

KIC 008758204

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})
008758204-01	OBS	2841.01	159.393710	226.921728	920.7	9.861	15.5	16.5	0.87	5135	3.28	1.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008758204-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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 008758204-01

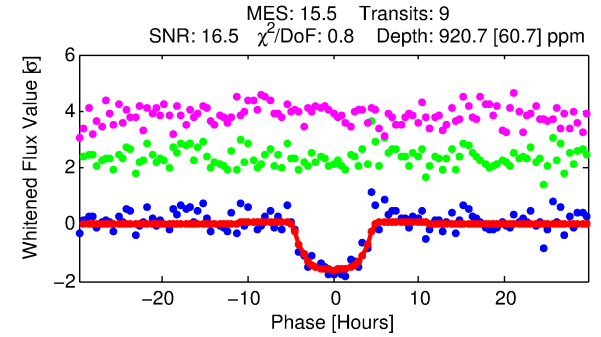
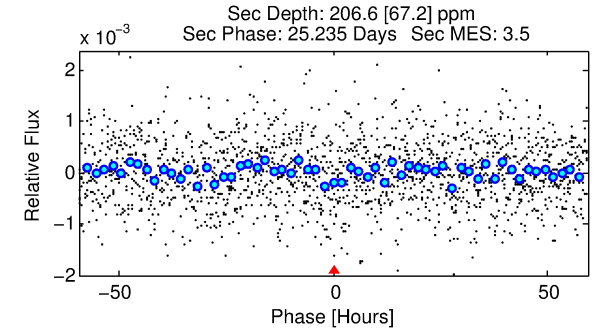
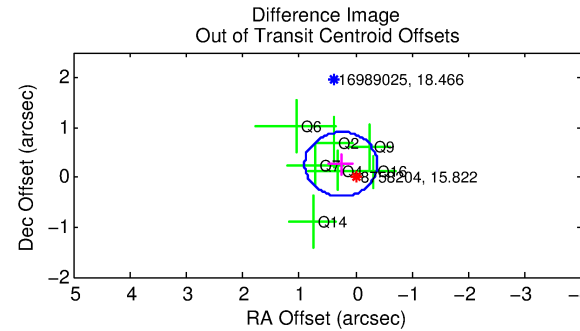
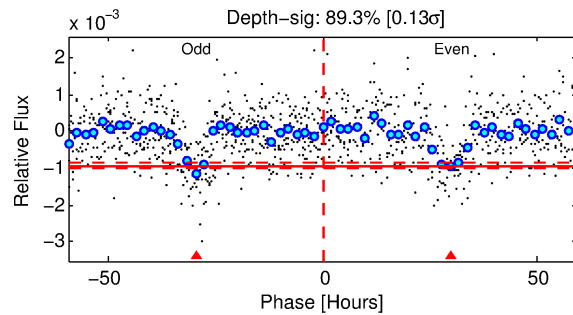
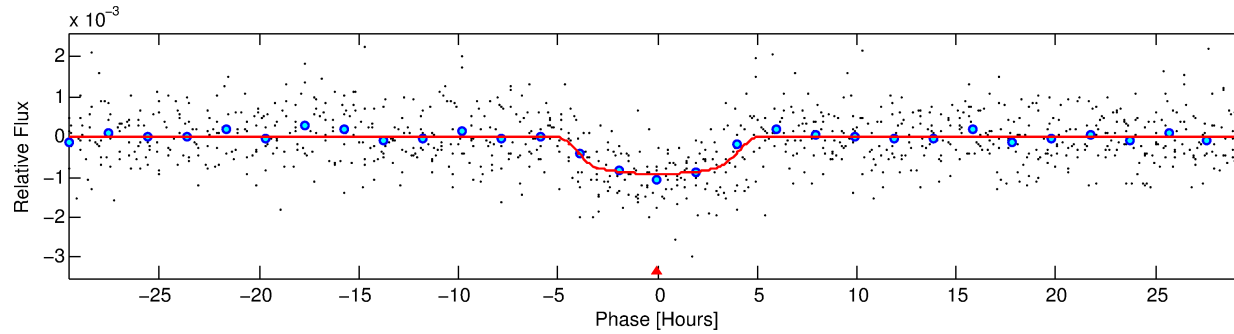
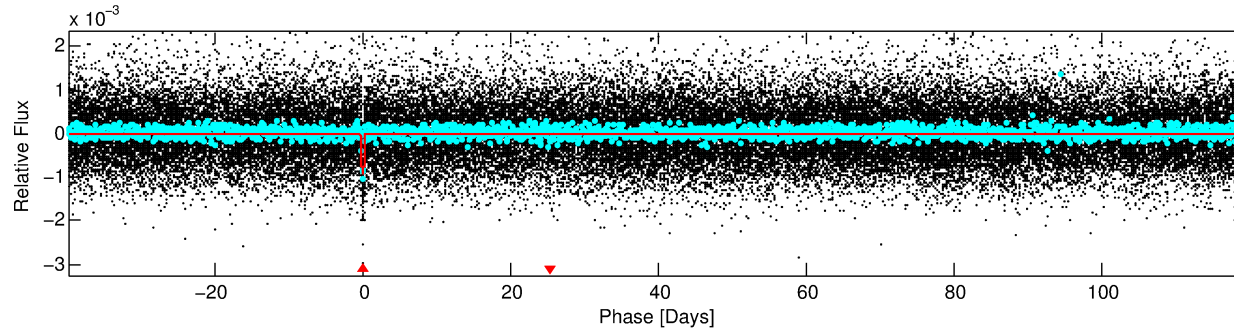
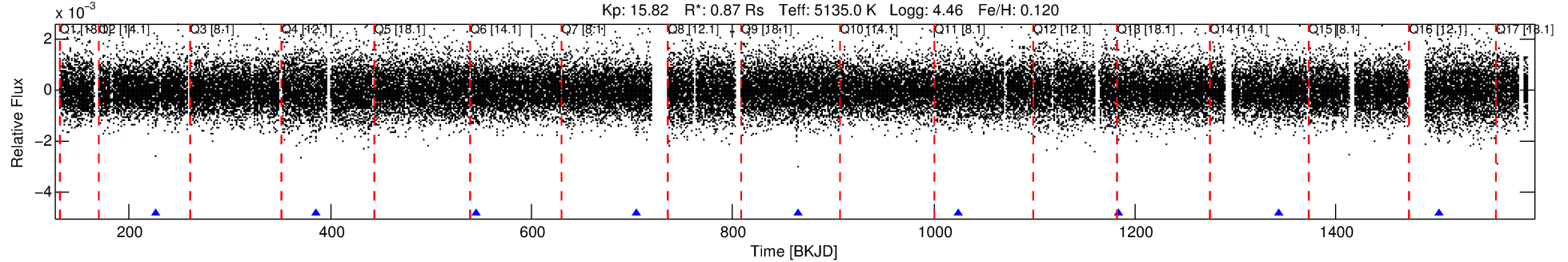
No Significant Match Found

DV One-Page Summary

KIC: 8758204 Candidate: 1 of 1 Period: 159.394 d

KOI: K02841.01 Corr: 0.923

Kp: 15.82 R*: 0.87 Rs Teff: 5135.0 K Logg: 4.46 Fe/H: 0.120



DV Fit Results:

Period = 159.39371 [0.00290] d
Epoch = 226.9217 [0.0141] BKJD
Rp/R* = 0.0344 [0.0030]
a/R* = 59.51 [17.42]
b = 0.92 [0.05]
Seff = 1.65 [0.27]
Teq = 289 [12] K
Rp = 3.28 [0.40] Re
a = 0.5366 [0.0484] AU
Ag = 3035.53 [1206.44] [2.52σ]
Teffp = 3318 [310] K [9.76σ]

