

KIC 010876944

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})
010876944-01	OBS	No	646.512378	268.228438	212.2	6.982	7.1	6.9	2.64	6228	4.26	3.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010876944-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—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.

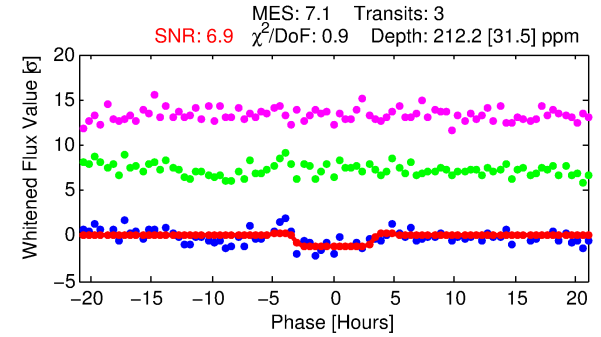
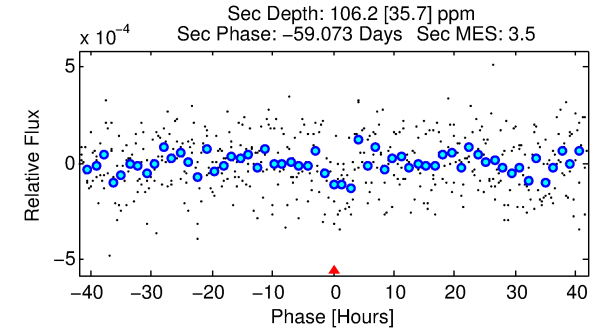
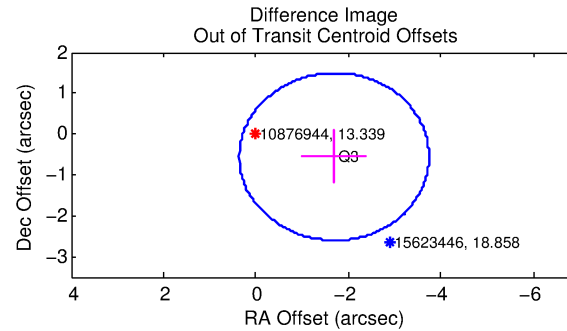
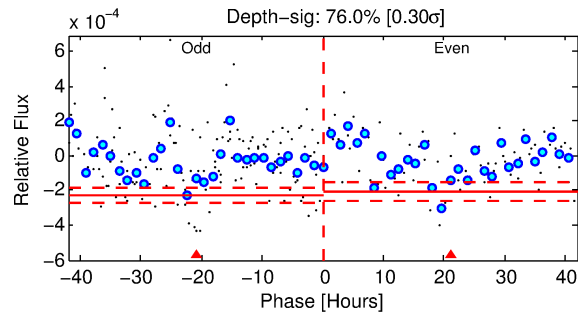
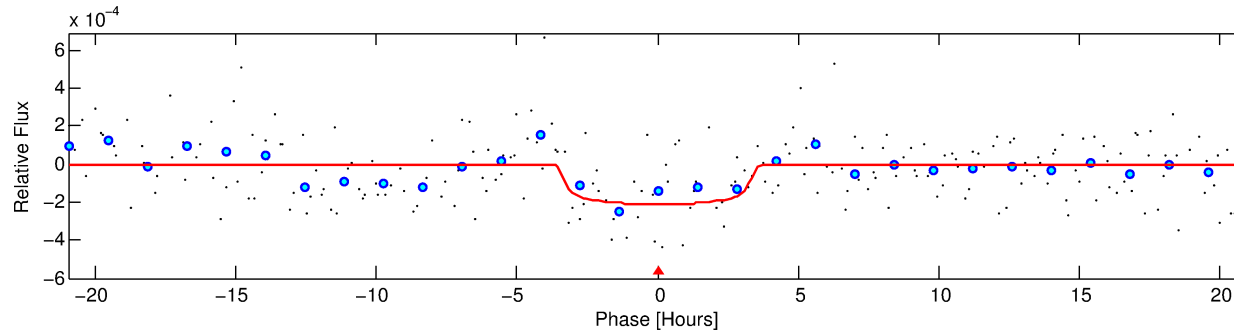
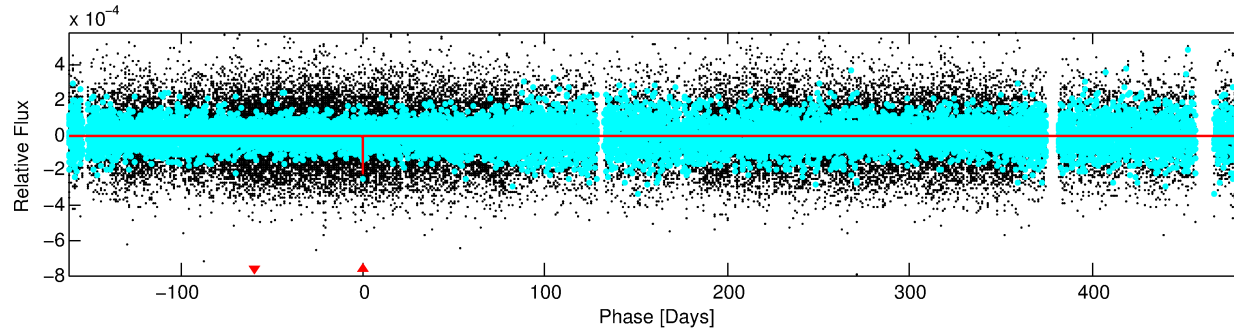
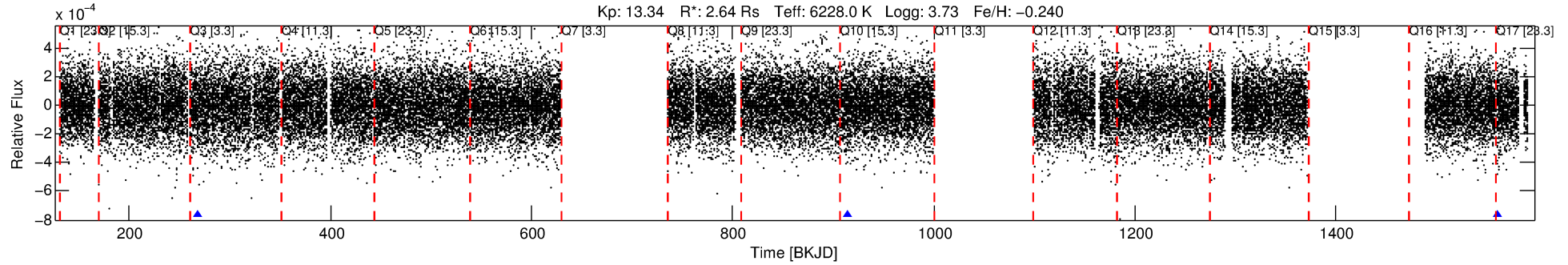
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010876944-01

No Significant Match Found

DV One-Page Summary

KIC: 10876944 Candidate: 1 of 1 Period: 646.512 d



DV Fit Results:

Period = 646.51238 [0.01156] d
Epoch = 268.2284 [0.0150] BKJD
Rp/R* = 0.0148 [0.0083]
a/R* = 440.08 [1306.30]
b = 0.80 [1.33]
Seff = 3.57 [1.96]
Teq = 351 [48] K
Rp = 4.26 [2.87] Re
a = 1.6240 [0.5571] AU
Ag = 8488.69 [10976.34] [0.77 σ]
Teffp = 5203 [1536] K [3.16 σ]

