

KIC 010333131

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})
010333131-01	OBS	No	218.919989	319.767075	555.6	3.442	7.2	7.2	6.86	5123	21.39	33.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010333131-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL

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

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

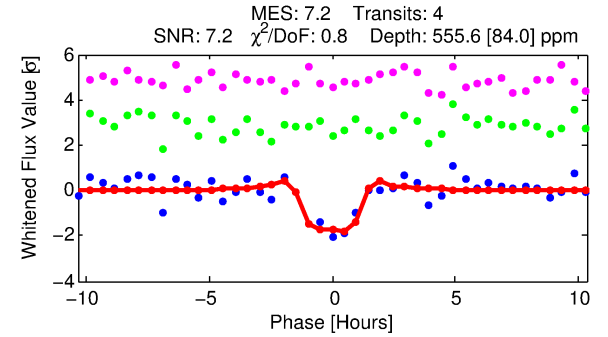
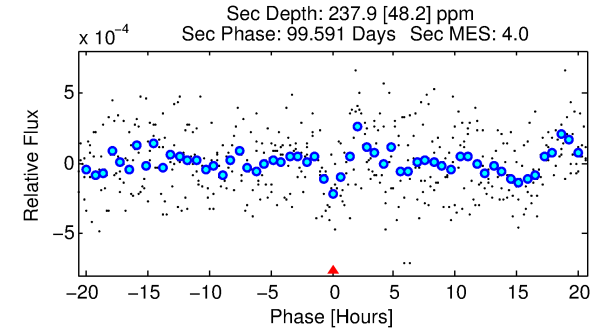
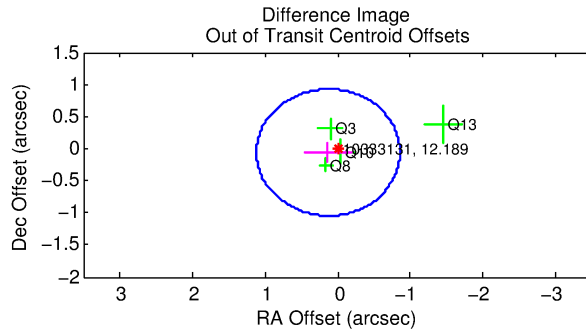
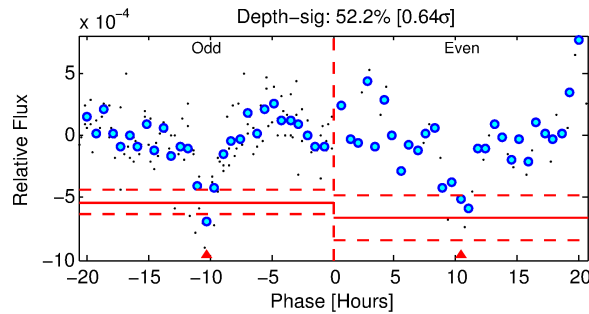
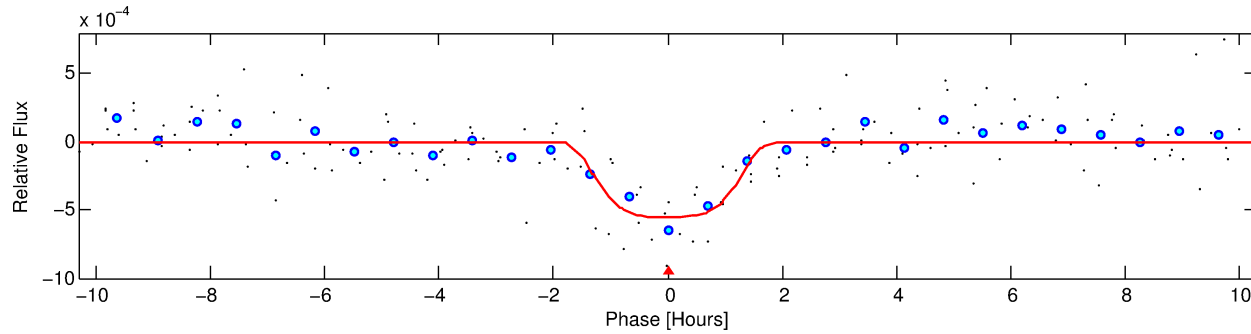
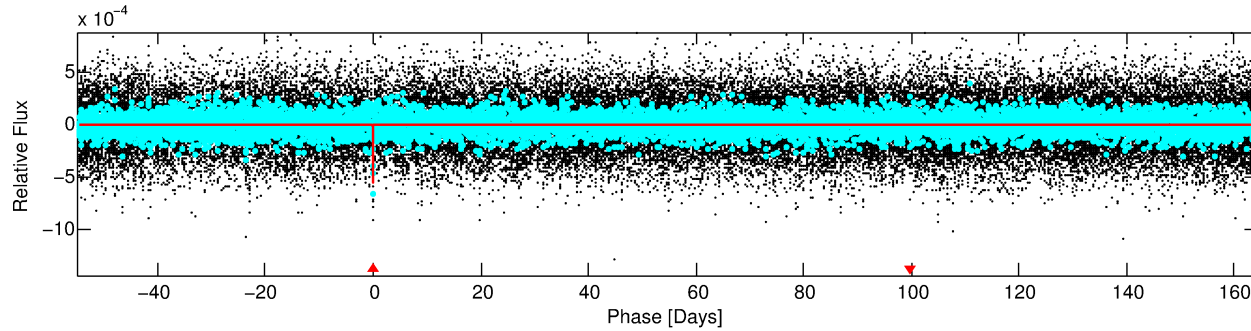
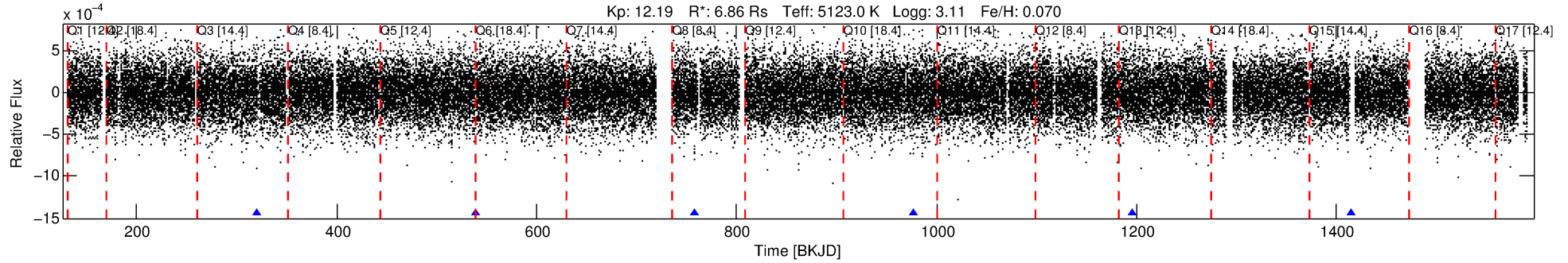
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010333131-01

No Significant Match Found

DV One-Page Summary

KIC: 10333131 Candidate: 1 of 1 Period: 218.920 d



DV Fit Results:

Period = 218.91999 [0.00282] d
Epoch = 319.7671 [0.0084] BKJD
Rp/R* = 0.0286 [0.0031]
a/R* = 186.62 [46.42]
b = 0.95 [0.03]
Seff = 33.64 [7.19]
Teq = 614 [33] K
Rp = 21.39 [5.28] Re
a = 0.9294 [0.1388] AU
Ag = 247.09 [82.95] [2.97 σ]
Teffp = 3764 [313] K [10.01 σ]

