

KIC 004057033

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})
004057033-01	OBS	No	543.544521	344.050839	299.7	3.491	7.1	6.2	1.22	6284	2.46	1.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004057033-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

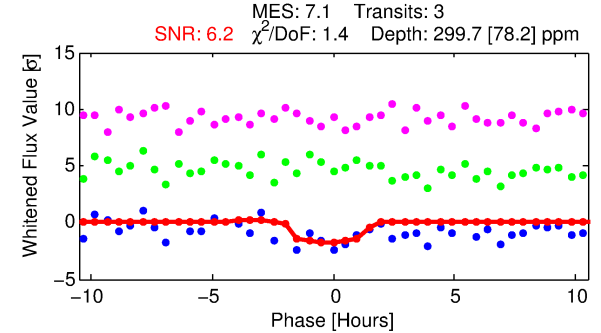
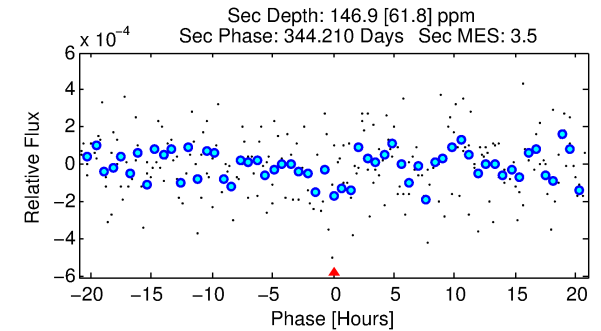
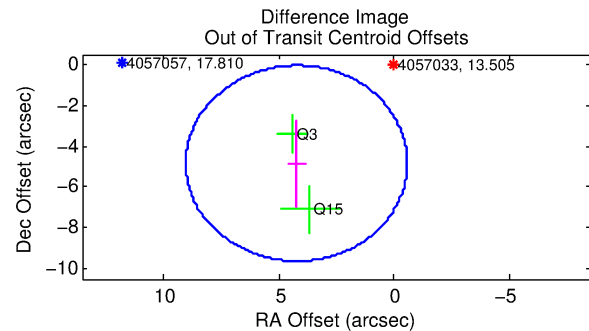
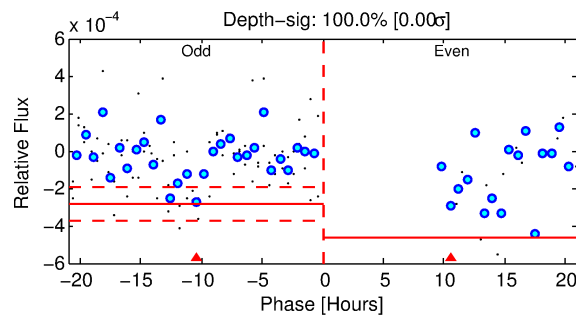
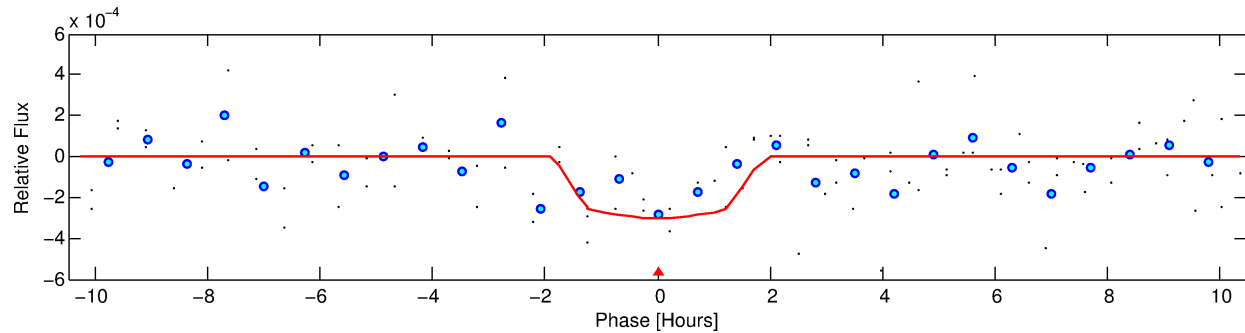
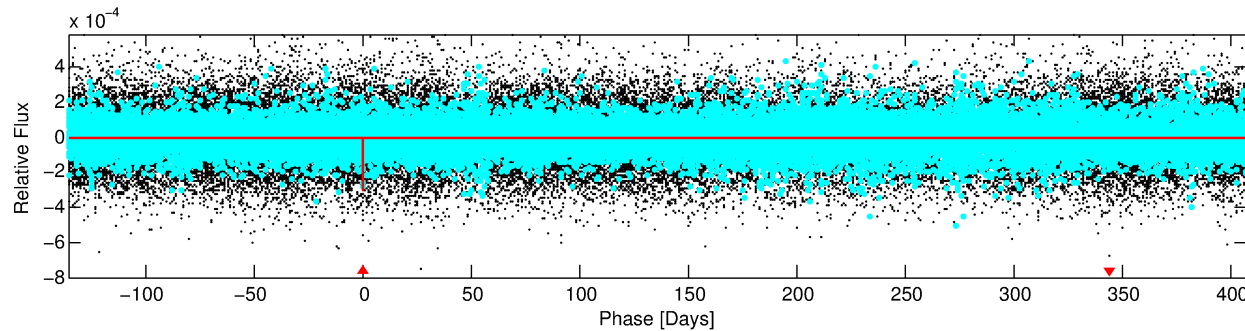
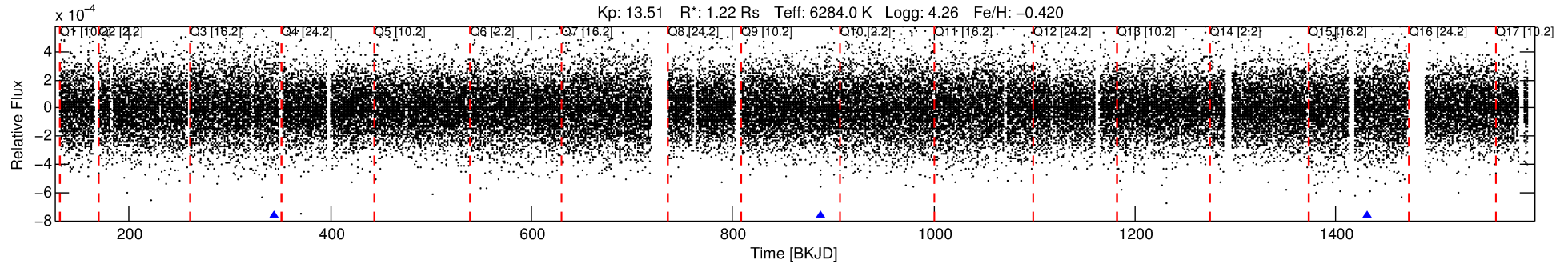
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004057033-01

No Significant Match Found

DV One-Page Summary

KIC: 4057033 Candidate: 1 of 1 Period: 543.545 d



DV Fit Results:

Period = 543.54452 [0.01034] d
Epoch = 344.0508 [0.0142] BKJD
Rp/R* = 0.0186 [0.0267]
a/R* = 569.19 [4424.64]
b = 0.90 [1.71]
Seff = 1.23 [0.45]
Teq = 269 [24] K
Rp = 2.46 [3.60] Re
a = 1.2929 [0.2975] AU
Ag = 22320.42 [65364.61] [0.34σ]
Teffp = 5079 [3697] K [1.30σ]

