

KIC 004738095

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})
004738095-01	OBS	8096.01	309.933937	141.984784	174.0	7.396	8.2	7.4	1.26	6299	1.85	2.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004738095-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—INCONSISTENT_TRANS—CENT_UNCERTAIN

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

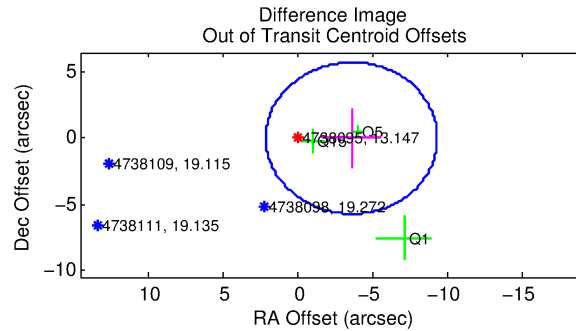
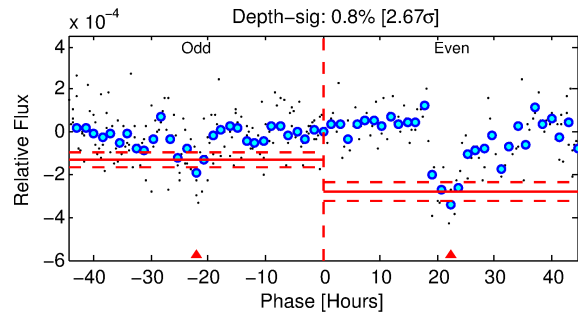
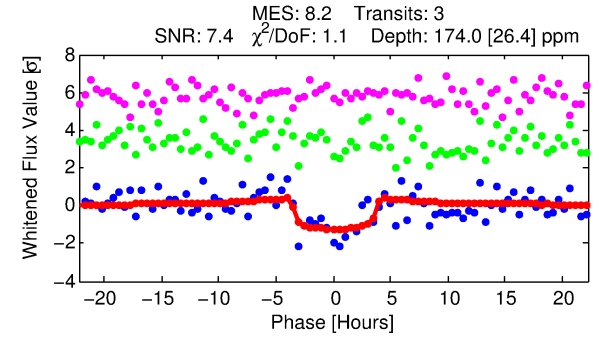
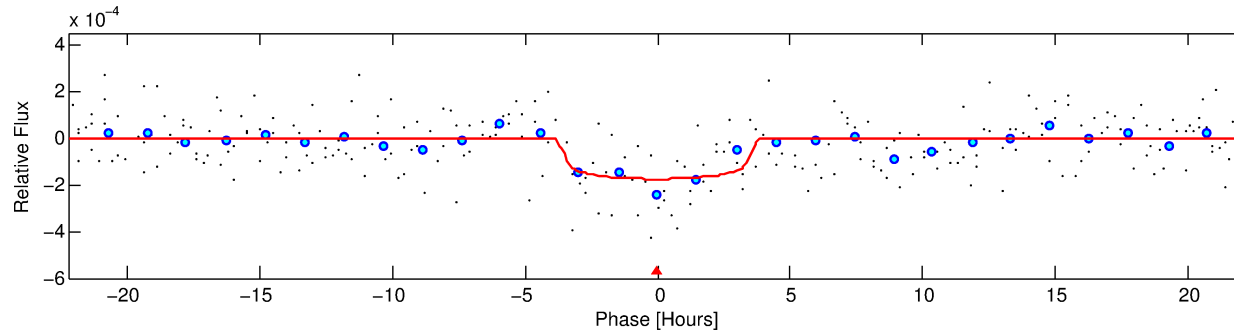
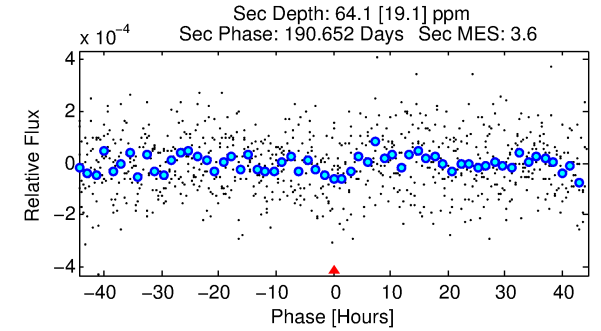
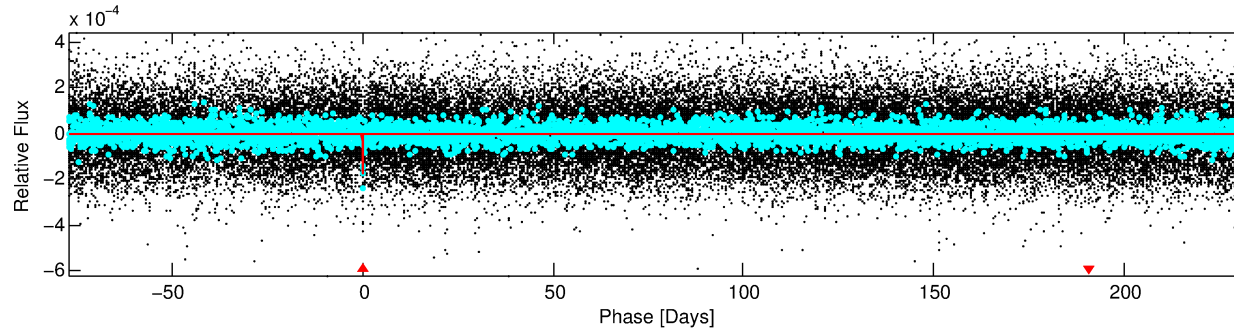
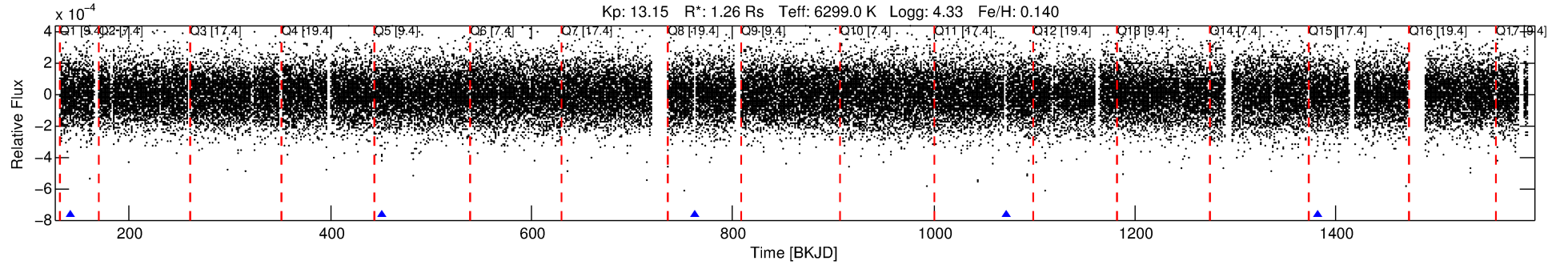
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004738095-01

No Significant Match Found

DV One-Page Summary

KIC: 4738095 Candidate: 1 of 1 Period: 309.934 d



DV Fit Results:

Period = 309.93394 [0.00502] d
Epoch = 141.9848 [0.0134] BKJD
Rp/R* = 0.0134 [0.0090]
a/R* = 195.17 [665.89]
b = 0.81 [1.47]
Seff = 2.44 [0.73]
Teq = 319 [24] K
Rp = 1.85 [1.30] Re
a = 0.9600 [0.1732] AU
Ag = 9500.56 [13269.56] [0.72σ]
Teff = 4864 [1674] K [2.71σ]

