

KIC 009531850

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})
009531850-01	OBS	7943.01	0.662348	131.703562	1791.3	1.341	9.1	10.9	1.00	5780	5.11	4520.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009531850-01	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_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.

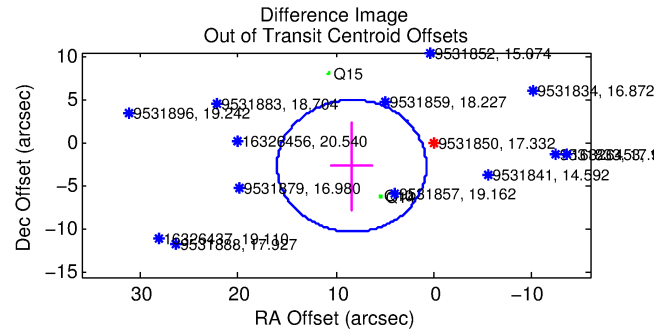
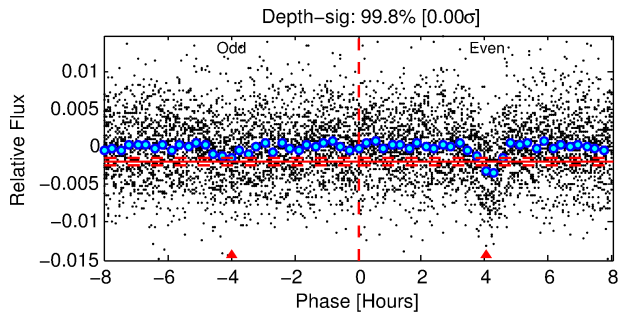
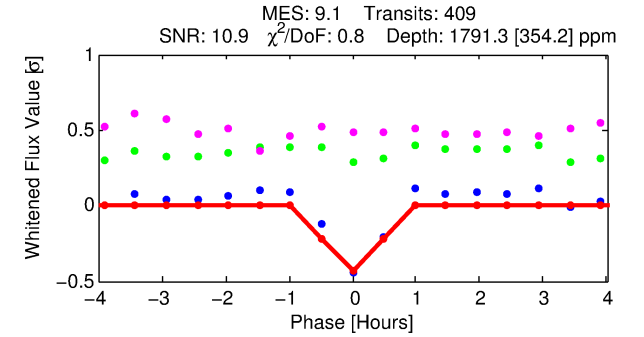
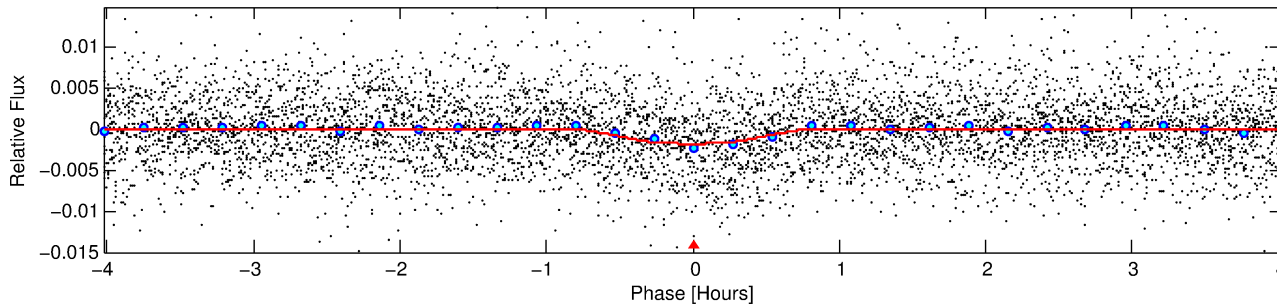
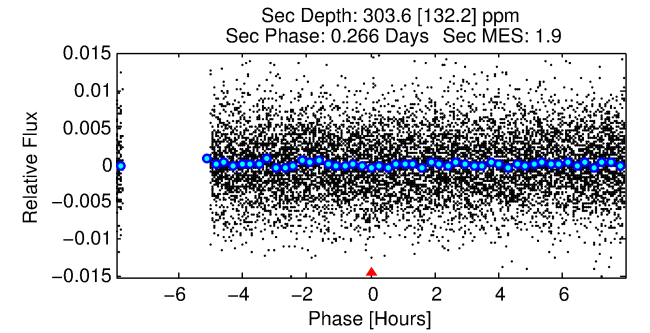
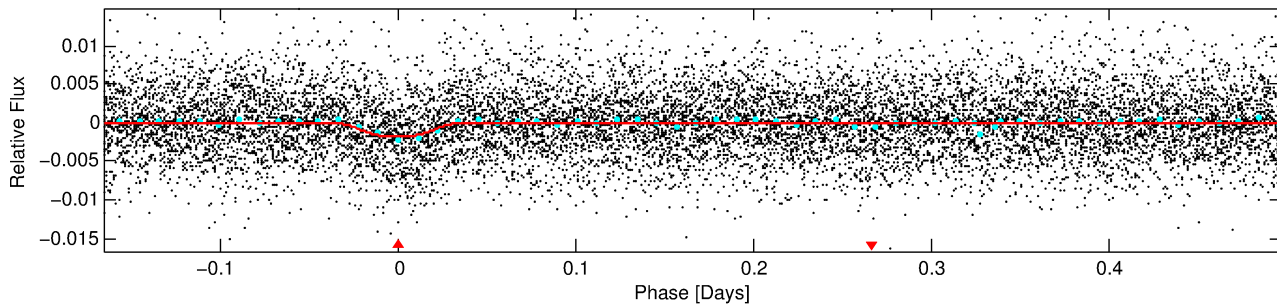
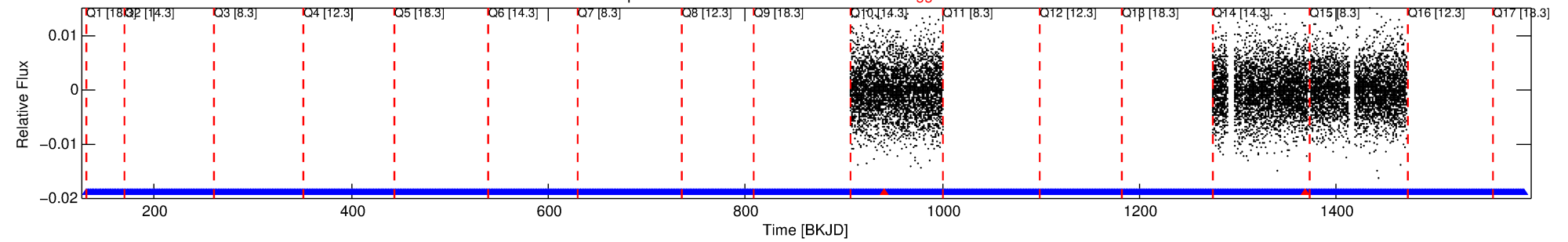
Ephemeris Match Information For 009531850-01

No Significant Match Found

DV One-Page Summary

KIC: 9531850 Candidate: 1 of 1 Period: 0.662 d

Kp: 17.33 R*: 1.00 Rs Teff: 5780.0 K Logg: 4.44 Fe/H: 0.000



DV Fit Results:

Period = 0.66235 [0.00001] d
Epoch = 131.7036 [0.0018] BKJD
Rp/R* = 0.0468 [0.0142]
a/R* = 2.20 [2.01]
b = 0.90 [0.24]
Seff = 4520.19 [0.13]
Teq = 2091 [0] K
Rp = 5.11 [1.55] Re
a = 0.0149 [0.0000] AU
Ag = 1.42 [1.06] [0.39σ]
Teffp = 3527 [660] K [2.18σ]

