

KIC 005872139

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})
005872139-01	OBS	8110.01	375.165858	260.434876	1608.7	23.469	7.5	7.6	1.02	6089	5.34	1.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005872139-01	OBS	FP	0.04	1	0	0	0	ALL_TRANS_CHASES—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.

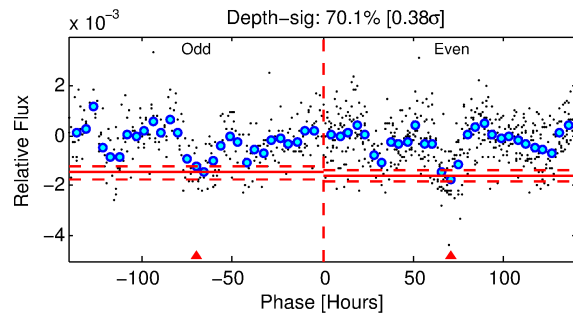
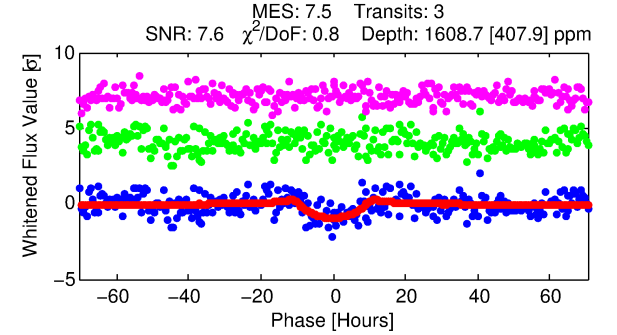
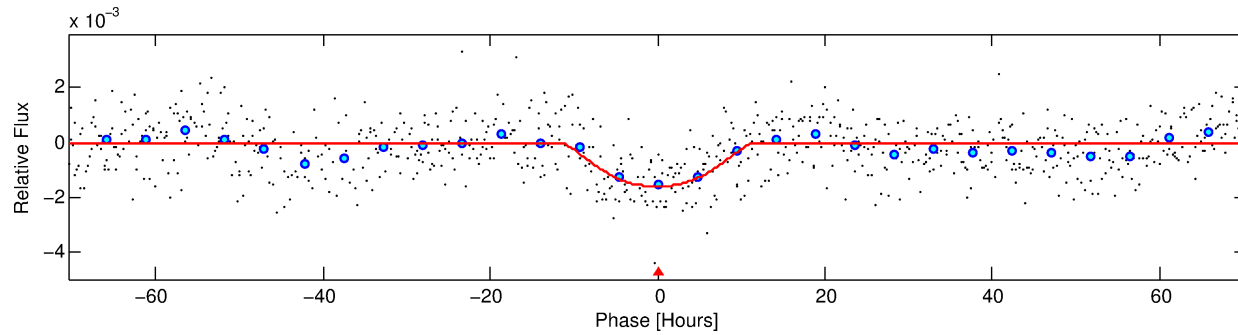
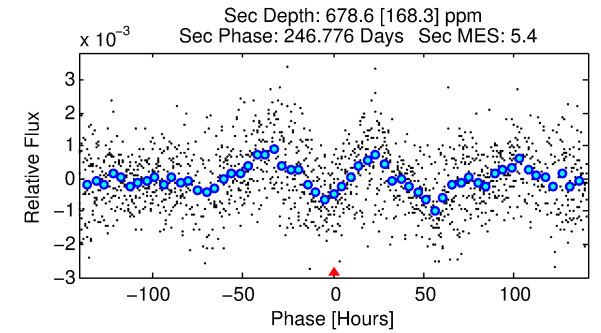
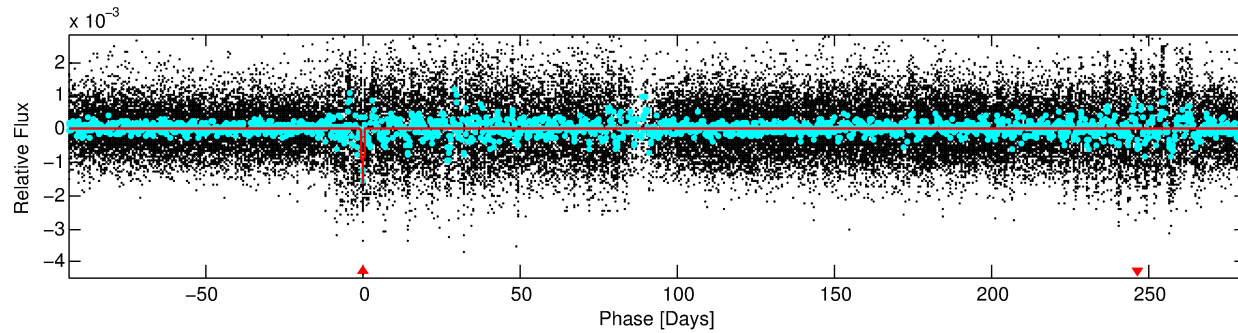
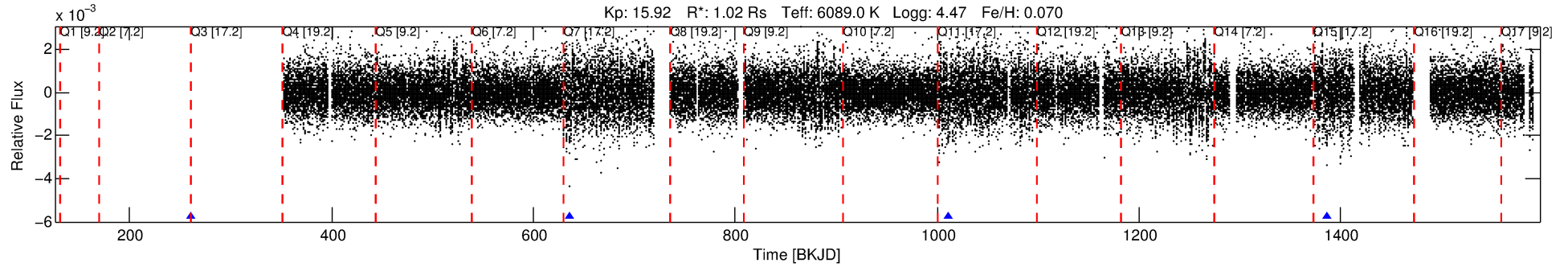
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005872139-01

No Significant Match Found

DV One-Page Summary

KIC: 5872139 Candidate: 1 of 1 Period: 375.166 d



DV Fit Results:

Period = 375.16586 [0.03682] d
Epoch = 260.4349 [0.0767] BKJD
Rp/R* = 0.0478 [0.0138]
a/R* = 51.97 [12.06]
b = 0.96 [0.04]
Seff = 1.15 [0.48]
Teq = 264 [28] K
Rp = 5.34 [2.29] Re
a = 1.0586 [0.2800] AU
Ag = 14670.62 [10791.39] [1.36σ]
Teffp = 4496 [731] K [5.78σ]