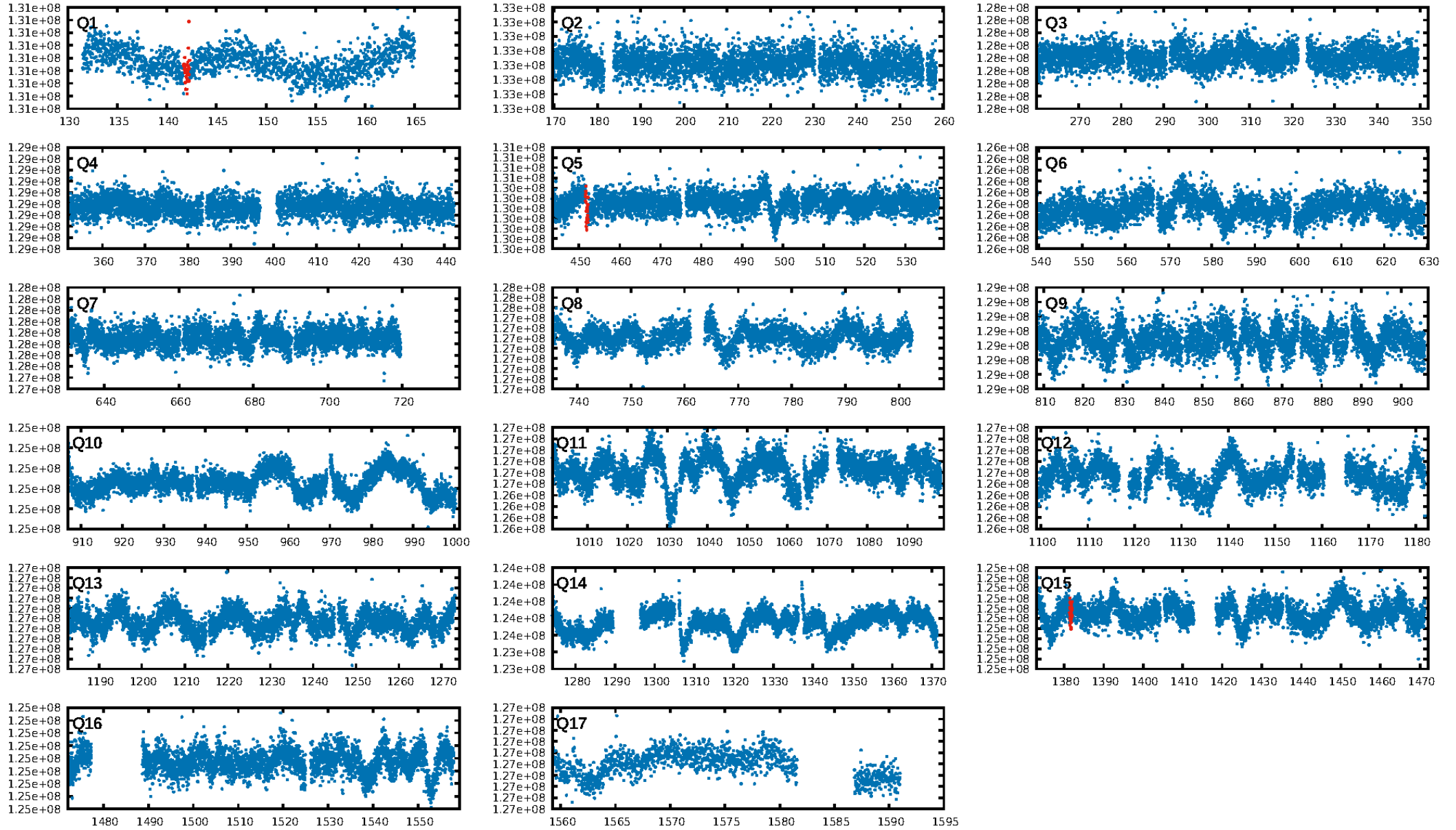
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.9%
ModelChiSquareGof-sig: 78.4%
Bootstrap-pfa: 4.06e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 4.433
Centroid-sig: 19.7%
Centroid-so: 1.816 arcsec [1.31σ]
OotOffset-rm: 3.638 arcsec [1.90σ]
KicOffset-rm: 3.756 arcsec [1.74σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

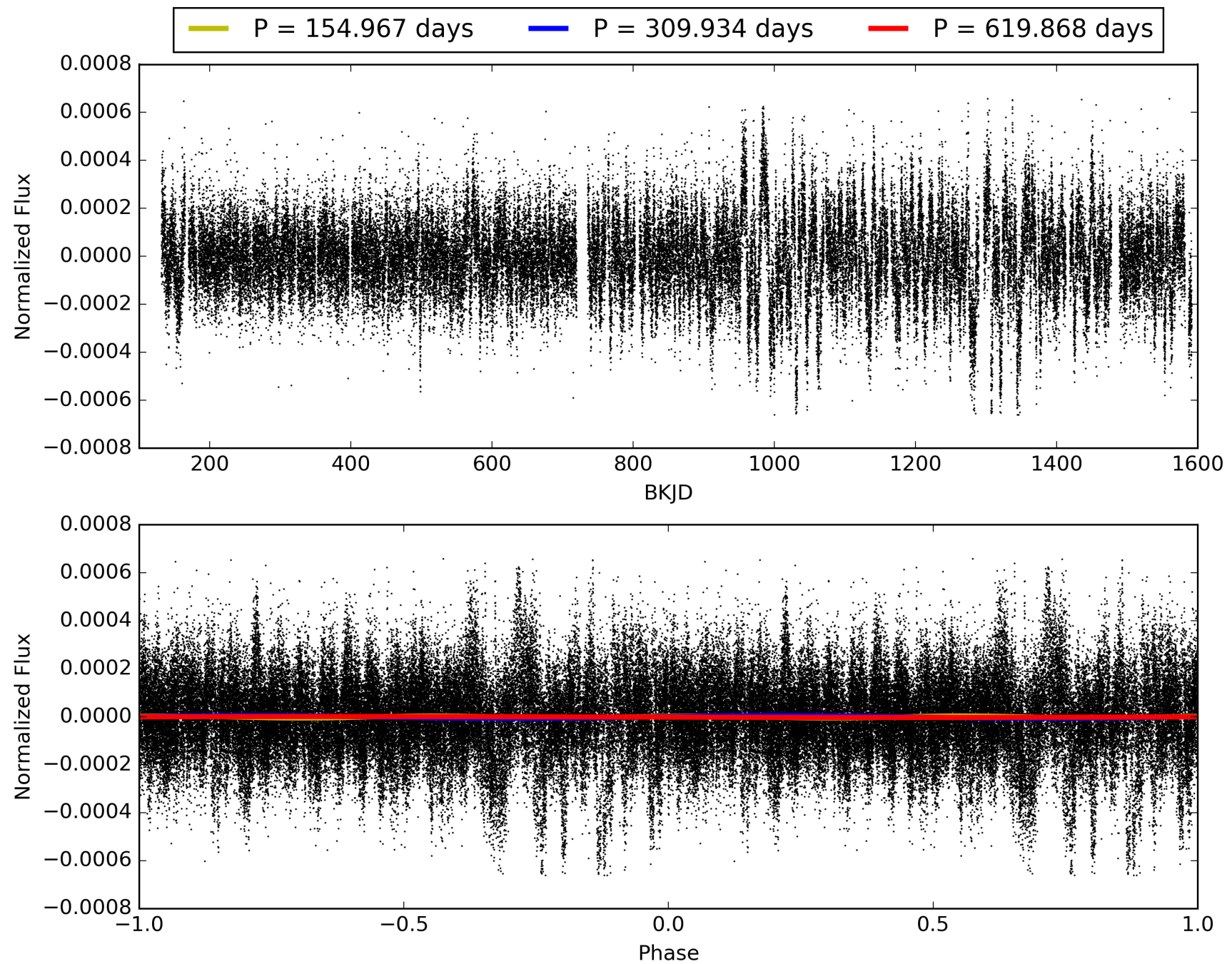
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:30:06 Z

