

KIC 006437237

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})
006437237-01	OBS	No	396.508945	202.222960	1048.9	5.943	9.2	8.5	0.77	4962	2.76	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006437237-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

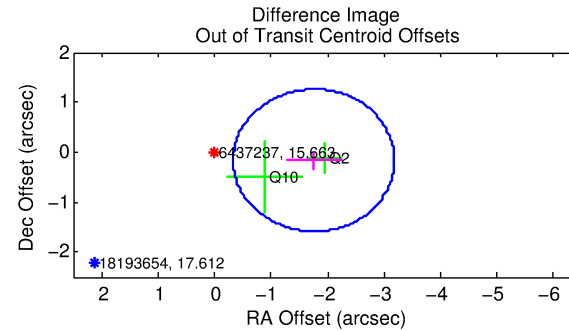
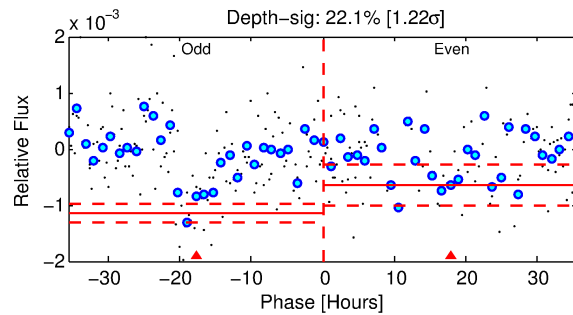
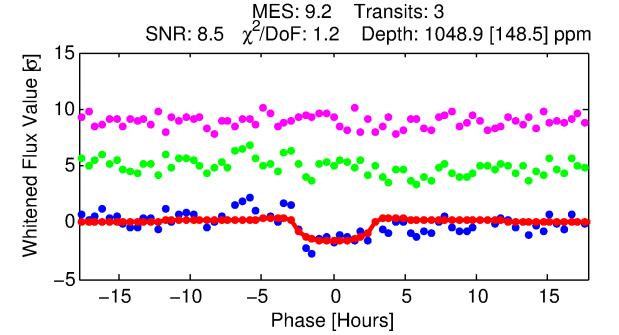
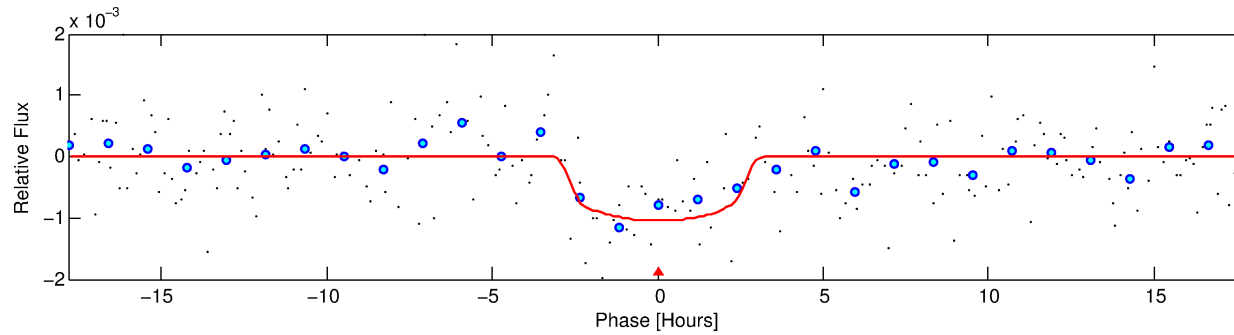
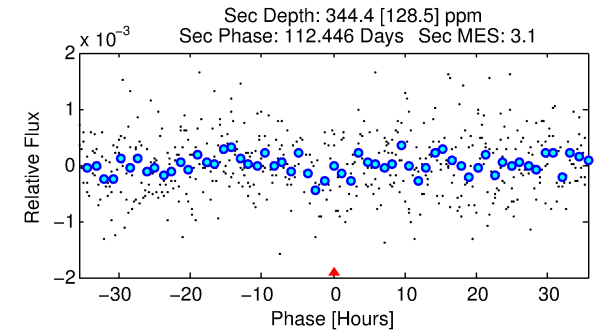
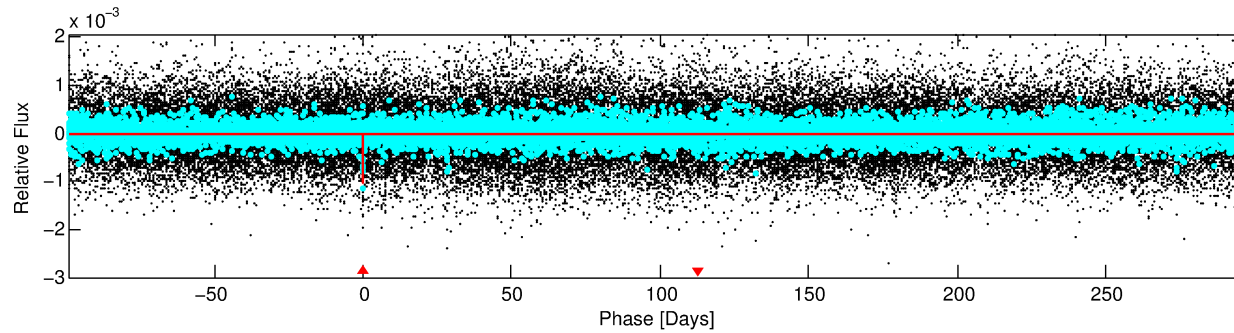
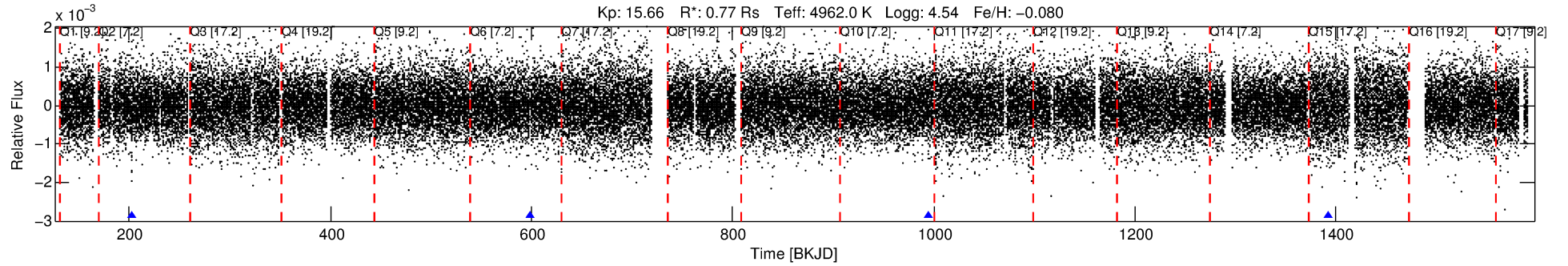
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006437237-01

No Significant Match Found

DV One-Page Summary

KIC: 6437237 Candidate: 1 of 1 Period: 396.509 d



DV Fit Results:

Period = 396.50894 [0.00666] d
Epoch = 202.2230 [0.0122] BKJD
Rp/R* = 0.0329 [0.0235]
a/R* = 342.71 [857.94]
b = 0.78 [1.26]
Seff = 0.35 [0.06]
Teq = 196 [9] K
Rp = 2.76 [1.99] Re
a = 0.9544 [0.0841] AU
Ag = 22707.72 [33593.14] [0.68σ]
Teffp = 3725 [1377] K [2.56σ]