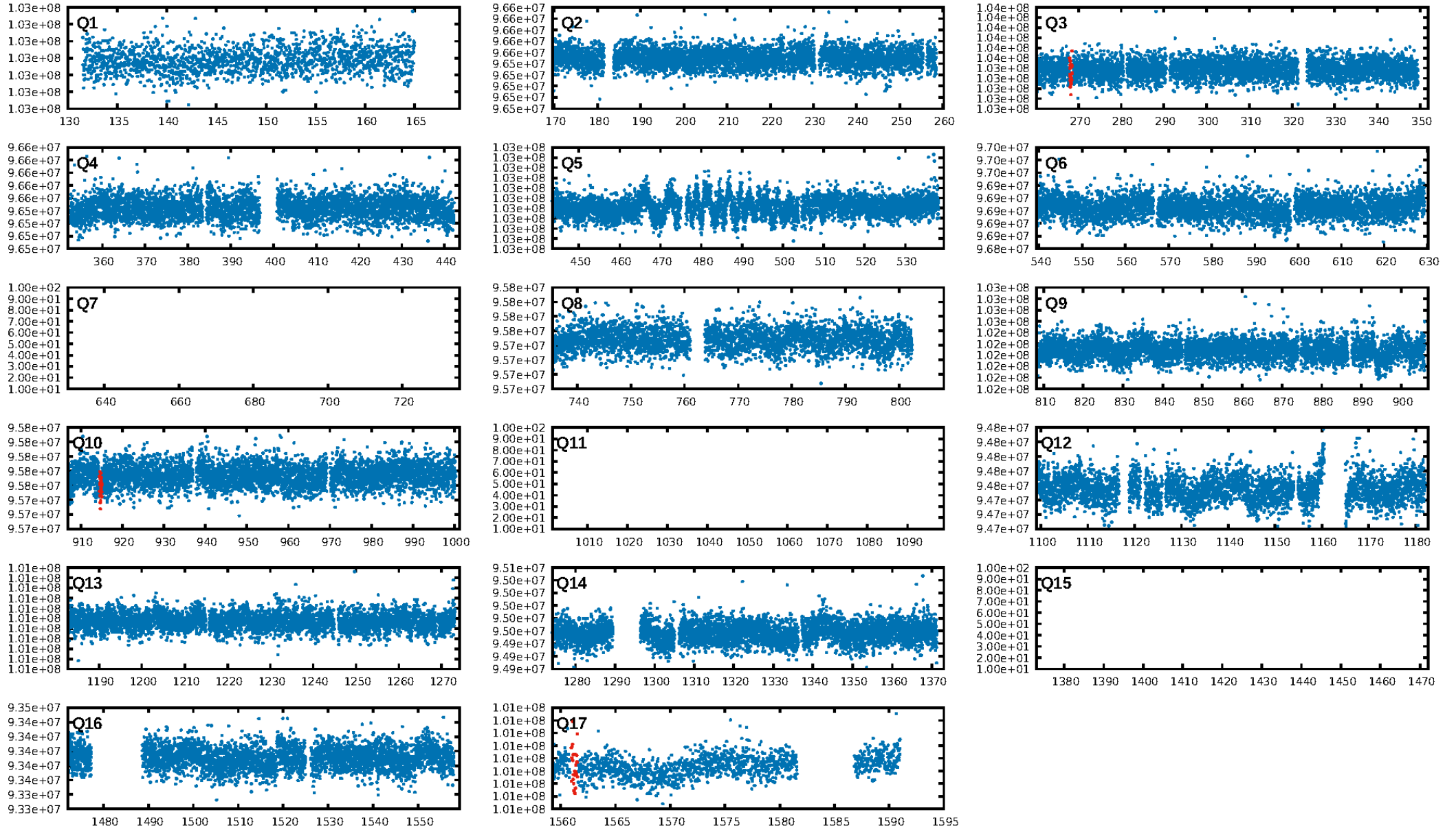
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.6%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 2.73e-14
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 25.31
Centroid-sig: 22.9%
Centroid-so: 2.130 arcsec [1.16 σ]
OotOffset-rm: 1.779 arcsec [2.60 σ]
KicOffset-rm: 1.792 arcsec [2.62 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

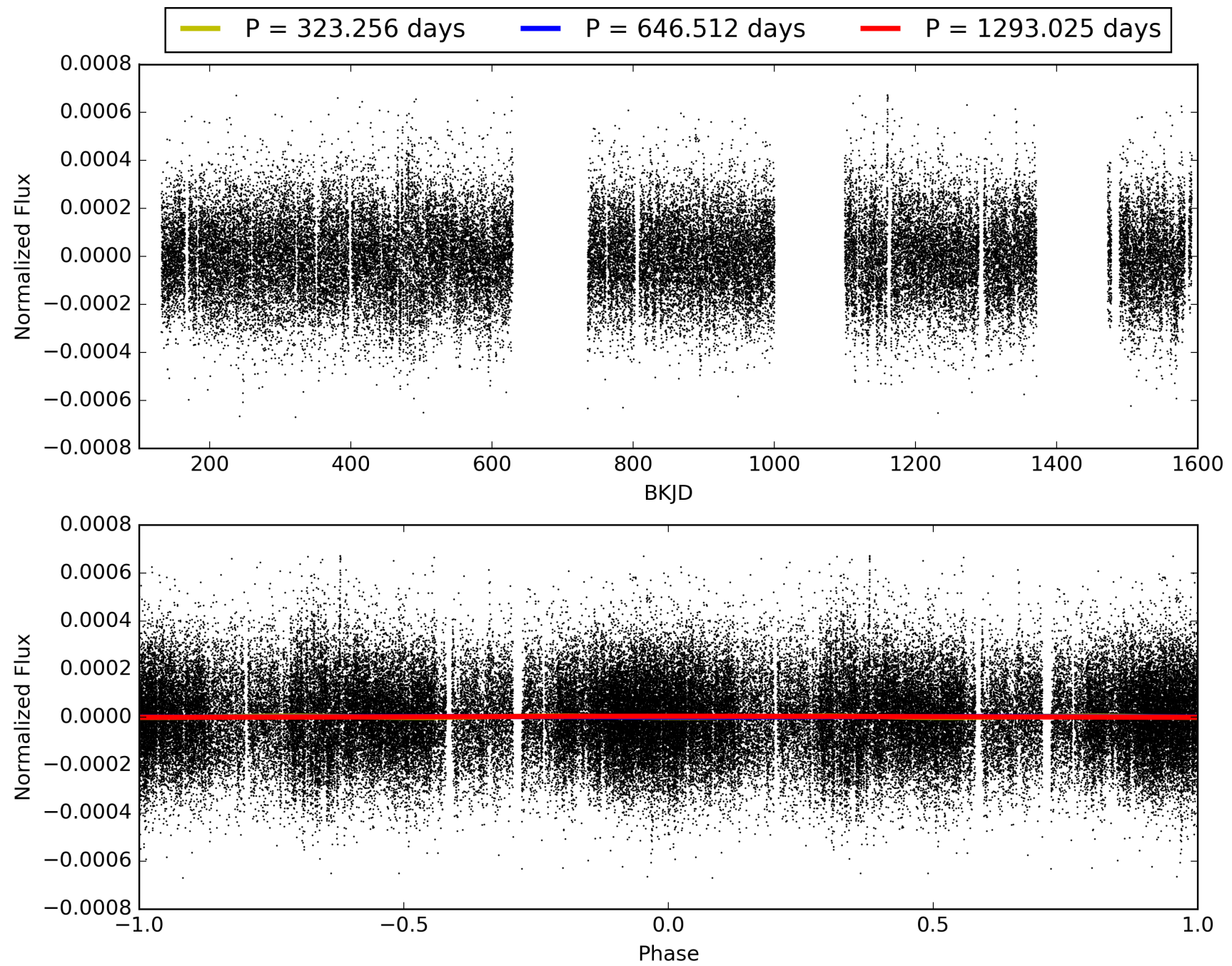
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:42:45 Z

