

KIC 009532710

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})
009532710-01	OBS	2364.01	5.242428	133.229099	315.6	6.290	17.2	18.2	1.83	5383	3.72	827.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009532710-01	OBS	FP	0.30	1	0	0	0	LPP_DV

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 009532710-01

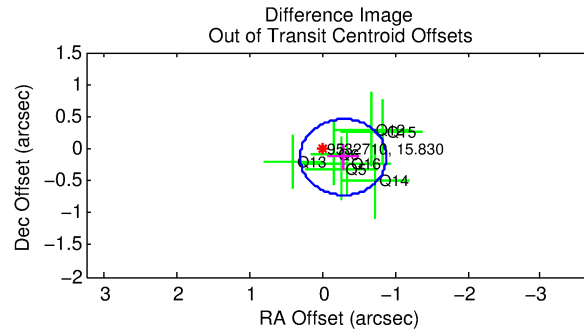
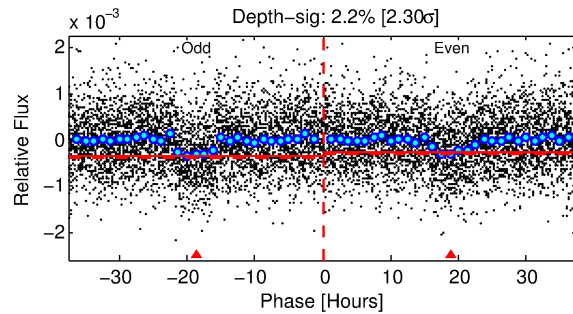
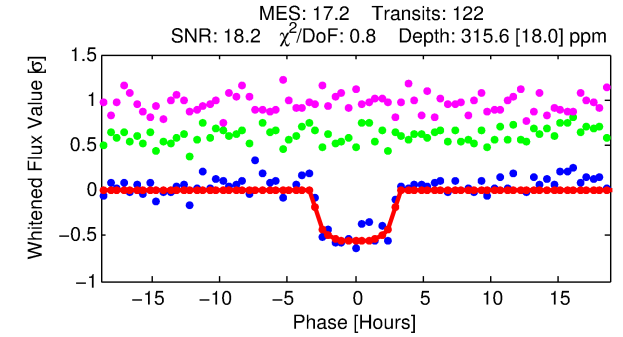
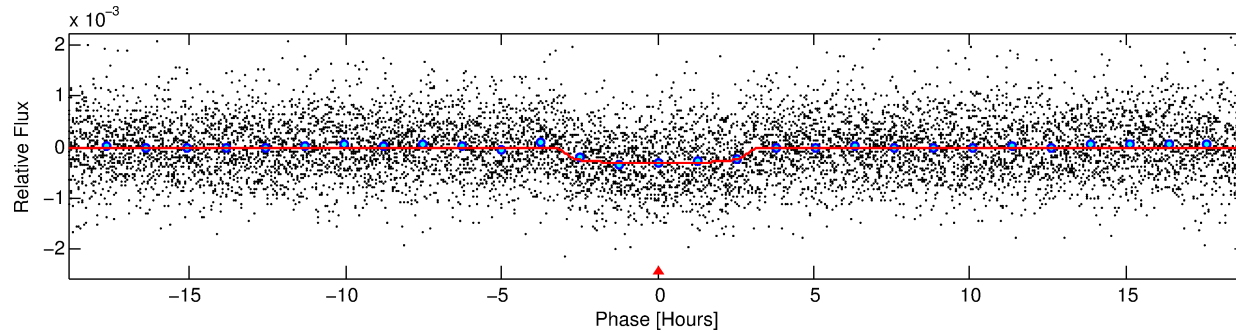
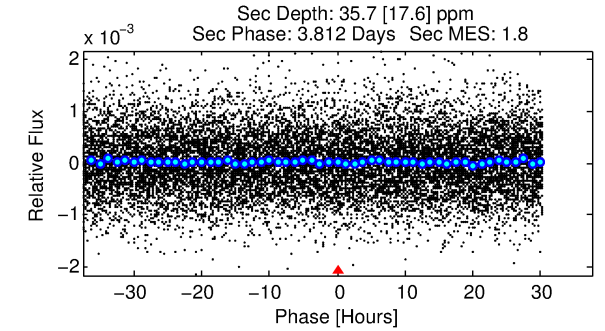
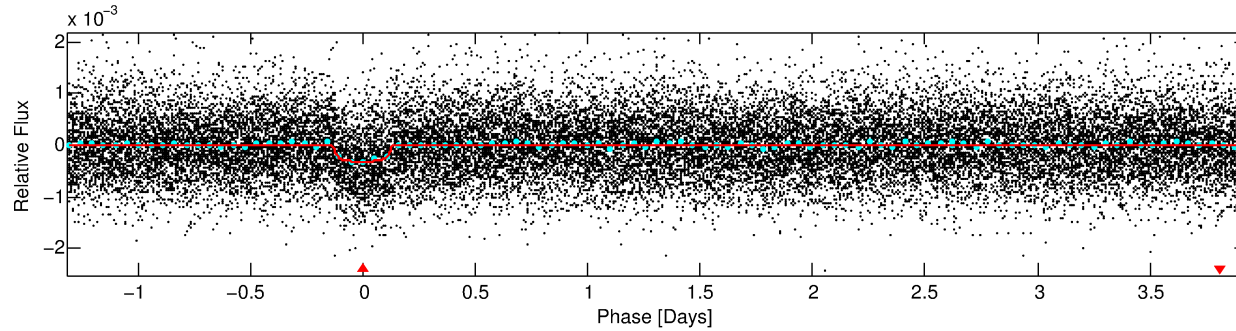
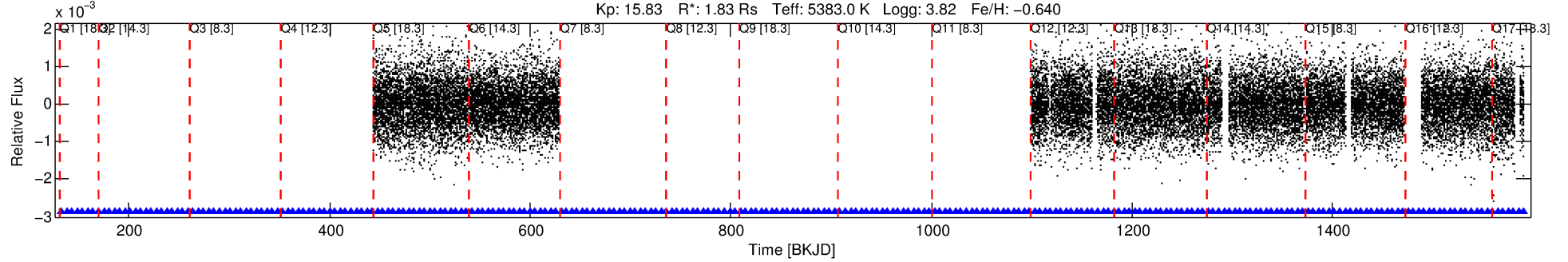
No Significant Match Found

DV One-Page Summary

KIC: 9532710 Candidate: 1 of 1 Period: 5.242 d

KOI: K02364.01 Corr: 0.984

Kp: 15.83 R*: 1.83 Rs Teff: 5383.0 K Logg: 3.82 Fe/H: -0.640



DV Fit Results:

Period = 5.24243 [0.00004] d
Epoch = 133.2291 [0.0060] BKJD
Rp/R* = 0.0186 [0.0044]
a/R* = 3.67 [3.61]
b = 0.85 [0.35]
Seff = 827.48 [1069.78]
Teq = 1368 [442] K
Rp = 3.72 [2.48] Re
a = 0.0551 [0.0406] AU
Ag = 4.32 [6.28] [0.53σ]
Teffp = 3049 [531] K [2.43σ]