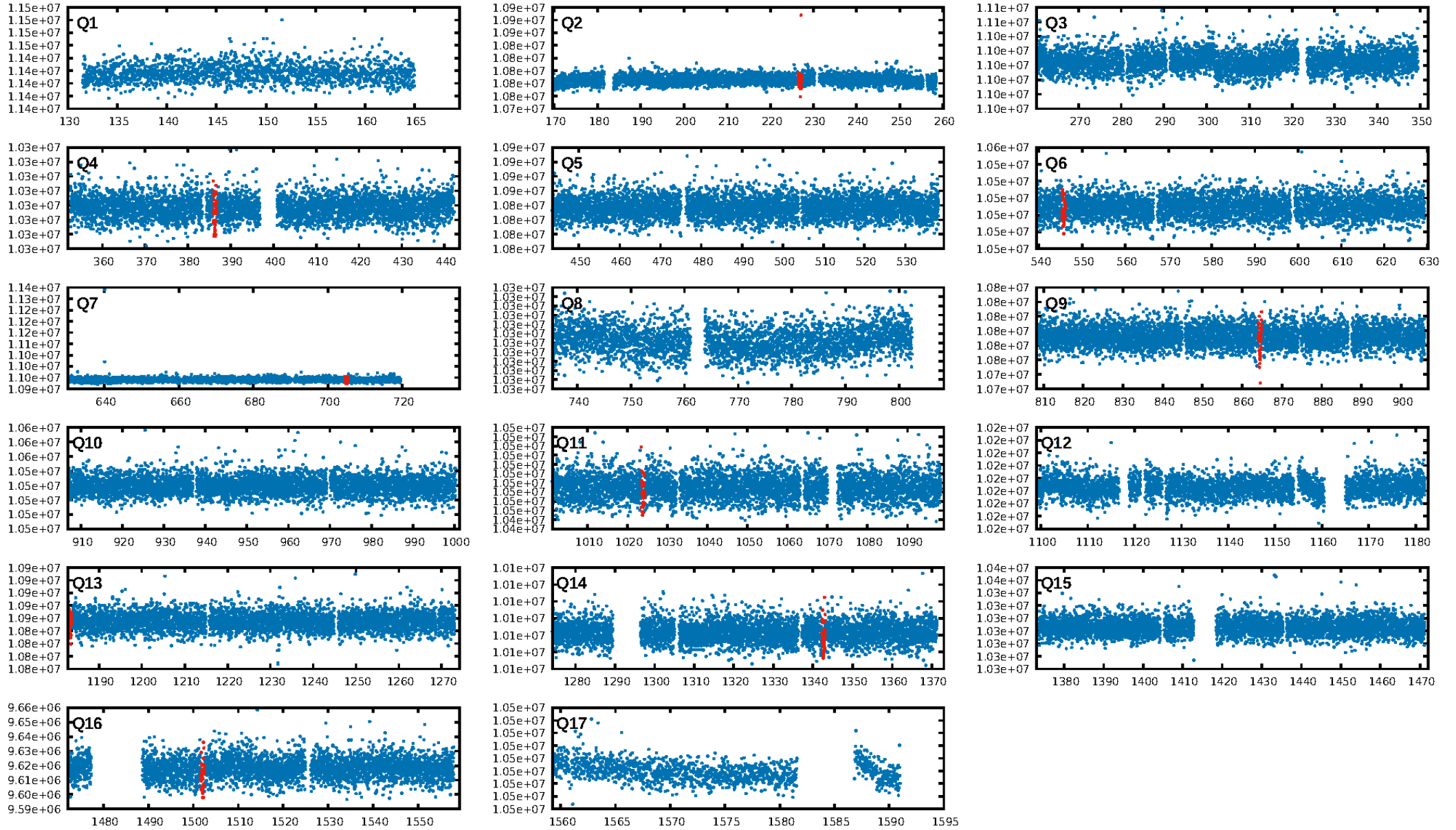
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 29.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.79e-53
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 3.078
Centroid-sig: 5.7%
Centroid-so: 1.452 arcsec [1.68σ]
OotOffset-rm: 0.368 arcsec [1.72σ]
KicOffset-rm: 0.533 arcsec [2.30σ]
OotOffset-st: 3/1/2/1 [7]
KicOffset-st: 3/1/2/1 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [8/8]

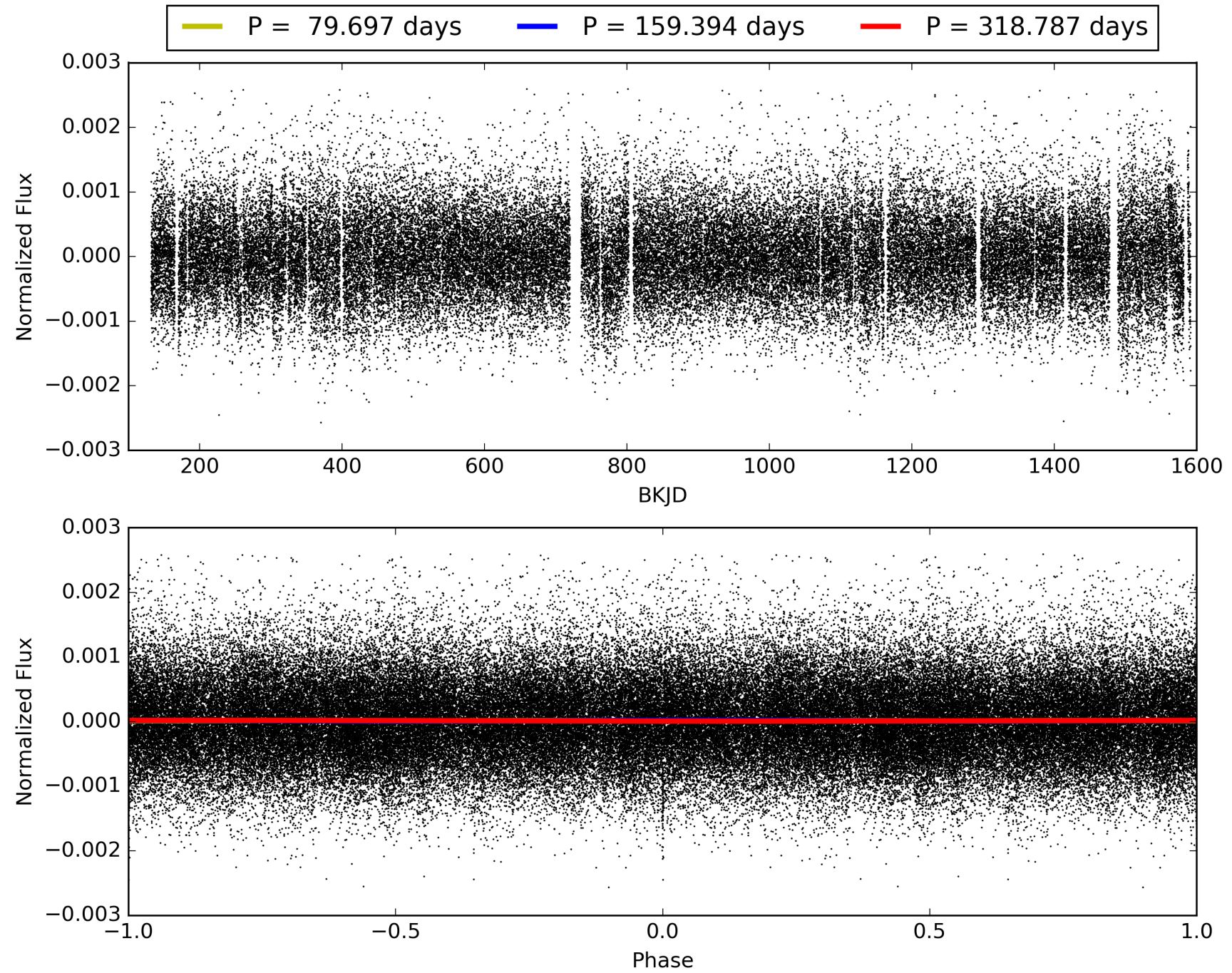
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:08:10 Z

