

KIC 008107143

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})
008107143-01	OBS	No	368.890302	233.021949	1761.4	5.722	8.1	9.0	0.78	5469	3.36	0.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008107143-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_CHASES_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS—EPHEM_MATCH

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.

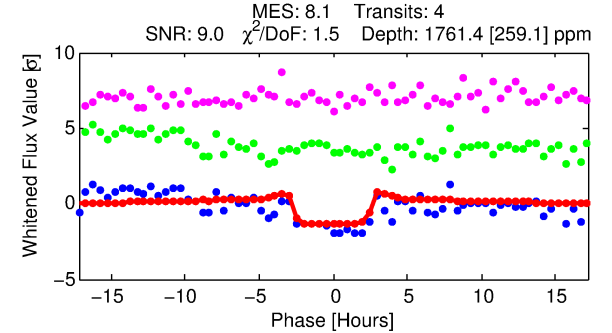
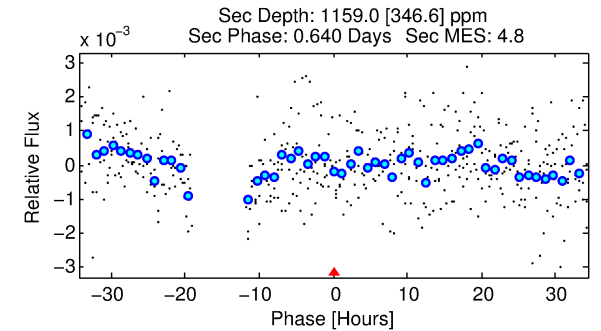
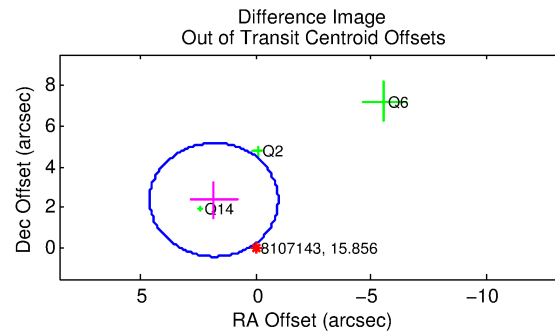
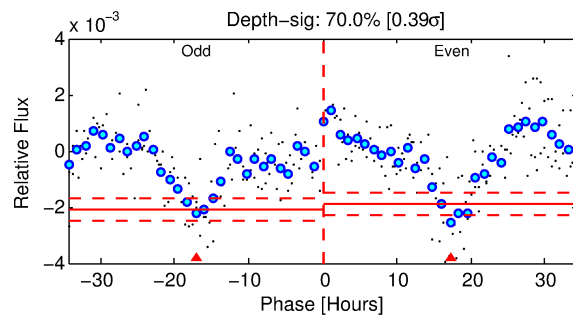
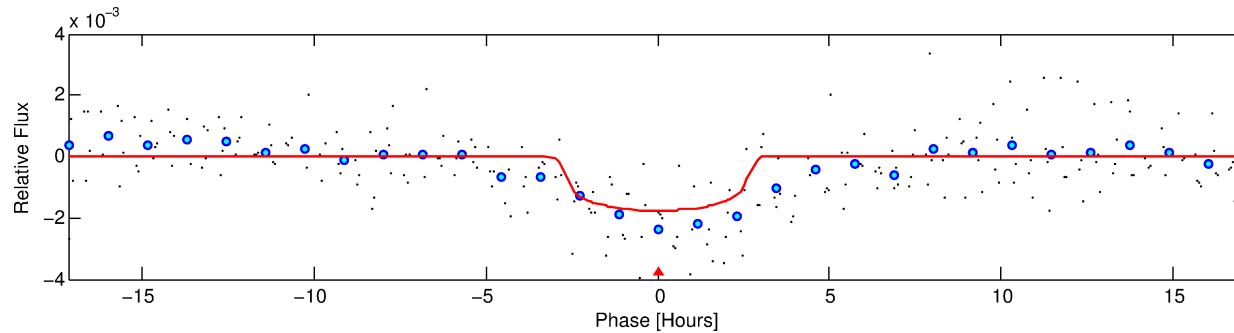
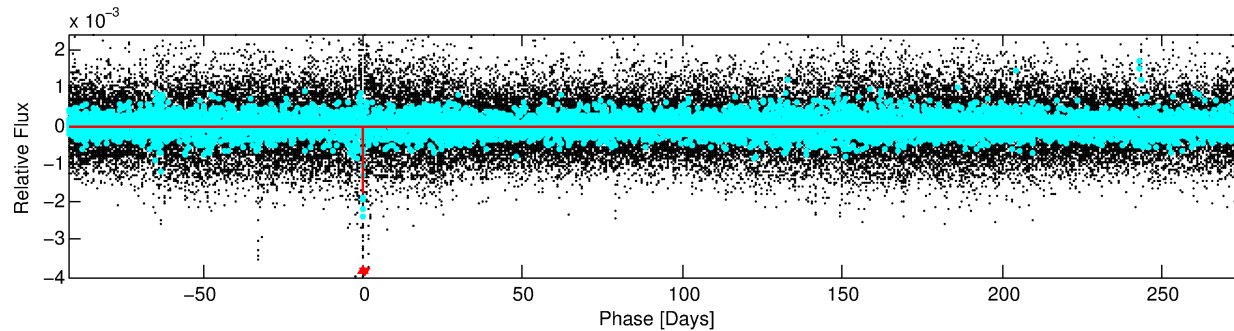
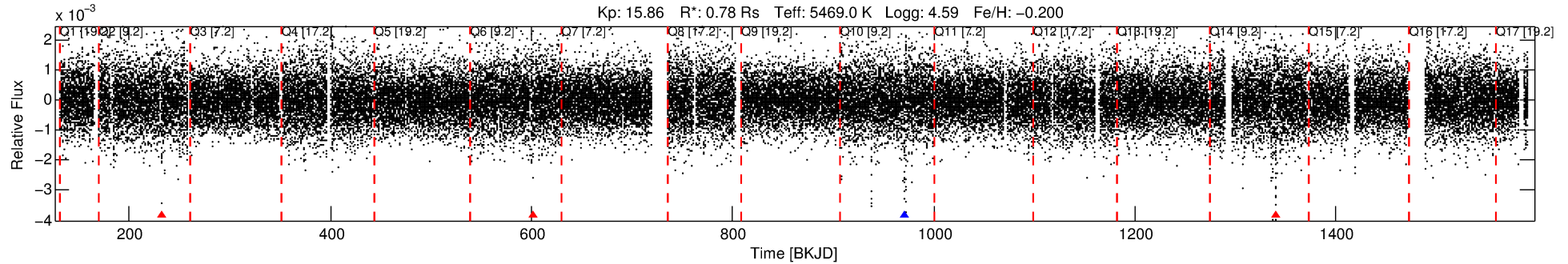
Ephemeris Match Information For 008107143-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (\prime)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008107143-01	8107143	008244123-01	8244123	1:1	1216.9	-305	0	14.60	15.86	0.28	Col-Anomaly	1	0.87	1.48

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8107143 Candidate: 1 of 1 Period: 368.890 d



DV Fit Results:

Period = 368.89030 [0.00575] d
Epoch = 233.0219 [0.0109] BKJD
Rp/R* = 0.0395 [0.0271]
a/R* = 435.31 [1177.41]
b = 0.55 [3.50]
Seff = 0.53 [0.13]
Teq = 218 [14] K
Rp = 3.36 [2.39] Re
a = 0.9595 [0.1495] AU
Ag = 51961.35 [73965.45] [0.70 σ]
Teffp = 5078 [1791] K [2.71 σ]

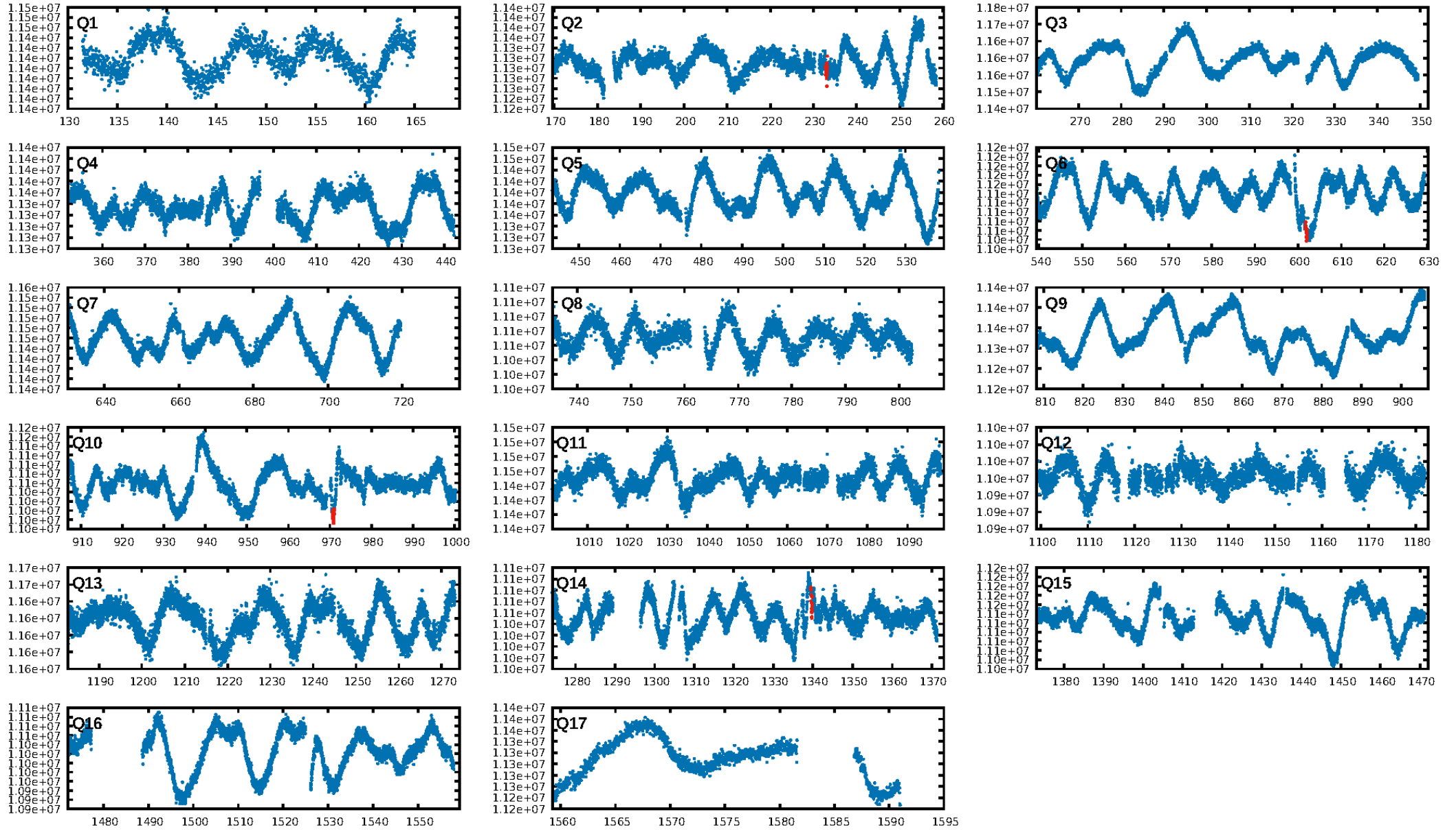
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 29.8%
Bootstrap-pfa: 1.16e-11
RollingBand-fgt: 0.25 [1/4]
GhostDiagnostic-chr: 1.242
Centroid-sig: 19.9%
Centroid-so: 2.308 arcsec [1.17 σ]
OotOffset-rm: 2.983 arcsec [3.22 σ]
KicOffset-rm: 3.012 arcsec [3.25 σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

