

KIC 008440291

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})
008440291-01	OBS	No	365.760020	183.681710	1075.0	12.356	7.4	7.4	0.92	5880	3.40	0.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008440291-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

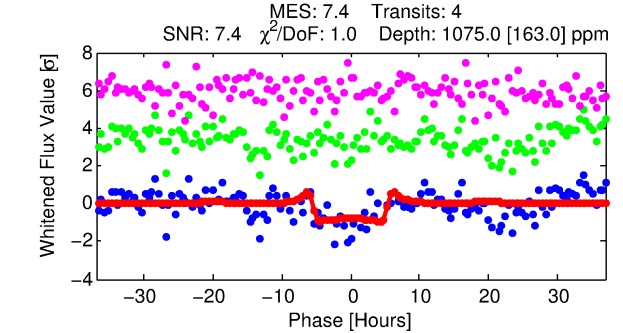
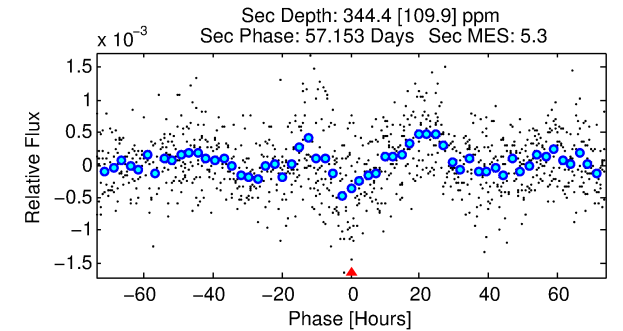
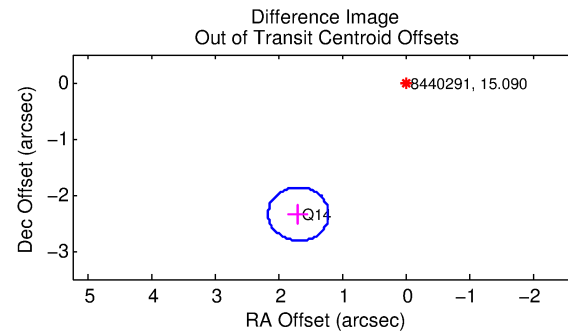
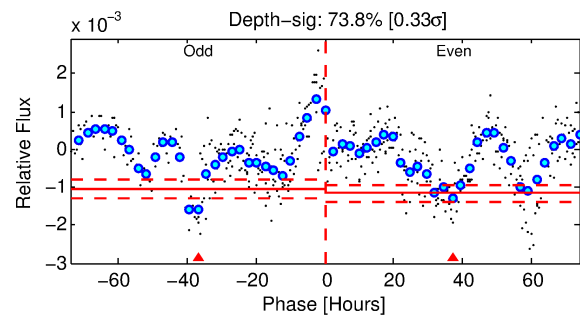
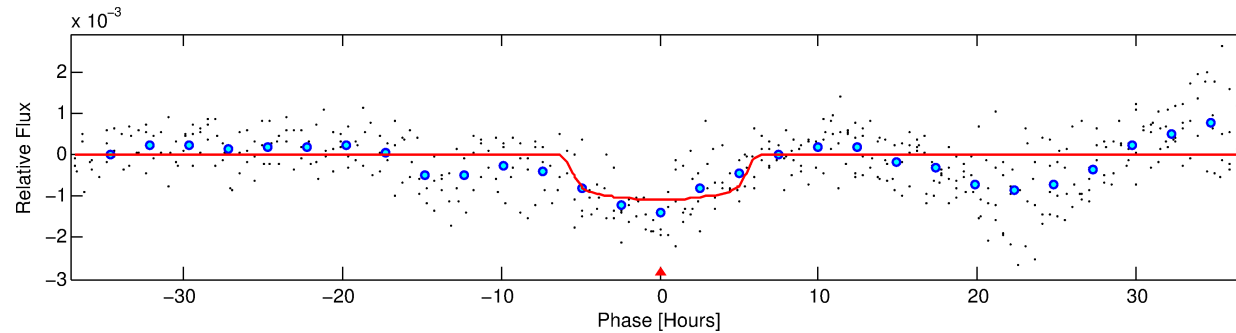
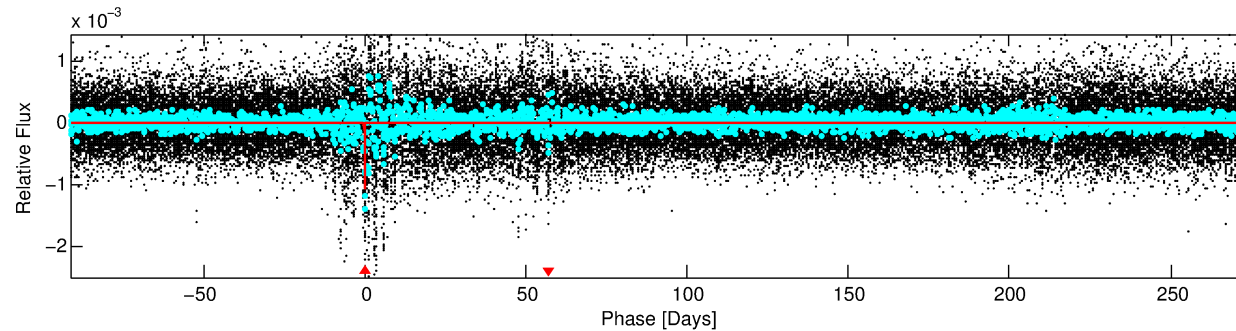
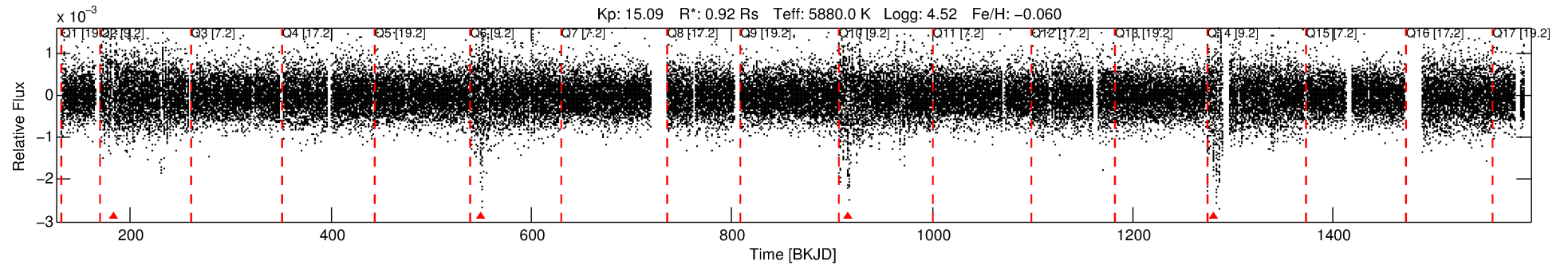
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008440291-01

No Significant Match Found

DV One-Page Summary

KIC: 8440291 Candidate: 1 of 1 Period: 365.760 d



DV Fit Results:

Period = 365.76002 [0.00884] d
Epoch = 183.6817 [0.0180] BKJD
Rp/R* = 0.0340 [0.0040]
a/R* = 137.30 [48.87]
b = 0.84 [0.13]
Seff = 0.89 [0.36]
Teq = 248 [25] K
Rp = 3.40 [1.13] Re
a = 1.0048 [0.2647] AU
Ag = 16550.89 [9142.12] [1.81 σ]
Teff = 4346 [453] K [9.04 σ]