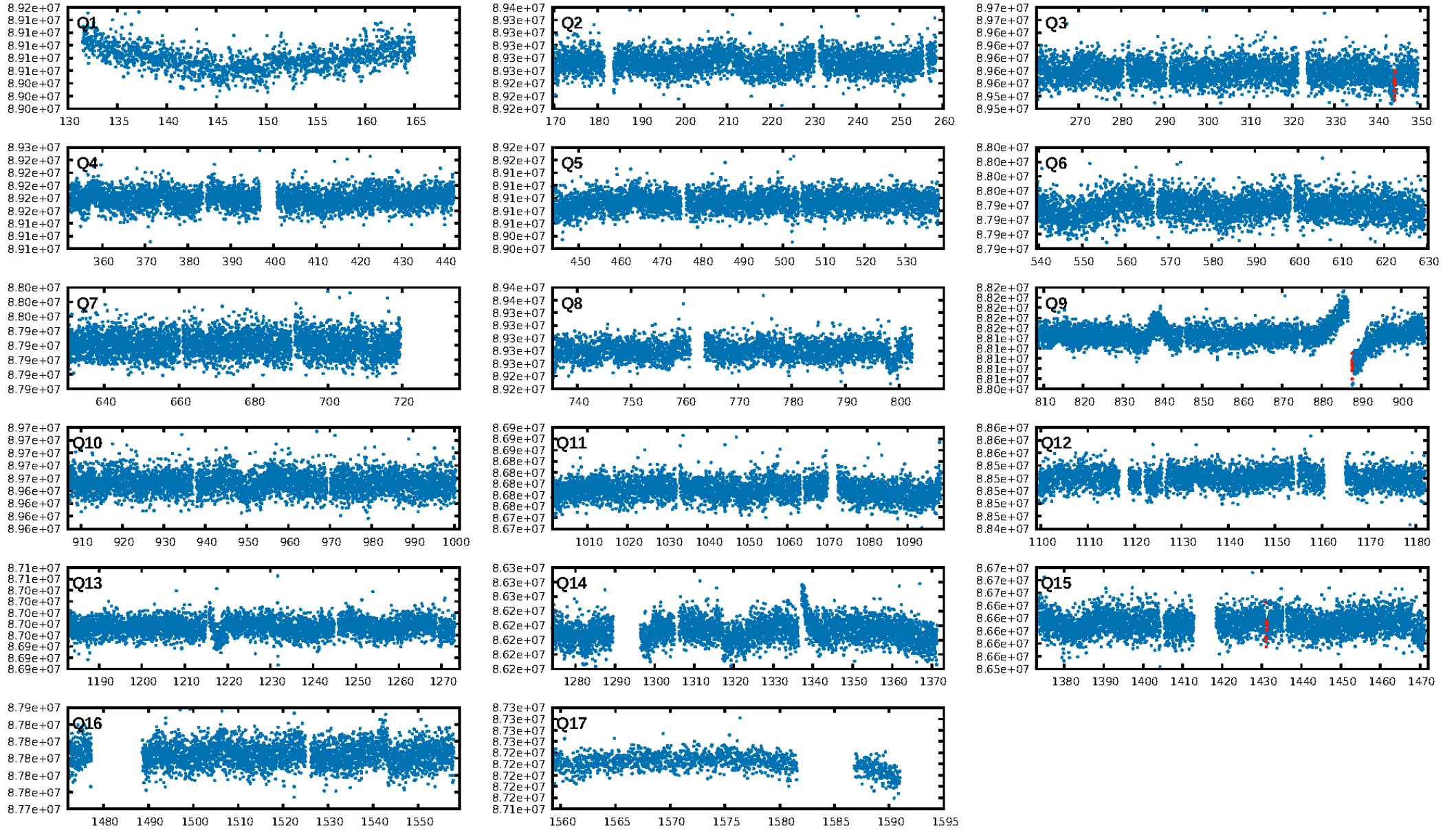
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 21.0%
ModelChiSquareGof-sig: 97.0%
Bootstrap-pfa: 6.15e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.409
Centroid-sig: 7.7%
Centroid-so: 4.218 arcsec [1.69σ]
OotOffset-rm: 6.423 arcsec [4.02σ]
KicOffset-rm: 6.380 arcsec [4.22σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

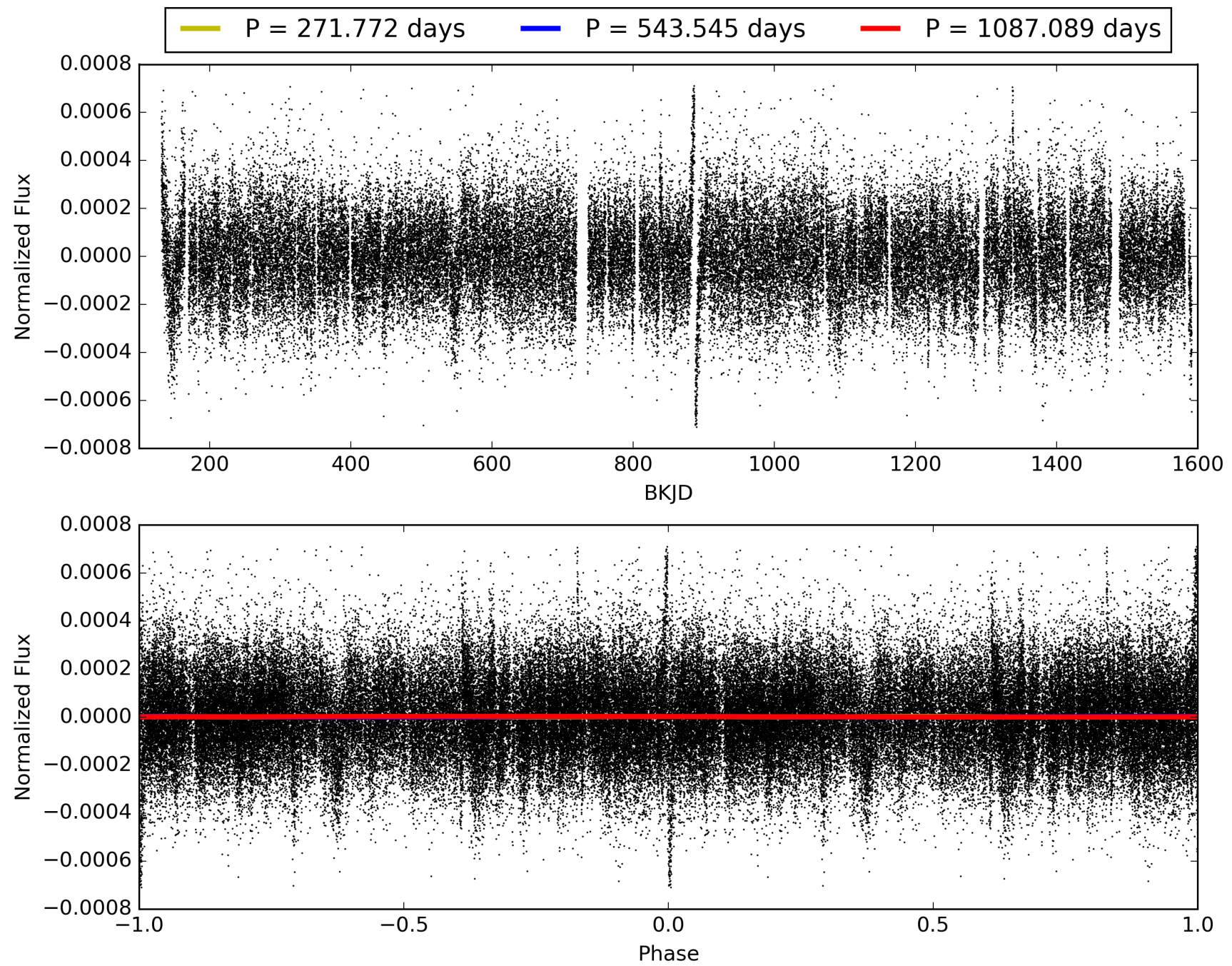
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:51:03 Z

