

KIC 009711751

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})
009711751-01	OBS	7225.01	0.855778	132.345503	121305.0	3.221	14669.2	6176.1	1.33	6679	48.43	8728.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009711751-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT

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.

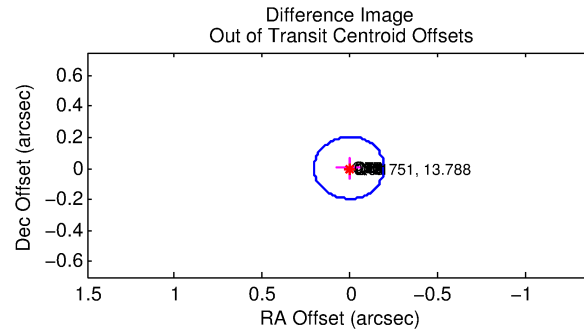
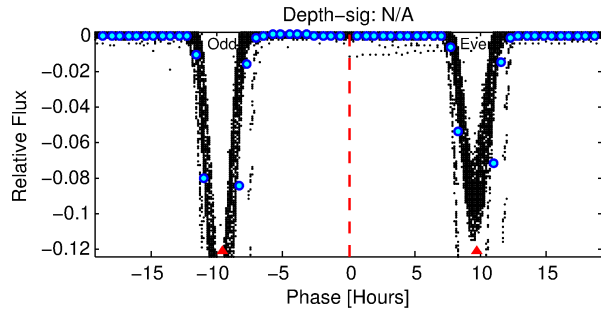
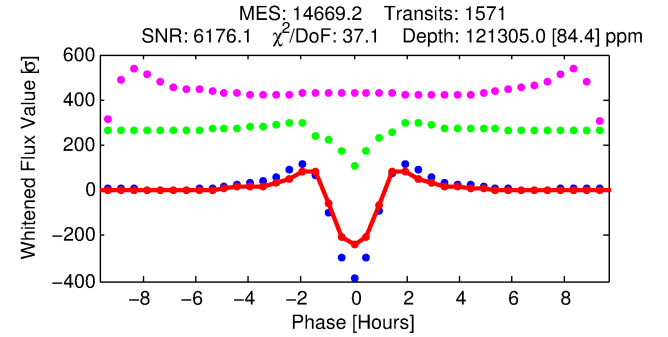
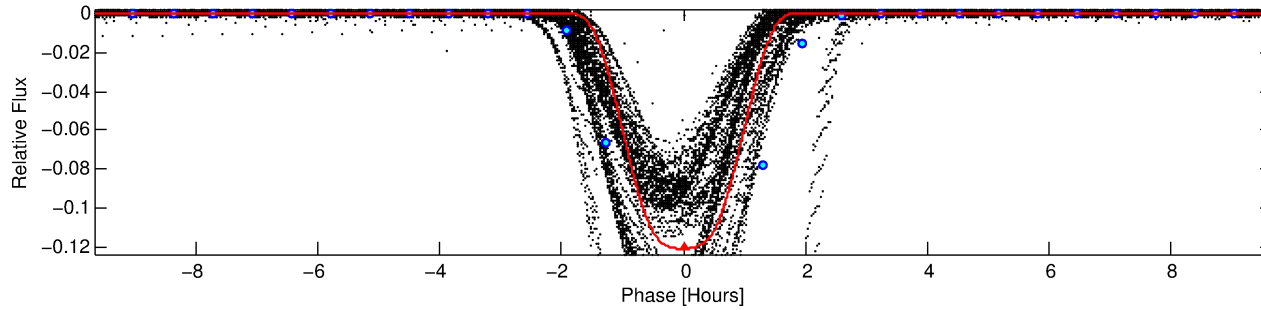
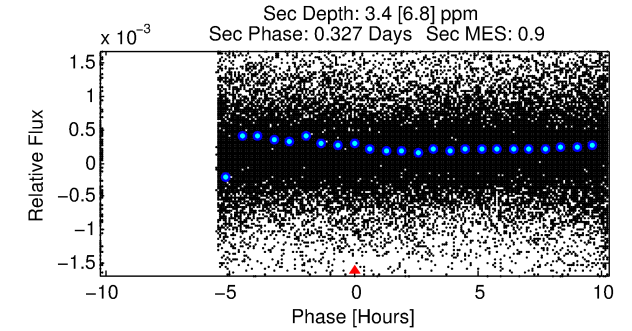
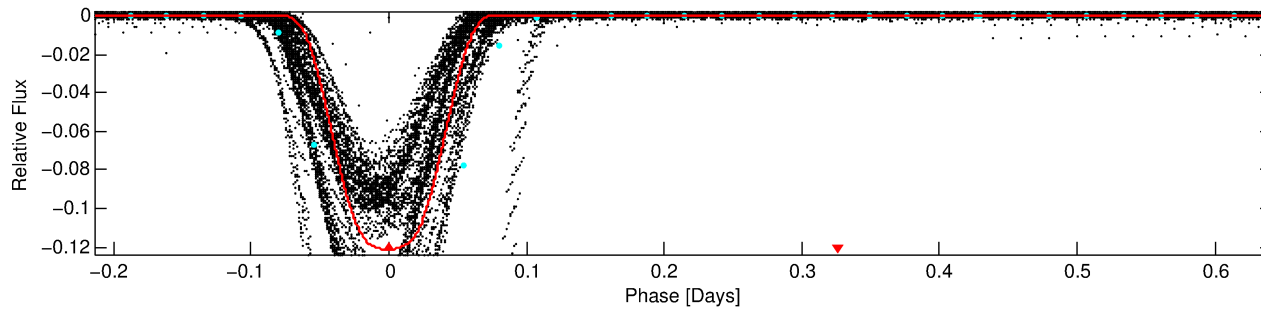
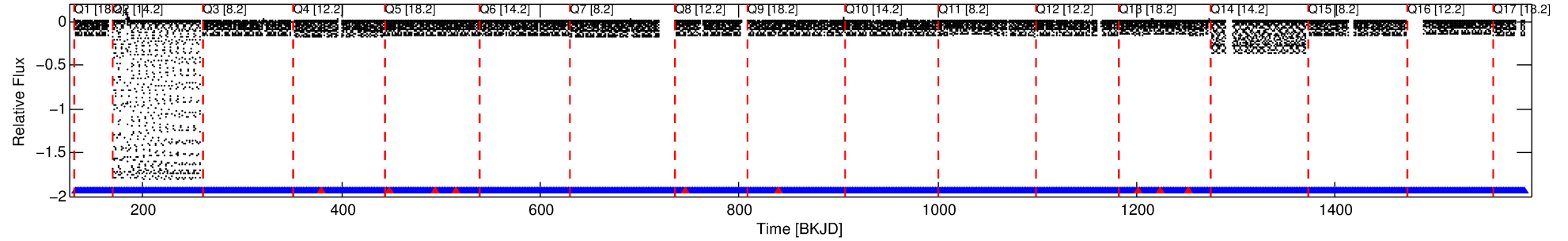
Ephemeris Match Information For 009711751-01

No Significant Match Found

DV One-Page Summary

KIC: 9711751 Candidate: 1 of 1 Period: 0.856 d
KOI: K07225.01 Corr: 0.927

Kp: 13.79 R*: 1.33 Rs Teff: 6679.0 K Logg: 4.29 Fe/H: -0.160



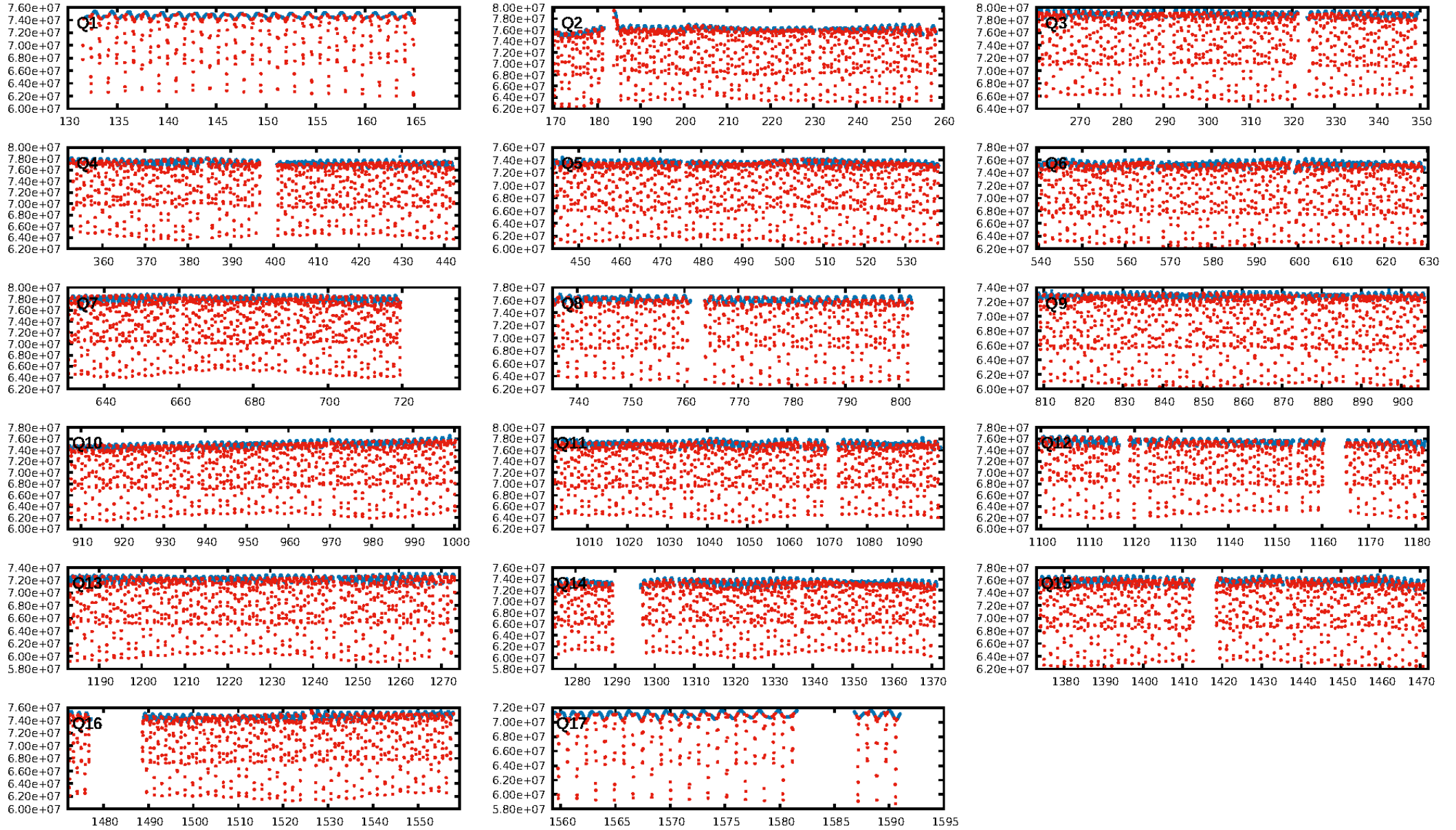
DV Fit Results:

Period = 0.85578 [0.00000] d
Epoch = 132.3455 [0.0000] BKJD
Rp/R* = 0.3347 [0.0001]
a/R* = 2.65 [0.00]
b = 0.52 [0.00]
Seff = 8728.80 [3419.67]
Teq = 2465 [241] K
Rp = 48.43 [15.67] Re
a = 0.0190 [0.0050] AU
Ag = 0.00 [0.00] [-1716.20σ]
Teffp = 494 [250] K [-5.6σ]

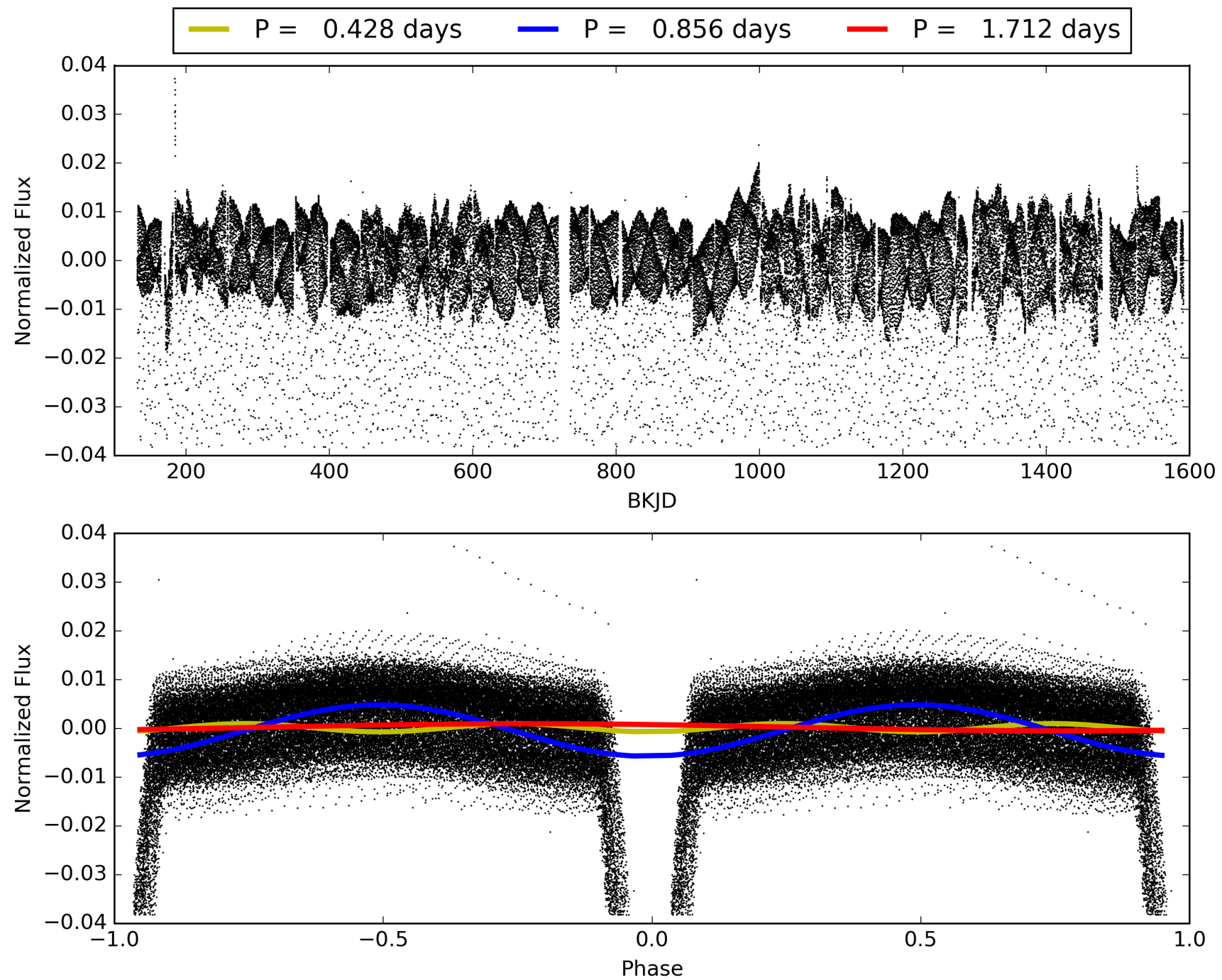
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1490/1500]
GhostDiagnostic-chr: 1.704
Centroid-sig: 0.0%
Centroid-so: 0.094 arcsec [247.33σ]
OotOffset-rm: 0.008 arcsec [0.12σ]
KicOffset-rm: 0.110 arcsec [1.62σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009711751-01, PDC Light Curves

