

KIC 003953106

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})
003953106-01	OBS	5025.01	6.587120	133.396841	126730.5	8.752	2402.2	2148.9	1.41	5619	56.12	416.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003953106-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—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.

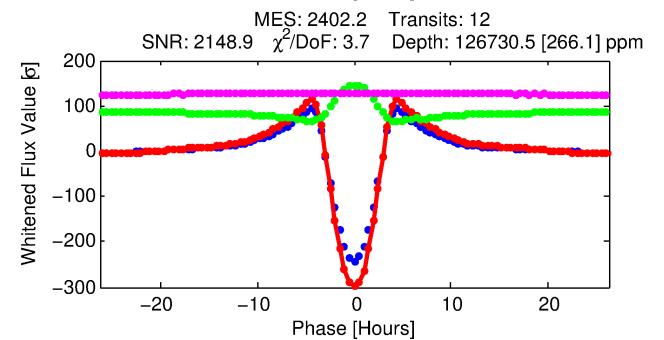
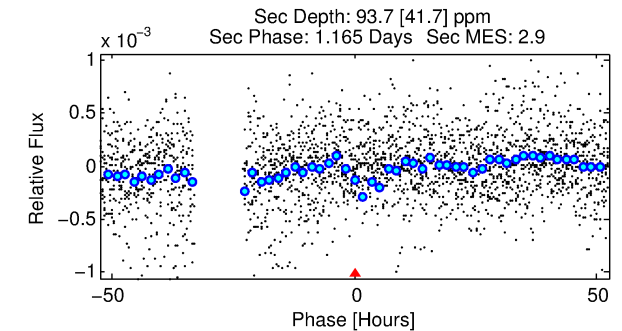
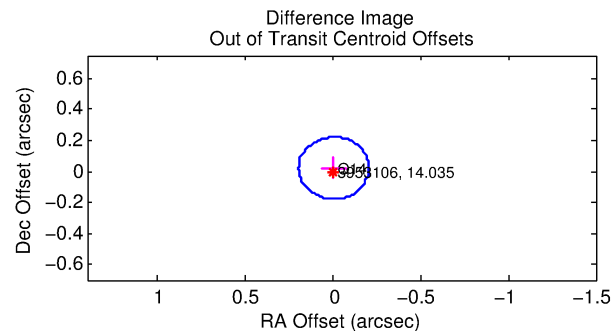
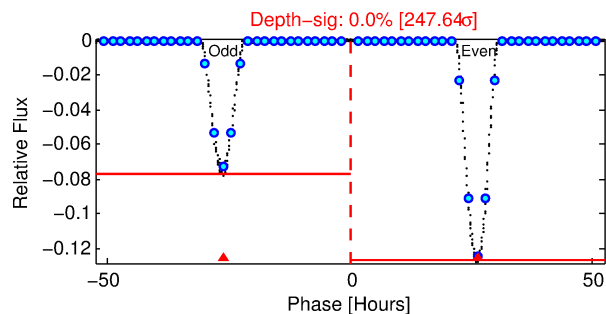
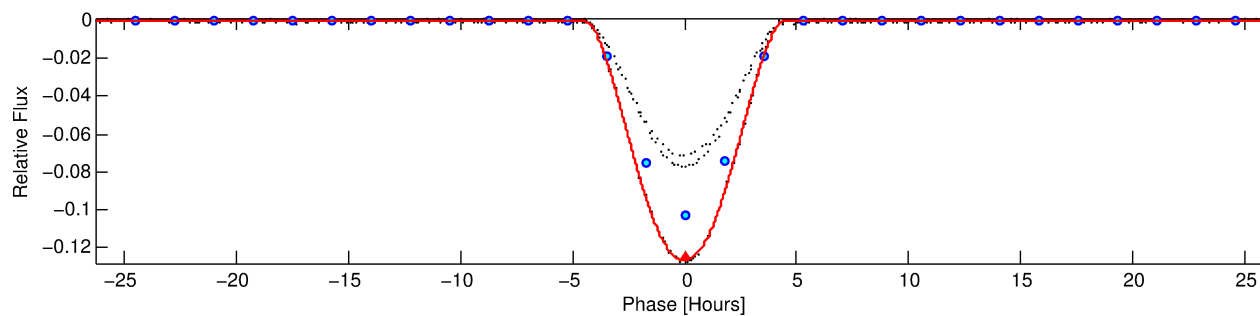
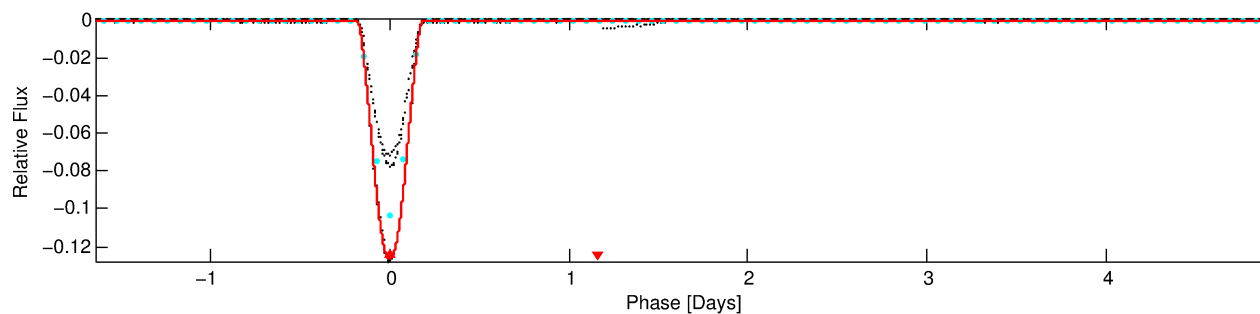
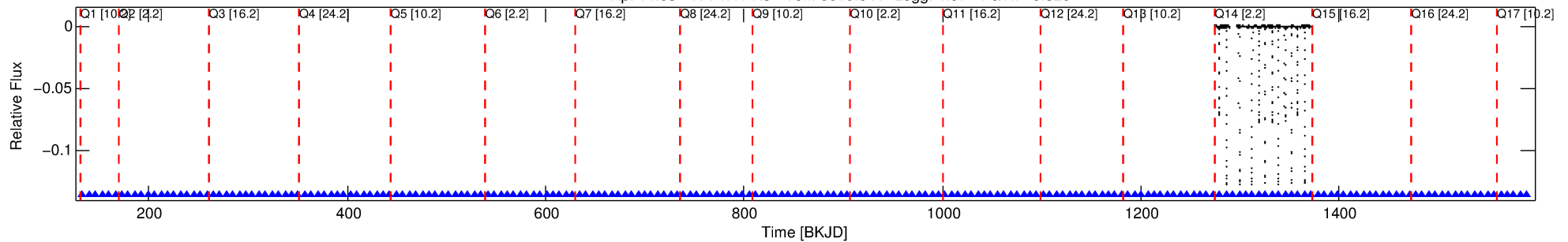
Ephemeris Match Information For 003953106-01