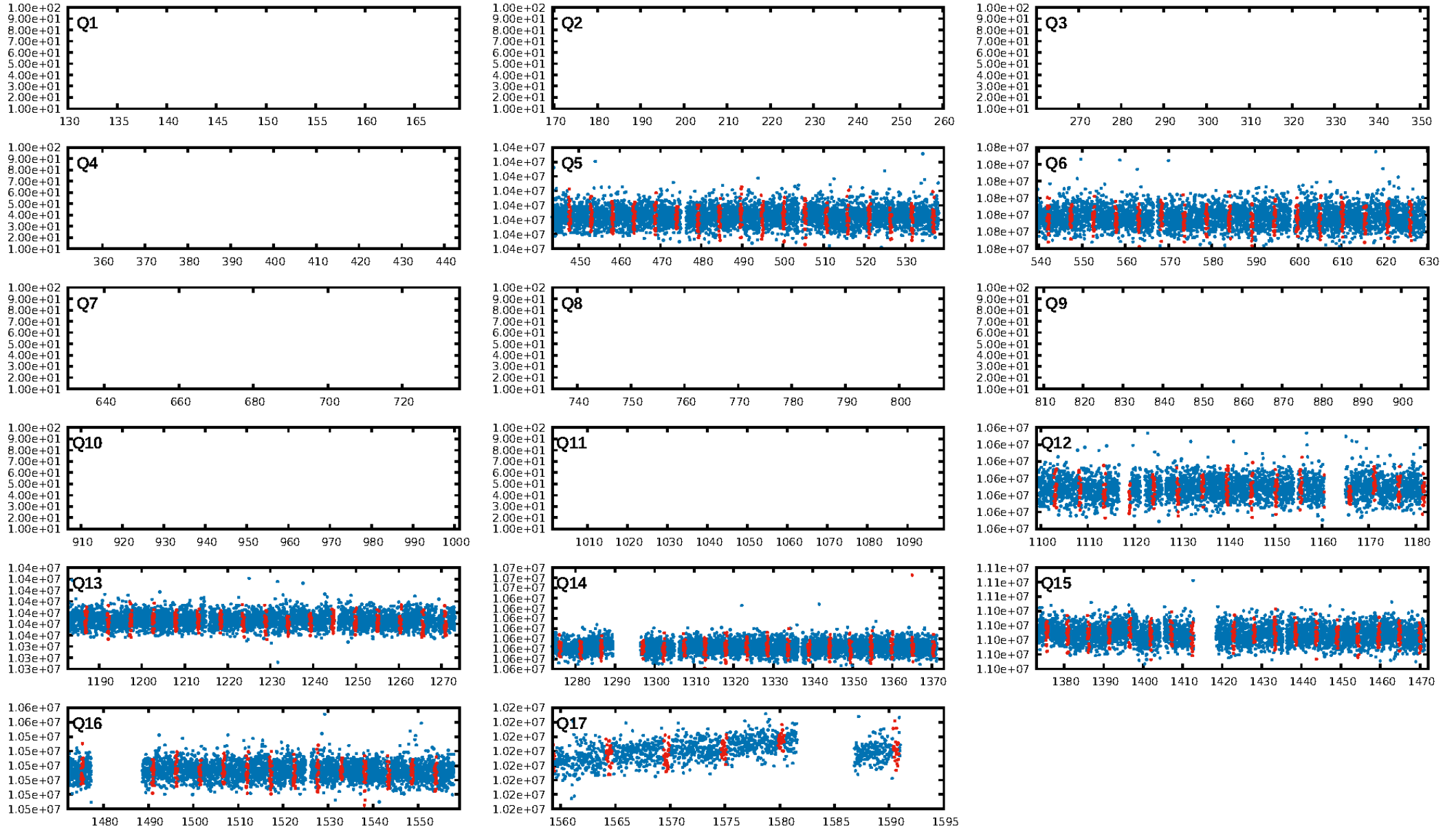
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 81.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.23e-66
RollingBand-fgt: 1.00 [116/116]
GhostDiagnostic-chr: 1.893
Centroid-sig: 6.7%
Centroid-so: 1.363 arcsec [1.71σ]
OotOffset-rm: 0.317 arcsec [1.61σ]
KicOffset-rm: 0.590 arcsec [2.96σ]
OotOffset-st: 2/1/2/2 [7]
KicOffset-st: 2/1/2/2 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [8/8]

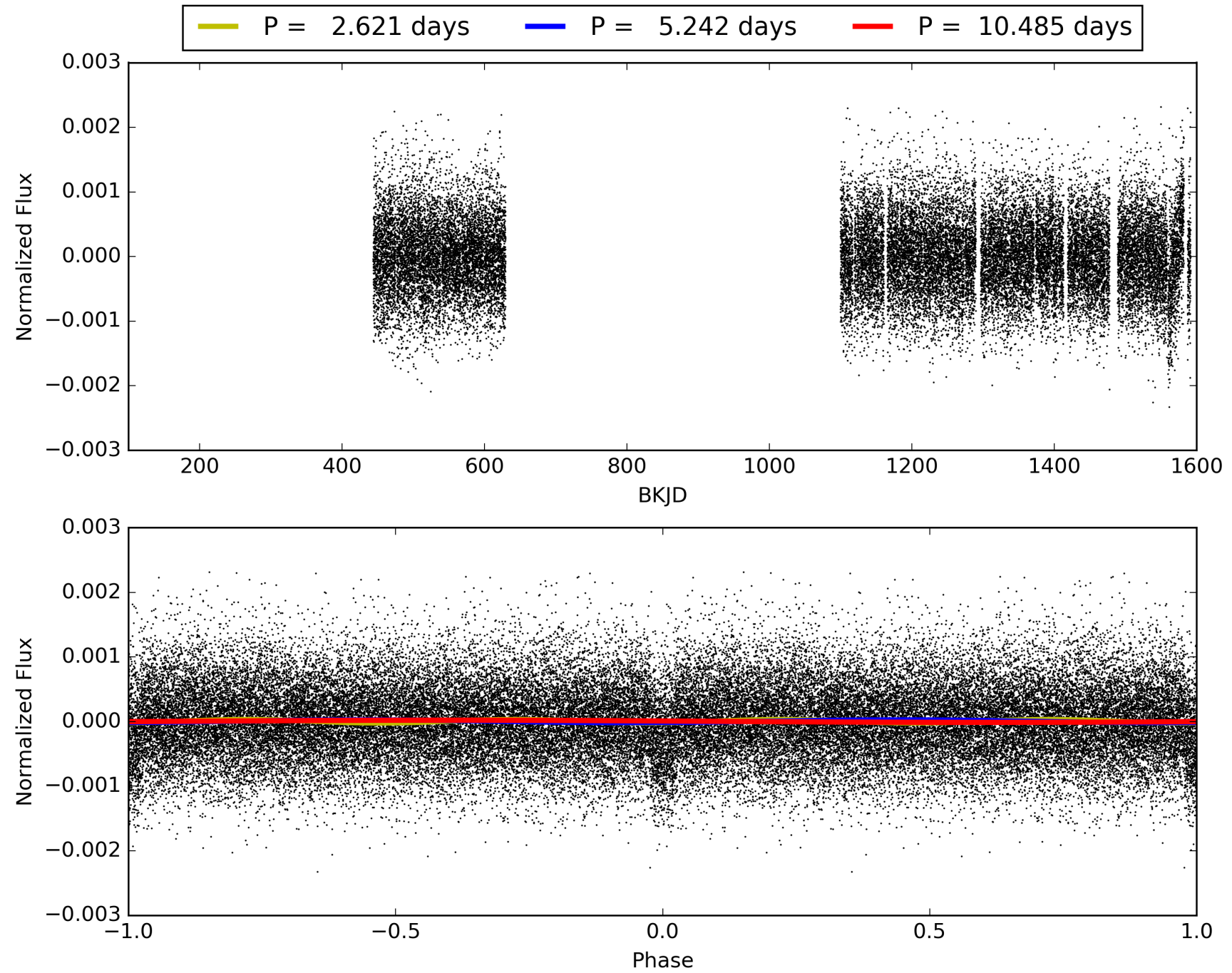
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:27:21 Z

