

KIC 006048106

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})
006048106-01	OBS	6655.01	1.559396	132.511725	244798.9	4.706	1836.6	1102.0	1.49	7002	125.61	5900.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006048106-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_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.

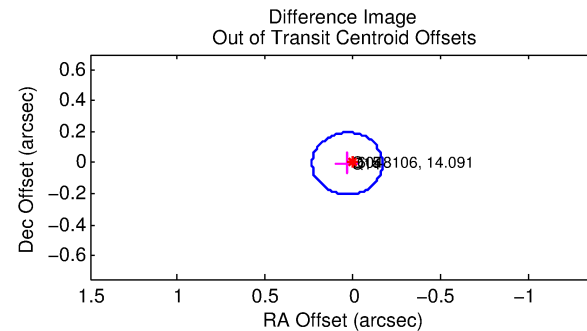
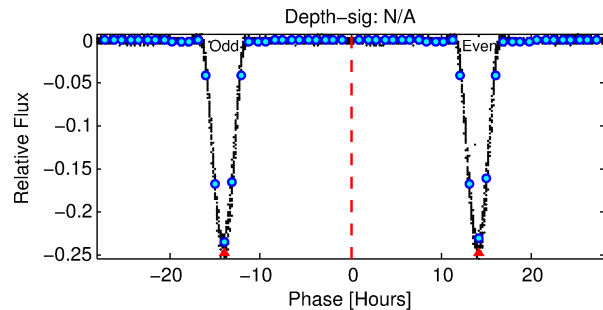
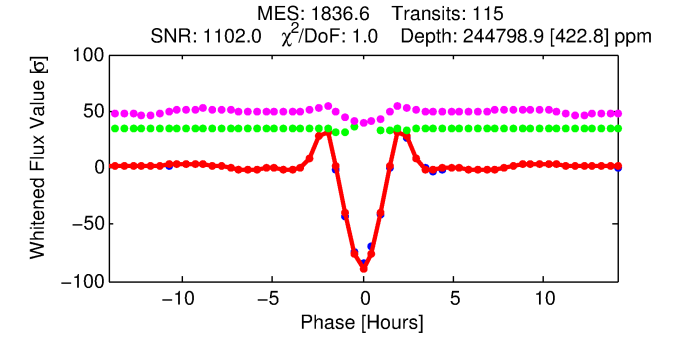
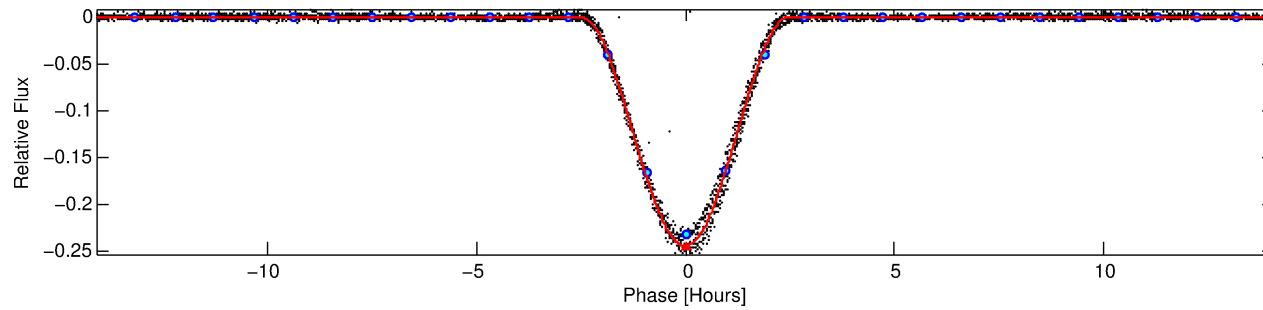
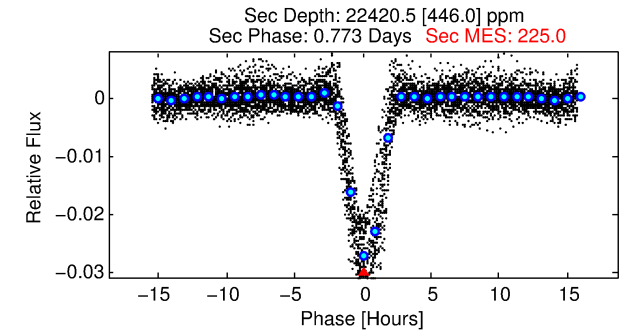
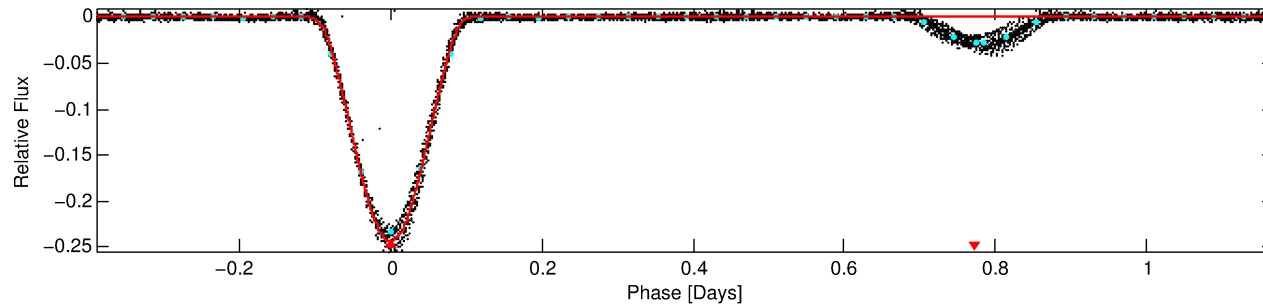
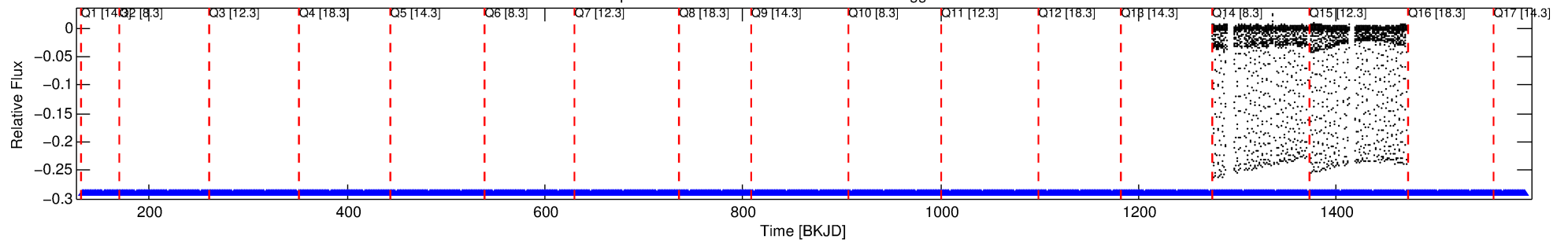
Ephemeris Match Information For 006048106-01

No Significant Match Found

DV One-Page Summary

KIC: 6048106 Candidate: 1 of 1 Period: 1.559 d
KOI: K06655.01 Corr: 0.918

Kp: 14.09 R*: 1.49 Rs Teff: 7002.0 K Logg: 4.19 Fe/H: -0.400



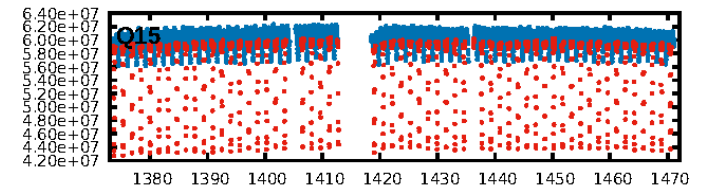
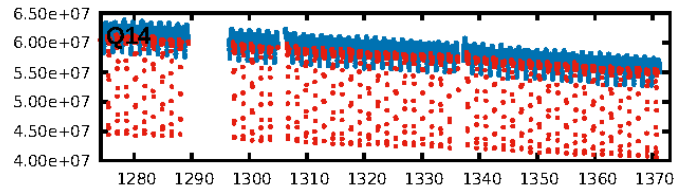
DV Fit Results:

Period = 1.55940 [0.00000] d
Epoch = 132.5117 [0.0000] BKJD
Rp/R* = 0.7736 [0.0096]
a/R* = 3.94 [0.01]
b = 1.00 [0.01]
Seff = 5900.78 [2292.50]
Teq = 2235 [217] K
Rp = 125.61 [36.16] Re
a = 0.0284 [0.0068] AU
Ag = 0.63 [0.22] [-1.68σ]
Teffp = 3081 [139] K [3.28σ]

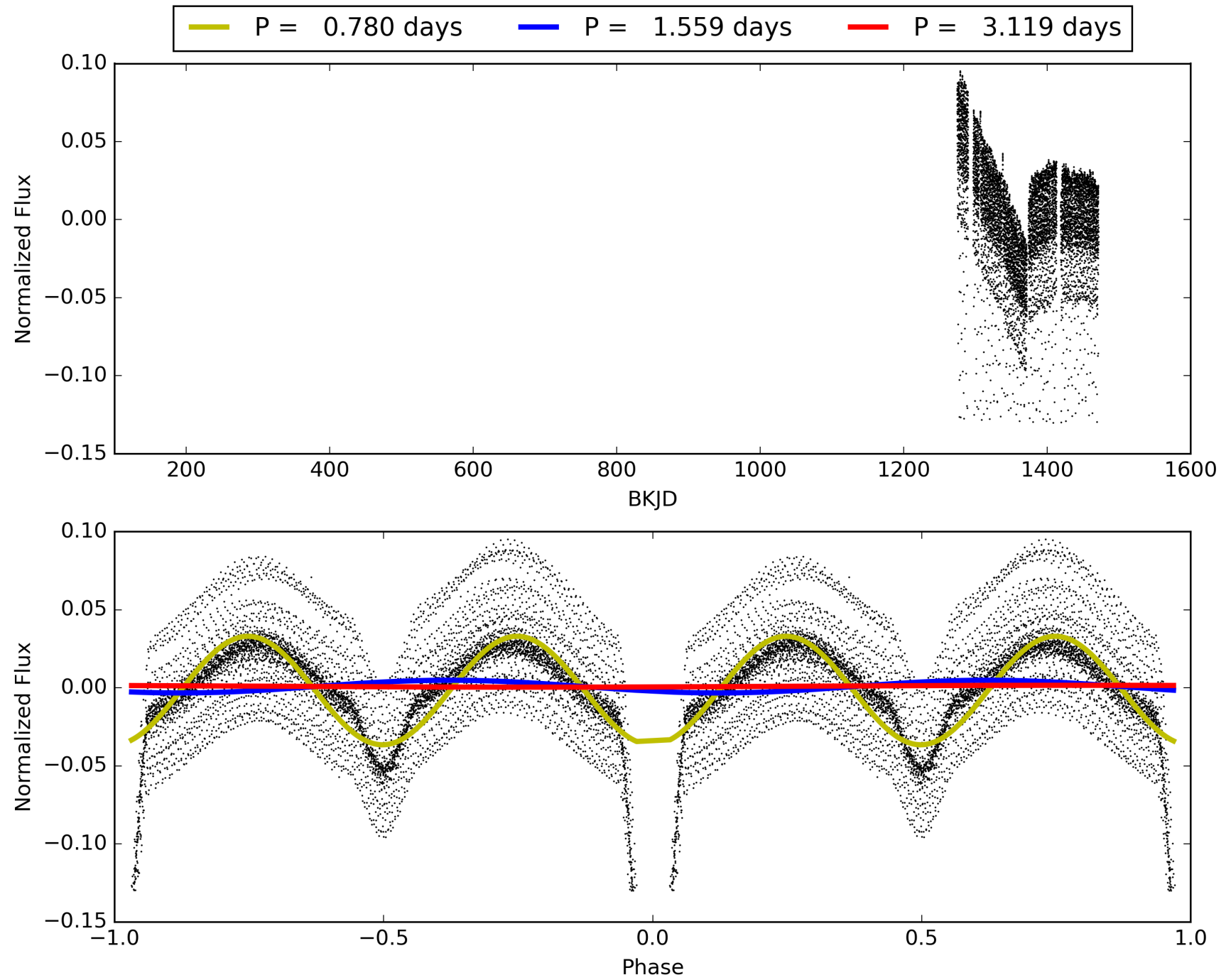
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [115/115]
GhostDiagnostic-chr: 1.532
Centroid-sig: N/A
Centroid-so: 0.194 arcsec [214.42σ]
OotOffset-rm: 0.033 arcsec [0.50σ]
KicOffset-rm: 0.089 arcsec [1.21σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 006048106-01, PDC Light Curves

