

KIC 005870271

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})
005870271-01	OBS	No	365.663470	157.614354	679.9	25.823	7.6	6.0	0.93	5610	2.46	0.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005870271-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

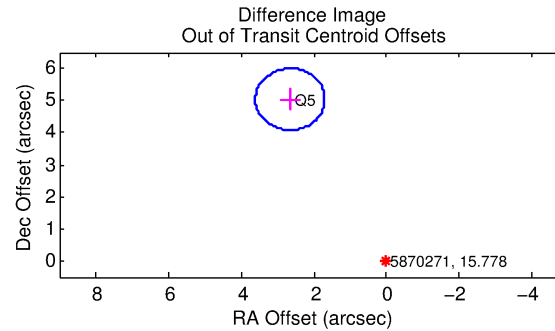
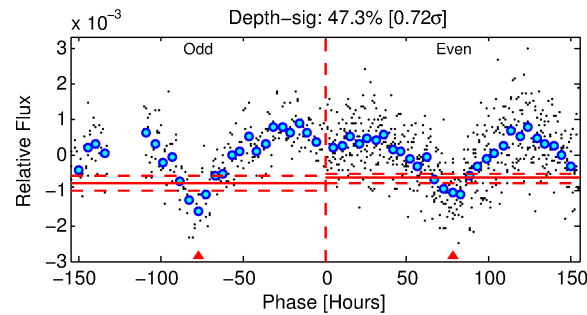
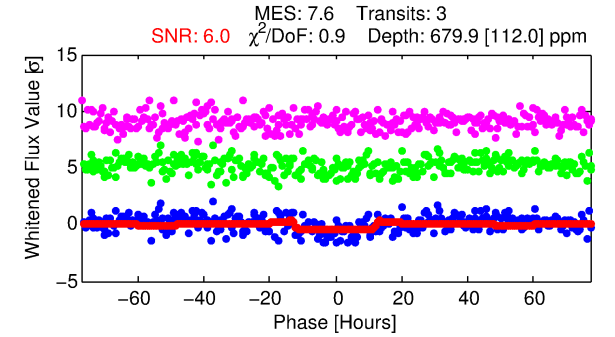
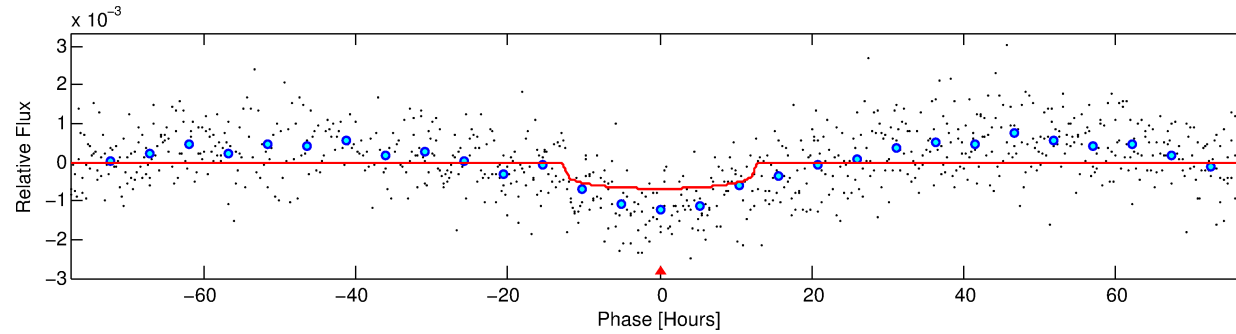
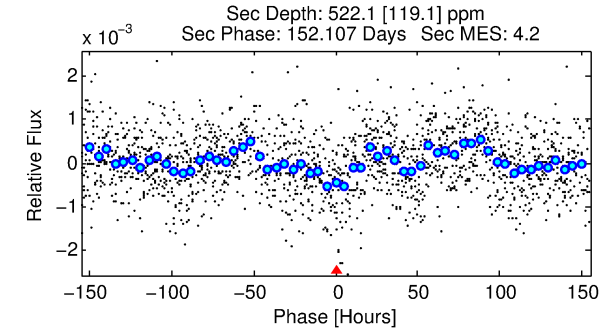
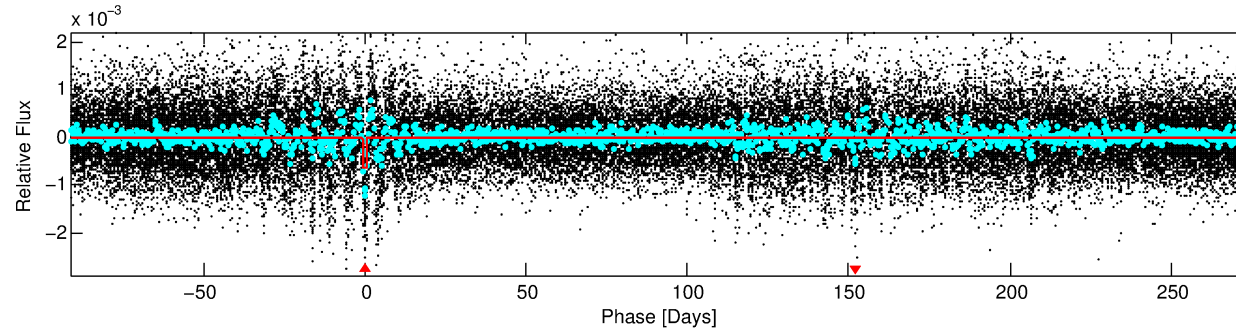
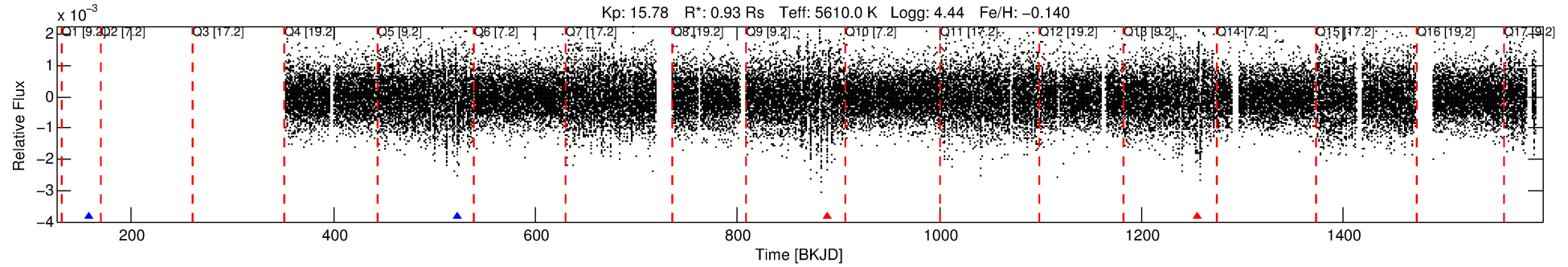
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005870271-01

No Significant Match Found

DV One-Page Summary

KIC: 5870271 Candidate: 1 of 1 Period: 365.663 d



DV Fit Results:

Period = 365.66347 [0.02200] d
Epoch = 157.6144 [0.0465] BKJD
Rp/R* = 0.0244 [0.0090]
a/R* = 96.70 [145.96]
b = 0.50 [2.28]
Seff = 0.84 [0.29]
Teq = 244 [21] K
Rp = 2.47 [1.10] Re
a = 0.9546 [0.2062] AU
Ag = 43060.80 [35908.30] [1.20σ]
Teff = 5432 [1063] K [4.88σ]

