

KIC 010297952

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})
010297952-01	OBS	No	423.207297	510.884424	1344.7	11.339	13.5	6.7	87.26	3787	390.24	845.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010297952-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT SATURATED

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

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

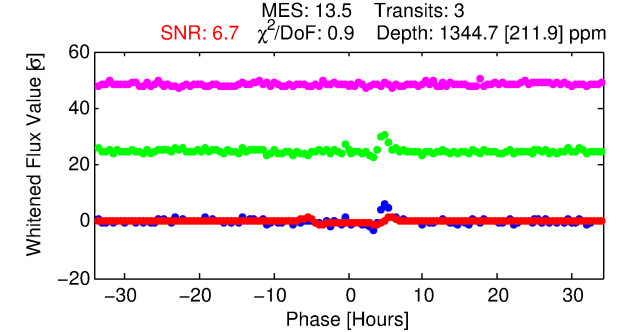
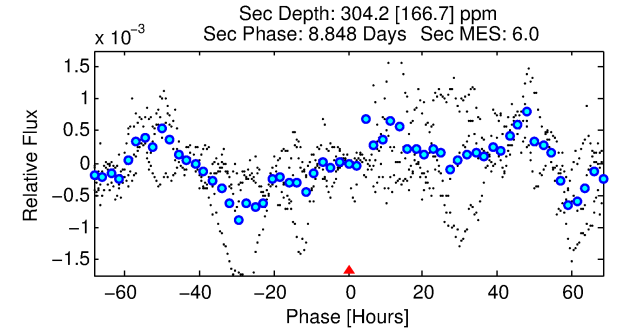
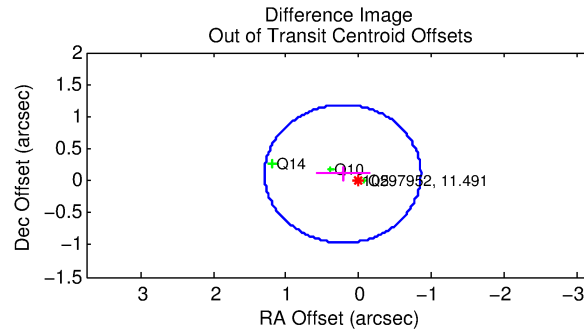
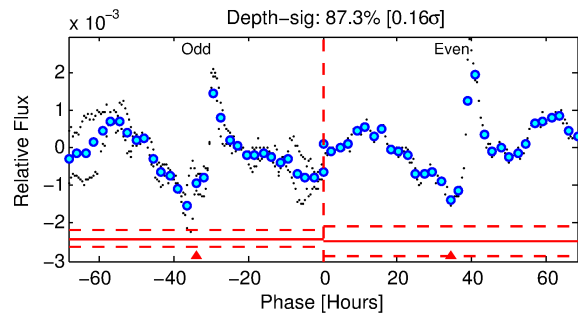
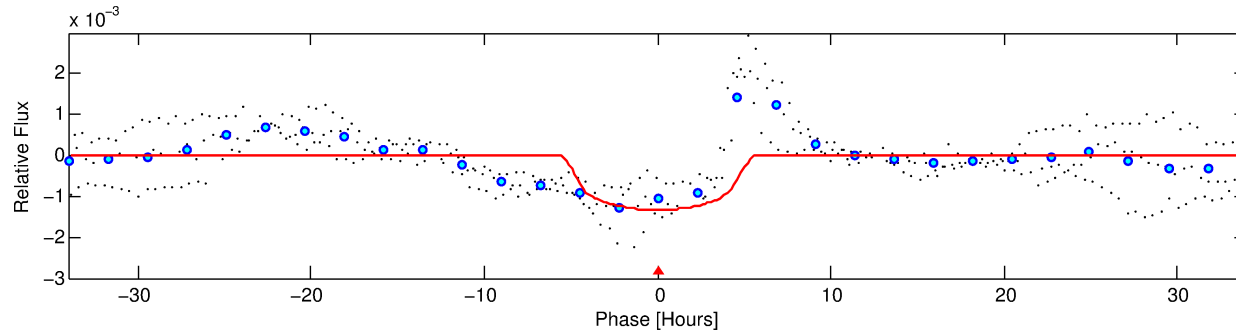
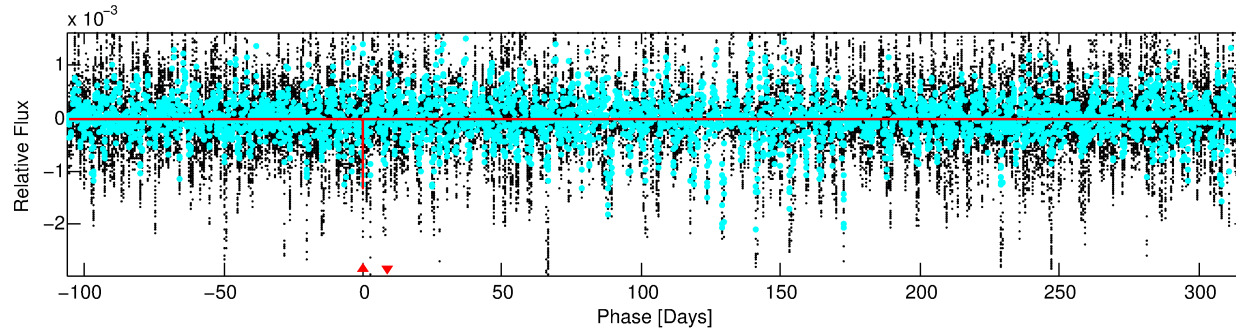
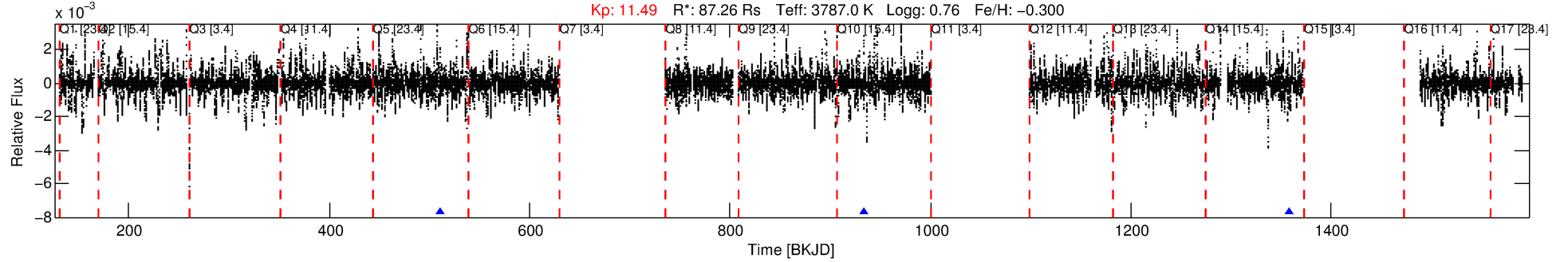
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010297952-01

No Significant Match Found

DV One-Page Summary

KIC: 10297952 Candidate: 1 of 1 Period: 423.207 d



DV Fit Results:

Period = 423.20730 [0.00558] d
Epoch = 510.8844 [0.0066] BKJD
 R_p/R^* = 0.0410 [0.0036]
 a/R^* = 163.42 [14.96]
 b = 0.87 [0.03]
 Seff = 845.68 [147.87]
 T_{eq} = 1375 [60] K
 R_p = 390.24 [82.30] R_e
 a = 1.2881 [0.1675] AU
 Ag = 1.82 [1.08] [0.76 σ]
 T_{eff} = 2470 [362] K [2.99 σ]