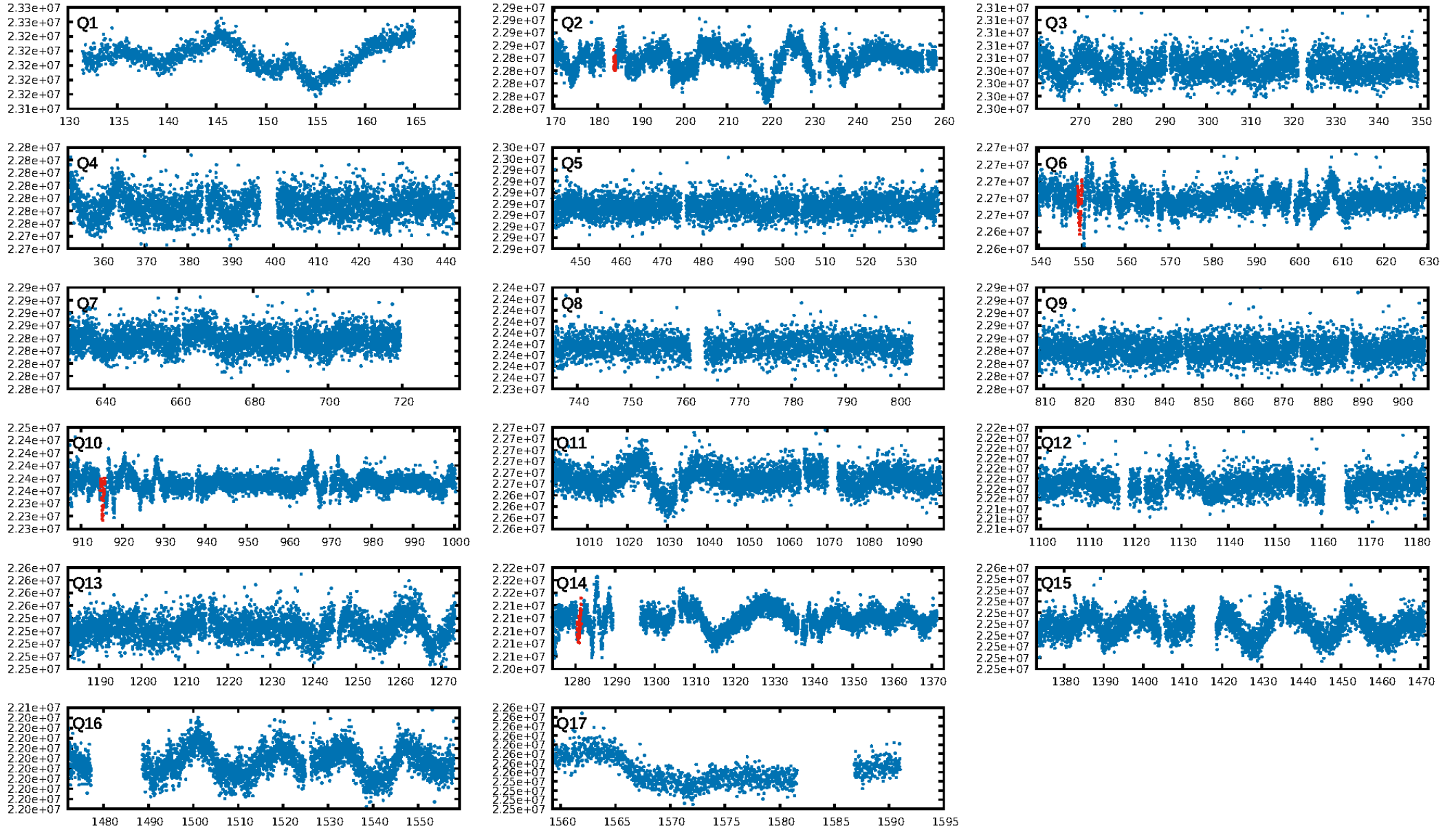
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 11.2%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 1.36e-09
RollingBand-fgt: 0.00 [0/4]
GhostDiagnostic-chr: -5.443
Centroid-sig: 8.0%
Centroid-so: 3.332 arcsec [1.24 σ]
OotOffset-rm: 2.893 arcsec [18.26 σ]
KicOffset-rm: 2.731 arcsec [17.29 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

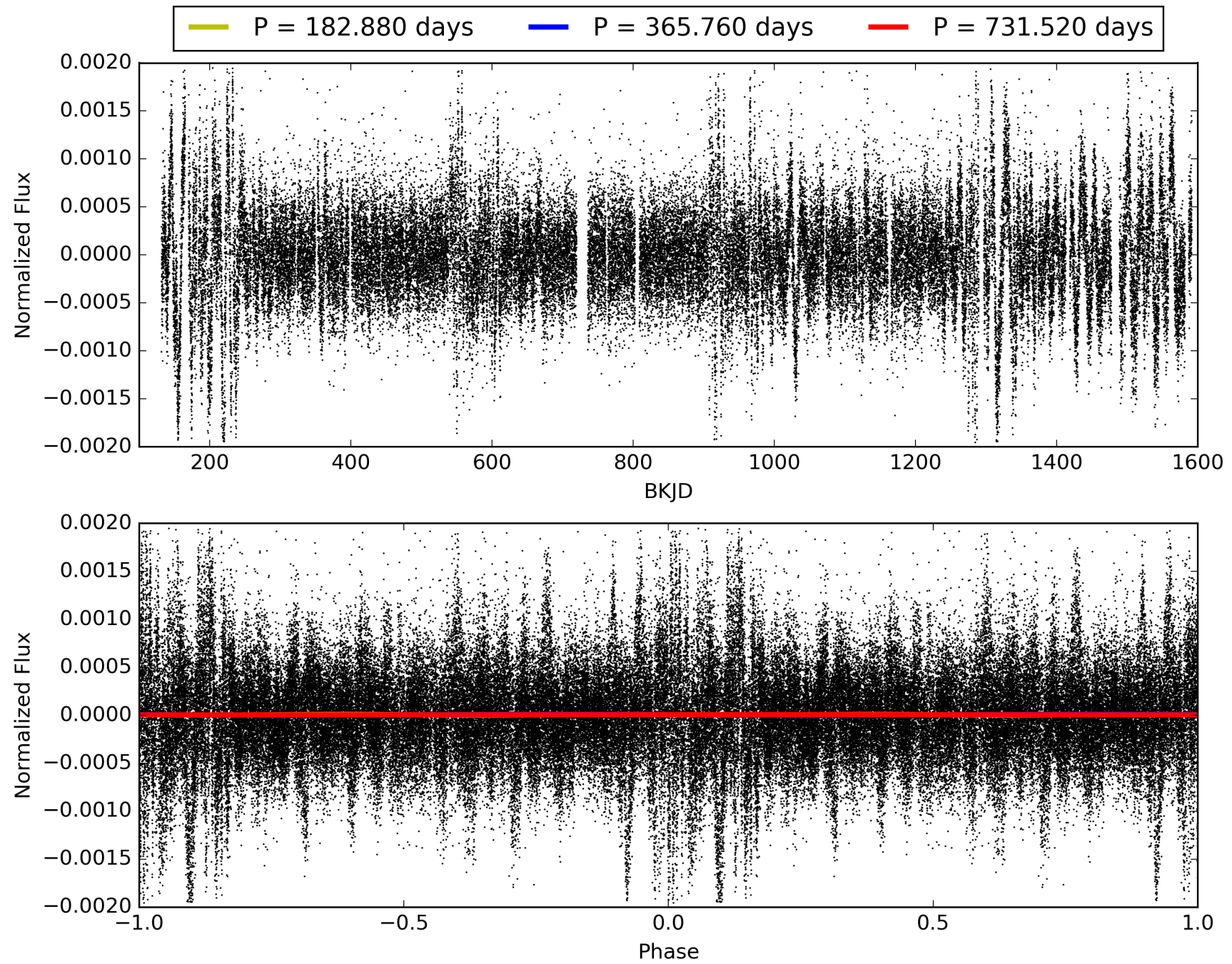
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:43:58 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008440291-01, PDC Light Curves