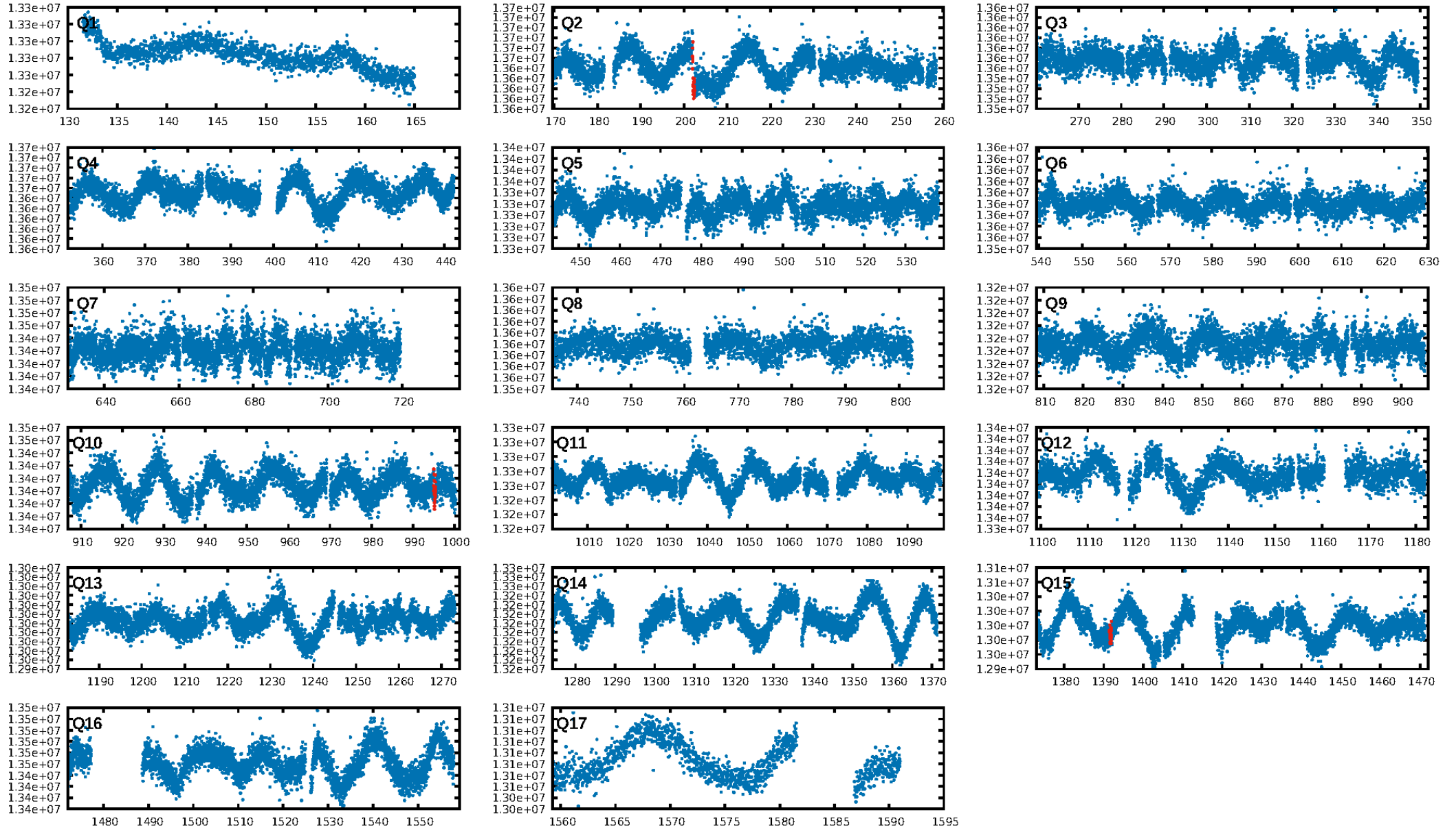
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.9%
ModelChiSquareGof-sig: 88.6%
Bootstrap-pfa: 2.32e-16
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.074
Centroid-sig: 18.3%
Centroid-so: 1.472 arcsec [0.91σ]
OotOffset-rm: 1.765 arcsec [3.72σ]
KicOffset-rm: 1.944 arcsec [4.20σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

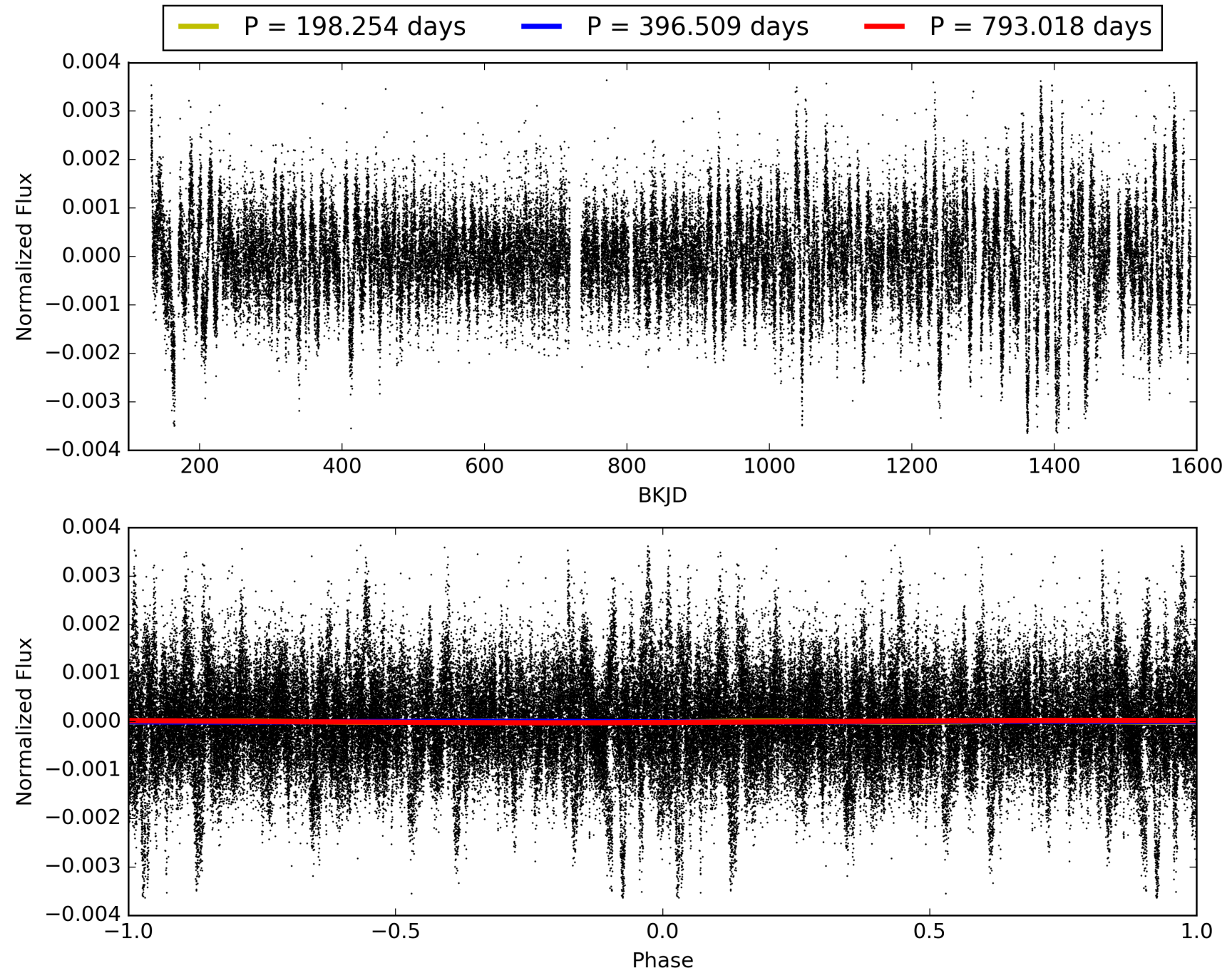
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 14:46:08 Z

