

KIC 007970863

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})
007970863-01	OBS	No	367.108132	238.764602	895.3	14.220	7.8	6.9	0.57	5029	1.81	0.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007970863-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_MEAS

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

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

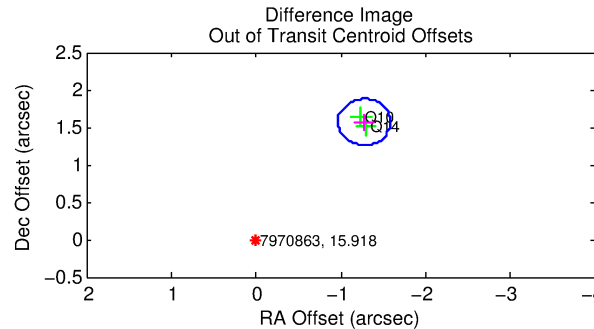
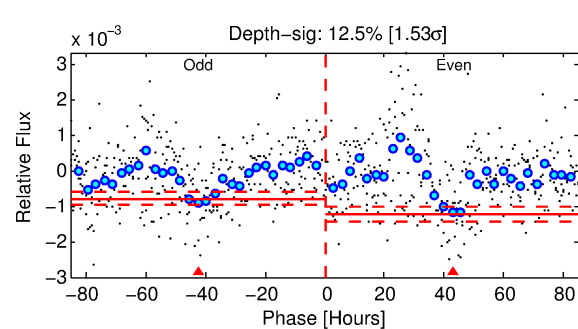
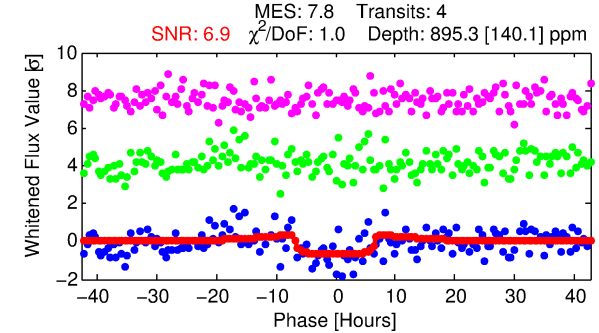
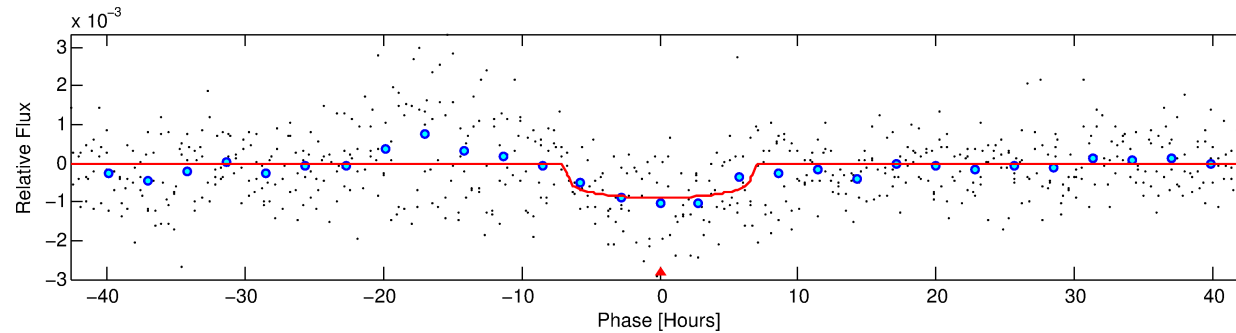
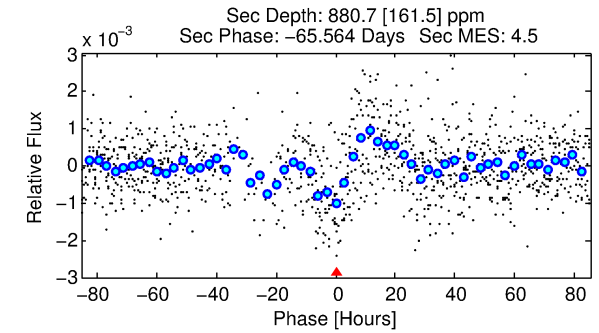
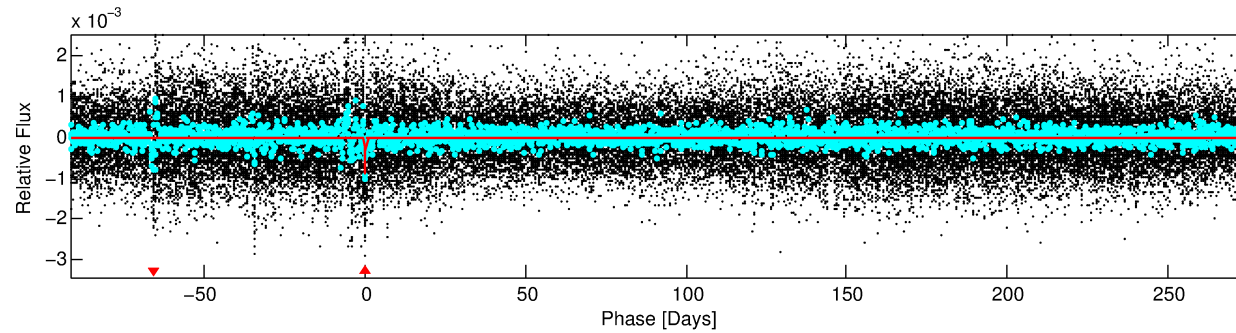
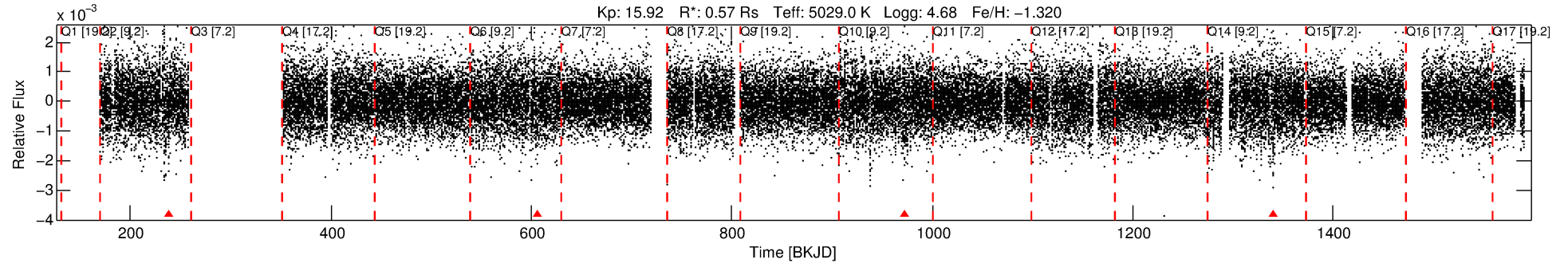
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007970863-01

No Significant Match Found

DV One-Page Summary

KIC: 7970863 Candidate: 1 of 1 Period: 367.108 d



DV Fit Results:

Period = 367.10813 [0.01144] d
Epoch = 238.7646 [0.0213] BKJD
Rp/R* = 0.0291 [0.0094]
a/R* = 151.55 [207.23]
b = 0.68 [1.06]
Seff = 0.27 [0.04]
Teq = 183 [7] K
Rp = 1.81 [0.59] Re
a = 0.8349 [0.0470] AU
Ag = 102693.04 [69406.77] [1.48σ]
Teff = 5078 [867] K [5.65σ]

