

KIC 010592678

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})
010592678-01	OBS	No	71.774292	155.124071	745.4	2.484	7.3	6.4	21.75	4828	57.22	851.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010592678-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

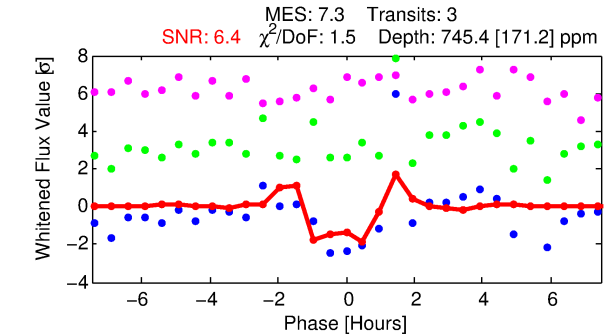
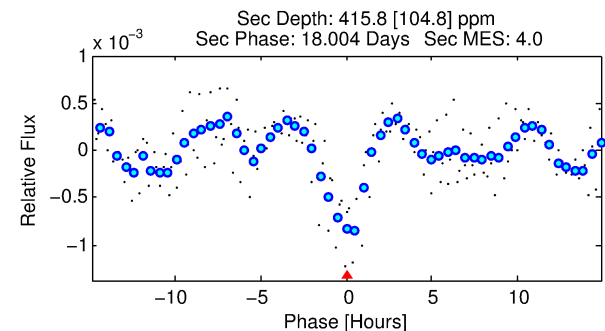
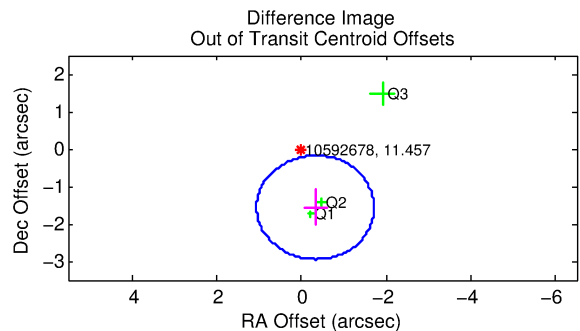
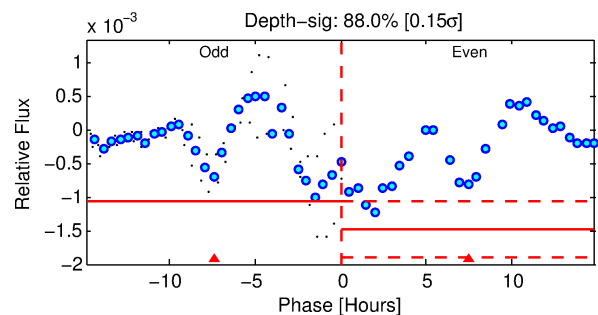
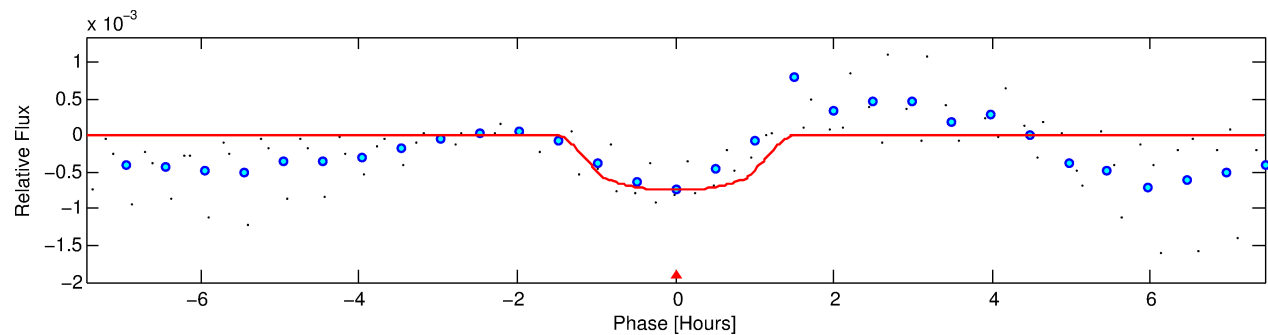
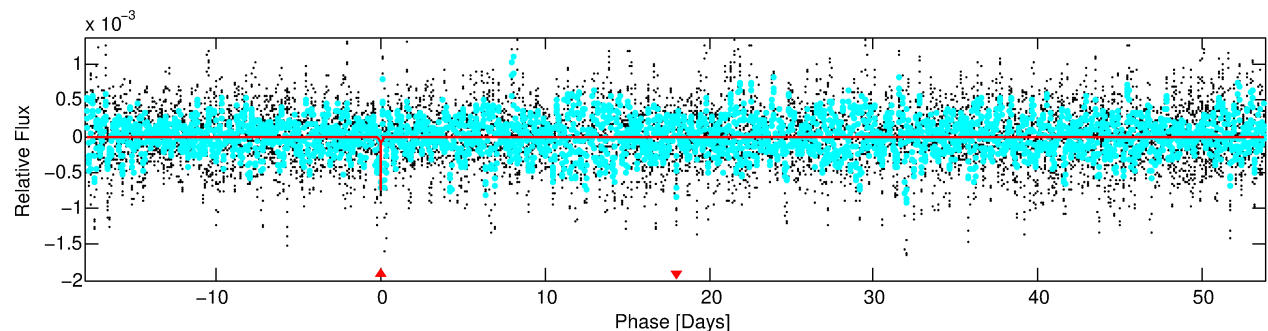
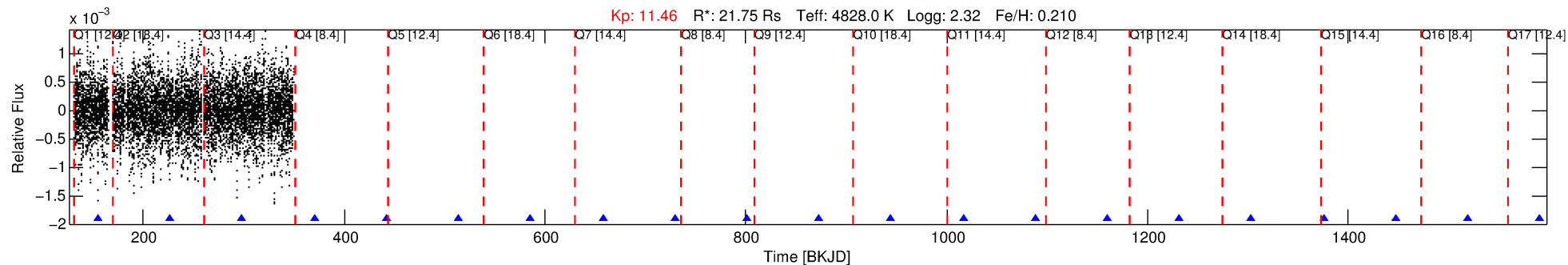
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010592678-01

