

KIC 007968859

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})
007968859-02	OBS	No	353.618902	285.792672	361.5	23.787	8.1	8.9	0.87	5645	1.70	0.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007968859-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

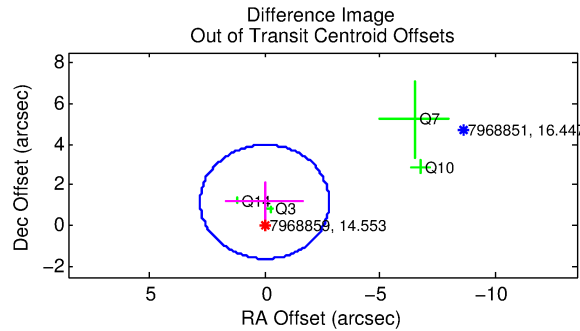
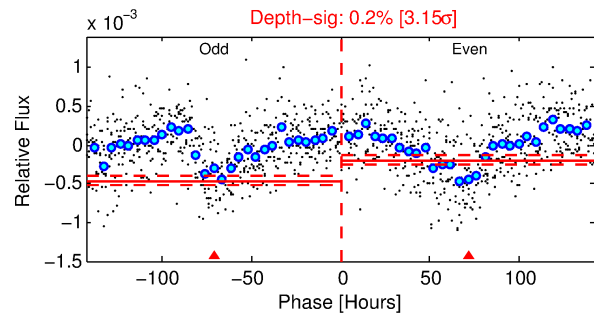
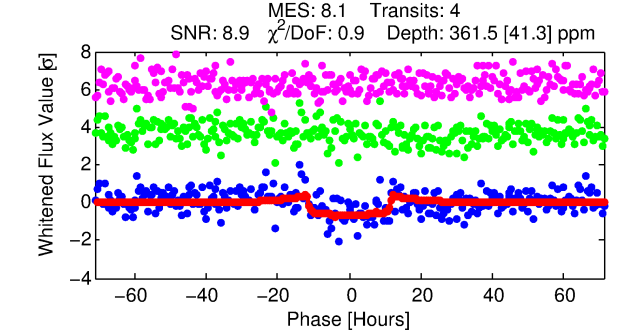
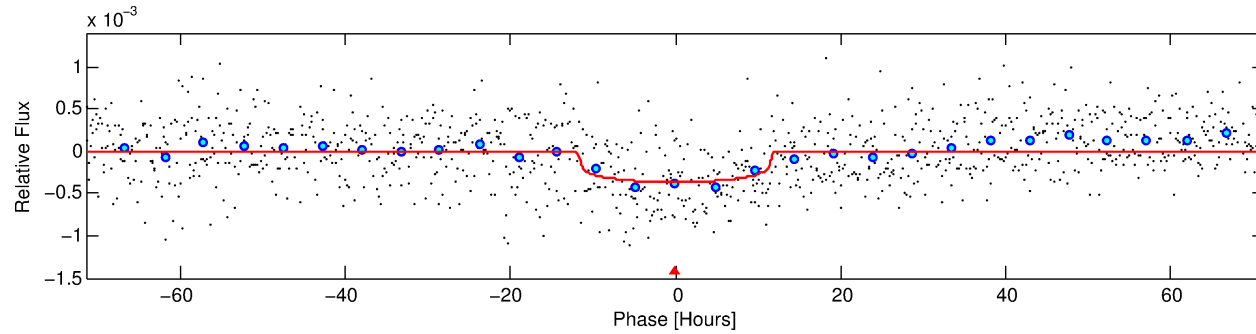
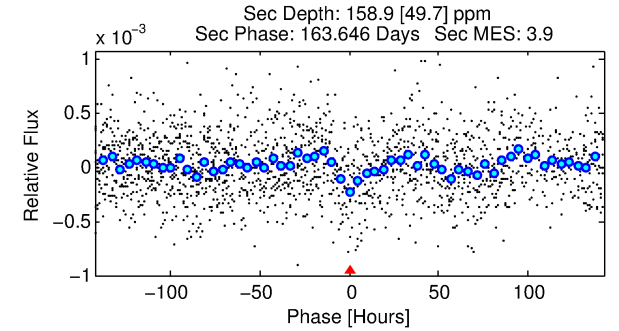
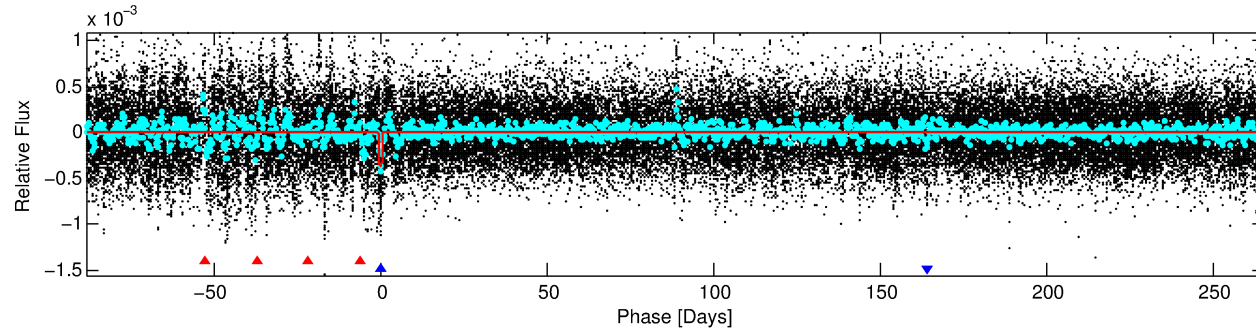
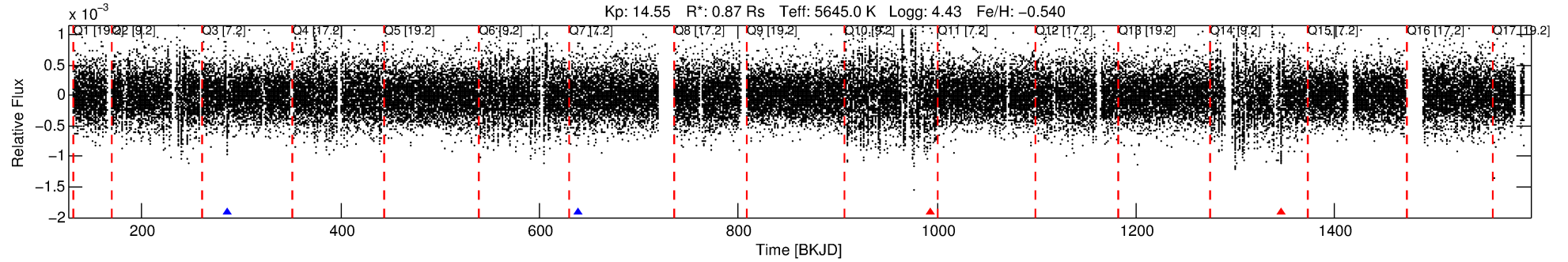
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007968859-02

No Significant Match Found

DV One-Page Summary

KIC: 7968859 Candidate: 2 of 2 Period: 353.619 d



DV Fit Results:

Period = 353.61890 [0.01182] d
Epoch = 285.7927 [0.0229] BKJD
Rp/R* = 0.0179 [0.0061]
a/R* = 98.64 [152.61]
b = 0.53 [2.11]
Seff = 0.88 [0.30]
Teff = 247 [21] K
Rp = 1.70 [0.71] Re
a = 0.8880 [0.1860] AU
Ag = 23731.92 [19421.45] [1.22σ]
Teffp = 4733 [902] K [4.97σ]