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

TCE 004057033-01, PDC Light Curves

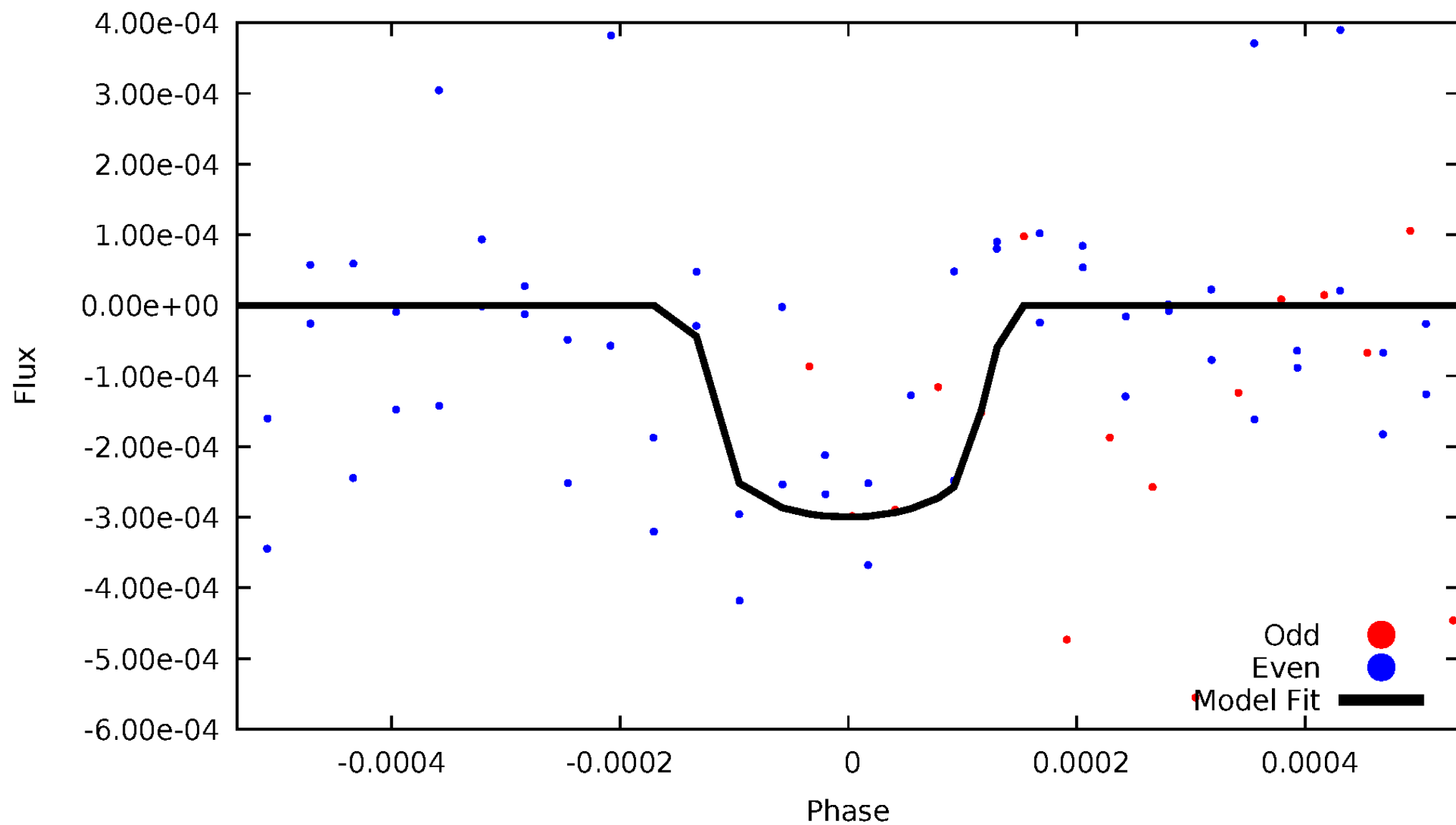


TCE 004057033-01



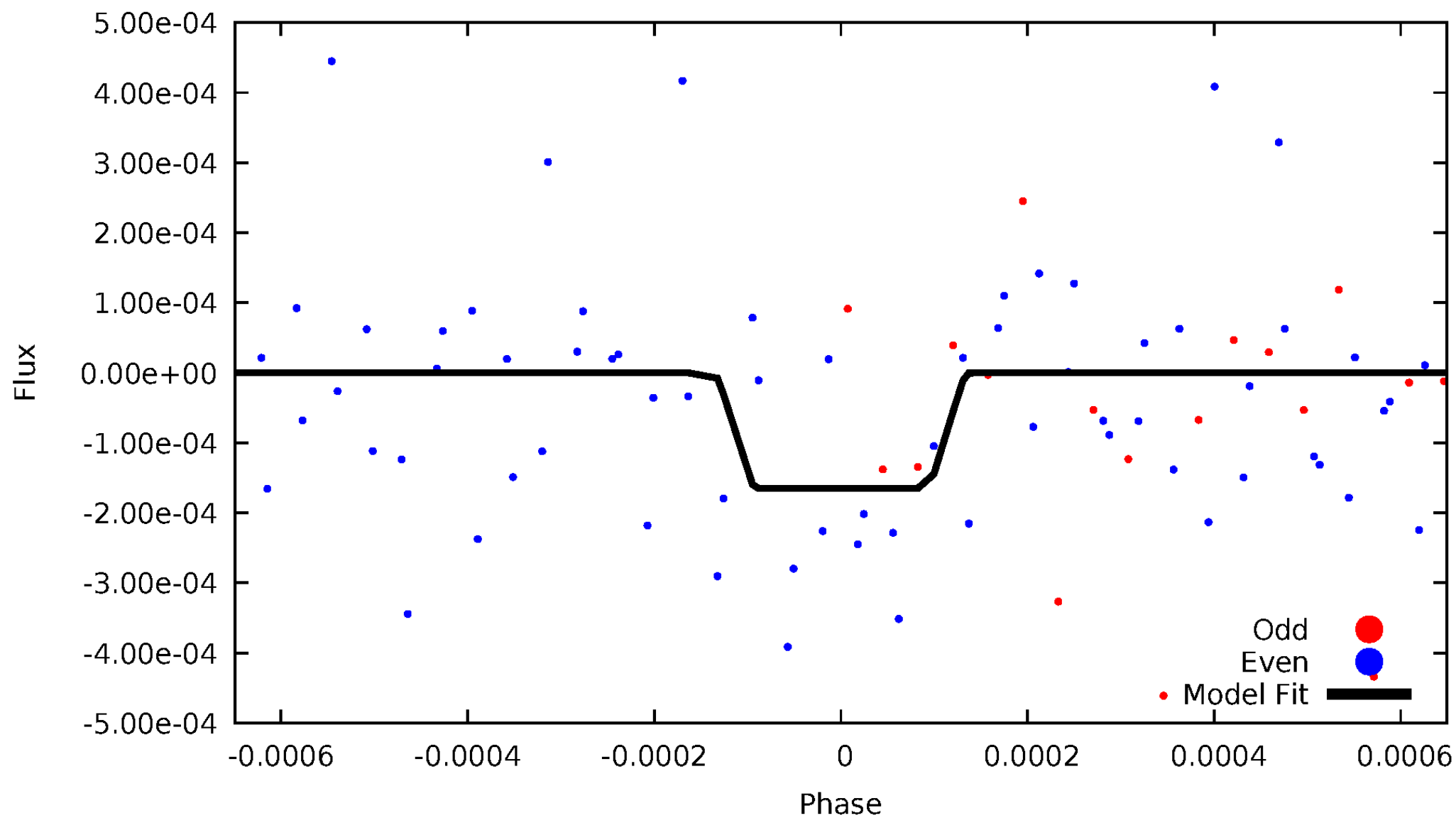
DV Odd/Even

TCE 004057033-01



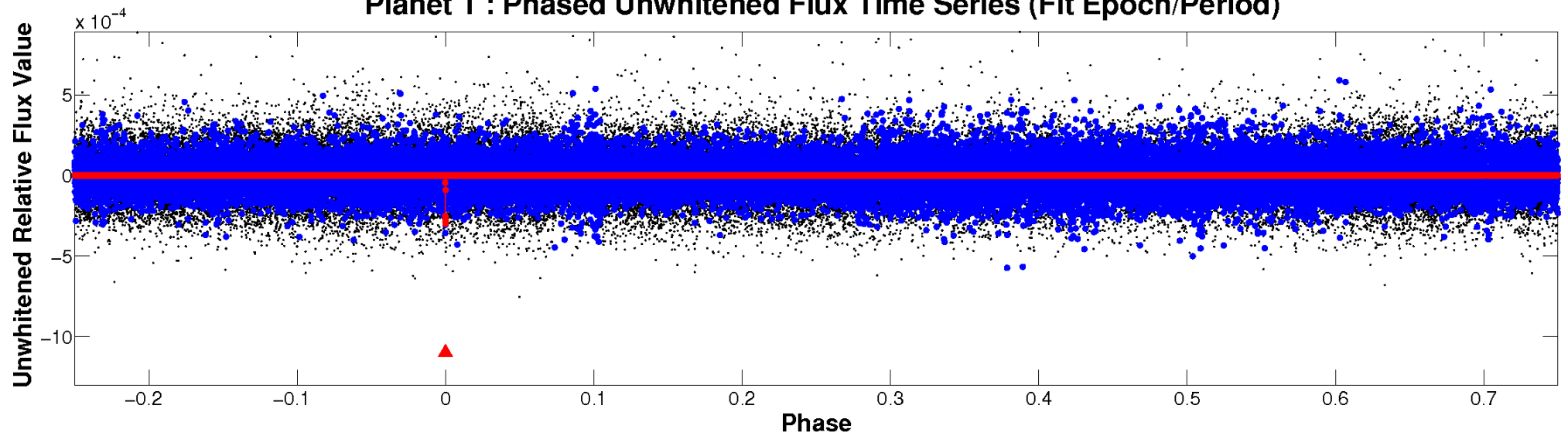
ALT Odd/Even

