

KIC 010054414

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})
010054414-01	OBS	No	387.964330	436.707135	1885.9	10.361	11.7	6.2	0.67	4556	3.40	0.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010054414-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

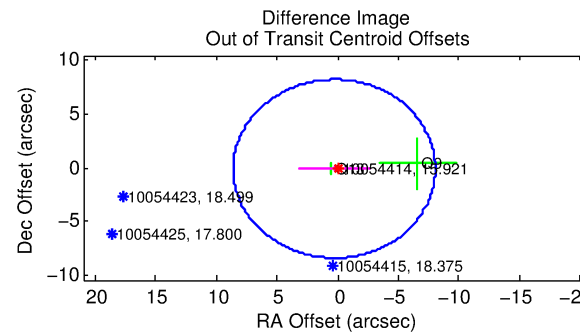
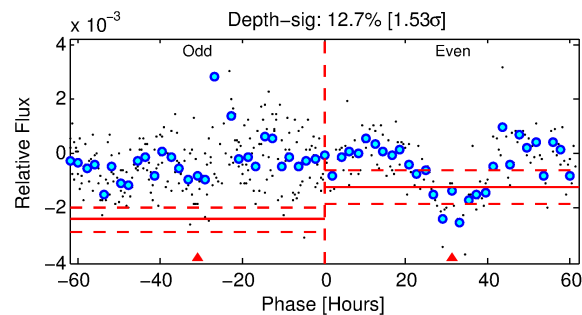
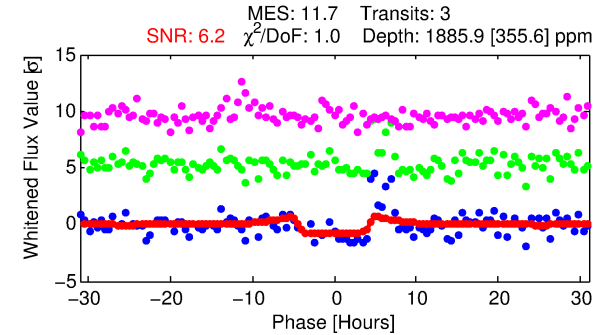
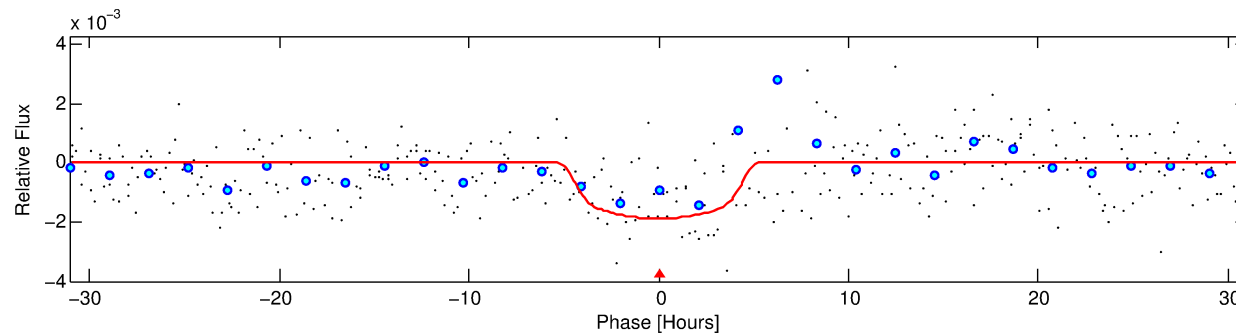
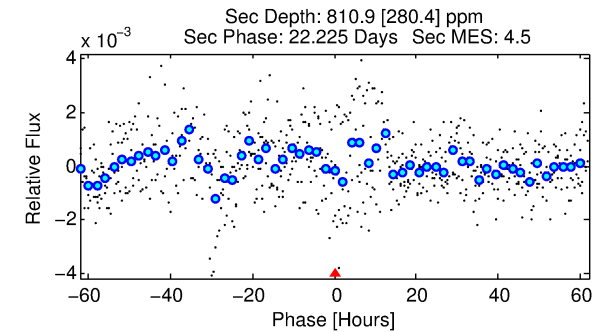
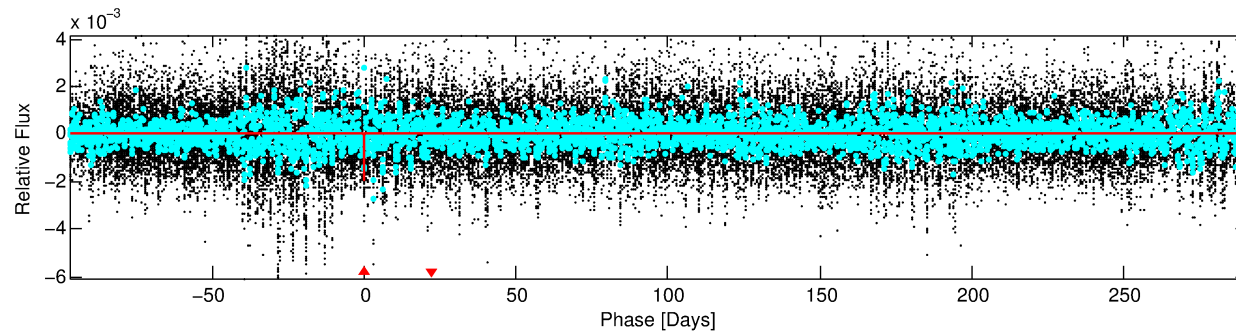
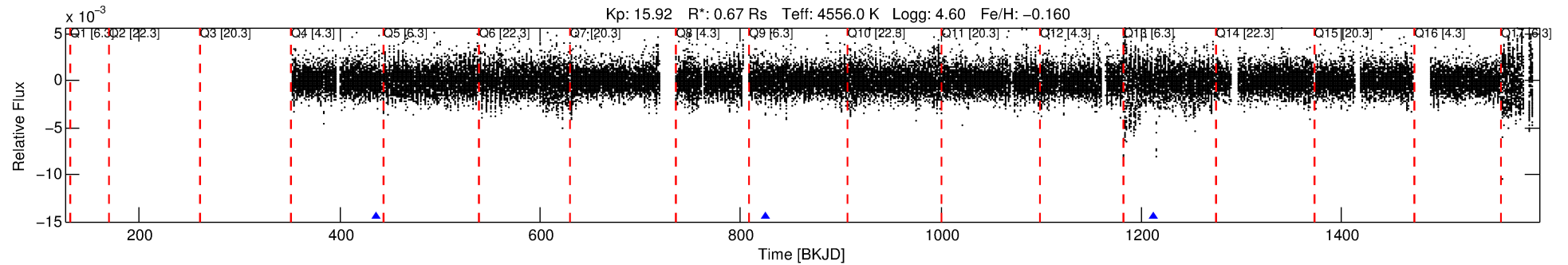
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010054414-01

No Significant Match Found

DV One-Page Summary

KIC: 10054414 Candidate: 1 of 1 Period: 387.964 d



DV Fit Results:

Period = 387.96433 [0.01462] d
Epoch = 436.7071 [0.0184] BKJD
Rp/R* = 0.0463 [0.0079]
a/R* = 177.29 [76.26]
b = 0.84 [0.15]
Seff = 0.21 [0.04]
Teq = 173 [8] K
Rp = 3.40 [0.67] Re
a = 0.9071 [0.0709] AU
Ag = 31669.46 [15729.07] [2.01σ]
Teffp = 3573 [452] K [7.53σ]