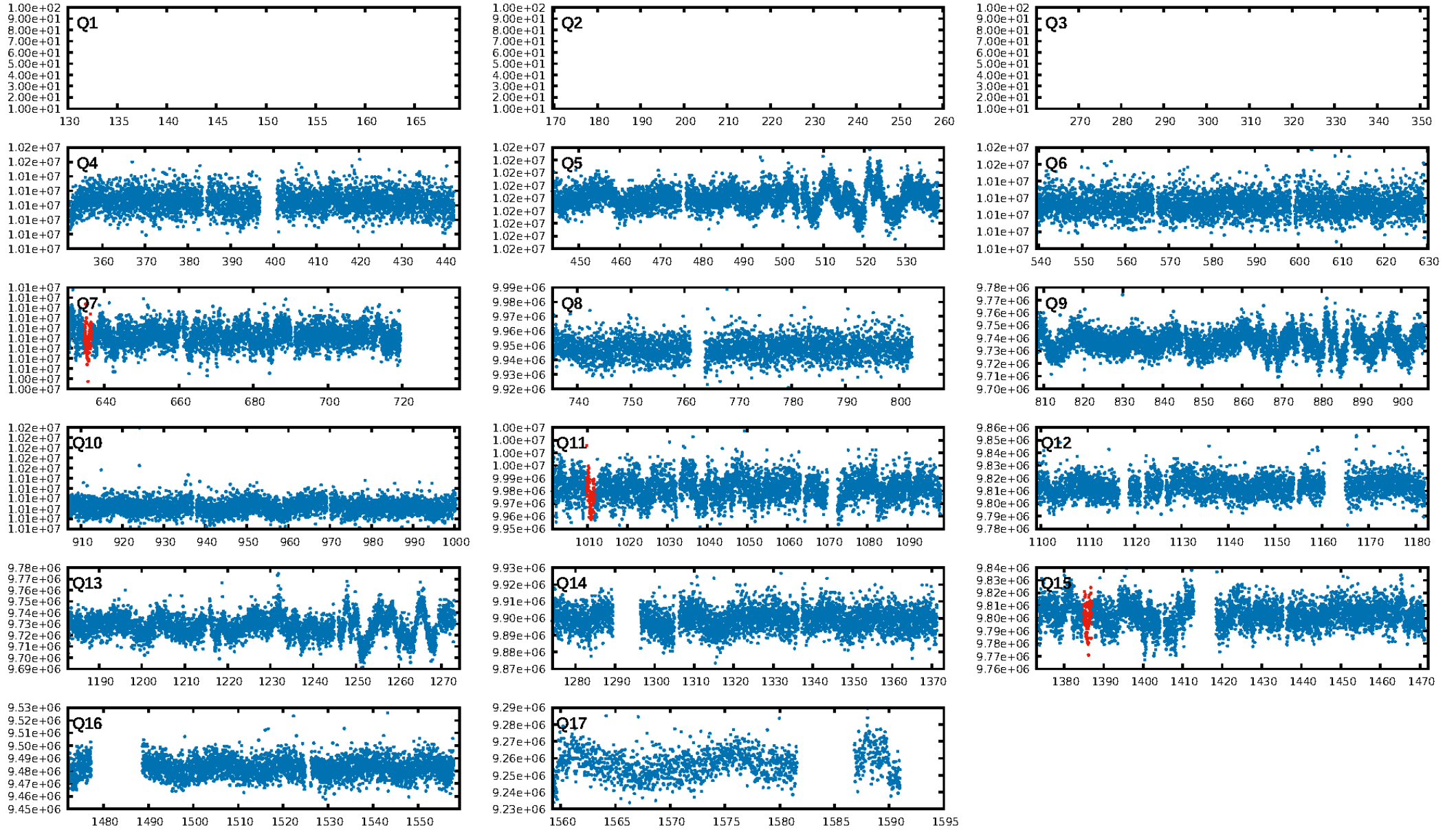
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 76.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.25e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 14.37
Centroid-sig: 48.6%
Centroid-so: 2.727 arcsec [3.13σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

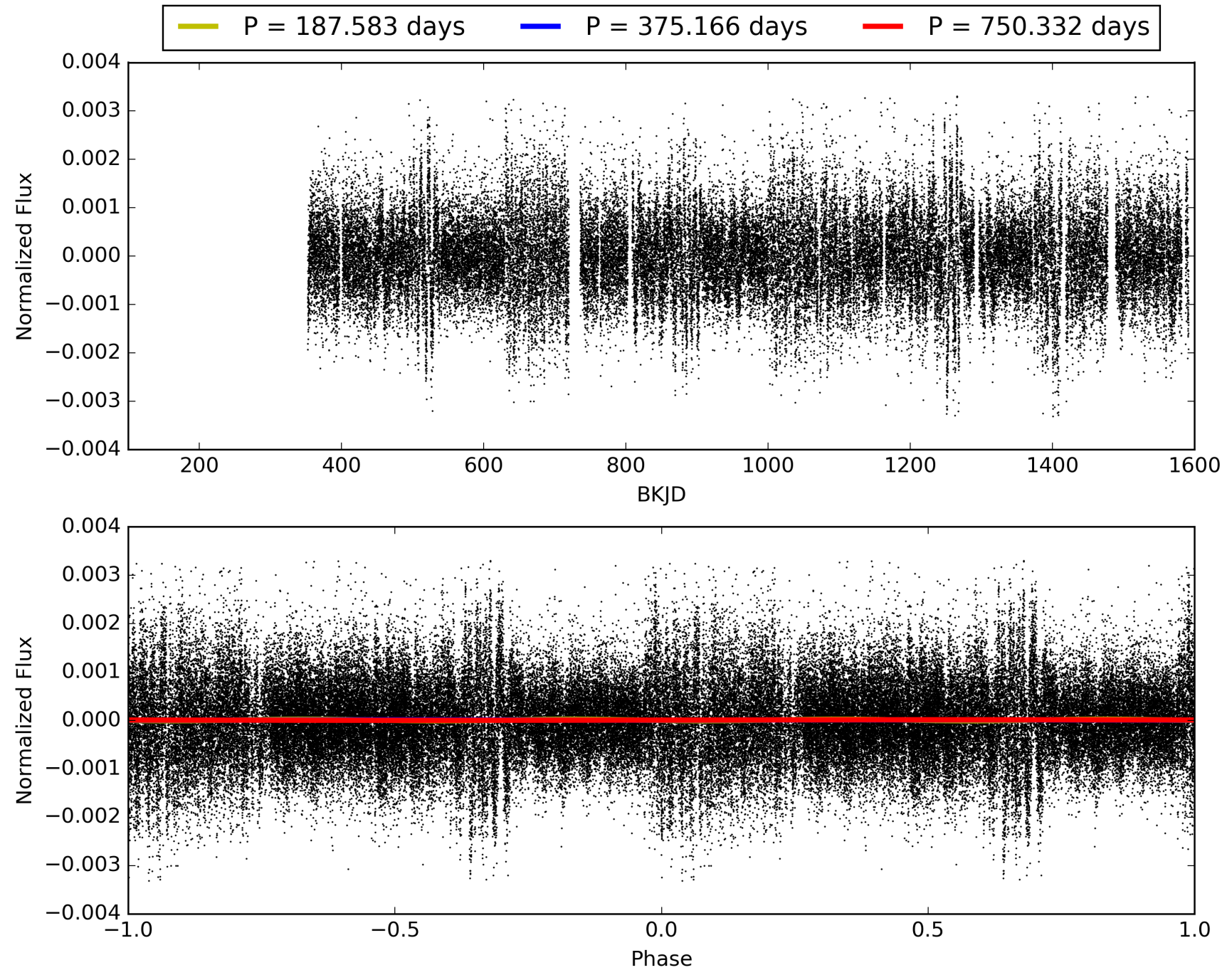
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:57:46 Z

