

KIC 009880994

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})
009880994-01	OBS	No	381.239143	157.770970	254.0	17.358	7.6	7.4	0.94	5854	1.64	0.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009880994-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE--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.

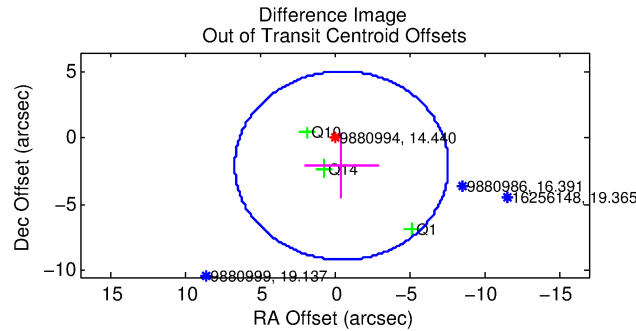
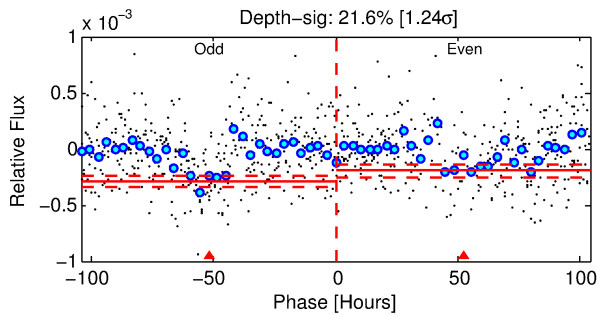
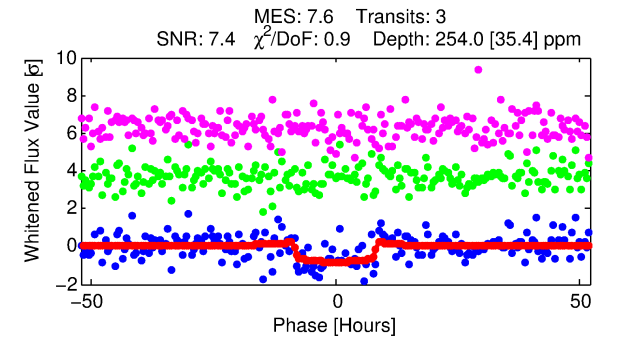
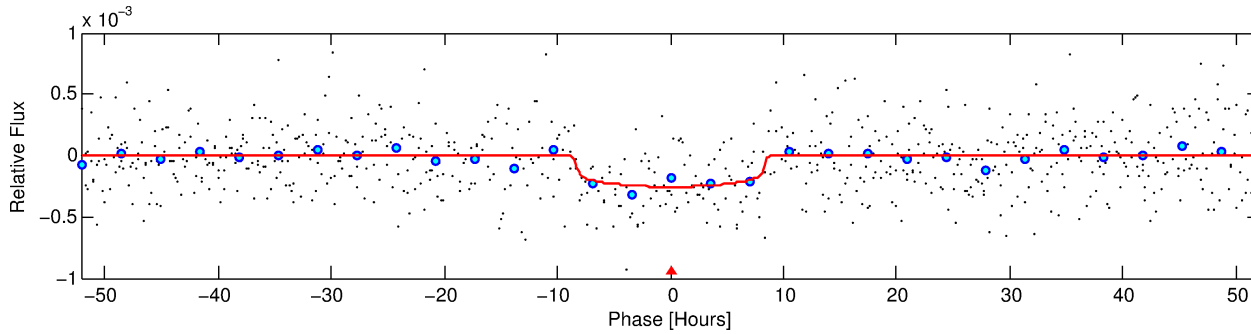
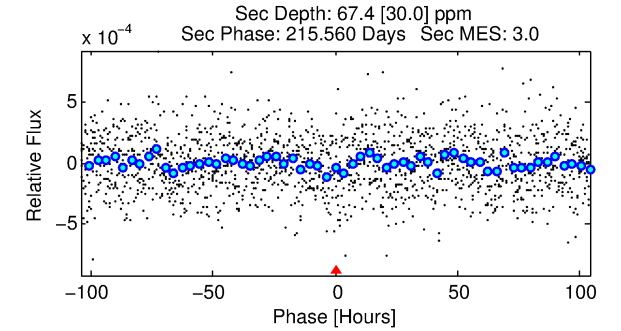
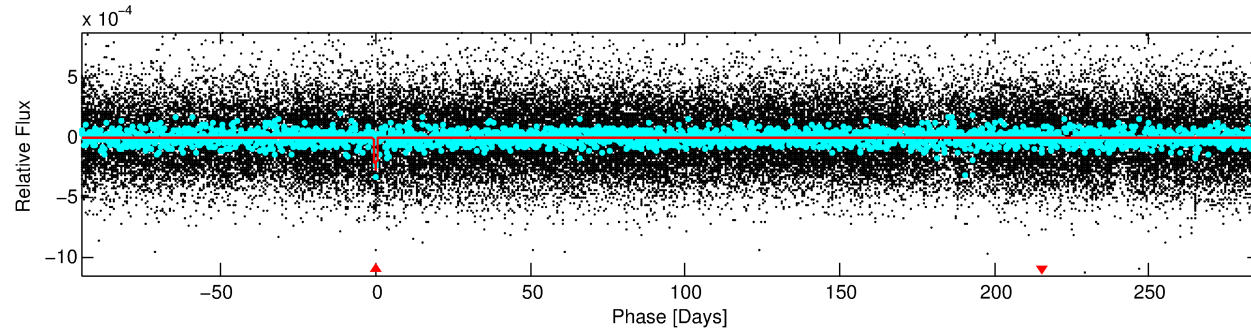
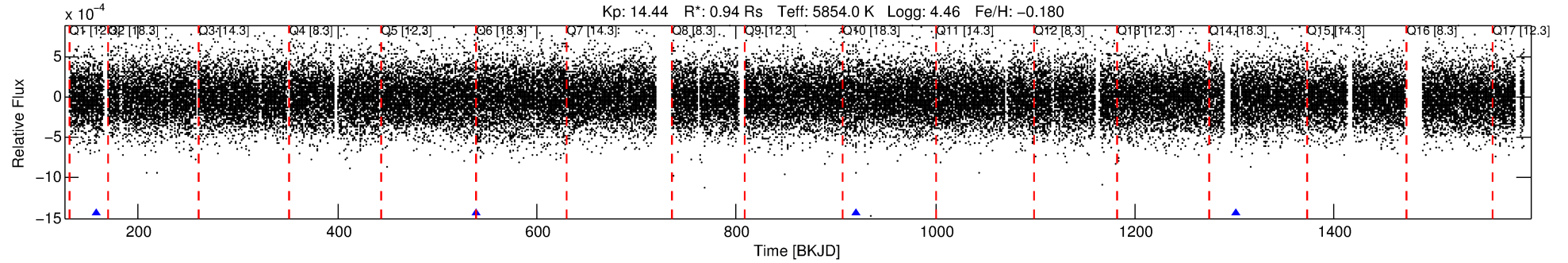
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009880994-01

No Significant Match Found

DV One-Page Summary

KIC: 9880994 Candidate: 1 of 1 Period: 381.239 d



DV Fit Results:

Period = 381.23914 [0.01203] d
Epoch = 157.7710 [0.0234] BKJD
Rp/R* = 0.0159 [0.0071]
a/R* = 113.00 [235.78]
b = 0.76 [1.16]
Seff = 0.92 [0.34]
Teff = 250 [23] K
Rp = 1.64 [0.87] Re
a = 1.0073 [0.2409] AU
Ag = 14033.05 [14882.55] [0.94 σ]
Teffp = 4205 [1061] K [3.73 σ]

