

KIC 009780149

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})
009780149-01	OBS	5713.01	2.516487	132.184532	191.4	1.120	8.6	9.9	1.30	5780	2.16	1350.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009780149-01	OBS	FP	0.13	1	0	0	0	MOD_NONUNIQ_ALT—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.

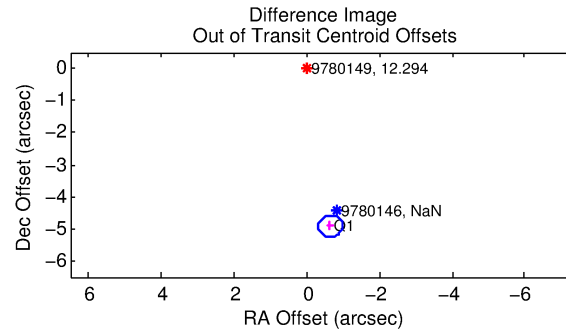
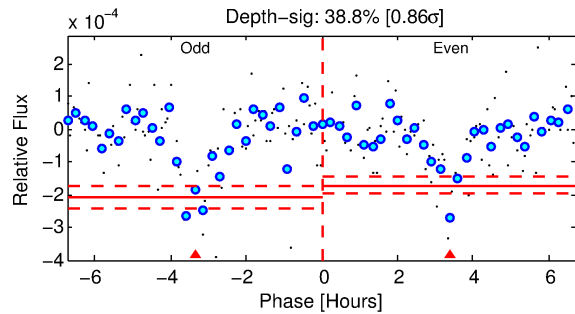
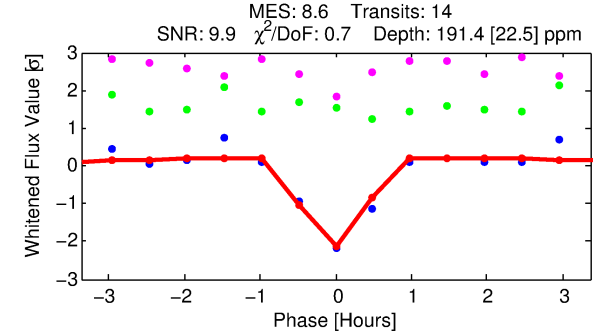
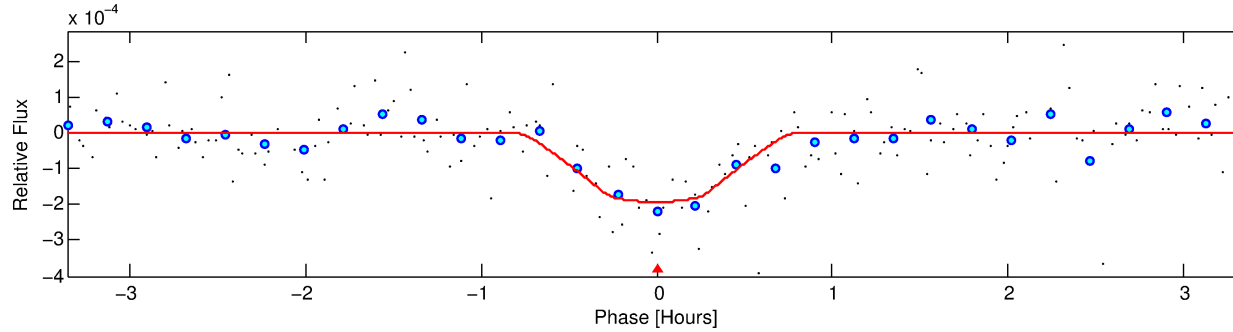
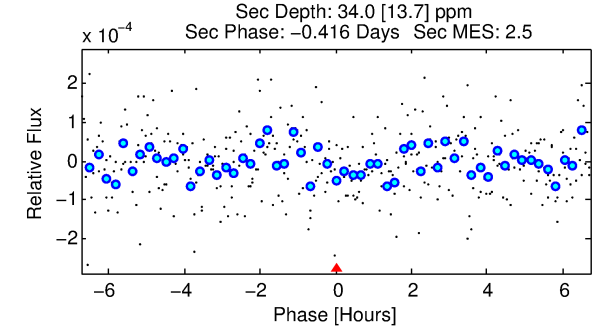
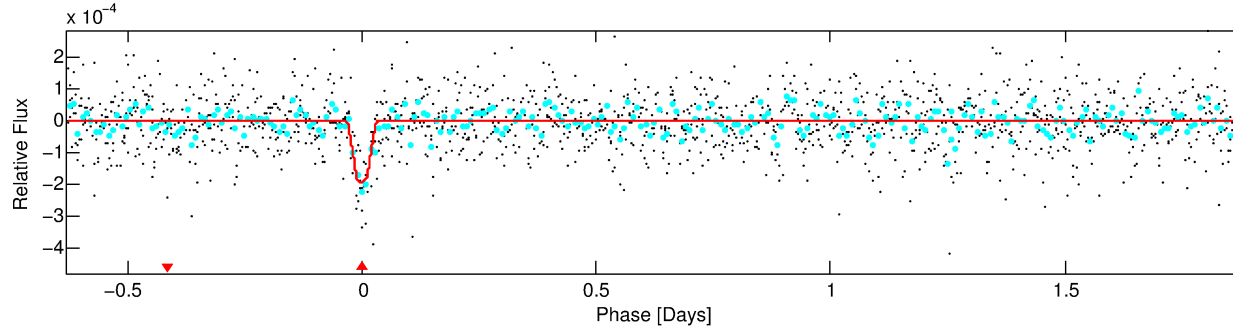
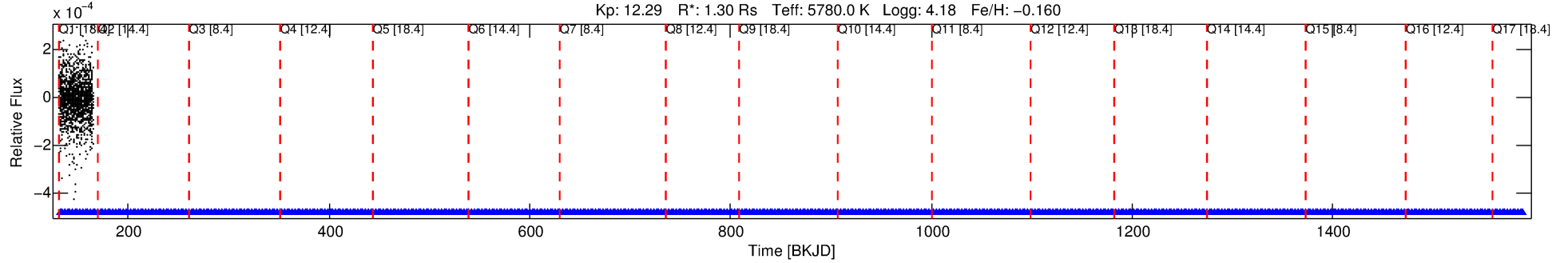
Ephemeris Match Information For 009780149-01

No Significant Match Found

DV One-Page Summary

KIC: 9780149 Candidate: 1 of 1 Period: 2.516 d
KOI: K05713 Corr: No Ephemeris Match

Kp: 12.29 R*: 1.30 Rs Teff: 5780.0 K Logg: 4.18 Fe/H: -0.160



DV Fit Results:

Period = 2.51649 [0.00039] d
Epoch = 132.1845 [0.0031] BKJD
Rp/R* = 0.0153 [0.0103]
a/R* = 7.82 [25.54]
b = 0.91 [0.65]
Seff = 1350.88 [708.08]
Teq = 1546 [203] K
Rp = 2.16 [1.58] Re
a = 0.0353 [0.0107] AU
Ag = 4.97 [7.42] [0.54σ]
Teff = 3569 [1258] K [1.59σ]

