

KIC 008940998

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})
008940998-01	OBS	No	655.907162	186.436379	513.3	9.139	7.4	8.2	0.84	5669	2.01	0.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008940998-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

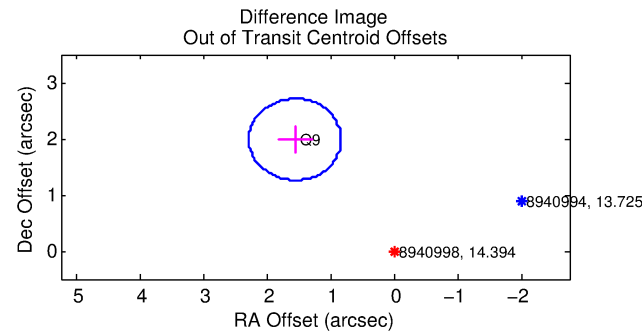
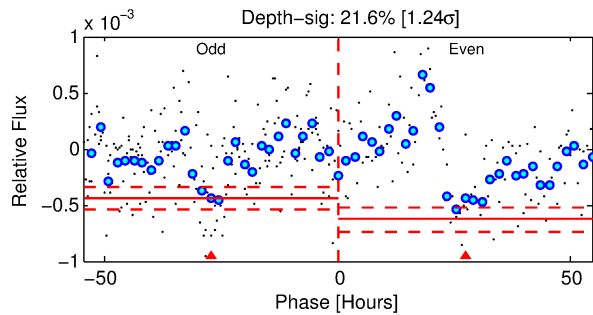
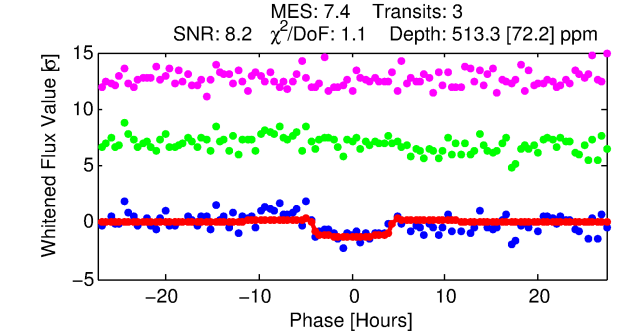
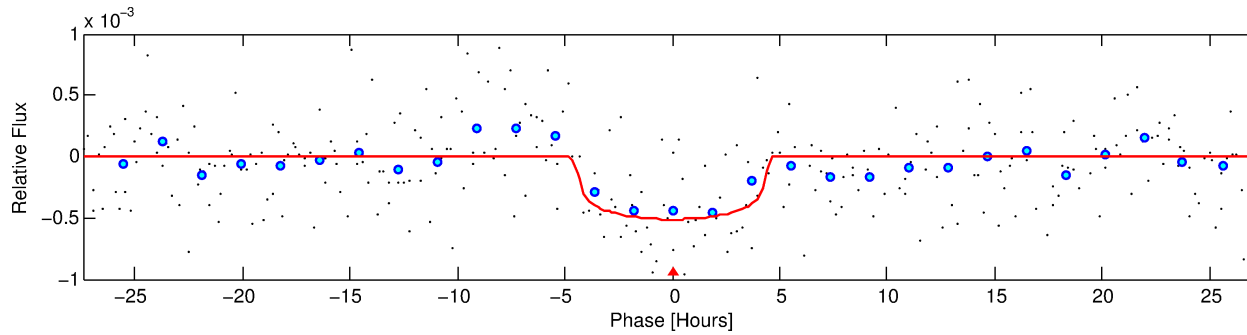
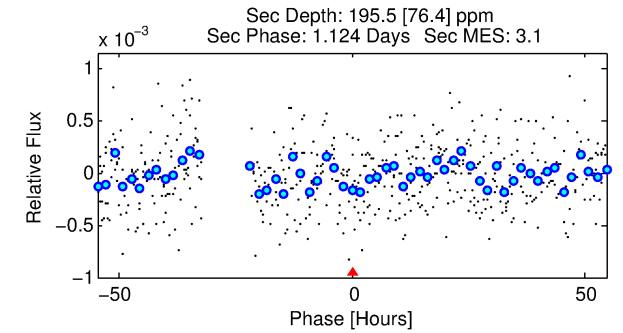
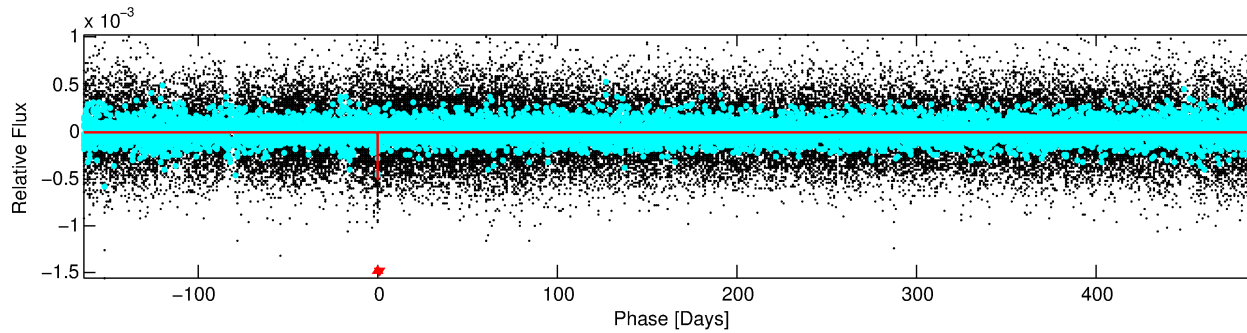
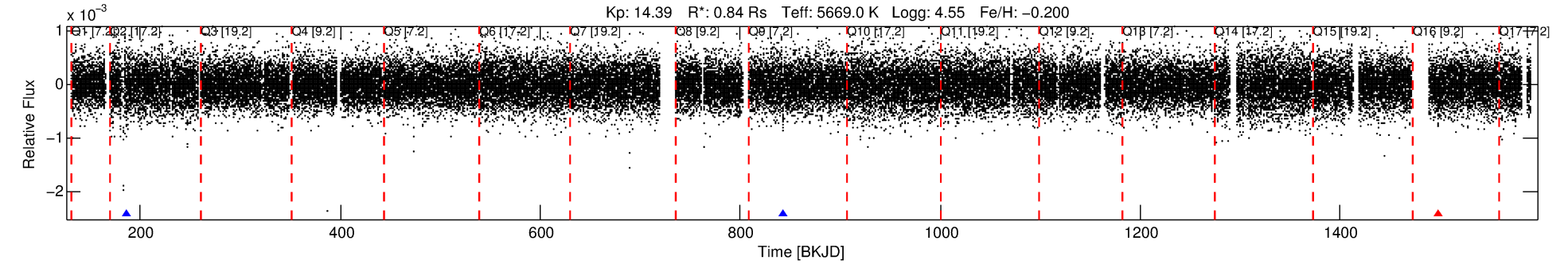
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008940998-01

No Significant Match Found

DV One-Page Summary

KIC: 8940998 Candidate: 1 of 1 Period: 655.907 d



DV Fit Results:

Period = 655.90716 [0.01427] d
Epoch = 186.4364 [0.0153] BKJD
Rp/R* = 0.0221 [0.0176]
a/R* = 415.92 [1444.48]
b = 0.68 [2.72]
Seff = 0.32 [0.11]
Teq = 192 [16] K
Rp = 2.01 [1.68] Re
a = 1.4258 [0.3094] AU
Ag = 54006.14 [90152.65] [0.60σ]
Teffp = 4514 [1853] K [2.33σ]