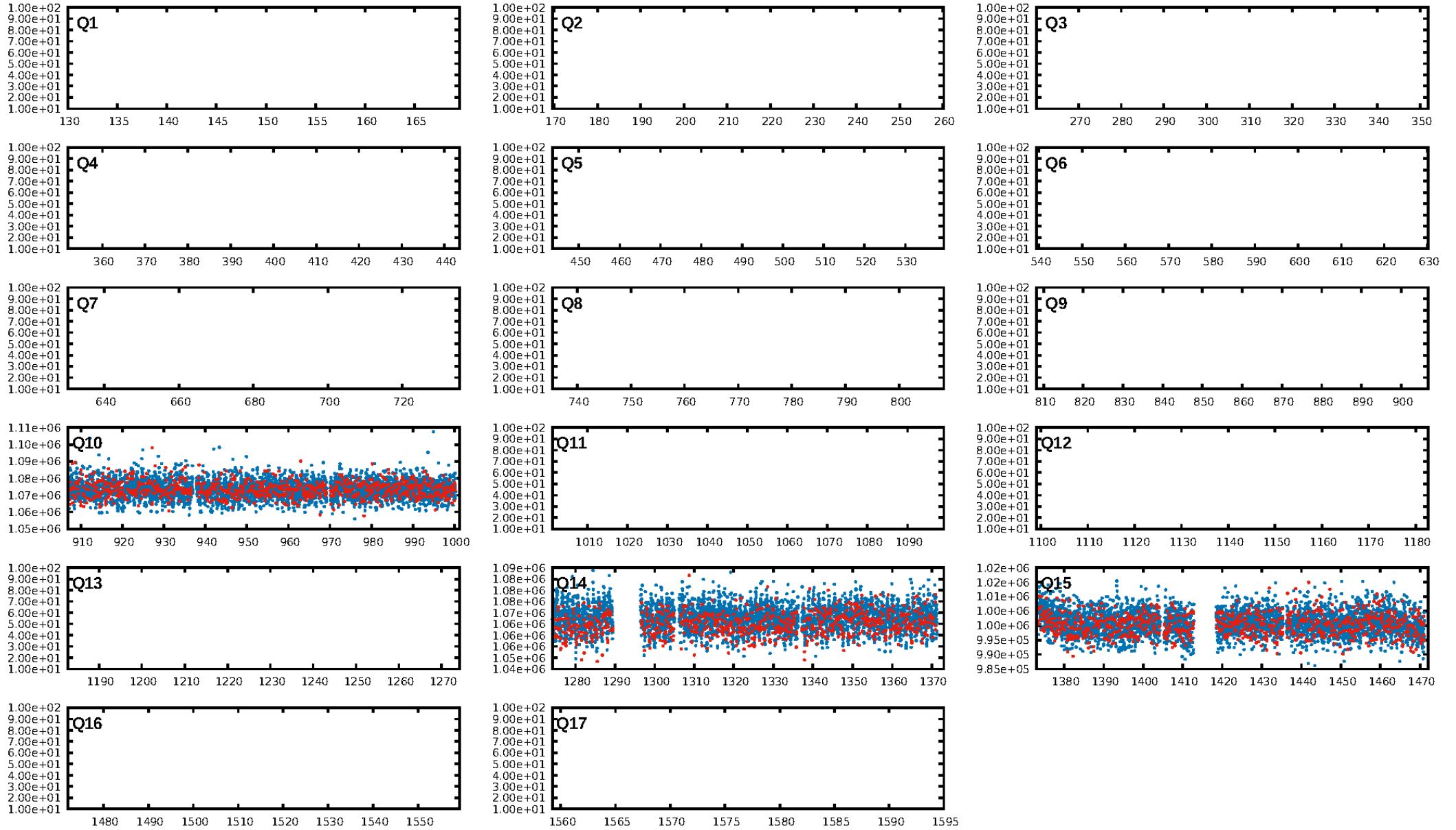
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.30e-21
RollingBand-fgt: 1.00 [407/409]
GhostDiagnostic-chr: -1.8
Centroid-sig: 0.0%
Centroid-so: 2.371 arcsec [19.23σ]
OotOffset-rm: 8.780 arcsec [3.45σ]
KicOffset-rm: 6.443 arcsec [63.57σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

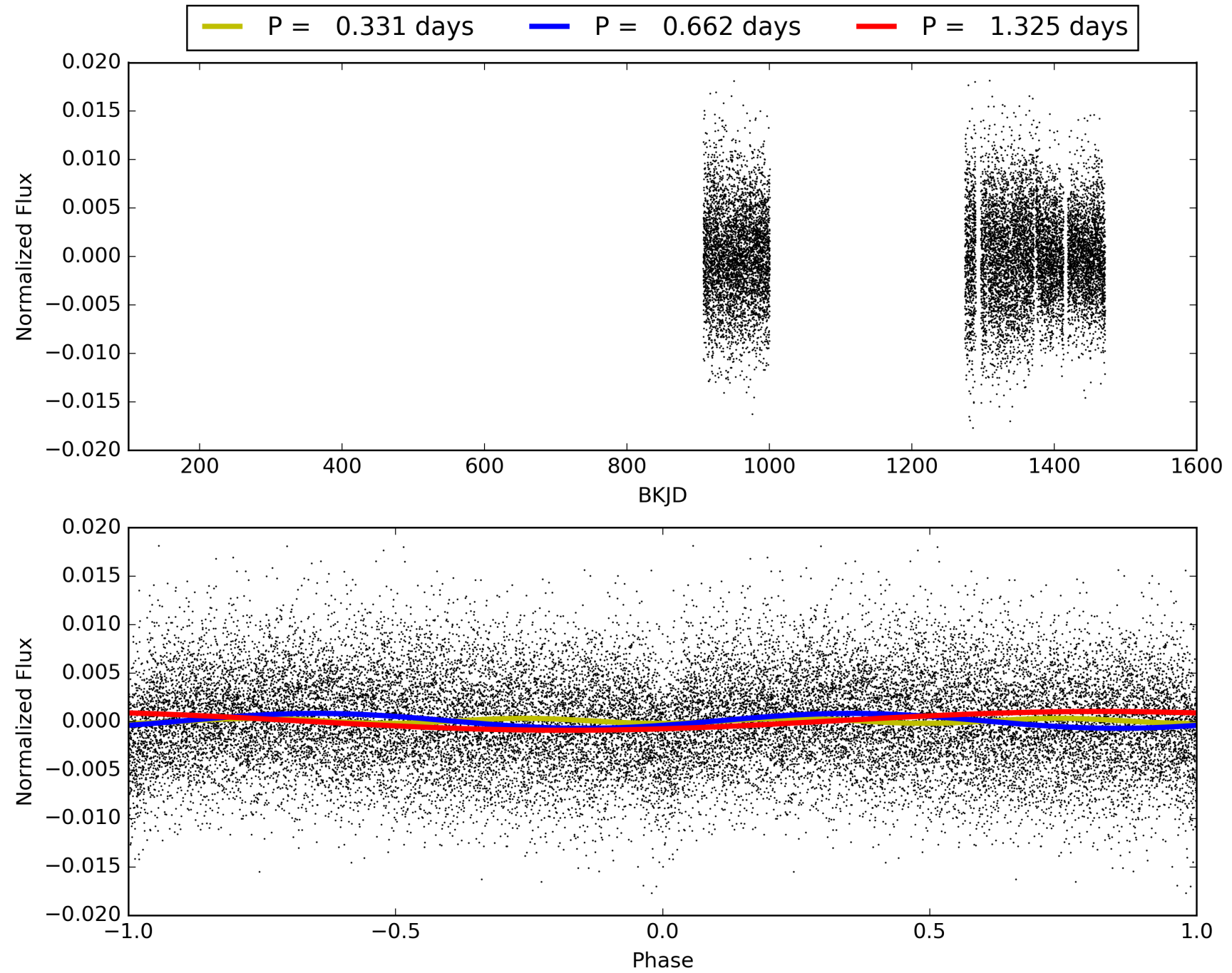
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:44:15 Z

