

KIC 005174677

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})
005174677-01	OBS	5131.01	43.542828	150.424018	5329.5	3.653	49.1	53.0	1.43	6669	14.06	53.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005174677-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—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.

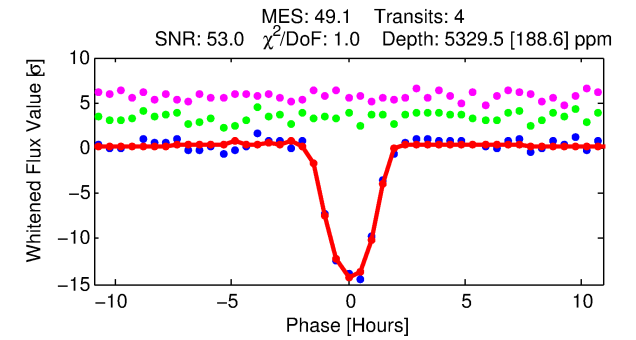
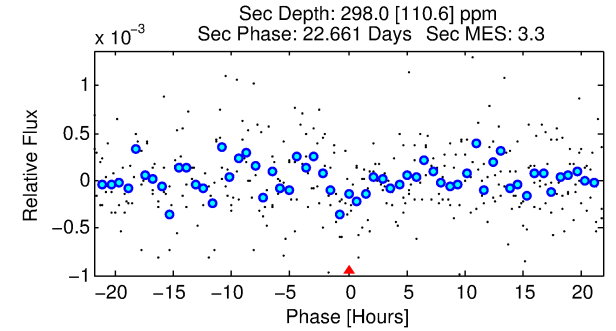
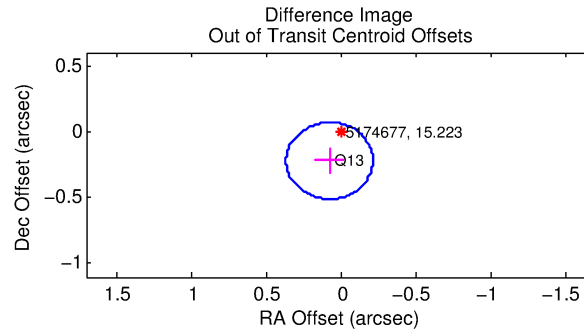
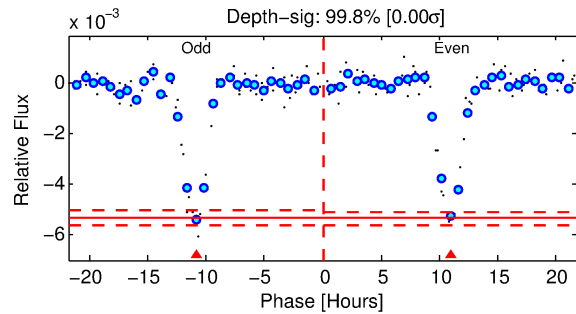
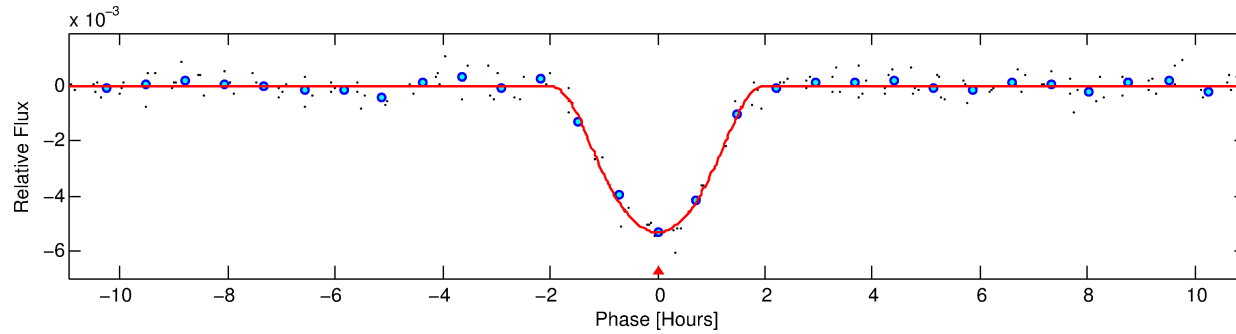
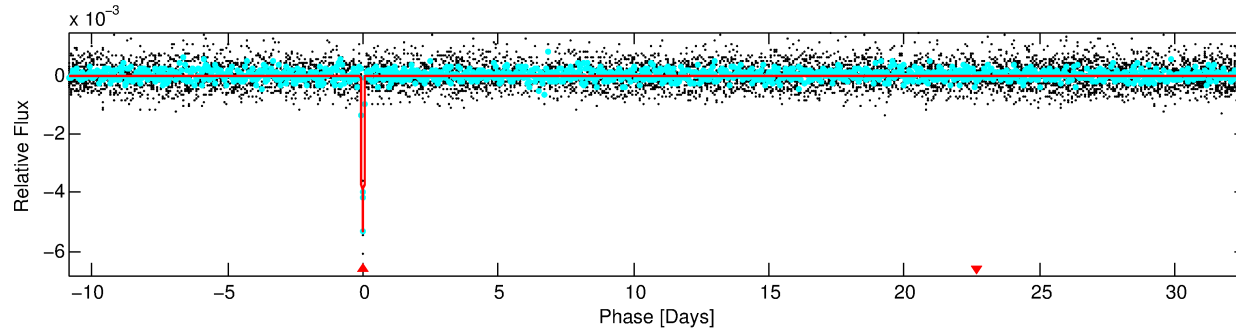
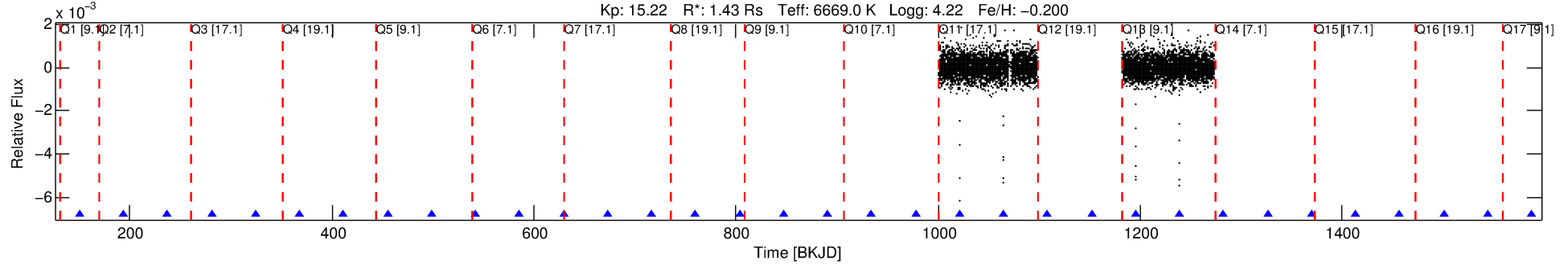
Ephemeris Match Information For 005174677-01

No Significant Match Found

DV One-Page Summary

KIC: 5174677 Candidate: 1 of 1 Period: 43.543 d
KOI: K05131 Corr: No Ephemeris Match

Kp: 15.22 R*: 1.43 Rs Teff: 6669.0 K Logg: 4.22 Fe/H: -0.200



DV Fit Results:

Period = 43.54283 [0.00049] d
Epoch = 150.4240 [0.0115] BKJD
Rp/R* = 0.0903 [0.0236]
a/R* = 48.86 [5.34]
b = 0.95 [0.05]
Seff = 53.15 [20.72]
Teq = 689 [67] K
Rp = 14.06 [5.65] Re
a = 0.2606 [0.0654] AU
Ag = 56.29 [41.33] [1.34σ]
Teffp = 2916 [481] K [4.59σ]

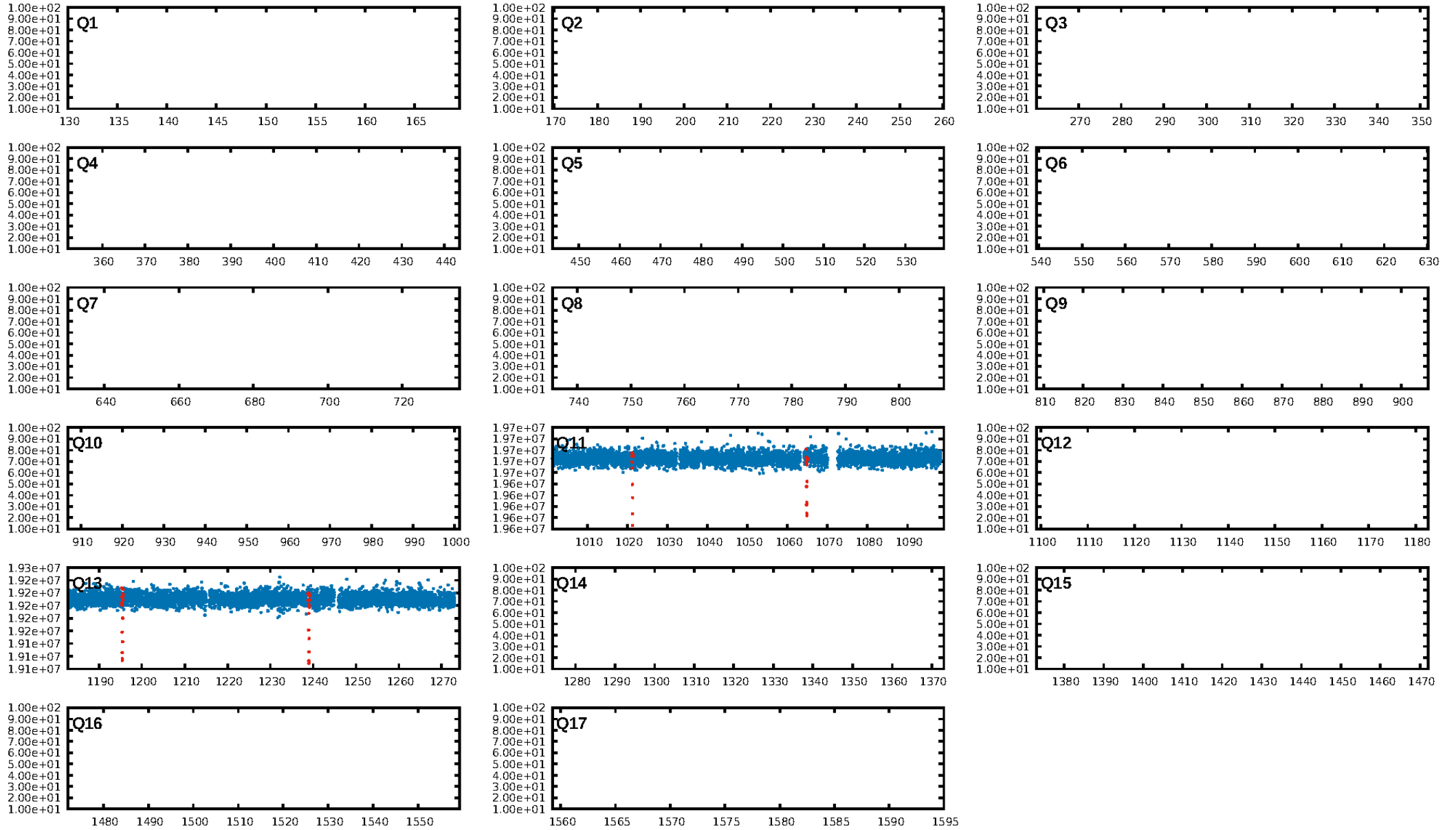
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 72.6%
ModelChiSquareGof-sig: 96.9%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 11.09
Centroid-sig: 20.5%
Centroid-so: 0.368 arcsec [1.04σ]
OotOffset-rm: 0.233 arcsec [2.41σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-rm: 0.262 arcsec [2.76σ]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

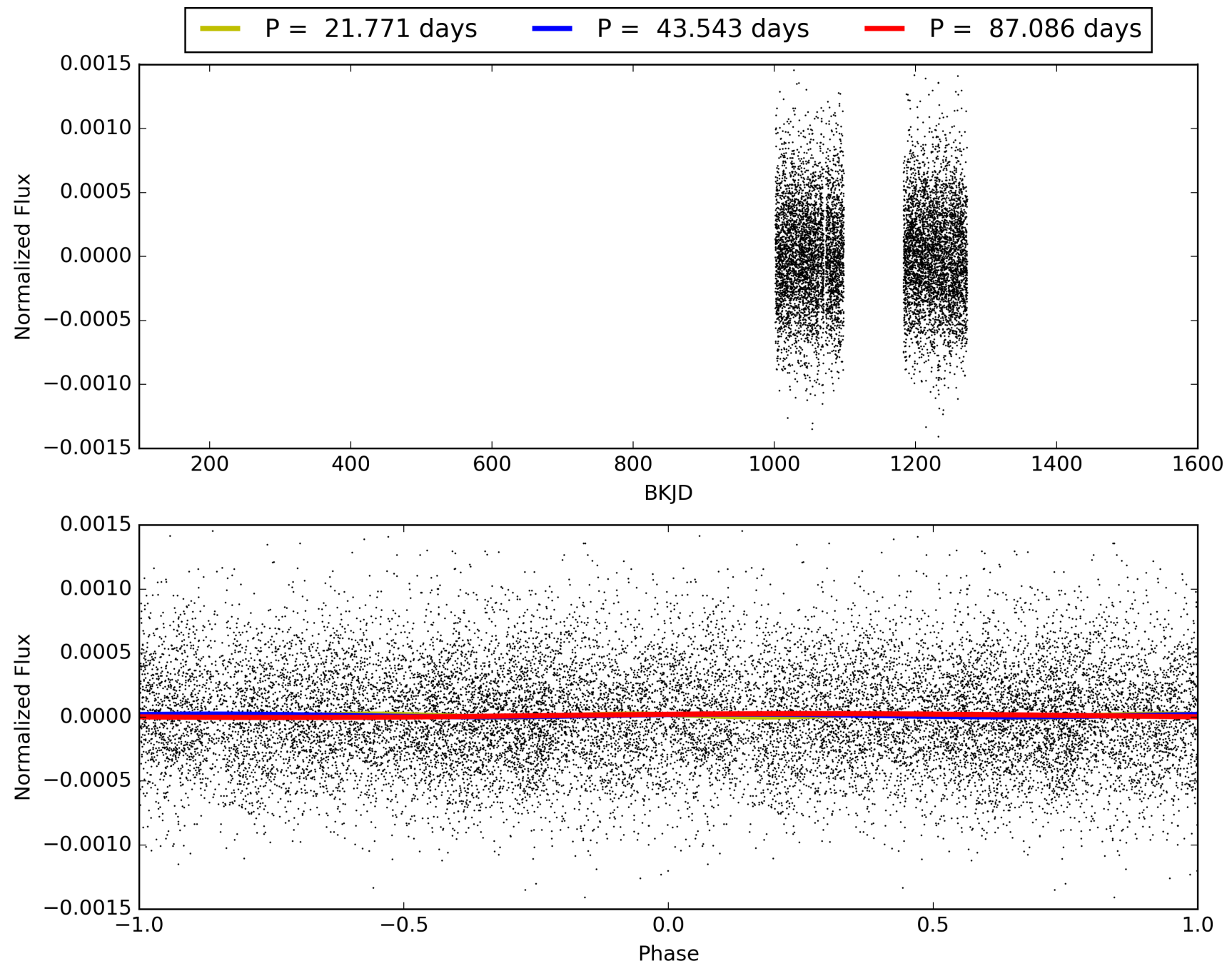
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:53:44 Z

