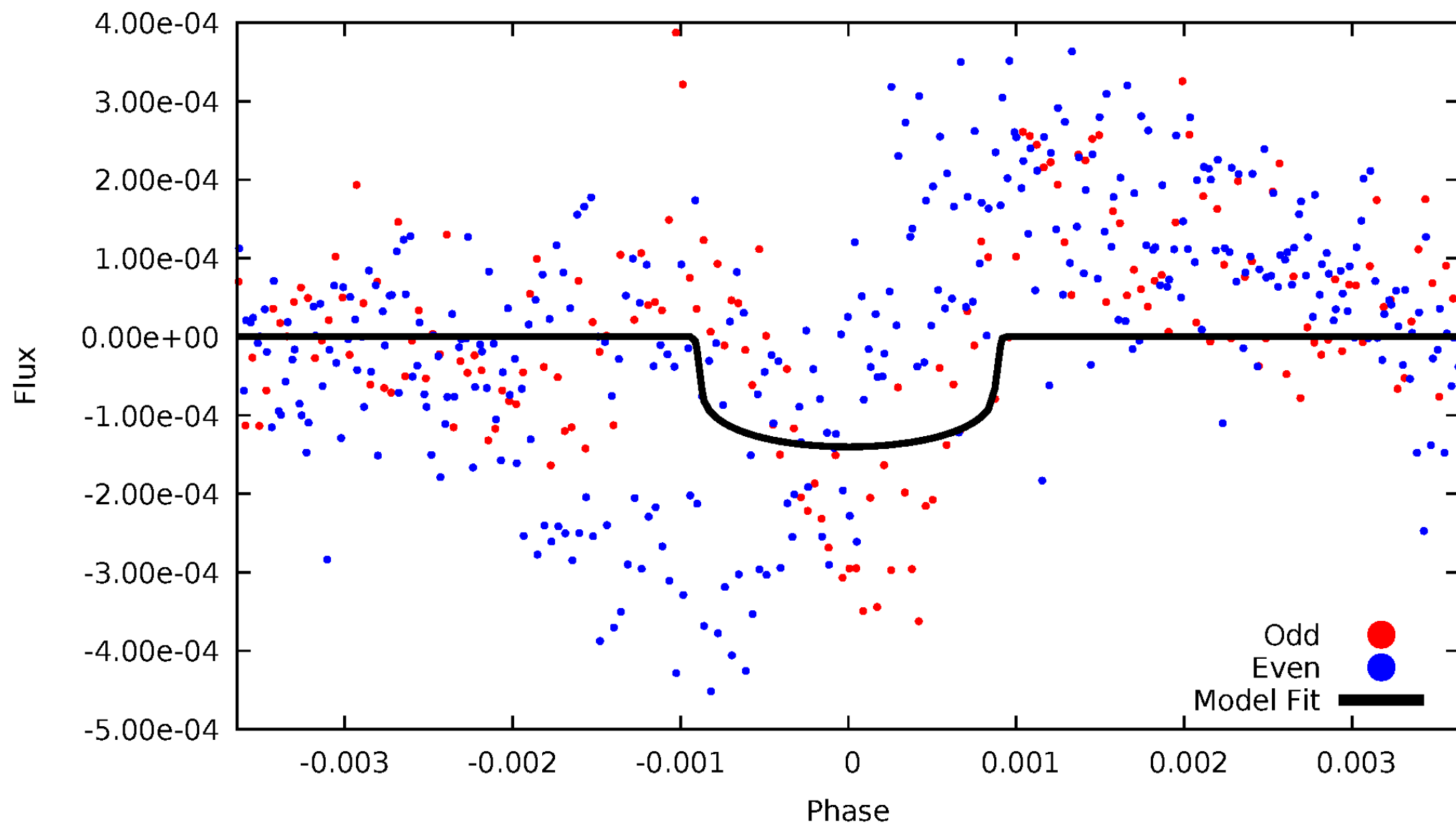


TCE 009340361-01



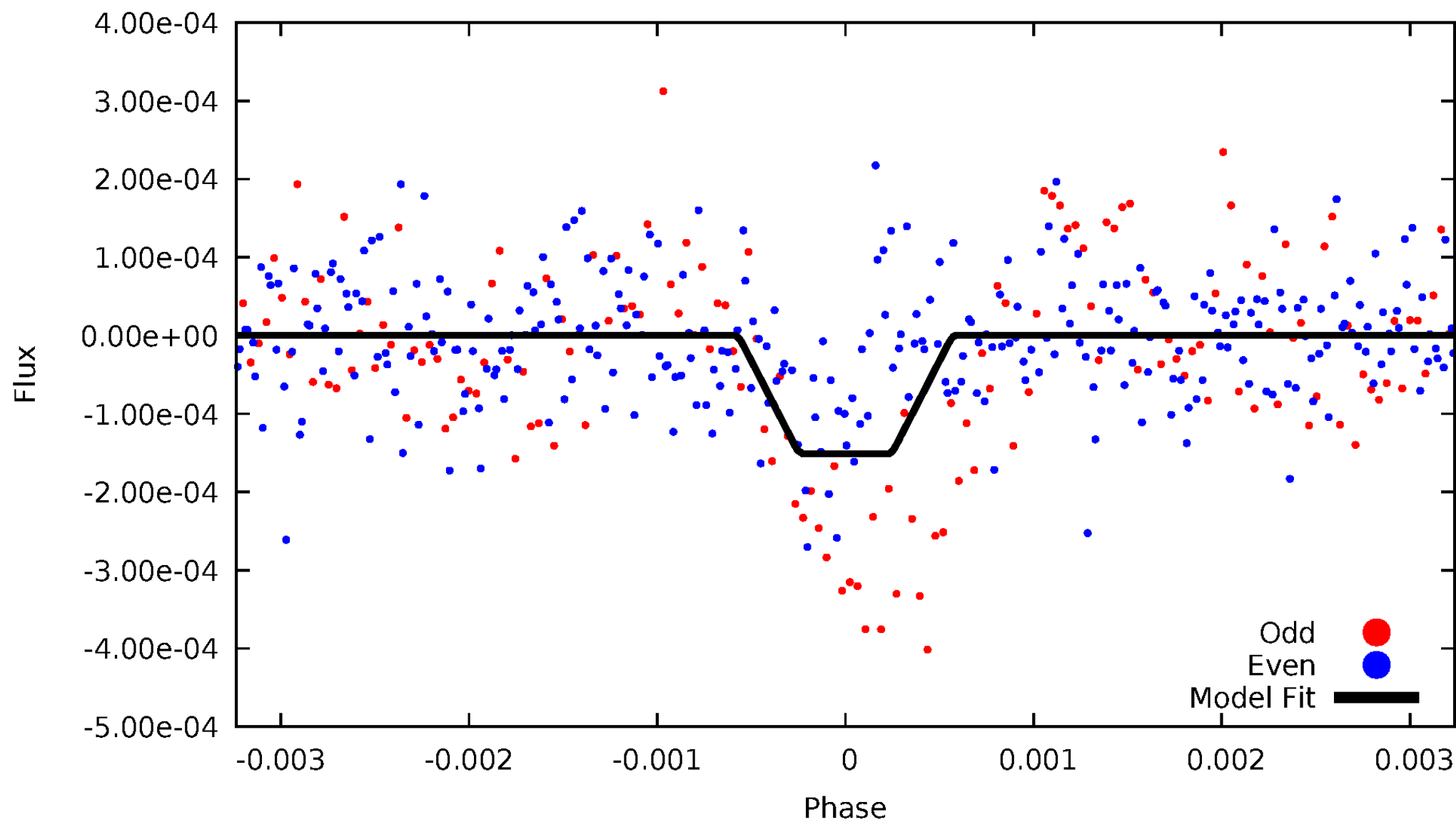
DV Odd/Even

TCE 009340361-01



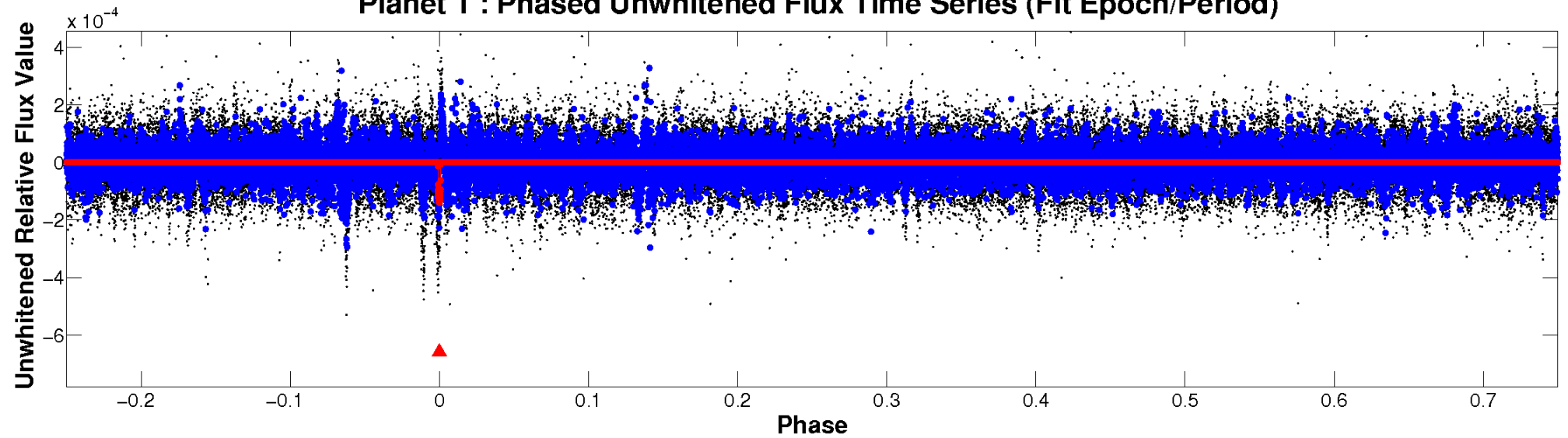