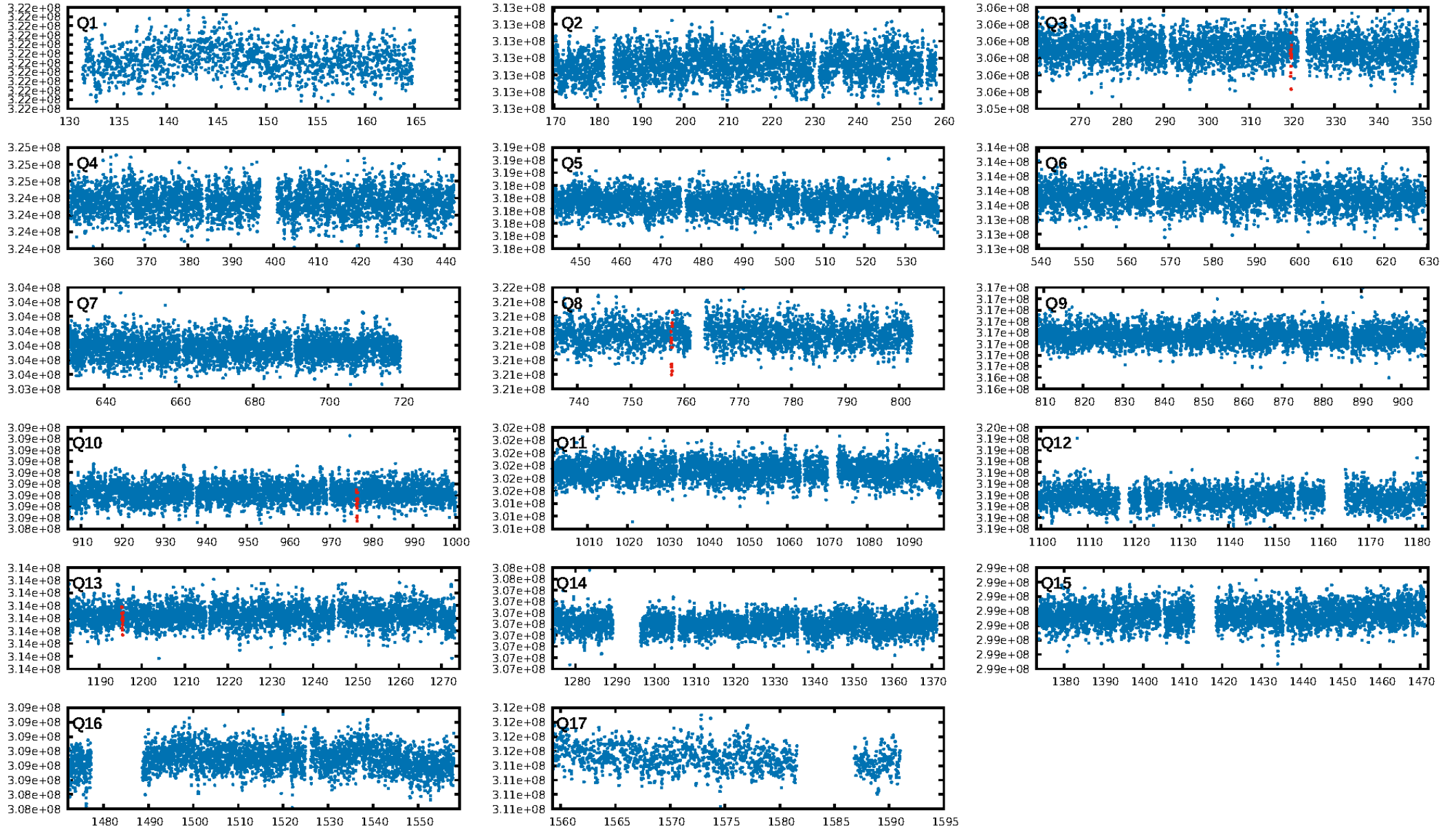
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 22.9%
ModelChiSquareGof-sig: 96.1%
Bootstrap-pfa: 3.48e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 10.74
Centroid-sig: 68.7%
Centroid-so: 0.381 arcsec [0.89 σ]
OotOffset-rm: 0.144 arcsec [0.44 σ]
KicOffset-rm: 0.276 arcsec [1.51 σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

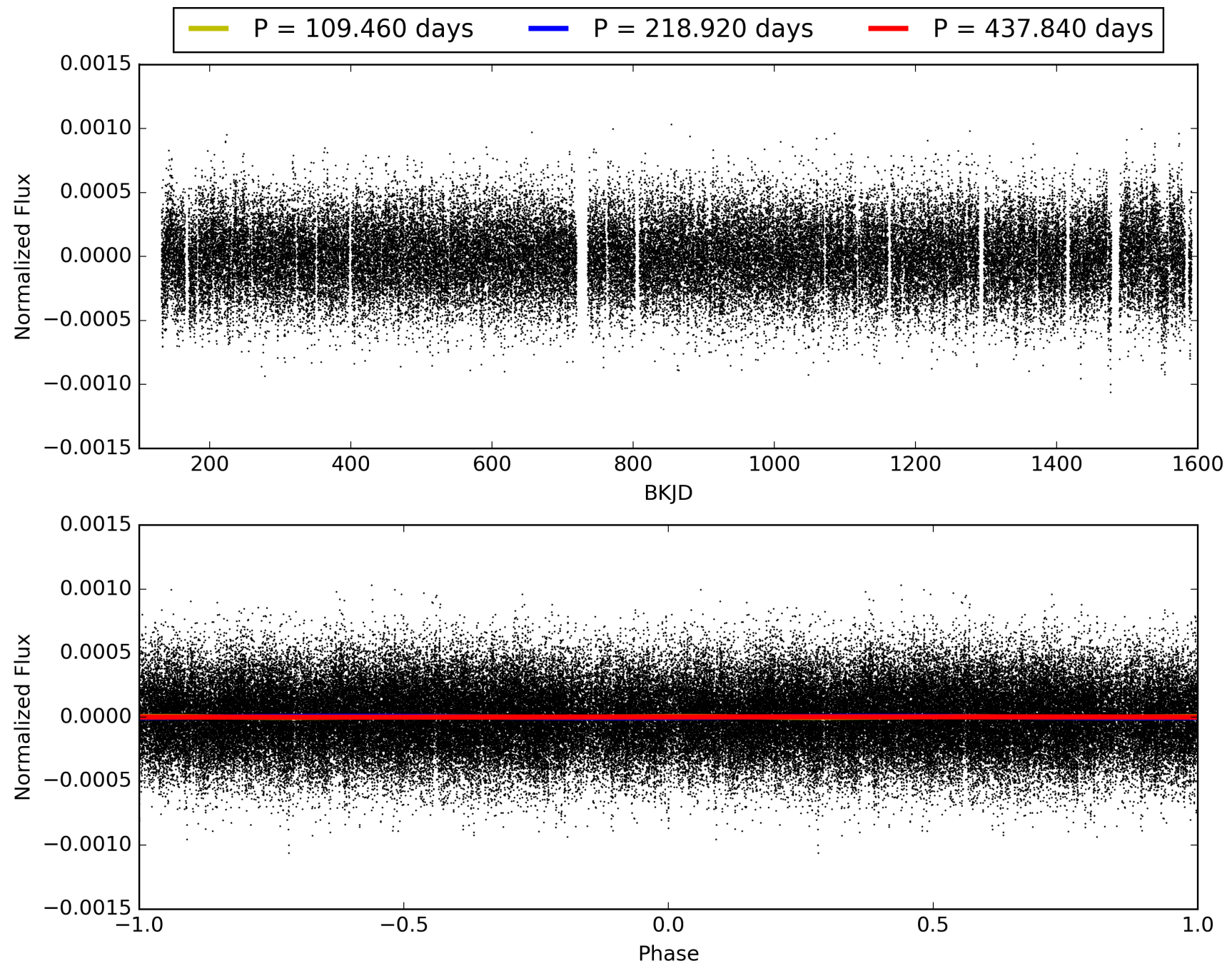
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:27:51 Z

