

KIC 009596089

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})
009596089-01	OBS	3675.01	20.838852	133.512140	177253.1	2.327	418.8	324.7	0.81	5378	40.94	27.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009596089-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_DV—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.

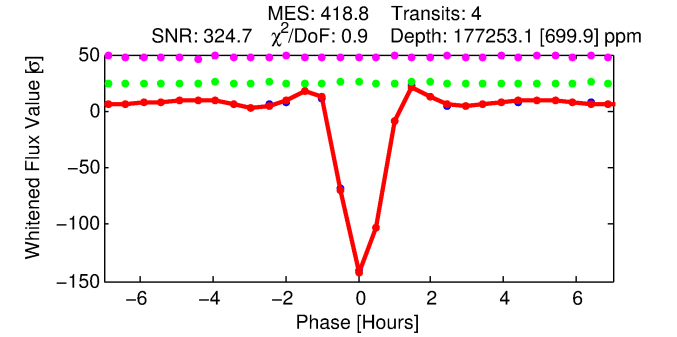
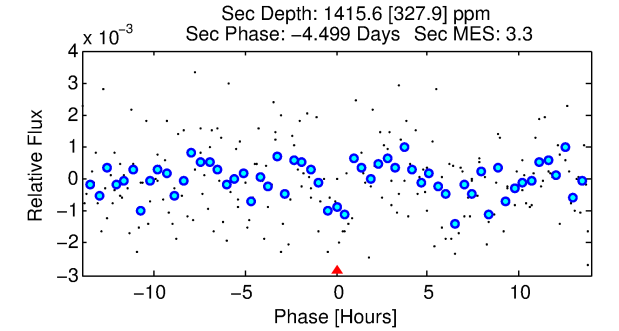
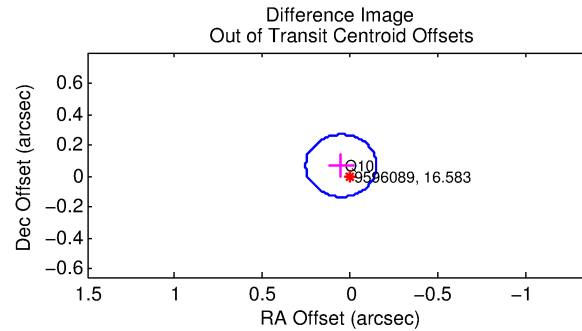
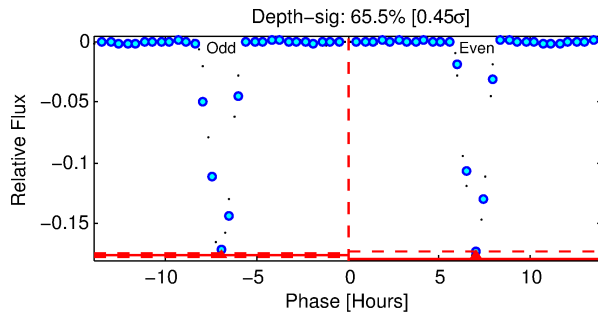
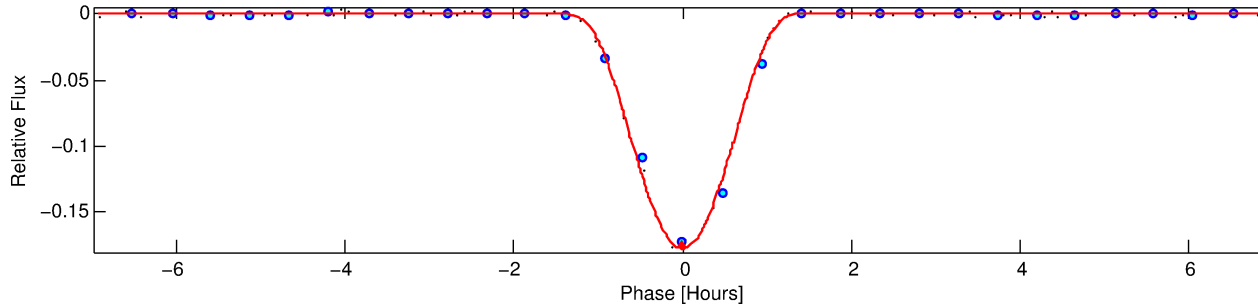
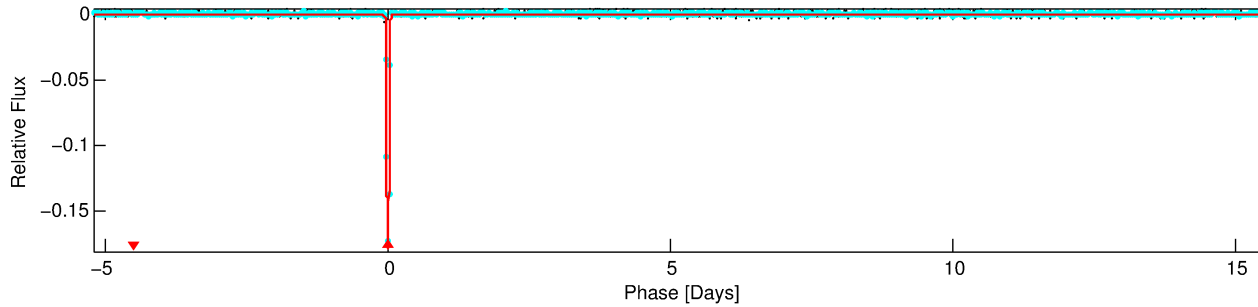
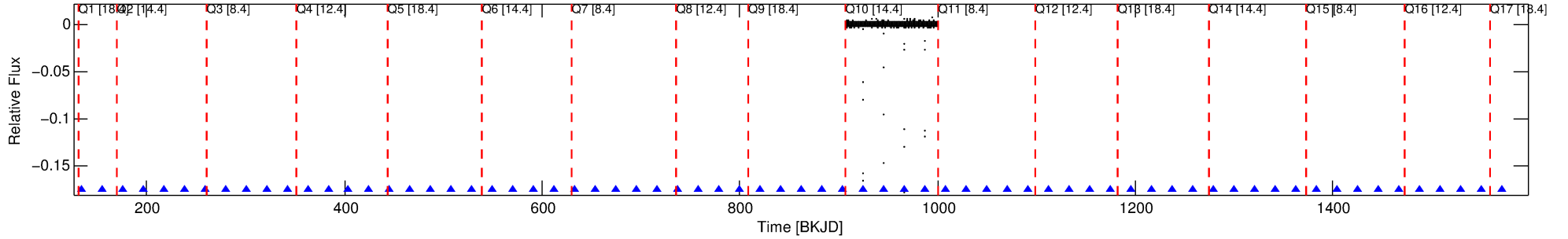
Ephemeris Match Information For 009596089-01