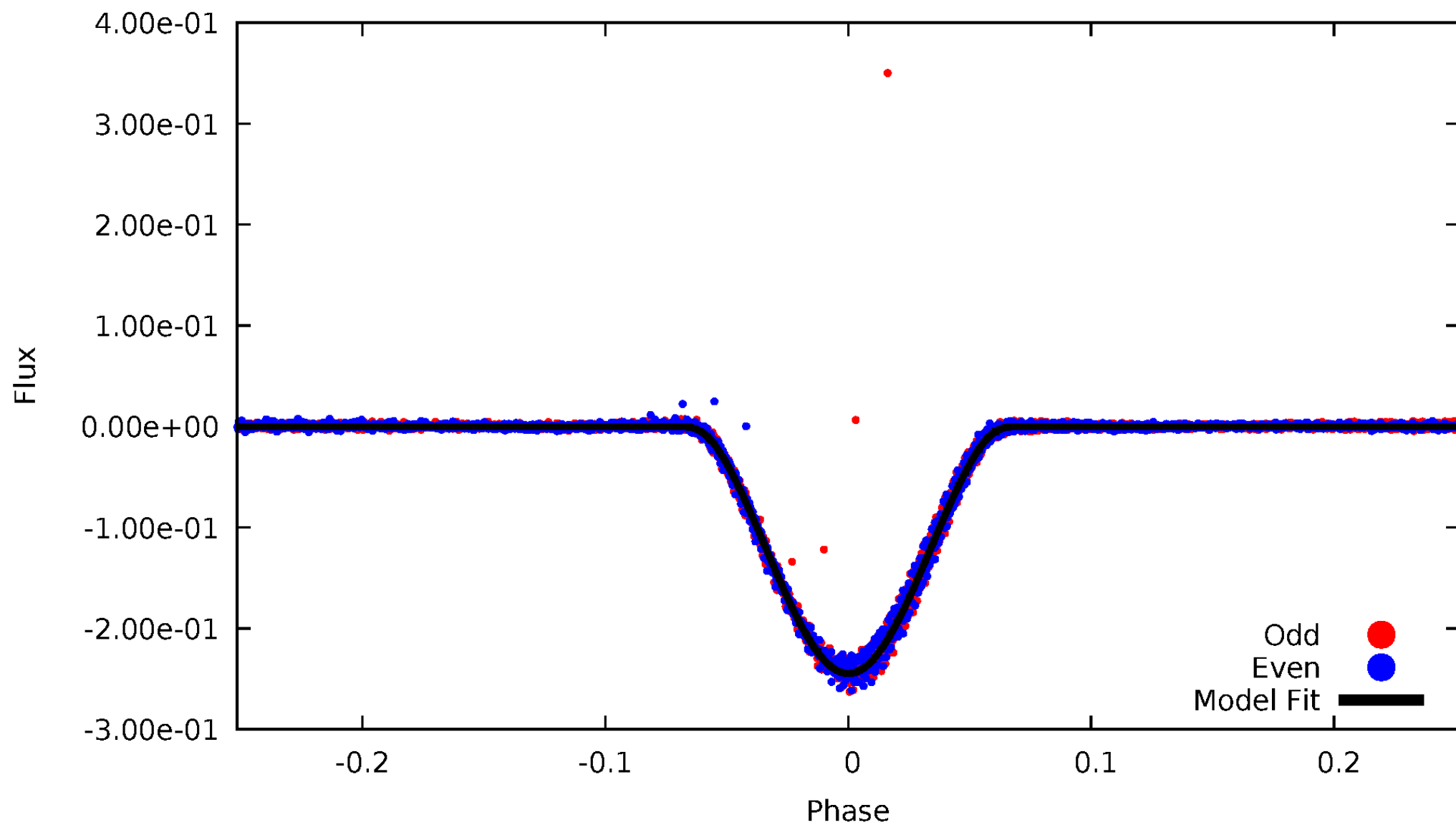


TCE 006048106-01



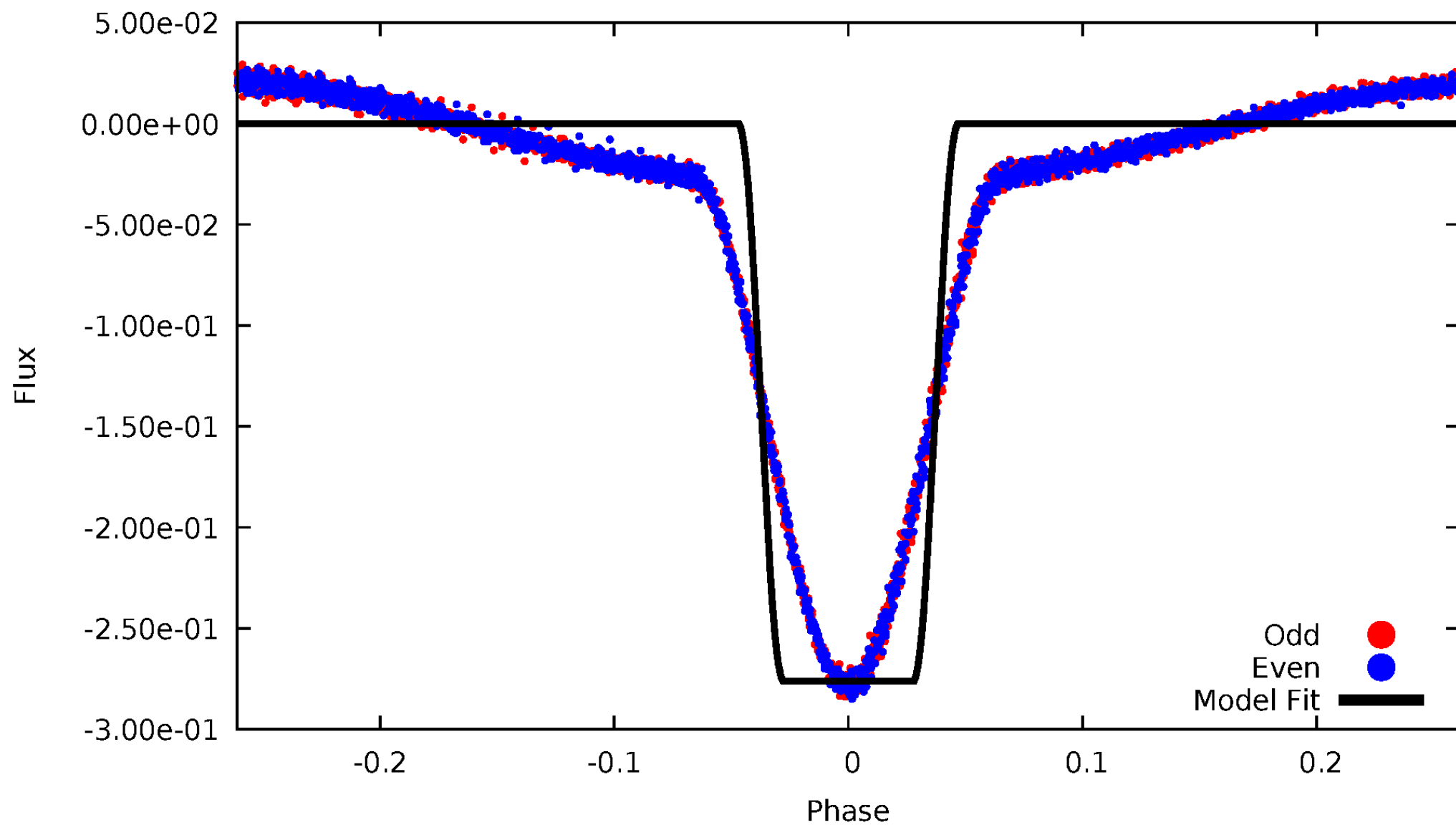
DV Odd/Even

TCE 006048106-01



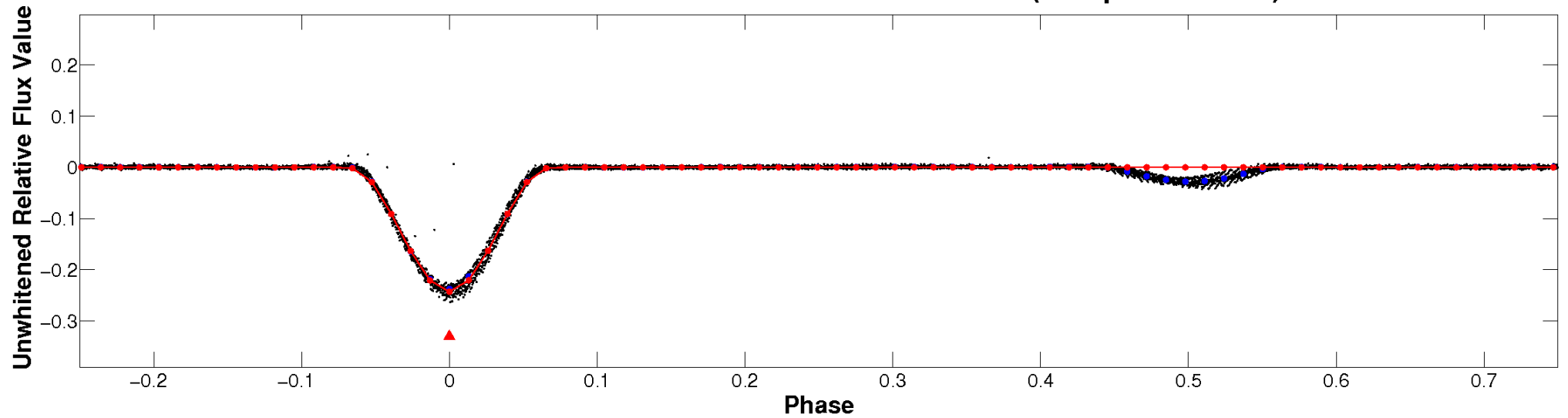
ALT Odd/Even

TCE 006048106-01

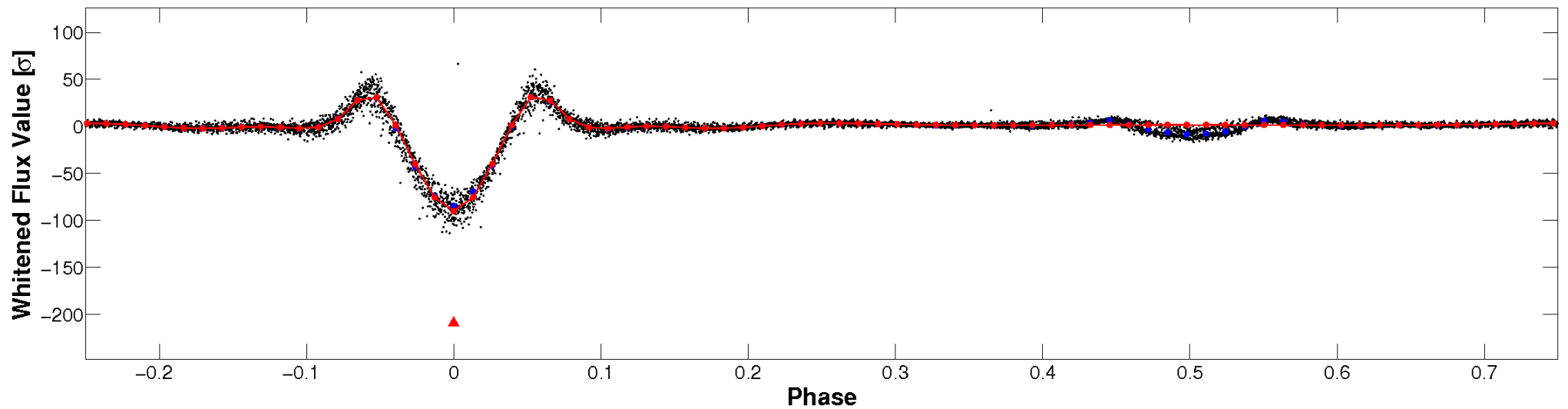


