

KIC 009843517

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})
009843517-01	OBS	3480.01	11.937871	133.251337	239.3	5.333	9.0	8.8	0.74	5469	1.48	48.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009843517-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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 009843517-01

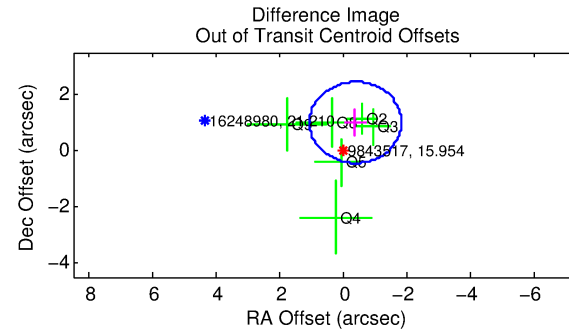
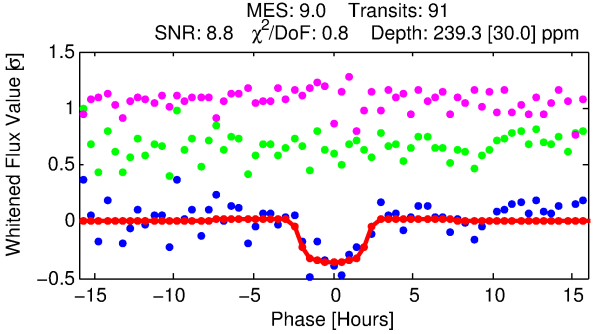
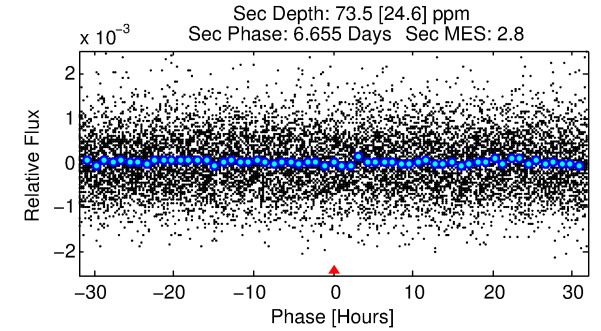
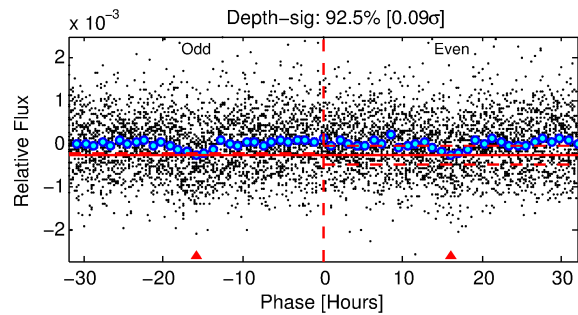
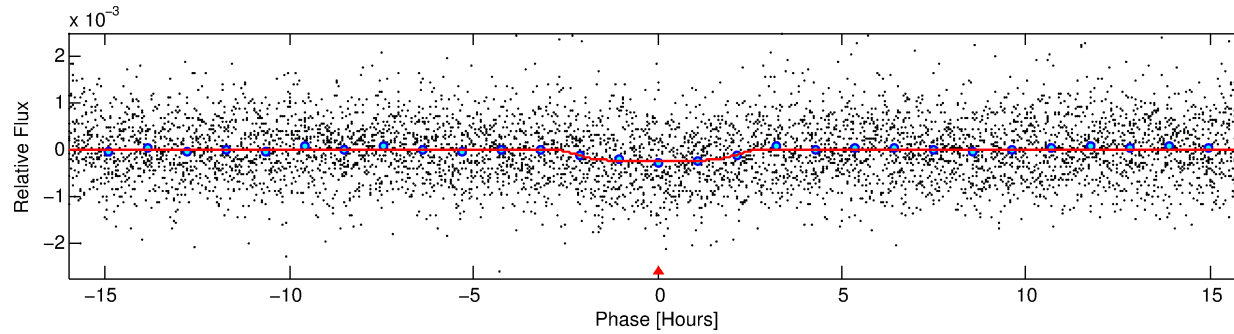
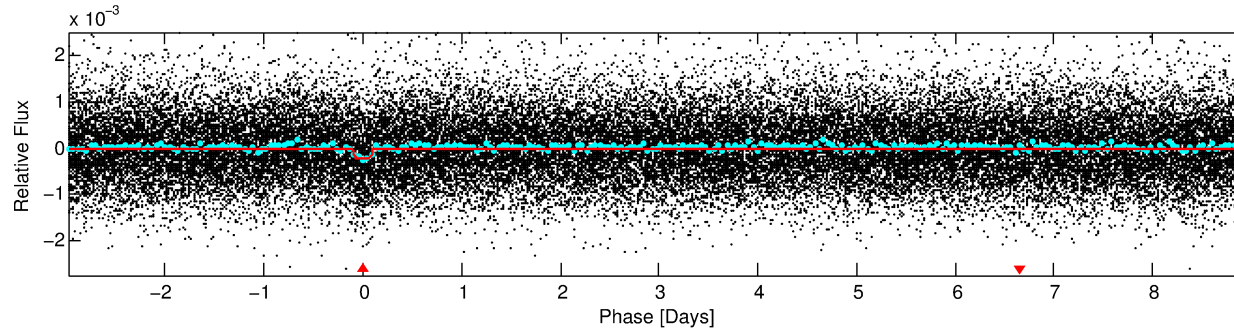
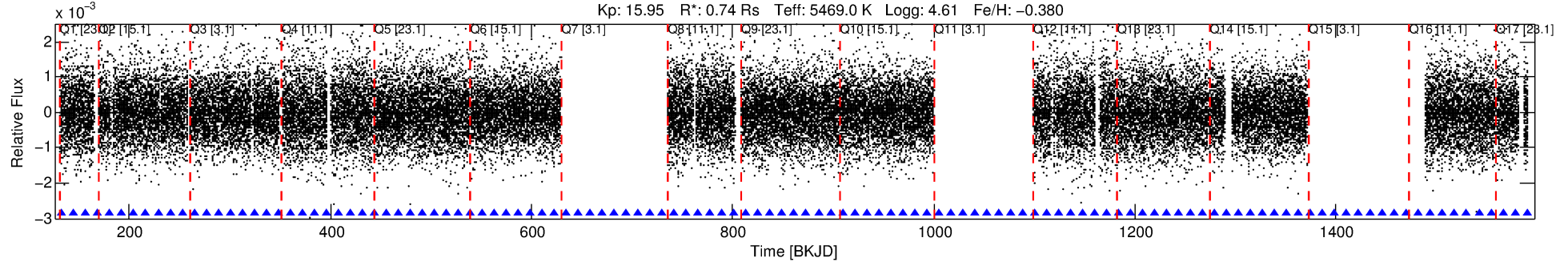
No Significant Match Found

