

KIC 008751590

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})
008751590-01	OBS	No	374.526563	138.826381	1064.3	29.756	10.1	12.1	0.90	5335	3.52	0.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008751590-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

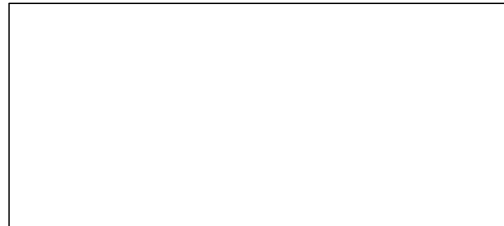
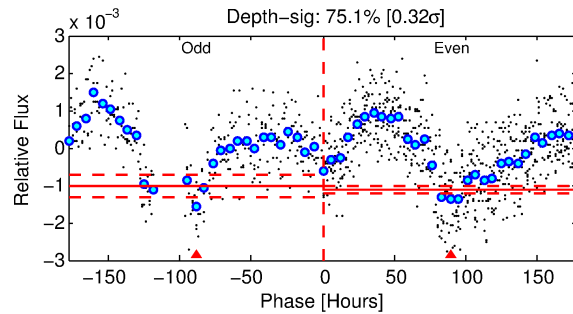
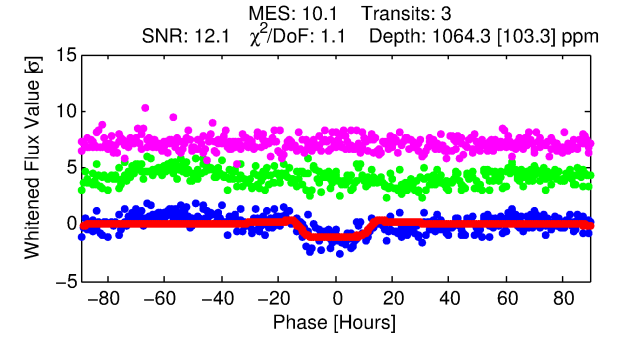
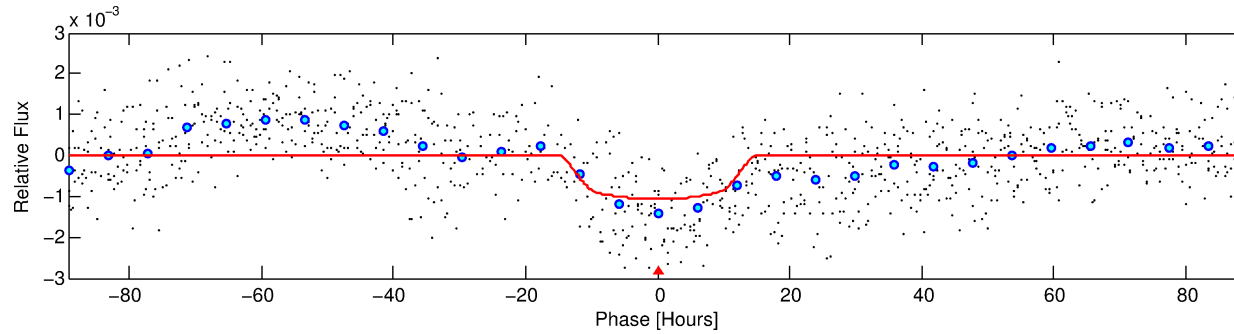
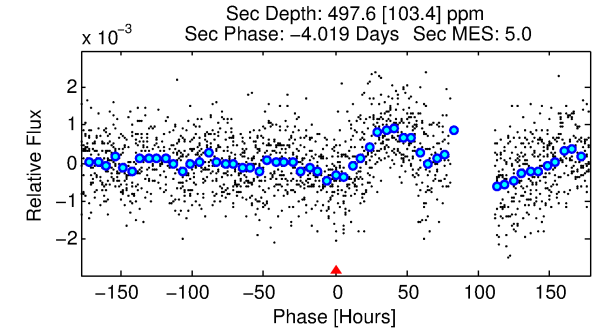
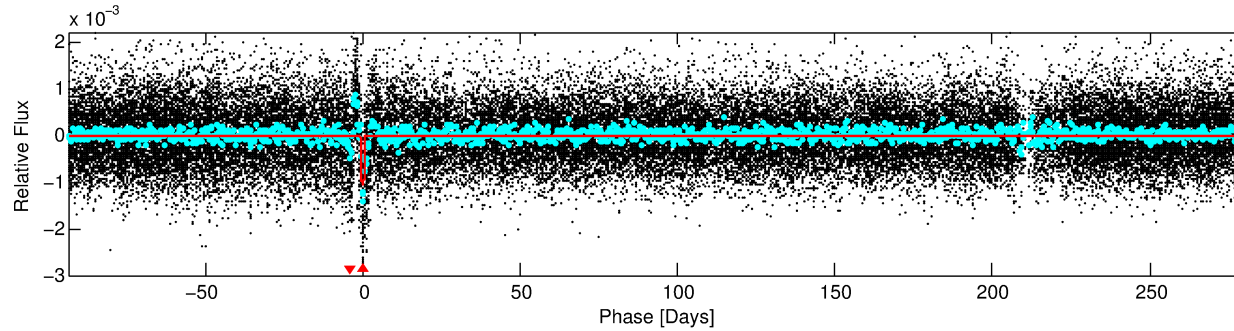
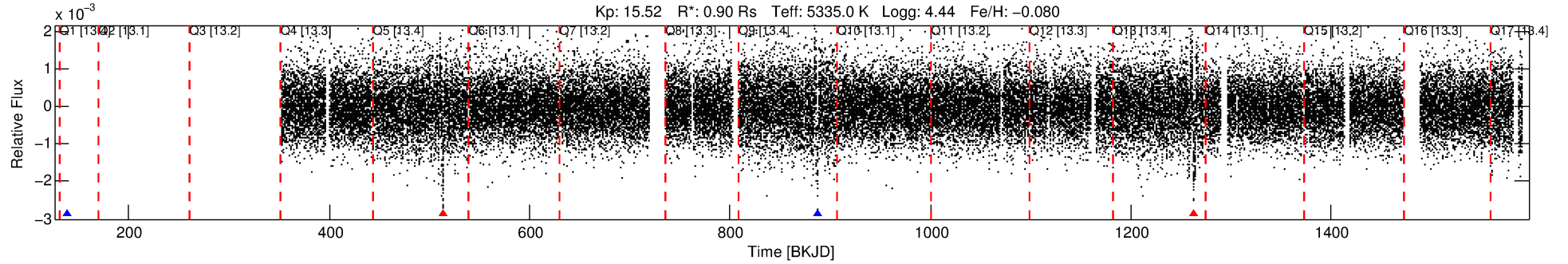
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008751590-01

No Significant Match Found

DV One-Page Summary

KIC: 8751590 Candidate: 1 of 1 Period: 374.527 d



DV Fit Results:

Period = 374.52656 [0.02832] d
Epoch = 138.8264 [0.0610] BKJD
Rp/R* = 0.0360 [0.0034]
a/R* = 49.31 [15.28]
b = 0.90 [0.07]
Seff = 0.65 [0.21]
Teq = 229 [19] K
Rp = 3.52 [0.81] Re
a = 0.9453 [0.1785] AU
Ag = 19784.76 [7973.88] [2.48σ]
Teffp = 4199 [335] K [11.82σ]