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

TCE 006437237-01, PDC Light Curves

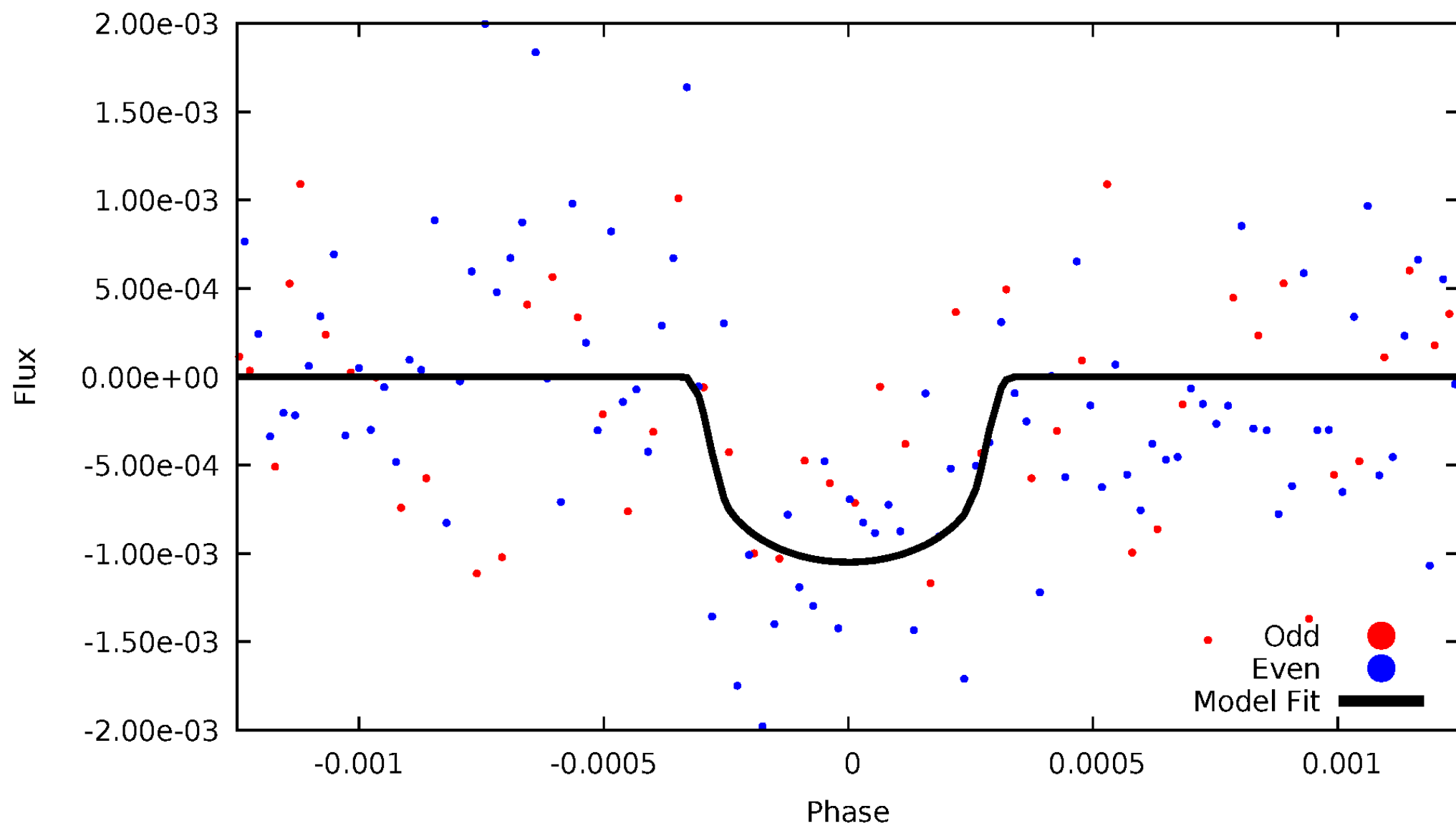


TCE 006437237-01



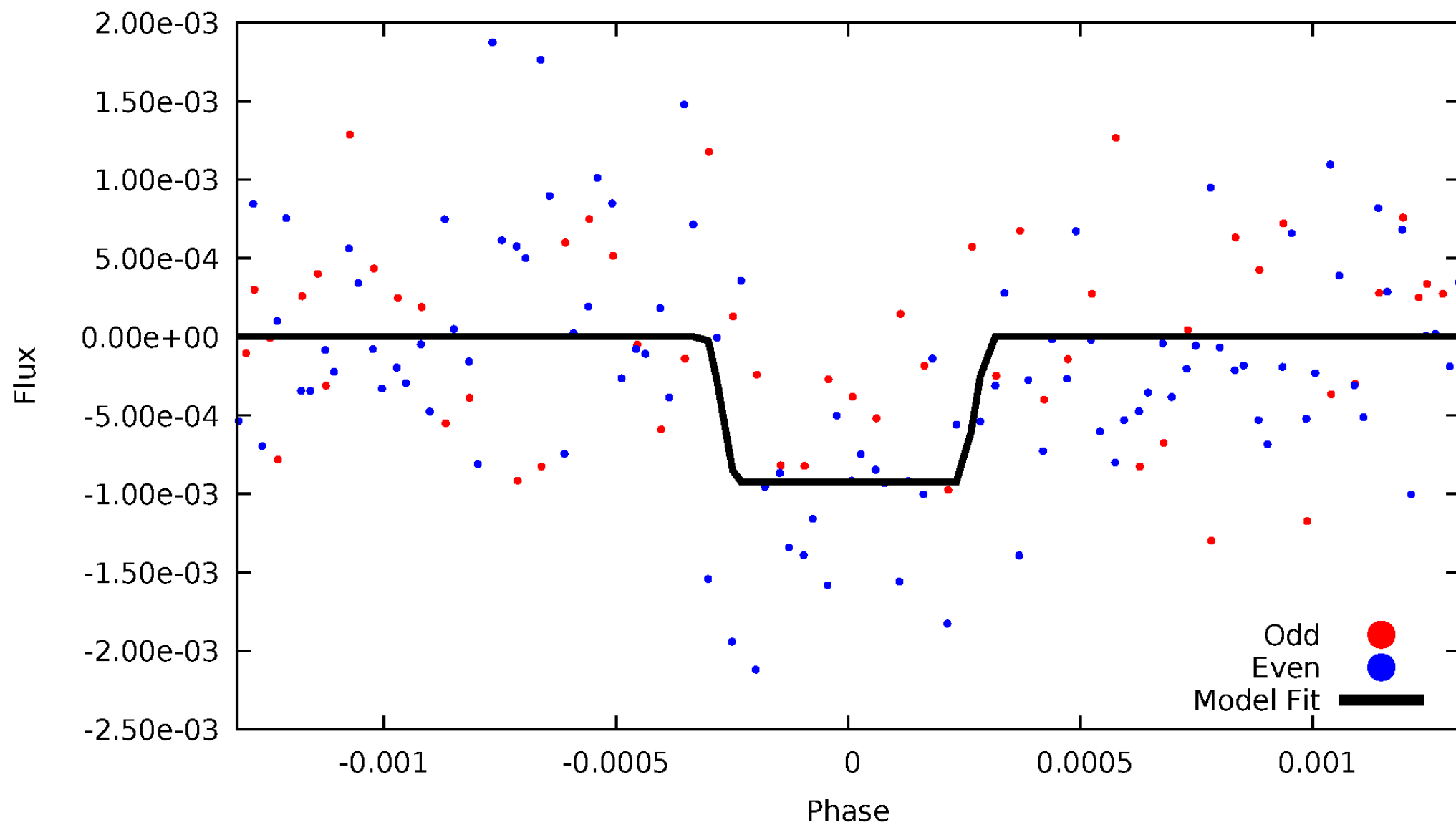
DV Odd/Even

TCE 006437237-01



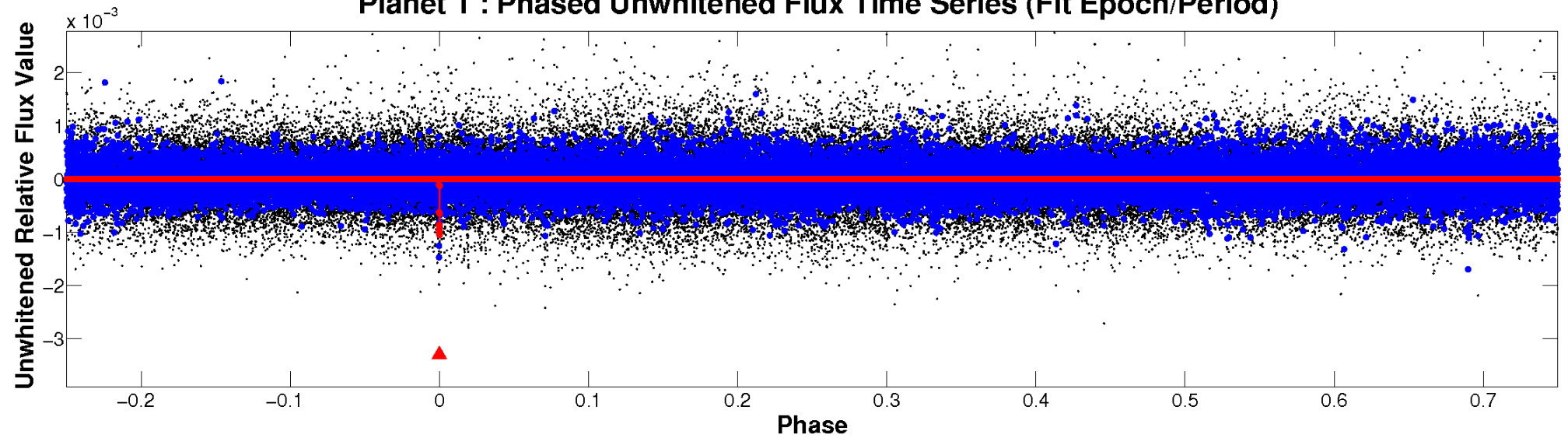
ALT Odd/Even

TCE 006437237-01

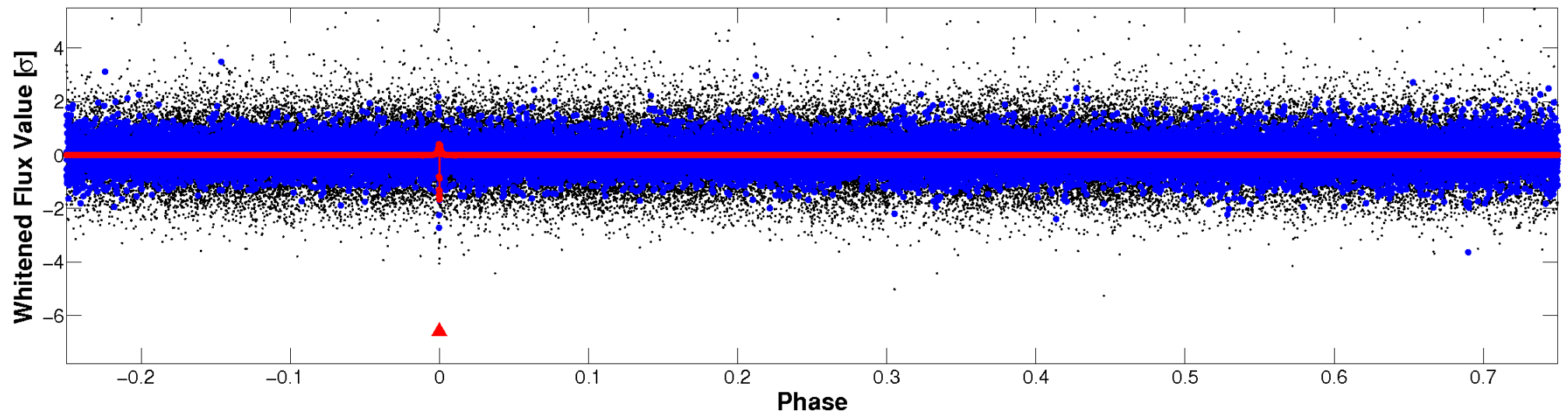


