

KIC 009595972

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})
009595972-01	OBS	No	529.450006	394.002995	167.2	18.450	7.8	8.5	2.38	6514	3.38	4.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009595972-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—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.

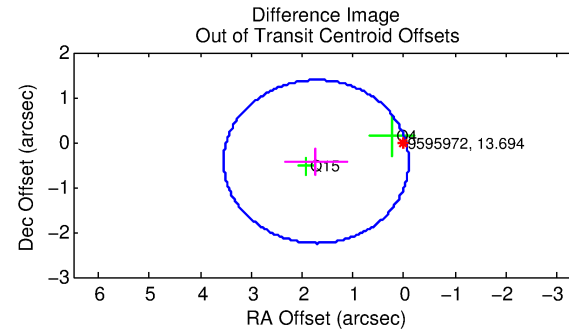
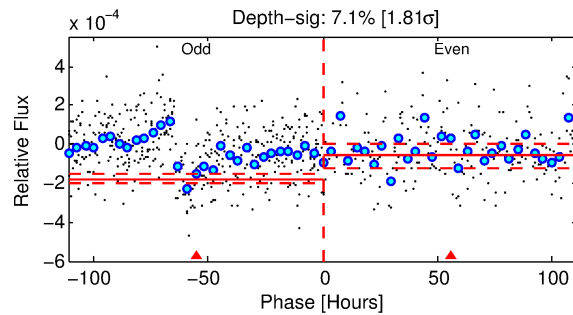
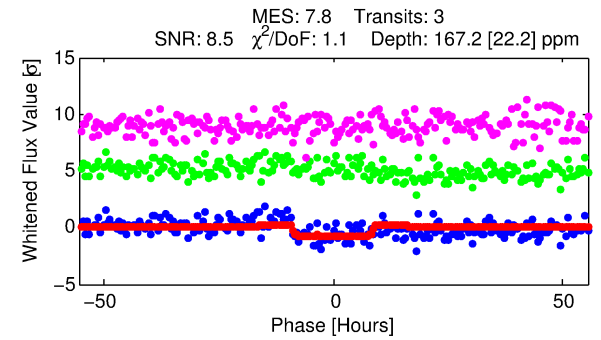
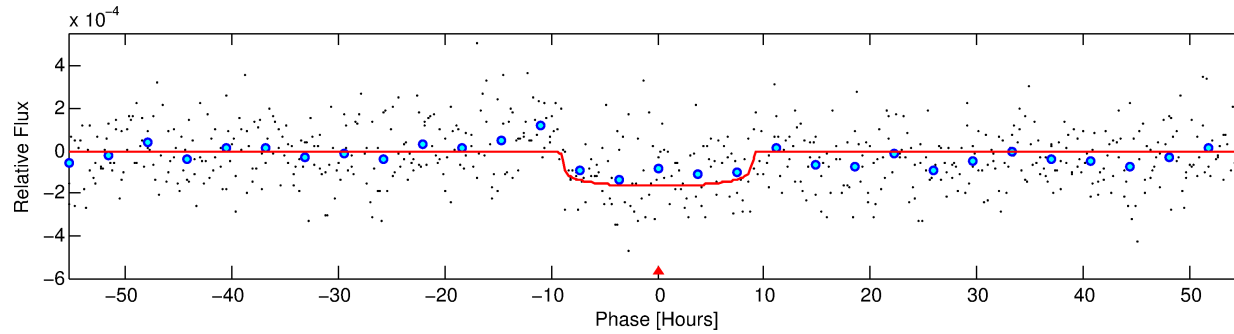
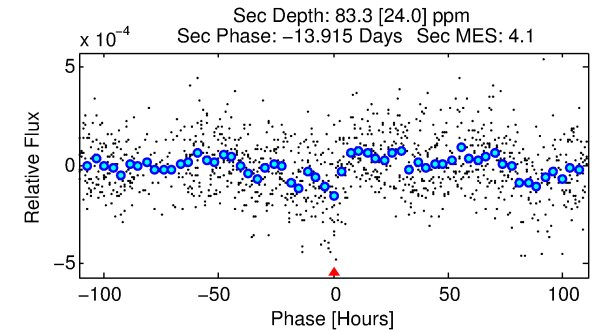
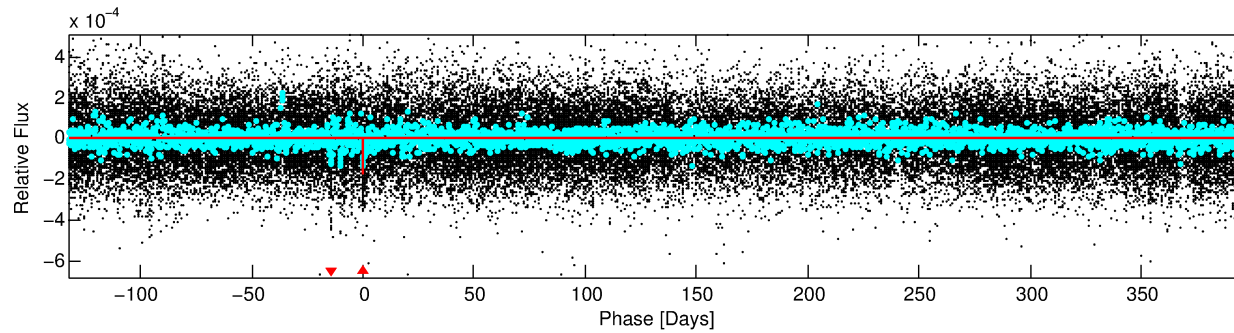
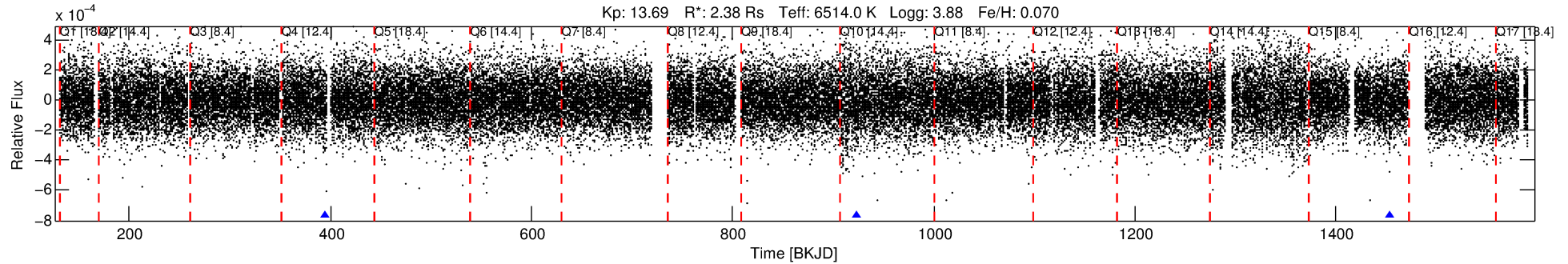
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009595972-01