No Significant Match Found

DV One-Page Summary

KIC: 10592678 Candidate: 1 of 1 Period: 71.774 d



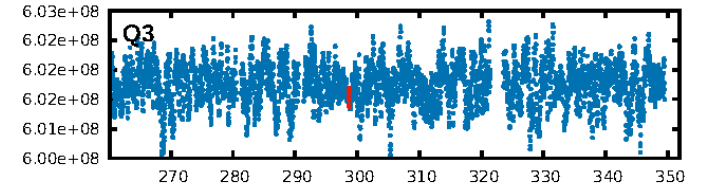
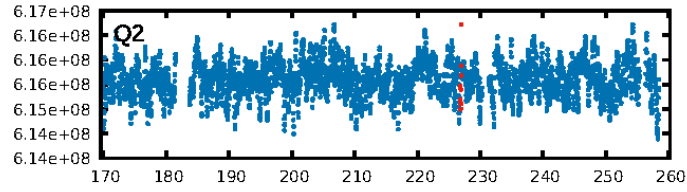
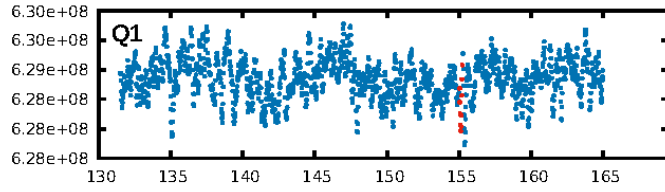
DV Fit Results:

Period = 71.77429 [0.00380] d
Epoch = 155.1241 [0.0052] BKJD
Rp/R* = 0.0241 [0.0628]
a/R* = 225.55 [1826.99]
b = 0.07 [120.41]
Seff = 851.80 [925.34]
Teff = 1378 [374] K
Rp = 57.22 [154.63] Re
a = 0.5200 [0.3521] AU
Ag = 18.90 [100.73] [0.18 σ]
Teffp = 4441 [5798] K [0.53 σ]

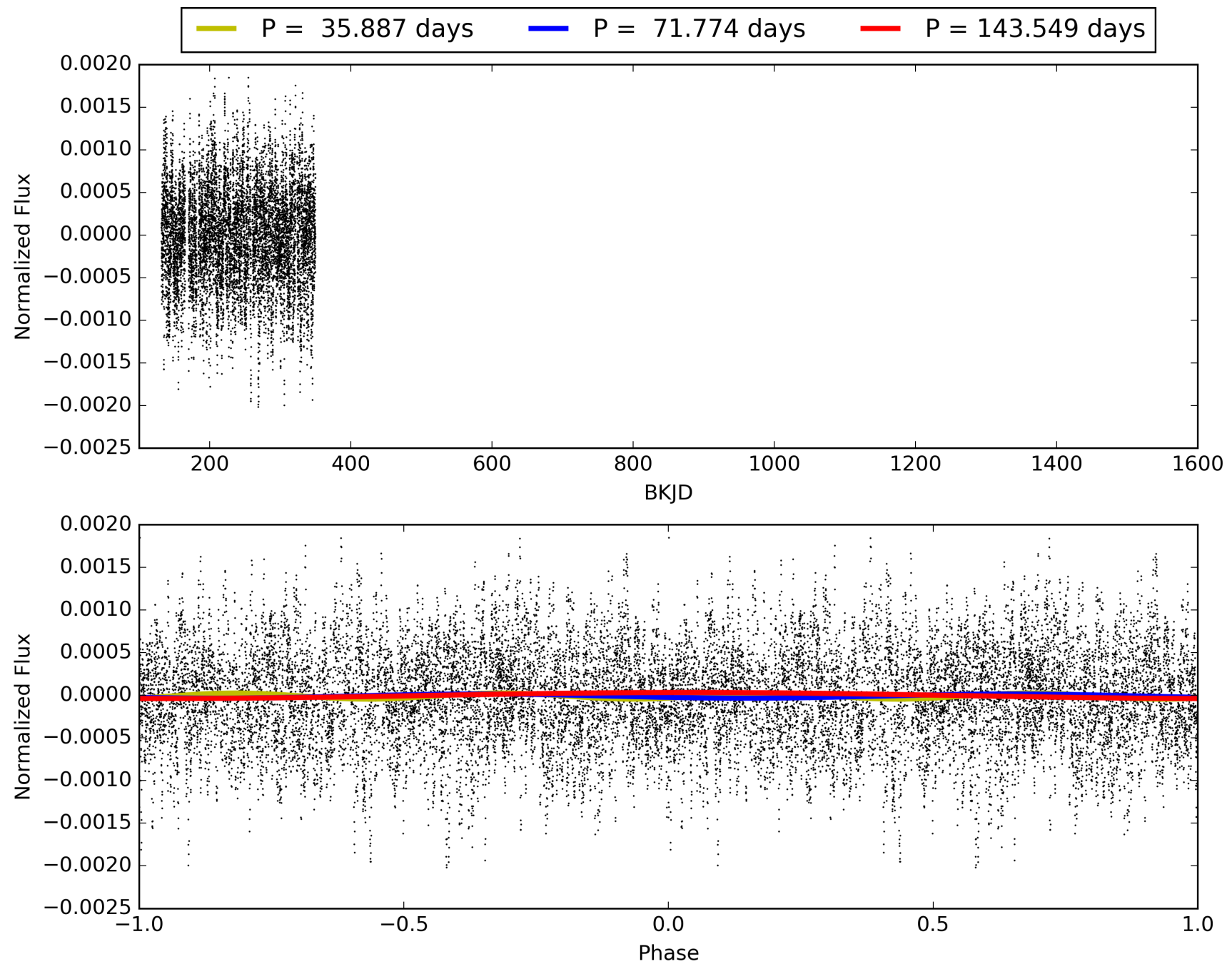
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 43.5%
Bootstrap-pfa: 3.69e-11
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.748
Centroid-sig: N/A
Centroid-so: 0.275 arcsec [0.89 σ]
OotOffset-rm: 1.599 arcsec [3.46 σ]
KicOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 010592678-01, PDC Light Curves

