

KIC 004851365

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})
004851365-01	OBS	No	501.049634	386.653669	779.9	5.149	9.4	7.8	0.76	5472	3.43	0.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004851365-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

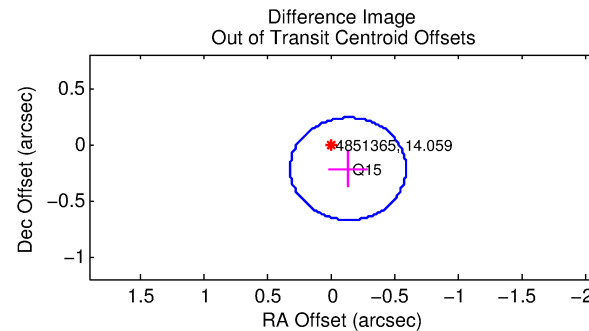
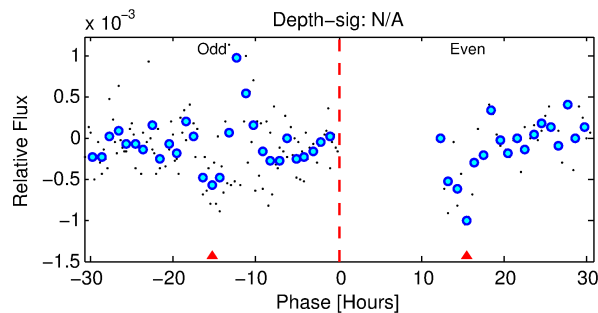
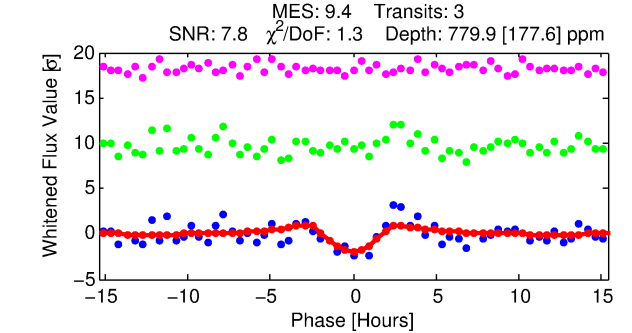
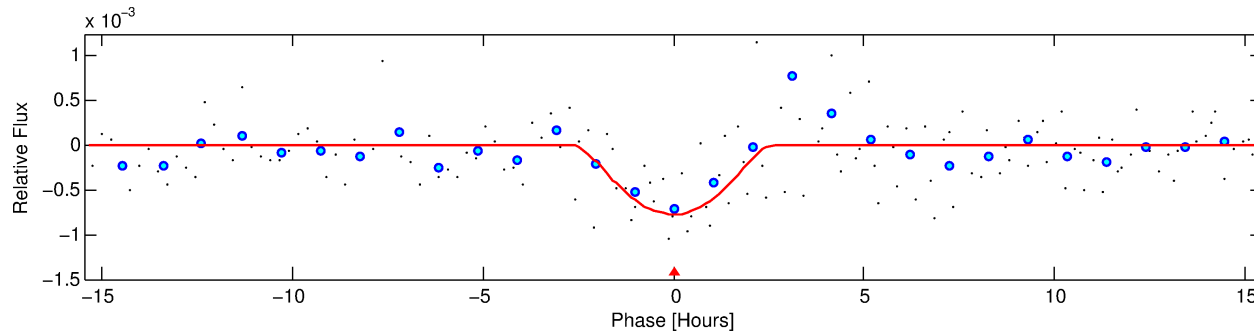
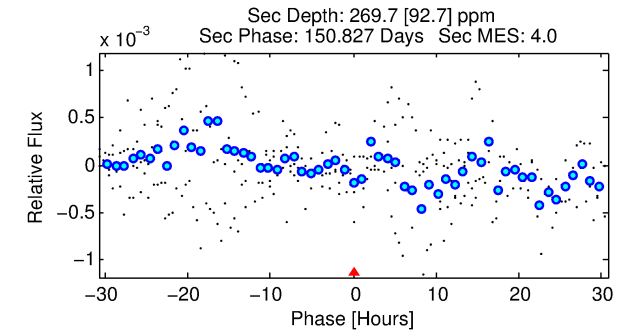
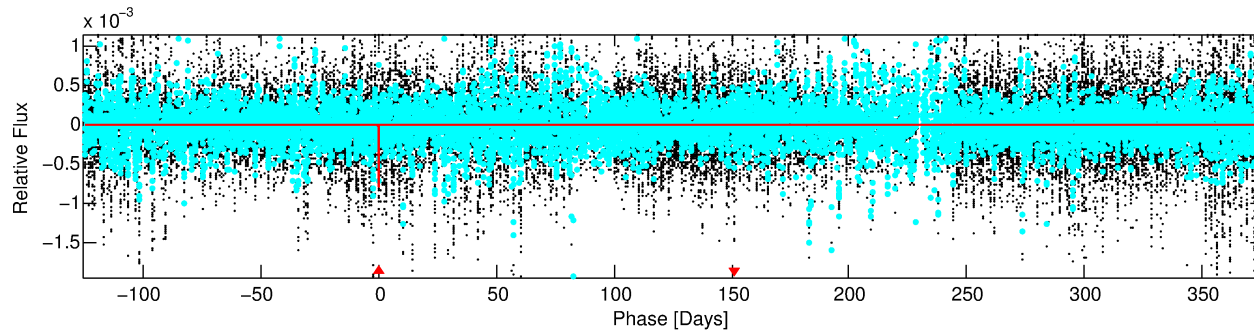
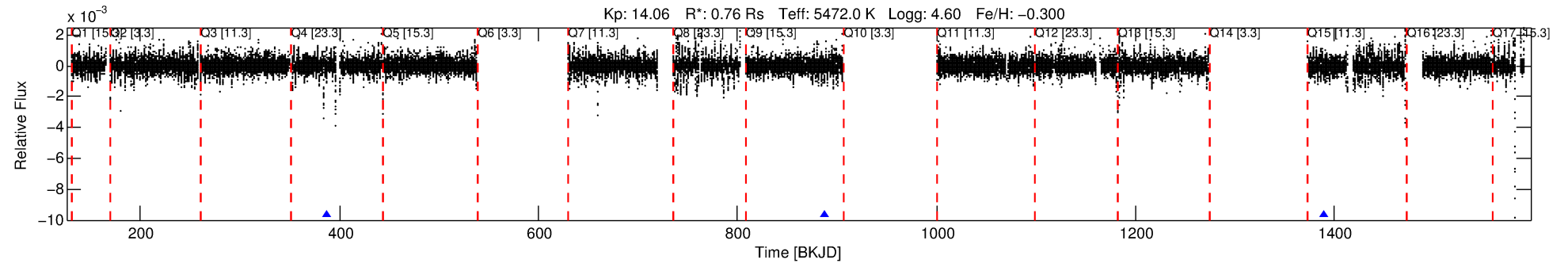
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004851365-01

