

KIC 012401132

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})
012401132-01	OBS	4829.01	7.628226	136.615764	332.1	4.260	9.2	10.2	1.18	6407	2.52	331.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012401132-01	OBS	PC	0.99	0	0	0	0	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.

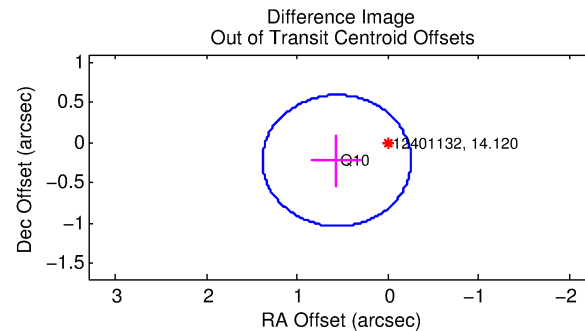
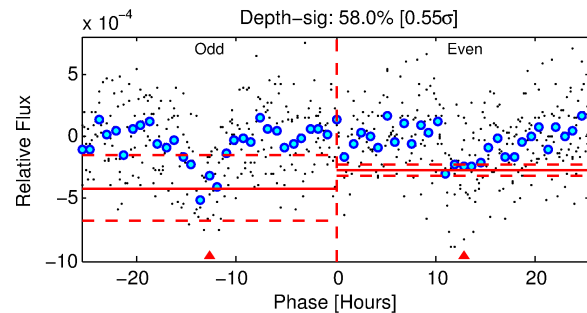
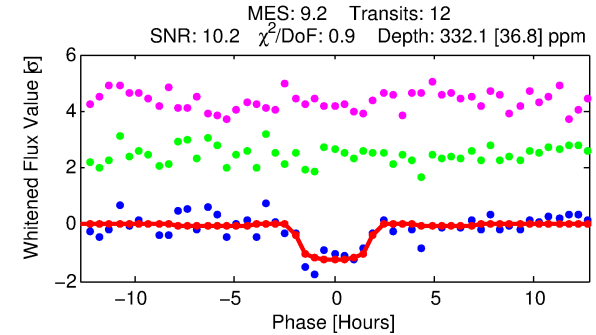
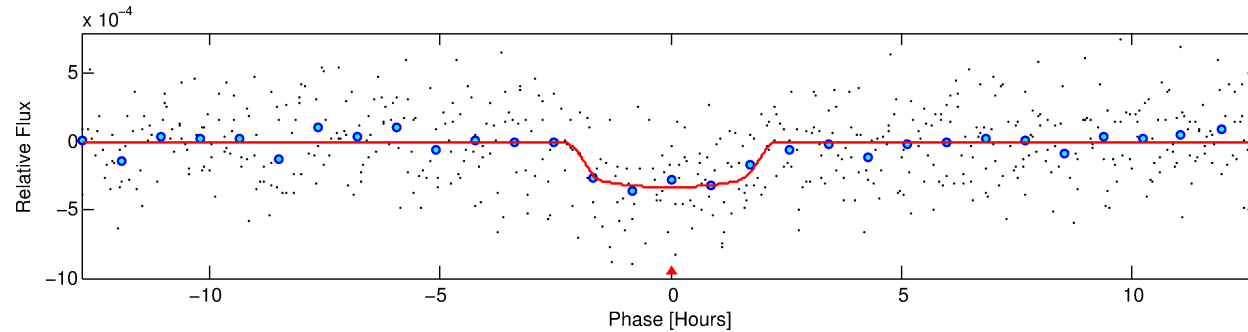
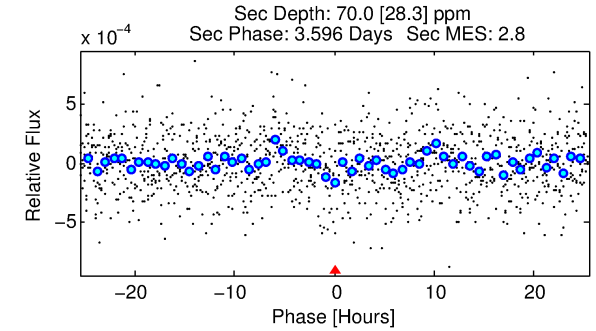
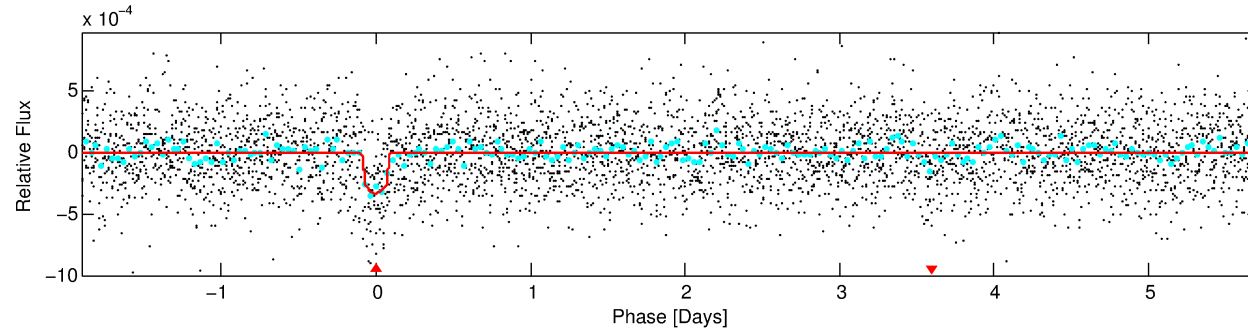
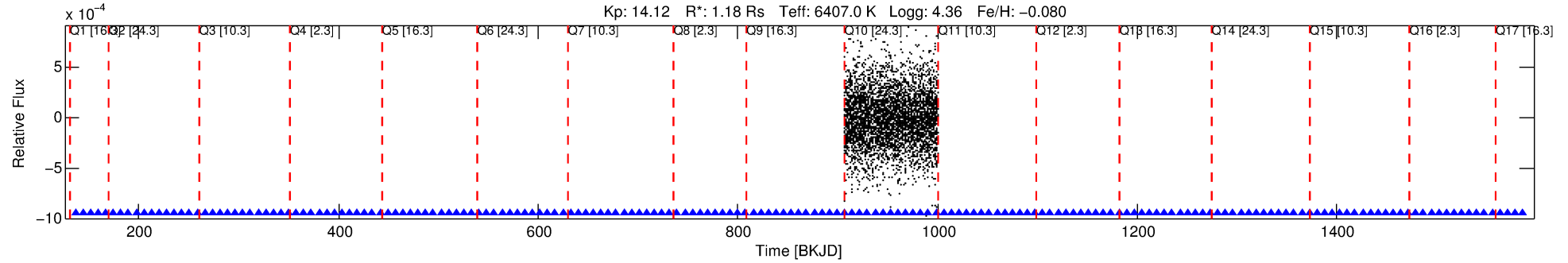
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012401132-01

No Significant Match Found

DV One-Page Summary

KIC: 12401132 Candidate: 1 of 1 Period: 7.628 d
KOI: K04829 Corr: No Ephemeris Match



DV Fit Results:

Period = 7.62823 [0.00033] d
Epoch = 136.6158 [0.0330] BKJD
Rp/R* = 0.0196 [0.0075]
a/R* = 6.59 [14.09]
b = 0.90 [0.46]
Seff = 331.10 [138.18]
Teq = 1088 [113] K
Rp = 2.52 [1.30] Re
a = 0.0796 [0.0222] AU
Ag = 38.52 [36.62] [1.02 σ]
Teffp = 4190 [923] K [3.33 σ]

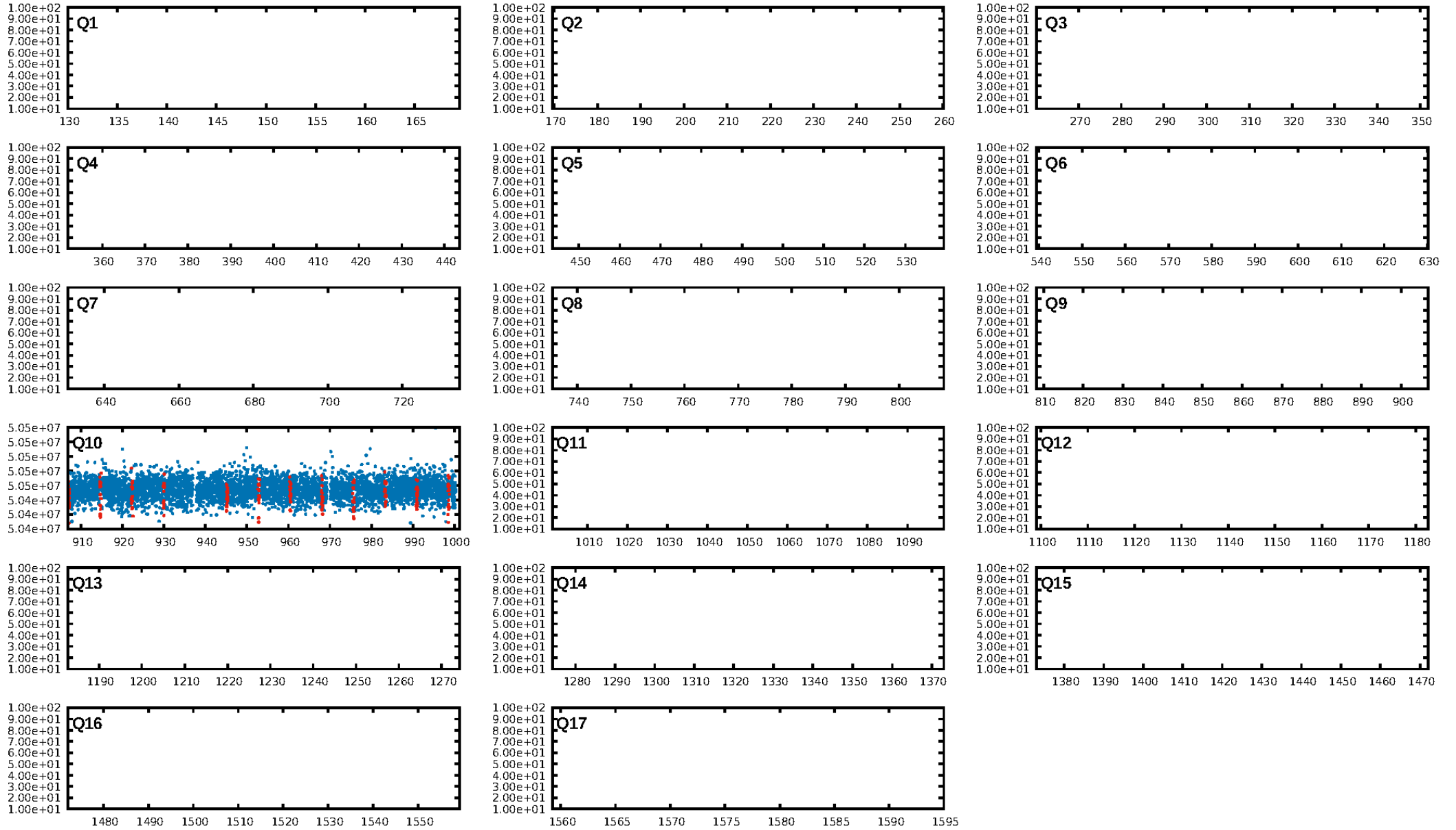
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 26.5%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 1.27e-18
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: 1.709
Centroid-sig: 28.8%
Centroid-so: 1.726 arcsec [1.16 σ]
OotOffset-rm: 0.609 arcsec [2.23 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-rm: 0.591 arcsec [2.08 σ]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

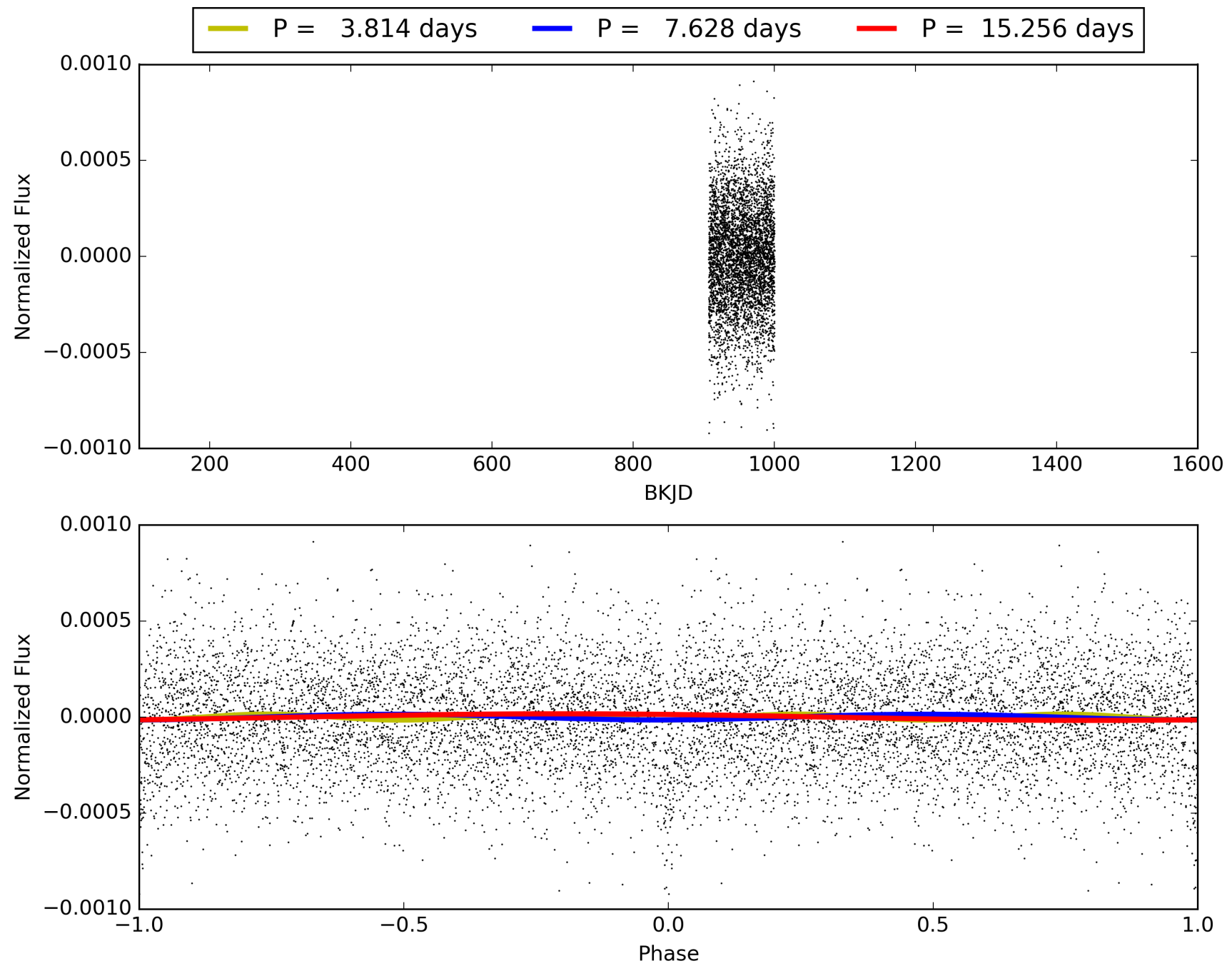
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:28:53 Z

