

KIC 009207459

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})
009207459-01	OBS	No	365.523506	182.859355	1070.1	23.288	9.0	9.2	0.83	5514	5.23	0.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009207459-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE--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.

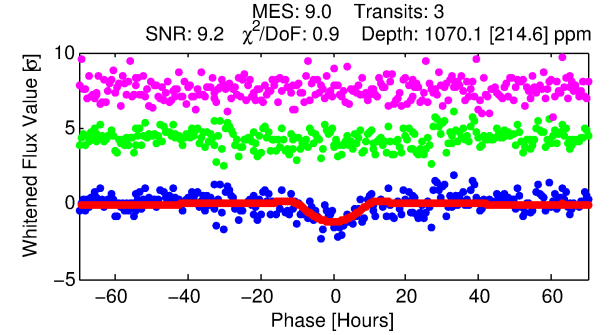
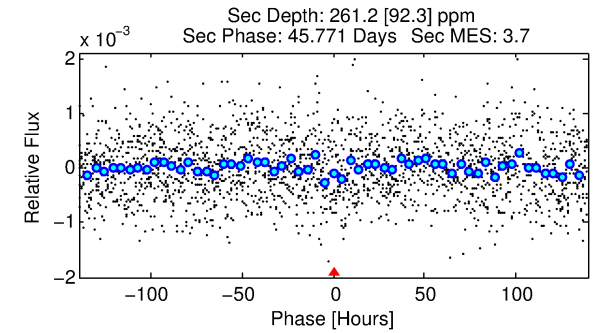
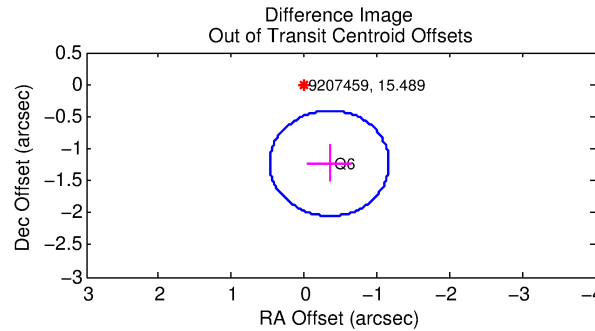
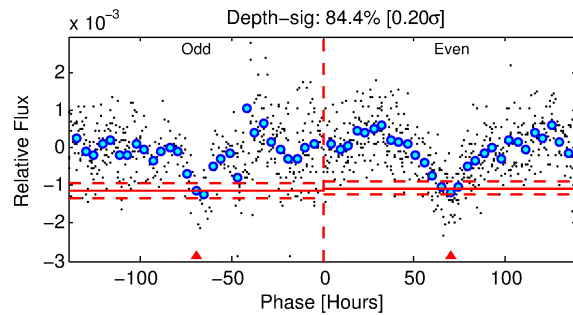
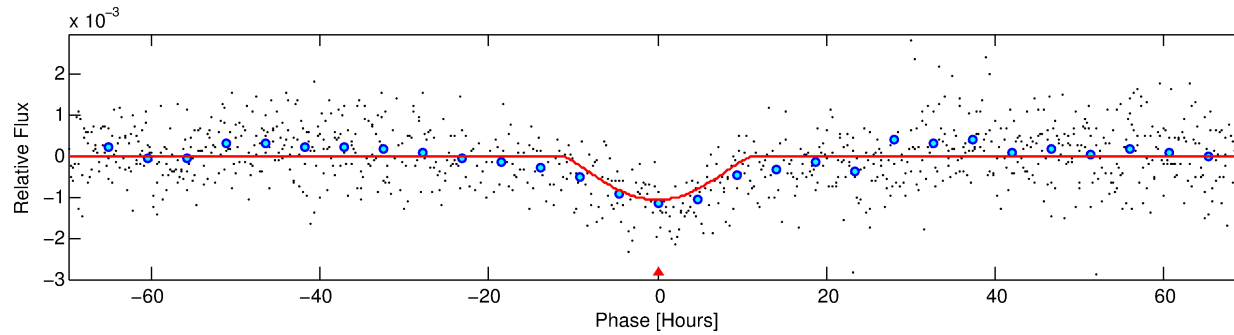
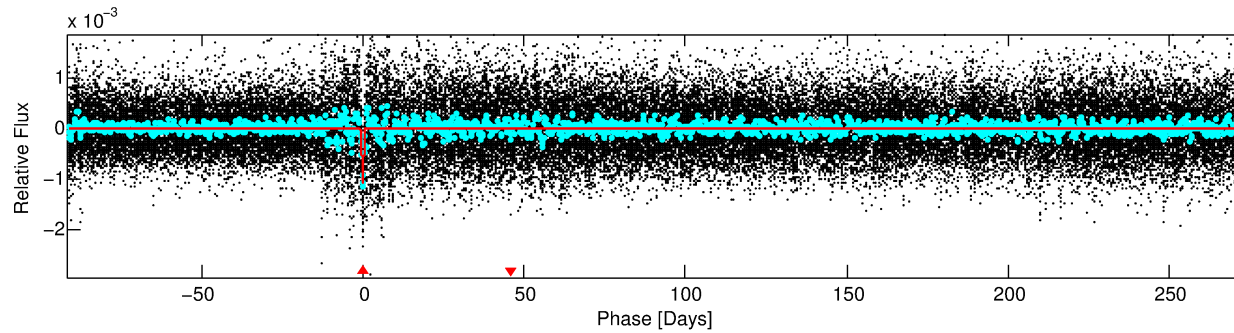
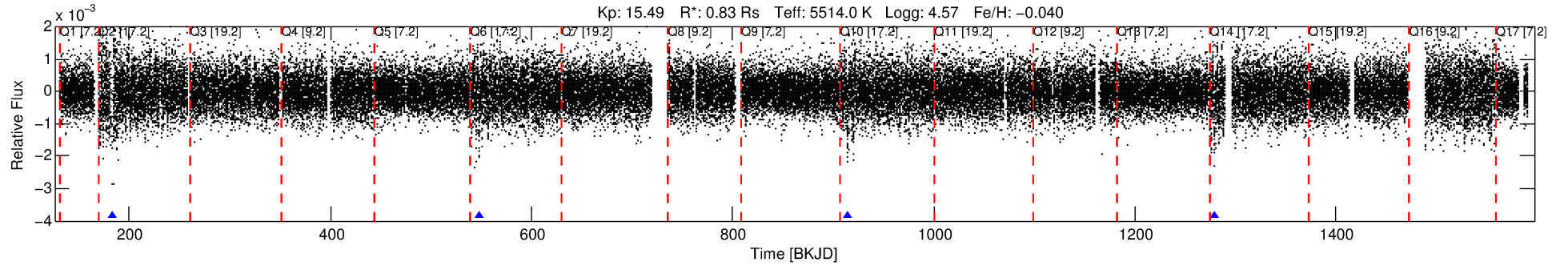
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009207459-01

No Significant Match Found

DV One-Page Summary

KIC: 9207459 Candidate: 1 of 1 Period: 365.524 d



DV Fit Results:

Period = 365.52351 [0.03493] d
Epoch = 182.8594 [0.0712] BKJD
Rp/R* = 0.0580 [0.1722]
a/R* = 42.00 [29.44]
b = 1.00 [0.26]
Seff = 0.60 [0.16]
Teq = 224 [15] K
Rp = 5.23 [15.55] Re
a = 0.9742 [0.1569] AU
Ag = 4986.75 [29677.05] [0.17 σ]
Teffp = 2910 [4327] K [0.62 σ]

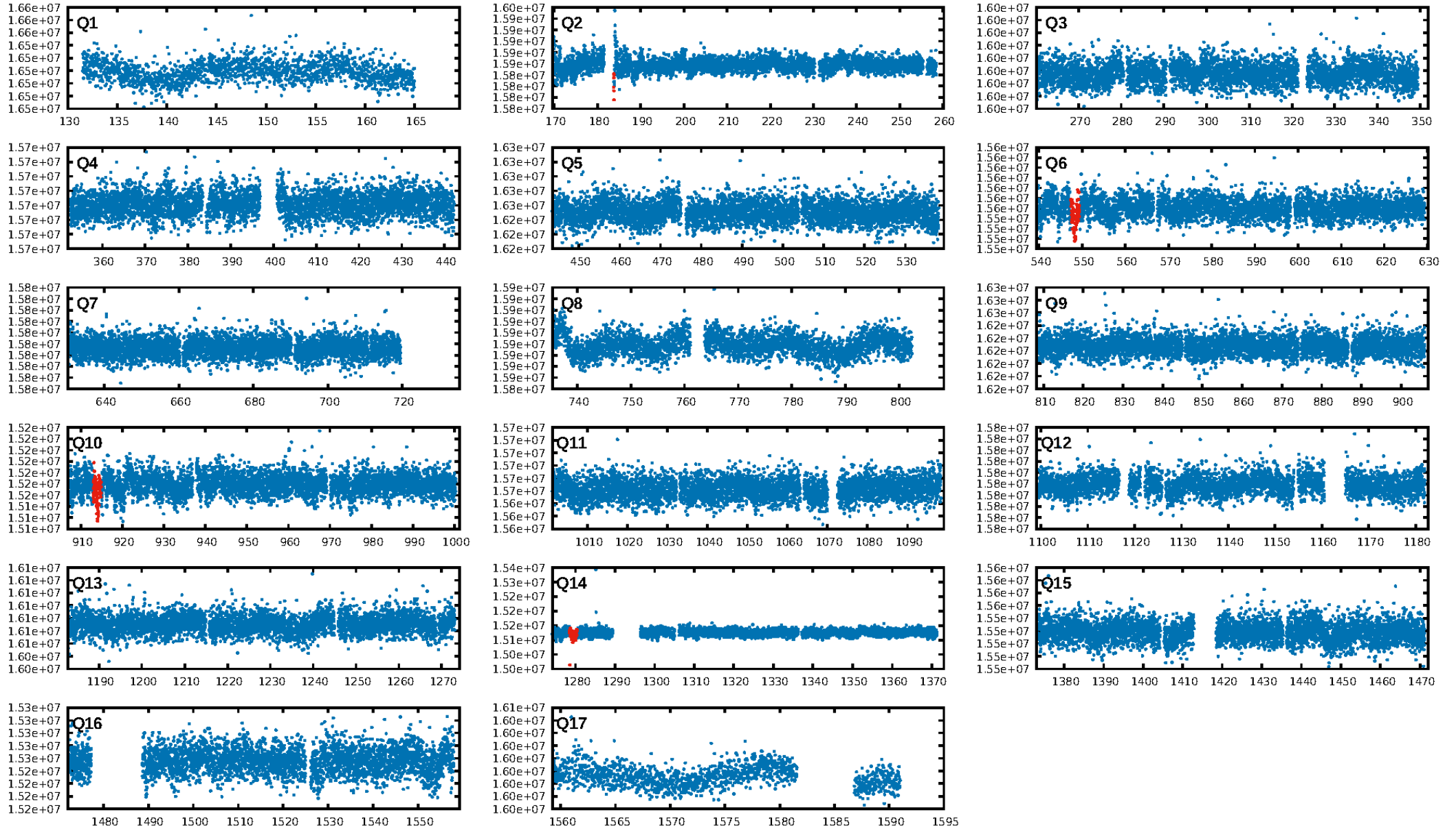
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 69.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.34e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -4.609
Centroid-sig: 21.9%
Centroid-so: 1.901 arcsec [1.05 σ]
OotOffset-rm: 1.278 arcsec [4.66 σ]
KicOffset-rm: 1.723 arcsec [6.29 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

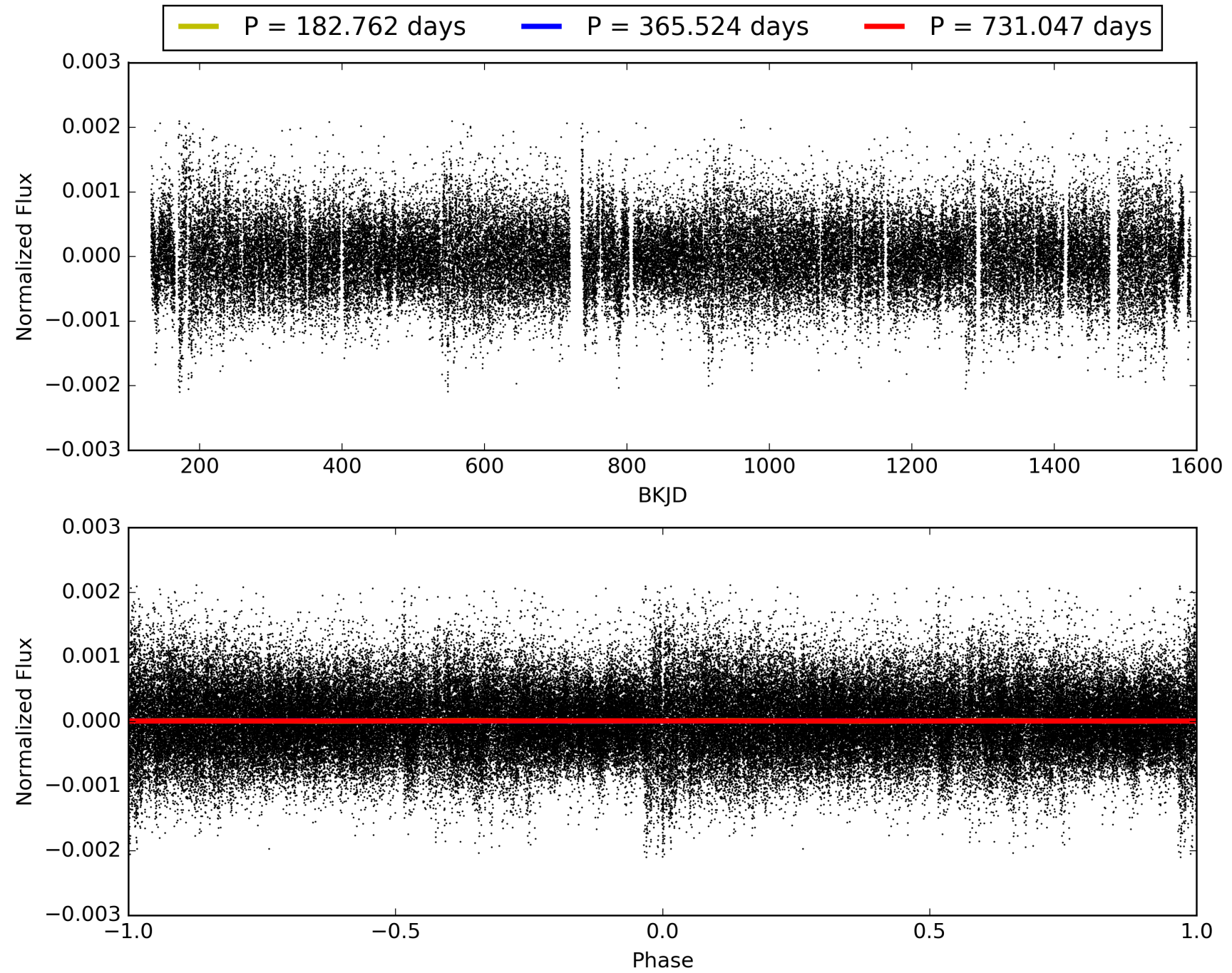
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:11:05 Z