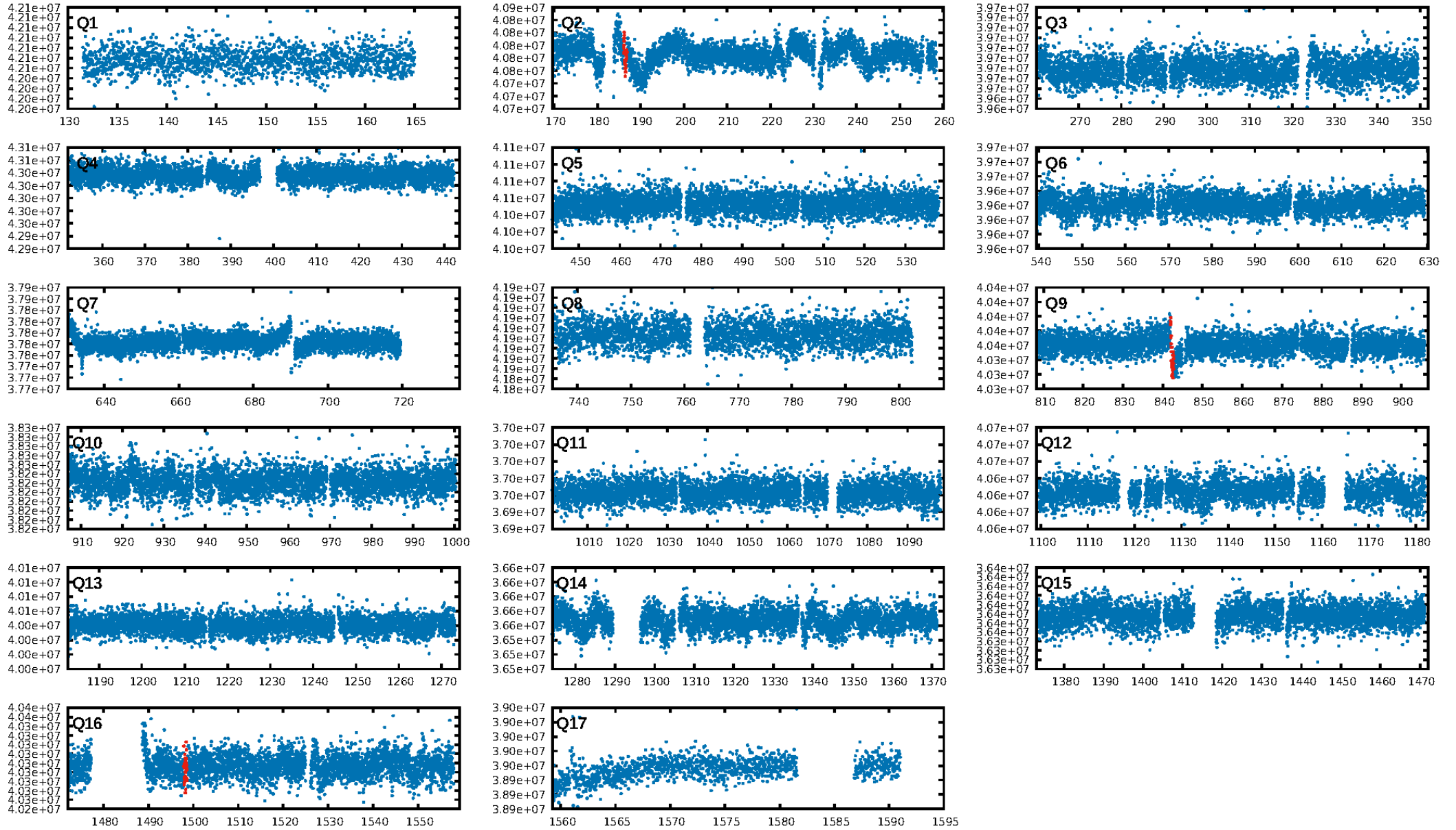
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.4%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 1.03e-13
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 3.91
Centroid-sig: 1.6%
Centroid-so: 1.300 arcsec [1.27σ]
OotOffset-rm: 2.529 arcsec [10.46σ]
KicOffset-rm: 2.361 arcsec [10.10σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

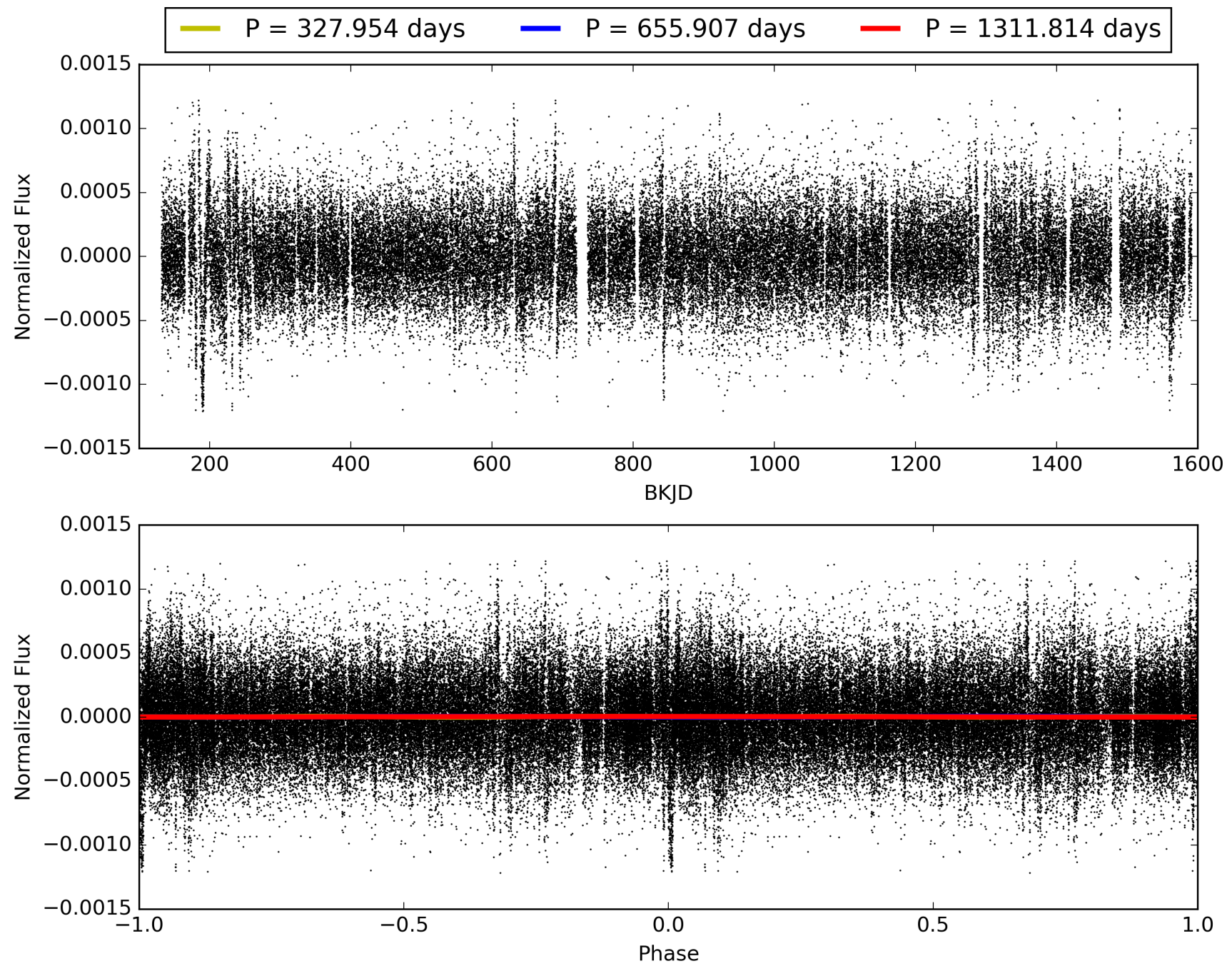
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:53:18 Z