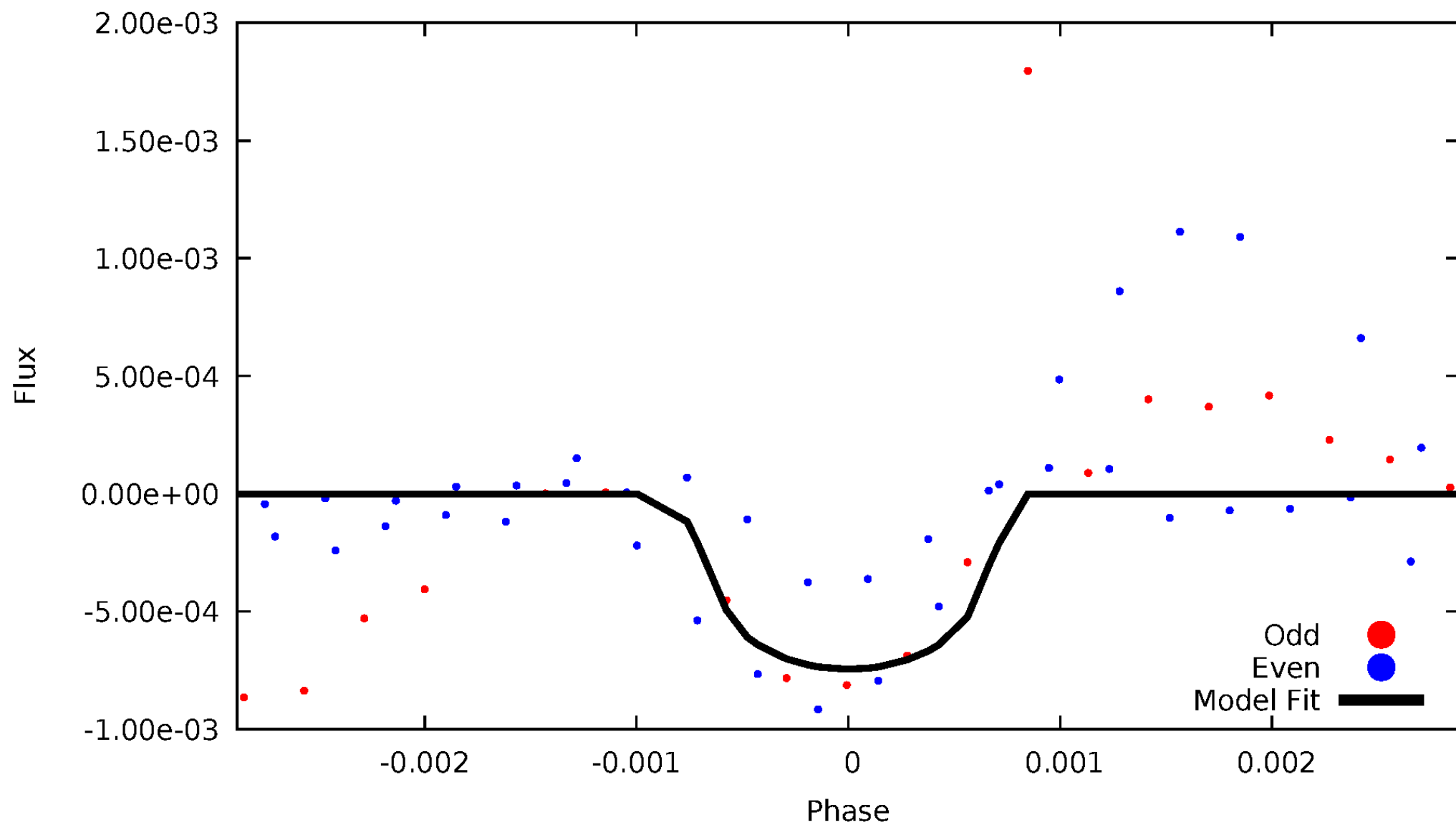


TCE 010592678-01



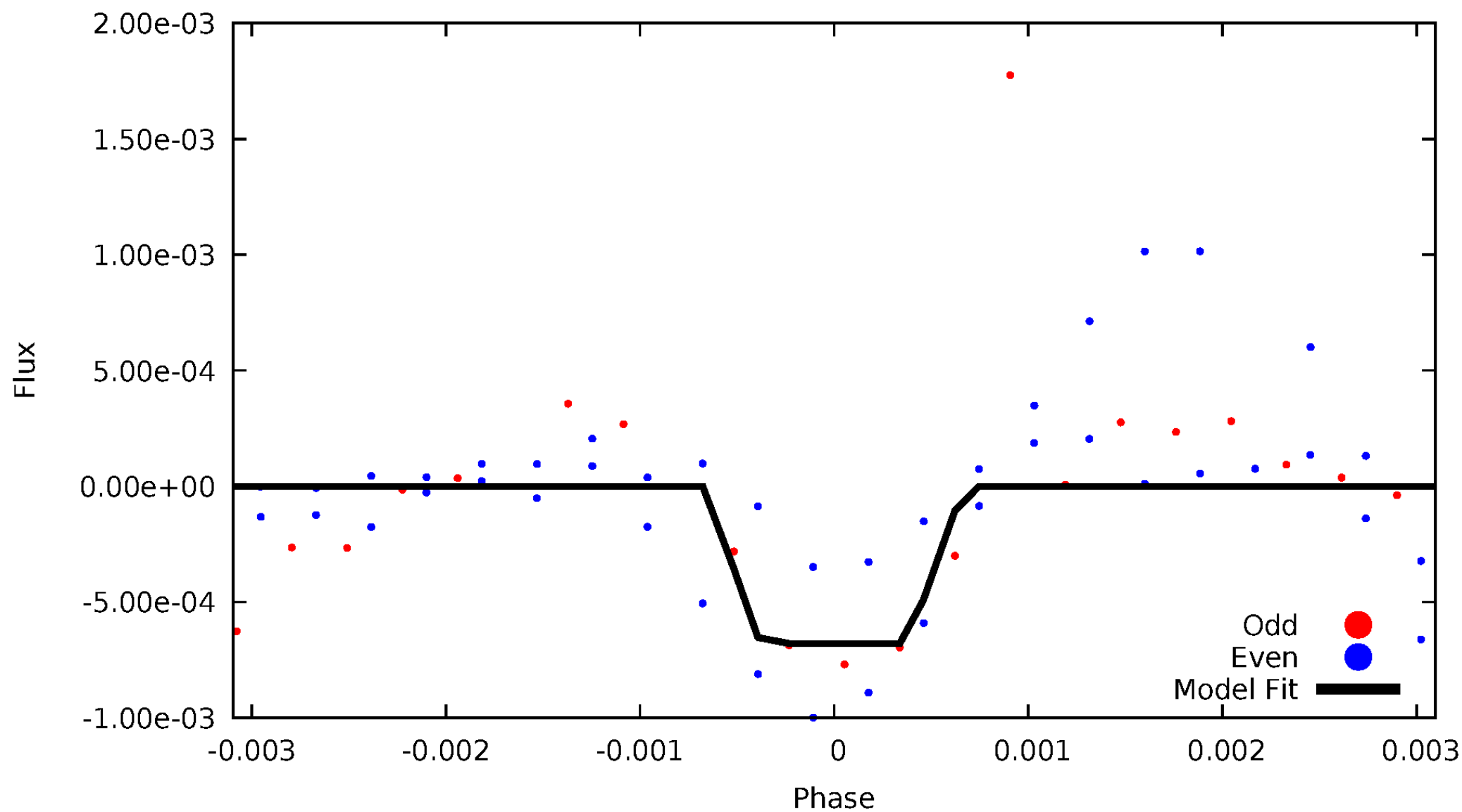
DV Odd/Even

TCE 010592678-01



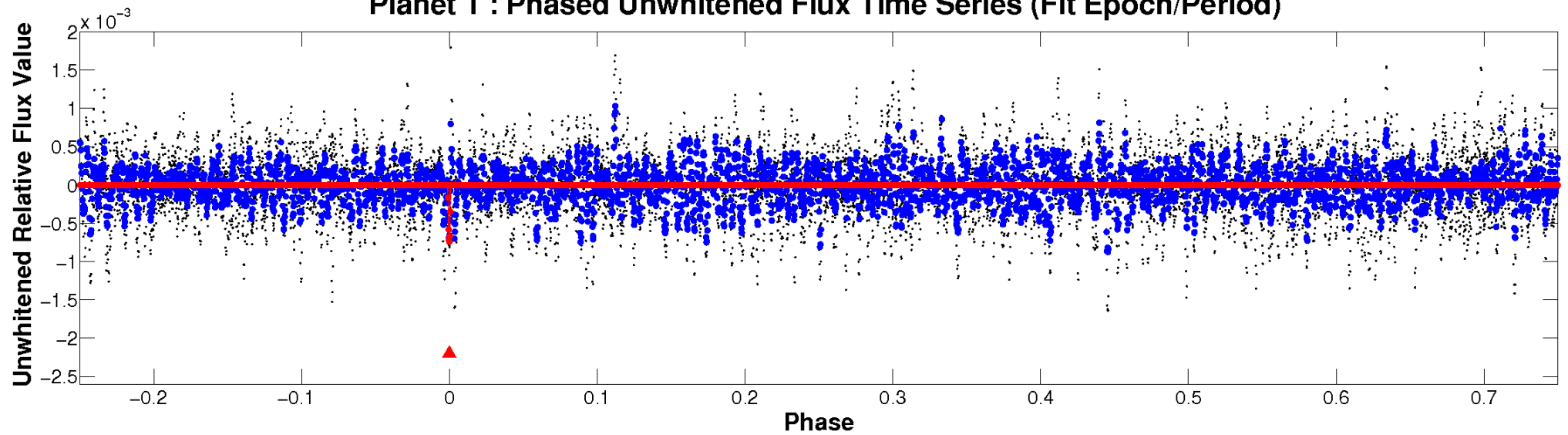
ALT Odd/Even

TCE 010592678-01

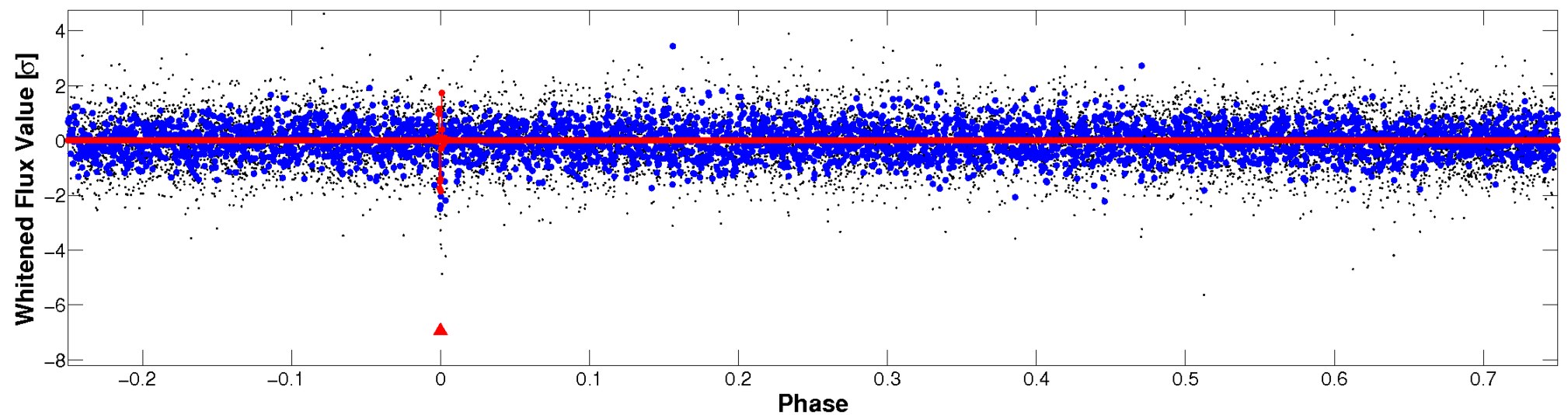


