

KIC 008362442

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})
008362442-01	OBS	No	374.417456	261.249274	821.4	42.248	9.2	10.6	0.72	5558	4.04	0.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008362442-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_CHASES MARSHALL_SKYE LPP_DV LPP_ALT ALL_TRANS_CHASES CENT_FEW_DIFFS EPHEM_MATCH

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.

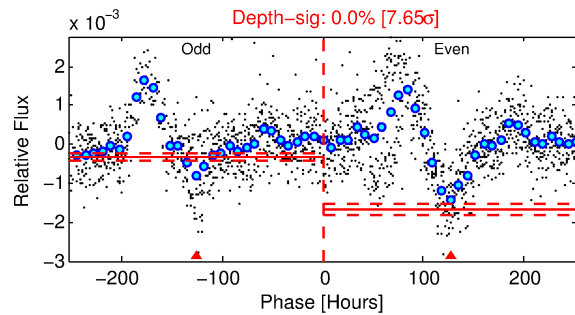
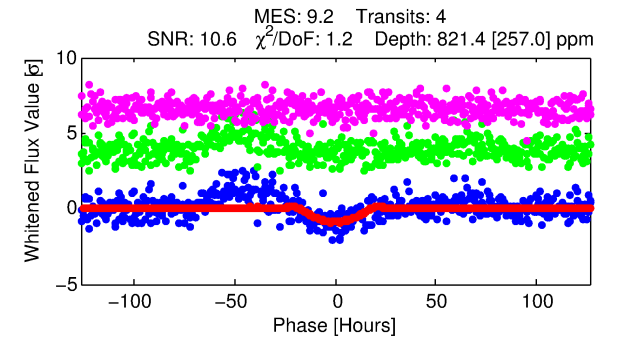
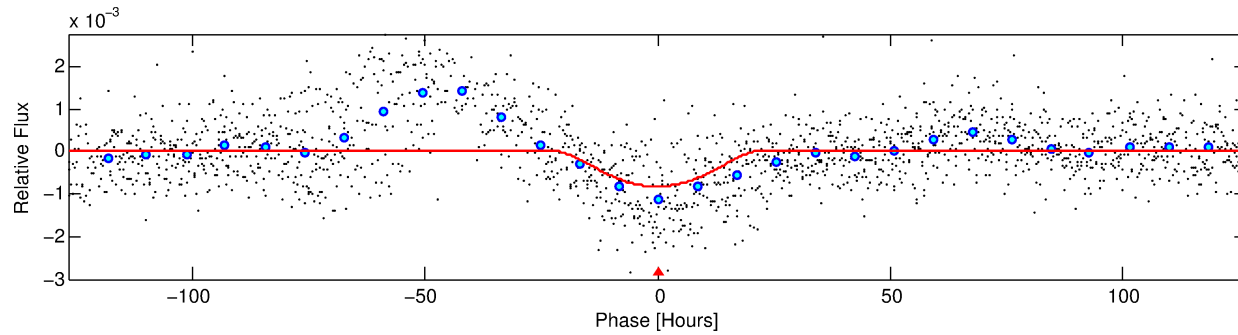
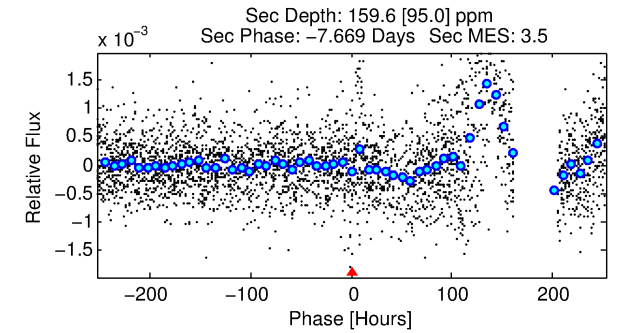
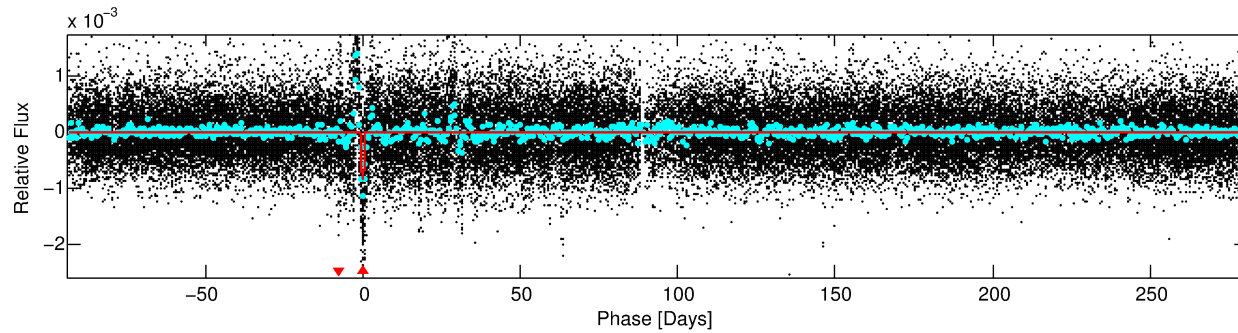
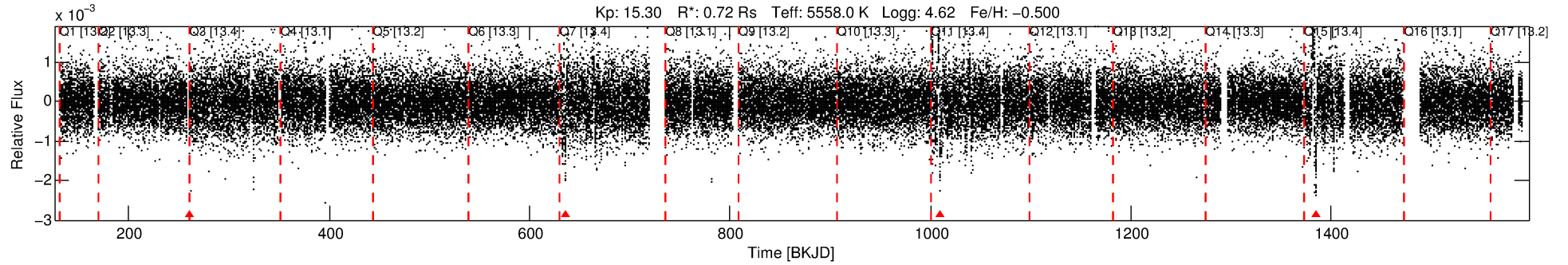
Ephemeris Match Information For 008362442-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008362442-01	8362442	008362455-01	8362455	1:1	41.8	-9	-5	15.22	15.30	1.24	Direct-PRF	1	0.02	3.42