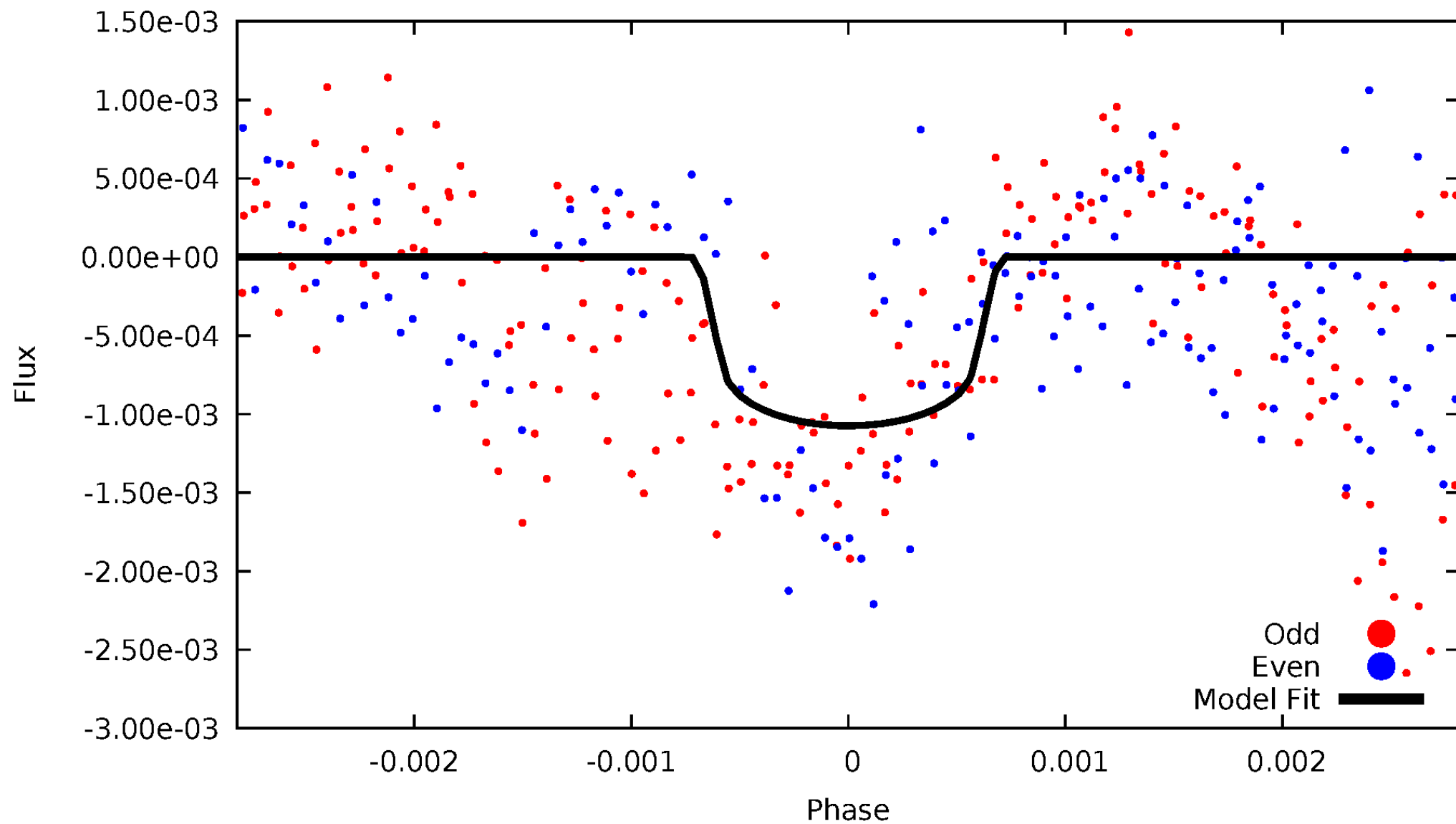


TCE 008440291-01



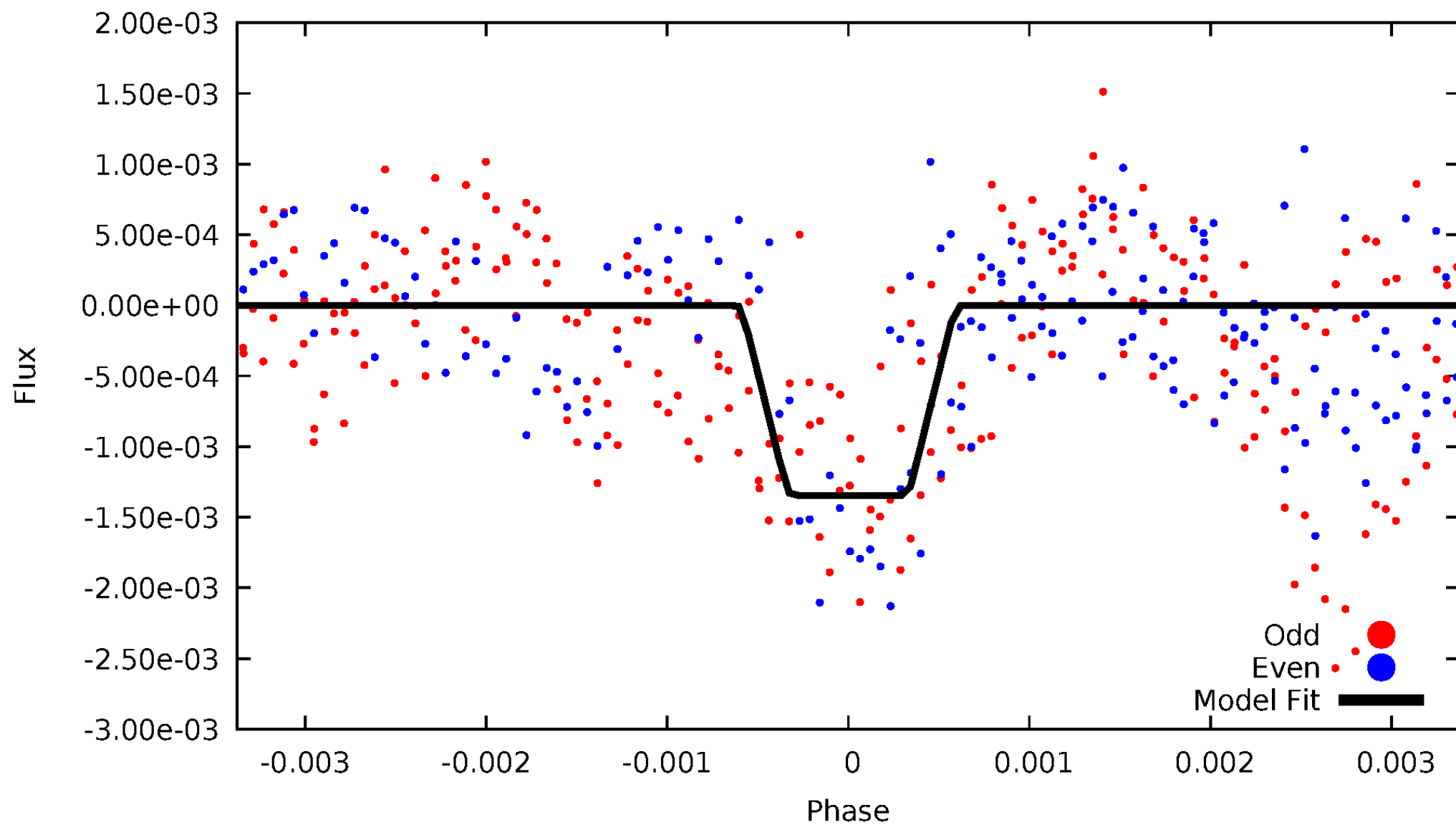
DV Odd/Even

TCE 008440291-01



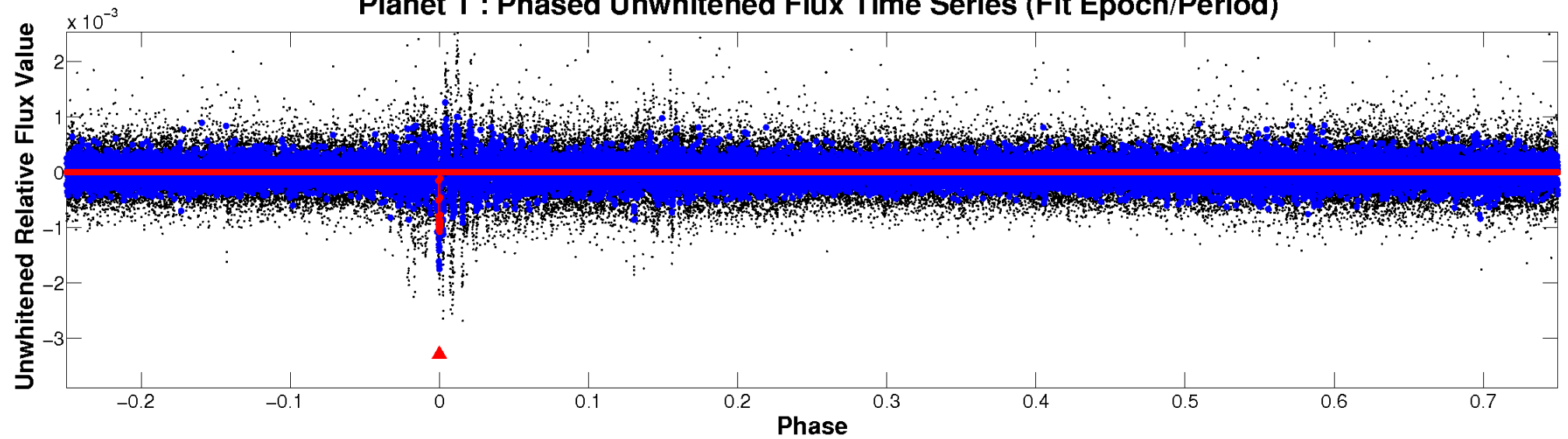
ALT Odd/Even

TCE 008440291-01

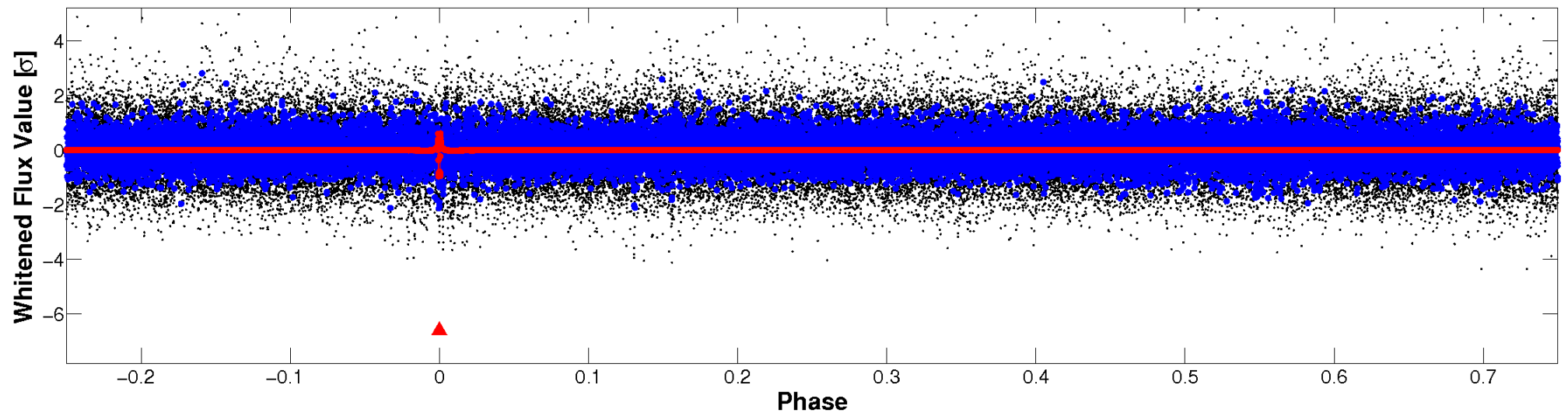


Non-Whitened Vs. Whitened Light Curve