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

TCE 004738095-01, PDC Light Curves

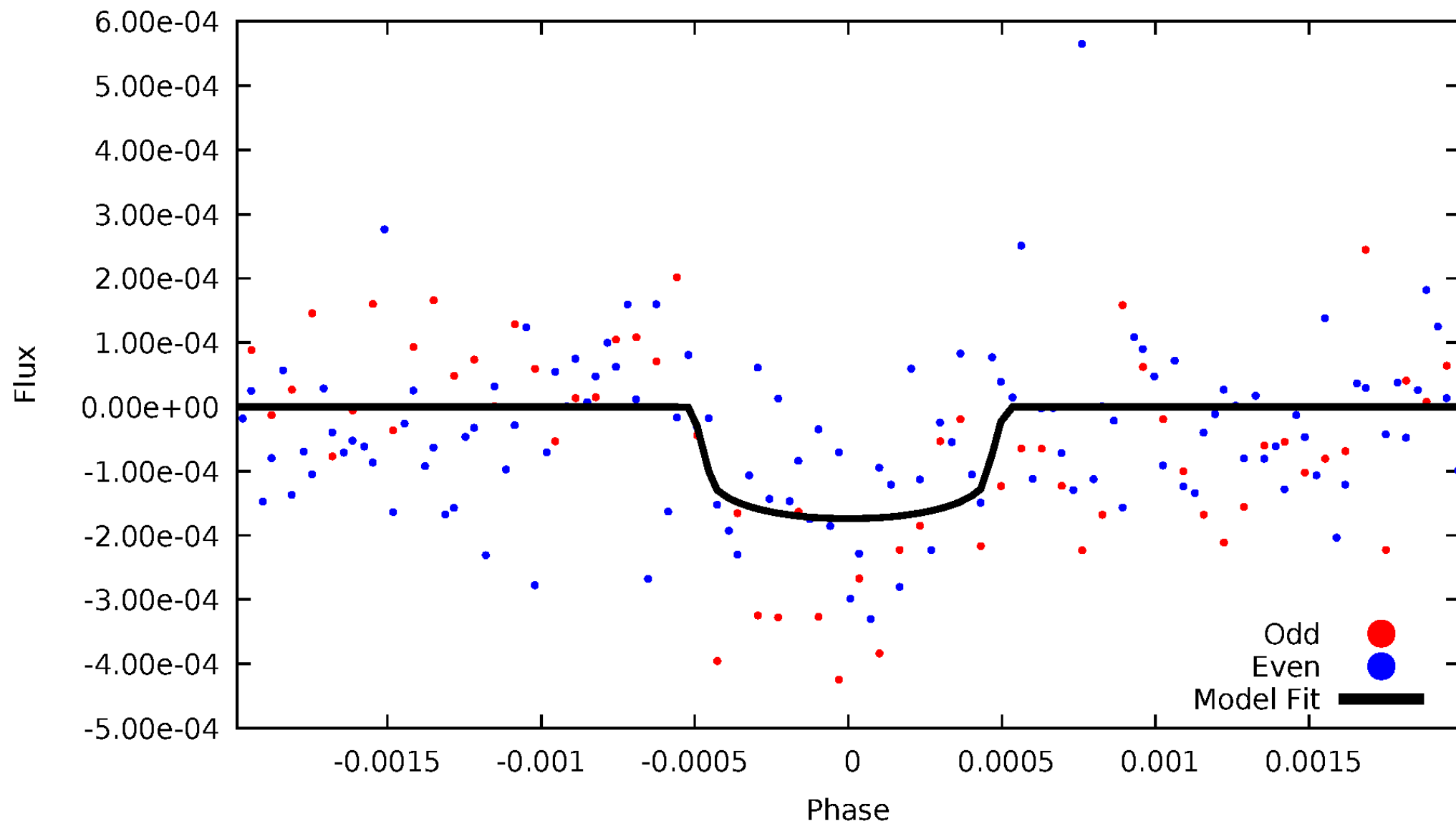


TCE 004738095-01



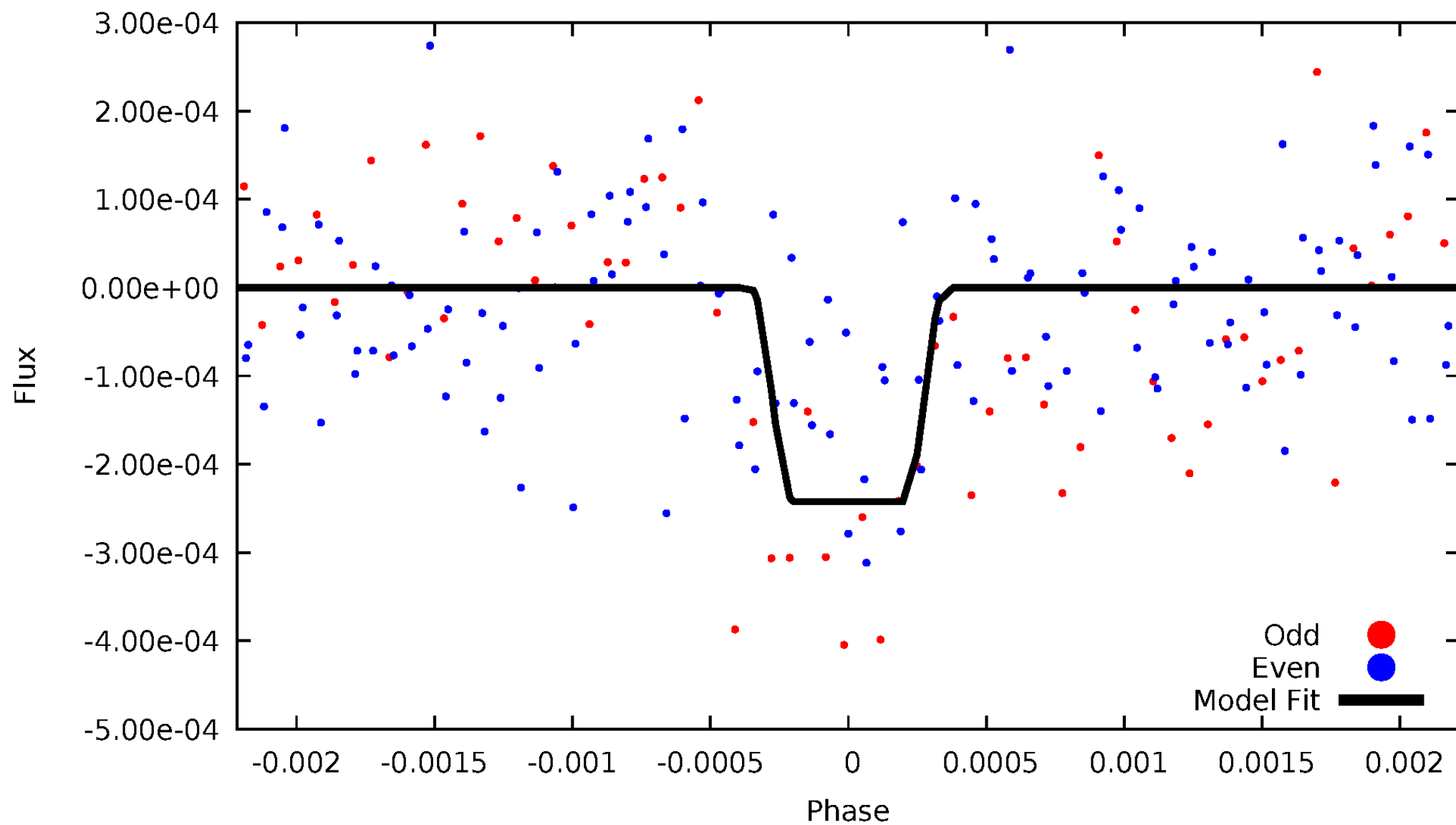
DV Odd/Even

TCE 004738095-01



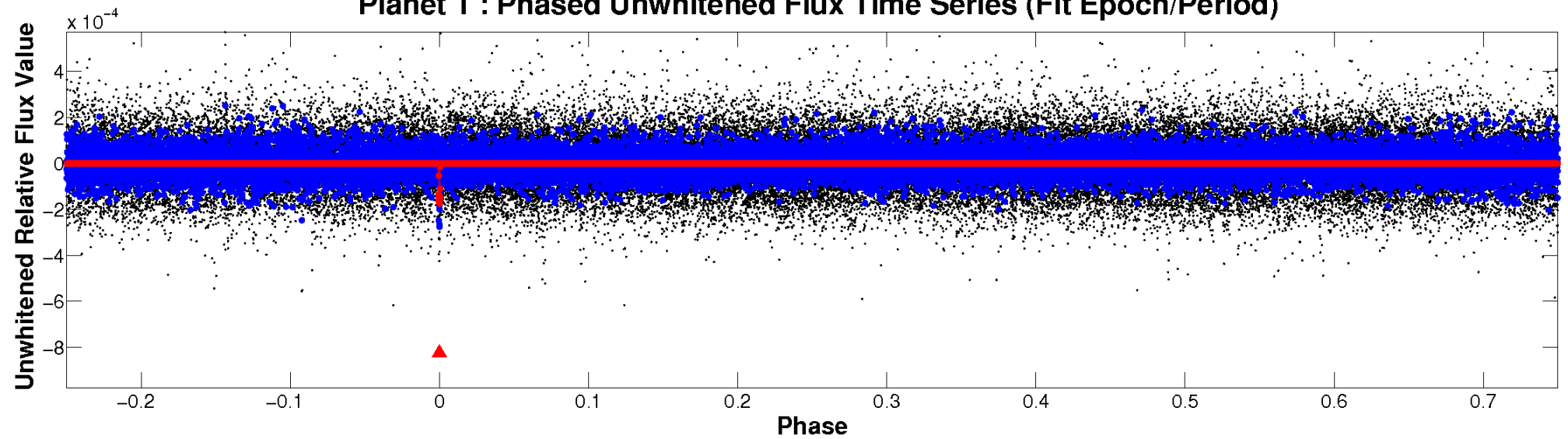
ALT Odd/Even

TCE 004738095-01

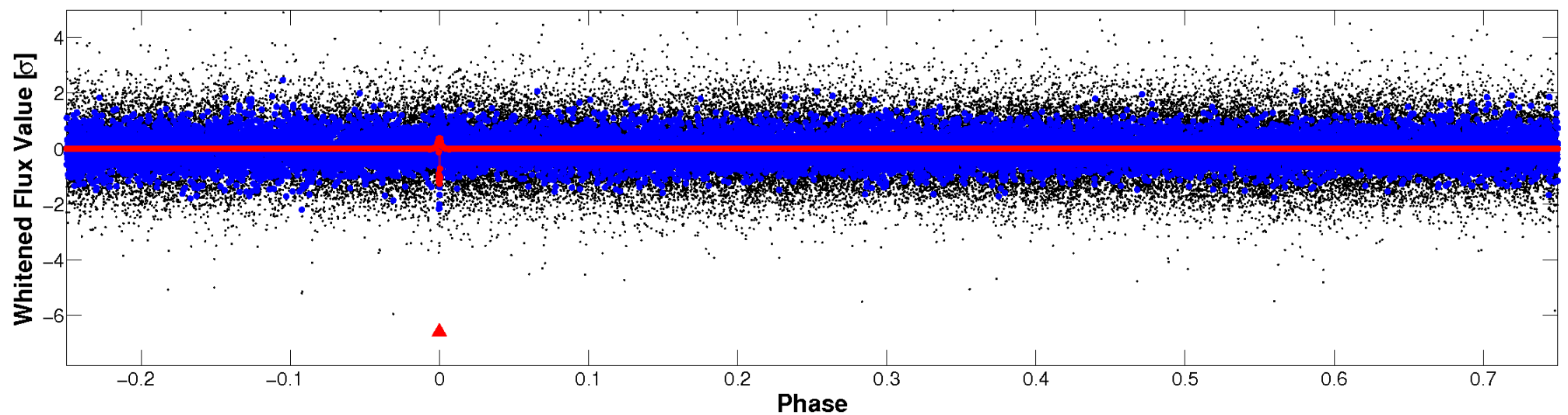


