

KIC 007909956

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})
007909956-02	OBS	No	372.209169	156.625457	1039.6	9.178	11.1	9.6	108.39	3415	391.92	1349.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007909956-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—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.

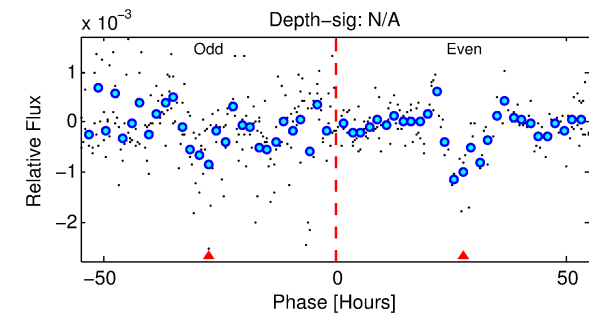
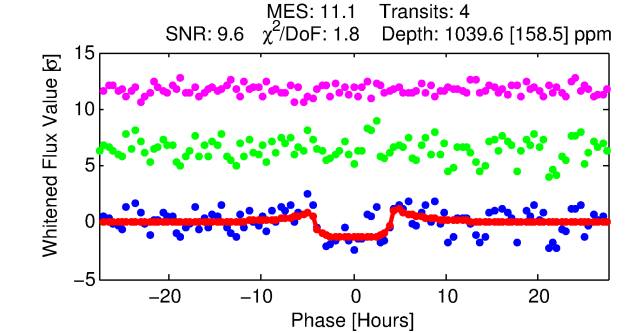
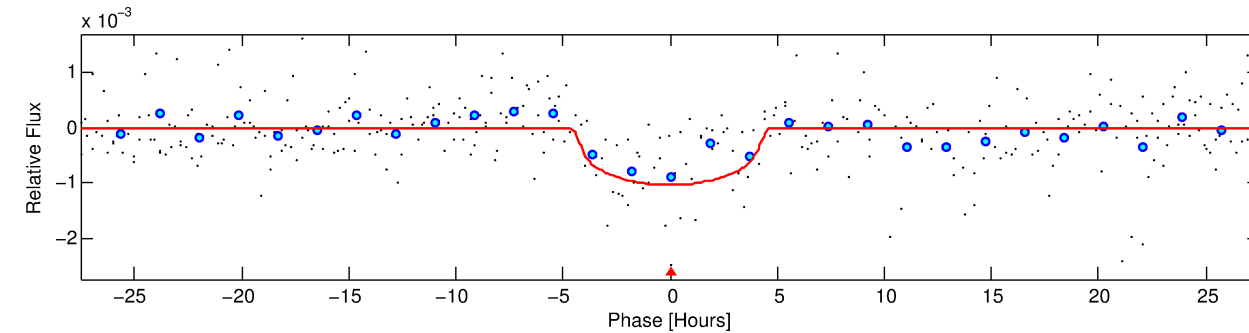
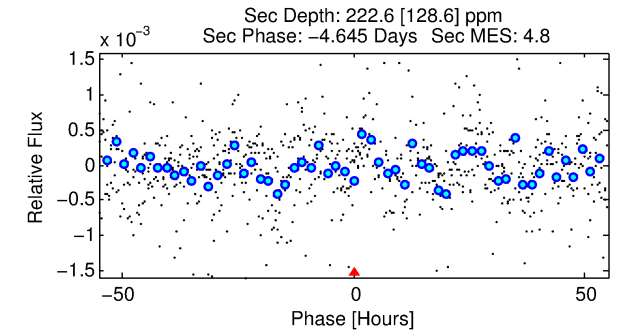
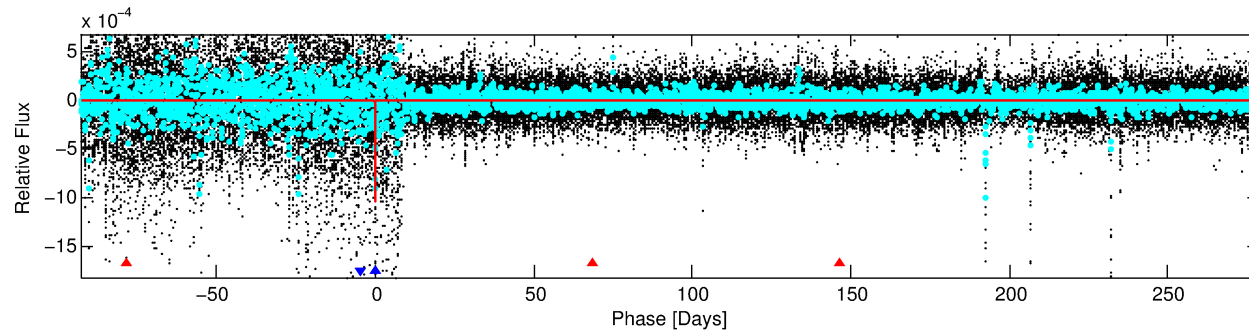
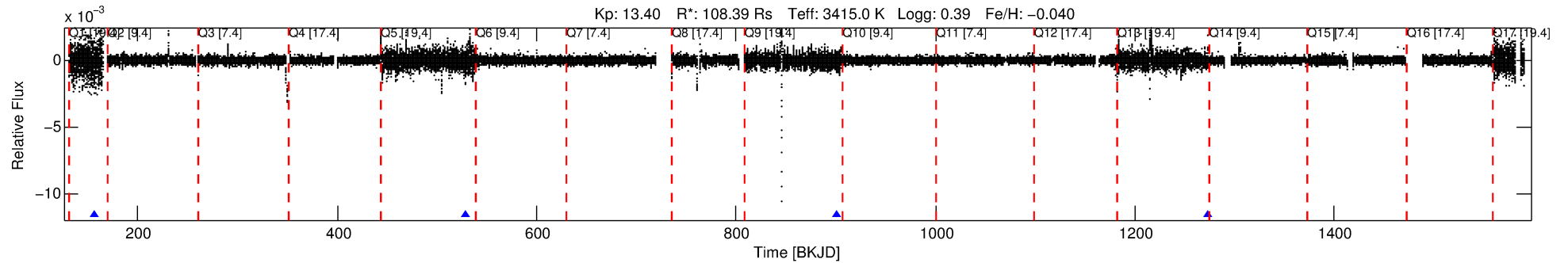
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007909956-02

No Significant Match Found

DV One-Page Summary

KIC: 7909956 Candidate: 2 of 2 Period: 372.209 d



DV Fit Results:

Period = 372.20917 [0.01025] d
Epoch = 156.6255 [0.0128] BKJD
Rp/R* = 0.0331 [0.0118]
a/R* = 213.11 [188.30]
b = 0.77 [0.48]
Seff = 1349.20 [633.39]
Teq = 1545 [181] K
Rp = 391.92 [179.84] Re
a = 1.0301 [0.2885] AU
Ag = 0.85 [0.86] [-0.18 σ]
Teffp = 2292 [531] K [1.33 σ]

