

KIC 008870293

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})
008870293-01	OBS	No	369.529386	233.899192	1060.1	16.427	9.5	9.5	0.80	5697	2.67	0.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008870293-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE--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.

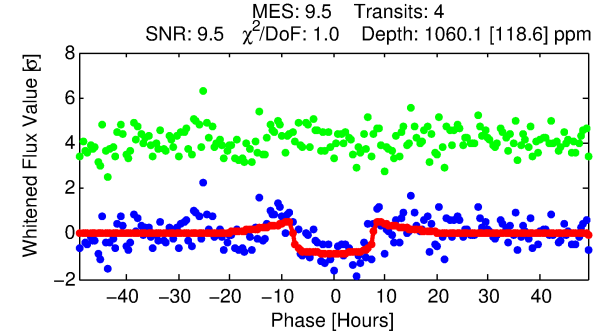
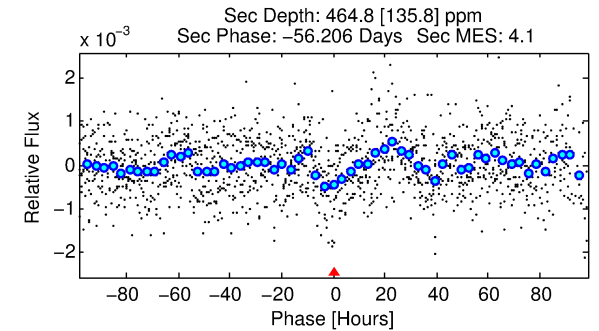
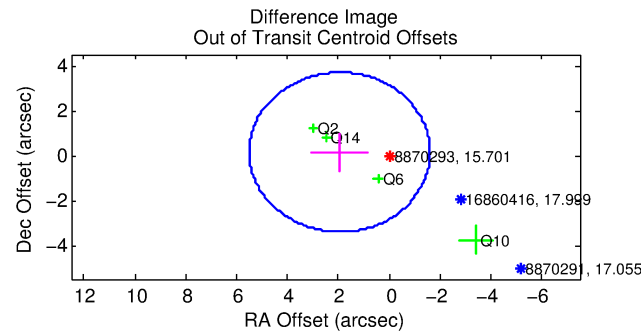
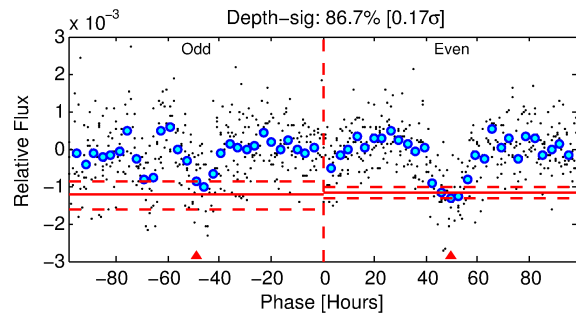
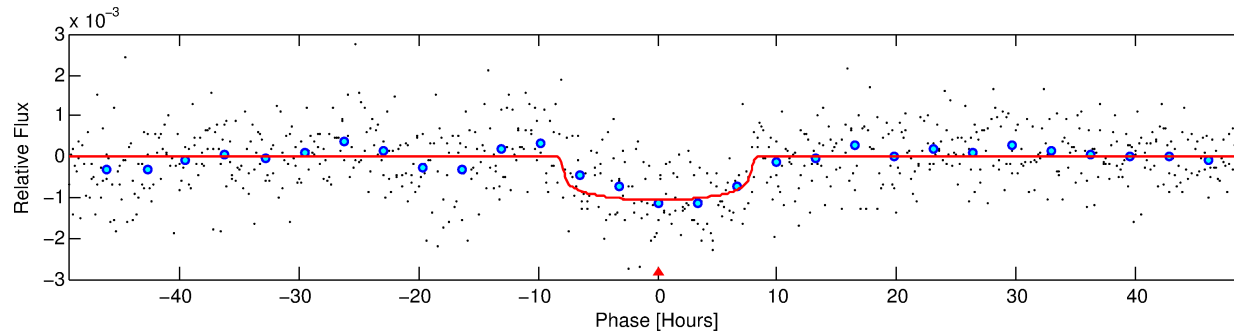
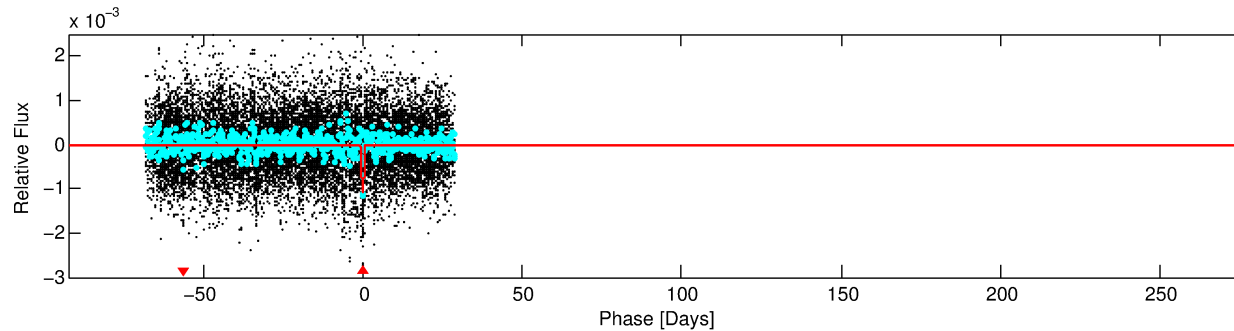
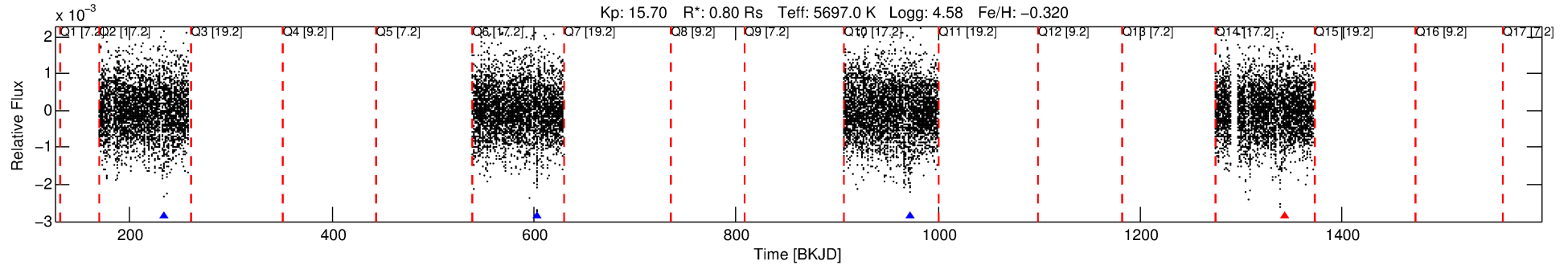
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008870293-01

No Significant Match Found

DV One-Page Summary

KIC: 8870293 Candidate: 1 of 1 Period: 369.529 d



DV Fit Results:

Period = 369.52939 [0.00806] d
Epoch = 233.8992 [0.0152] BKJD
Rp/R* = 0.0307 [0.0085]
a/R* = 151.83 [180.65]
b = 0.53 [1.62]
Seff = 0.65 [0.21]
Teq = 229 [19] K
Rp = 2.67 [0.98] Re
a = 0.9641 [0.1971] AU
Ag = 33318.33 [23025.40] [1.45 σ]
Teff = 4776 [762] K [5.96 σ]