Non-Whitened Vs. Whitened Light Curve

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

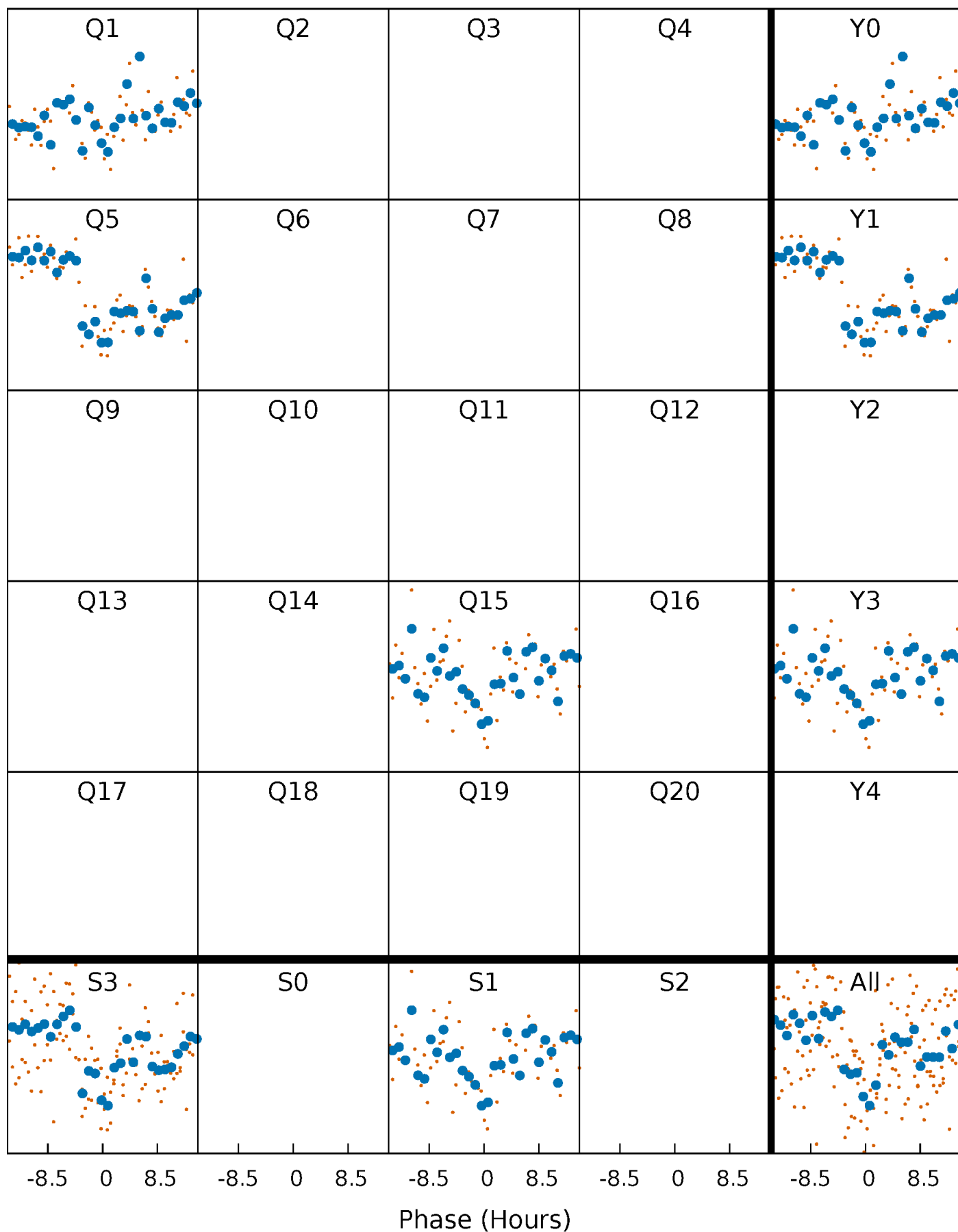


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



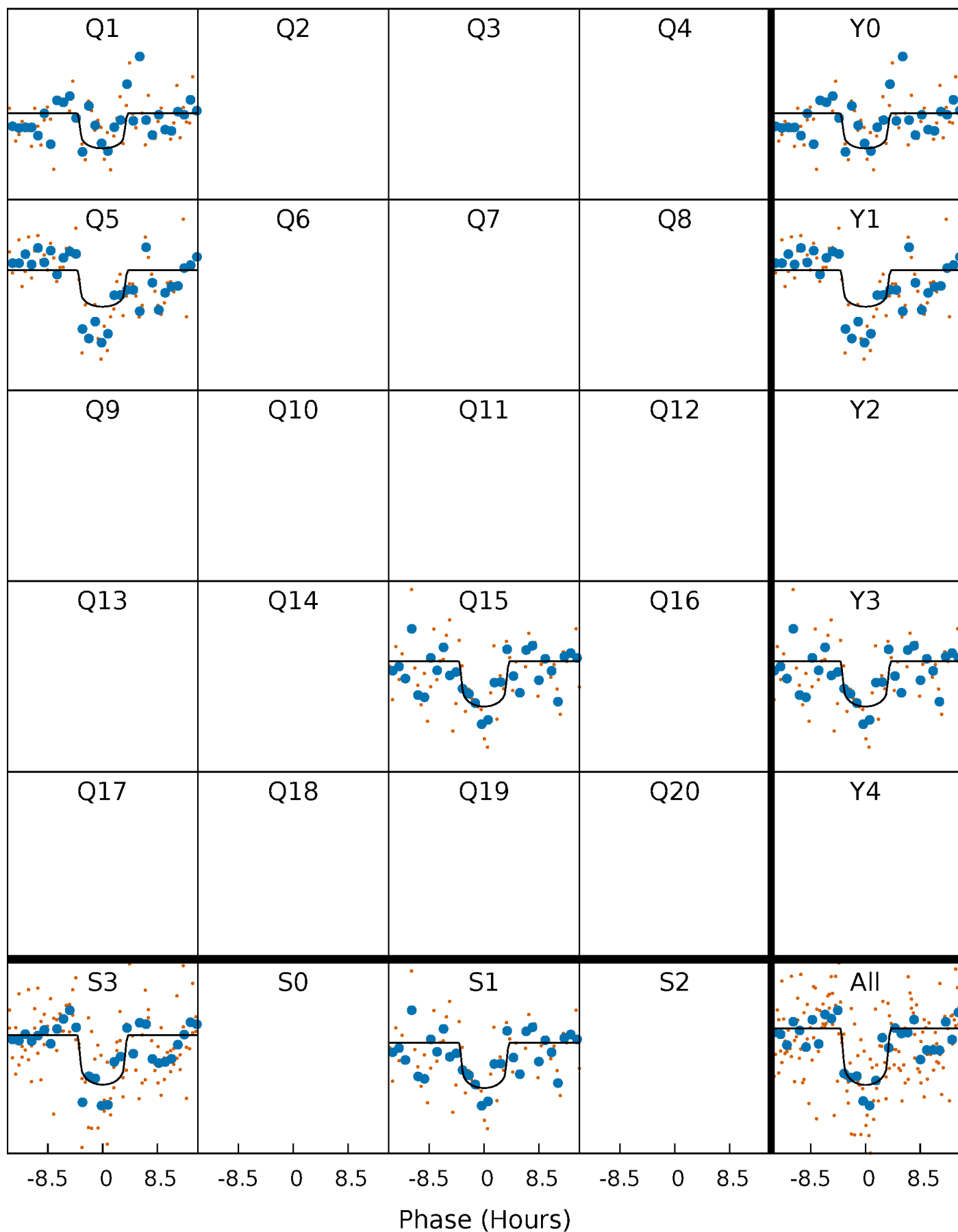
PDC Quarter-Phased Transit Curves

TCE 004738095-01 P=309.933937 Days $T_0=141.984784$ (BKJD)