Non-Whitened Vs. Whitened Light Curve

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

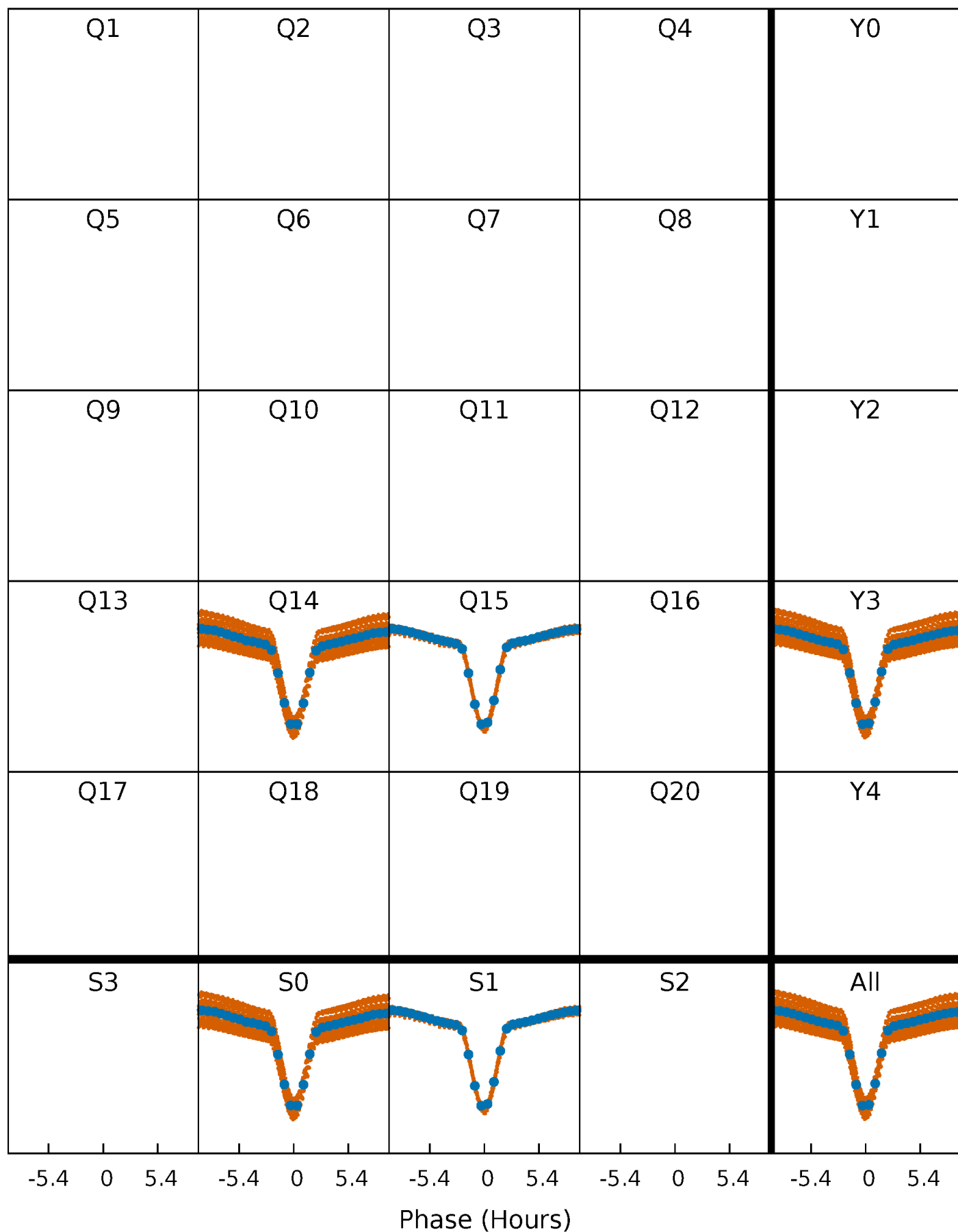


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



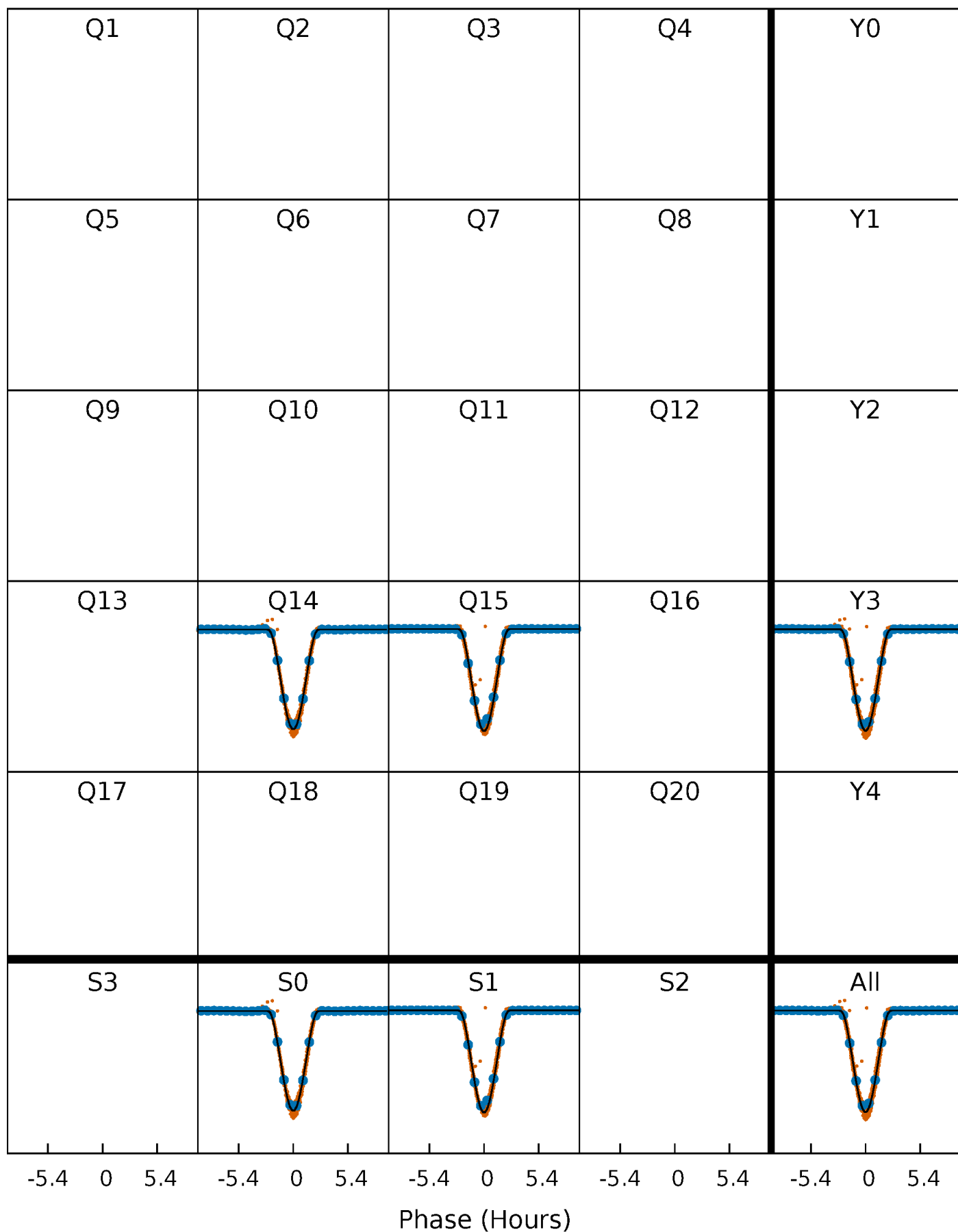
PDC Quarter-Phased Transit Curves