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

TCE 009207459-01, PDC Light Curves

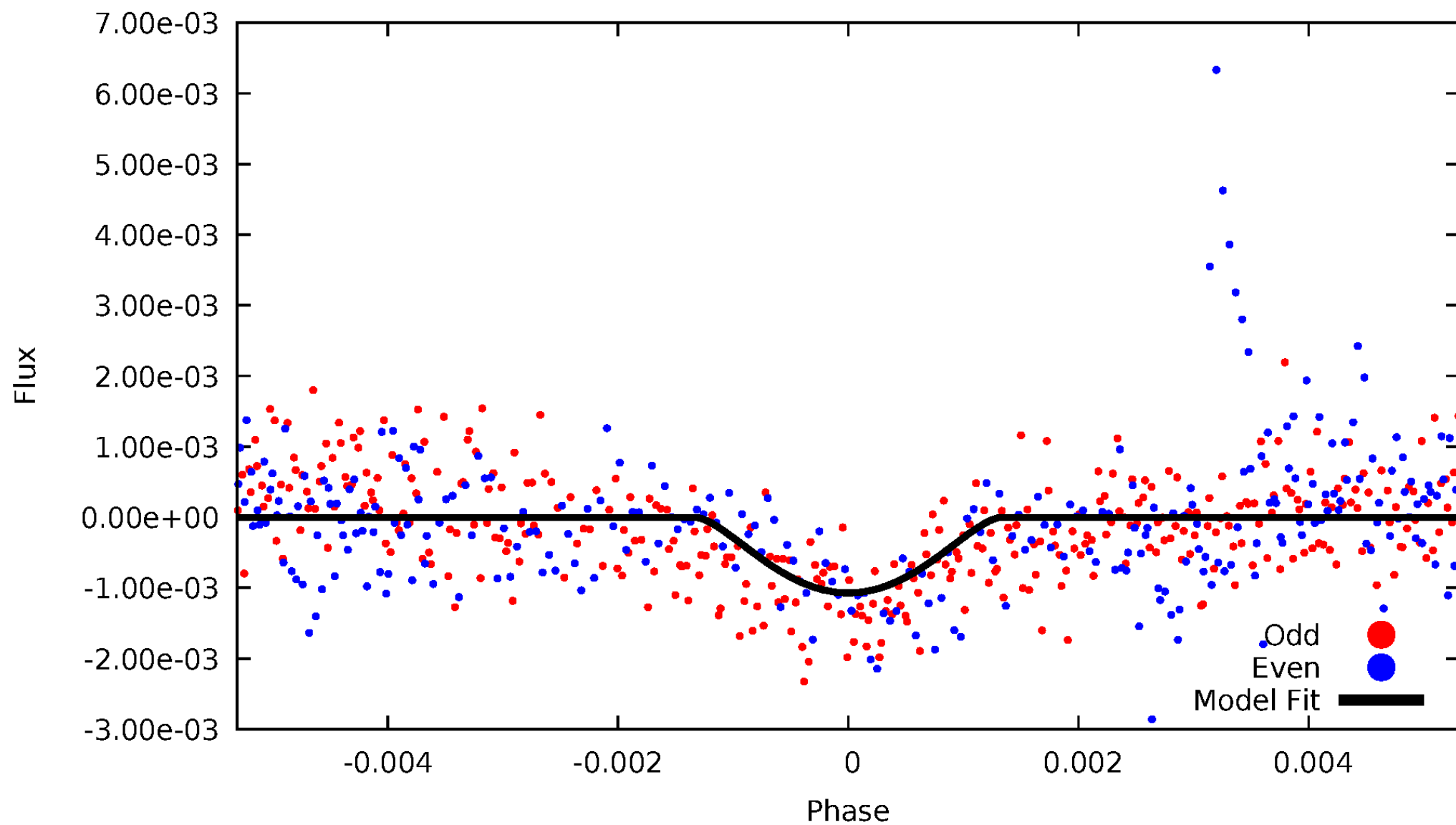


TCE 009207459-01



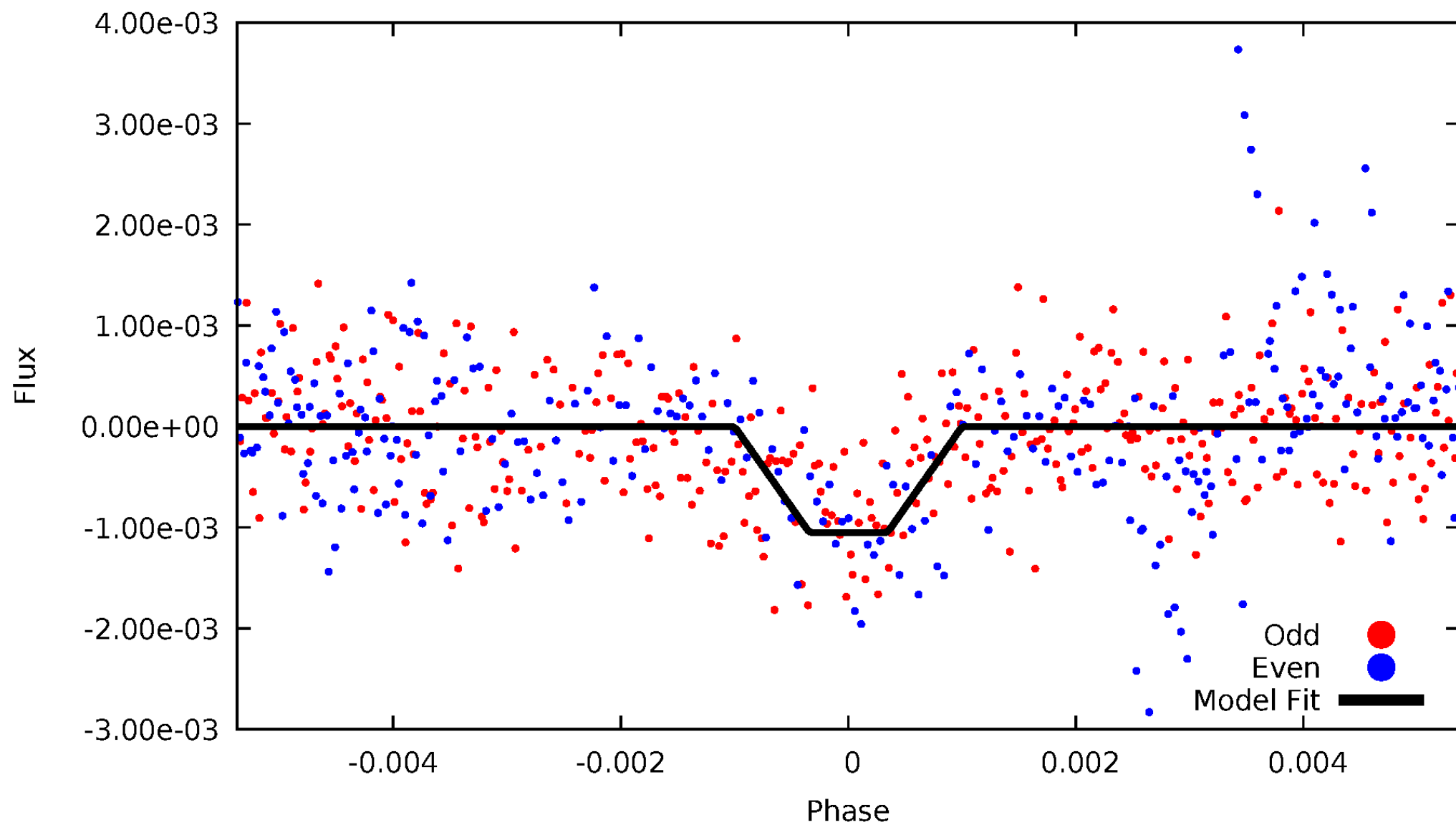
DV Odd/Even

TCE 009207459-01



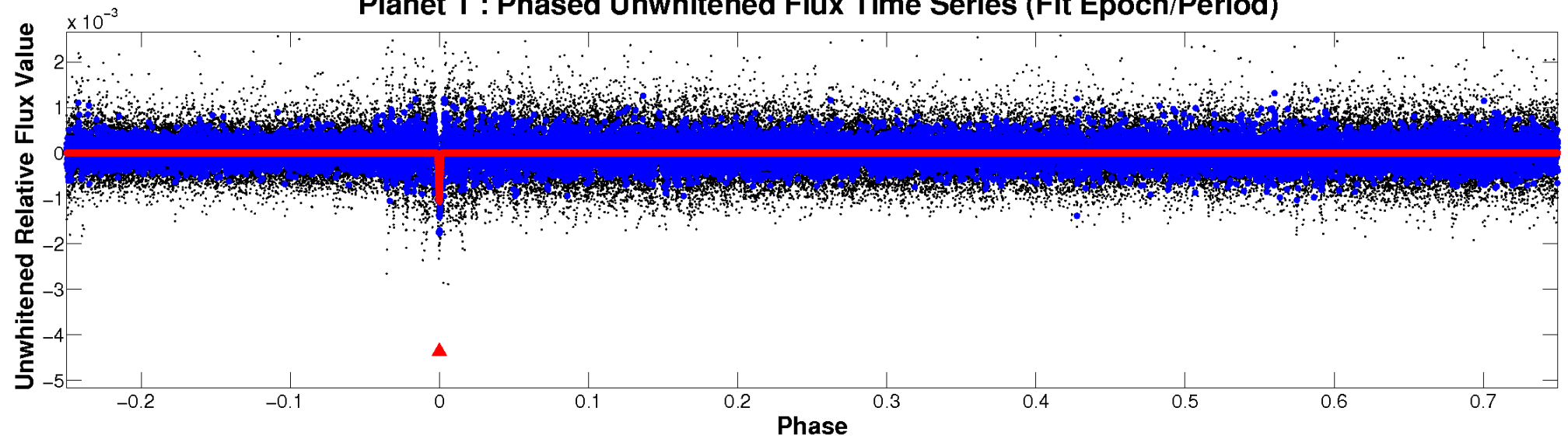