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

TCE 005872139-01, PDC Light Curves

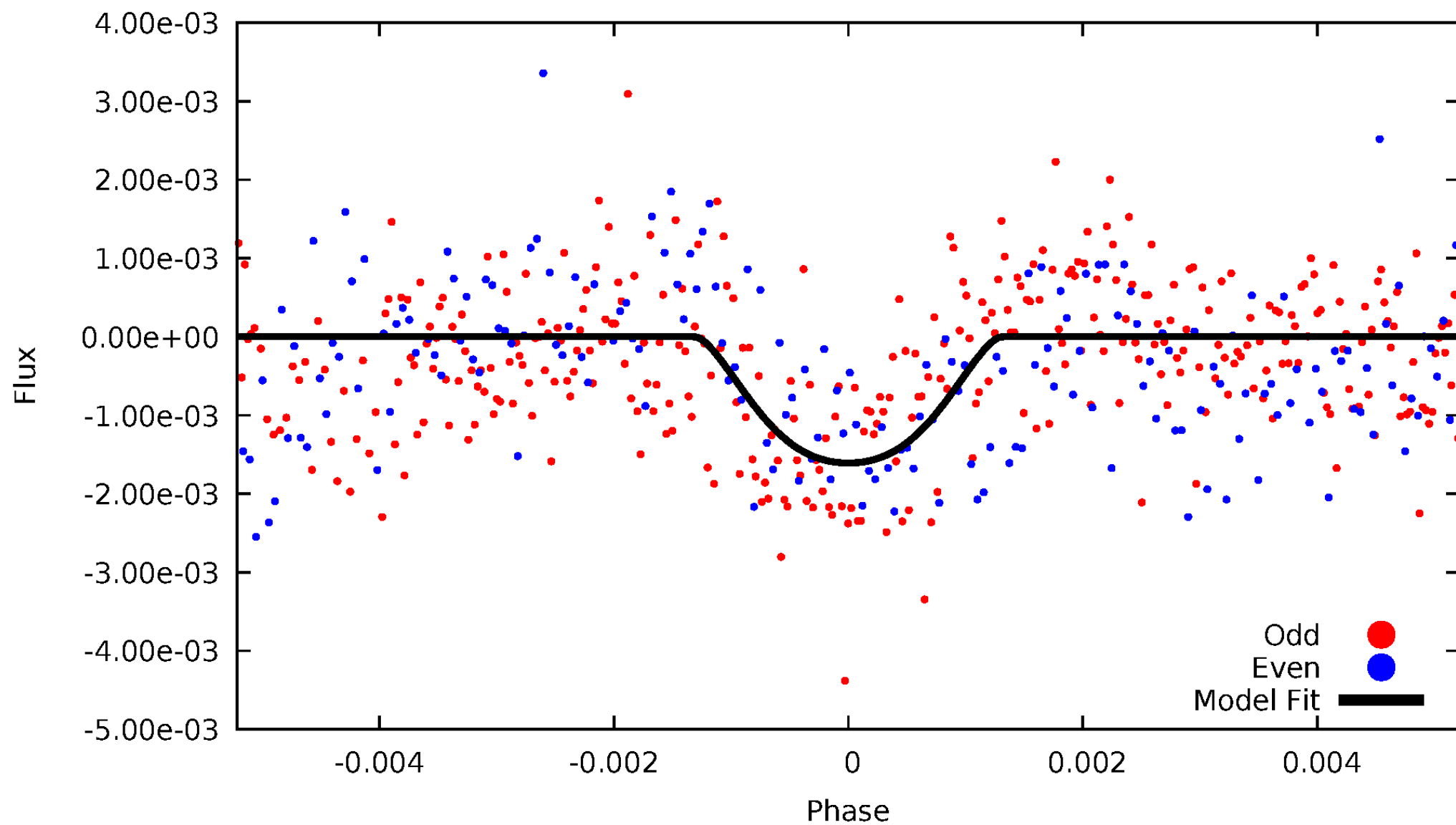


TCE 005872139-01



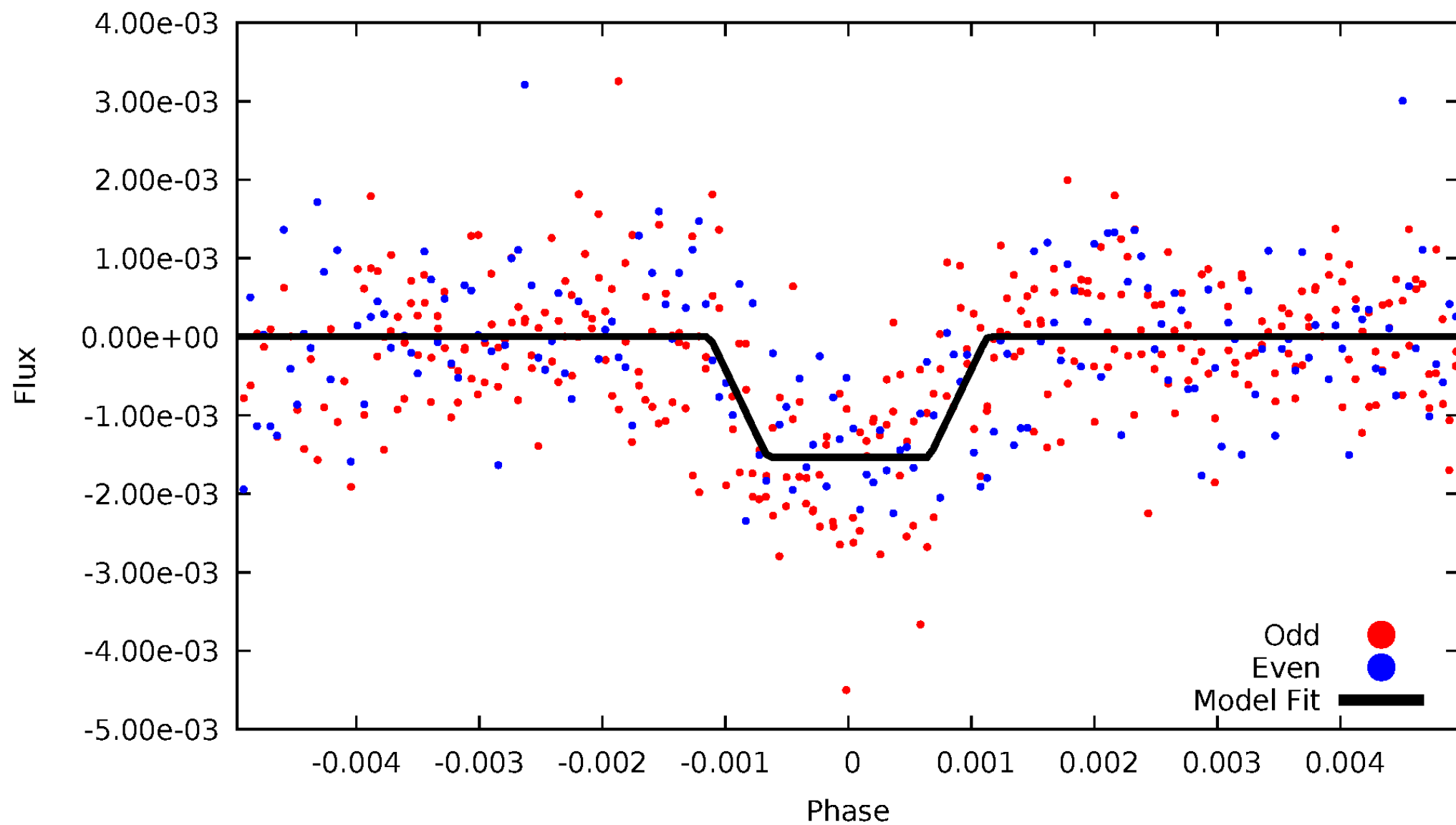
DV Odd/Even

TCE 005872139-01



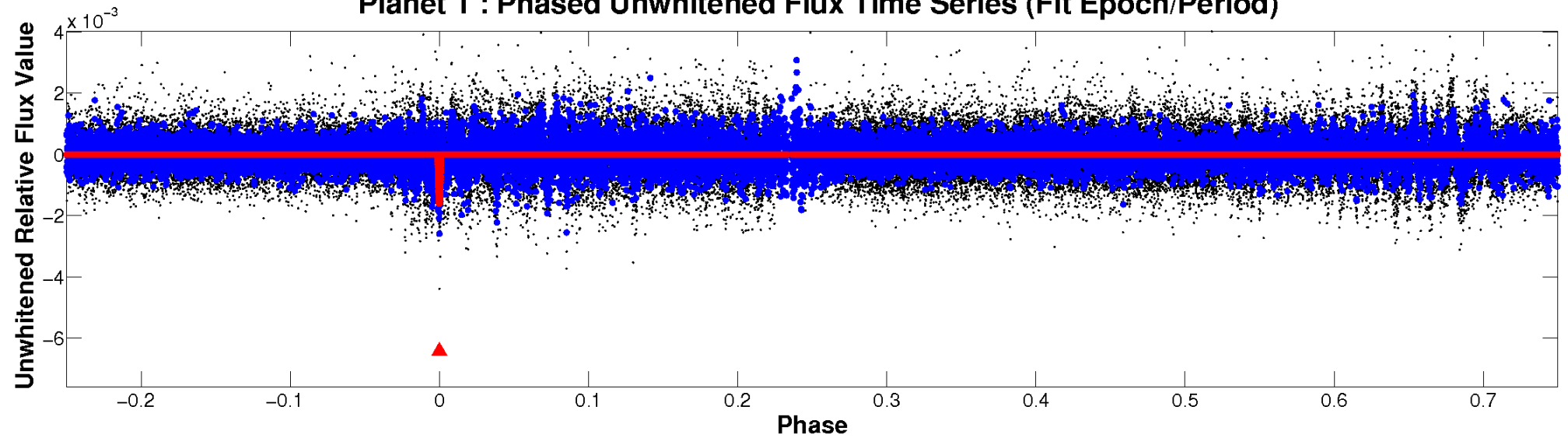
ALT Odd/Even