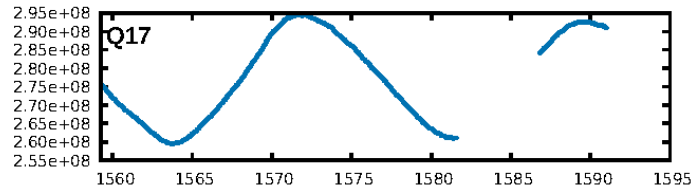
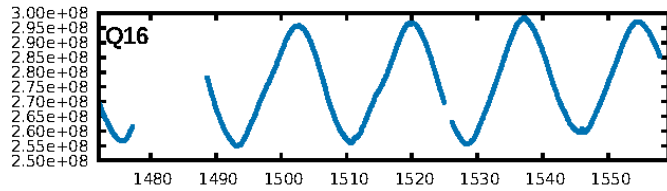
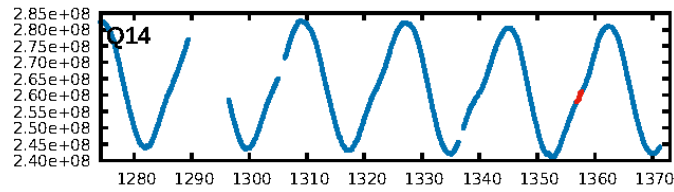
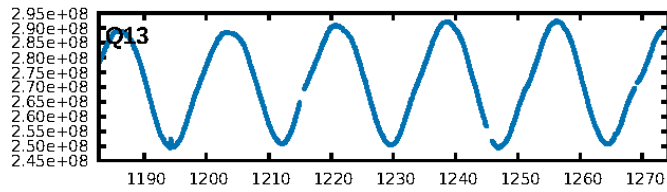
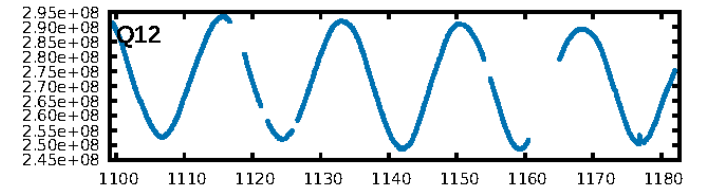
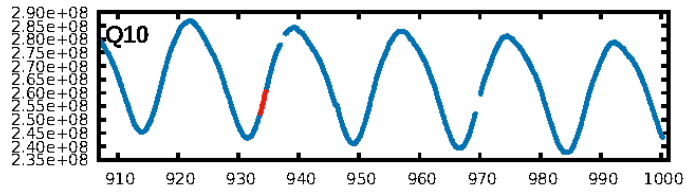
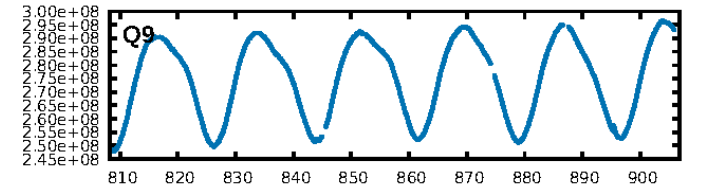
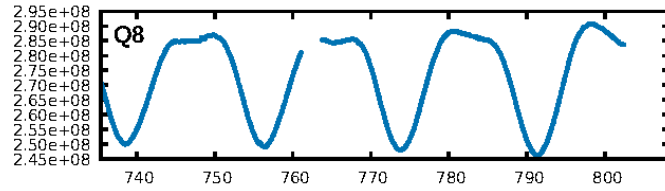
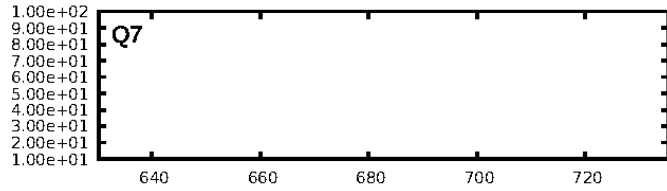
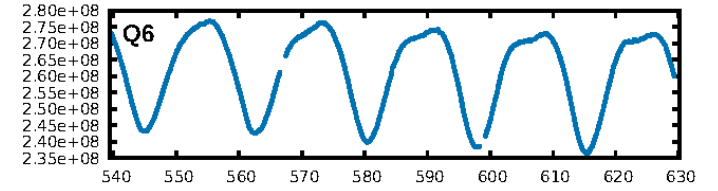
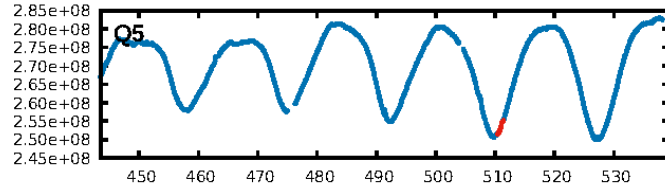
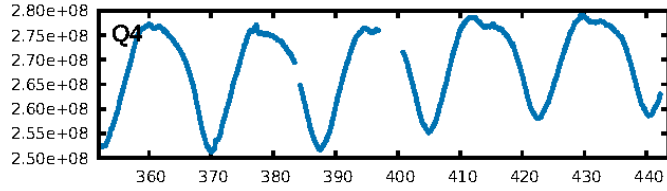
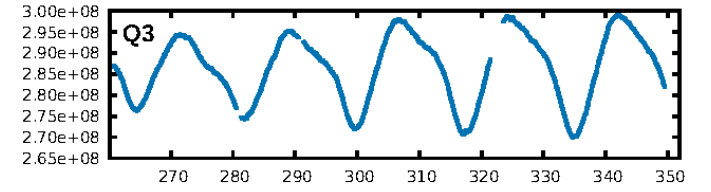
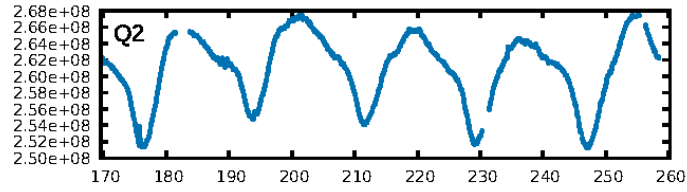
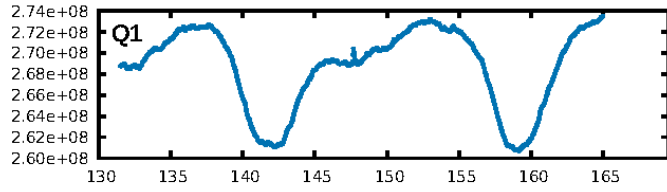
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.1%
ModelChiSquareGof-sig: 98.0%
Bootstrap-pfa: 2.63e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -4.259
Centroid-sig: 3.3%
Centroid-so: 0.611 arcsec [1.18 σ]
OotOffset-rm: 0.242 arcsec [0.68 σ]
KicOffset-rm: 0.254 arcsec [0.86 σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

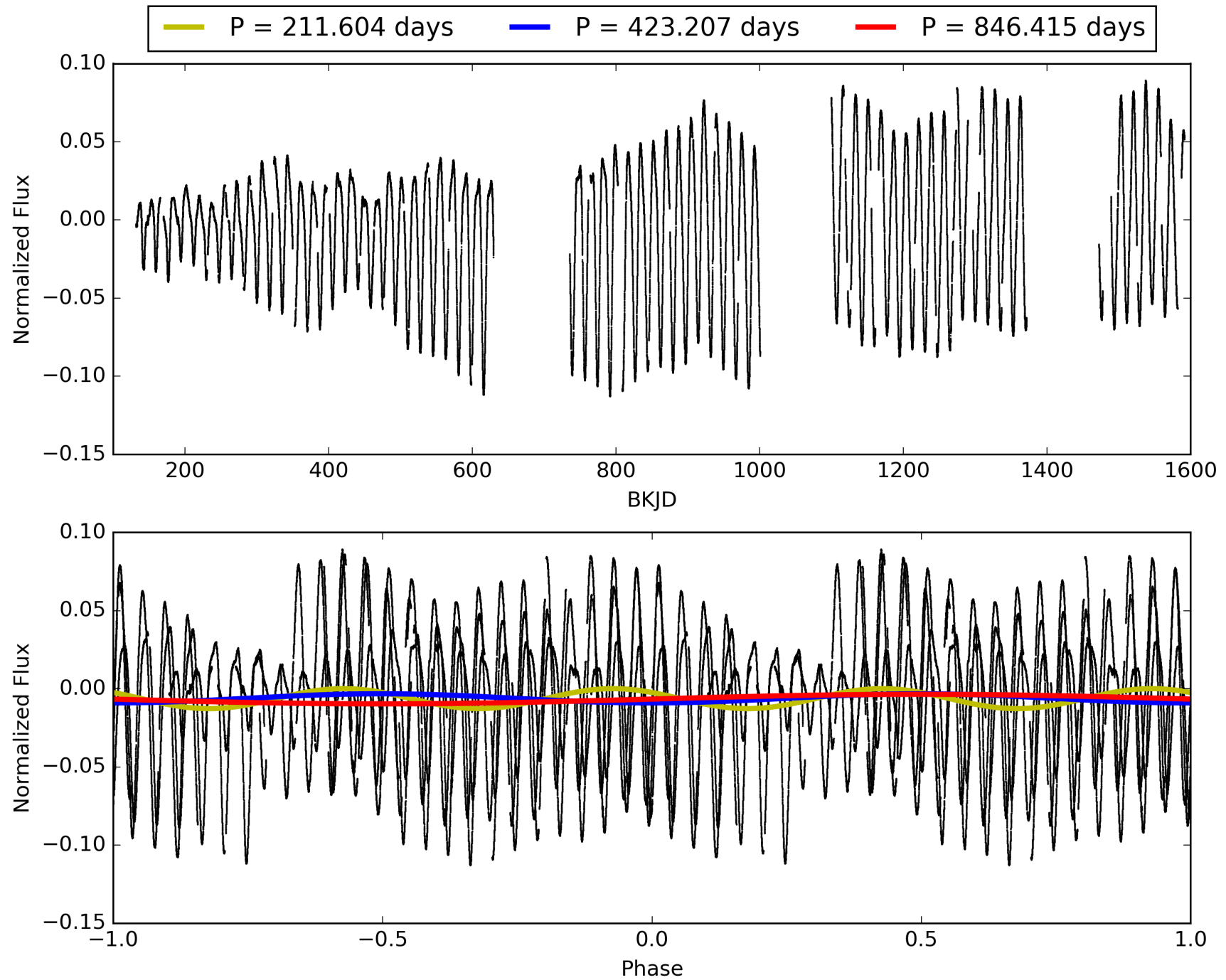
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:55:23 Z

