

KIC 010010459

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})
010010459-02	OBS	No	363.237150	152.570075	453.7	18.781	7.5	7.0	0.96	6029	2.10	1.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010010459-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

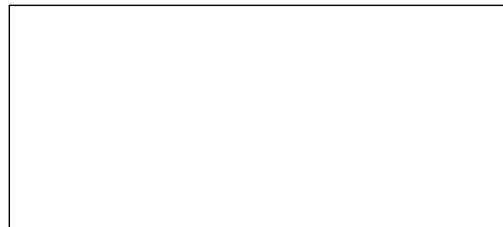
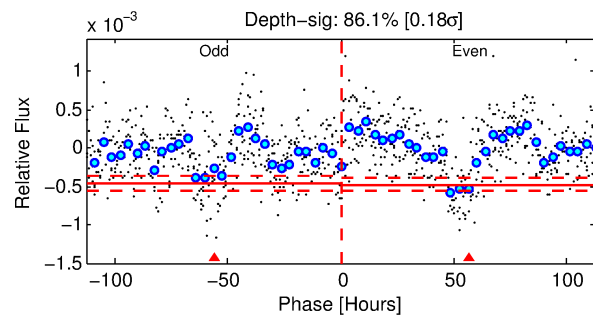
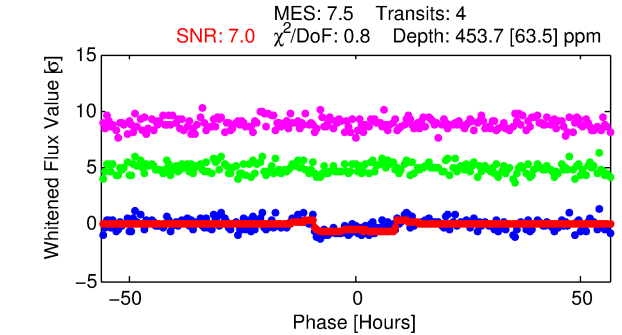
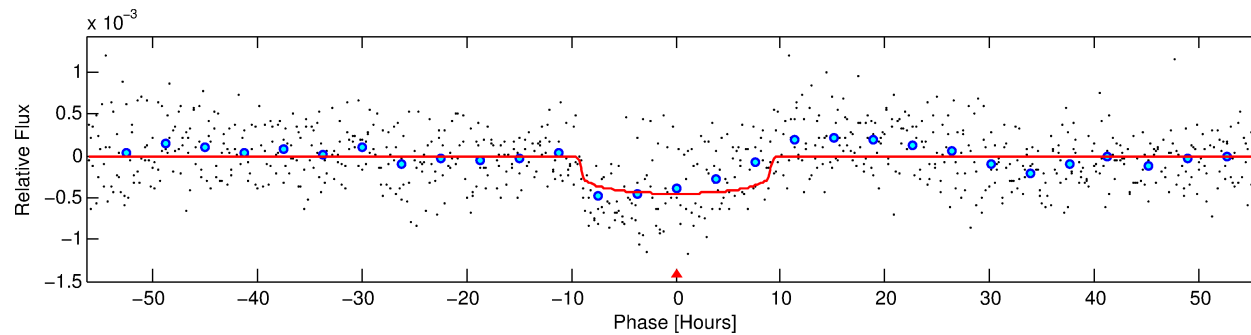
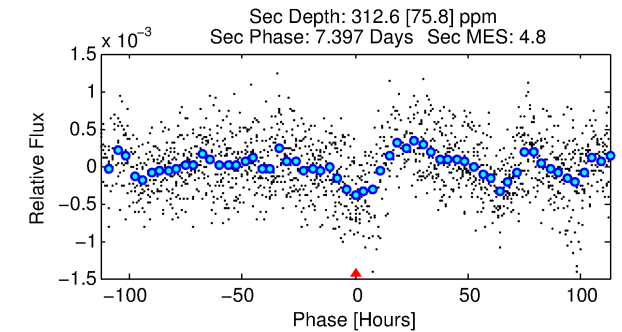
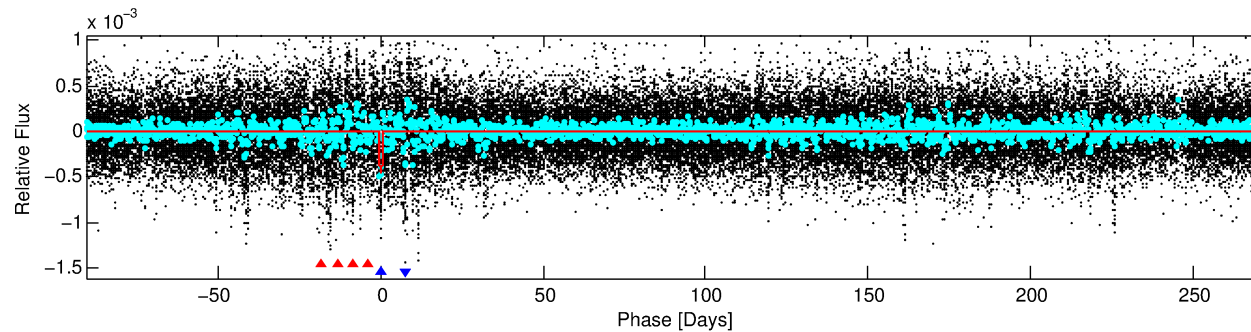
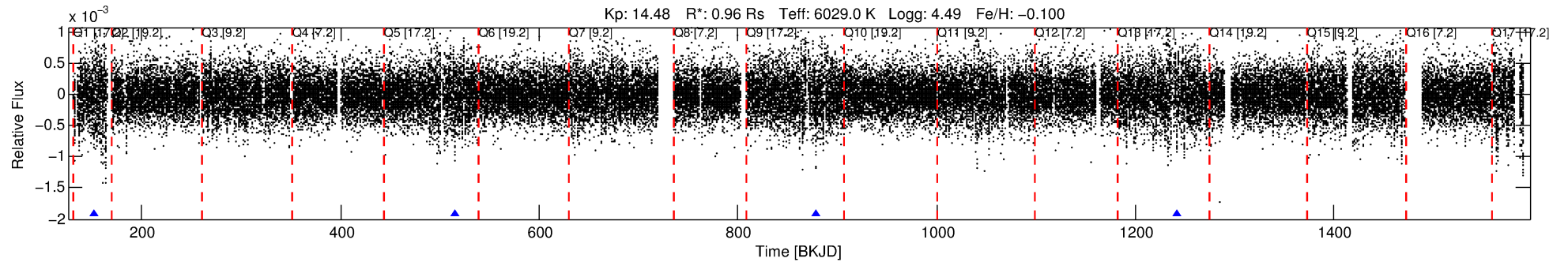
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010010459-02

No Significant Match Found

DV One-Page Summary

KIC: 10010459 Candidate: 2 of 2 Period: 363.237 d



DV Fit Results:

Period = 363.23715 [0.00872] d
Epoch = 152.5701 [0.0161] BKJD
Rp/R* = 0.0201 [0.0065]
a/R* = 129.49 [193.89]
b = 0.52 [2.10]
Seff = 1.06 [0.38]
Teq = 259 [23] K
Rp = 2.10 [0.88] Re
a = 1.0096 [0.2276] AU
Ag = 39862.80 [30626.36] [1.30 σ]
Teffp = 5654 [996] K [5.41 σ]

