

KIC 008751822

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})
008751822-01	OBS	No	374.405288	137.212558	745.6	23.302	9.2	9.5	0.88	5968	2.96	0.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008751822-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—INCONSISTENT_TRANS—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.

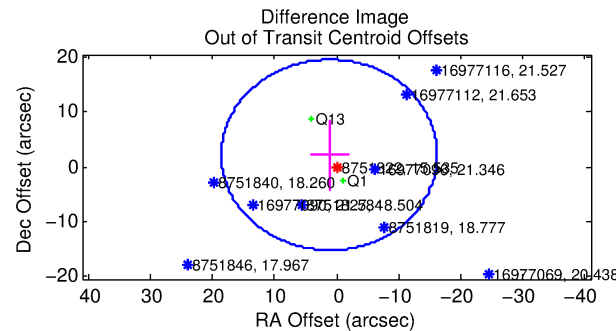
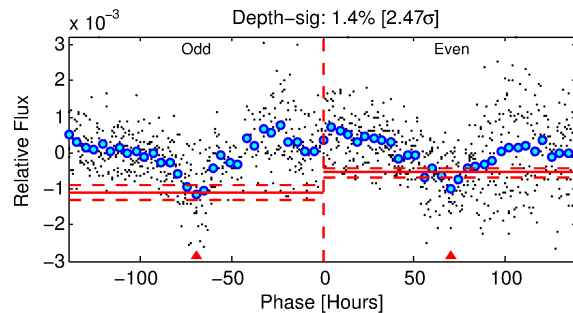
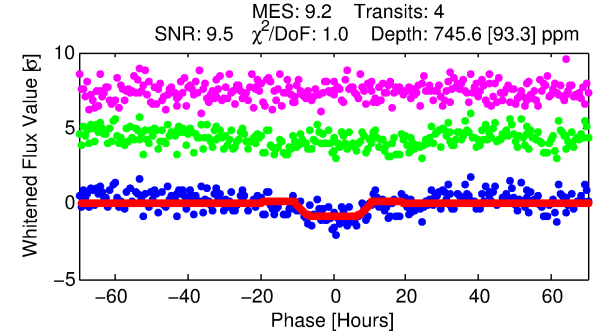
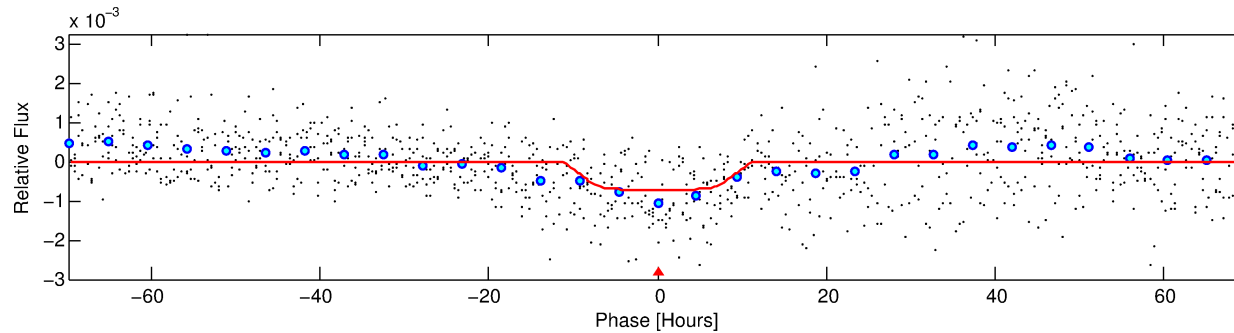
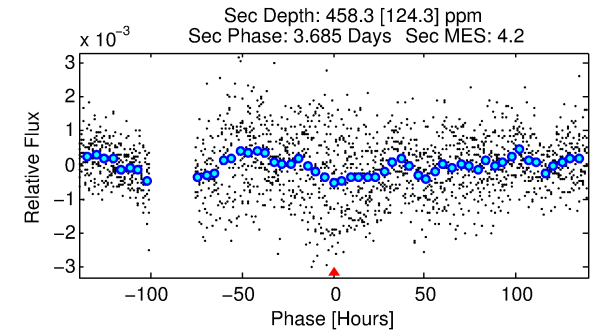
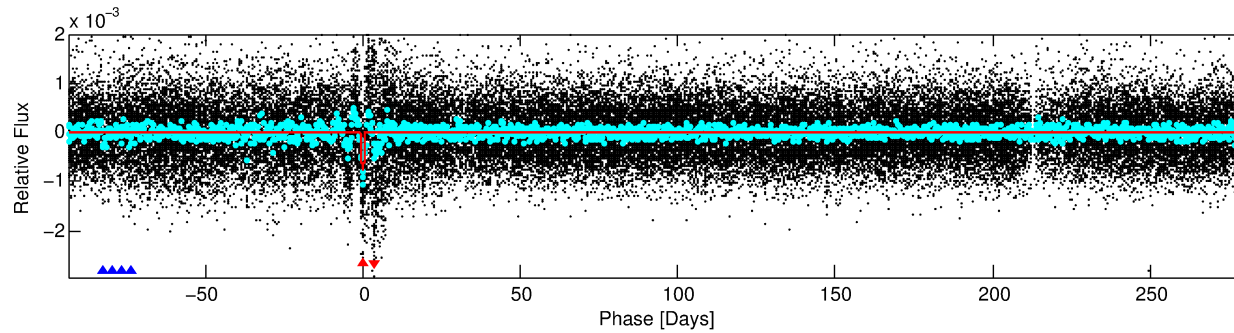
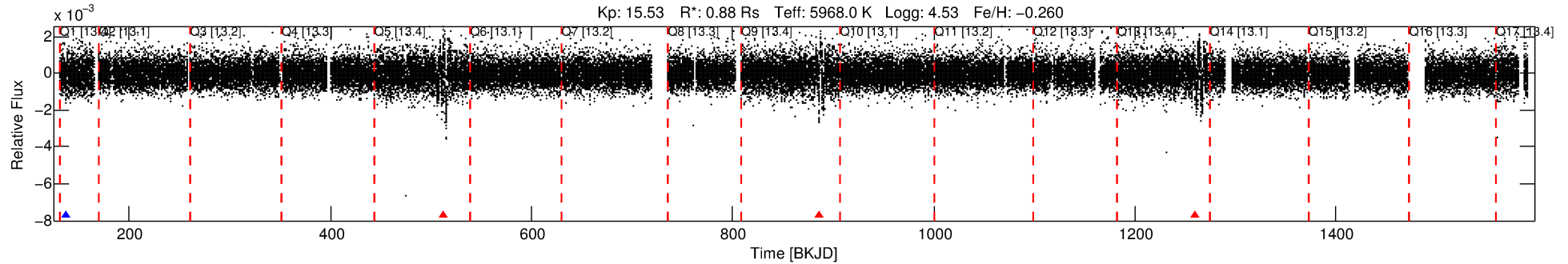
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008751822-01

No Significant Match Found

DV One-Page Summary

KIC: 8751822 Candidate: 1 of 2 Period: 374.405 d



DV Fit Results:

Period = 374.40529 [0.02289] d
Epoch = 137.2126 [0.0404] BKJD
Rp/R* = 0.0307 [0.0029]
a/R* = 52.88 [15.71]
b = 0.94 [0.04]
Seff = 0.87 [0.36]
Teq = 246 [25] K
Rp = 2.96 [0.95] Re
a = 1.0059 [0.2638] AU
Ag = 29203.96 [14849.48] [1.97σ]
Teff = 4980 [444] K [10.65σ]