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

TCE 005174677-01, PDC Light Curves

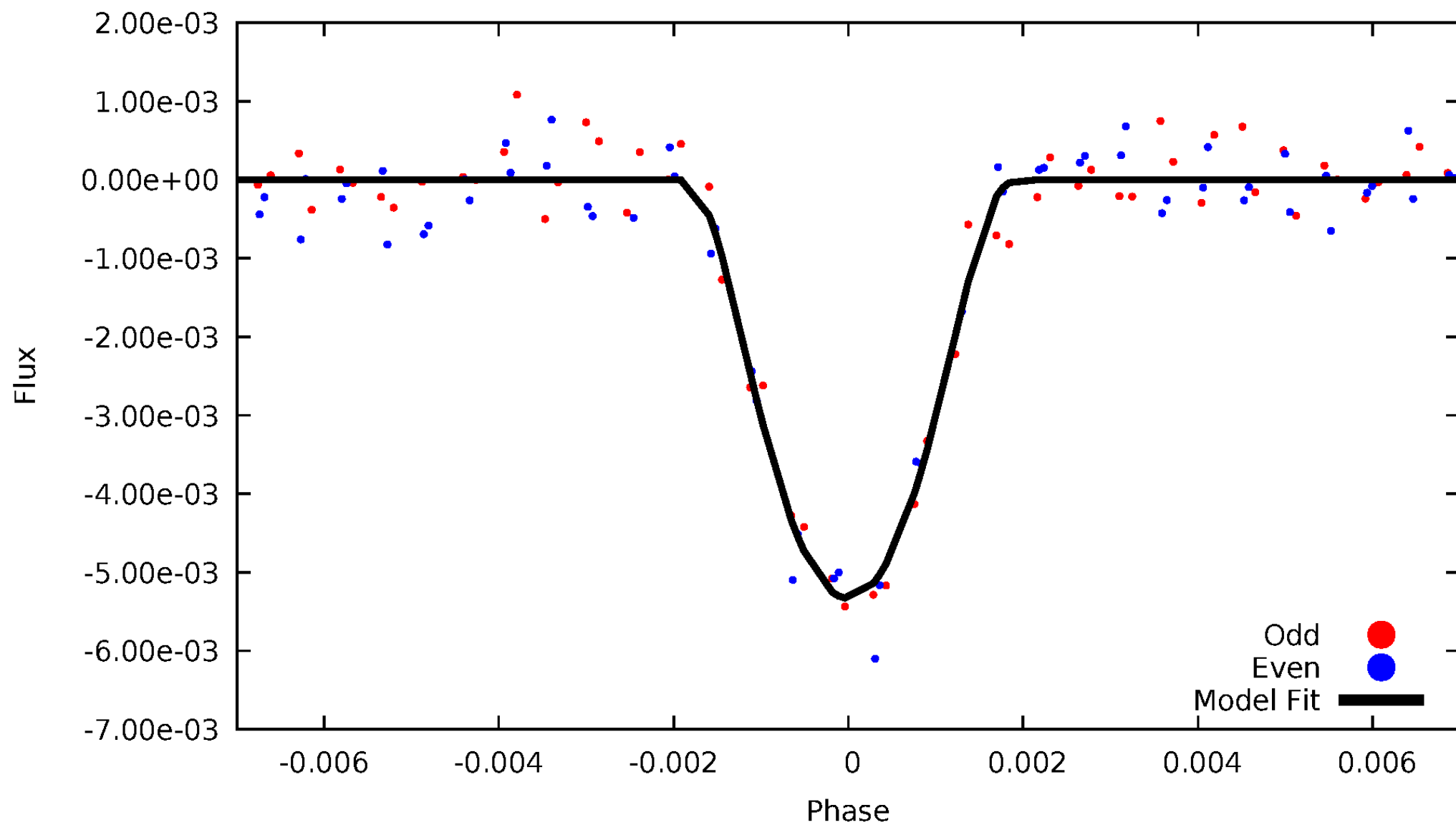


TCE 005174677-01



