

KIC 007599004

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})
007599004-01	OBS	5403.01	2.411451	131.608638	3309.6	2.640	106.9	97.0	1.33	6363	13.92	2005.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007599004-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED—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.

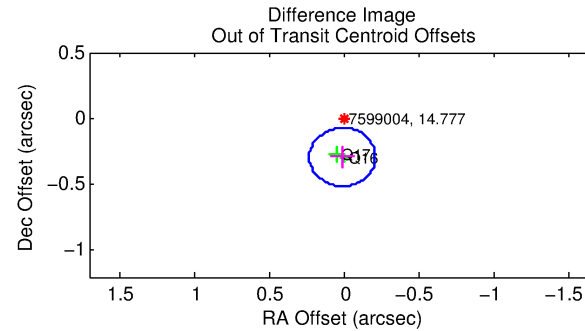
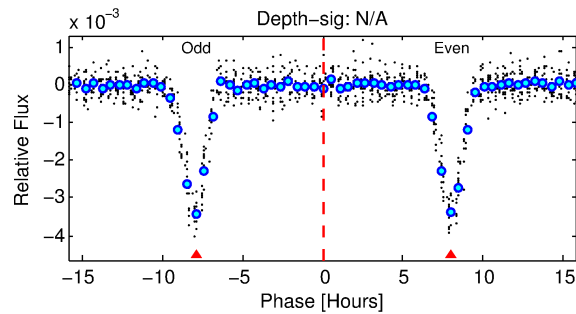
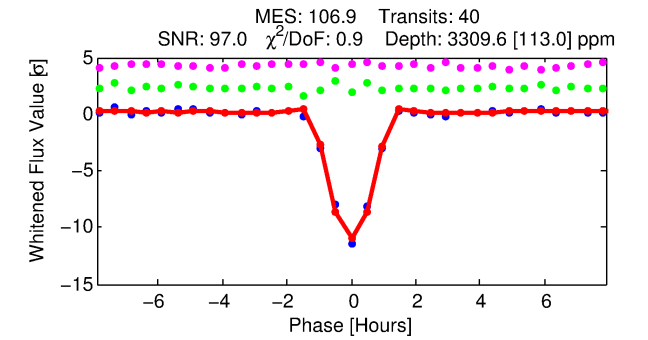
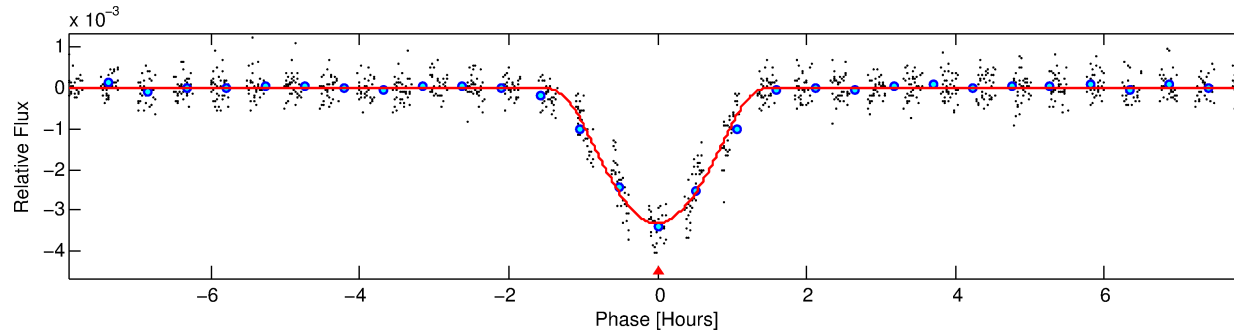
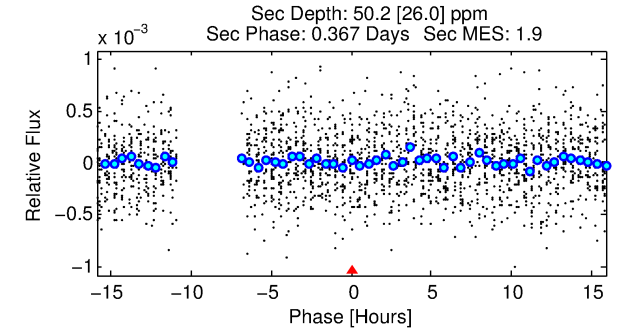
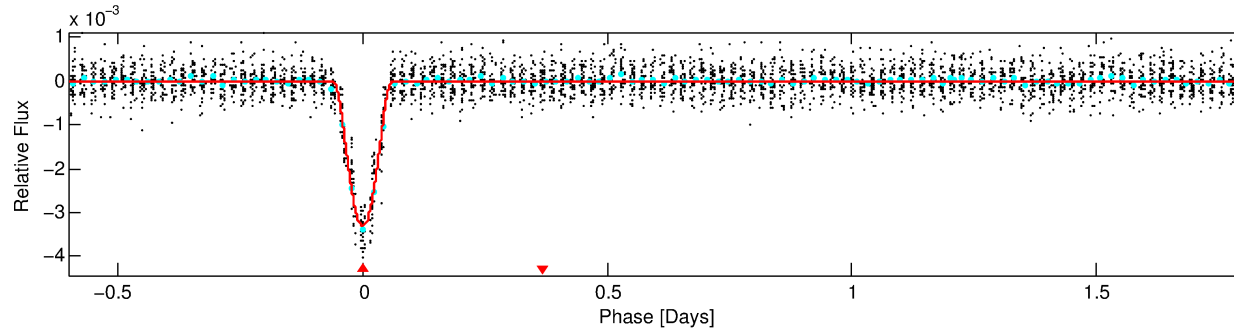
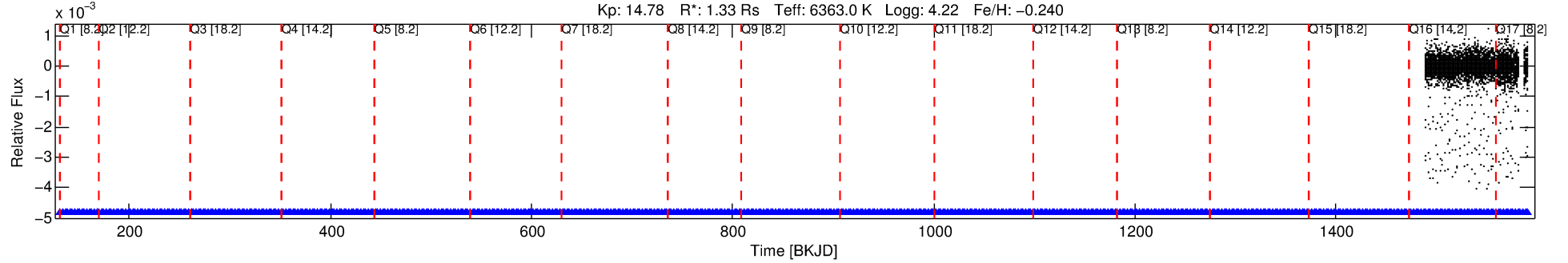
Ephemeris Match Information For 007599004-01

No Significant Match Found

DV One-Page Summary

KIC: 7599004 Candidate: 1 of 1 Period: 2.411 d
KOI: K05403 Corr: No Ephemeris Match

