

KIC 009536836

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})
009536836-01	OBS	8285.01	320.353050	406.227064	297.3	7.034	7.9	8.3	0.94	6146	1.75	1.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009536836-01	OBS	FP	0.12	1	0	0	0	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.

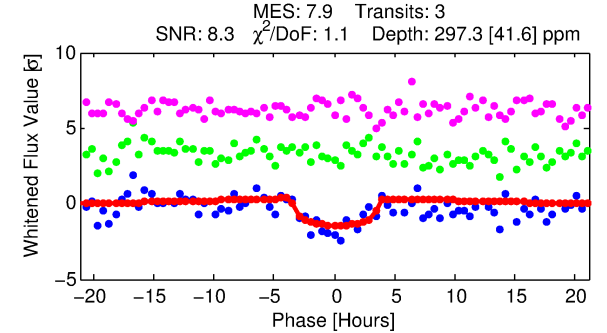
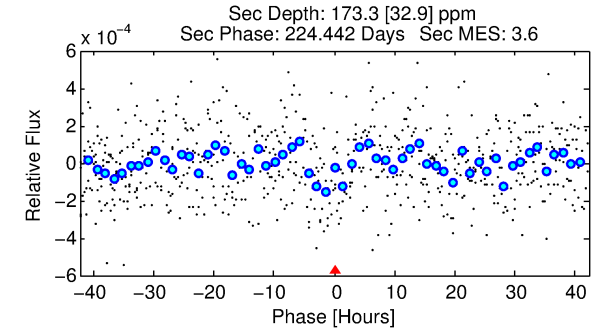
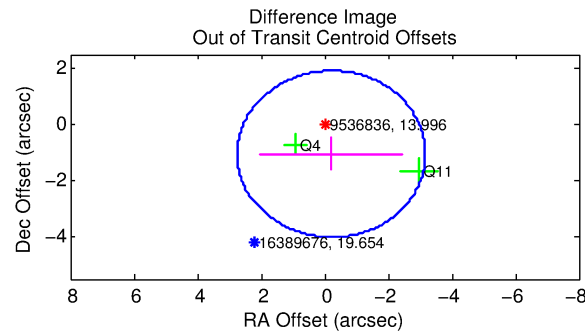
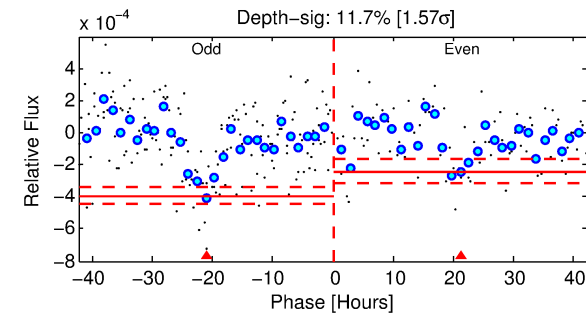
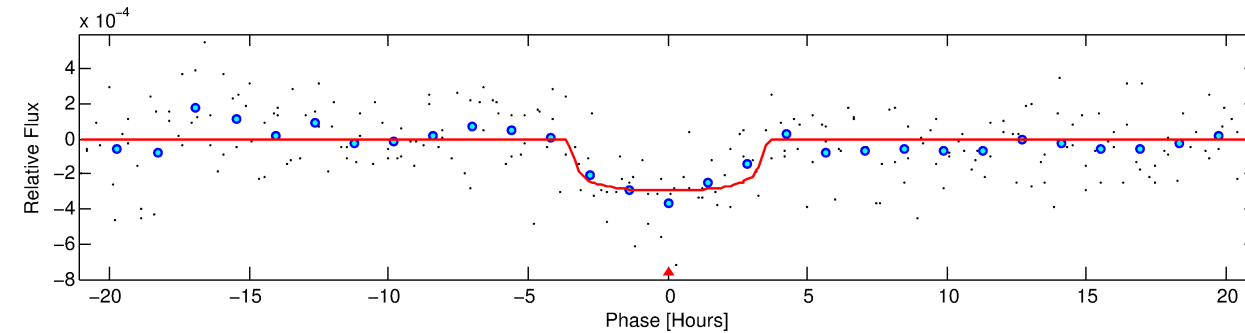
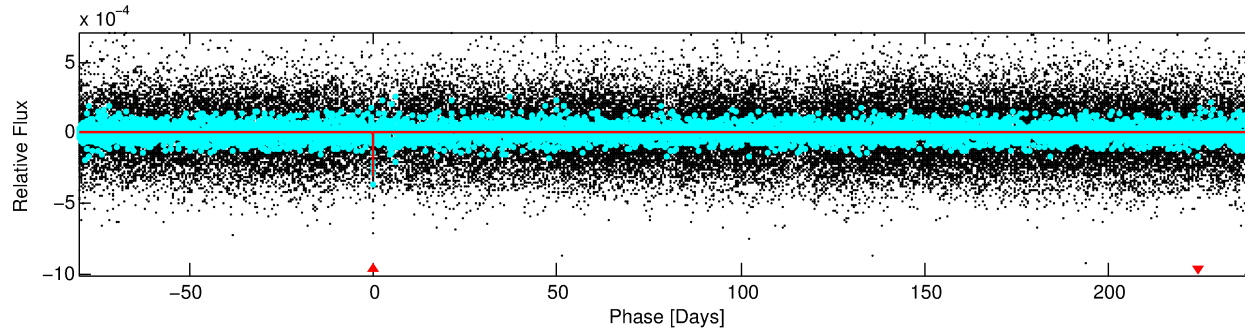
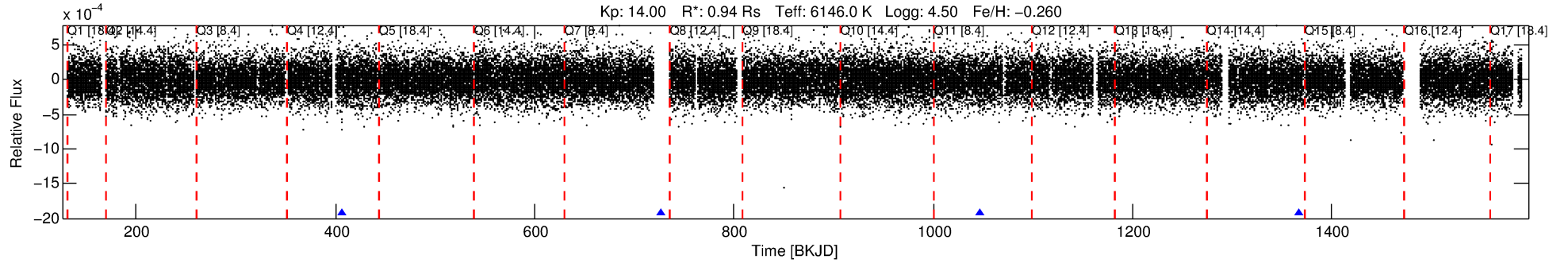
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009536836-01

No Significant Match Found

DV One-Page Summary

KIC: 9536836 Candidate: 1 of 1 Period: 320.353 d



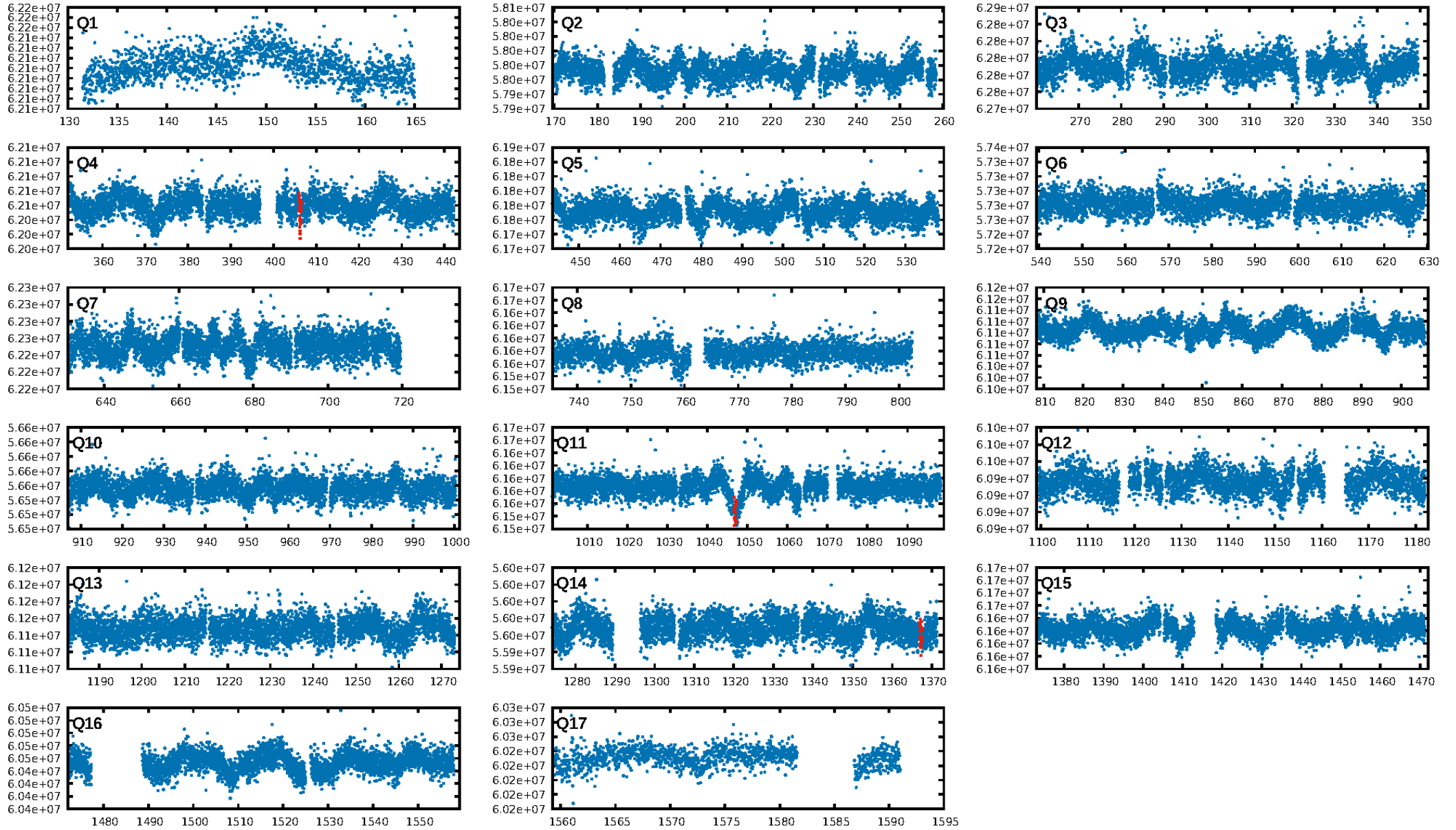
DV Fit Results:

Period = 320.35305 [0.00686] d
Epoch = 406.2271 [0.0148] BKJD
Rp/R* = 0.0170 [0.0127]
a/R* = 248.13 [945.91]
b = 0.73 [2.50]
Seff = 1.34 [0.52]
Teq = 274 [26] K
Rp = 1.75 [1.40] Re
a = 0.9221 [0.2274] AU
Ag = 26446.47 [40990.29] [0.65 σ]
Teffp = 5406 [2044] K [2.51 σ]

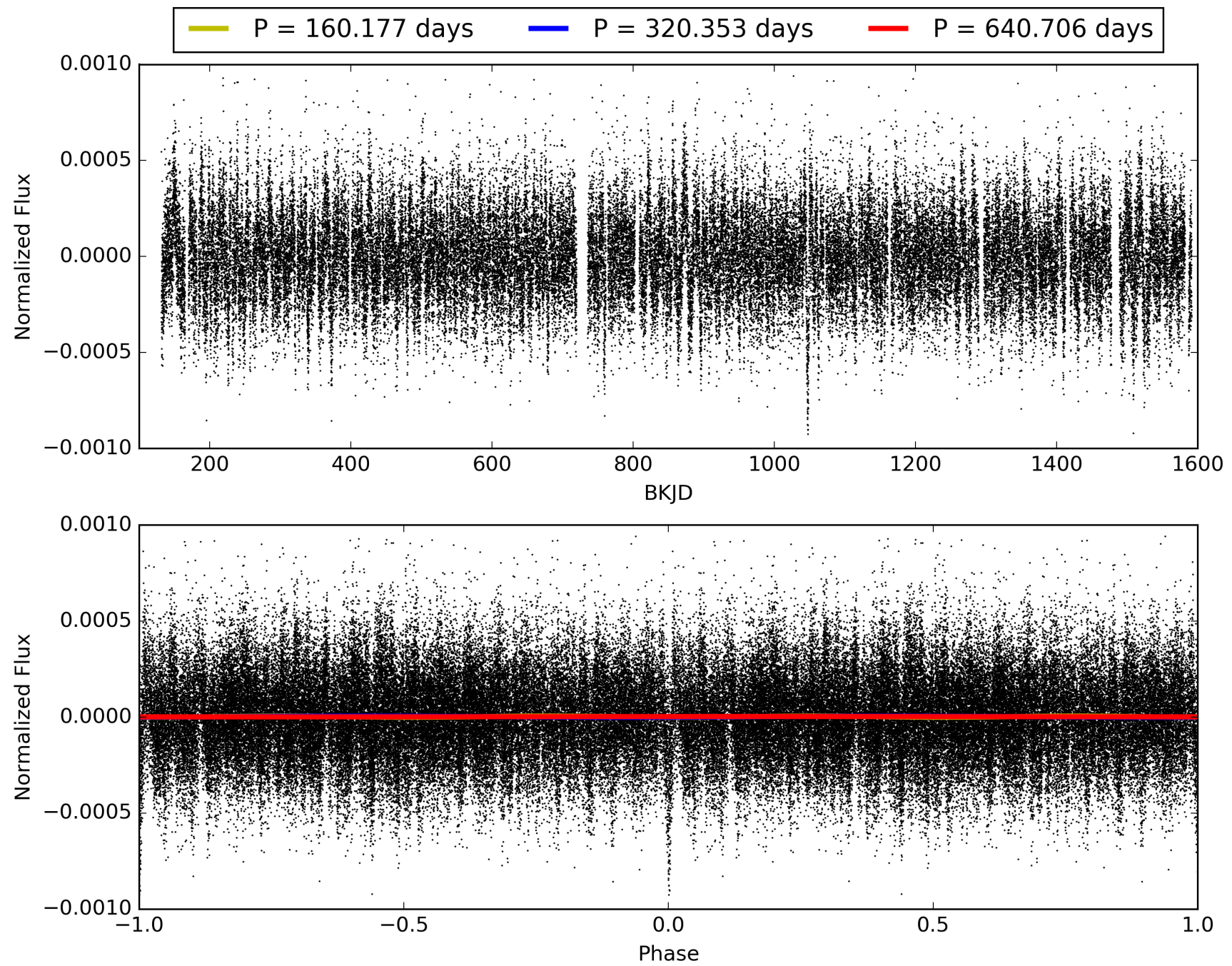
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.0%
ModelChiSquareGof-sig: 98.9%
Bootstrap-pfa: 4.69e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -12.42
Centroid-sig: 1.9%
Centroid-so: 2.975 arcsec [1.81 σ]
OotOffset-rm: 1.072 arcsec [1.09 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 1.110 arcsec [1.73 σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 009536836-01, PDC Light Curves