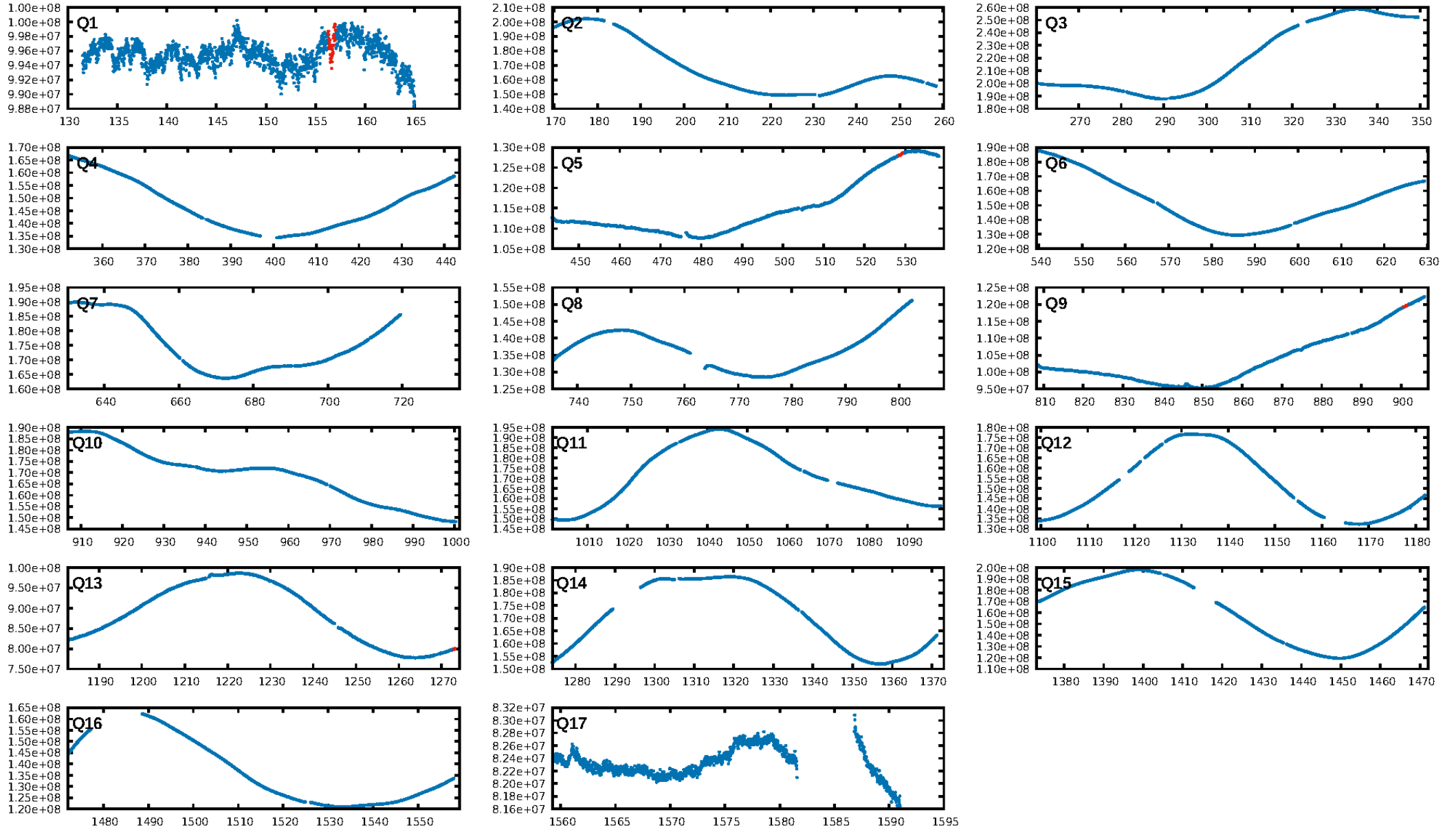
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [346.95 σ]
ModelChiSquare2-sig: 2.0%
ModelChiSquareGof-sig: 11.1%
Bootstrap-pfa: 8.74e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.7902
Centroid-sig: 64.6%
Centroid-so: 2.941 arcsec [4.82 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [3/3]

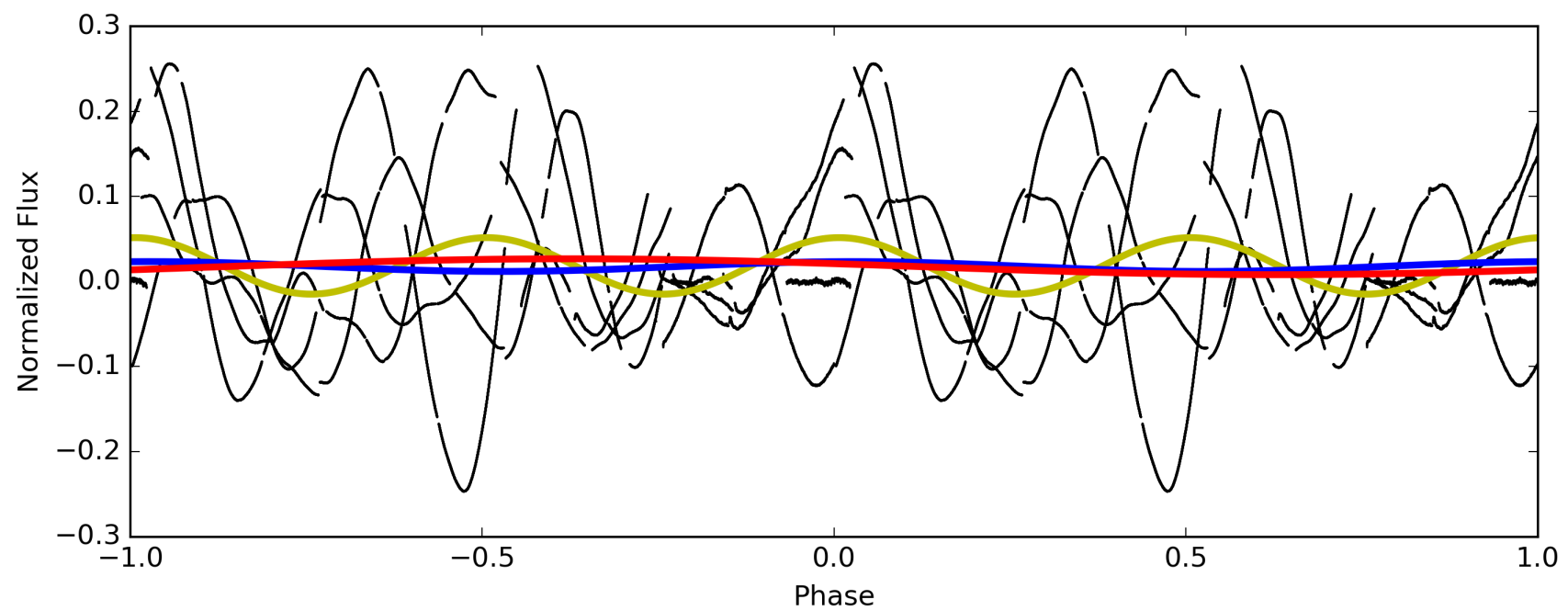
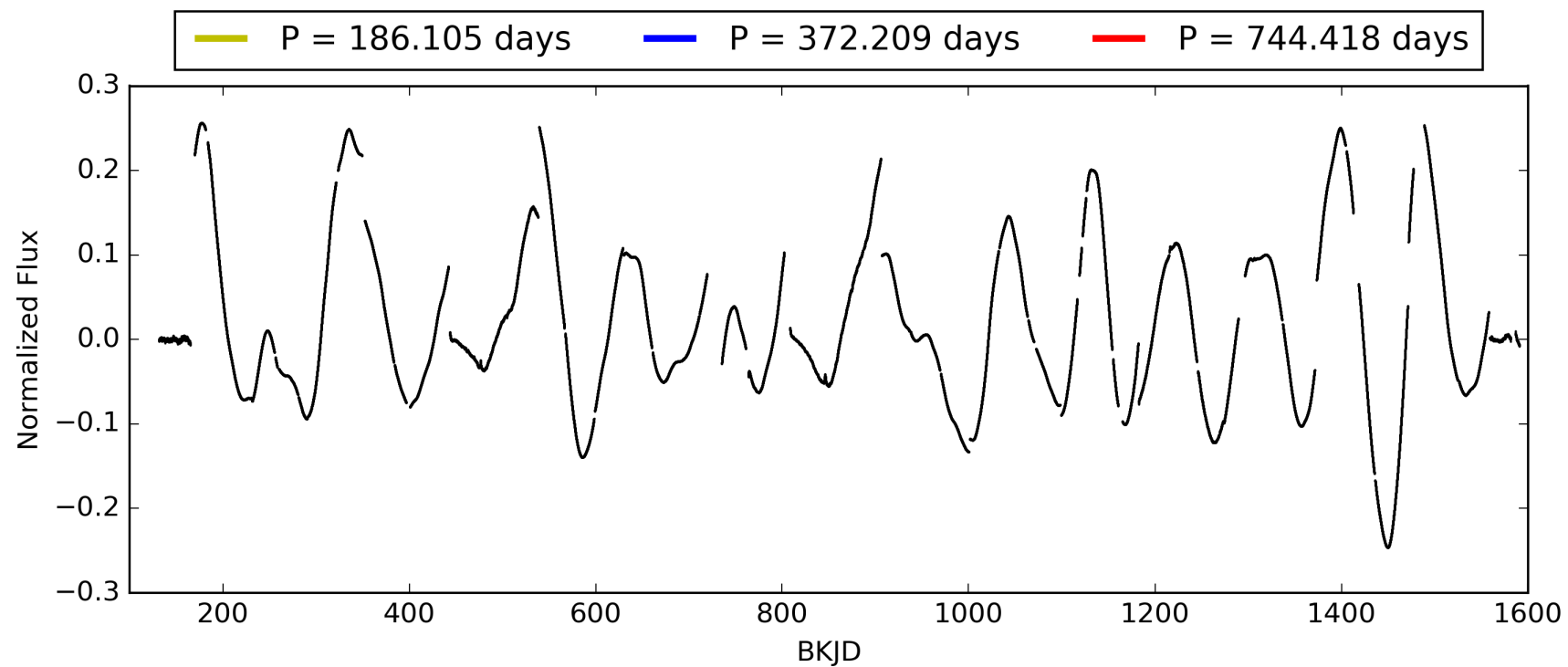
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:25:59 Z