Kp: 14.78 R*: 1.33 Rs Teff: 6363.0 K Logg: 4.22 Fe/H: -0.240



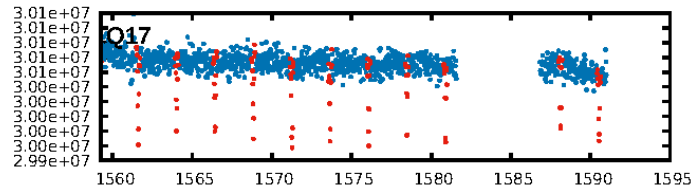
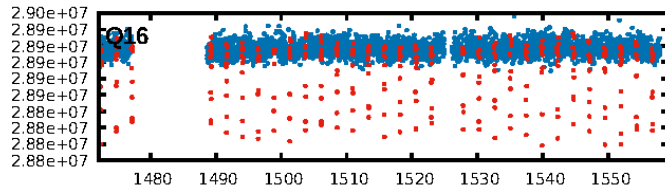
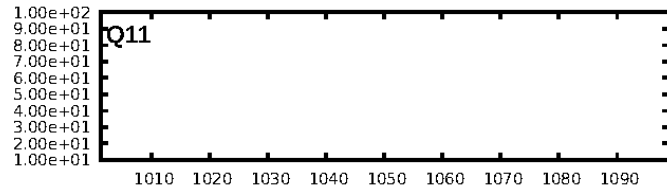
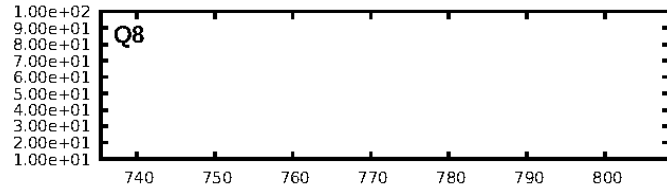
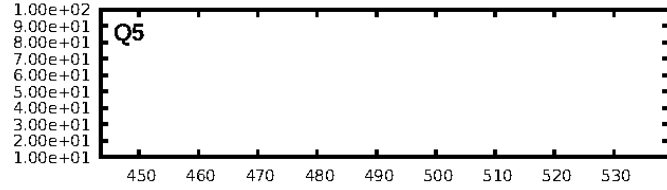
DV Fit Results:

Period = 2.41145 [0.00000] d
Epoch = 131.6086 [0.0004] BKJD
Rp/R* = 0.0958 [0.0553]
a/R* = 3.32 [0.34]
b = 1.00 [0.08]
Seff = 2005.27 [755.38]
Teq = 1706 [161] K
Rp = 13.92 [8.97] Re
a = 0.0360 [0.0086] AU
Ag = 0.19 [0.24] [-3.36σ]
Teff = 1731 [552] K [0.04σ]

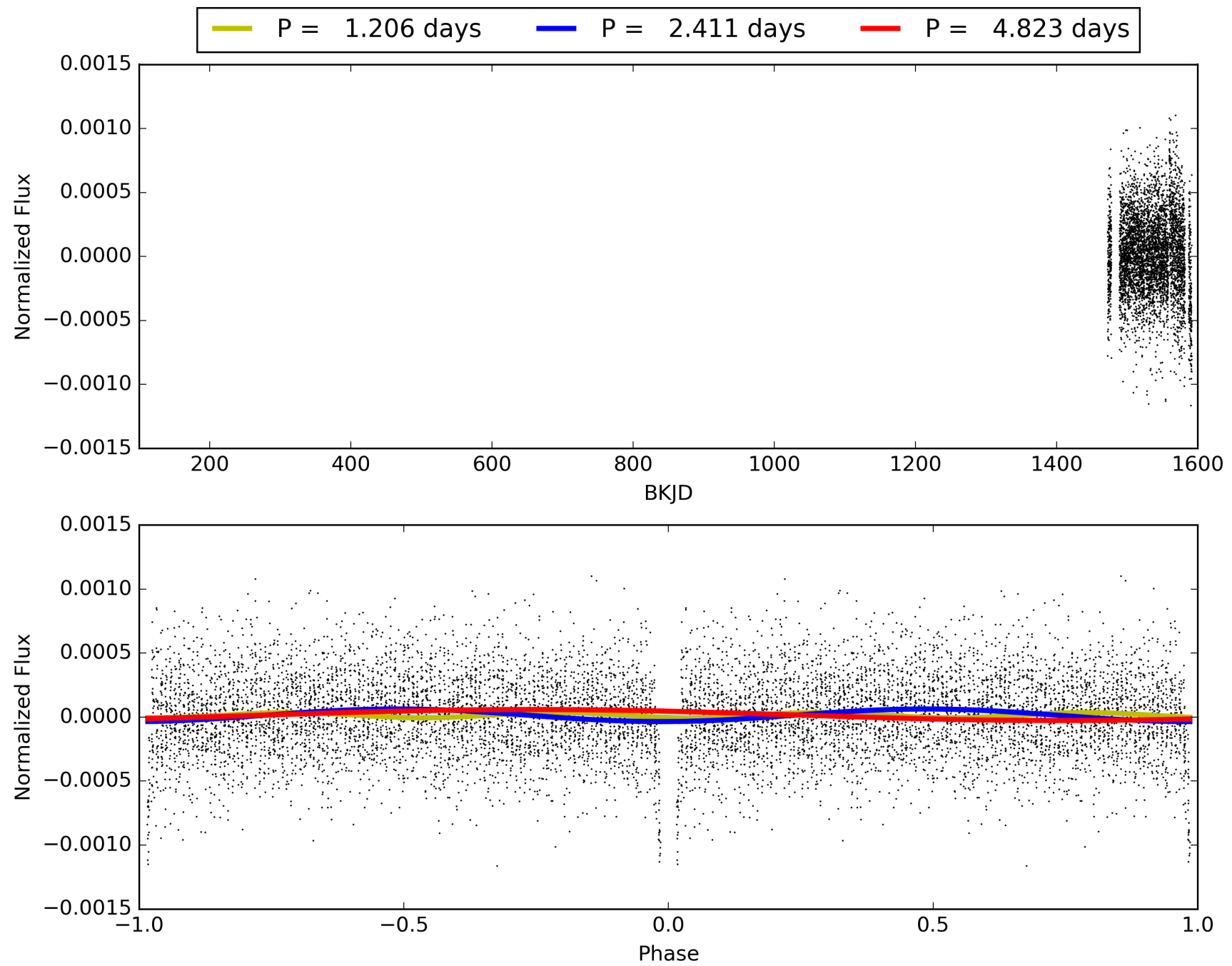
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.5%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [28/28]
GhostDiagnostic-chr: 4.249
Centroid-sig: 0.6%
Centroid-so: 0.306 arcsec [2.53σ]
OotOffset-rm: 0.293 arcsec [3.99σ]
KicOffset-rm: 0.379 arcsec [5.15σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 007599004-01, PDC Light Curves