Non-Whitened Vs. Whitened Light Curve

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

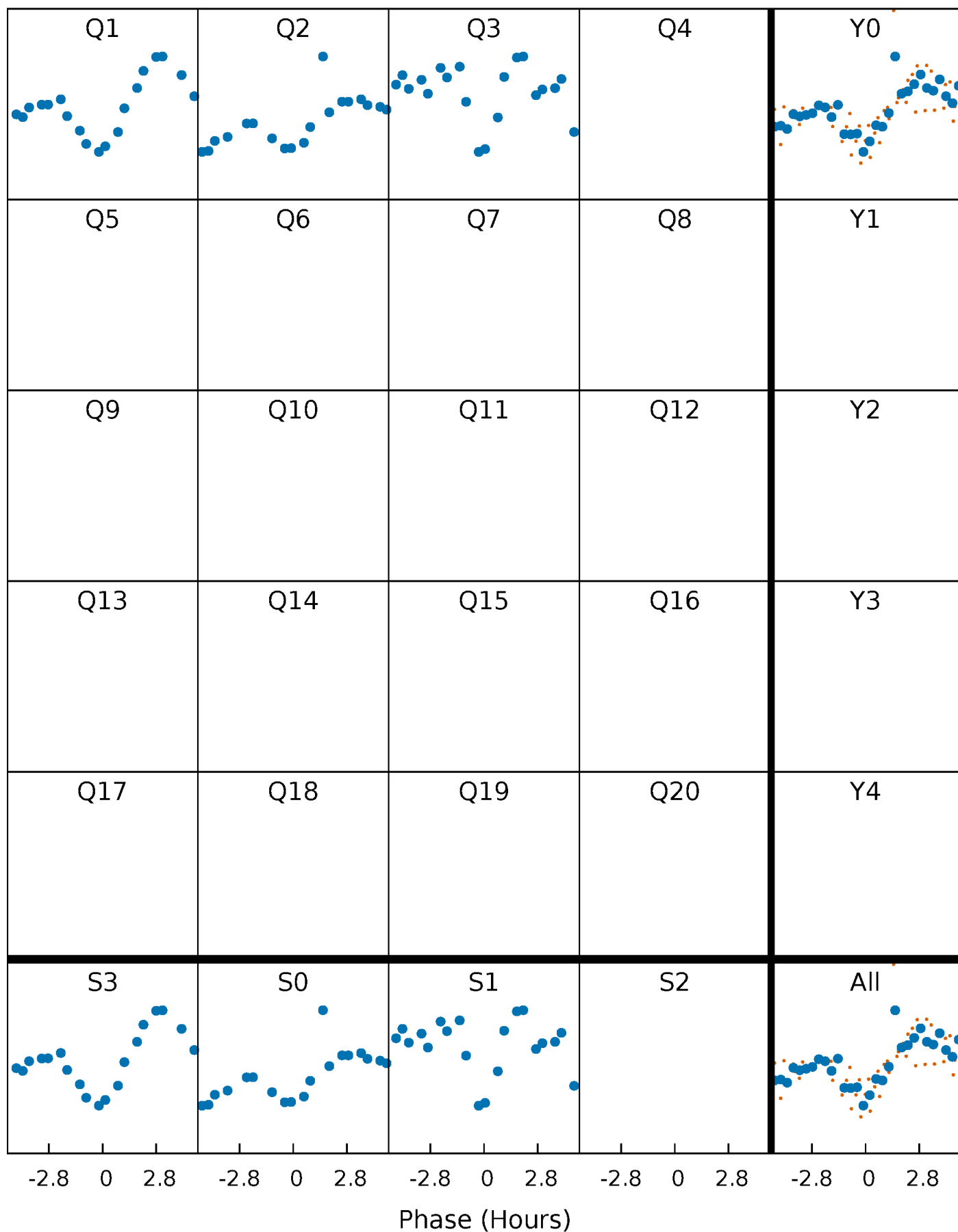


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



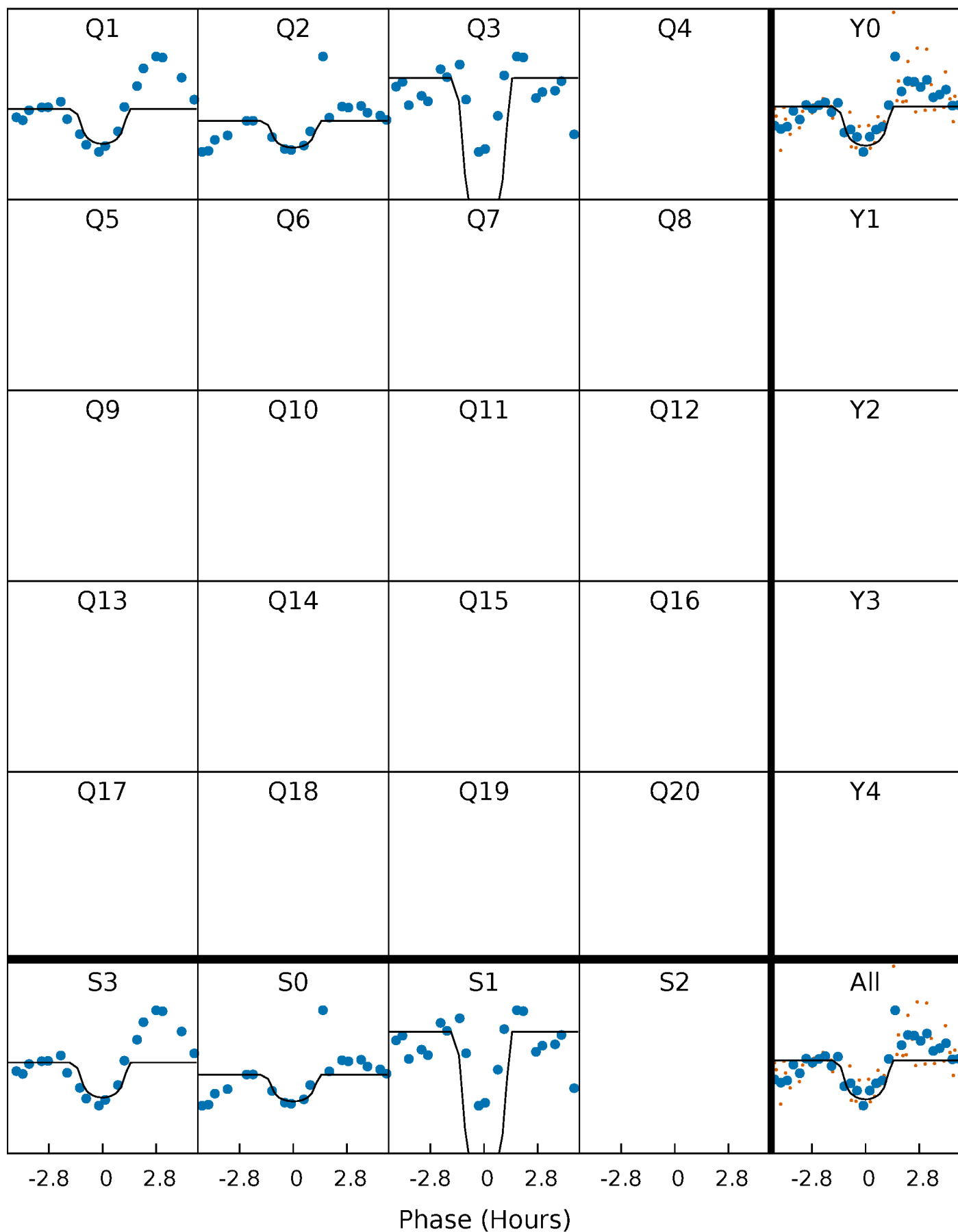
PDC Quarter-Phased Transit Curves