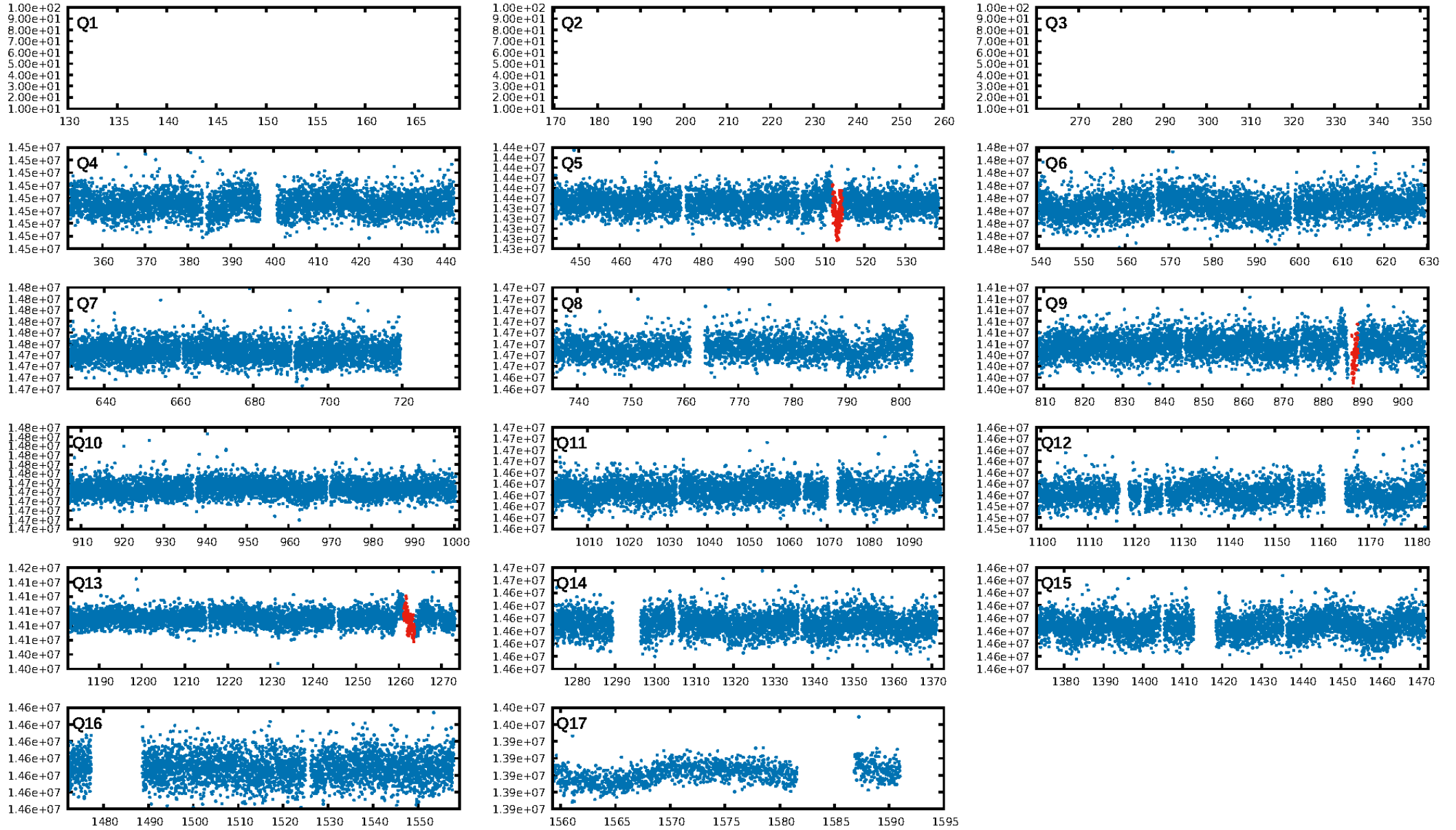
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 99.8%
Bootstrap-pfa: 5.00e-20
RollingBand-fgt: 0.33 [1/3]
GhostDiagnostic-chr: -0.1765
Centroid-sig: 0.1%
Centroid-so: 5.854 arcsec [3.05σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [2/2]

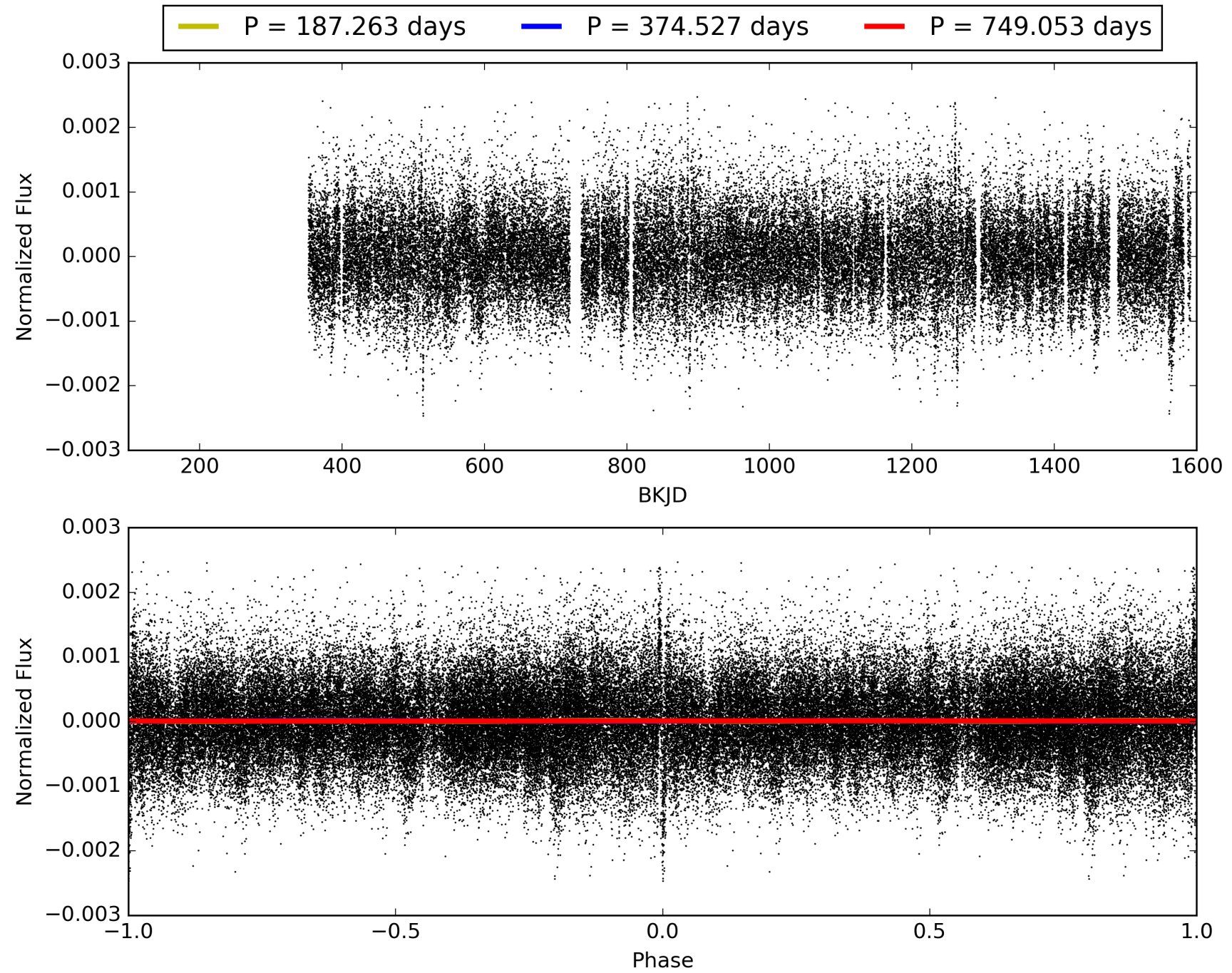
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:34:33 Z

