

KIC 008751580

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})
008751580-01	OBS	No	375.275163	138.264457	1492.7	75.427	11.1	17.8	0.73	5473	5.33	0.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008751580-01	OBS	FP	0.00	1	0	1	1	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—CENT_FEW_DIFFS—HALO_GHOST—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.

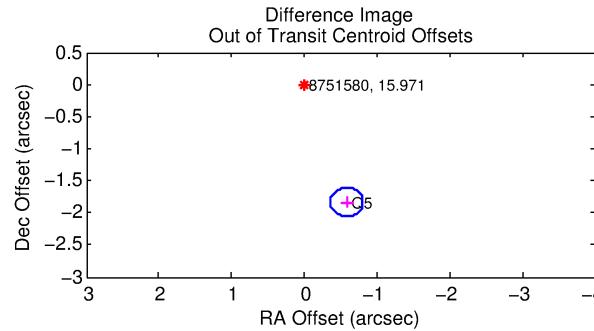
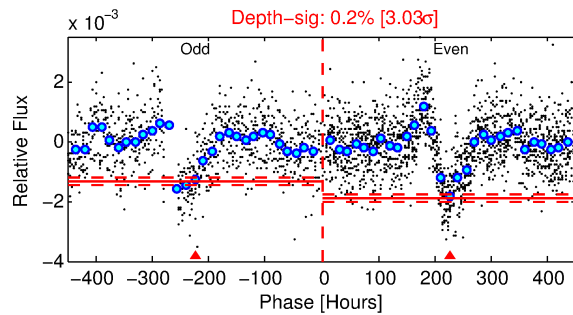
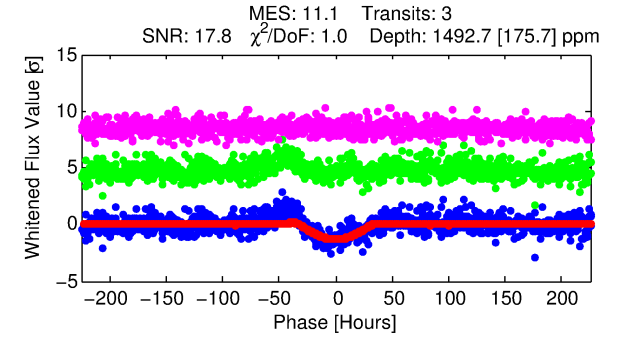
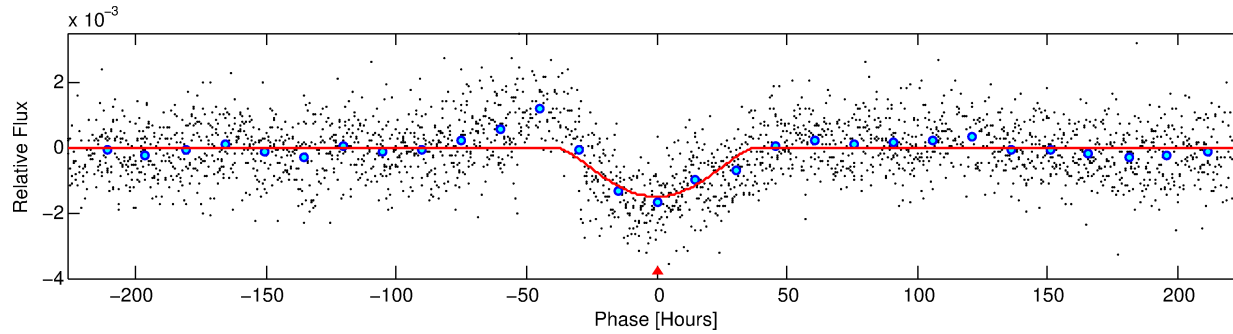
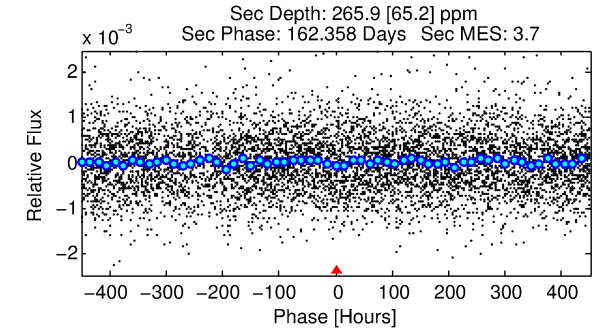
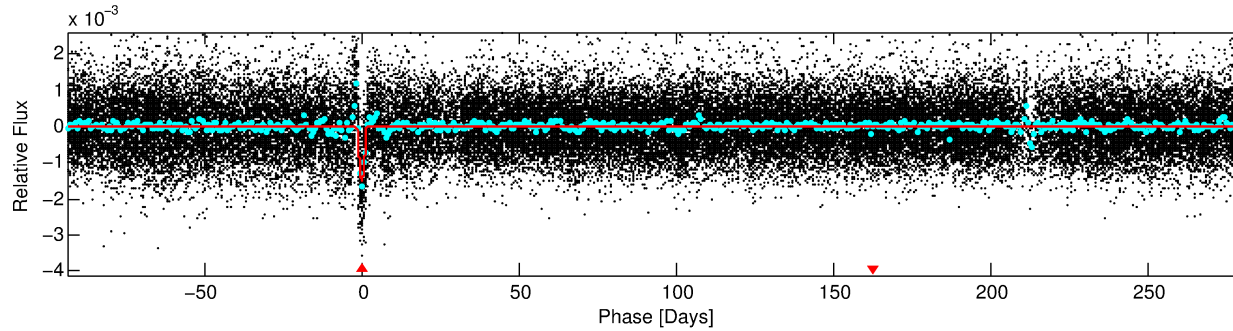
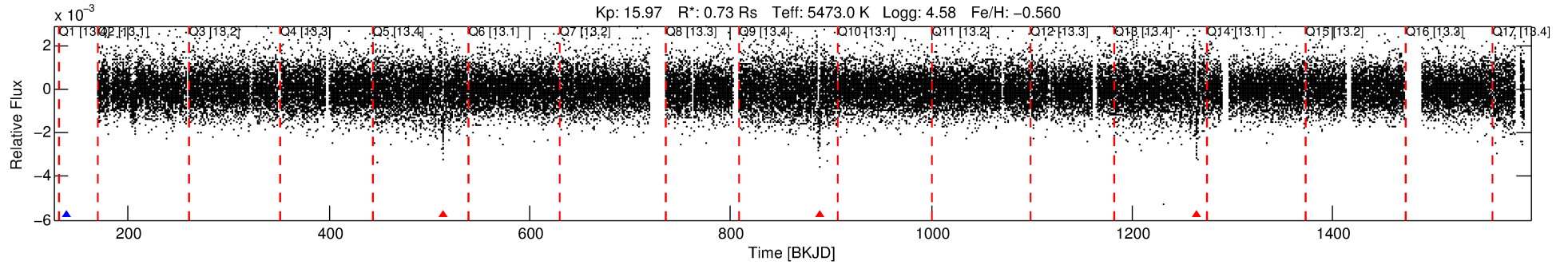
Ephemeris Match Information For 008751580-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (\prime)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008751580-01	8751580	008817499-01	8817499	1:1	671.9	169	-4	15.43	15.97	0.67	Col-Anomaly	1	3.11	1.23