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

TCE 009532710-01, PDC Light Curves

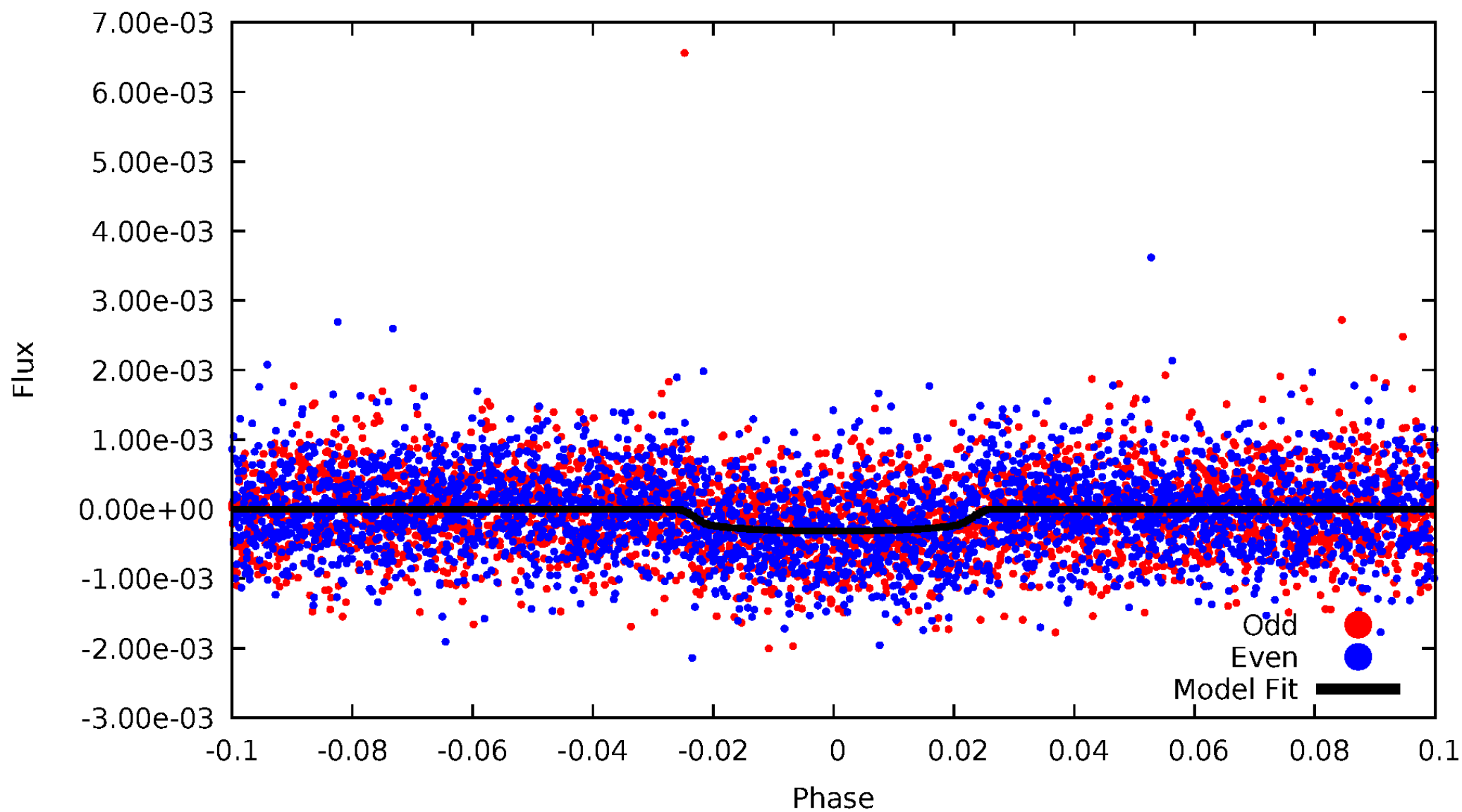


TCE 009532710-01



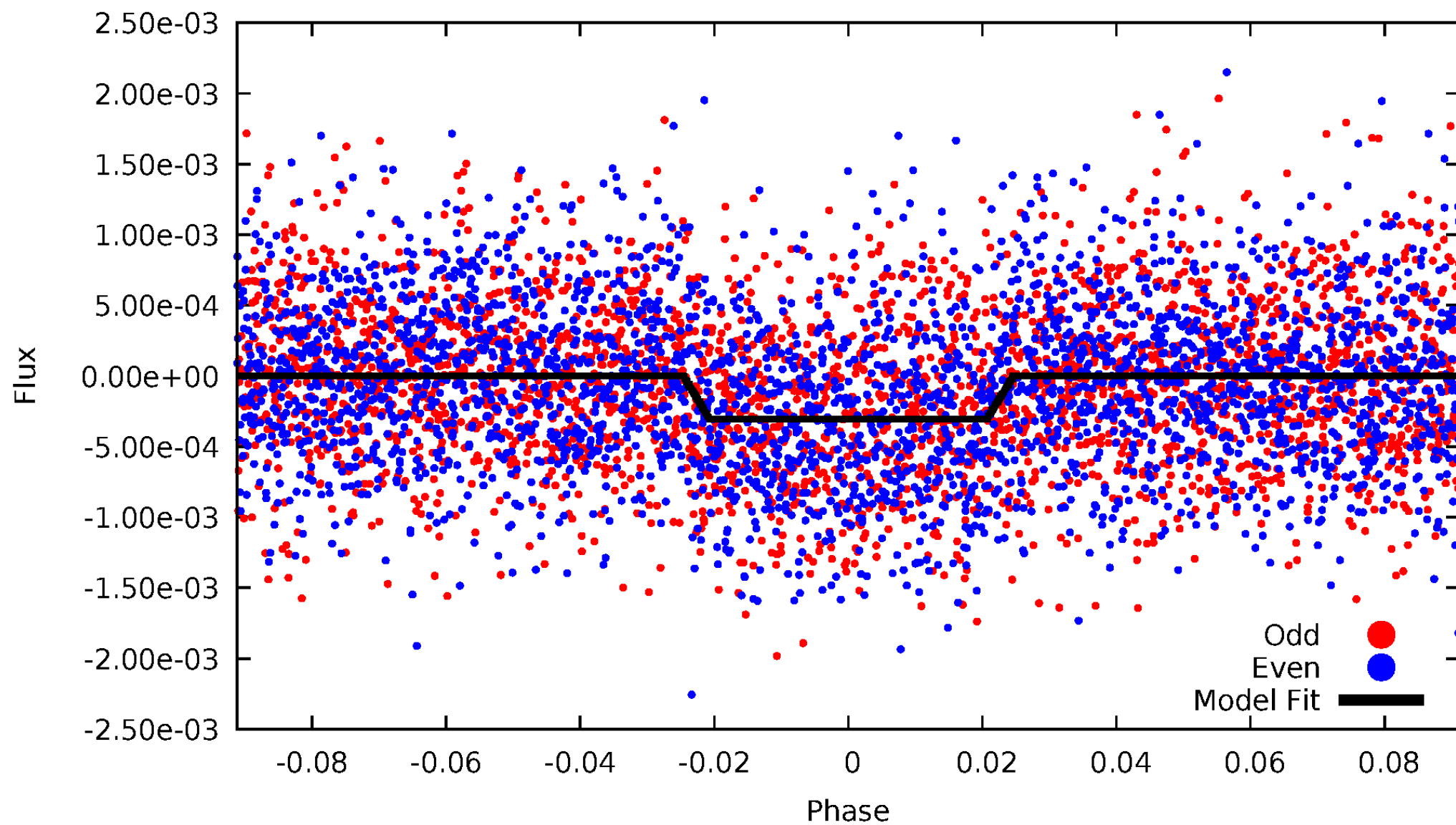
DV Odd/Even

TCE 009532710-01

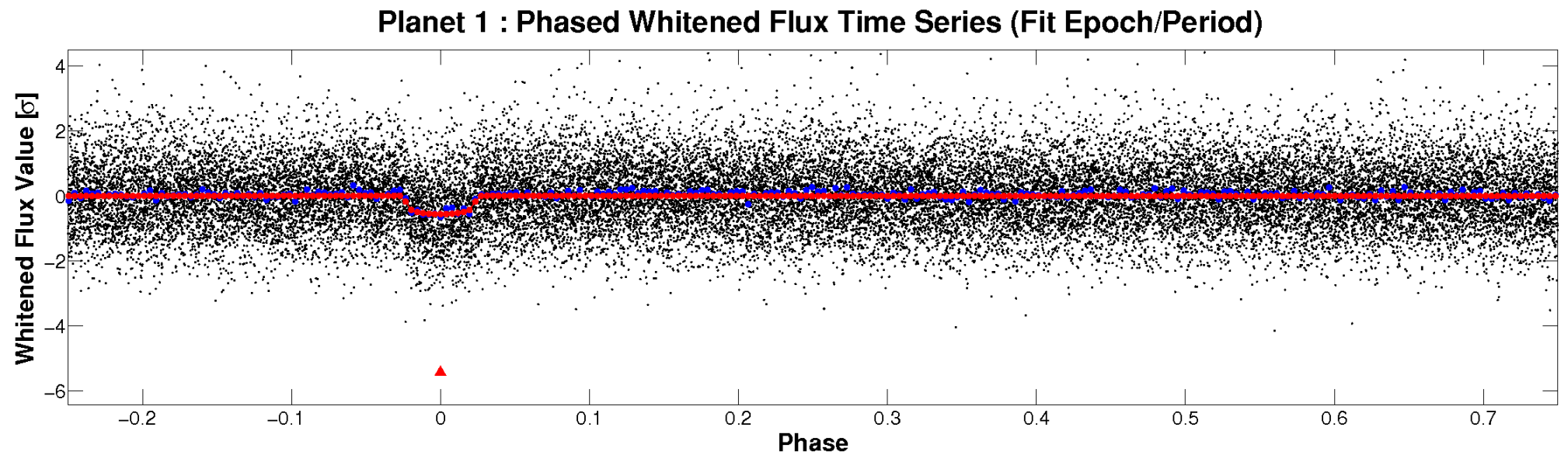
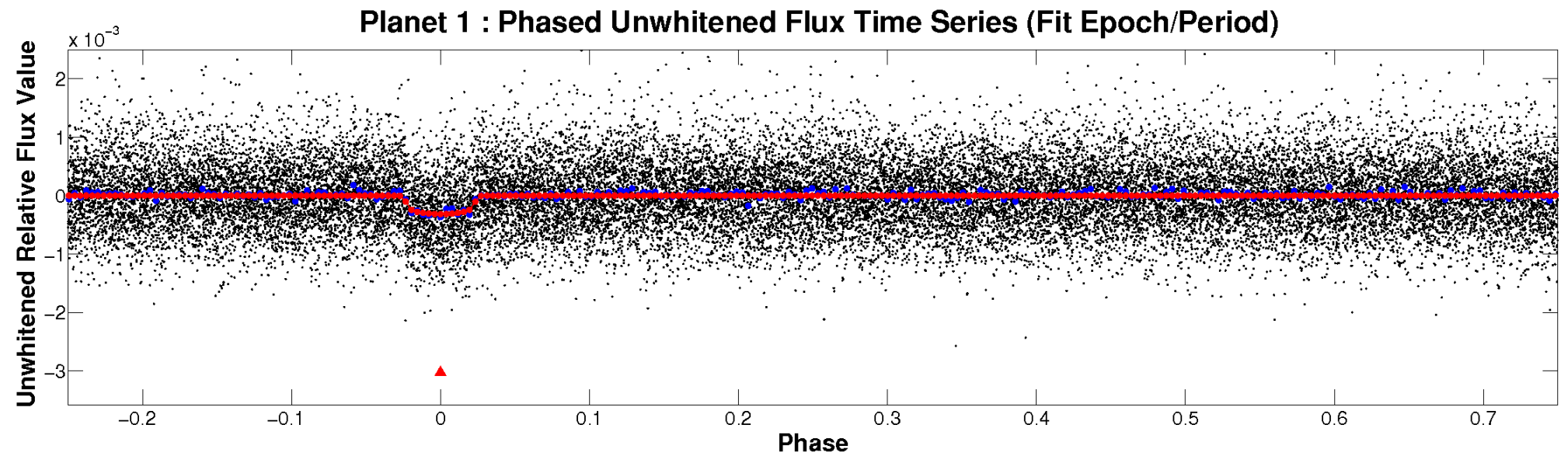