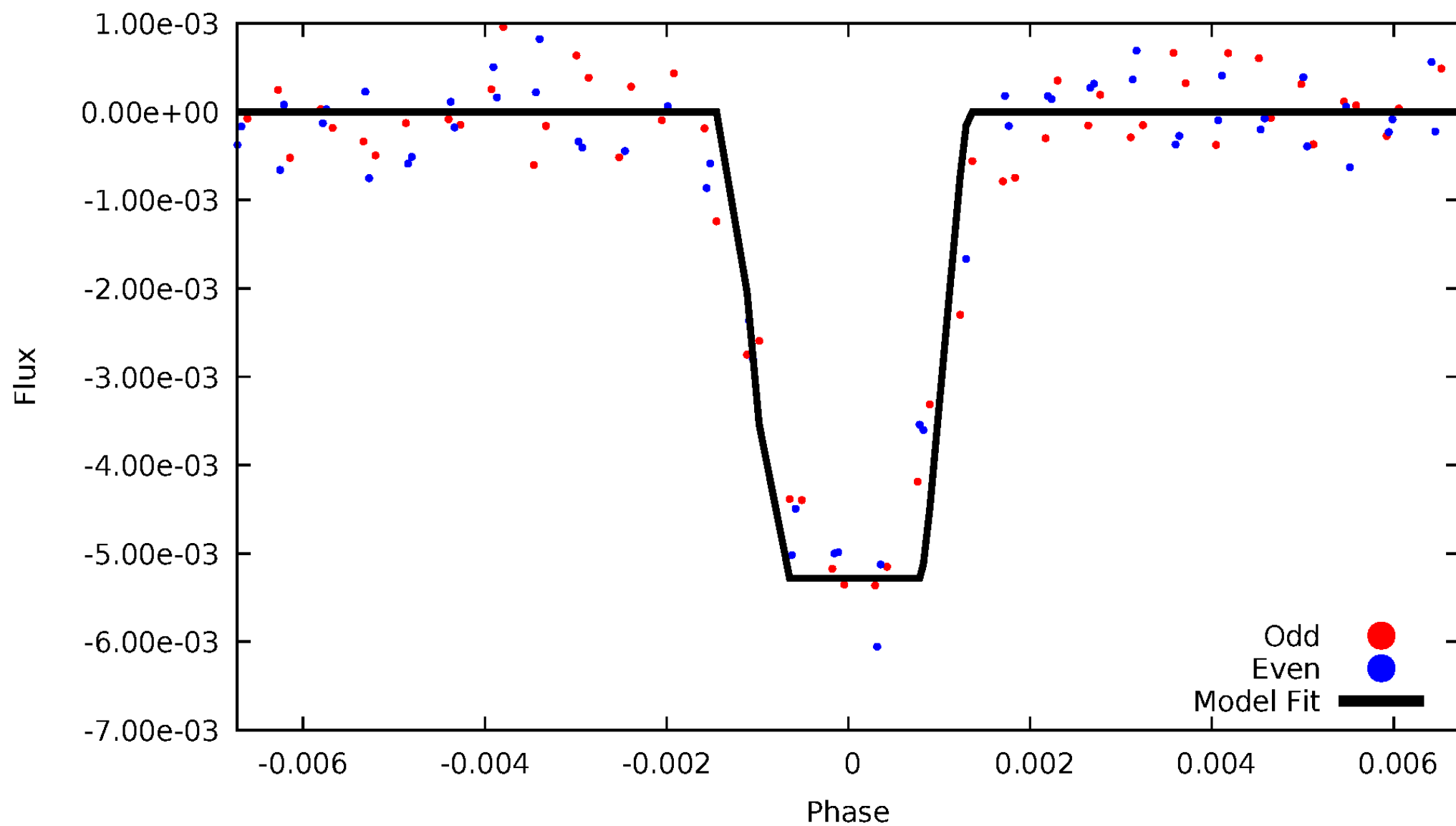
DV Odd/Even

TCE 005174677-01

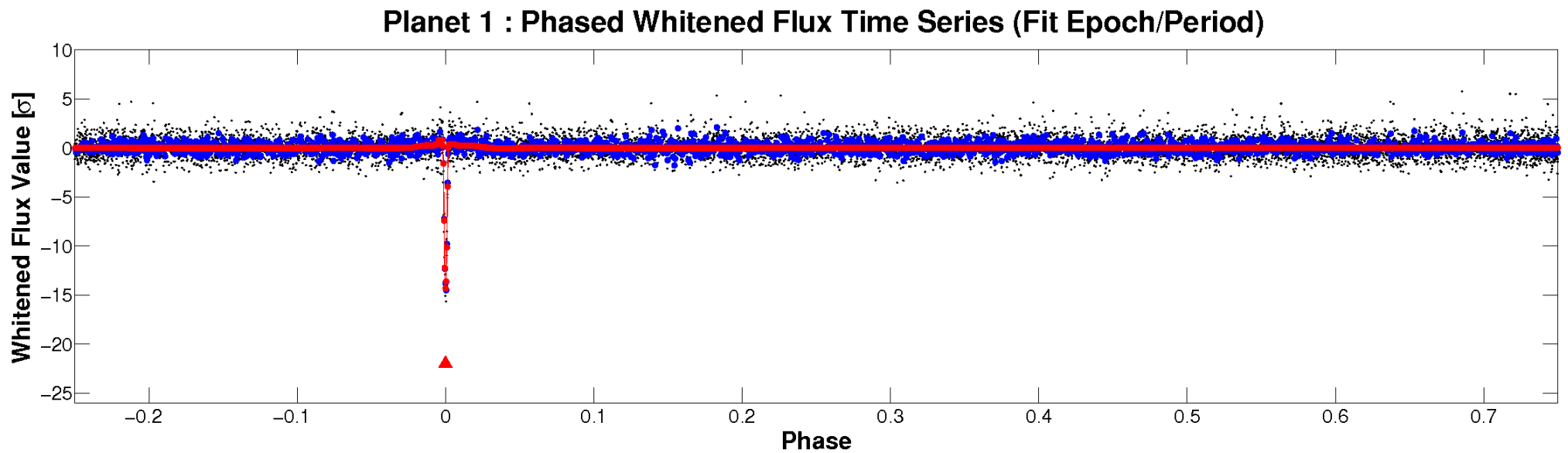
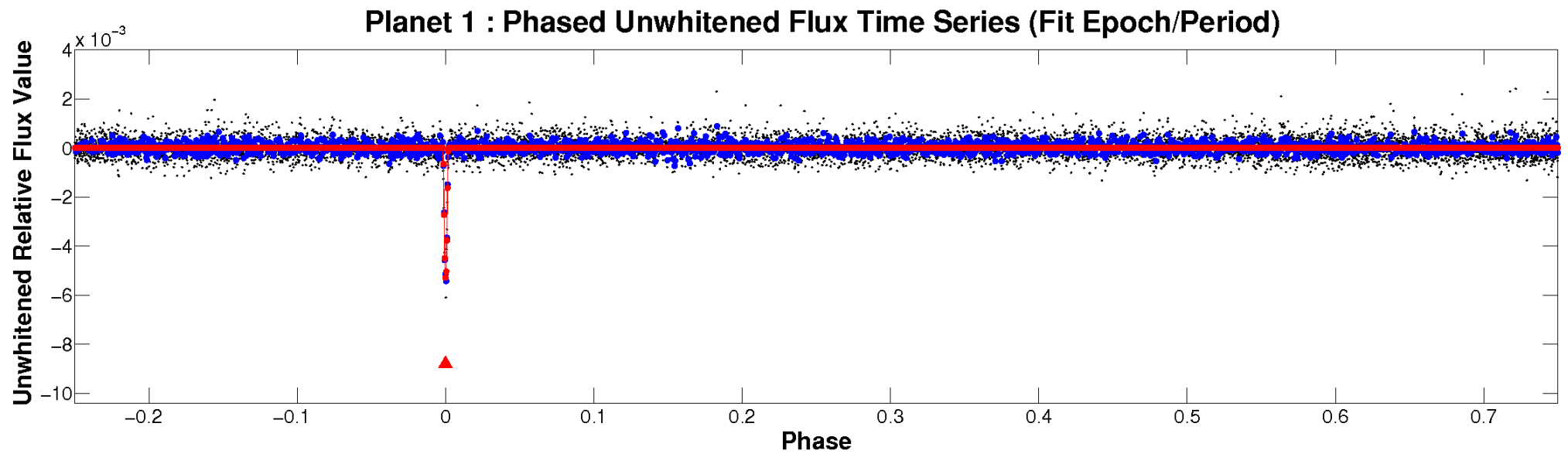