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

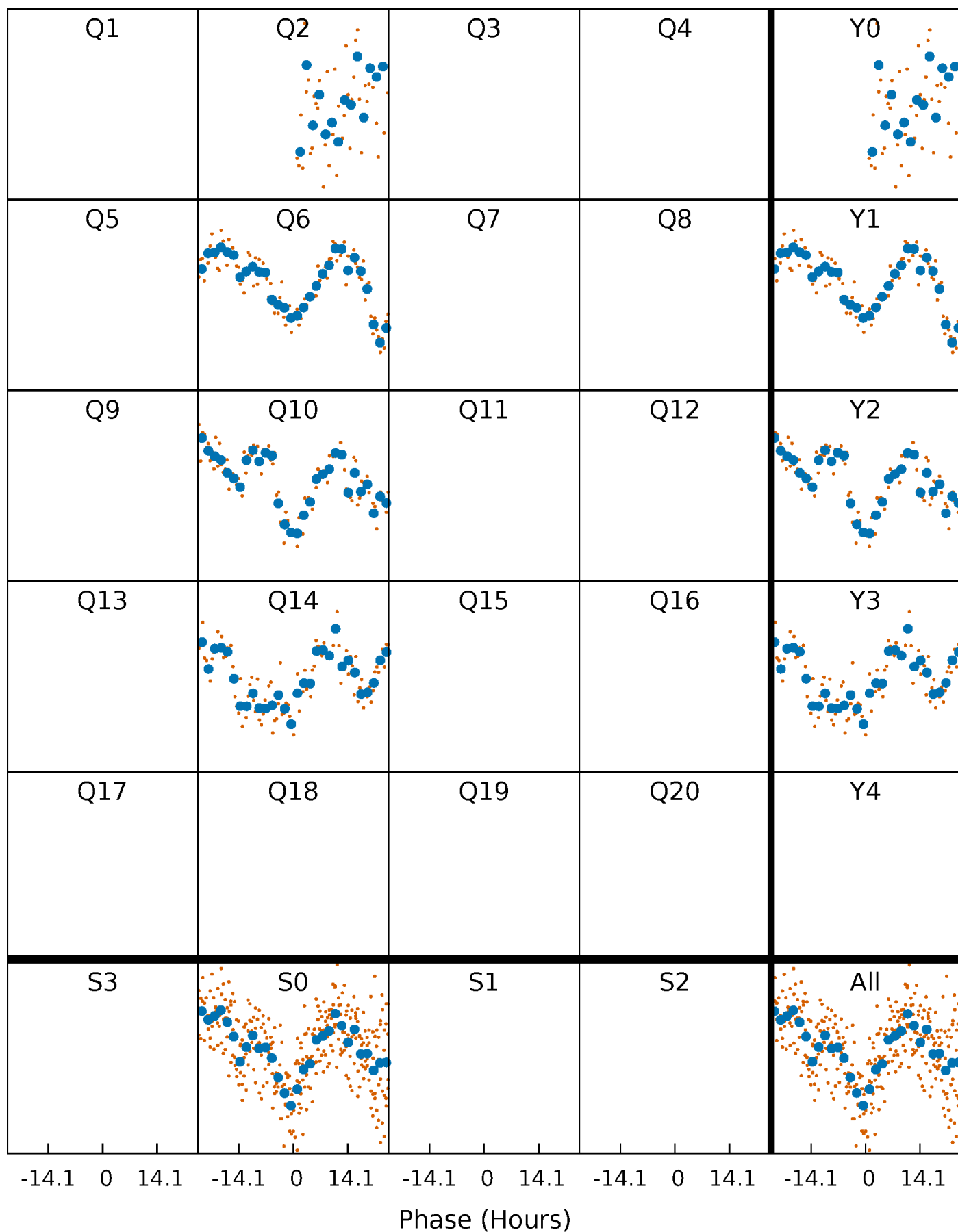


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



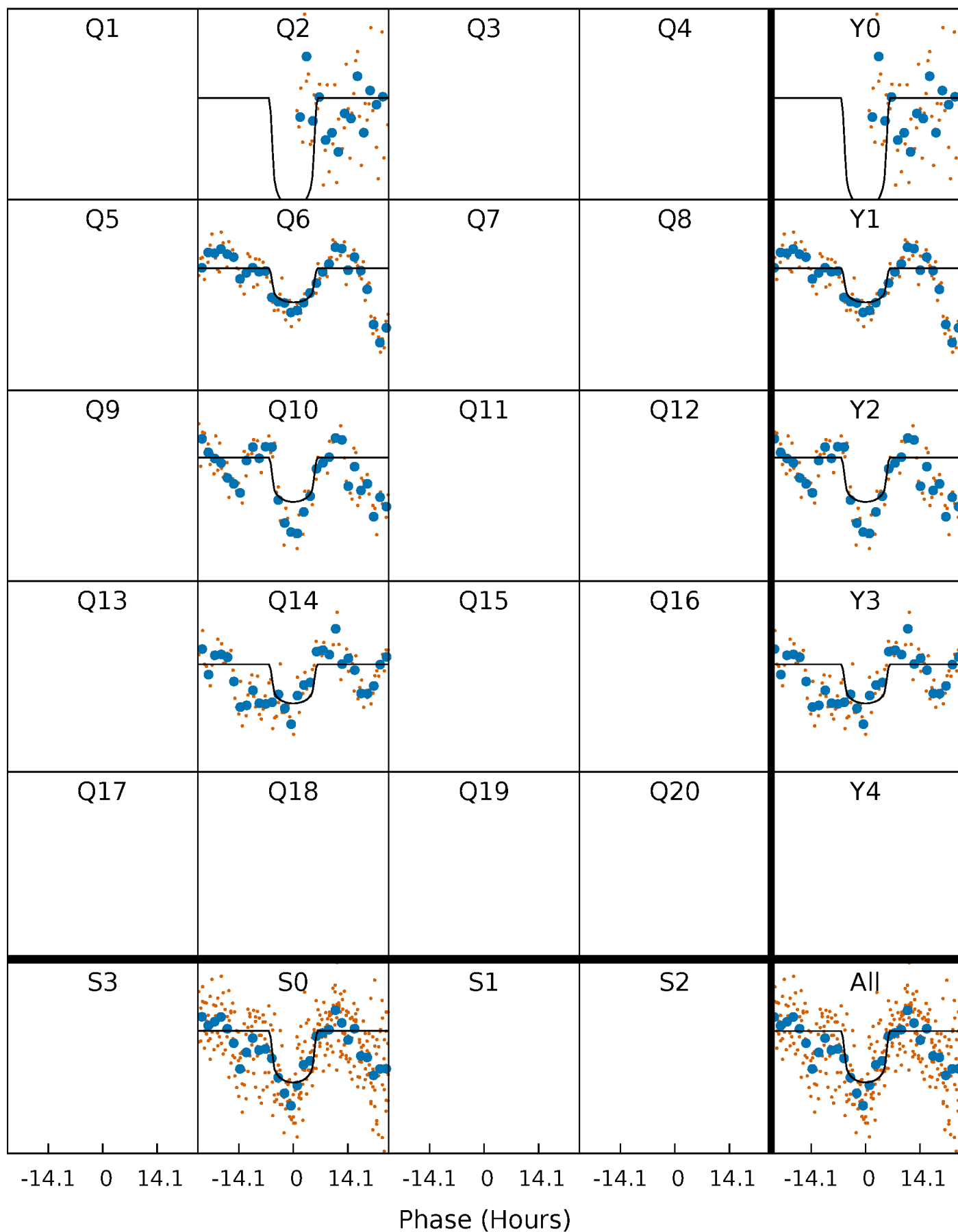
PDC Quarter-Phased Transit Curves

TCE 008440291-01 P=365.760020 Days $T_0=183.681710$ (BKJD)