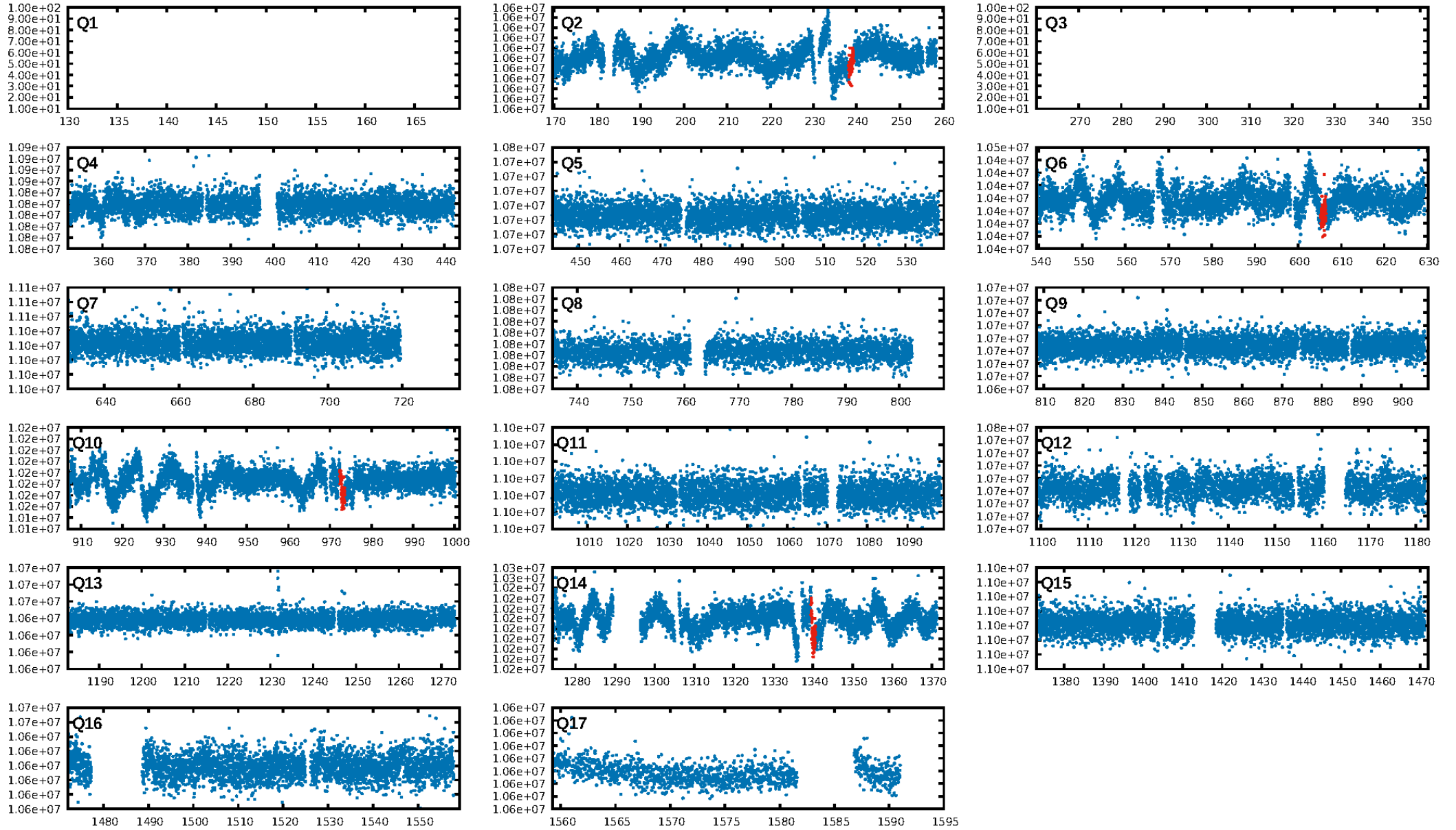
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.3%
ModelChiSquareGoF-sig: 99.6%
Bootstrap-pfa: 5.49e-10
RollingBand-fgt: 0.00 [0/4]
GhostDiagnostic-chr: 2.536
Centroid-sig: 15.0%
Centroid-so: 3.722 arcsec [1.37σ]
OotOffset-rm: 2.021 arcsec [19.63σ]
KicOffset-rm: 1.990 arcsec [19.16σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [4/4]

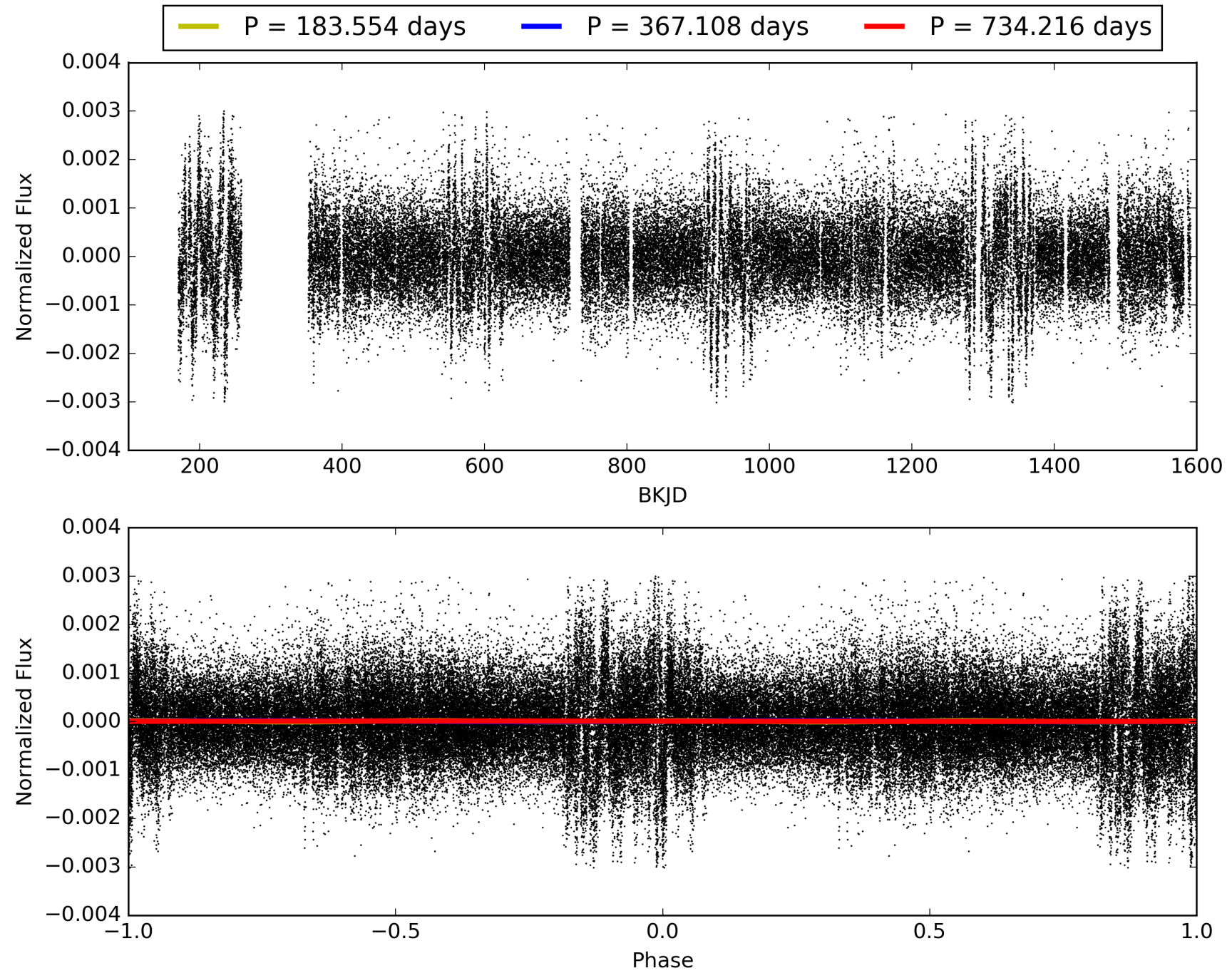
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:40:25 Z