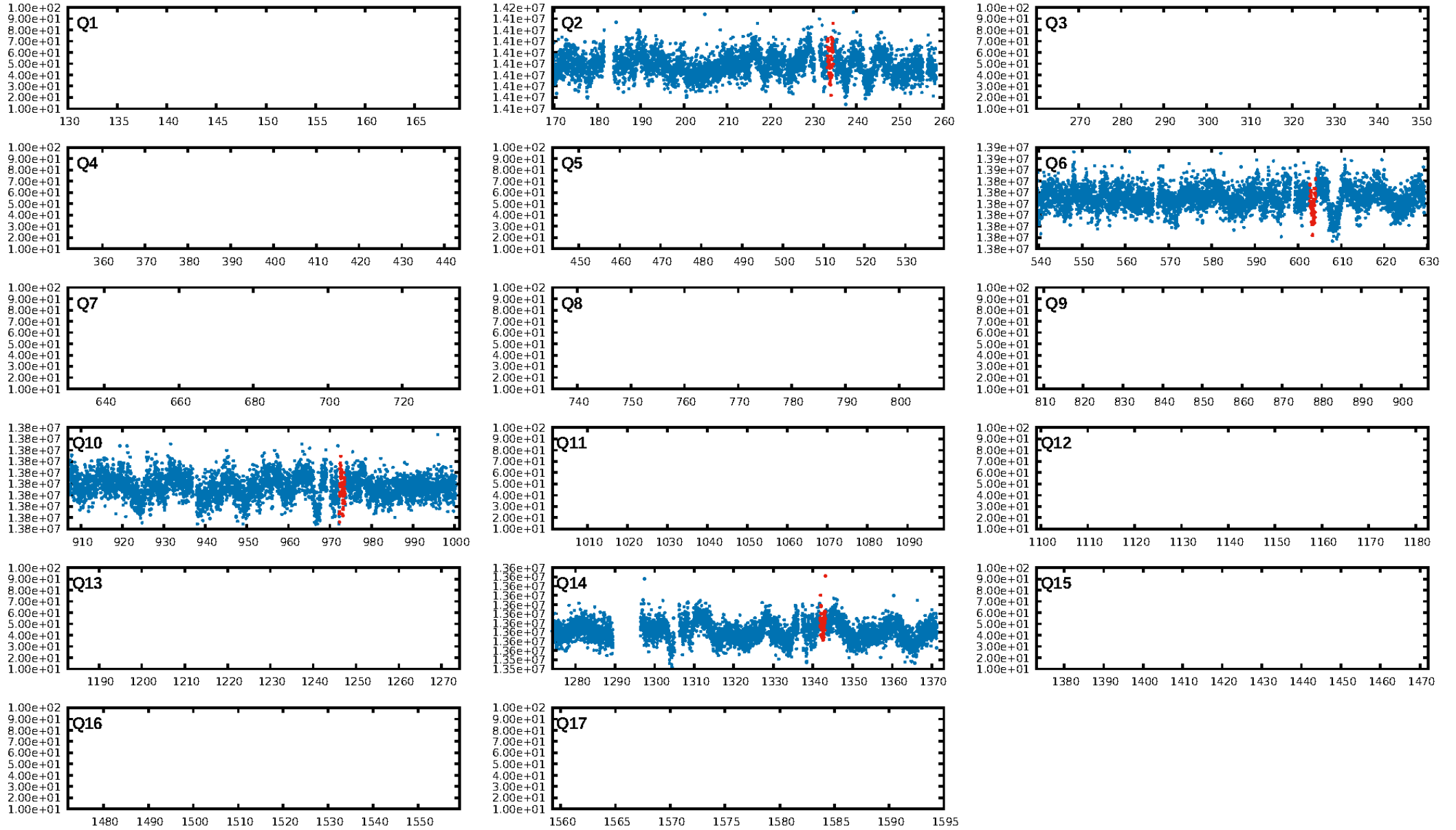
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 29.8%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.95e-10
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 0.4069
Centroid-sig: 0.0%
Centroid-so: 4.164 arcsec [2.06 σ]
OotOffset-rm: 1.952 arcsec [1.65 σ]
OotOffset-st: 4/0/0/0 [4]
KicOffset-rm: 1.814 arcsec [1.38 σ]
KicOffset-st: 4/0/0/0 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 1.00 [4/4]

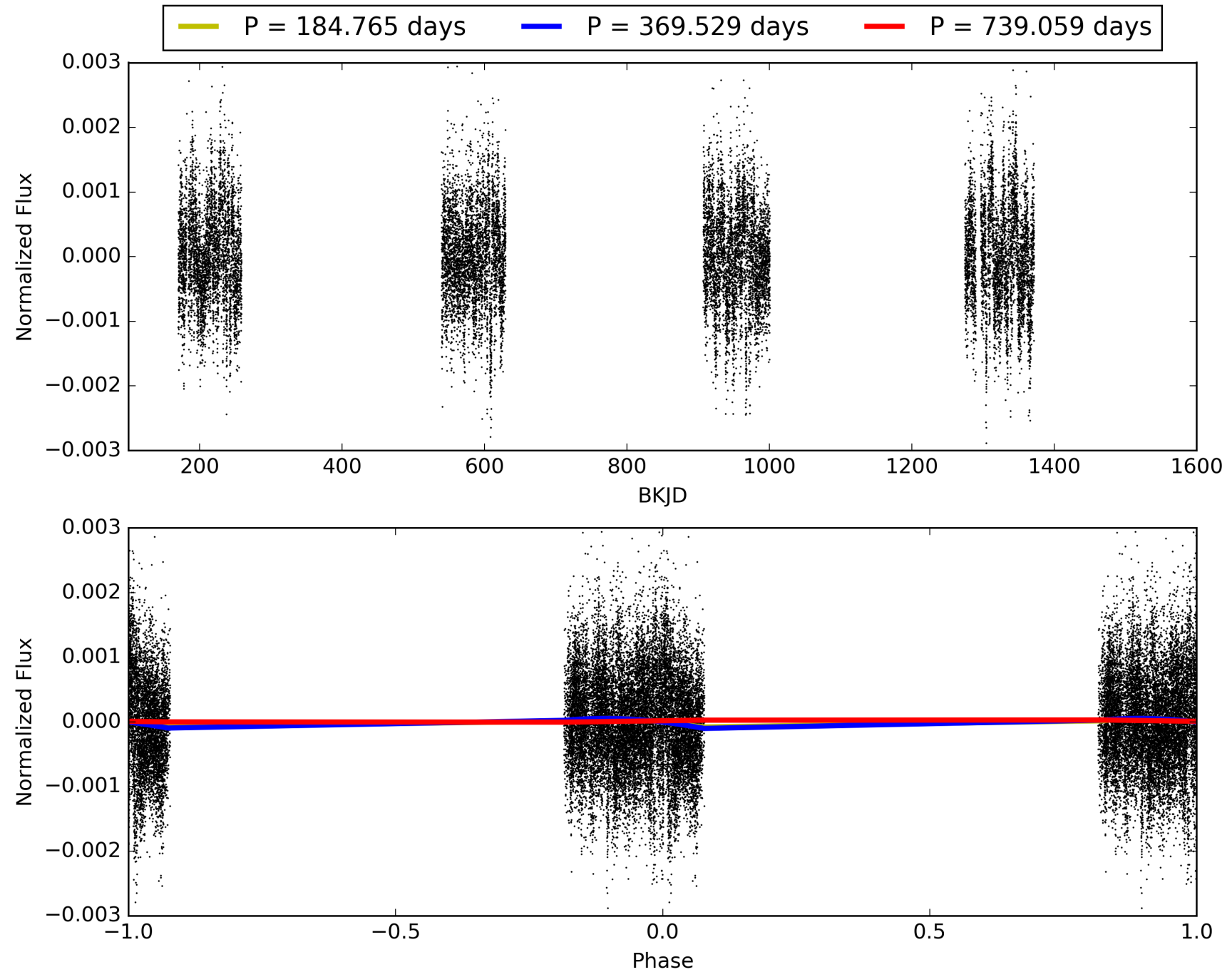
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:39:47 Z

