

KIC 010337859

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})
010337859-01	OBS	No	360.468048	171.755891	1134.7	27.901	7.4	7.8	0.86	5440	3.62	0.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010337859-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

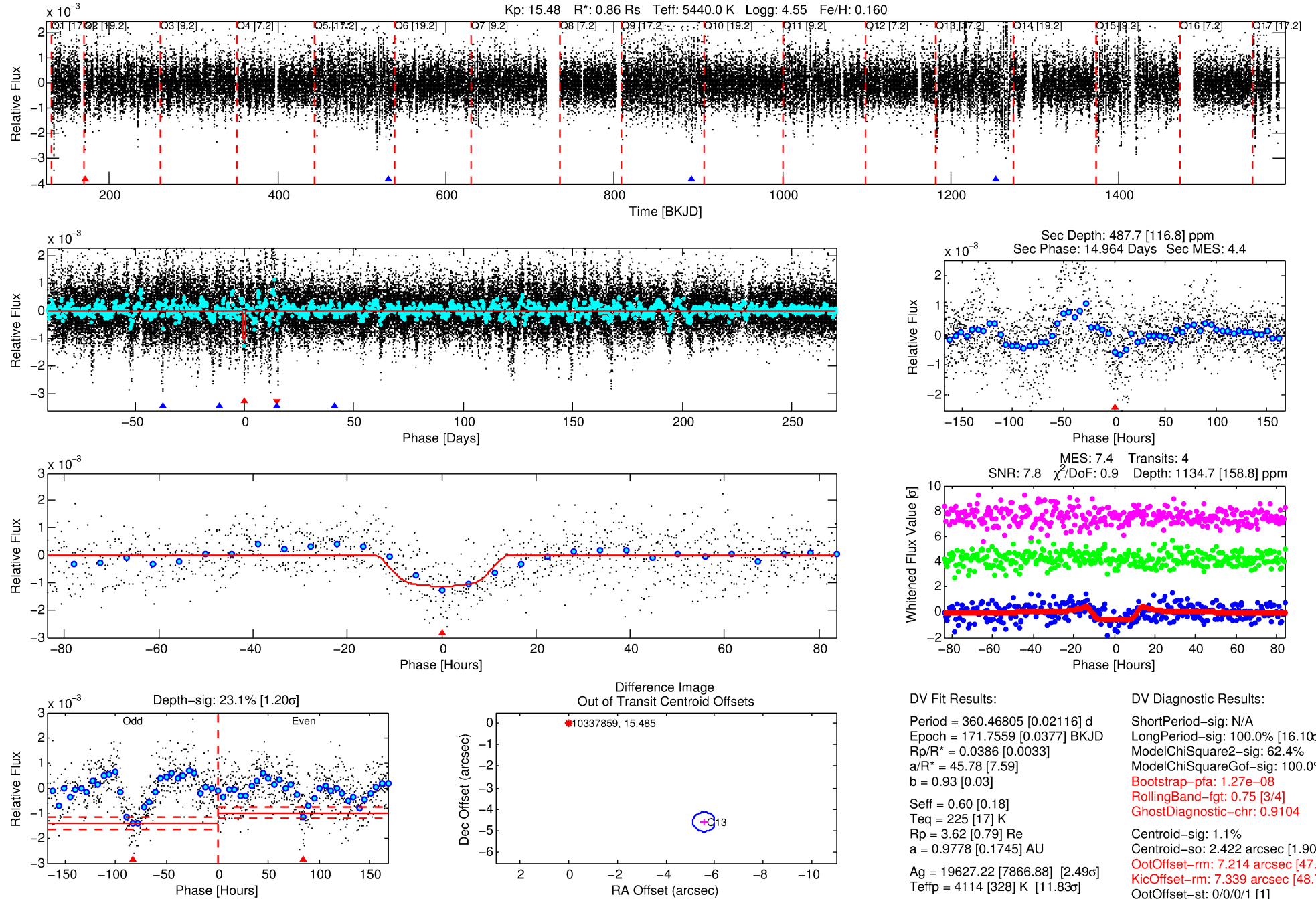
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010337859-01

No Significant Match Found

DV One-Page Summary

KIC: 10337859 Candidate: 1 of 2 Period: 360.468 d



DV Fit Results:

Period = 360.46805 [0.02116] d
Epoch = 171.7559 [0.0377] BKJD
Rp/R* = 0.0386 [0.0033]
a/R* = 45.78 [7.59]
b = 0.93 [0.03]
Seff = 0.60 [0.18]
Teq = 225 [17] K
Rp = 3.62 [0.79] Re
a = 0.9778 [0.1745] AU
Ag = 19627.22 [7866.88] [2.49 σ]
Teff = 4114 [328] K [11.83 σ]

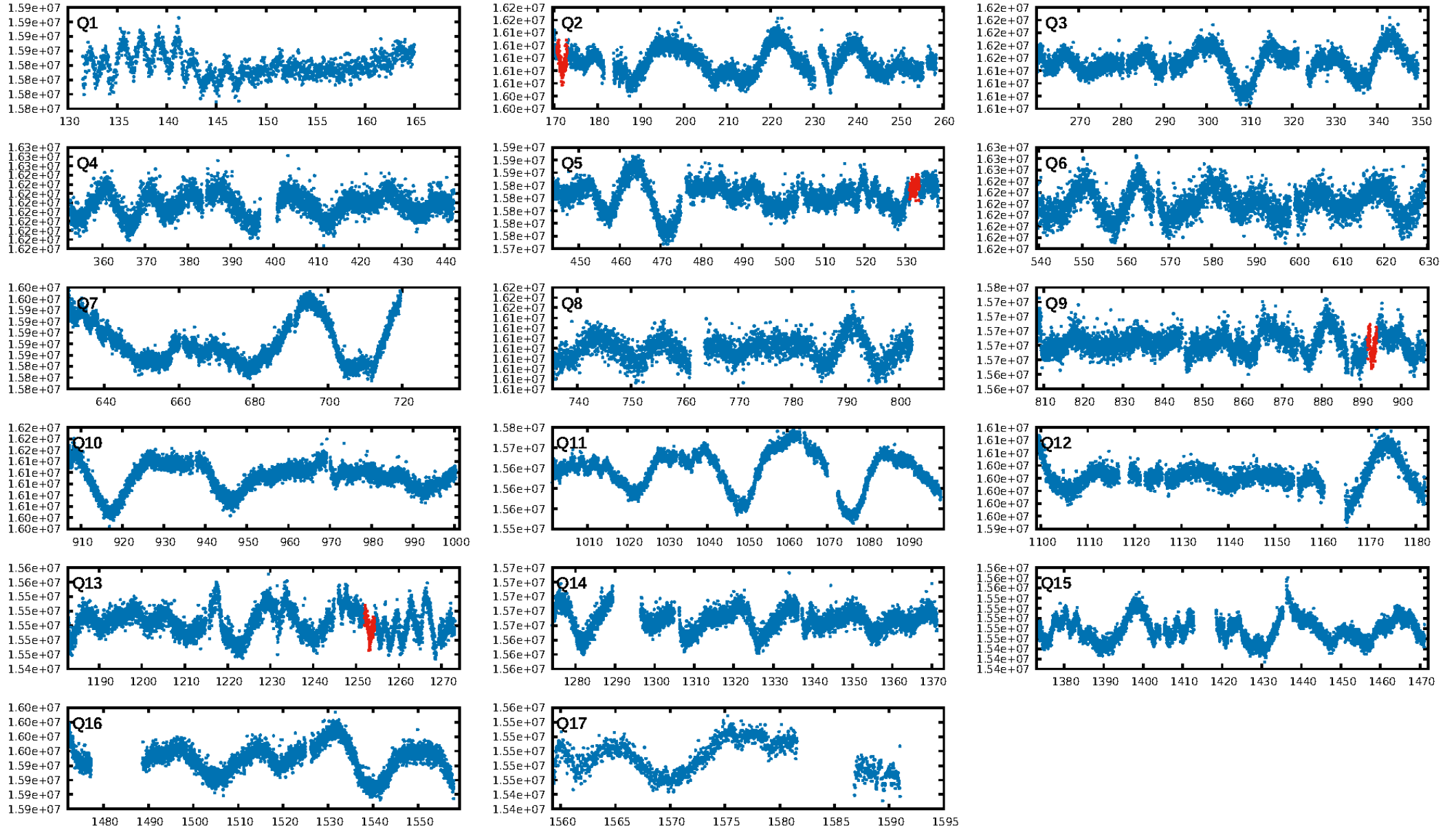
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [16.10 σ]
ModelChiSquare2-sig: 62.4%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 1.27e-08
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: 0.9104
Centroid-sig: 1.1%
Centroid-so: 2.422 arcsec [1.90 σ]
OotOffset-rm: 7.214 arcsec [47.87 σ]
KicOffset-rm: 7.339 arcsec [48.73 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

