

KIC 007831322

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})
007831322-01	OBS	No	642.355244	244.052489	284.9	19.605	8.1	3.6	1.00	6077	1.84	0.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007831322-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— 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.

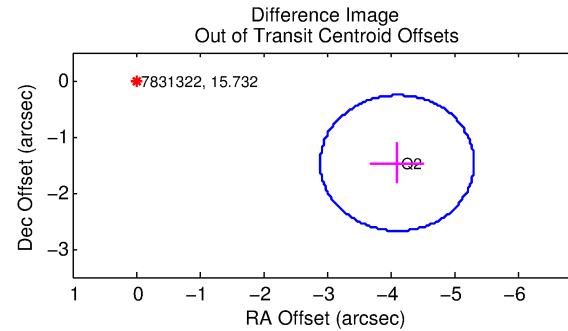
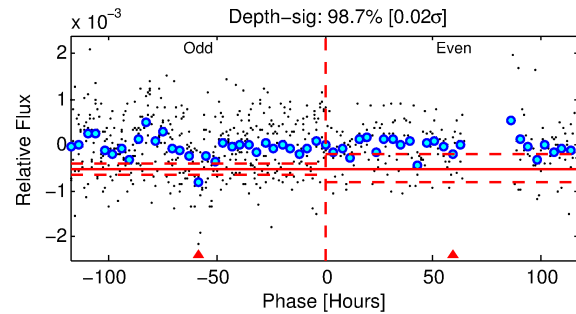
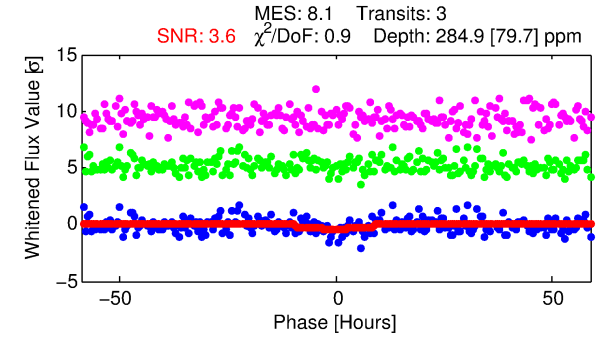
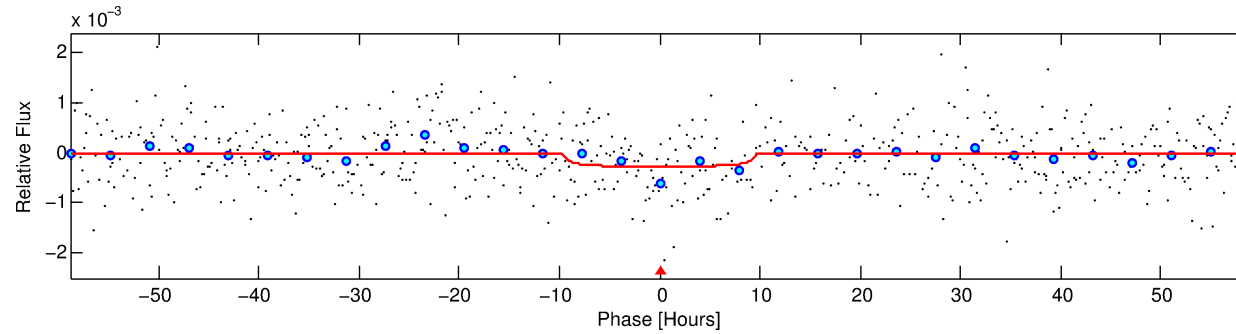
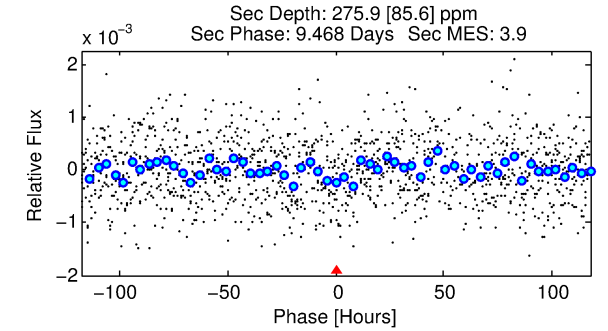
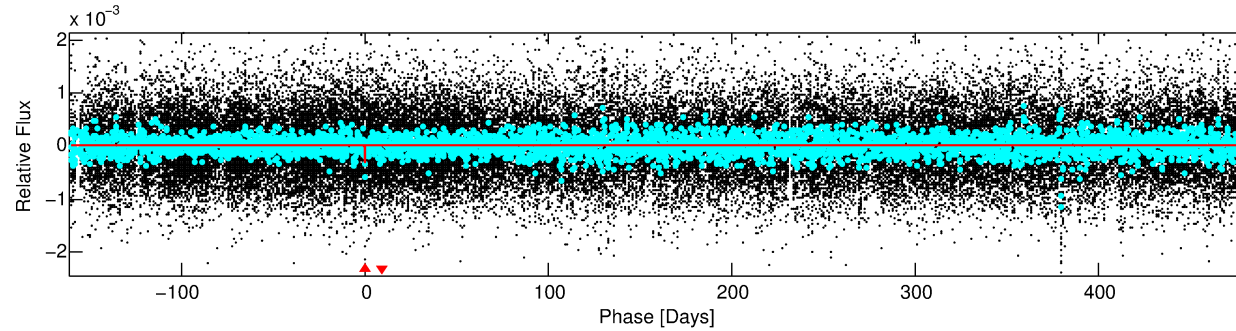
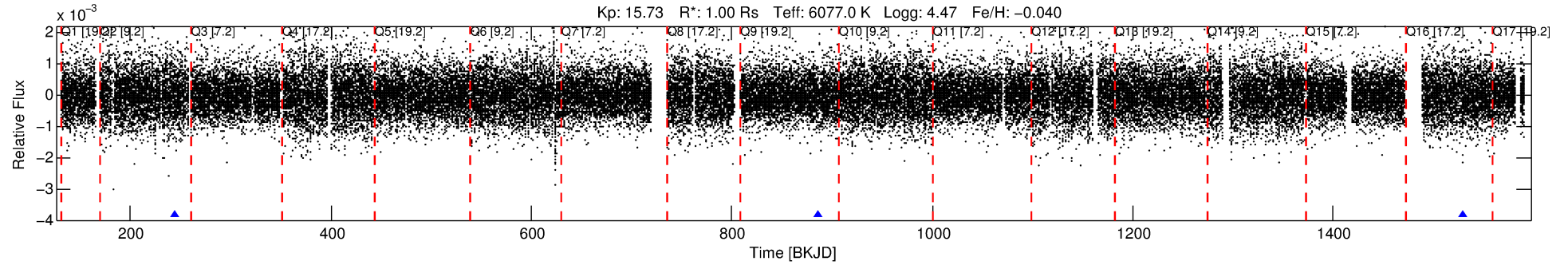
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007831322-01

No Significant Match Found

DV One-Page Summary

KIC: 7831322 Candidate: 1 of 1 Period: 642.355 d



DV Fit Results:

Period = 642.35524 [0.04667] d
Epoch = 244.0525 [0.0613] BKJD
Rp/R* = 0.0169 [0.0098]
a/R* = 166.58 [456.27]
b = 0.77 [1.47]
Seff = 0.55 [0.22]
Teq = 219 [22] K
Rp = 1.84 [1.20] Re
a = 1.4937 [0.3784] AU
Ag = 99723.68 [124877.48] [0.80σ]
Teff = 6024 [1818] K [3.19σ]

