

KIC 009101271

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
009101271-01	OBS	7926.01	29.365522	135.078712	74752.4	8.761	807.6	975.9	1.20	6167	49.85	52.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009101271-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_ZUMA—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.

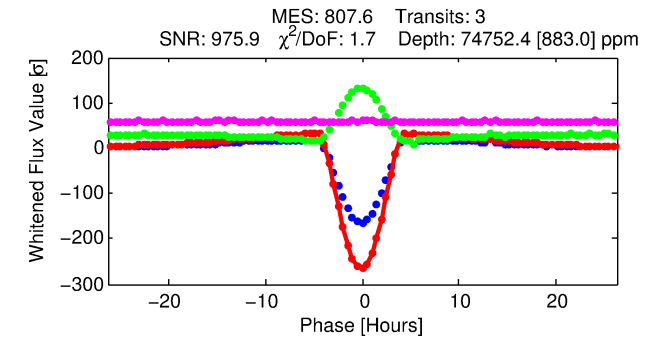
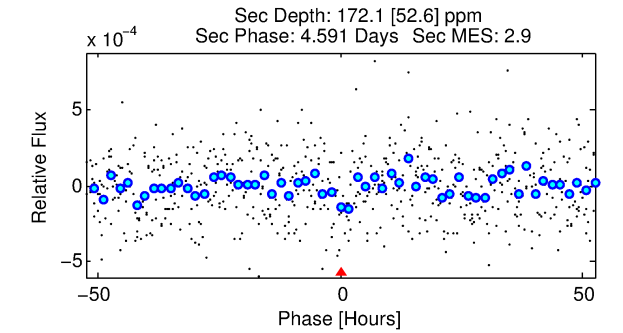
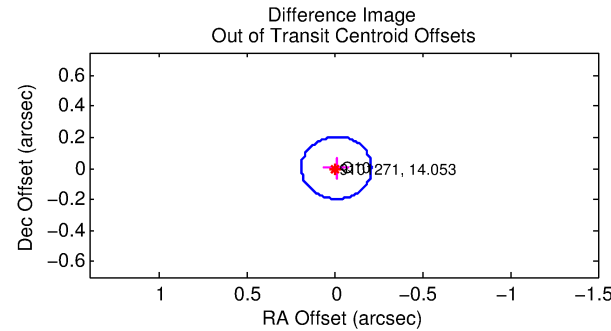
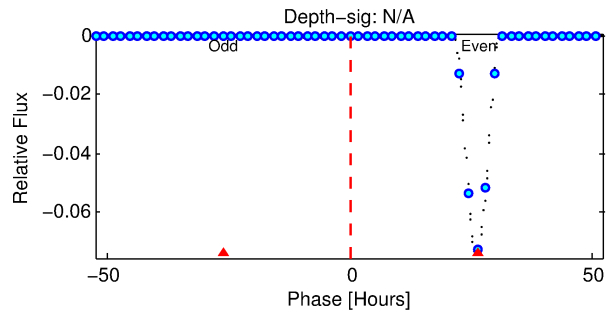
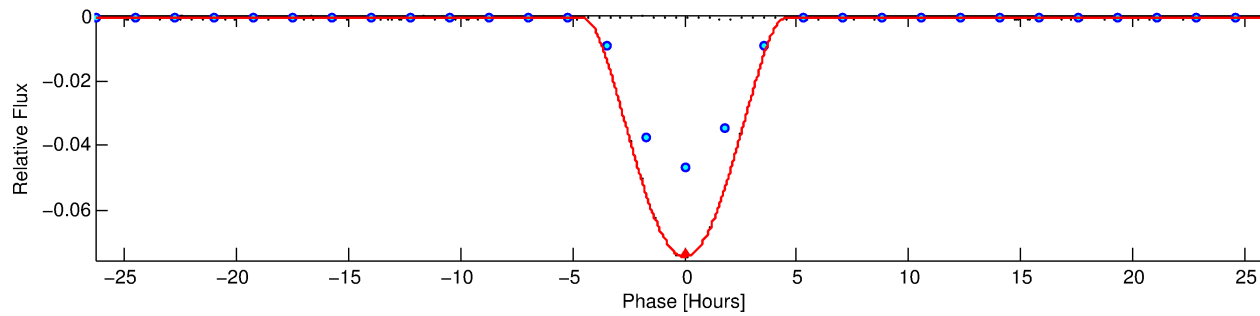
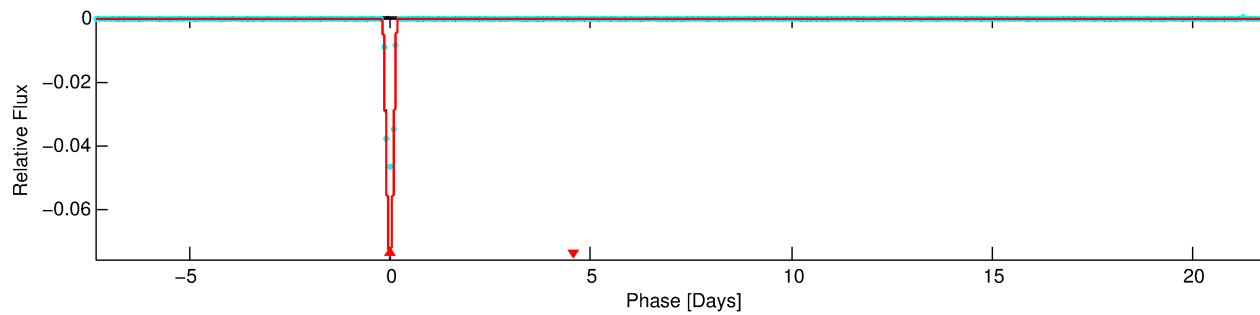
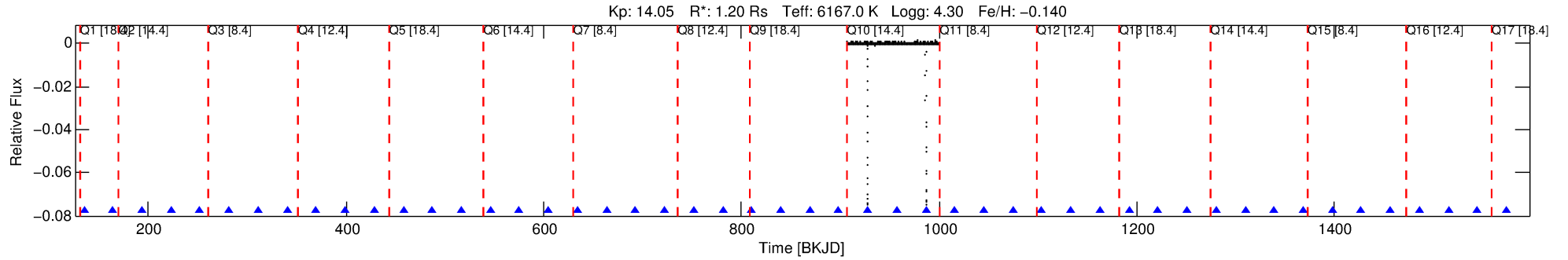
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009101271-01