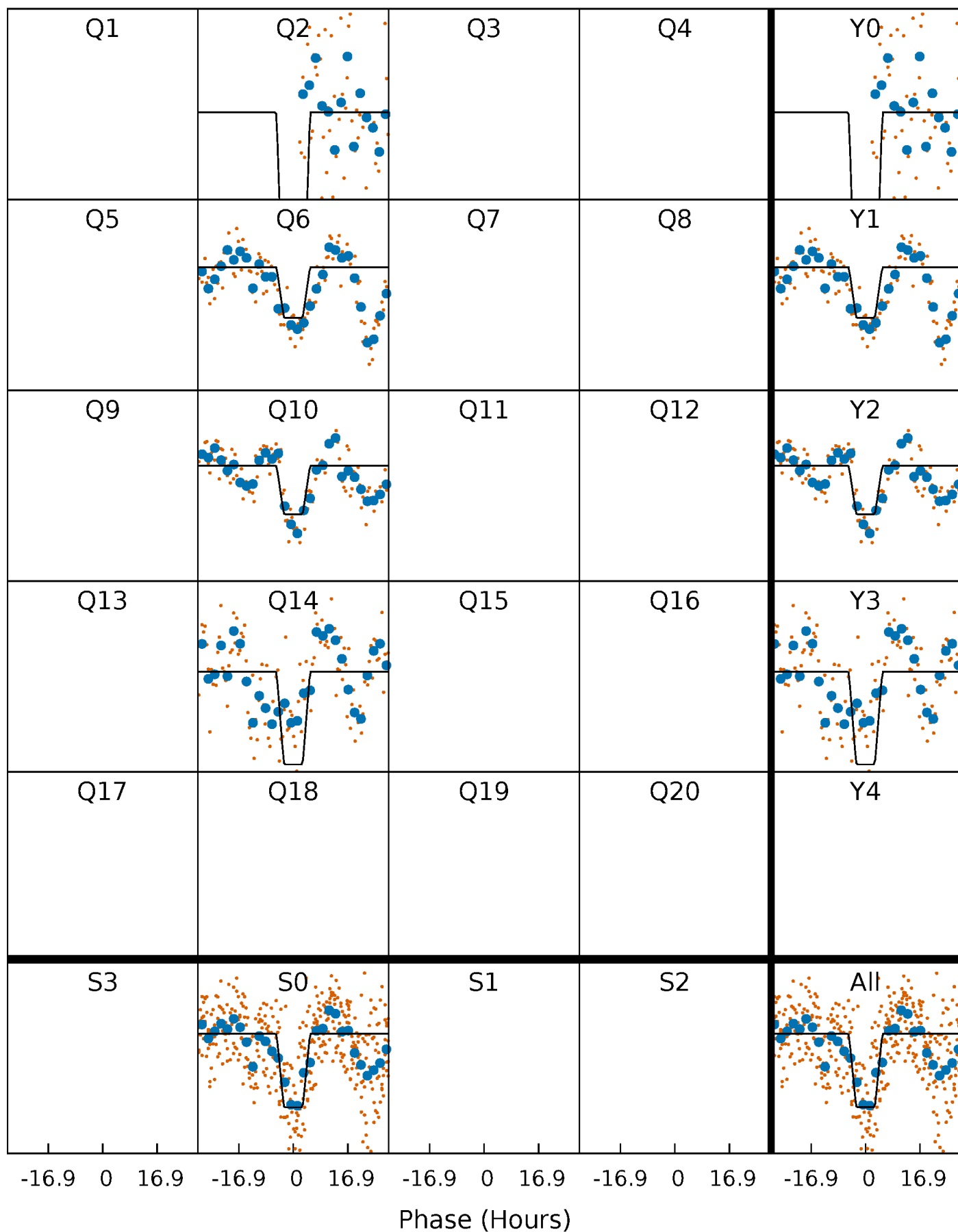
DV Quarter-Phased Transit Curves

TCE 008440291-01 P=365.760020 Days $T_0=183.681710$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

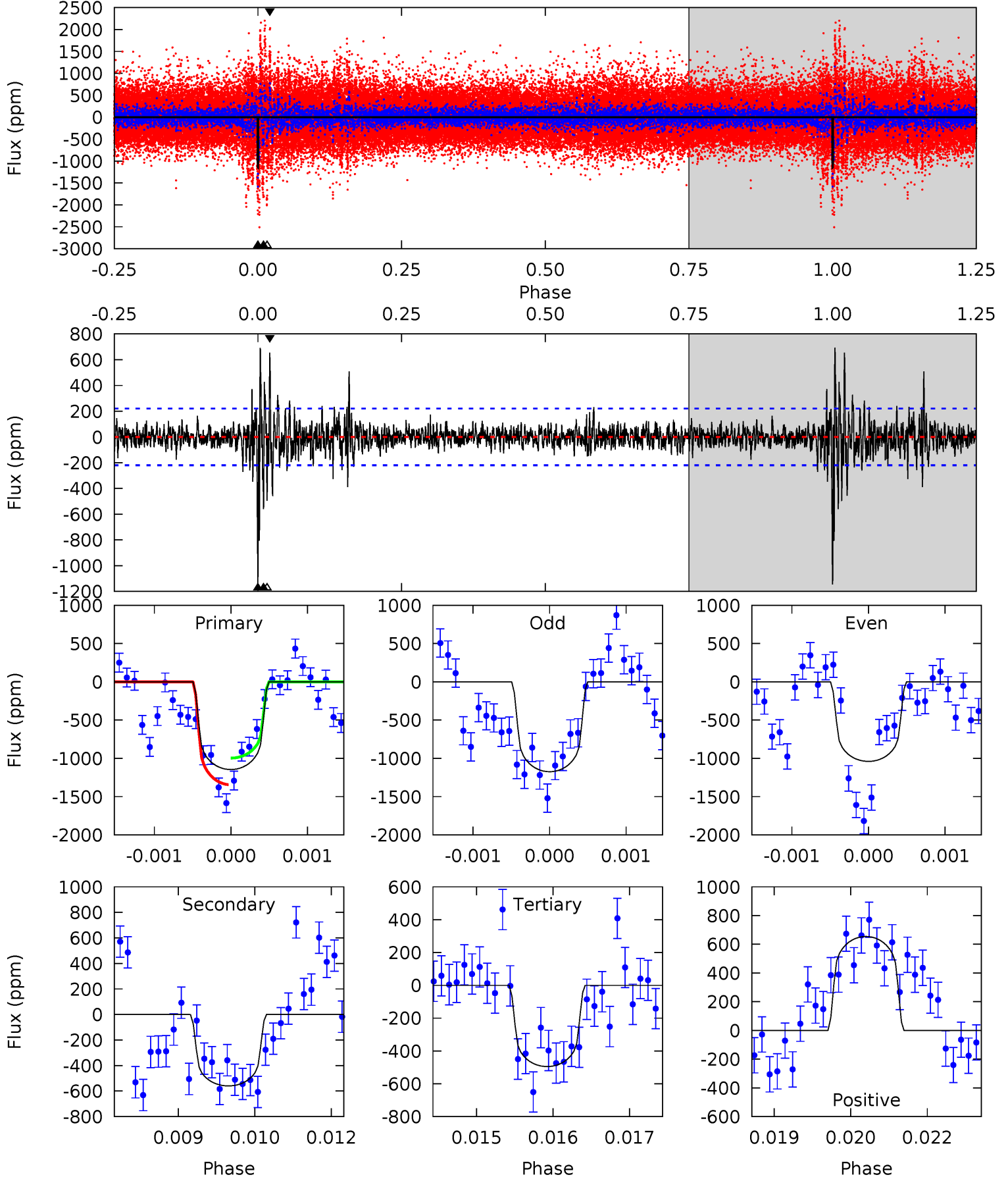
TCE 008440291-01 P=365.760724 Days $T_0=183.637558$ (BKJD)



DV Model-Shift Uniqueness Test

008440291-01, P = 365.760020 Days, E = 183.681710 Days

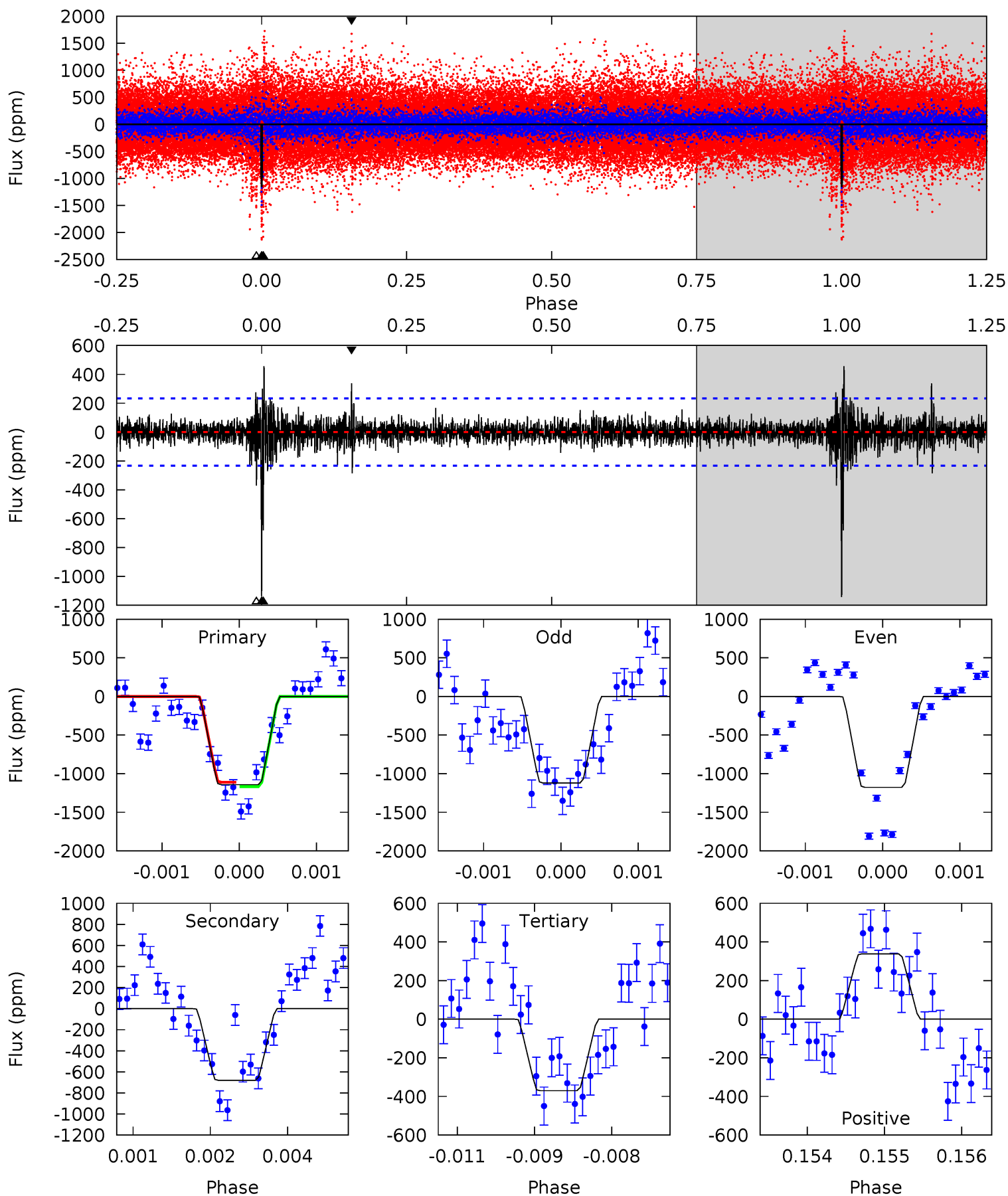
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.0	13.7	12.1	16.0	5.38	3.18	2.09	15.9	12.0	1.58	-2.31	1.64	0.82	0.38	4.22