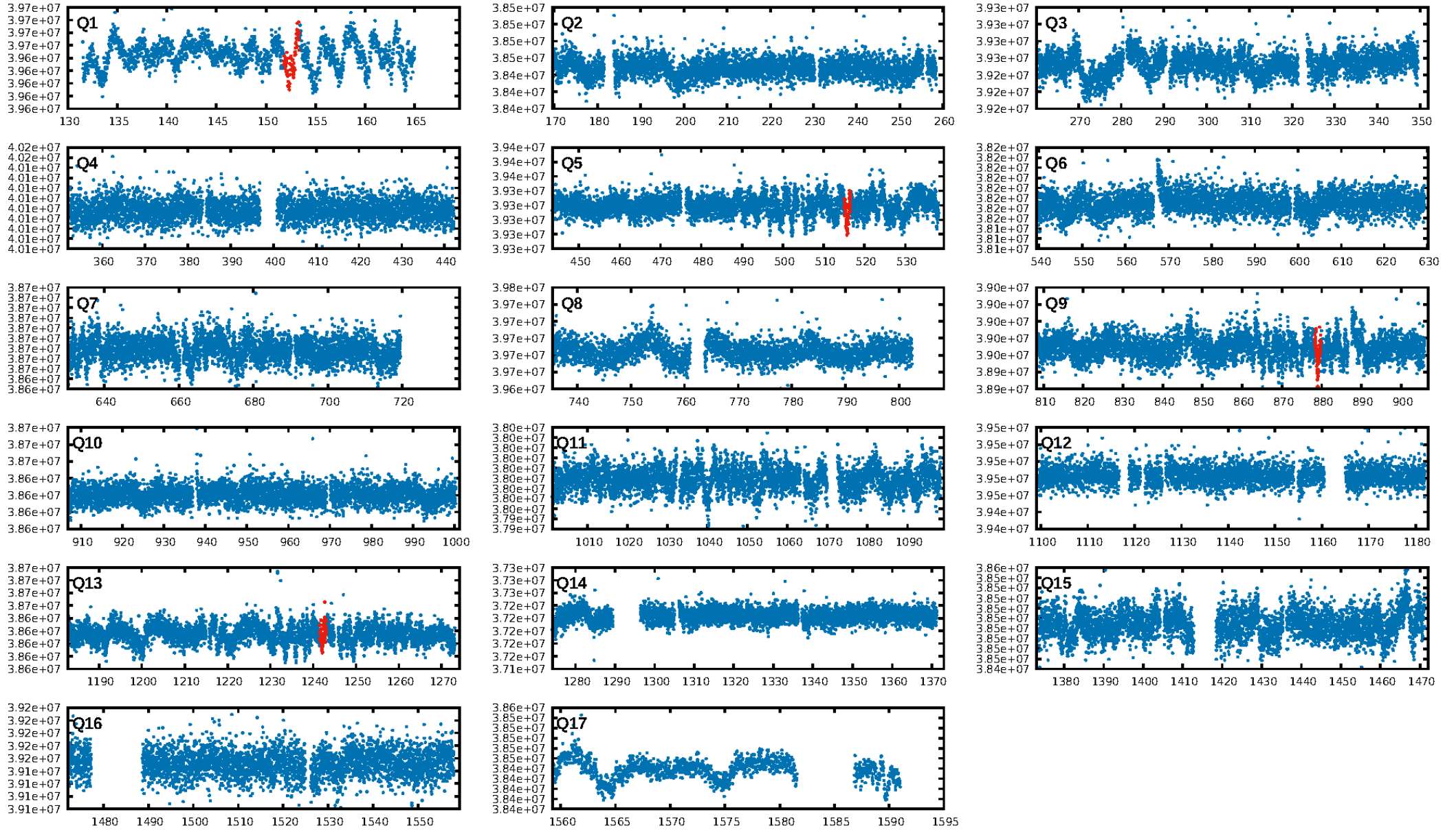
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [4.55 σ]
ModelChiSquare2-sig: 90.8%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 8.21e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.9035
Centroid-sig: 25.3%
Centroid-so: 2.689 arcsec [1.42 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]

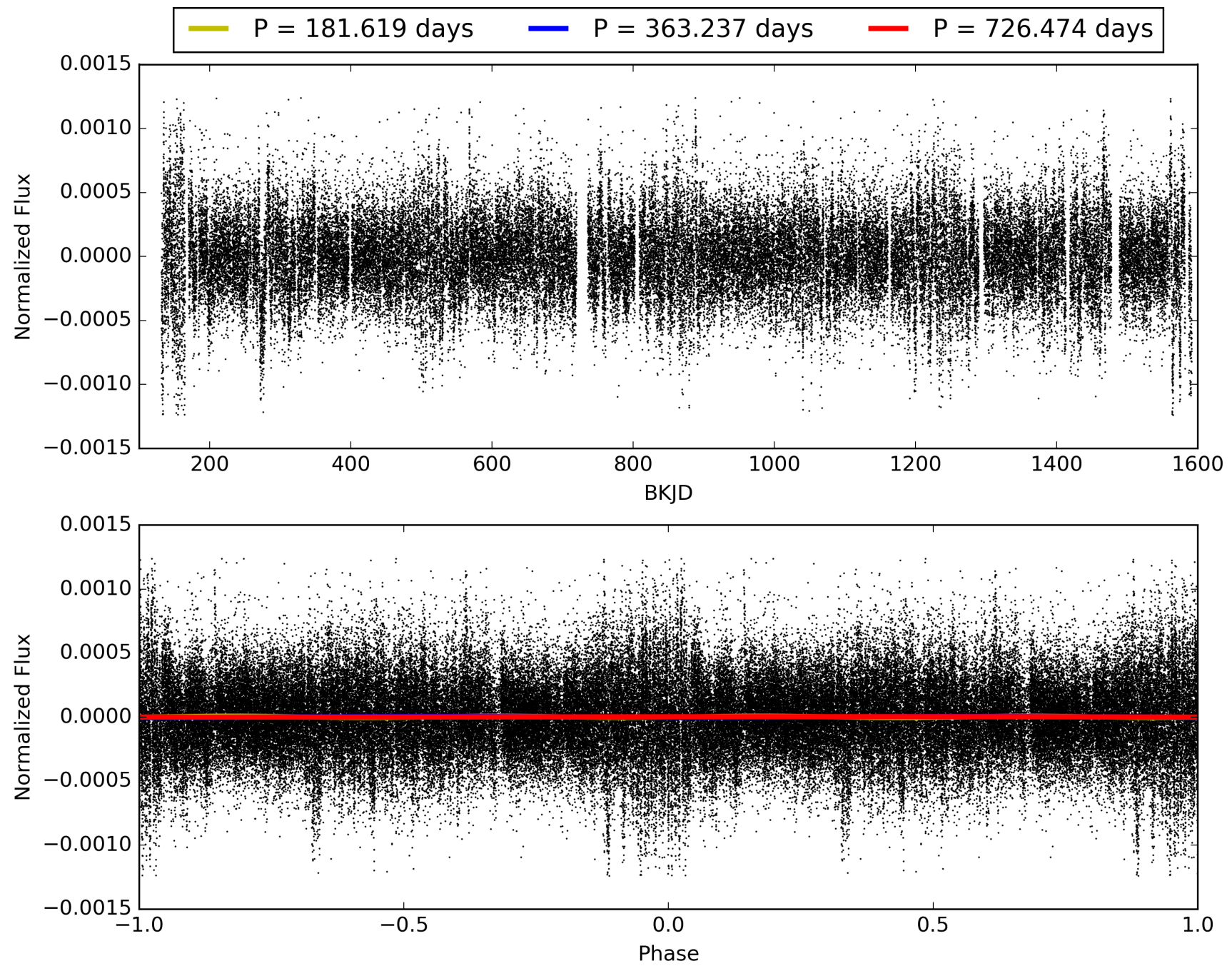
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:28:30 Z

