

KIC 009076707

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})
009076707-01	OBS	No	373.092680	229.379892	1268.2	18.015	7.7	8.1	0.72	5015	3.34	0.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009076707-01	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.

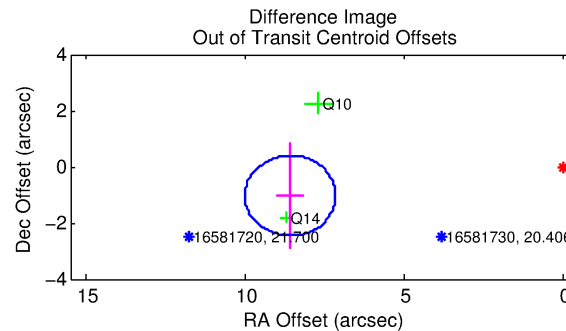
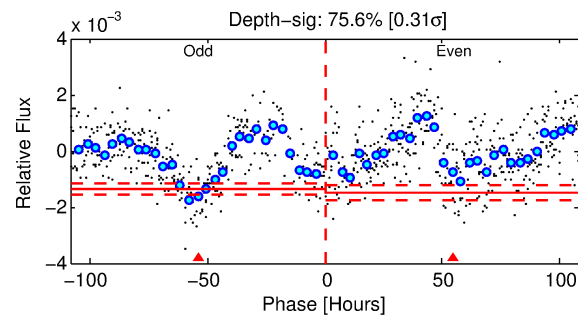
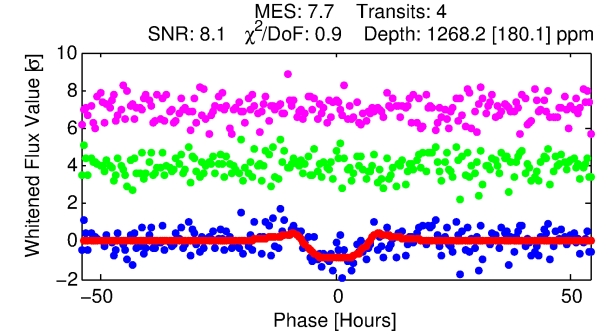
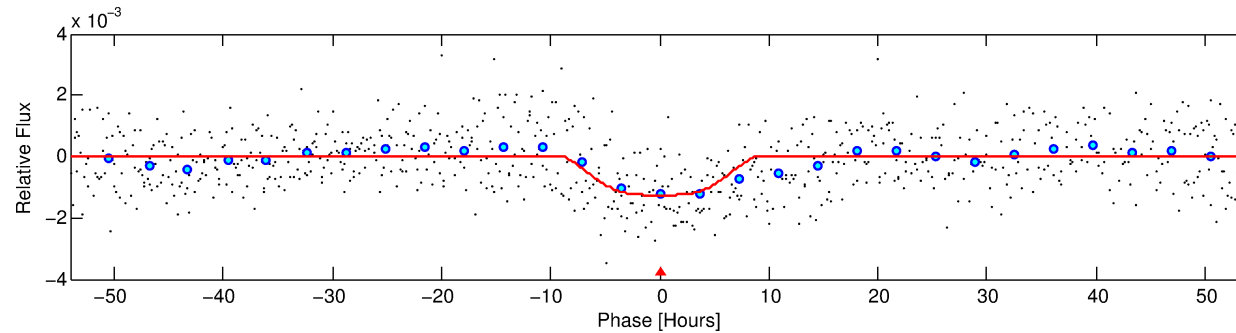
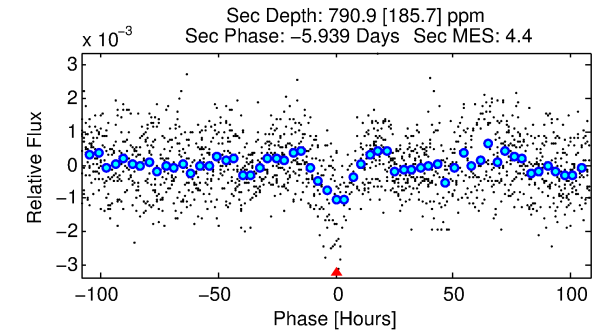
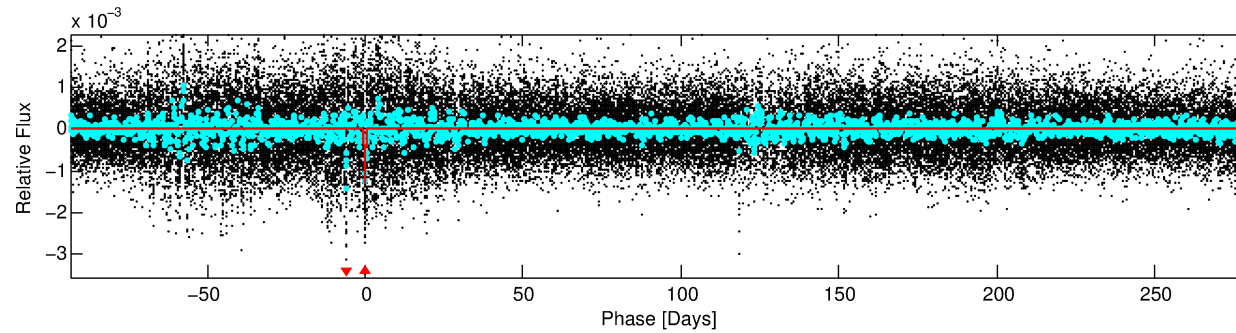
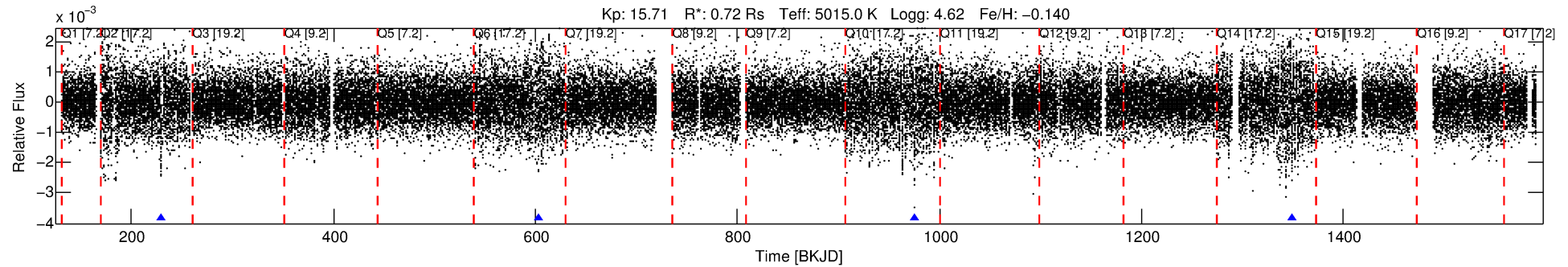
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009076707-01

No Significant Match Found

DV One-Page Summary

KIC: 9076707 Candidate: 1 of 1 Period: 373.093 d



DV Fit Results:

Period = 373.09268 [0.01739] d
Epoch = 229.3799 [0.0286] BKJD
Rp/R* = 0.0426 [0.0042]
a/R* = 69.50 [12.35]
b = 0.95 [0.02]
Seff = 0.33 [0.06]
Teq = 194 [9] K
Rp = 3.34 [0.52] Re
a = 0.9368 [0.0902] AU
Ag = 34204.74 [11462.75] [2.98σ]
Teff = 4073 [336] K [11.54σ]