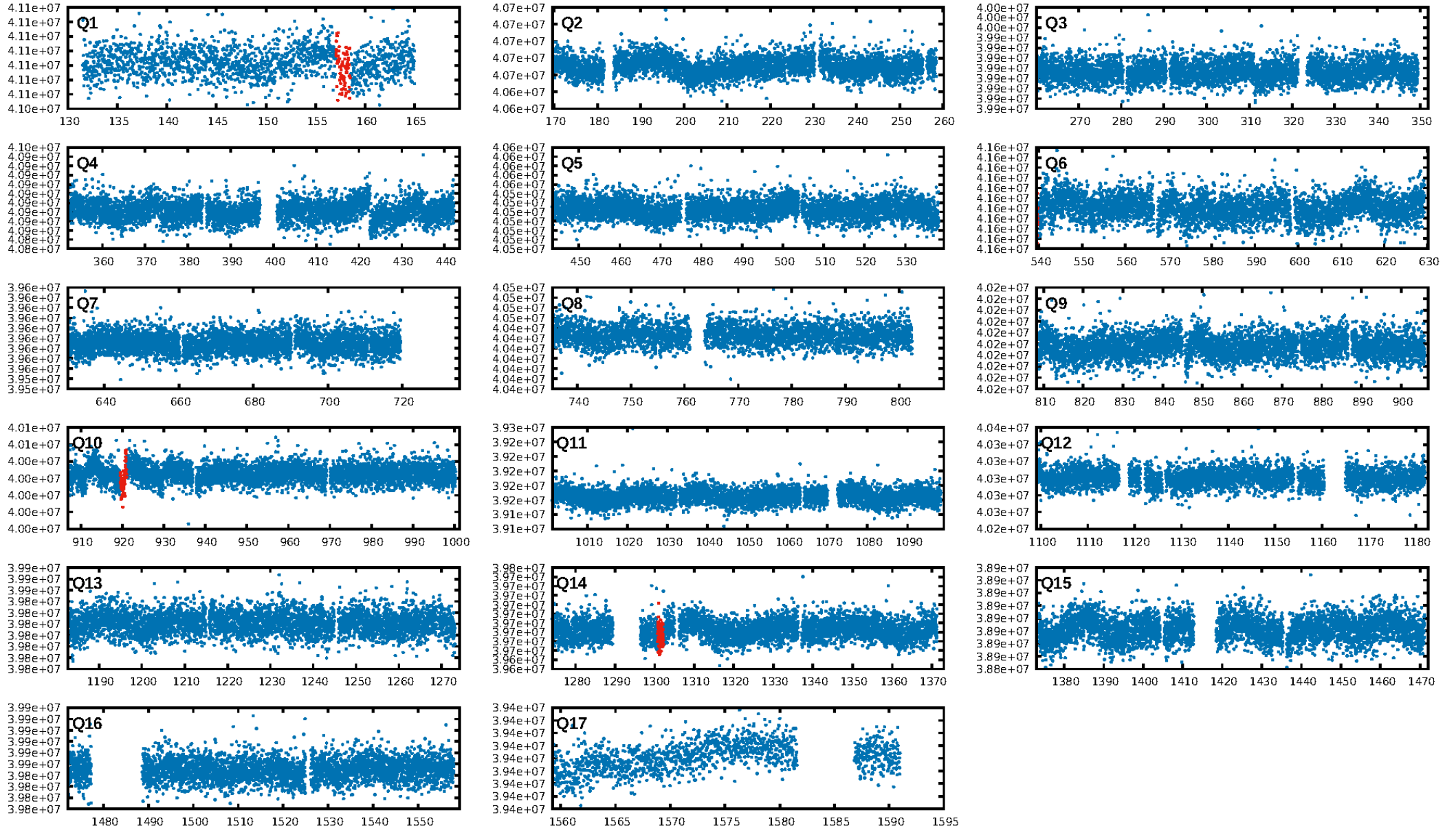
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 50.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.79e-12
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 12.34
Centroid-sig: 46.8%
Centroid-so: 0.793 arcsec [0.55 σ]
OotOffset-rm: 2.127 arcsec [0.89 σ]
KicOffset-rm: 2.161 arcsec [0.90 σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

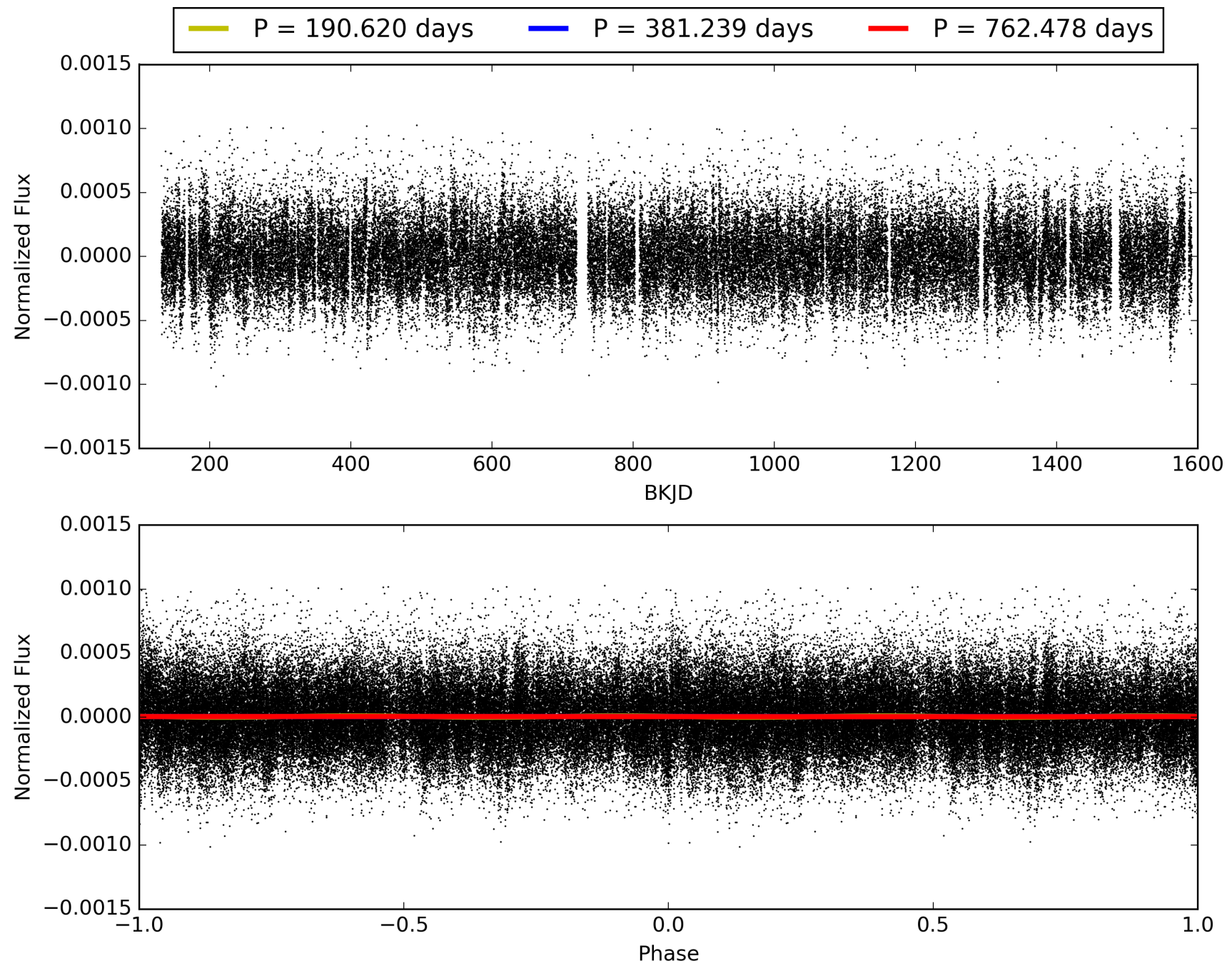
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:15:21 Z