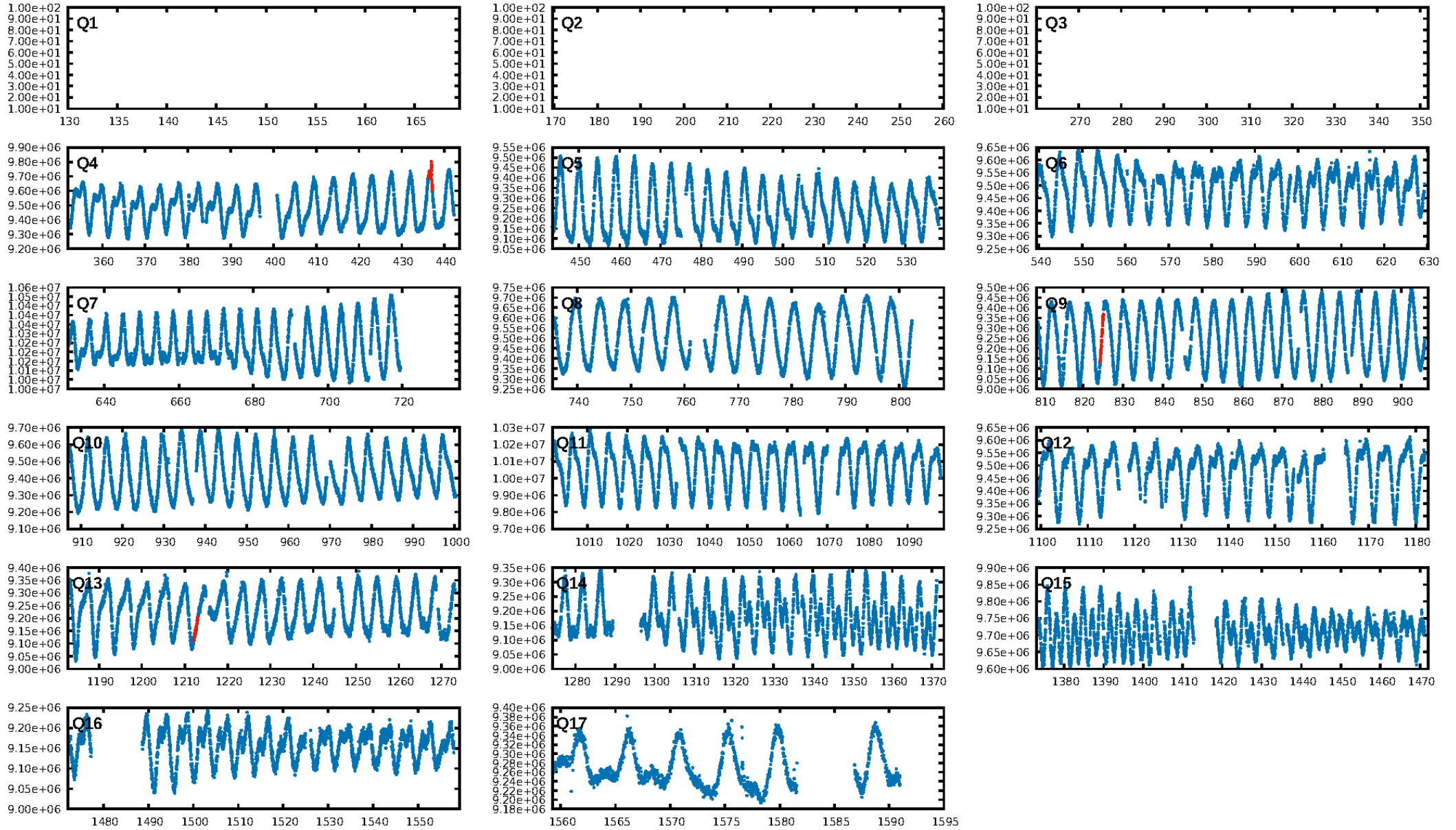
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.0%
ModelChiSquareGof-sig: 97.7%
Bootstrap-pfa: 2.94e-16
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.00959
Centroid-sig: 81.0%
Centroid-so: 0.241 arcsec [0.19σ]
OotOffset-rm: 0.298 arcsec [0.11σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-rm: 0.360 arcsec [0.11σ]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

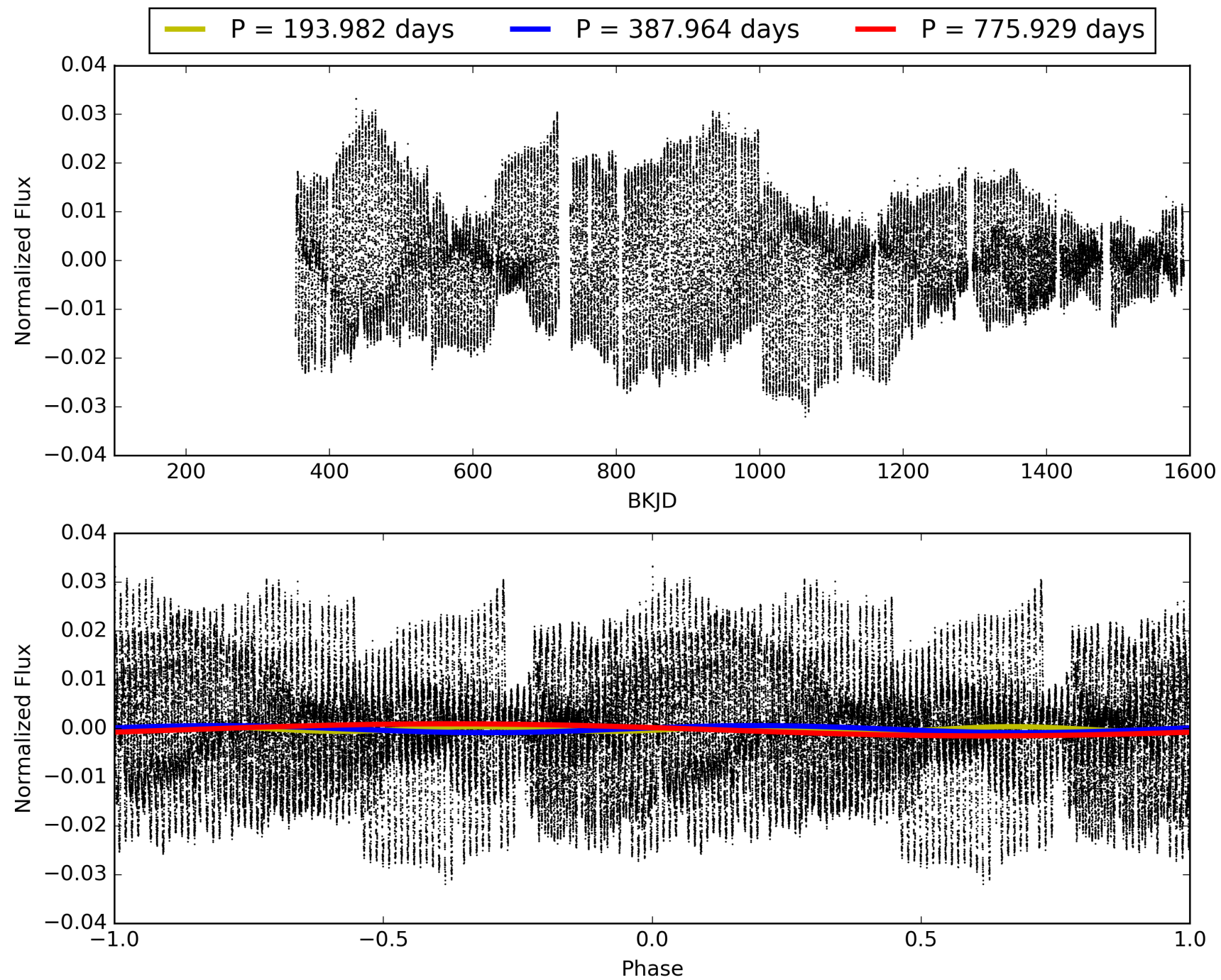
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:20:13 Z