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

TCE 007909956-02, PDC Light Curves

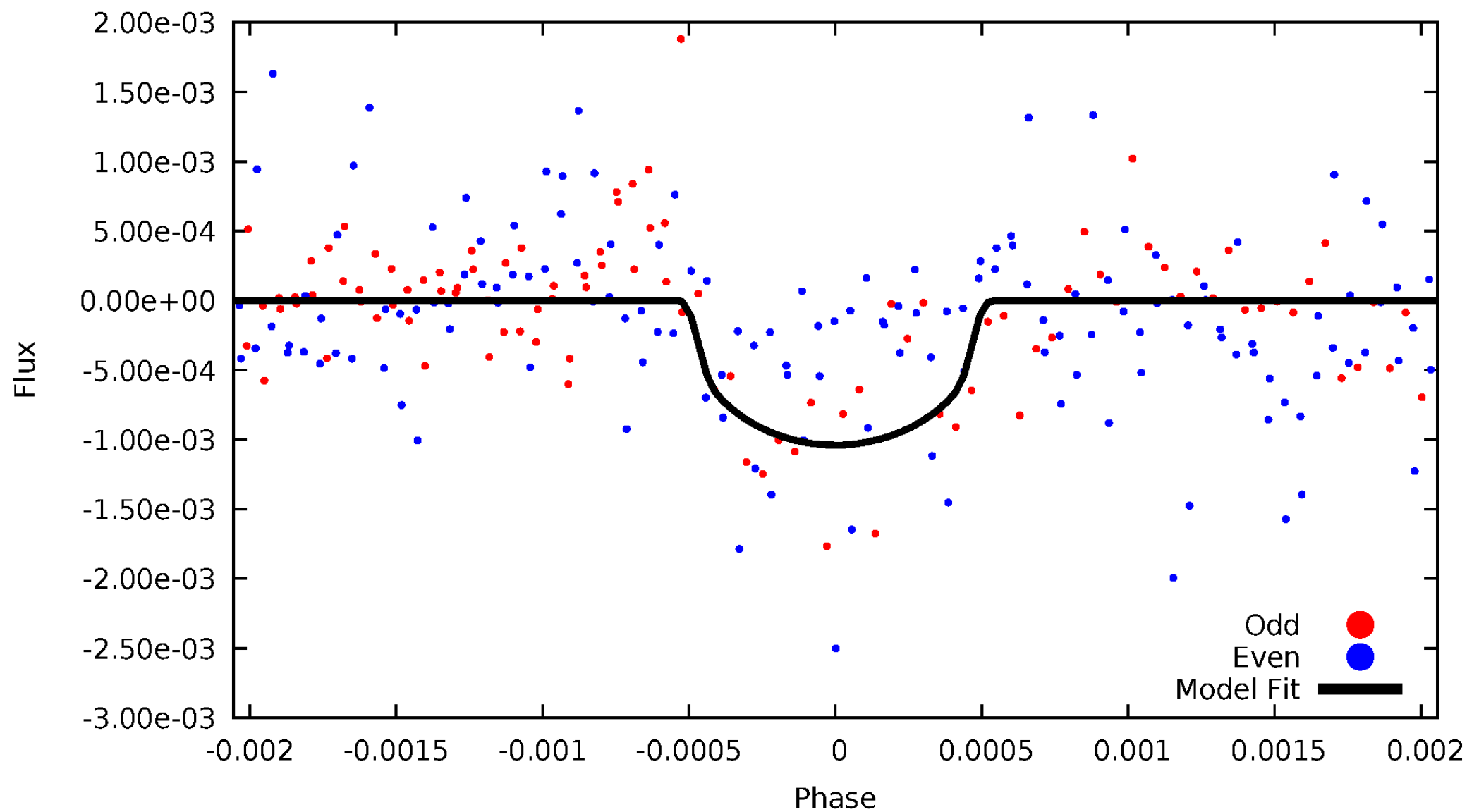


TCE 007909956-02



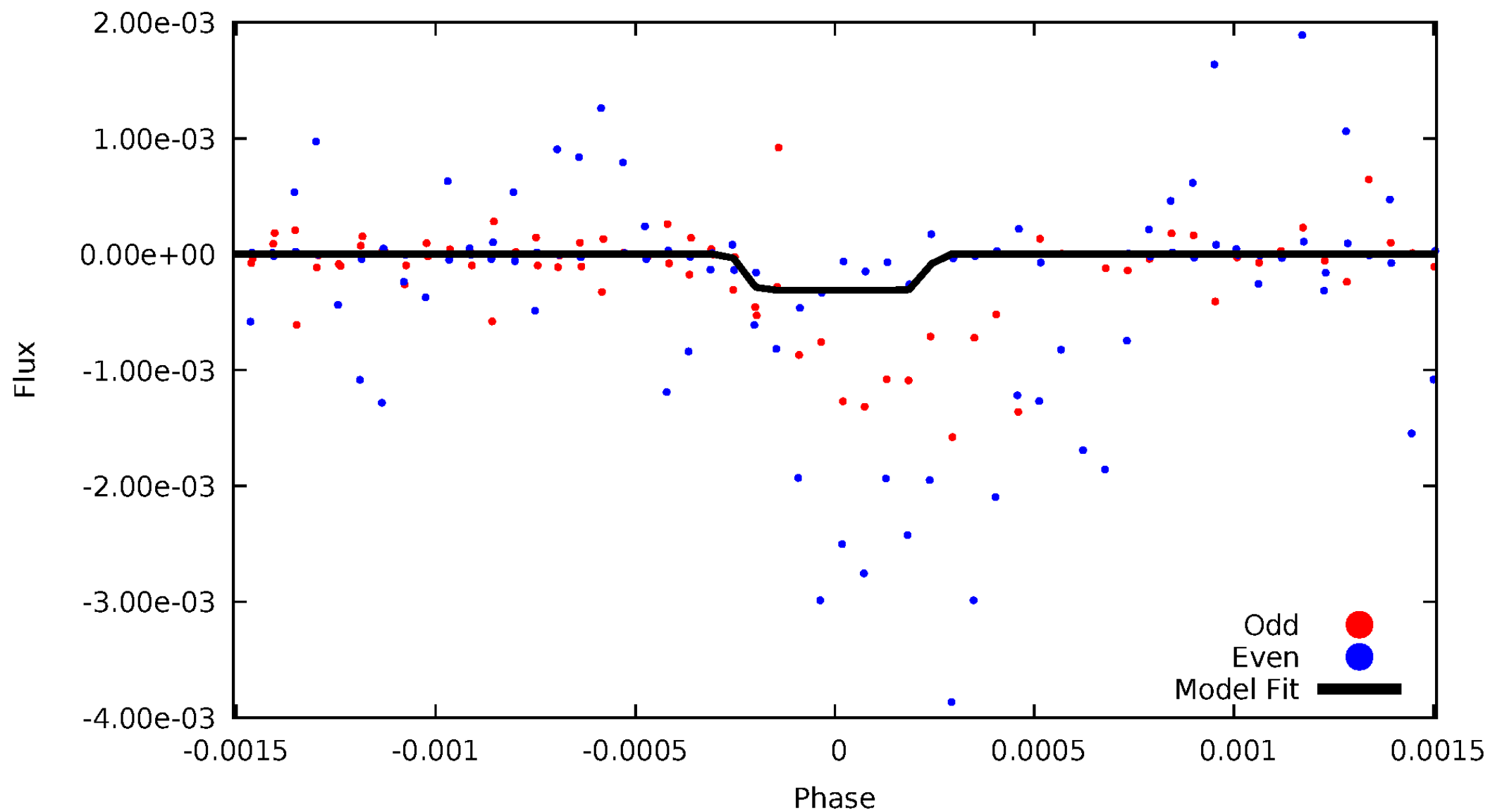
DV Odd/Even

TCE 007909956-02



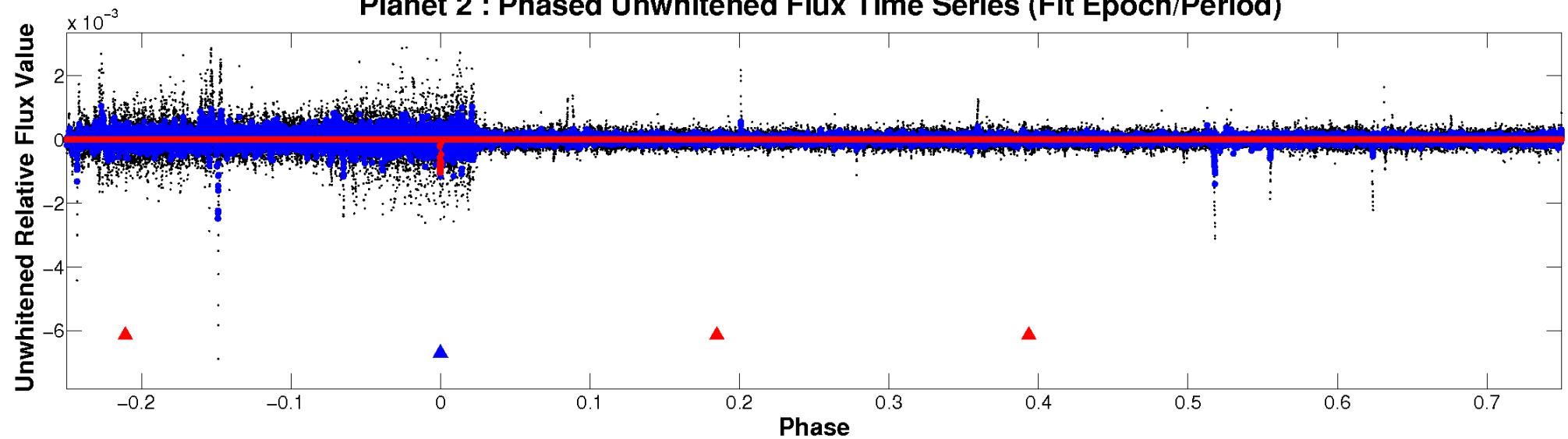