ALT Odd/Even

TCE 009532710-01

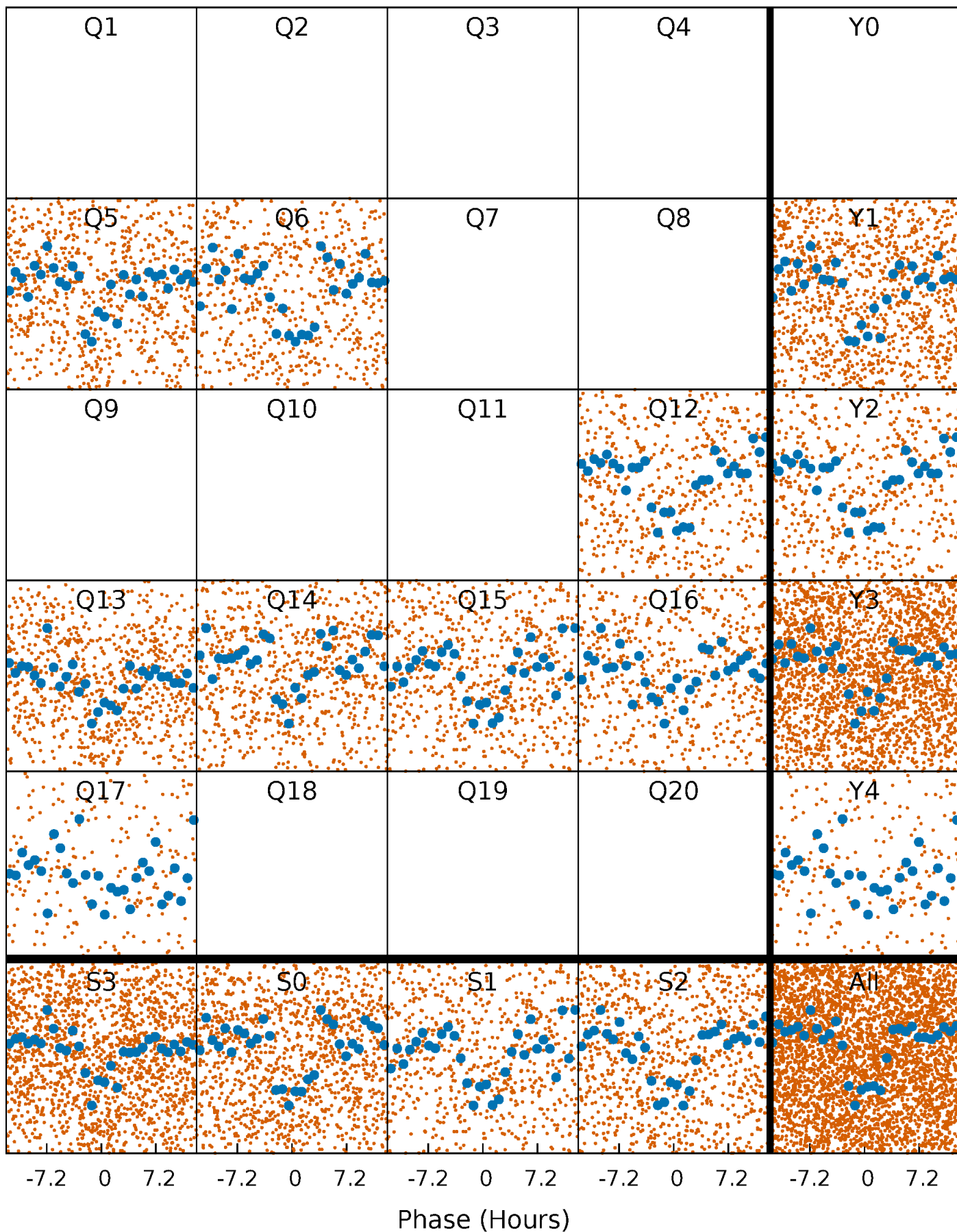


Non-Whitened Vs. Whitened Light Curve



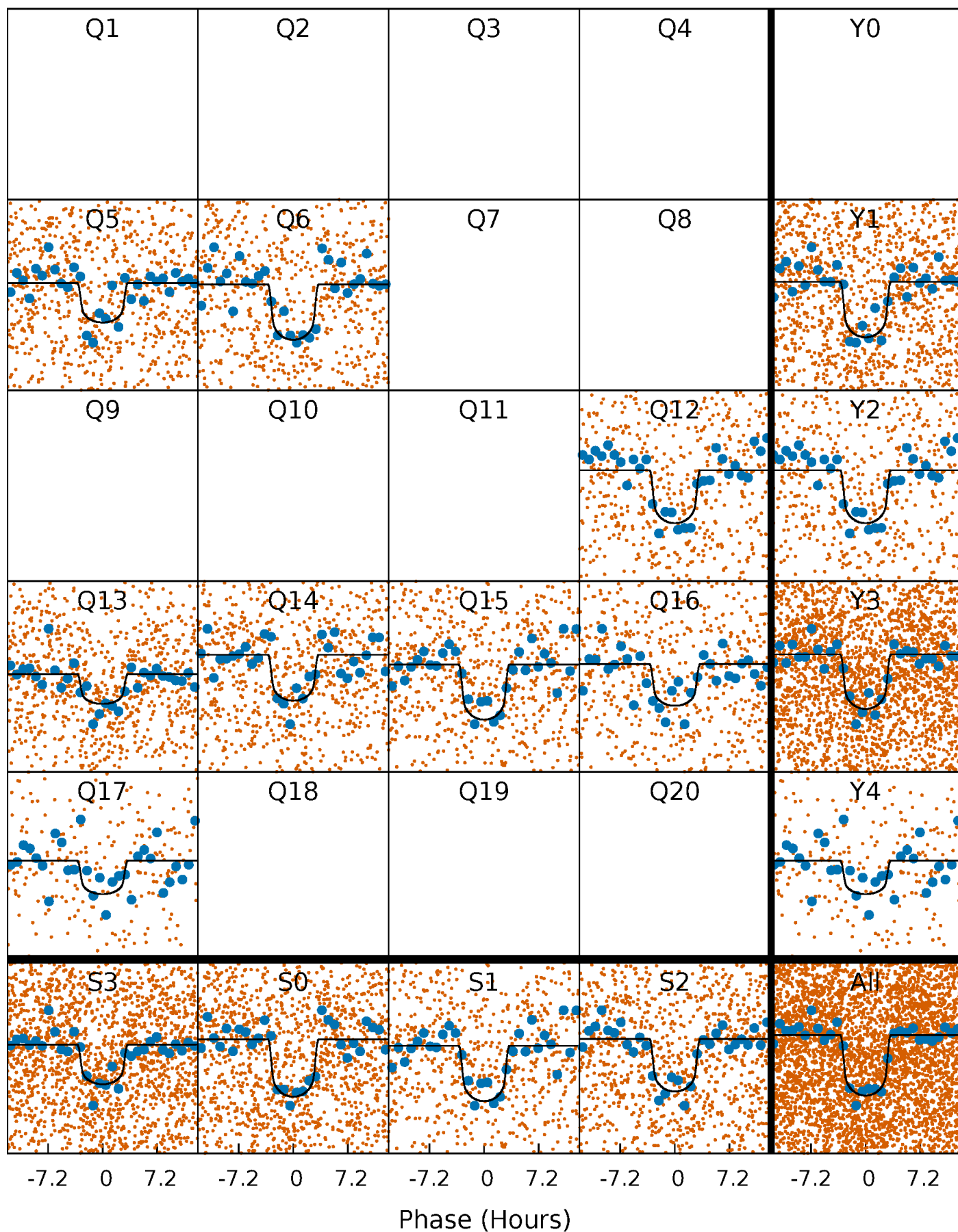
PDC Quarter-Phased Transit Curves

TCE 009532710-01 P= 5.242428 Days $T_0=133.229099$ (BKJD)



