

KIC 009280239

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})
009280239-01	OBS	3975.01	364.744536	135.478171	1411.2	11.389	13.8	16.2	0.63	4386	2.43	0.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009280239-01	OBS	PC	0.99	0	0	0	0	CENT_KIC_POS

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 009280239-01

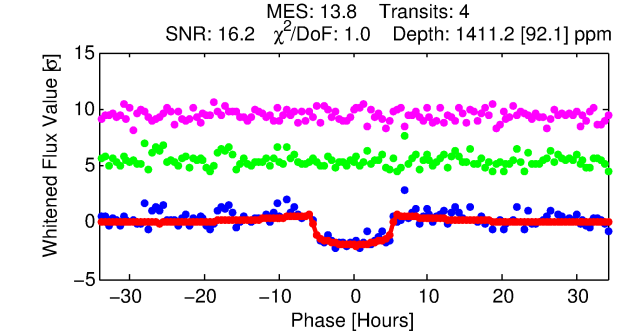
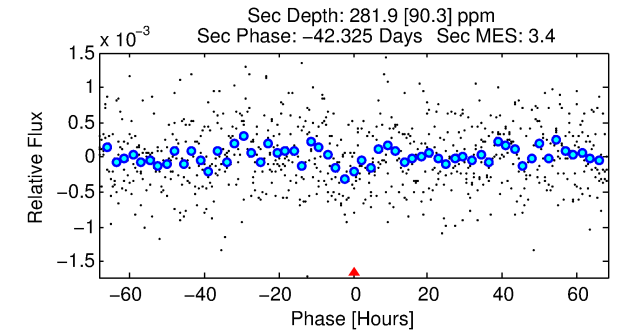
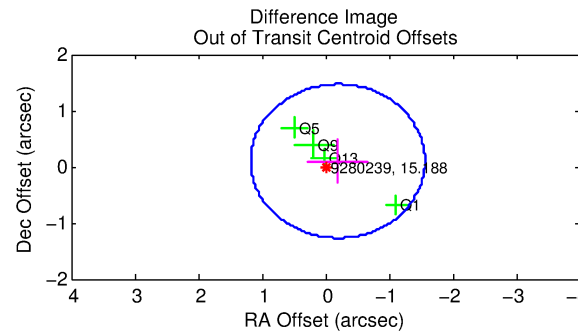
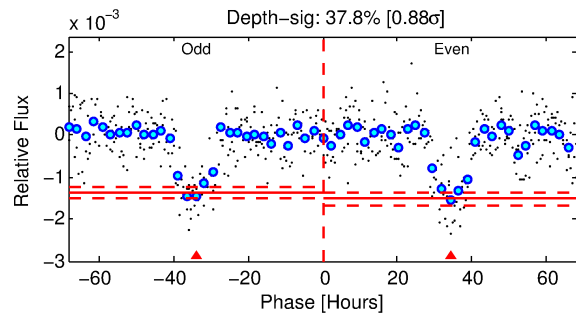
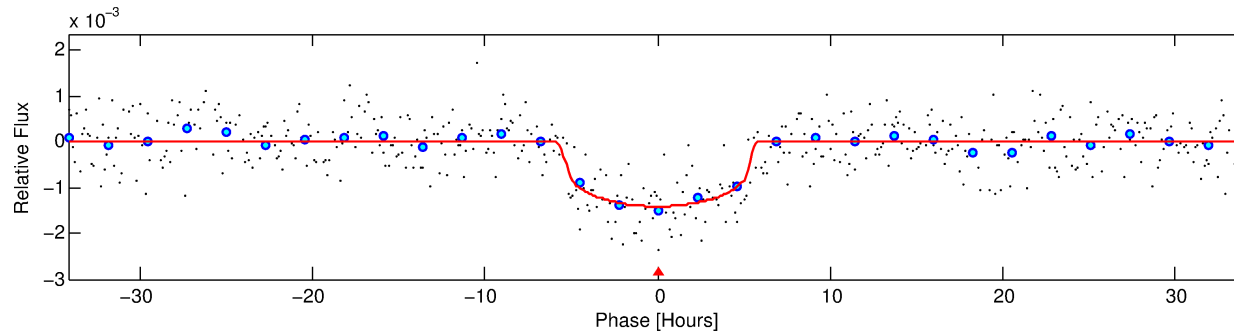
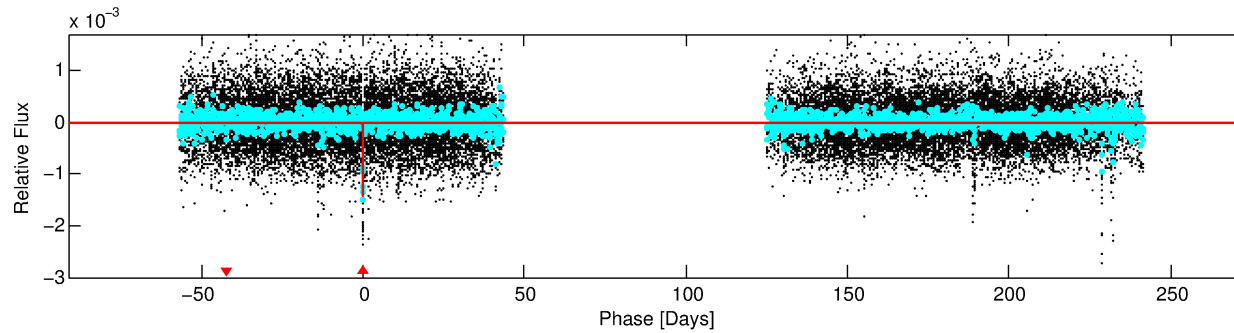
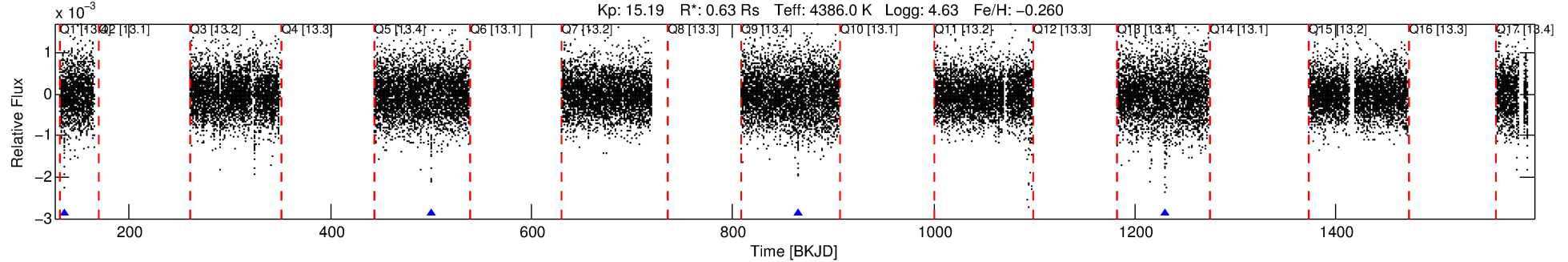
No Significant Match Found

DV One-Page Summary

KIC: 9280239 Candidate: 1 of 1 Period: 364.745 d

KOI: K03975.01 Corr: 0.936

Kp: 15.19 R*: 0.63 Rs Teff: 4386.0 K Logg: 4.63 Fe/H: -0.260



DV Fit Results:

Period = 364.74454 [0.00466] d
Epoch = 135.4782 [0.0082] BKJD
Rp/R* = 0.0353 [0.0093]
a/R* = 210.03 [180.78]
b = 0.58 [1.01]
Seff = 0.18 [0.03]
Teq = 167 [8] K
Rp = 2.43 [0.69] Re
a = 0.8503 [0.0667] AU
Ag = 19053.48 [11972.83] [1.59σ]
Teffp = 3025 [482] K [5.93σ]