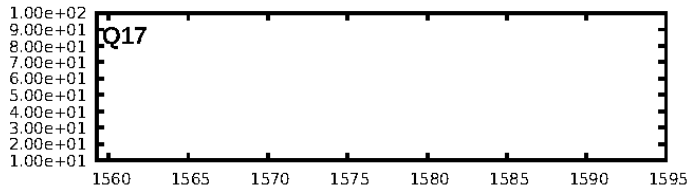
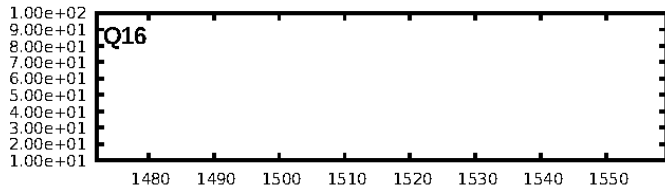
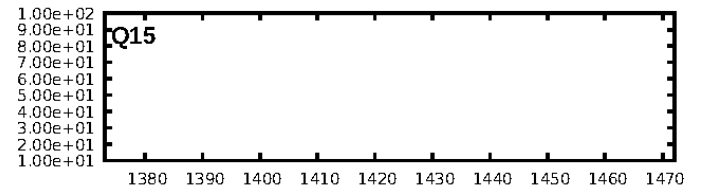
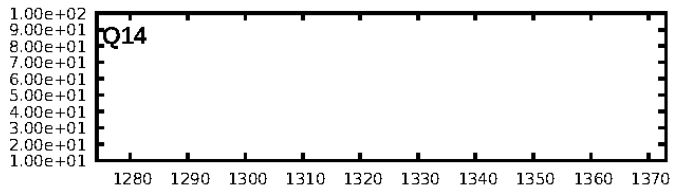
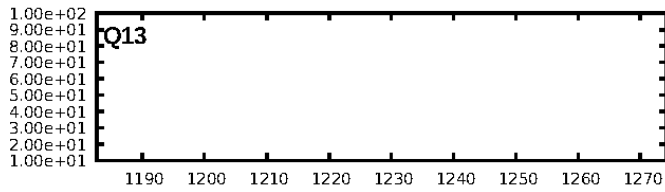
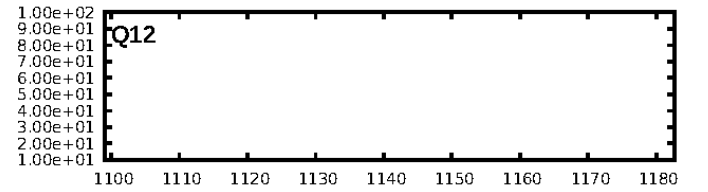
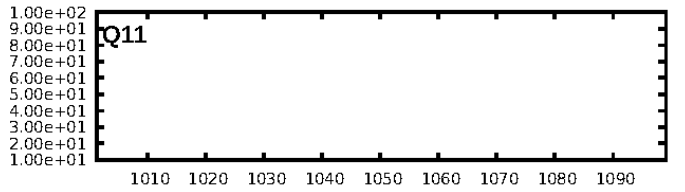
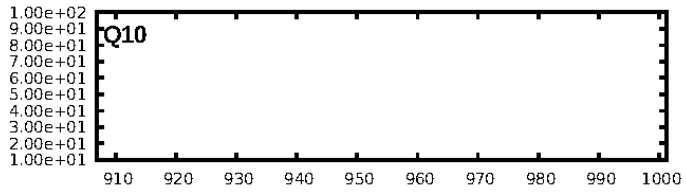
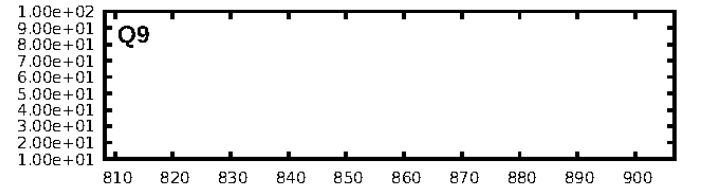
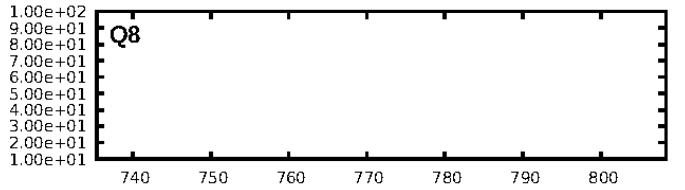
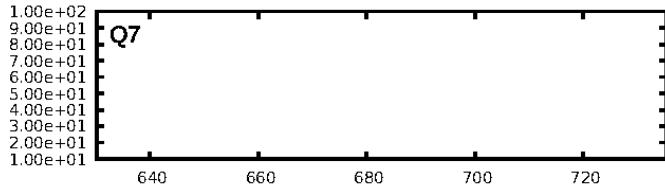
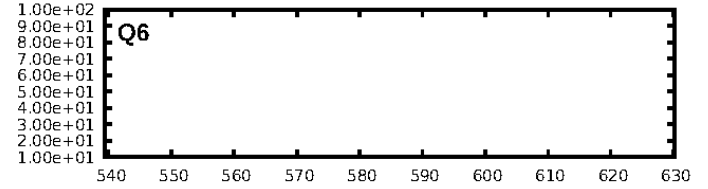
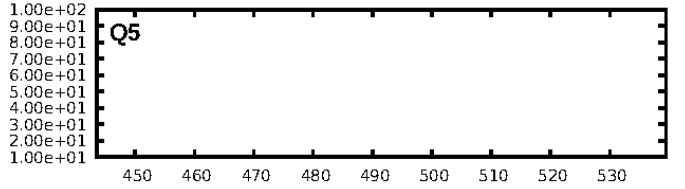
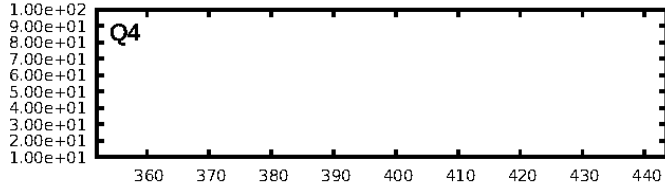
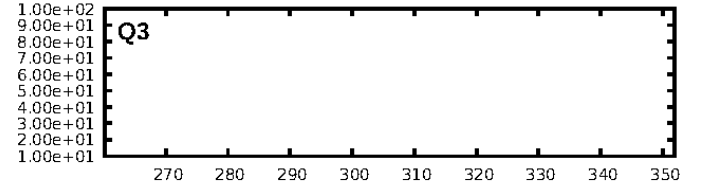
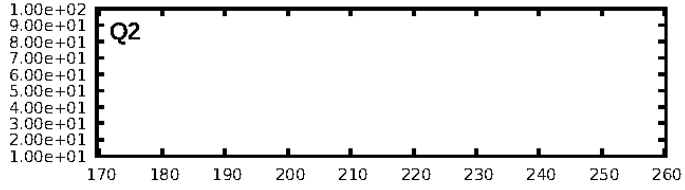
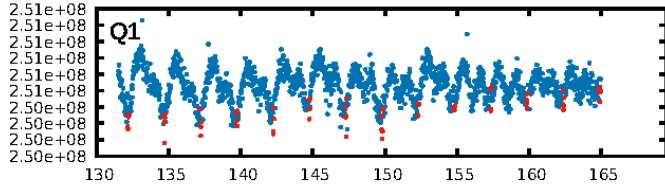
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 59.9%
ModelChiSquareGoF-sig: 99.5%
Bootstrap-pfa: 1.55e-18
RollingBand-fgt: N/A
GhostDiagnostic-chr: 0.4193
Centroid-sig: 0.0%
Centroid-so: 9.829 arcsec [7.72σ]
OotOffset-rm: 4.962 arcsec [44.44σ]
KicOffset-rm: 4.919 arcsec [44.09σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