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

TCE 009880994-01, PDC Light Curves

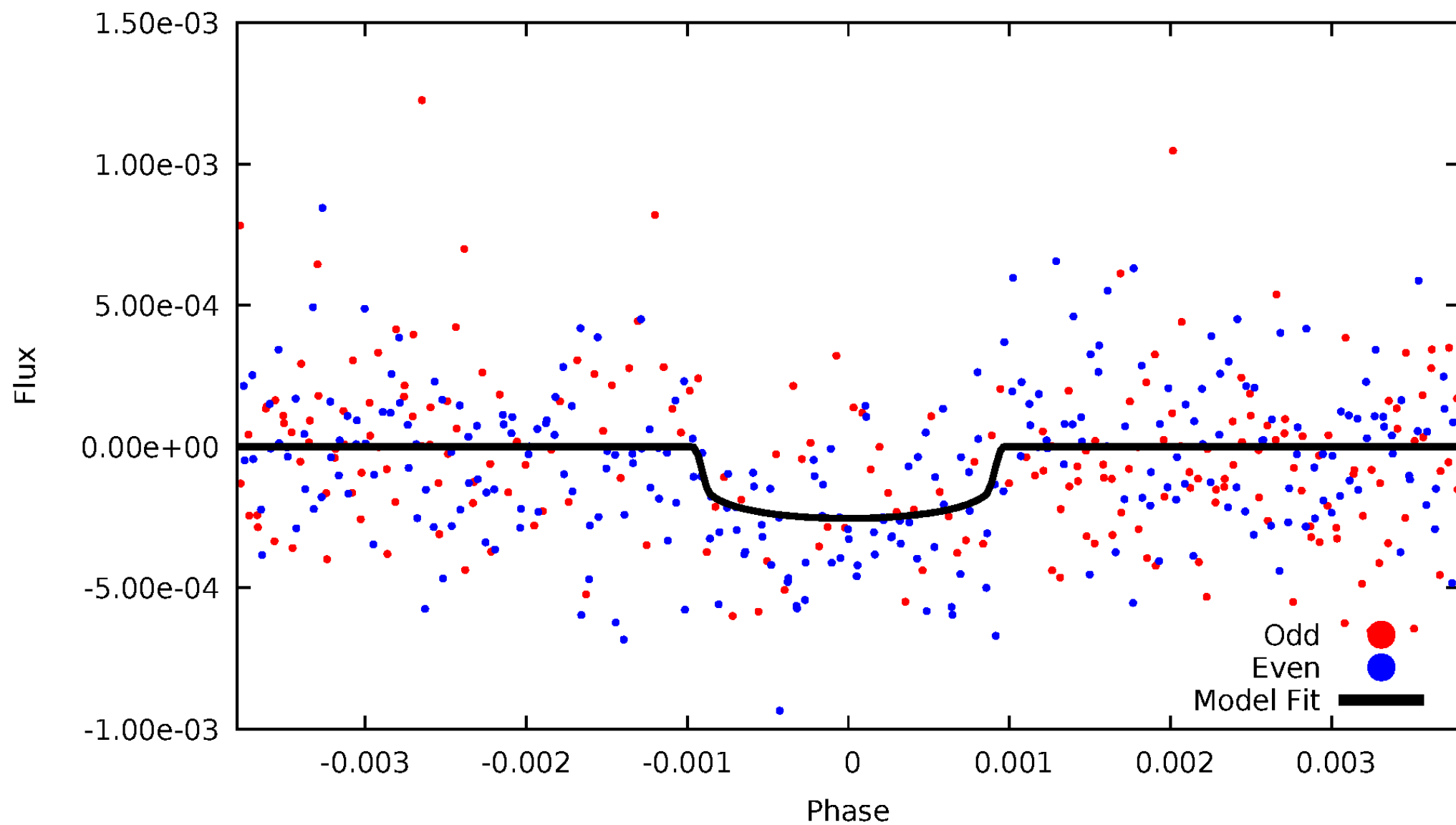


TCE 009880994-01



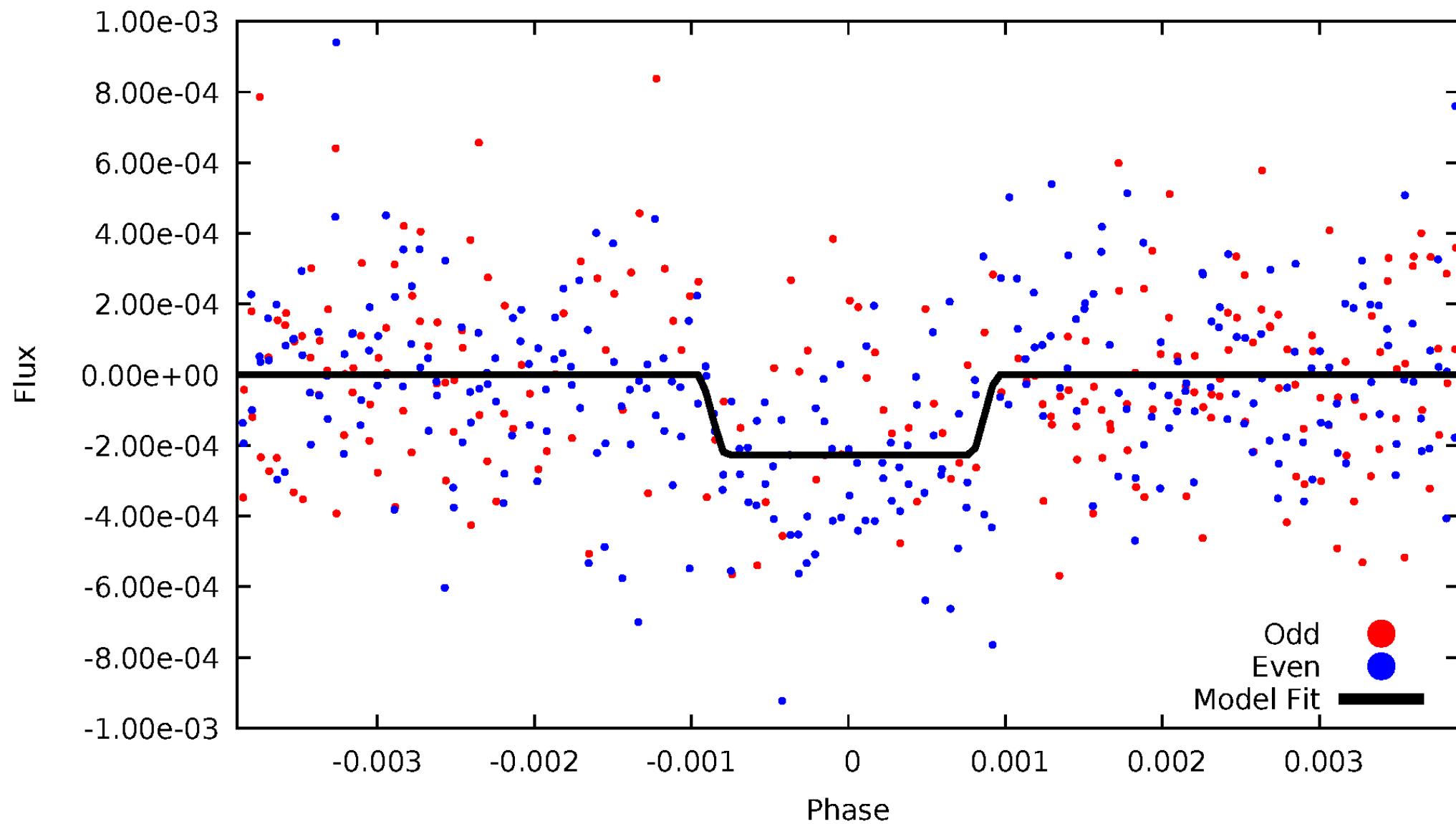
DV Odd/Even

TCE 009880994-01



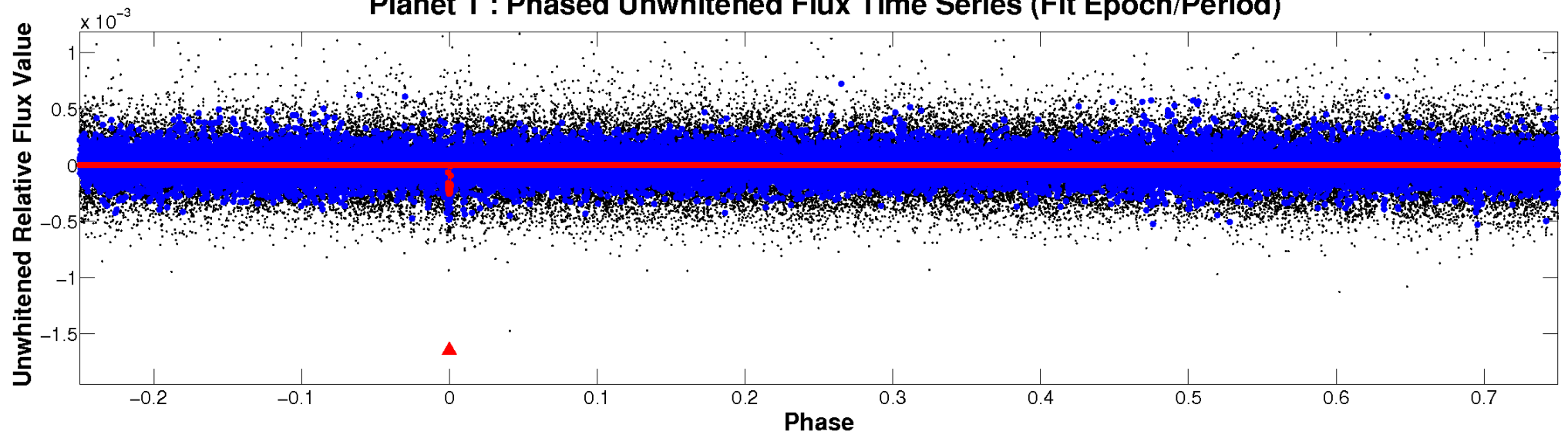
ALT Odd/Even

TCE 009880994-01

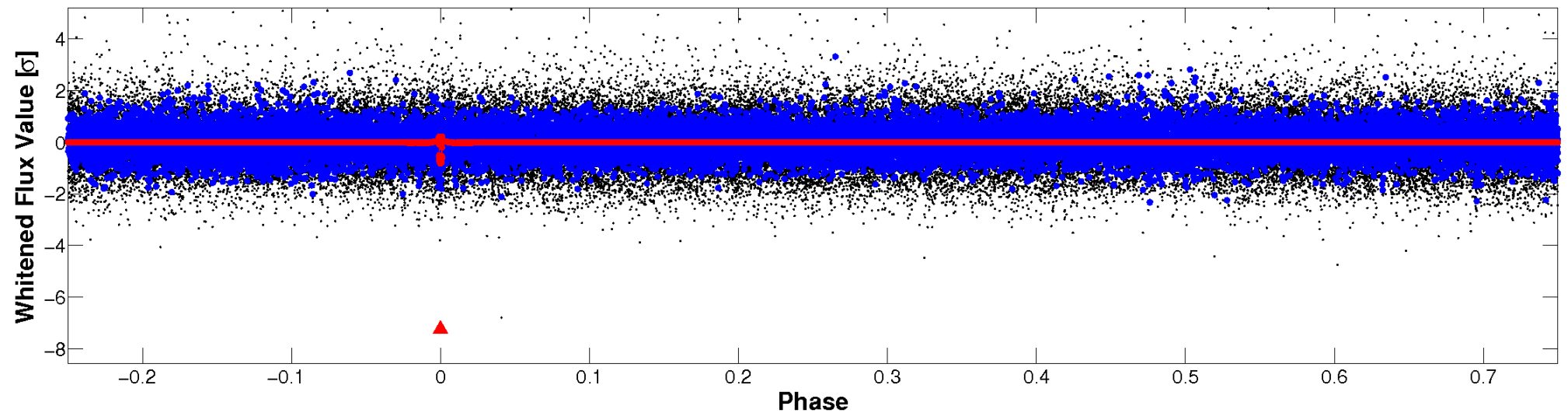