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

TCE 010054414-01, PDC Light Curves

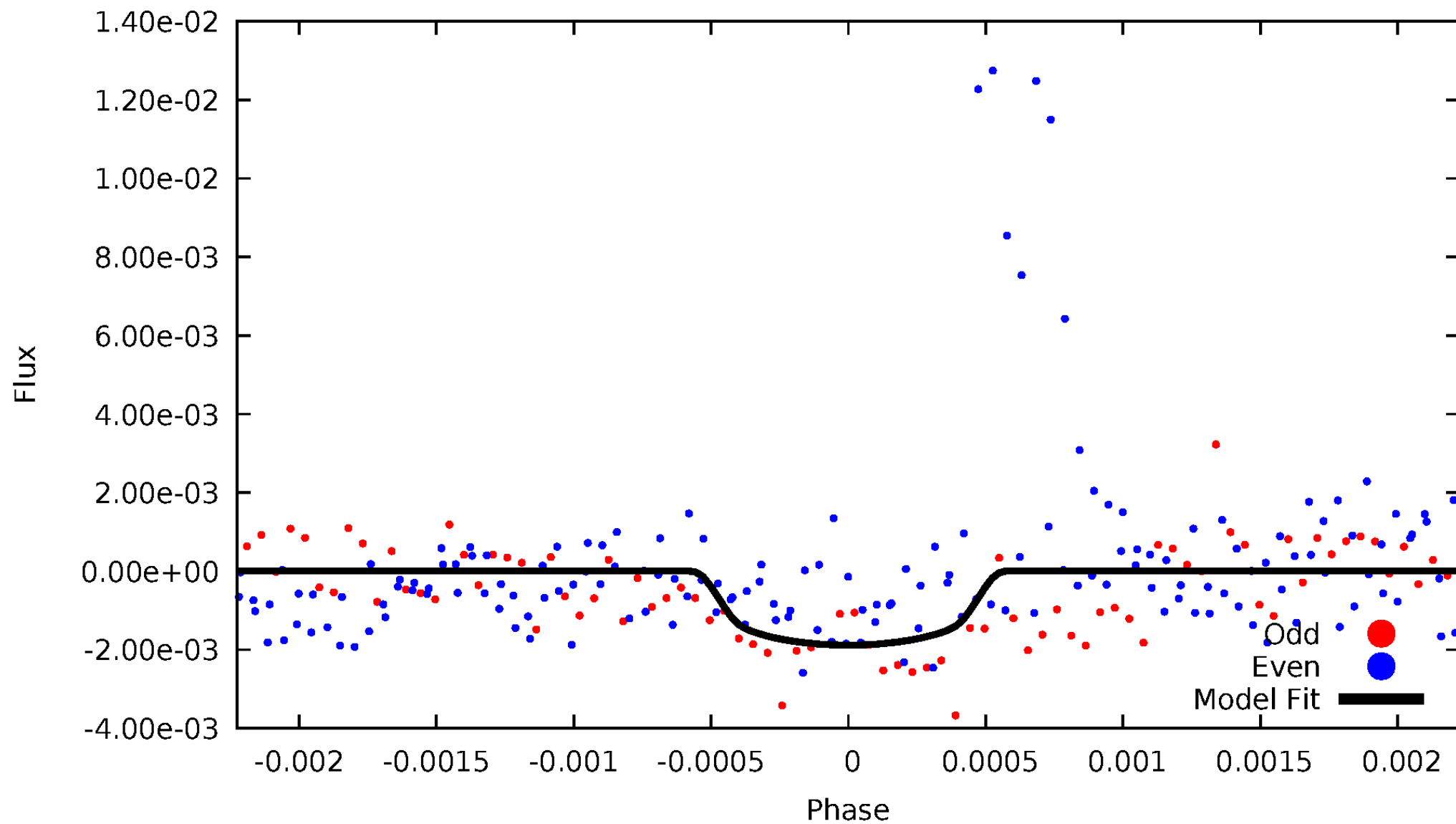


TCE 010054414-01



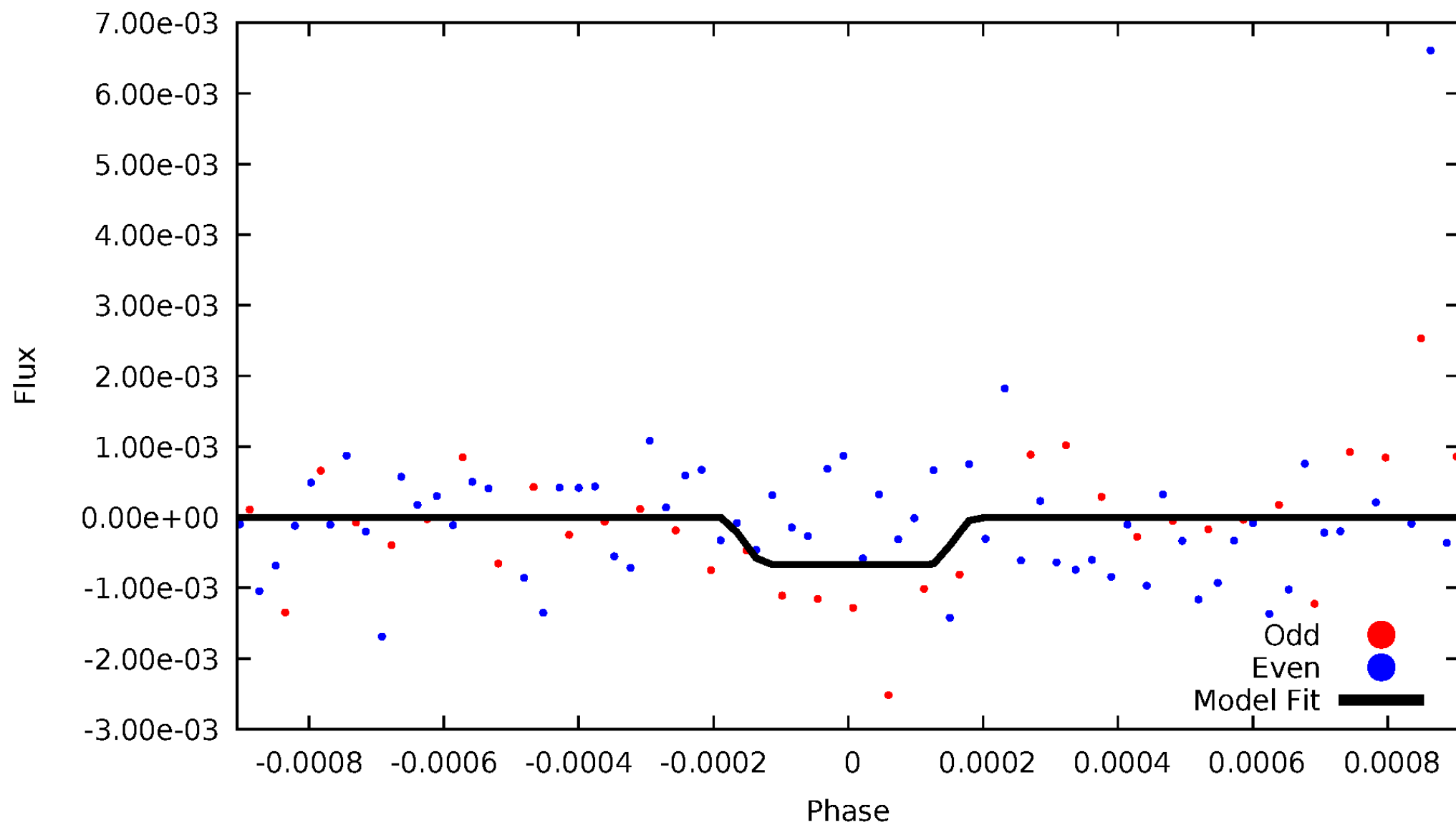
DV Odd/Even

TCE 010054414-01



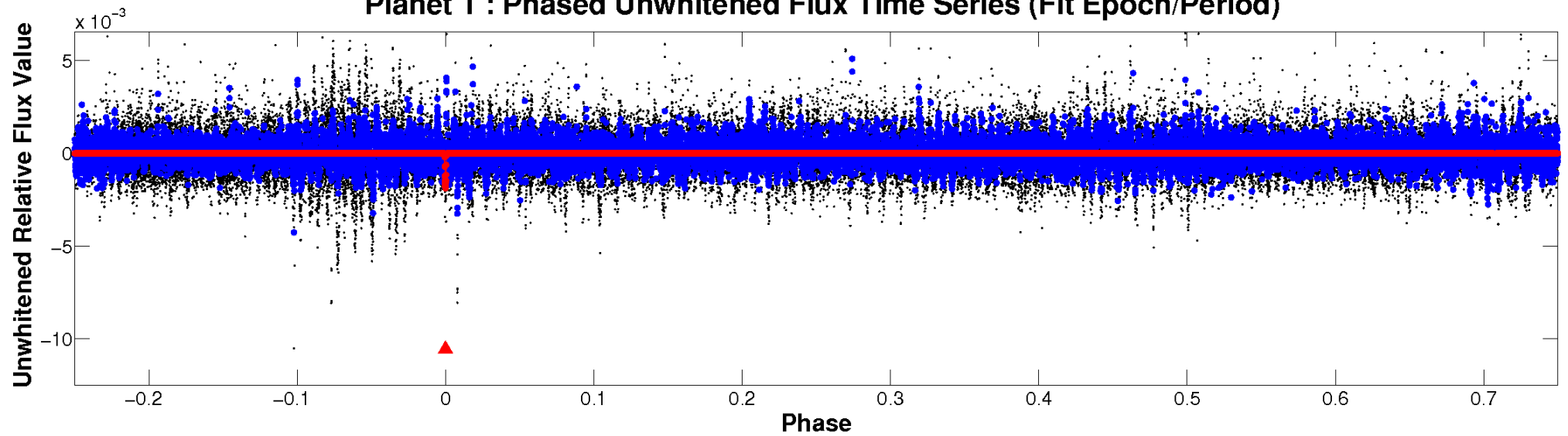
ALT Odd/Even