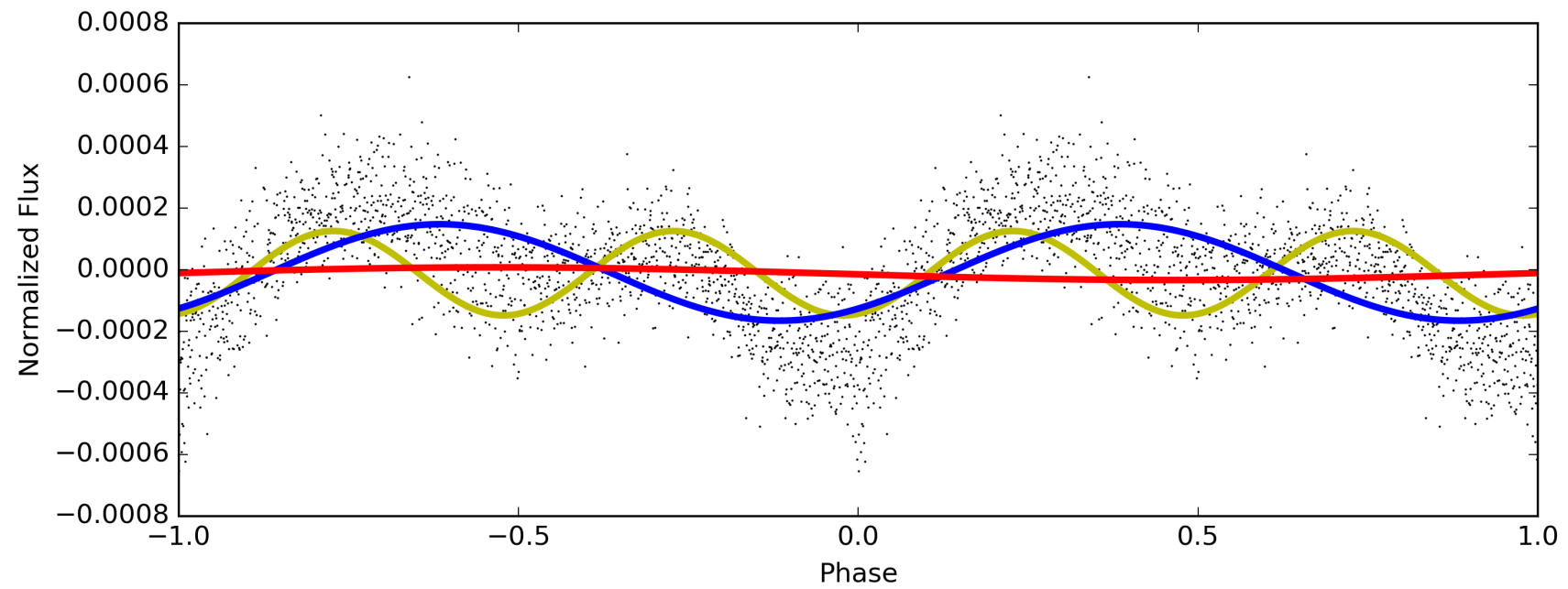
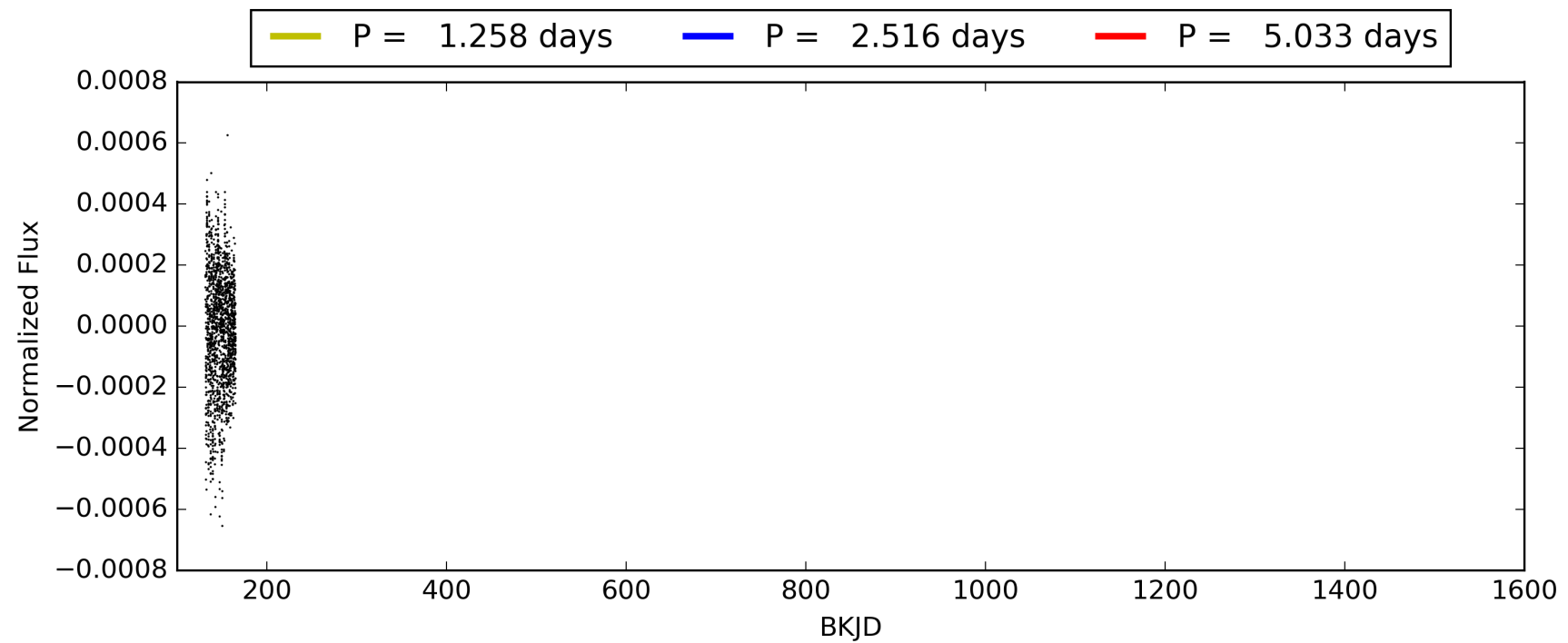
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009780149-01, PDC Light Curves