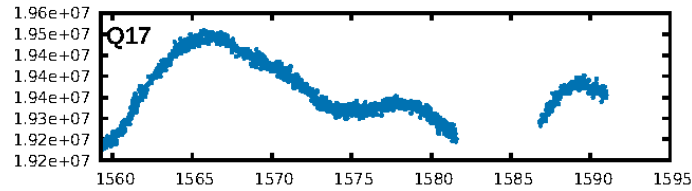
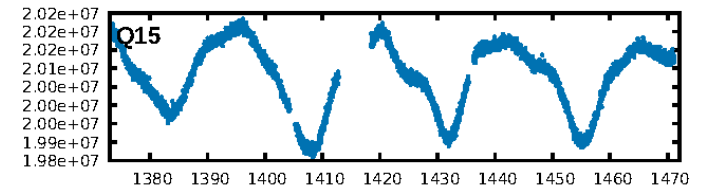
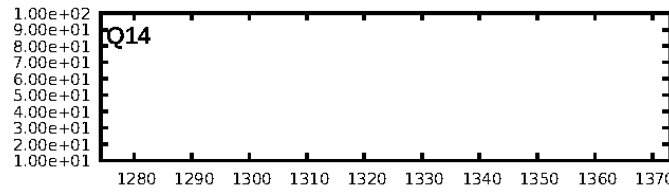
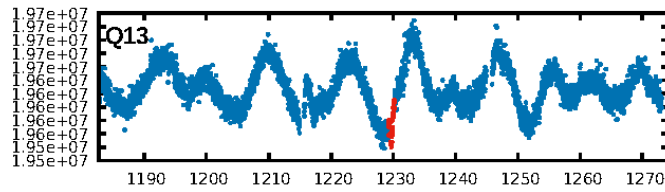
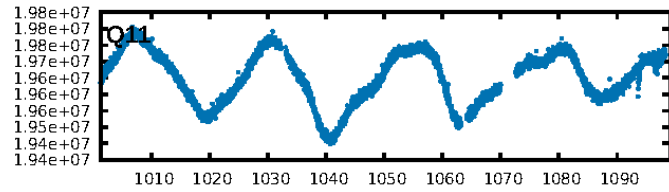
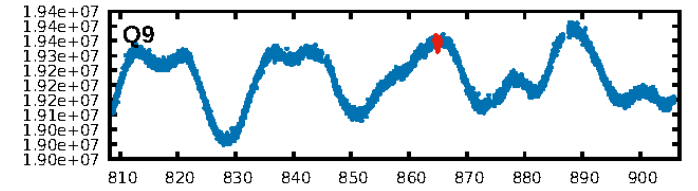
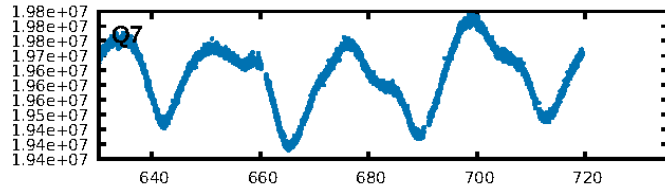
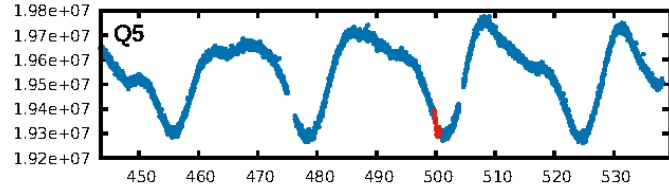
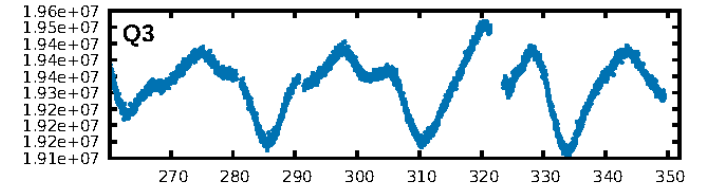
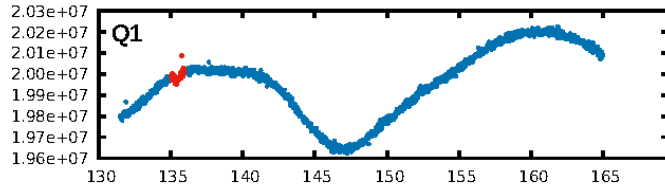
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 63.9%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 3.87e-17
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.065
Centroid-sig: 2.1%
Centroid-so: 1.345 arcsec [1.88σ]
OotOffset-rm: 0.218 arcsec [0.48σ]
KicOffset-rm: 0.394 arcsec [1.03σ]
OotOffset-st: 0/0/0/4 [4]
KicOffset-st: 0/0/0/4 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

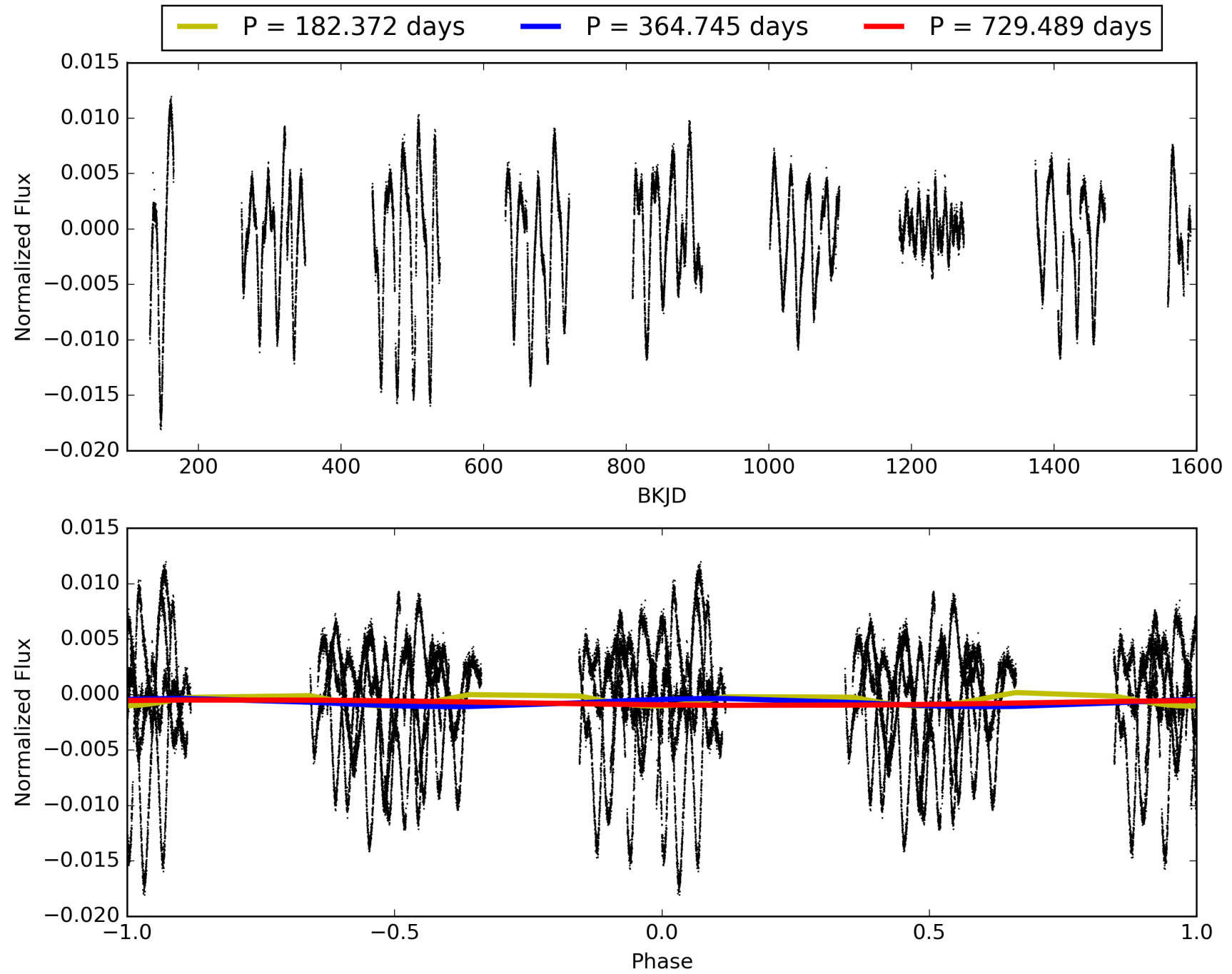
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:15:54 Z