Non-Whitened Vs. Whitened Light Curve

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

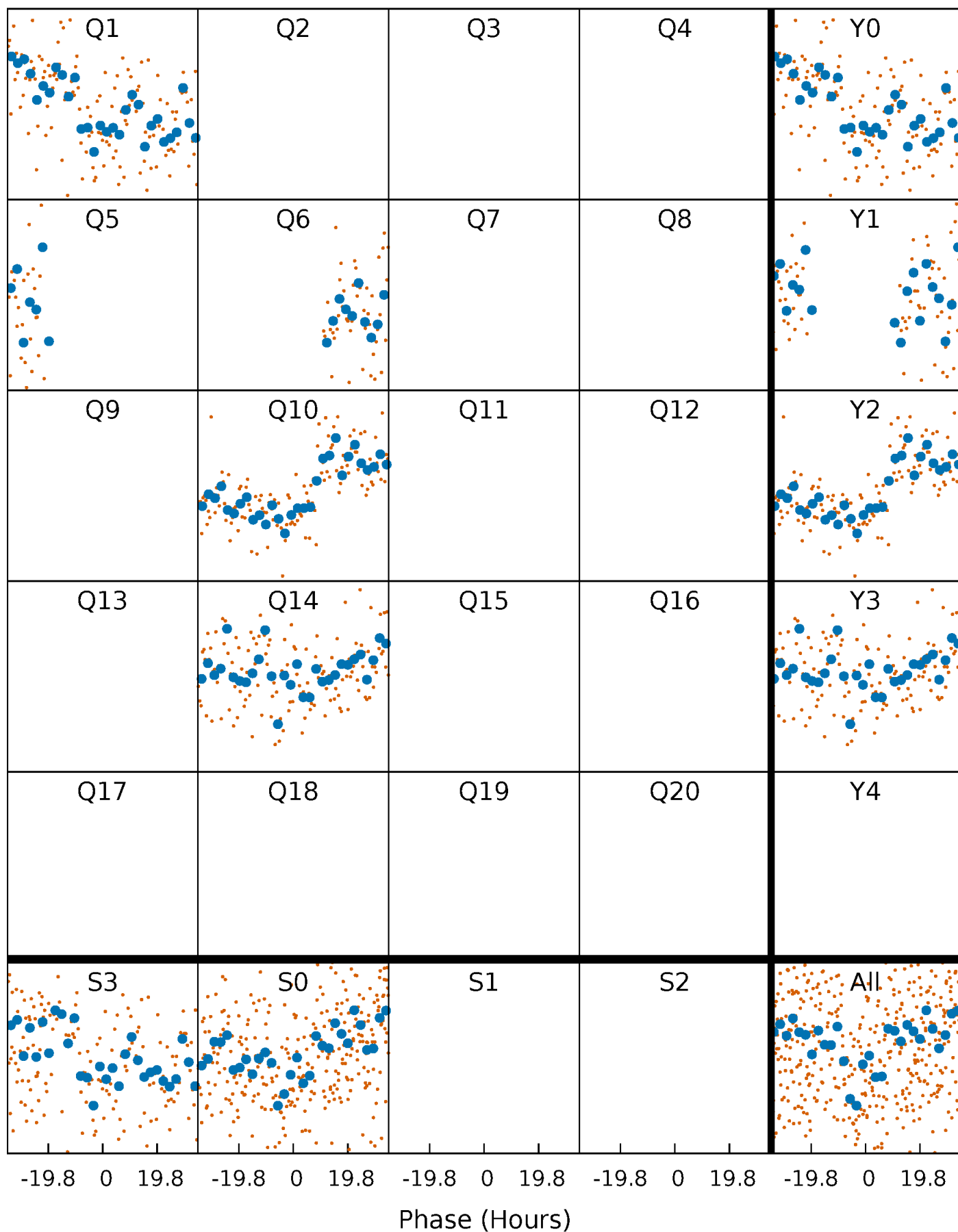


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



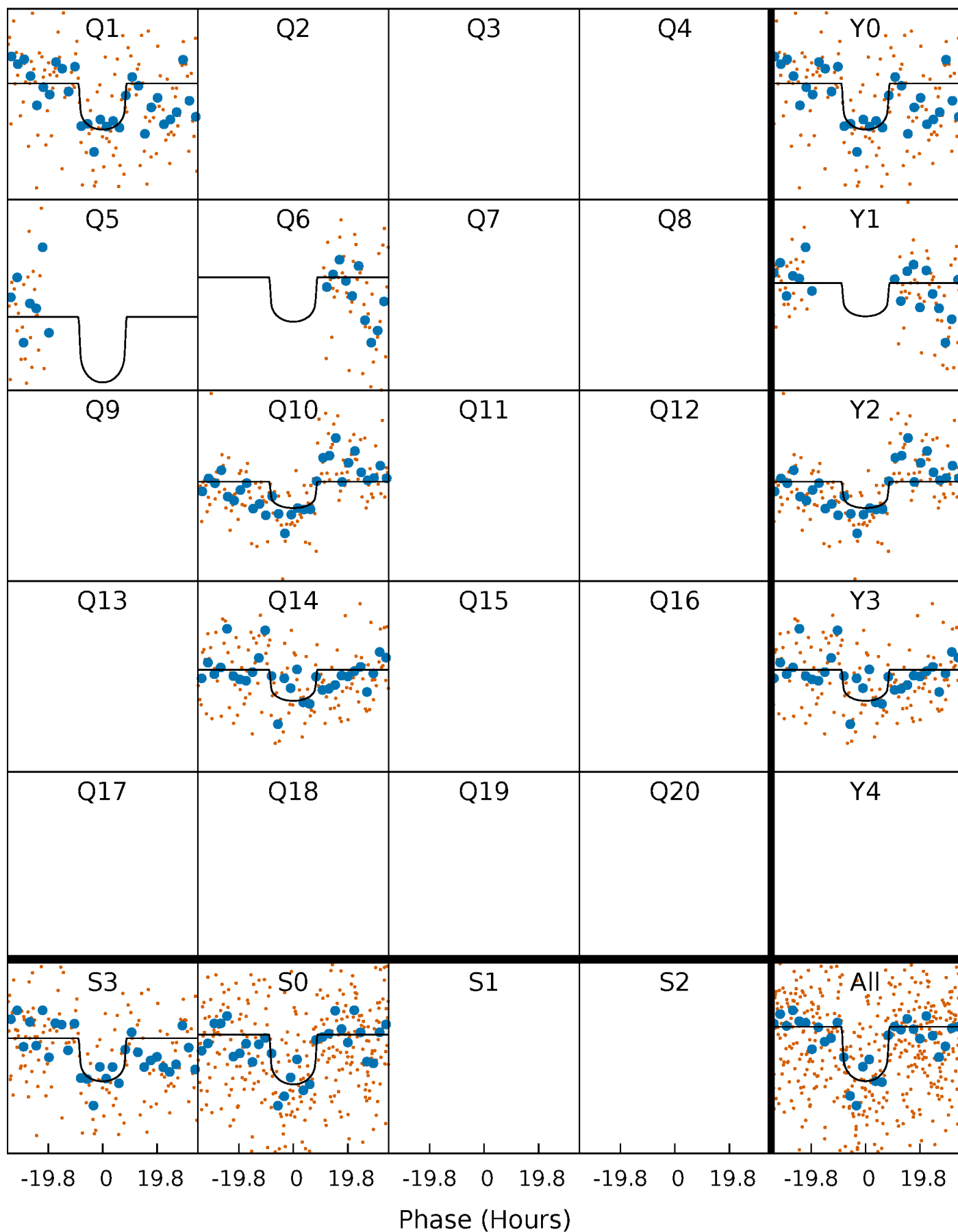
PDC Quarter-Phased Transit Curves

TCE 009880994-01 P=381.239143 Days $T_0=157.770970$ (BKJD)