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

TCE 009531850-01, PDC Light Curves

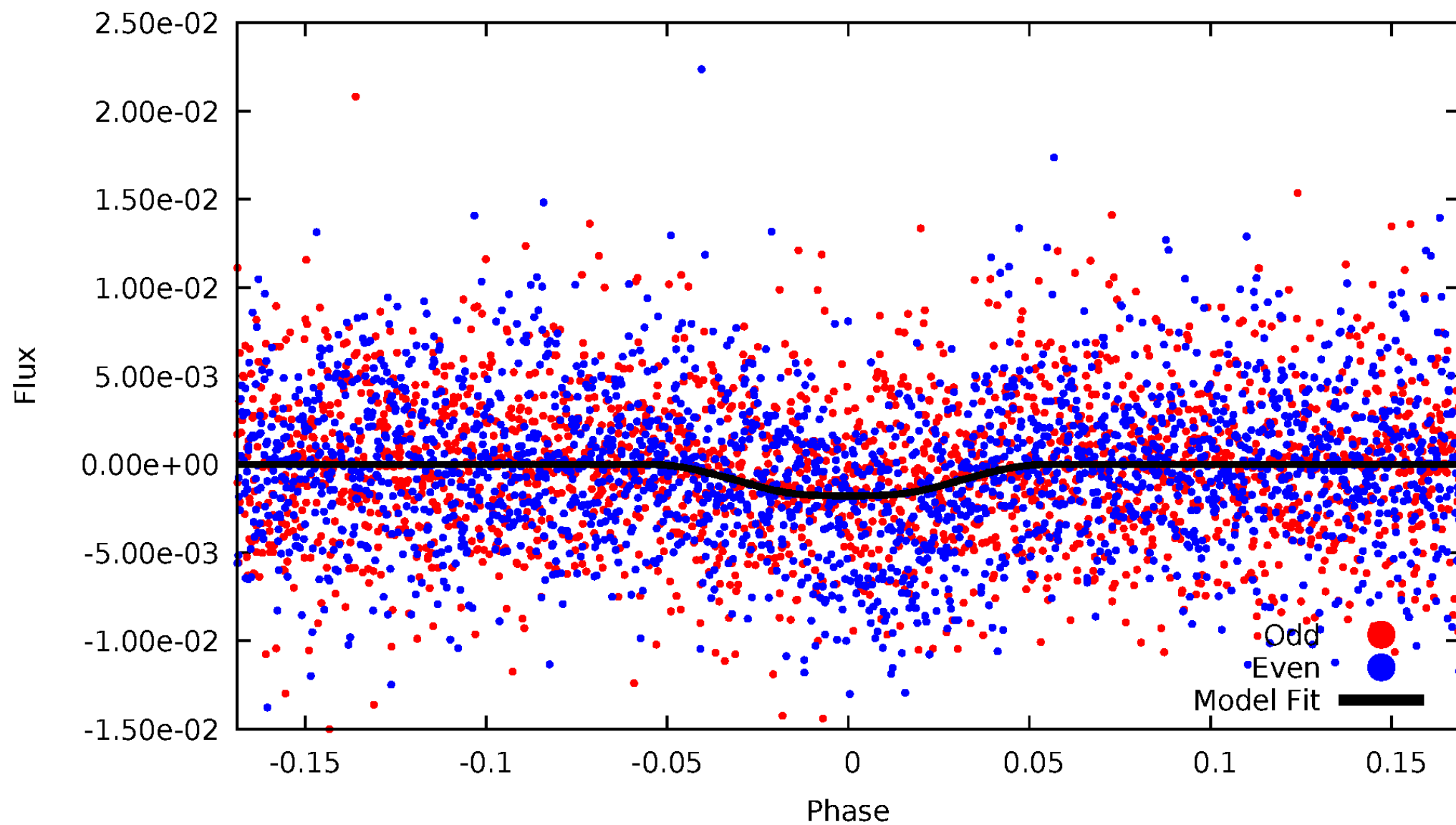


TCE 009531850-01



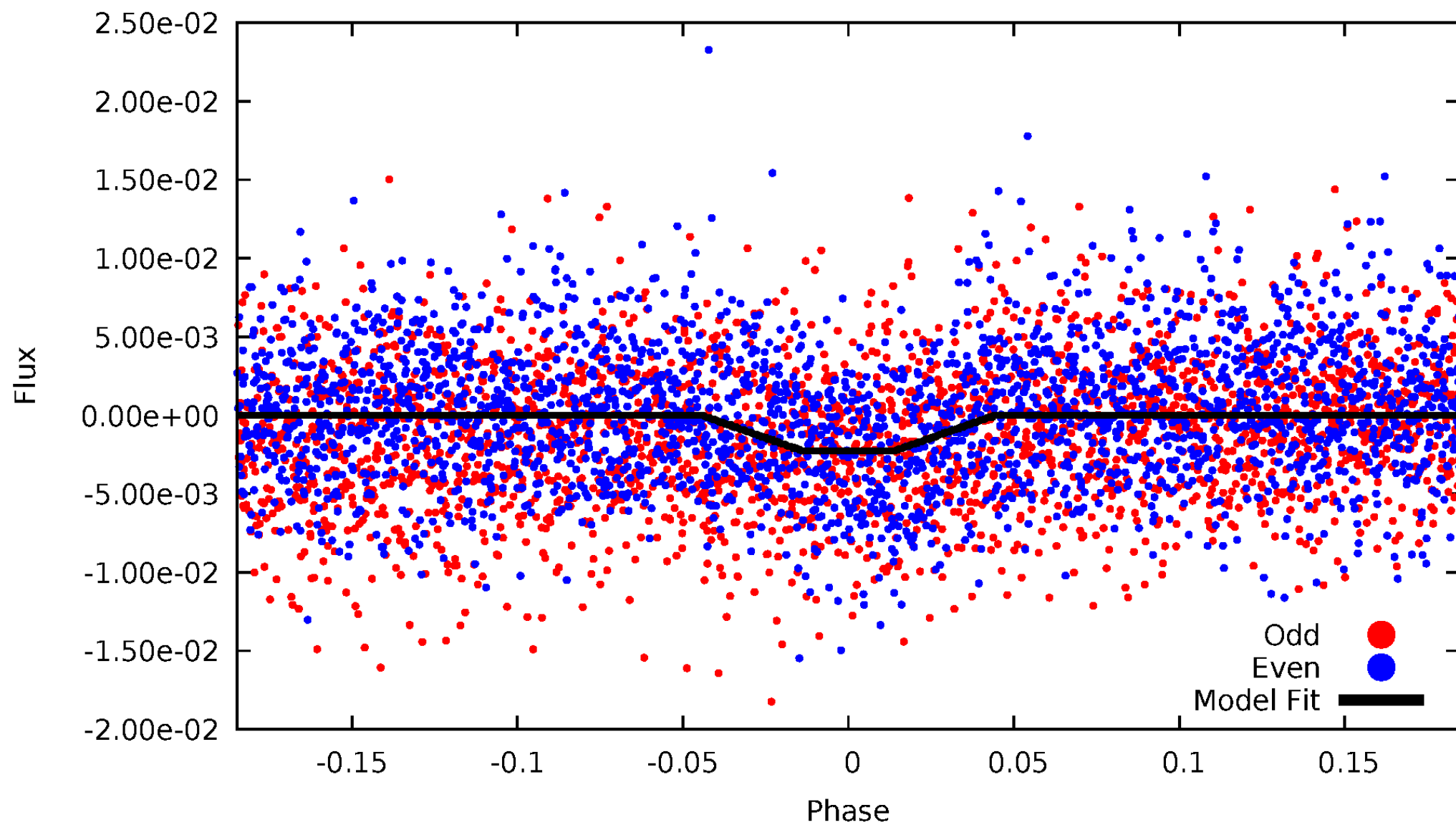
DV Odd/Even

TCE 009531850-01



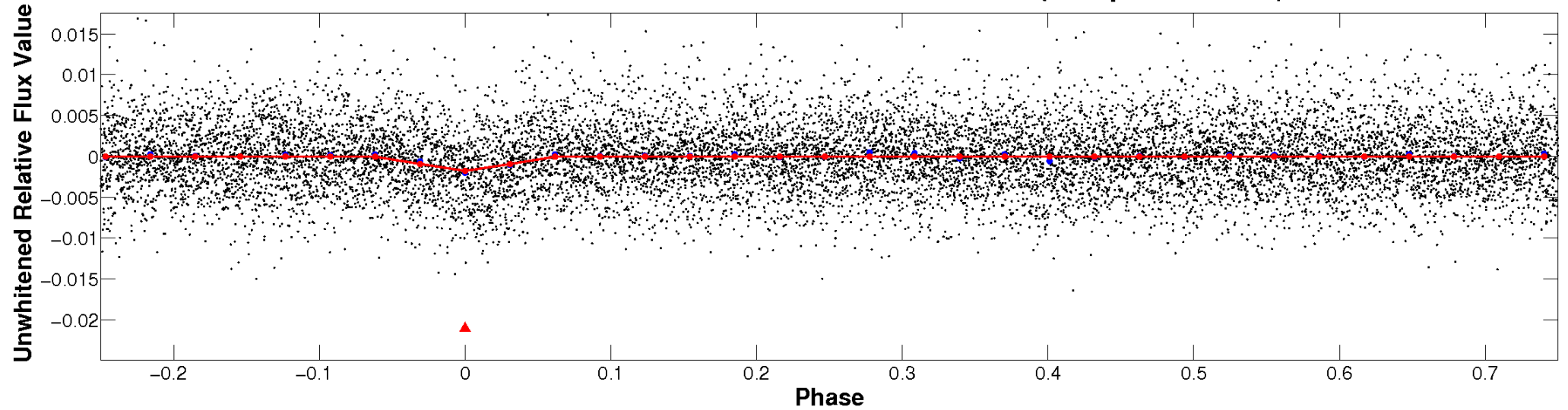
ALT Odd/Even