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

TCE 010333131-01, PDC Light Curves

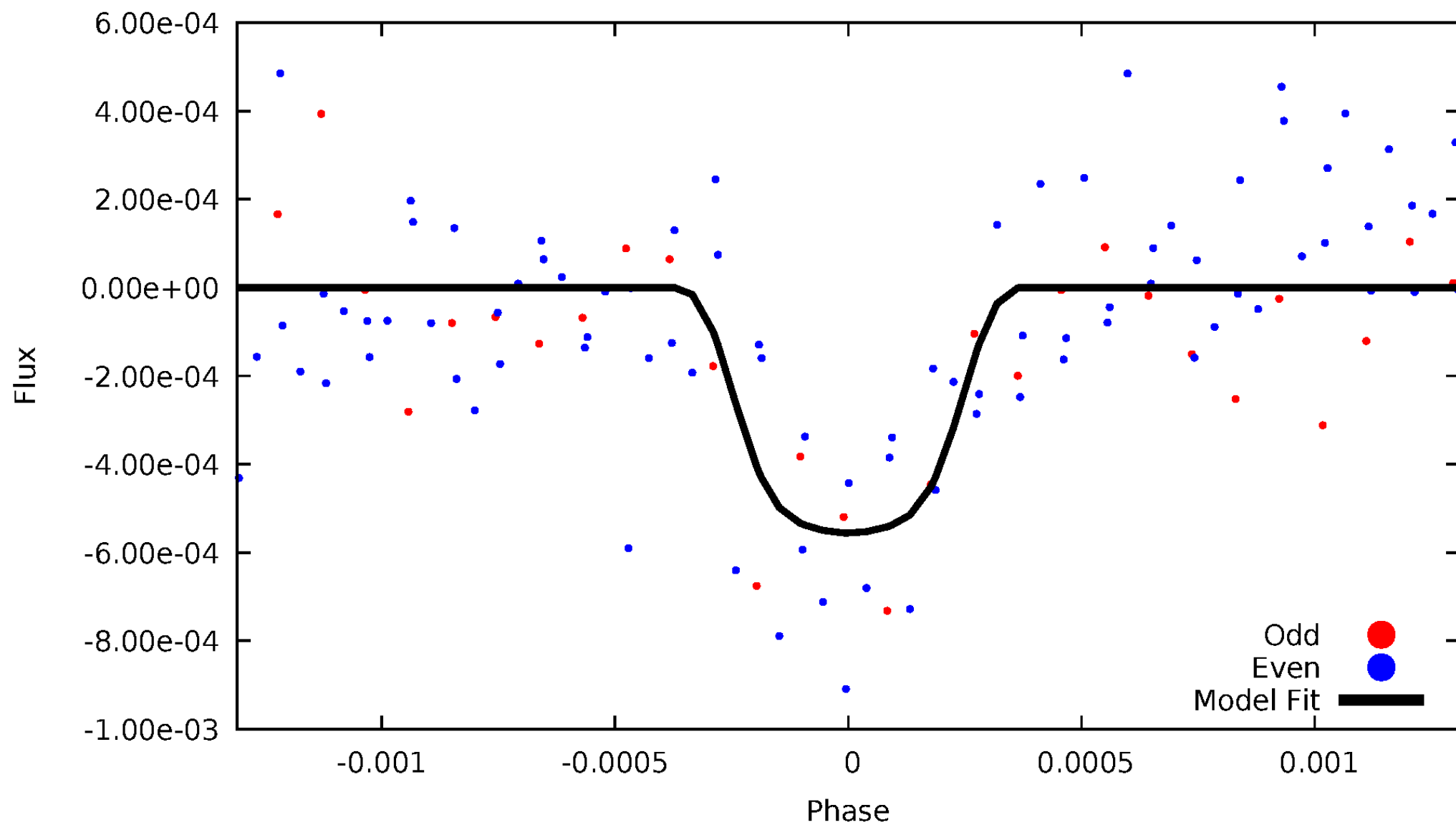


TCE 010333131-01



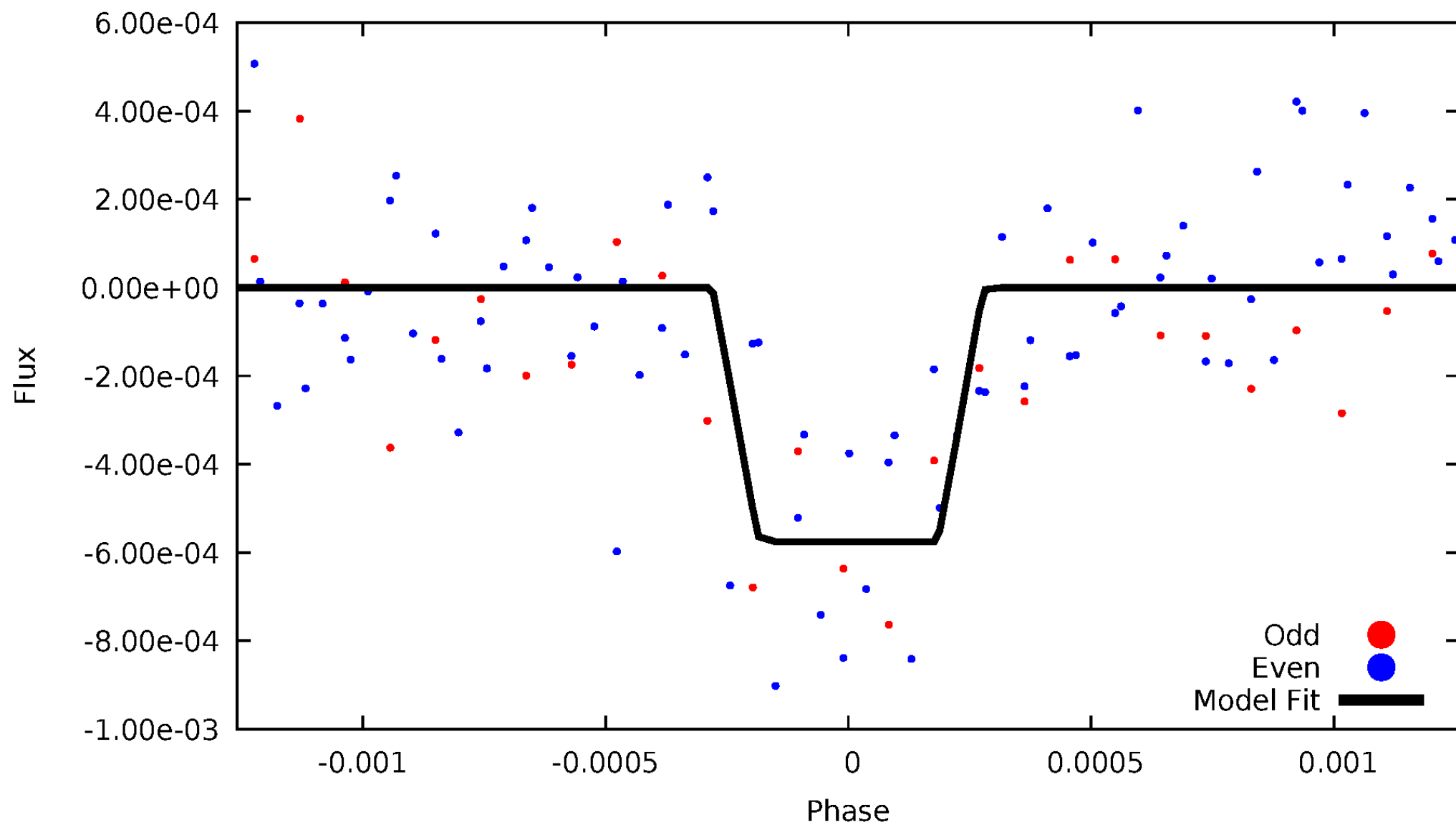
DV Odd/Even

TCE 010333131-01

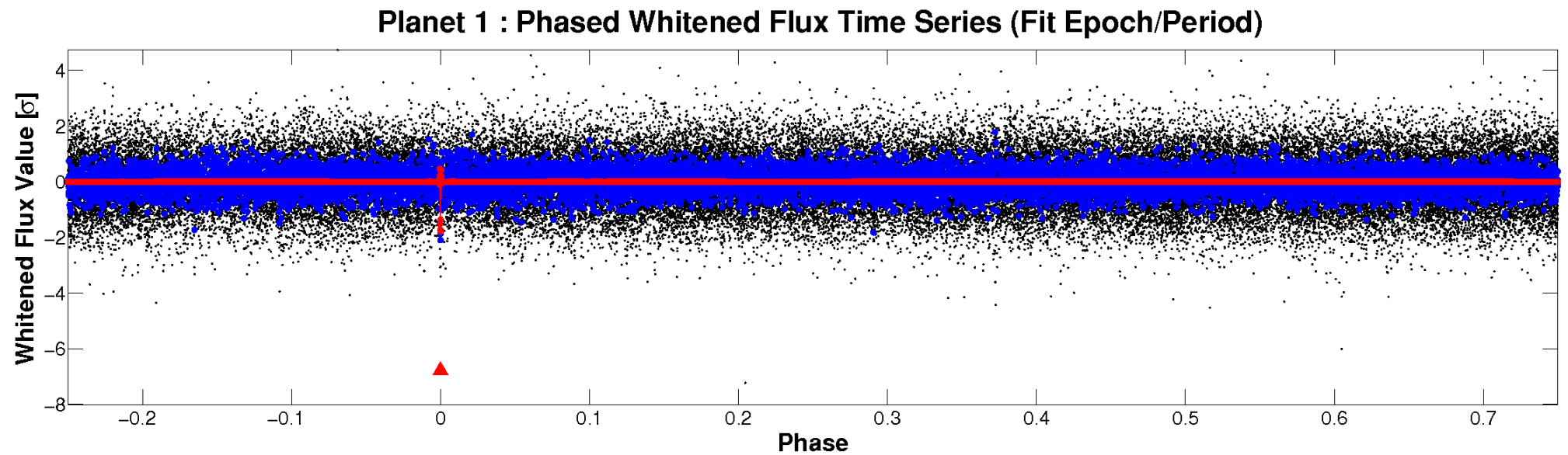
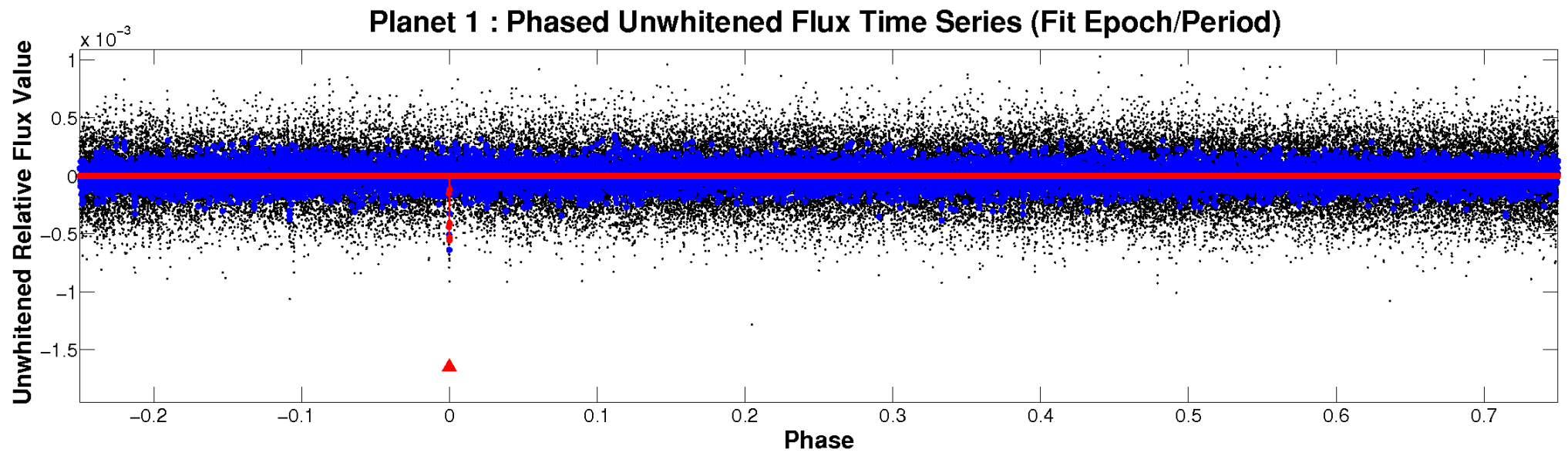