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

TCE 009280239-01, PDC Light Curves

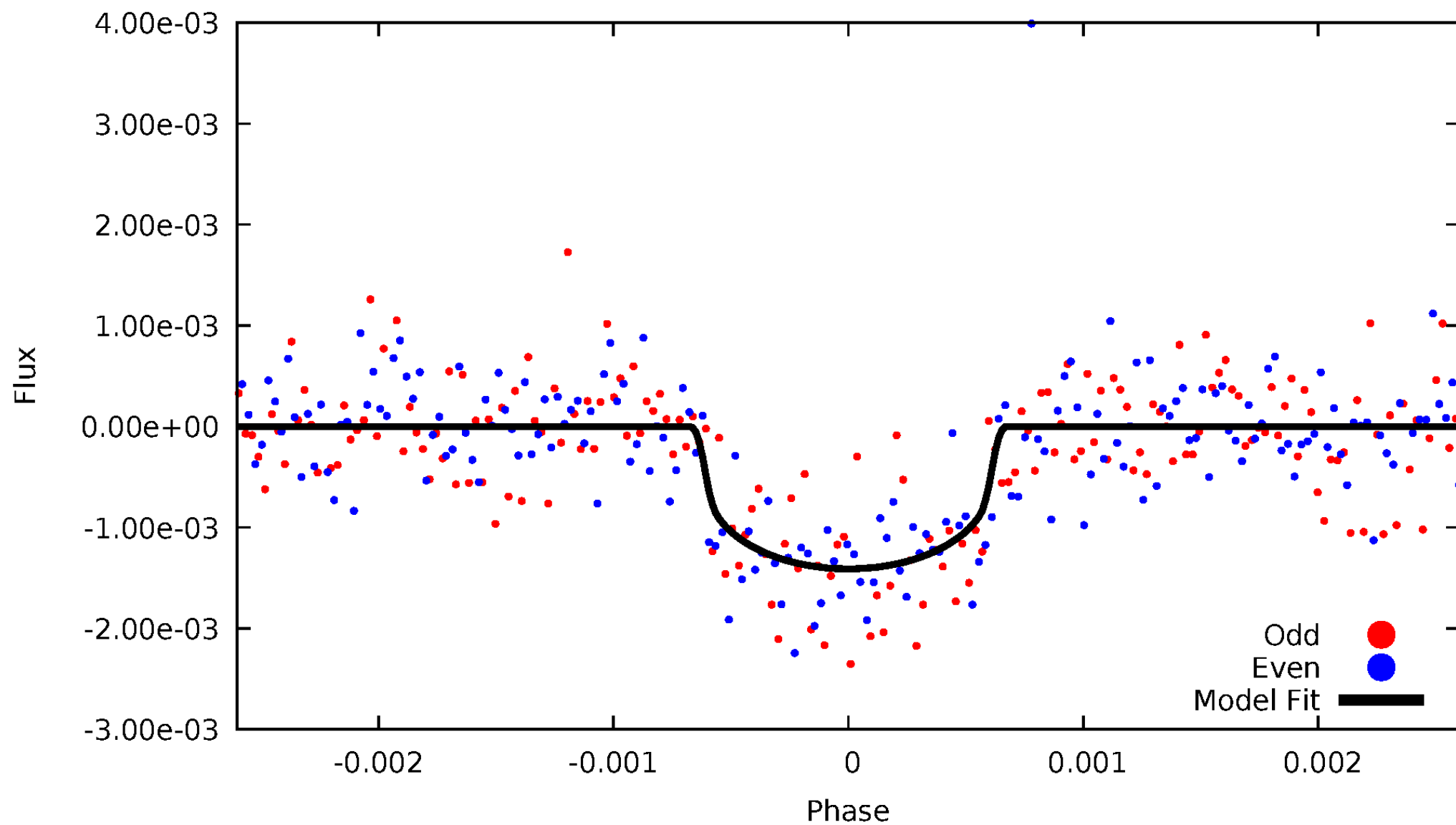


TCE 009280239-01



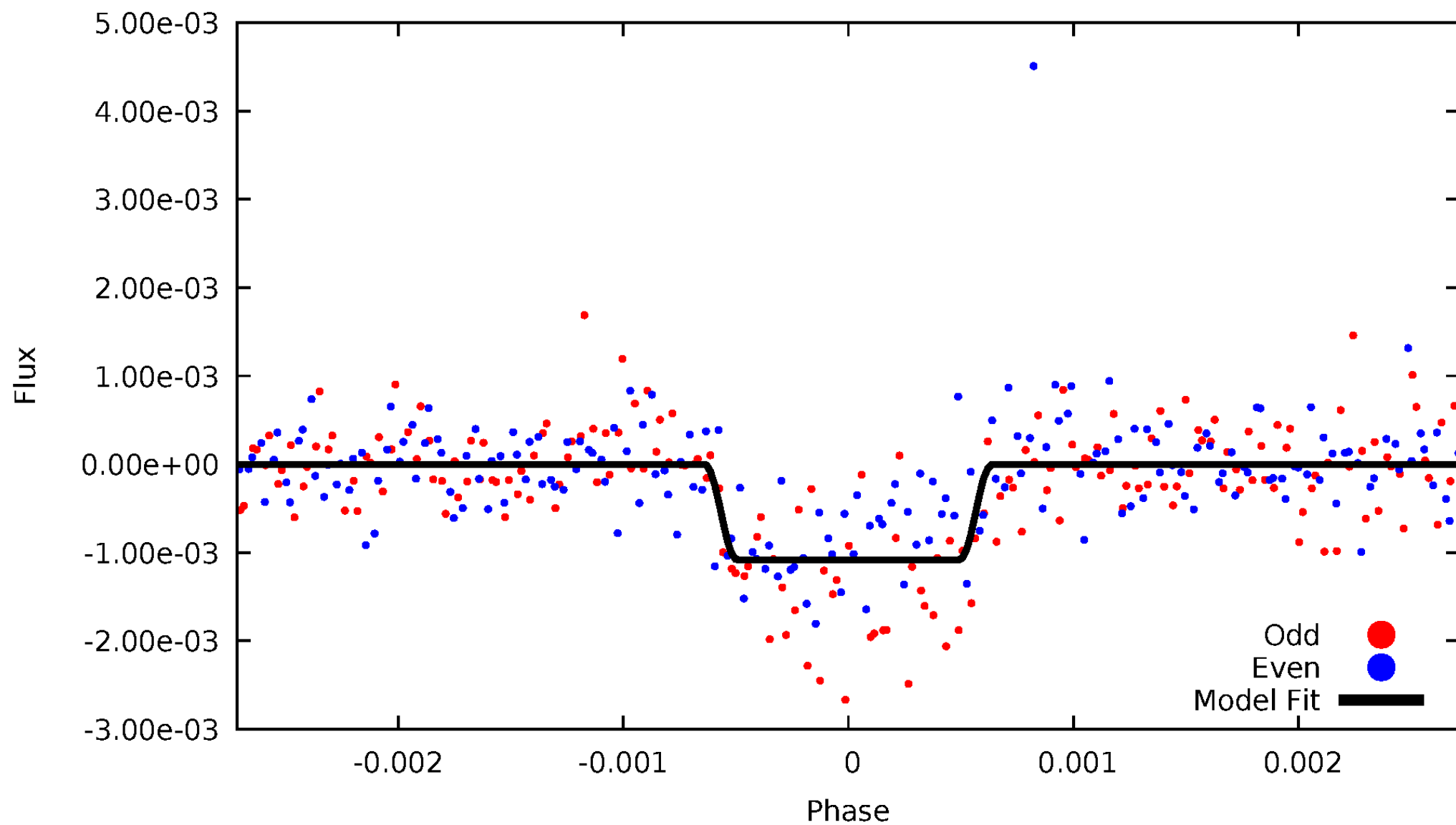
DV Odd/Even

TCE 009280239-01



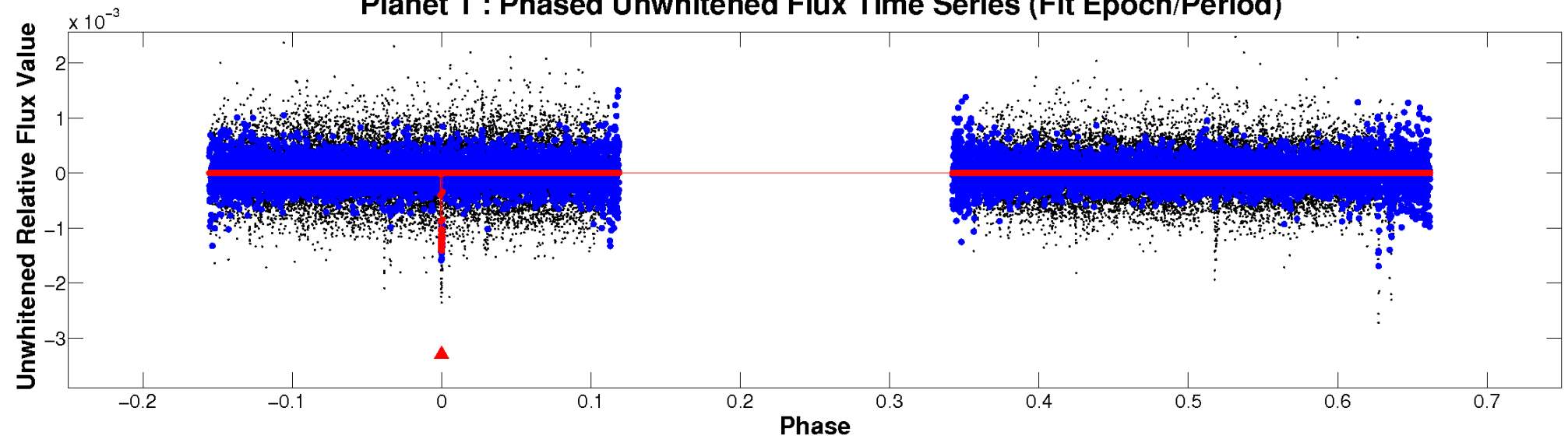
ALT Odd/Even

TCE 009280239-01