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

TCE 008751590-01, PDC Light Curves

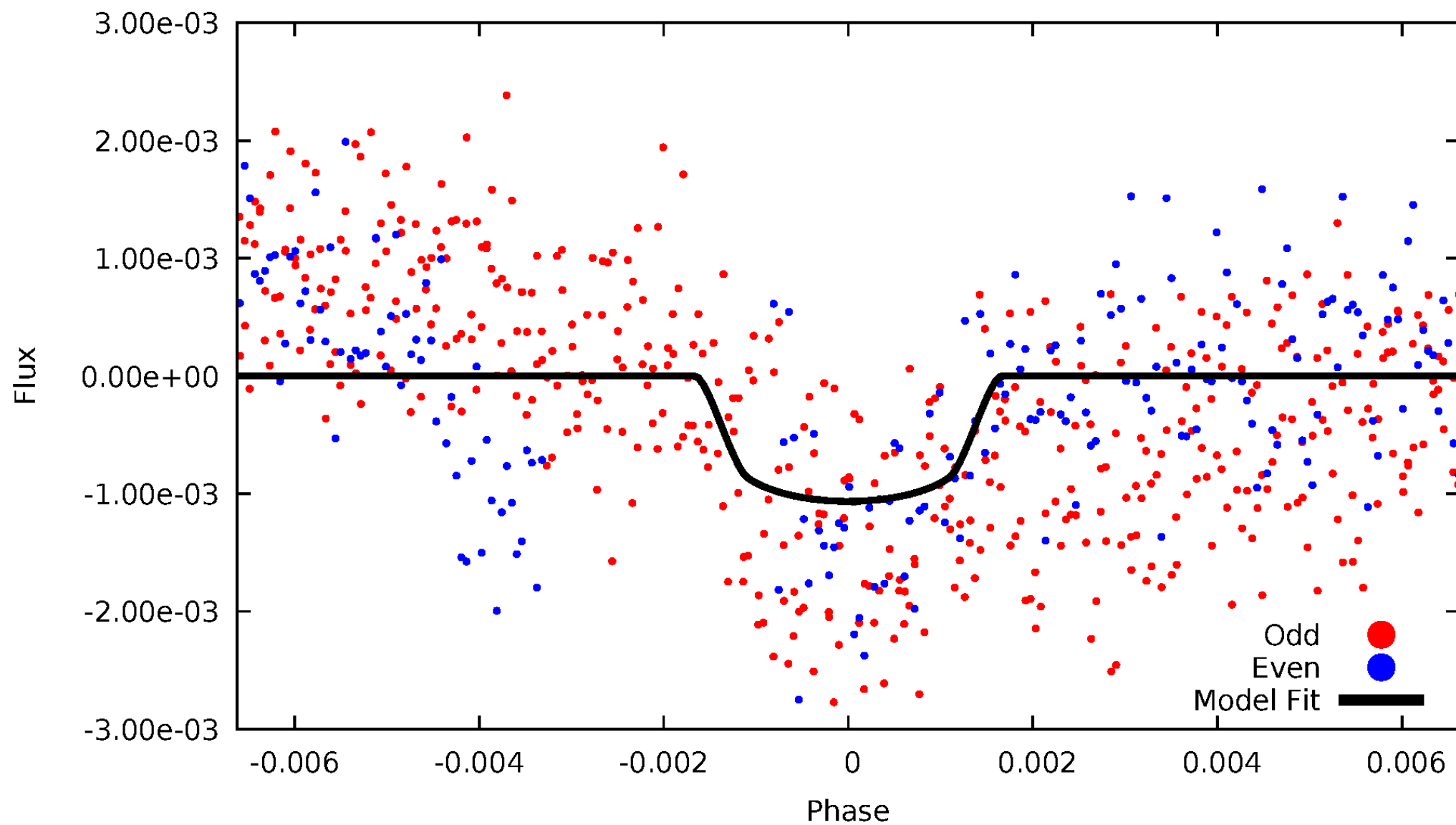


TCE 008751590-01



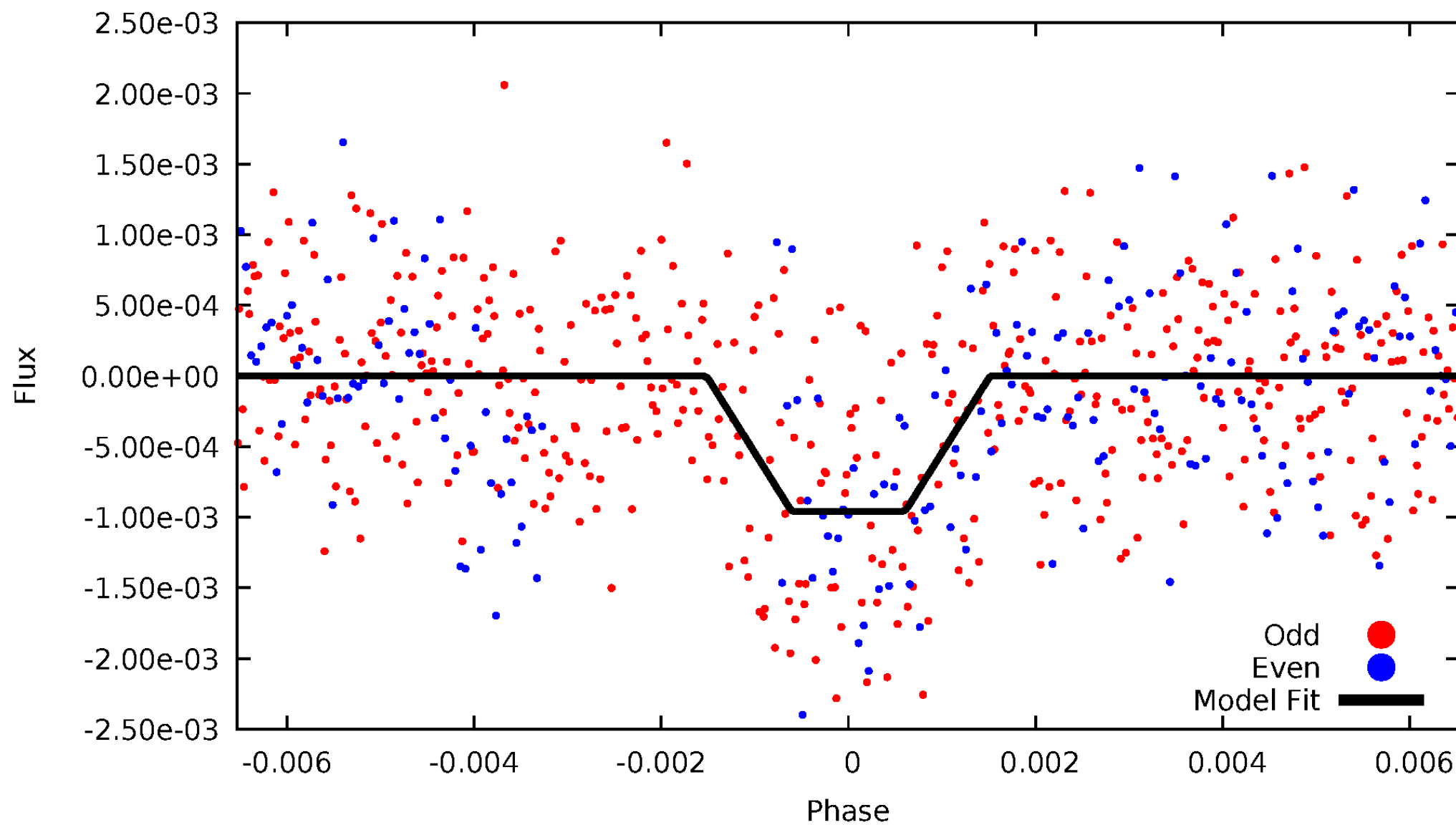
DV Odd/Even

TCE 008751590-01



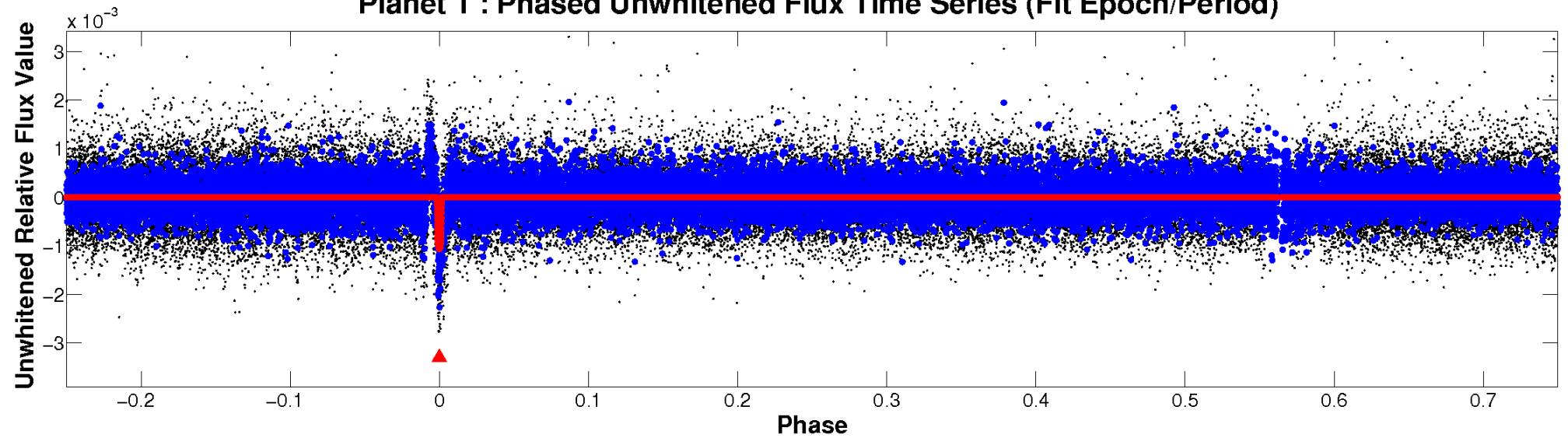
ALT Odd/Even