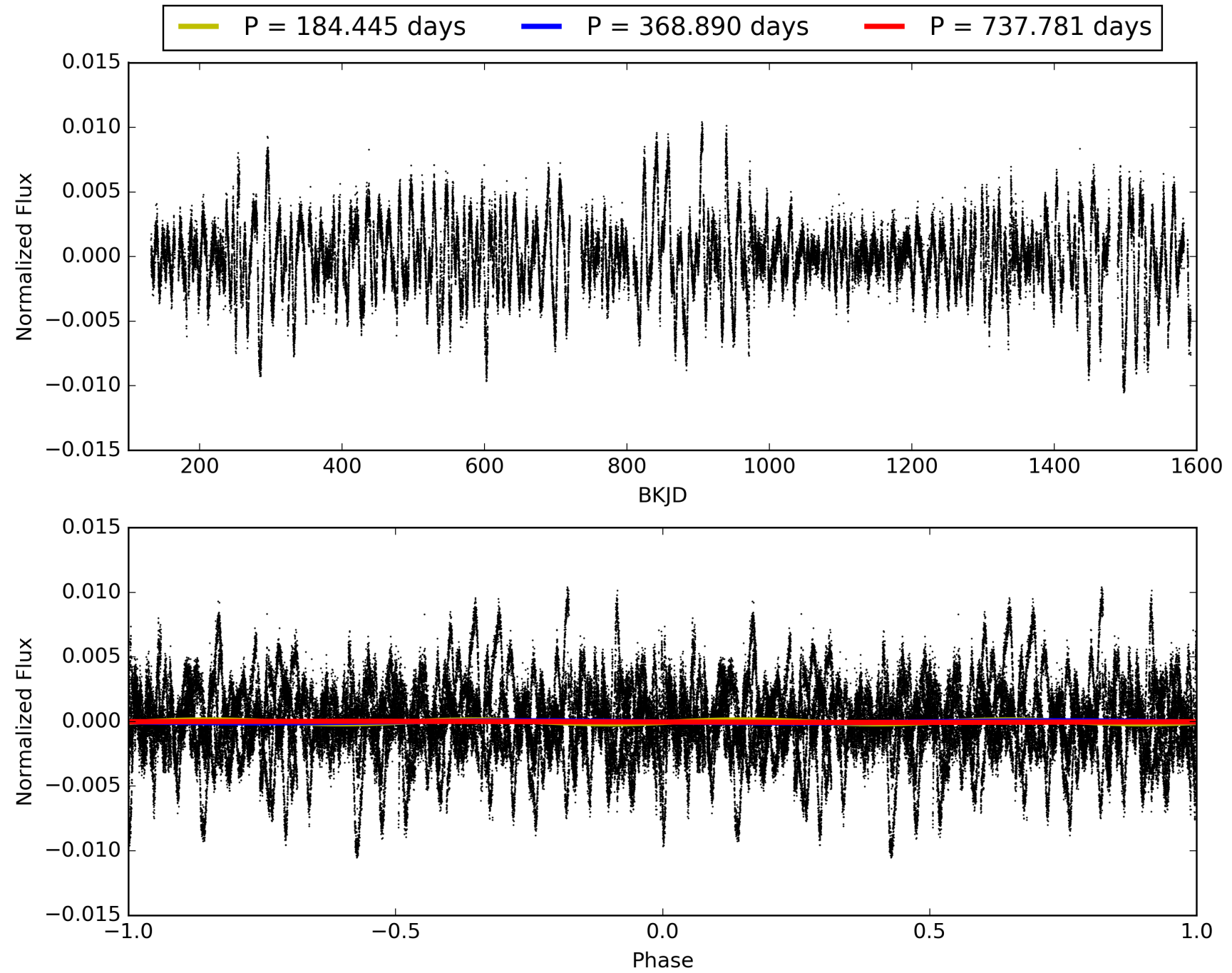
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:30:03 Z

