

KIC 012366894

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})
012366894-01	OBS	No	167.692979	137.026460	758.4	3.302	9.9	5.5	13.18	4986	38.78	166.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012366894-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

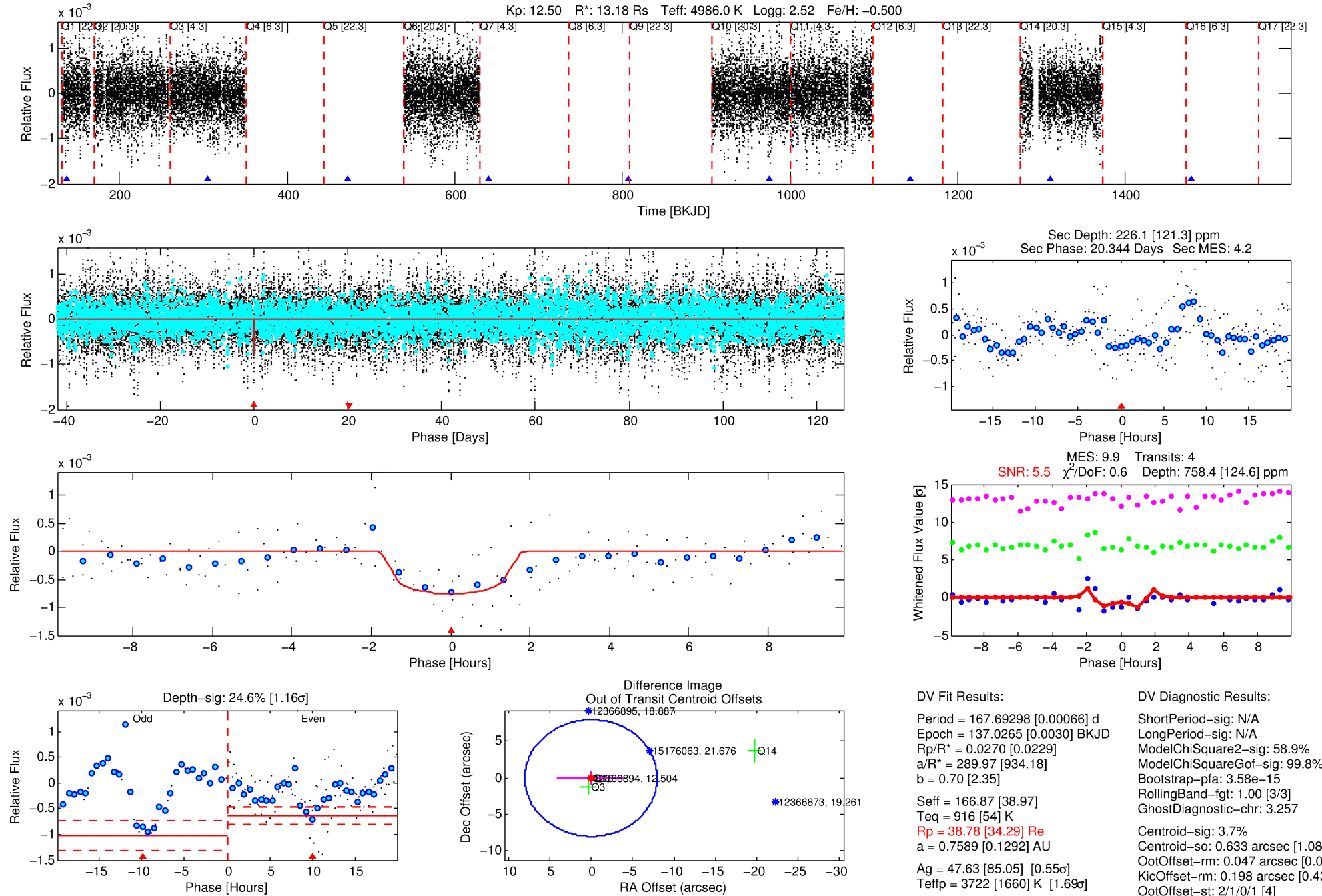
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012366894-01

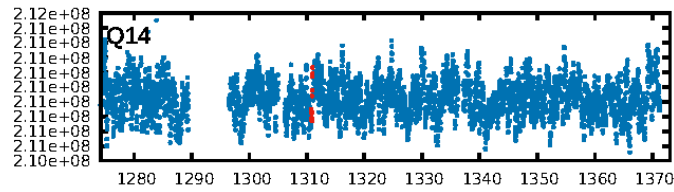
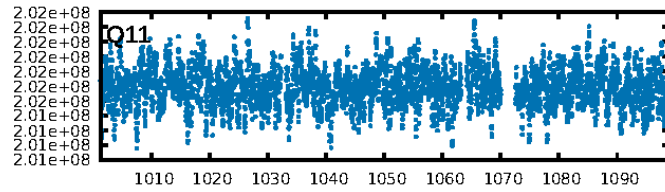
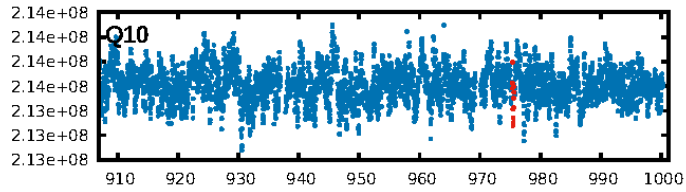
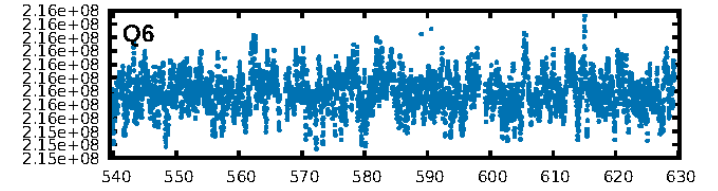
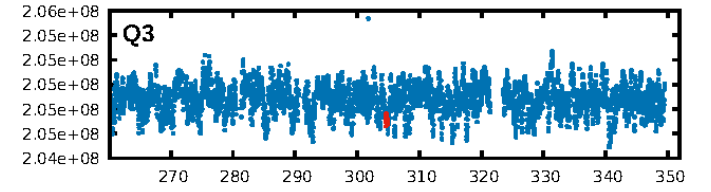
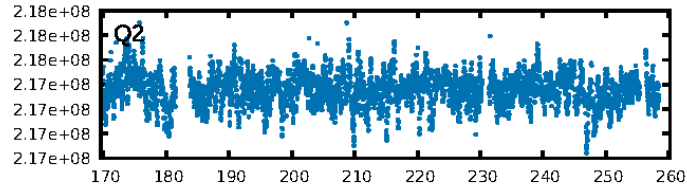
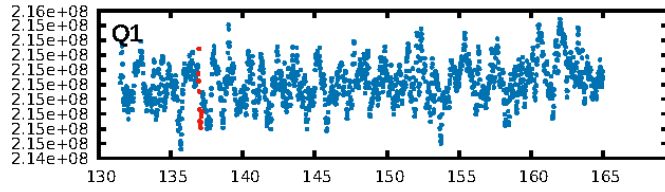
No Significant Match Found