TCE 009531850-01

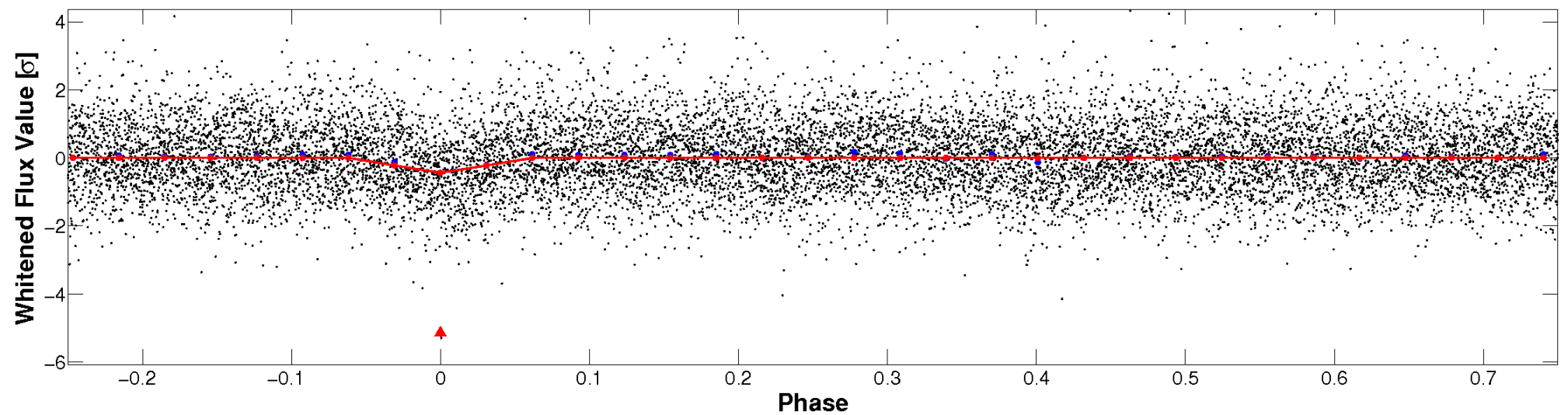


Non-Whitened Vs. Whitened Light Curve

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

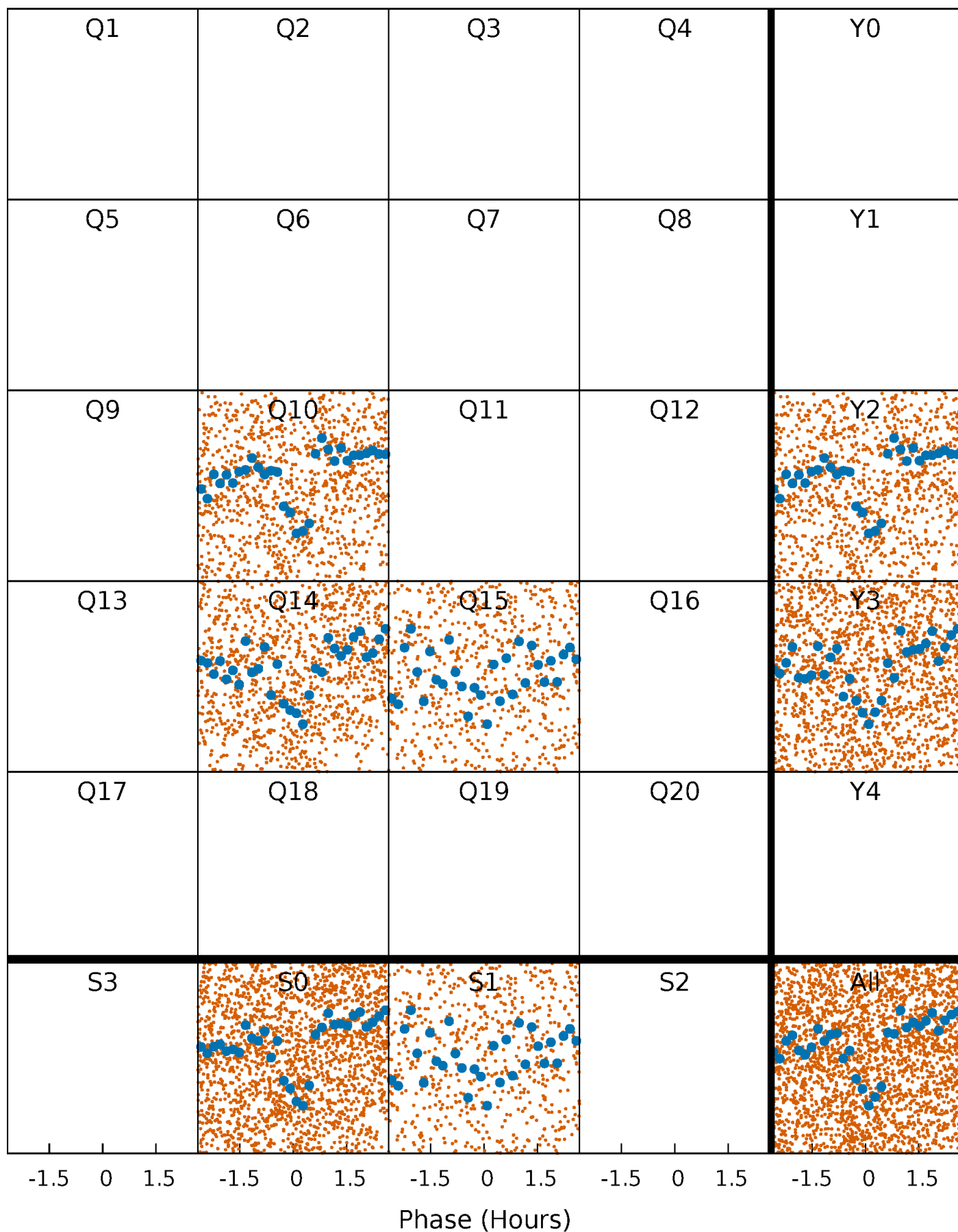


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



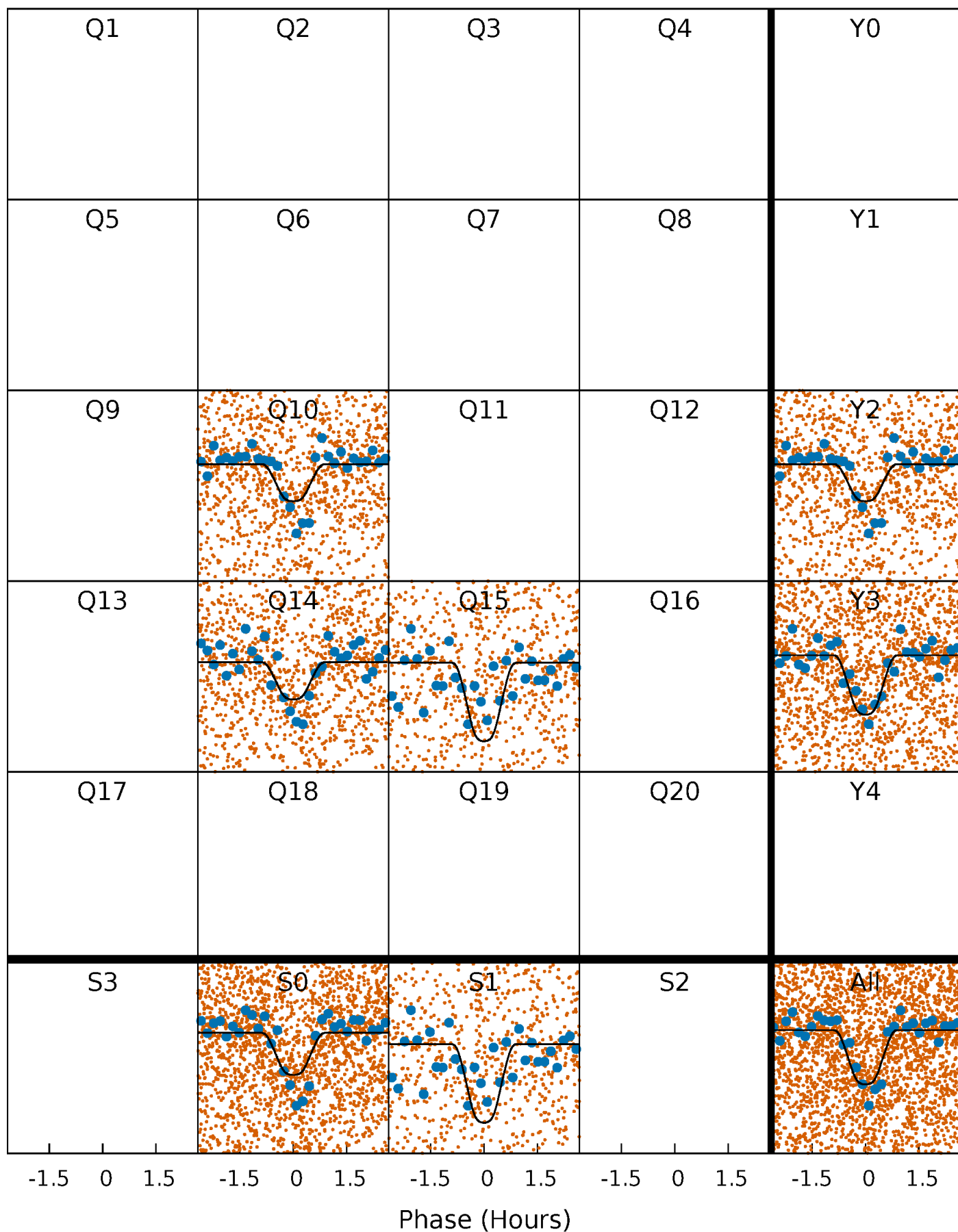
