

KIC 009840129

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})
009840129-01	OBS	No	443.578183	246.676915	394.2	5.959	8.8	6.0	1.32	6584	2.90	2.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009840129-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS

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

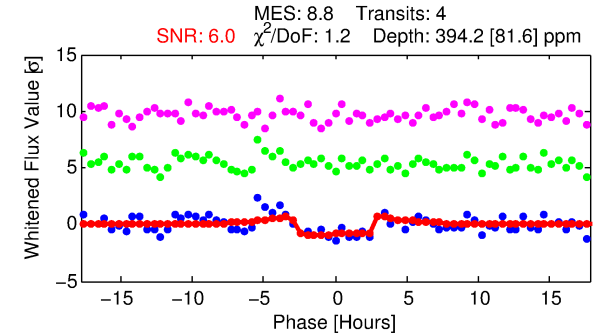
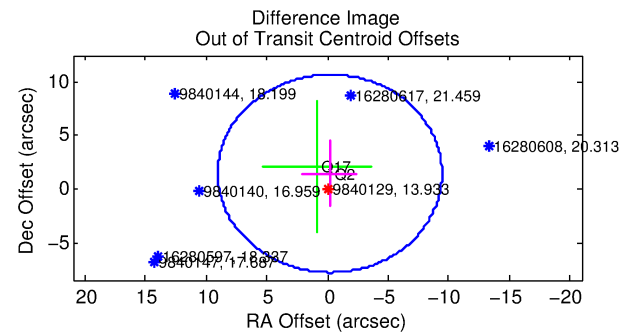
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

Ephemeris Match Information For 009840129-01

No Significant Match Found

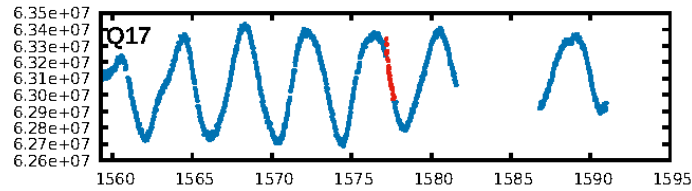
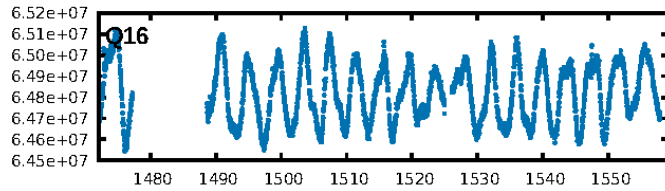
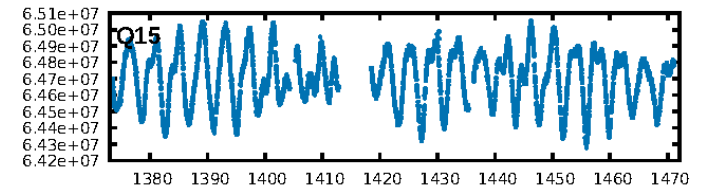
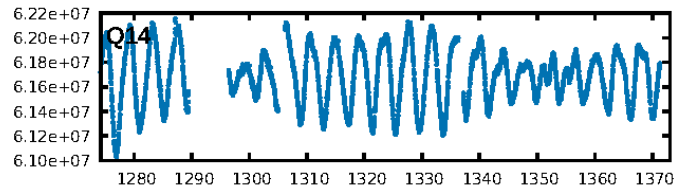
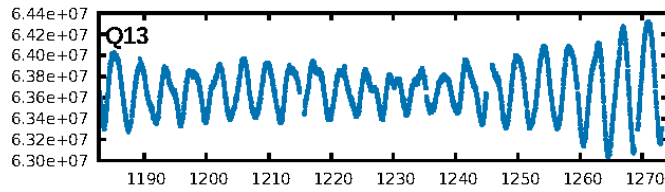
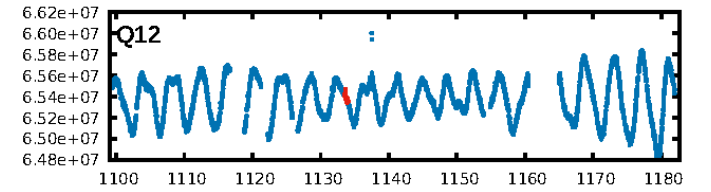
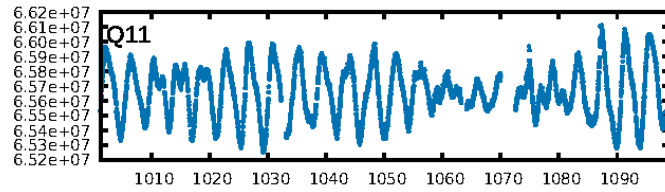
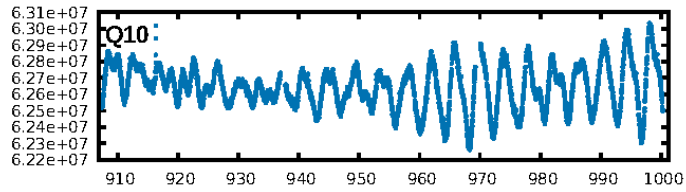
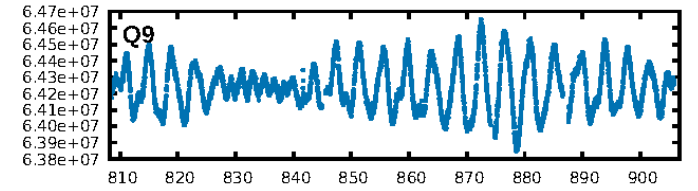
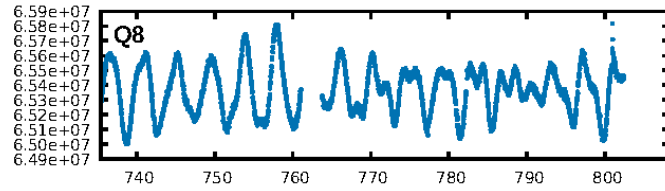
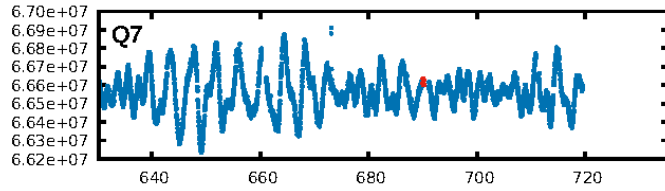
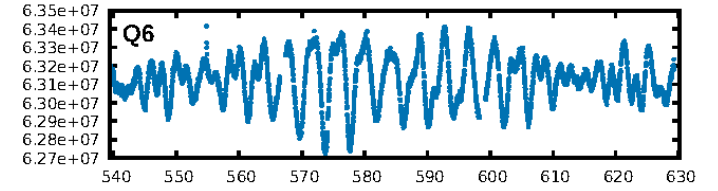
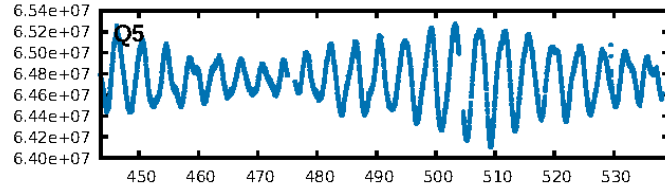
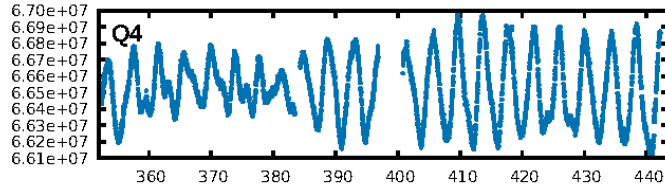
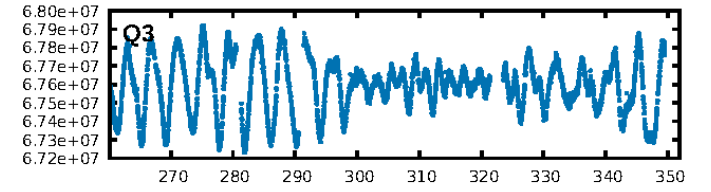
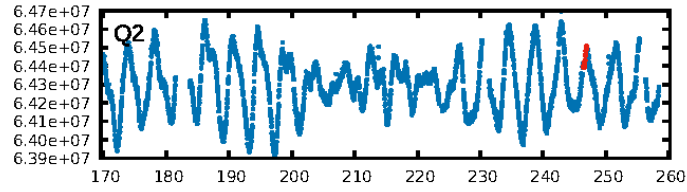
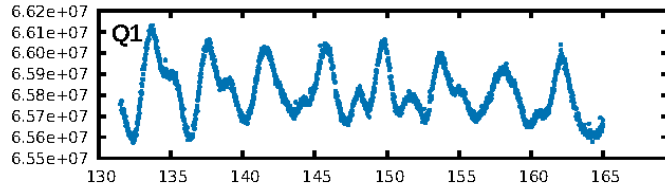
KIC: 9840129 Candidate: 1 of 1 Period: 443.578 d