DV One-Page Summary

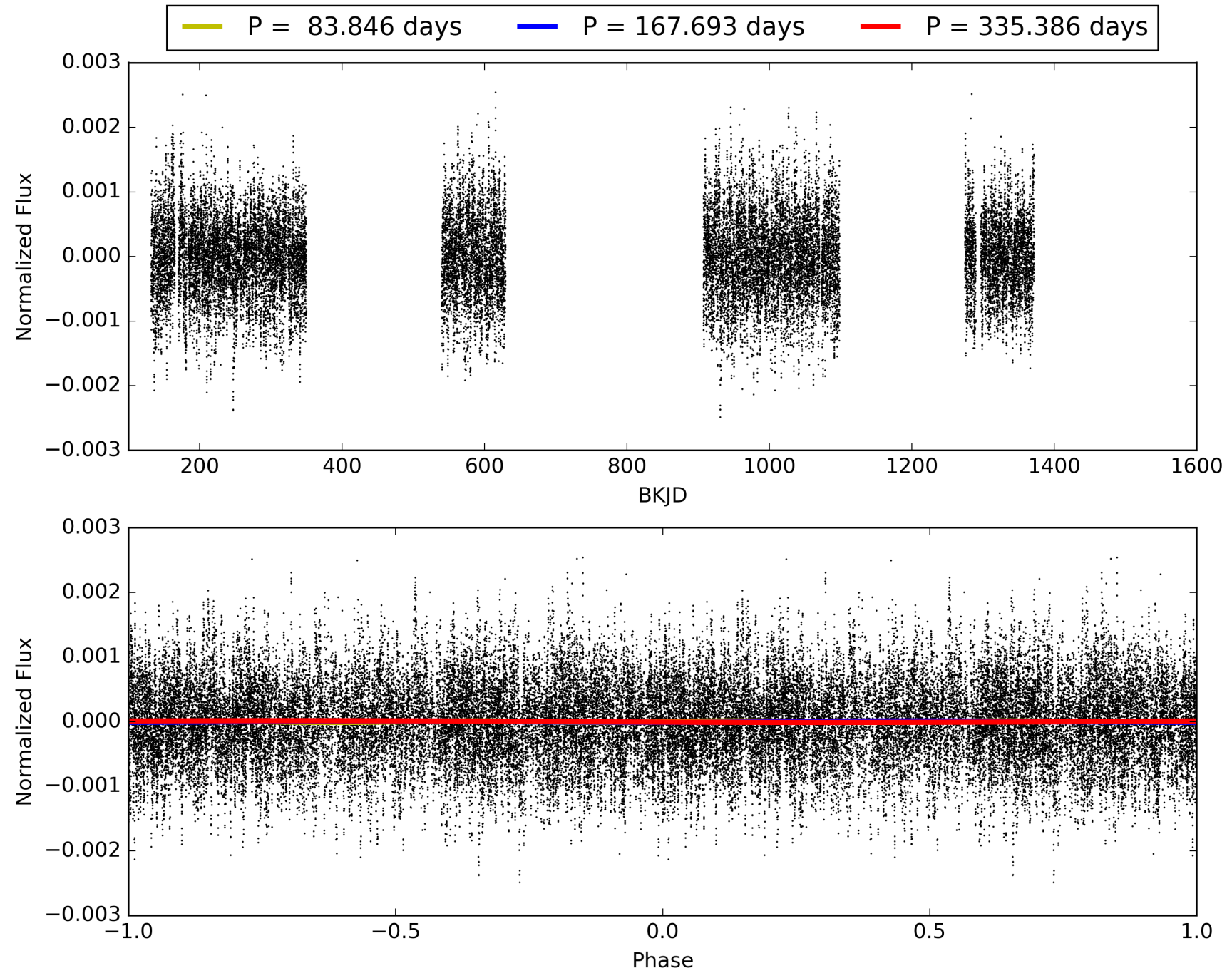
KIC: 12366894 Candidate: 1 of 1 Period: 167.693 d