PDC Quarter-Phased Transit Curves

TCE 009531850-01 P= 0.662348 Days $T_0=131.703562$ (BKJD)



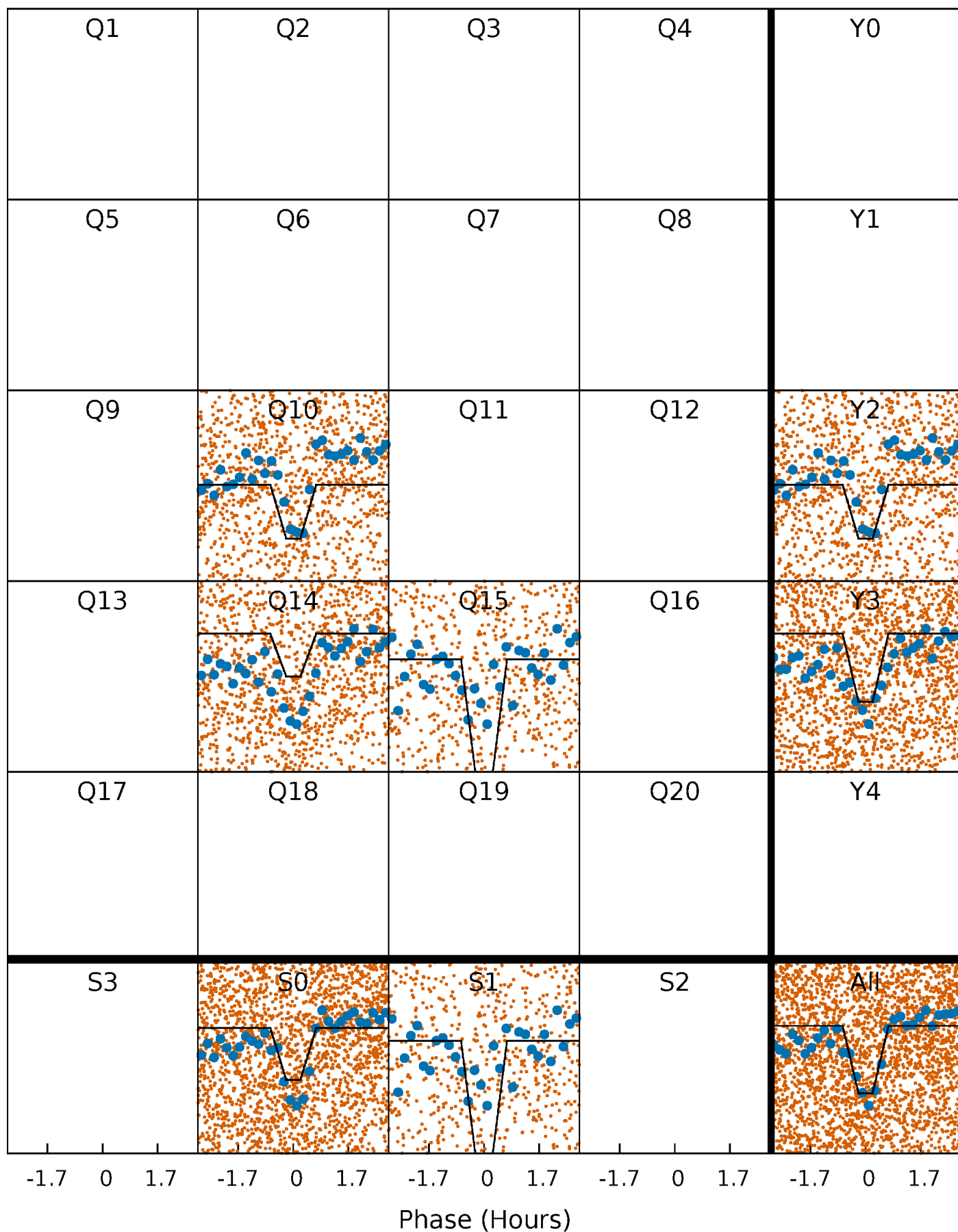
DV Quarter-Phased Transit Curves

TCE 009531850-01 P= 0.662348 Days $T_0=131.703562$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