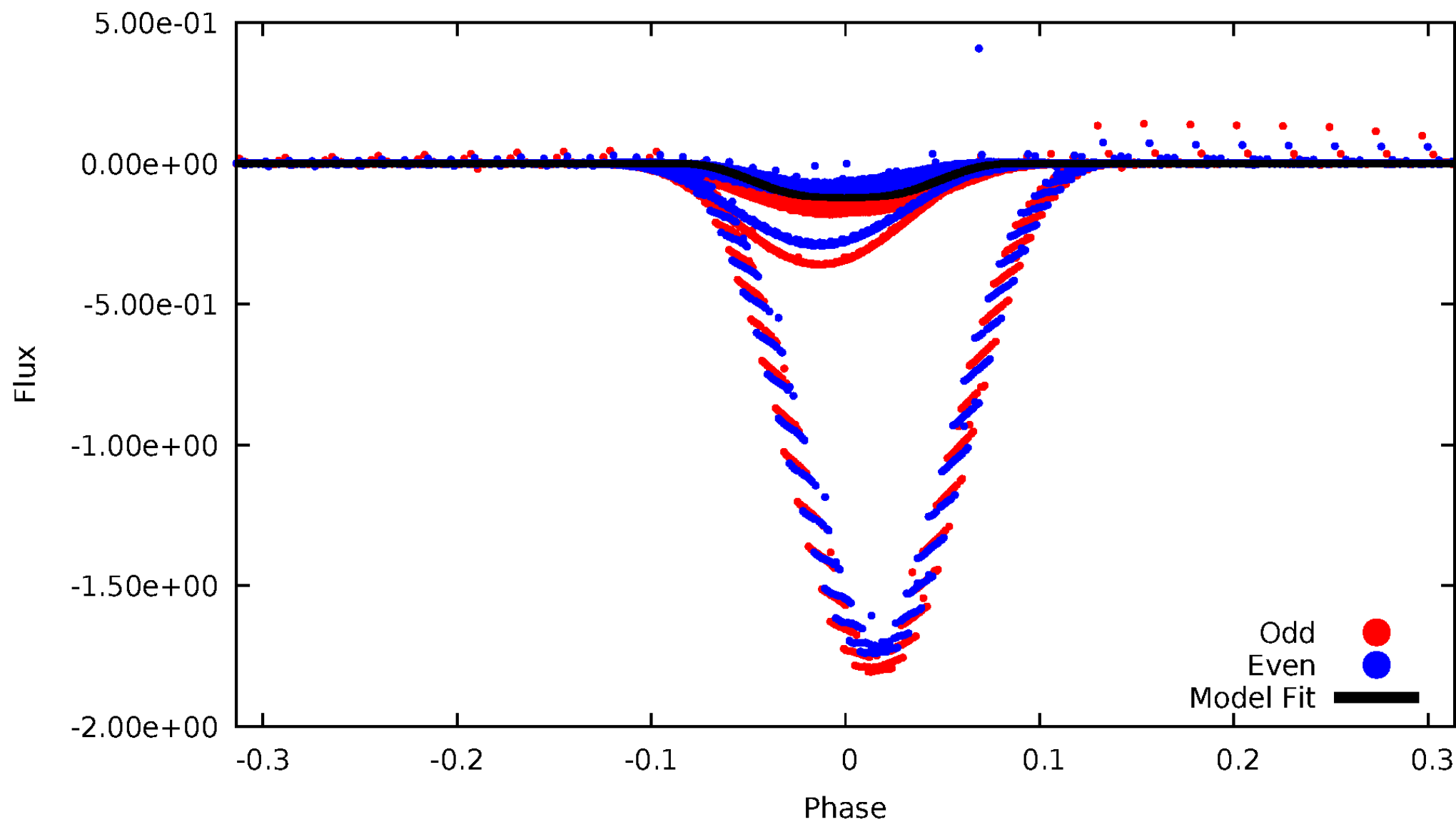


TCE 009711751-01



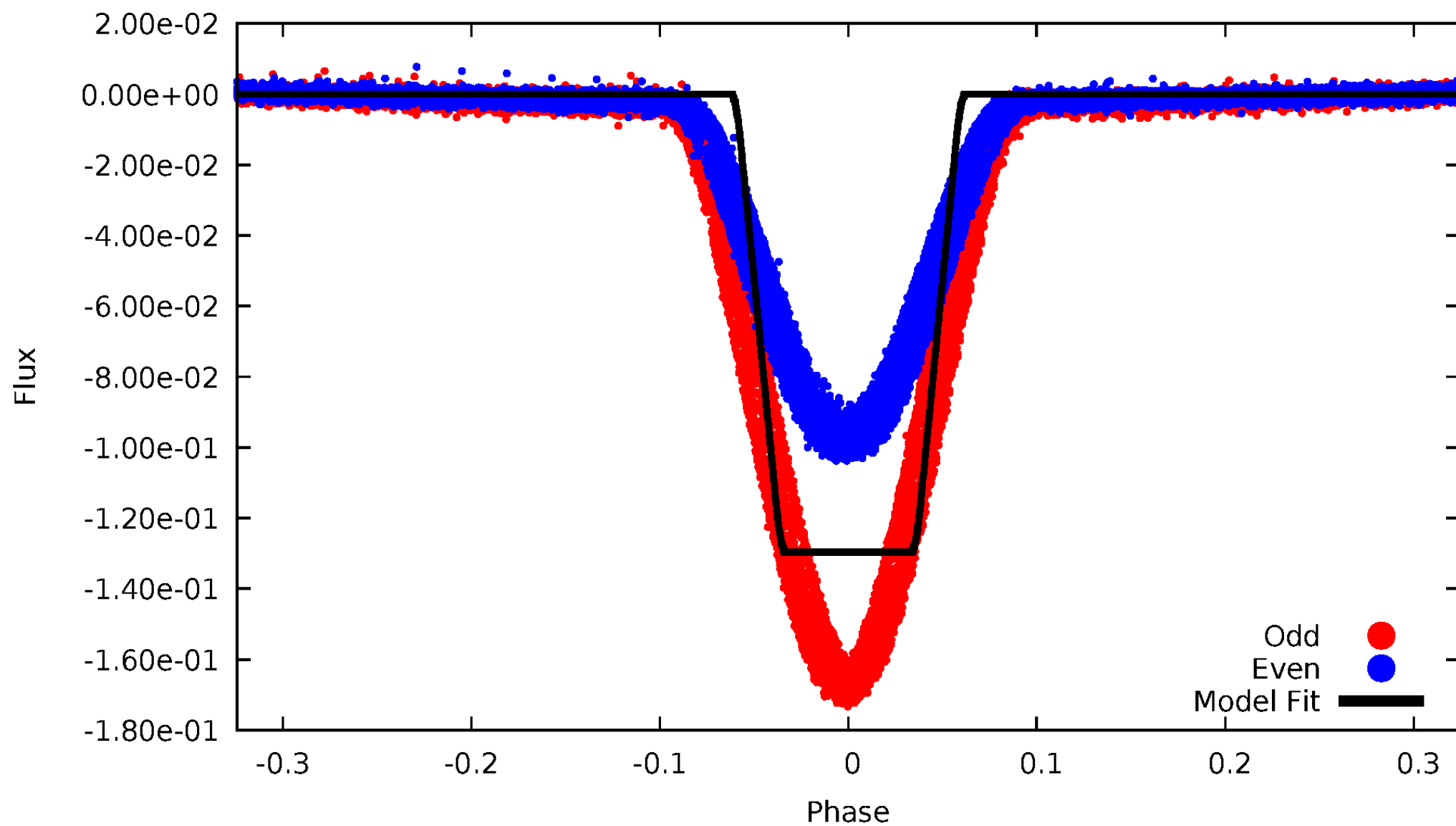
DV Odd/Even

TCE 009711751-01



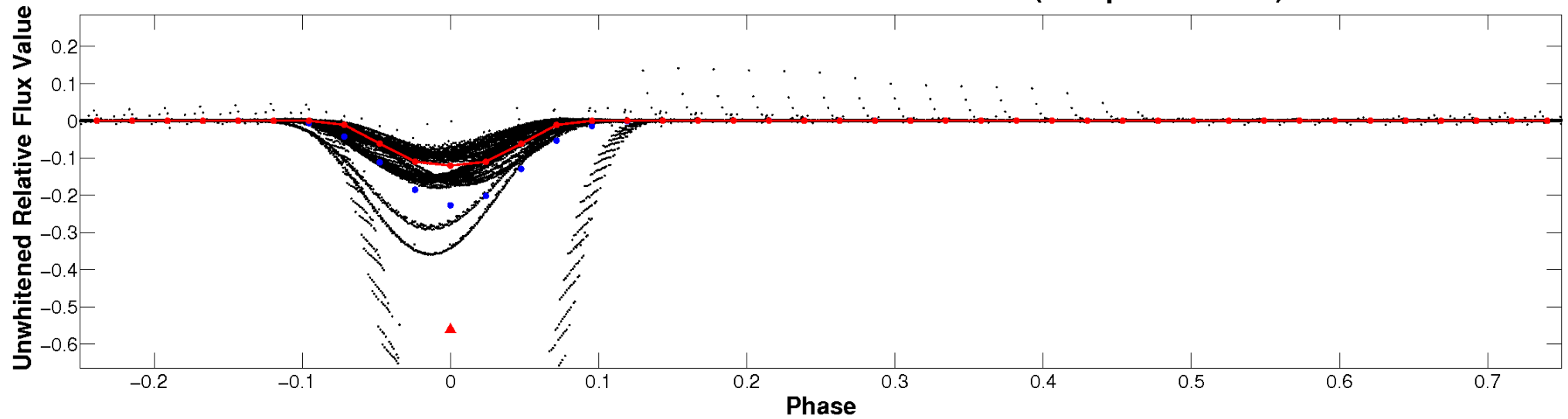
ALT Odd/Even

TCE 009711751-01

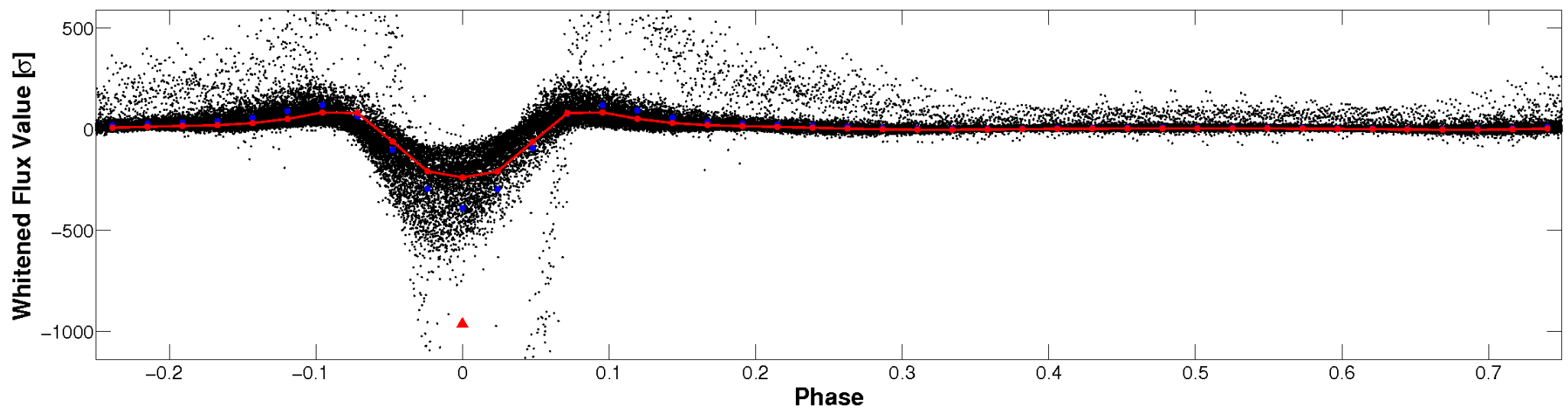


Non-Whitened Vs. Whitened Light Curve

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

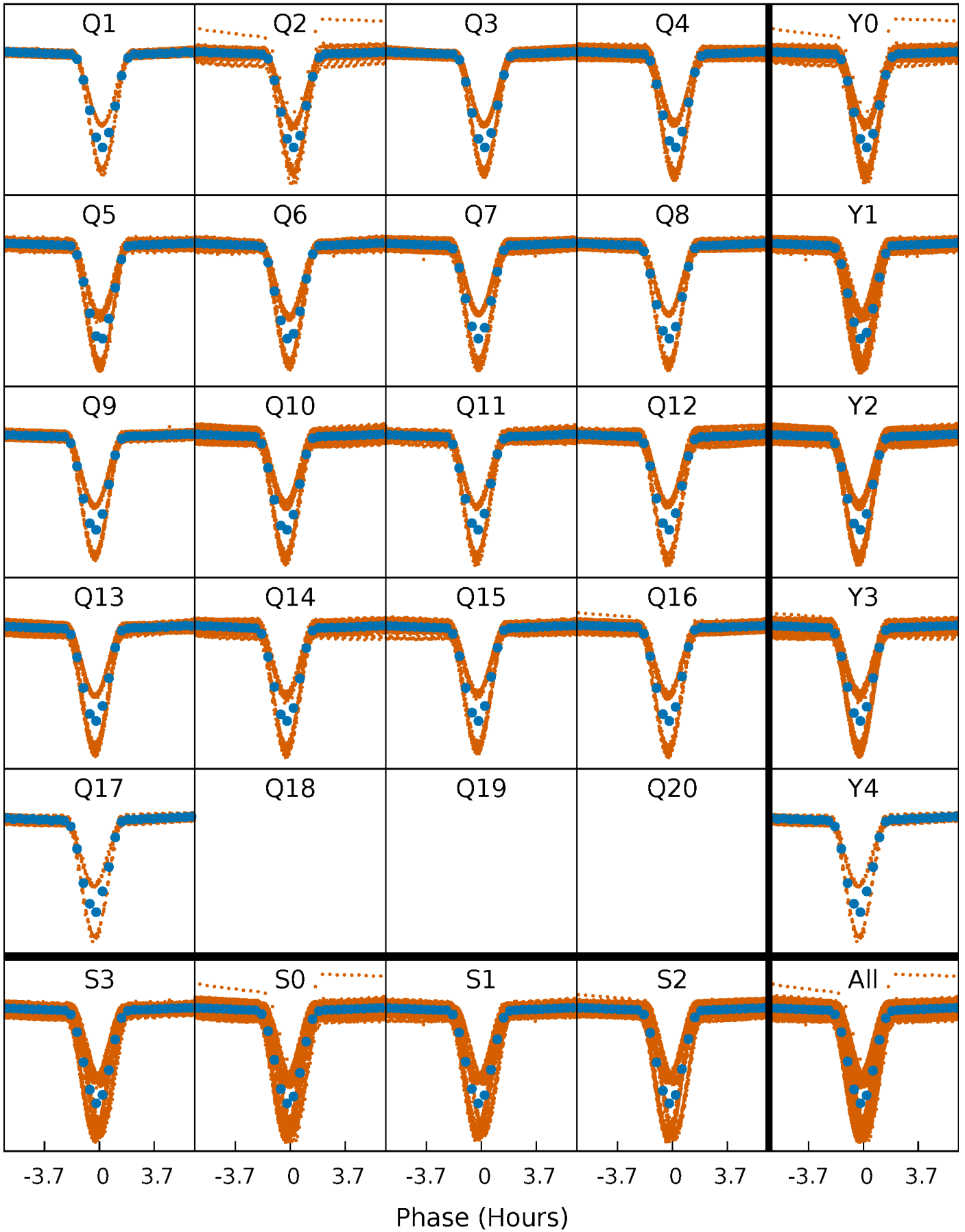