TCE 012366894-01, PDC Light Curves

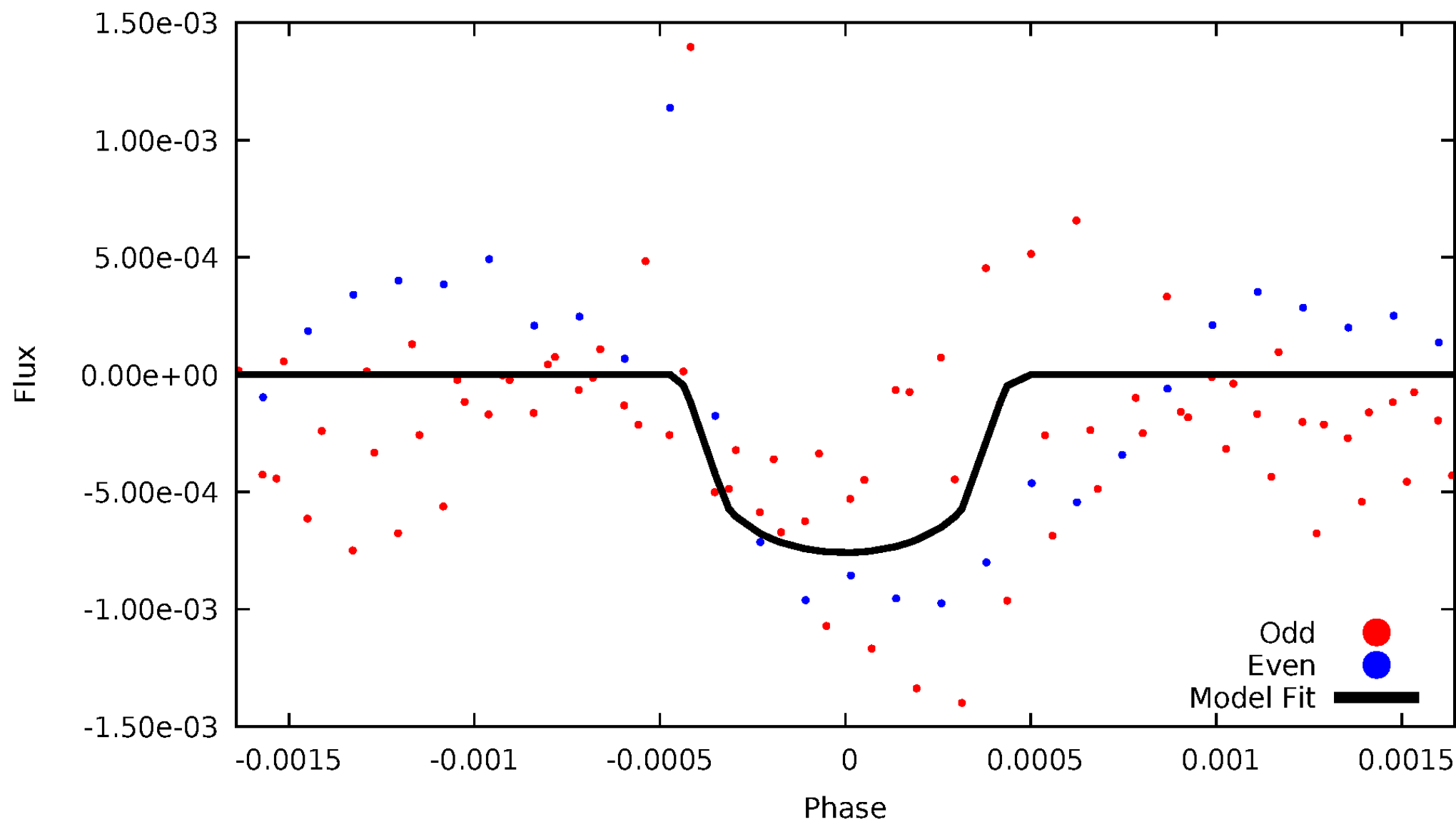


TCE 012366894-01



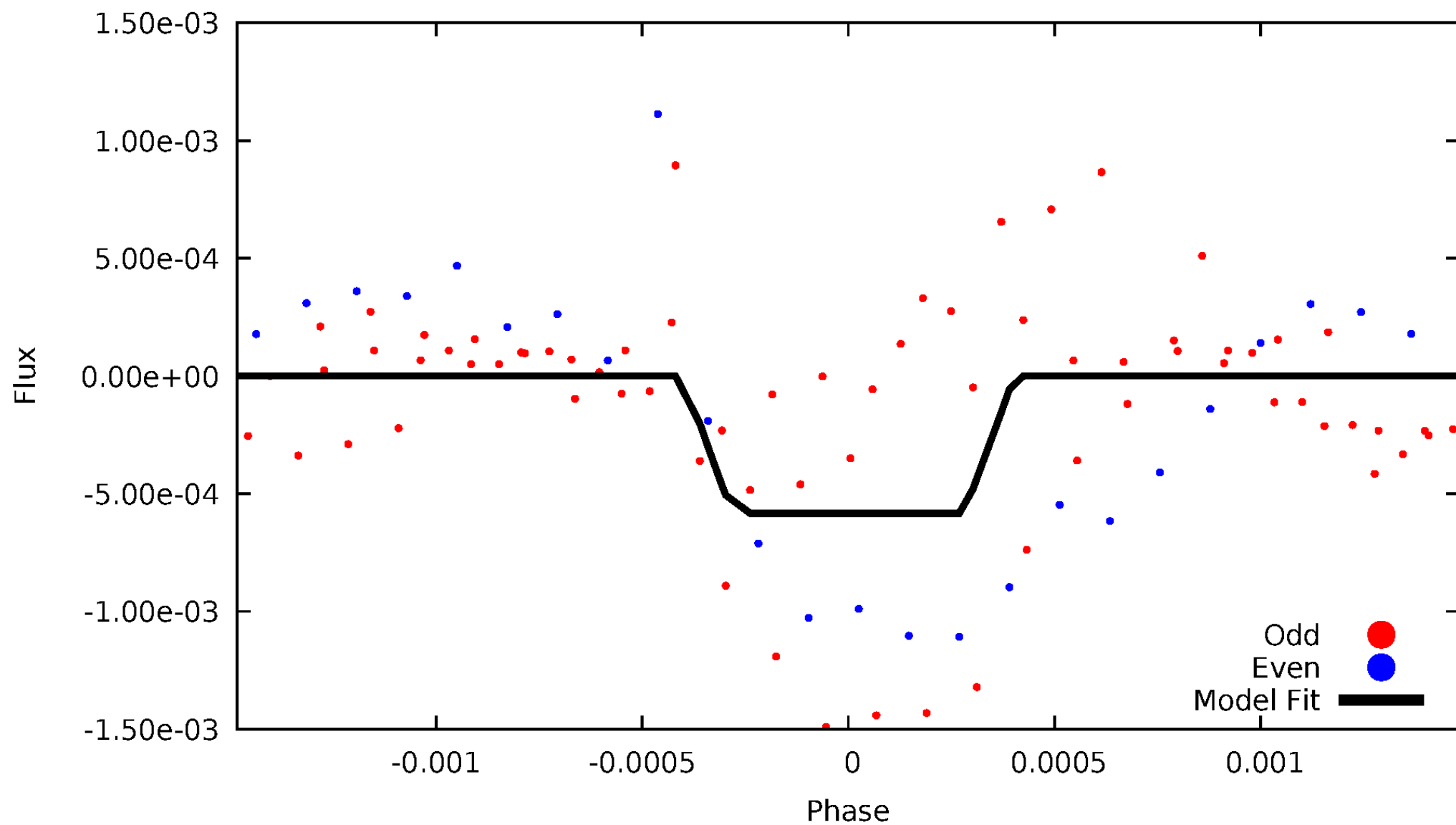
DV Odd/Even

TCE 012366894-01



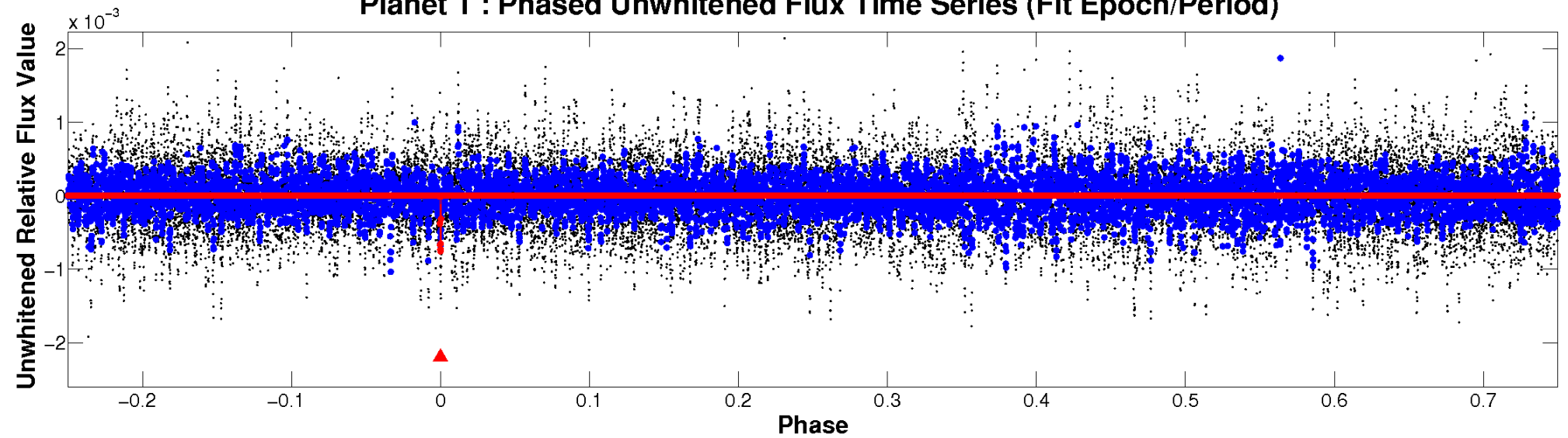
ALT Odd/Even

TCE 012366894-01

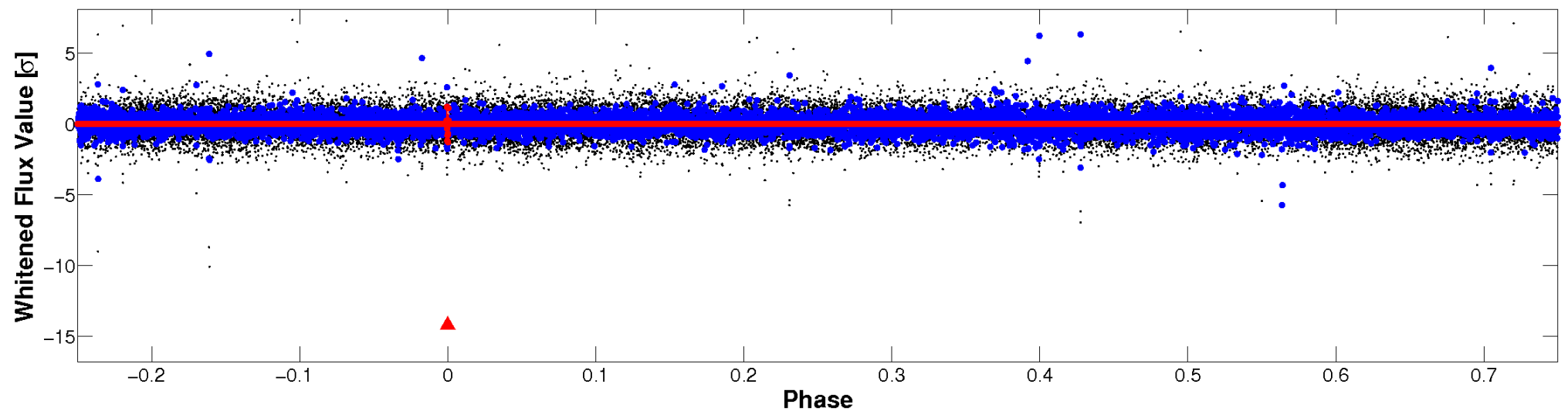


Non-Whitened Vs. Whitened Light Curve