ALT Odd/Even

TCE 005174677-01

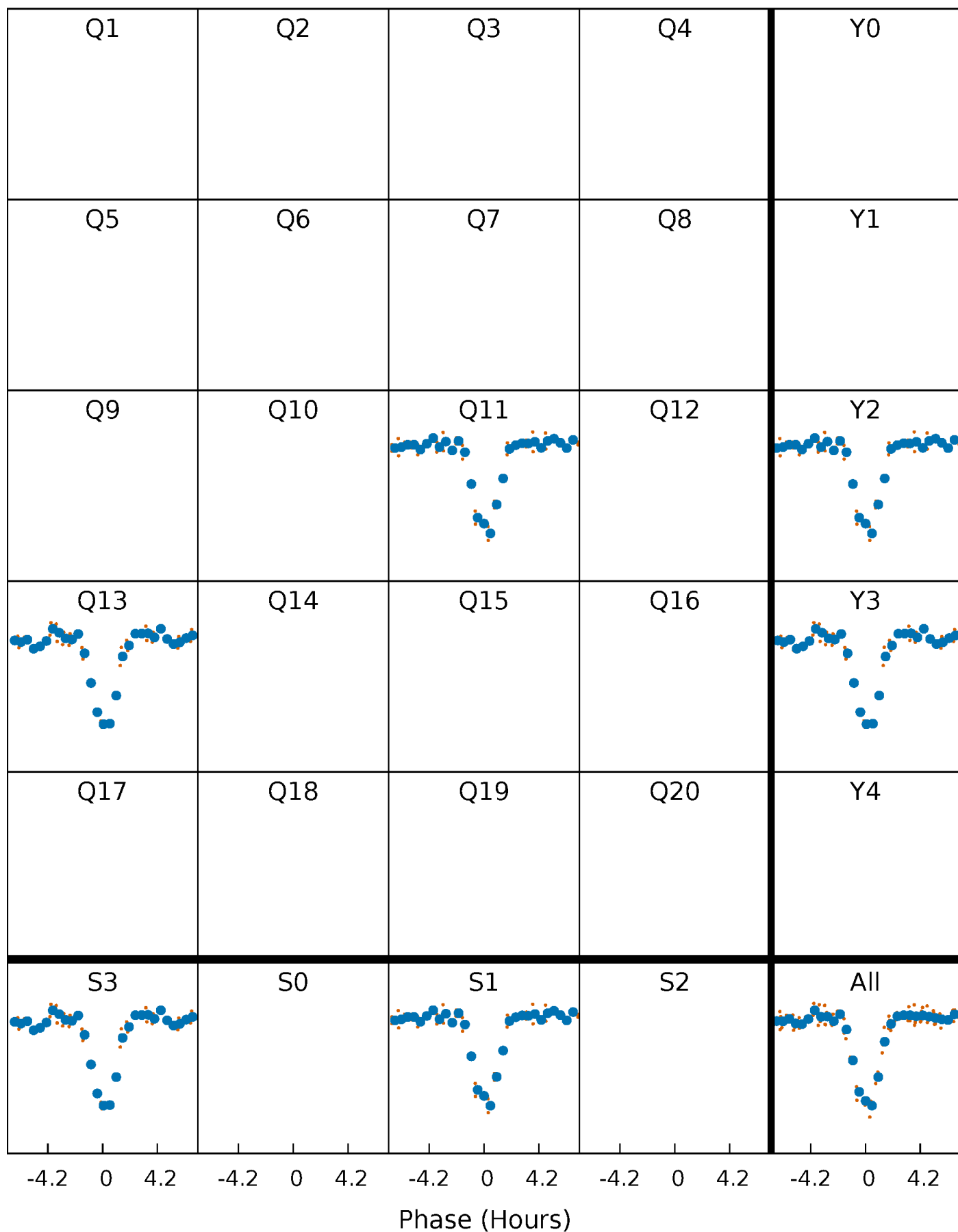


Non-Whitened Vs. Whitened Light Curve



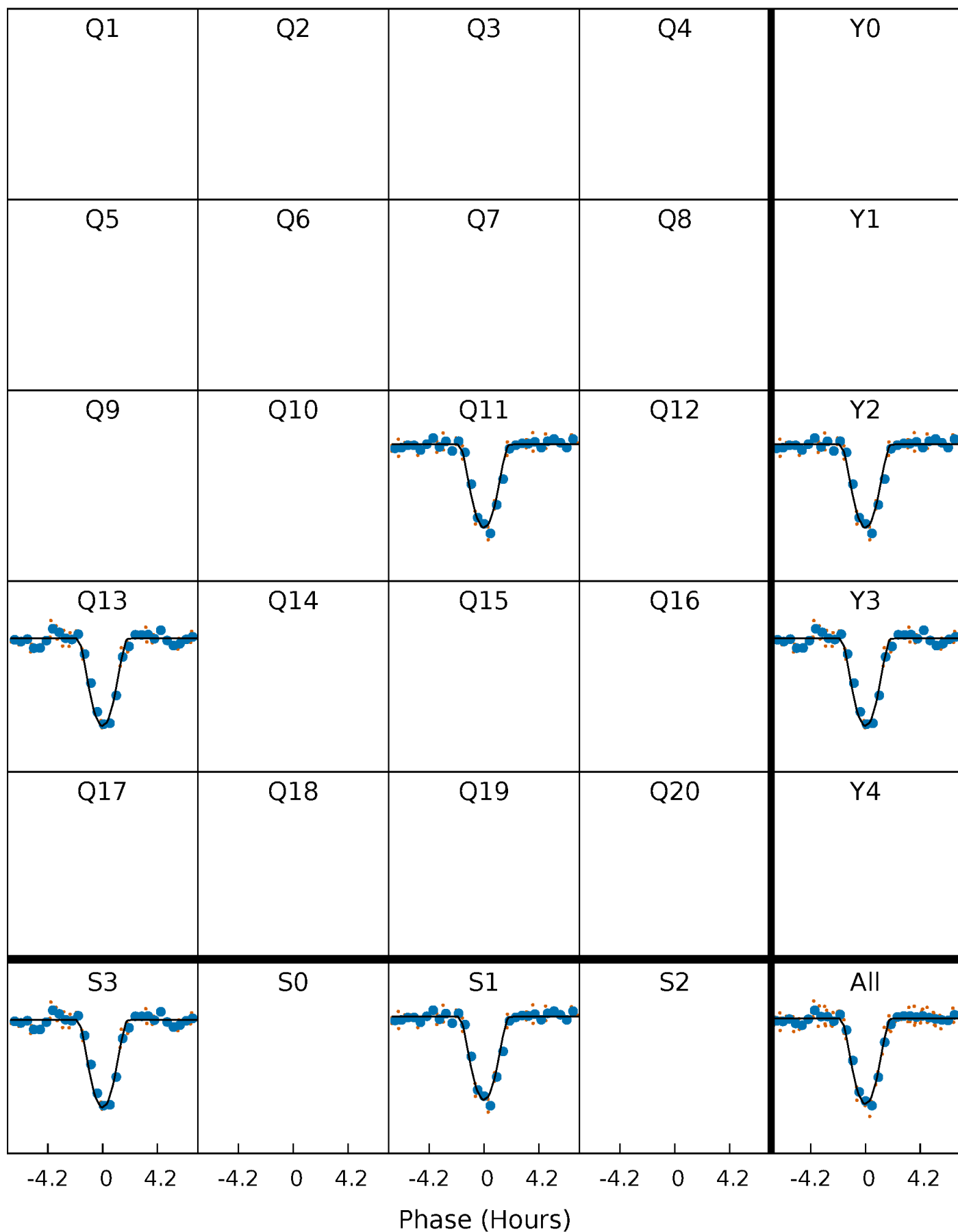
PDC Quarter-Phased Transit Curves

TCE 005174677-01 P= 43.542828 Days $T_0=150.424018$ (BKJD)