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



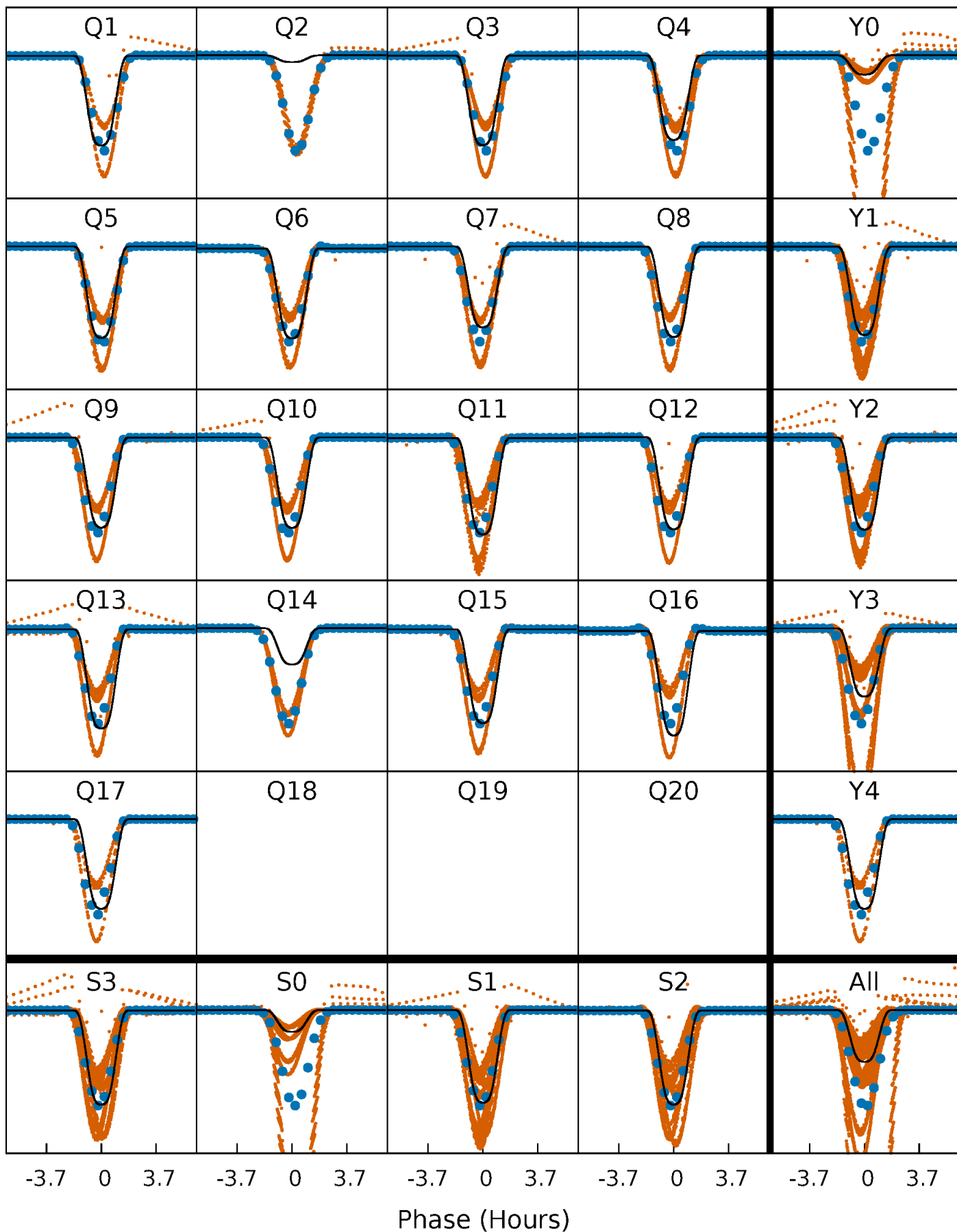
PDC Quarter-Phased Transit Curves

TCE 009711751-01 P= 0.855778 Days $T_0=132.345503$ (BKJD)



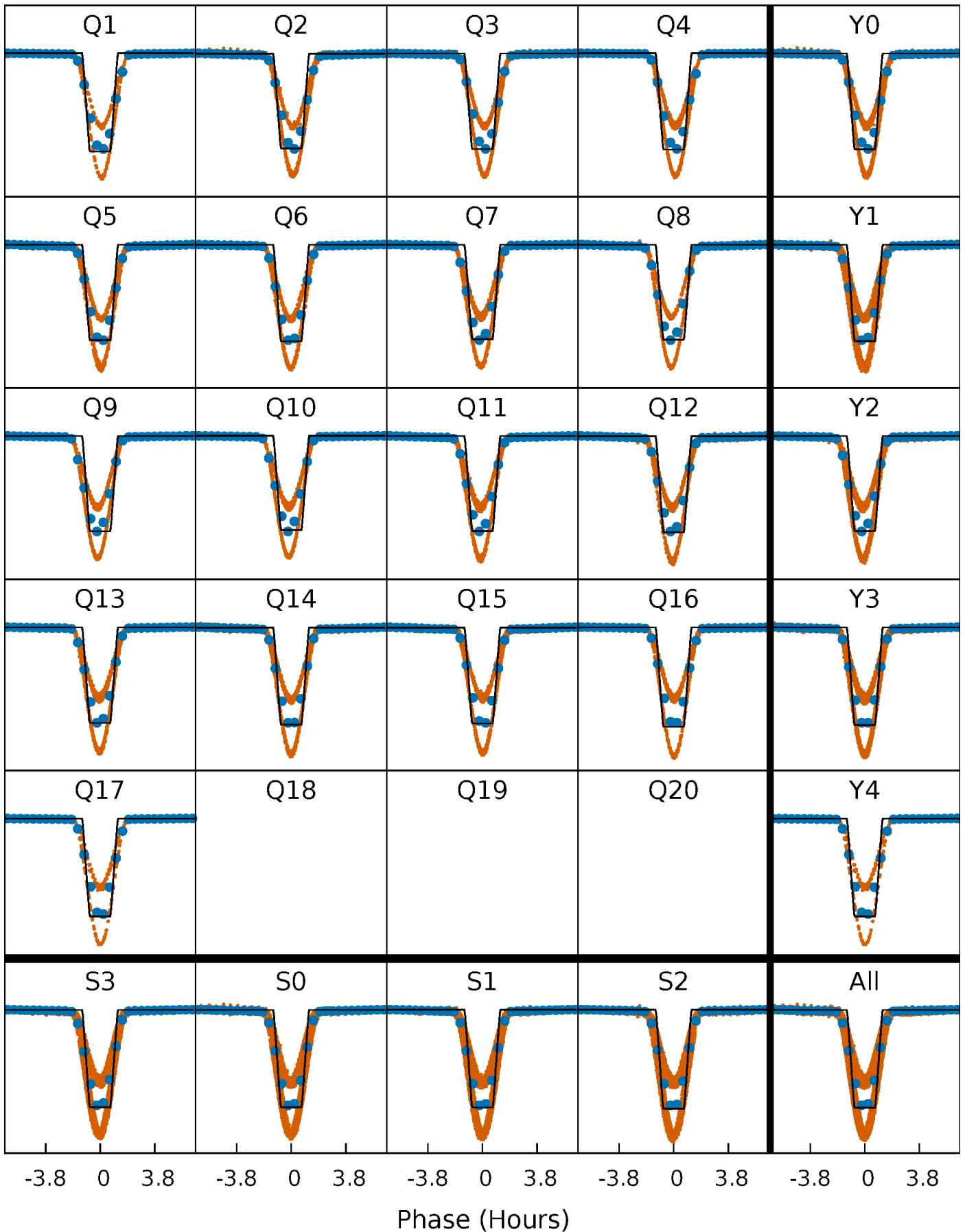
DV Quarter-Phased Transit Curves

TCE 009711751-01 P= 0.855778 Days $T_0=132.345503$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