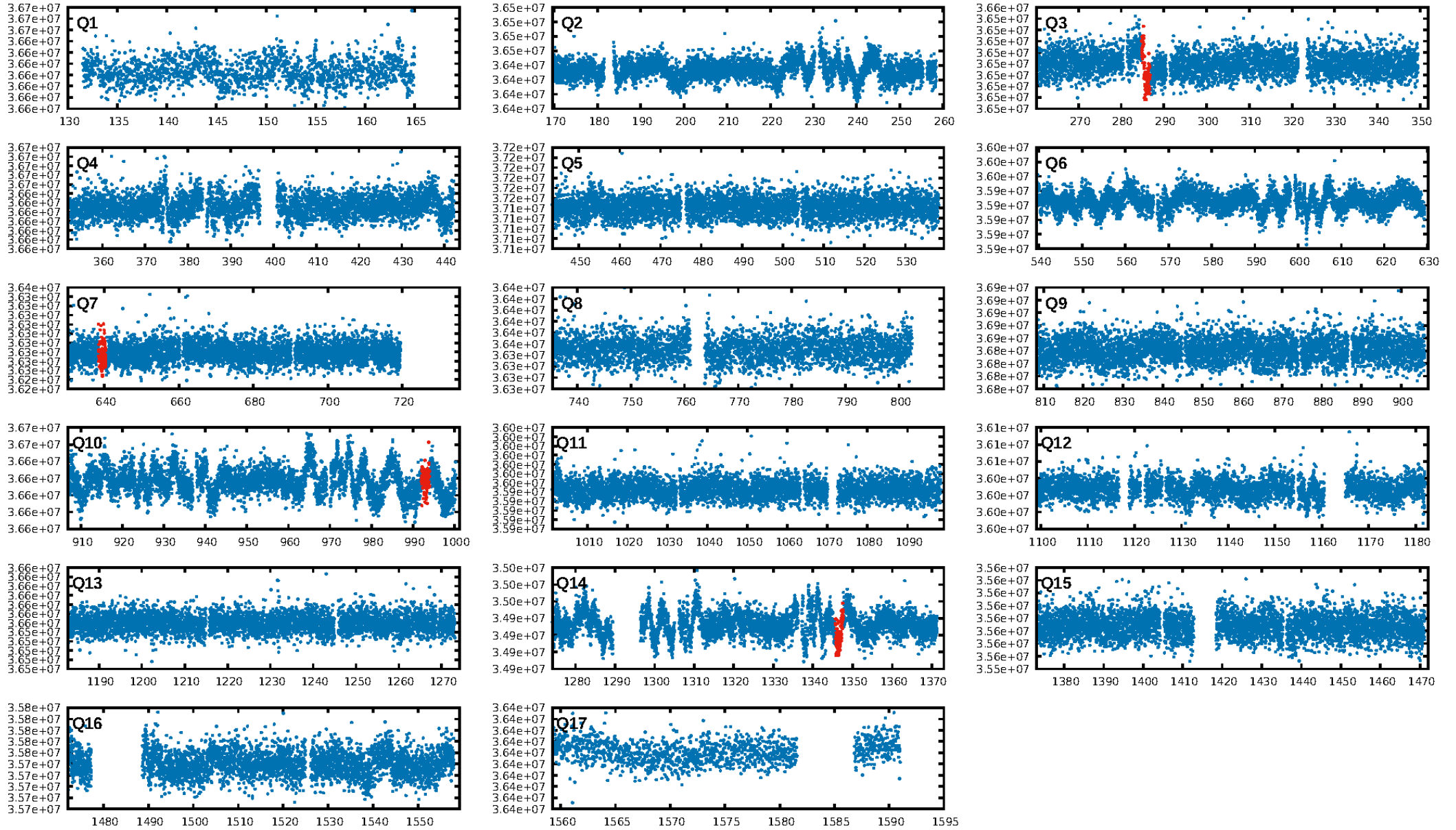
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [10.91σ]
ModelChiSquare2-sig: 18.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.15e-11
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: -2.939
Centroid-sig: 0.2%
Centroid-so: 2.729 arcsec [1.84σ]
OotOffset-rm: 1.180 arcsec [1.27σ]
KicOffset-rm: 1.087 arcsec [1.27σ]
OotOffset-st: 2/2/0/0 [4]
KicOffset-st: 2/2/0/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

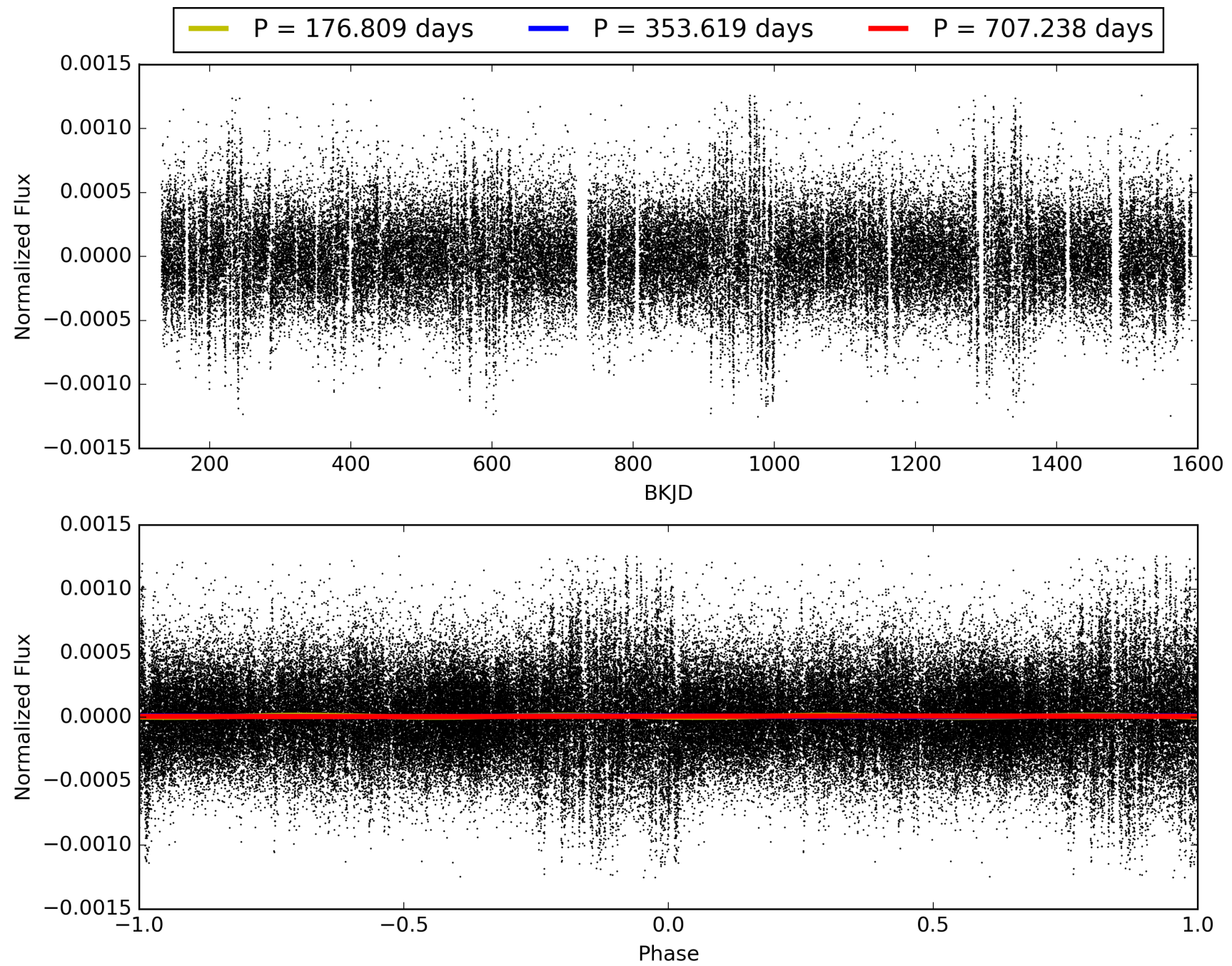
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:55:14 Z