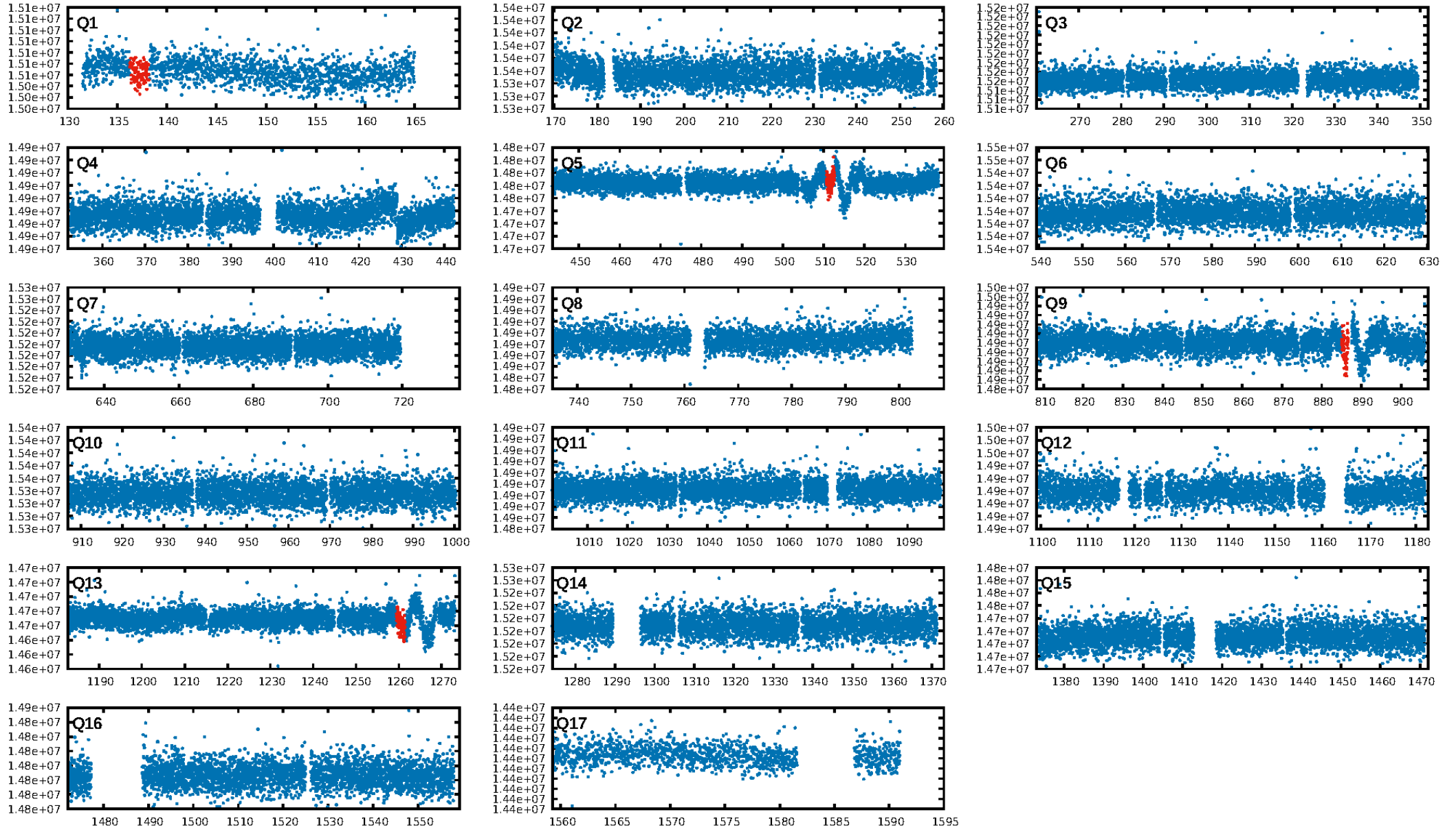
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.5% [2.80σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.18e-19
RollingBand-fgt: 0.00 [0/3]
GhostDiagnostic-chr: 31.18
Centroid-sig: 0.0%
Centroid-so: 5.669 arcsec [3.61σ]
OotOffset-rm: 2.442 arcsec [0.42σ]
KicOffset-rm: 2.257 arcsec [0.40σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

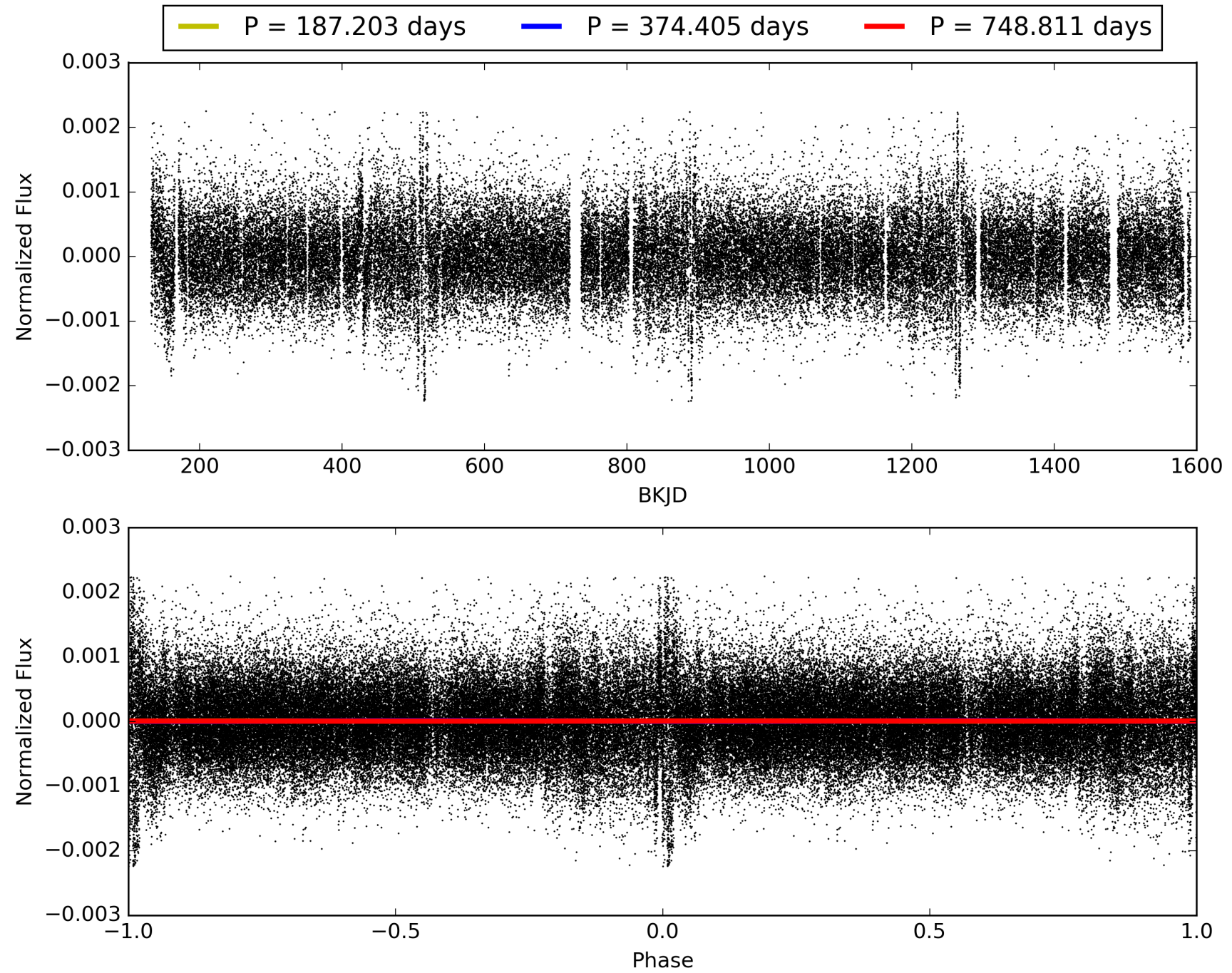
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:27:06 Z