TCE 010054414-01

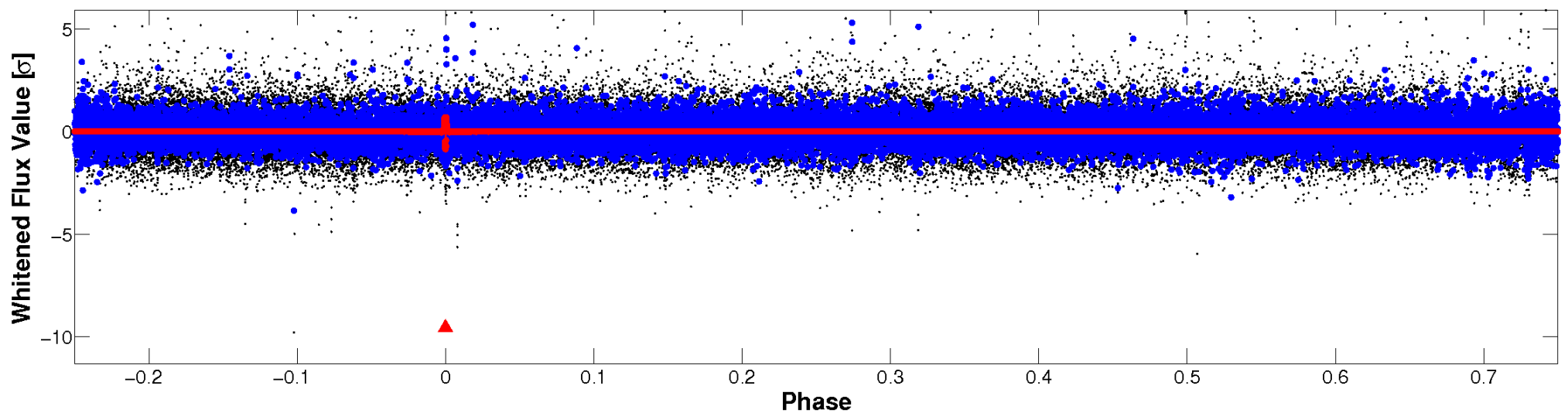


Non-Whitened Vs. Whitened Light Curve

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

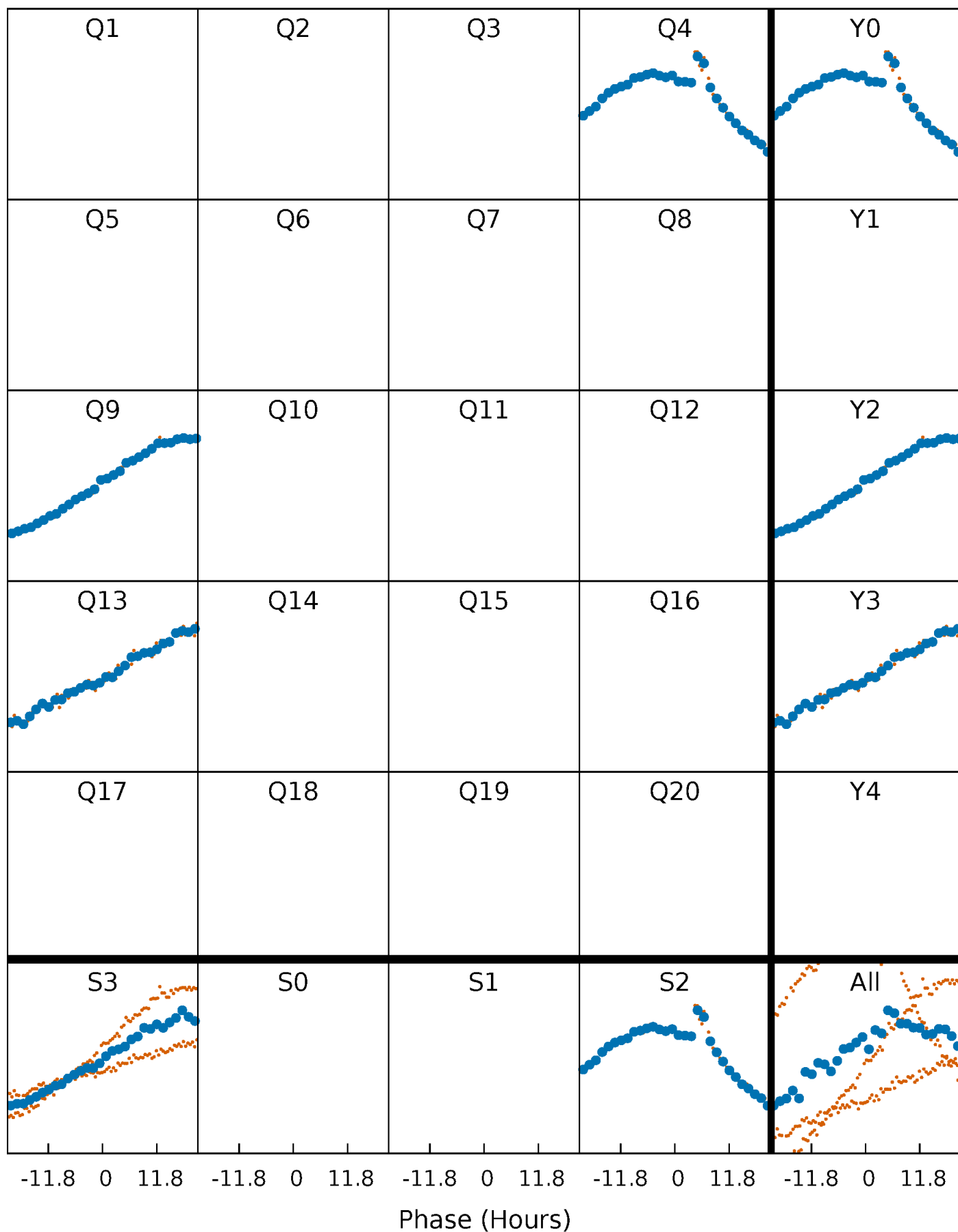


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



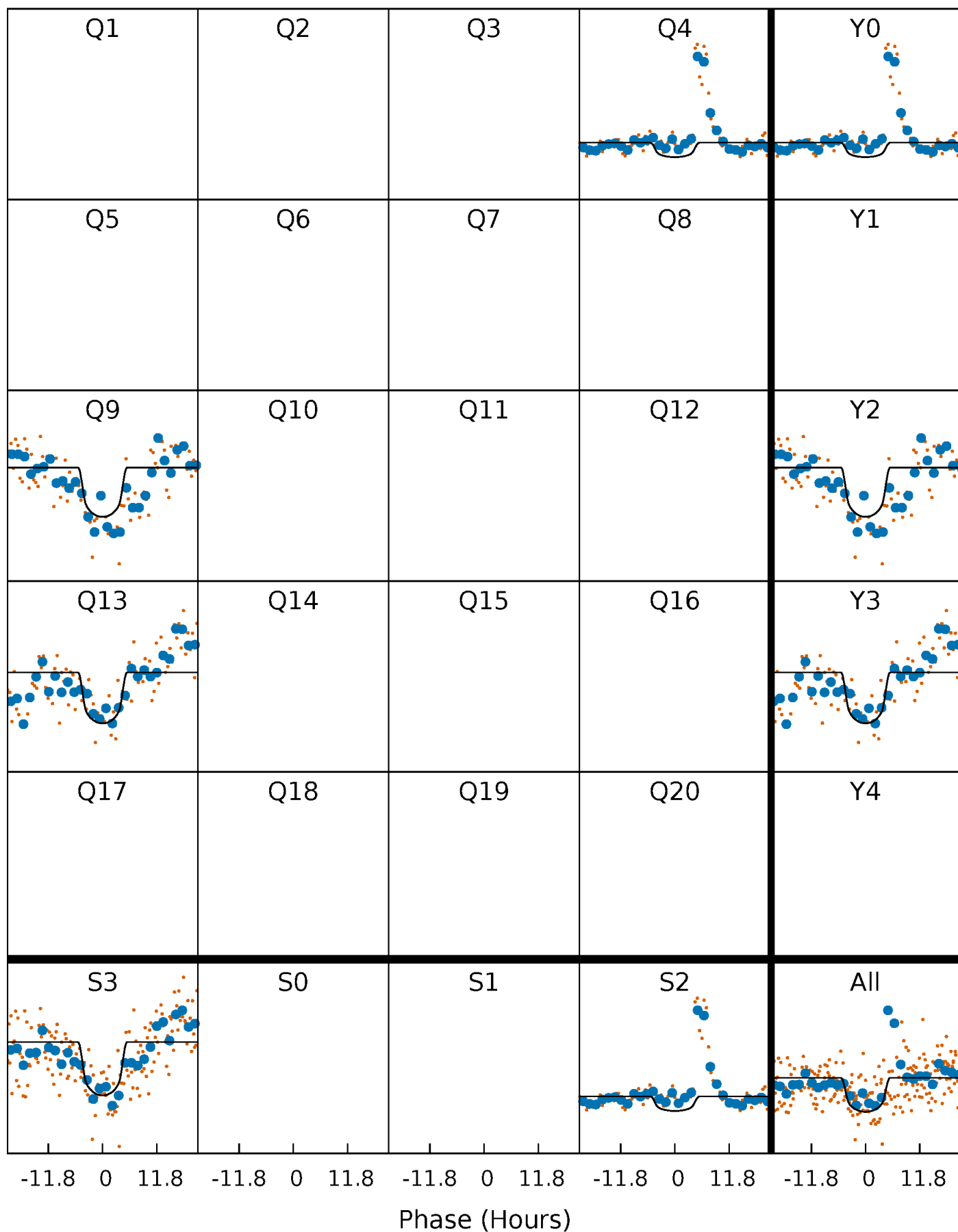