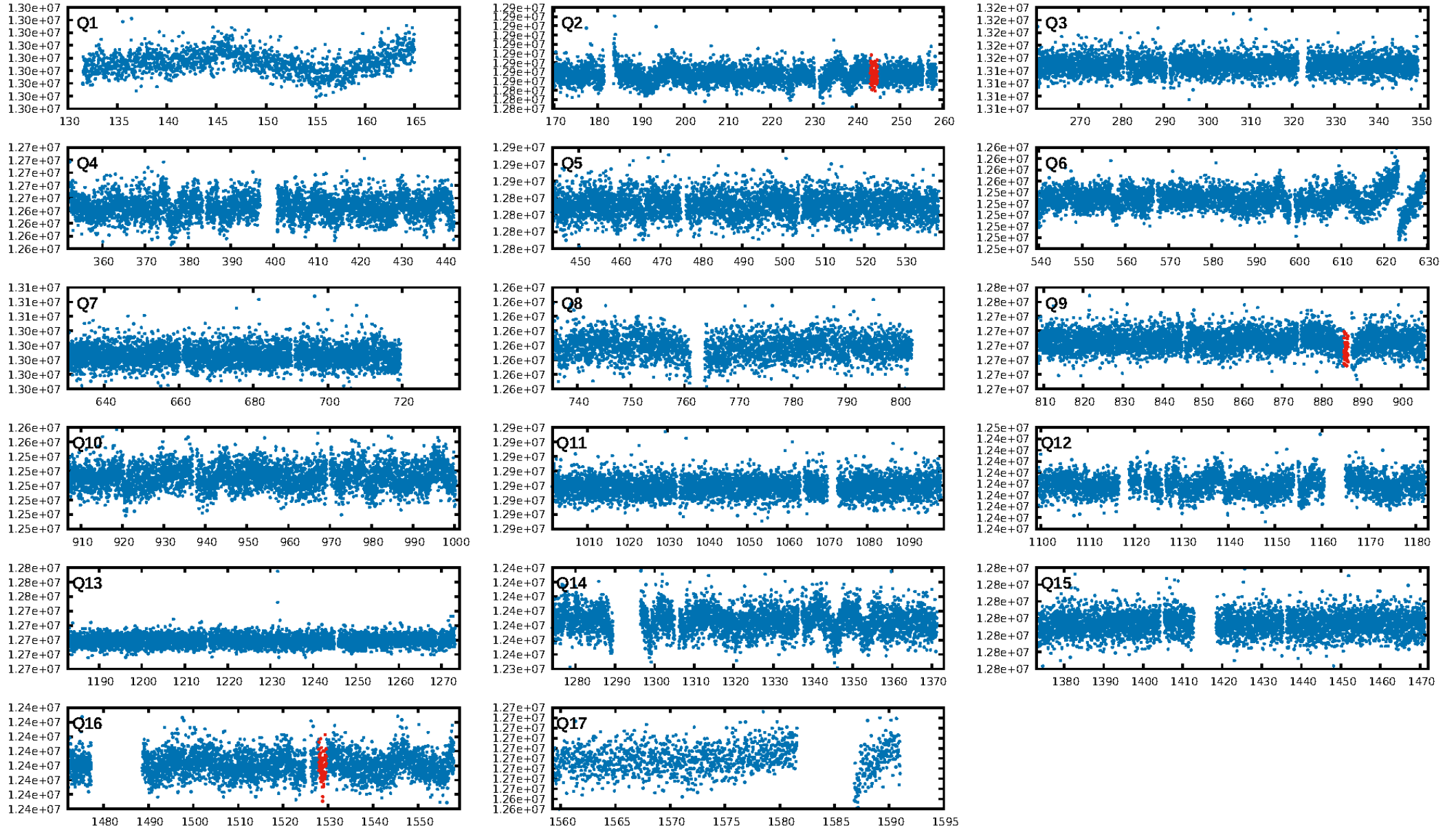
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.8%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 2.82e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 15.74
Centroid-sig: 16.5%
Centroid-so: 4.878 arcsec [0.99σ]
OotOffset-rm: 4.361 arcsec [10.82σ]
KicOffset-rm: 4.444 arcsec [11.06σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

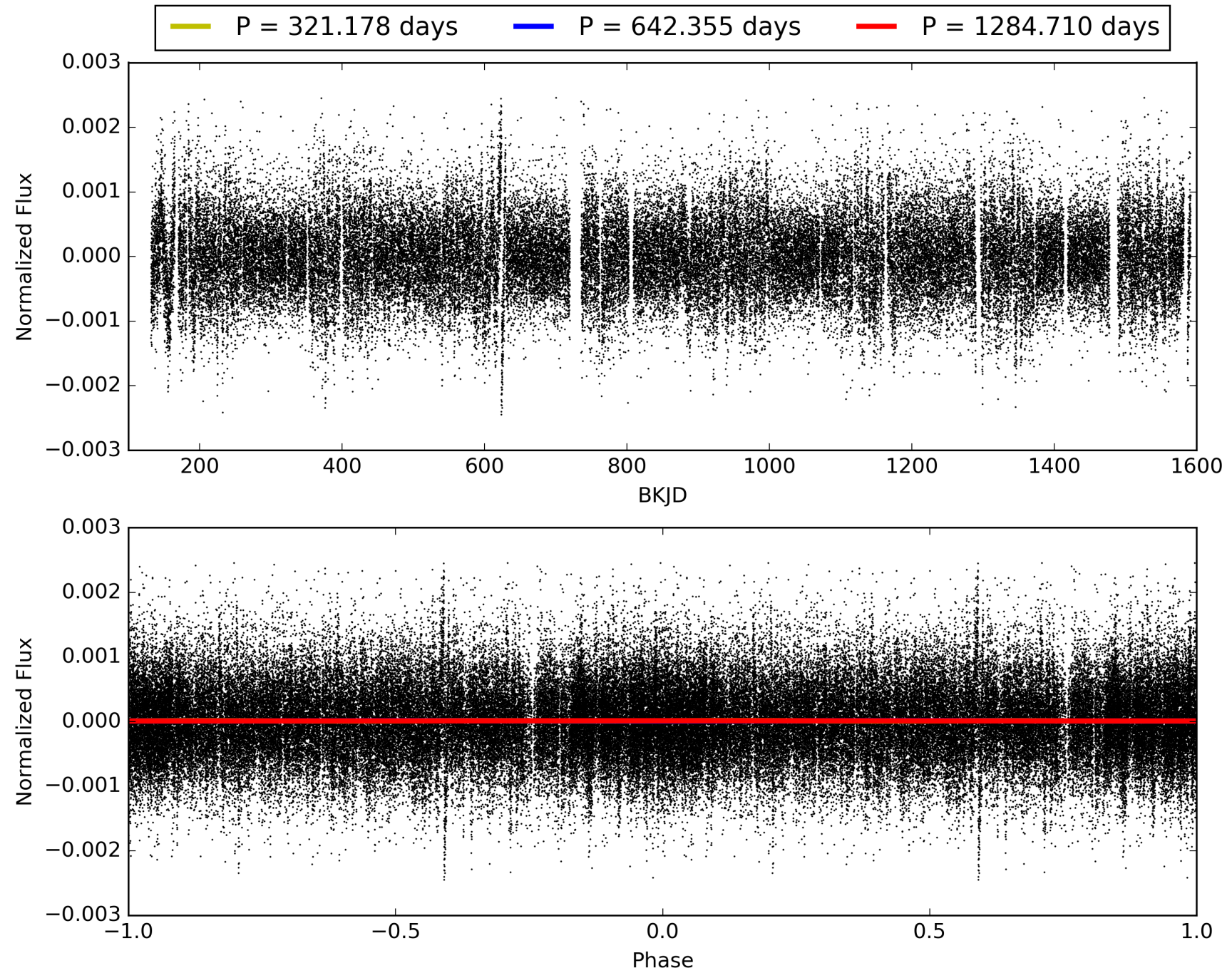
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:47:06 Z