No Significant Match Found

DV One-Page Summary

KIC: 3953106 Candidate: 1 of 1 Period: 6.587 d
KOI: K05025.01 Corr: 0.971

Kp: 14.03 R*: 1.41 Rs Teff: 5619.0 K Logg: 4.07 Fe/H: -0.320



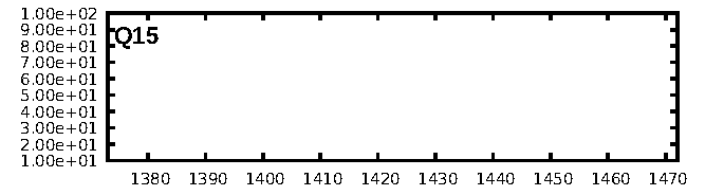
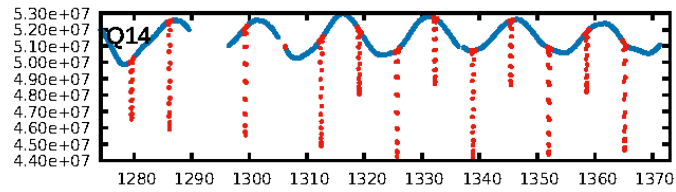
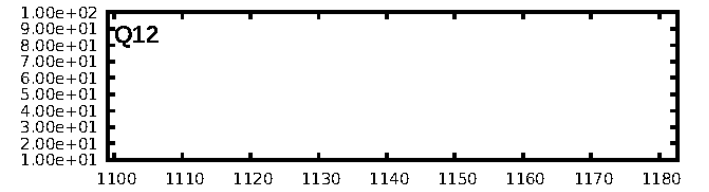
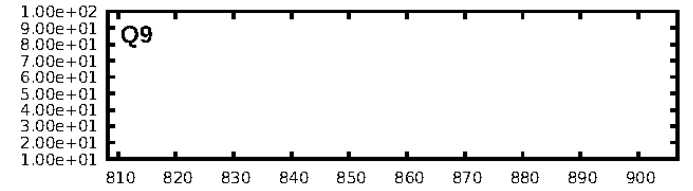
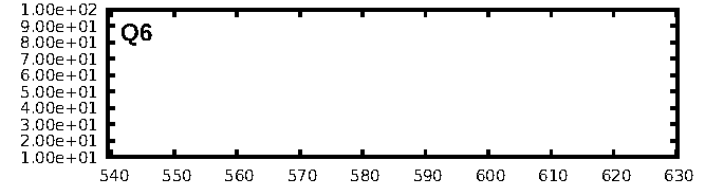
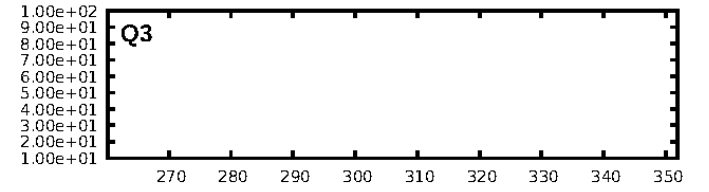
DV Fit Results:

Period = 6.58712 [0.00001] d
Epoch = 133.3968 [0.0015] BKJD
Rp/R* = 0.3658 [0.0028]
a/R* = 6.82 [0.02]
b = 0.70 [0.01]
Seff = 416.80 [321.60]
Teq = 1152 [222] K
Rp = 56.12 [23.03] Re
a = 0.0651 [0.0292] AU
Ag = 0.07 [0.06] [-15.24σ]
Teffp = 914 [106] K [-0.97σ]

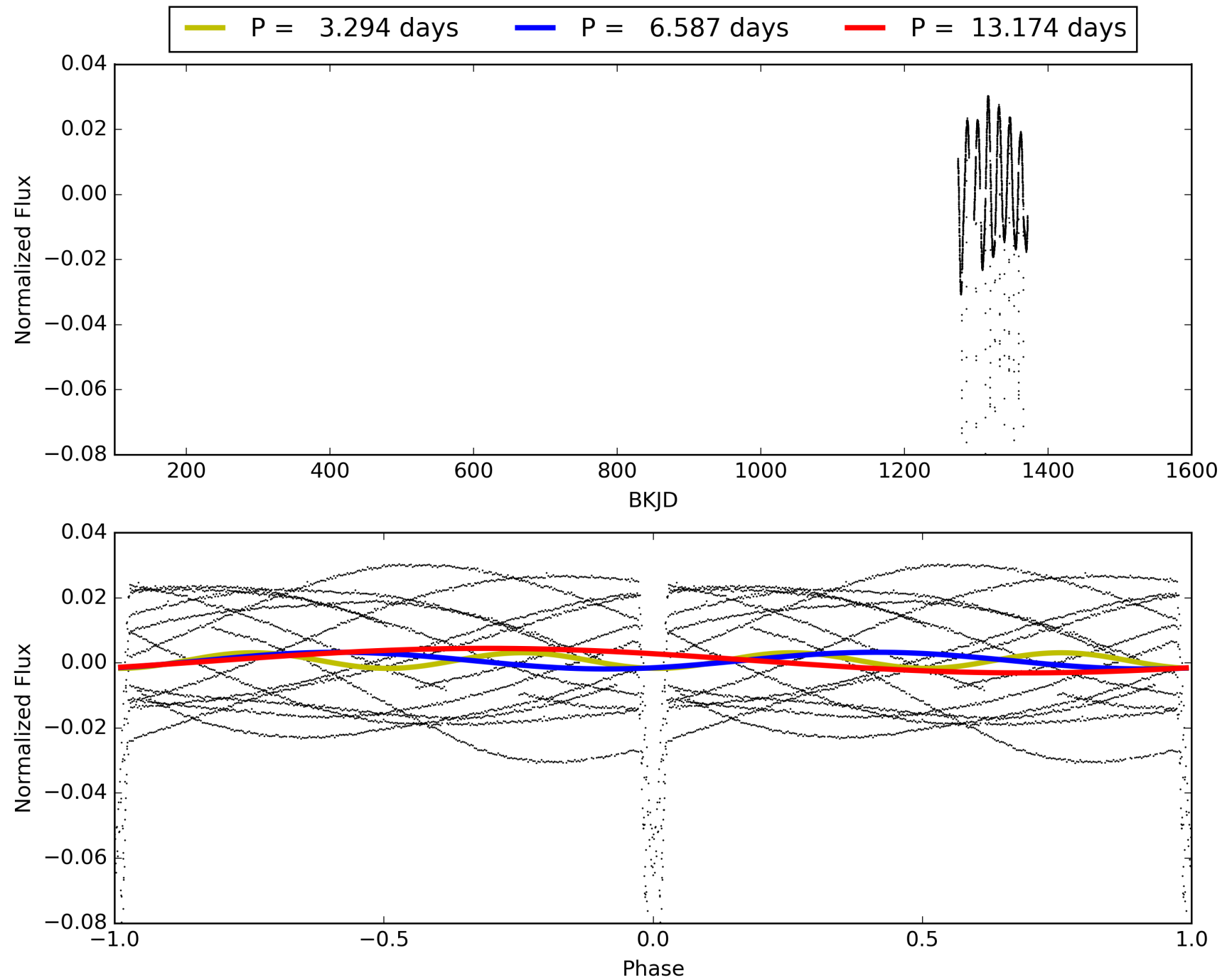
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: 1.314
Centroid-sig: 0.0%
Centroid-so: 0.117 arcsec [29.55σ]
OotOffset-rm: 0.022 arcsec [0.34σ]
KicOffset-rm: 0.183 arcsec [2.74σ]
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 003953106-01, PDC Light Curves