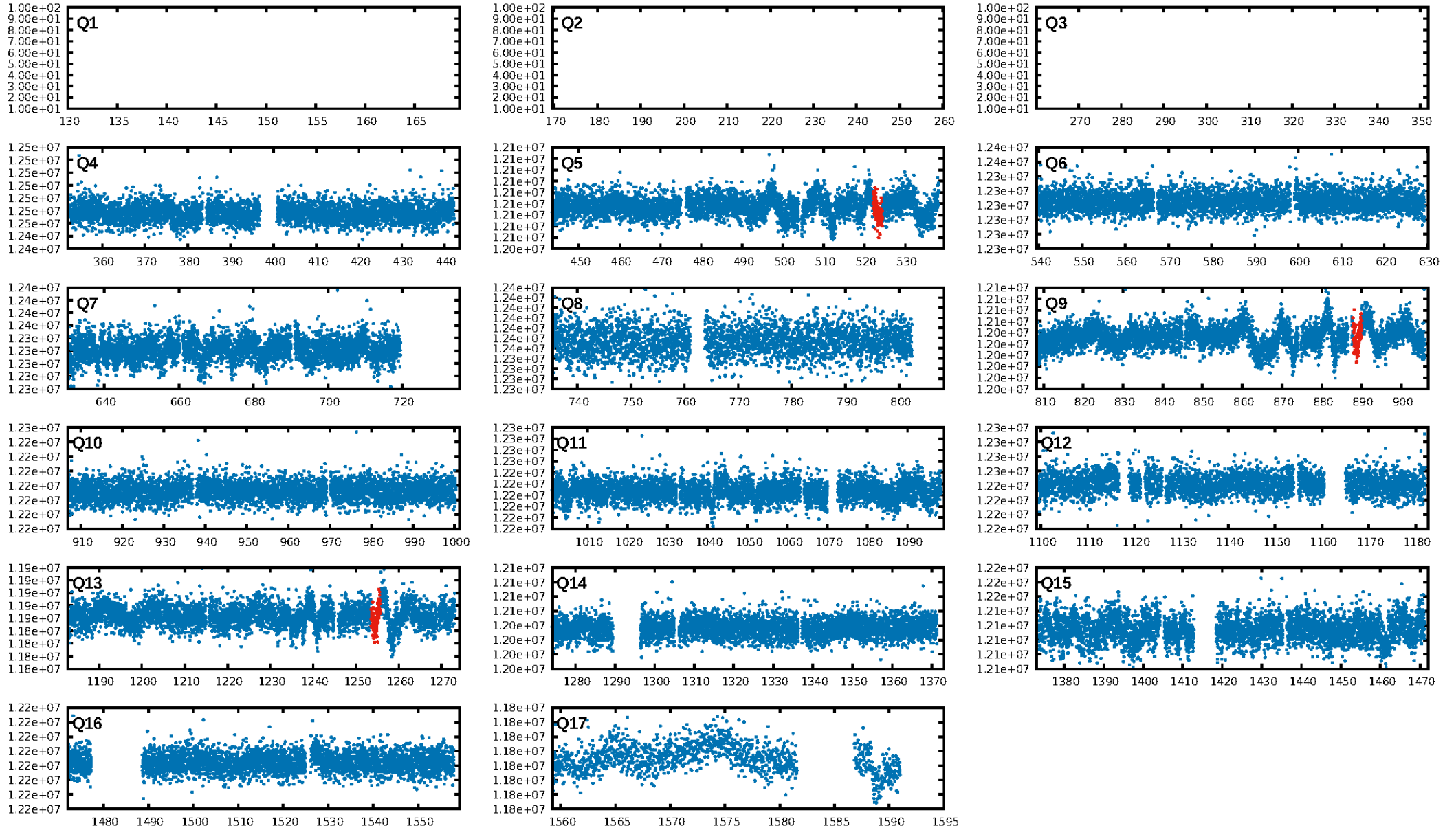
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 44.1%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 1.31e-08
RollingBand-fgt: 0.33 [1/3]
GhostDiagnostic-chr: -2.819
Centroid-sig: 4.9%
Centroid-so: 6.865 arcsec [1.64σ]
OotOffset-rm: 5.695 arcsec [17.86σ]
KicOffset-rm: 5.562 arcsec [17.44σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

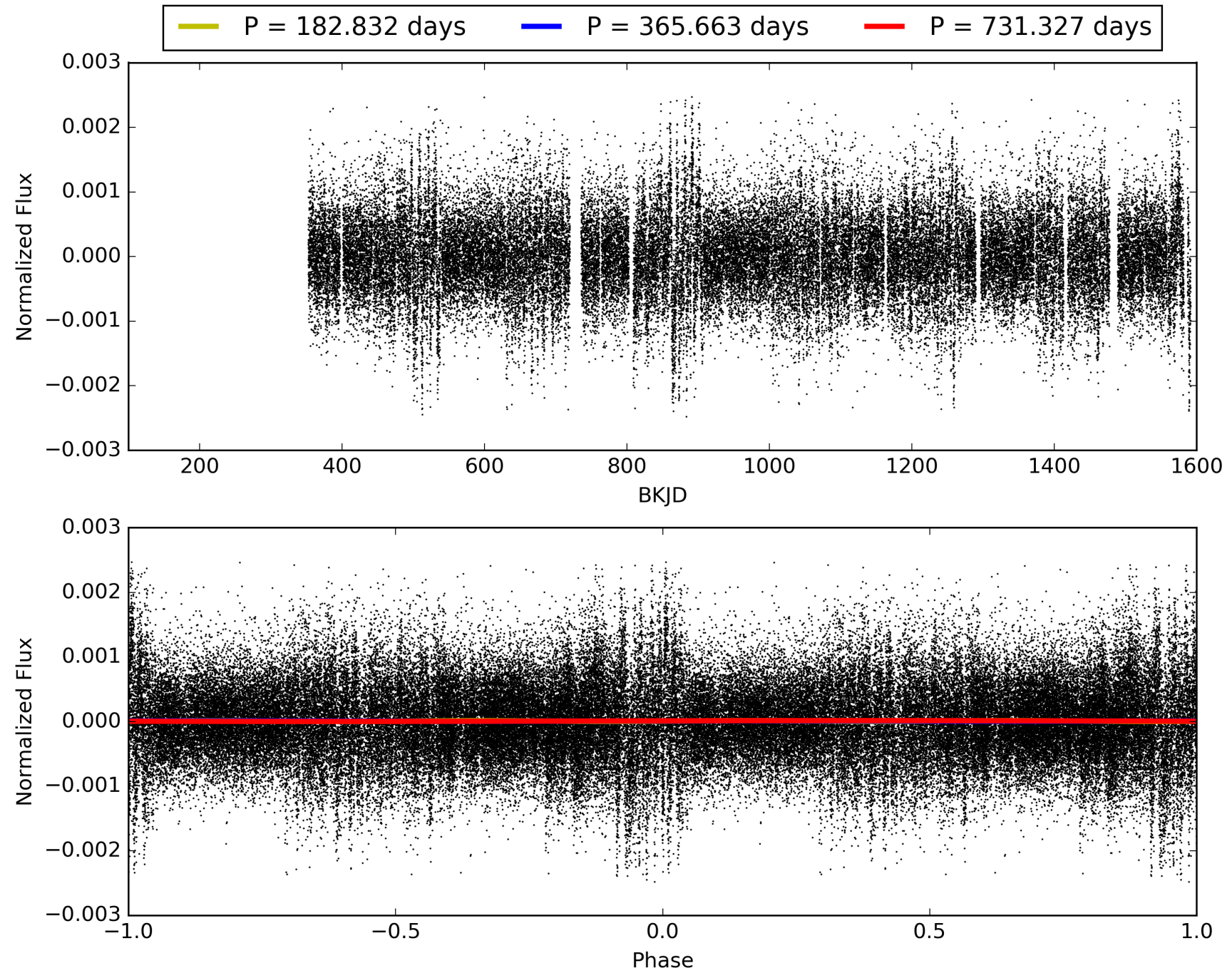
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:16:02 Z