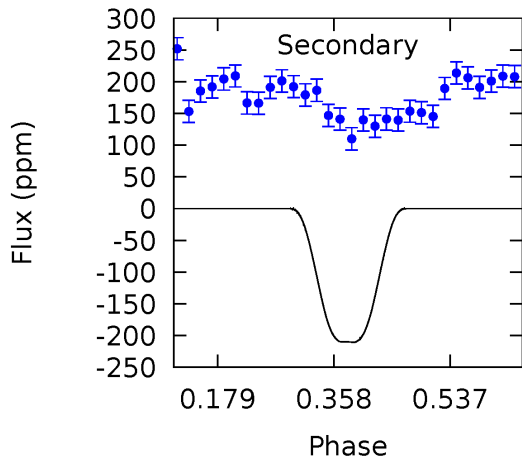
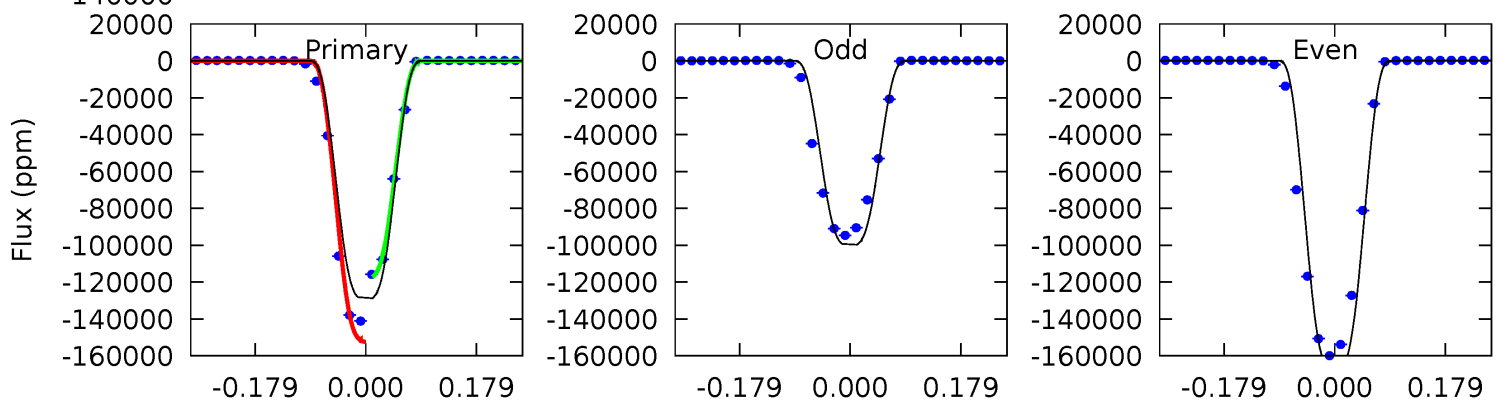
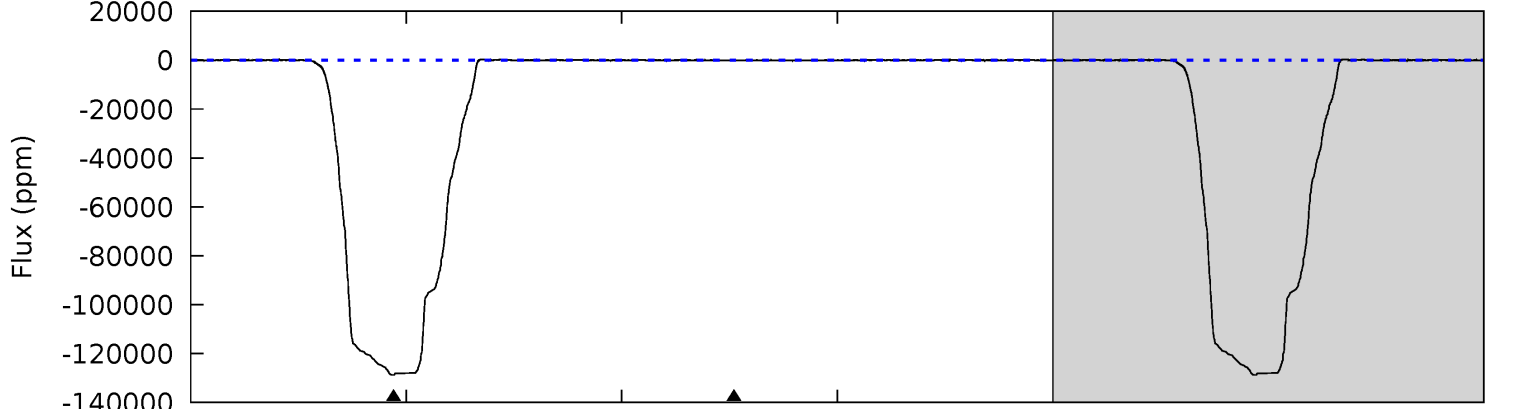
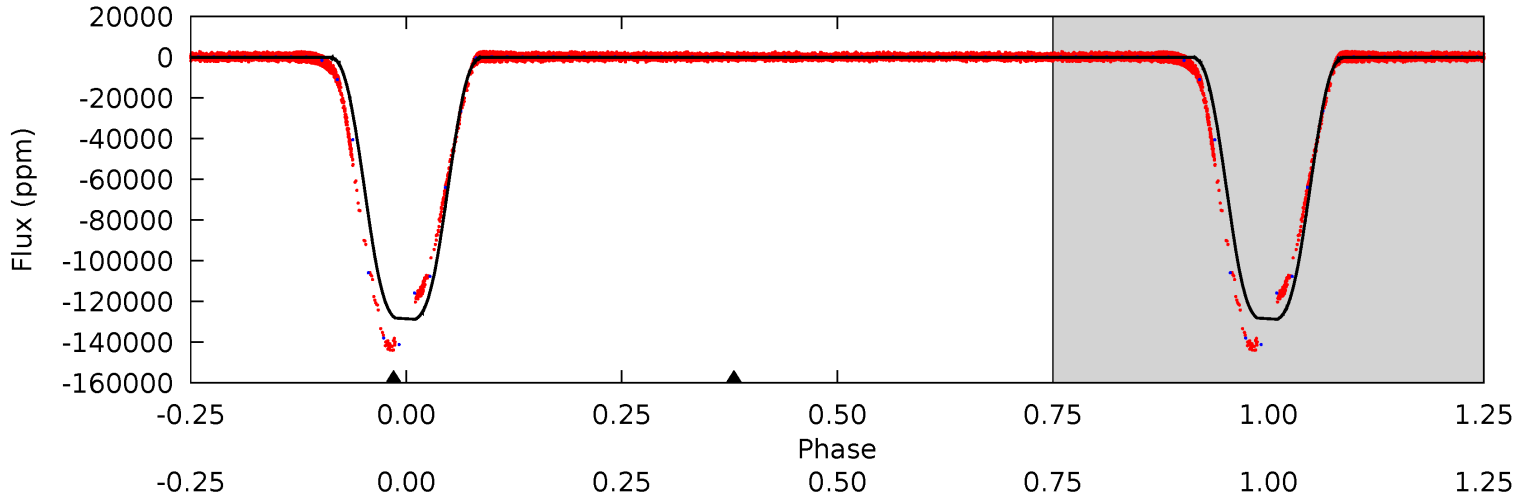
TCE 009711751-01 P= 0.855767 Days $T_0=132.349197$ (BKJD)



DV Model-Shift Uniqueness Test

009711751-01, P = 0.855778 Days, E = 131.489725 Days

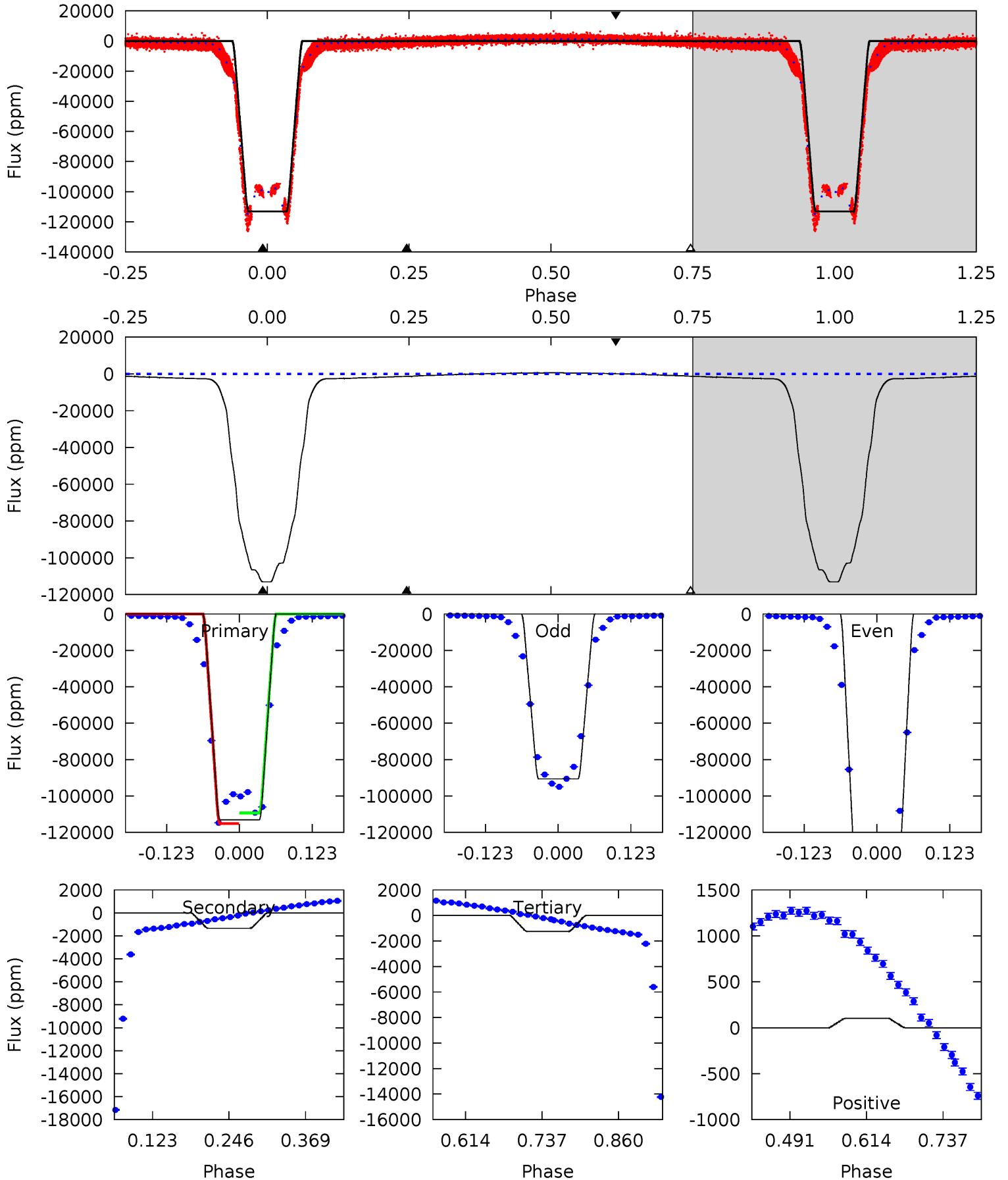
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6111	10.00	0	0	4.44	1.34	2.61	6111	6111	10.00	10.00	1949	1.63	0.00	0



Alt Model-Shift Uniqueness Test

009711751-01, P = 0.855767 Days, E = 131.493430 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2685	31.9	29.5	2.45	4.52	1.54	23.8	2656	2683	2.32	29.4	1420	1.02	0.01	0



Stellar Parameters For KIC 009711751

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6679^{+160}_{-220}	$4.286^{+0.090}_{-0.195}$	$-0.160^{+0.250}_{-0.300}$	$1.326^{+0.429}_{-0.214}$	$1.246^{+0.189}_{-0.189}$	$0.752^{+0.355}_{-0.381}$
	+2%/-3%	+2%/-5%	+156%/-188%	+32%/-16%	+15%/-15%	+47%/-51%
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 009711751-01 / KOI 7225.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-211 ± 21	$49.17^{+8.21}_{-4.66}$	3490^{+240}_{-196}	-3349^{+122}_{-152}	$0.017^{+0.004}_{-0.004}$
Alt.	-1342 ± 42	$53.58^{+9.38}_{-5.57}$	3485^{+271}_{-191}	-3193^{+136}_{-202}	$0.091^{+0.018}_{-0.023}$

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

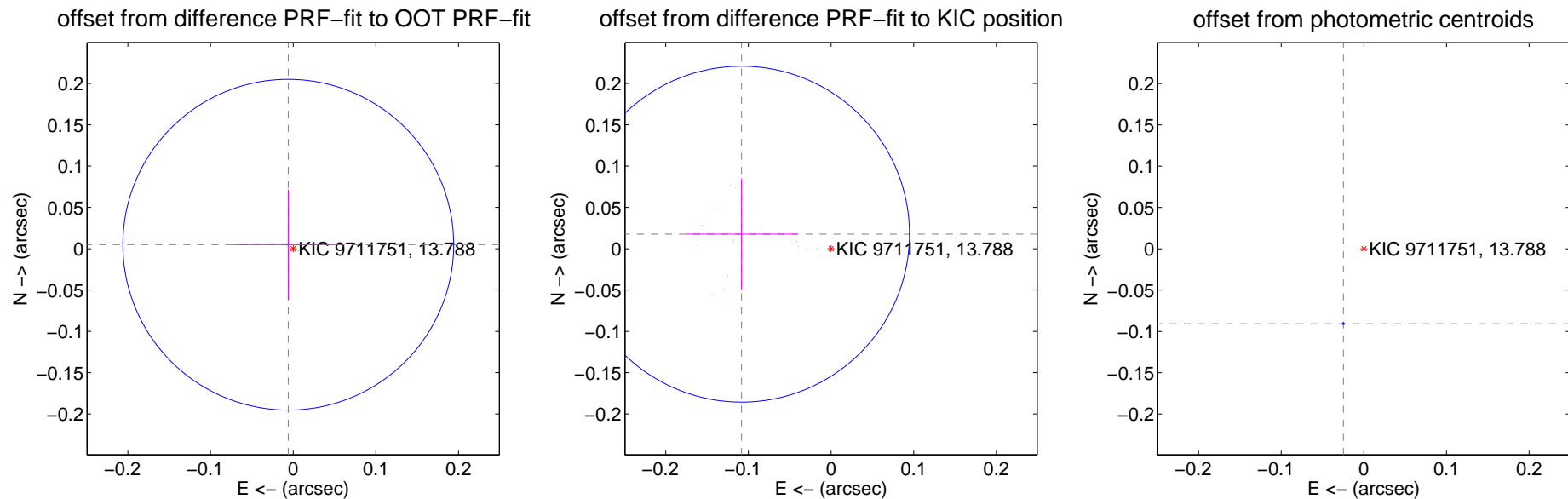
DV Centroid Data

Supplemental centroid analysis for 009711751-01. Kepler magnitude: 13.79. Transit SNR 6176.14