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

TCE 008758204-01, PDC Light Curves

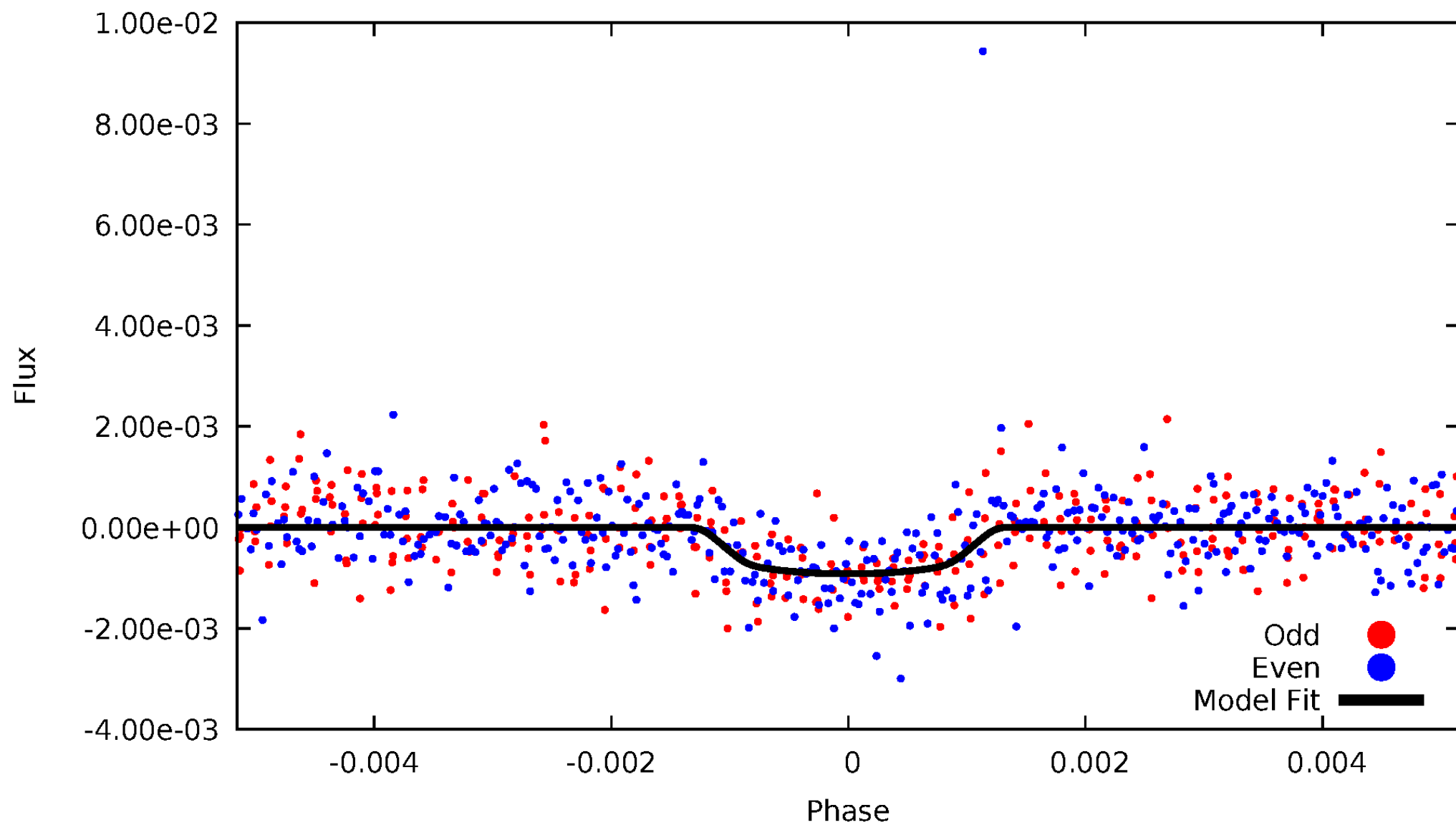


TCE 008758204-01



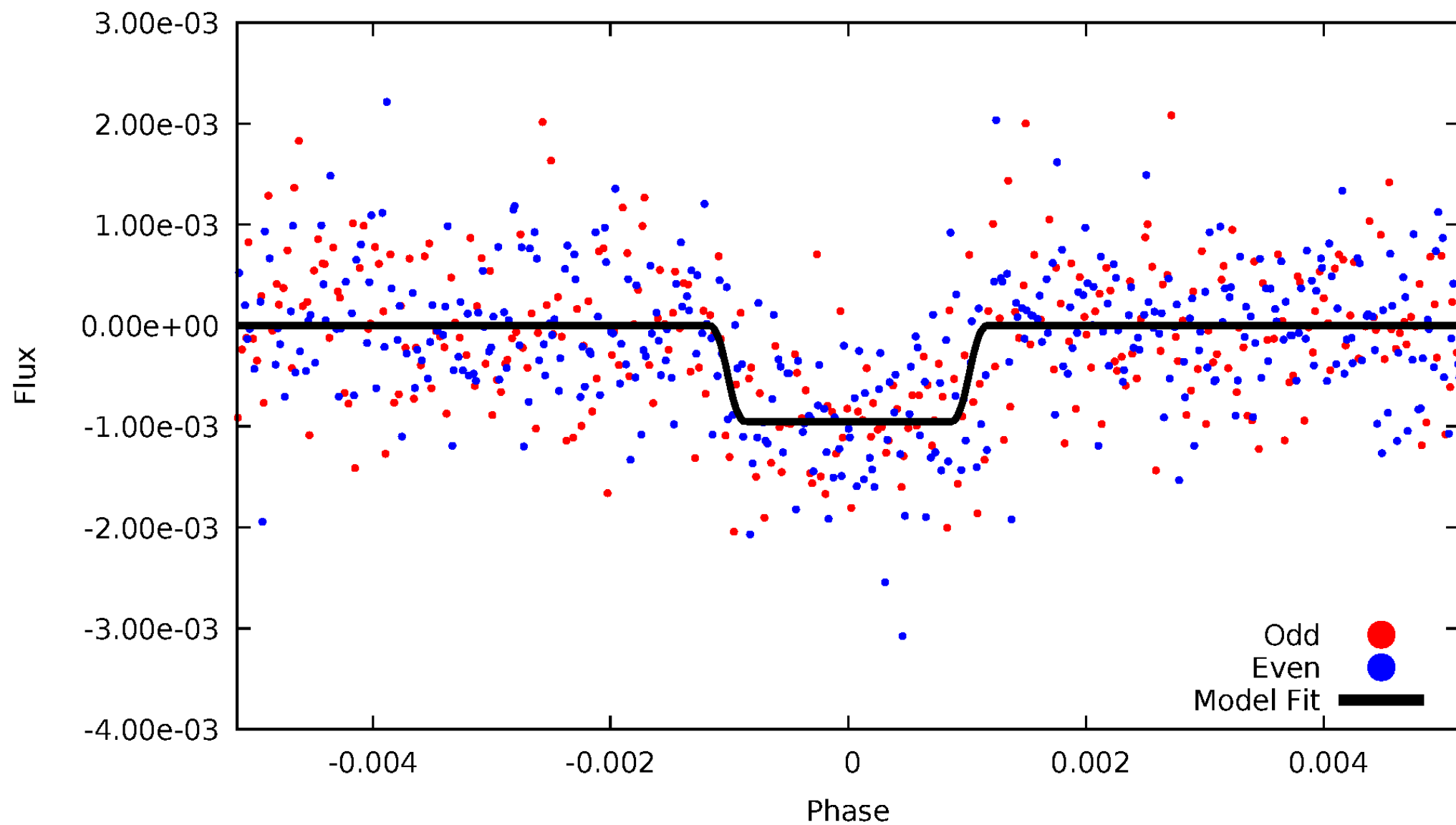
DV Odd/Even

TCE 008758204-01



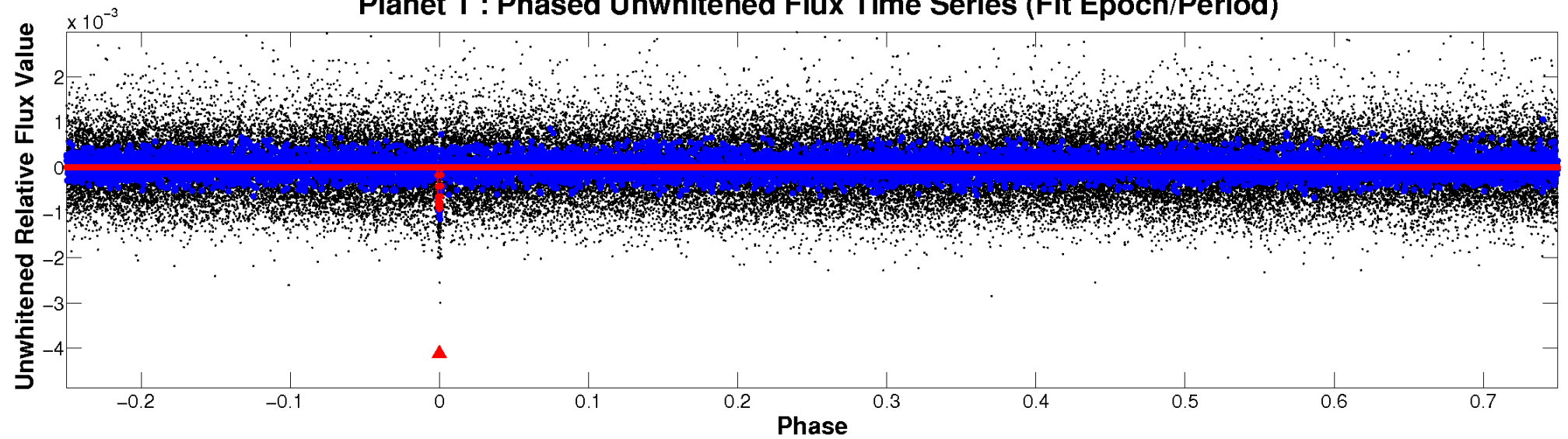
ALT Odd/Even

TCE 008758204-01

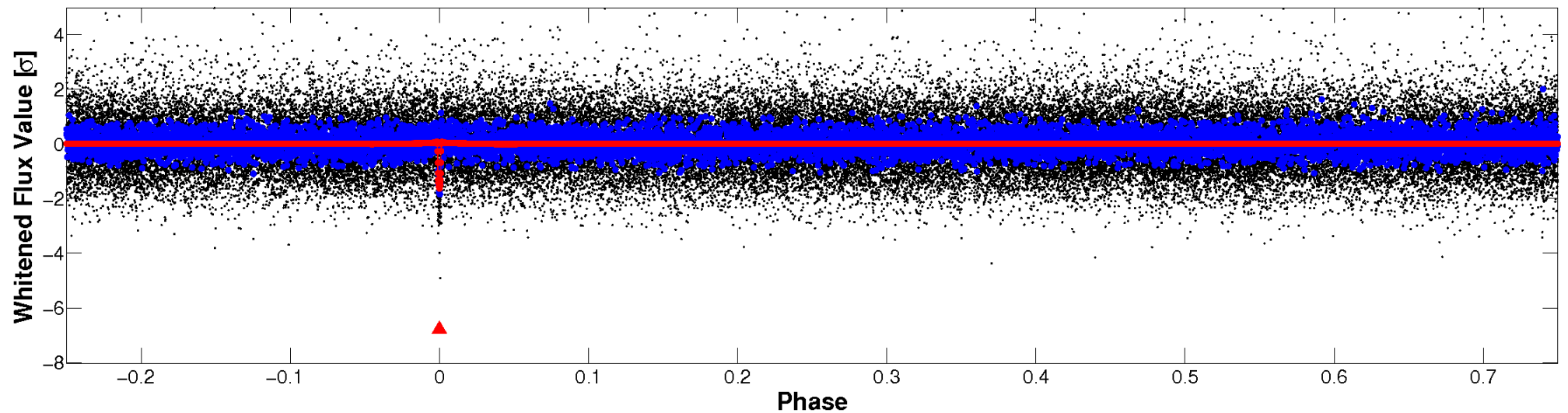