DV One-Page Summary

KIC: 9843517 Candidate: 1 of 1 Period: 11.938 d

KOI: K03480.01 Corr: 0.932

Kp: 15.95 R*: 0.74 Rs Teff: 5469.0 K Logg: 4.61 Fe/H: -0.380



DV Fit Results:

Period = 11.93787 [0.00019] d
Epoch = 133.2513 [0.0126] BKJD
Rp/R* = 0.0183 [0.0024]
a/R* = 6.06 [3.03]
b = 0.96 [0.05]
Seff = 48.01 [11.52]
Teq = 671 [40] K
Rp = 1.48 [0.33] Re
a = 0.0954 [0.0139] AU
Ag = 168.42 [79.83] [2.10σ]
Teffp = 3739 [413] K [7.39σ]

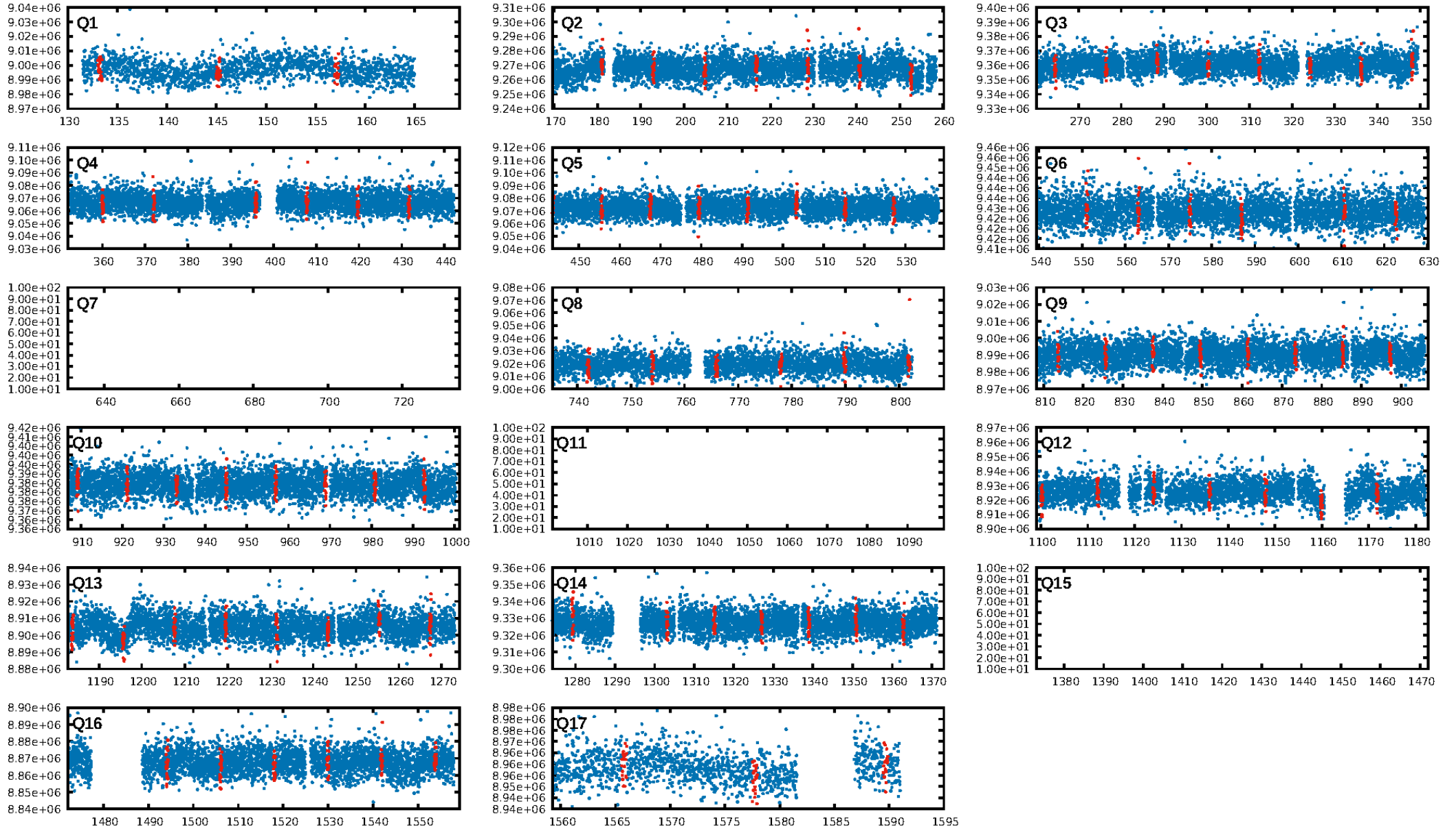
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.12e-19
RollingBand-fgt: 1.00 [85/85]
GhostDiagnostic-chr: 0.7947
Centroid-sig: 21.8%
Centroid-so: 2.263 arcsec [1.33σ]
OotOffset-rm: 1.070 arcsec [2.22σ]
KicOffset-rm: 0.756 arcsec [1.57σ]
OotOffset-st: 1/1/2/2 [6]
KicOffset-st: 1/1/2/2 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 1.00 [14/14]

