

KIC 007971242

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})
007971242-01	OBS	No	372.941047	227.704677	987.3	20.053	7.6	8.9	0.76	5731	2.78	0.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007971242-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—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.

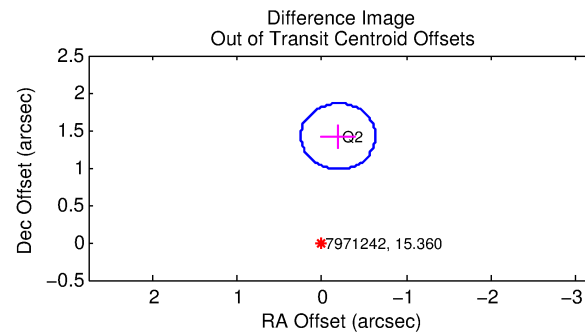
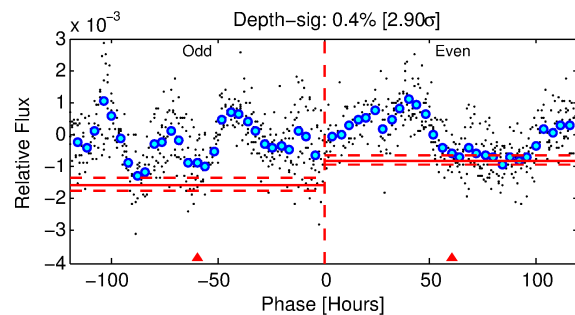
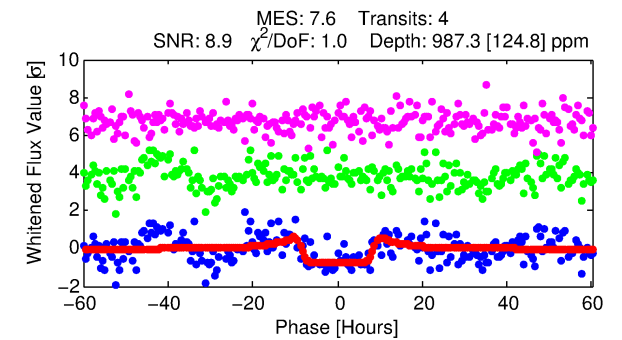
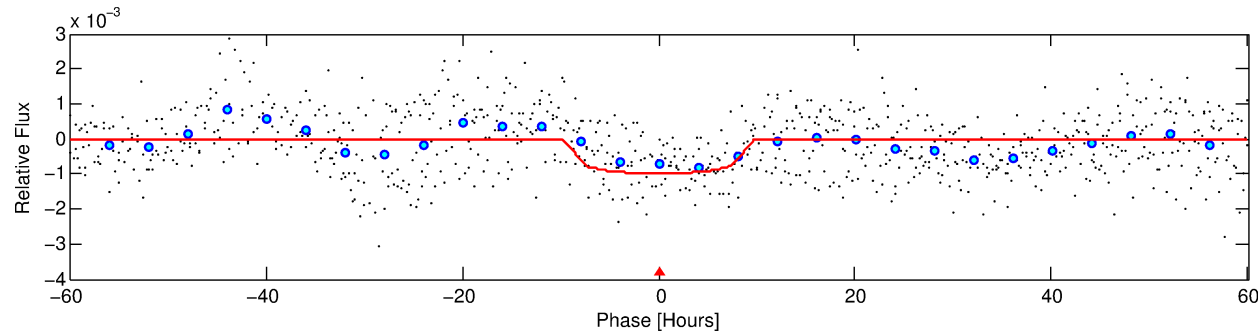
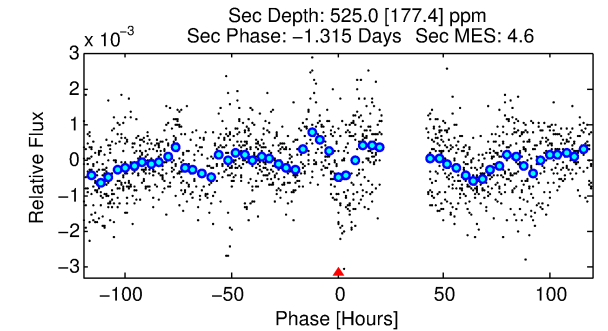
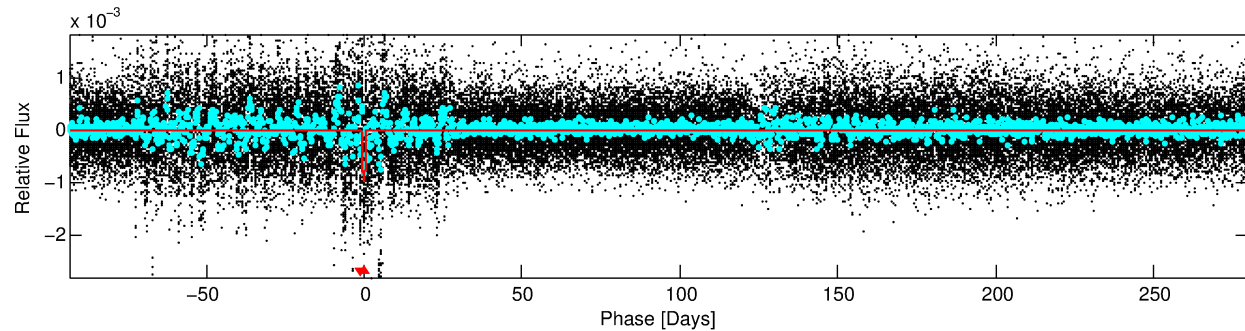
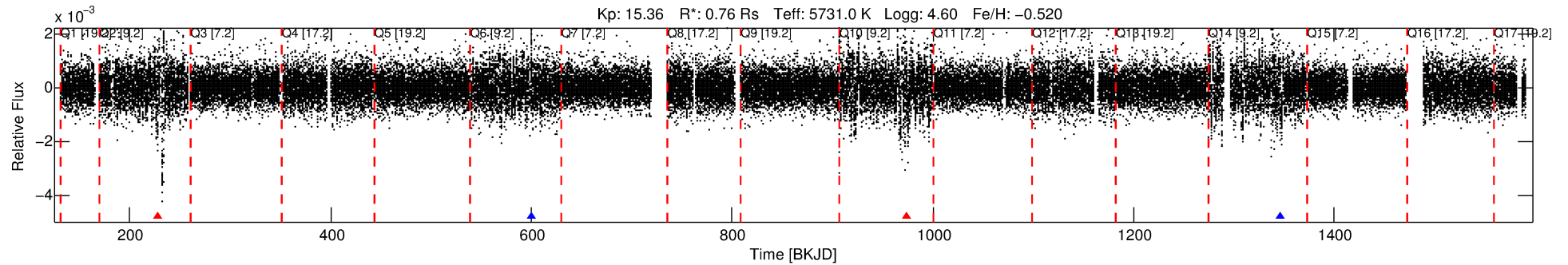
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007971242-01

No Significant Match Found

DV One-Page Summary

KIC: 7971242 Candidate: 1 of 1 Period: 372.941 d



DV Fit Results:

Period = 372.94105 [0.01311] d
Epoch = 227.7047 [0.0253] BKJD
Rp/R* = 0.0337 [0.0030]
a/R* = 75.22 [19.73]
b = 0.89 [0.06]
Seff = 0.61 [0.19]
Teq = 225 [17] K
Rp = 2.78 [0.71] Re
a = 0.9531 [0.1884] AU
Ag = 34031.64 [16182.62] [2.10σ]
Teffp = 4729 [474] K [9.49σ]

