

KIC 008831573

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})
008831573-01	OBS	No	438.005836	359.578619	151.5	21.826	11.3	12.5	0.86	5614	1.44	0.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008831573-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

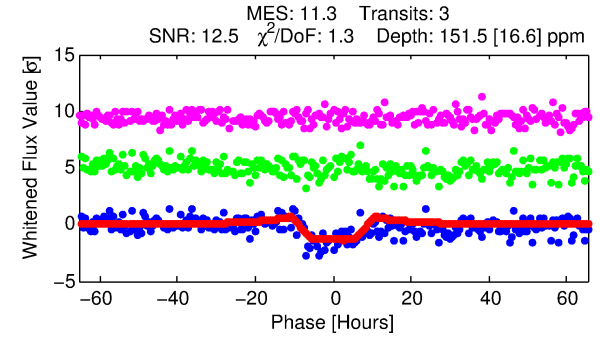
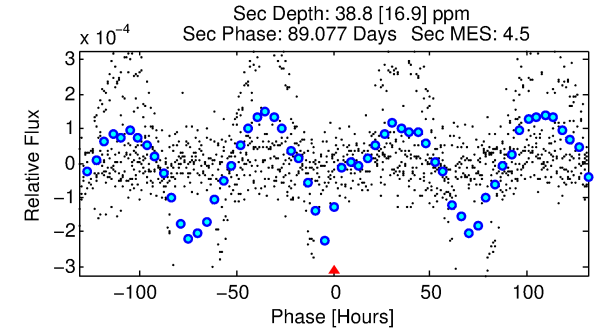
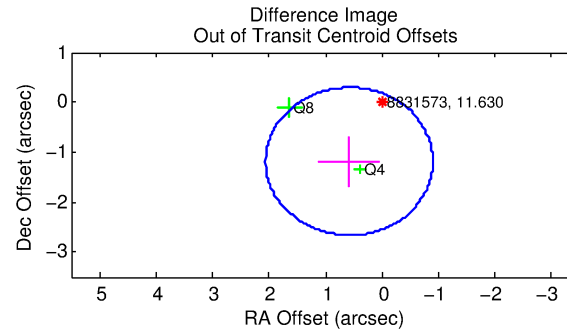
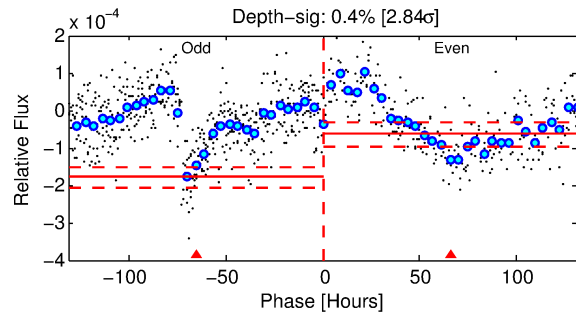
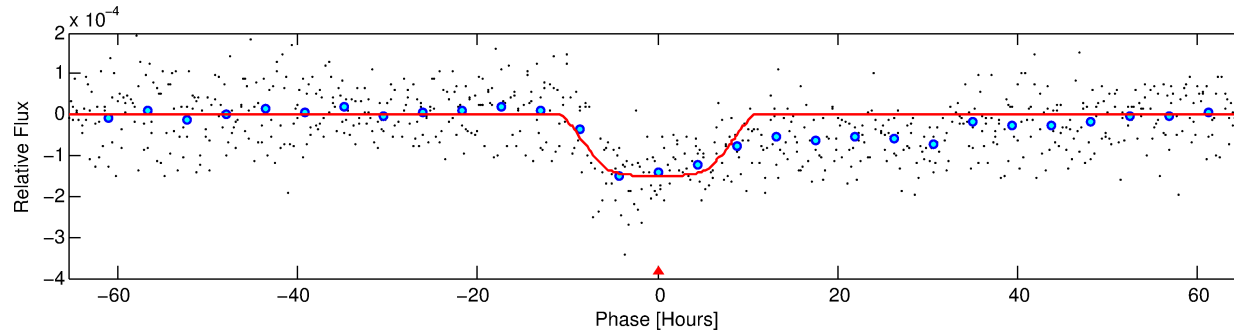
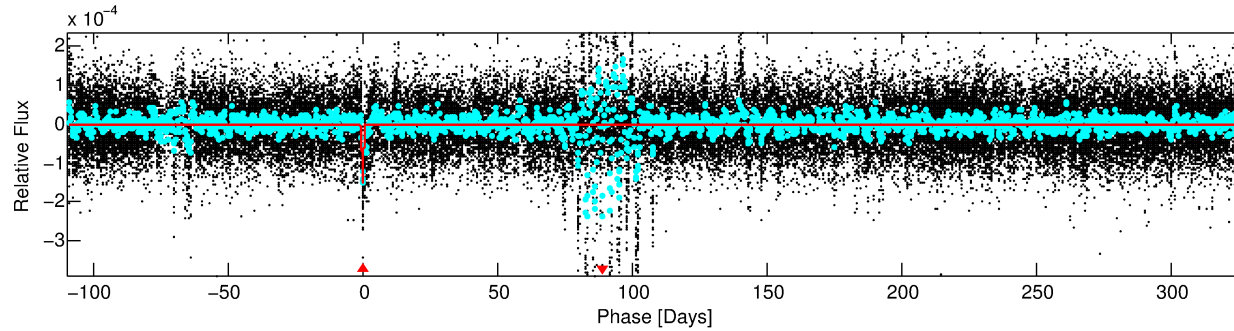
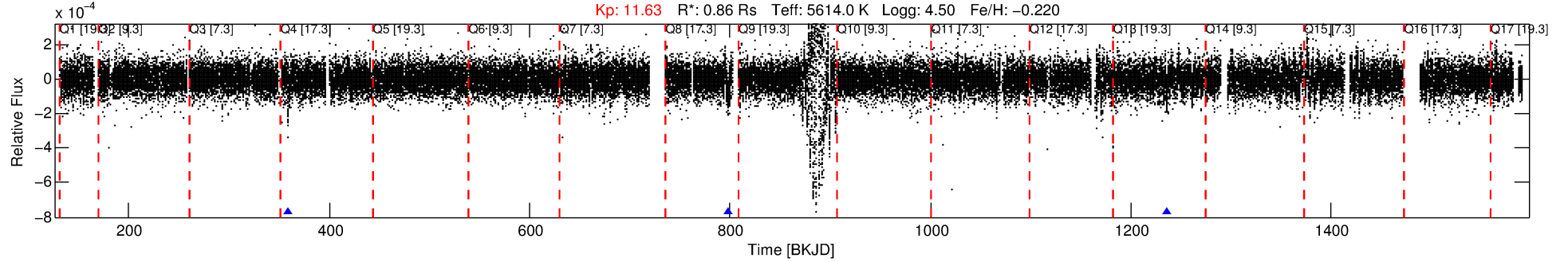
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008831573-01

No Significant Match Found

DV One-Page Summary

KIC: 8831573 Candidate: 1 of 1 Period: 438.006 d



DV Fit Results:

Period = 438.00584 [0.02264] d
Epoch = 359.5786 [0.0284] BKJD
Rp/R* = 0.0154 [0.0011]
a/R* = 42.48 [6.63]
b = 0.98 [0.01]
Seff = 0.57 [0.13]
Teq = 222 [12] K
Rp = 1.44 [0.26] Re
a = 1.0724 [0.1506] AU
Ag = 11796.40 [5889.90] [2.00 σ]
Teffp = 3572 [418] K [8.01 σ]