ALT Odd/Even

TCE 010333131-01

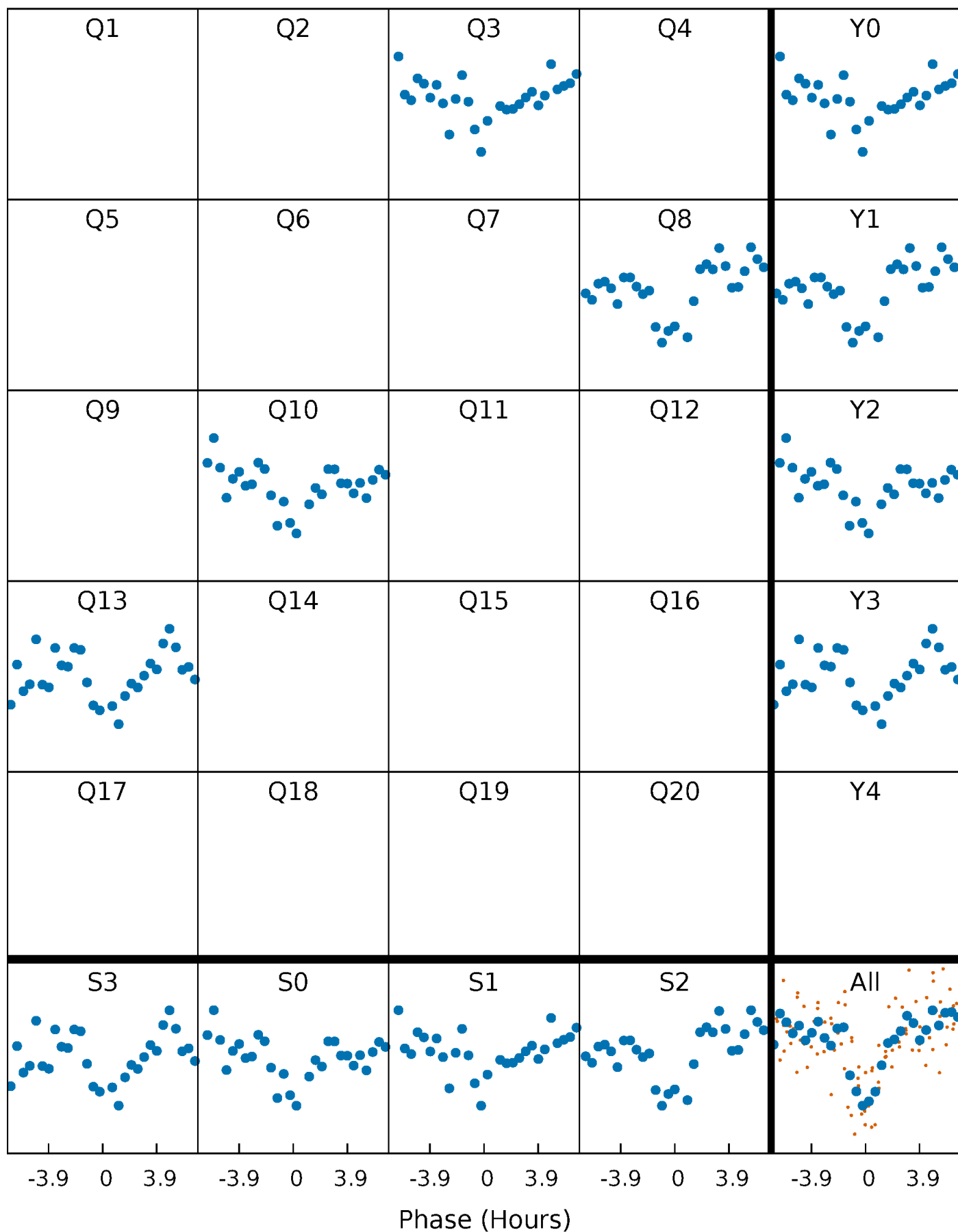


Non-Whitened Vs. Whitened Light Curve



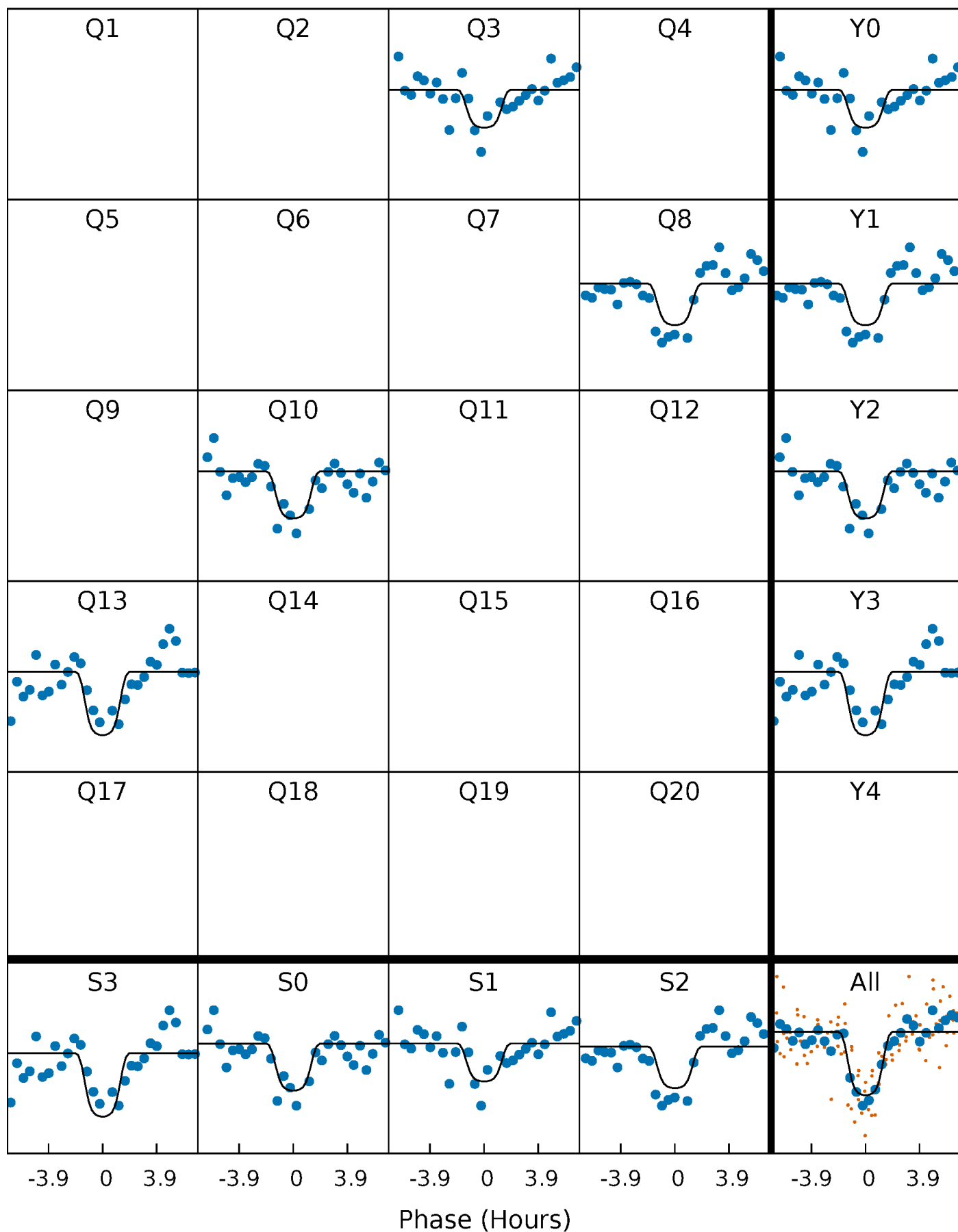
PDC Quarter-Phased Transit Curves

TCE 010333131-01 P=218.919989 Days $T_0=319.767075$ (BKJD)