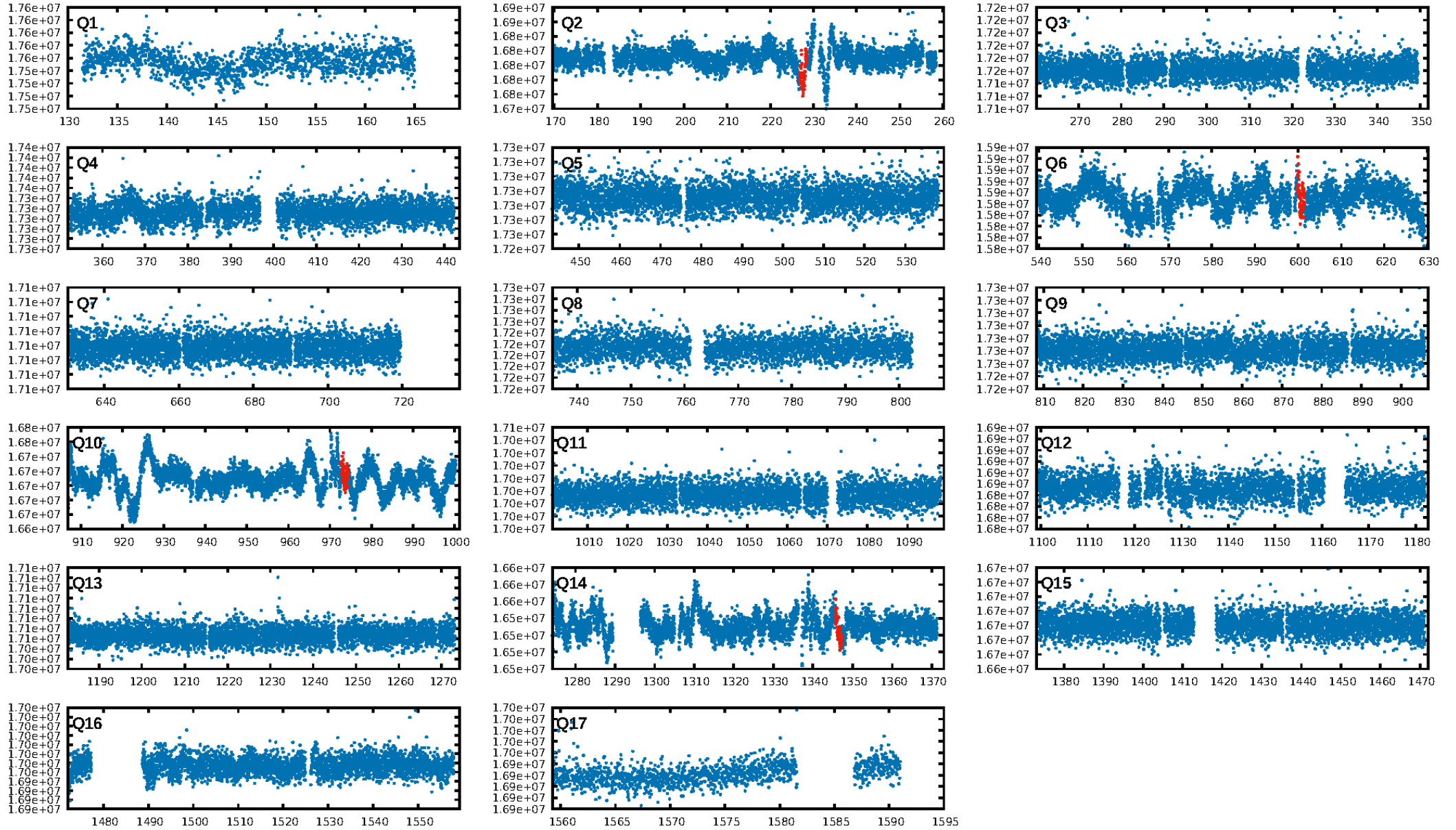
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.27e-09
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: 1.066
Centroid-sig: 0.0%
Centroid-so: 4.707 arcsec [2.29σ]
OotOffset-rm: 1.431 arcsec [9.76σ]
KicOffset-rm: 1.683 arcsec [11.50σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

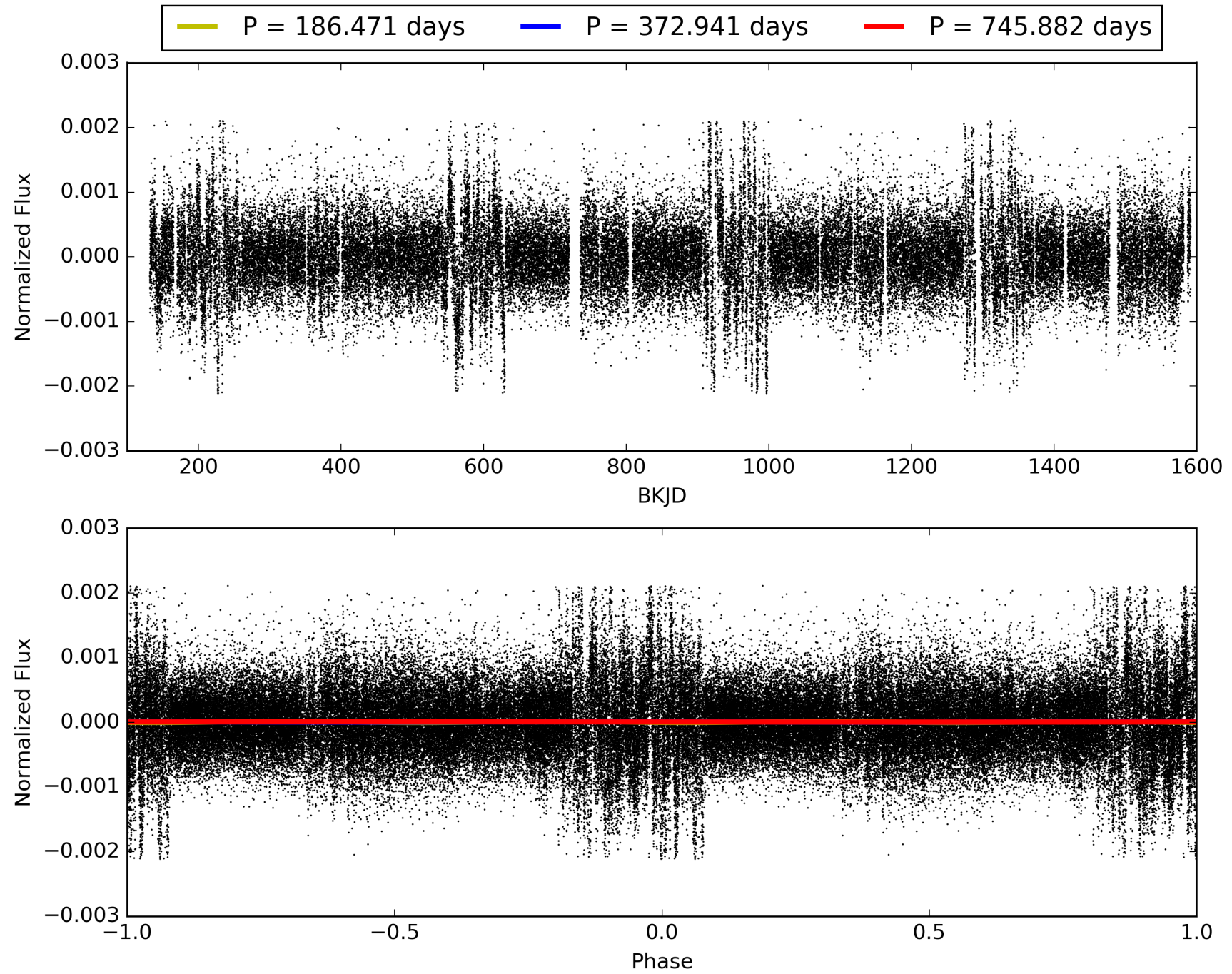
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:15:29 Z

