

KIC 002446623

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})
002446623-01	OBS	3674.01	175.065808	179.043939	45295.2	4.505	406.4	329.4	0.82	6021	26.72	2.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002446623-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED

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 002446623-01

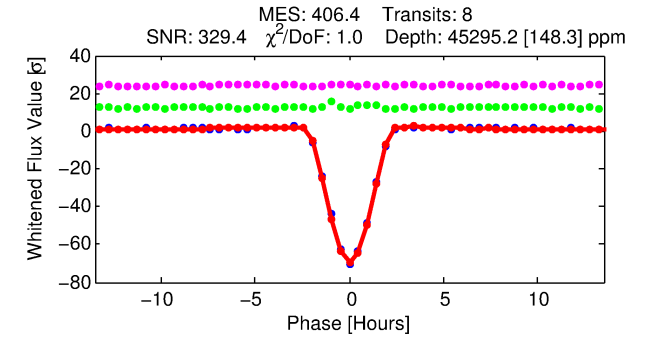
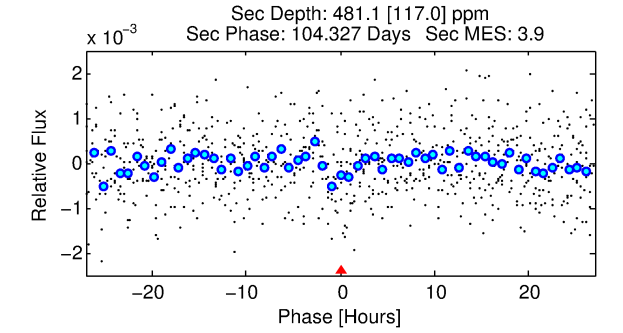
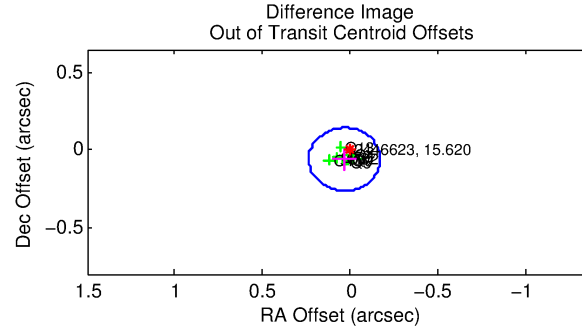
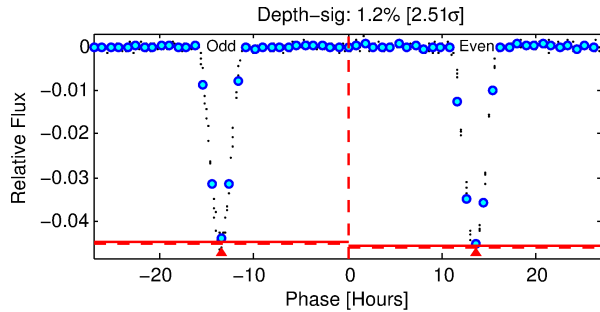
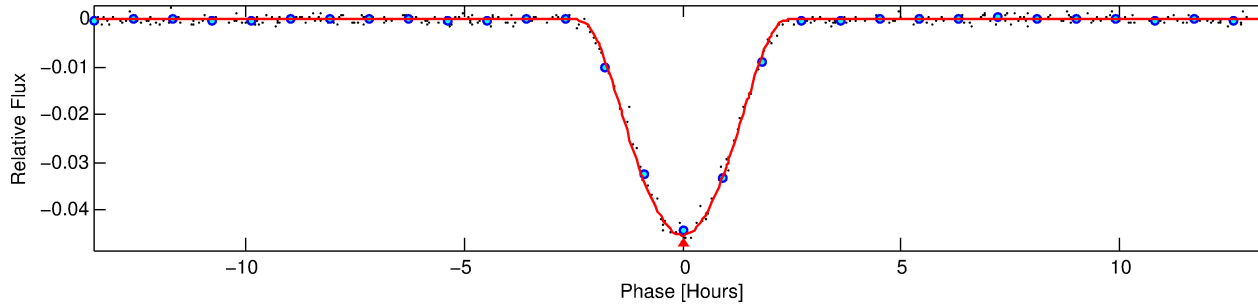
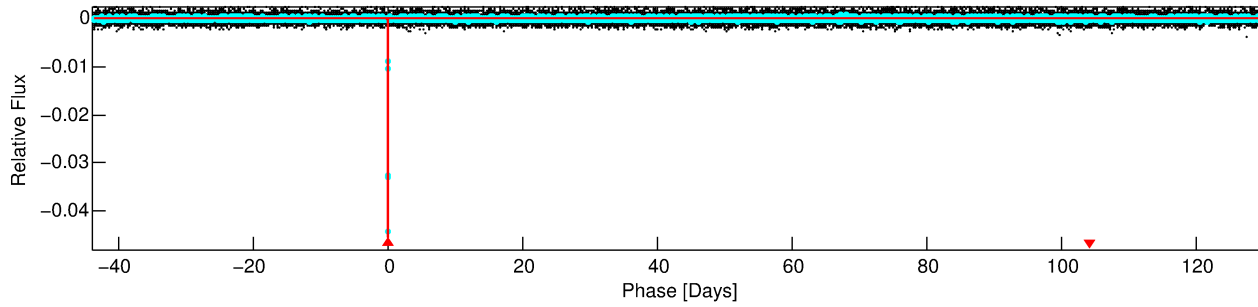
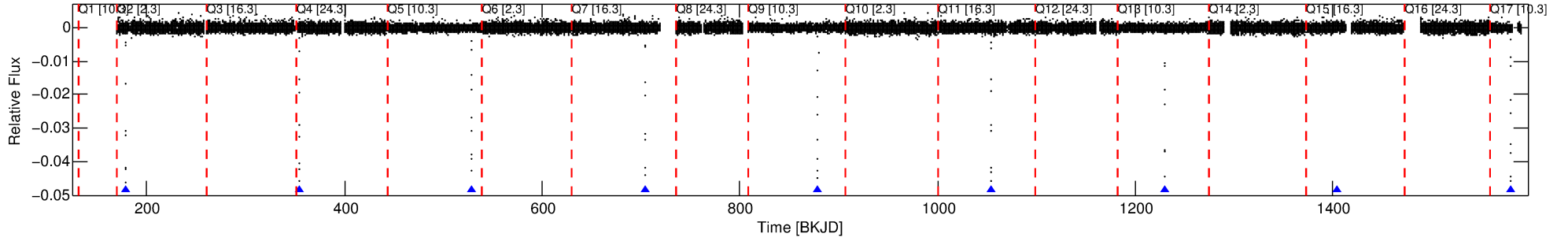
No Significant Match Found

DV One-Page Summary

KIC: 2446623 Candidate: 1 of 1 Period: 175.066 d

KOI: K03674.01 Corr: 0.991

Kp: 15.62 R*: 0.82 Rs Teff: 6021.0 K Logg: 4.57 Fe/H: -0.500



DV Fit Results:

Period = 175.06581 [0.00007] d
Epoch = 179.0439 [0.0003] BKJD
Rp/R* = 0.2990 [0.0509]
a/R* = 263.27 [3.22]
b = 0.95 [0.08]
Seff = 2.24 [0.87]
Teq = 312 [30] K
Rp = 26.72 [8.95] Re
a = 0.5934 [0.1471] AU
Ag = 130.50 [72.68] [1.78σ]
Teffp = 1631 [179] K [7.27σ]