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

TCE 010010459-02, PDC Light Curves

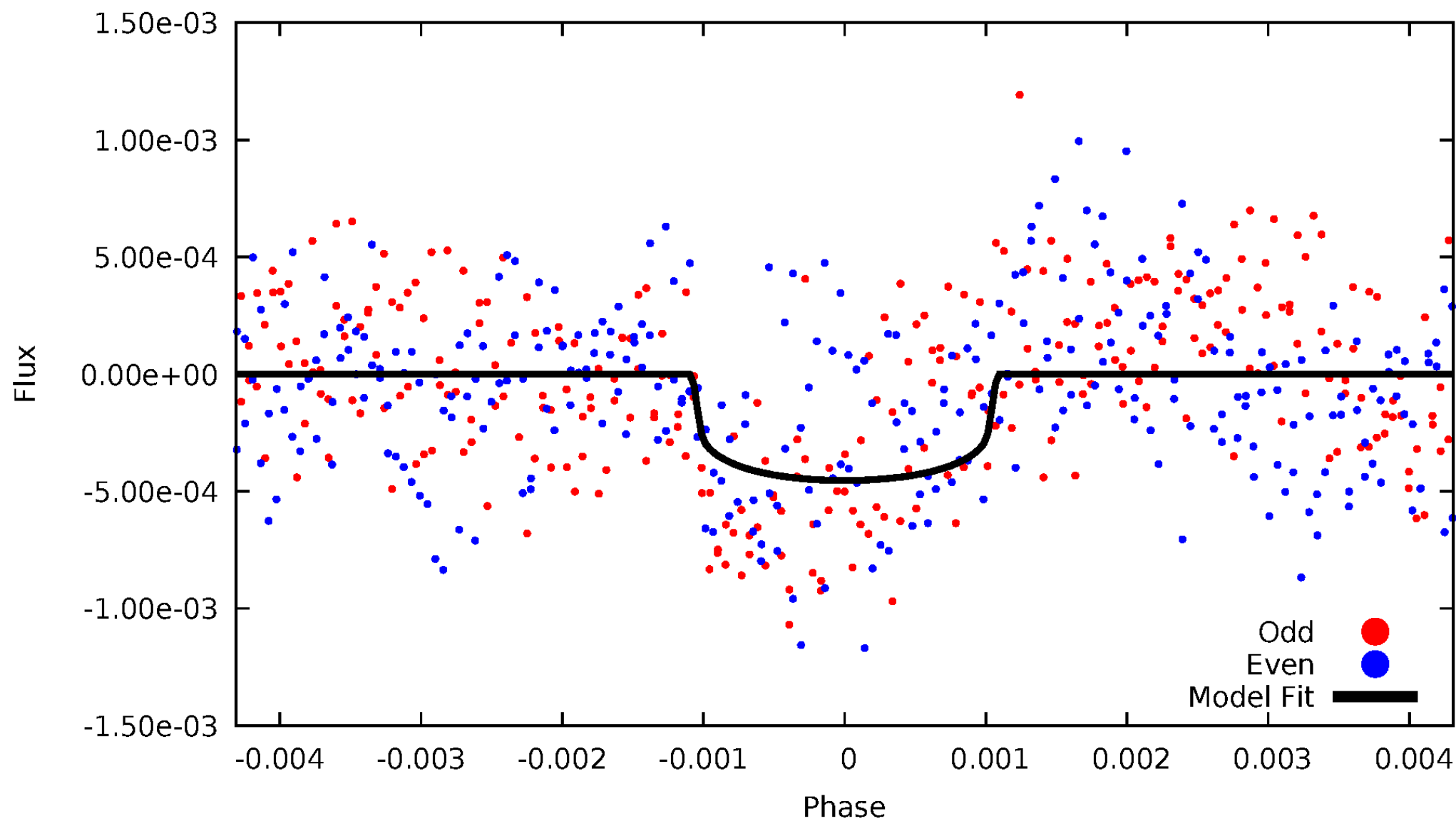


TCE 010010459-02



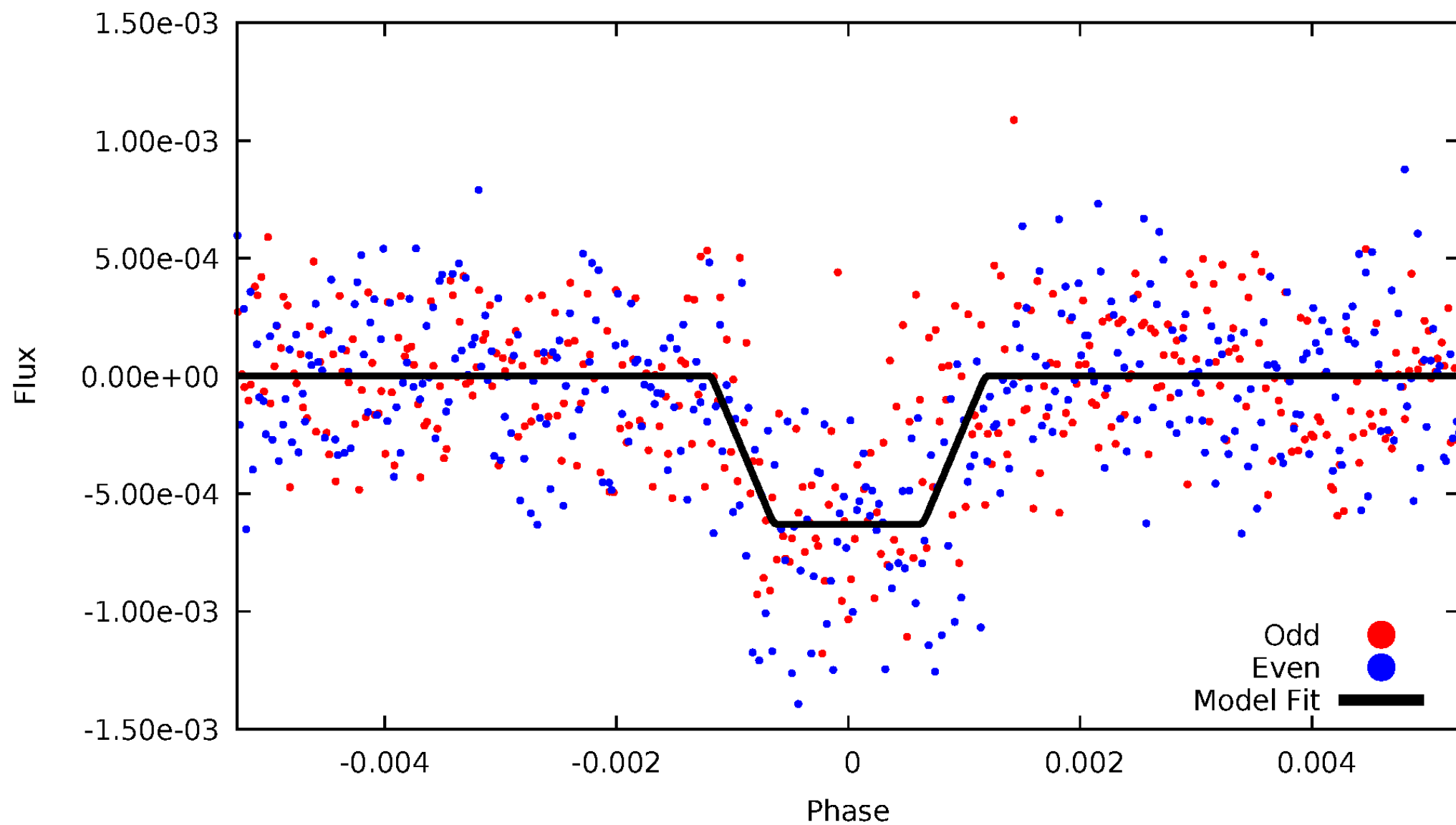
DV Odd/Even

TCE 010010459-02



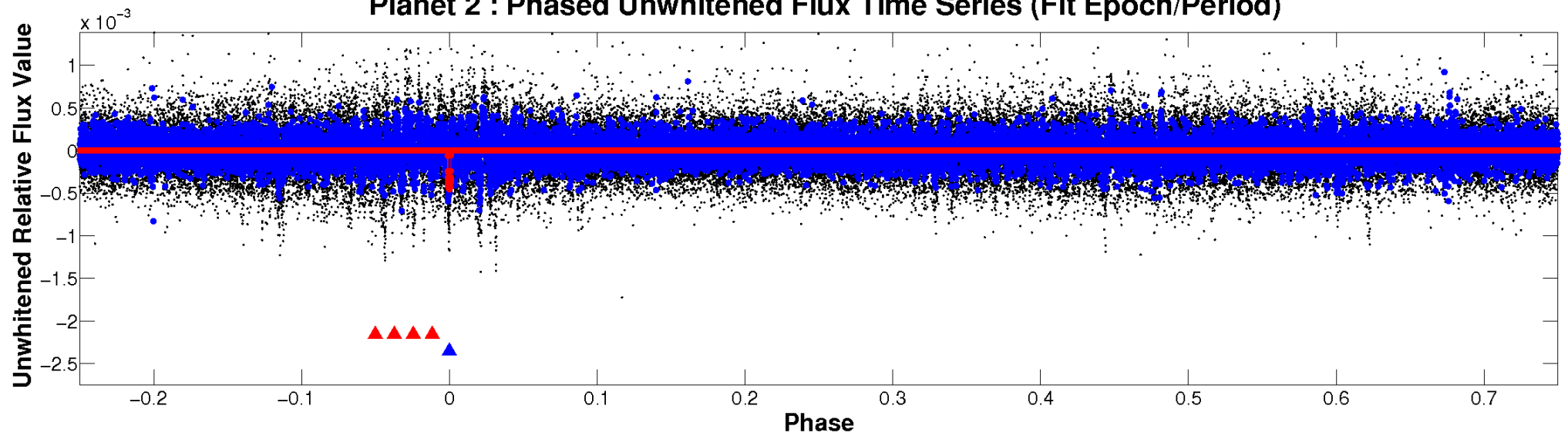
ALT Odd/Even