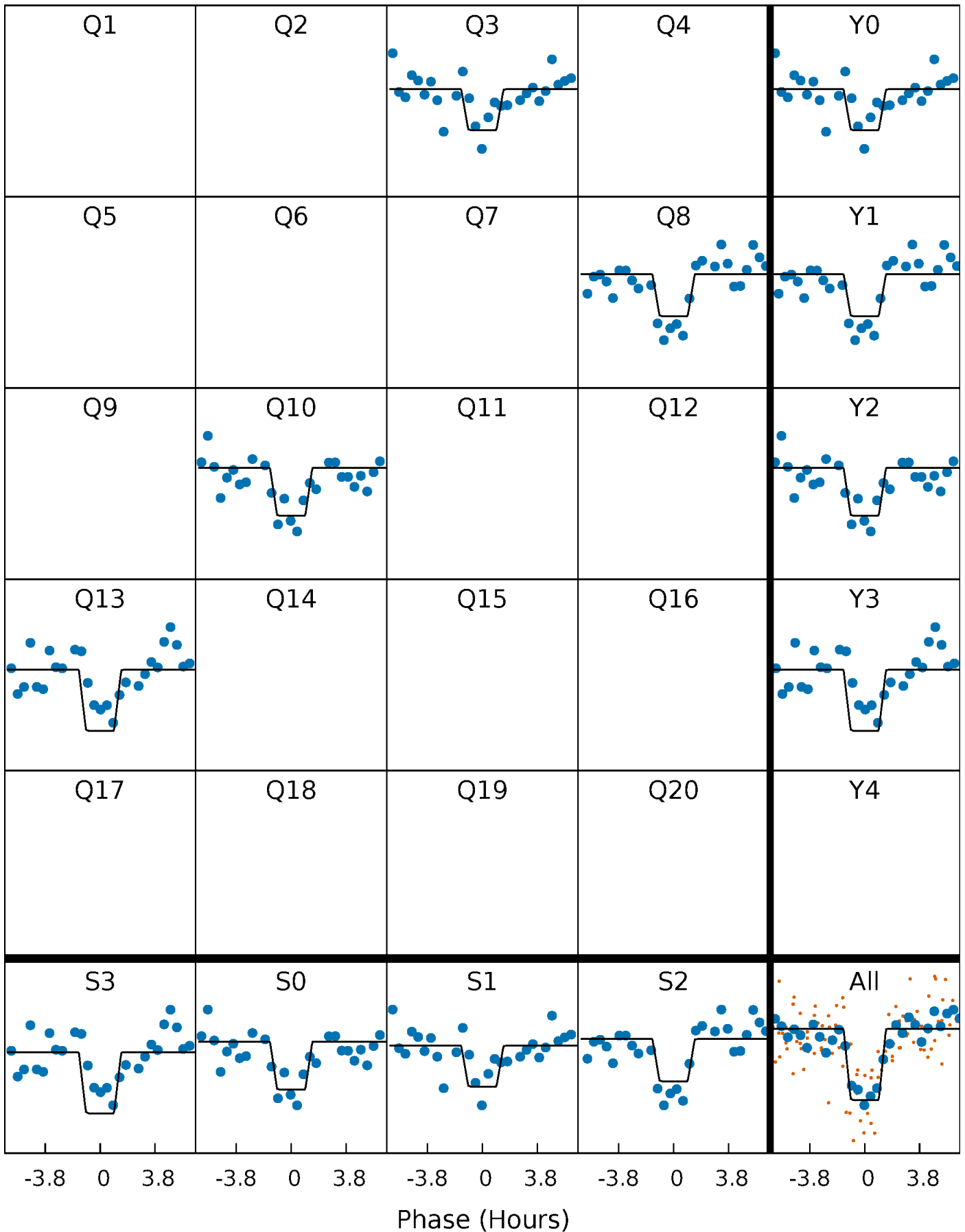
DV Quarter-Phased Transit Curves

TCE 010333131-01 P=218.919989 Days $T_0=319.767075$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

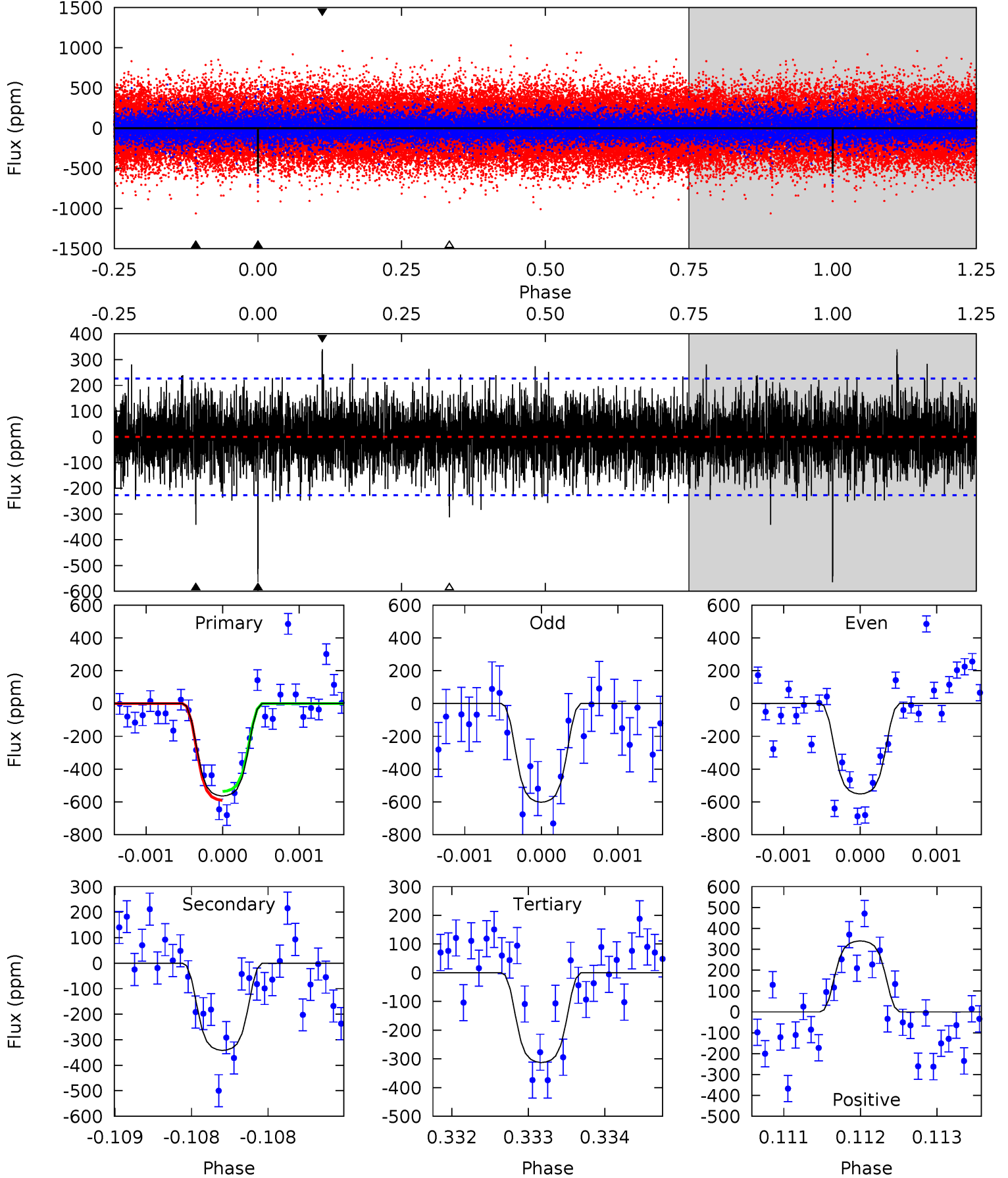
TCE 010333131-01 P=218.919600 Days $T_0=319.768300$ (BKJD)