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: 8751580 Candidate: 1 of 1 Period: 375.275 d



DV Fit Results:

Period = 375.27516 [0.06576] d
Epoch = 138.2645 [0.1431] BKJD
Rp/R* = 0.0670 [0.1292]
a/R* = 14.37 [6.34]
b = 1.00 [0.19]
Seff = 0.50 [0.11]
Teq = 215 [11] K
Rp = 5.33 [10.31] Re
a = 0.9227 [0.1186] AU
Ag = 4378.90 [16929.18] [0.26σ]
Teffp = 2699 [2607] K [0.95σ]

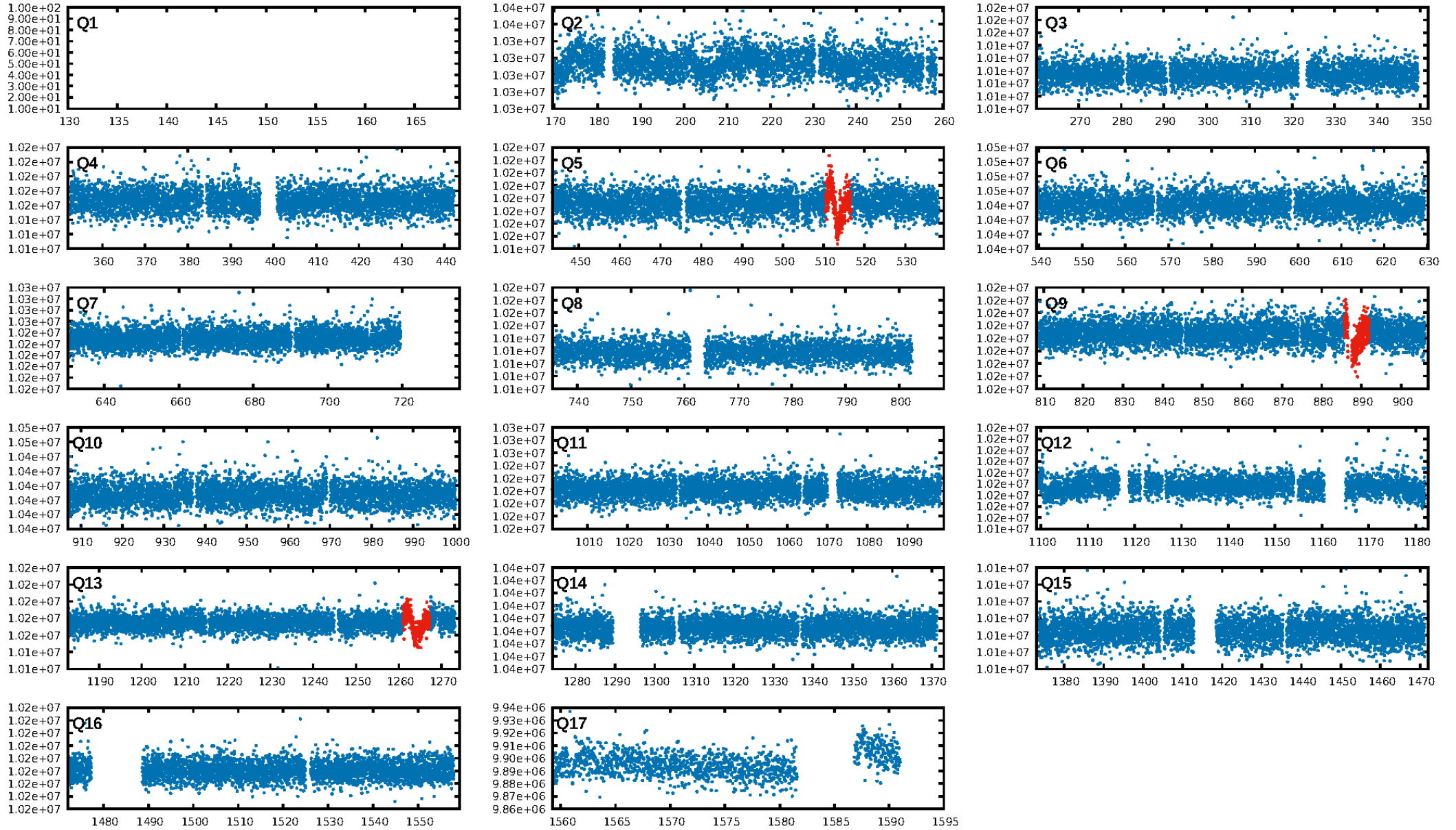
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.4%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 7.14e-21
RollingBand-fgt: 0.00 [0/3]
GhostDiagnostic-chr: 0.05292
Centroid-sig: 0.4%
Centroid-so: 1.988 arcsec [2.32σ]
OotOffset-rm: 1.923 arcsec [25.80σ]
KicOffset-rm: 1.893 arcsec [25.40σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