ALT Odd/Even

TCE 009207459-01

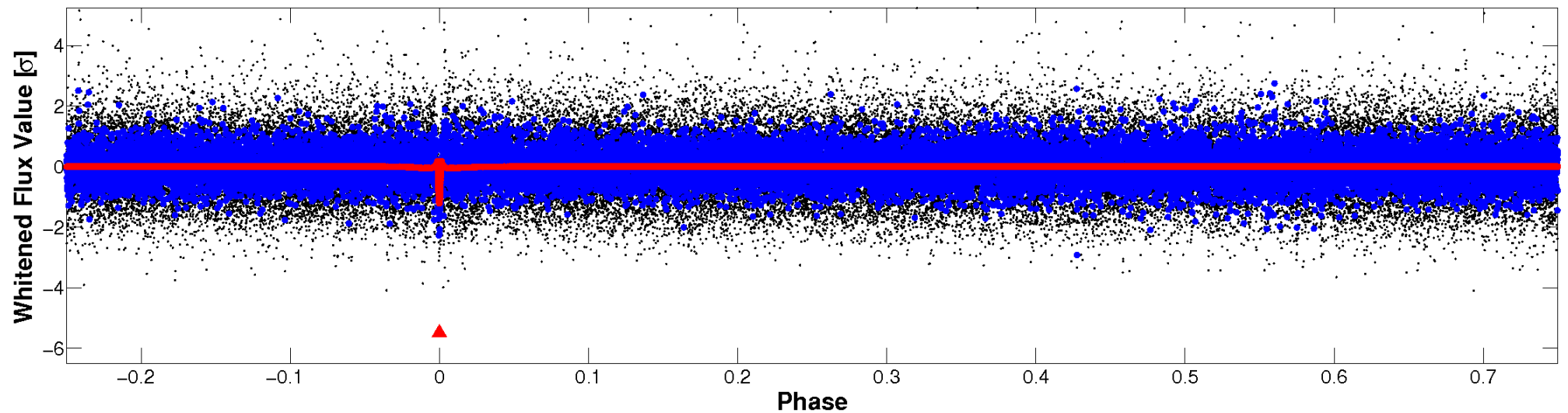


Non-Whitened Vs. Whitened Light Curve

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

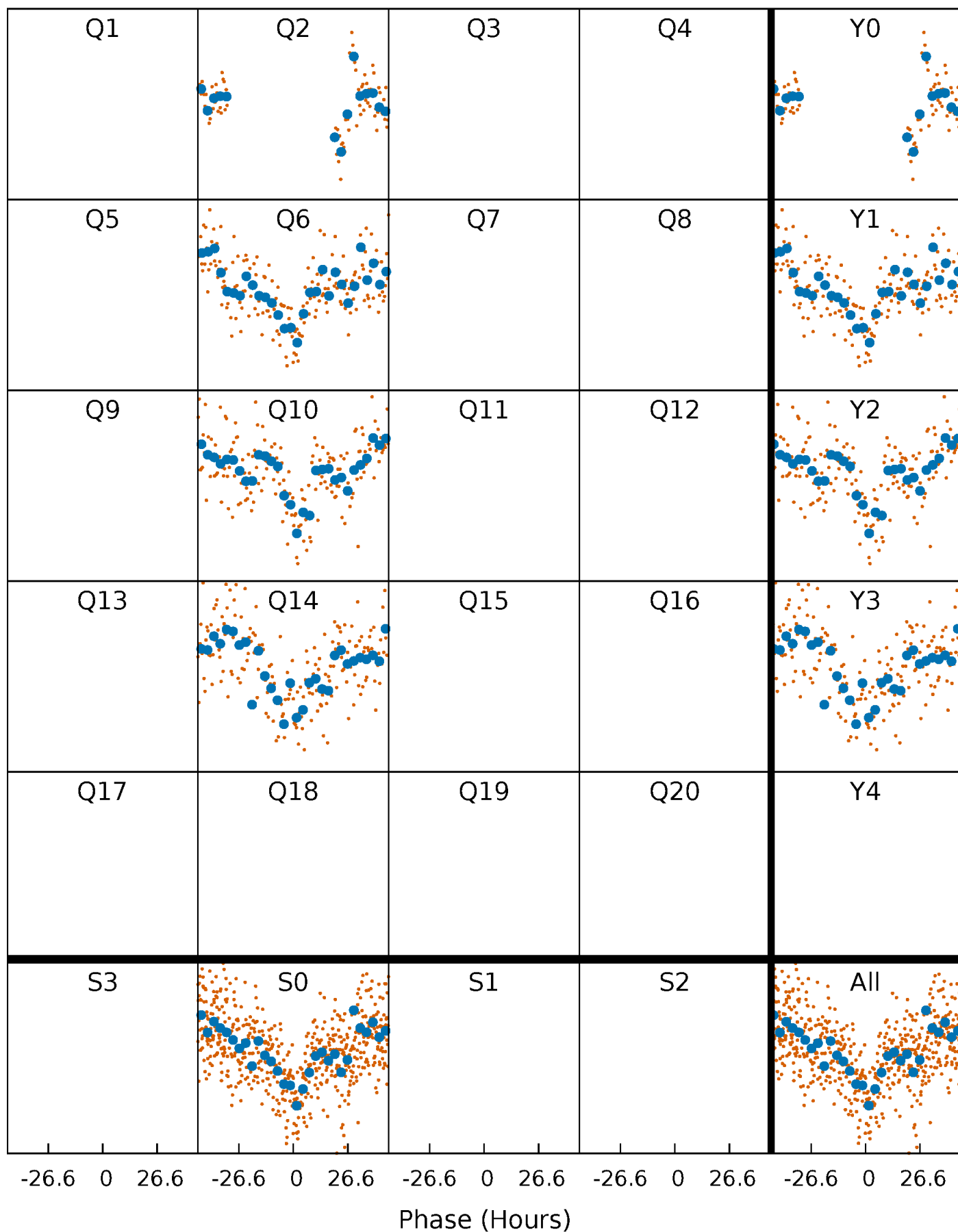


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