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

TCE 007831322-01, PDC Light Curves

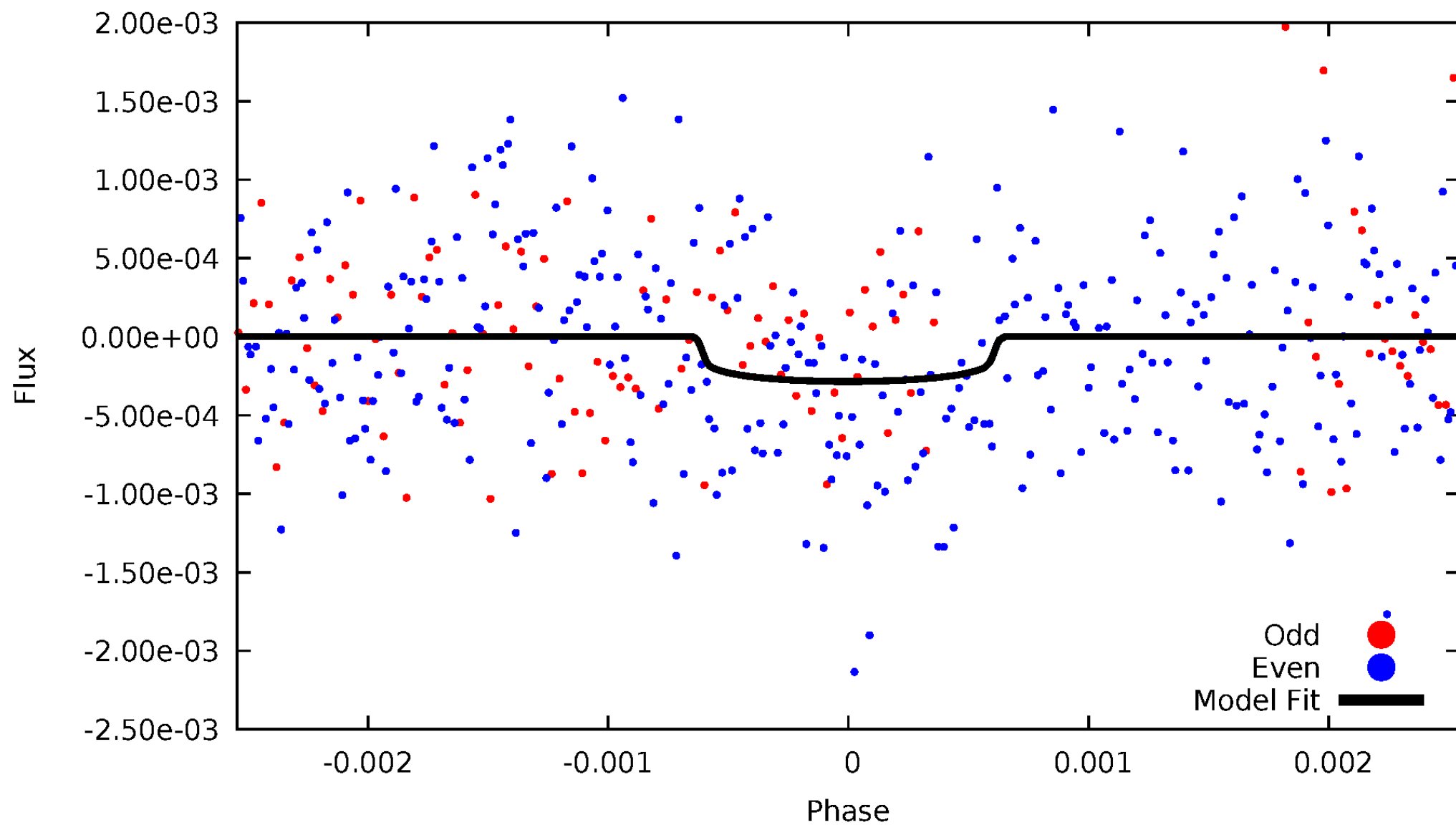


TCE 007831322-01



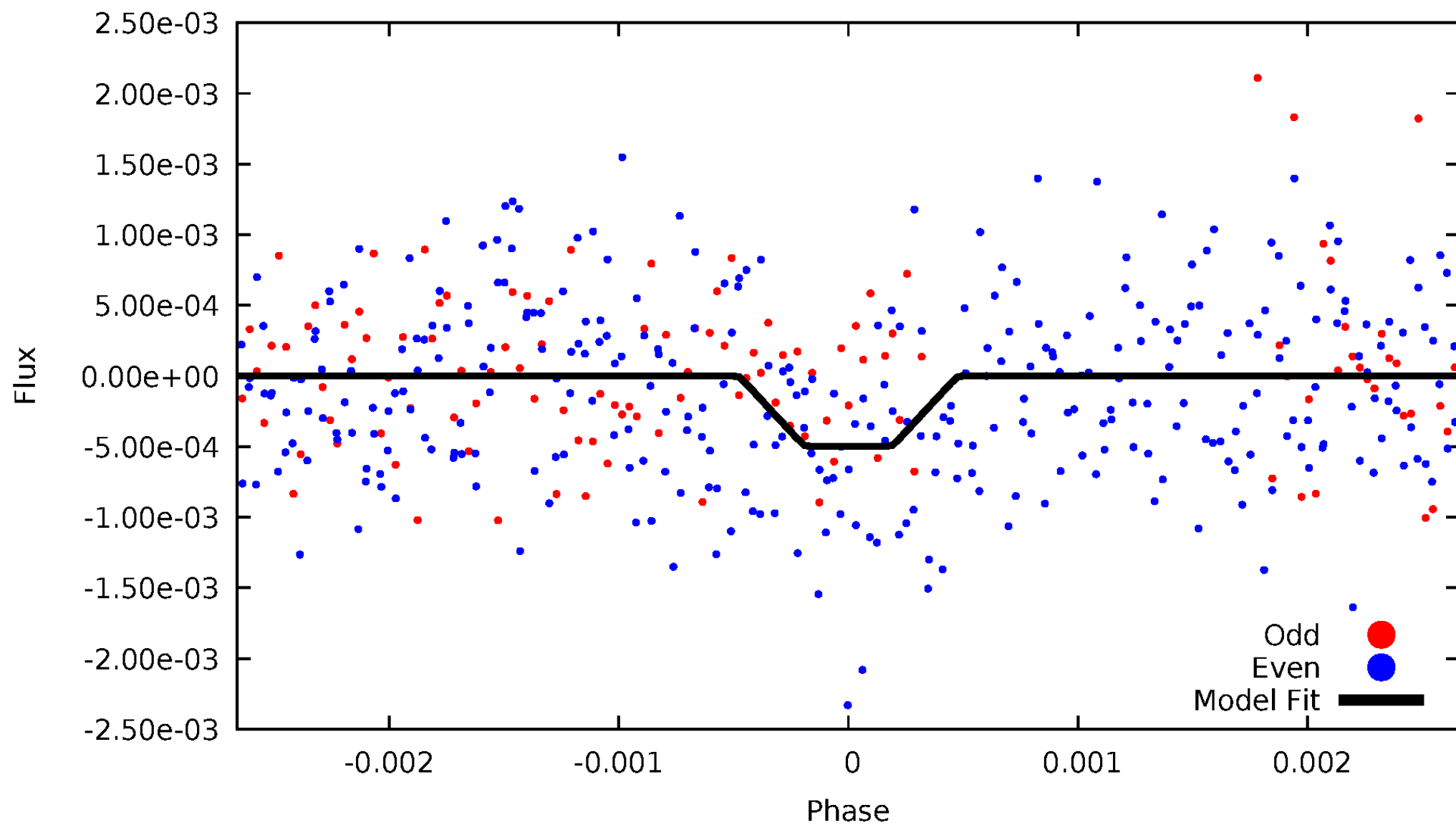
DV Odd/Even

TCE 007831322-01



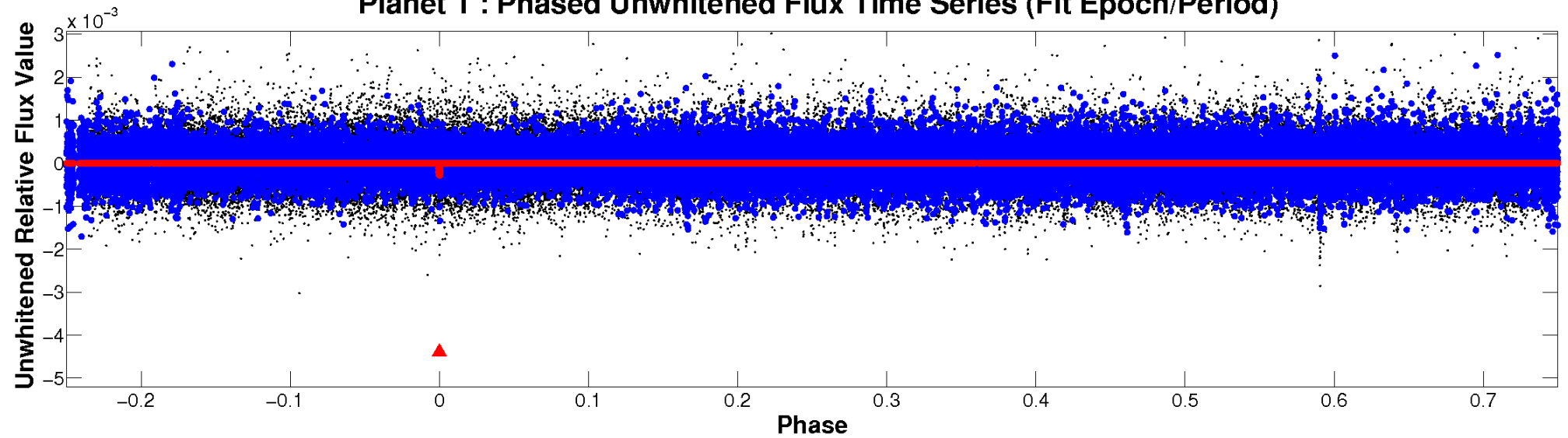