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

TCE 008107143-01, PDC Light Curves

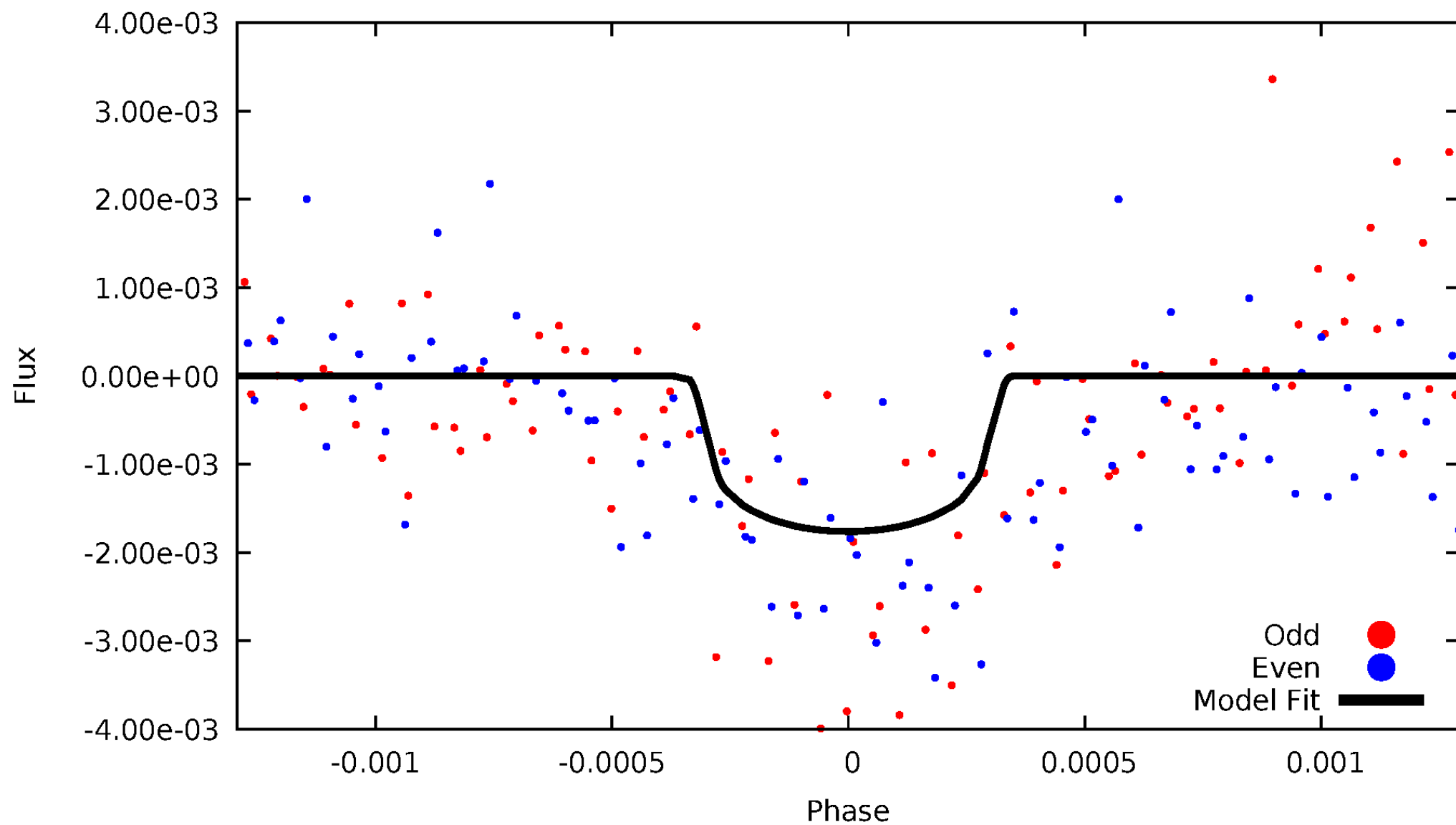


TCE 008107143-01



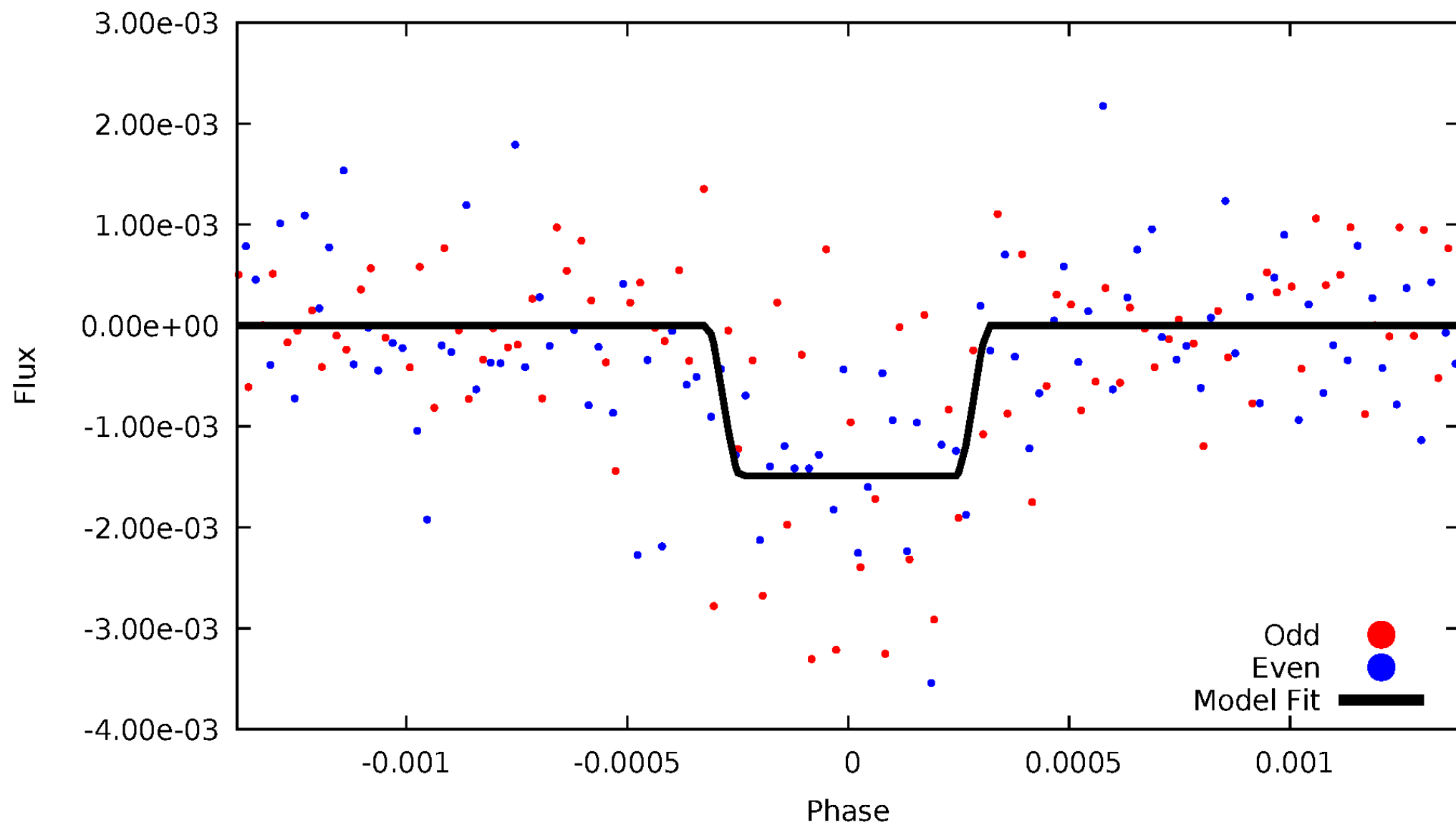
DV Odd/Even

TCE 008107143-01

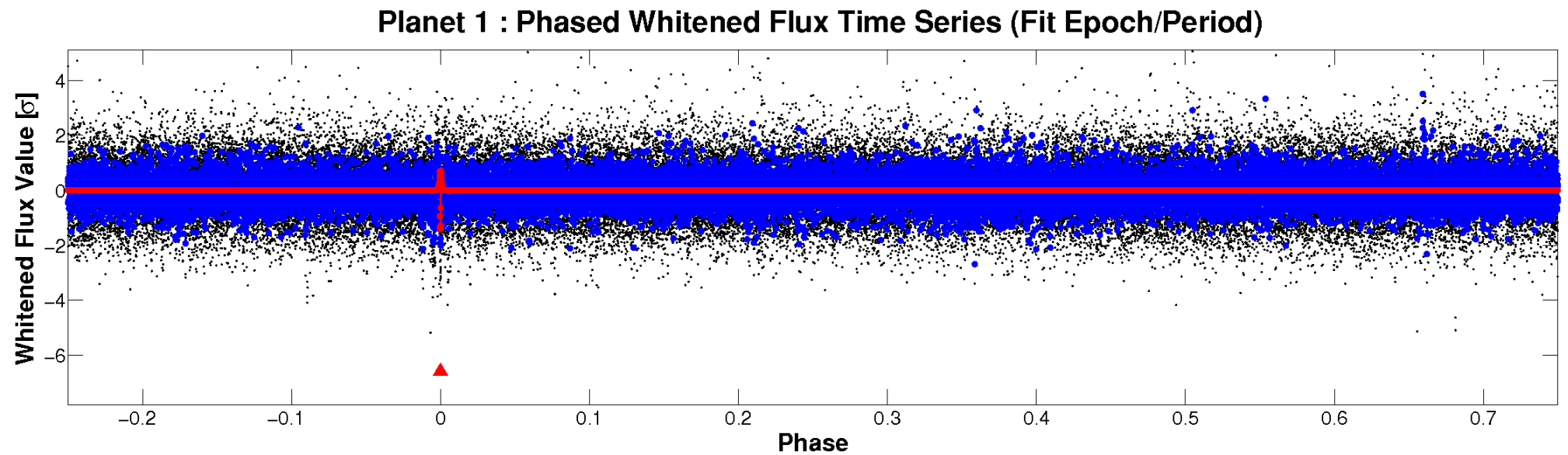
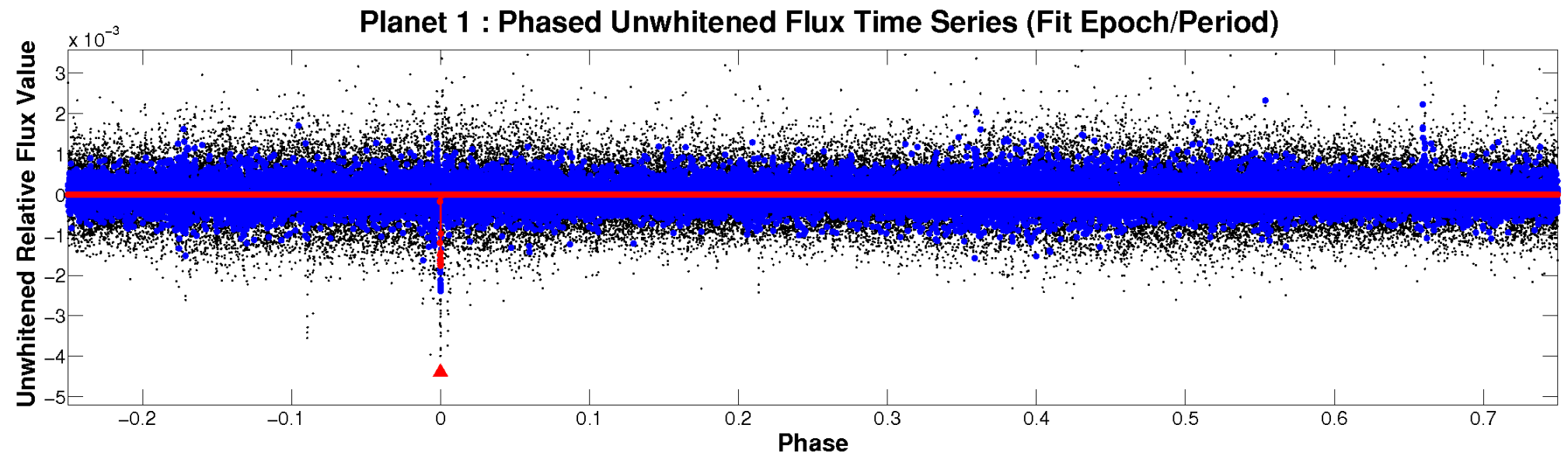