No Significant Match Found

DV One-Page Summary

KIC: 9101271 Candidate: 1 of 1 Period: 29.366 d



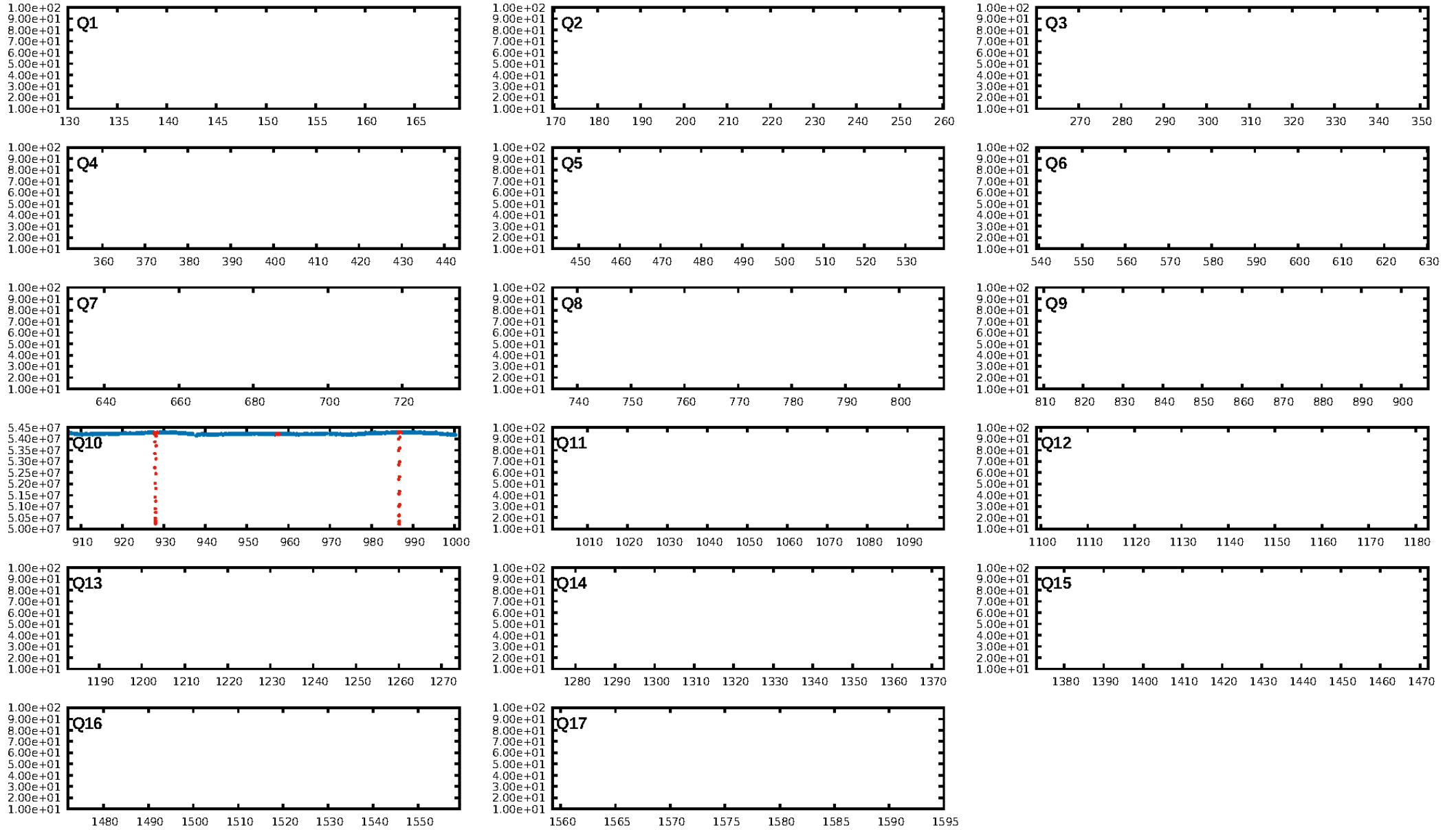
DV Fit Results:

Period = 29.36552 [0.00113] d
Epoch = 135.0787 [0.0318] BKJD
Rp/R* = 0.3823 [0.2975]
a/R* = 25.98 [0.31]
b = 0.94 [0.43]
Seff = 52.04 [20.62]
Teff = 685 [68] K
Rp = 49.85 [41.64] Re
a = 0.1886 [0.0477] AU
Ag = 1.35 [2.20] [0.16 σ]
Teffp = 1142 [455] K [0.99 σ]

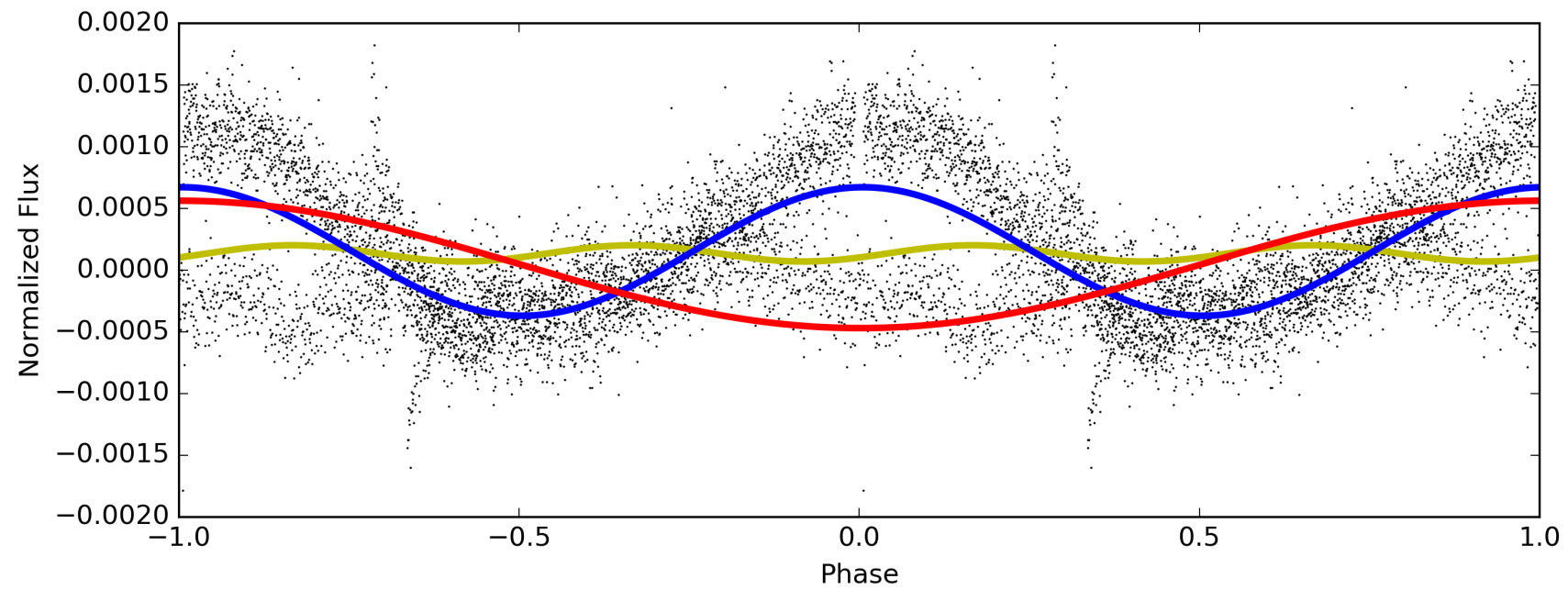
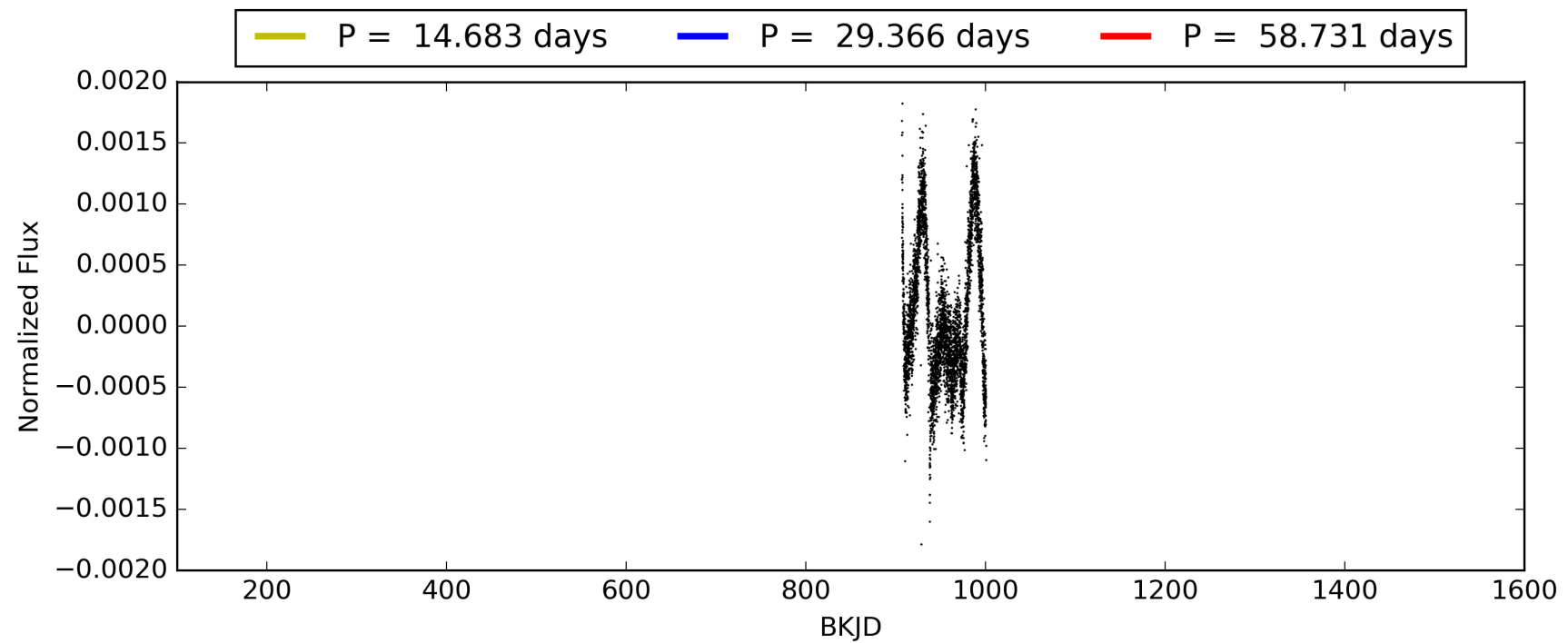
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 38.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 10.31
Centroid-sig: 0.1%
Centroid-so: 0.230 arcsec [17.09 σ]
OotOffset-rm: 0.010 arcsec [0.16 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-rm: 0.272 arcsec [4.08 σ]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