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

TCE 005870271-01, PDC Light Curves

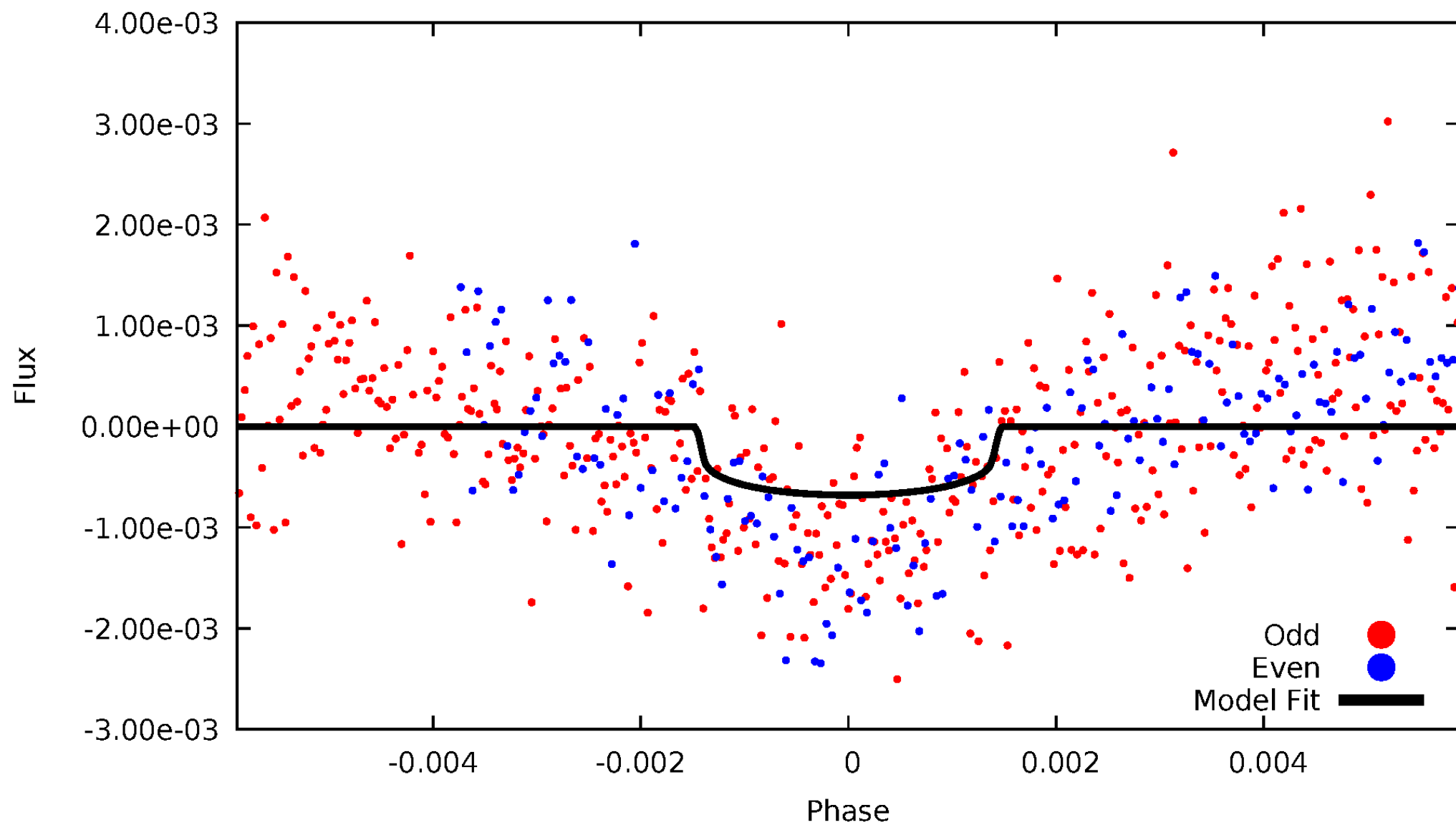


TCE 005870271-01



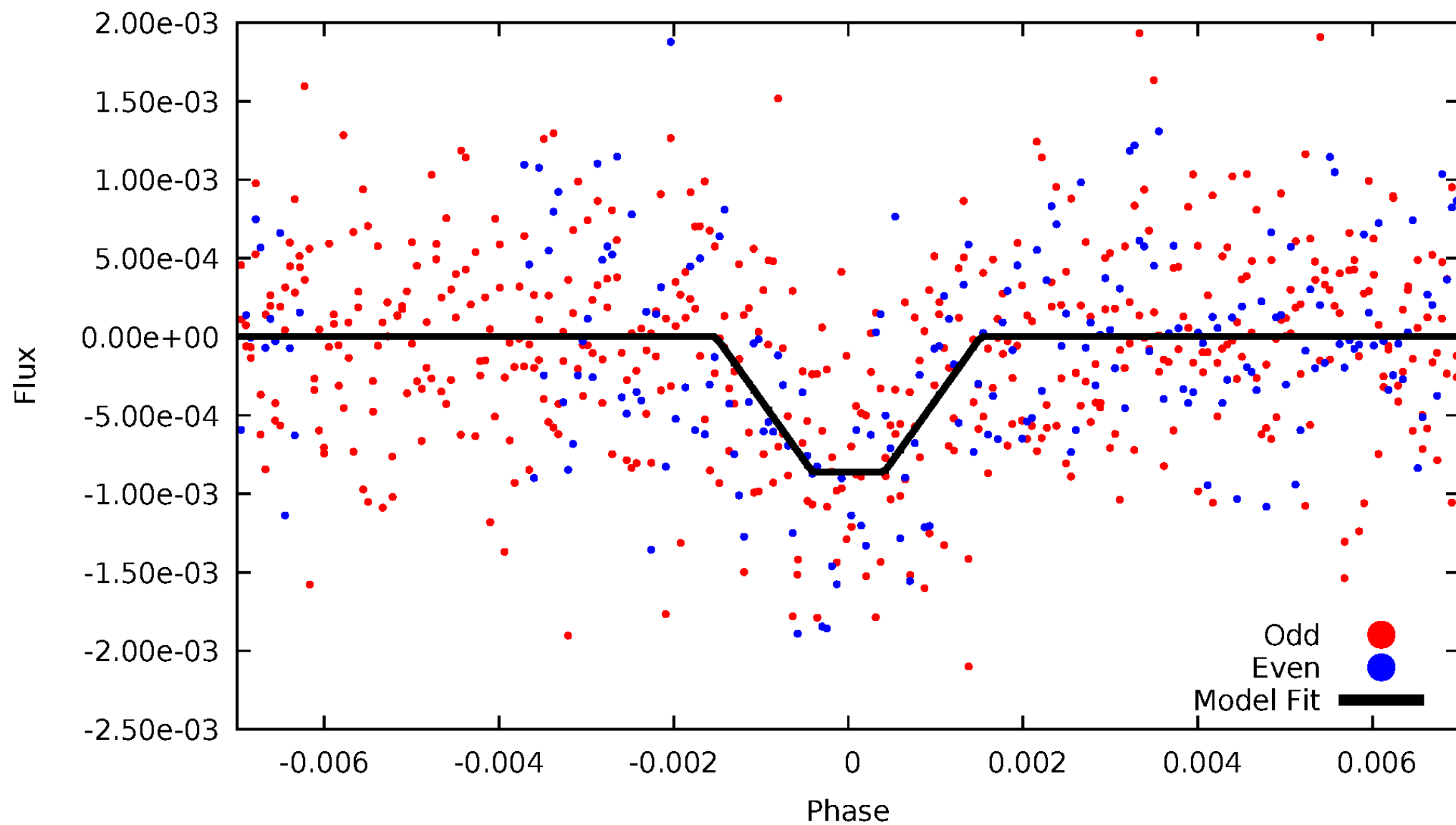
DV Odd/Even

TCE 005870271-01



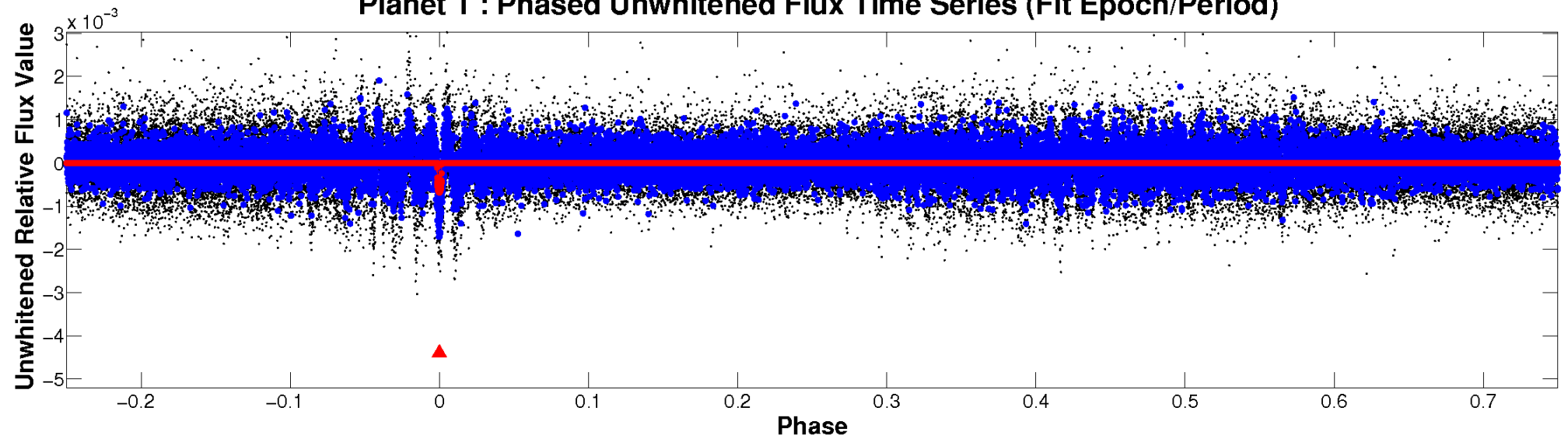
ALT Odd/Even