No Significant Match Found

DV One-Page Summary

KIC: 9595972 Candidate: 1 of 1 Period: 529.450 d



DV Fit Results:

Period = 529.45001 [0.01629] d
Epoch = 394.0030 [0.0216] BKJD
Rp/R* = 0.0130 [0.0029]
a/R* = 139.95 [162.53]
b = 0.79 [0.57]
Seff = 4.11 [2.63]
Teq = 363 [58] K
Rp = 3.38 [1.67] Re
a = 1.4919 [0.5990] AU
Ag = 8914.71 [7306.35] [1.22σ]
Teffp = 5454 [757] K [6.70σ]

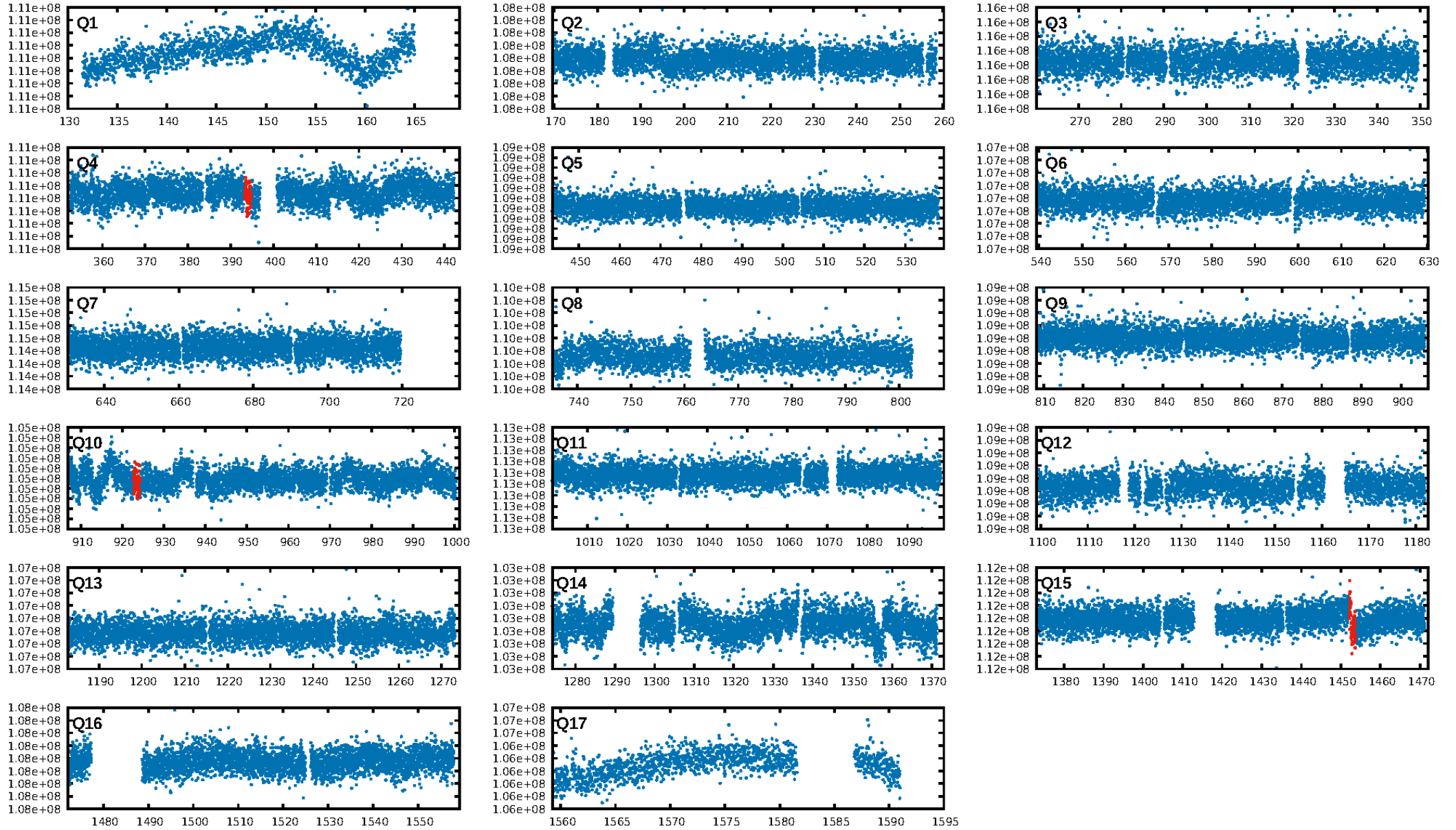
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.8%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 1.04e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.697
Centroid-sig: 3.8%
Centroid-so: 1.832 arcsec [1.58σ]
OotOffset-rm: 1.776 arcsec [2.93σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 1.767 arcsec [3.01σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

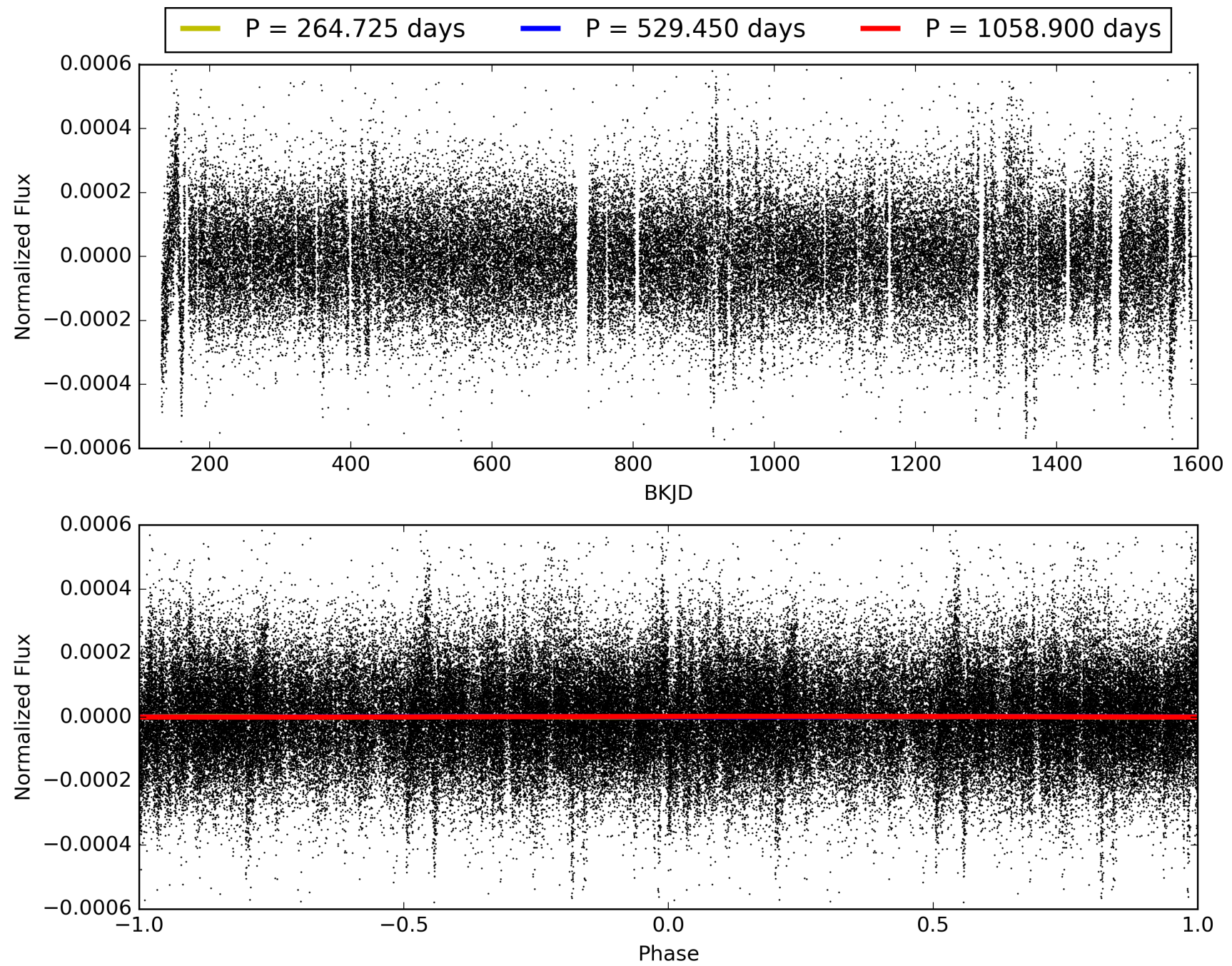
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:52:53 Z

