

KIC 003222163

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})
003222163-01	OBS	No	327.463589	301.972818	573.1	9.908	9.2	8.6	0.93	6032	2.39	1.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003222163-01	OBS	FP	0.00	1	0	0	0	ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

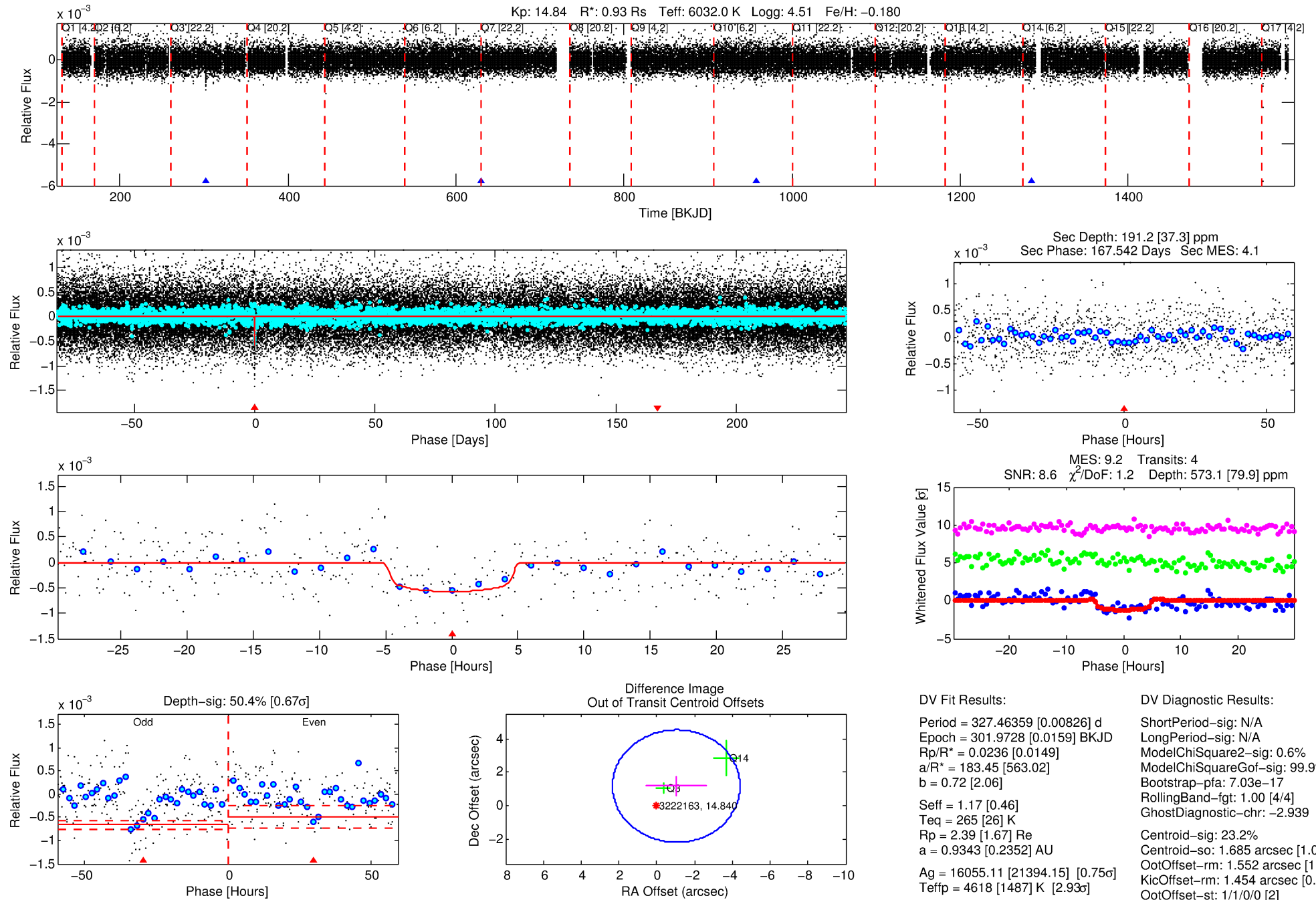
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003222163-01

No Significant Match Found

DV One-Page Summary

KIC: 3222163 Candidate: 1 of 1 Period: 327.464 d



DV Fit Results:

Period = 327.46359 [0.00826] d
Epoch = 301.9728 [0.0159] BKJD
Rp/R* = 0.0236 [0.0149]
a/R* = 183.45 [563.02]
b = 0.72 [2.06]
Seff = 1.17 [0.46]
Teq = 265 [26] K
Rp = 2.39 [1.67] Re
a = 0.9343 [0.2352] AU
Ag = 16055.11 [21394.15] [0.75 σ]
Teffp = 4618 [1487] K [2.93 σ]

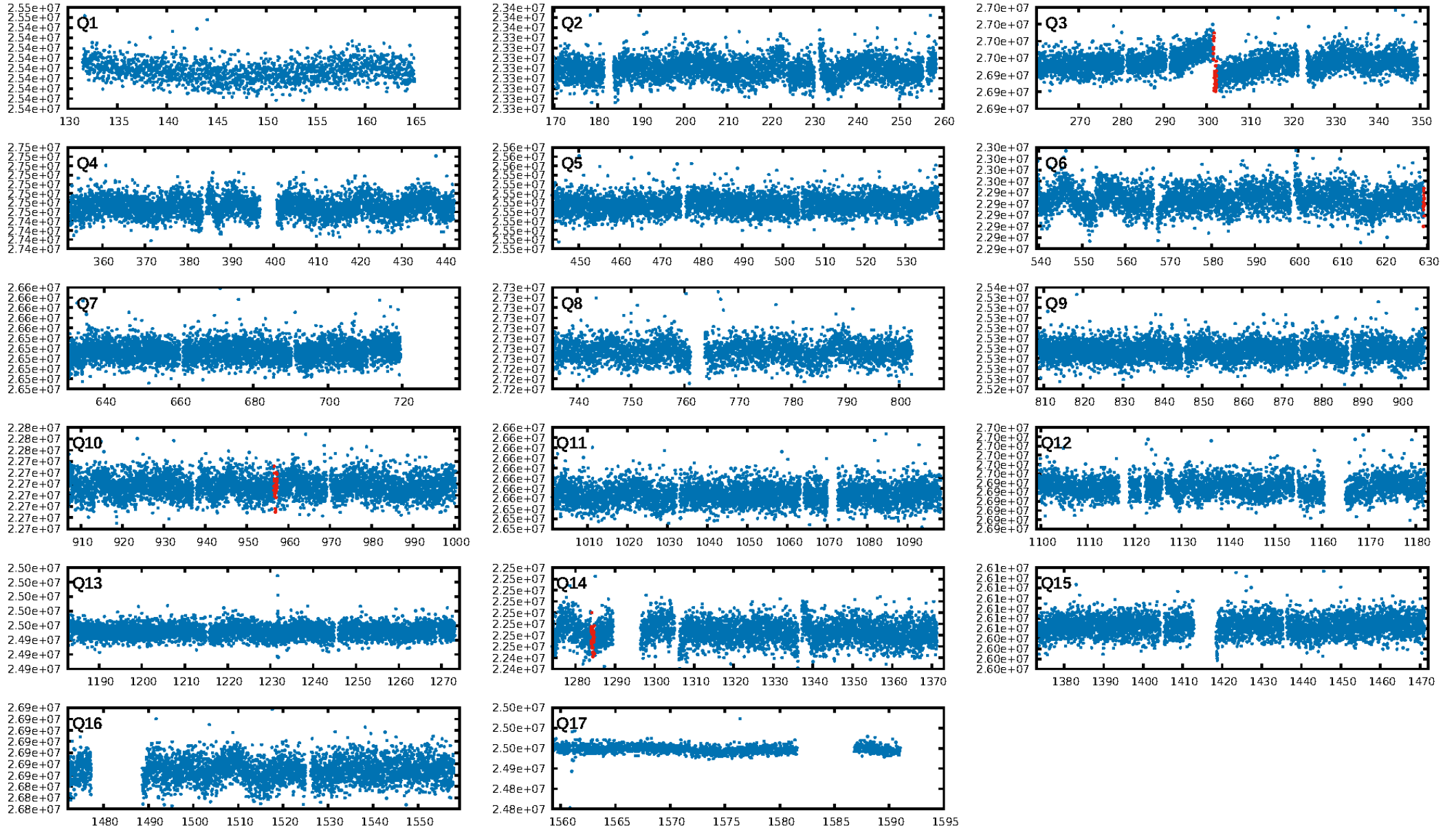
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 7.03e-17
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -2.939
Centroid-sig: 23.2%
Centroid-so: 1.685 arcsec [1.06 σ]
OotOffset-rm: 1.552 arcsec [1.38 σ]
KicOffset-rm: 1.454 arcsec [0.72 σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