TCE 005870271-01

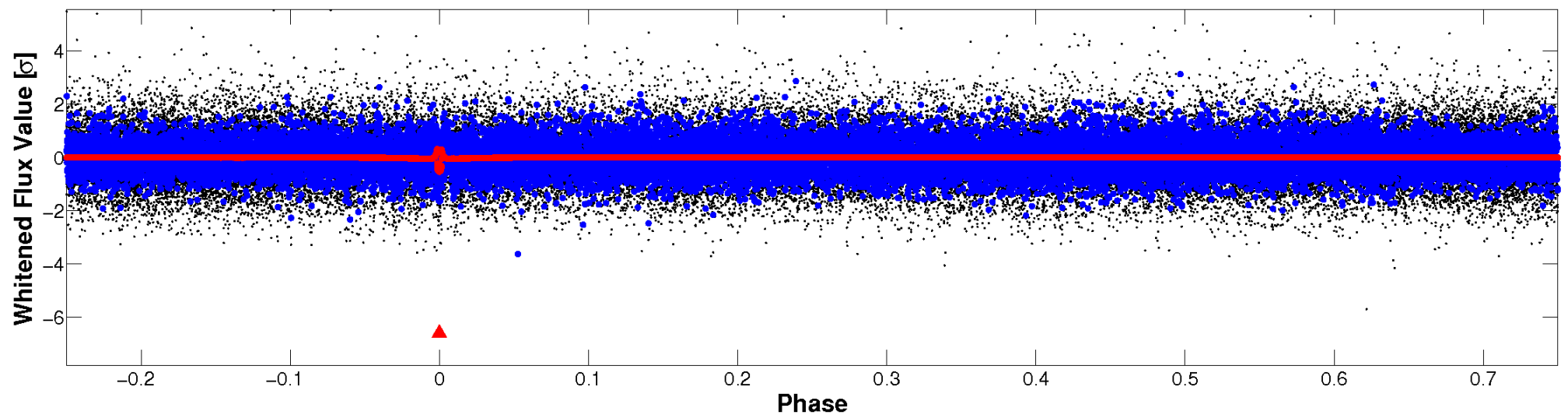


Non-Whitened Vs. Whitened Light Curve

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

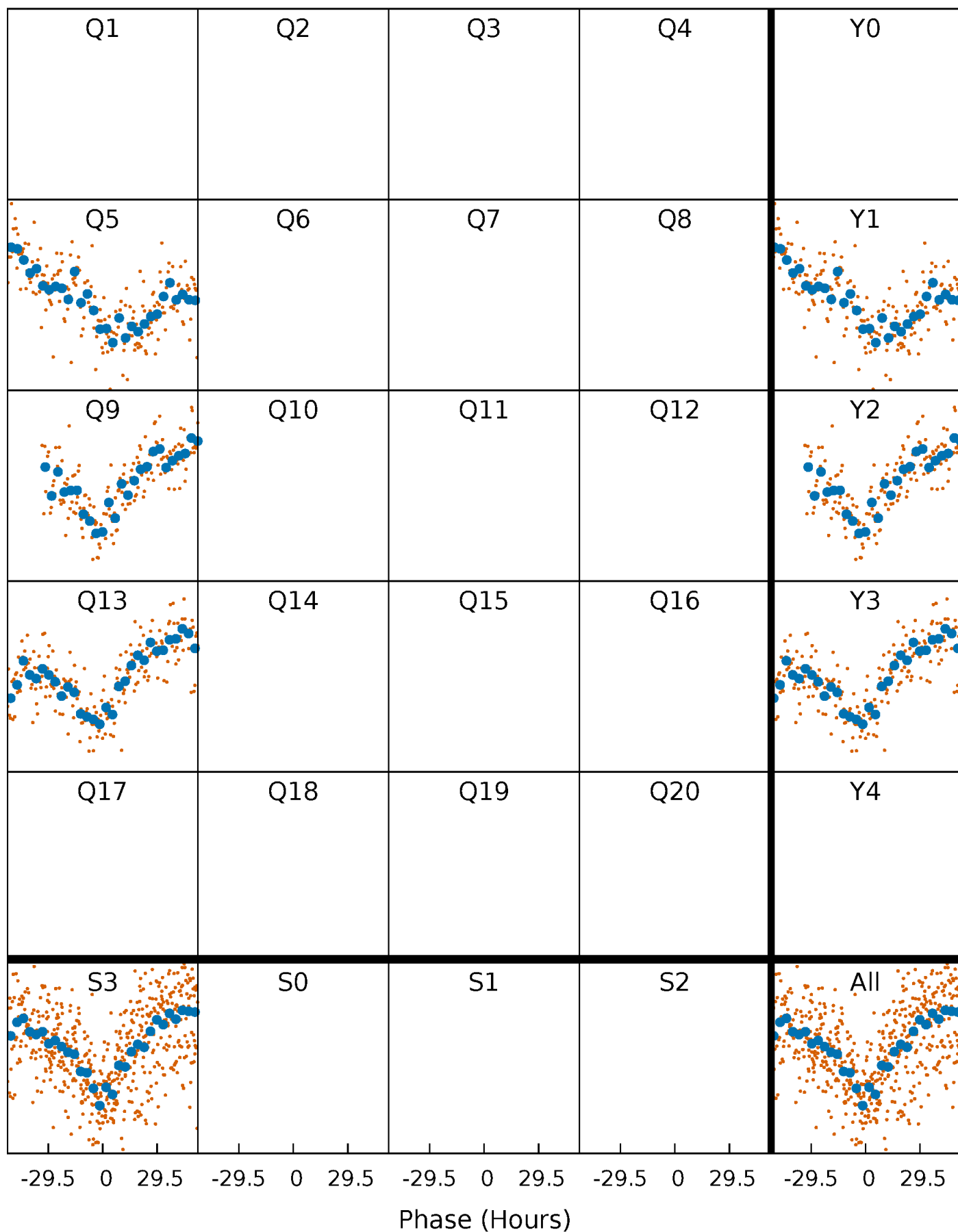


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



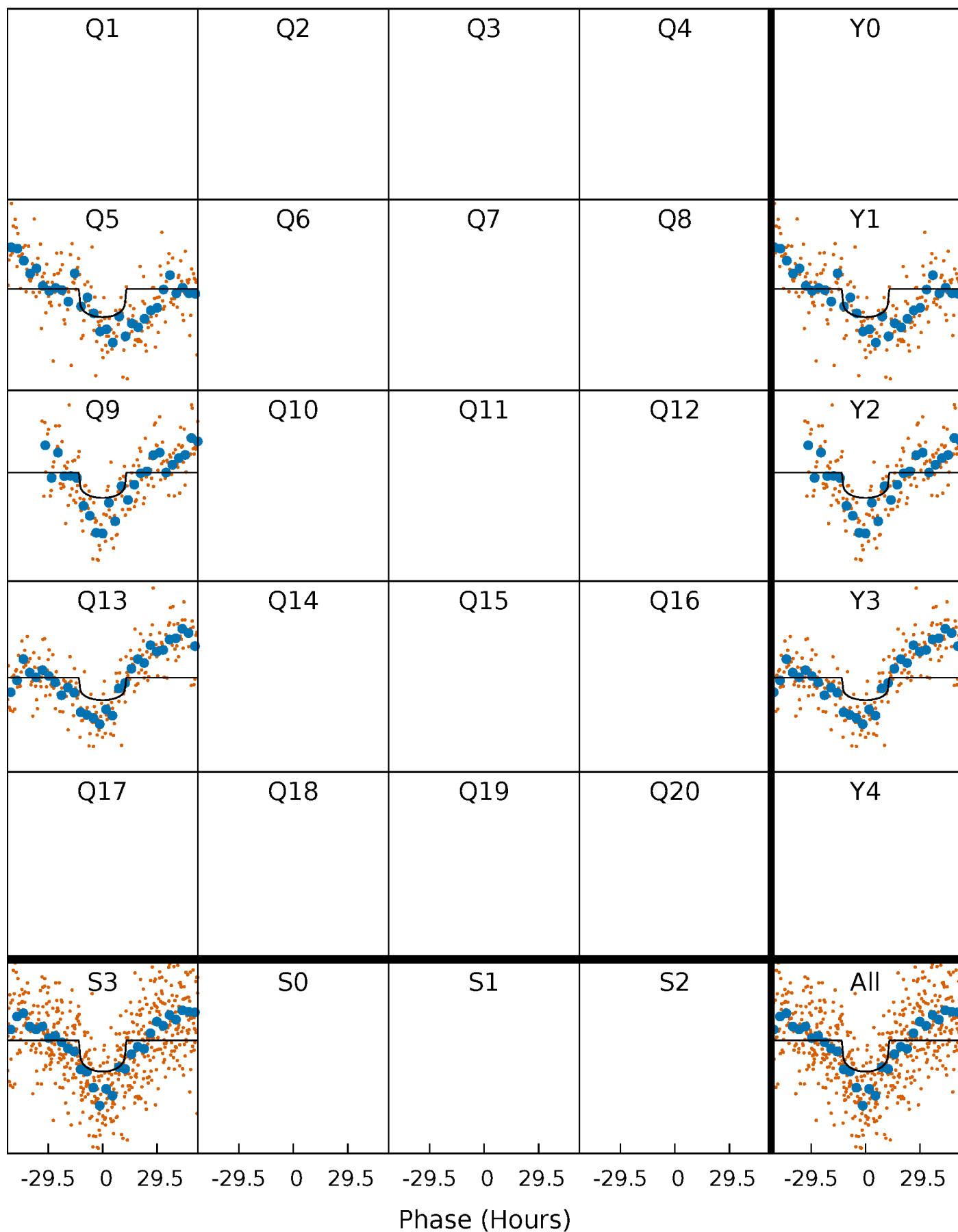