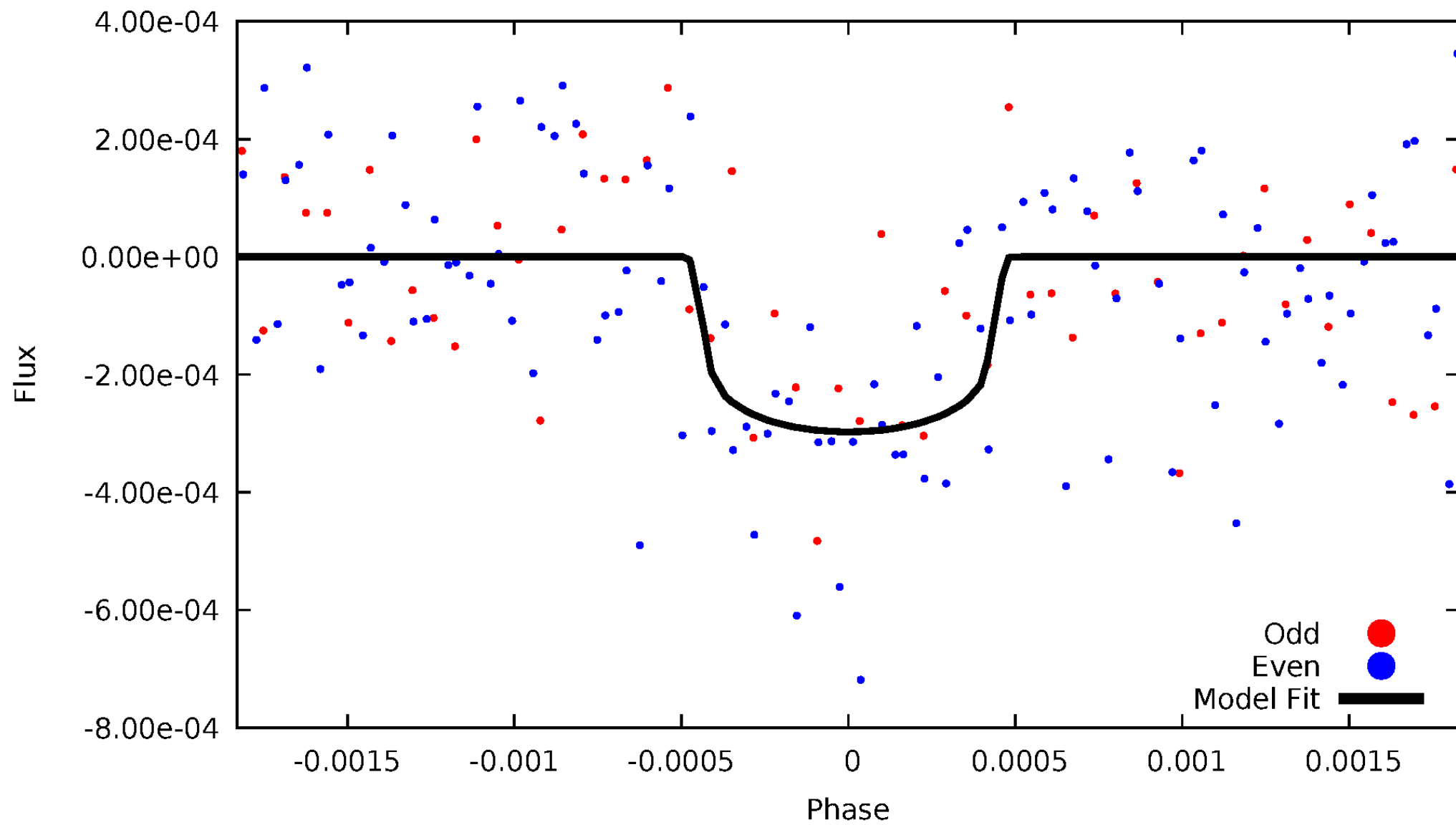


TCE 009536836-01



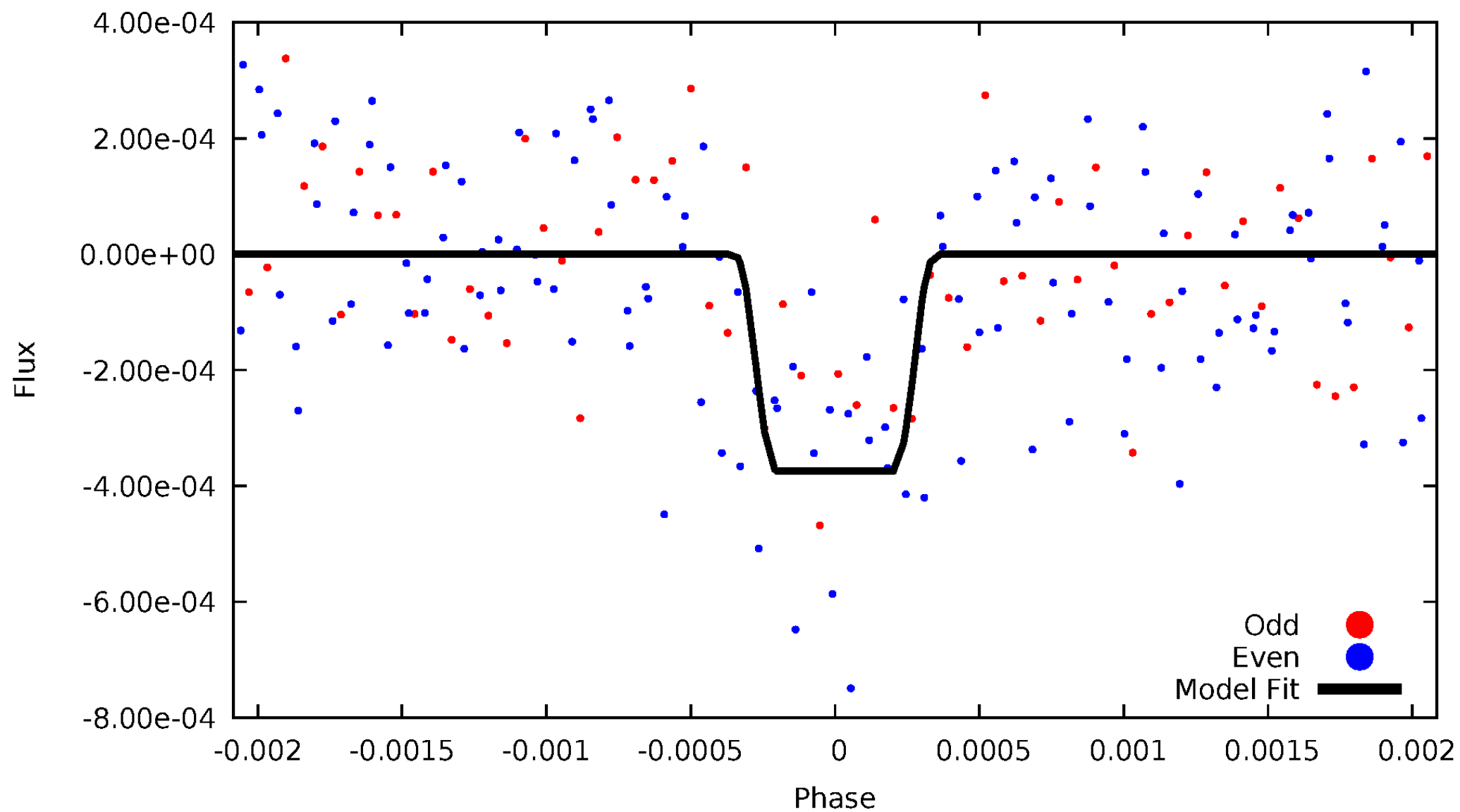
DV Odd/Even

TCE 009536836-01

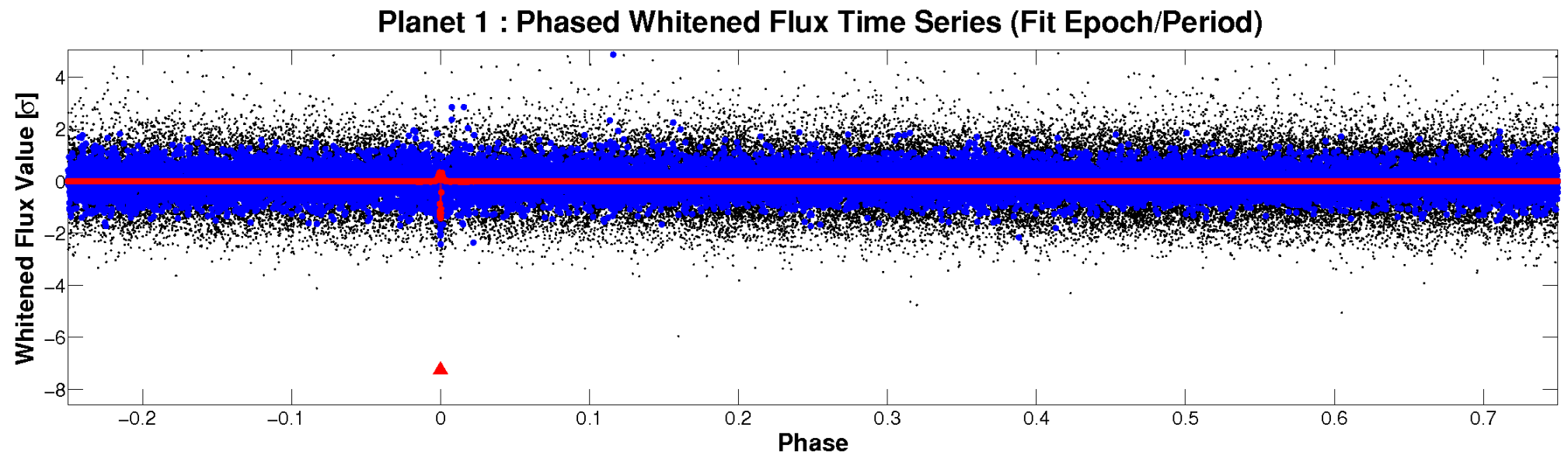
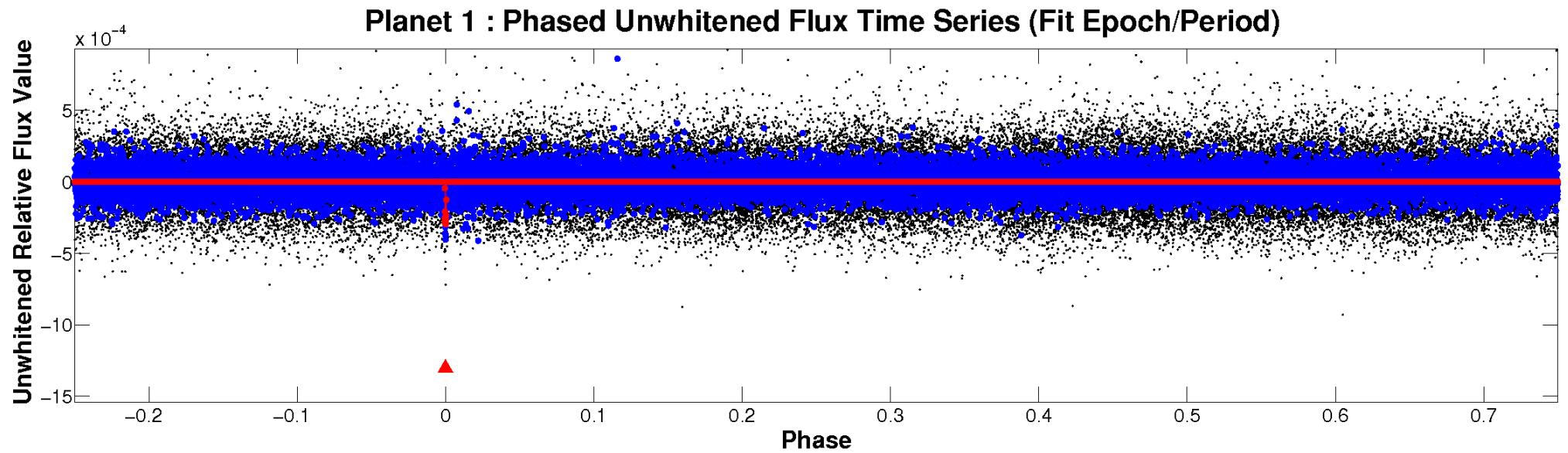