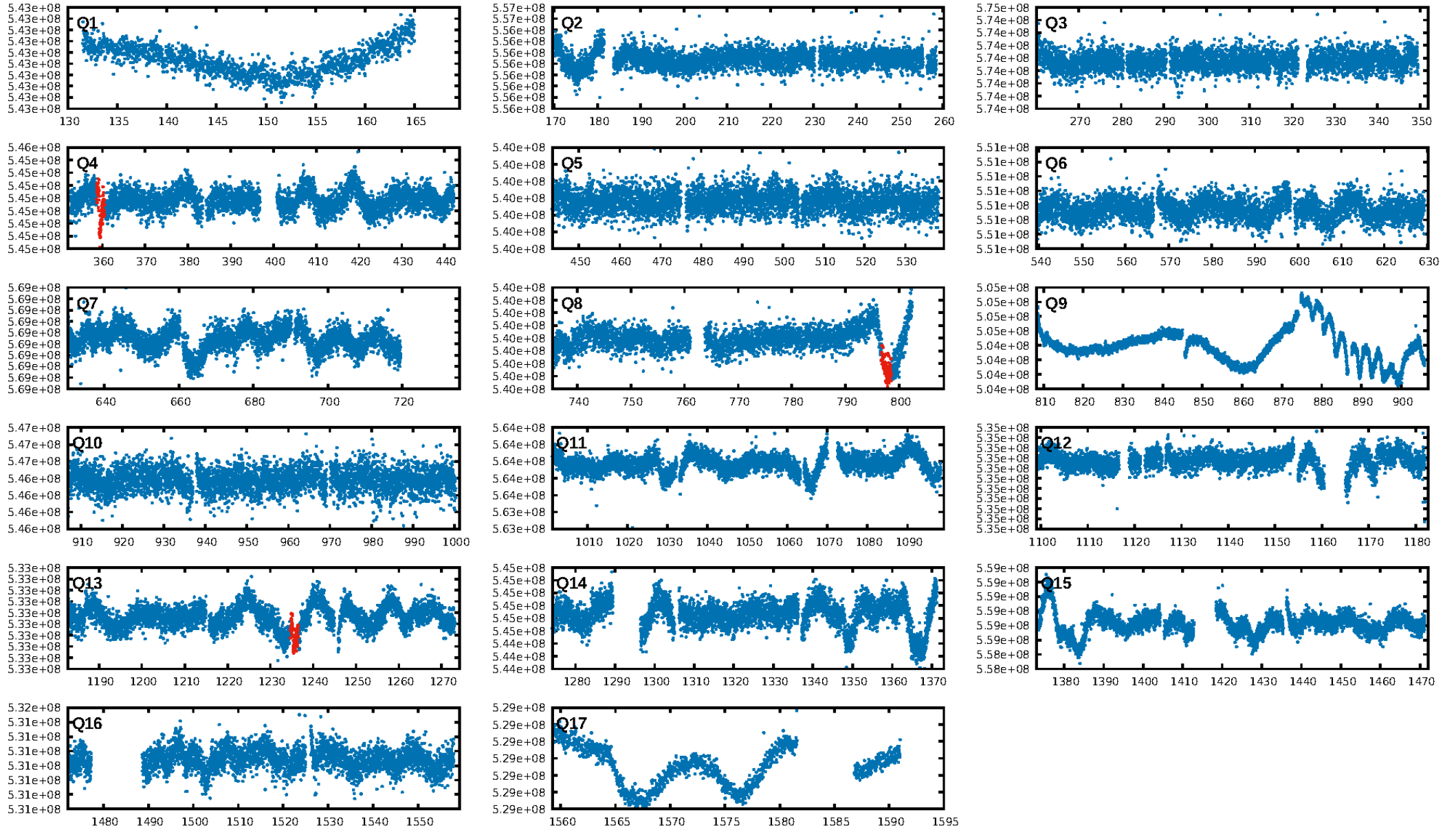
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 36.6%
ModelChiSquareGof-sig: 92.7%
Bootstrap-pfa: 7.05e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.034
Centroid-sig: 13.4%
Centroid-so: 1.241 arcsec [1.43 σ]
OotOffset-rm: 1.319 arcsec [2.67 σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-rm: **1.576 arcsec [3.25 σ]**
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

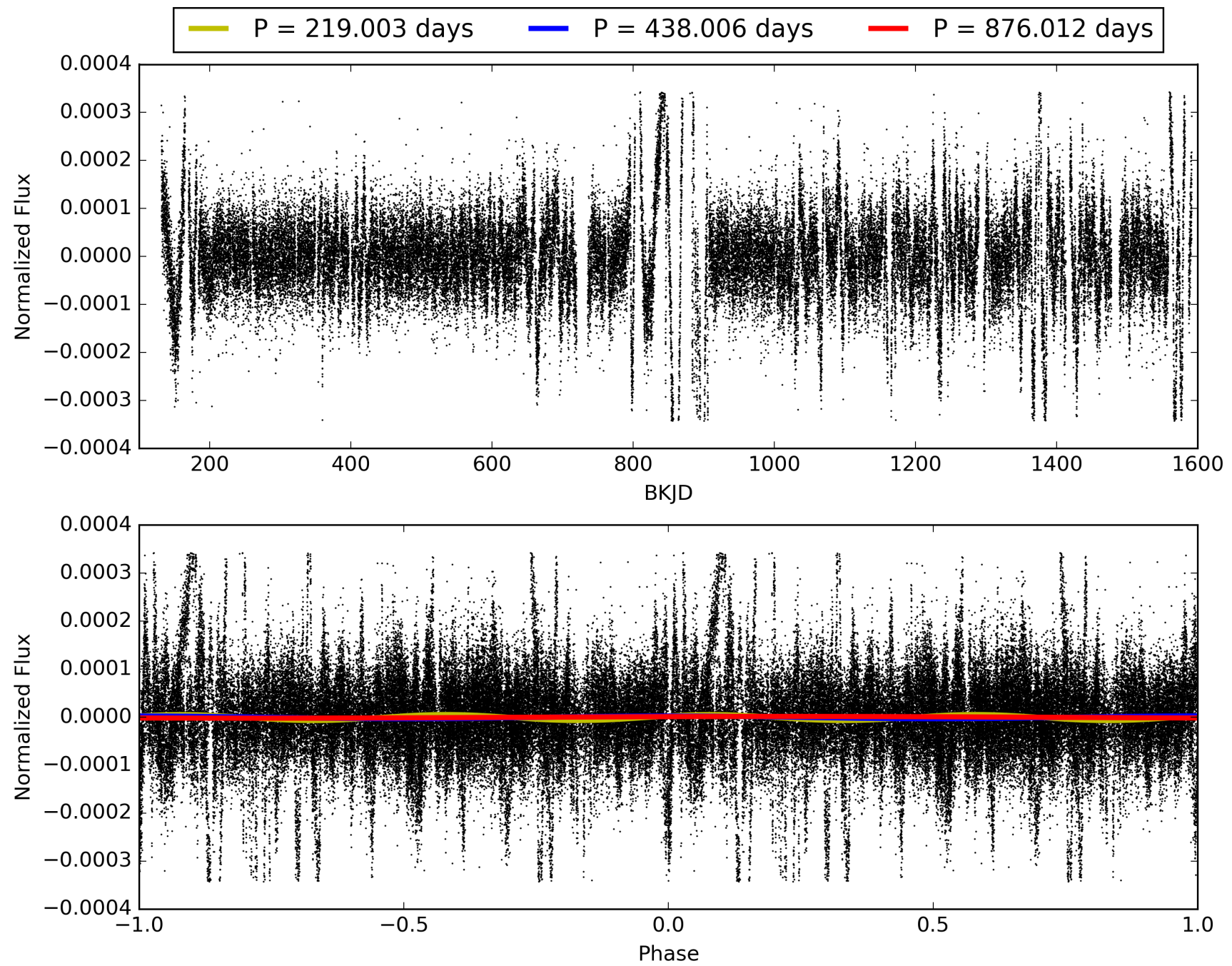
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:12:10 Z

