

KIC 009591076

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})
009591076-01	OBS	No	445.452613	438.944323	696.8	12.763	11.0	5.2	0.96	6204	2.63	0.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009591076-01	OBS	FP	0.00	1	0	0	0	LPP_DV—INCONSISTENT_TRANS

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

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

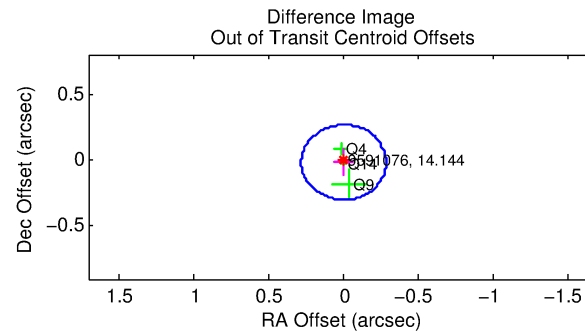
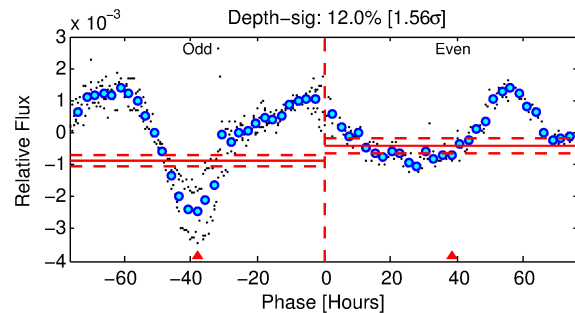
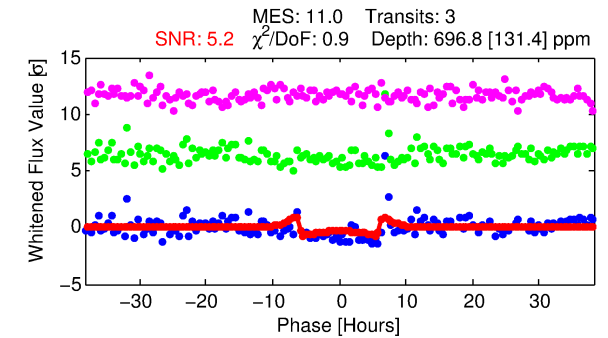
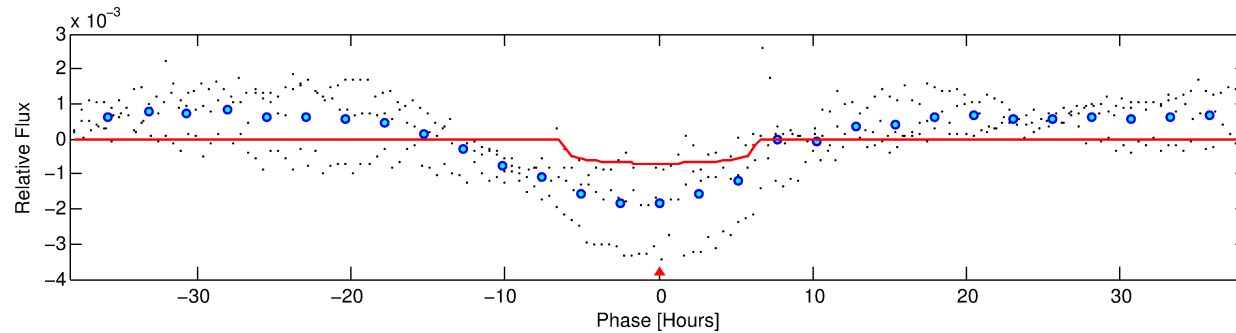
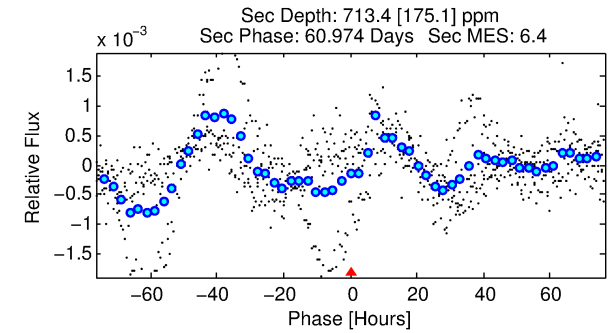
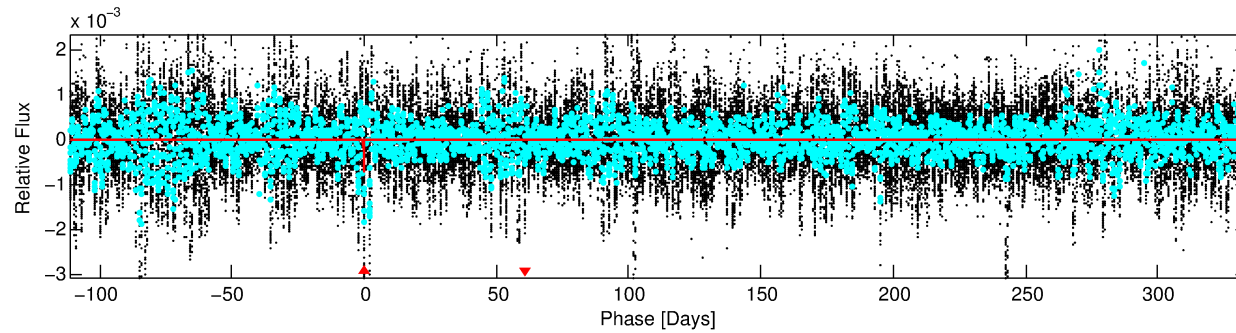
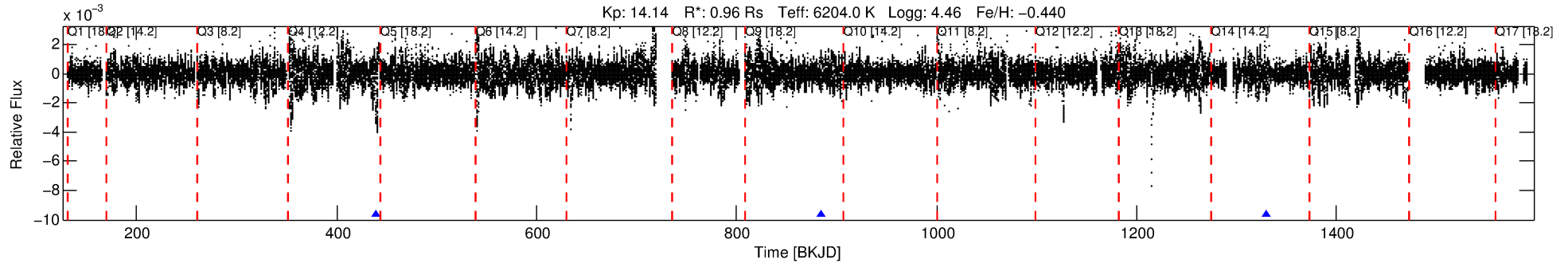
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009591076-01

No Significant Match Found

DV One-Page Summary

KIC: 9591076 Candidate: 1 of 1 Period: 445.453 d



DV Fit Results:

Period = 445.45261 [0.00676] d
Epoch = 438.9443 [0.0083] BKJD
Rp/R* = 0.0252 [0.0157]
a/R* = 228.08 [721.43]
b = 0.56 [3.83]
Seff = 0.96 [0.37]
Teff = 252 [25] K
Rp = 2.63 [1.82] Re
a = 1.1260 [0.2876] AU
Ag = 72150.66 [95556.33] [0.76σ]
Teffp = 6390 [2041] K [3.01σ]