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

TCE 010297952-01, PDC Light Curves

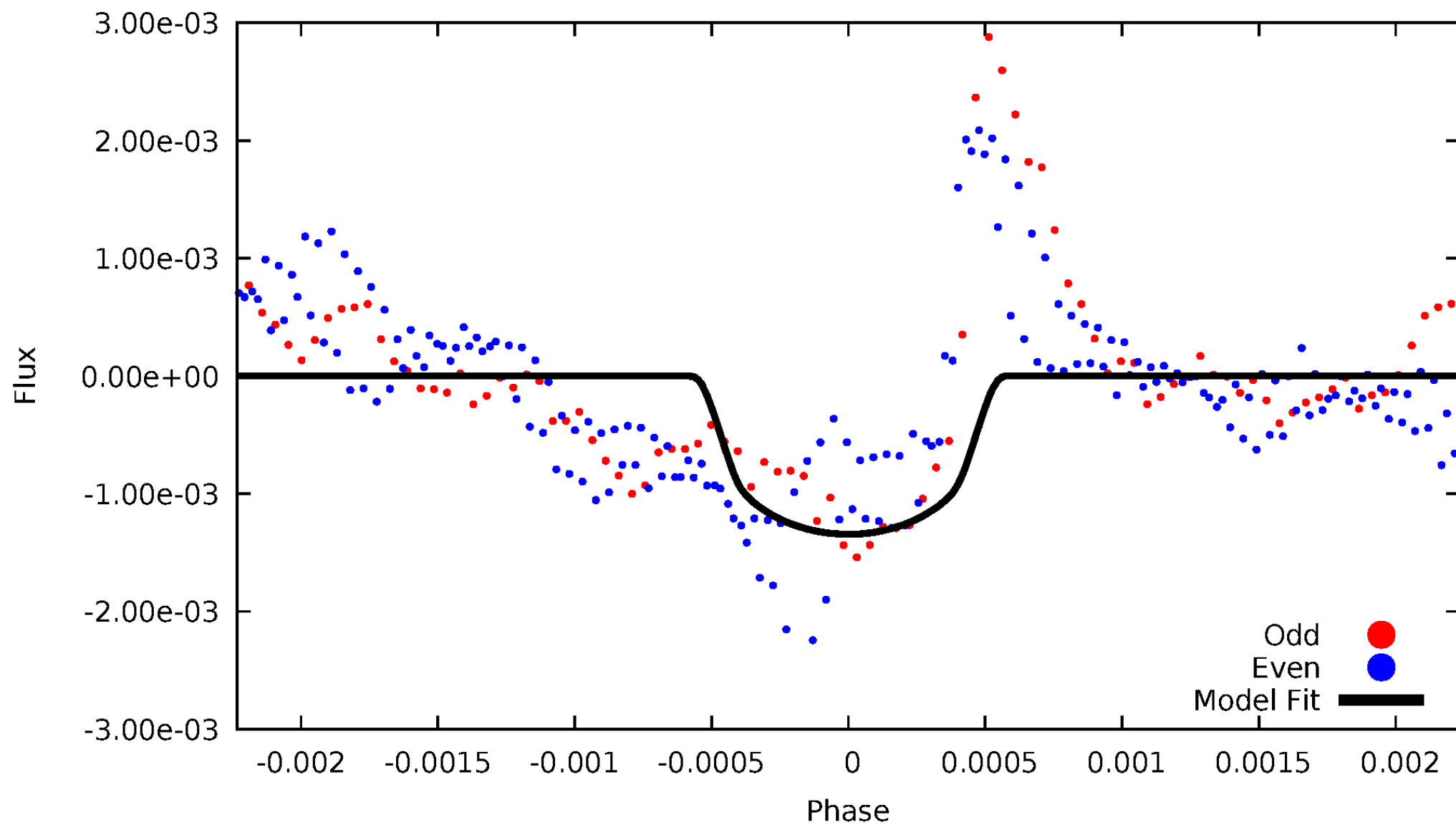


TCE 010297952-01



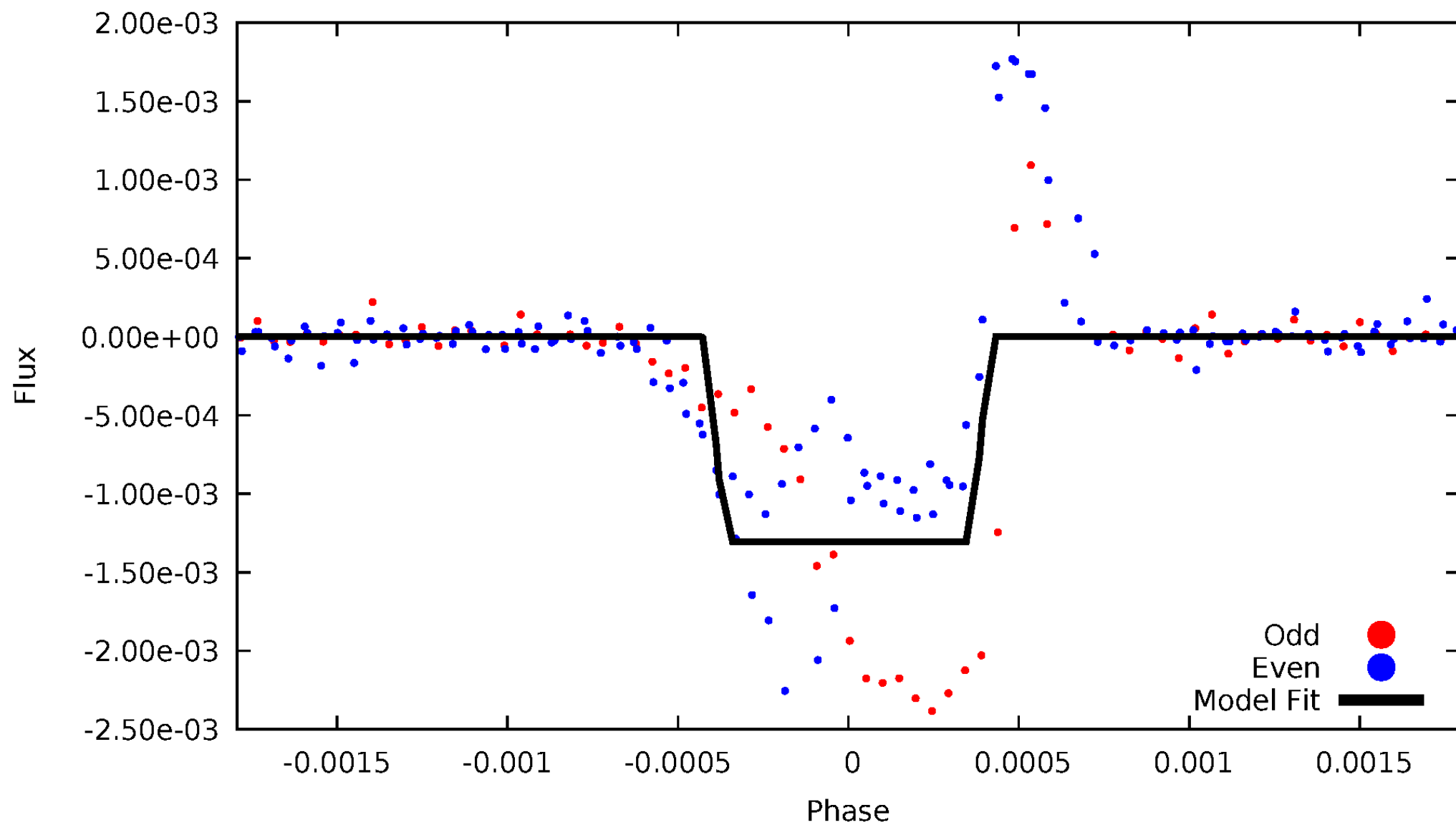
DV Odd/Even

TCE 010297952-01



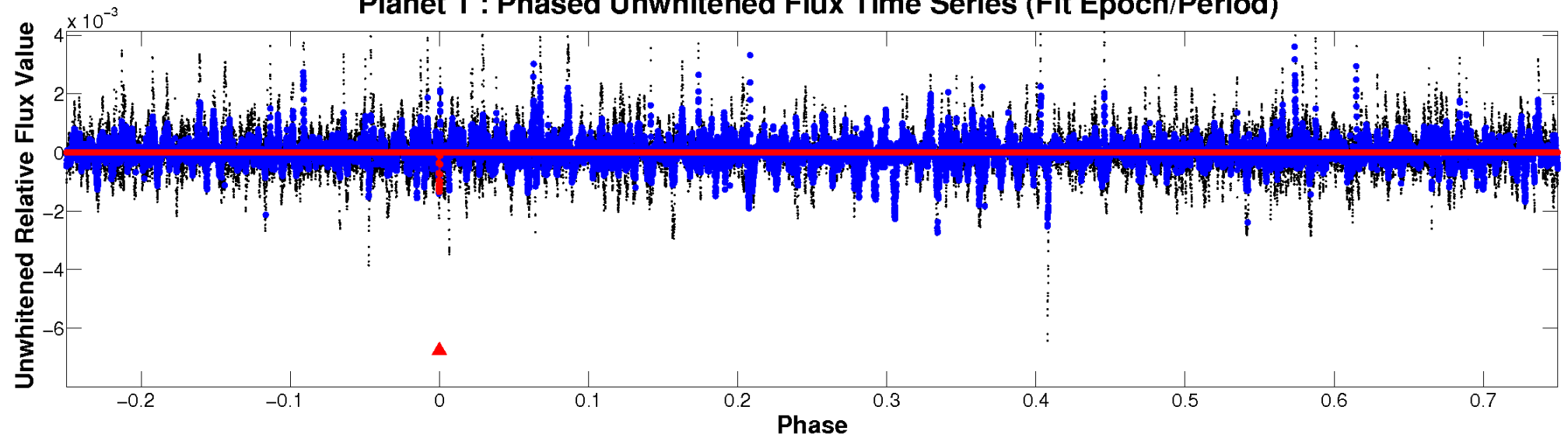
ALT Odd/Even

TCE 010297952-01