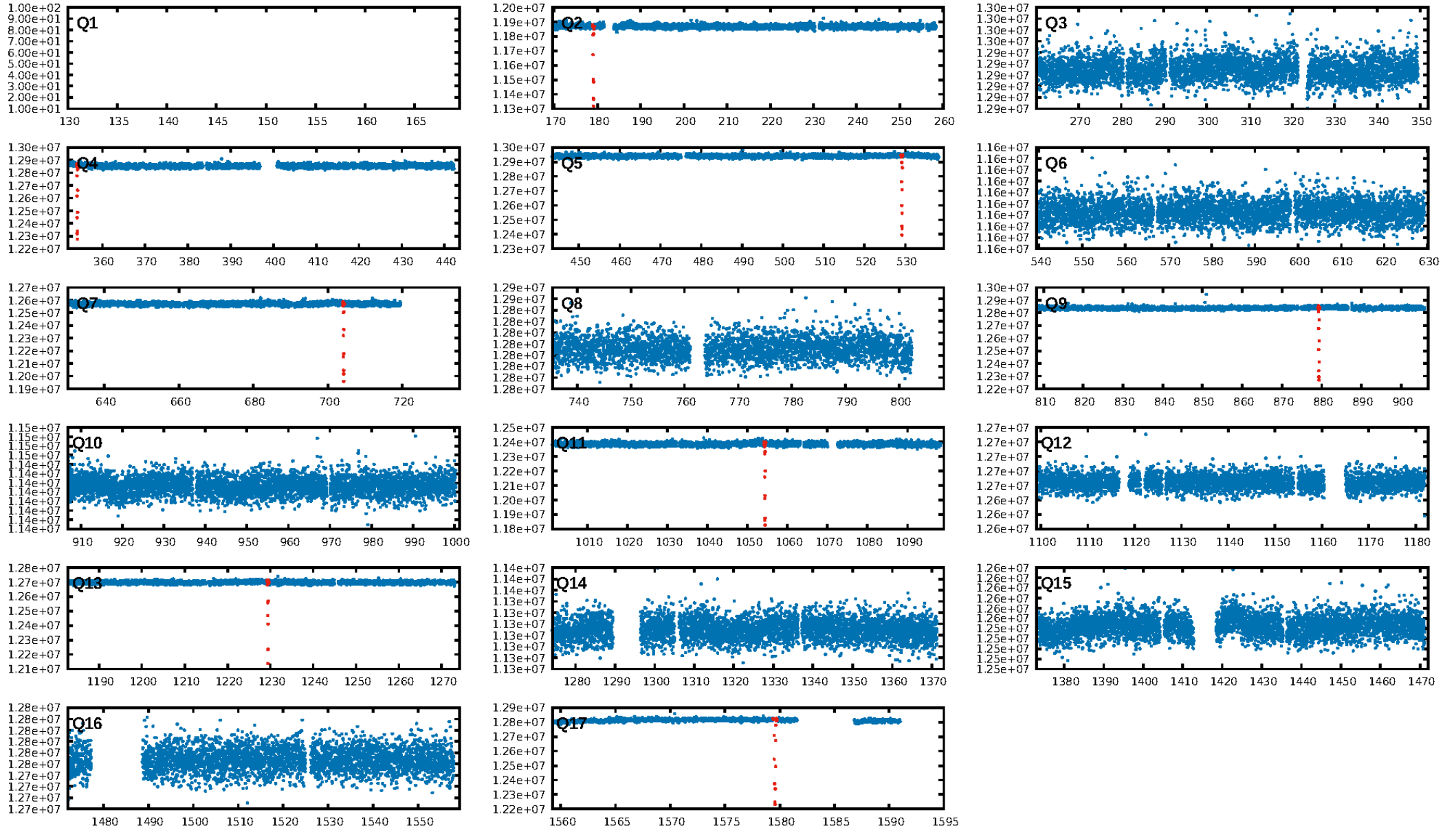
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 88.6%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 2.08
Centroid-sig: 0.0%
Centroid-so: 0.629 arcsec [20.67σ]
OotOffset-rm: 0.069 arcsec [1.02σ]
KicOffset-rm: 0.161 arcsec [2.32σ]
OotOffset-st: 1/2/1/4 [8]
KicOffset-st: 1/2/1/4 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

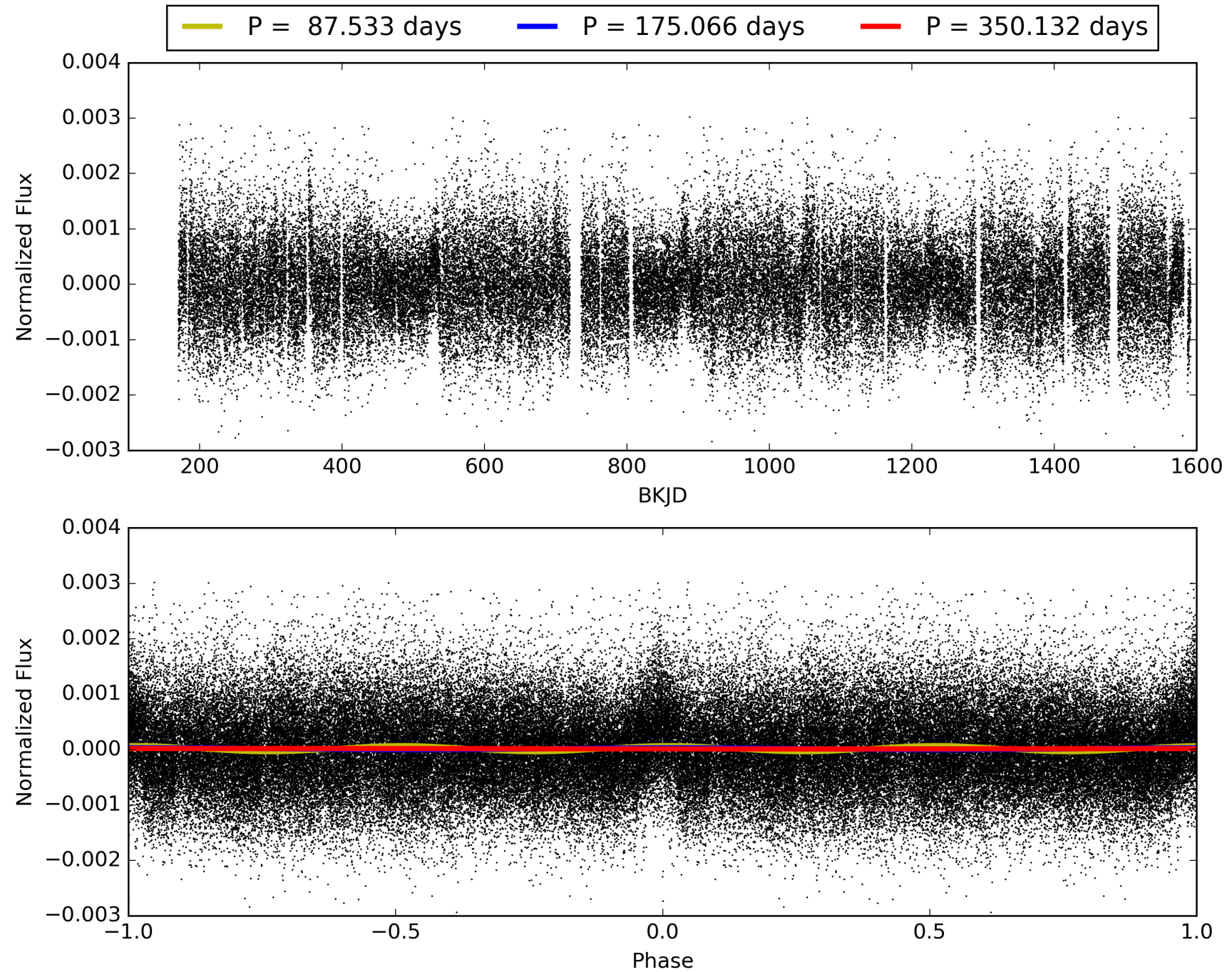
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:24:43 Z

