

KIC 008408875

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})
008408875-01	OBS	No	126.754483	197.333484	819.7	4.352	10.2	5.9	0.14	2923	0.41	0.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008408875-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_KIC_POS

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

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

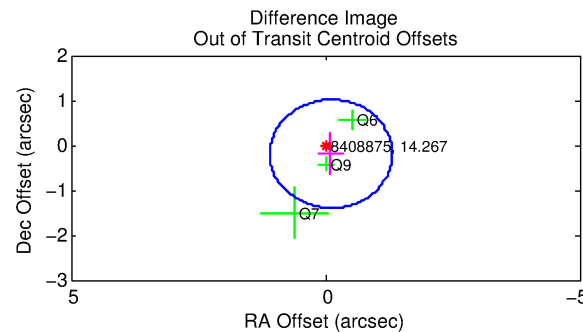
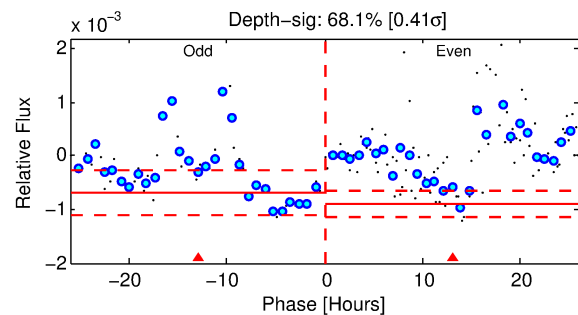
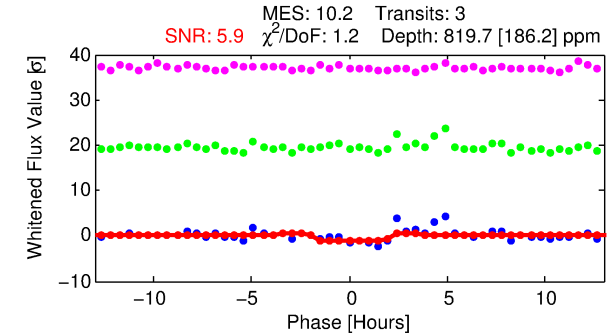
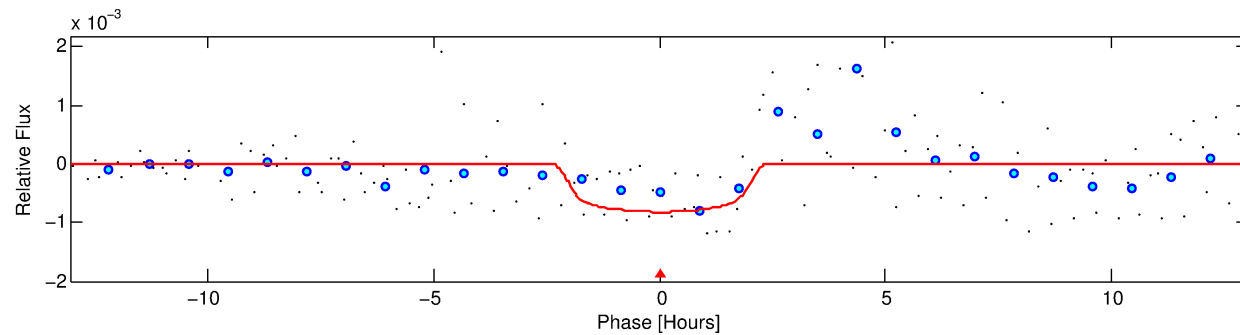
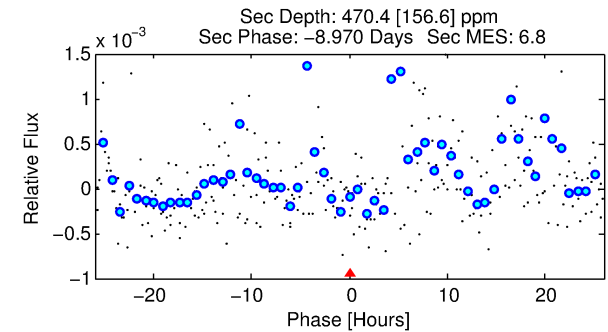
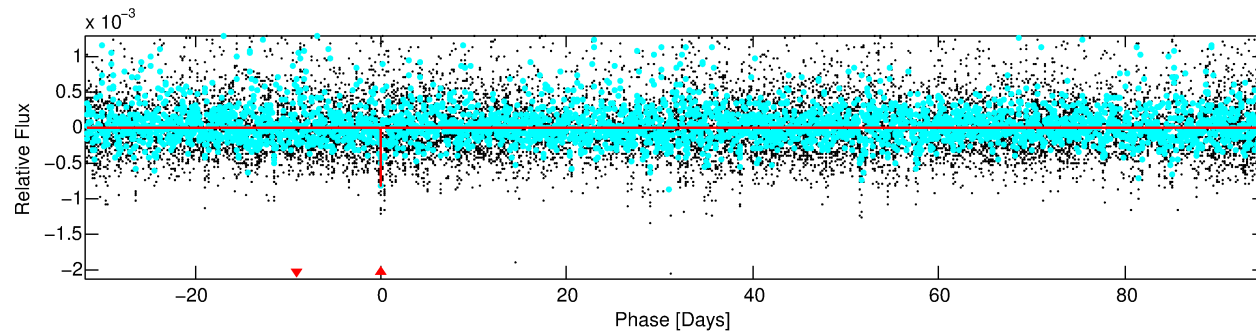
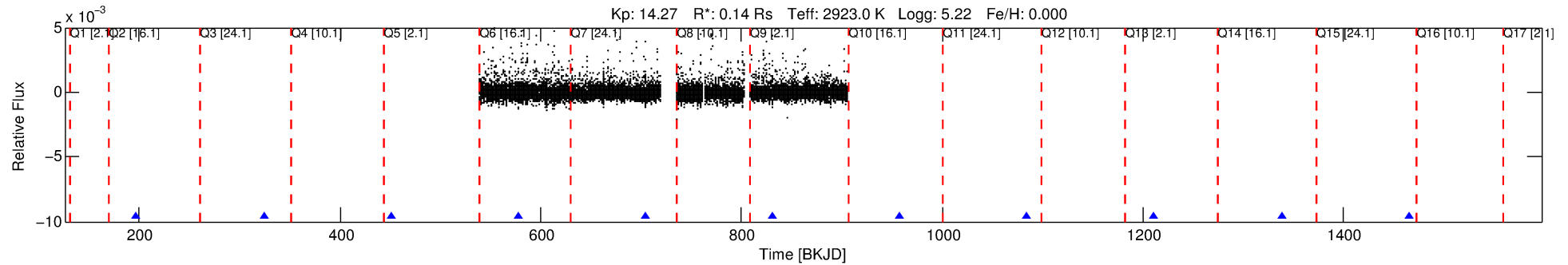
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008408875-01