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

TCE 012401132-01, PDC Light Curves

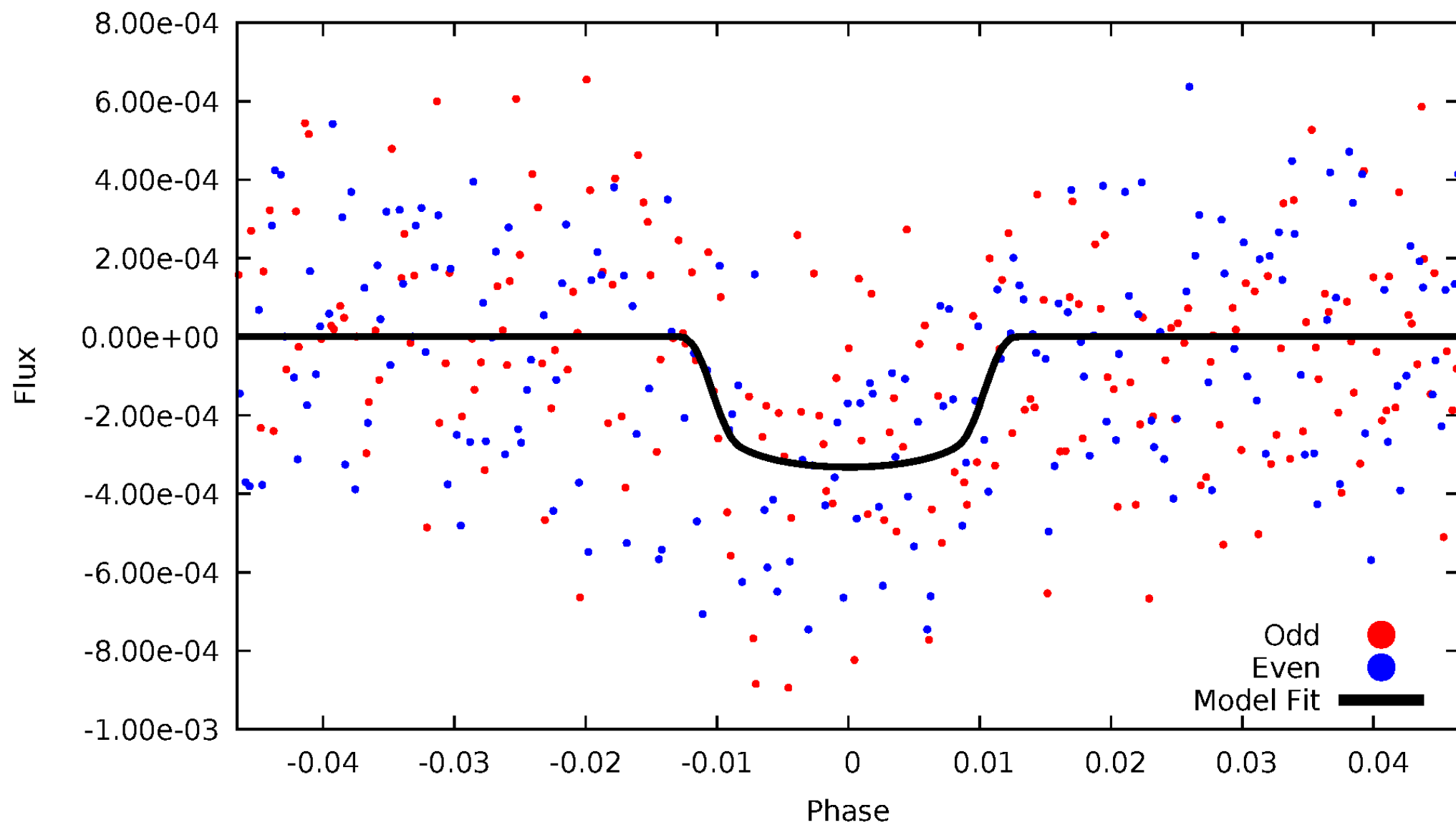


TCE 012401132-01



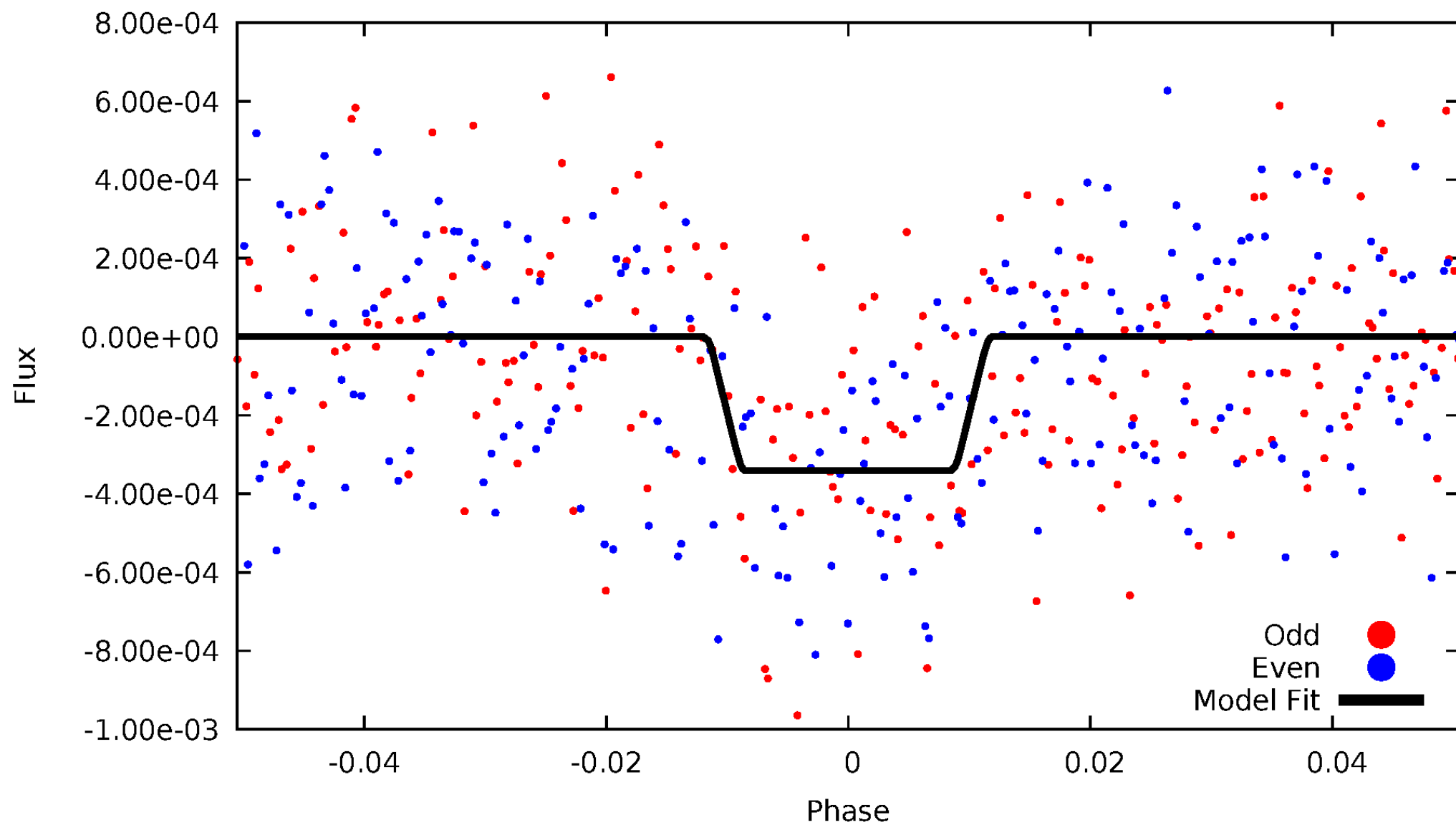
DV Odd/Even

TCE 012401132-01



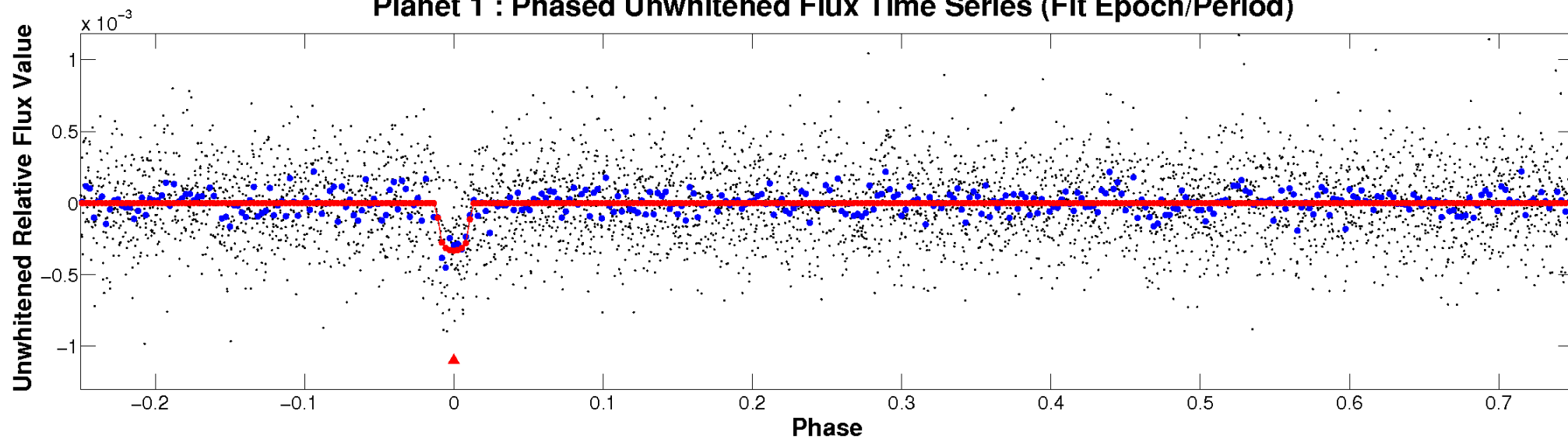