DV Model-Shift Uniqueness Test

010333131-01, P = 218.919989 Days, E = 100.847086 Days

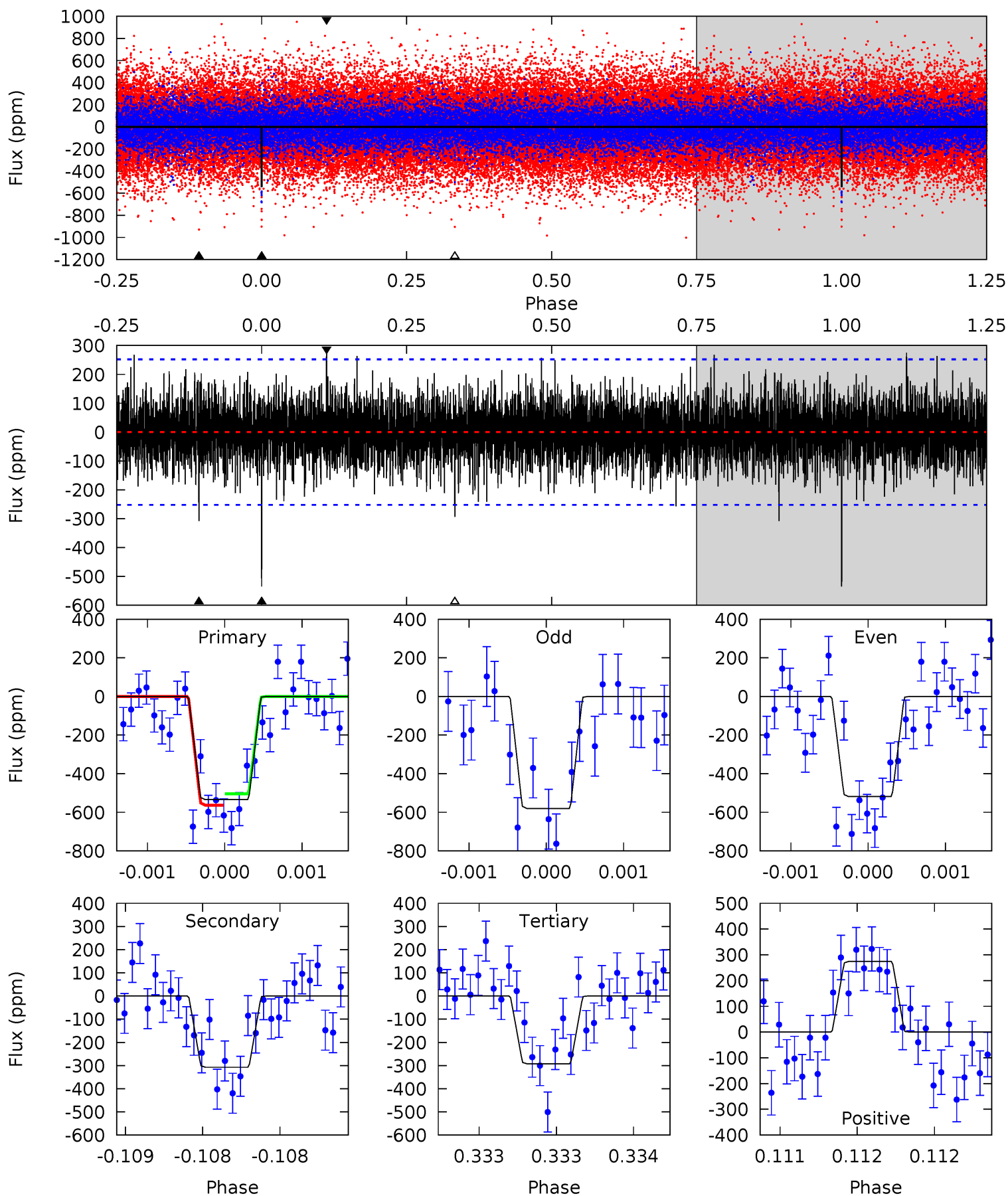
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	8.31	7.61	8.27	5.51	3.39	1.96	6.12	5.45	0.70	0.04	0.54	1.02	0.38	0.66



Alt Model-Shift Uniqueness Test

010333131-01, P = 218.919600 Days, E = 100.848700 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	6.76	6.44	6.03	5.54	3.43	1.55	5.31	5.72	0.33	0.73	0.59	1.06	0.34	0.64



Stellar Parameters For KIC 010333131

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5123^{+37}_{-189}	$3.114^{+0.030}_{-0.027}$	$0.070^{+0.100}_{-0.250}$	$6.862^{+0.268}_{-1.519}$	$2.233^{+0.157}_{-0.891}$	$0.010^{+0.003}_{-0.001}$
	+1%/-4%	+1%/-1%	+143%/-357%	+4%/-22%	+7%/-40%	+34%/-7%
Source	PHO55	AST55	SPE55	DSEP		

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

Secondary Eclipse Parameters for KIC 010333131-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-342 ± 41	$21.68^{+2.63}_{-2.73}$	856^{+14}_{-31}	4262^{+232}_{-217}	353^{+105}_{-81}
Alt.	-308 ± 45	$18.17^{+2.63}_{-2.71}$	854^{+15}_{-28}	4438^{+327}_{-238}	450^{+174}_{-121}

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 $A_{\text{obs}} \gg 1.0$

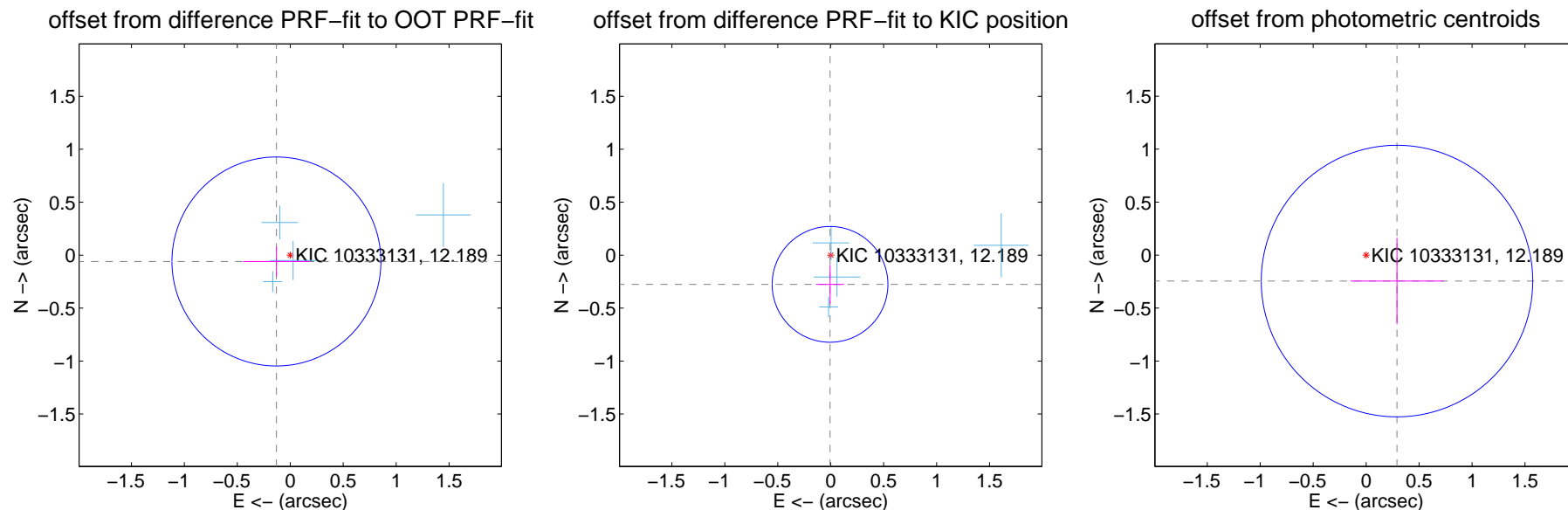
DV Centroid Data

Supplemental centroid analysis for 010333131-01. Kepler magnitude: 12.19. Transit SNR 7.18

There are 4 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	0.144 ± 0.329	0.44	0.131 ± 0.315	-0.060 ± 0.141
PRF-fit source offset from KIC position	0.276 ± 0.182	1.51	0.006 ± 0.132	-0.276 ± 0.182
photometric centroid source offset	0.38 ± 0.43	0.89	-0.29 ± 0.44	-0.25 ± 0.41



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.