TCE 010010459-02

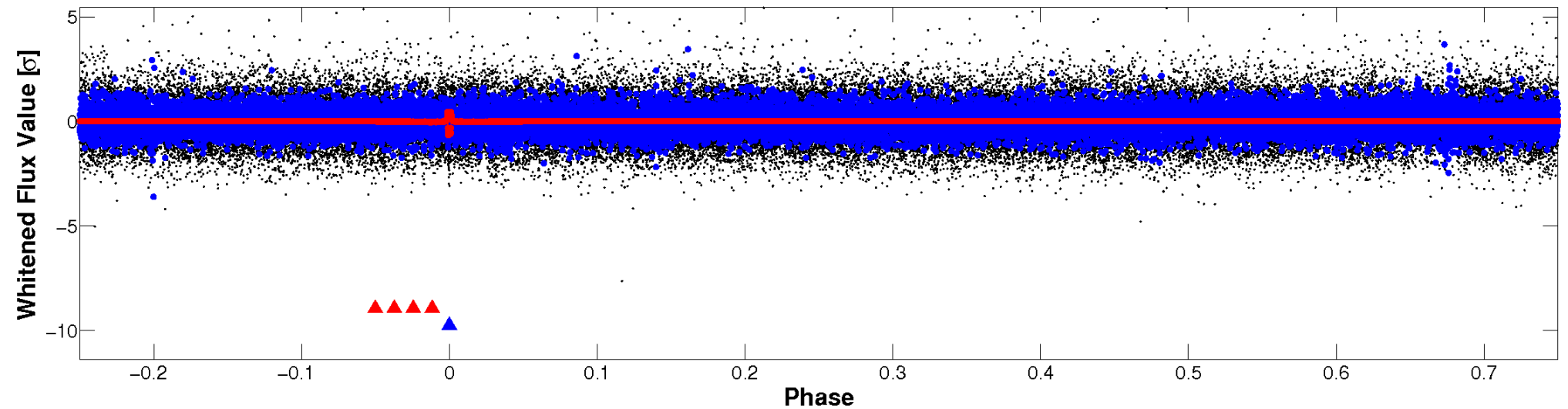


Non-Whitened Vs. Whitened Light Curve

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

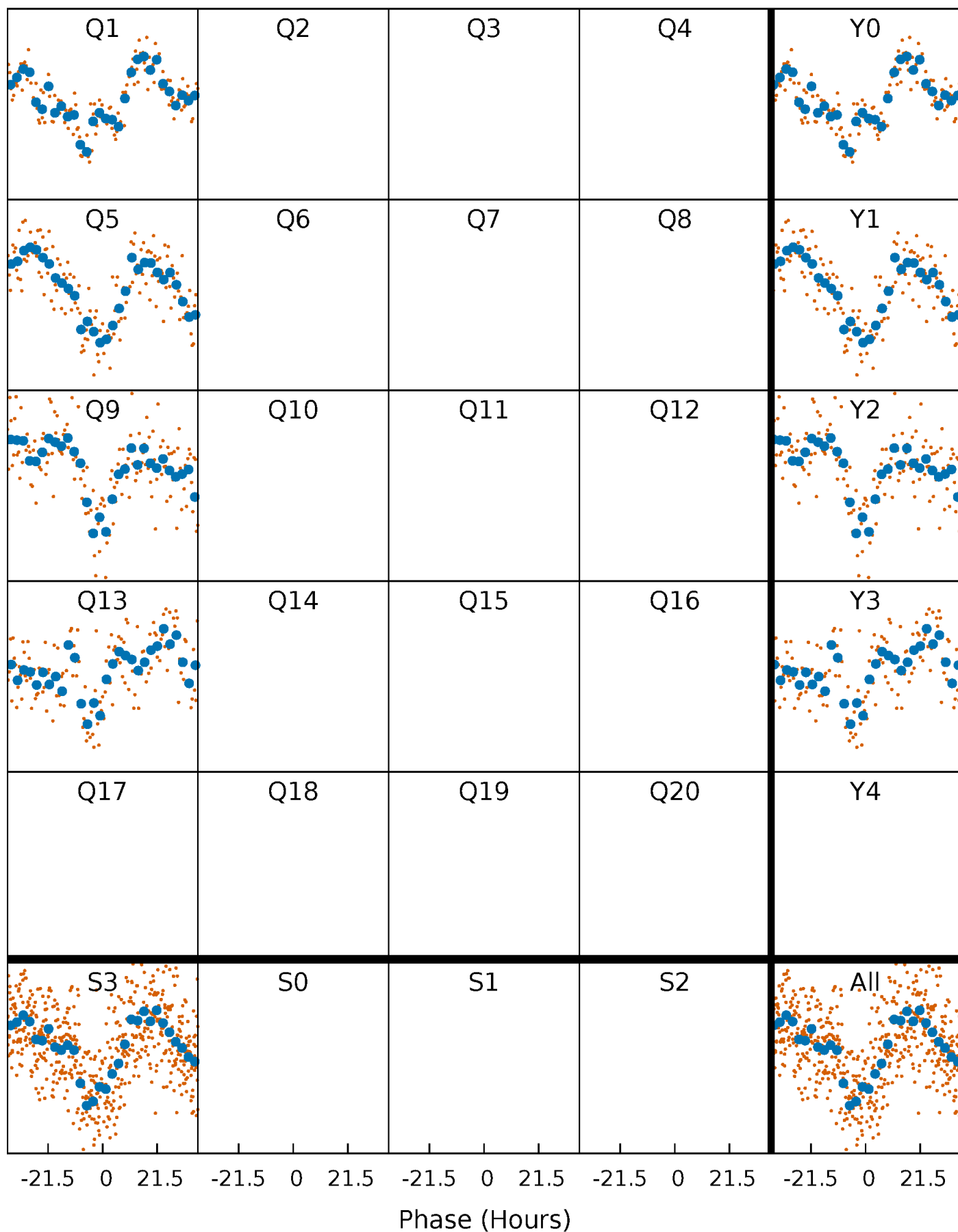


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



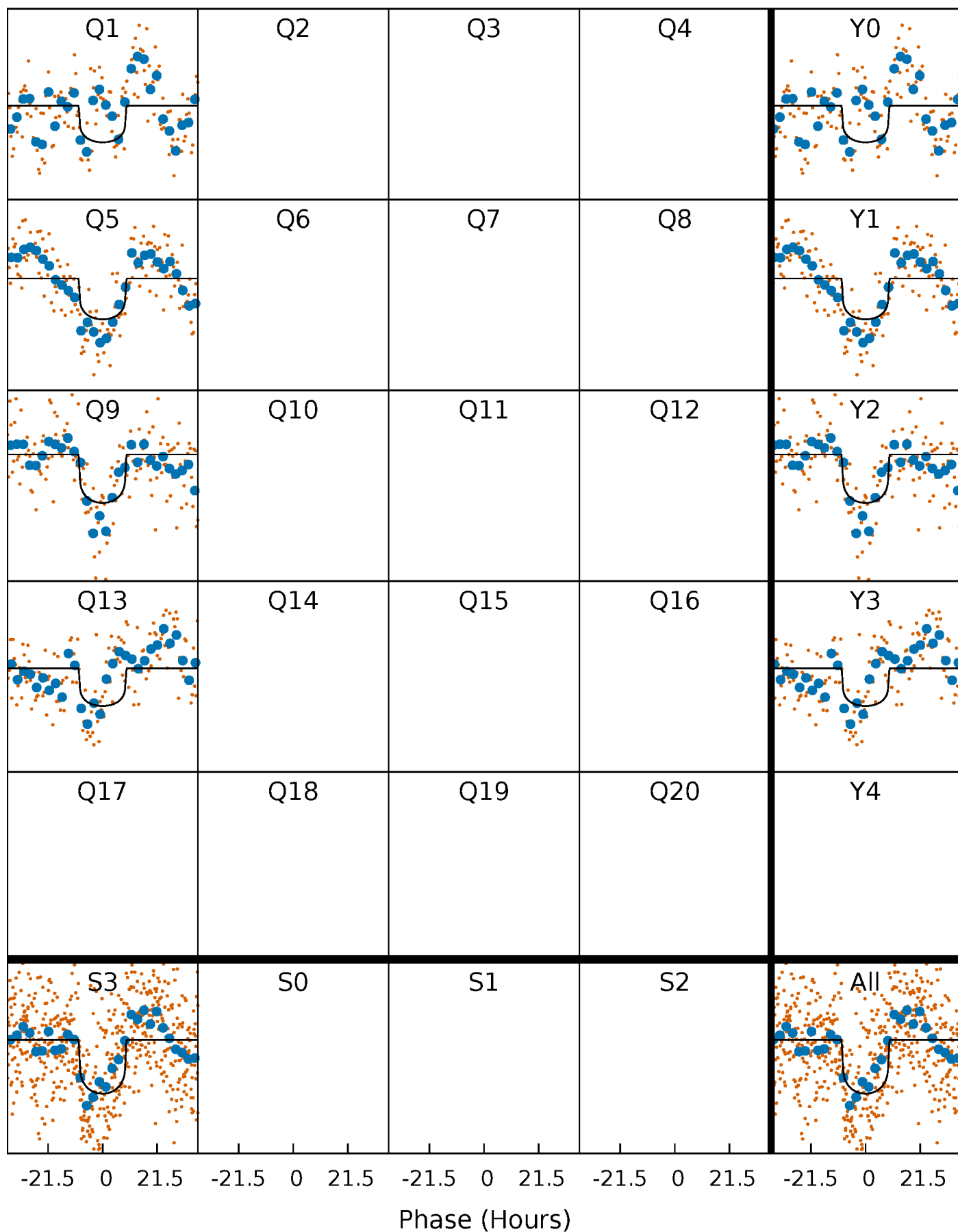