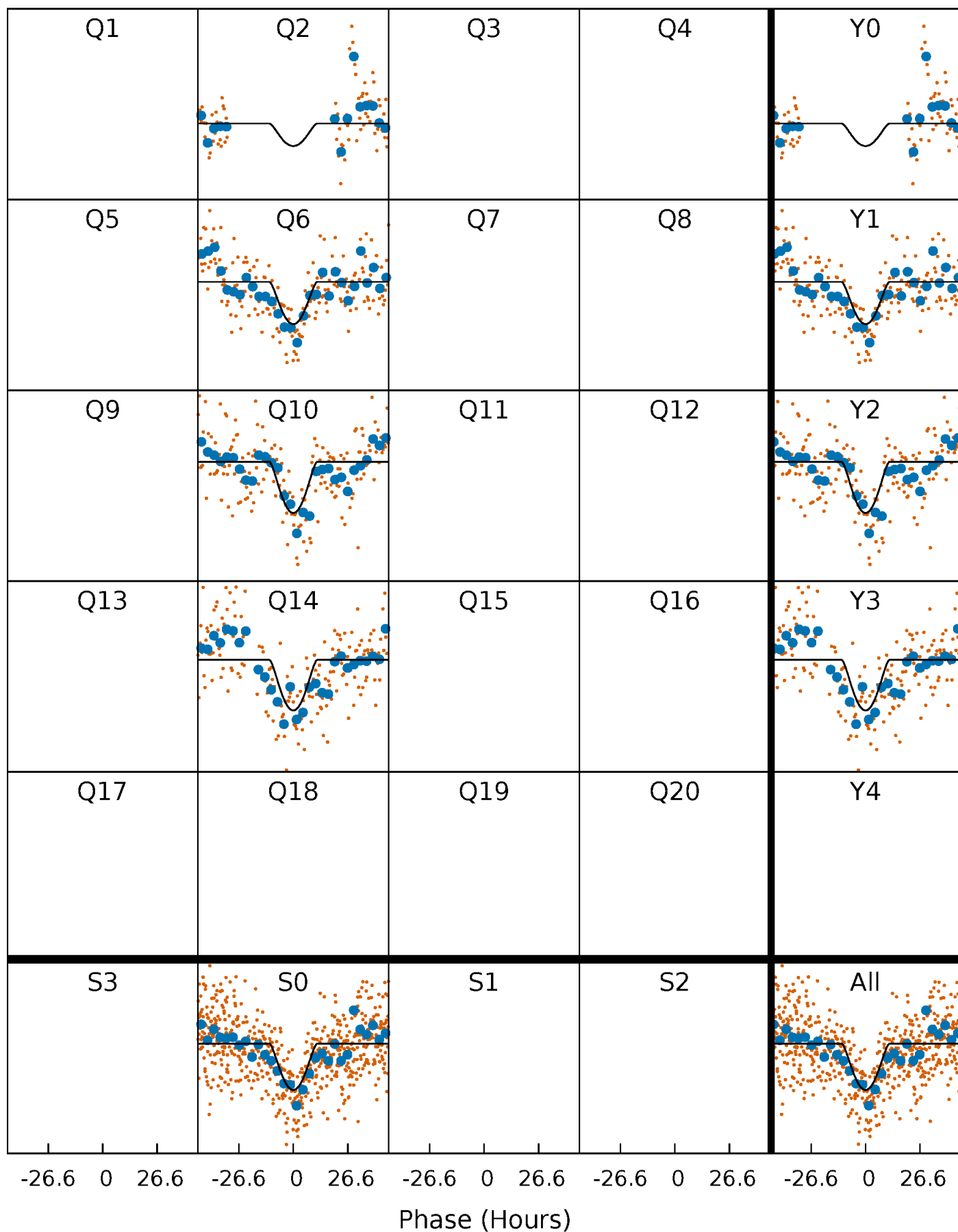
PDC Quarter-Phased Transit Curves

TCE 009207459-01 P=365.523506 Days $T_0=182.859354$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009207459-01 P=365.523506 Days $T_0=182.859354$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