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

TCE 007968859-02, PDC Light Curves

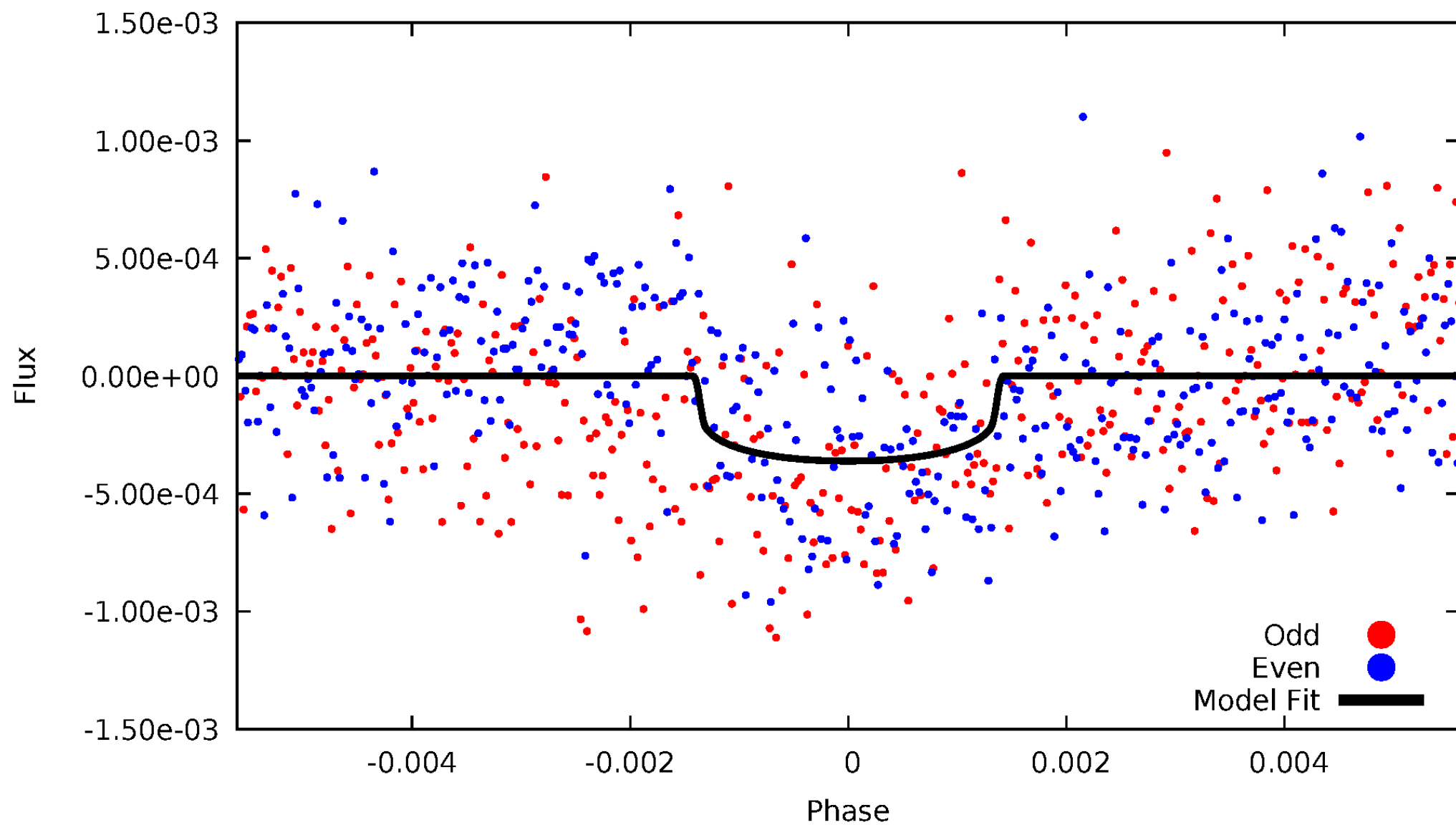


TCE 007968859-02



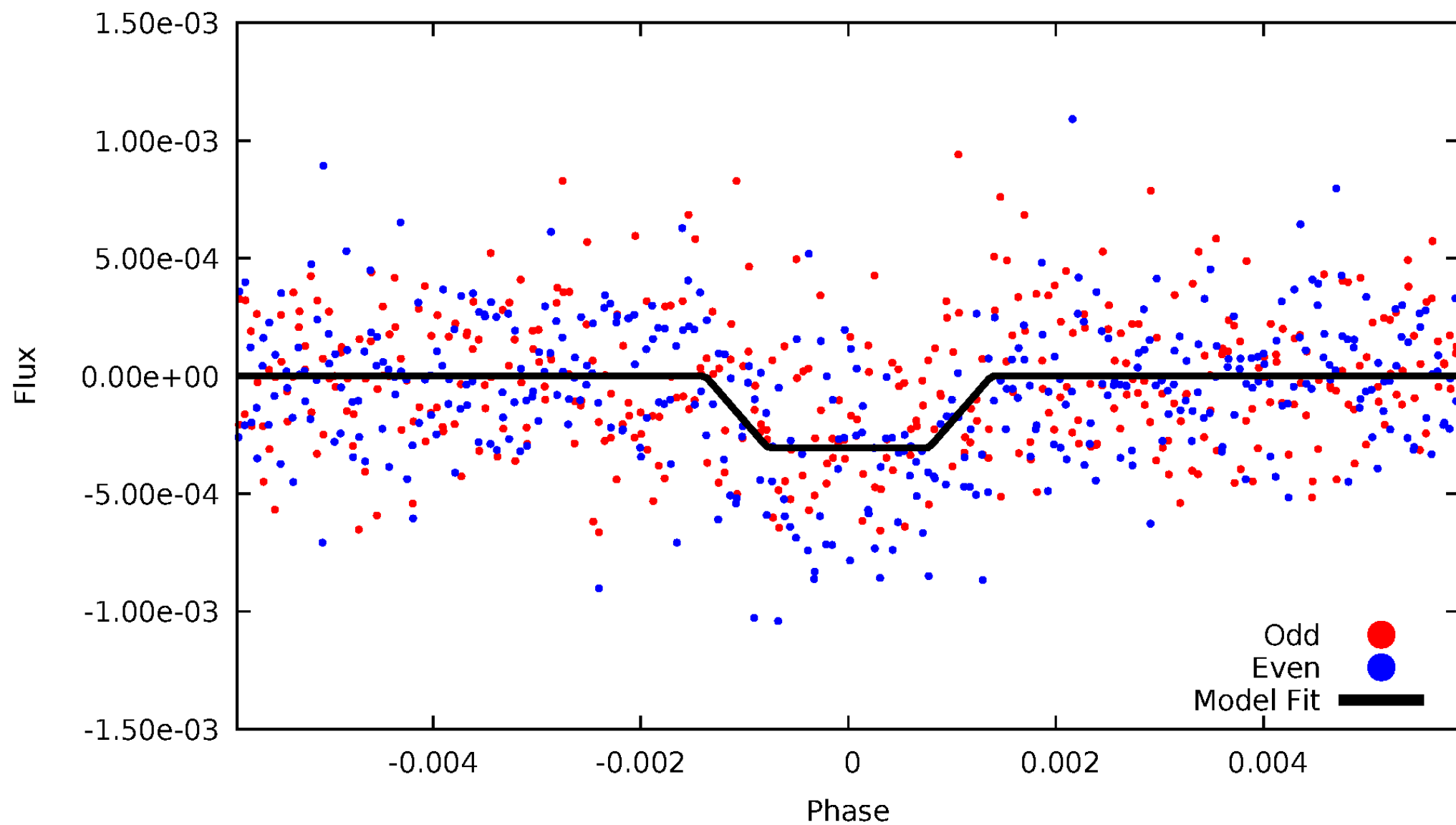
DV Odd/Even

TCE 007968859-02



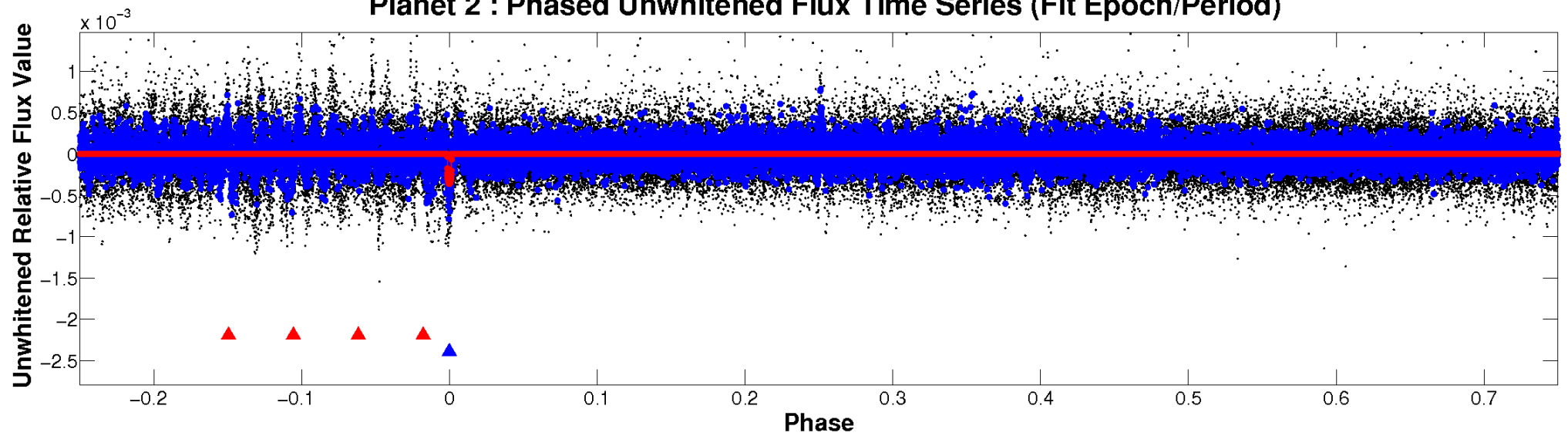
ALT Odd/Even

TCE 007968859-02

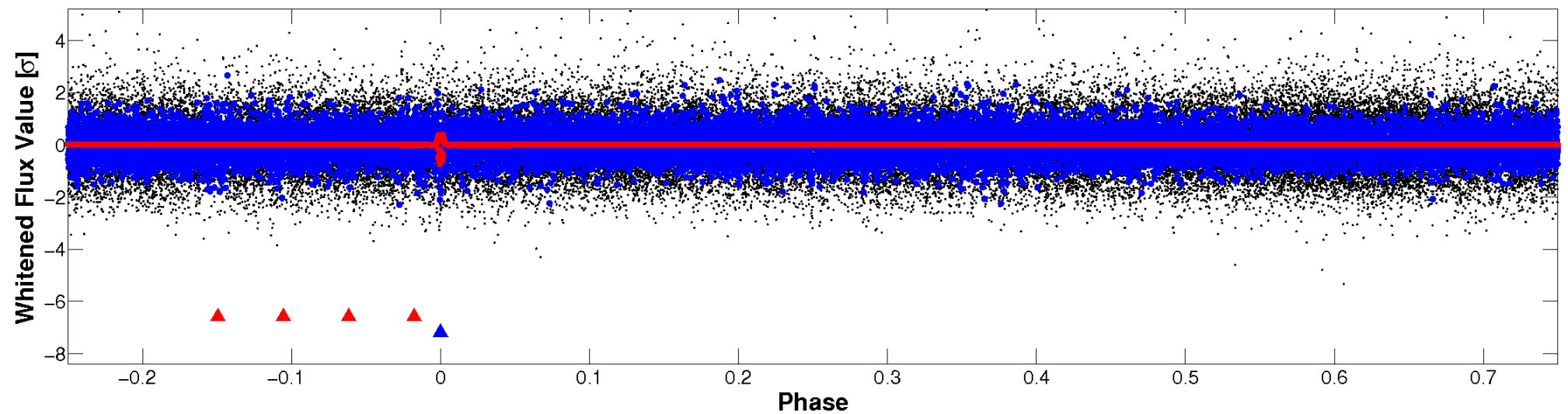