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

TCE 007970863-01, PDC Light Curves

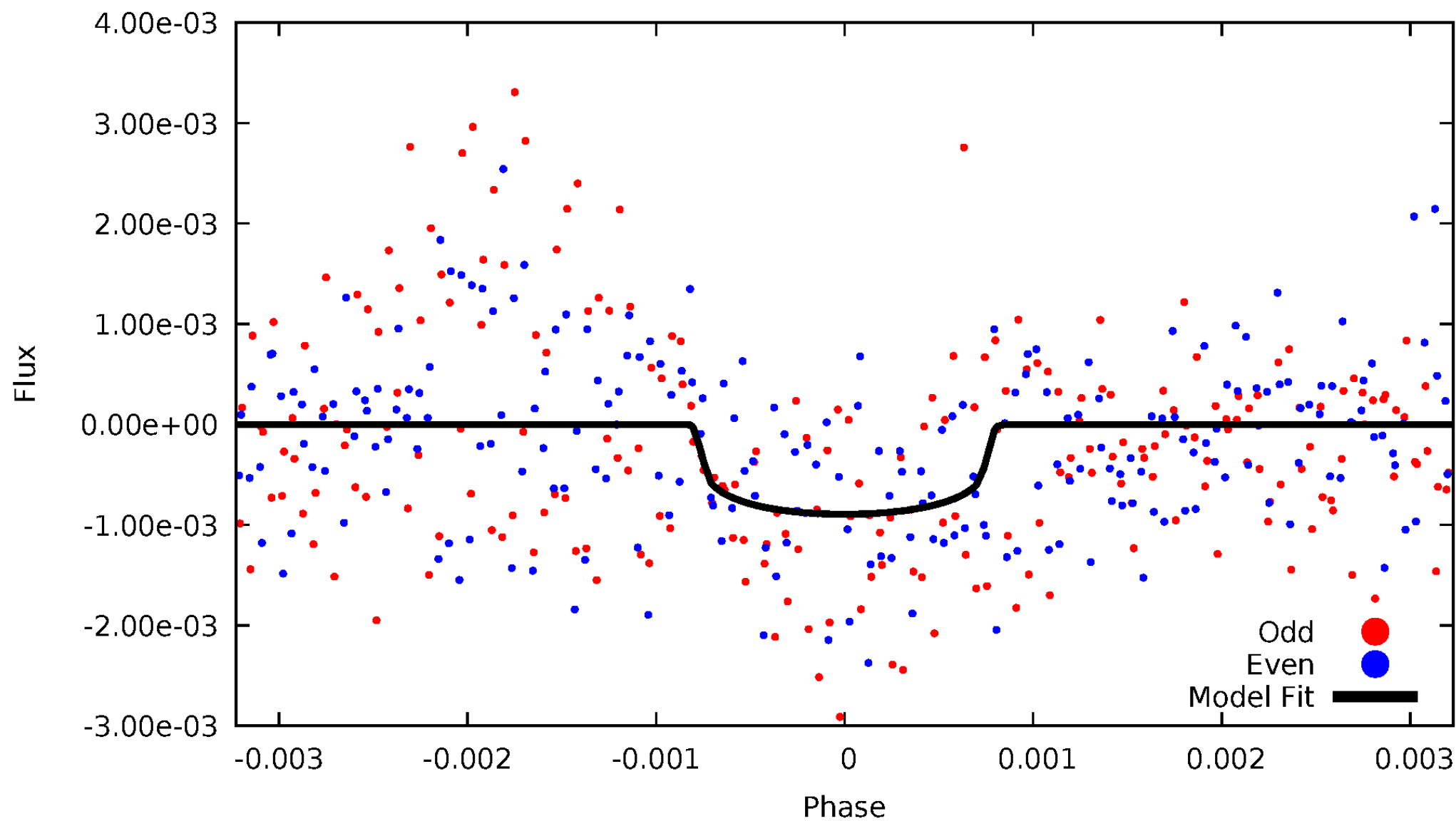


TCE 007970863-01



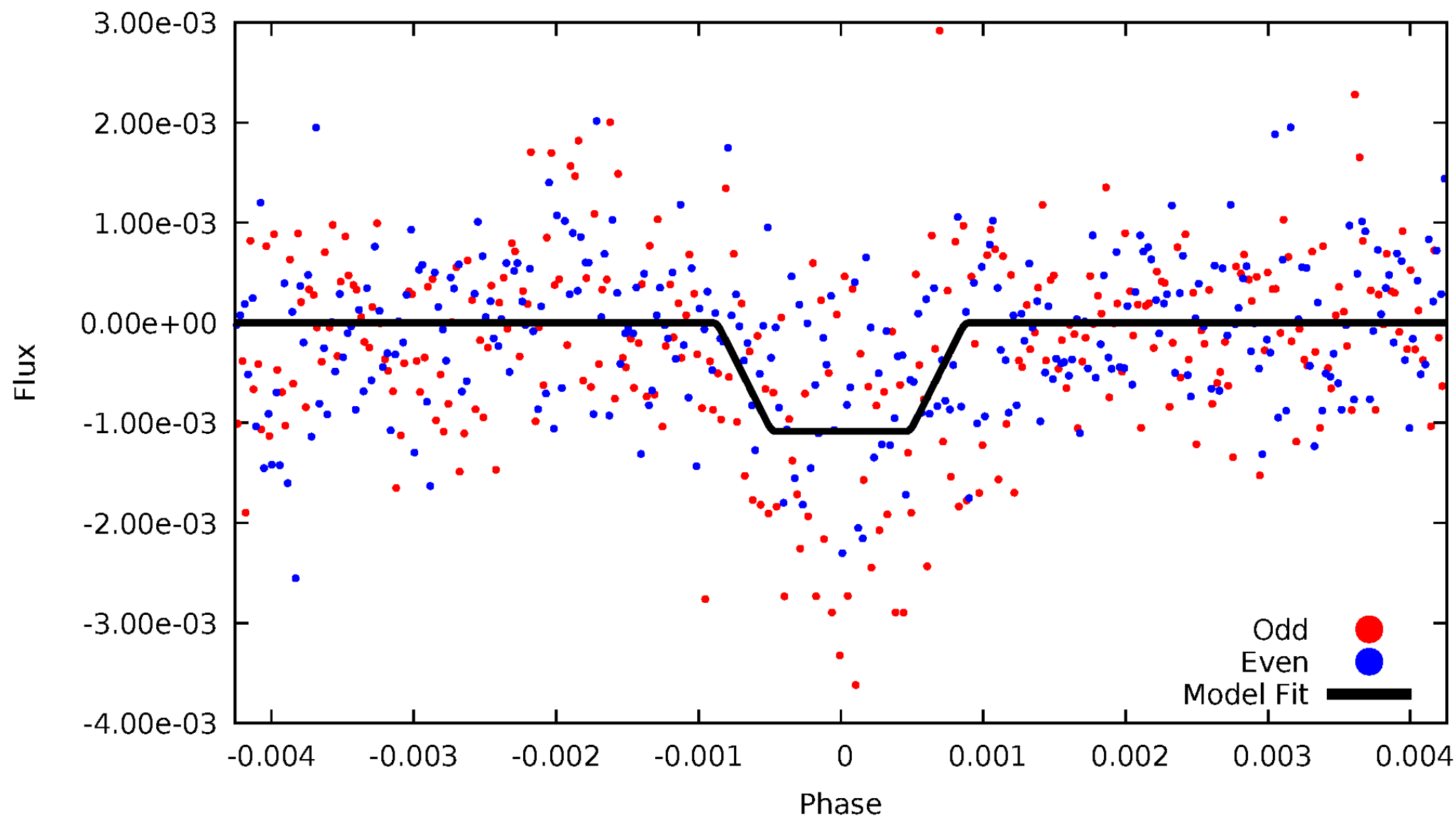
DV Odd/Even

TCE 007970863-01



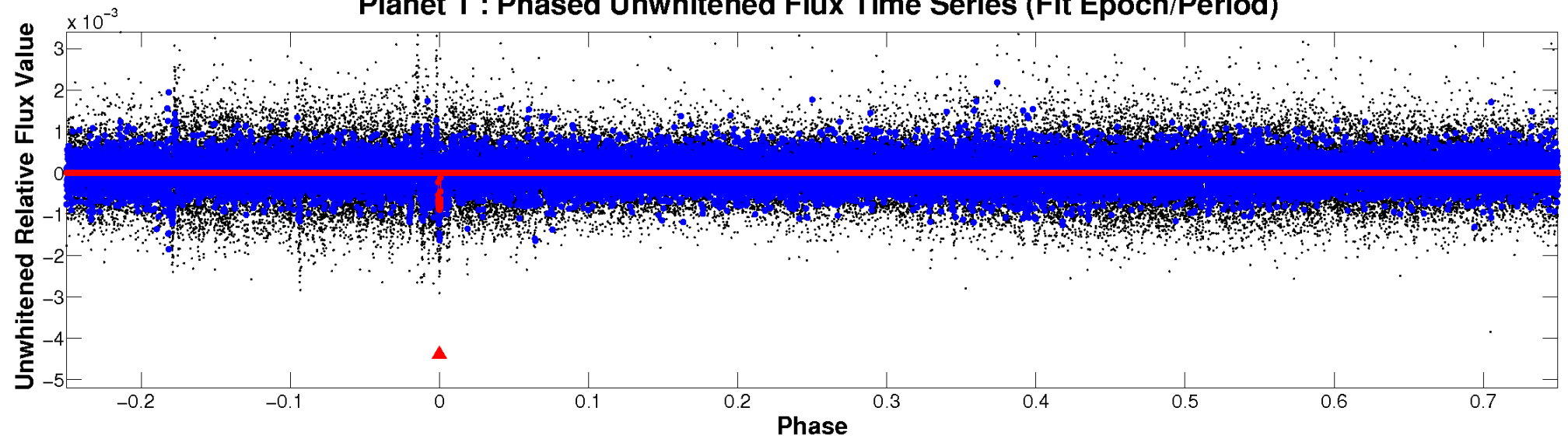
ALT Odd/Even

TCE 007970863-01

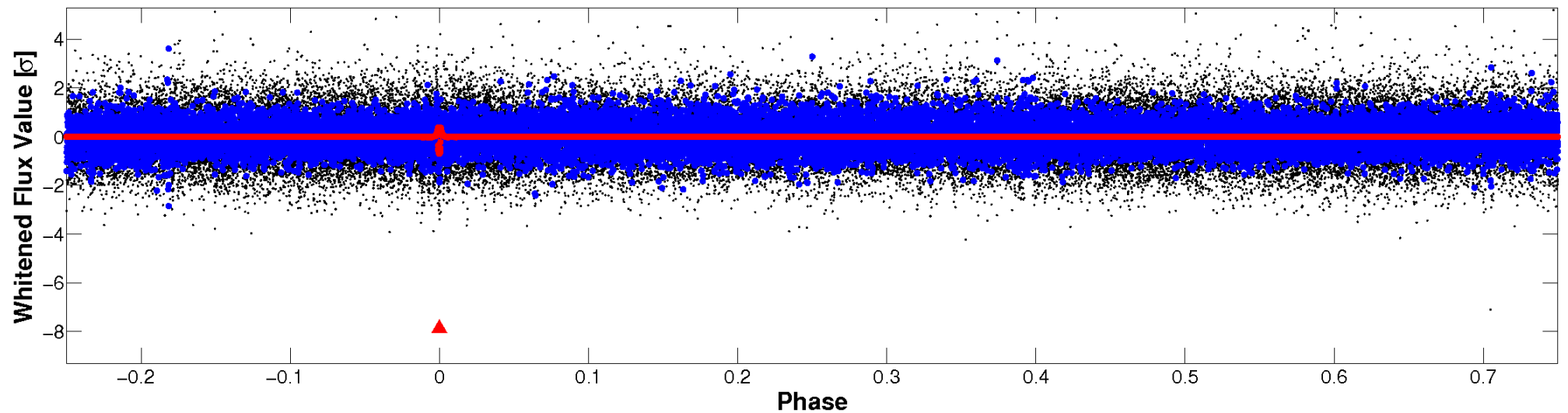