Non-Whitened Vs. Whitened Light Curve

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

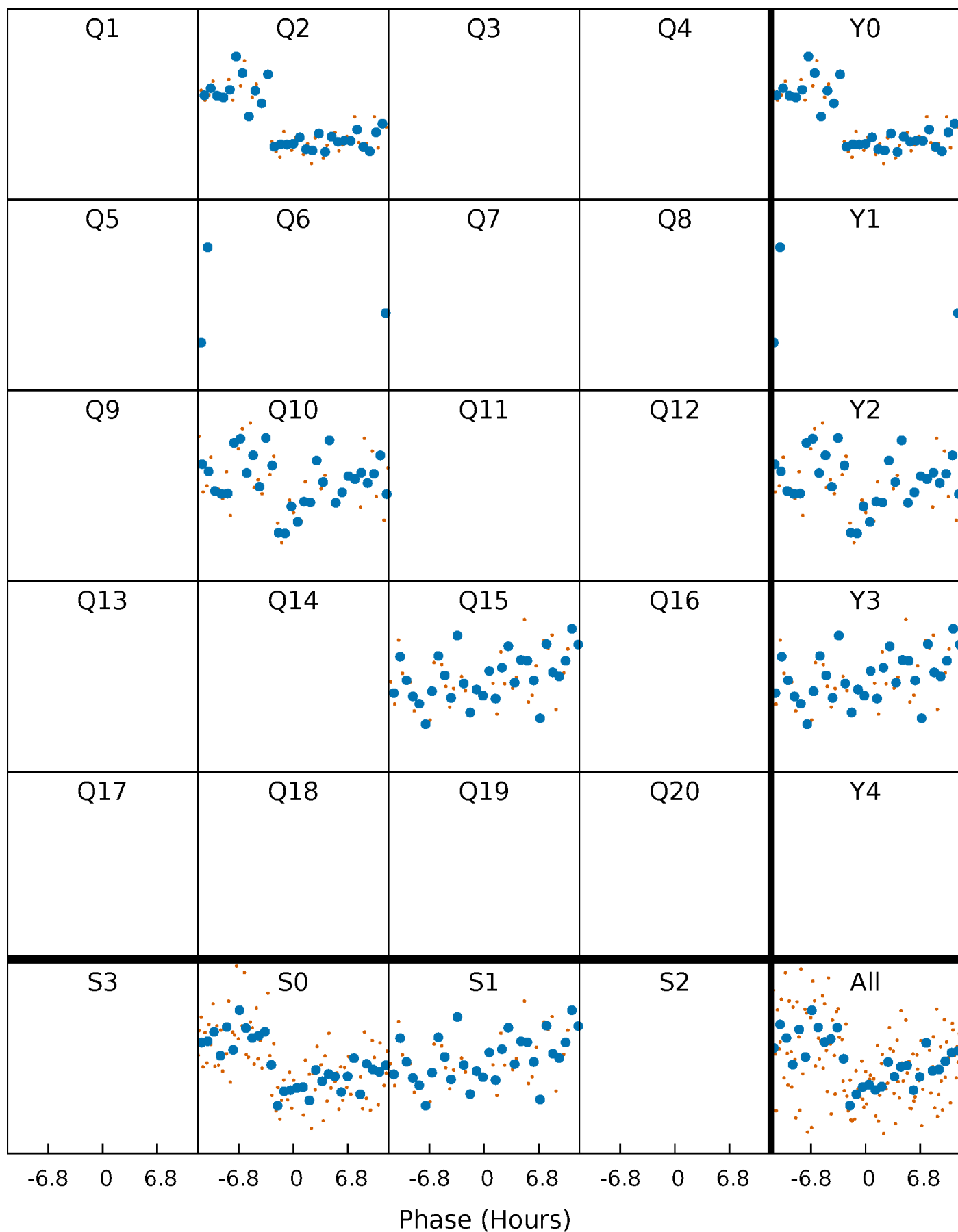


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



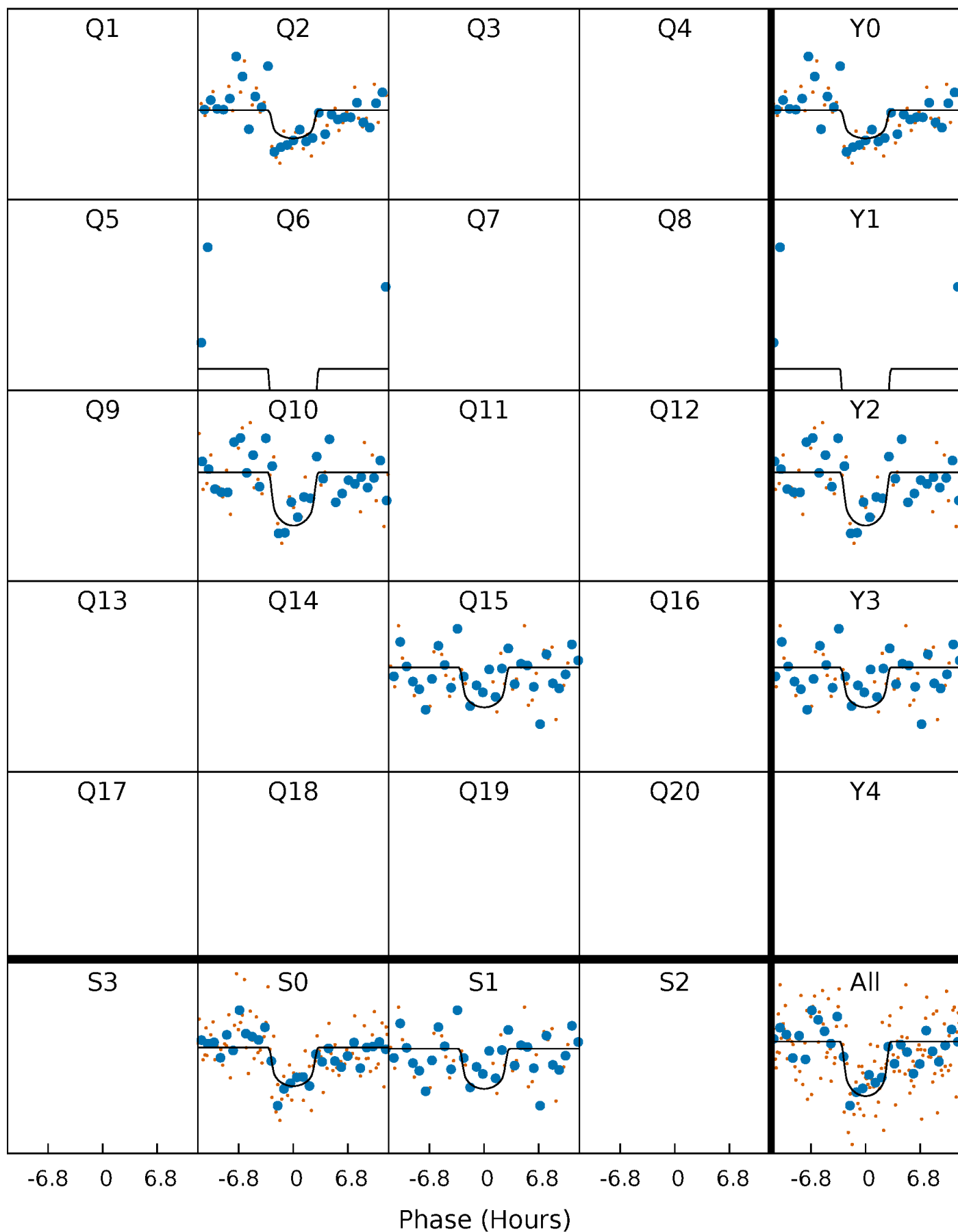
PDC Quarter-Phased Transit Curves

TCE 006437237-01 P=396.508945 Days $T_0=202.222960$ (BKJD)