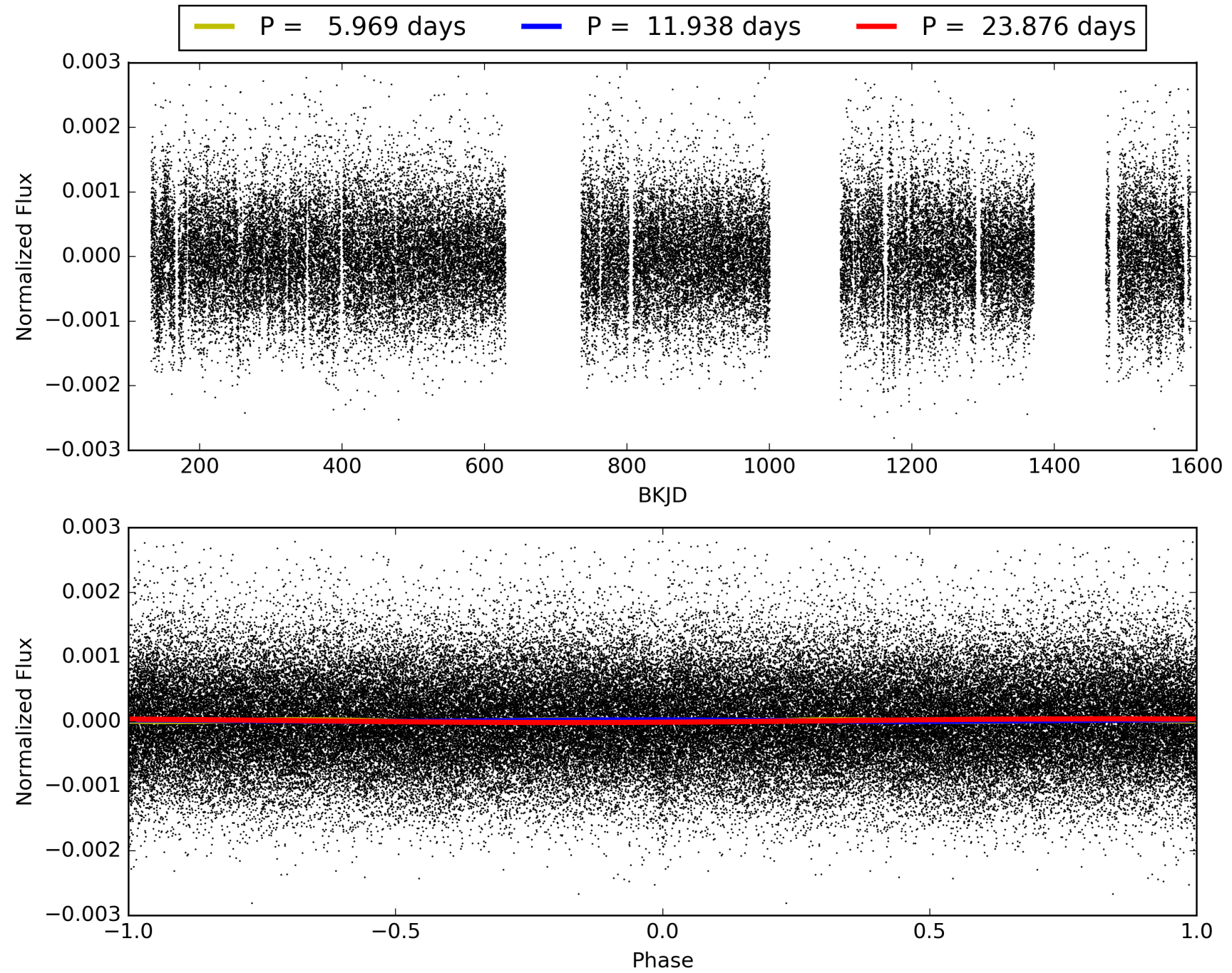
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:04:33 Z

