

KIC 006450010

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})
006450010-01	OBS	No	367.404274	179.979098	580.8	4.336	8.4	9.2	3.31	5214	9.10	5.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006450010-01	OBS	FP	0.03	1	0	0	0	INCONSISTENT_TRANS

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

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

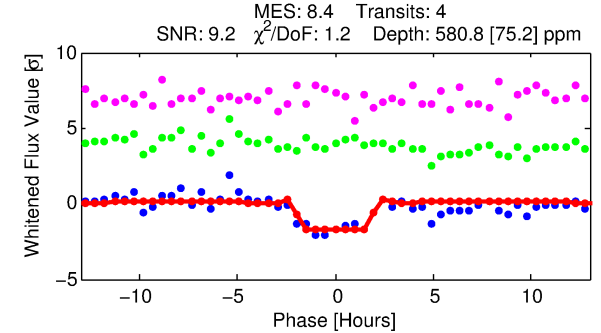
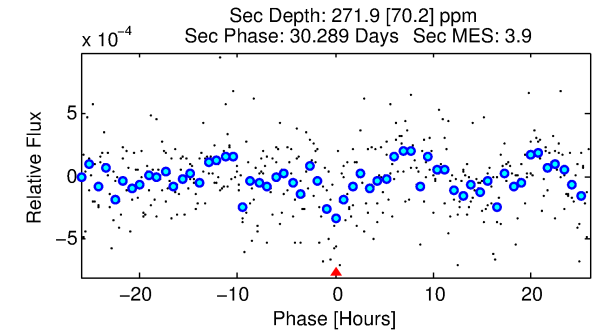
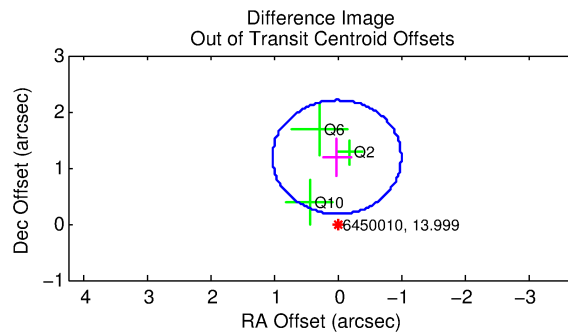
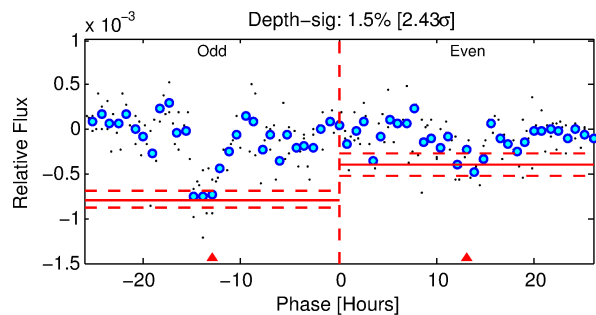
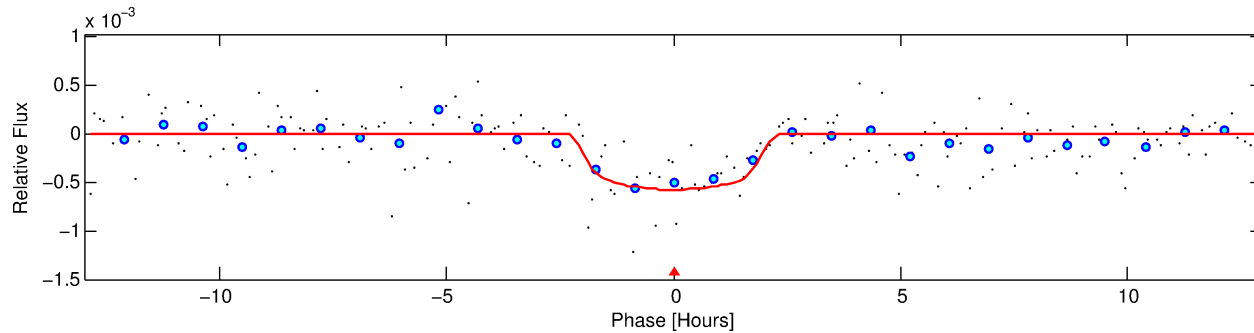
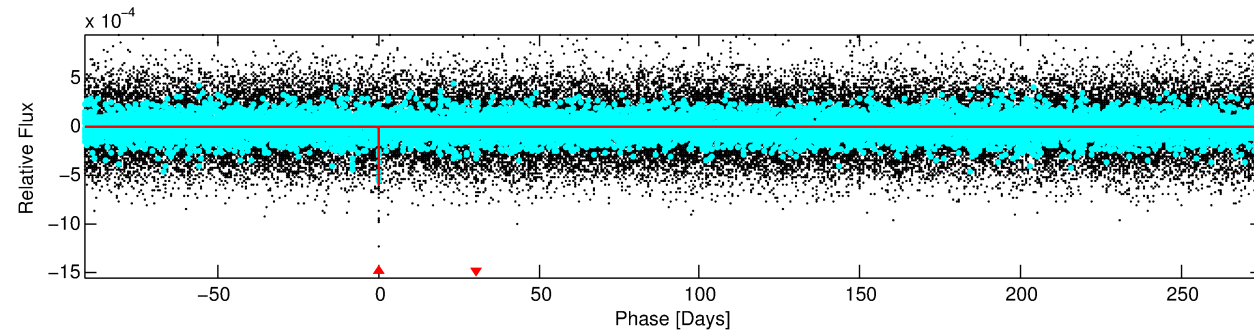
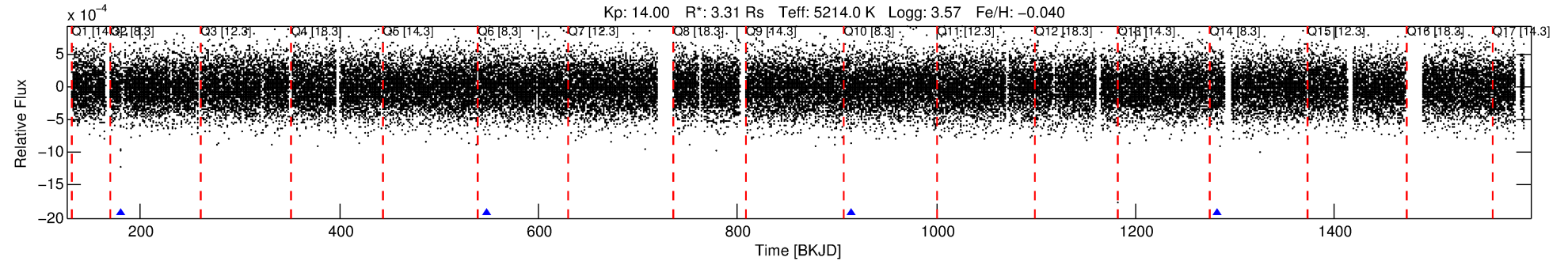
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006450010-01