TCE 004057033-01

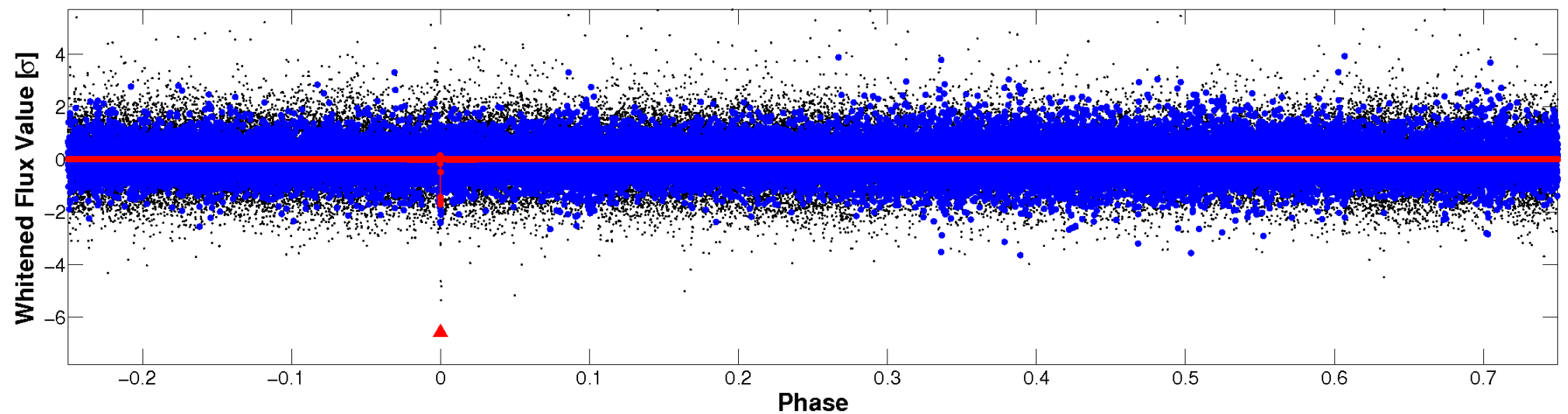


Non-Whitened Vs. Whitened Light Curve

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

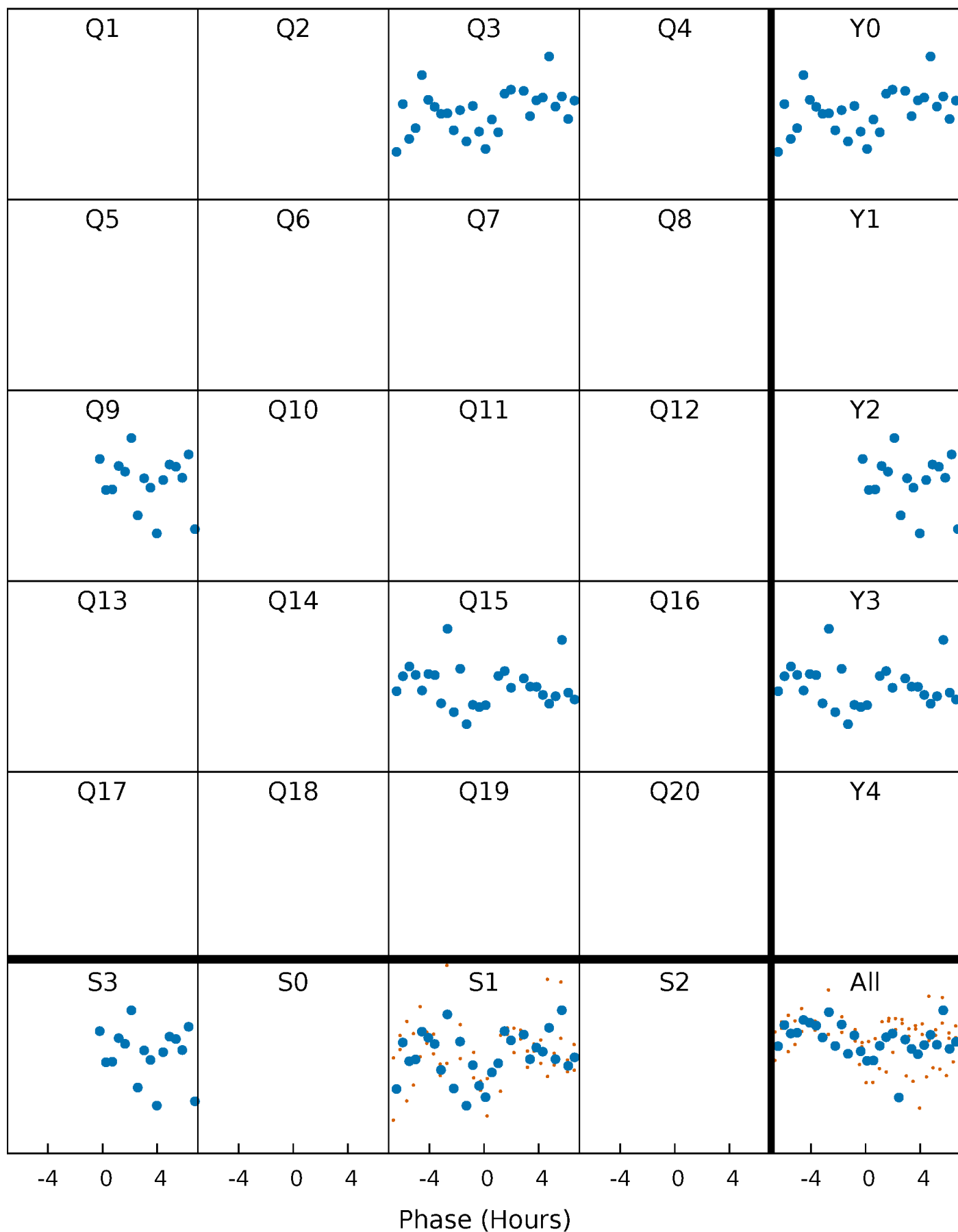


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



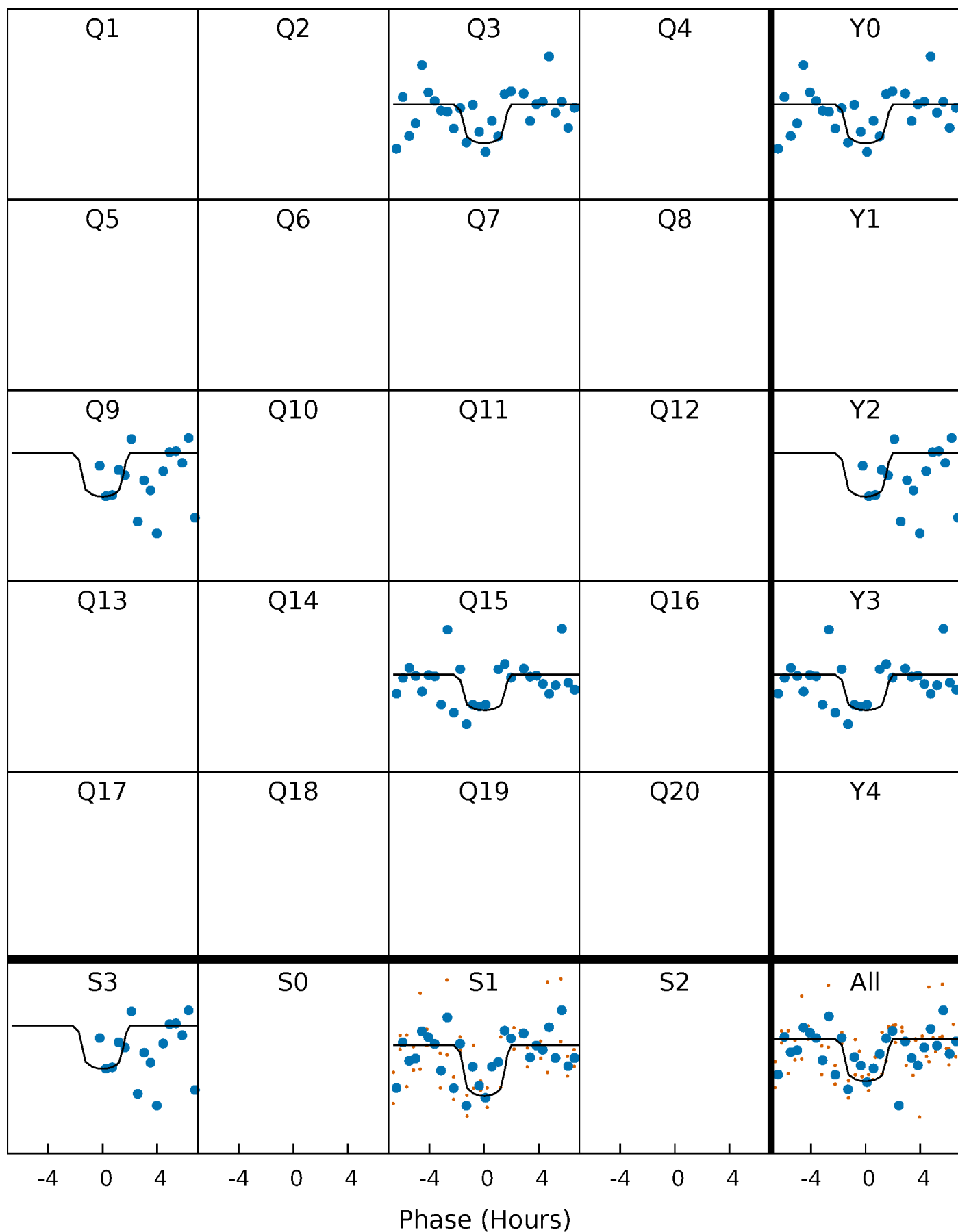
