

KIC 009390655

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})
009390655-01	OBS	5662.01	9.549916	137.471212	696.2	2.172	10.7	12.1	0.57	3705	1.84	10.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009390655-01	OBS	FP	0.00	0	0	1	1	CENT_KIC_POS—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.

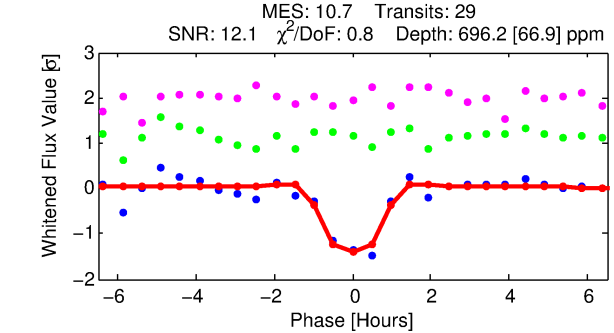
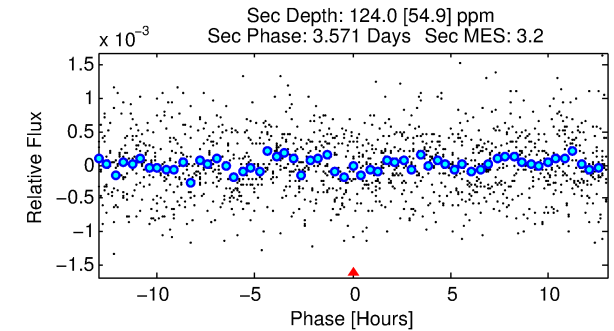
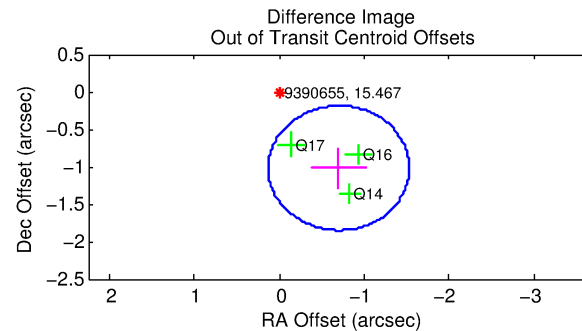
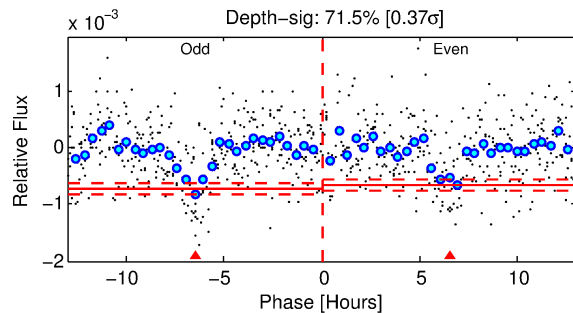
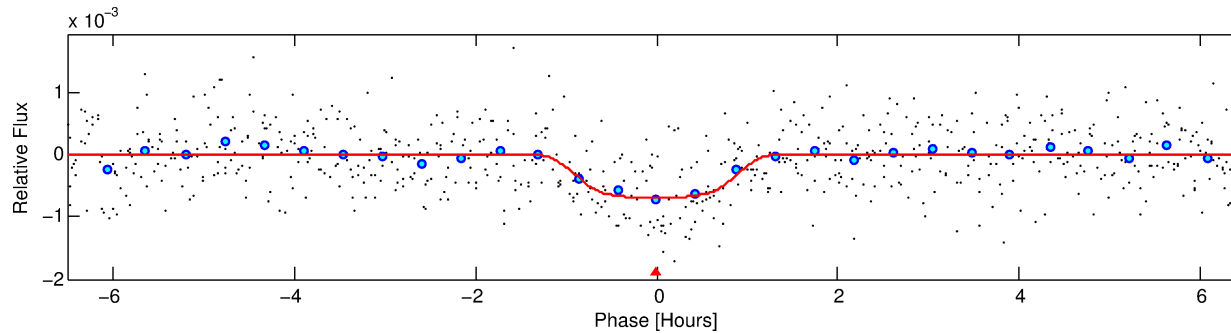
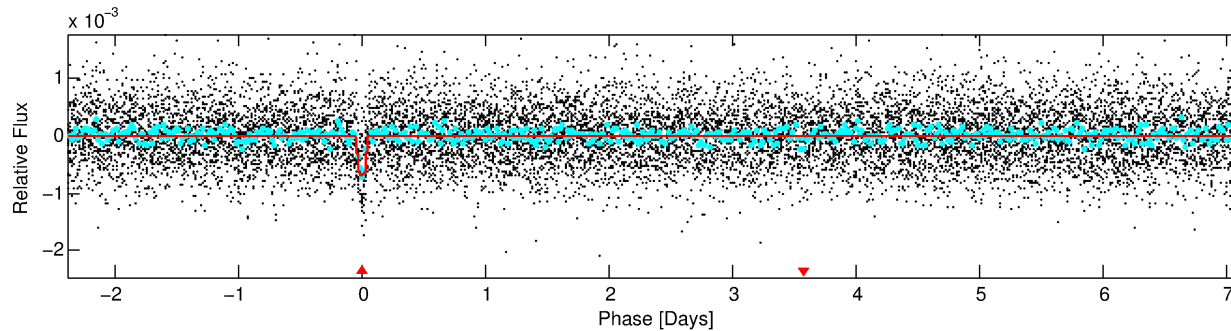
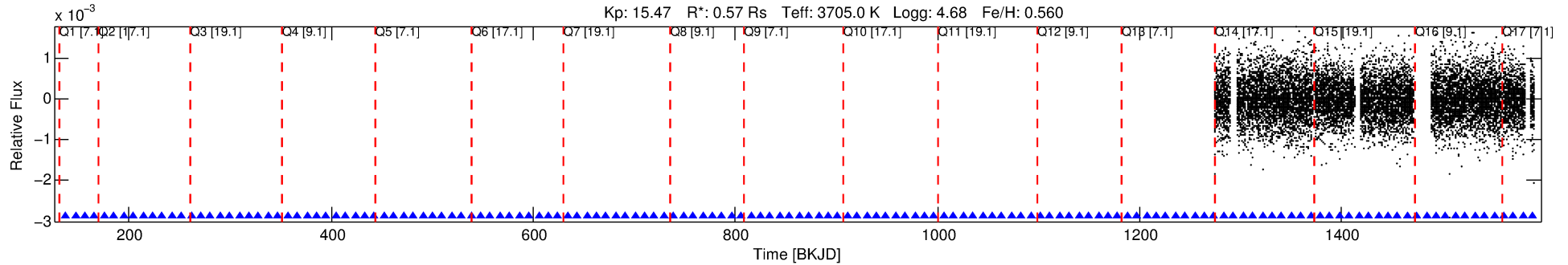
Ephemeris Match Information For 009390655-01

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
009390655-01	9390655	249.01	9390653	1:1	4.3	-1	0	14.49	15.47	2.70	Direct-PRF	0	2.64	2.86

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: 9390655 Candidate: 1 of 1 Period: 9.550 d
KOI: K05662.01 Corr: 0.918



DV Fit Results:

Period = 9.54992 [0.00006] d
Epoch = 137.4712 [0.0072] BKJD
Rp/R* = 0.0297 [0.0132]
a/R* = 16.89 [28.43]
b = 0.90 [0.37]
Seff = 10.25 [2.25]
Teq = 456 [25] K
Rp = 1.84 [0.86] Re
a = 0.0730 [0.0082] AU
Ag = 107.20 [107.86] [0.98 σ]
Teffp = 2270 [572] K [3.17 σ]