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

TCE 008940998-01, PDC Light Curves

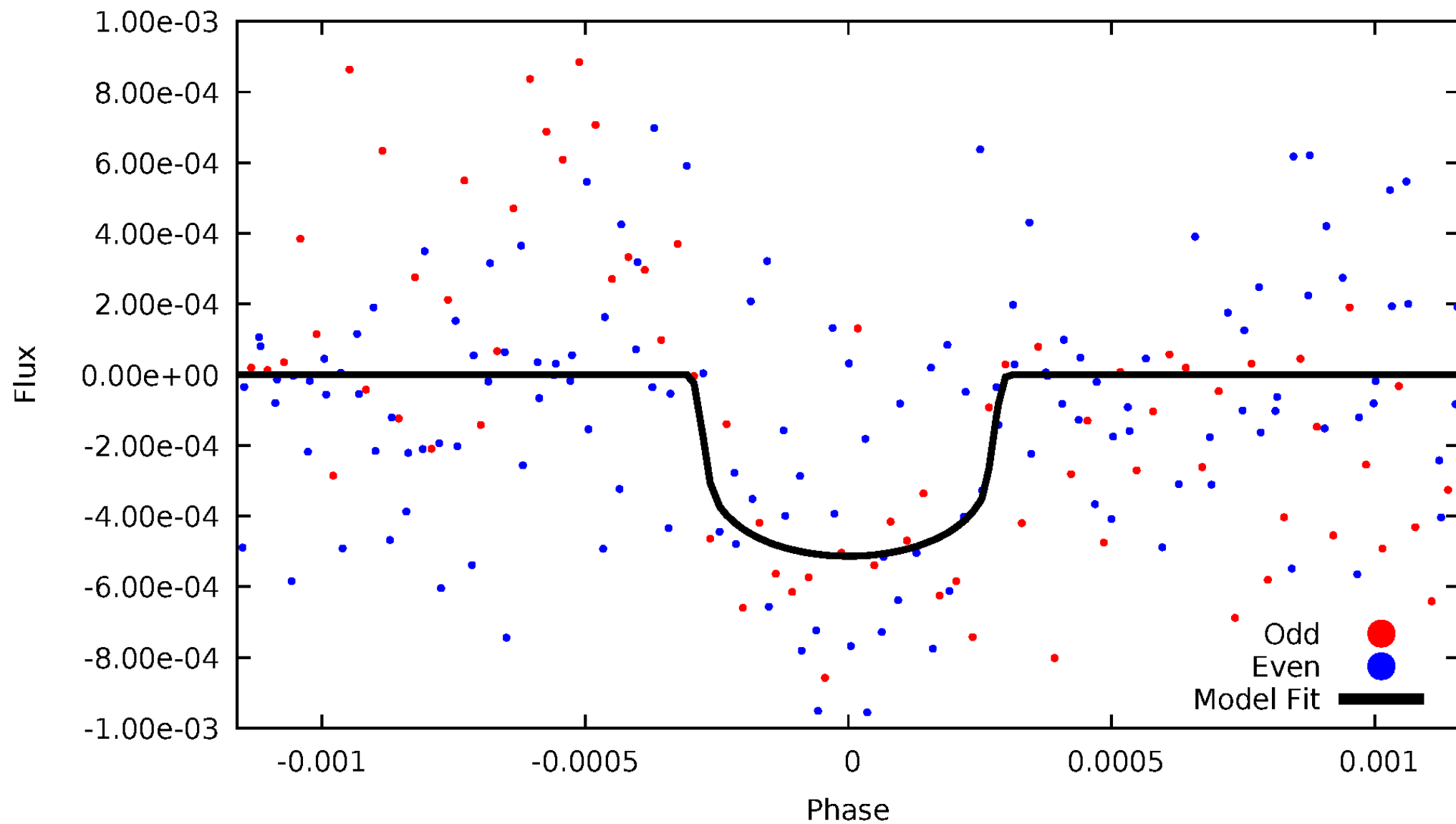


TCE 008940998-01



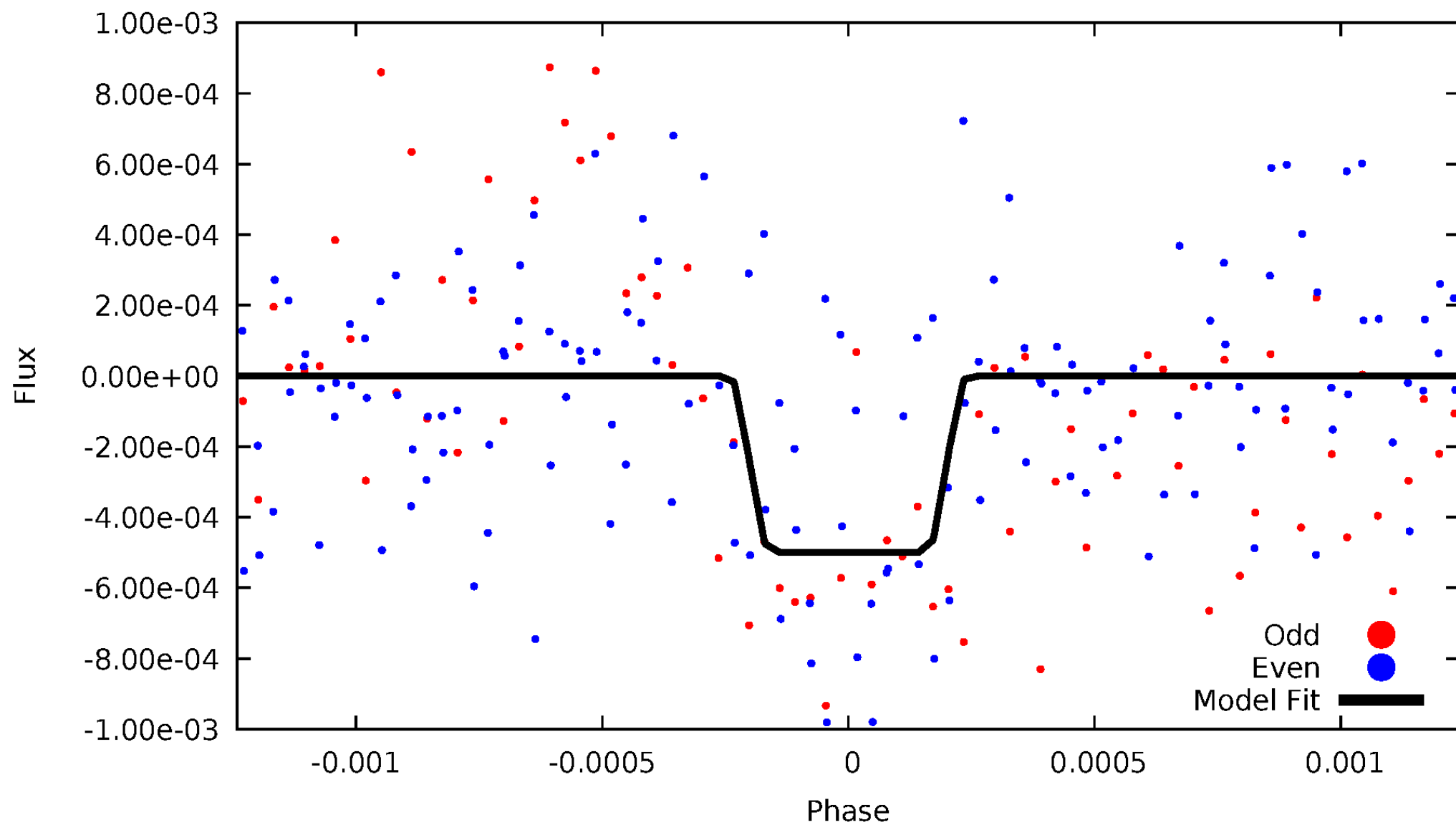
DV Odd/Even

TCE 008940998-01