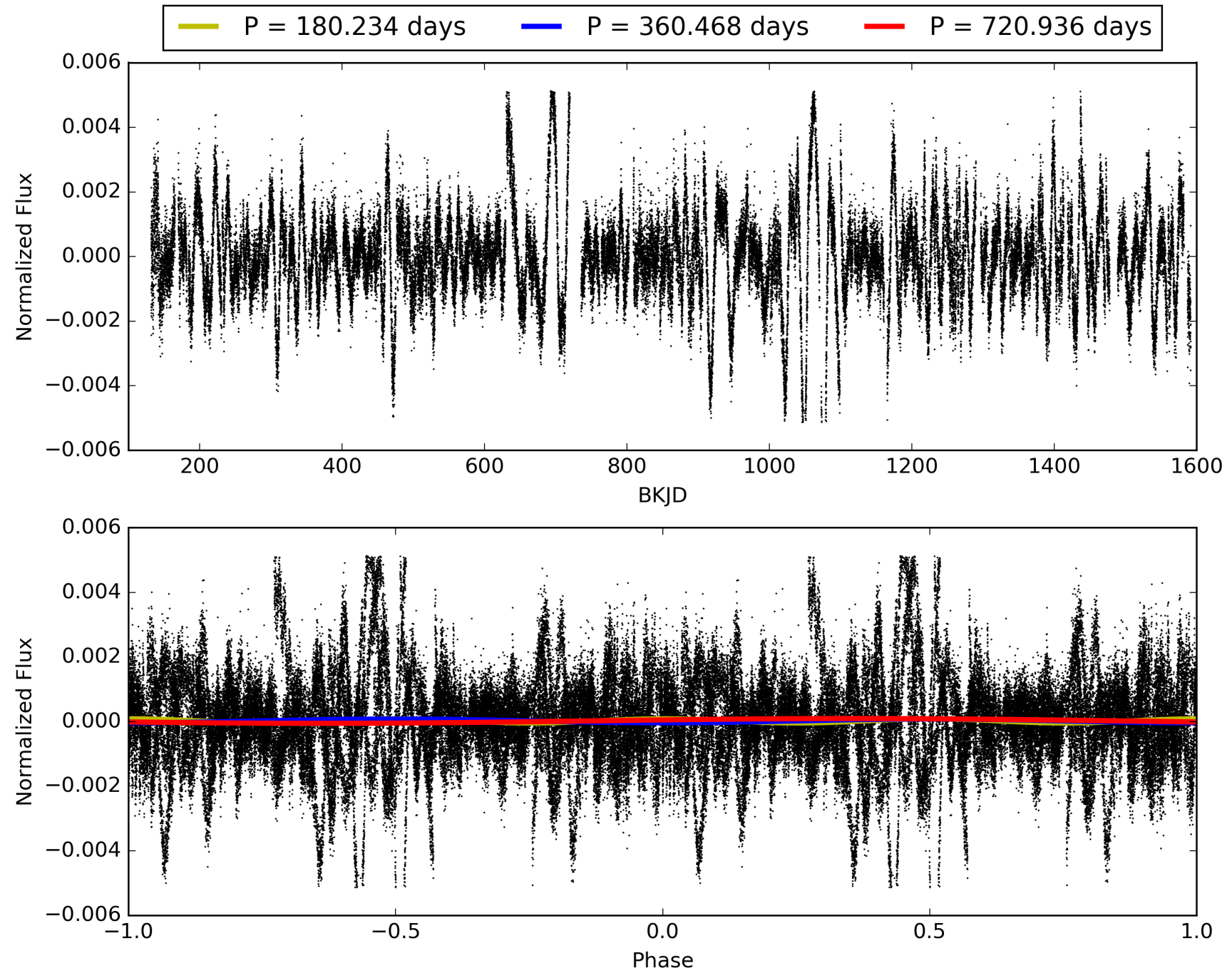
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:34:03 Z