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

TCE 008831573-01, PDC Light Curves

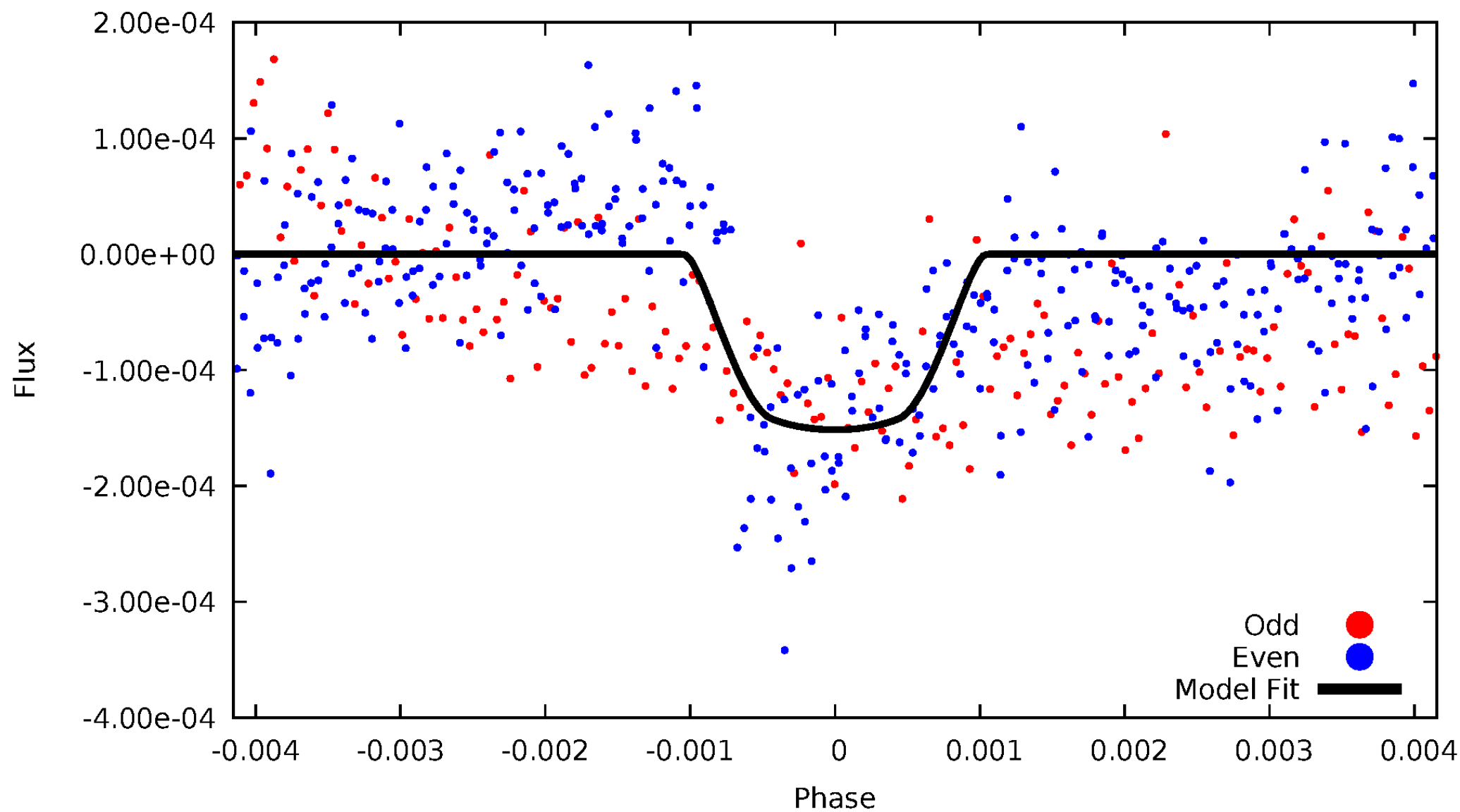


TCE 008831573-01



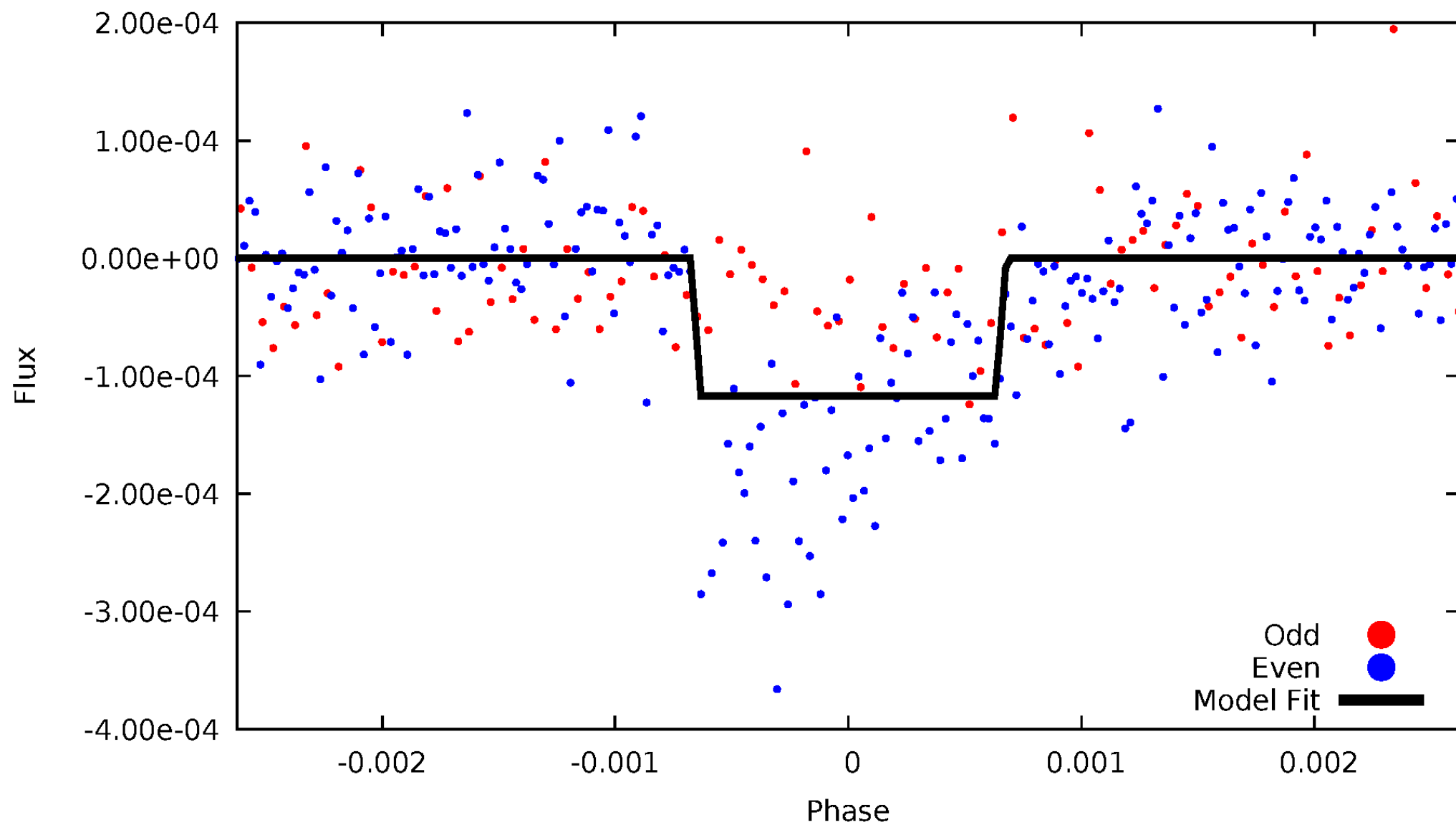
DV Odd/Even

TCE 008831573-01



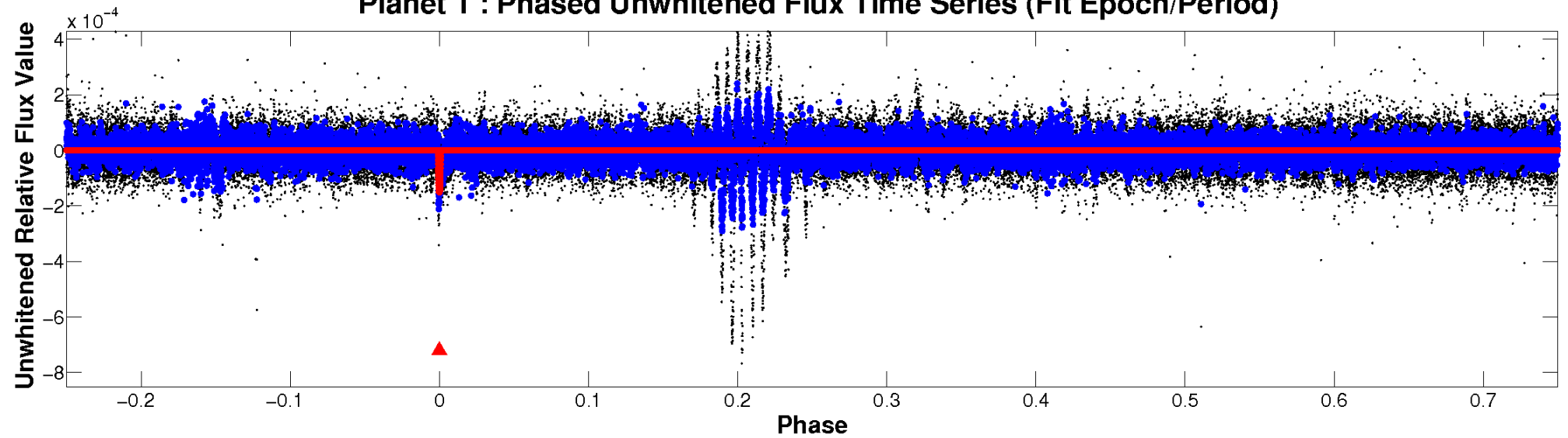
ALT Odd/Even