No Significant Match Found

DV One-Page Summary

KIC: 6450010 Candidate: 1 of 1 Period: 367.404 d



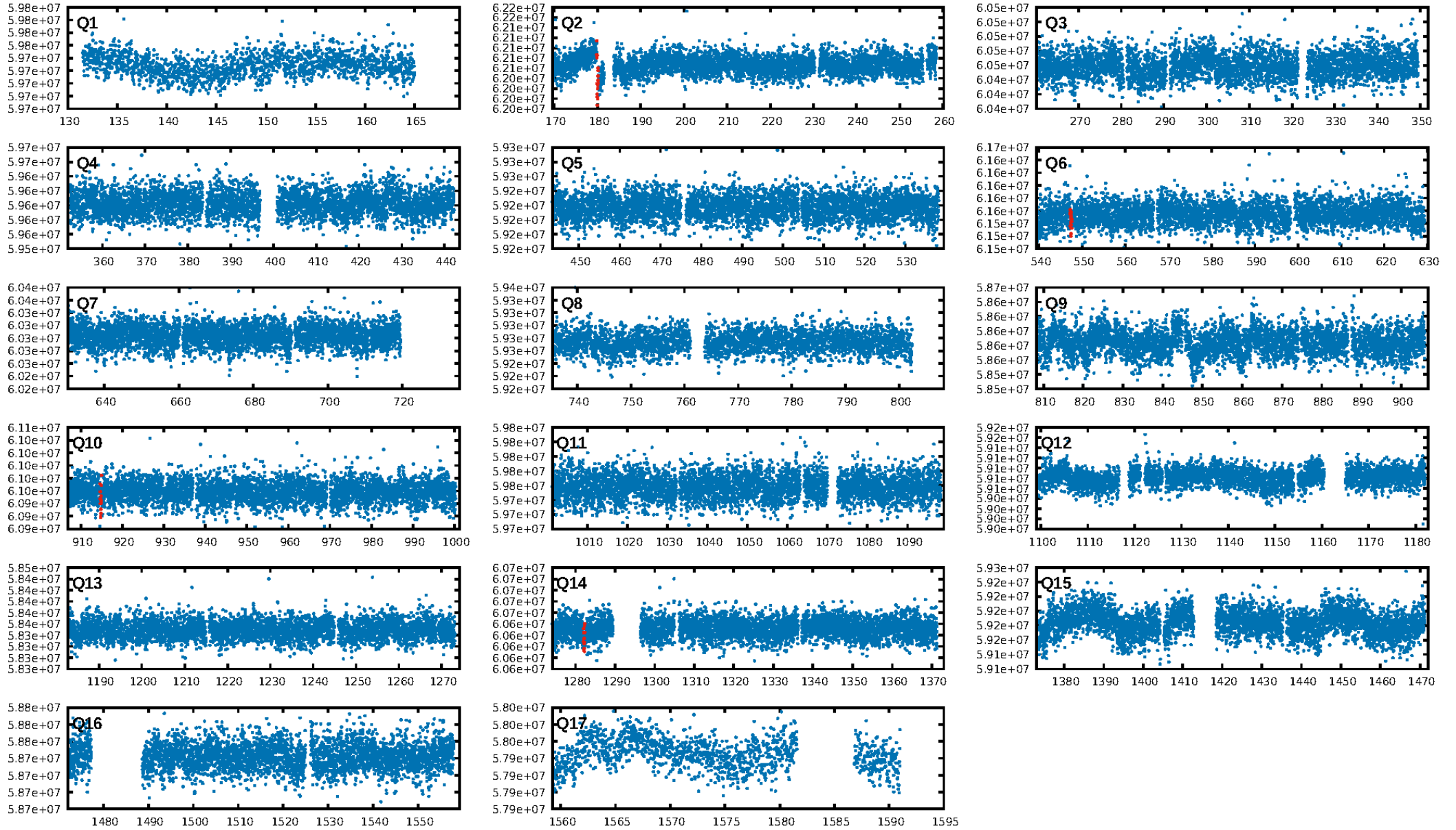
DV Fit Results:

Period = 367.40427 [0.00422] d
Epoch = 179.9791 [0.0079] BKJD
Rp/R* = 0.0252 [0.0155]
a/R* = 386.87 [942.38]
b = 0.83 [0.91]
Seff = 5.54 [8.05]
Teff = 391 [142] K
Rp = 9.10 [8.30] Re
a = 1.1454 [0.9404] AU
Ag = 2371.00 [4548.03] [0.52σ]
Teffp = 4221 [1338] K [2.85σ]

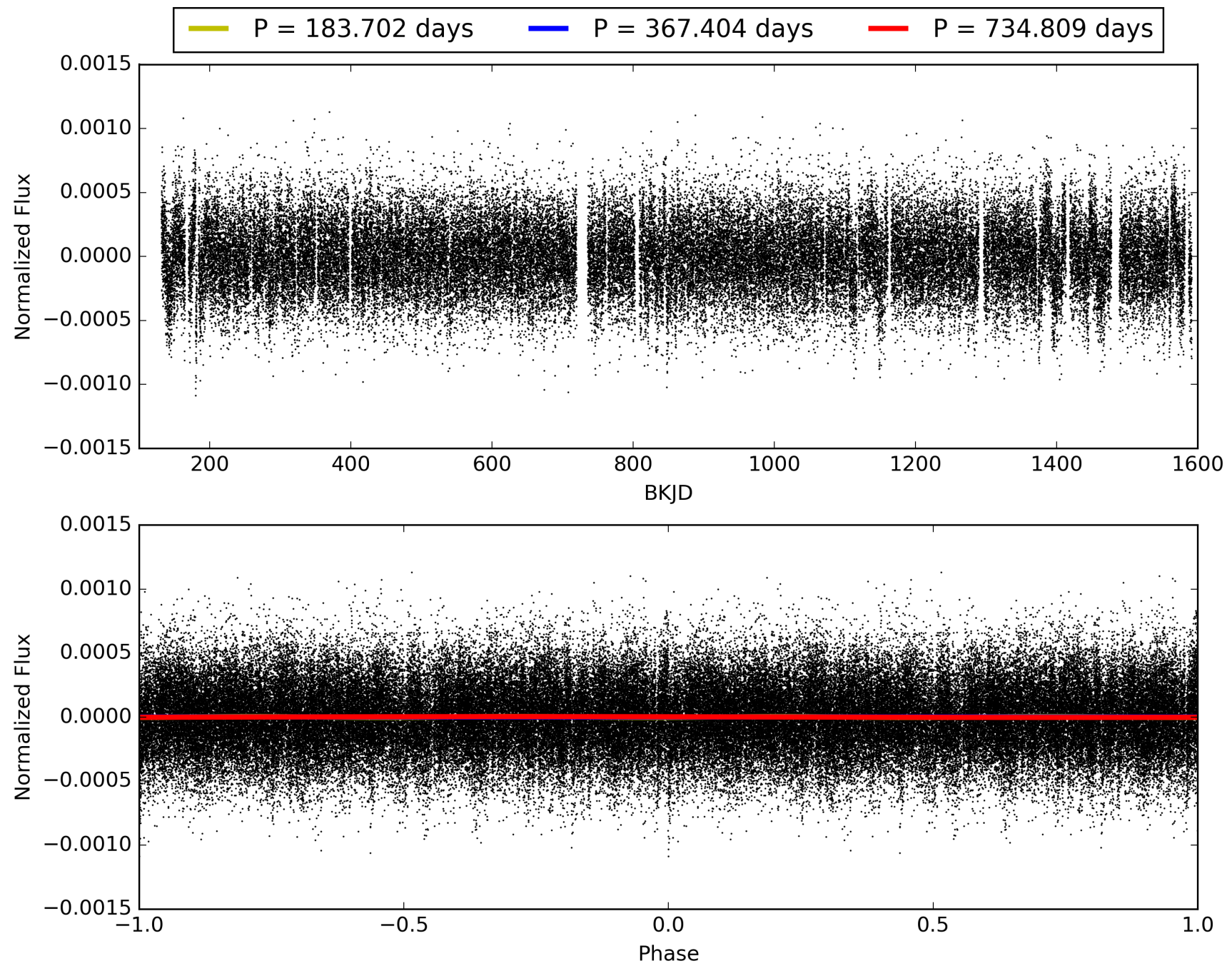
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 89.2%
Bootstrap-pfa: 3.60e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -161.3
Centroid-sig: 46.0%
Centroid-so: 0.591 arcsec [0.68σ]
OotOffset-rm: 1.188 arcsec [3.52σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-rm: 1.110 arcsec [2.57σ]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 006450010-01, PDC Light Curves