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

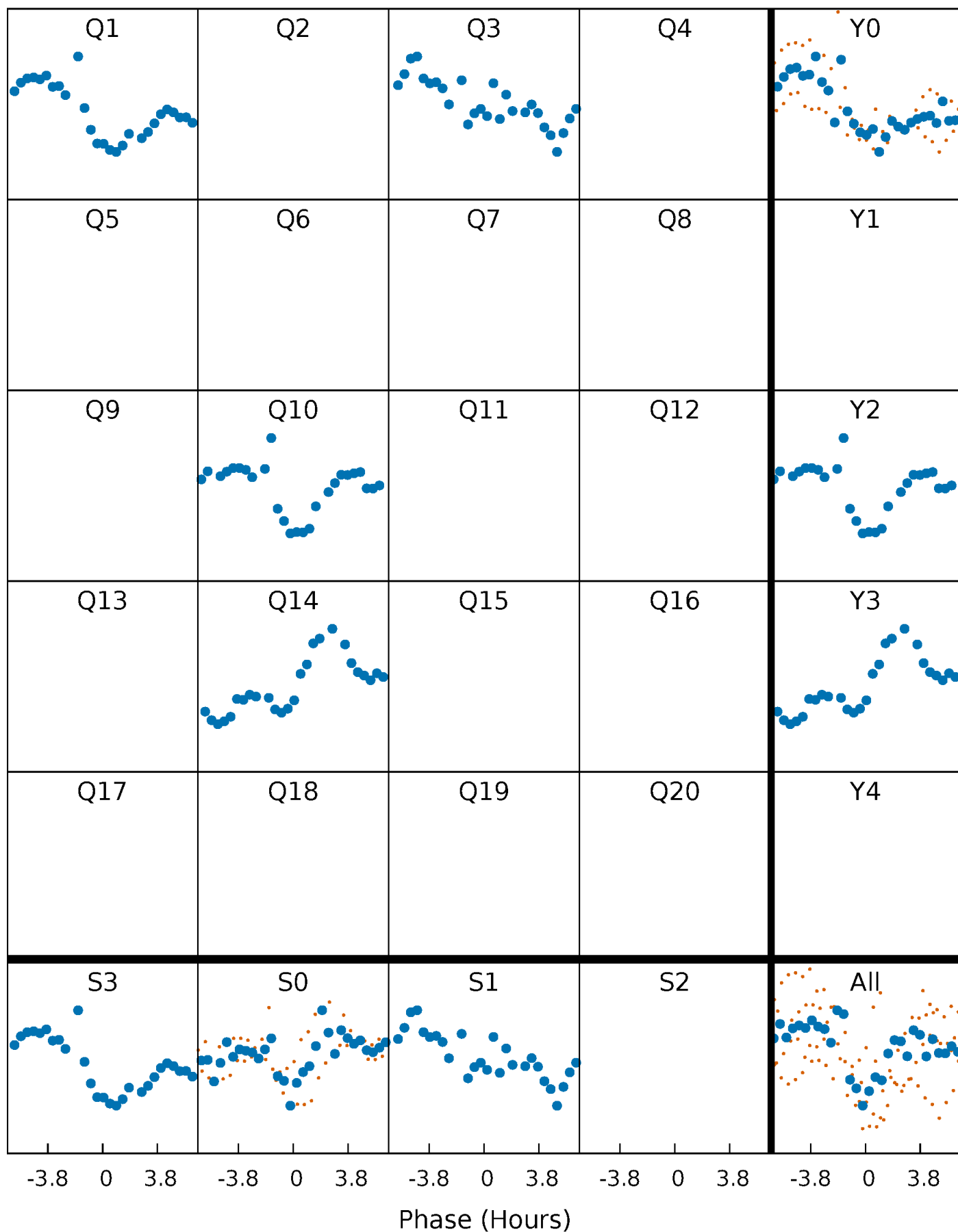


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



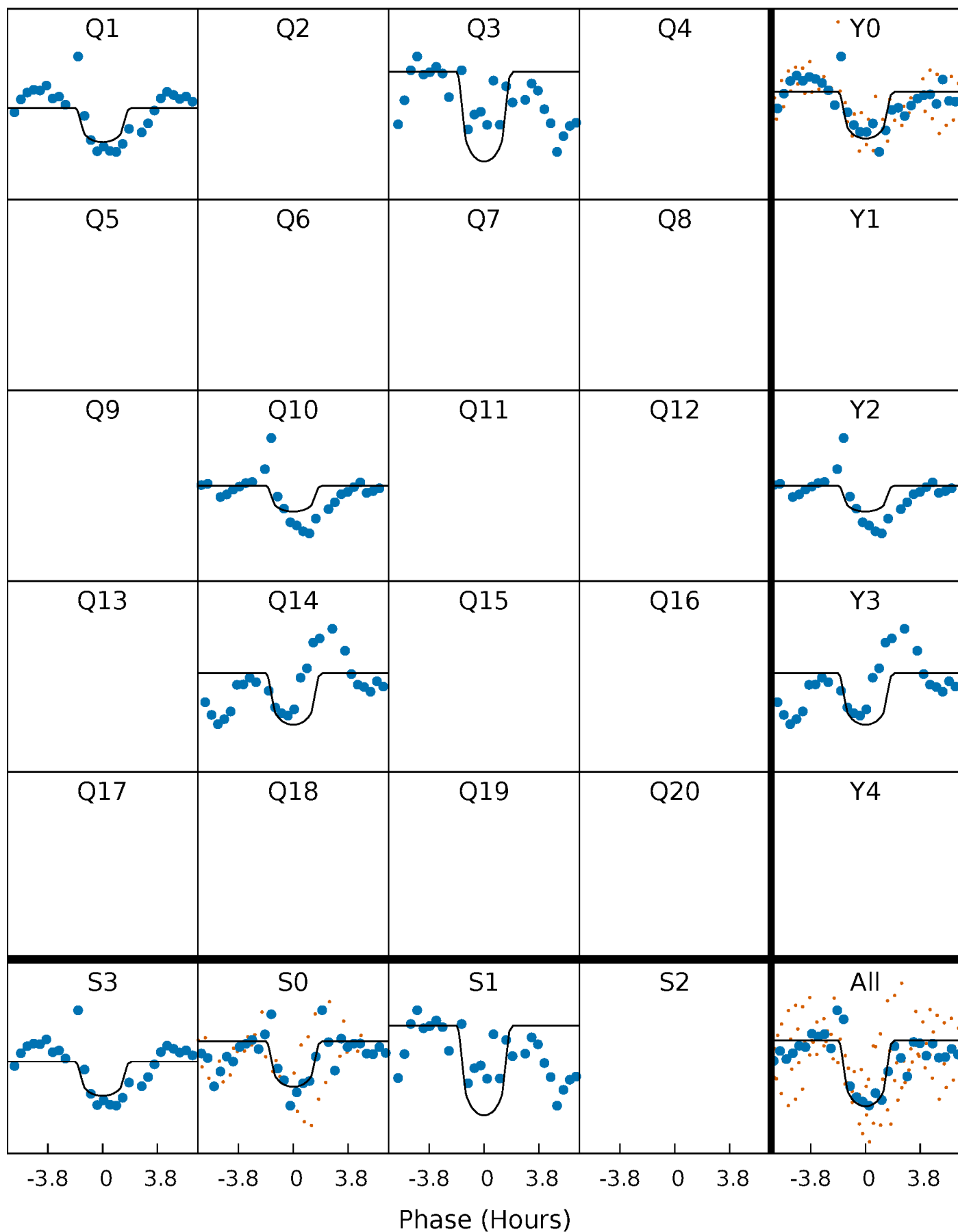
PDC Quarter-Phased Transit Curves

TCE 012366894-01 P=167.692979 Days $T_0=137.026460$ (BKJD)