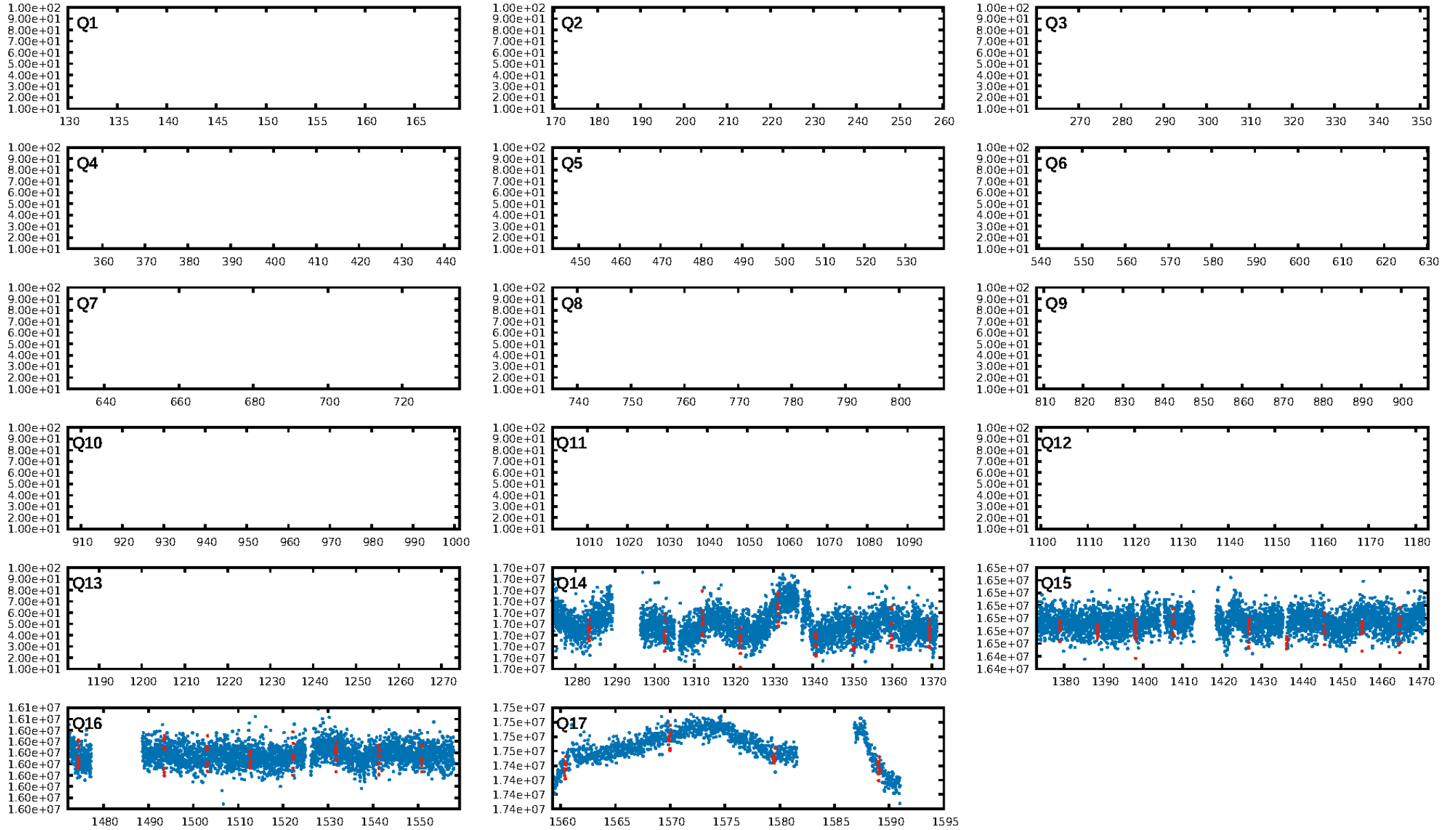
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 53.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.95e-26
RollingBand-fgt: 1.00 [25/25]
GhostDiagnostic-chr: -0.07419
Centroid-sig: 0.0%
Centroid-so: 3.403 arcsec [9.08 σ]
OotOffset-rm: 1.238 arcsec [4.47 σ]
KicOffset-rm: 4.270 arcsec [40.96 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [4/4]

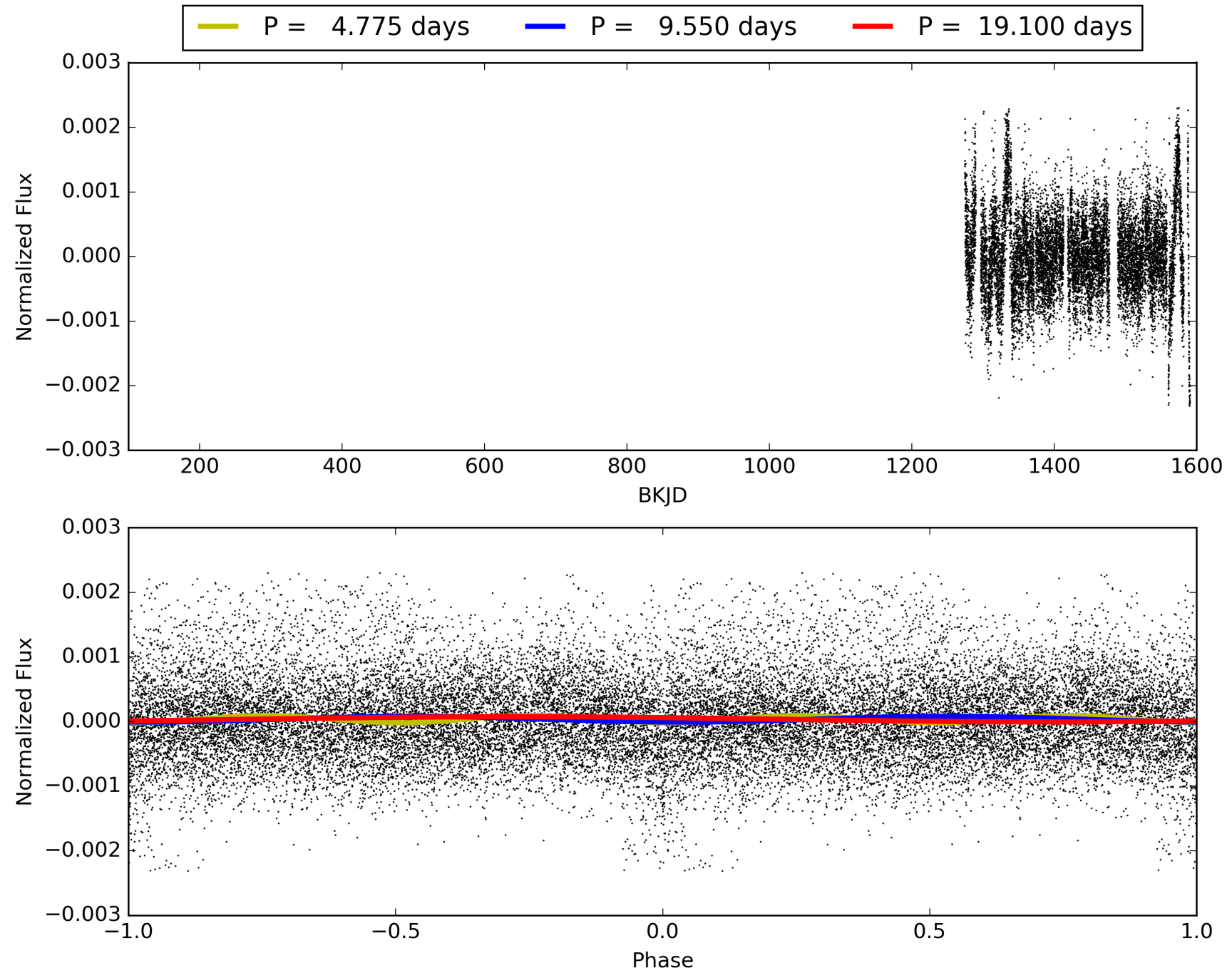
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:26:23 Z