Non-Whitened Vs. Whitened Light Curve

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

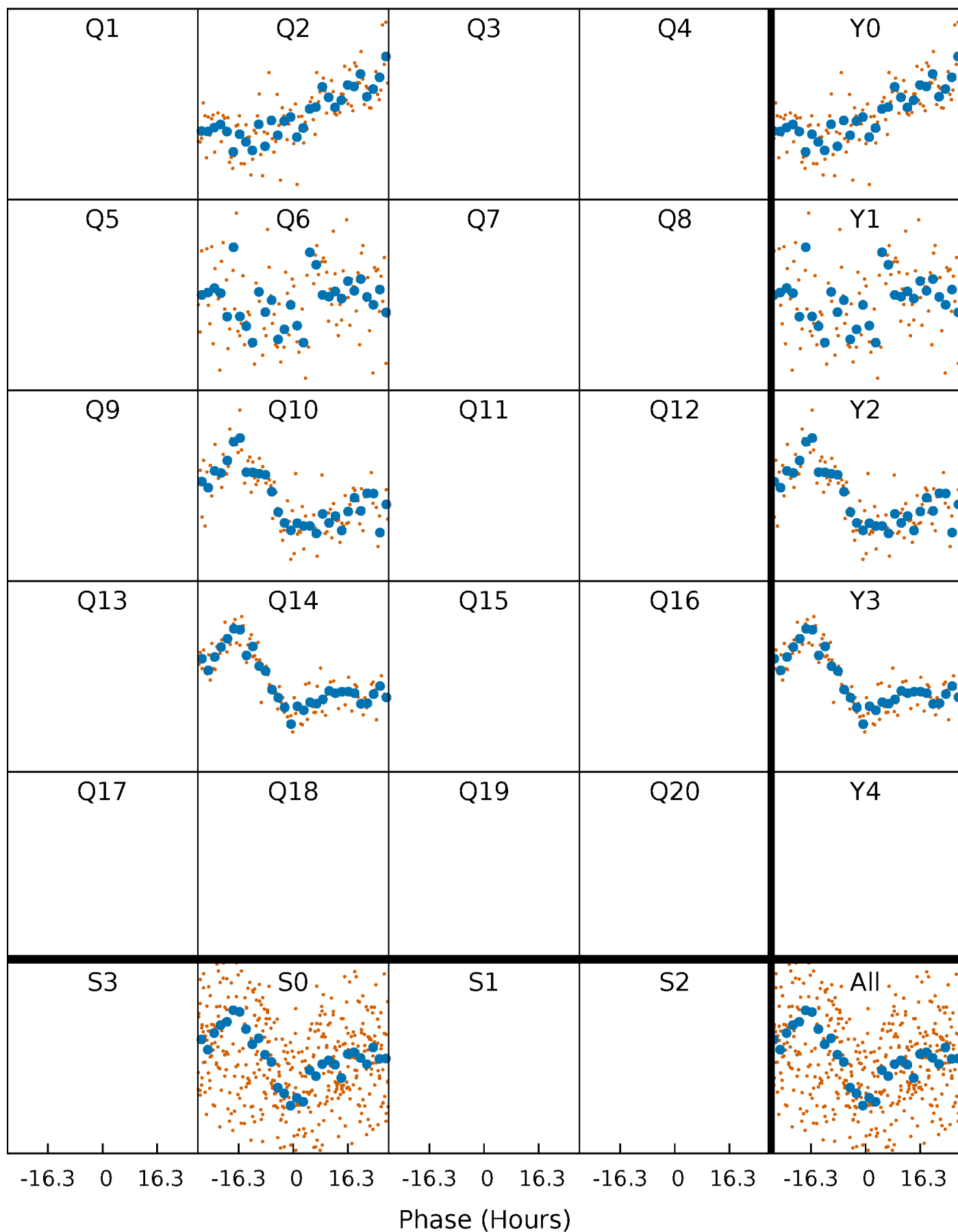


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



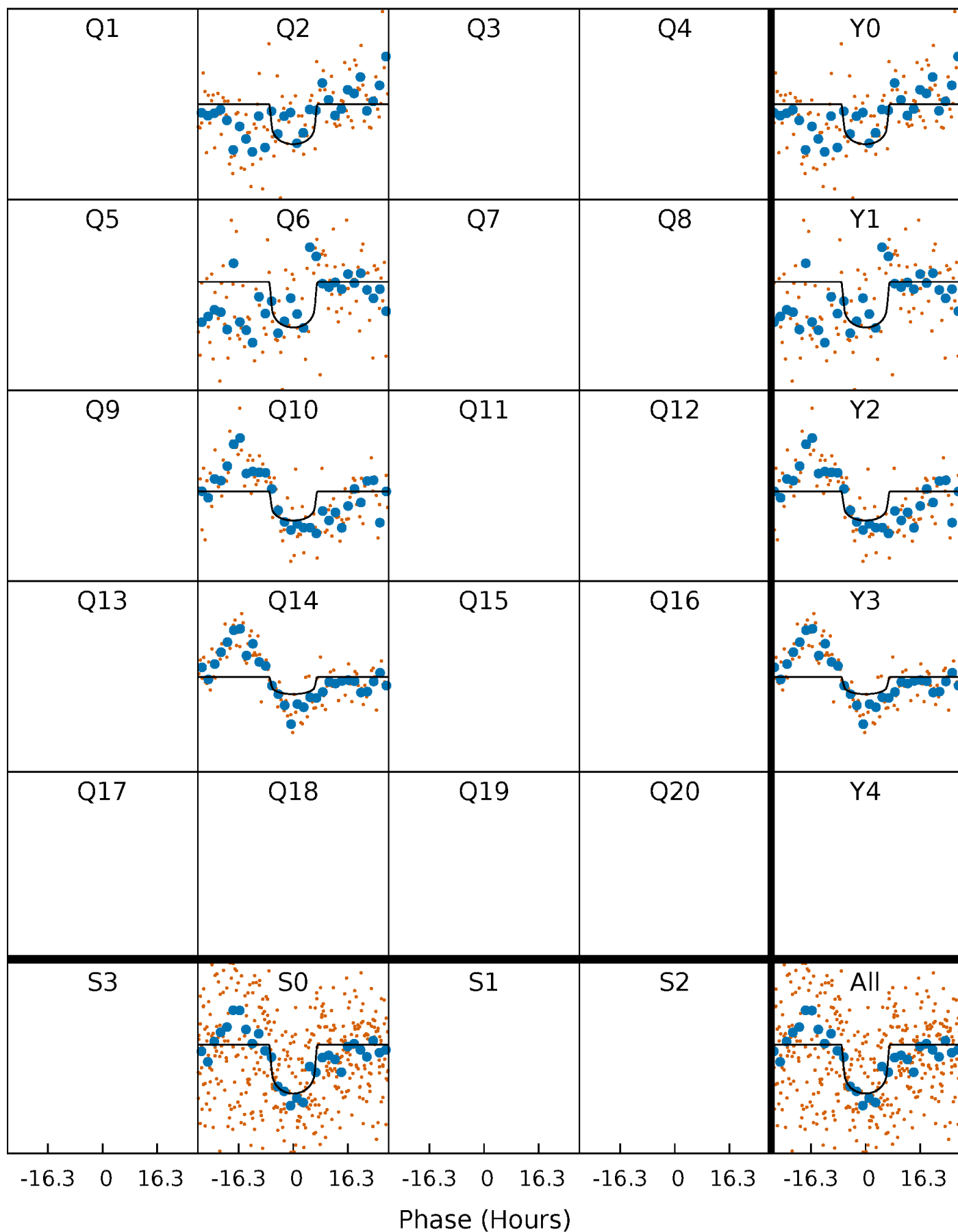
PDC Quarter-Phased Transit Curves

TCE 007970863-01 P=367.108132 Days $T_0=238.764602$ (BKJD)