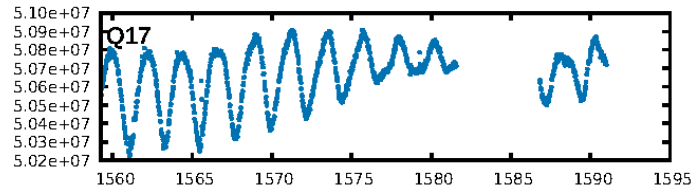
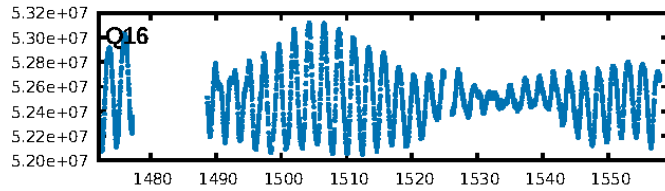
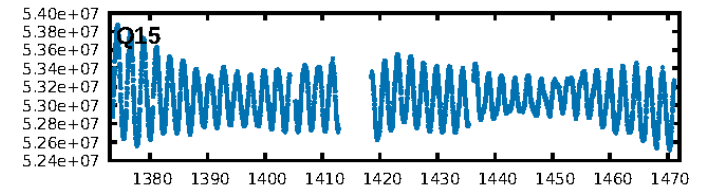
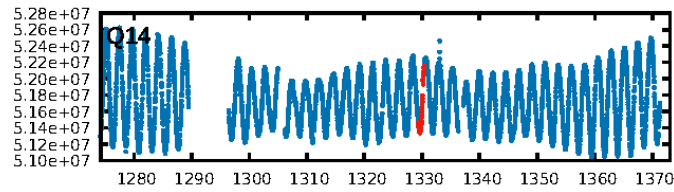
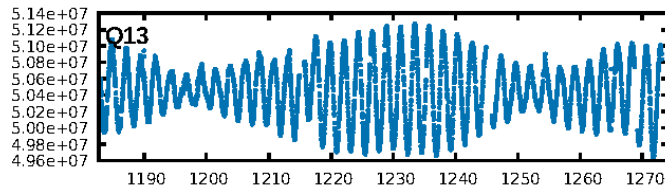
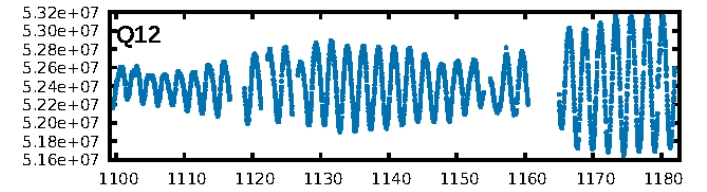
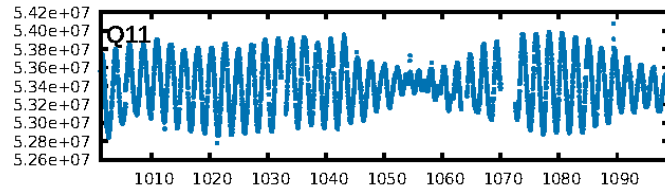
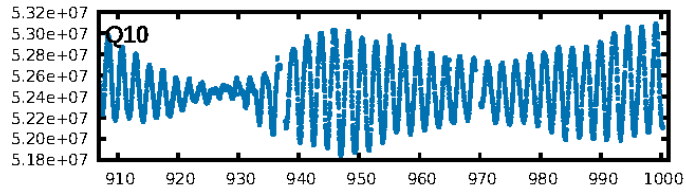
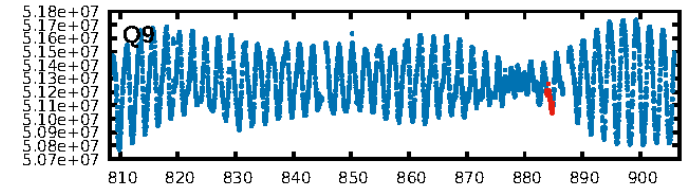
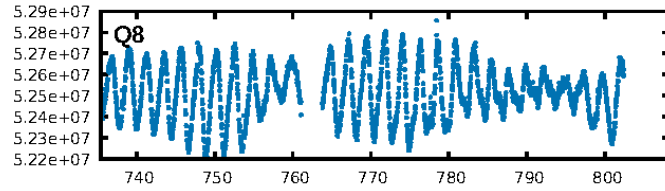
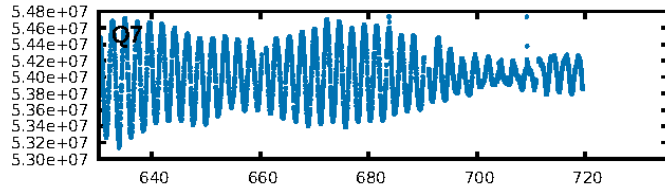
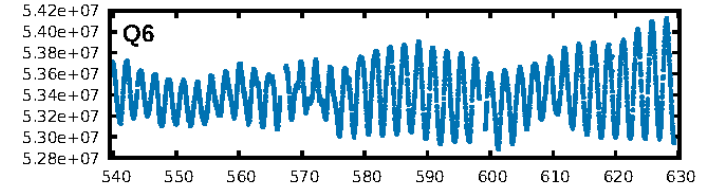
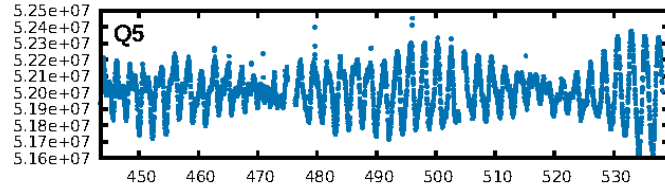
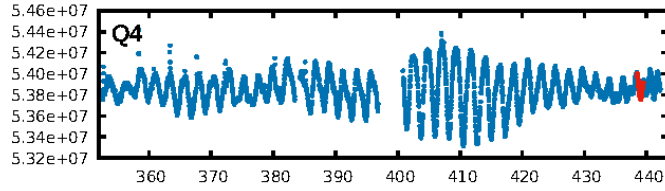
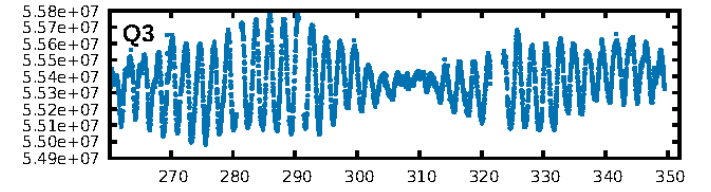
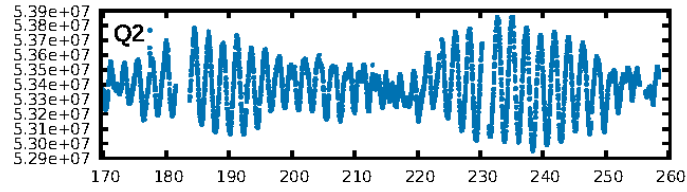
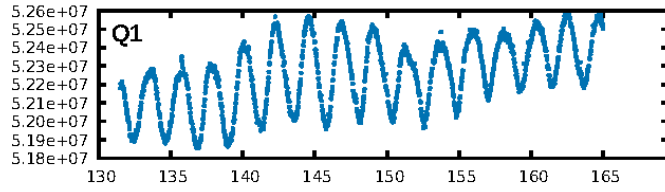
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 46.9%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 9.44e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.981
Centroid-sig: 6.5%
Centroid-so: 0.830 arcsec [1.47σ]
OotOffset-rm: 0.018 arcsec [0.19σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 0.188 arcsec [2.21σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

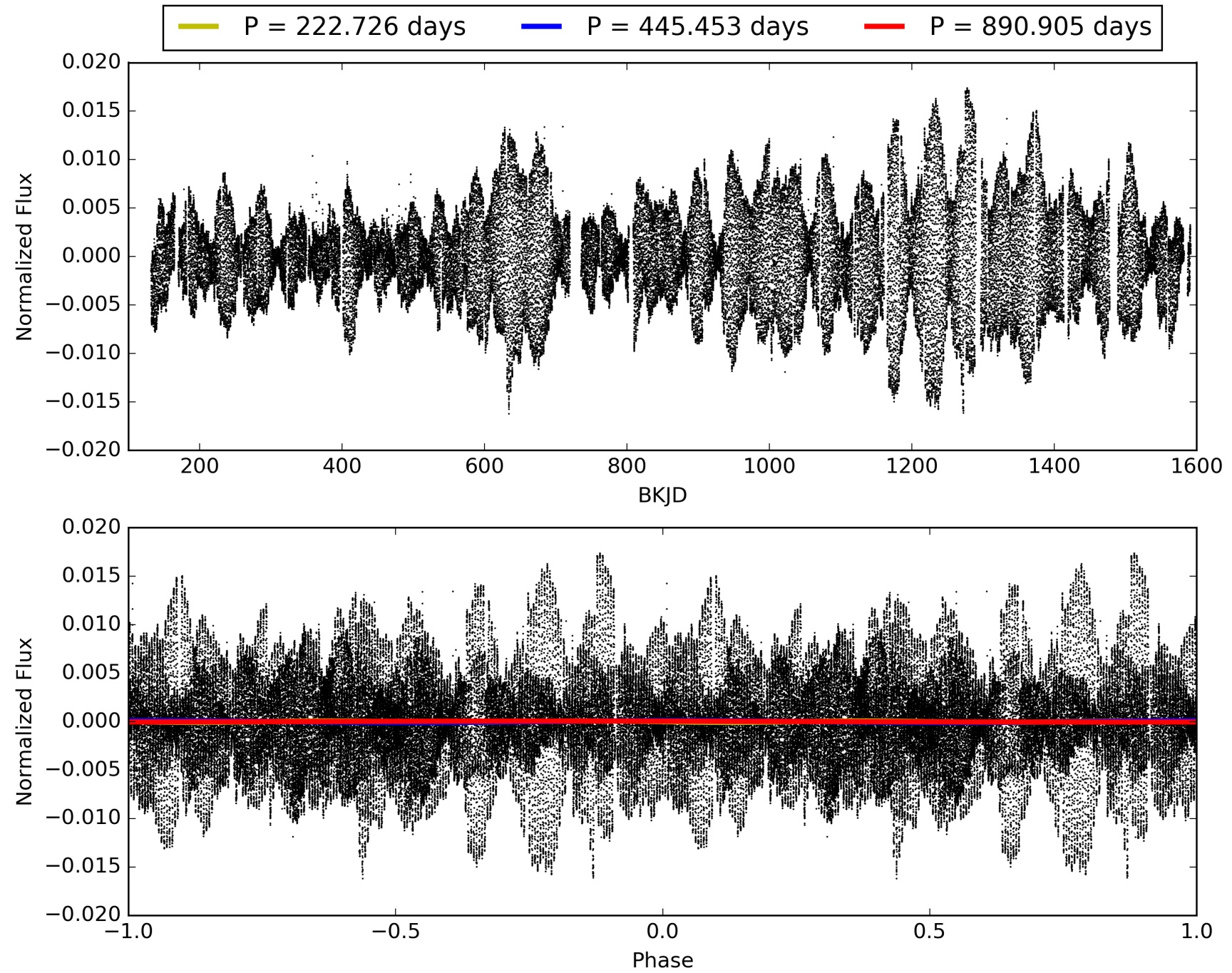
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:06:34 Z