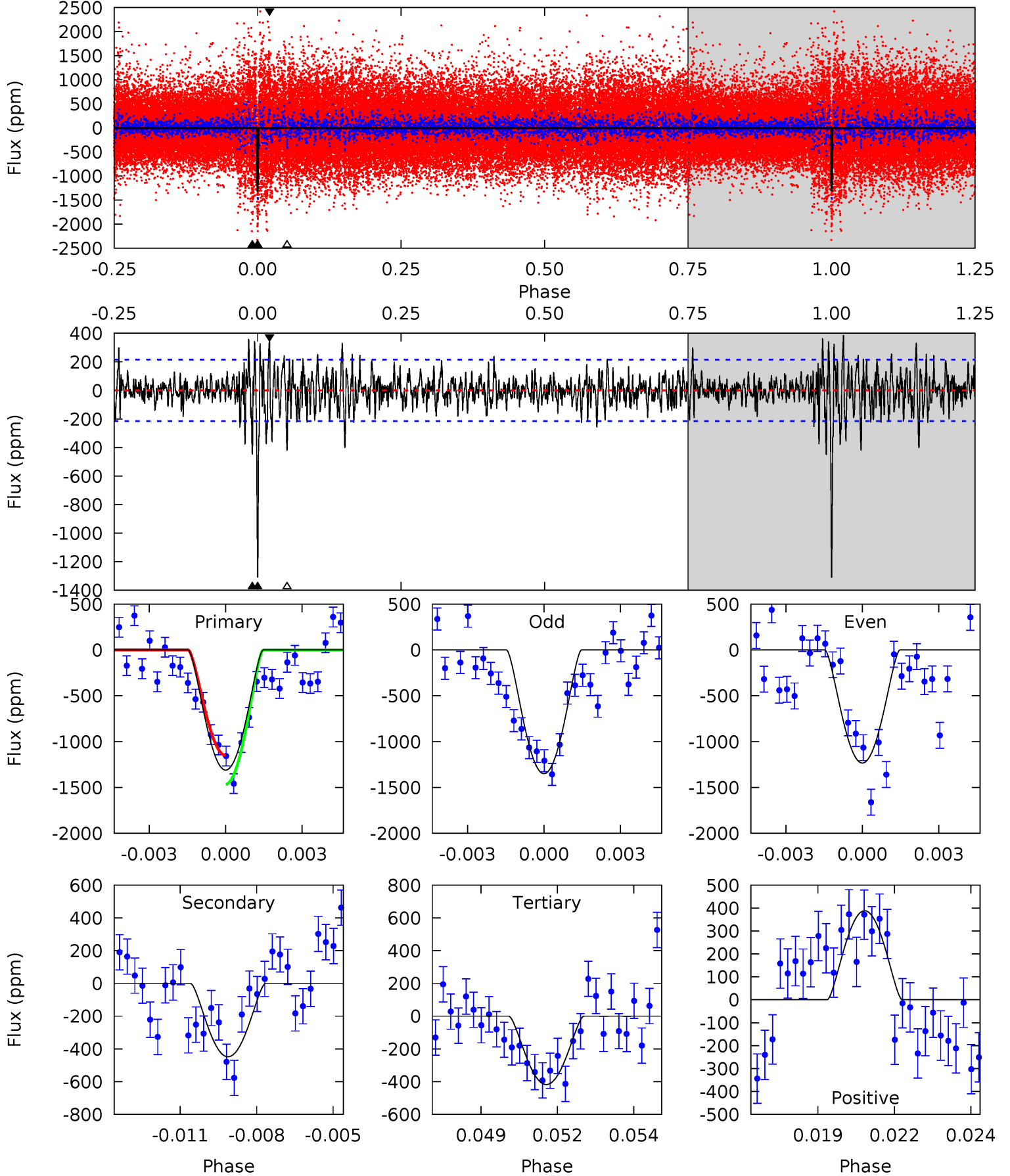
TCE 009207459-01 P=365.570011 Days $T_0=182.816456$ (BKJD)



DV Model-Shift Uniqueness Test

009207459-01, P = 365.523506 Days, E = 182.859354 Days

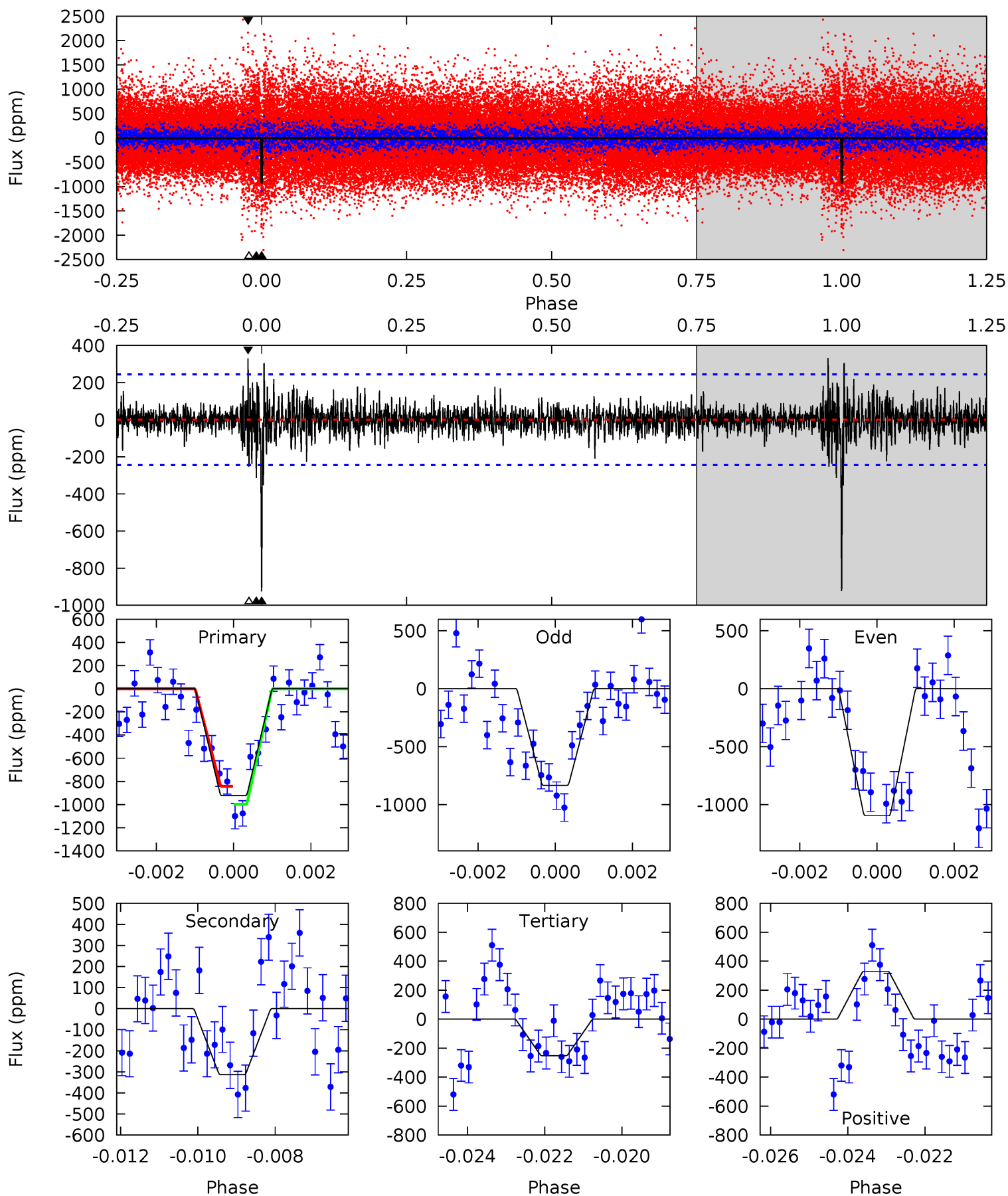
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.0	10.9	10.2	9.48	5.27	3.00	2.26	21.8	22.5	0.74	1.46	1.33	1.02	0.23	3.86