Non-Whitened Vs. Whitened Light Curve

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

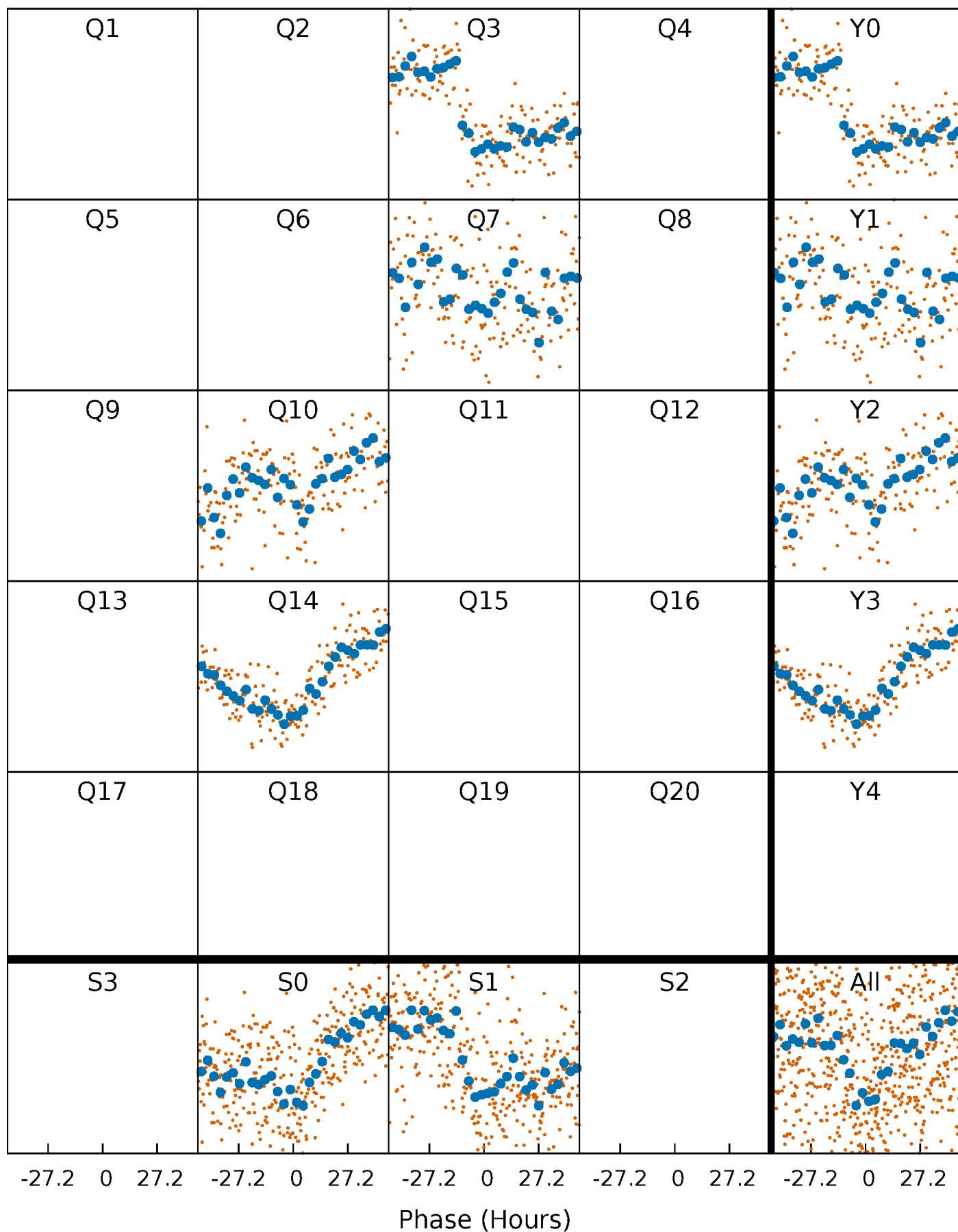


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



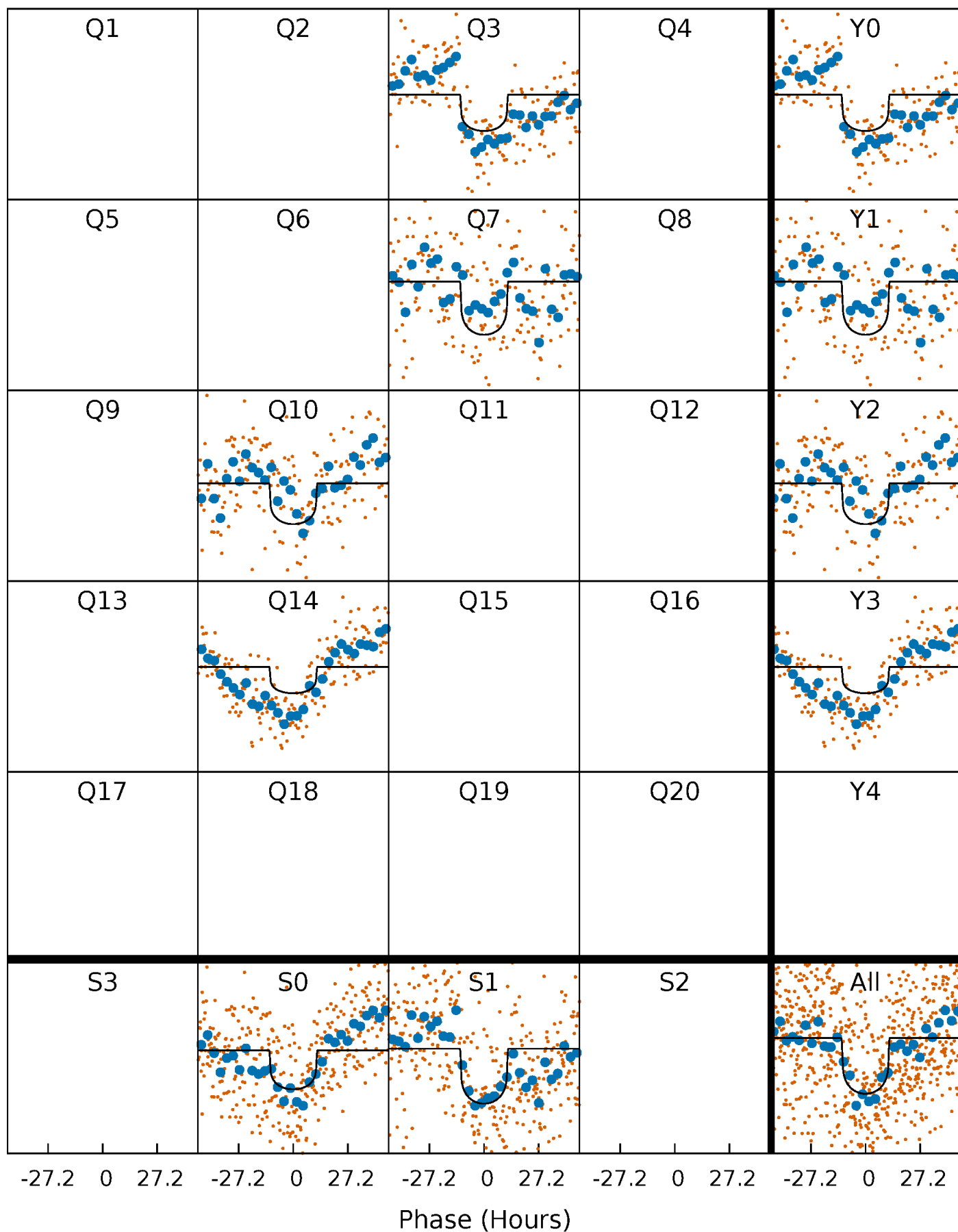
PDC Quarter-Phased Transit Curves

TCE 007968859-02 P=353.618902 Days $T_0=285.792672$ (BKJD)