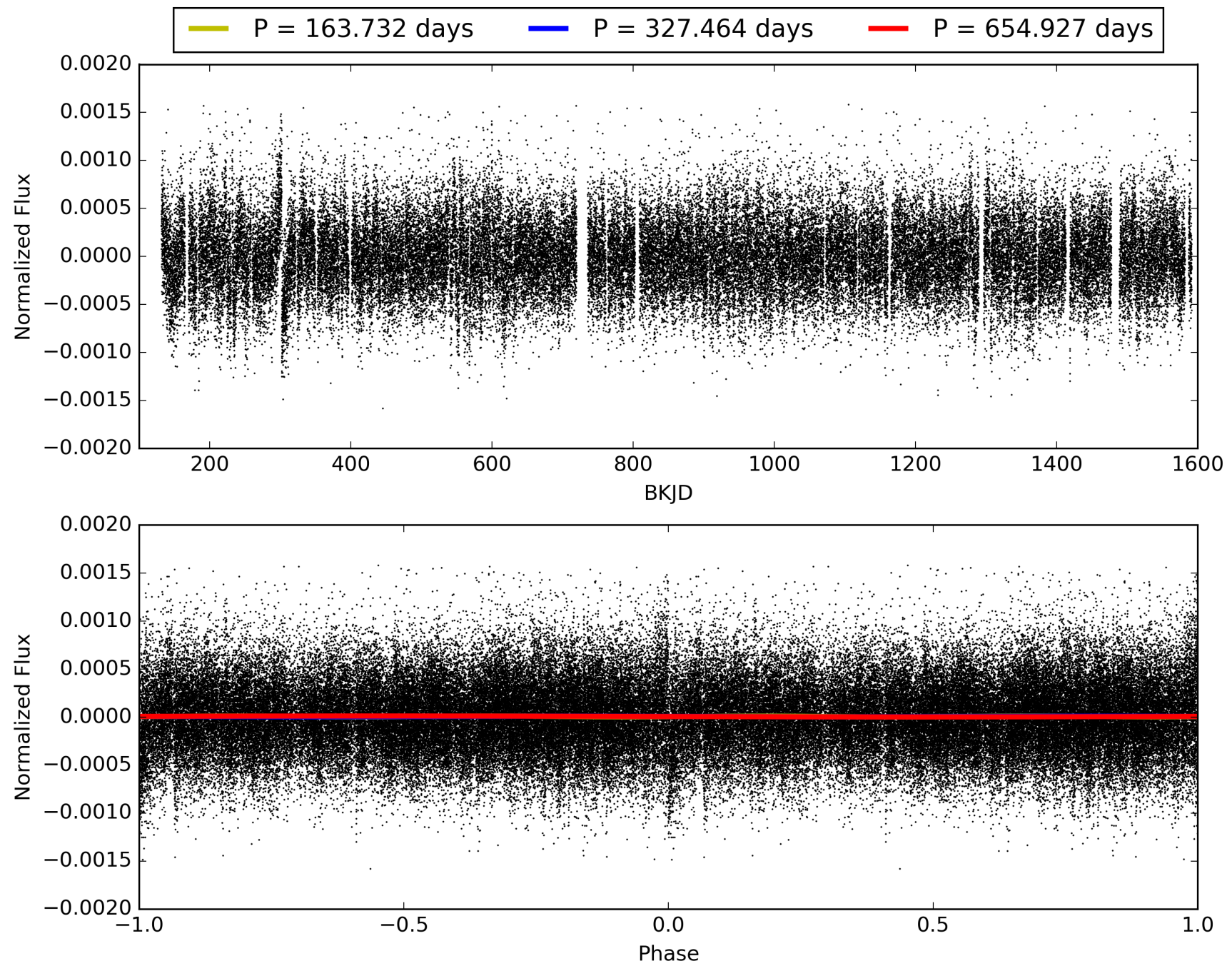
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:14:48 Z