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

TCE 010876944-01, PDC Light Curves

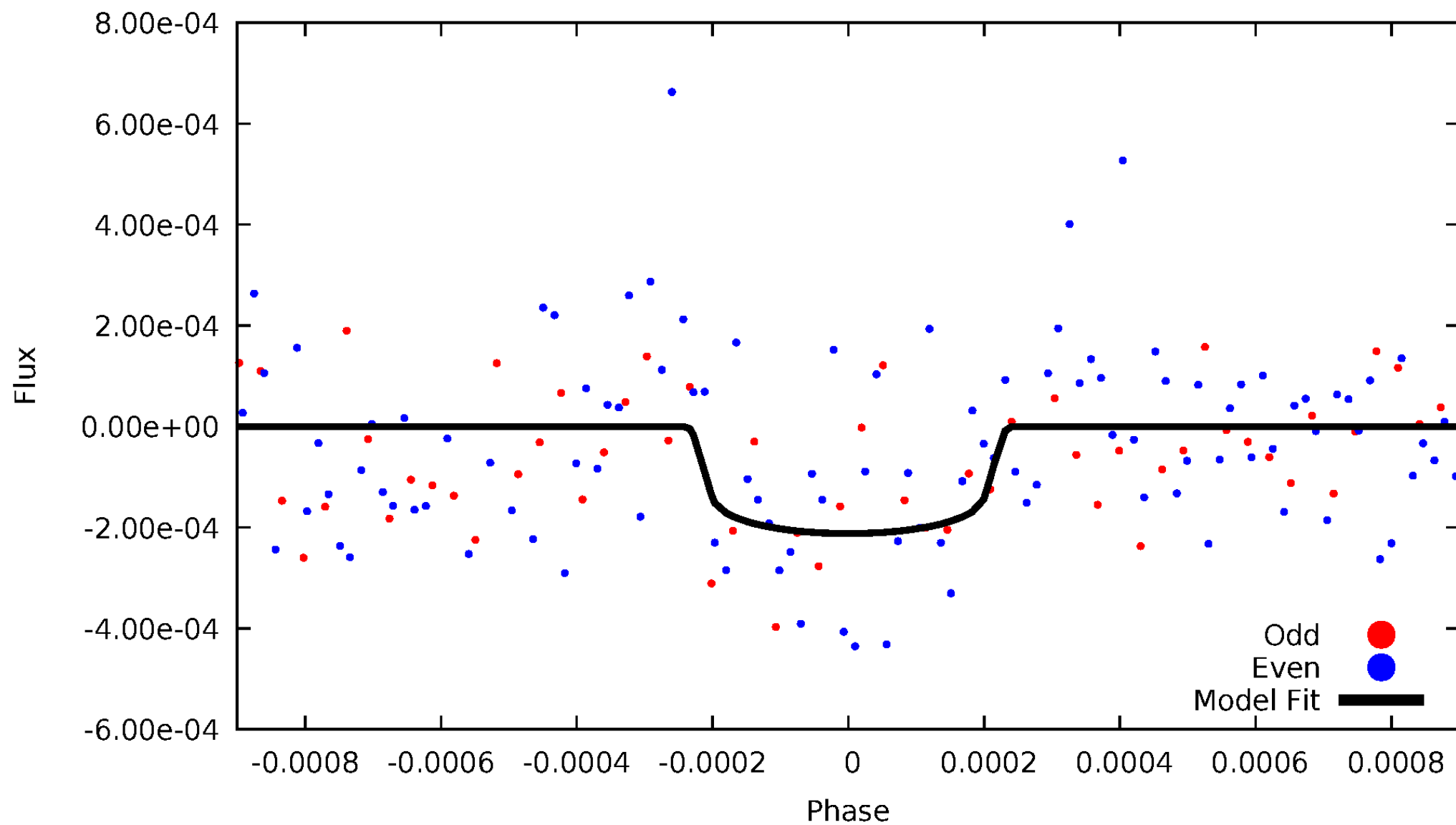


TCE 010876944-01