ALT Odd/Even

TCE 009340361-01

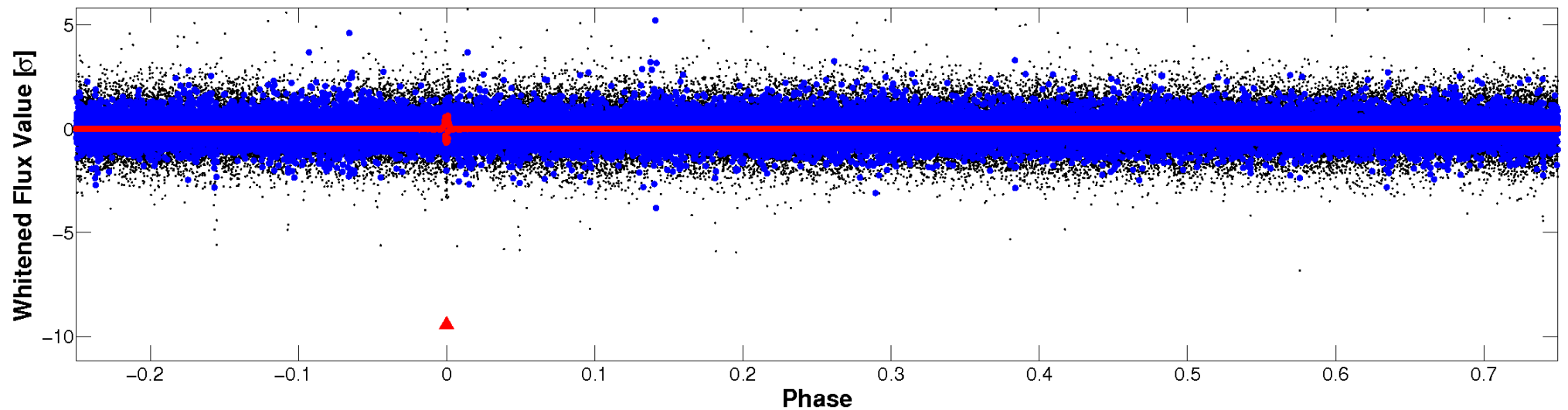


Non-Whitened Vs. Whitened Light Curve

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