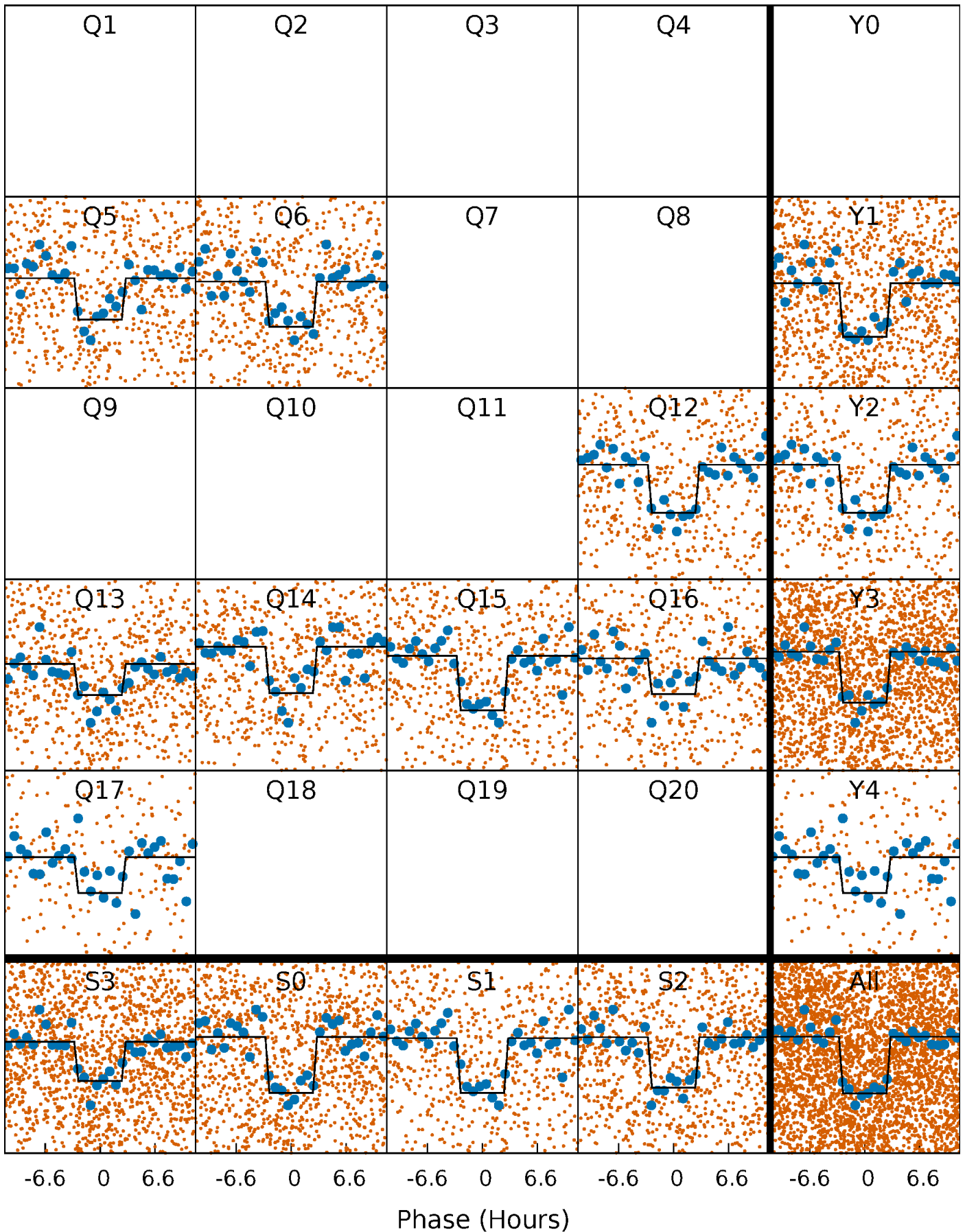
DV Quarter-Phased Transit Curves

TCE 009532710-01 P= 5.242428 Days $T_0=133.229099$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

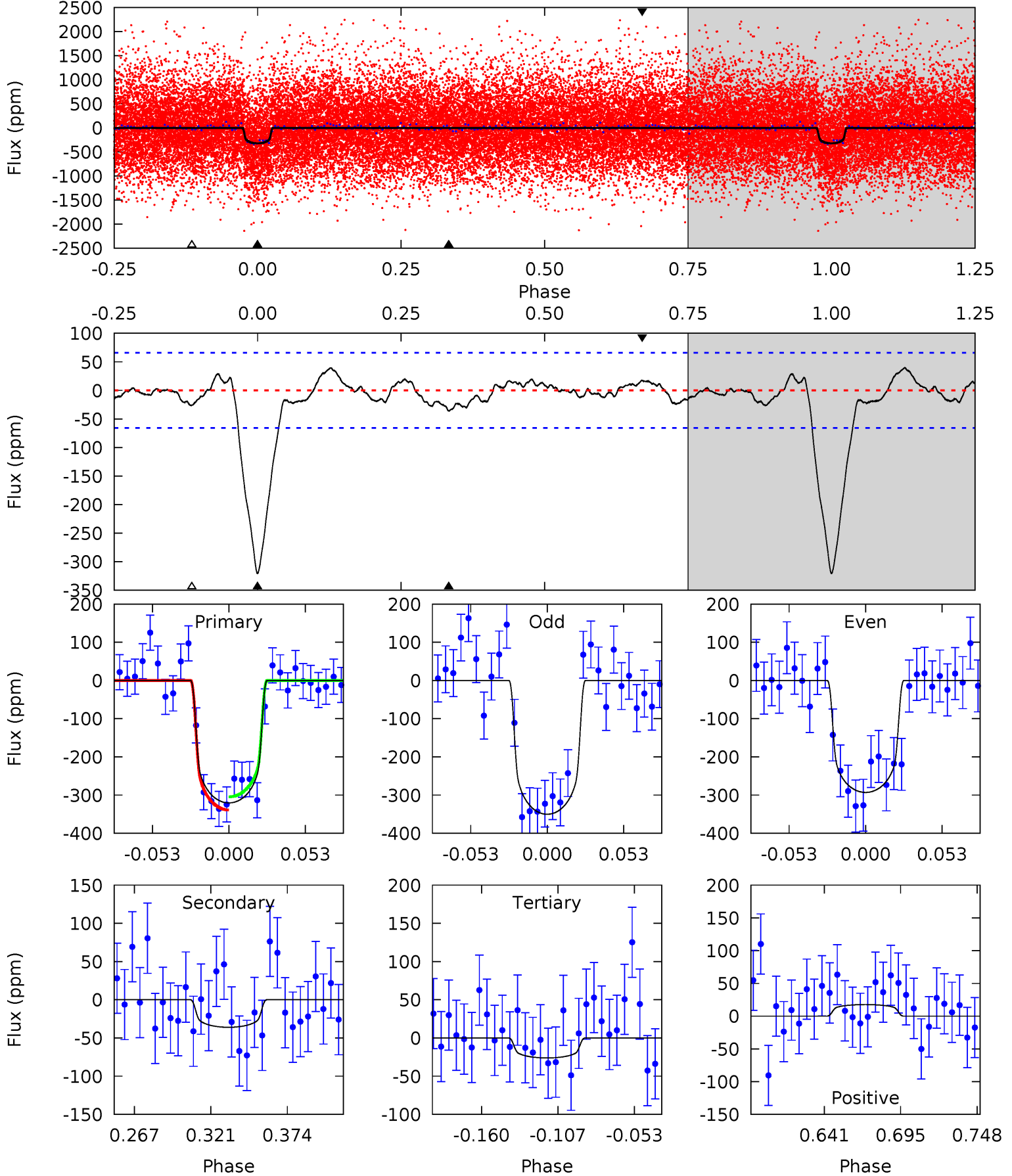
TCE 009532710-01 P= 5.242424 Days $T_0=133.229413$ (BKJD)