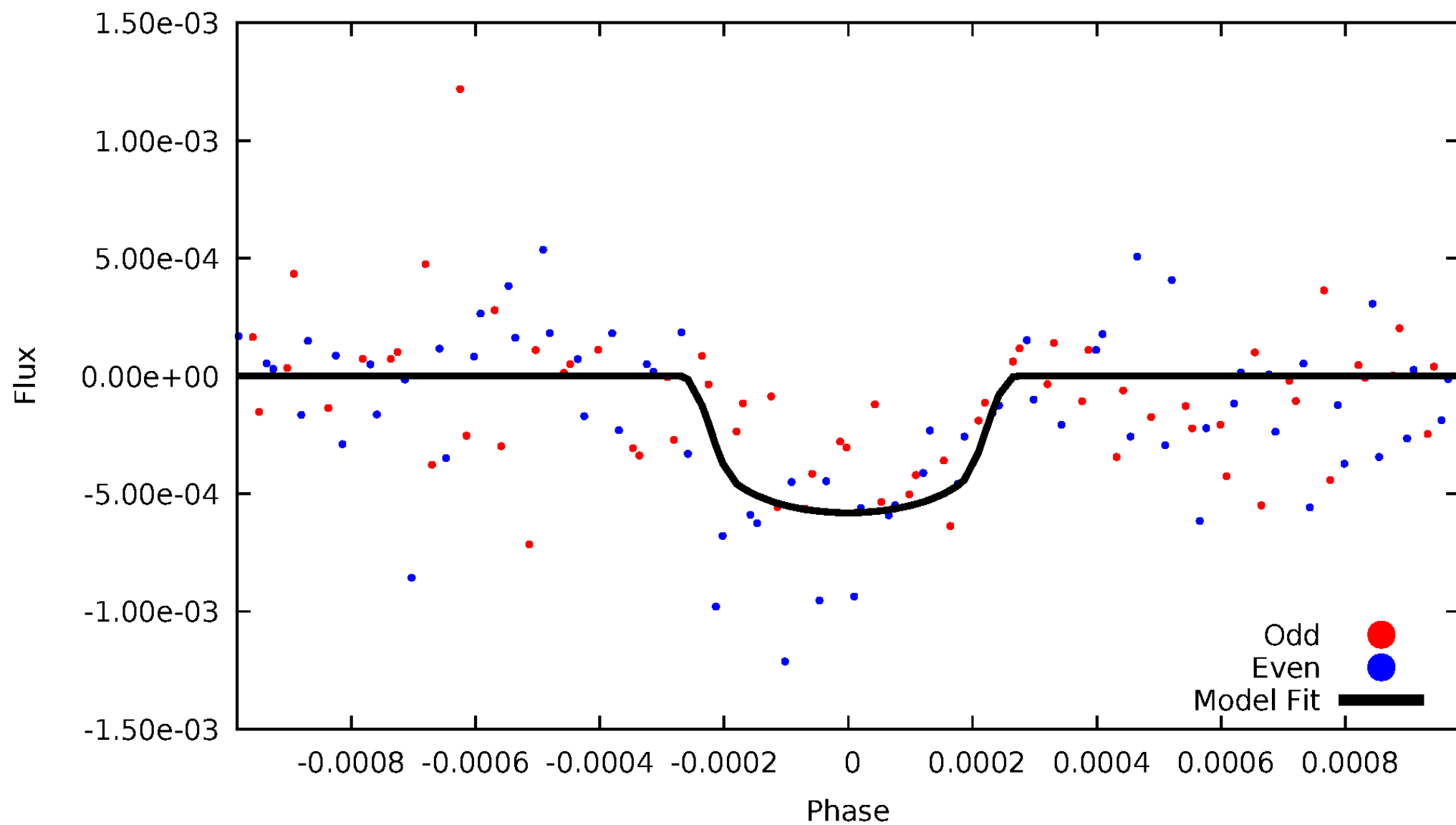


TCE 006450010-01



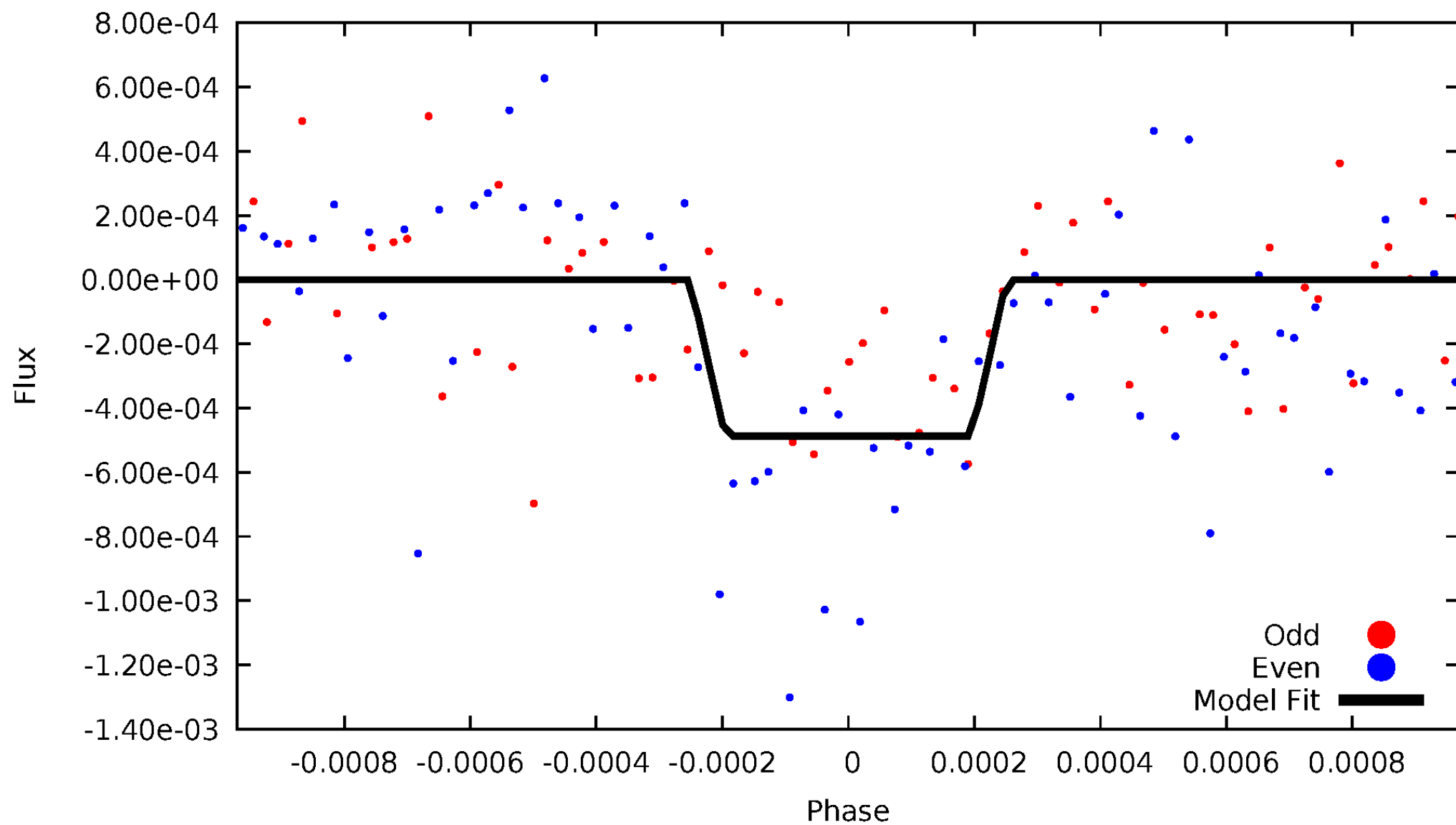
DV Odd/Even

TCE 006450010-01



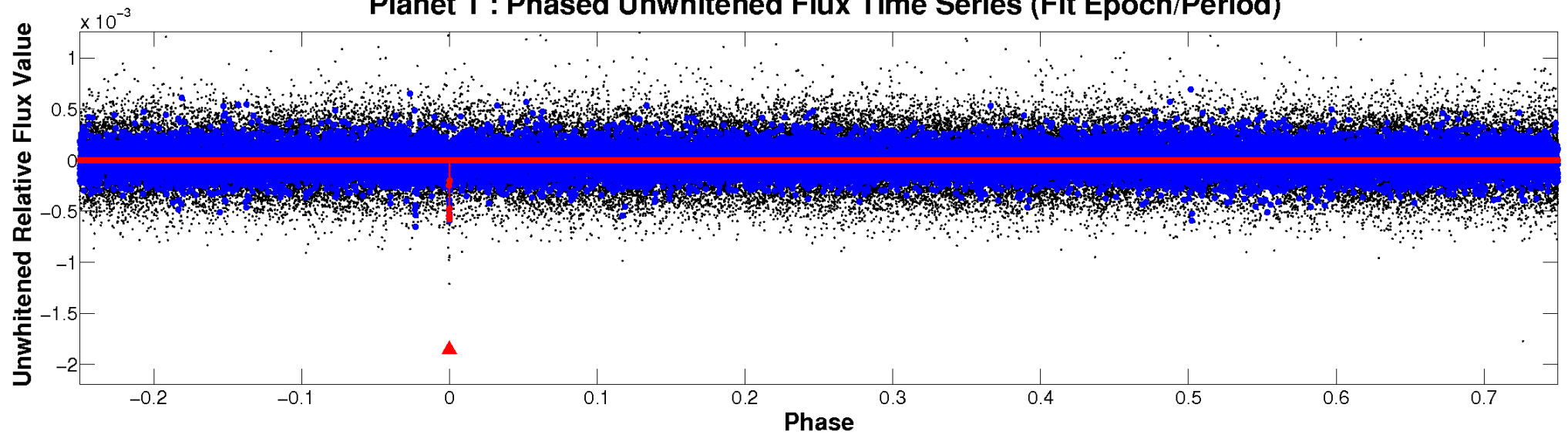
ALT Odd/Even

TCE 006450010-01

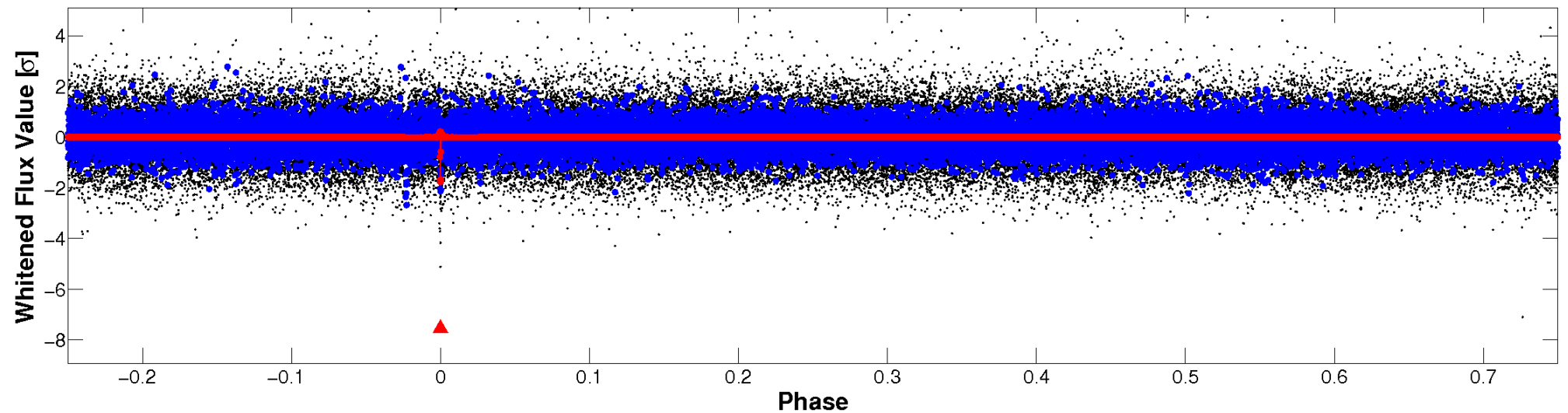


Non-Whitened Vs. Whitened Light Curve