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

TCE 008751822-01, PDC Light Curves

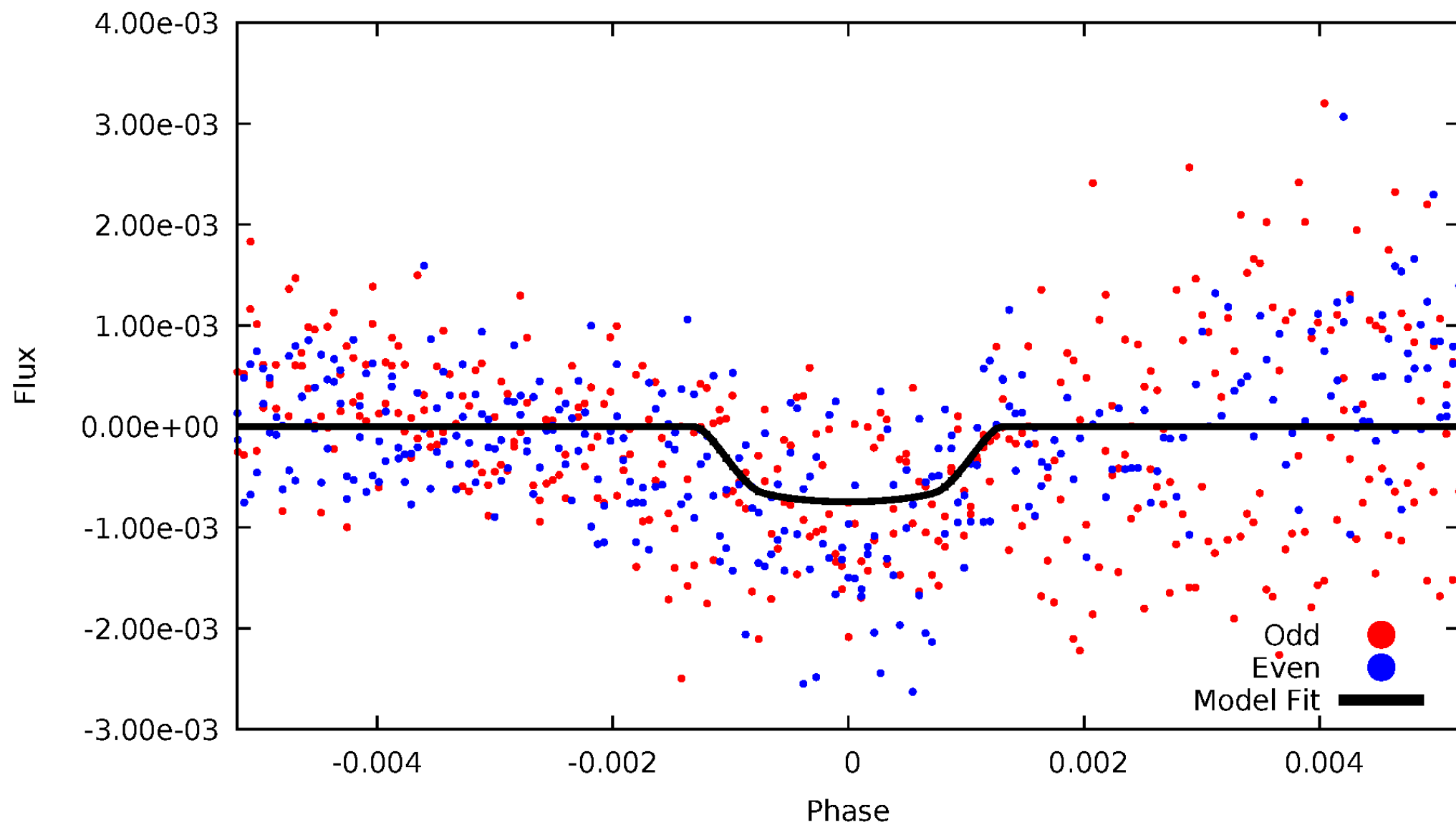


TCE 008751822-01



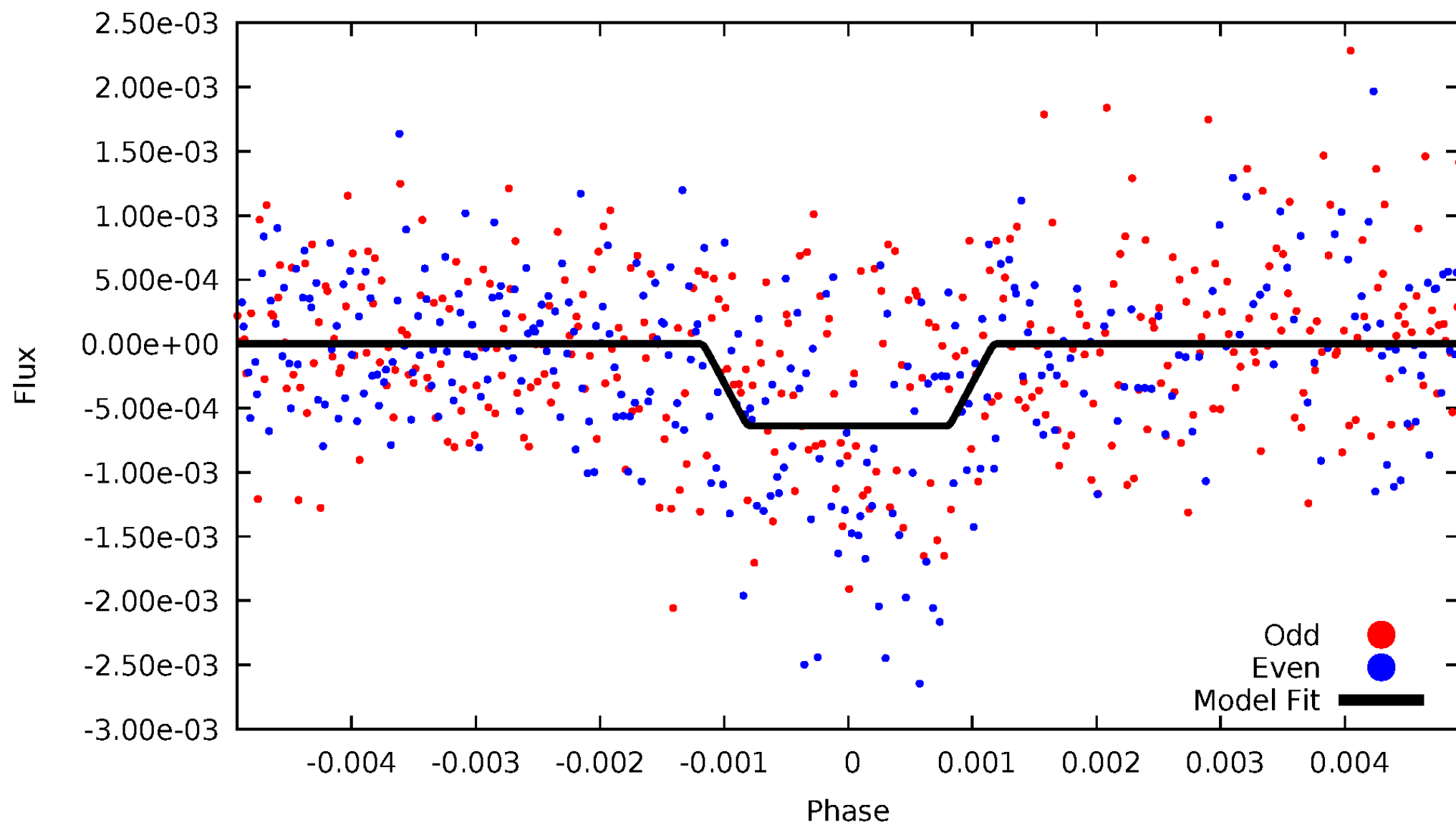
DV Odd/Even

TCE 008751822-01



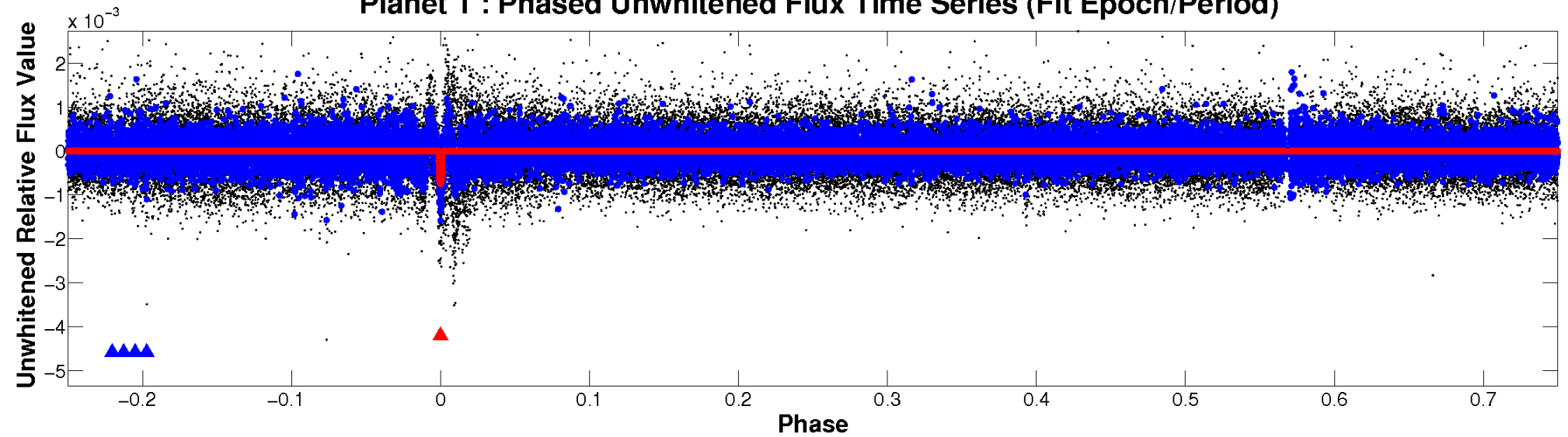
ALT Odd/Even