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

TCE 008870293-01, PDC Light Curves

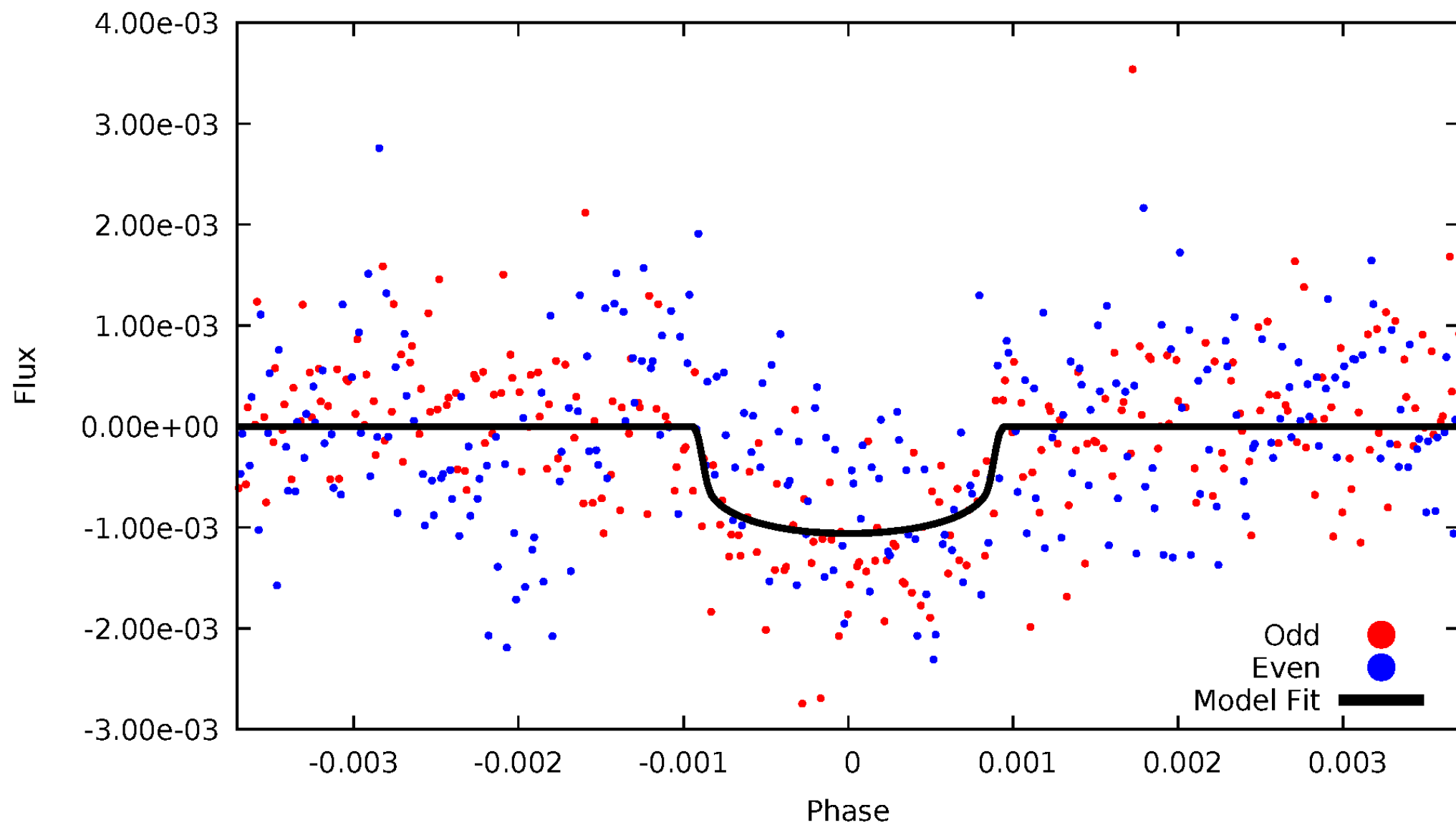


TCE 008870293-01



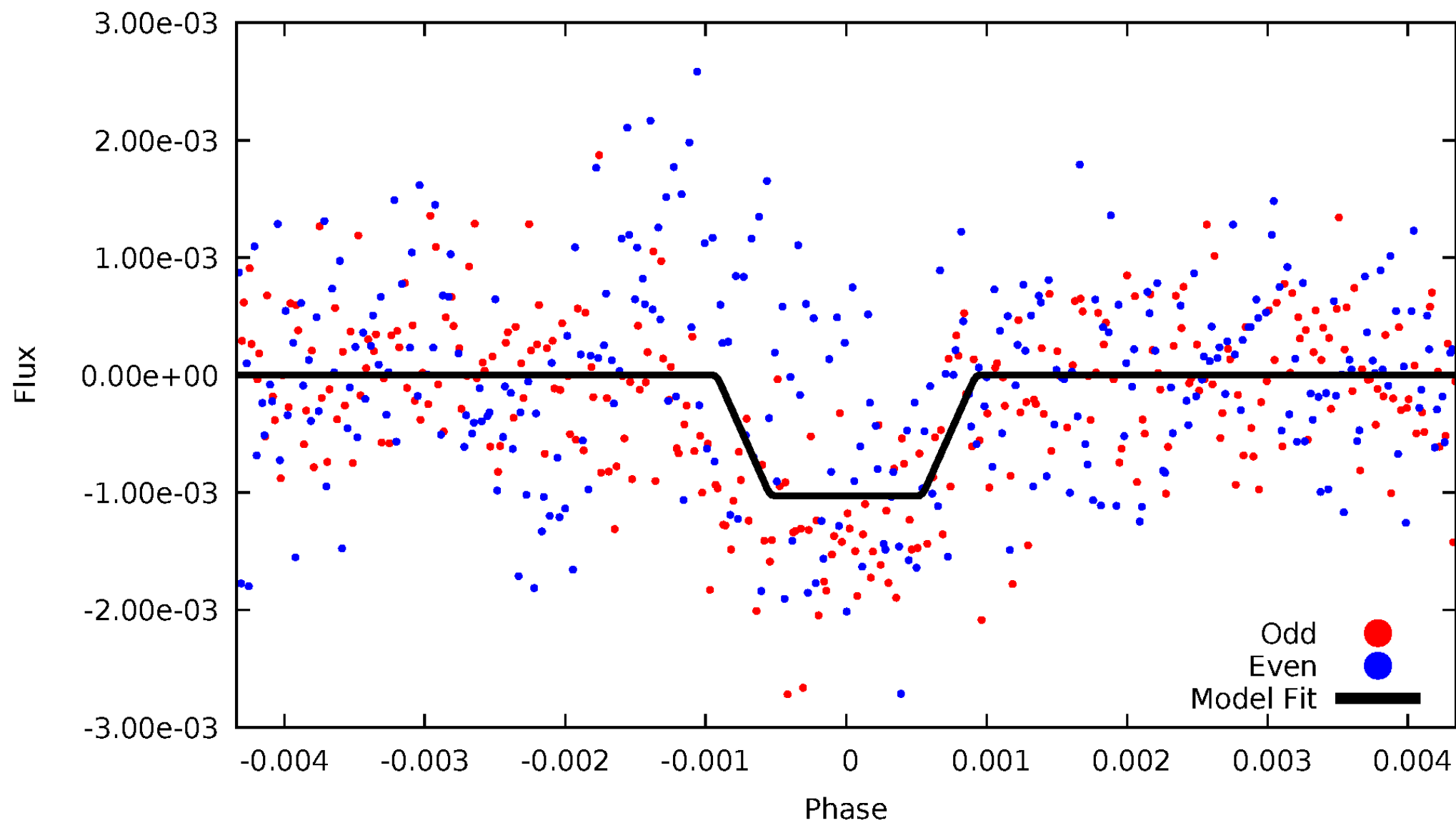
DV Odd/Even

TCE 008870293-01



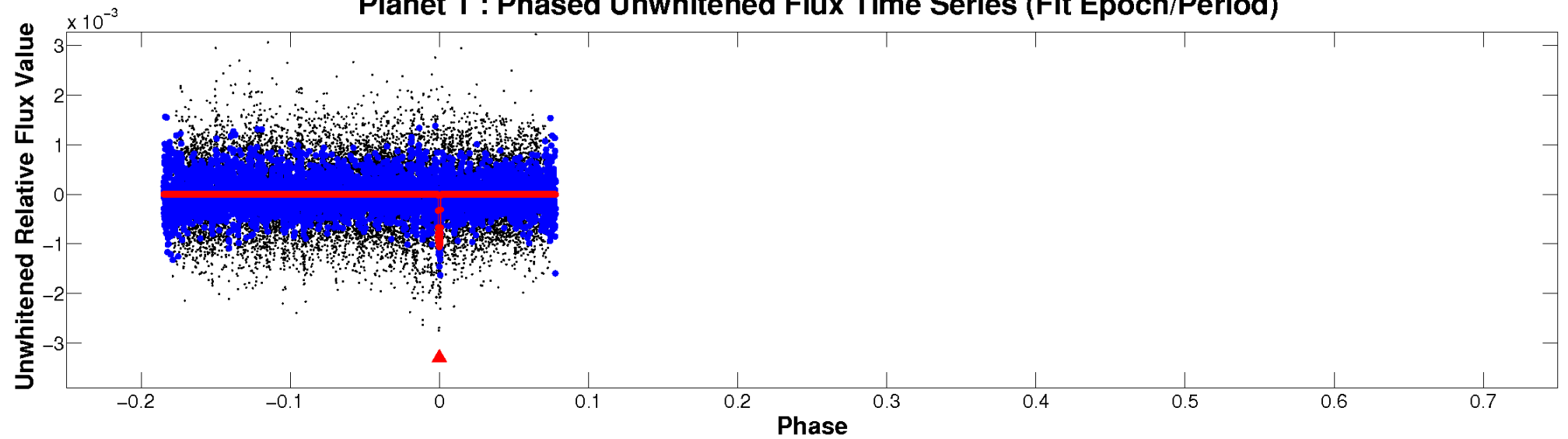
ALT Odd/Even

TCE 008870293-01