No Significant Match Found

DV One-Page Summary

KIC: 9596089 Candidate: 1 of 1 Period: 20.839 d
KOI: K03675.01 Corr: 0.934

Kp: 16.58 R*: 0.81 Rs Teff: 5378.0 K Logg: 4.49 Fe/H: -0.360



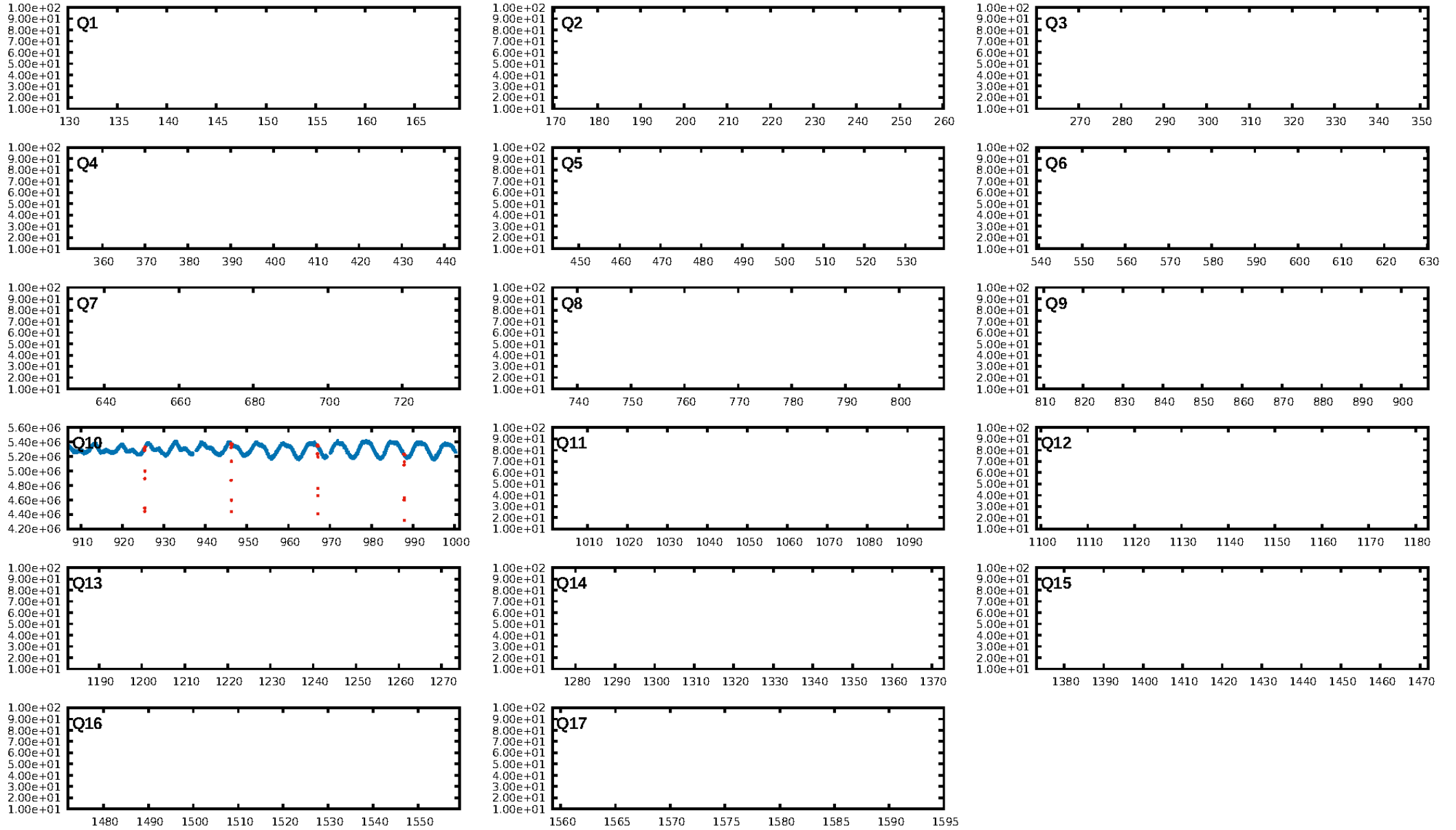
DV Fit Results:

Period = 20.83885 [0.00007] d
Epoch = 133.5121 [0.0026] BKJD
Rp/R* = 0.4620 [0.0451]
a/R* = 87.73 [0.32]
b = 0.70 [0.09]
Seff = 27.49 [7.70]
Teff = 584 [41] K
Rp = 40.94 [8.29] Re
a = 0.1341 [0.0209] AU
Ag = 8.35 [3.20] [2.30σ]
Teffp = 1535 [130] K [6.97σ]

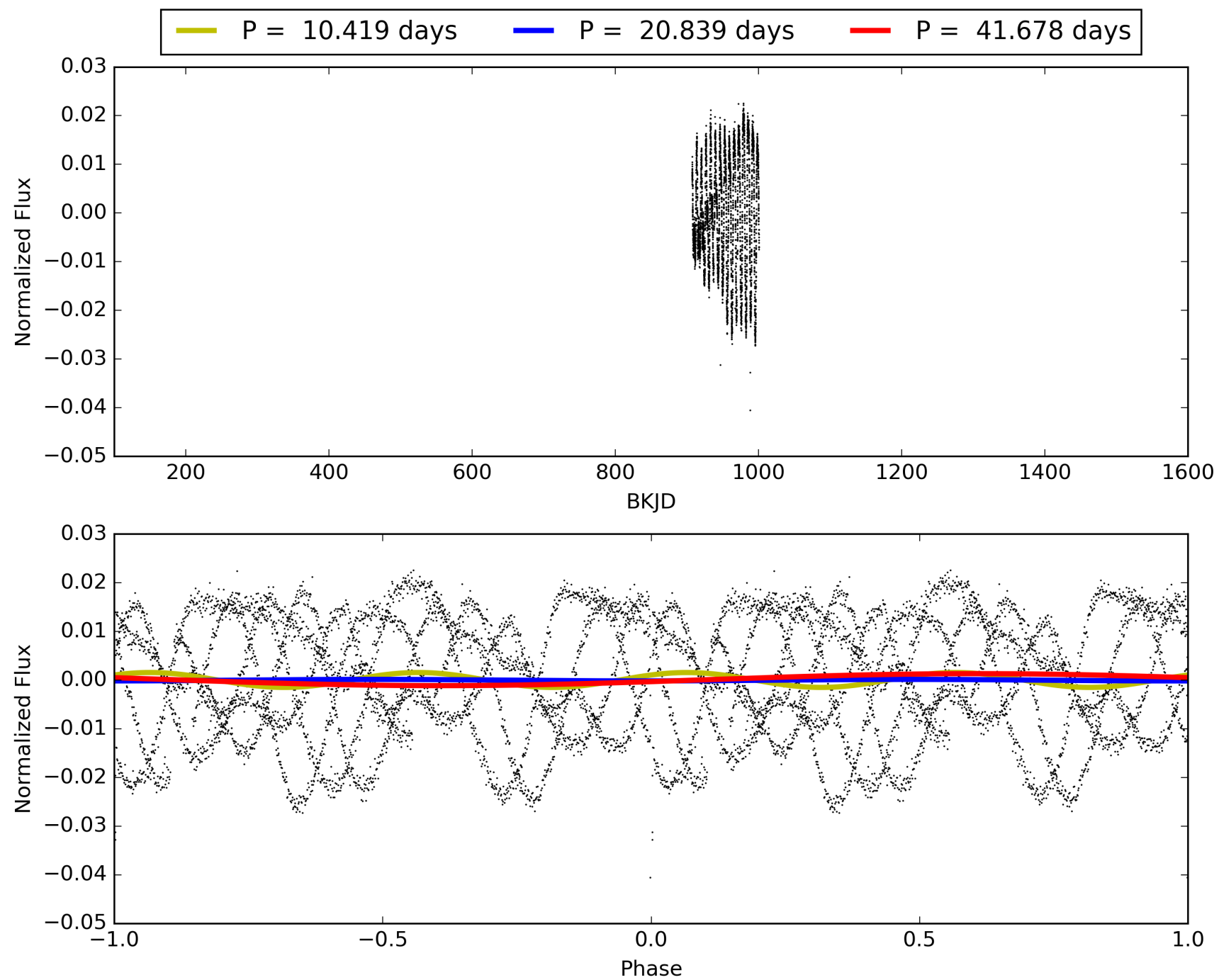
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 18.8%
ModelChiSquareGof-sig: 97.6%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.364
Centroid-sig: 0.0%
Centroid-so: 0.421 arcsec [9.01σ]
OotOffset-rm: 0.087 arcsec [1.29σ]
KicOffset-rm: 0.037 arcsec [0.55σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