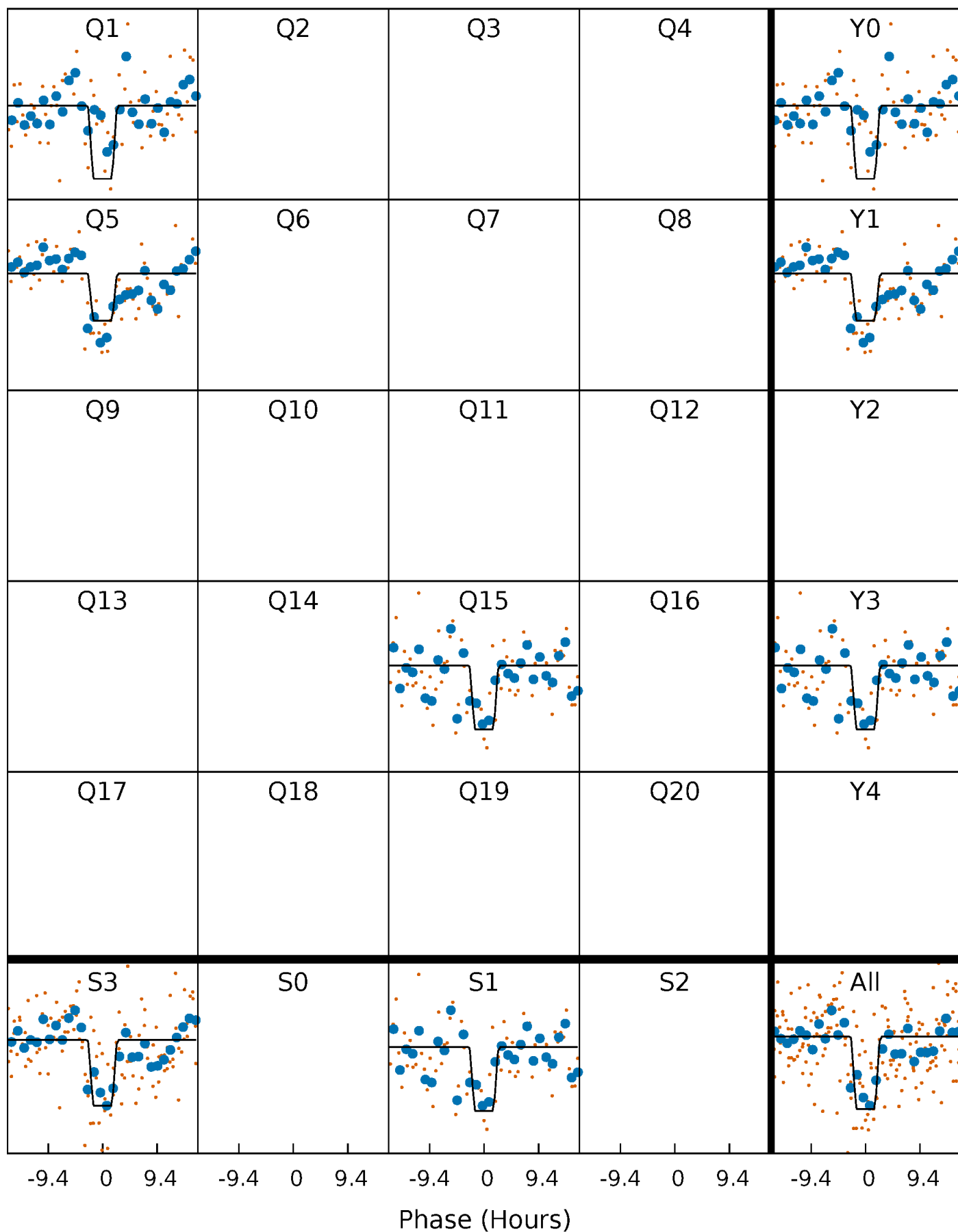
DV Quarter-Phased Transit Curves

TCE 004738095-01 P=309.933937 Days $T_0=141.984784$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

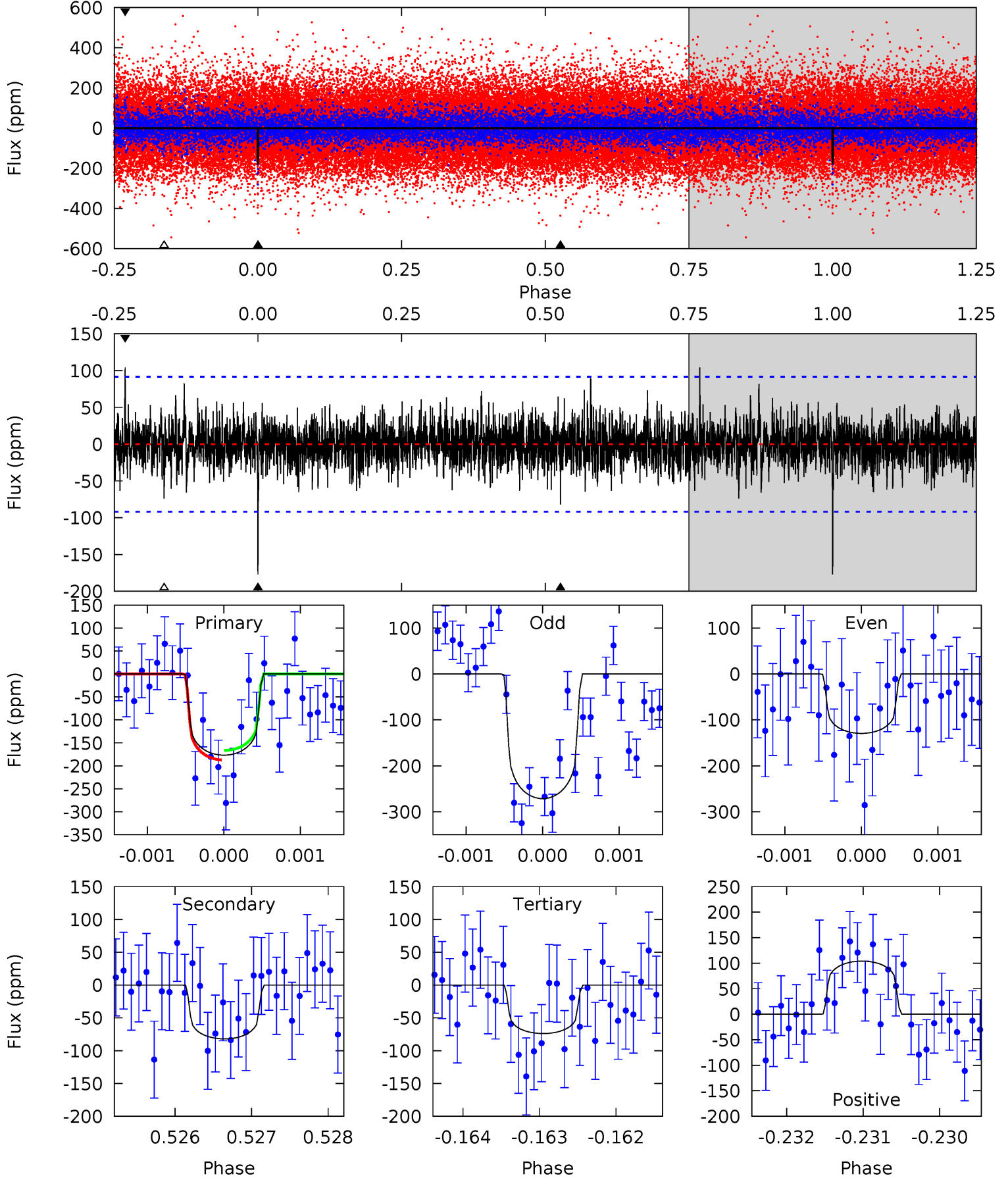
TCE 004738095-01 P=309.936238 Days $T_0=141.977725$ (BKJD)