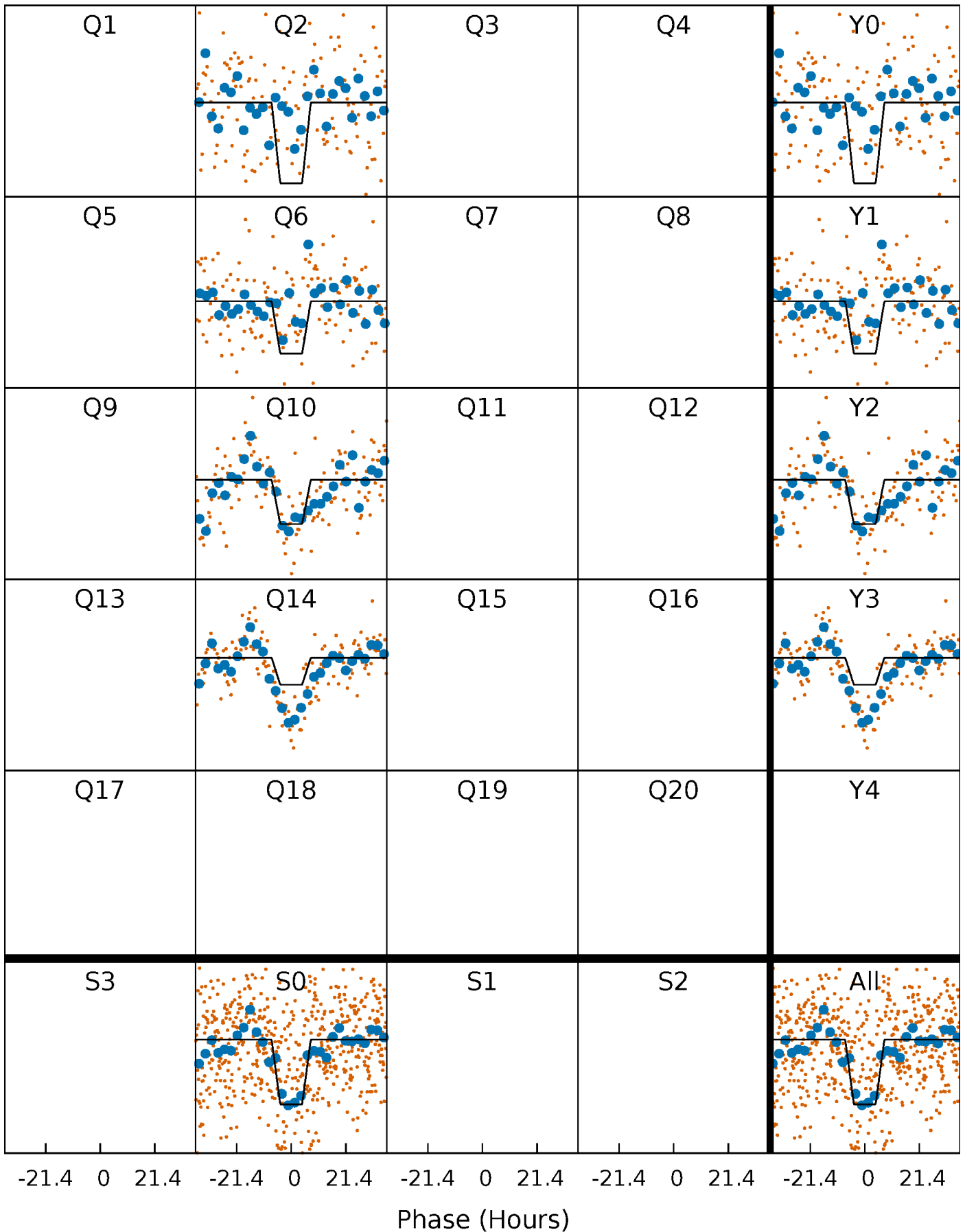
DV Quarter-Phased Transit Curves

TCE 007970863-01 P=367.108132 Days $T_0=238.764602$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

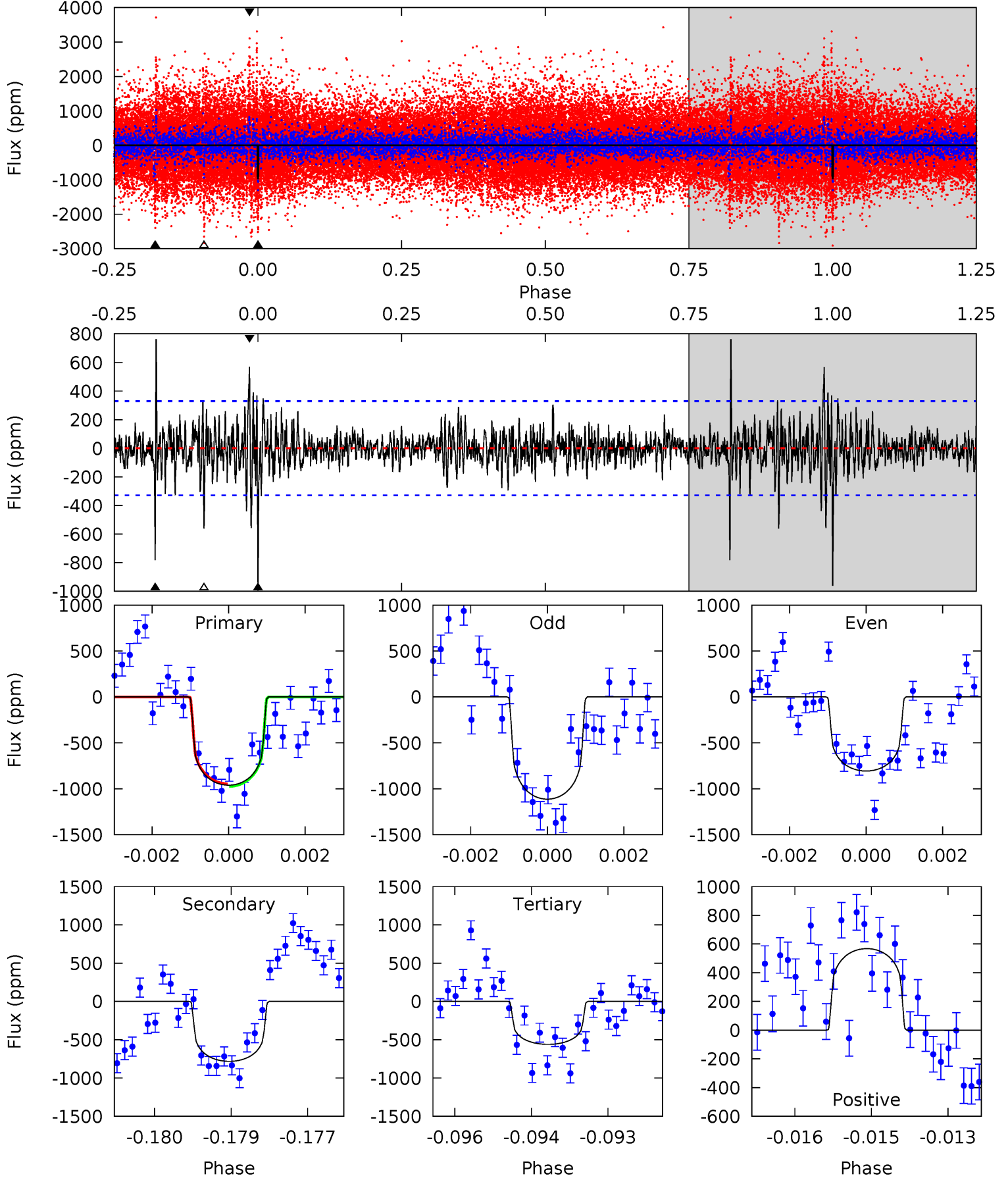
TCE 007970863-01 P=367.095717 Days $T_0=238.754512$ (BKJD)



DV Model-Shift Uniqueness Test

007970863-01, P = 367.108132 Days, E = 238.764602 Days

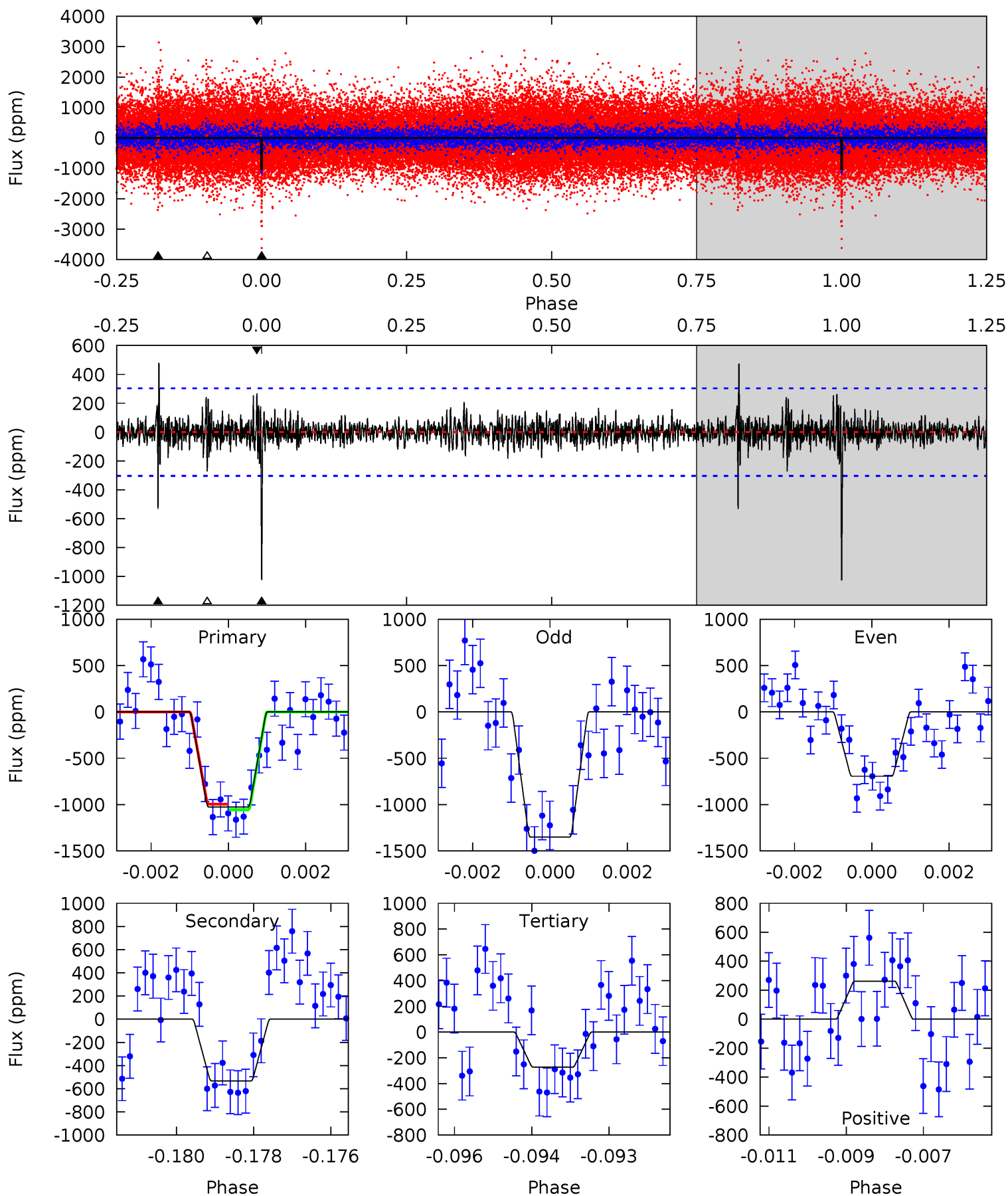
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	12.7	9.12	9.24	5.36	3.15	1.68	6.52	6.40	3.62	3.49	2.49	1.15	0.44	0.22