TCE 008831573-01

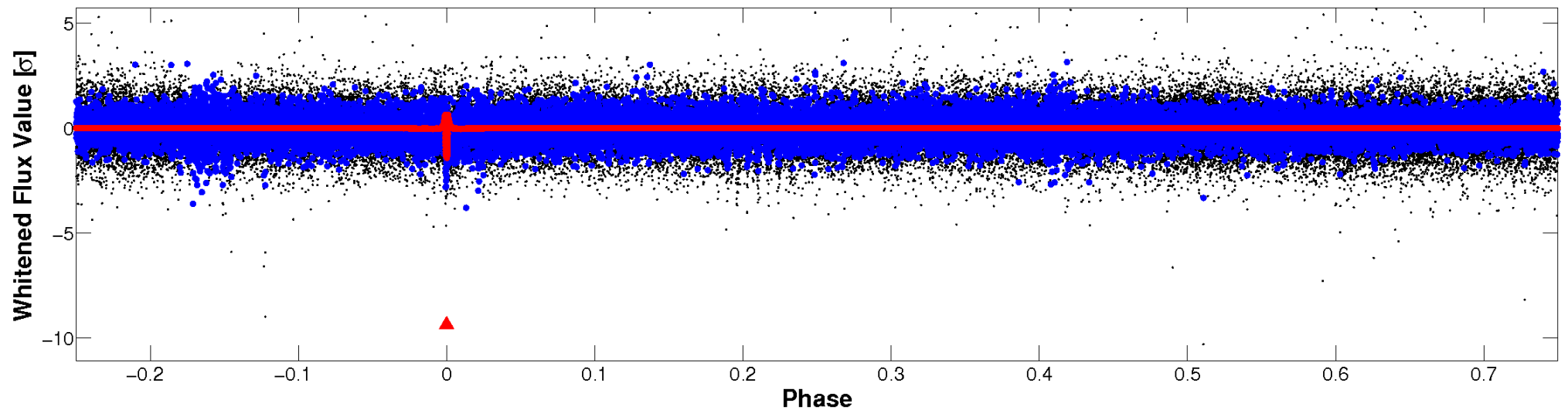


Non-Whitened Vs. Whitened Light Curve

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

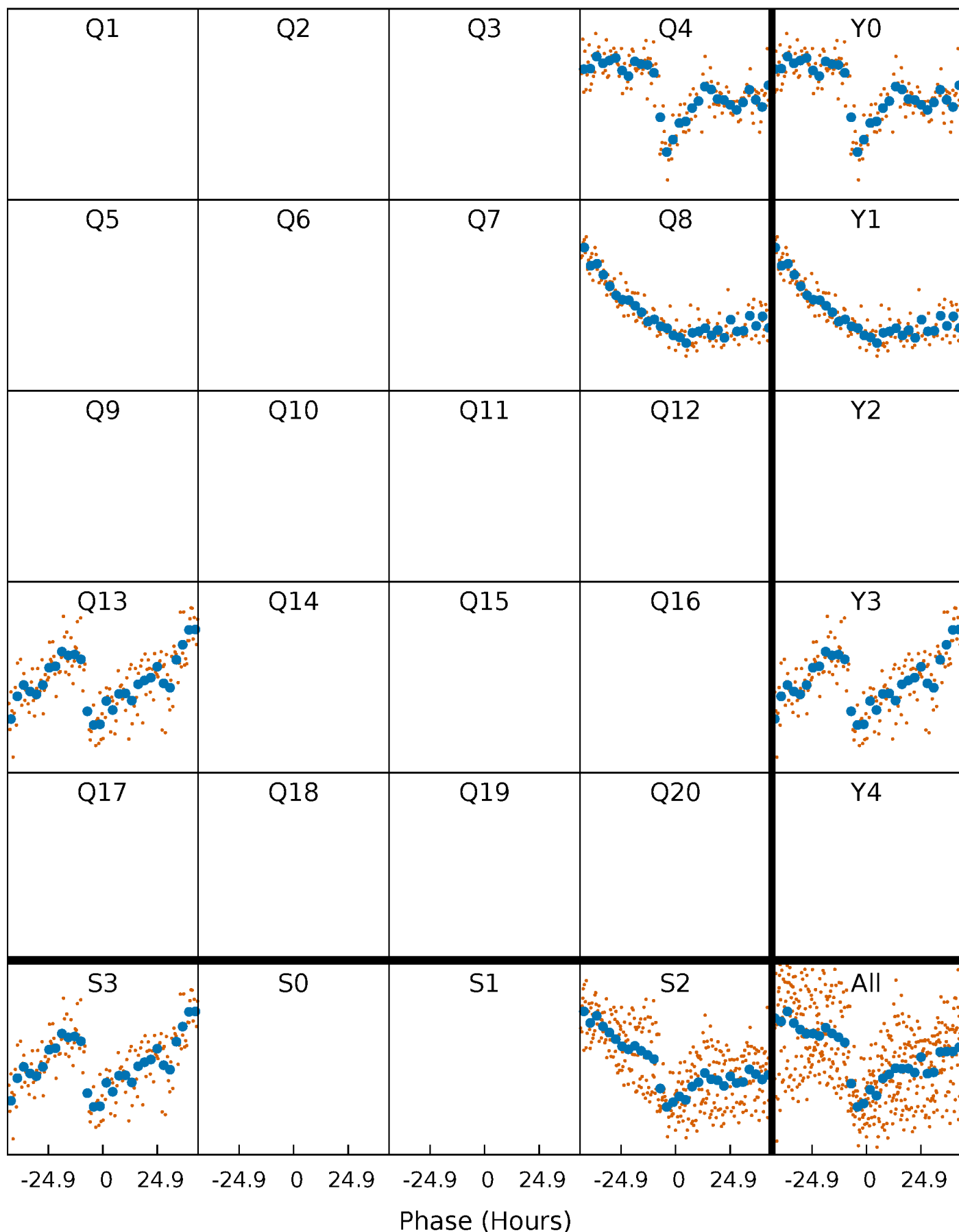


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



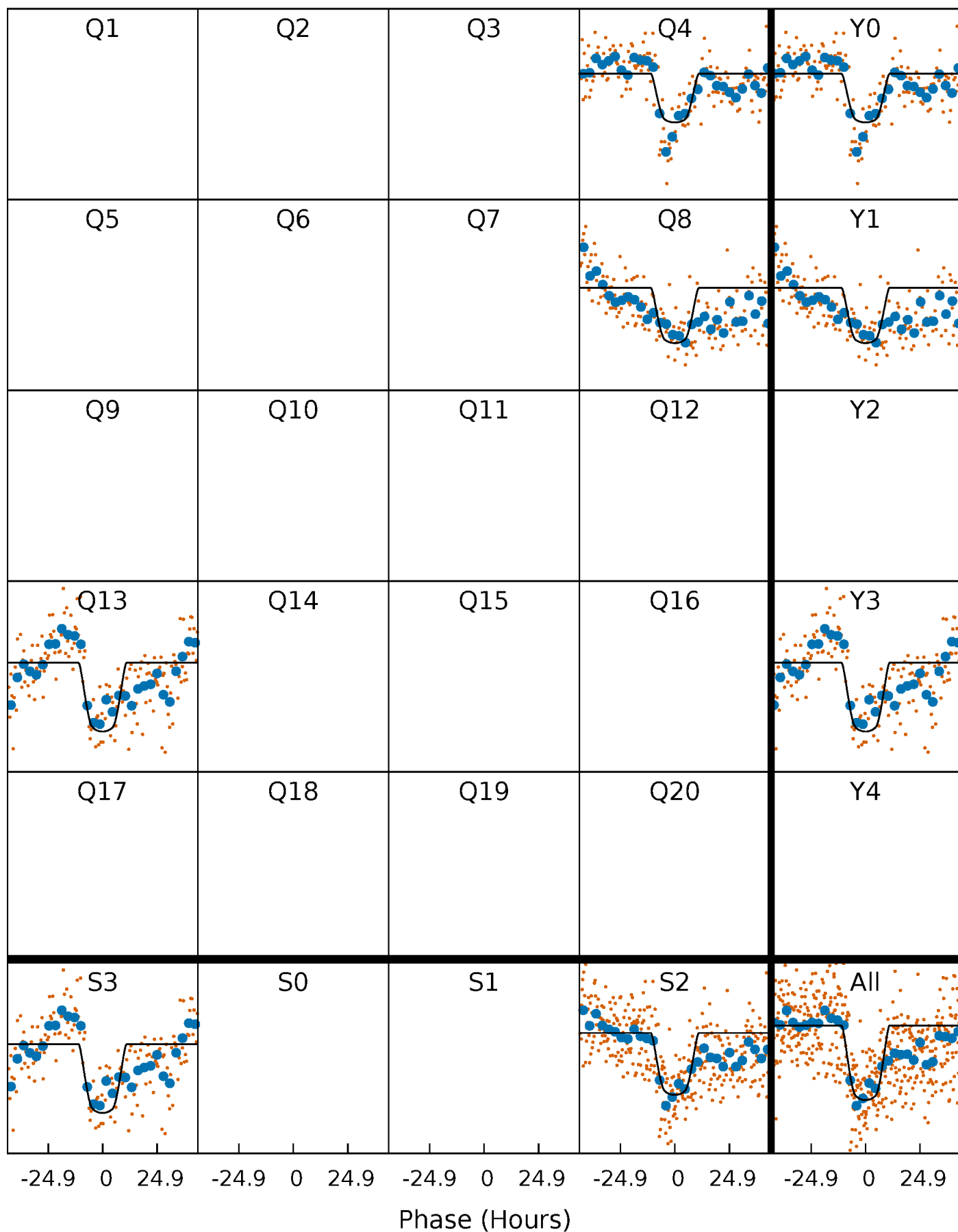