PDC Quarter-Phased Transit Curves

TCE 005870271-01 P=365.663470 Days $T_0=157.614354$ (BKJD)



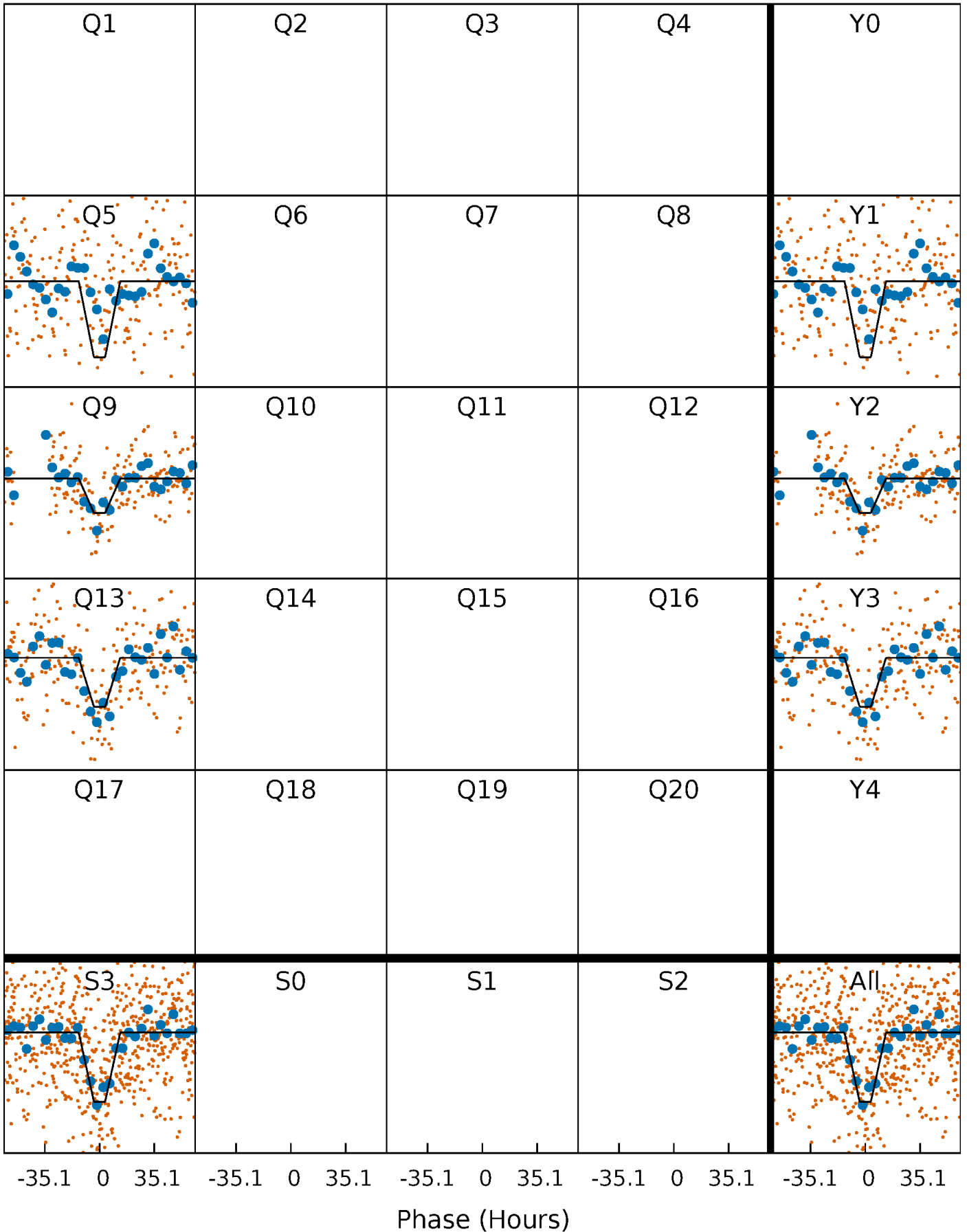
DV Quarter-Phased Transit Curves

TCE 005870271-01 P=365.663470 Days $T_0=157.614354$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