PDC Quarter-Phased Transit Curves

TCE 004057033-01 P=543.544521 Days $T_0=344.050839$ (BKJD)



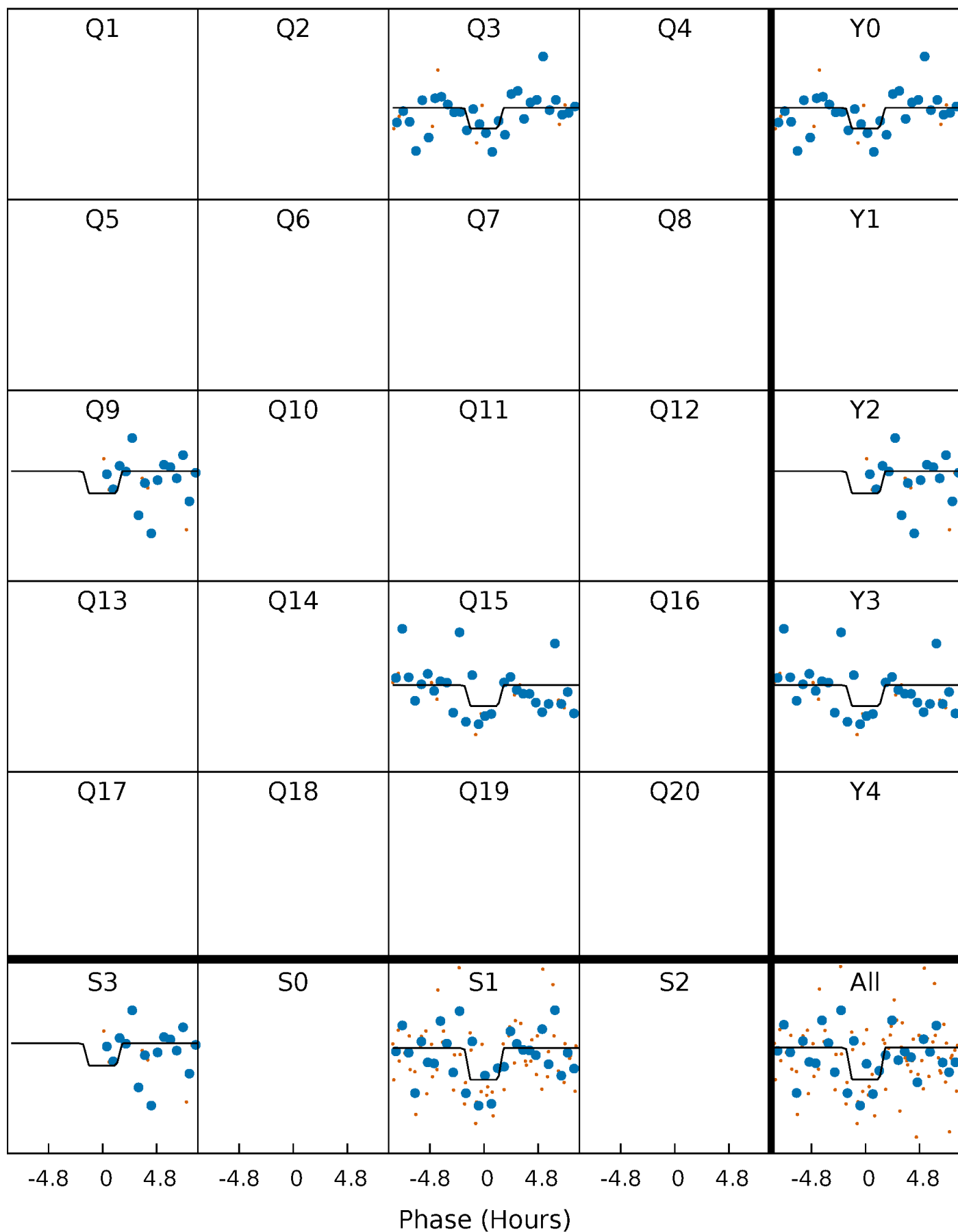
DV Quarter-Phased Transit Curves

TCE 004057033-01 P=543.544521 Days $T_0=344.050839$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