PDC Quarter-Phased Transit Curves

TCE 008831573-01 P=438.005836 Days $T_0=359.578619$ (BKJD)



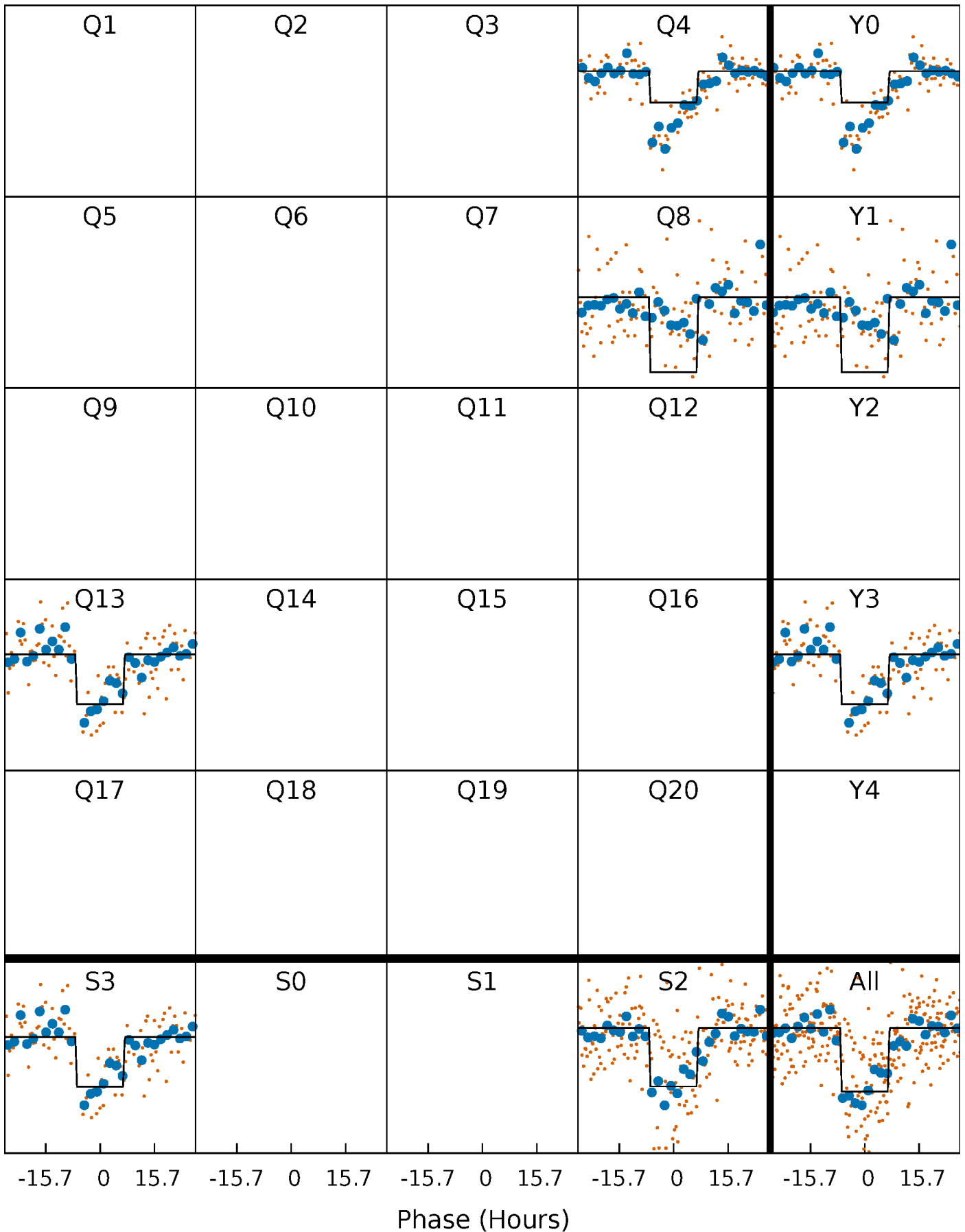
DV Quarter-Phased Transit Curves

TCE 008831573-01 $P=438.005836$ Days $T_0=359.578619$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