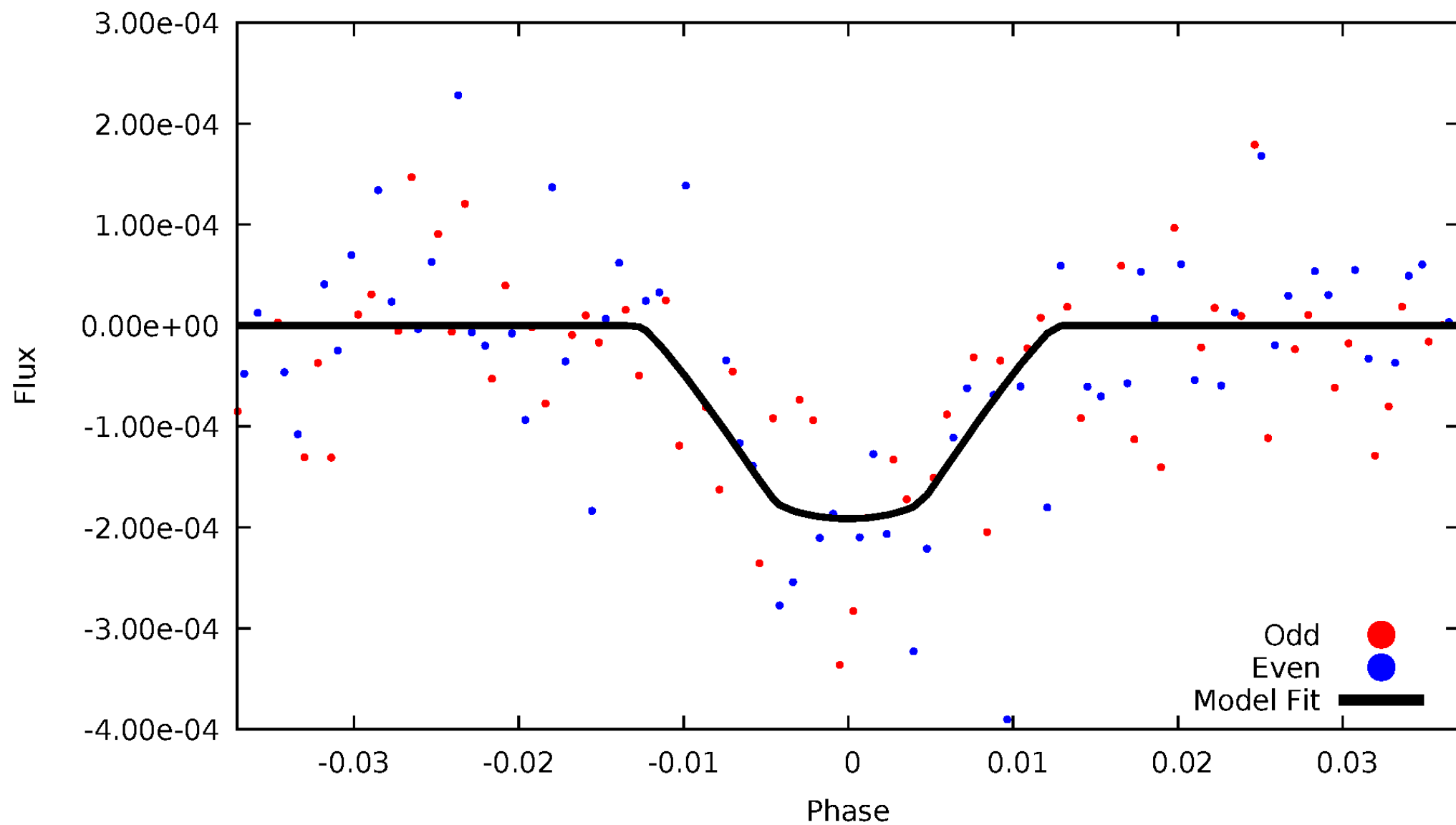


TCE 009780149-01



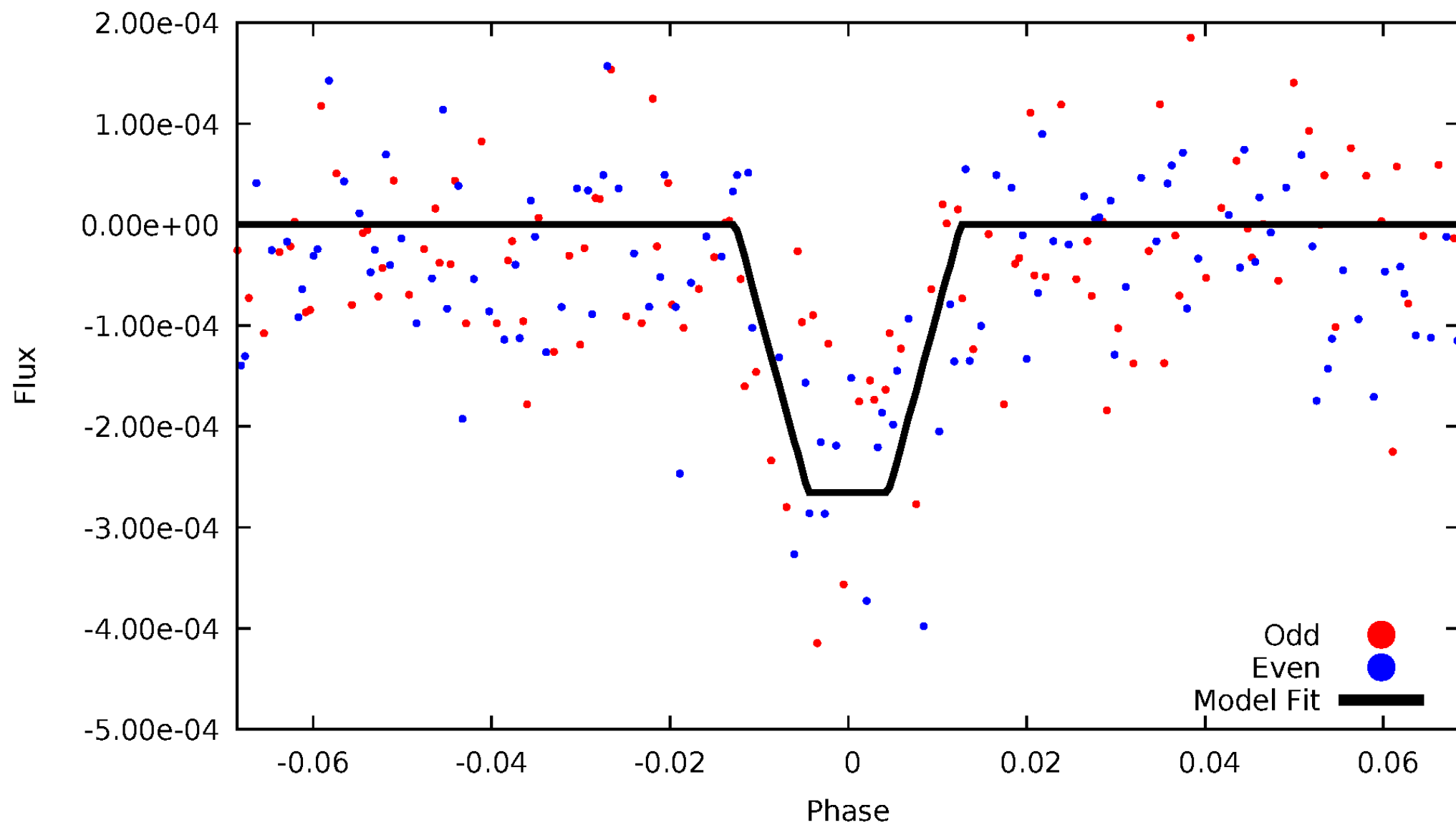
DV Odd/Even

TCE 009780149-01



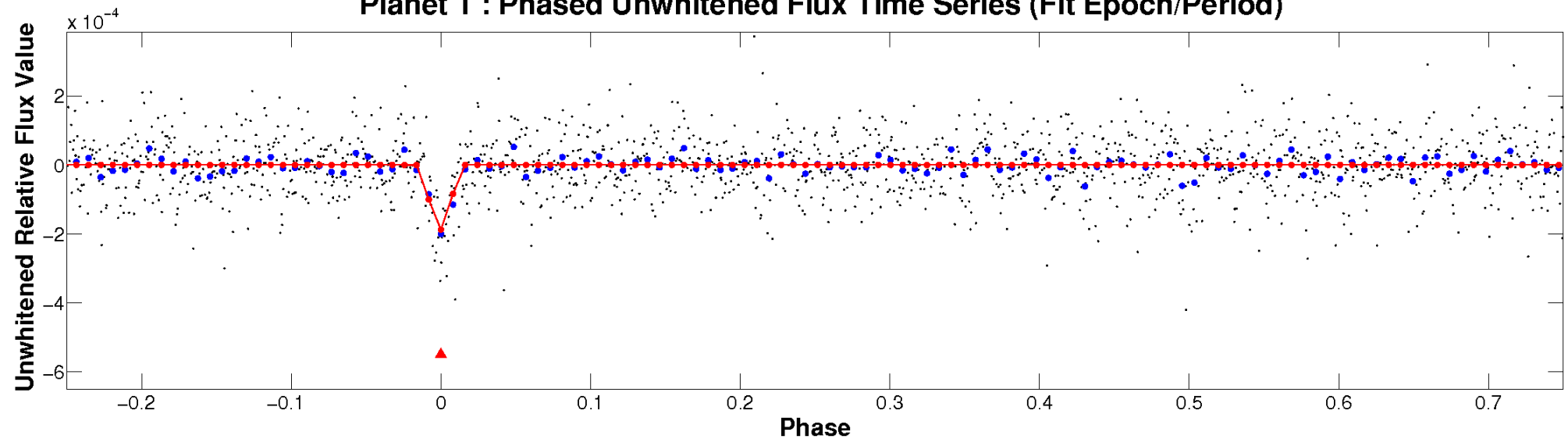
ALT Odd/Even

TCE 009780149-01

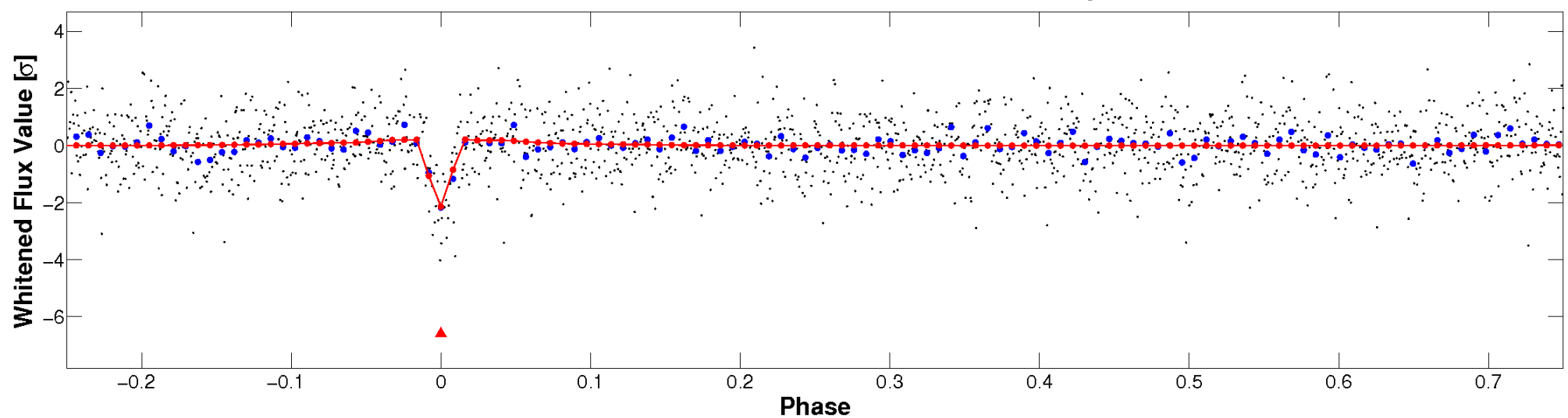


Non-Whitened Vs. Whitened Light Curve