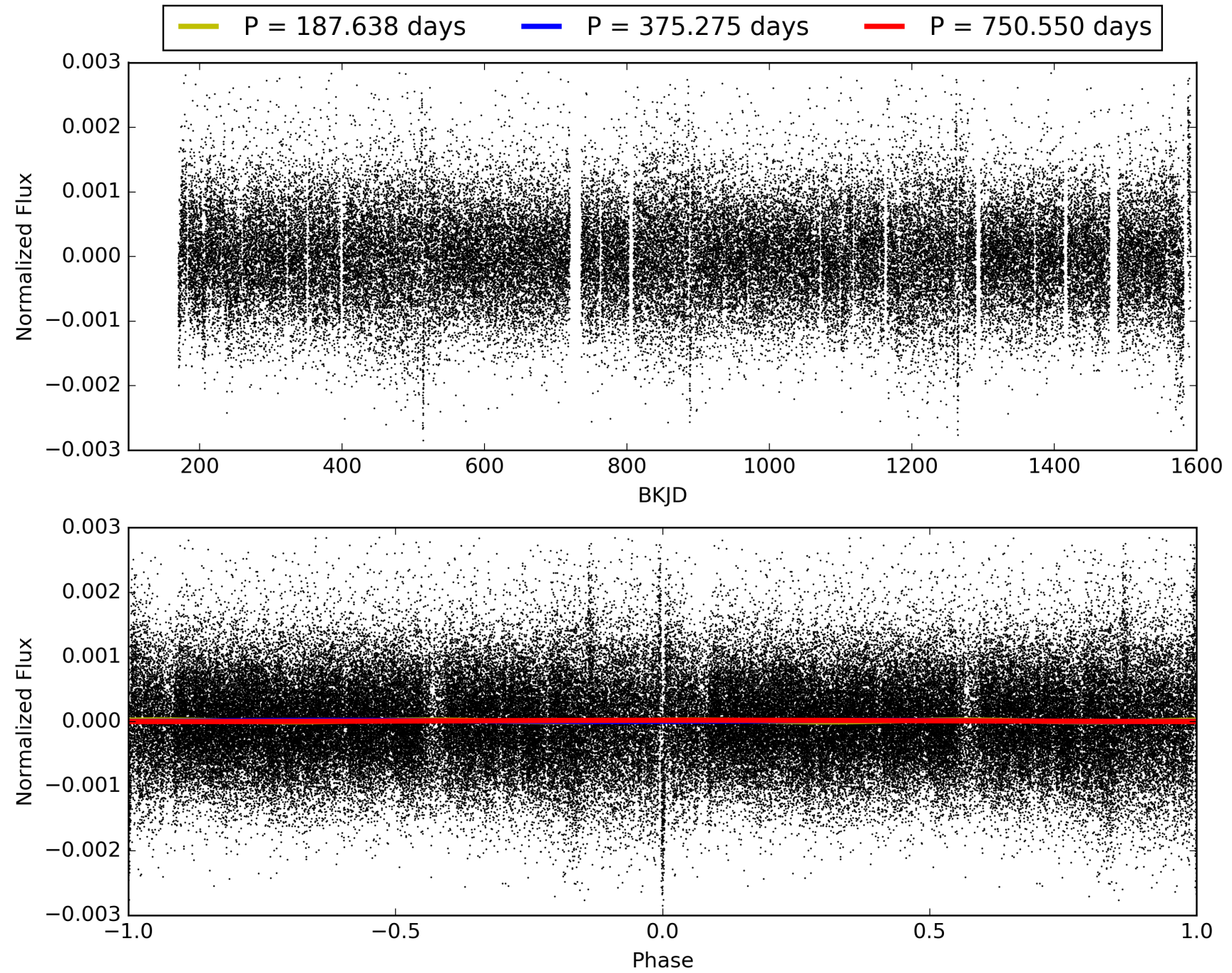
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:05:30 Z