TCE 006048106-01 P= 1.559396 Days $T_0=132.511725$ (BKJD)



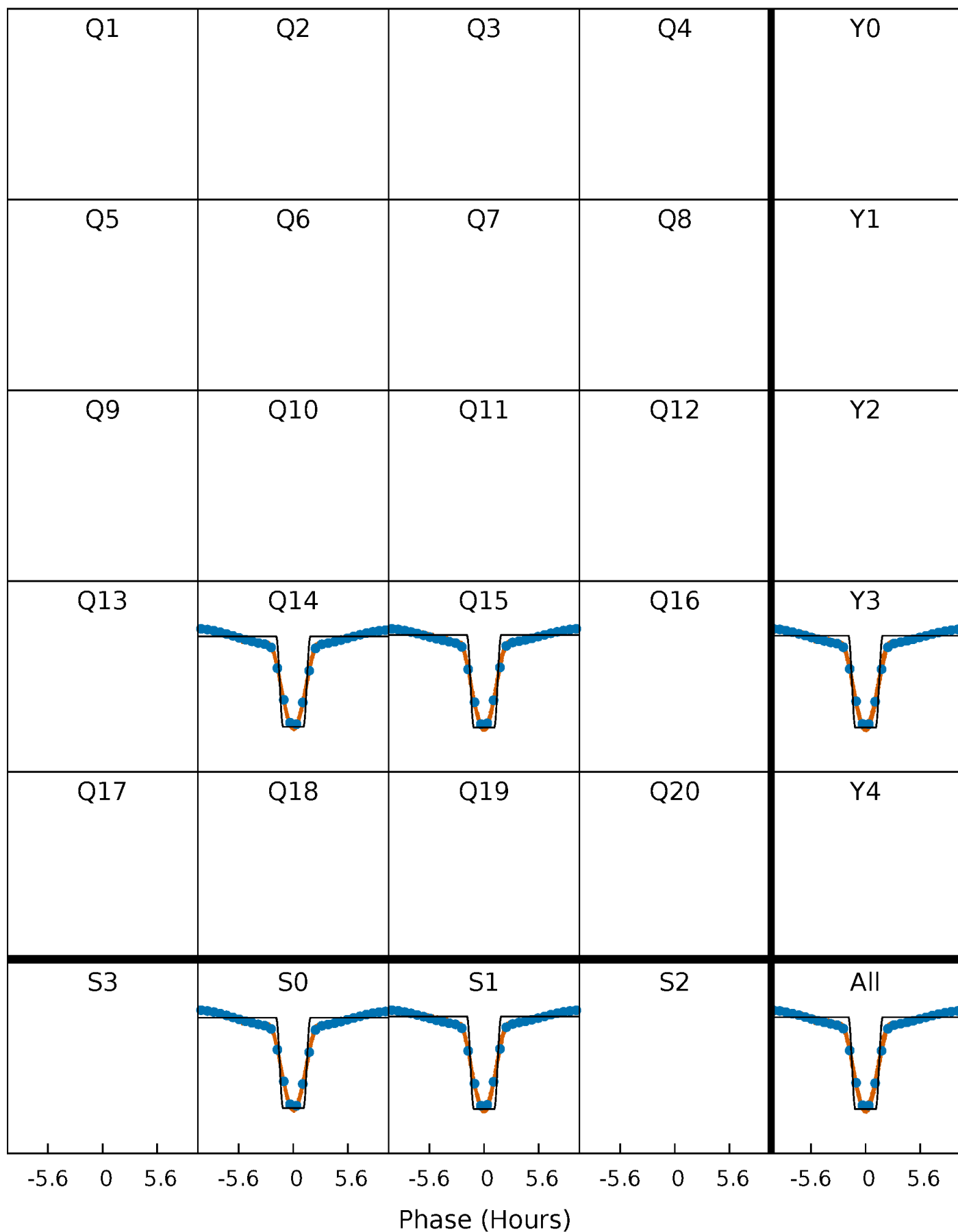
DV Quarter-Phased Transit Curves

TCE 006048106-01 P= 1.559396 Days $T_0=132.511725$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