TCE 008751822-01

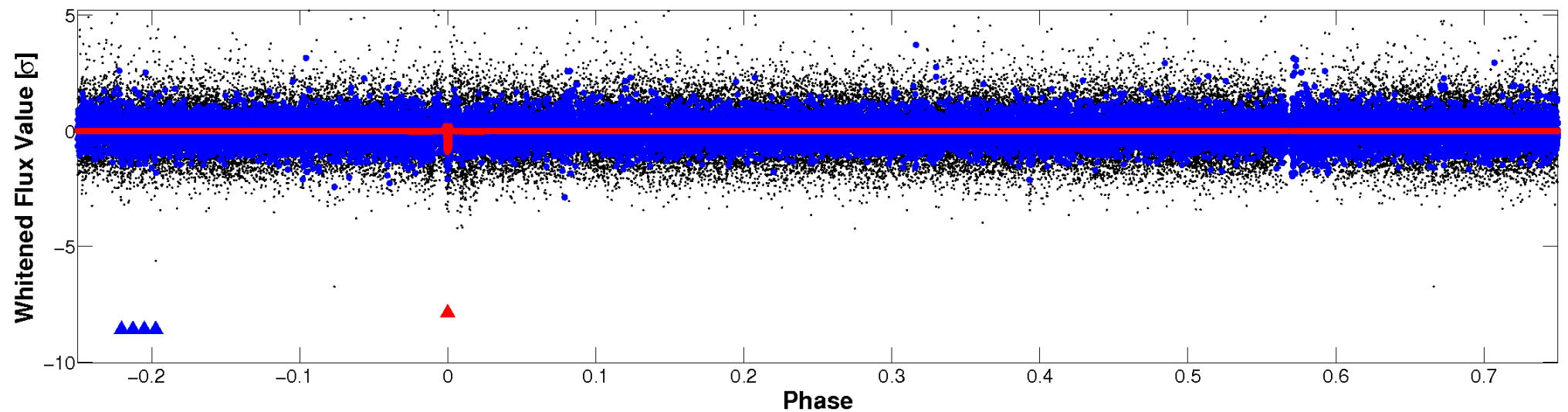


Non-Whitened Vs. Whitened Light Curve

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

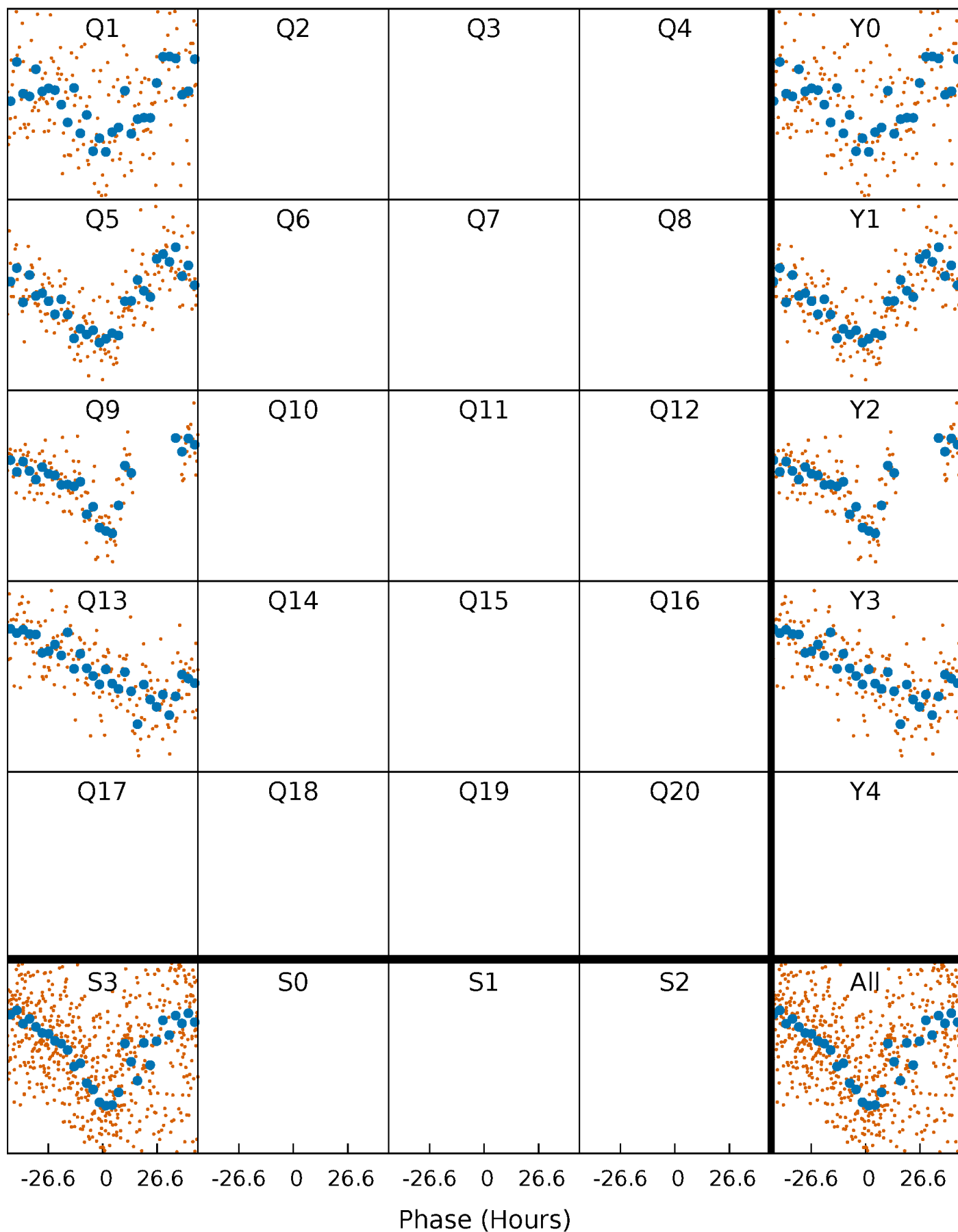


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



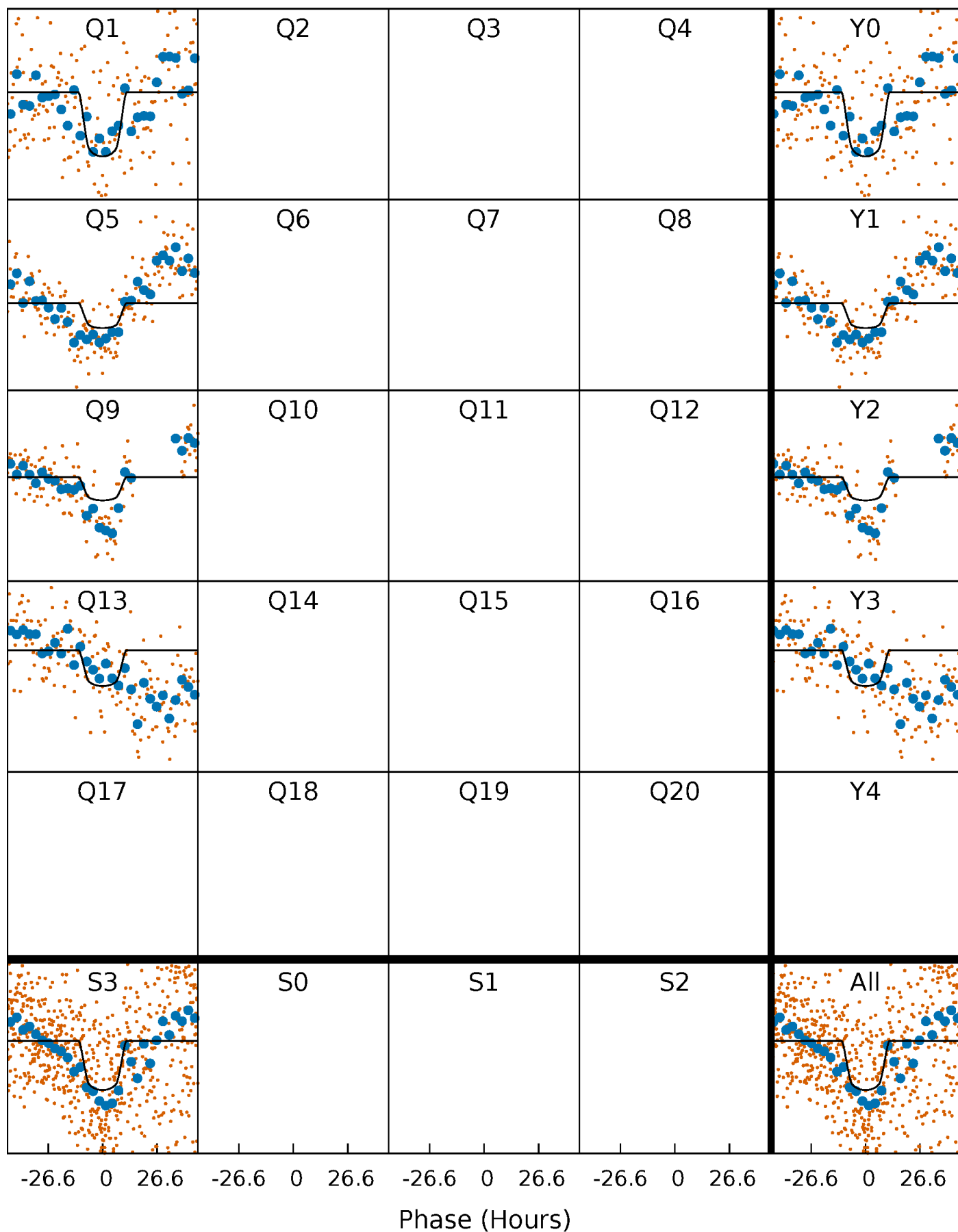