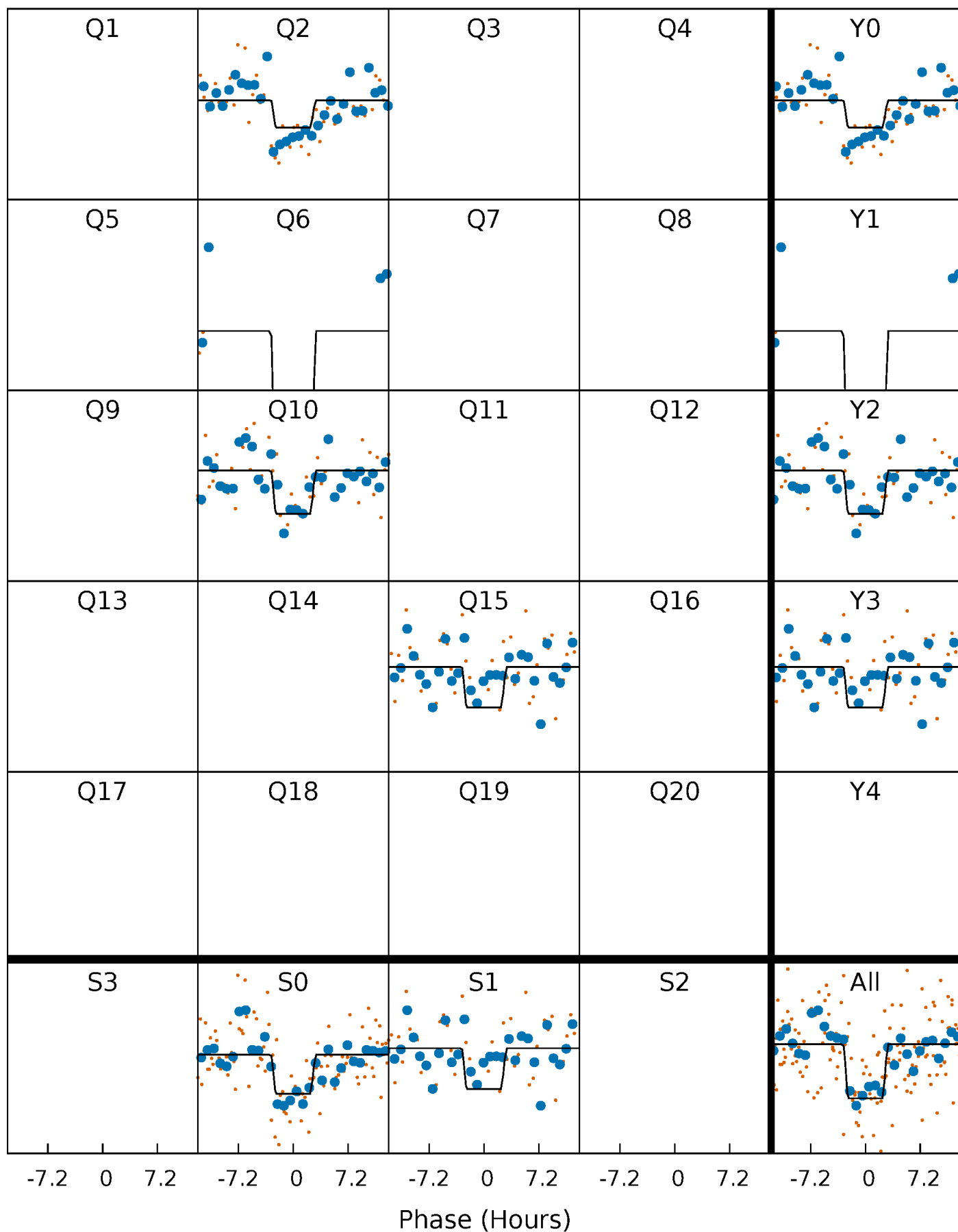
DV Quarter-Phased Transit Curves

TCE 006437237-01 P=396.508945 Days $T_0=202.222960$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

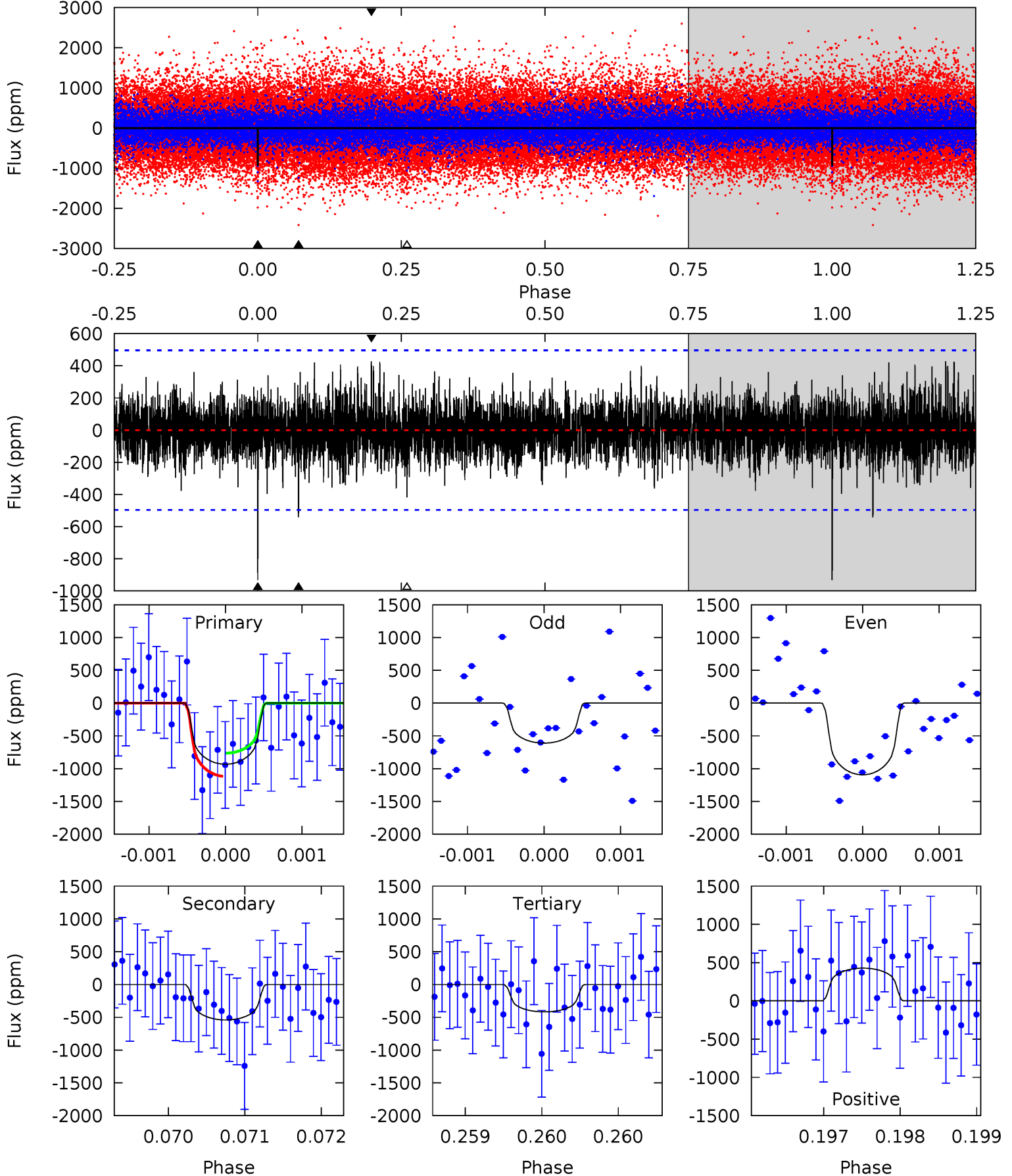
TCE 006437237-01 P=396.499609 Days $T_0=202.232311$ (BKJD)