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

TCE 009390655-01, PDC Light Curves

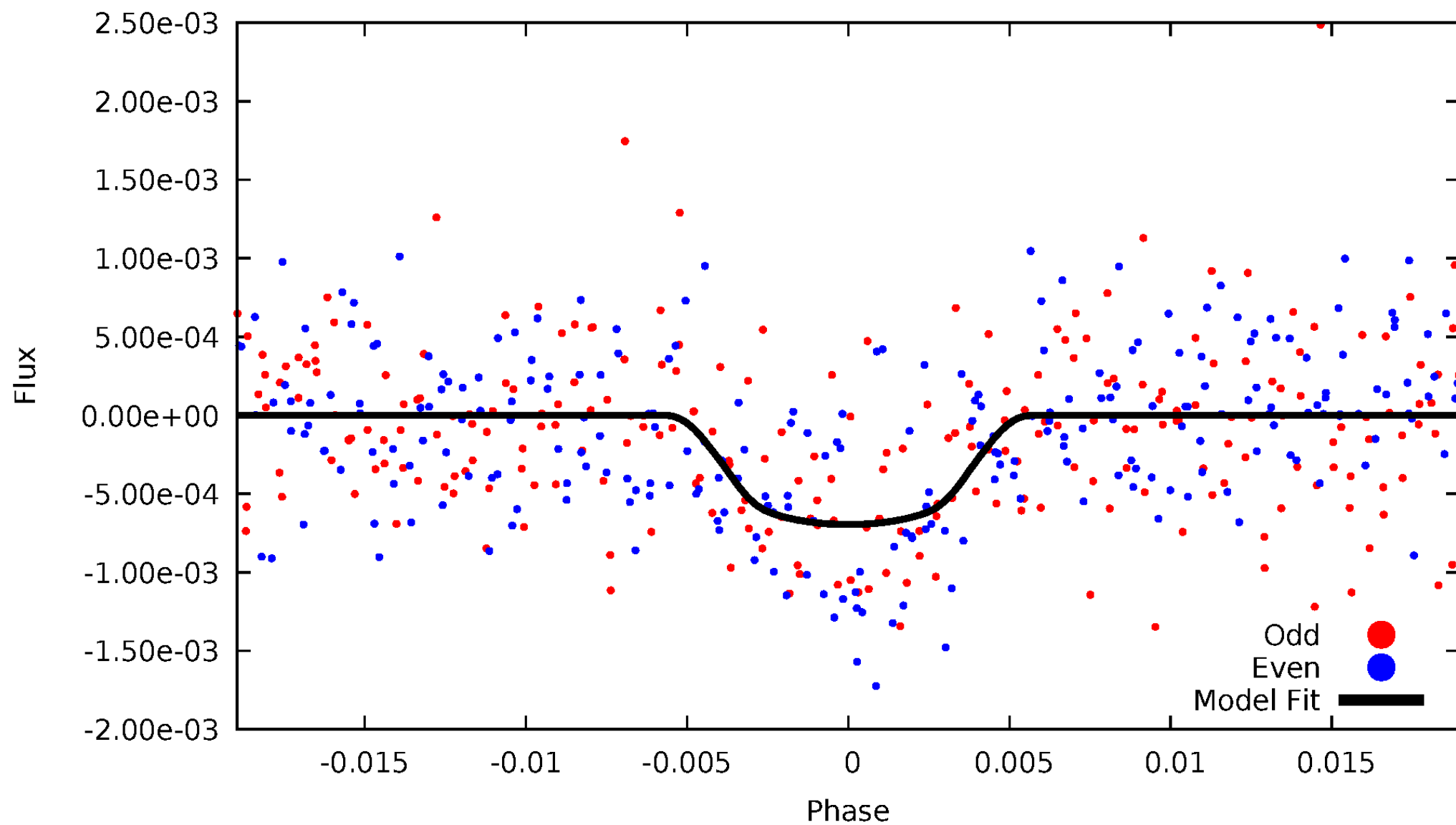


TCE 009390655-01



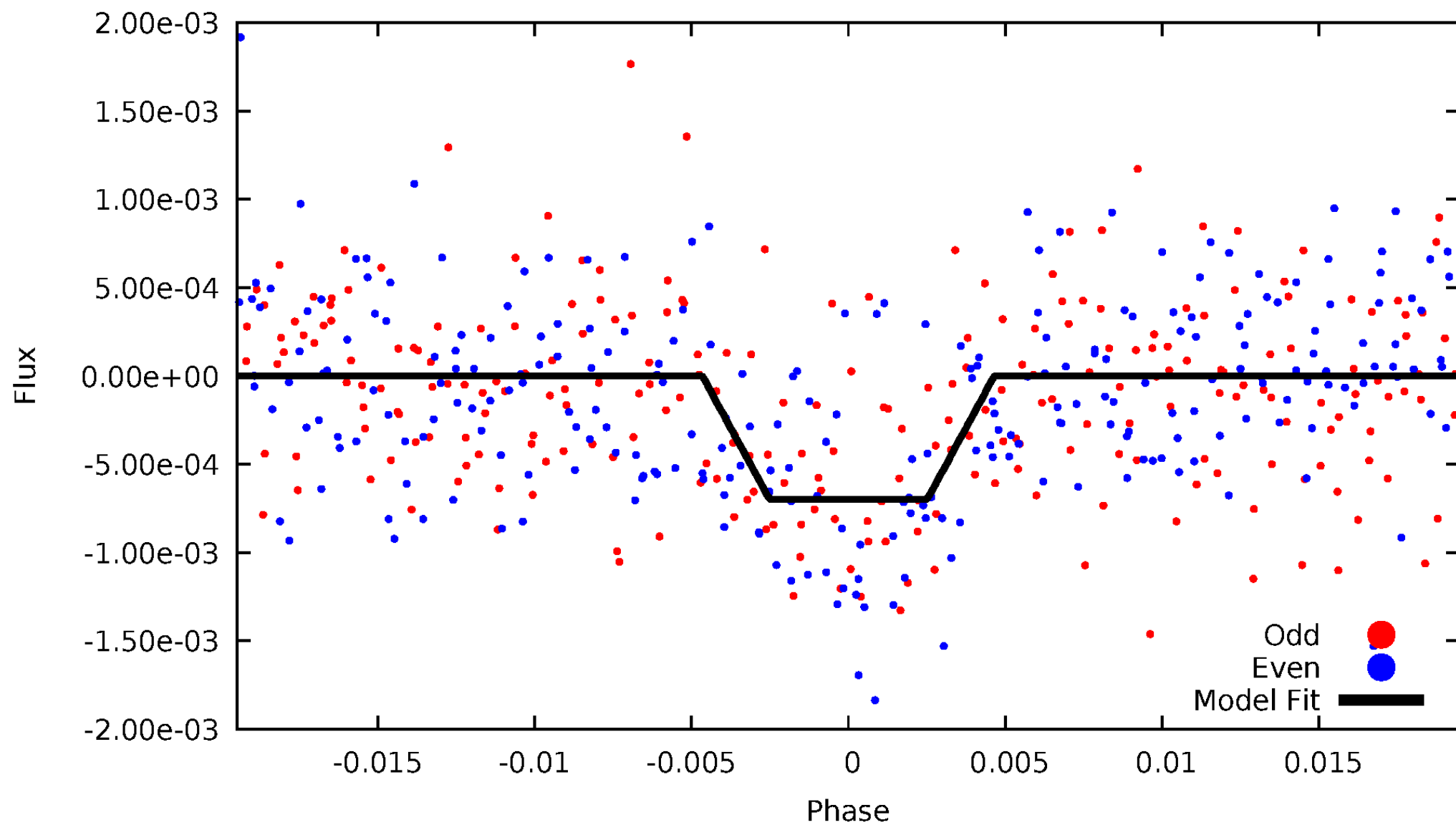
DV Odd/Even

TCE 009390655-01



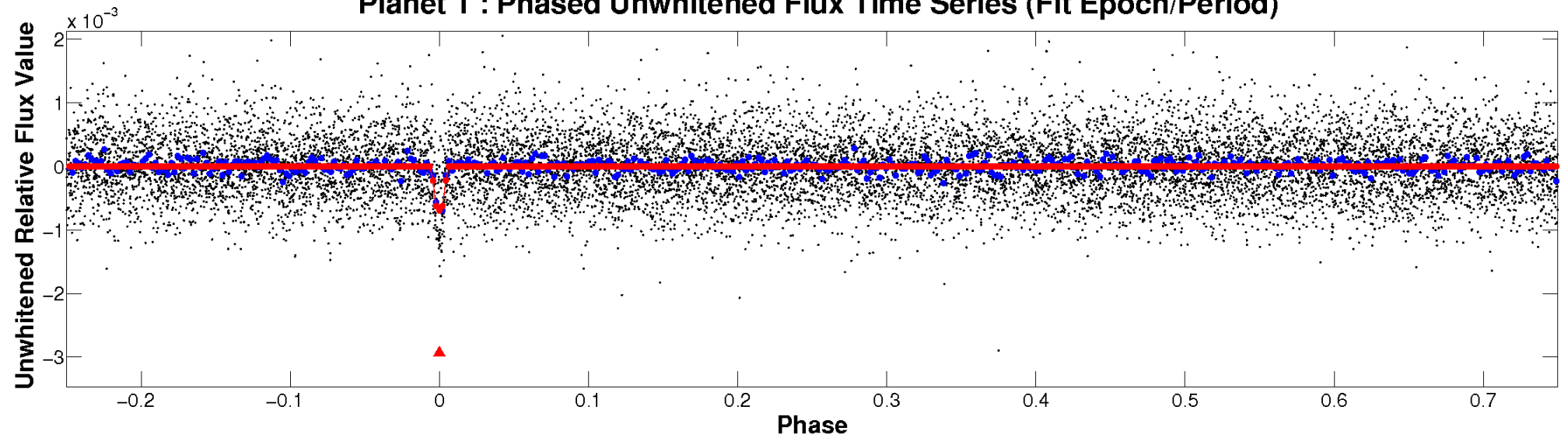
ALT Odd/Even