No Significant Match Found

DV One-Page Summary

KIC: 4851365 Candidate: 1 of 1 Period: 501.050 d



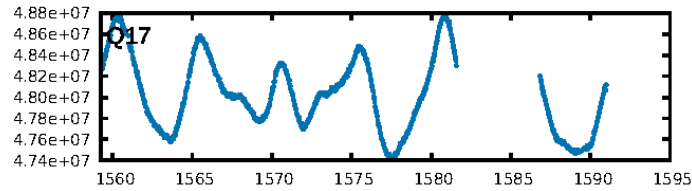
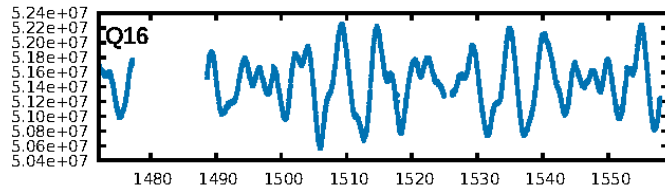
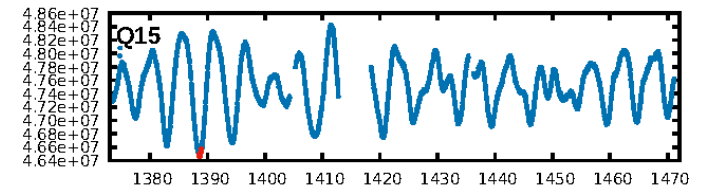
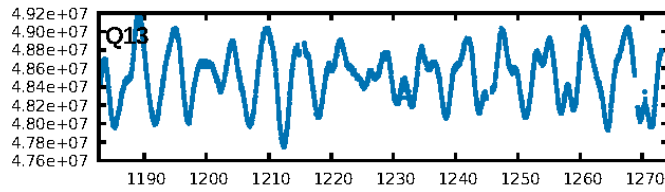
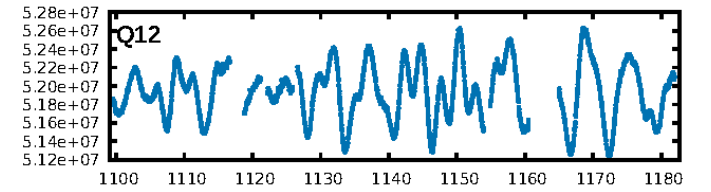
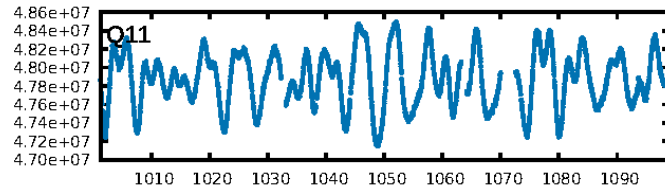
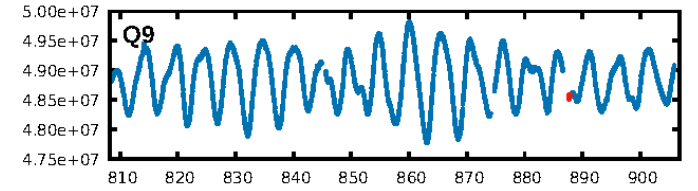
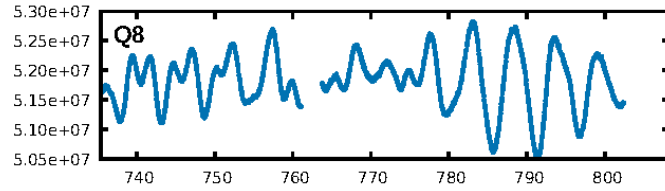
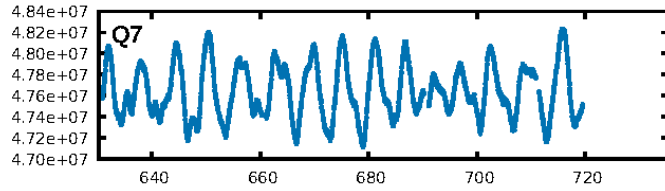
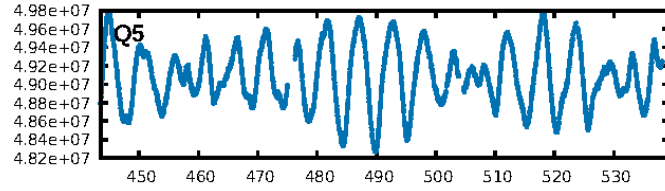
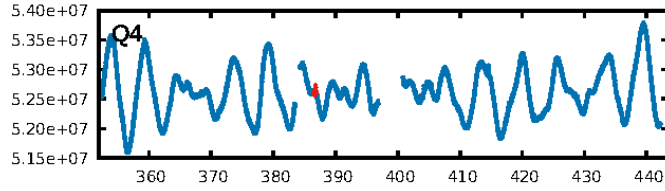
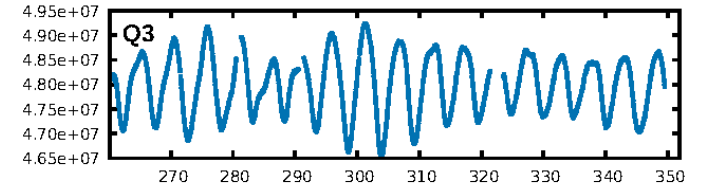
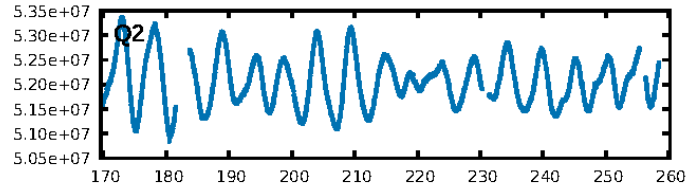
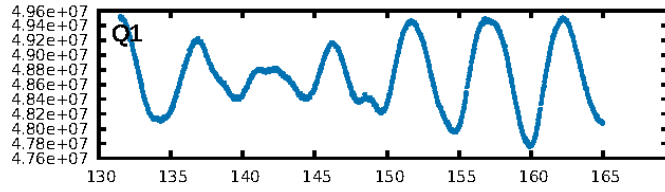
DV Fit Results:

Period = 501.04963 [0.00861] d
Epoch = 386.6537 [0.0121] BKJD
Rp/R* = 0.0414 [0.0767]
a/R* = 252.28 [167.11]
b = 0.98 [0.14]
Seff = 0.34 [0.09]
Teq = 195 [12] K
Rp = 3.43 [6.39] Re
a = 1.1600 [0.1873] AU
Ag = 16946.79 [63137.13] [0.27σ]
Teffp = 3445 [3204] K [1.01σ]

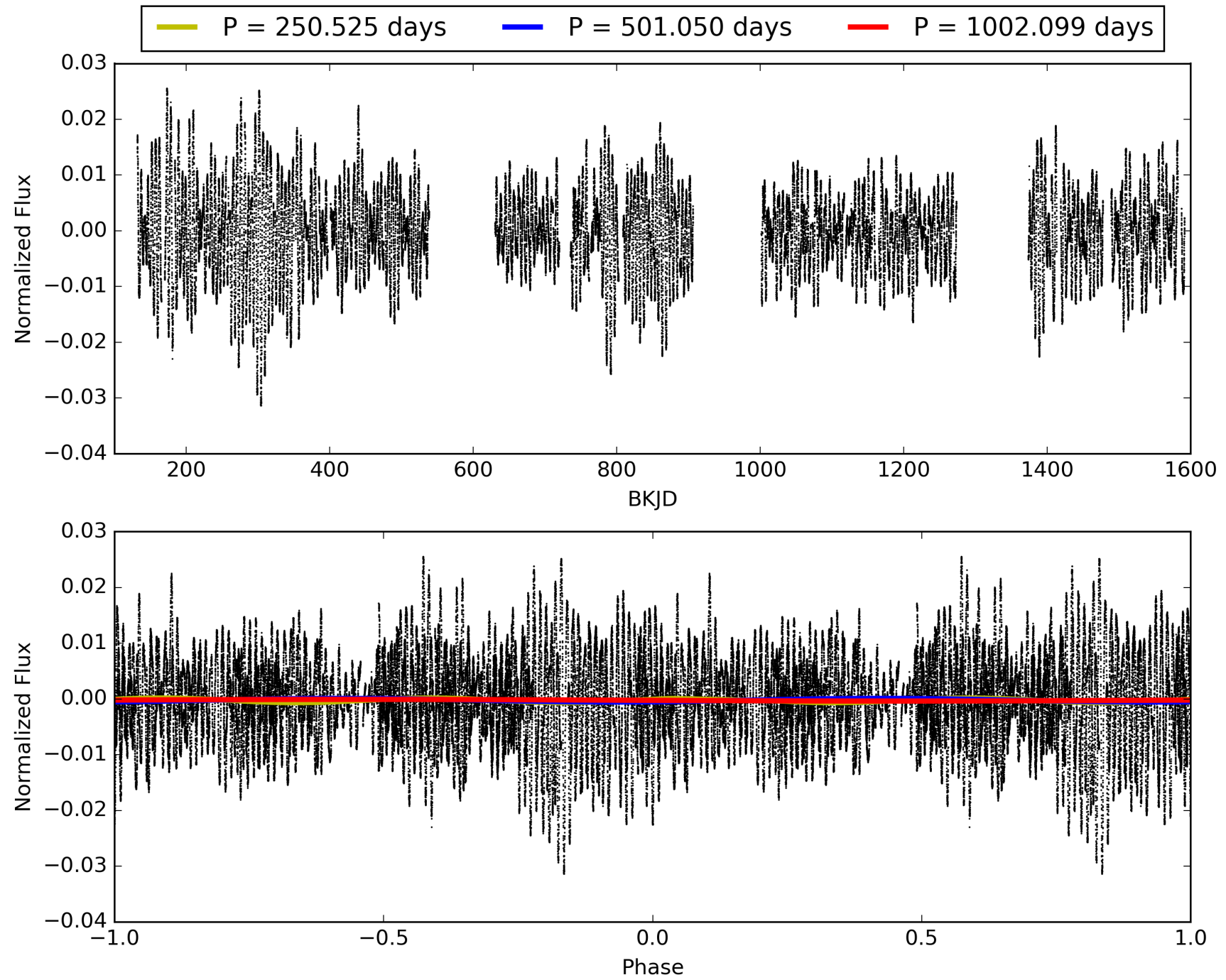
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.1%
ModelChiSquareGof-sig: 78.1%
Bootstrap-pfa: 1.65e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.4254
Centroid-sig: 32.1%
Centroid-so: 1.278 arcsec [1.03σ]
OotOffset-rm: 0.258 arcsec [1.70σ]
KicOffset-rm: 0.091 arcsec [0.60σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 004851365-01, PDC Light Curves