Q1 no difference image



Q1 no OOT image



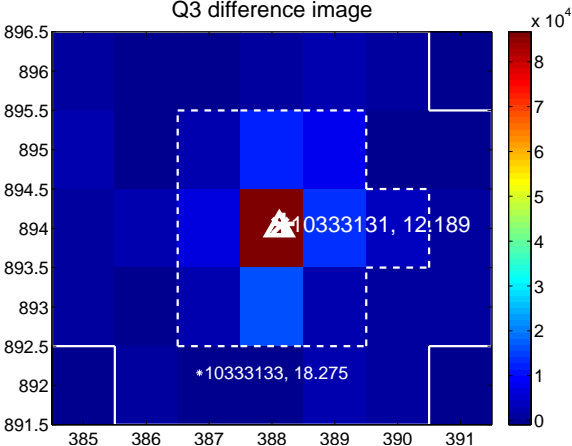
Q2 no difference image



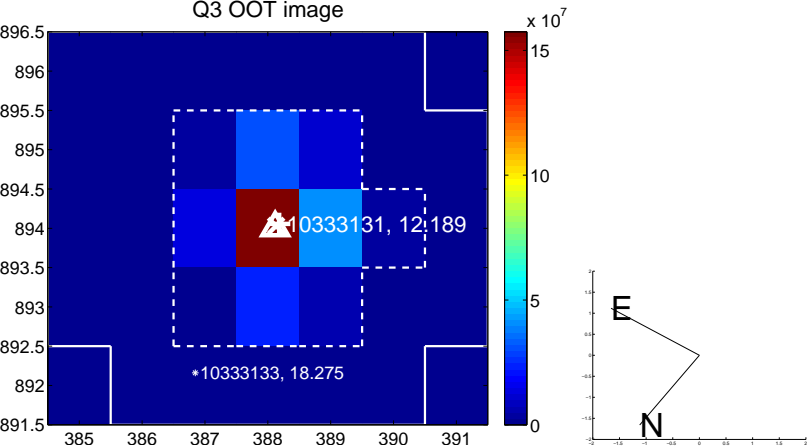
Q2 no OOT image



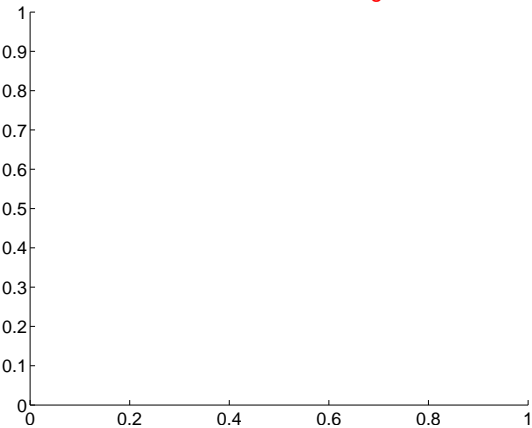
Q3 difference image



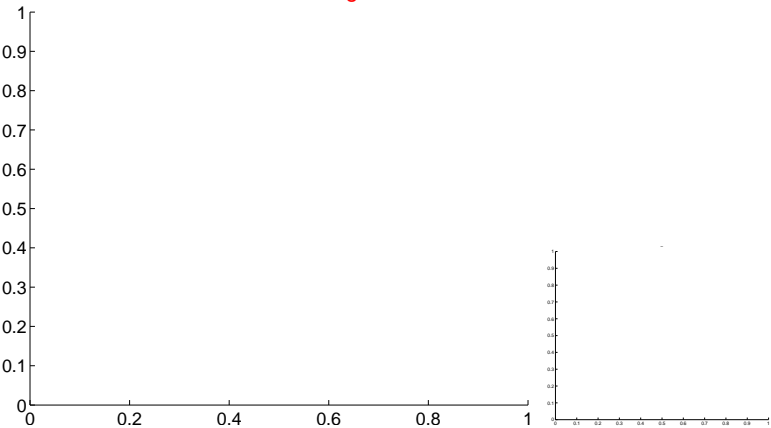
Q3 OOT image



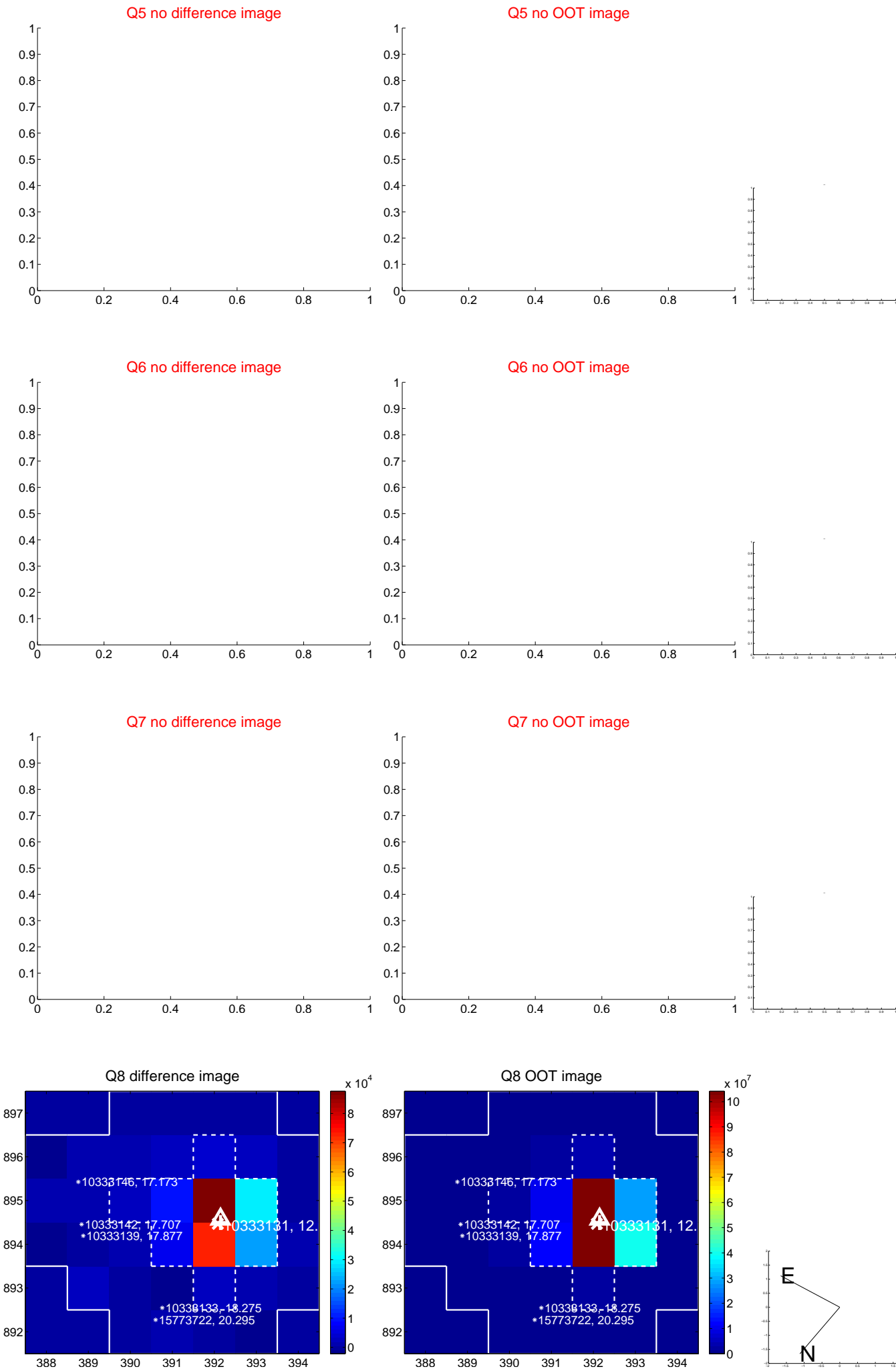
Q4 no difference image



Q4 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.