TCE 009390655-01

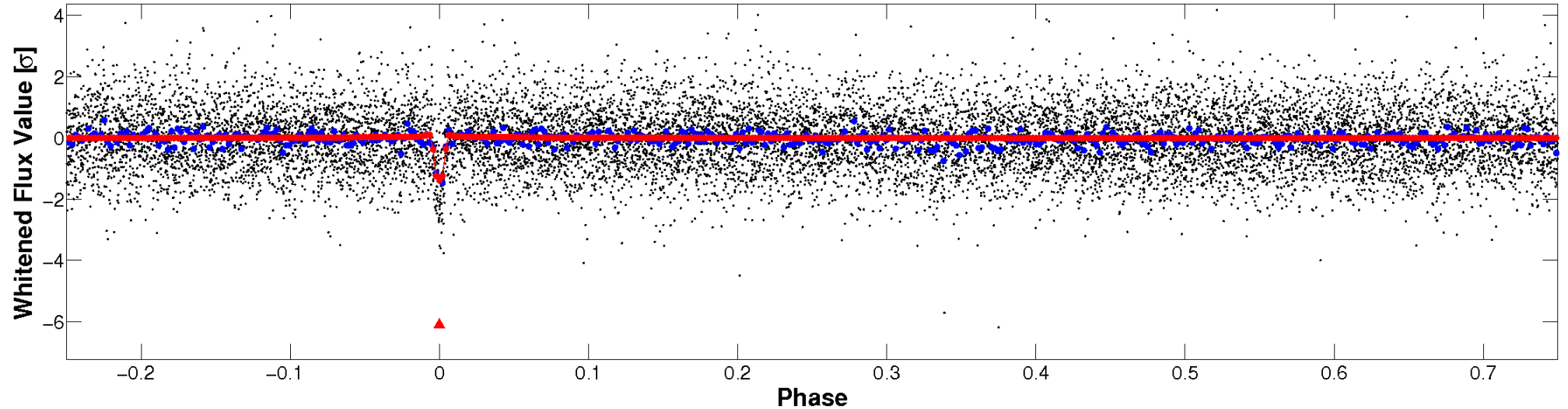


Non-Whitened Vs. Whitened Light Curve

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

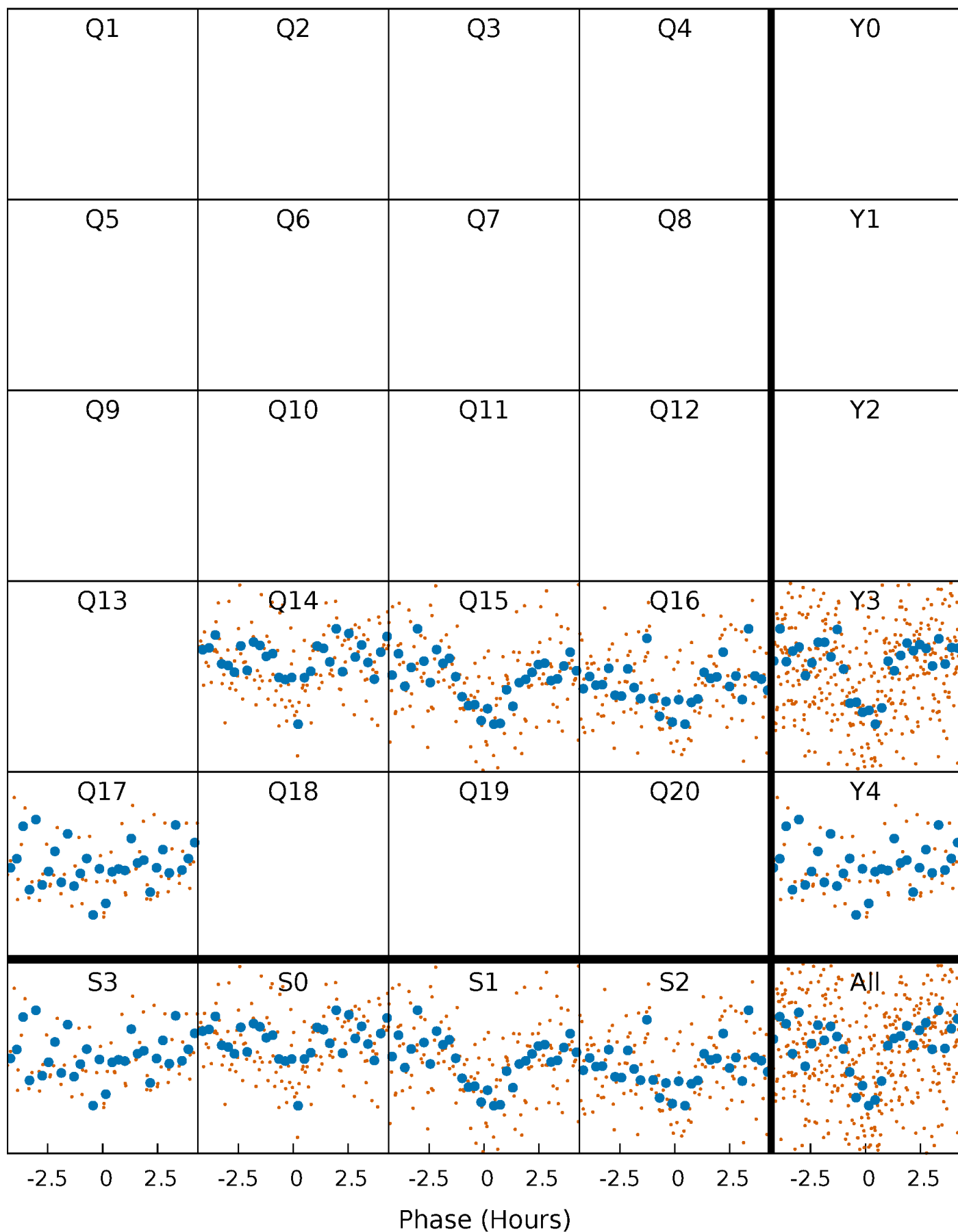


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



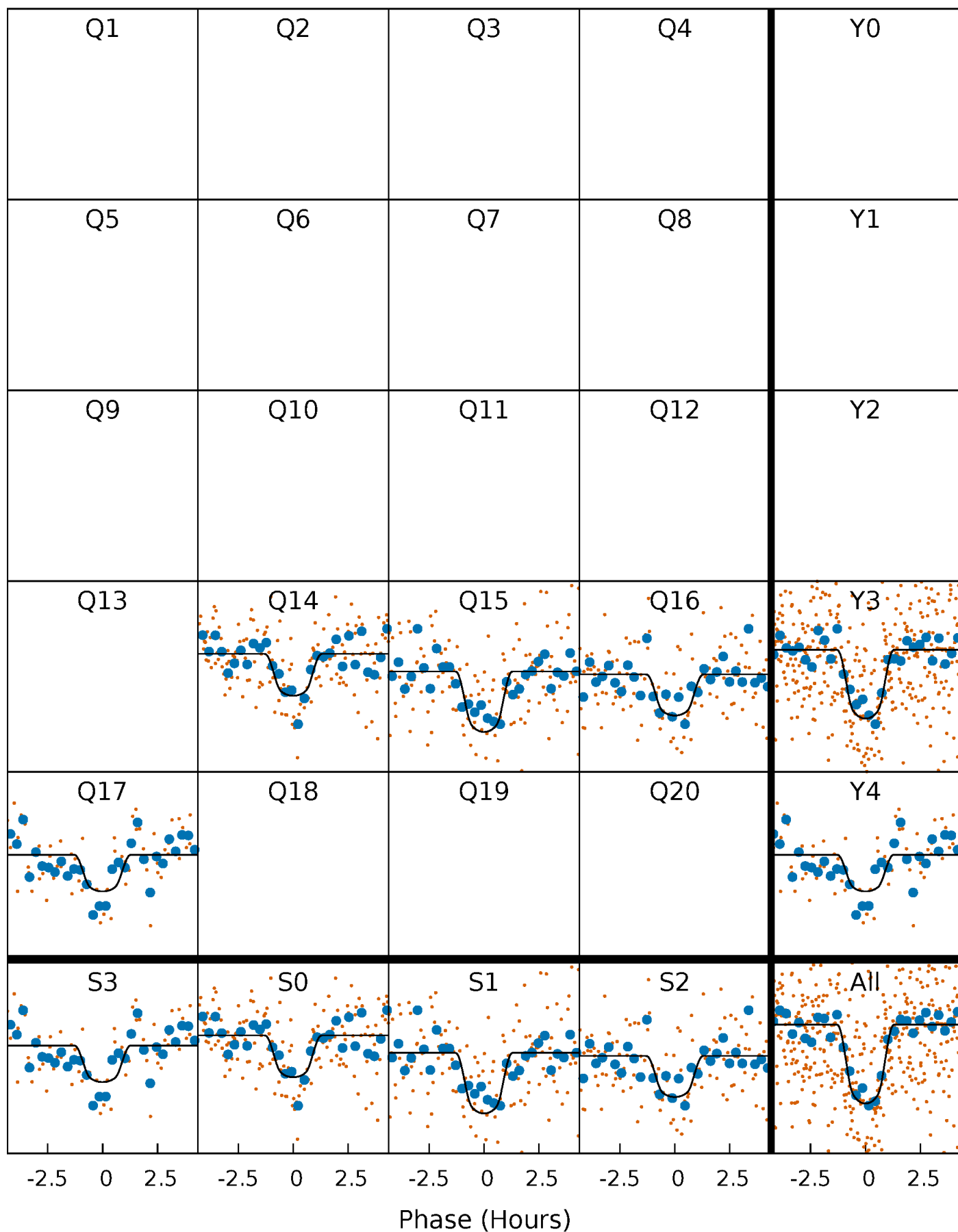