ALT Odd/Even

TCE 007909956-02

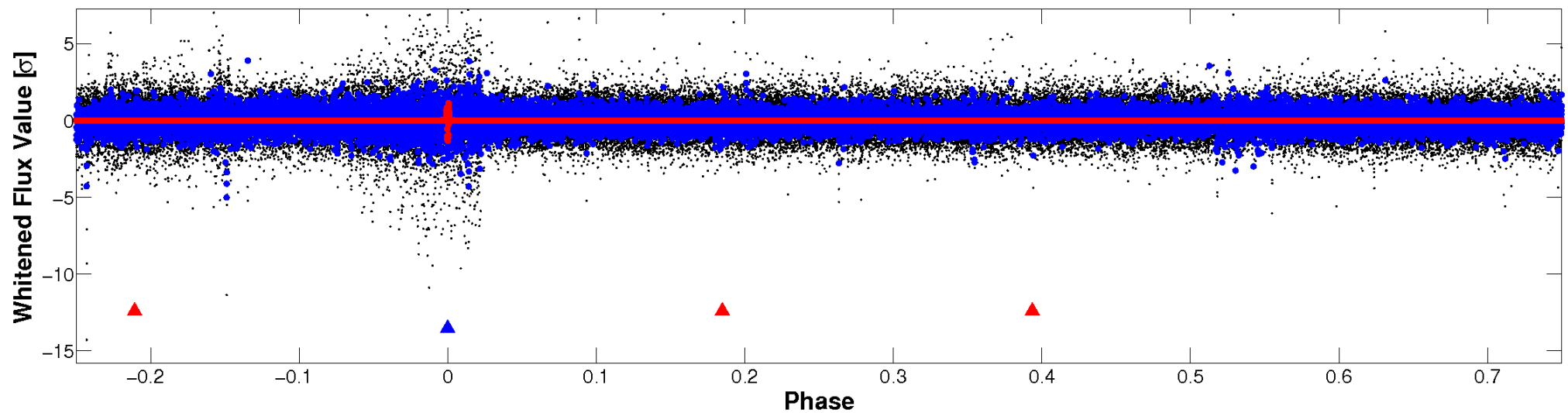


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

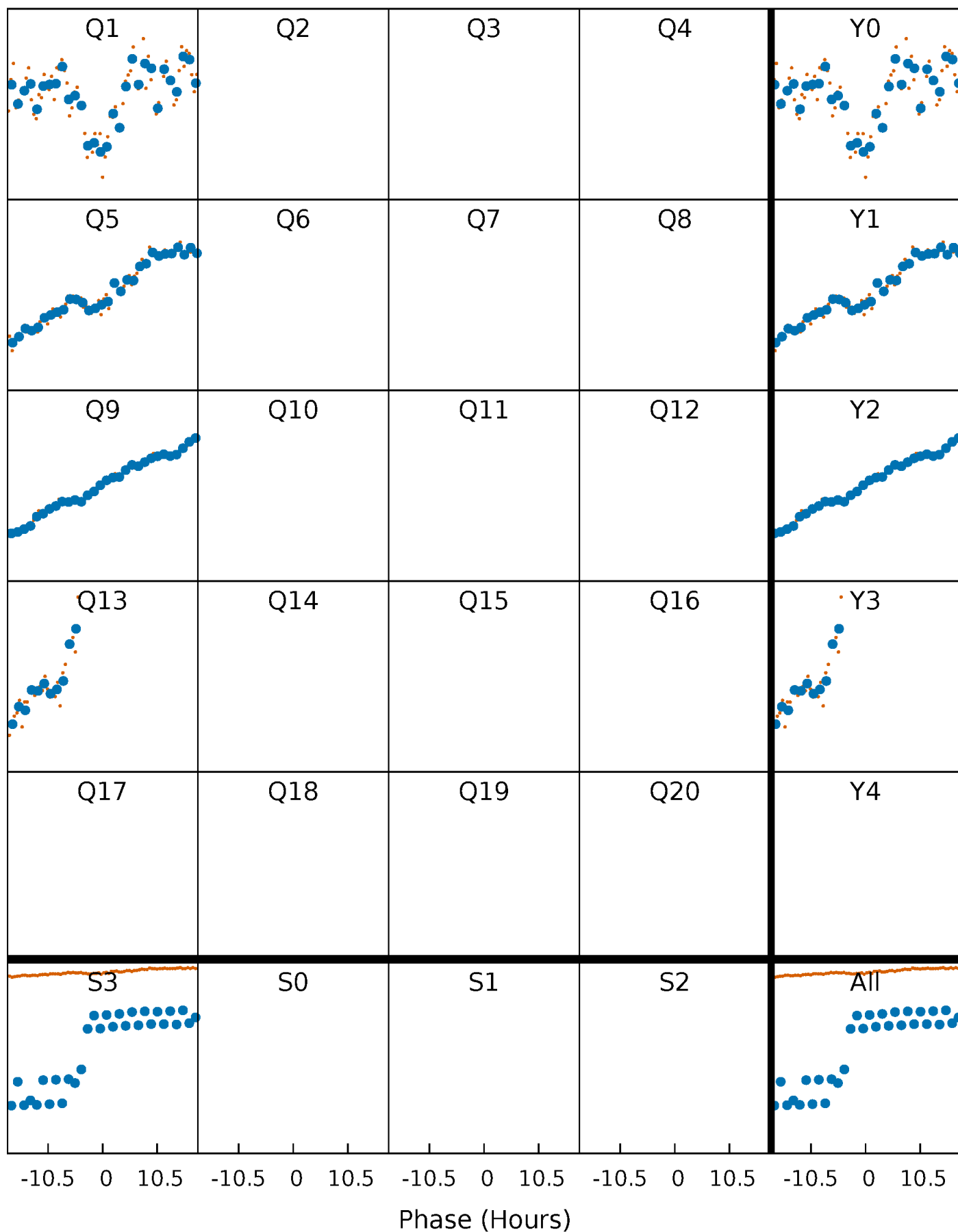


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



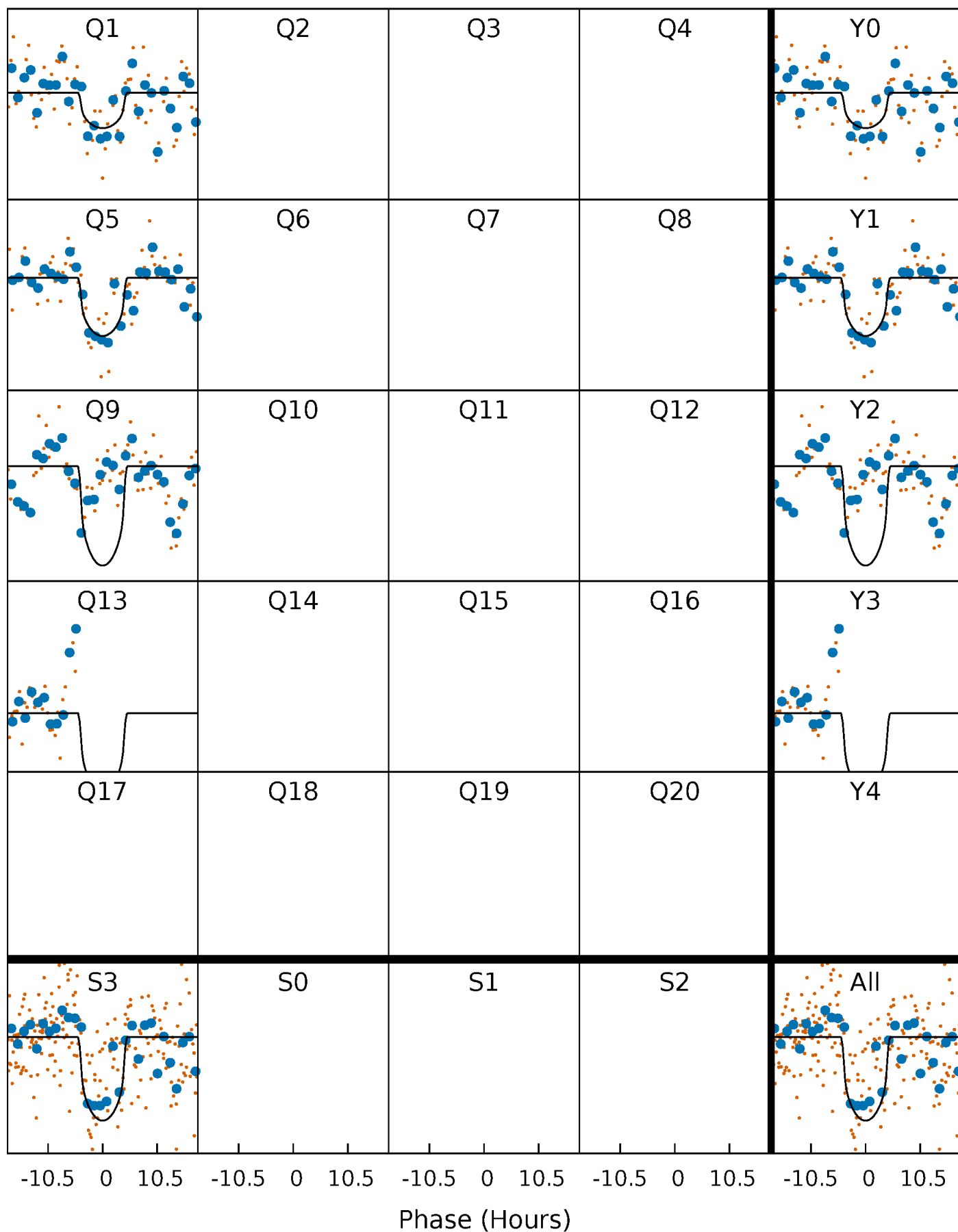