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8362442 Candidate: 1 of 1 Period: 374.417 d



DV Fit Results:

Period = 374.41746 [0.04181] d
Epoch = 261.2493 [0.0691] BKJD
Rp/R* = 0.0513 [0.1493]
a/R* = 22.05 [15.35]
b = 1.00 [0.22]
Seff = 0.50 [0.13]
Teq = 215 [14] K
Rp = 4.04 [11.79] Re
a = 0.9418 [0.1460] AU
Ag = 4765.54 [27908.00] [0.17σ]
Teffp = 2758 [4036] K [0.63σ]

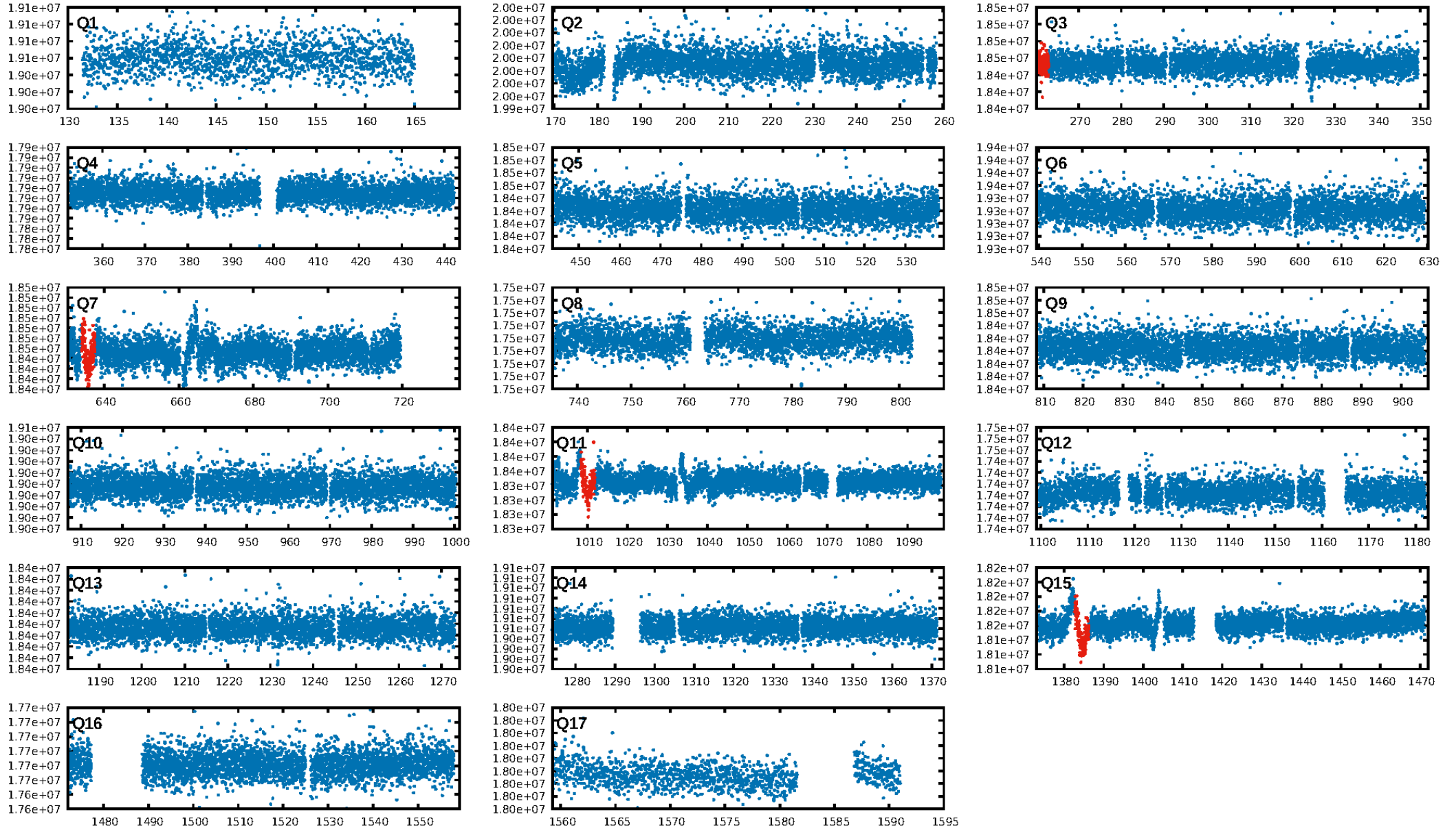
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 3.15e-13
RollingBand-fgt: 0.00 [0/4]
GhostDiagnostic-chr: 13.05
Centroid-sig: 61.9%
Centroid-so: 0.582 arcsec [0.40σ]
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: N/A