ALT Odd/Even

TCE 009536836-01

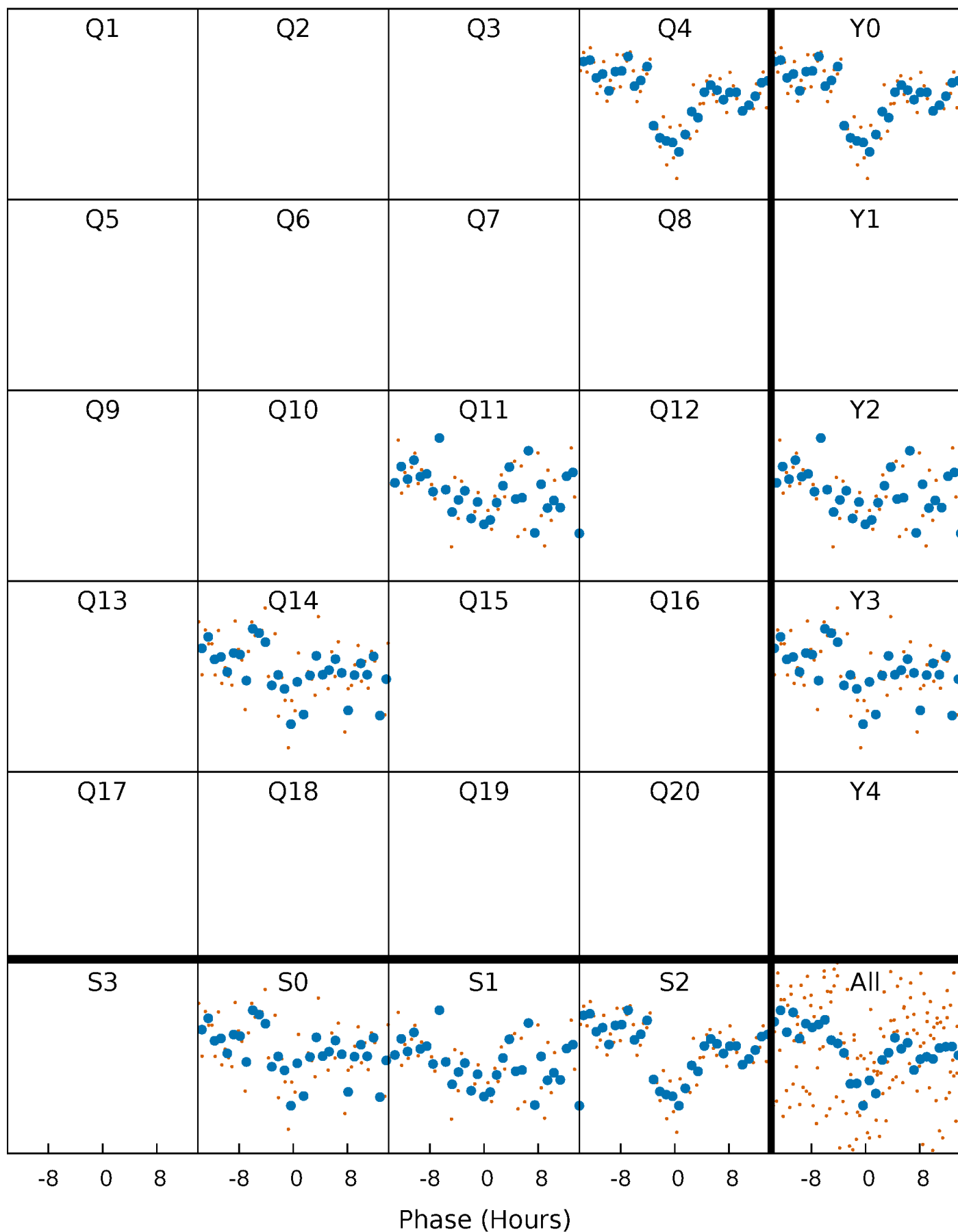


Non-Whitened Vs. Whitened Light Curve



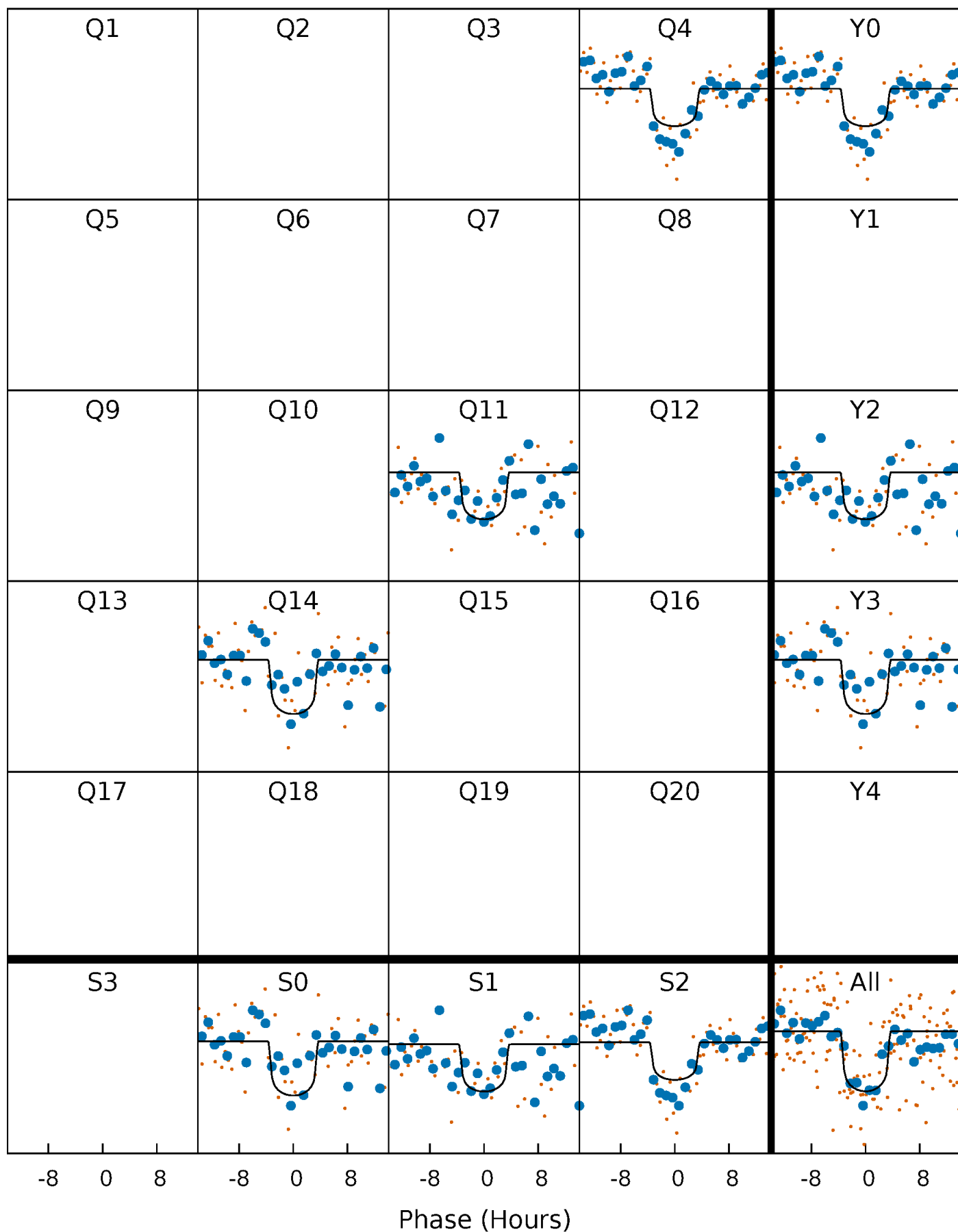
PDC Quarter-Phased Transit Curves

TCE 009536836-01 P=320.353050 Days $T_0=406.227064$ (BKJD)