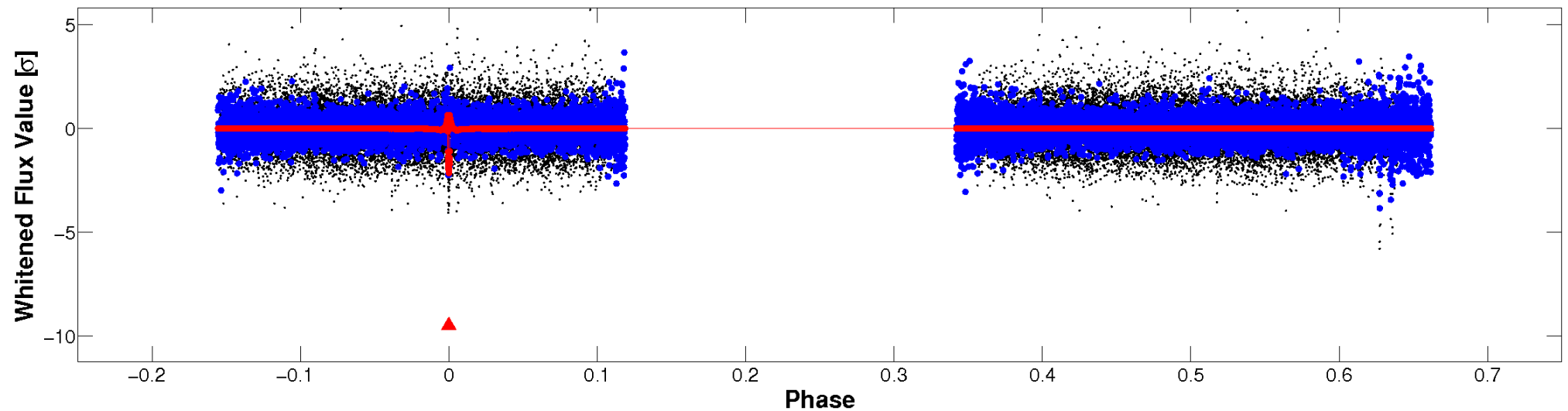


Non-Whitened Vs. Whitened Light Curve

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

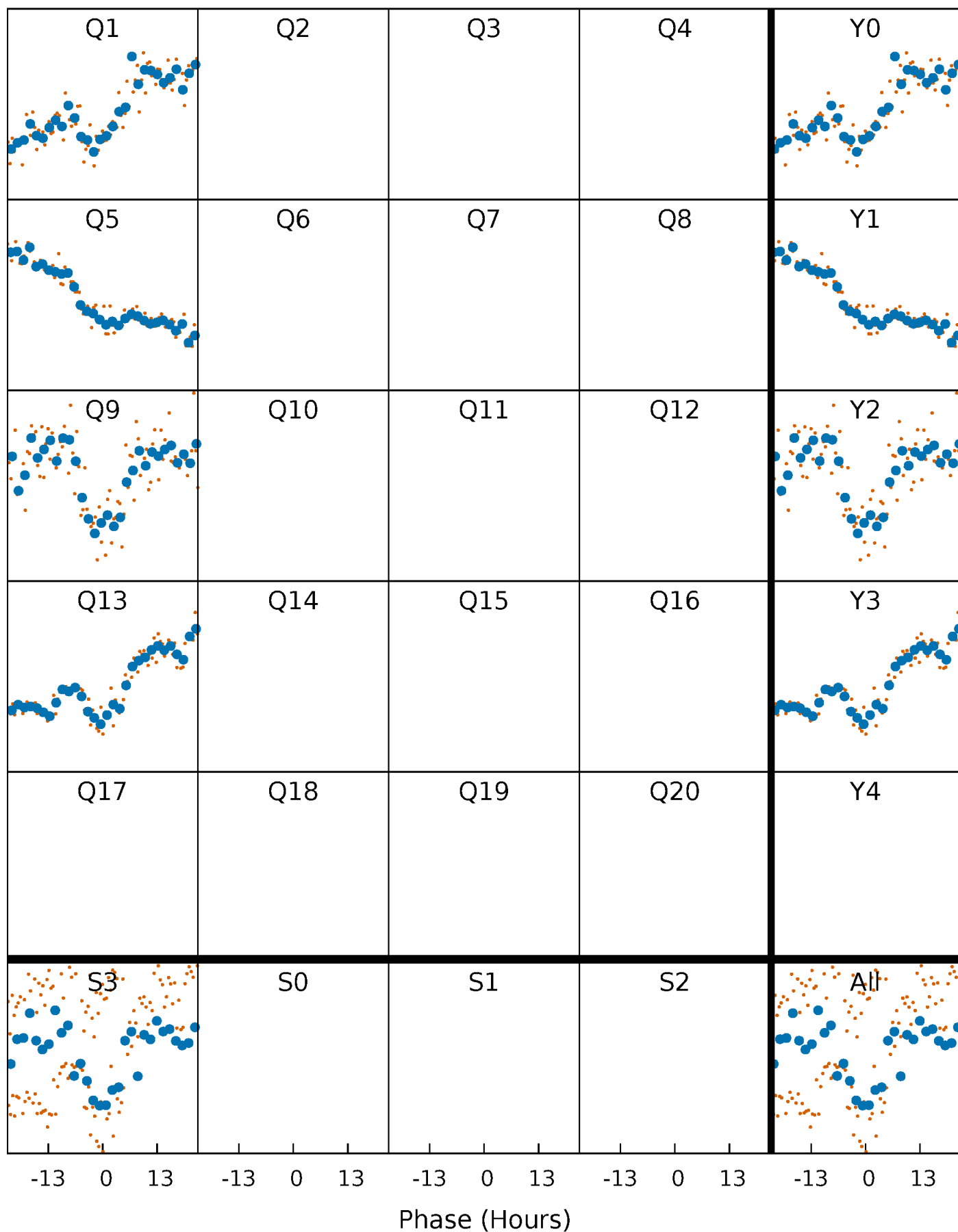


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



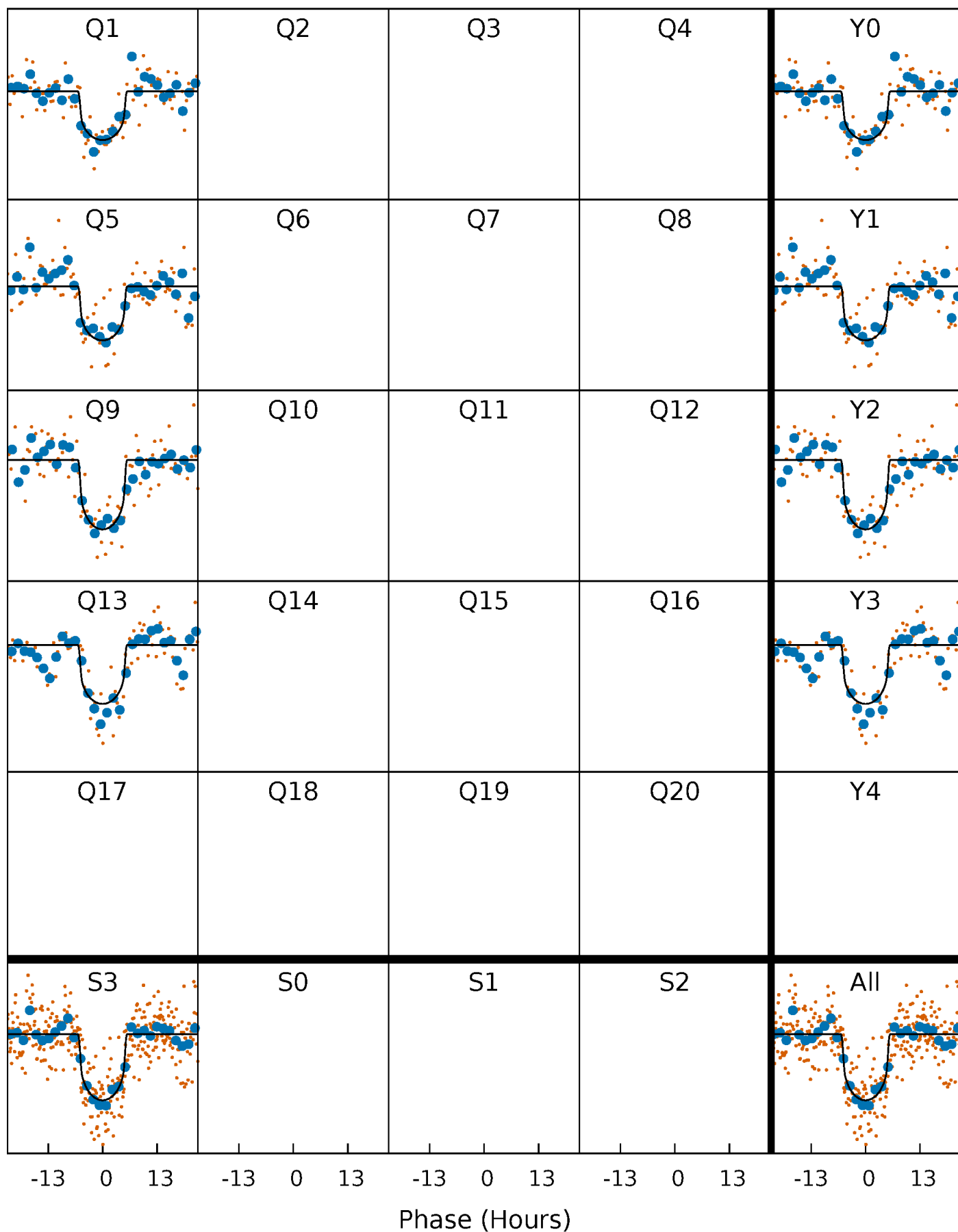
PDC Quarter-Phased Transit Curves