PDC Quarter-Phased Transit Curves

TCE 010054414-01 P=387.964330 Days $T_0=436.707135$ (BKJD)



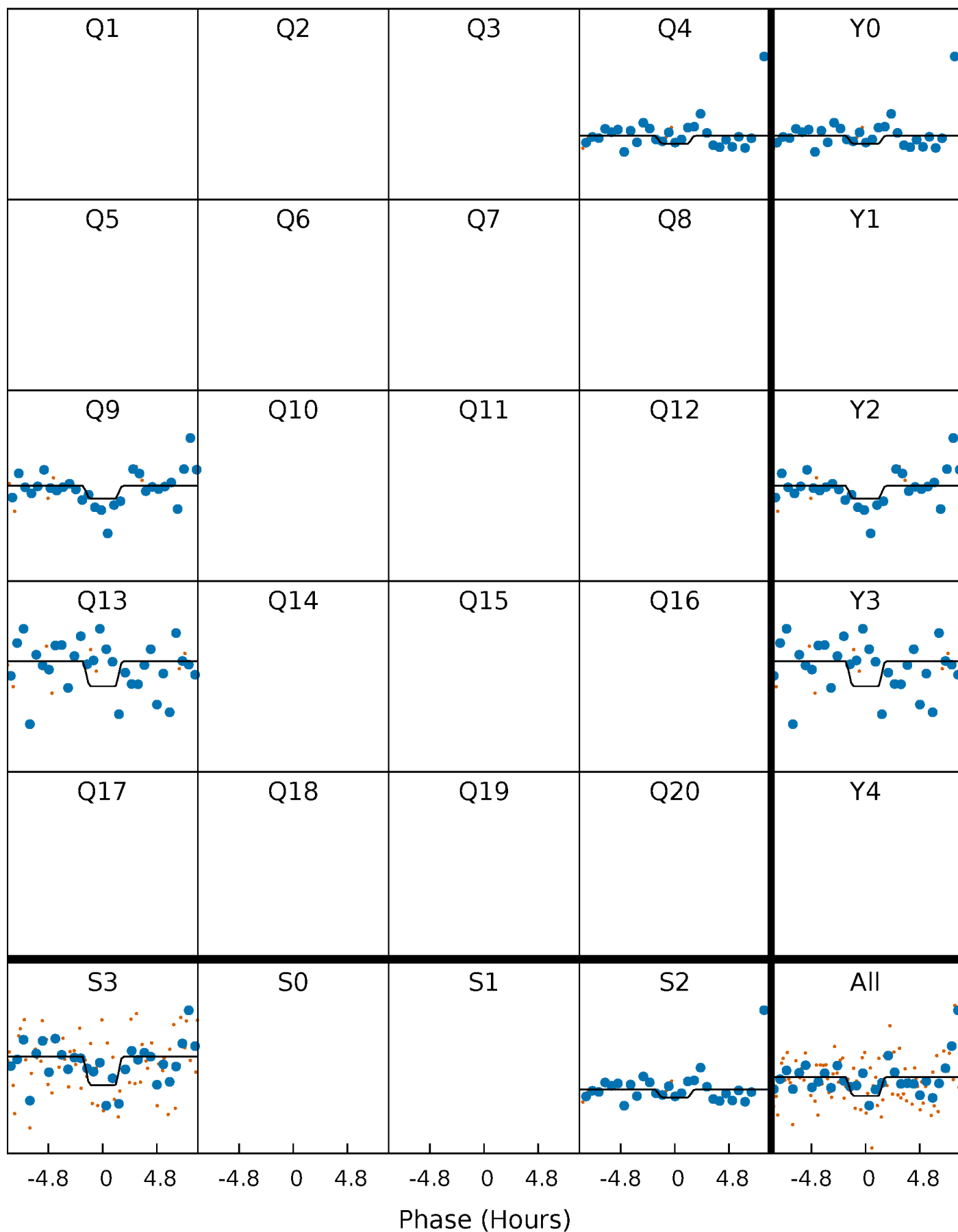
DV Quarter-Phased Transit Curves

TCE 010054414-01 P=387.964330 Days $T_0=436.707135$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