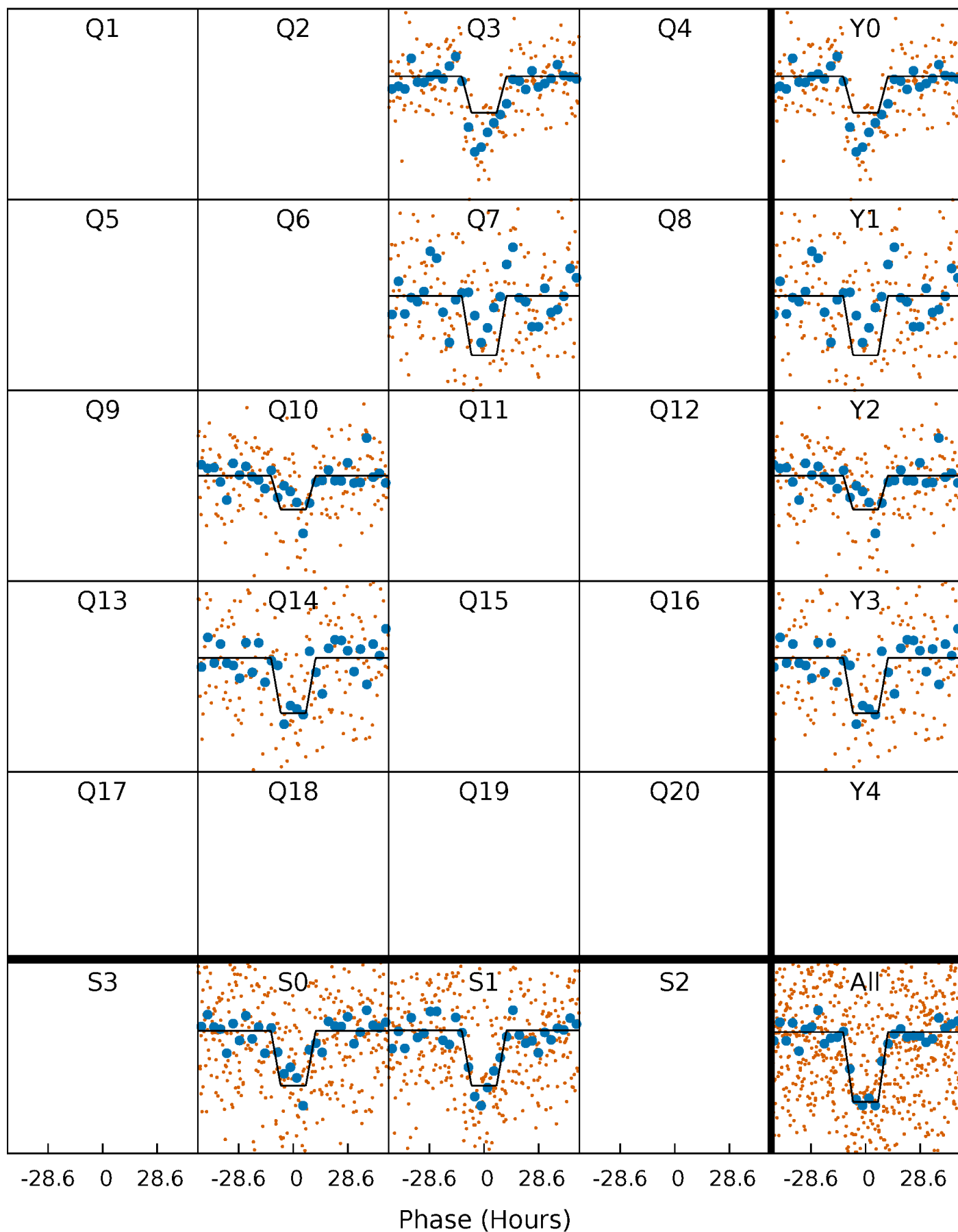
DV Quarter-Phased Transit Curves

TCE 007968859-02 P=353.618902 Days $T_0=285.792672$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

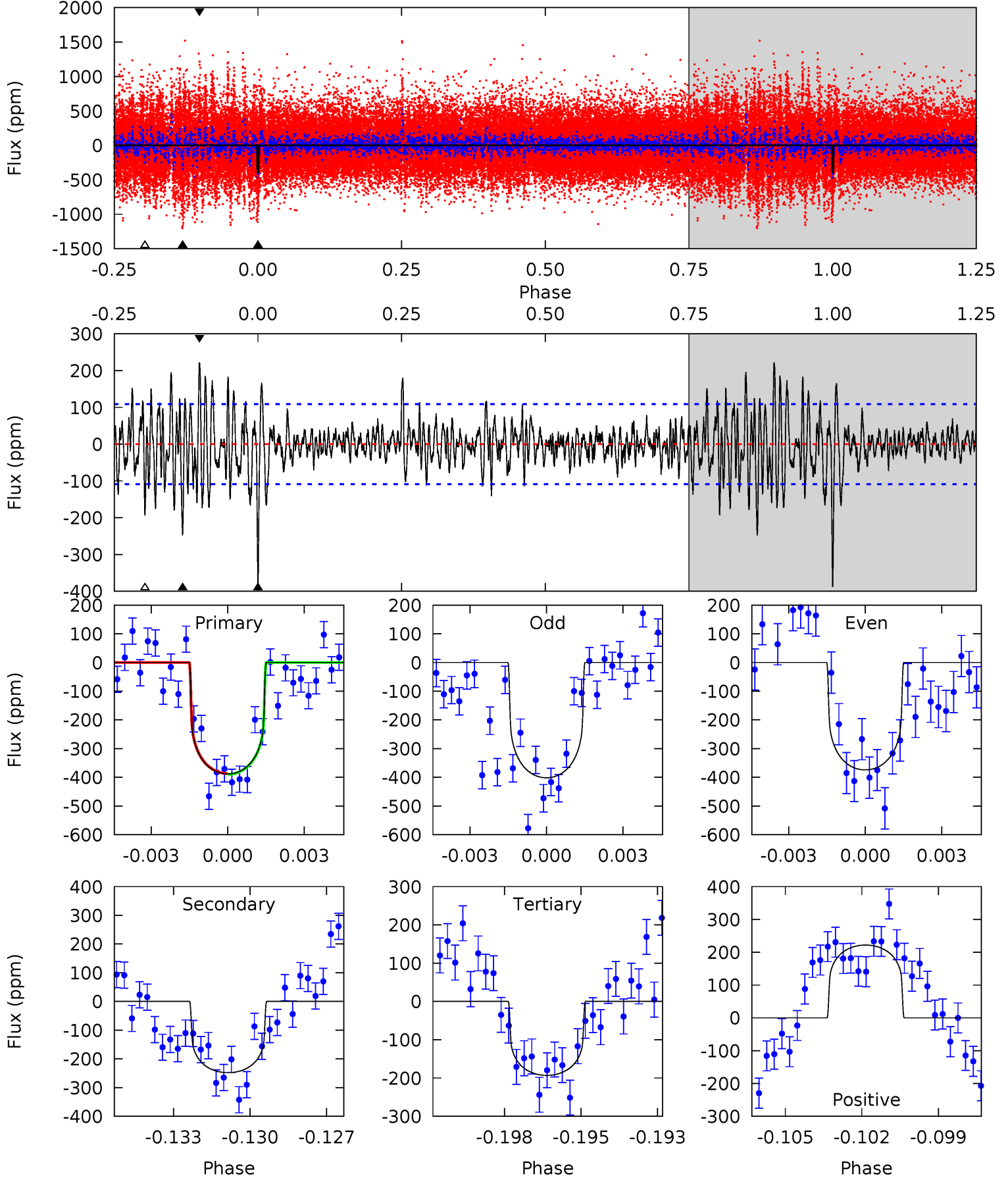
TCE 007968859-02 P=353.623189 Days $T_0=285.780835$ (BKJD)



DV Model-Shift Uniqueness Test

007968859-02, P = 353.618902 Days, E = 285.792672 Days

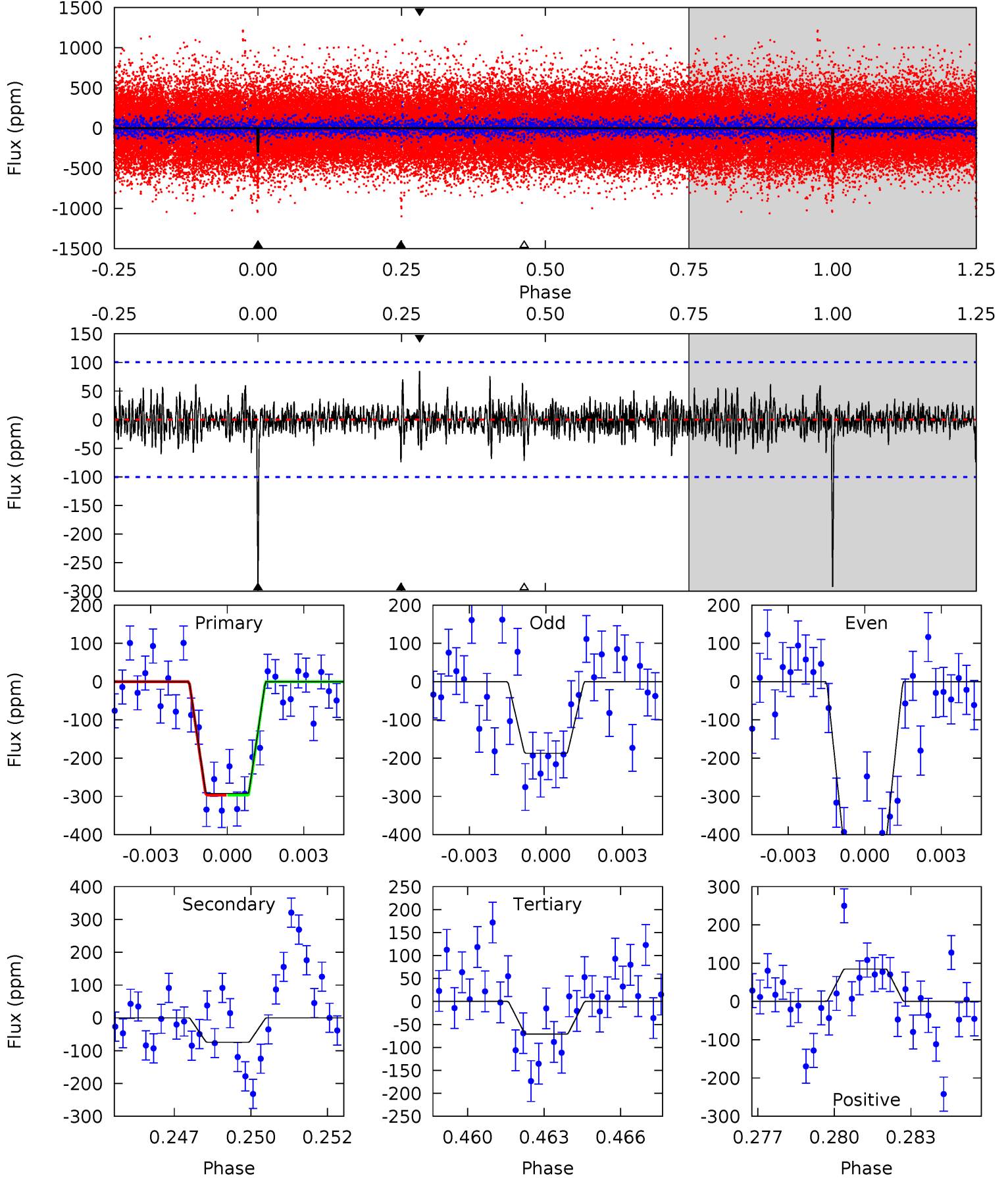
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	12.0	9.34	10.7	5.26	2.99	2.58	9.45	8.06	2.66	1.27	0.67	1.06	0.36	0.08