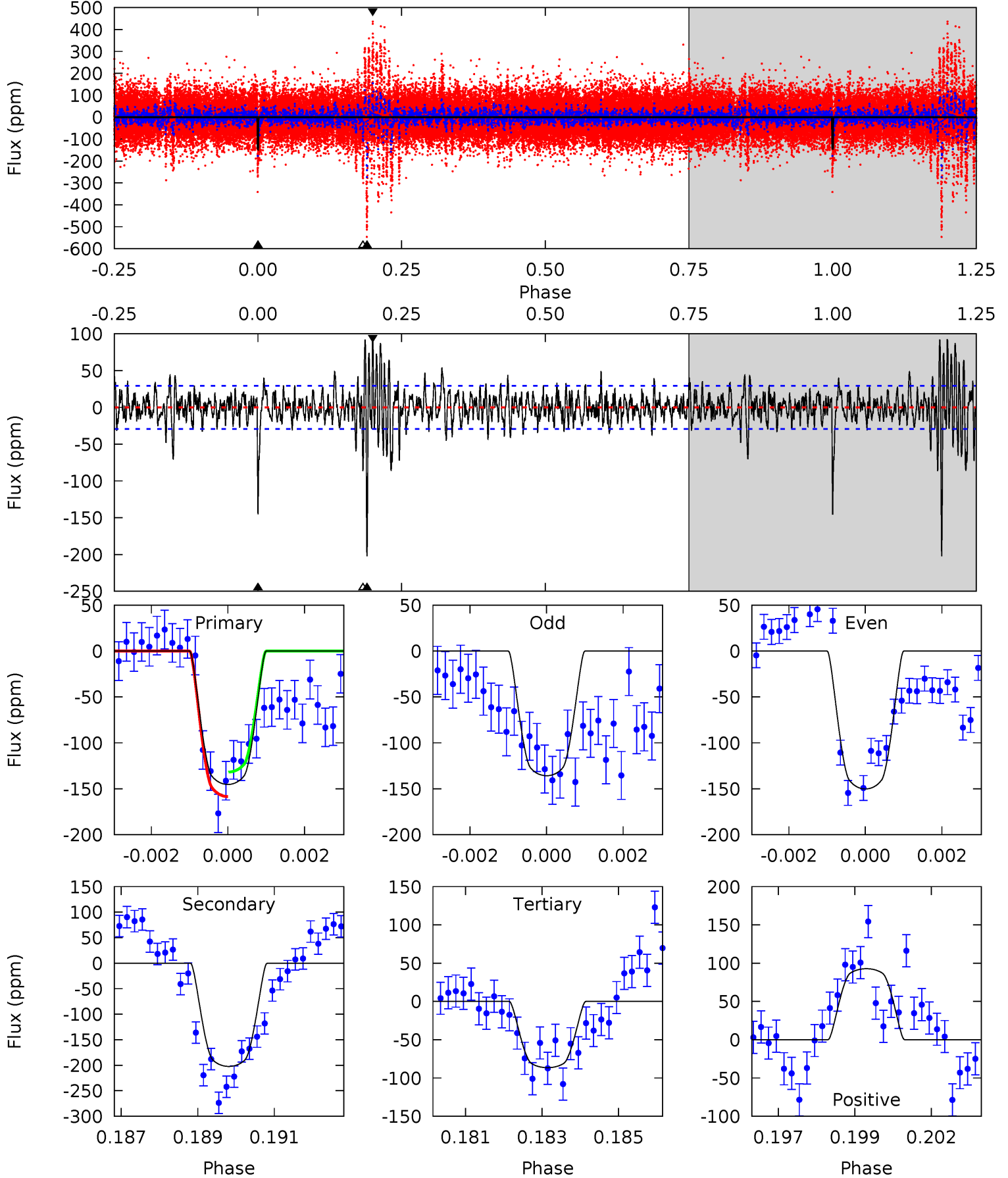
TCE 008831573-01 P=438.000170 Days $T_0=359.560105$ (BKJD)



DV Model-Shift Uniqueness Test

008831573-01, P = 438.005836 Days, E = 359.578619 Days

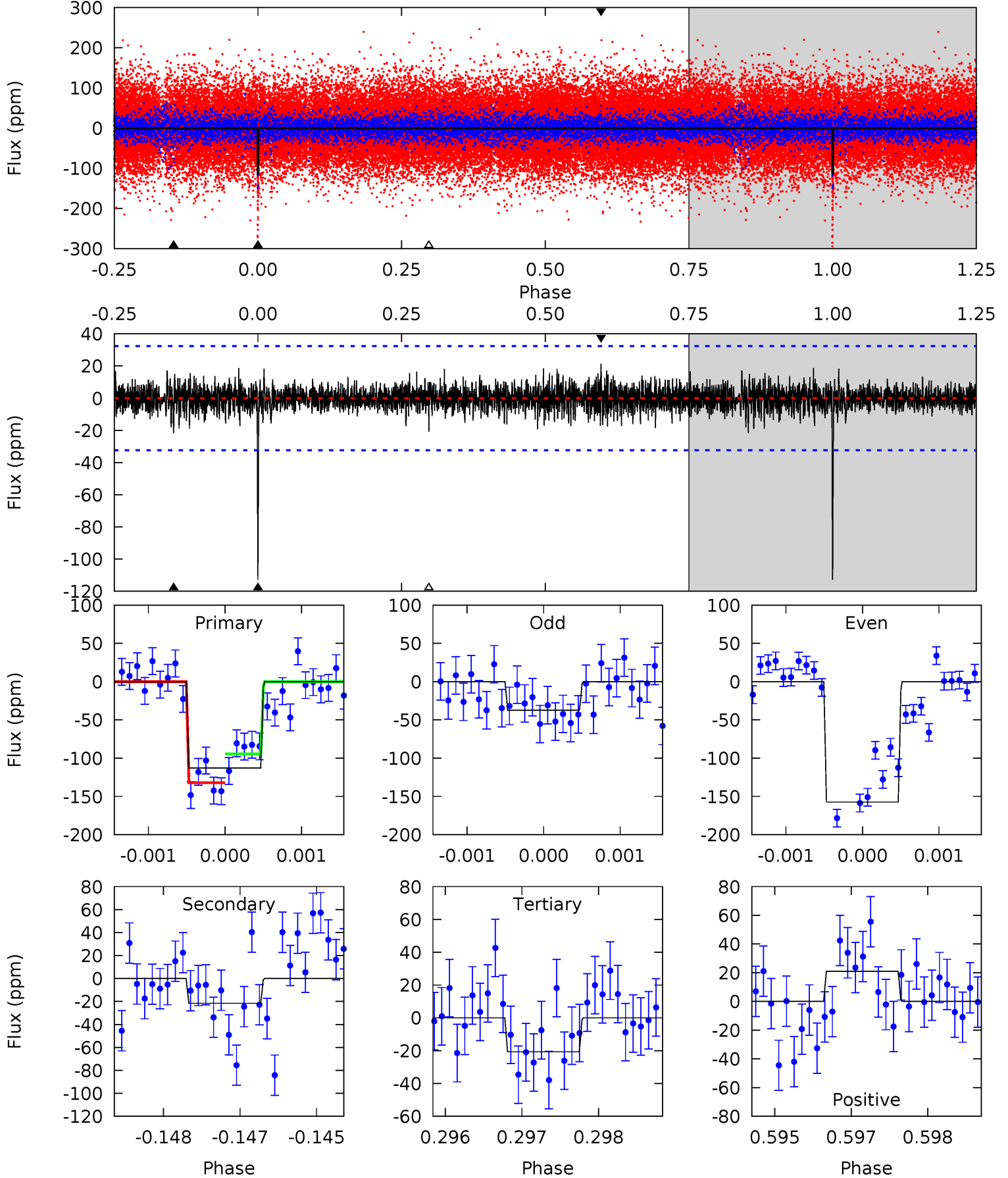
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.3	36.6	15.7	16.8	5.32	3.08	3.40	10.7	9.51	21.0	19.8	1.06	1.07	0.31	2.42



Alt Model-Shift Uniqueness Test

008831573-01, P = 438.000170 Days, E = 359.560105 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	3.60	3.45	3.51	5.40	3.21	0.87	15.4	15.3	0.15	0.09	9.61	1.02	0.16	3.15



Stellar Parameters For KIC 008831573

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5614^{+141}_{-141}	$4.503^{+0.072}_{-0.108}$	$-0.220^{+0.300}_{-0.300}$	$0.859^{+0.146}_{-0.090}$	$0.858^{+0.094}_{-0.085}$	$1.904^{+0.603}_{-0.643}$
	+3%/-3%	+2%/-2%	+136%/-136%	+17%/-10%	+11%/-10%	+32%/-34%
Source	PHO1	FLK73	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 008831573-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-202 ± 6	$1.46^{+0.15}_{-0.14}$	310^{+14}_{-12}	5406^{+237}_{-200}	60307^{+13512}_{-10419}
Alt.	-22 ± 6	$1.03^{+0.14}_{-0.12}$	312^{+14}_{-13}	3987^{+241}_{-255}	12637^{+5197}_{-4139}