There are 17 quarters with good PRF difference image offsets

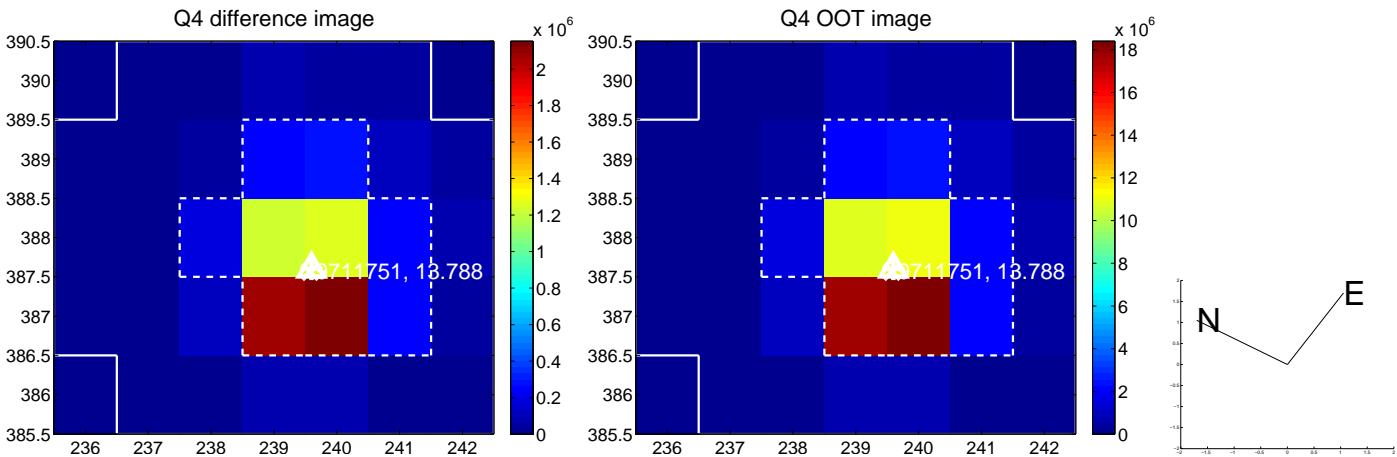
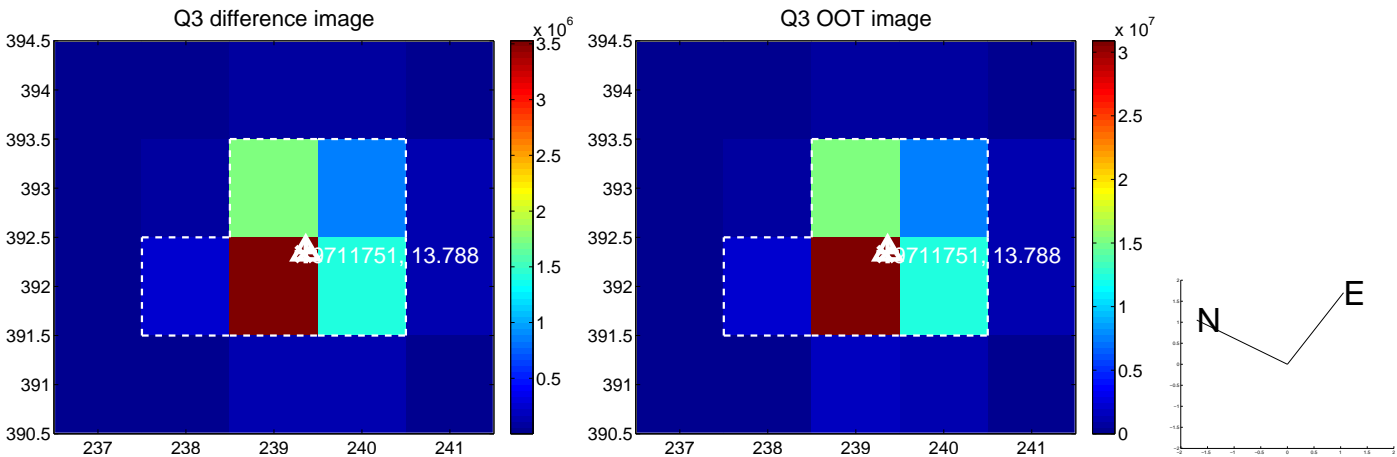
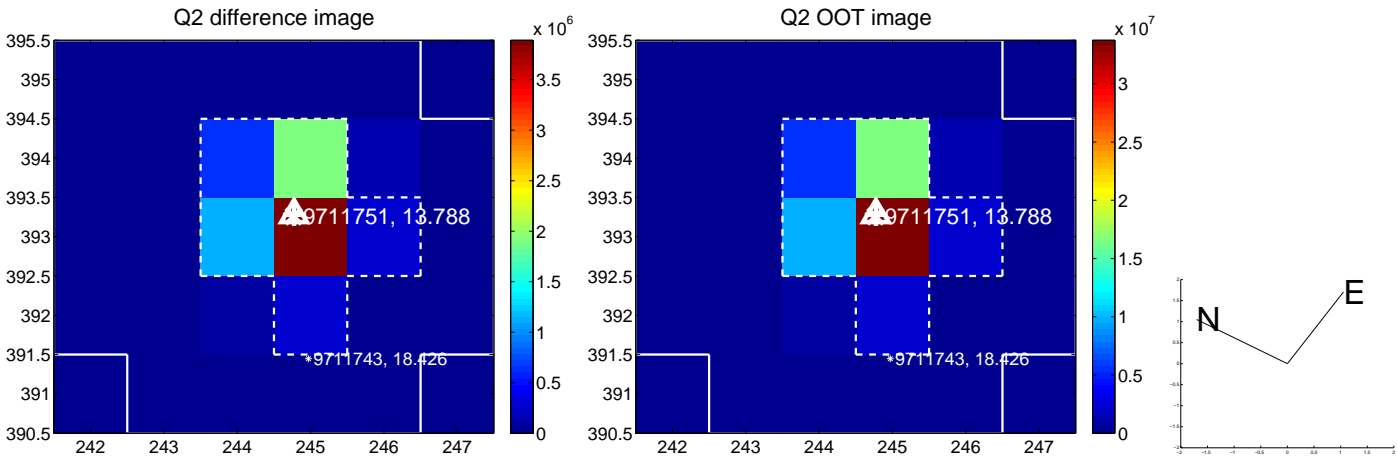
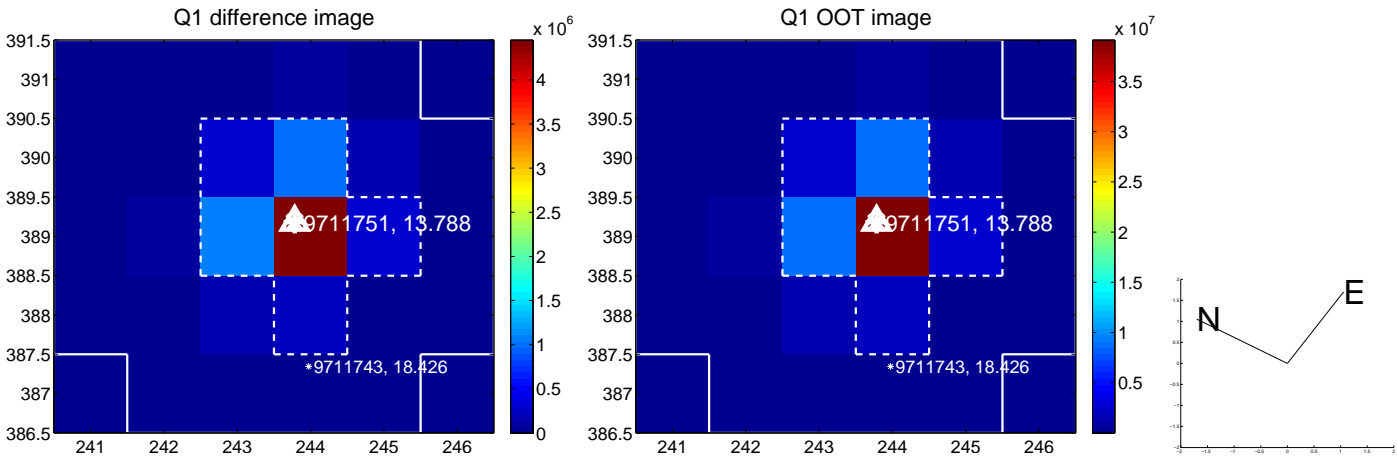
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.008 ± 0.067	0.12	0.006 ± 0.067	0.005 ± 0.067
PRF-fit source offset from KIC position	0.110 ± 0.068	1.62	0.108 ± 0.068	0.018 ± 0.067
photometric centroid source offset	0.09 ± 0.00	247.33	0.02 ± 0.00	-0.09 ± 0.00