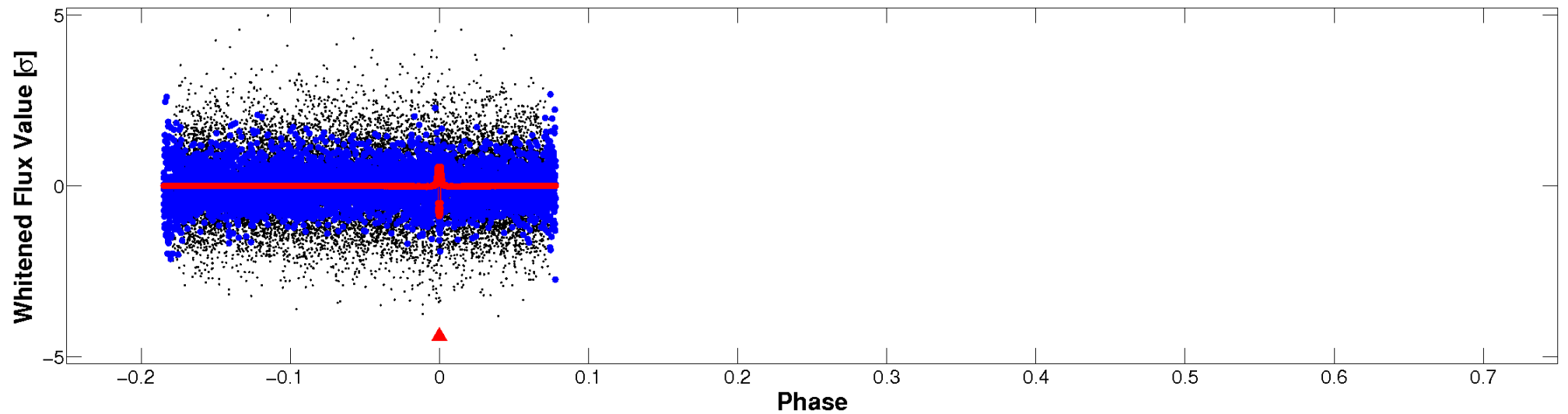


Non-Whitened Vs. Whitened Light Curve

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



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



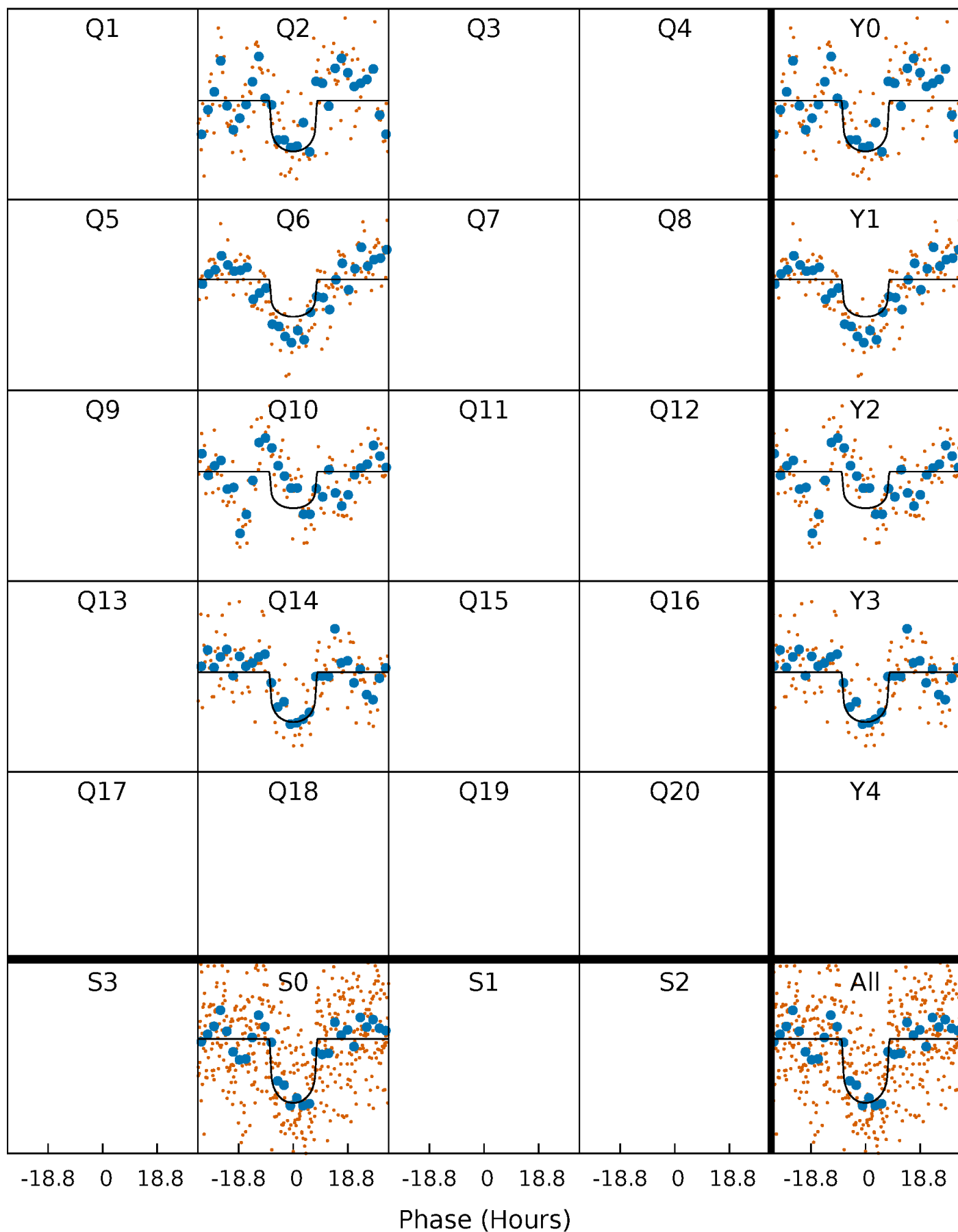
PDC Quarter-Phased Transit Curves

TCE 008870293-01 P=369.529386 Days $T_0=233.899192$ (BKJD)