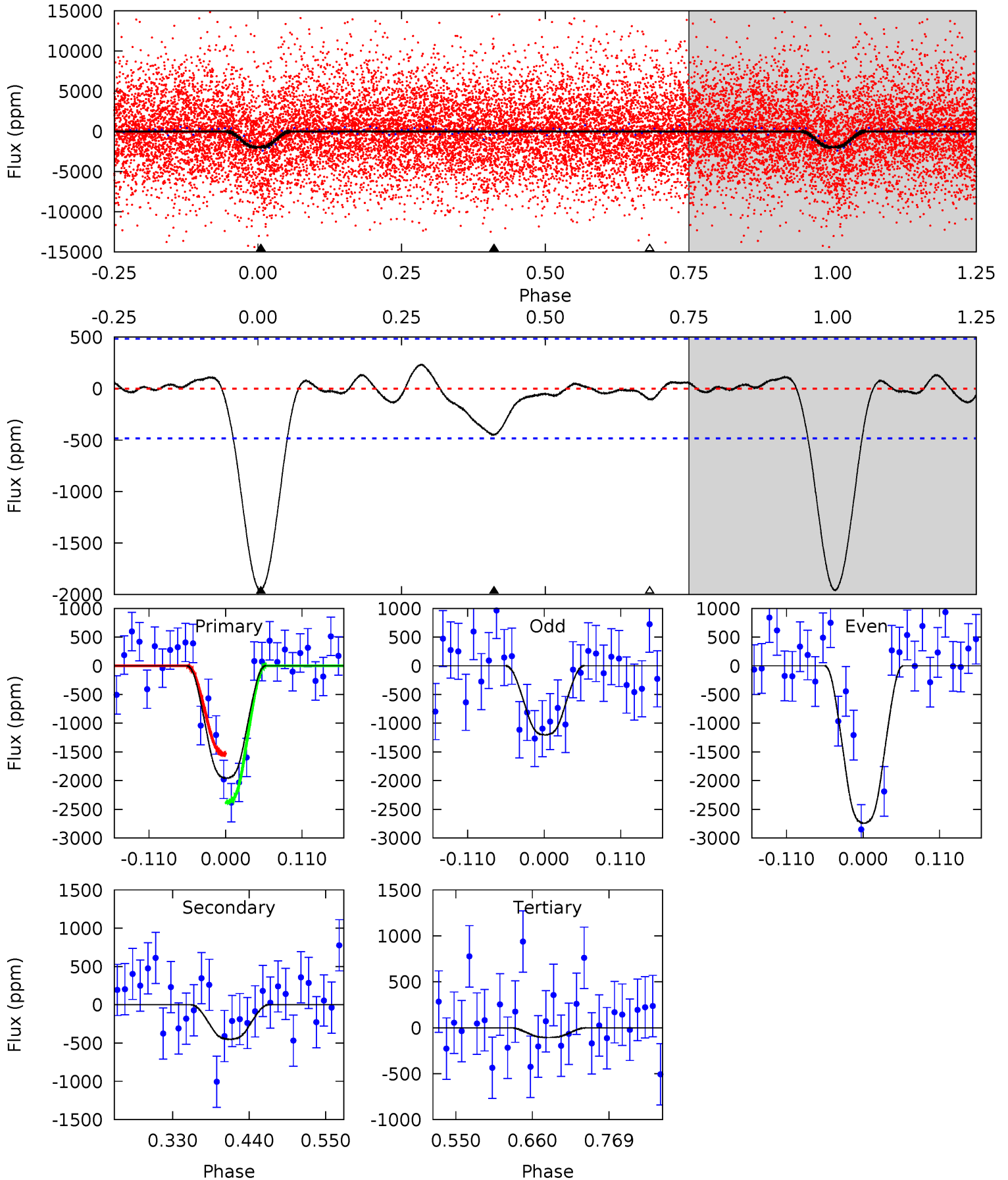
TCE 009531850-01 P= 0.662350 Days $T_0=131.703371$ (BKJD)



DV Model-Shift Uniqueness Test

009531850-01, P = 0.662348 Days, E = 131.703562 Days

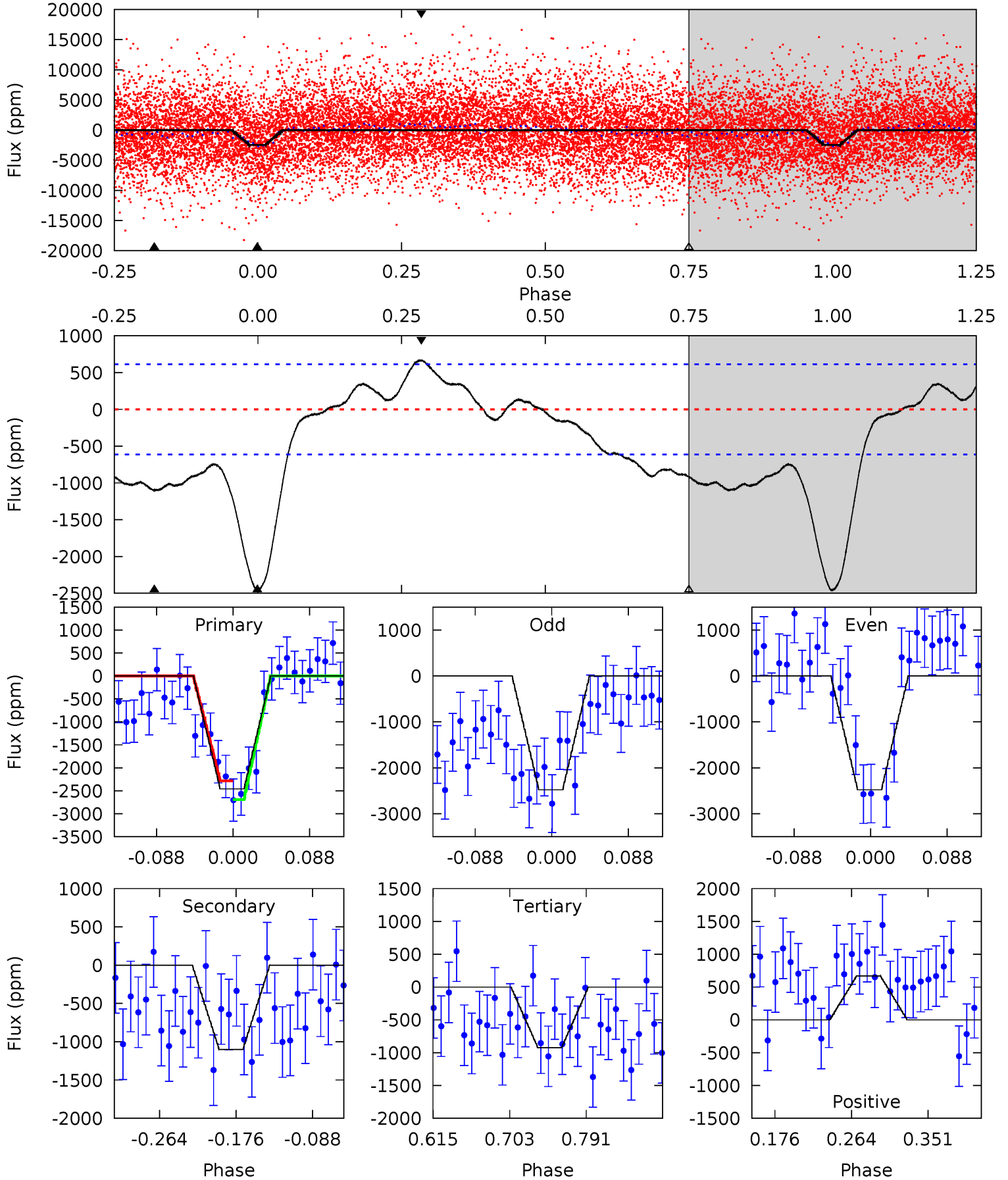
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	4.23	1.00	0	4.54	1.60	0.67	17.4	18.4	3.24	4.23	7.23	1.02	0.11	3.97



Alt Model-Shift Uniqueness Test

009531850-01, P = 0.662350 Days, E = 131.703371 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	8.25	6.92	5.01	4.59	1.71	3.29	11.5	13.4	1.33	3.23	0.00	1.08	0.21	1.53



Stellar Parameters For KIC 009531850

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 009531850-01 / KOI 7943.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-450 ± 106	$5.06^{+1.65}_{-1.68}$	2930^{+134}_{-145}	4078^{+724}_{-522}	$2.160^{+2.681}_{-1.022}$
Alt.	-1100 ± 133	$5.11^{+1.59}_{-1.43}$	2922^{+138}_{-136}	4898^{+858}_{-576}	$5.113^{+5.113}_{-2.218}$