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

TCE 008751580-01, PDC Light Curves

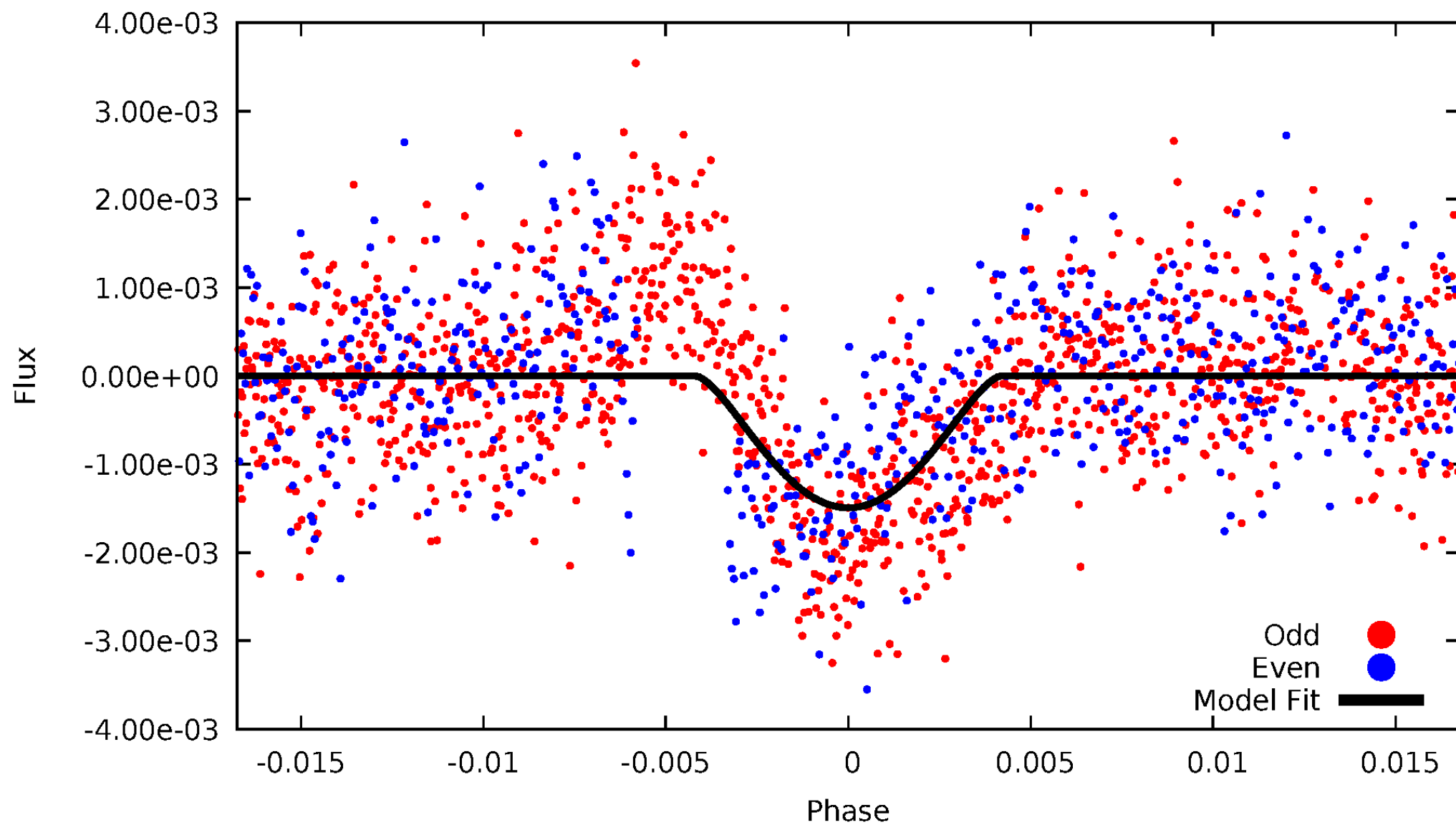


TCE 008751580-01



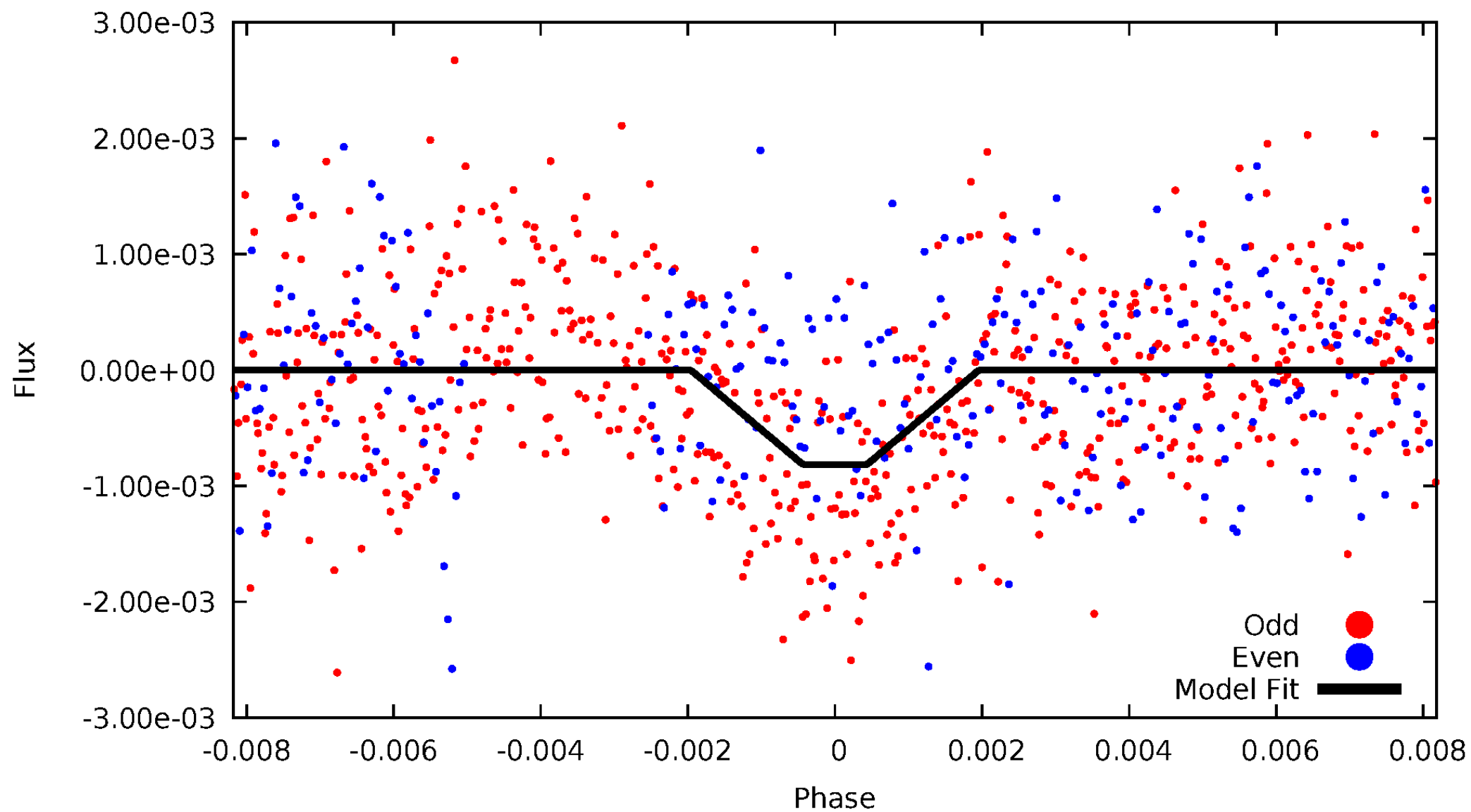
DV Odd/Even

TCE 008751580-01



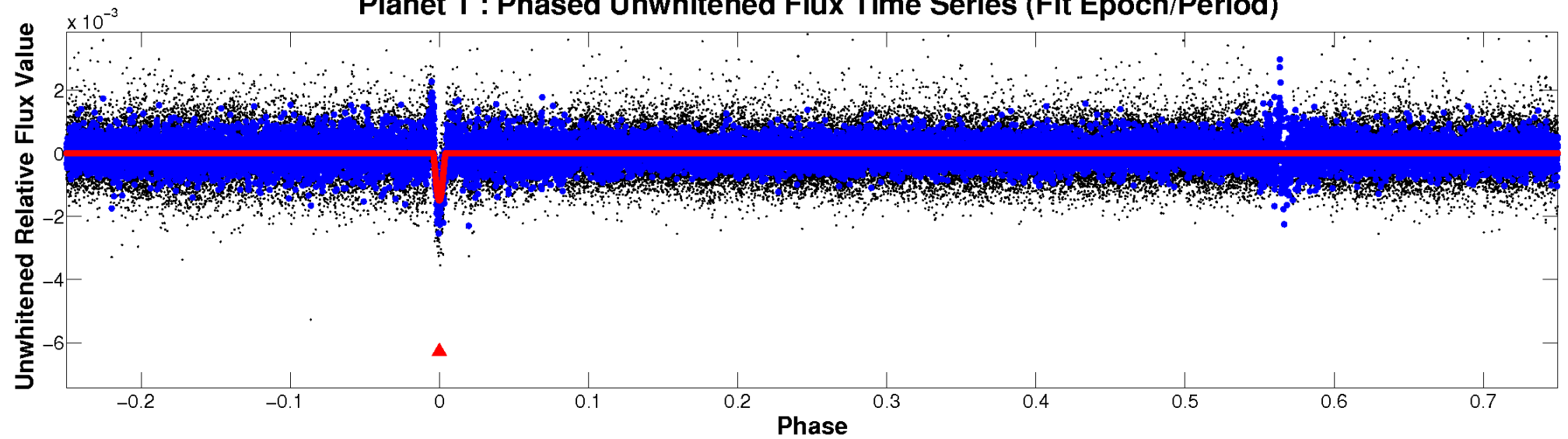
ALT Odd/Even

TCE 008751580-01