Non-Whitened Vs. Whitened Light Curve

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

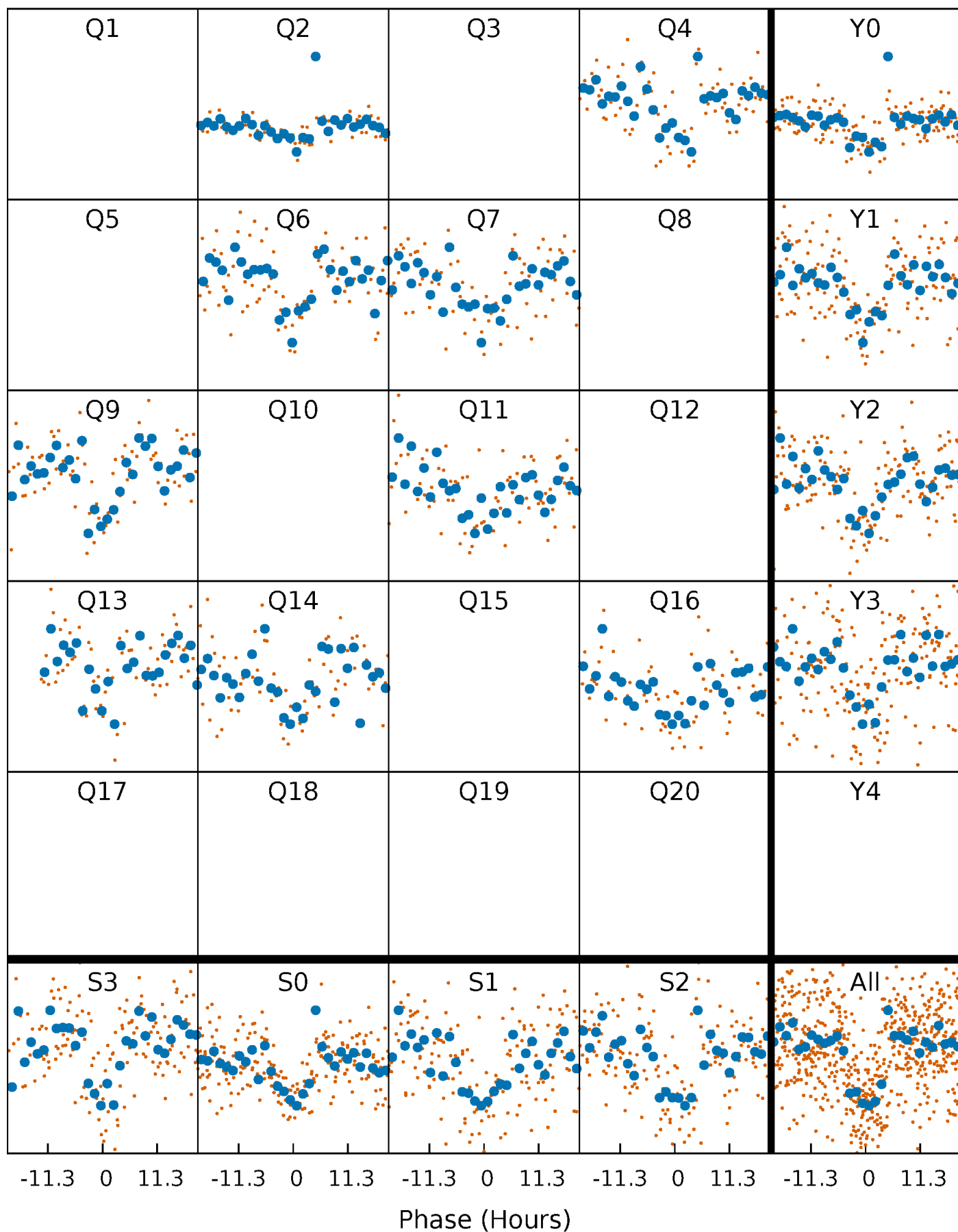


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



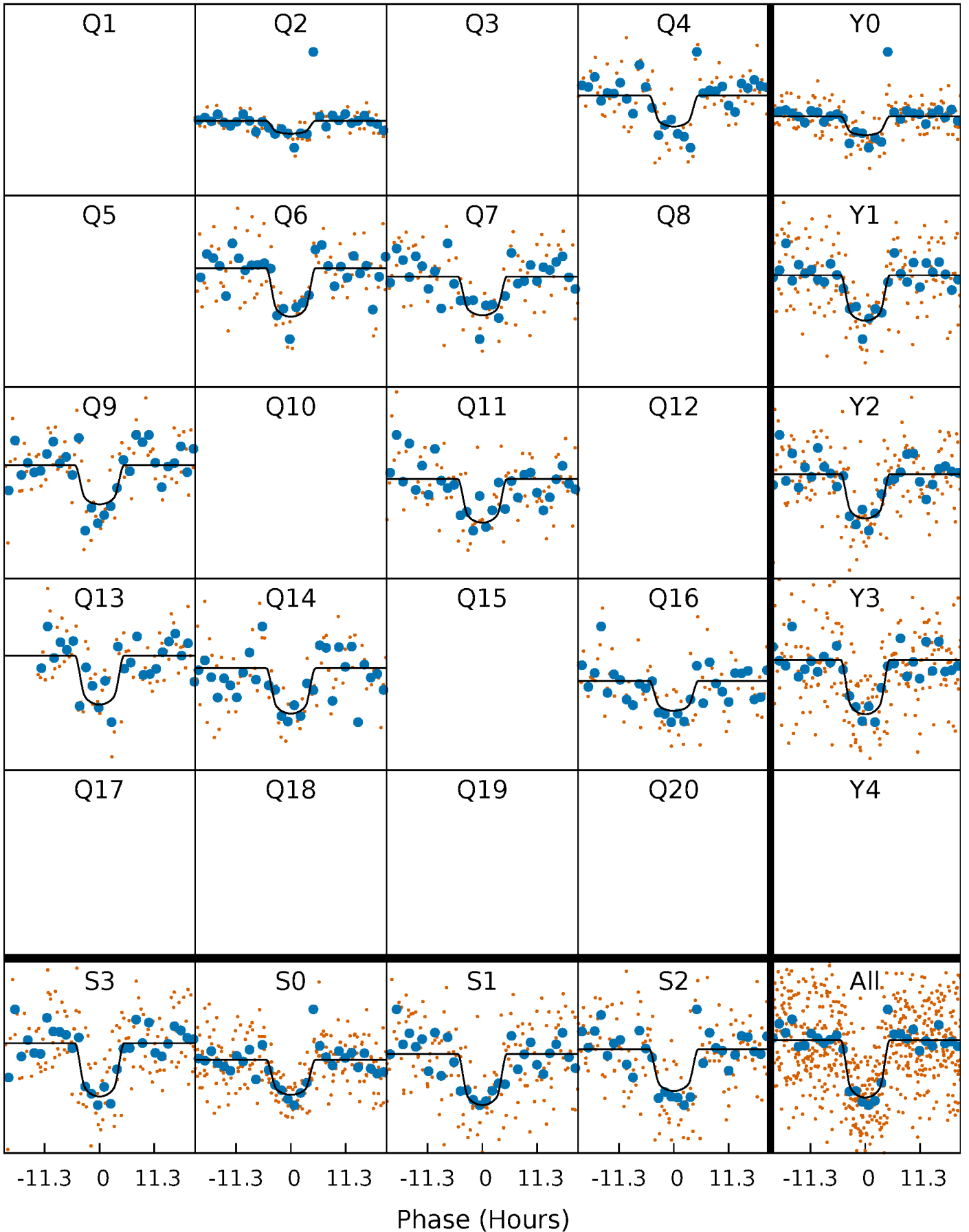
PDC Quarter-Phased Transit Curves

TCE 008758204-01 P=159.393710 Days $T_0=226.921728$ (BKJD)