DV Model-Shift Uniqueness Test

006437237-01, P = 396.508945 Days, E = 202.222960 Days

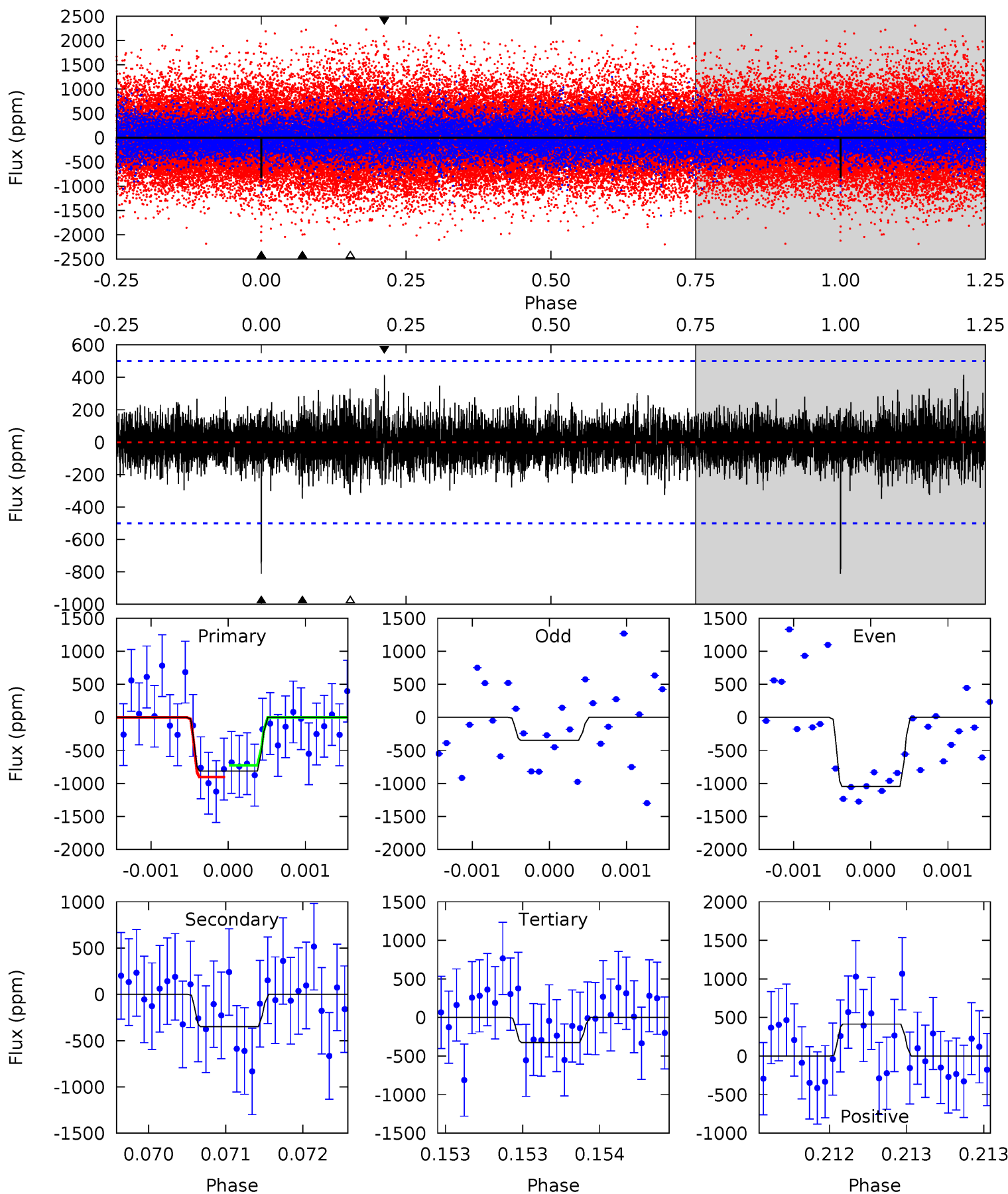
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	6.04	4.66	4.77	5.53	3.42	1.25	5.74	5.63	1.38	1.27	2.54	1.19	0.31	1.98



Alt Model-Shift Uniqueness Test

006437237-01, P = 396.499609 Days, E = 202.232311 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.98	3.86	3.60	4.58	5.54	3.42	0.98	5.38	4.40	0.26	-0.72	3.62	1.17	0.34	0.98



Stellar Parameters For KIC 006437237

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4962^{+151}_{-136}	$4.536^{+0.072}_{-0.048}$	$-0.080^{+0.300}_{-0.300}$	$0.767^{+0.065}_{-0.079}$	$0.738^{+0.093}_{-0.057}$	$2.302^{+0.736}_{-0.389}$
	+3%/-3%	+2%/-1%	+375%/-375%	+8%/-10%	+13%/-8%	+32%/-17%
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 006437237-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-541 ± 90	$3.03^{+1.84}_{-1.72}$	273^{+10}_{-9}	4171^{+1762}_{-640}	$29433^{+132811}_{-17907}$
Alt.	-349 ± 90	$2.70^{+1.88}_{-1.57}$	273^{+11}_{-10}	4014^{+1716}_{-676}	$23663^{+108870}_{-15555}$

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

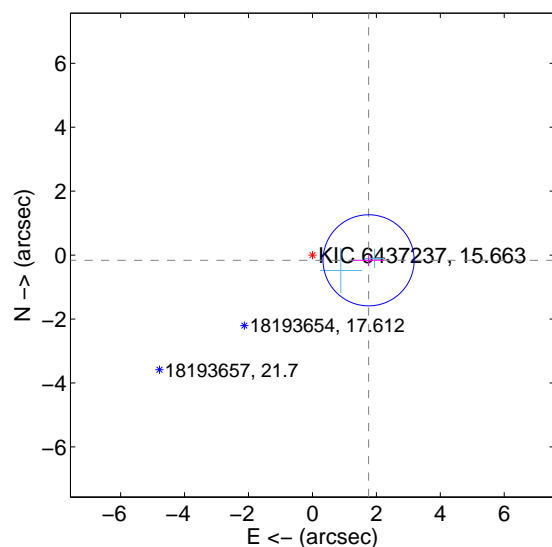
Supplemental centroid analysis for 006437237-01. Kepler magnitude: 15.66. Transit SNR 8.46

There are 2 quarters with good PRF difference image offsets

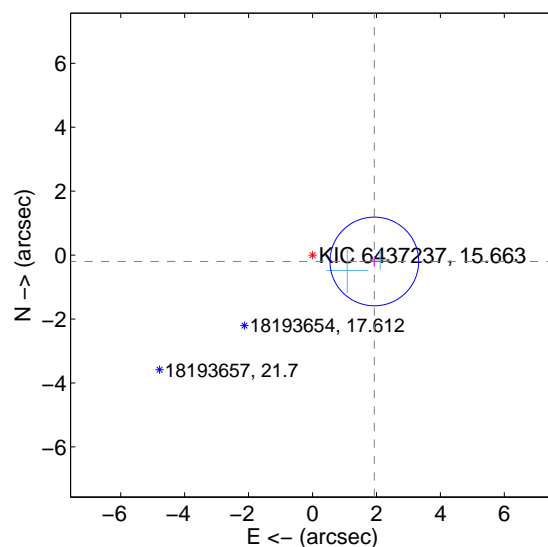
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.765 ± 0.475	3.72	-1.757 ± 0.477	-0.163 ± 0.174
PRF-fit source offset from KIC position	1.944 ± 0.462	4.20	-1.934 ± 0.465	-0.199 ± 0.157
photometric centroid source offset	1.47 ± 1.61	0.91	-0.12 ± 1.74	1.47 ± 1.61

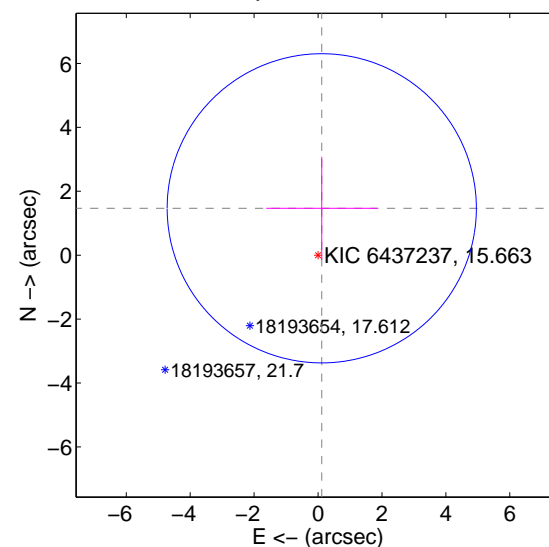
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



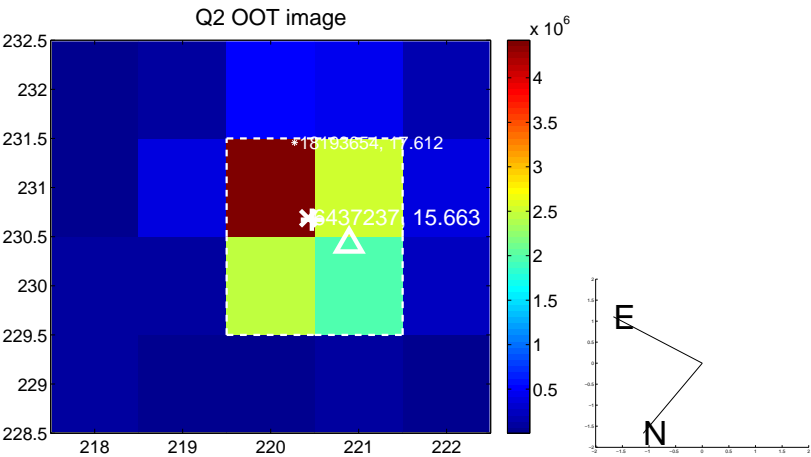
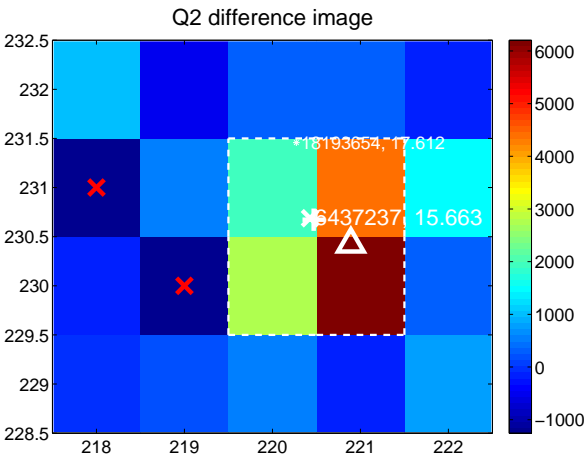
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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.