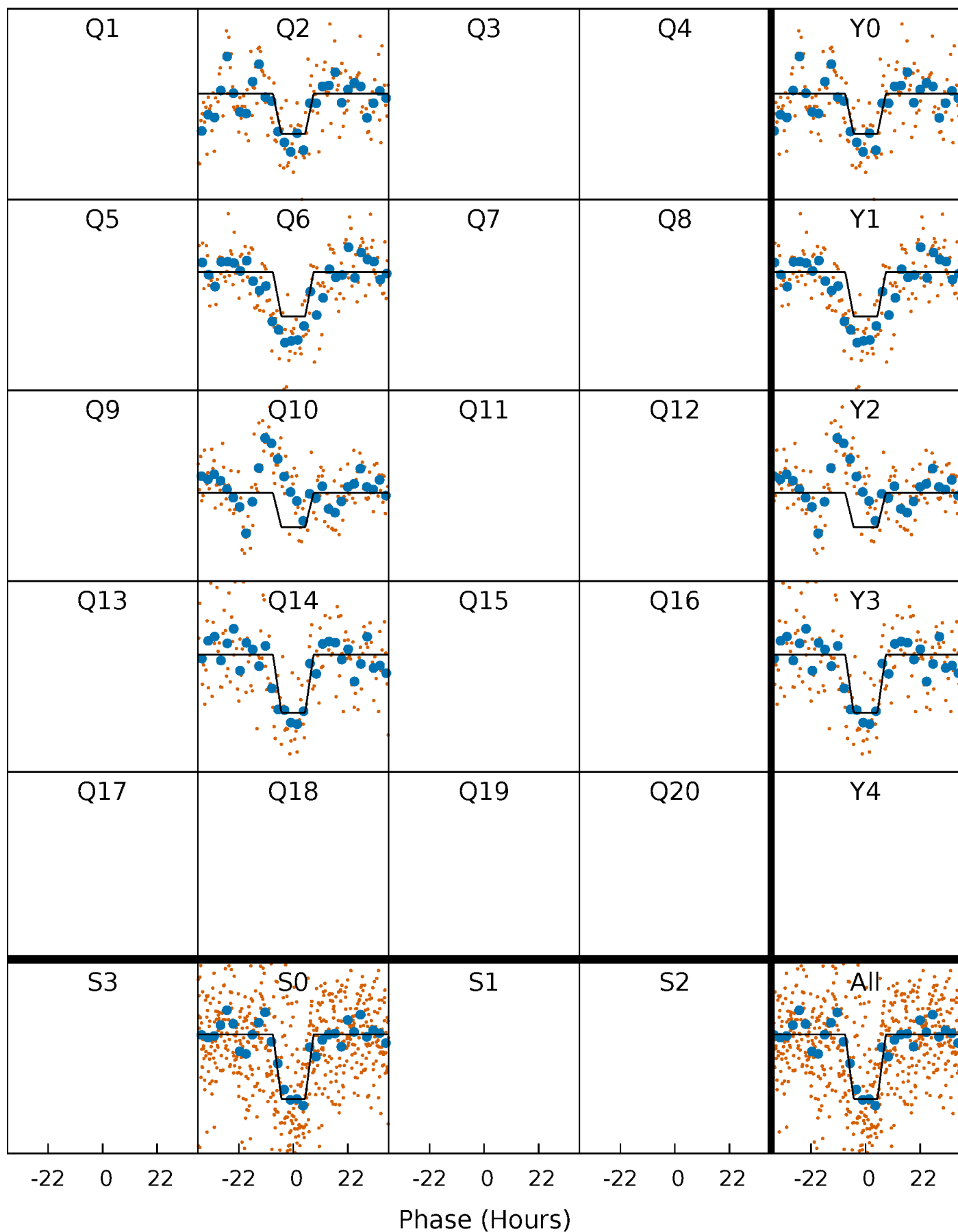
DV Quarter-Phased Transit Curves

TCE 008870293-01 P=369.529386 Days $T_0=233.899192$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

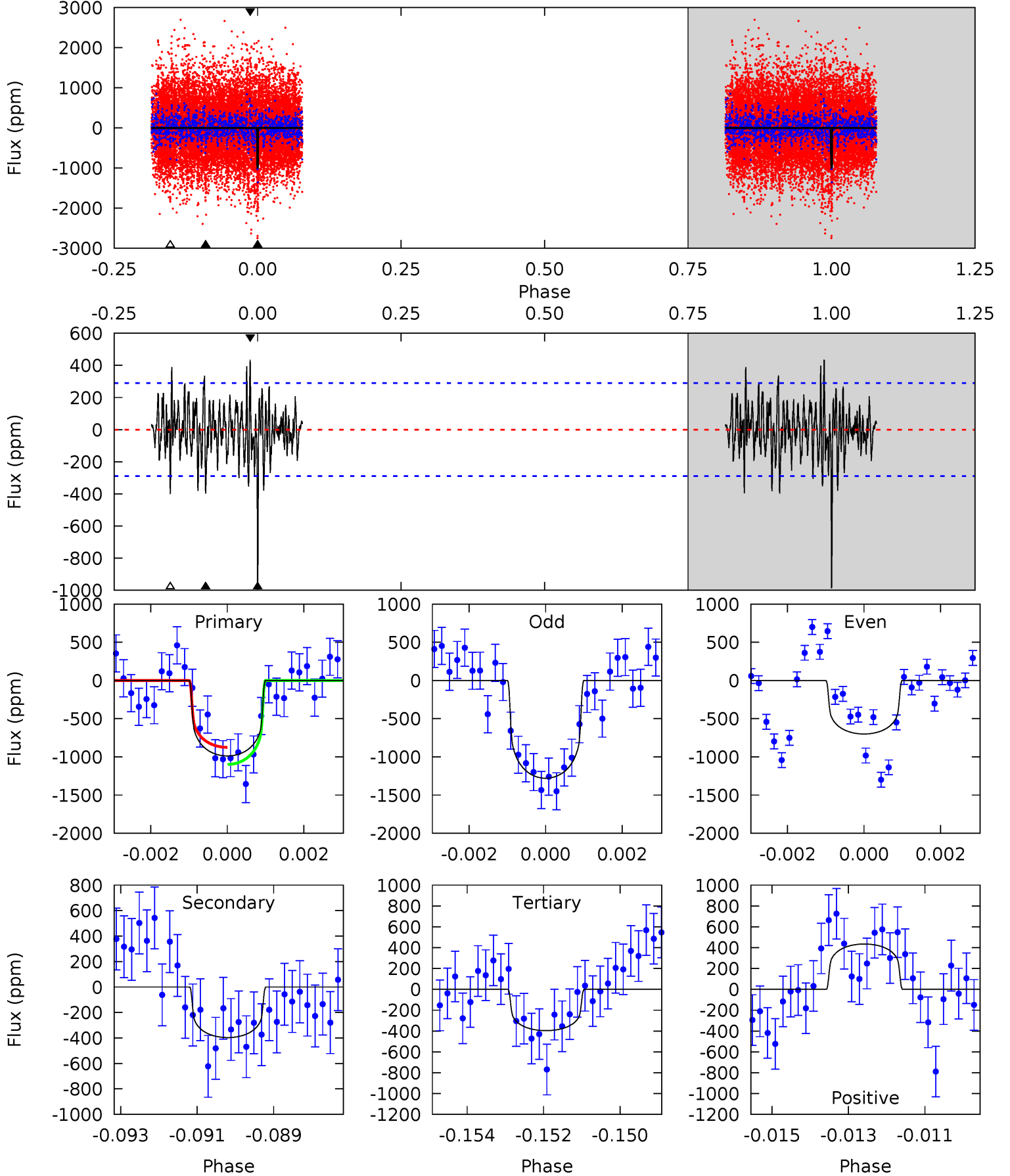
TCE 008870293-01 P=369.534121 Days $T_0=233.946162$ (BKJD)