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

TCE 009843517-01, PDC Light Curves

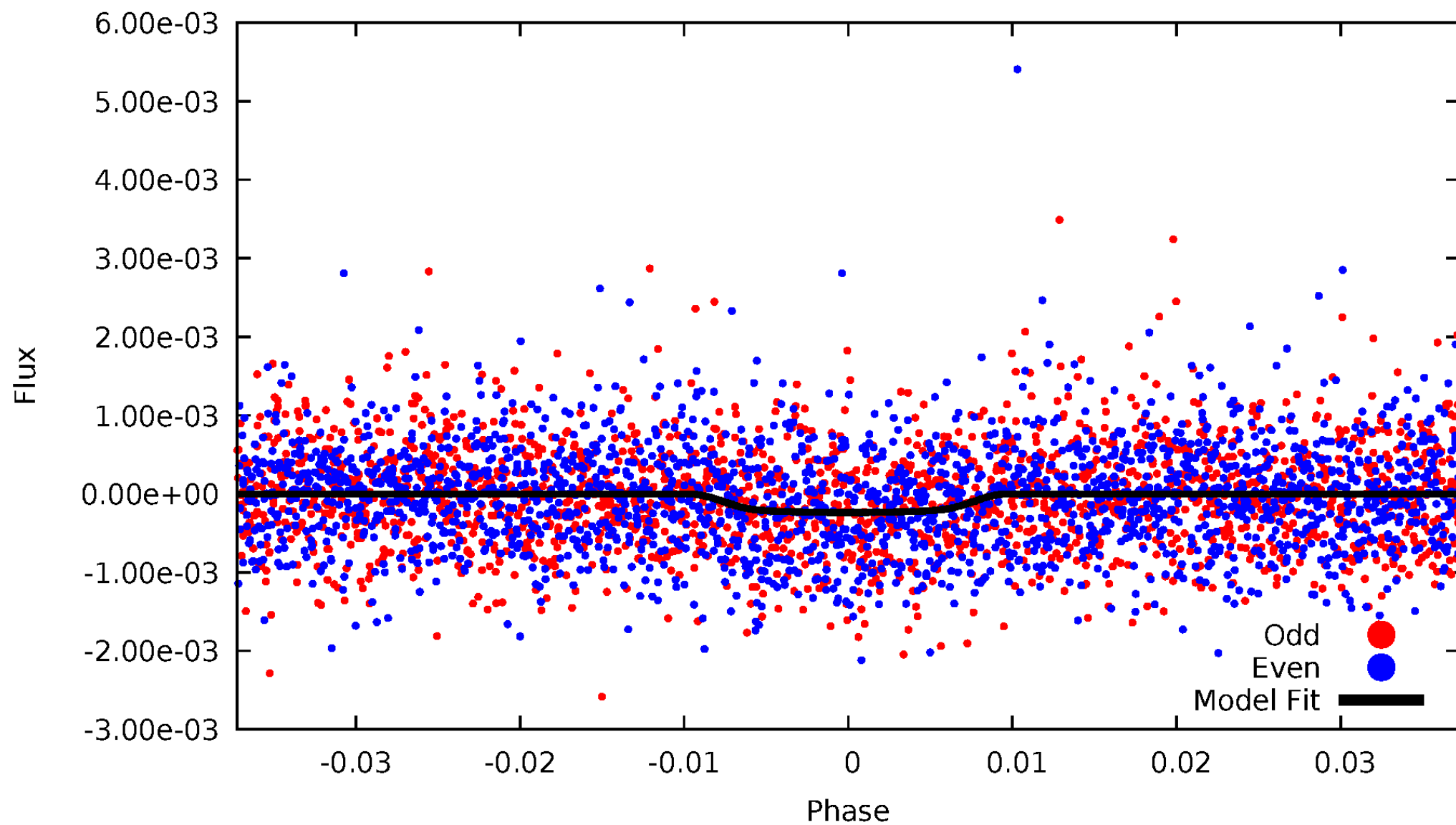


TCE 009843517-01