DV Model-Shift Uniqueness Test

004738095-01, P = 309.933937 Days, E = 141.984784 Days

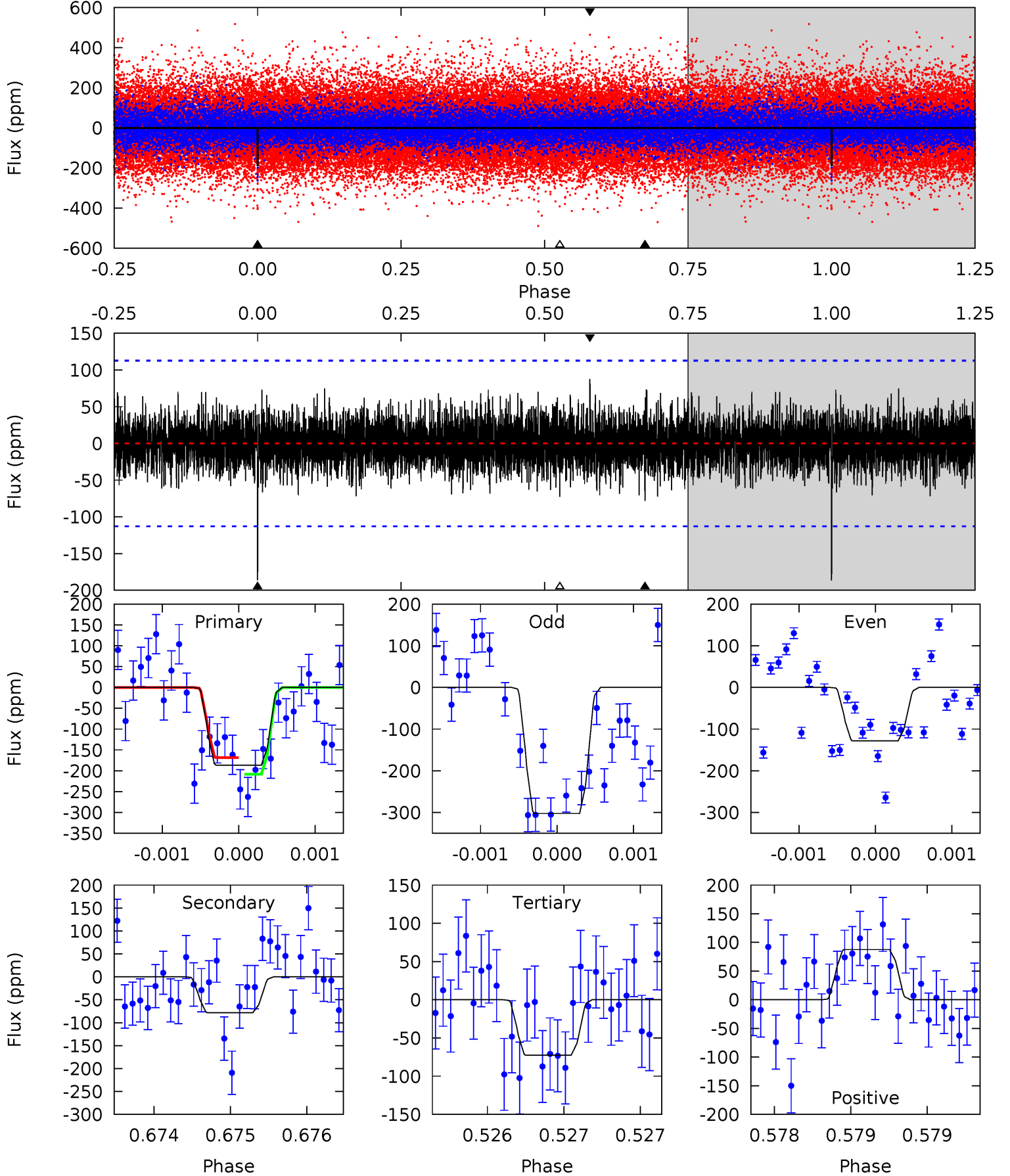
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	4.87	4.39	6.18	5.45	3.28	1.22	6.11	4.32	0.48	-1.31	4.01	1.11	0.37	0.61



Alt Model-Shift Uniqueness Test

004738095-01, $P = 309.936238$ Days, $E = 141.977725$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.13	3.83	3.56	4.29	5.52	3.40	1.07	5.57	4.84	0.27	-0.46	4.05	1.12	0.32	0.97



Stellar Parameters For KIC 004738095

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6299^{+149}_{-204}	$4.325^{+0.081}_{-0.150}$	$0.140^{+0.200}_{-0.300}$	$1.262^{+0.263}_{-0.175}$	$1.236^{+0.110}_{-0.189}$	$0.866^{+0.348}_{-0.343}$
	+2%/-3%	+2%/-3%	+143%/-214%	+21%/-14%	+9%/-15%	+40%/-40%
Source	PHO1	FLK73	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 004738095-01 / KOI 8096.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-82 ± 17	$2.03^{+1.20}_{-1.13}$	450^{+24}_{-21}	5029^{+2535}_{-865}	9929^{+39807}_{-6139}
Alt.	-78 ± 20	$2.25^{+1.20}_{-1.10}$	447^{+25}_{-20}	4771^{+1731}_{-767}	7518^{+22547}_{-4456}

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

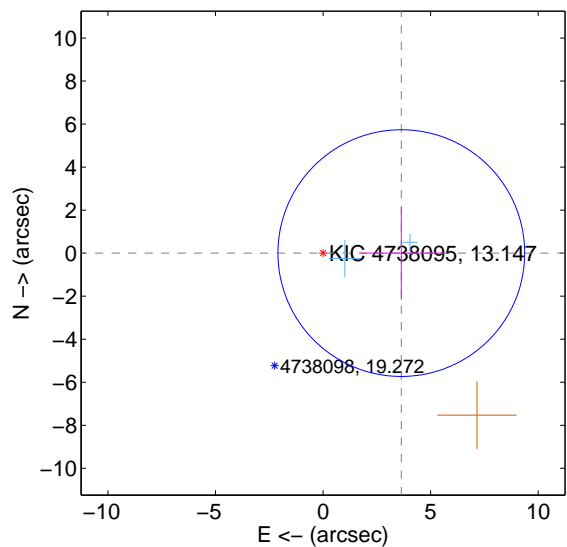
Supplemental centroid analysis for 004738095-01. Kepler magnitude: 13.15. Transit SNR 7.40

There are 2 quarters with good PRF difference image offsets

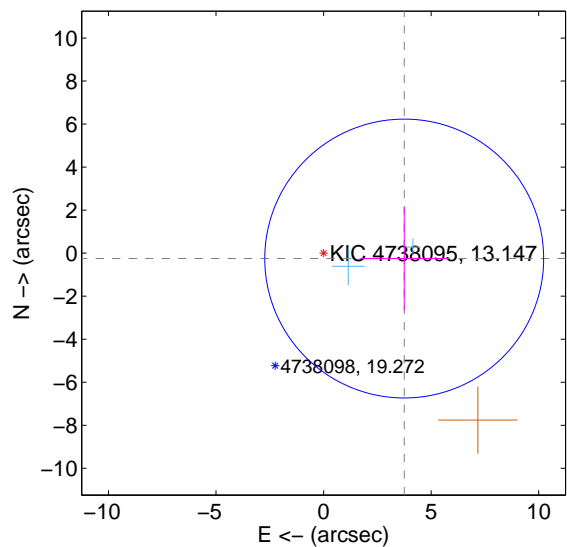
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.638 ± 1.911	1.90	-3.638 ± 1.913	0.004 ± 2.165
PRF-fit source offset from KIC position	3.756 ± 2.160	1.74	-3.748 ± 2.015	-0.249 ± 2.415
photometric centroid source offset	1.82 ± 1.39	1.31	-1.71 ± 1.35	0.60 ± 1.66

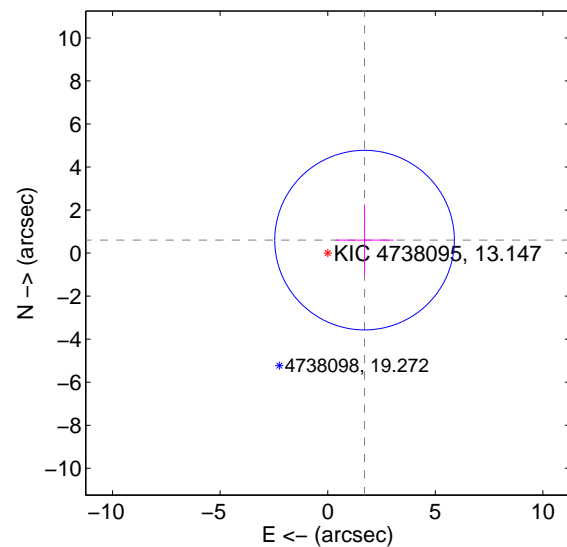
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