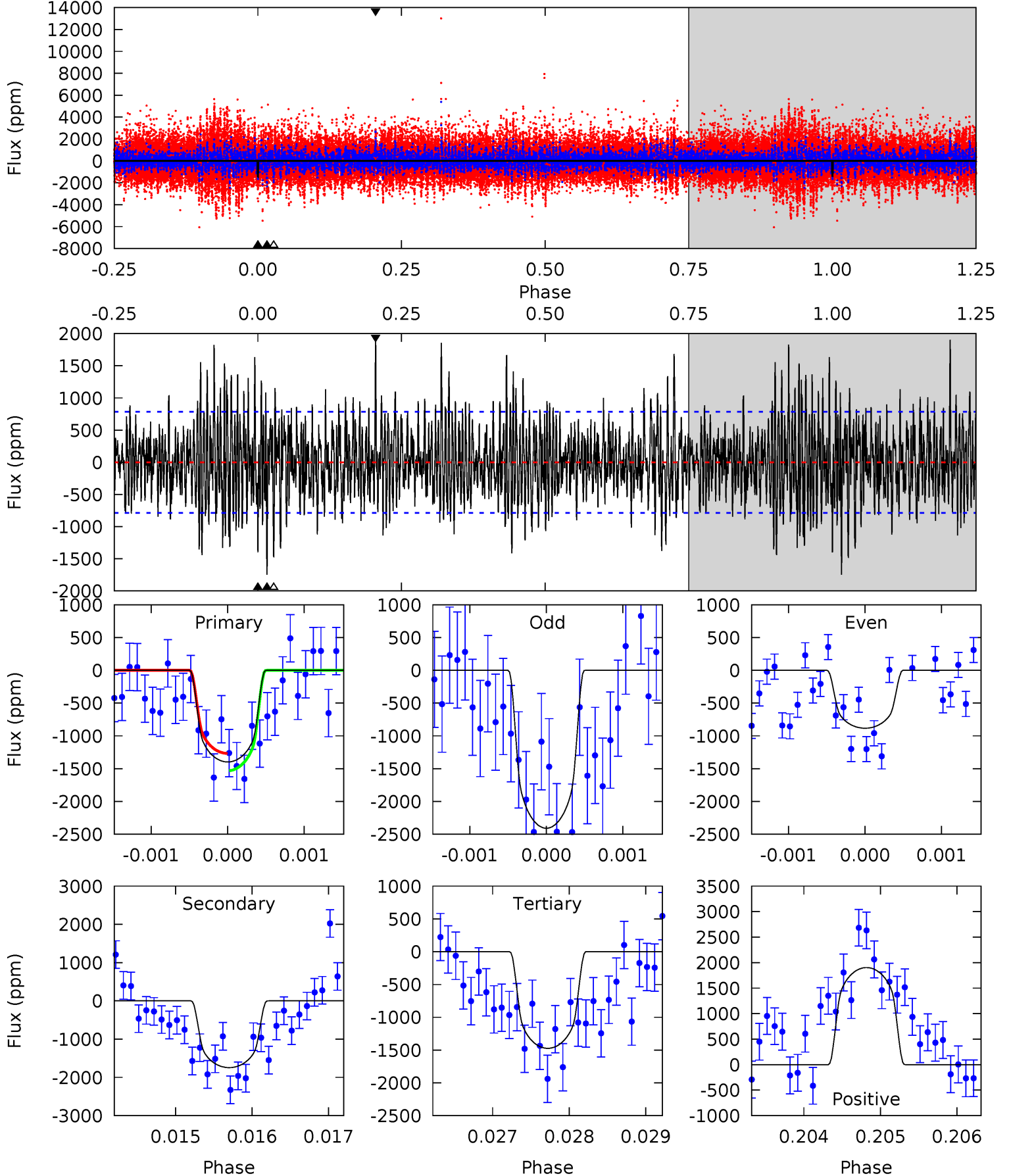
TCE 010054414-01 P=387.958381 Days $T_0=436.596326$ (BKJD)



DV Model-Shift Uniqueness Test

010054414-01, P = 387.964330 Days, E = 48.742805 Days

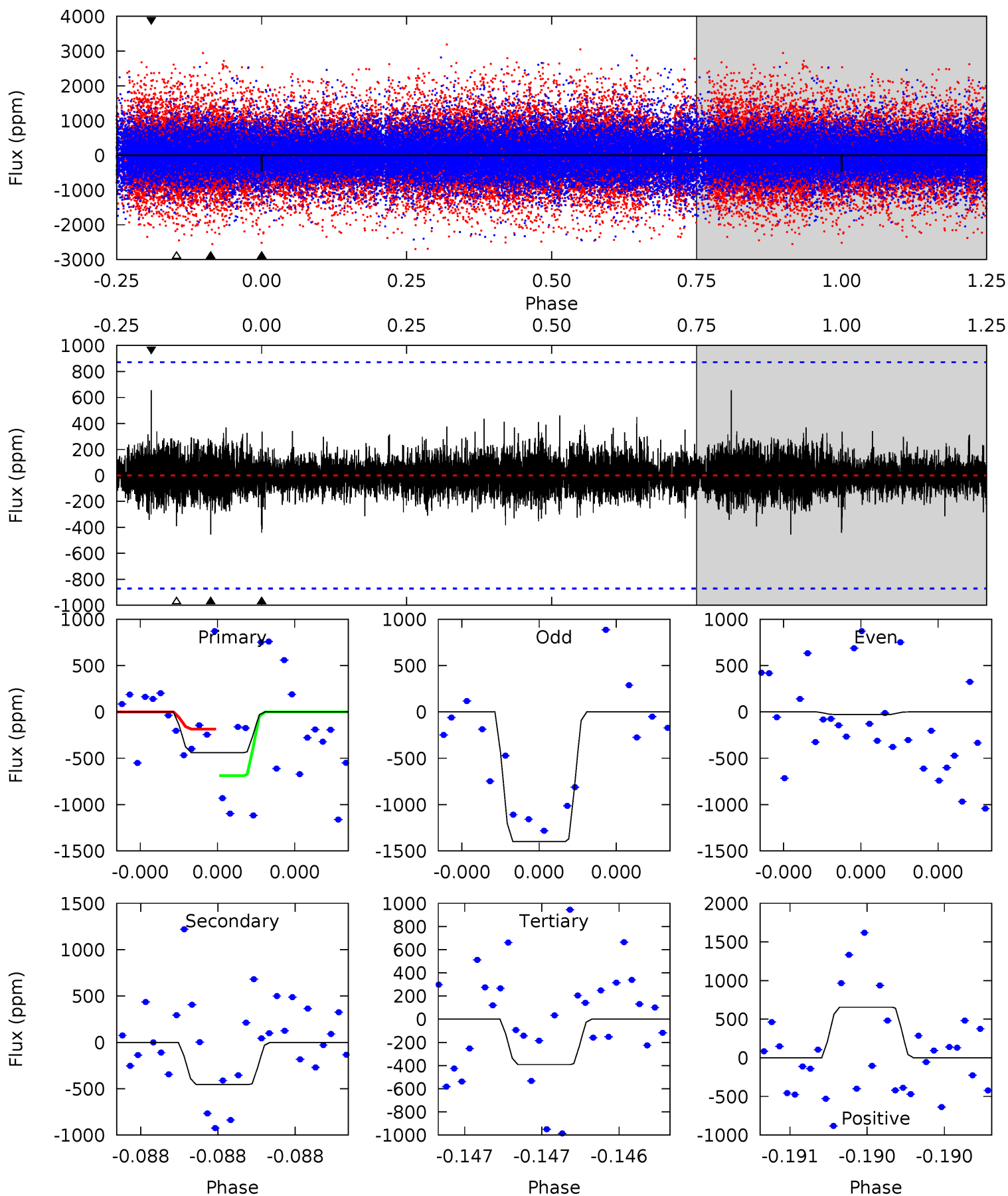
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.65	12.0	10.2	13.1	5.43	3.25	3.38	-0.52	-3.49	1.87	-1.09	4.92	0.80	0.52	0.91



Alt Model-Shift Uniqueness Test

010054414-01, P = 387.958381 Days, E = 48.637945 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.85	2.95	2.54	4.25	5.64	3.59	0.59	0.31	-1.40	0.41	-1.30	4.23	57.9	0.59	1.63



Stellar Parameters For KIC 010054414

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4556^{+145}_{-163}	$4.601^{+0.056}_{-0.024}$	$-0.160^{+0.300}_{-0.300}$	$0.674^{+0.048}_{-0.066}$	$0.660^{+0.075}_{-0.054}$	$3.042^{+0.764}_{-0.346}$
	+3%/-4%	+1%/-1%	+188%/-188%	+7%/-10%	+11%/-8%	+25%/-11%
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 010054414-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1745 ± 145	$3.36^{+0.59}_{-0.58}$	240^{+9}_{-9}	4383^{+353}_{-320}	71370^{+30165}_{-20884}
Alt.	-455 ± 154	$1.89^{+0.57}_{-0.58}$	240^{+8}_{-9}	4259^{+664}_{-508}	59951^{+65003}_{-29603}

