

KIC 008362455

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})
008362455-01	OBS	No	374.418209	260.847254	1019.2	42.457	10.0	13.3	0.88	5982	3.40	0.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008362455-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—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.

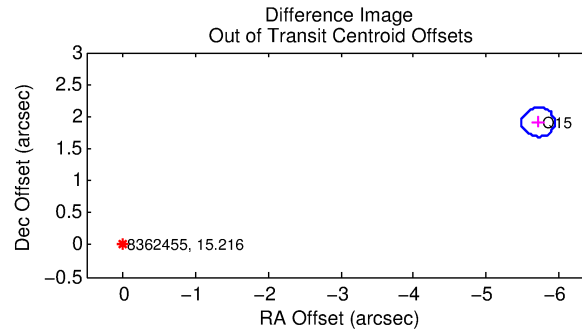
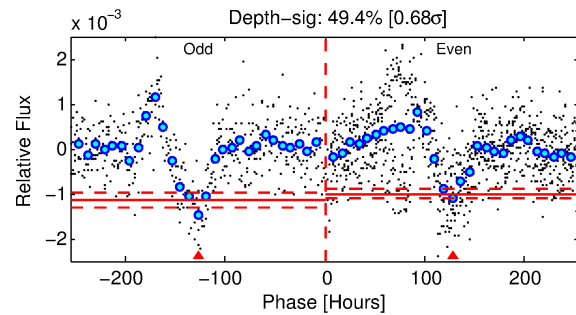
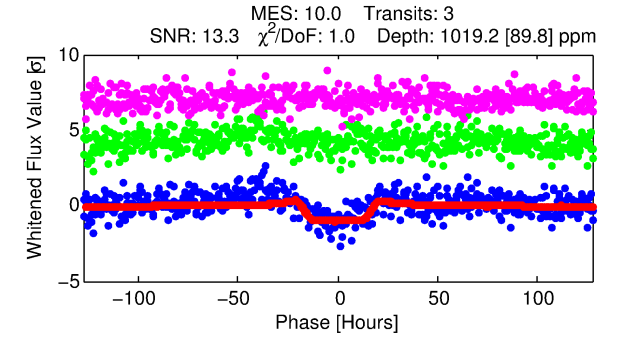
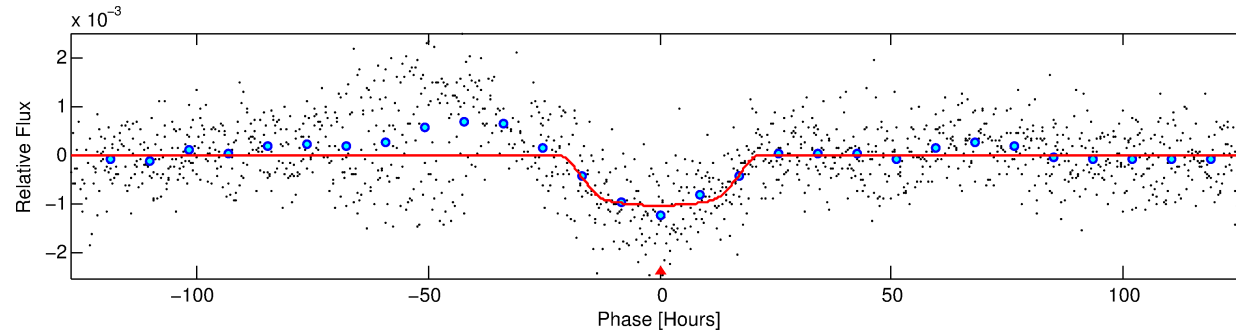
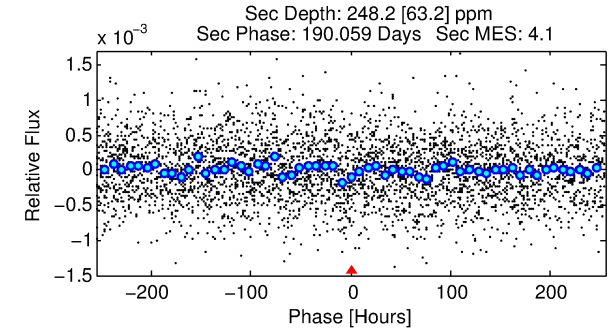
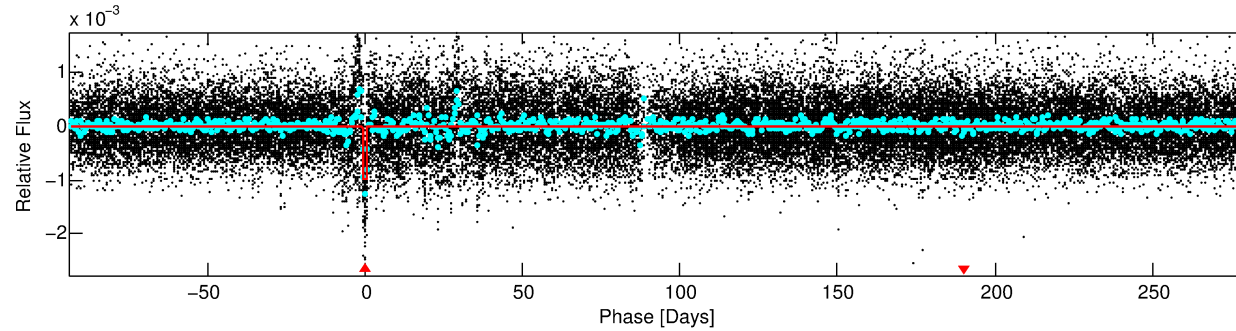
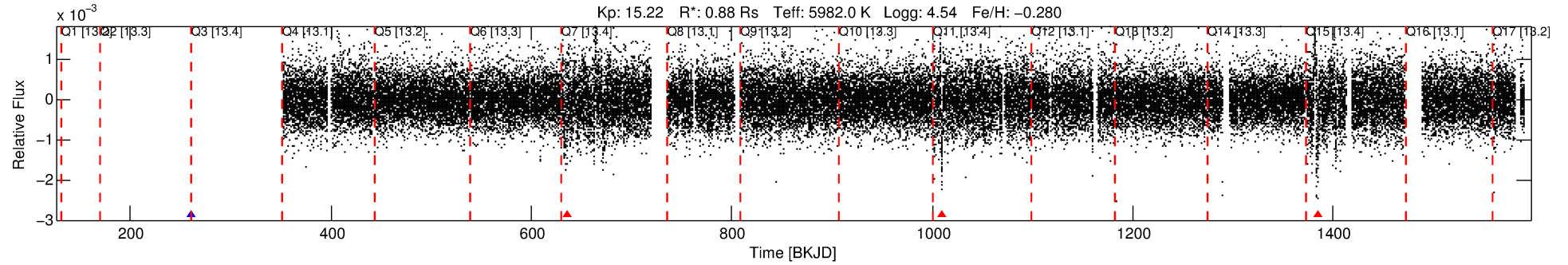
Ephemeris Match Information For 008362455-01

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
008362455-01	8362455	008362442-01	8362442	1:1	41.8	9	5	15.30	15.22	0.81	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: 8362455 Candidate: 1 of 1 Period: 374.418 d



DV Fit Results:

Period = 374.41821 [0.03670] d
Epoch = 260.8473 [0.0796] BKJD
Rp/R* = 0.0355 [0.0022]
a/R* = 31.18 [5.26]
b = 0.93 [0.03]
Seff = 0.88 [0.32]
Teq = 247 [23] K
Rp = 3.40 [0.92] Re
a = 1.0052 [0.2288] AU
Ag = 11926.46 [5243.15] [2.27σ]
Teff = 3987 [314] K [11.87σ]

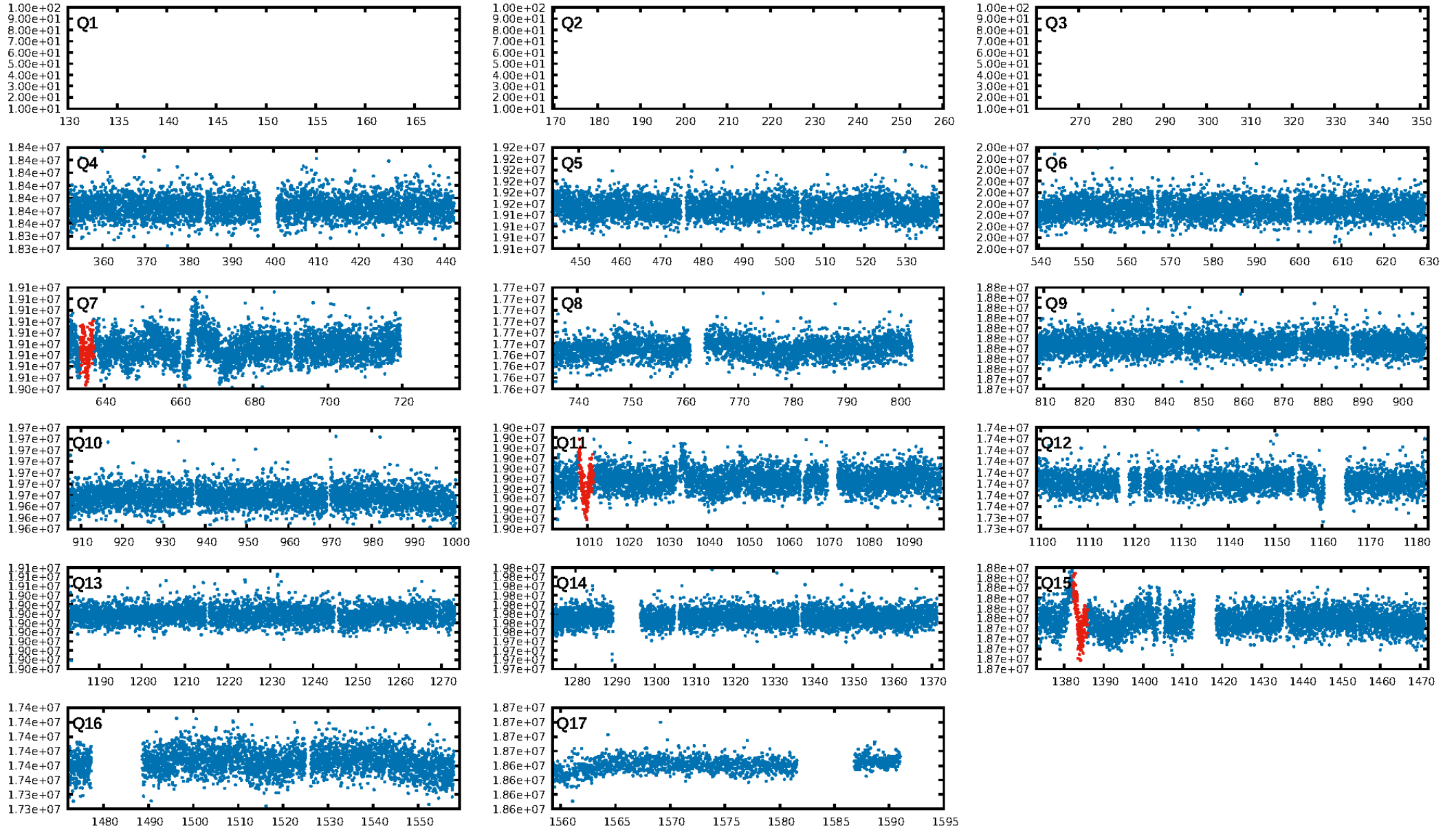
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.6%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 4.65e-12
RollingBand-fgt: 0.00 [0/3]
GhostDiagnostic-chr: 0.3031
Centroid-sig: 0.0%
Centroid-so: 11.712 arcsec [6.16σ]
OotOffset-rm: 6.029 arcsec [79.72σ]
KicOffset-rm: 5.972 arcsec [78.91σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

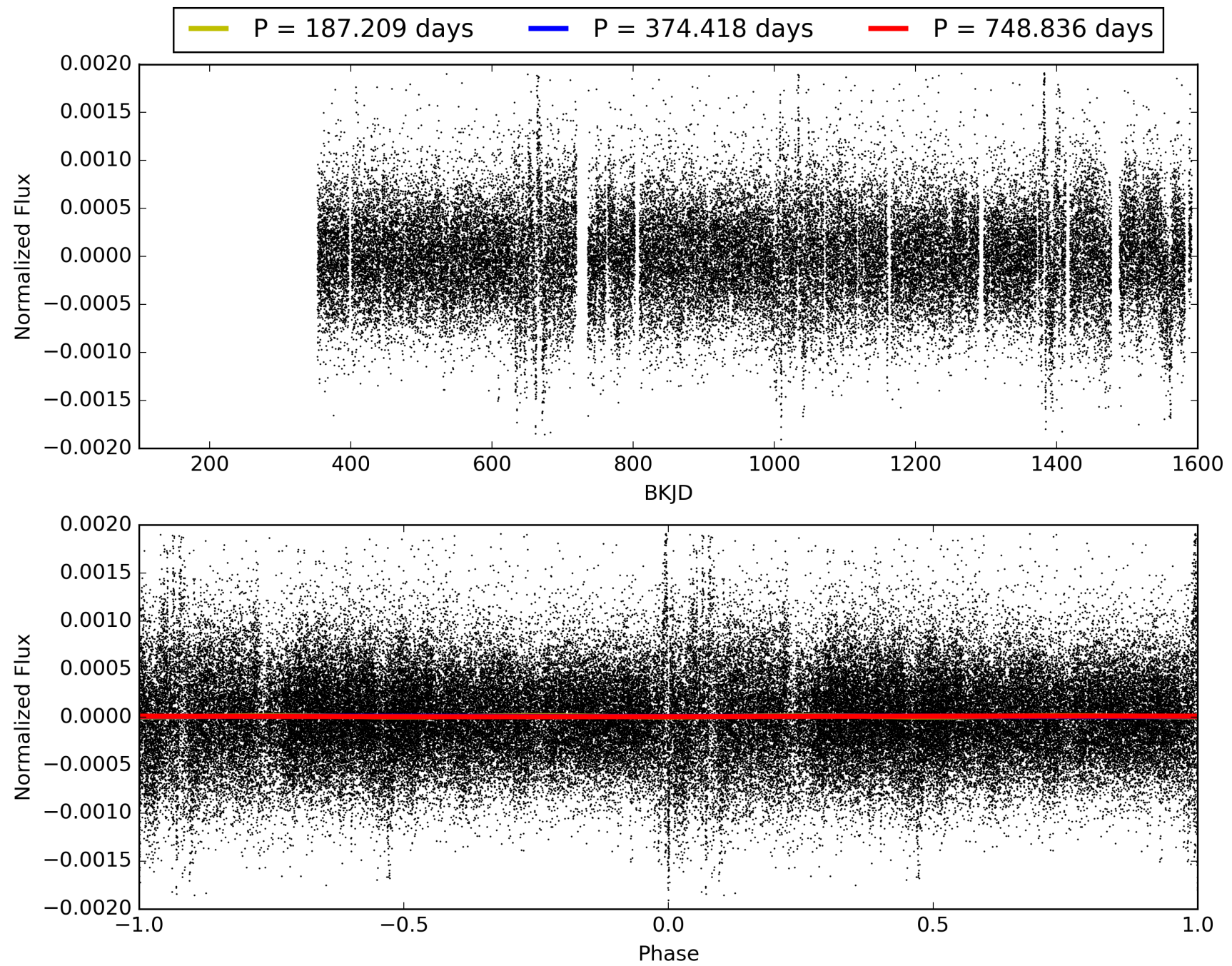
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:58:22 Z