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

TCE 007971242-01, PDC Light Curves

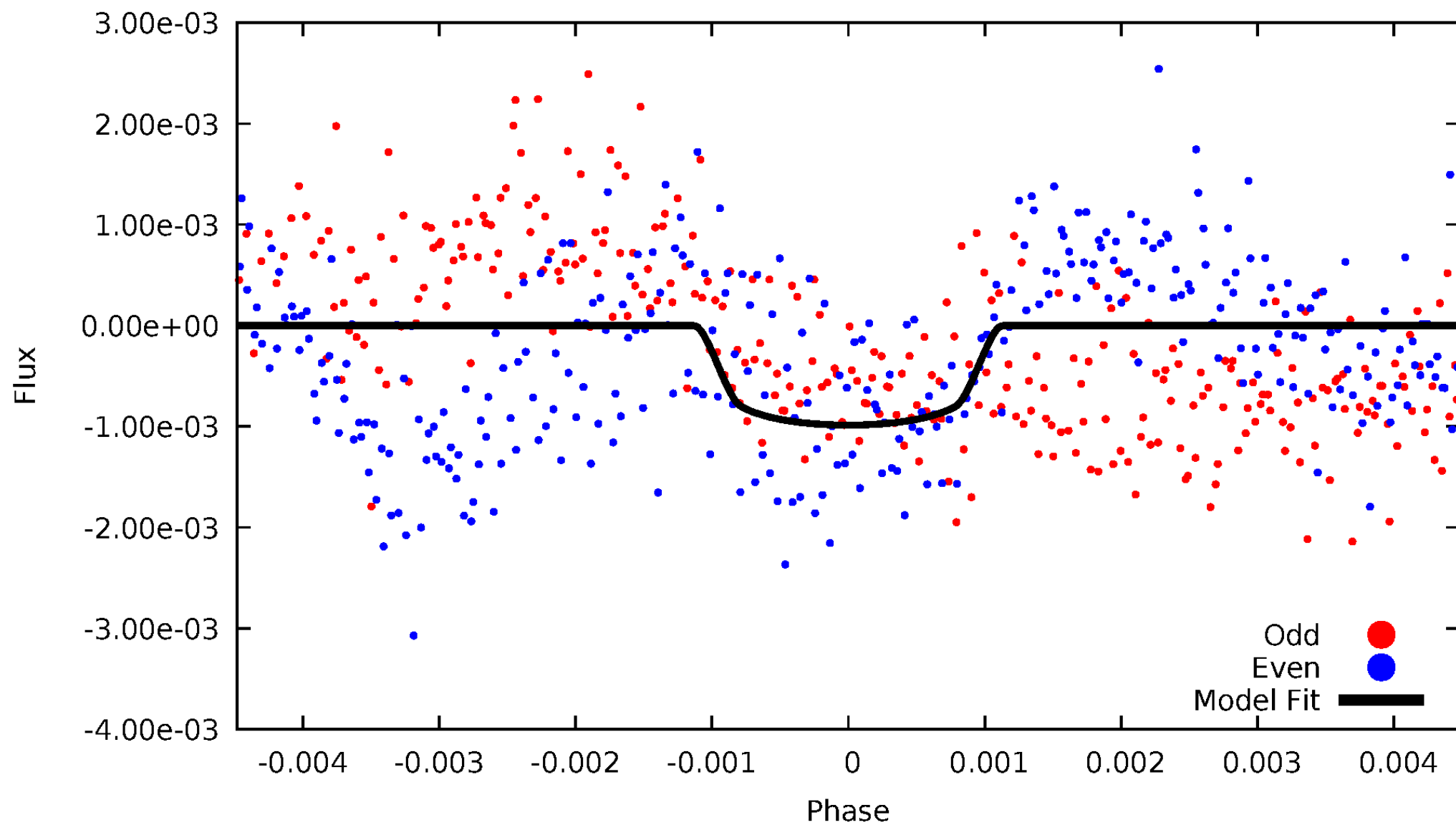


TCE 007971242-01



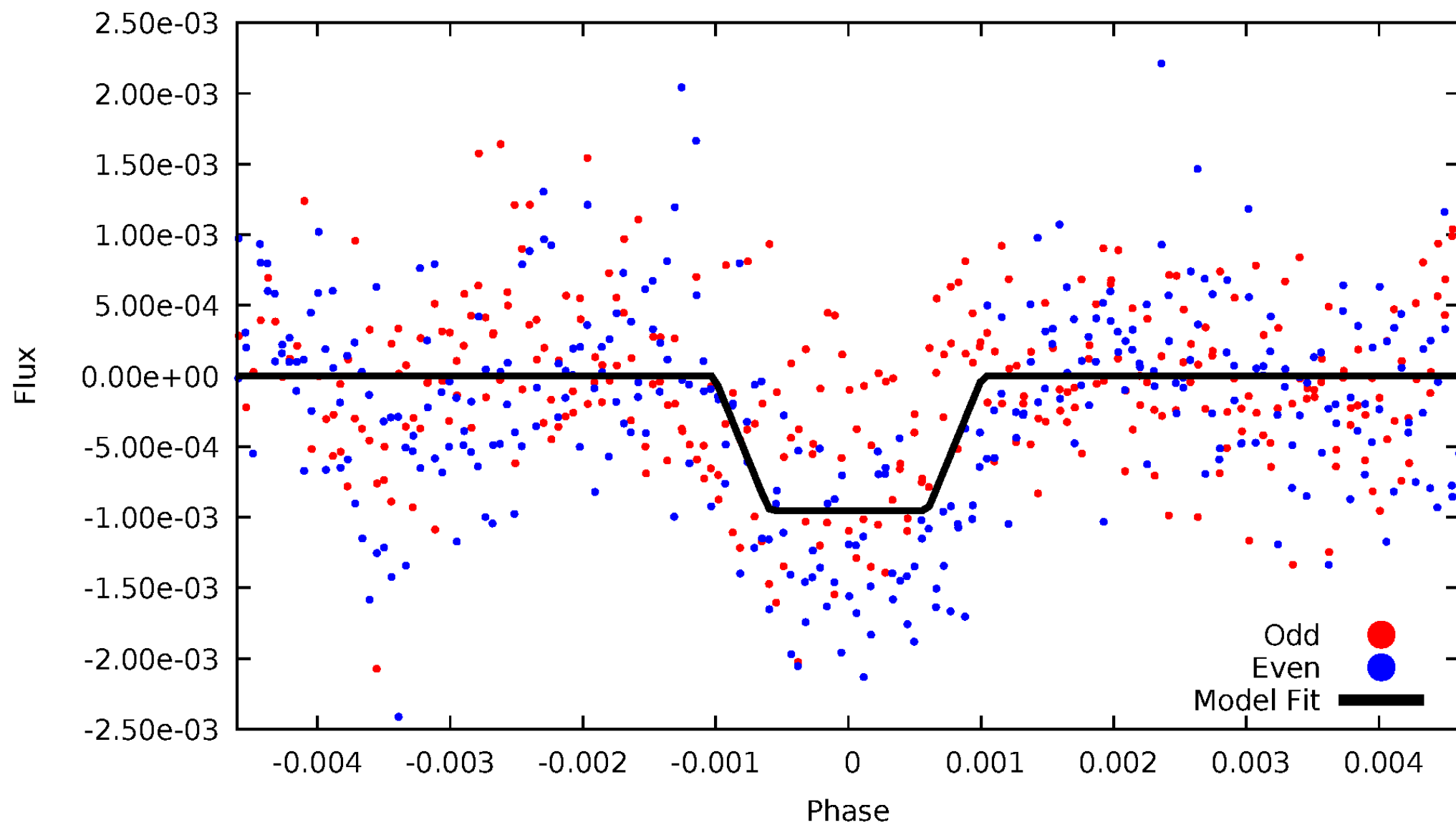
DV Odd/Even

TCE 007971242-01



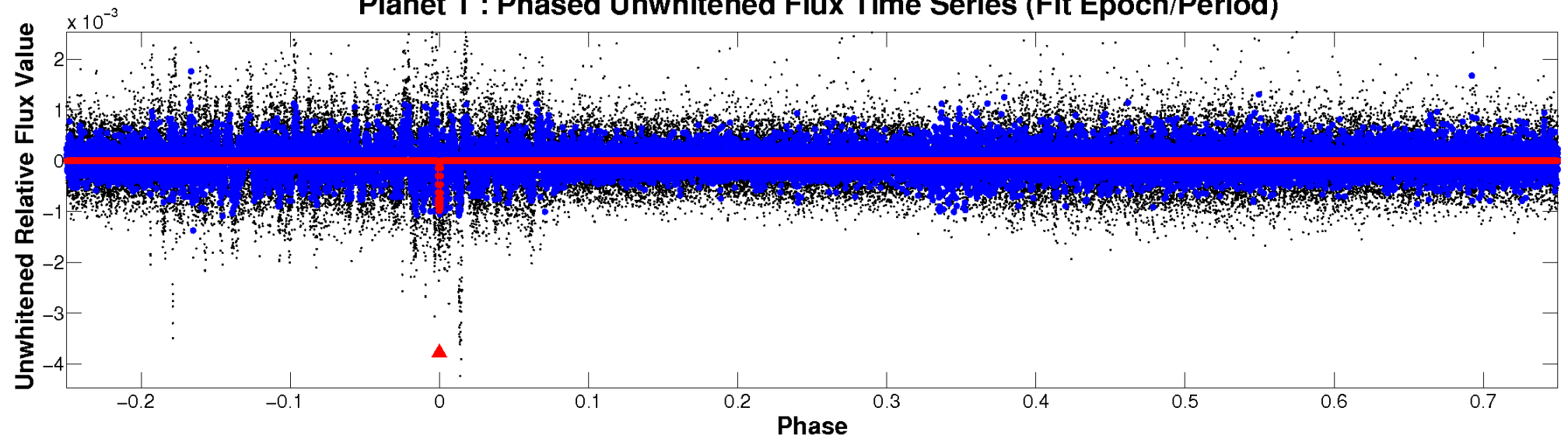
ALT Odd/Even

TCE 007971242-01