TCE 010592678-01 P= 71.774292 Days $T_0=155.124071$ (BKJD)



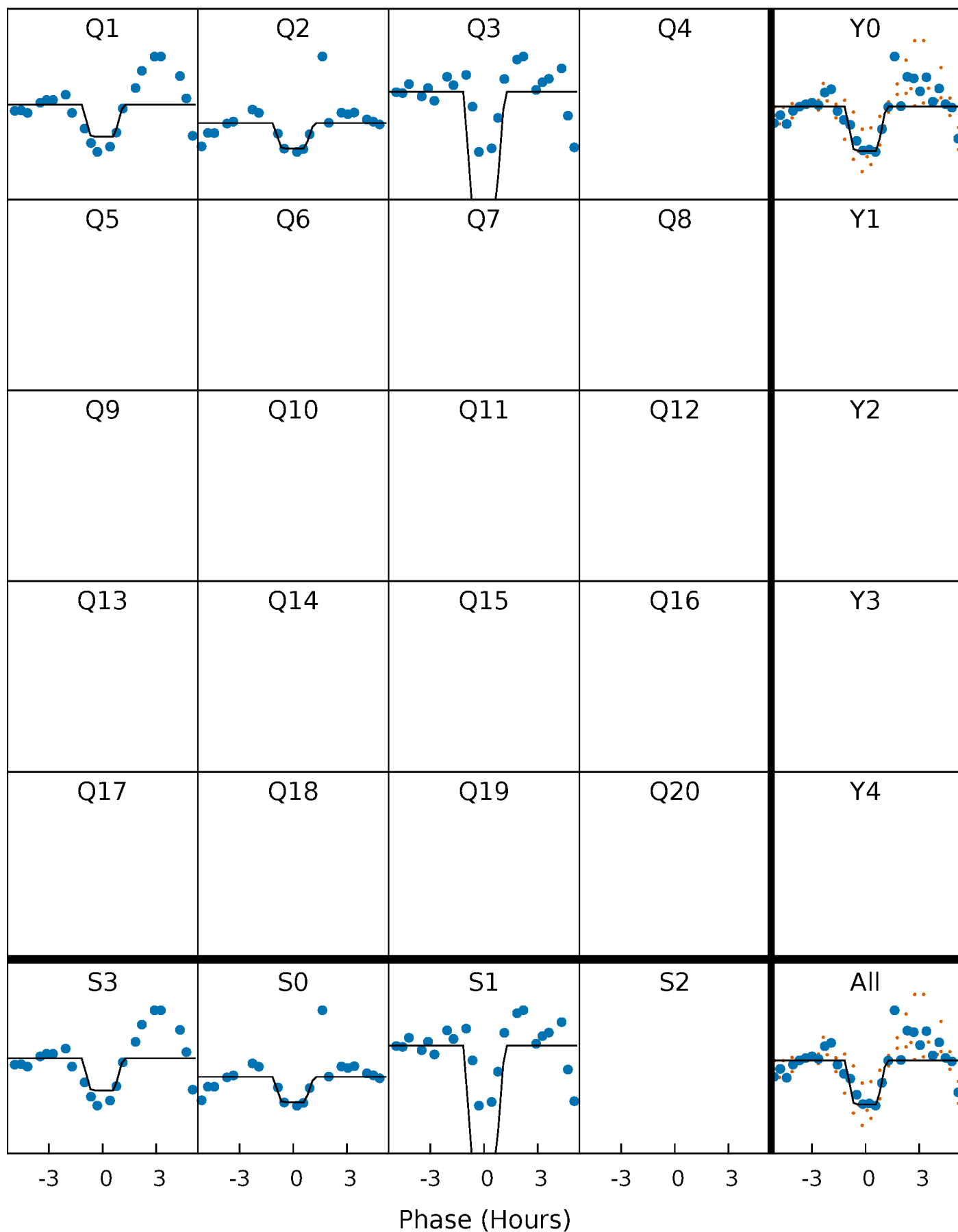
DV Quarter-Phased Transit Curves

TCE 010592678-01 P= 71.774292 Days $T_0=155.124071$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