TCE 009280239-01 $P=364.744536$ Days $T_0=135.478171$ (BKJD)



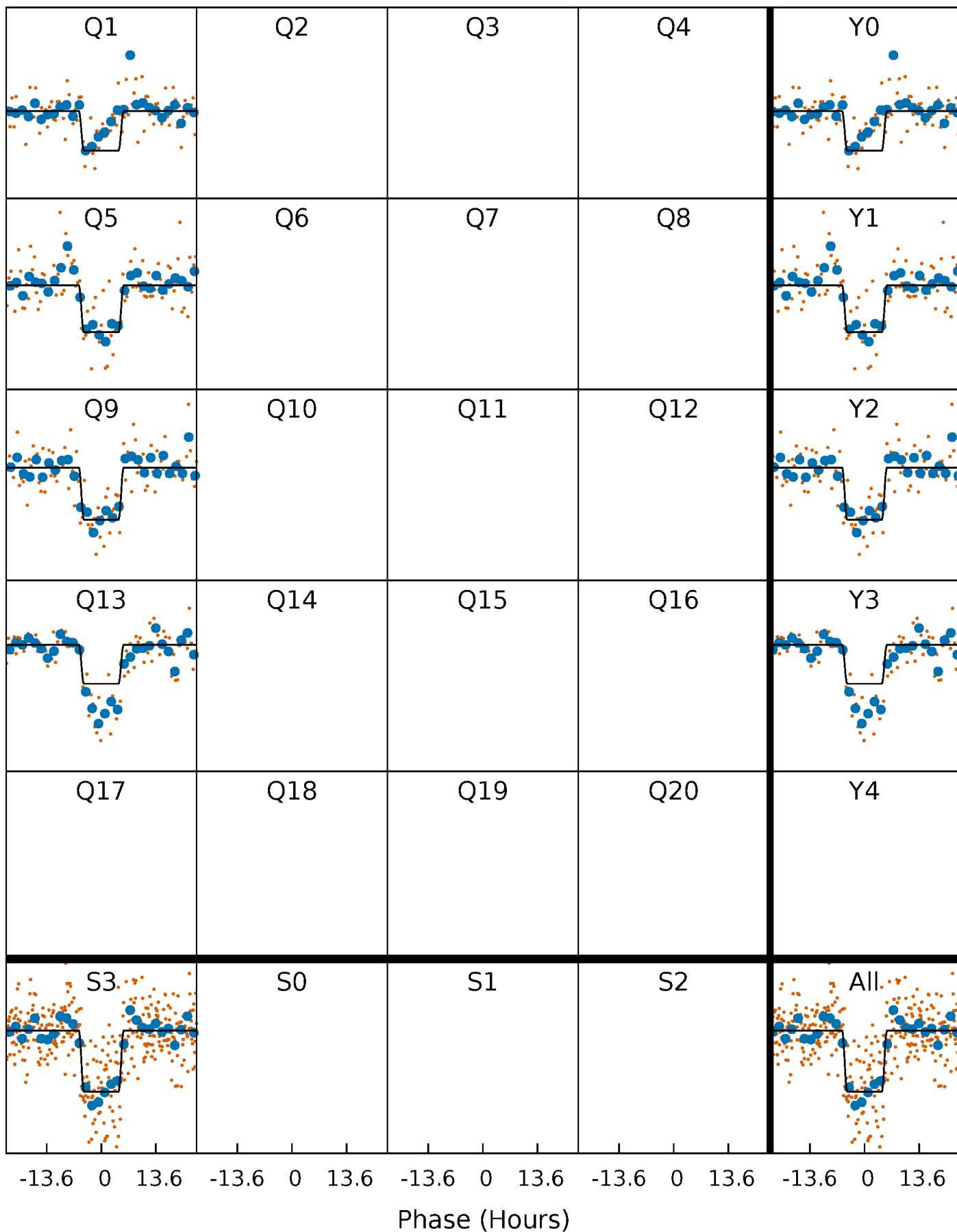
DV Quarter-Phased Transit Curves

TCE 009280239-01 $P=364.744536$ Days $T_0=135.478171$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

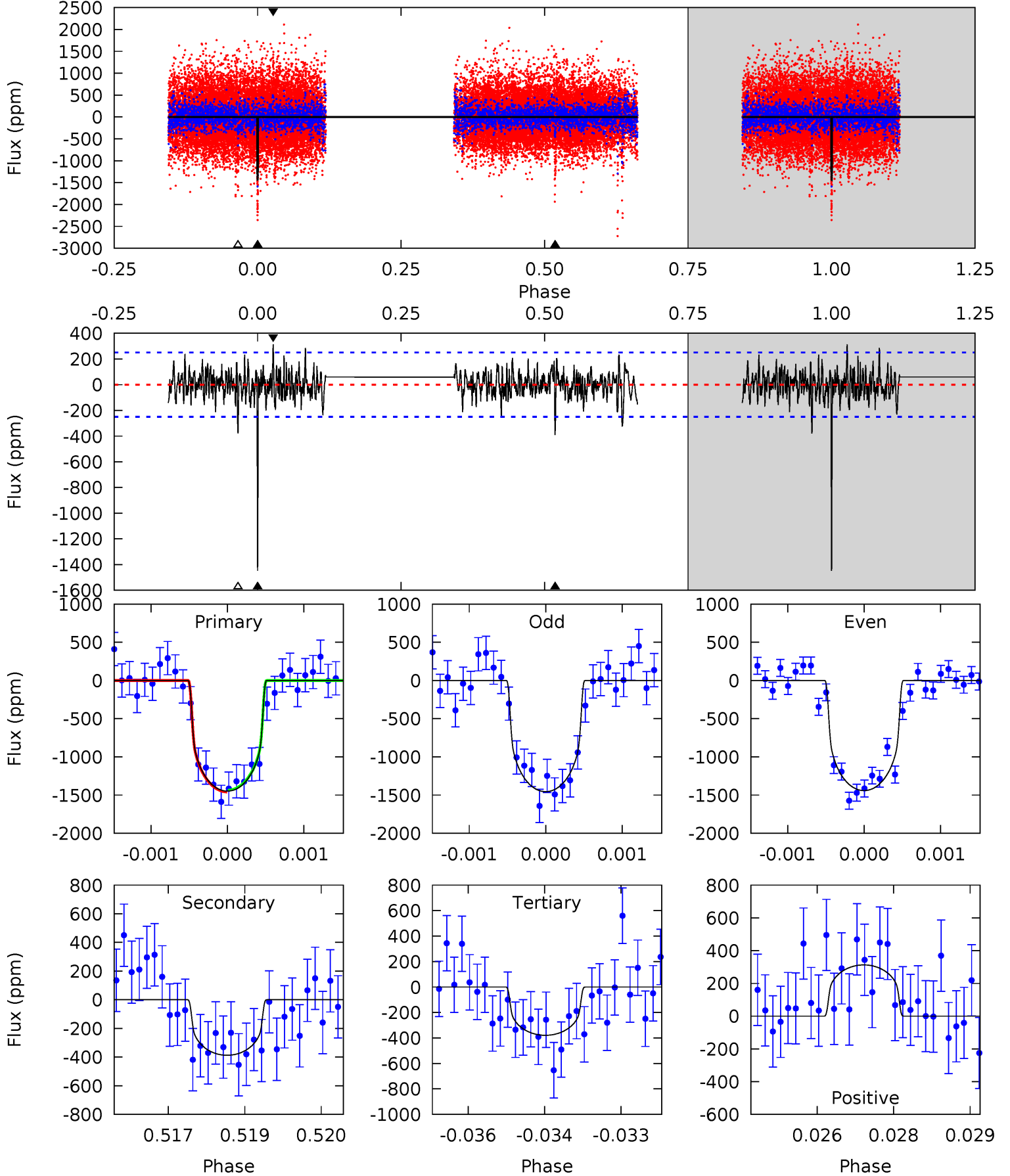
TCE 009280239-01 P=364.752668 Days $T_0=135.462141$ (BKJD)