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

TCE 003222163-01, PDC Light Curves

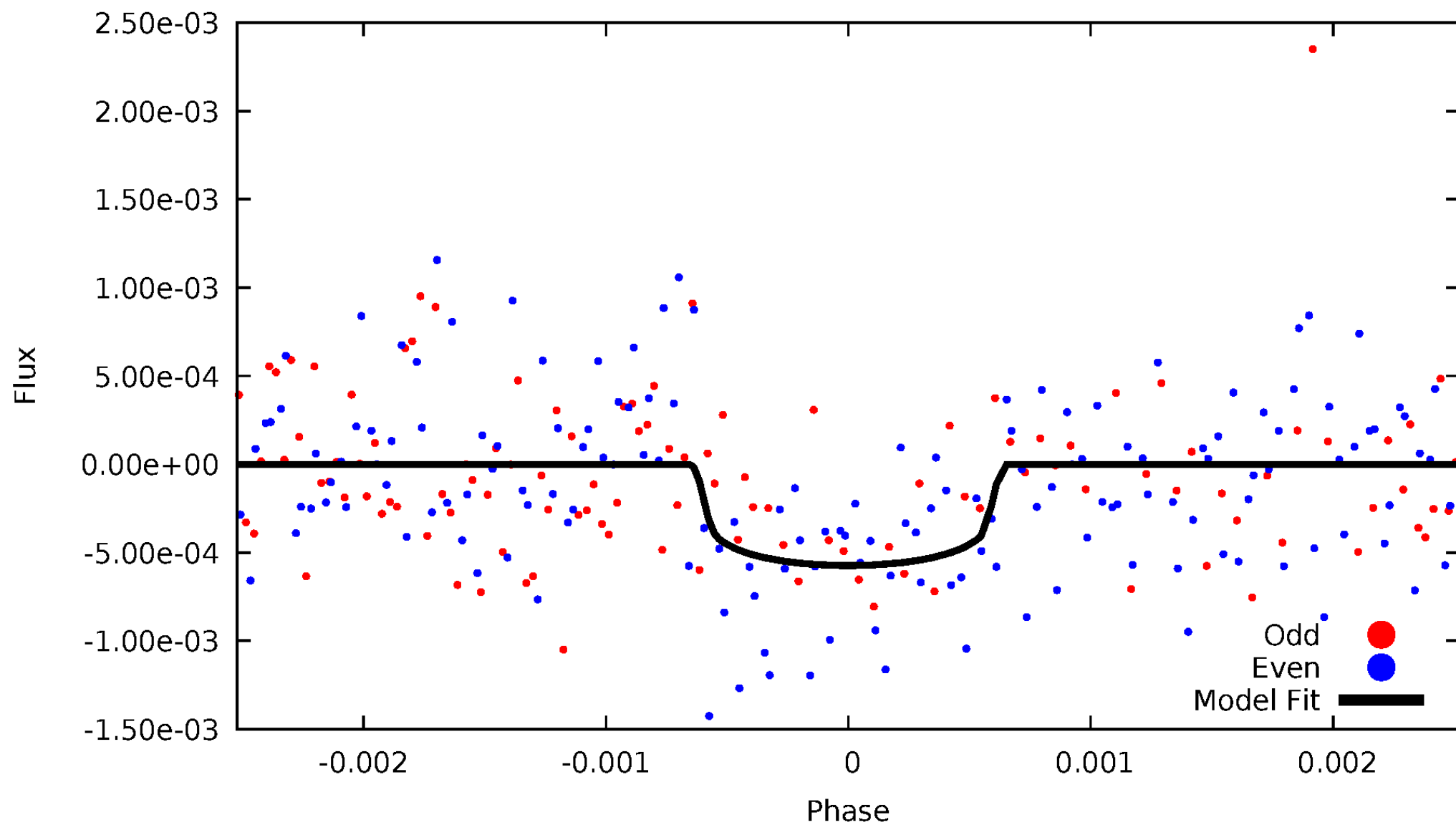


TCE 003222163-01



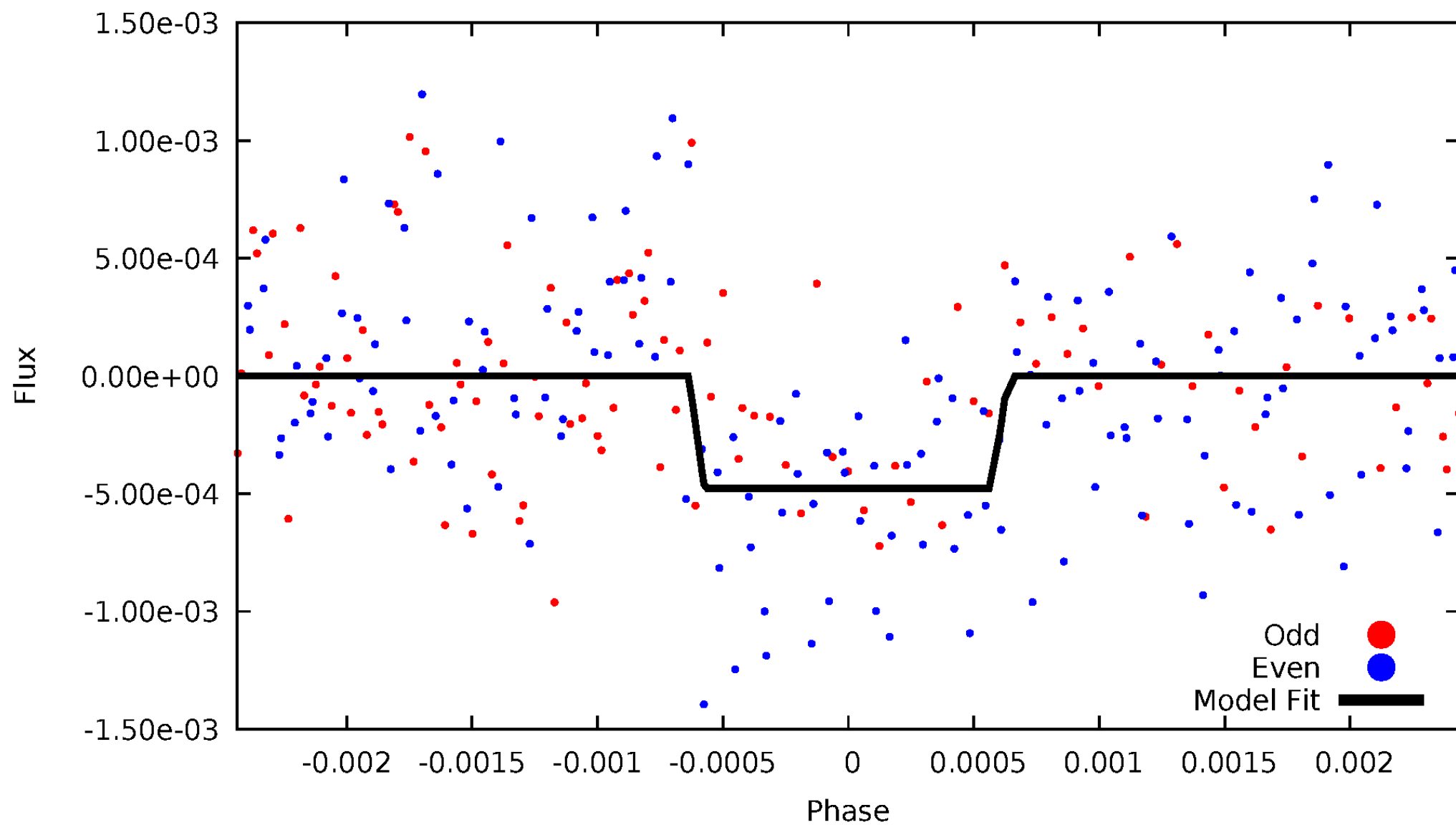
DV Odd/Even

TCE 003222163-01



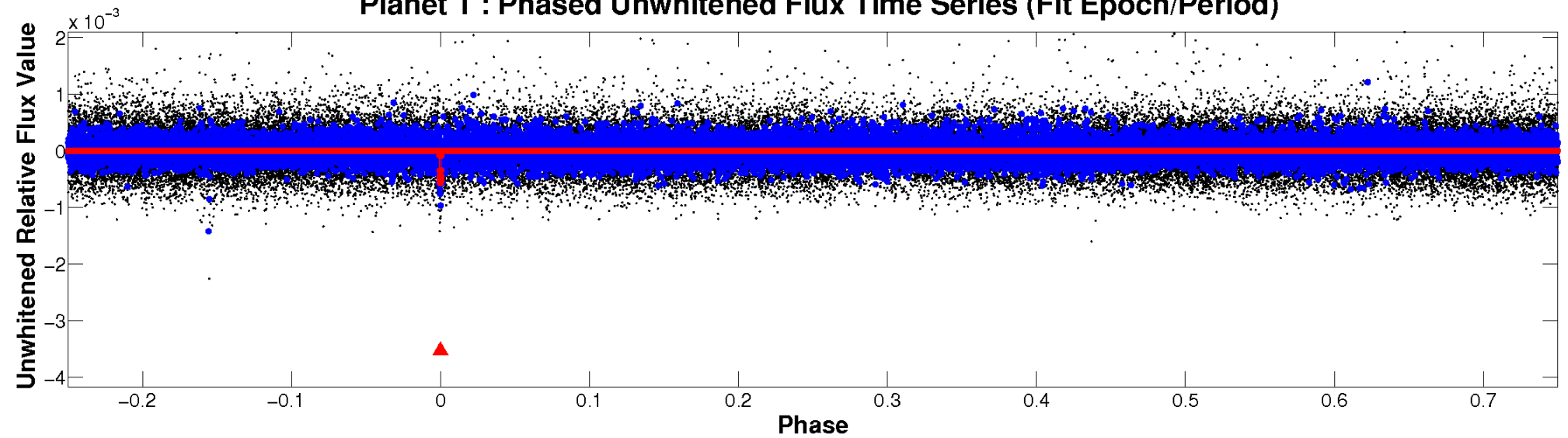
ALT Odd/Even

TCE 003222163-01

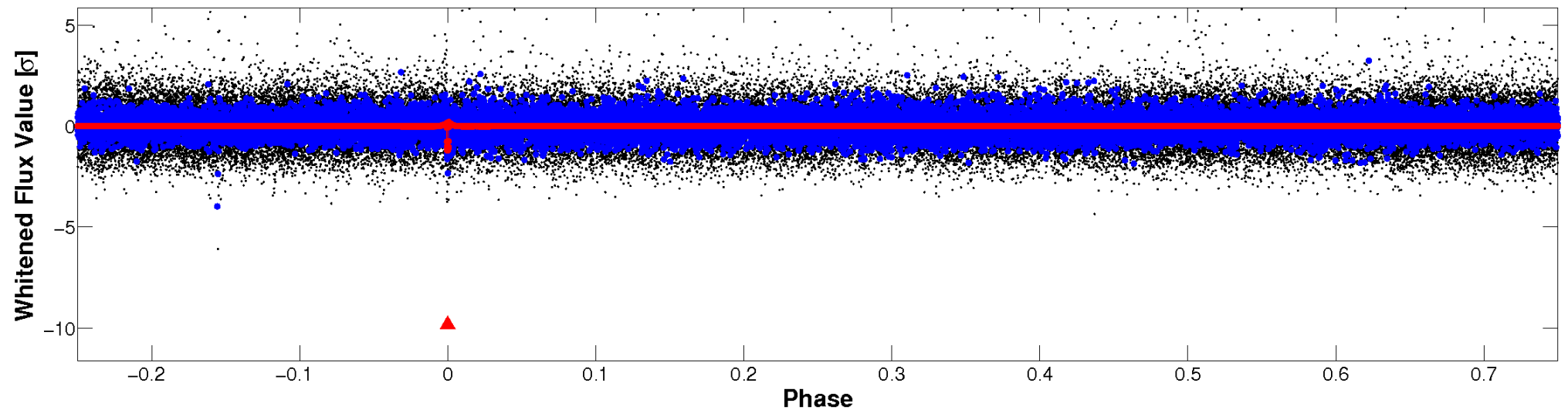


Non-Whitened Vs. Whitened Light Curve

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