ALT Odd/Even

TCE 007831322-01

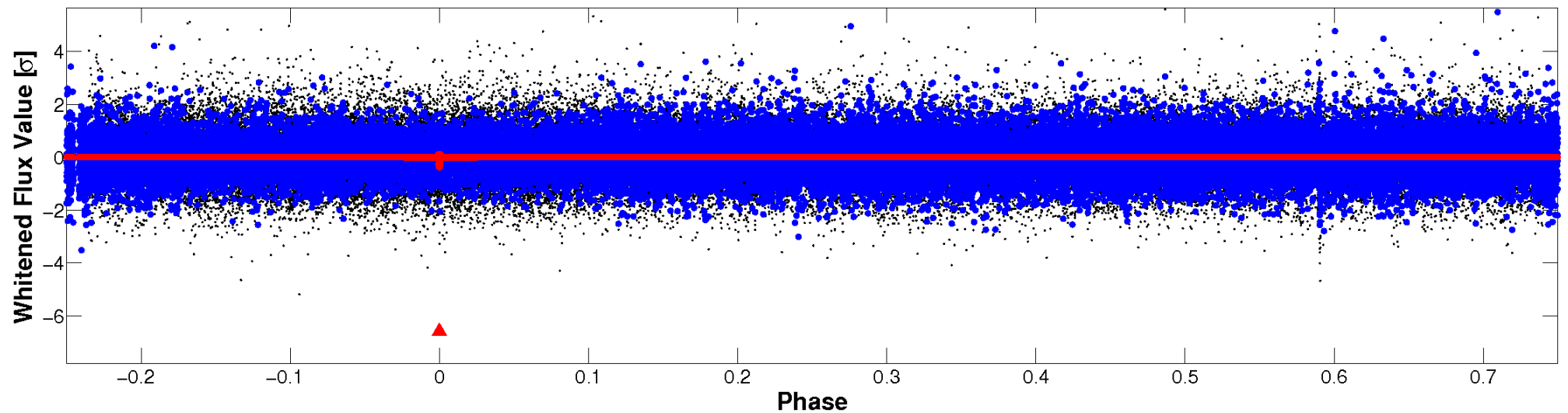


Non-Whitened Vs. Whitened Light Curve

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

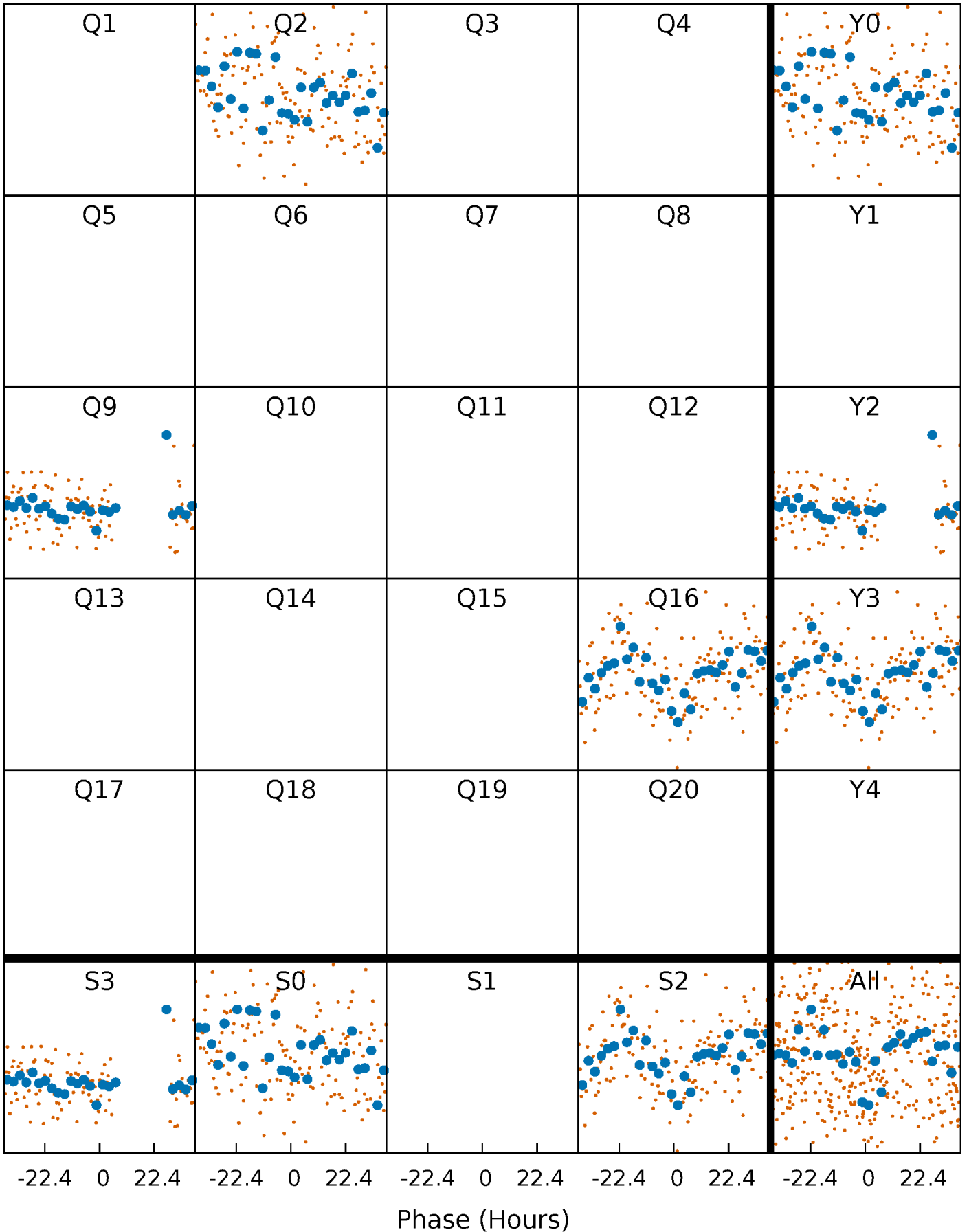


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