DV Model-Shift Uniqueness Test

008870293-01, P = 369.529386 Days, E = 233.899192 Days

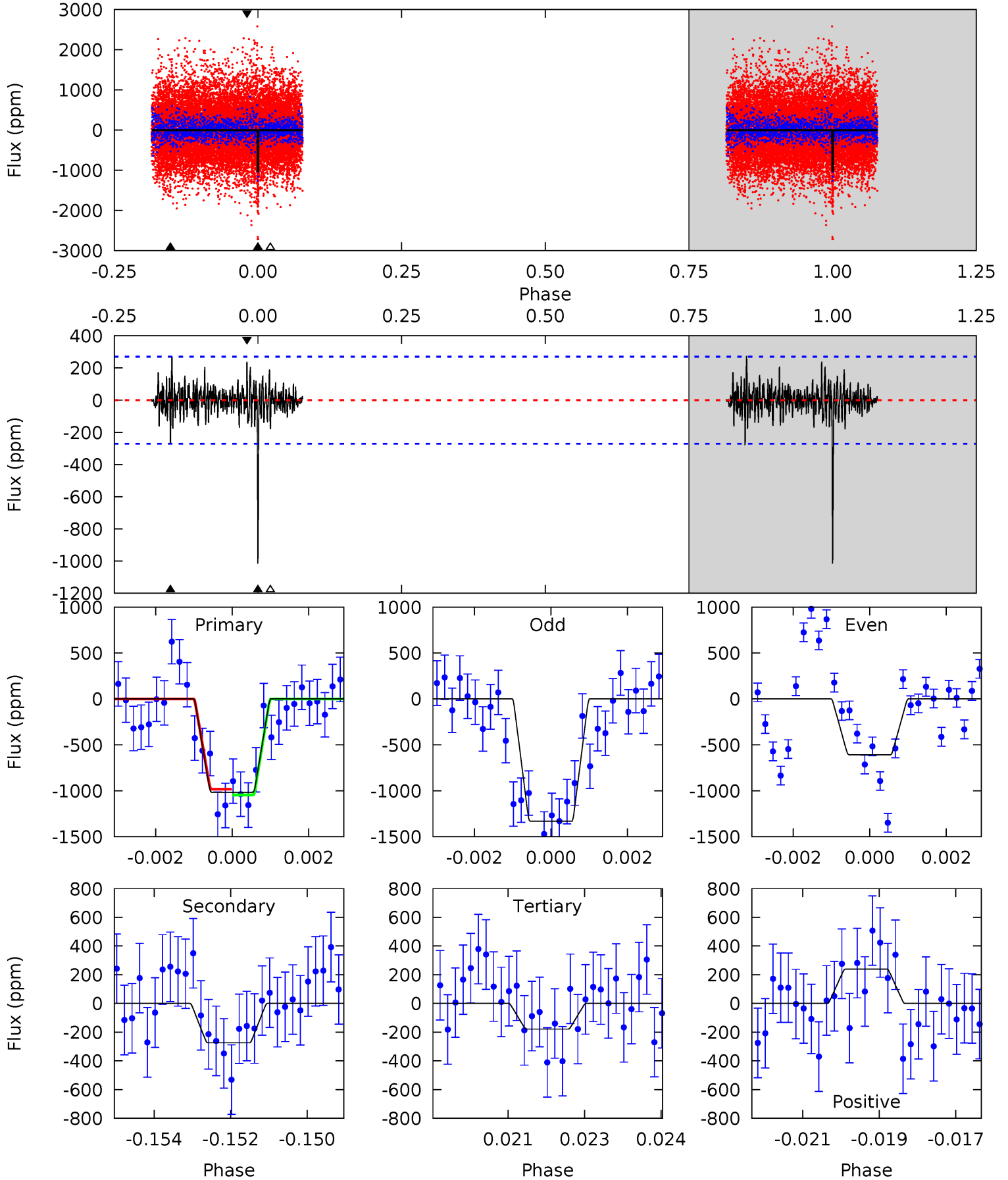
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	7.31	7.30	8.02	5.34	3.11	2.43	10.9	10.2	0.01	-0.70	5.39	1.11	0.31	2.09



Alt Model-Shift Uniqueness Test

008870293-01, P = 369.534121 Days, E = 233.946162 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	5.41	3.52	4.71	5.34	3.11	1.33	16.5	15.3	1.89	0.70	7.19	0.82	0.21	0.62



Stellar Parameters For KIC 008870293

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5697^{+172}_{-189}	$4.576^{+0.038}_{-0.161}$	$-0.320^{+0.300}_{-0.300}$	$0.798^{+0.195}_{-0.078}$	$0.883^{+0.089}_{-0.107}$	$2.443^{+0.508}_{-1.056}$
	+3%/-3%	+1%/-4%	+94%/-94%	+24%/-10%	+10%/-12%	+21%/-43%
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 008870293-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-397 ± 54	$2.78^{+0.85}_{-0.77}$	327^{+21}_{-16}	4738^{+681}_{-495}	25723^{+23874}_{-11015}
Alt.	-274 ± 51	$2.94^{+0.79}_{-0.81}$	327^{+17}_{-15}	4284^{+594}_{-381}	15485^{+15000}_{-6446}

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

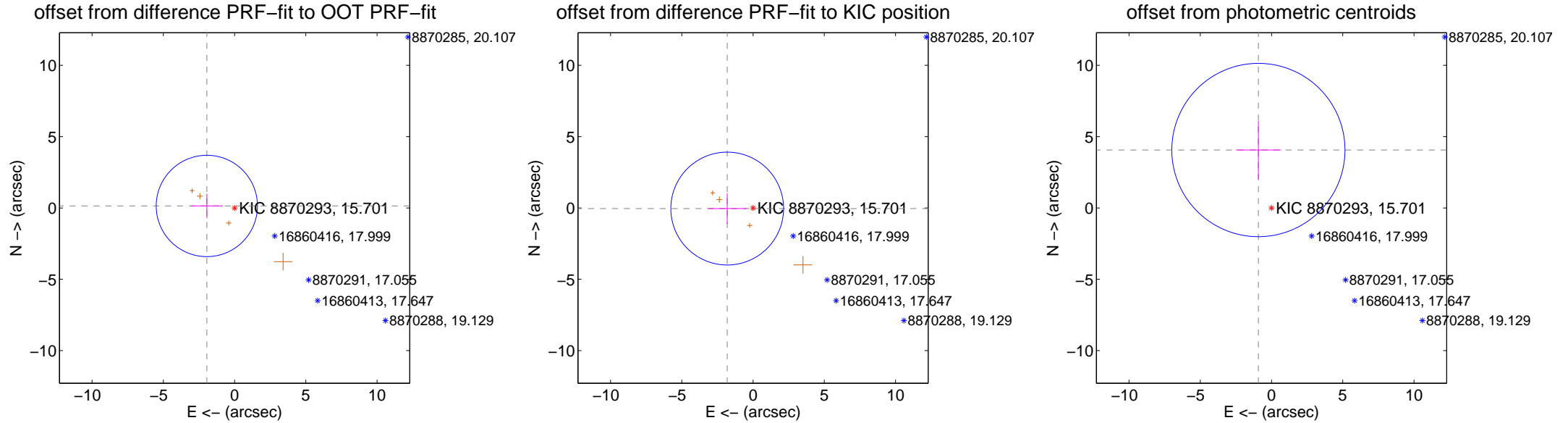
DV Centroid Data

Supplemental centroid analysis for 008870293-01. Kepler magnitude: 15.70. Transit SNR 9.54

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	1.952 ± 1.184	1.65	1.947 ± 1.126	0.140 ± 0.859
PRF-fit source offset from KIC position	1.814 ± 1.319	1.38	1.813 ± 1.344	-0.043 ± 1.074
photometric centroid source offset	4.16 ± 2.03	2.06	0.92 ± 1.57	4.06 ± 2.05



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.

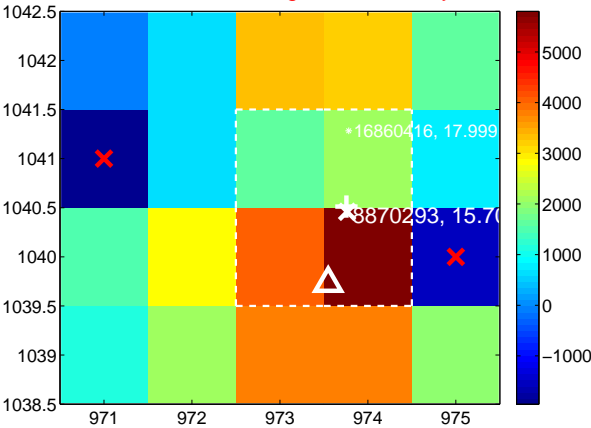
Q1 no difference image



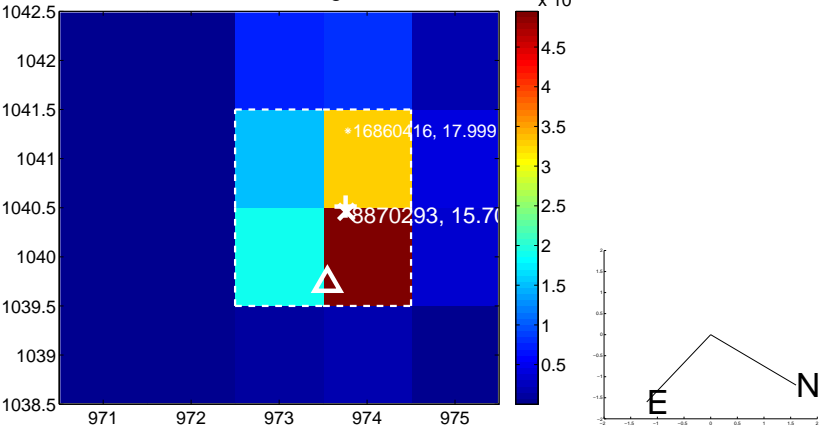
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