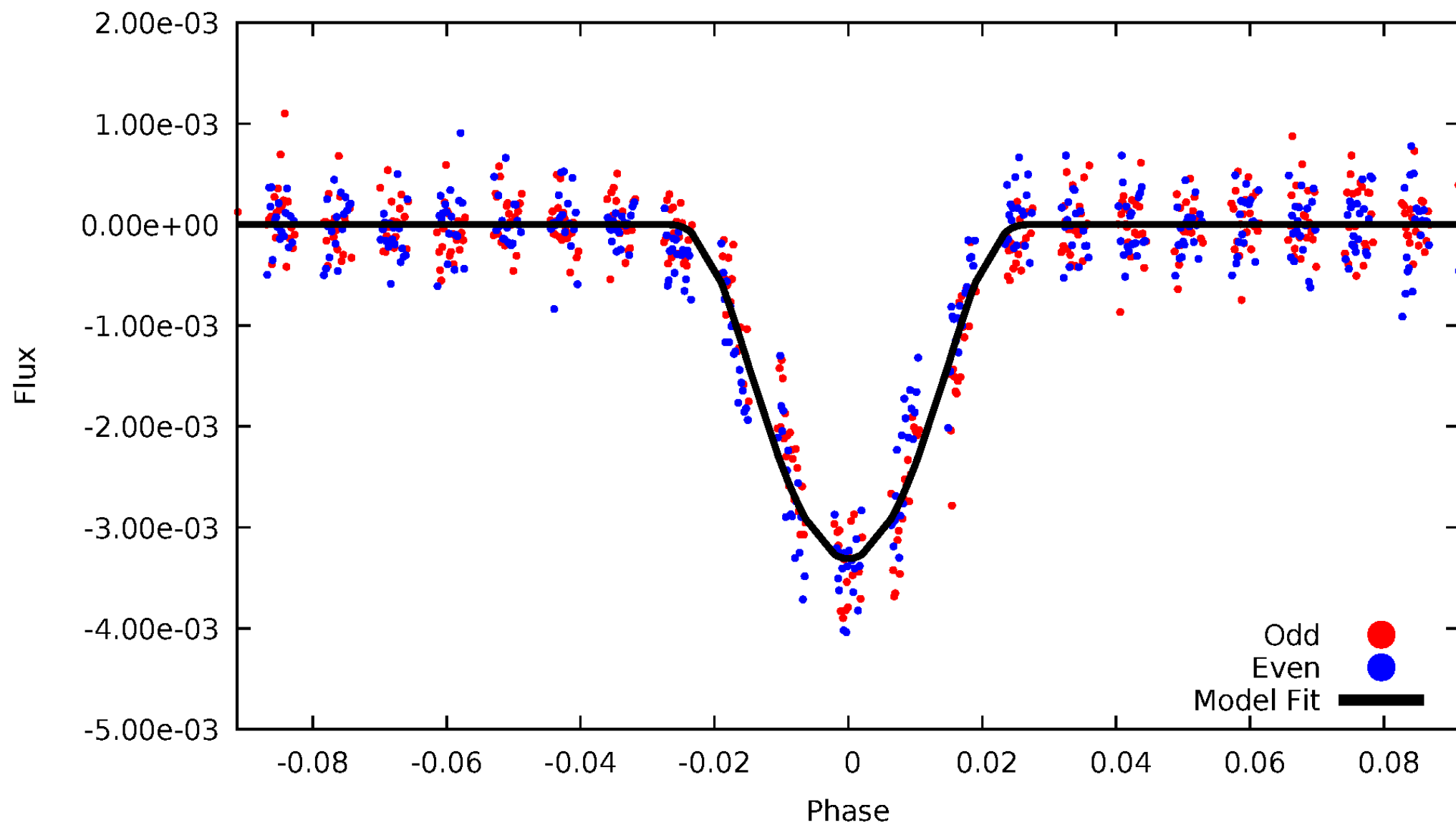


TCE 007599004-01



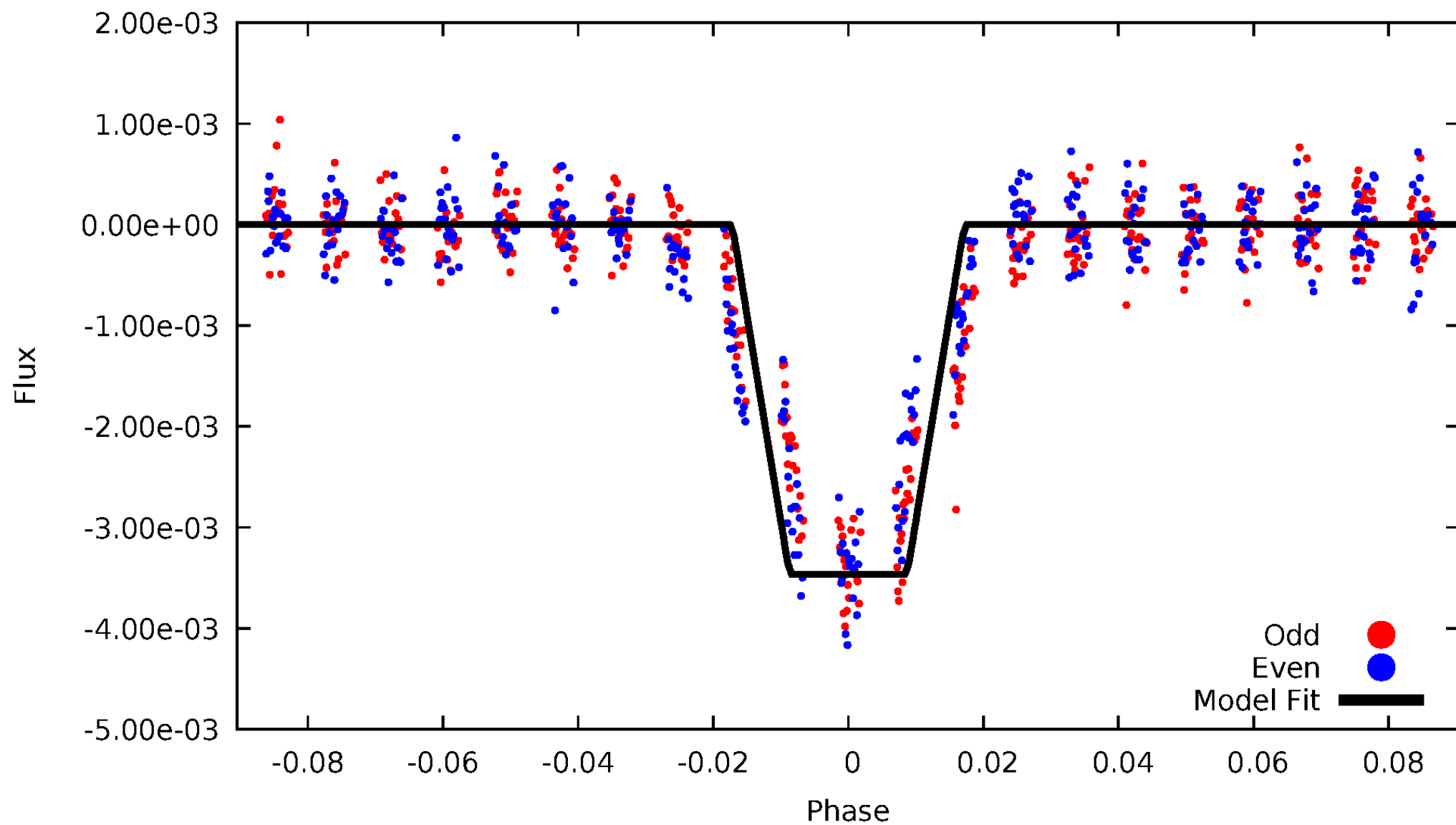
DV Odd/Even

TCE 007599004-01



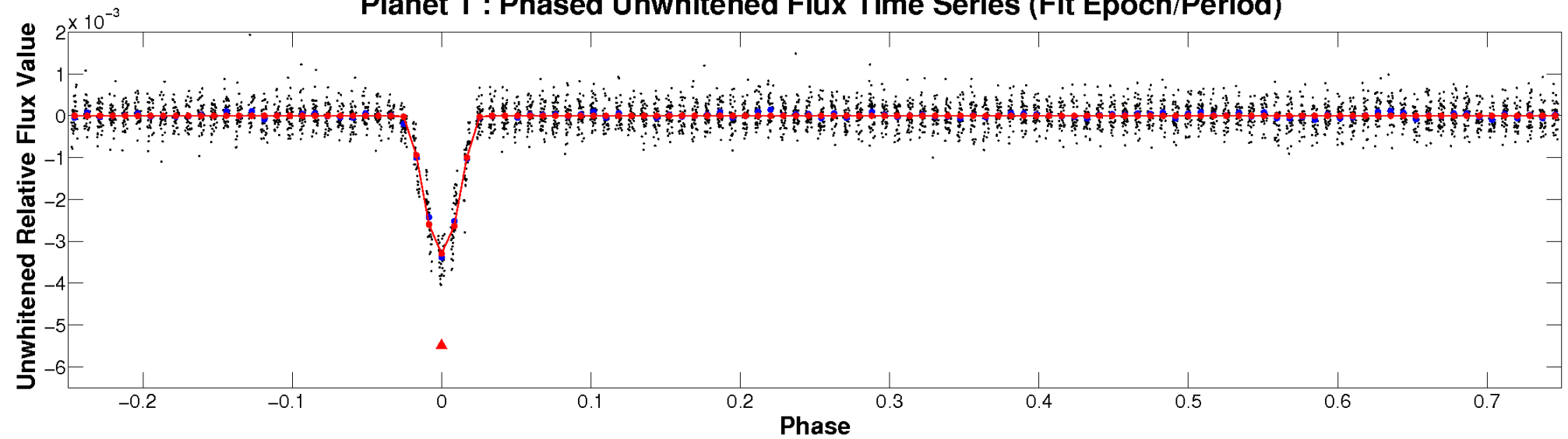
ALT Odd/Even

TCE 007599004-01

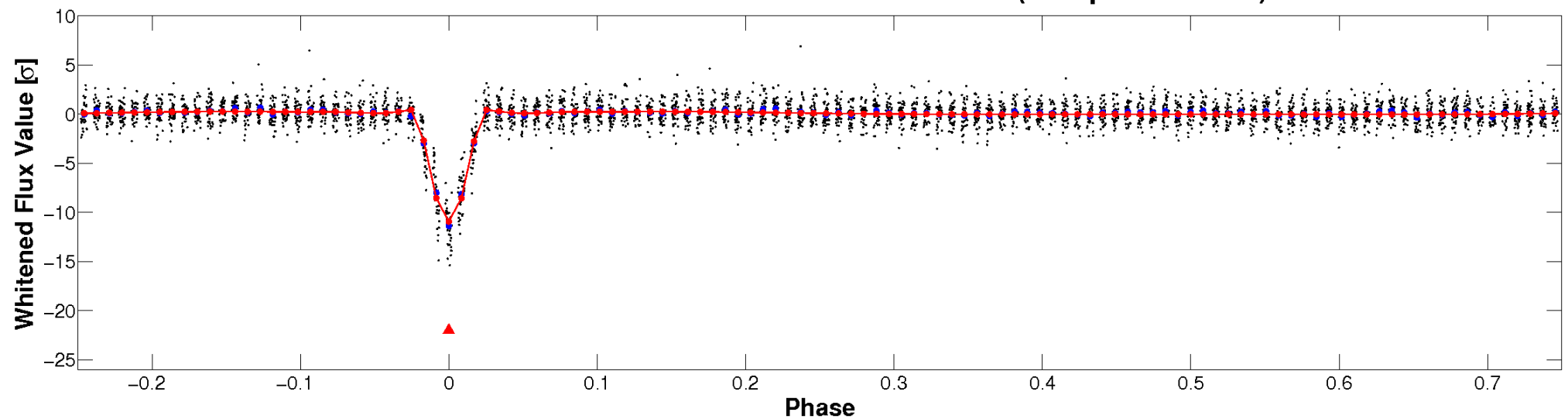