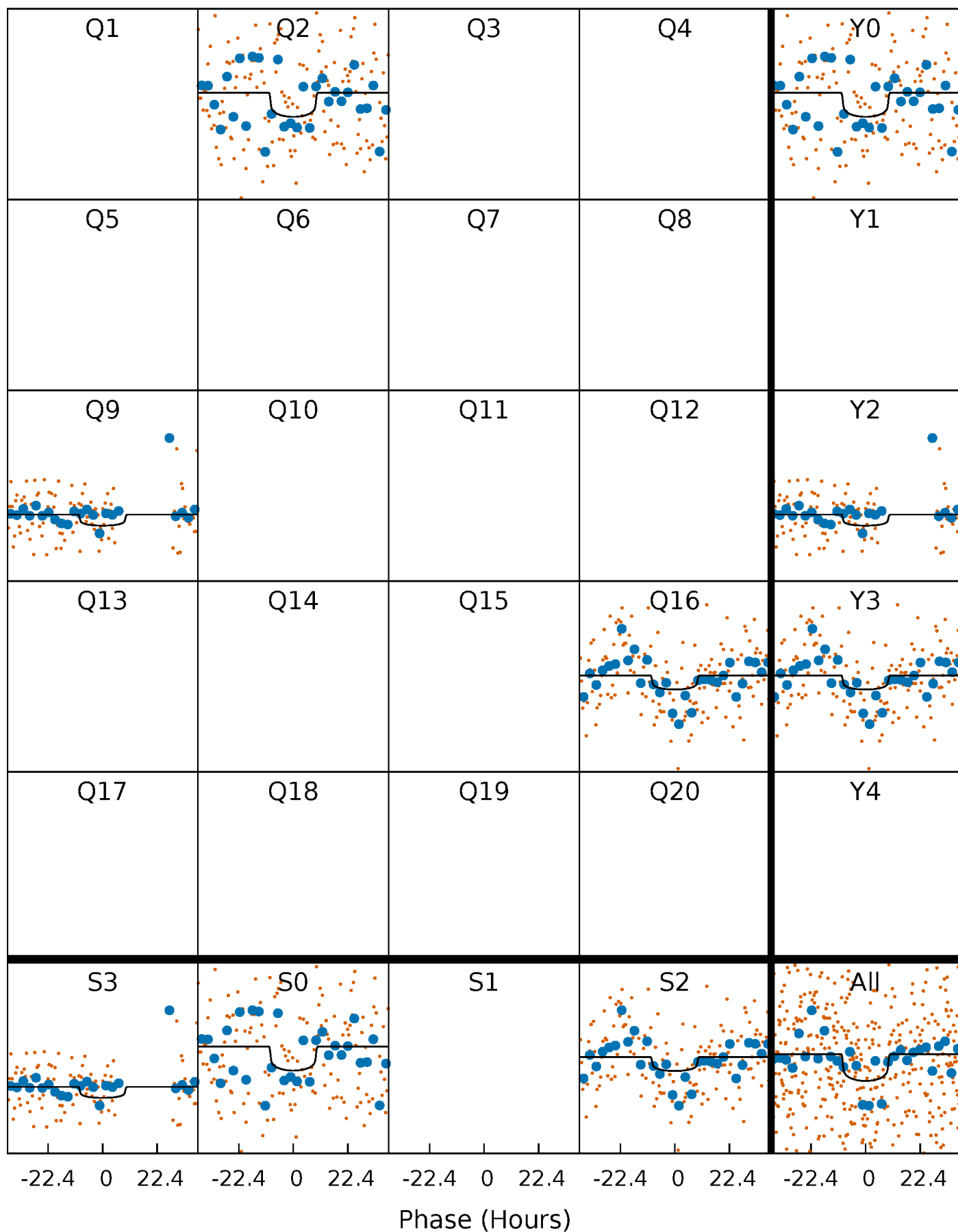
PDC Quarter-Phased Transit Curves

TCE 007831322-01 P=642.355244 Days $T_0=244.052489$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007831322-01 P=642.355244 Days $T_0=244.052489$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