No Significant Match Found

DV One-Page Summary

KIC: 8408875 Candidate: 1 of 1 Period: 126.754 d



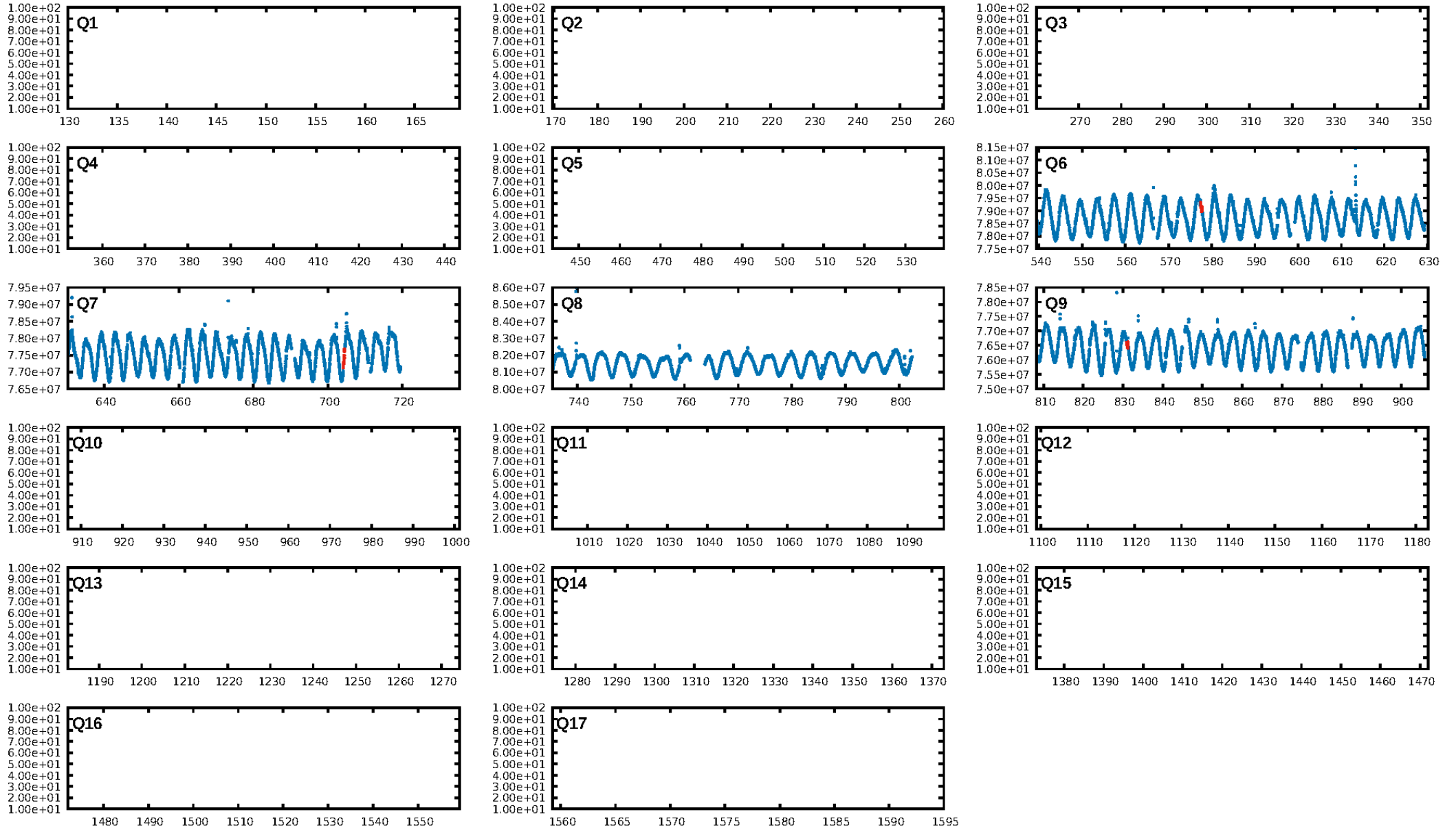
DV Fit Results:

Period = 126.75448 [0.00688] d
Epoch = 197.3335 [0.0292] BKJD
Rp/R* = 0.0278 [0.0430]
a/R* = 171.43 [1141.09]
b = 0.68 [5.27]
Seff = 0.02 [0.00]
Teq = 97 [0] K
Rp = 0.41 [0.63] Re
a = 0.2364 [0.0000] AU
Ag = 86330.72 [268847.75] [0.32σ]
Teffp = 2583 [2011] K [1.24σ]

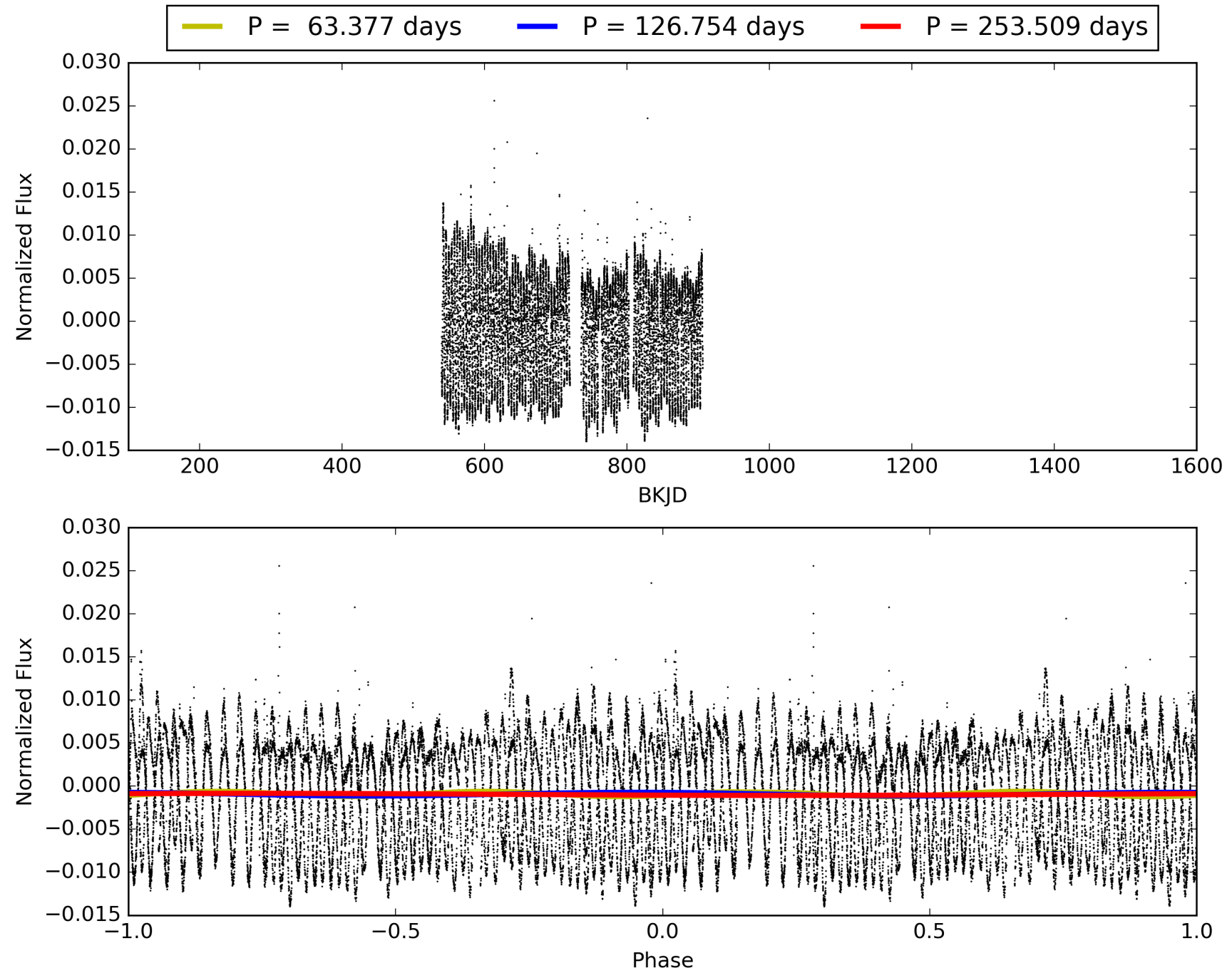
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 70.6%
ModelChiSquareGof-sig: 98.9%
Bootstrap-pfa: 6.20e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.5356
Centroid-sig: 15.9%
Centroid-so: 1.269 arcsec [1.39σ]
OotOffset-rm: 0.220 arcsec [0.55σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 2.061 arcsec [5.02σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 008408875-01, PDC Light Curves