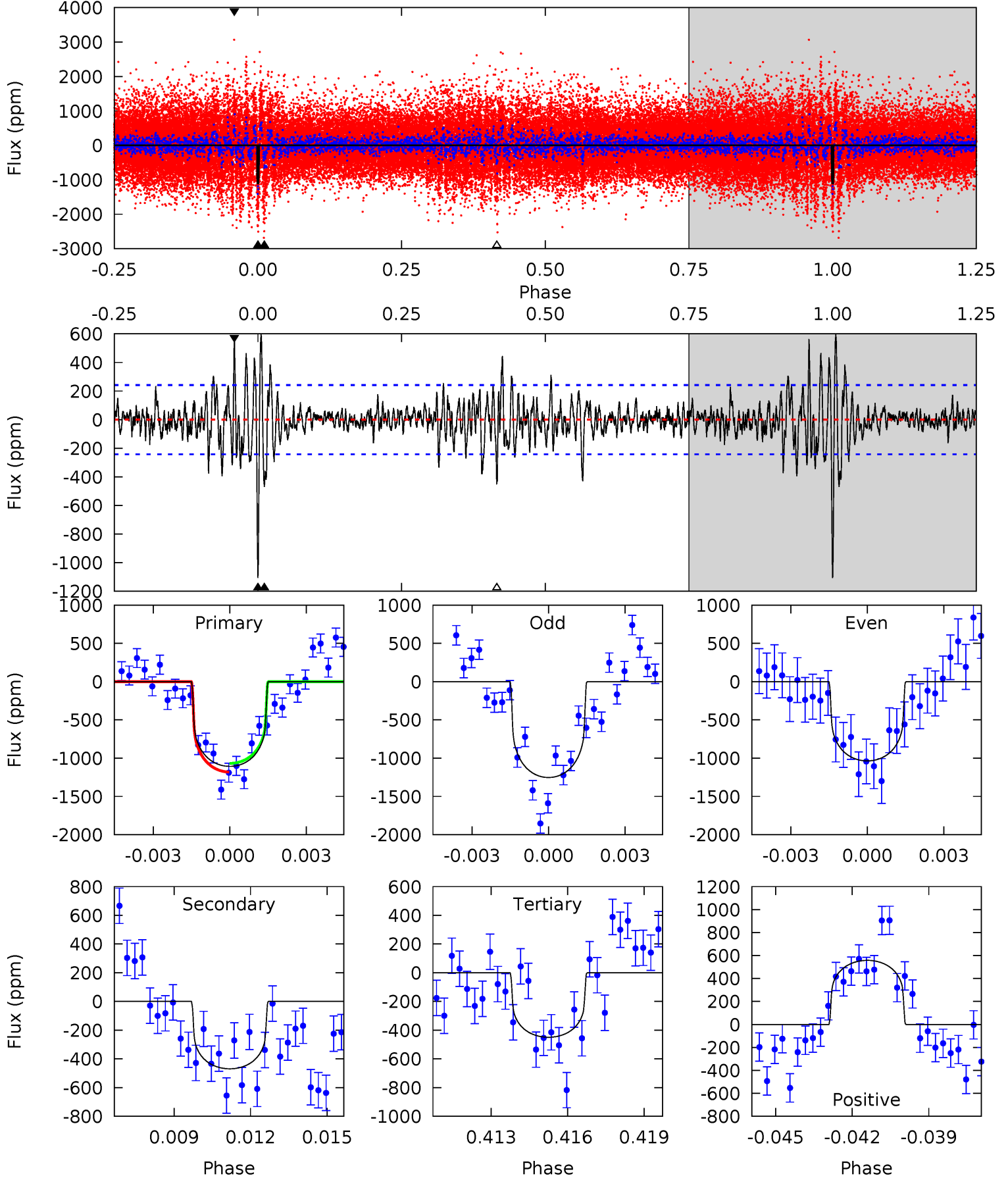
TCE 005870271-01 P=365.597256 Days $T_0=157.738659$ (BKJD)



DV Model-Shift Uniqueness Test

005870271-01, P = 365.663470 Days, E = 157.614354 Days

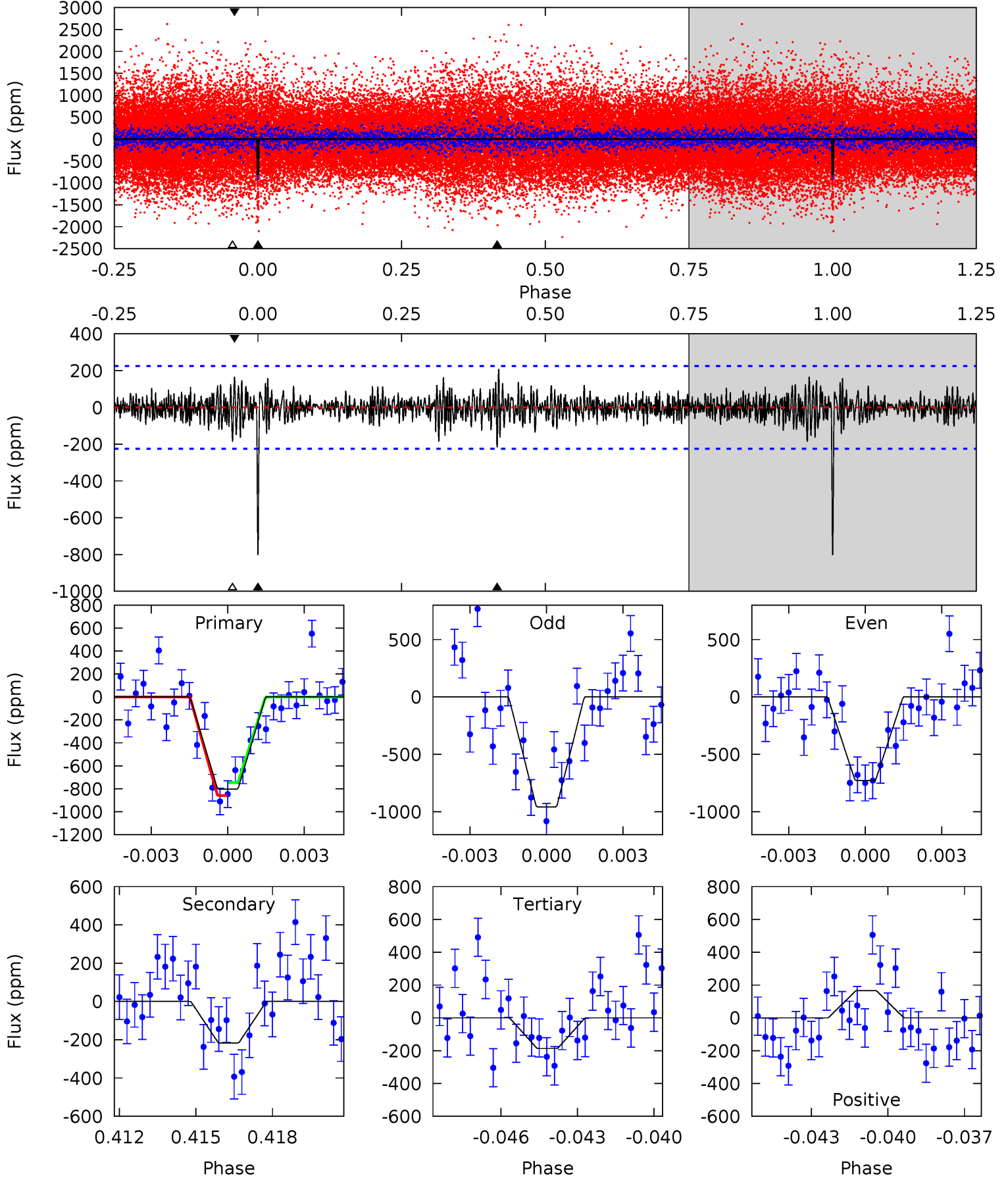
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.0	10.2	9.76	12.1	5.25	2.97	2.45	14.3	11.9	0.43	-1.92	2.21	0.97	0.35	1.23



Alt Model-Shift Uniqueness Test

005870271-01, P = 365.597256 Days, E = 157.738659 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	5.05	4.35	3.88	5.25	2.96	1.10	14.4	14.8	0.70	1.18	2.52	0.84	0.21	1.33