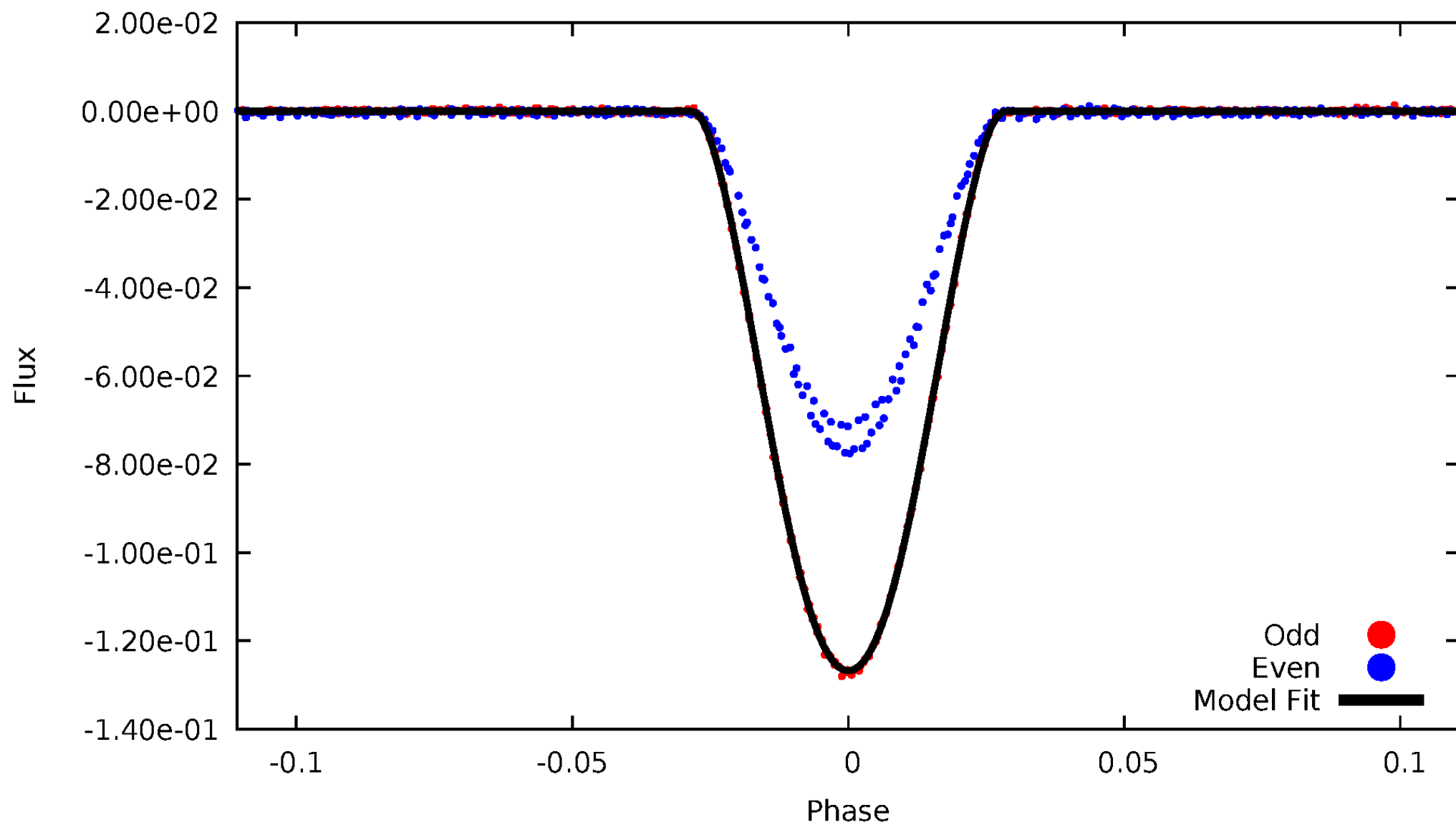


TCE 003953106-01



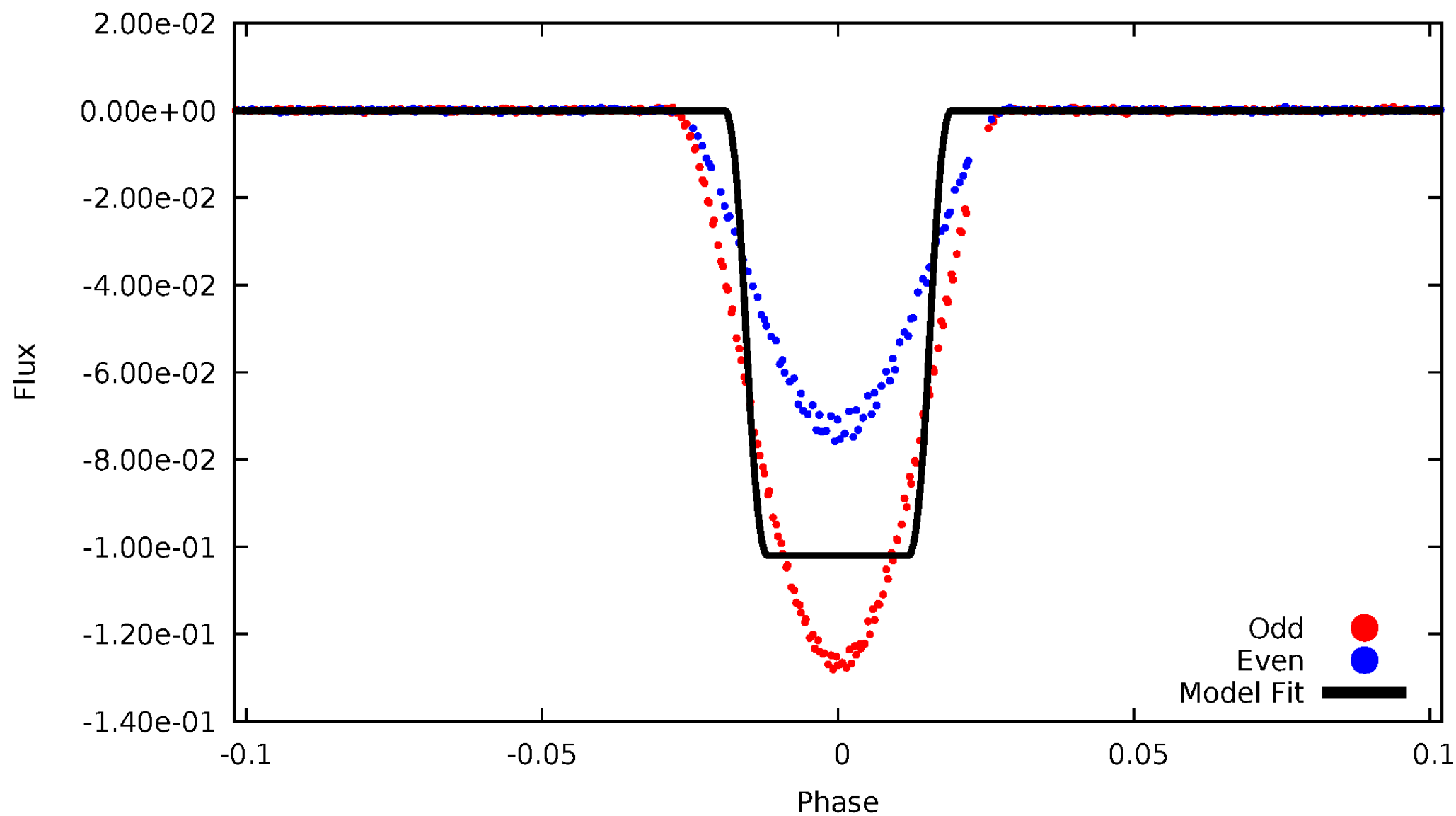
DV Odd/Even

TCE 003953106-01



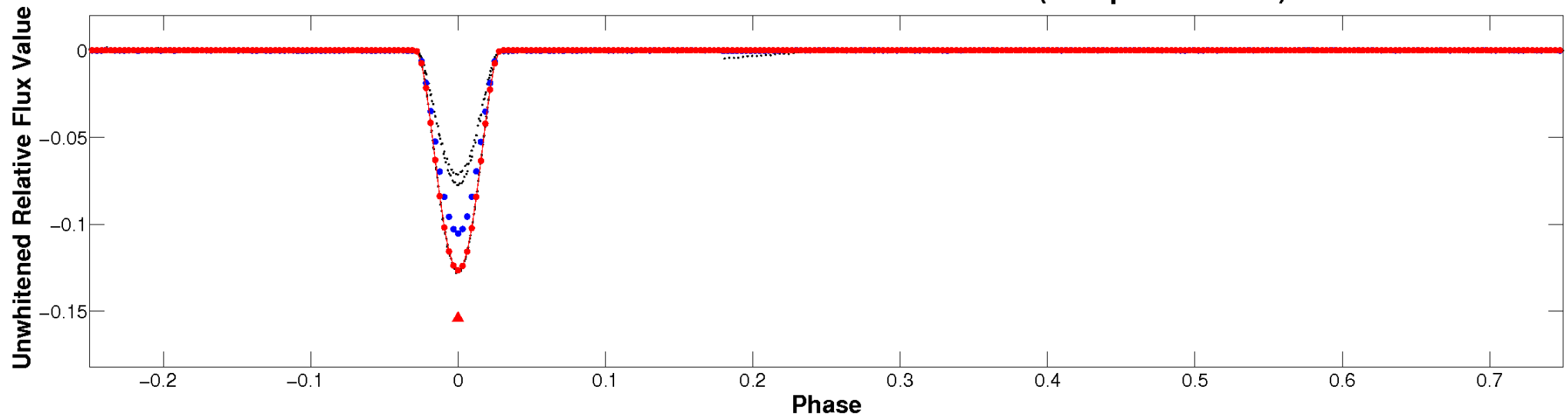
ALT Odd/Even

TCE 003953106-01

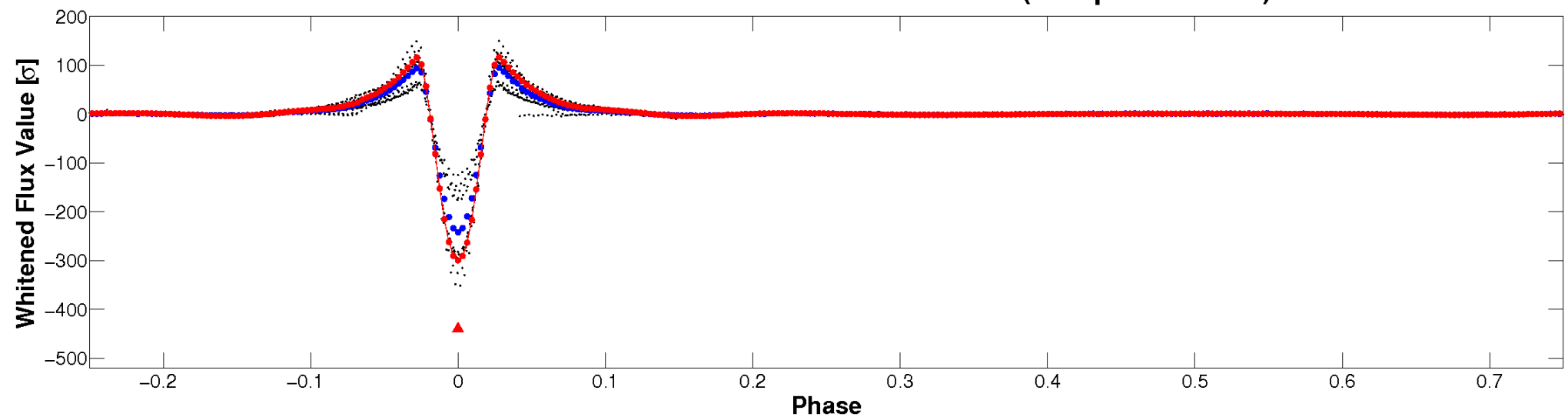