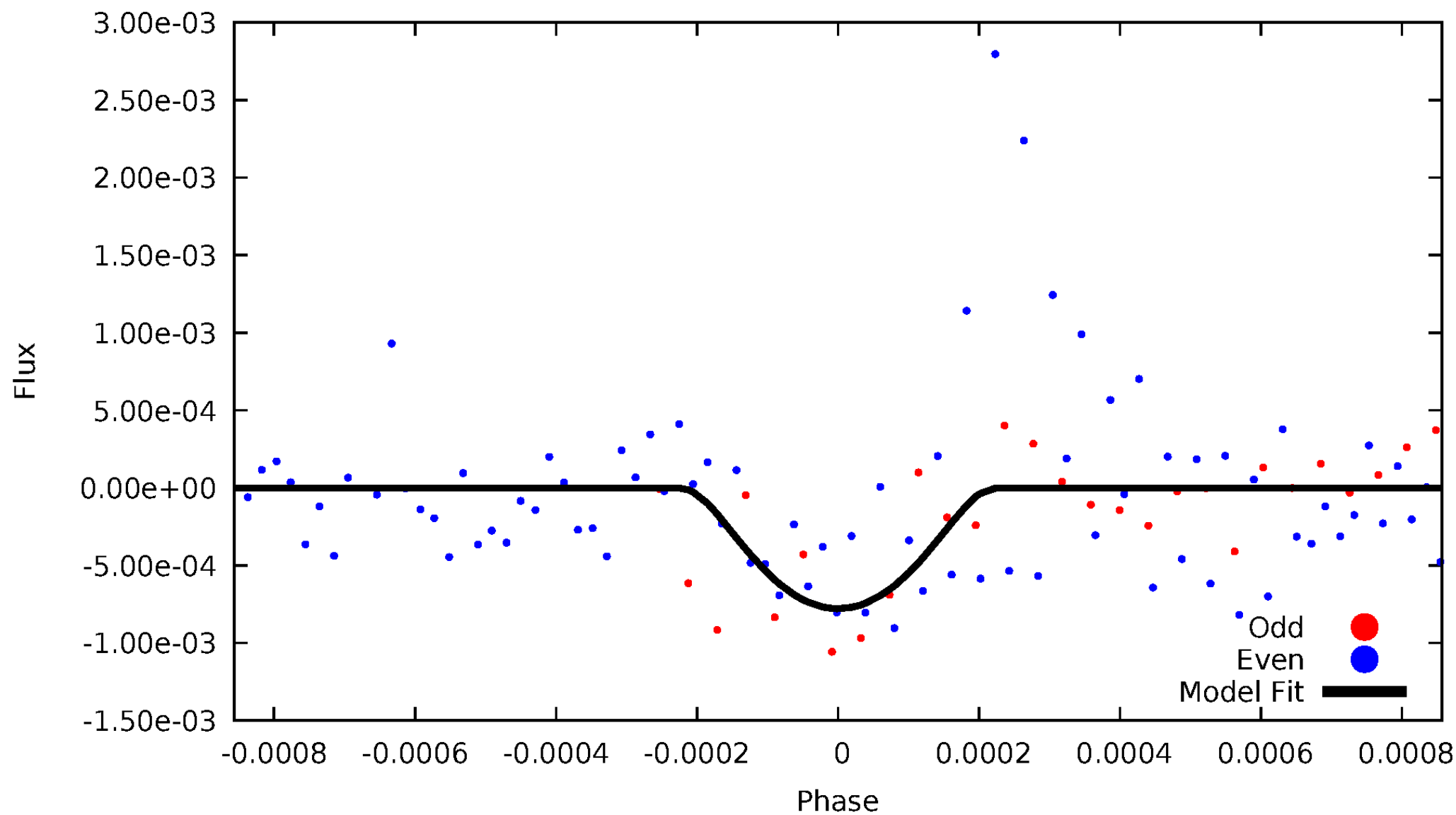


TCE 004851365-01



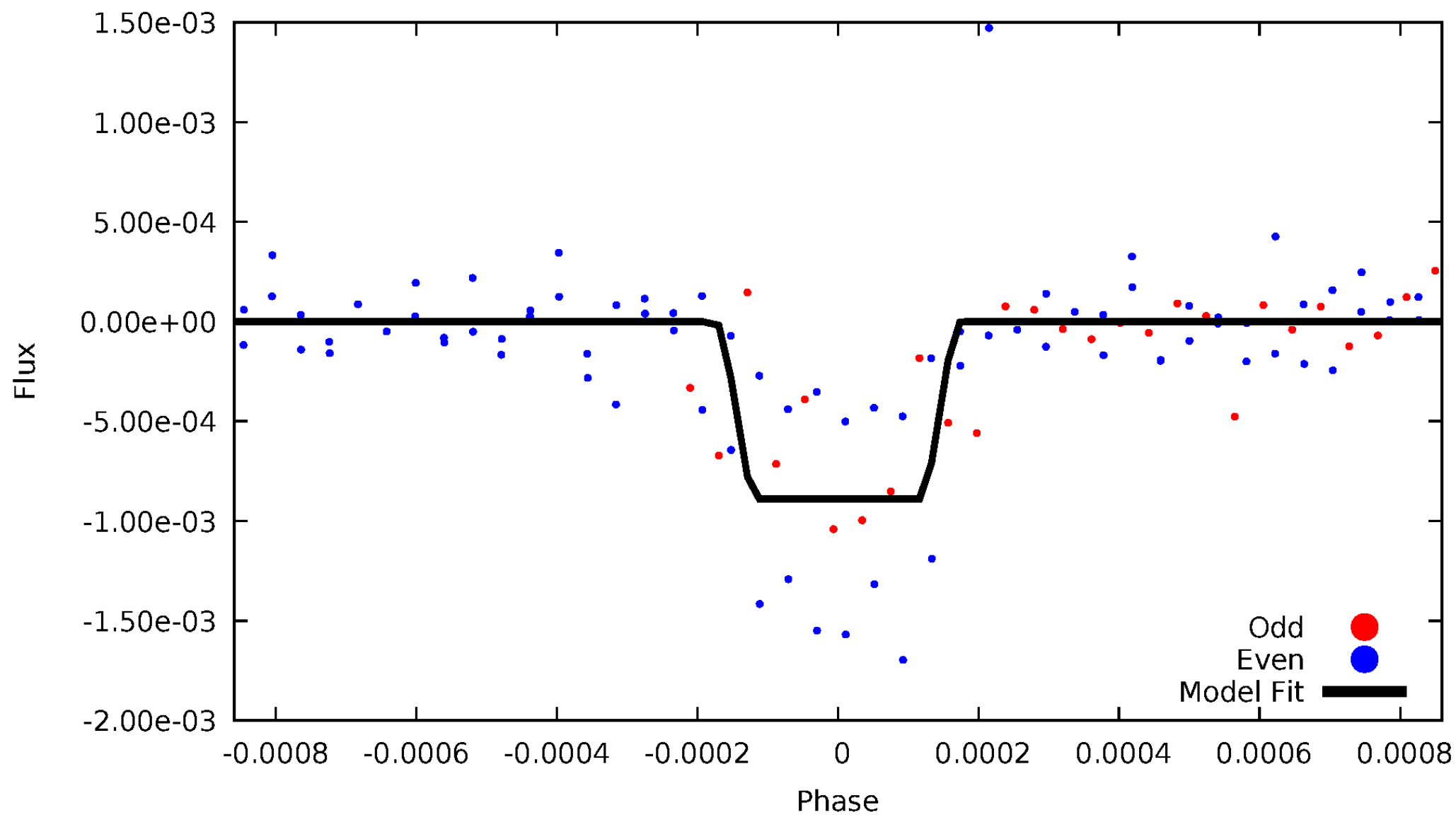