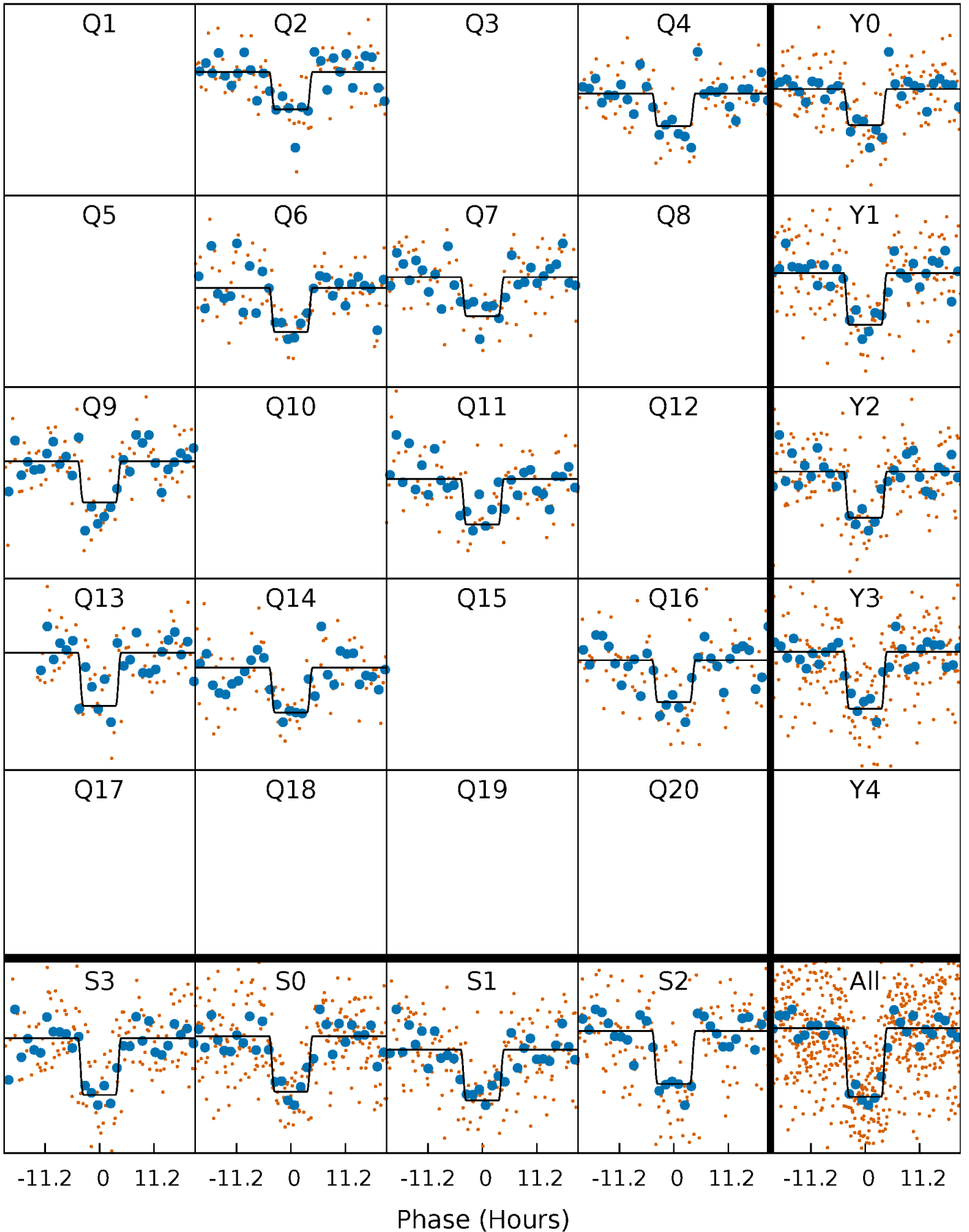
DV Quarter-Phased Transit Curves

TCE 008758204-01 P=159.393710 Days $T_0=226.921728$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

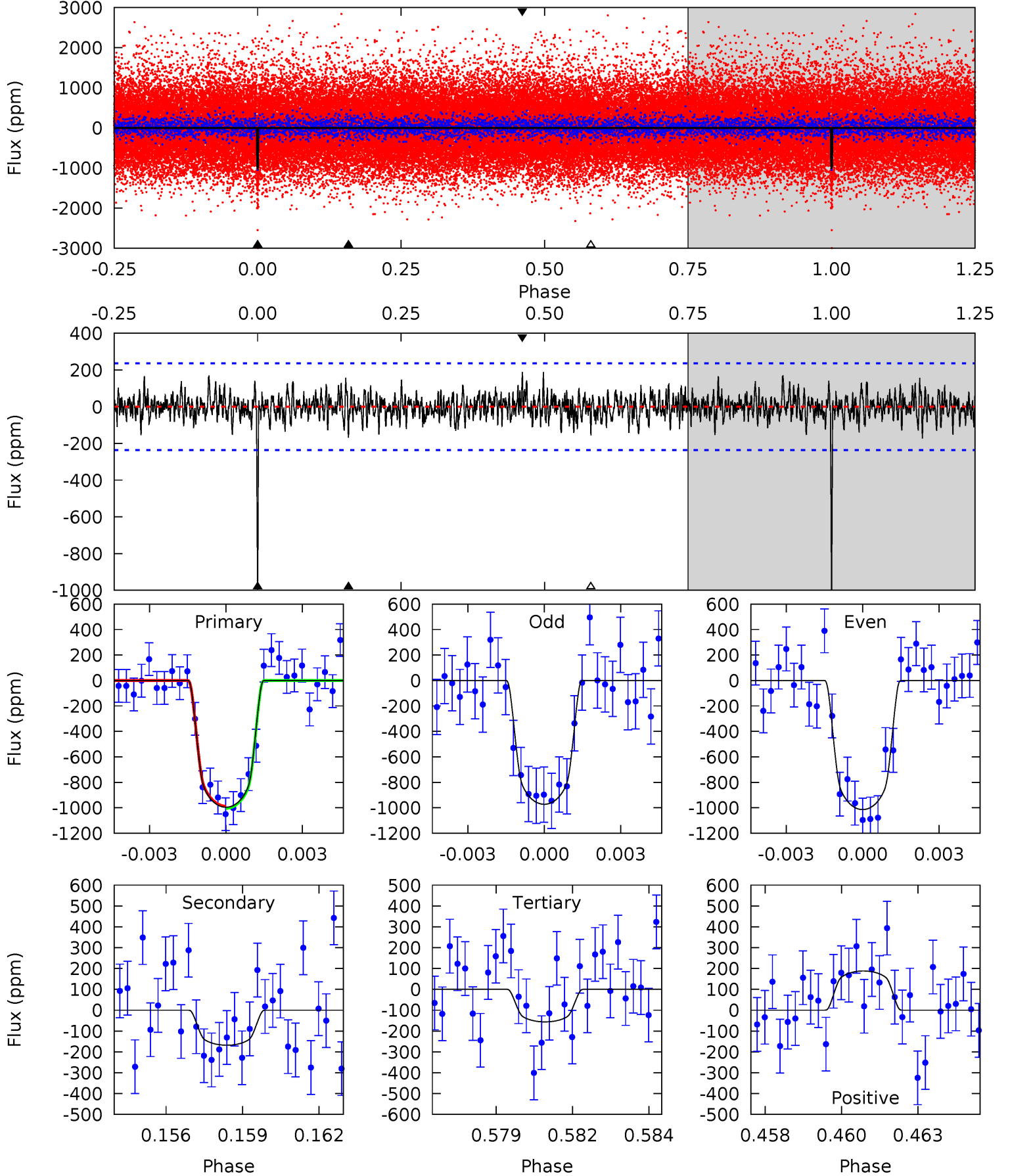
TCE 008758204-01 P=159.396032 Days $T_0=226.910270$ (BKJD)



DV Model-Shift Uniqueness Test

008758204-01, P = 159.393710 Days, E = 67.528018 Days

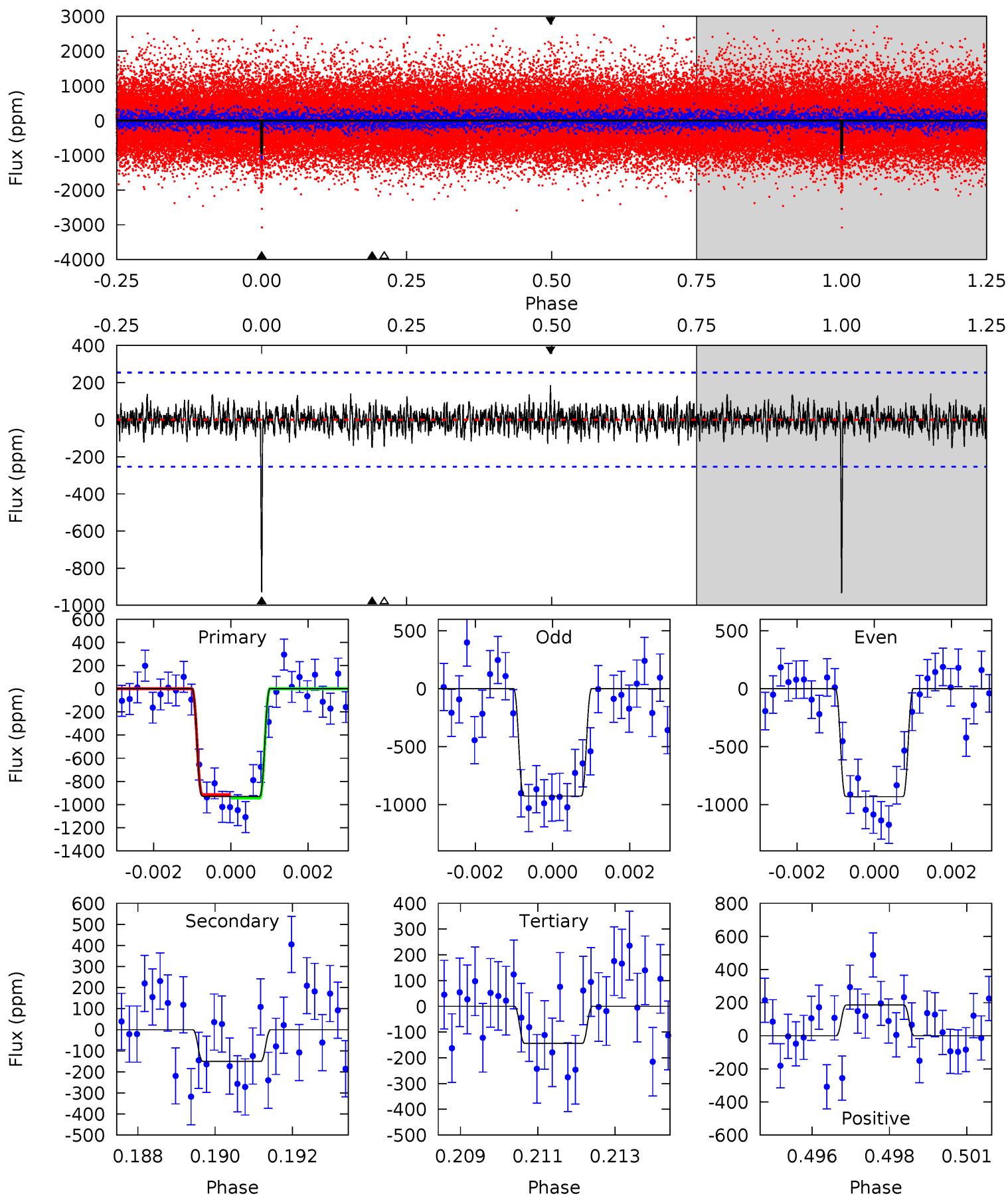
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	3.75	3.48	4.19	5.27	3.00	1.16	18.7	18.0	0.27	-0.45	0.46	1.04	0.16	0.19