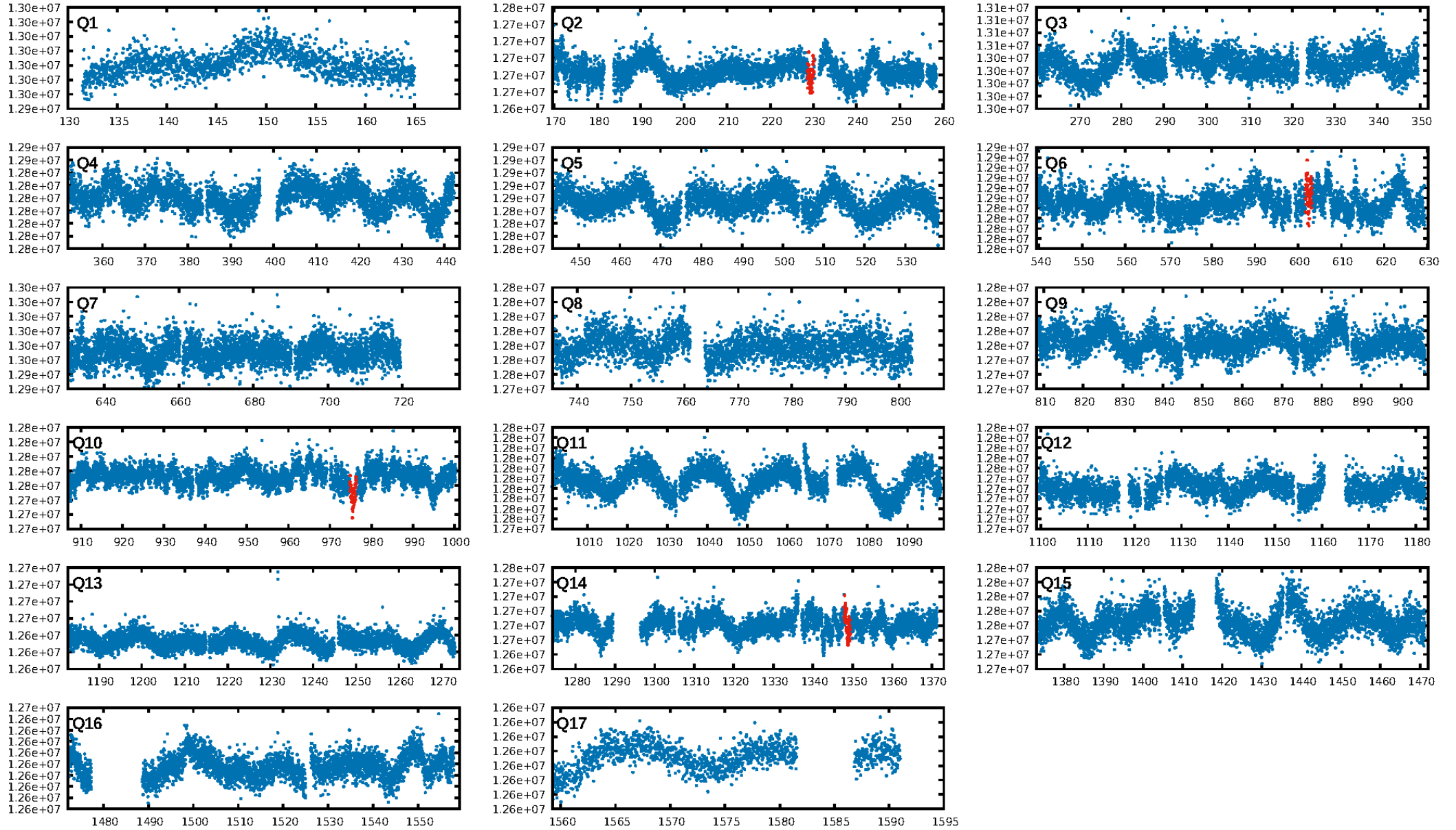
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 94.5%
ModelChiSquareGoF-sig: 99.9%
Bootstrap-pfa: 2.51e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.845
Centroid-sig: 58.2%
Centroid-so: 1.539 arcsec [0.65σ]
OotOffset-rm: 8.651 arcsec [18.18σ]
KicOffset-rm: 8.637 arcsec [10.80σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

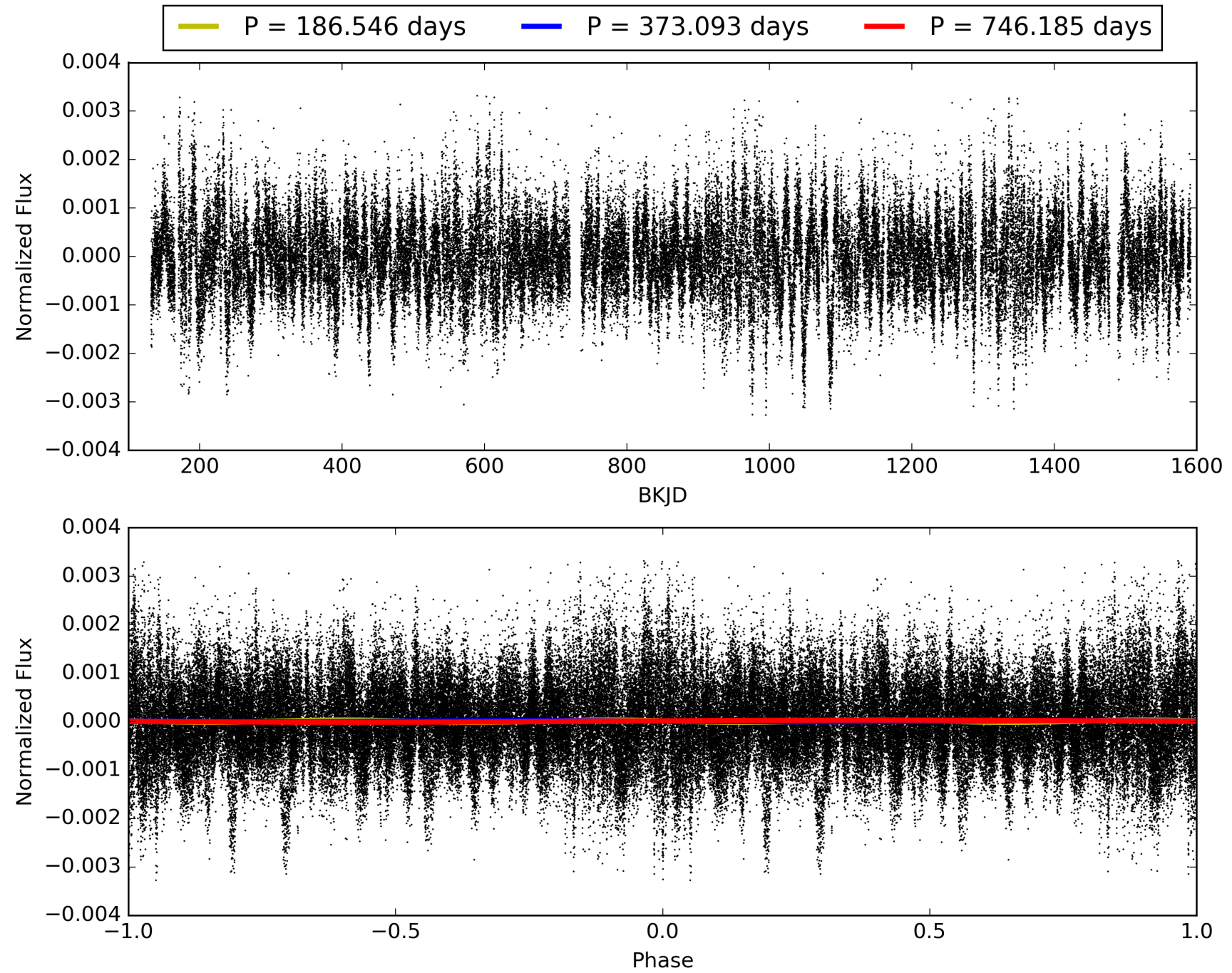
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:41:34 Z