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

TCE 002446623-01, PDC Light Curves

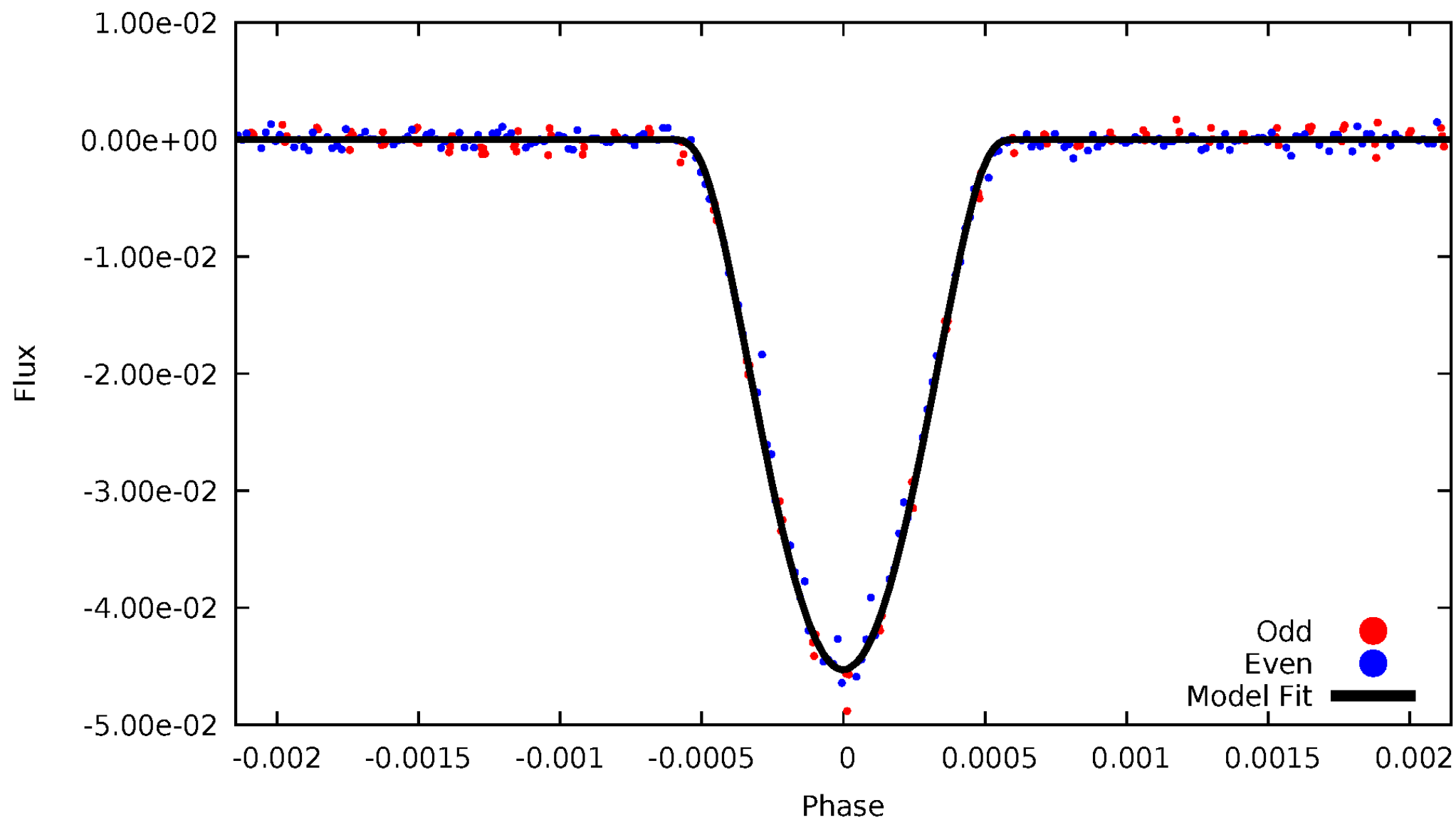


TCE 002446623-01



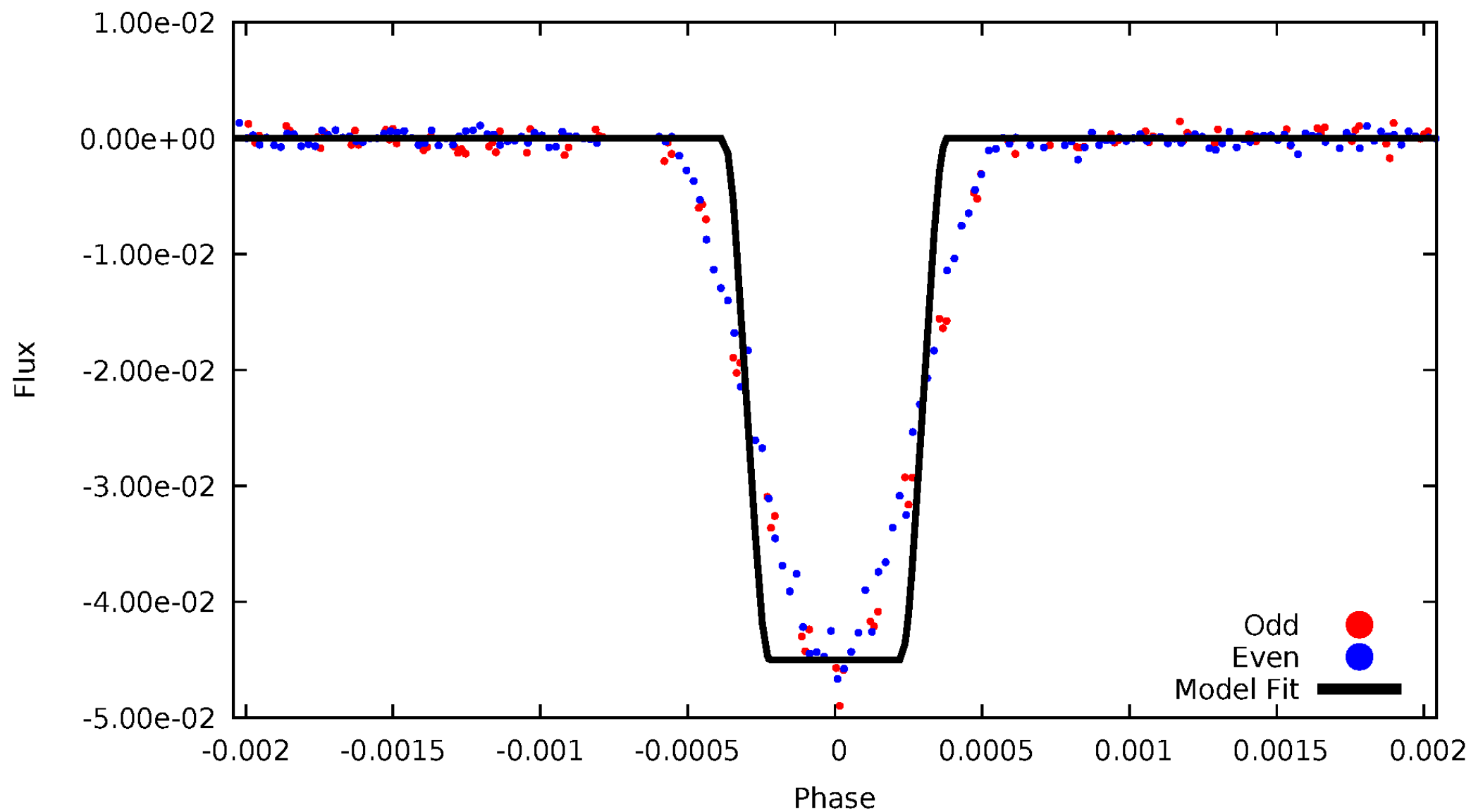
DV Odd/Even

TCE 002446623-01



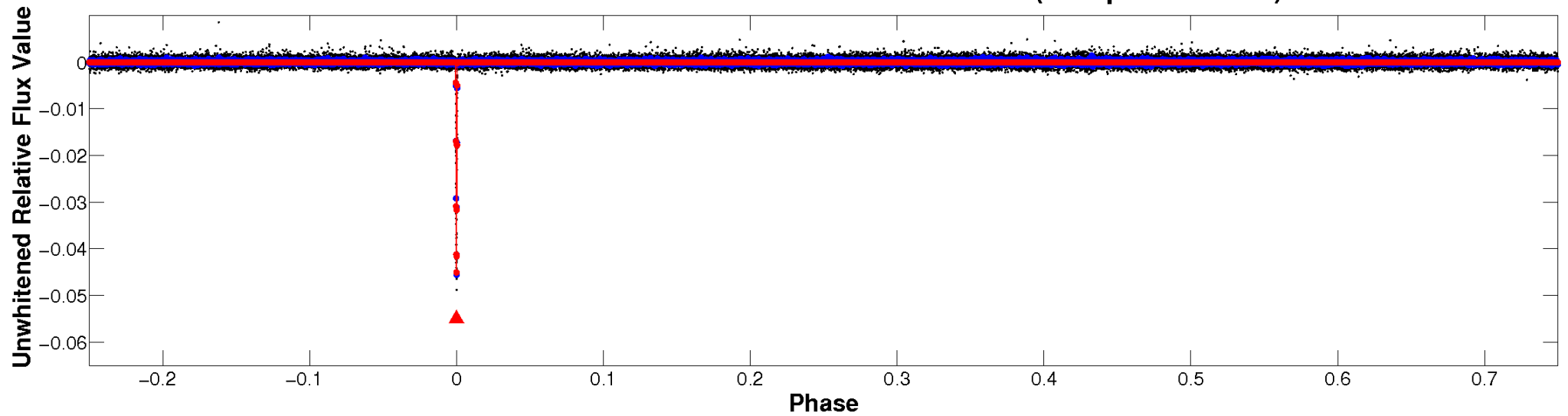
ALT Odd/Even

TCE 002446623-01

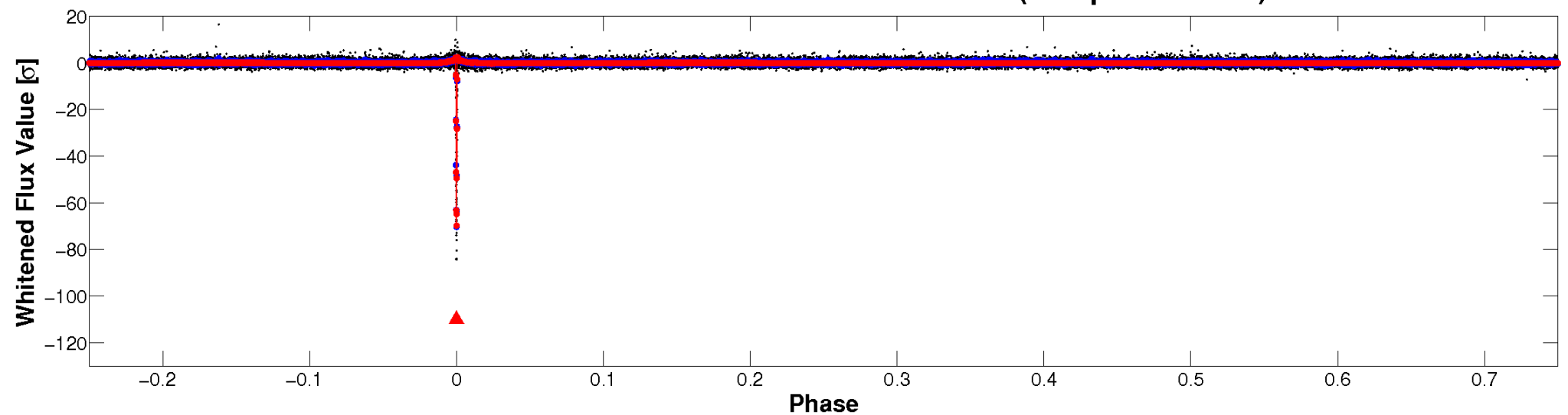