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

TCE 009595972-01, PDC Light Curves

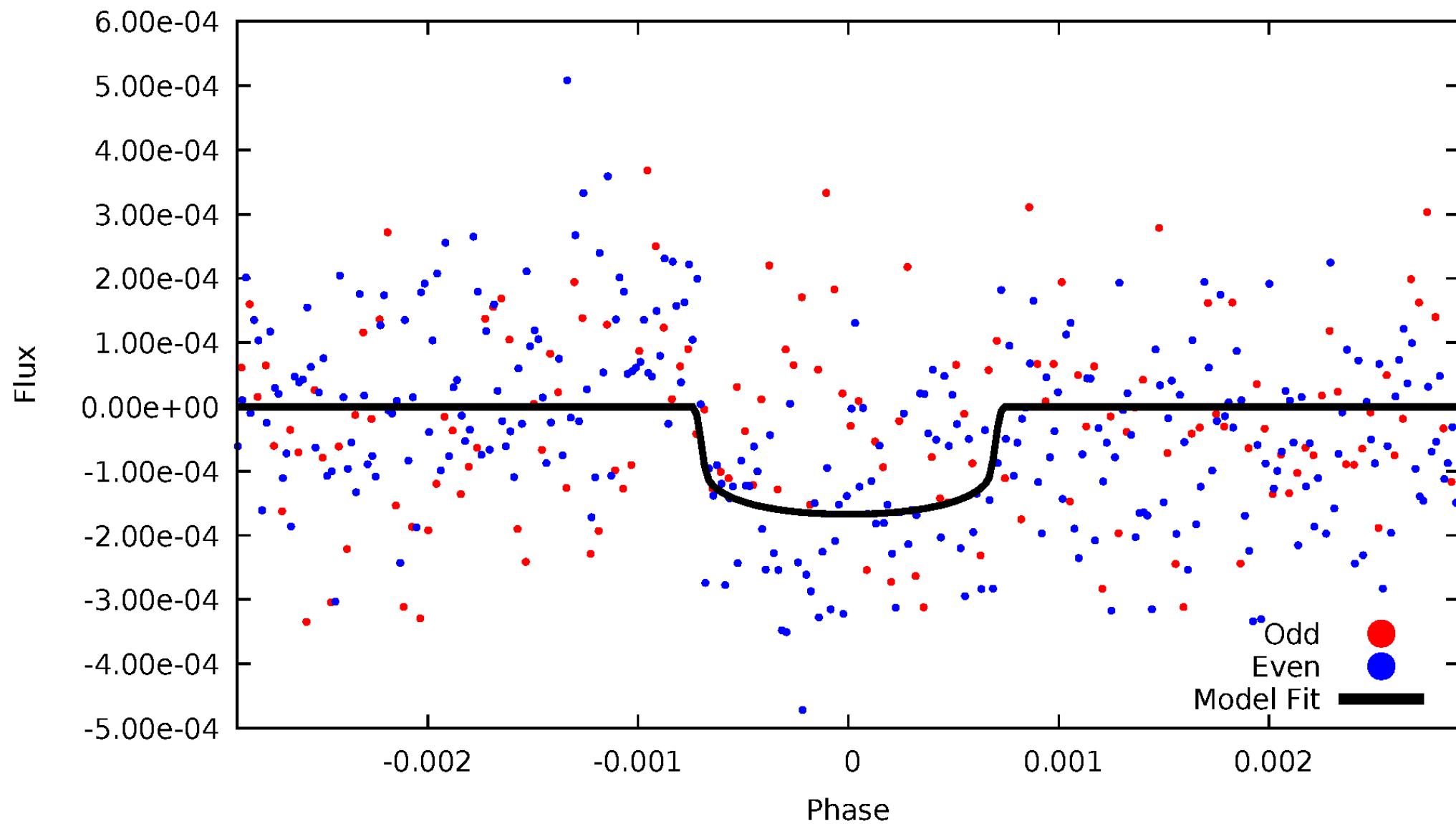


TCE 009595972-01