PDC Quarter-Phased Transit Curves

TCE 008751822-01 $P=374.405288$ Days $T_0=137.212558$ (BKJD)



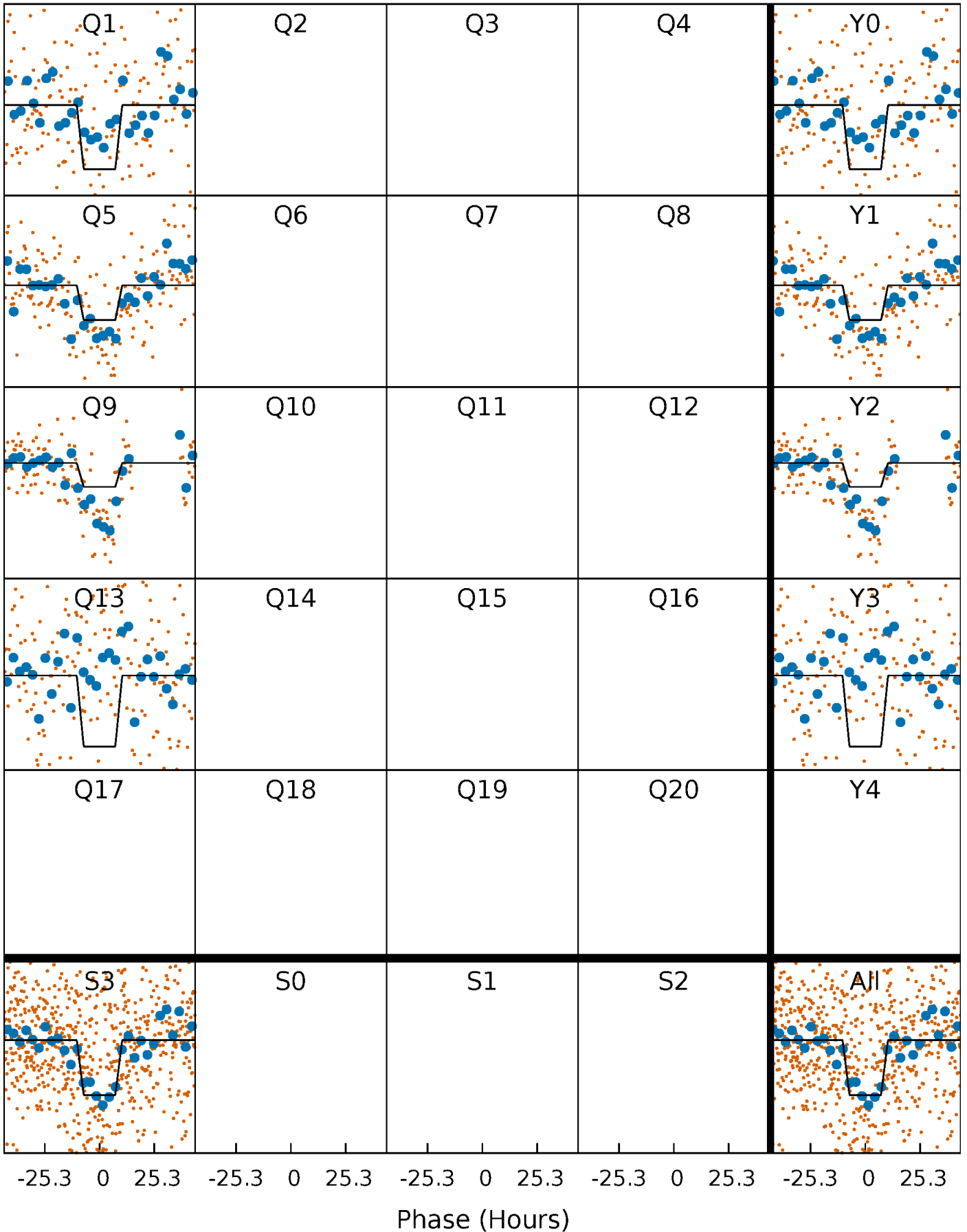
DV Quarter-Phased Transit Curves

TCE 008751822-01 $P=374.405288$ Days $T_0=137.212558$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