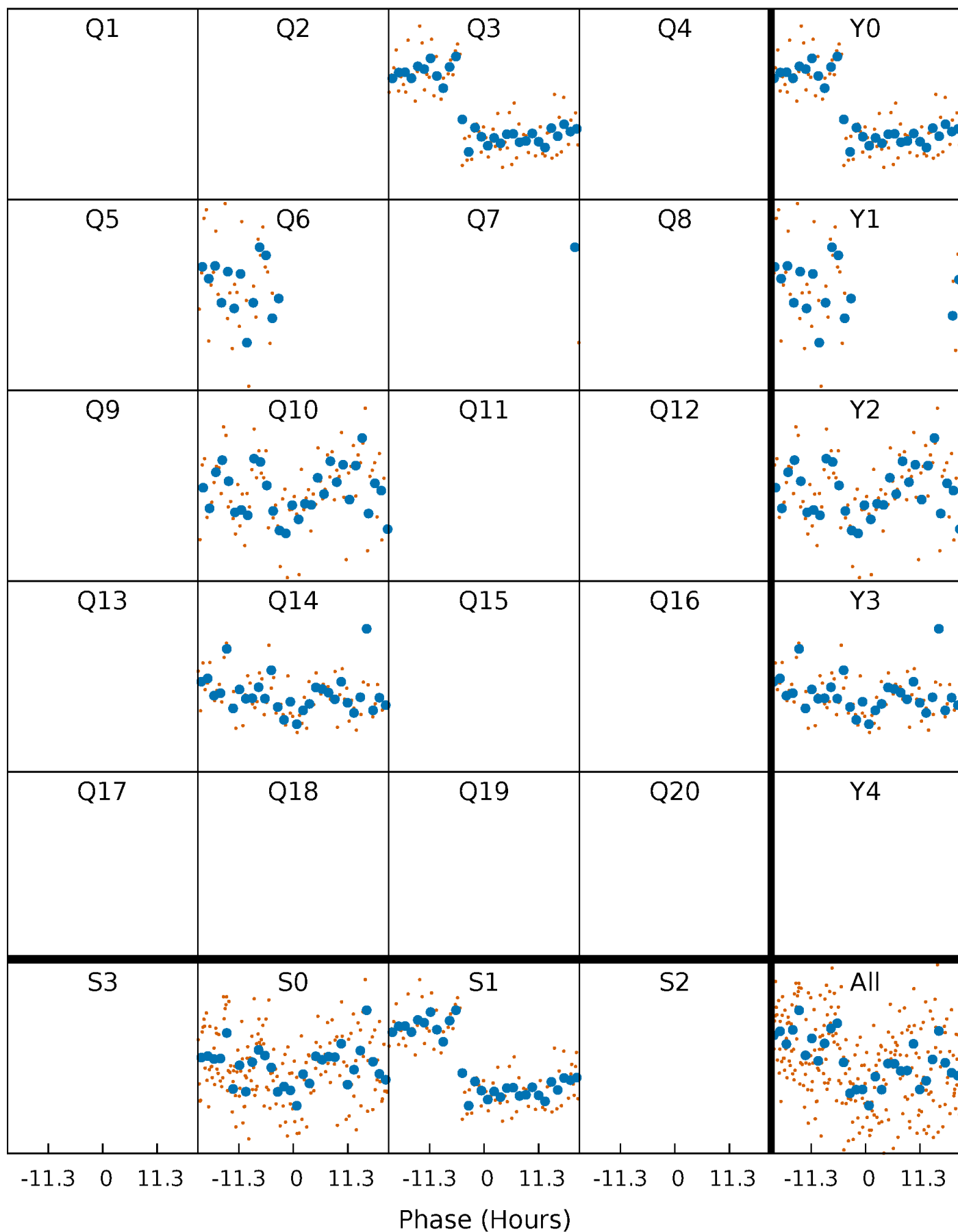


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



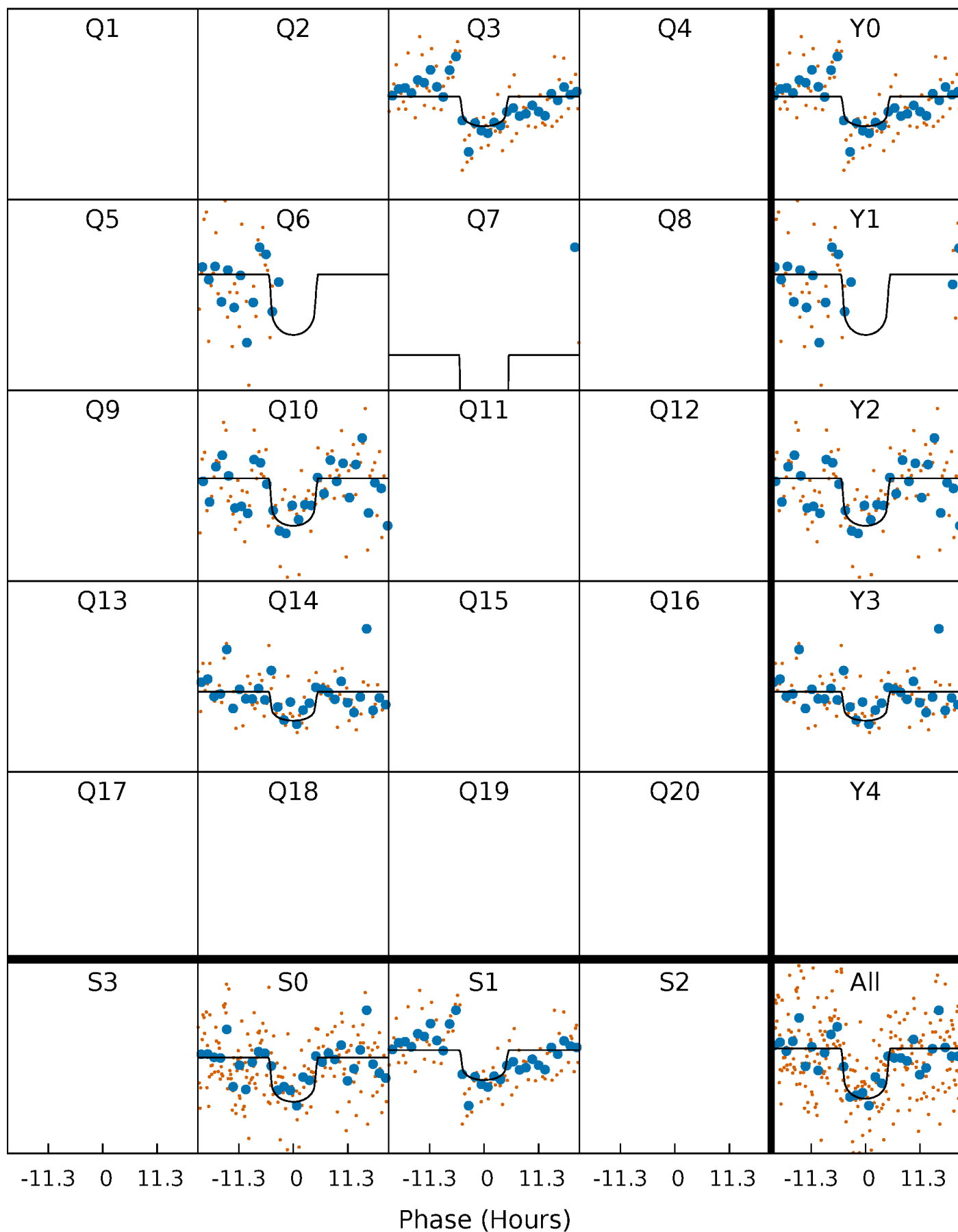
PDC Quarter-Phased Transit Curves

TCE 003222163-01 P=327.463589 Days $T_0=301.972818$ (BKJD)



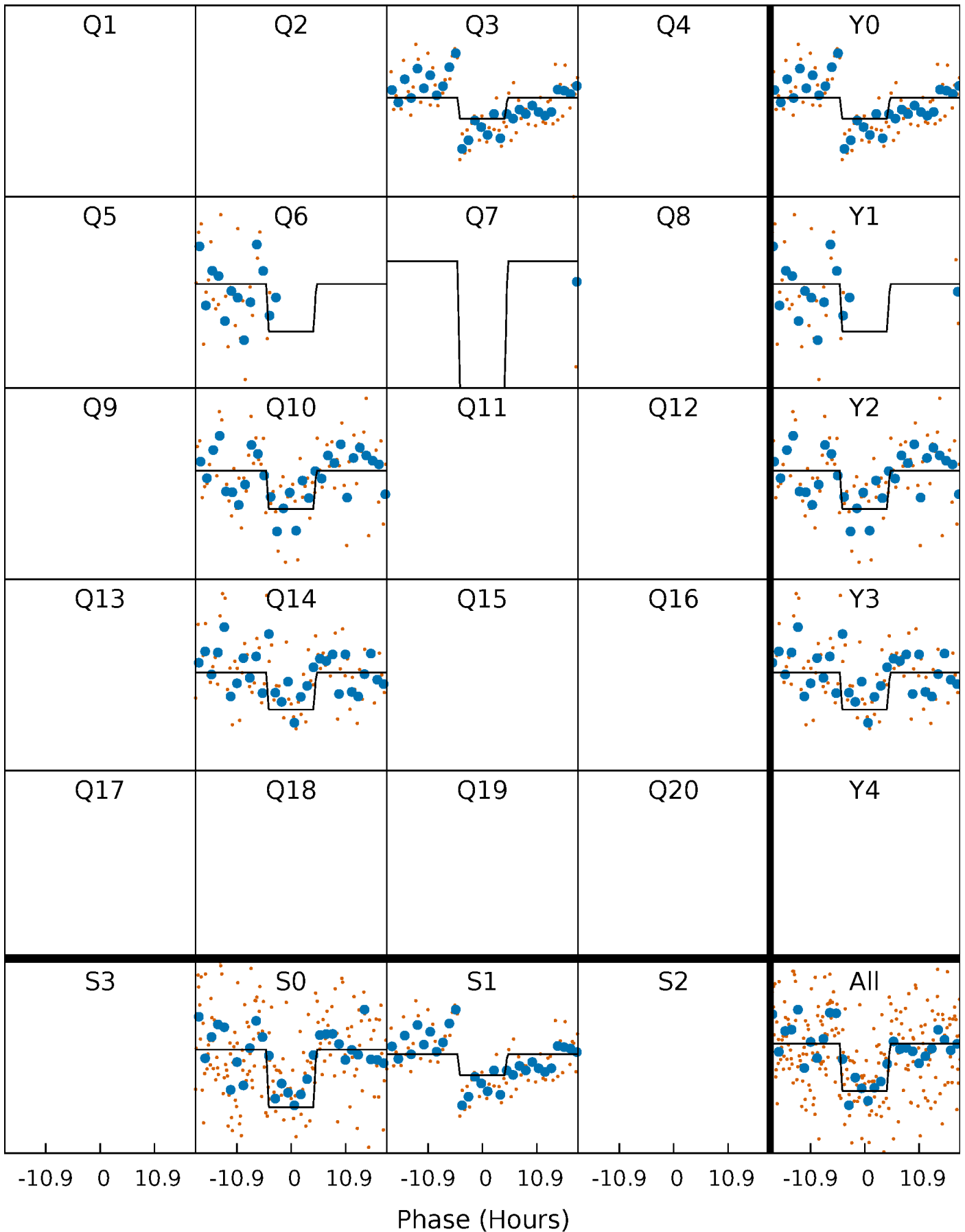
DV Quarter-Phased Transit Curves

TCE 003222163-01 P=327.463589 Days $T_0=301.972818$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