DV Model-Shift Uniqueness Test

009280239-01, P = 364.744536 Days, E = 135.478171 Days

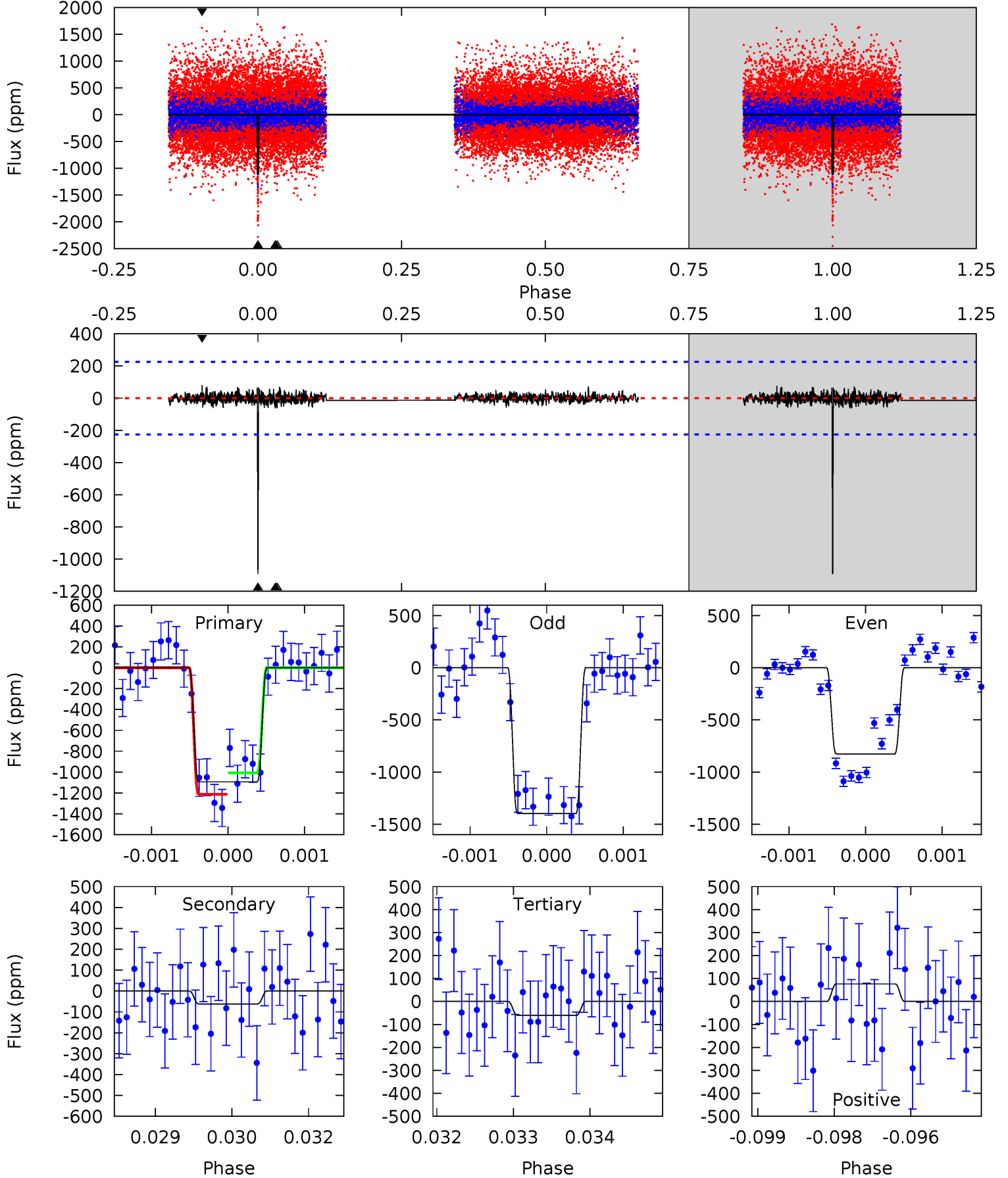
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.2	8.34	8.16	6.73	5.40	3.21	1.76	23.0	24.4	0.18	1.61	0.15	1.01	0.18	0.23



Alt Model-Shift Uniqueness Test

009280239-01, P = 364.752668 Days, E = 135.462141 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.2	1.49	1.45	1.83	5.41	3.22	0.42	24.8	24.4	0.04	-0.34	7.04	1.06	0.07	2.48



Stellar Parameters For KIC 009280239

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4386^{+137}_{-168}	$4.629^{+0.056}_{-0.024}$	$-0.260^{+0.300}_{-0.300}$	$0.630^{+0.045}_{-0.062}$	$0.616^{+0.068}_{-0.056}$	$3.475^{+0.870}_{-0.394}$
	+3%/-4%	+1%/-1%	+115%/-115%	+7%/-10%	+11%/-9%	+25%/-11%
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 009280239-01 / KOI 3975.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-387 ± 46	$2.36^{+0.69}_{-0.64}$	231^{+9}_{-10}	3579^{+433}_{-291}	27812^{+24550}_{-11432}
Alt.	-62 ± 42	$2.24^{+0.66}_{-0.69}$	231^{+8}_{-10}	2785^{+366}_{-399}	4945^{+6859}_{-3377}

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

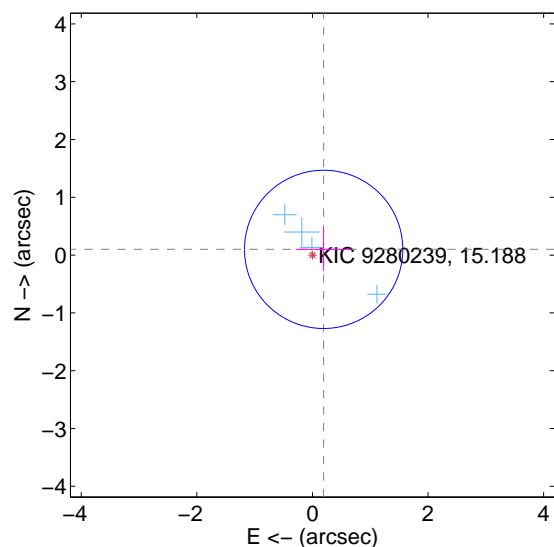
Supplemental centroid analysis for 009280239-01. Kepler magnitude: 15.19. Transit SNR 16.22

There are 4 quarters with good PRF difference image offsets

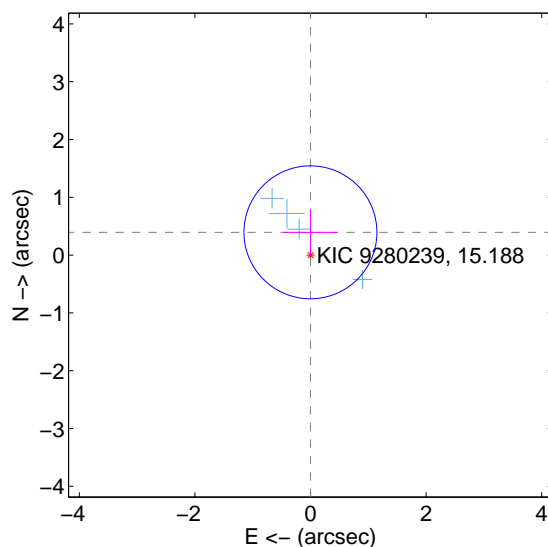
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.218 ± 0.456	0.48	-0.194 ± 0.476	0.099 ± 0.371
PRF-fit source offset from KIC position	0.394 ± 0.383	1.03	0.002 ± 0.465	0.394 ± 0.383
photometric centroid source offset	1.35 ± 0.71	1.88	-0.44 ± 0.88	1.27 ± 0.69