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



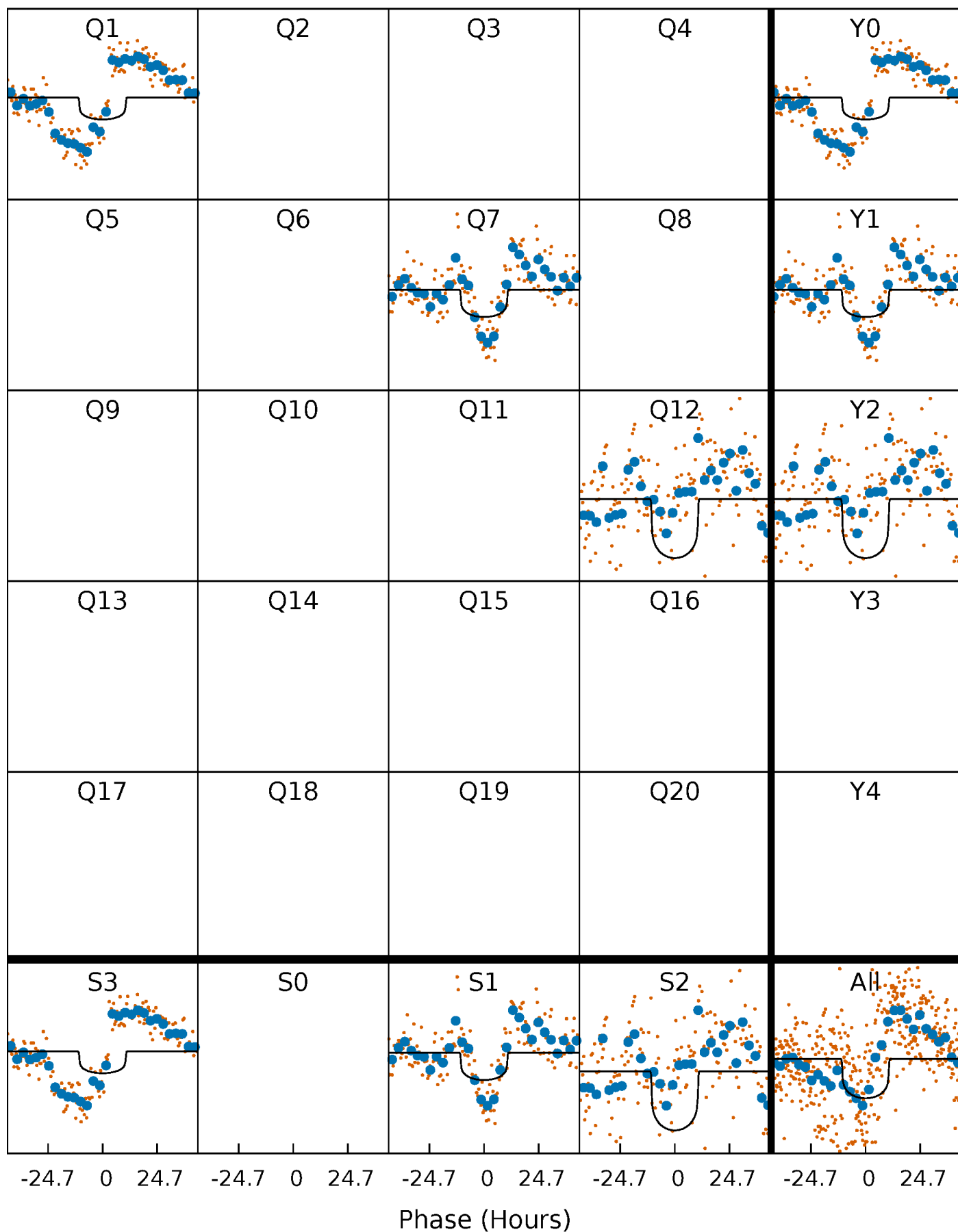
PDC Quarter-Phased Transit Curves

TCE 009340361-01 P=494.310211 Days $T_0=161.341848$ (BKJD)