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

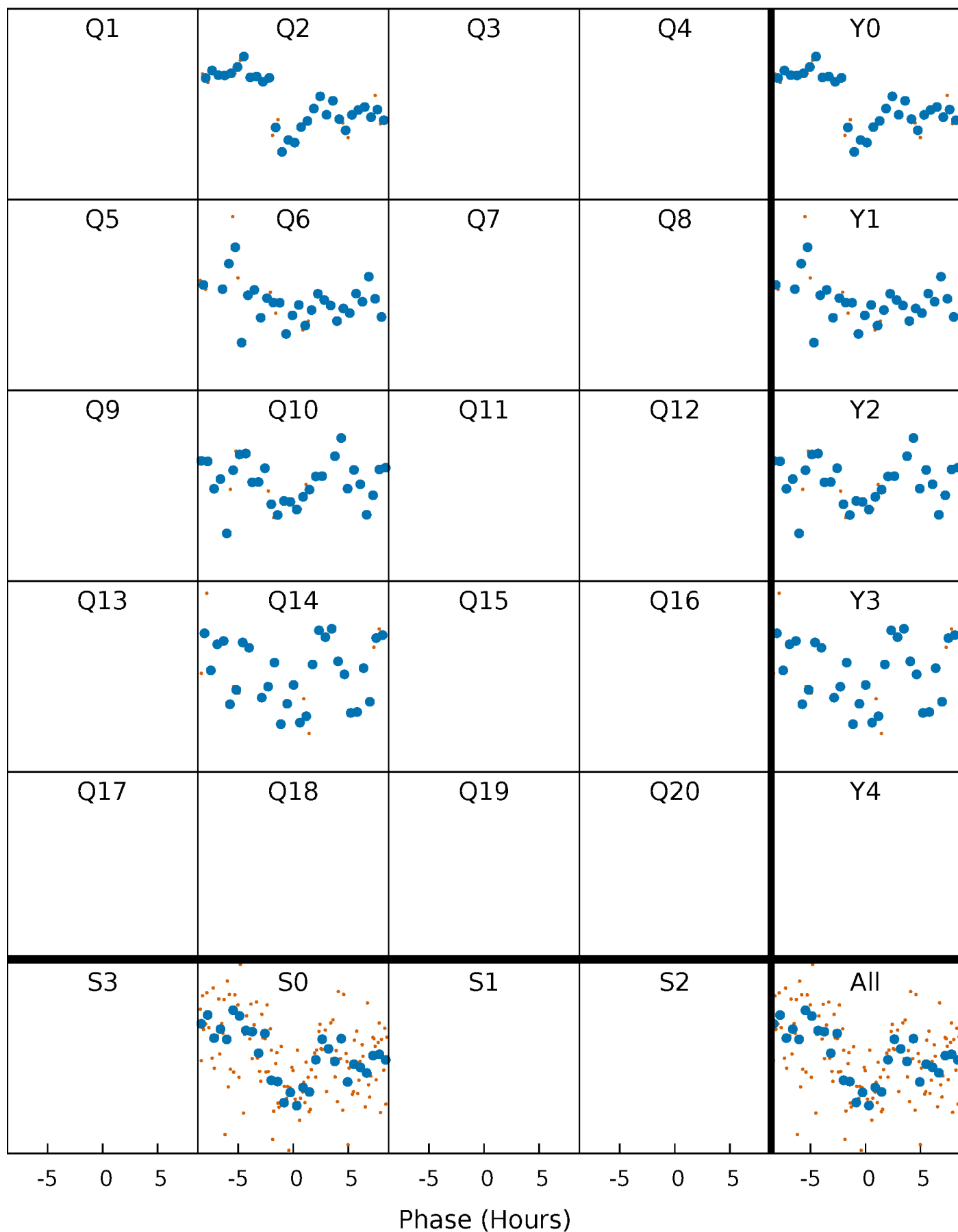


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



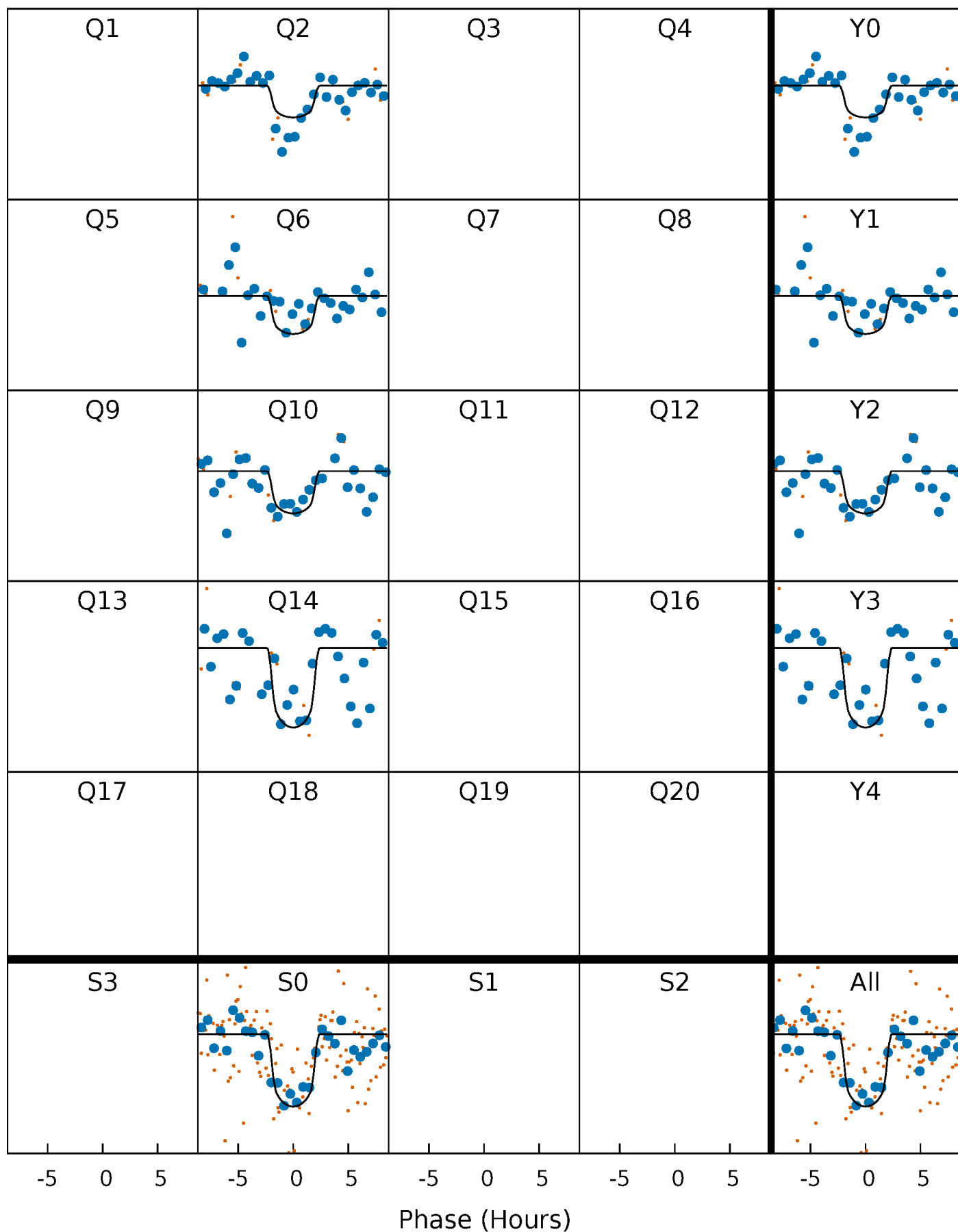
PDC Quarter-Phased Transit Curves

TCE 006450010-01 P=367.404274 Days $T_0=179.979098$ (BKJD)