Non-Whitened Vs. Whitened Light Curve

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

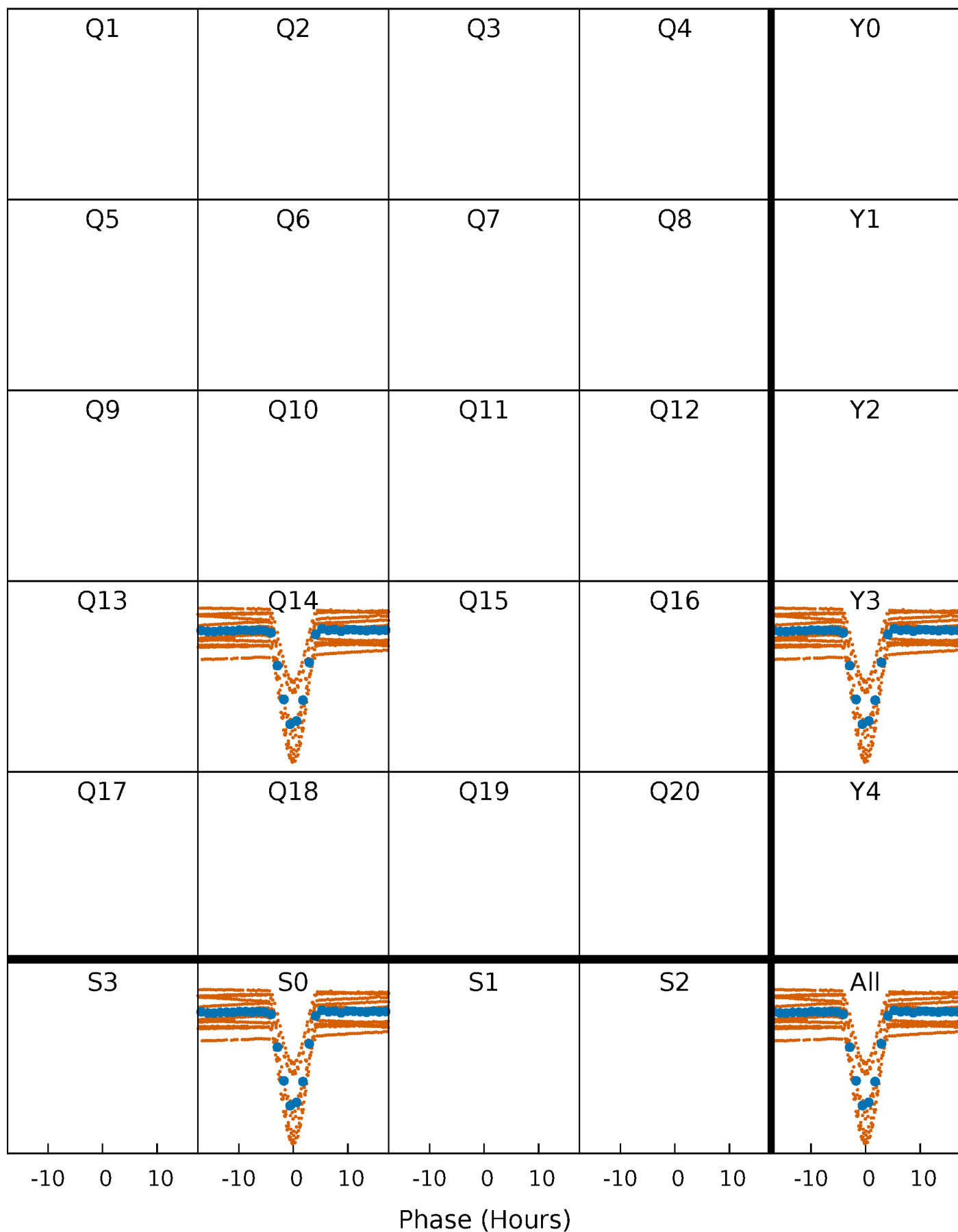


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



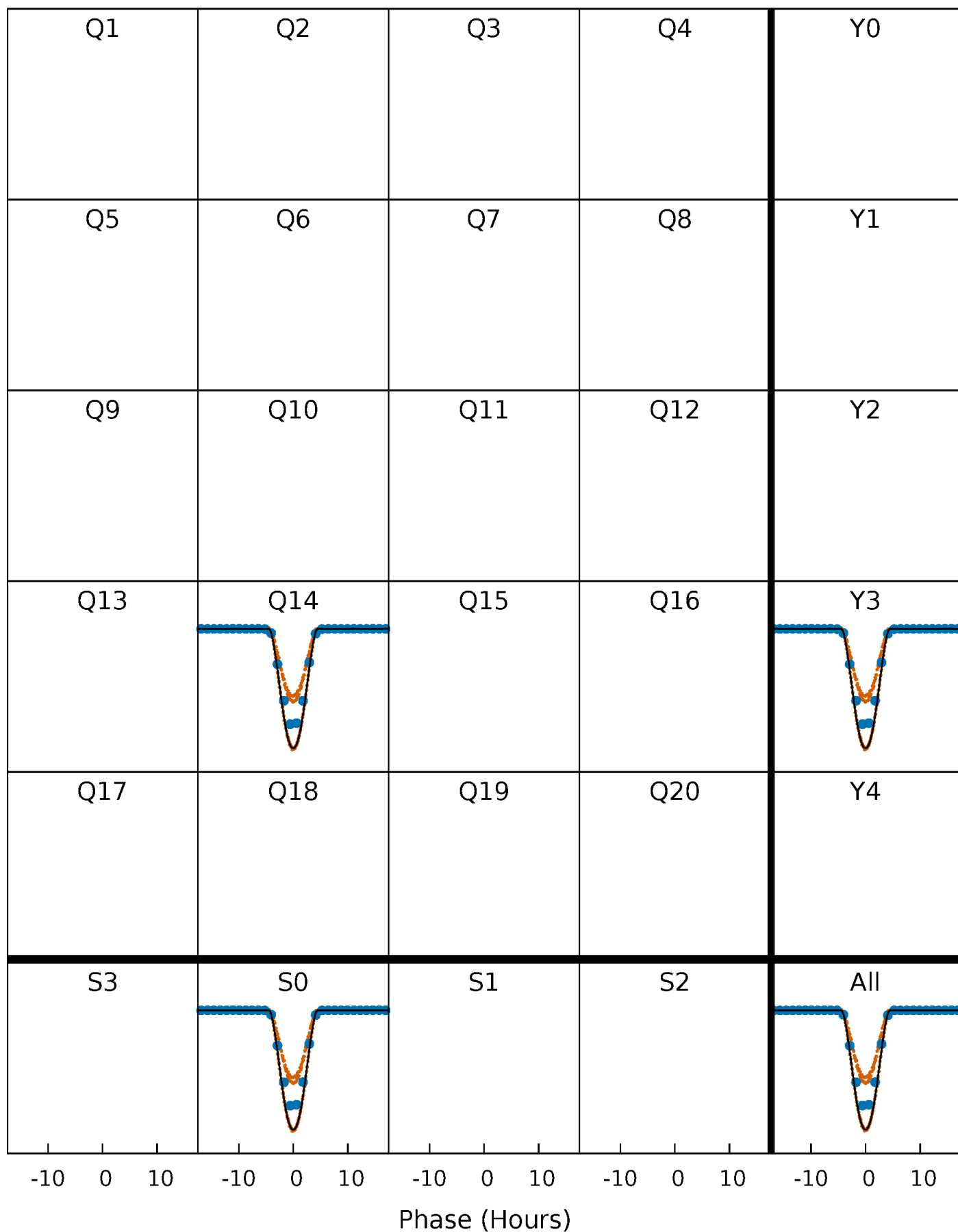
PDC Quarter-Phased Transit Curves