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

TCE 009076707-01, PDC Light Curves

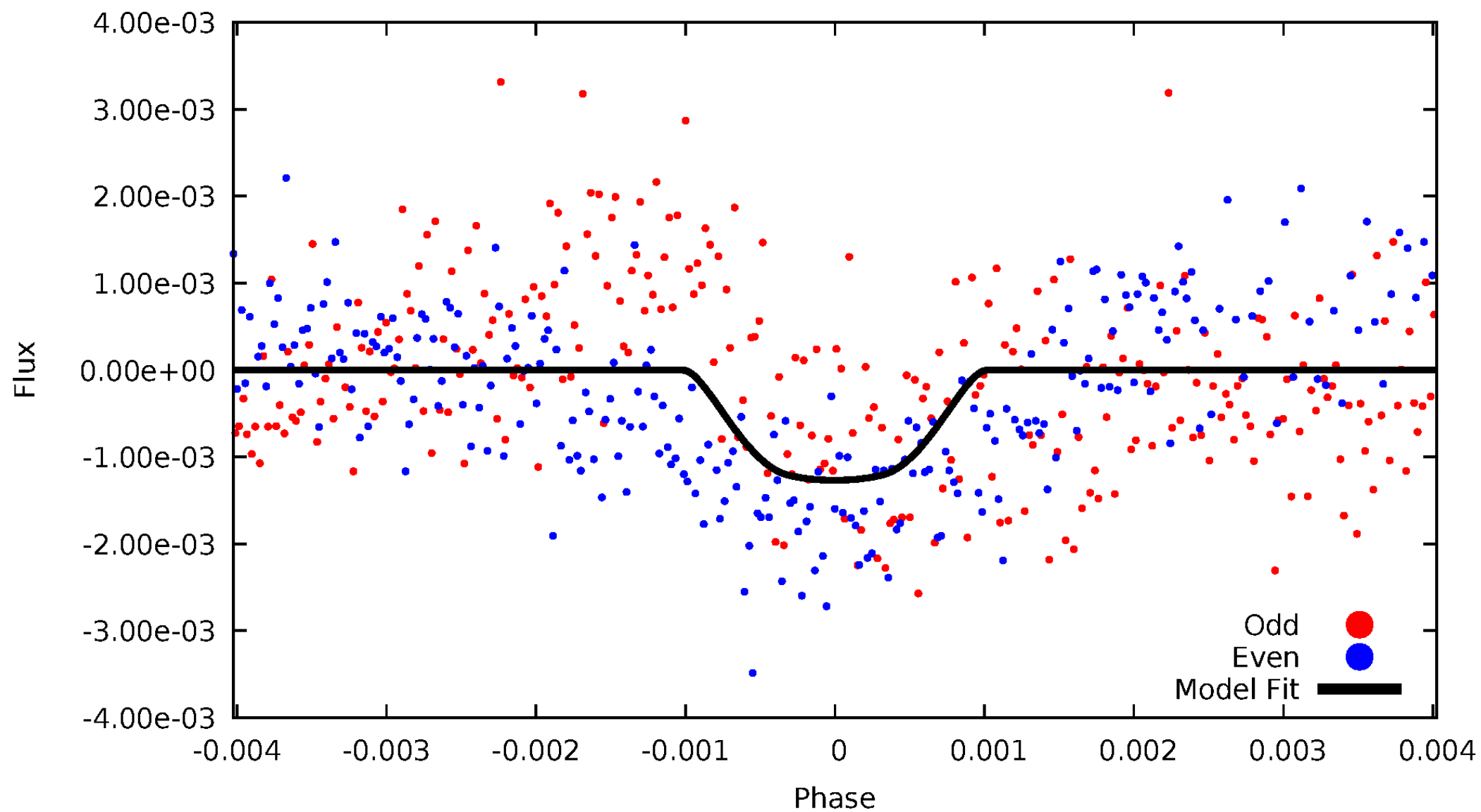


TCE 009076707-01



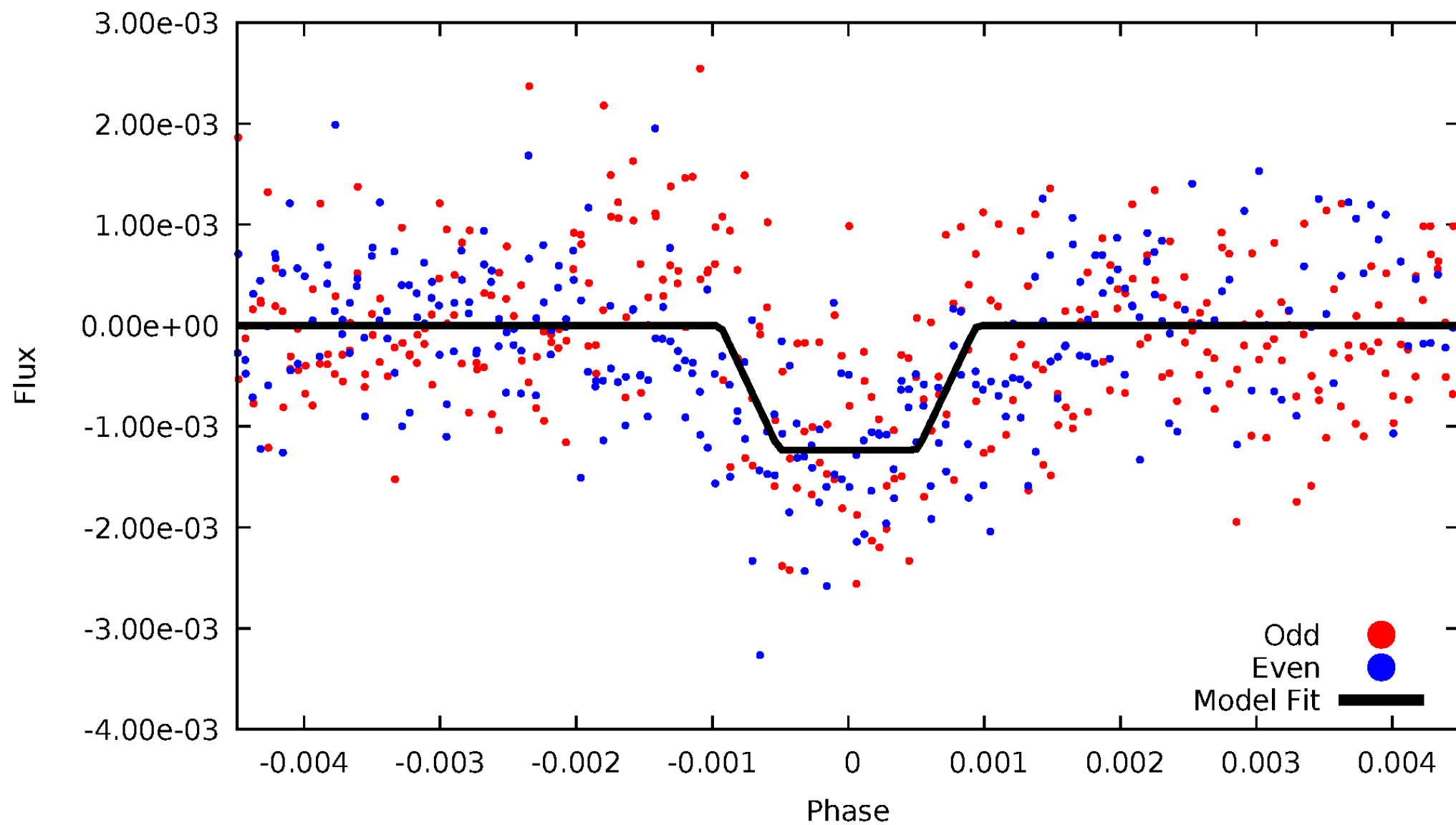
DV Odd/Even

TCE 009076707-01



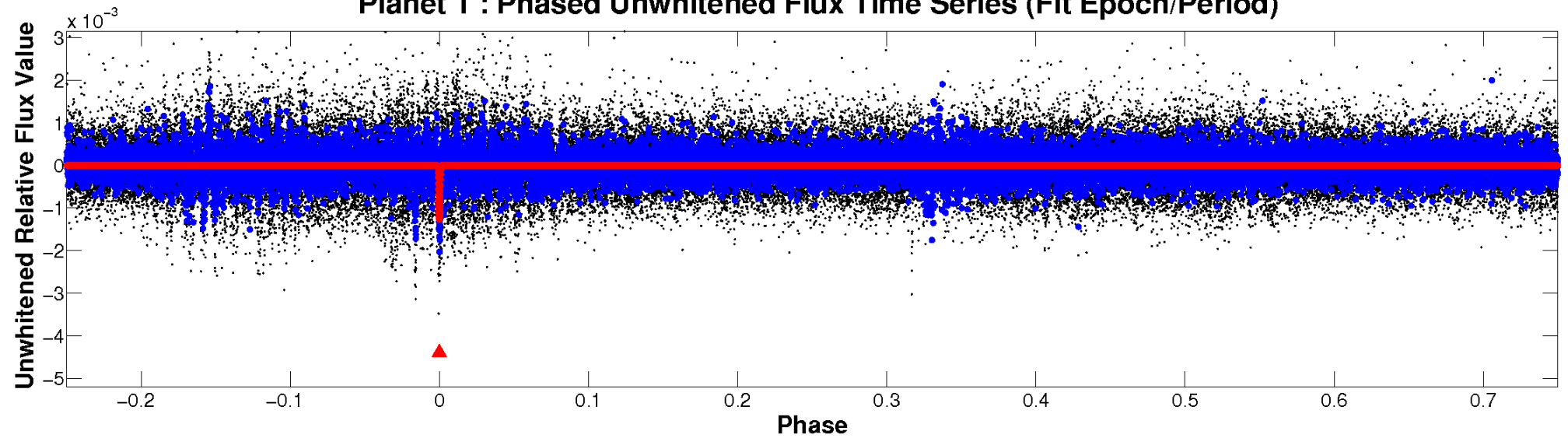
ALT Odd/Even

TCE 009076707-01