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

TCE 010337859-01, PDC Light Curves

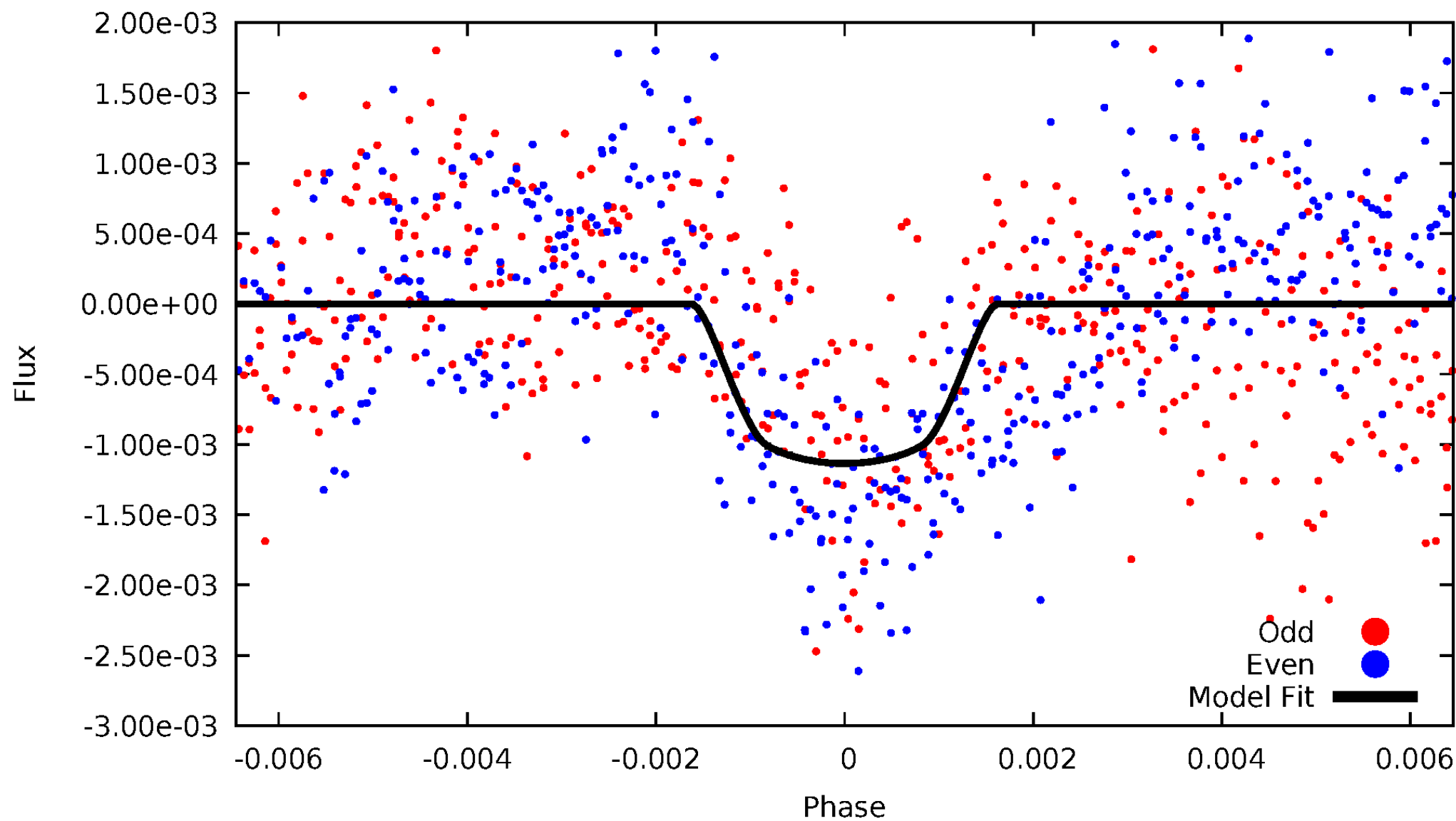


TCE 010337859-01



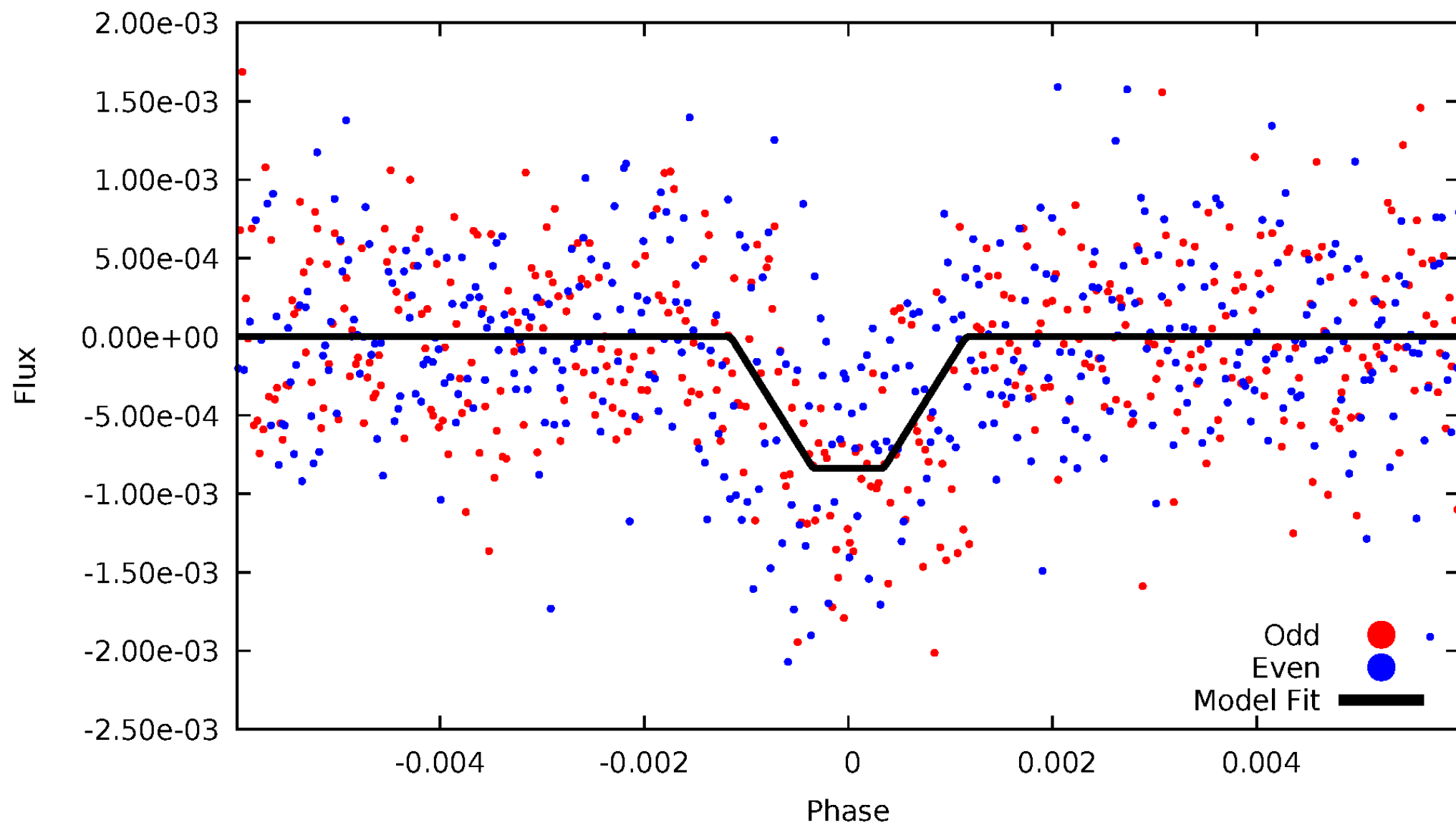
DV Odd/Even

TCE 010337859-01



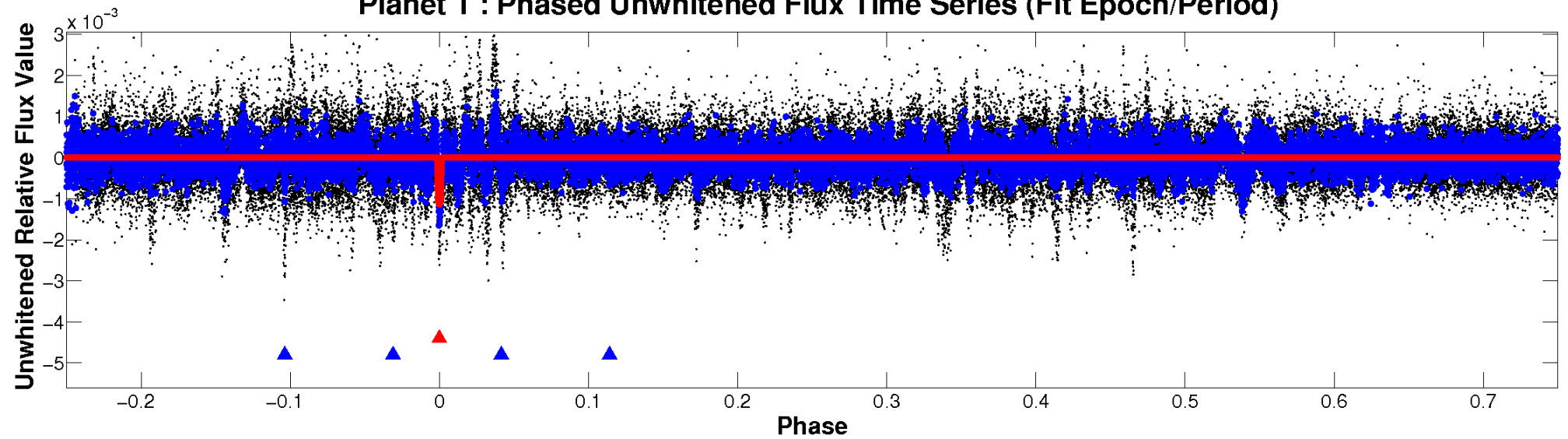
ALT Odd/Even