TCE 005872139-01

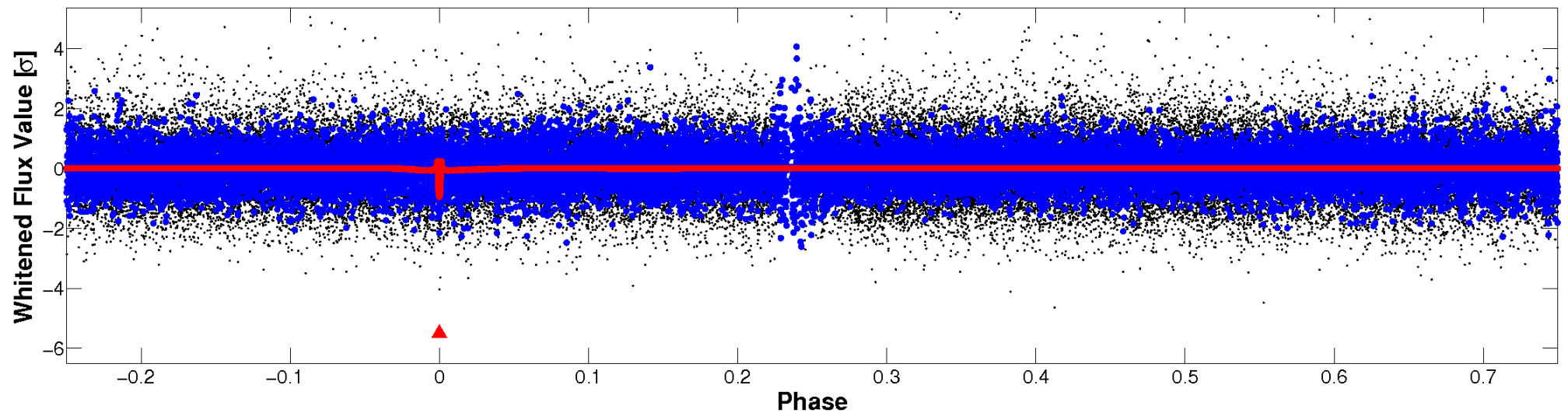


Non-Whitened Vs. Whitened Light Curve

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

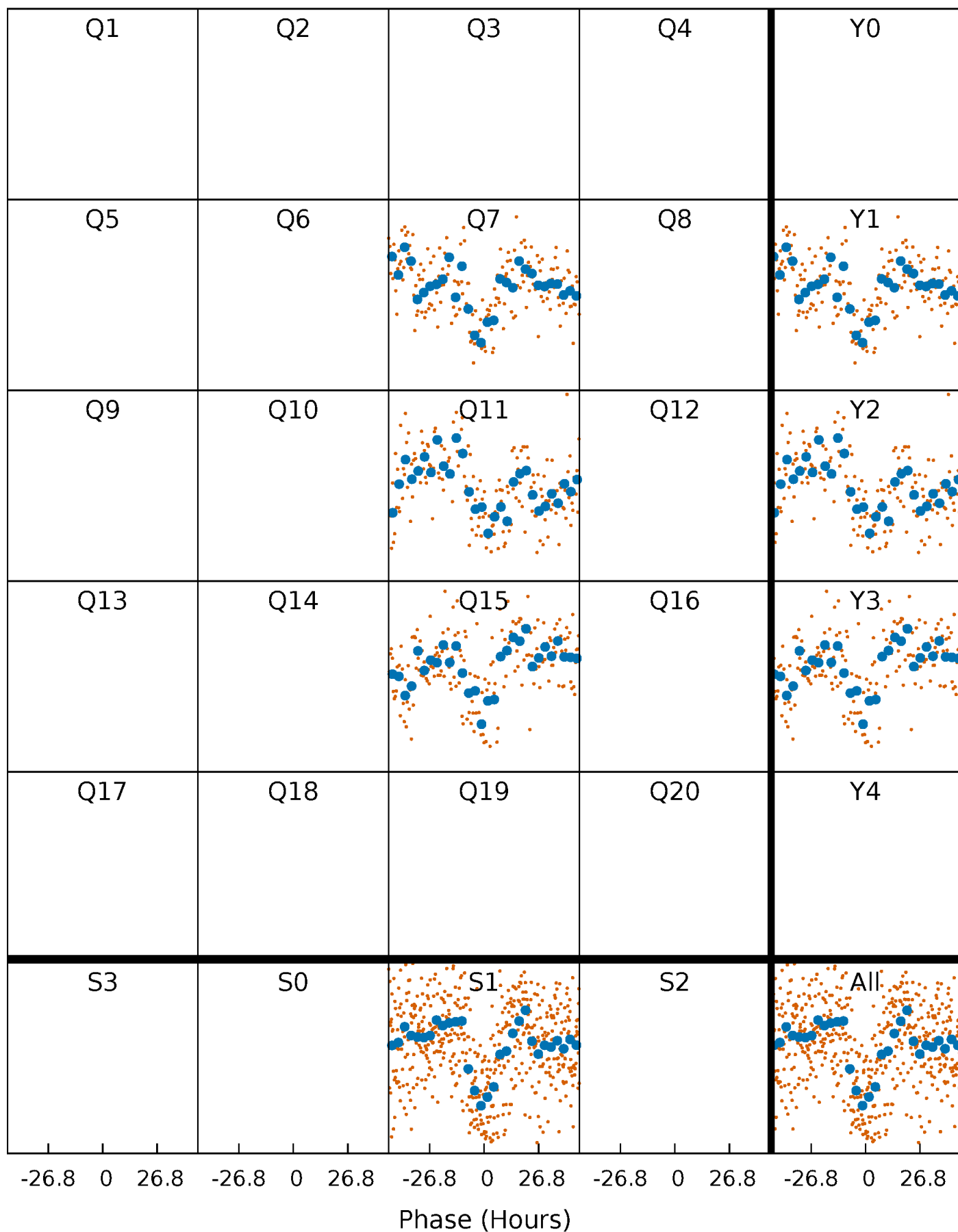


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



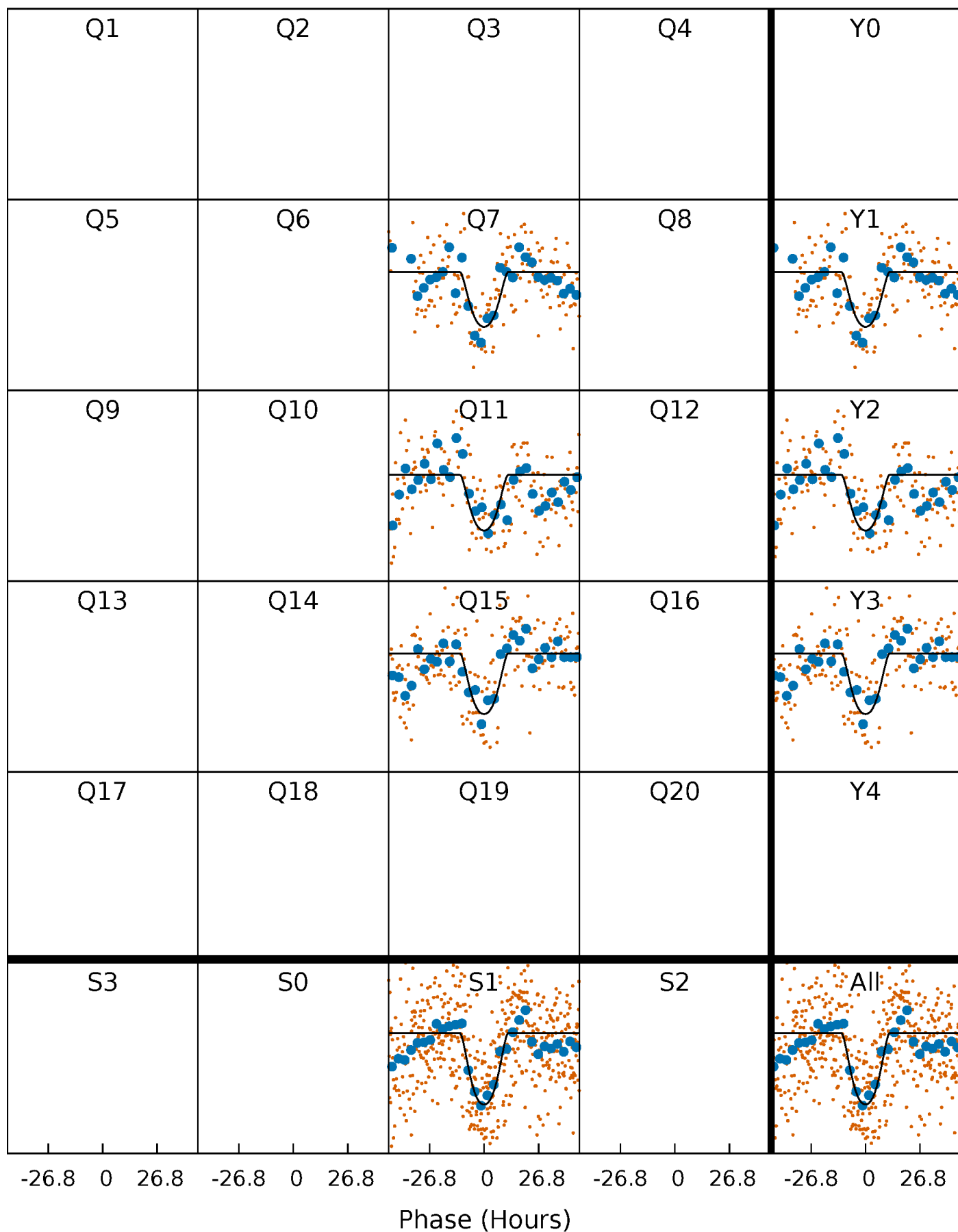