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

TCE 008362455-01, PDC Light Curves

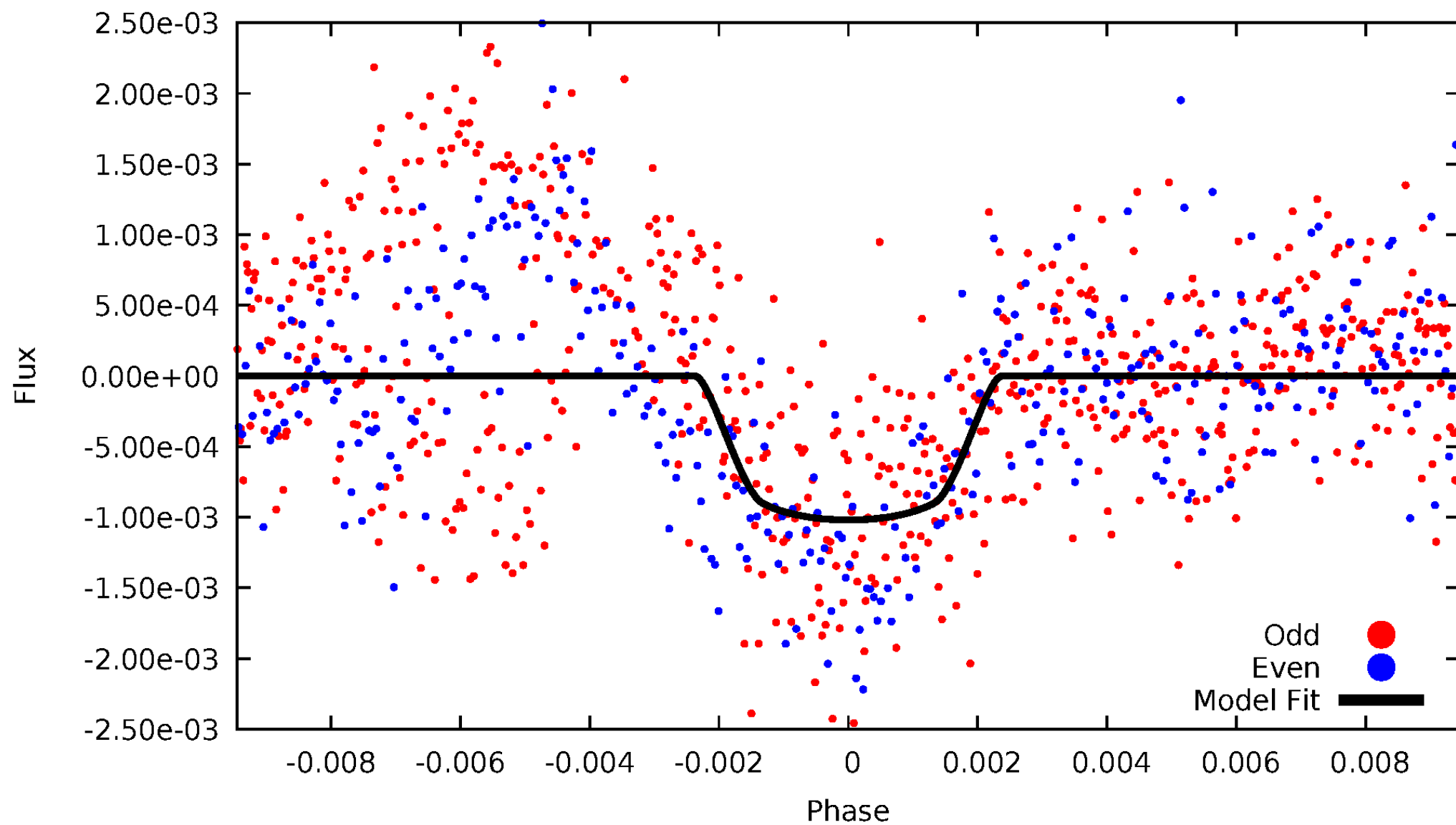


TCE 008362455-01



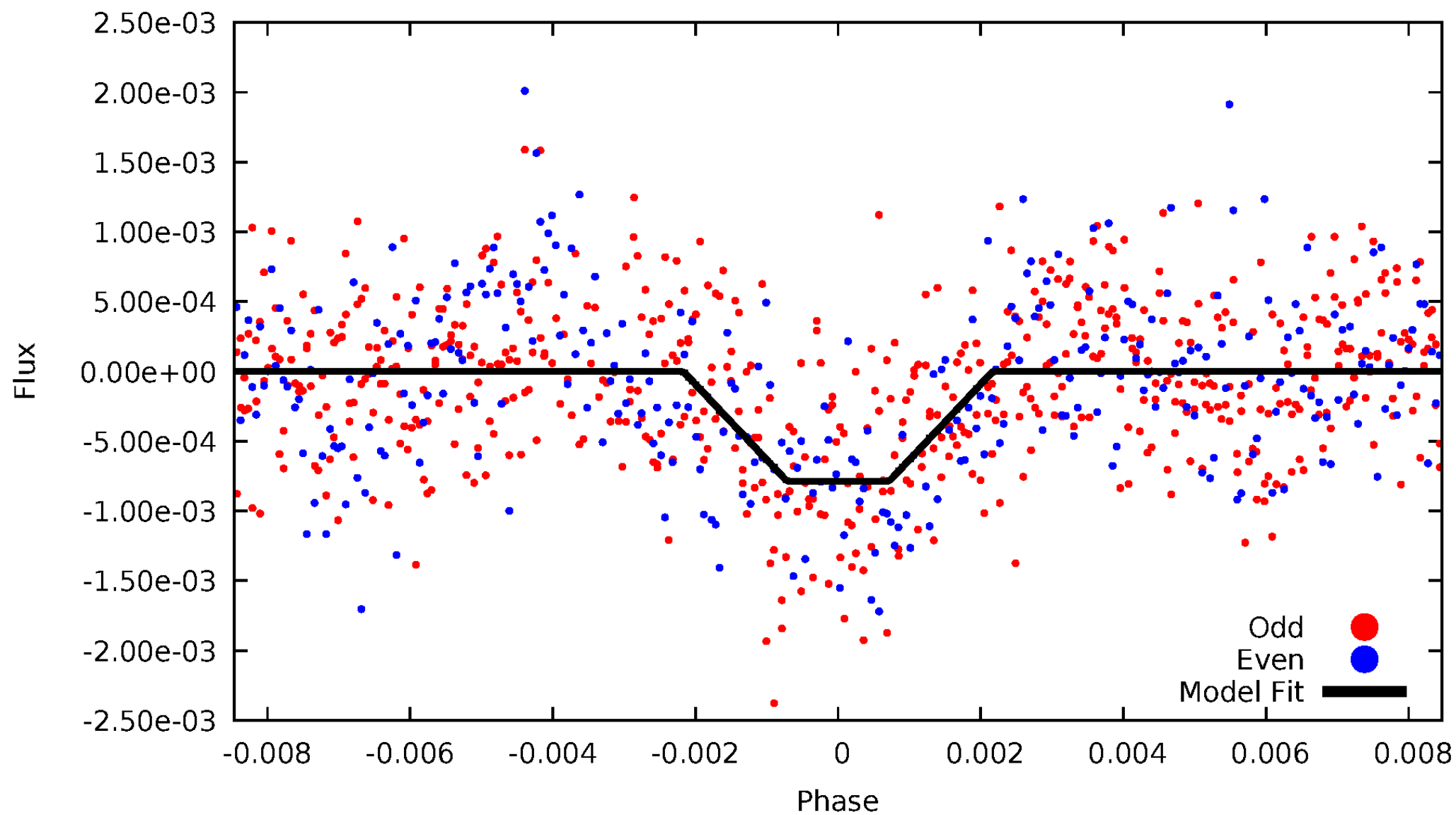
DV Odd/Even

TCE 008362455-01