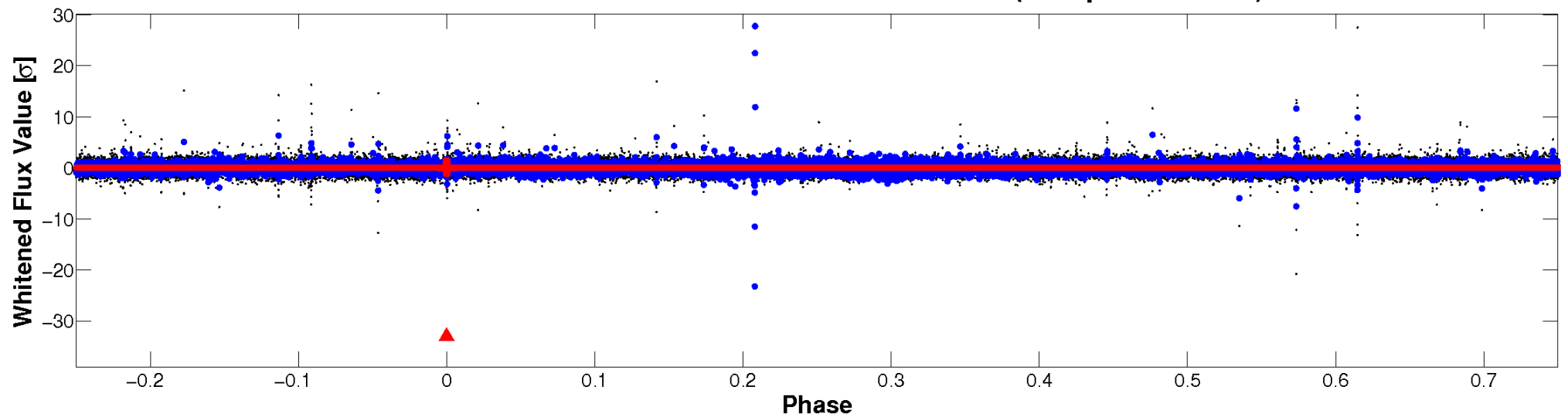


Non-Whitened Vs. Whitened Light Curve

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

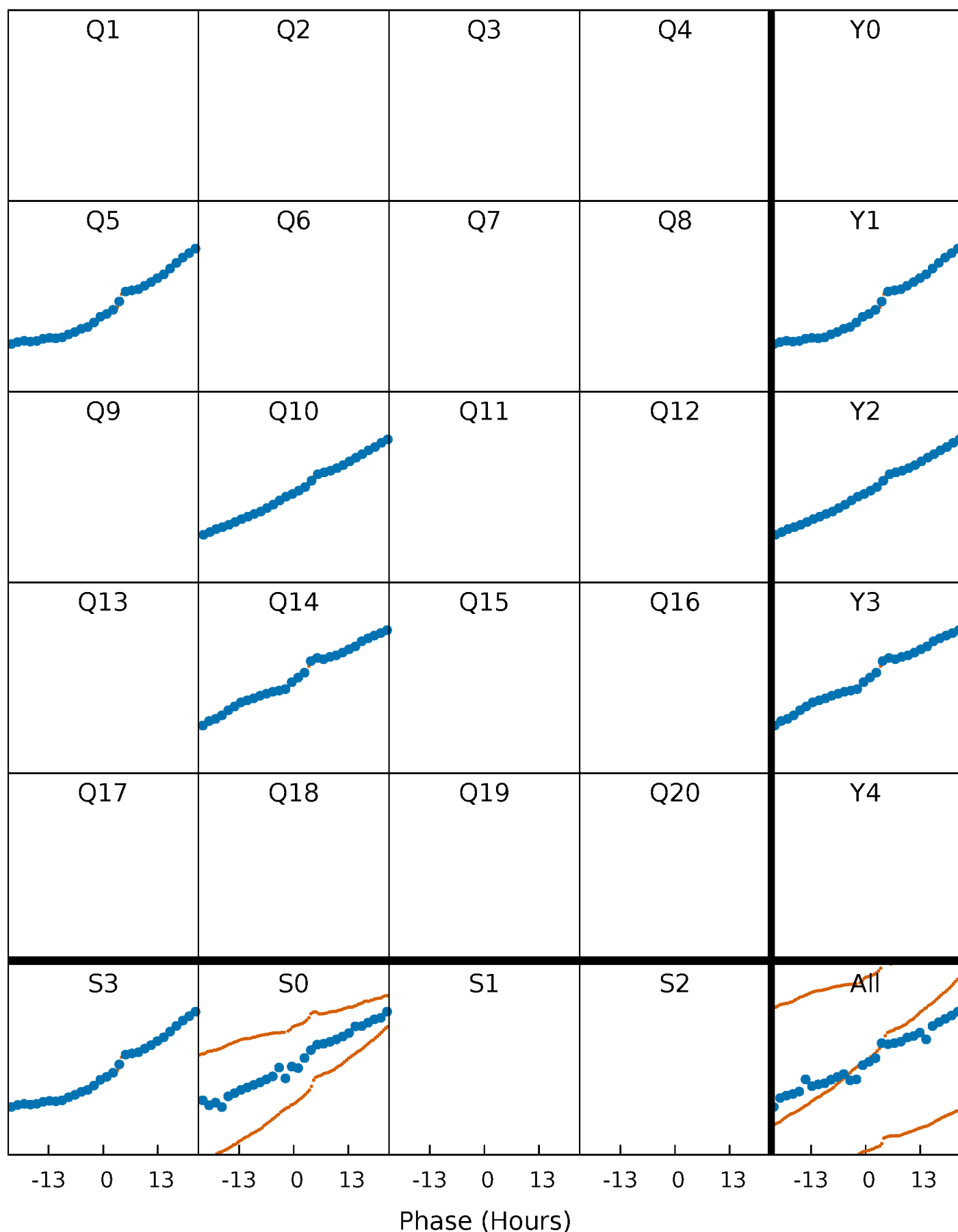


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



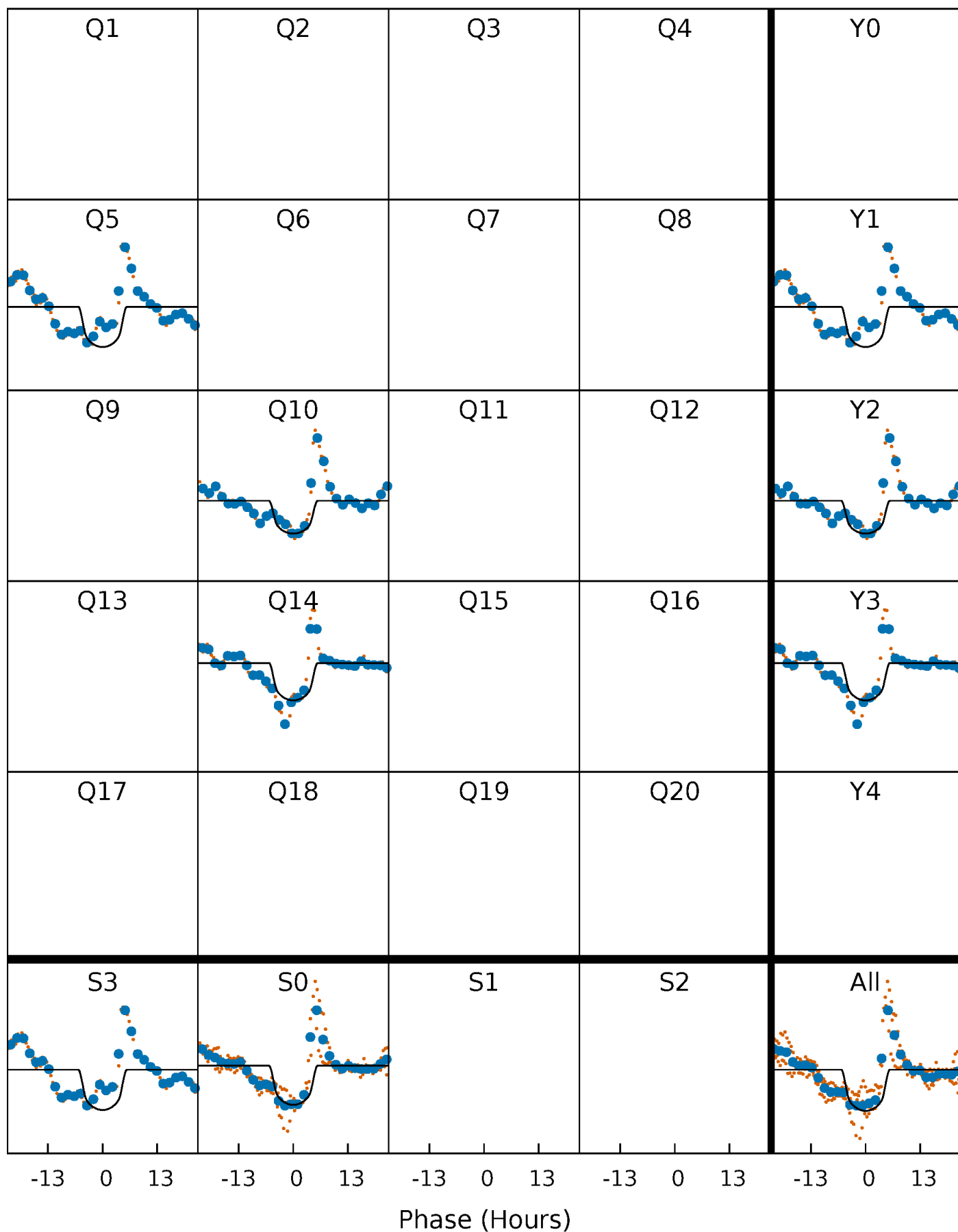
PDC Quarter-Phased Transit Curves