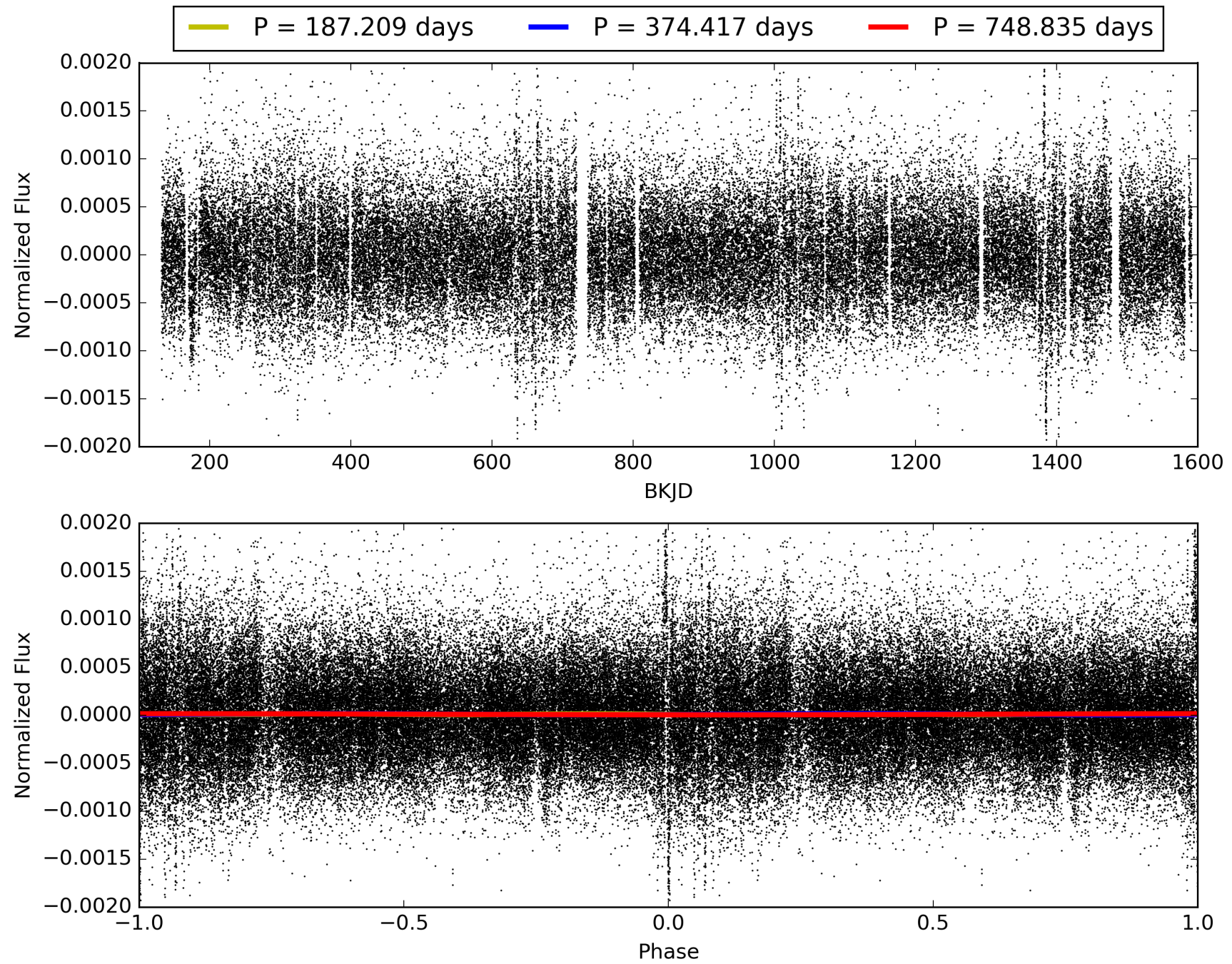
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:38:02 Z