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

TCE 009591076-01, PDC Light Curves

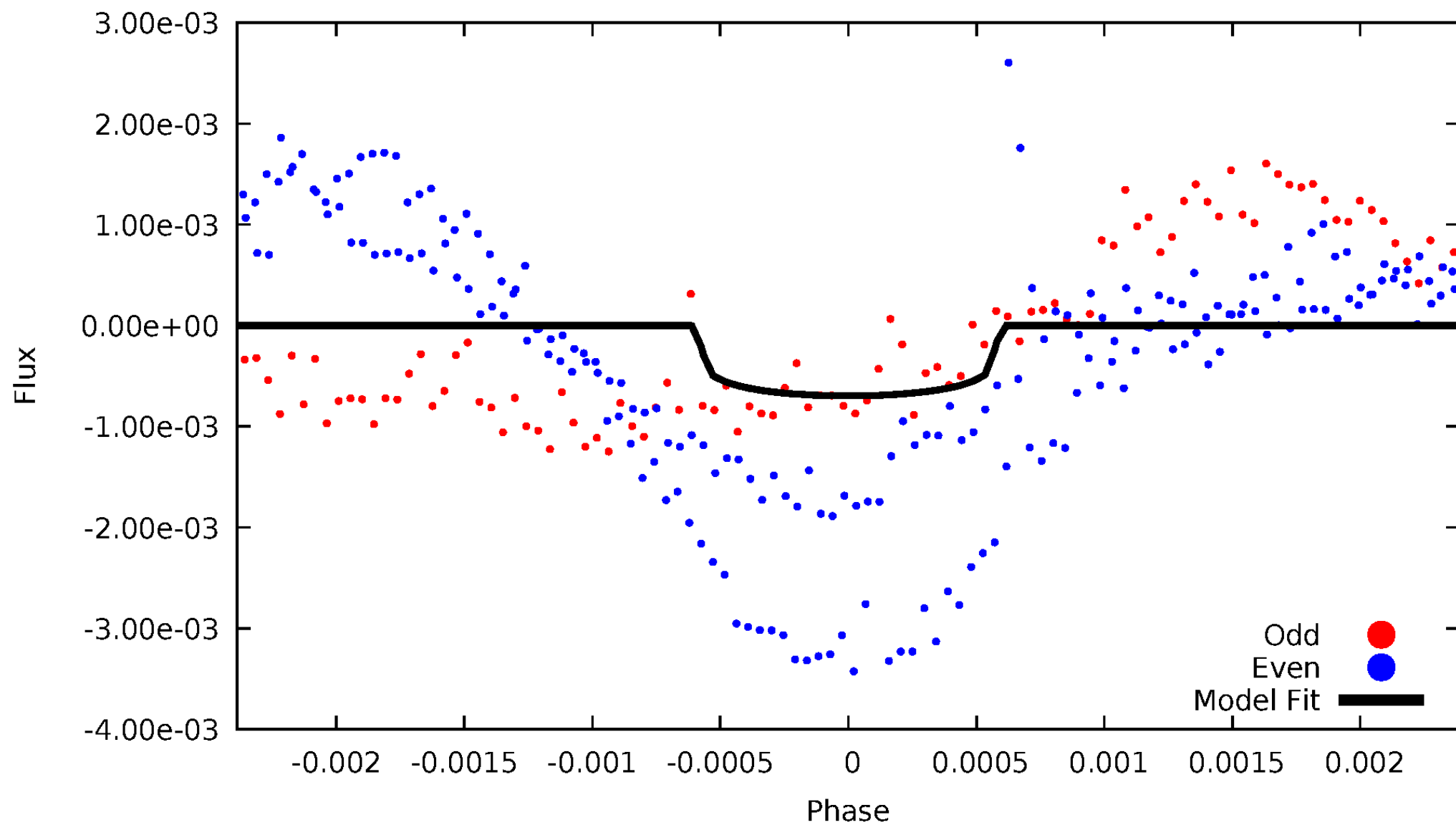


TCE 009591076-01



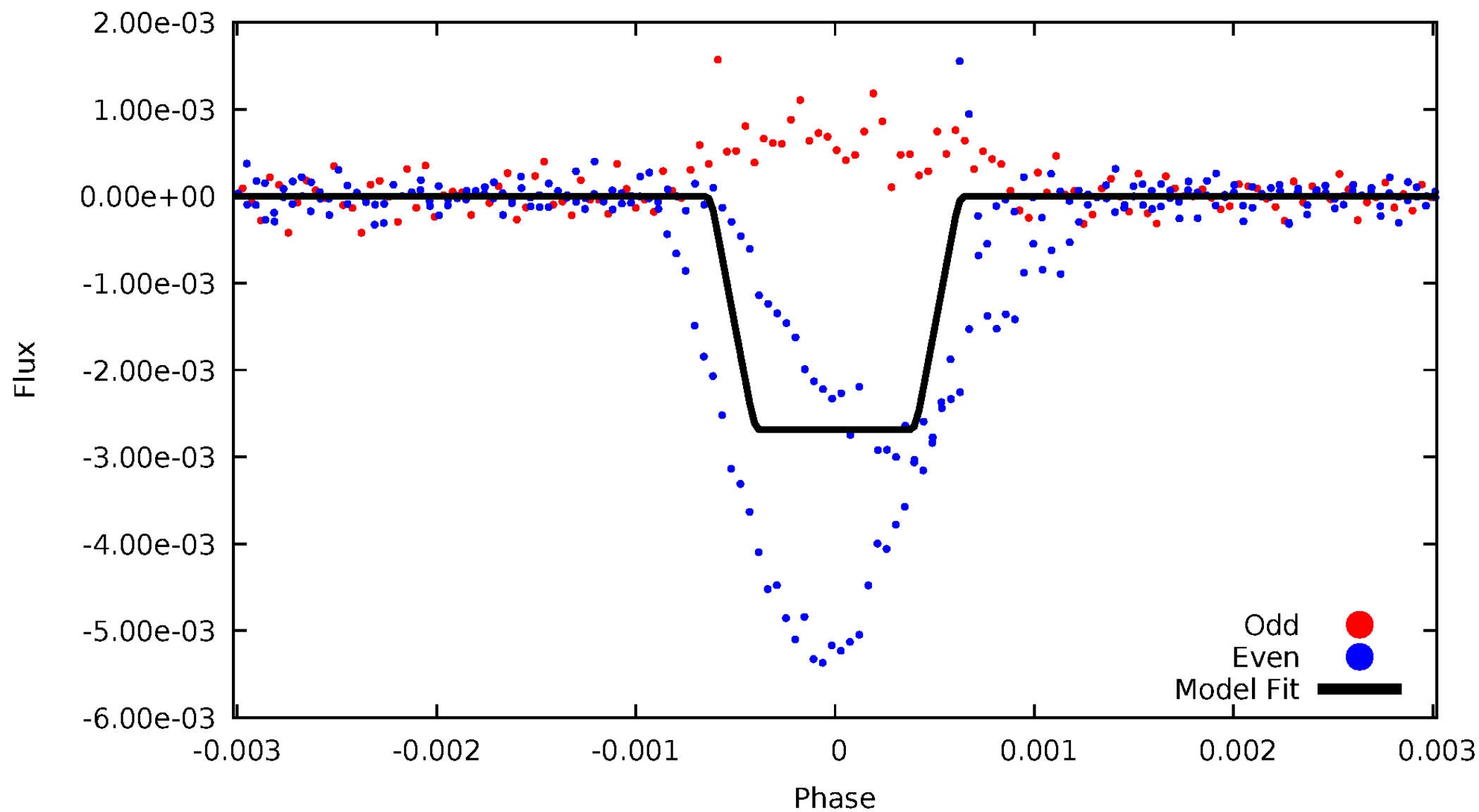
DV Odd/Even

TCE 009591076-01



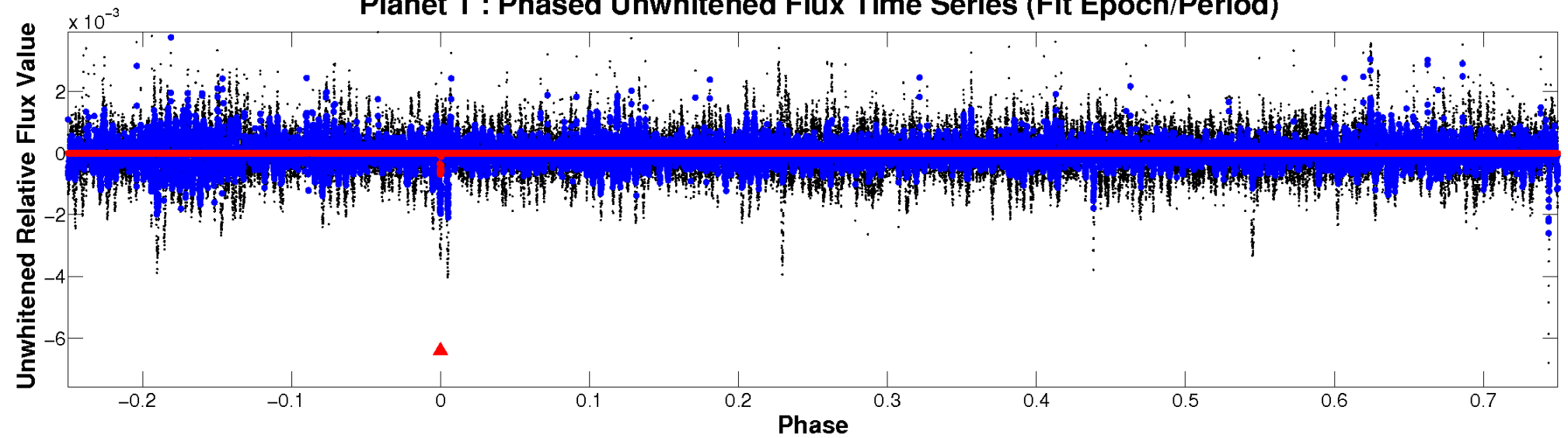
ALT Odd/Even

TCE 009591076-01

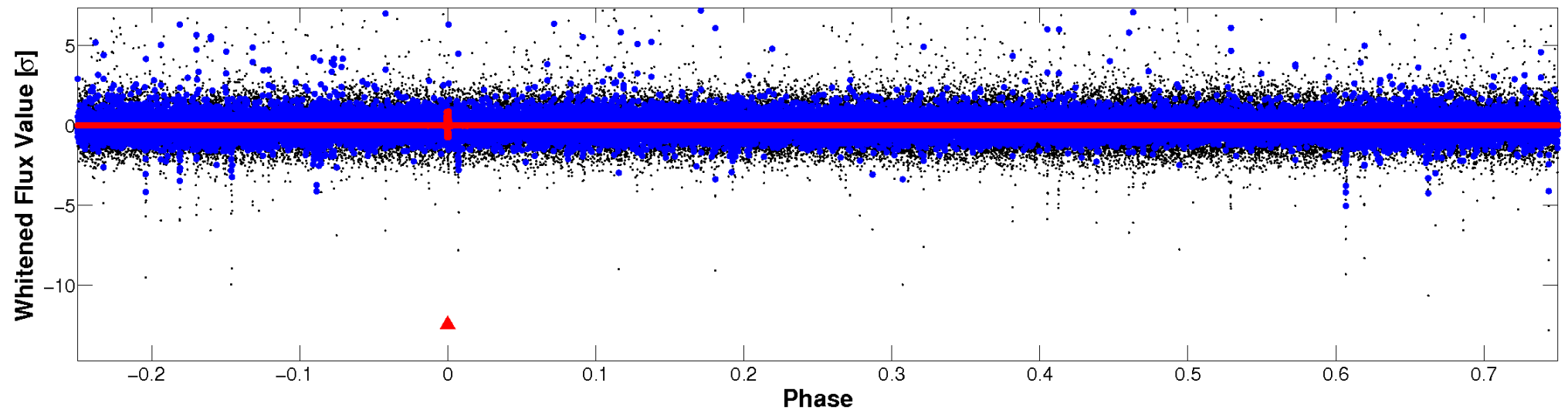