Alt Model-Shift Uniqueness Test

008758204-01, P = 159.396032 Days, E = 67.514238 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	3.15	3.01	3.88	5.30	3.05	0.91	16.4	15.5	0.13	-0.74	0.05	0.97	0.17	0.33



Stellar Parameters For KIC 008758204

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5135^{+84}_{-77}	$4.464^{+0.090}_{-0.036}$	$0.120^{+0.150}_{-0.150}$	$0.874^{+0.044}_{-0.076}$	$0.812^{+0.061}_{-0.031}$	$1.712^{+0.607}_{-0.208}$
	+2%/-1%	+2%/-1%	+125%/-125%	+5%/-9%	+8%/-4%	+35%/-12%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 008758204-01 / KOI 2841.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-168 ± 45	$3.26^{+0.33}_{-0.33}$	401^{+10}_{-11}	3578^{+176}_{-211}	2586^{+921}_{-817}
Alt.	-151 ± 48	$2.92^{+0.35}_{-0.29}$	402^{+9}_{-10}	3619^{+234}_{-234}	2783^{+1209}_{-981}

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

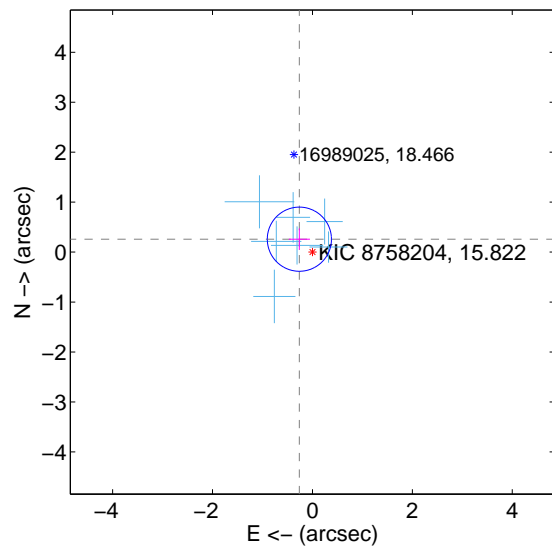
Supplemental centroid analysis for 008758204-01. Kepler magnitude: 15.82. Transit SNR 16.46

There are 7 quarters with good PRF difference image offsets

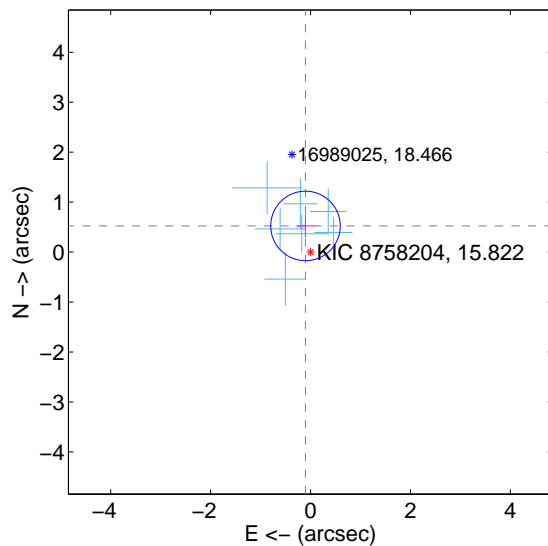
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.368 ± 0.214	1.72	0.262 ± 0.213	0.258 ± 0.215
PRF-fit source offset from KIC position	0.533 ± 0.232	2.30	0.101 ± 0.183	0.524 ± 0.228
photometric centroid source offset	1.45 ± 0.86	1.68	-0.83 ± 0.80	1.19 ± 0.89

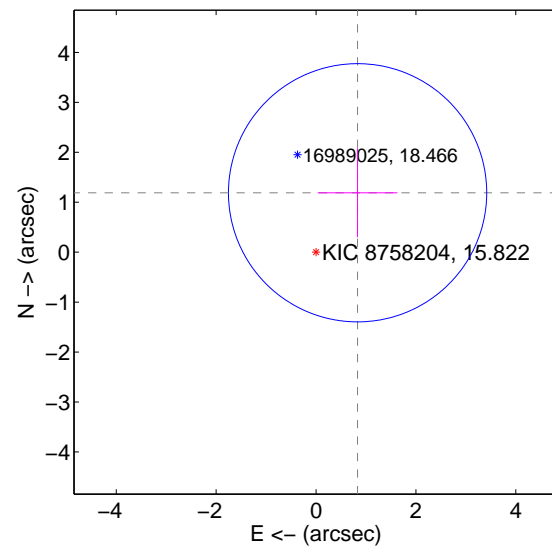
offset from difference PRF-fit to OOT PRF-fit



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.