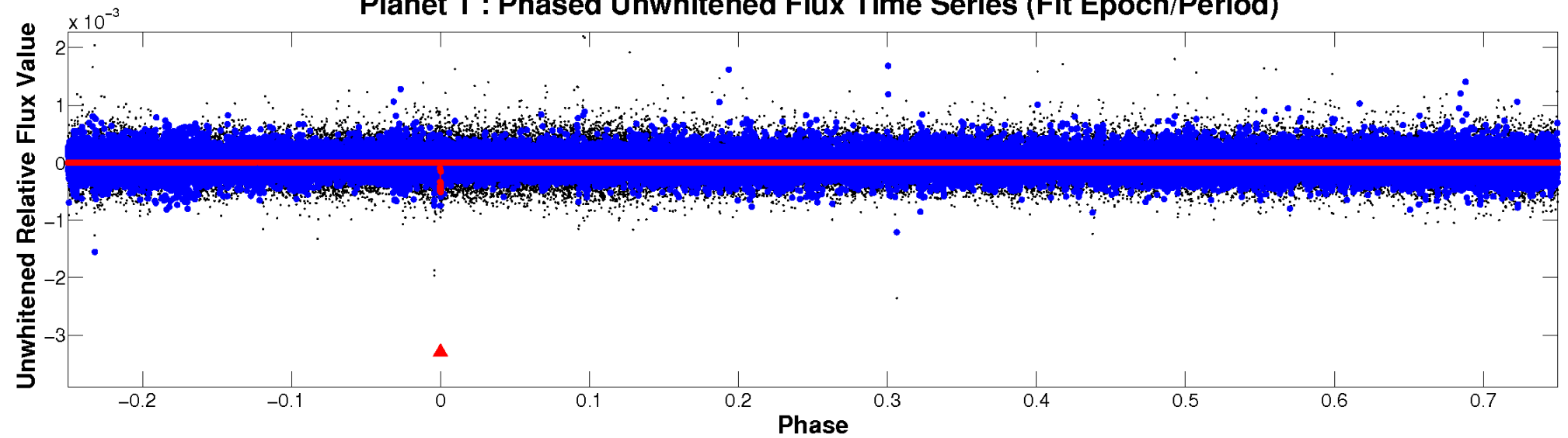
ALT Odd/Even

TCE 008940998-01

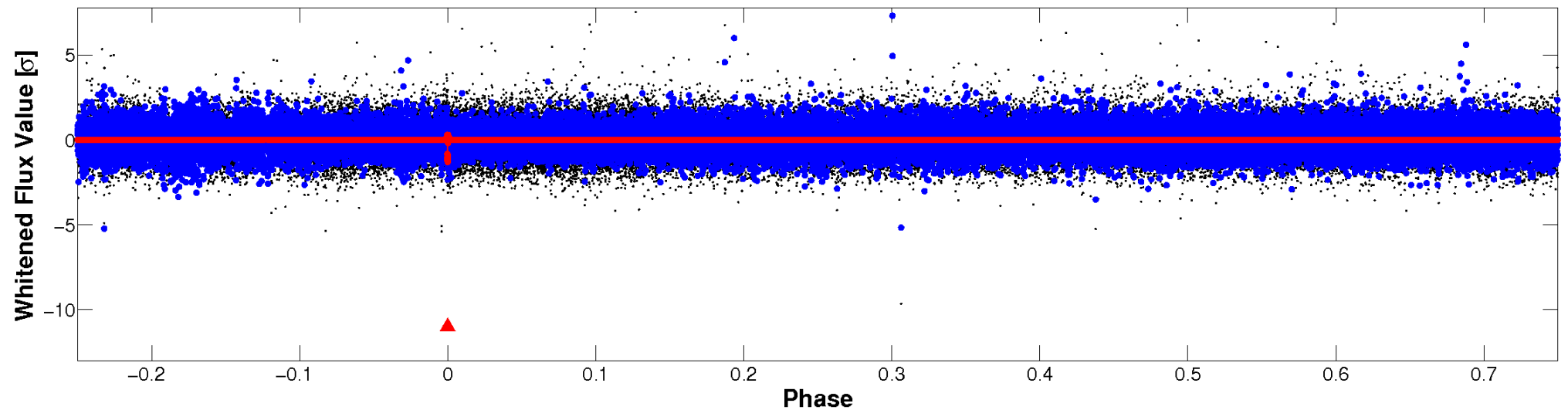


Non-Whitened Vs. Whitened Light Curve

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