ALT Odd/Even

TCE 012401132-01

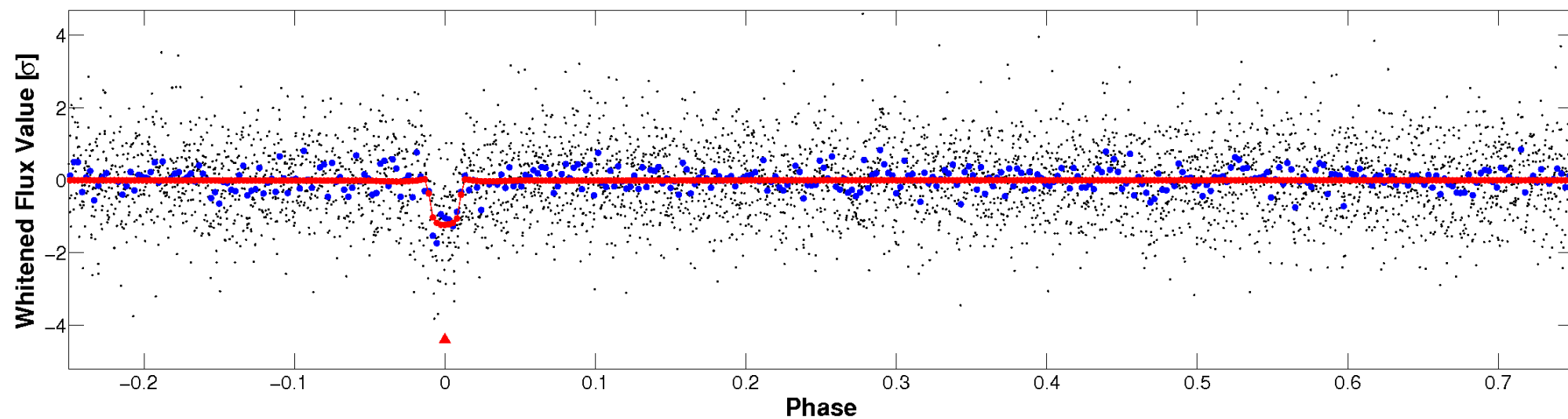


Non-Whitened Vs. Whitened Light Curve

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



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



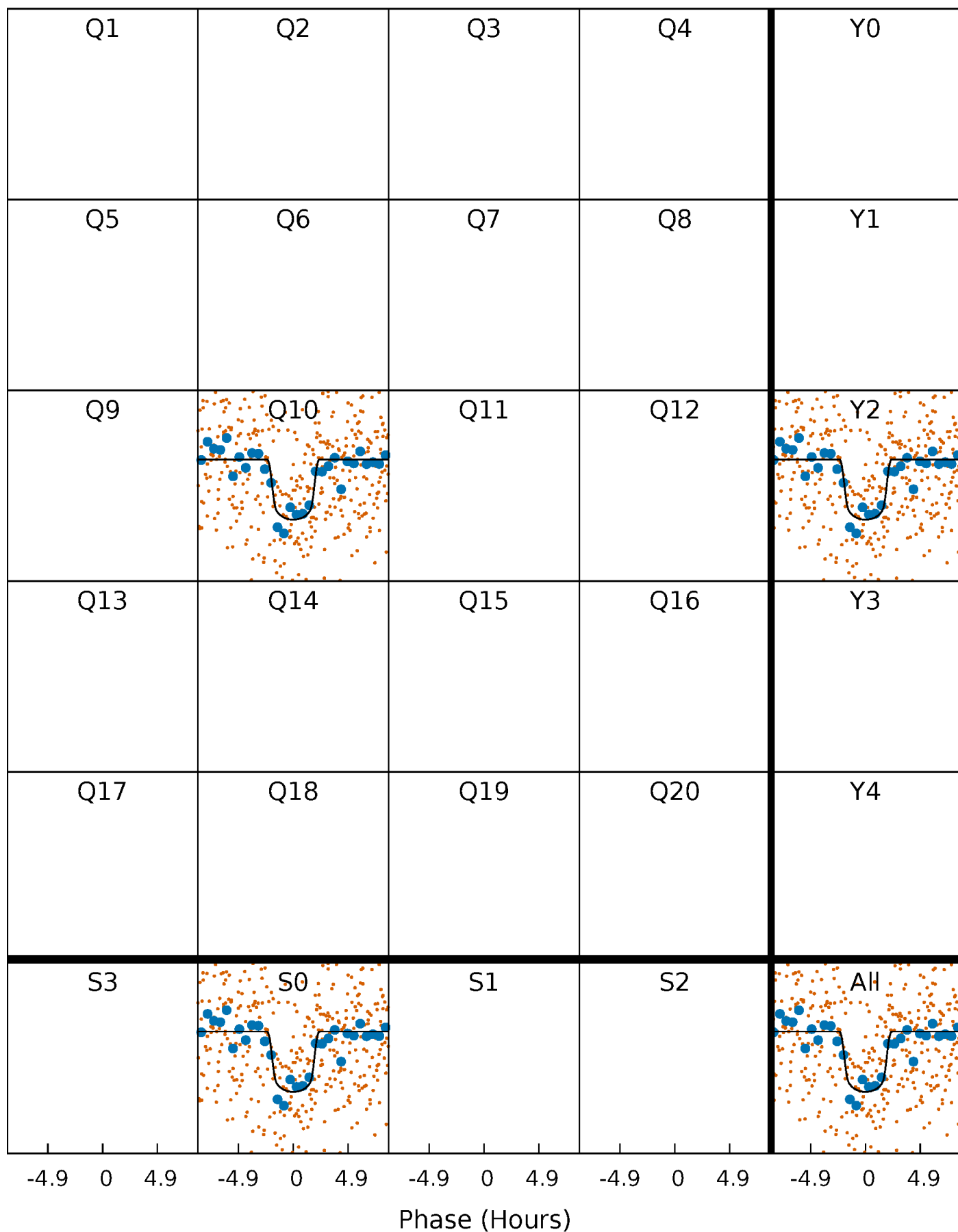