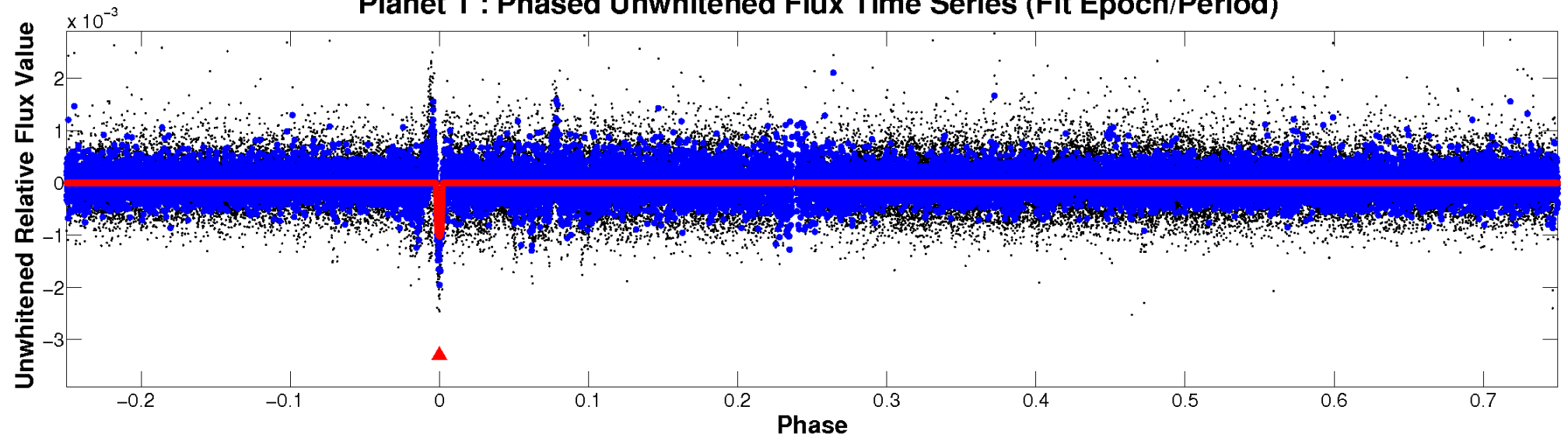
ALT Odd/Even

TCE 008362455-01

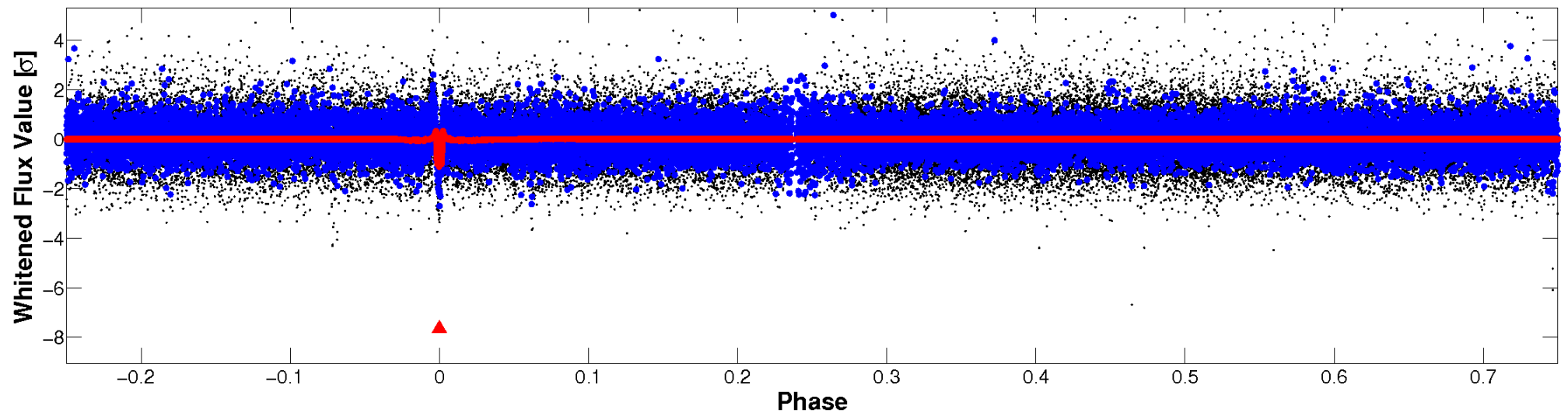


Non-Whitened Vs. Whitened Light Curve

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