Alt Model-Shift Uniqueness Test

007970863-01, P = 367.095717 Days, E = 238.754512 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	9.41	4.81	4.64	5.35	3.12	1.00	13.3	13.5	4.60	4.77	5.83	1.46	0.32	0.53



Stellar Parameters For KIC 007970863

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5029^{+165}_{-165}	$4.685^{+0.052}_{-0.028}$	$-1.320^{+0.300}_{-0.300}$	$0.571^{+0.031}_{-0.034}$	$0.576^{+0.042}_{-0.021}$	$4.364^{+0.862}_{-0.495}$
	+3%/-3%	+1%/-1%	+23%/-23%	+5%/-6%	+7%/-4%	+20%/-11%
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 007970863-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-782 ± 61	$1.81^{+0.57}_{-0.59}$	255^{+9}_{-8}	4943^{+959}_{-531}	$92107^{+105778}_{-38130}$
Alt.	-533 ± 57	$2.02^{+0.61}_{-0.58}$	255^{+9}_{-9}	4376^{+660}_{-426}	49974^{+50340}_{-20130}

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 $A_{obs} \gg 1.0$

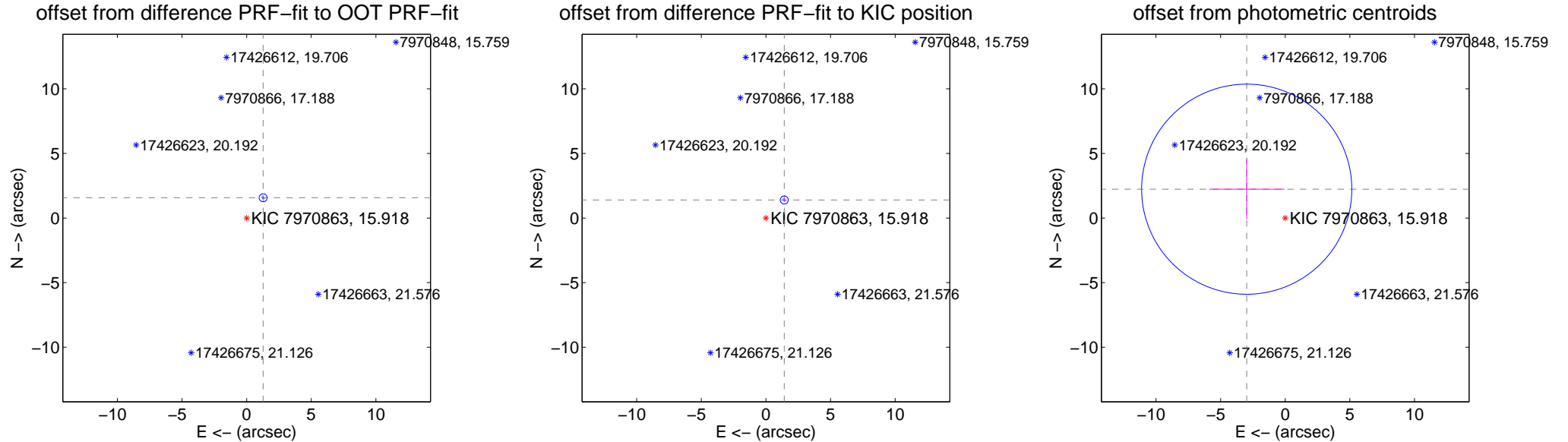
DV Centroid Data

Supplemental centroid analysis for 007970863-01. Kepler magnitude: 15.92. Transit SNR 6.93

There are 2 quarters with good PRF difference image offsets

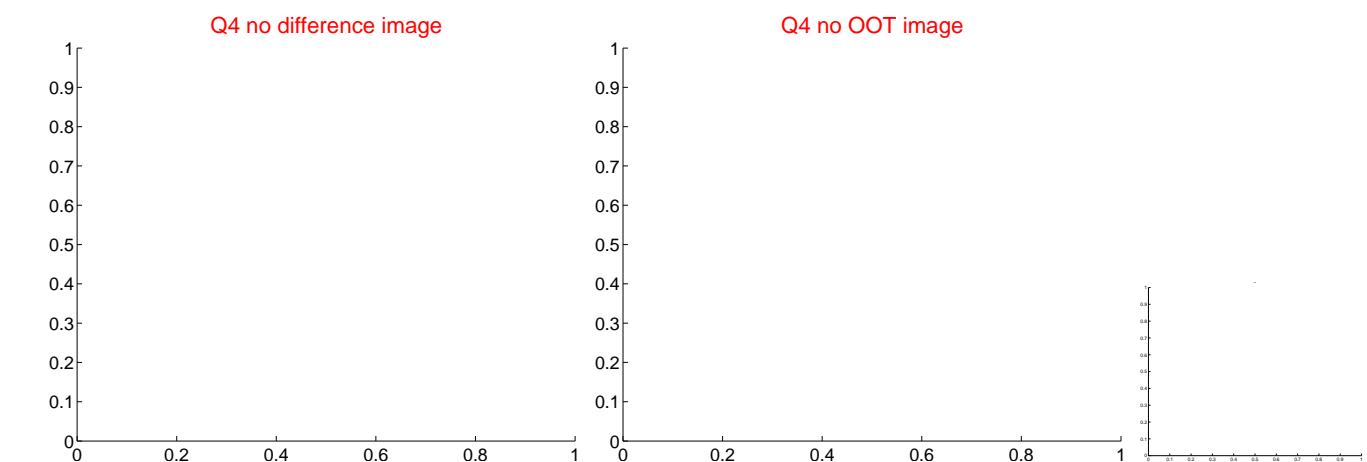
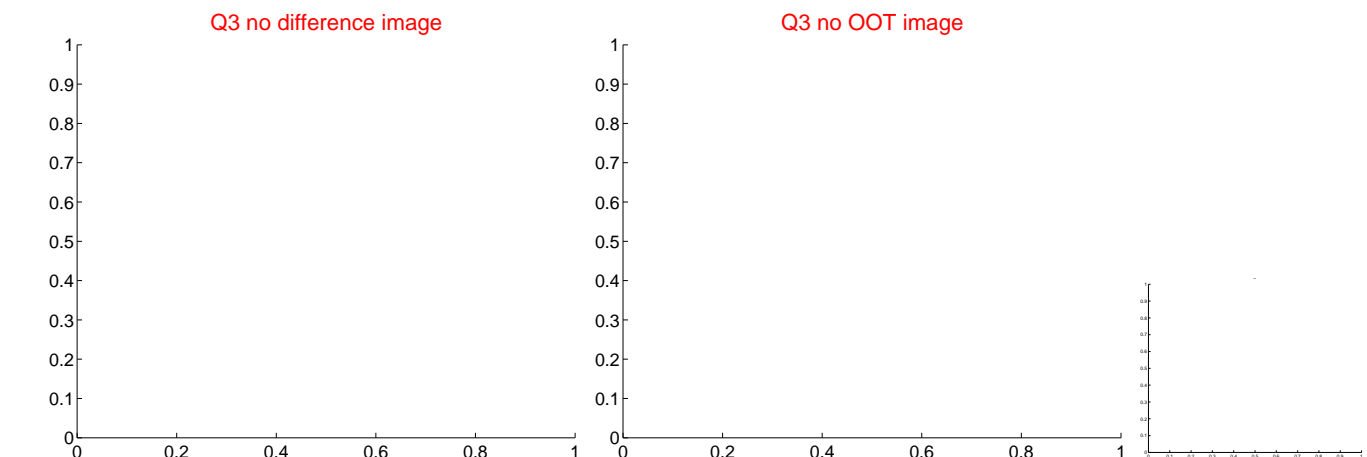
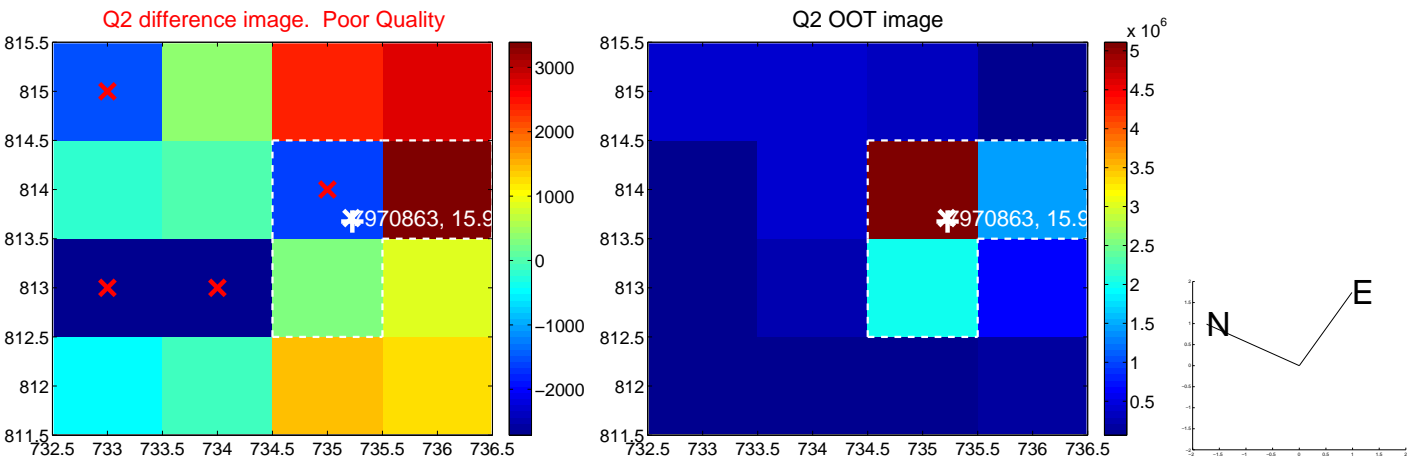
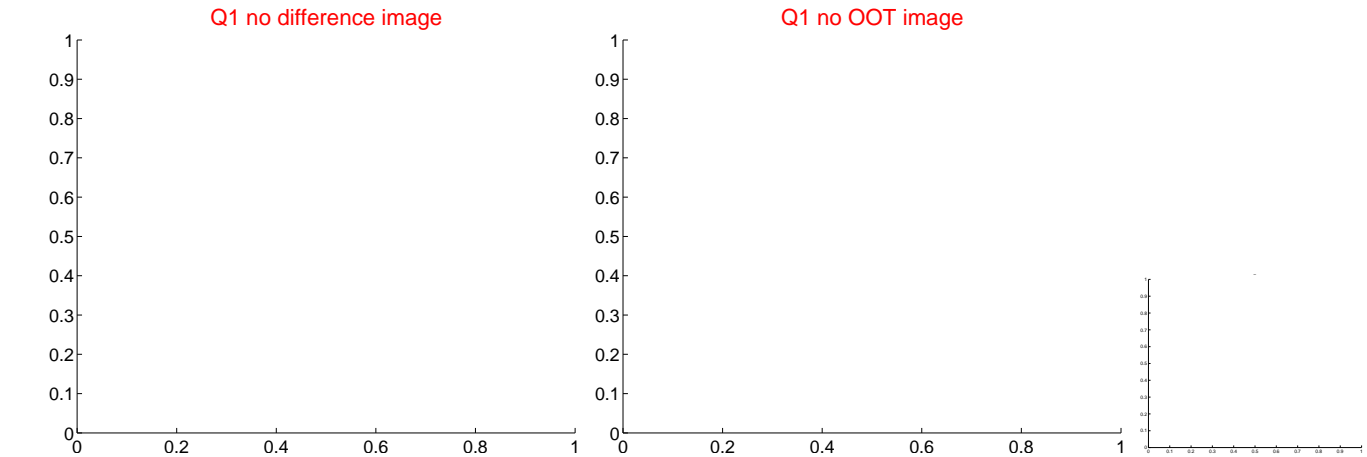
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.021 ± 0.103	19.63	-1.275 ± 0.108	1.569 ± 0.100
PRF-fit source offset from KIC position	1.990 ± 0.104	19.16	-1.417 ± 0.108	1.397 ± 0.100
photometric centroid source offset	3.72 ± 2.71	1.37	2.98 ± 2.90	2.23 ± 2.32