PDC Quarter-Phased Transit Curves

TCE 012401132-01 P= 7.628226 Days $T_0=136.615764$ (BKJD)



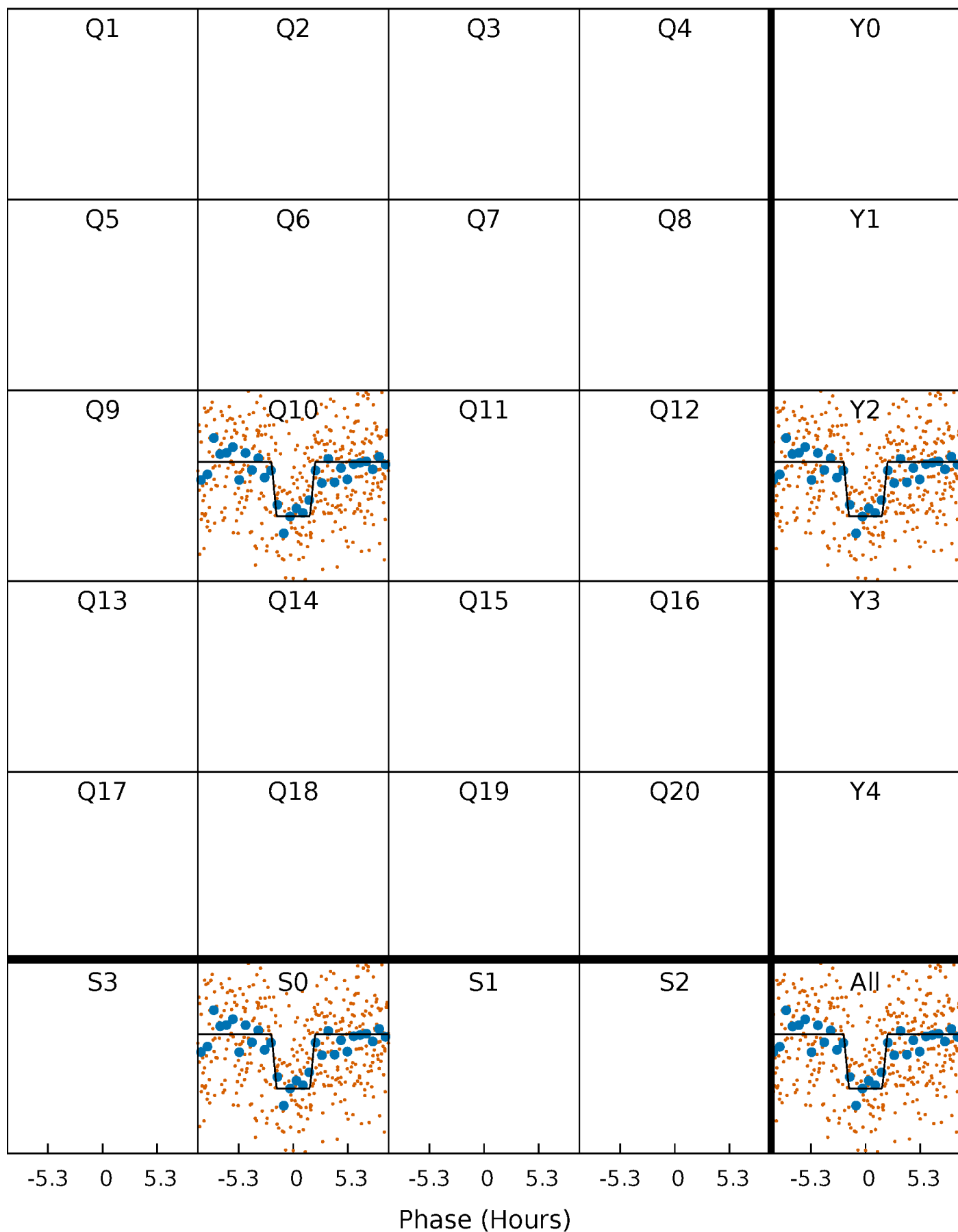
DV Quarter-Phased Transit Curves

TCE 012401132-01 P= 7.628226 Days $T_0=136.615764$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