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

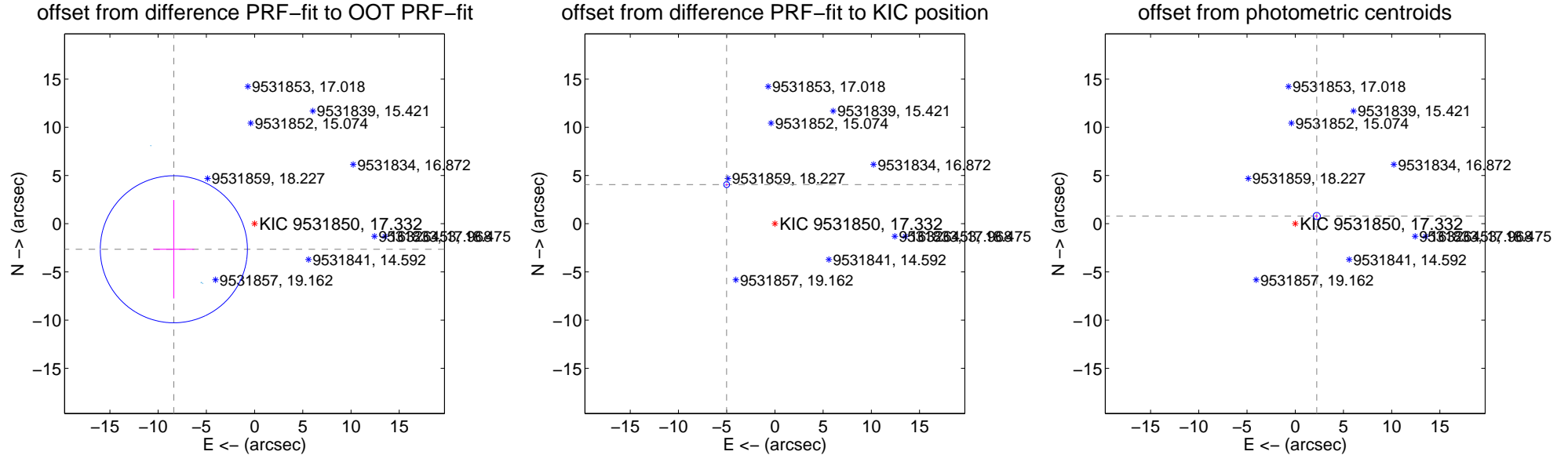
DV Centroid Data

Supplemental centroid analysis for 009531850-01. Kepler magnitude: 17.33. Transit SNR 10.92

There are 3 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 6.92 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.780 ± 2.542	3.45	8.371 ± 2.120	-2.651 ± 5.109
PRF-fit source offset from KIC position	6.443 ± 0.101	63.57	5.007 ± 0.081	4.055 ± 0.126
photometric centroid source offset	2.37 ± 0.12	19.23	-2.23 ± 0.12	0.80 ± 0.12



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.



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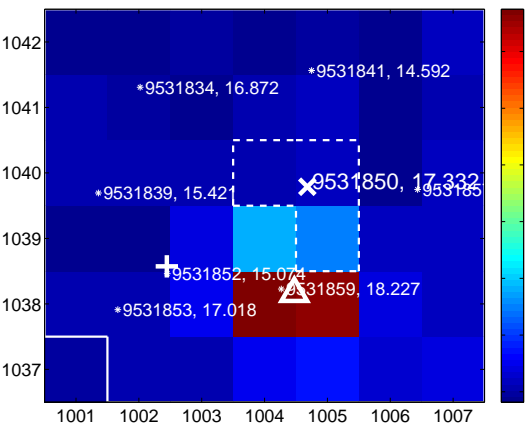
Q9 no difference image



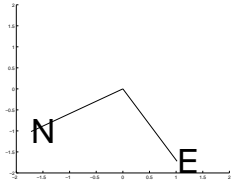
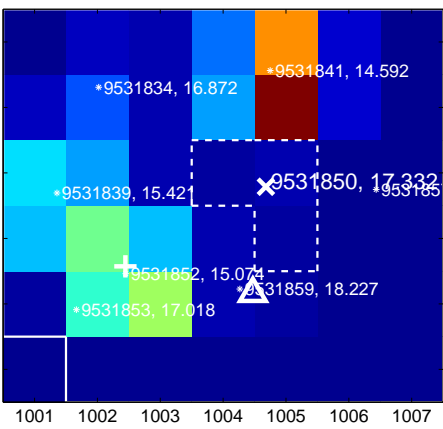
Q9 no OOT image