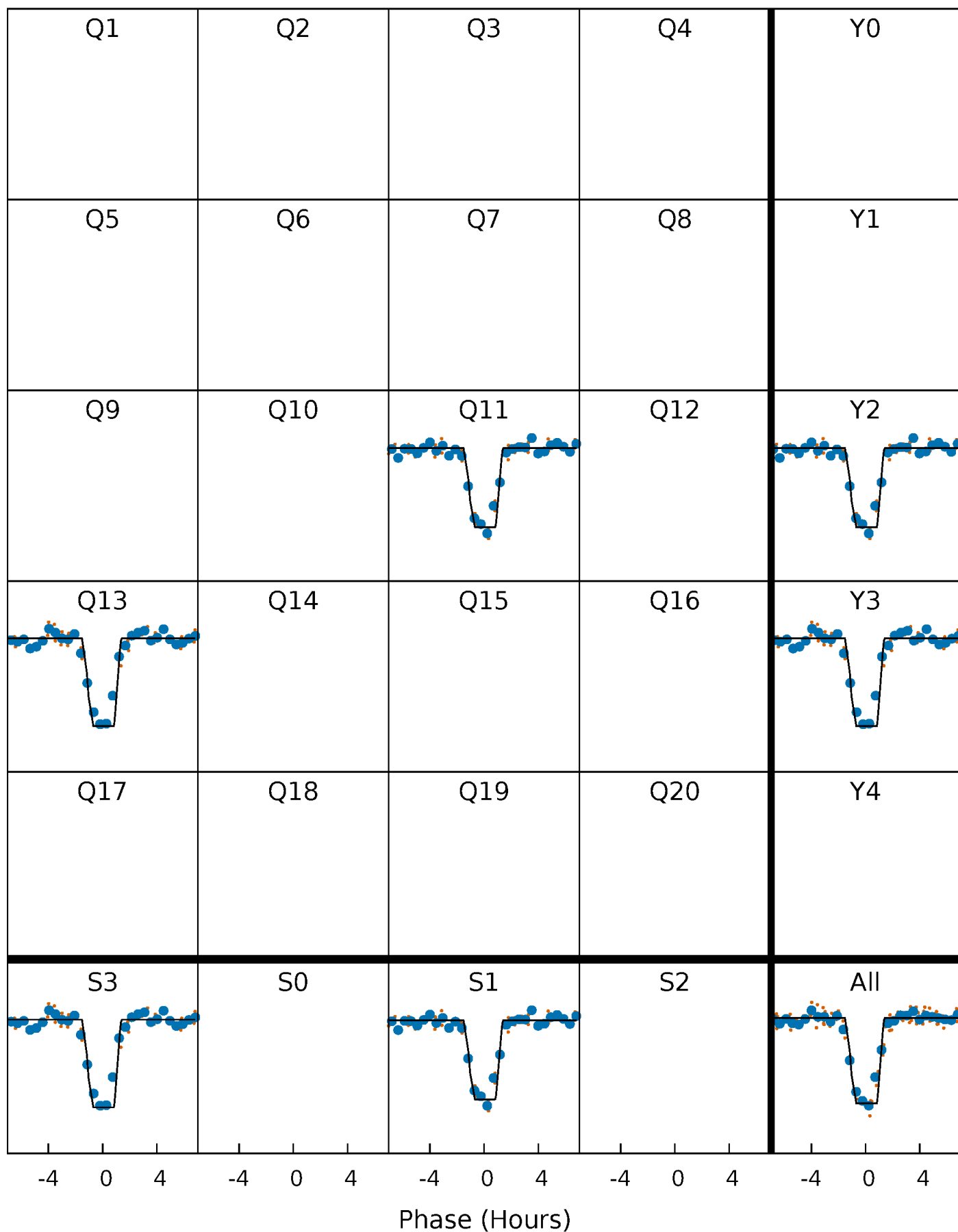
DV Quarter-Phased Transit Curves

TCE 005174677-01 P= 43.542828 Days $T_0=150.424018$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

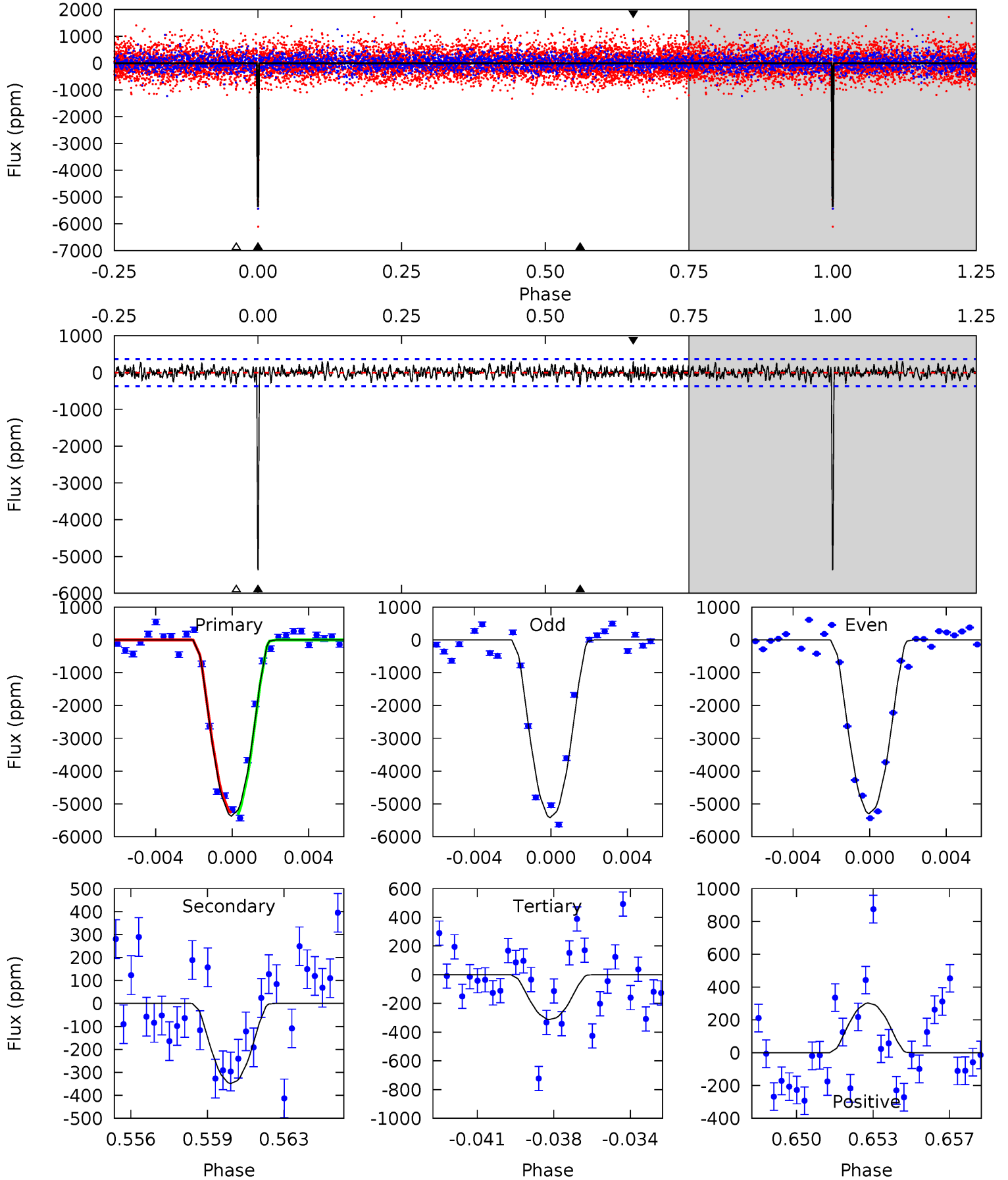
TCE 005174677-01 P= 43.542975 Days $T_0=150.420565$ (BKJD)