DV Odd/Even

TCE 004851365-01

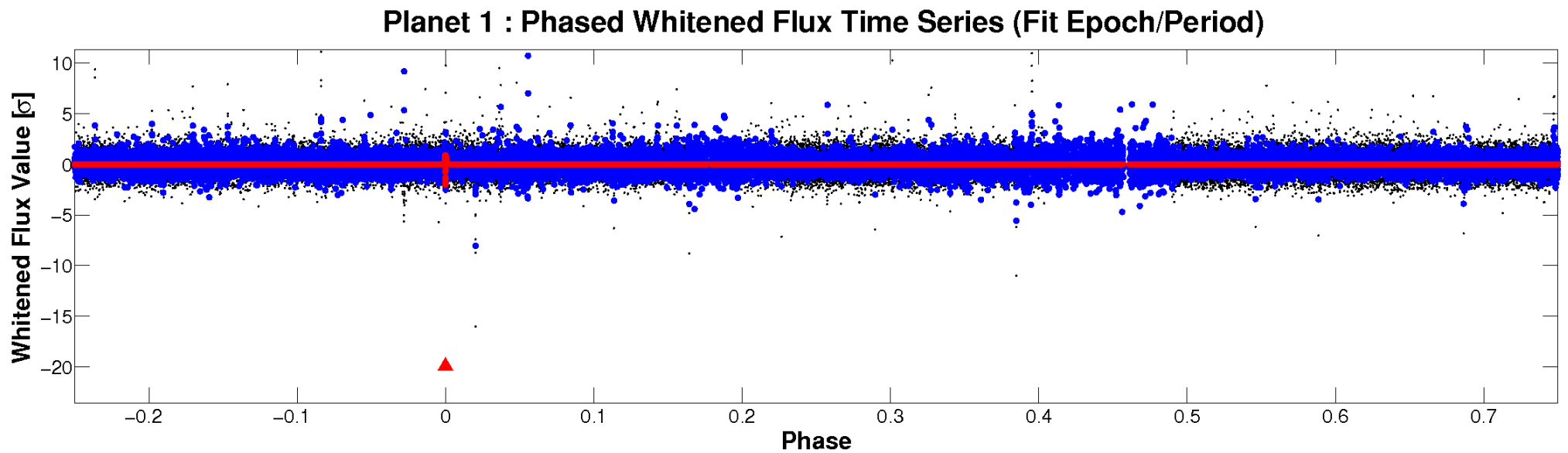
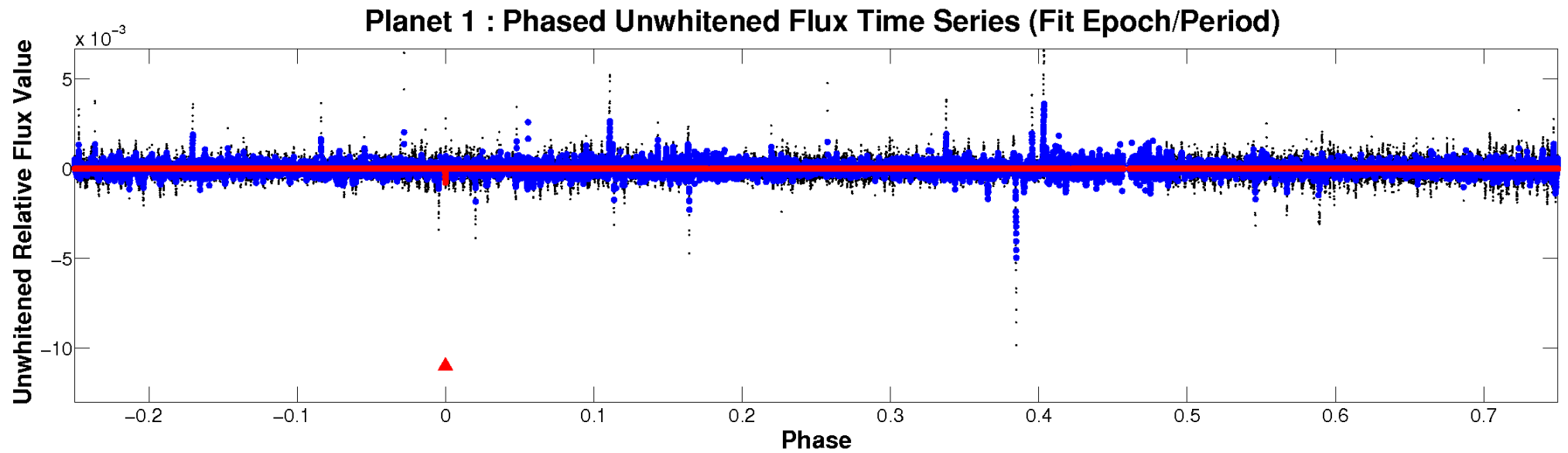