DV Model-Shift Uniqueness Test

009532710-01, P = 5.242428 Days, E = 133.229099 Days

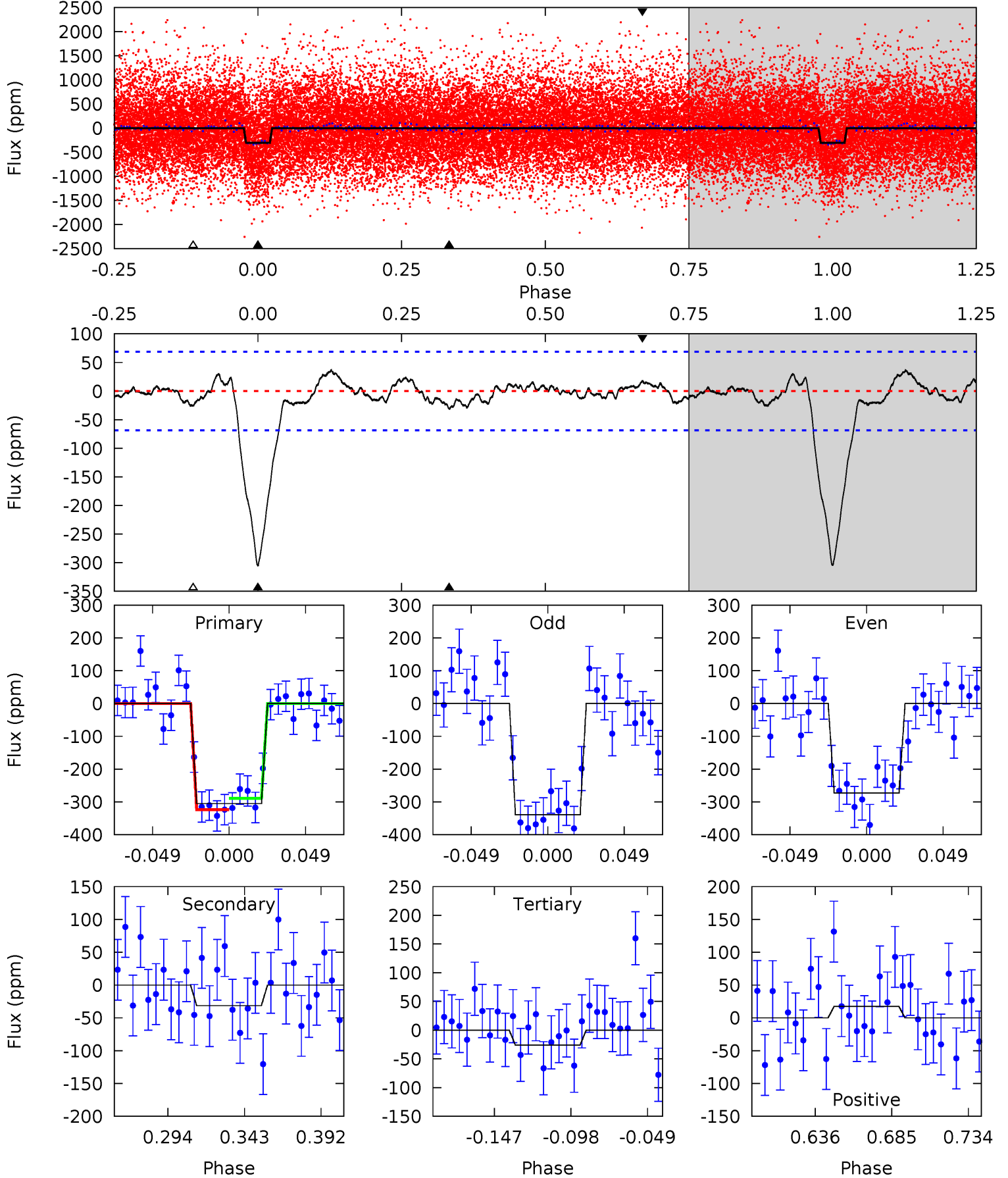
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.9	2.57	1.86	1.26	4.69	1.93	0.99	21.0	21.6	0.71	1.31	2.05	0.94	0.11	1.23



Alt Model-Shift Uniqueness Test

009532710-01, P = 5.242424 Days, E = 133.229413 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.9	2.15	1.77	1.20	4.71	1.97	0.89	19.2	19.7	0.38	0.95	2.28	0.91	0.11	1.19



Stellar Parameters For KIC 009532710

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5383^{+206}_{-187}	$3.824^{+0.791}_{-0.339}$	$-0.640^{+0.350}_{-0.250}$	$1.829^{+1.143}_{-1.143}$	$0.813^{+0.136}_{-0.122}$	$0.187^{+3.005}_{-0.132}$
	+4%/-3%	+21%/-9%	+55%/-39%	+62%/-62%	+17%/-15%	+1605%/-70%
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 009532710-01 / KOI 2364.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-36 ± 14	$3.49^{+1.71}_{-1.35}$	1882^{+316}_{-365}	3465^{+408}_{-377}	$4.840^{+8.254}_{-3.000}$
Alt.	-31 ± 15	$3.24^{+1.56}_{-1.28}$	1875^{+302}_{-335}	3456^{+466}_{-416}	$4.735^{+9.605}_{-3.061}$

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

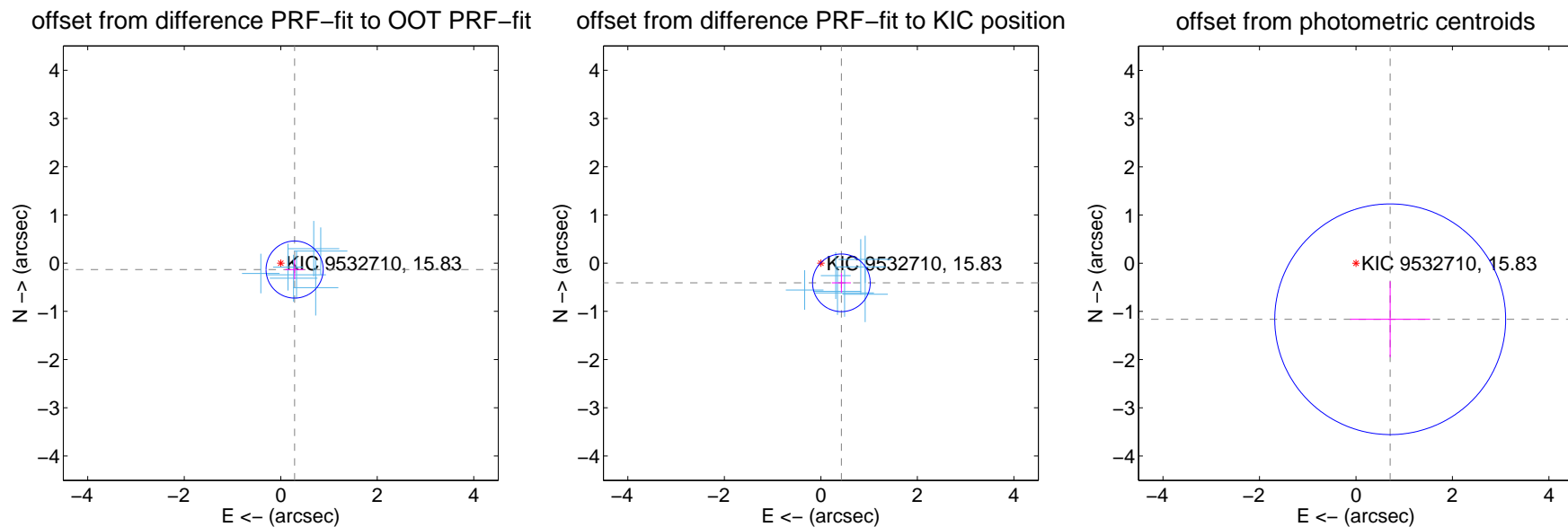
DV Centroid Data

Supplemental centroid analysis for 009532710-01. Kepler magnitude: 15.83. Transit SNR 18.19

There are 7 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.317 ± 0.197	1.61	-0.287 ± 0.196	-0.133 ± 0.203
PRF-fit source offset from KIC position	0.590 ± 0.199	2.96	-0.425 ± 0.196	-0.408 ± 0.203
photometric centroid source offset	1.36 ± 0.80	1.71	-0.71 ± 0.83	-1.16 ± 0.79