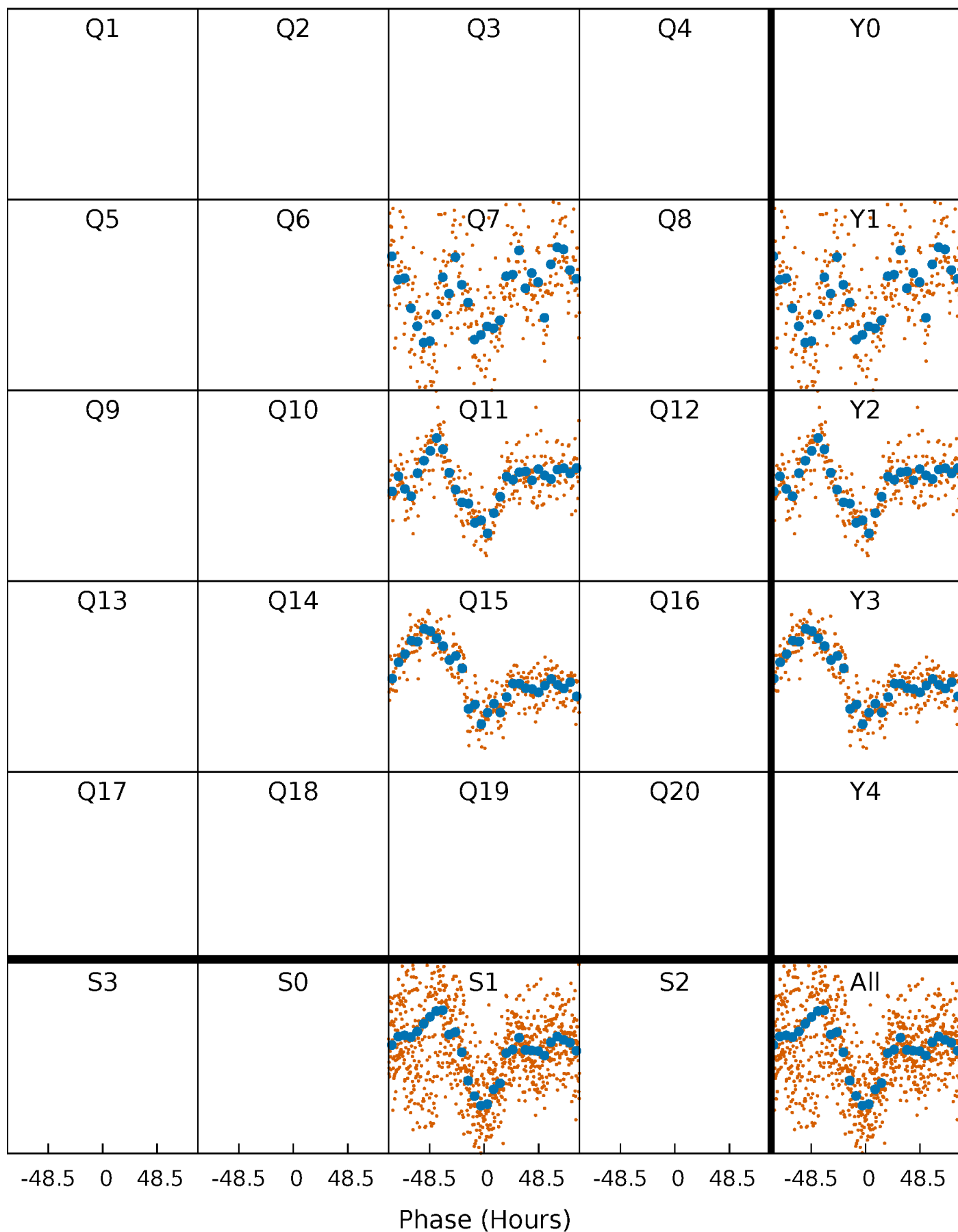


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



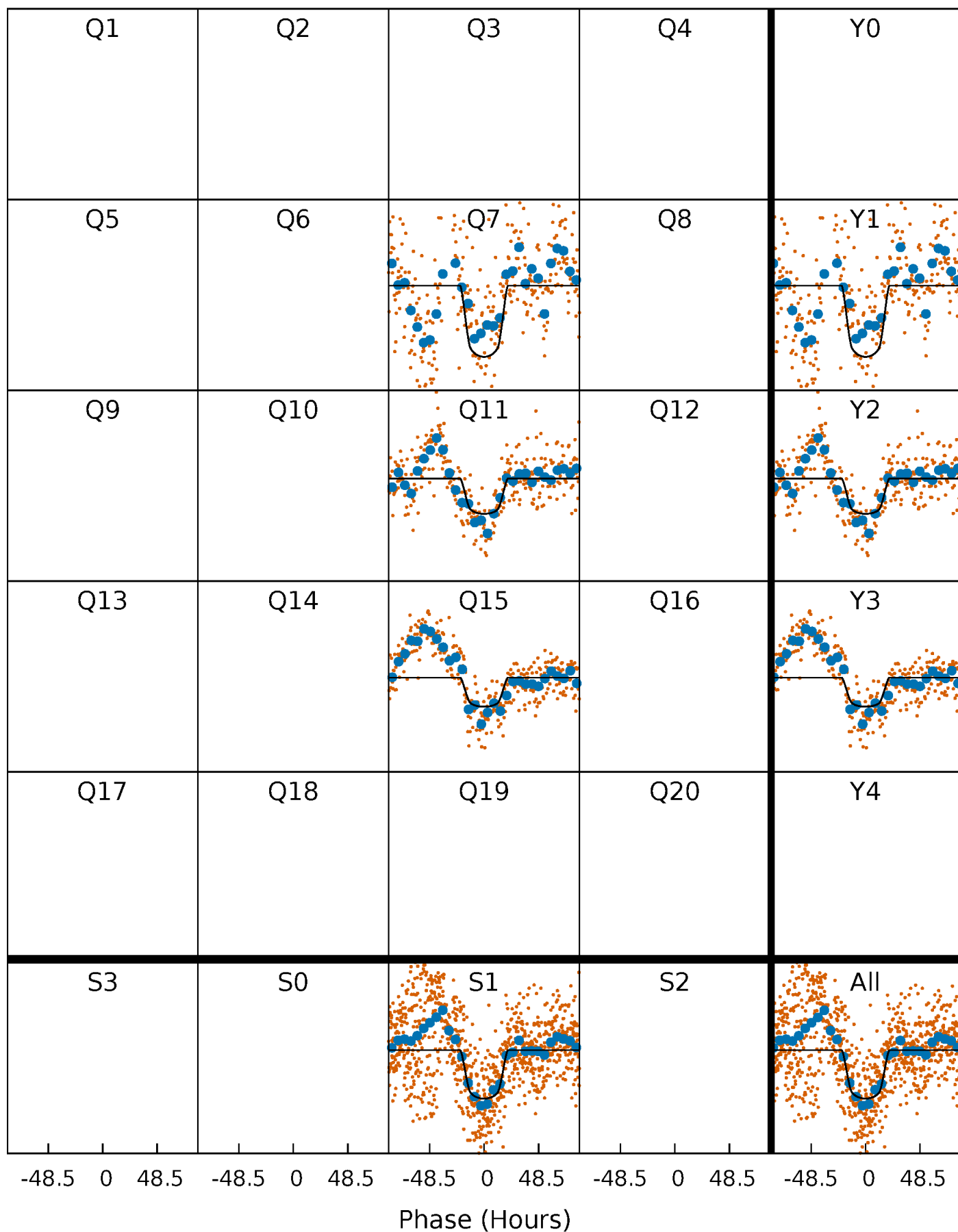
PDC Quarter-Phased Transit Curves

TCE 008362455-01 P=374.418209 Days $T_0=260.847254$ (BKJD)