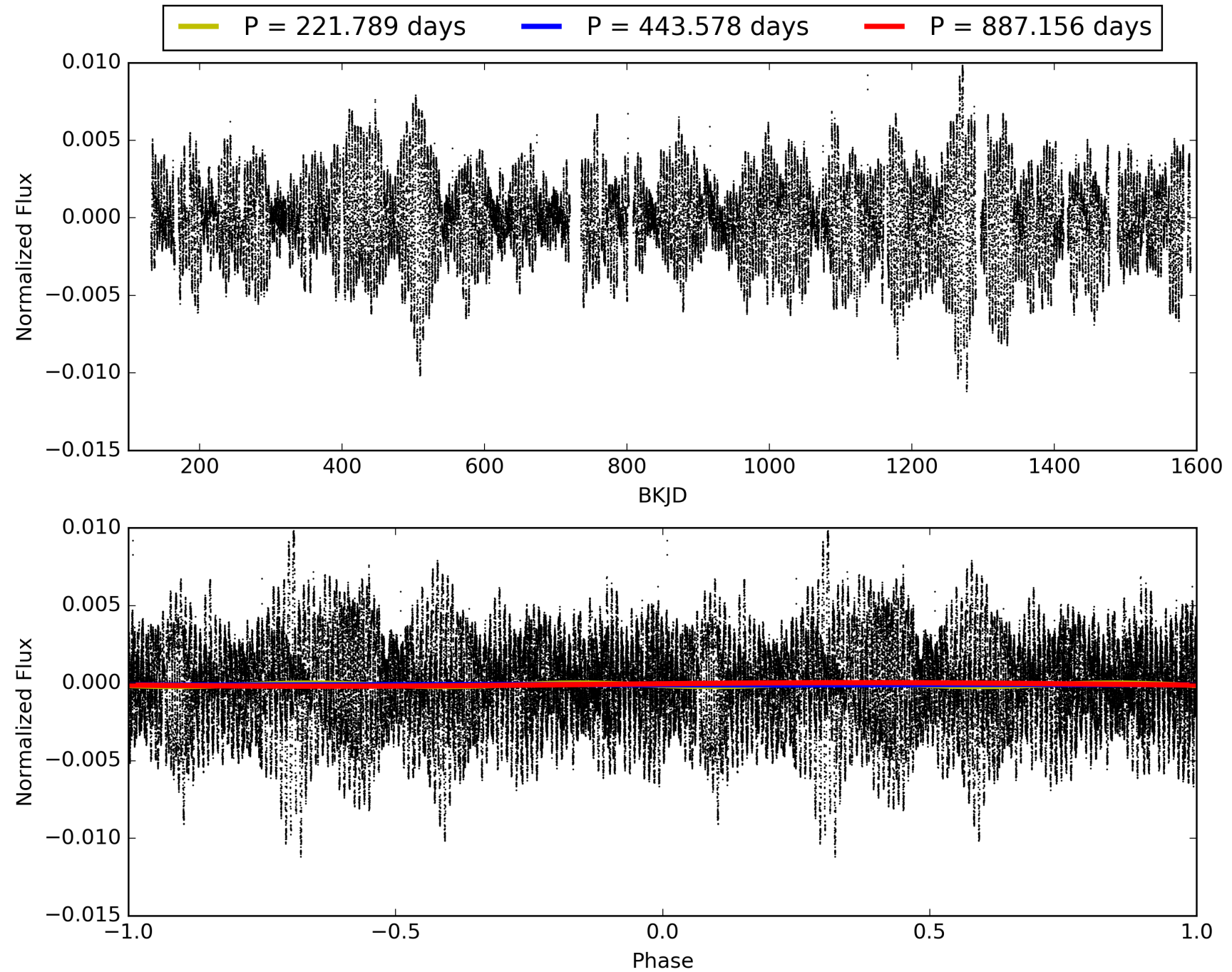
ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.2%
ModelChiSquareGof-sig: 98.6%
Bootstrap-pfa: 2.02e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.387

Centroid-sig: 11.3%
Centroid-so: 1.393 arcsec [1.09σ]
OotOffset-rm: 1.458 arcsec [0.47σ]
KicOffset-rm: 1.304 arcsec [0.42σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 009840129-01, PDC Light Curves