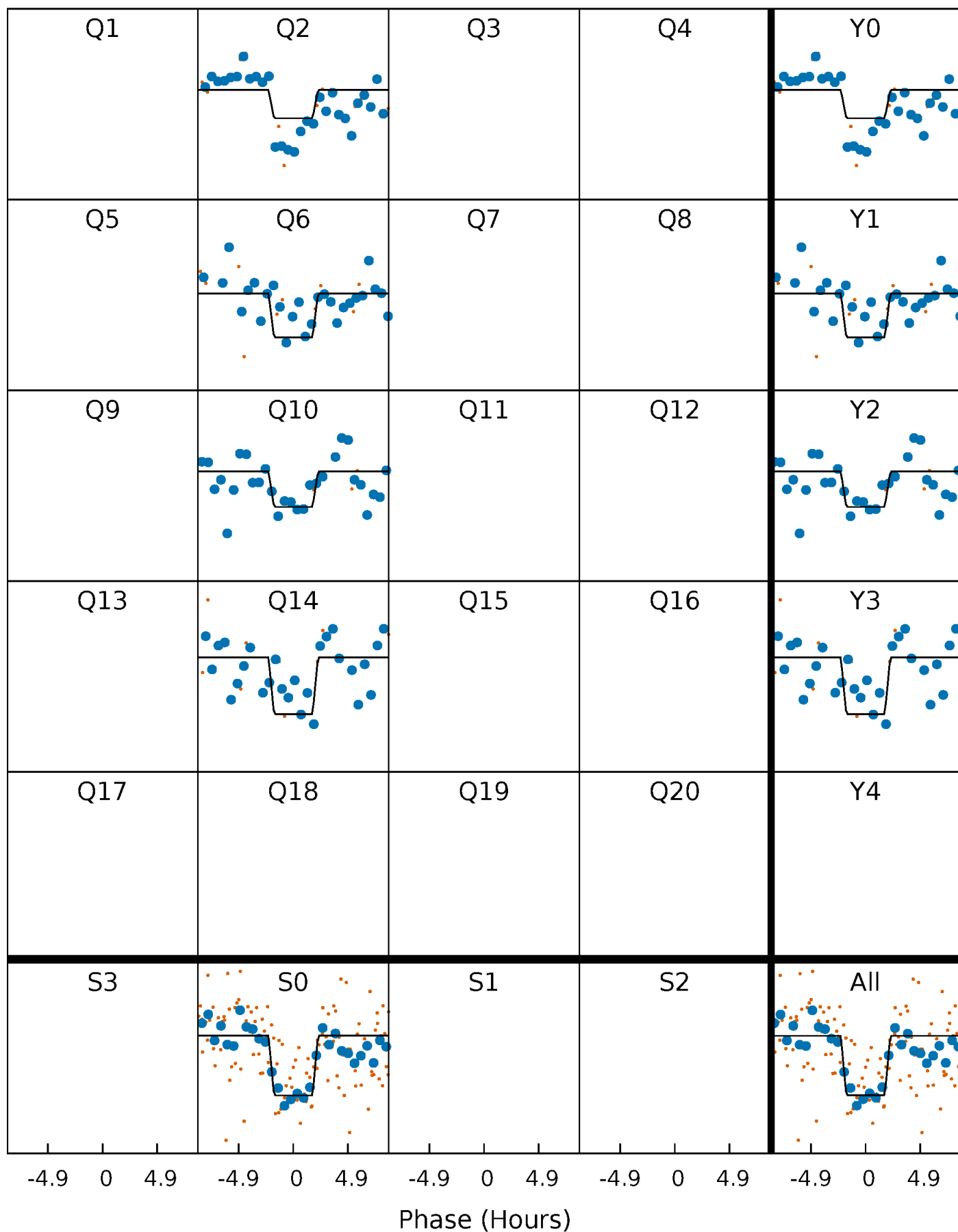
DV Quarter-Phased Transit Curves

TCE 006450010-01 P=367.404274 Days $T_0=179.979098$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

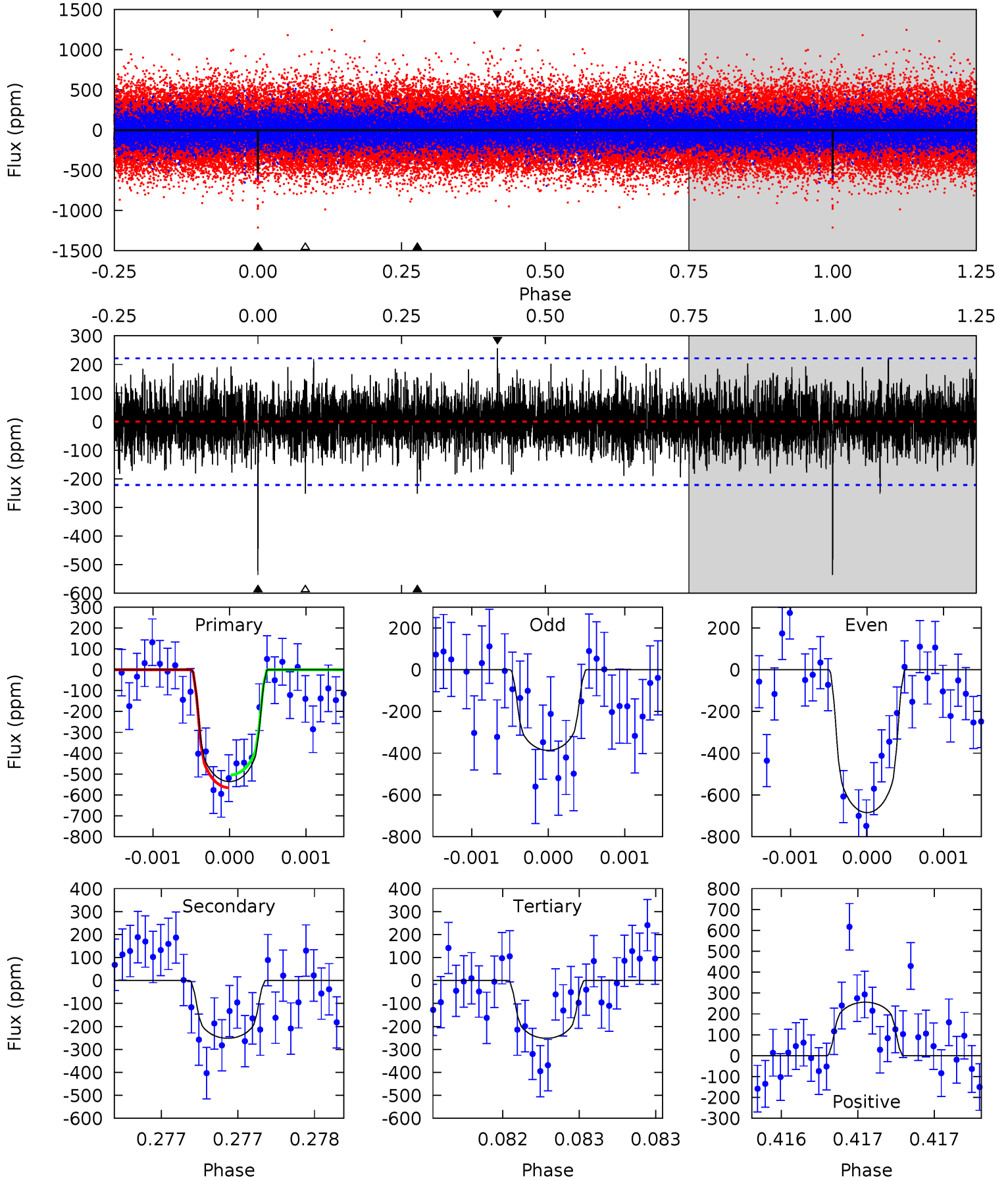
TCE 006450010-01 P=367.402220 Days $T_0=179.975839$ (BKJD)