Non-Whitened Vs. Whitened Light Curve

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

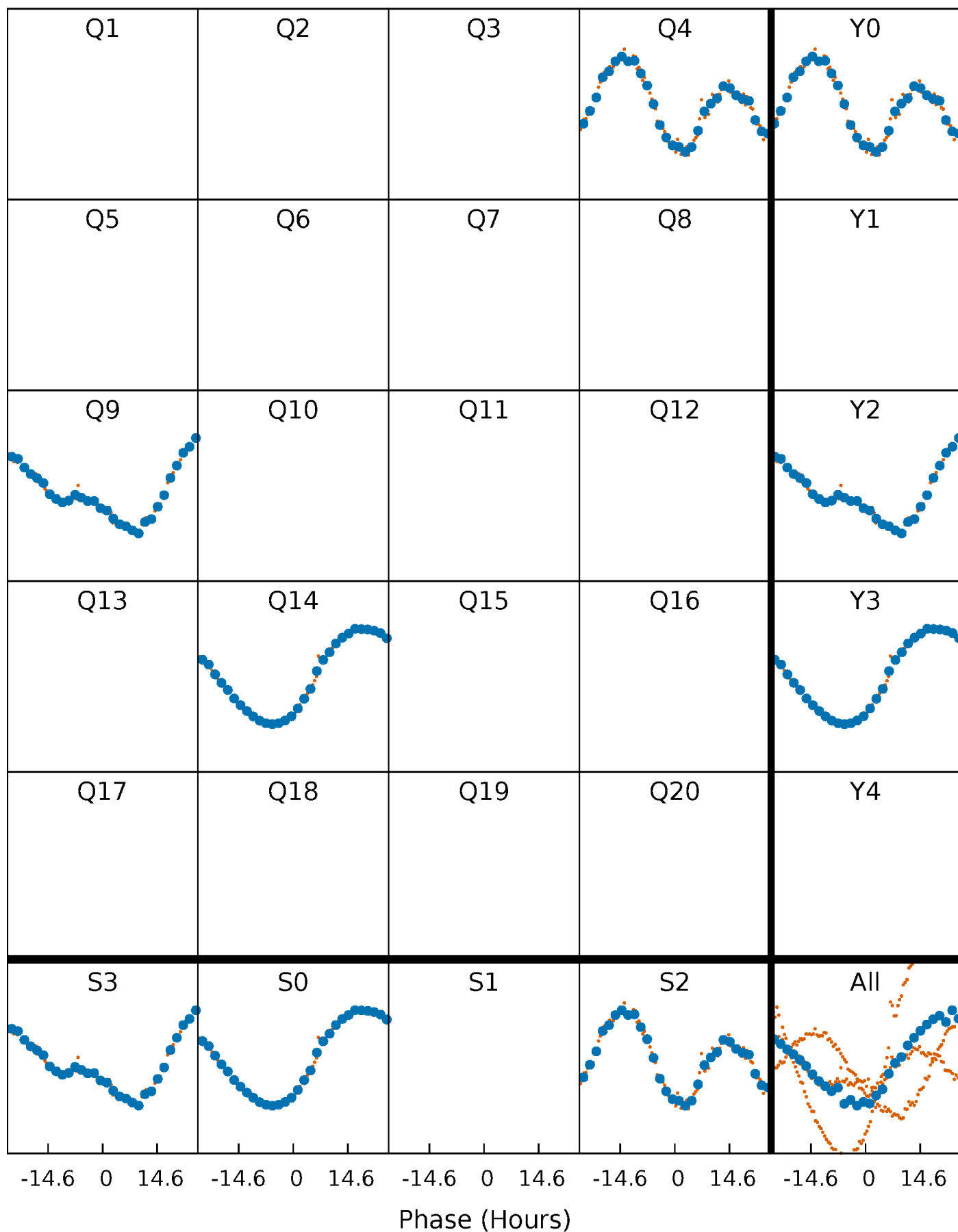


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



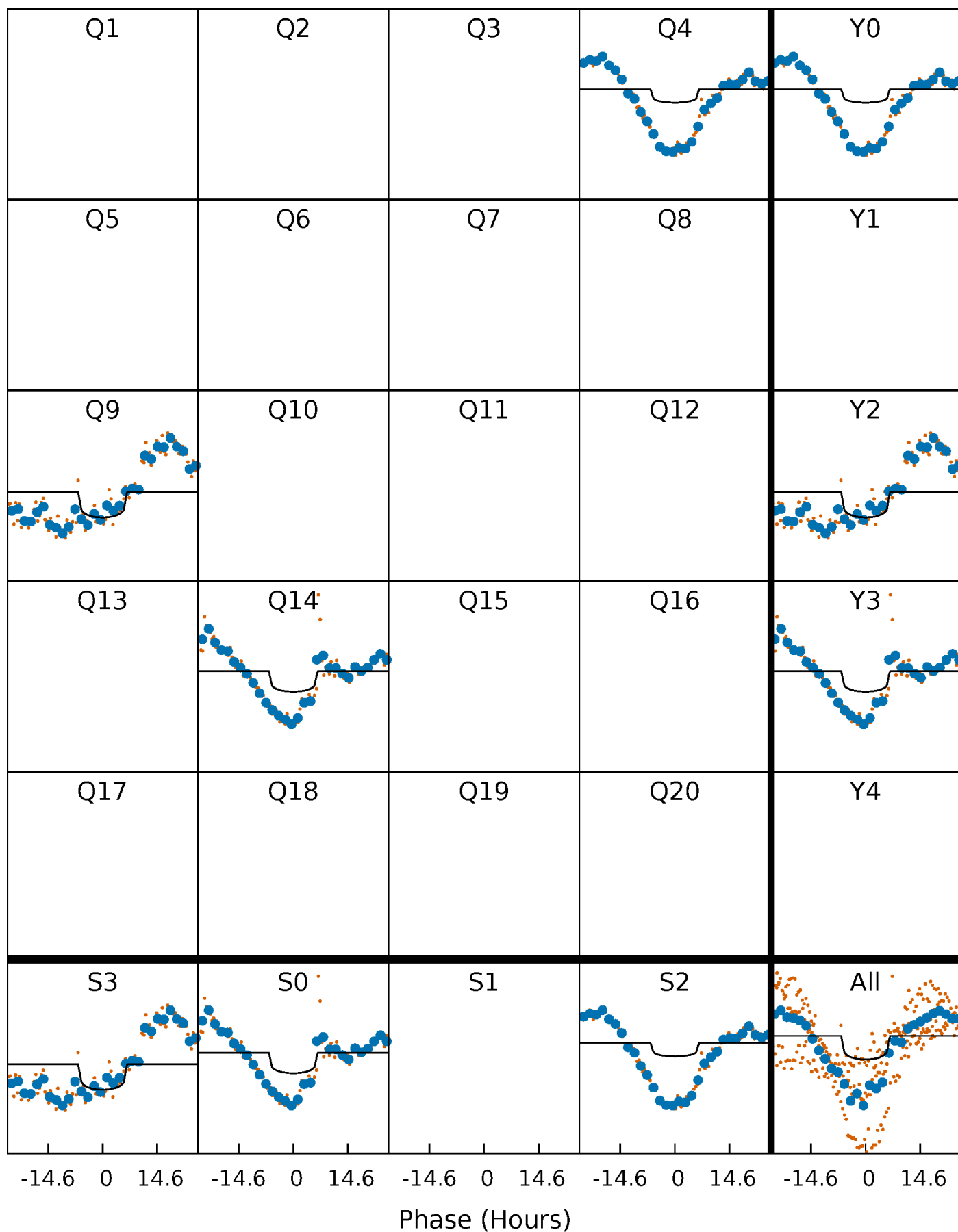
PDC Quarter-Phased Transit Curves

TCE 009591076-01 P=445.452612 Days $T_0=438.944323$ (BKJD)