TCE 010337859-01

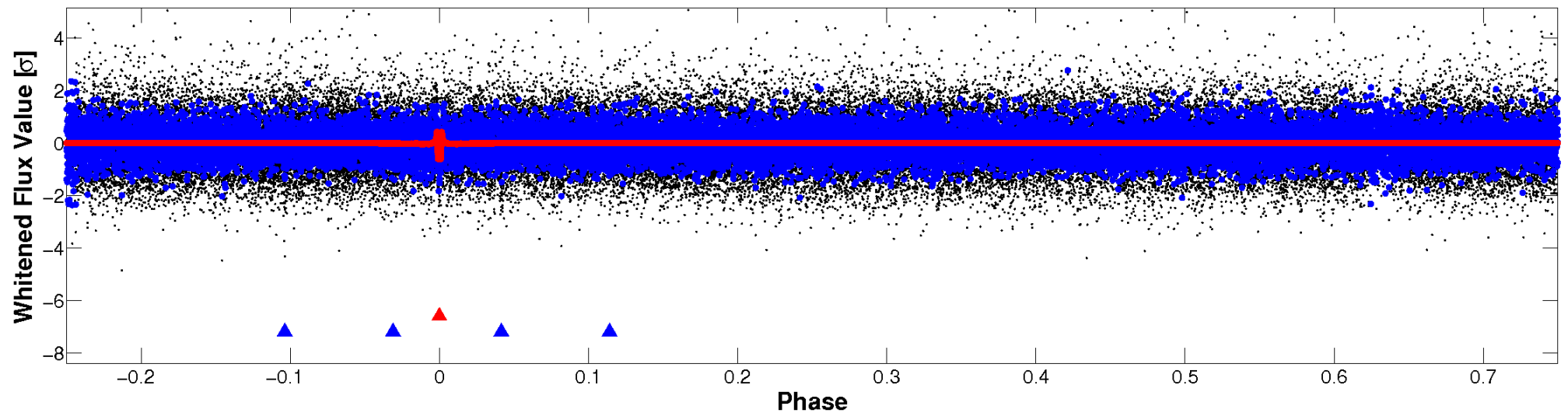


Non-Whitened Vs. Whitened Light Curve

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

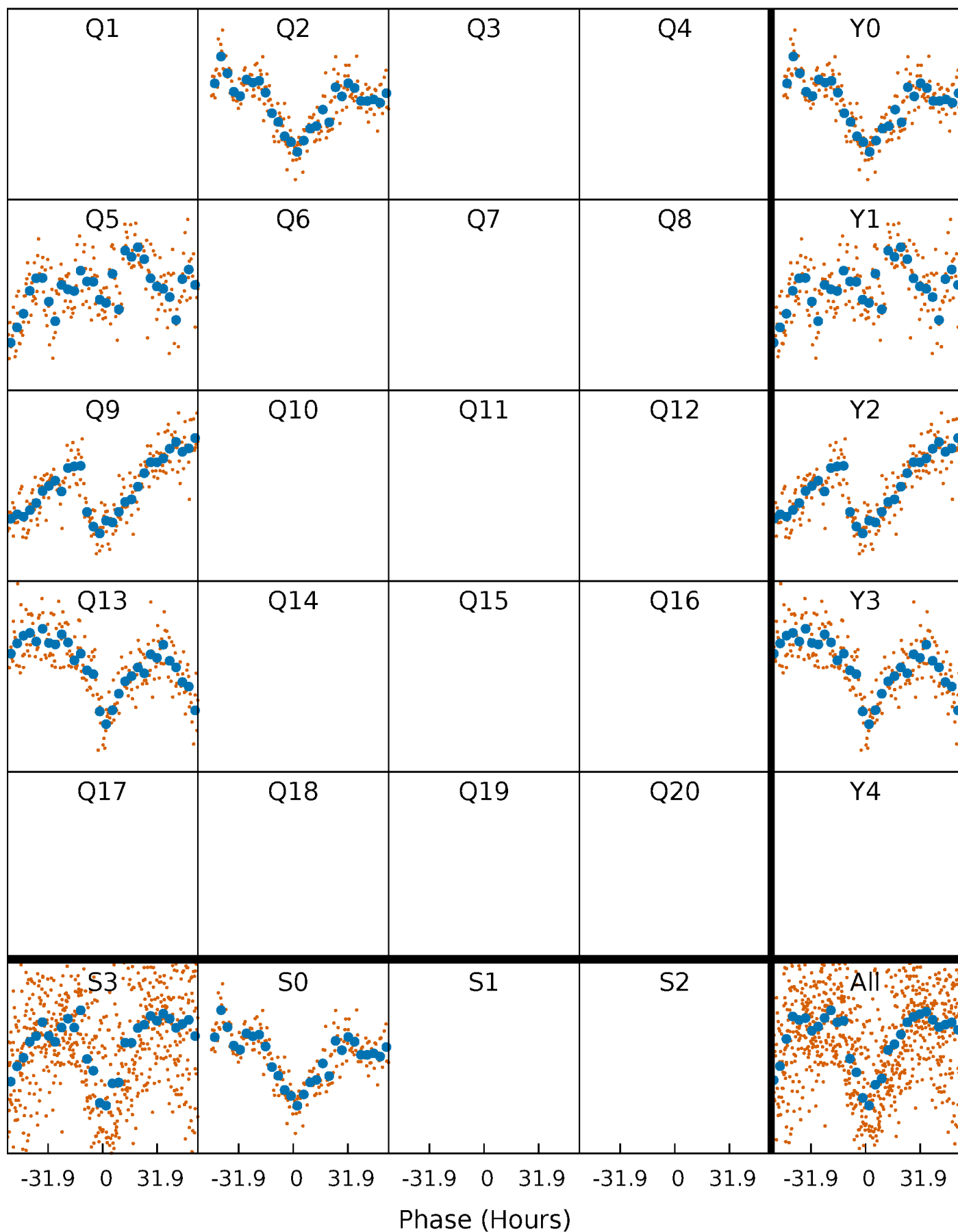


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



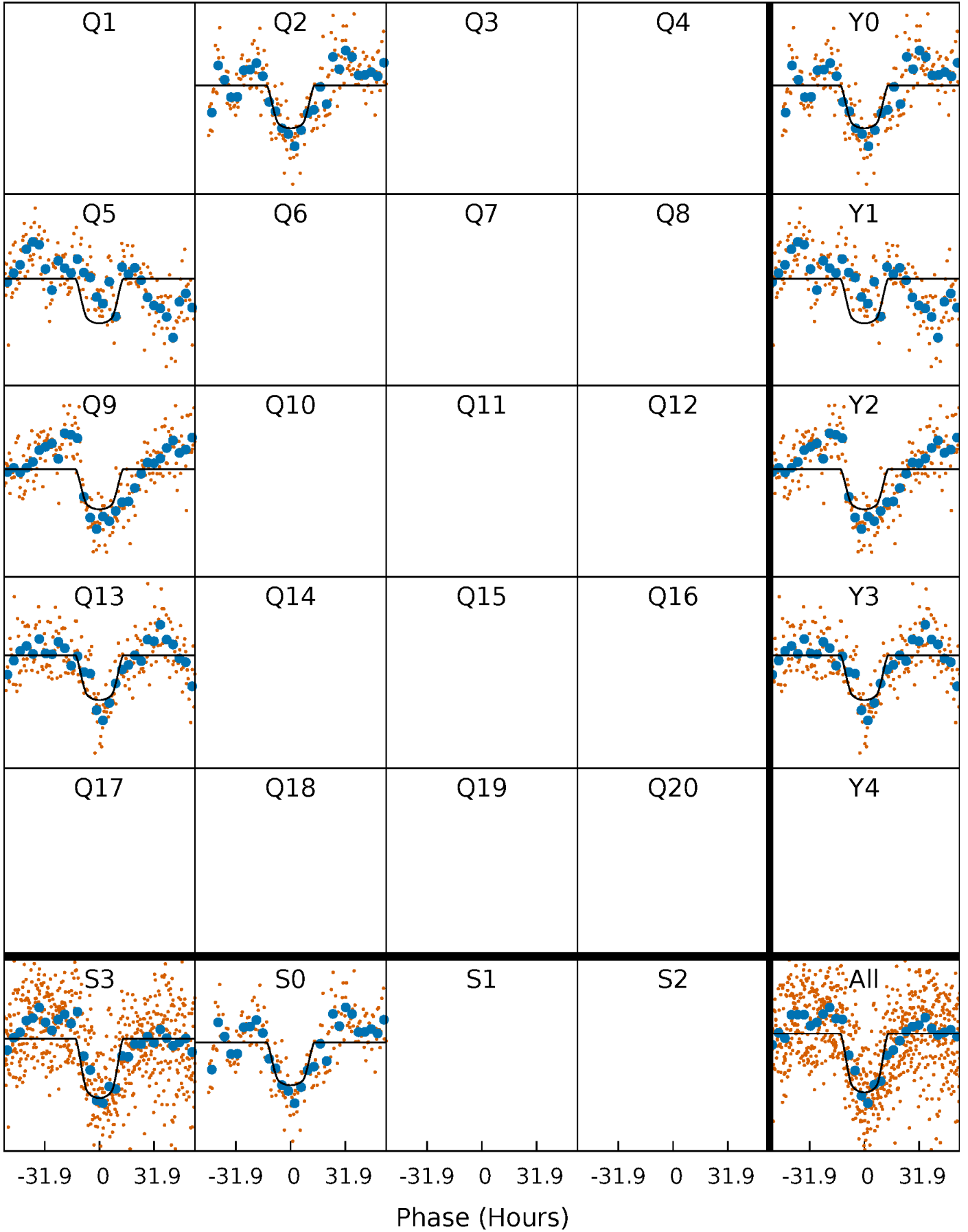