PDC Quarter-Phased Transit Curves

TCE 009390655-01 P= 9.549916 Days $T_0=137.471212$ (BKJD)



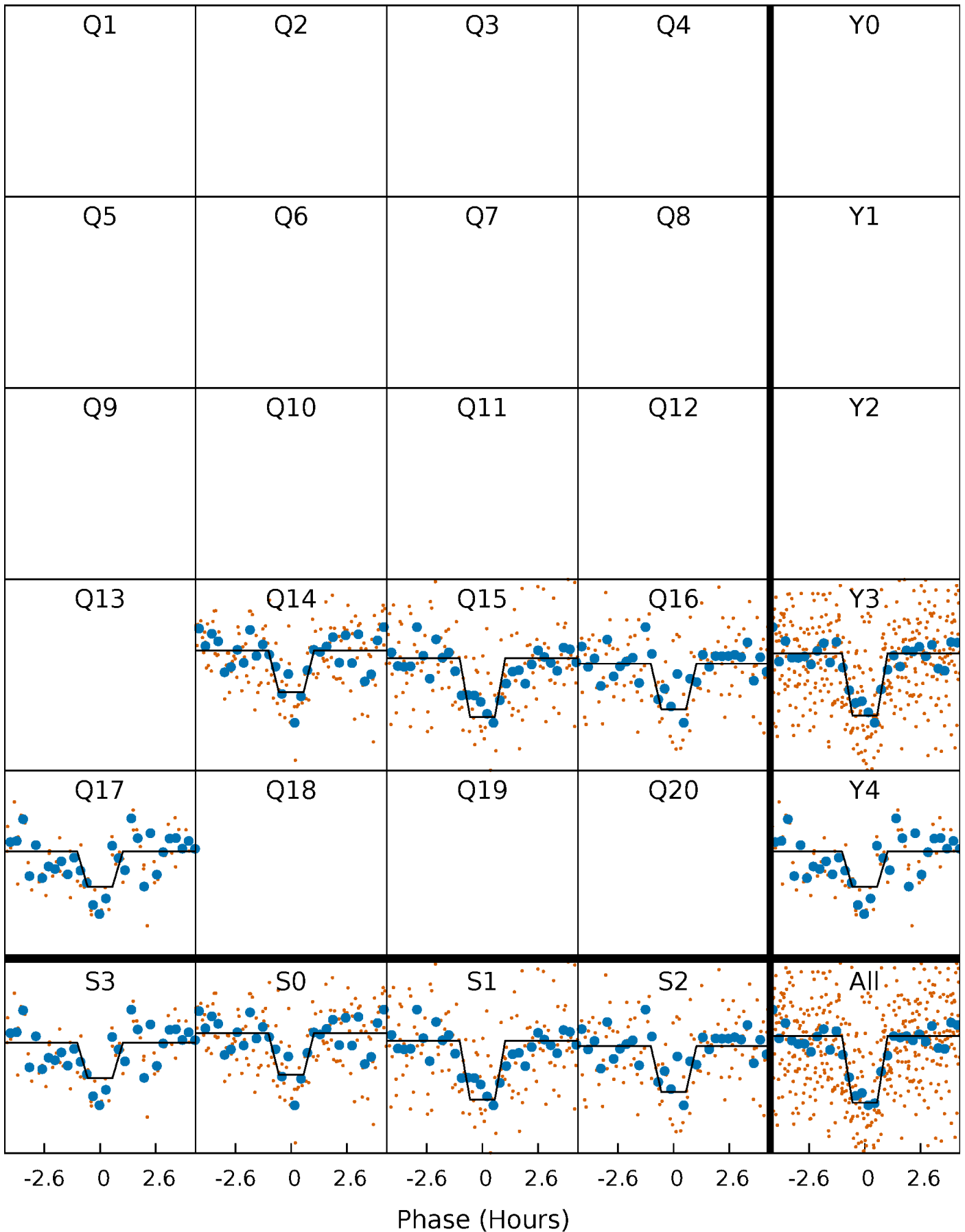
DV Quarter-Phased Transit Curves

TCE 009390655-01 P= 9.549916 Days $T_0=137.471212$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