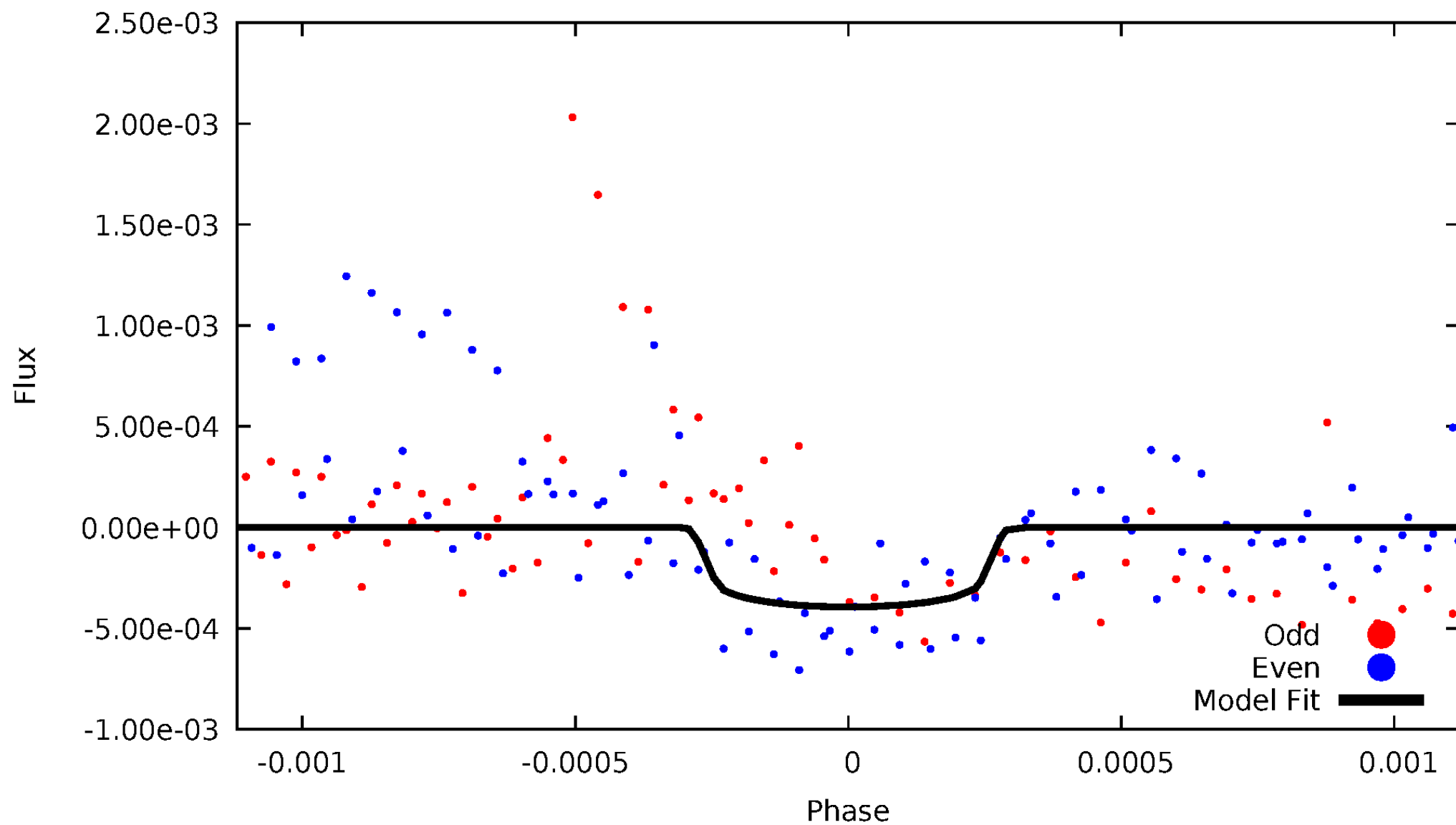


TCE 009840129-01



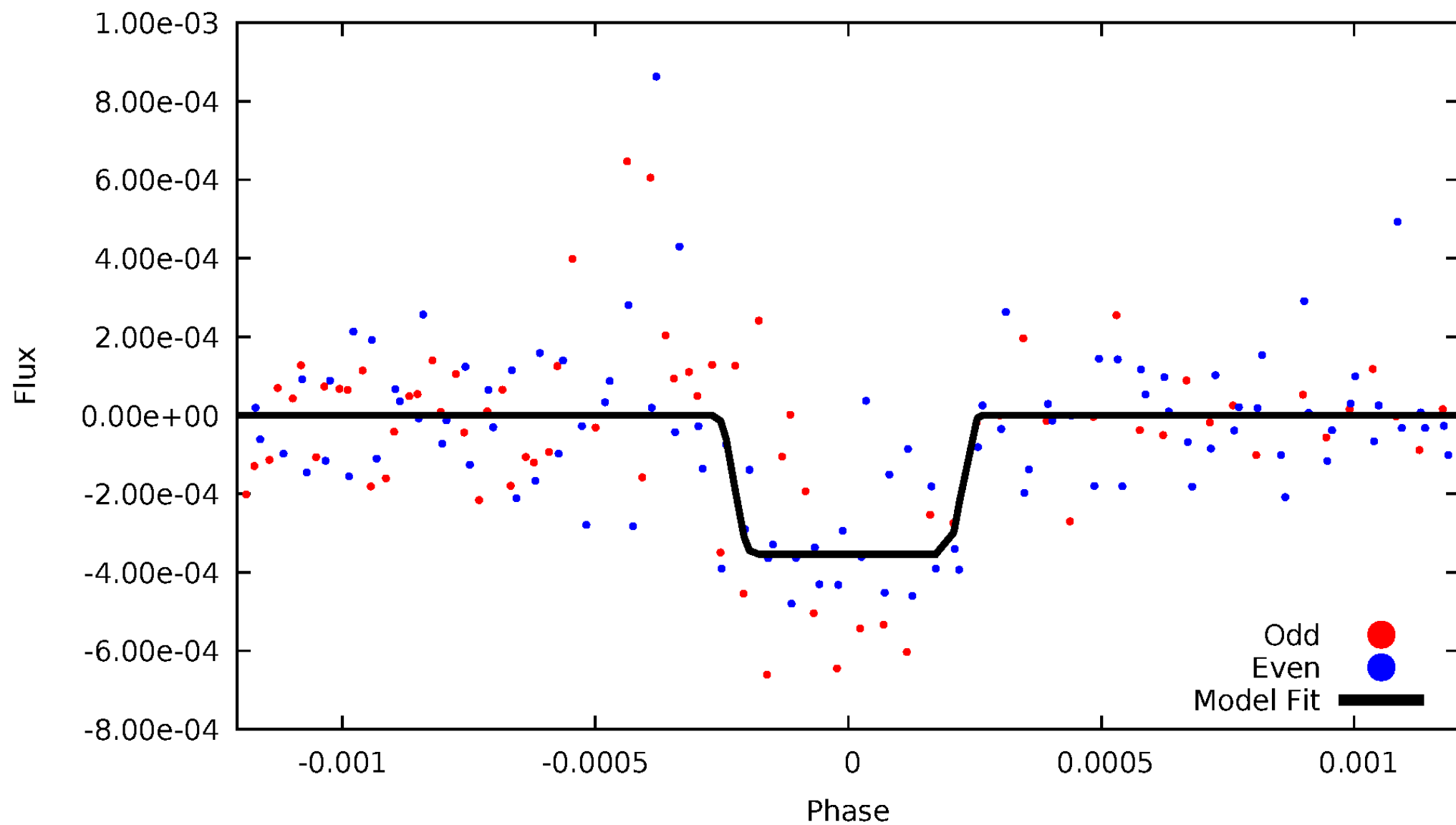