TCE 009596089-01, PDC Light Curves

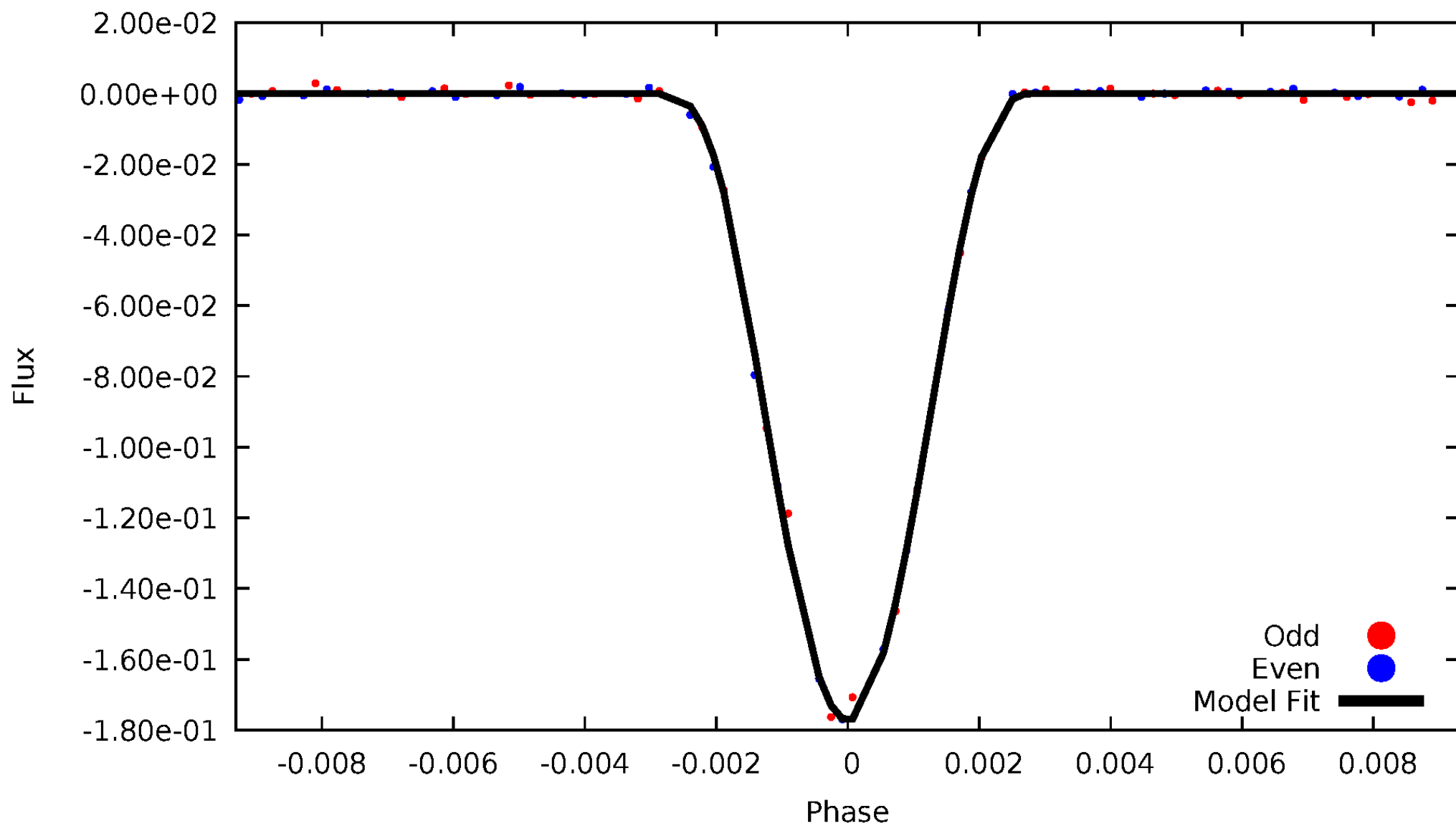


TCE 009596089-01



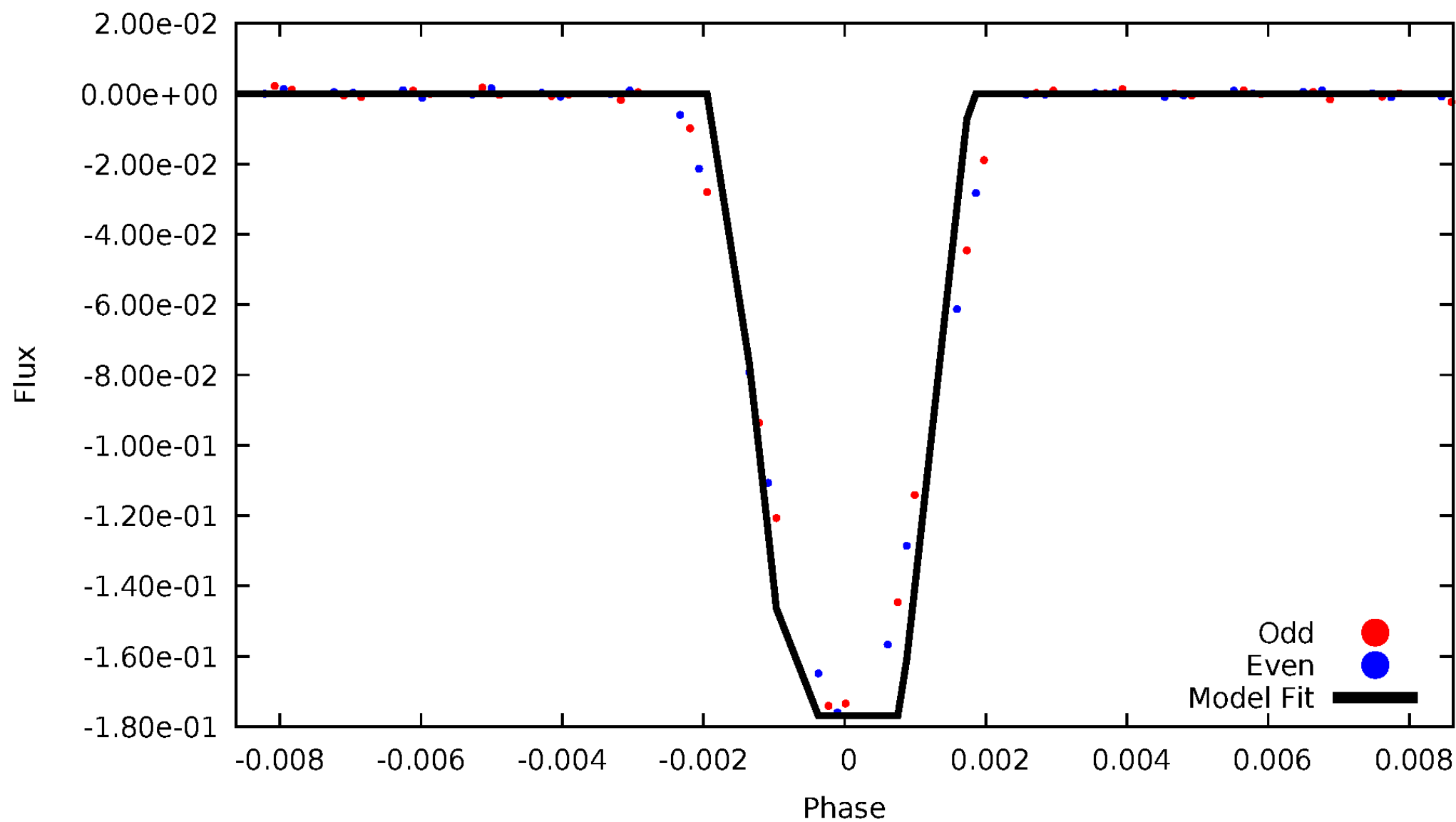
DV Odd/Even

TCE 009596089-01



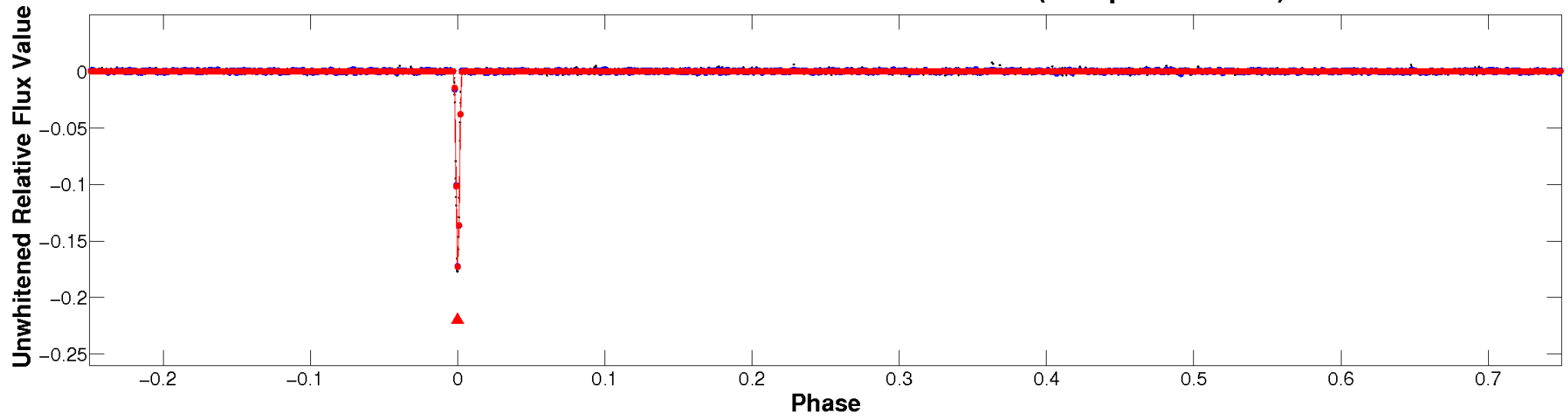
ALT Odd/Even

TCE 009596089-01