Non-Whitened Vs. Whitened Light Curve

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

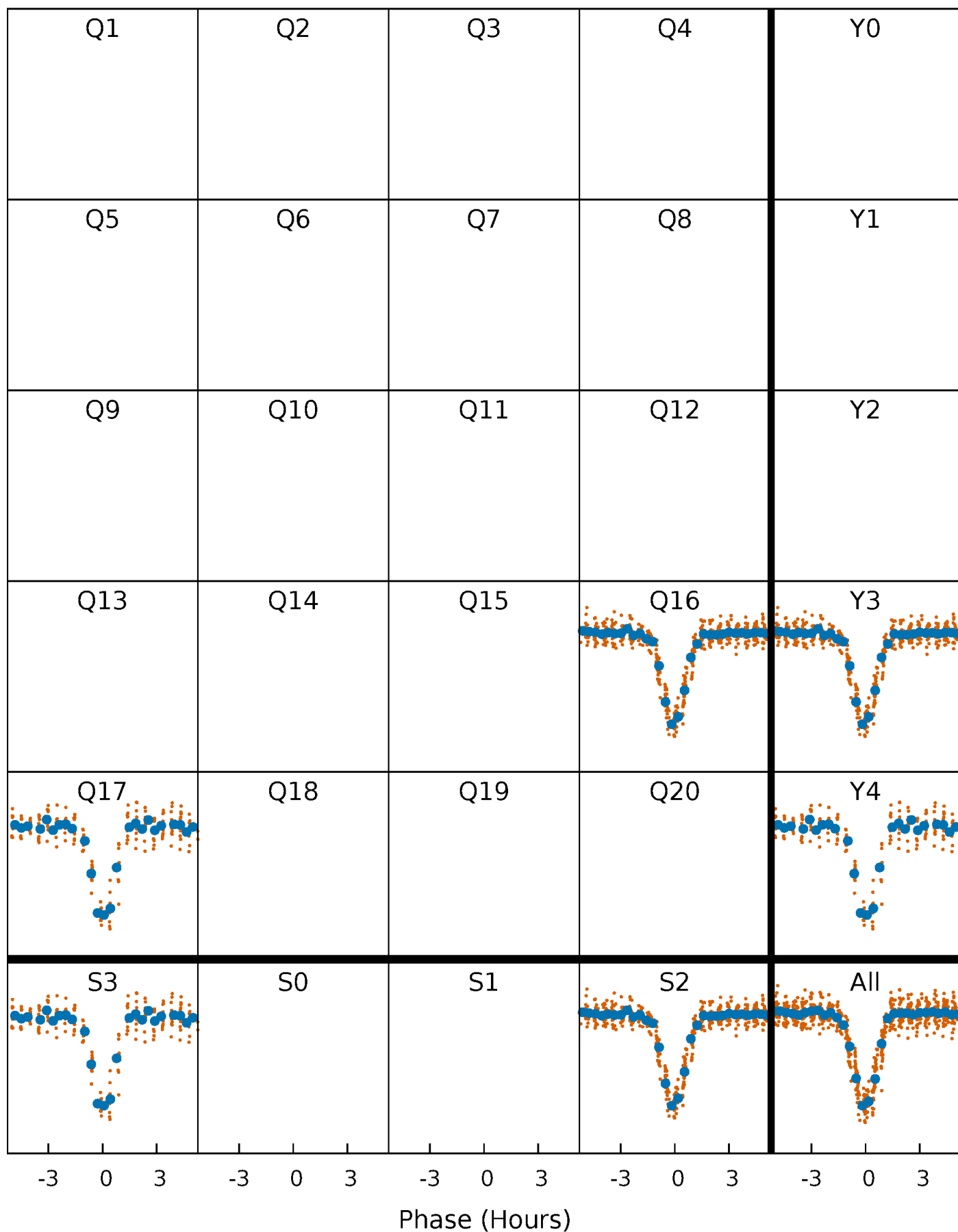


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



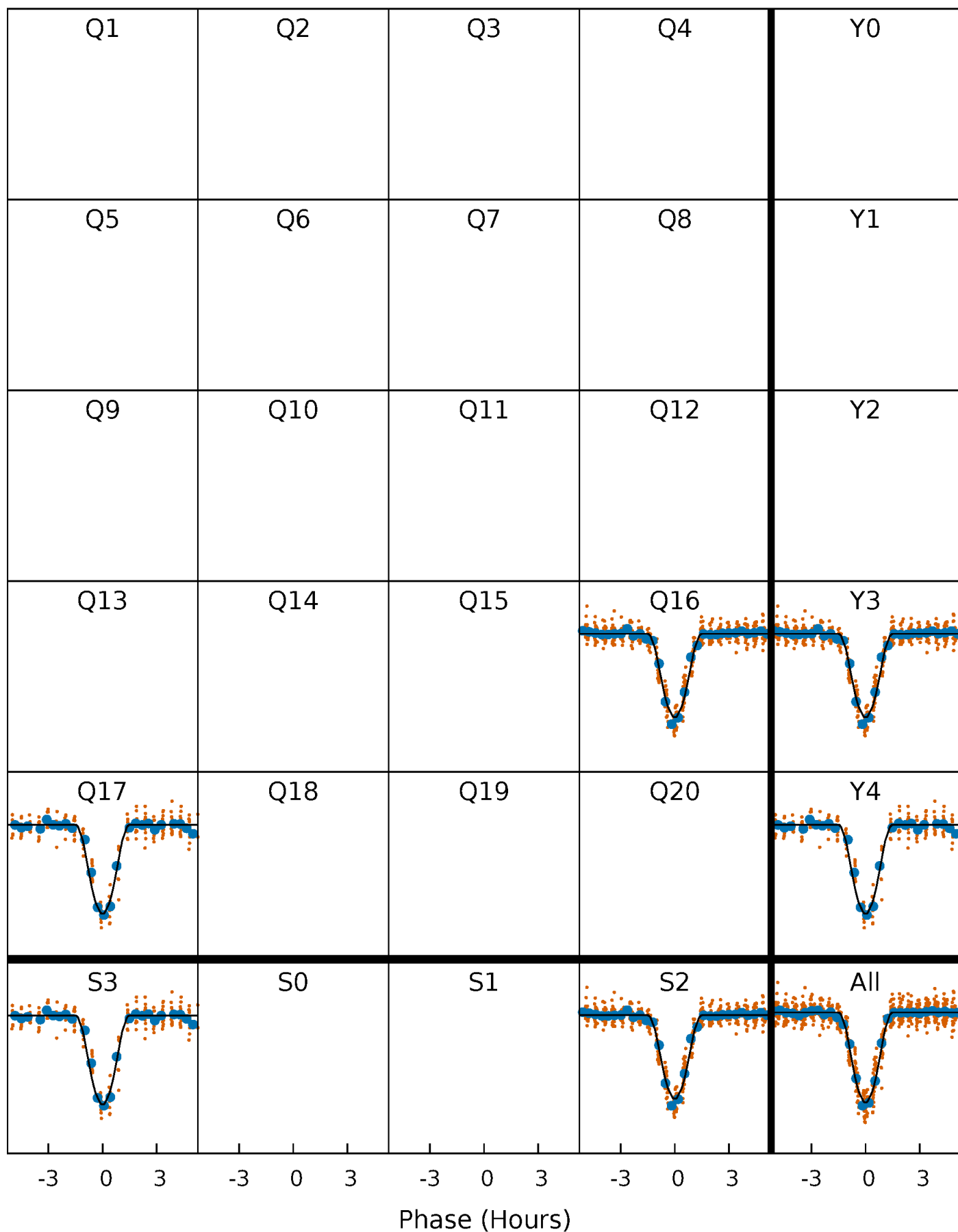
PDC Quarter-Phased Transit Curves