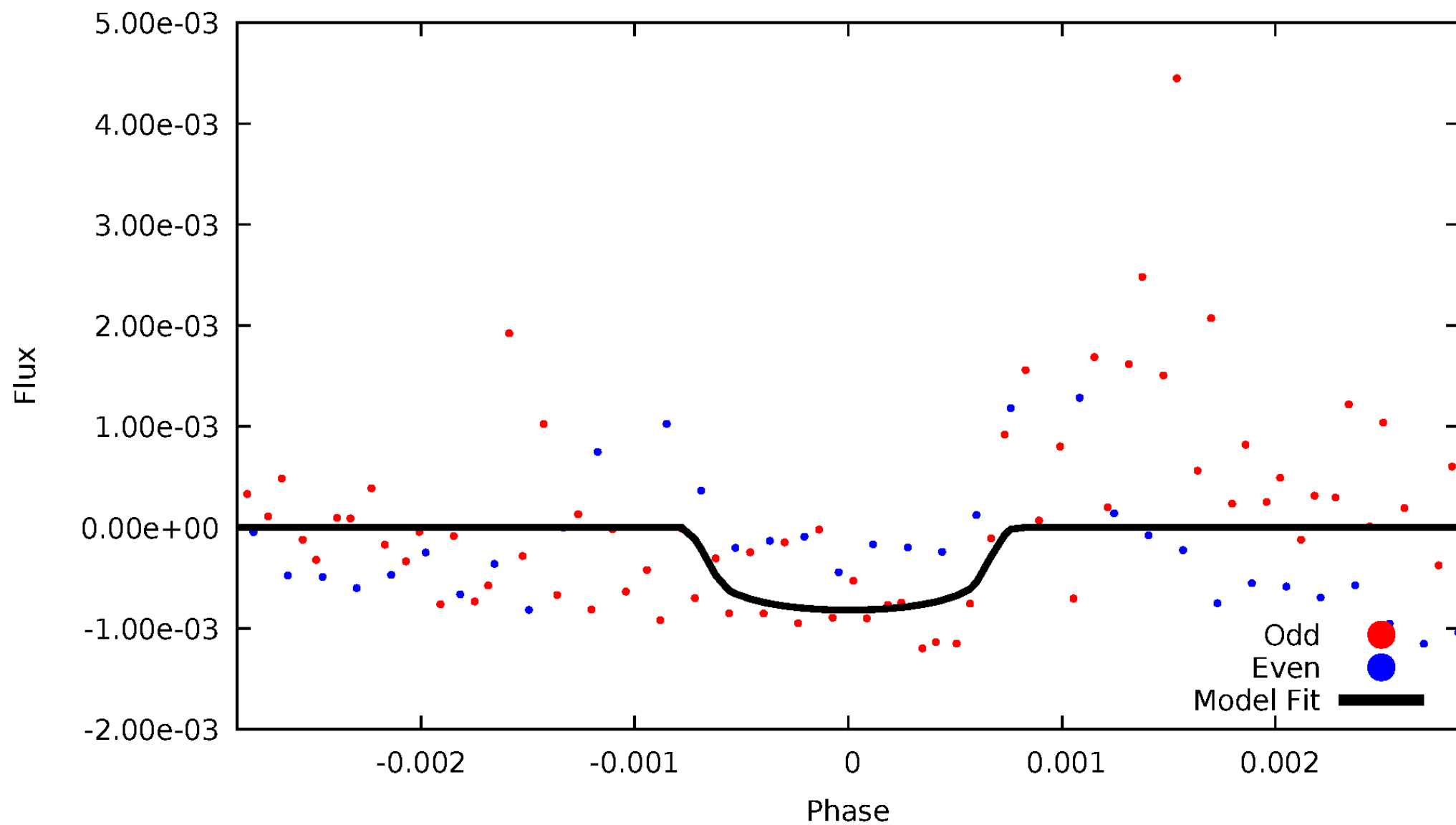


TCE 008408875-01



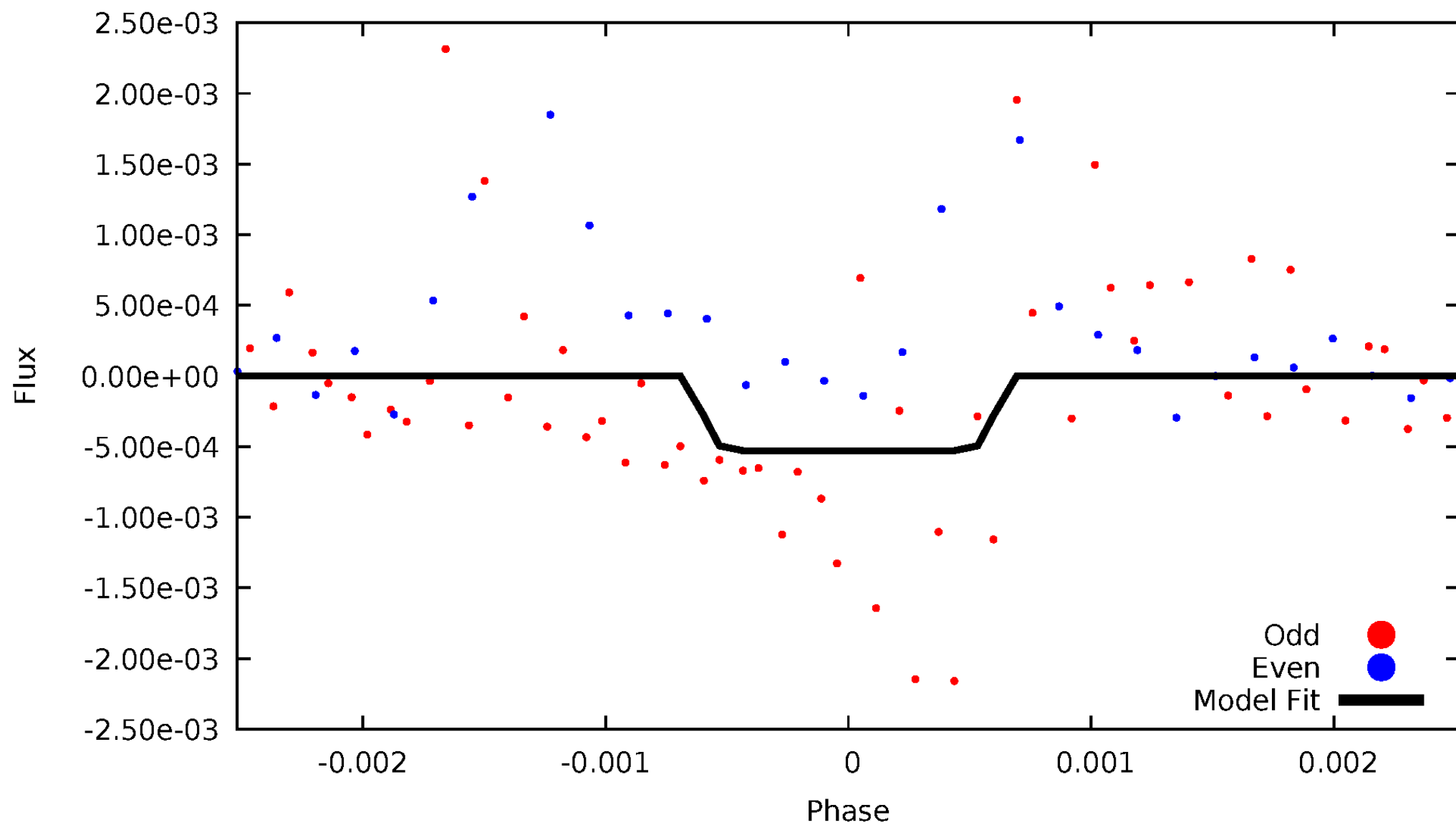
DV Odd/Even

TCE 008408875-01



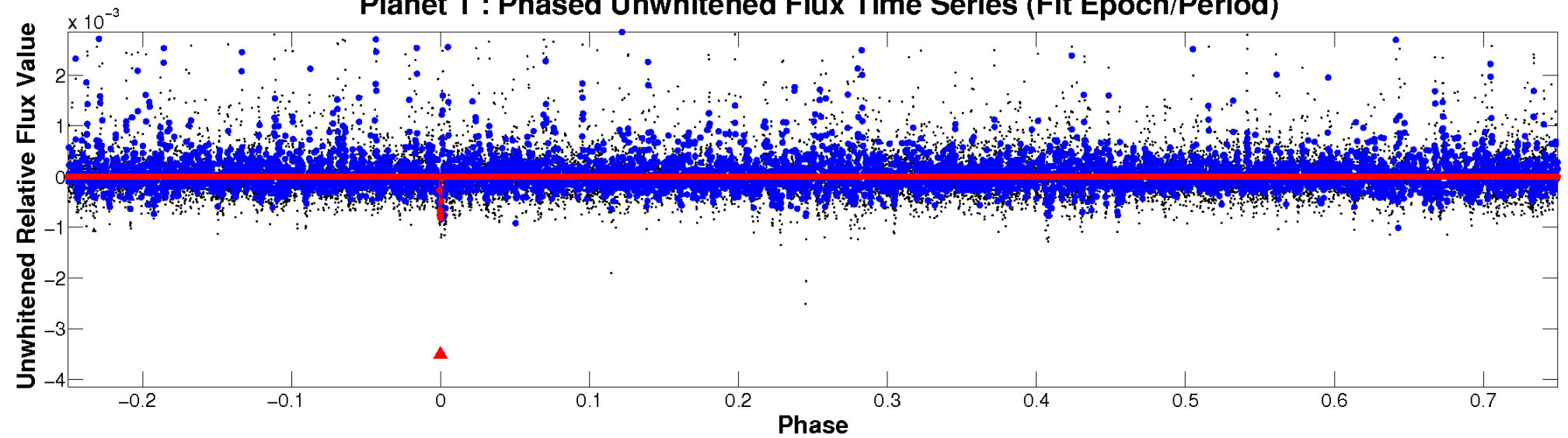
ALT Odd/Even

TCE 008408875-01

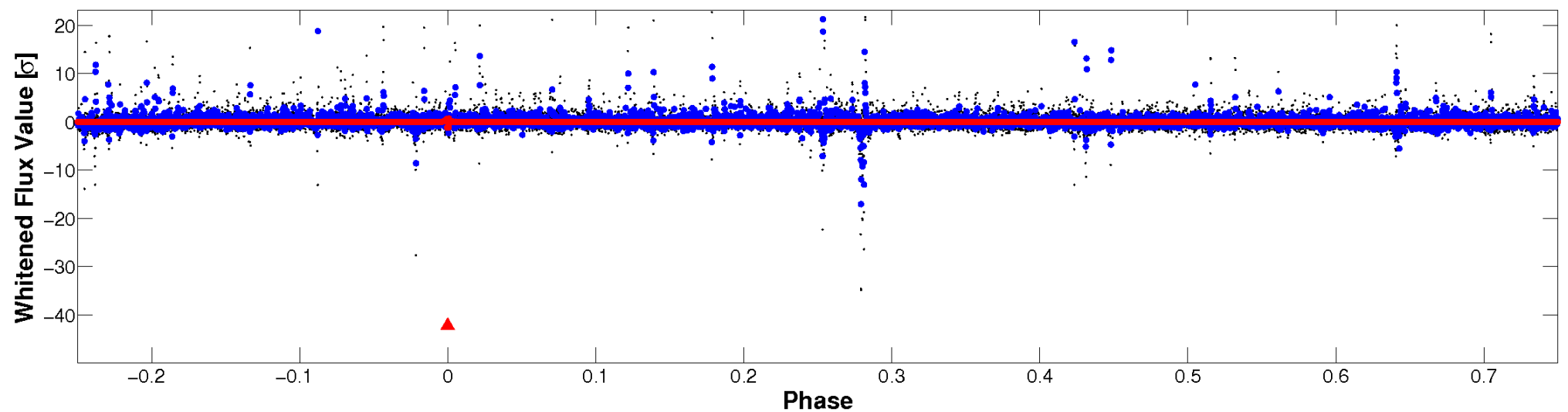