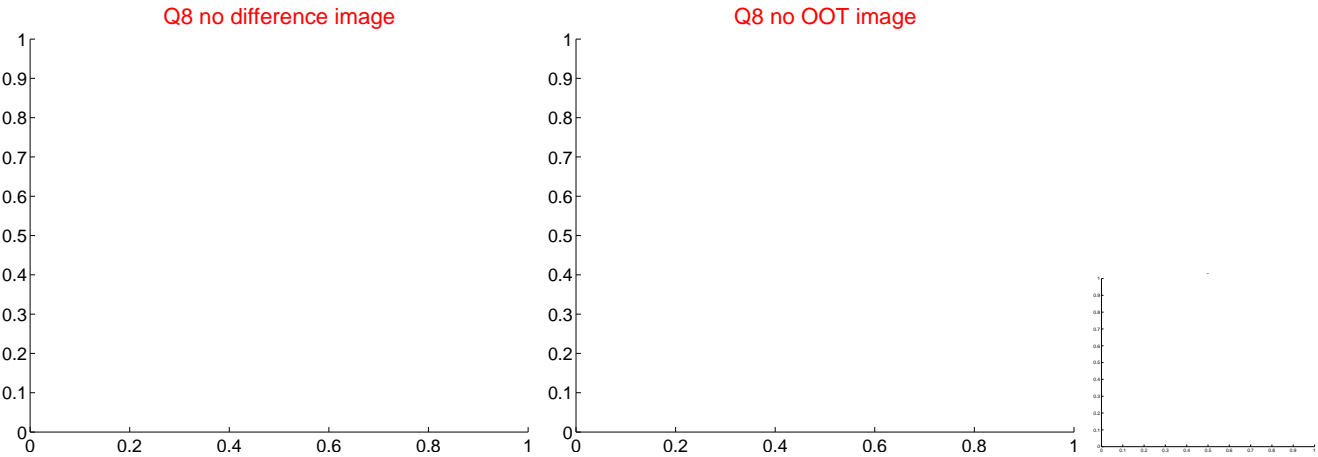
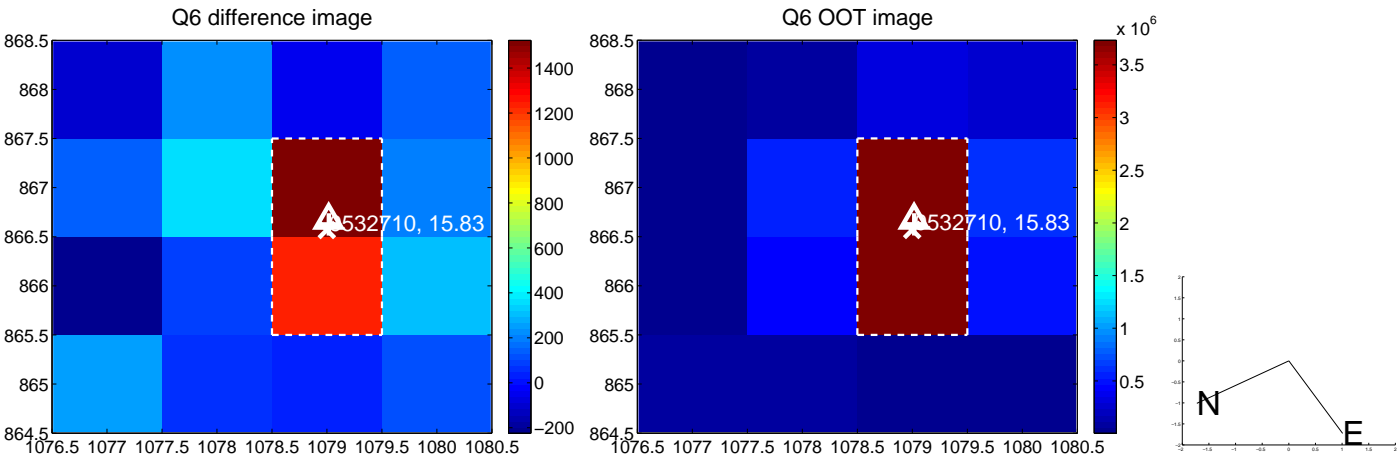
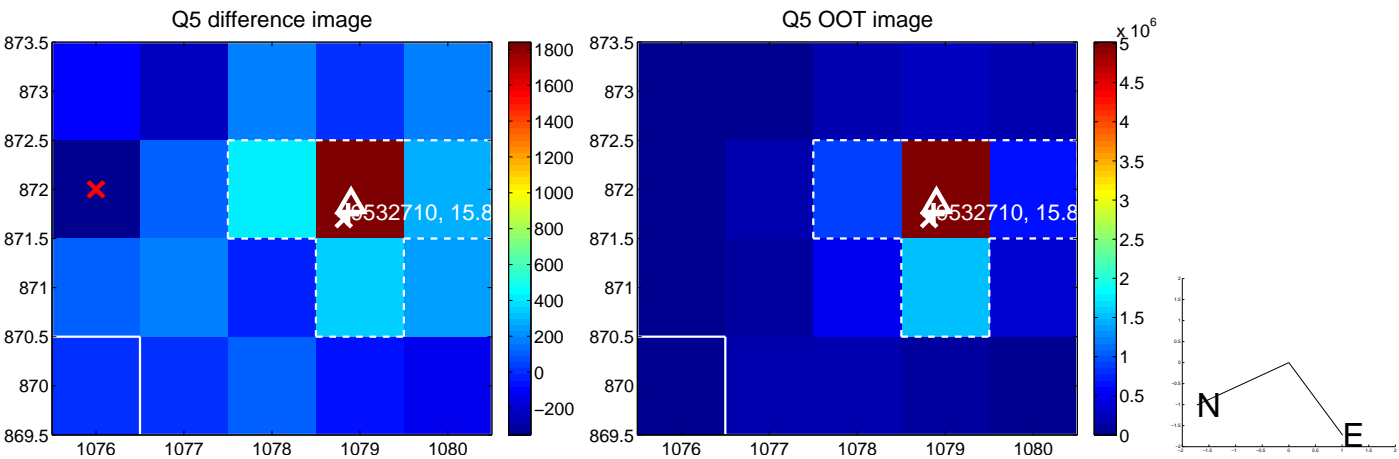


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

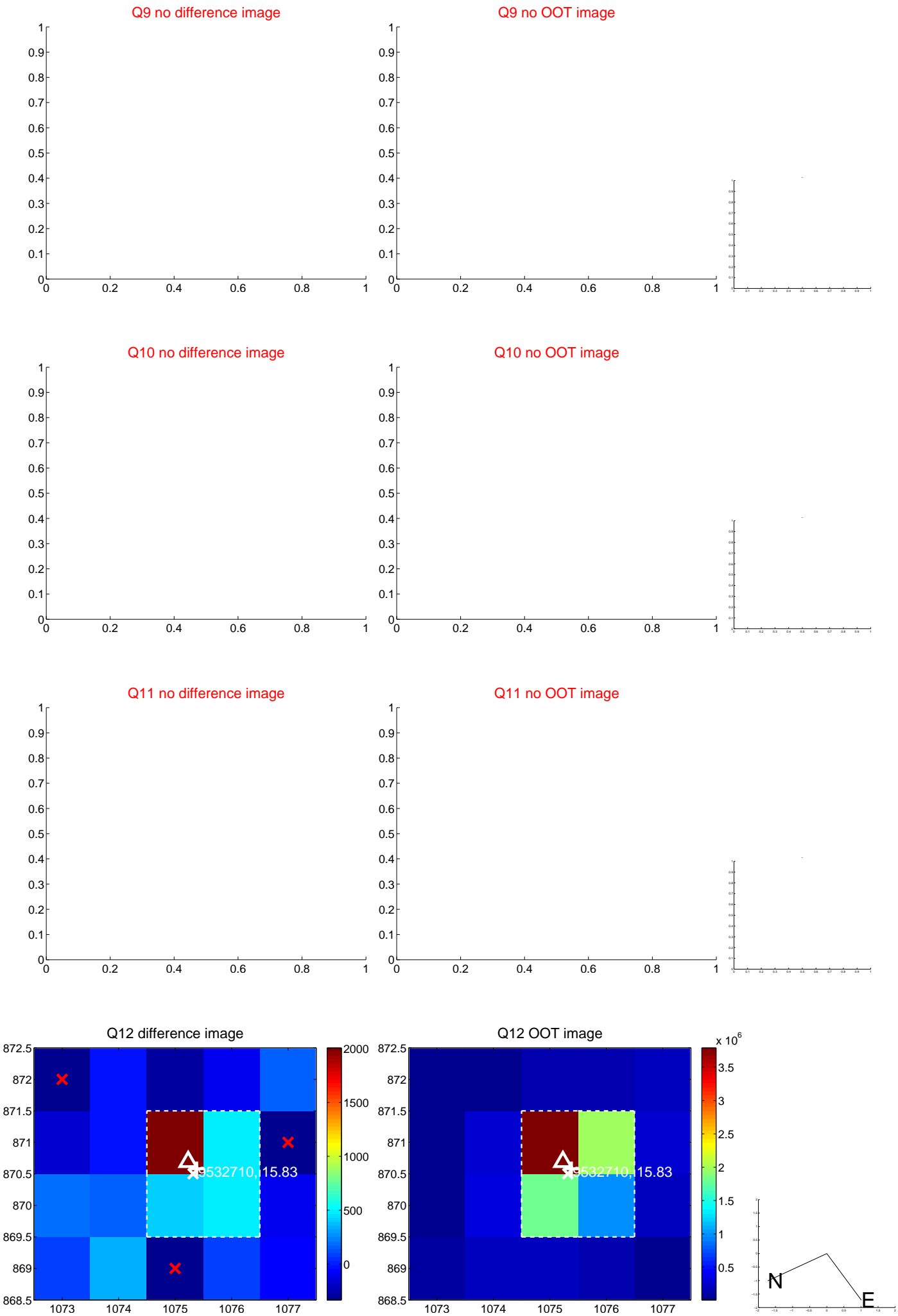
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