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

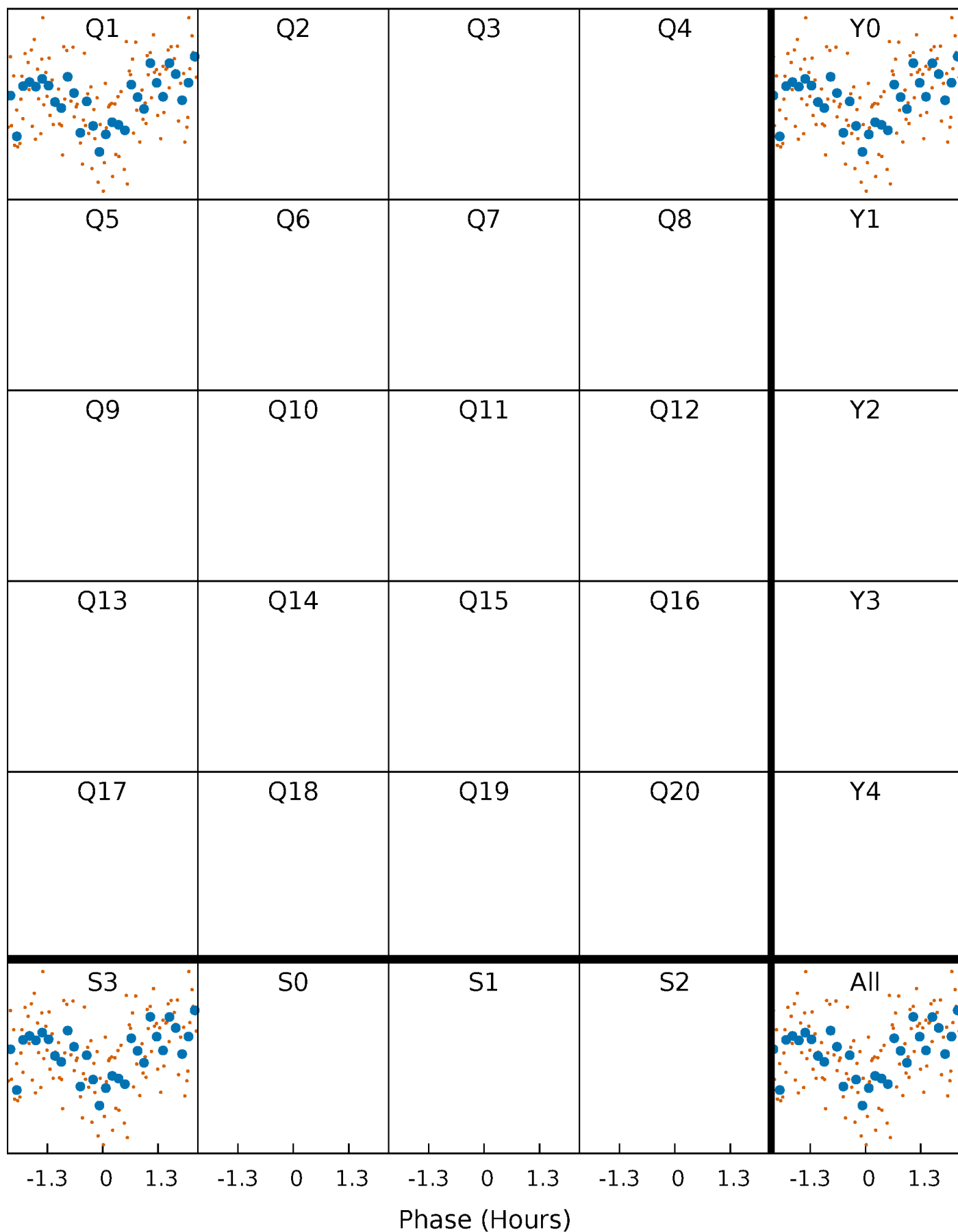


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



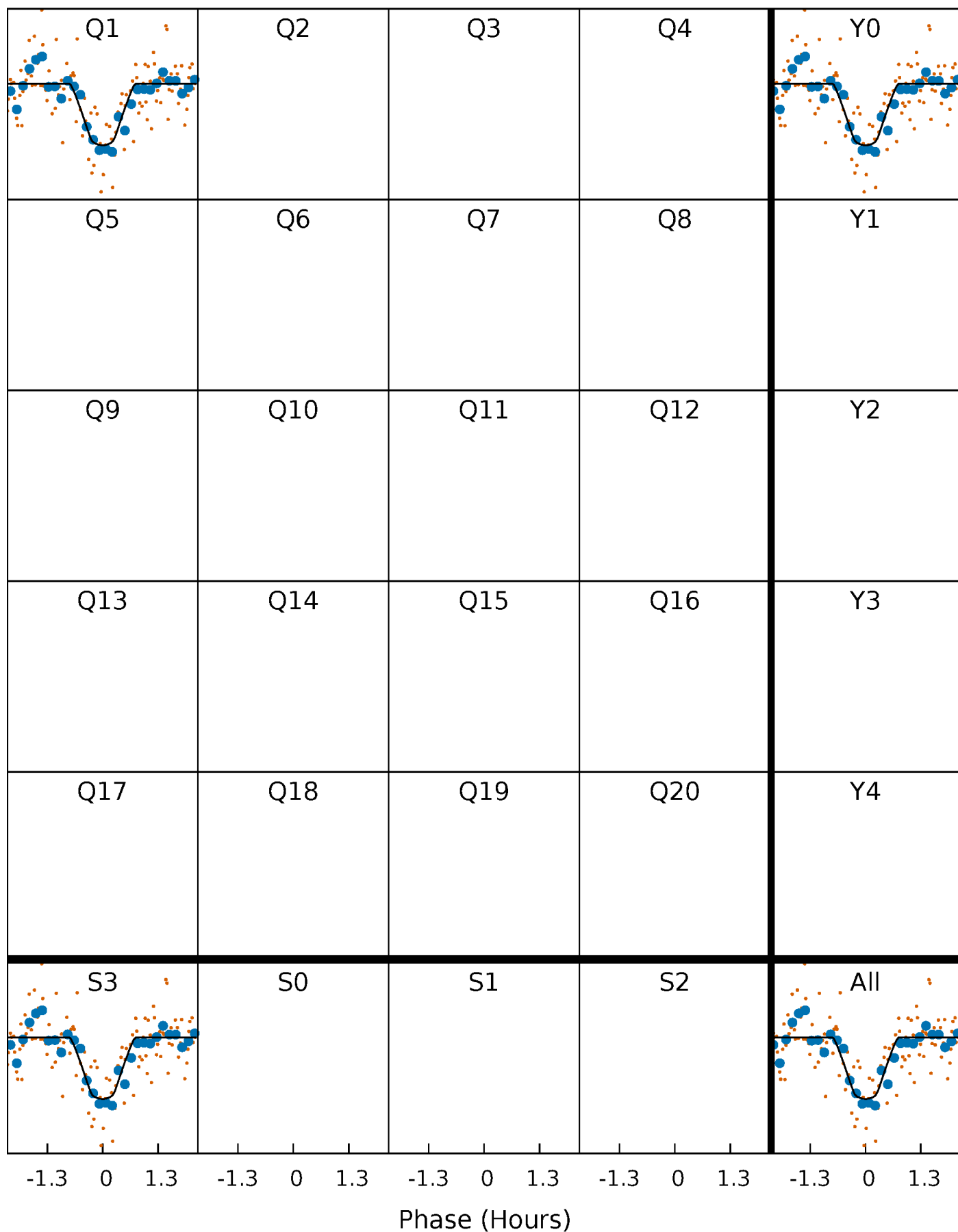
PDC Quarter-Phased Transit Curves

TCE 009780149-01 P= 2.516487 Days $T_0=132.184532$ (BKJD)