TCE 003953106-01 P= 6.587120 Days $T_0=133.396841$ (BKJD)



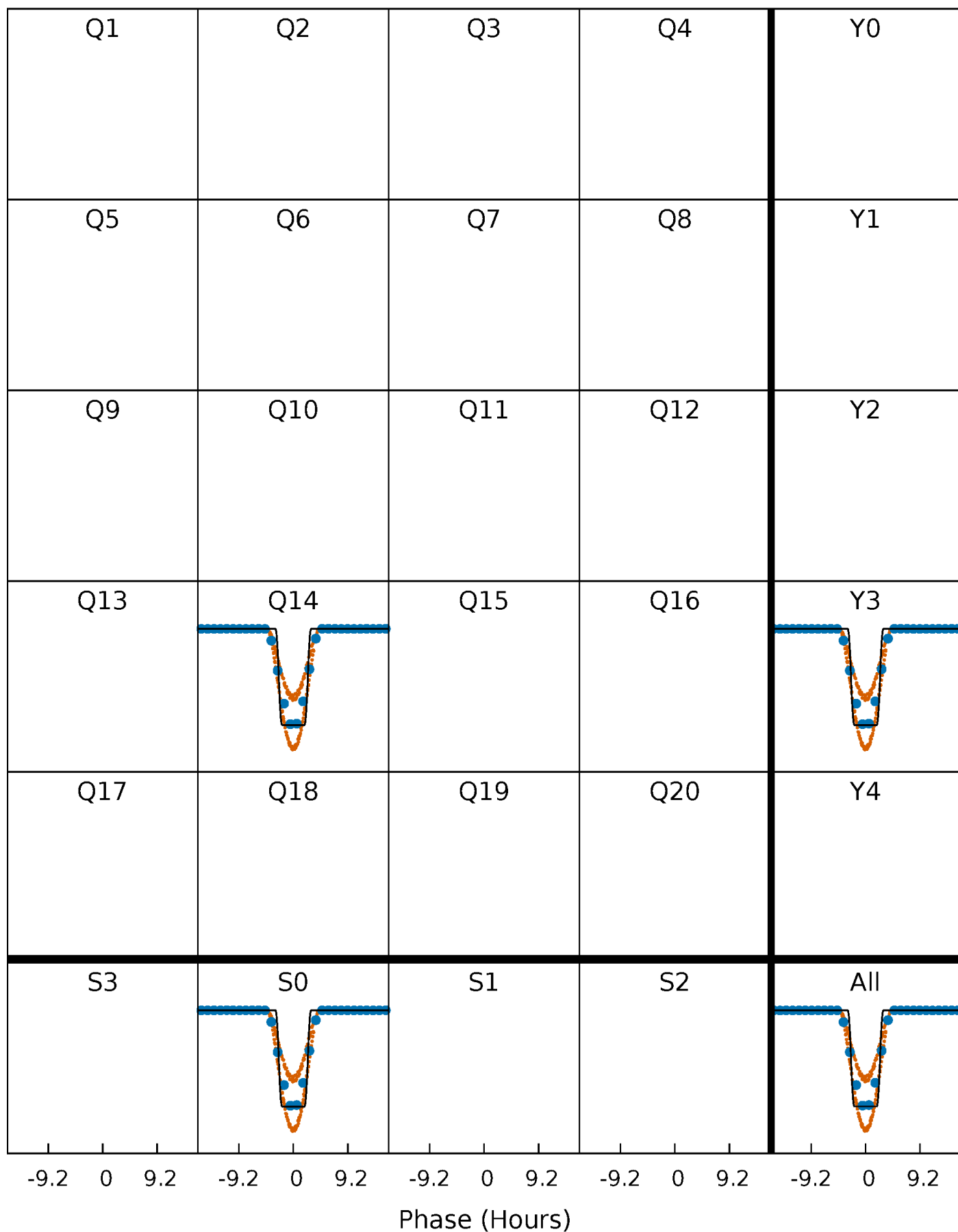
DV Quarter-Phased Transit Curves

TCE 003953106-01 P= 6.587120 Days $T_0=133.396841$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