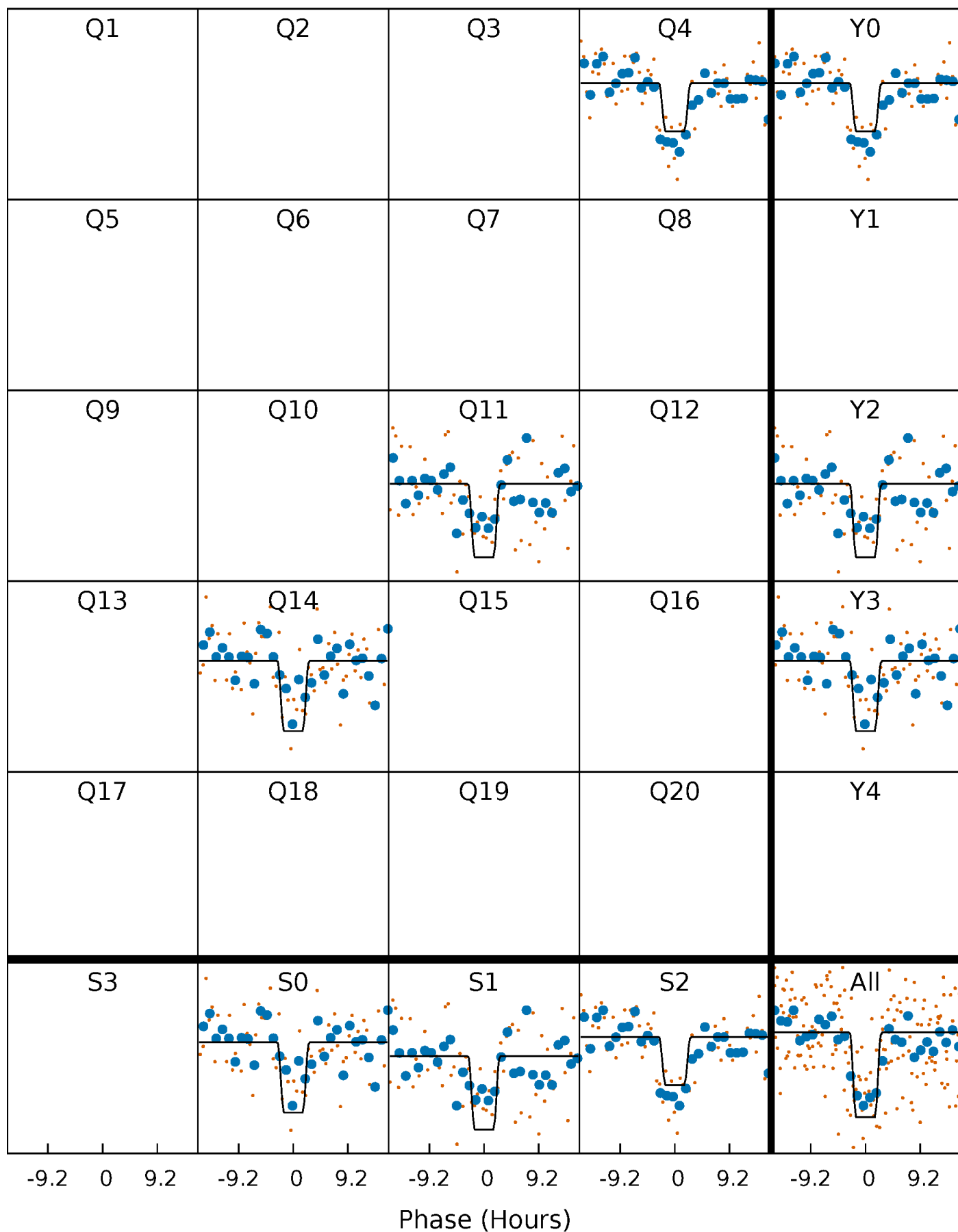
DV Quarter-Phased Transit Curves

TCE 009536836-01 P=320.353050 Days $T_0=406.227064$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

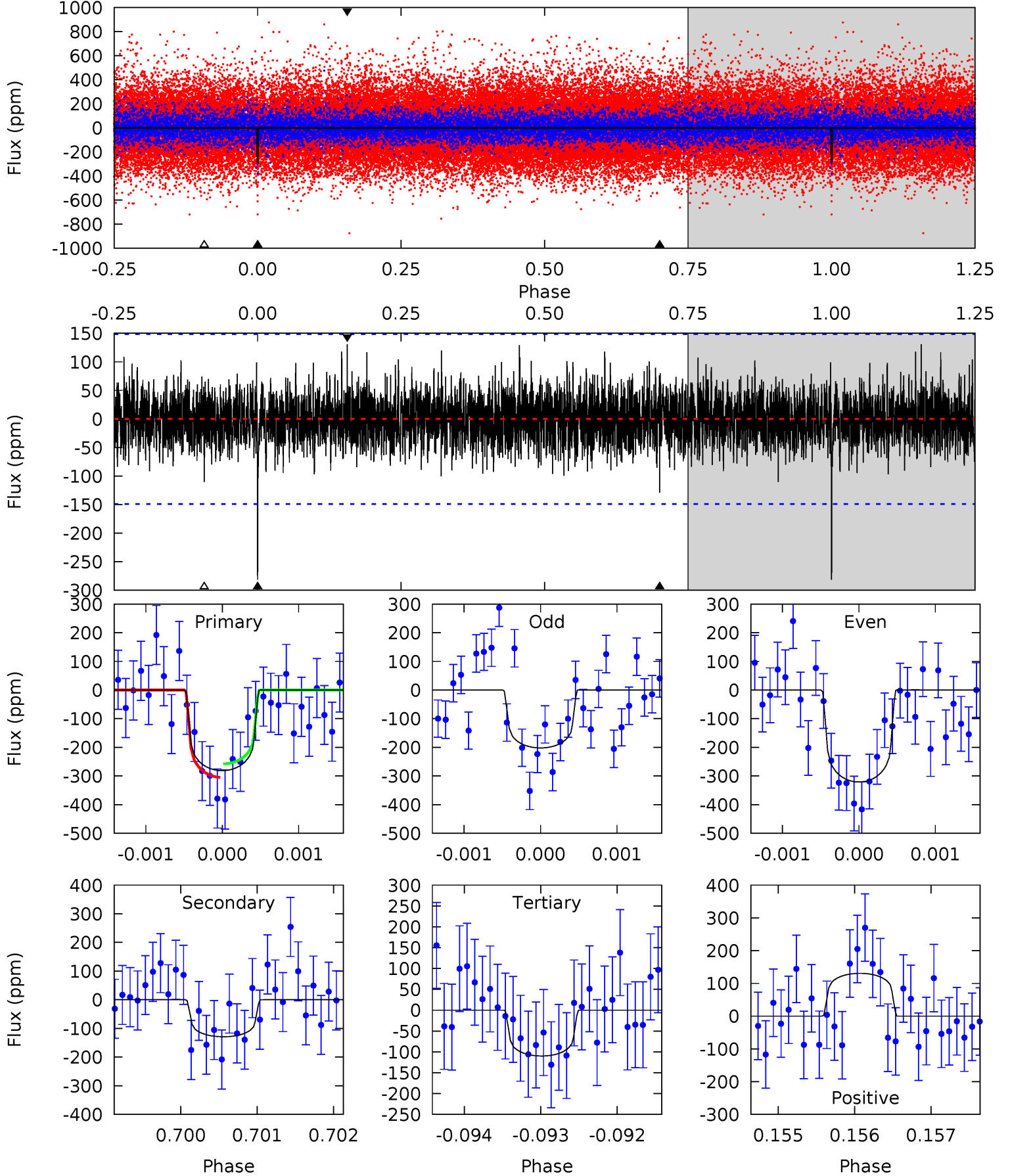
TCE 009536836-01 P=320.350543 Days $T_0=406.221683$ (BKJD)