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

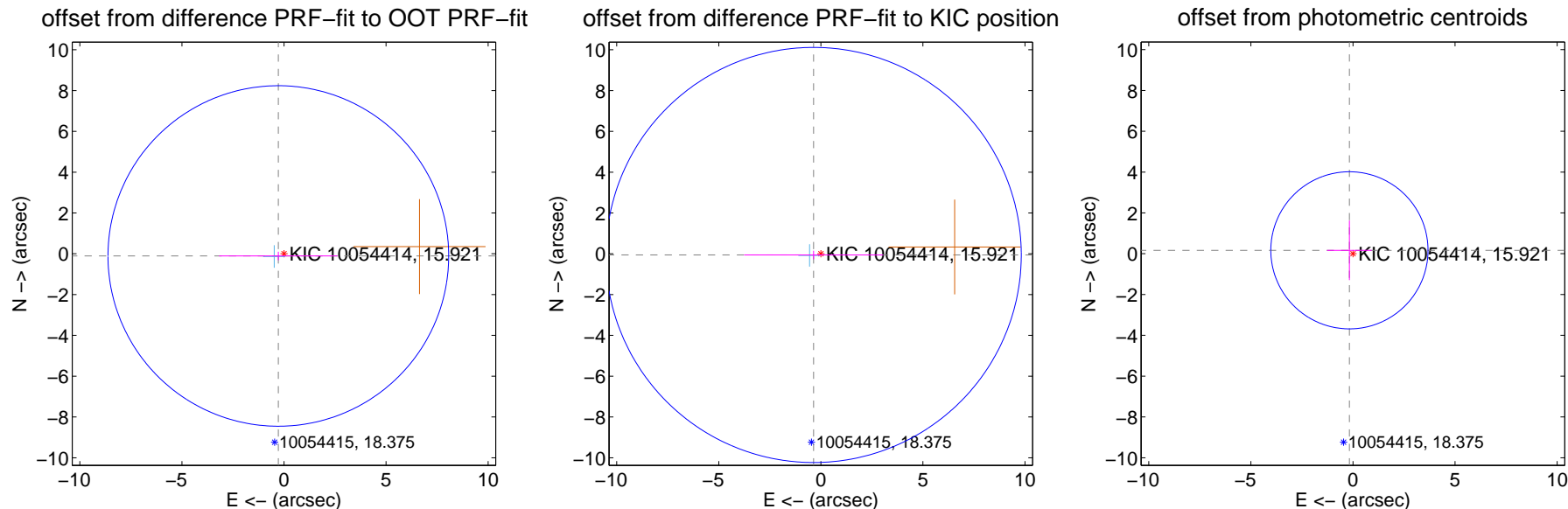
DV Centroid Data

Supplemental centroid analysis for 010054414-01. Kepler magnitude: 15.92. Transit SNR 6.17

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	0.298 ± 2.782	0.11	0.278 ± 2.906	-0.107 ± 0.209
PRF-fit source offset from KIC position	0.360 ± 3.391	0.11	0.355 ± 3.404	-0.058 ± 0.209
photometric centroid source offset	0.24 ± 1.28	0.19	0.17 ± 1.09	0.17 ± 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.

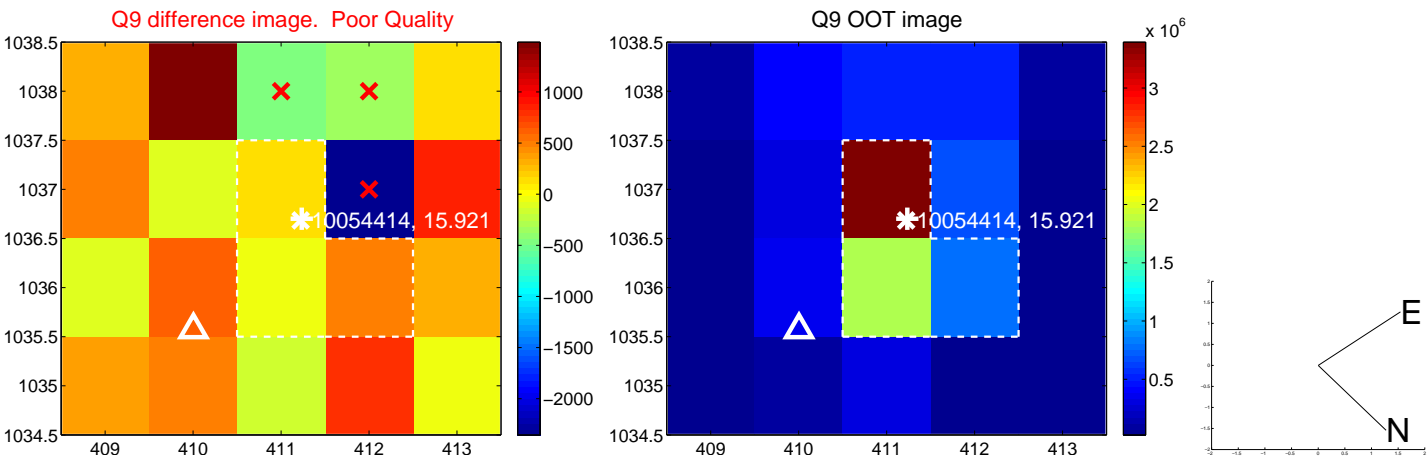
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