Alt Model-Shift Uniqueness Test

007968859-02, P = 353.623189 Days, E = 285.780835 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	3.90	3.72	4.44	5.27	2.99	0.97	11.6	10.9	0.18	-0.54	5.94	1.12	0.22	0.01



Stellar Parameters For KIC 007968859

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5645^{+169}_{-169}	$4.431^{+0.149}_{-0.182}$	$-0.540^{+0.300}_{-0.300}$	$0.871^{+0.204}_{-0.136}$	$0.746^{+0.120}_{-0.040}$	$1.590^{+1.171}_{-0.715}$
	+3%/-3%	+3%/-4%	+56%/-56%	+23%/-16%	+16%/-5%	+74%/-45%
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 007968859-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-248 ± 21	$1.73^{+0.65}_{-0.66}$	345^{+23}_{-19}	5324^{+1304}_{-706}	36601^{+57592}_{-17301}
Alt.	-74 ± 19	$1.66^{+0.68}_{-0.56}$	345^{+24}_{-20}	4223^{+753}_{-496}	11724^{+15925}_{-6281}

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

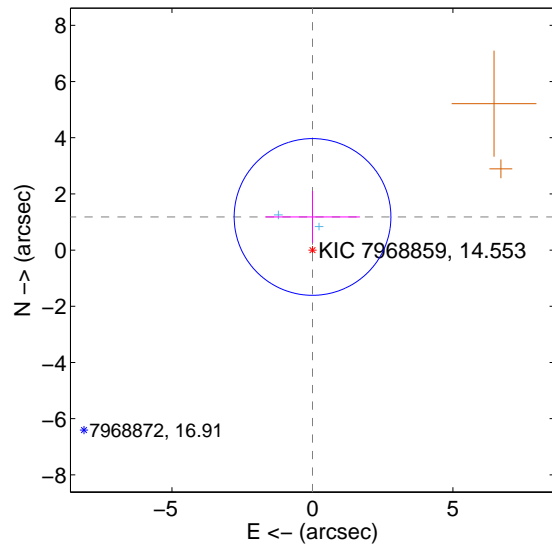
Supplemental centroid analysis for 007968859-02. Kepler magnitude: 14.55. Transit SNR 8.93

There are 2 quarters with good PRF difference image offsets

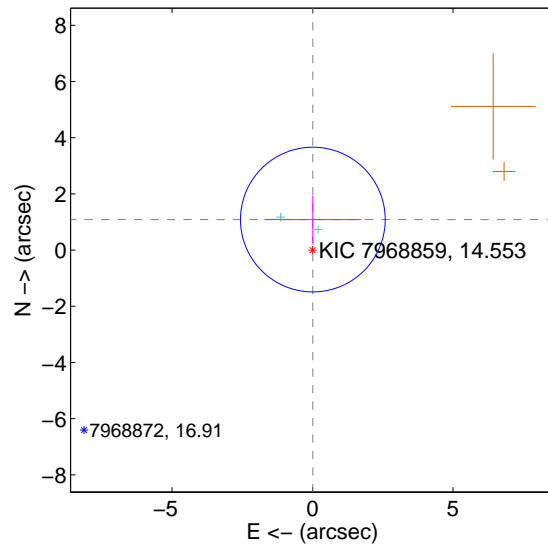
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.180 ± 0.930	1.27	-0.003 ± 1.686	1.180 ± 0.926
PRF-fit source offset from KIC position	1.087 ± 0.859	1.27	-0.012 ± 1.720	1.087 ± 0.845
photometric centroid source offset	2.73 ± 1.48	1.84	0.36 ± 1.32	2.70 ± 1.49

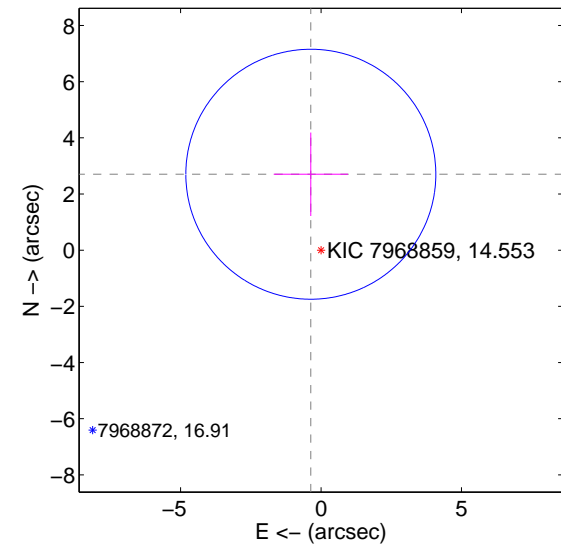
offset from difference PRF-fit to OOT PRF-fit



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



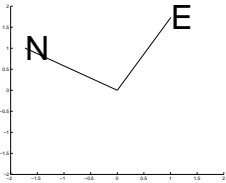
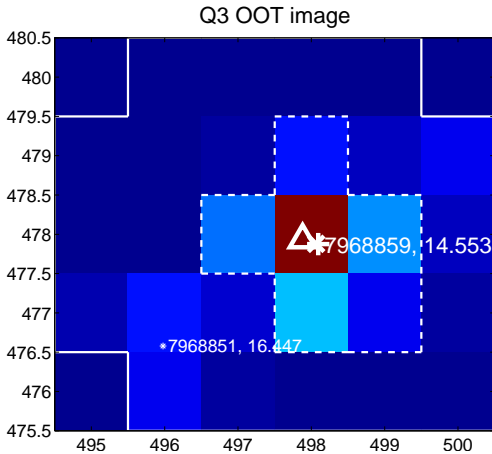
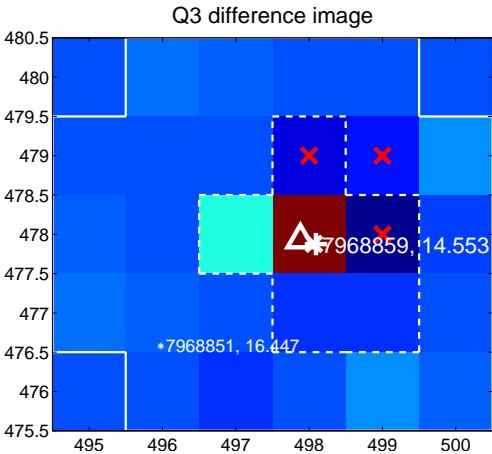
Q1 no OOT image