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

TCE 008362442-01, PDC Light Curves

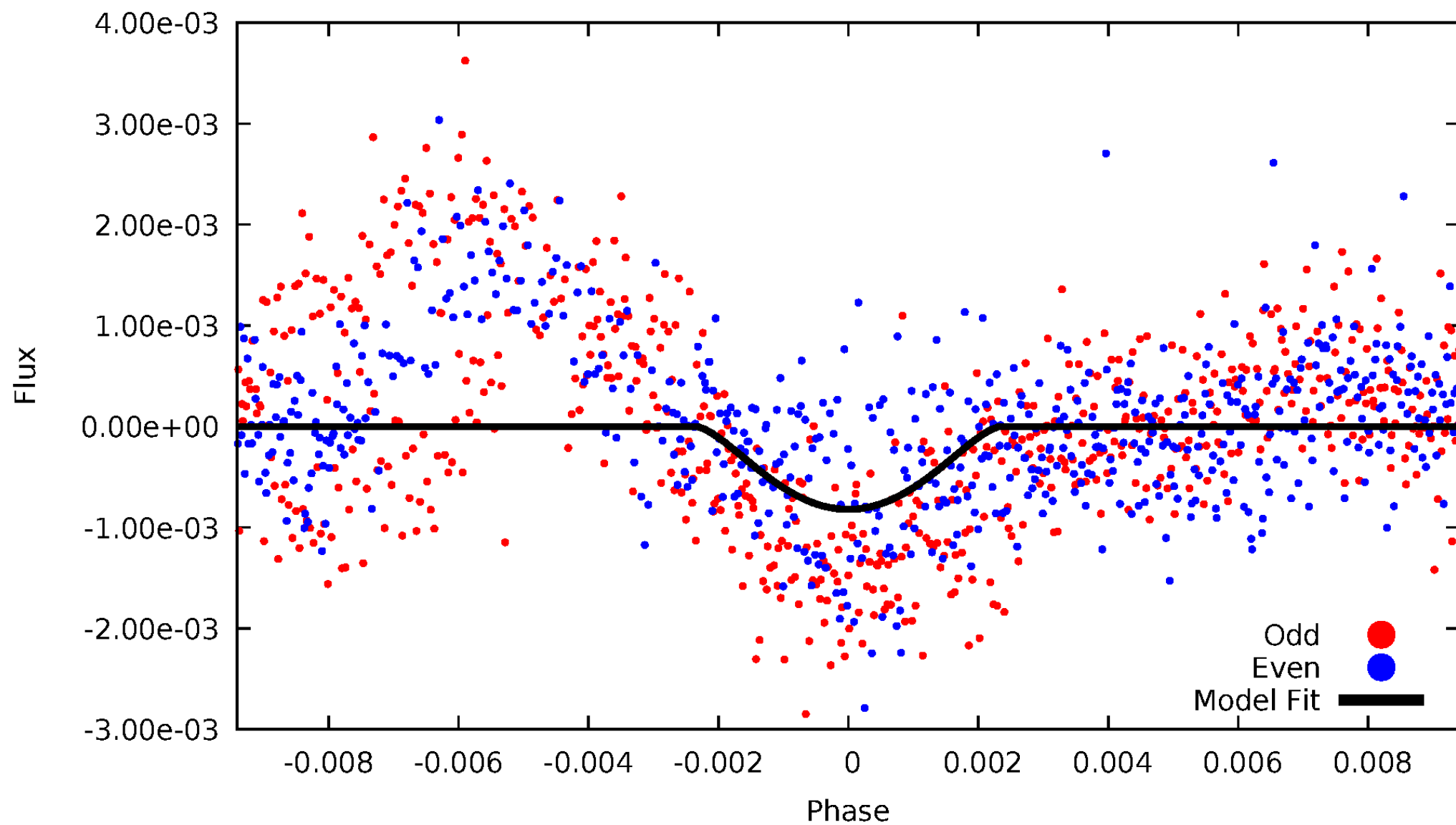


TCE 008362442-01



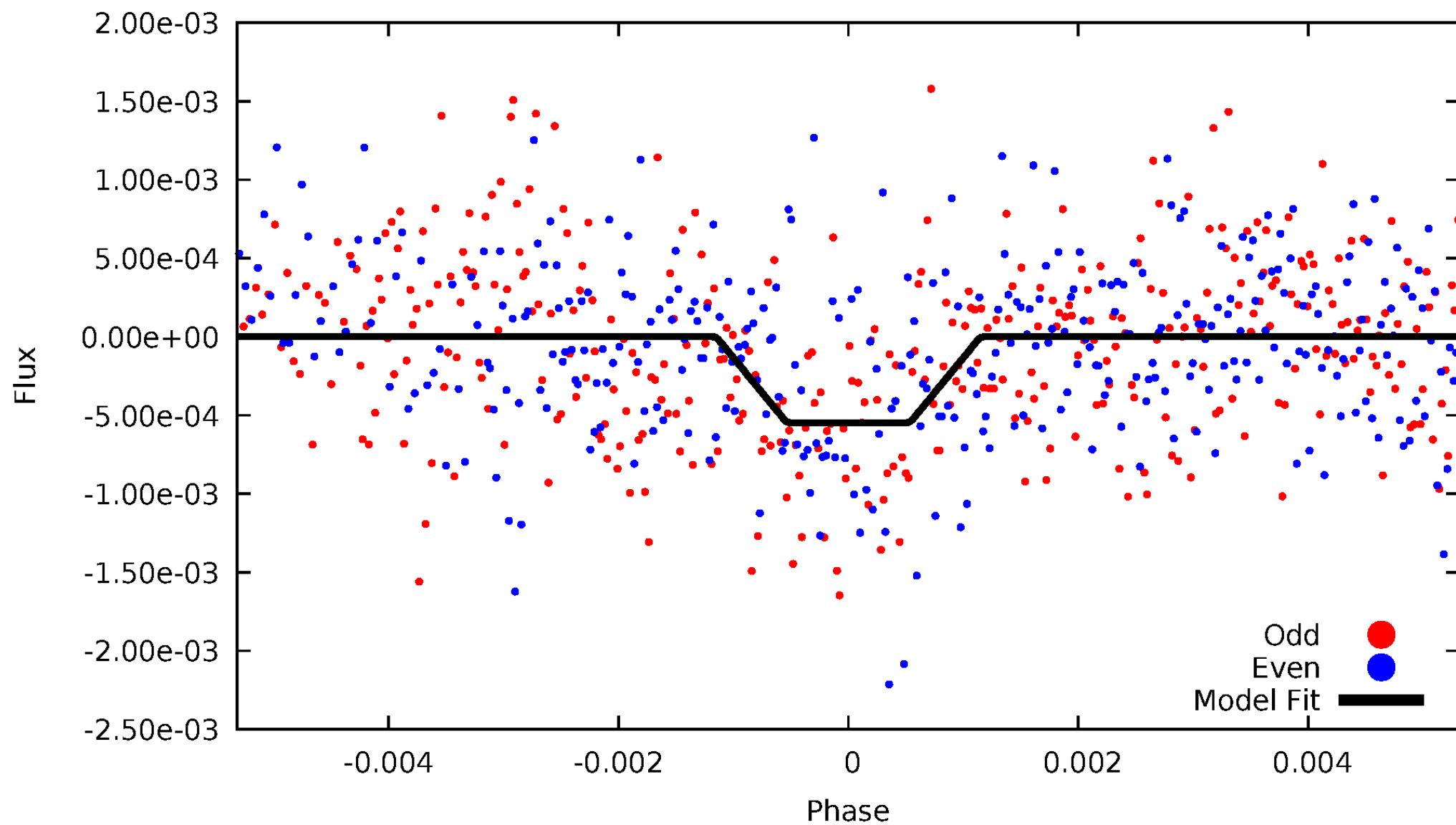
DV Odd/Even

TCE 008362442-01

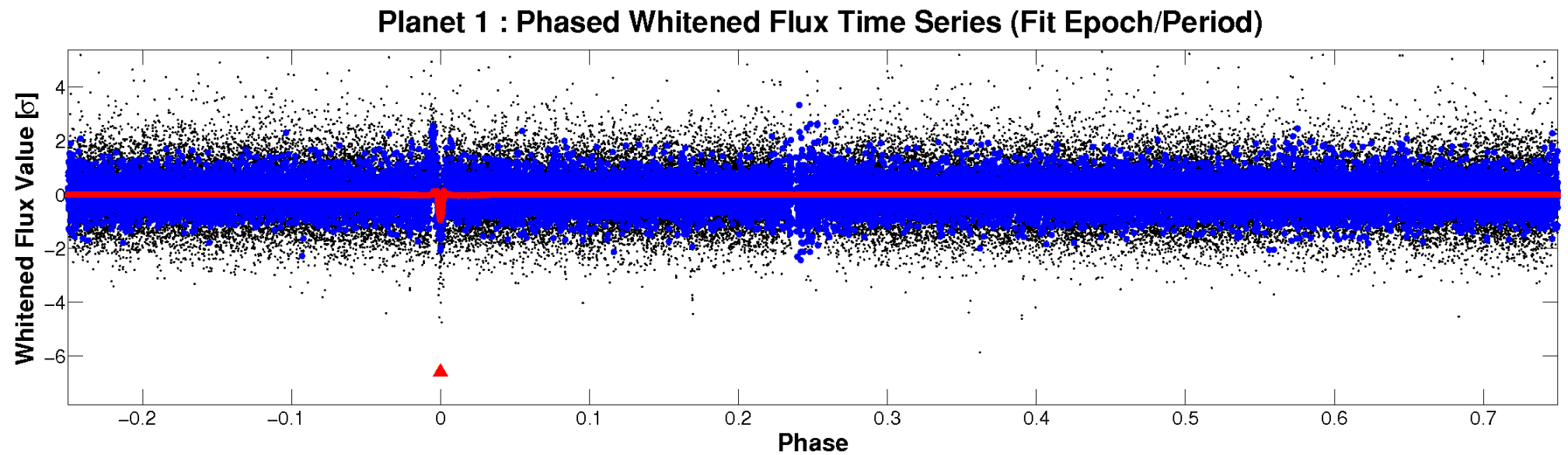