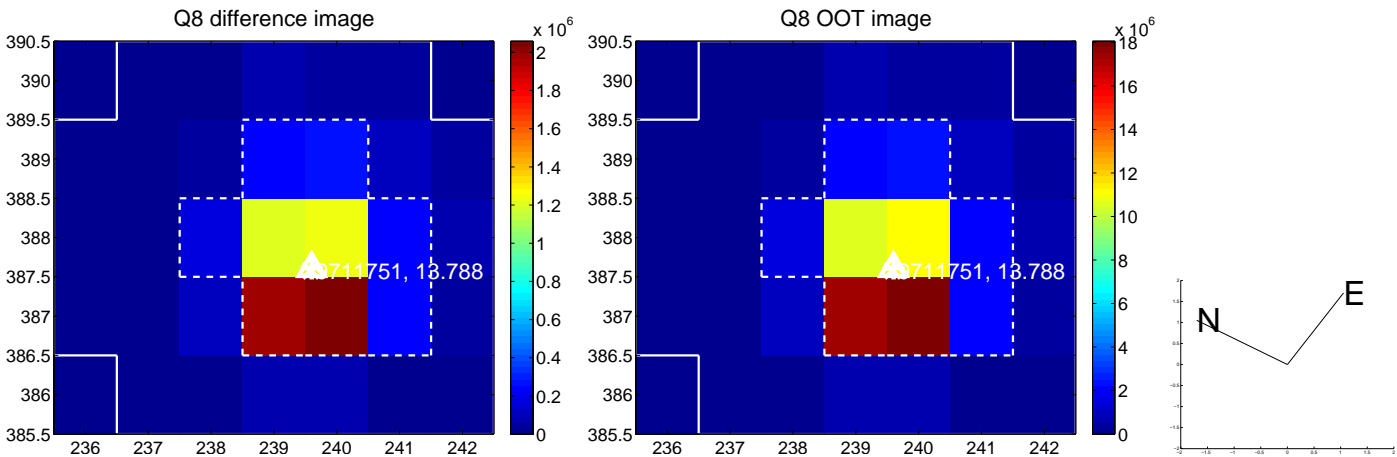
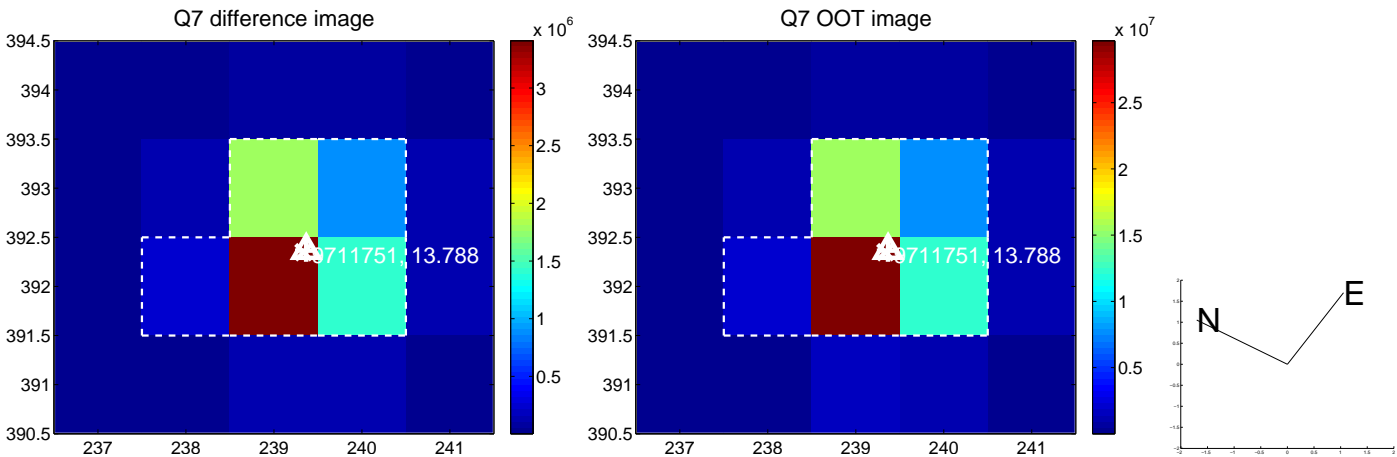
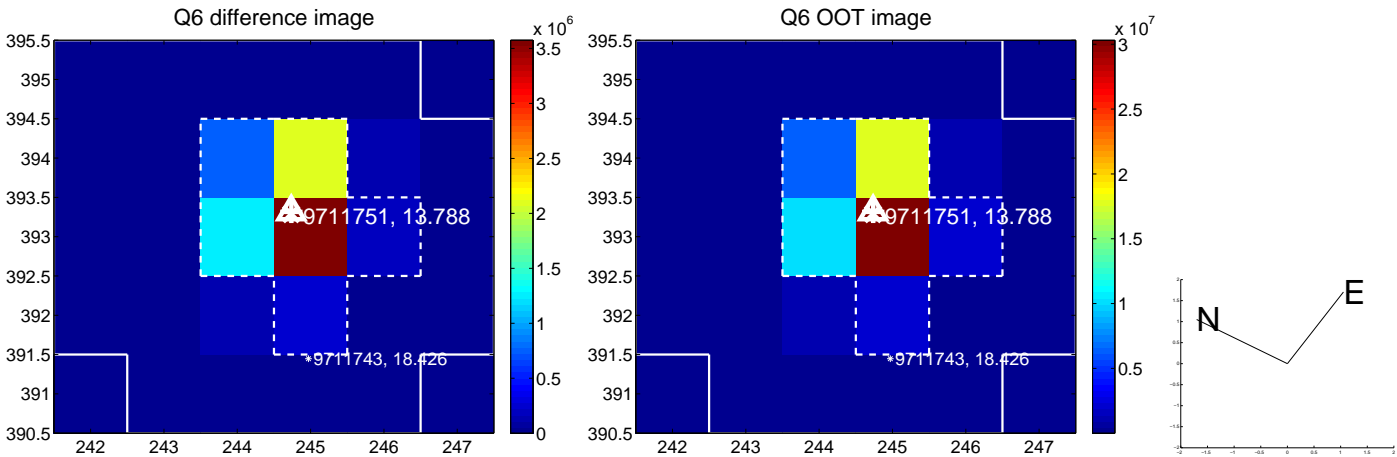
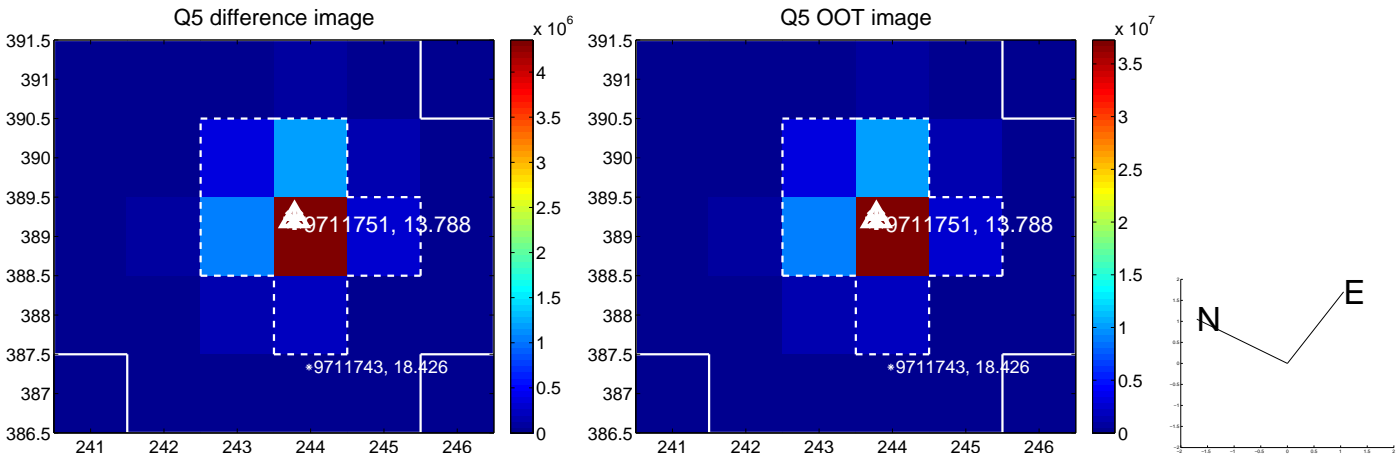


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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.