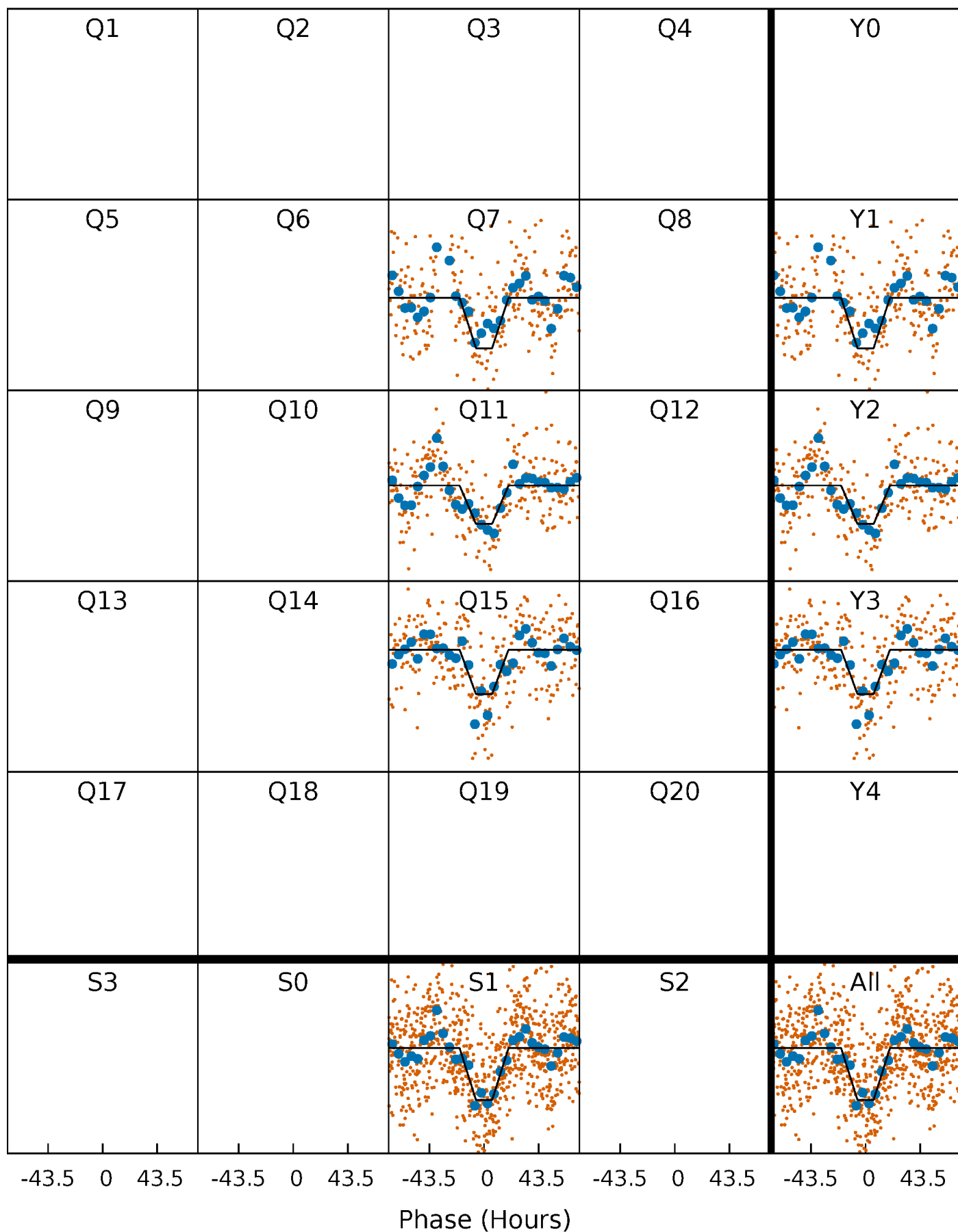
DV Quarter-Phased Transit Curves

TCE 008362455-01 P=374.418209 Days $T_0=260.847254$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

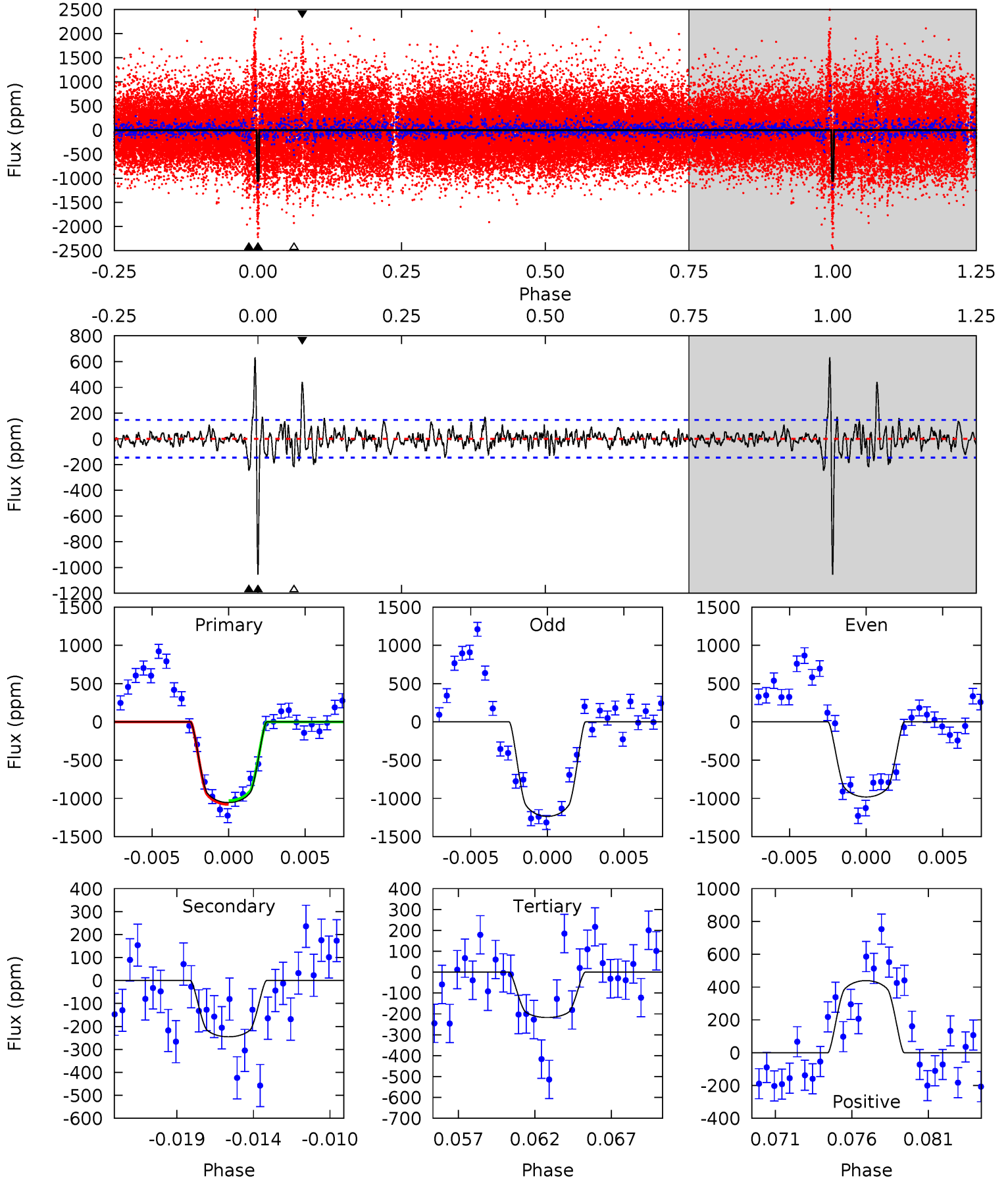
TCE 008362455-01 P=374.322386 Days $T_0=260.909487$ (BKJD)