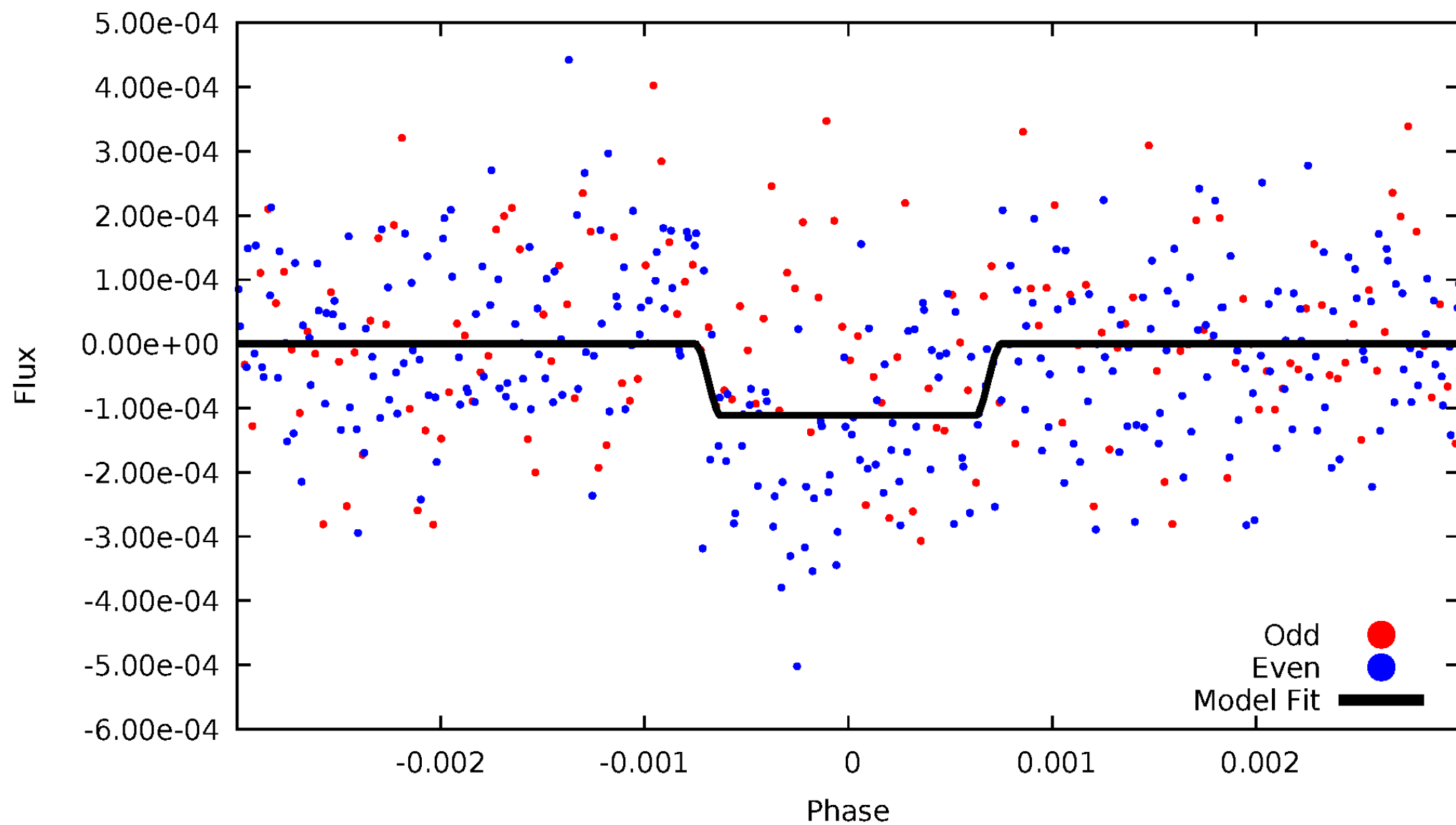
DV Odd/Even

TCE 009595972-01

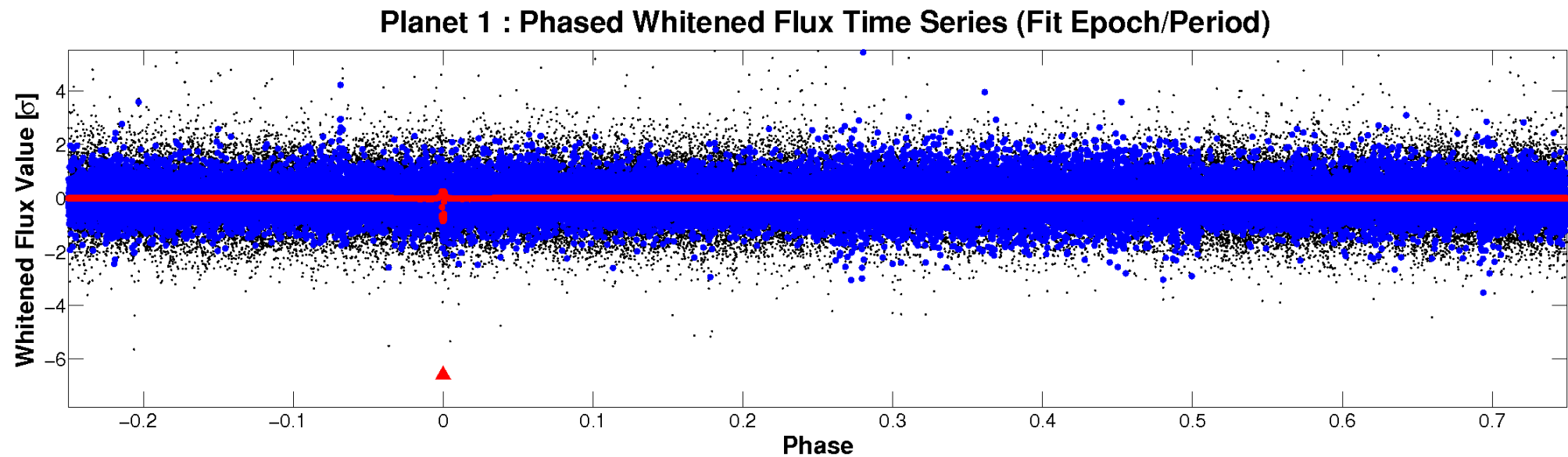
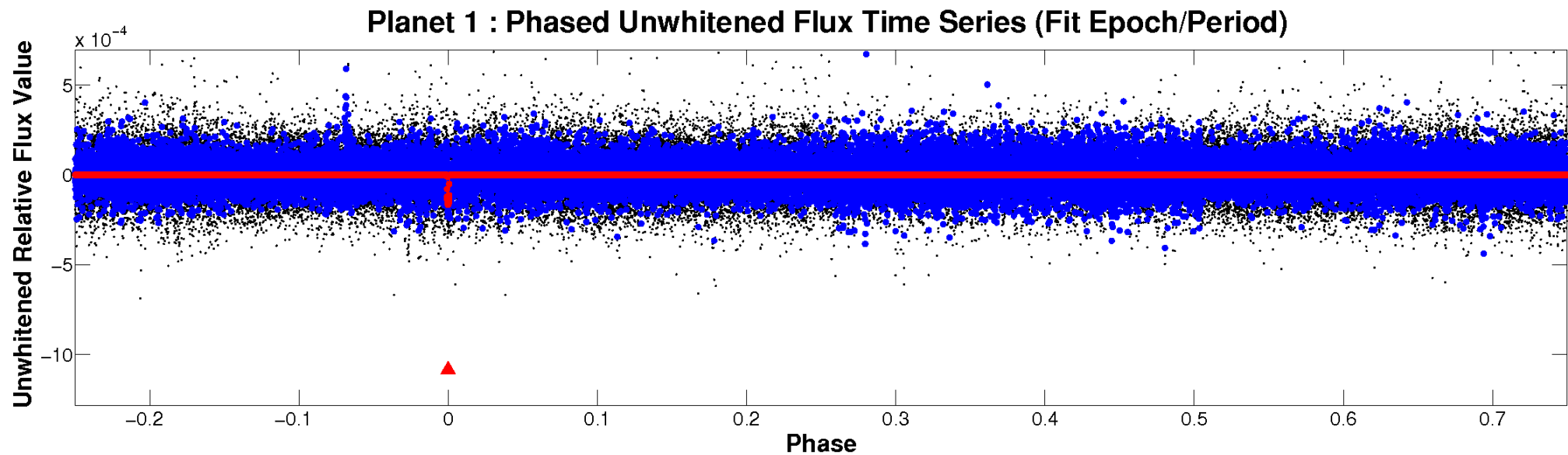