TCE 009101271-01, PDC Light Curves

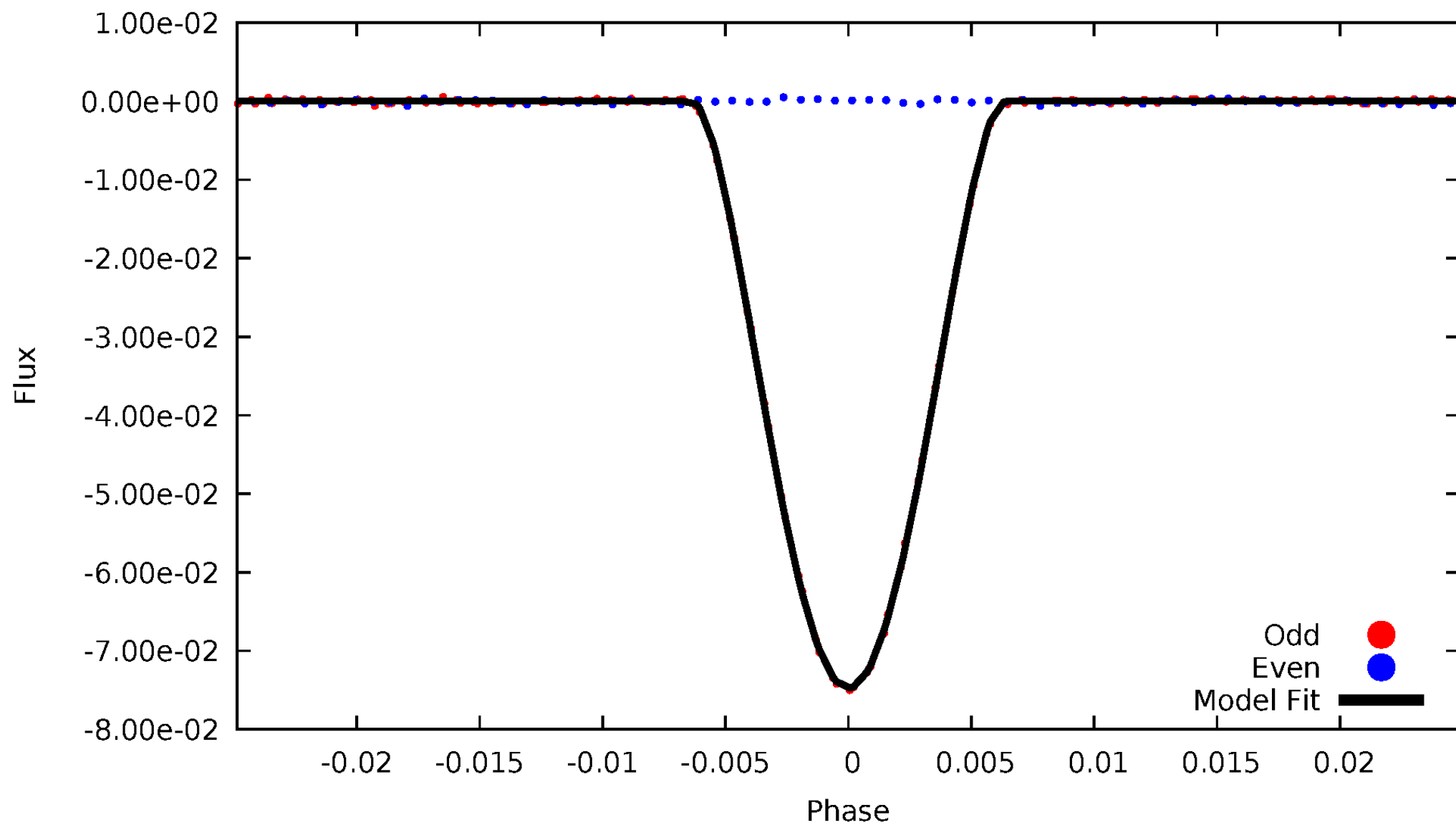


TCE 009101271-01



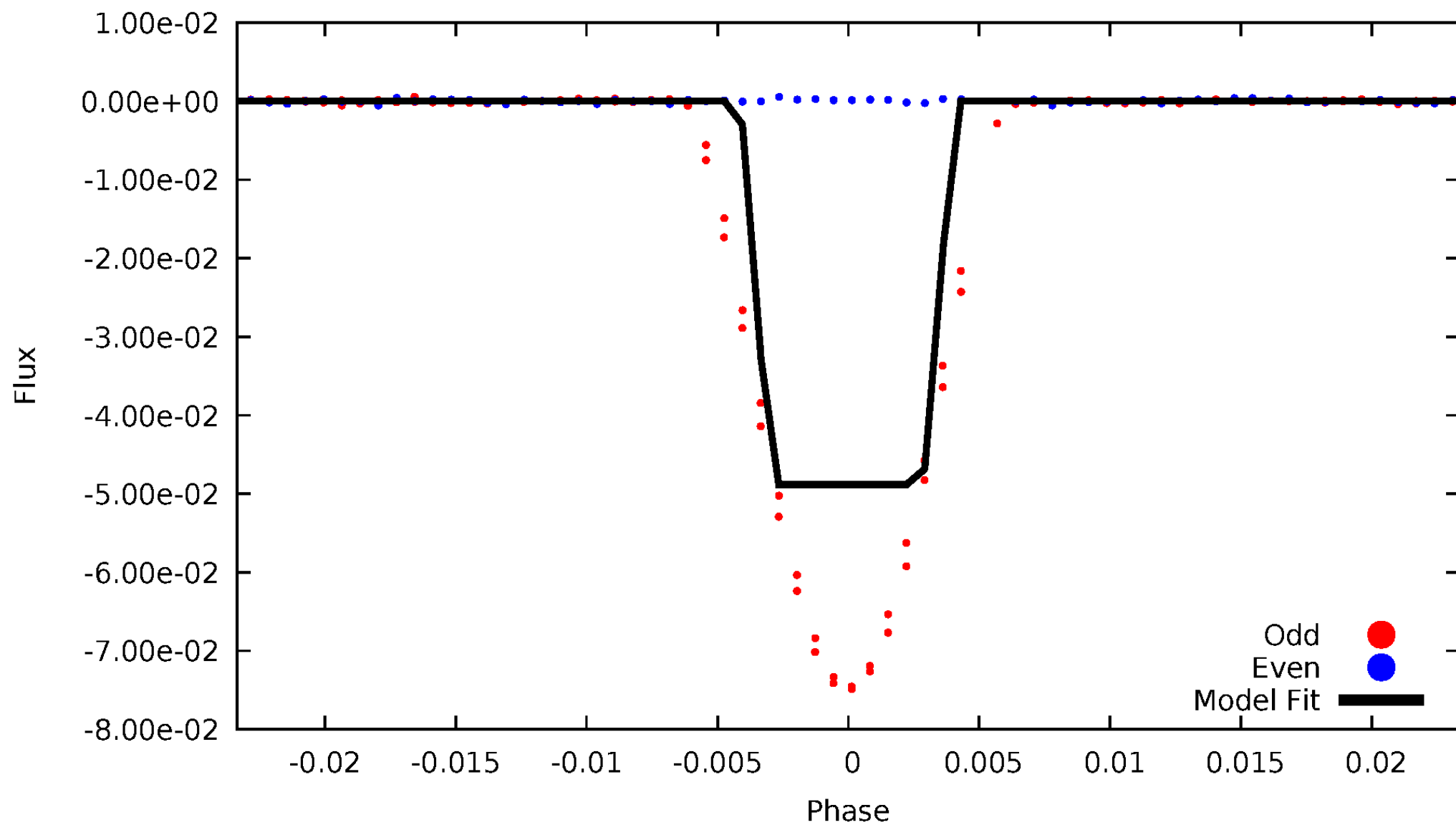
DV Odd/Even

TCE 009101271-01



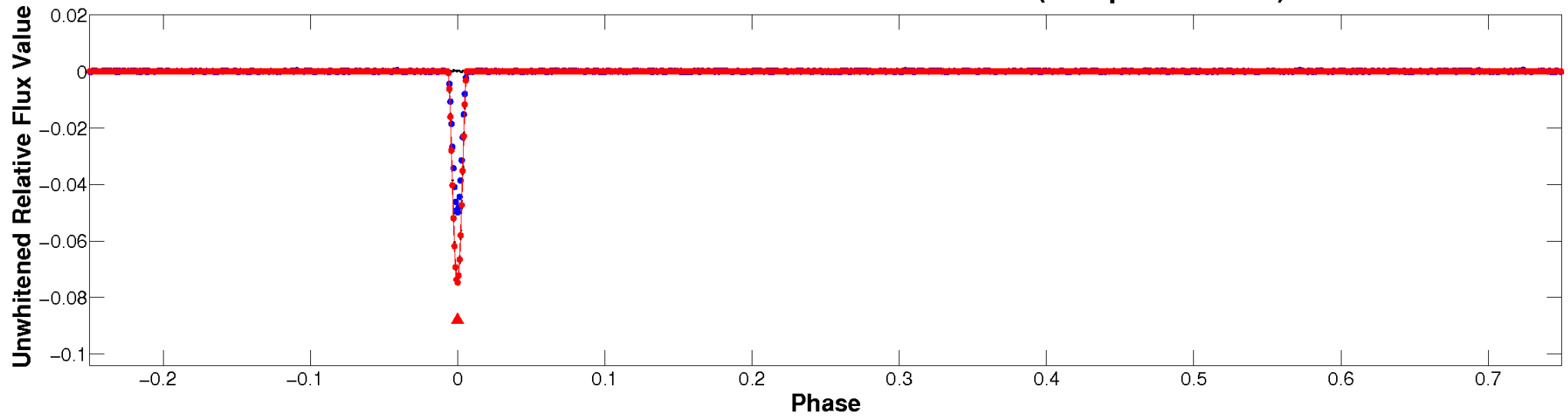