DV Odd/Even

TCE 009840129-01

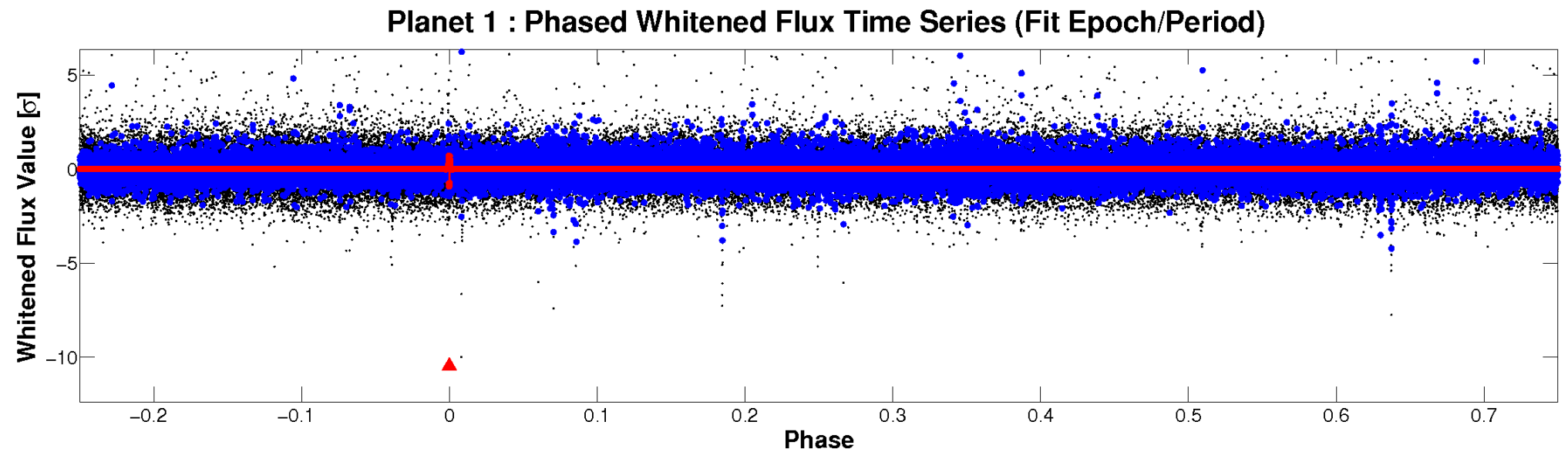
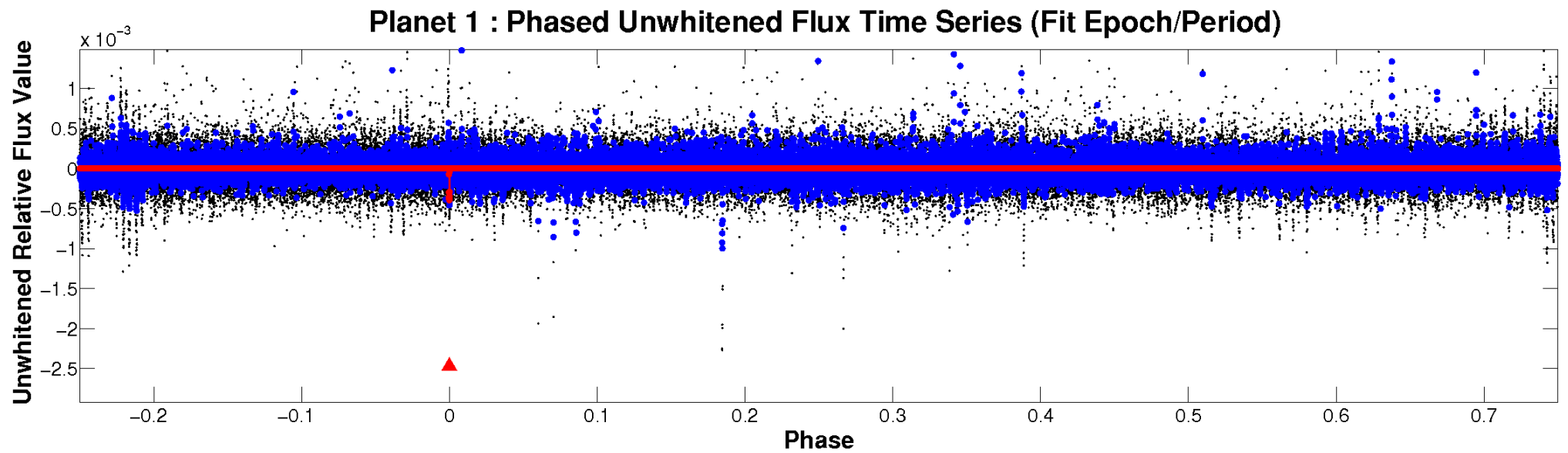