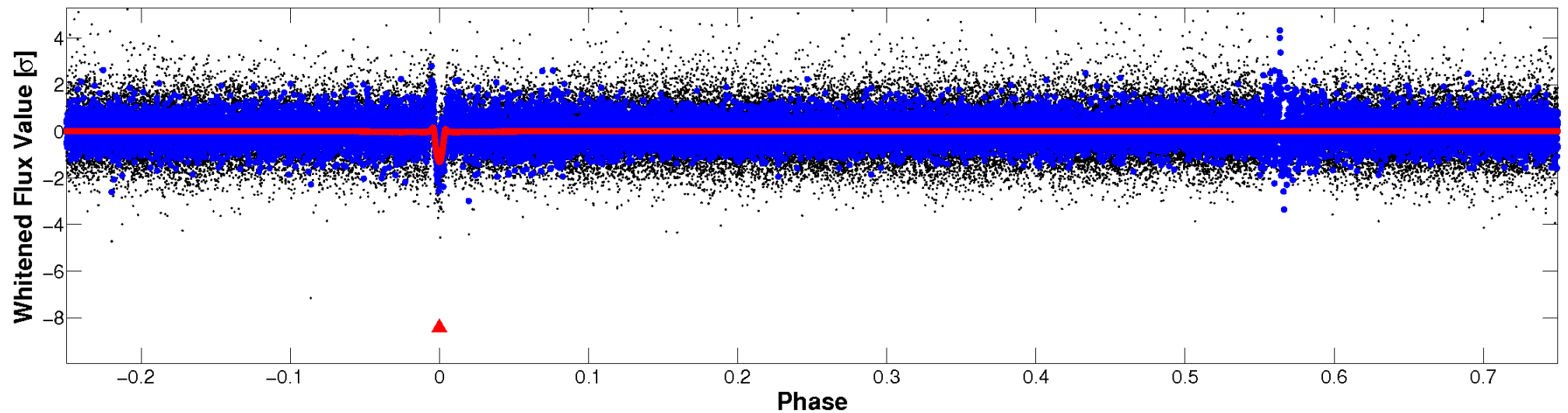


Non-Whitened Vs. Whitened Light Curve

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

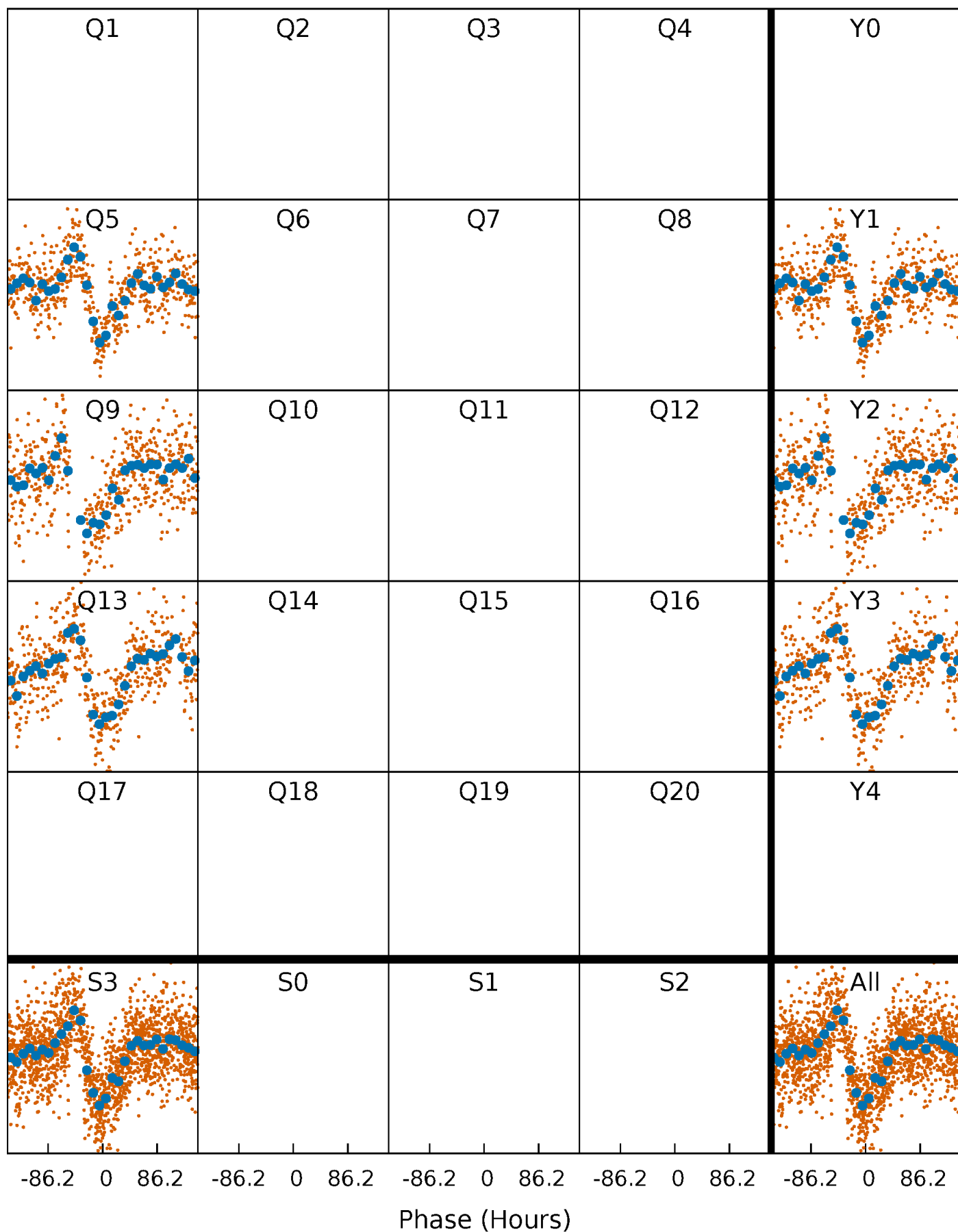


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



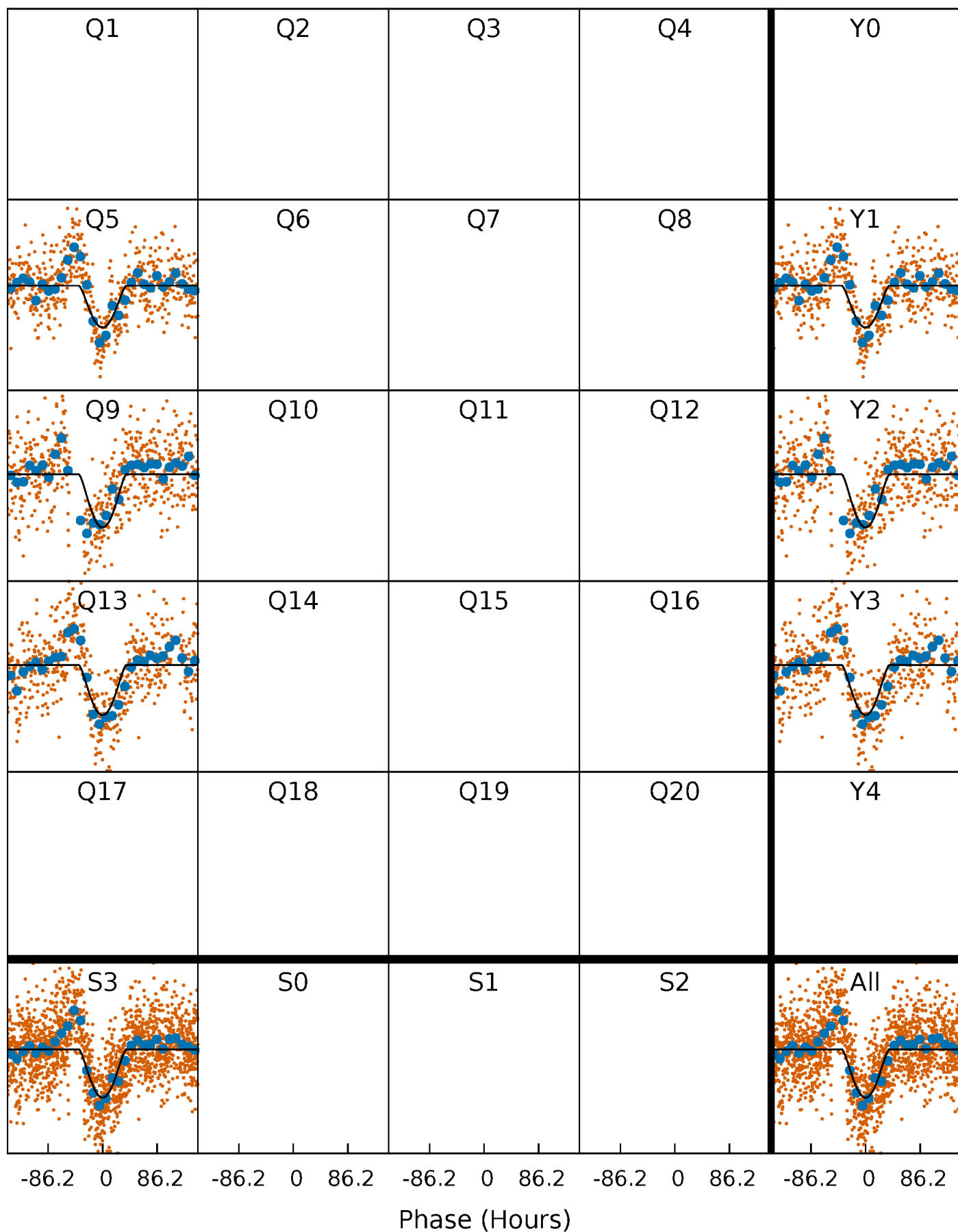
PDC Quarter-Phased Transit Curves