DV Model-Shift Uniqueness Test

006450010-01, P = 367.404274 Days, E = 179.979098 Days

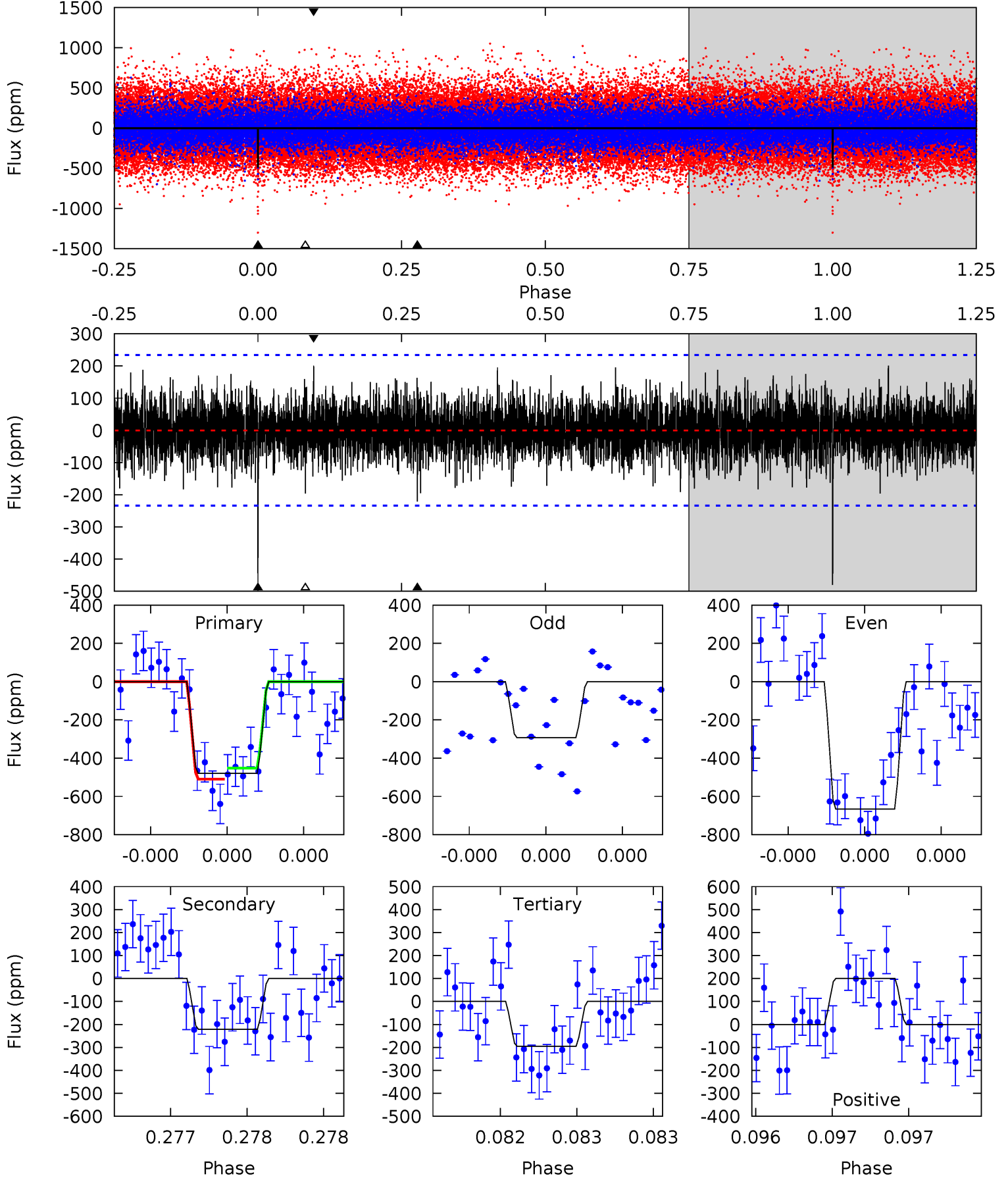
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	6.32	6.32	6.43	5.56	3.46	1.53	7.14	7.03	0.00	-0.11	3.75	1.10	0.32	0.77



Alt Model-Shift Uniqueness Test

006450010-01, P = 367.402220 Days, E = 179.975839 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	5.28	4.67	4.78	5.58	3.49	1.30	6.78	6.66	0.61	0.50	4.44	1.23	0.29	0.69



Stellar Parameters For KIC 006450010

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5214^{+187}_{-187}	$3.569^{+0.896}_{-0.224}$	$-0.040^{+0.300}_{-0.300}$	$3.313^{+1.029}_{-2.229}$	$1.484^{+0.239}_{-0.557}$	$0.057^{+1.517}_{-0.034}$
	+4%/-4%	+25%/-6%	+750%/-750%	+31%/-67%	+16%/-38%	+2639%/-60%
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 006450010-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-252 ± 40	$8.08^{+6.37}_{-4.81}$	533^{+61}_{-104}	4256^{+1535}_{-649}	2736^{+11861}_{-1876}
Alt.	-221 ± 42	$6.90^{+5.87}_{-4.50}$	531^{+64}_{-104}	4414^{+2151}_{-776}	3194^{+23433}_{-2201}

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

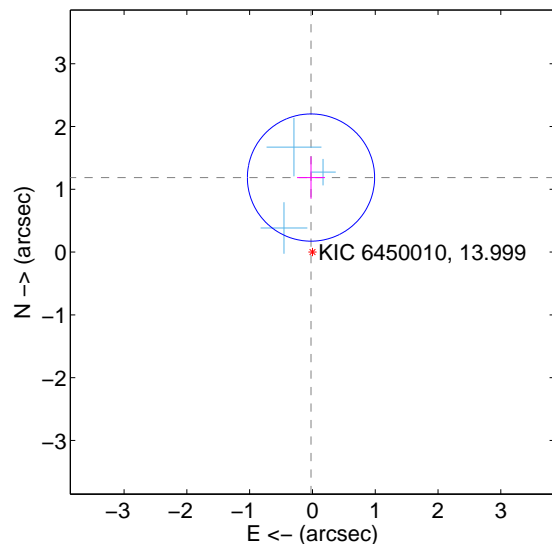
Supplemental centroid analysis for 006450010-01. Kepler magnitude: 14.00. Transit SNR 9.22

There are 3 quarters with good PRF difference image offsets

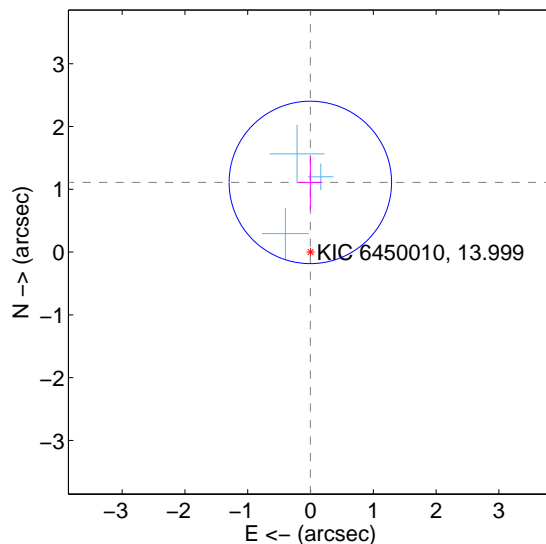
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.188 \pm 0.338	3.52	0.023 \pm 0.223	1.187 \pm 0.338
PRF-fit source offset from KIC position	1.110 \pm 0.431	2.57	0.003 \pm 0.193	1.110 \pm 0.432
photometric centroid source offset	0.59 \pm 0.87	0.68	-0.21 \pm 0.85	0.55 \pm 0.88

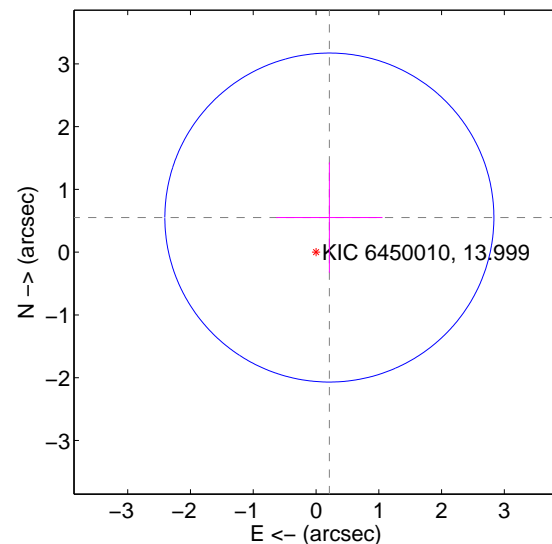
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