ALT Odd/Even

TCE 009840129-01

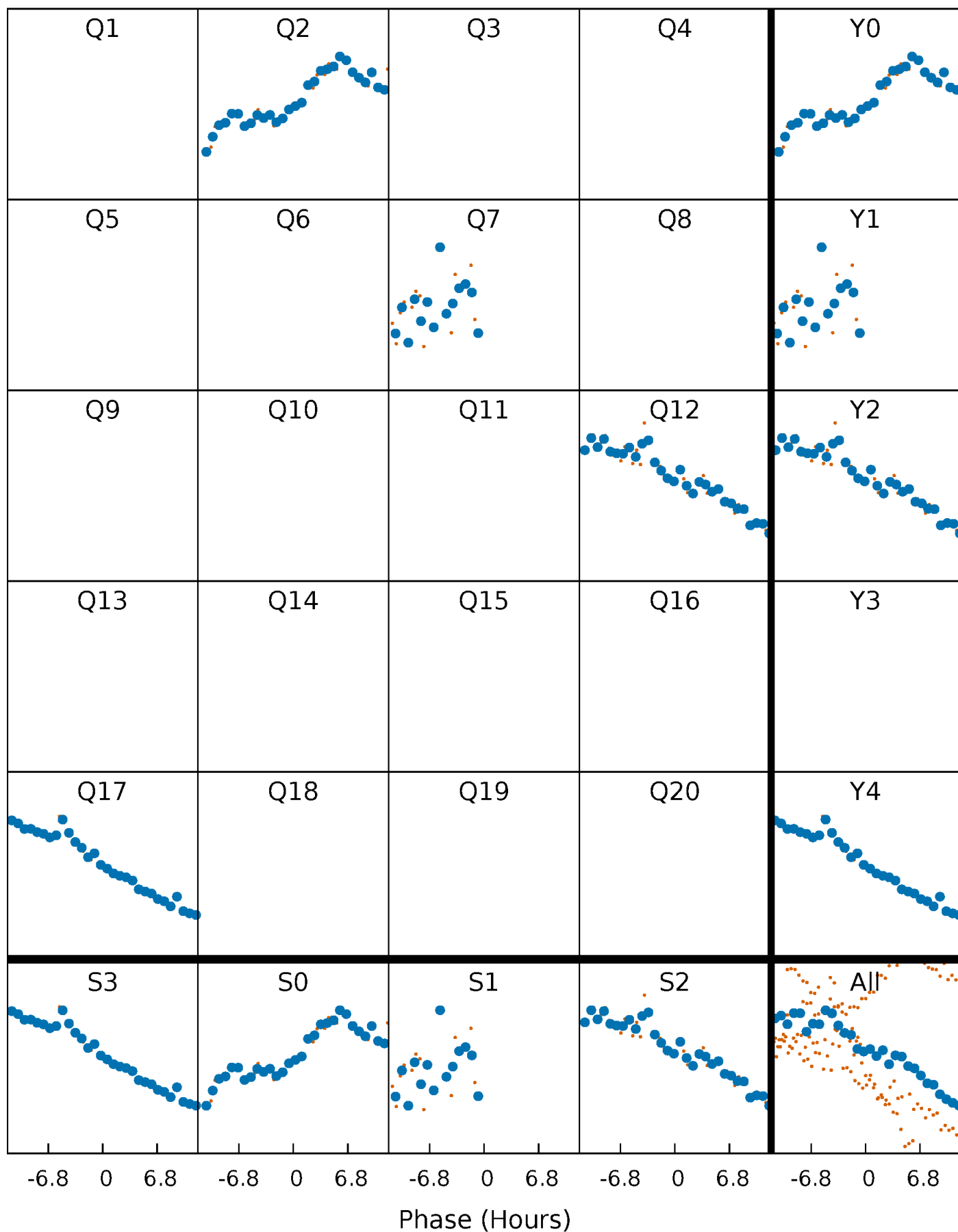


Non-Whitened Vs. Whitened Light Curve



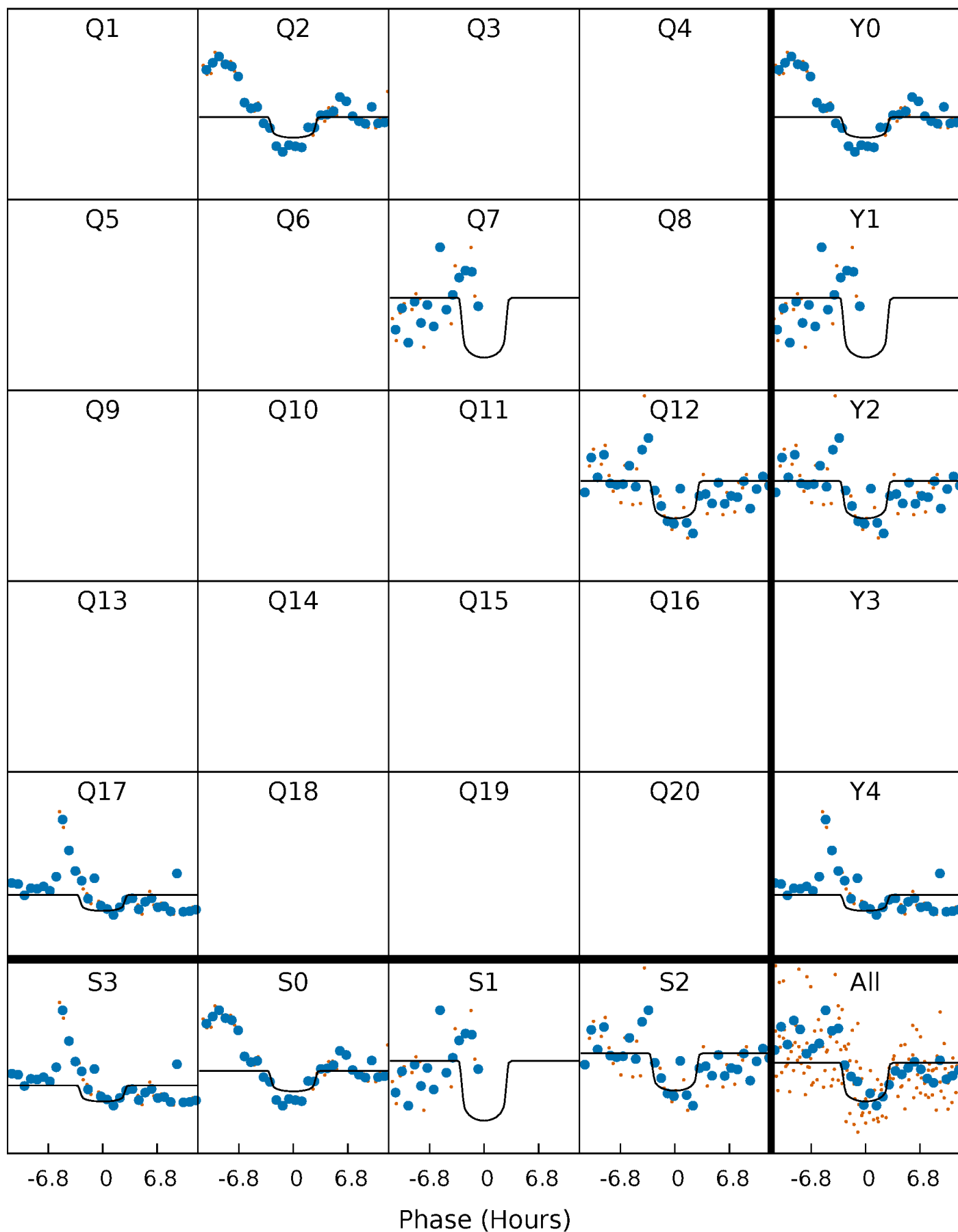
PDC Quarter-Phased Transit Curves

TCE 009840129-01 P=443.578183 Days $T_0=246.676915$ (BKJD)



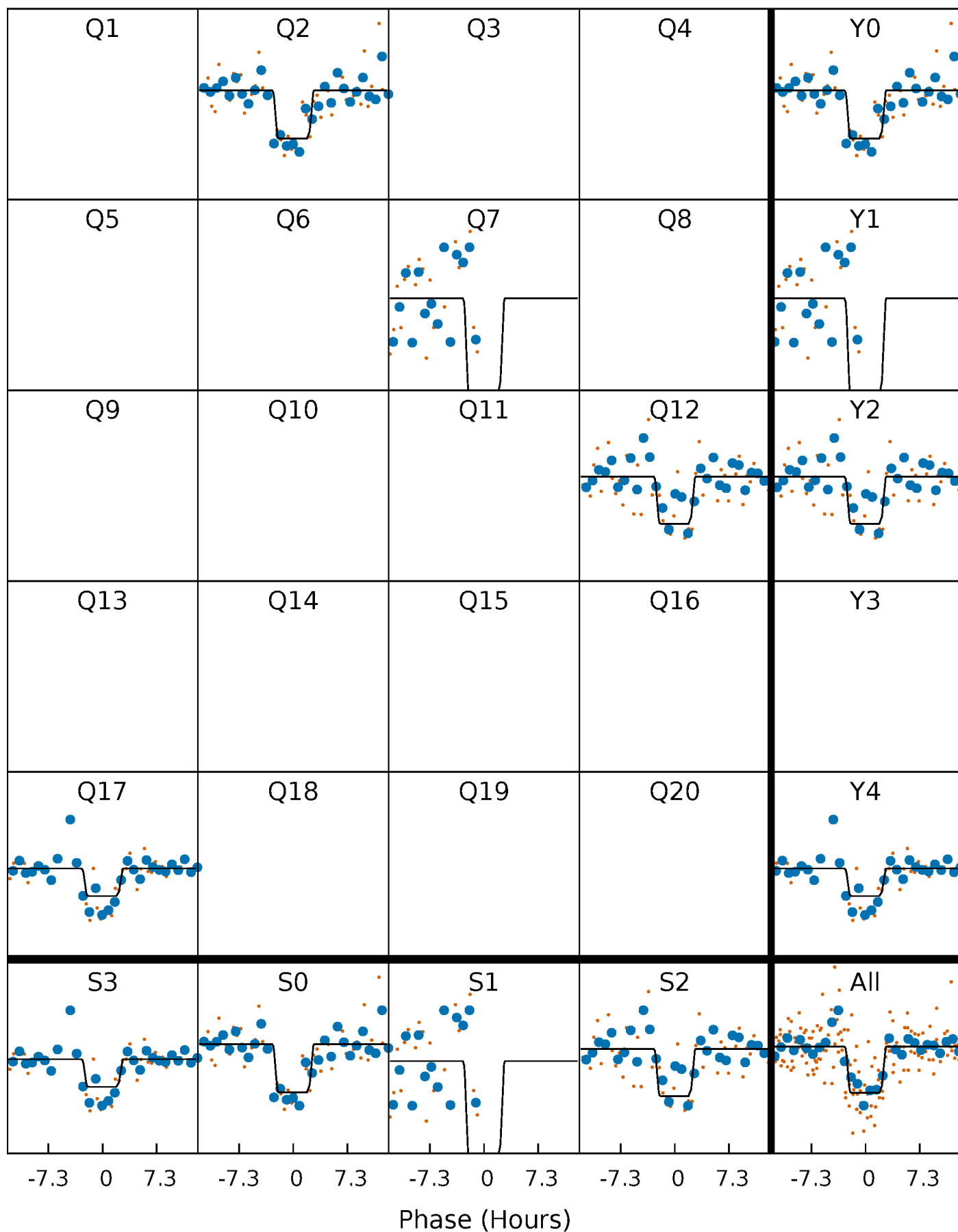
DV Quarter-Phased Transit Curves

TCE 009840129-01 P=443.578183 Days $T_0=246.676915$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