Alt Model-Shift Uniqueness Test

009207459-01, P = 365.570011 Days, E = 182.816456 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	6.84	5.50	7.18	5.33	3.09	1.22	14.6	12.9	1.34	-0.35	2.68	0.85	0.26	1.70



Stellar Parameters For KIC 009207459

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5514^{+147}_{-164}	$4.569^{+0.032}_{-0.136}$	$-0.040^{+0.250}_{-0.300}$	$0.826^{+0.152}_{-0.070}$	$0.926^{+0.073}_{-0.110}$	$2.312^{+0.387}_{-0.857}$
	+3%/-3%	+1%/-3%	+625%/-750%	+18%/-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 009207459-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-448 ± 41	$13.10^{+12.66}_{-9.19}$	319^{+16}_{-13}	2853^{+1269}_{-442}	1311^{+14521}_{-962}
Alt.	-313 ± 46	$11.90^{+13.00}_{-8.45}$	319^{+17}_{-12}	2785^{+1302}_{-445}	1144^{+11975}_{-880}

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

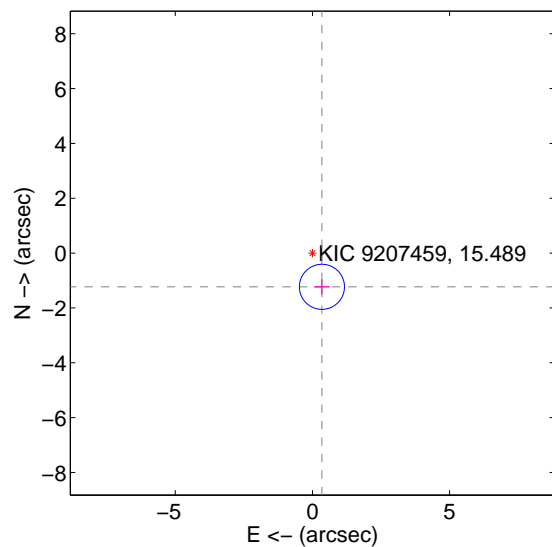
Supplemental centroid analysis for 009207459-01. Kepler magnitude: 15.49. Transit SNR 9.17

There are 0 quarters with good PRF difference image offsets

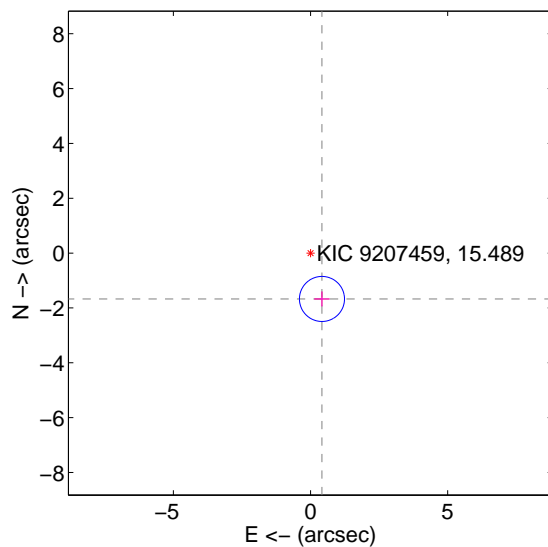
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.278 ± 0.274	4.66	-0.346 ± 0.284	-1.230 ± 0.273
PRF-fit source offset from KIC position	1.723 ± 0.274	6.29	-0.417 ± 0.284	-1.672 ± 0.273
photometric centroid source offset	1.90 ± 1.82	1.05	1.67 ± 1.75	0.91 ± 2.03

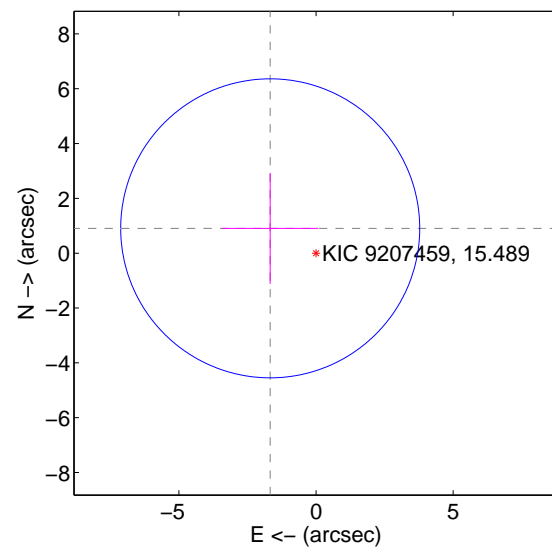
offset from difference PRF-fit to OOT PRF-fit



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.



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

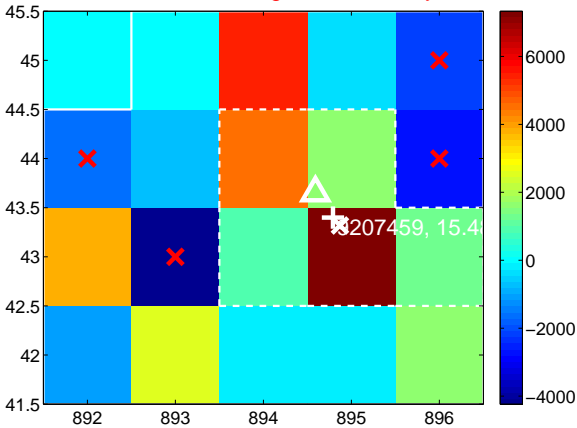
Q5 no difference image



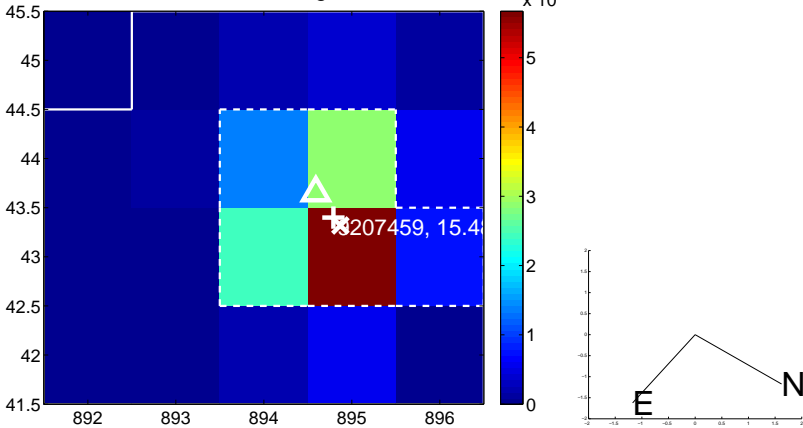
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