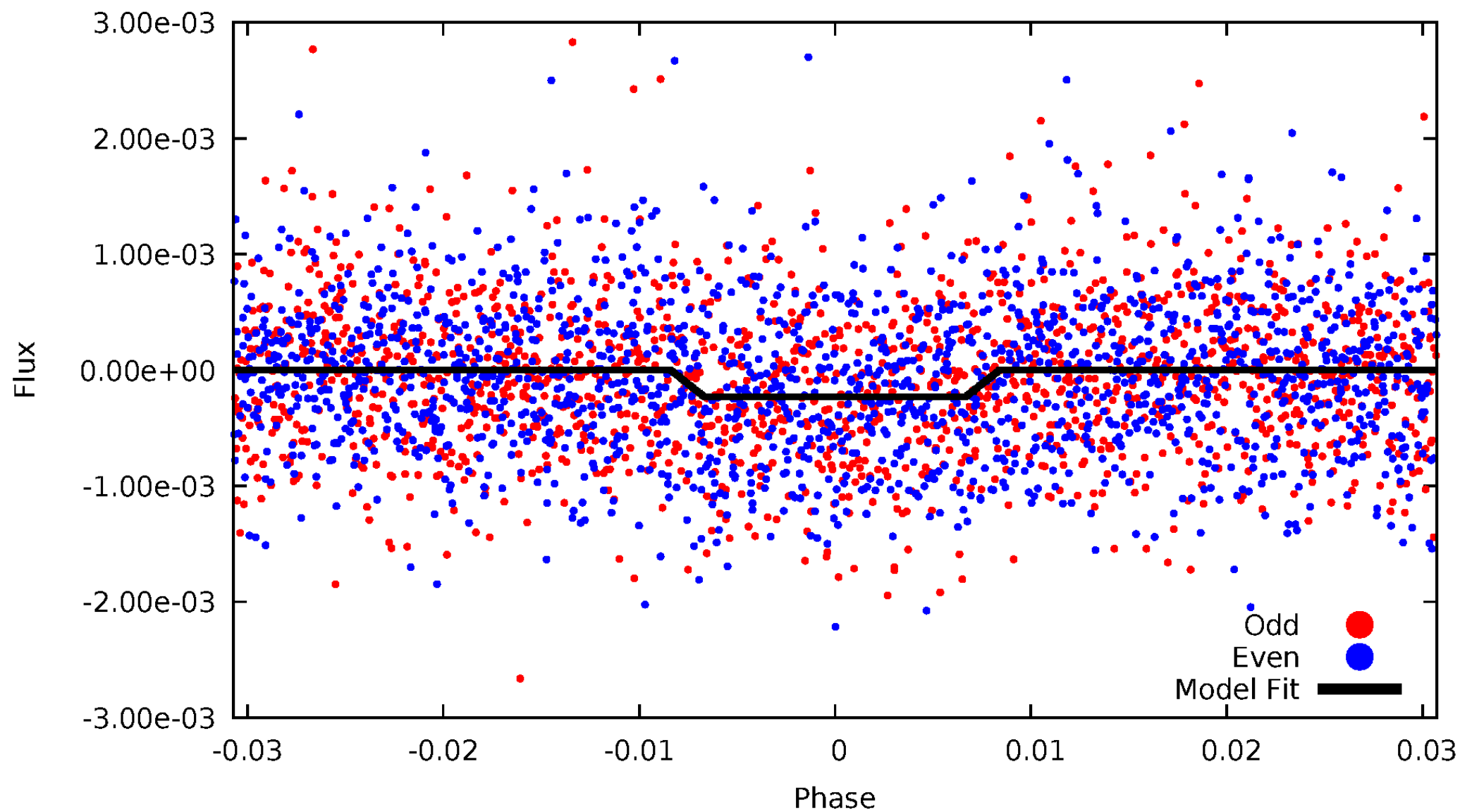
DV Odd/Even

TCE 009843517-01



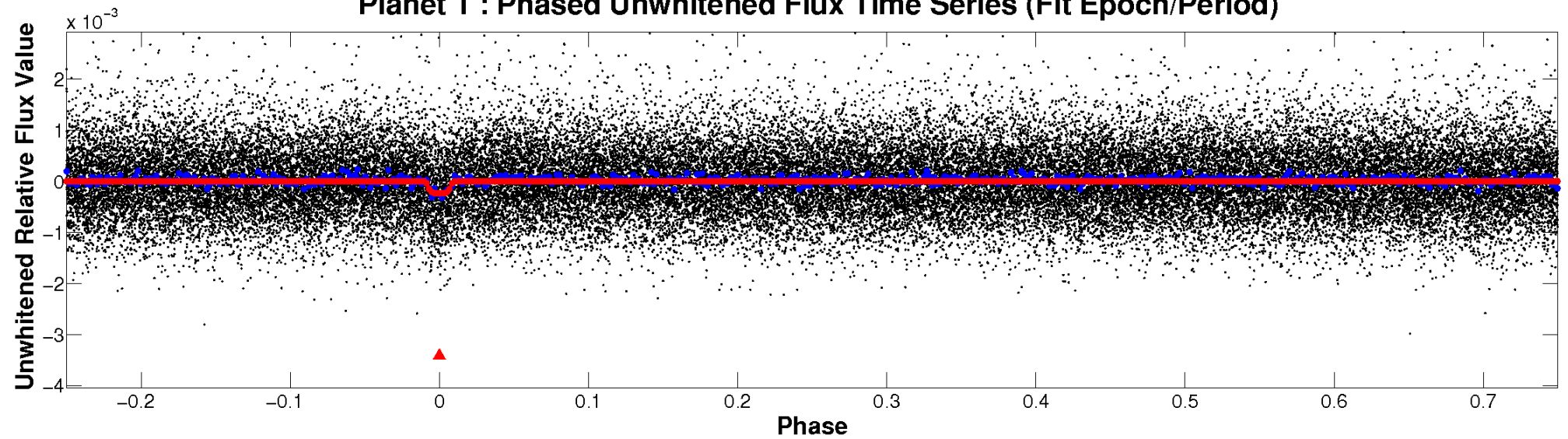
ALT Odd/Even

TCE 009843517-01

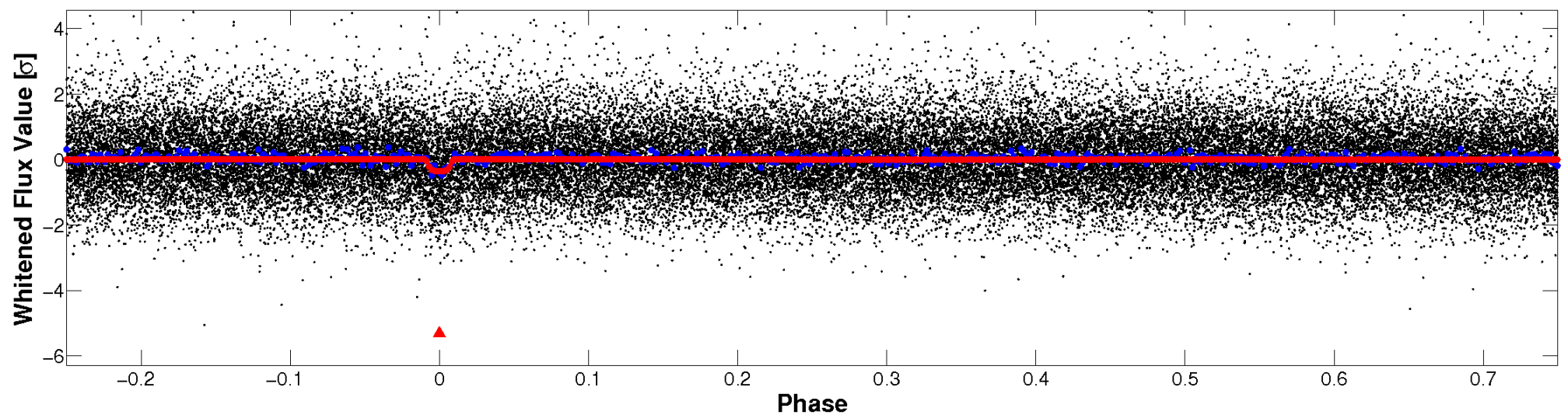