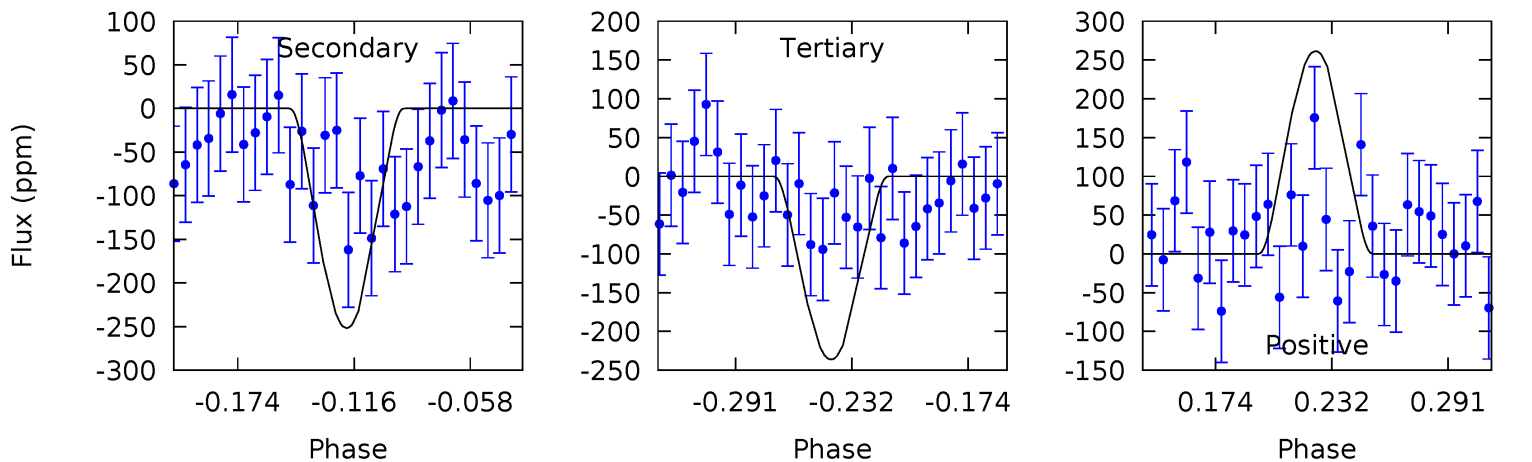
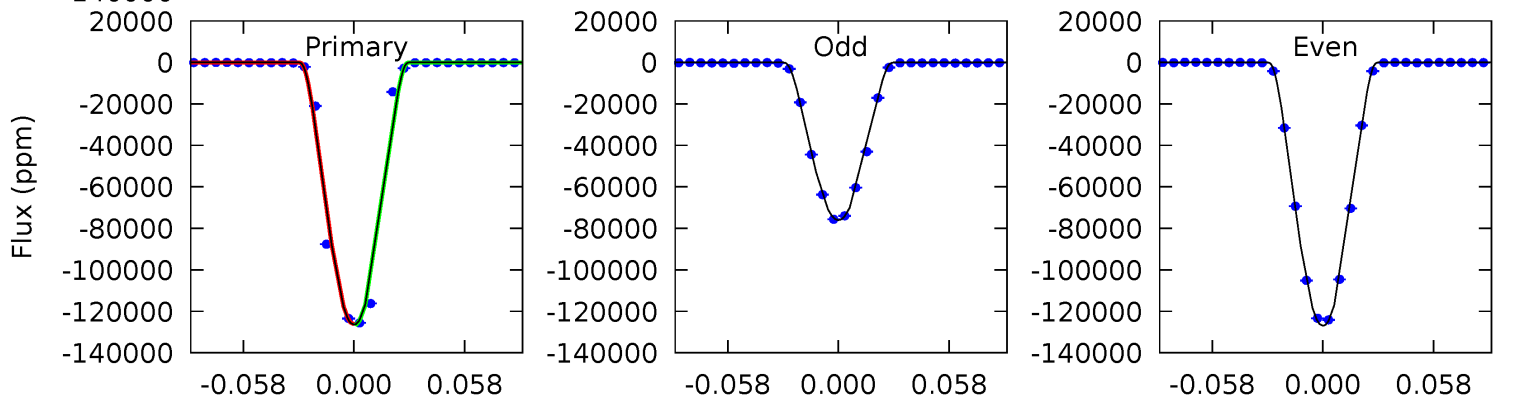
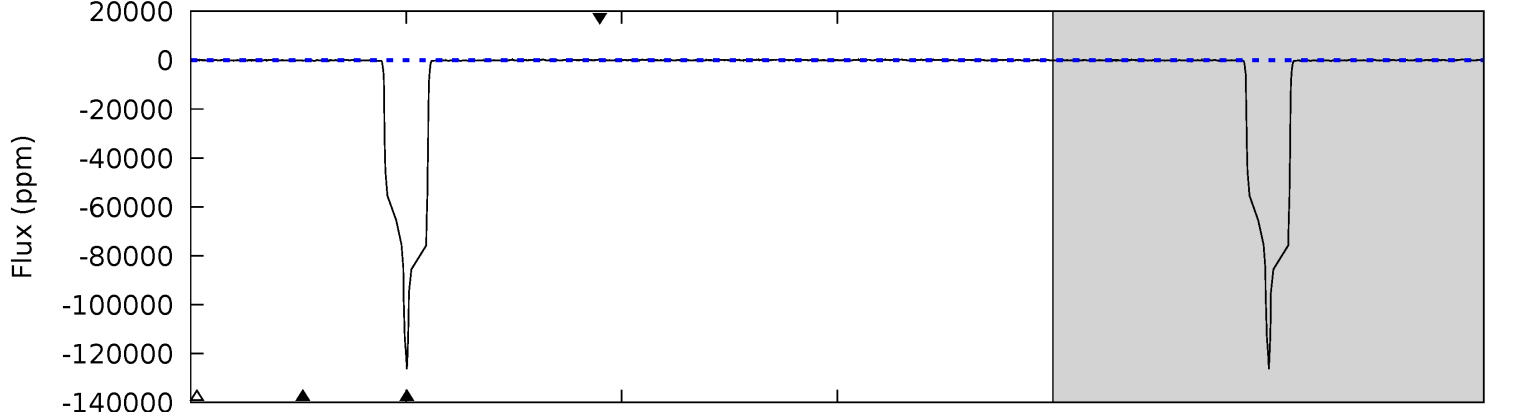
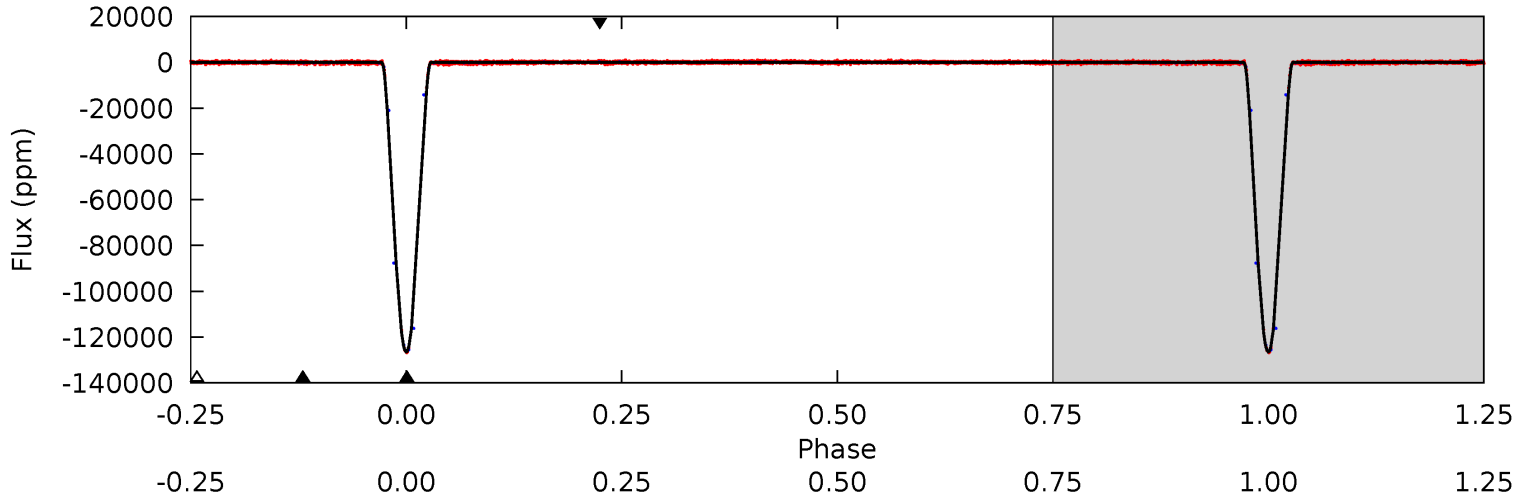
TCE 003953106-01 P= 6.587084 Days $T_0=133.402952$ (BKJD)