Stellar Parameters For KIC 005870271

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5610^{+186}_{-186}	$4.442^{+0.101}_{-0.174}$	$-0.140^{+0.300}_{-0.300}$	$0.927^{+0.236}_{-0.127}$	$0.868^{+0.114}_{-0.076}$	$1.534^{+0.781}_{-0.704}$
	+3%/-3%	+2%/-4%	+214%/-214%	+25%/-14%	+13%/-9%	+51%/-46%
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 005870271-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-469 ± 46	$2.59^{+0.95}_{-0.88}$	345^{+22}_{-19}	5276^{+1183}_{-663}	36065^{+45769}_{-17143}
Alt.	-217 ± 43	$3.08^{+0.98}_{-1.00}$	343^{+23}_{-17}	4202^{+690}_{-415}	11249^{+14557}_{-5001}

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 $A_{obs} \gg 1.0$

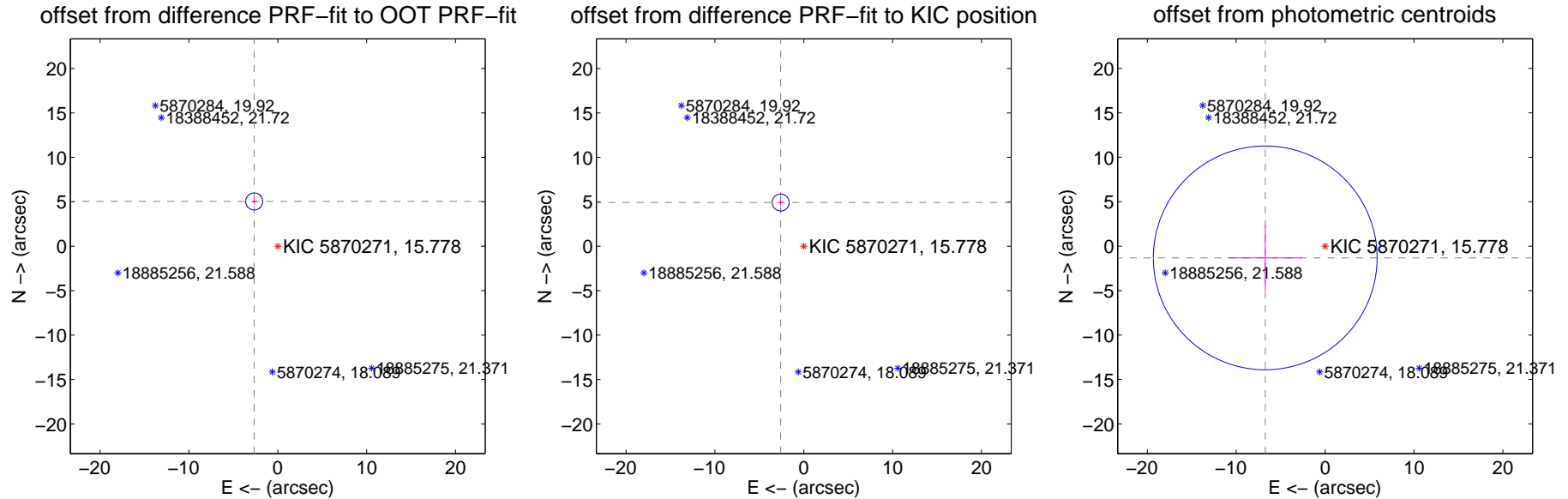
DV Centroid Data

Supplemental centroid analysis for 005870271-01. Kepler magnitude: 15.78. Transit SNR 5.97

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.695 \pm 0.319	17.86	2.655 \pm 0.258	5.038 \pm 0.334
PRF-fit source offset from KIC position	5.562 \pm 0.319	17.44	2.597 \pm 0.258	4.919 \pm 0.334
photometric centroid source offset	6.87 \pm 4.20	1.64	6.74 \pm 4.21	-1.32 \pm 3.68