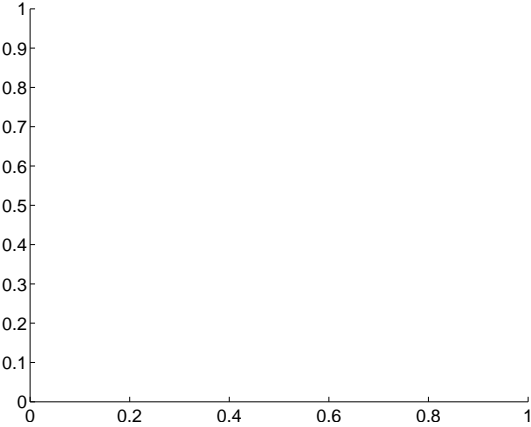
Q10 difference image



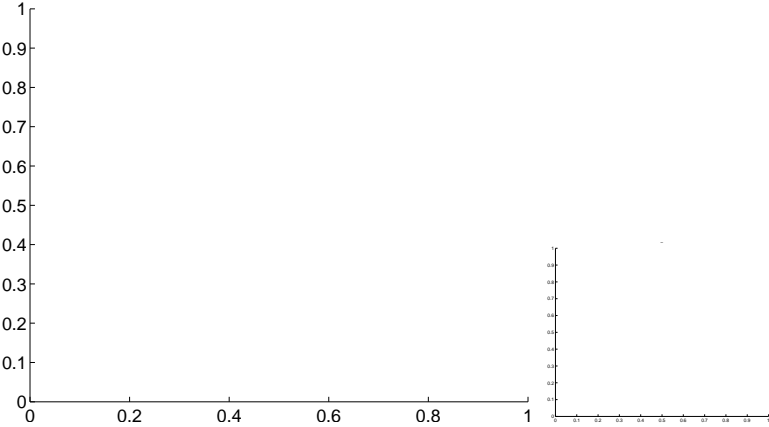
Q10 OOT image



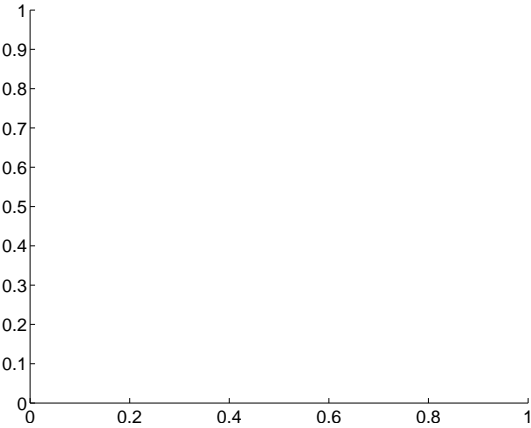
Q11 no difference image



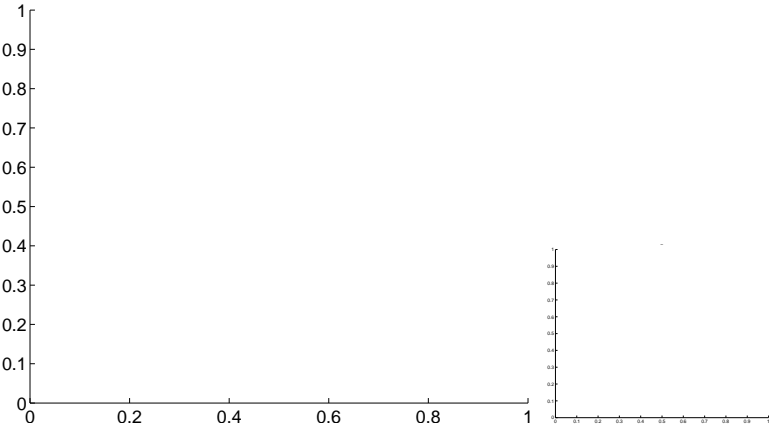
Q11 no OOT image



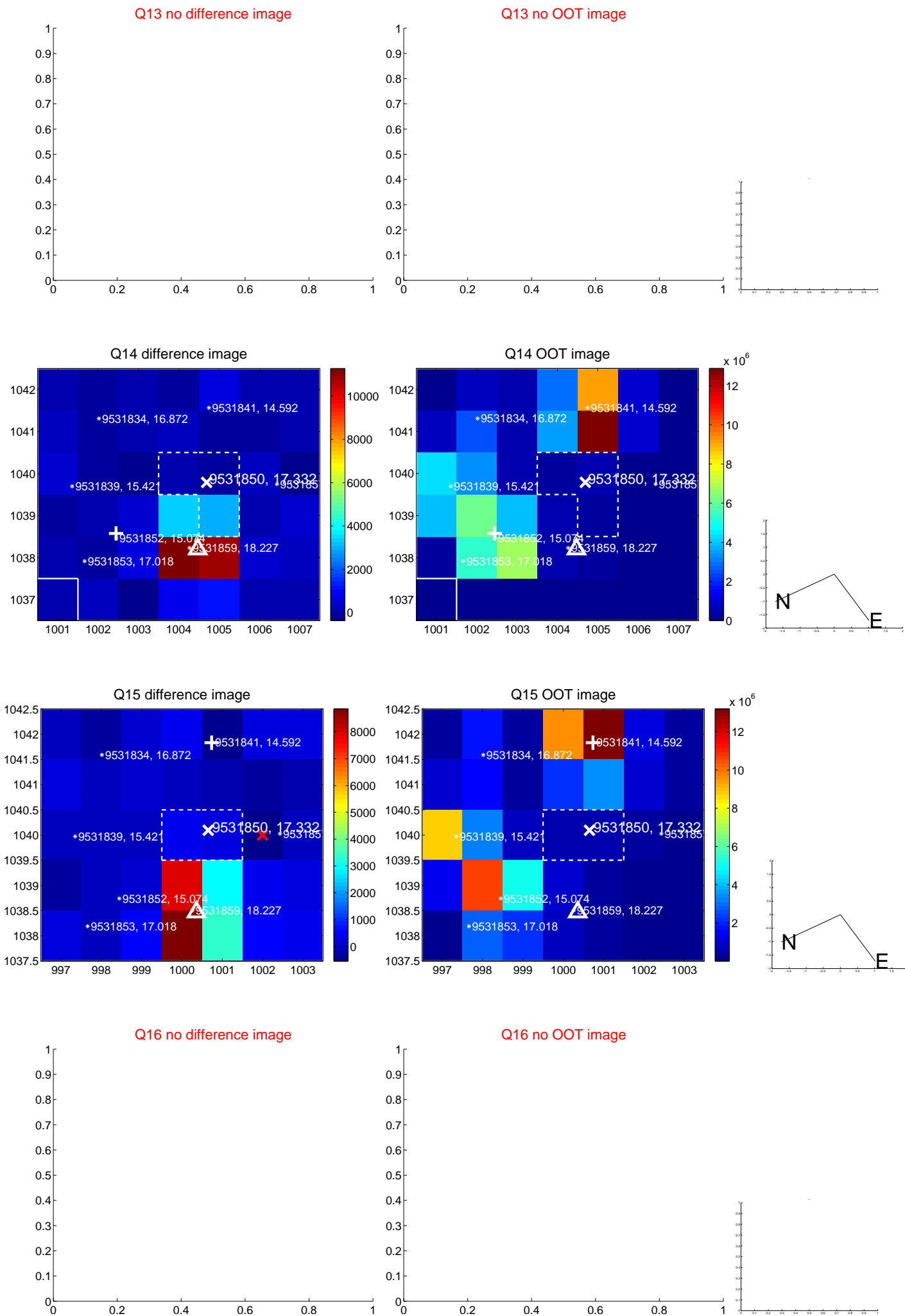
Q12 no difference image



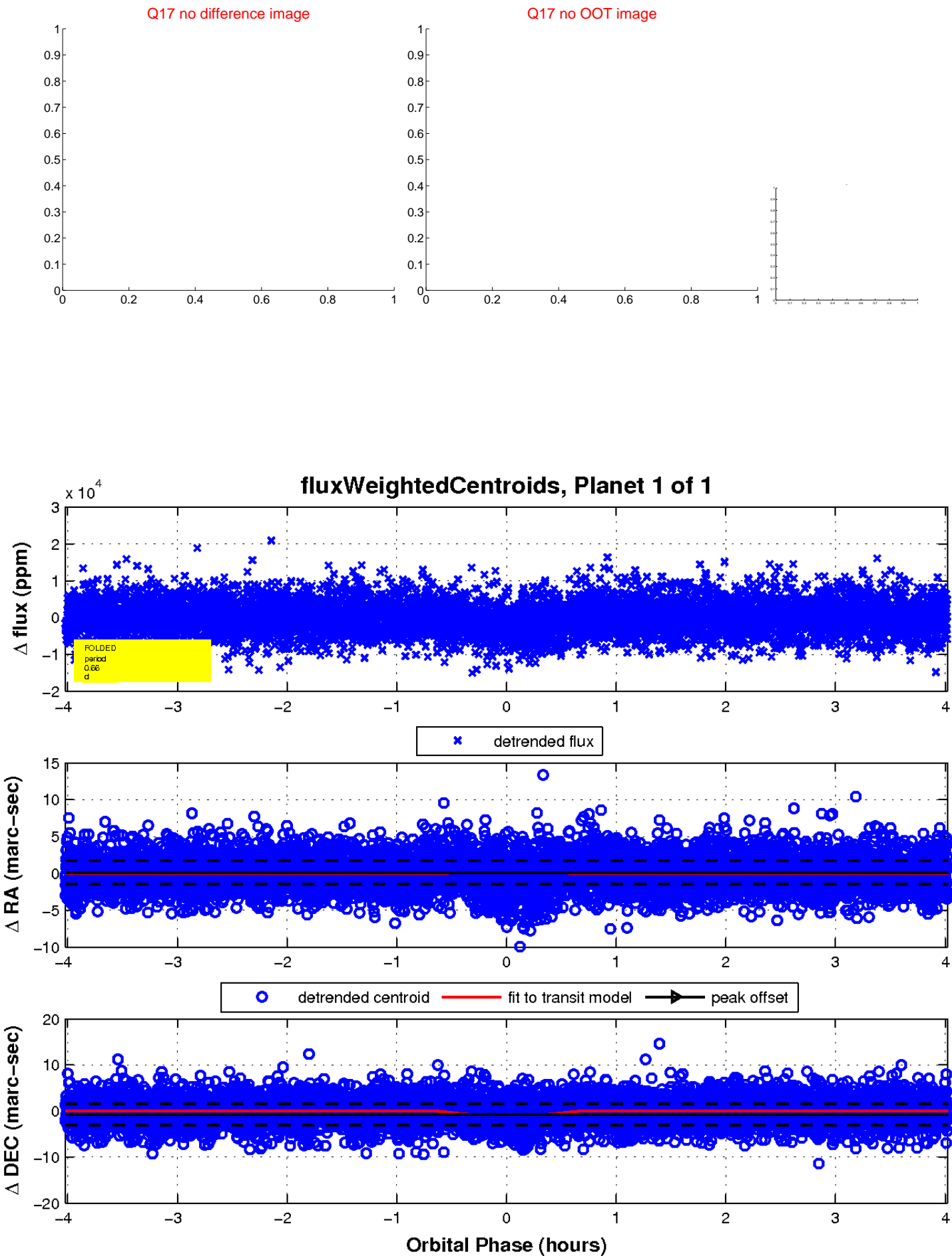
Q12 no OOT image



white \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