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

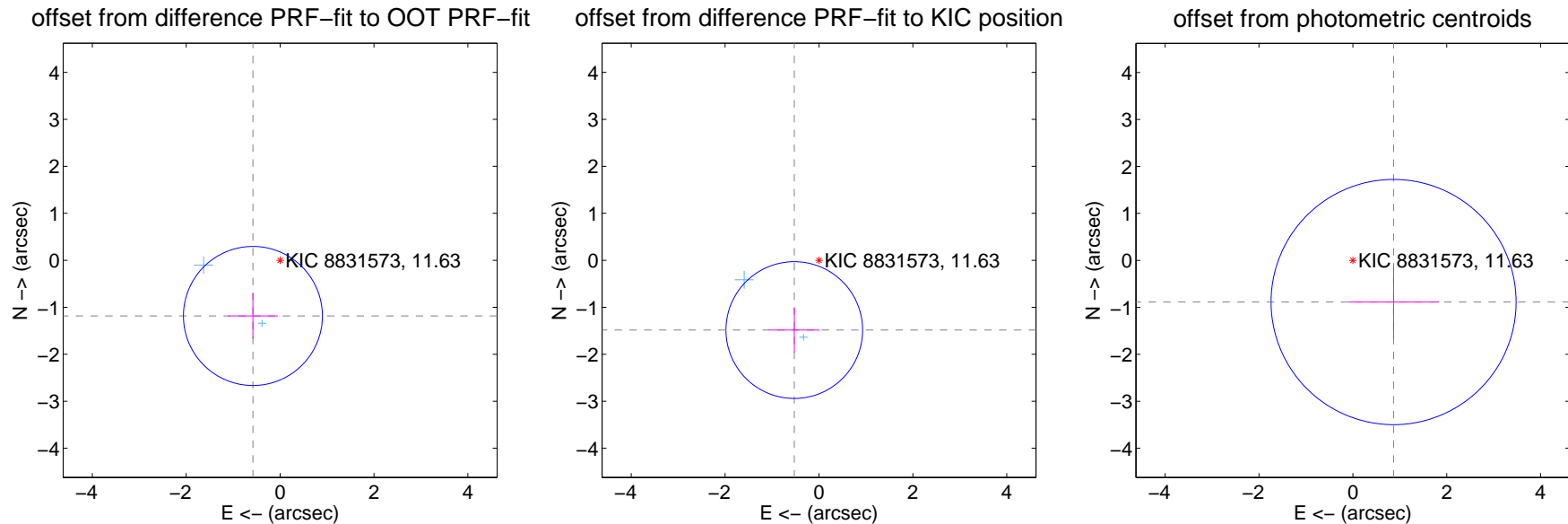
DV Centroid Data

Supplemental centroid analysis for 008831573-01. **Kepler magnitude: 11.63.** Transit SNR 12.54

There are 2 quarters with good PRF difference image offsets

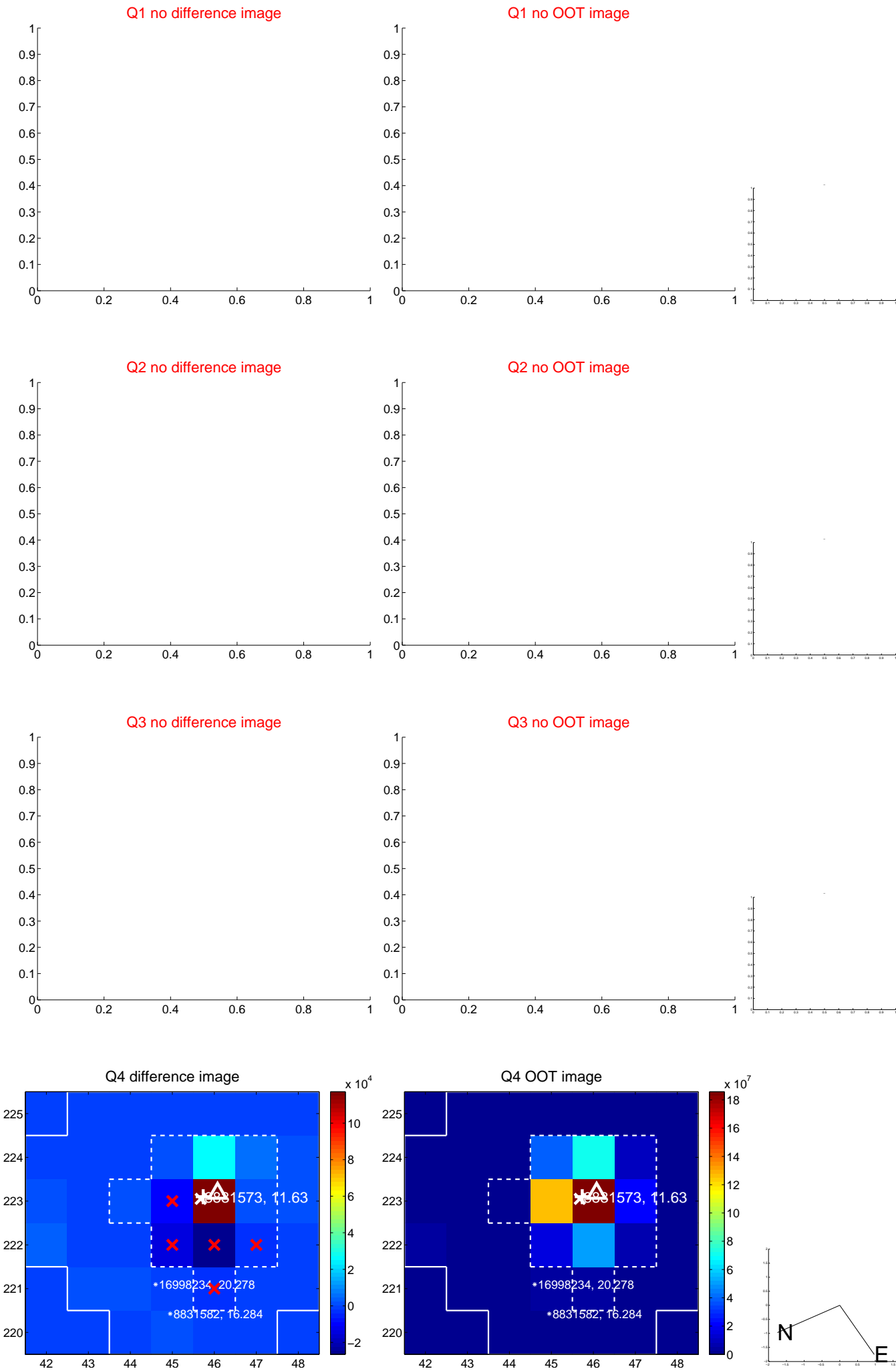
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.319 ± 0.493	2.67	0.579 ± 0.532	-1.185 ± 0.484
PRF-fit source offset from KIC position	1.576 ± 0.485	3.25	0.527 ± 0.541	-1.485 ± 0.478
photometric centroid source offset	1.24 ± 0.87	1.43	-0.87 ± 0.97	-0.89 ± 0.77