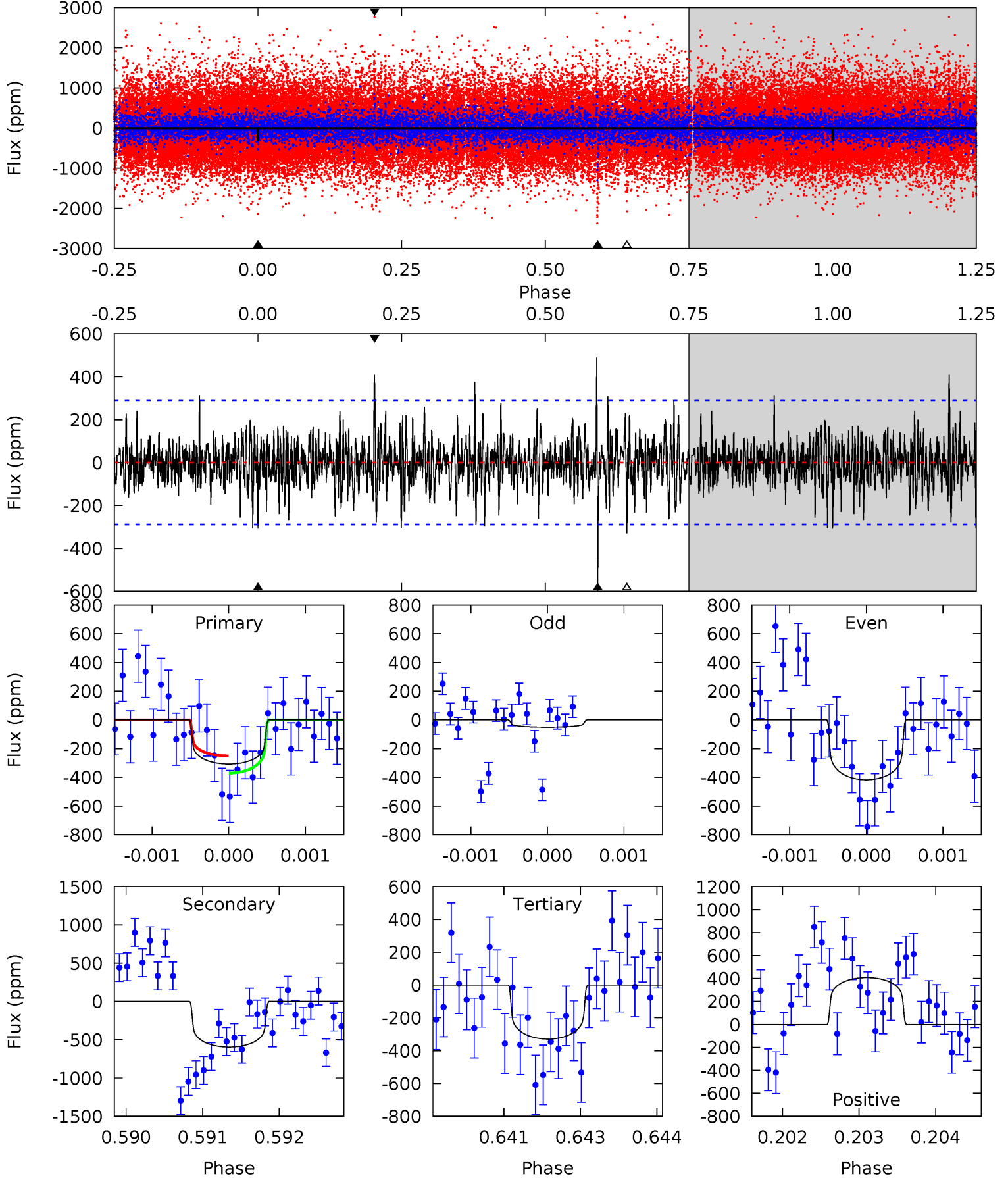
TCE 007831322-01 P=642.349392 Days $T_0=244.081851$ (BKJD)



DV Model-Shift Uniqueness Test

007831322-01, P = 642.355244 Days, E = 244.052489 Days

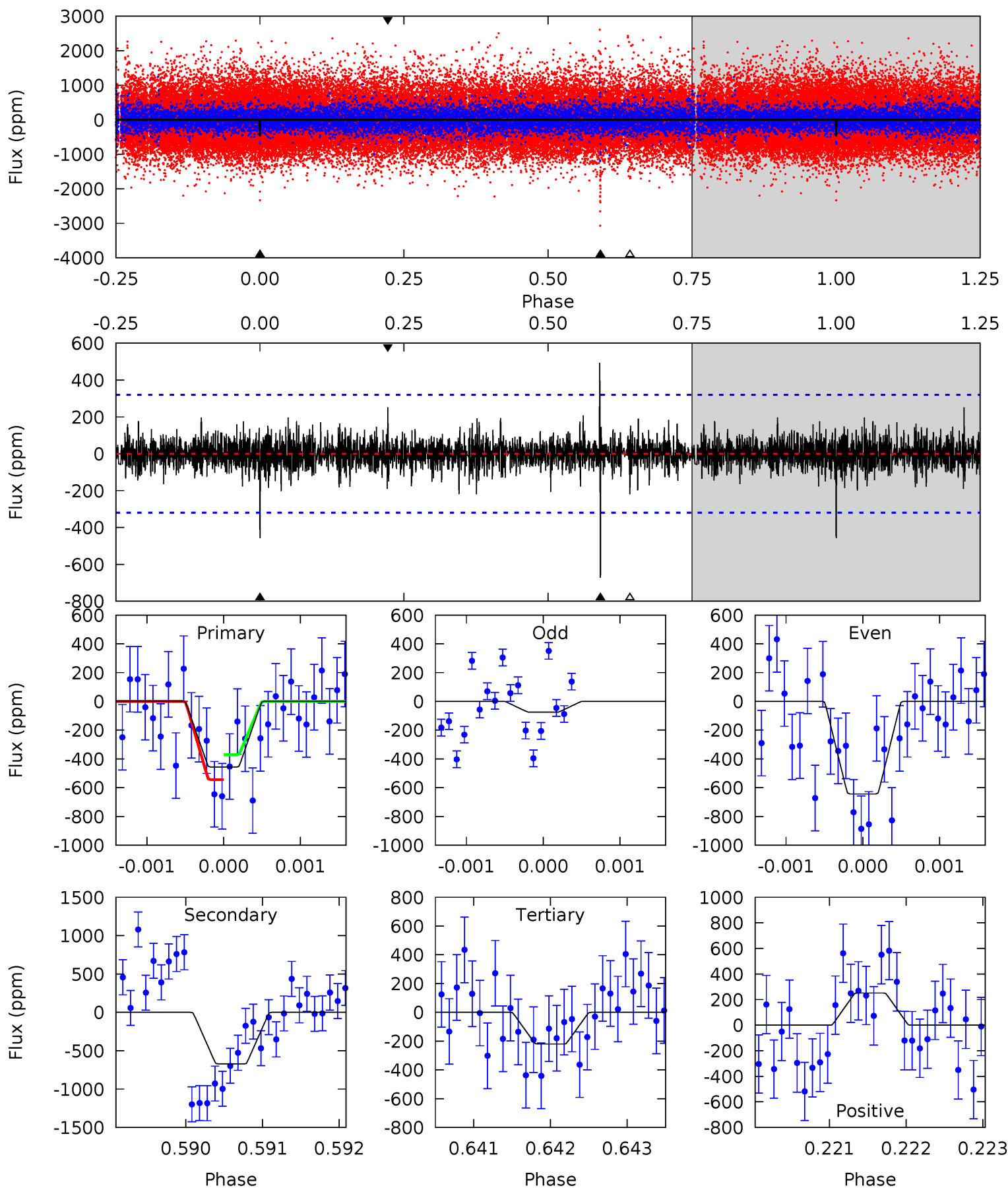
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.77	11.2	6.17	7.64	5.41	3.22	1.66	-0.40	-1.87	5.00	3.53	3.11	1.25	0.45	1.12



Alt Model-Shift Uniqueness Test

007831322-01, P = 642.349392 Days, E = 244.081851 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.81	11.5	3.77	4.30	5.46	3.30	1.00	4.04	3.51	7.73	7.19	4.50	1.45	0.42	1.48