Alt Model-Shift Uniqueness Test

008440291-01, P = 365.760724 Days, E = 183.637558 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.6	15.8	8.62	7.88	5.42	3.24	1.29	18.0	18.7	7.23	7.97	0.64	0.85	0.29	0.64



Stellar Parameters For KIC 008440291

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5880^{+158}_{-193}	$4.518^{+0.037}_{-0.212}$	$-0.060^{+0.250}_{-0.300}$	$0.917^{+0.285}_{-0.089}$	$1.010^{+0.115}_{-0.127}$	$1.844^{+0.395}_{-0.996}$
	+3%/-3%	+1%/-5%	+417%/-500%	+31%/-10%	+11%/-13%	+21%/-54%
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 008440291-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-560 ± 41	$3.58^{+0.72}_{-0.51}$	356^{+27}_{-17}	4990^{+296}_{-257}	23795^{+7441}_{-6651}
Alt.	-680 ± 43	$3.87^{+0.70}_{-0.50}$	356^{+25}_{-17}	5010^{+315}_{-234}	24526^{+7833}_{-6694}

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

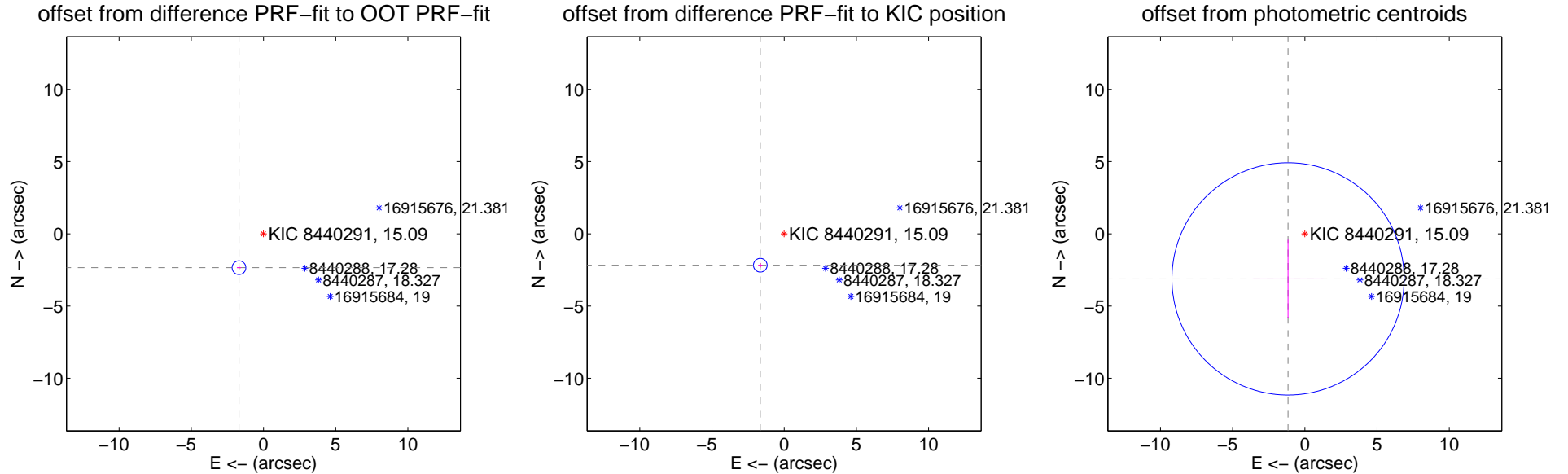
DV Centroid Data

Supplemental centroid analysis for 008440291-01. Kepler magnitude: 15.09. Transit SNR 7.45

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.893 ± 0.158	18.26	1.697 ± 0.145	-2.343 ± 0.165
PRF-fit source offset from KIC position	2.731 ± 0.158	17.29	1.654 ± 0.145	-2.174 ± 0.165
photometric centroid source offset	3.33 ± 2.68	1.24	1.17 ± 2.45	-3.12 ± 2.71

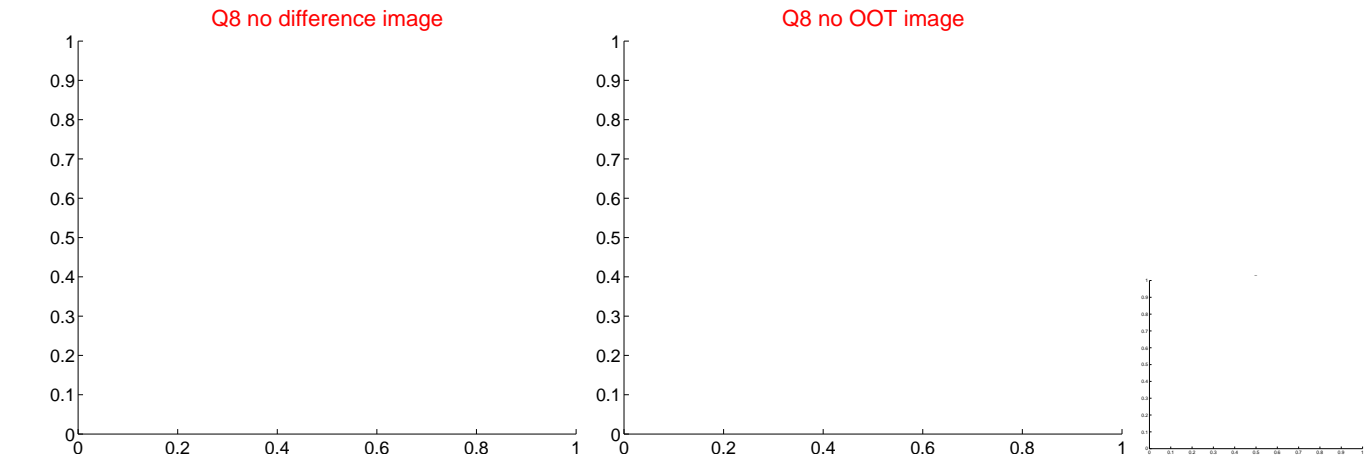
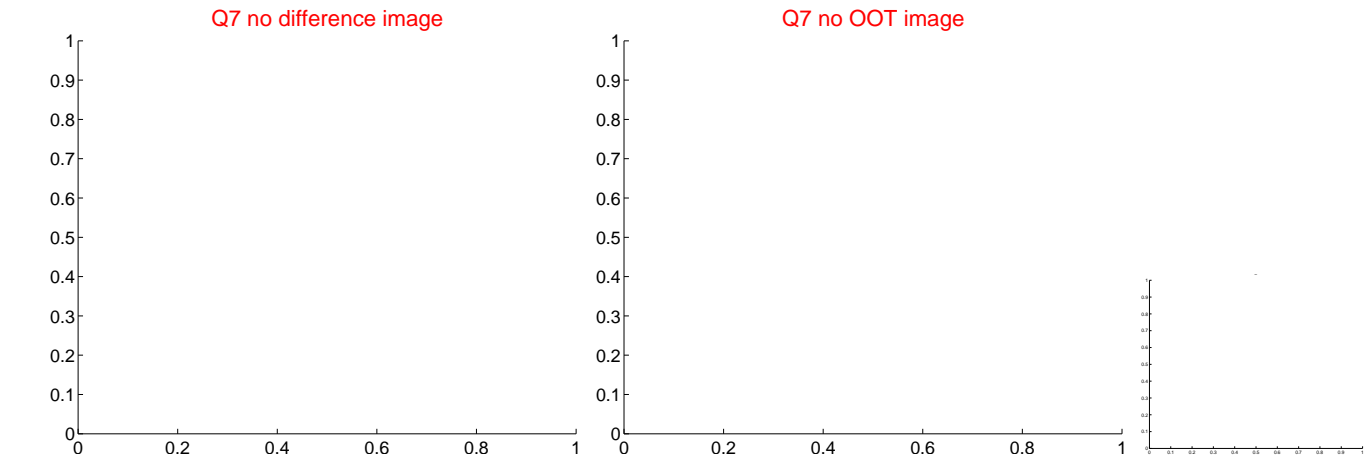
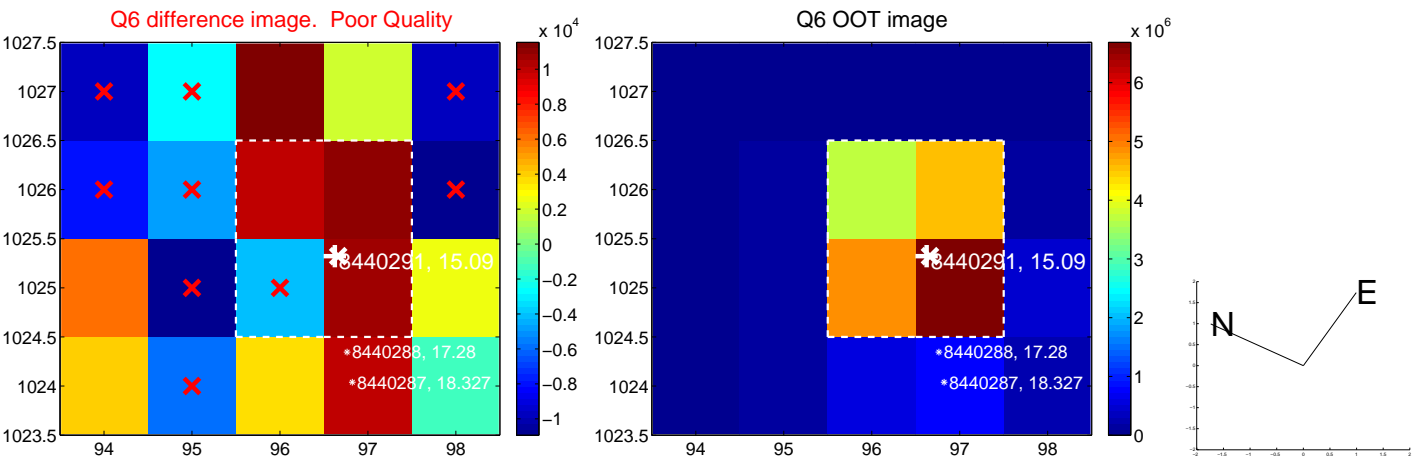
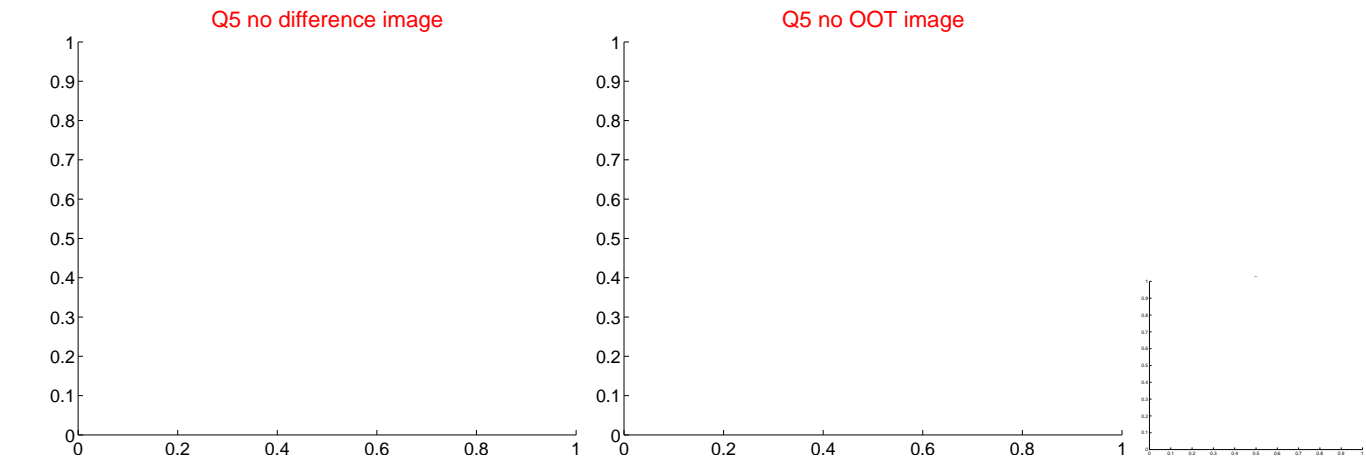