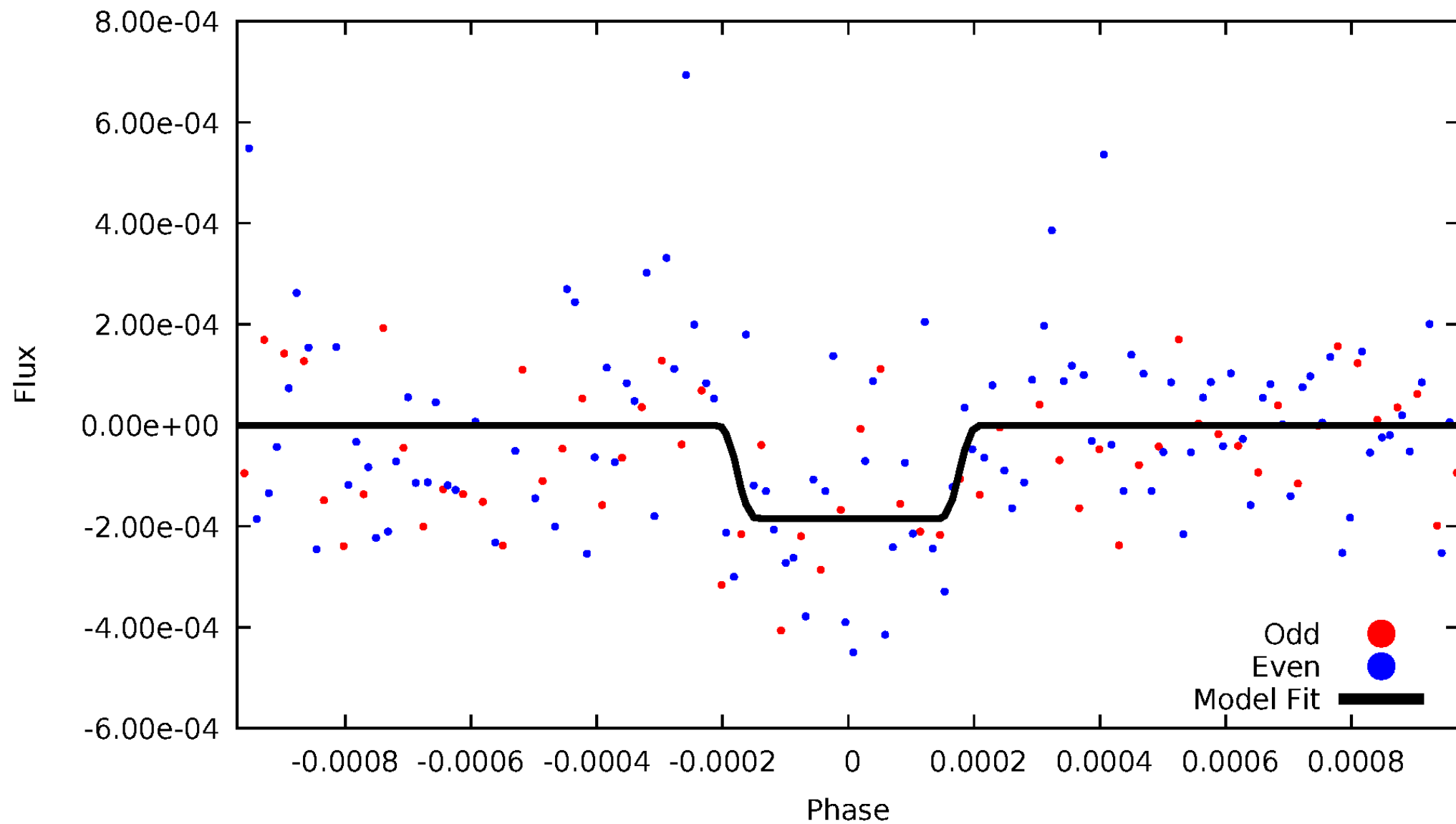
DV Odd/Even

TCE 010876944-01

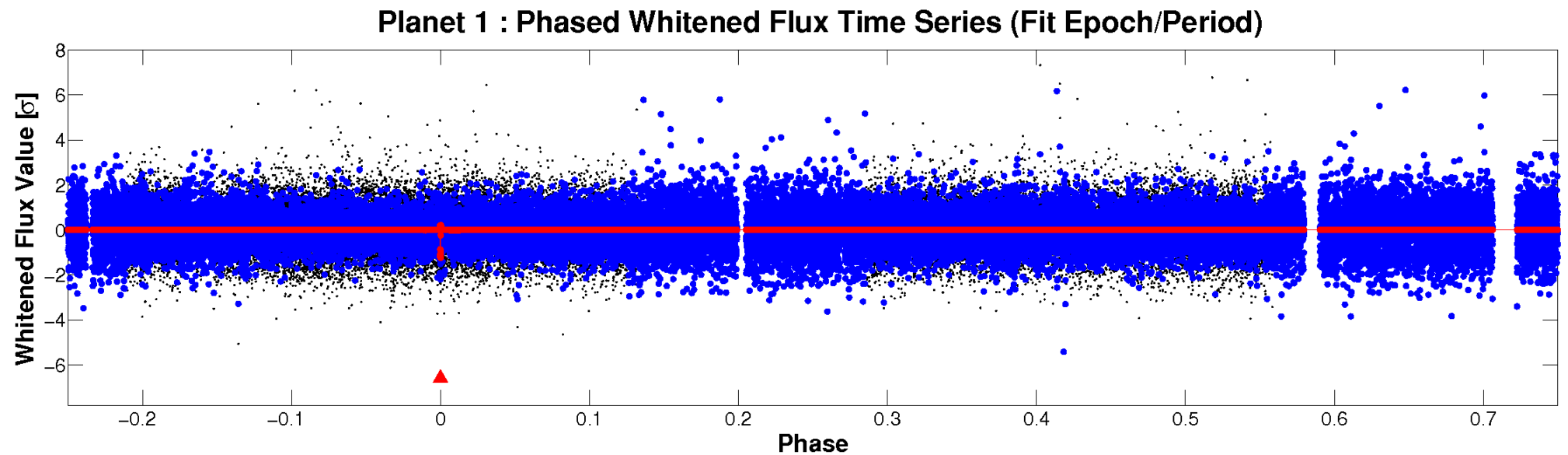
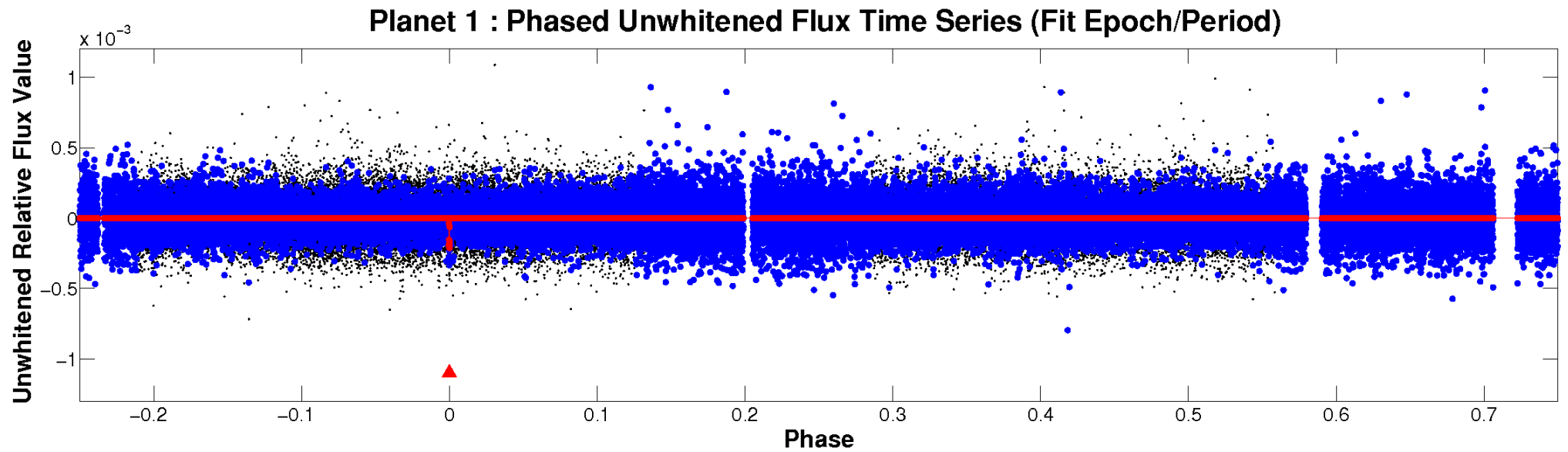