ALT Odd/Even

TCE 009595972-01

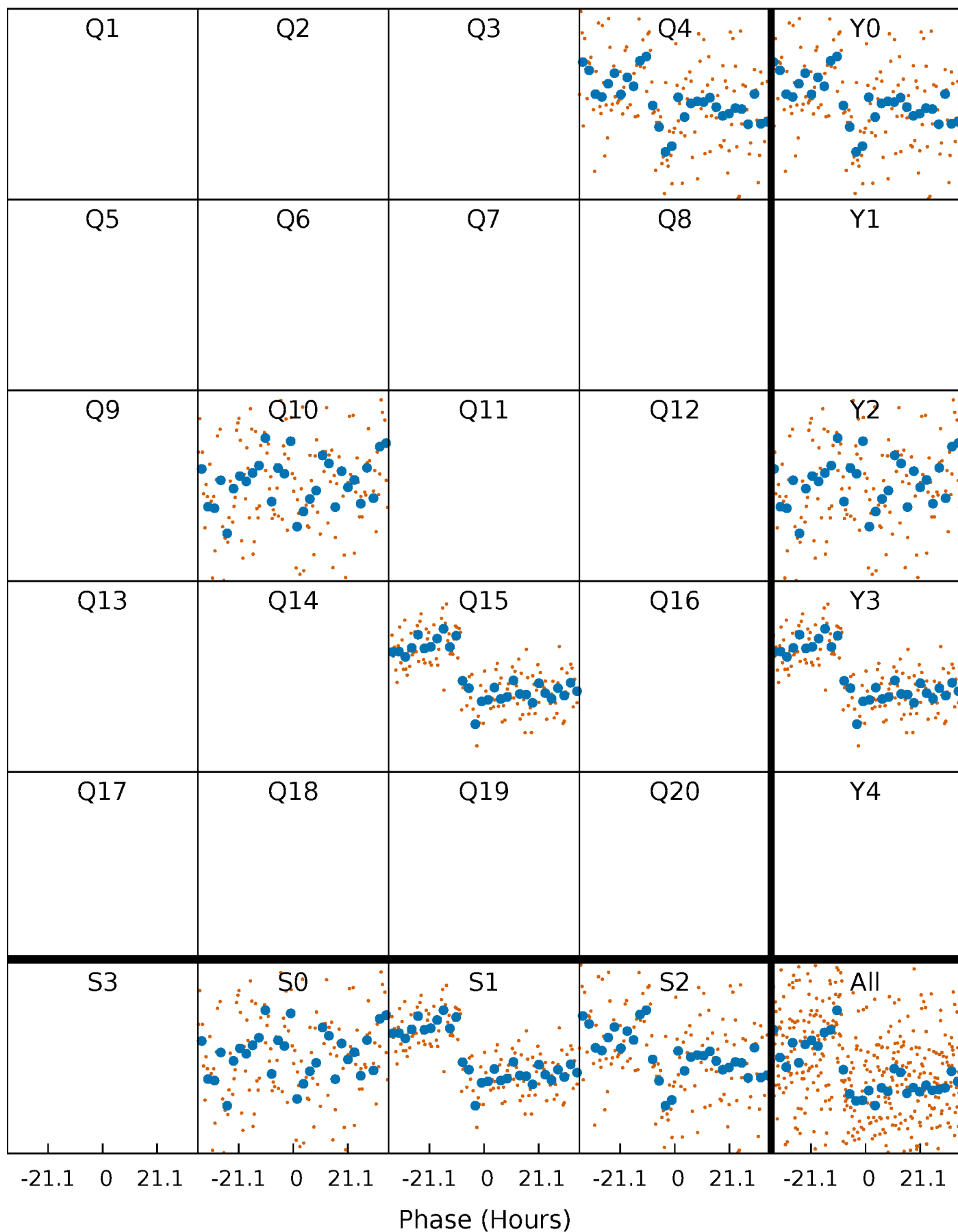


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 009595972-01 P=529.450006 Days $T_0=394.002995$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009595972-01 P=529.450006 Days $T_0=394.002995$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

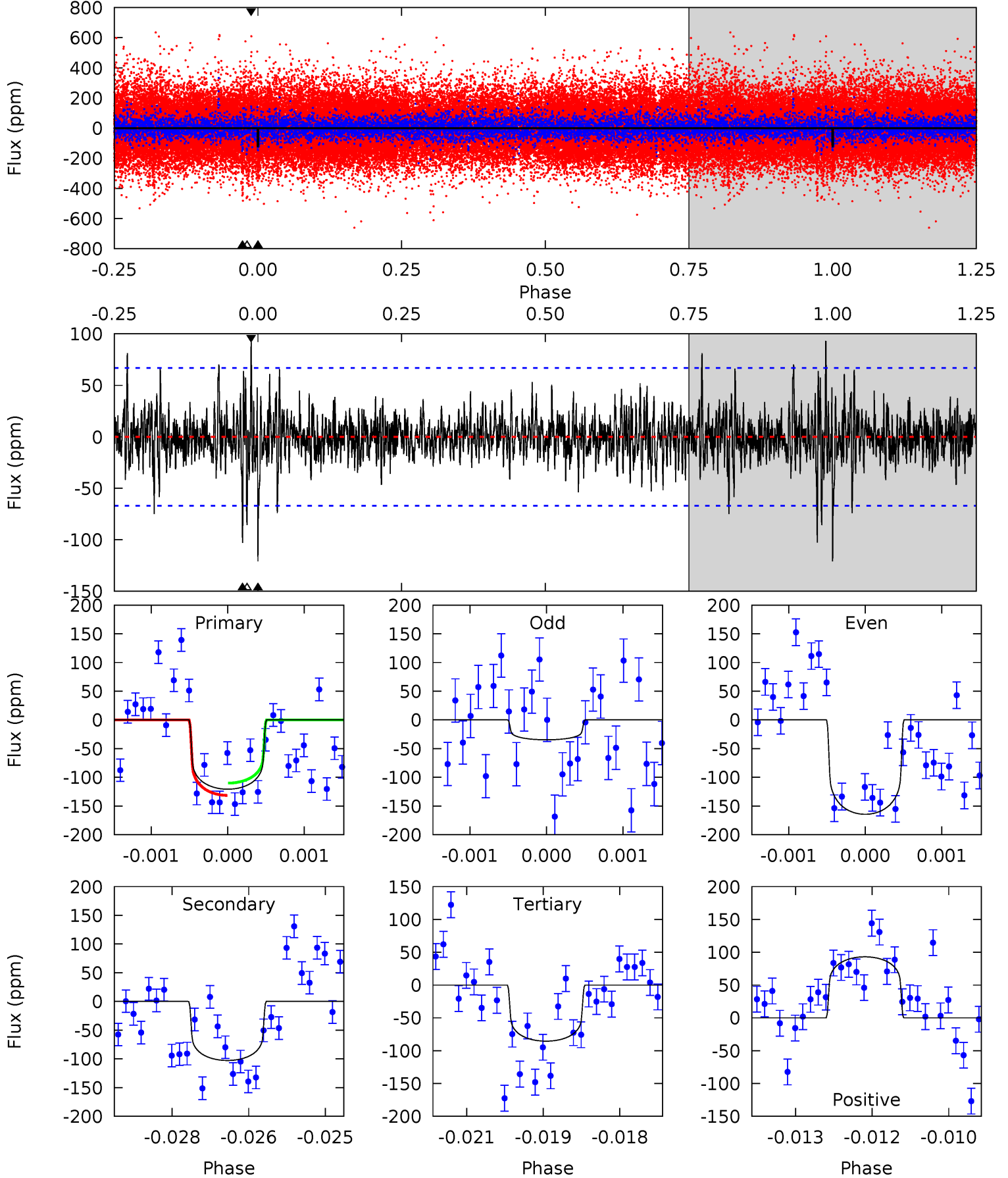
TCE 009595972-01 $P=529.467596$ Days $T_0=393.986548$ (BKJD)