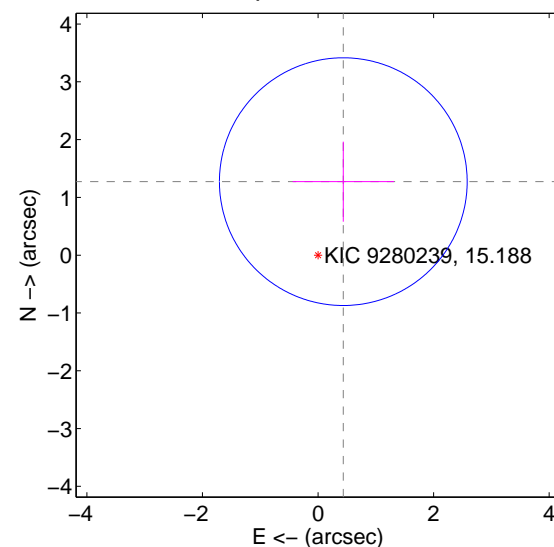
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

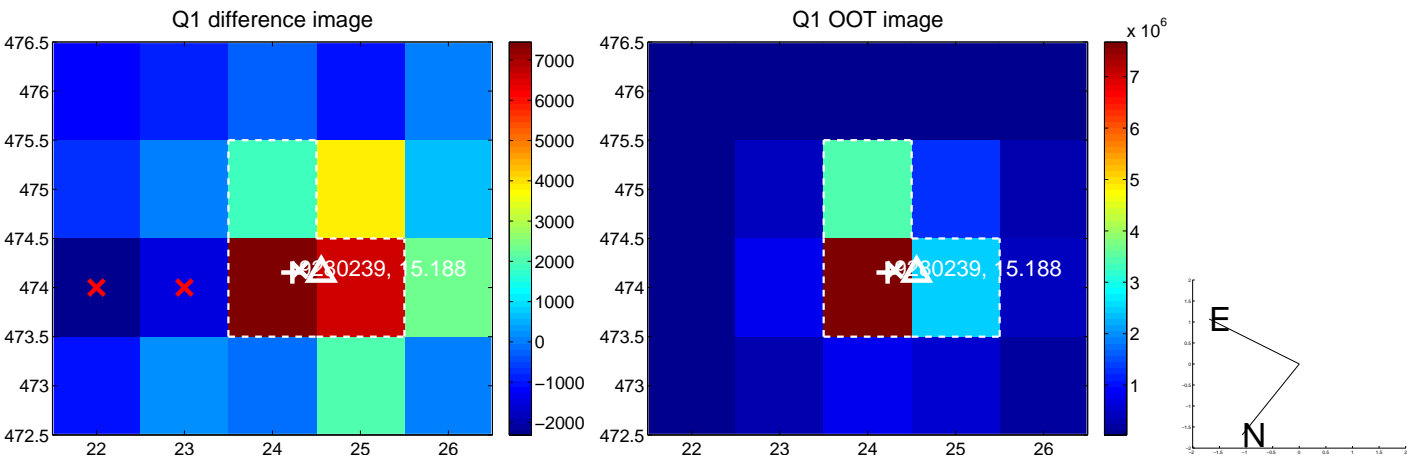


offset from photometric centroids

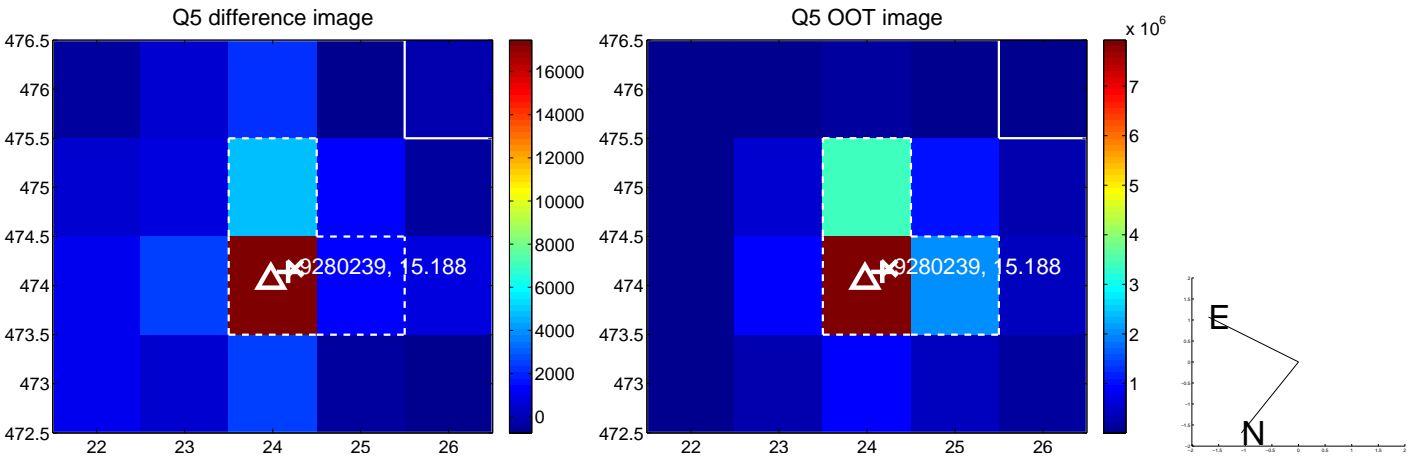


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

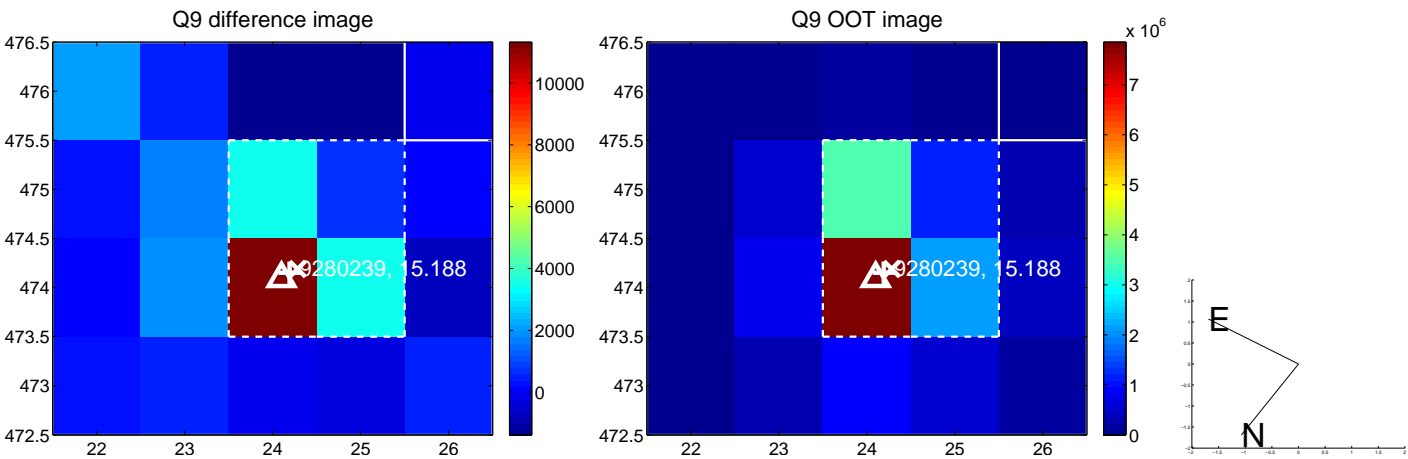
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