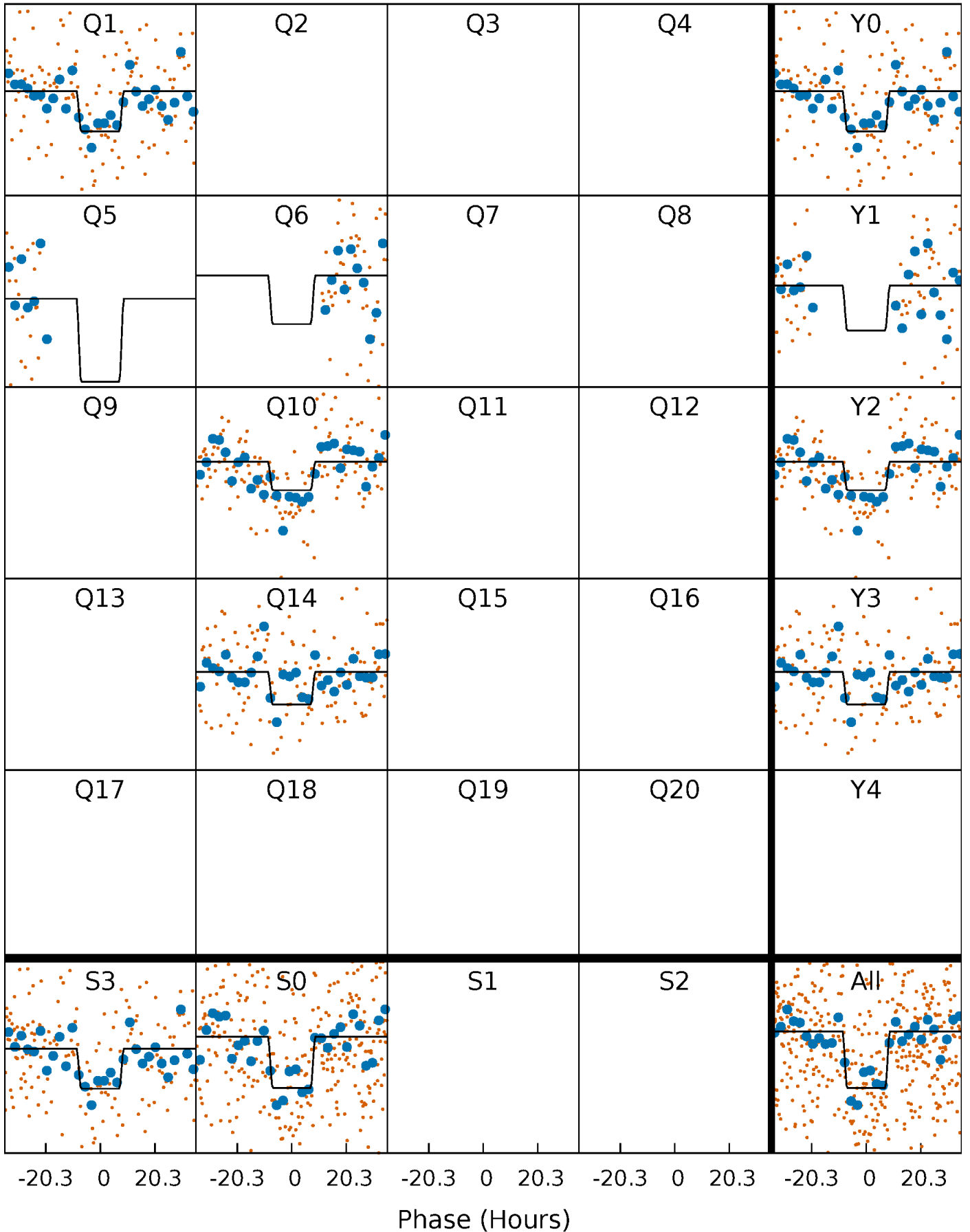
DV Quarter-Phased Transit Curves

TCE 009880994-01 P=381.239143 Days $T_0=157.770970$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

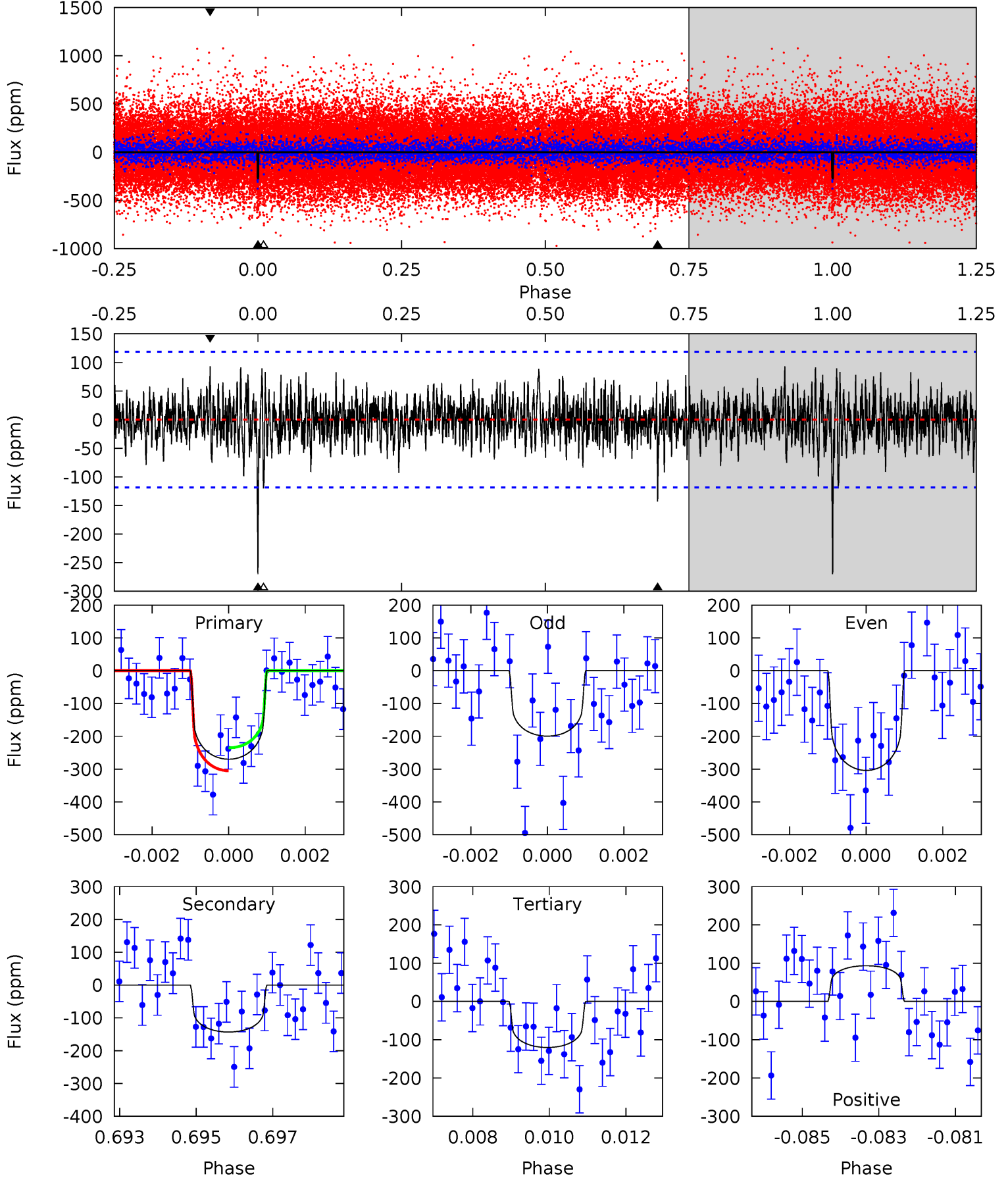
TCE 009880994-01 P=381.249363 Days $T_0=157.749027$ (BKJD)



DV Model-Shift Uniqueness Test

009880994-01, $P = 381.239143$ Days, $E = 157.770970$ Days

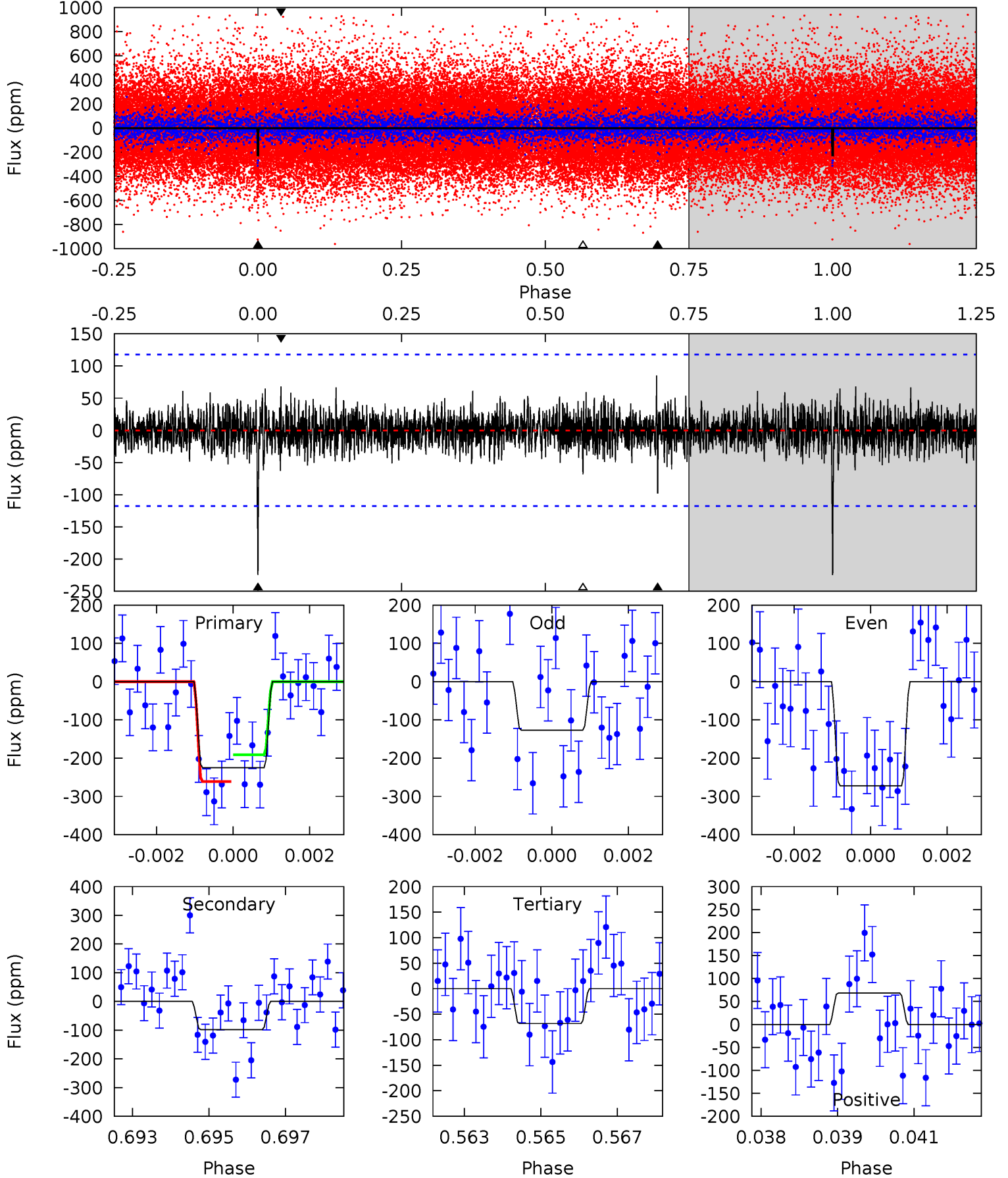
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	6.44	5.40	4.20	5.33	3.10	1.28	6.73	7.93	1.03	2.24	2.21	0.98	0.26	1.57