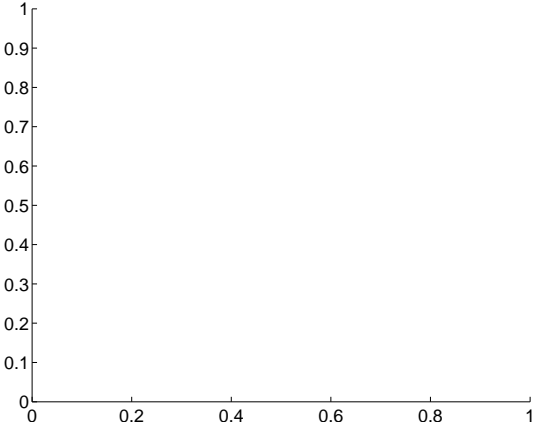
Q1 no difference image



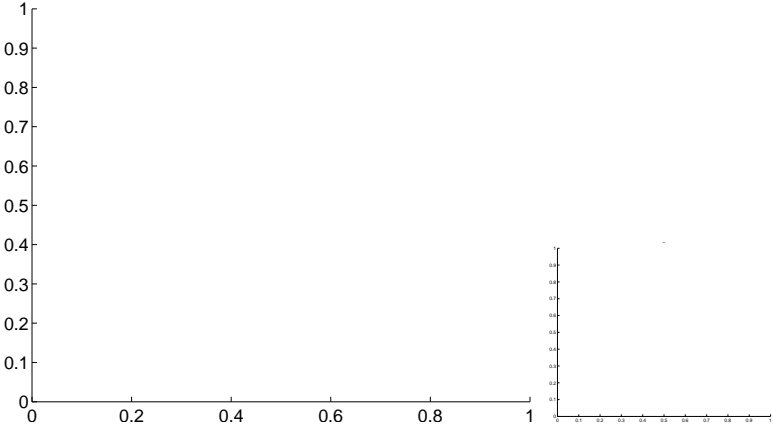
Q1 no OOT image



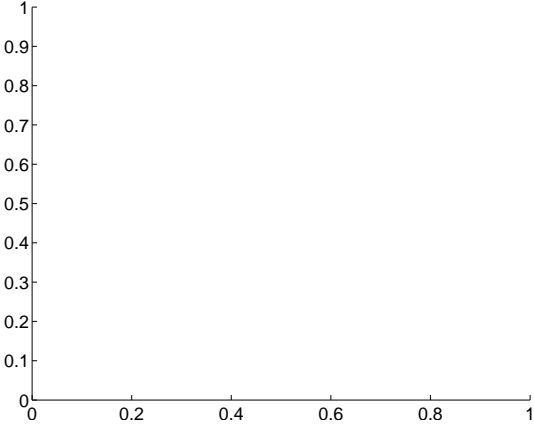
Q3 no difference image



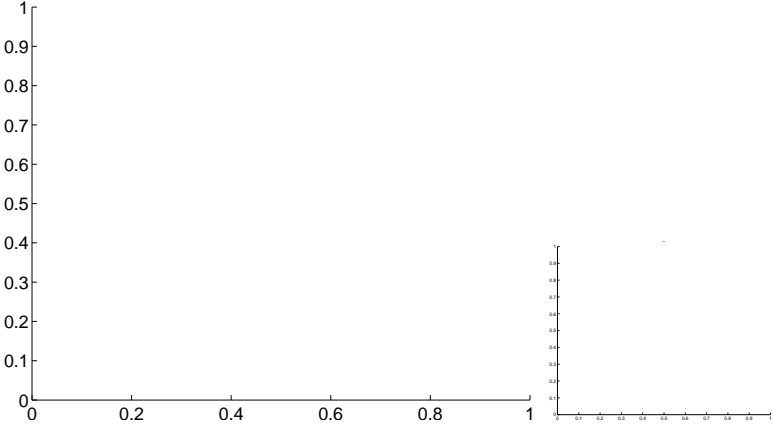
Q3 no OOT image



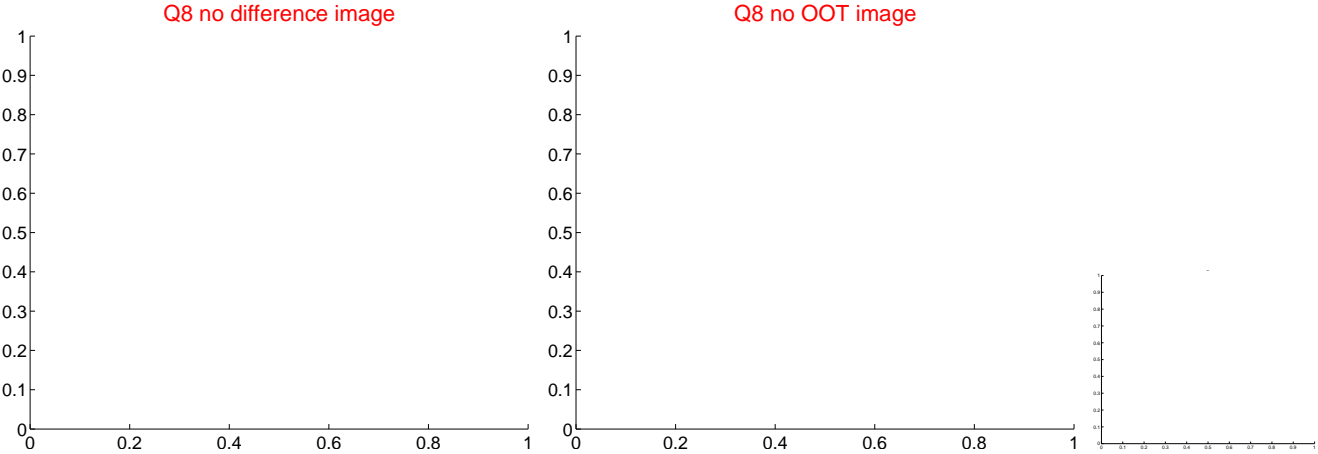