DV Model-Shift Uniqueness Test

009595972-01, P = 529.450006 Days, E = 394.002995 Days

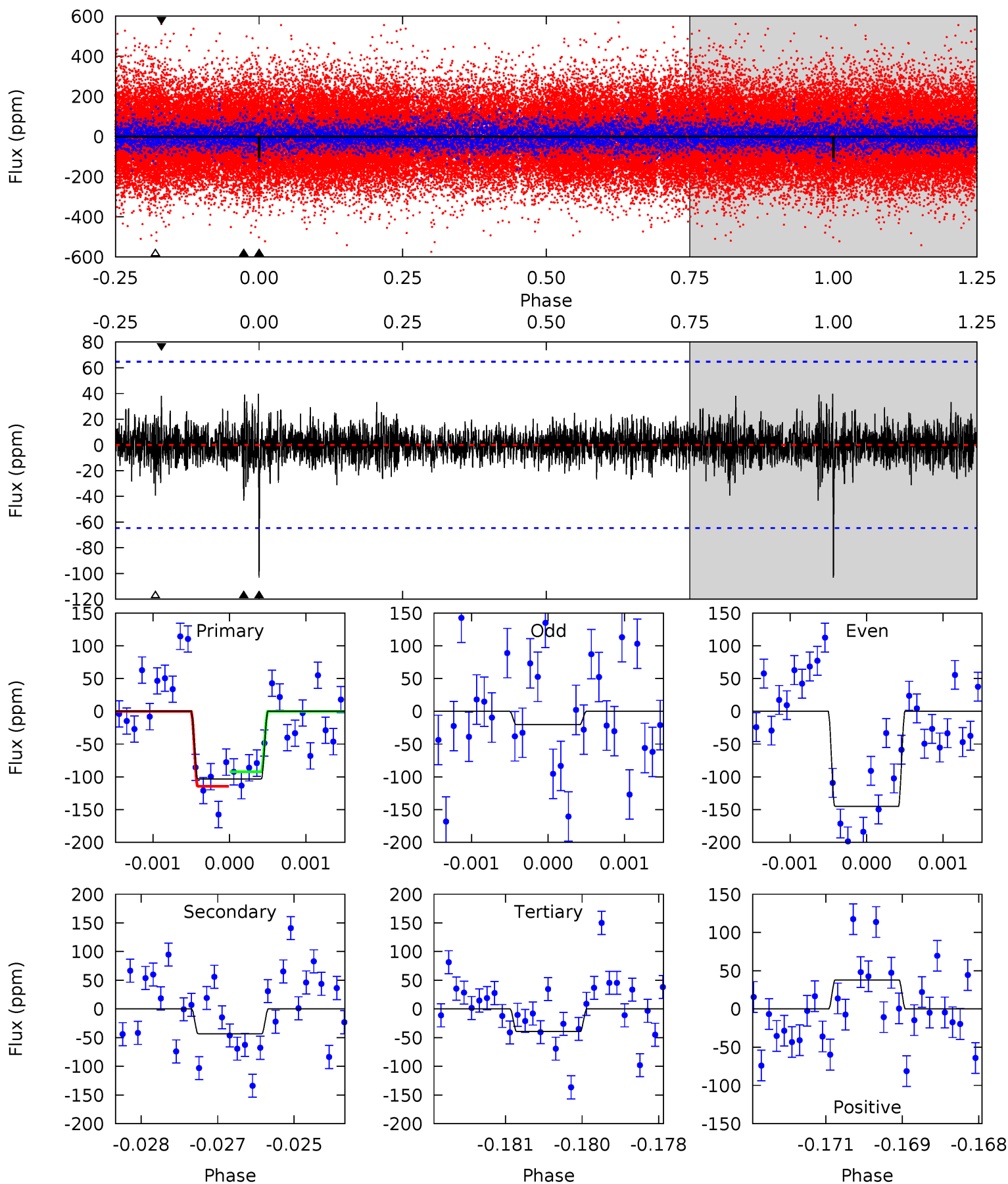
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.72	8.27	6.88	7.49	5.38	3.18	1.45	2.83	2.23	1.39	0.79	4.94	0.88	0.44	0.86



Alt Model-Shift Uniqueness Test

009595972-01, $P = 529.467596$ Days, $E = 393.986548$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.59	3.61	3.27	3.17	5.38	3.17	0.74	5.32	5.42	0.34	0.44	4.96	1.03	0.28	0.93



Stellar Parameters For KIC 009595972

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6514^{+179}_{-247}	$3.883^{+0.357}_{-0.153}$	$0.070^{+0.250}_{-0.300}$	$2.381^{+0.564}_{-1.048}$	$1.581^{+0.211}_{-0.392}$	$0.165^{+0.507}_{-0.077}$
	+3%/-4%	+9%/-4%	+357%/-429%	+24%/-44%	+13%/-25%	+308%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 009595972-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-103 ± 12	$3.16^{+1.08}_{-0.90}$	498^{+40}_{-54}	5709^{+783}_{-556}	12342^{+11118}_{-5526}
Alt.	-43 ± 12	$2.57^{+0.99}_{-0.93}$	496^{+44}_{-54}	5164^{+945}_{-632}	7903^{+10210}_{-4059}