PDC Quarter-Phased Transit Curves

TCE 010010459-02 $P=363.237150$ Days $T_0=152.570075$ (BKJD)



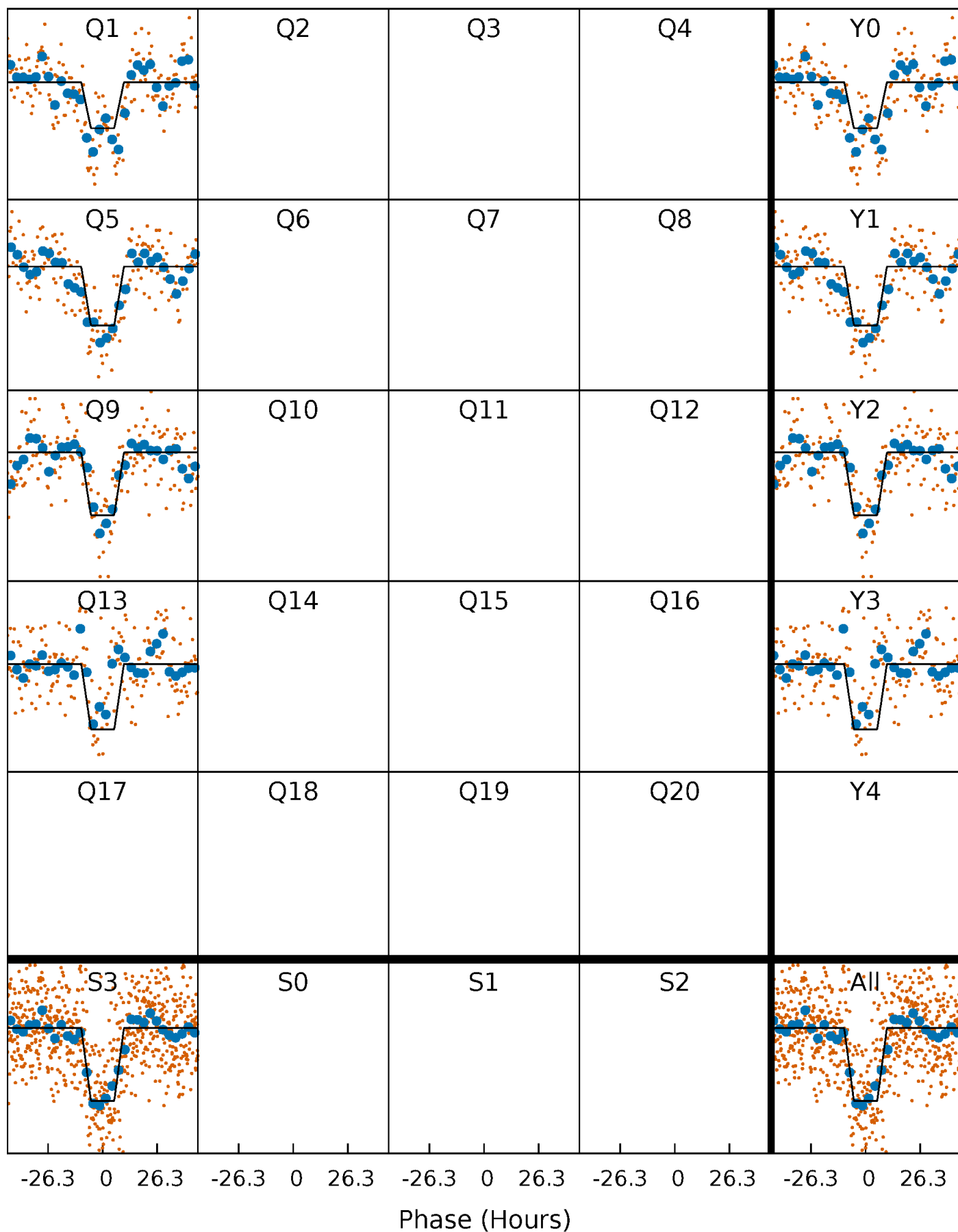
DV Quarter-Phased Transit Curves

TCE 010010459-02 $P=363.237150$ Days $T_0=152.570075$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