Non-Whitened Vs. Whitened Light Curve

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

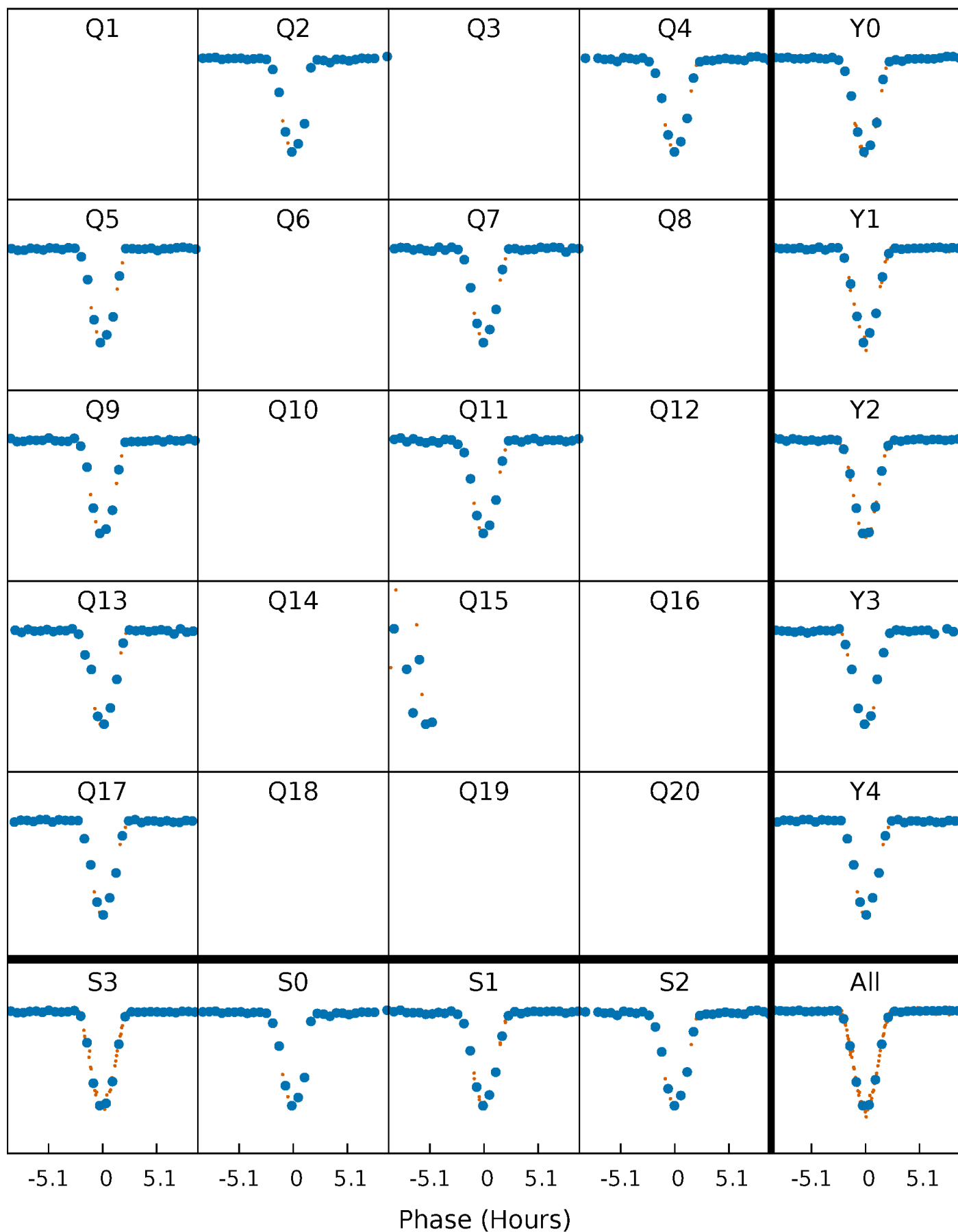


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



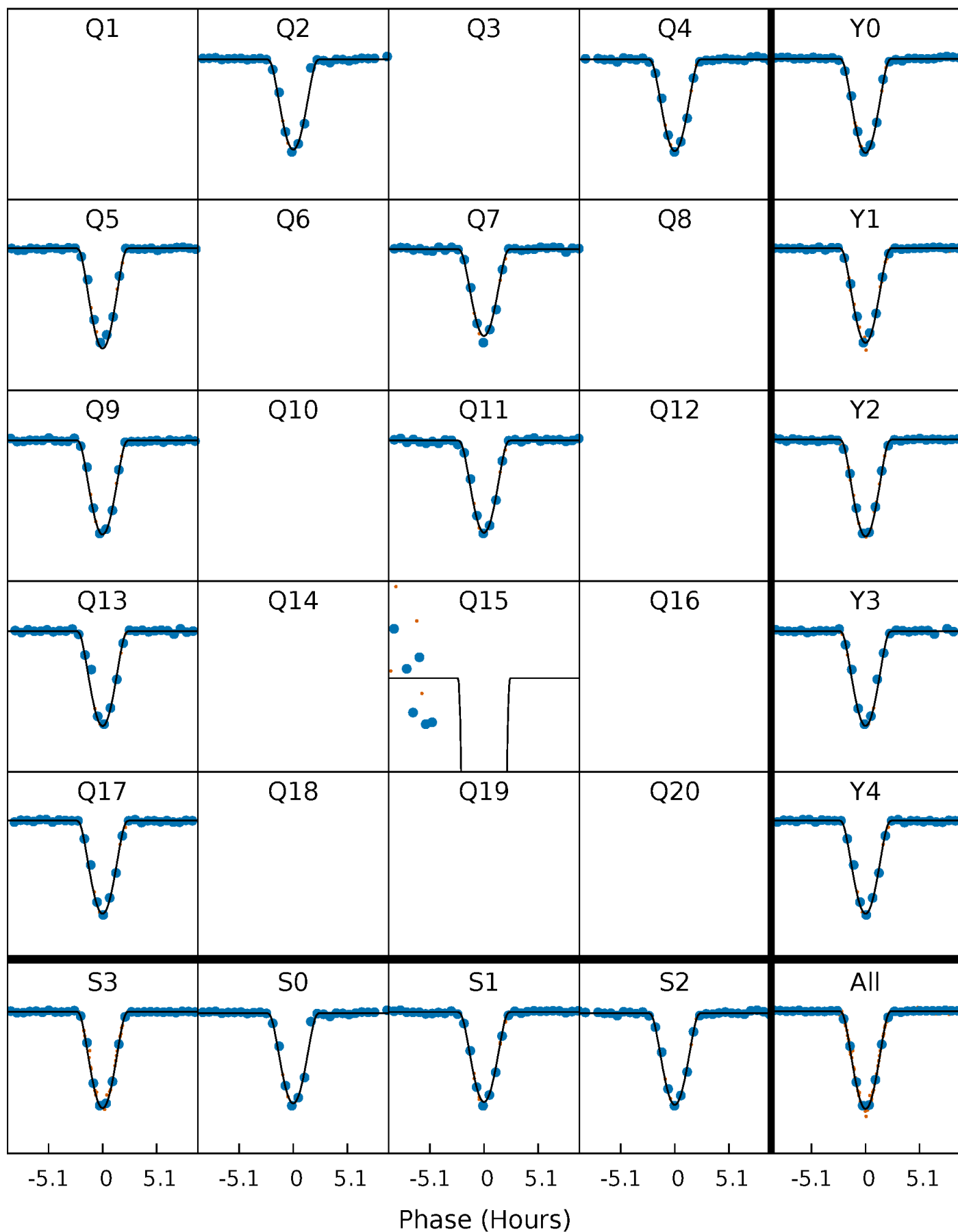
PDC Quarter-Phased Transit Curves

TCE 002446623-01 P=175.065808 Days $T_0=179.043938$ (BKJD)