TCE 007599004-01 P= 2.411451 Days $T_0=131.608638$ (BKJD)



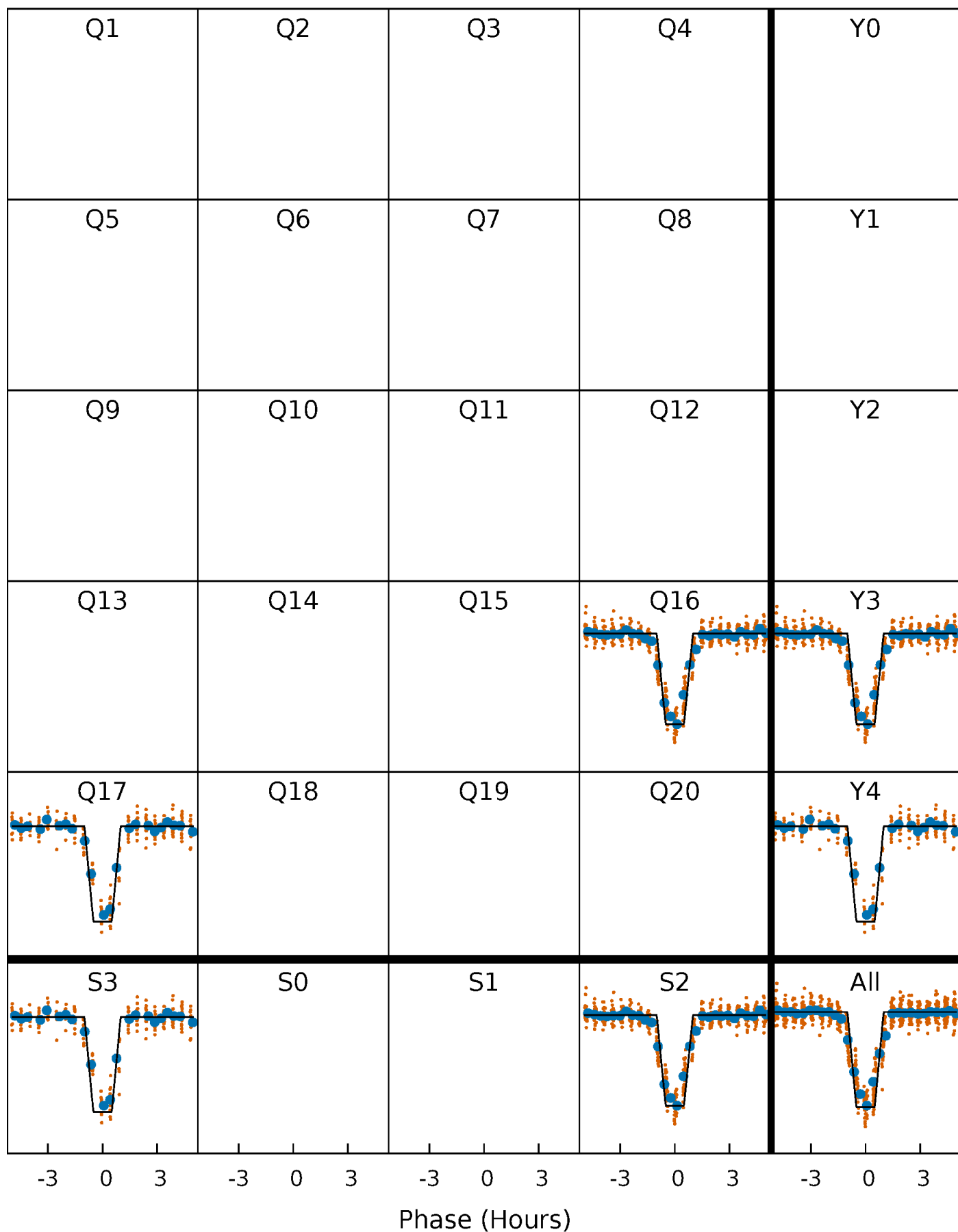
DV Quarter-Phased Transit Curves

TCE 007599004-01 P= 2.411451 Days $T_0=131.608638$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