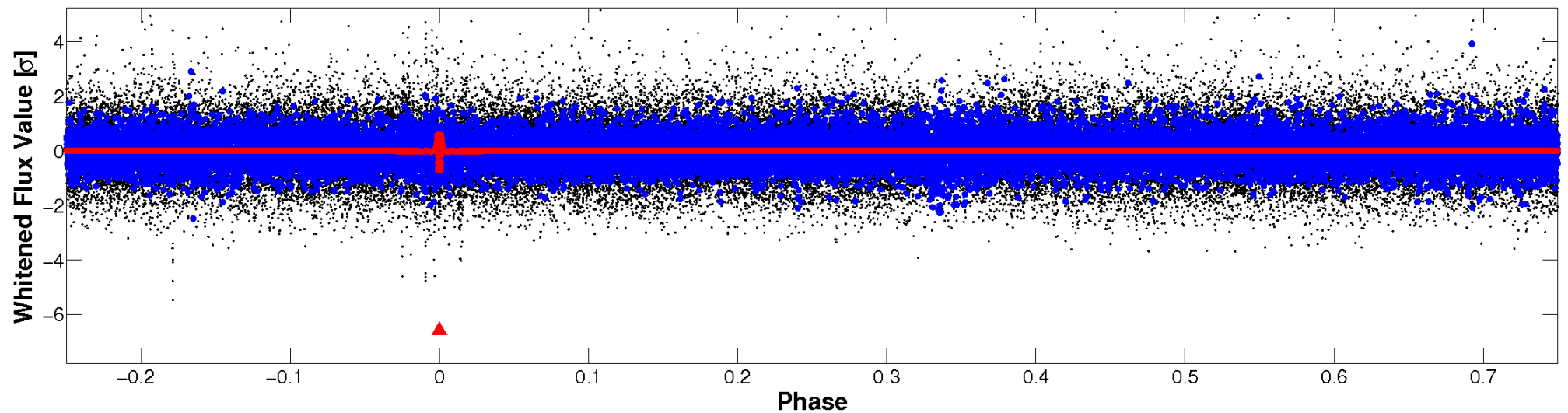


Non-Whitened Vs. Whitened Light Curve

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

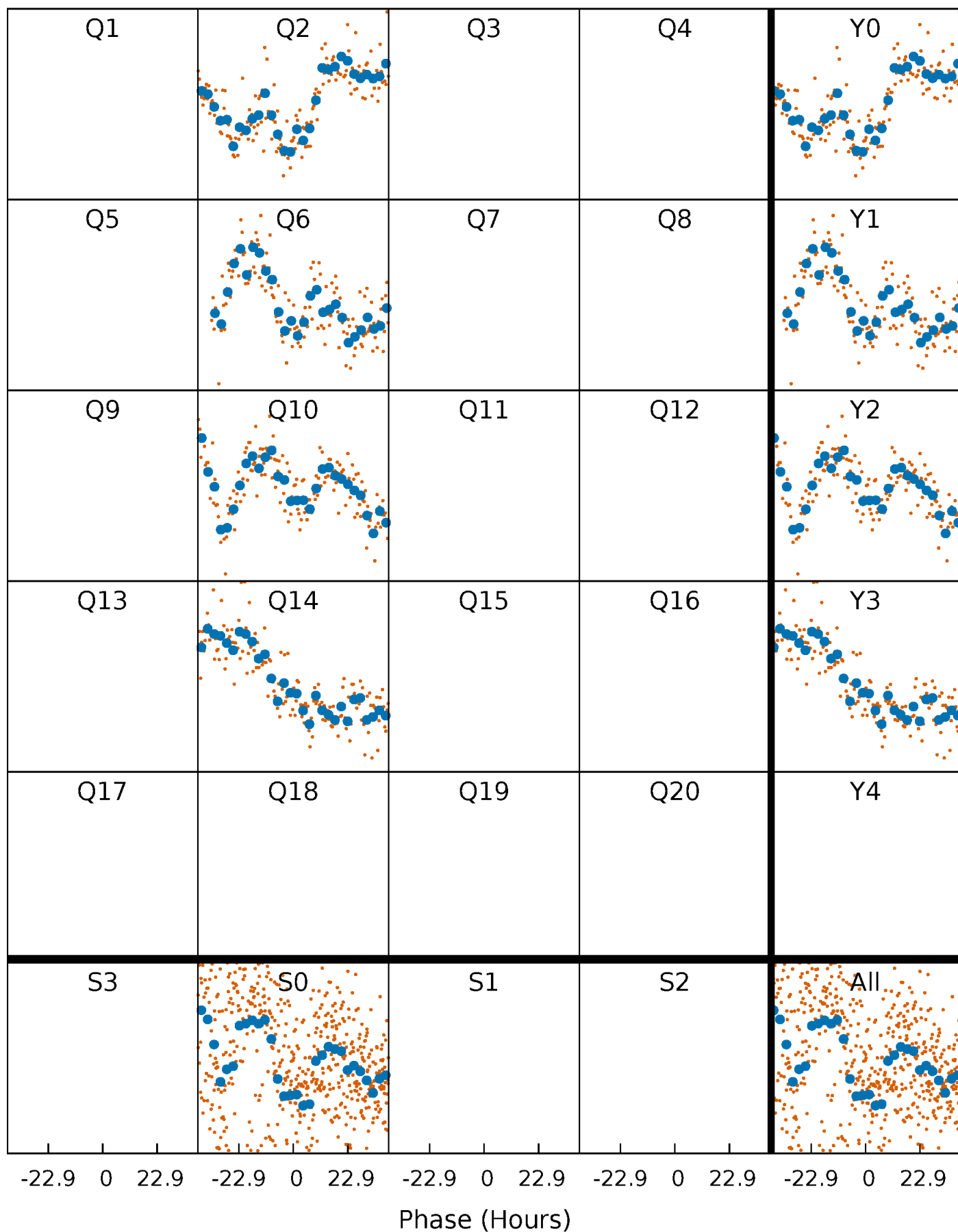


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



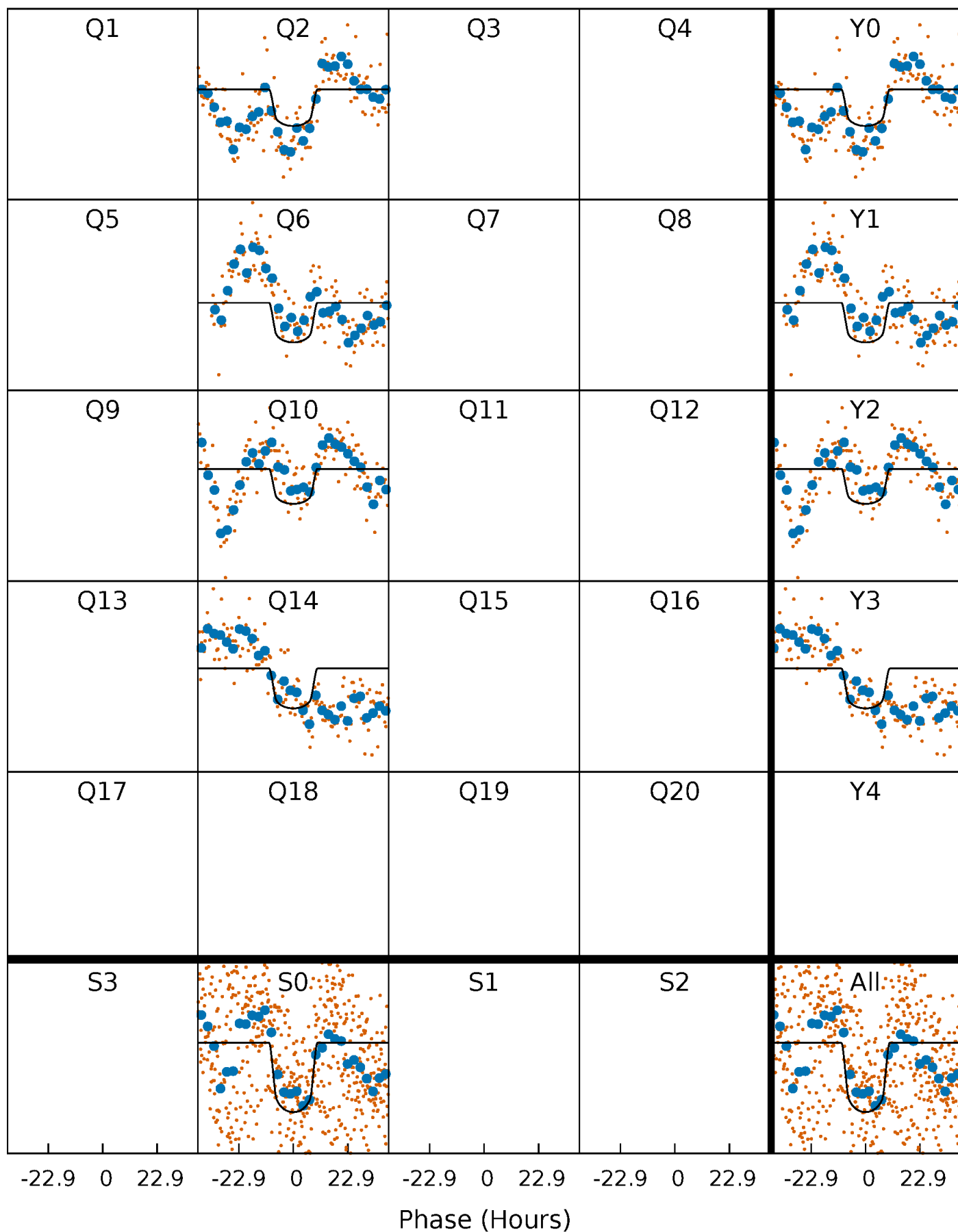
PDC Quarter-Phased Transit Curves