TCE 008751580-01 P=375.275163 Days $T_0=138.264457$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008751580-01 P=375.275163 Days $T_0=138.264457$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

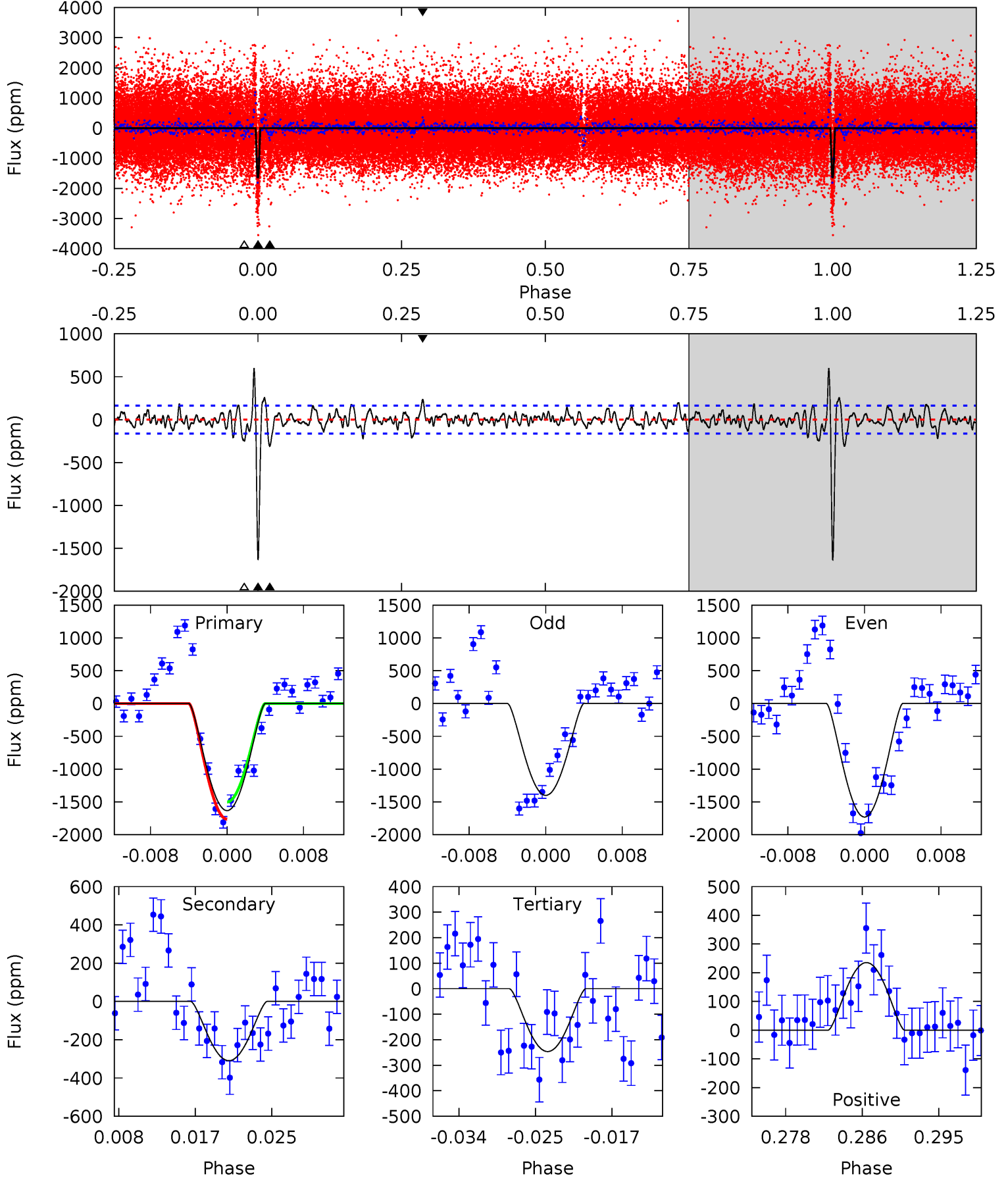
TCE 008751580-01 P=375.235085 Days $T_0=138.058745$ (BKJD)