TCE 010297952-01 P=423.207297 Days $T_0=510.884424$ (BKJD)



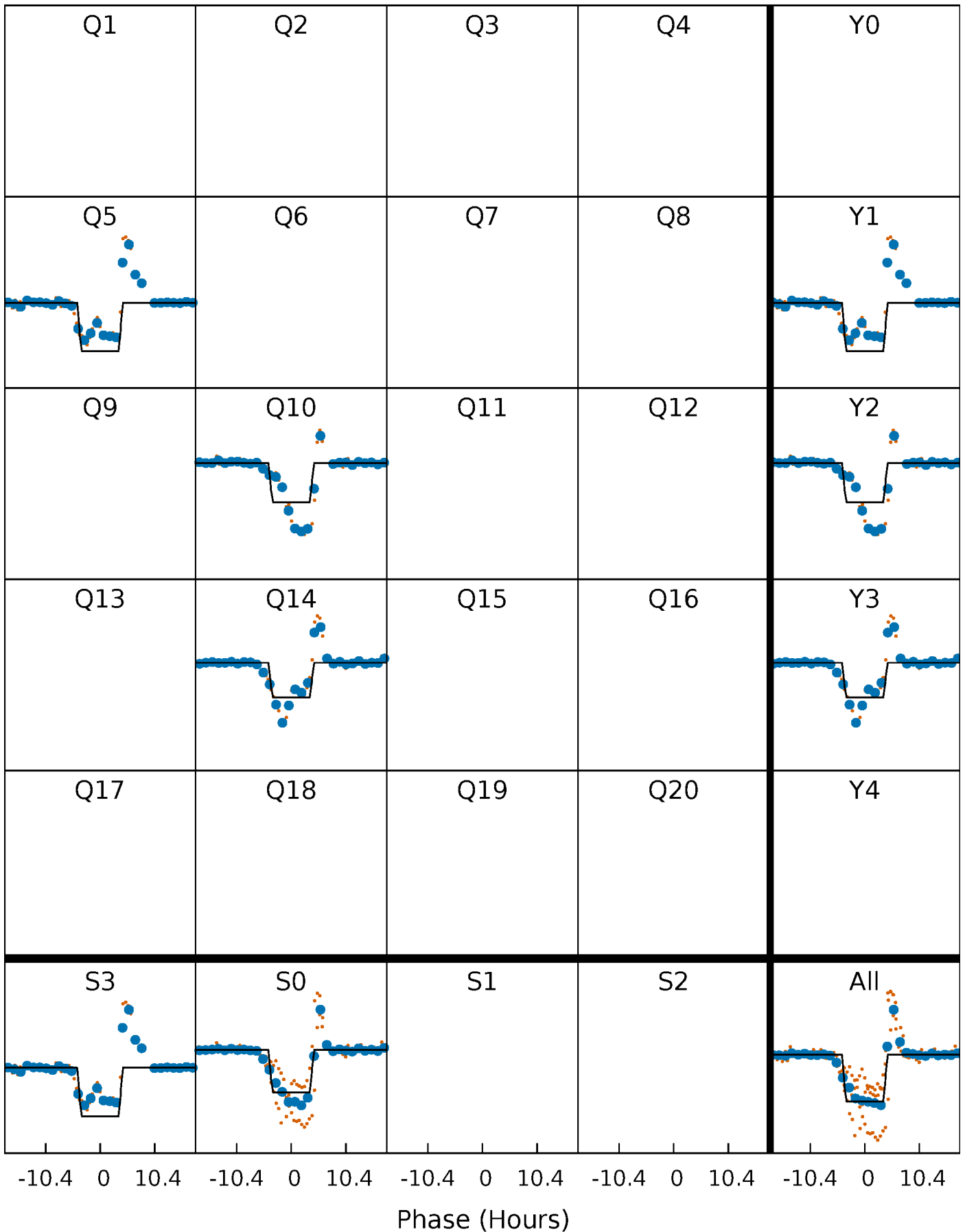
DV Quarter-Phased Transit Curves

TCE 010297952-01 P=423.207297 Days $T_0=510.884424$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

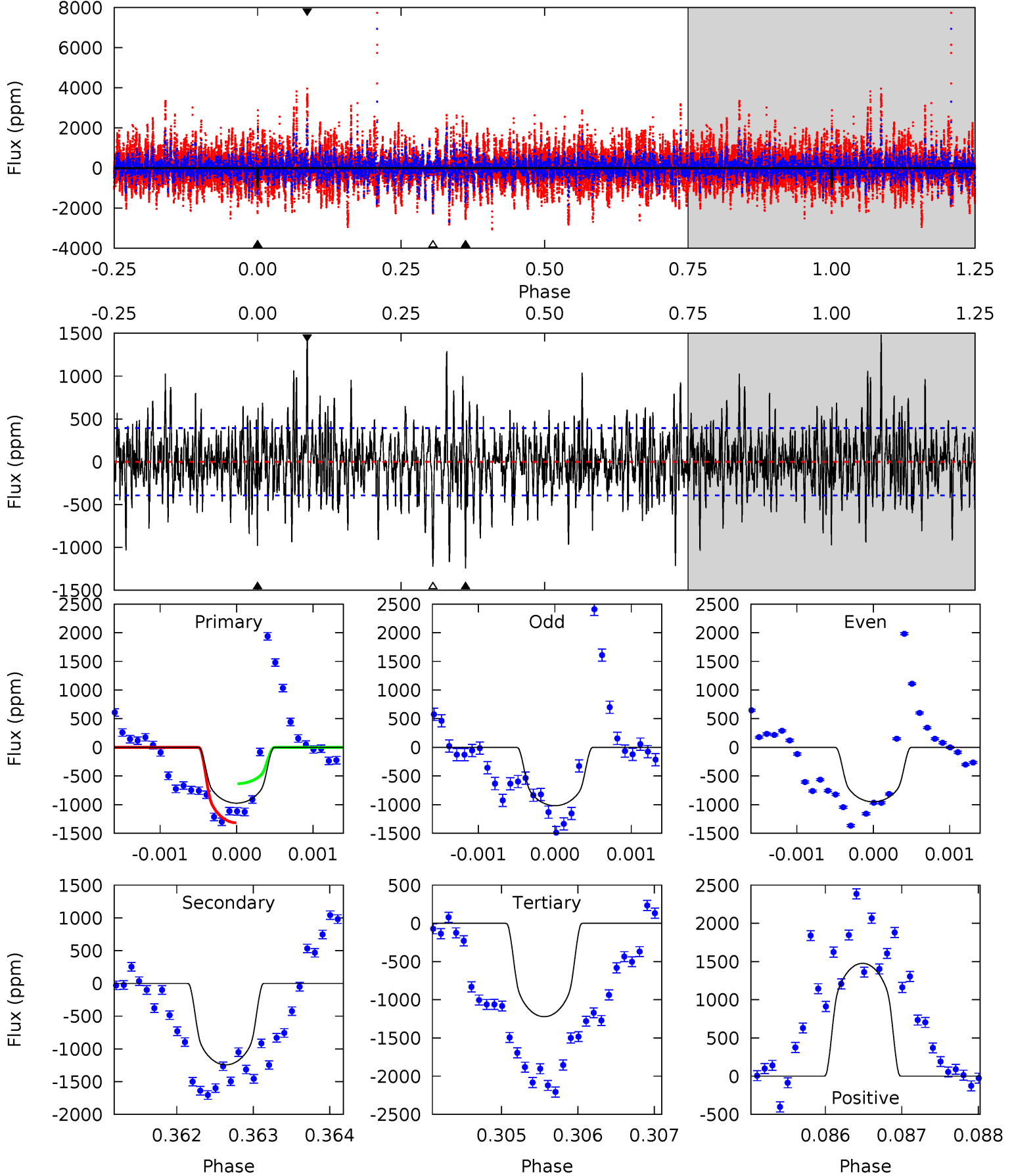
TCE 010297952-01 P=423.199461 Days $T_0=510.882884$ (BKJD)