DV Model-Shift Uniqueness Test

009536836-01, $P = 320.353050$ Days, $E = 85.874014$ Days

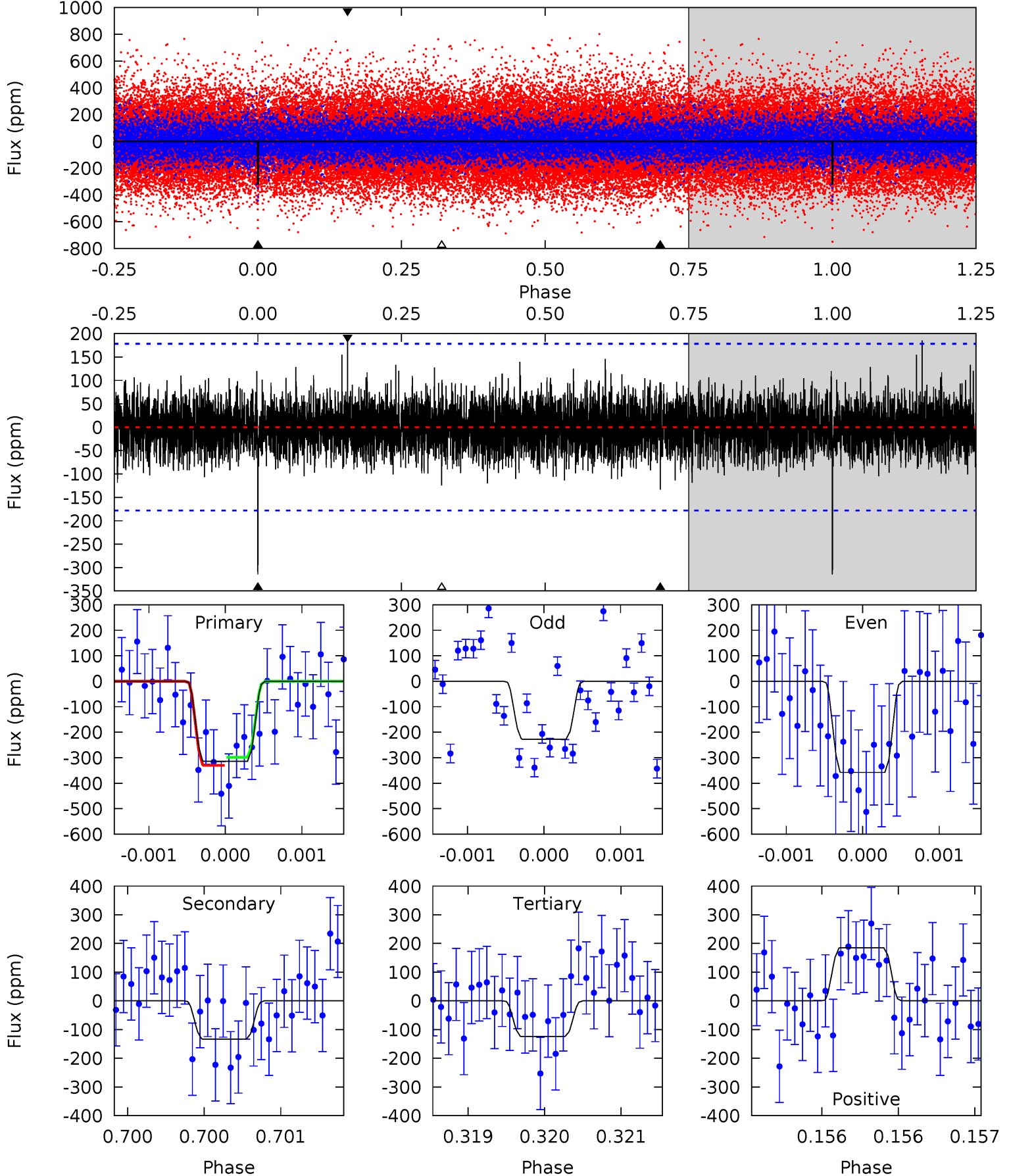
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	4.73	4.03	4.79	5.45	3.29	1.19	6.28	5.52	0.70	-0.06	2.04	1.26	0.32	0.86



Alt Model-Shift Uniqueness Test

009536836-01, $P = 320.350543$ Days, $E = 85.871140$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.73	4.12	3.84	5.73	5.51	3.39	1.12	5.89	4.00	0.28	-1.61	1.92	1.38	0.37	0.48



Stellar Parameters For KIC 009536836

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6146^{+164}_{-201}	$4.497^{+0.050}_{-0.200}$	$-0.260^{+0.300}_{-0.300}$	$0.943^{+0.273}_{-0.091}$	$1.020^{+0.124}_{-0.138}$	$1.713^{+0.436}_{-0.840}$
	+3%/-3%	+1%/-4%	+115%/-115%	+29%/-10%	+12%/-14%	+25%/-49%
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 009536836-01 / KOI 8285.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-129 ± 27	$2.03^{+1.39}_{-1.12}$	391^{+27}_{-19}	4886^{+2262}_{-909}	13898^{+57607}_{-8916}
Alt.	-133 ± 32	$2.27^{+1.31}_{-1.26}$	392^{+27}_{-19}	4701^{+2022}_{-797}	11858^{+45046}_{-7608}

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

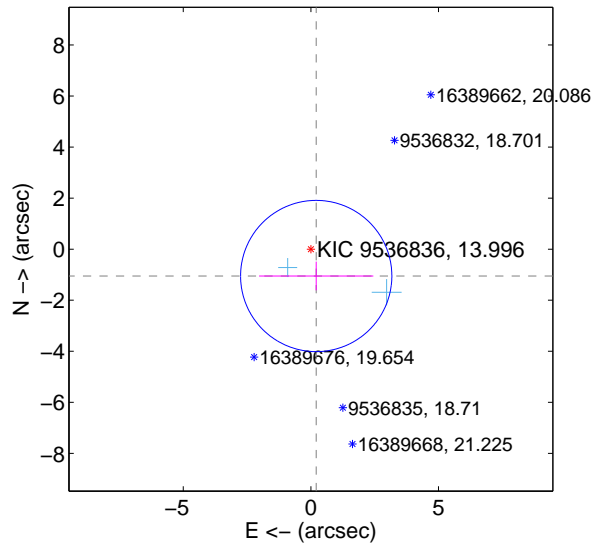
Supplemental centroid analysis for 009536836-01. Kepler magnitude: 14.00. Transit SNR 8.32

There are 2 quarters with good PRF difference image offsets

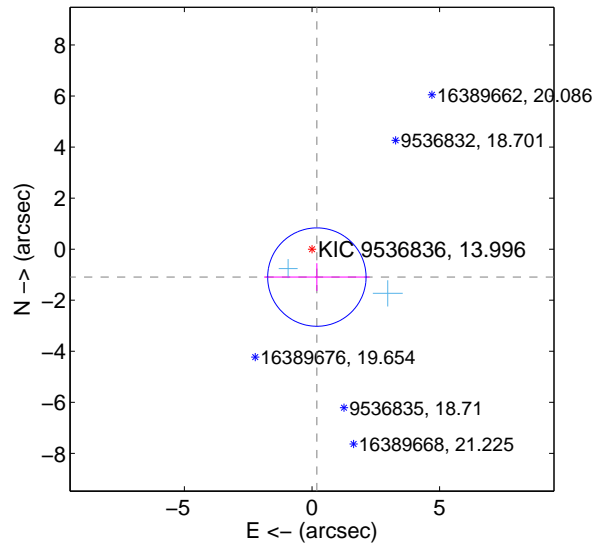
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.072 ± 0.988	1.09	-0.209 ± 2.240	-1.051 ± 0.563
PRF-fit source offset from KIC position	1.110 ± 0.642	1.73	-0.191 ± 2.067	-1.094 ± 0.543
photometric centroid source offset	2.98 ± 1.64	1.81	2.22 ± 1.51	-1.98 ± 1.80

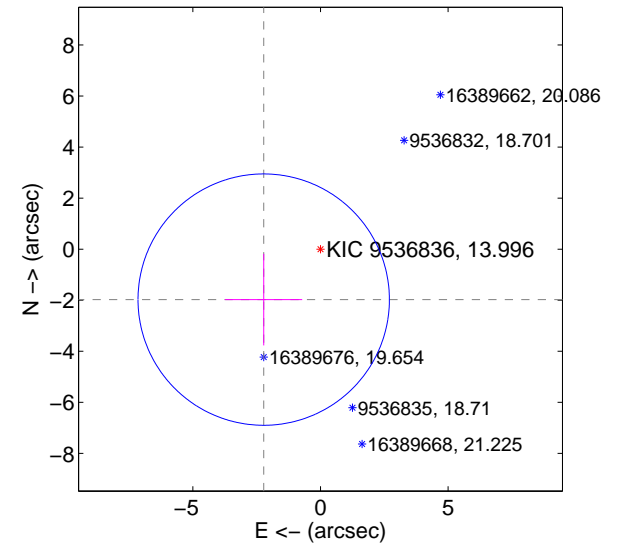
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