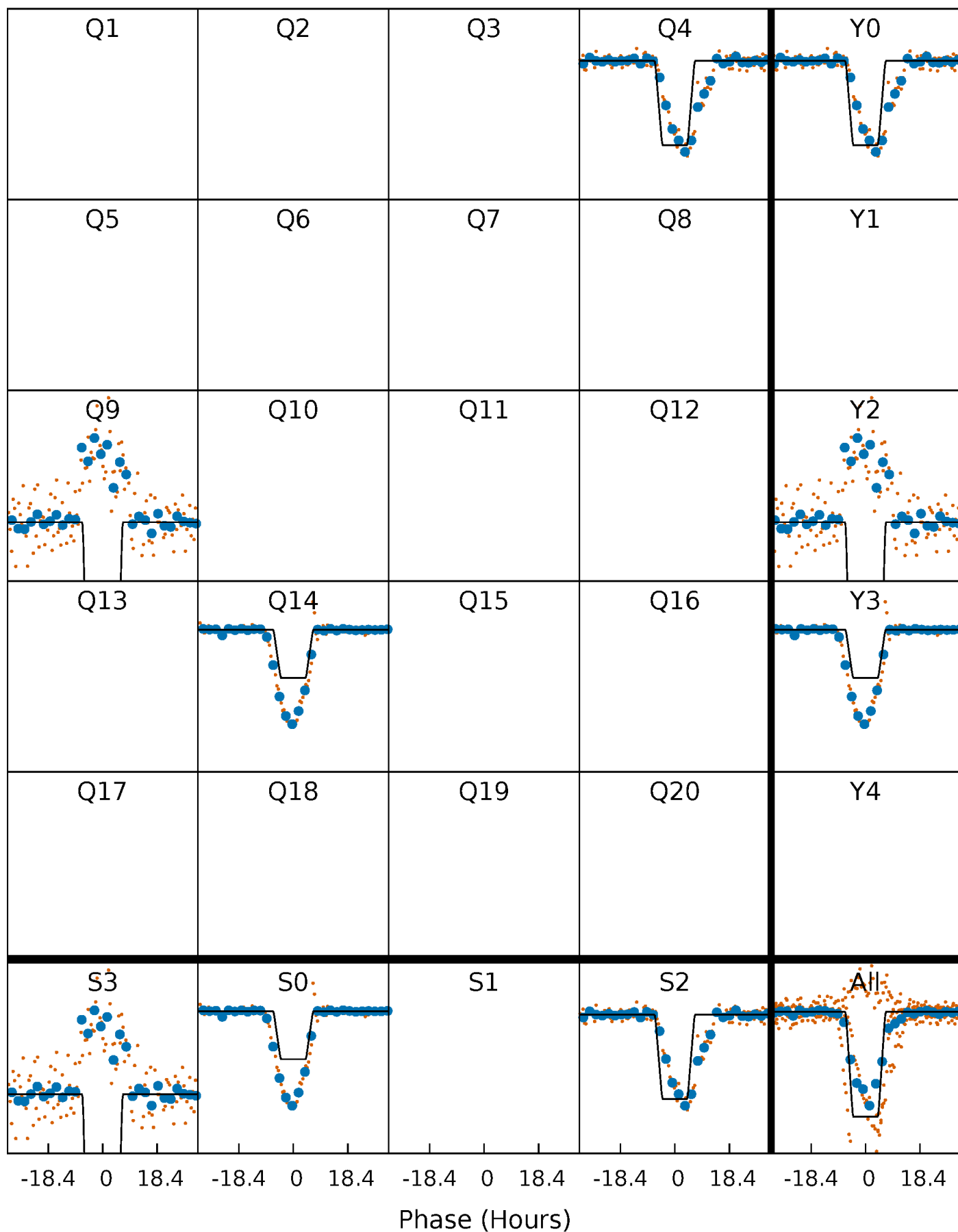
DV Quarter-Phased Transit Curves

TCE 009591076-01 P=445.452612 Days $T_0=438.944323$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

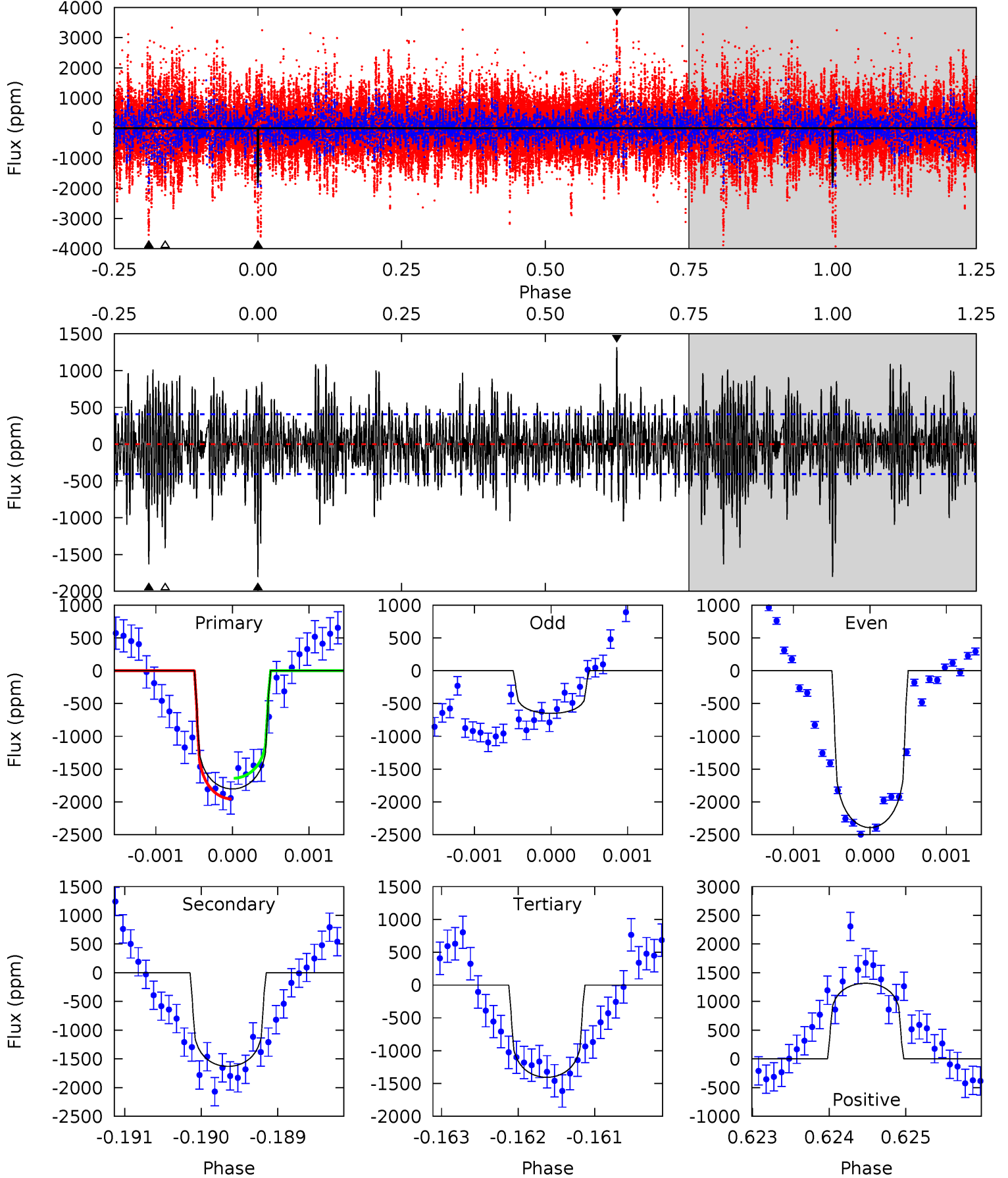
TCE 009591076-01 P=445.465230 Days $T_0=438.919408$ (BKJD)



DV Model-Shift Uniqueness Test

009591076-01, P = 445.452612 Days, E = 438.944323 Days

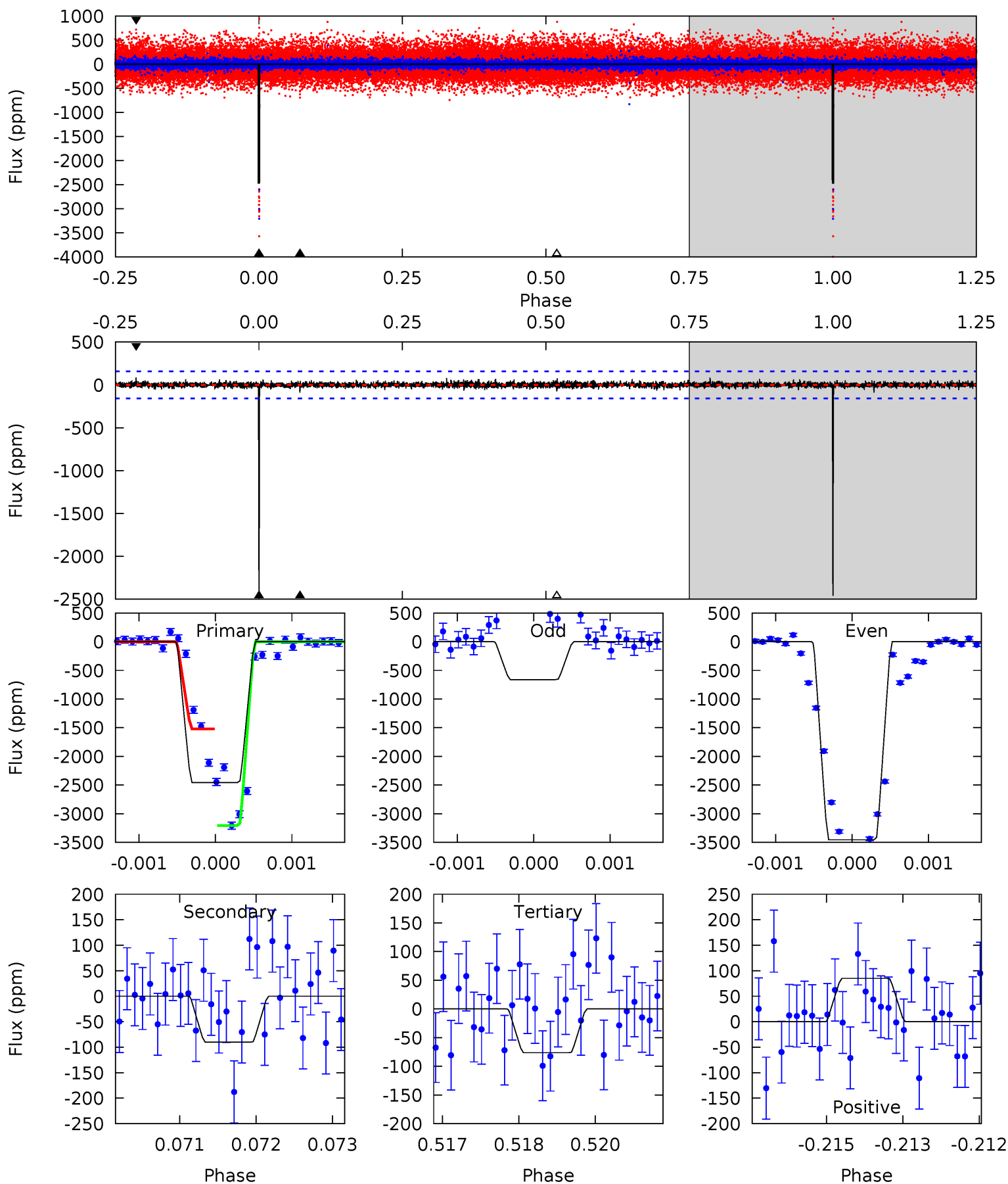
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.0	21.7	18.7	17.5	5.41	3.23	4.65	5.28	6.45	3.00	4.17	11.0	1.17	0.42	2.10