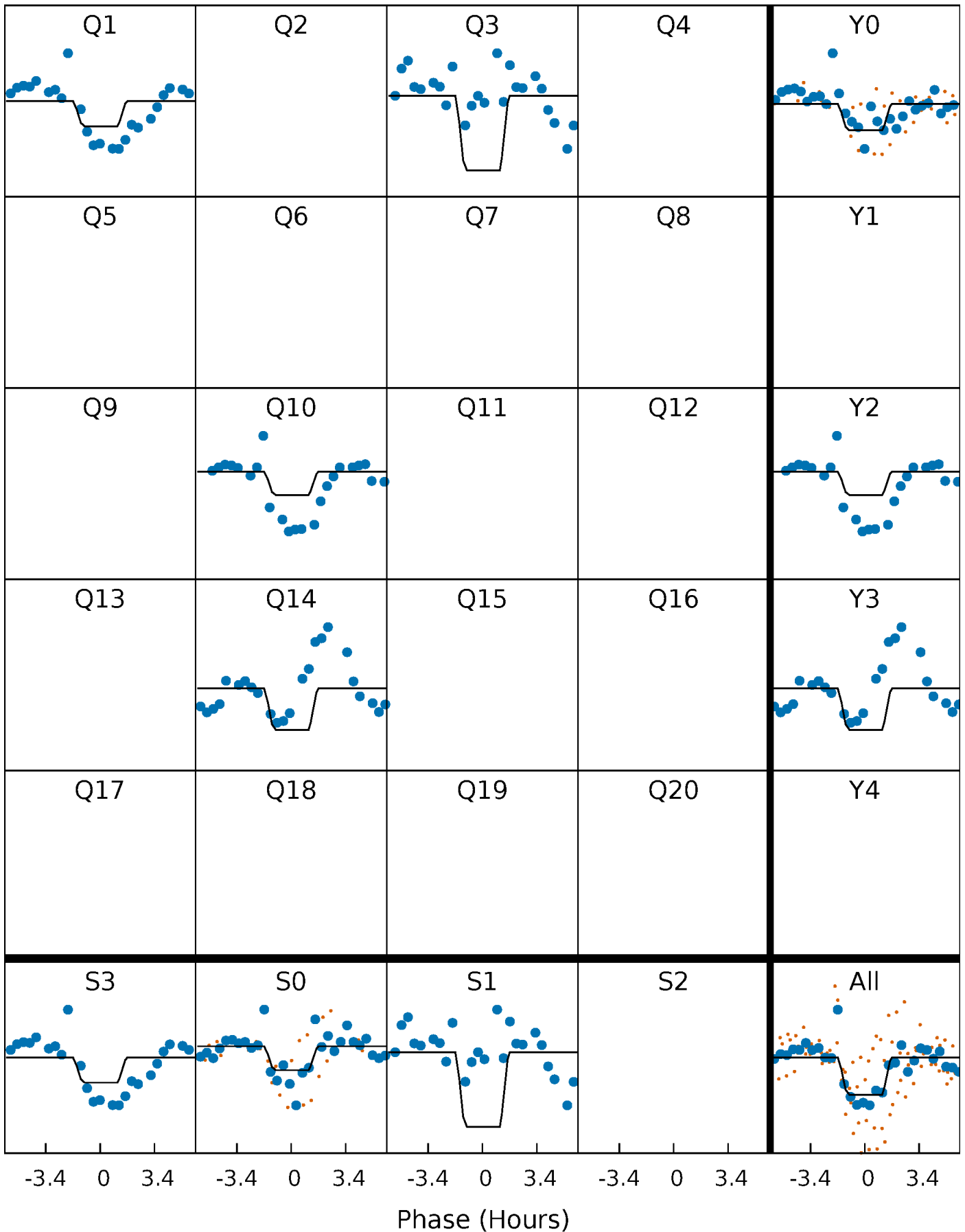
DV Quarter-Phased Transit Curves

TCE 012366894-01 P=167.692979 Days $T_0=137.026460$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

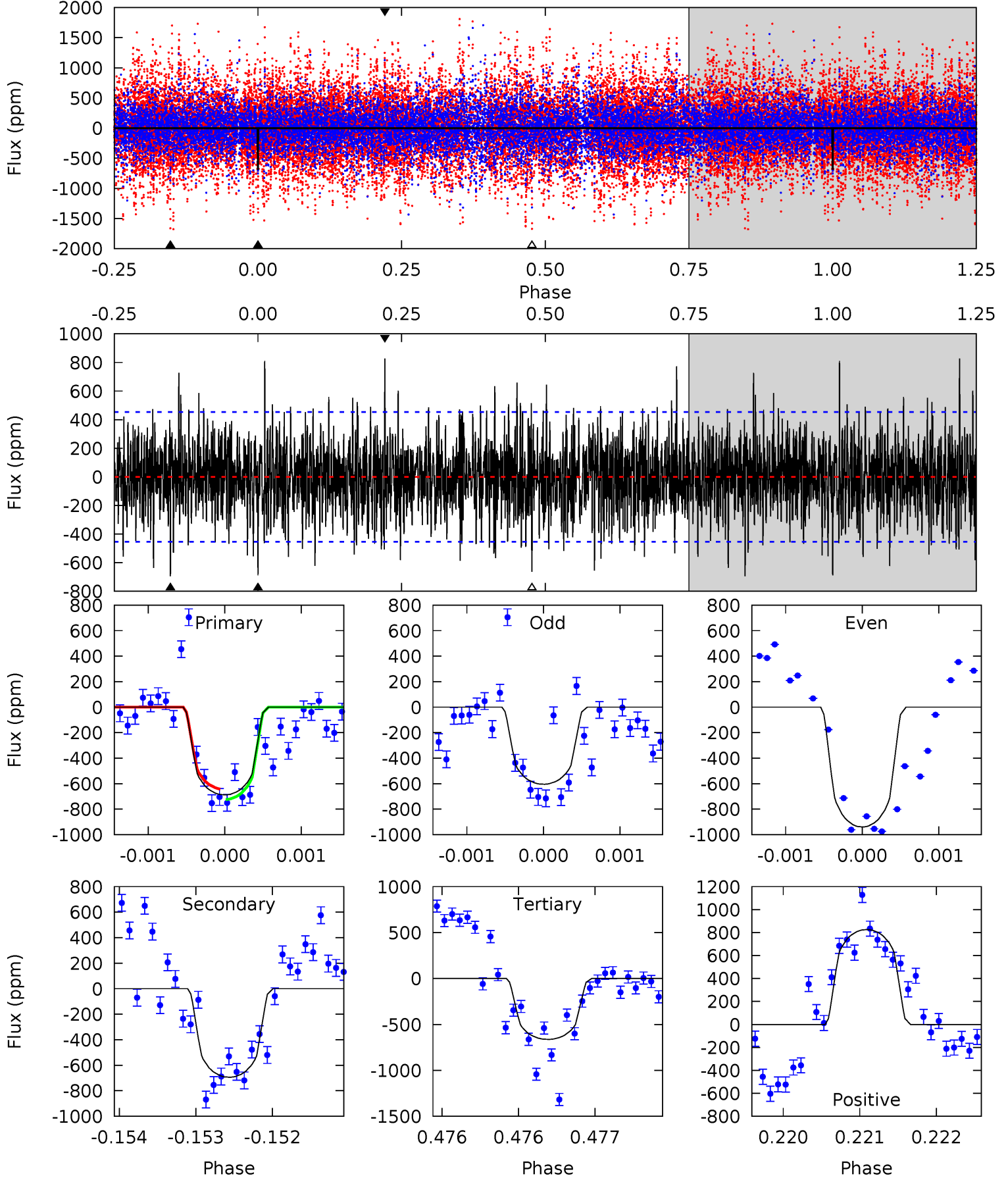
TCE 012366894-01 P=167.693418 Days $T_0=137.024675$ (BKJD)