DV Model-Shift Uniqueness Test

010297952-01, $P = 423.207297$ Days, $E = 87.677127$ Days

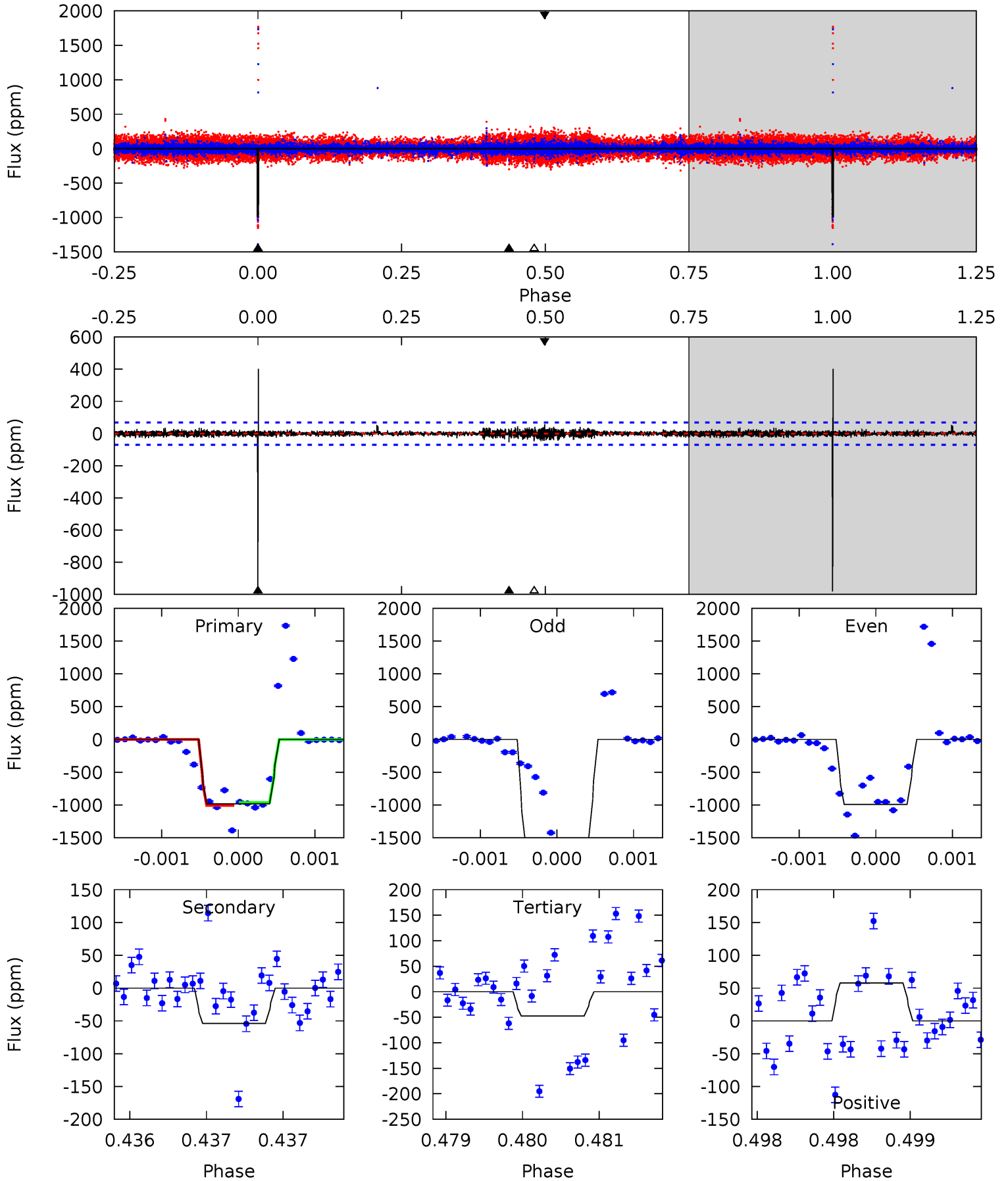
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	17.2	16.9	20.4	5.43	3.25	4.07	-3.42	-6.94	0.30	-3.22	0.40	0.96	0.54	4.72



Alt Model-Shift Uniqueness Test

010297952-01, P = 423.199461 Days, E = 87.683423 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
77.5	4.26	3.77	4.58	5.49	3.34	0.75	73.7	72.9	0.49	-0.32	26.0	0.94	0.29	0



Stellar Parameters For KIC 010297952

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3787^{+94}_{-104}	$0.758^{+0.030}_{-0.030}$	$-0.300^{+0.200}_{-0.250}$	$87.258^{+3.141}_{-16.754}$	$1.591^{+0.057}_{-0.516}$	$0.000^{+0.000}_{-0.000}$
	+2%/-3%	+4%/-4%	+67%/-83%	+4%/-19%	+4%/-32%	+25%/-8%
Source	PHO54	AST54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010297952-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1244 ± 72	$393.85^{+35.48}_{-41.66}$	1924^{+54}_{-54}	3581^{+154}_{-144}	$7.378^{+1.689}_{-1.263}$
Alt.	-54 ± 13	$345.01^{+34.78}_{-41.88}$	1929^{+50}_{-63}	2107^{+186}_{-3620}	$0.421^{+0.147}_{-0.125}$

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

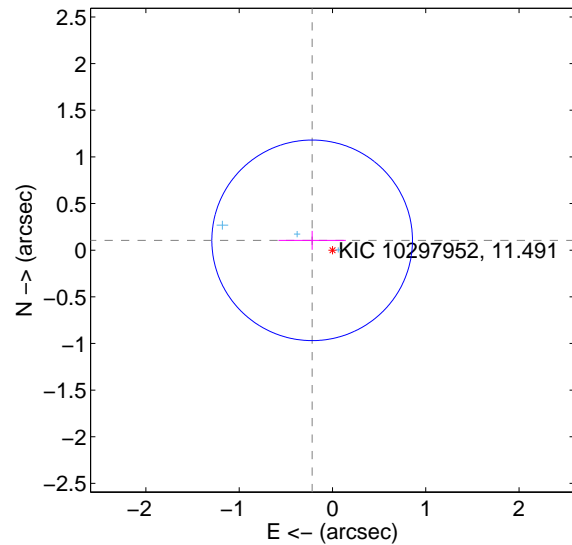
Supplemental centroid analysis for 010297952-01. **Kepler magnitude: 11.49.** Transit SNR 6.67

There are 3 quarters with good PRF difference image offsets

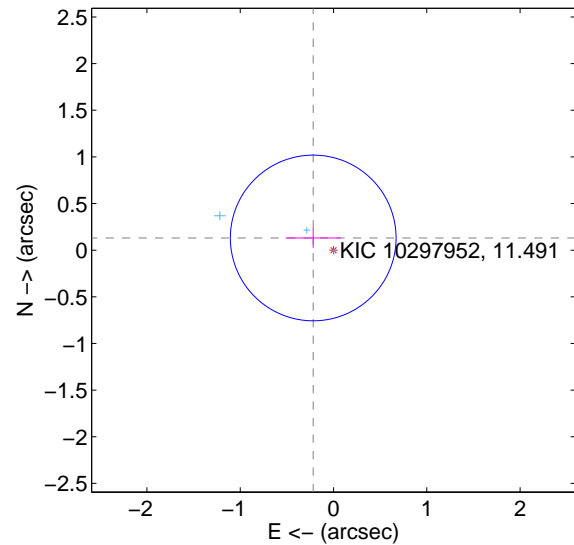
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.242 ± 0.358	0.68	0.218 ± 0.361	0.106 ± 0.101
PRF-fit source offset from KIC position	0.254 ± 0.296	0.86	0.217 ± 0.297	0.131 ± 0.107
photometric centroid source offset	0.61 ± 0.52	1.18	0.42 ± 0.35	-0.45 ± 0.62

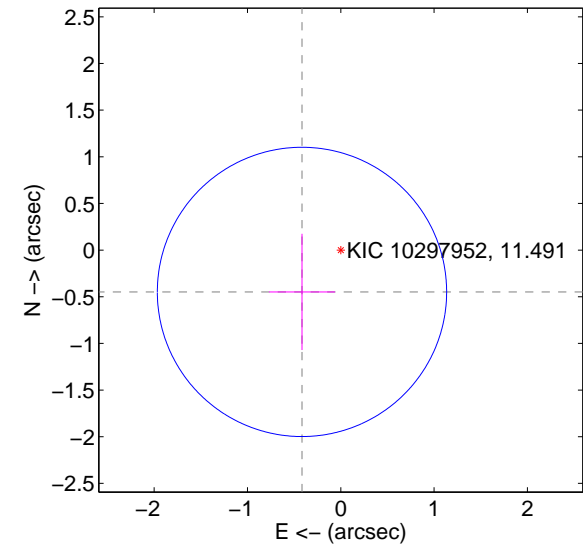
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