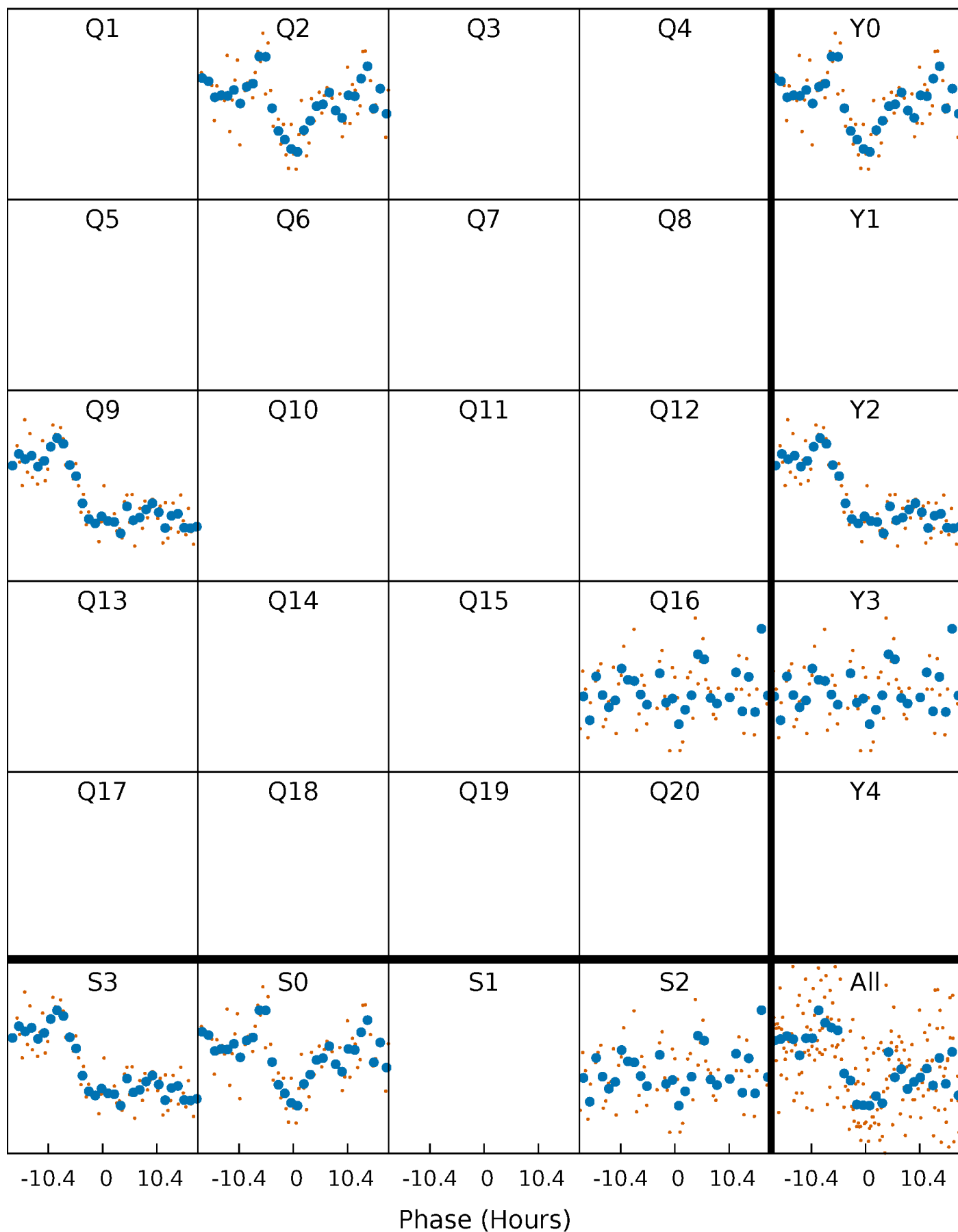


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



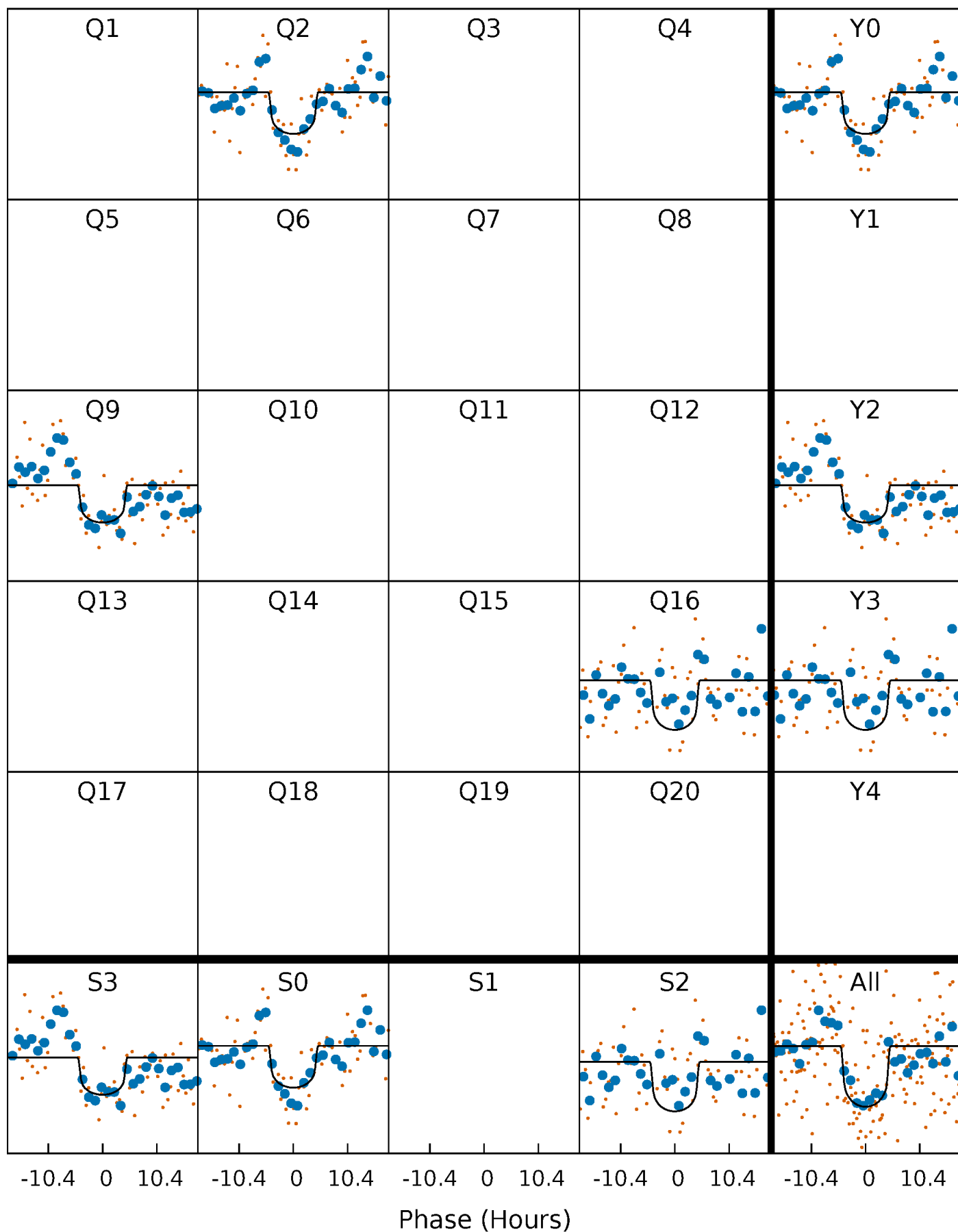
PDC Quarter-Phased Transit Curves

TCE 008940998-01 $P=655.907162$ Days $T_0=186.436379$ (BKJD)