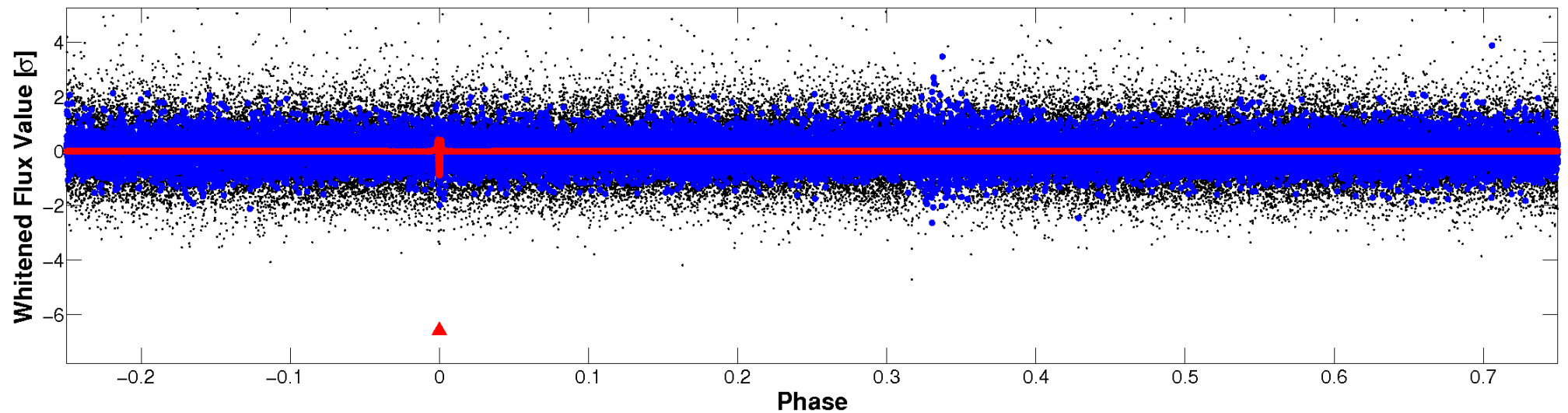


Non-Whitened Vs. Whitened Light Curve

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

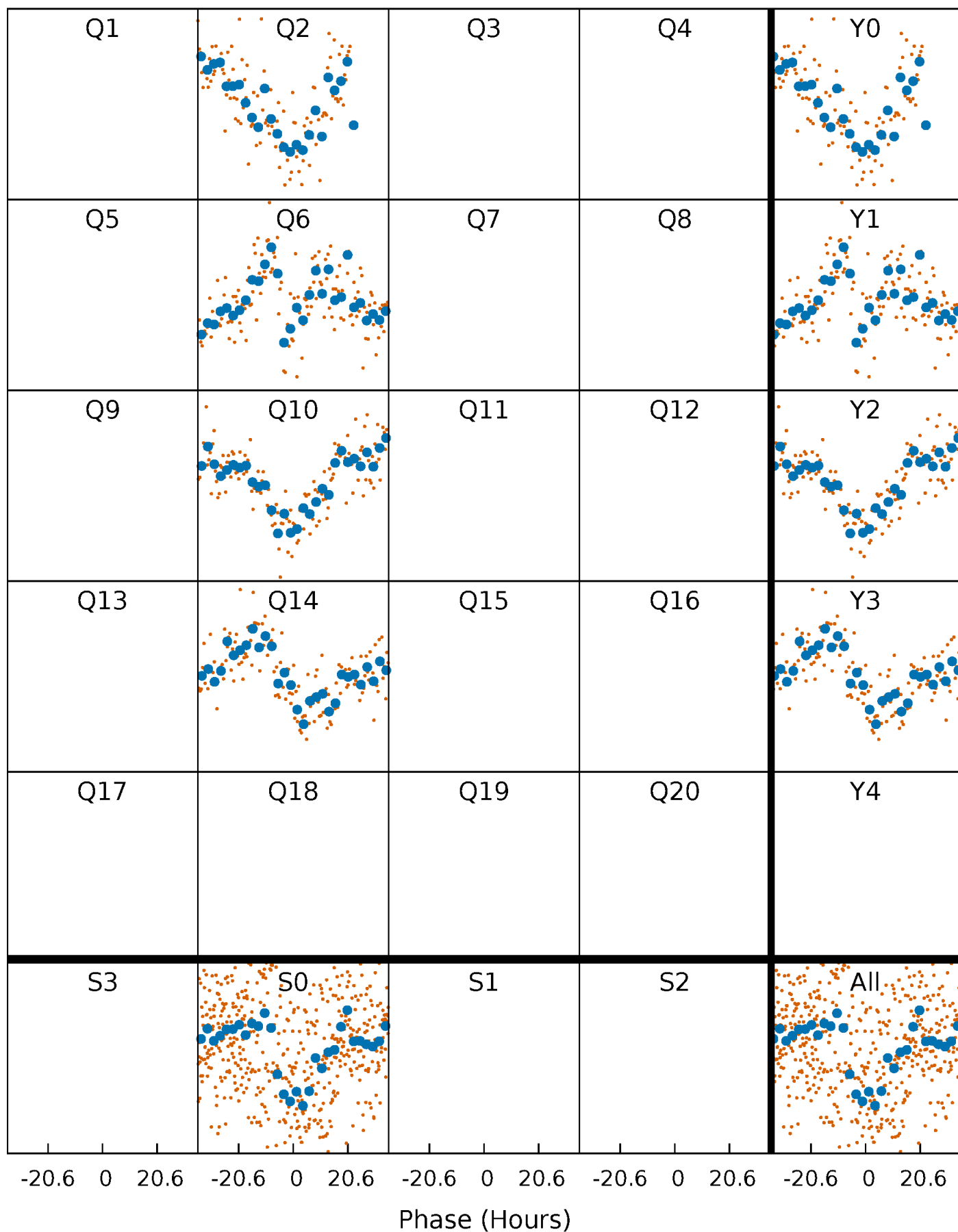


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 009076707-01 P=373.092680 Days $T_0=229.379892$ (BKJD)