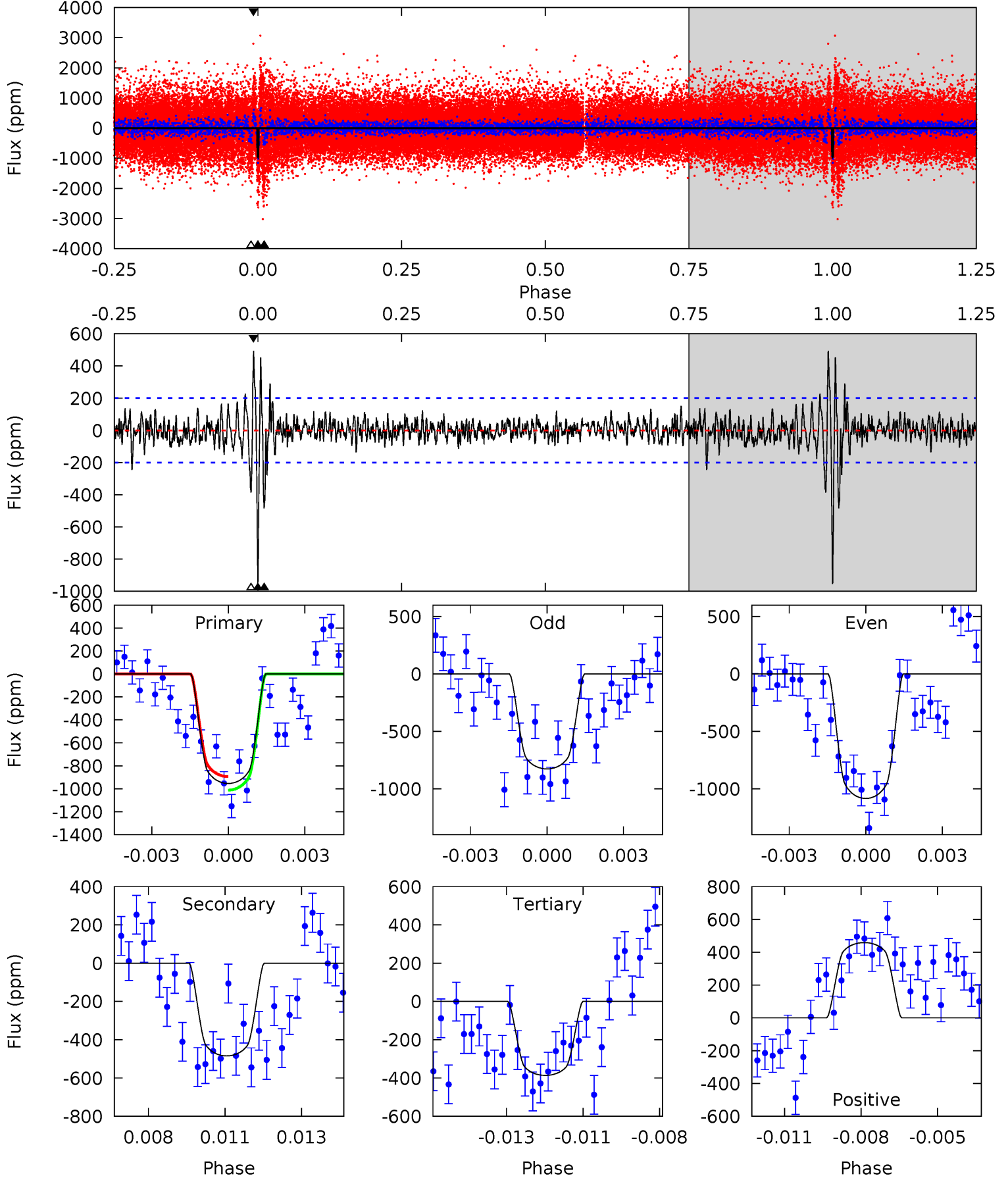
TCE 008751822-01 P=374.397309 Days $T_0=137.218477$ (BKJD)



DV Model-Shift Uniqueness Test

008751822-01, $P = 374.405288$ Days, $E = 137.212558$ Days

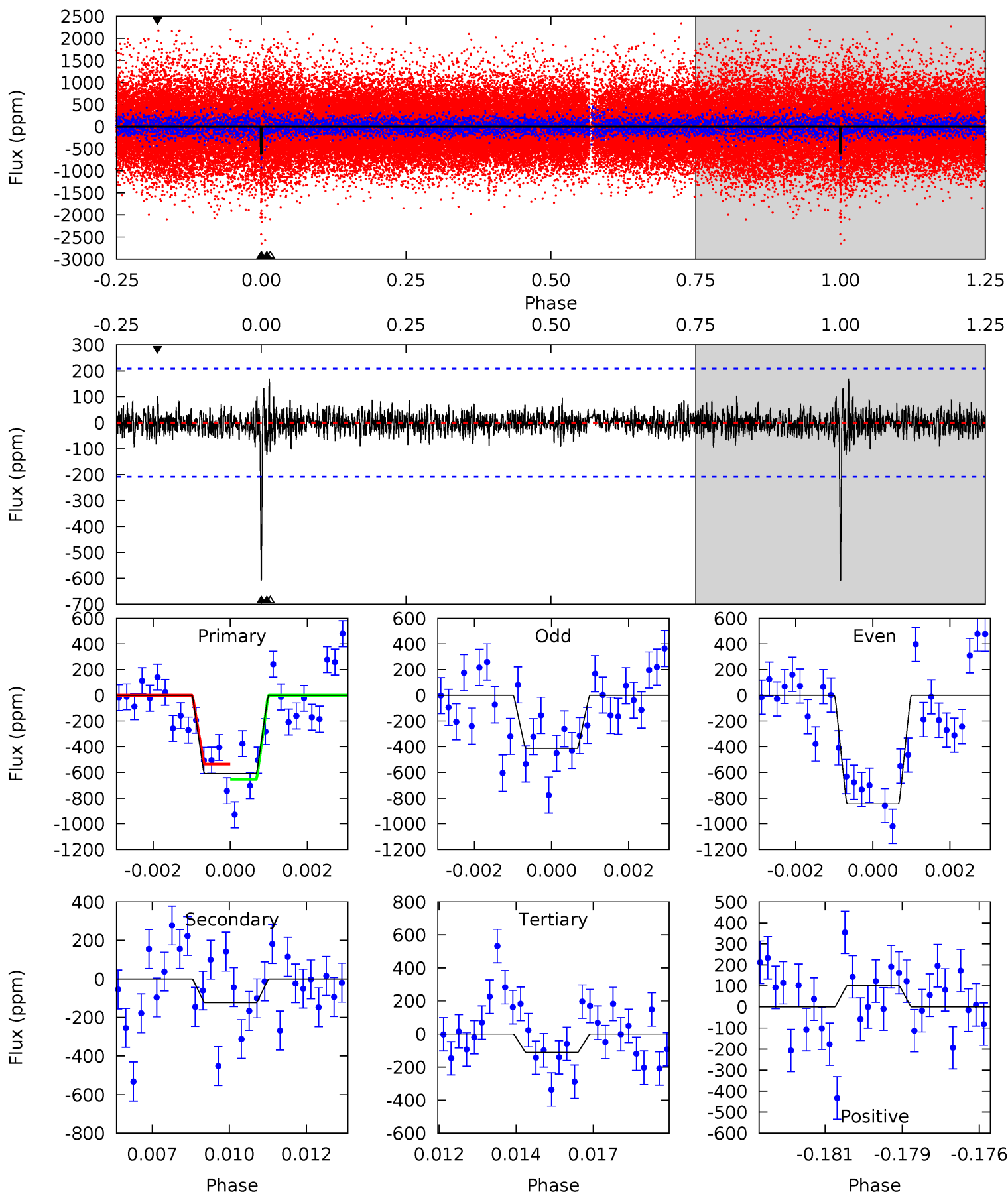
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.1	12.7	10.2	12.1	5.27	3.00	1.74	14.9	13.0	2.58	0.67	3.37	1.11	0.34	1.54