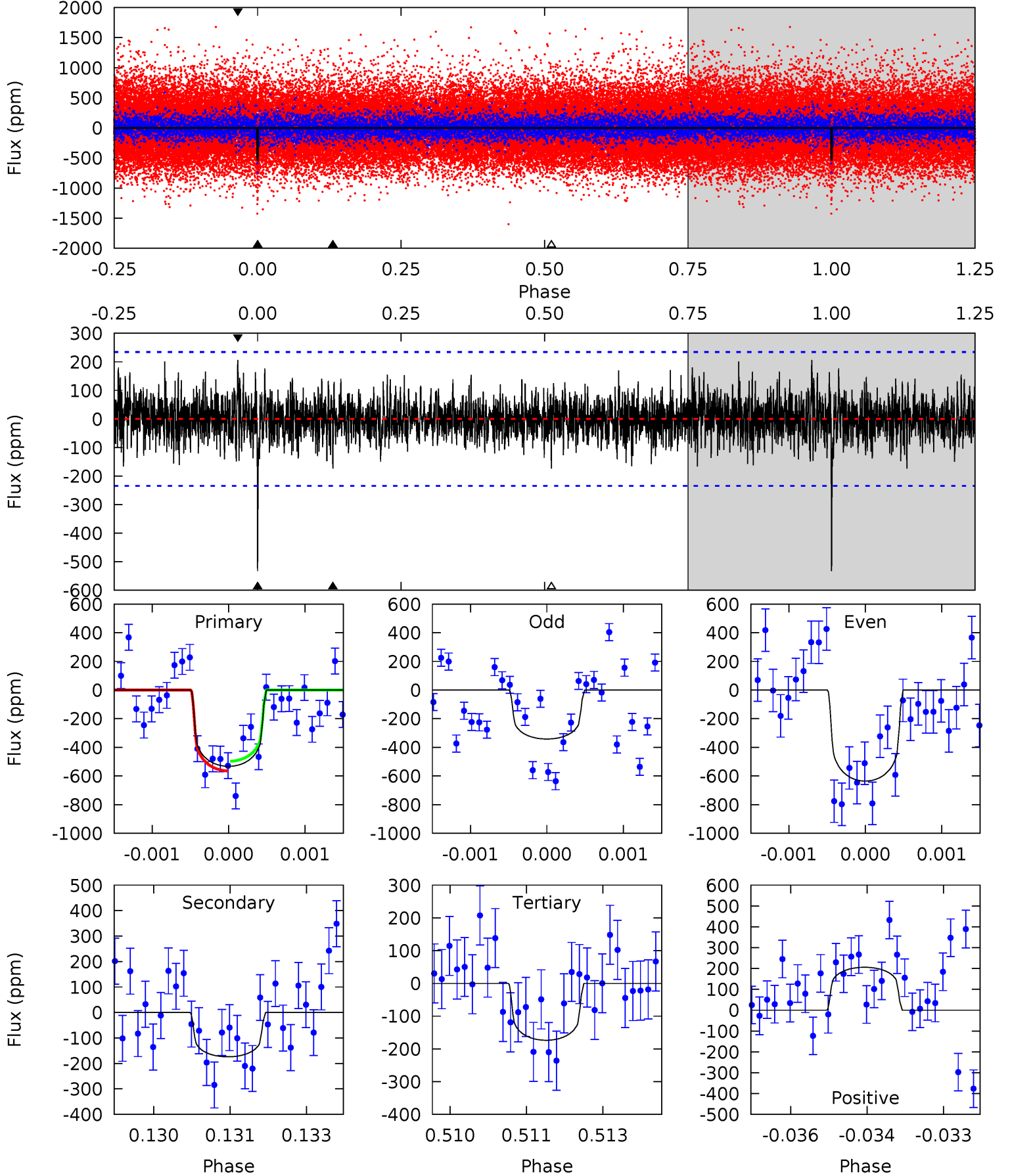
TCE 003222163-01 P=327.461421 Days $T_0=301.973403$ (BKJD)



DV Model-Shift Uniqueness Test

003222163-01, P = 327.463589 Days, E = 301.972818 Days

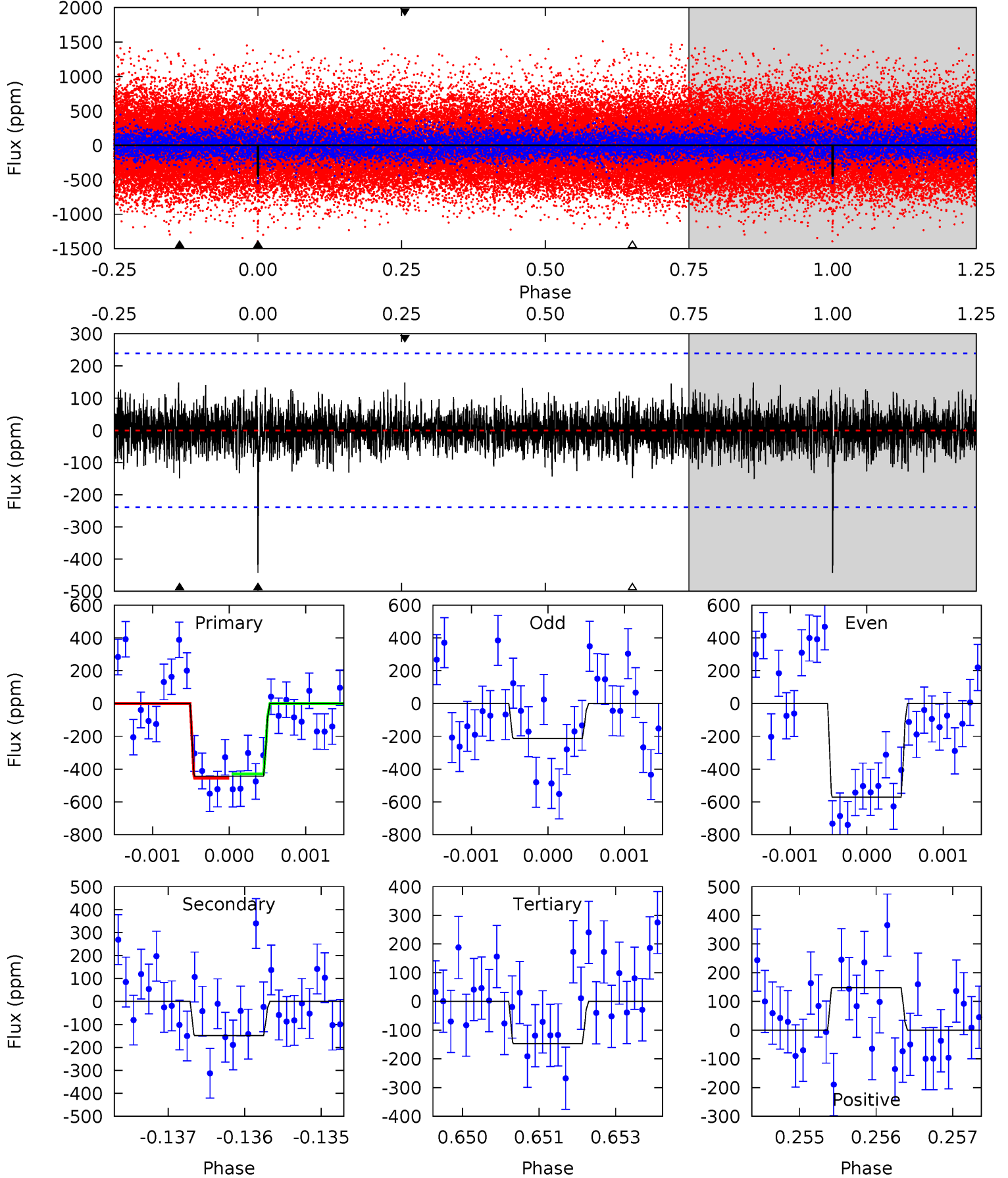
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	4.01	4.00	4.74	5.40	3.21	1.18	8.27	7.53	0.00	-0.74	3.28	1.07	0.28	0.77



Alt Model-Shift Uniqueness Test

003222163-01, P = 327.461421 Days, E = 301.973403 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	3.37	3.32	3.36	5.41	3.23	0.92	6.71	6.67	0.05	0.01	3.90	1.29	0.25	0.29



Stellar Parameters For KIC 003222163

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6032^{+162}_{-198}	$4.508^{+0.050}_{-0.200}$	$-0.180^{+0.300}_{-0.300}$	$0.929^{+0.278}_{-0.093}$	$1.014^{+0.131}_{-0.131}$	$1.783^{+0.467}_{-0.889}$
	+3%/-3%	+1%/-4%	+167%/-167%	+30%/-10%	+13%/-13%	+26%/-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 003222163-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-174 ± 43	$2.59^{+1.50}_{-1.50}$	380^{+24}_{-18}	4566^{+2204}_{-720}	11652^{+54959}_{-7023}
Alt.	-149 ± 44	$2.58^{+1.47}_{-1.37}$	378^{+26}_{-18}	4439^{+1808}_{-691}	10522^{+37134}_{-6611}