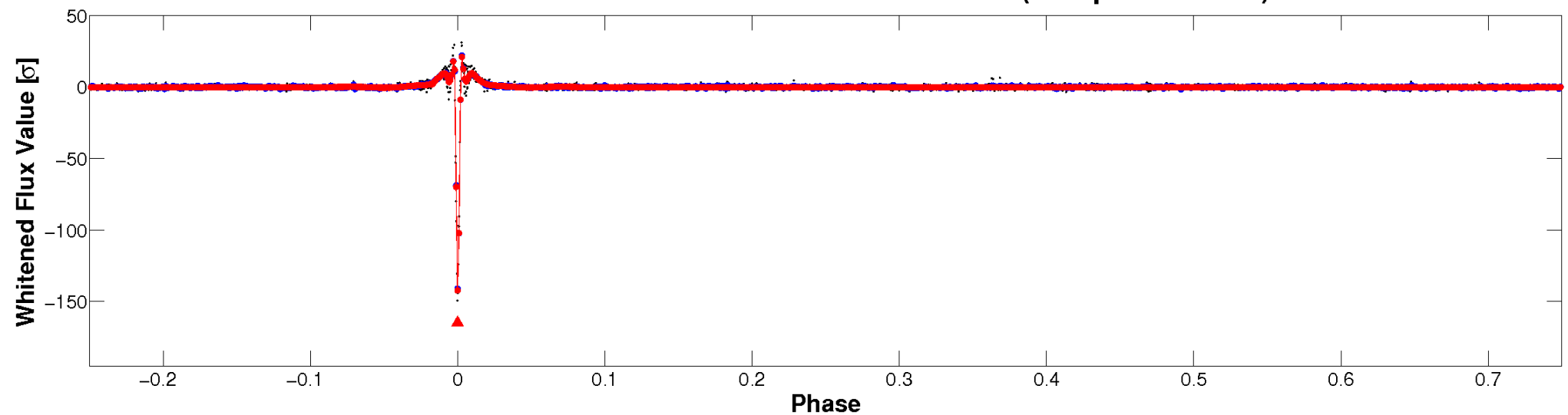


Non-Whitened Vs. Whitened Light Curve

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

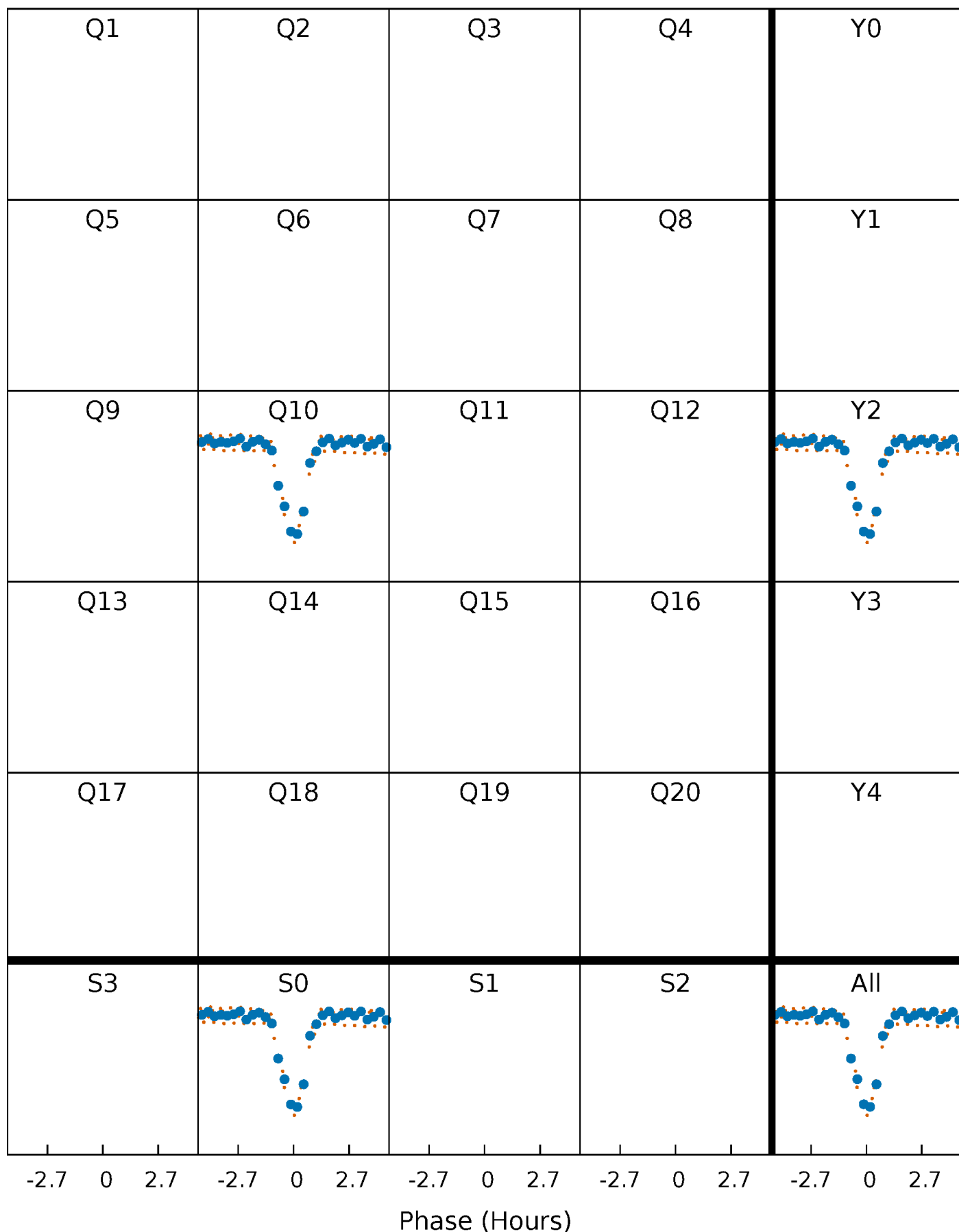


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



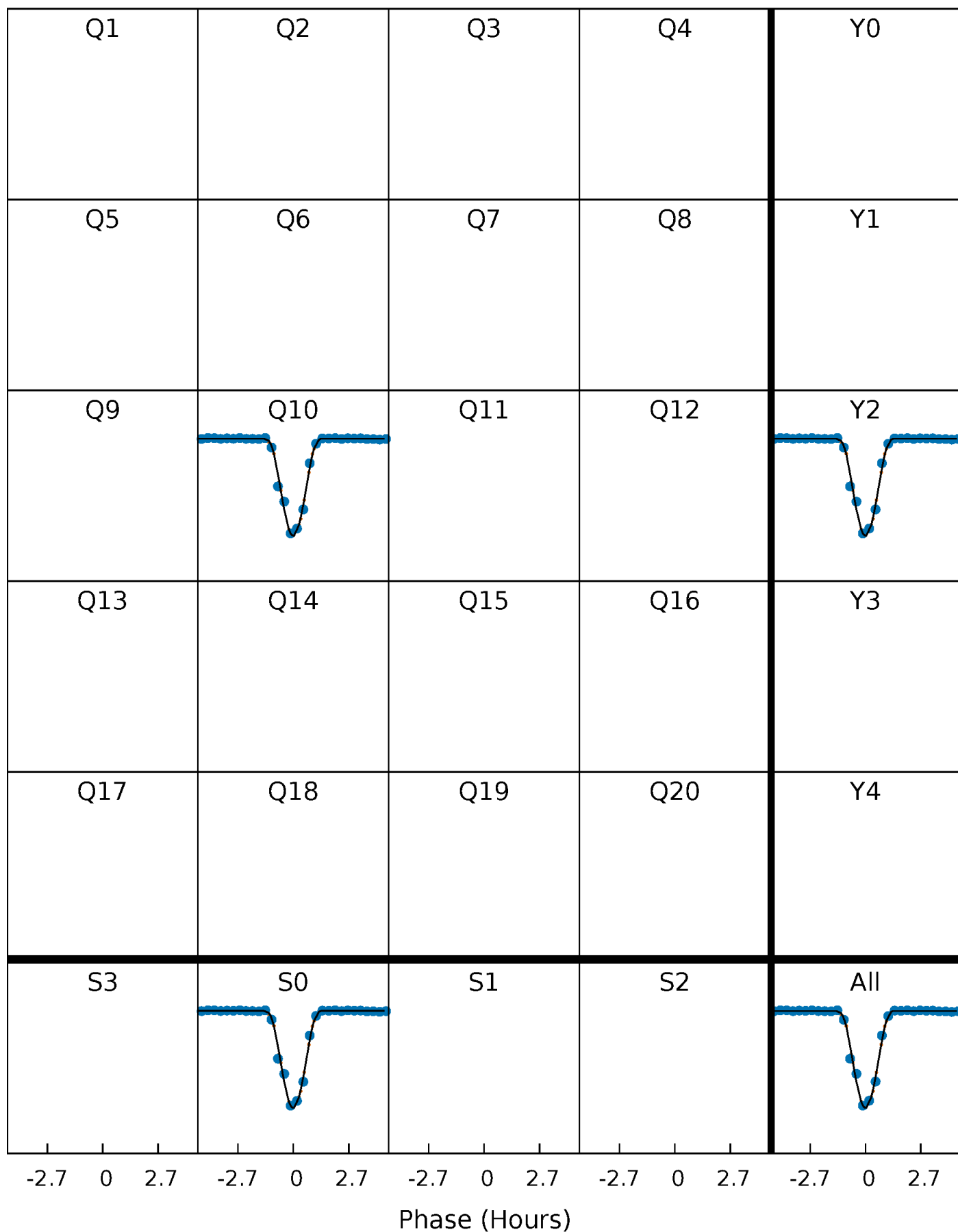