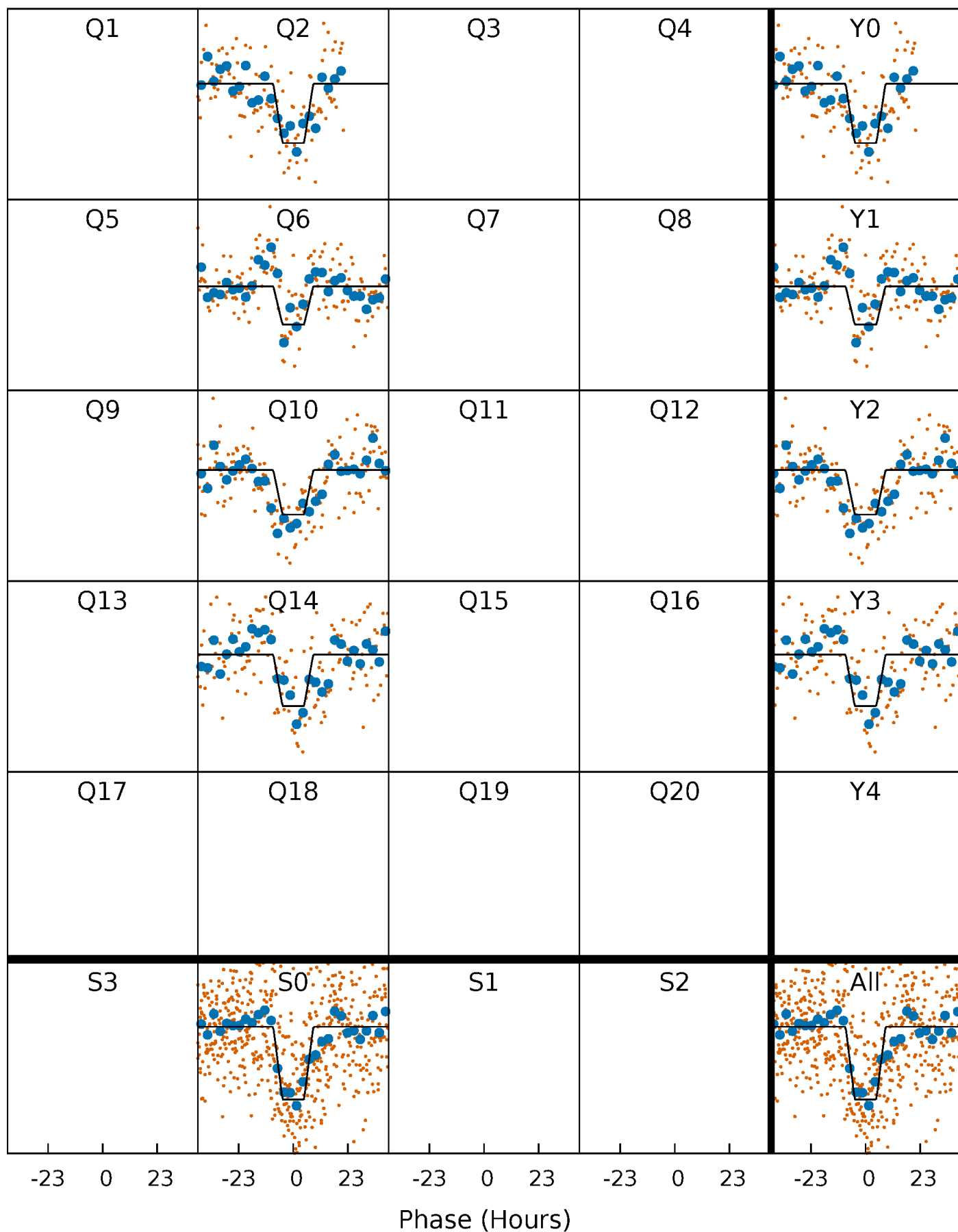
DV Quarter-Phased Transit Curves

TCE 009076707-01 P=373.092680 Days $T_0=229.379892$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

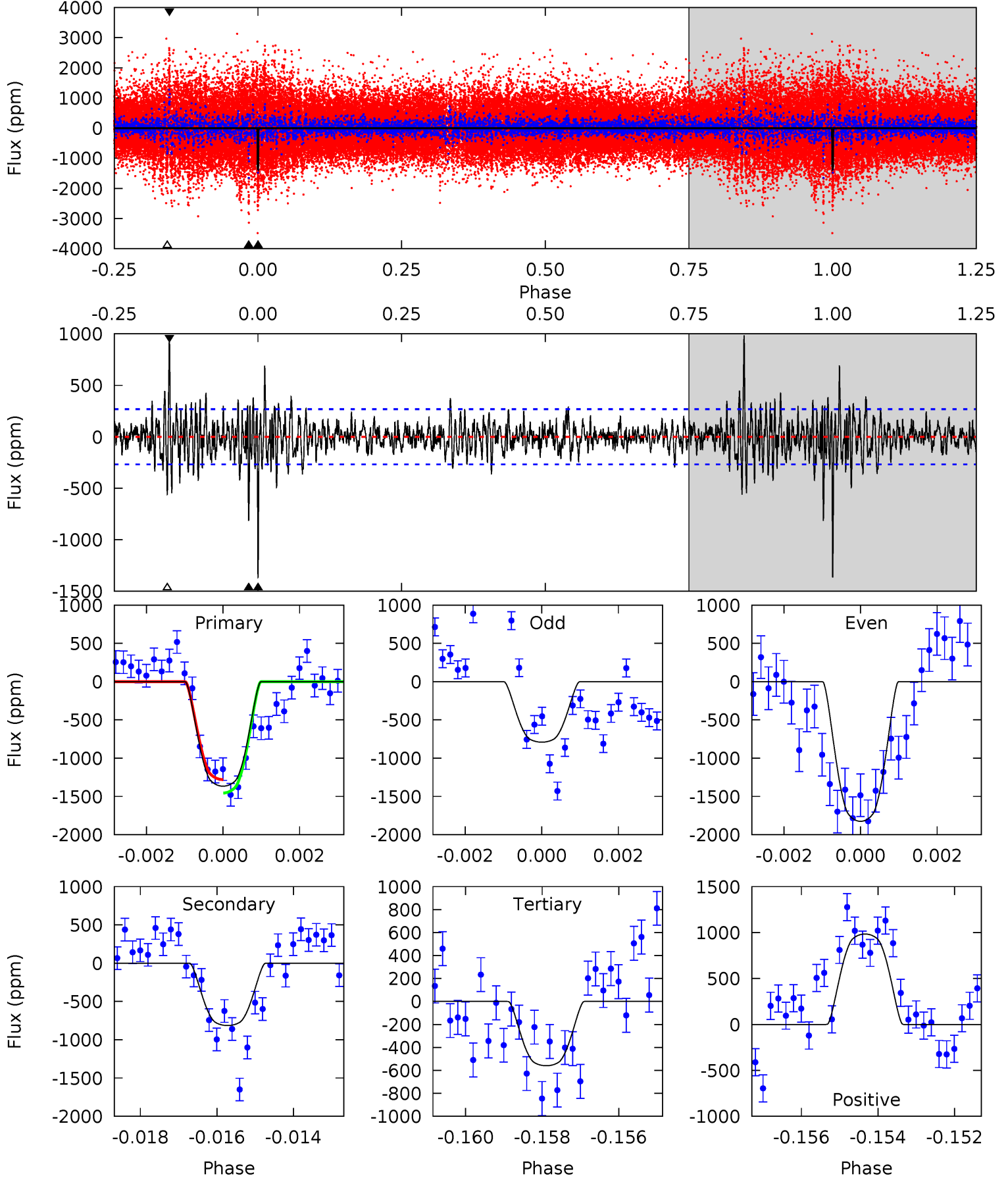
TCE 009076707-01 P=373.096372 Days $T_0=229.409888$ (BKJD)



DV Model-Shift Uniqueness Test

009076707-01, P = 373.092680 Days, E = 229.379892 Days

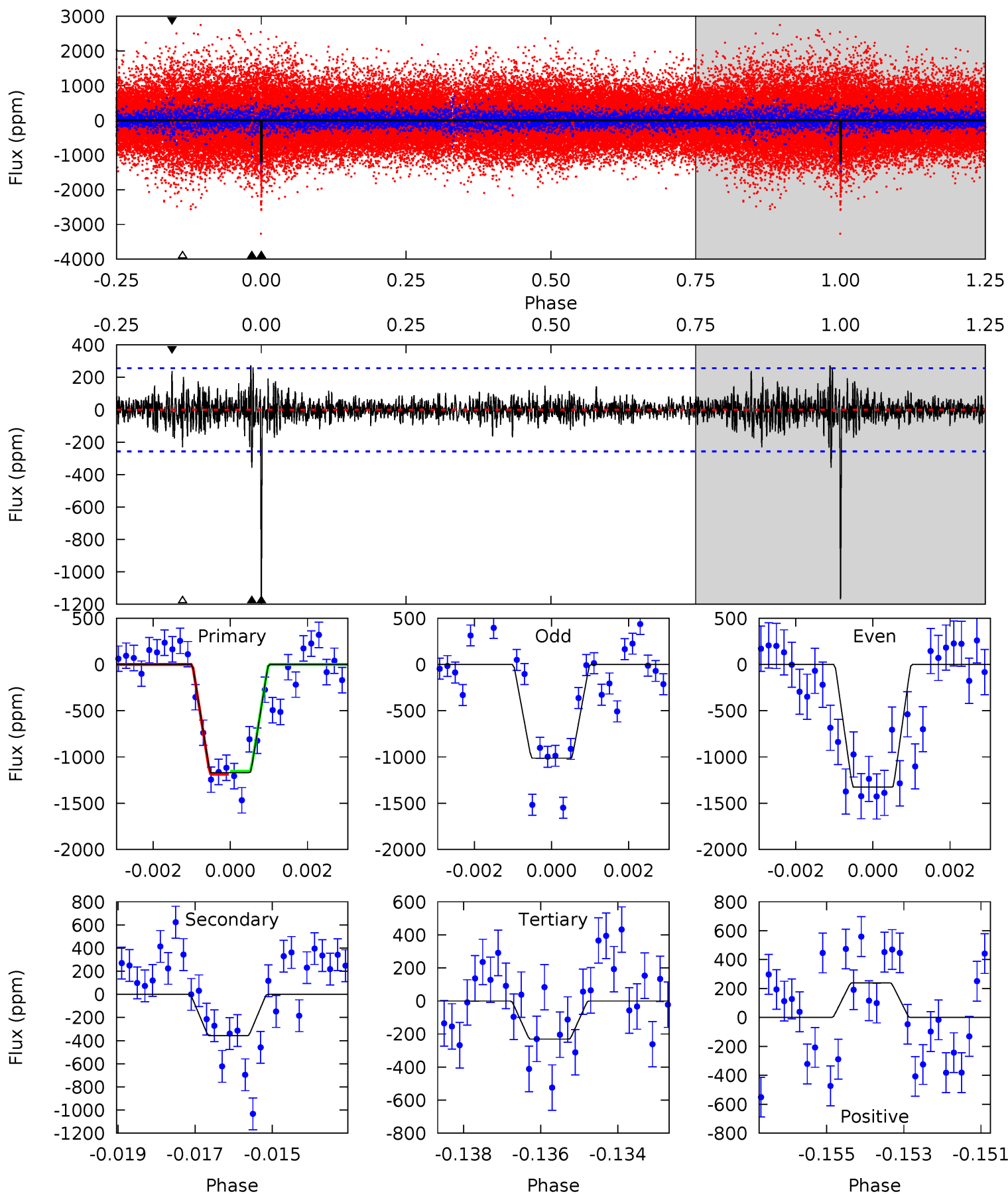
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.1	16.2	11.1	19.6	5.32	3.08	2.63	16.0	7.60	5.07	-3.36	10.4	0.94	0.42	1.73