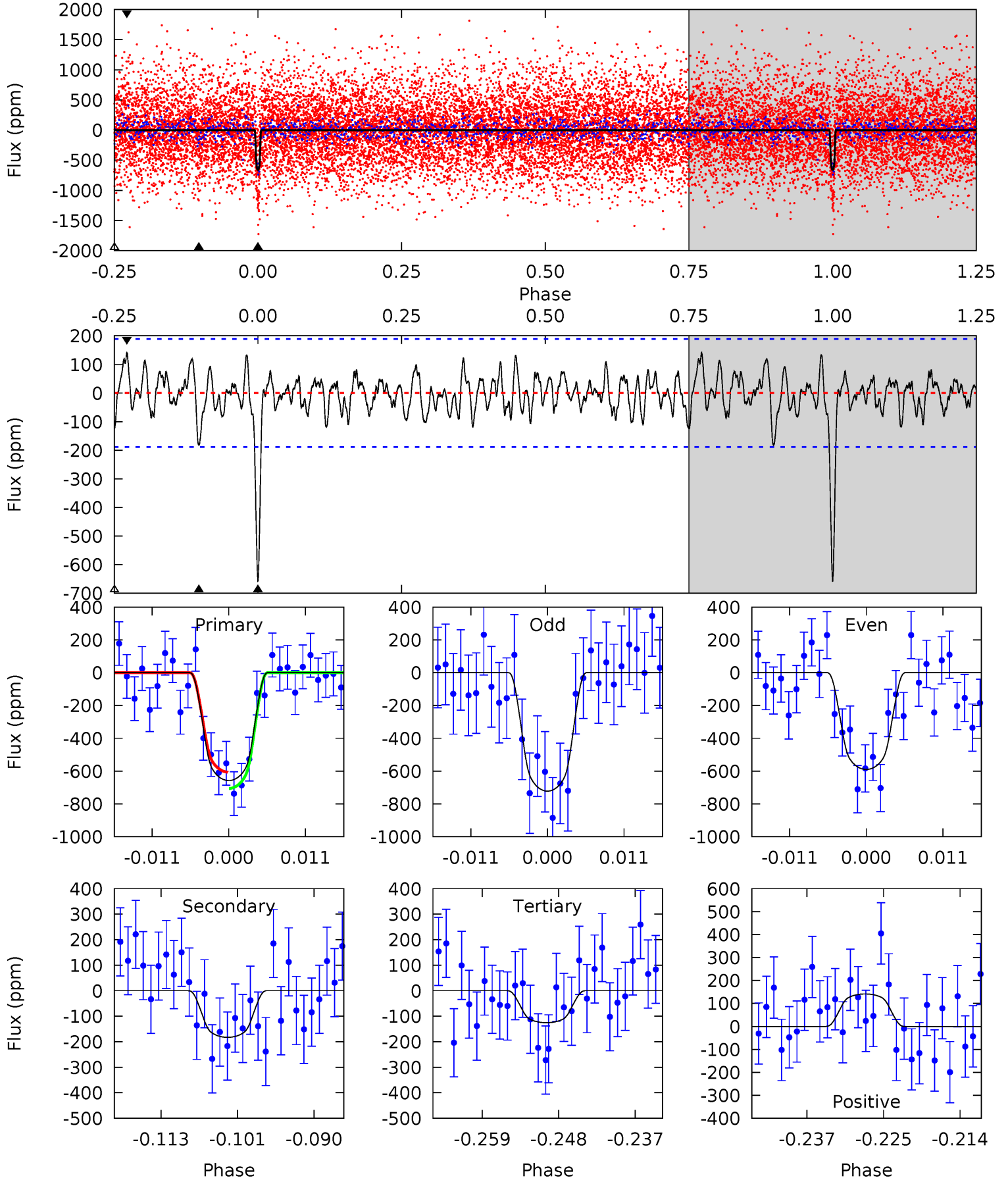
TCE 009390655-01 P= 9.549880 Days $T_0=137.475696$ (BKJD)



DV Model-Shift Uniqueness Test

009390655-01, P = 9.549916 Days, E = 137.471212 Days

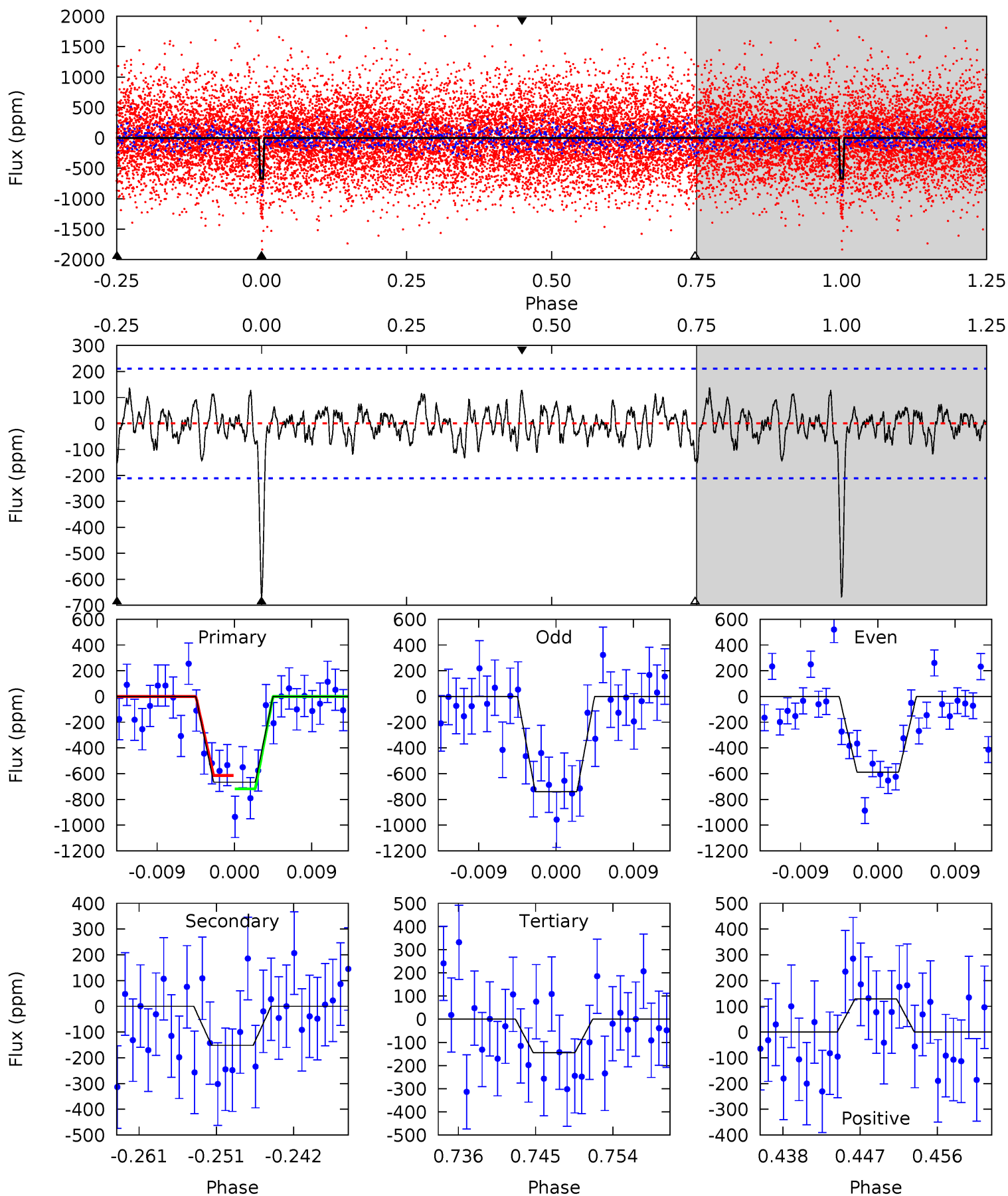
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	4.84	3.32	3.75	5.00	2.53	1.36	14.1	13.7	1.52	1.10	1.76	1.01	0.18	1.32