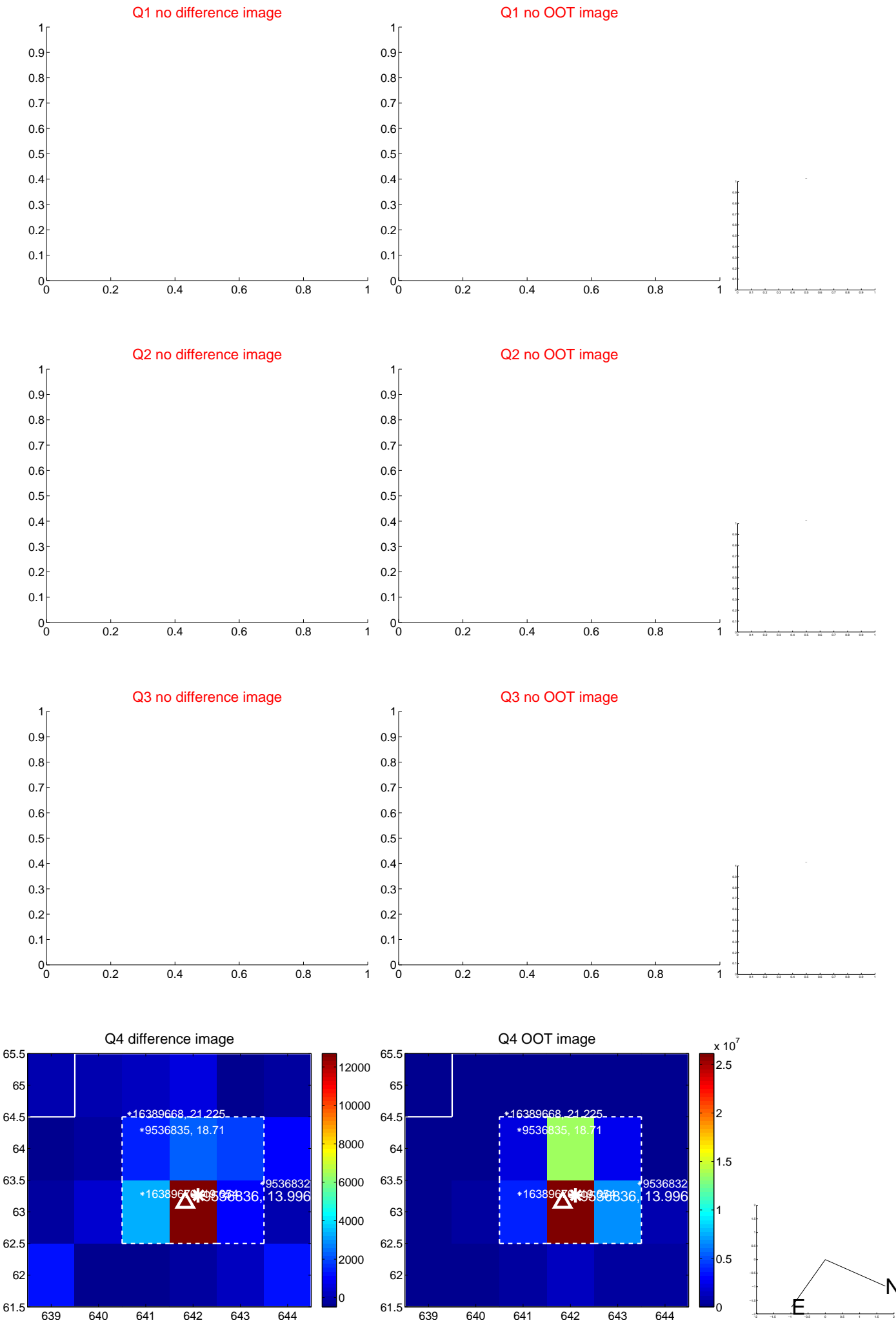


offset from photometric centroids



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.

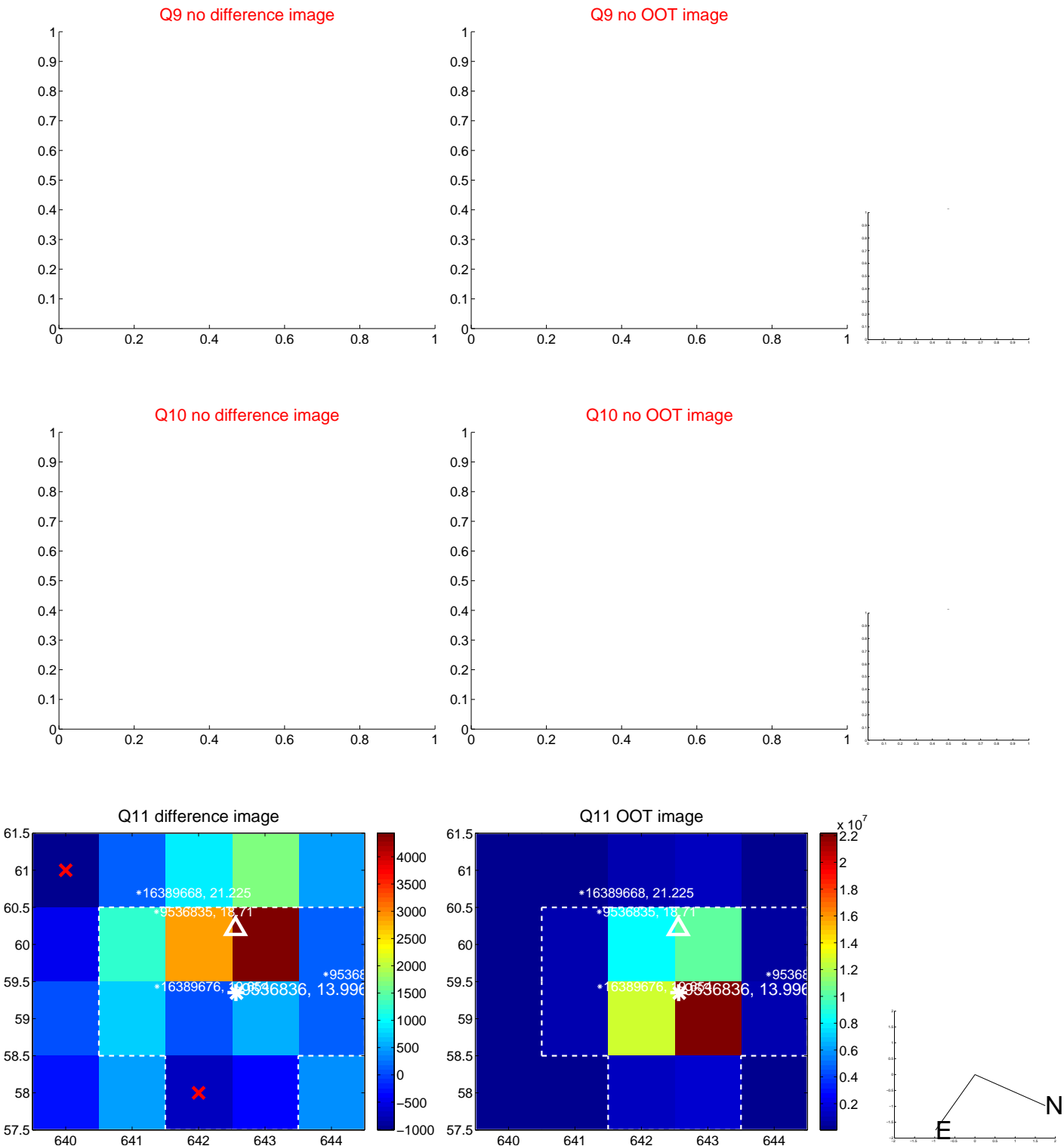
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