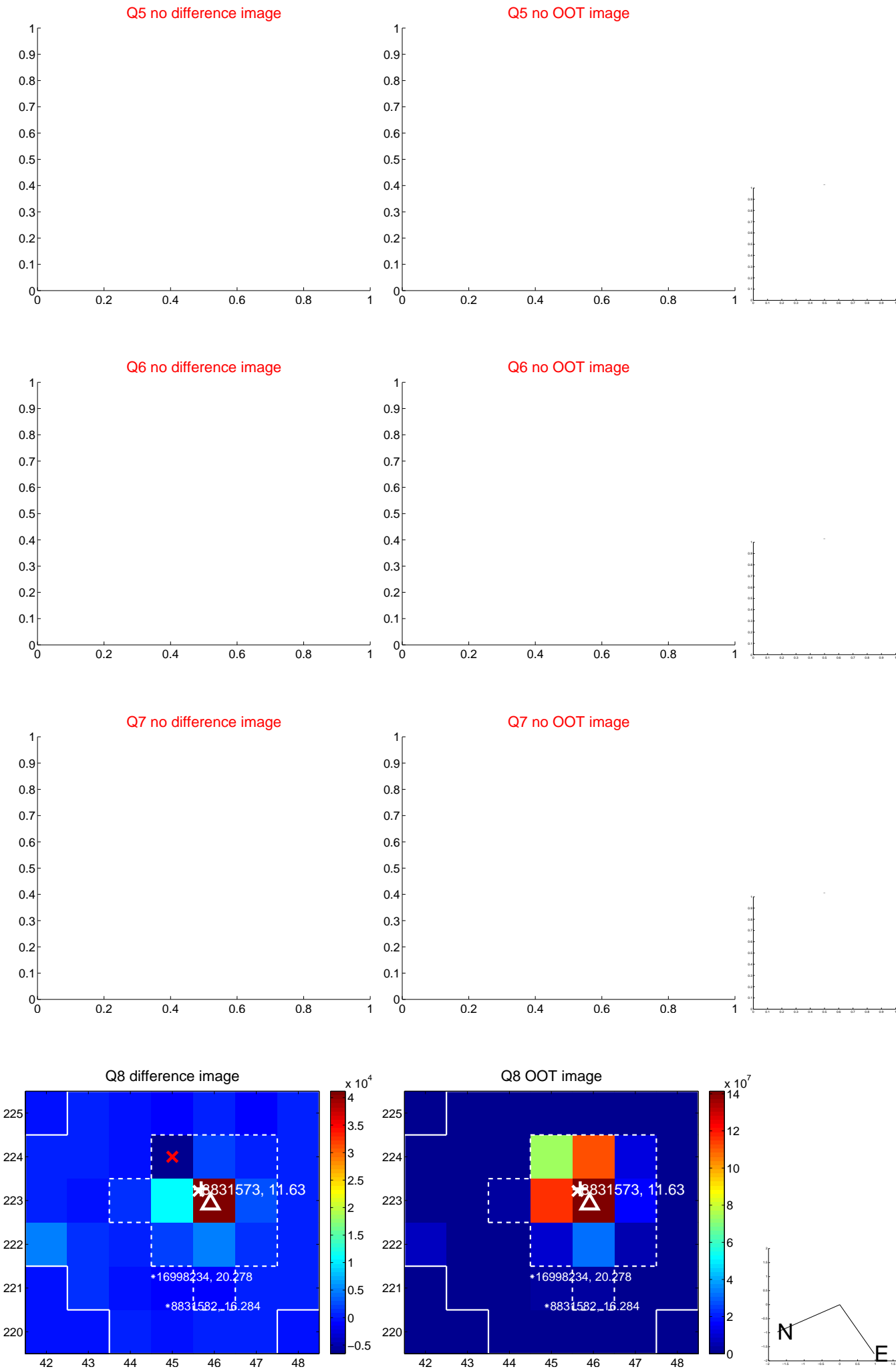


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



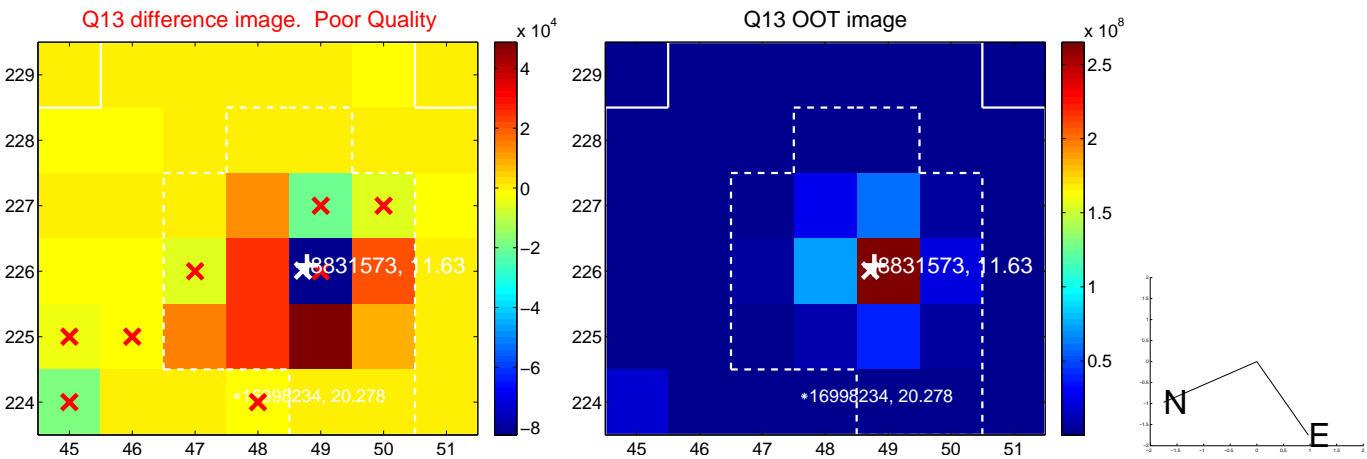
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



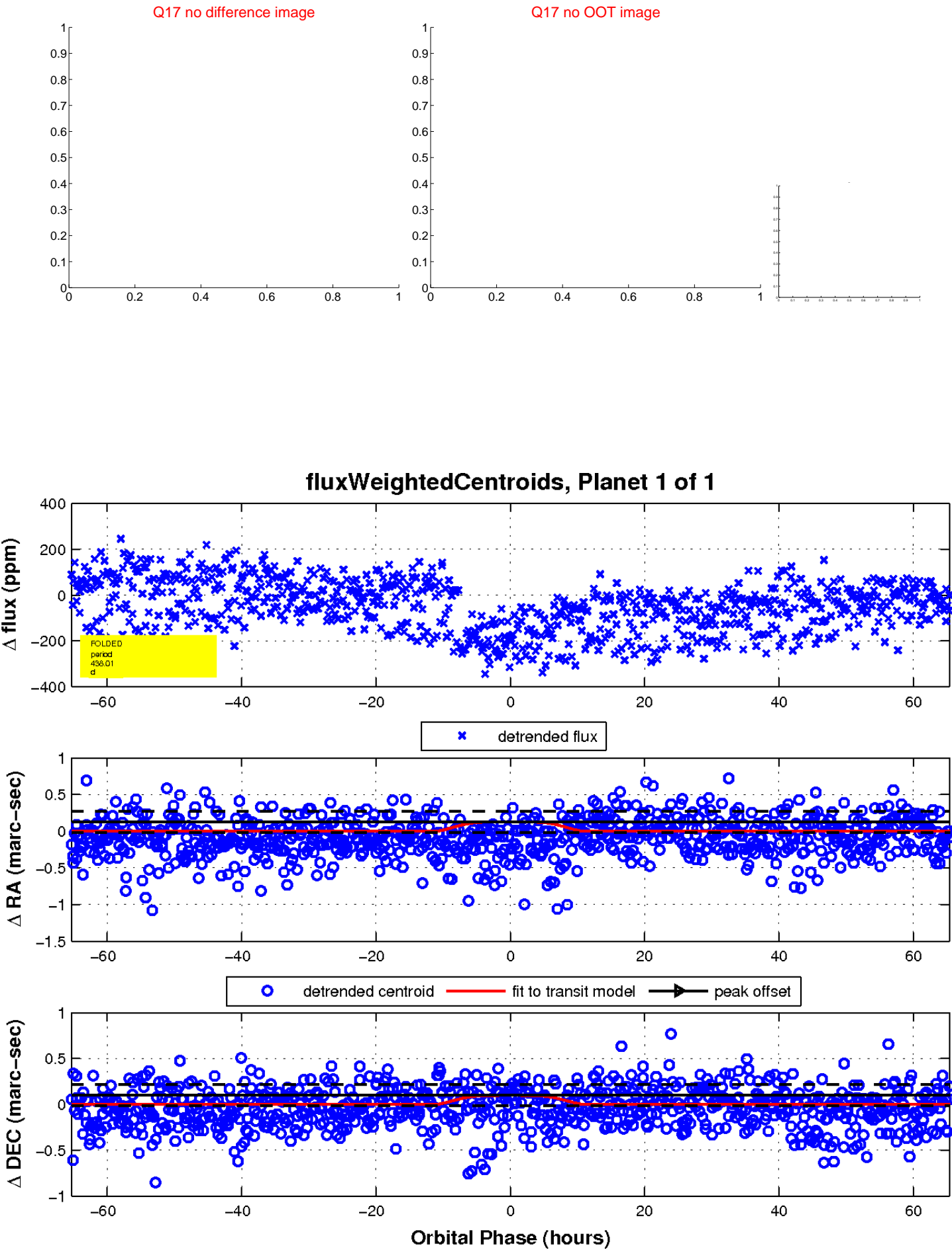
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