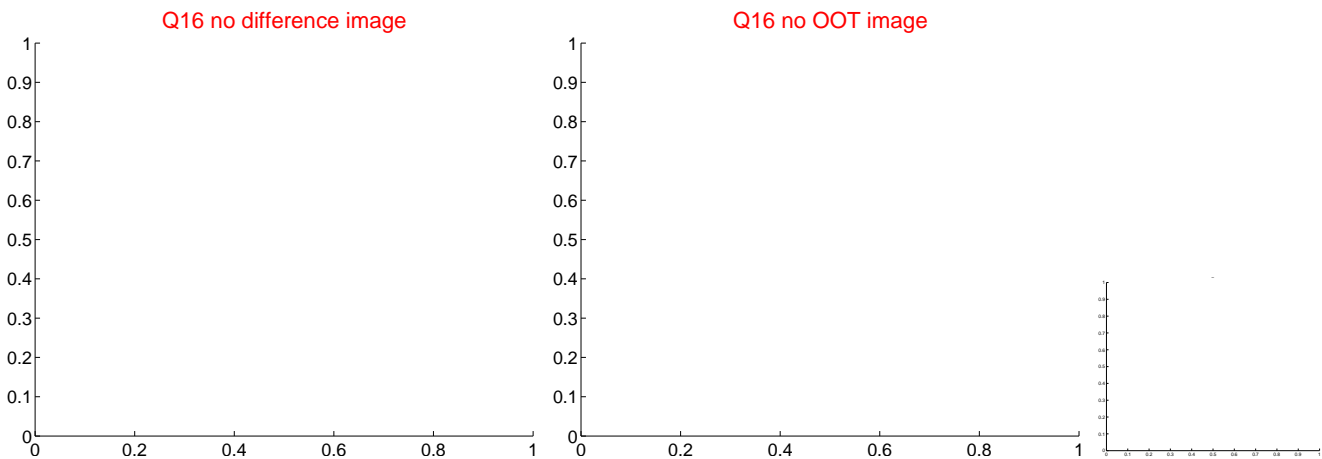
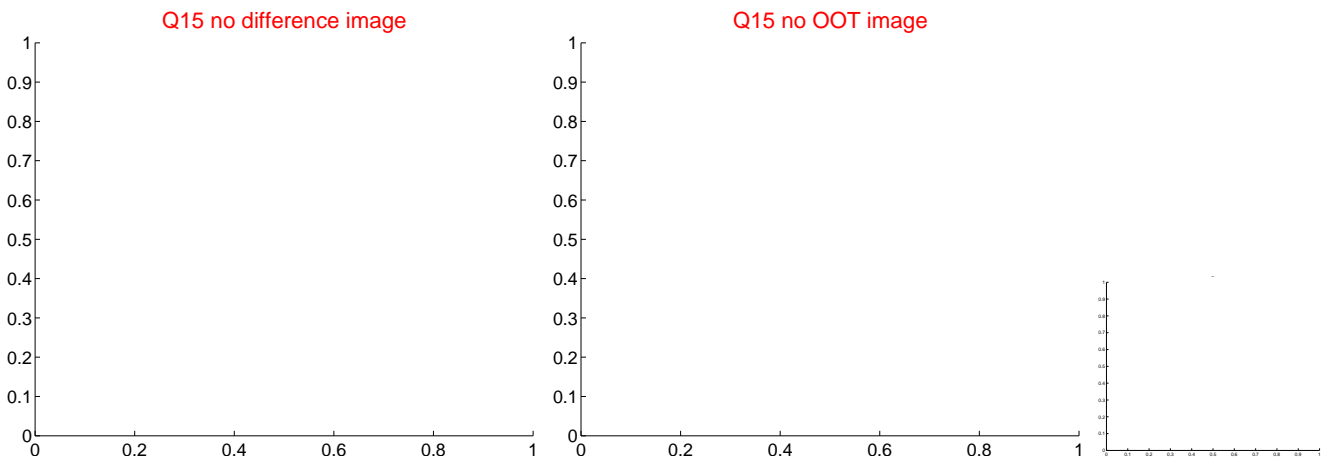
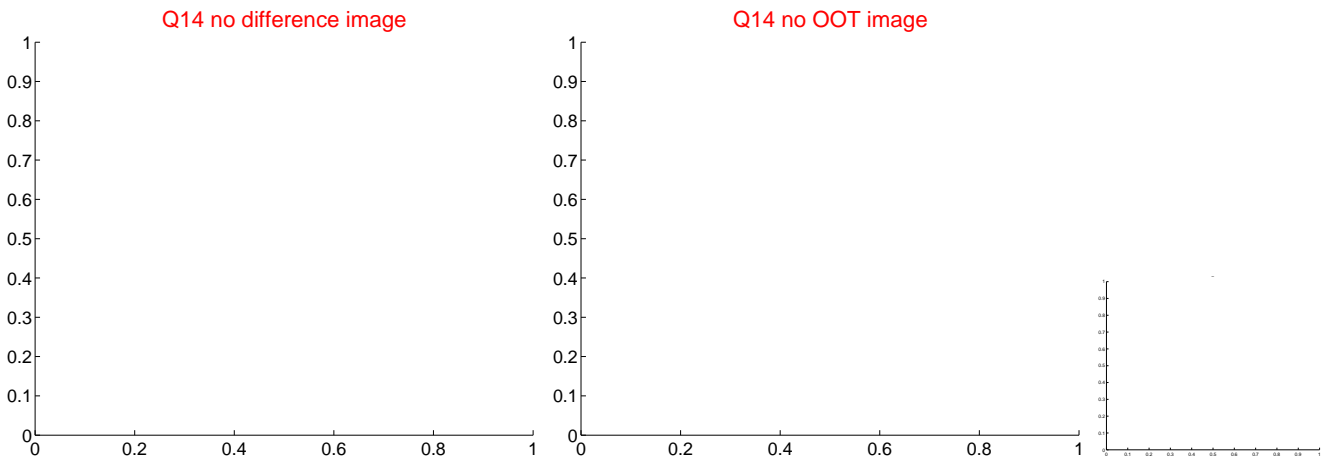
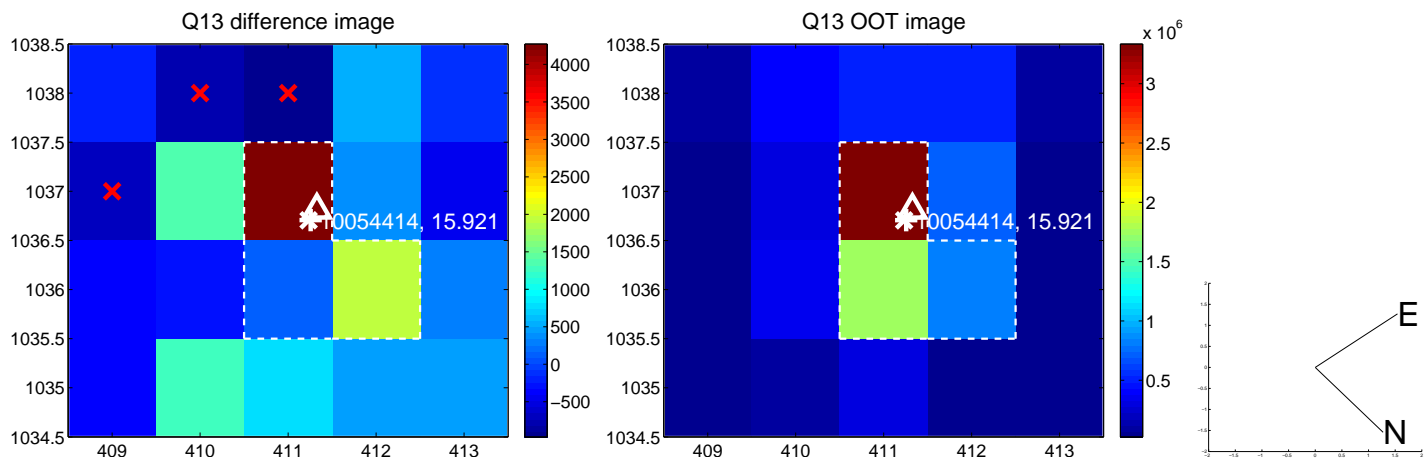
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



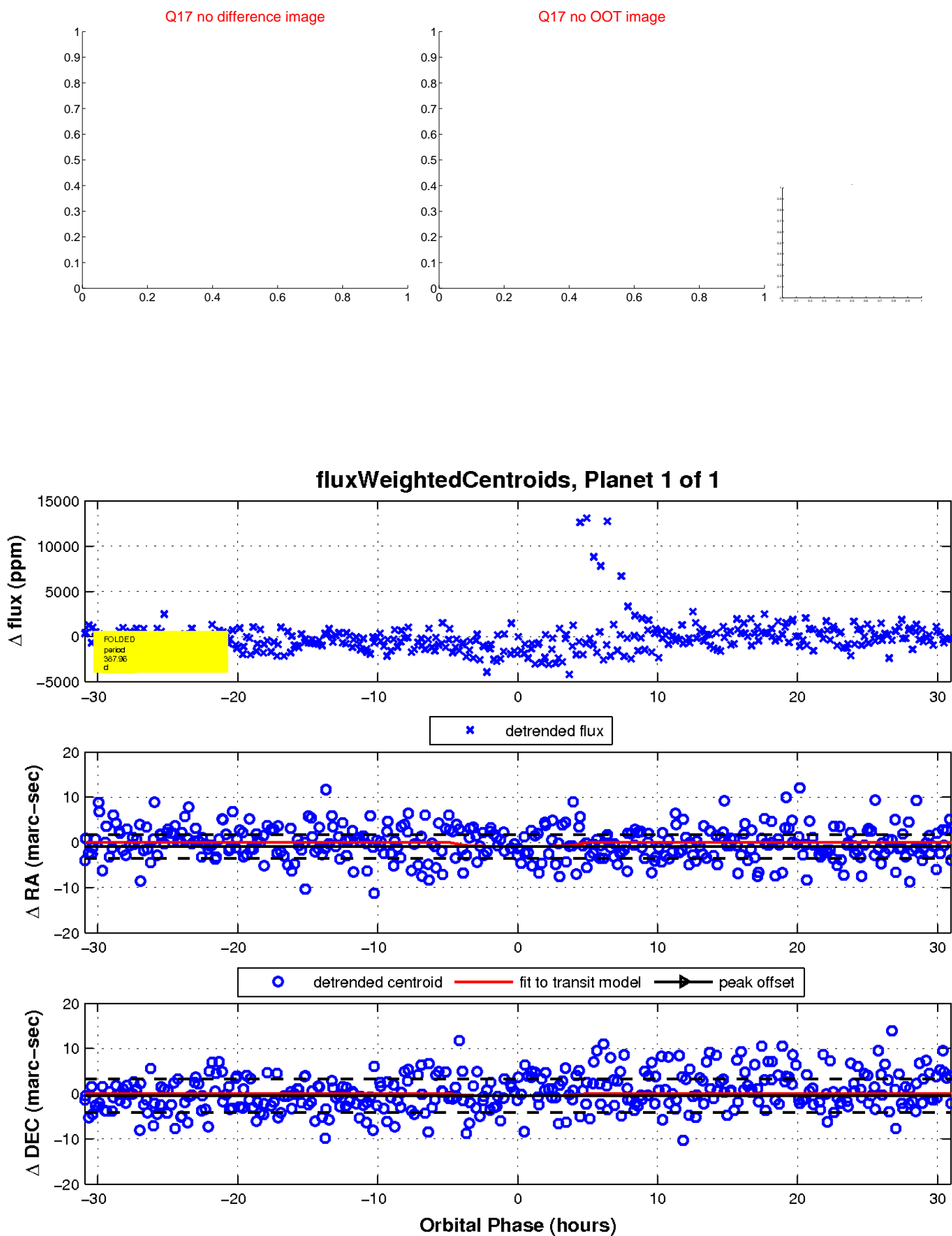
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