ALT Odd/Even

TCE 010876944-01

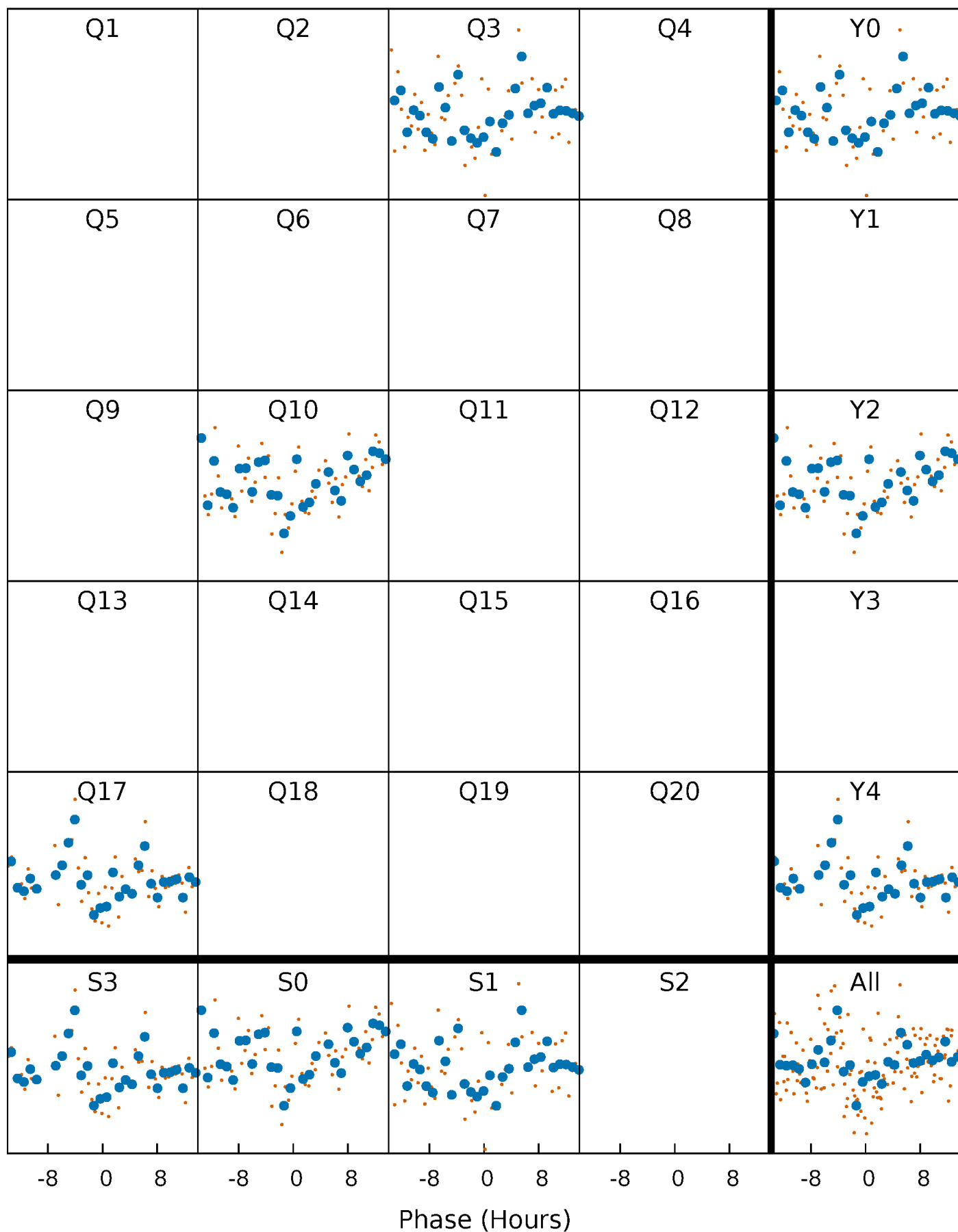


Non-Whitened Vs. Whitened Light Curve



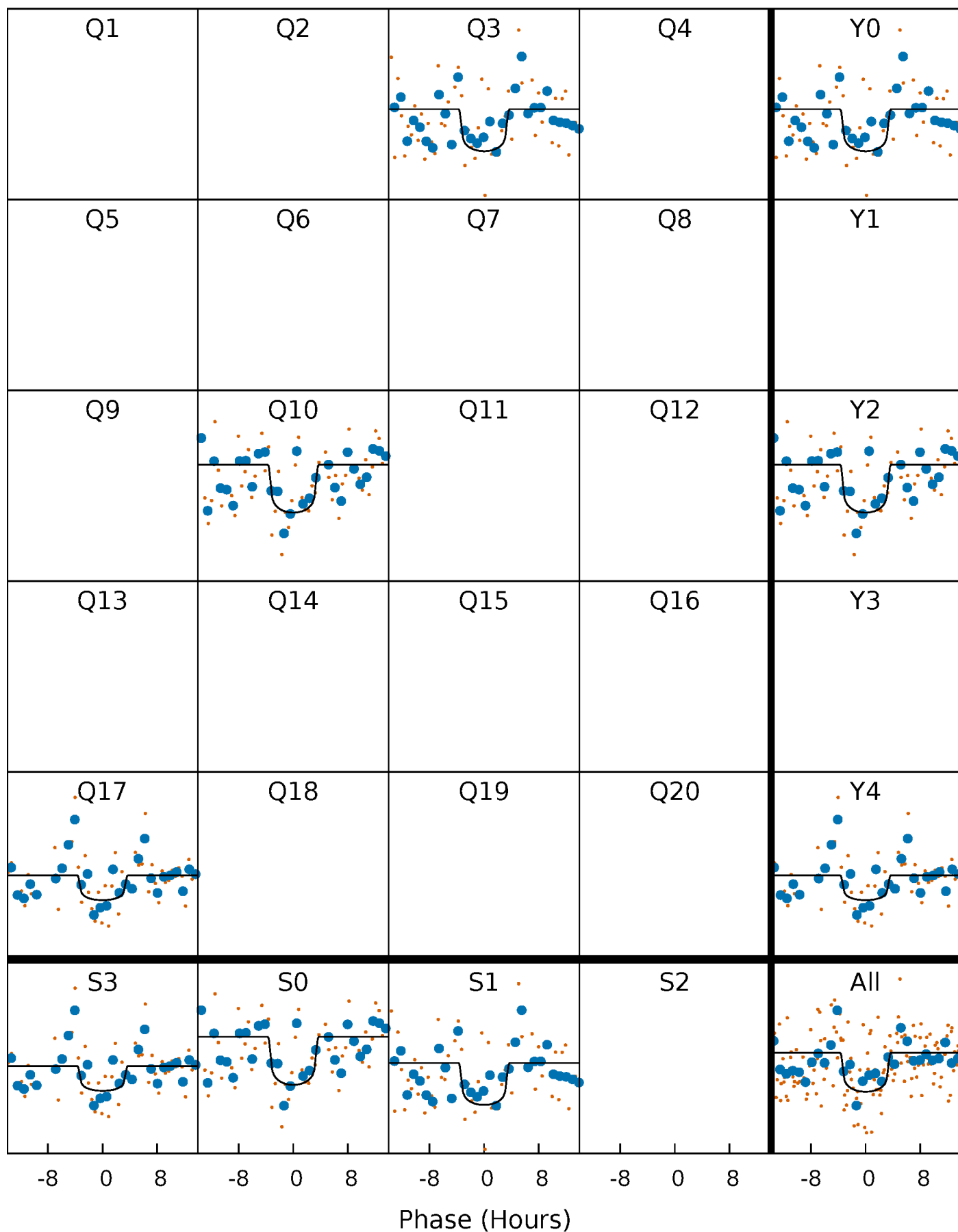
PDC Quarter-Phased Transit Curves

TCE 010876944-01 P=646.512378 Days $T_0=268.228438$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010876944-01 P=646.512378 Days $T_0=268.228438$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

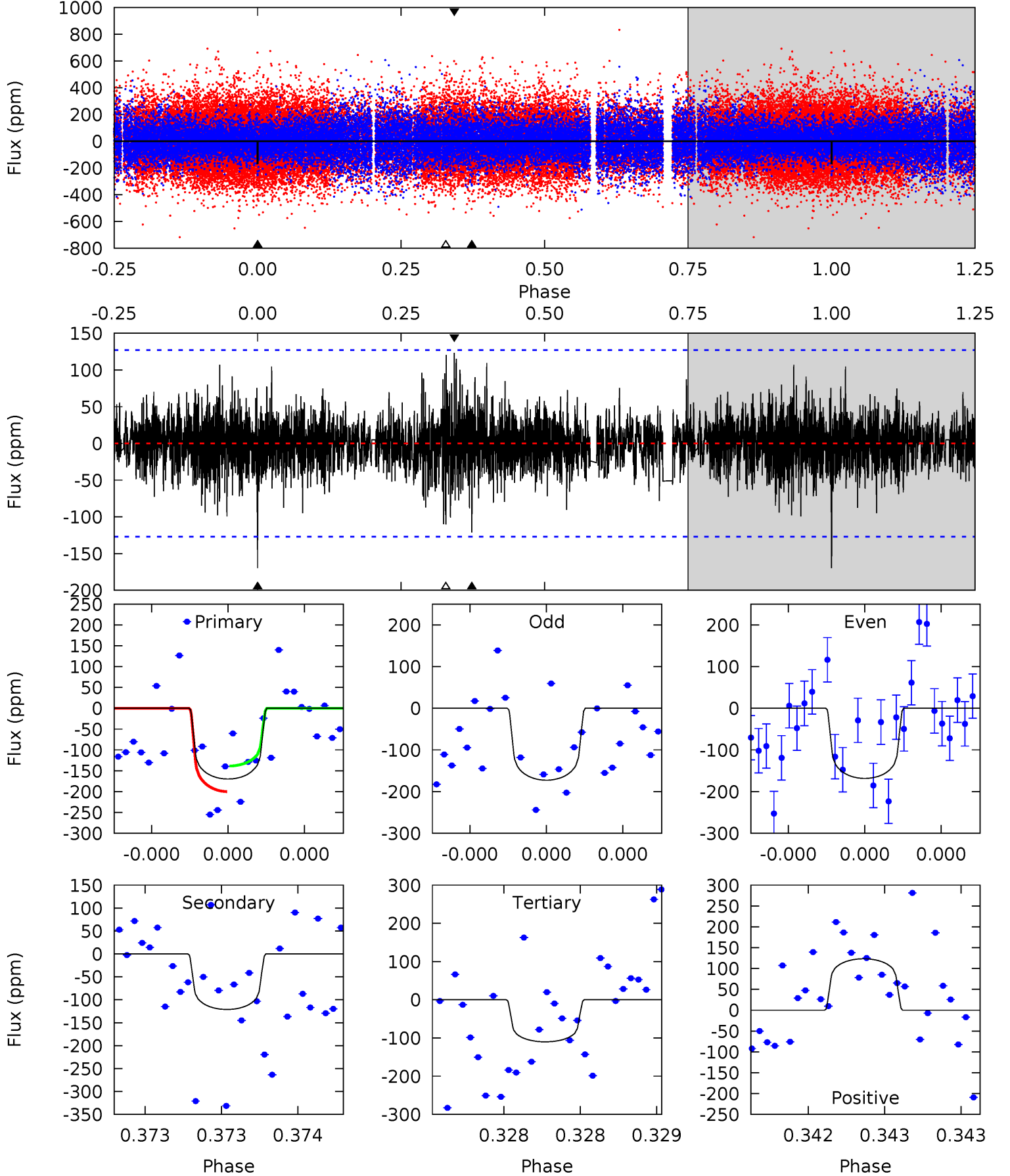
TCE 010876944-01 P=646.511027 Days $T_0=268.229796$ (BKJD)