PDC Quarter-Phased Transit Curves

TCE 009596089-01 P= 20.838852 Days $T_0=133.512140$ (BKJD)



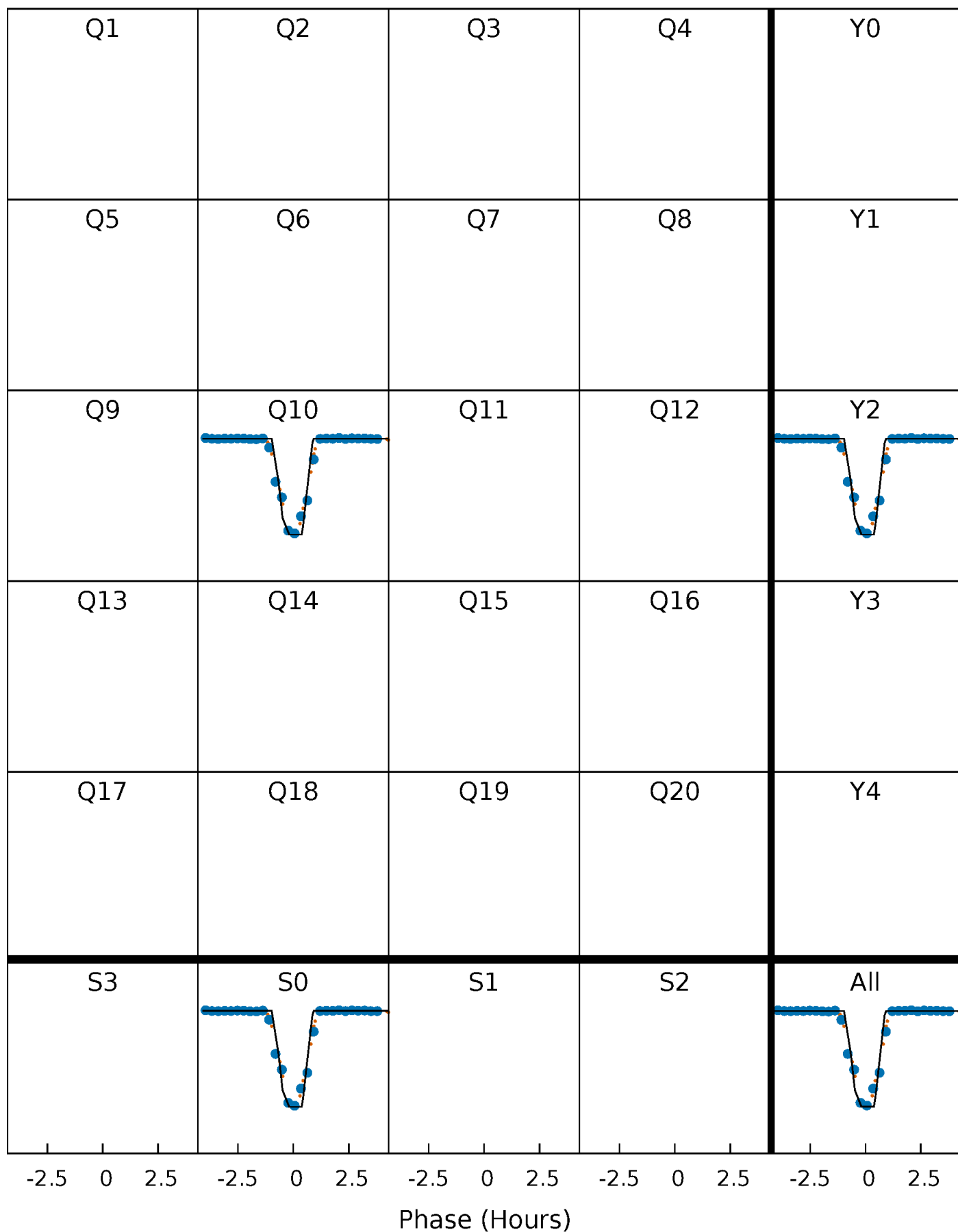
DV Quarter-Phased Transit Curves

TCE 009596089-01 P= 20.838852 Days $T_0=133.512140$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