Non-Whitened Vs. Whitened Light Curve

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

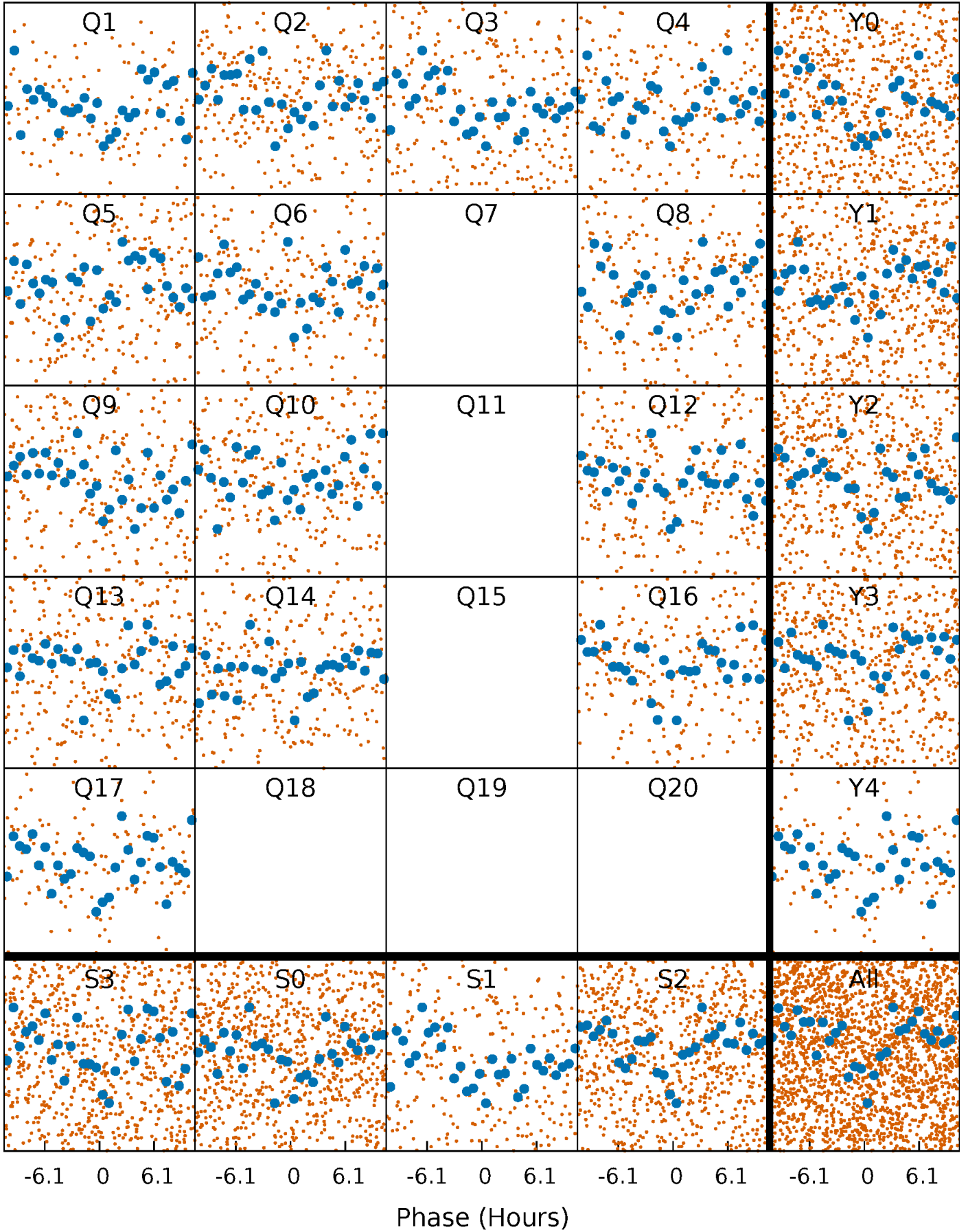


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