Alt Model-Shift Uniqueness Test

009880994-01, $P = 381.249363$ Days, $E = 157.749027$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	4.44	3.09	3.09	5.34	3.11	0.85	7.10	7.10	1.35	1.35	3.09	1.05	0.28	1.59



Stellar Parameters For KIC 009880994

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5854^{+147}_{-176}	$4.461^{+0.081}_{-0.189}$	$-0.180^{+0.300}_{-0.300}$	$0.943^{+0.269}_{-0.115}$	$0.939^{+0.121}_{-0.110}$	$1.577^{+0.549}_{-0.793}$
	+3%/-3%	+2%/-4%	+167%/-167%	+29%/-12%	+13%/-12%	+35%/-50%
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 009880994-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-143 ± 22	$1.70^{+0.78}_{-0.74}$	354^{+23}_{-19}	5141^{+1452}_{-769}	28232^{+53789}_{-15880}
Alt.	-98 ± 22	$1.61^{+0.84}_{-0.77}$	353^{+25}_{-17}	4836^{+1617}_{-731}	20297^{+52053}_{-11756}

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 $A_{obs} \gg 1.0$

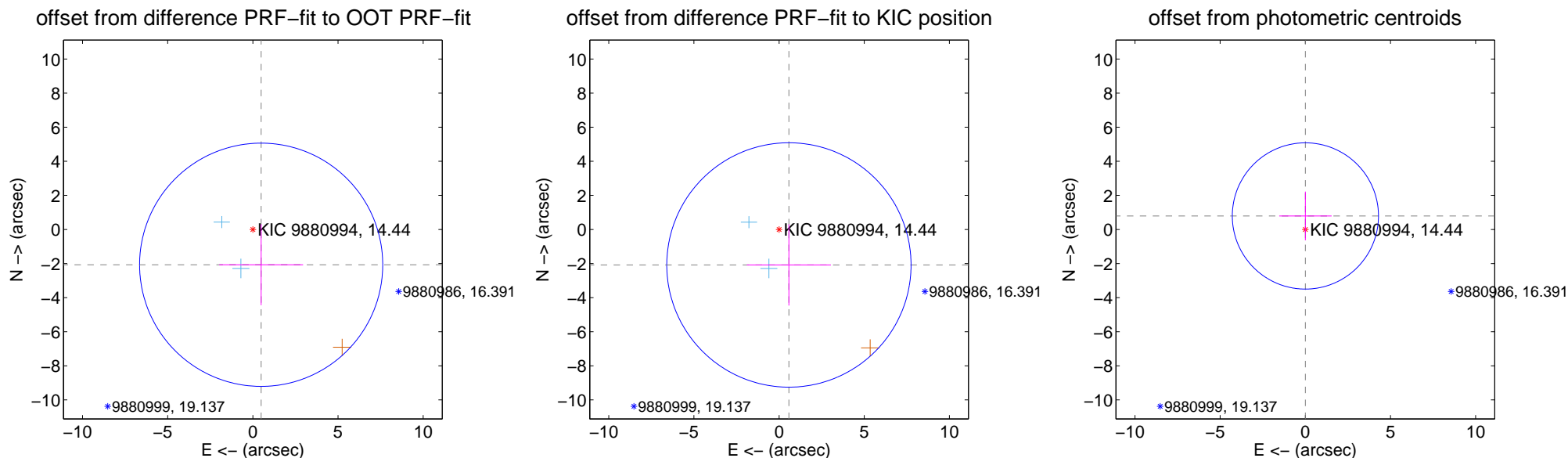
DV Centroid Data

Supplemental centroid analysis for 009880994-01. Kepler magnitude: 14.44. Transit SNR 7.37

There are 2 quarters with good PRF difference image offsets

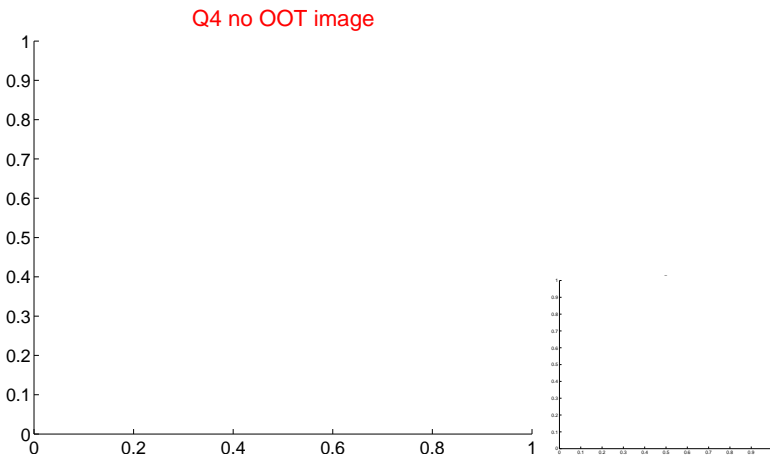
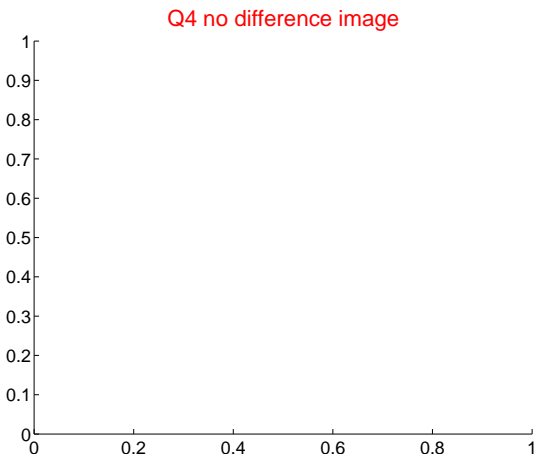
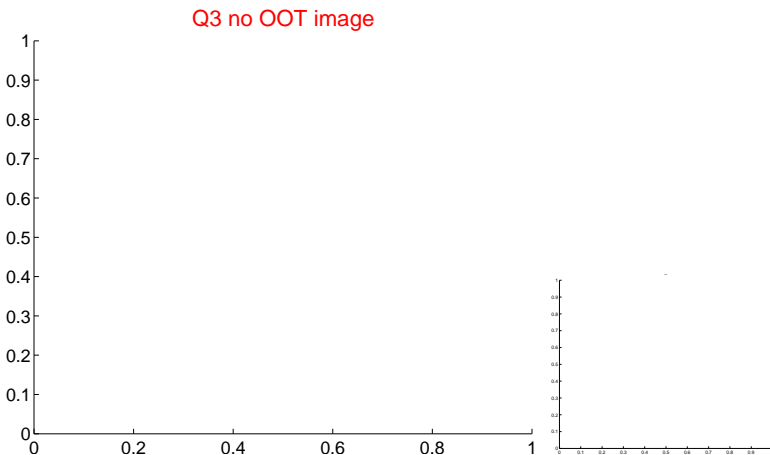
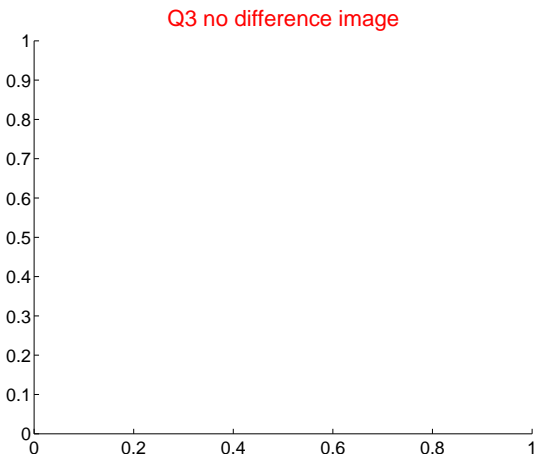
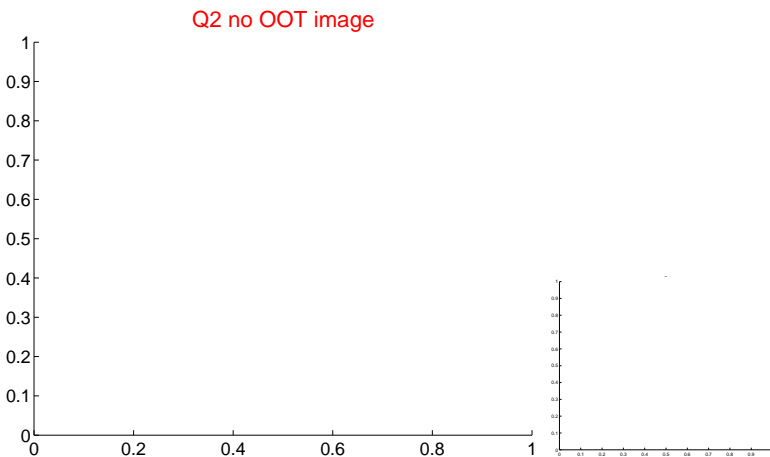
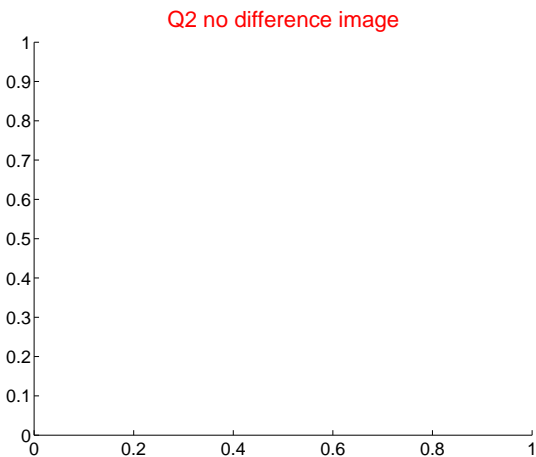
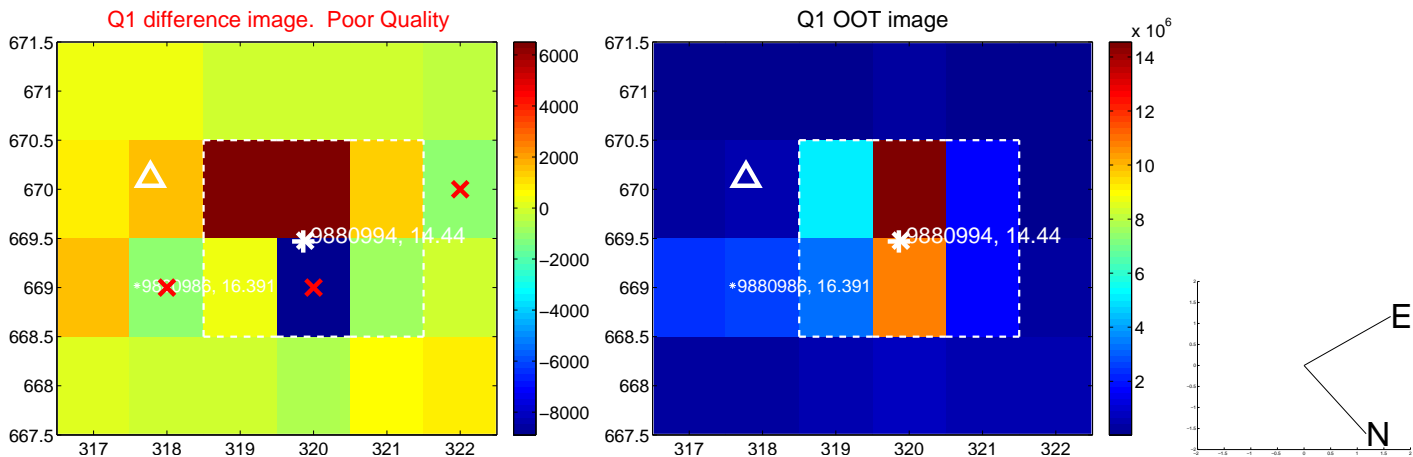
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.127 ± 2.379	0.89	-0.487 ± 2.463	-2.071 ± 2.374
PRF-fit source offset from KIC position	2.161 ± 2.390	0.90	-0.577 ± 2.468	-2.082 ± 2.384
photometric centroid source offset	0.79 ± 1.43	0.55	-0.00 ± 1.54	0.79 ± 1.43