Q3 no difference image



Q3 no OOT image



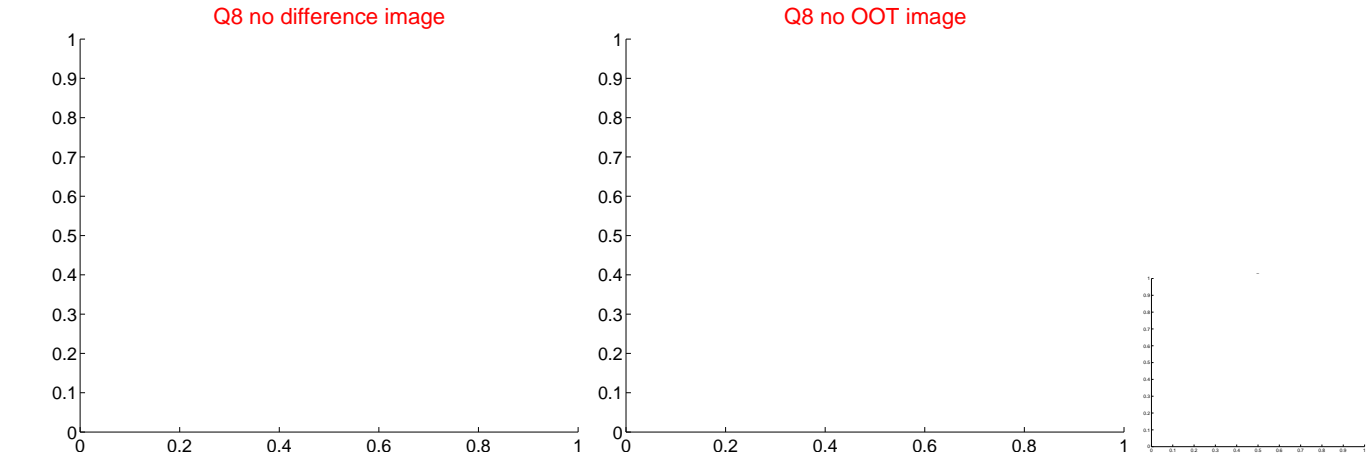
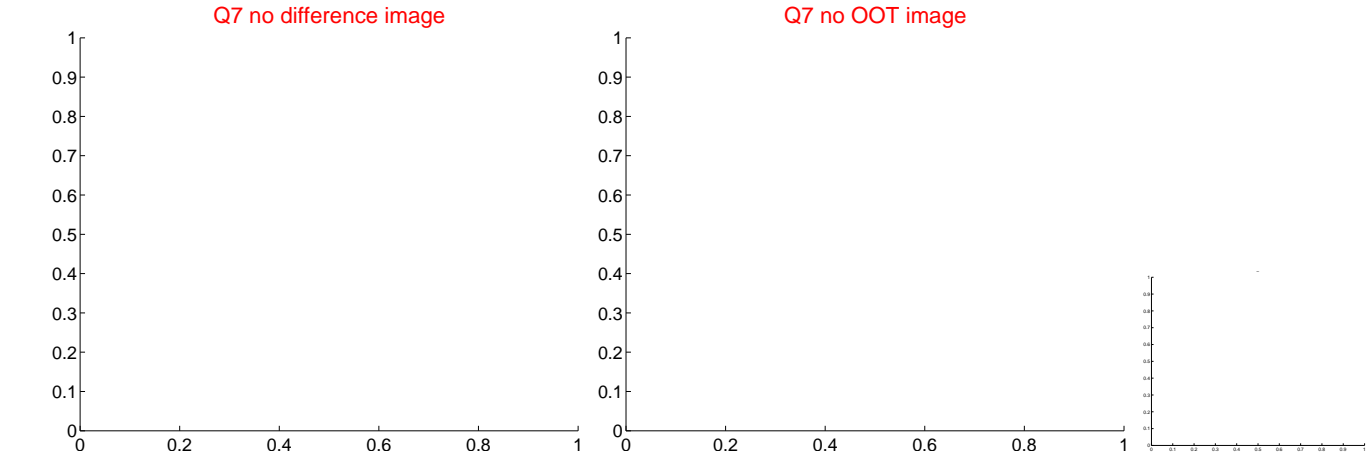
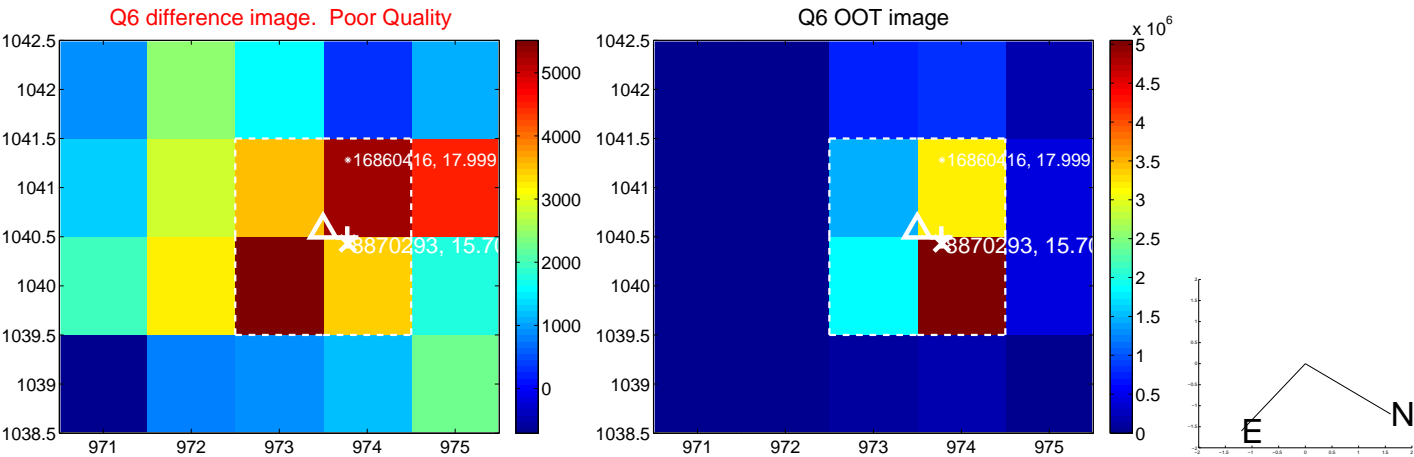
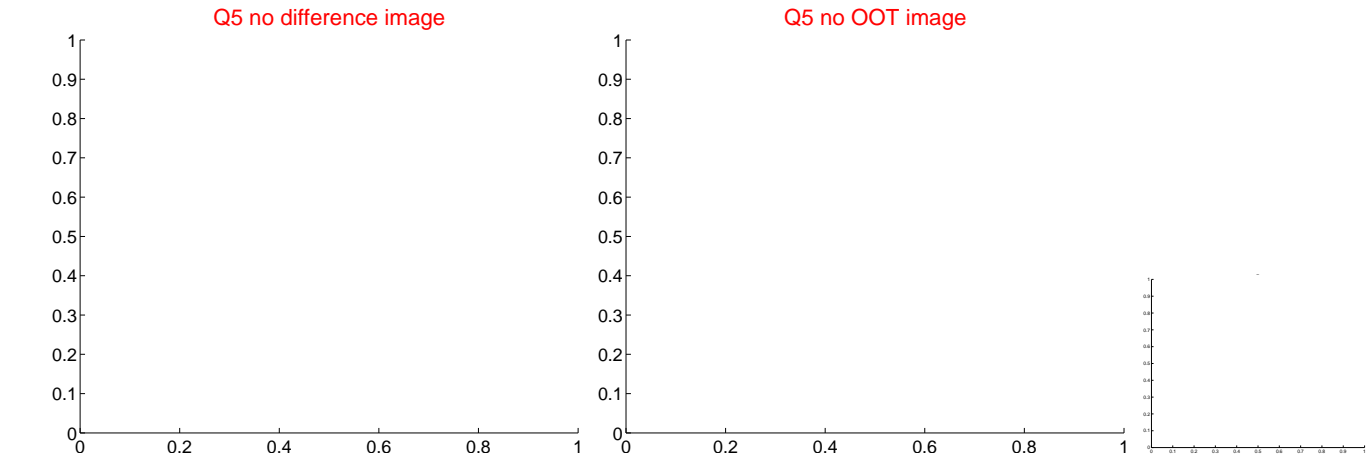
Q4 no difference image