Q4 no difference image



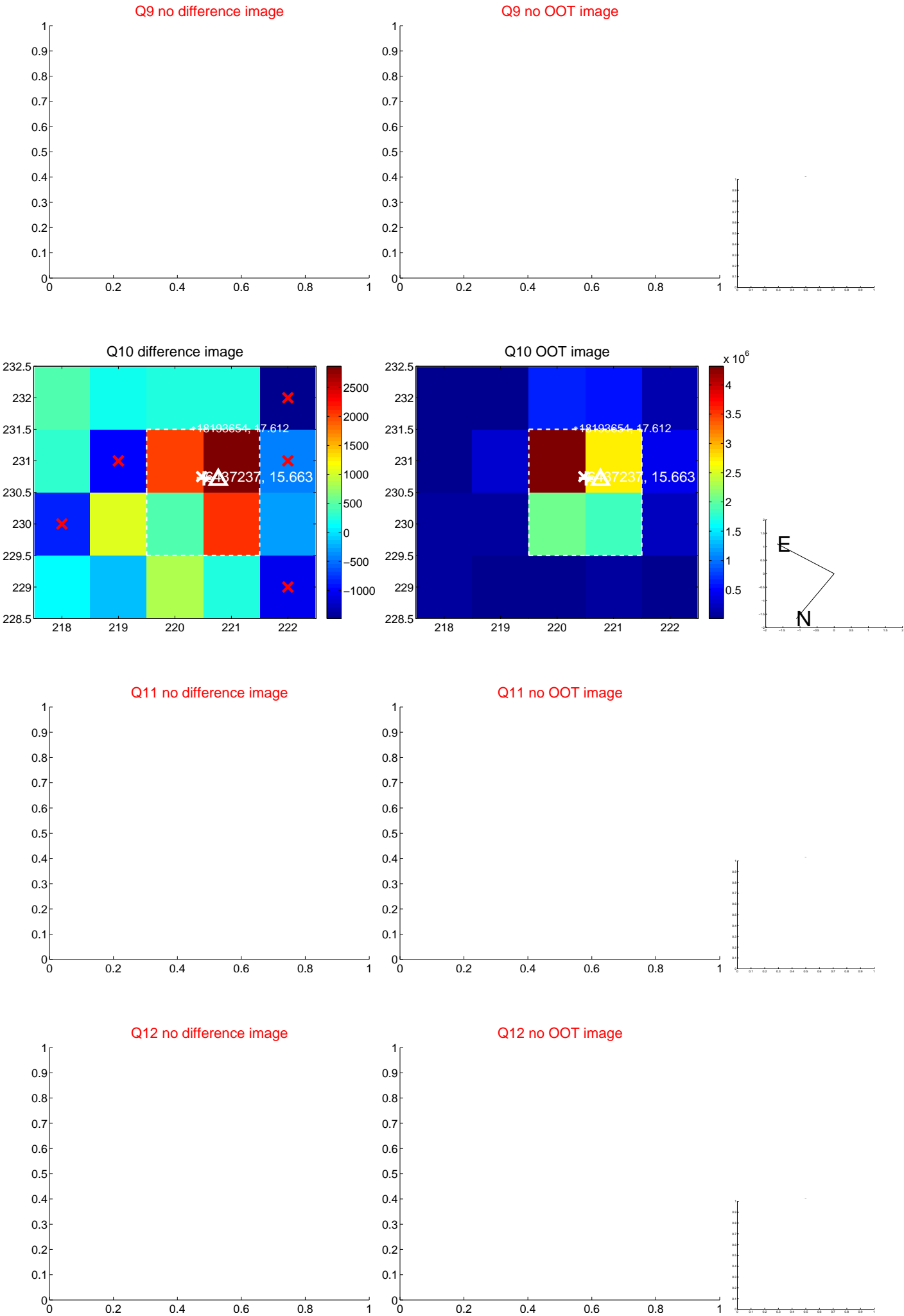
Q4 no OOT image



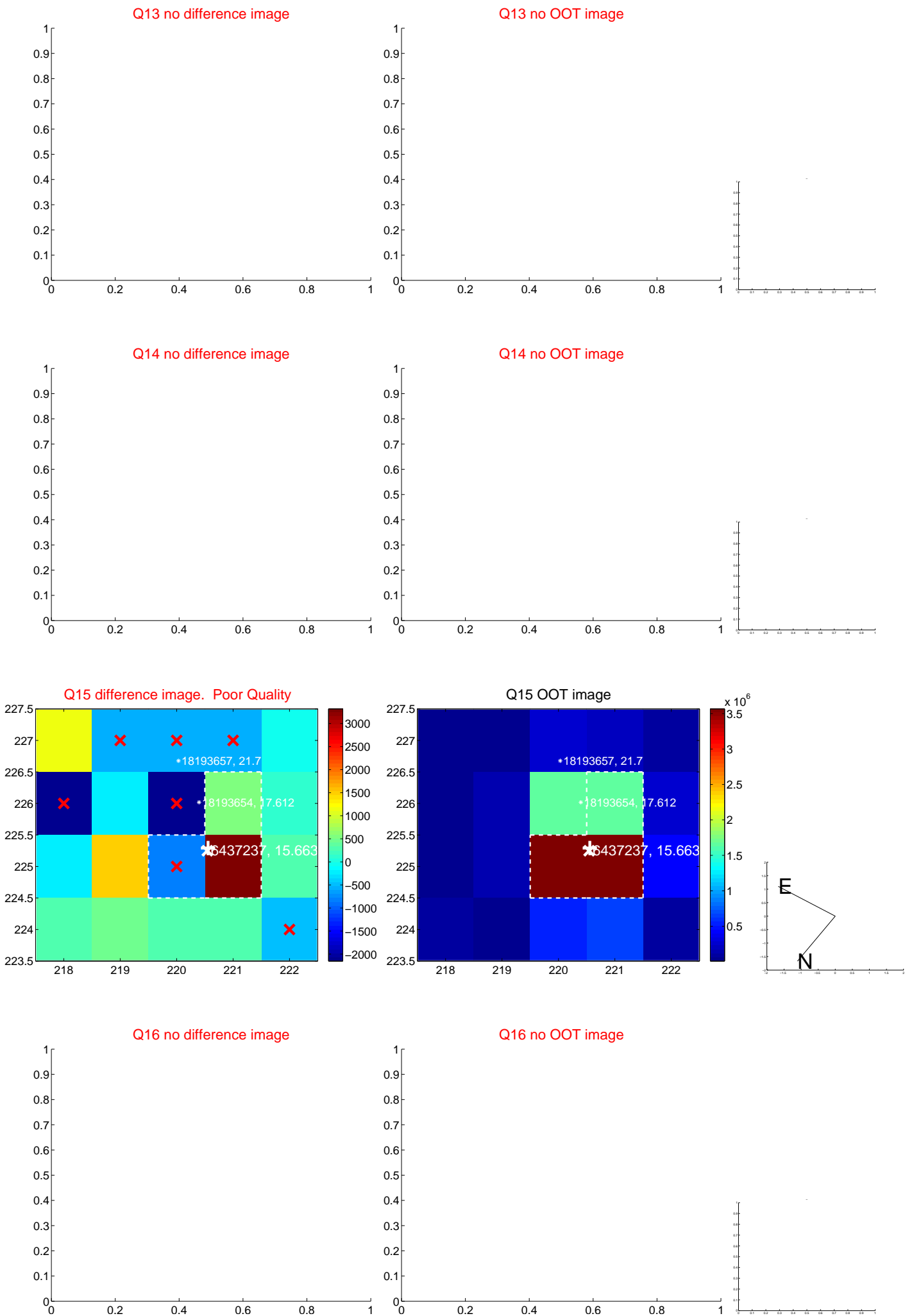
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



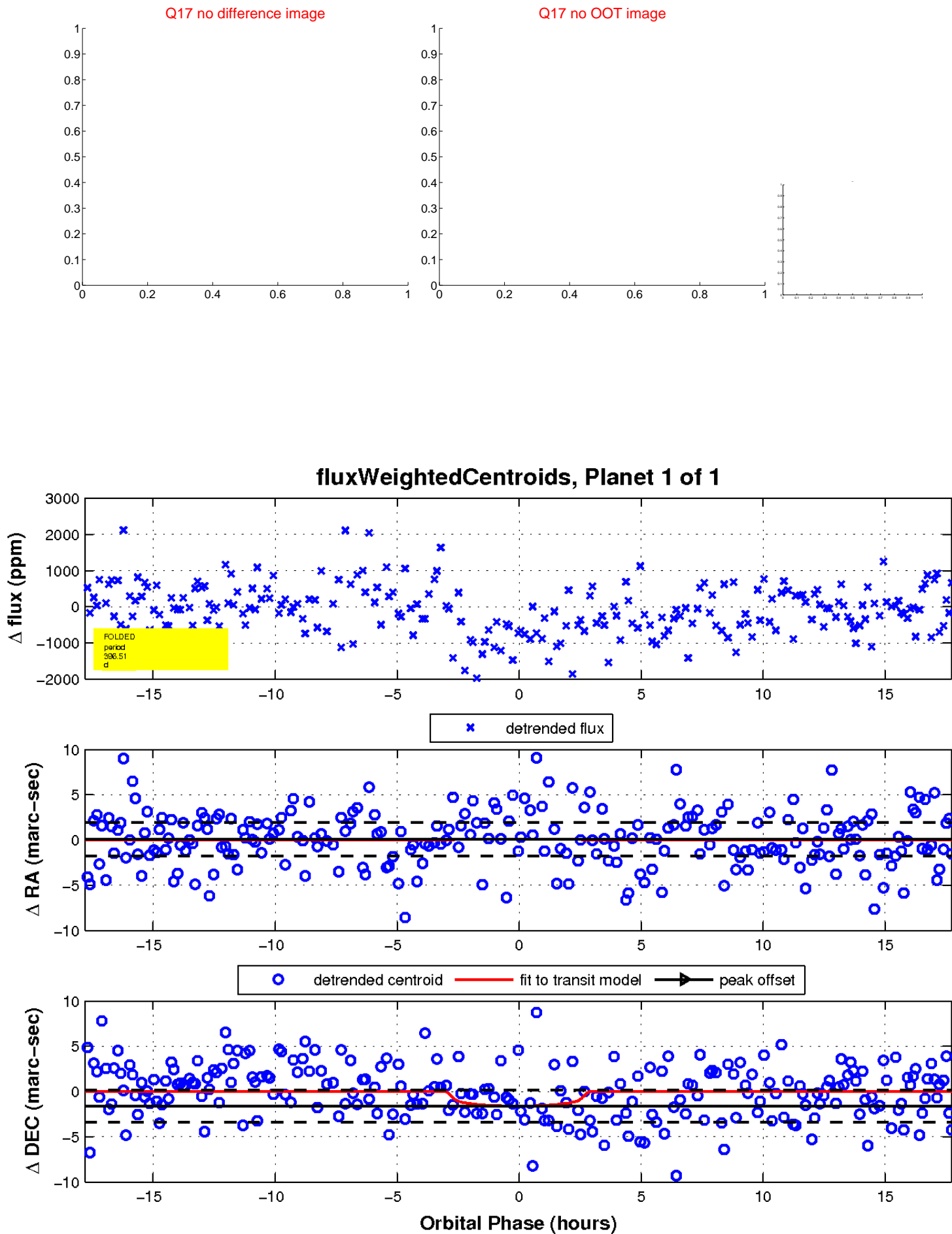
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