ALT Odd/Even

TCE 008107143-01

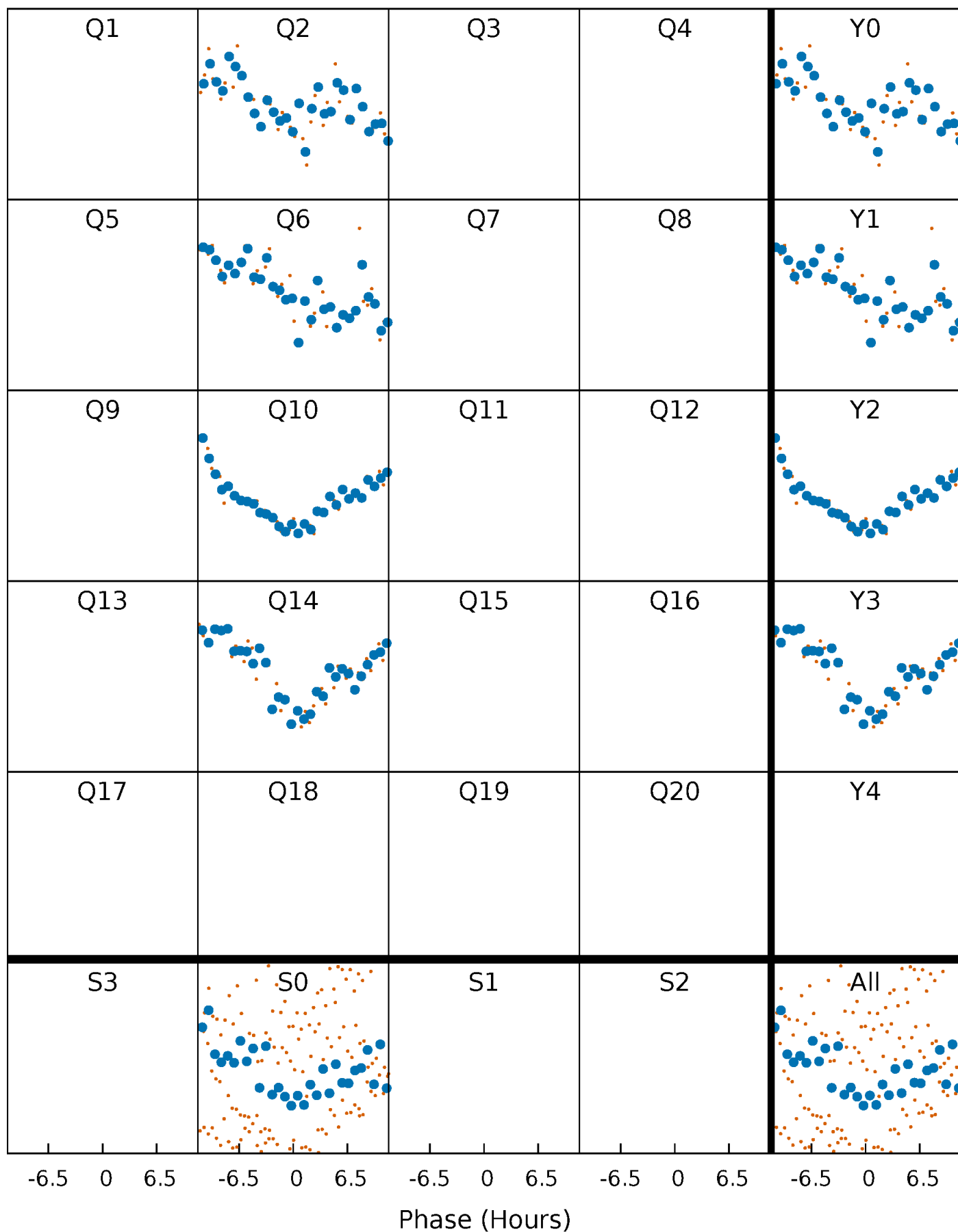


Non-Whitened Vs. Whitened Light Curve



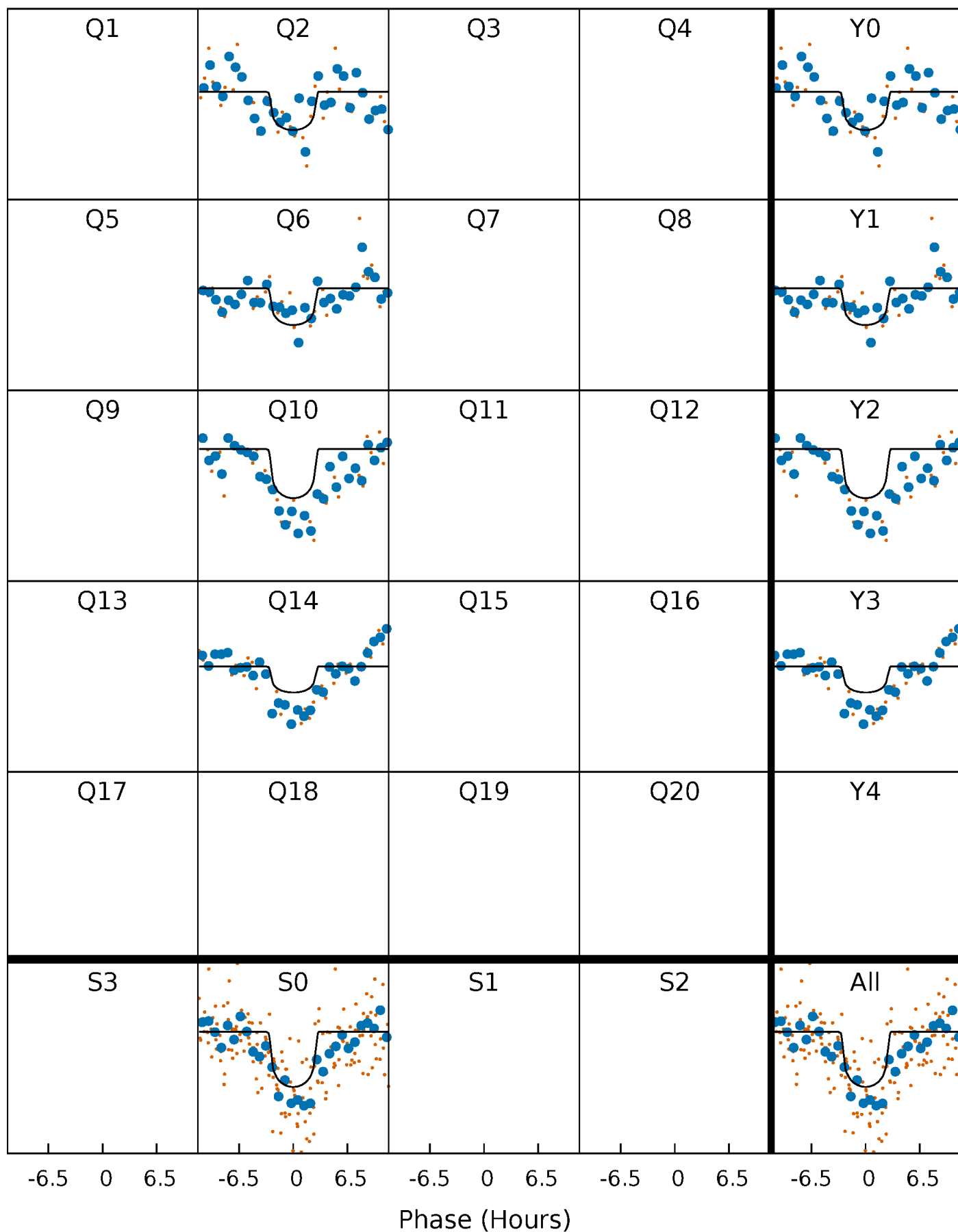
PDC Quarter-Phased Transit Curves

TCE 008107143-01 P=368.890302 Days $T_0=233.021949$ (BKJD)



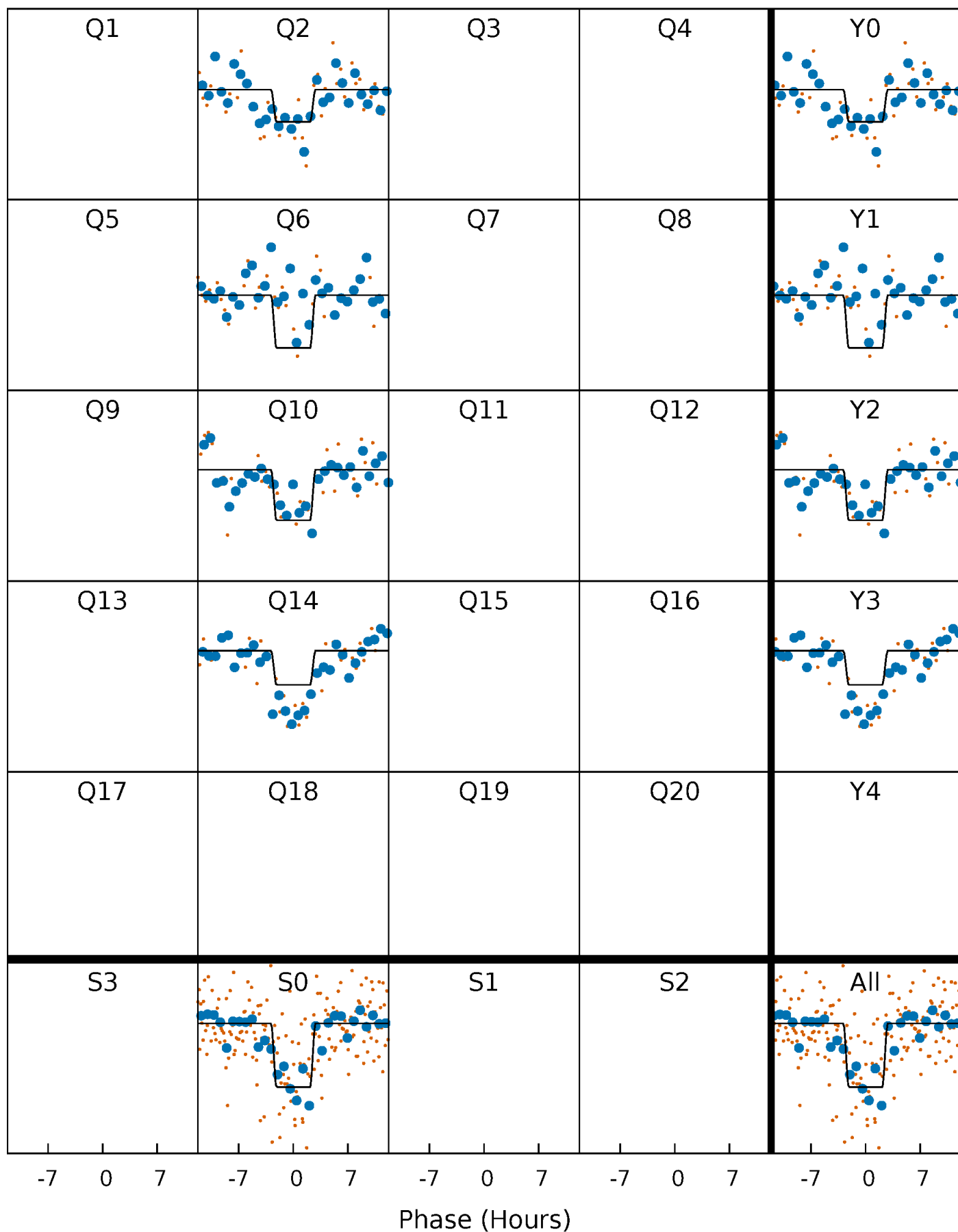
DV Quarter-Phased Transit Curves

TCE 008107143-01 P=368.890302 Days $T_0=233.021949$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