DV Model-Shift Uniqueness Test

010876944-01, P = 646.512378 Days, E = 268.228438 Days

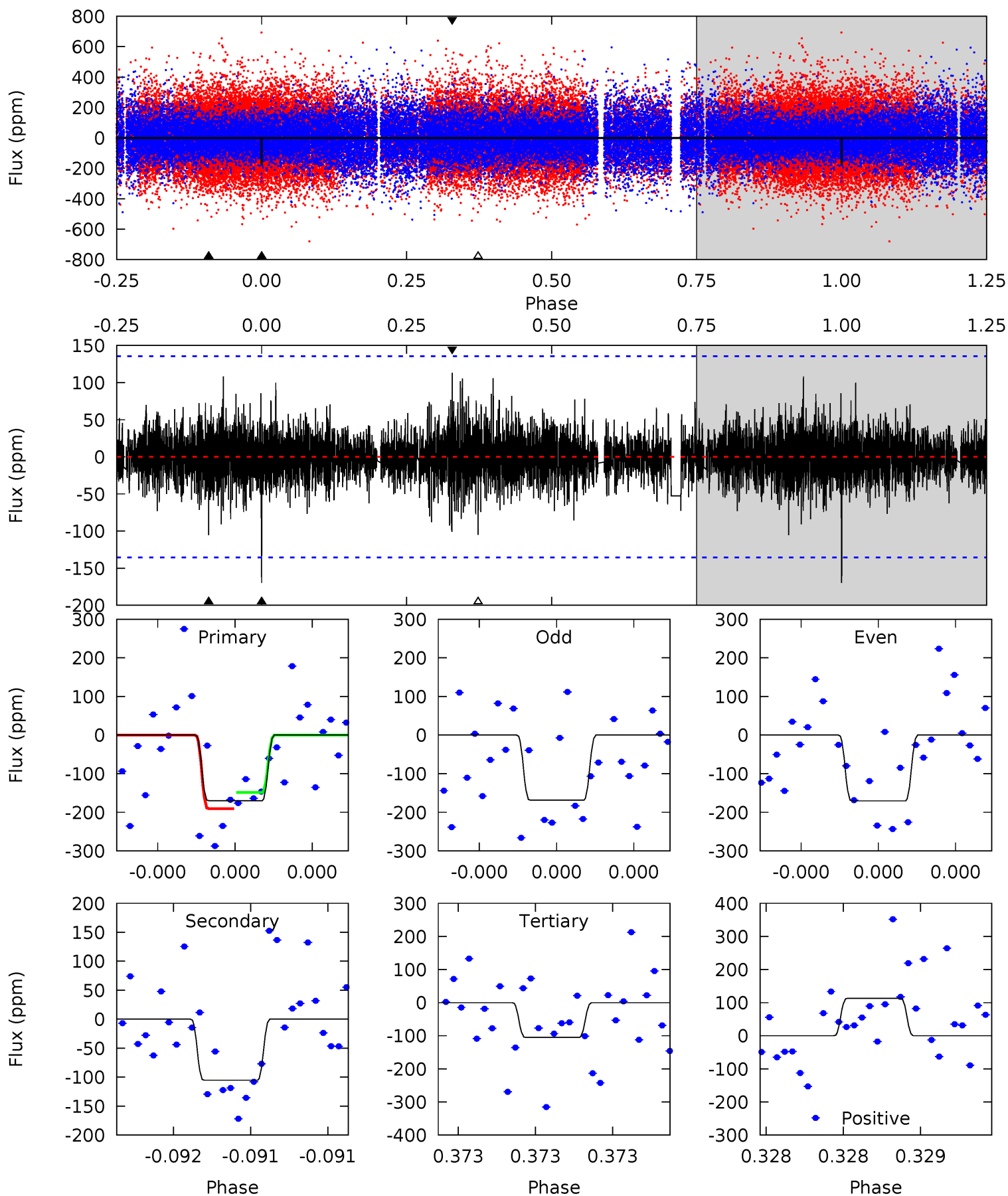
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.46	5.33	4.84	5.42	5.58	3.49	1.21	2.62	2.04	0.49	-0.09	0.09	0.98	0.42	1.35



Alt Model-Shift Uniqueness Test

010876944-01, P = 646.511027 Days, E = 268.229796 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.02	4.35	4.34	4.67	5.61	3.53	1.04	2.68	2.35	0.01	-0.32	0.04	1.00	0.40	0.87



Stellar Parameters For KIC 010876944

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6228^{+171}_{-171}	$3.729^{+0.312}_{-0.098}$	$-0.240^{+0.350}_{-0.300}$	$2.644^{+0.417}_{-0.974}$	$1.368^{+0.231}_{-0.308}$	$0.104^{+0.228}_{-0.034}$
	+3%/-3%	+8%/-3%	+146%/-125%	+16%/-37%	+17%/-23%	+219%/-33%
Source	PHO1	FLK73	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 010876944-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-121 ± 23	$4.05^{+2.41}_{-2.15}$	481^{+31}_{-43}	5378^{+2658}_{-902}	10789^{+37676}_{-6623}
Alt.	-105 ± 24	$3.76^{+2.37}_{-1.99}$	479^{+30}_{-43}	5351^{+2382}_{-944}	10552^{+37175}_{-6645}

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

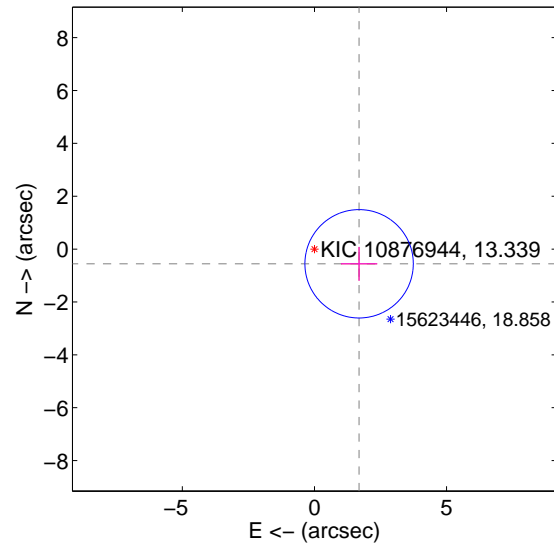
Supplemental centroid analysis for 010876944-01. Kepler magnitude: 13.34. Transit SNR 6.94

There are 0 quarters with good PRF difference image offsets

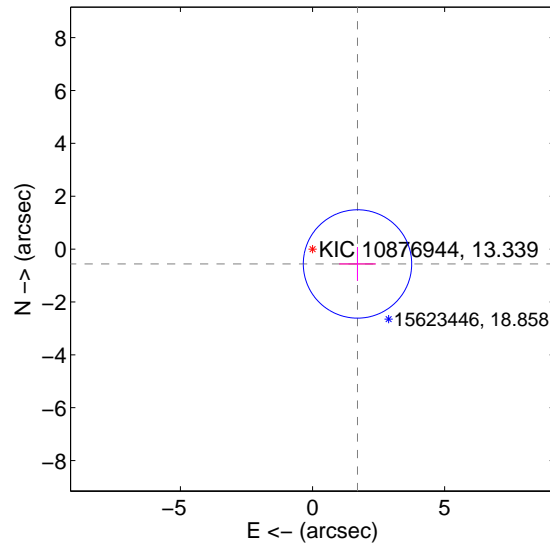
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.779 ± 0.683	2.60	-1.690 ± 0.688	-0.556 ± 0.640
PRF-fit source offset from KIC position	1.792 ± 0.683	2.62	-1.701 ± 0.688	-0.562 ± 0.640
photometric centroid source offset	2.13 ± 1.83	1.16	0.74 ± 2.09	2.00 ± 1.80

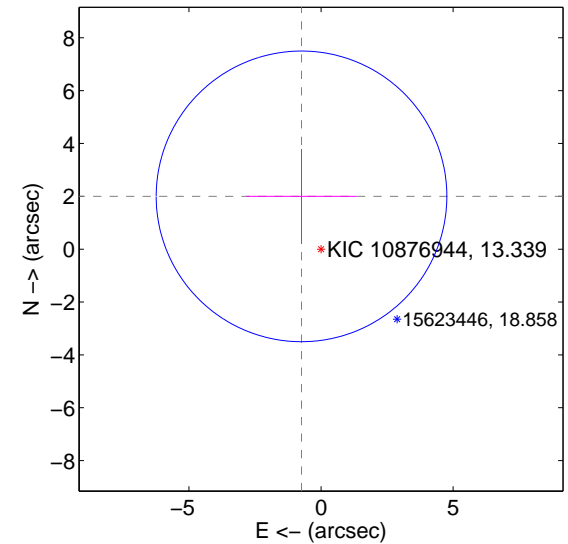
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