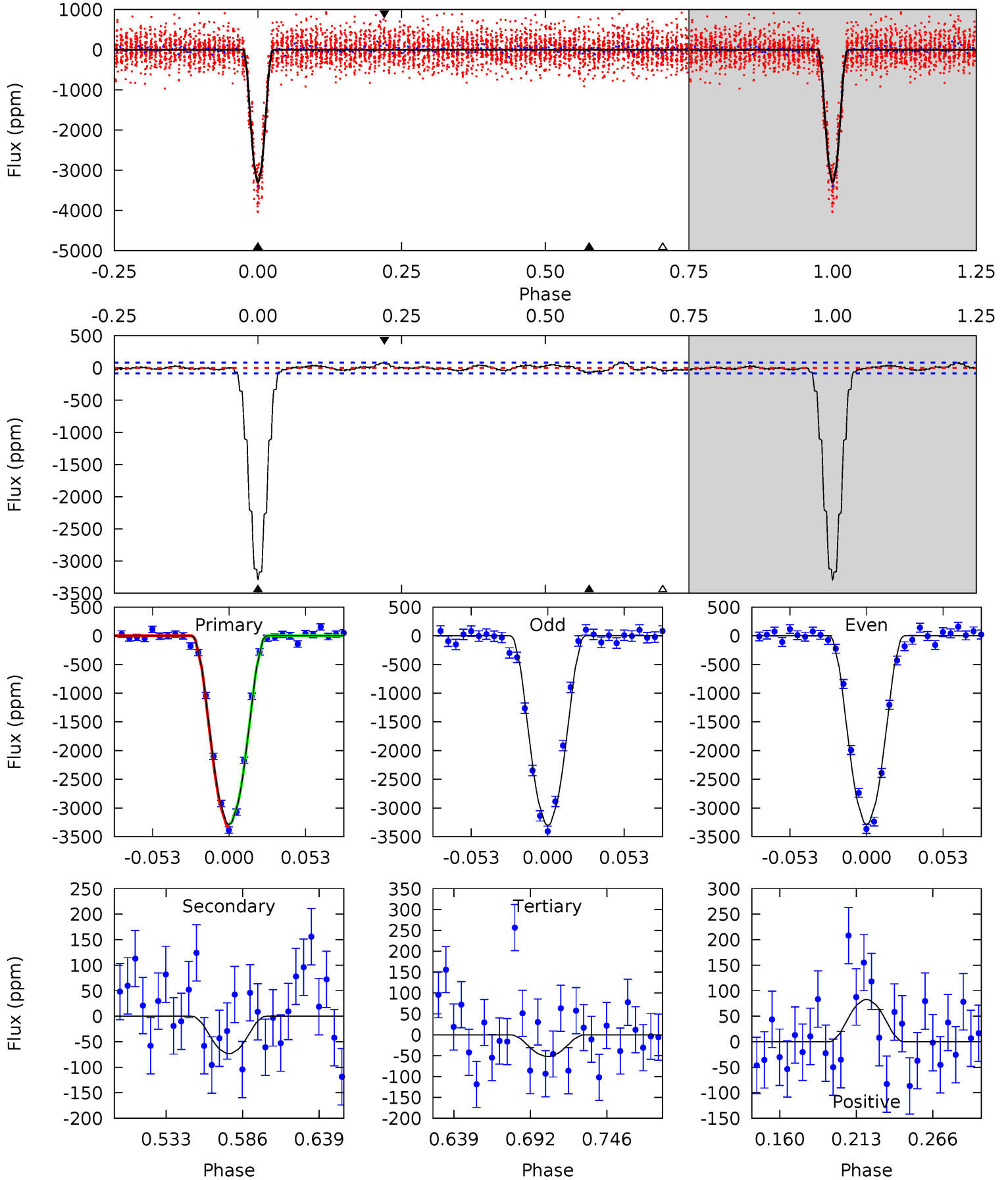
TCE 007599004-01 P= 2.411399 Days $T_0=131.638977$ (BKJD)



DV Model-Shift Uniqueness Test

007599004-01, P = 2.411451 Days, E = 131.608638 Days

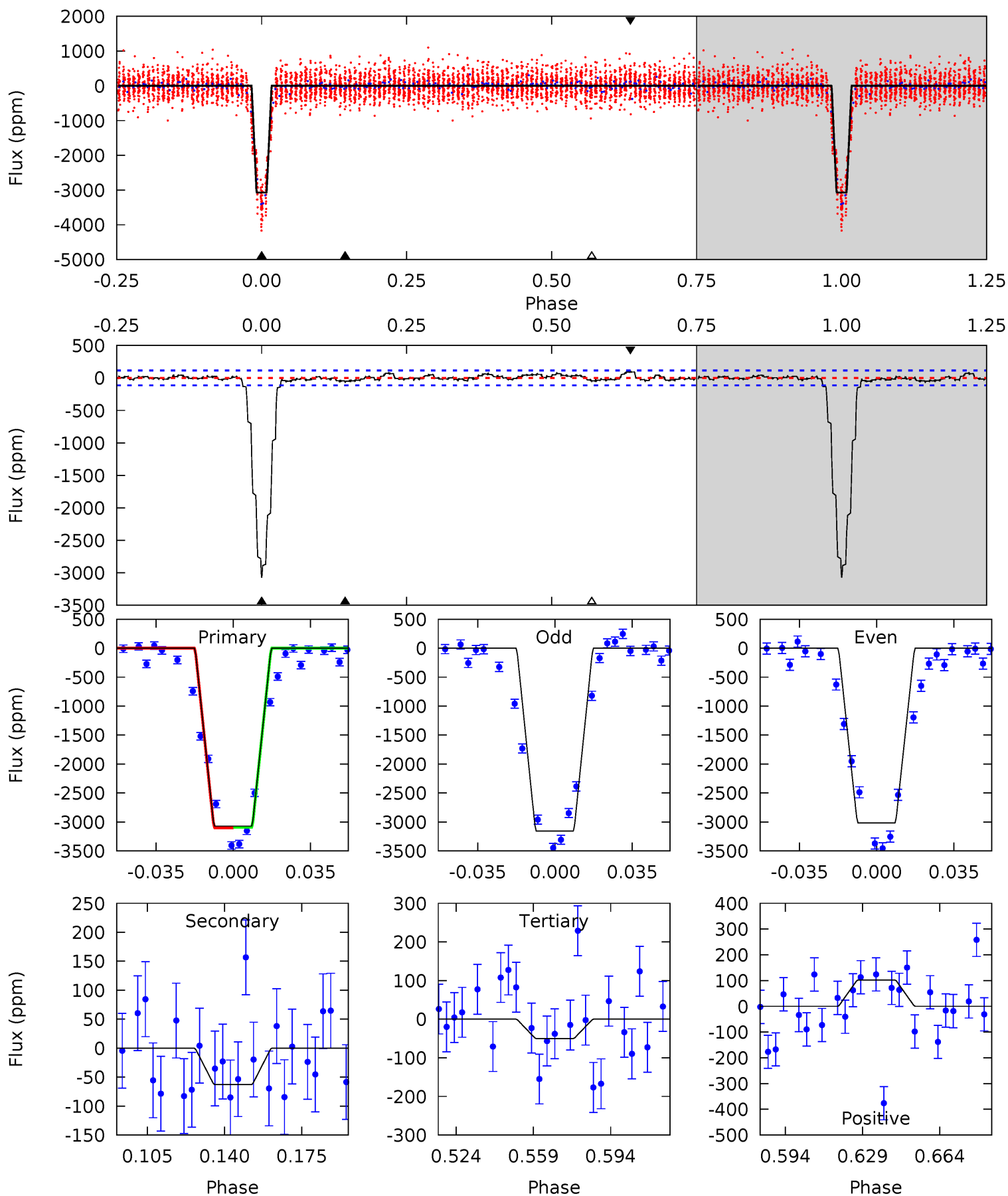
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
184.6	4.13	2.92	4.65	4.70	1.93	1.51	181.6	179.9	1.21	-0.51	0.45	1.01	0.03	1.43