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.

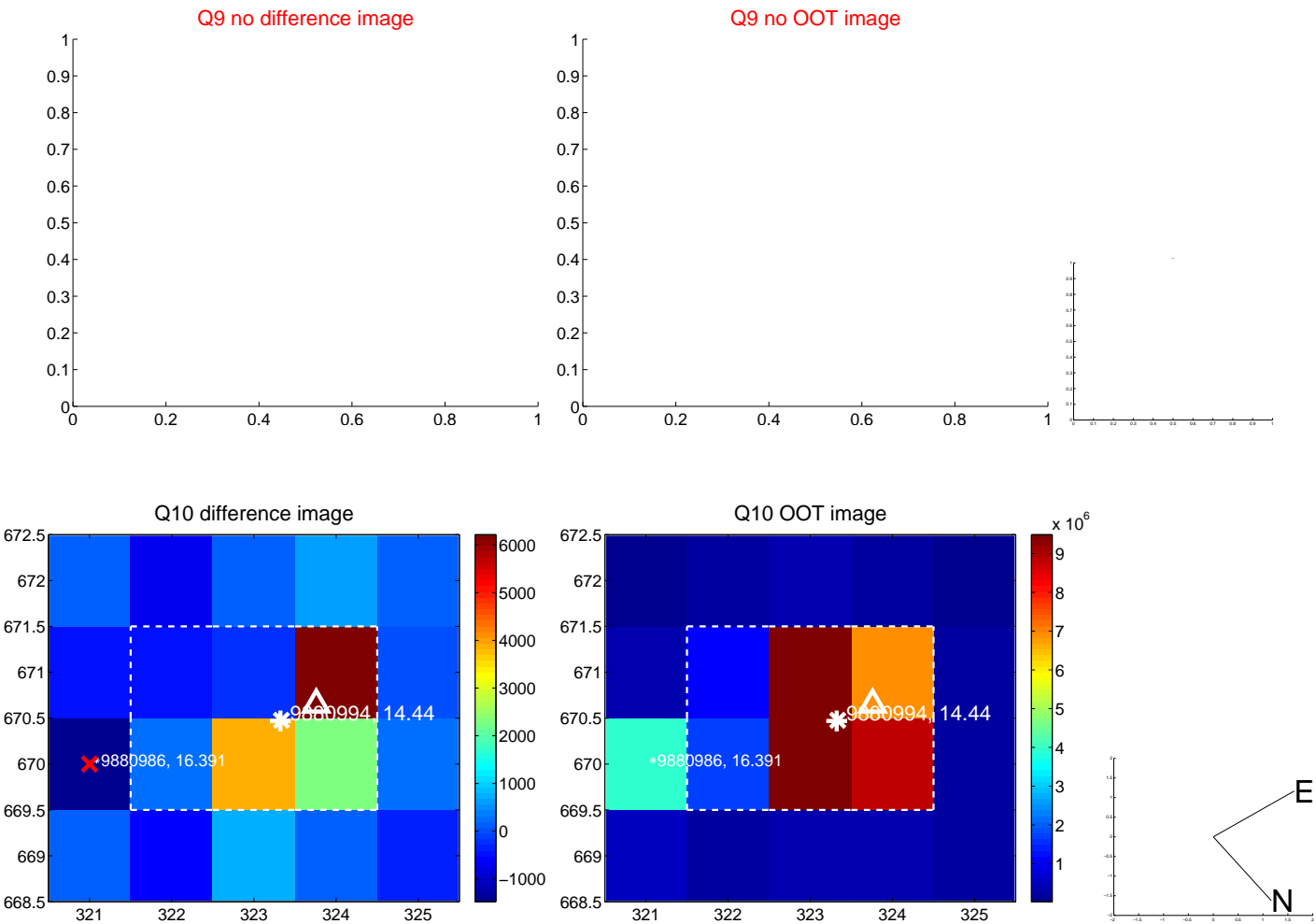
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