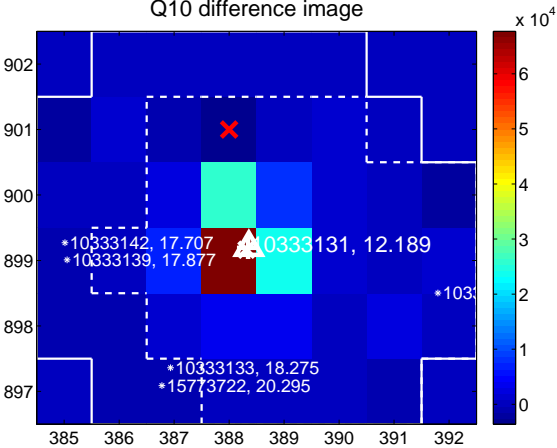
Q9 no difference image



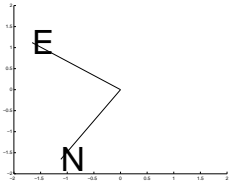
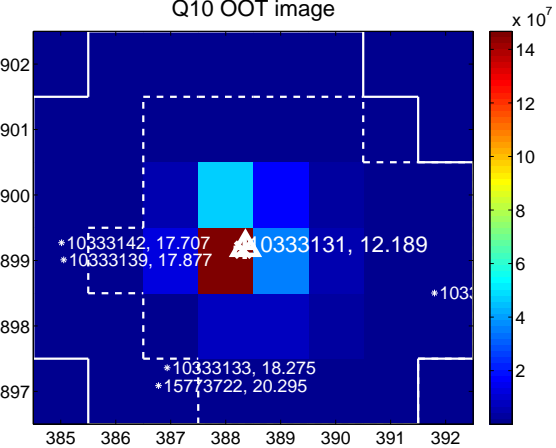
Q9 no OOT image



Q10 difference image



Q10 OOT image



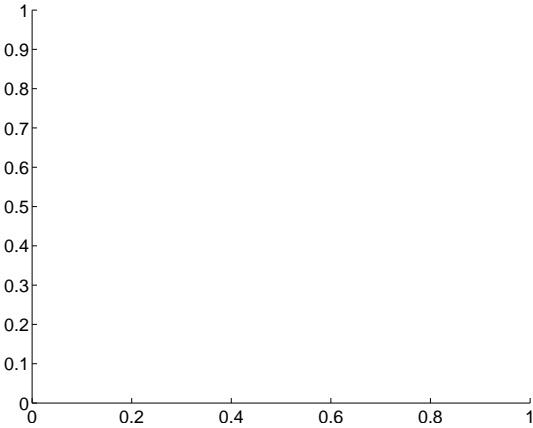
Q11 no difference image



Q11 no OOT image



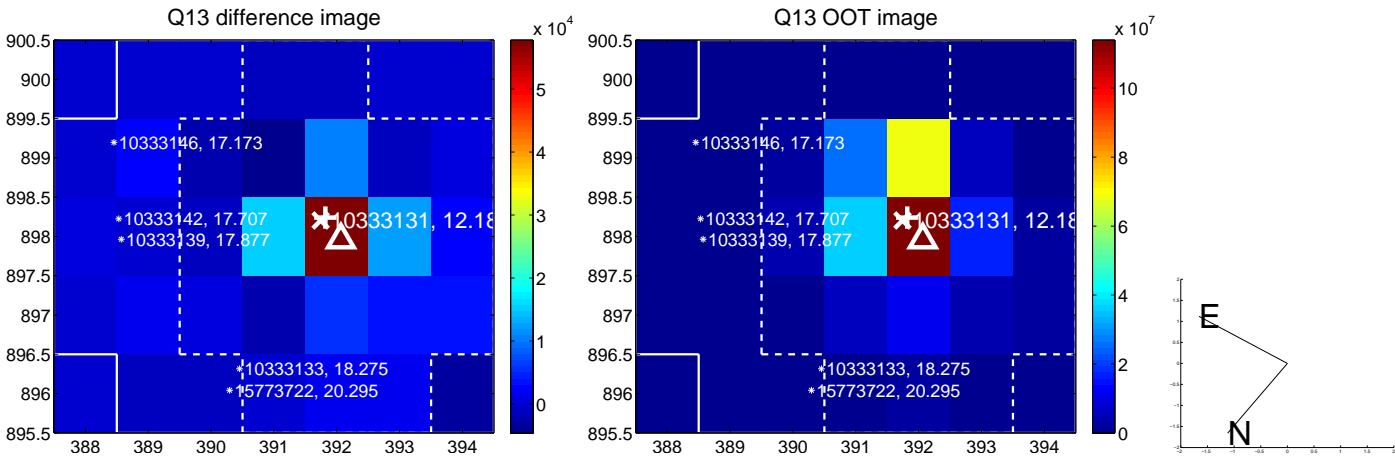
Q12 no difference image



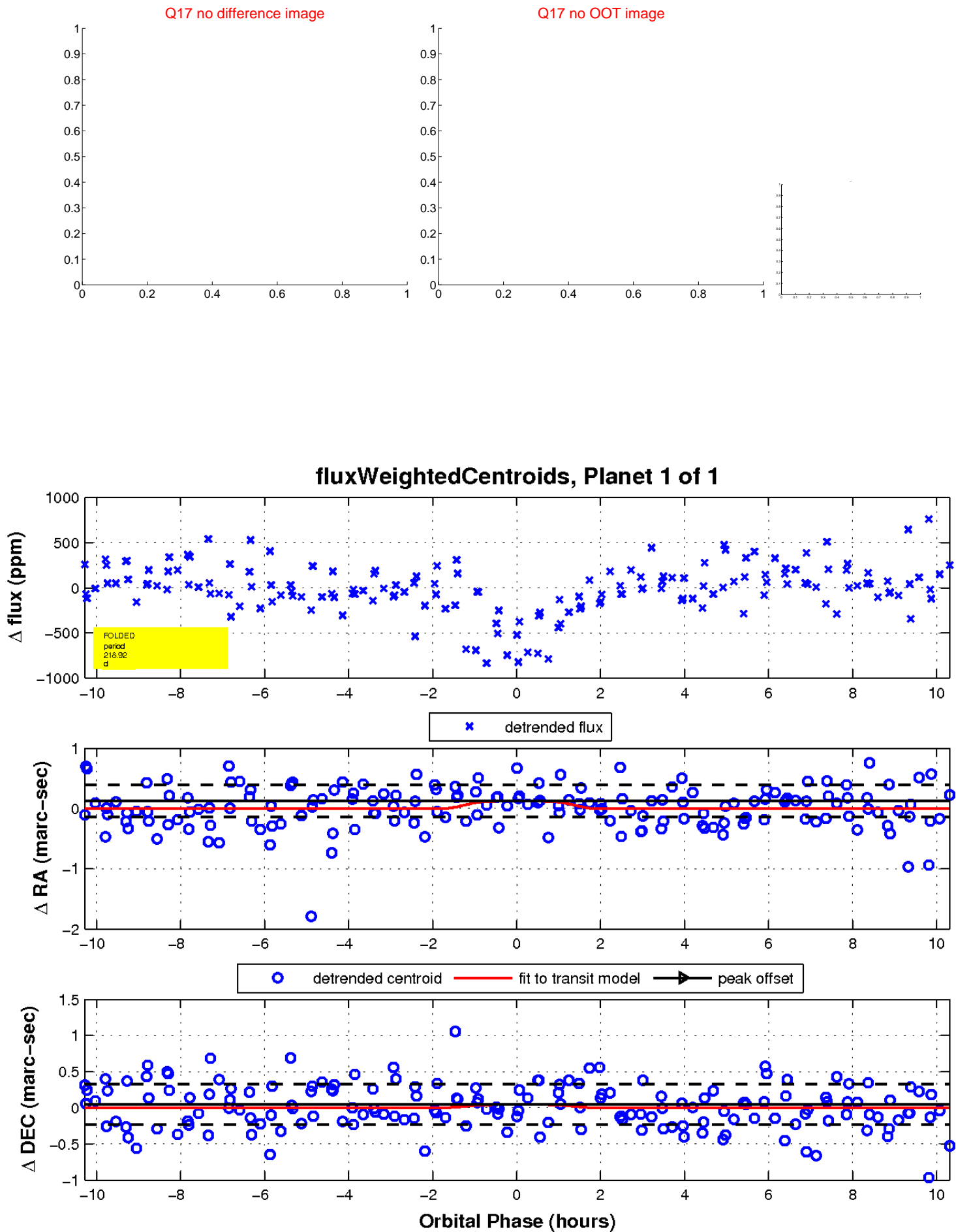
Q12 no OOT image



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