Alt Model-Shift Uniqueness Test

009390655-01, P = 9.549880 Days, E = 137.475696 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.9	3.63	3.47	3.08	5.04	2.60	1.20	12.5	12.9	0.16	0.55	1.81	0.93	0.17	1.24



Stellar Parameters For KIC 009390655

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3705^{+118}_{-148}	$4.683^{+0.075}_{-0.020}$	$0.560^{+0.050}_{-0.300}$	$0.569^{+0.033}_{-0.082}$	$0.570^{+0.036}_{-0.072}$	$4.352^{+1.705}_{-0.427}$
	+3%/-4%	+2%/-0%	+9%/-54%	+6%/-14%	+6%/-13%	+39%/-10%
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 009390655-01 / KOI 5662.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-183 ± 38	$1.83^{+0.81}_{-0.82}$	629^{+23}_{-28}	2903^{+576}_{-284}	162^{+369}_{-87}
Alt.	-152 ± 42	$1.62^{+0.82}_{-0.73}$	629^{+23}_{-29}	2906^{+624}_{-315}	166^{+401}_{-94}

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 $A_{obs} \gg 1.0$

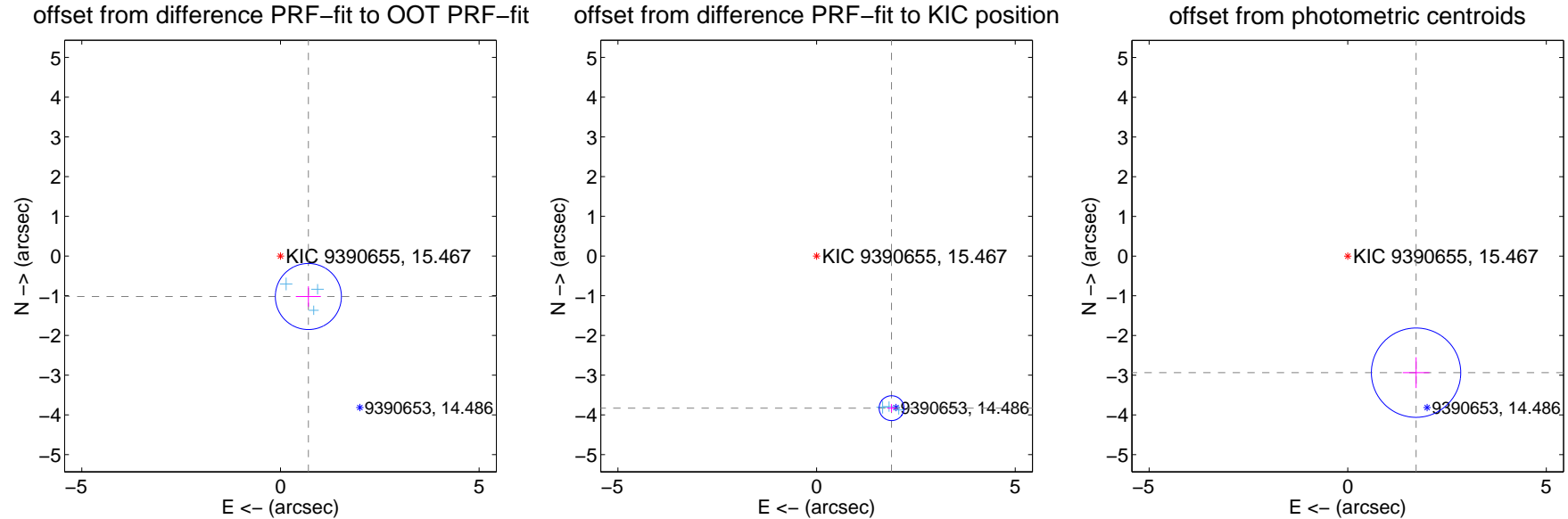
DV Centroid Data

Supplemental centroid analysis for 009390655-01. Kepler magnitude: 15.47. Transit SNR 12.11

There are 3 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 3.46 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.238 ± 0.277	4.47	-0.703 ± 0.315	-1.019 ± 0.257
PRF-fit source offset from KIC position	4.270 ± 0.104	40.96	-1.887 ± 0.108	-3.831 ± 0.103
photometric centroid source offset	3.40 ± 0.37	9.08	-1.72 ± 0.33	-2.94 ± 0.39



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.



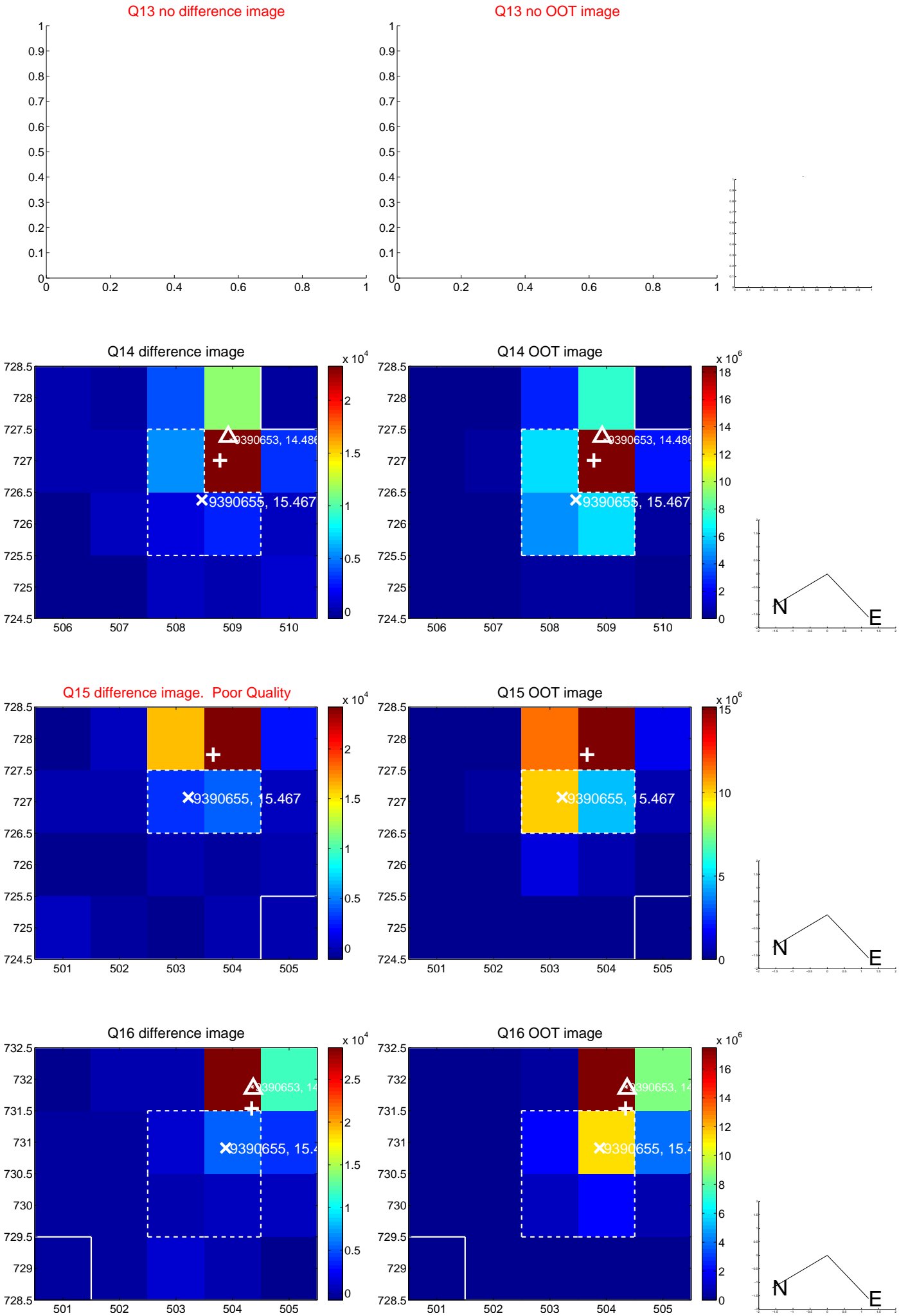
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