ALT Odd/Even

TCE 004851365-01

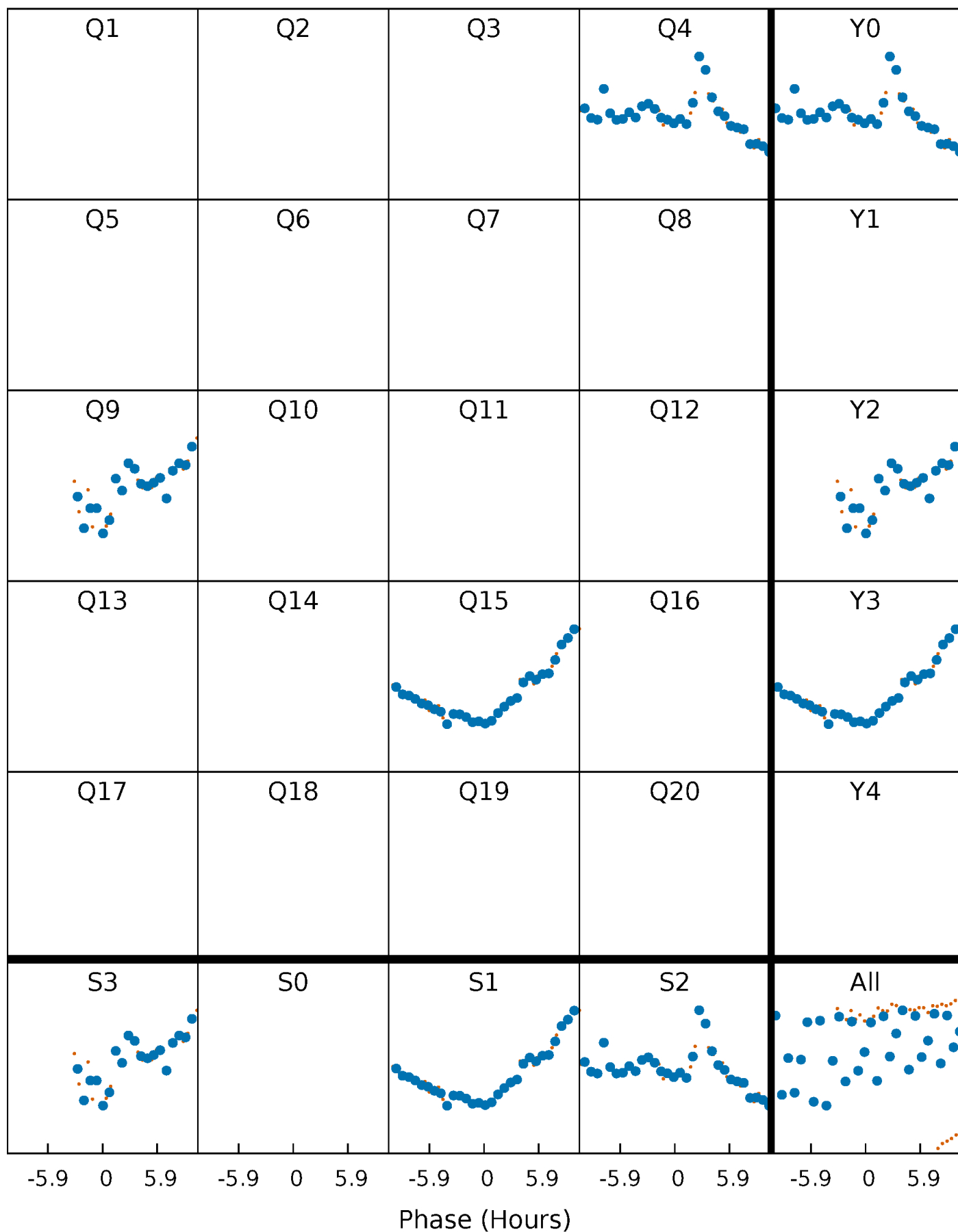


Non-Whitened Vs. Whitened Light Curve



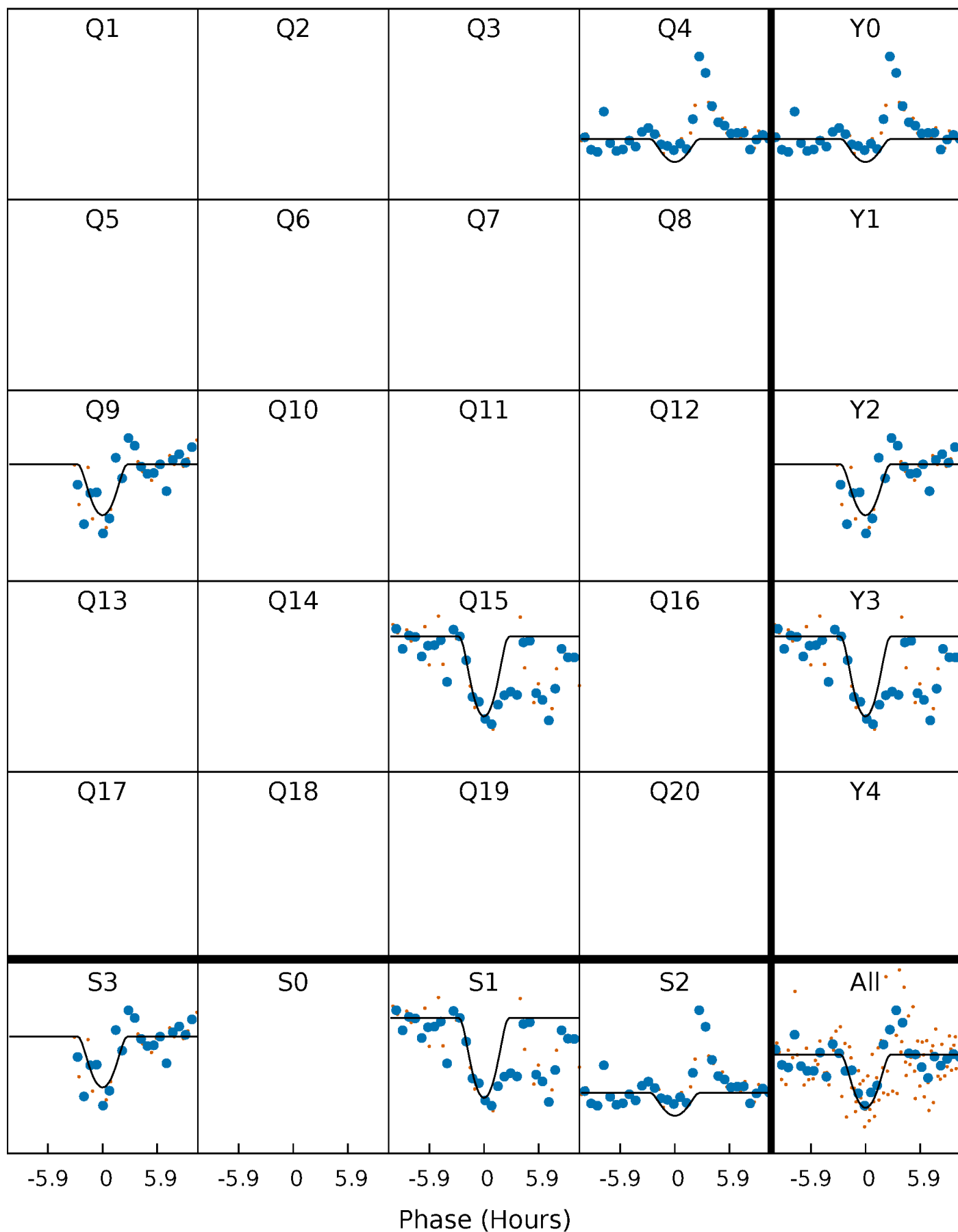
PDC Quarter-Phased Transit Curves

TCE 004851365-01 P=501.049635 Days $T_0=386.653669$ (BKJD)



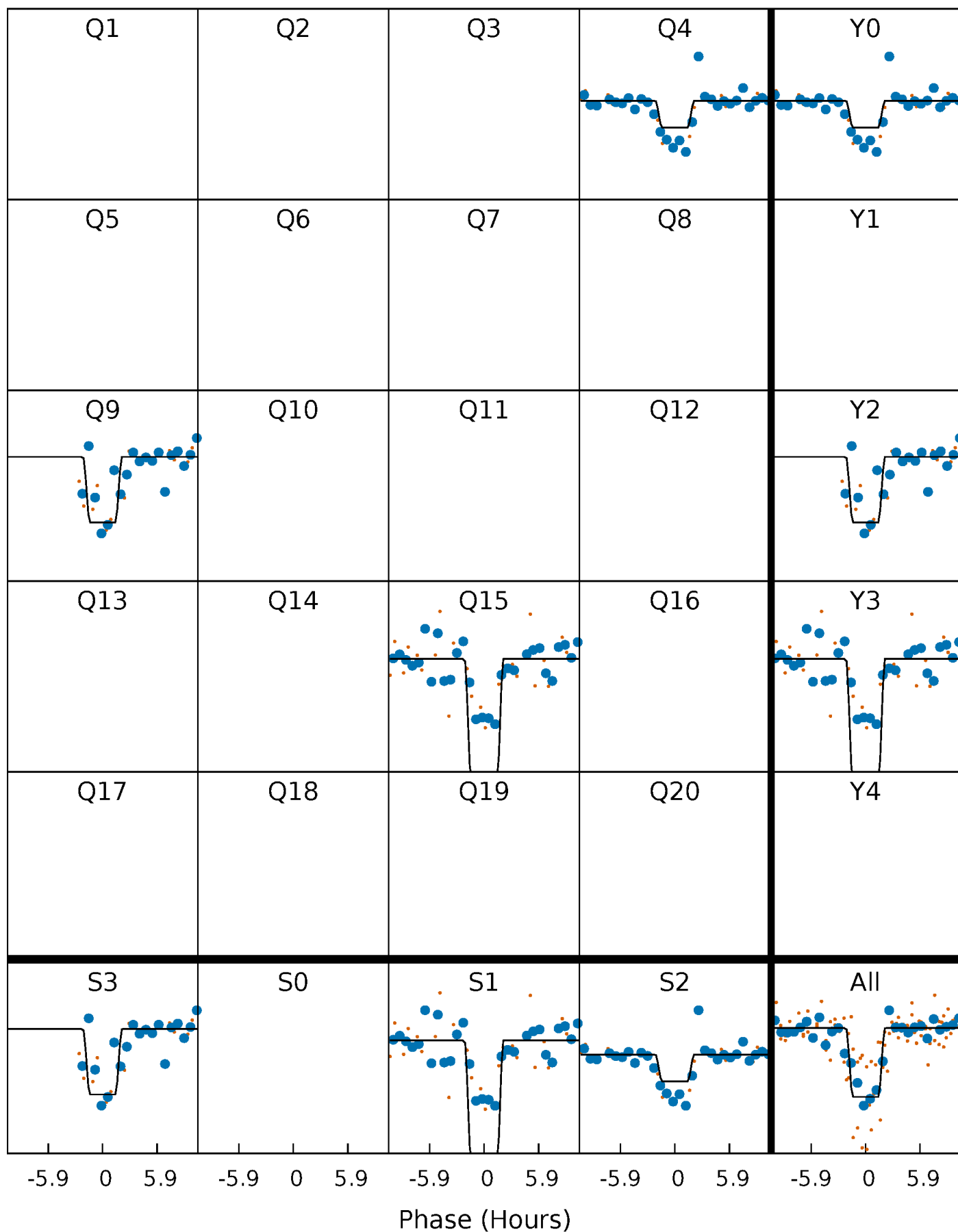
DV Quarter-Phased Transit Curves

TCE 004851365-01 P=501.049635 Days $T_0=386.653669$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