Alt Model-Shift Uniqueness Test

007599004-01, P = 2.411399 Days, E = 131.638977 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
128.2	2.62	2.10	4.26	4.78	2.11	1.27	126.1	123.9	0.53	-1.64	3.01	1.02	0.03	0.14



Stellar Parameters For KIC 007599004

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6363^{+181}_{-250}	$4.220^{+0.185}_{-0.185}$	$-0.240^{+0.250}_{-0.300}$	$1.332^{+0.382}_{-0.278}$	$1.072^{+0.177}_{-0.145}$	$0.638^{+0.601}_{-0.305}$
	+3%/-4%	+4%/-4%	+104%/-125%	+29%/-21%	+17%/-14%	+94%/-48%
Source	KIC0	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 007599004-01 / KOI 5403.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-74 ± 18	$14.22^{+9.12}_{-7.15}$	2385^{+182}_{-181}	-2189^{+5309}_{-441}	$0.244^{+0.930}_{-0.148}$
Alt.	-63 ± 24	$10.17^{+8.50}_{-6.34}$	2385^{+195}_{-191}	2391^{+1332}_{-4993}	$0.399^{+2.584}_{-0.289}$

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 $A_{obs} \gg 1.0$

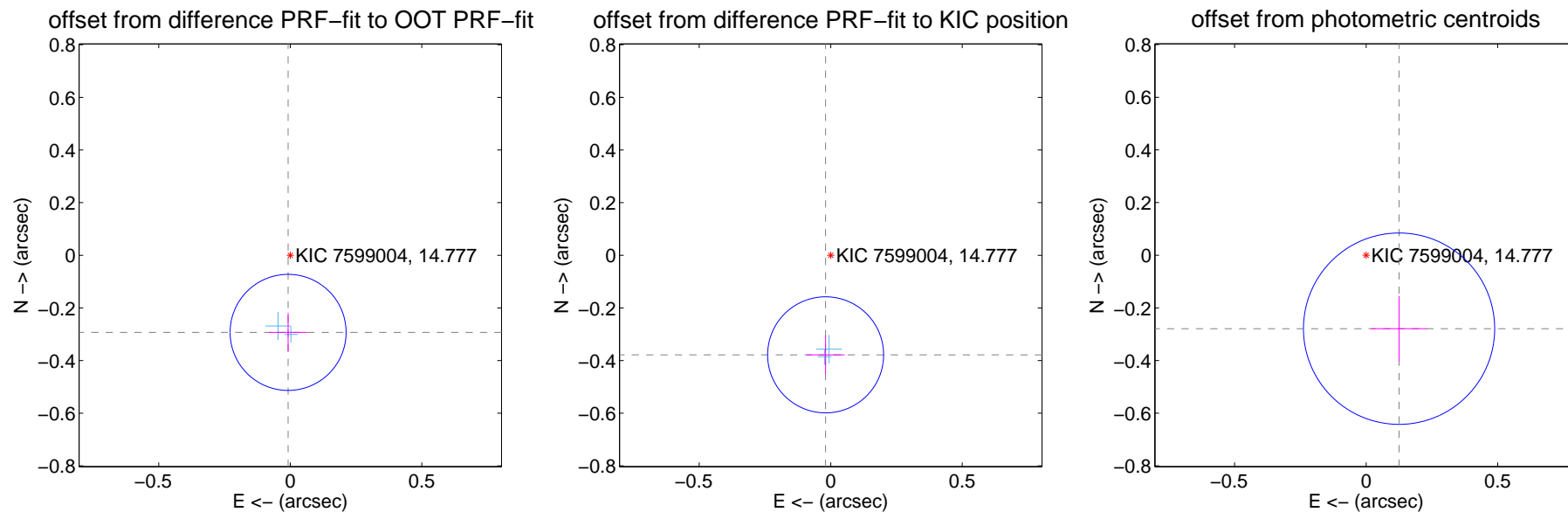
DV Centroid Data

Supplemental centroid analysis for 007599004-01. Kepler magnitude: 14.78. Transit SNR 97.04

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.293 ± 0.074	3.99	0.008 ± 0.072	-0.293 ± 0.074
PRF-fit source offset from KIC position	0.379 ± 0.074	5.15	0.019 ± 0.072	-0.378 ± 0.074
photometric centroid source offset	0.31 ± 0.12	2.53	-0.13 ± 0.11	-0.28 ± 0.12



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.



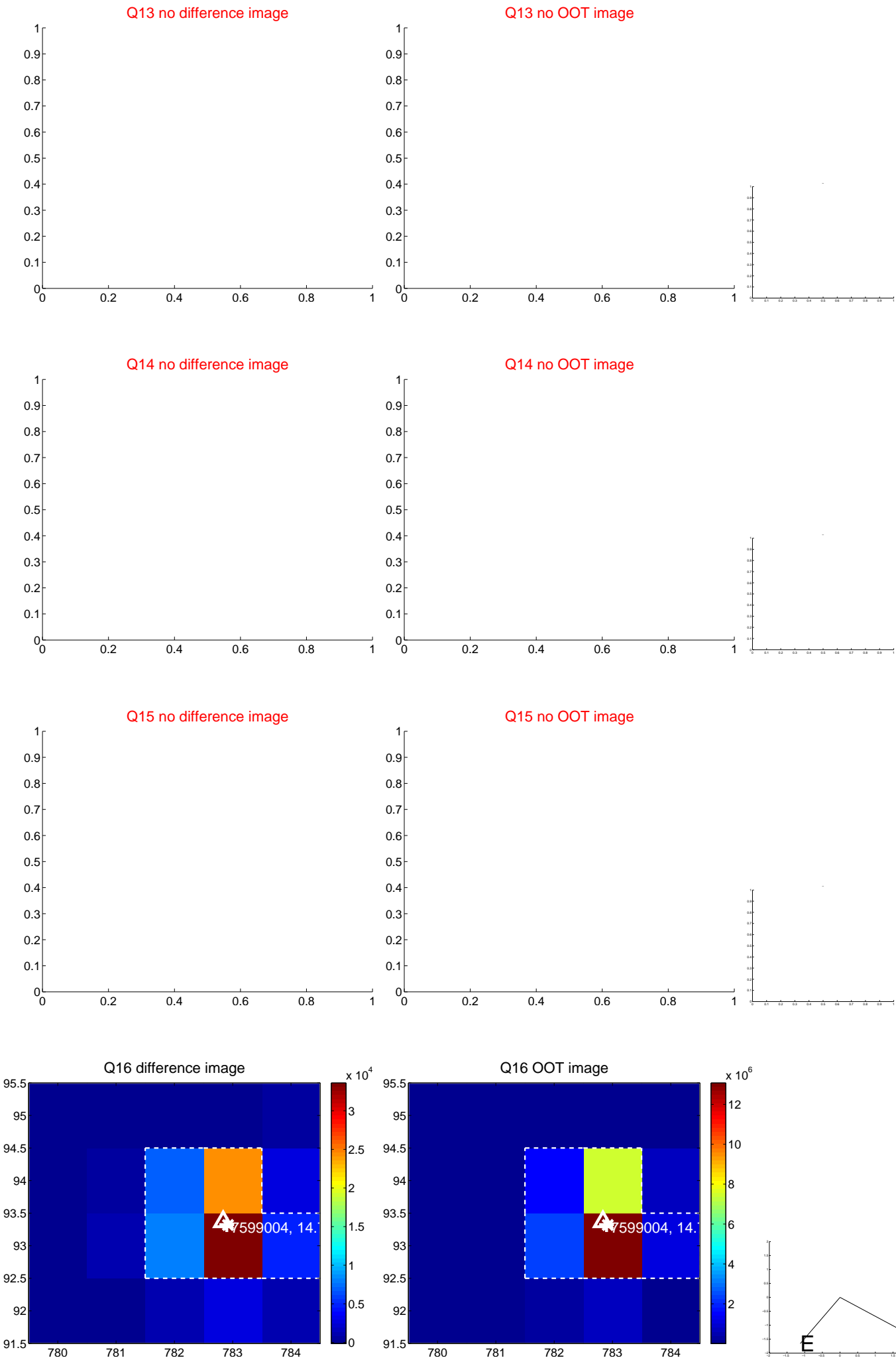
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