PDC Quarter-Phased Transit Curves

TCE 010337859-01 P=360.468048 Days $T_0=171.755891$ (BKJD)



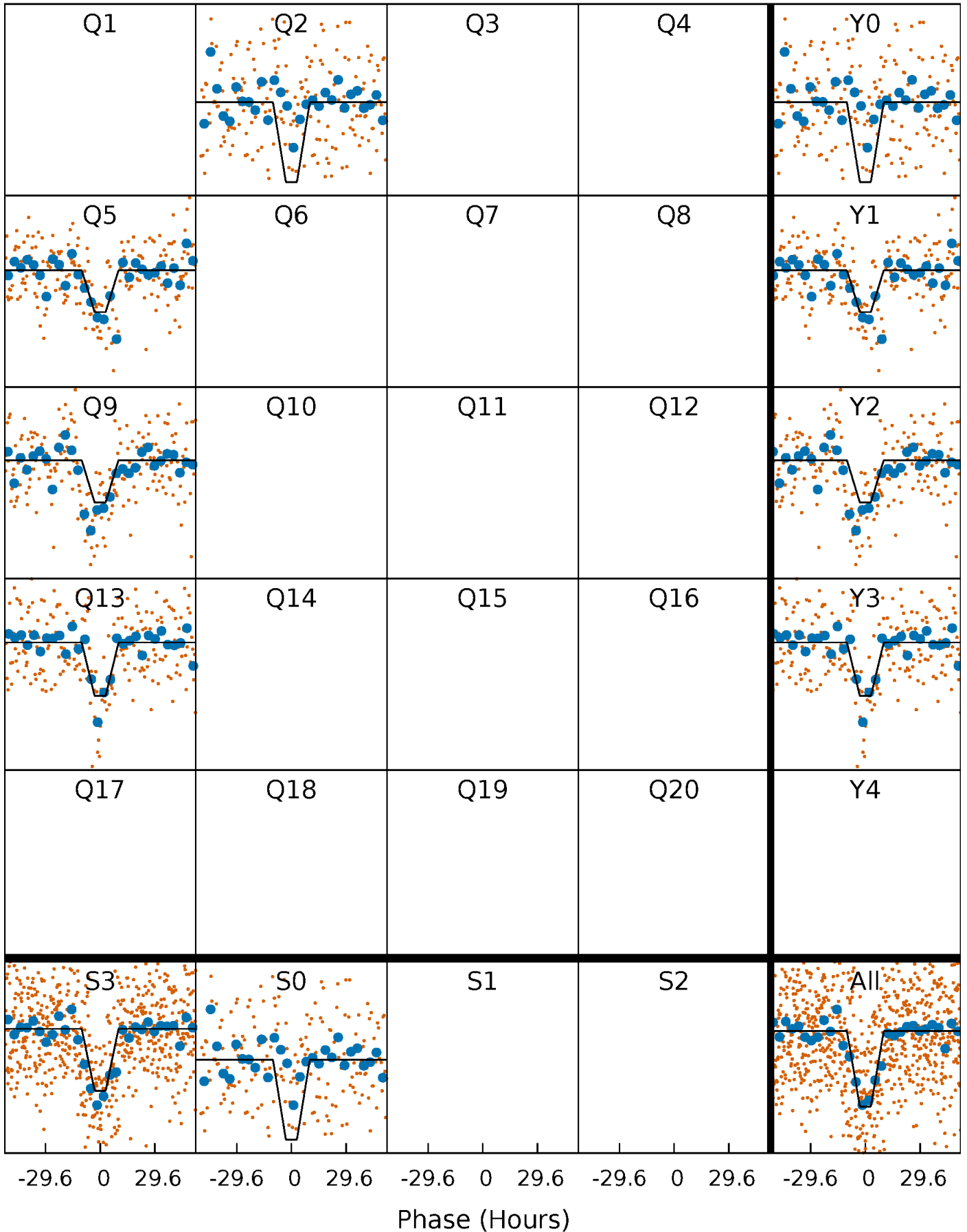
DV Quarter-Phased Transit Curves

TCE 010337859-01 P=360.468048 Days $T_0=171.755891$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