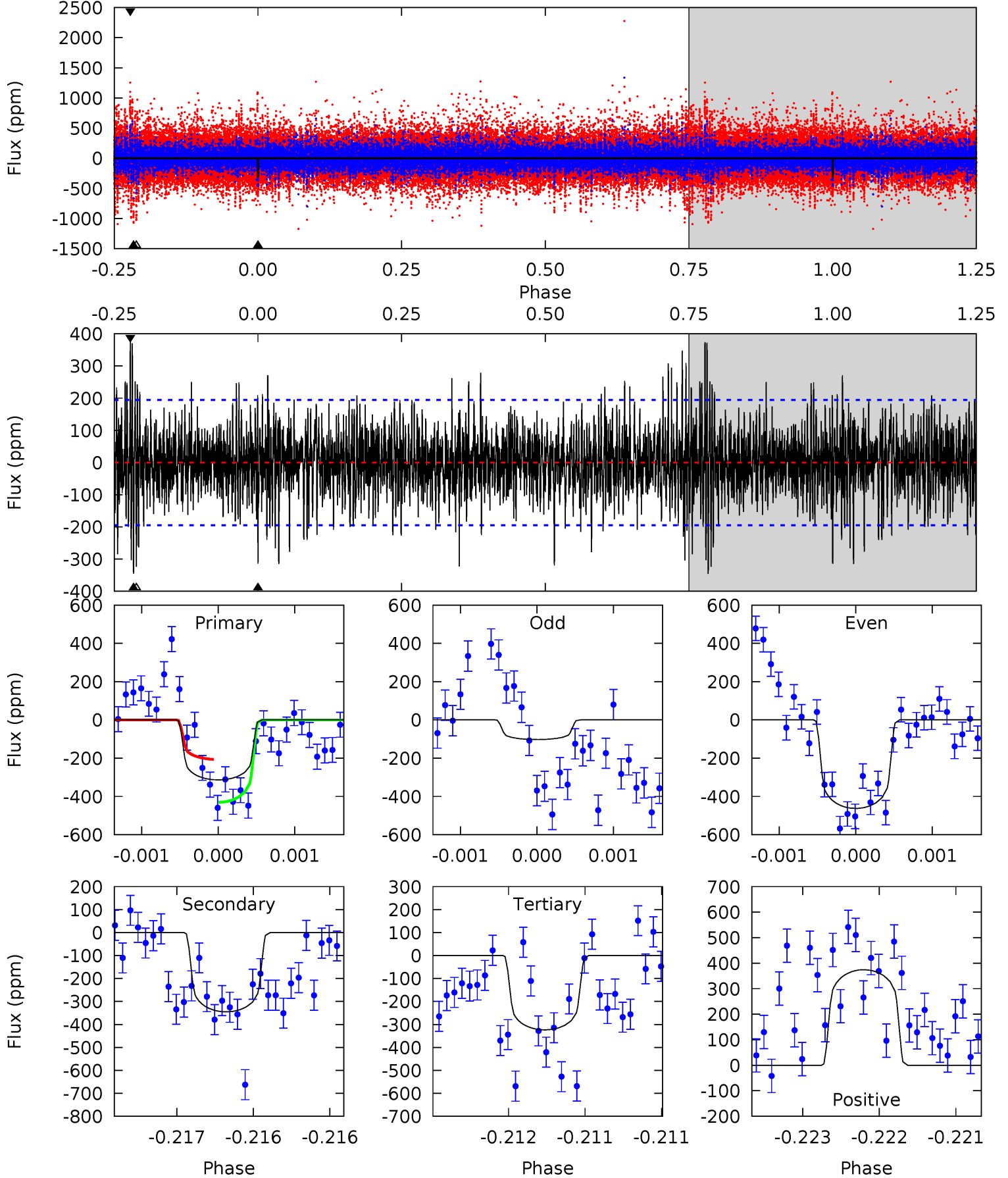
TCE 009840129-01 P=443.578532 Days $T_0=246.686684$ (BKJD)



DV Model-Shift Uniqueness Test

009840129-01, P = 443.578183 Days, E = 246.676915 Days

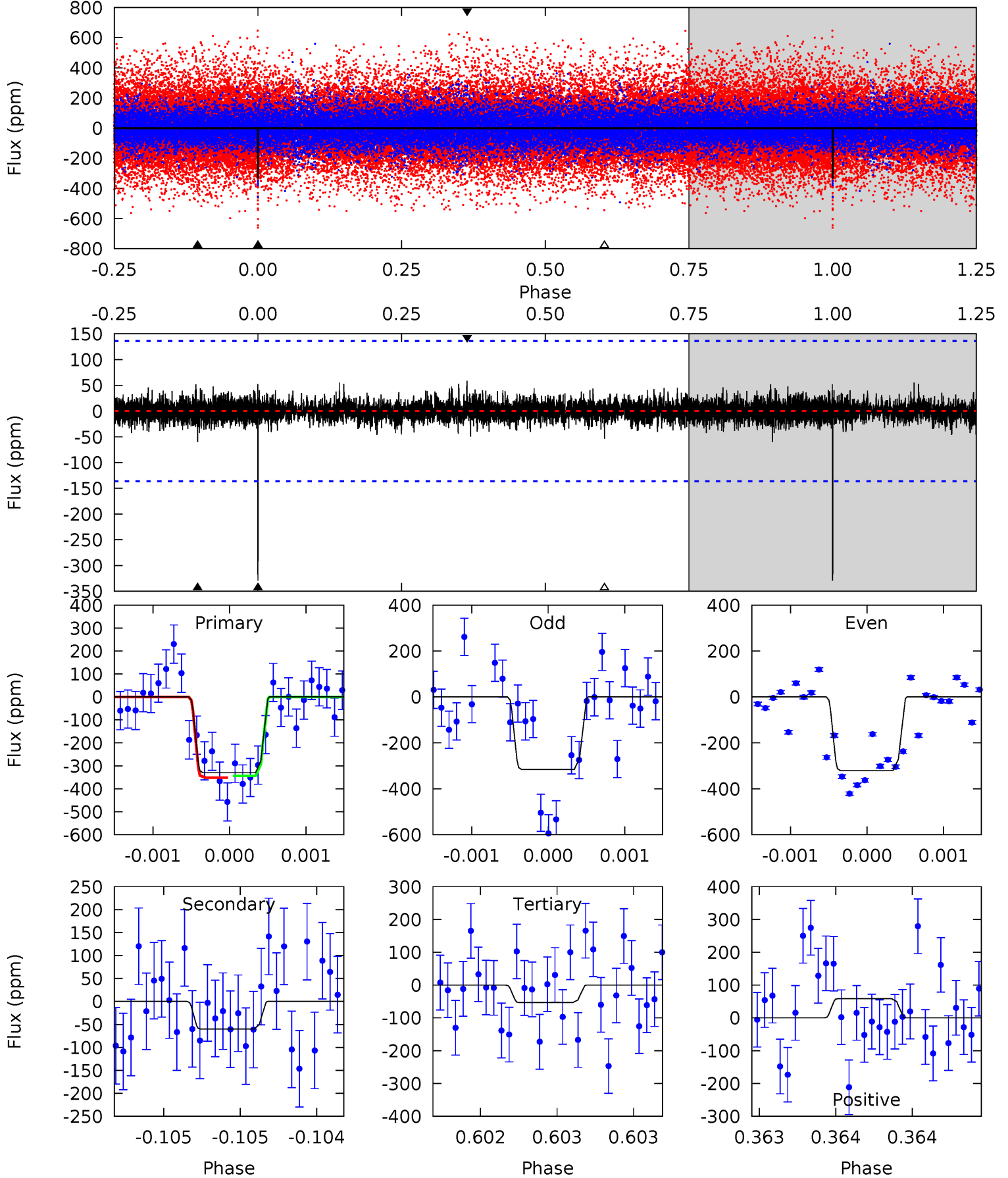
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.95	9.85	9.23	10.7	5.55	3.45	2.34	-0.29	-1.73	0.61	-0.83	4.98	0.84	0.52	3.21