TCE 008751590-01

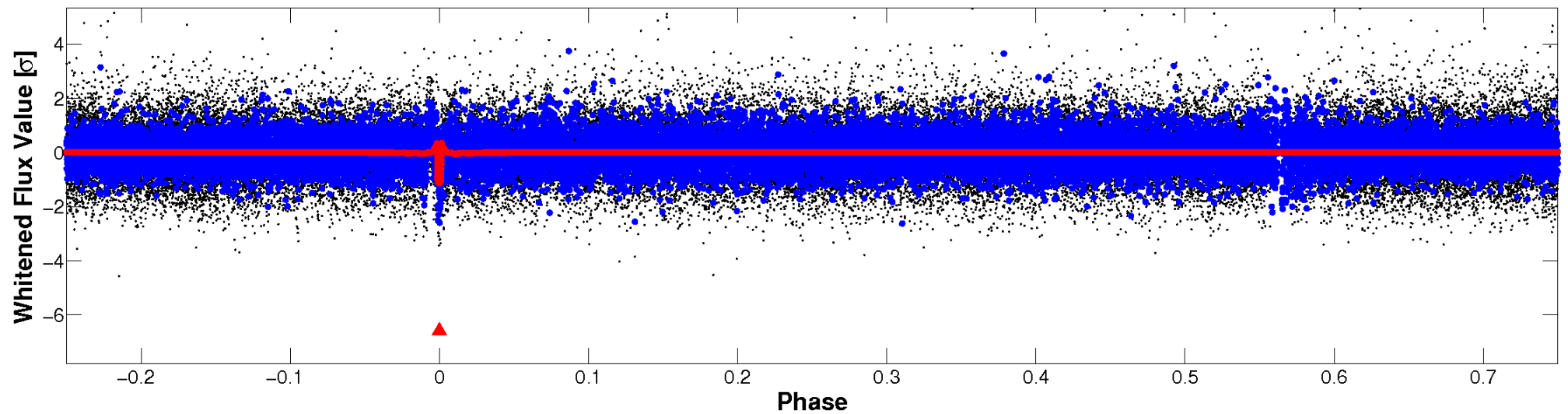


Non-Whitened Vs. Whitened Light Curve

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

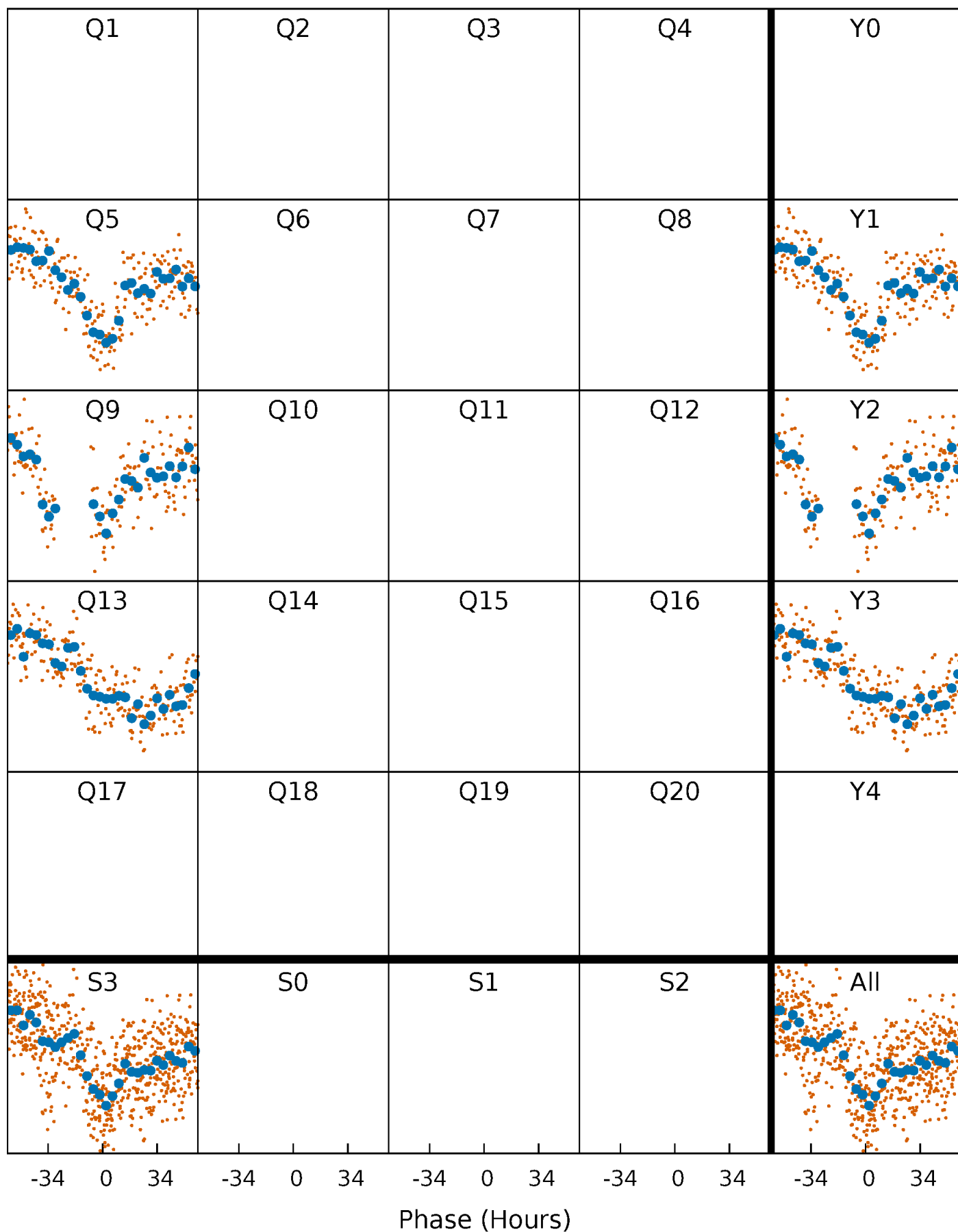


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008751590-01 $P=374.526563$ Days $T_0=138.826381$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008751590-01 $P=374.526563$ Days $T_0=138.826381$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

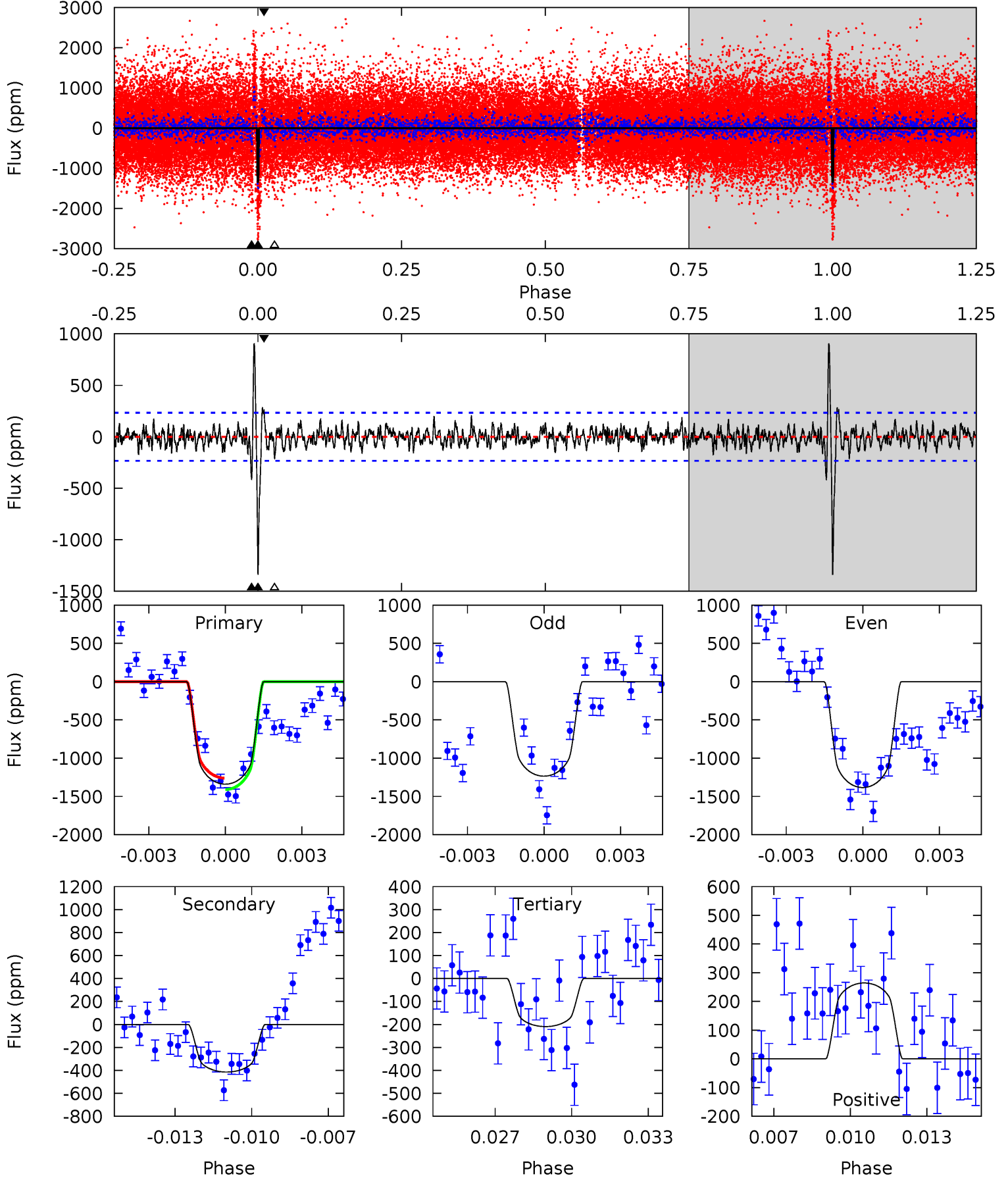
TCE 008751590-01 P=374.519910 Days $T_0=138.822484$ (BKJD)