DV Model-Shift Uniqueness Test

008751580-01, $P = 375.275163$ Days, $E = 138.264457$ Days

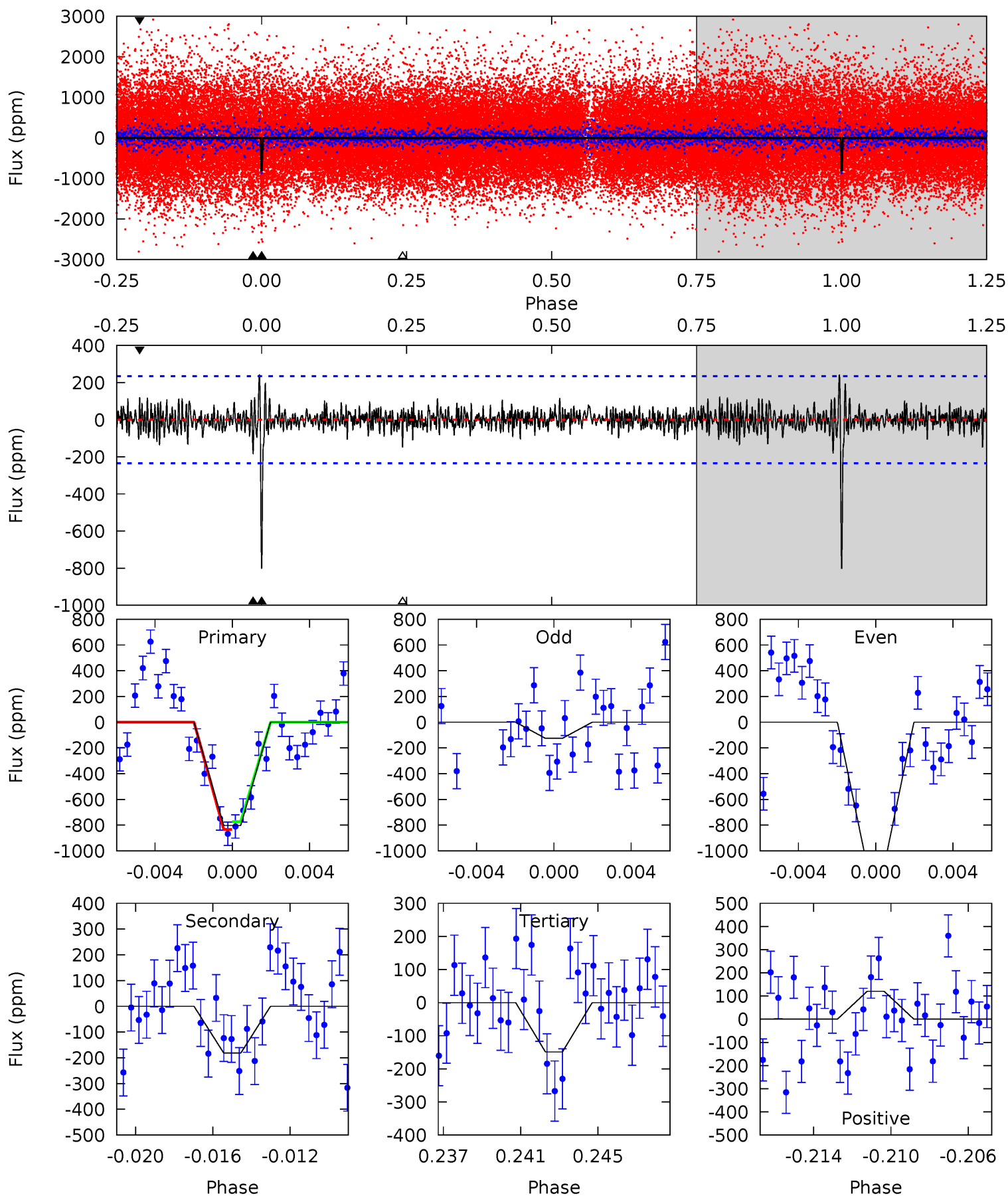
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.8	9.63	7.67	7.33	5.06	2.63	2.16	43.1	43.5	1.97	2.30	4.74	0.99	0.27	4.05



Alt Model-Shift Uniqueness Test

008751580-01, $P = 375.235085$ Days, $E = 138.058745$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.8	4.02	3.30	2.66	5.20	2.88	0.88	14.5	15.1	0.72	1.36	10.3	0.99	0.23	0.66



Stellar Parameters For KIC 008751580

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5473^{+163}_{-163}	$4.584^{+0.056}_{-0.091}$	$-0.560^{+0.350}_{-0.300}$	$0.729^{+0.118}_{-0.064}$	$0.745^{+0.093}_{-0.053}$	$2.704^{+0.612}_{-0.801}$
	+3%/-3%	+1%/-2%	+62%/-54%	+16%/-9%	+12%/-7%	+23%/-30%
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 008751580-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-309 ± 32	$10.00^{+8.67}_{-6.95}$	302^{+13}_{-12}	2805^{+1158}_{-418}	1459^{+13568}_{-1051}
Alt.	-182 ± 45	$7.96^{+8.28}_{-5.55}$	301^{+13}_{-11}	2768^{+1236}_{-460}	1351^{+14123}_{-1048}

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 $A_{obs} \gg 1.0$

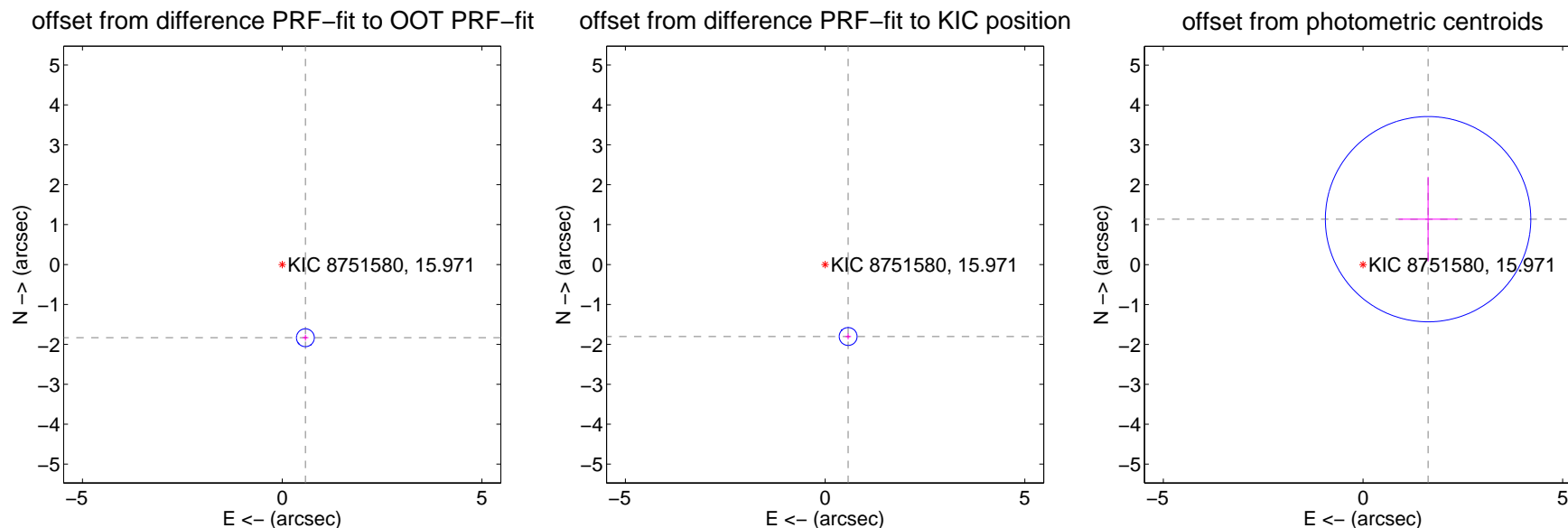
DV Centroid Data

Supplemental centroid analysis for 008751580-01. Kepler magnitude: 15.97. Transit SNR 17.79