Non-Whitened Vs. Whitened Light Curve

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

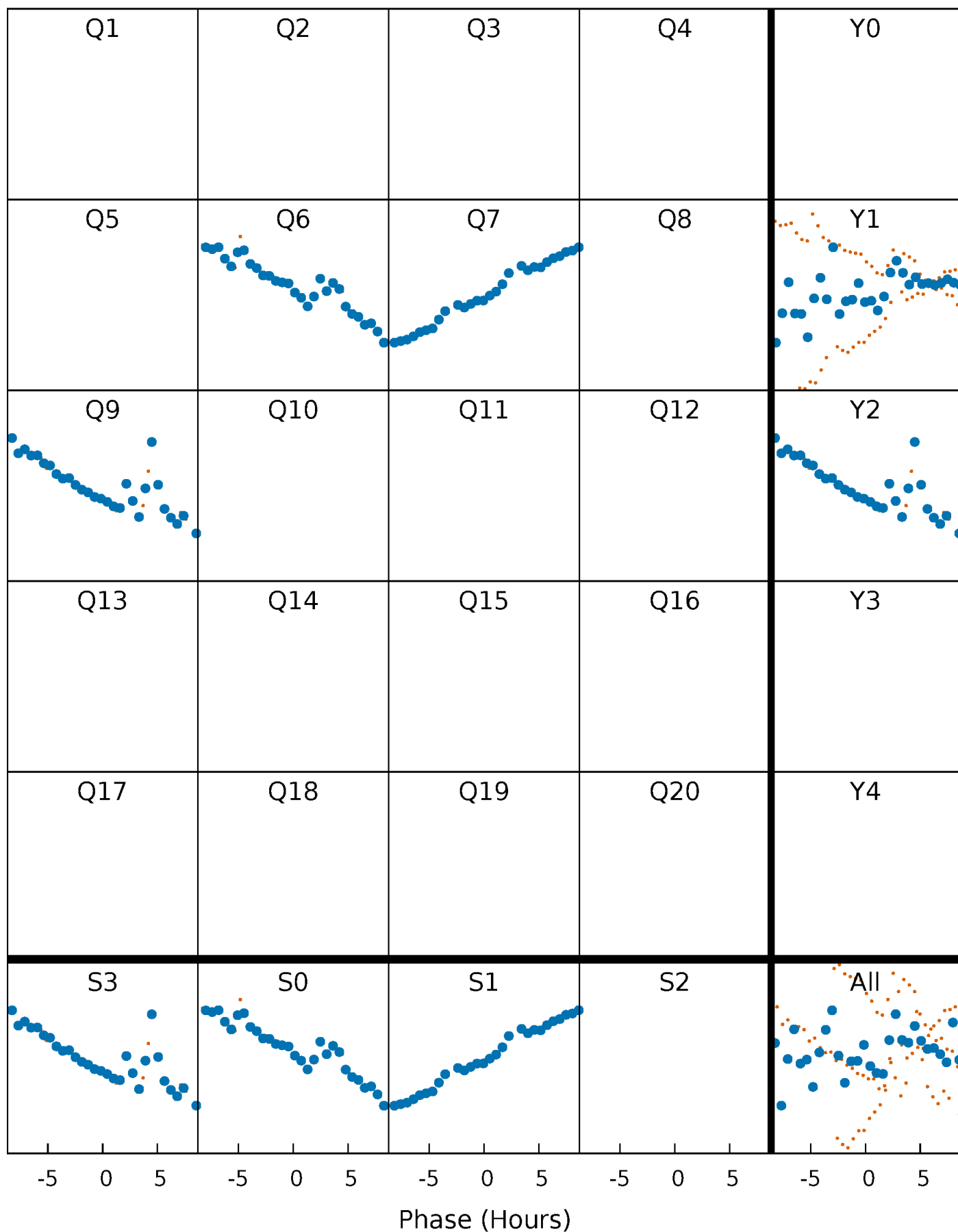


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



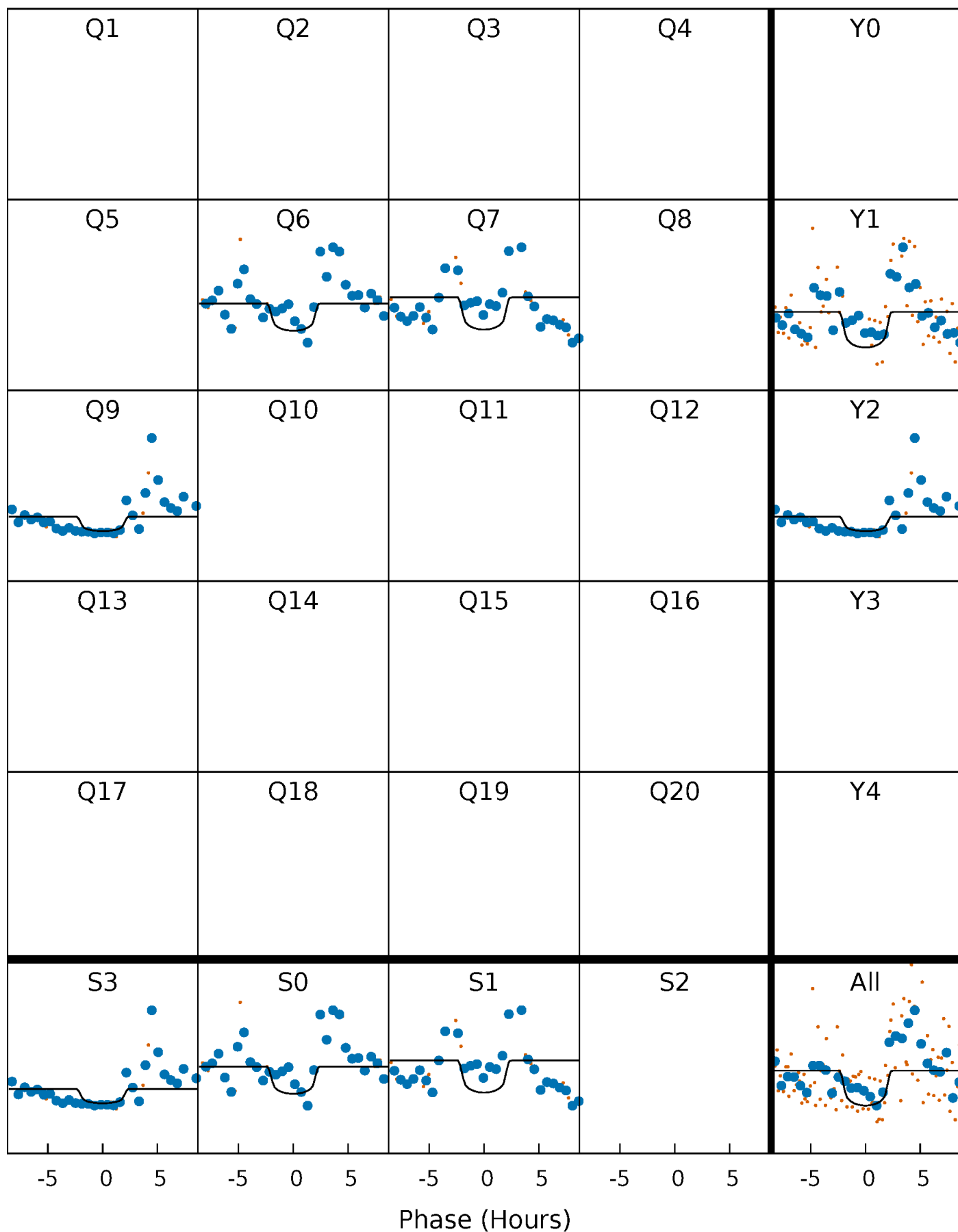
PDC Quarter-Phased Transit Curves