DV Model-Shift Uniqueness Test

008751590-01, $P = 374.526563$ Days, $E = 138.826381$ Days

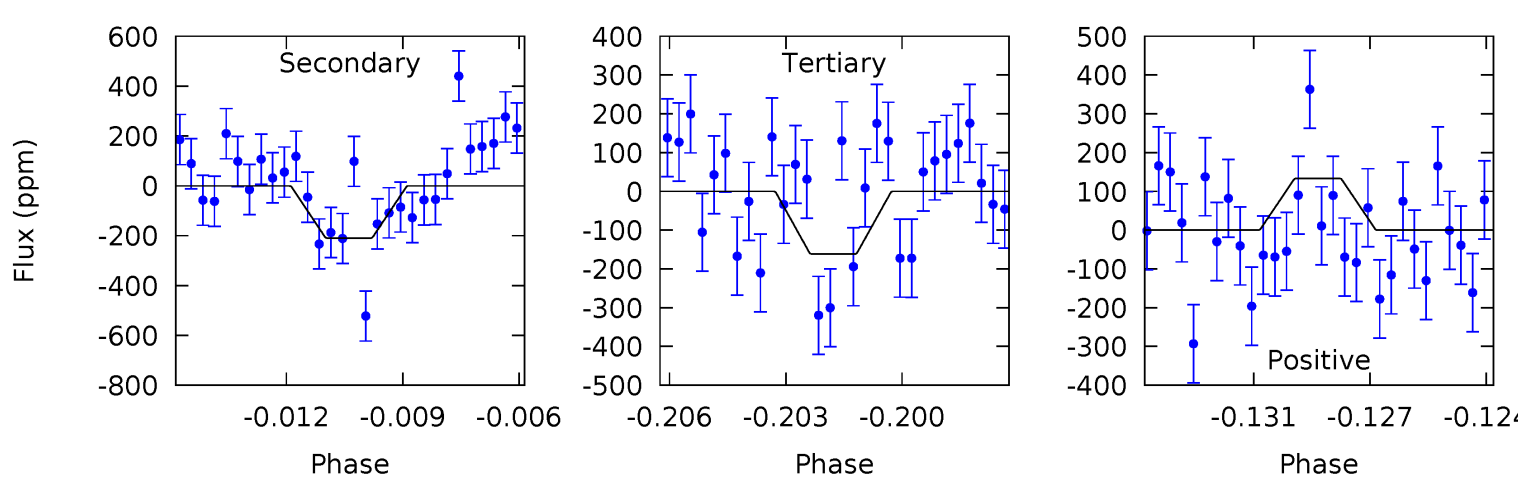
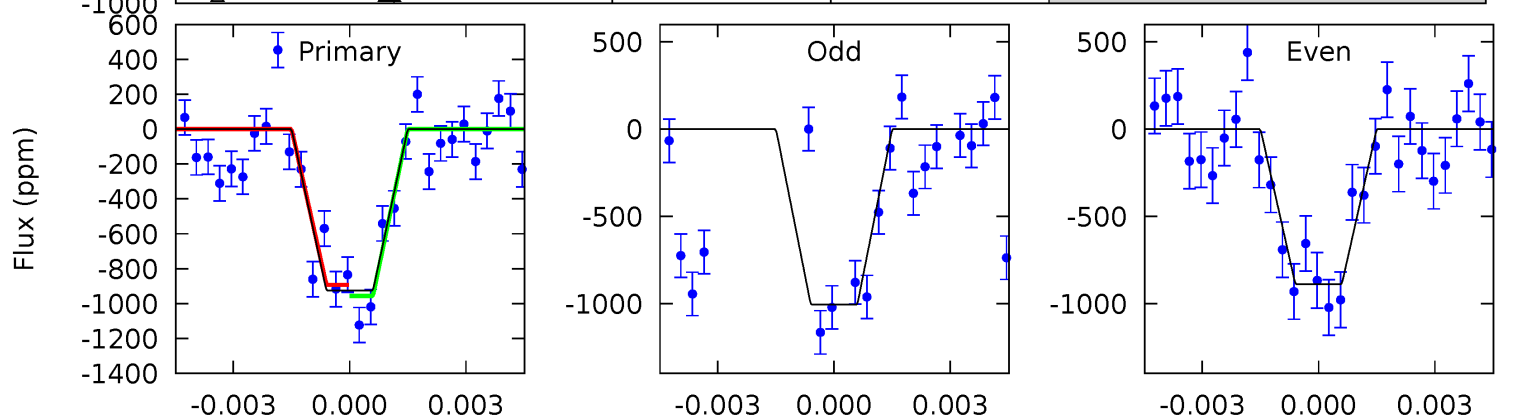
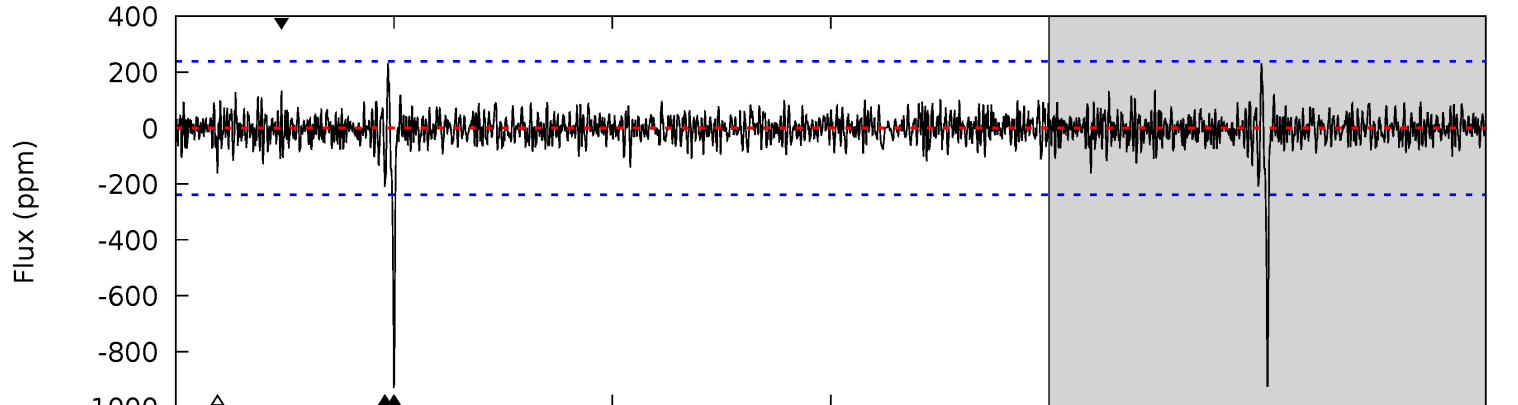
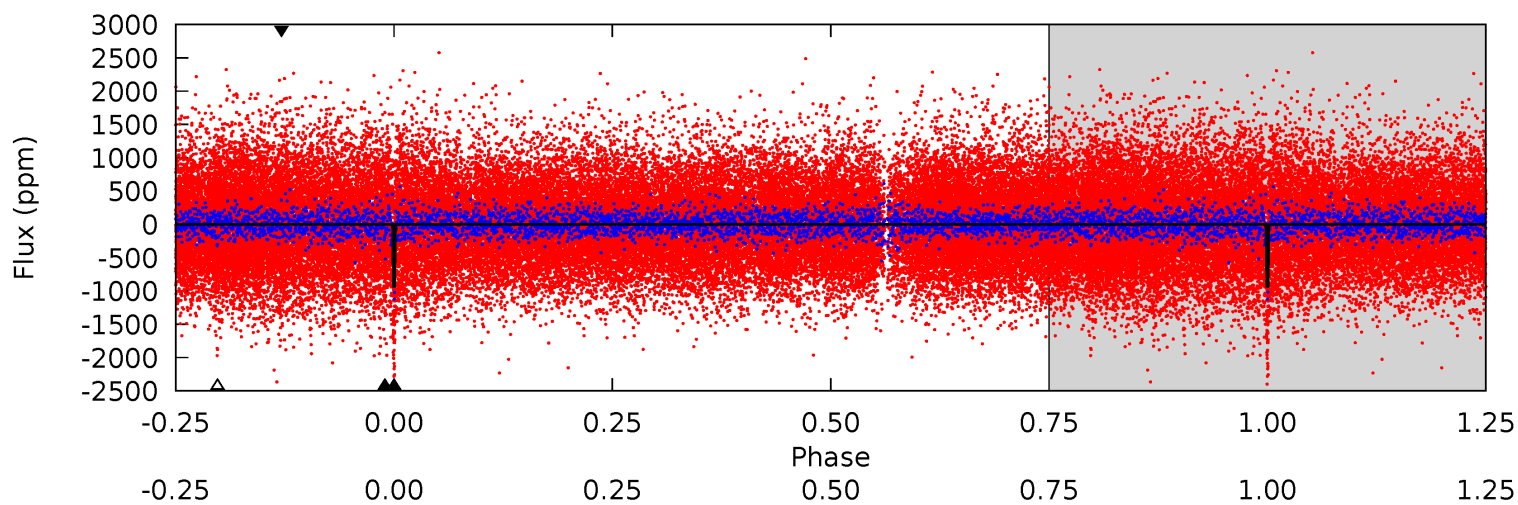
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.1	9.31	4.70	5.94	5.23	2.94	1.79	25.4	24.1	4.60	3.37	1.49	1.08	0.40	1.66