DV Model-Shift Uniqueness Test

012366894-01, P = 167.692979 Days, E = 137.026460 Days

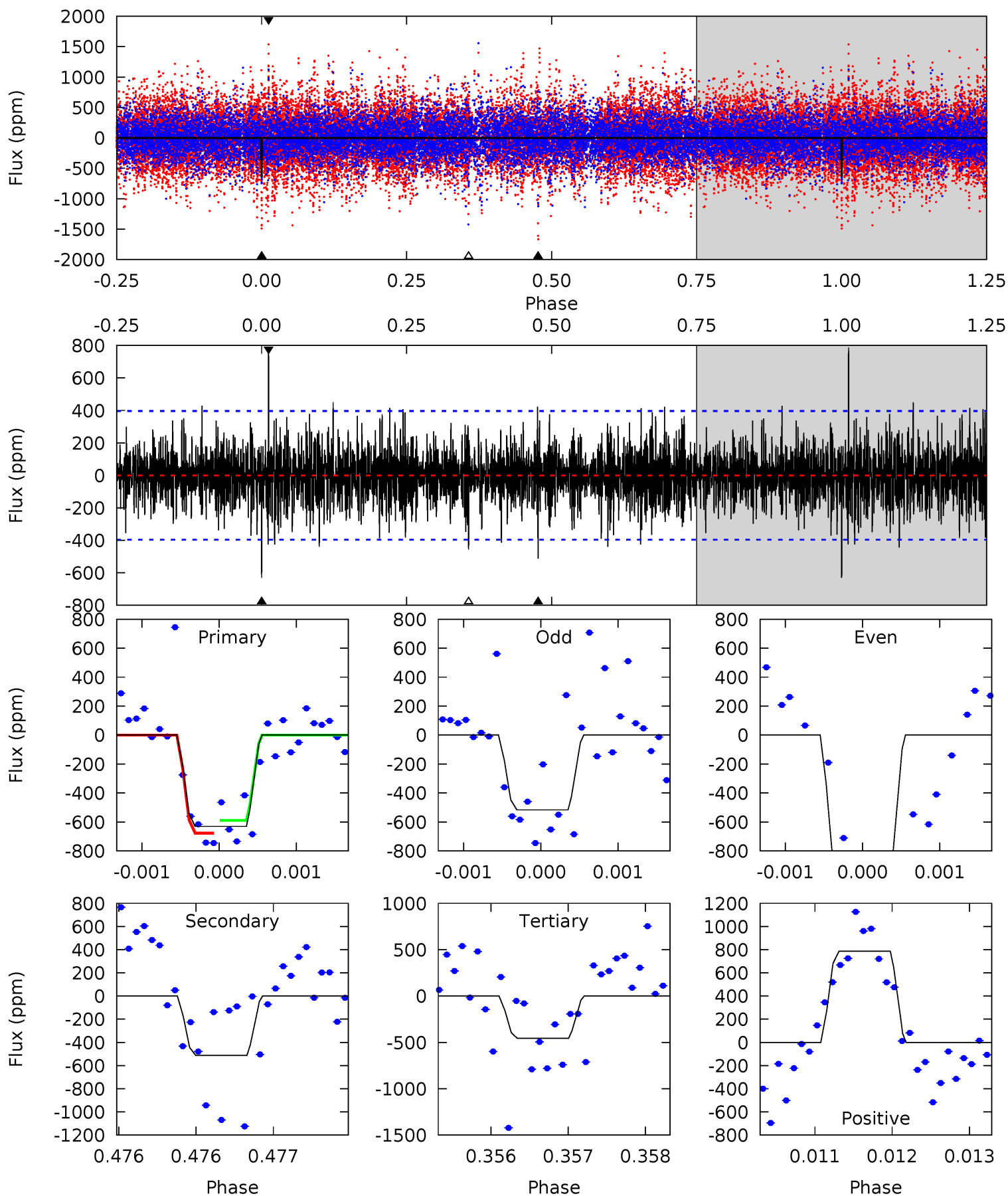
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.30	8.38	8.01	9.97	5.48	3.33	2.44	0.30	-1.67	0.37	-1.60	1.70	1.03	0.54	0.50



Alt Model-Shift Uniqueness Test

012366894-01, P = 167.693418 Days, E = 137.024675 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.75	7.11	6.34	10.9	5.50	3.37	1.83	2.41	-2.17	0.77	-3.81	2.61	1.11	0.56	0.60



Stellar Parameters For KIC 012366894

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4986^{+89}_{-193}	$2.515^{+0.030}_{-0.027}$	$-0.500^{+0.250}_{-0.250}$	$13.175^{+2.424}_{-3.333}$	$2.071^{+0.782}_{-0.955}$	$0.001^{+0.000}_{-0.000}$
	+2%/-4%	+1%/-1%	+50%/-50%	+18%/-25%	+38%/-46%	+38%/-13%
Source	PHO1	AST9	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 012366894-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-694 ± 83	$45.43^{+31.52}_{-26.61}$	1277^{+44}_{-55}	4648^{+2248}_{-837}	111^{+506}_{-73}
Alt.	-512 ± 72	$43.08^{+28.09}_{-26.05}$	1278^{+46}_{-48}	4445^{+2289}_{-726}	89^{+435}_{-56}

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

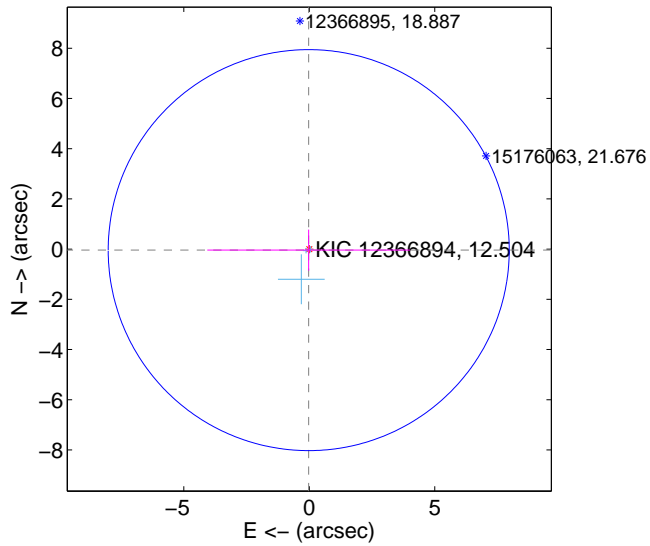
Supplemental centroid analysis for 012366894-01. Kepler magnitude: 12.50. Transit SNR 5.45

There are 3 quarters with good PRF difference image offsets

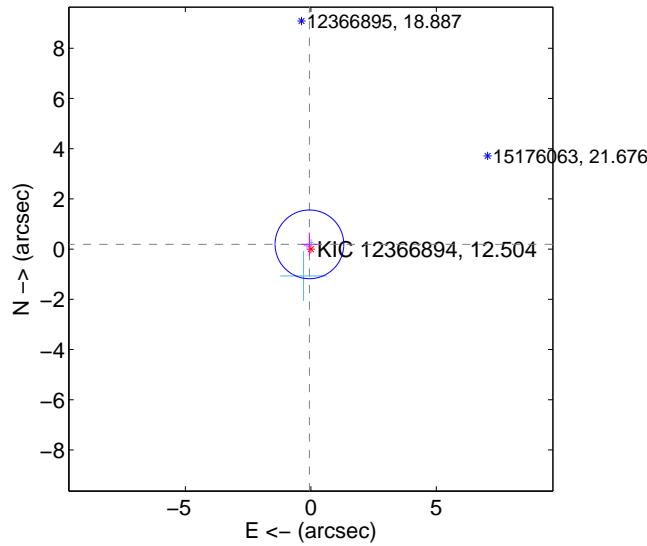
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.047 ± 2.662	0.02	0.023 ± 4.040	-0.041 ± 0.819
PRF-fit source offset from KIC position	0.198 ± 0.456	0.43	0.056 ± 0.315	0.189 ± 0.467
photometric centroid source offset	0.63 ± 0.59	1.08	0.15 ± 0.46	-0.61 ± 0.59