DV Model-Shift Uniqueness Test

003953106-01, P = 6.587120 Days, E = 133.396841 Days

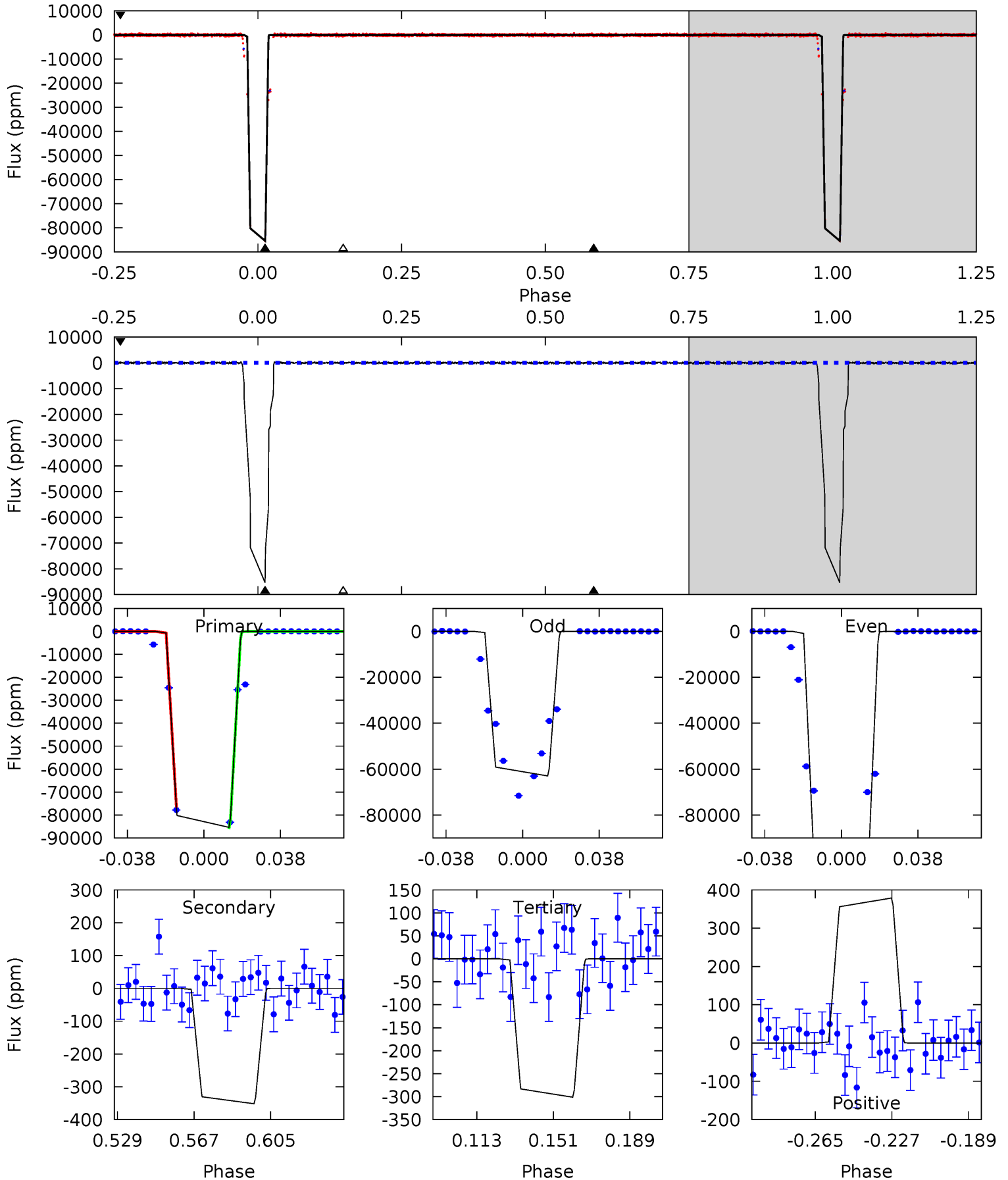
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2995	5.96	5.60	6.19	4.68	1.89	1.97	2990	2989	0.36	-0.23	1132	0.83	0.00	0



Alt Model-Shift Uniqueness Test

003953106-01, P = 6.587084 Days, E = 133.402952 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1063	4.38	3.75	4.72	4.76	2.08	1.53	1059	1058	0.63	-0.34	789.7	0.83	0.00	0



Stellar Parameters For KIC 003953106

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5619^{+186}_{-186}	$4.070^{+0.462}_{-0.198}$	$-0.320^{+0.350}_{-0.250}$	$1.406^{+0.472}_{-0.577}$	$0.848^{+0.117}_{-0.085}$	$0.430^{+1.673}_{-0.205}$
	+3%/-3%	+11%/-5%	+109%/-78%	+34%/-41%	+14%/-10%	+389%/-48%
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 003953106-01 / KOI 5025.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-251 ± 42	$55.64^{+9.89}_{-11.94}$	1594^{+153}_{-185}	-1998^{+3617}_{-182}	$0.196^{+0.123}_{-0.065}$
Alt.	-352 ± 80	$48.35^{+8.52}_{-10.85}$	1591^{+141}_{-189}	1899^{+247}_{-3873}	$0.362^{+0.235}_{-0.133}$

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

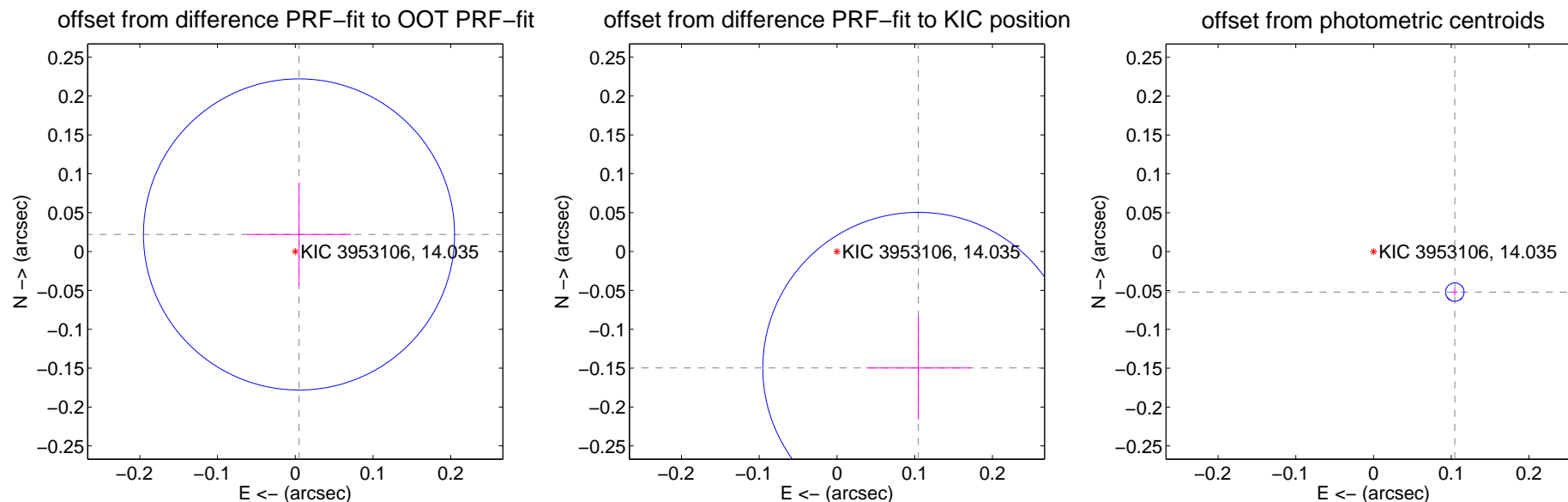
DV Centroid Data

Supplemental centroid analysis for 003953106-01. Kepler magnitude: 14.04. Transit SNR 2148.90

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.022 ± 0.067	0.34	-0.005 ± 0.067	0.022 ± 0.067
PRF-fit source offset from KIC position	0.183 ± 0.067	2.74	-0.105 ± 0.067	-0.150 ± 0.067
photometric centroid source offset	0.12 ± 0.00	29.55	-0.10 ± 0.00	-0.05 ± 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.