Q4 no OOT image



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



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

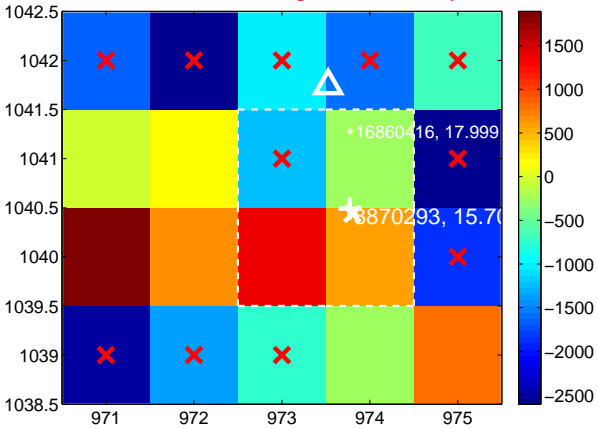
Q9 no difference image



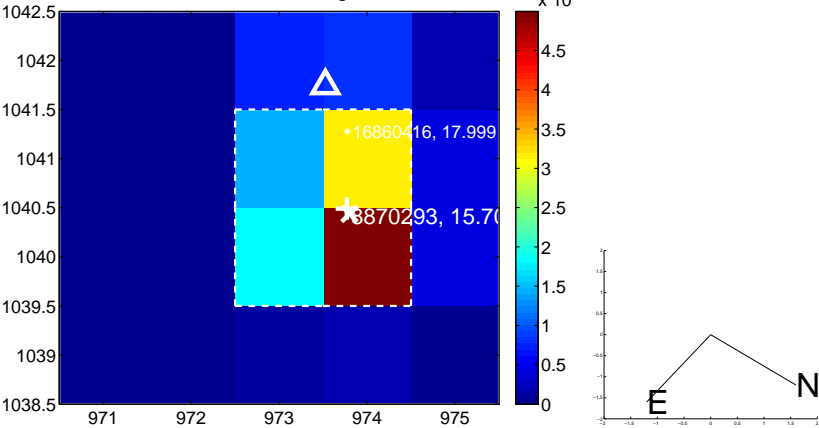
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



Q11 no difference image



Q11 no OOT image



Q12 no difference image



Q12 no OOT image



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

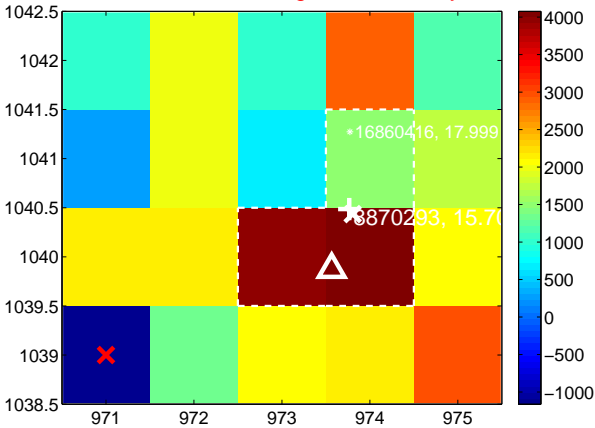
Q13 no difference image



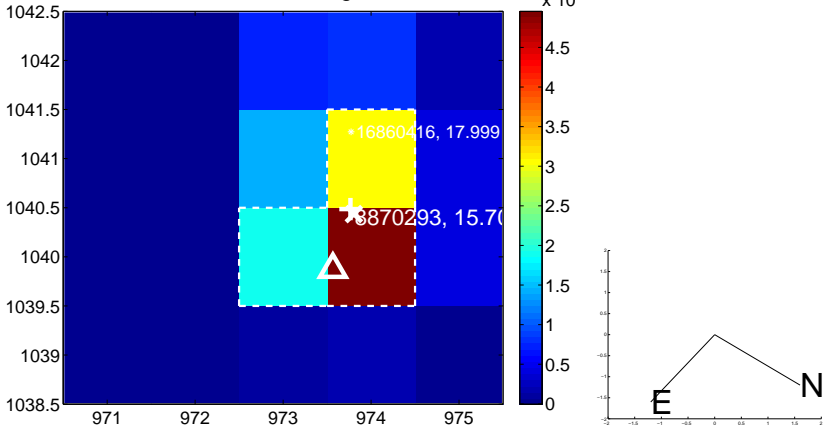
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



Q15 no difference image



Q15 no OOT image



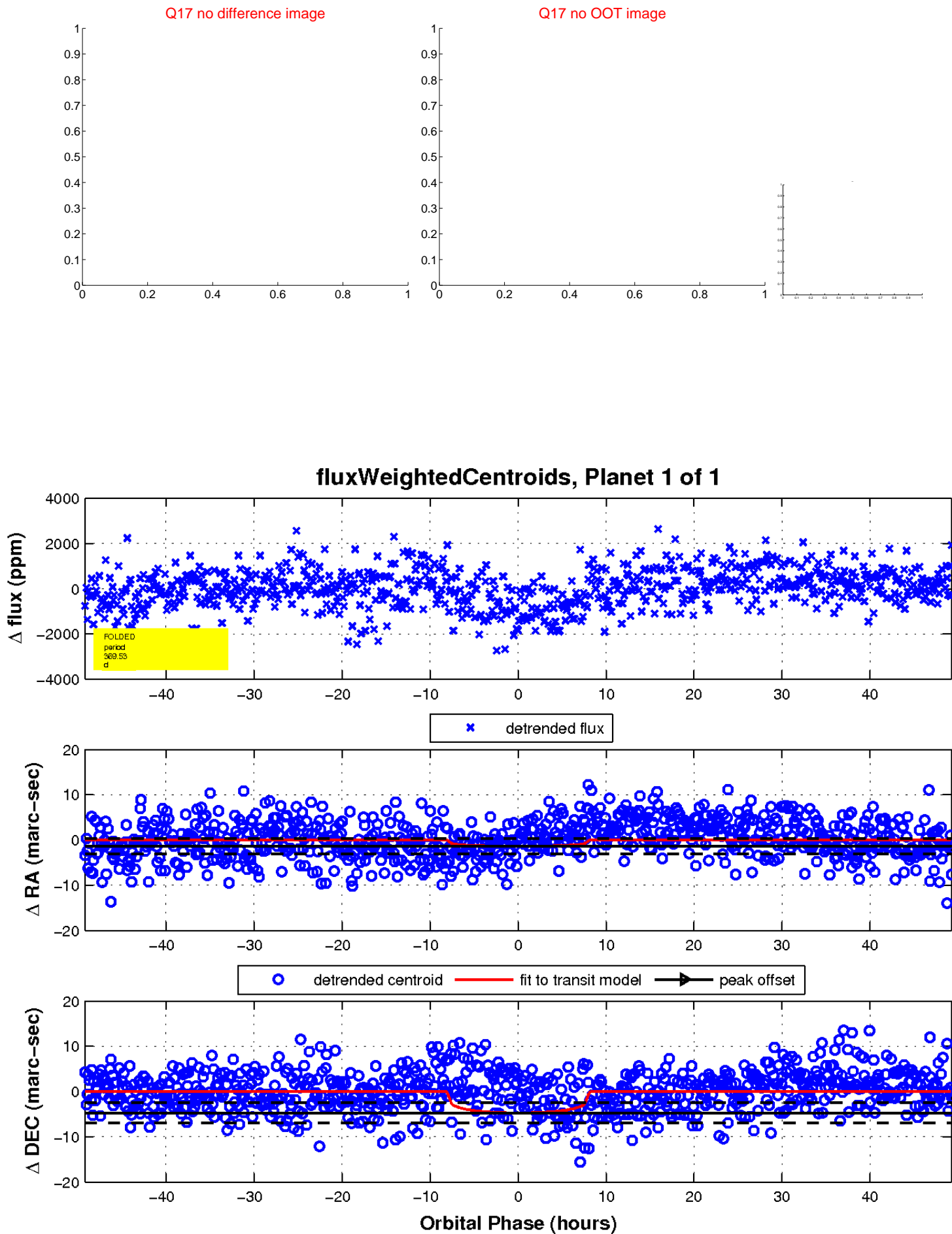
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