Stellar Parameters For KIC 007831322

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6077^{+169}_{-232}	$4.471^{+0.050}_{-0.200}$	$-0.040^{+0.250}_{-0.300}$	$0.999^{+0.302}_{-0.121}$	$1.077^{+0.130}_{-0.145}$	$1.519^{+0.413}_{-0.787}$
	+3%/-4%	+1%/-4%	+625%/-750%	+30%/-12%	+12%/-13%	+27%/-52%
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 007831322-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-596 ± 53	$2.00^{+1.05}_{-1.02}$	312^{+21}_{-16}	7201^{+4688}_{-1399}	$178266^{+559096}_{-101030}$
Alt.	-672 ± 58	$2.56^{+1.16}_{-1.04}$	313^{+23}_{-15}	6502^{+2326}_{-1047}	$122215^{+226880}_{-63478}$

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 $A_{\text{obs}} \gg 1.0$

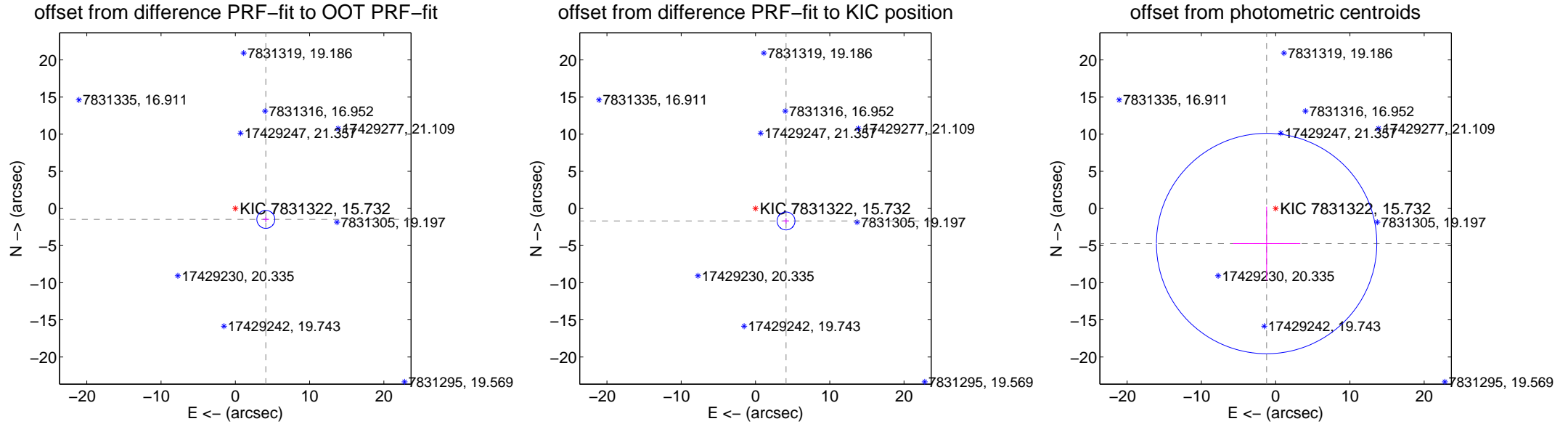
DV Centroid Data

Supplemental centroid analysis for 007831322-01. Kepler magnitude: 15.73. Transit SNR 3.61

There are 1 quarters with good PRF difference image offsets

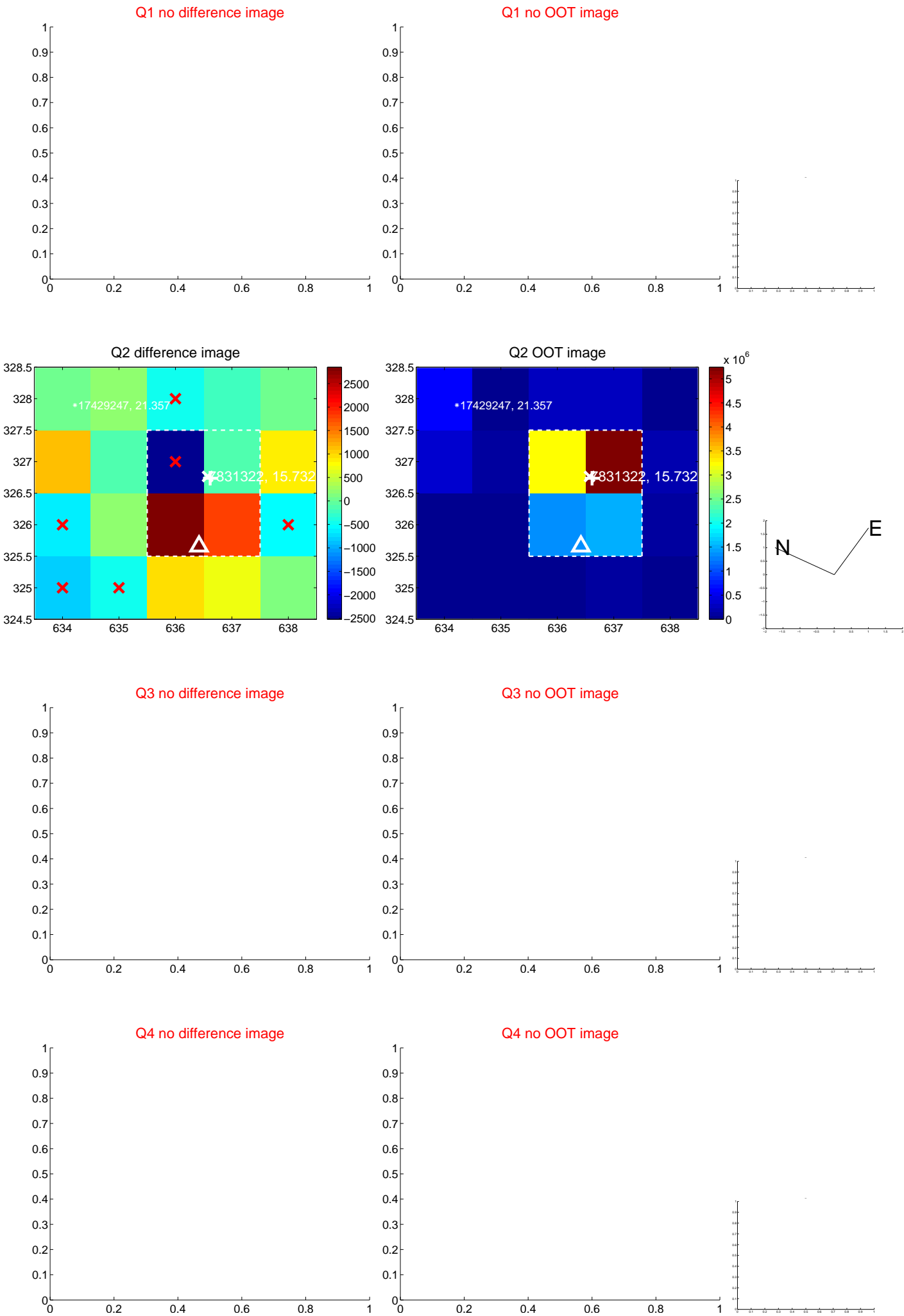
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.361 ± 0.403	10.82	-4.105 ± 0.408	-1.472 ± 0.360
PRF-fit source offset from KIC position	4.444 ± 0.402	11.06	-4.113 ± 0.408	-1.685 ± 0.360
photometric centroid source offset	4.88 ± 4.94	0.99	1.22 ± 4.53	-4.72 ± 4.97



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.