PDC Quarter-Phased Transit Curves

TCE 005872139-01 P=375.165858 Days $T_0=260.434876$ (BKJD)



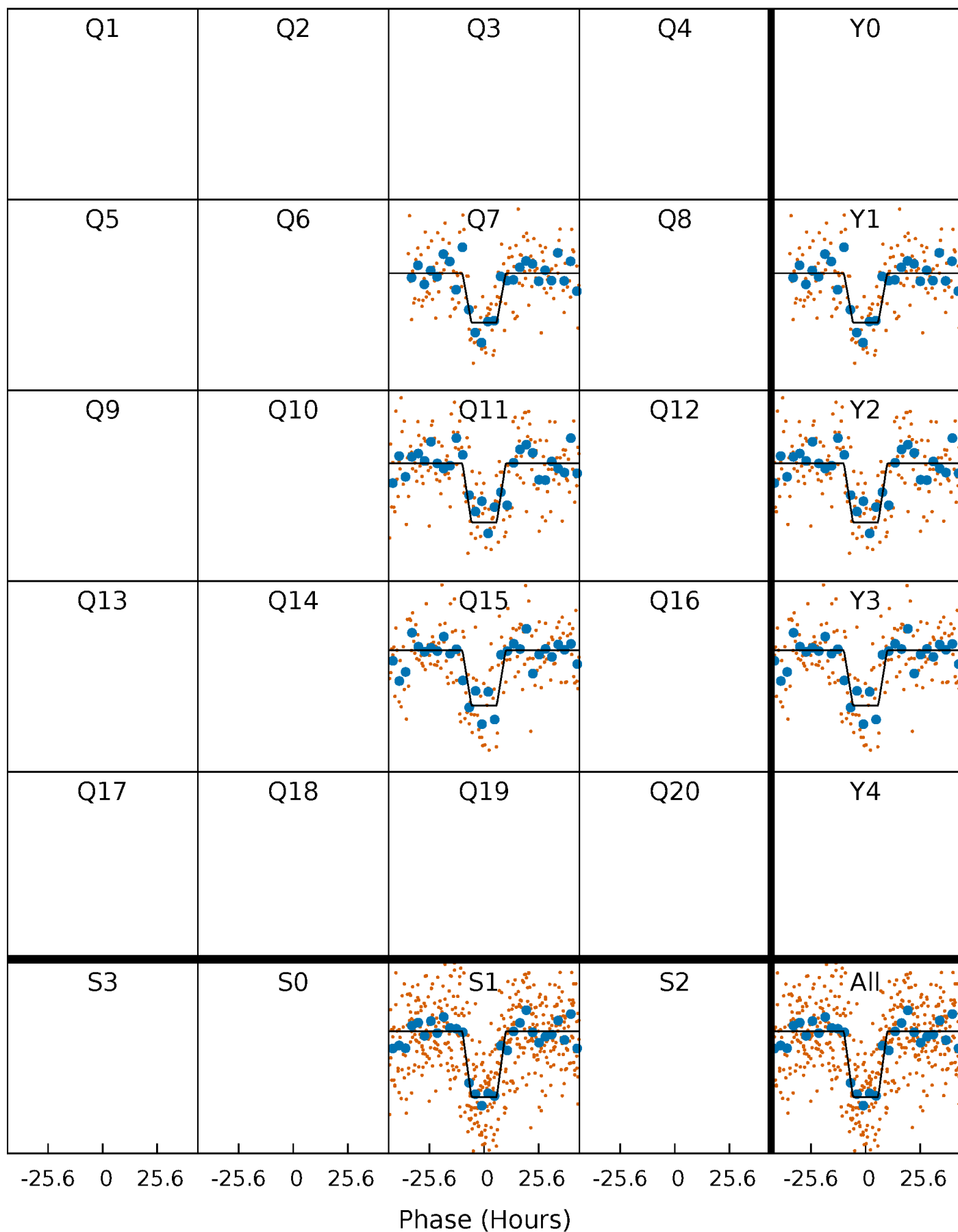
DV Quarter-Phased Transit Curves

TCE 005872139-01 $P=375.165858$ Days $T_0=260.434876$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