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 $A_{obs} \gg 1.0$

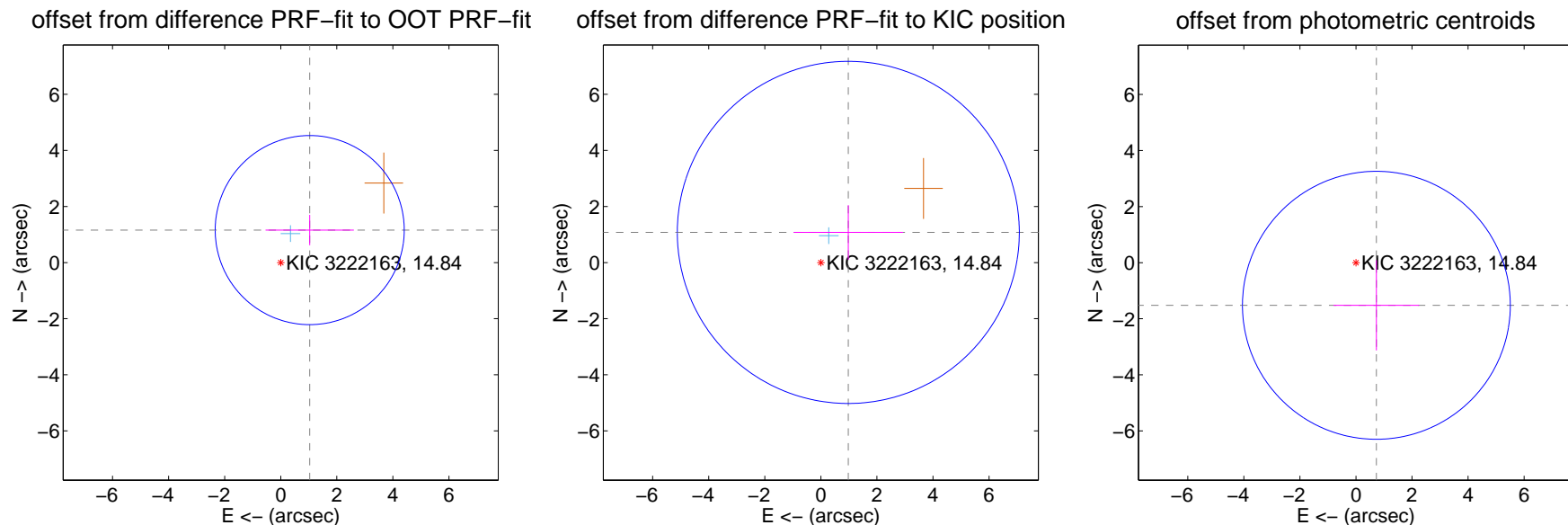
DV Centroid Data

Supplemental centroid analysis for 003222163-01. Kepler magnitude: 14.84. Transit SNR 8.56

There are 1 quarters with good PRF difference image offsets

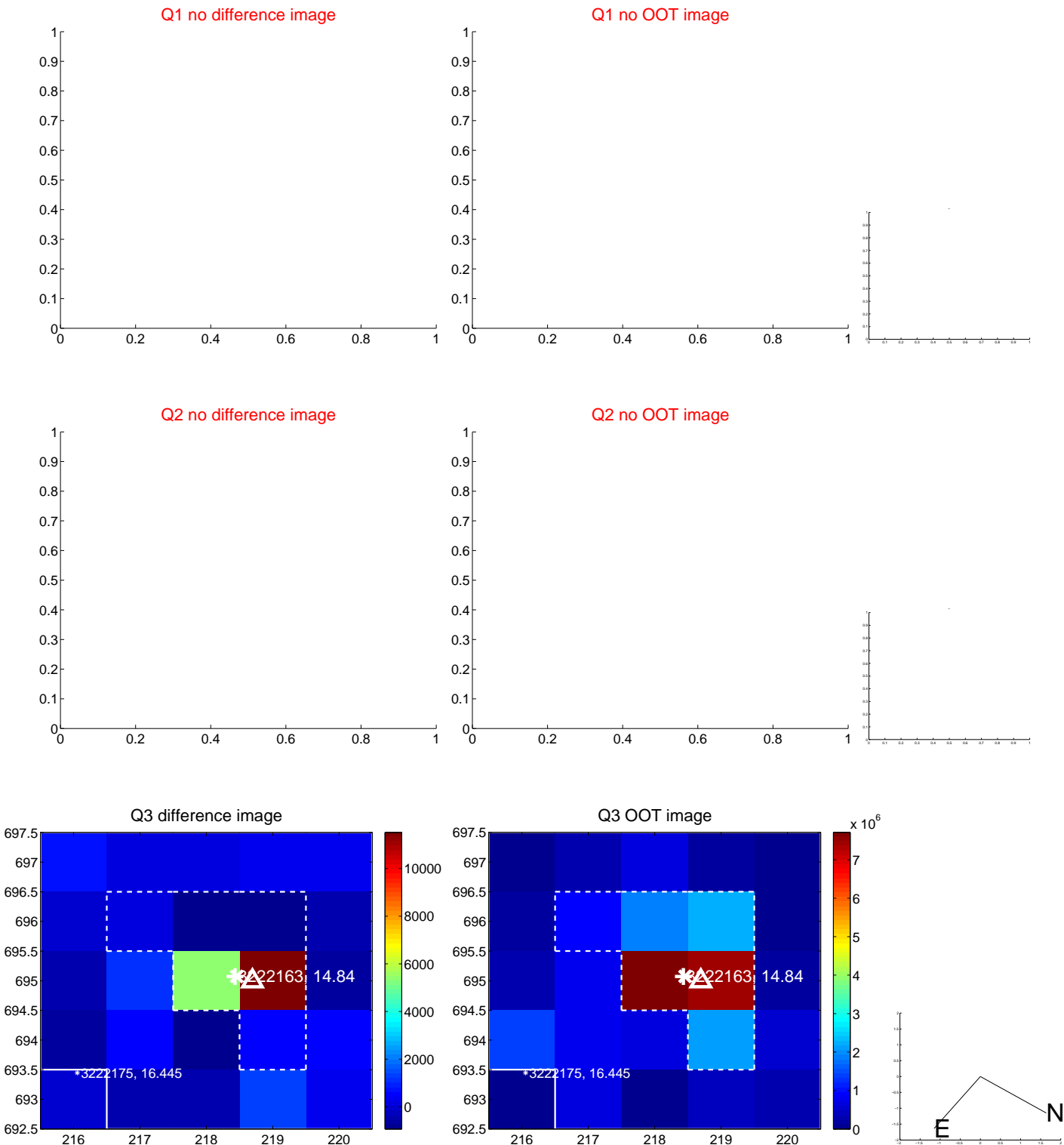
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.552 ± 1.123	1.38	-1.033 ± 1.575	1.158 ± 0.541
PRF-fit source offset from KIC position	1.454 ± 2.032	0.72	-0.979 ± 1.951	1.076 ± 0.975
photometric centroid source offset	1.69 ± 1.59	1.06	-0.73 ± 1.53	-1.52 ± 1.61



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.