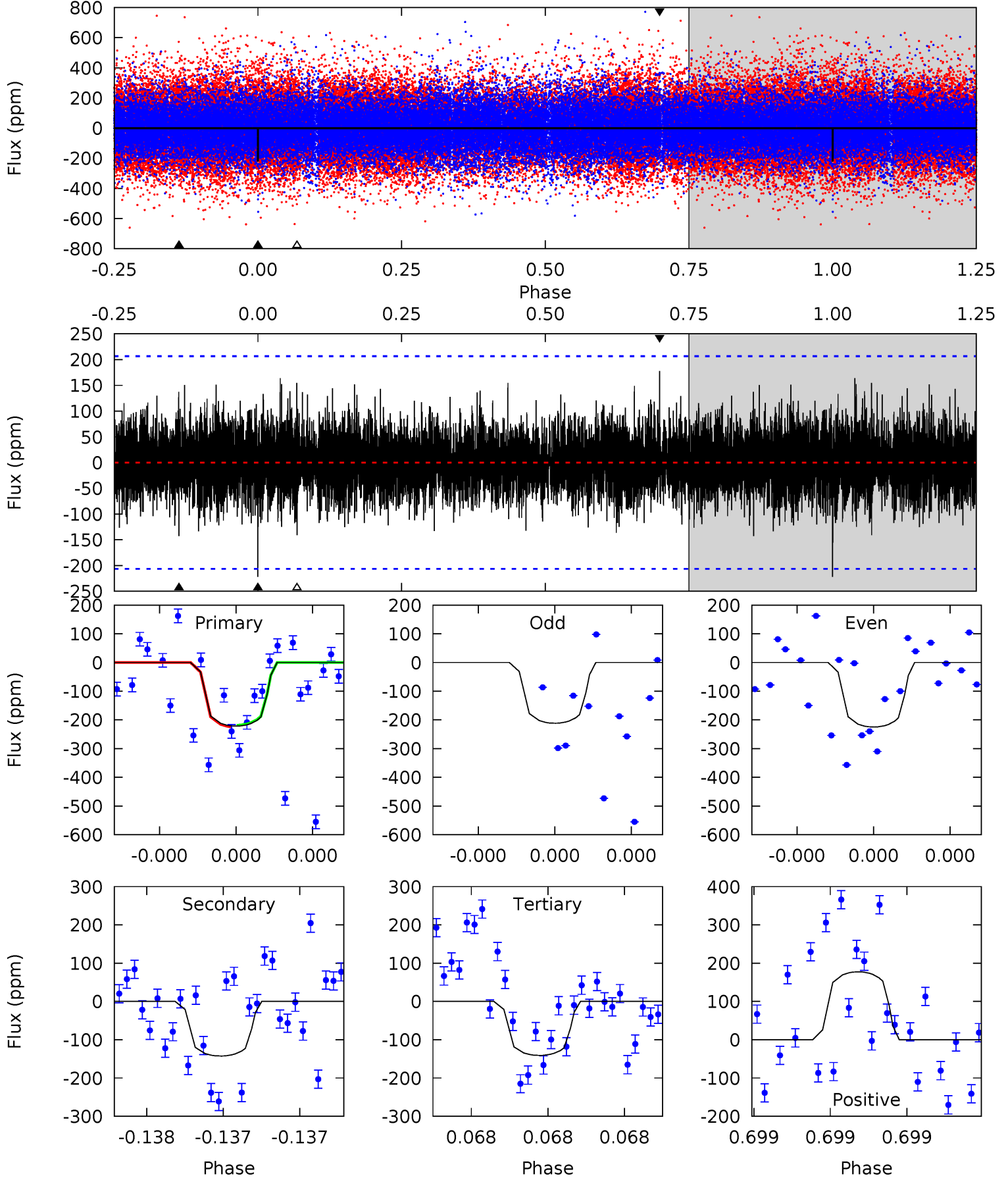
TCE 004057033-01 P=543.546318 Days $T_0=344.026463$ (BKJD)



DV Model-Shift Uniqueness Test

004057033-01, P = 543.544521 Days, E = 344.050839 Days

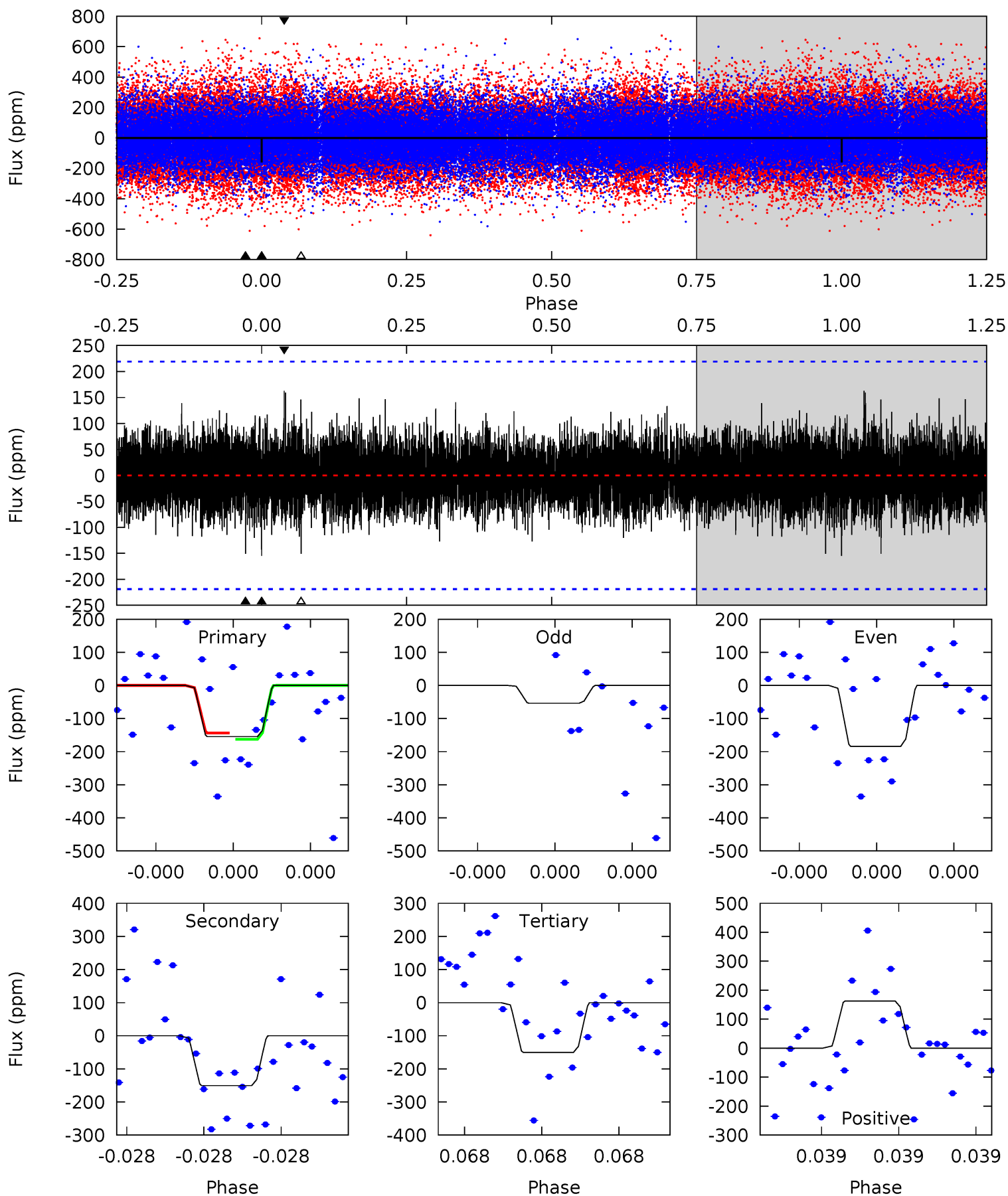
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.08	3.91	3.87	4.87	5.67	3.63	1.08	2.21	1.21	0.04	-0.96	0.16	1.03	0.44	0.07



Alt Model-Shift Uniqueness Test

004057033-01, P = 543.546318 Days, E = 344.026463 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.01	3.91	3.90	4.22	5.68	3.65	0.95	0.11	-0.21	0.00	-0.31	1.48	0.87	0.51	0.24



Stellar Parameters For KIC 004057033

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6284^{+170}_{-207}	$4.258^{+0.185}_{-0.185}$	$-0.420^{+0.300}_{-0.300}$	$1.215^{+0.330}_{-0.270}$	$0.976^{+0.147}_{-0.110}$	$0.766^{+0.737}_{-0.378}$
	+3%/-3%	+4%/-4%	+71%/-71%	+27%/-22%	+15%/-11%	+96%/-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 004057033-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-143 ± 36	$3.56^{+3.28}_{-2.31}$	375^{+29}_{-24}	4411^{+2560}_{-890}	10499^{+74195}_{-7707}
Alt.	-151 ± 39	$2.99^{+3.58}_{-2.14}$	378^{+26}_{-26}	4712^{+3726}_{-1084}	$15494^{+145368}_{-12288}$