ALT Odd/Even

TCE 009101271-01

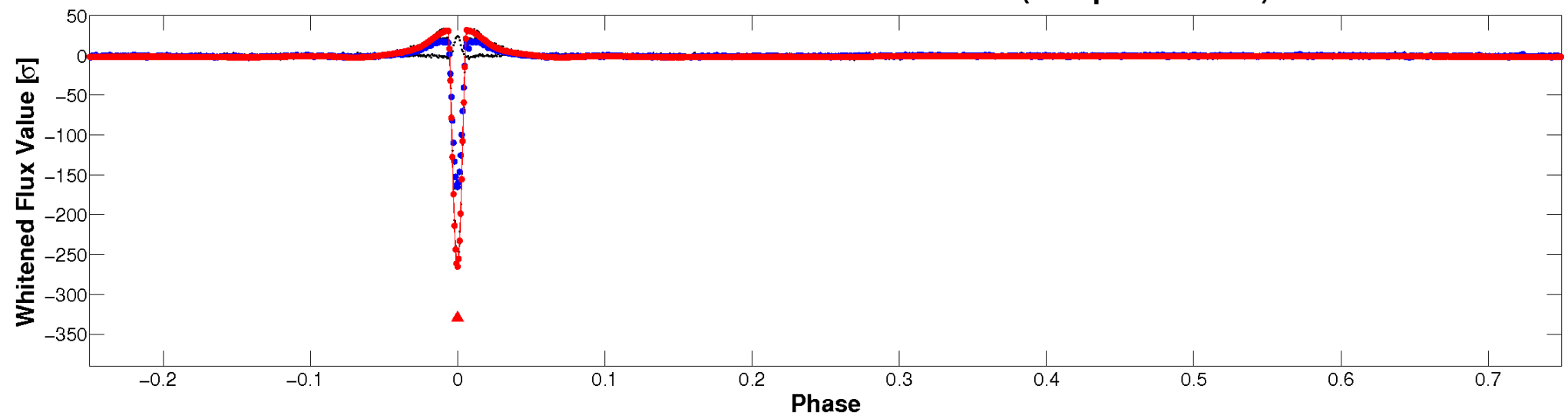


Non-Whitened Vs. Whitened Light Curve

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

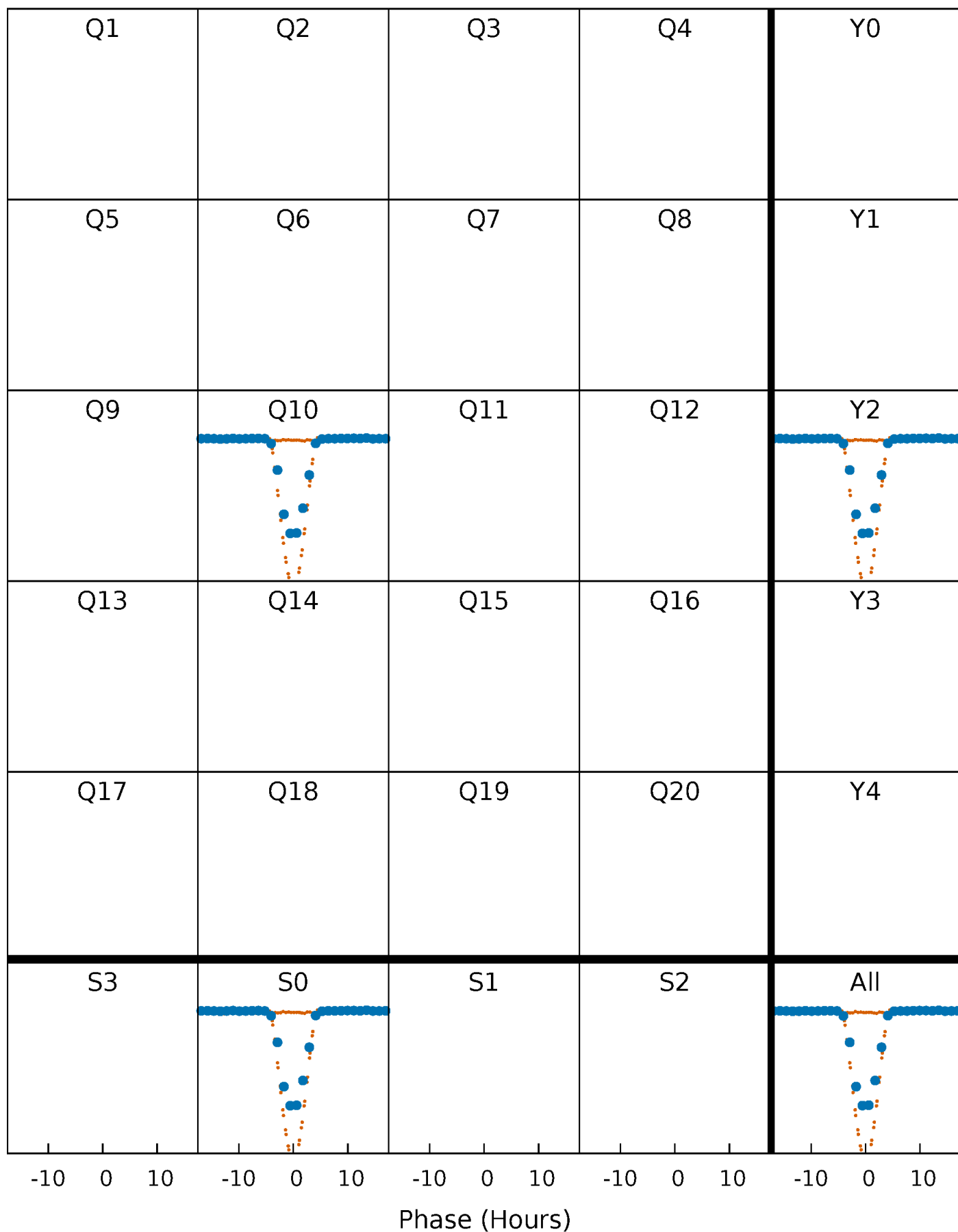