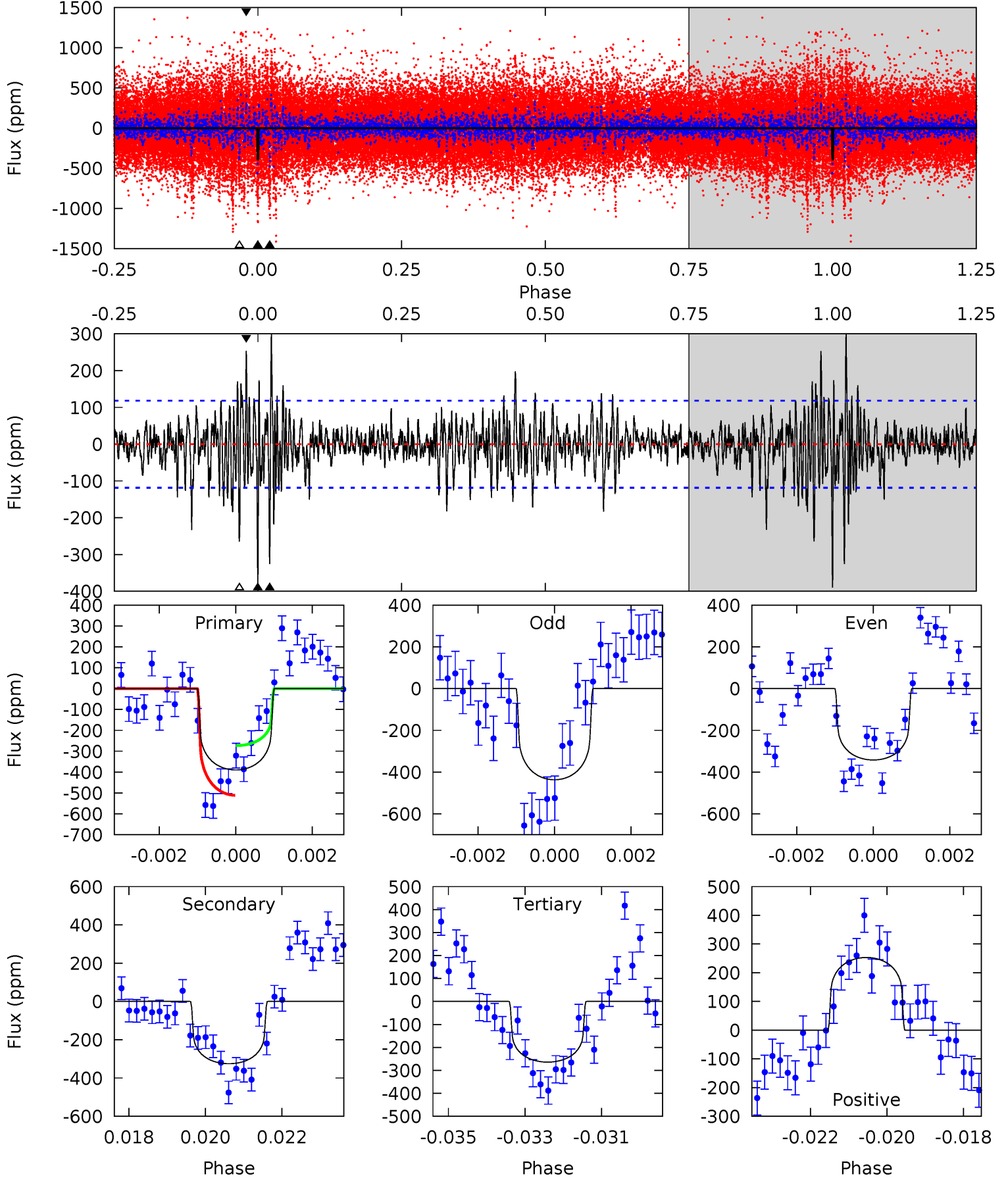
TCE 010010459-02 $P=363.233774$ Days $T_0=152.512215$ (BKJD)



DV Model-Shift Uniqueness Test

010010459-02, P = 363.237150 Days, E = 152.570075 Days

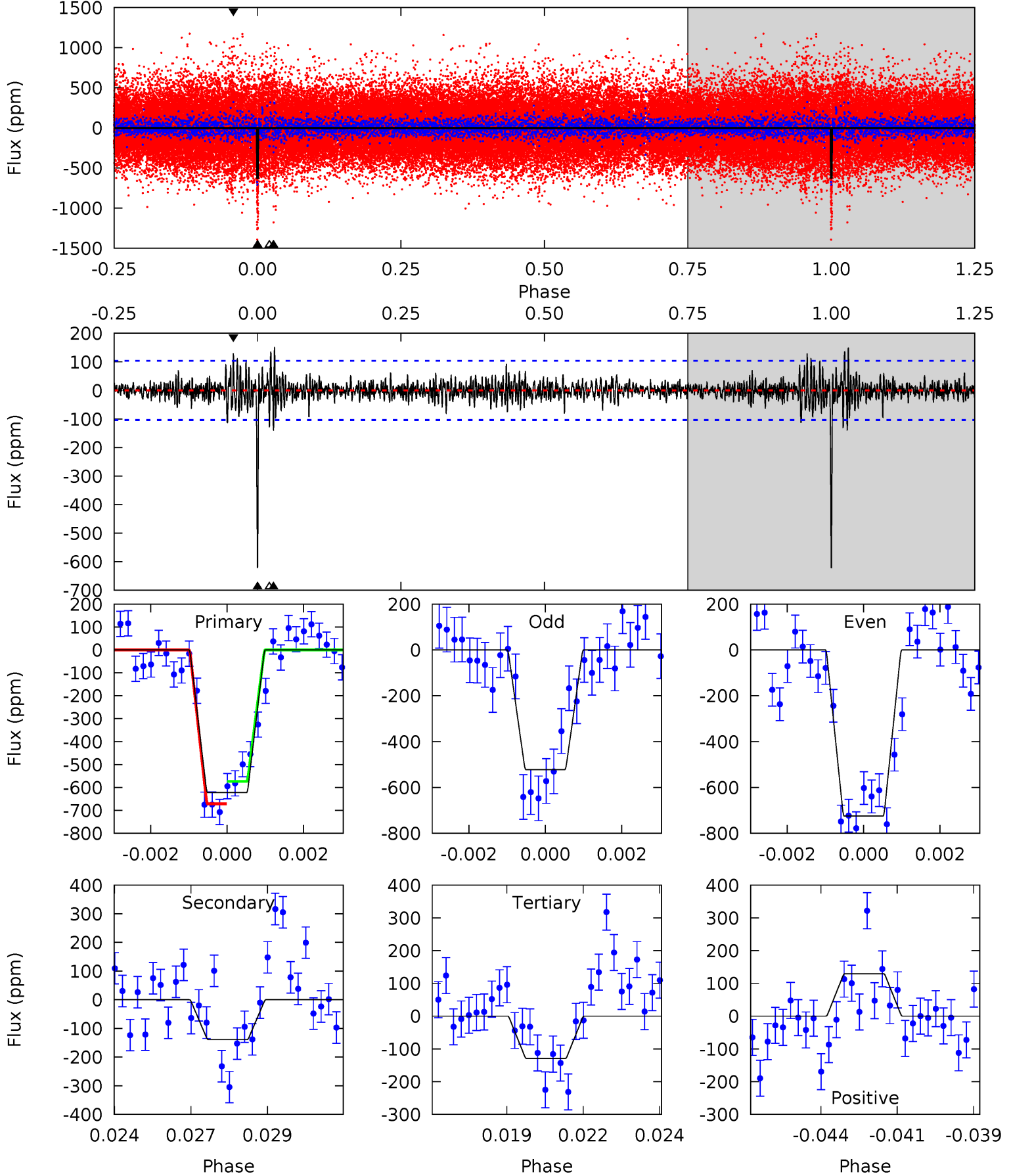
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	14.6	11.8	11.4	5.31	3.06	2.46	5.64	6.13	2.75	3.24	2.12	0.96	0.43	5.34