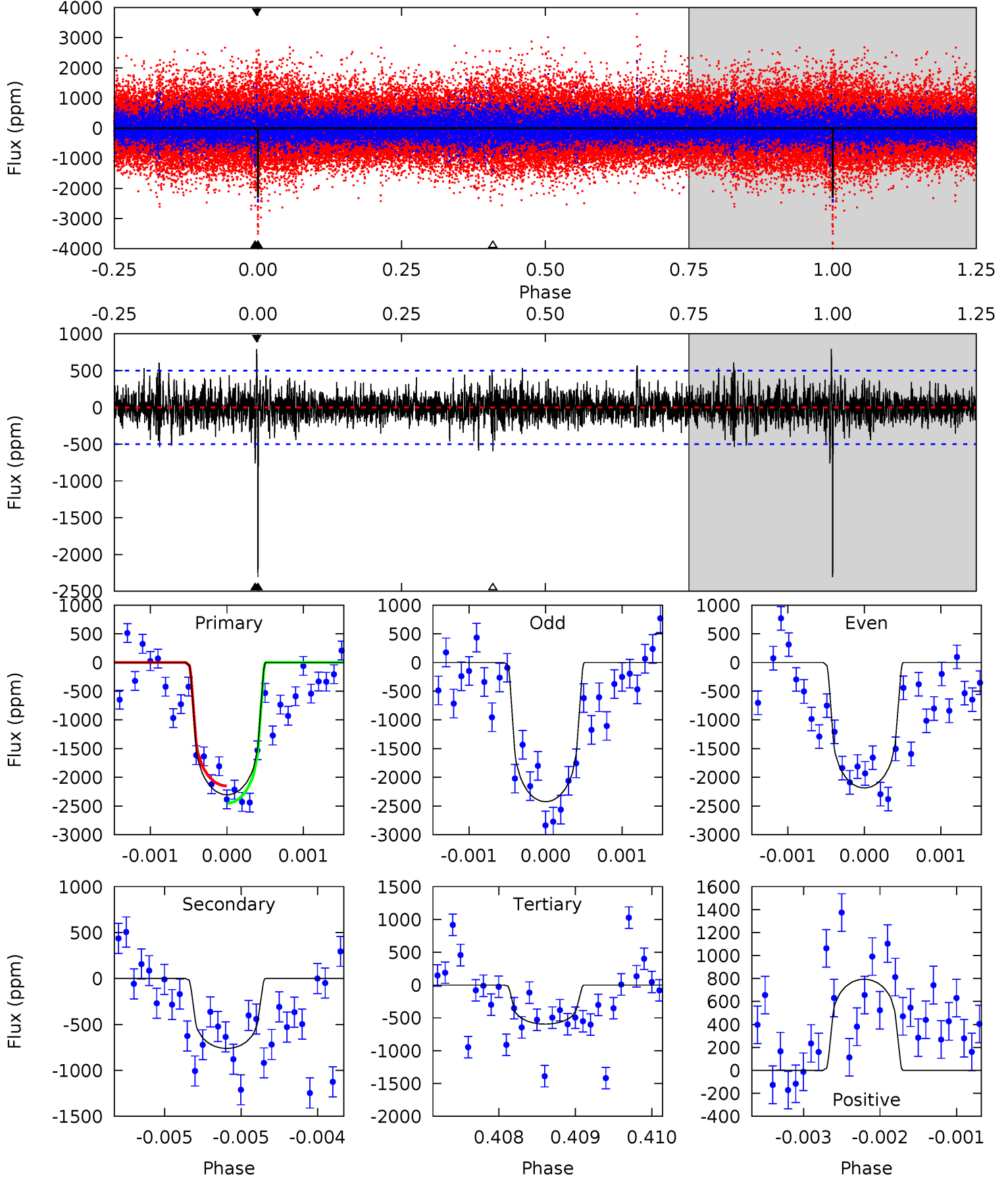
TCE 008107143-01 P=368.893870 Days $T_0=233.020360$ (BKJD)



DV Model-Shift Uniqueness Test

008107143-01, P = 368.890302 Days, E = 233.021949 Days

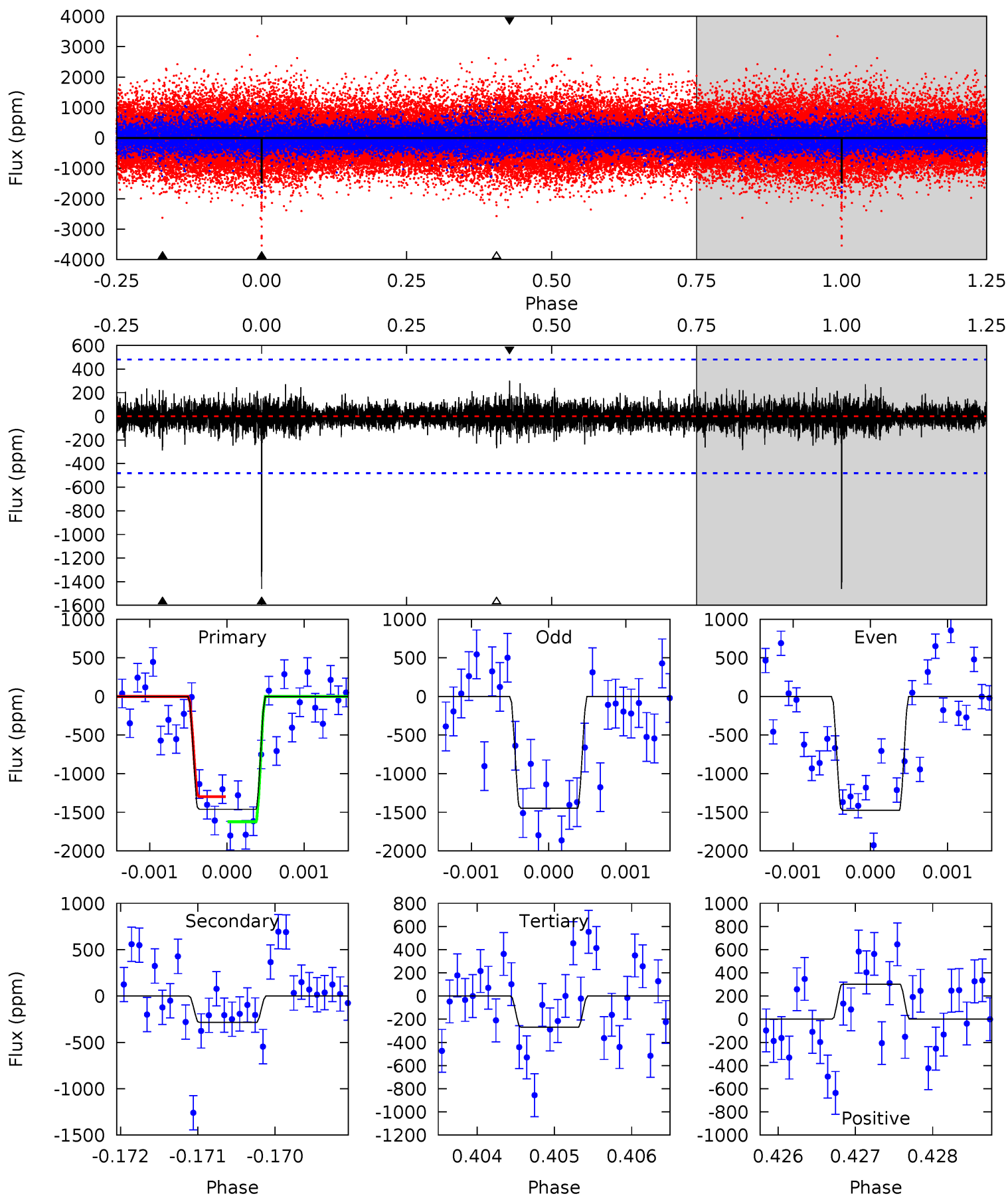
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.4	8.40	6.57	8.75	5.52	3.40	1.54	18.9	16.7	1.83	-0.35	1.32	1.06	0.26	1.66



Alt Model-Shift Uniqueness Test

008107143-01, P = 368.893870 Days, E = 233.020360 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	3.27	3.10	3.47	5.53	3.41	0.71	13.7	13.3	0.17	-0.20	0.16	0.99	0.17	1.87



Stellar Parameters For KIC 008107143

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5469^{+162}_{-162}	$4.591^{+0.032}_{-0.120}$	$-0.200^{+0.300}_{-0.300}$	$0.780^{+0.147}_{-0.063}$	$0.874^{+0.071}_{-0.107}$	$2.594^{+0.432}_{-0.958}$
	+3%/-3%	+1%/-3%	+150%/-150%	+19%/-8%	+8%/-12%	+17%/-37%
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 008107143-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-761 ± 91	$3.66^{+2.30}_{-2.01}$	309^{+14}_{-12}	4591^{+1953}_{-785}	$28532^{+102691}_{-18333}$
Alt.	-285 ± 87	$3.53^{+2.36}_{-1.98}$	310^{+14}_{-13}	3846^{+1552}_{-590}	11014^{+50586}_{-7151}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