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



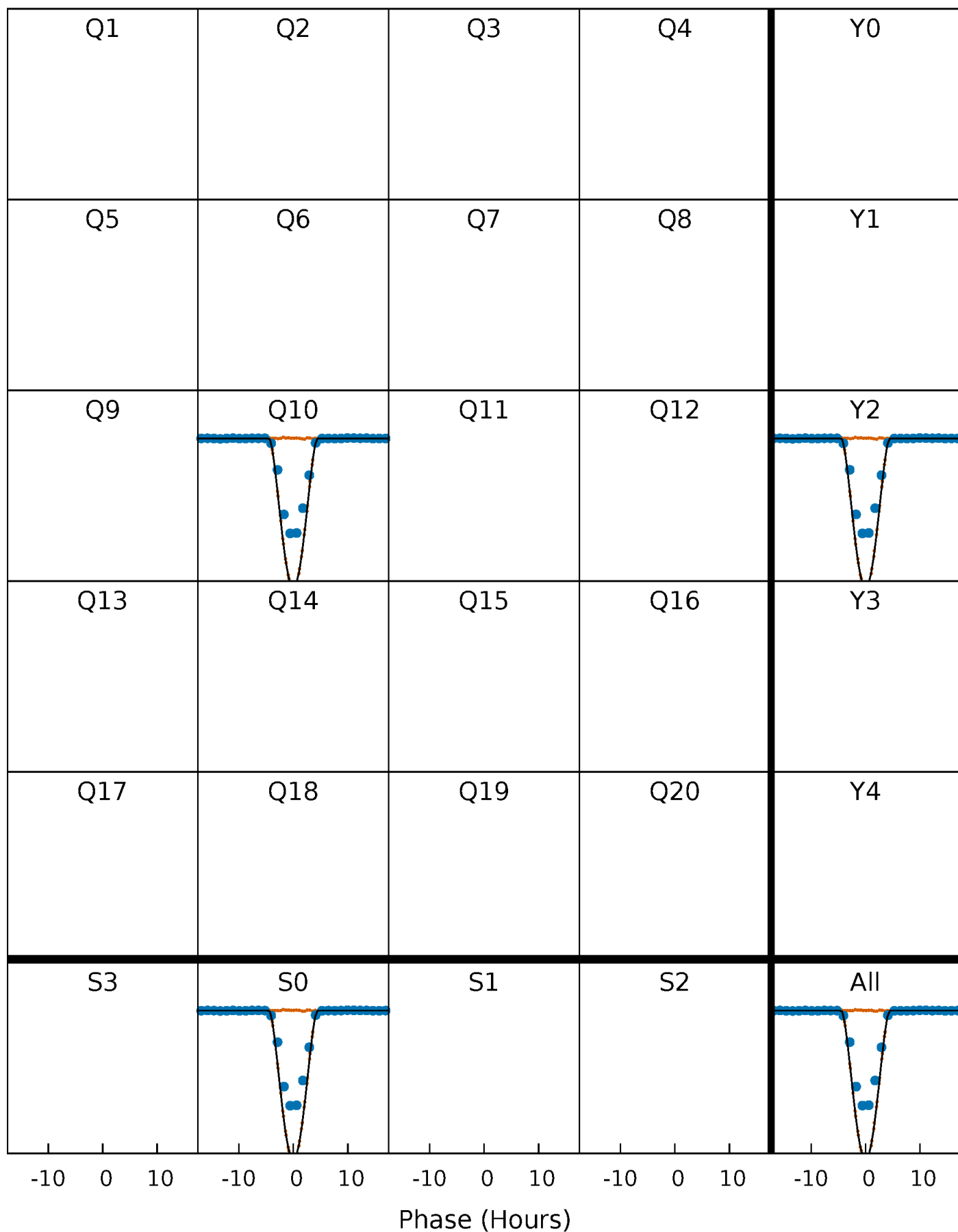
PDC Quarter-Phased Transit Curves

TCE 009101271-01 P= 29.365522 Days $T_0=135.078712$ (BKJD)