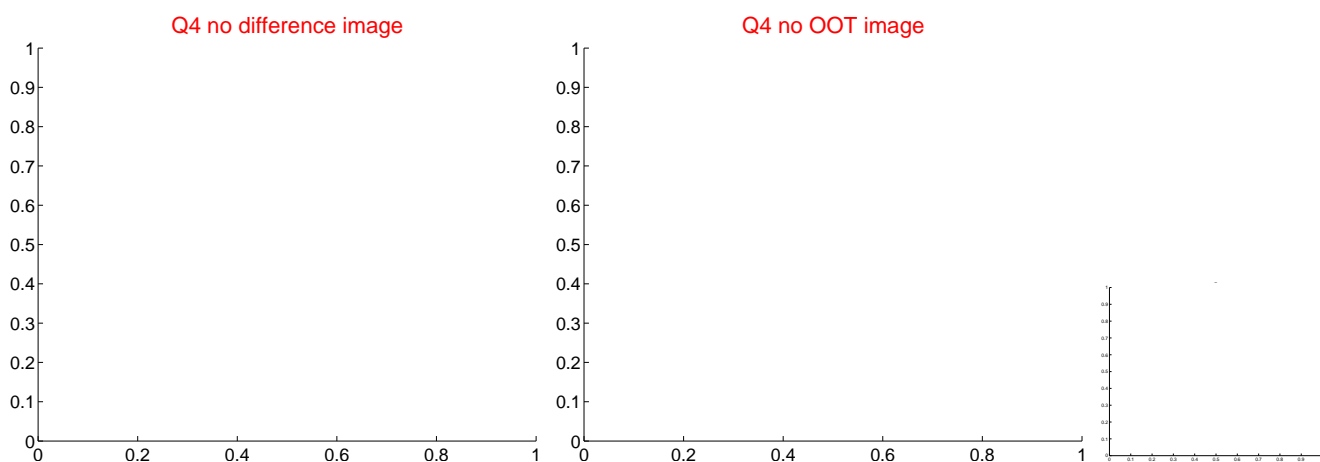
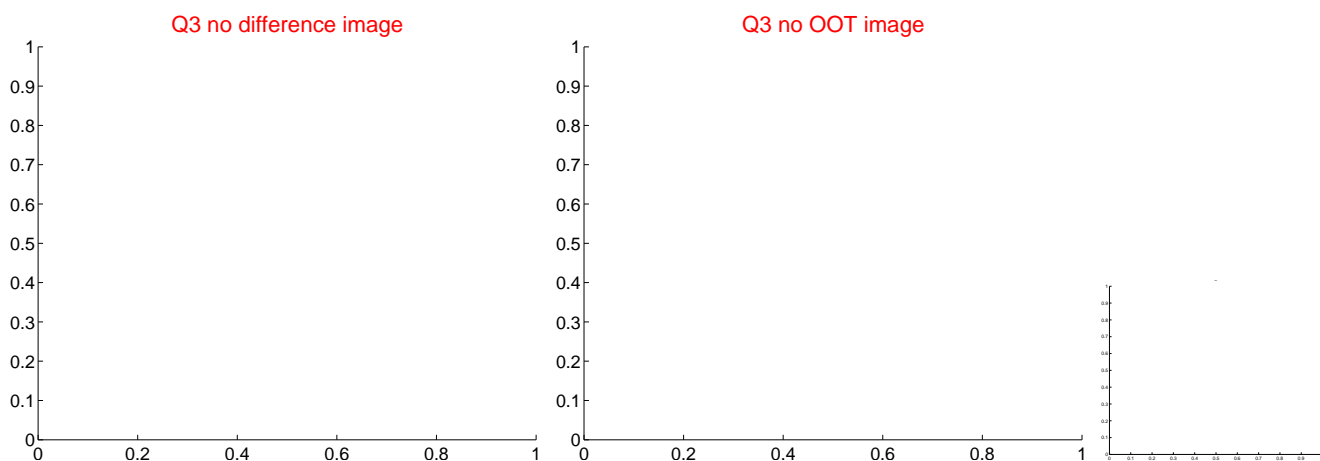
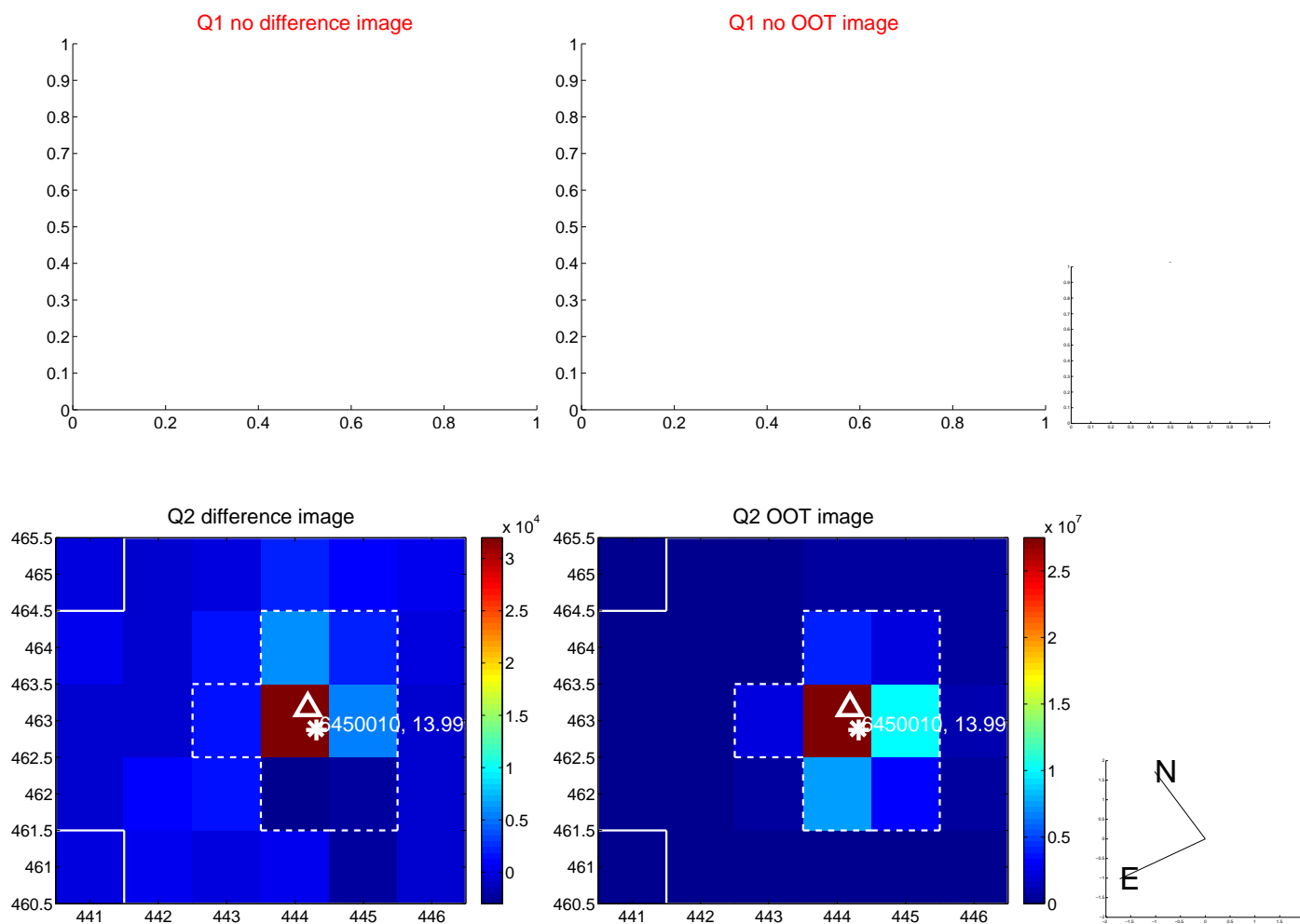


offset from photometric centroids



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.