Alt Model-Shift Uniqueness Test

008751590-01, $P = 374.519910$ Days, $E = 138.822484$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	4.60	3.54	2.93	5.25	2.96	0.89	16.8	17.4	1.06	1.67	1.15	0.92	0.20	0.70



Stellar Parameters For KIC 008751590

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5335^{+204}_{-185}	$4.439^{+0.120}_{-0.165}$	$-0.080^{+0.300}_{-0.300}$	$0.895^{+0.188}_{-0.126}$	$0.802^{+0.115}_{-0.067}$	$1.579^{+0.804}_{-0.688}$
	+4%/-3%	+3%/-4%	+375%/-375%	+21%/-14%	+14%/-8%	+51%/-44%
Source	KIC0	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 008751590-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-415 ± 45	$3.57^{+0.54}_{-0.42}$	324^{+20}_{-19}	4227^{+239}_{-208}	15908^{+5035}_{-4014}
Alt.	-209 ± 45	$3.07^{+0.52}_{-0.43}$	321^{+25}_{-17}	3961^{+248}_{-243}	10931^{+4841}_{-3381}

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 $A_{obs} \gg 1.0$

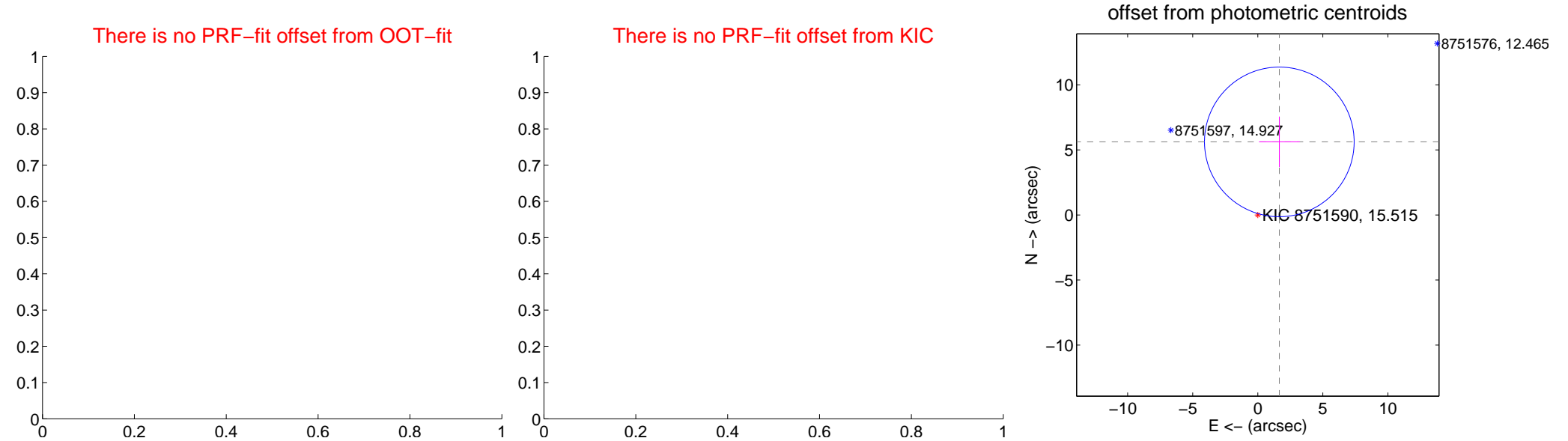
DV Centroid Data

Supplemental centroid analysis for 008751590-01. Kepler magnitude: 15.52. Transit SNR 12.09

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	5.85 ± 1.92	3.05	-1.66 ± 1.56	5.62 ± 1.94