Alt Model-Shift Uniqueness Test

009840129-01, P = 443.578532 Days, E = 246.686684 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	2.46	2.19	2.40	5.57	3.48	0.50	11.3	11.1	0.26	0.06	0.10	0.86	0.15	0.15



Stellar Parameters For KIC 009840129

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6584^{+159}_{-219}	$4.270^{+0.108}_{-0.186}$	$-0.220^{+0.250}_{-0.300}$	$1.321^{+0.408}_{-0.220}$	$1.189^{+0.187}_{-0.170}$	$0.727^{+0.435}_{-0.371}$
	+2%/-3%	+3%/-4%	+114%/-136%	+31%/-17%	+16%/-14%	+60%/-51%
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 009840129-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-345 ± 35	$3.01^{+1.37}_{-1.49}$	427^{+34}_{-24}	6234^{+2822}_{-983}	30297^{+82853}_{-16275}
Alt.	-60 ± 24	$2.81^{+1.47}_{-1.39}$	429^{+29}_{-25}	4388^{+1447}_{-671}	5942^{+16696}_{-3747}

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

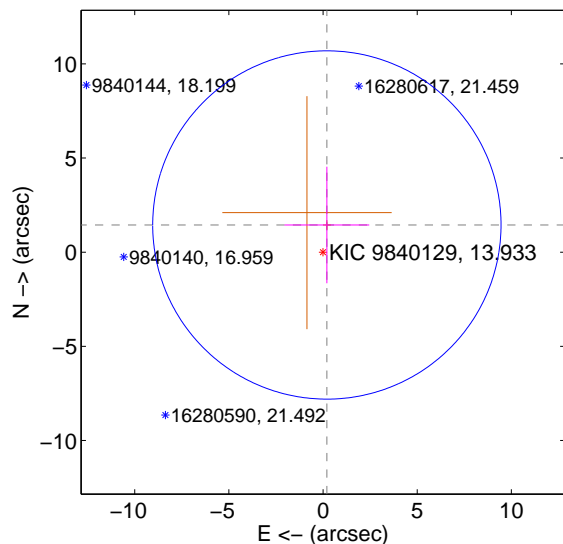
Supplemental centroid analysis for 009840129-01. Kepler magnitude: 13.93. Transit SNR 6.02

There are 0 quarters with good PRF difference image offsets

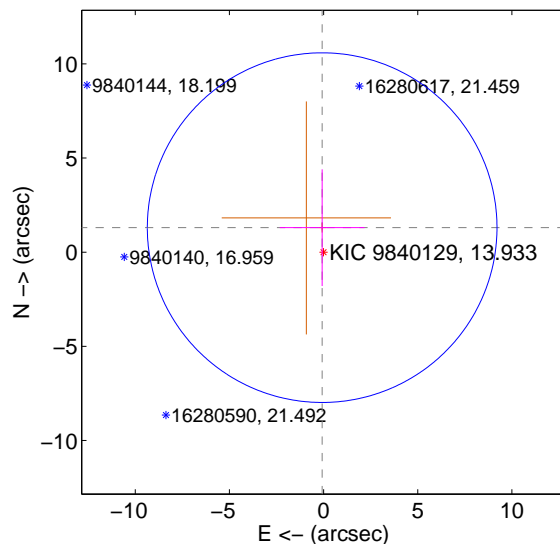
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.458 ± 3.082	0.47	-0.203 ± 2.251	1.444 ± 3.096
PRF-fit source offset from KIC position	1.304 ± 3.094	0.42	0.076 ± 2.251	1.302 ± 3.096
photometric centroid source offset	1.39 ± 1.27	1.09	0.84 ± 1.28	1.11 ± 1.27

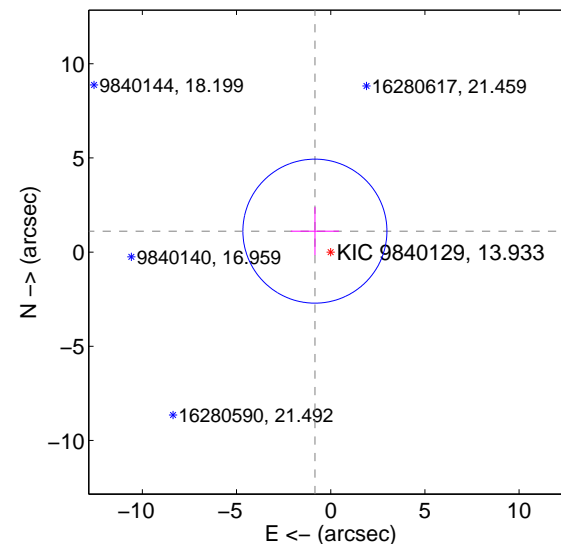
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