TCE 007971242-01 P=372.941047 Days $T_0=227.704677$ (BKJD)



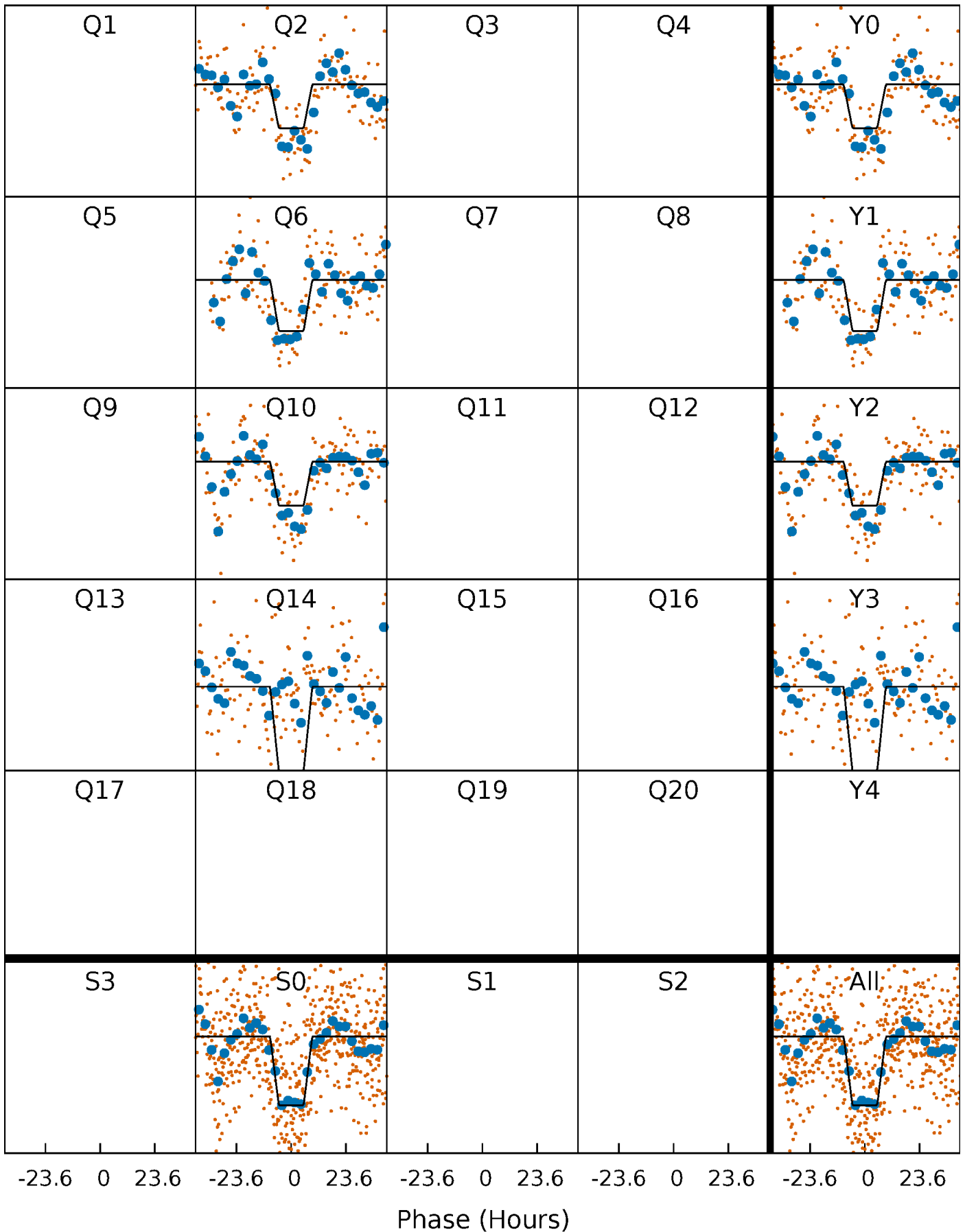
DV Quarter-Phased Transit Curves

TCE 007971242-01 P=372.941047 Days $T_0=227.704677$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

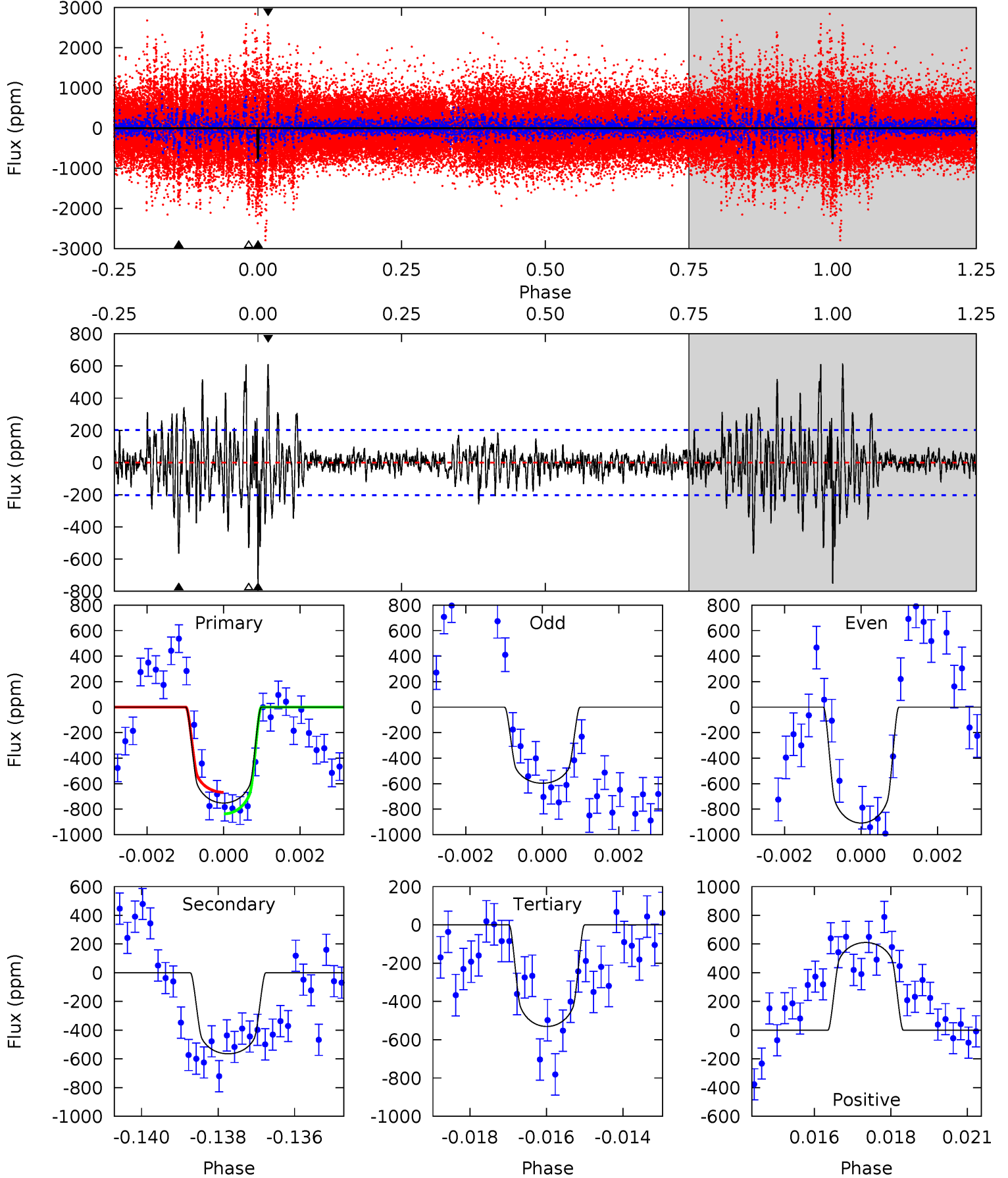
TCE 007971242-01 P=372.994204 Days $T_0=227.673816$ (BKJD)