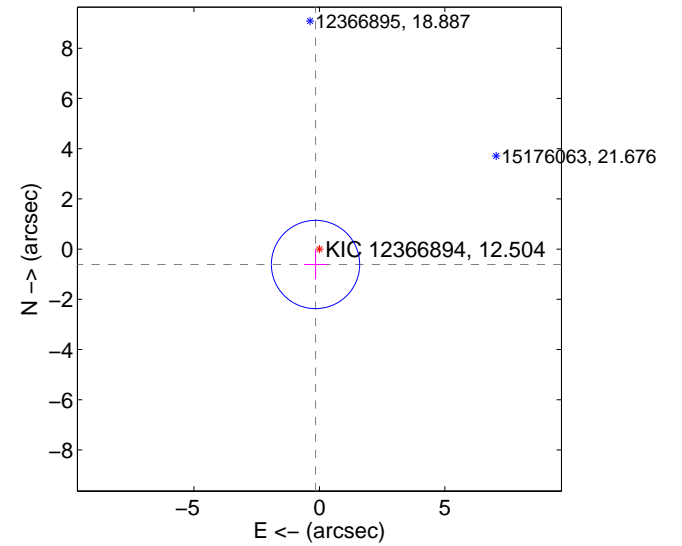
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

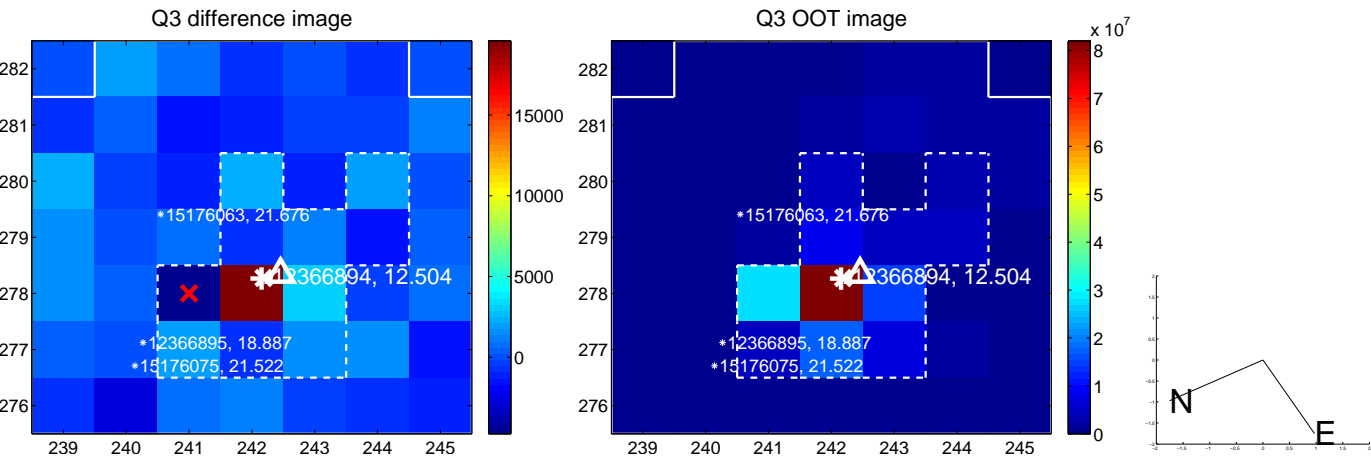
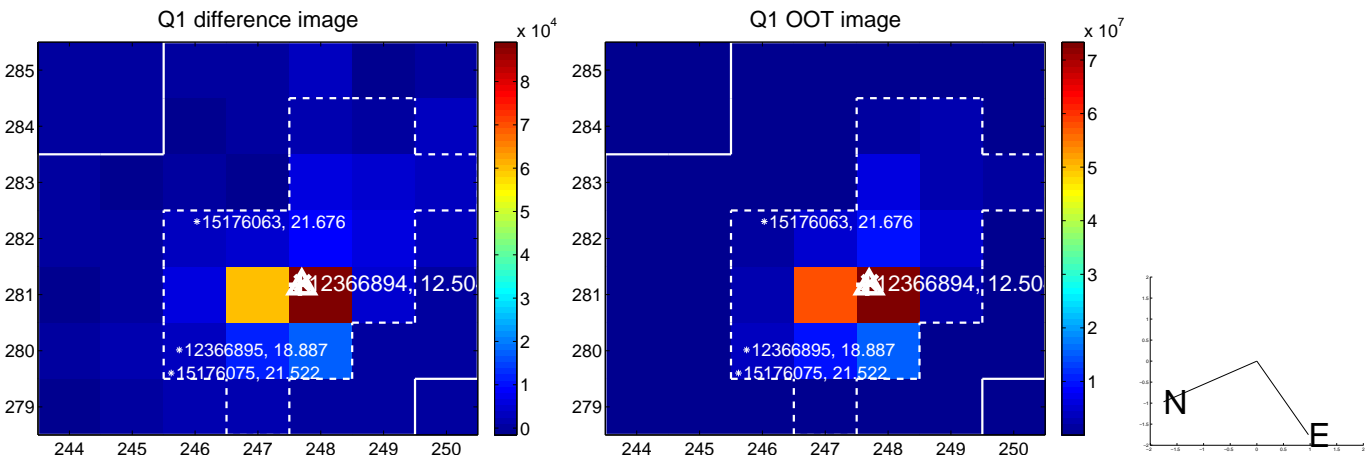


offset from photometric centroids



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.

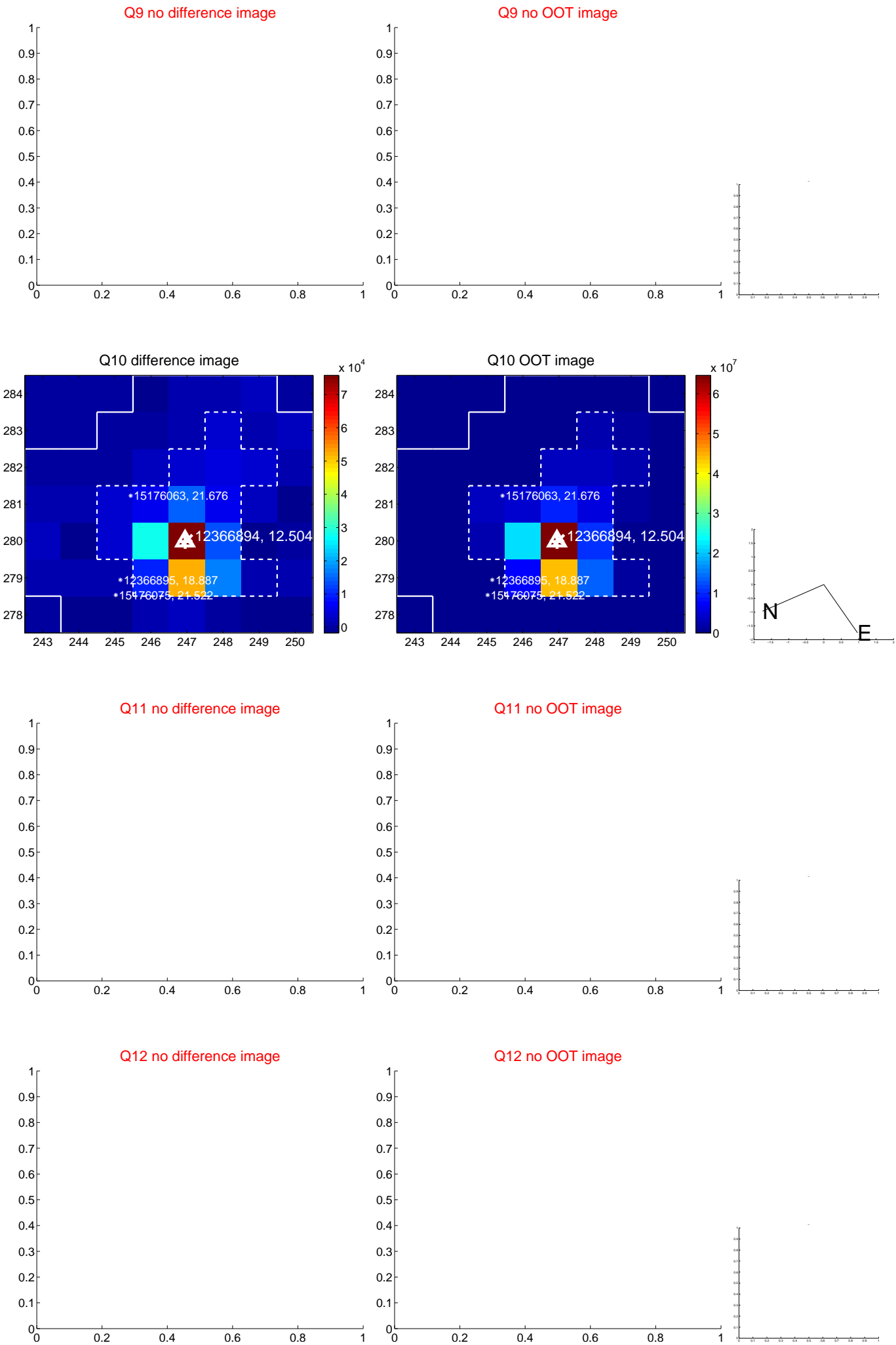
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