TCE 008408875-01 P=126.754483 Days $T_0=197.333484$ (BKJD)



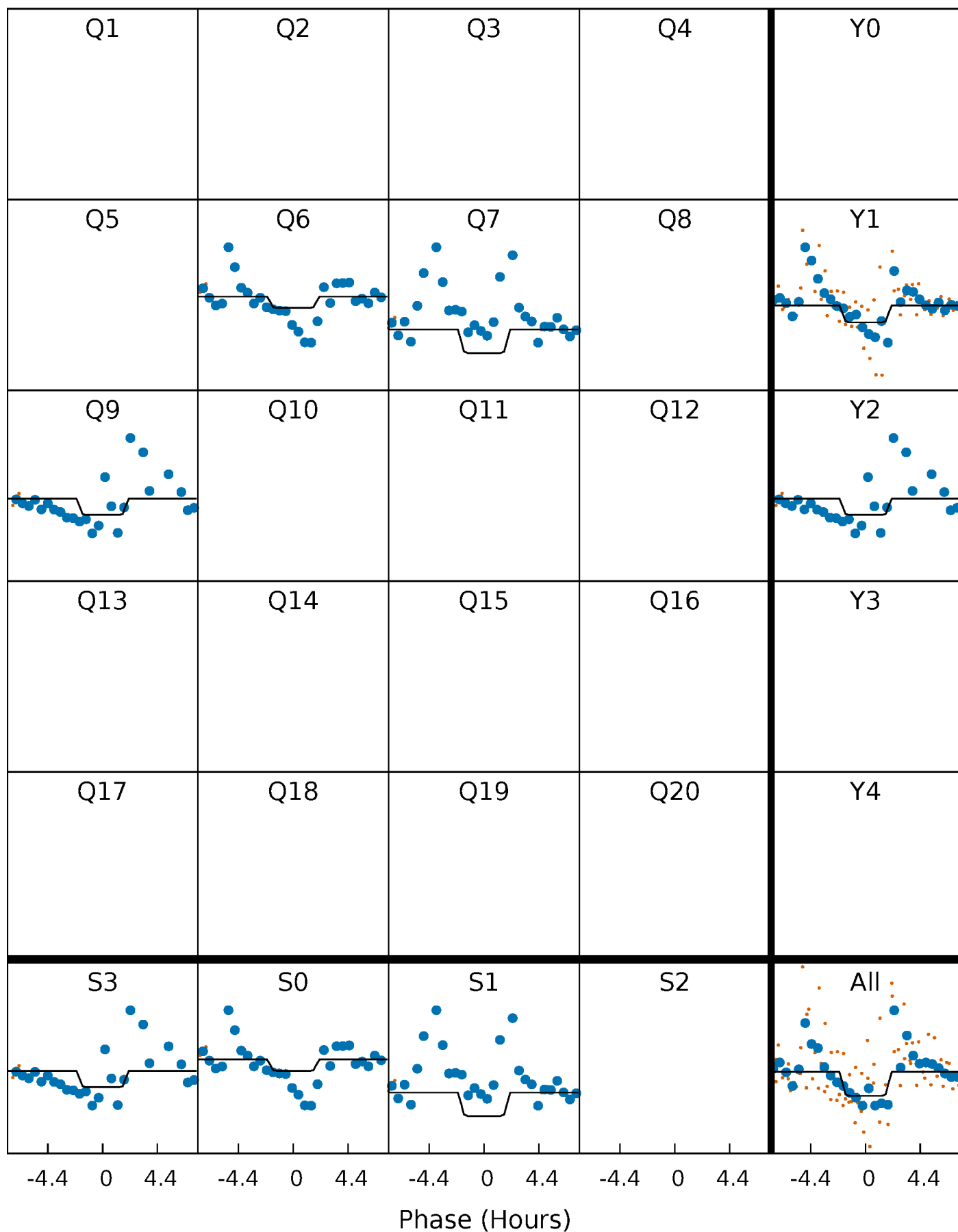
DV Quarter-Phased Transit Curves

TCE 008408875-01 P=126.754483 Days $T_0=197.333484$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