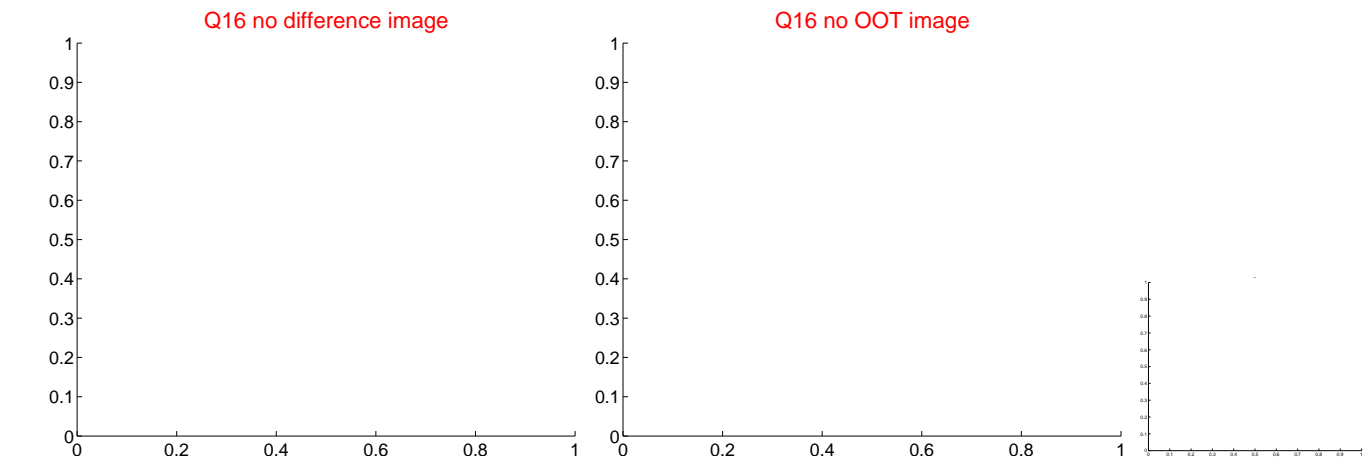
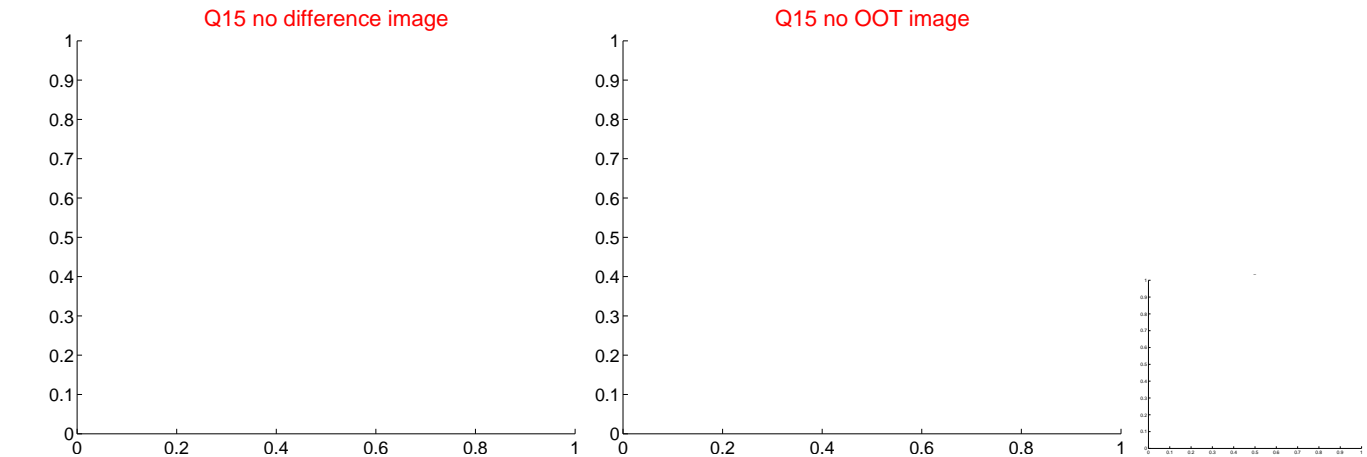
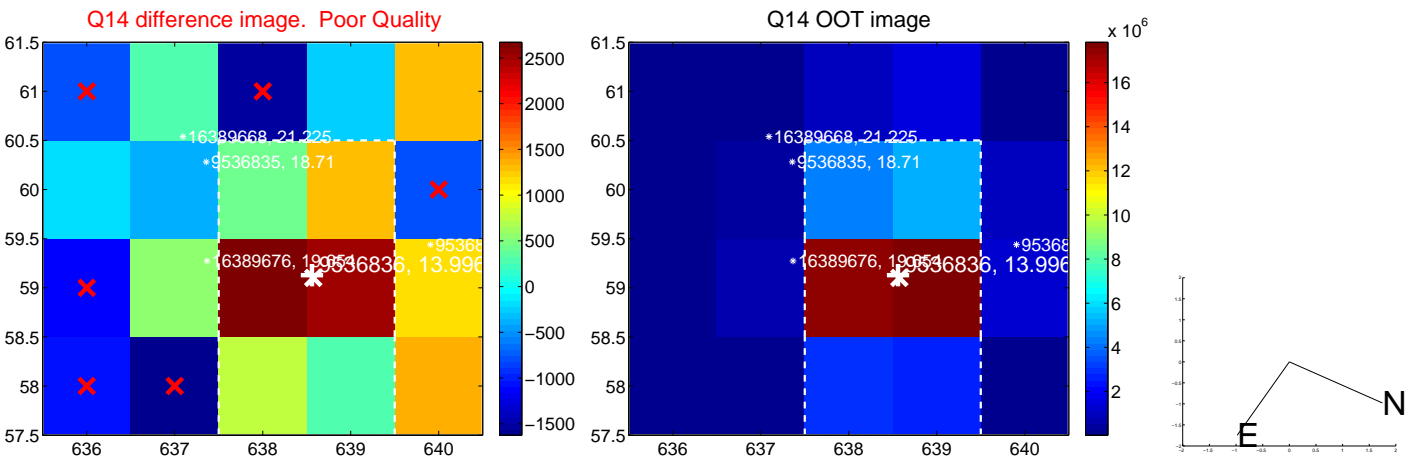
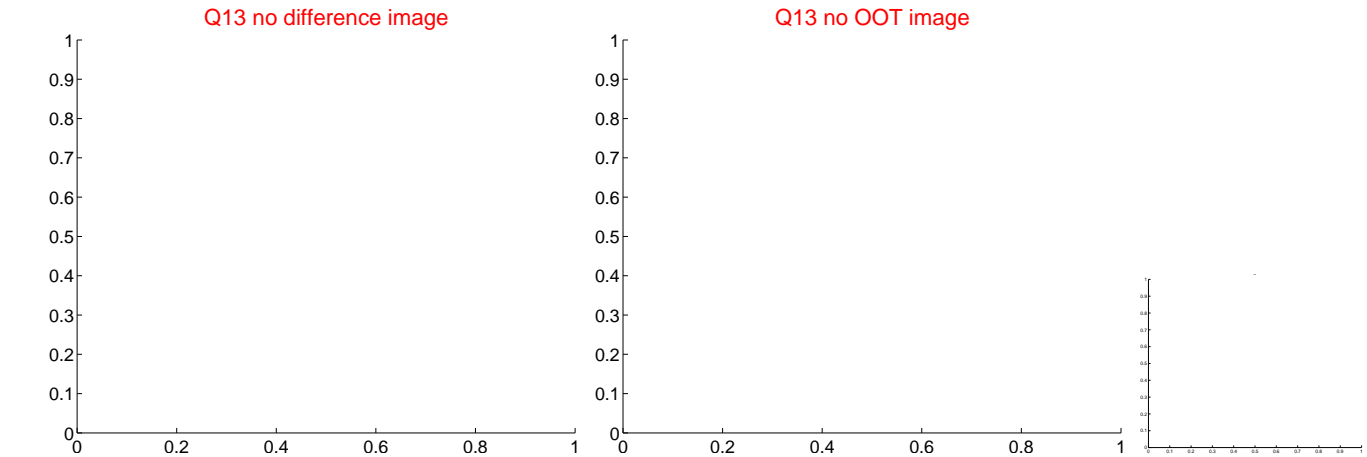
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



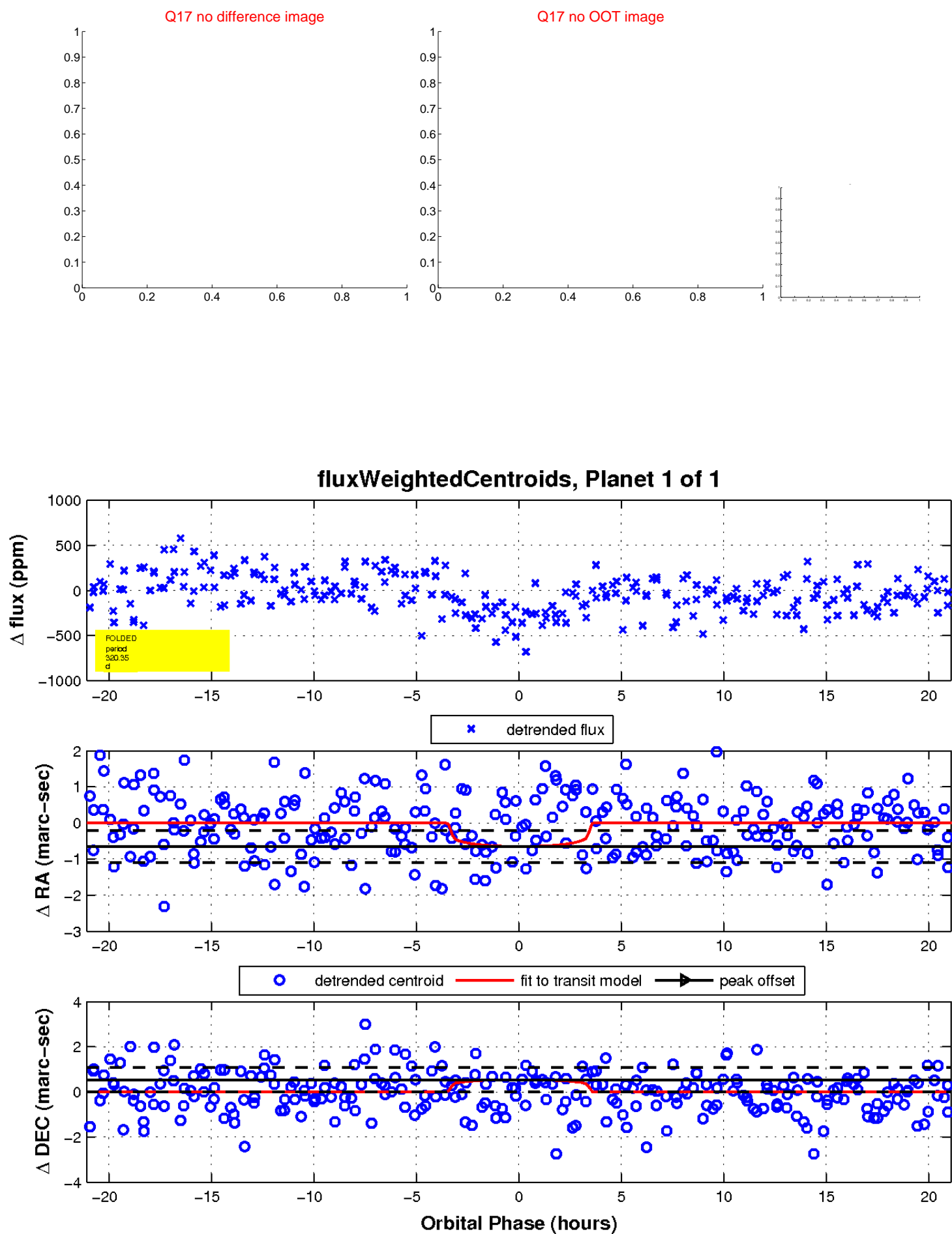
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