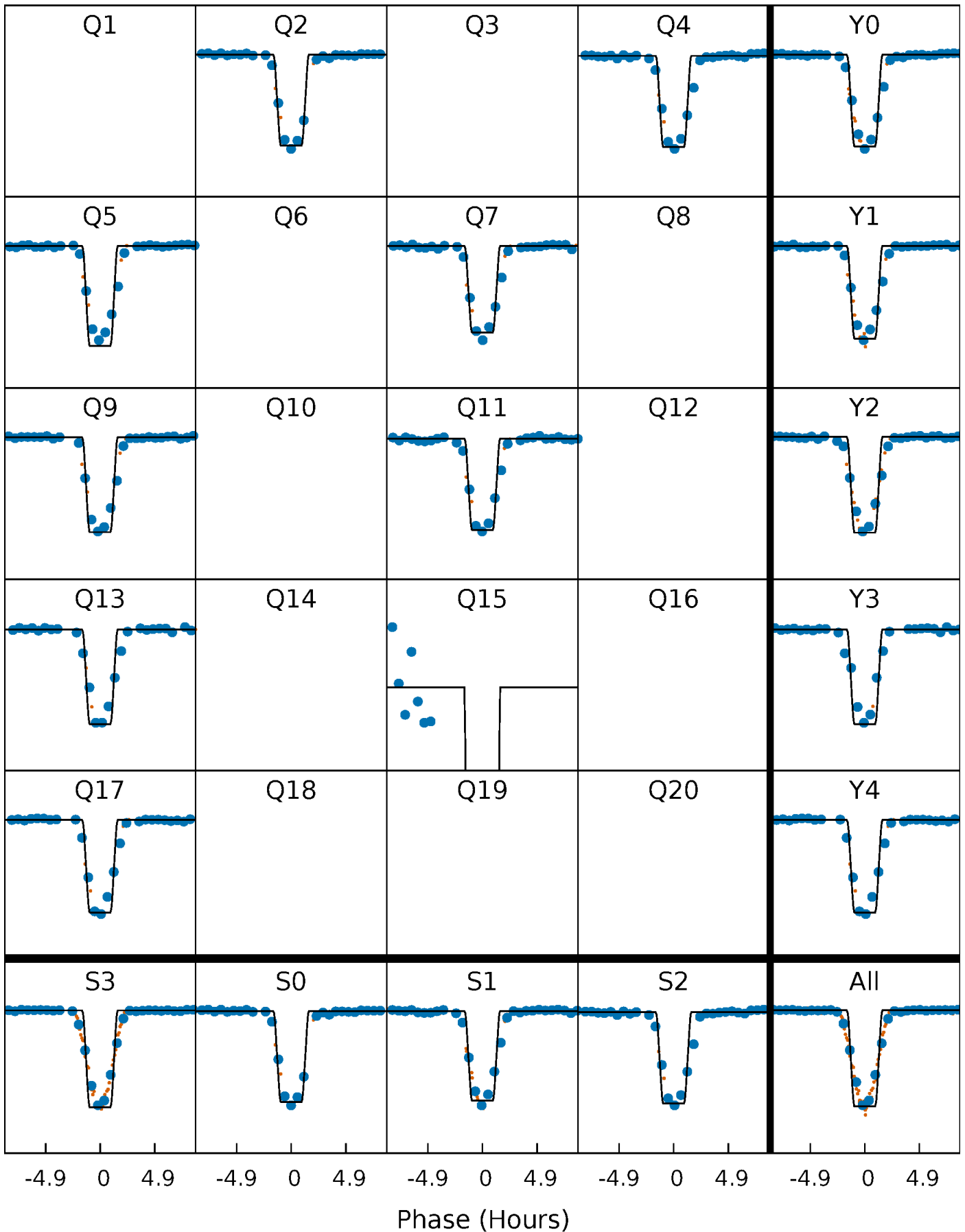
DV Quarter-Phased Transit Curves

TCE 002446623-01 P=175.065808 Days $T_0=179.043938$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

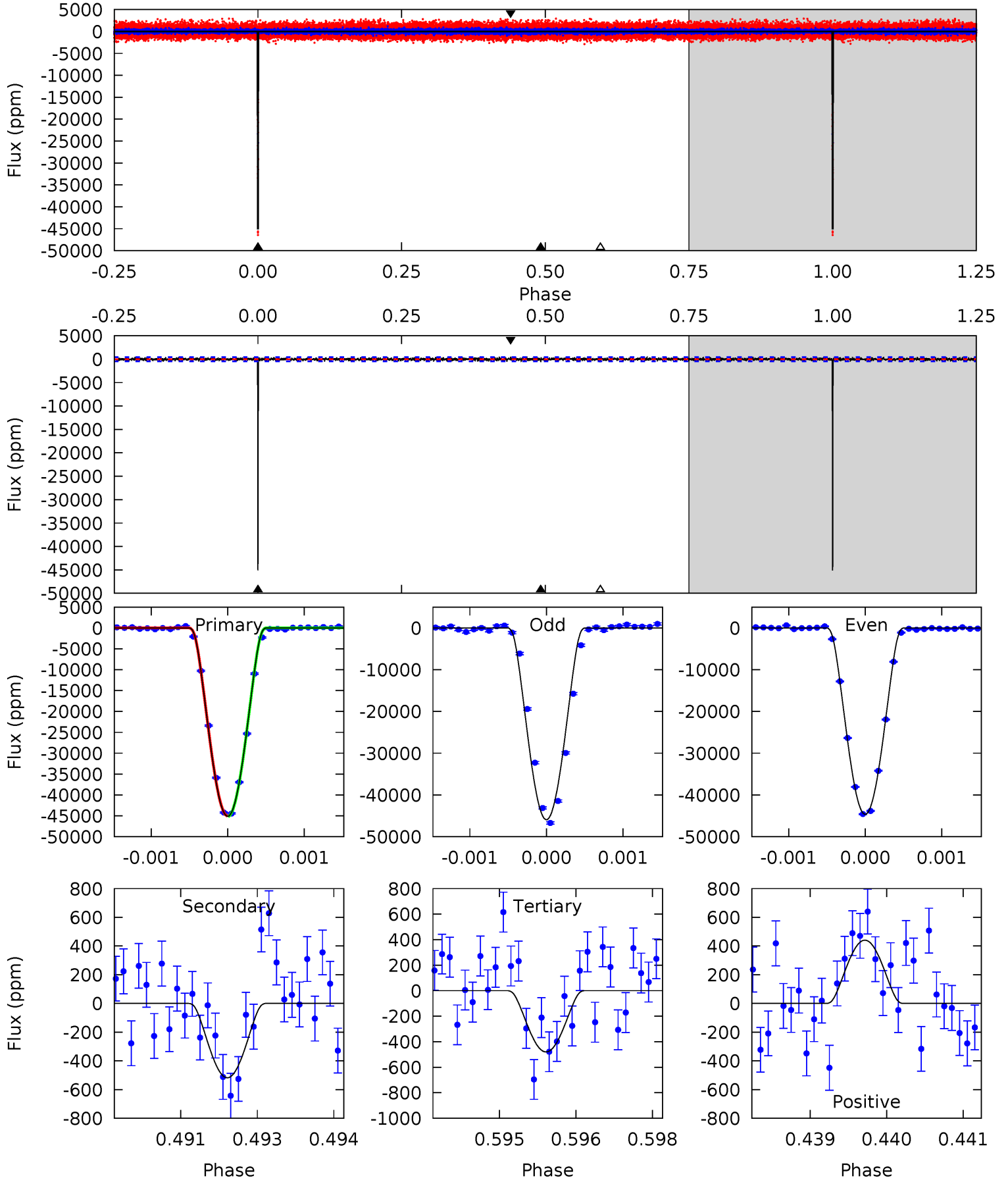
TCE 002446623-01 P=175.066454 Days $T_0=179.041460$ (BKJD)



DV Model-Shift Uniqueness Test

002446623-01, P = 175.065808 Days, E = 3.978130 Days

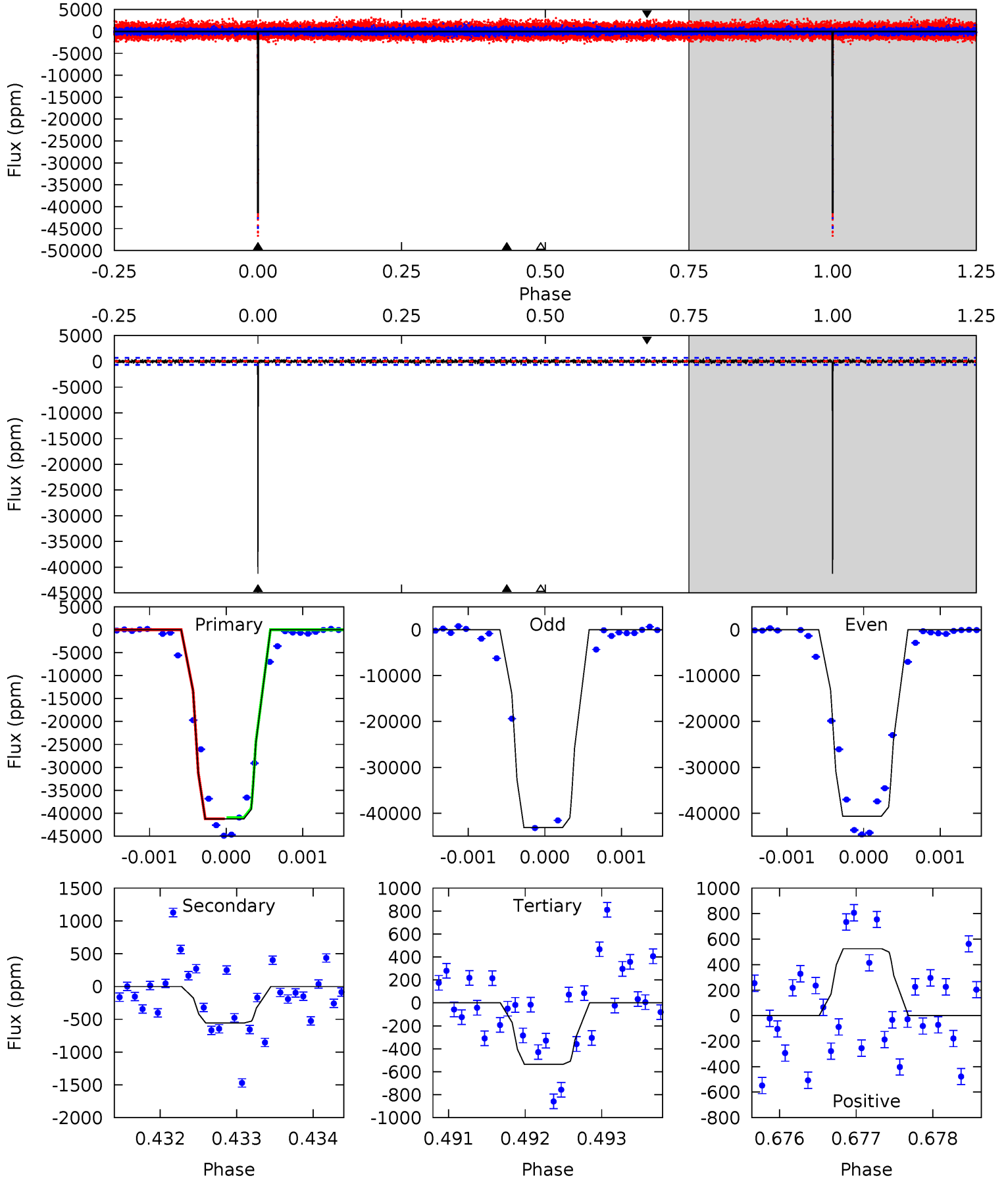
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
556.5	6.38	5.92	5.44	5.42	3.25	1.51	550.6	551.0	0.46	0.95	7.77	1.00	0.01	0.76