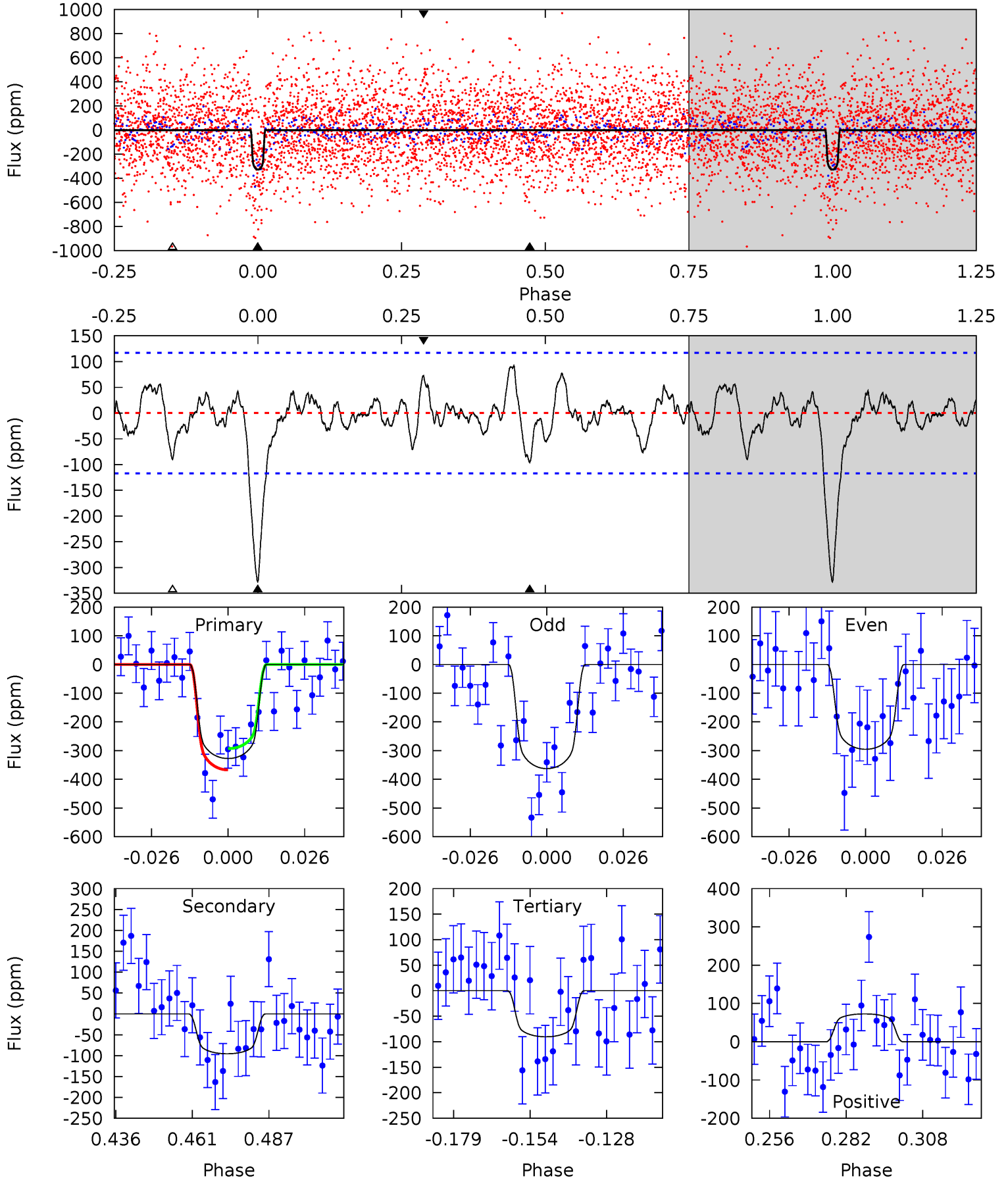
TCE 012401132-01 P= 7.628177 Days $T_0=136.618303$ (BKJD)



DV Model-Shift Uniqueness Test

012401132-01, P = 7.628226 Days, E = 136.615764 Days

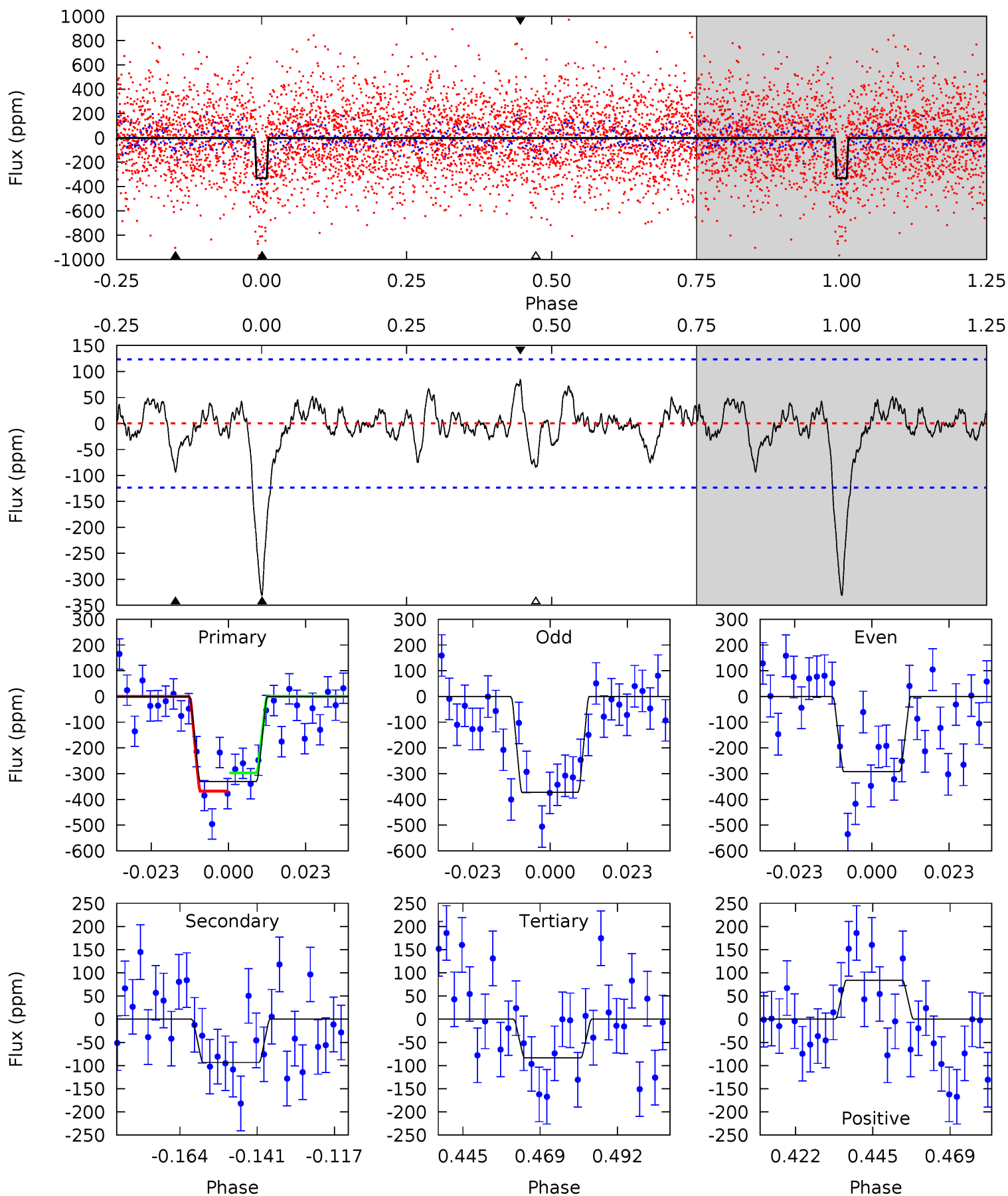
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	3.95	3.74	3.01	4.84	2.23	1.26	9.81	10.5	0.21	0.94	1.40	1.06	0.22	1.54