Alt Model-Shift Uniqueness Test

009076707-01, $P = 373.096372$ Days, $E = 229.409888$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.3	7.41	4.80	4.96	5.33	3.10	1.03	19.5	19.3	2.61	2.45	3.27	1.05	0.19	0.33



Stellar Parameters For KIC 009076707

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5015^{+151}_{-151}	$4.622^{+0.030}_{-0.070}$	$-0.140^{+0.300}_{-0.300}$	$0.718^{+0.086}_{-0.058}$	$0.803^{+0.055}_{-0.095}$	$3.056^{+0.479}_{-0.773}$
	+3%/-3%	+1%/-2%	+214%/-214%	+12%/-8%	+7%/-12%	+16%/-25%
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 009076707-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-815 ± 50	$3.41^{+0.37}_{-0.40}$	273^{+11}_{-11}	4271^{+220}_{-183}	33744^{+8635}_{-6485}
Alt.	-357 ± 48	$2.81^{+0.41}_{-0.37}$	273^{+10}_{-10}	3952^{+216}_{-210}	21699^{+7523}_{-5506}

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

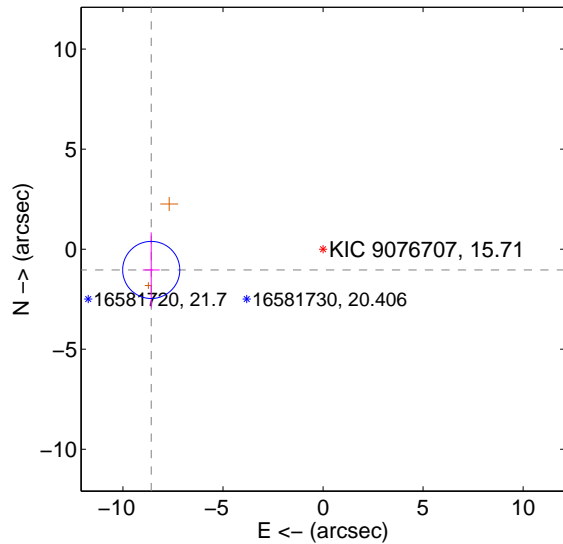
Supplemental centroid analysis for 009076707-01. Kepler magnitude: 15.71. Transit SNR 8.11

There are 0 quarters with good PRF difference image offsets

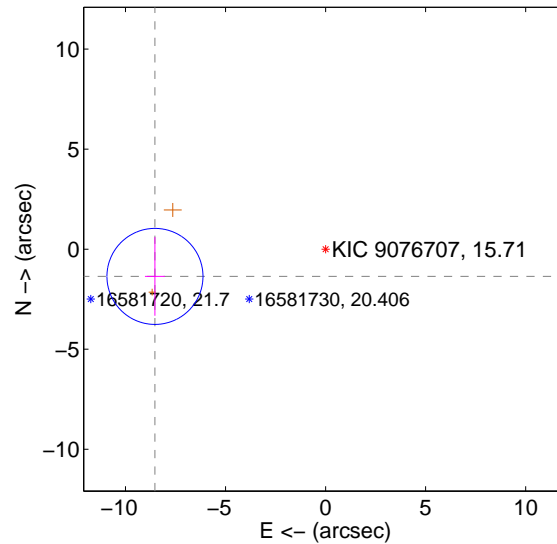
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.651 \pm 0.476	18.18	8.588 \pm 0.422	-1.039 \pm 1.876
PRF-fit source offset from KIC position	8.637 \pm 0.800	10.80	8.529 \pm 0.498	-1.361 \pm 1.968
photometric centroid source offset	1.54 \pm 2.35	0.65	-1.54 \pm 2.35	-0.03 \pm 1.90

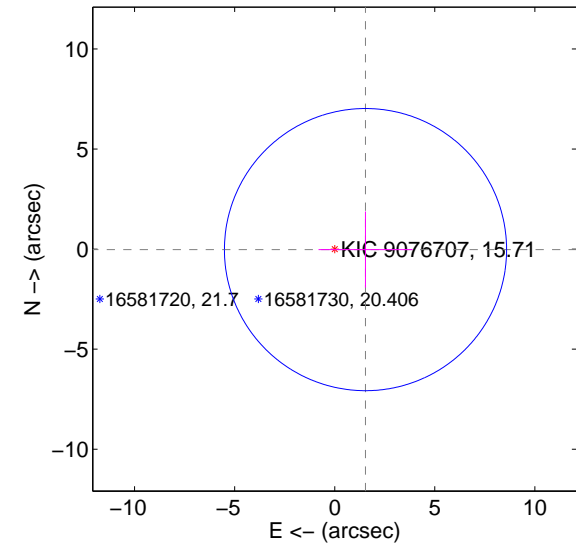
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