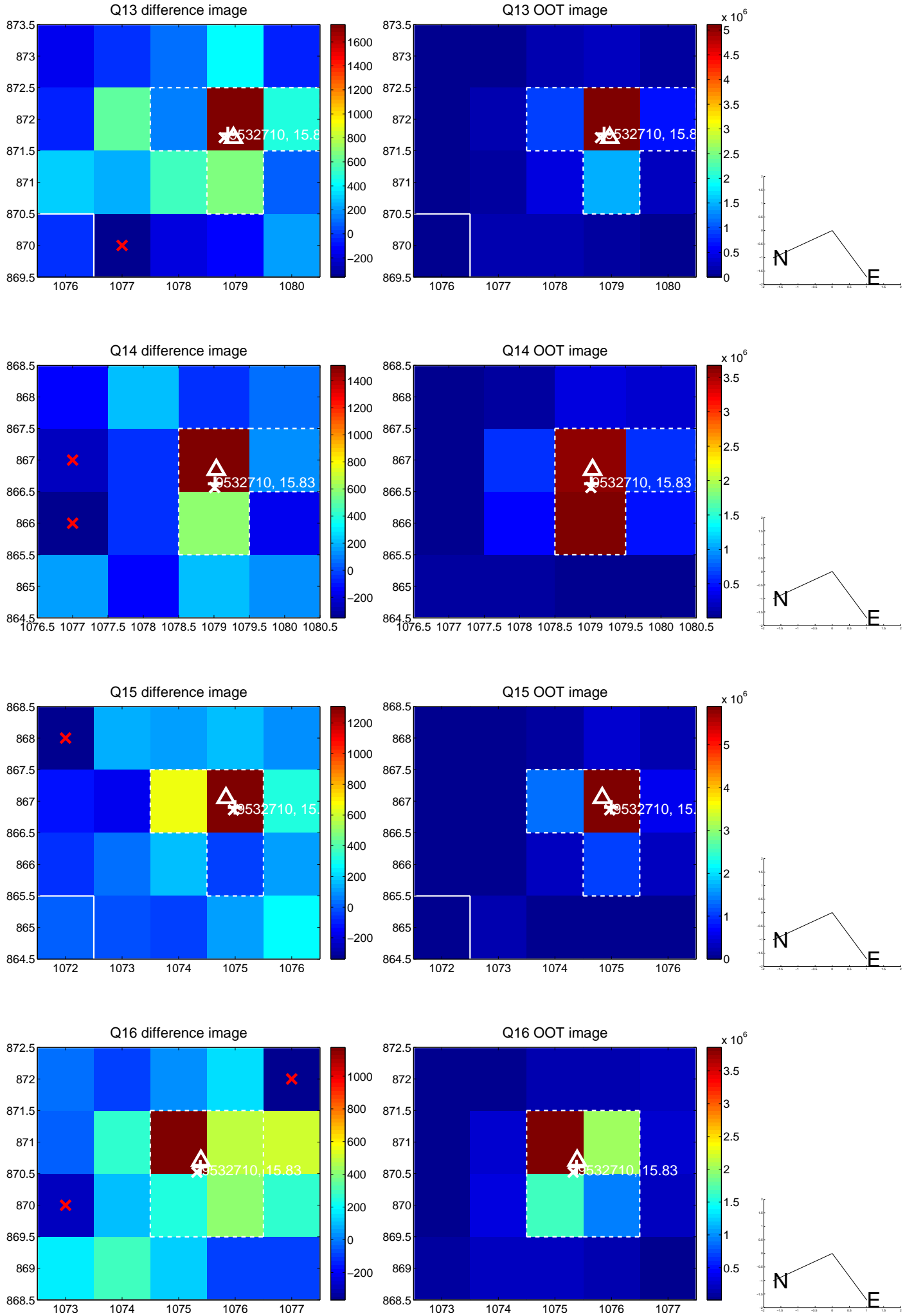
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



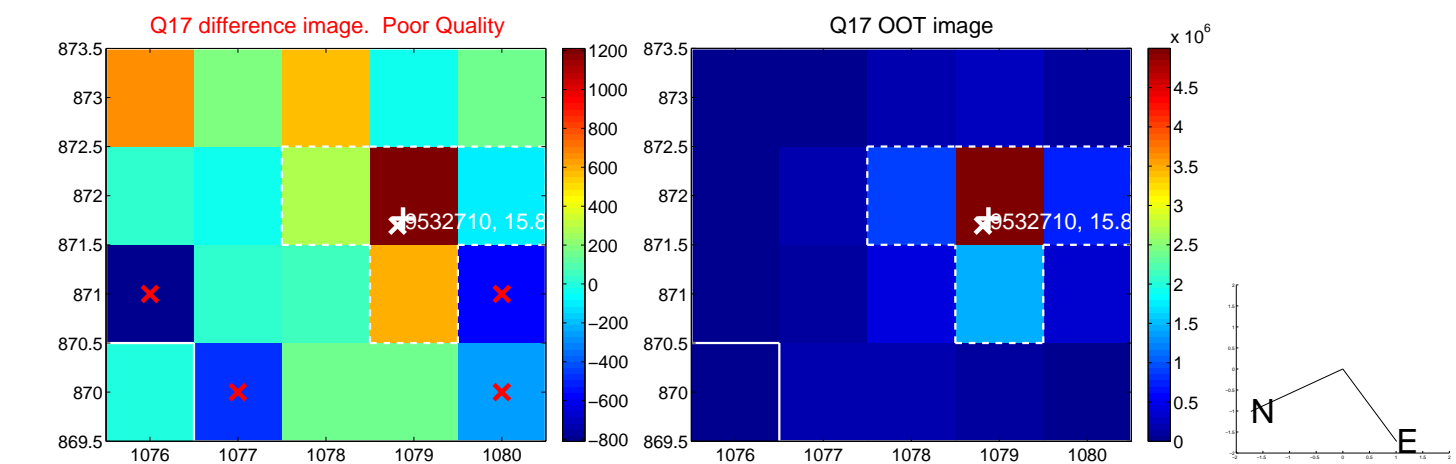
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



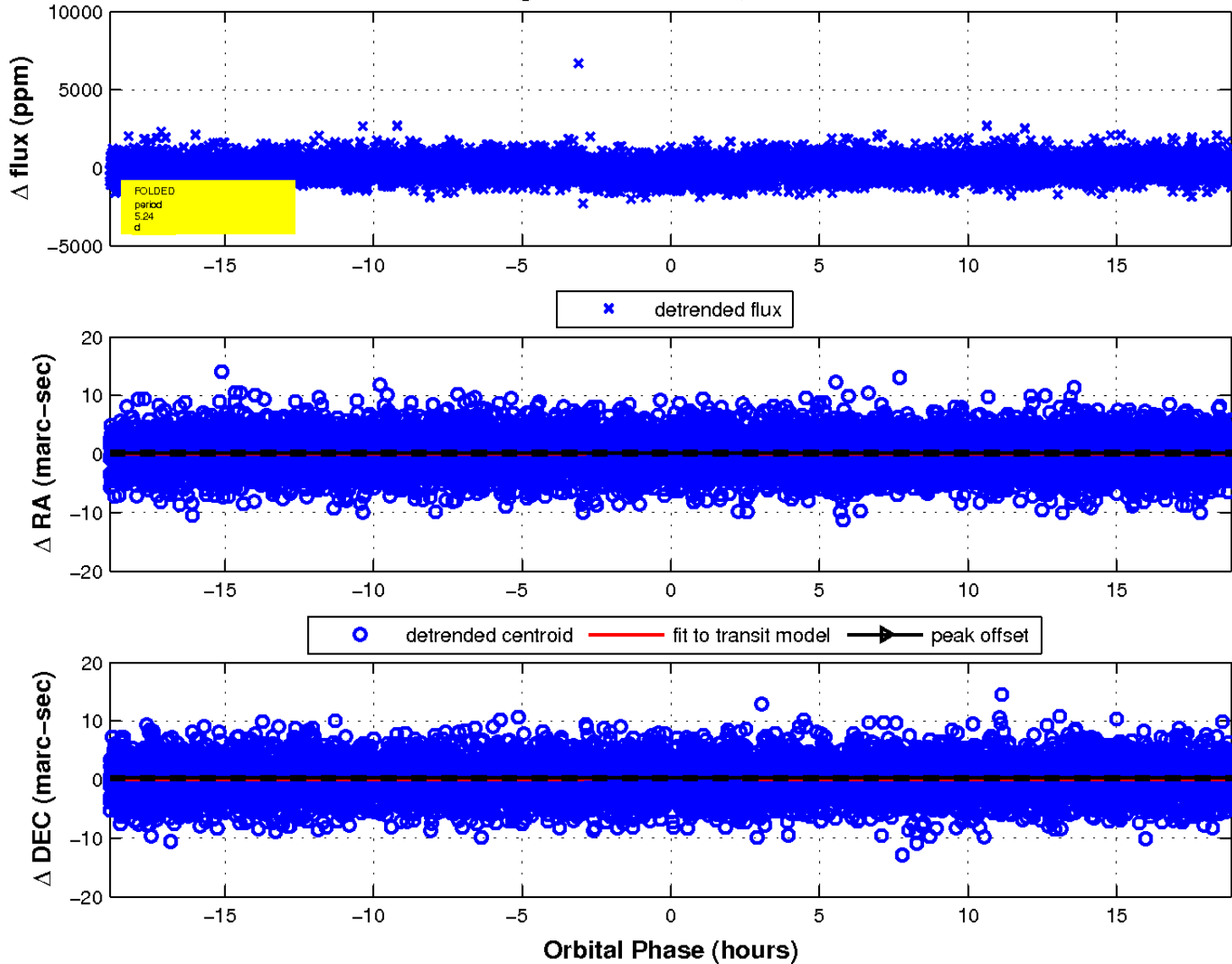
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