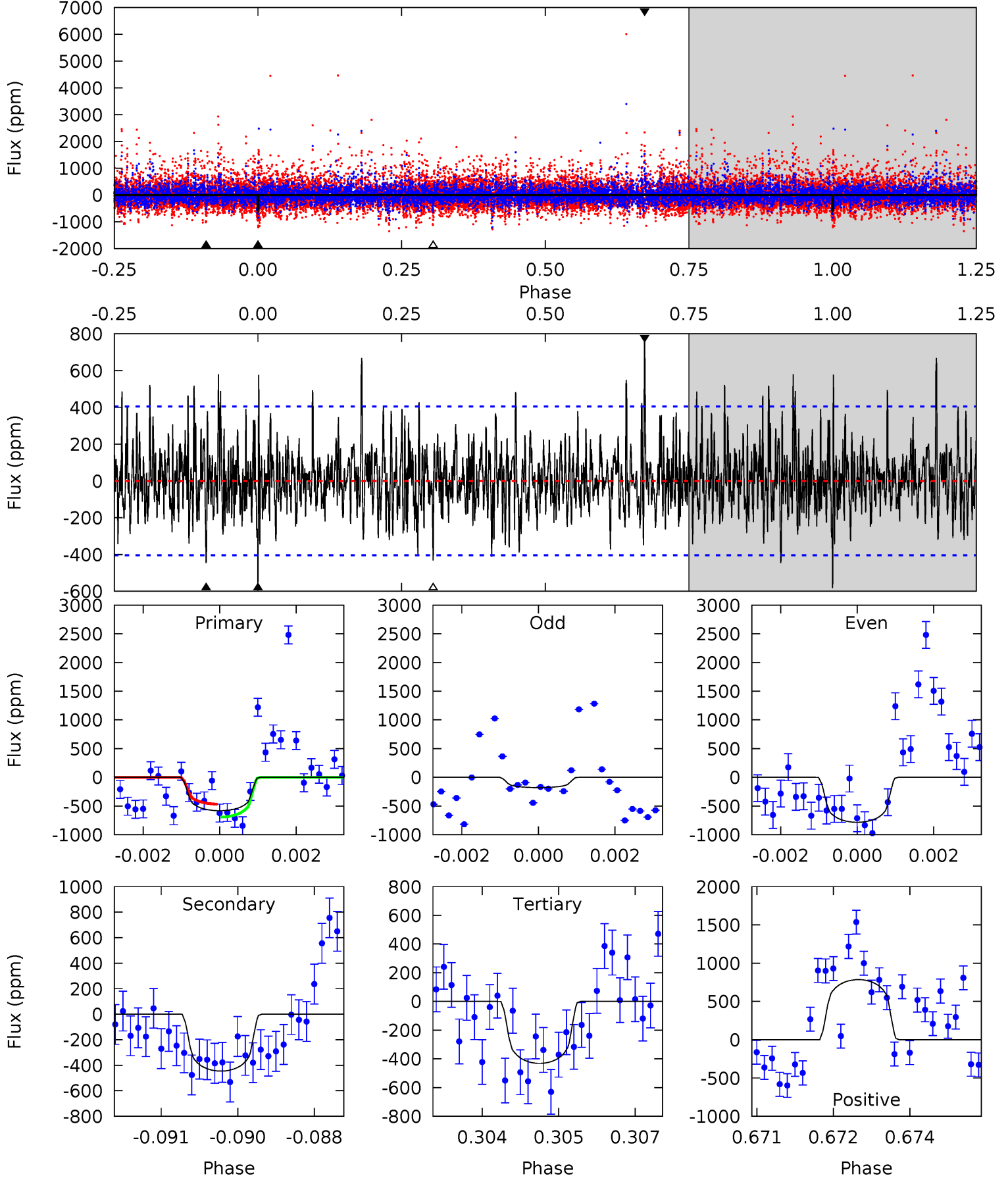
TCE 008408875-01 P=126.793233 Days $T_0=197.226251$ (BKJD)



DV Model-Shift Uniqueness Test

008408875-01, P = 126.754483 Days, E = 197.333484 Days

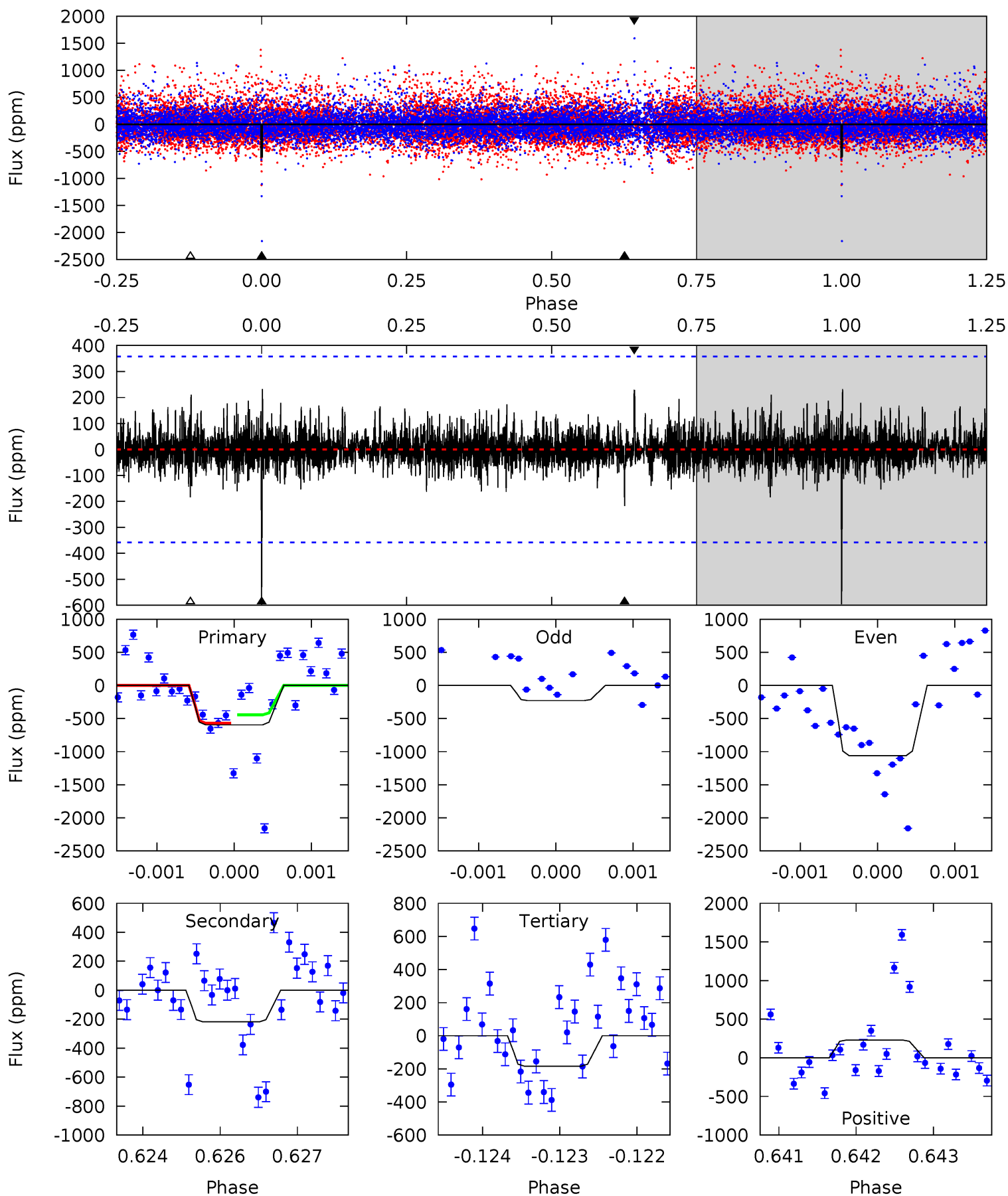
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.72	5.91	5.72	10.4	5.37	3.17	1.92	2.00	-2.69	0.19	-4.51	2.01	0.97	0.57	1.49