DV Model-Shift Uniqueness Test

005174677-01, P = 43.542828 Days, E = 150.424018 Days

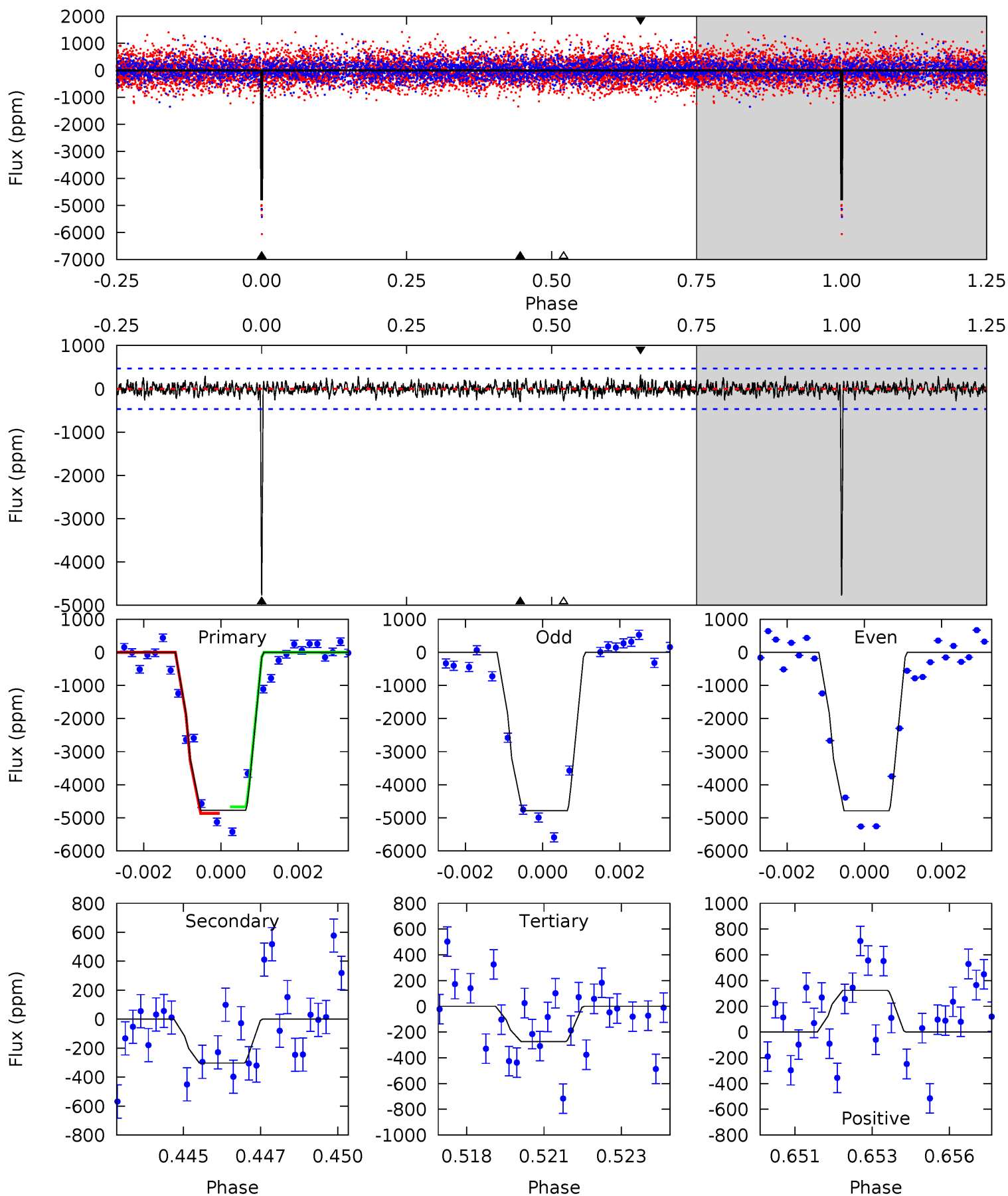
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
76.3	4.95	4.43	4.30	5.21	2.90	1.41	71.9	72.0	0.53	0.65	0.87	1.01	0.05	0.43



Alt Model-Shift Uniqueness Test

005174677-01, P = 43.542975 Days, E = 150.420565 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.0	3.42	3.09	3.66	5.29	3.03	1.02	50.9	50.3	0.33	-0.23	0.02	1.00	0.06	1.12



Stellar Parameters For KIC 005174677

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6669^{+187}_{-257}	$4.224^{+0.144}_{-0.192}$	$-0.200^{+0.250}_{-0.300}$	$1.427^{+0.435}_{-0.290}$	$1.251^{+0.189}_{-0.189}$	$0.607^{+0.435}_{-0.291}$
	+3%/-4%	+3%/-5%	+125%/-150%	+30%/-20%	+15%/-15%	+72%/-48%
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 005174677-01 / KOI 5131.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-349 ± 70	$14.13^{+4.46}_{-3.91}$	962^{+71}_{-62}	3497^{+394}_{-284}	65^{+59}_{-29}
Alt.	-303 ± 88	$11.22^{+4.41}_{-3.78}$	964^{+79}_{-68}	3649^{+598}_{-368}	83^{+115}_{-43}

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

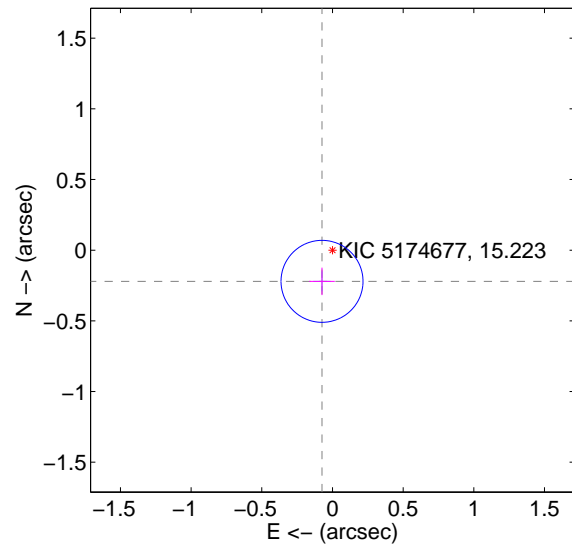
Supplemental centroid analysis for 005174677-01. Kepler magnitude: 15.22. Transit SNR 52.97

There are 1 quarters with good PRF difference image offsets

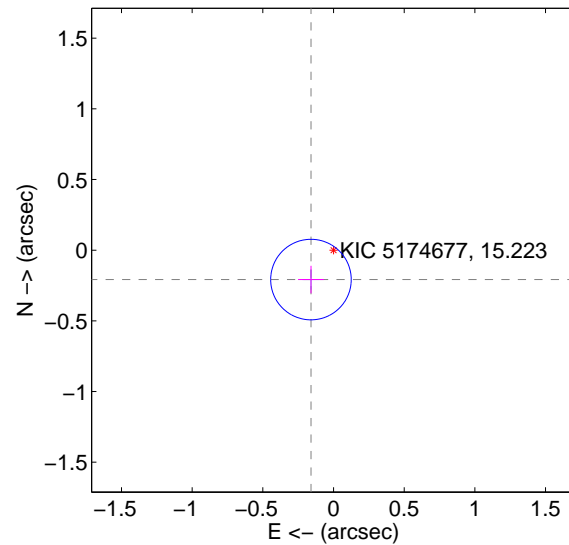
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.233 ± 0.097	2.41	0.074 ± 0.091	-0.220 ± 0.097
PRF-fit source offset from KIC position	0.262 ± 0.095	2.76	0.160 ± 0.091	-0.208 ± 0.097
photometric centroid source offset	0.37 ± 0.35	1.04	0.36 ± 0.36	-0.08 ± 0.27