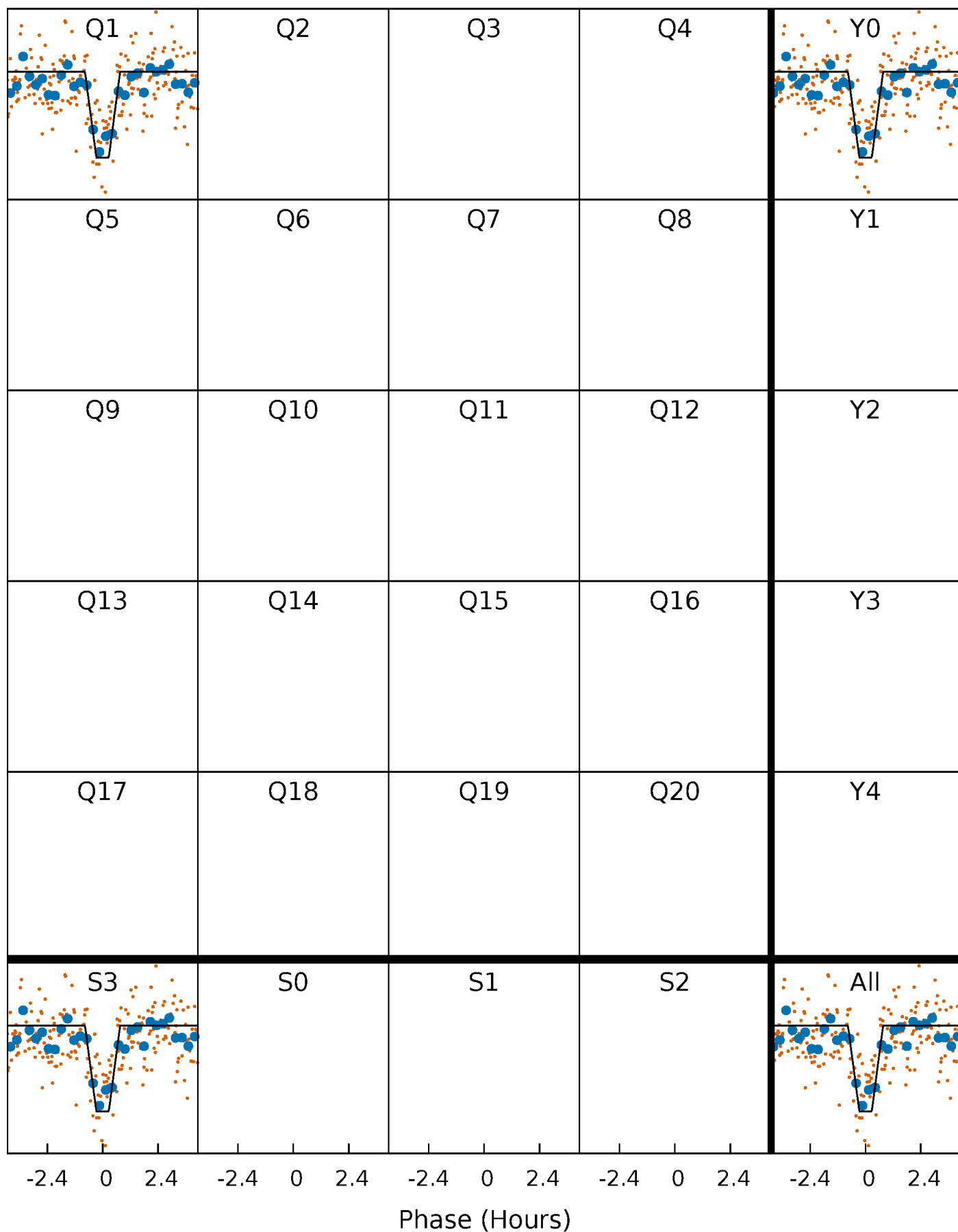
DV Quarter-Phased Transit Curves

TCE 009780149-01 P= 2.516487 Days $T_0=132.184532$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

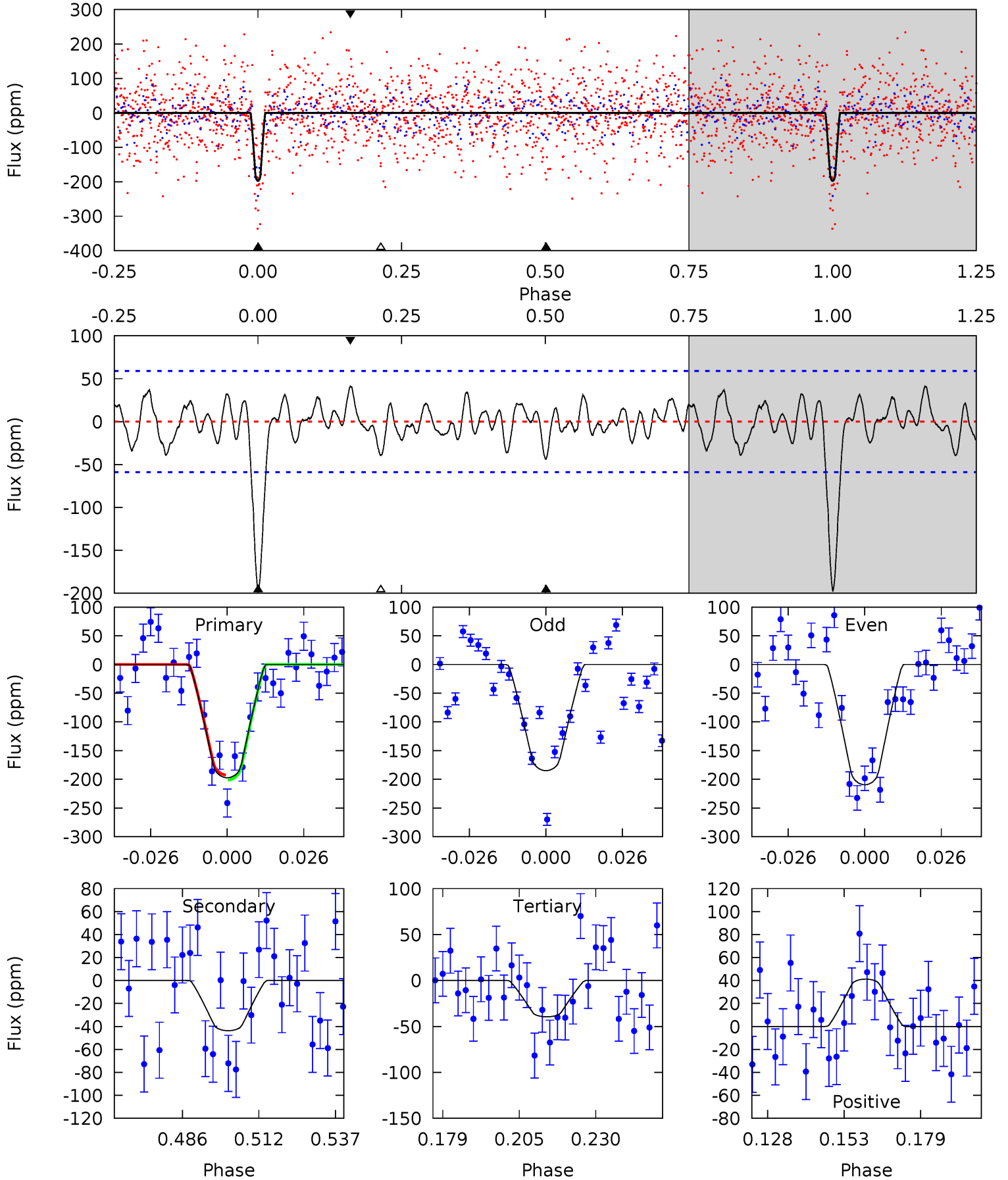
TCE 009780149-01 P= 2.515585 Days $T_0=132.192918$ (BKJD)



DV Model-Shift Uniqueness Test

009780149-01, P = 2.516487 Days, E = 129.668045 Days

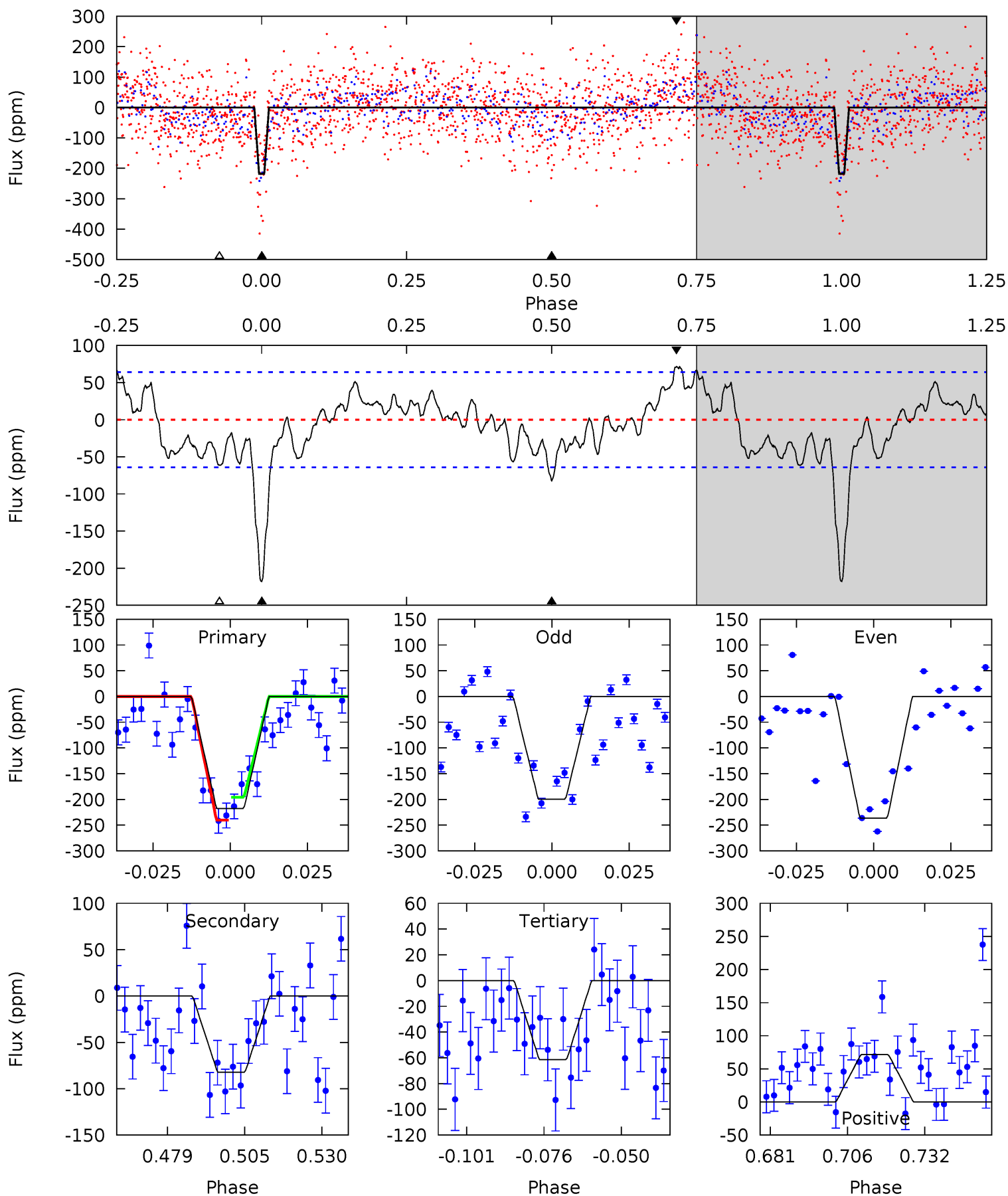
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	3.59	3.25	3.39	4.84	2.23	1.34	13.0	12.8	0.34	0.21	1.04	1.07	0.17	0.37