Alt Model-Shift Uniqueness Test

010010459-02, P = 363.233774 Days, E = 152.512215 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.7	7.08	6.58	6.59	5.29	3.03	1.32	25.1	25.1	0.50	0.49	5.17	0.93	0.19	2.48



Stellar Parameters For KIC 010010459

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6029^{+162}_{-198}	$4.494^{+0.046}_{-0.184}$	$-0.100^{+0.250}_{-0.350}$	$0.956^{+0.252}_{-0.108}$	$1.040^{+0.126}_{-0.139}$	$1.675^{+0.391}_{-0.777}$
	+3%/-3%	+1%/-4%	+250%/-350%	+26%/-11%	+12%/-13%	+23%/-46%
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 010010459-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-325 ± 22	$2.19^{+0.83}_{-0.70}$	369^{+23}_{-16}	5705^{+1290}_{-731}	37909^{+45103}_{-18286}
Alt.	-139 ± 20	$2.74^{+0.78}_{-0.76}$	369^{+25}_{-16}	4346^{+570}_{-382}	10259^{+9140}_{-4227}

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

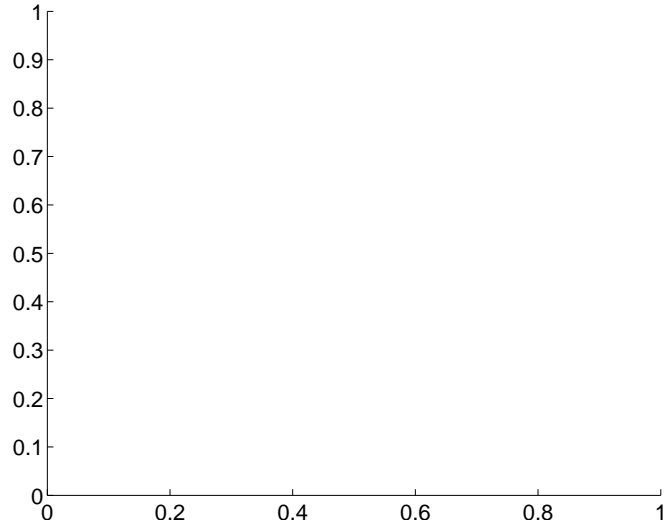
Supplemental centroid analysis for 010010459-02. Kepler magnitude: 14.48. Transit SNR 7.01

There are 0 quarters with good PRF difference image offsets

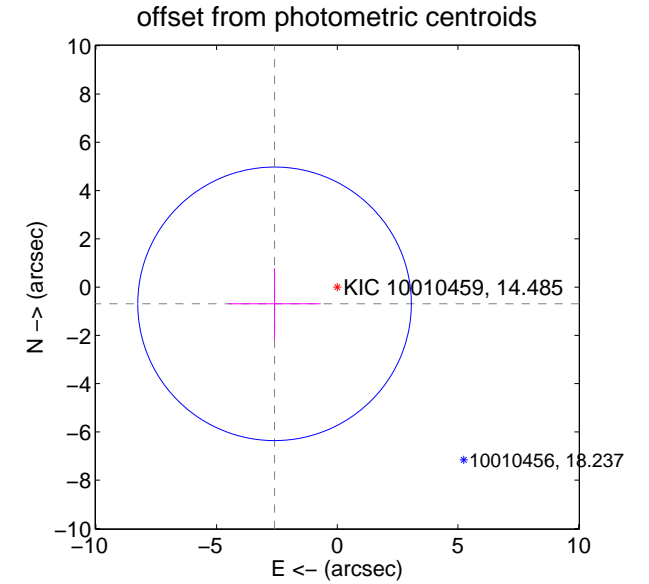
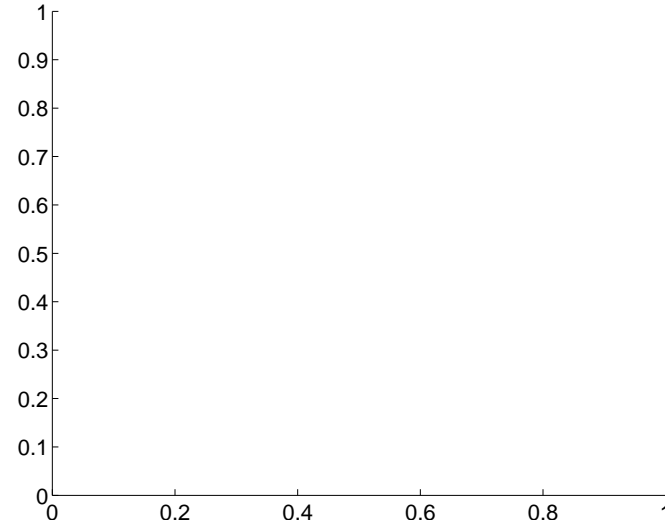
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	2.69 ± 1.89	1.42	2.60 ± 1.91	-0.69 ± 1.48