DV Model-Shift Uniqueness Test

007971242-01, P = 372.941047 Days, E = 227.704677 Days

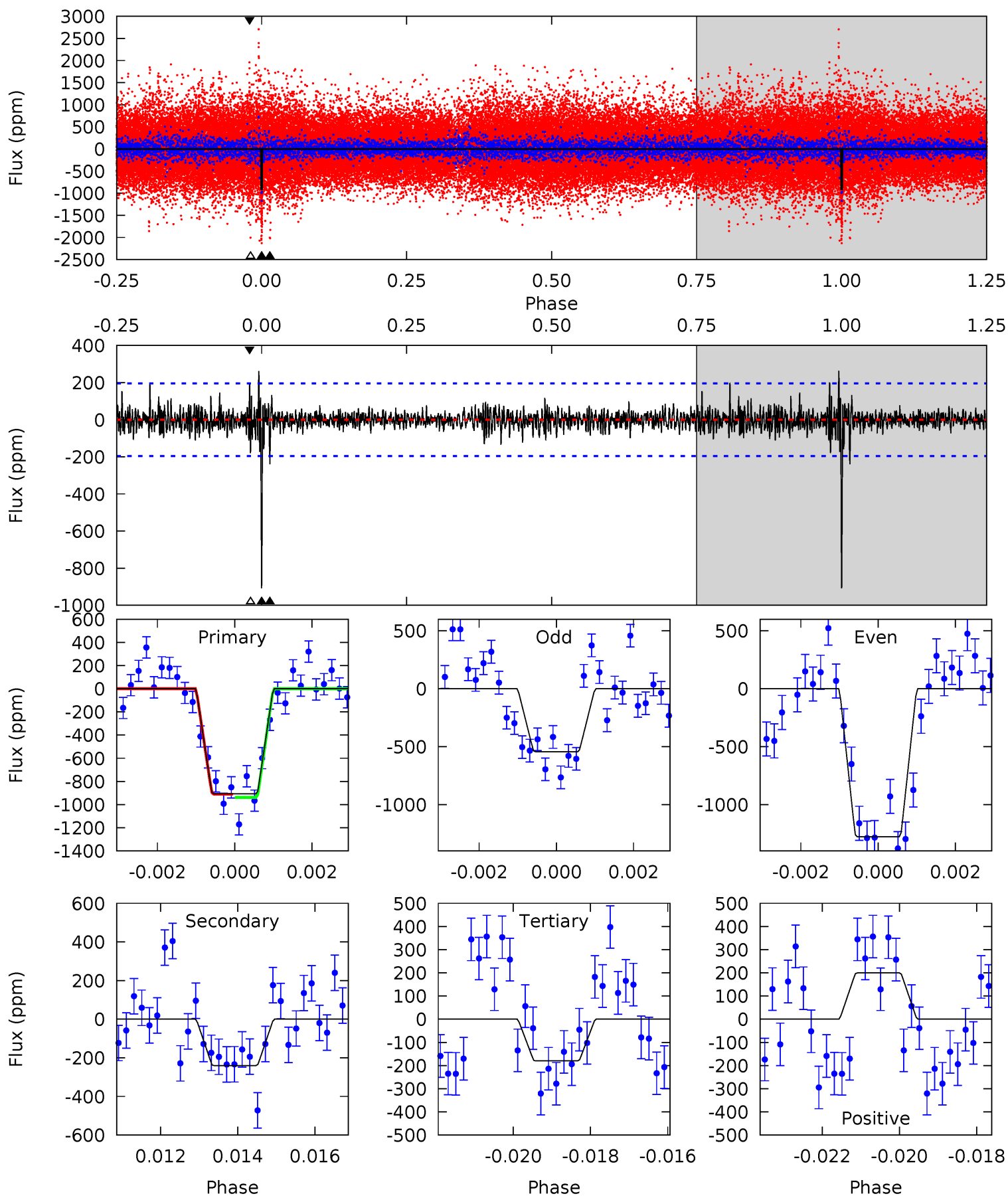
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	14.8	13.9	16.0	5.30	3.05	2.93	5.78	3.69	0.89	-1.21	4.07	1.26	0.45	2.22



Alt Model-Shift Uniqueness Test

007971242-01, P = 372.994204 Days, E = 227.673816 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.7	6.54	4.90	5.44	5.32	3.09	1.04	19.8	19.3	1.64	1.10	9.98	0.80	0.22	0.37



Stellar Parameters For KIC 007971242

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5731^{+173}_{-173}	$4.600^{+0.038}_{-0.152}$	$-0.520^{+0.300}_{-0.300}$	$0.756^{+0.181}_{-0.060}$	$0.830^{+0.088}_{-0.088}$	$2.710^{+0.523}_{-1.110}$
	+3%/-3%	+1%/-3%	+58%/-58%	+24%/-8%	+11%/-11%	+19%/-41%
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 007971242-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-565 ± 38	$2.87^{+0.40}_{-0.33}$	320^{+18}_{-15}	4902^{+262}_{-222}	33629^{+8913}_{-7195}
Alt.	-240 ± 37	$2.61^{+0.37}_{-0.33}$	320^{+18}_{-13}	4301^{+227}_{-216}	17164^{+5745}_{-4371}

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

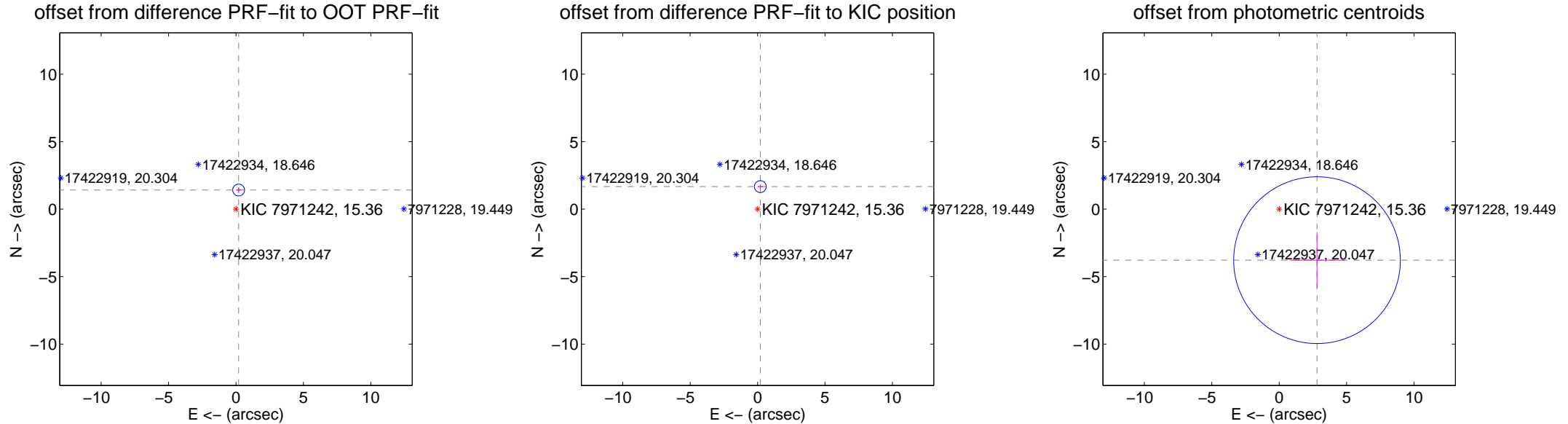
DV Centroid Data

Supplemental centroid analysis for 007971242-01. Kepler magnitude: 15.36. Transit SNR 8.95