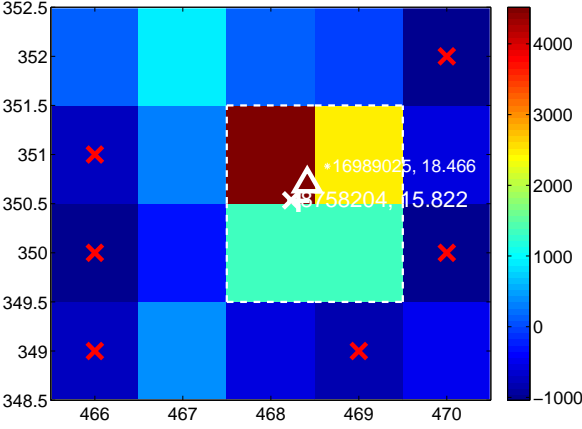
Q1 no difference image



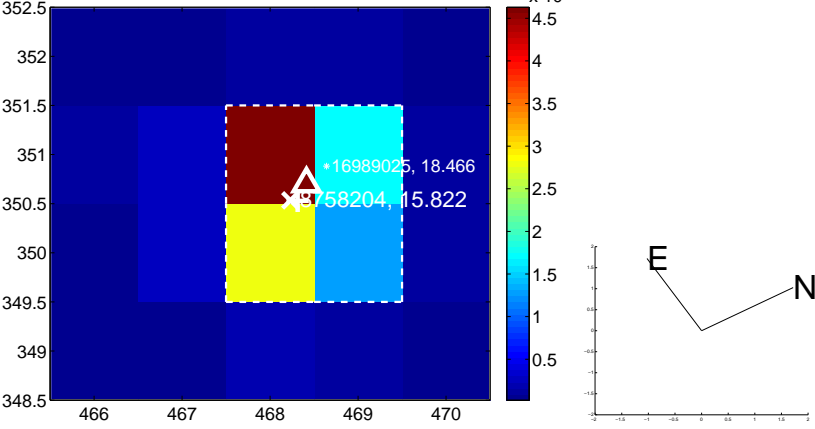
Q1 no OOT image



Q2 difference image



Q2 OOT image



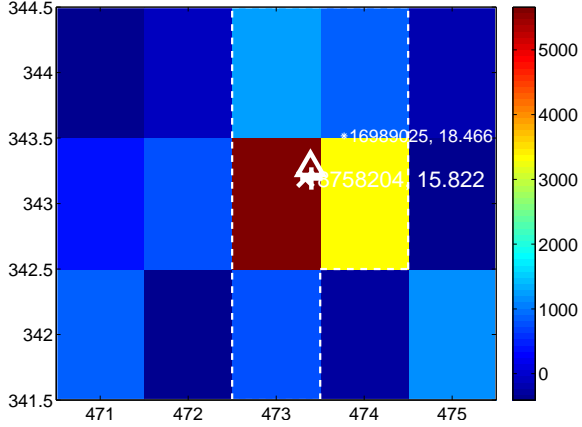
Q3 no difference image



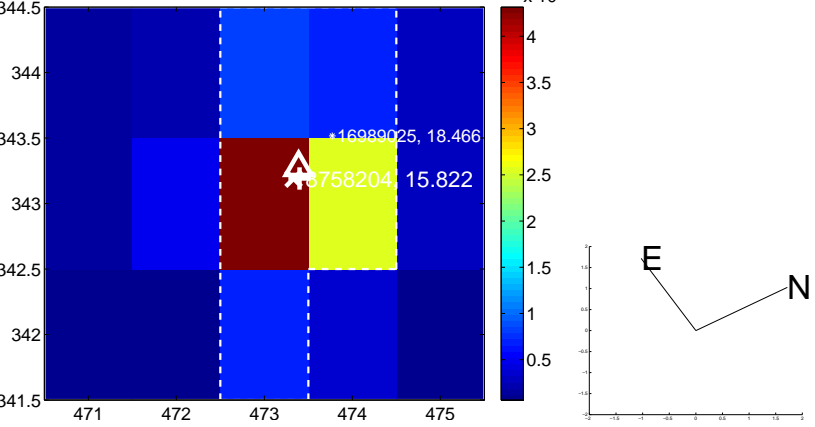
Q3 no OOT image



Q4 difference image



Q4 OOT image

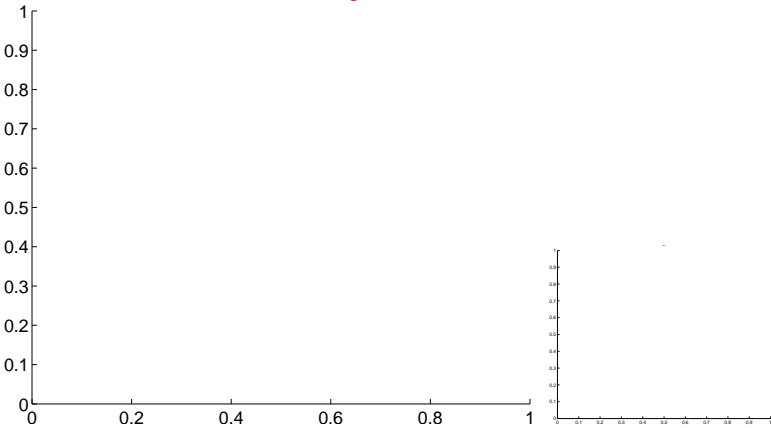


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

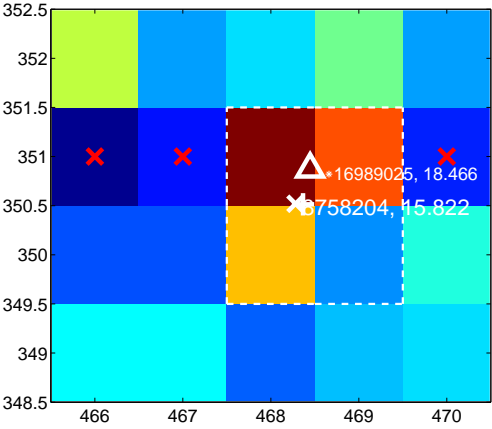
Q5 no difference image



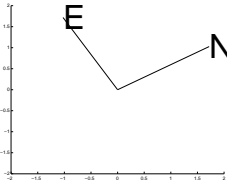
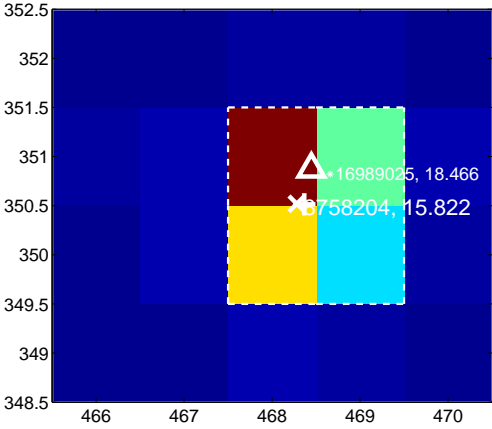
Q5 no OOT image



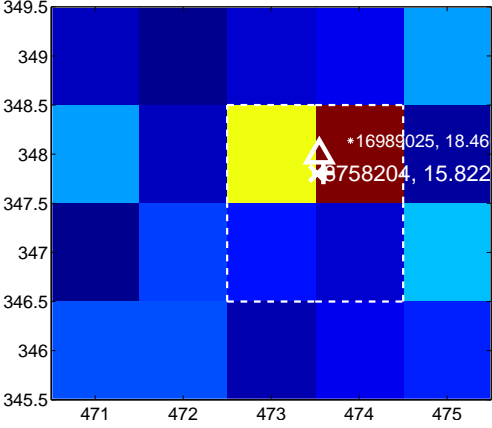
Q6 difference image



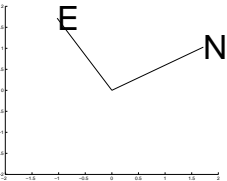
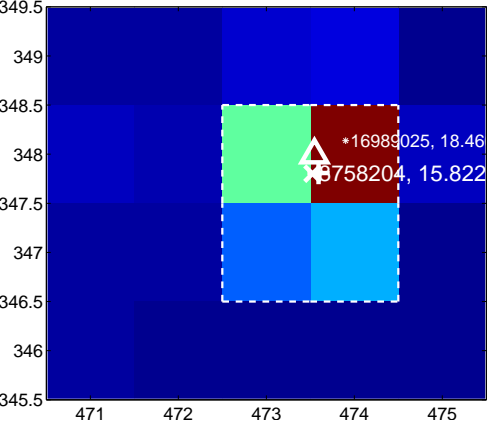
Q6 OOT image



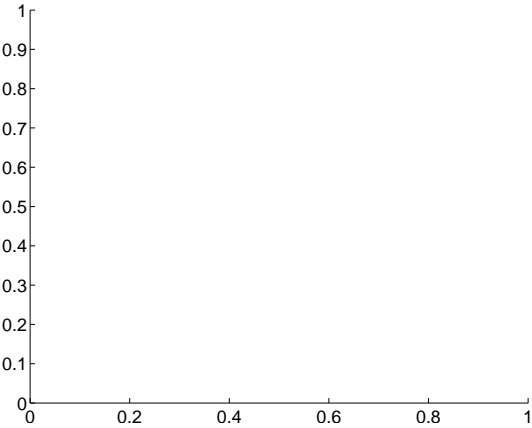
Q7 difference image



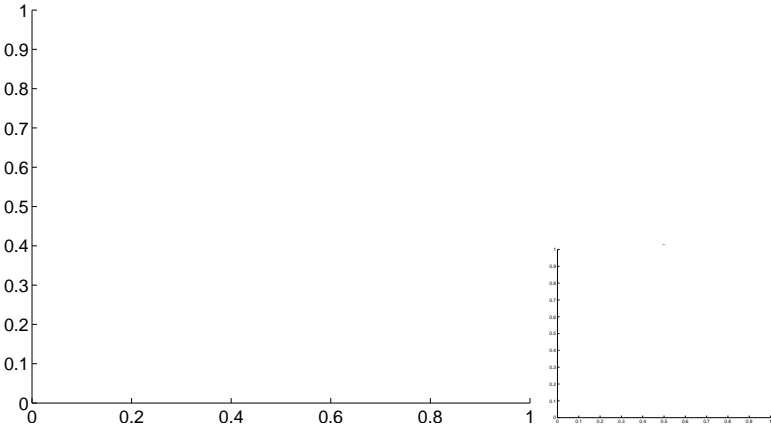
Q7 OOT image



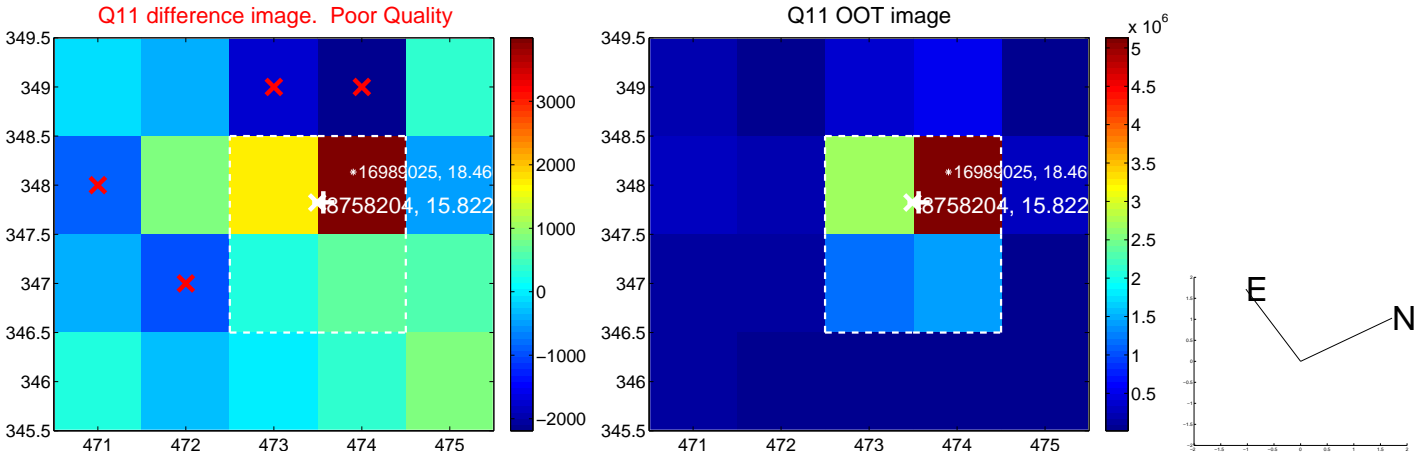
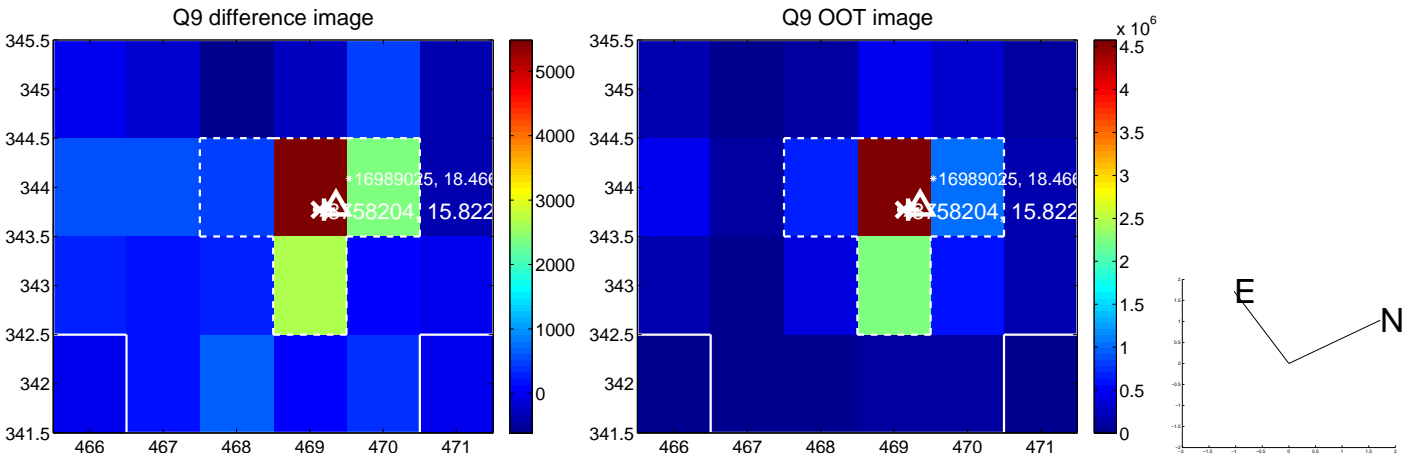
Q8 no difference image