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

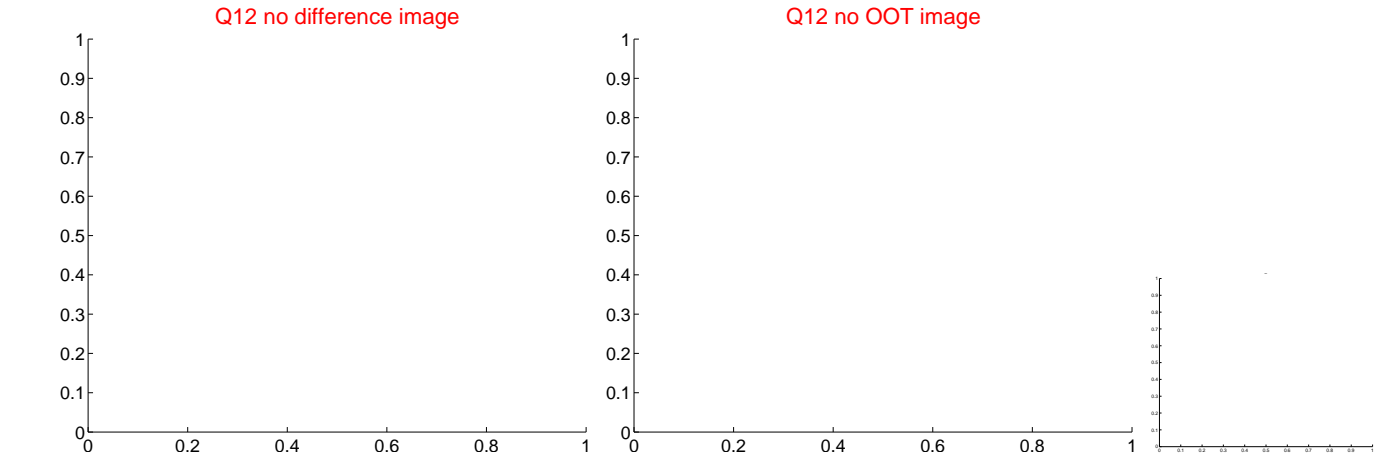
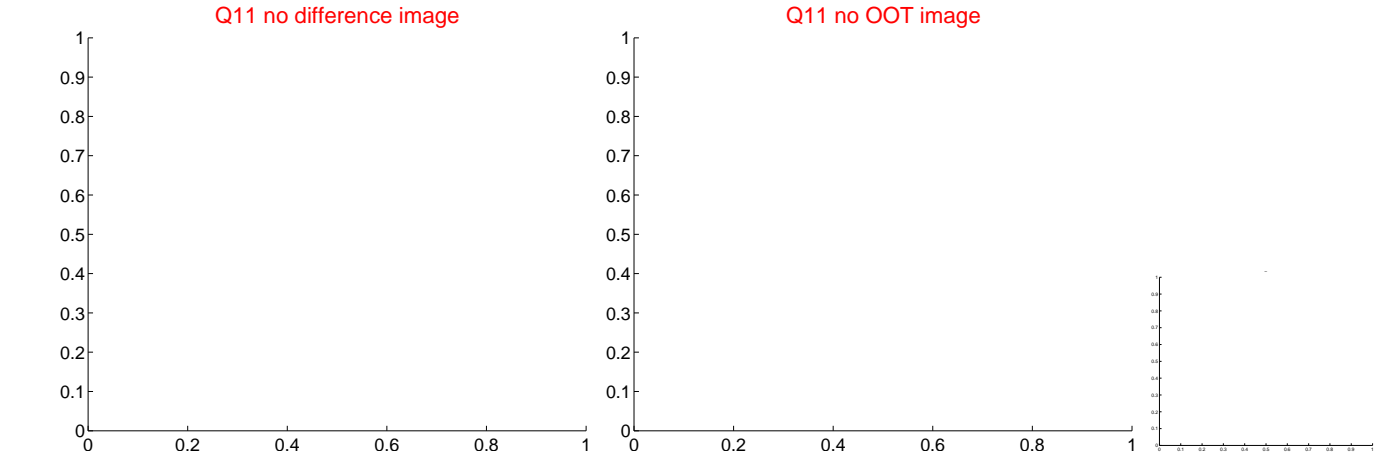
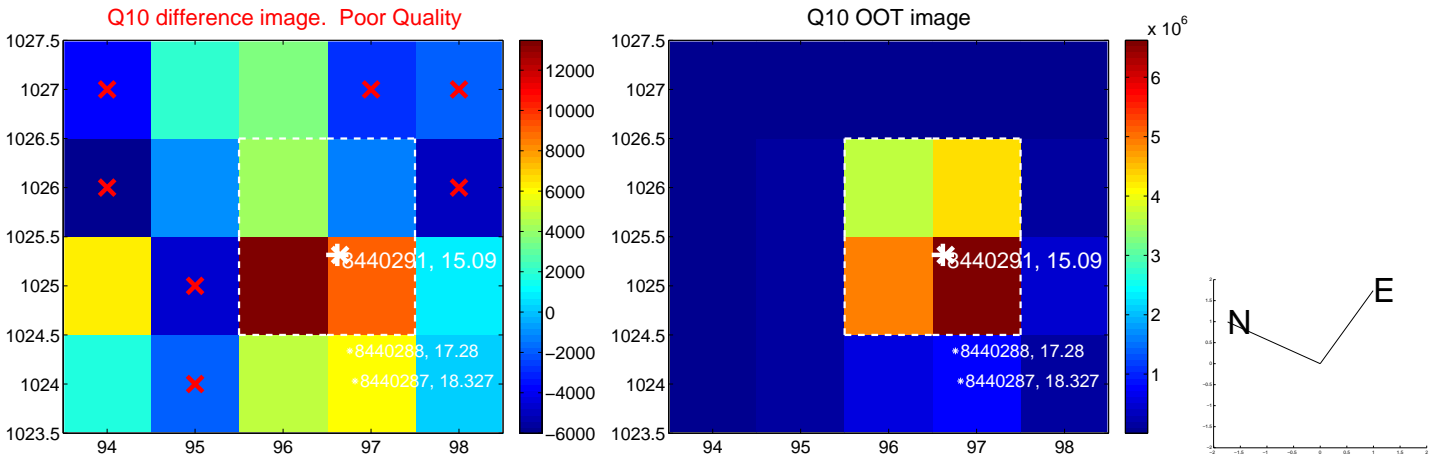
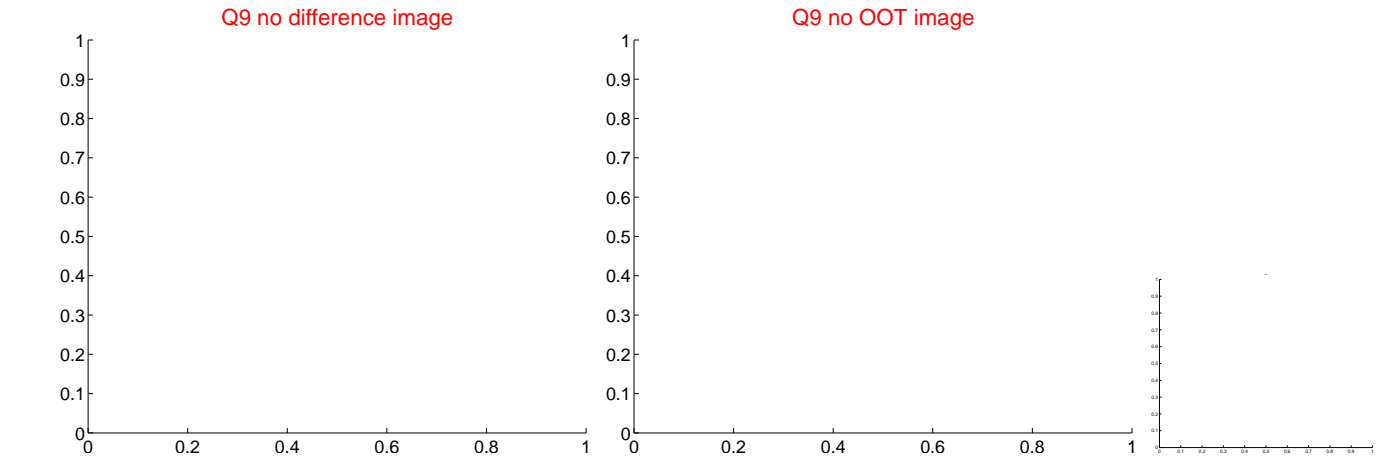
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