PDC Quarter-Phased Transit Curves

TCE 007909956-02 $P=372.209169$ Days $T_0=156.625457$ (BKJD)



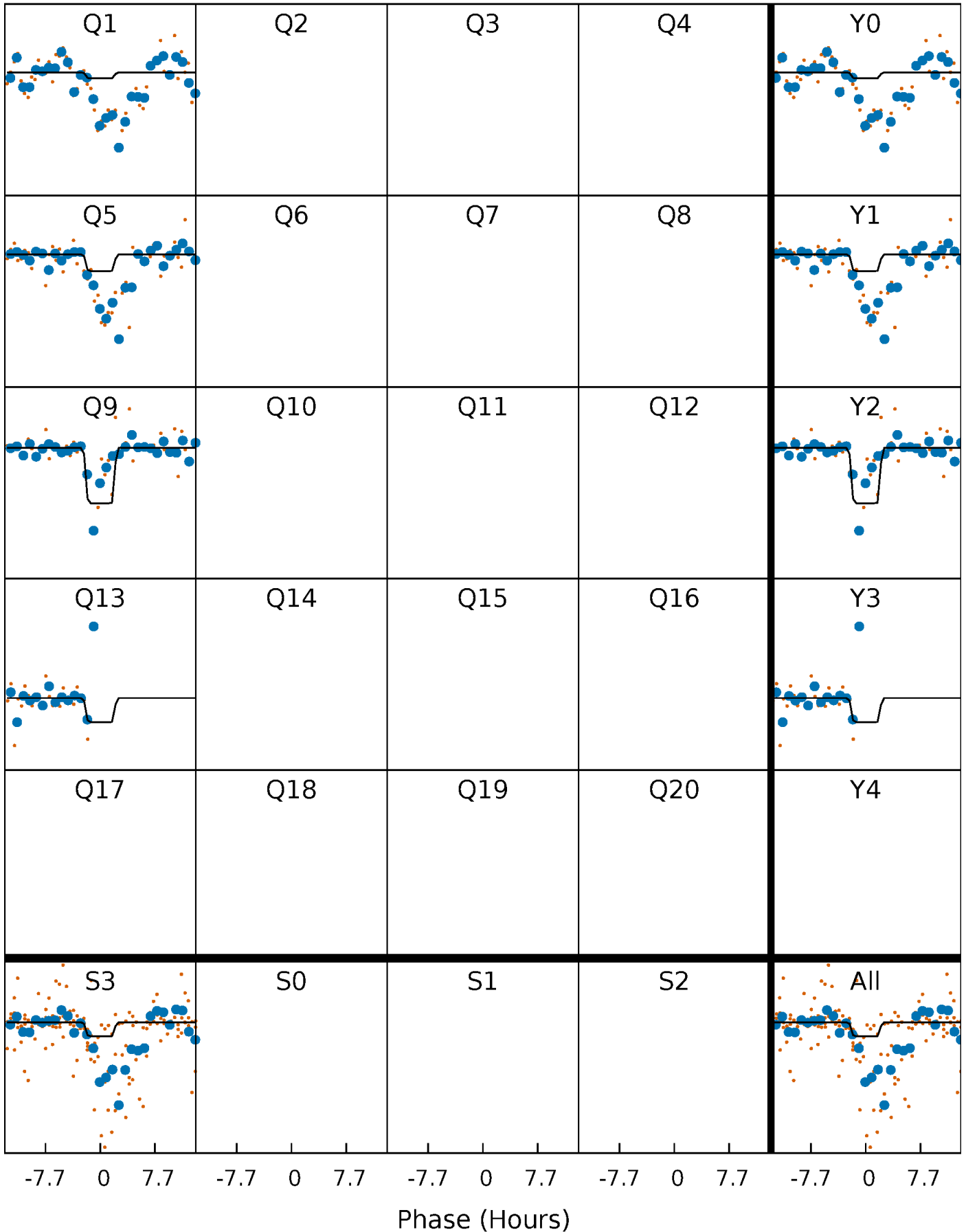
DV Quarter-Phased Transit Curves

TCE 007909956-02 $P=372.209169$ Days $T_0=156.625457$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