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 $A_{obs} \gg 1.0$

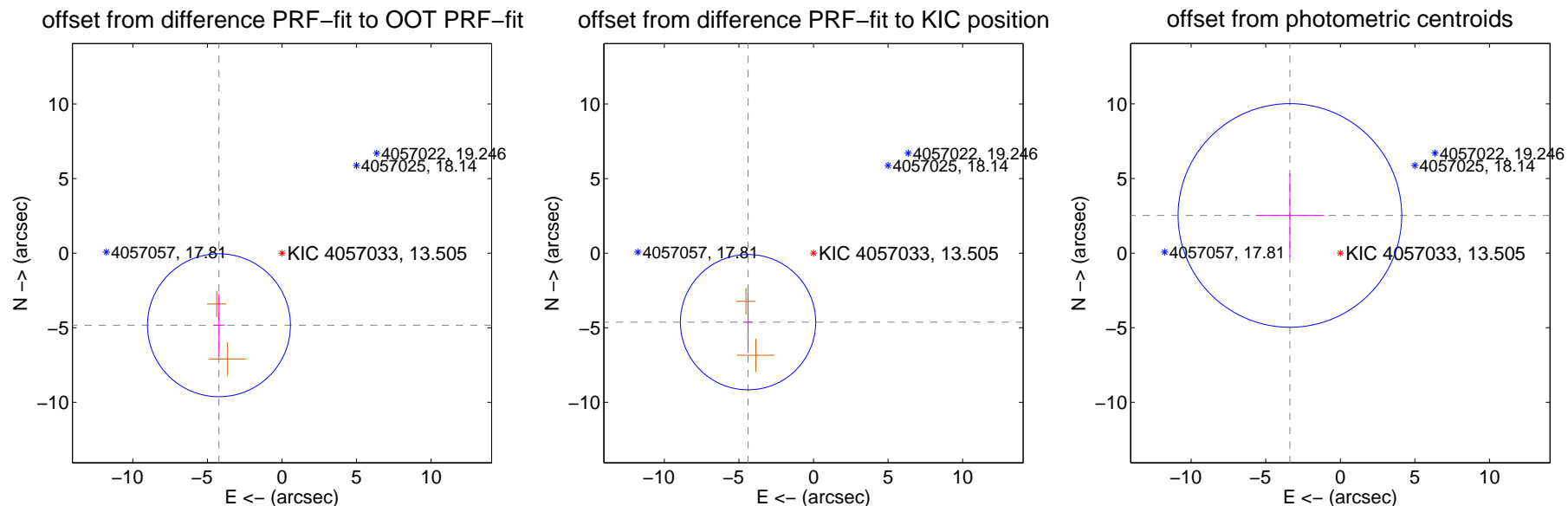
DV Centroid Data

Supplemental centroid analysis for 004057033-01. Kepler magnitude: 13.51. Transit SNR 6.23

There are 0 quarters with good PRF difference image offsets

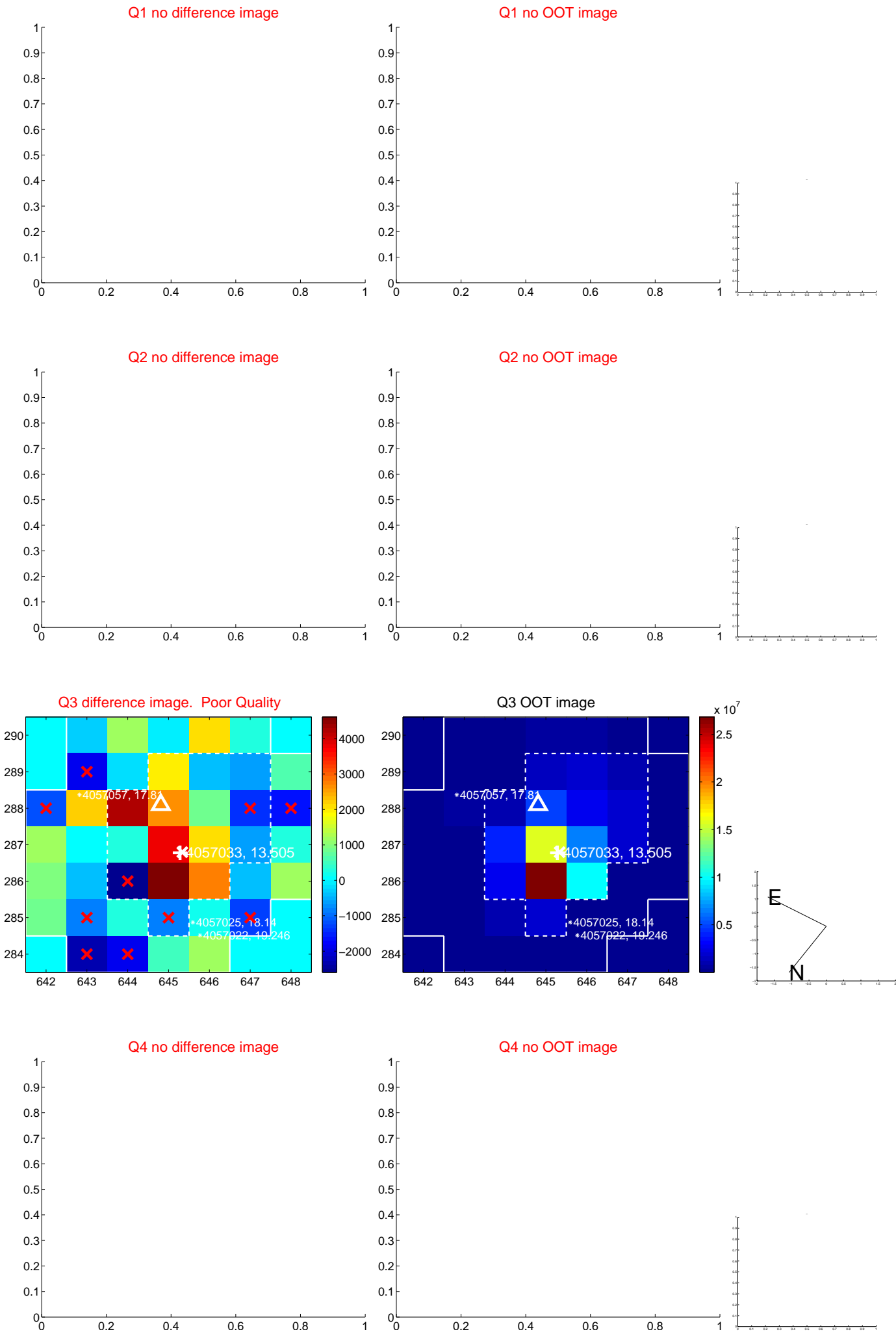
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.423 ± 1.597	4.02	4.227 ± 0.355	-4.836 ± 2.099
PRF-fit source offset from KIC position	6.380 ± 1.512	4.22	4.389 ± 0.324	-4.630 ± 2.061
photometric centroid source offset	4.22 ± 2.50	1.69	3.38 ± 2.31	2.52 ± 2.81



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.

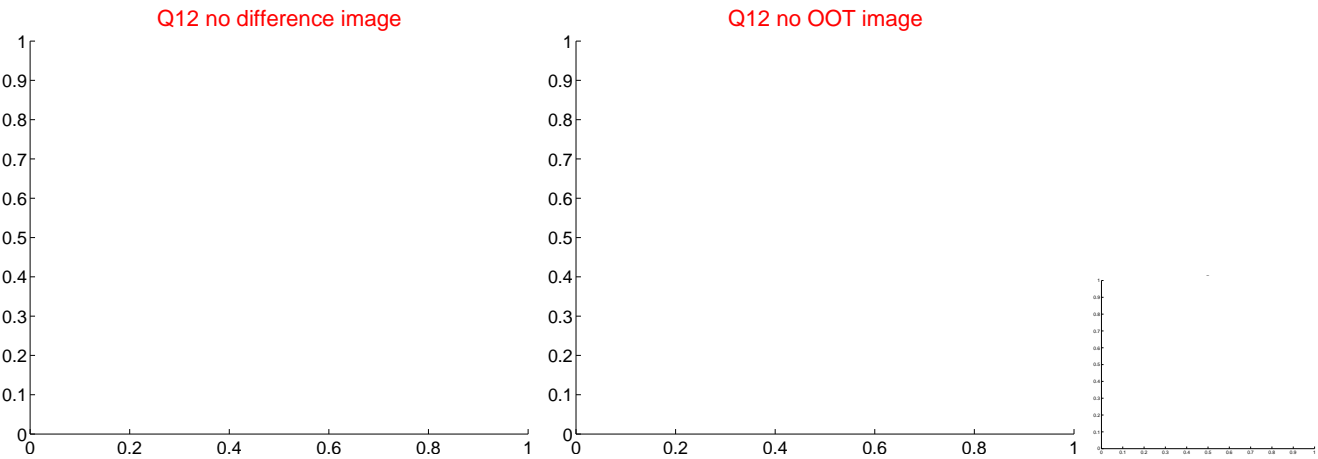
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