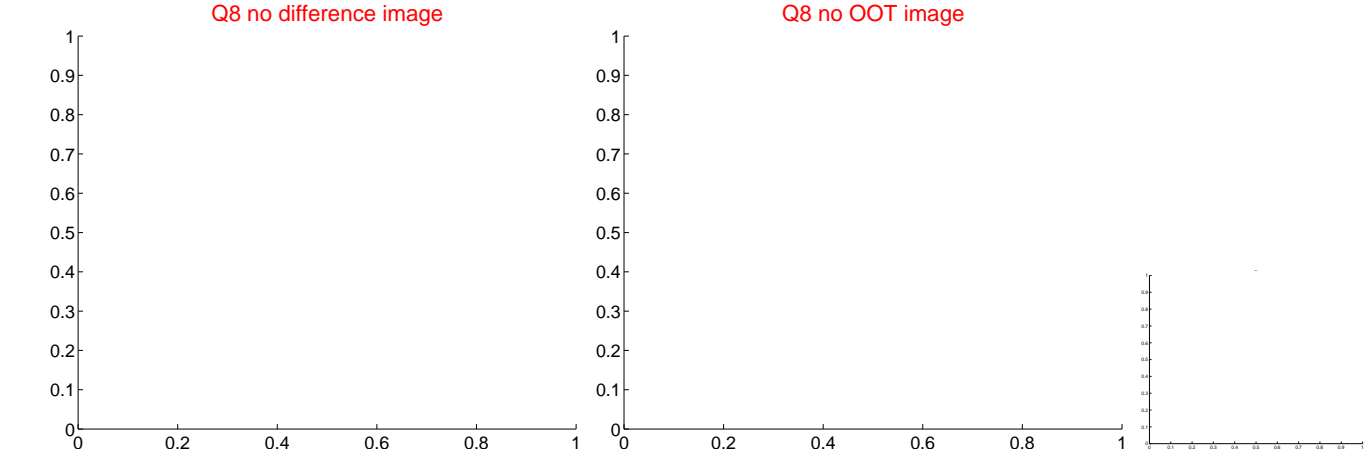
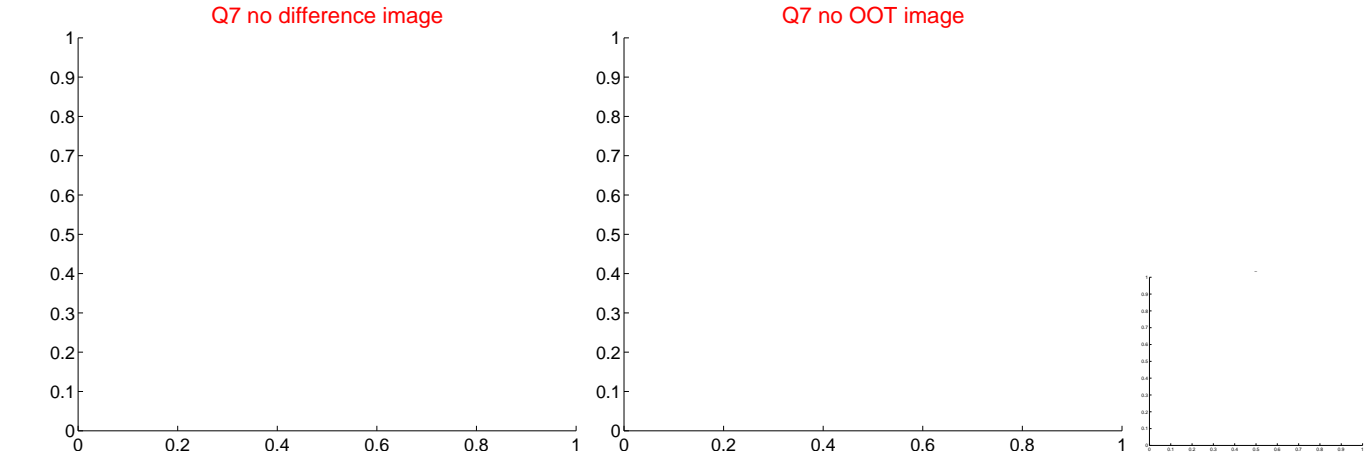
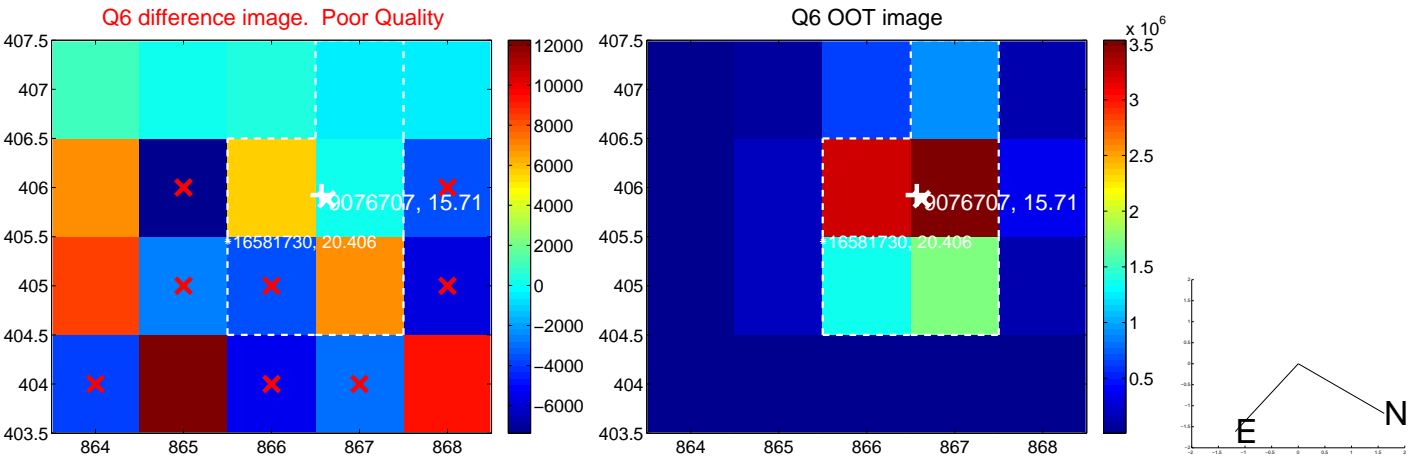
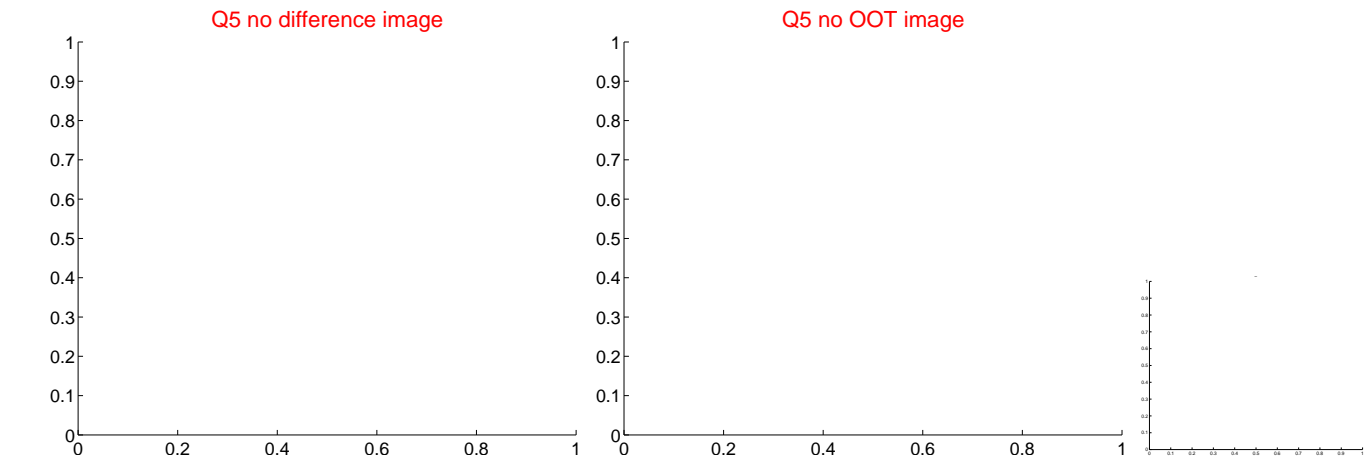


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

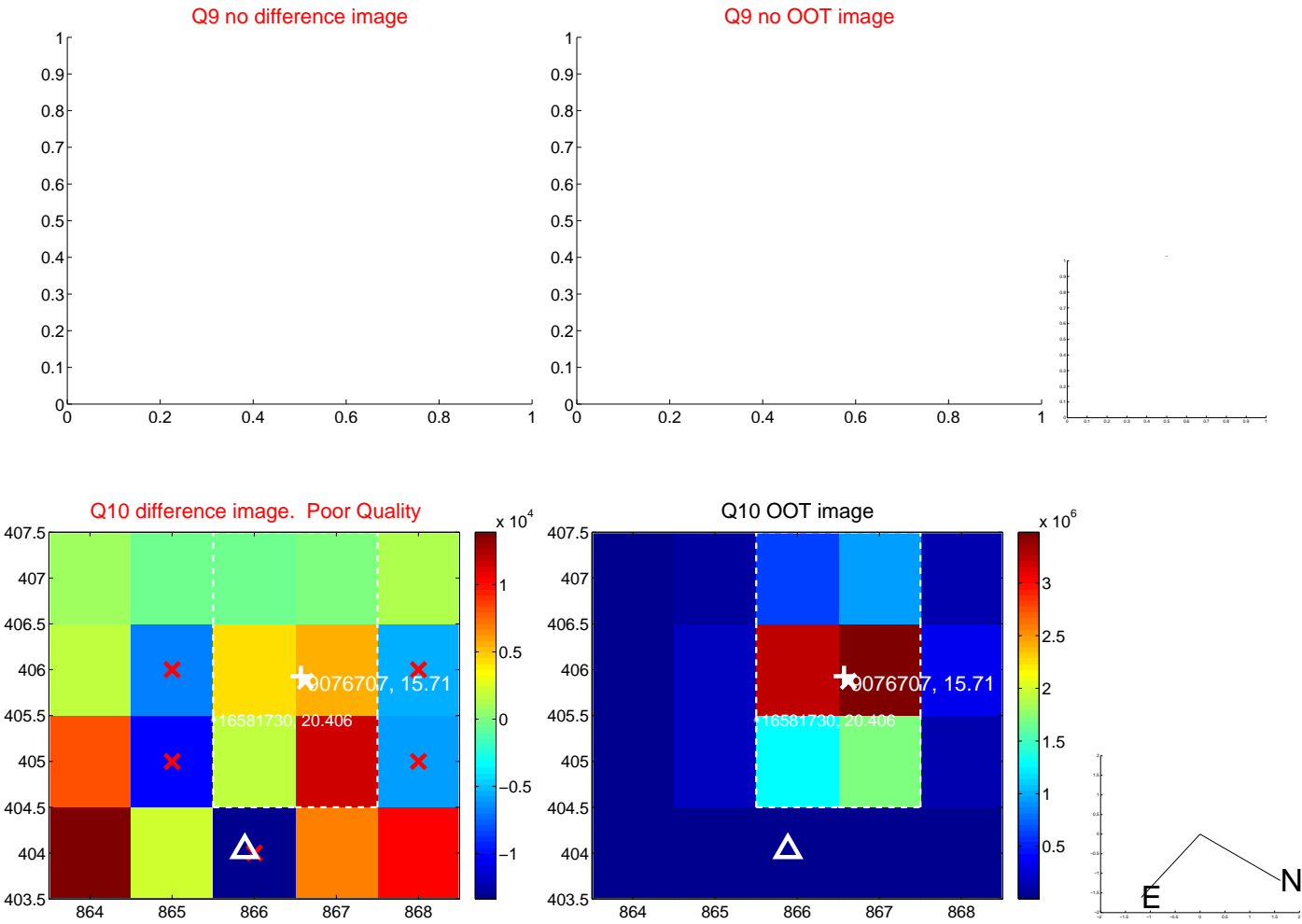
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