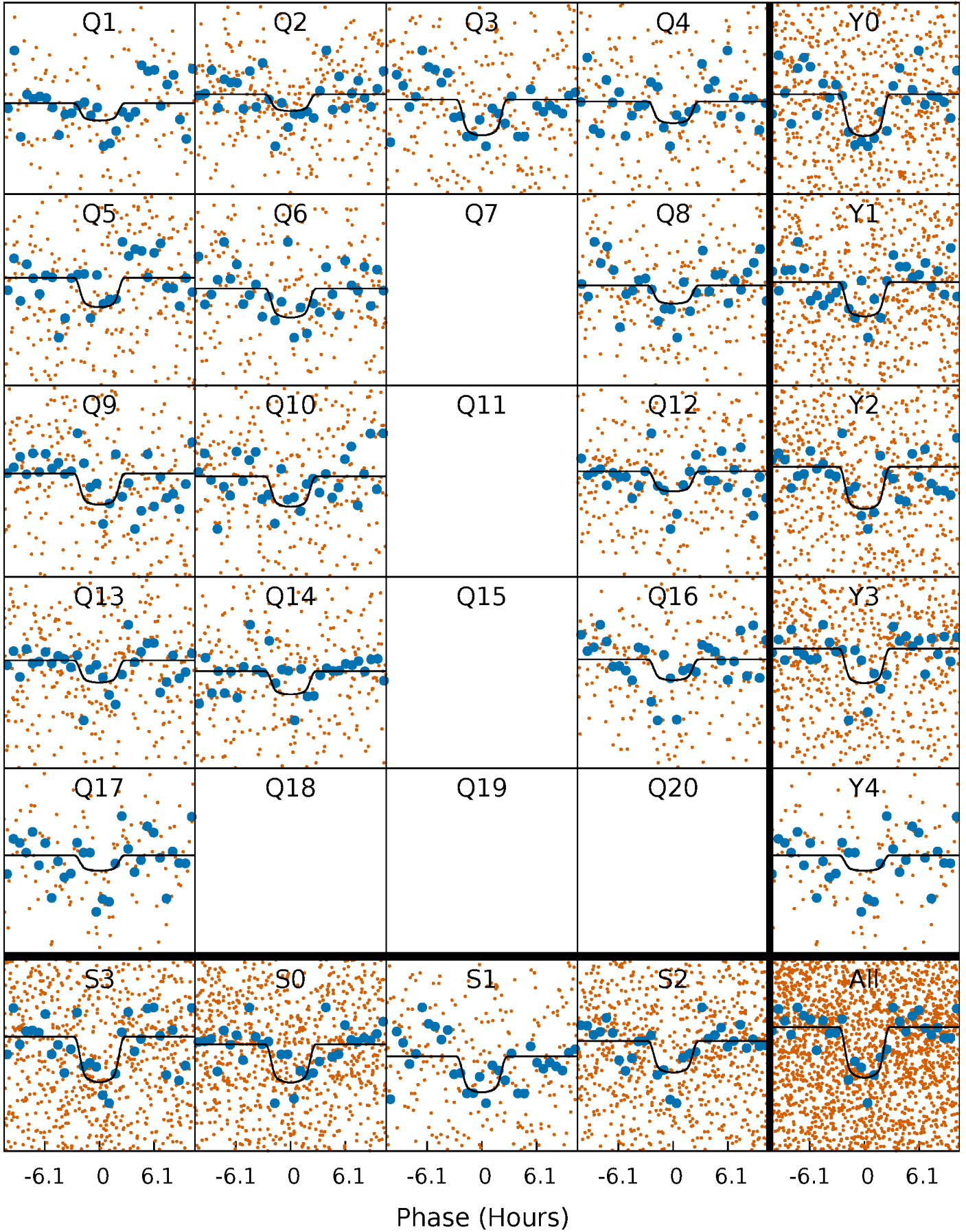
PDC Quarter-Phased Transit Curves

TCE 009843517-01 P= 11.937871 Days $T_0=133.251337$ (BKJD)