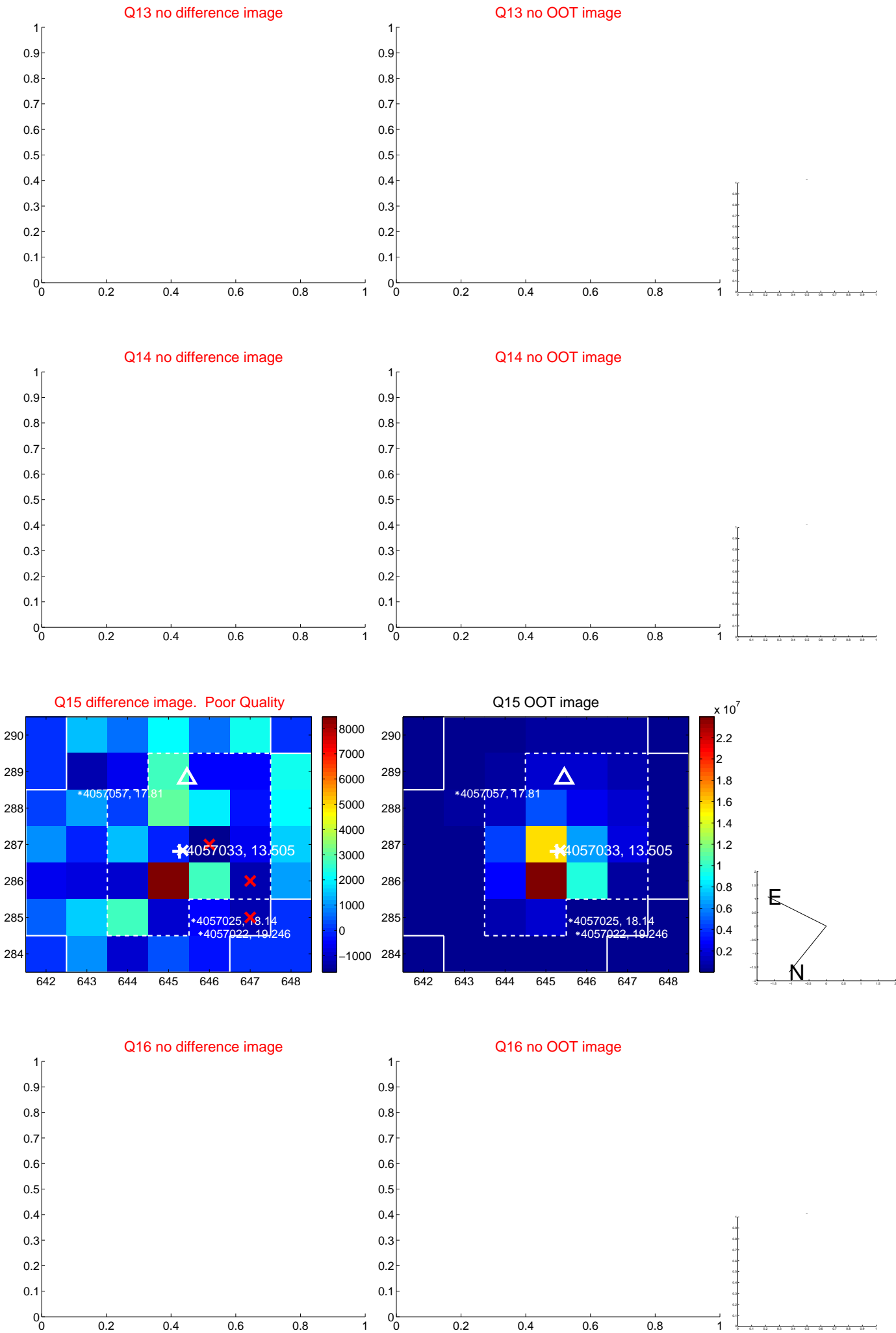
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



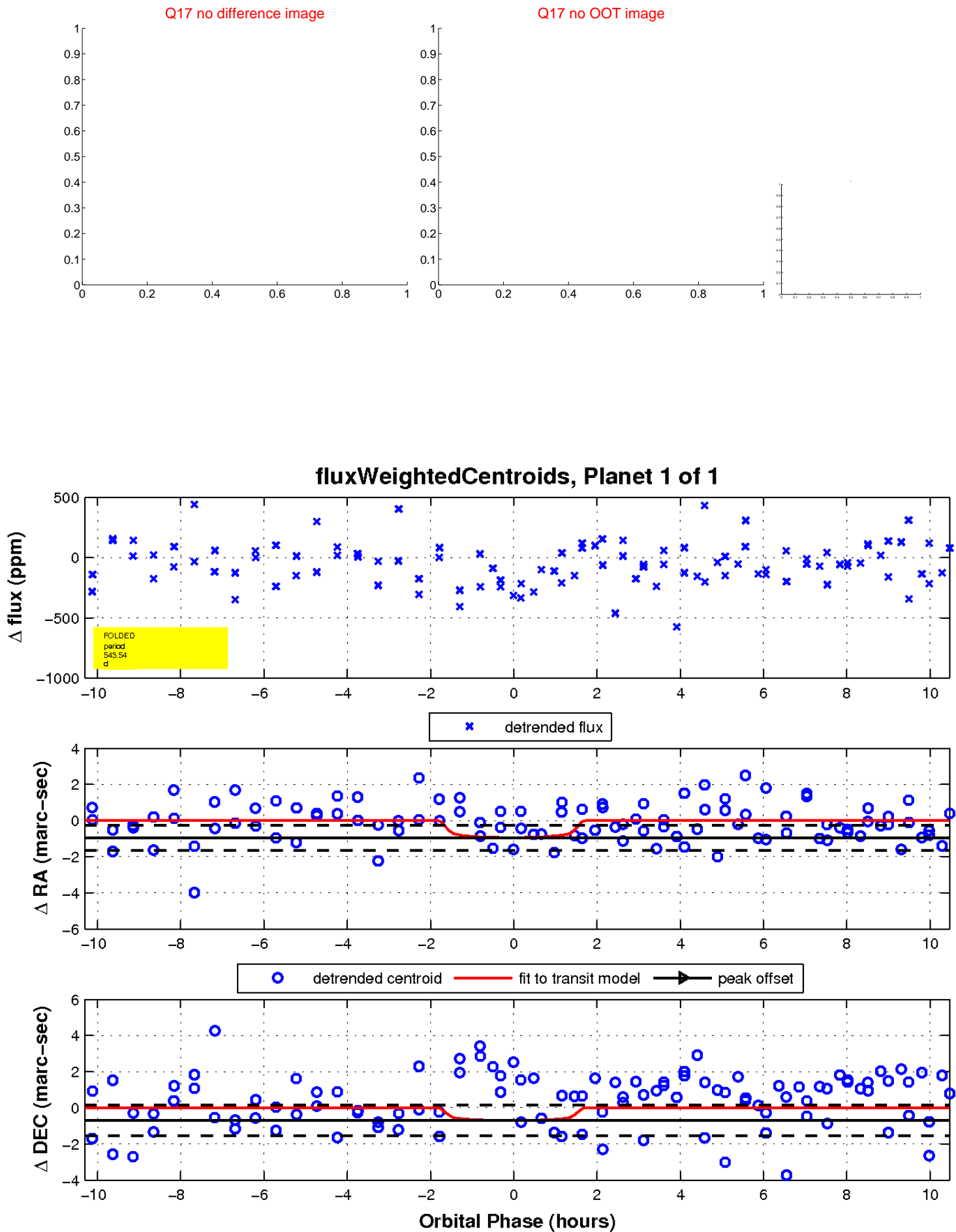
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