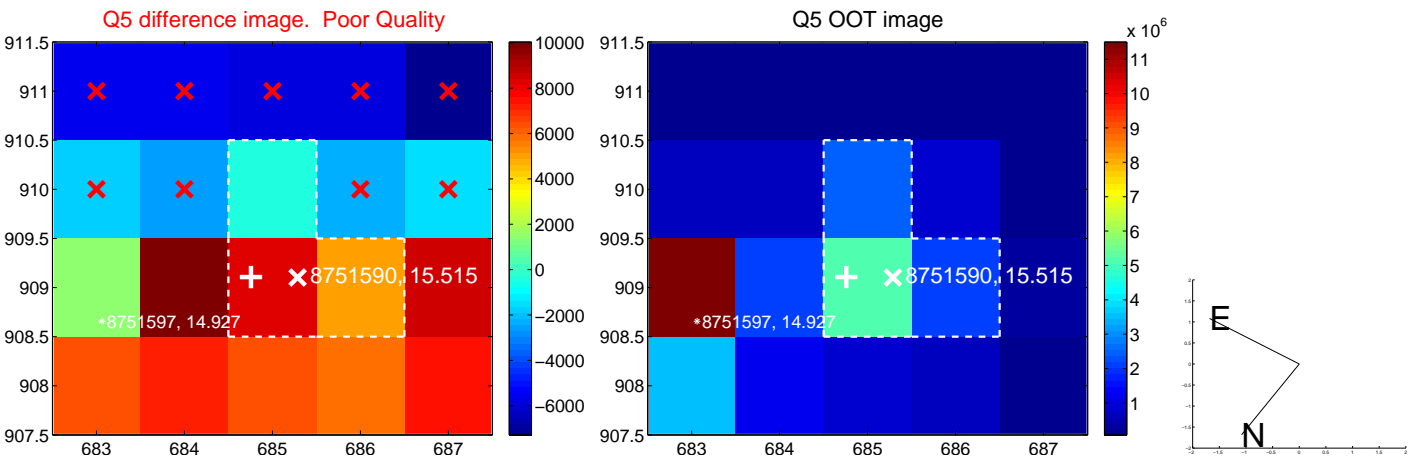


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



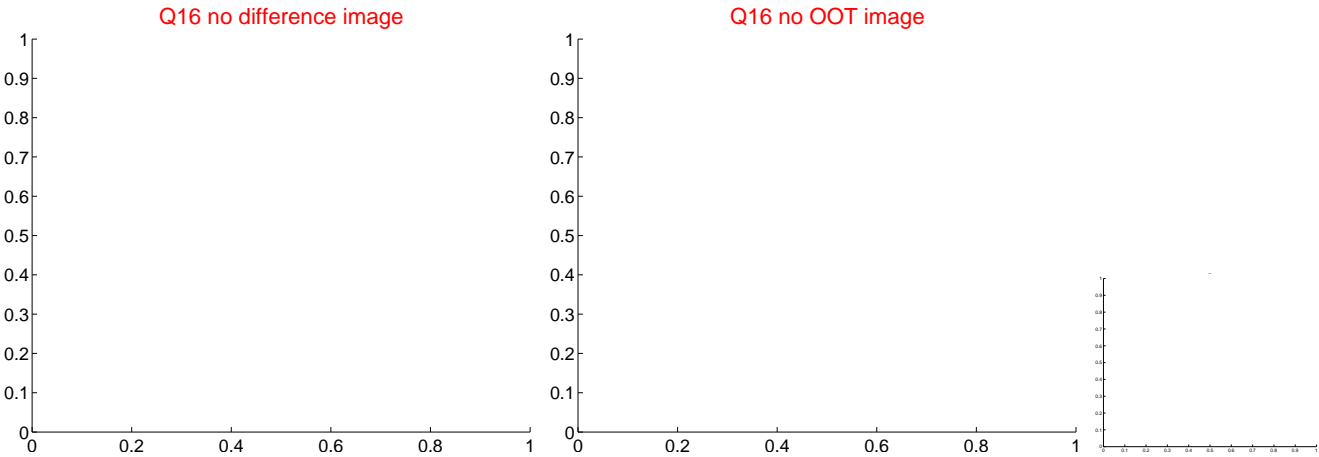
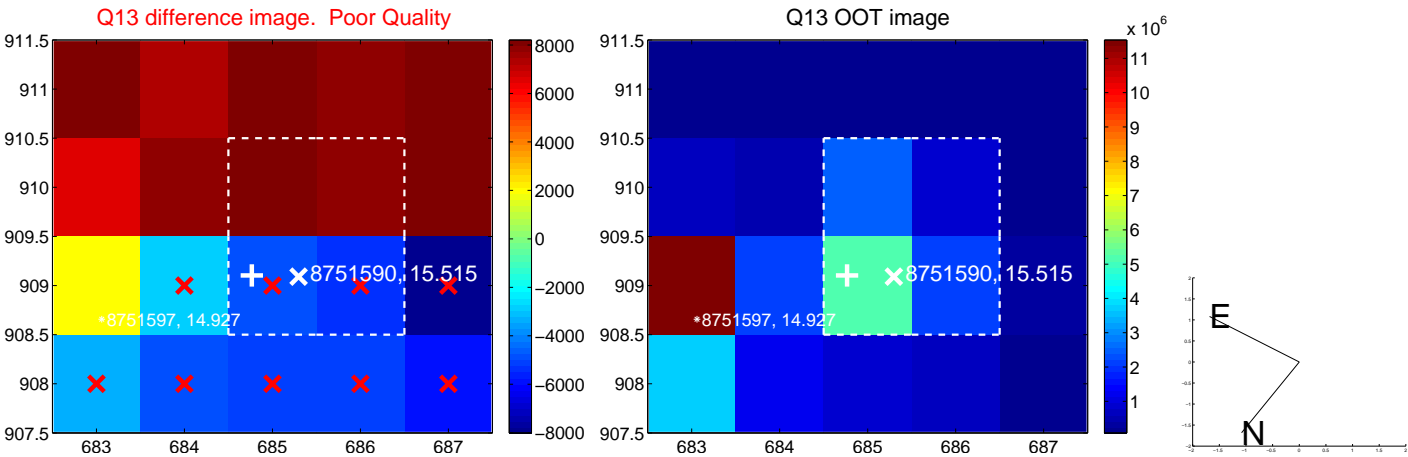
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



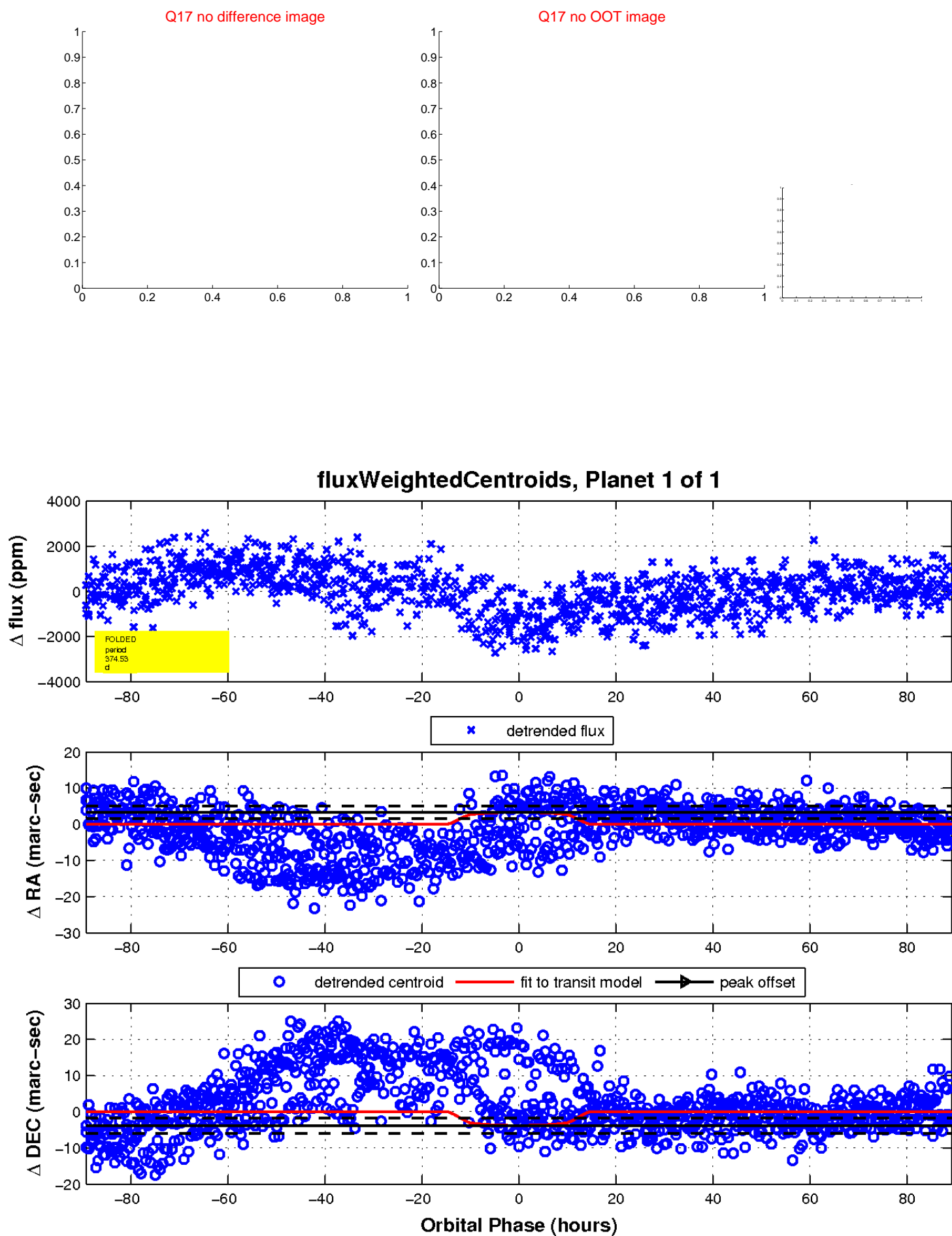
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