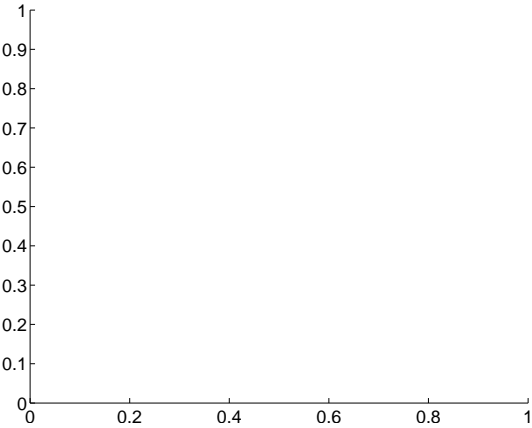
Q2 no difference image



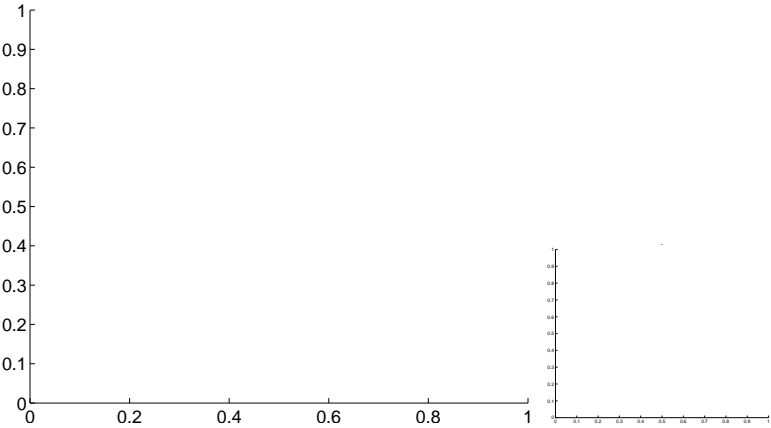
Q2 no OOT image



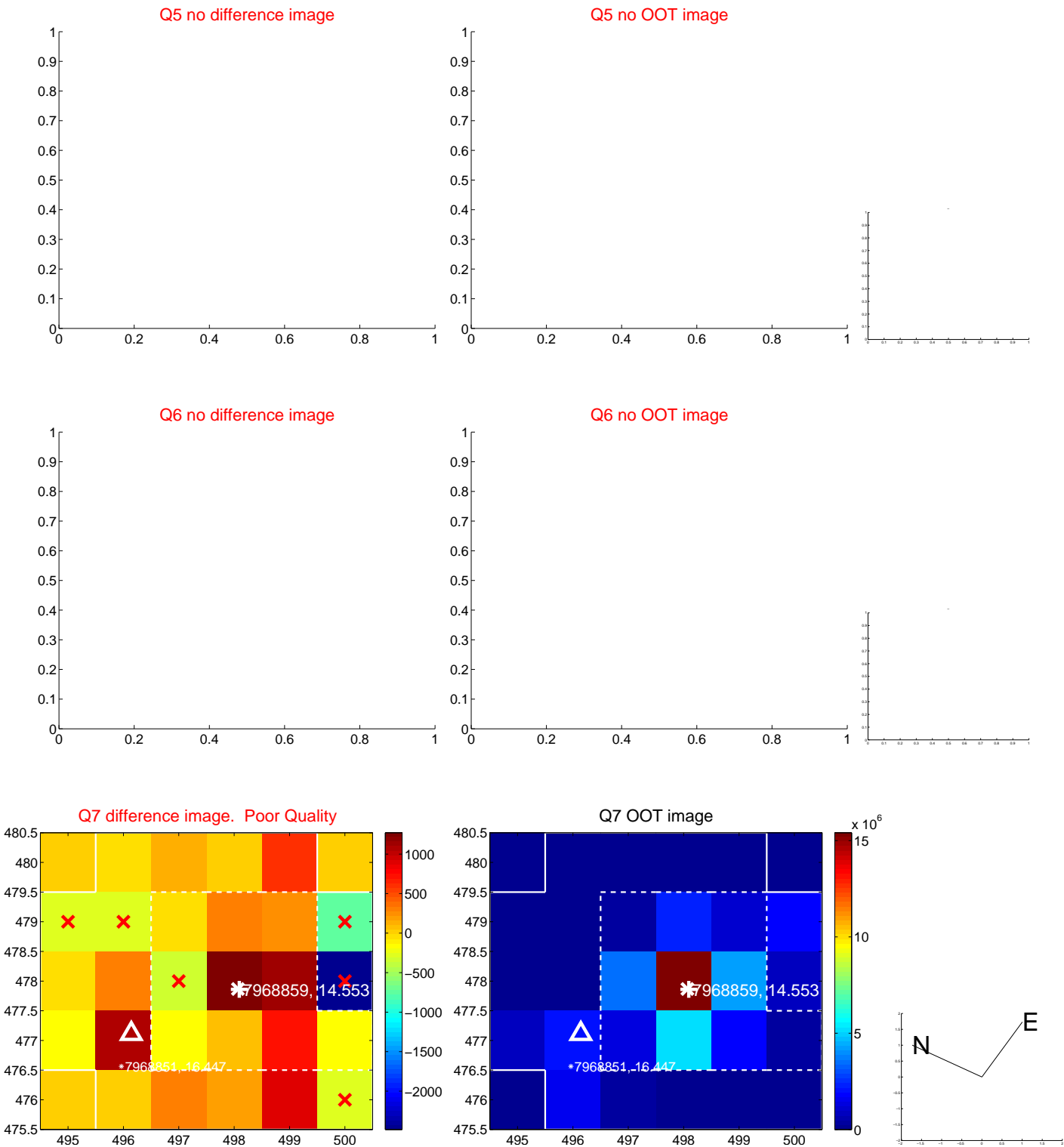
Q4 no difference image



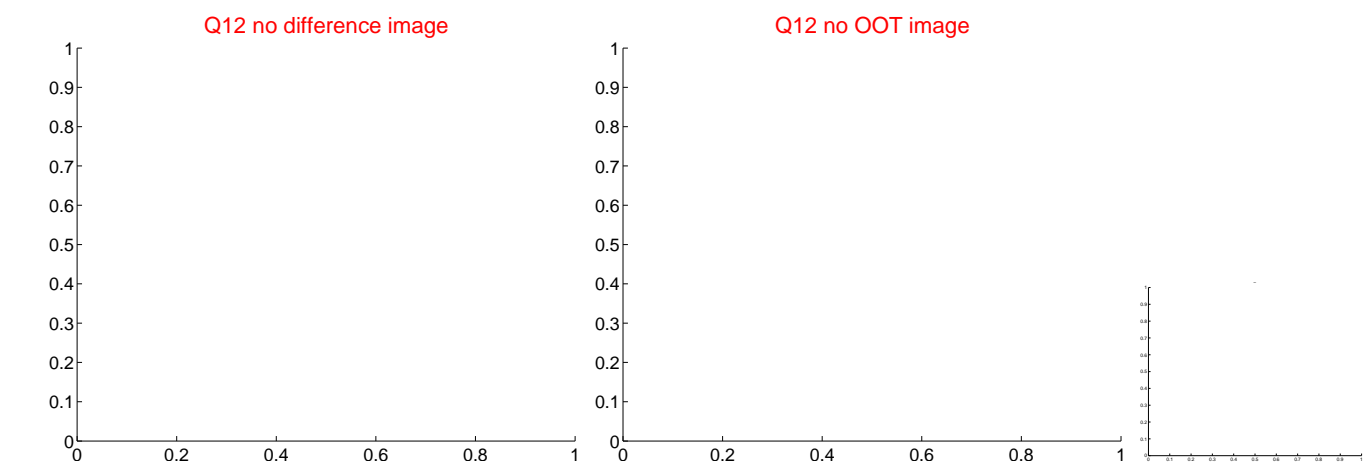
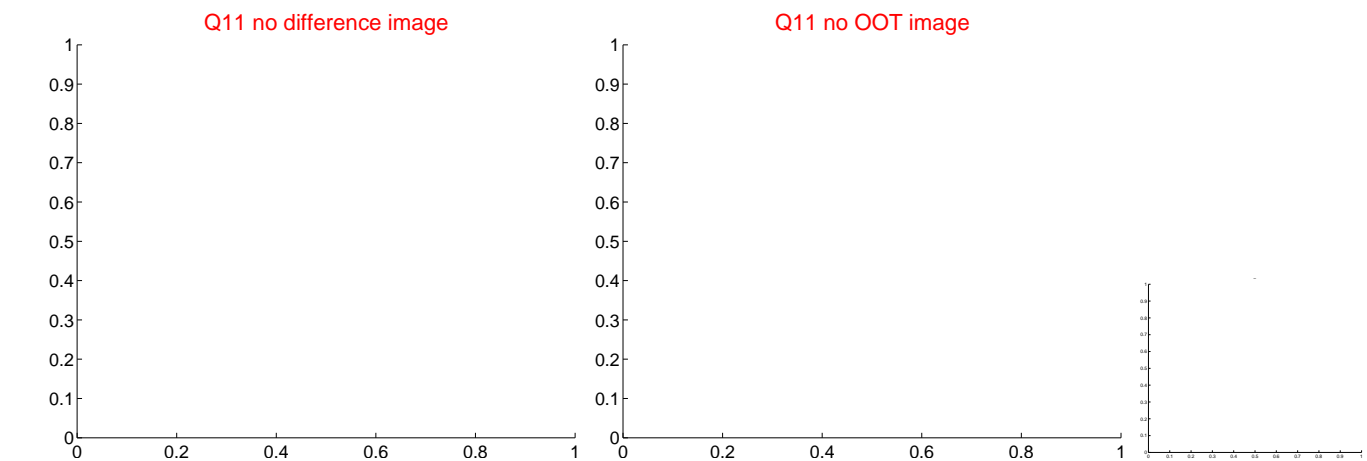
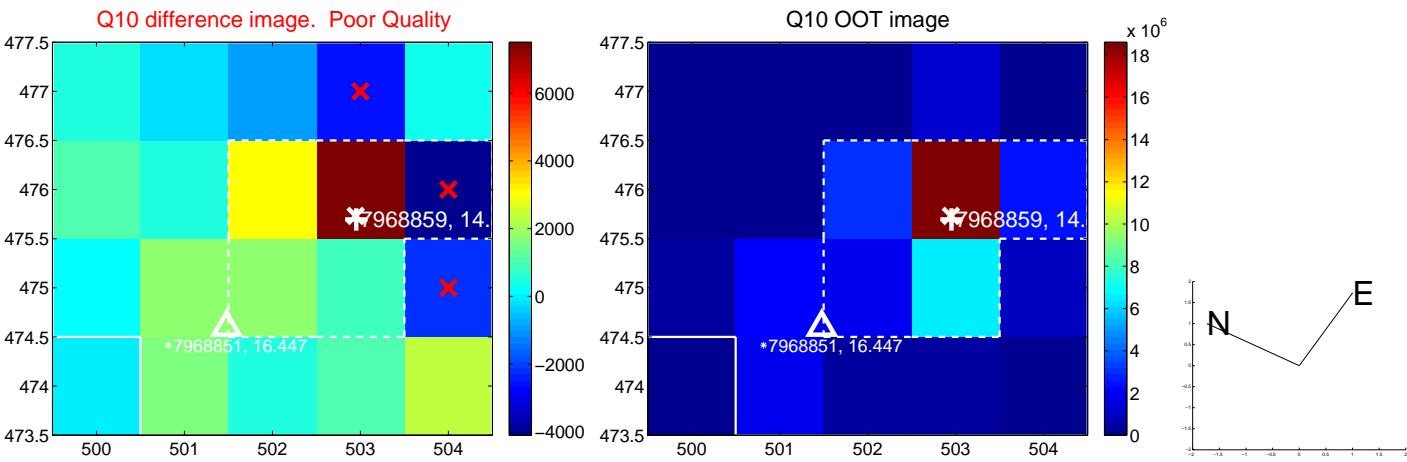
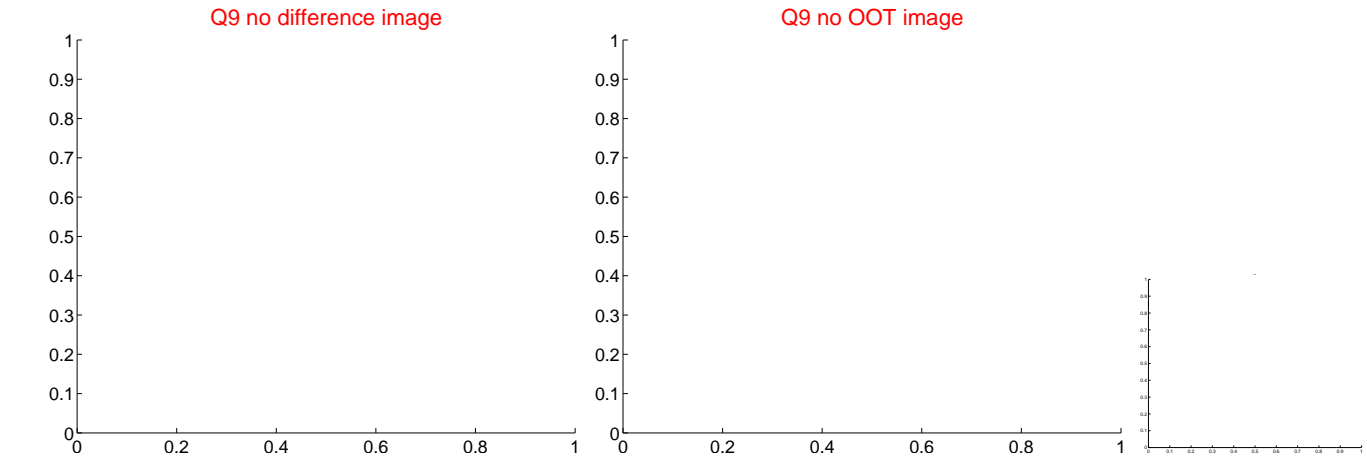
Q4 no OOT image