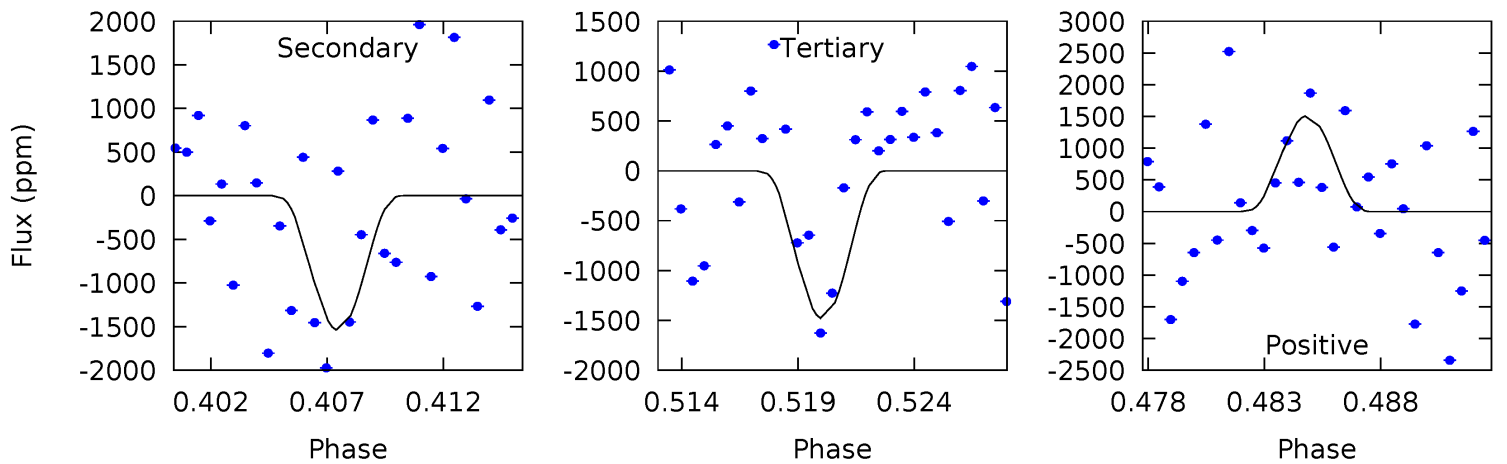
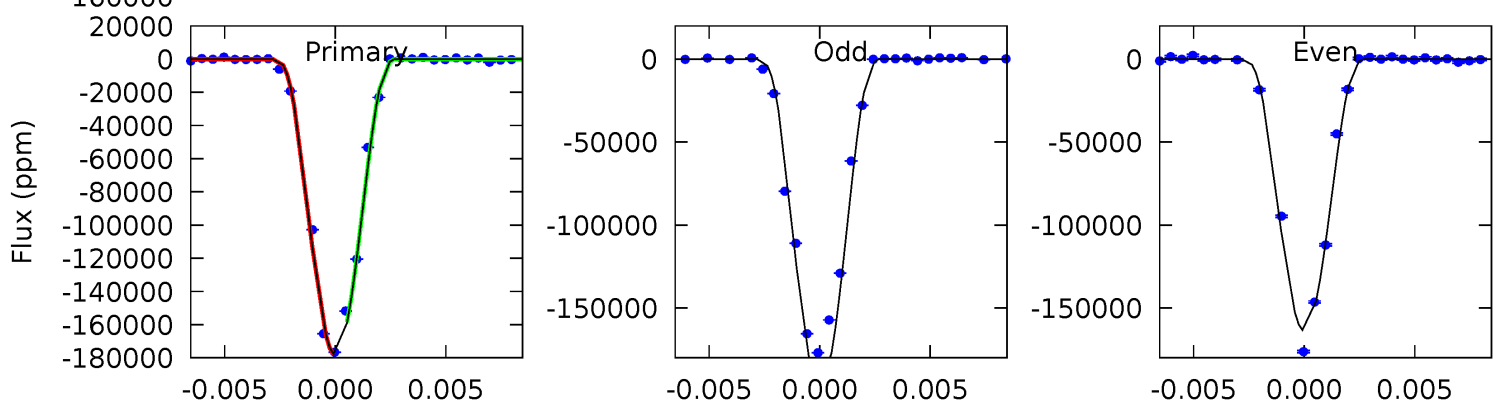
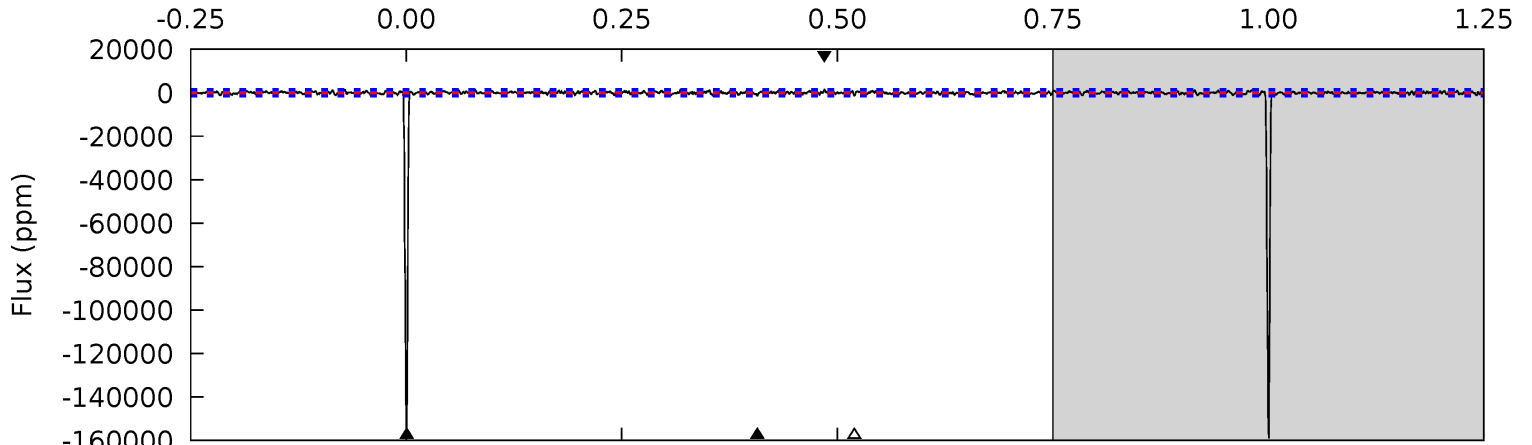
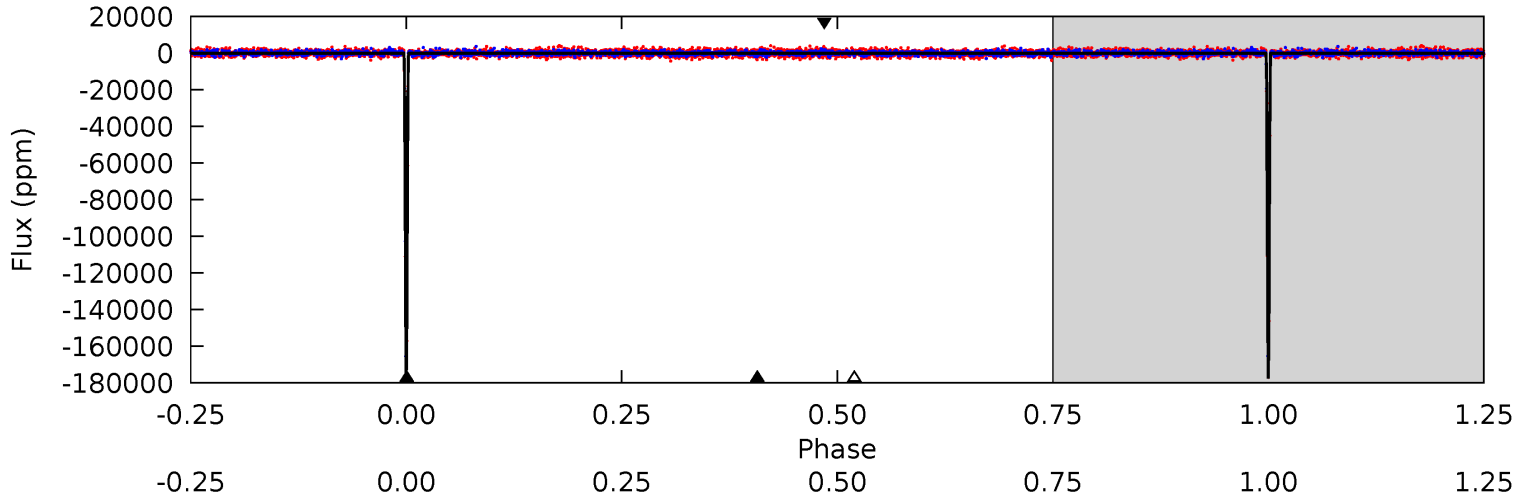
TCE 009596089-01 P= 20.839718 Days $T_0=133.477873$ (BKJD)