Alt Model-Shift Uniqueness Test

009780149-01, P = 2.515585 Days, E = 129.677333 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	6.22	4.64	5.41	4.85	2.24	2.36	11.8	11.0	1.58	0.81	1.42	1.02	0.25	1.70



Stellar Parameters For KIC 009780149

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+172}_{-190}	$4.178^{+0.306}_{-0.165}$	$-0.160^{+0.300}_{-0.300}$	$1.296^{+0.373}_{-0.373}$	$0.924^{+0.134}_{-0.100}$	$0.597^{+1.165}_{-0.288}$
	+3%/-3%	+7%/-4%	+188%/-188%	+29%/-29%	+15%/-11%	+195%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009780149-01 / KOI 5713.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-44 ± 12	$2.25^{+1.42}_{-1.28}$	2123^{+172}_{-188}	3953^{+1528}_{-682}	$6.163^{+24.788}_{-4.148}$
Alt.	-82 ± 13	$2.41^{+1.43}_{-1.33}$	2159^{+149}_{-193}	4361^{+1856}_{-694}	$9.956^{+39.329}_{-6.200}$

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 $A_{\text{obs}} \gg 1.0$

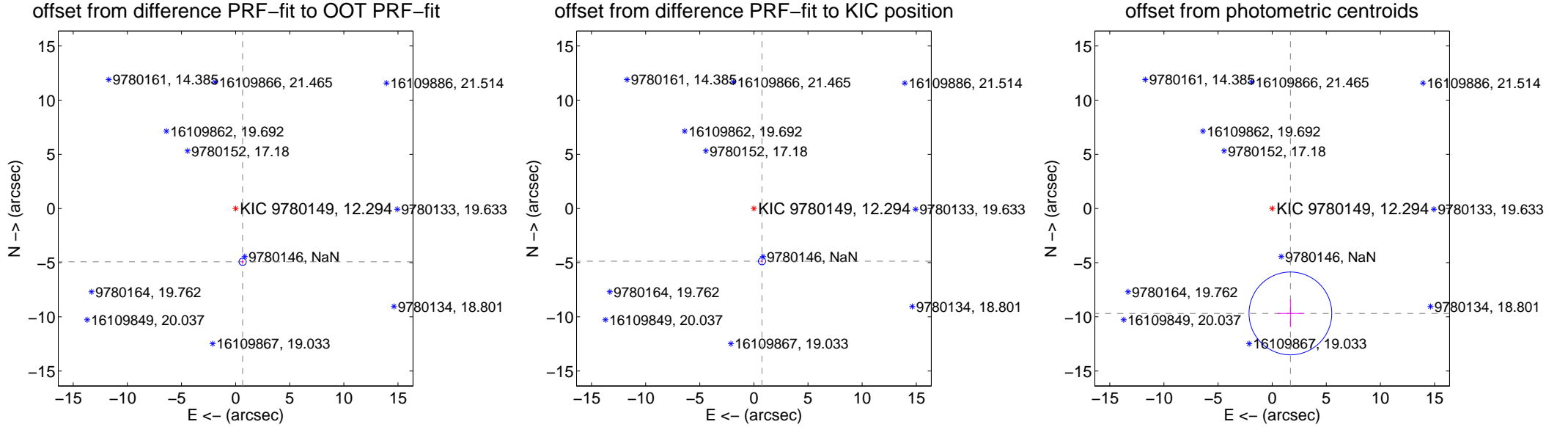
DV Centroid Data

Supplemental centroid analysis for 009780149-01. Kepler magnitude: 12.29. Transit SNR 9.90