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 $A_{obs} \gg 1.0$

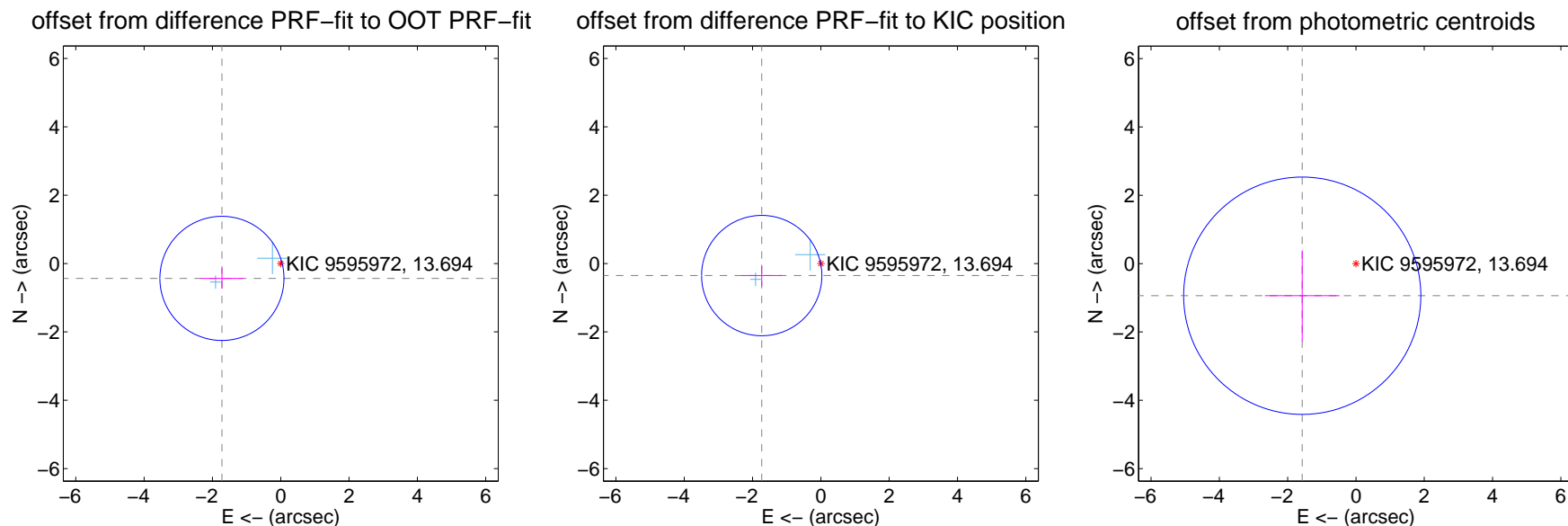
DV Centroid Data

Supplemental centroid analysis for 009595972-01. Kepler magnitude: 13.69. Transit SNR 8.51

There are 2 quarters with good PRF difference image offsets

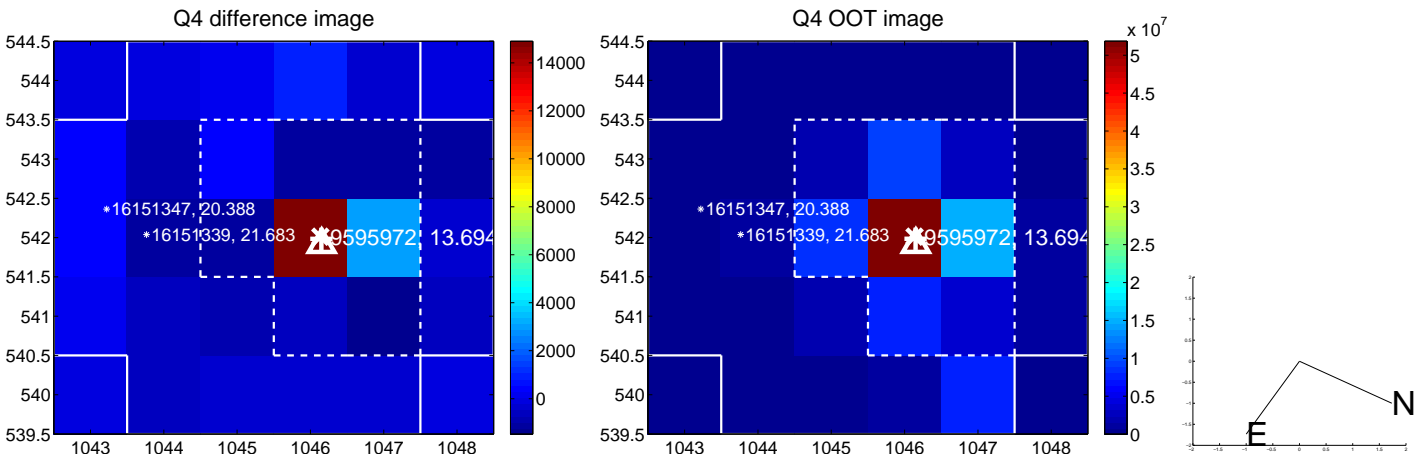
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.776 ± 0.605	2.93	1.722 ± 0.620	-0.434 ± 0.300
PRF-fit source offset from KIC position	1.767 ± 0.587	3.01	1.731 ± 0.595	-0.352 ± 0.310
photometric centroid source offset	1.83 ± 1.16	1.58	1.57 ± 1.09	-0.94 ± 1.33



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 ×: 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.

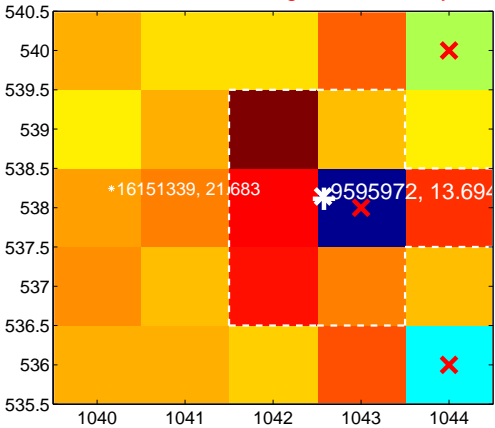
Q9 no difference image



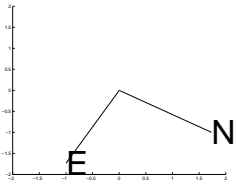
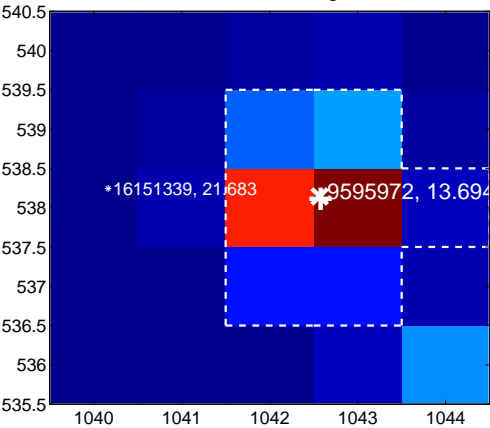
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