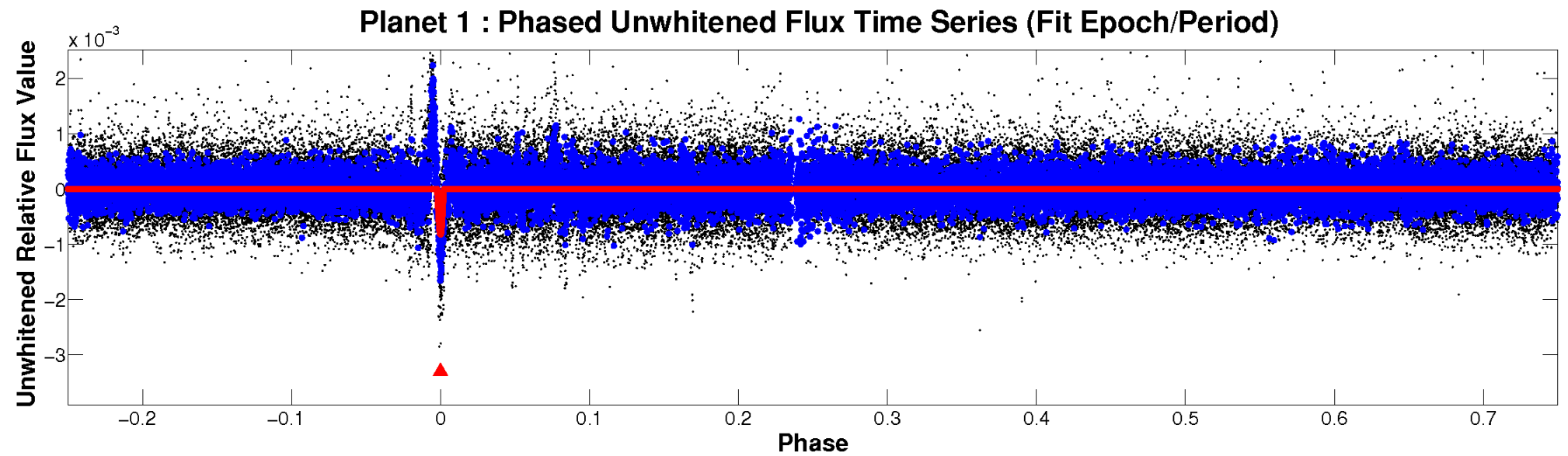


ALT Odd/Even

TCE 008362442-01



Non-Whitened Vs. Whitened Light Curve



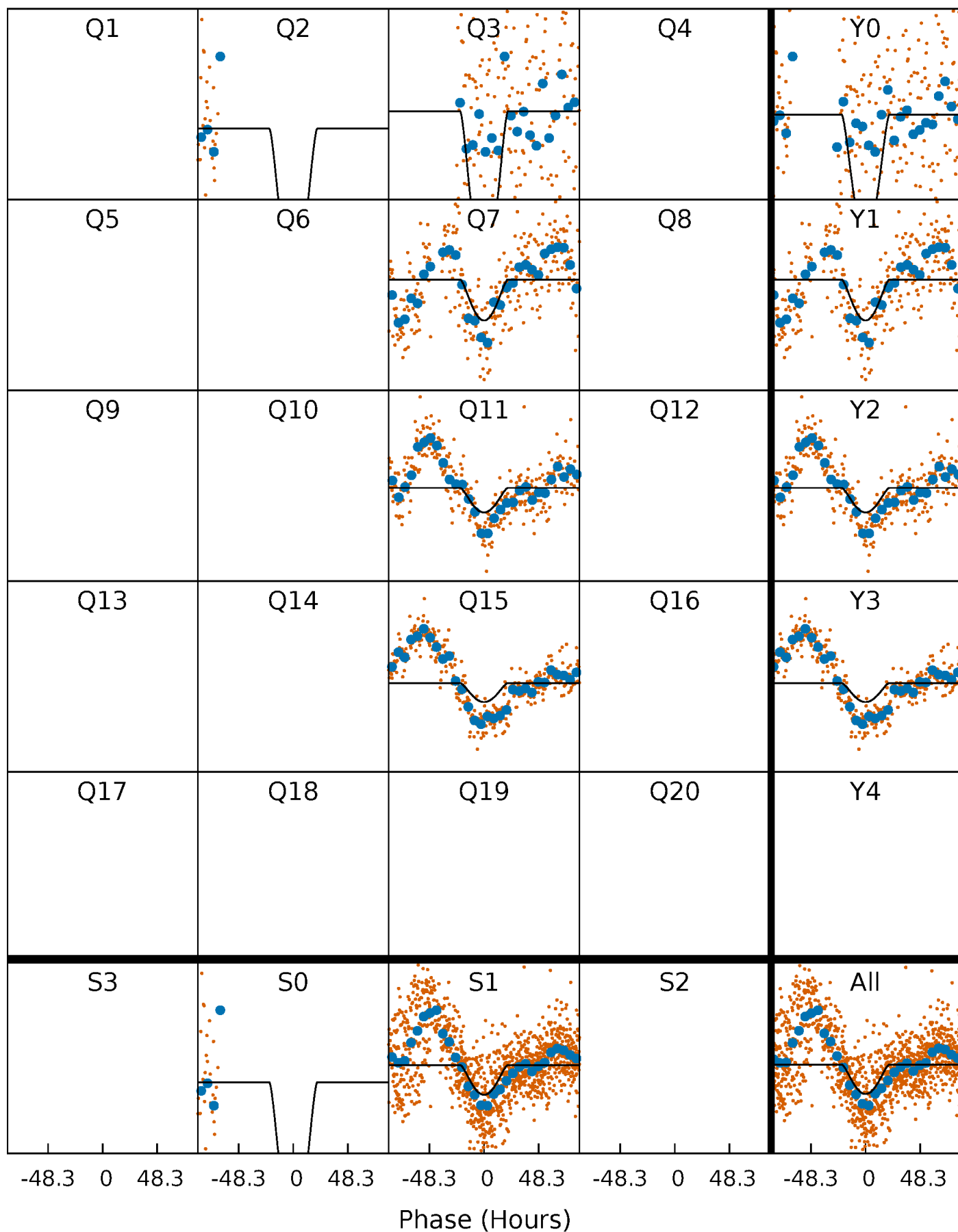
PDC Quarter-Phased Transit Curves

TCE 008362442-01 P=374.417456 Days $T_0=261.249274$ (BKJD)