Alt Model-Shift Uniqueness Test

002446623-01, P = 175.066454 Days, E = 3.975006 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
335.7	4.53	4.36	4.27	5.50	3.37	1.03	331.3	331.4	0.17	0.26	8.28	0.99	0.01	0.88



Stellar Parameters For KIC 002446623

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6021^{+179}_{-197}	$4.570^{+0.036}_{-0.204}$	$-0.500^{+0.300}_{-0.300}$	$0.819^{+0.236}_{-0.059}$	$0.922^{+0.097}_{-0.118}$	$2.361^{+0.451}_{-1.187}$
	+3%/-3%	+1%/-4%	+60%/-60%	+29%/-7%	+11%/-13%	+19%/-50%
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 002446623-01 / KOI 3674.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-518 ± 81	$28.26^{+6.26}_{-4.99}$	448^{+30}_{-22}	2515^{+128}_{-119}	125^{+59}_{-44}
Alt.	-556 ± 123	$20.33^{+5.35}_{-5.71}$	447^{+29}_{-20}	2761^{+251}_{-187}	260^{+249}_{-110}

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 $A_{\text{obs}} \gg 1.0$

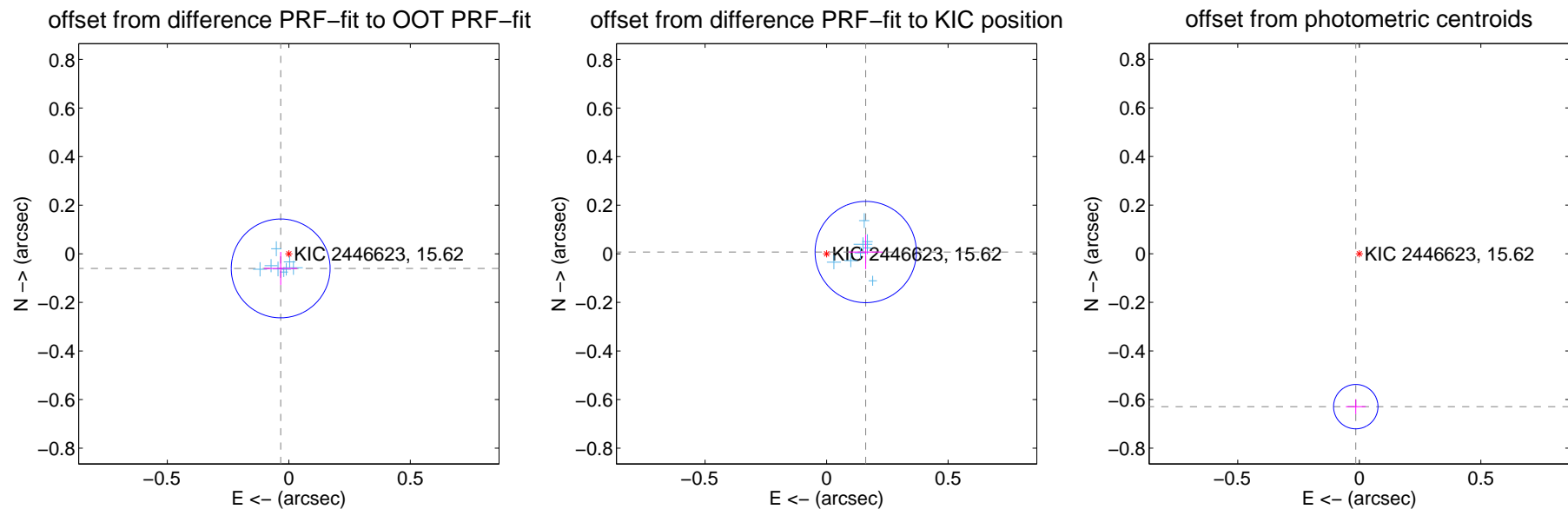
DV Centroid Data

Supplemental centroid analysis for 002446623-01. Kepler magnitude: 15.62. Transit SNR 329.41

There are 8 quarters with good PRF difference image offsets

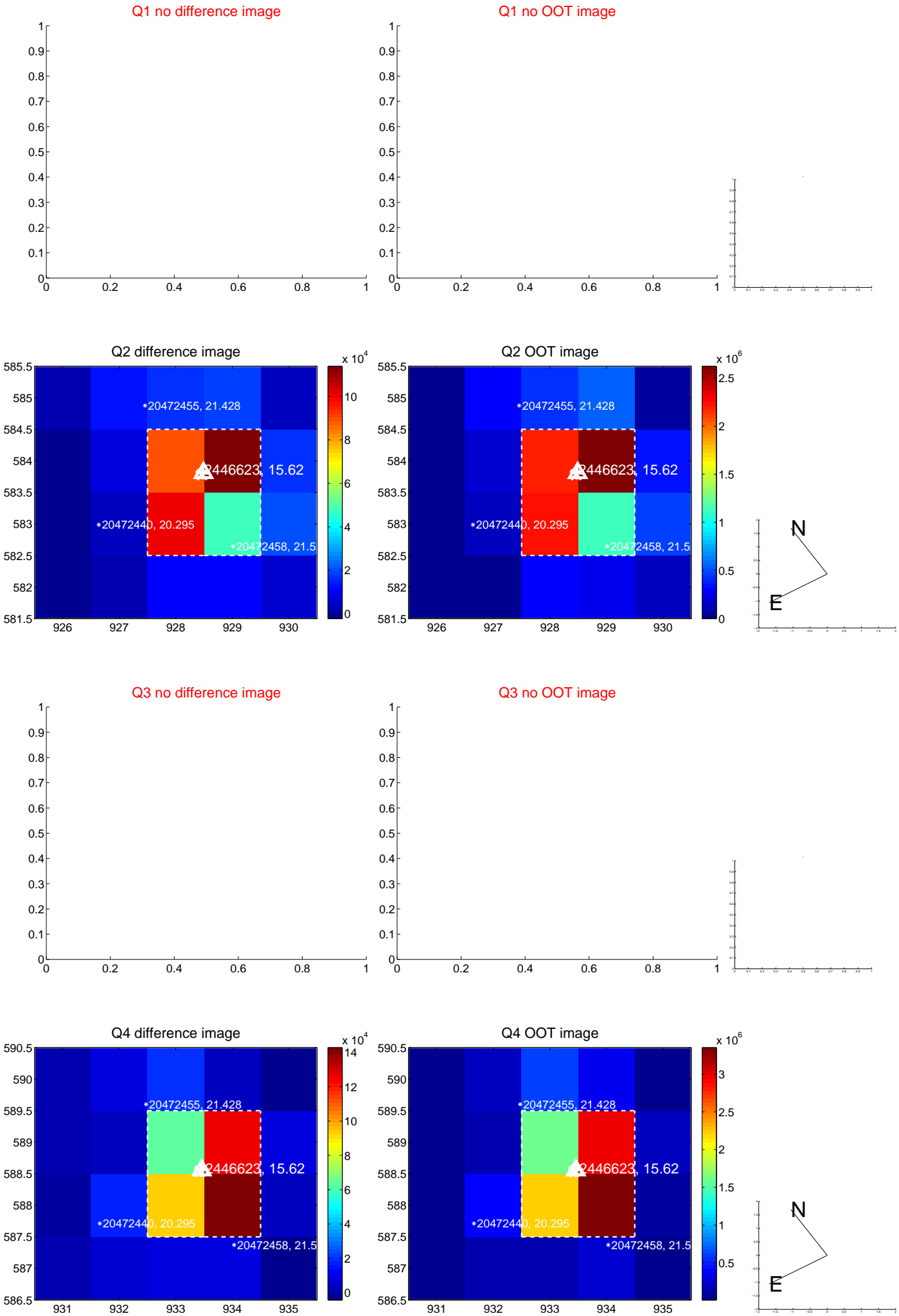
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.069 ± 0.068	1.02	0.034 ± 0.068	-0.060 ± 0.068
PRF-fit source offset from KIC position	0.161 ± 0.069	2.32	-0.161 ± 0.069	0.007 ± 0.071
photometric centroid source offset	0.63 ± 0.03	20.67	0.01 ± 0.04	-0.63 ± 0.03