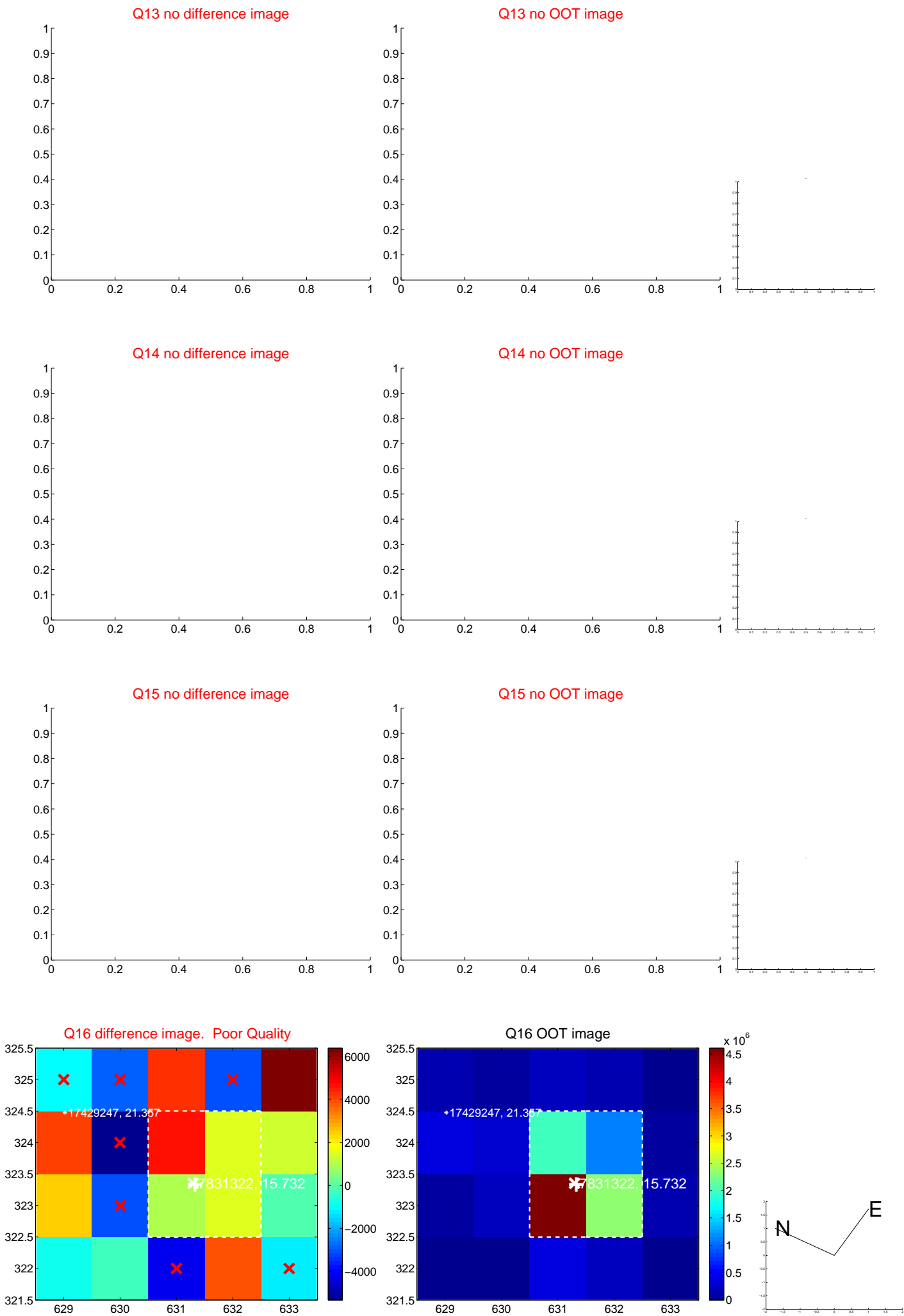
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



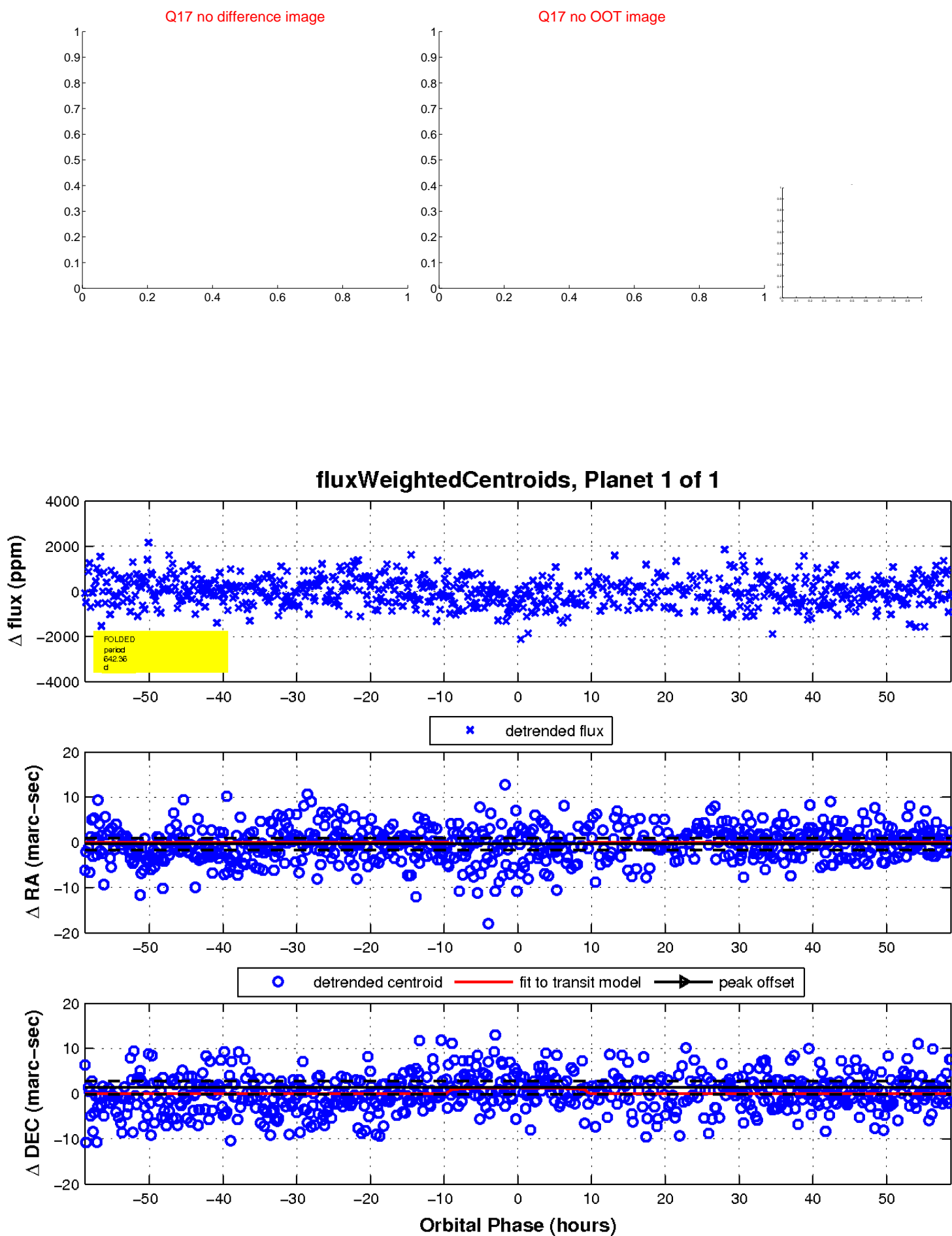
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