There are 0 quarters with good PRF difference image offsets

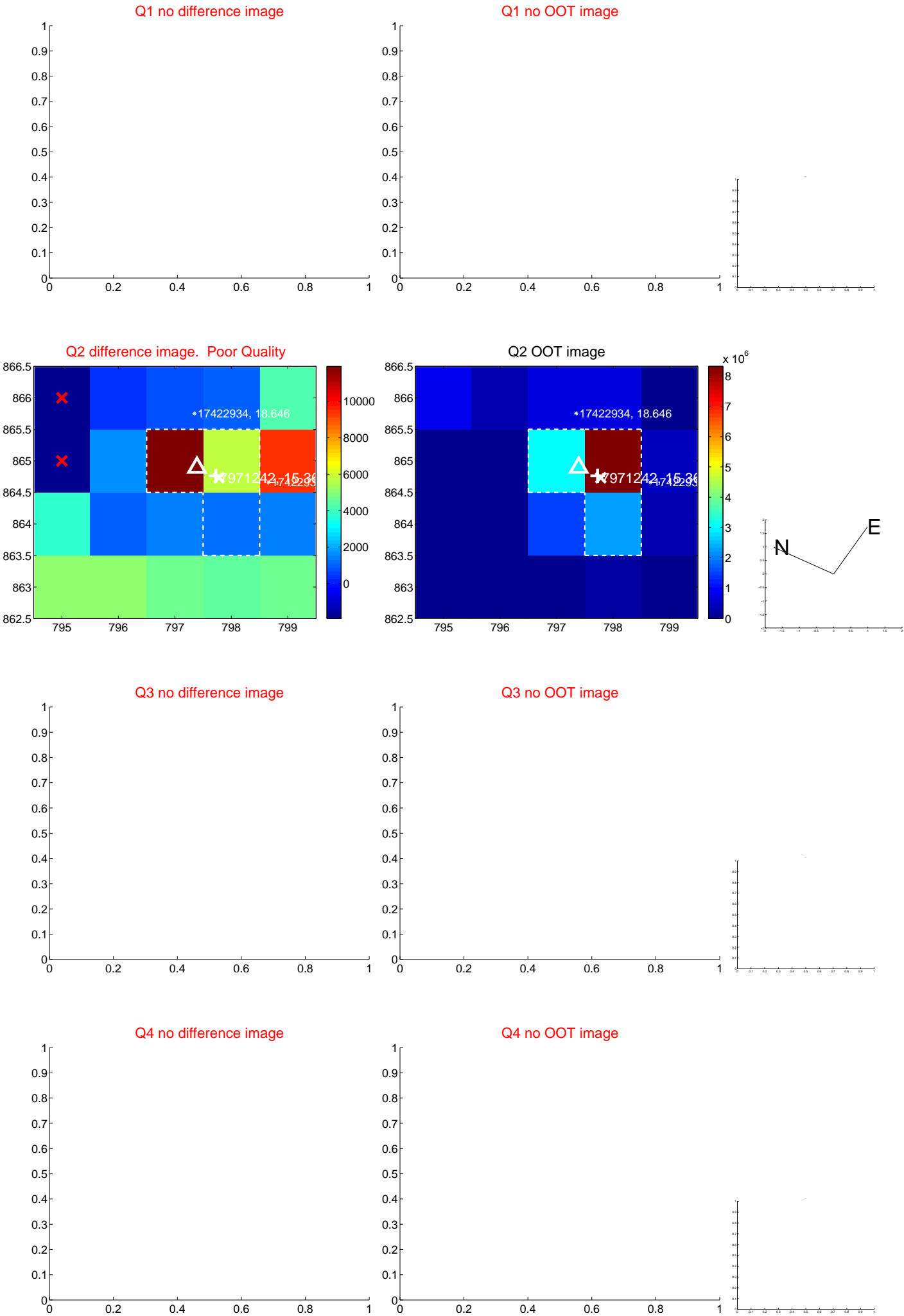
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.431 ± 0.147	9.76	-0.195 ± 0.197	1.417 ± 0.145
PRF-fit source offset from KIC position	1.683 ± 0.146	11.50	-0.202 ± 0.197	1.671 ± 0.145
photometric centroid source offset	4.71 ± 2.06	2.29	-2.81 ± 2.02	-3.78 ± 2.08



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.

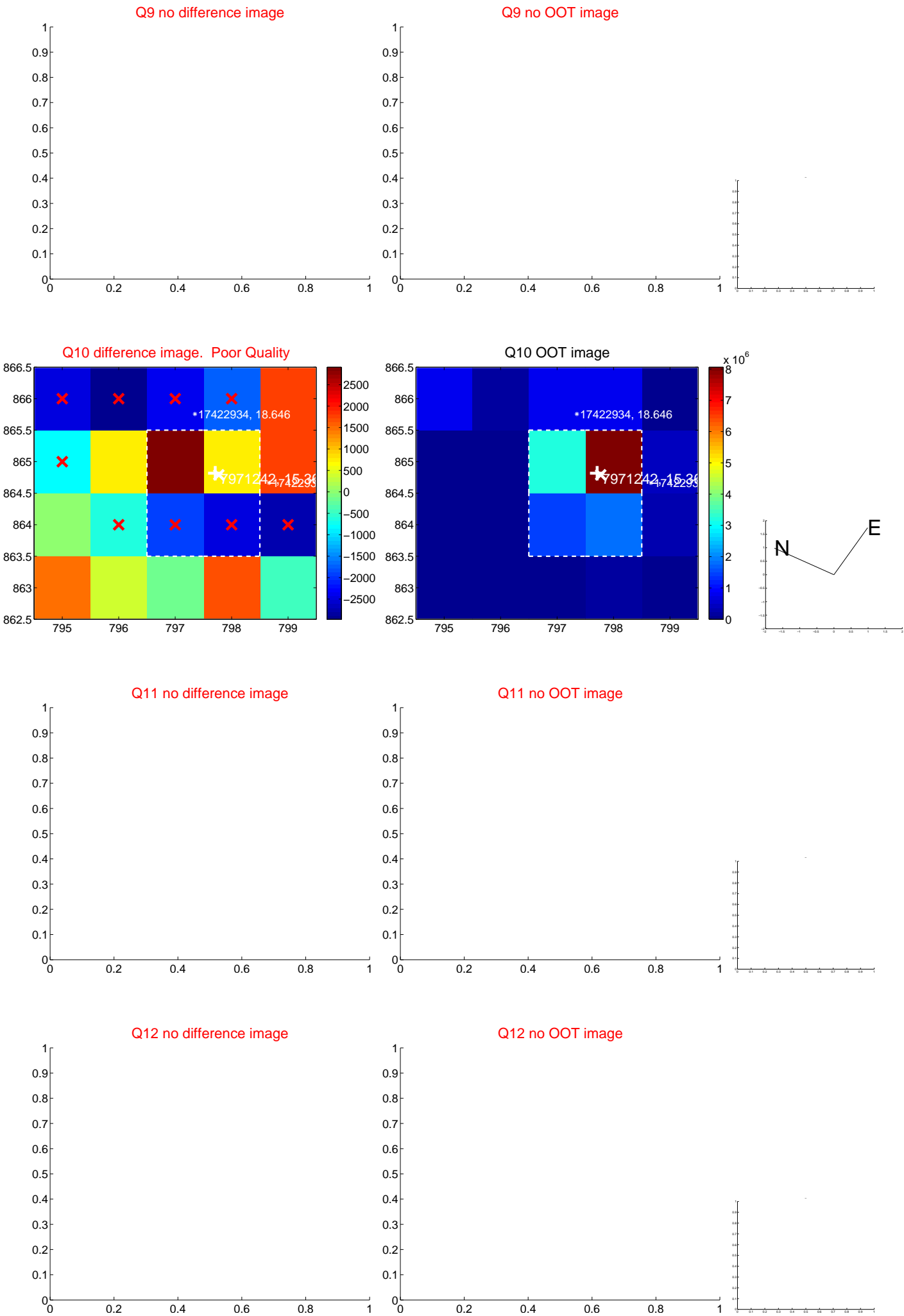
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