Alt Model-Shift Uniqueness Test

009591076-01, P = 445.465230 Days, E = 438.919408 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
84.4	3.09	2.62	2.92	5.41	3.23	0.53	81.8	81.5	0.47	0.18	67.2	0.93	0.03	28.5



Stellar Parameters For KIC 009591076

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6204^{+169}_{-188}	$4.459^{+0.067}_{-0.202}$	$-0.440^{+0.300}_{-0.300}$	$0.956^{+0.291}_{-0.097}$	$0.958^{+0.123}_{-0.111}$	$1.545^{+0.544}_{-0.824}$
	+3%/-3%	+2%/-5%	+68%/-68%	+30%/-10%	+13%/-12%	+35%/-53%
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 009591076-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1631 ± 75	$2.80^{+1.74}_{-1.43}$	358^{+25}_{-19}	7858^{+5437}_{-1775}	$142020^{+486515}_{-87310}$
Alt.	-90 ± 29	$5.64^{+1.94}_{-1.77}$	358^{+26}_{-17}	3231^{+433}_{-316}	1919^{+2412}_{-1006}

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

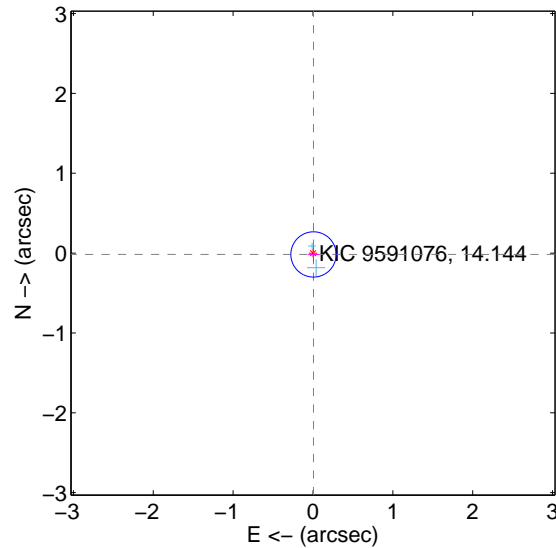
Supplemental centroid analysis for 009591076-01. Kepler magnitude: 14.14. Transit SNR 5.20

There are 3 quarters with good PRF difference image offsets

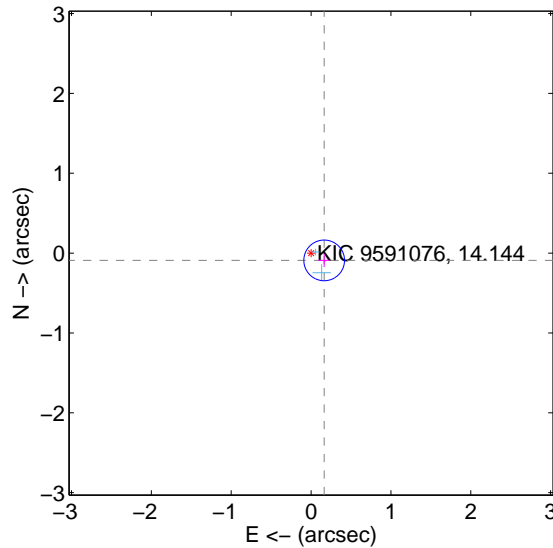
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.018 ± 0.094	0.19	-0.007 ± 0.068	-0.017 ± 0.094
PRF-fit source offset from KIC position	0.188 ± 0.085	2.21	-0.164 ± 0.076	-0.091 ± 0.083
photometric centroid source offset	0.83 ± 0.57	1.47	0.82 ± 0.57	0.14 ± 0.51

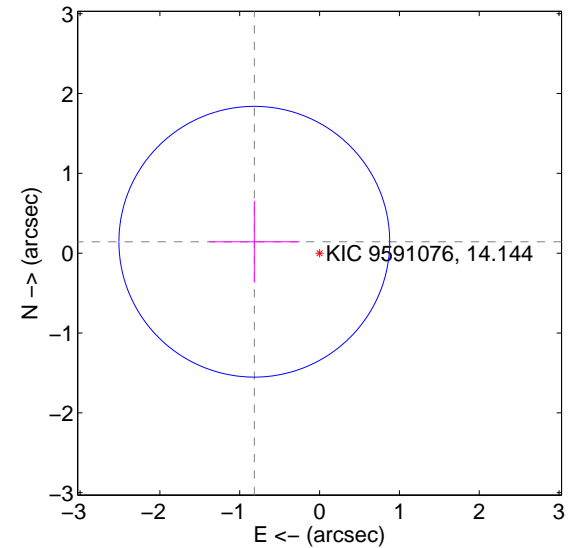
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

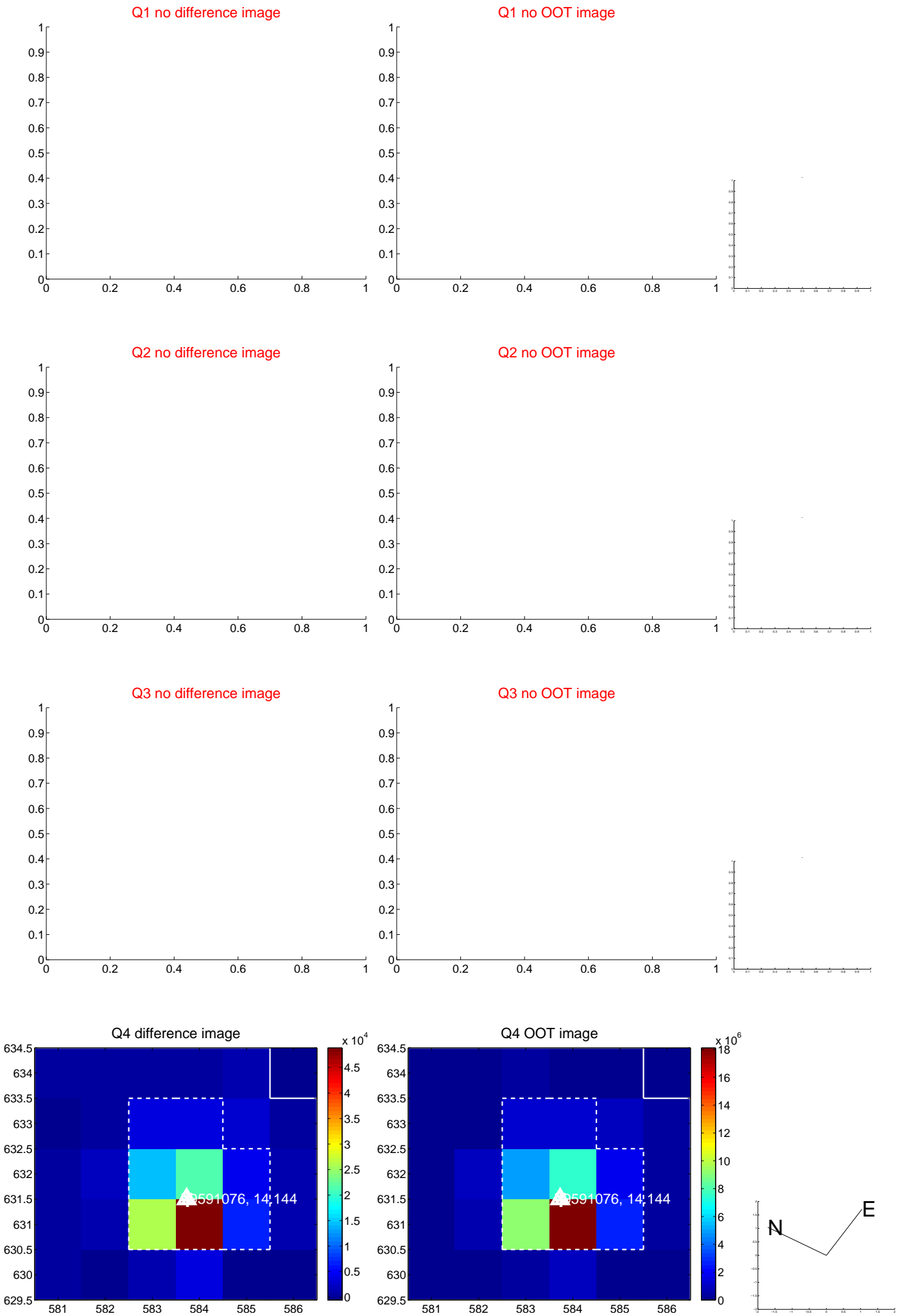


offset from photometric centroids



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.