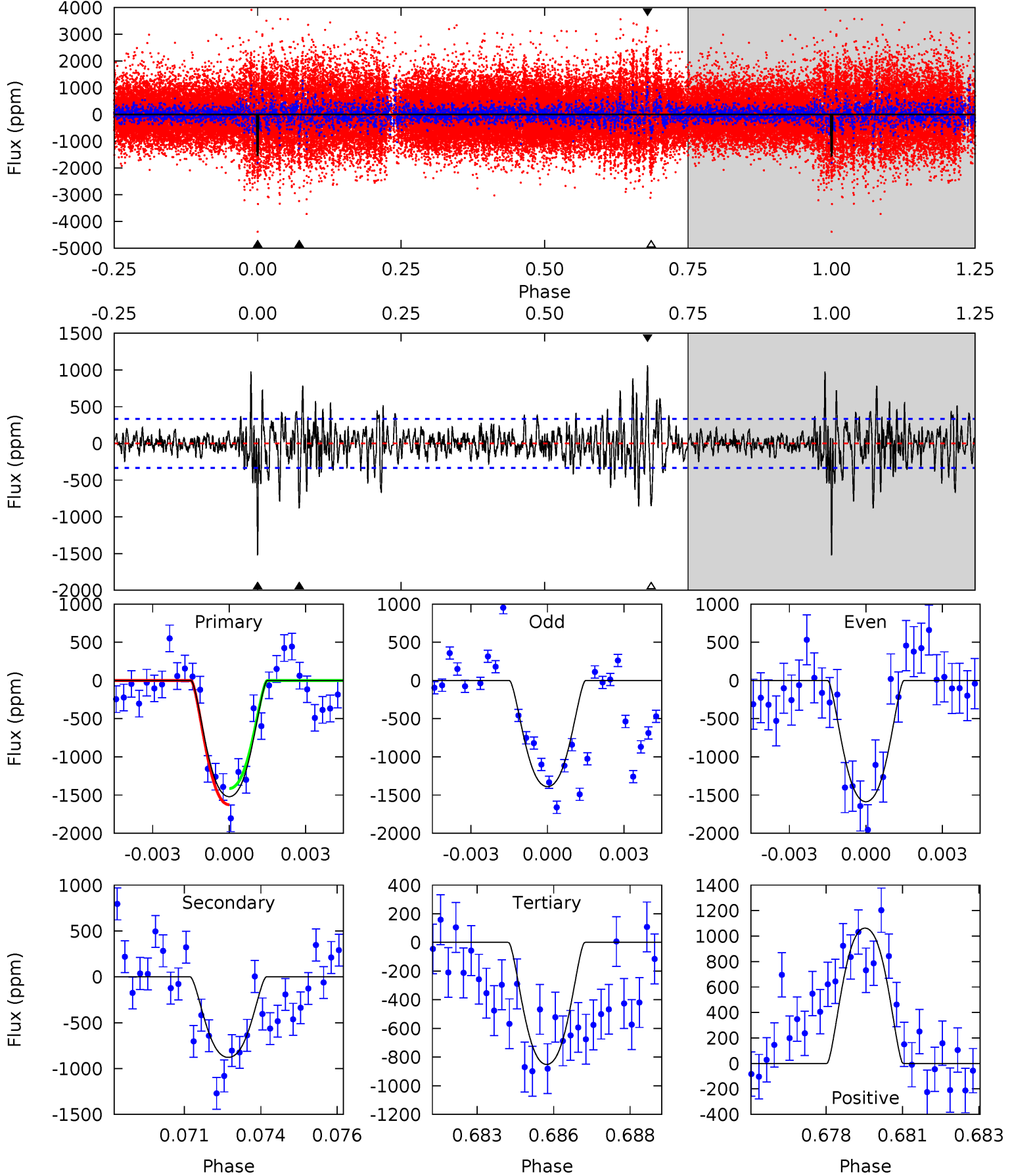
TCE 005872139-01 P=375.180595 Days $T_0=260.415473$ (BKJD)



DV Model-Shift Uniqueness Test

005872139-01, P = 375.165858 Days, E = 260.434876 Days

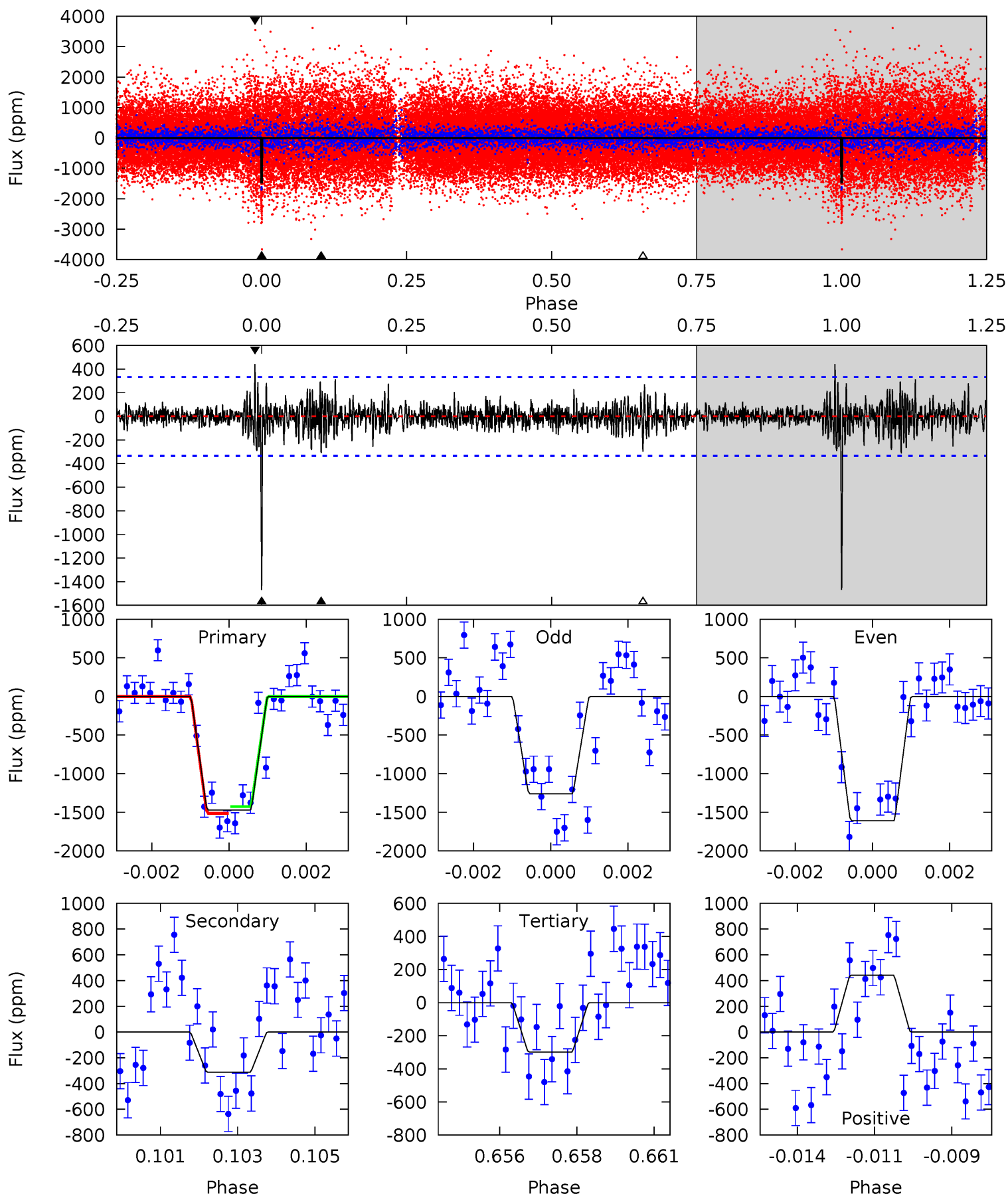
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.1	13.9	13.5	16.8	5.28	3.01	3.19	10.6	7.25	0.43	-2.91	1.49	1.06	0.41	1.68