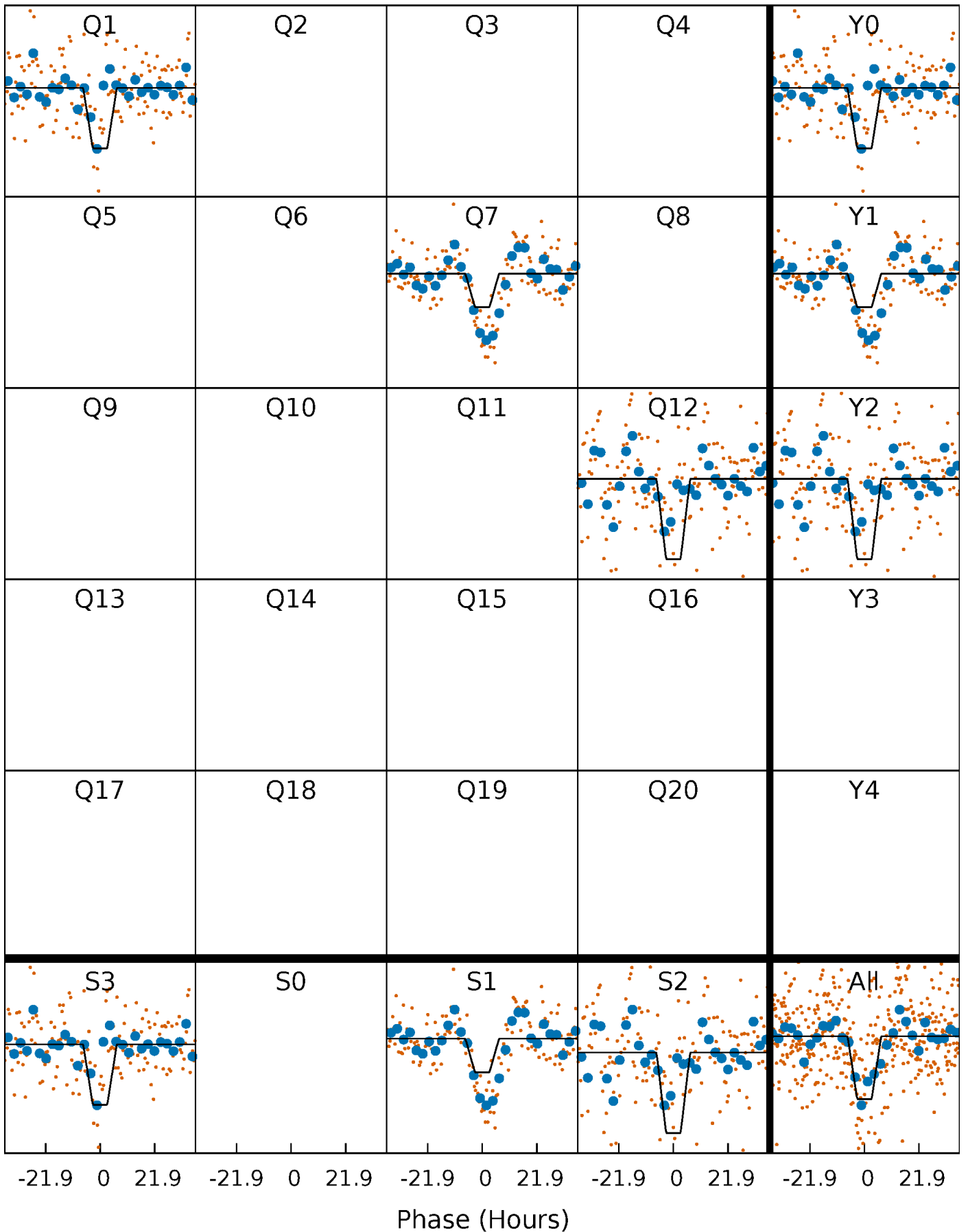
DV Quarter-Phased Transit Curves

TCE 009340361-01 P=494.310211 Days $T_0=161.341848$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

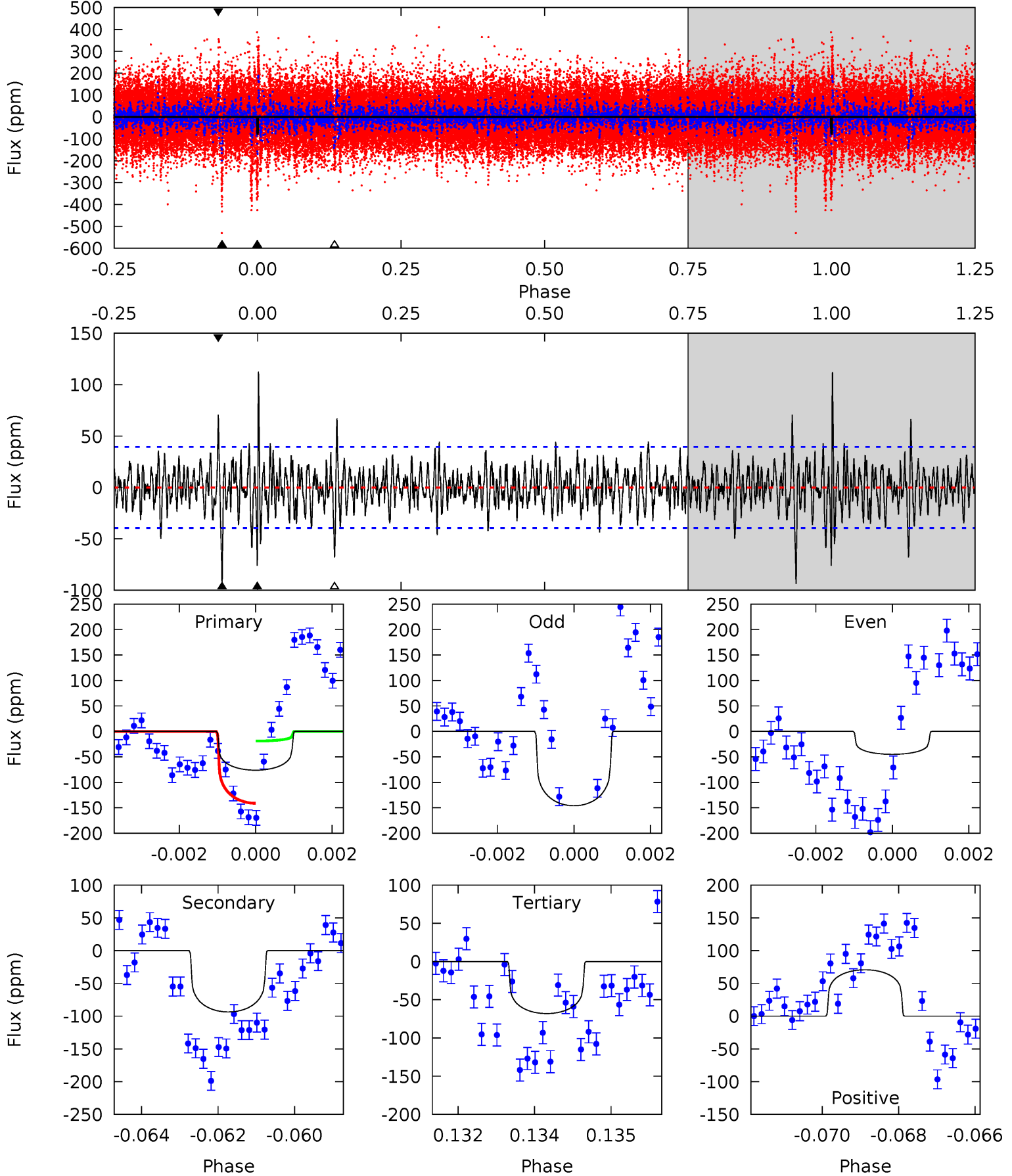
TCE 009340361-01 $P=494.253760$ Days $T_0=161.389564$ (BKJD)