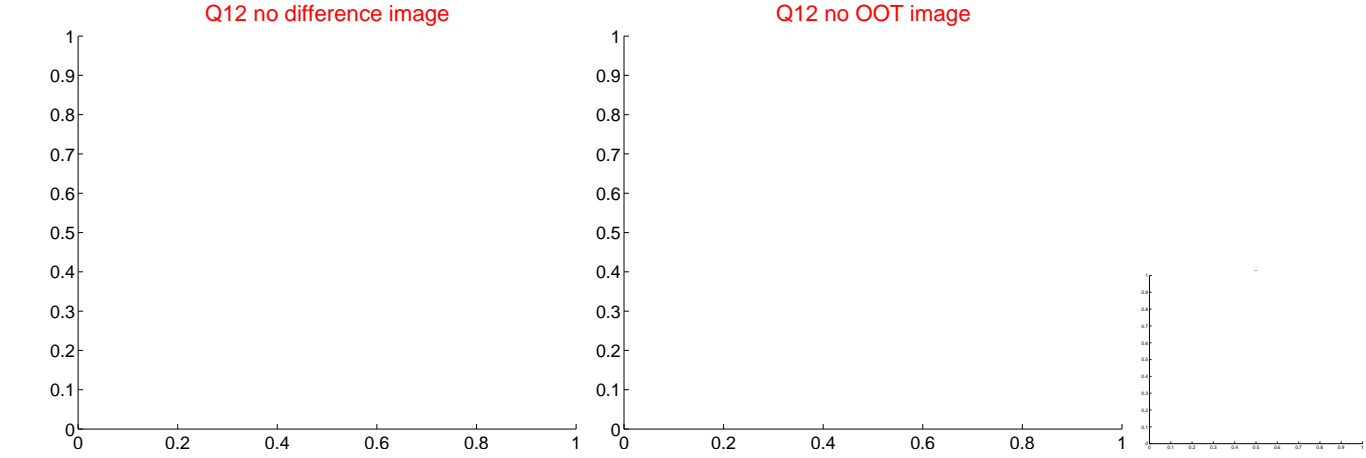
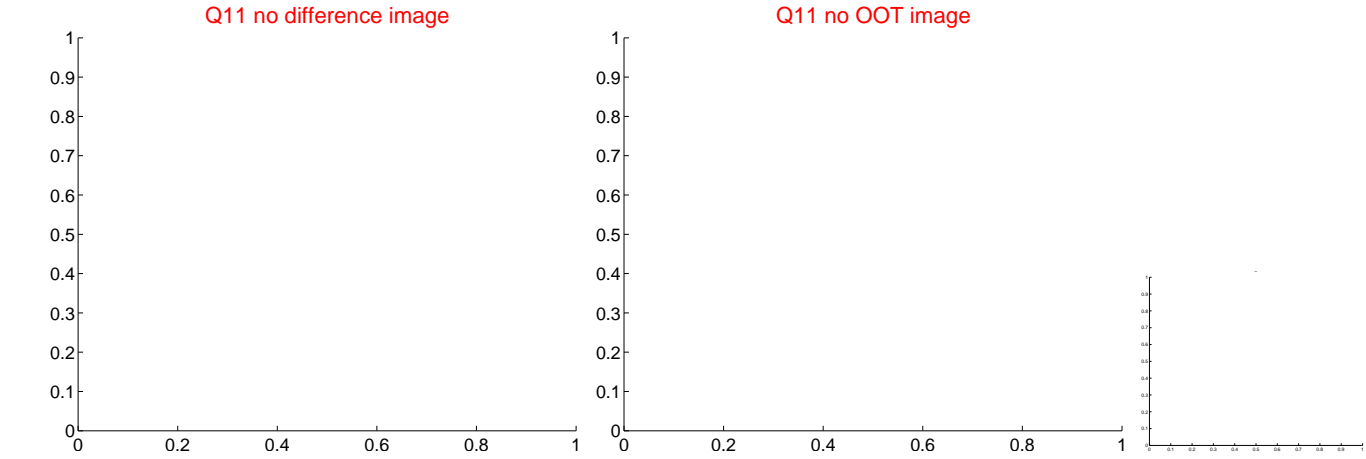
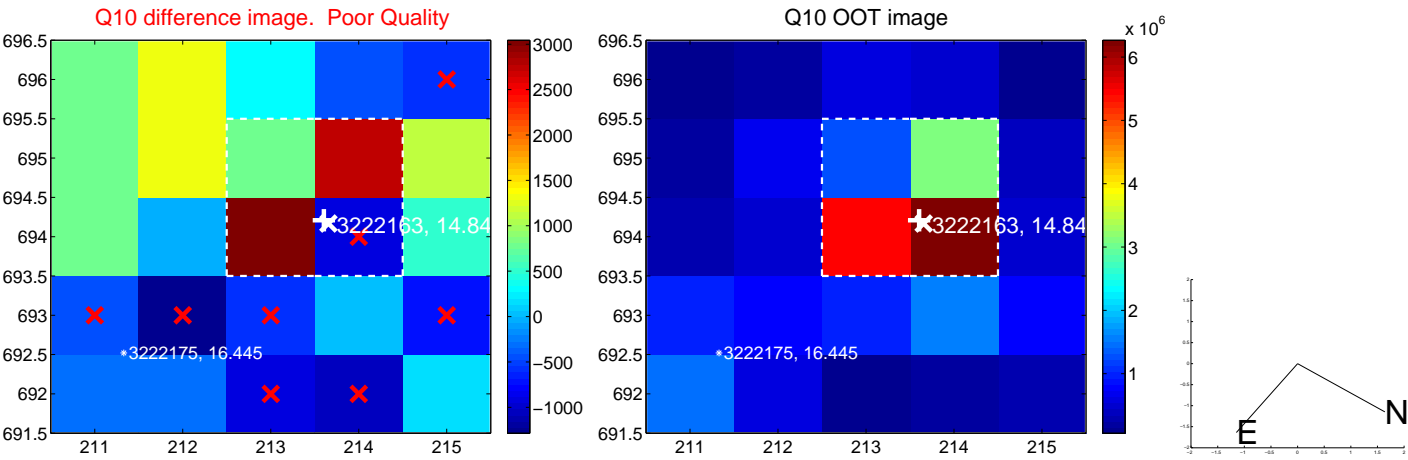
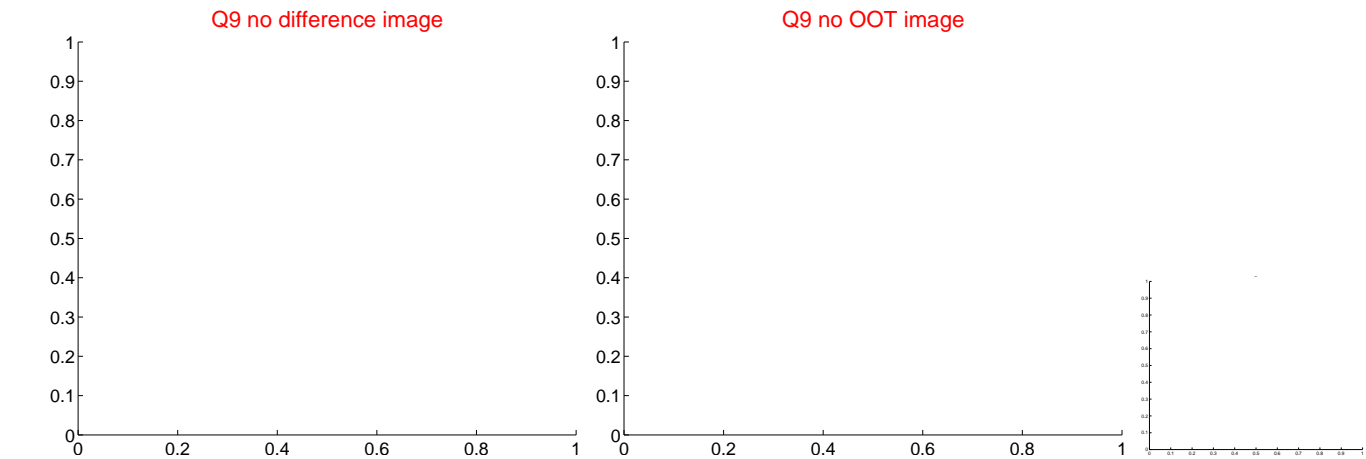
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