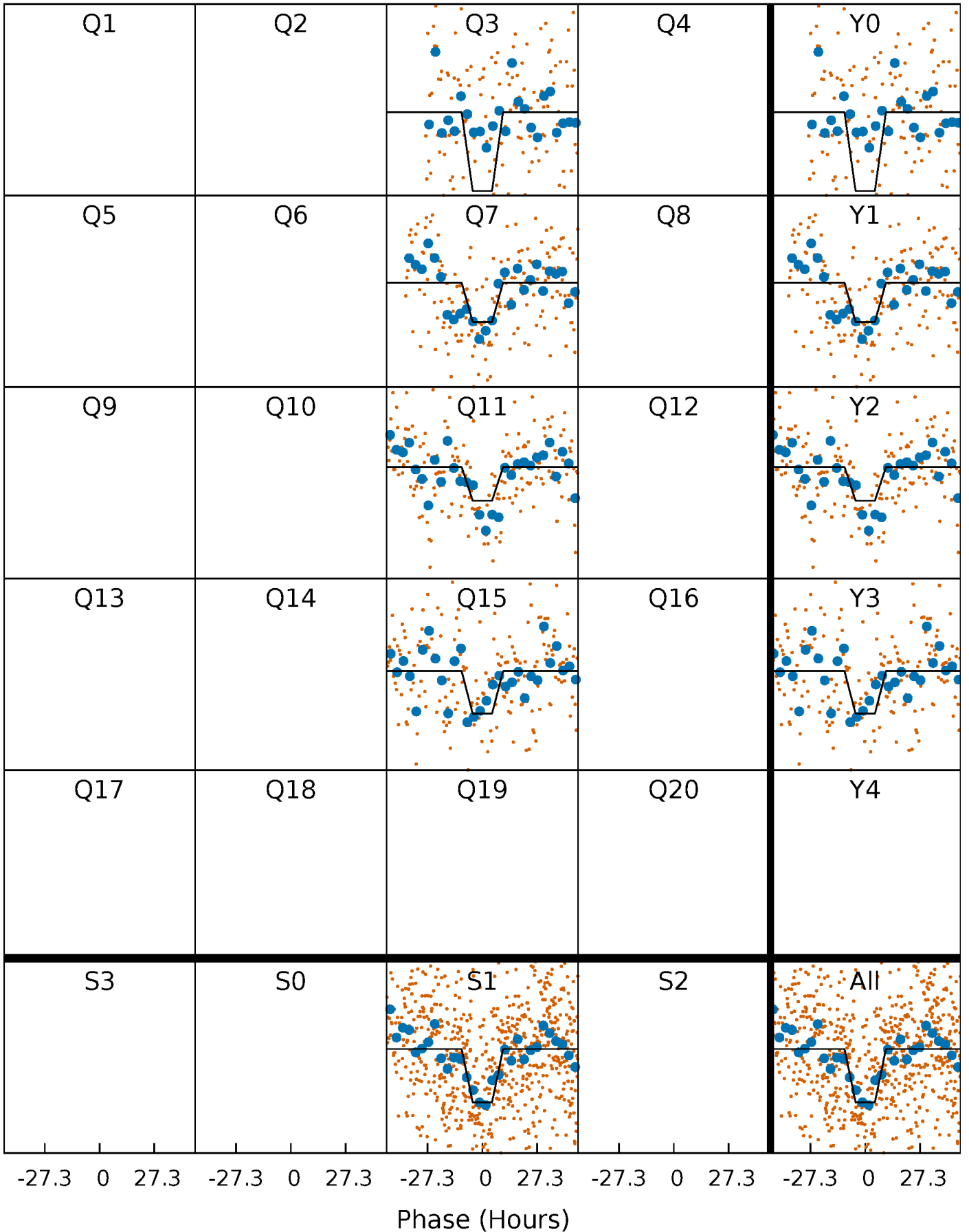
DV Quarter-Phased Transit Curves

TCE 008362442-01 P=374.417456 Days $T_0=261.249274$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