Alt Model-Shift Uniqueness Test

005872139-01, P = 375.180595 Days, E = 260.415473 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.3	4.95	4.74	7.01	5.30	3.05	1.15	18.6	16.3	0.21	-2.06	2.62	0.96	0.23	0.70



Stellar Parameters For KIC 005872139

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6089^{+193}_{-257}	$4.468^{+0.052}_{-0.208}$	$0.070^{+0.250}_{-0.300}$	$1.024^{+0.324}_{-0.108}$	$1.125^{+0.135}_{-0.166}$	$1.475^{+0.406}_{-0.758}$
	+3%/-4%	+1%/-5%	+357%/-429%	+32%/-11%	+12%/-15%	+28%/-51%
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 005872139-01 / KOI 8110.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-878 ± 63	$5.54^{+1.88}_{-1.62}$	376^{+25}_{-21}	4865^{+831}_{-483}	17262^{+17513}_{-7544}
Alt.	-312 ± 63	$4.55^{+1.89}_{-1.60}$	377^{+29}_{-21}	4296^{+826}_{-471}	8956^{+12311}_{-4658}

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 005872139-01. Kepler magnitude: 15.92. Transit SNR 7.58

There are 0 quarters with good PRF difference image offsets

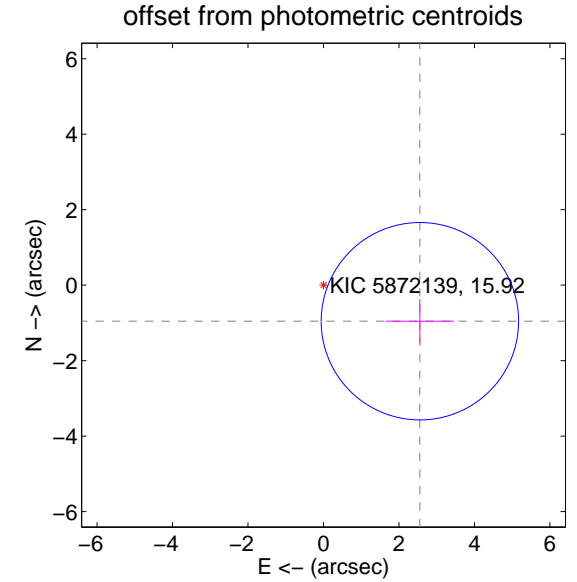
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	2.73 ± 0.87	3.13	-2.55 ± 0.90	-0.96 ± 0.59

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



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.

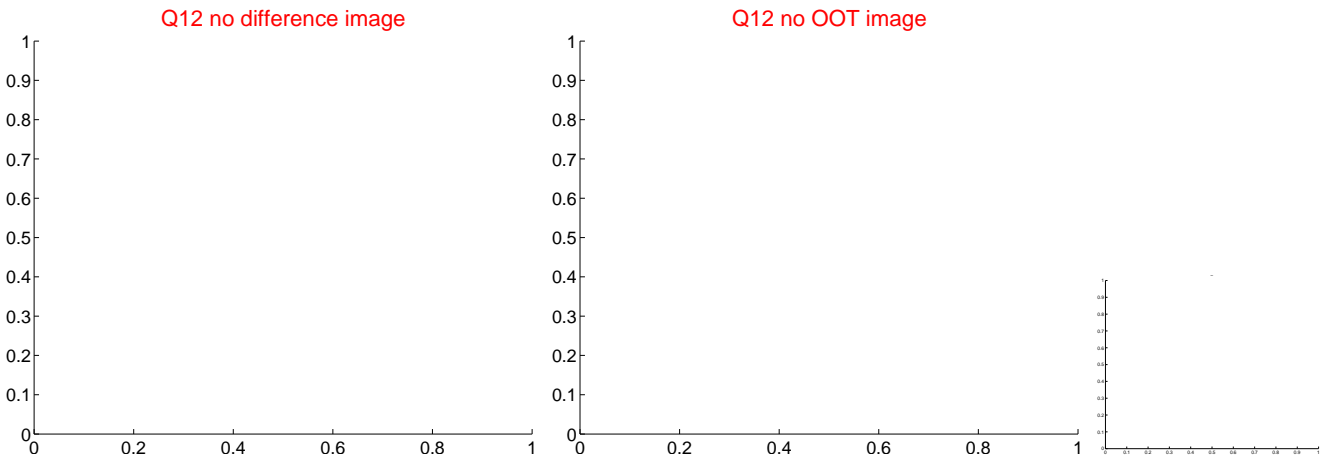
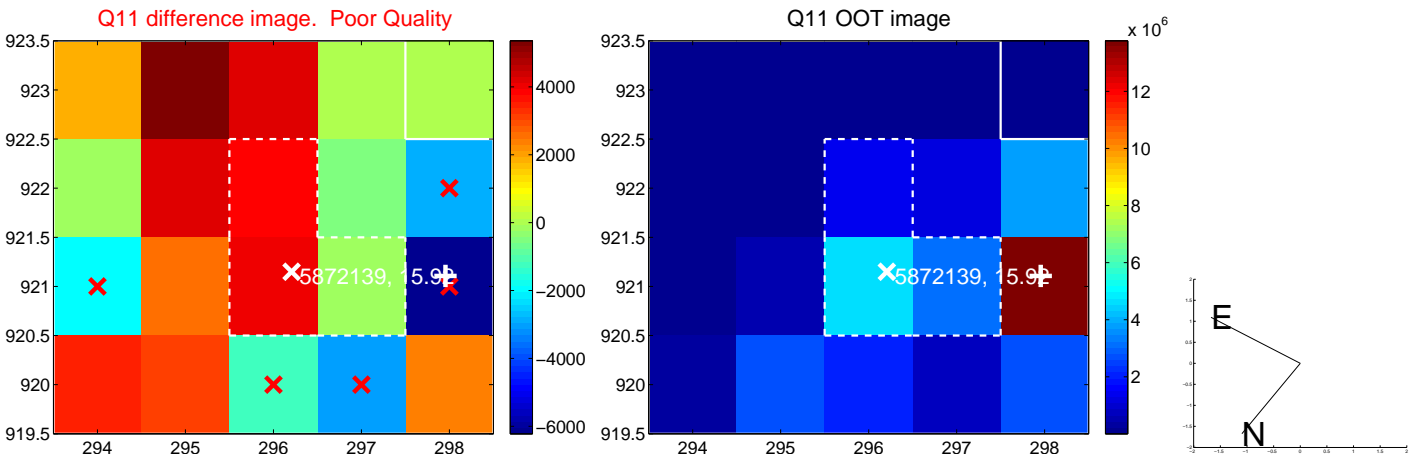
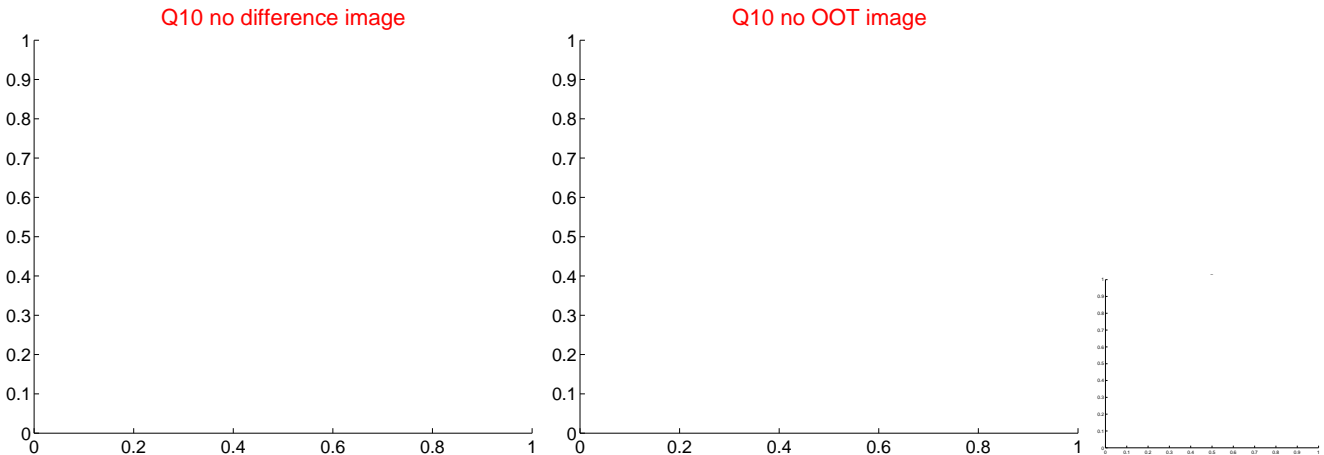
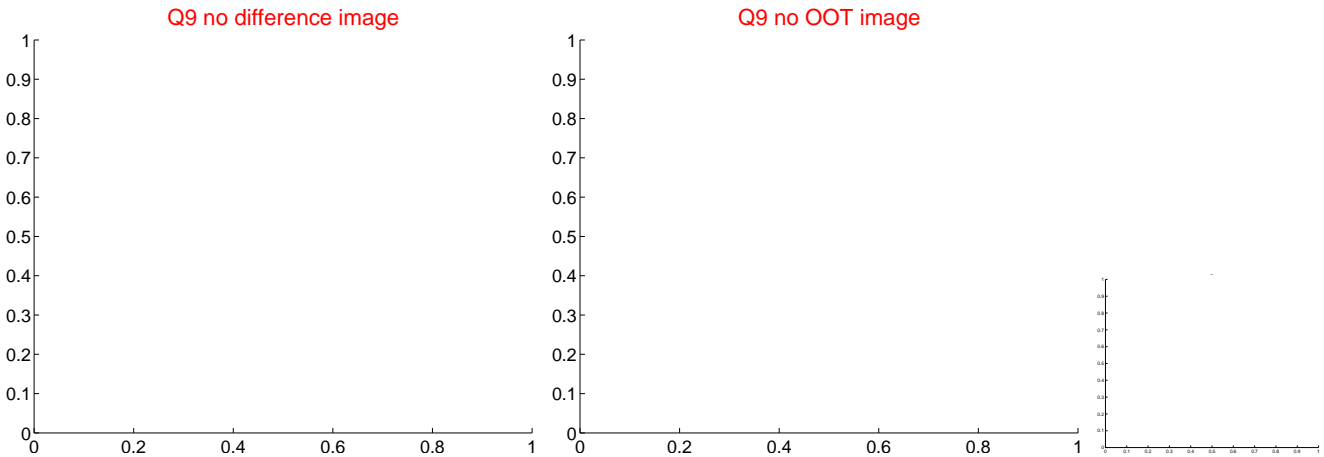
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