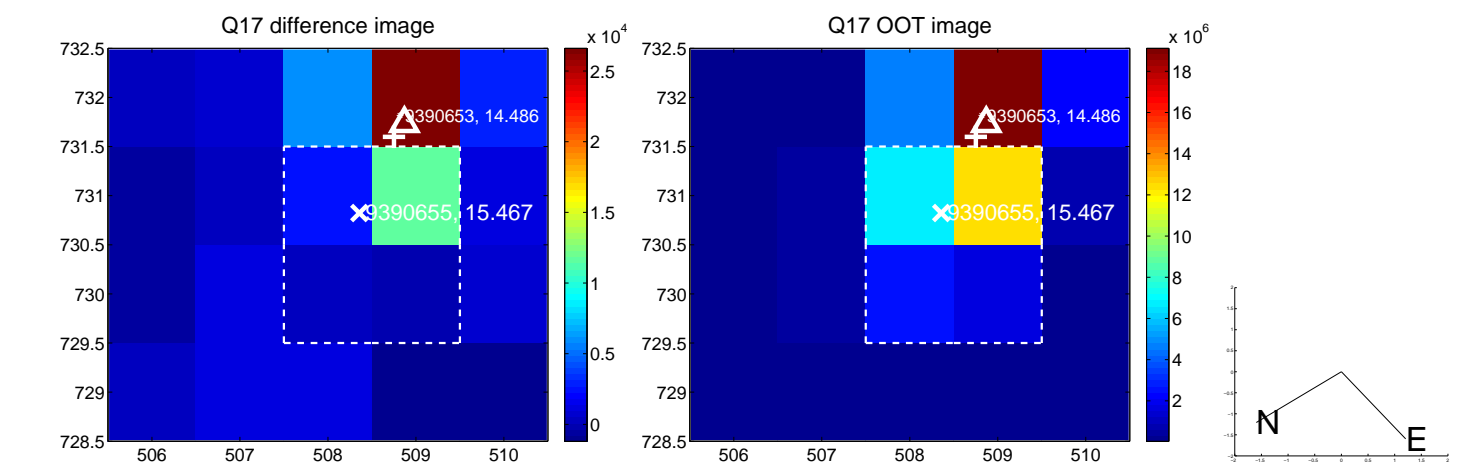
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



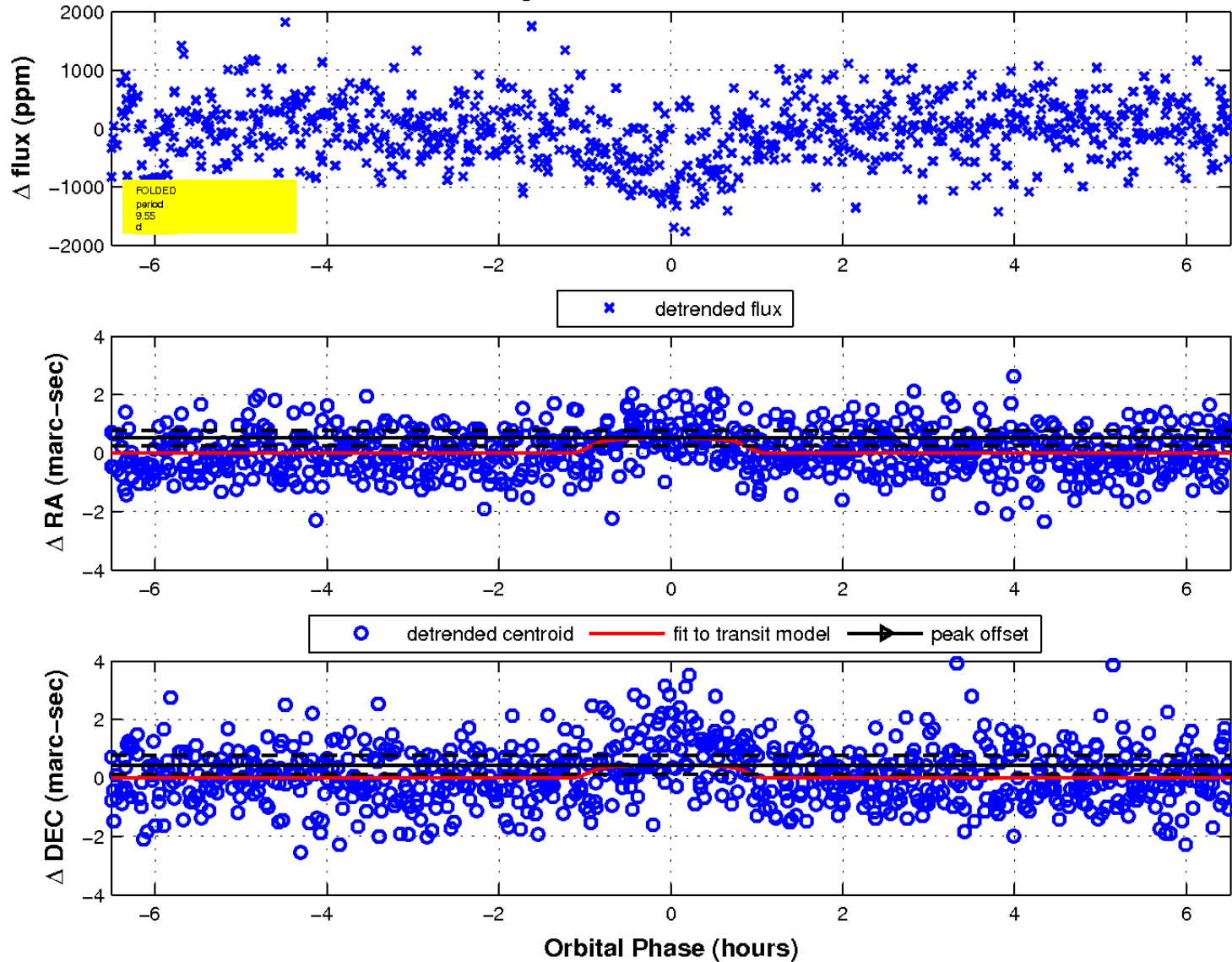
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