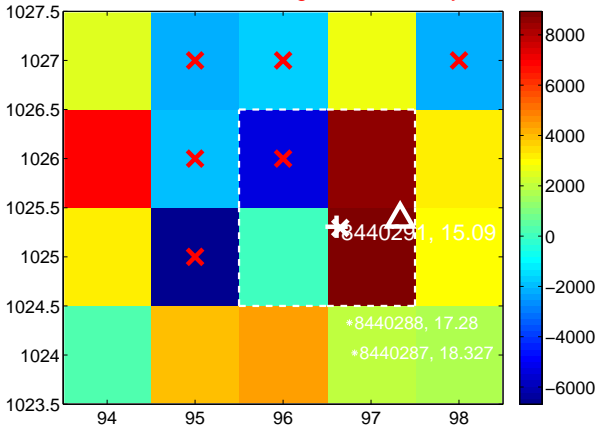
Q13 no difference image



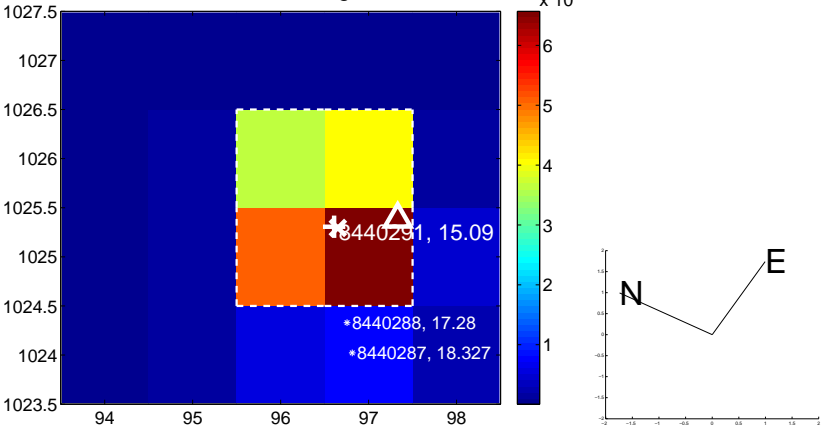
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



Q15 no difference image



Q15 no OOT image



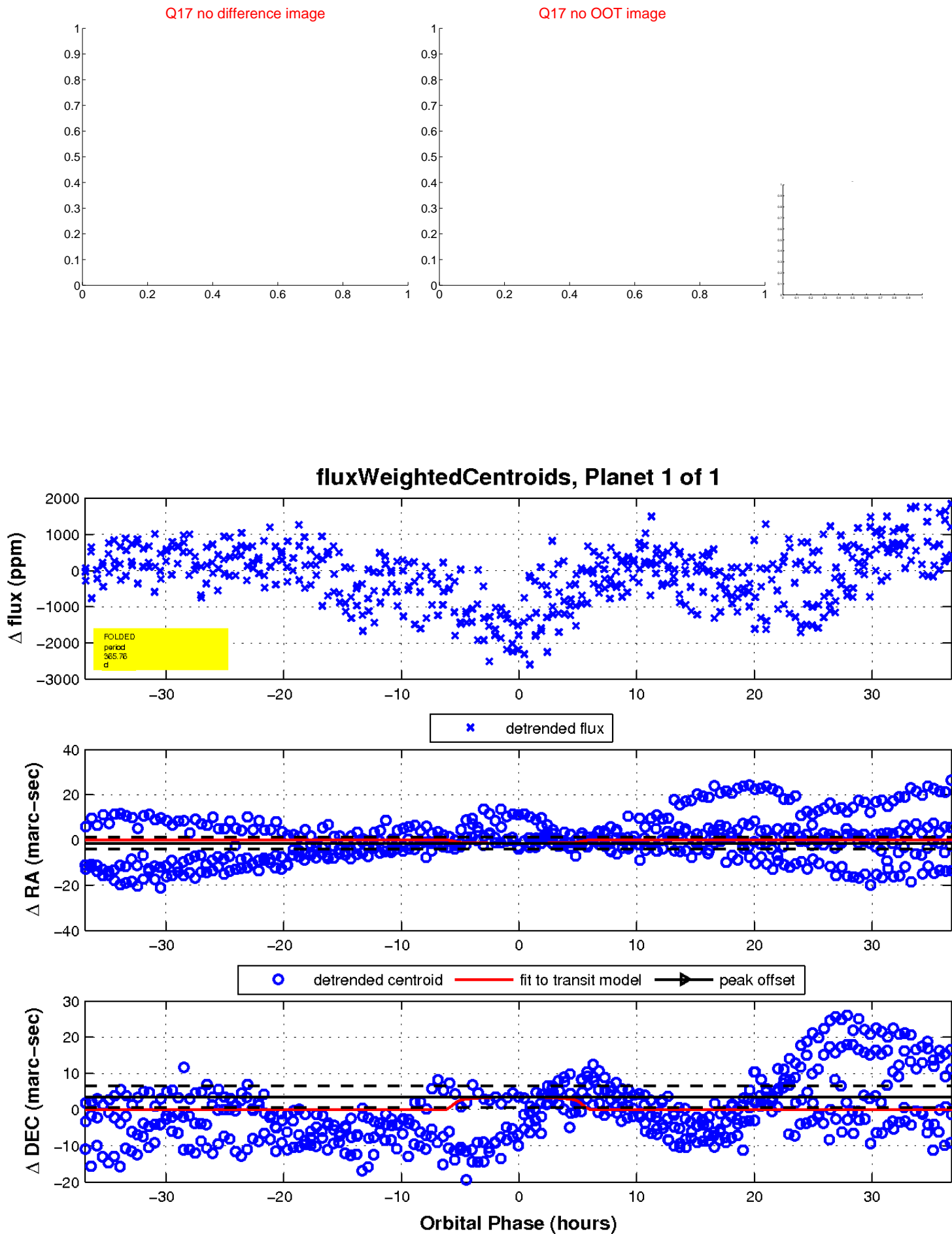
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