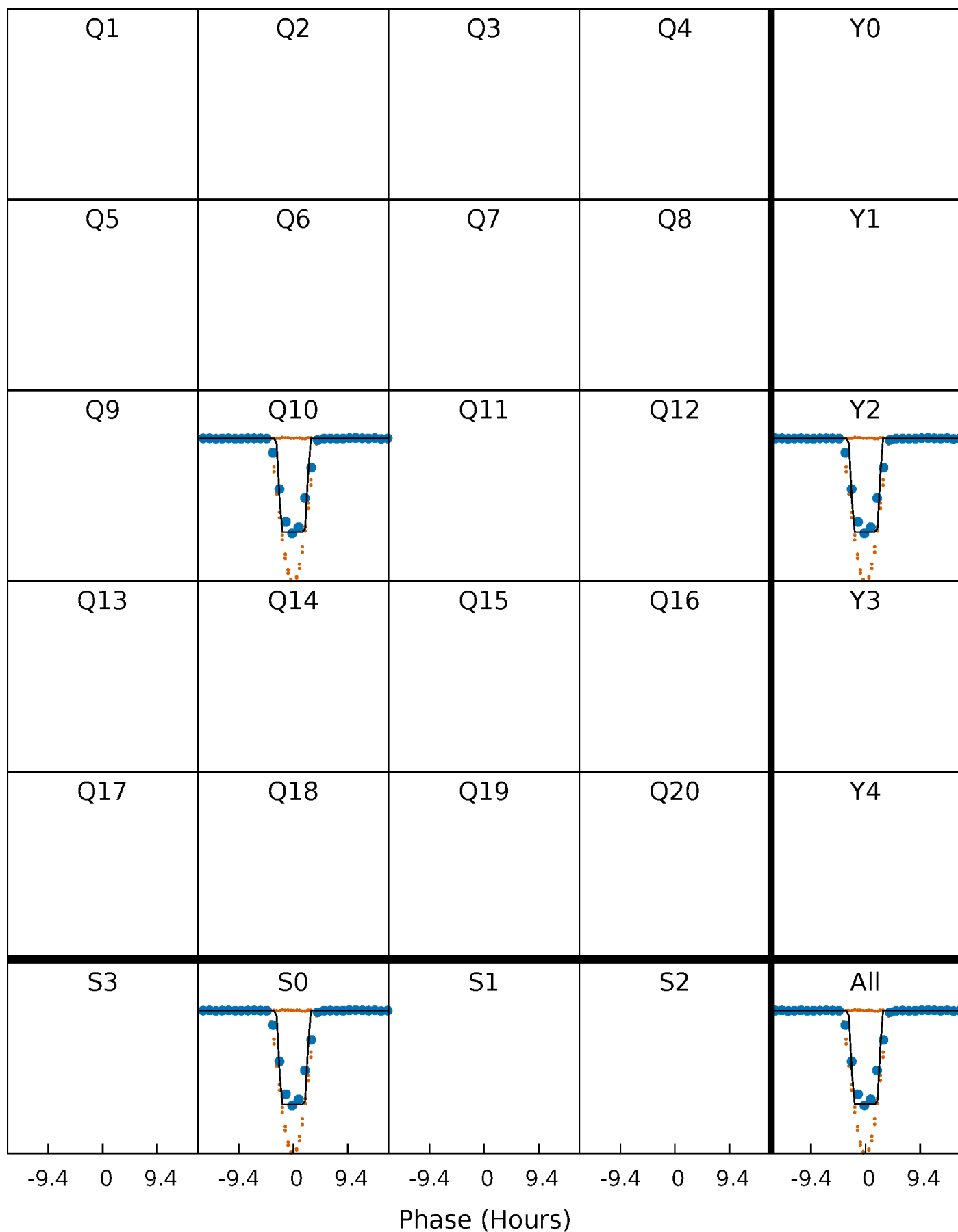
DV Quarter-Phased Transit Curves

TCE 009101271-01 P= 29.365522 Days $T_0=135.078712$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

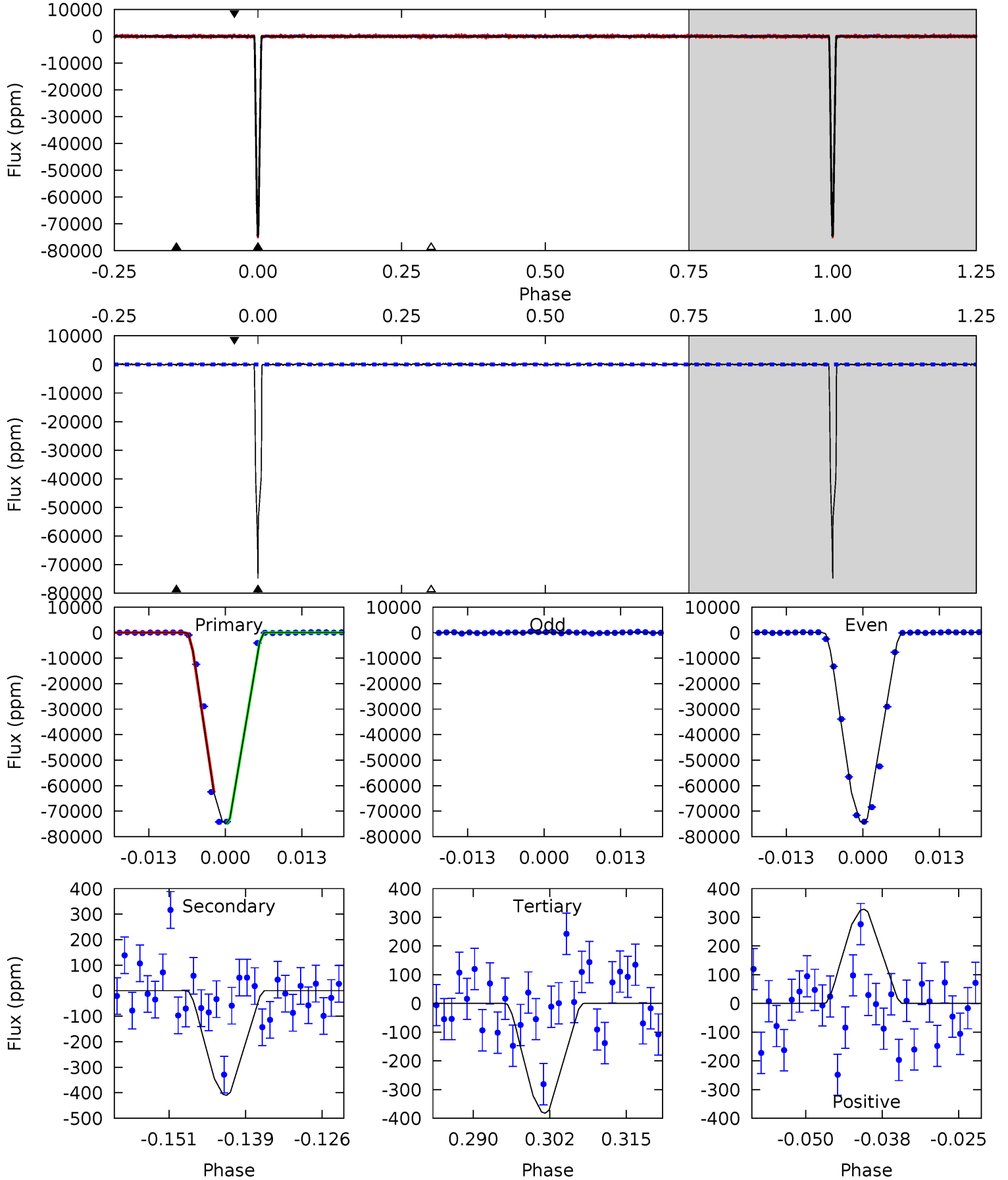
TCE 009101271-01 P= 29.363178 Days $T_0=135.144709$ (BKJD)