Q11 no difference image



Q11 no OOT image



Q12 no difference image



Q12 no OOT image



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

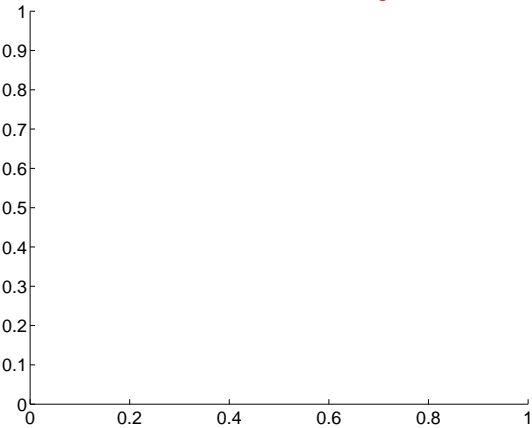
Q13 no difference image



Q13 no OOT image



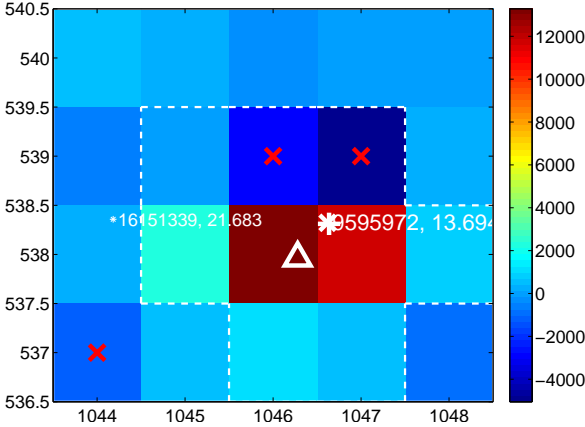
Q14 no difference image



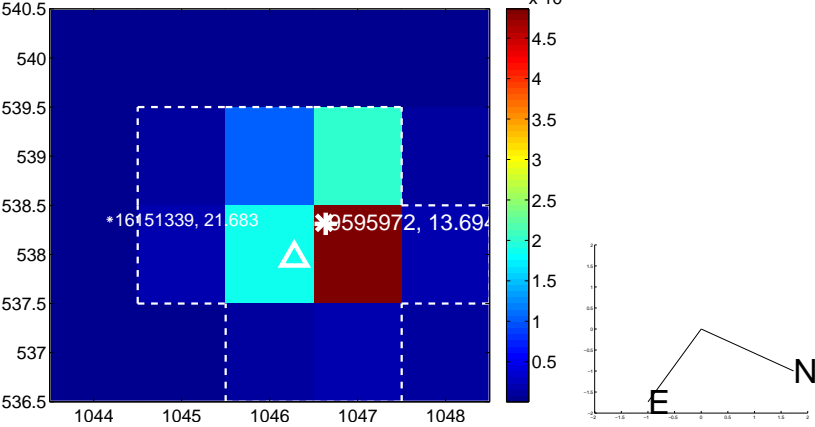
Q14 no OOT image



Q15 difference image



Q15 OOT image



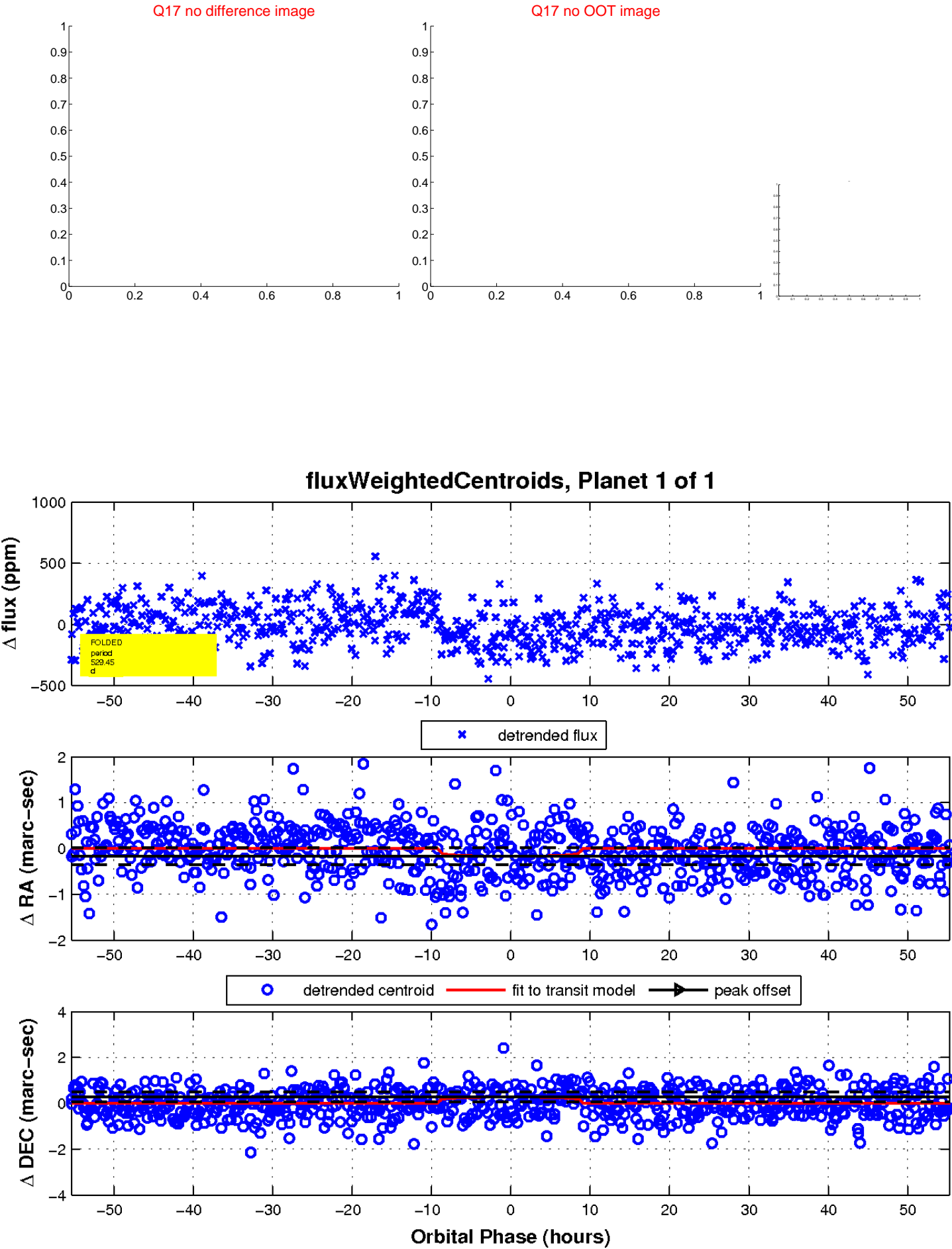
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