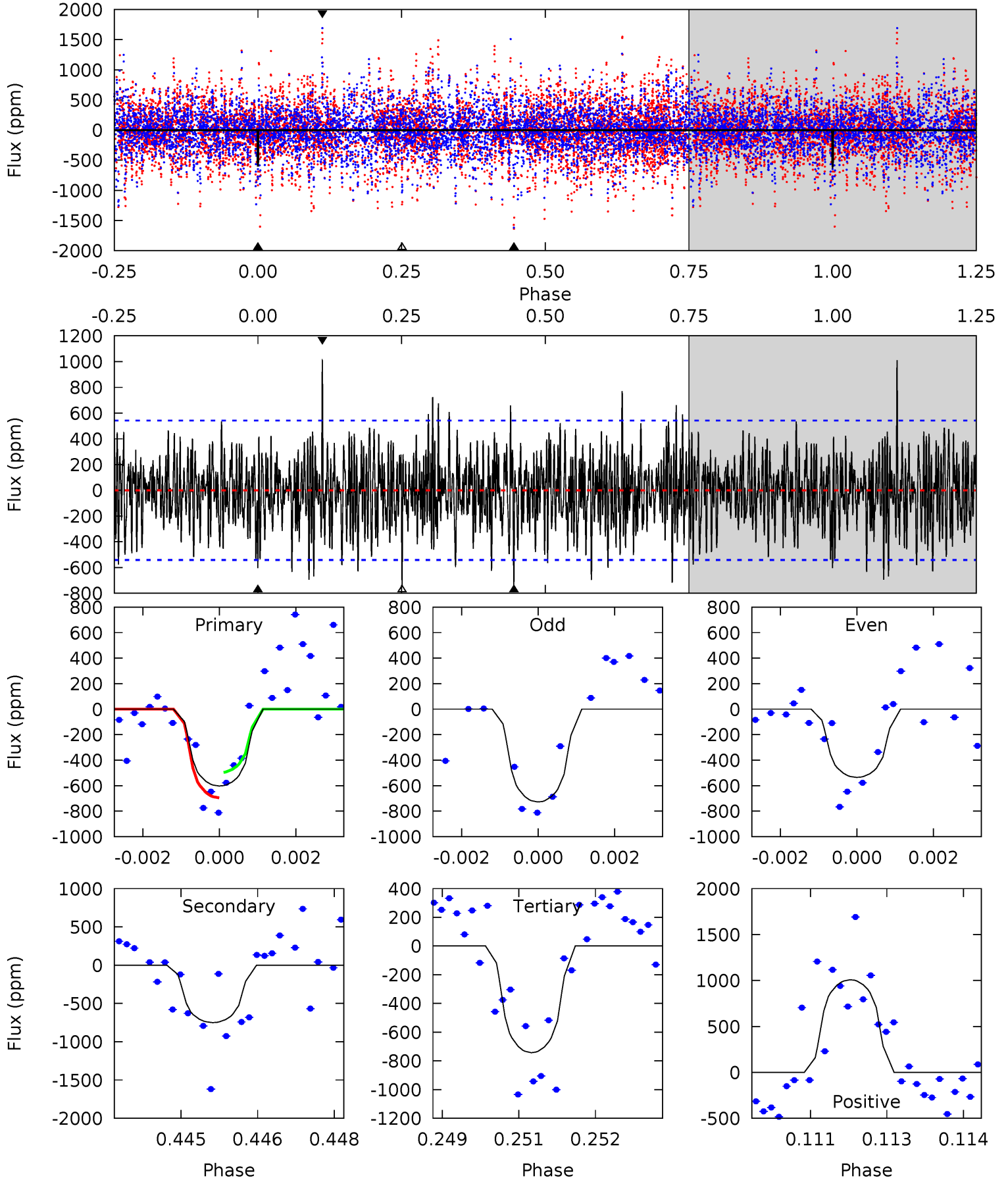
TCE 010592678-01 $P = 71.772551$ Days $T_0 = 155.121540$ (BKJD)



DV Model-Shift Uniqueness Test

010592678-01, P = 71.774292 Days, E = 83.349779 Days

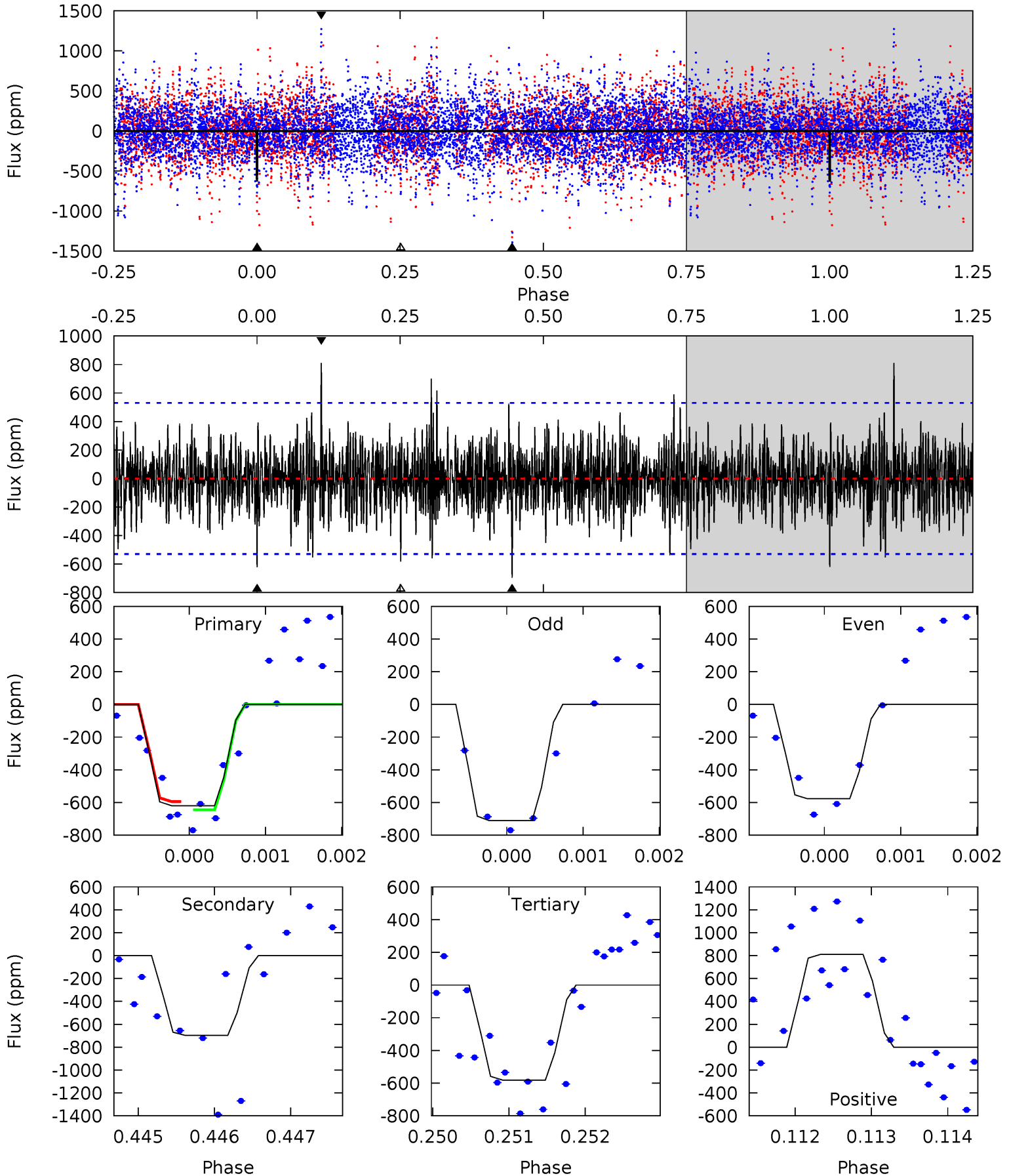
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.96	7.42	7.35	9.98	5.36	3.15	2.25	-1.39	-4.01	0.07	-2.55	0.89	0.83	0.57	0.99