DV Model-Shift Uniqueness Test

008362455-01, P = 374.418209 Days, E = 260.847254 Days

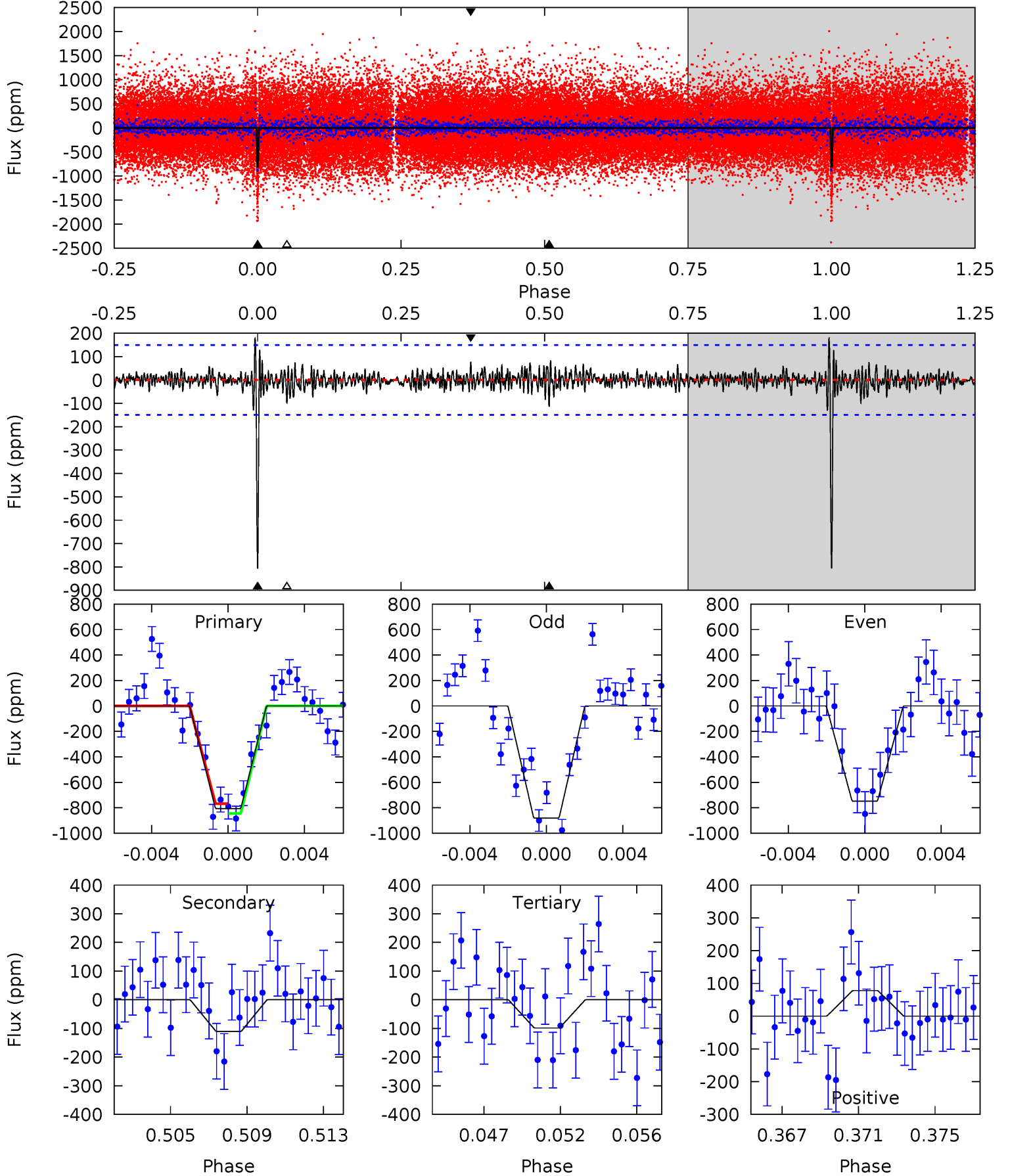
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.3	8.68	7.69	15.5	5.17	2.82	2.21	29.6	21.8	0.98	-6.87	4.19	0.86	0.37	0.85



Alt Model-Shift Uniqueness Test

008362455-01, $P = 374.322386$ Days, $E = 260.909487$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.0	3.83	3.41	2.71	5.19	2.85	0.88	24.5	25.3	0.41	1.12	2.14	0.90	0.18	1.33



Stellar Parameters For KIC 008362455

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5982^{+189}_{-210}	$4.535^{+0.044}_{-0.187}$	$-0.280^{+0.300}_{-0.300}$	$0.879^{+0.233}_{-0.083}$	$0.967^{+0.108}_{-0.132}$	$2.003^{+0.478}_{-0.951}$
	+3%/-4%	+1%/-4%	+107%/-107%	+27%/-9%	+11%/-14%	+24%/-47%
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 008362455-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-245 ± 28	$3.53^{+0.49}_{-0.35}$	352^{+24}_{-17}	4226^{+179}_{-168}	10752^{+2665}_{-2579}
Alt.	-110 ± 29	$2.78^{+0.42}_{-0.31}$	353^{+23}_{-17}	3972^{+231}_{-244}	7505^{+2869}_{-2471}

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 $A_{obs} \gg 1.0$

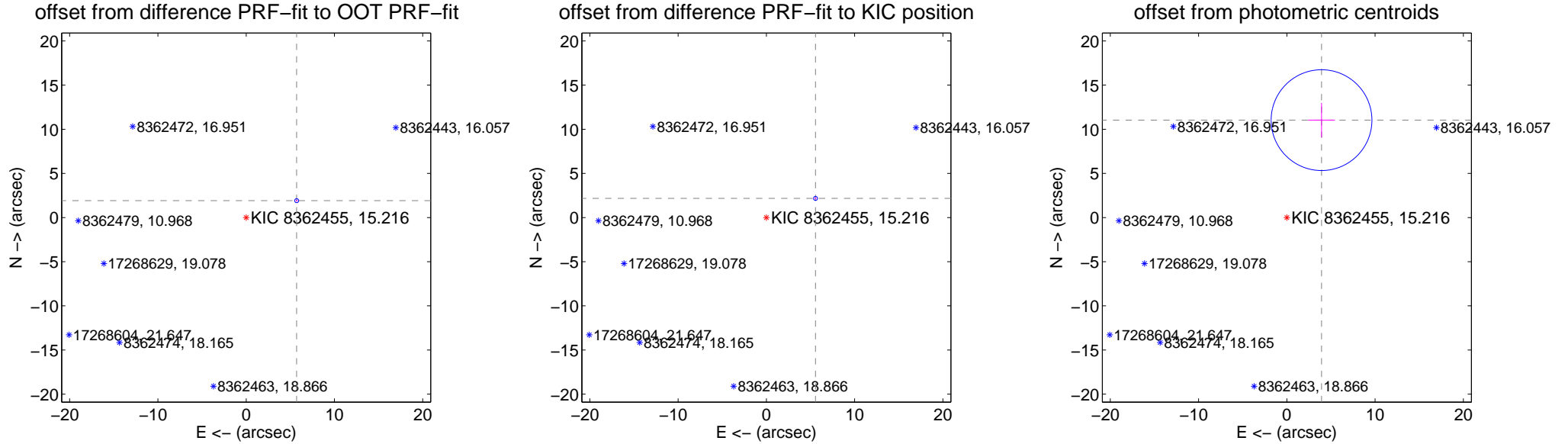
DV Centroid Data

Supplemental centroid analysis for 008362455-01. Kepler magnitude: 15.22. Transit SNR 13.33

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.029 ± 0.076	79.72	-5.717 ± 0.075	1.912 ± 0.077
PRF-fit source offset from KIC position	5.972 ± 0.076	78.91	-5.565 ± 0.075	2.168 ± 0.077
photometric centroid source offset	11.71 ± 1.90	6.16	-3.93 ± 1.52	11.03 ± 1.95



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.