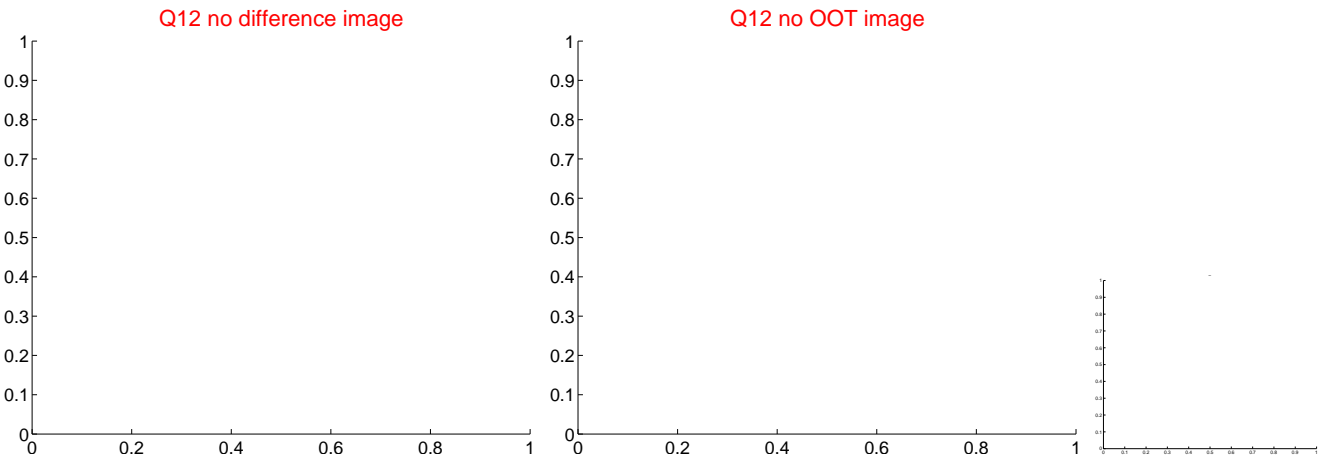
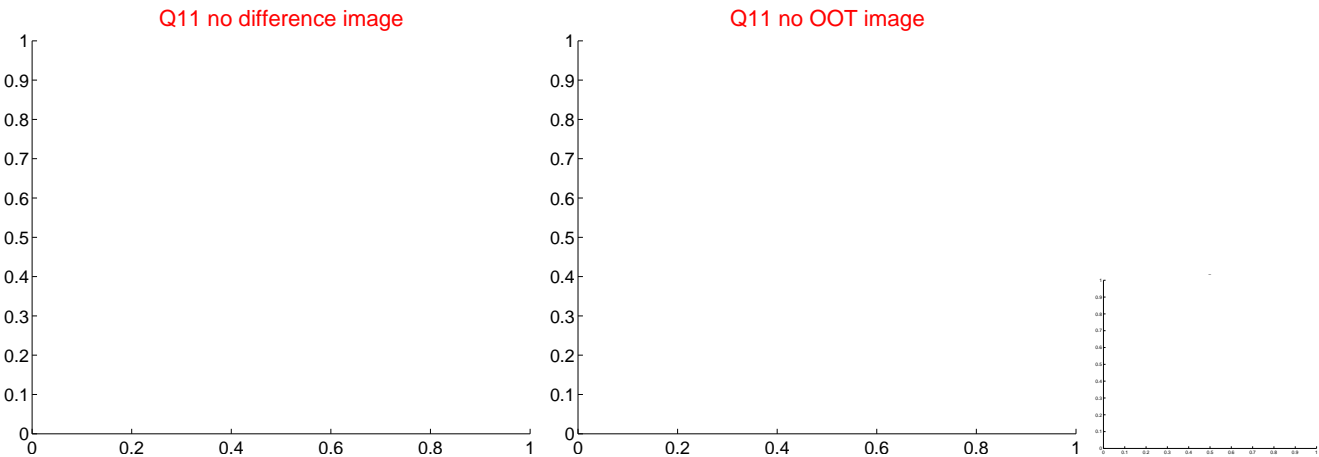
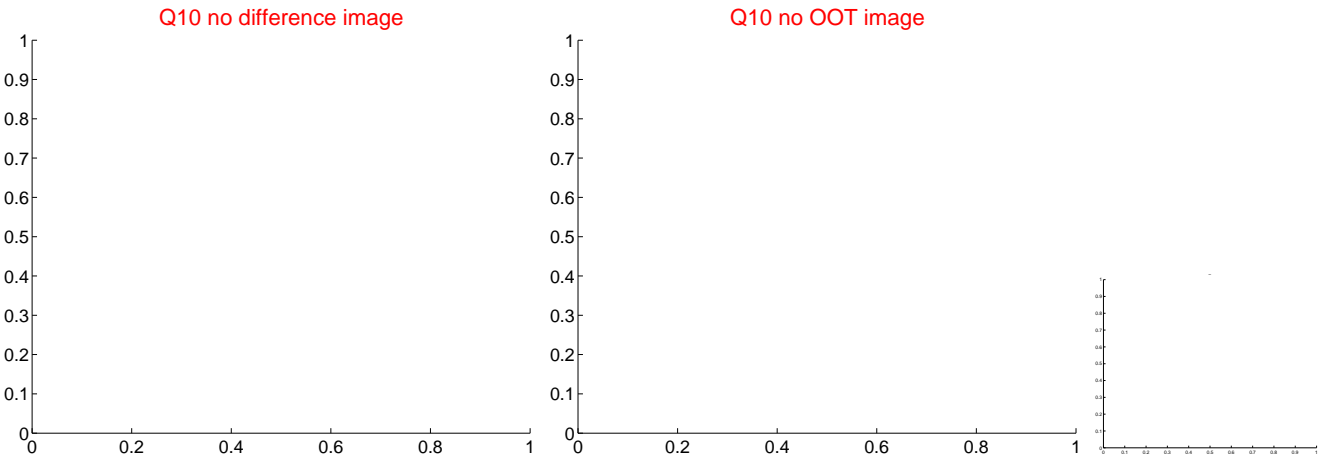
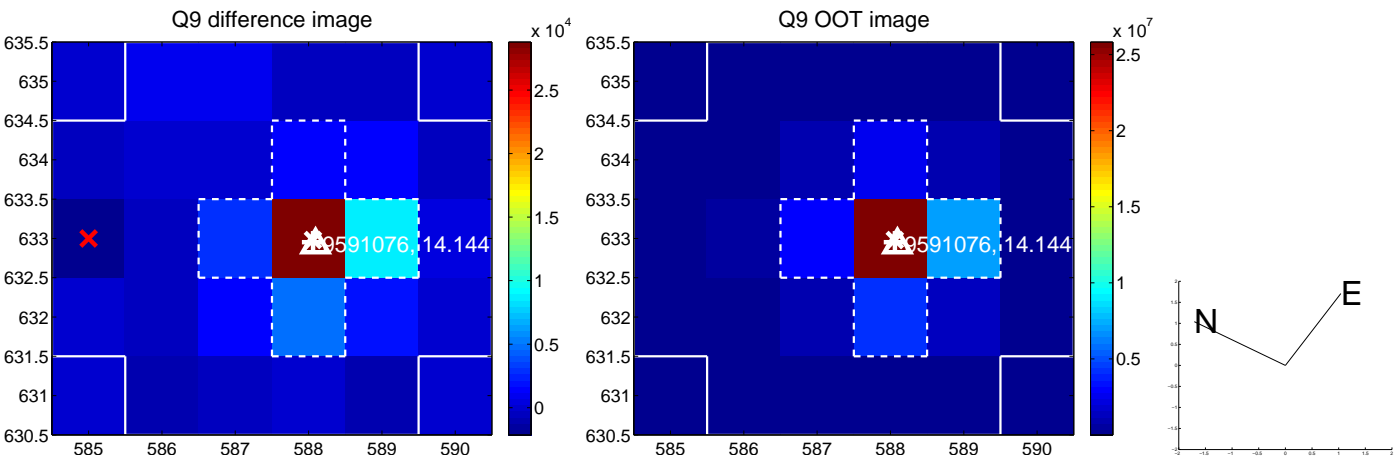
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