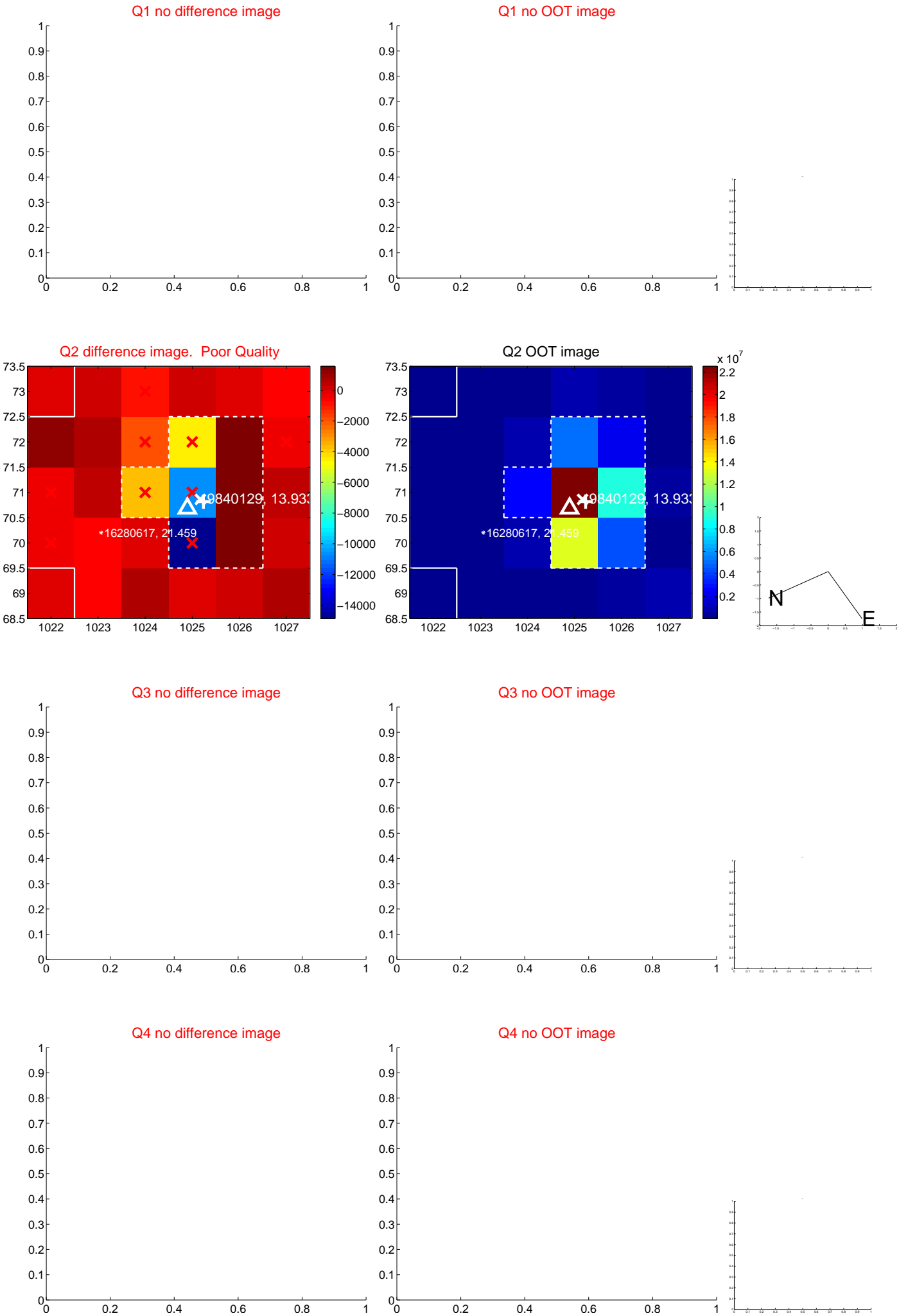


offset from photometric centroids



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.



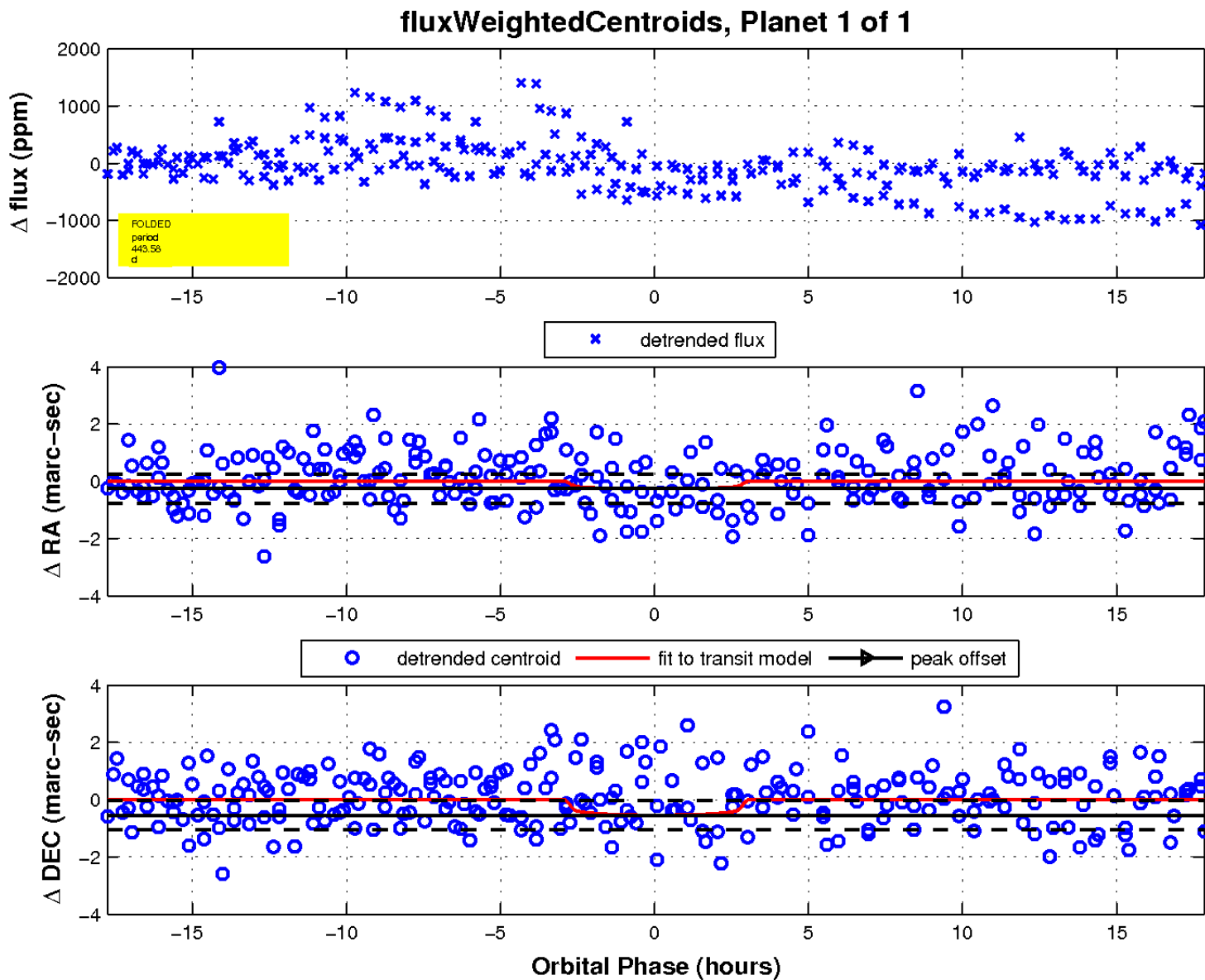
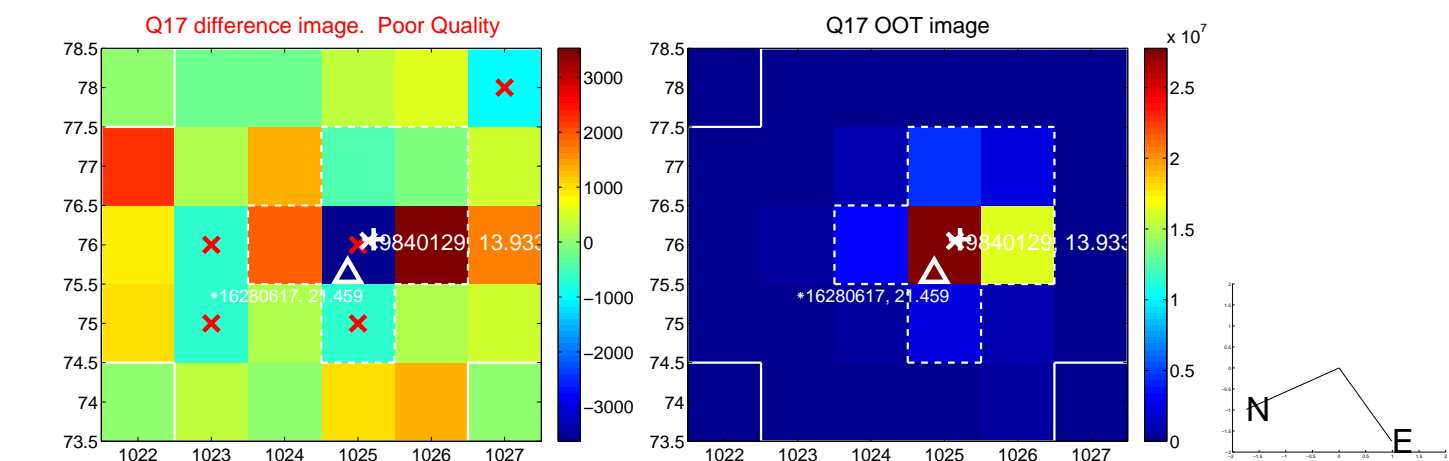
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