DV Model-Shift Uniqueness Test

009596089-01, P = 20.838852 Days, E = 133.512140 Days

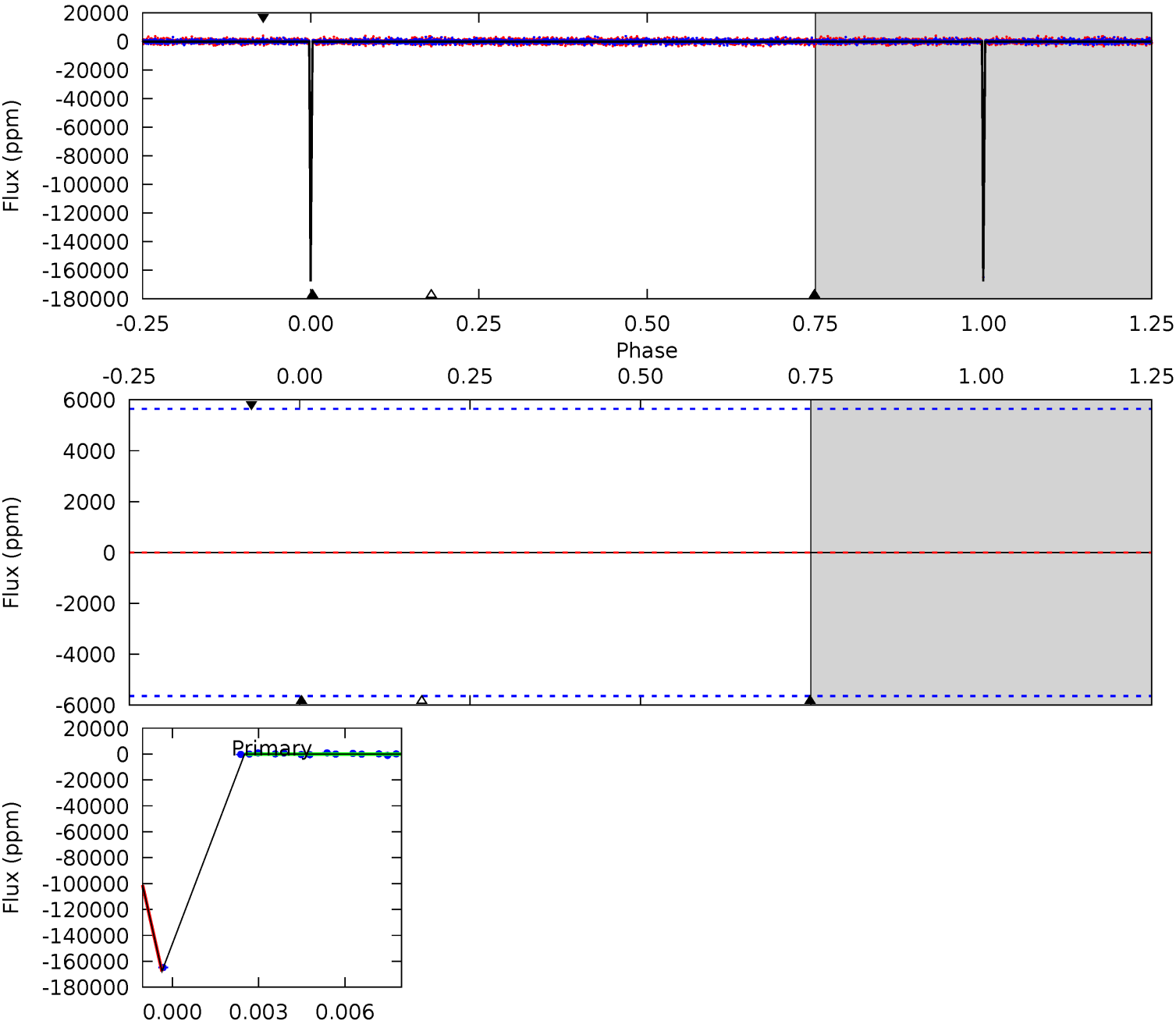
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
558.8	4.84	4.65	4.73	5.15	2.80	1.51	554.2	554.1	0.18	0.10	56.3	0.99	0.01	34.3



Alt Model-Shift Uniqueness Test

009596089-01, P = 20.839718 Days, E = 133.477873 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	5.25	2.96	0	0	0	0	0	0	1.00	0	0



Stellar Parameters For KIC 009596089

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5378^{+206}_{-187}	$4.488^{+0.120}_{-0.132}$	$-0.360^{+0.350}_{-0.300}$	$0.812^{+0.144}_{-0.105}$	$0.741^{+0.118}_{-0.050}$	$1.947^{+0.905}_{-0.725}$
	+4%/-3%	+3%/-3%	+97%/-83%	+18%/-13%	+16%/-7%	+46%/-37%
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 009596089-01 / KOI 3675.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1375 ± 284	$41.49^{+5.94}_{-5.58}$	819^{+49}_{-50}	2387^{+99}_{-92}	$7.924^{+3.173}_{-2.332}$
Alt.	-0 ± 1075	$37.57^{+5.50}_{-4.83}$	819^{+46}_{-45}	-1616^{+4003}_{-796}	$0.121^{+7.880}_{-8.151}$

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 $A_{obs} \gg 1.0$

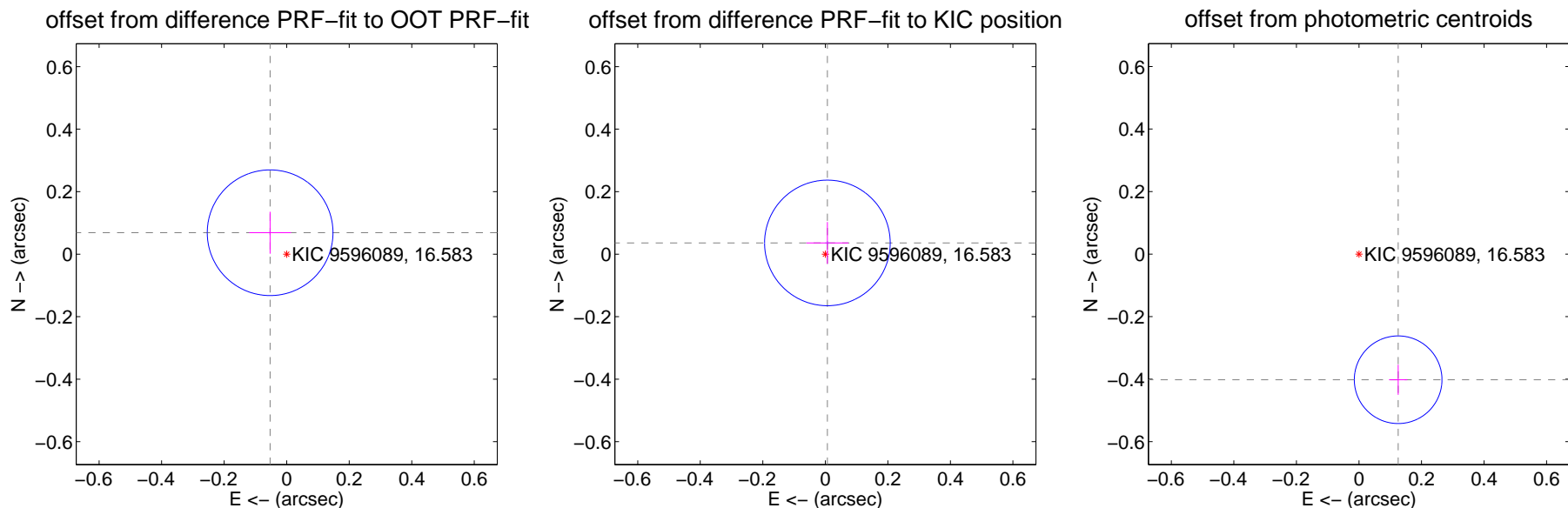
DV Centroid Data

Supplemental centroid analysis for 009596089-01. Kepler magnitude: 16.58. Transit SNR 324.75

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.087 ± 0.067	1.29	0.053 ± 0.067	0.069 ± 0.067
PRF-fit source offset from KIC position	0.037 ± 0.067	0.55	-0.007 ± 0.067	0.036 ± 0.067
photometric centroid source offset	0.42 ± 0.05	9.01	-0.13 ± 0.03	-0.40 ± 0.05



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.