Alt Model-Shift Uniqueness Test

008408875-01, P = 126.793233 Days, E = 197.226251 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.02	3.30	2.78	3.47	5.42	3.24	0.76	6.24	5.55	0.52	-0.17	6.07	1.02	0.28	0.99



Stellar Parameters For KIC 008408875

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	2923^{+1}_{-1}	$5.217^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$0.135^{+1.000}_{-1.000}$	$0.109^{+1.000}_{-1.000}$	$62.910^{+1.000}_{-1.000}$
	+0%/-0%	+19%/-19%	+inf%/-inf%	+741%/-741%	+917%/-917%	+2%/-2%
Source	PHO54	PHO54	PHO54	BTSL		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008408875-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-446 ± 75	$0.69^{+0.66}_{-0.47}$	138^{+13}_{-12}	2446^{+778}_{-356}	$34117^{+236734}_{-25412}$
Alt.	-218 ± 66	$0.61^{+0.65}_{-0.42}$	138^{+13}_{-12}	2289^{+805}_{-331}	$19583^{+169079}_{-14599}$

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

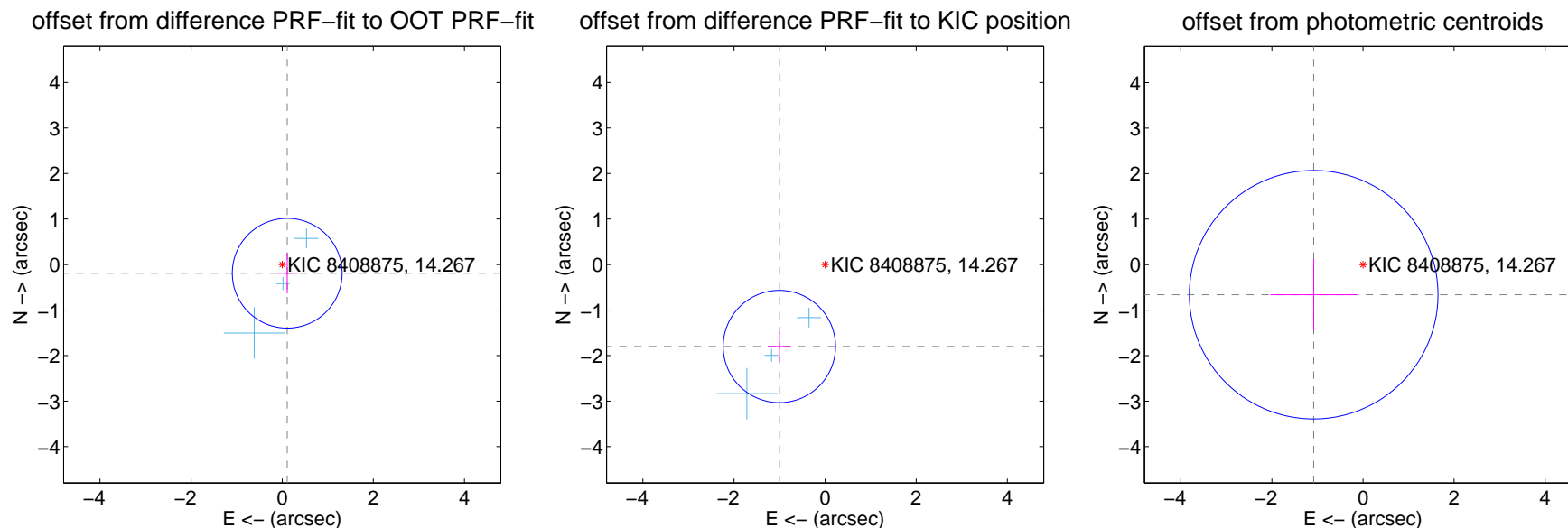
DV Centroid Data

Supplemental centroid analysis for 008408875-01. Kepler magnitude: 14.27. Transit SNR 5.94

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.97 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.220 ± 0.402	0.55	-0.110 ± 0.231	-0.191 ± 0.444
PRF-fit source offset from KIC position	2.061 ± 0.411	5.02	1.004 ± 0.258	-1.800 ± 0.332
photometric centroid source offset	1.27 ± 0.91	1.39	1.08 ± 0.95	-0.66 ± 0.78



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.



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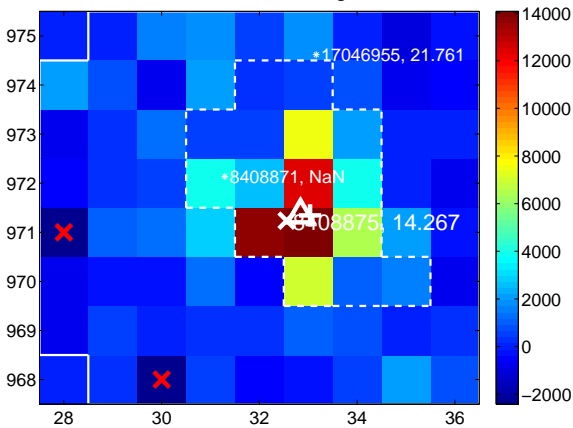
Q5 no difference image