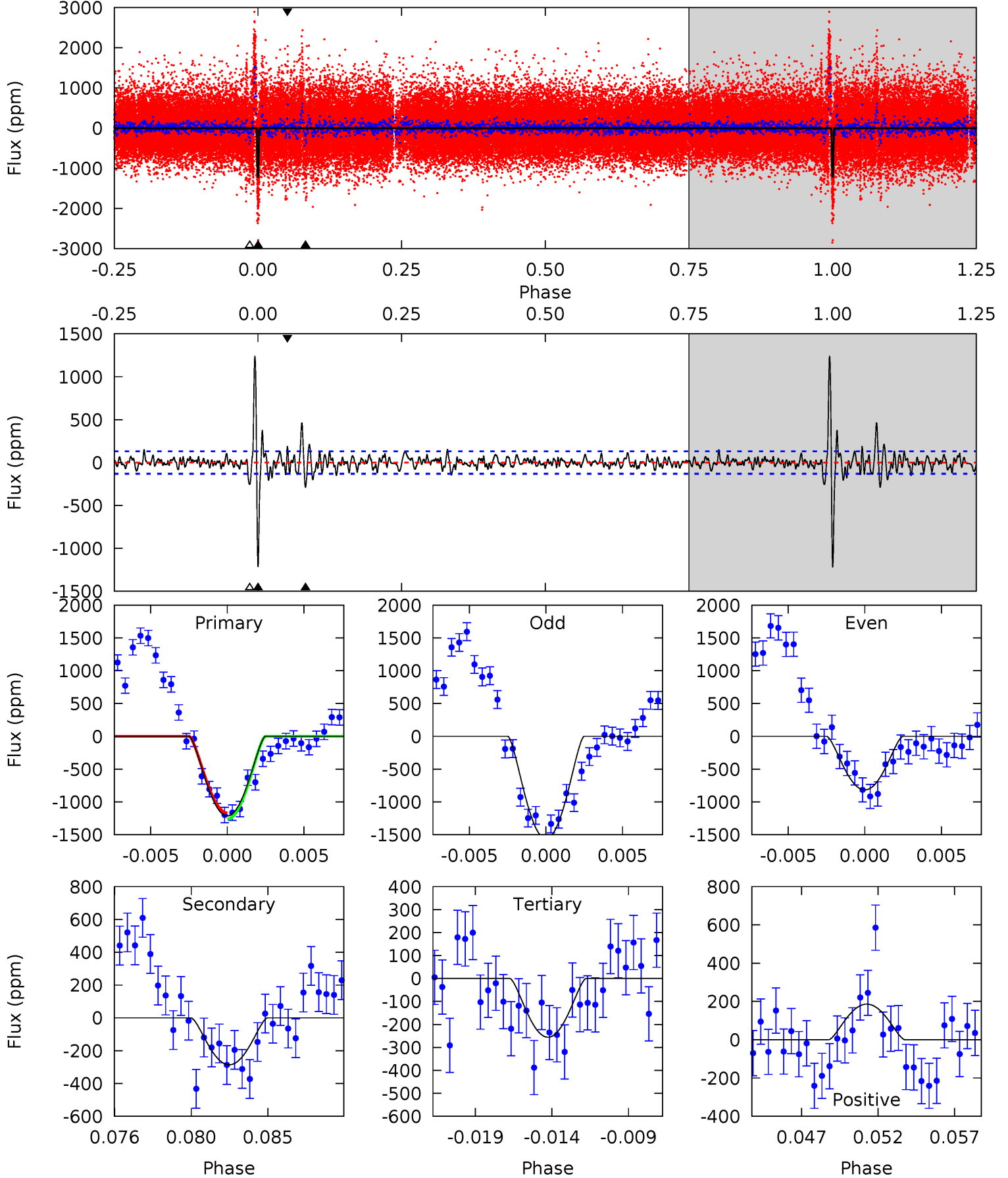
TCE 008362442-01 $P=374.288330$ Days $T_0=261.420188$ (BKJD)



DV Model-Shift Uniqueness Test

008362442-01, $P = 374.417456$ Days, $E = 261.249274$ Days

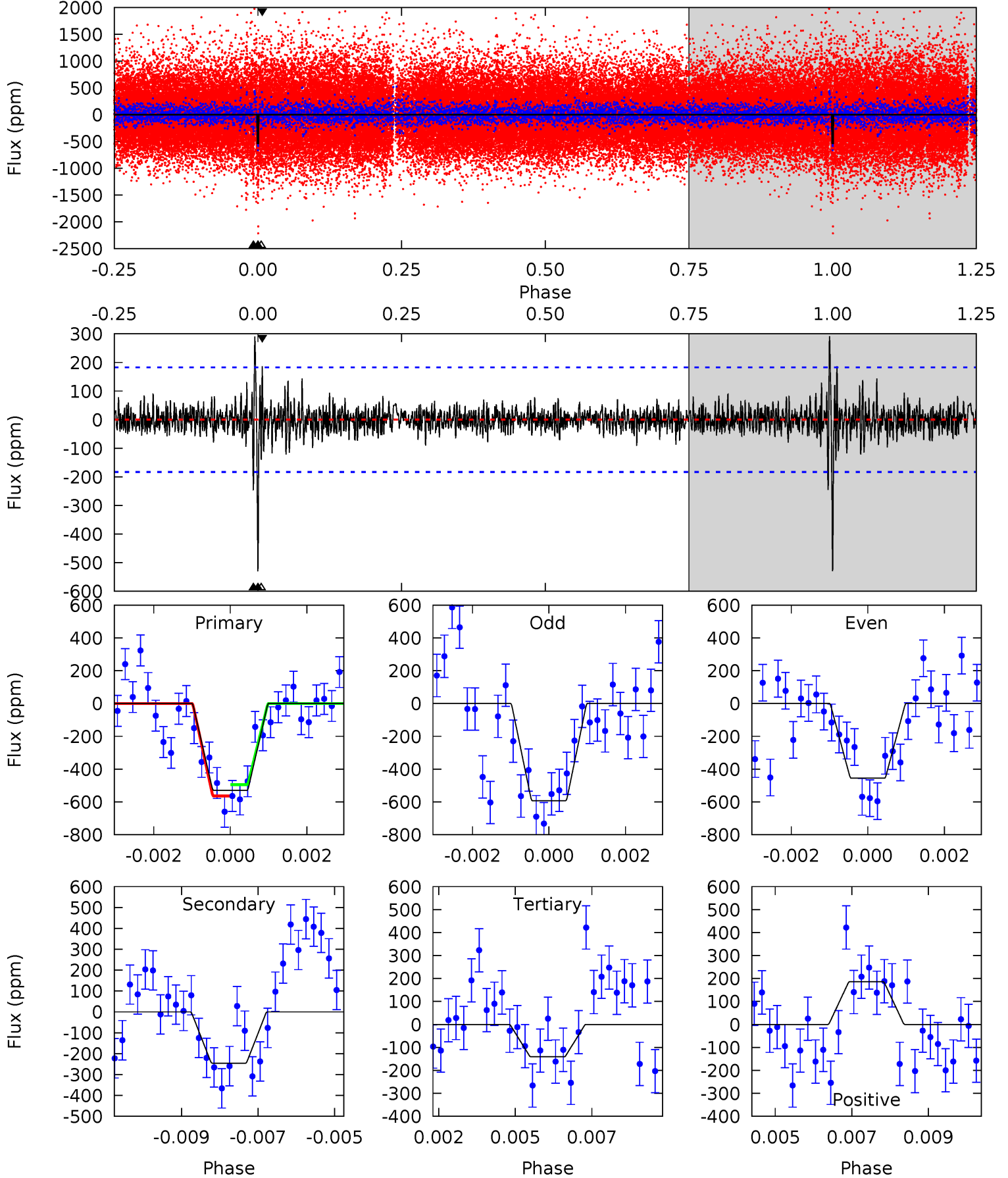
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.0	11.3	10.1	7.36	5.17	2.83	3.18	37.9	40.6	1.20	3.95	14.7	0.91	0.51	1.87