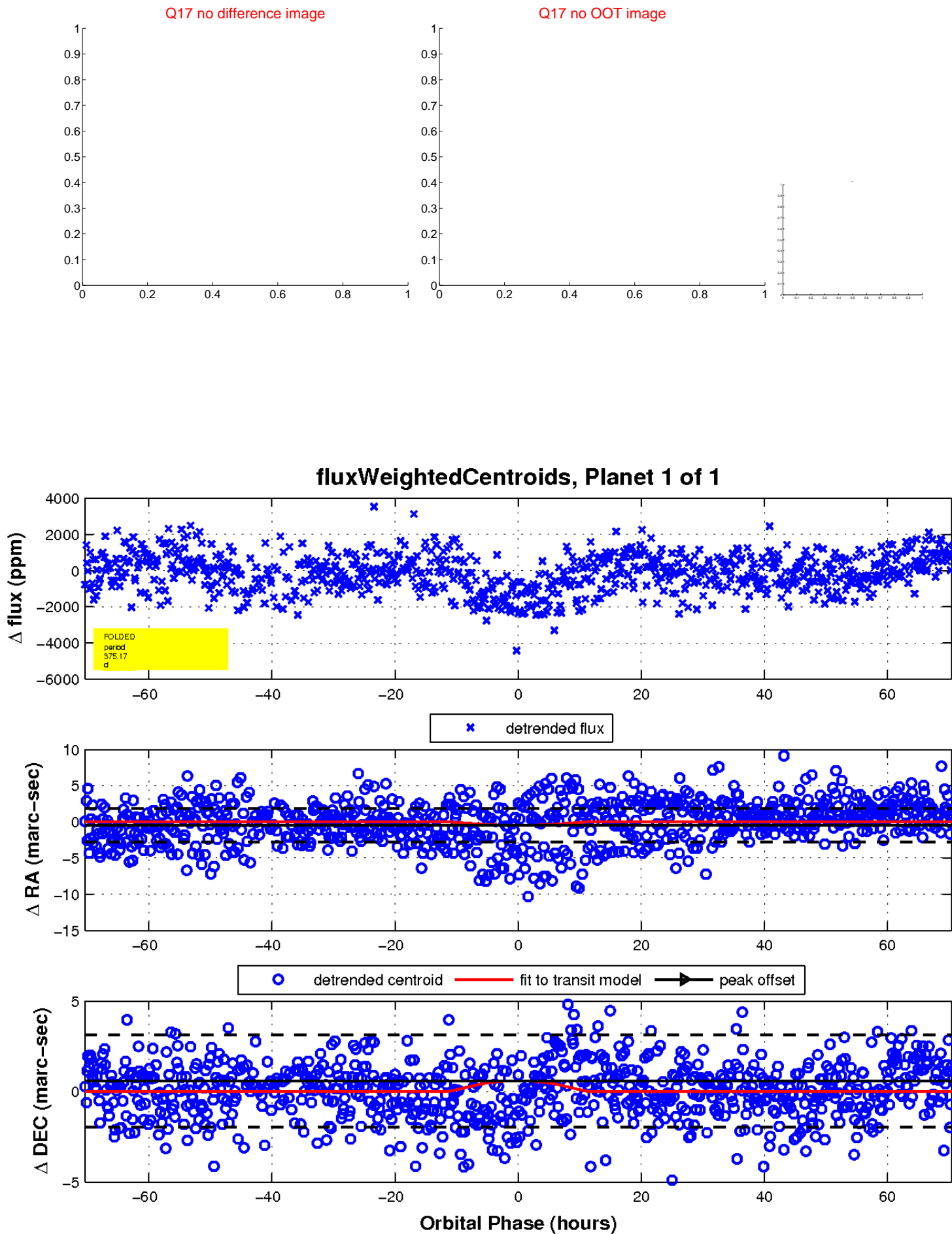
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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UKIRT Image

Declination