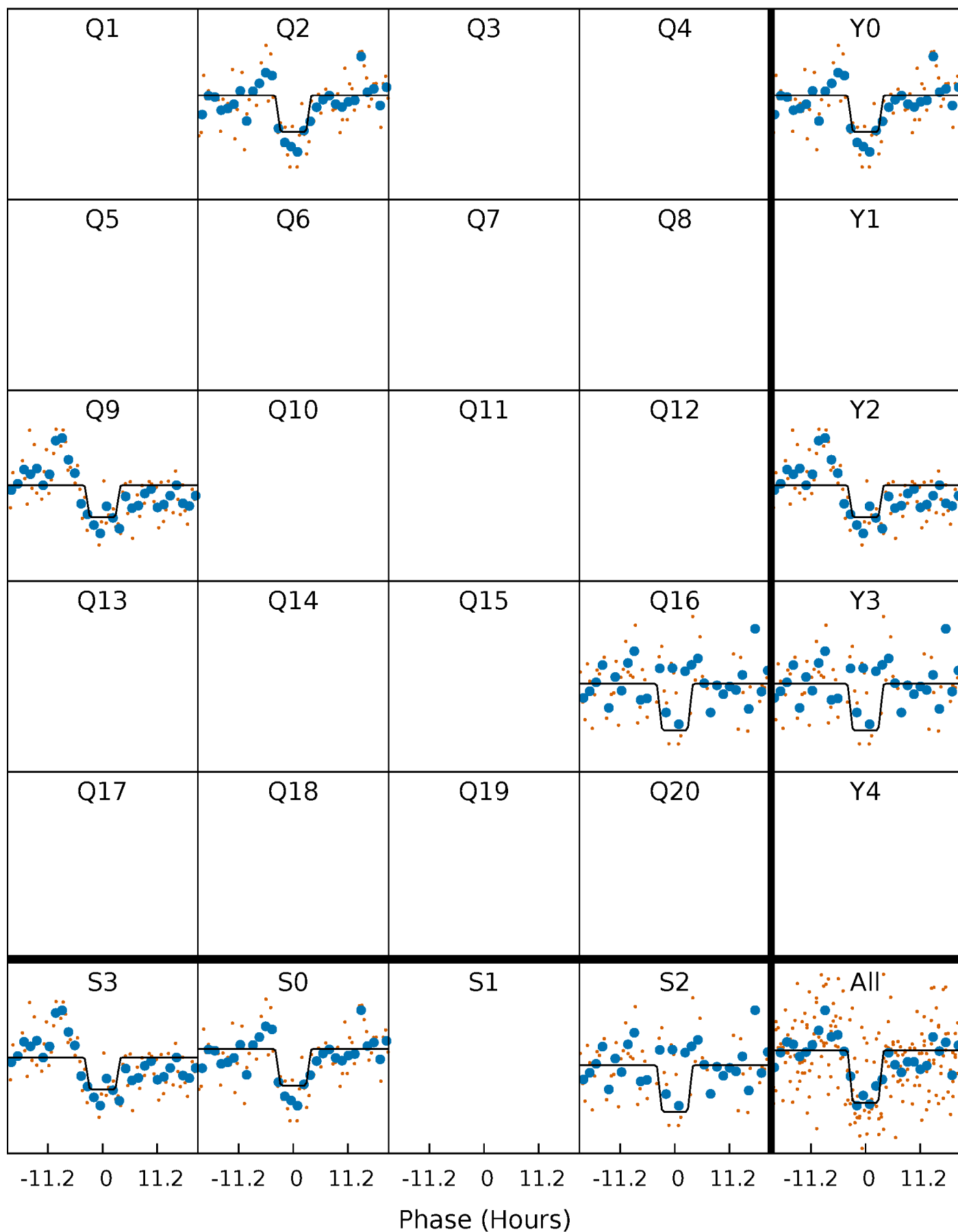
DV Quarter-Phased Transit Curves

TCE 008940998-01 P=655.907162 Days $T_0=186.436379$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

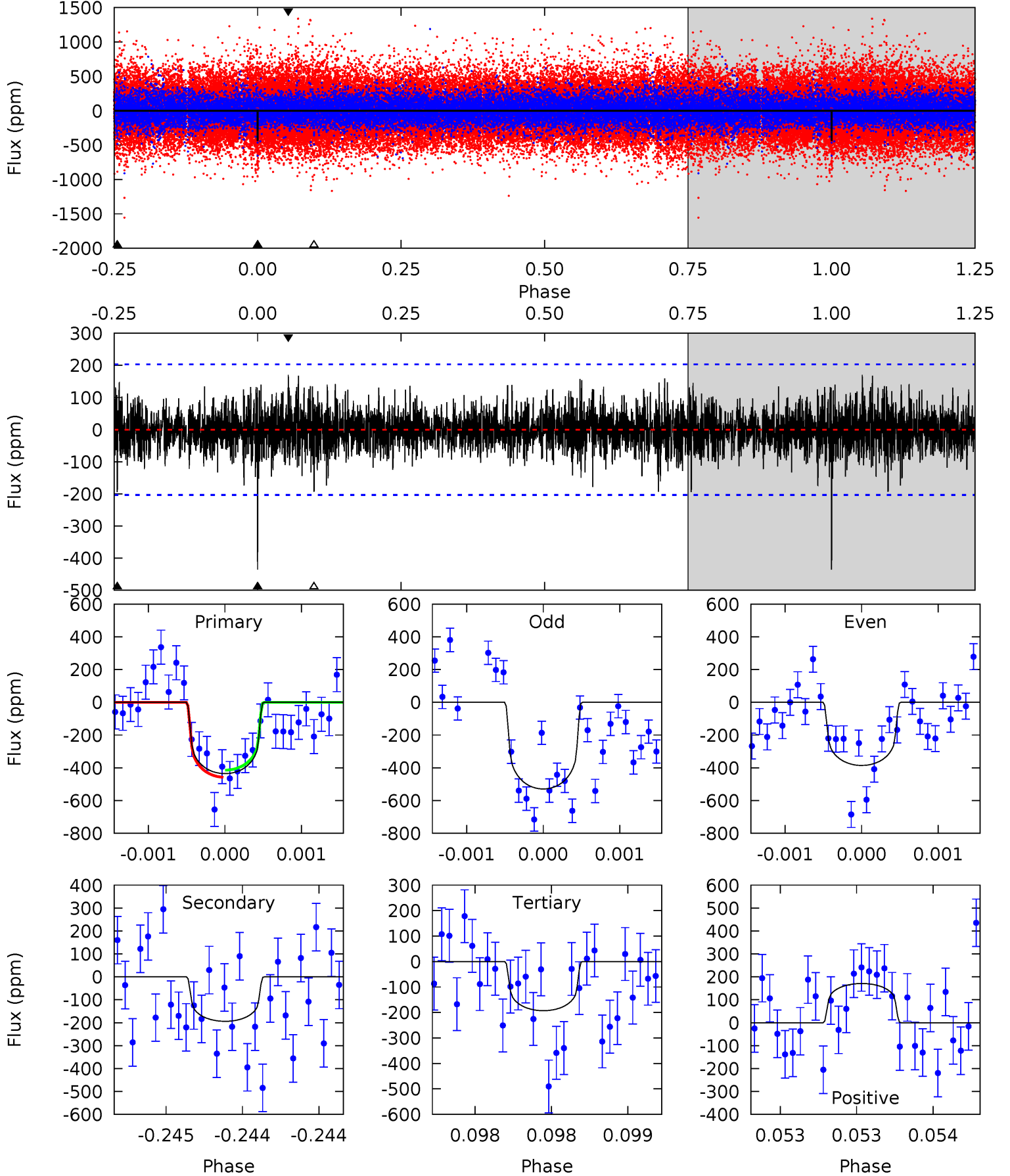
TCE 008940998-01 P=655.917276 Days $T_0=186.427356$ (BKJD)



DV Model-Shift Uniqueness Test

008940998-01, P = 655.907162 Days, E = 186.436379 Days

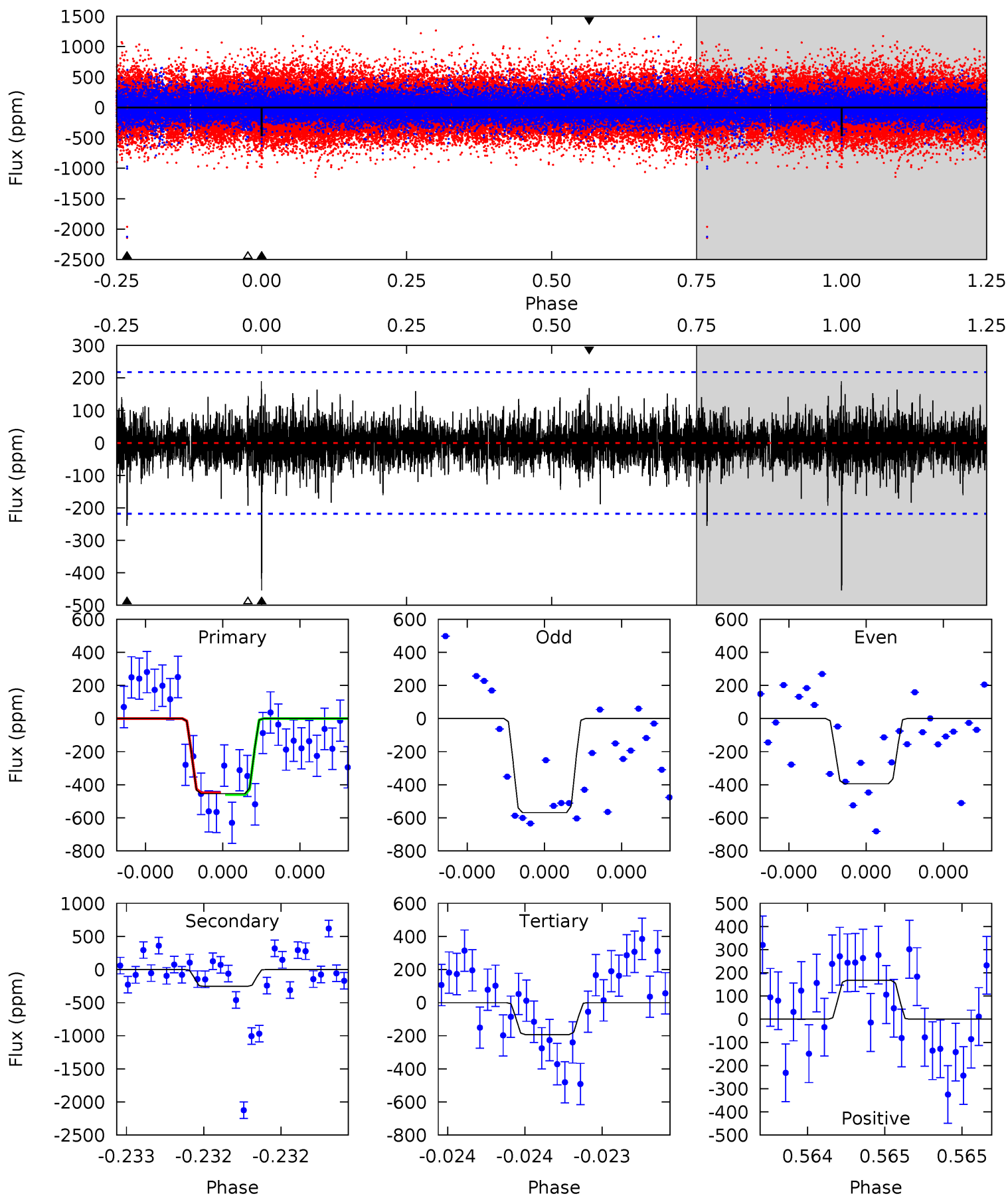
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	5.29	5.26	4.66	5.54	3.43	1.30	6.62	7.22	0.03	0.63	1.88	0.80	0.28	0.59