DV Model-Shift Uniqueness Test

009340361-01, P = 494.310211 Days, E = 161.341848 Days

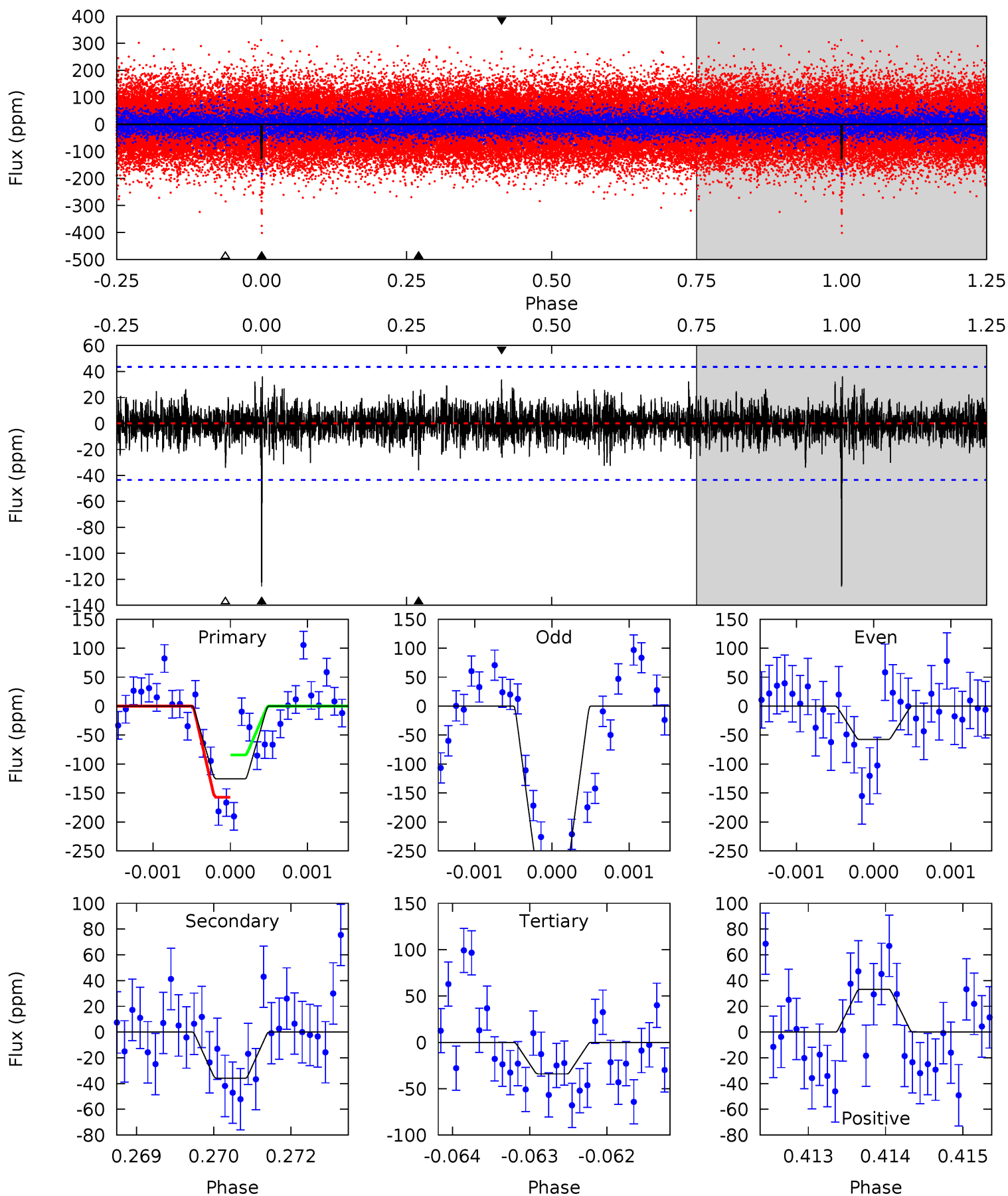
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	12.7	9.23	9.59	5.34	3.12	2.25	1.10	0.73	3.46	3.10	6.60	1.08	0.55	8.28



Alt Model-Shift Uniqueness Test

009340361-01, P = 494.253760 Days, E = 161.389564 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	4.47	4.24	4.14	5.42	3.24	1.12	11.4	11.5	0.24	0.33	13.2	2.10	0.22	4.52



Stellar Parameters For KIC 009340361

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6015^{+211}_{-211}	$4.046^{+0.293}_{-0.158}$	$0.260^{+0.150}_{-0.300}$	$1.822^{+0.456}_{-0.627}$	$1.348^{+0.167}_{-0.287}$	$0.314^{+0.661}_{-0.145}$
	+4%/-4%	+7%/-4%	+58%/-115%	+25%/-34%	+12%/-21%	+211%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009340361-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-94 ± 7	$2.19^{+0.70}_{-0.62}$	426^{+32}_{-41}	5524^{+719}_{-517}	19412^{+16386}_{-8186}
Alt.	-36 ± 8	$2.36^{+0.69}_{-0.60}$	428^{+35}_{-37}	4404^{+498}_{-361}	6154^{+5710}_{-2417}

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 $A_{obs} \gg 1.0$

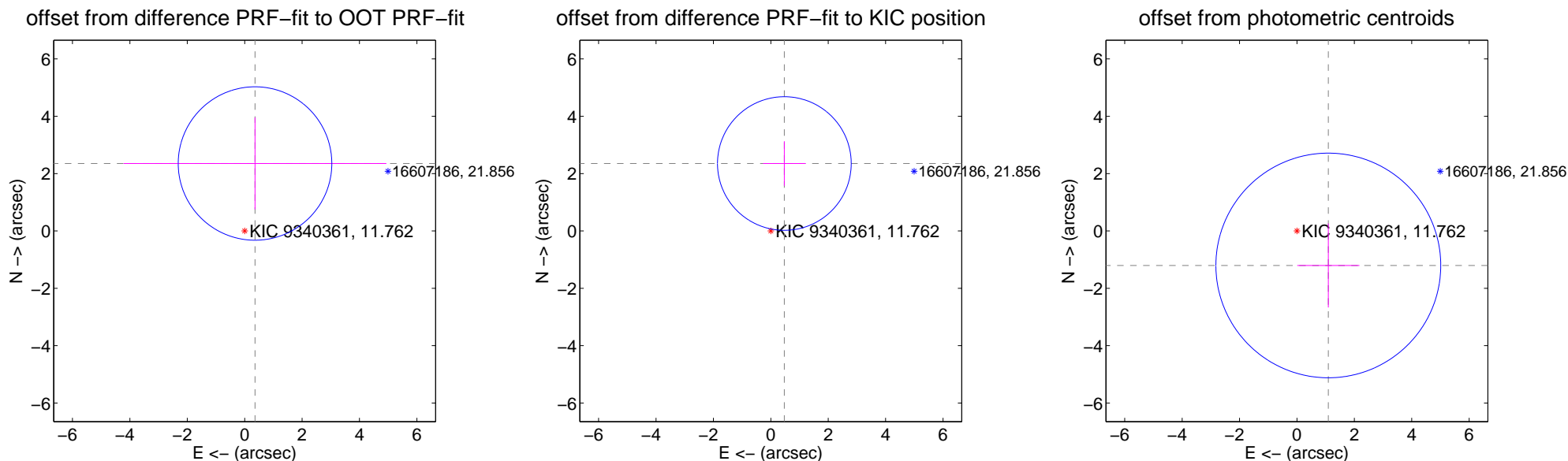
DV Centroid Data

Supplemental centroid analysis for 009340361-01. **Kepler magnitude: 11.76.** Transit SNR 7.03