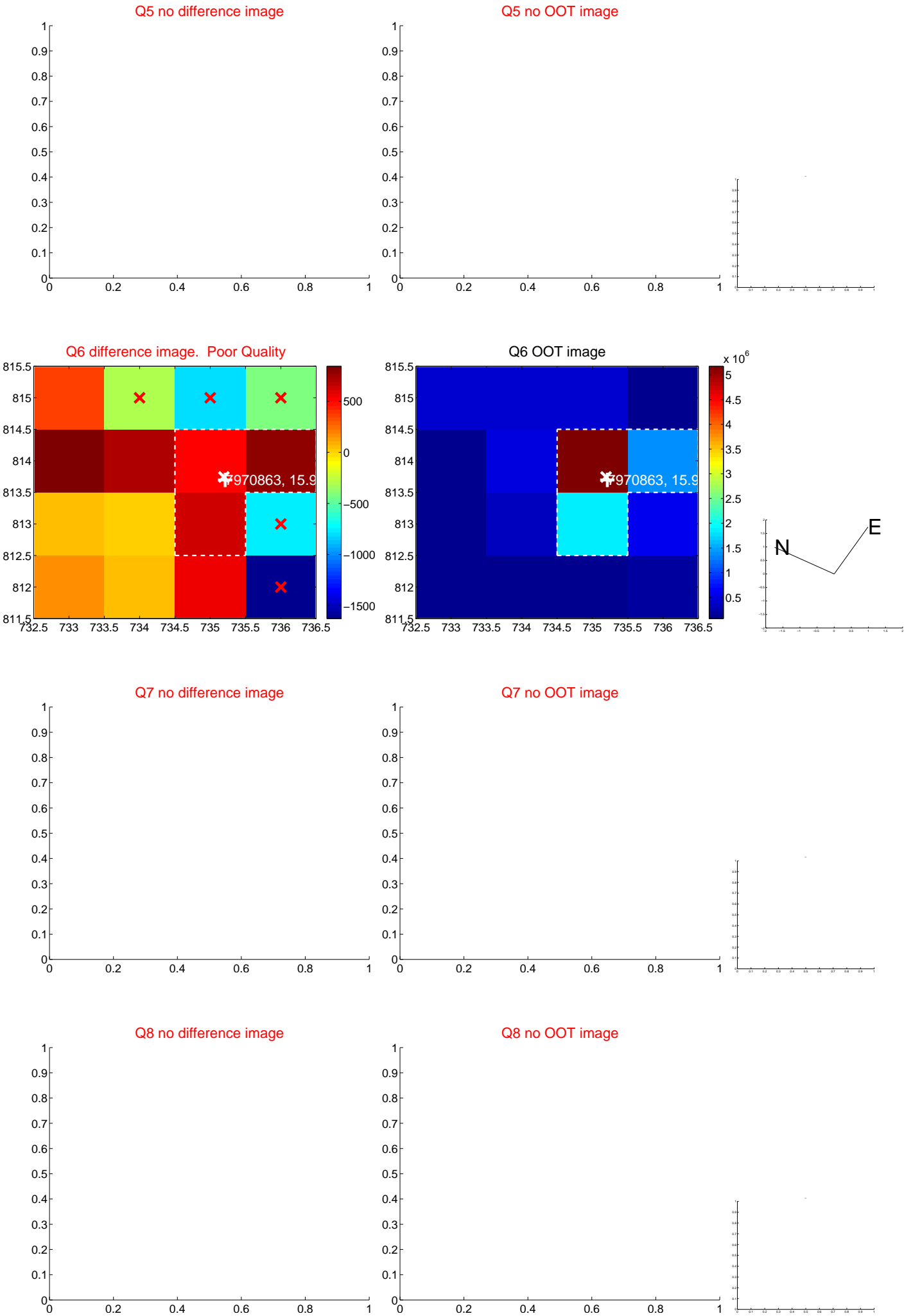


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

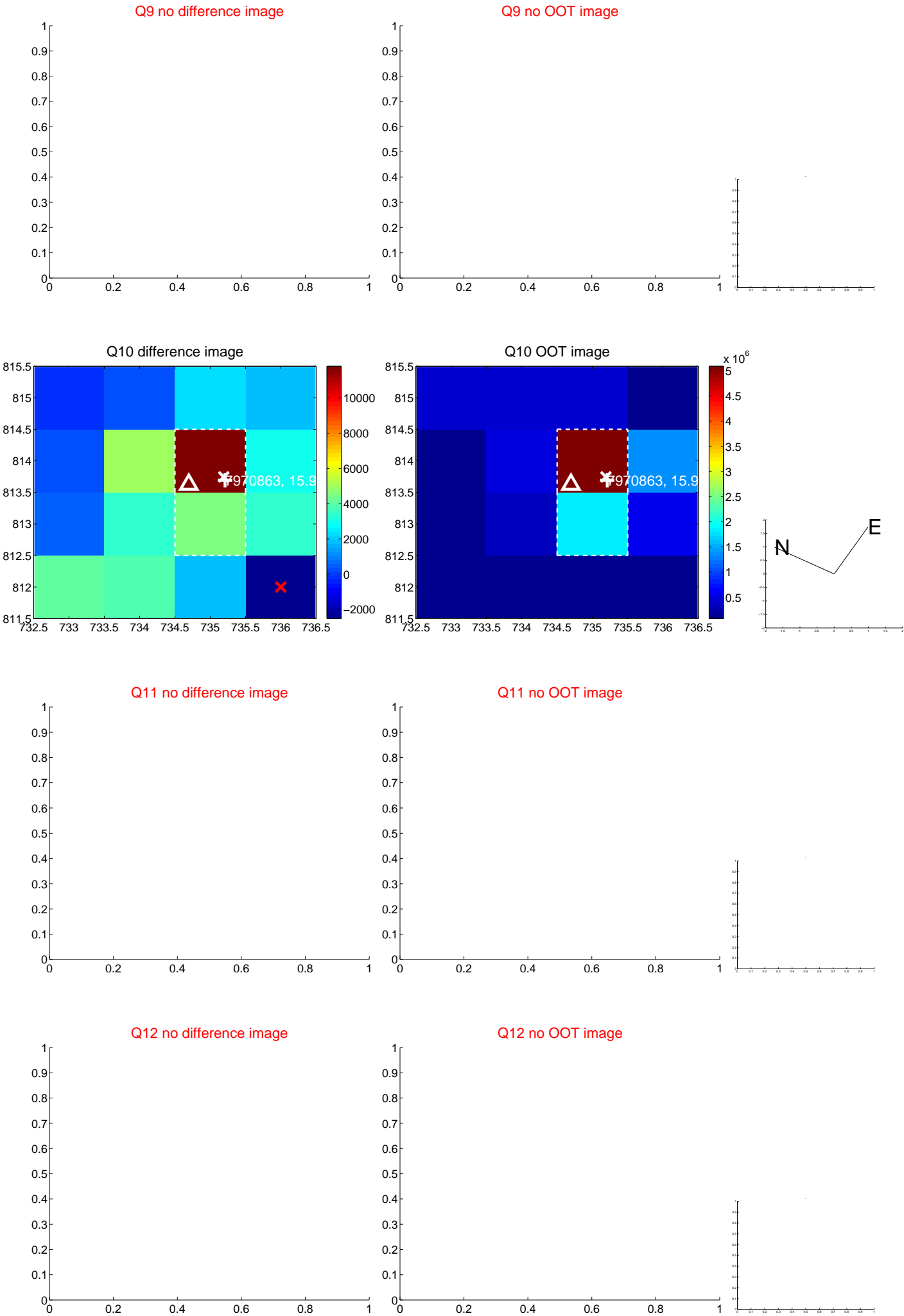
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