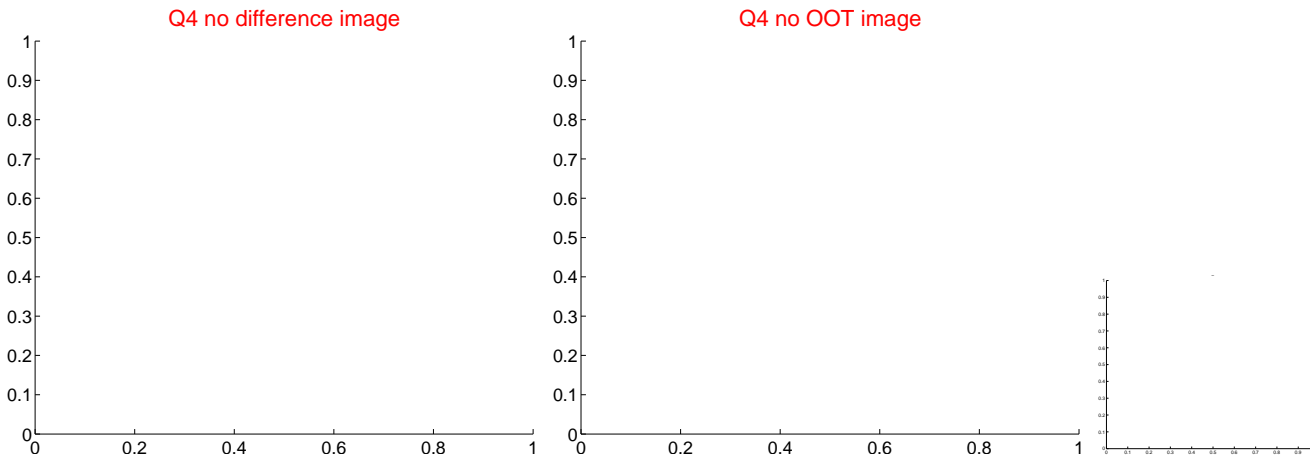
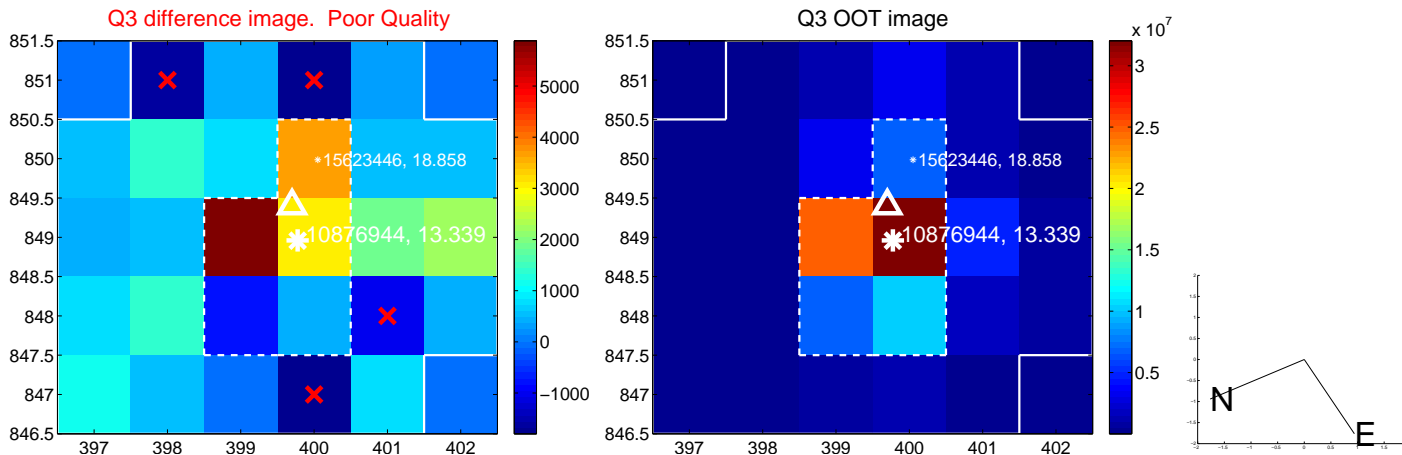
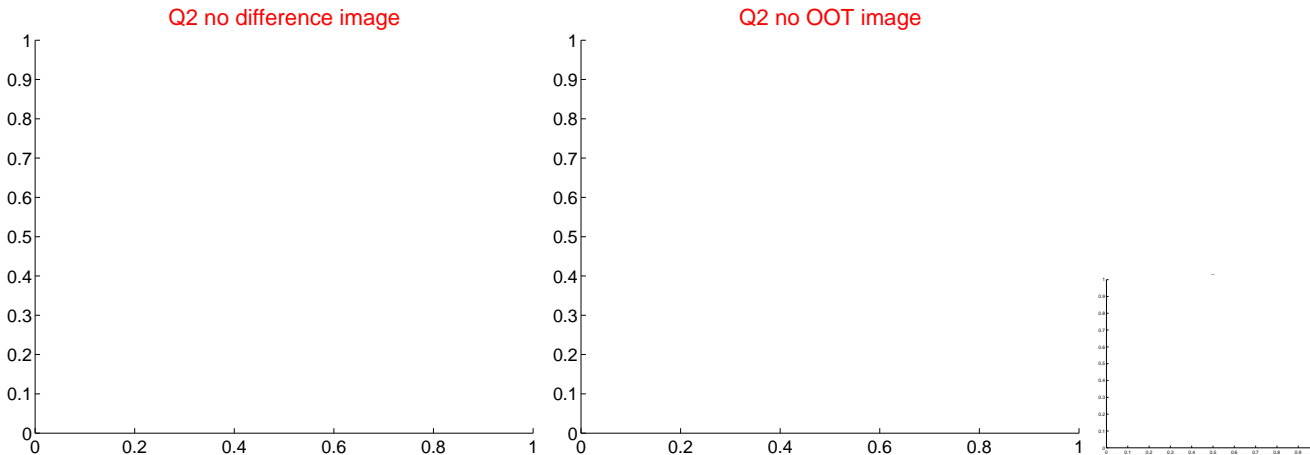
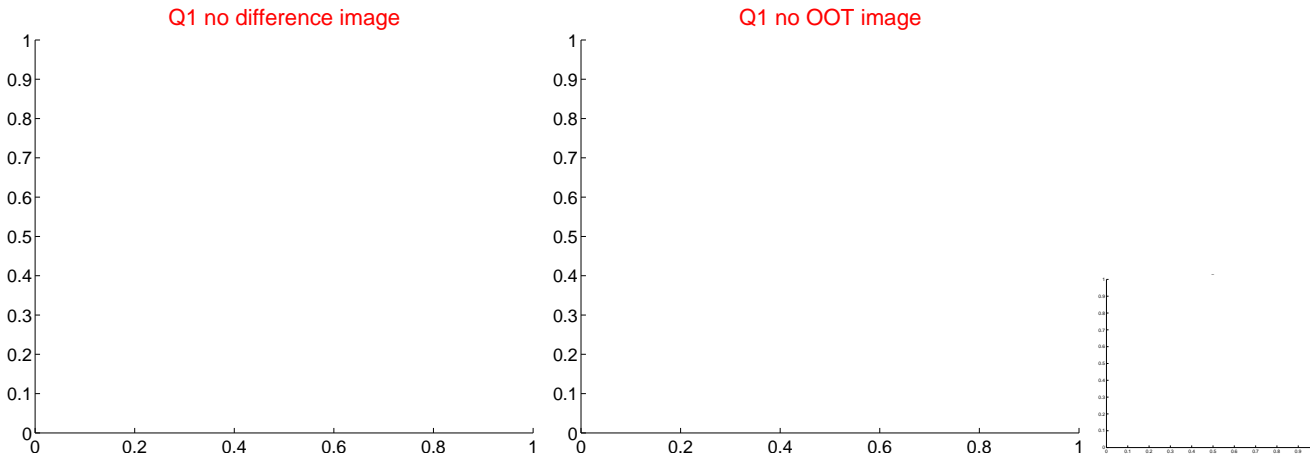


offset from photometric centroids



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.