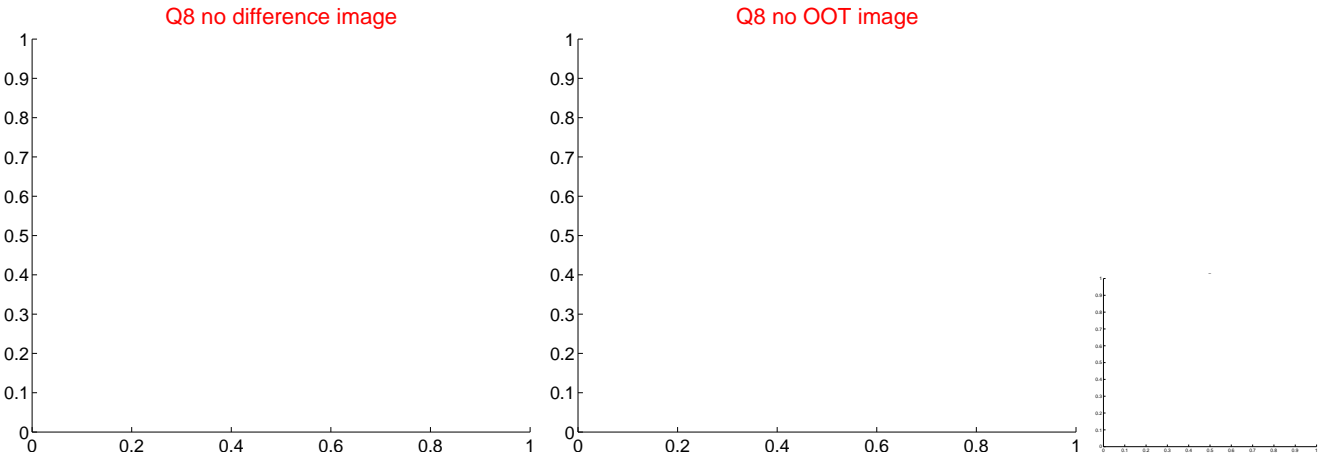
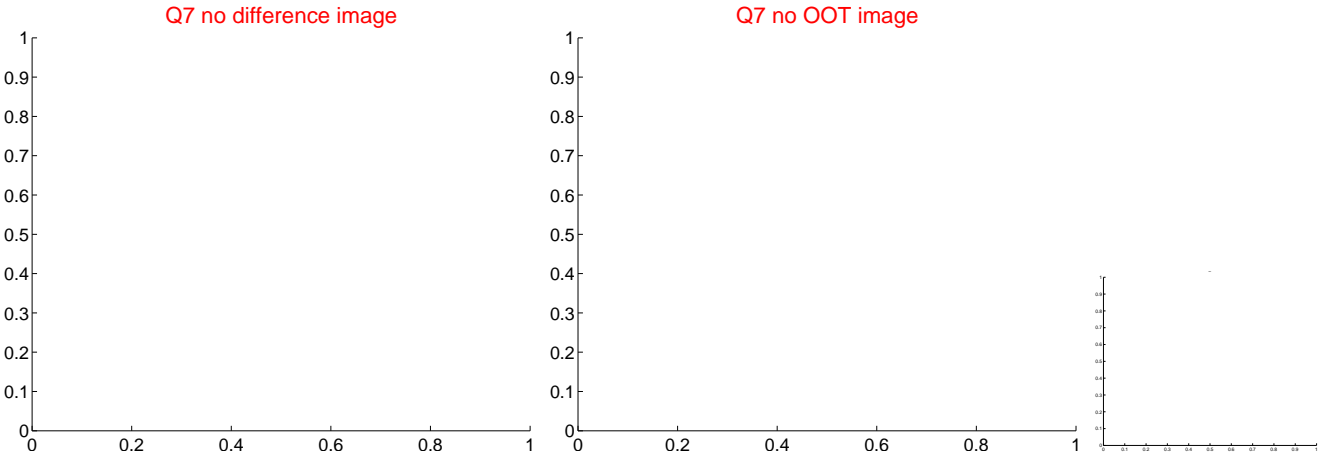
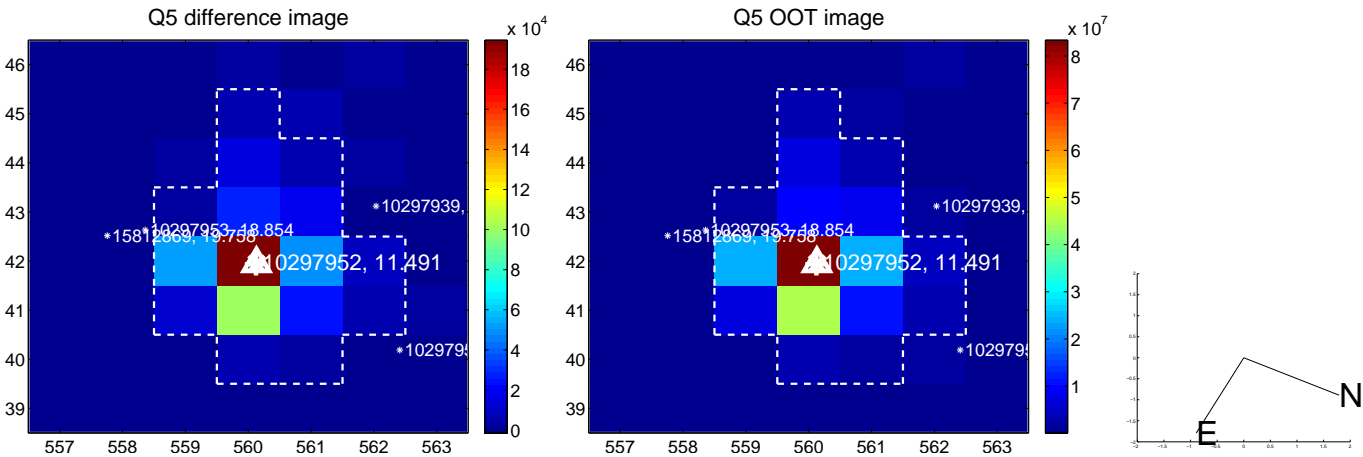


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

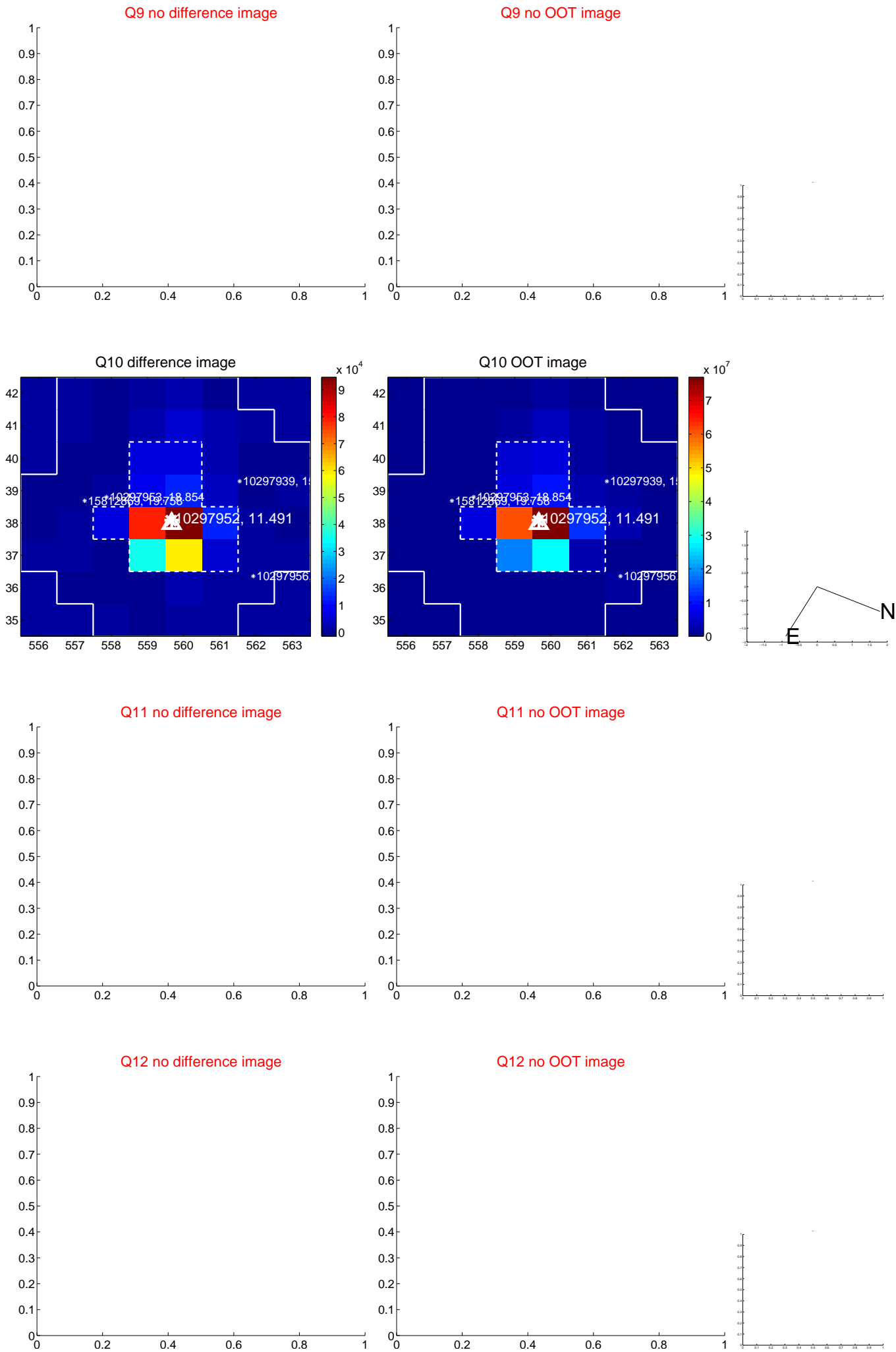
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