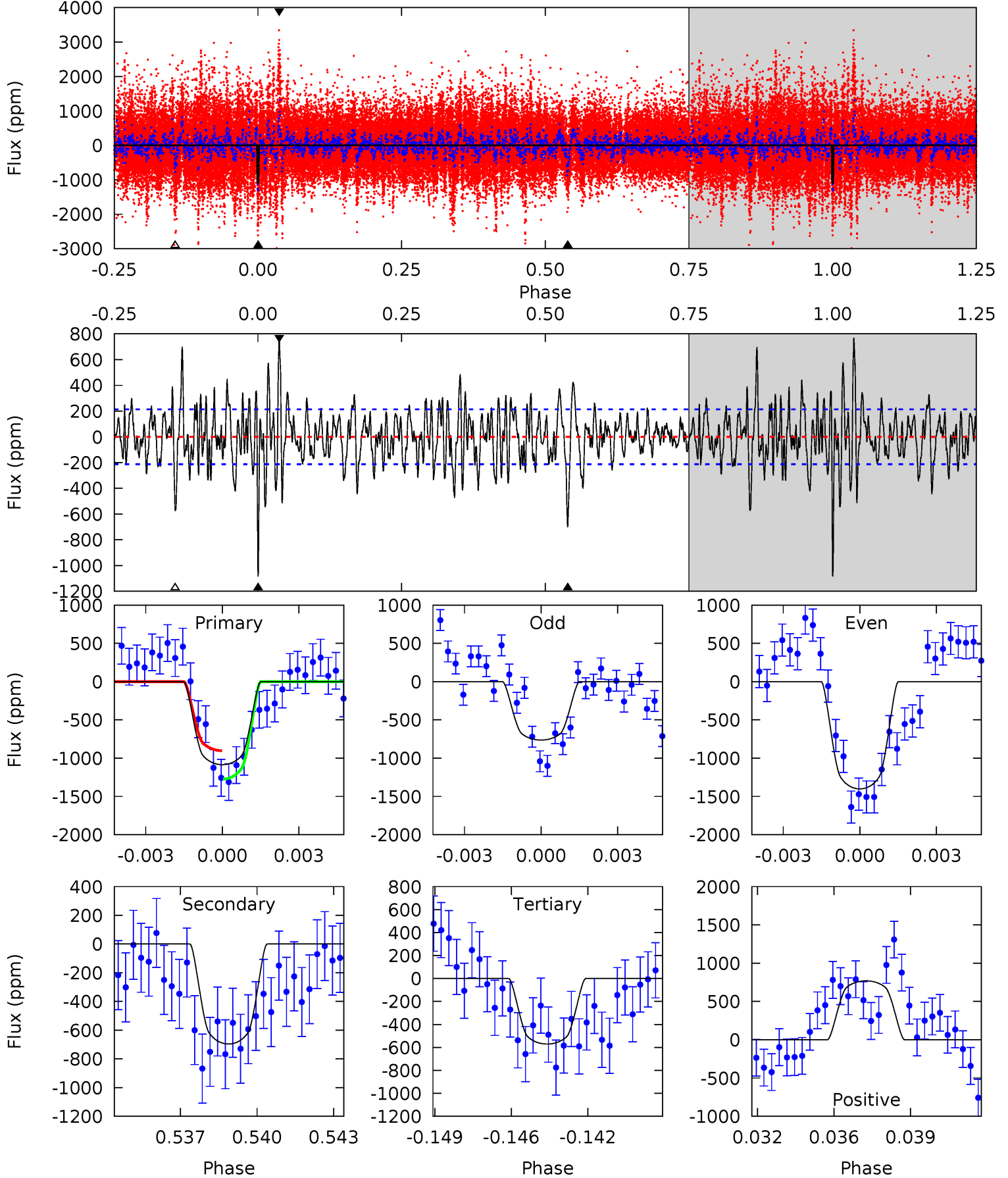
TCE 010337859-01 P=360.475243 Days $T_0=171.804370$ (BKJD)



DV Model-Shift Uniqueness Test

010337859-01, P = 360.468048 Days, E = 171.755891 Days

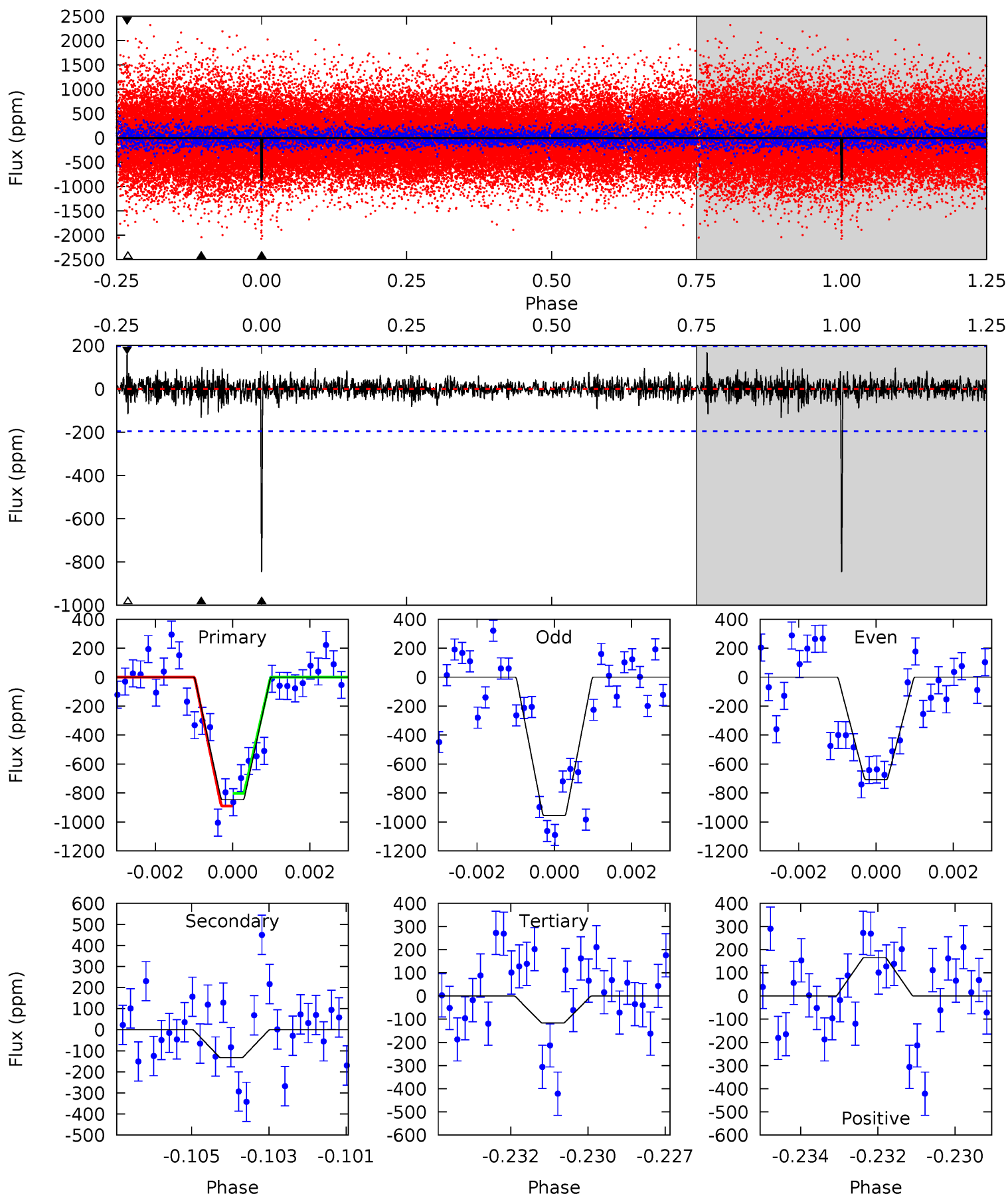
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.7	17.1	14.0	18.9	5.24	2.94	4.38	12.7	7.78	3.08	-1.79	7.83	0.87	0.41	4.59