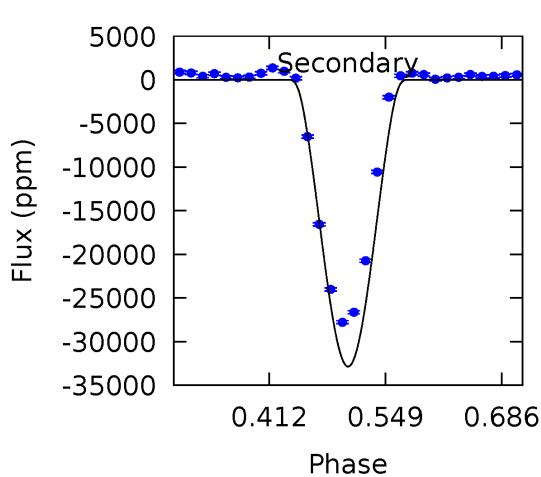
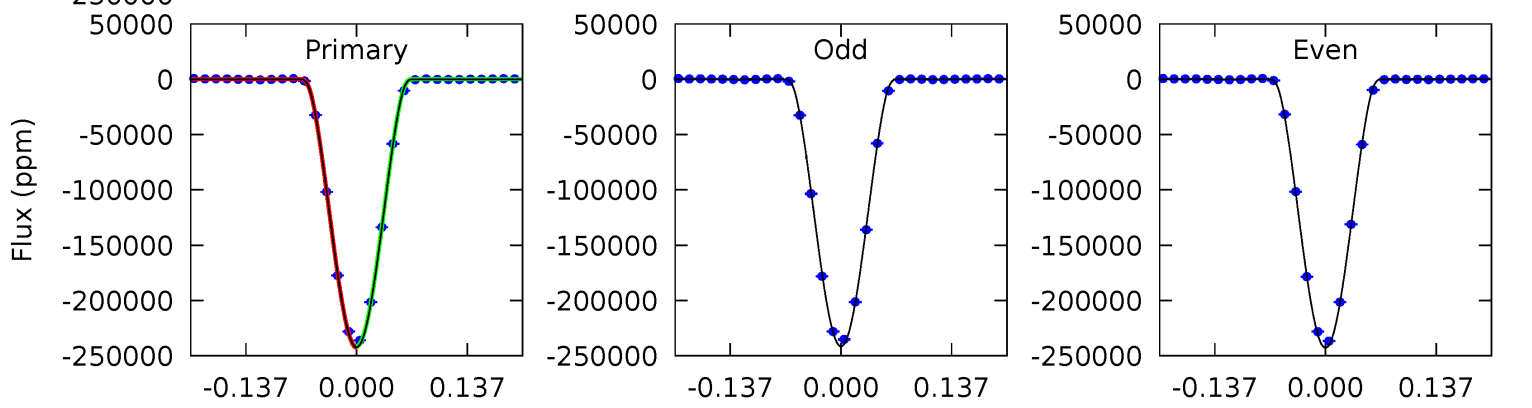
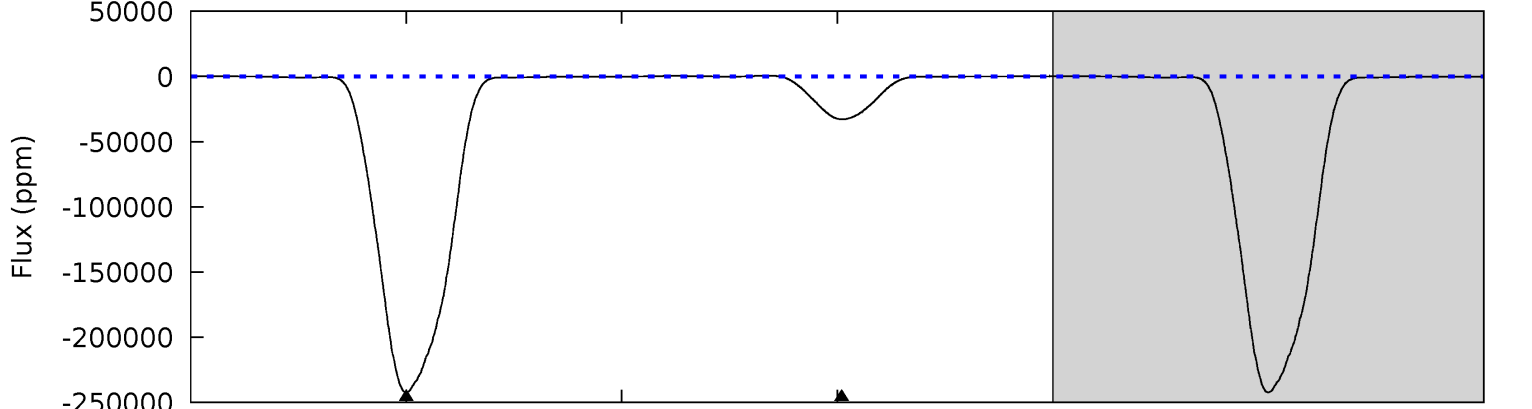
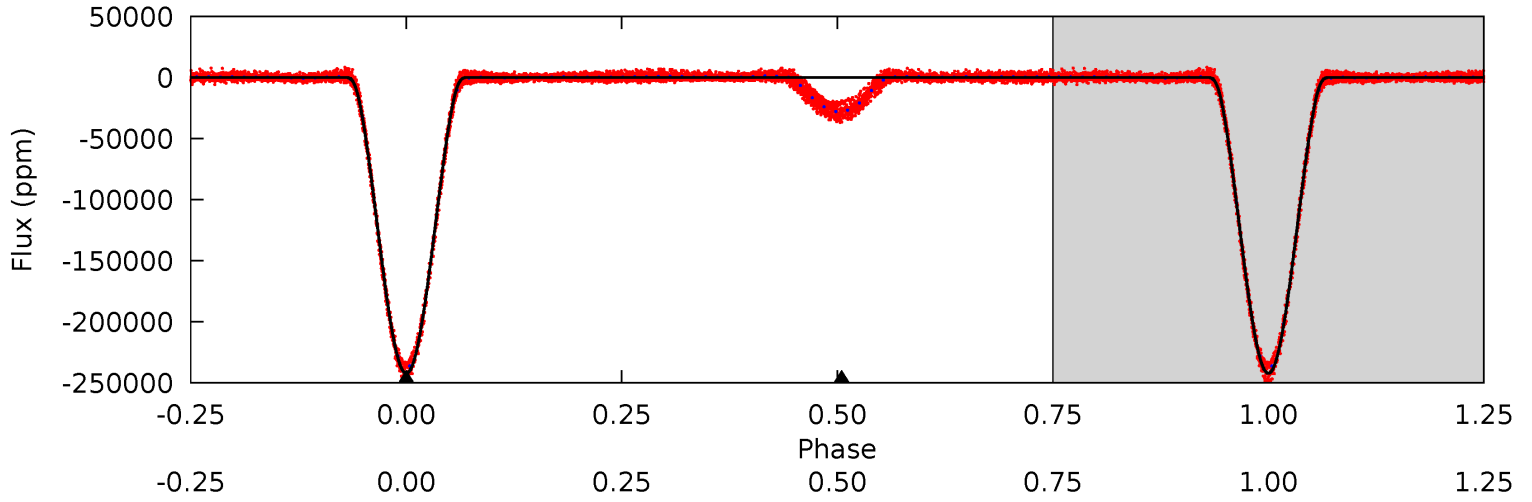
TCE 006048106-01 P= 1.559394 Days $T_0=132.512630$ (BKJD)



DV Model-Shift Uniqueness Test

006048106-01, P = 1.559396 Days, E = 132.511725 Days

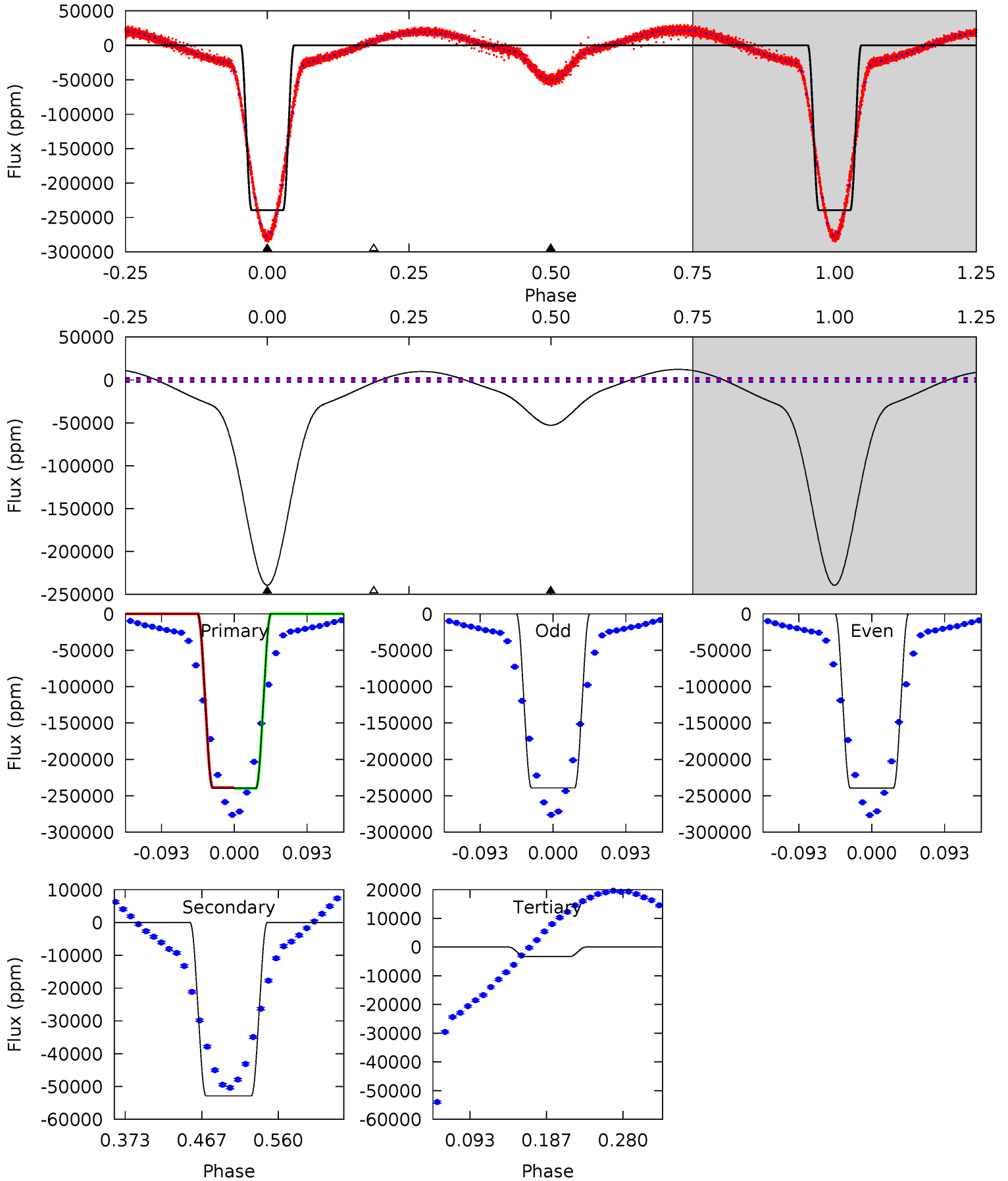
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3817	517.8	0	0	4.50	1.49	3.32	3817	3817	517.8	517.8	10.6	0.99	0.00	0