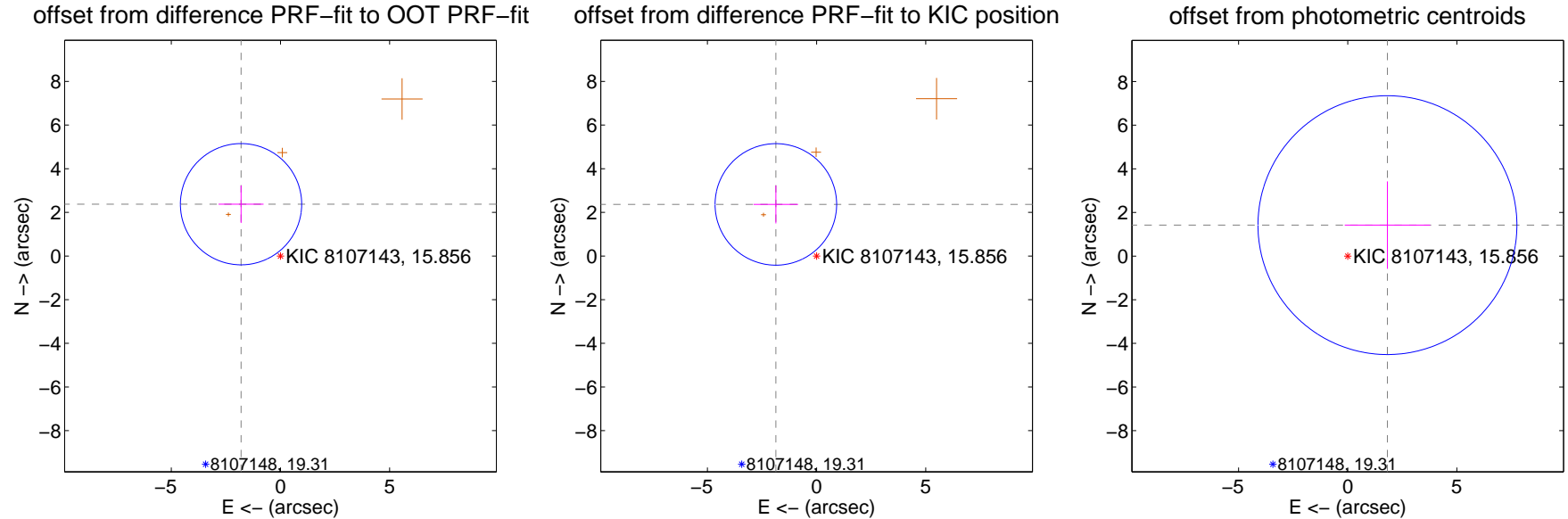
DV Centroid Data

Supplemental centroid analysis for 008107143-01. Kepler magnitude: 15.86. Transit SNR 9.00

There are 0 quarters with good PRF difference image offsets

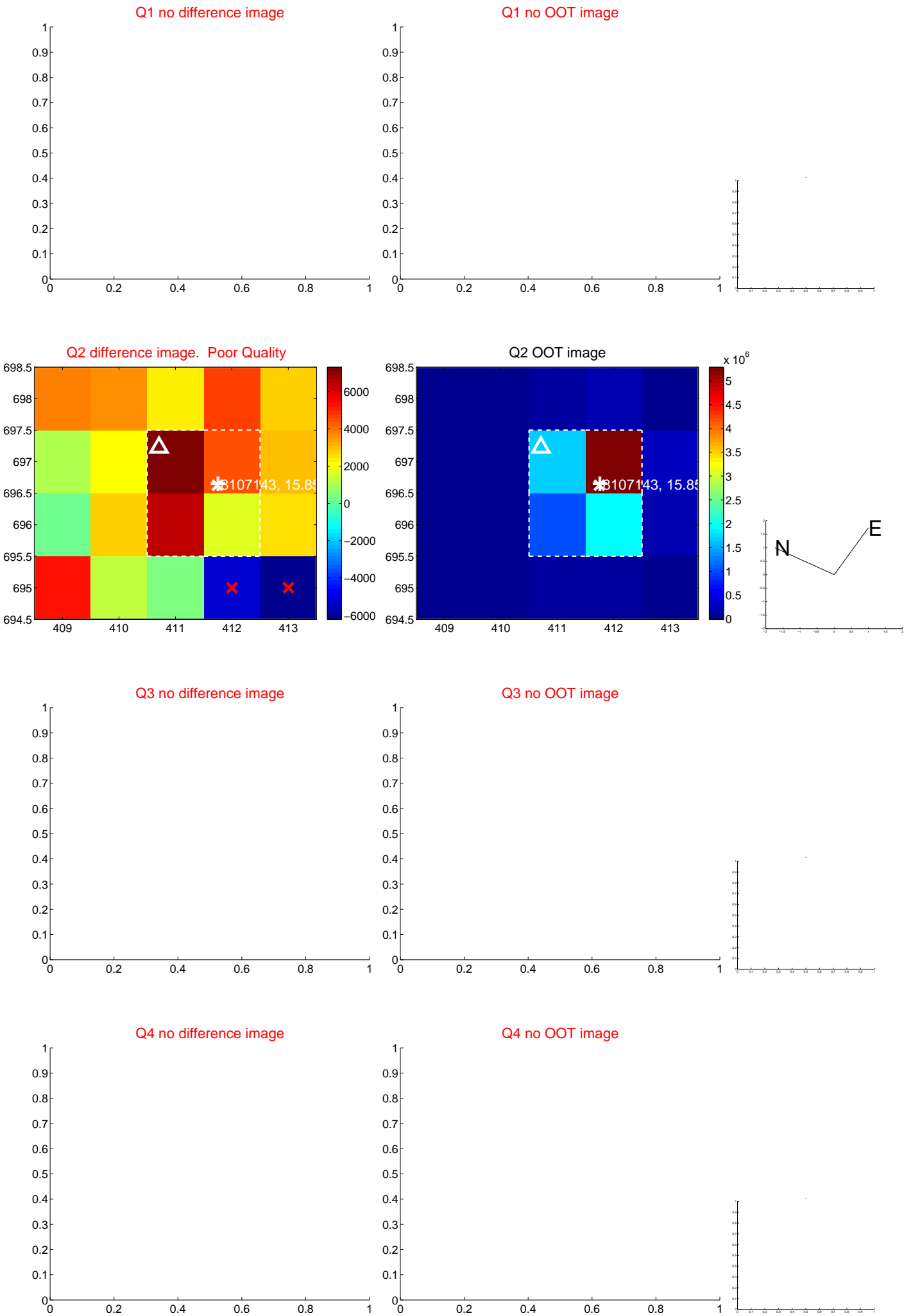
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.983 ± 0.926	3.22	1.806 ± 1.031	2.374 ± 0.859
PRF-fit source offset from KIC position	3.012 ± 0.928	3.25	1.865 ± 1.018	2.365 ± 0.868
photometric centroid source offset	2.31 ± 1.98	1.17	-1.82 ± 1.96	1.42 ± 2.00