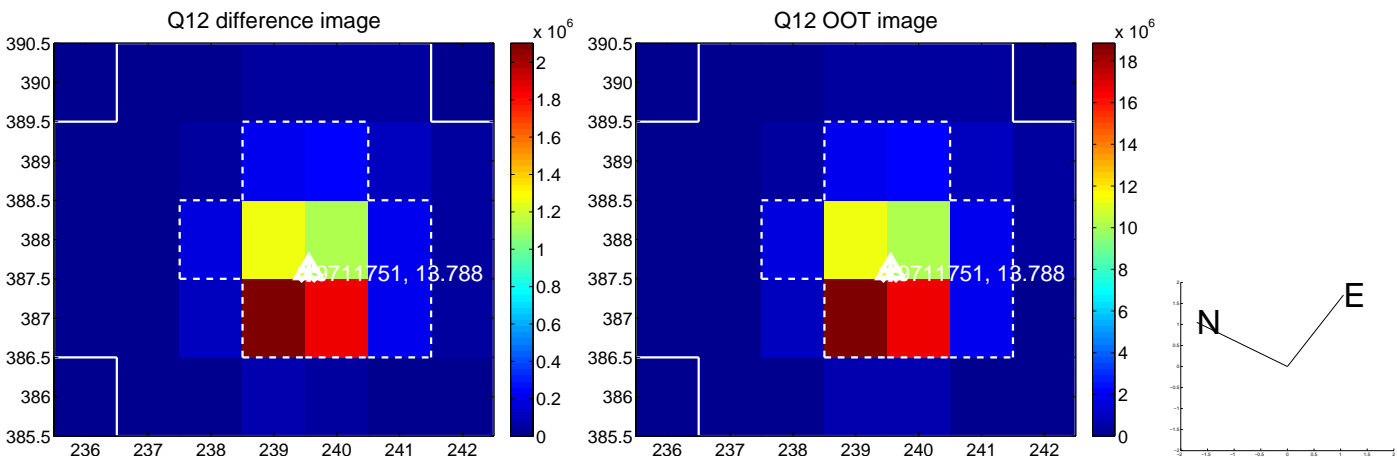
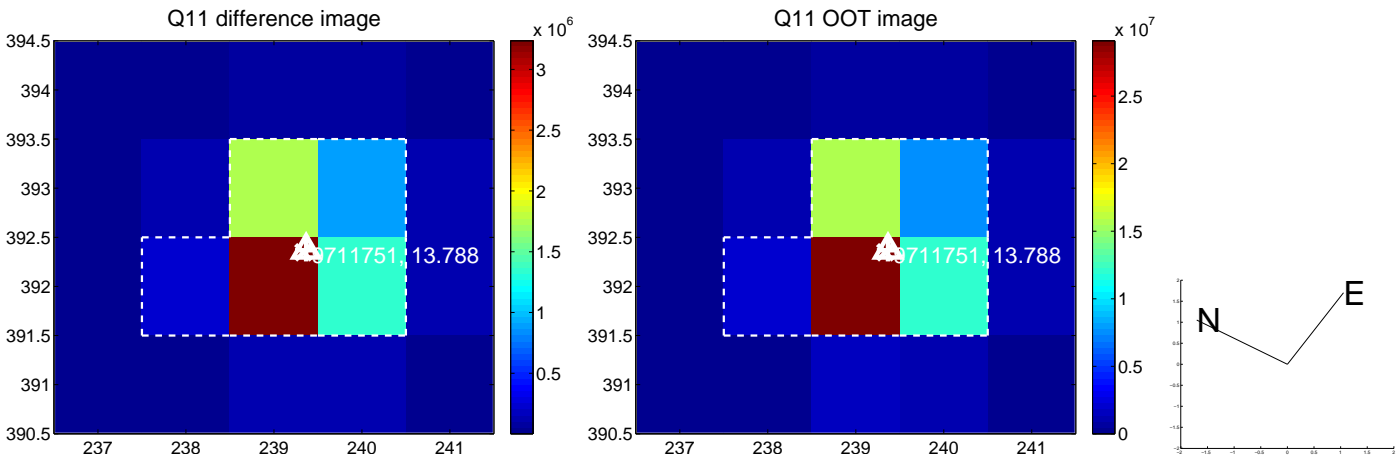
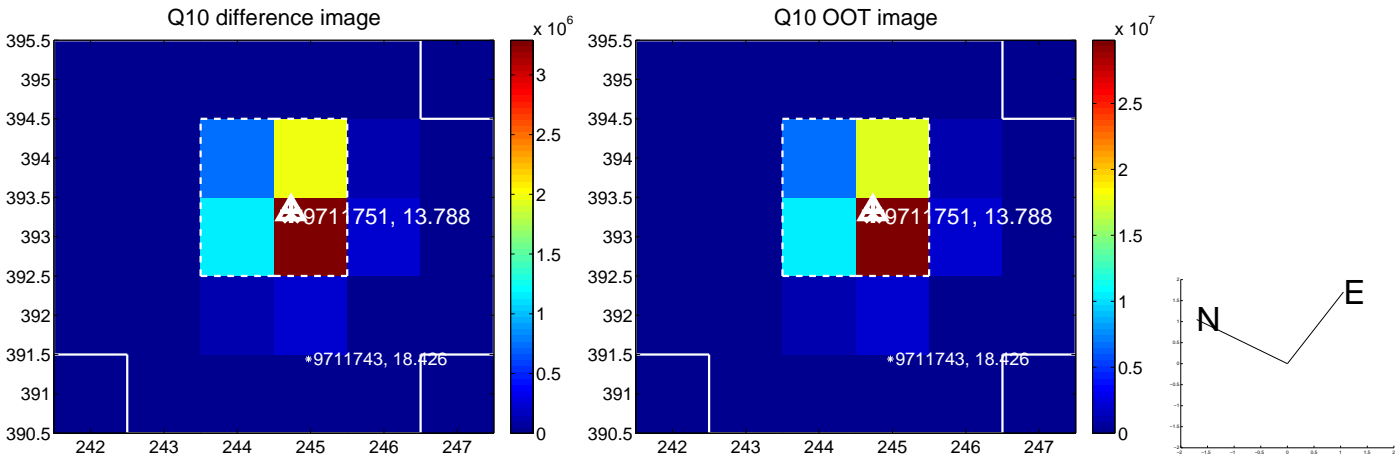
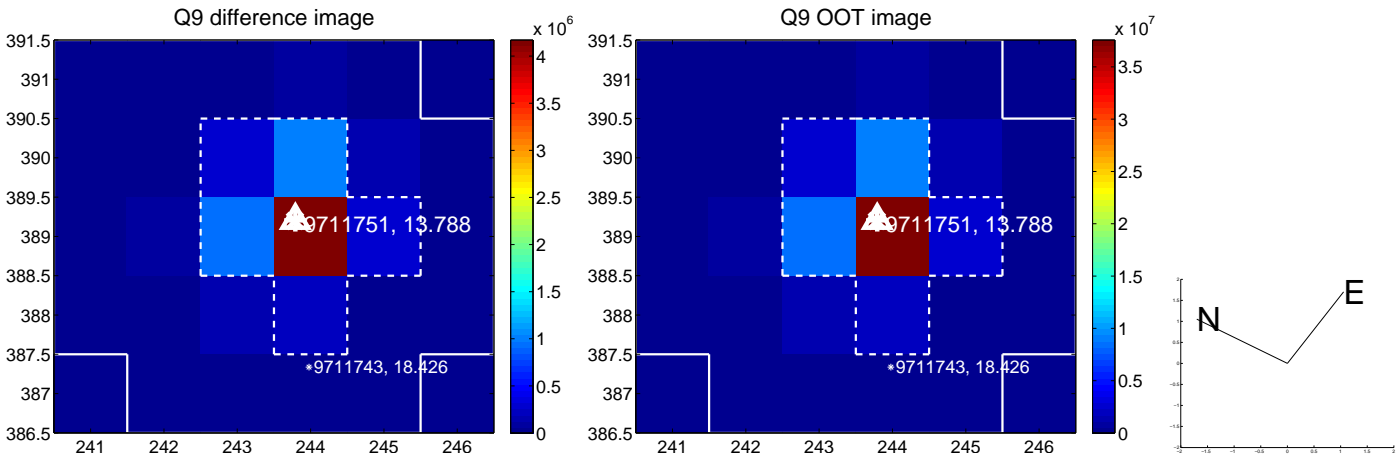
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



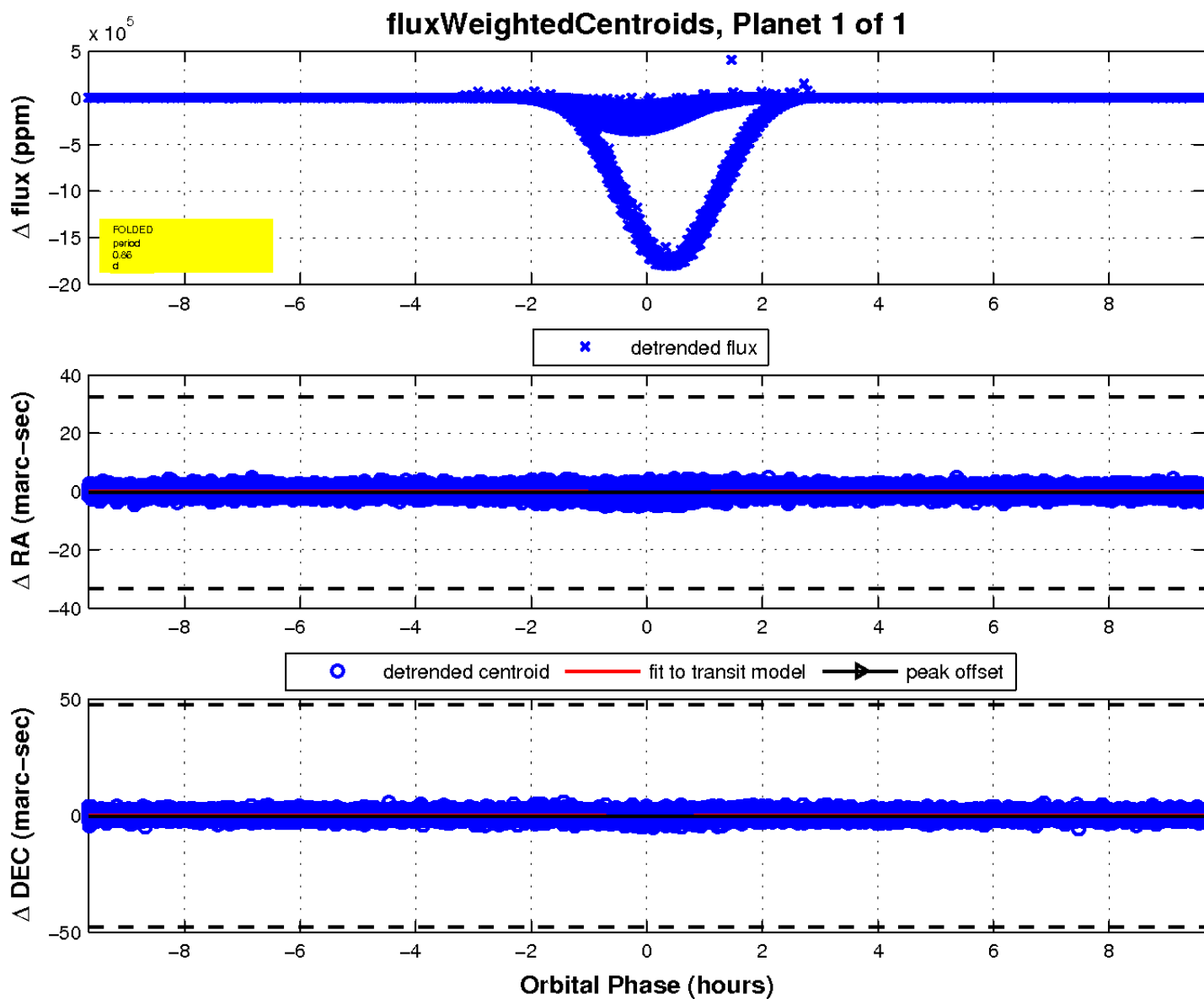
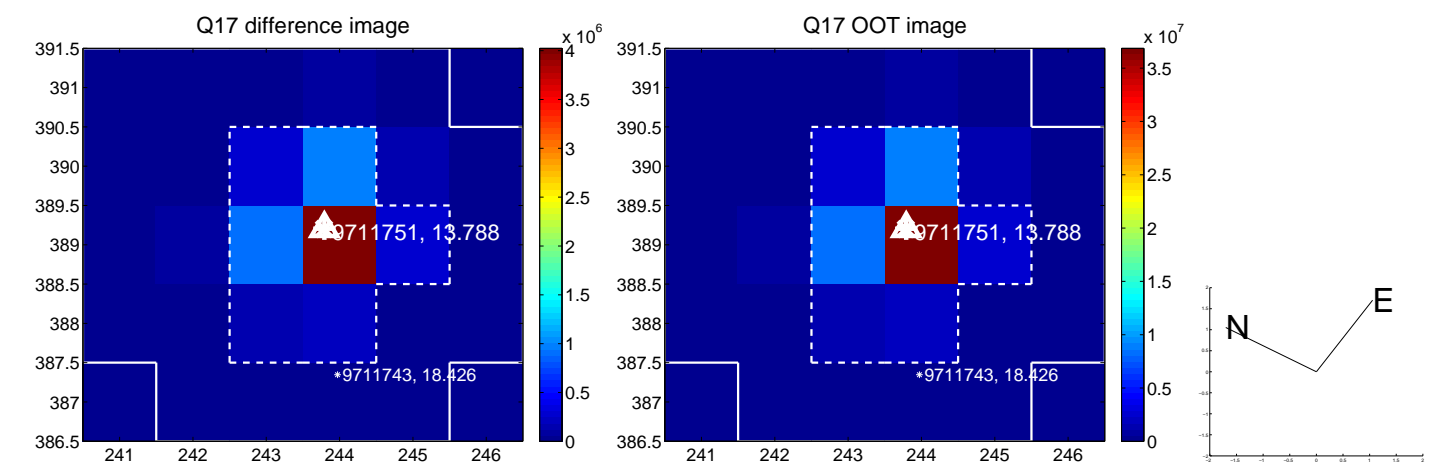
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UKIRT Image

Declination