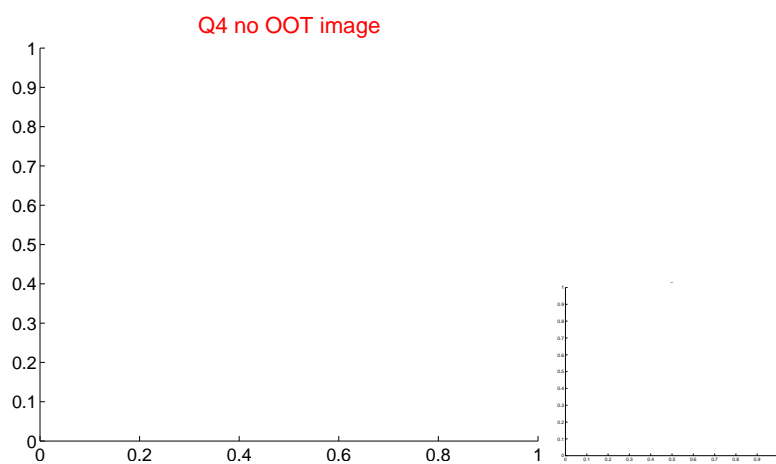
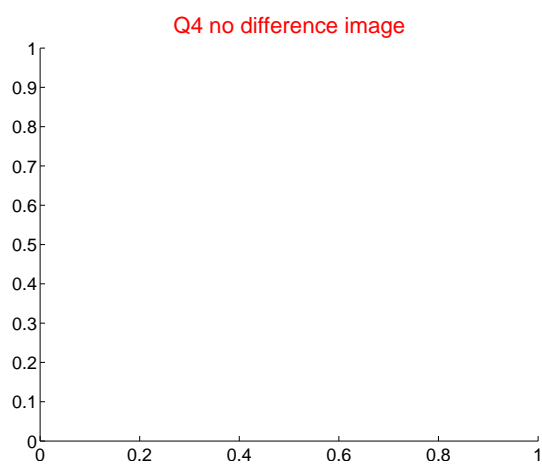
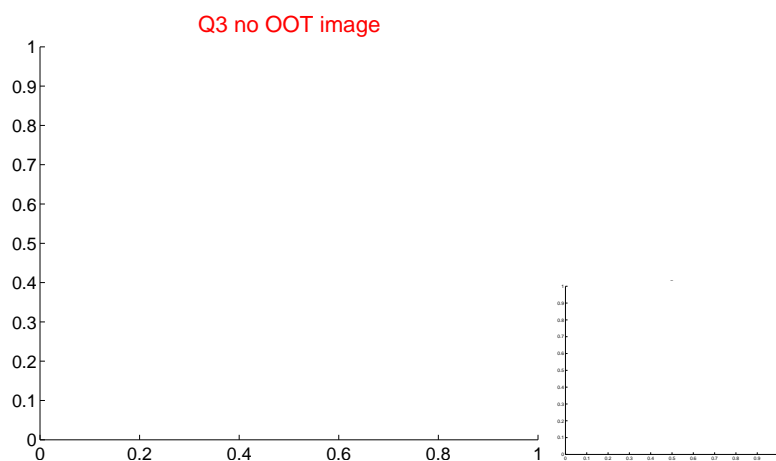
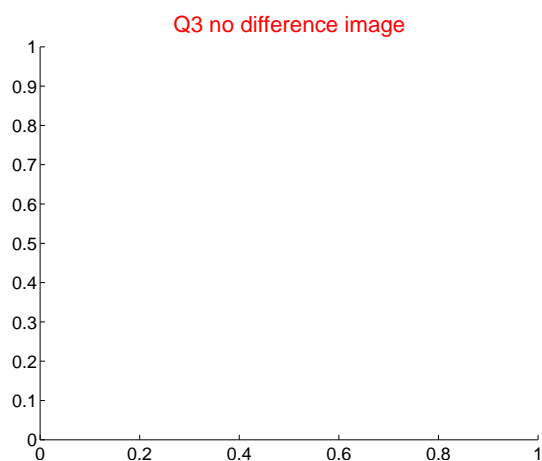
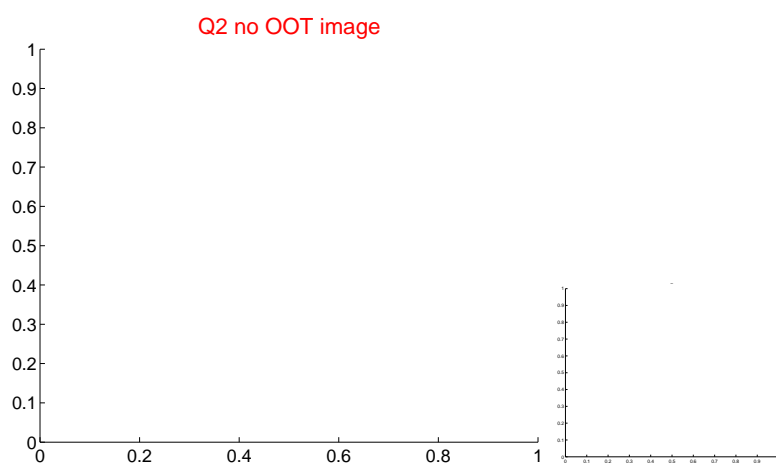
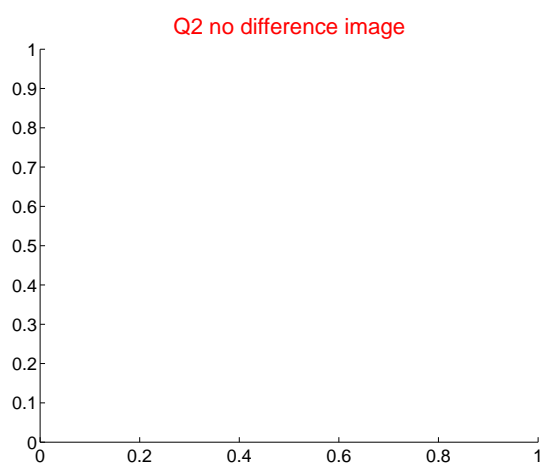
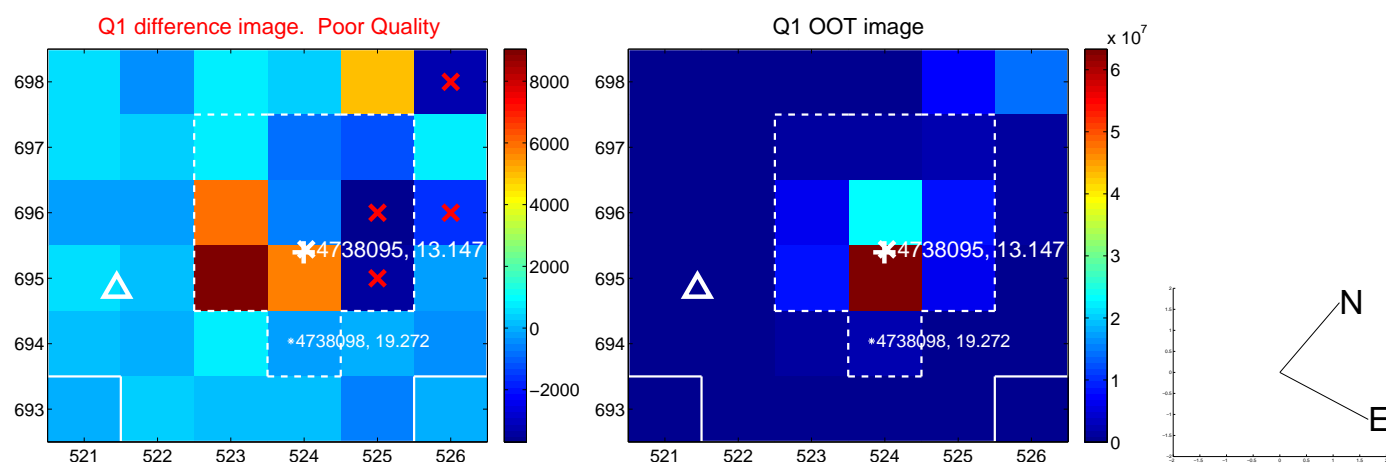