Alt Model-Shift Uniqueness Test

010337859-01, P = 360.475243 Days, E = 171.804370 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	3.57	3.14	4.46	5.30	3.04	0.74	19.7	18.3	0.43	-0.89	3.37	0.87	0.16	1.16



Stellar Parameters For KIC 010337859

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5440^{+164}_{-164}	$4.553^{+0.027}_{-0.153}$	$0.160^{+0.200}_{-0.300}$	$0.858^{+0.173}_{-0.074}$	$0.957^{+0.065}_{-0.106}$	$2.137^{+0.404}_{-0.866}$
	+3%/-3%	+1%/-3%	+125%/-188%	+20%/-9%	+7%/-11%	+19%/-41%
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 010337859-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-696 ± 41	$3.73^{+0.52}_{-0.40}$	321^{+16}_{-13}	4629^{+234}_{-189}	25721^{+6370}_{-5843}
Alt.	-133 ± 37	$2.82^{+0.42}_{-0.37}$	322^{+15}_{-15}	3778^{+274}_{-249}	8389^{+4047}_{-2788}

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

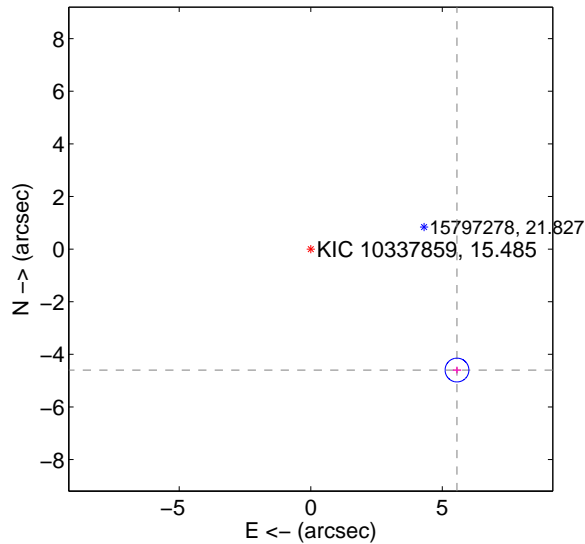
Supplemental centroid analysis for 010337859-01. Kepler magnitude: 15.48. Transit SNR 7.76

There are 0 quarters with good PRF difference image offsets

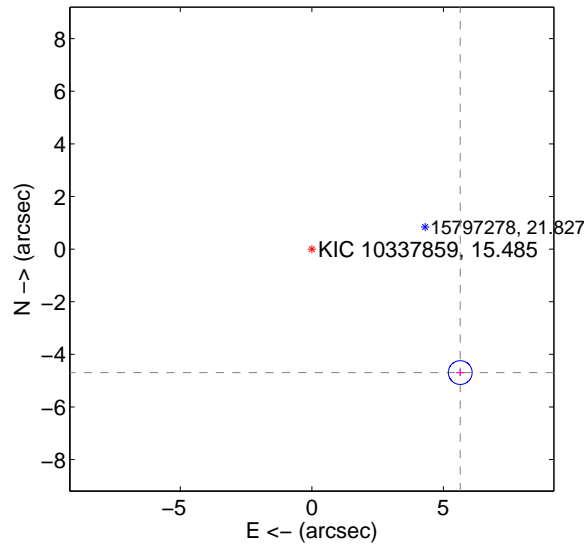
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.214 ± 0.151	47.87	-5.559 ± 0.163	-4.598 ± 0.131
PRF-fit source offset from KIC position	7.339 ± 0.151	48.73	-5.642 ± 0.163	-4.694 ± 0.131
photometric centroid source offset	2.42 ± 1.27	1.90	1.70 ± 1.23	1.72 ± 1.32

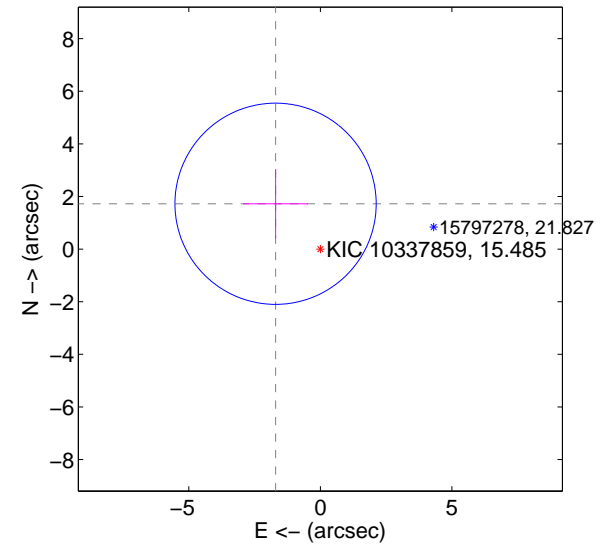
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