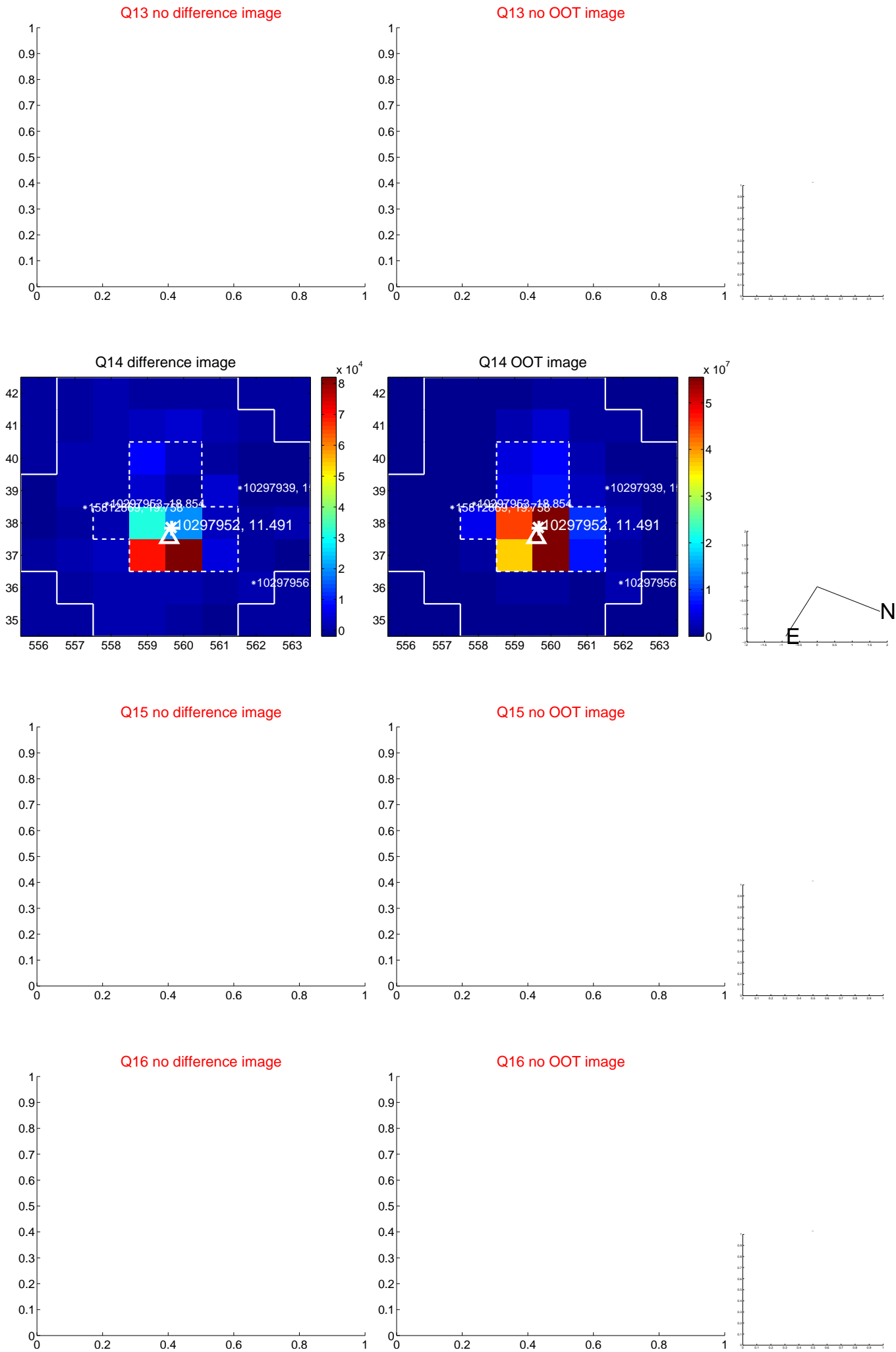
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



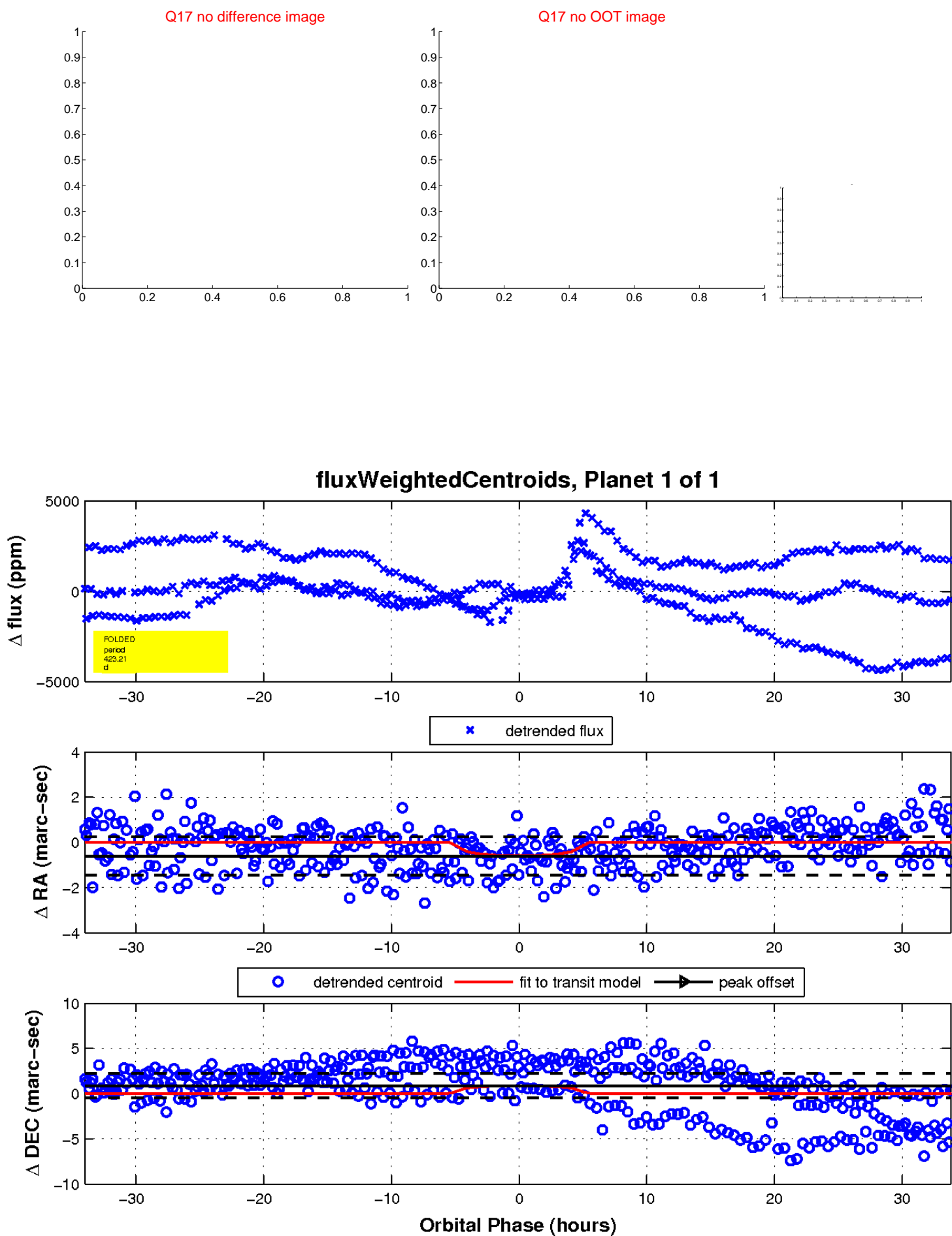
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