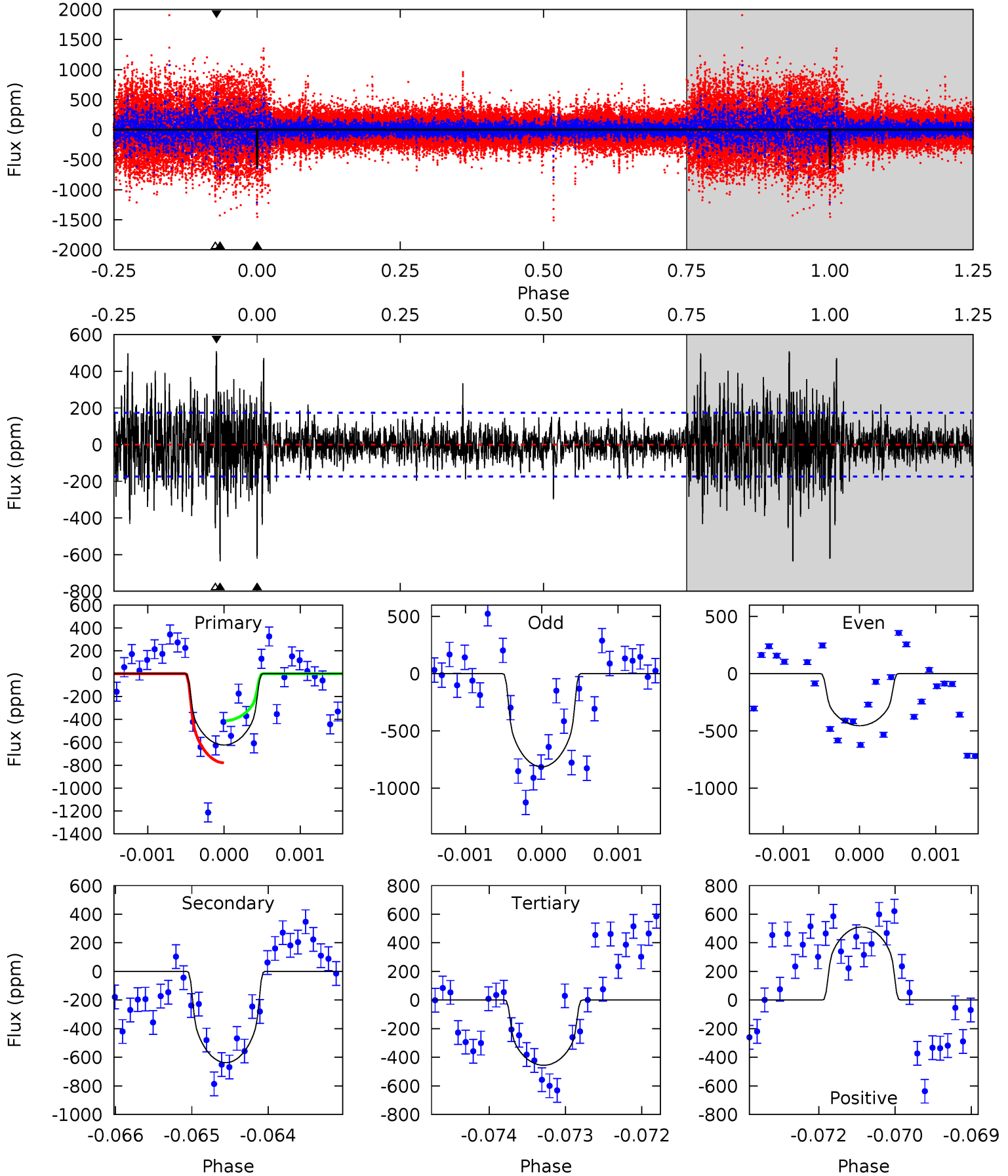
TCE 007909956-02 $P=372.197295$ Days $T_0=156.517041$ (BKJD)



DV Model-Shift Uniqueness Test

007909956-02, P = 372.209169 Days, E = 156.625457 Days

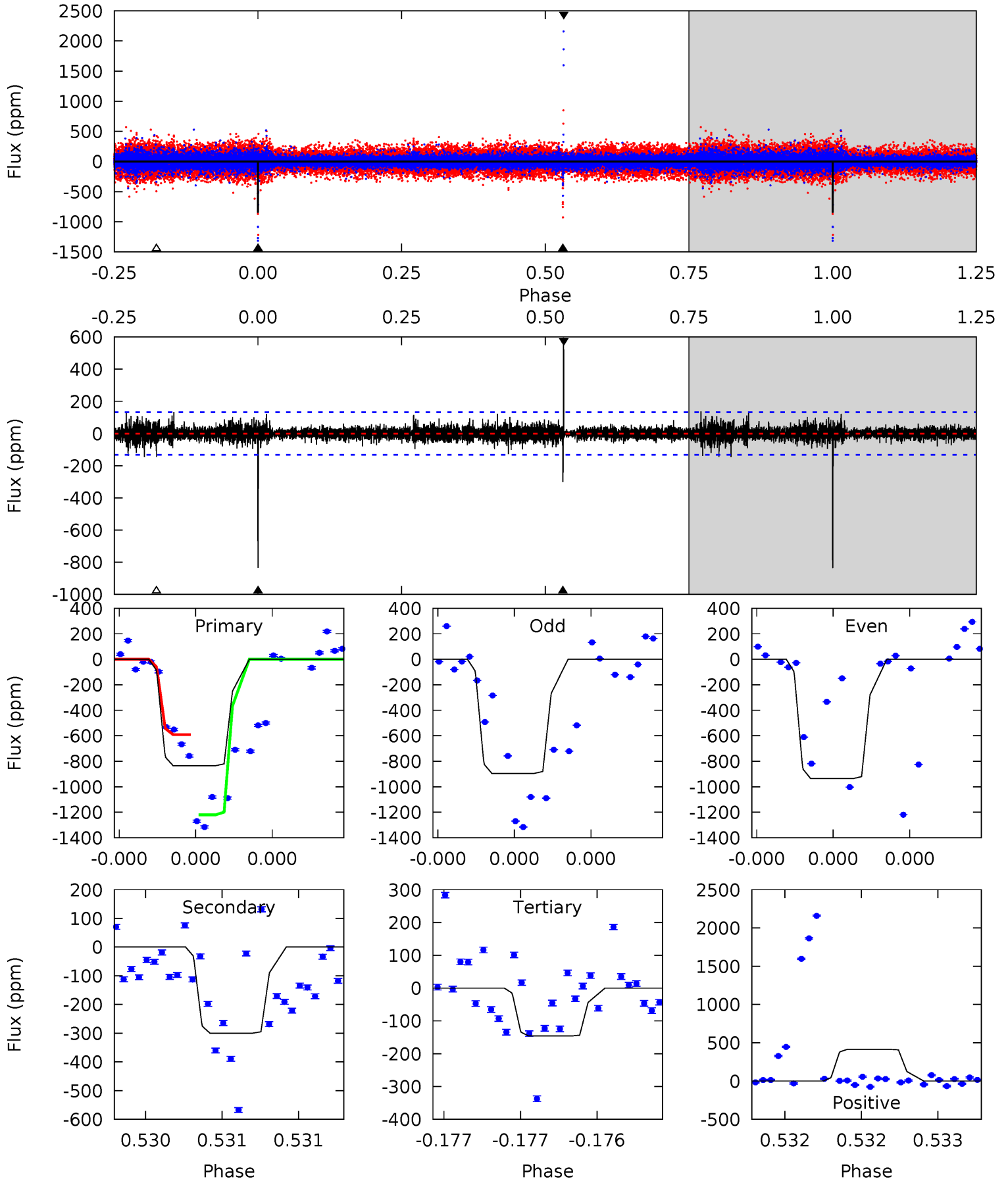
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.5	19.9	14.3	16.0	5.44	3.27	2.80	5.24	3.55	5.68	3.99	4.77	0.78	0.44	5.55



Alt Model-Shift Uniqueness Test

007909956-02, P = 372.197295 Days, E = 156.517041 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.1	12.6	6.15	17.4	5.57	3.48	1.00	29.0	17.7	6.48	-4.81	0.82	1.32	0.42	13.0



Stellar Parameters For KIC 007909956

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3415^{+117}_{-94}	$0.390^{+0.264}_{-0.176}$	$-0.040^{+0.250}_{-0.200}$	$108.394^{+31.432}_{-25.717}$	$1.052^{+0.344}_{-0.086}$	$0.000^{+0.000}_{-0.000}$
	+3%/-3%	+68%/-45%	+625%/-500%	+29%/-24%	+33%/-8%	+130%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 007909956-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-637 ± 32	$385.28^{+179.23}_{-140.80}$	2139^{+177}_{-164}	3106^{+490}_{-340}	$2.606^{+4.084}_{-1.325}$
Alt.	-300 ± 24	$220.96^{+149.48}_{-127.54}$	2145^{+155}_{-166}	3288^{+1256}_{-507}	$3.783^{+19.054}_{-2.489}$

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 007909956-02. Kepler magnitude: 13.40. Transit SNR 9.56

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	2.94 ± 0.61	4.82	-1.98 ± 0.58	-2.18 ± 0.63