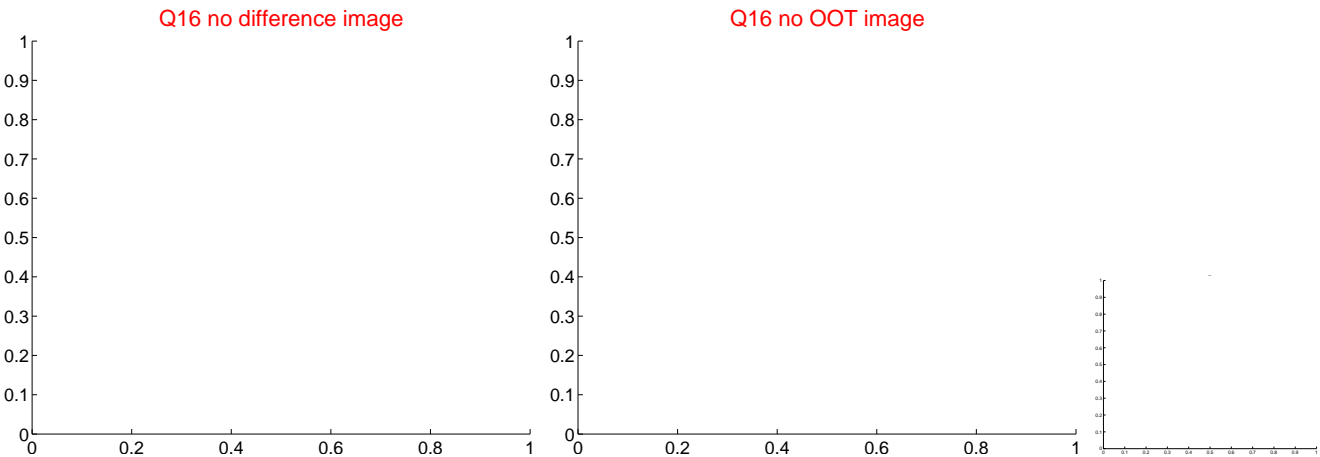
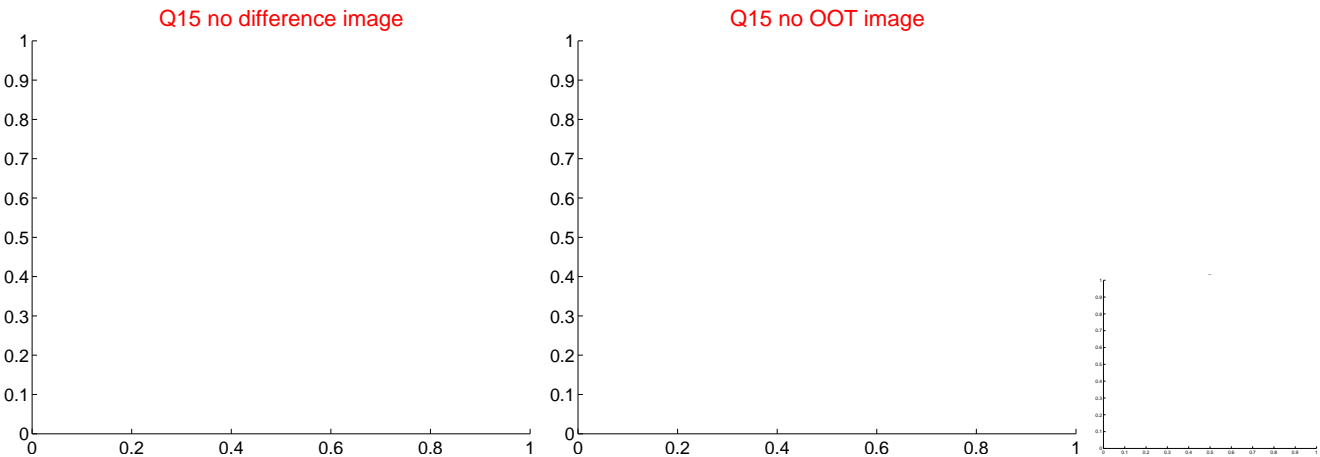
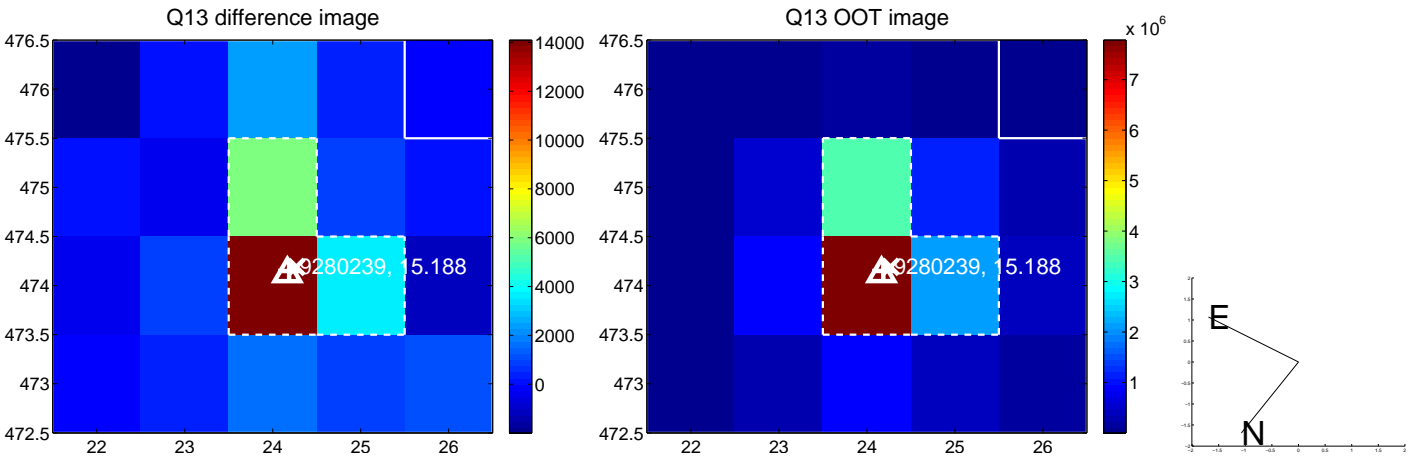
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



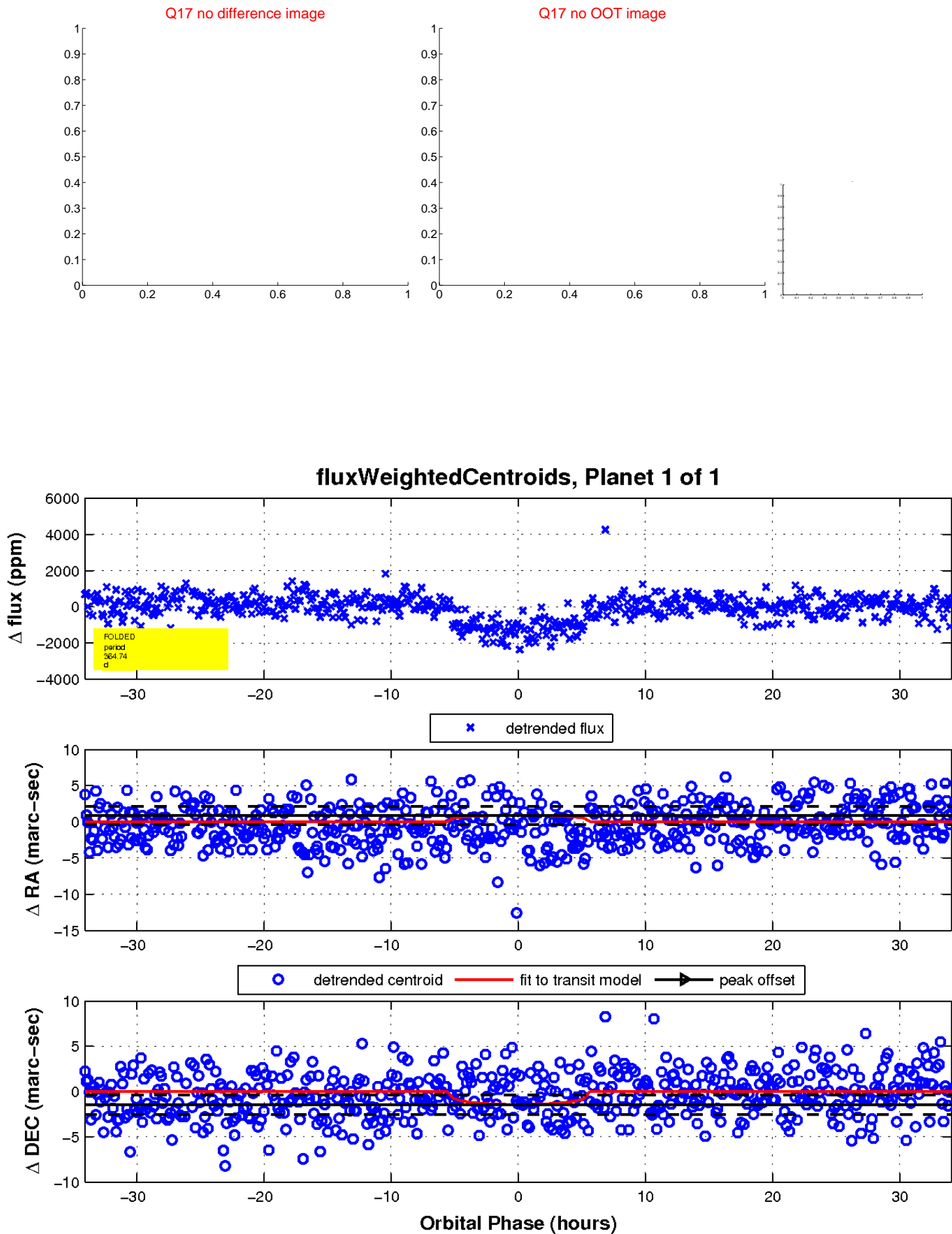
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Declination