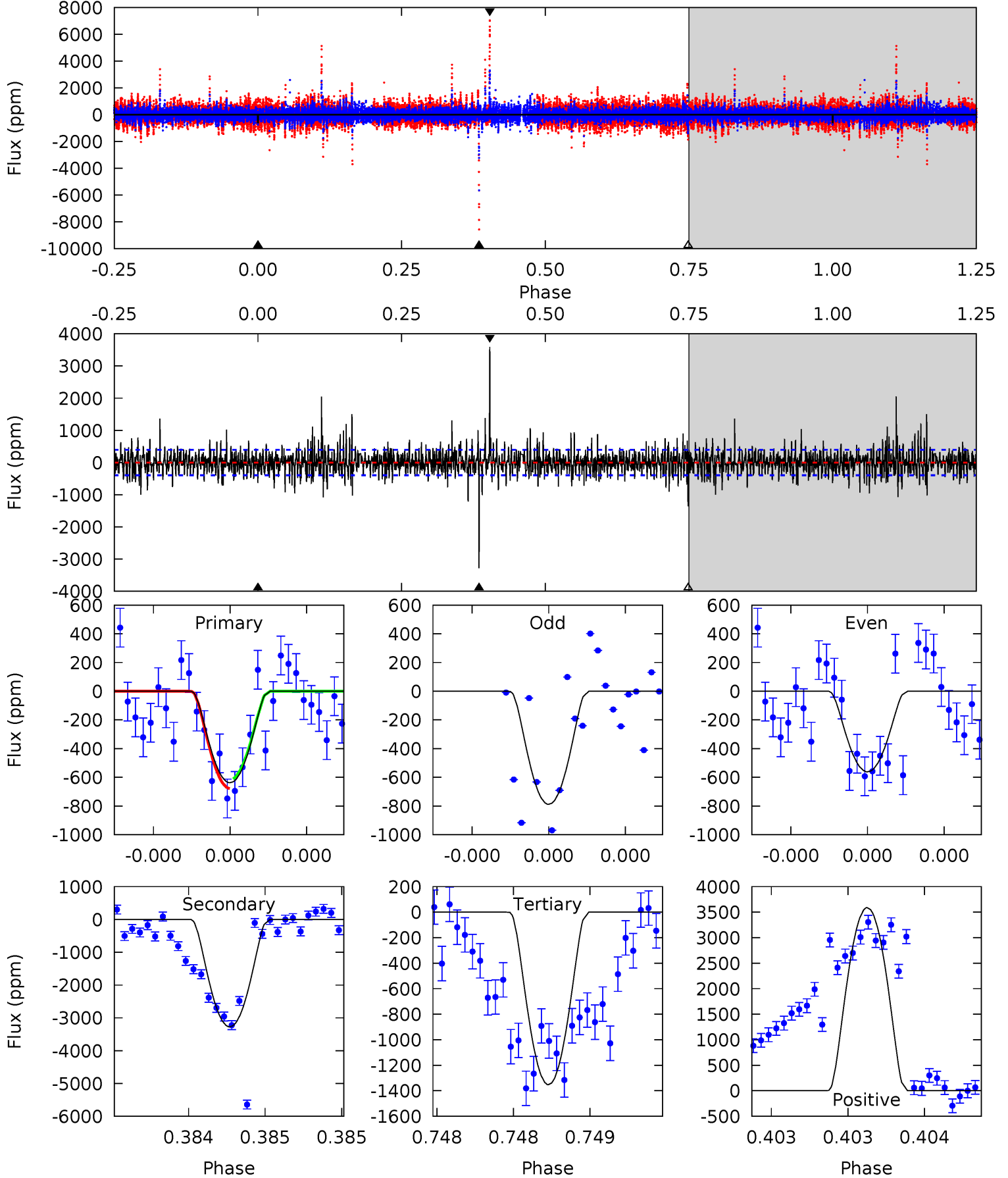
TCE 004851365-01 P=501.044514 Days $T_0=386.657842$ (BKJD)



DV Model-Shift Uniqueness Test

004851365-01, P = 501.049635 Days, E = 386.653669 Days

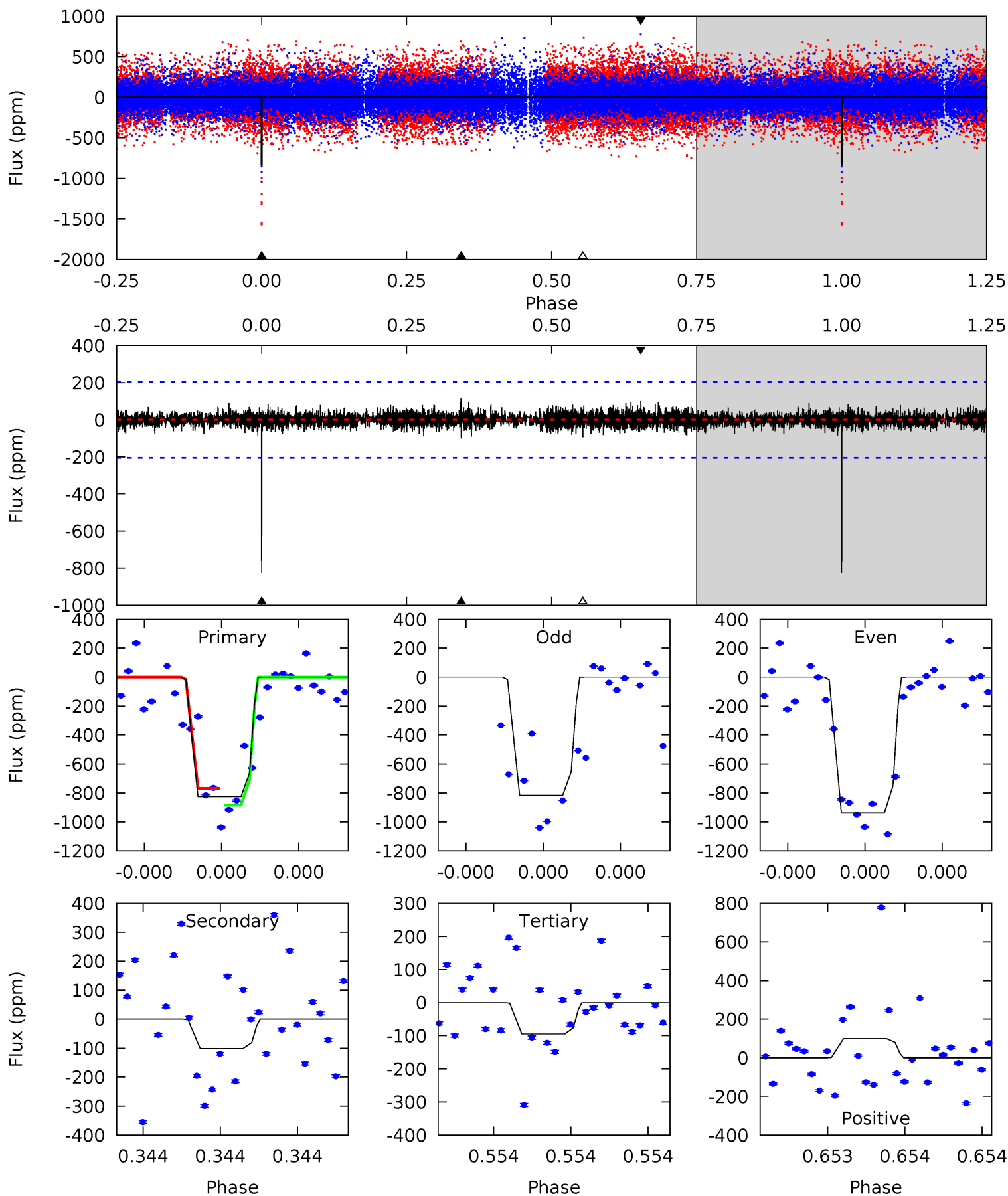
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.04	46.4	19.2	50.8	5.59	3.51	3.89	-10.1	-41.8	27.2	-4.45	1.51	0.81	0.52	0.46