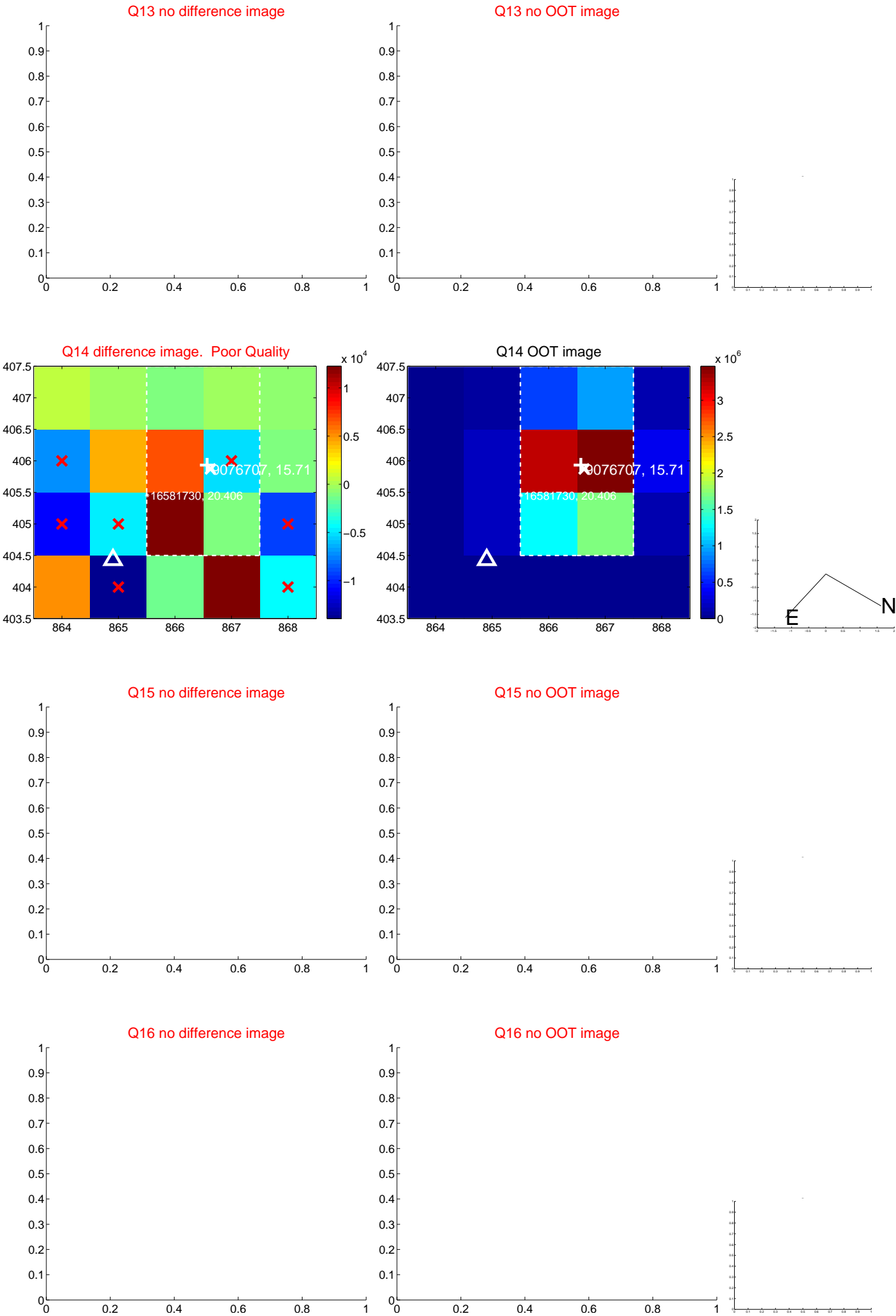
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



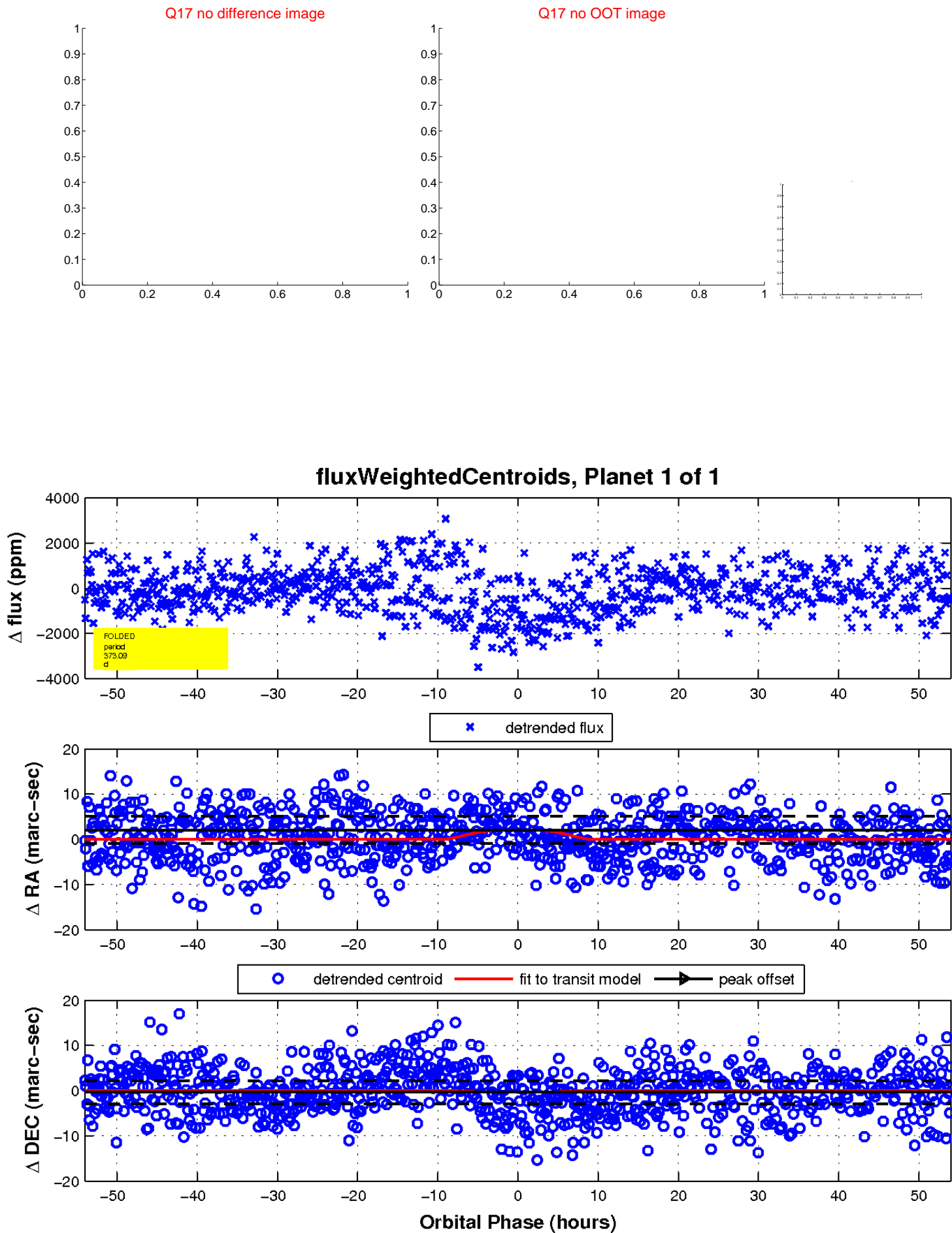
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