There are 1 quarters with good PRF difference image offsets

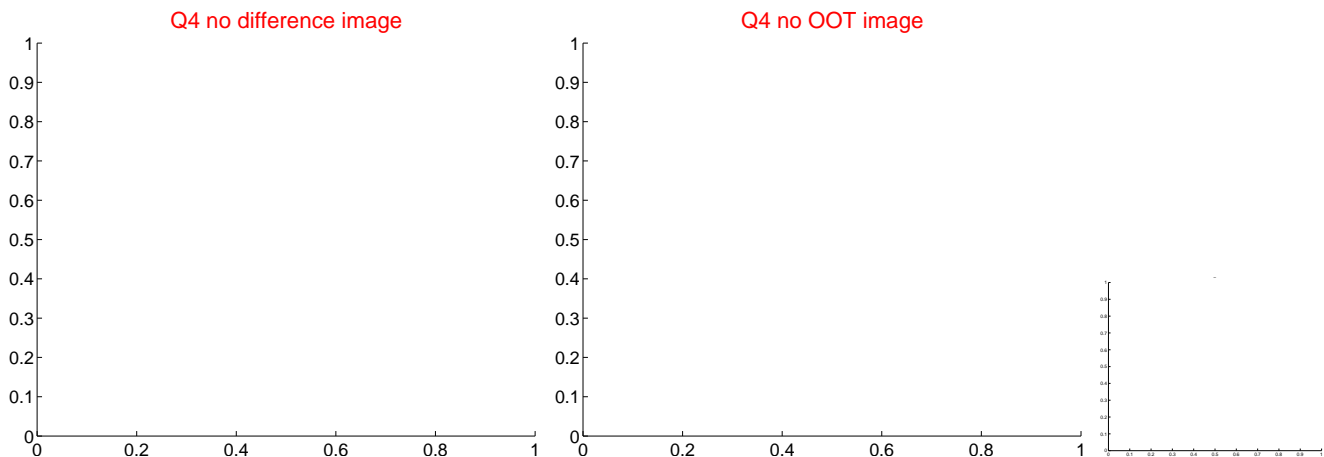
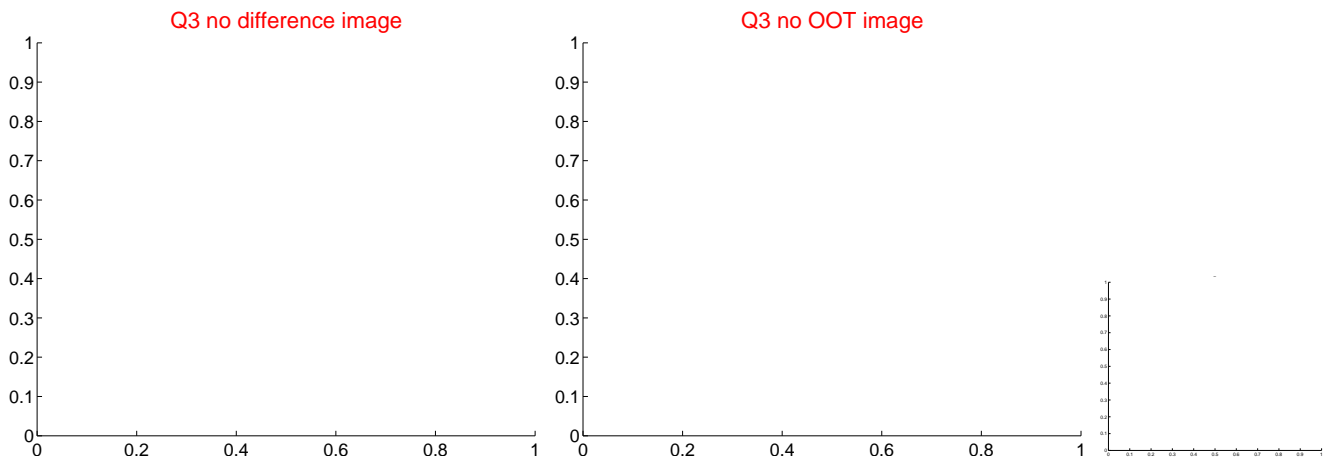
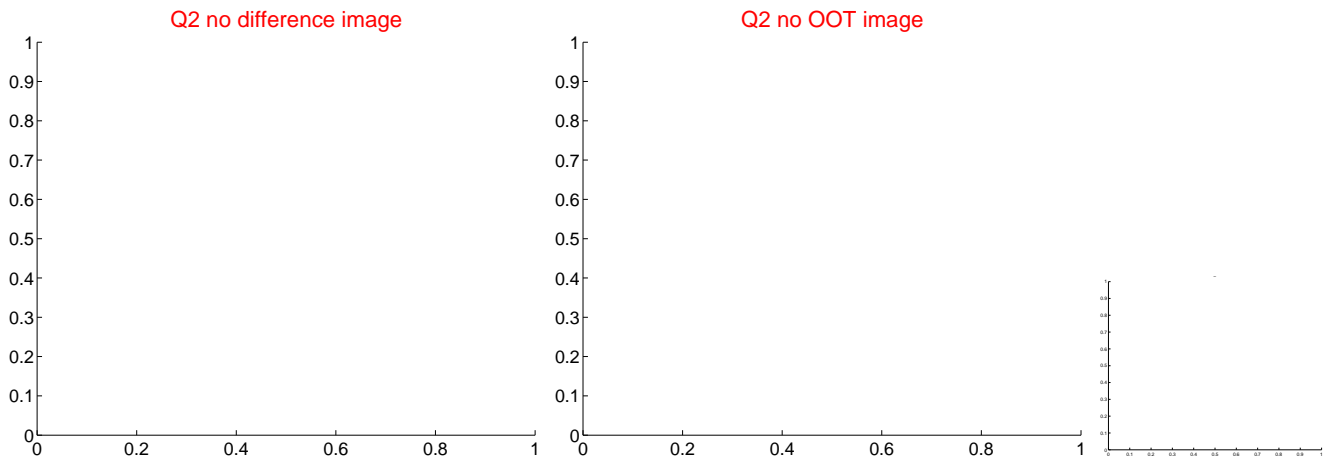
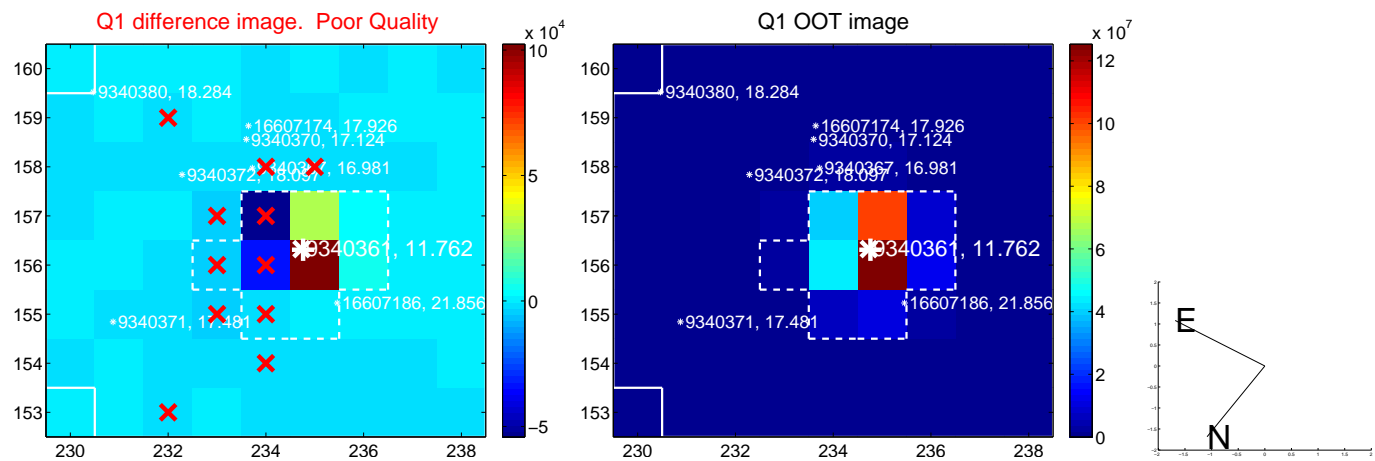
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.380 ± 0.892	2.67	-0.360 ± 4.578	2.353 ± 1.601
PRF-fit source offset from KIC position	2.399 ± 0.776	3.09	-0.472 ± 0.741	2.352 ± 0.778
photometric centroid source offset	1.63 ± 1.31	1.24	-1.09 ± 1.08	-1.20 ± 1.46