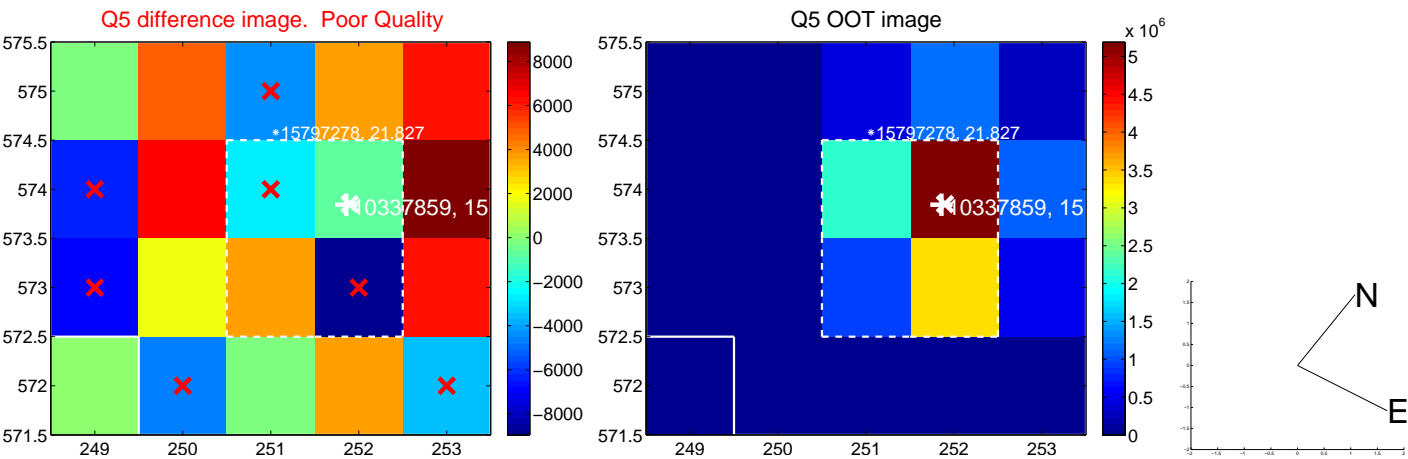


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

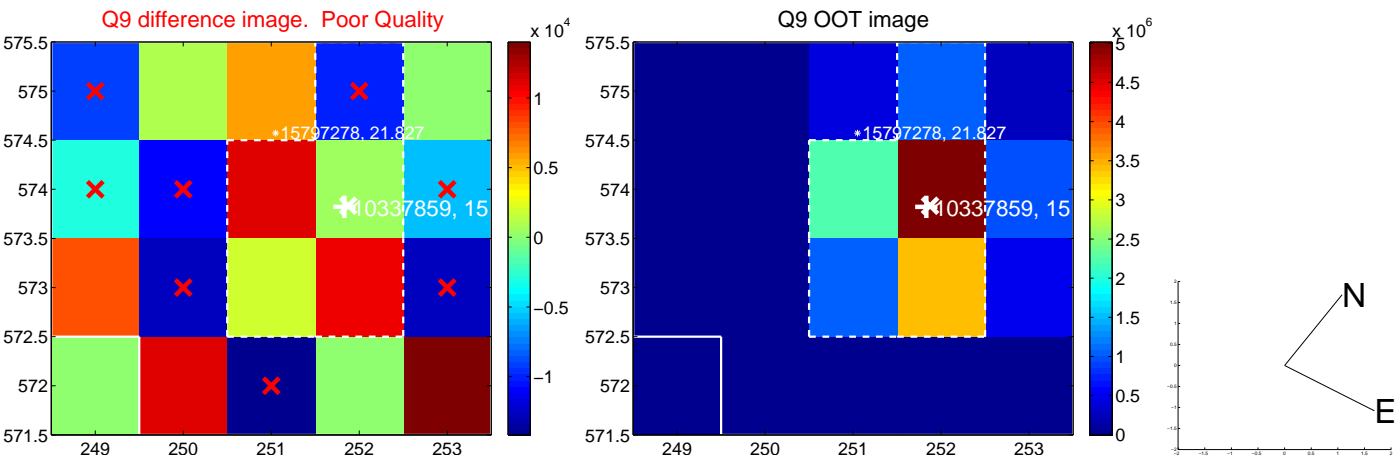
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



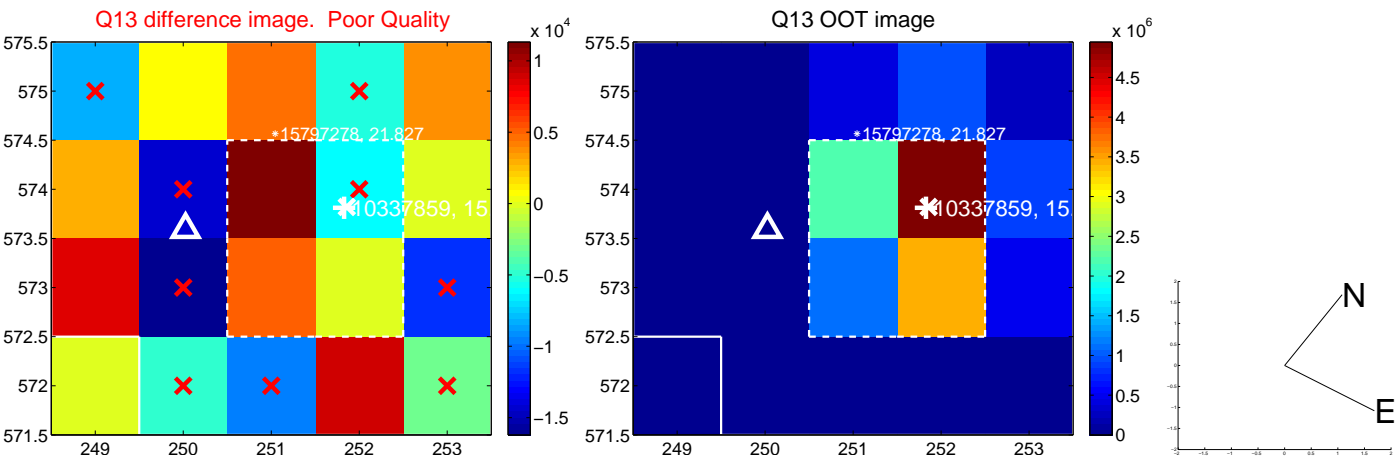
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



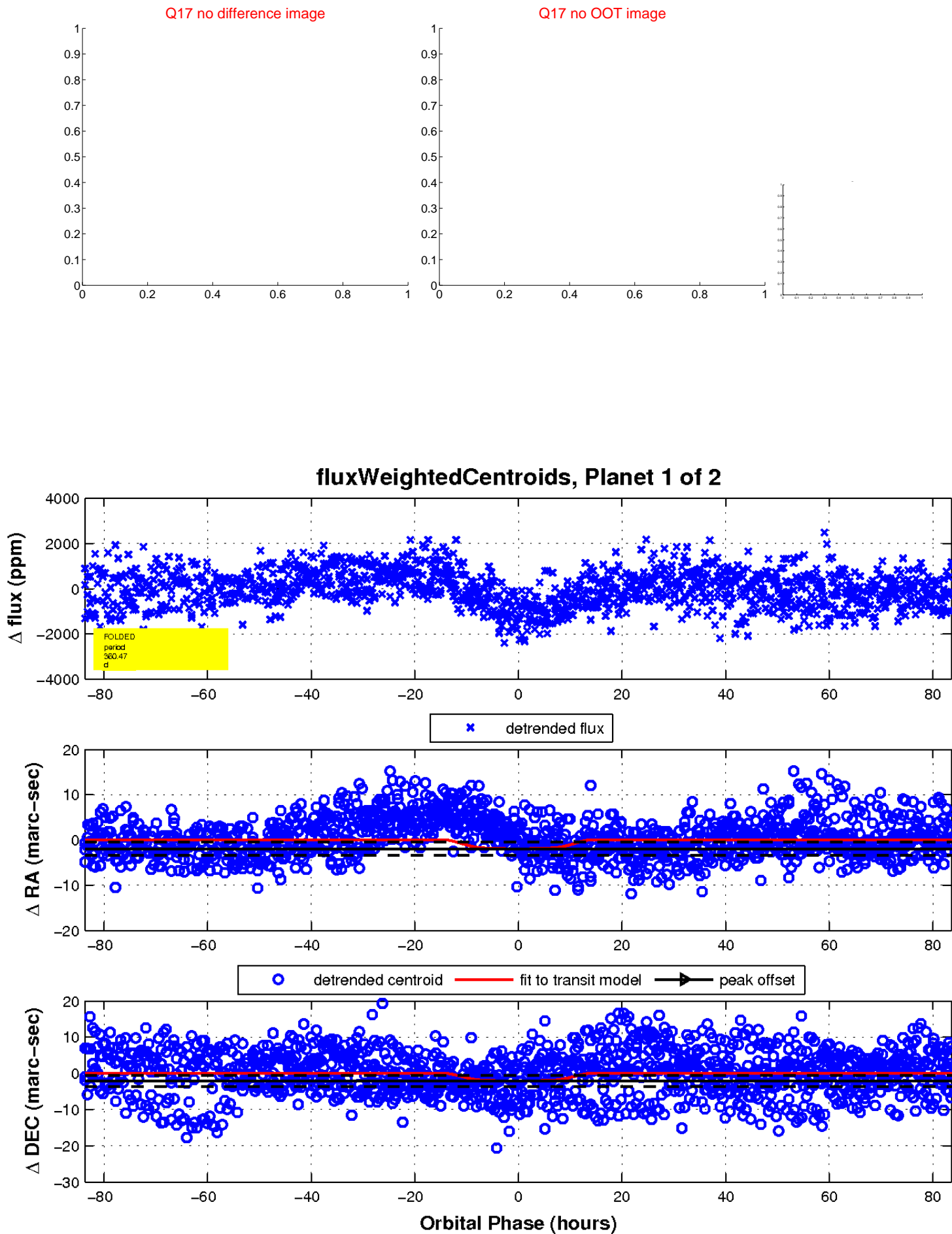
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