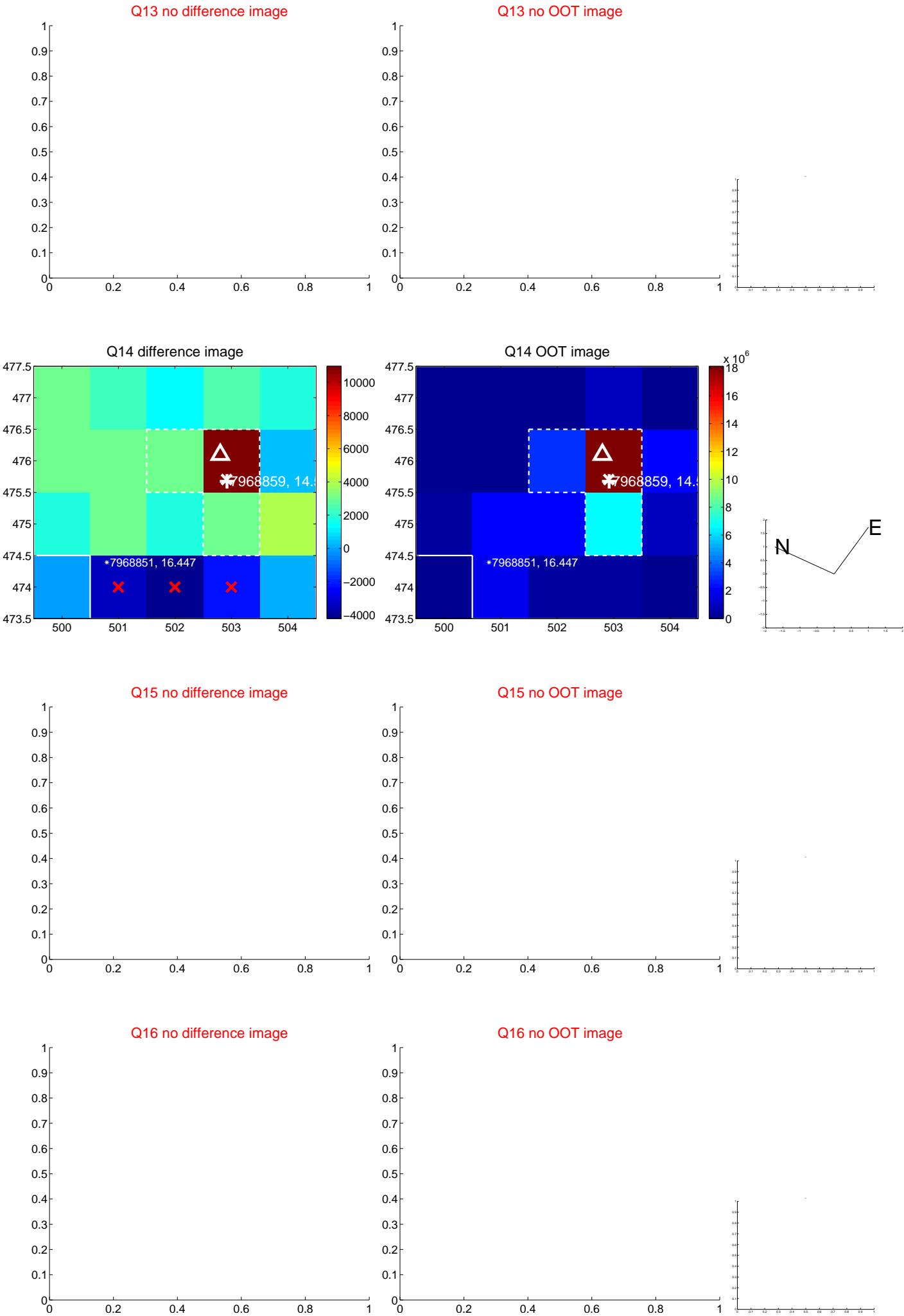
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



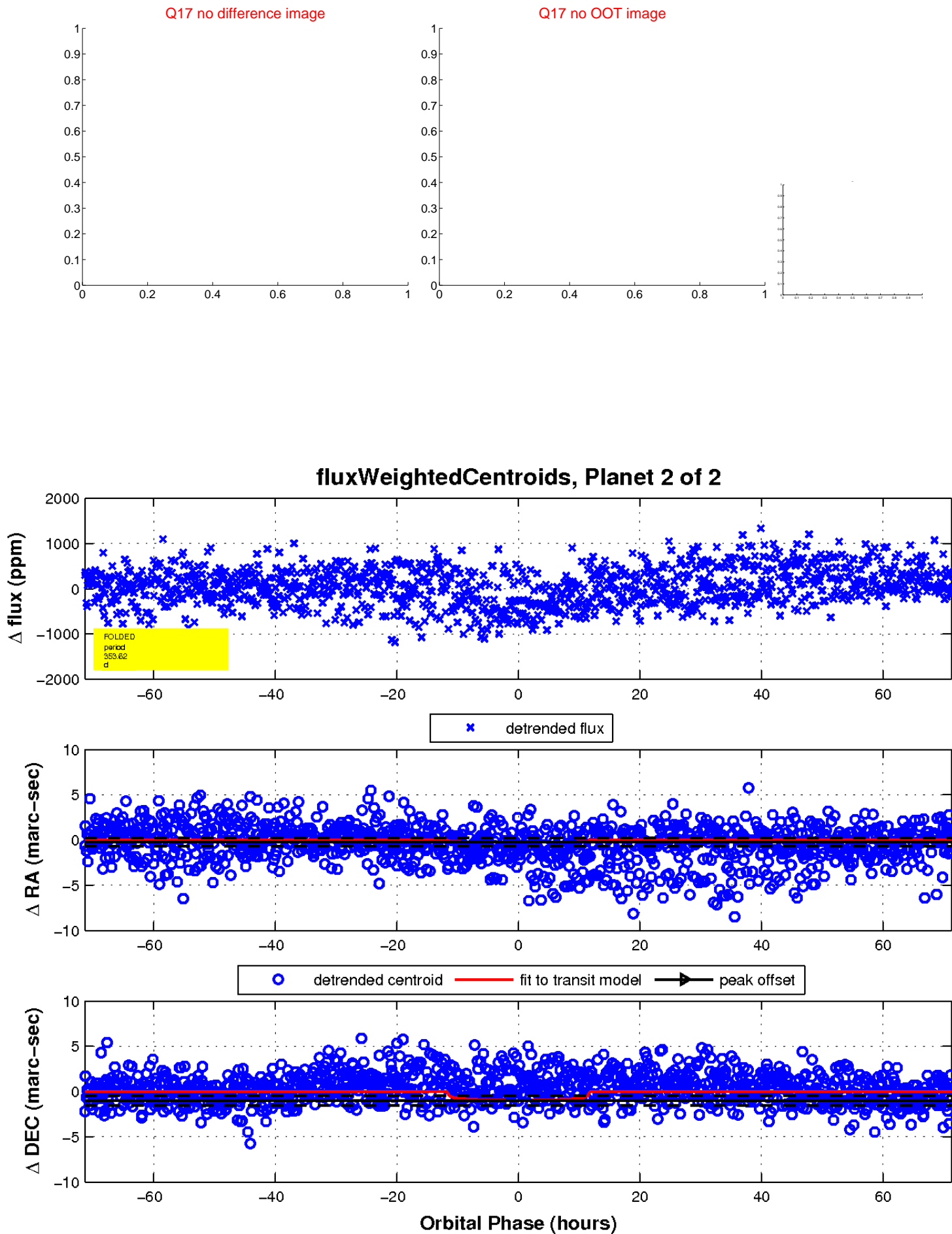
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