Alt Model-Shift Uniqueness Test

008362442-01, P = 374.288330 Days, E = 261.420188 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	7.11	4.07	5.38	5.30	3.04	0.96	11.2	9.94	3.04	1.72	1.98	0.91	0.35	1.00



Stellar Parameters For KIC 008362442

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5558^{+166}_{-150}	$4.621^{+0.038}_{-0.120}$	$-0.500^{+0.300}_{-0.300}$	$0.722^{+0.135}_{-0.054}$	$0.822^{+0.077}_{-0.095}$	$3.076^{+0.500}_{-1.120}$
	+3%/-3%	+1%/-3%	+60%/-60%	+19%/-7%	+9%/-12%	+16%/-36%
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 008362442-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-286 ± 25	$10.52^{+10.18}_{-7.34}$	305^{+14}_{-11}	2790^{+1164}_{-435}	1304^{+13009}_{-983}
Alt.	-246 ± 35	$8.30^{+10.43}_{-5.71}$	305^{+14}_{-10}	2888^{+1265}_{-532}	1667^{+16878}_{-1328}

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 008362442-01. Kepler magnitude: 15.30. Transit SNR 10.63

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	0.58 ± 1.47	0.40	-0.39 ± 1.17	-0.43 ± 1.68

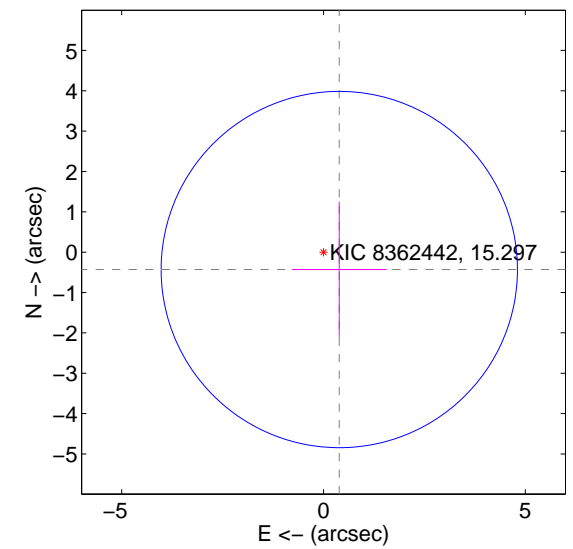
There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



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.



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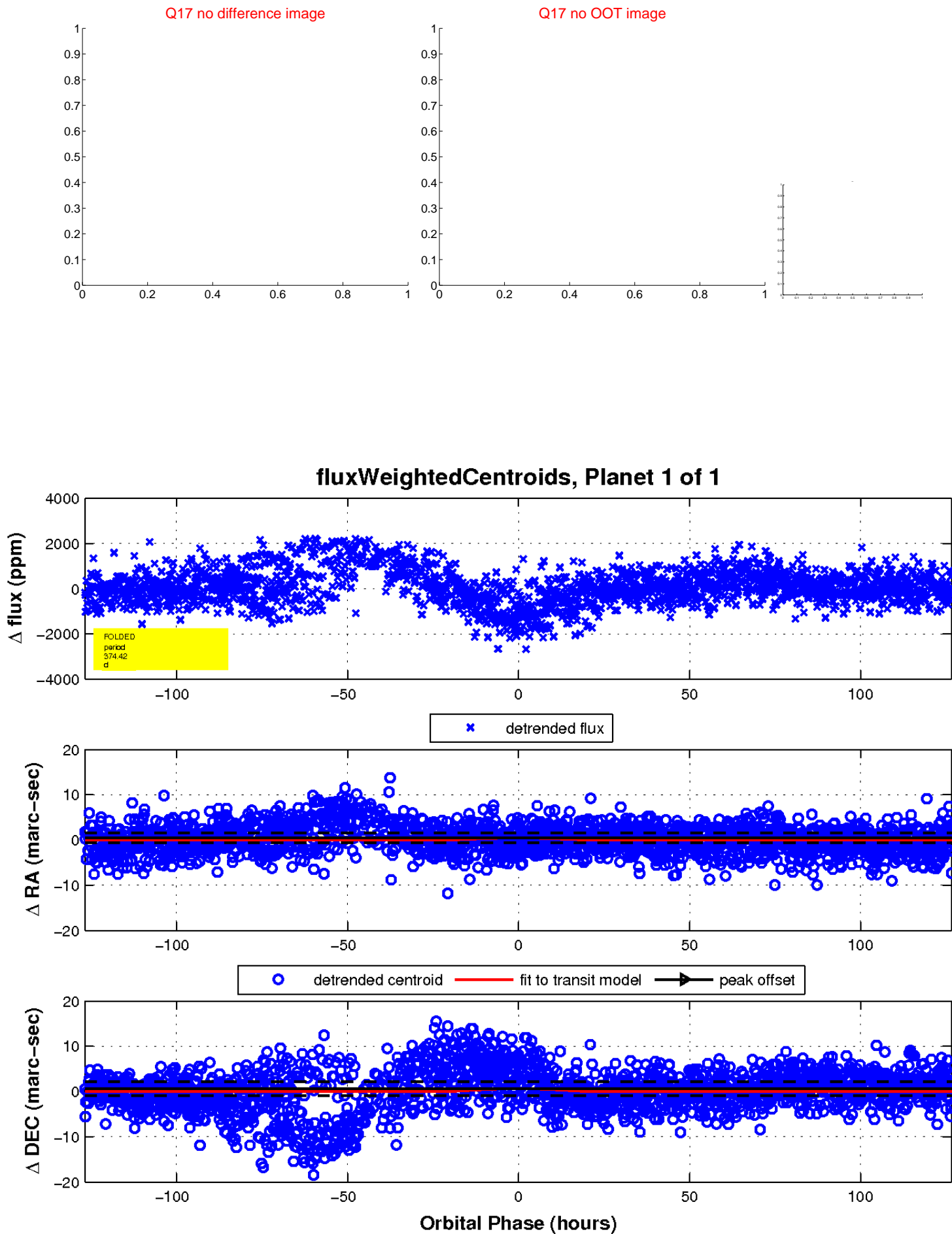
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