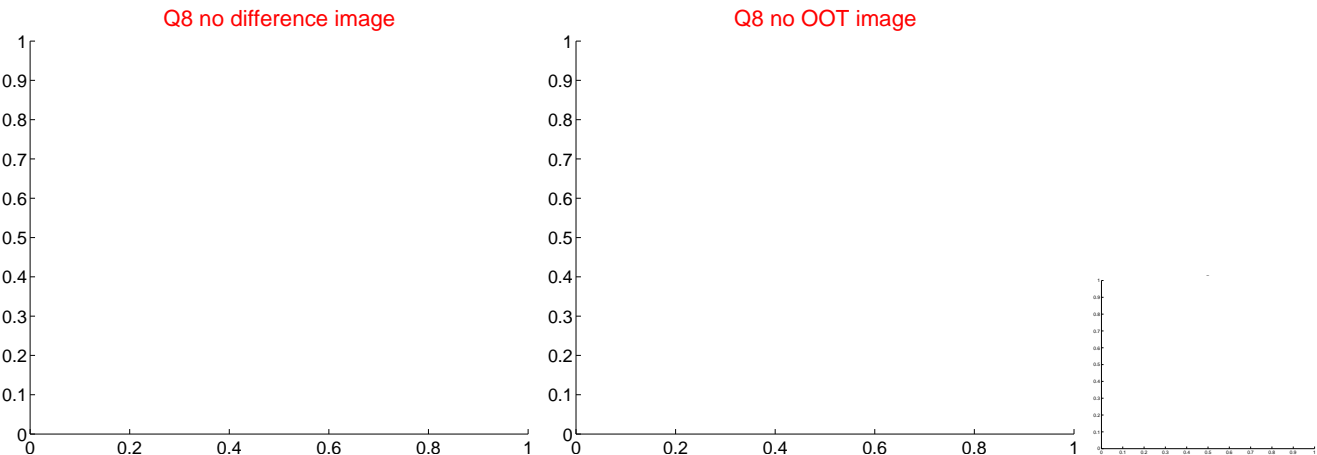
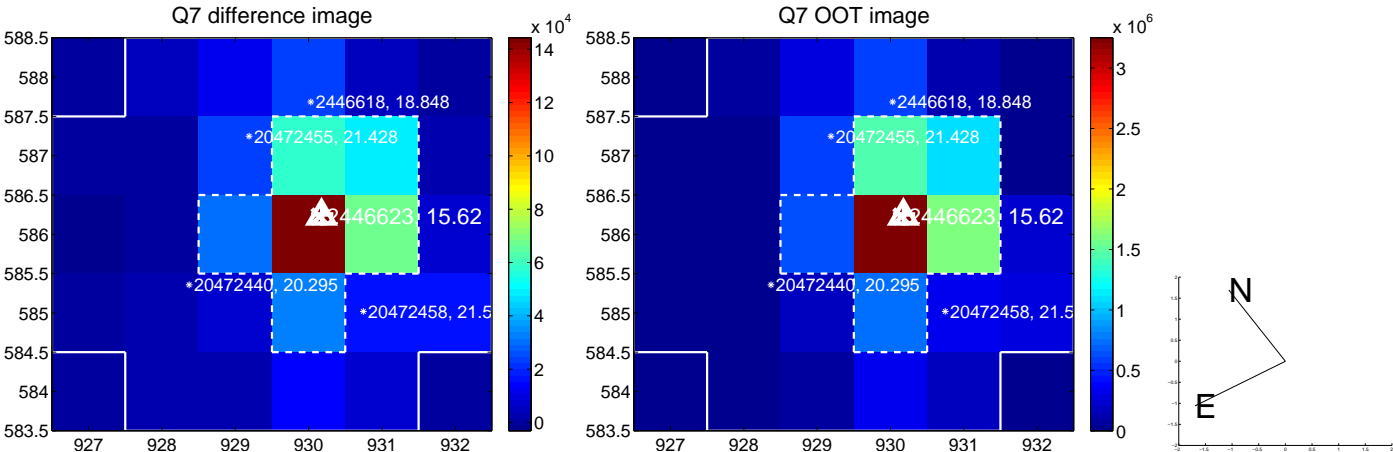
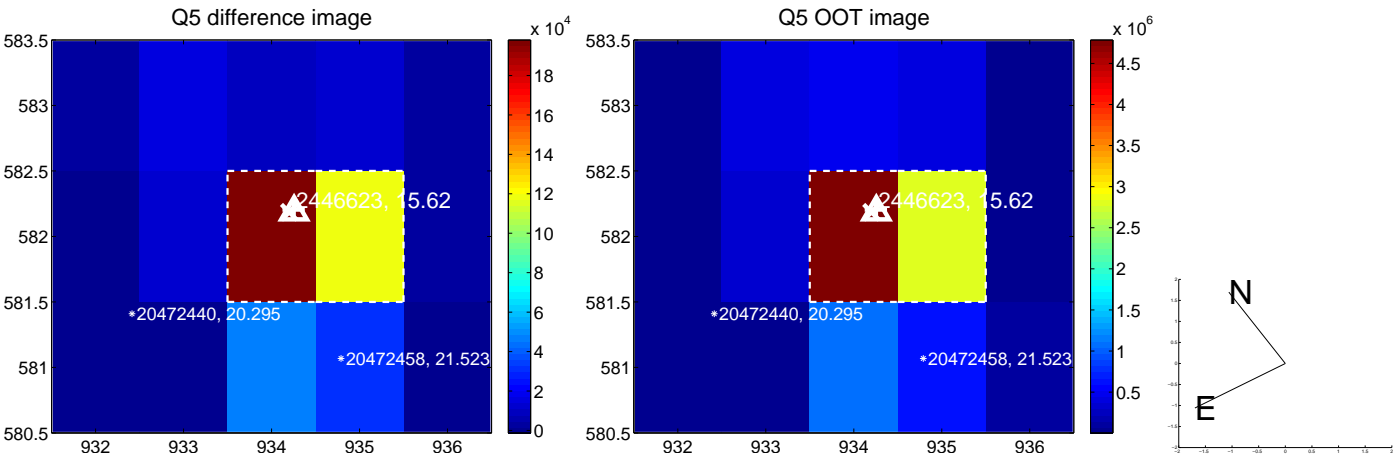


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

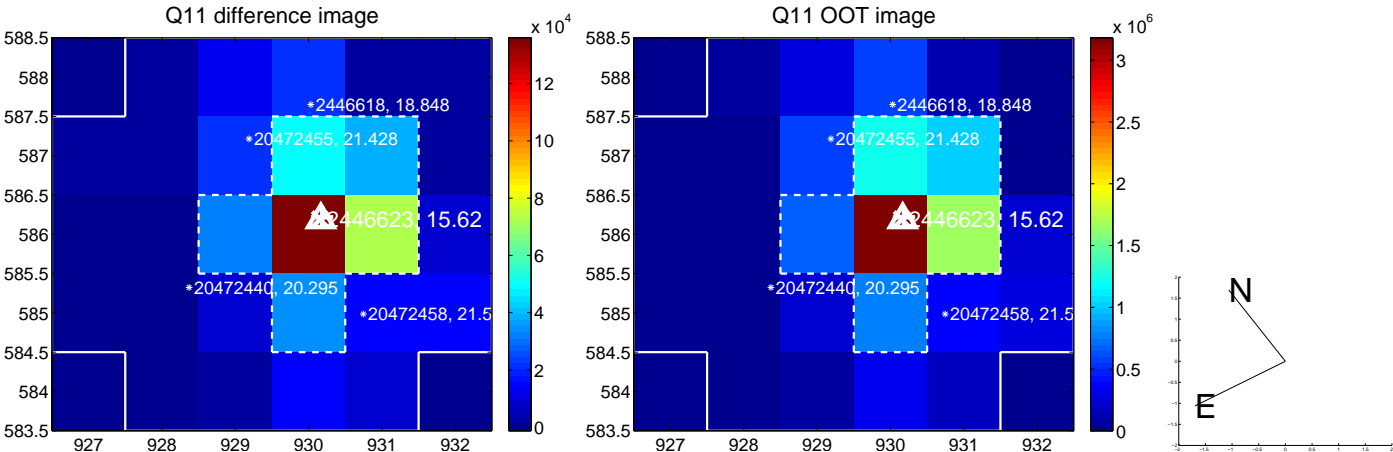
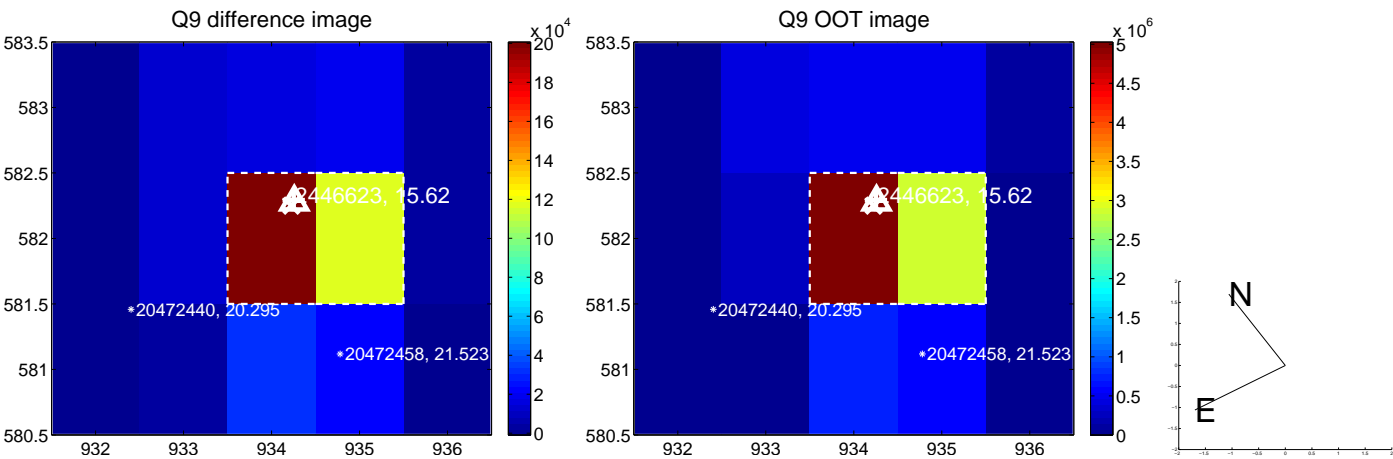
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