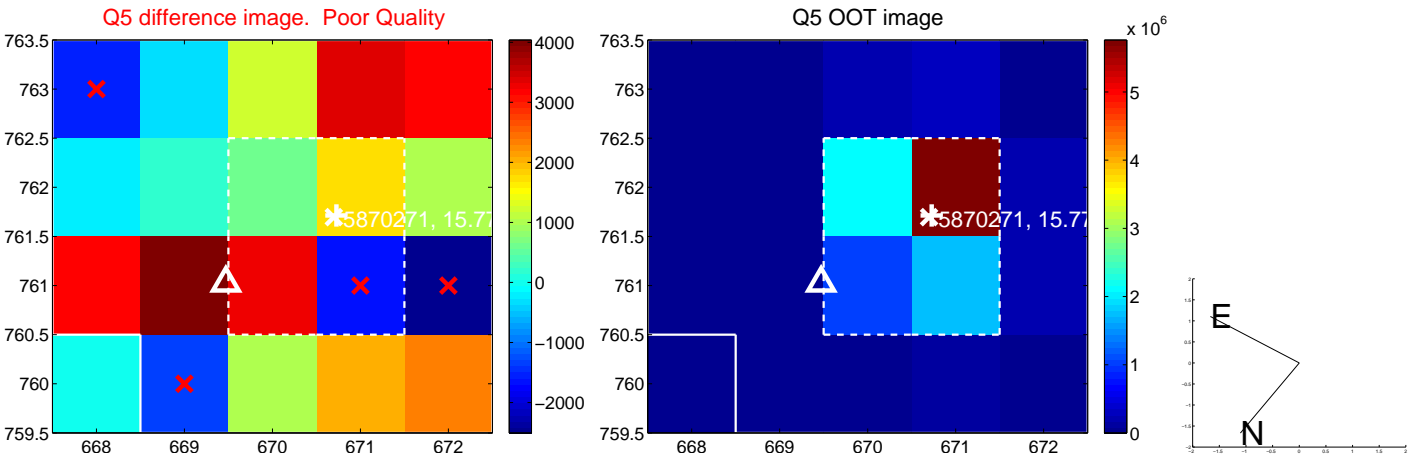


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



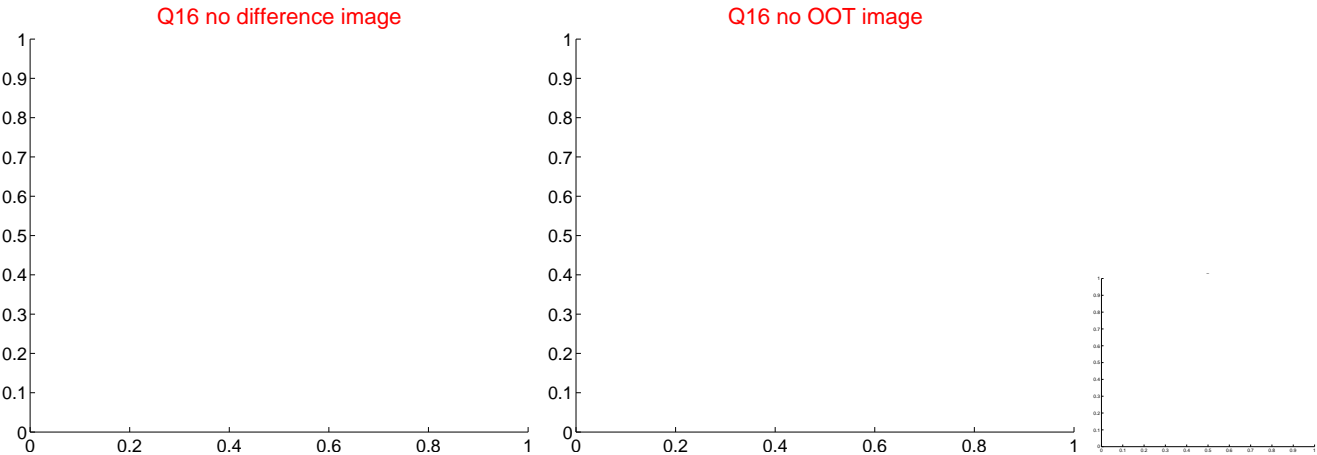
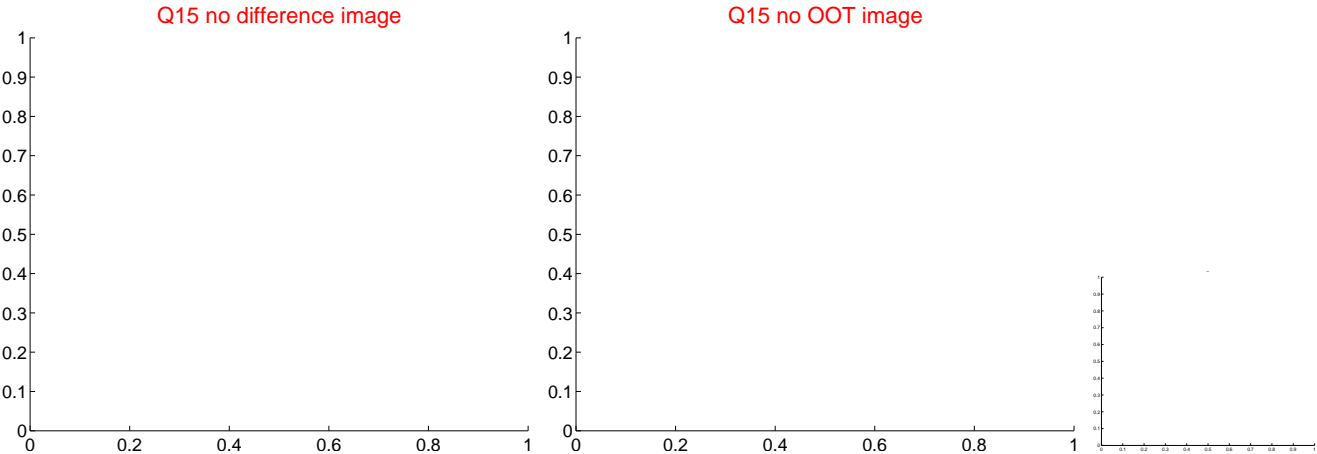
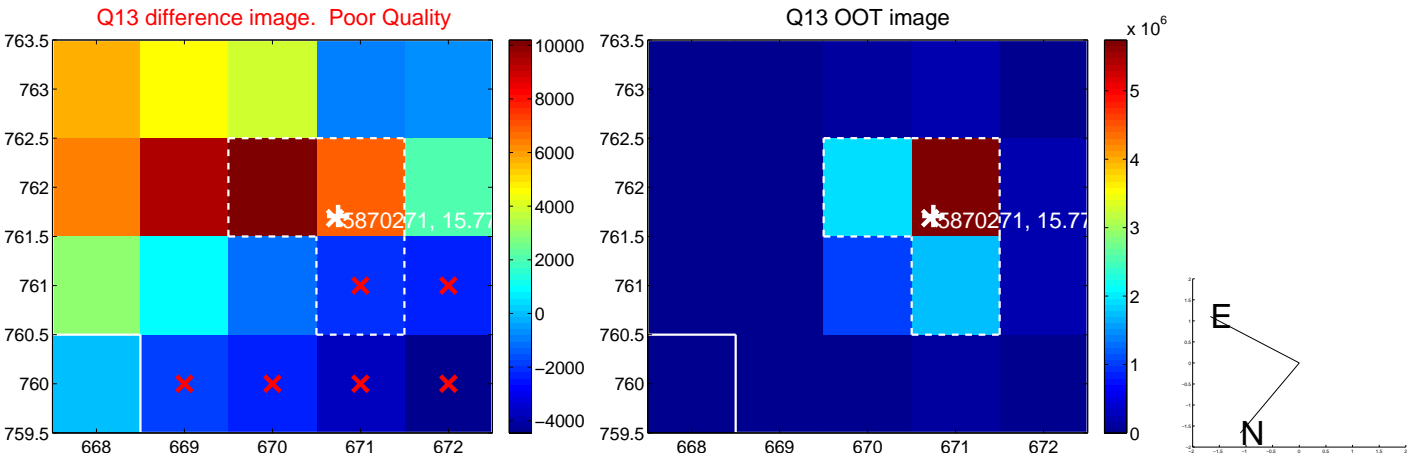
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



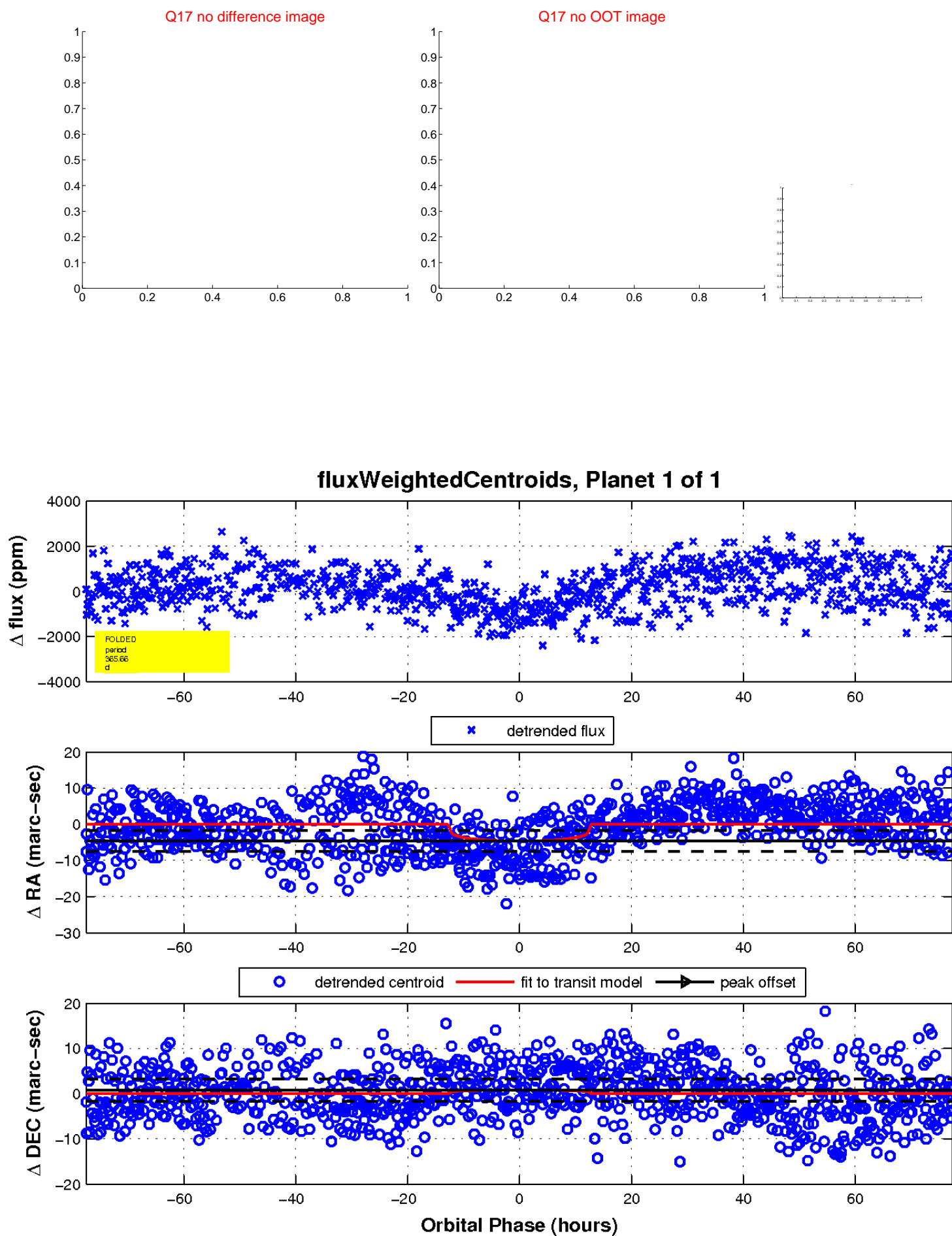
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