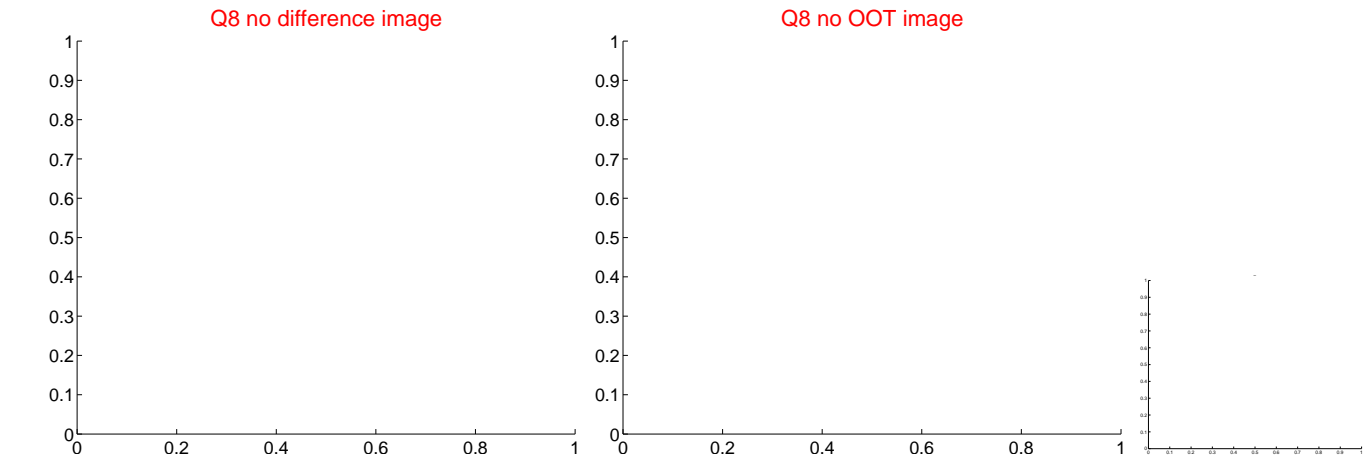
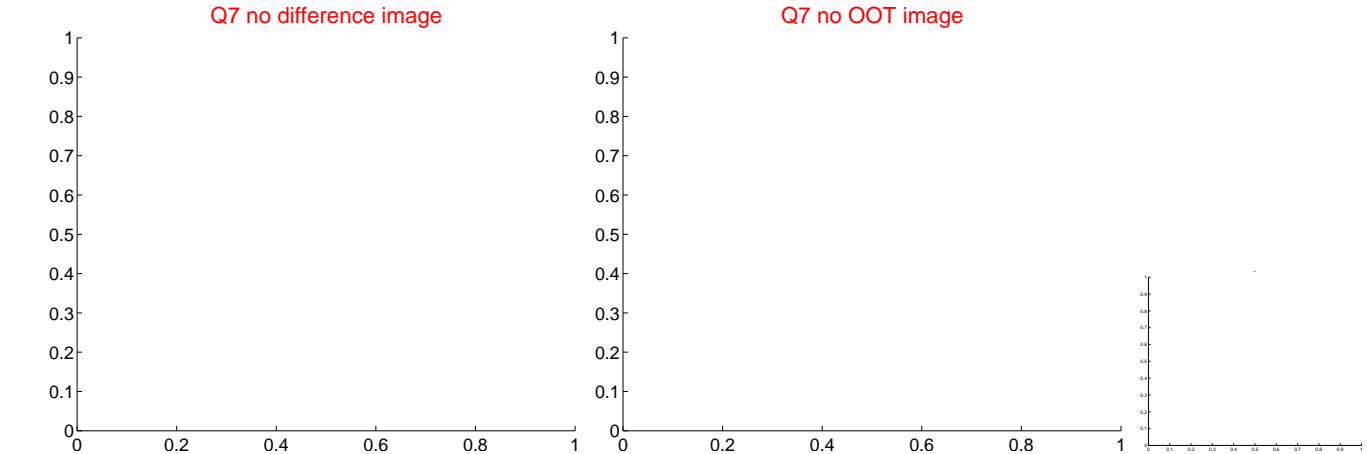
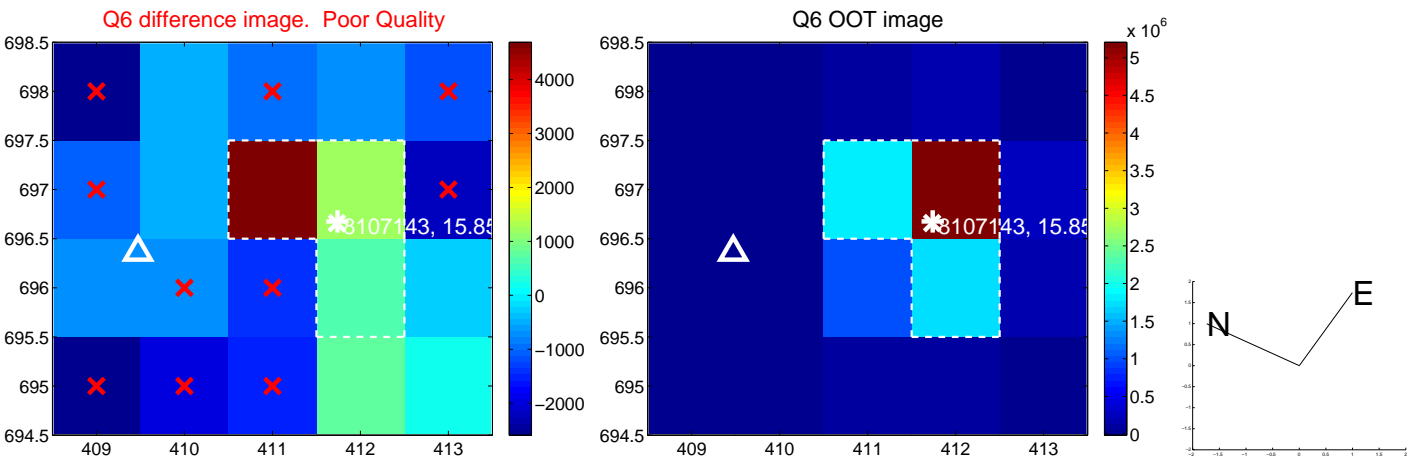
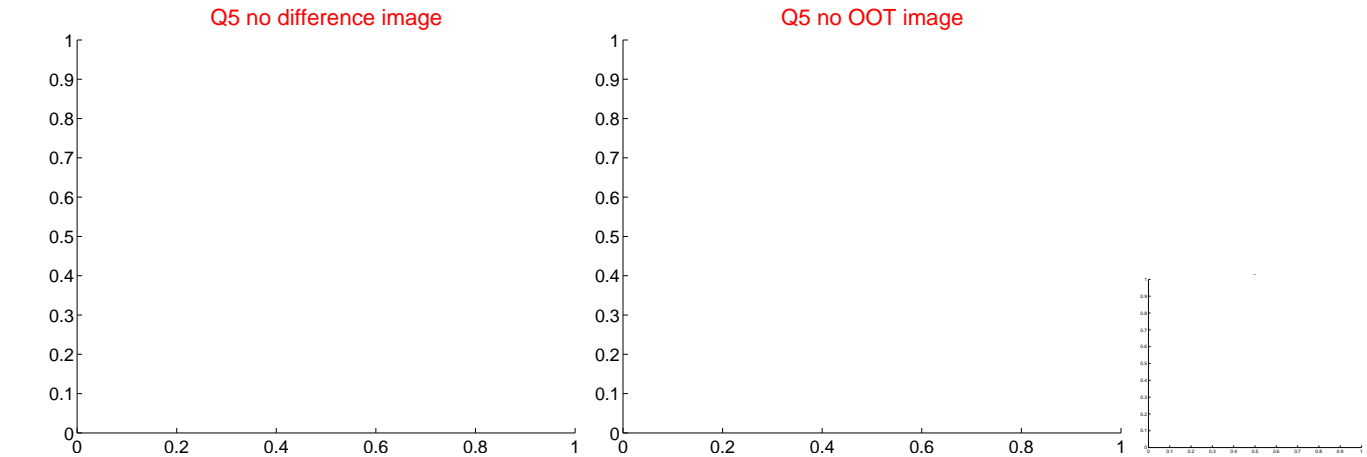


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



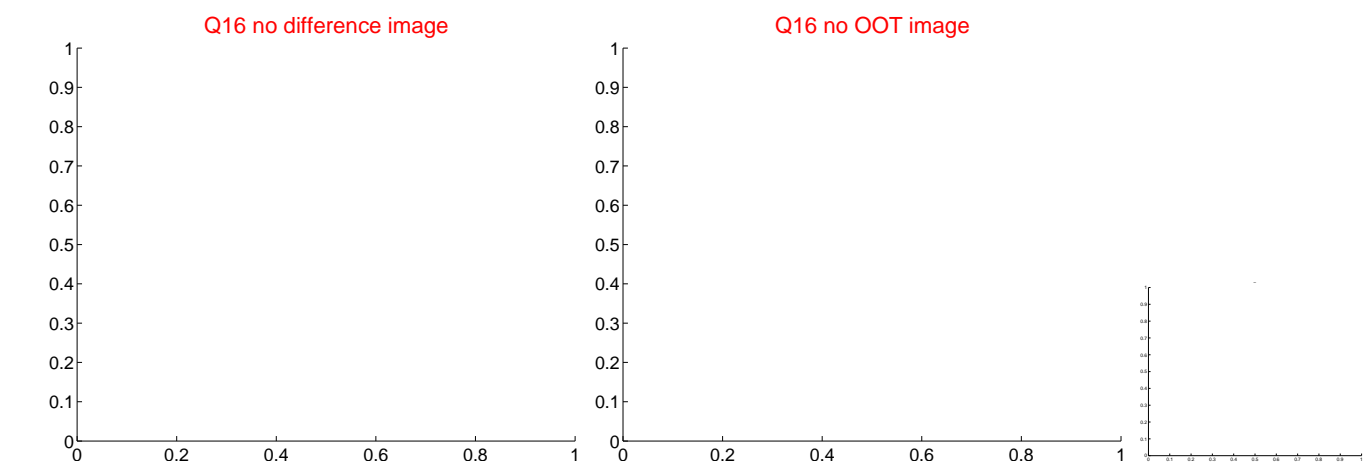
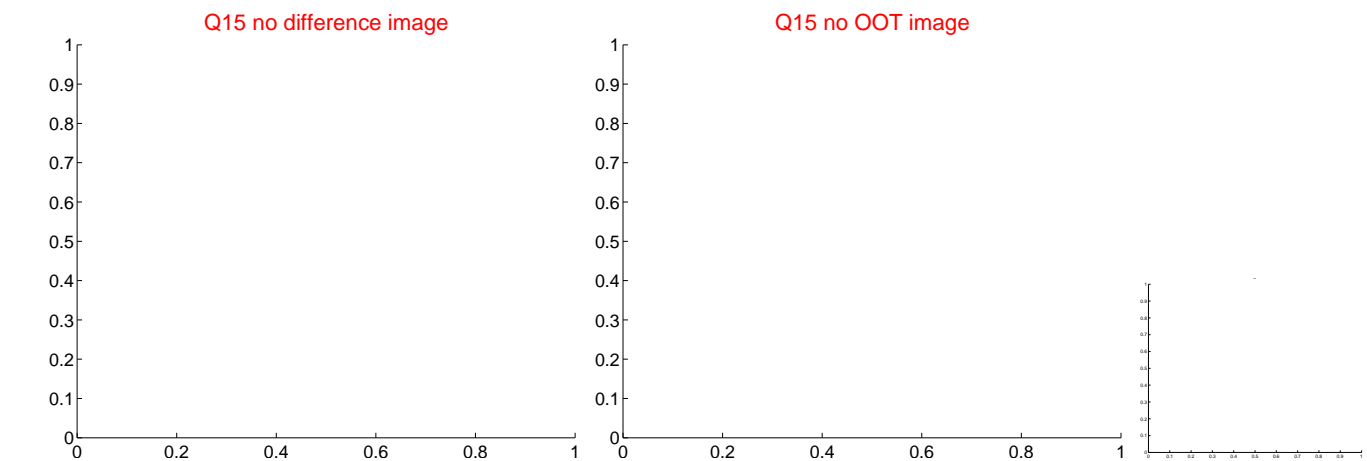
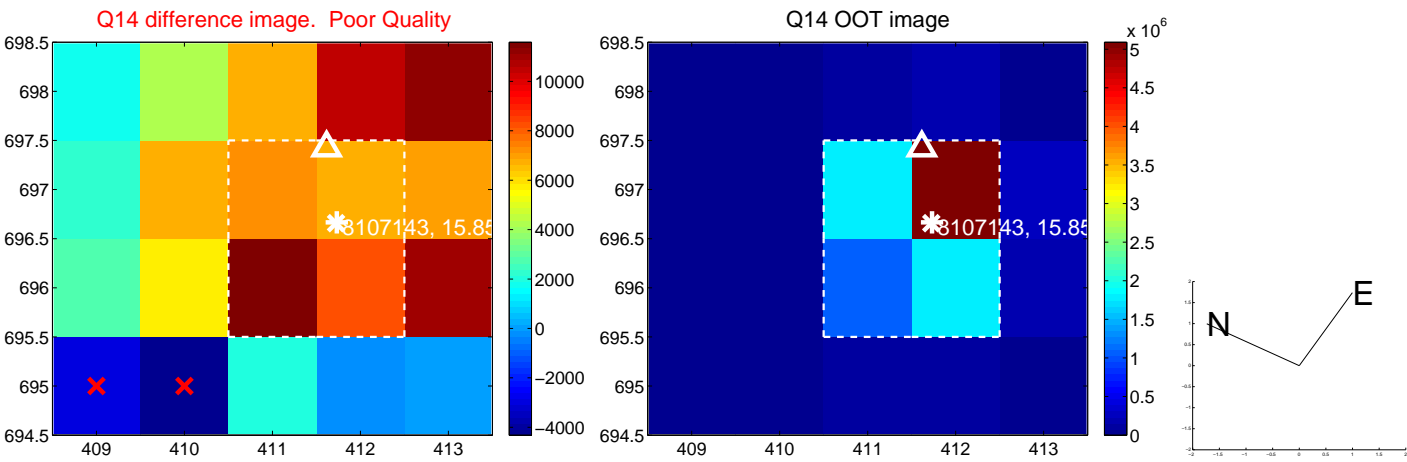
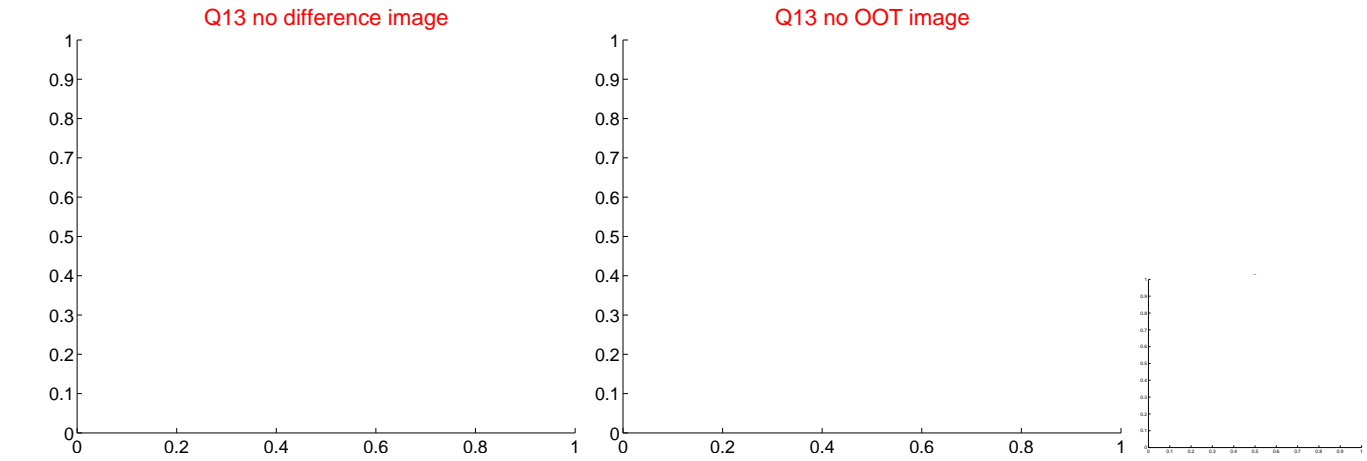
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