Alt Model-Shift Uniqueness Test

006048106-01, P = 1.559394 Days, E = 132.512630 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
478.2	105.6	6.48	0	4.58	1.68	23.6	471.7	478.2	99.1	105.6	0.23	1.00	0.05	1.26



Stellar Parameters For KIC 006048106

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7002^{+216}_{-312}	$4.193^{+0.153}_{-0.187}$	$-0.400^{+0.250}_{-0.300}$	$1.488^{+0.428}_{-0.312}$	$1.261^{+0.198}_{-0.198}$	$0.539^{+0.433}_{-0.280}$
	+3%/-4%	+4%/-4%	+62%/-75%	+29%/-21%	+16%/-16%	+80%/-52%
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 006048106-01 / KOI 6655.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-32856 ± 63	$126.67^{+20.72}_{-15.92}$	3127^{+240}_{-232}	3528^{+104}_{-137}	$0.929^{+0.248}_{-0.229}$
Alt.	-52866 ± 501	$85.90^{+14.56}_{-10.00}$	3119^{+246}_{-202}	4684^{+120}_{-153}	$3.346^{+0.885}_{-0.800}$

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

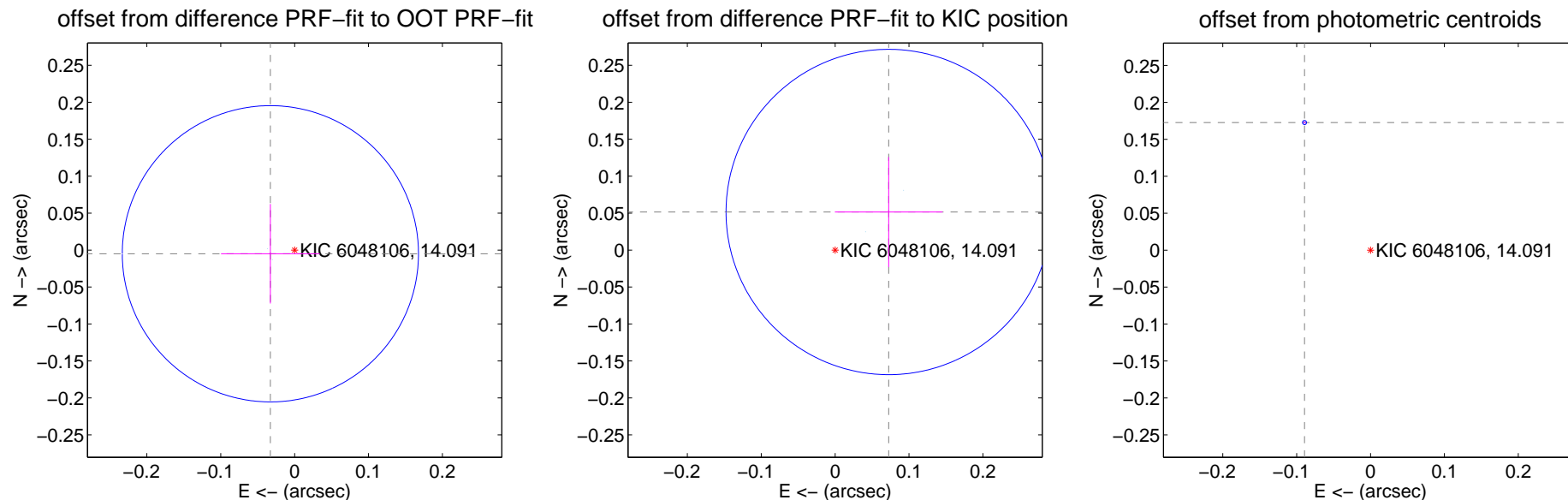
DV Centroid Data

Supplemental centroid analysis for 006048106-01. Kepler magnitude: 14.09. Transit SNR 1102.02

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.033 ± 0.067	0.50	0.033 ± 0.067	-0.005 ± 0.067
PRF-fit source offset from KIC position	0.089 ± 0.073	1.21	-0.072 ± 0.073	0.052 ± 0.074
photometric centroid source offset	0.19 ± 0.00	214.42	0.09 ± 0.00	0.17 ± 0.00