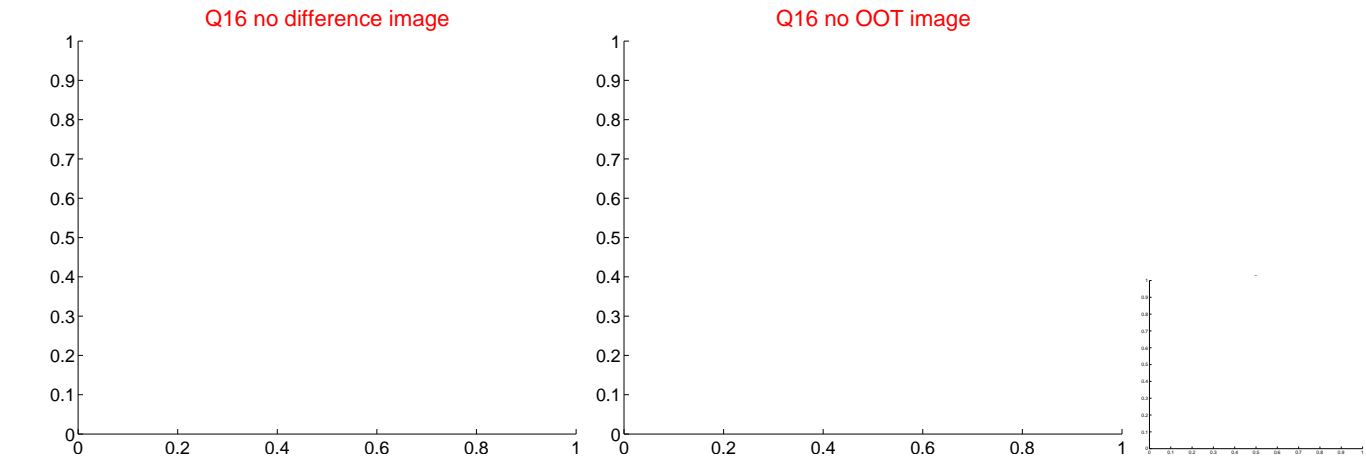
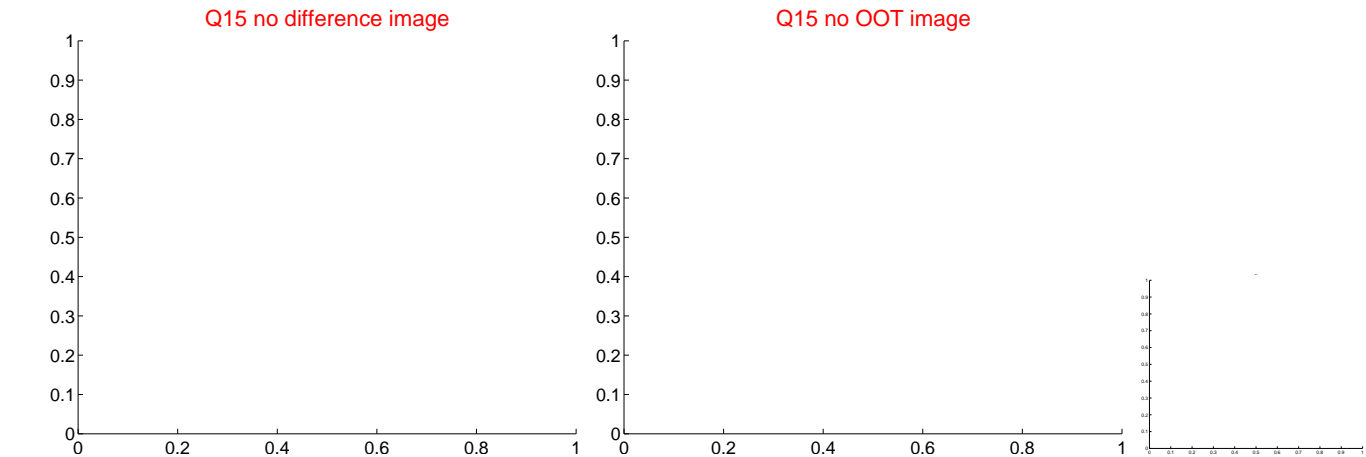
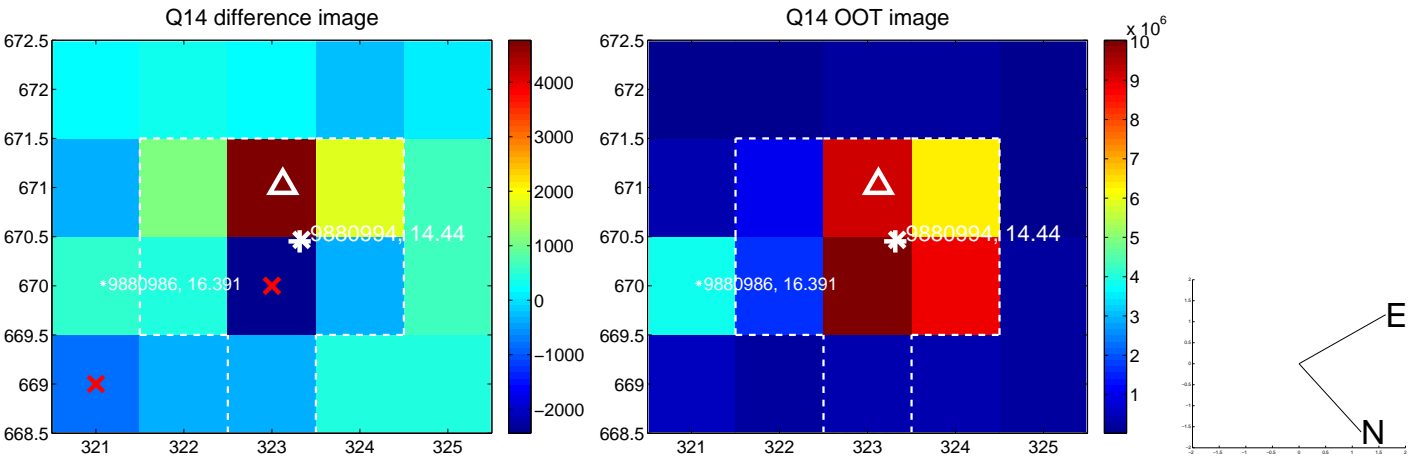
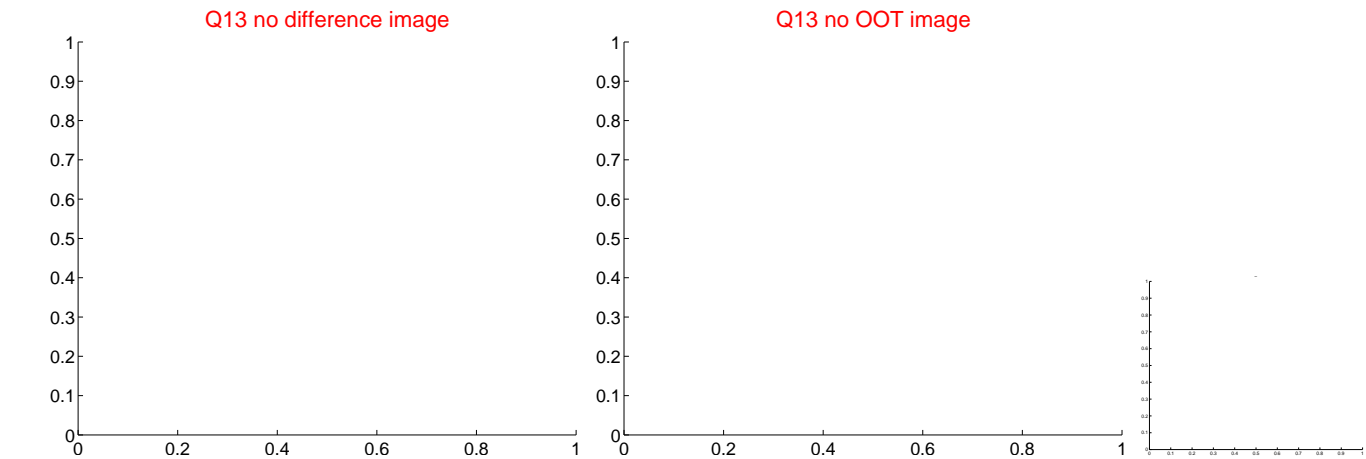
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



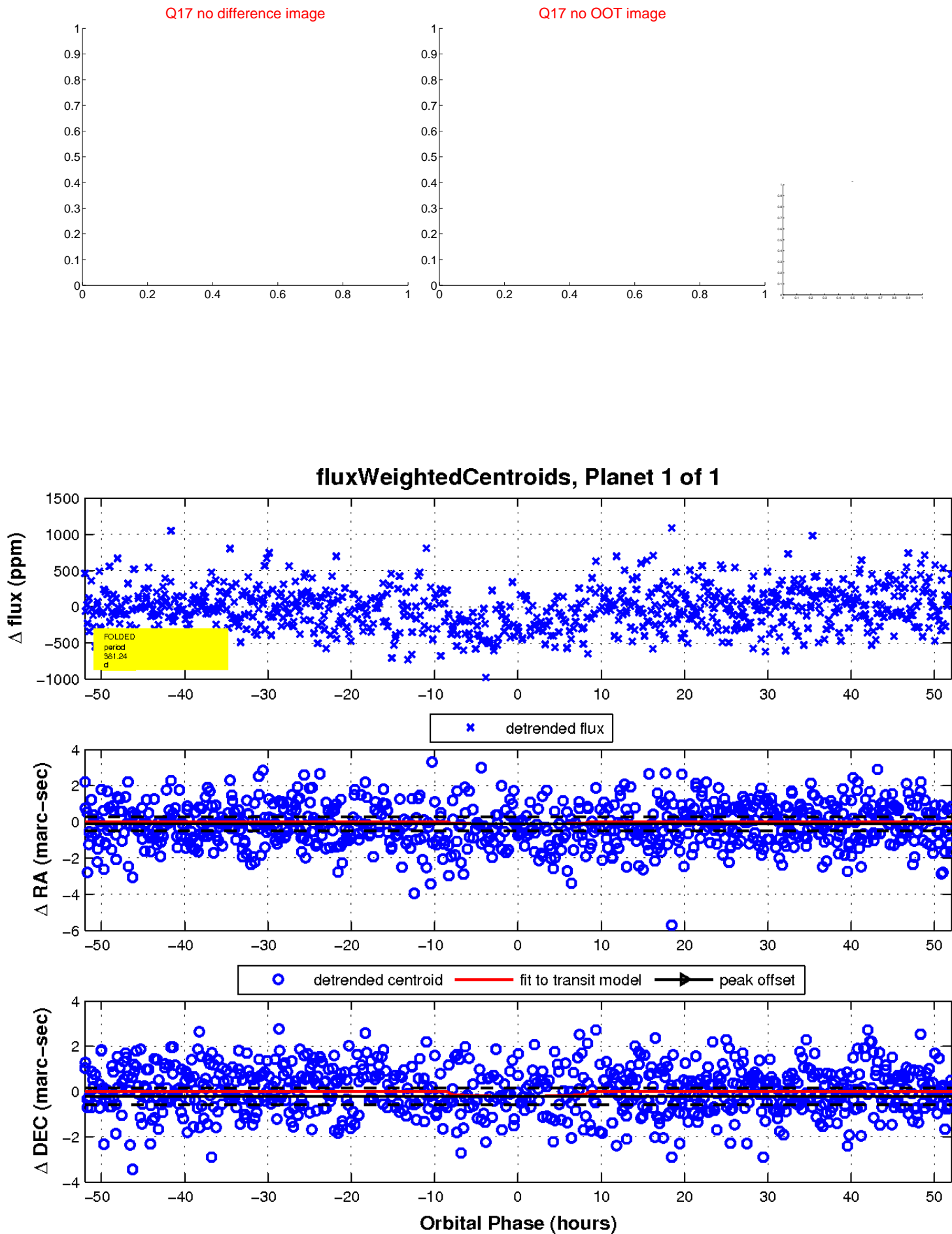
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