Alt Model-Shift Uniqueness Test

004851365-01, P = 501.044514 Days, E = 386.657842 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.6	2.77	2.59	2.74	5.63	3.56	0.57	20.0	19.9	0.18	0.03	1.55	1.35	0.12	1.58



Stellar Parameters For KIC 004851365

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5472^{+147}_{-147}	$4.596^{+0.032}_{-0.120}$	$-0.300^{+0.300}_{-0.300}$	$0.759^{+0.151}_{-0.065}$	$0.834^{+0.089}_{-0.089}$	$2.681^{+0.541}_{-0.932}$
	+3%/-3%	+1%/-3%	+100%/-100%	+20%/-9%	+11%/-11%	+20%/-35%
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 004851365-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3275 ± 71	$6.32^{+5.31}_{-4.26}$	277^{+13}_{-10}	4887^{+3822}_{-1050}	$59804^{+499820}_{-42739}$
Alt.	-101 ± 36	$5.40^{+5.56}_{-3.84}$	277^{+12}_{-11}	2881^{+1318}_{-485}	2621^{+25118}_{-2044}

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 $A_{obs} \gg 1.0$

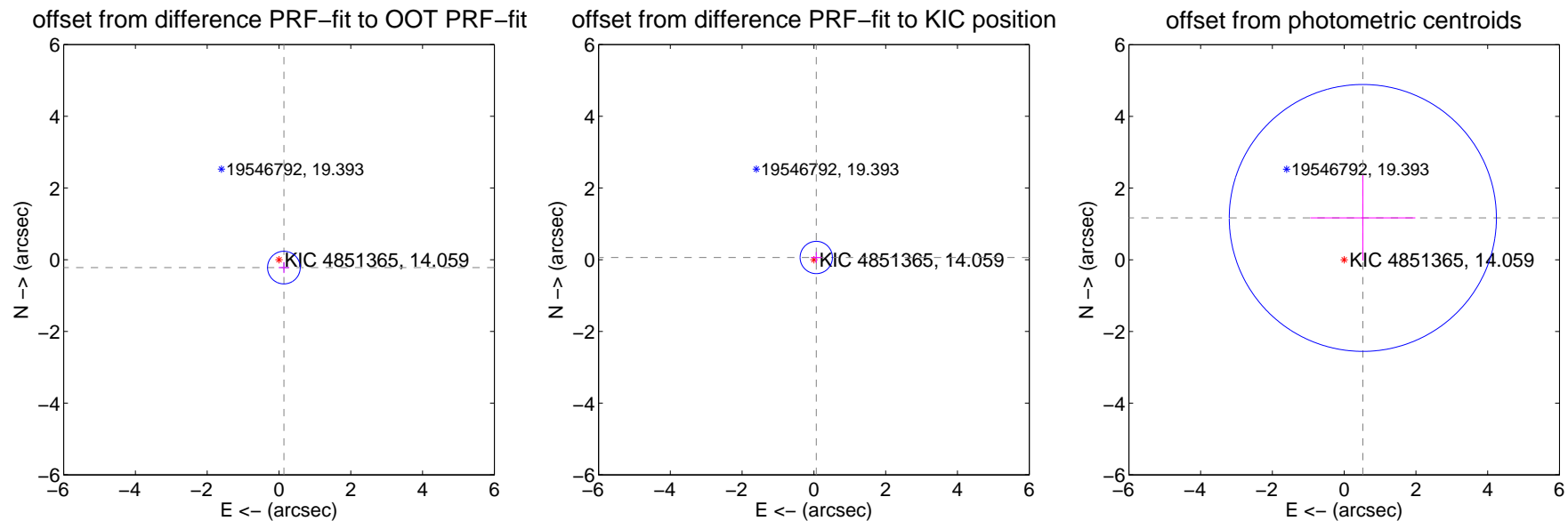
DV Centroid Data

Supplemental centroid analysis for 004851365-01. Kepler magnitude: 14.06. Transit SNR 7.84

There are 1 quarters with good PRF difference image offsets

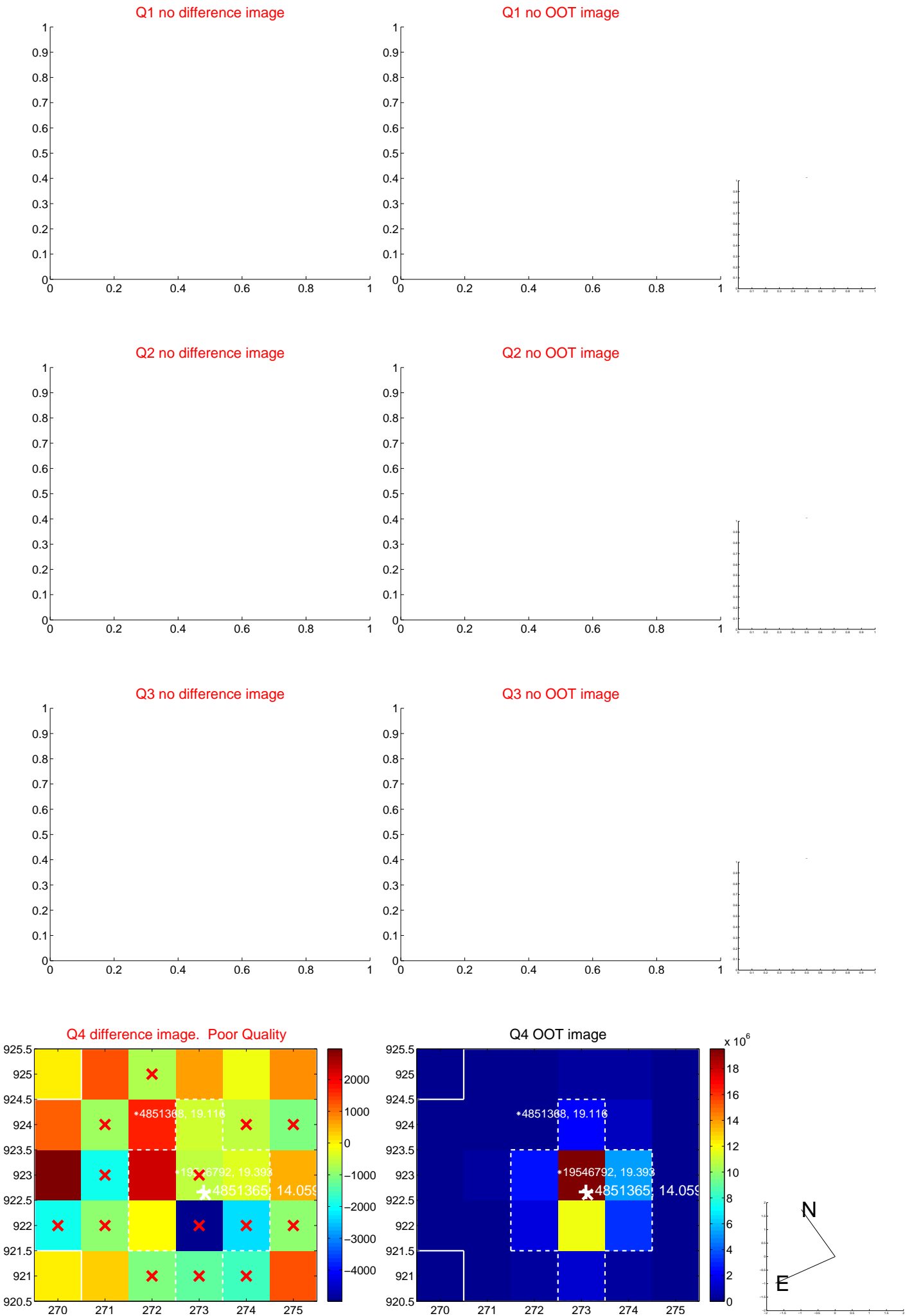
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.258 ± 0.152	1.70	-0.136 ± 0.147	-0.219 ± 0.154
PRF-fit source offset from KIC position	0.091 ± 0.150	0.60	-0.066 ± 0.147	0.062 ± 0.154
photometric centroid source offset	1.28 ± 1.24	1.03	-0.52 ± 1.46	1.17 ± 1.19



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.