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

Q13 no difference image

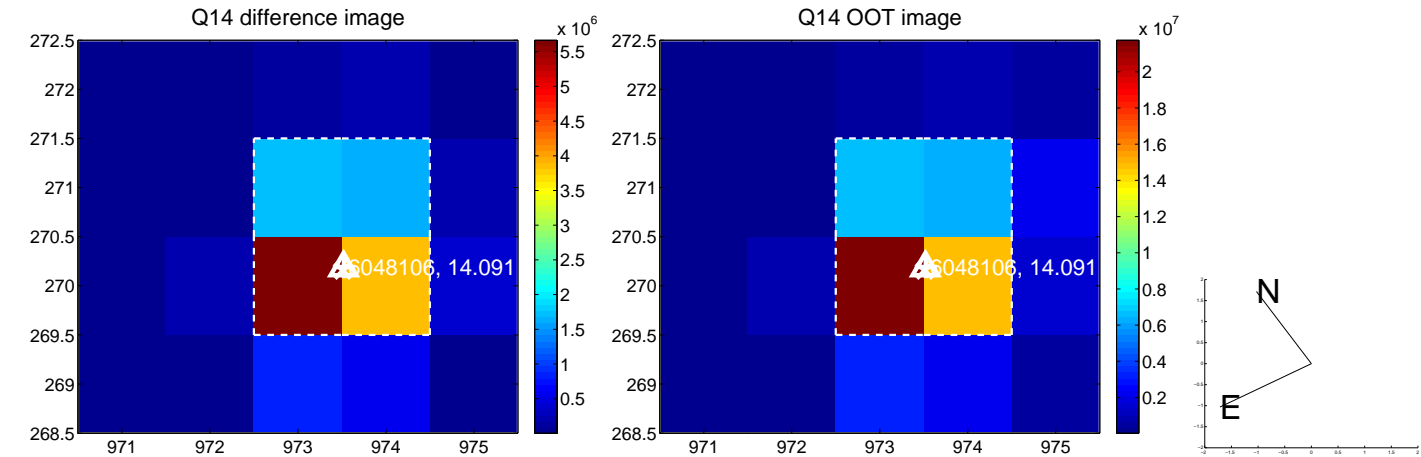


Q13 no OOT image



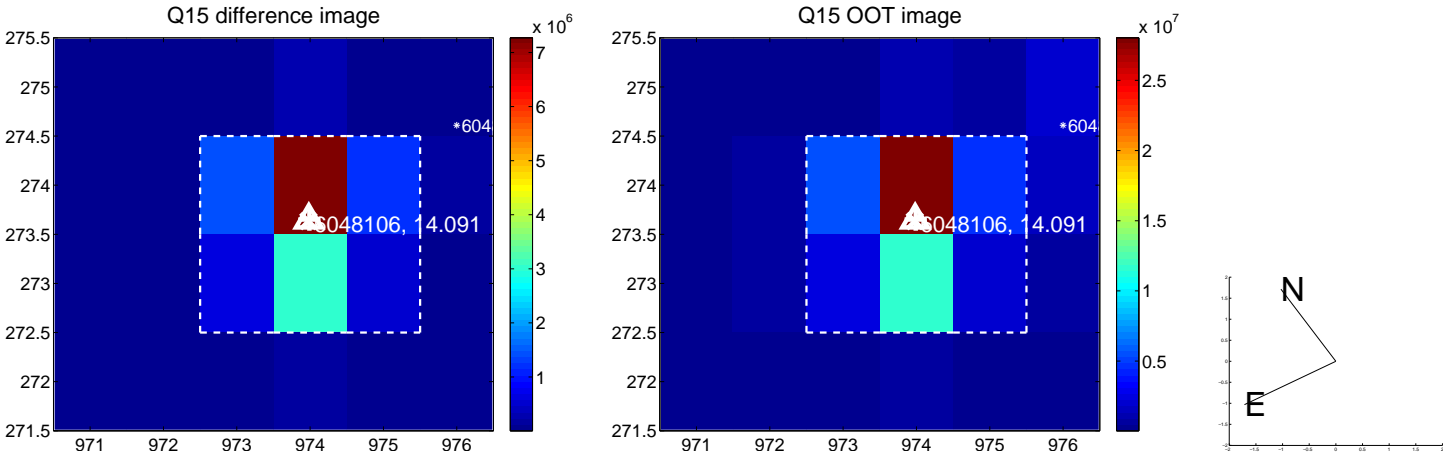
Q14 difference image

Q14 OOT image

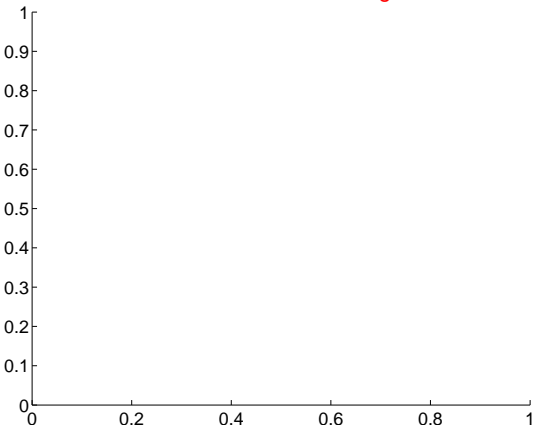


Q15 difference image

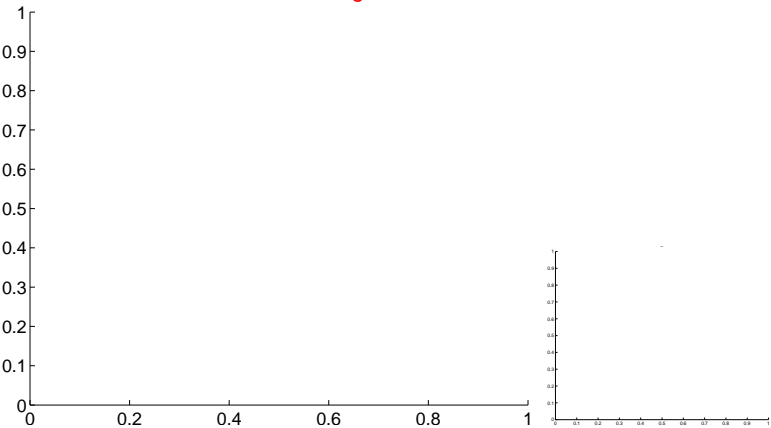
Q15 OOT image



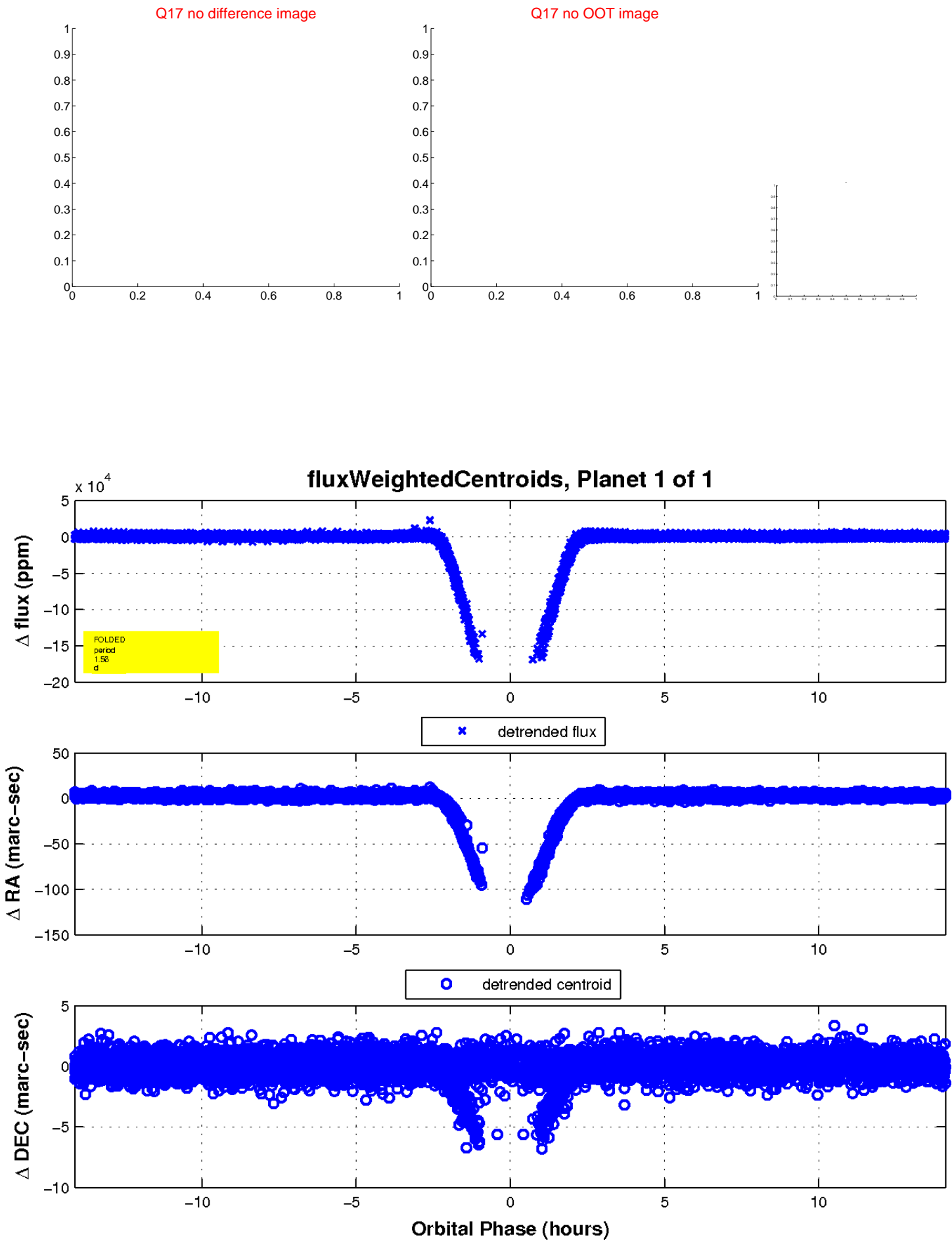
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