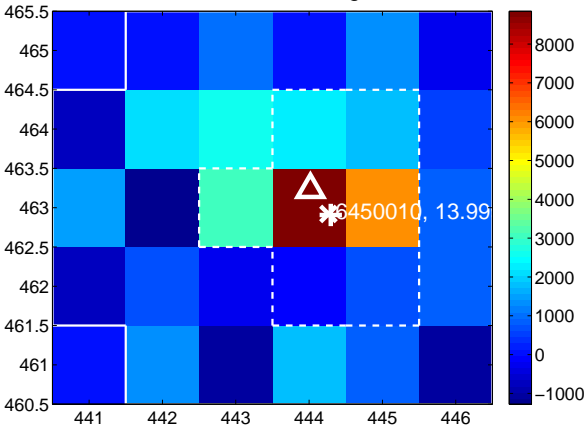
Q5 no difference image



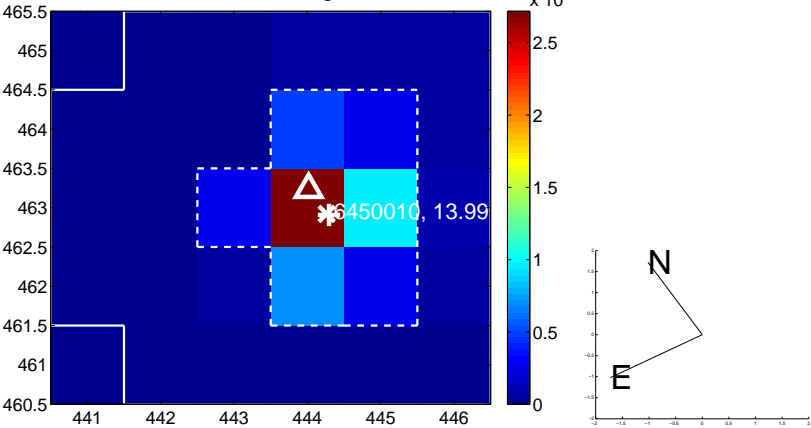
Q5 no OOT image



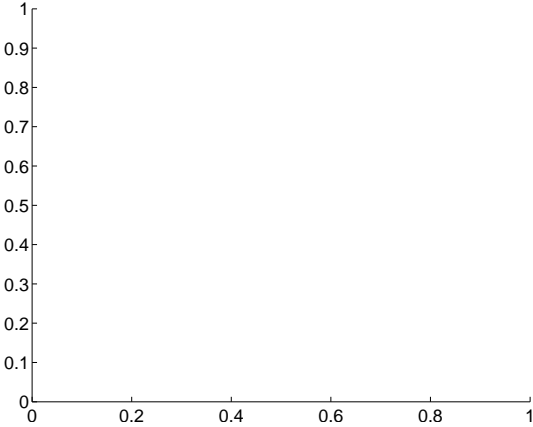
Q6 difference image



Q6 OOT image



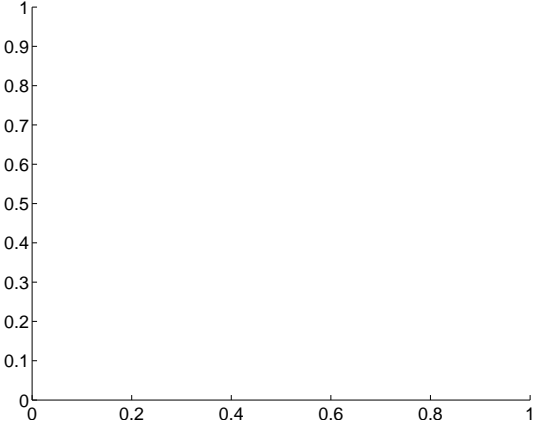
Q7 no difference image



Q7 no OOT image



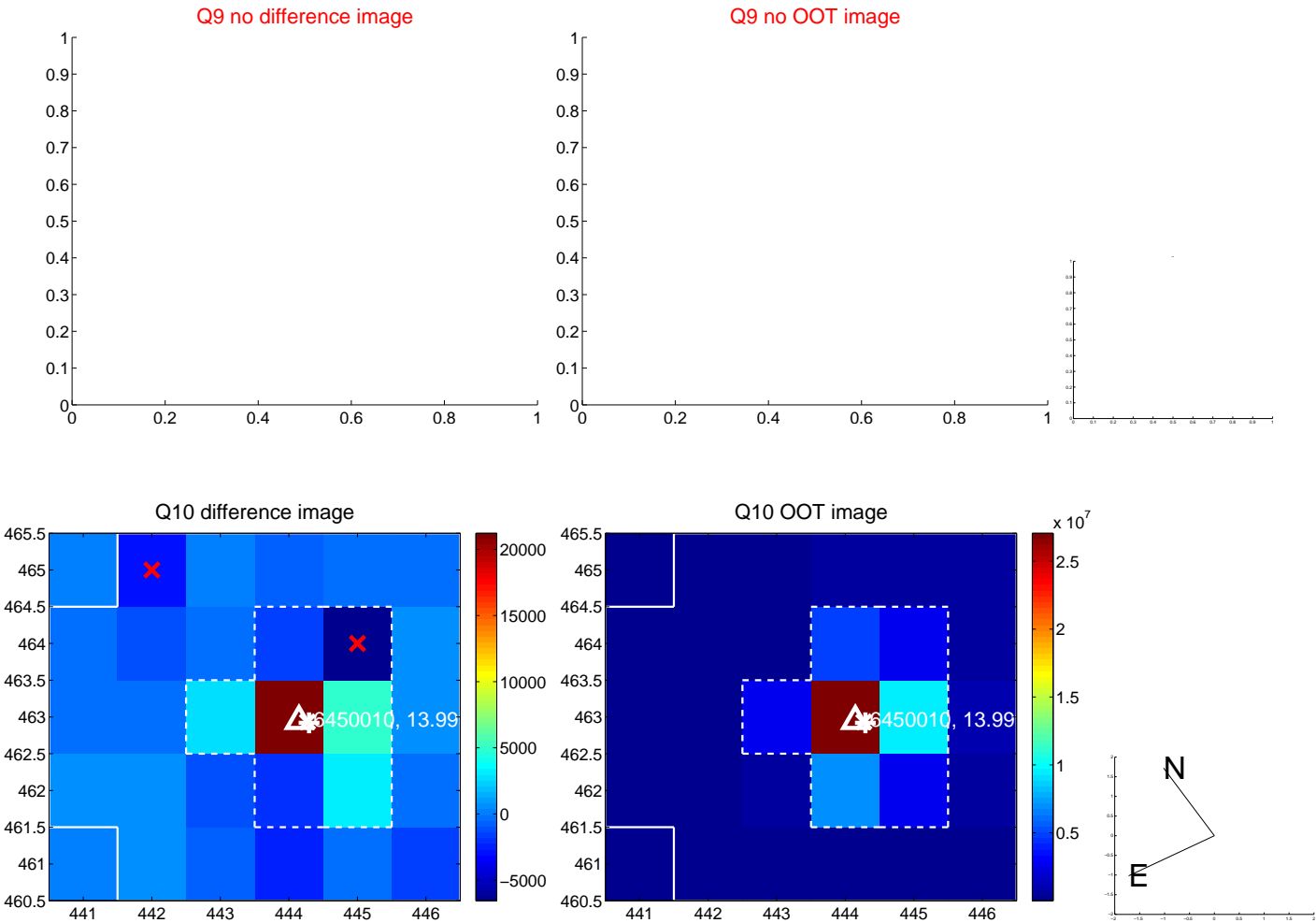
Q8 no difference image



Q8 no OOT image



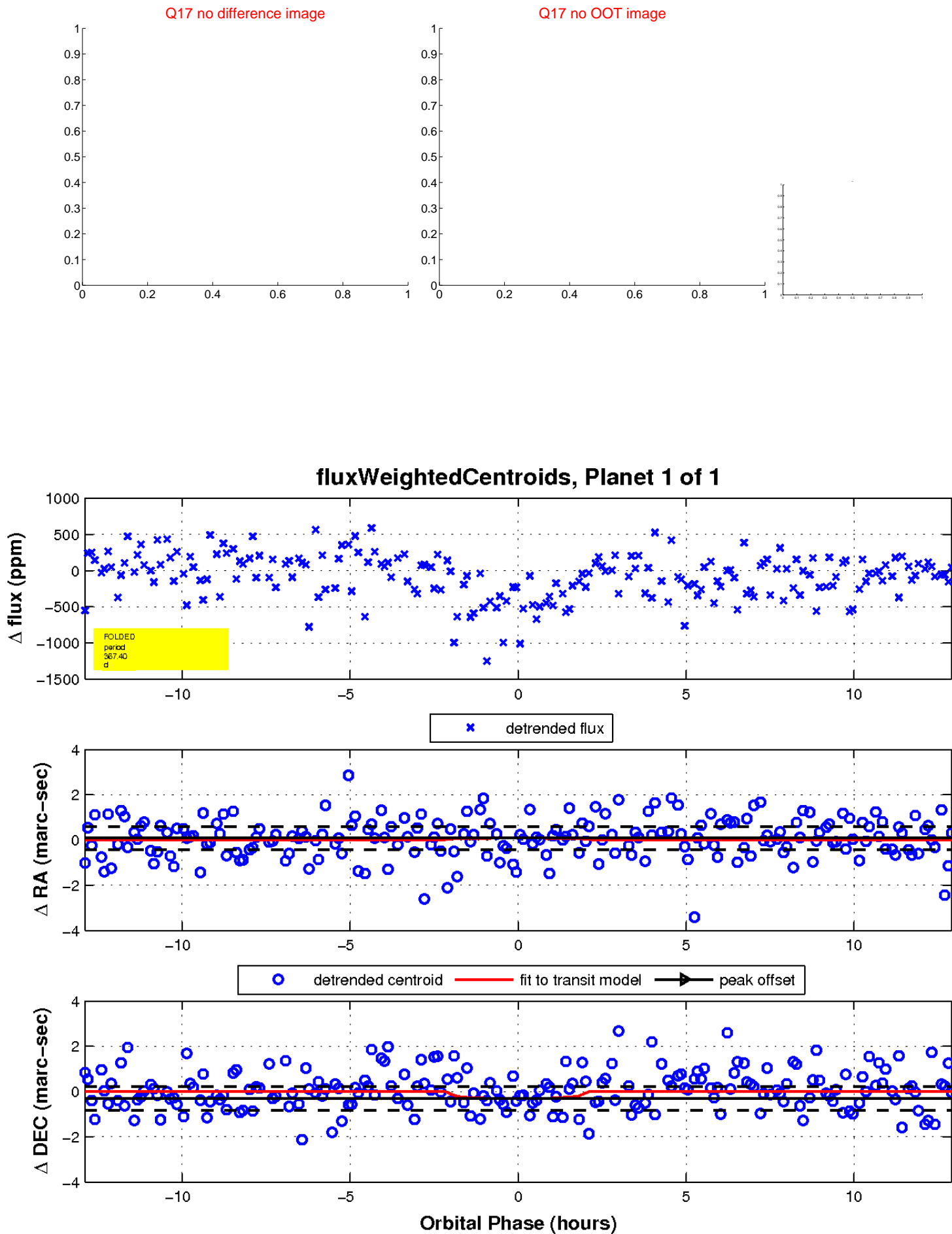
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