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.923 ± 0.075	25.80	-0.580 ± 0.075	-1.834 ± 0.074
PRF-fit source offset from KIC position	1.893 ± 0.075	25.40	-0.577 ± 0.075	-1.803 ± 0.074
photometric centroid source offset	1.99 ± 0.86	2.32	-1.63 ± 0.74	1.14 ± 1.06

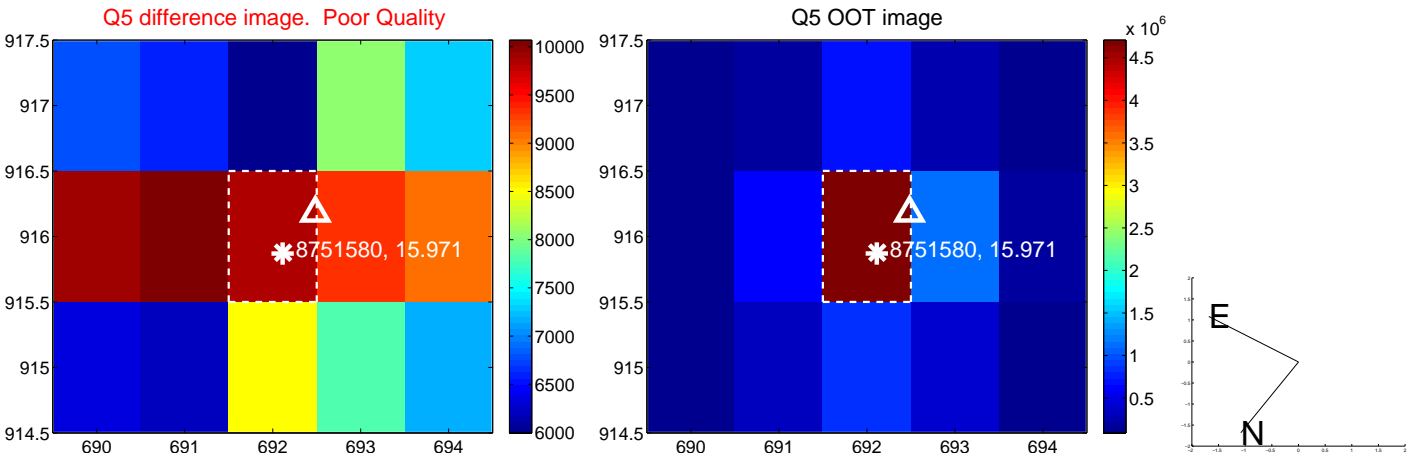


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



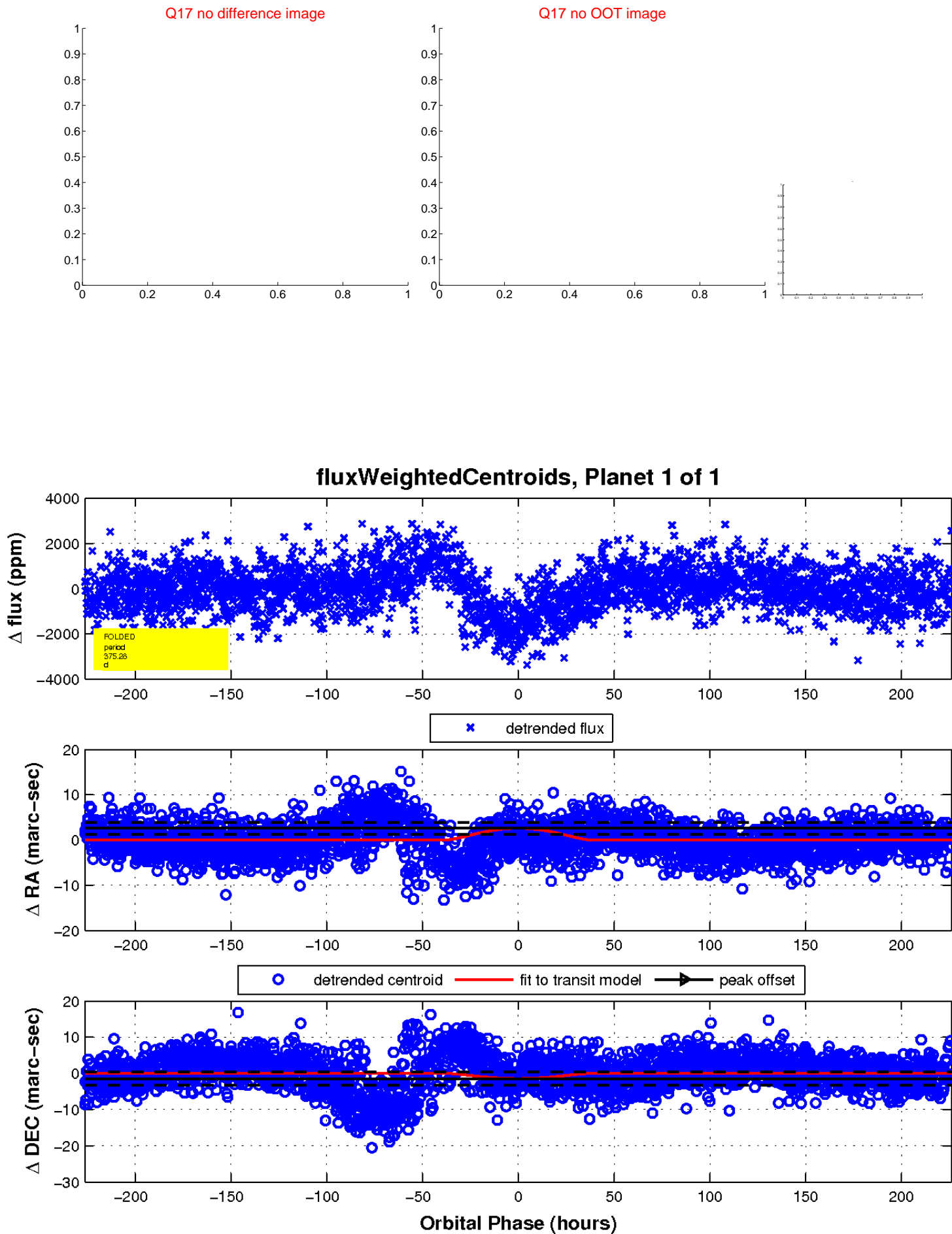
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