Alt Model-Shift Uniqueness Test

008751822-01, $P = 374.397309$ Days, $E = 137.218477$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	3.13	2.83	2.57	5.29	3.04	0.78	12.7	12.9	0.29	0.56	5.48	1.09	0.22	1.51



Stellar Parameters For KIC 008751822

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5968^{+161}_{-197}	$4.534^{+0.037}_{-0.213}$	$-0.260^{+0.300}_{-0.300}$	$0.881^{+0.271}_{-0.090}$	$0.970^{+0.118}_{-0.130}$	$1.995^{+0.409}_{-1.044}$
	+3%/-3%	+1%/-5%	+115%/-115%	+31%/-10%	+12%/-13%	+21%/-52%
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 008751822-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-485 ± 38	$3.08^{+0.51}_{-0.38}$	352^{+25}_{-16}	5102^{+315}_{-234}	27801^{+8359}_{-7183}
Alt.	-123 ± 39	$2.57^{+0.50}_{-0.39}$	354^{+24}_{-18}	4193^{+331}_{-332}	10153^{+4806}_{-4034}

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

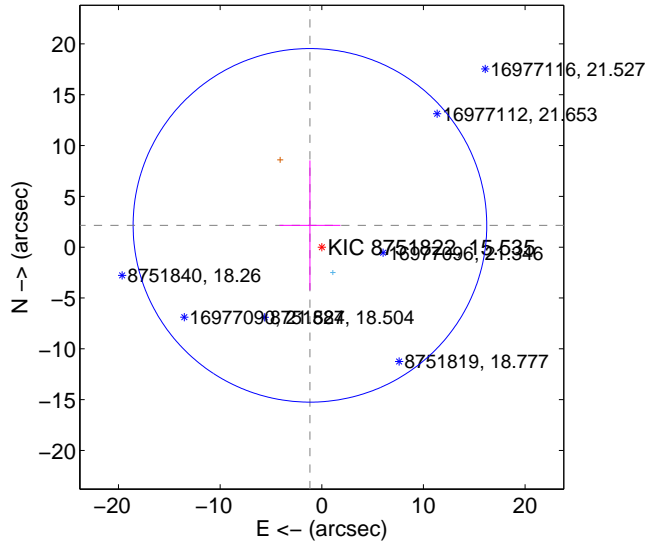
Supplemental centroid analysis for 008751822-01. Kepler magnitude: 15.54. Transit SNR 9.47

There are 1 quarters with good PRF difference image offsets

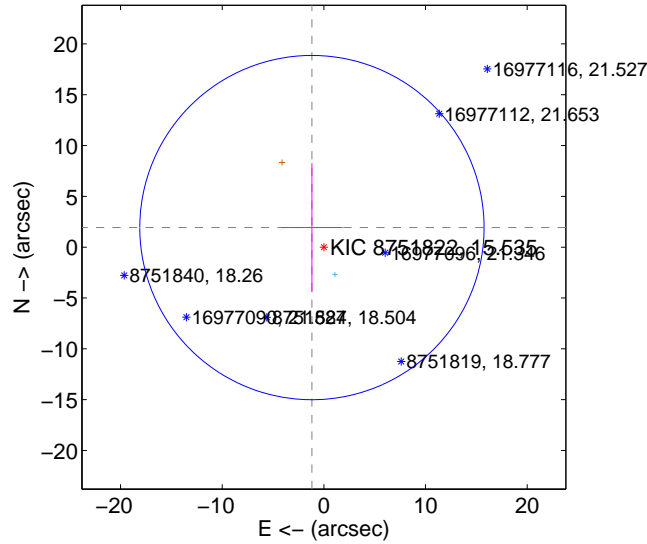
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.442 ± 5.798	0.42	1.164 ± 3.003	2.147 ± 6.391
PRF-fit source offset from KIC position	2.257 ± 5.644	0.40	1.175 ± 3.013	1.927 ± 6.350
photometric centroid source offset	5.67 ± 1.57	3.61	5.40 ± 1.53	-1.72 ± 1.92

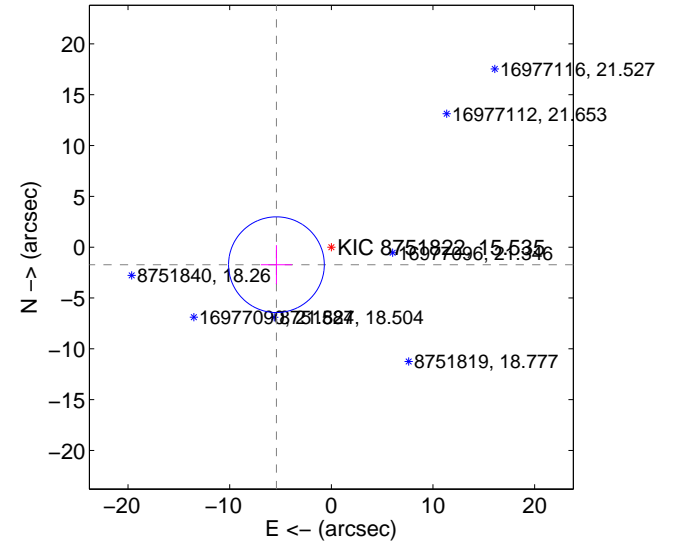
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