Alt Model-Shift Uniqueness Test

012401132-01, P = 7.628177 Days, E = 136.618303 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	3.68	3.29	3.30	4.86	2.27	1.12	9.73	9.72	0.39	0.38	1.59	0.97	0.20	1.39



Stellar Parameters For KIC 012401132

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6407^{+179}_{-246}	$4.358^{+0.087}_{-0.203}$	$-0.080^{+0.250}_{-0.300}$	$1.179^{+0.409}_{-0.163}$	$1.155^{+0.185}_{-0.152}$	$0.993^{+0.384}_{-0.526}$
	+3%/-4%	+2%/-5%	+312%/-375%	+35%/-14%	+16%/-13%	+39%/-53%
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 012401132-01 / KOI 4829.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-96 ± 24	$2.61^{+1.09}_{-0.99}$	1538^{+117}_{-86}	4660^{+1025}_{-603}	48^{+76}_{-25}
Alt.	-93 ± 25	$2.50^{+1.10}_{-0.98}$	1543^{+121}_{-93}	4721^{+1226}_{-662}	50^{+92}_{-28}

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

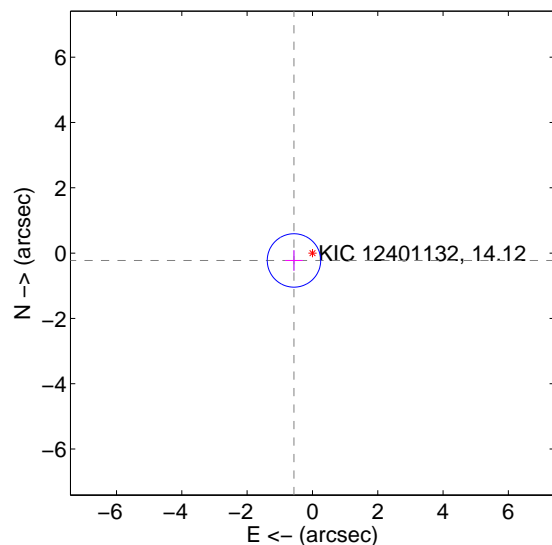
Supplemental centroid analysis for 012401132-01. Kepler magnitude: 14.12. Transit SNR 10.18

There are 1 quarters with good PRF difference image offsets

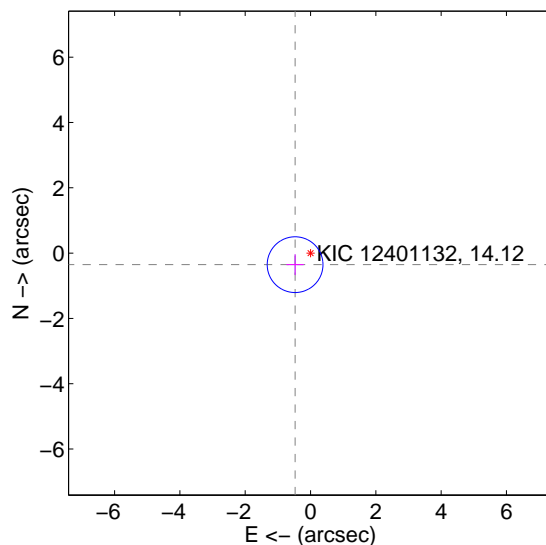
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.609 ± 0.273	2.23	0.566 ± 0.265	-0.225 ± 0.316
PRF-fit source offset from KIC position	0.591 ± 0.285	2.08	0.473 ± 0.265	-0.354 ± 0.316
photometric centroid source offset	1.73 ± 1.48	1.16	0.47 ± 2.22	1.66 ± 1.41

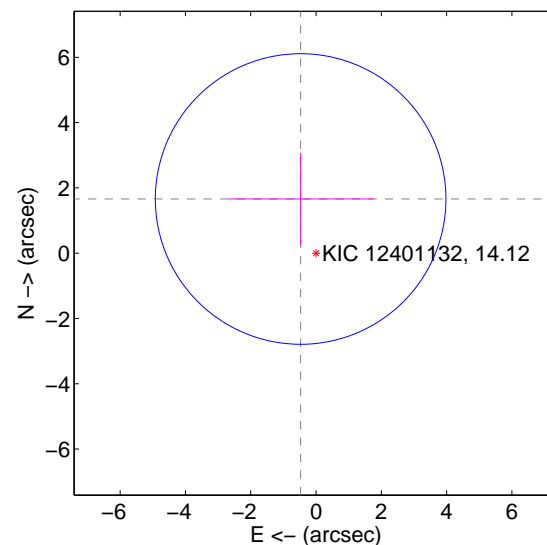
offset from difference PRF-fit to OOT PRF-fit



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.

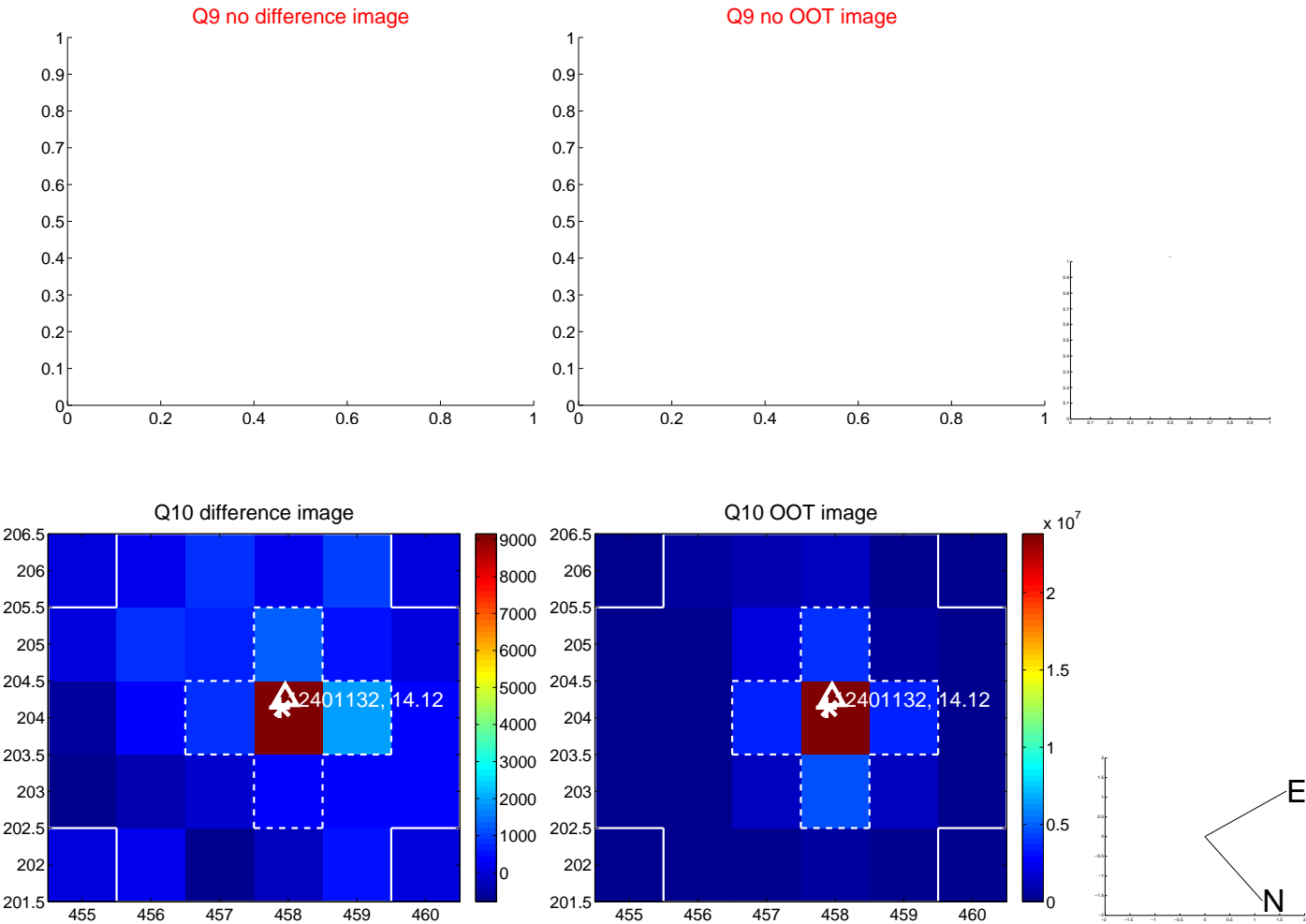
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