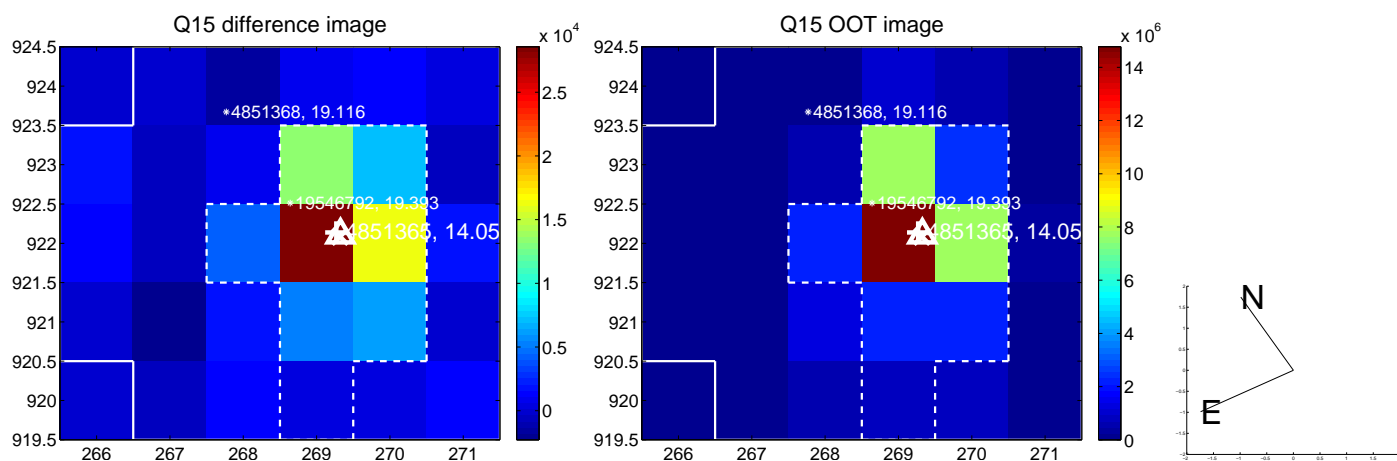
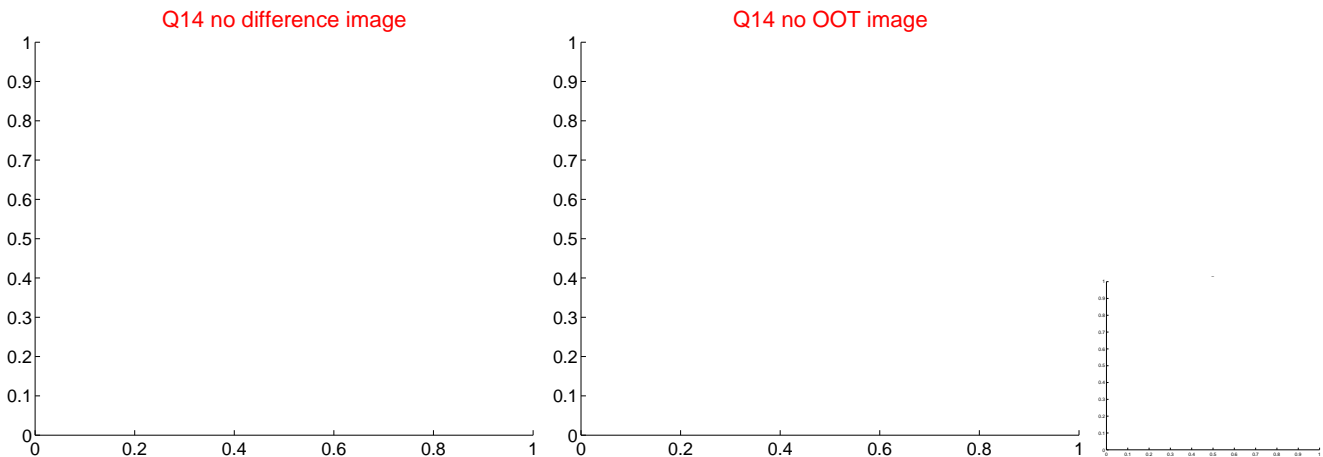
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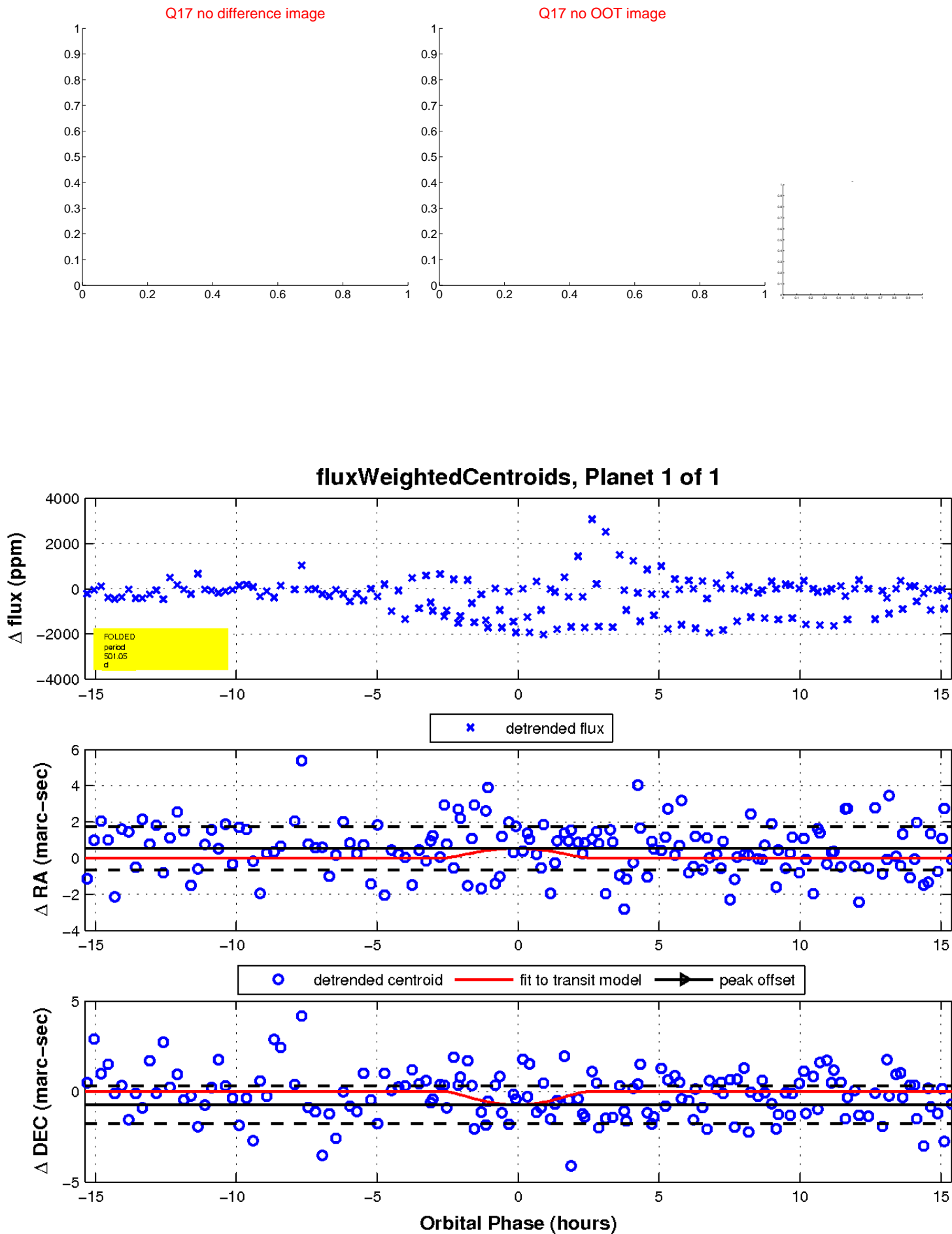
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