Alt Model-Shift Uniqueness Test

008940998-01, P = 655.917276 Days, E = 186.427356 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	6.52	4.94	4.30	5.57	3.48	1.12	6.67	7.31	1.58	2.22	2.14	0.78	0.29	0.14



Stellar Parameters For KIC 008940998

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5669^{+152}_{-152}	$4.547^{+0.044}_{-0.176}$	$-0.200^{+0.300}_{-0.300}$	$0.836^{+0.213}_{-0.076}$	$0.899^{+0.102}_{-0.102}$	$2.165^{+0.521}_{-1.036}$
	+3%/-3%	+1%/-4%	+150%/-150%	+25%/-9%	+11%/-11%	+24%/-48%
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 008940998-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-194 ± 37	$2.28^{+1.63}_{-1.27}$	274^{+16}_{-12}	4519^{+1918}_{-820}	$41883^{+153156}_{-28590}$
Alt.	-255 ± 39	$2.32^{+1.55}_{-1.35}$	273^{+18}_{-12}	4776^{+2374}_{-879}	$53226^{+232931}_{-34431}$

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 $A_{obs} \gg 1.0$

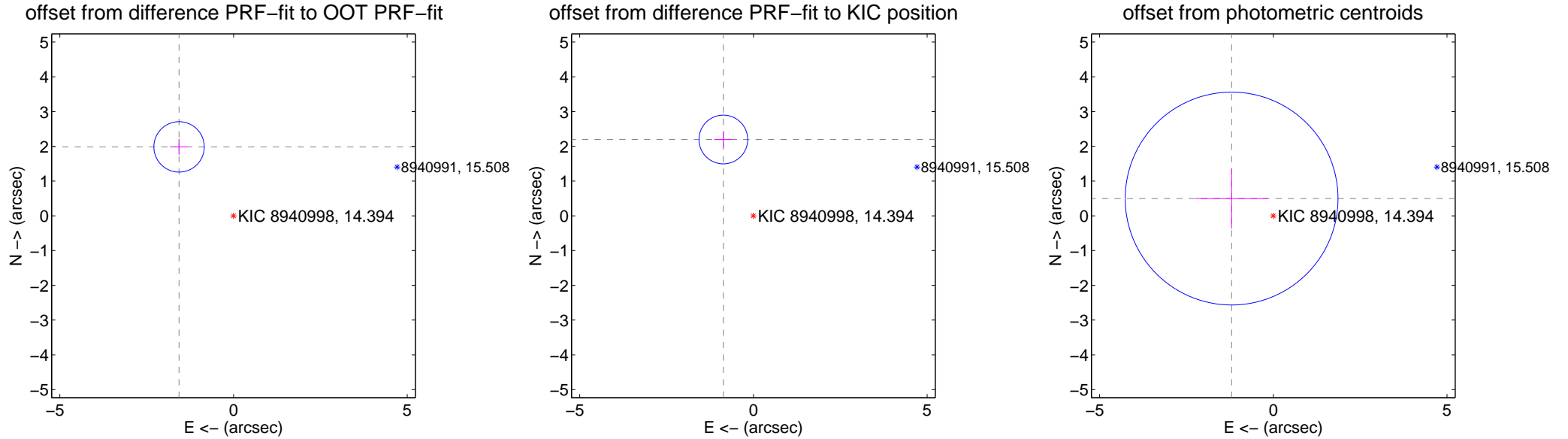
DV Centroid Data

Supplemental centroid analysis for 008940998-01. Kepler magnitude: 14.39. Transit SNR 8.22

There are 1 quarters with good PRF difference image offsets

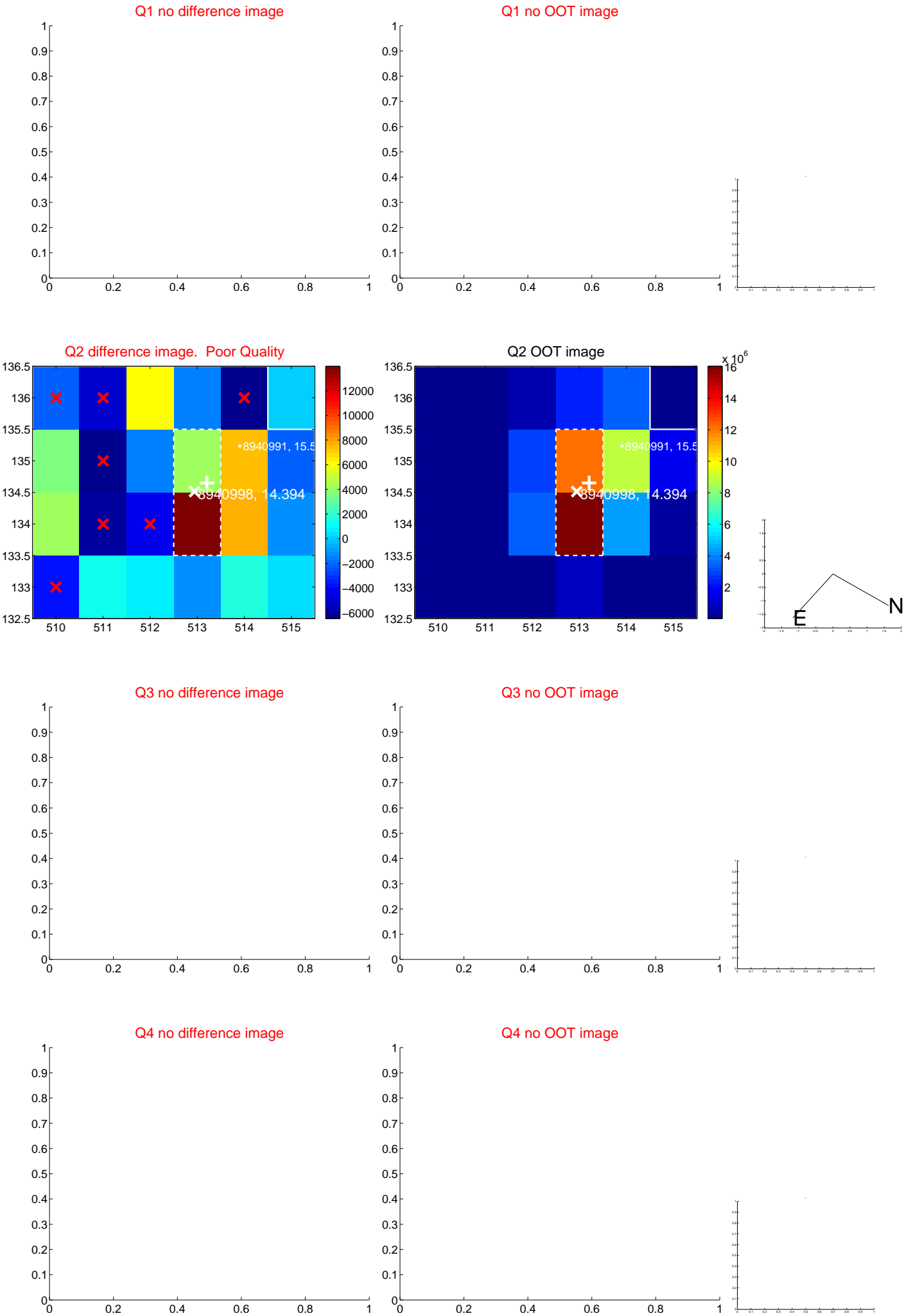
The direct PRF centroid is offset from the target star catalog position by about 0.73 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.529 ± 0.242	10.46	1.568 ± 0.261	1.984 ± 0.229
PRF-fit source offset from KIC position	2.361 ± 0.234	10.10	0.867 ± 0.261	2.197 ± 0.229
photometric centroid source offset	1.30 ± 1.02	1.27	1.20 ± 1.05	0.50 ± 0.86