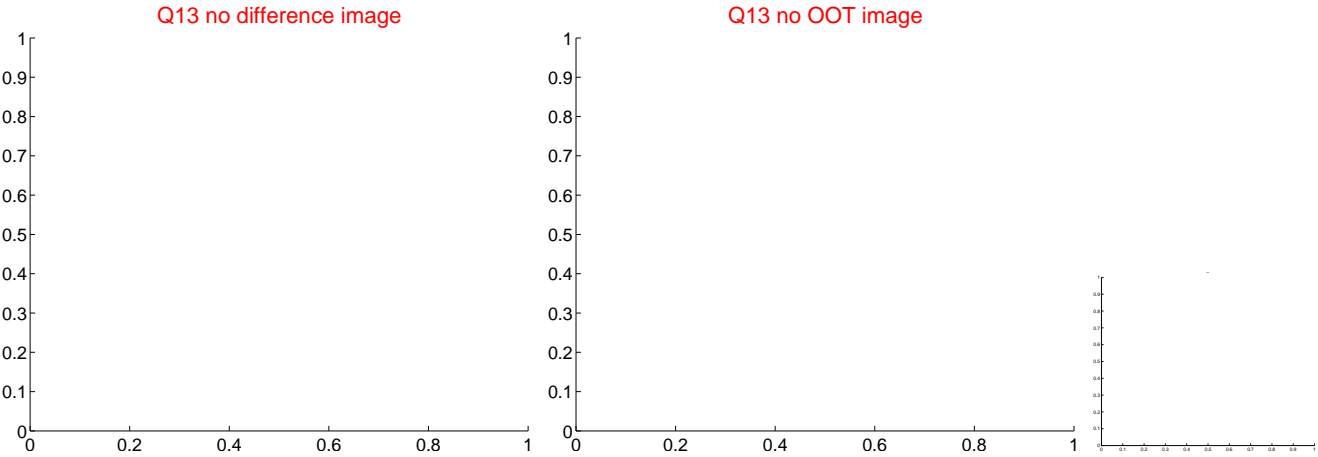
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



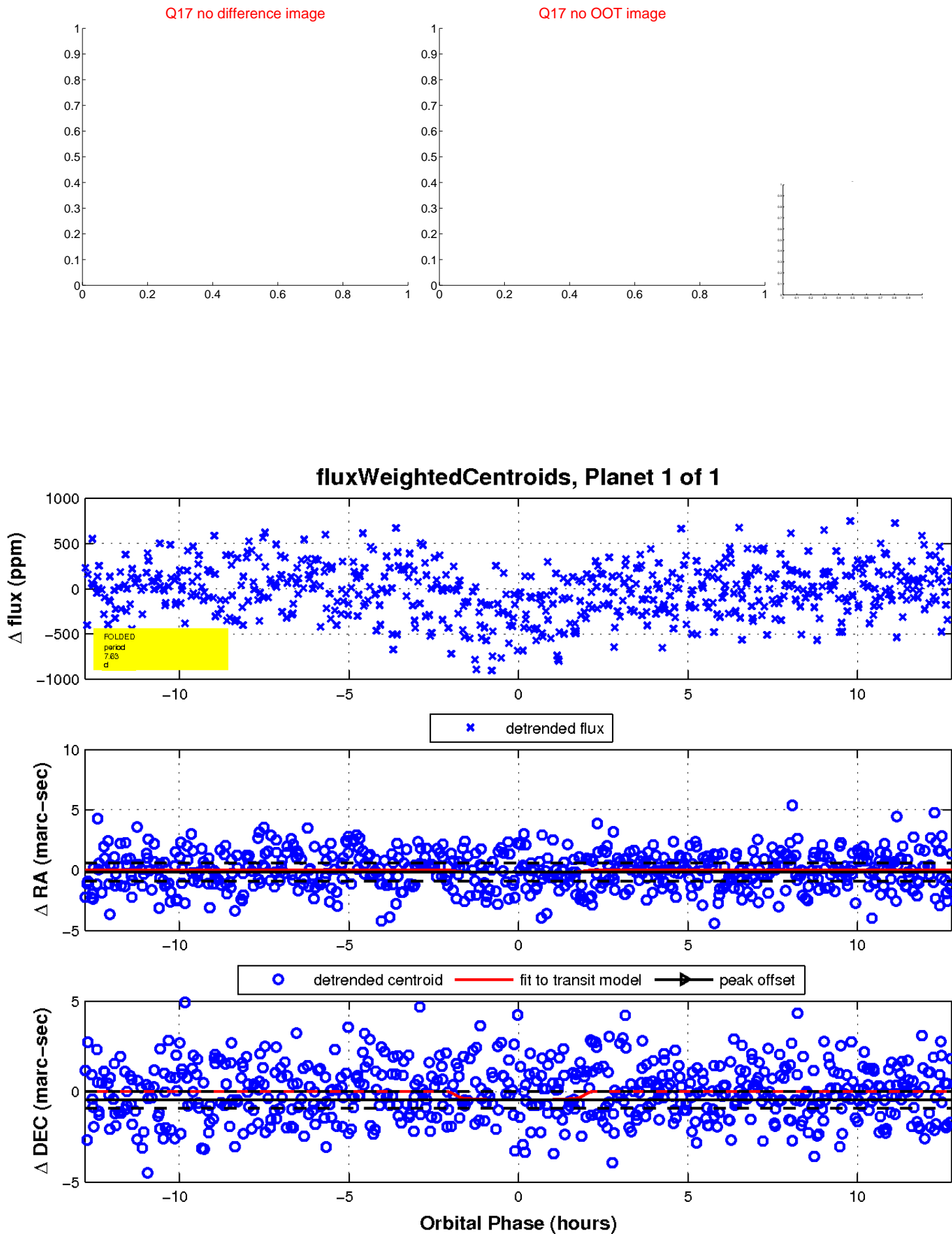
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