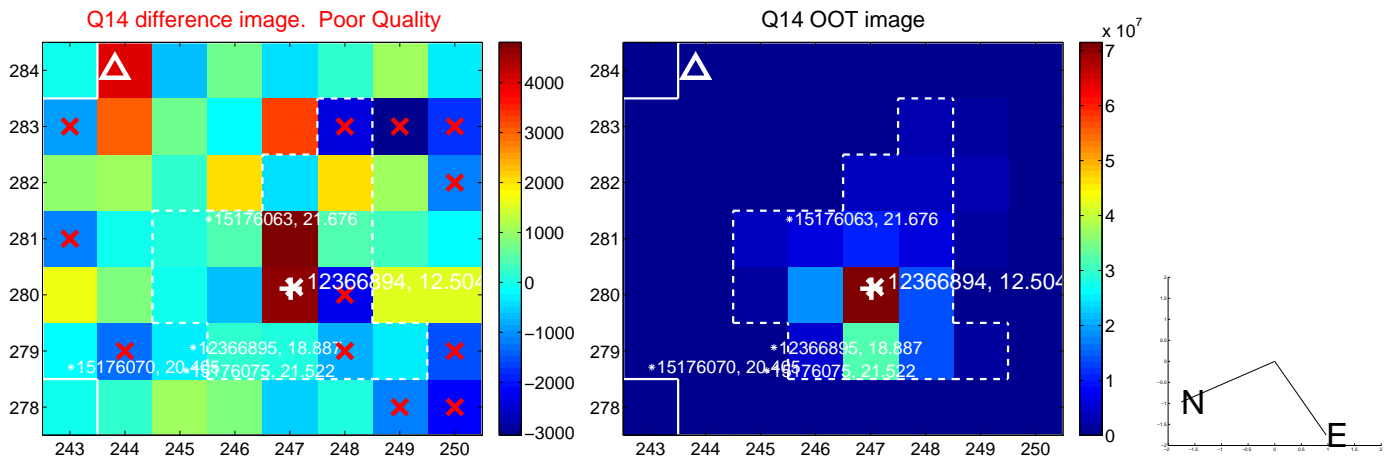
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



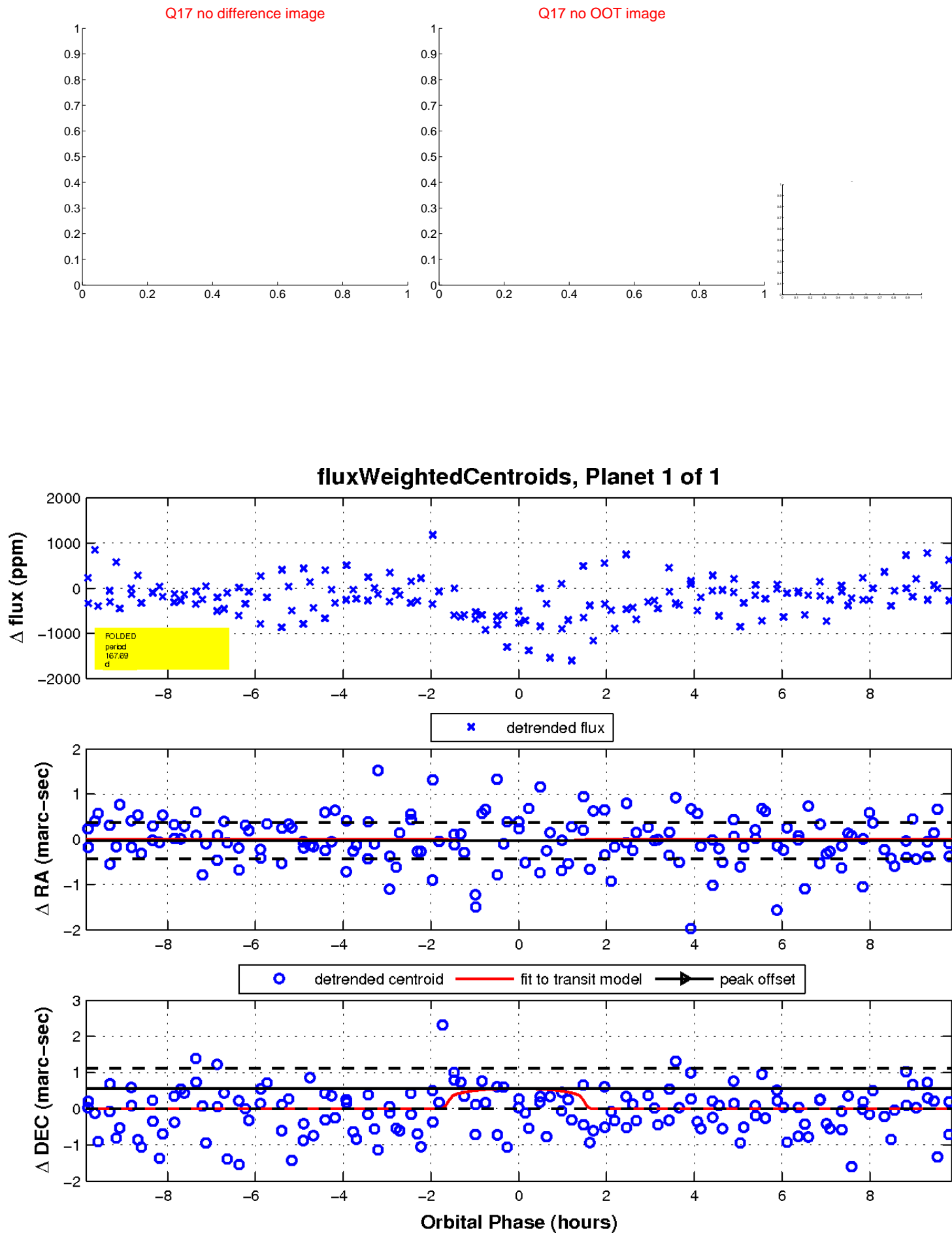
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