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.

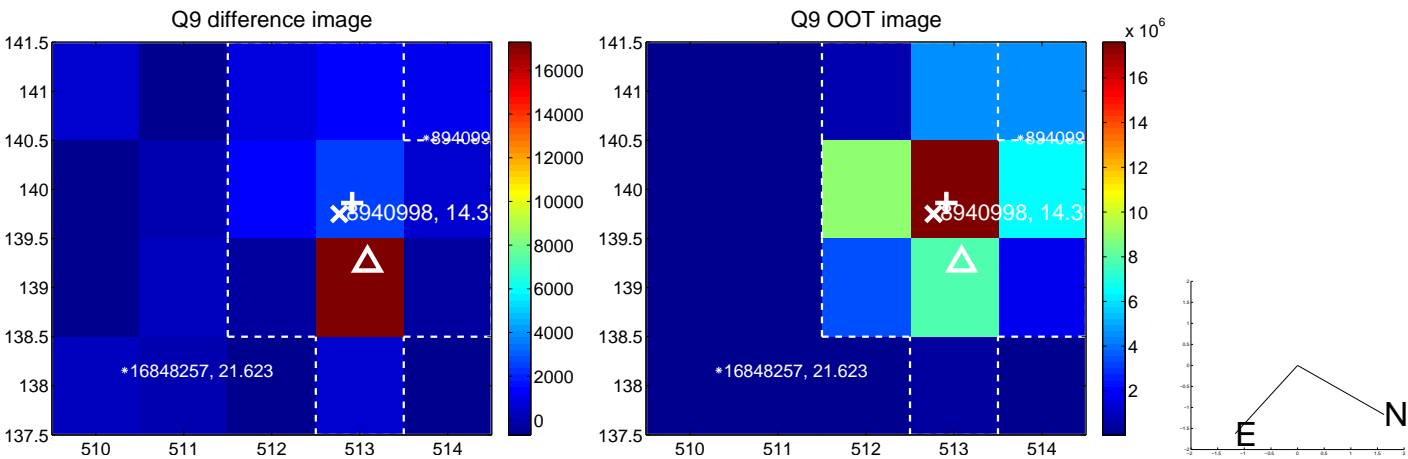
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



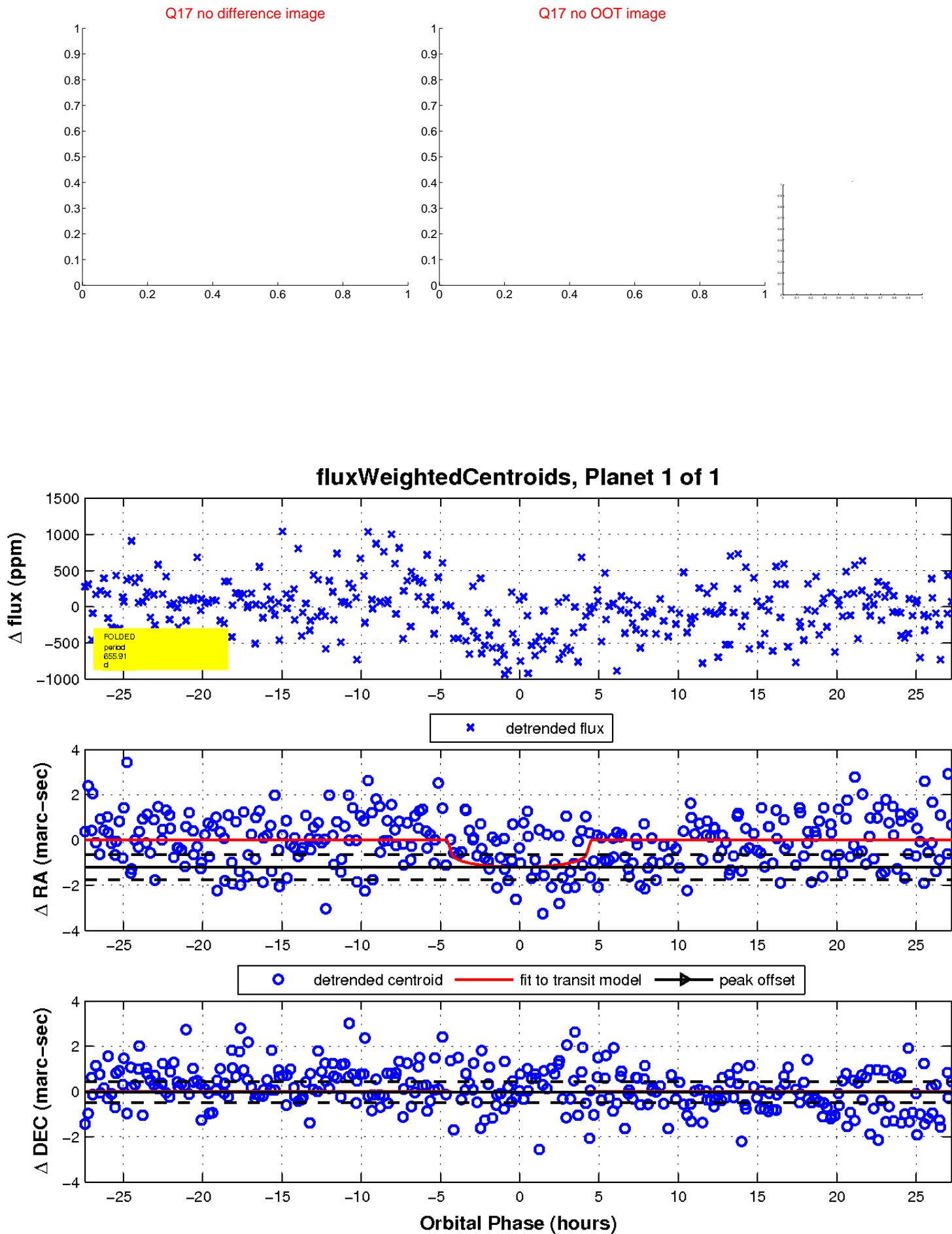
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