DV Model-Shift Uniqueness Test

009101271-01, P = 29.36522 Days, E = 135.078712 Days

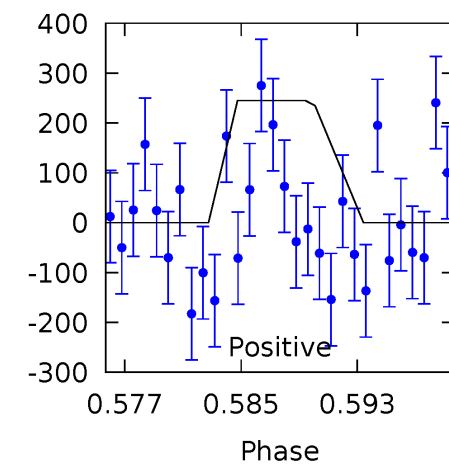
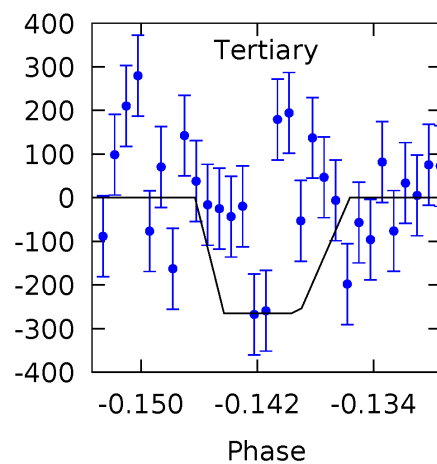
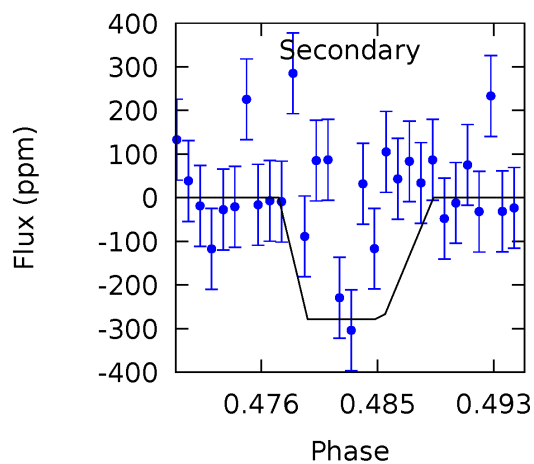
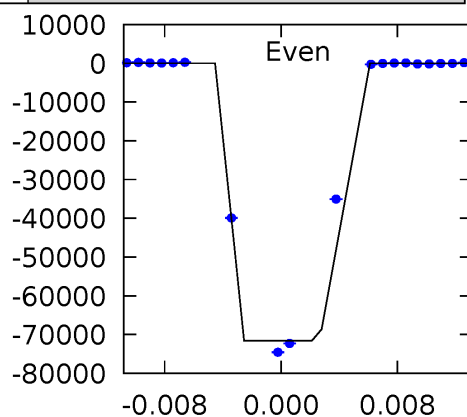
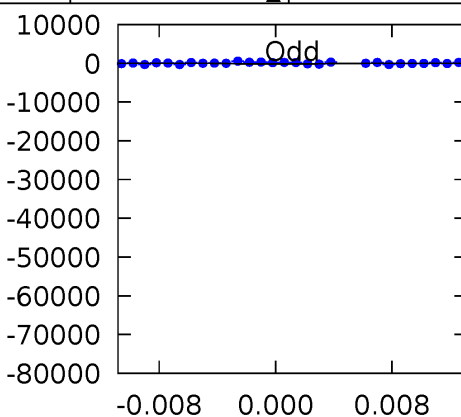
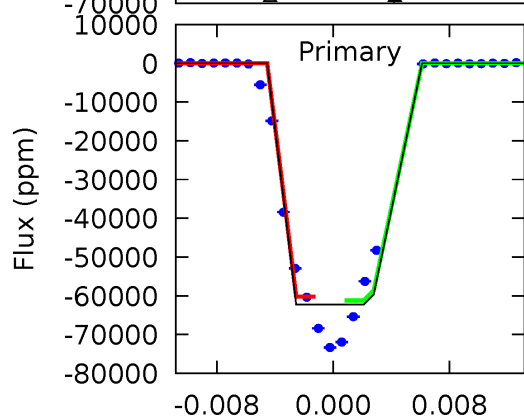
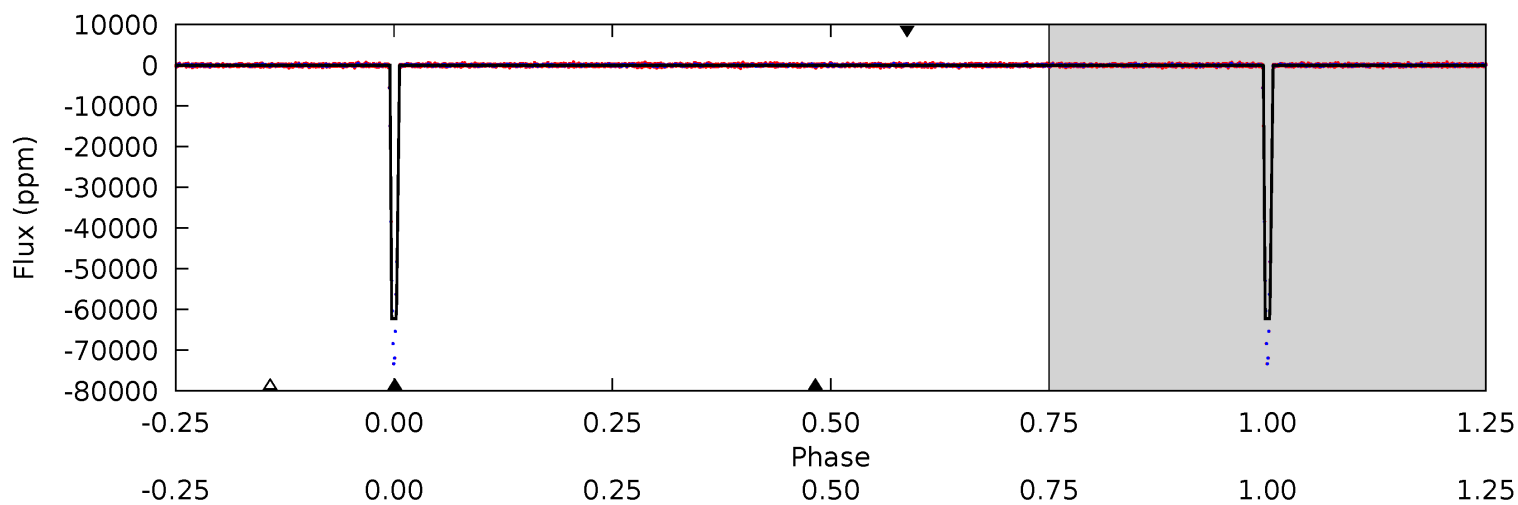
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1214	6.65	6.20	5.33	4.98	2.50	1.67	1208	1209	0.45	1.32	1212	0.67	0.00	0



Alt Model-Shift Uniqueness Test

009101271-01, P = 29.363178 Days, E = 135.144709 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
909.5	4.06	3.87	3.58	5.06	2.64	1.07	905.7	906.0	0.19	0.49	732.8	0.67	0.00	0



Stellar Parameters For KIC 009101271

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6167^{+194}_{-237}	$4.299^{+0.149}_{-0.198}$	$-0.140^{+0.250}_{-0.300}$	$1.195^{+0.363}_{-0.242}$	$1.034^{+0.168}_{-0.122}$	$0.854^{+0.652}_{-0.426}$
	+3%/-4%	+3%/-5%	+179%/-214%	+30%/-20%	+16%/-12%	+76%/-50%
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 009101271-01 / KOI 7926.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-410 ± 62	$54.00^{+41.66}_{-31.51}$	963^{+79}_{-67}	2254^{+574}_{-323}	$2.657^{+13.075}_{-1.791}$
Alt.	-278 ± 68	$41.30^{+33.15}_{-27.24}$	960^{+71}_{-65}	2314^{+748}_{-352}	$3.143^{+24.796}_{-2.205}$

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 $A_{obs} \gg 1.0$

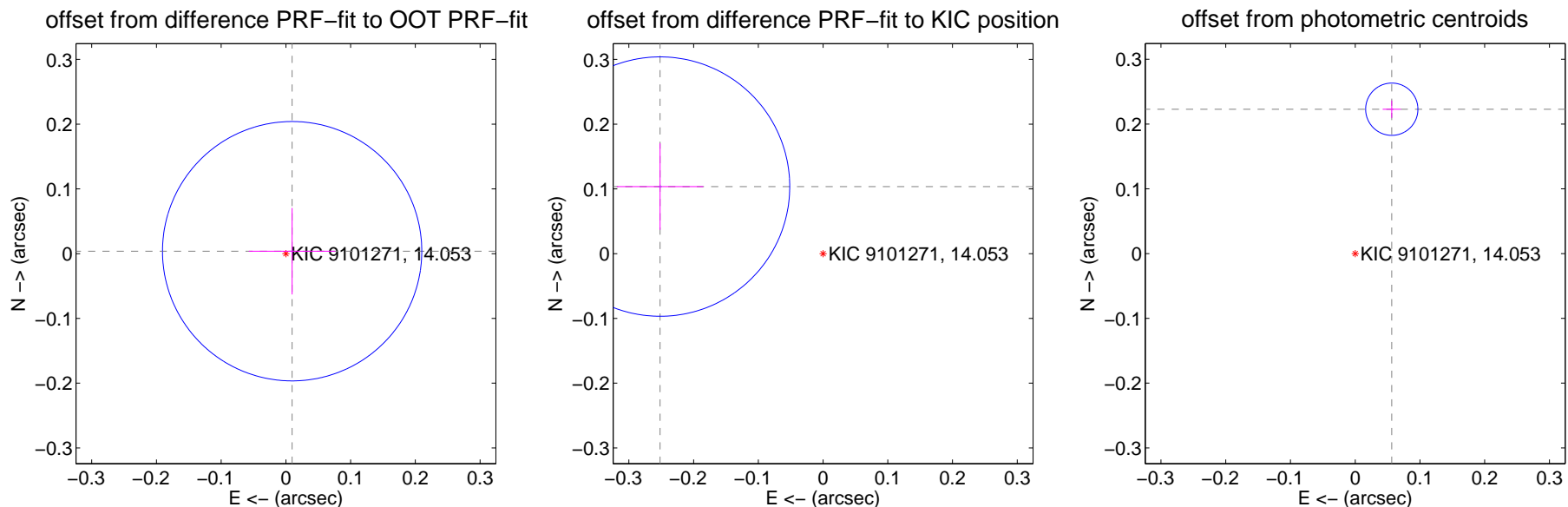
DV Centroid Data

Supplemental centroid analysis for 009101271-01. Kepler magnitude: 14.05. Transit SNR 975.87

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.010 ± 0.067	0.16	-0.010 ± 0.067	0.004 ± 0.067
PRF-fit source offset from KIC position	0.272 ± 0.067	4.08	0.252 ± 0.067	0.104 ± 0.067
photometric centroid source offset	0.23 ± 0.01	17.09	-0.06 ± 0.01	0.22 ± 0.01



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.