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.

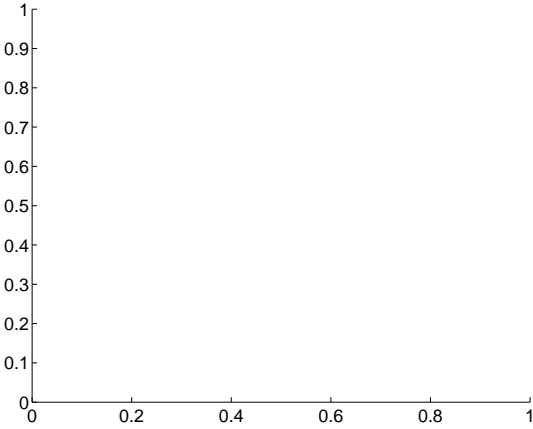
Q5 no difference image



Q5 no OOT image



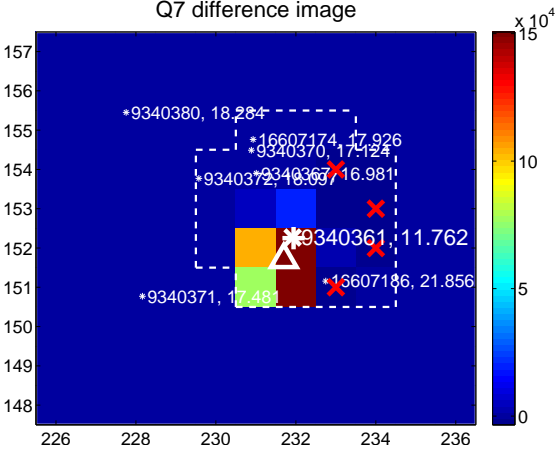
Q6 no difference image



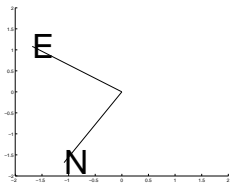
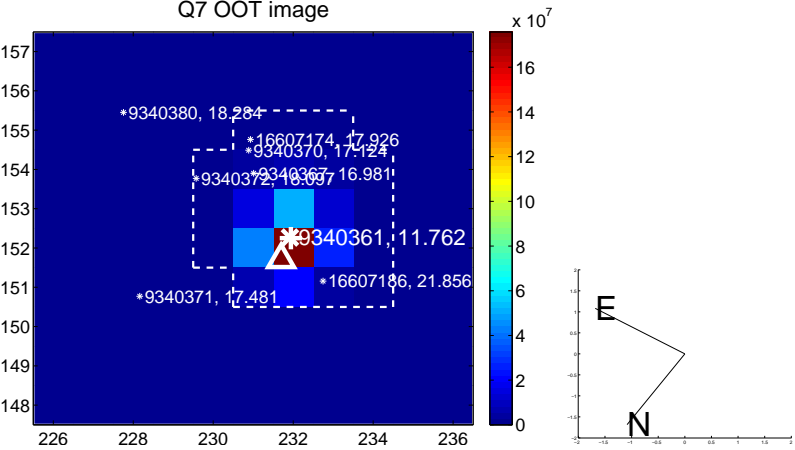
Q6 no OOT image