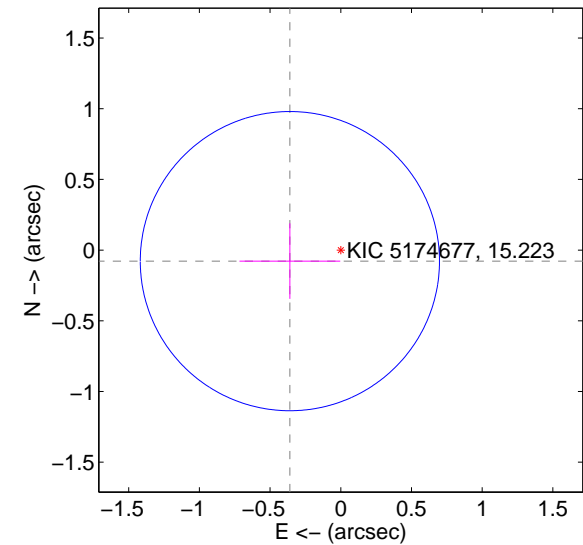
offset from difference PRF-fit to OOT PRF-fit



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.



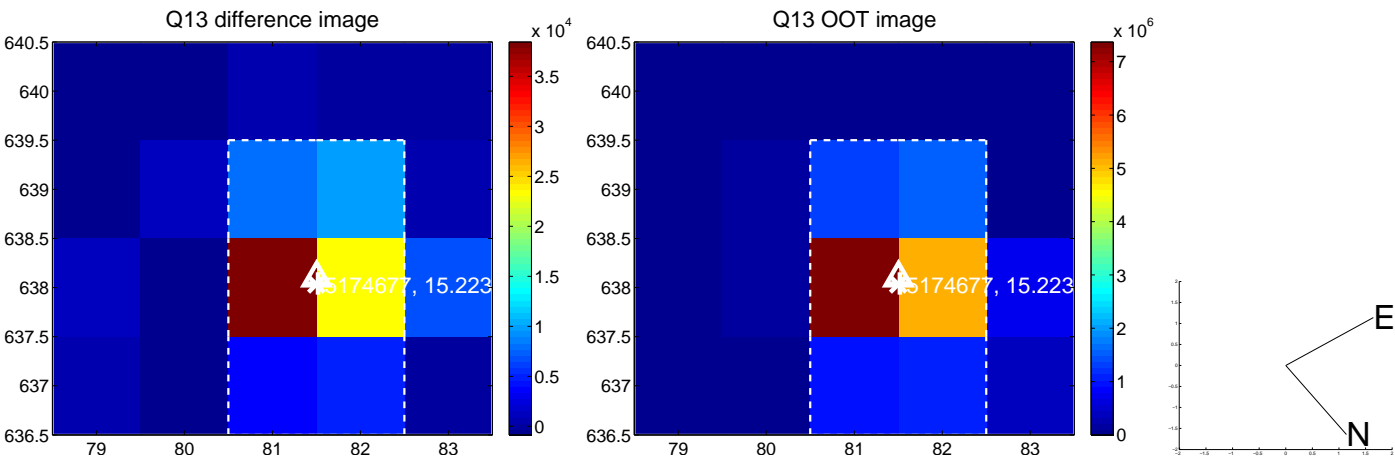
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



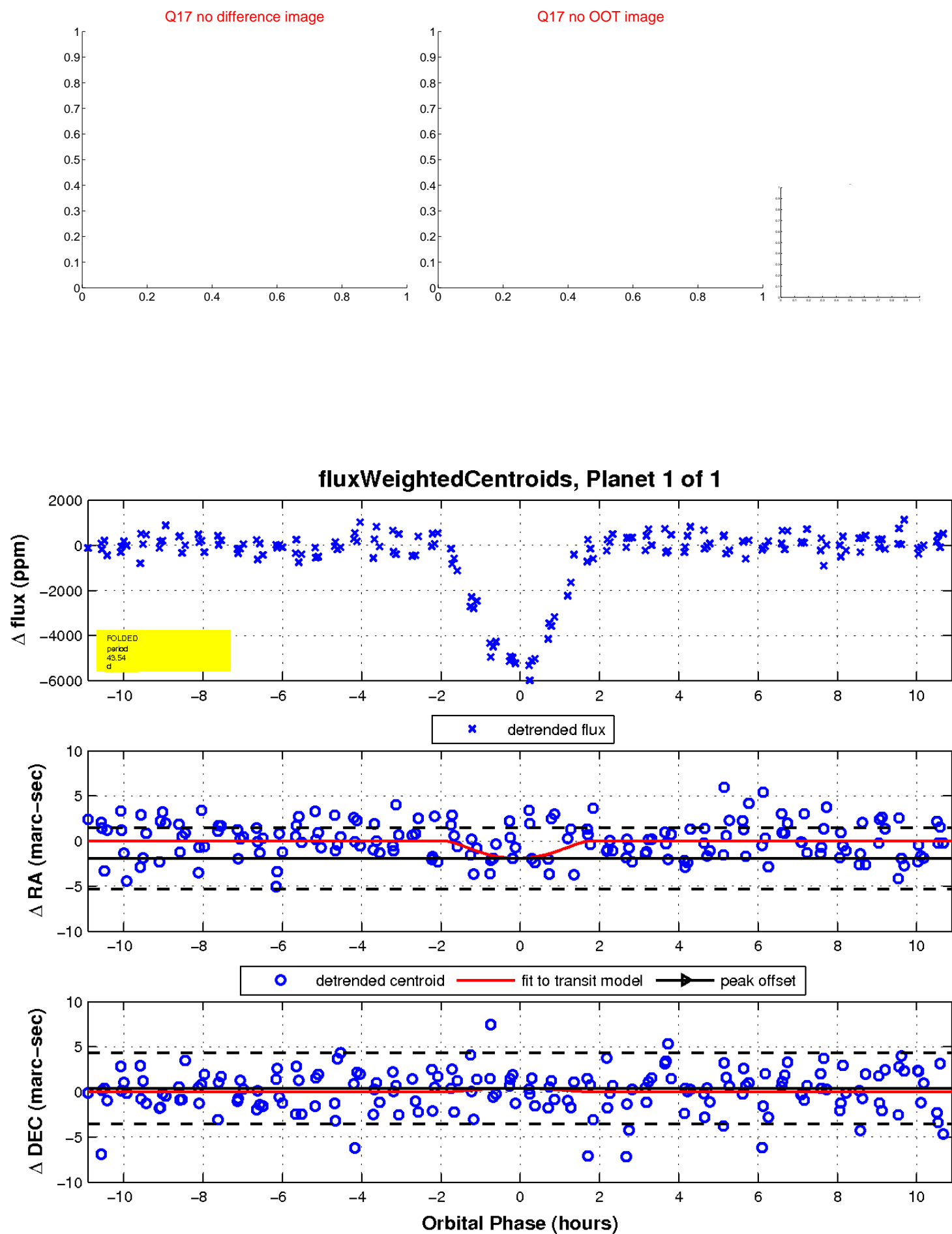
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