Alt Model-Shift Uniqueness Test

010592678-01, P = 71.772551 Days, E = 83.348989 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.37	7.16	5.97	8.32	5.45	3.29	1.74	0.40	-1.95	1.19	-1.16	0.64	0.87	0.54	0.26



Stellar Parameters For KIC 010592678

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4828^{+86}_{-172}	$2.324^{+0.630}_{-0.105}$	$0.210^{+0.150}_{-0.400}$	$21.752^{+2.729}_{-15.462}$	$3.637^{+0.073}_{-2.484}$	$0.000^{+0.006}_{-0.000}$
	+2%/-4%	+27%/-5%	+71%/-190%	+13%/-71%	+2%/-68%	+1206%/-24%
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 010592678-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-750 ± 101	$98.45^{+128.11}_{-67.50}$	1879^{+117}_{-326}	3800^{+2259}_{-825}	11^{+99}_{-8}
Alt.	-696 ± 97	$106.00^{+122.73}_{-74.14}$	1877^{+122}_{-313}	3663^{+2316}_{-761}	$8.738^{+84.452}_{-6.827}$

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 $A_{obs} \gg 1.0$

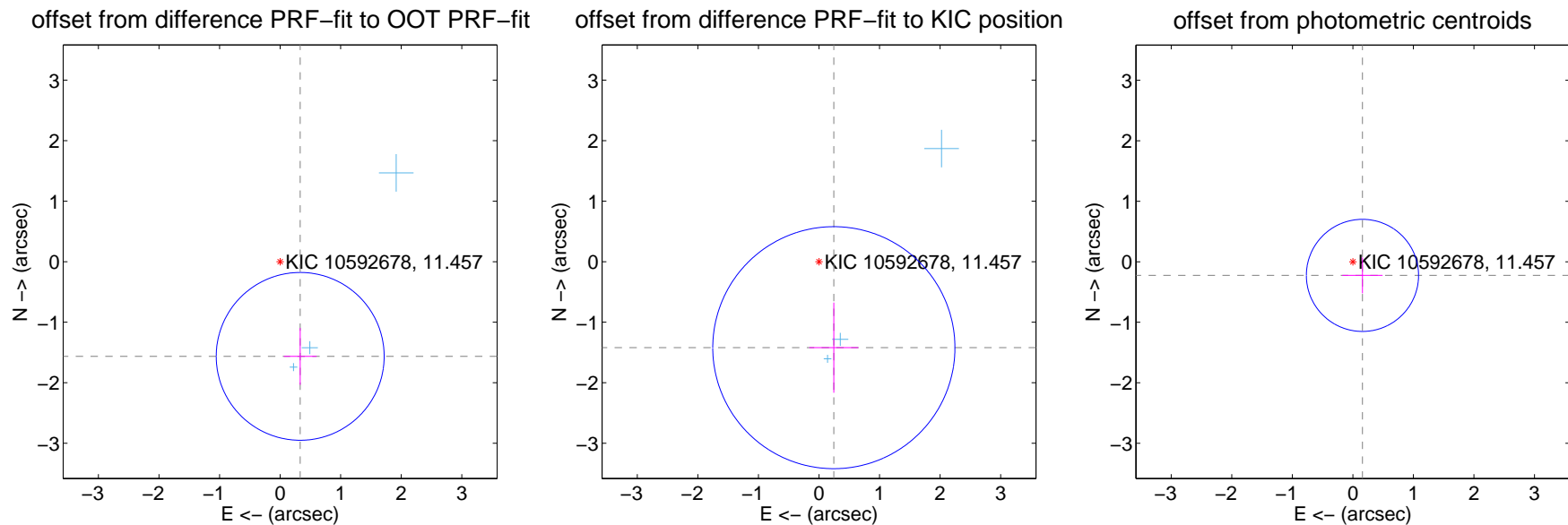
DV Centroid Data

Supplemental centroid analysis for 010592678-01. **Kepler magnitude: 11.46.** Transit SNR 6.41