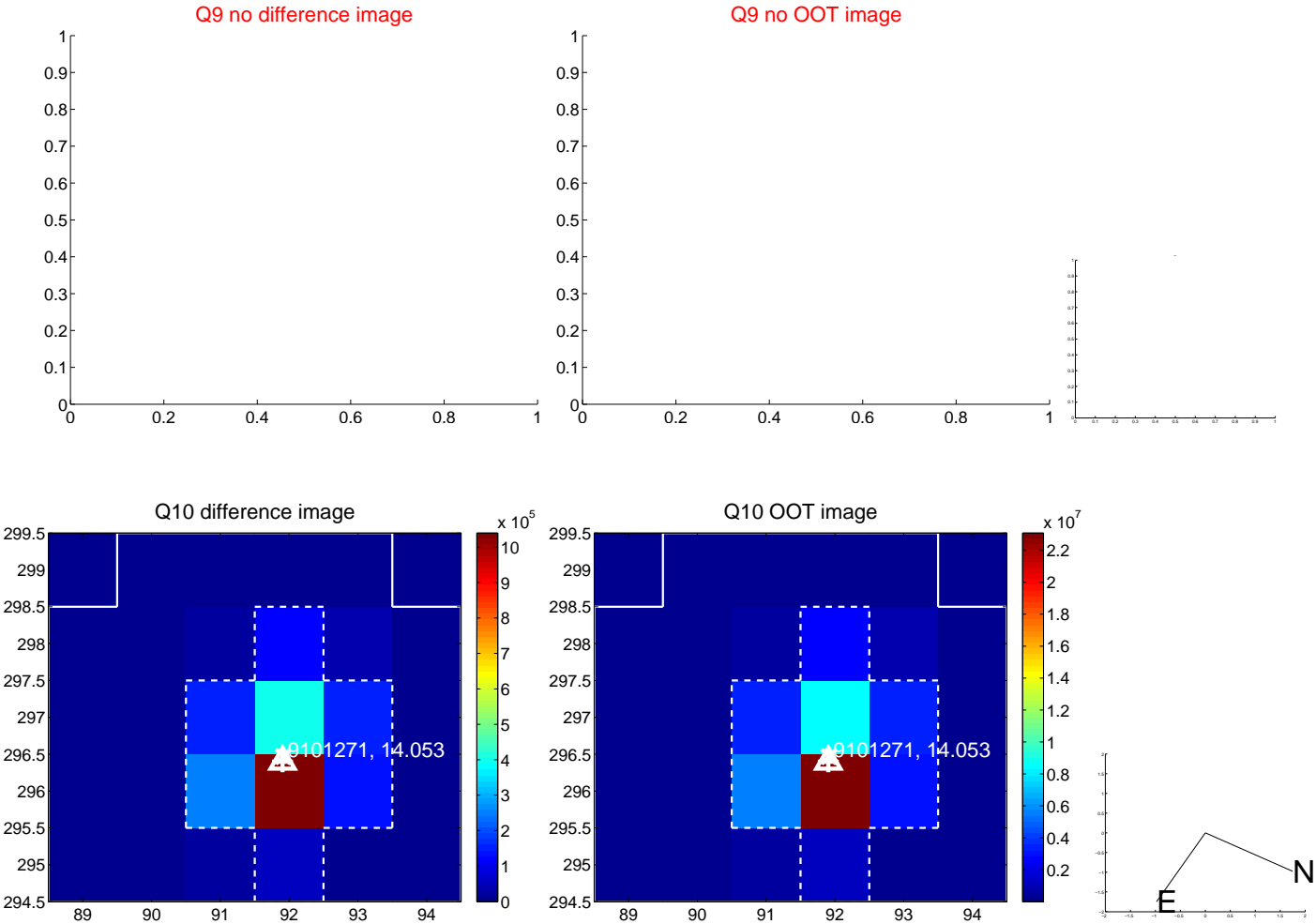
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



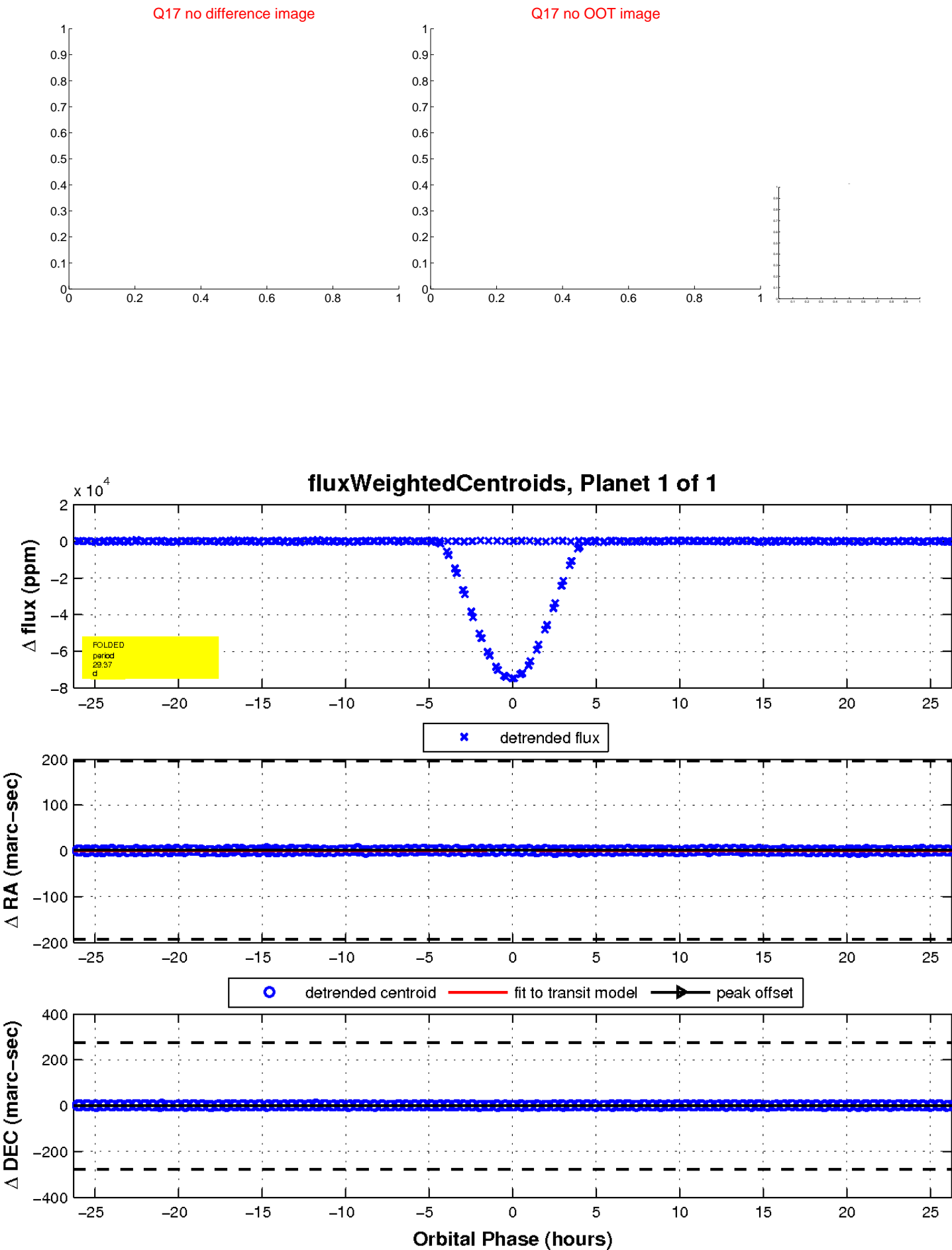
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