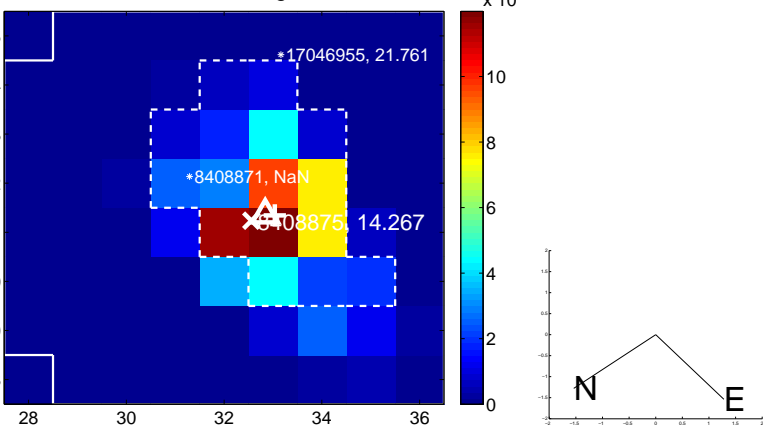
Q5 no OOT image



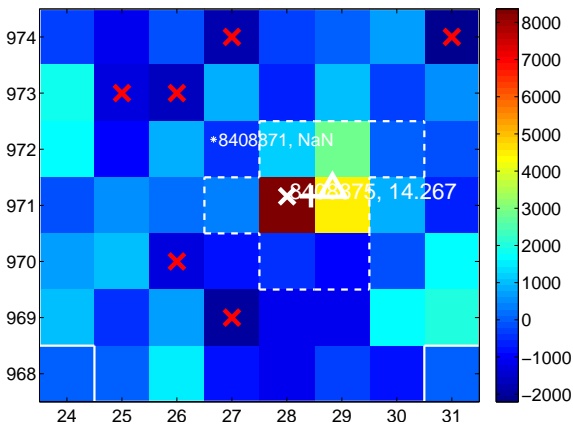
Q6 difference image



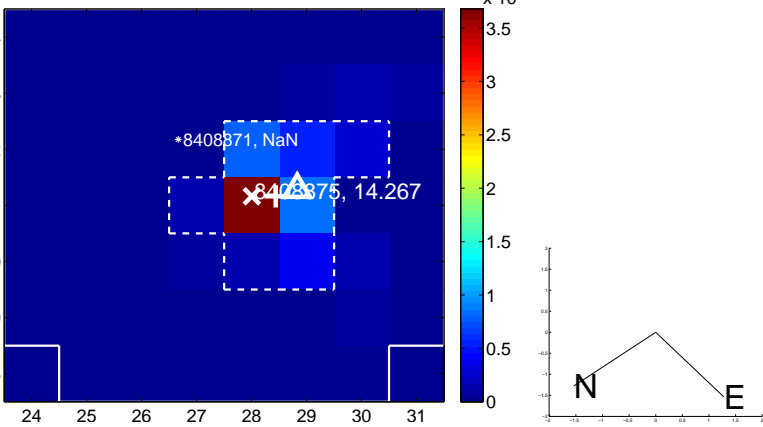
Q6 OOT image



Q7 difference image



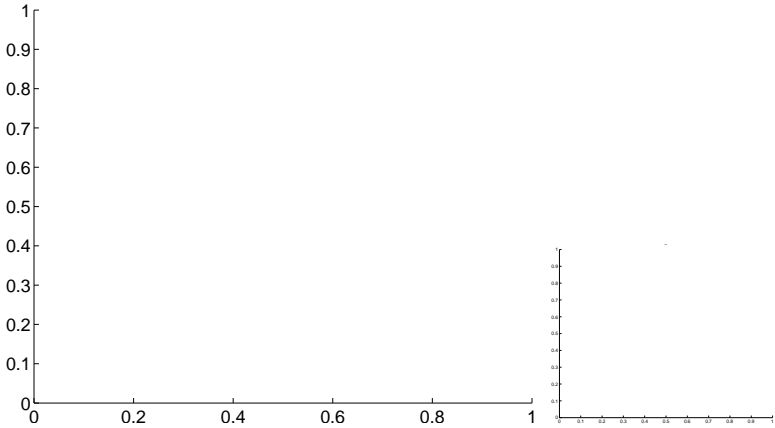
Q7 OOT image



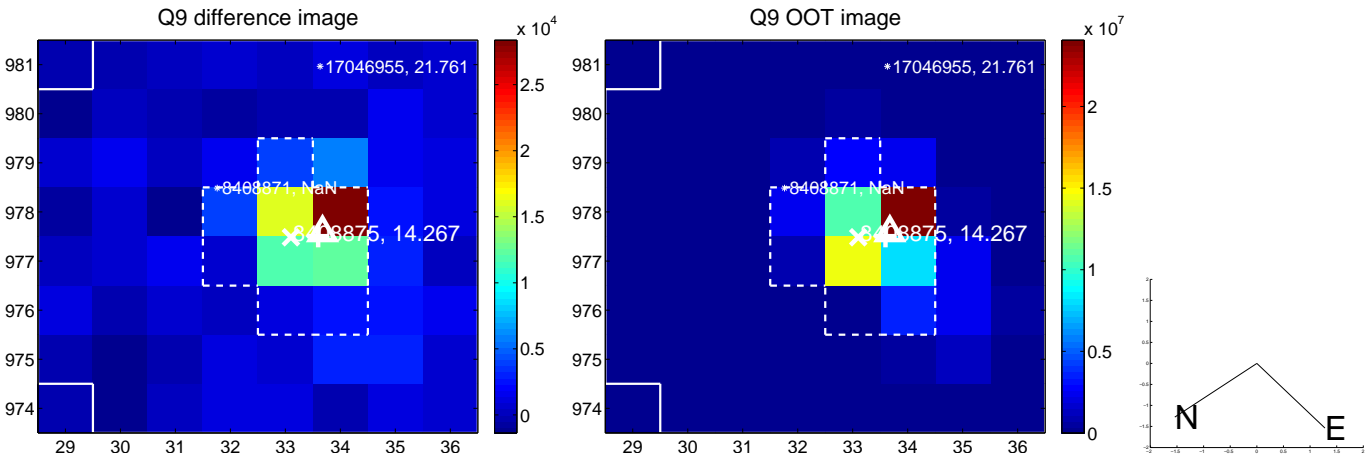
Q8 no difference image



Q8 no OOT image



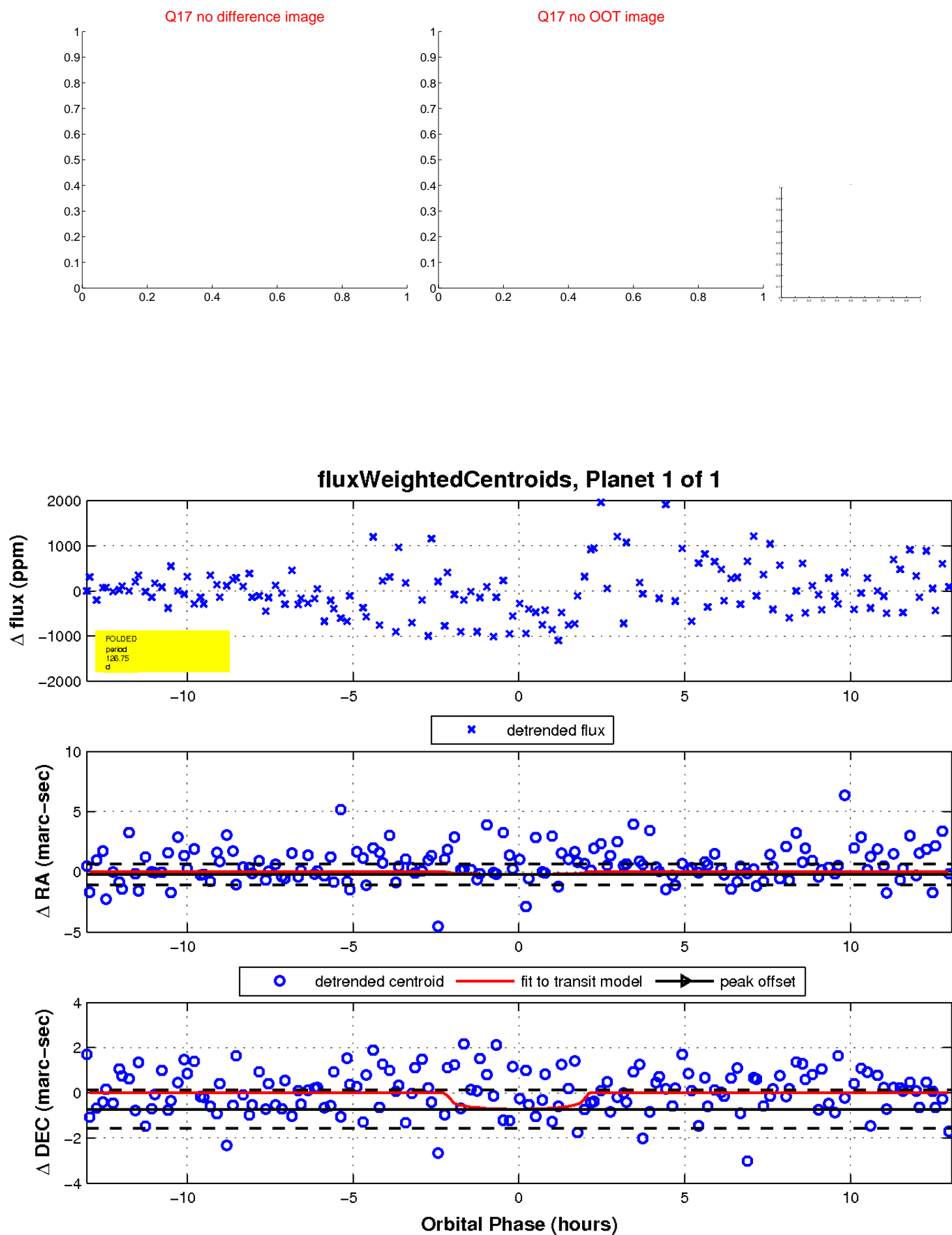
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