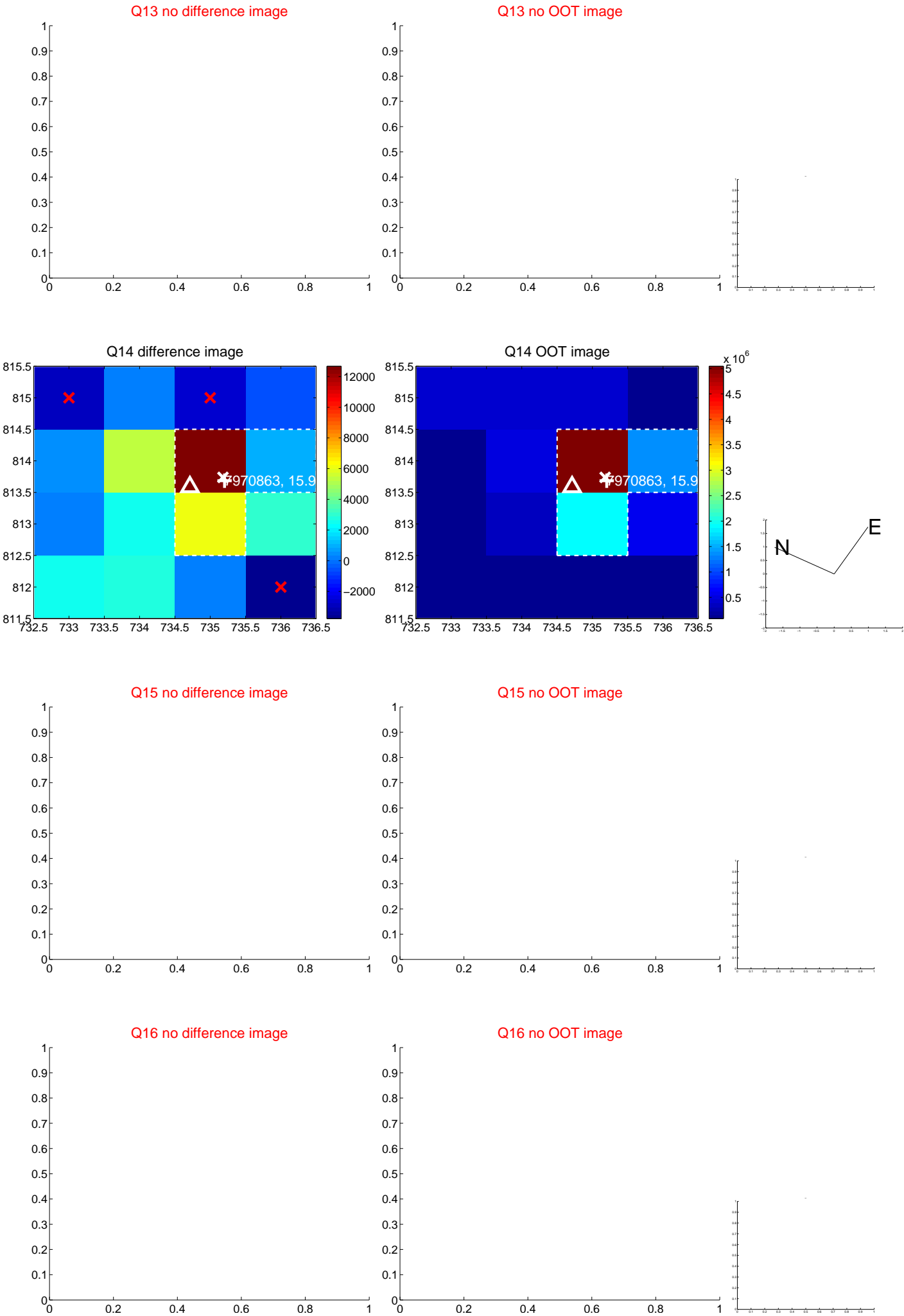
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



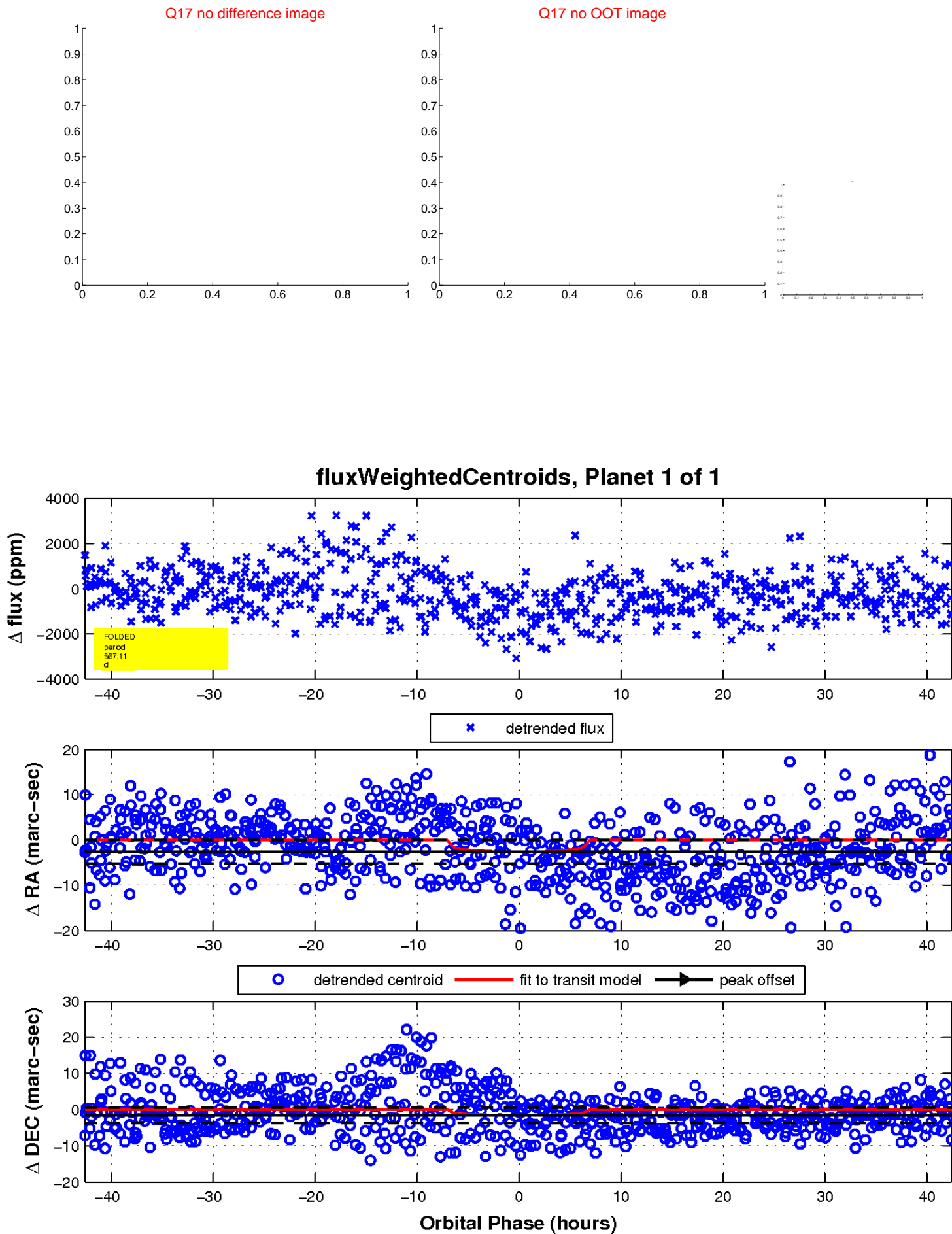
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