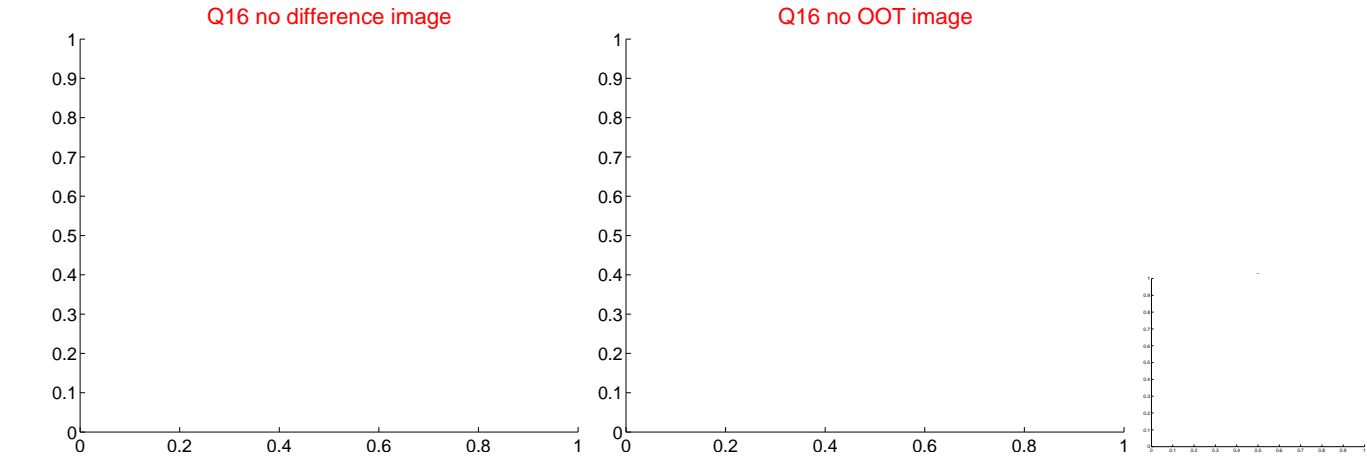
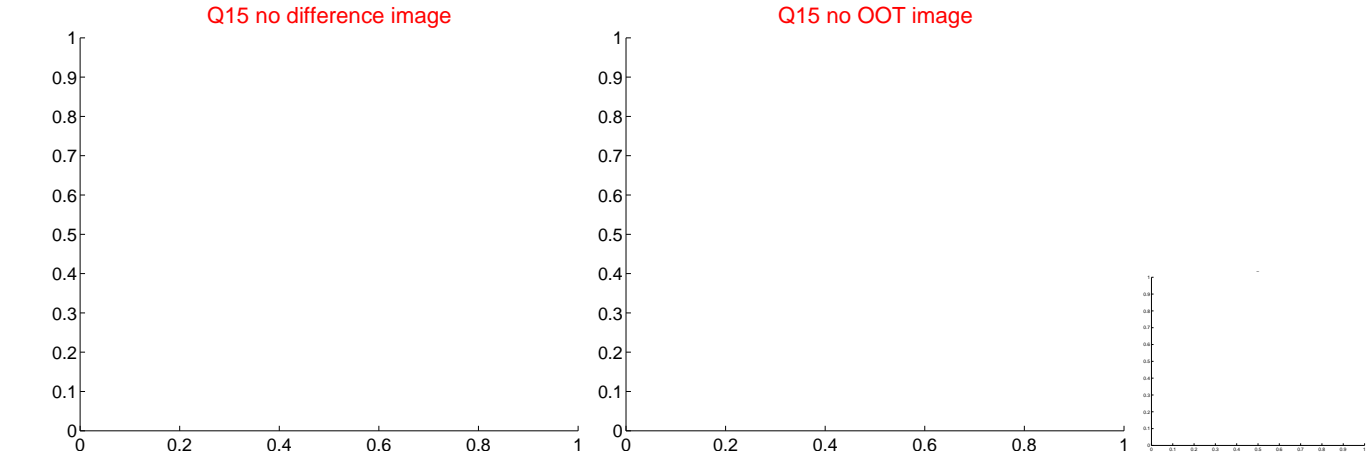
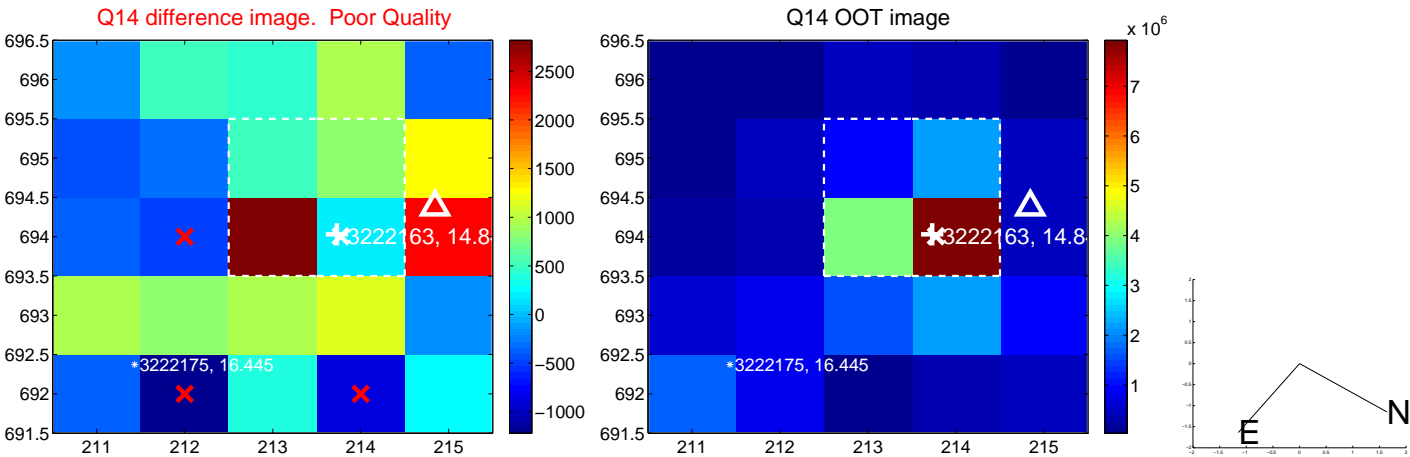
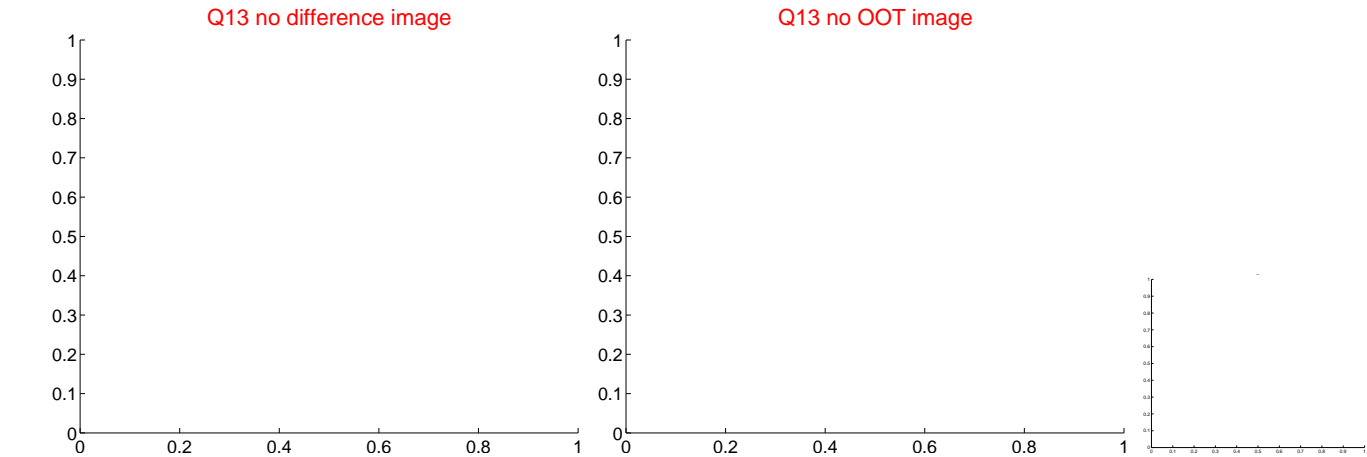
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



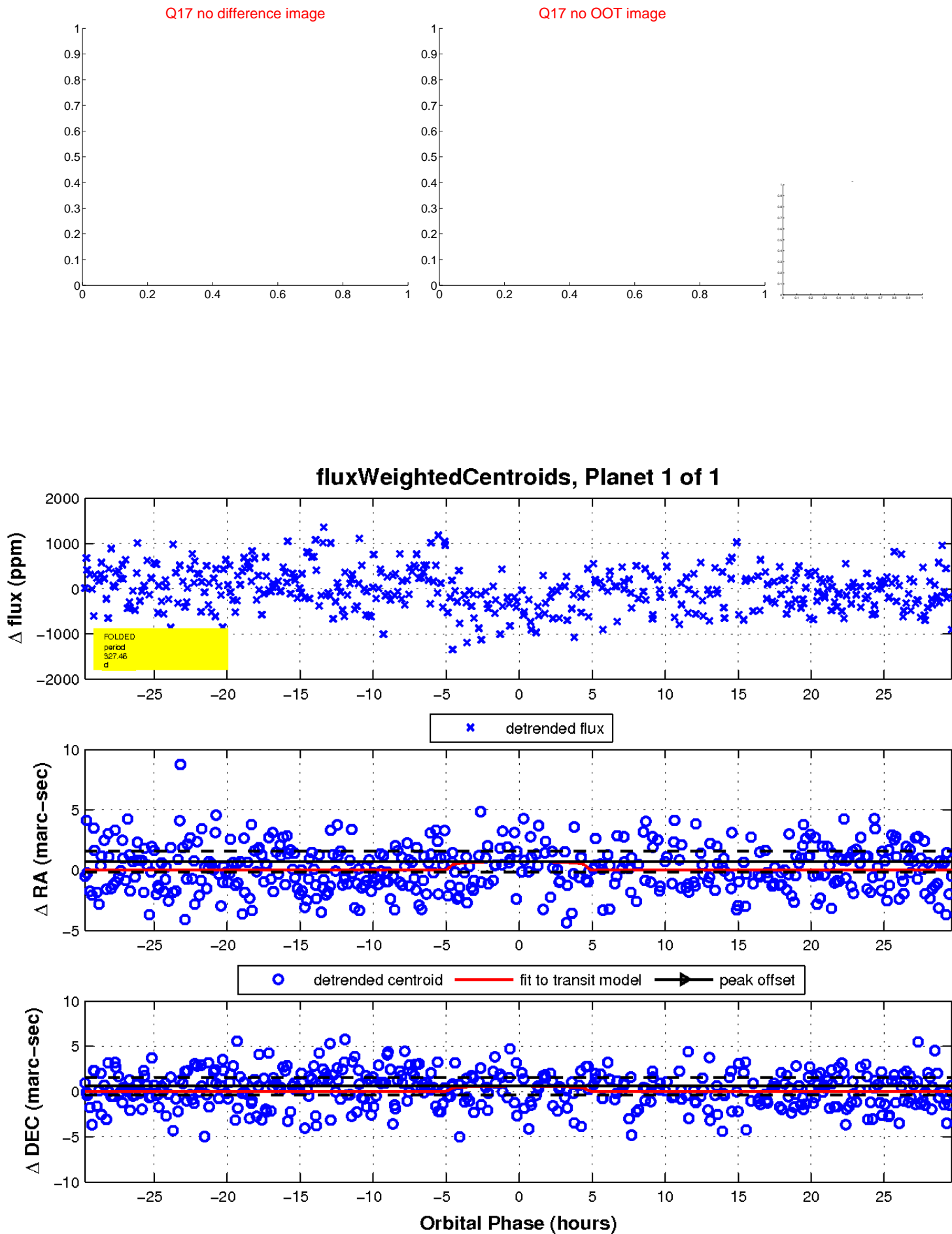
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