offset from photometric centroids

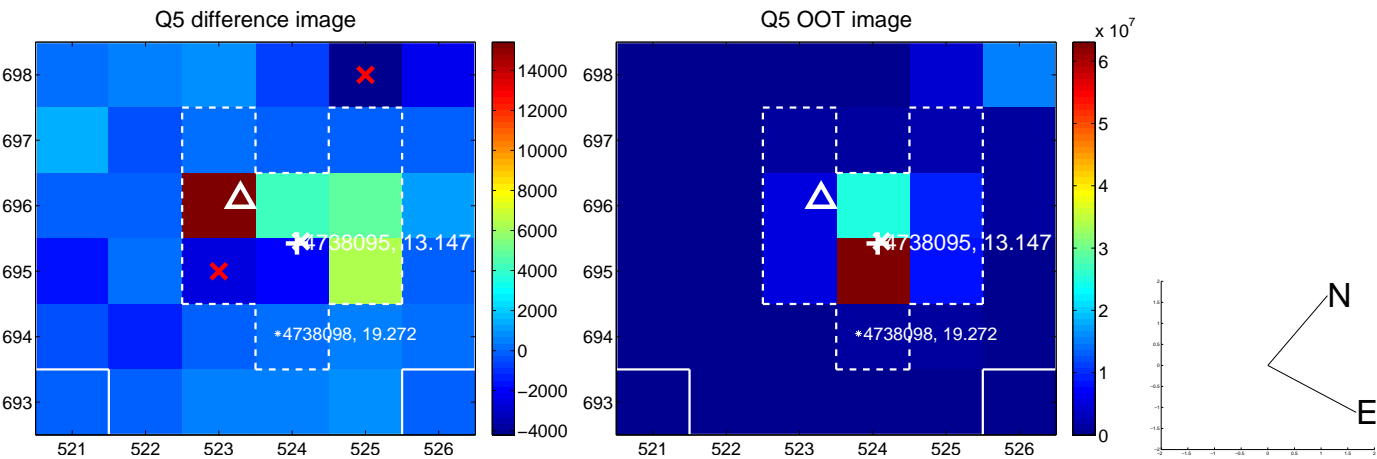


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



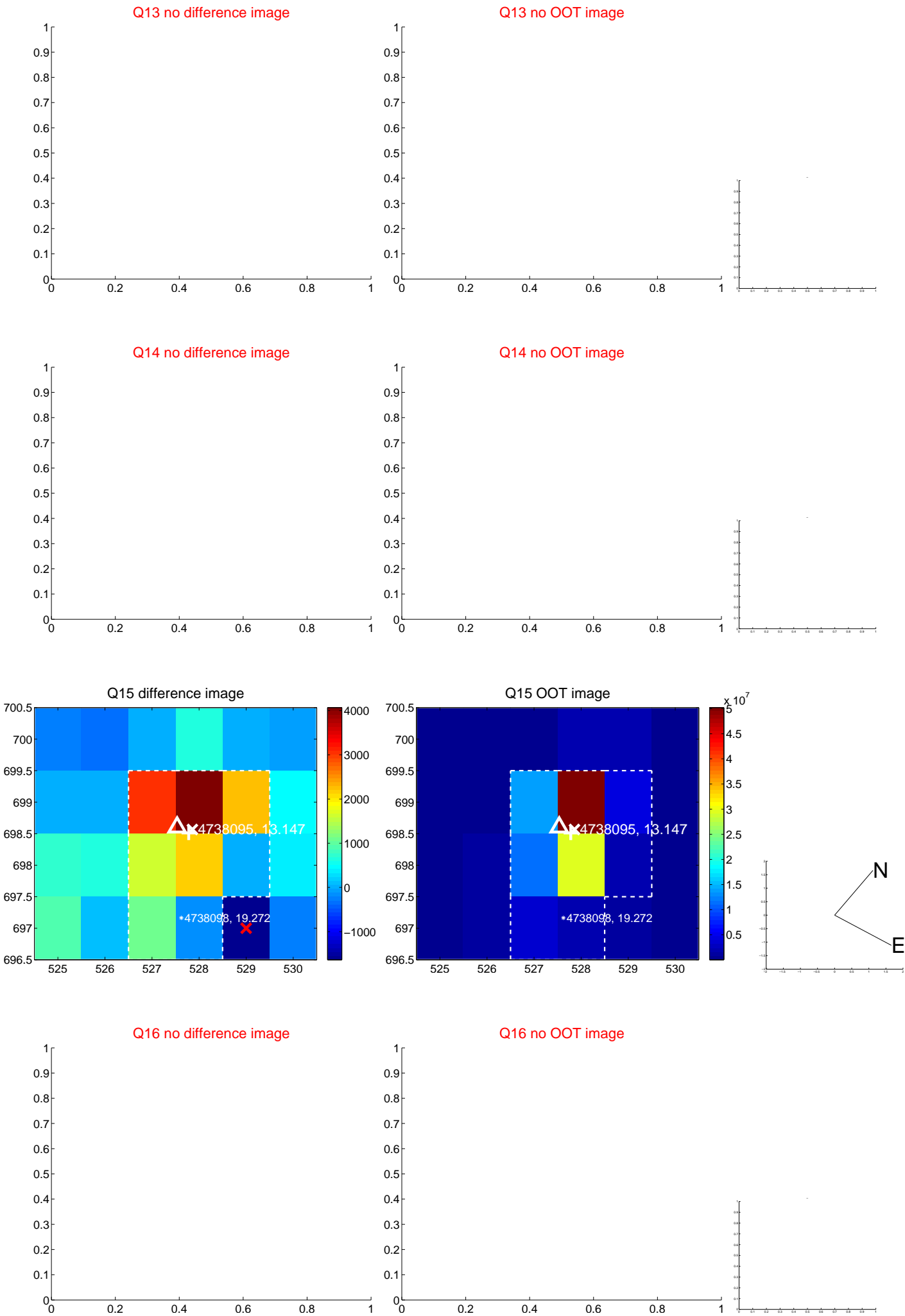
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



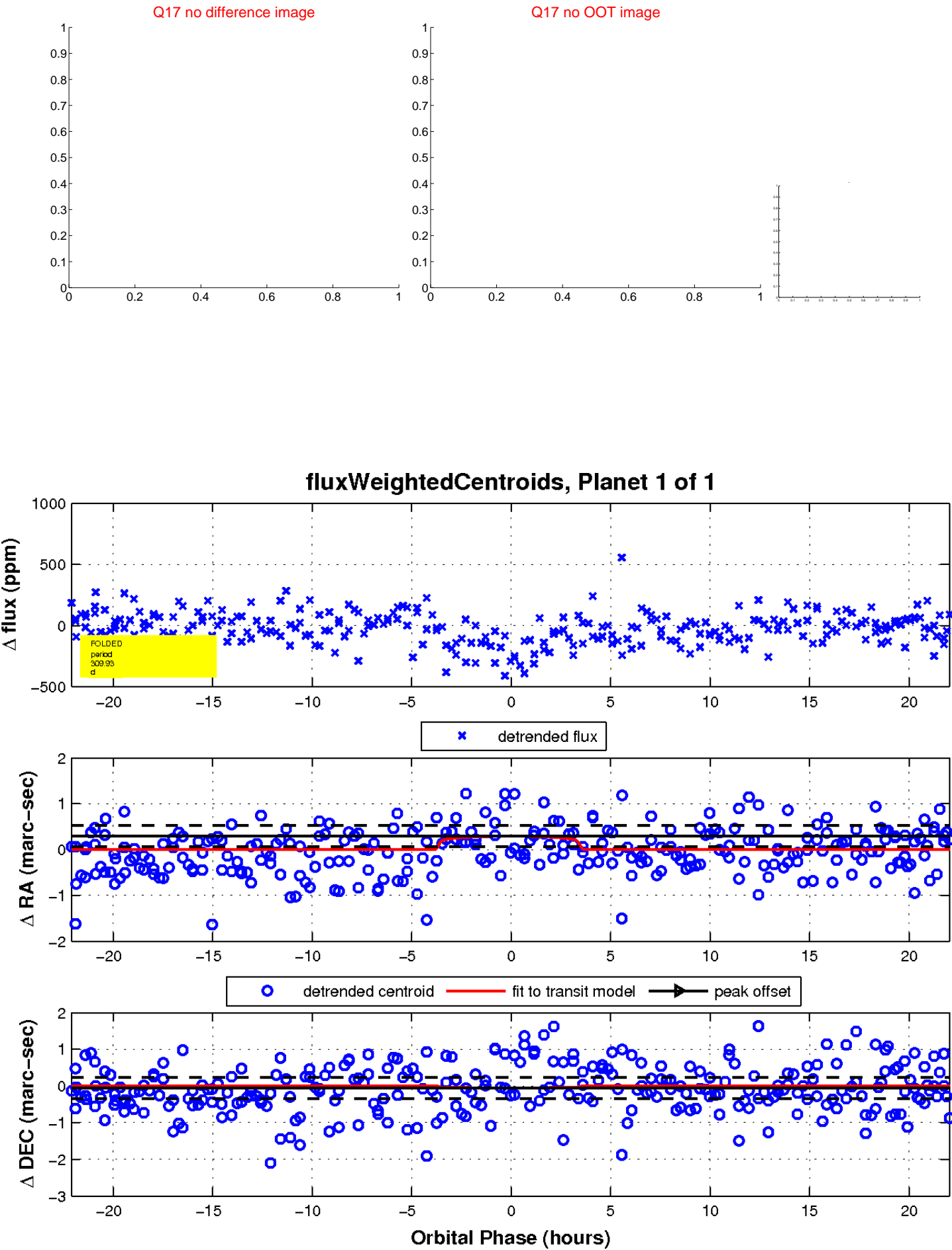
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