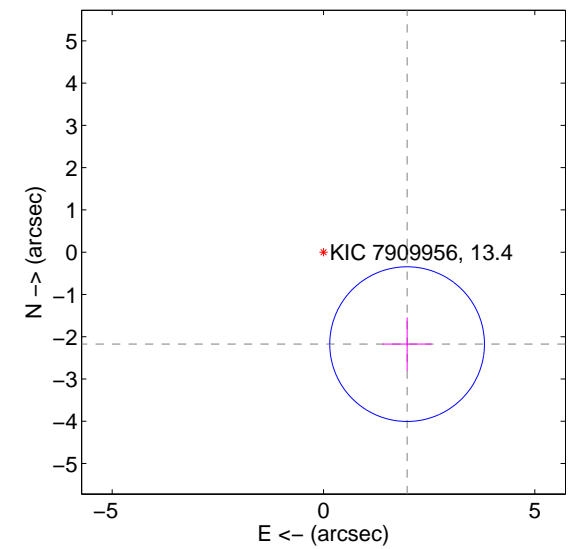
There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

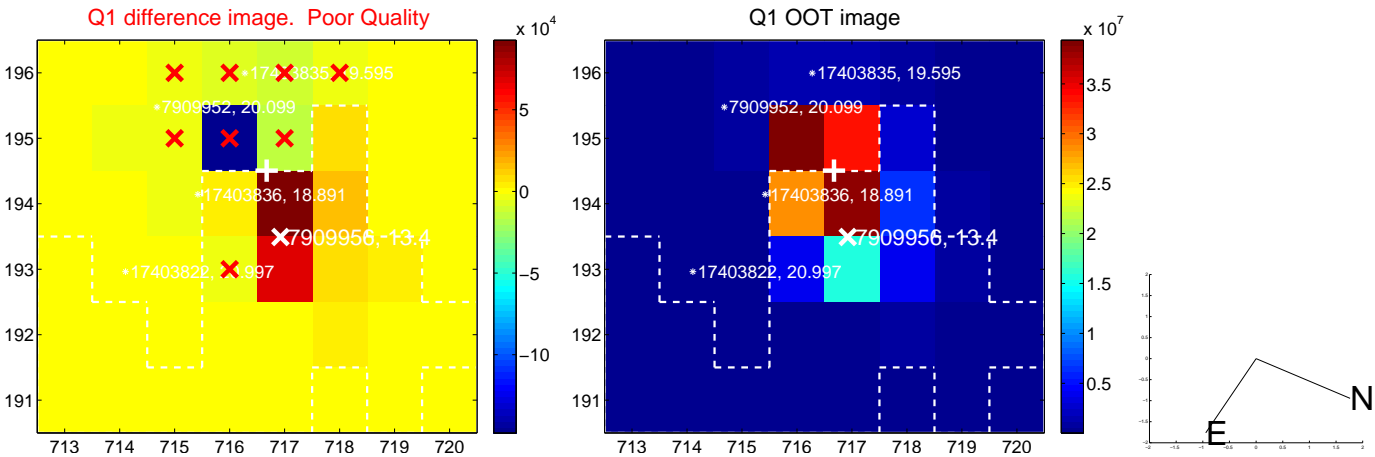


offset from photometric centroids

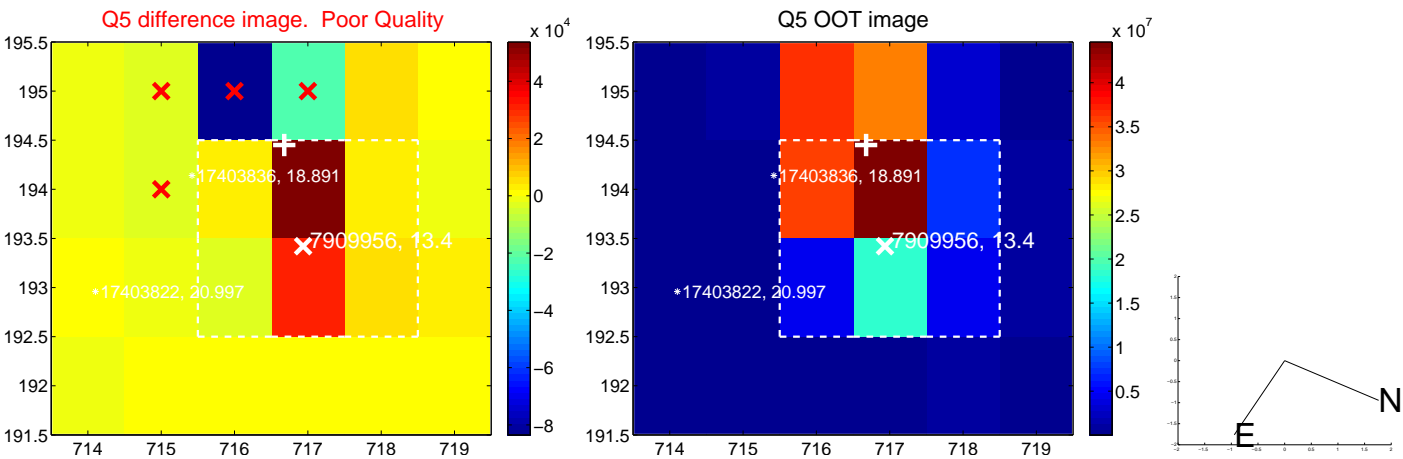


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