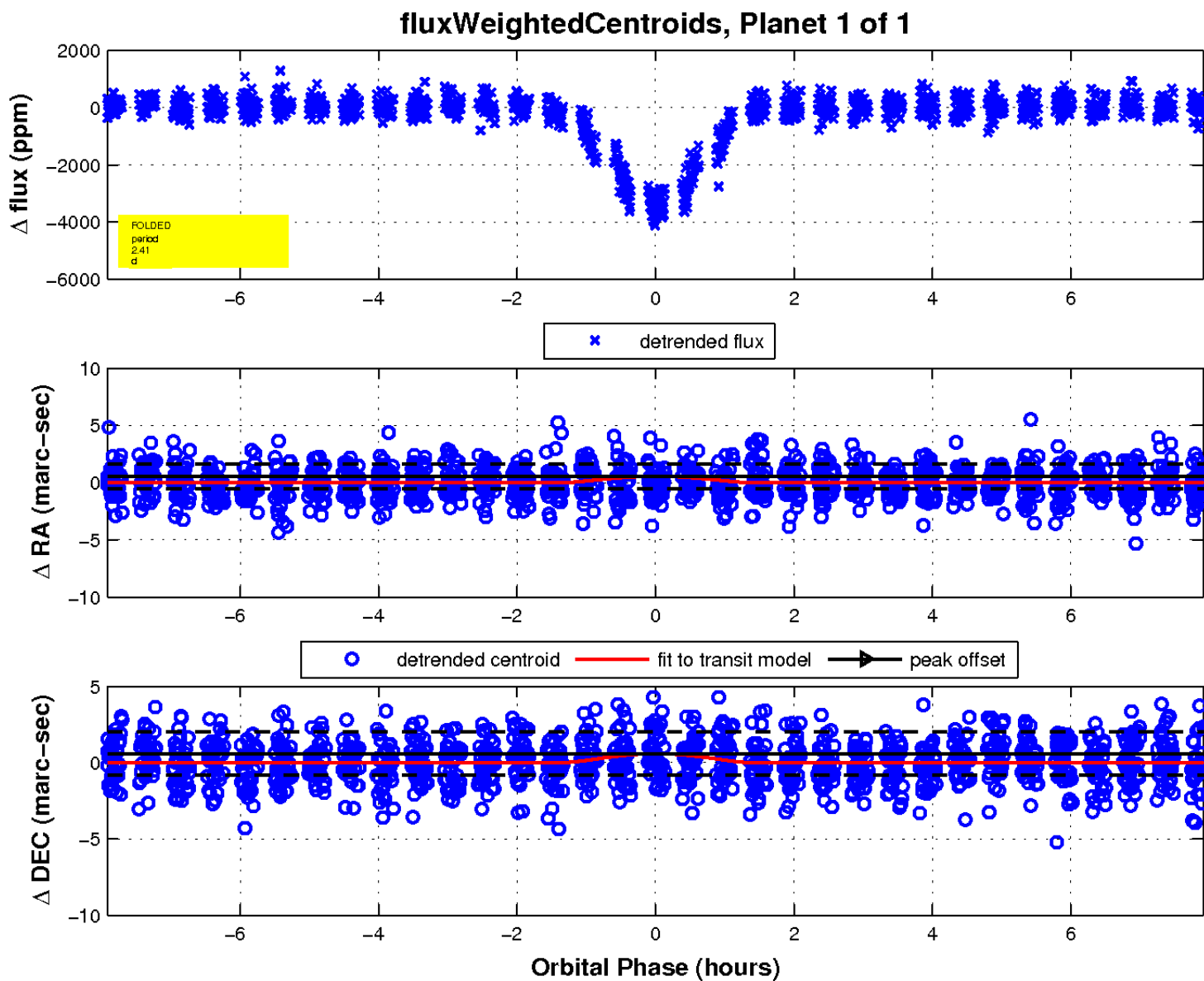
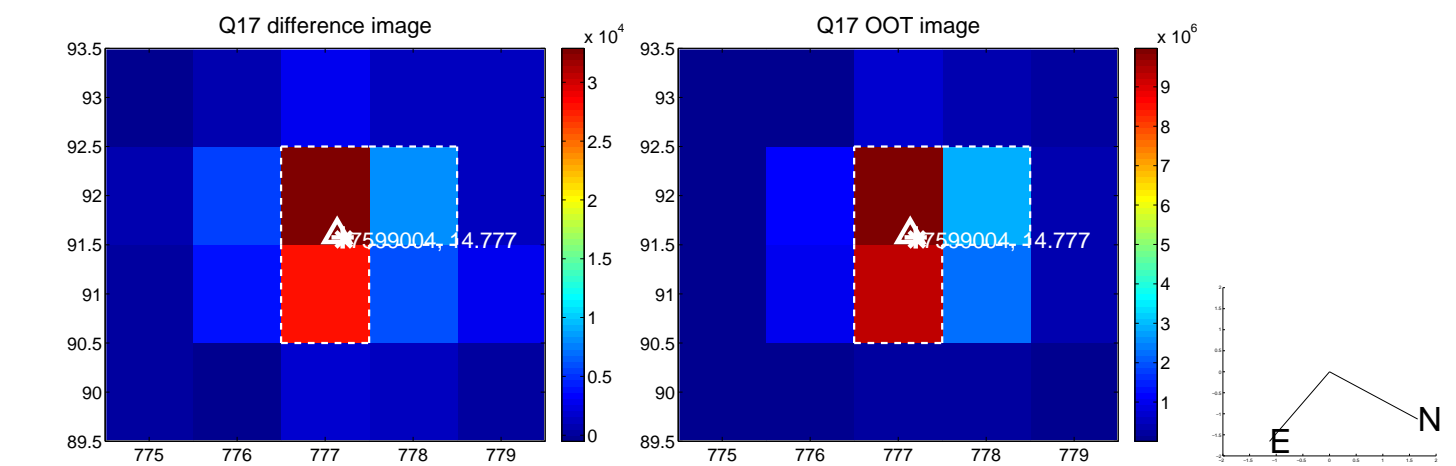
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UKIRT Image

Declination