Q8 no OOT image



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.

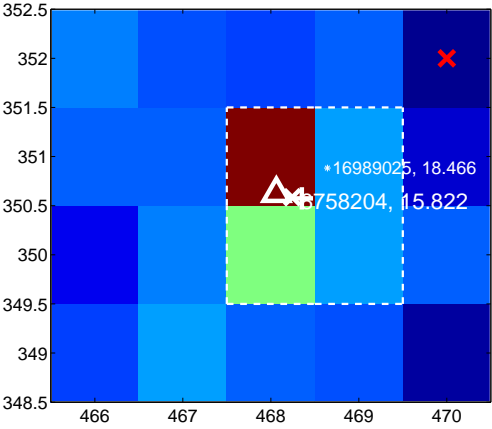
Q13 no difference image



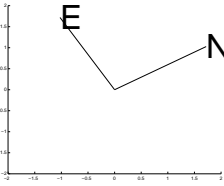
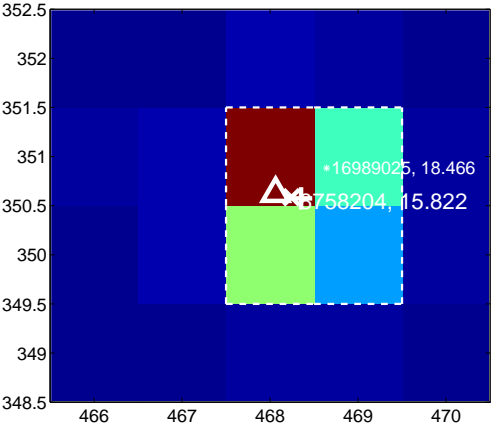
Q13 no OOT image



Q14 difference image



Q14 OOT image



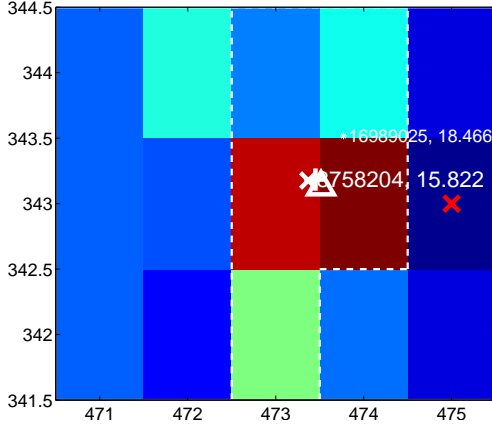
Q15 no difference image



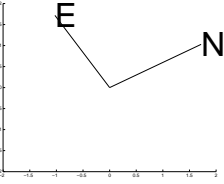
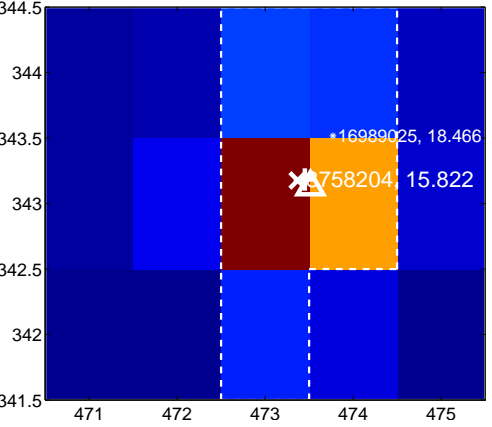
Q15 no OOT image



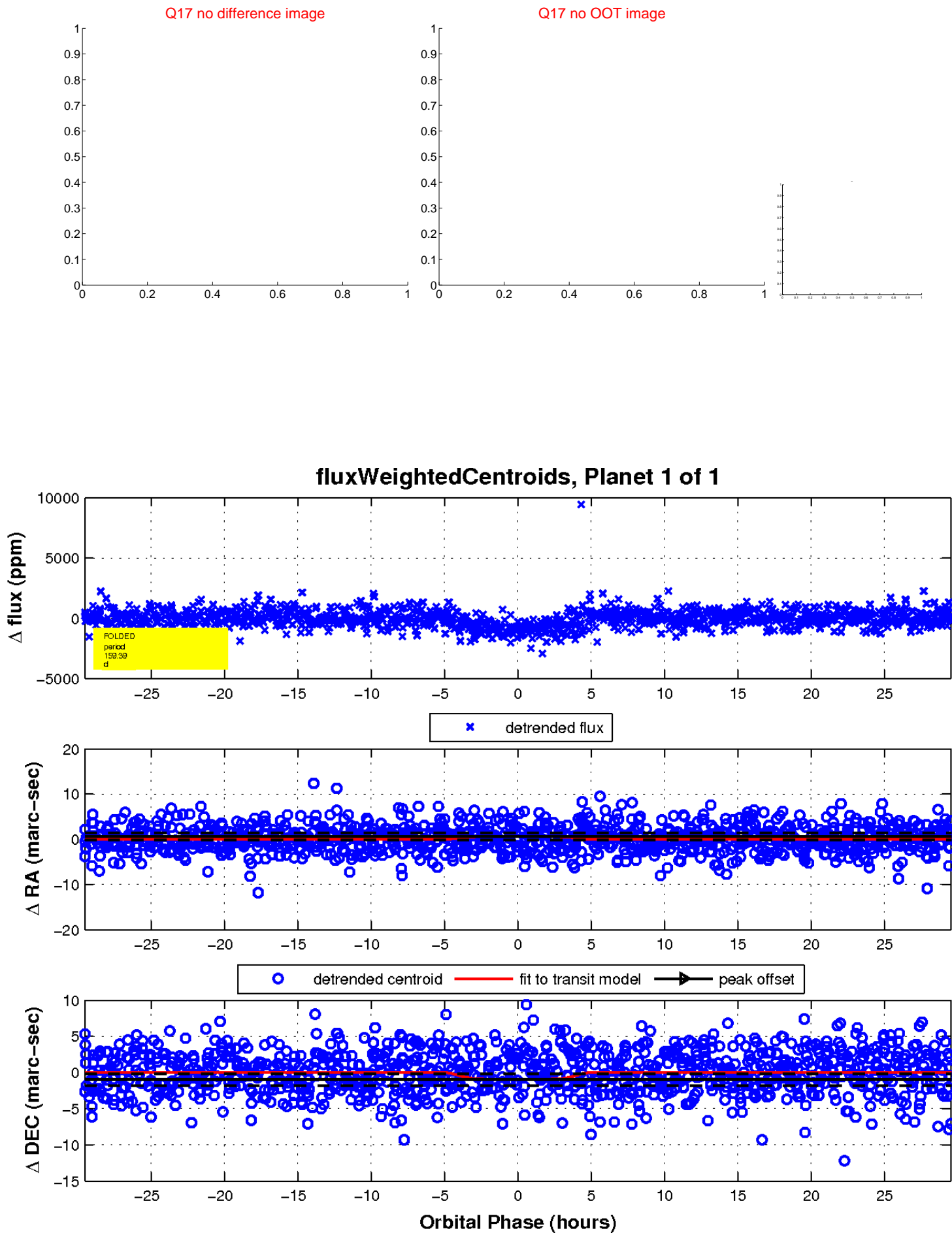
Q16 difference image



Q16 OOT image



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



UKIRT Image

Declination