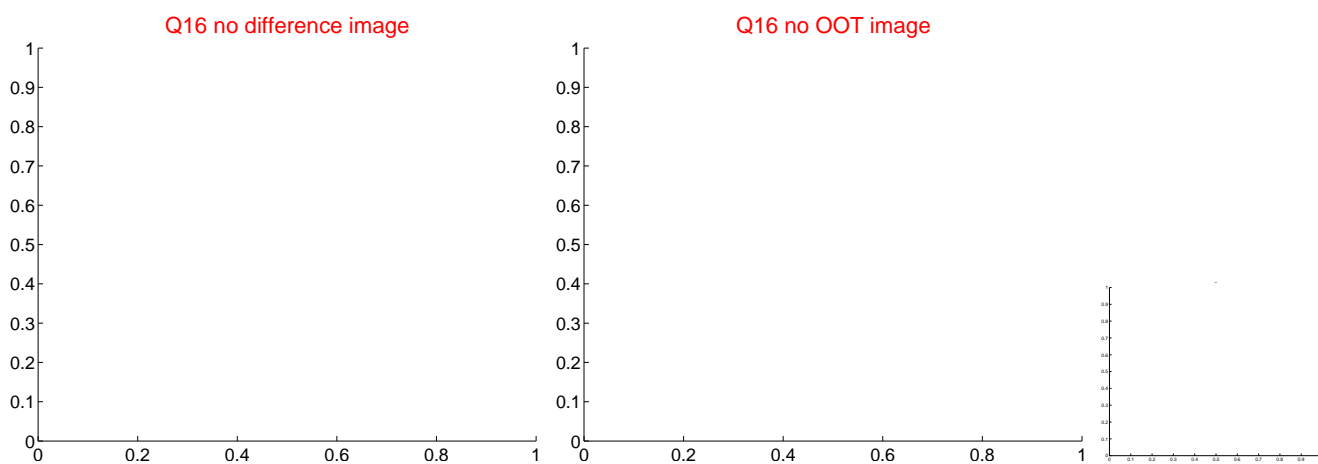
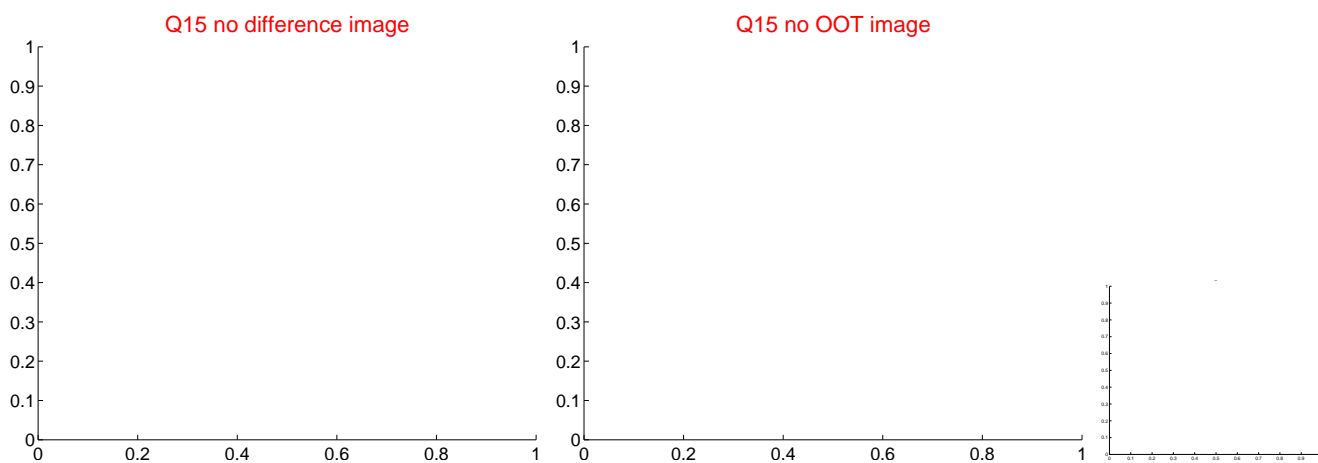
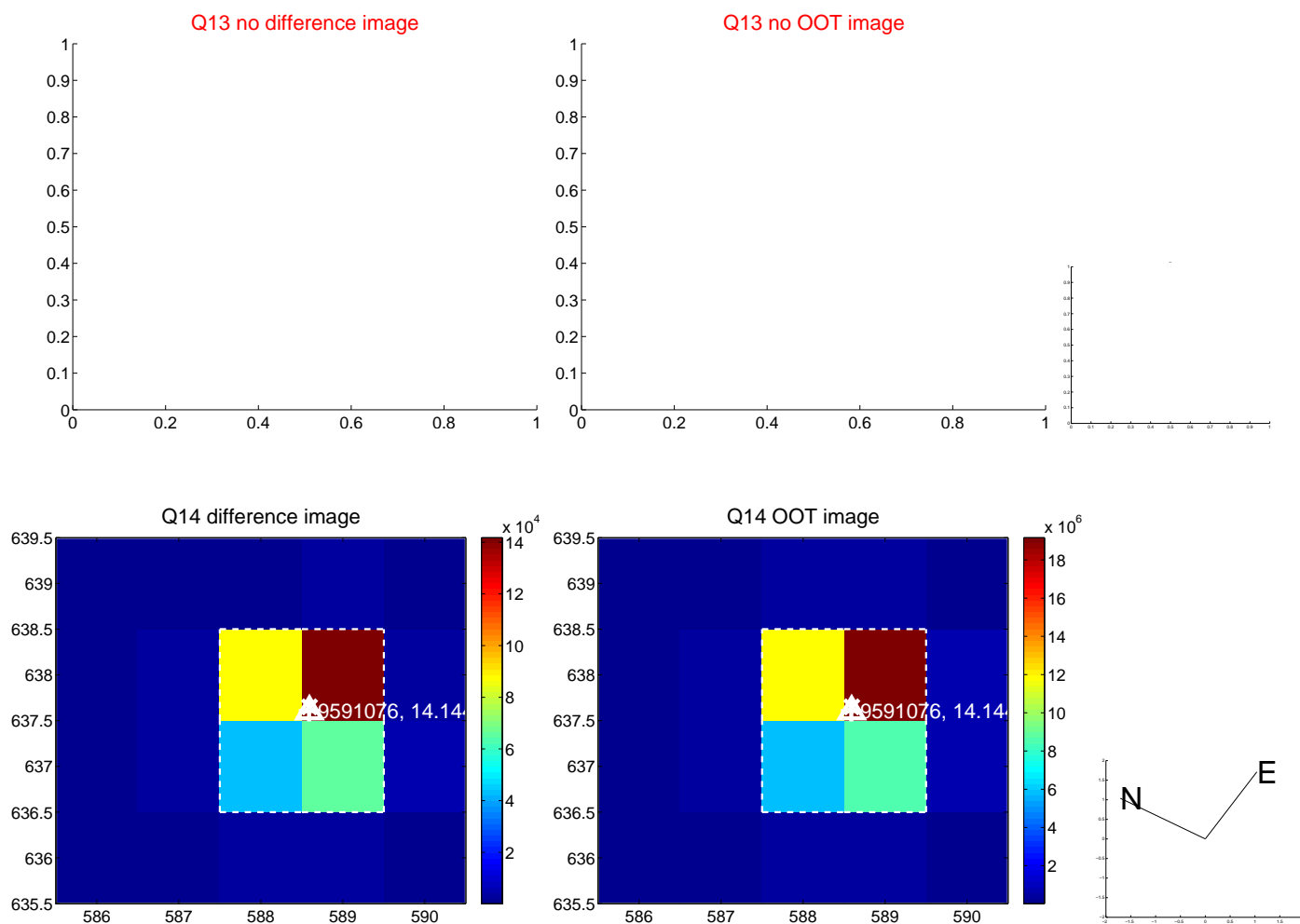
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



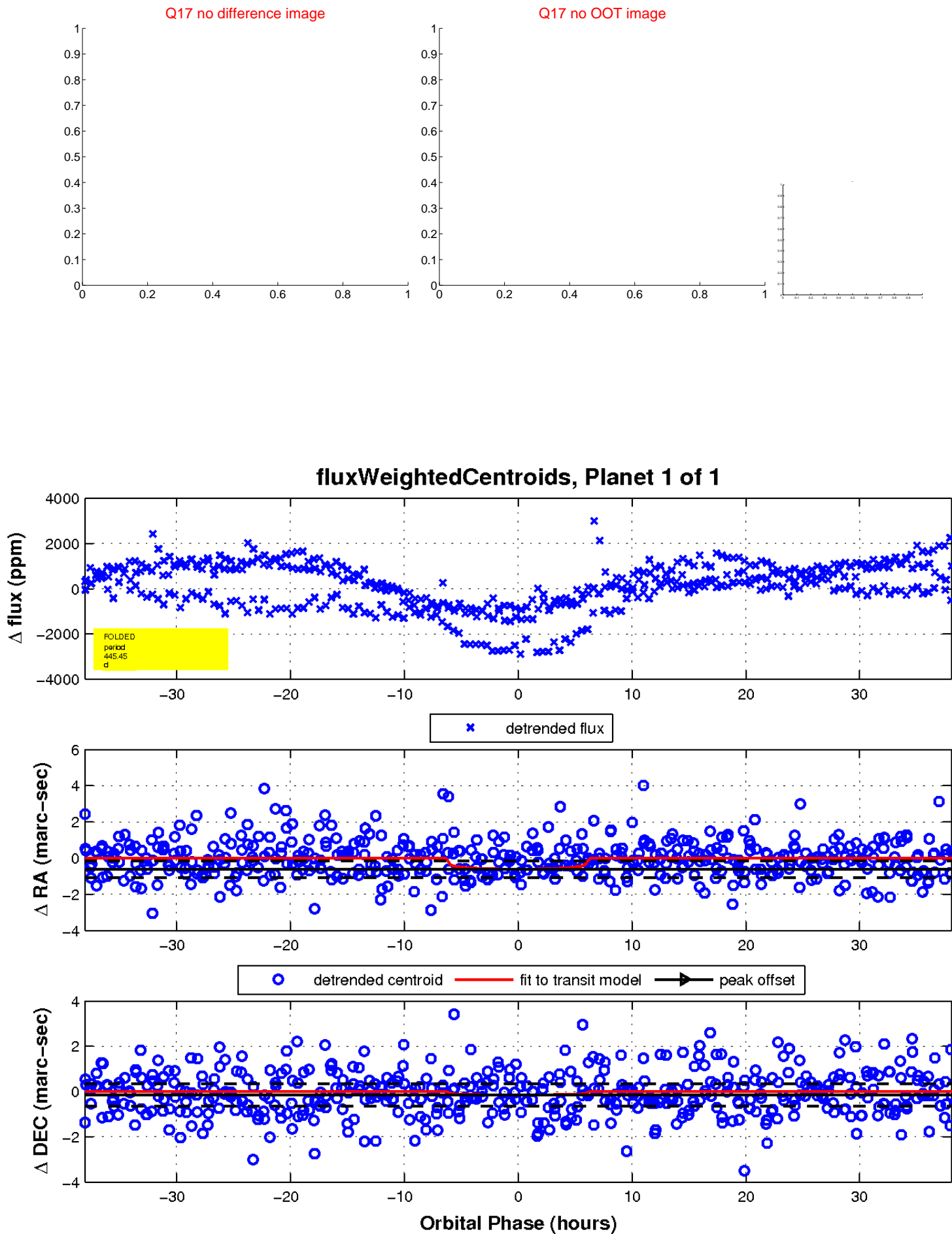
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