There are 3 quarters with good PRF difference image offsets

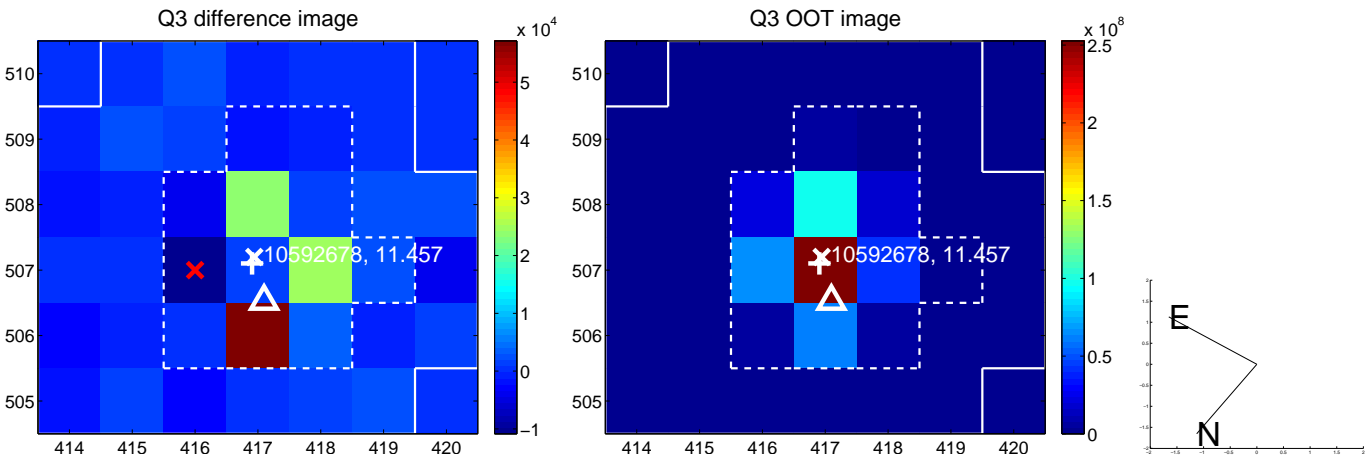
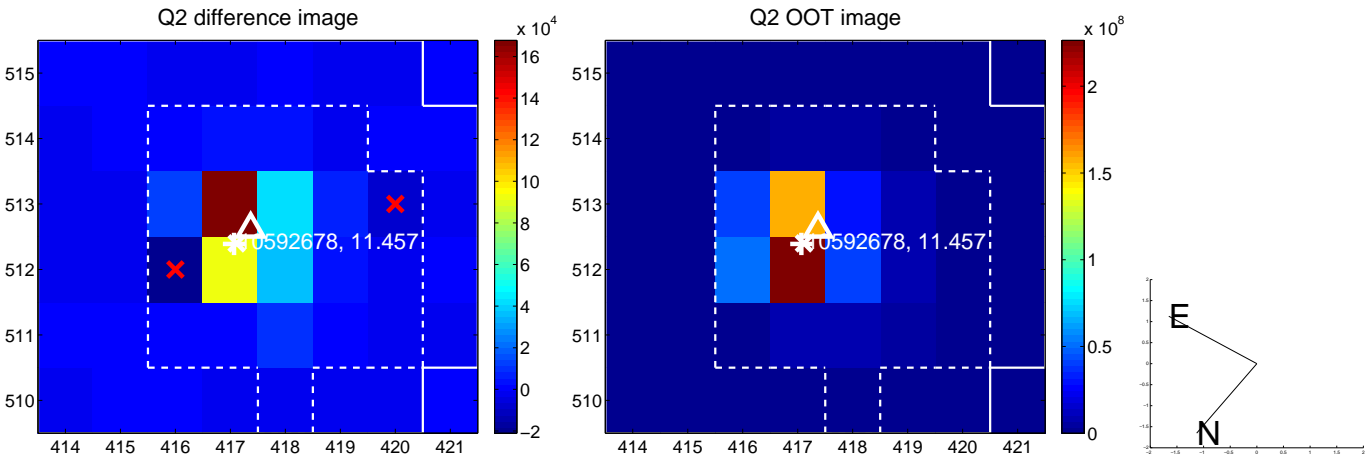
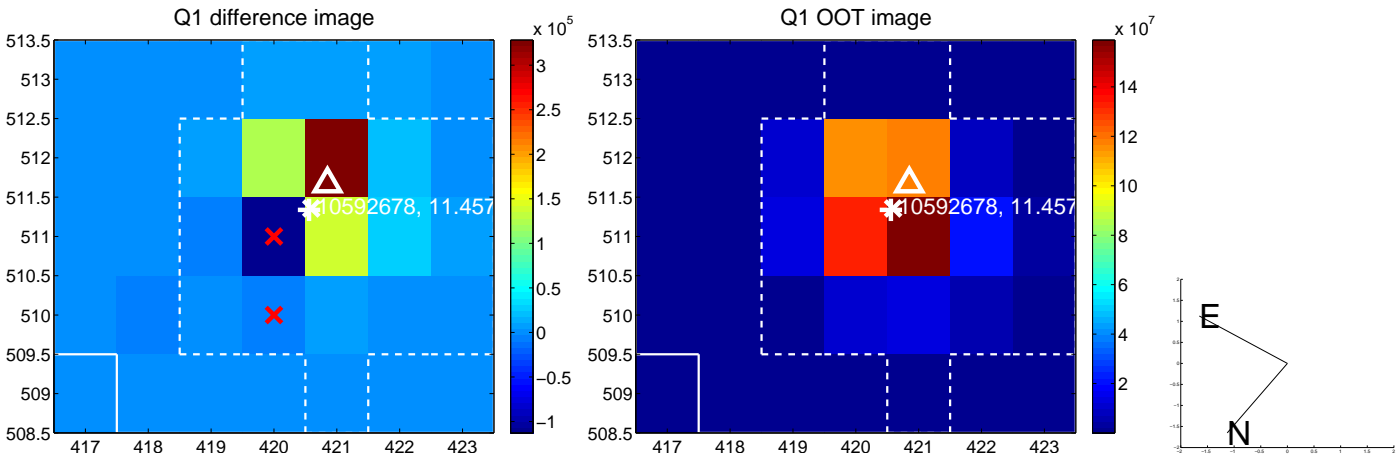
The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.599 ± 0.462	3.46	-0.332 ± 0.270	-1.564 ± 0.469
PRF-fit source offset from KIC position	1.442 ± 0.666	2.16	-0.245 ± 0.405	-1.421 ± 0.745
photometric centroid source offset	0.28 ± 0.31	0.89	-0.16 ± 0.33	-0.23 ± 0.30



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.



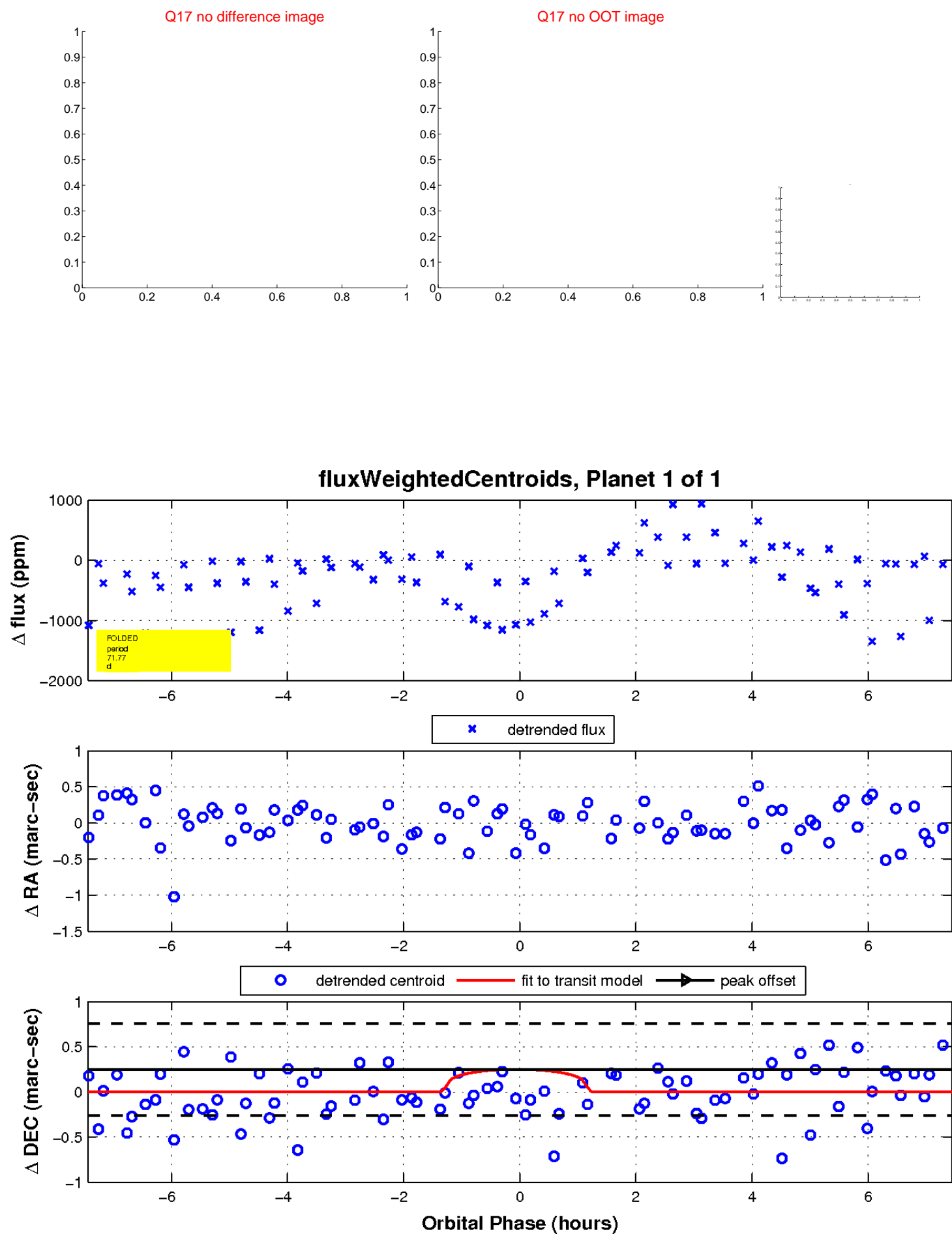
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