There is no PRF-fit offset from OOT-fit

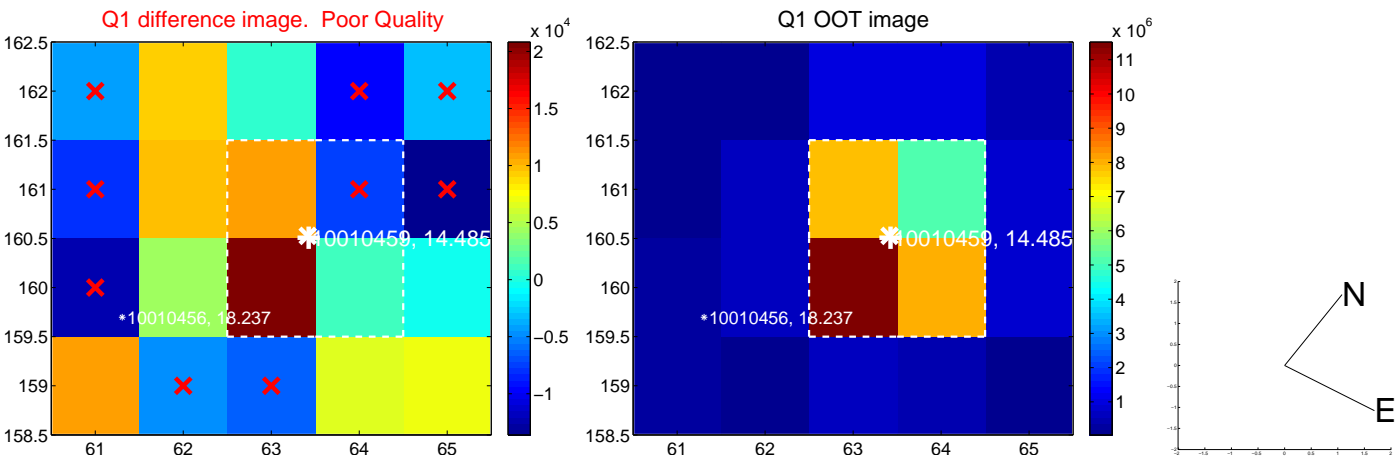


There is no PRF-fit offset from KIC

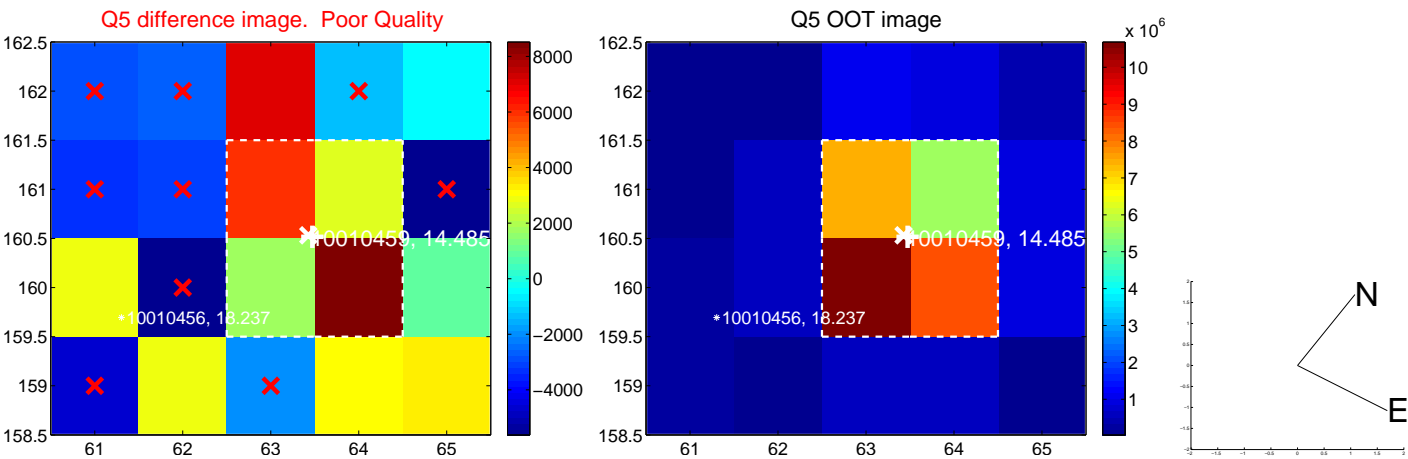


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

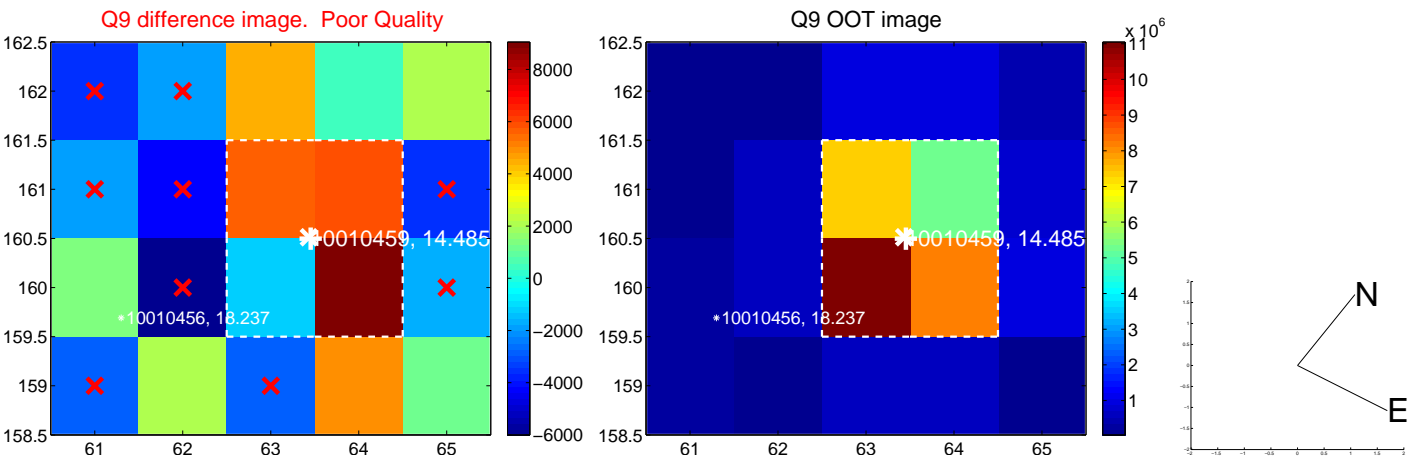
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



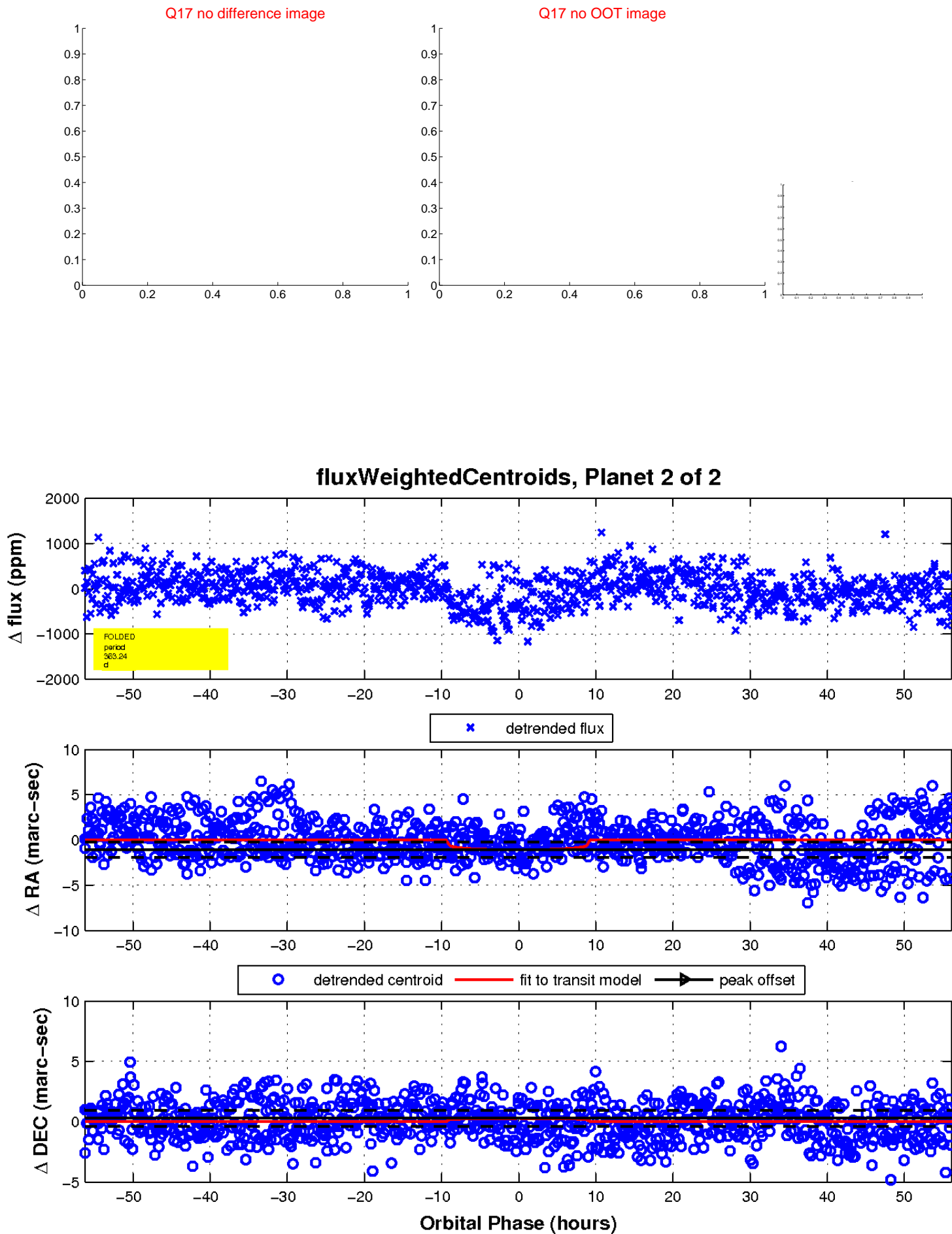
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