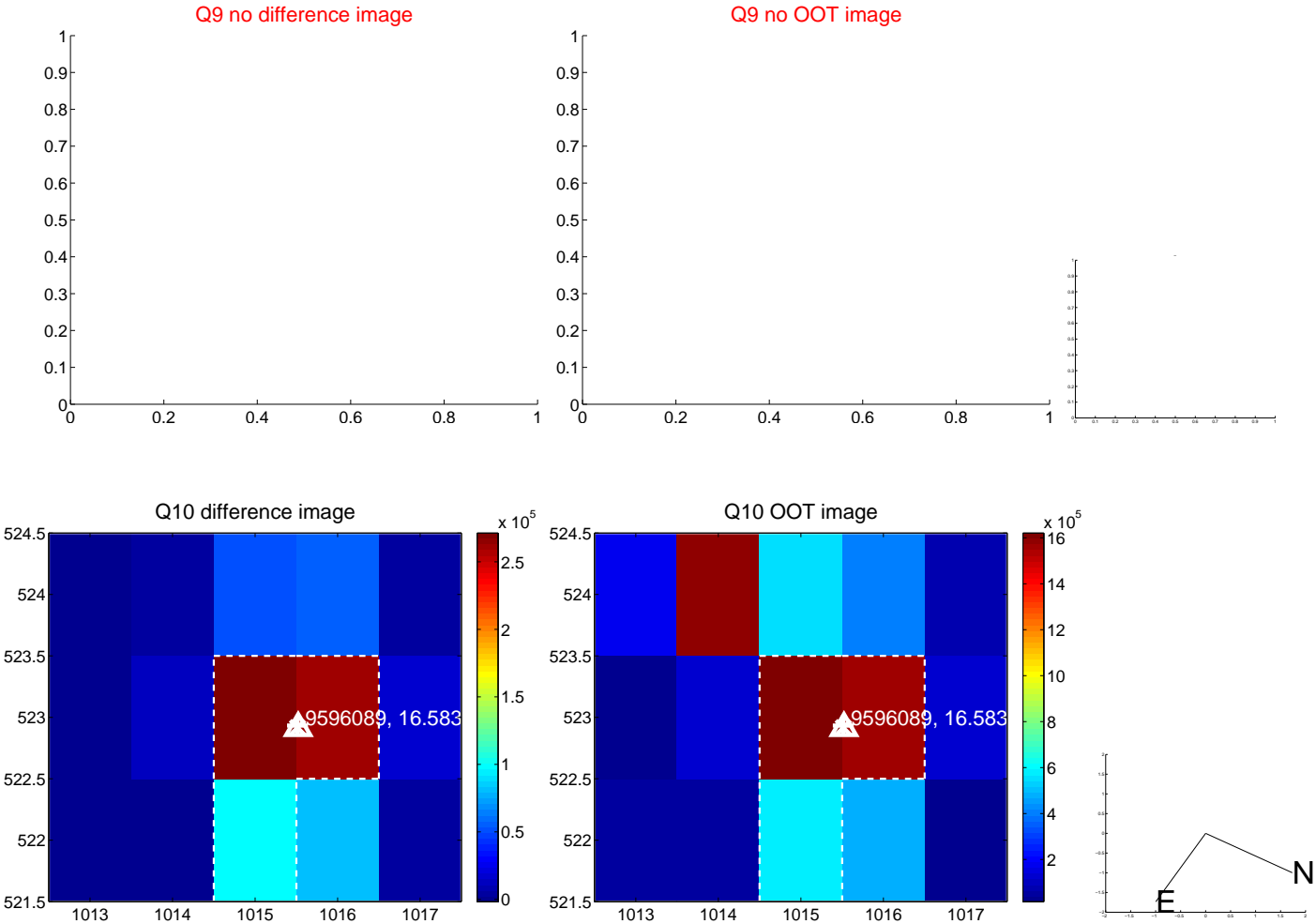
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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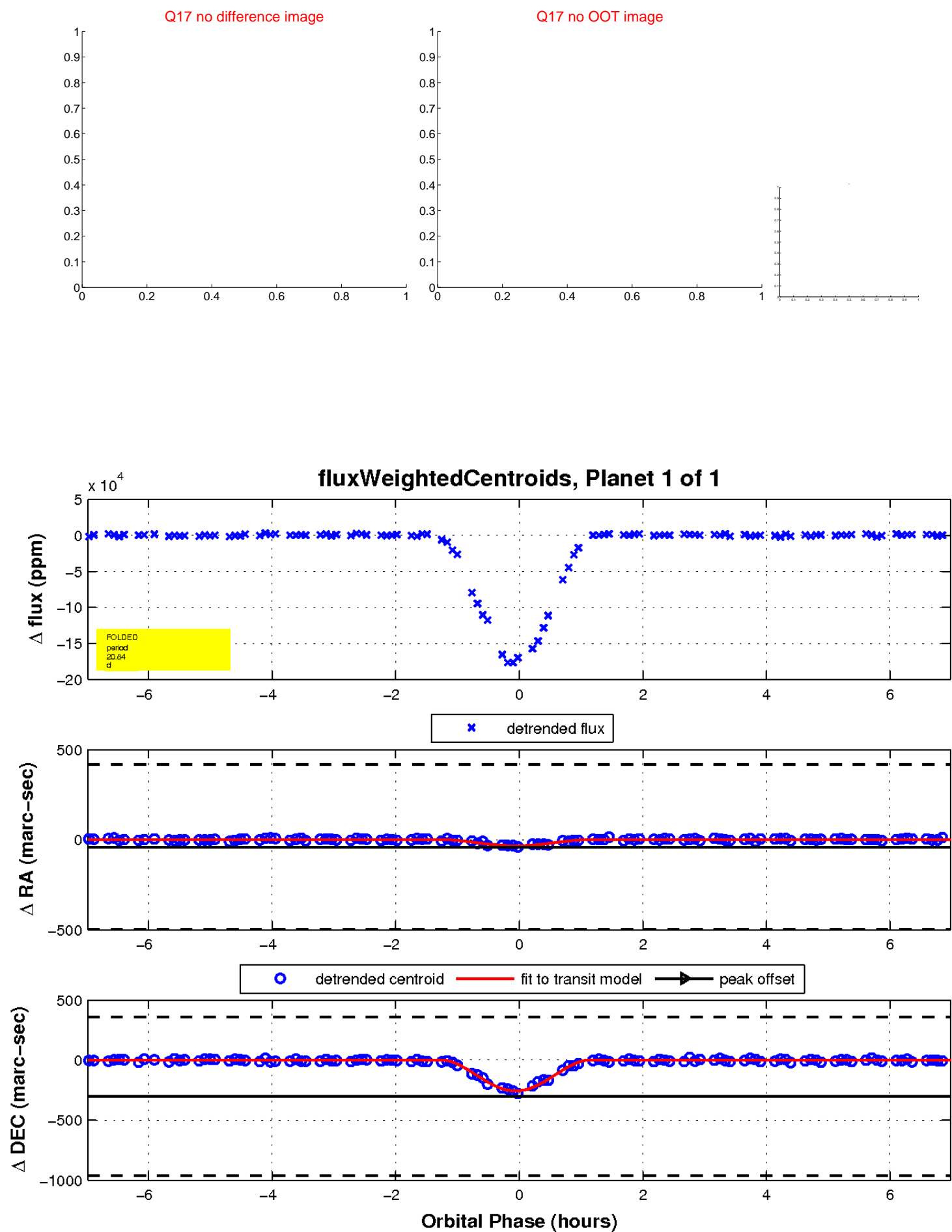
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UKIRT Image

Declination