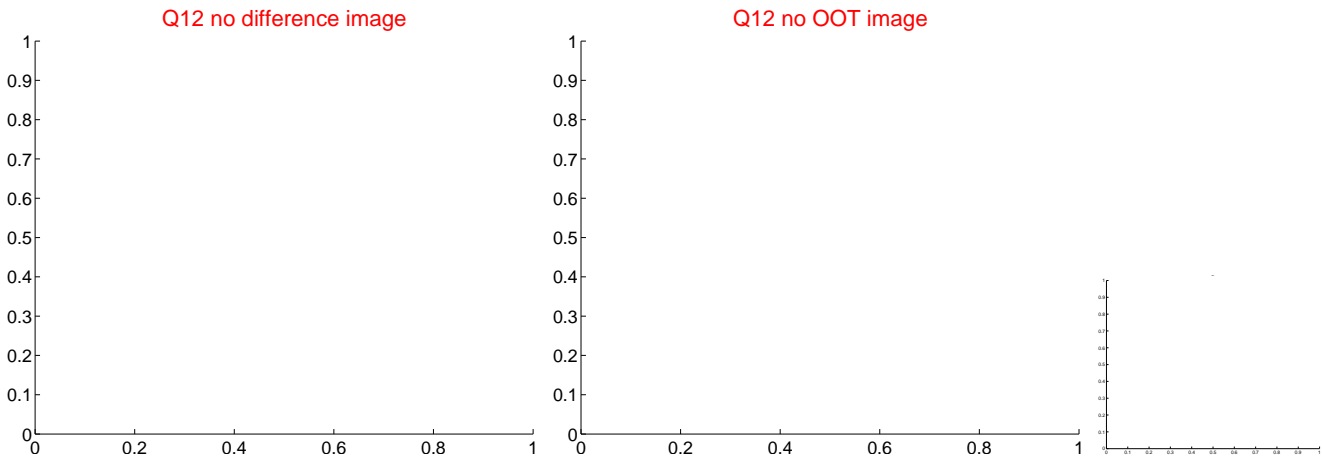
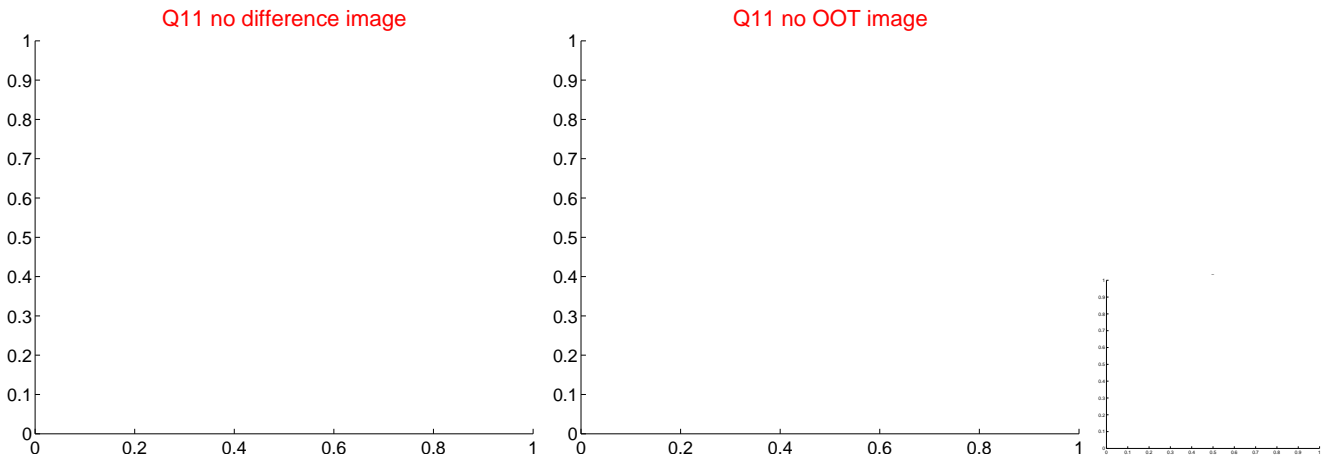
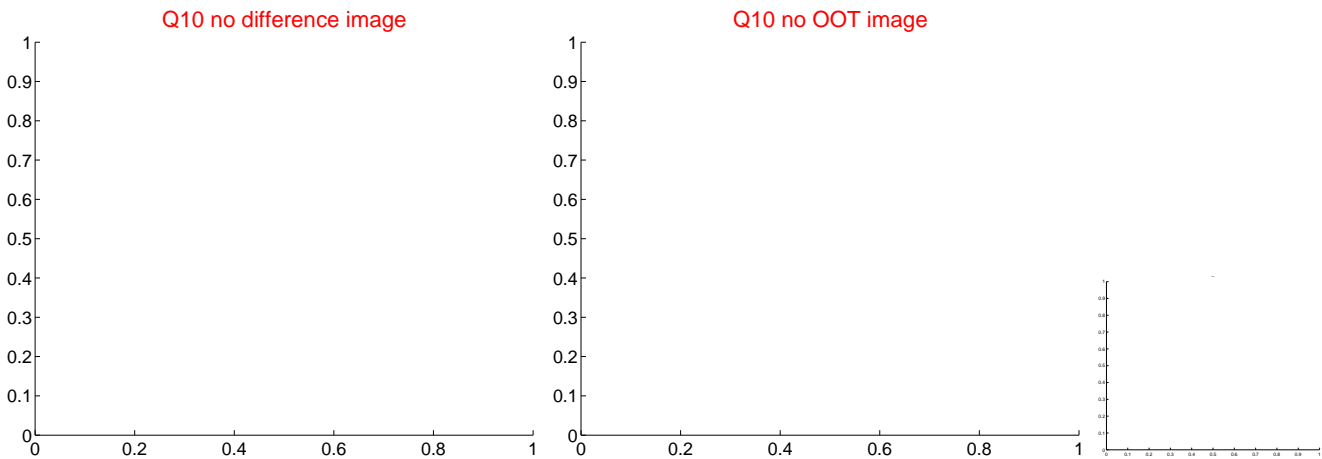
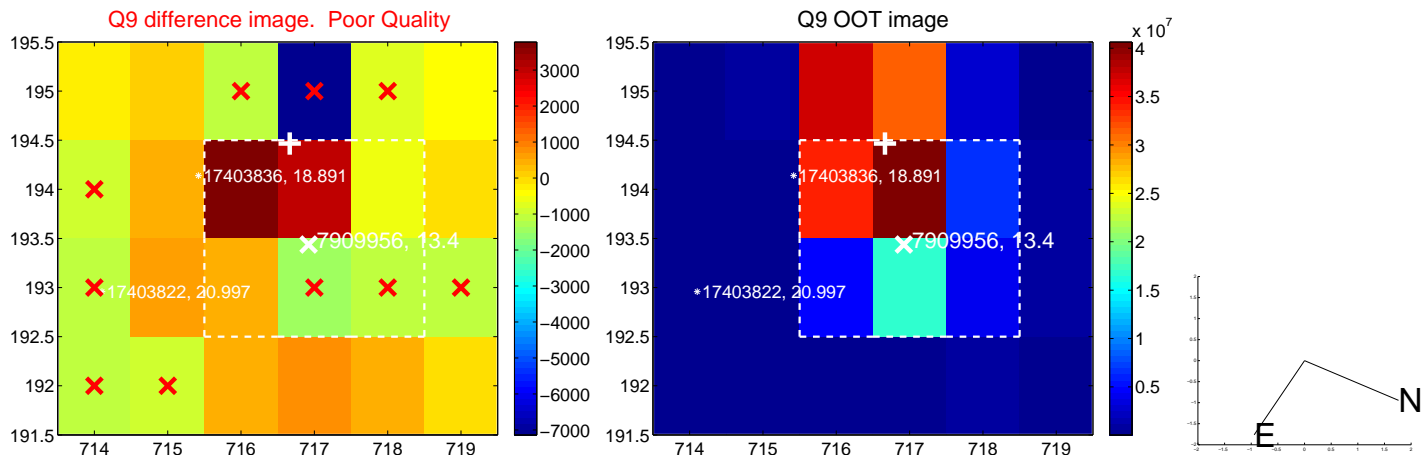
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



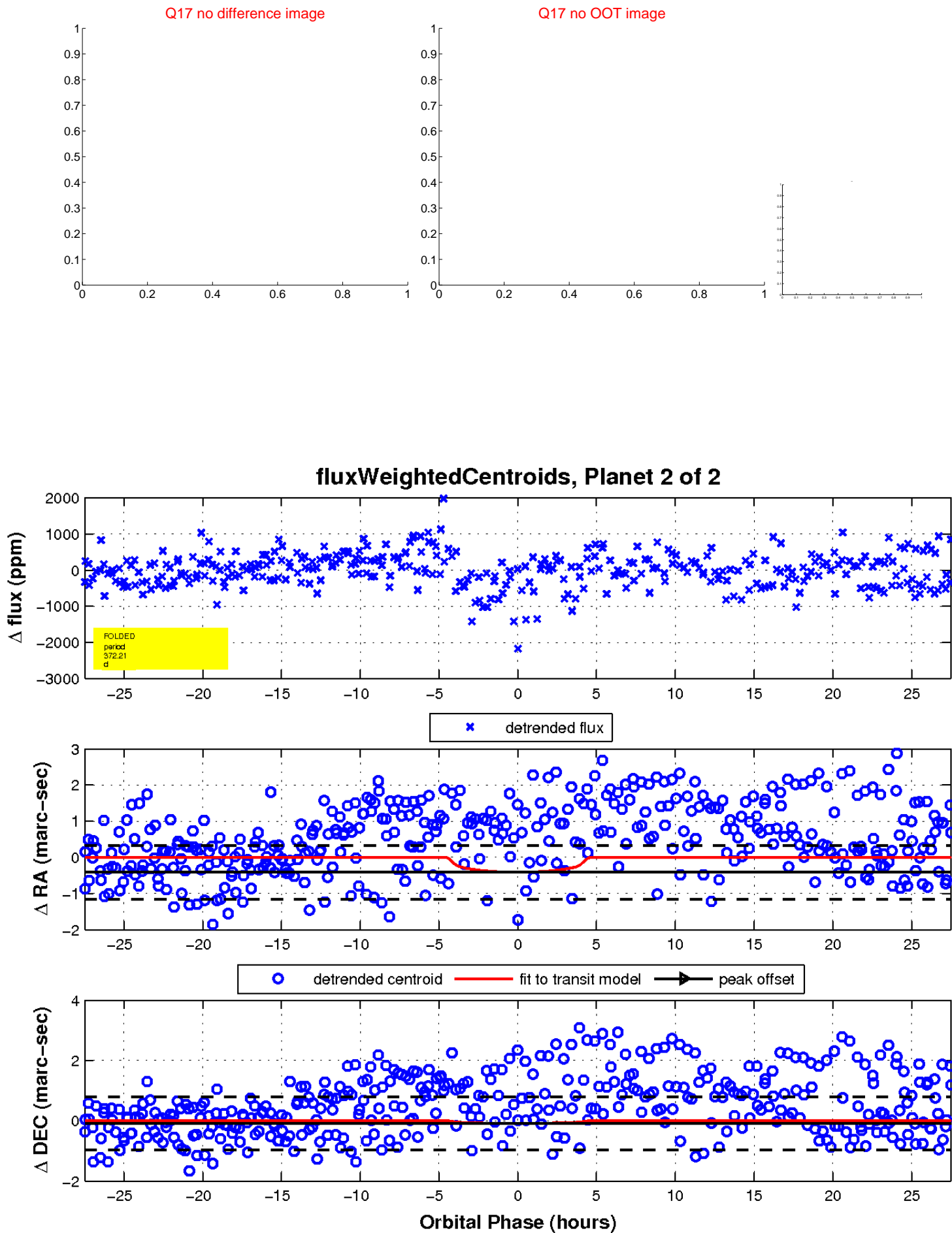
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