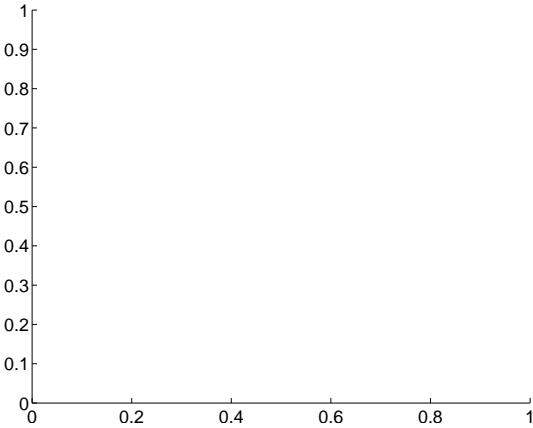
Q7 difference image



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



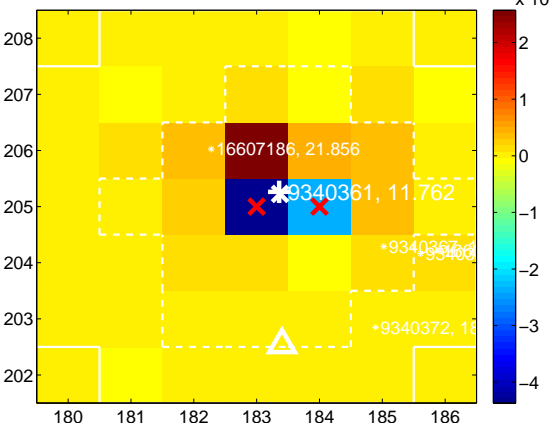
Q11 no difference image



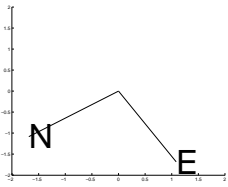
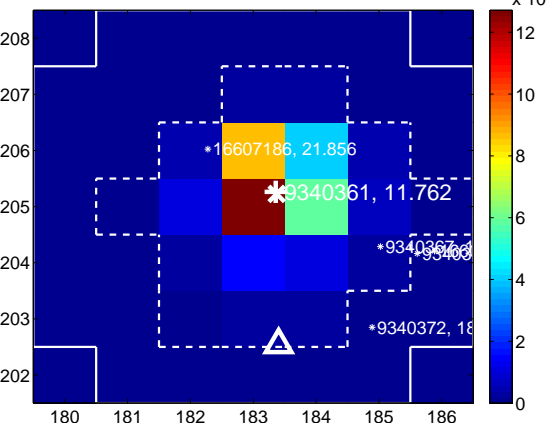
Q11 no OOT image



Q12 difference image. Poor Quality



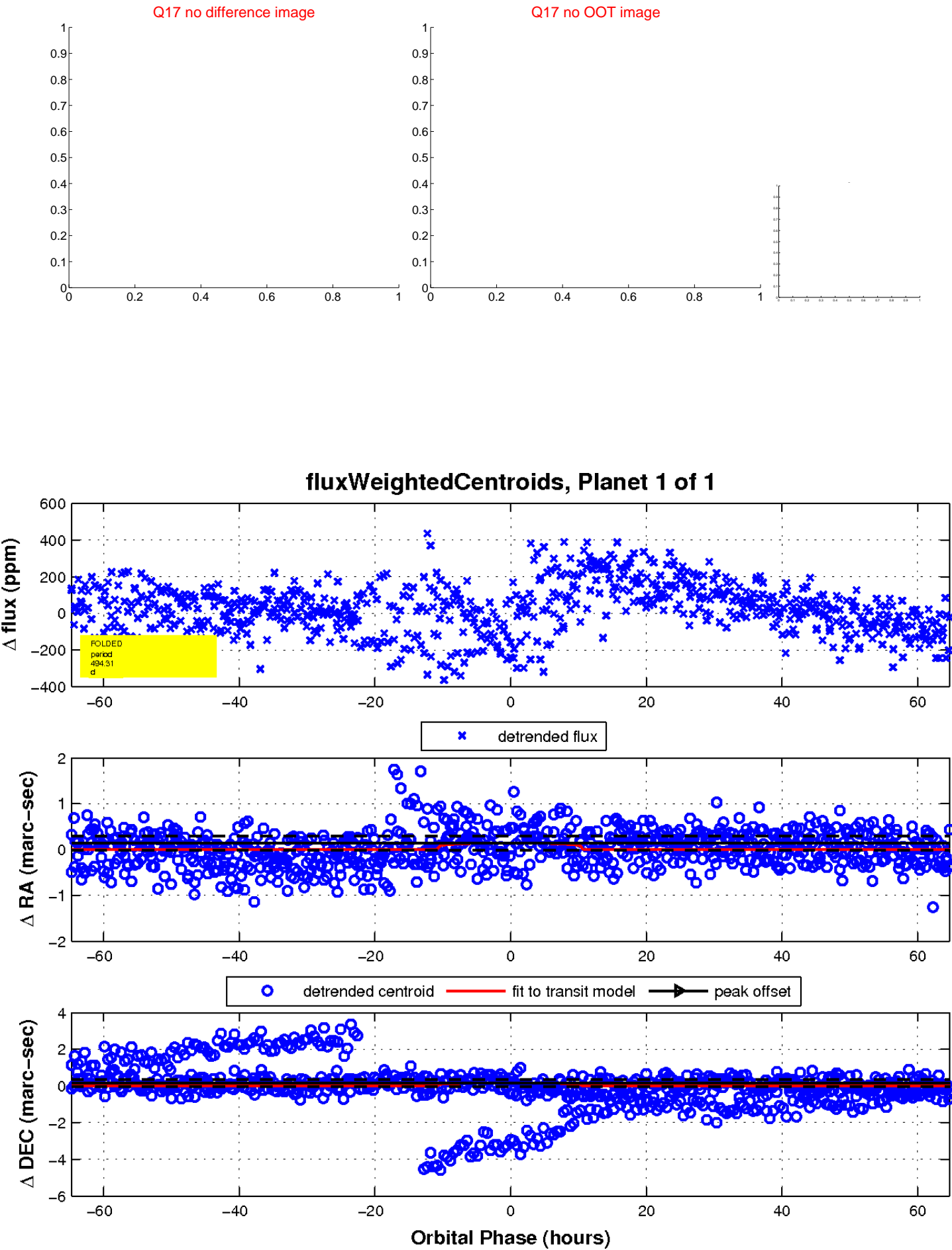
Q12 OOT image



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