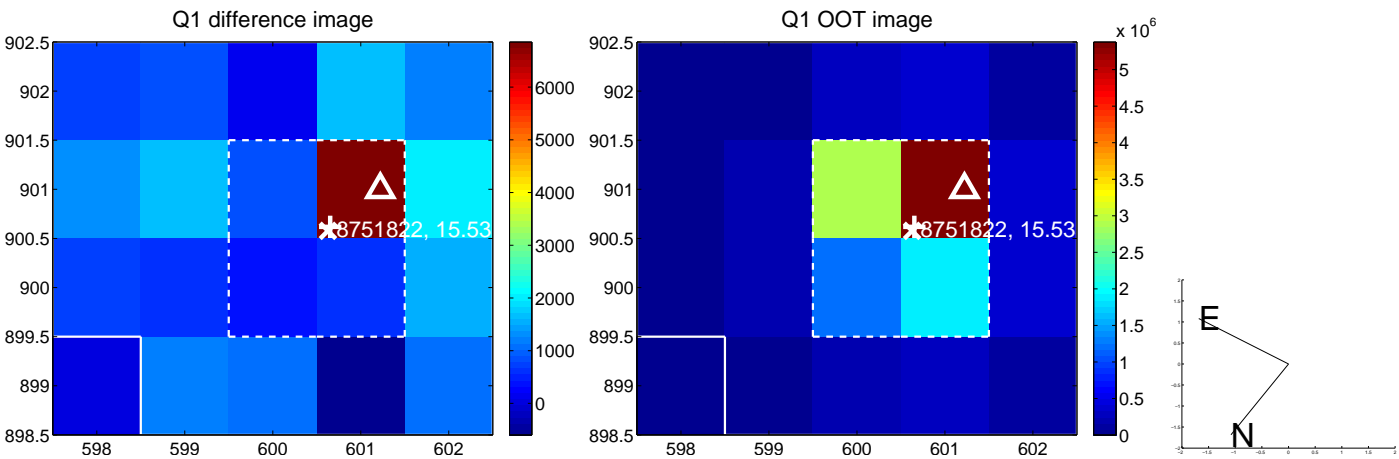


offset from photometric centroids

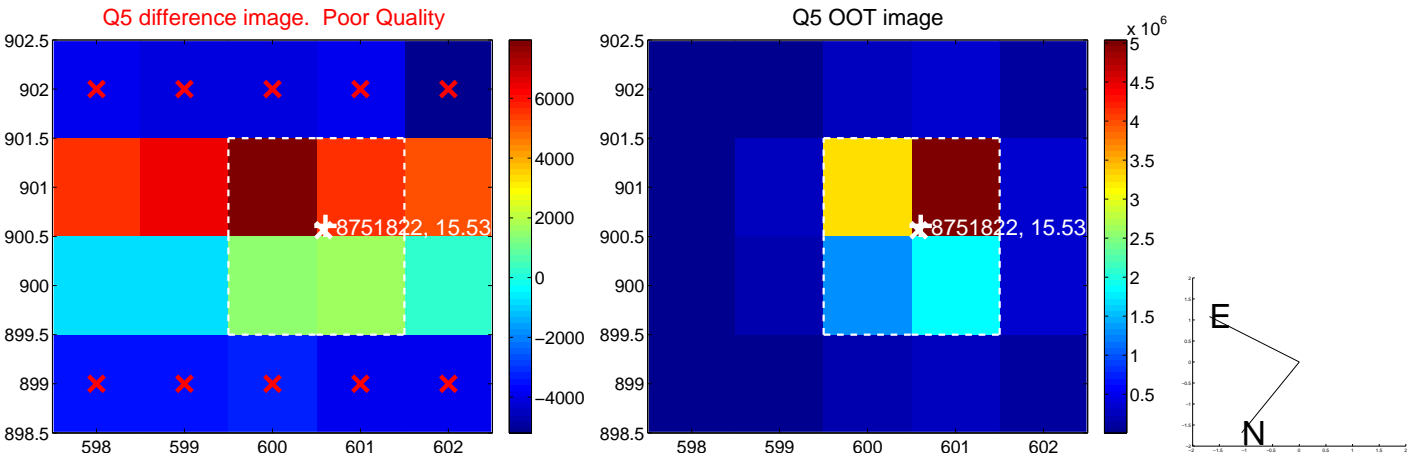


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



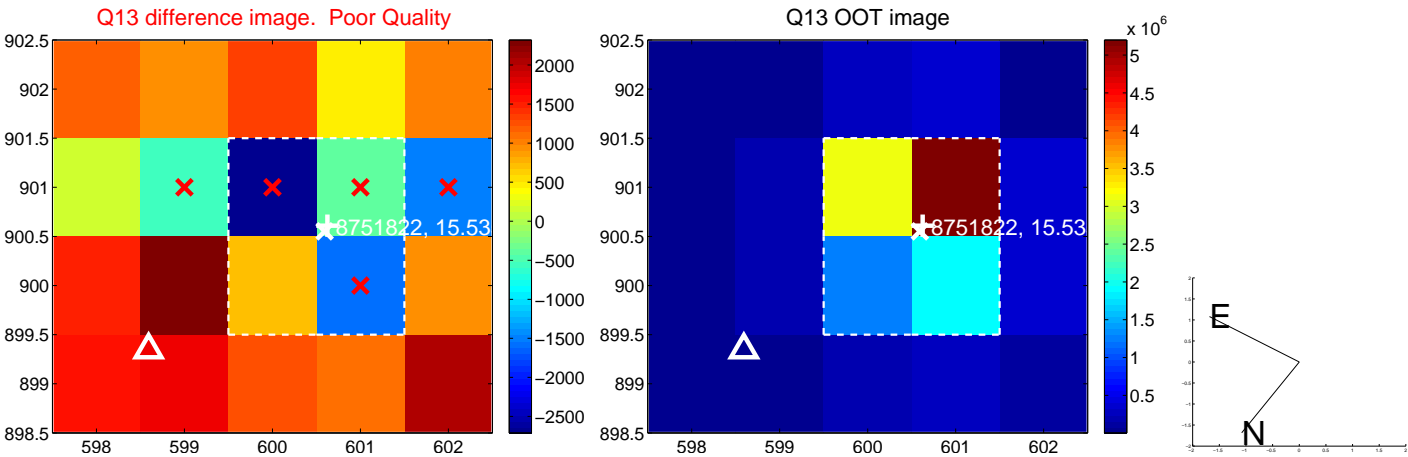
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



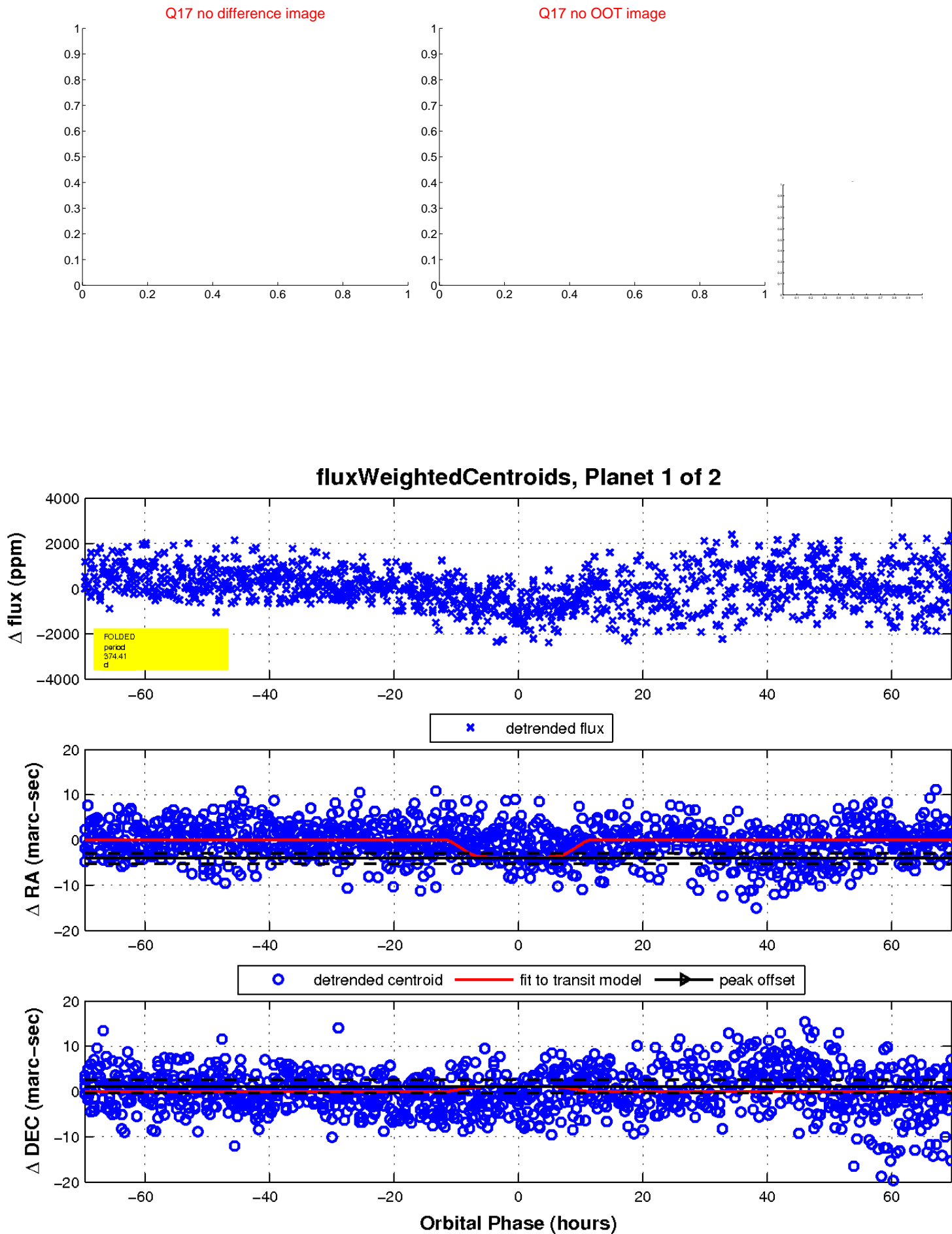
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