Q7 no difference image



Q7 no OOT image



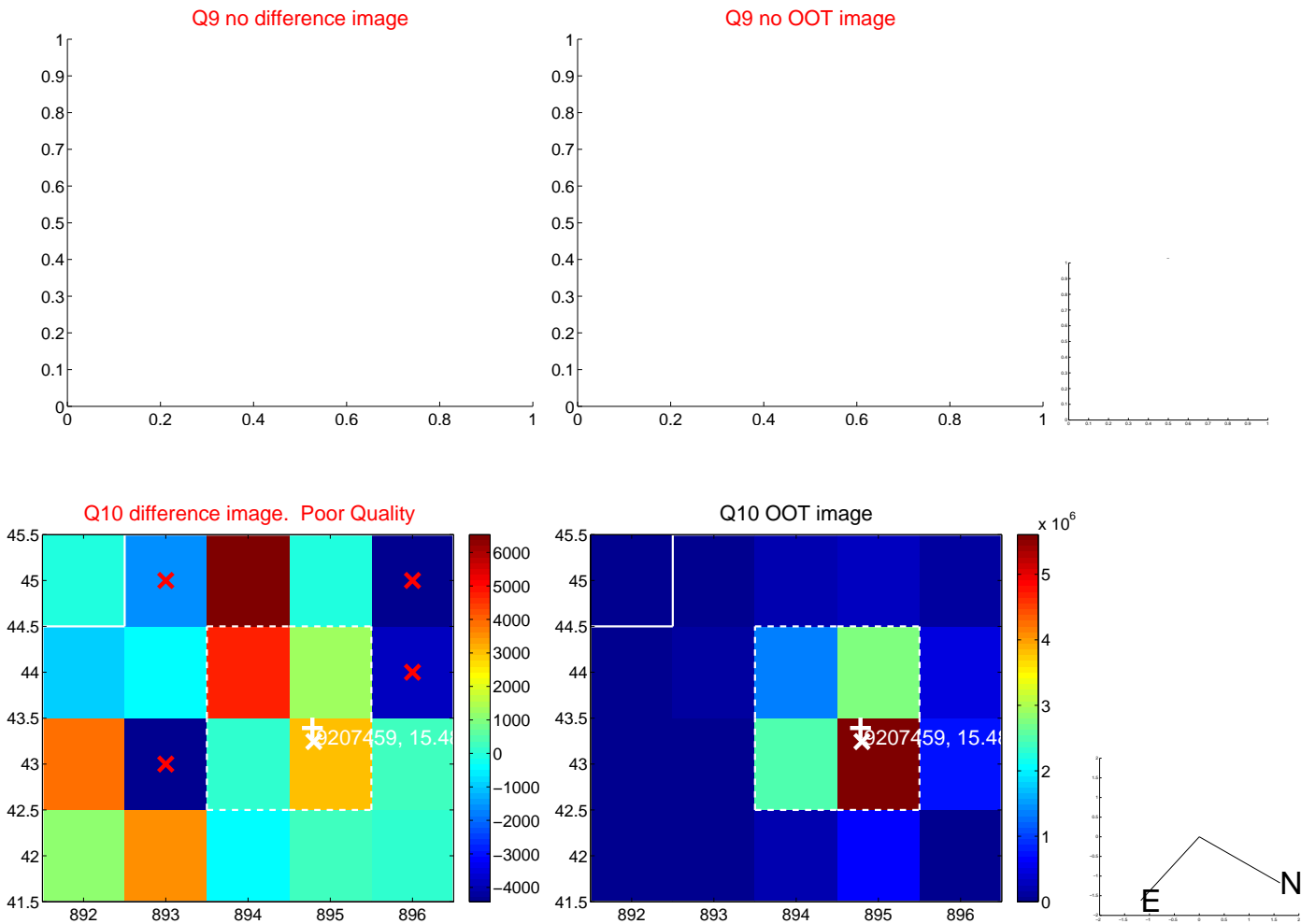
Q8 no difference image



Q8 no OOT image



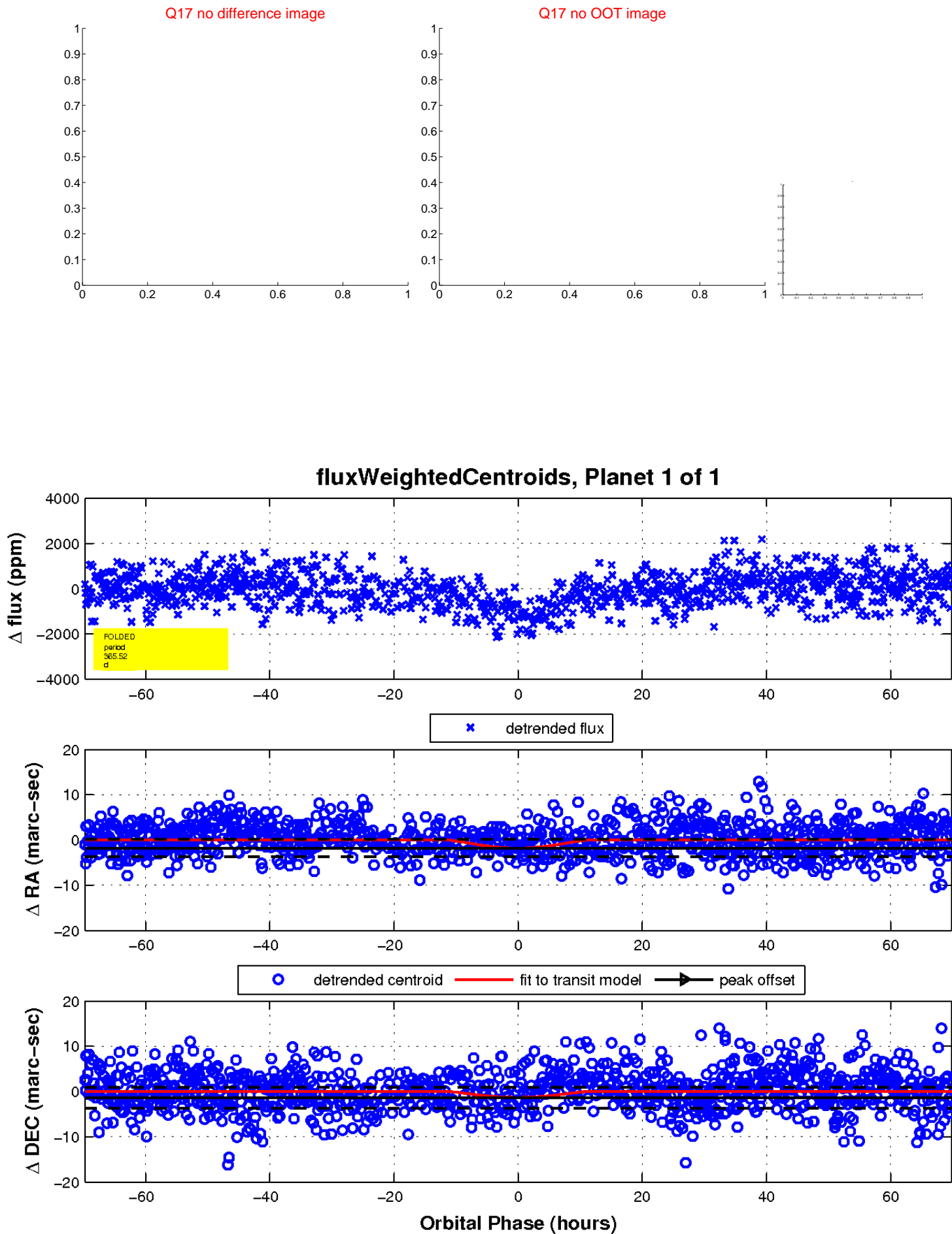
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