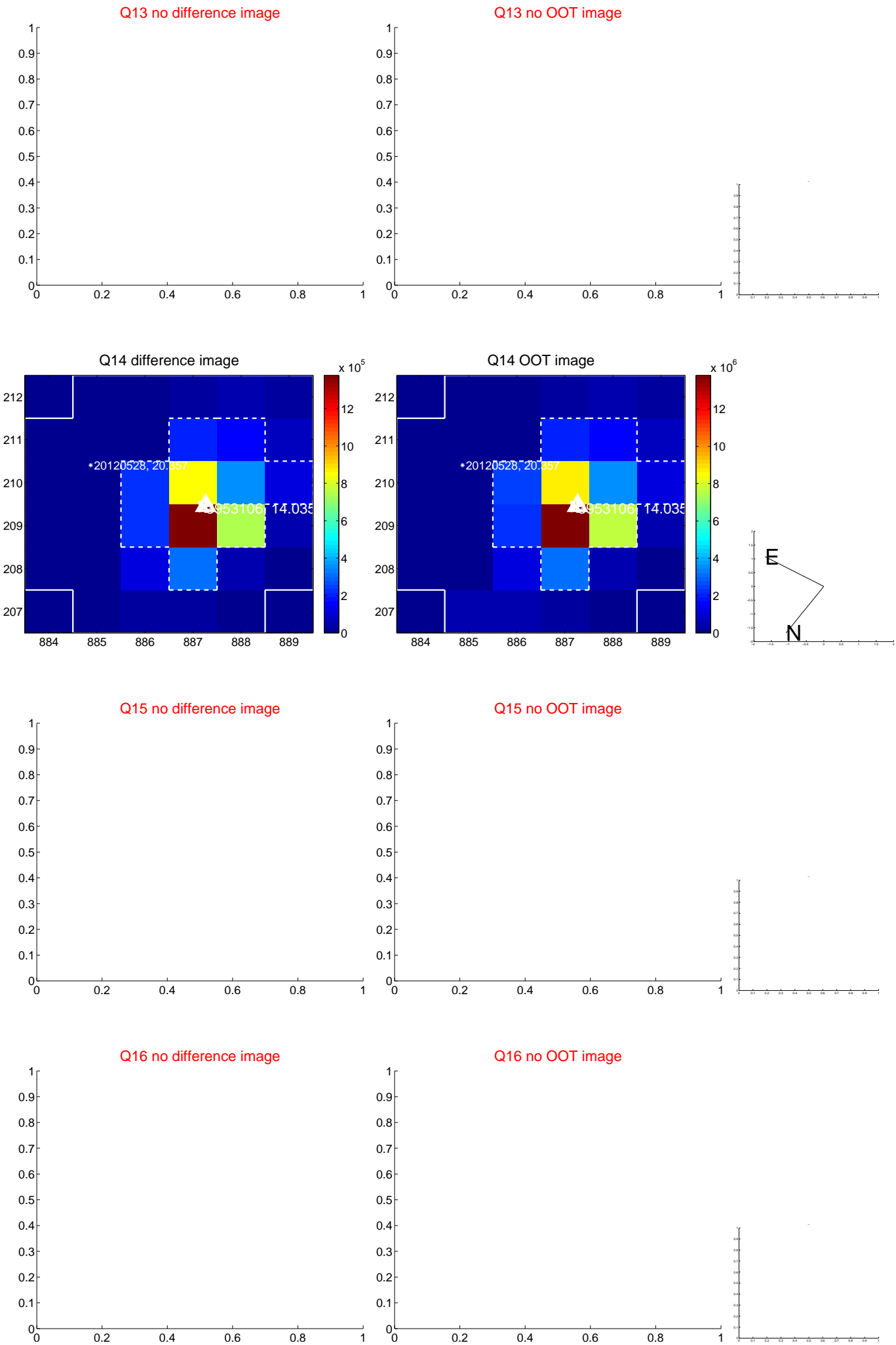
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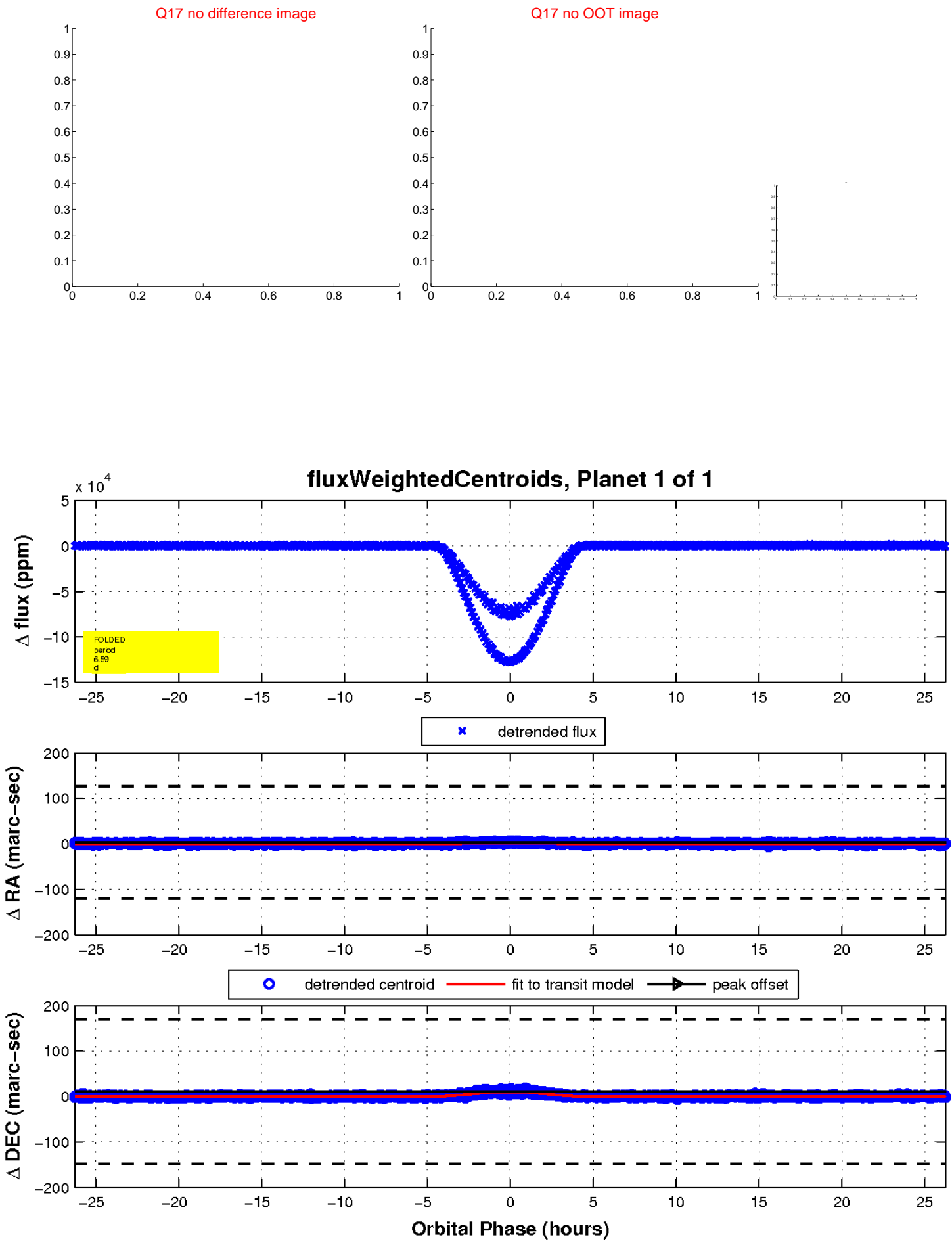
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UKIRT Image

Declination