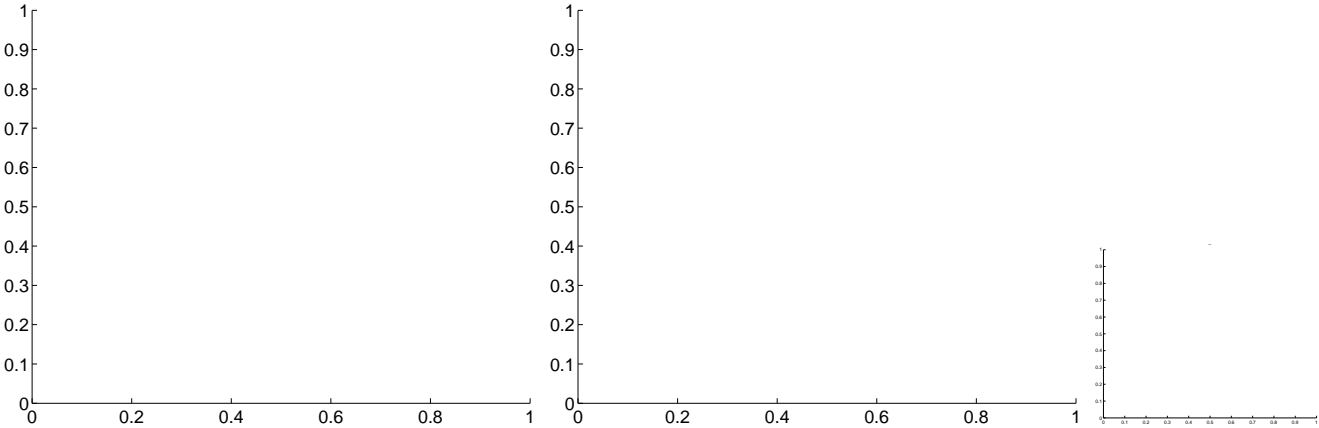
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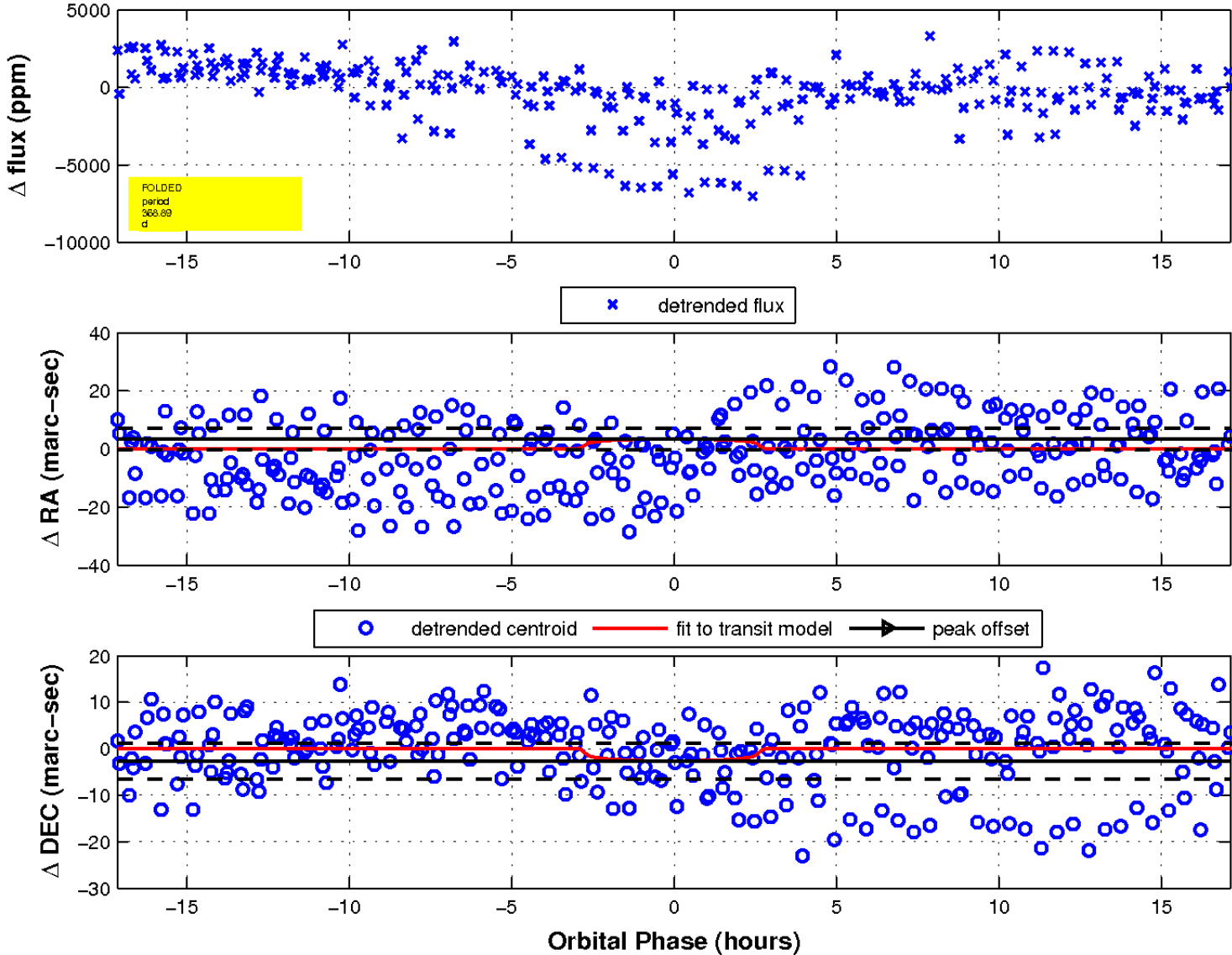
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q17 no difference image

Q17 no OOT image



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