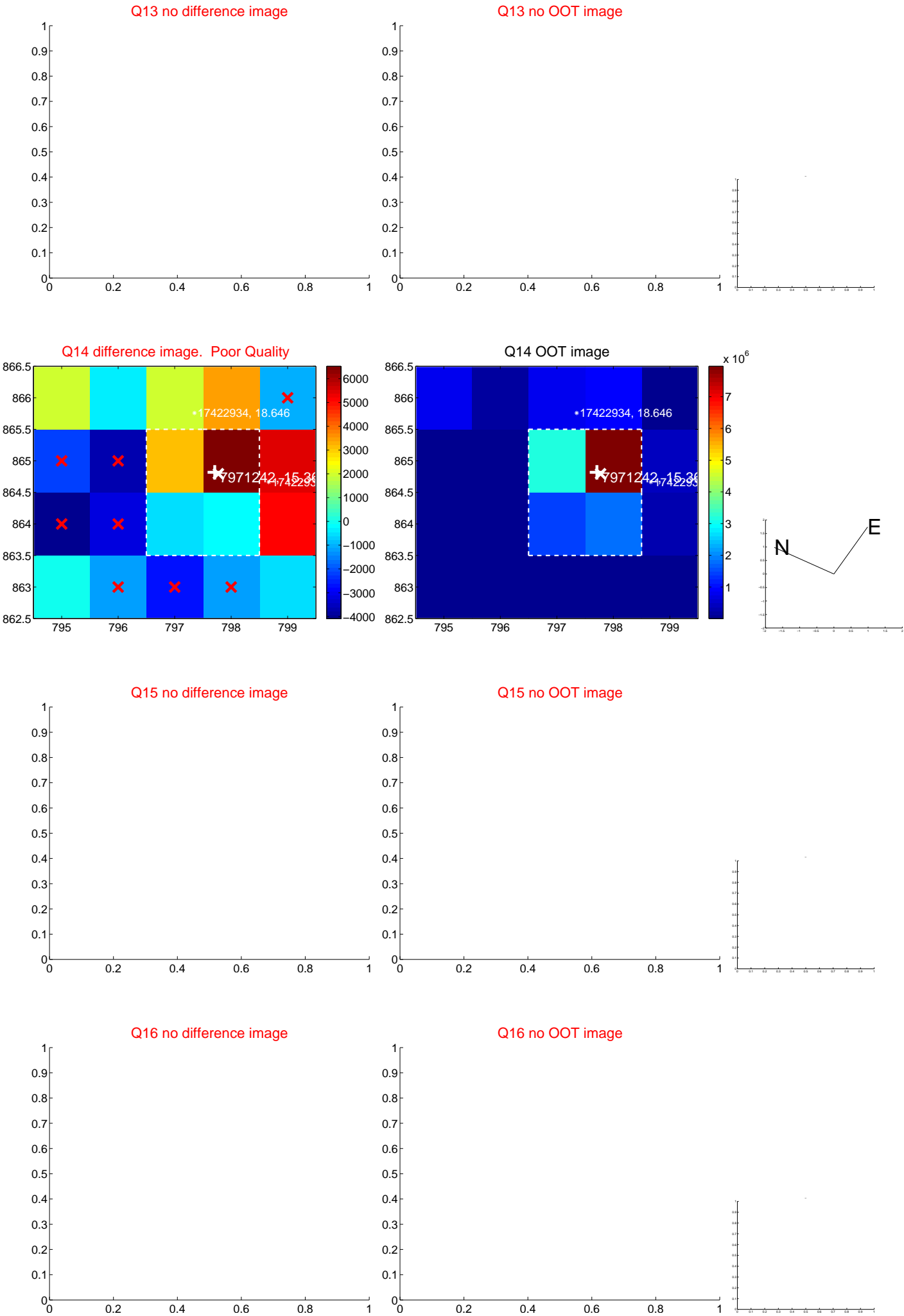
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



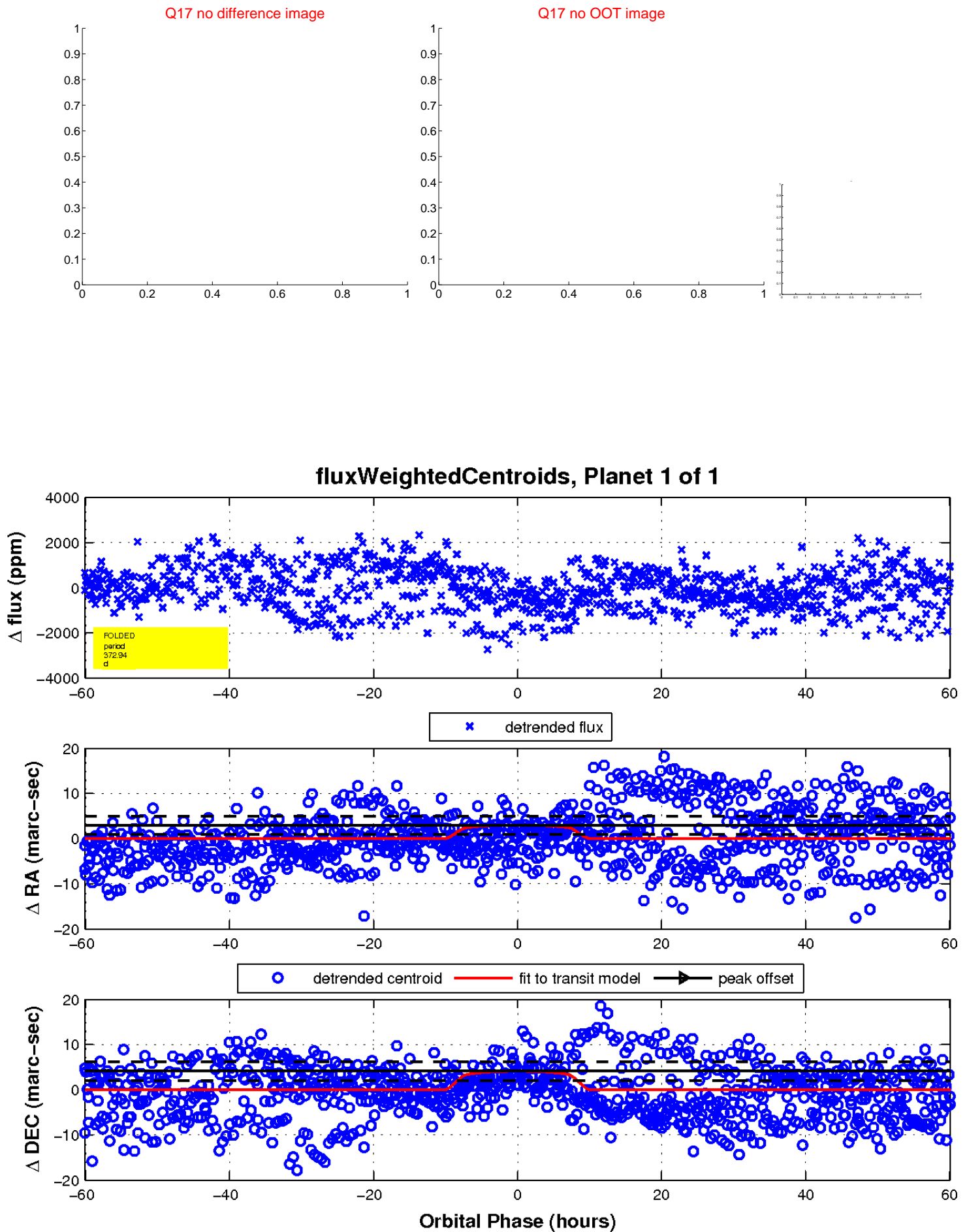
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



UKIRT Image

Declination