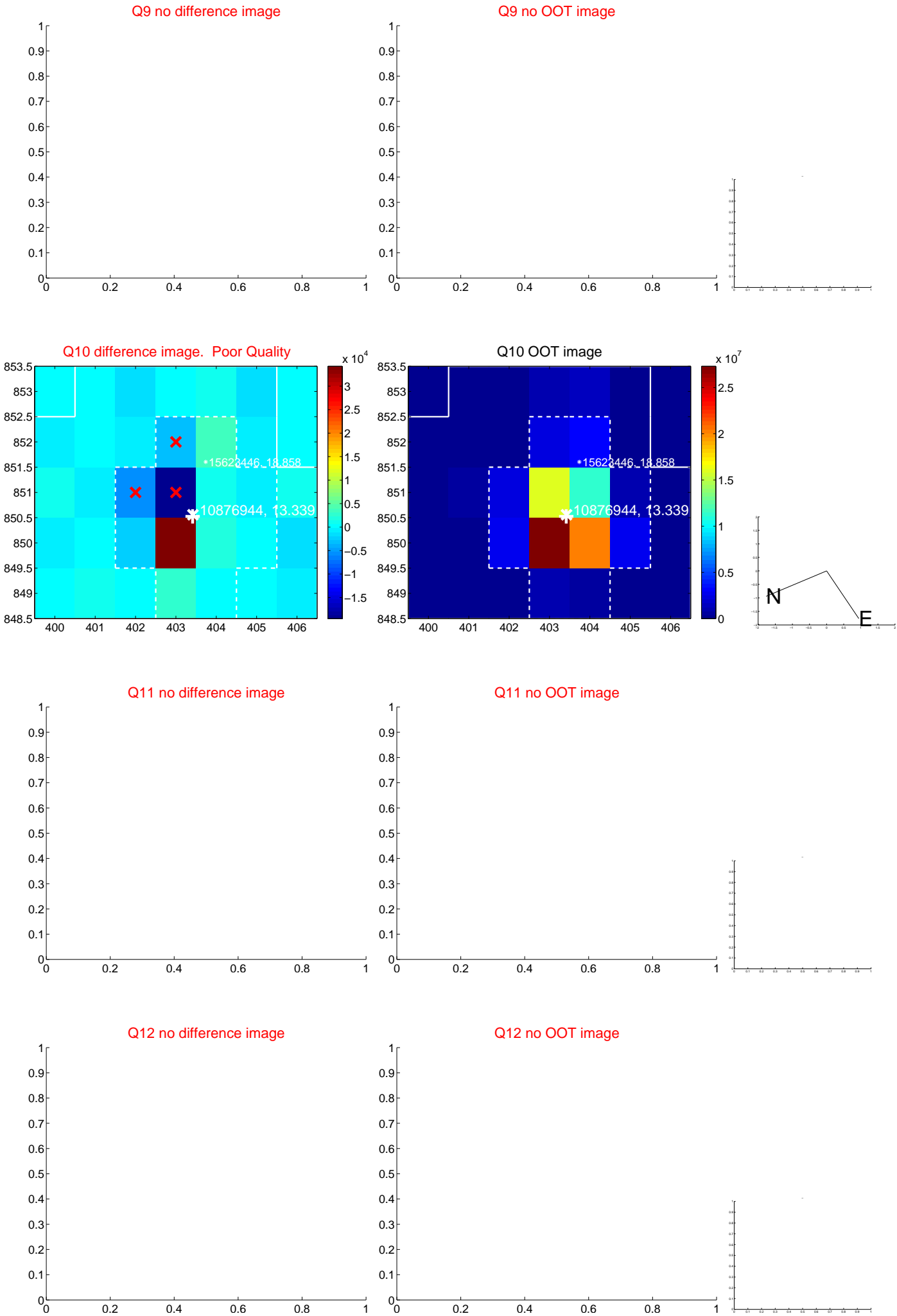
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



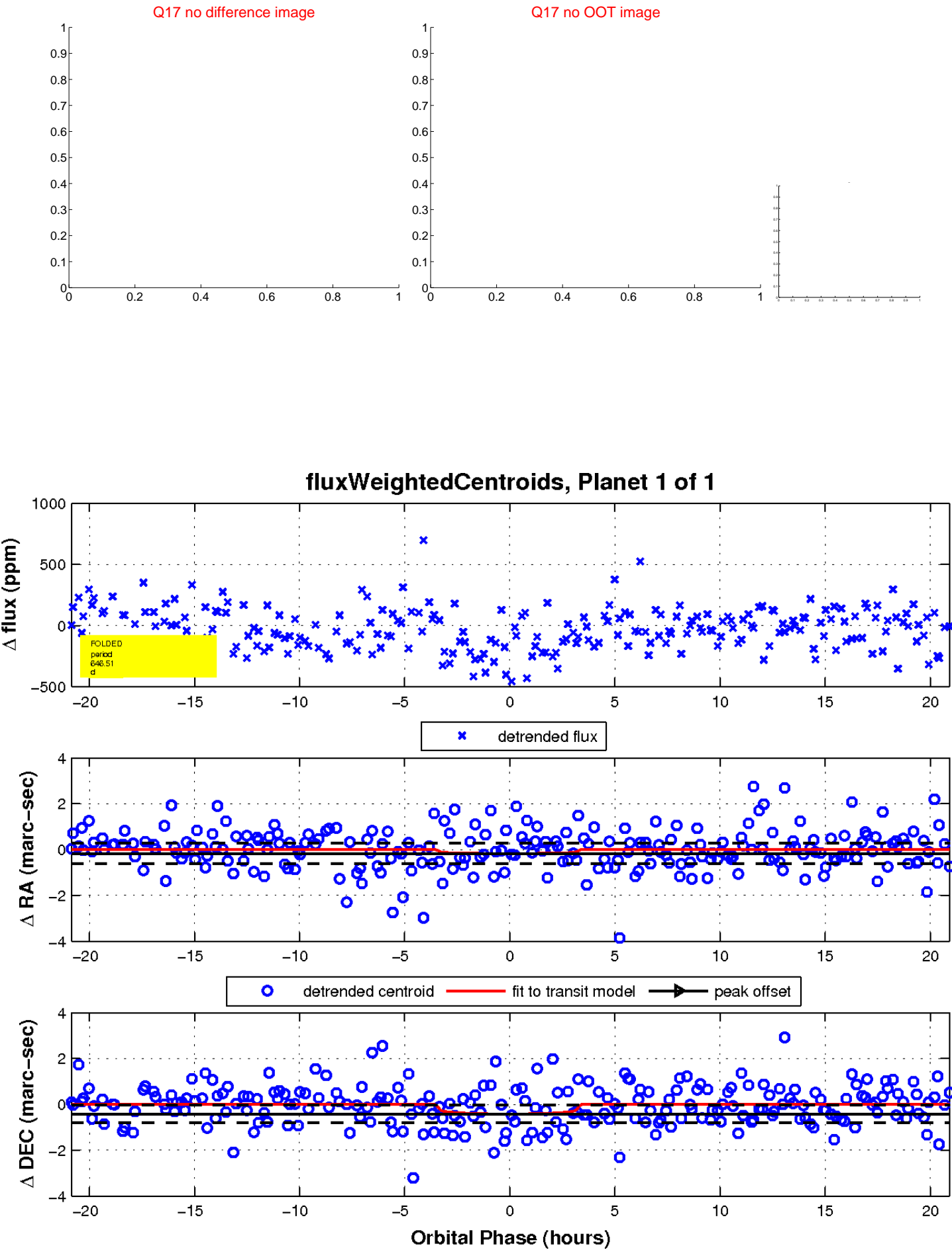
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