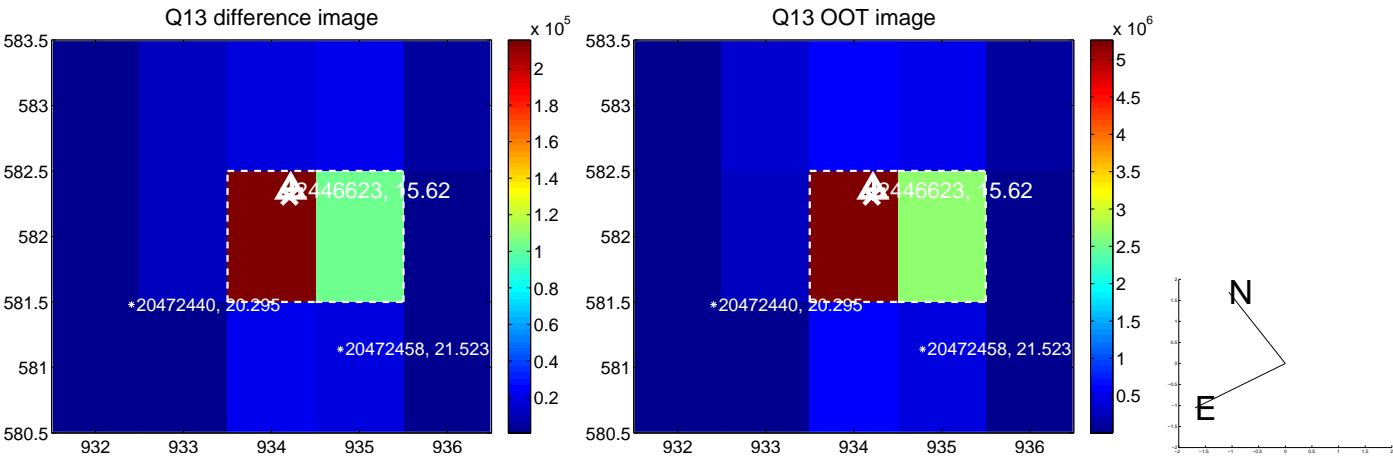
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



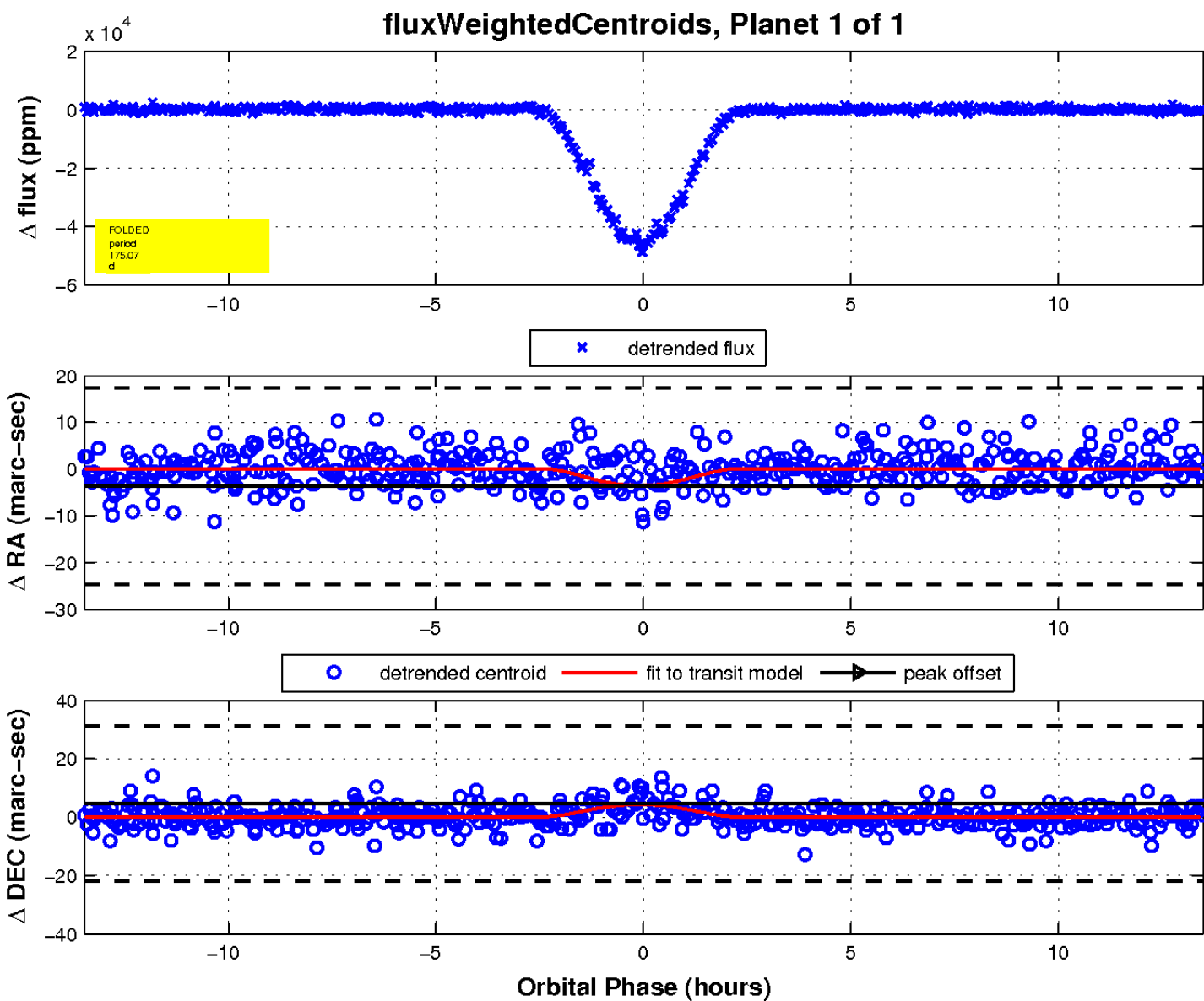
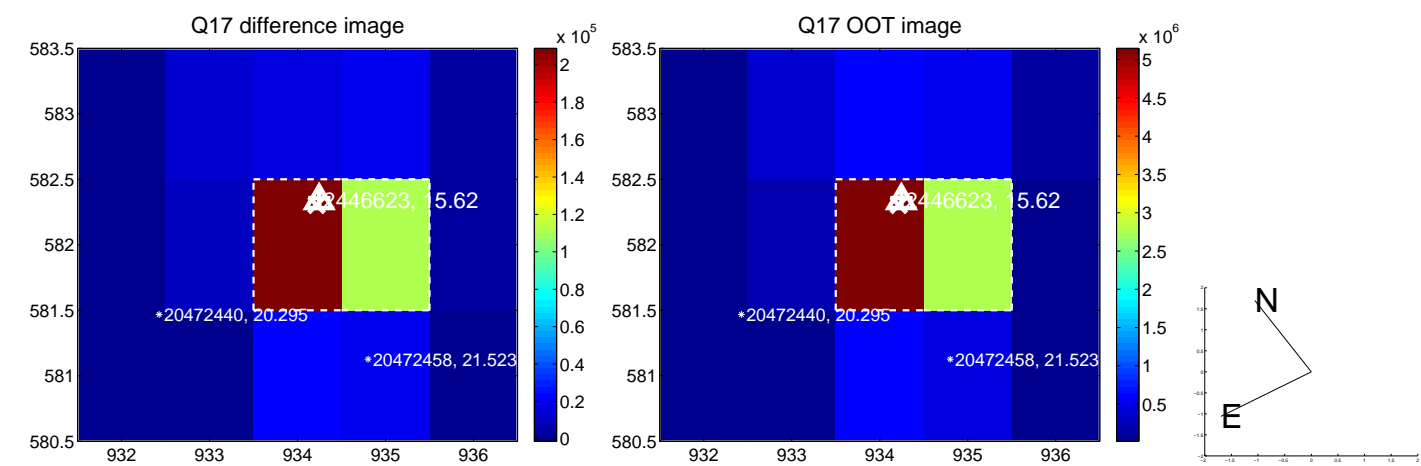
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UKIRT Image

Declination