There are 0 quarters with good PRF difference image offsets

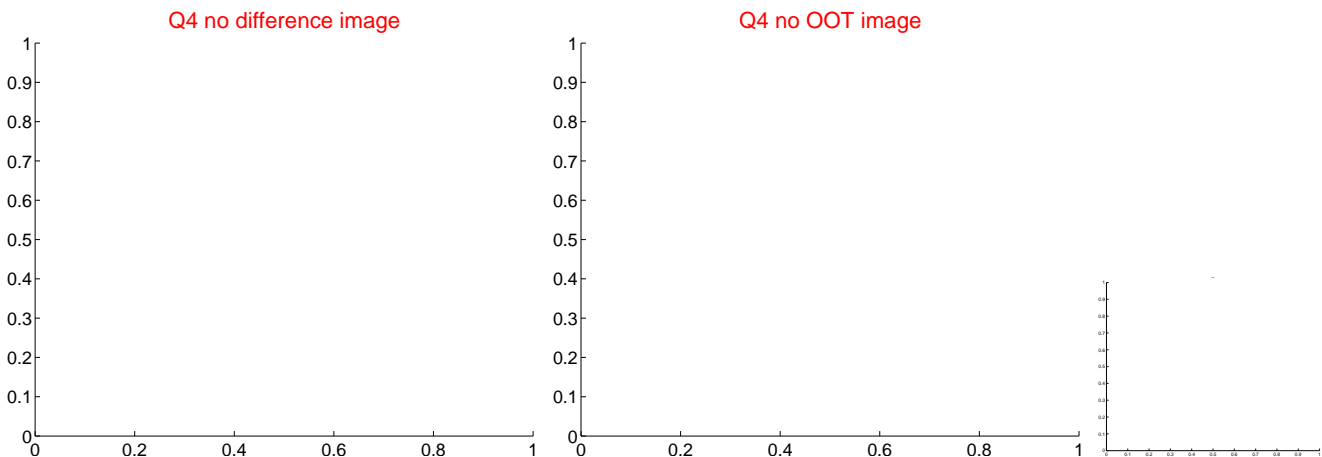
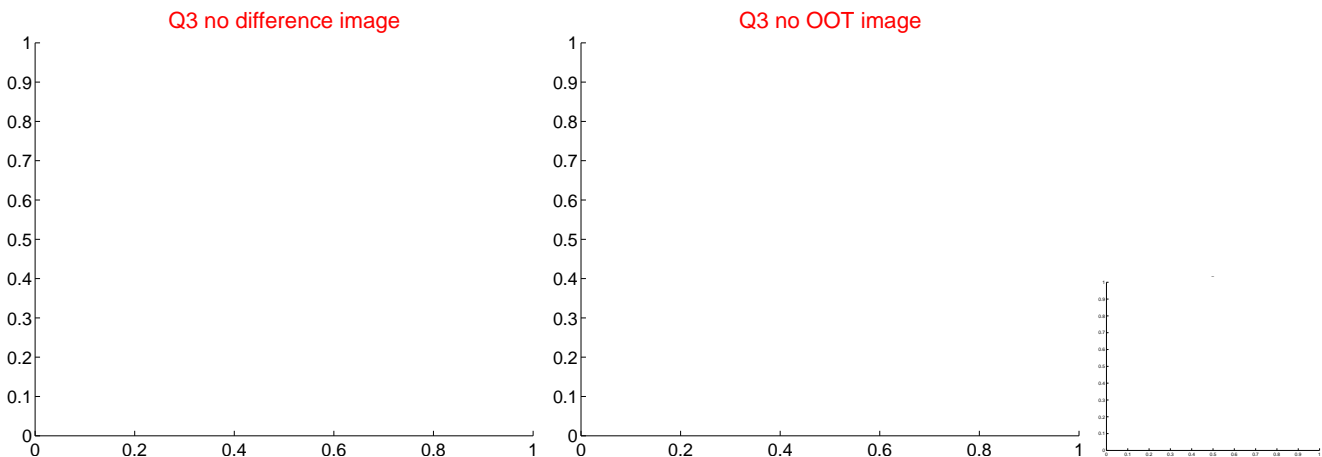
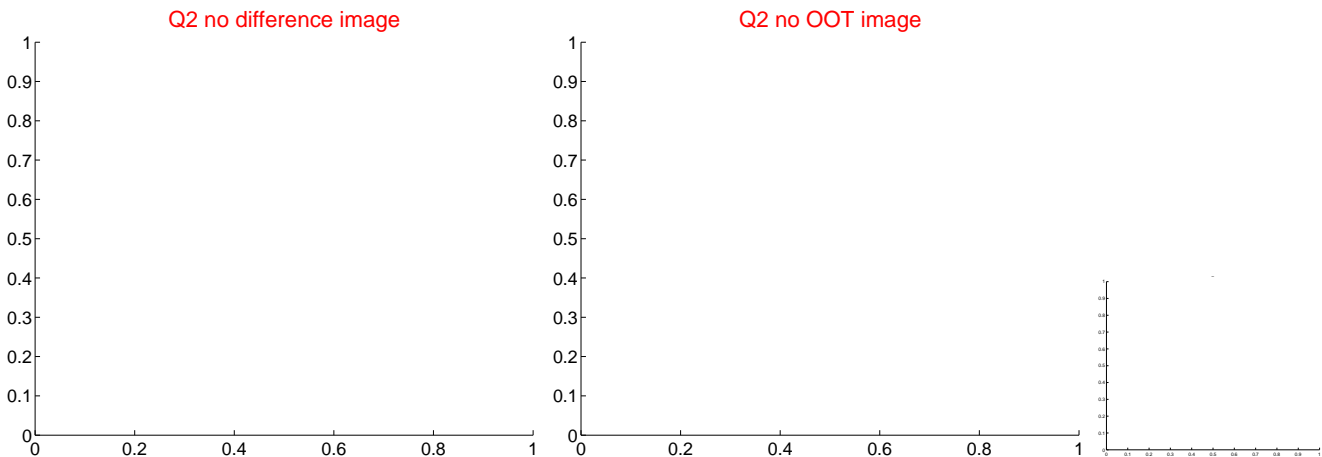
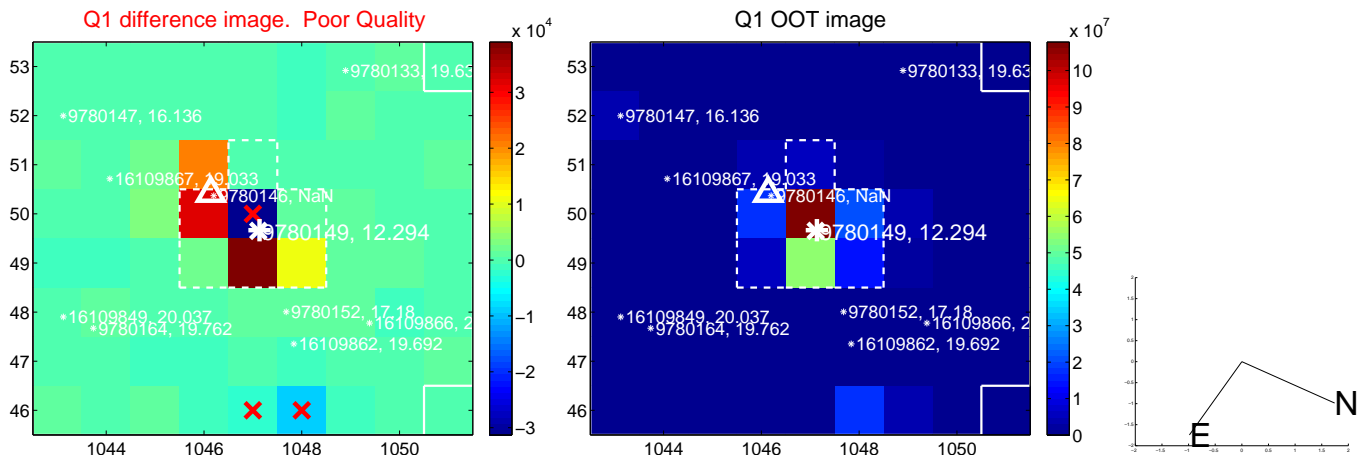
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.962 ± 0.112	44.44	-0.649 ± 0.093	-4.919 ± 0.112
PRF-fit source offset from KIC position	4.919 ± 0.112	44.09	-0.747 ± 0.093	-4.862 ± 0.112
photometric centroid source offset	9.83 ± 1.27	7.72	-1.68 ± 1.20	-9.68 ± 1.28



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.



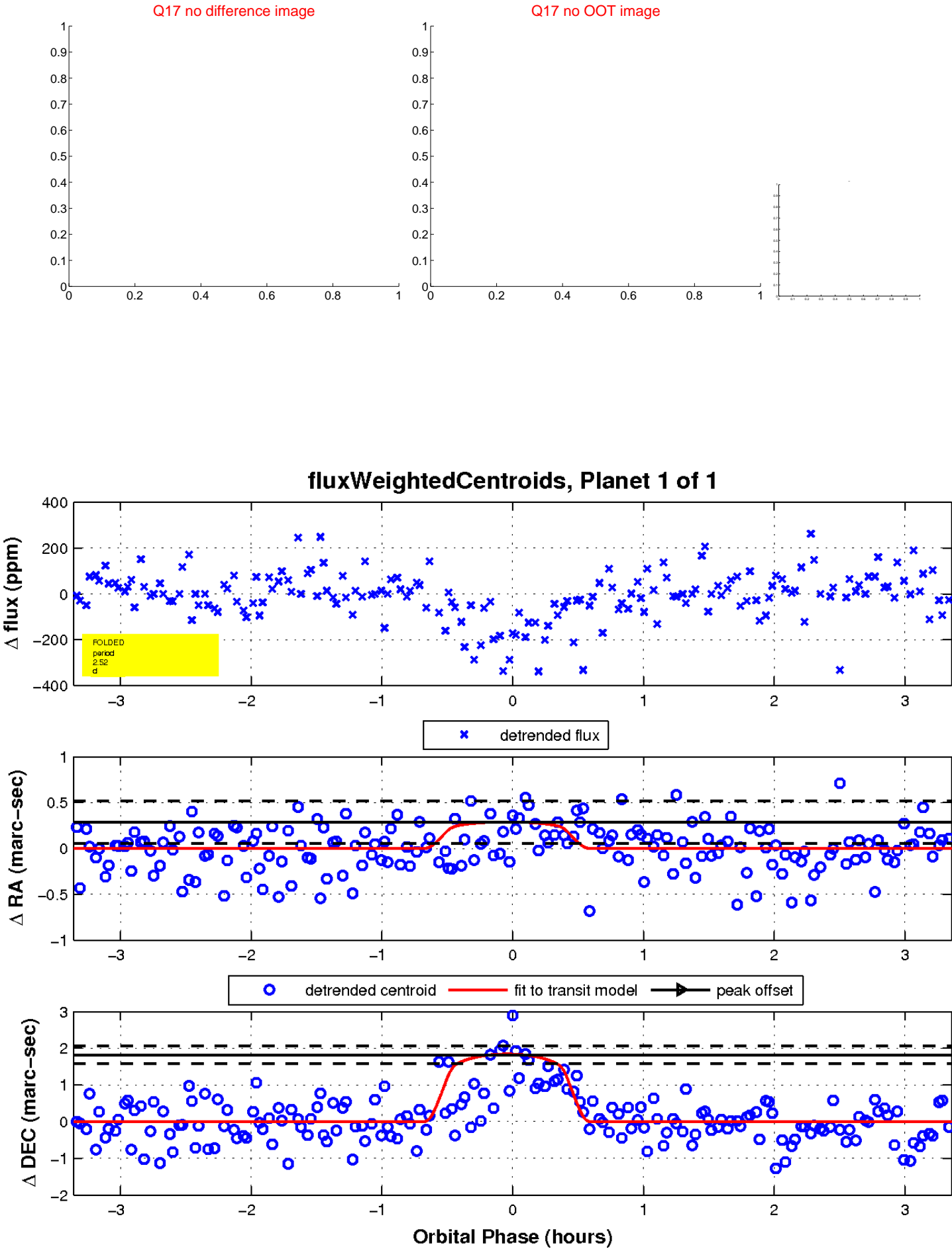
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