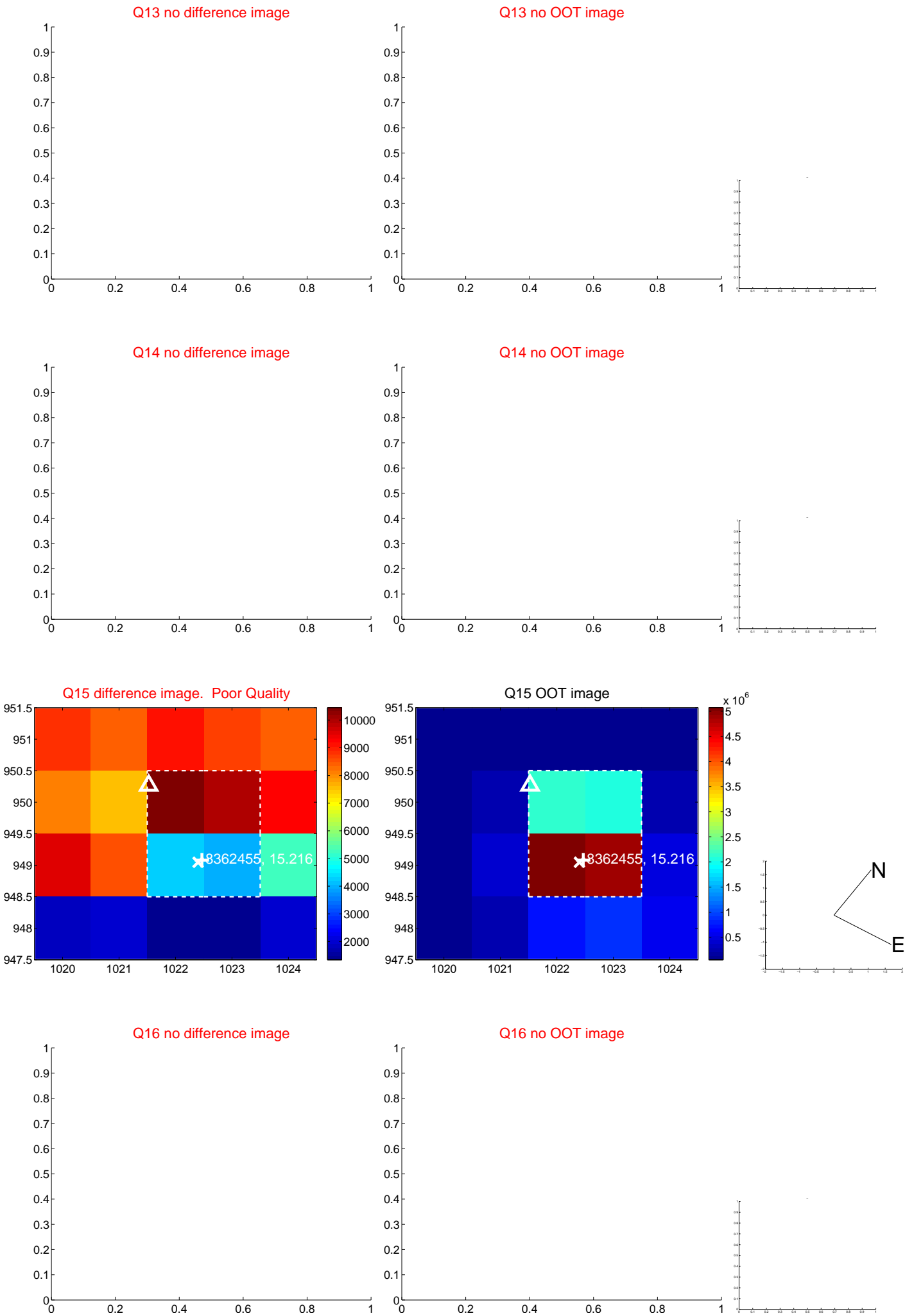
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



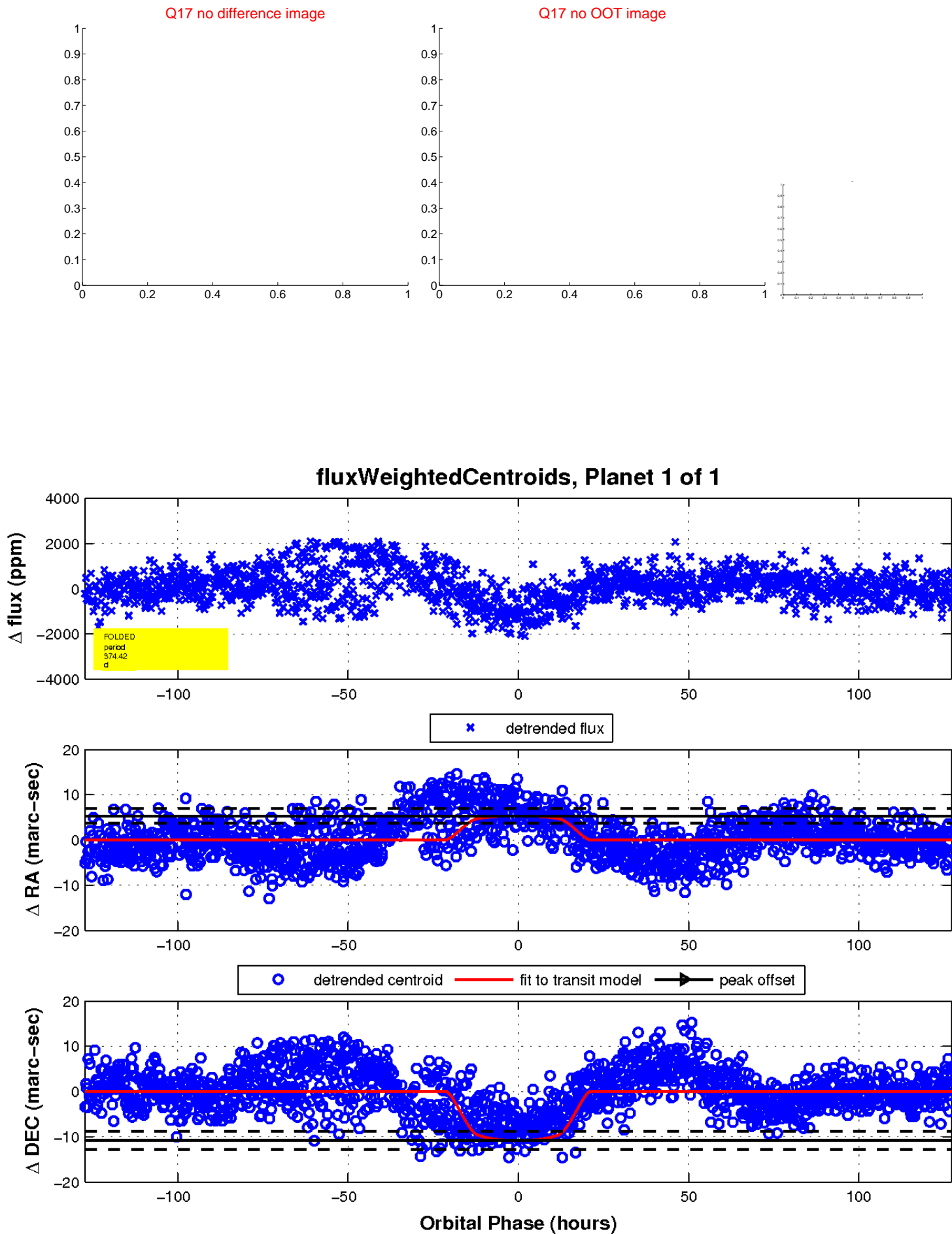
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