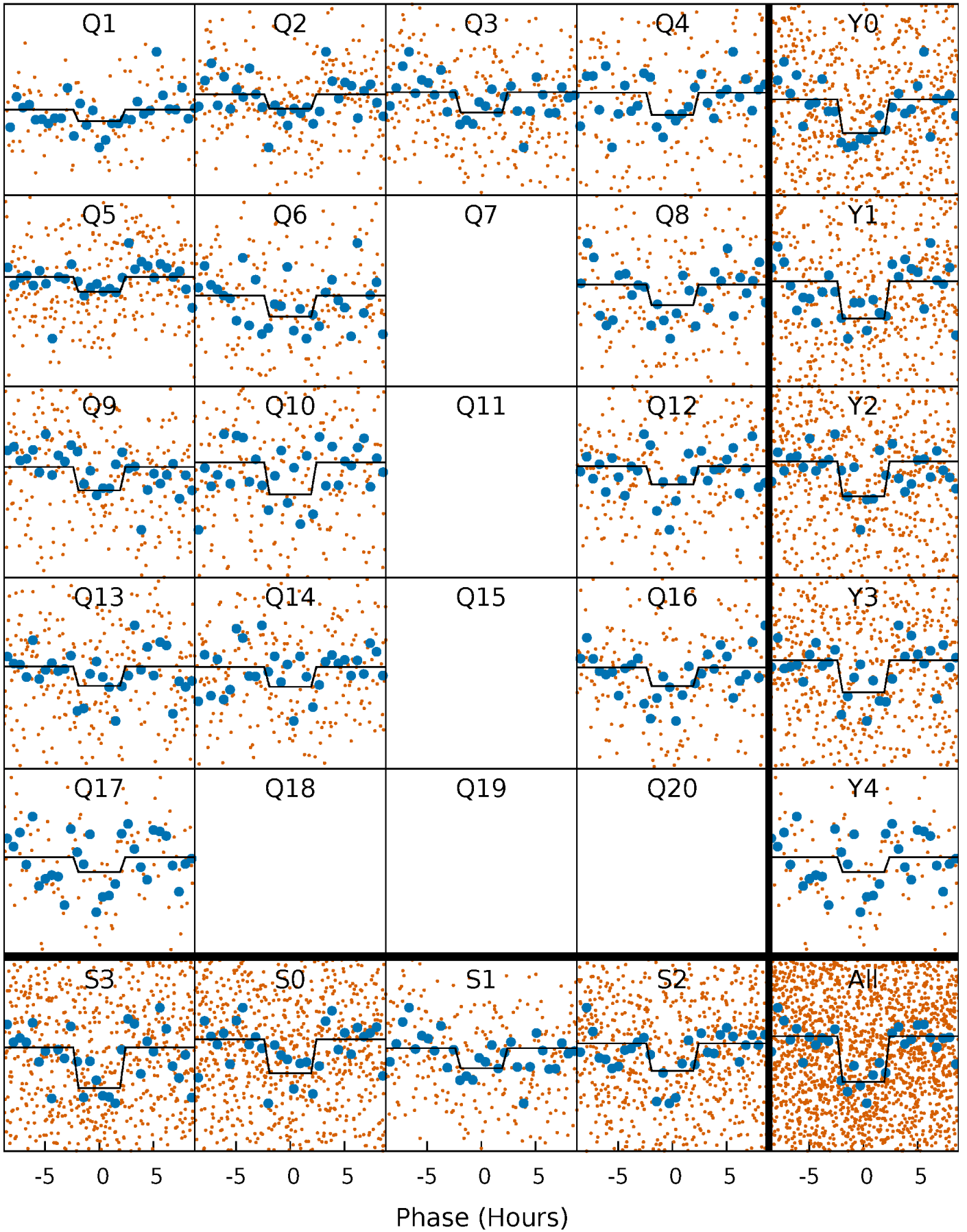
DV Quarter-Phased Transit Curves

TCE 009843517-01 P= 11.937871 Days $T_0=133.251337$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

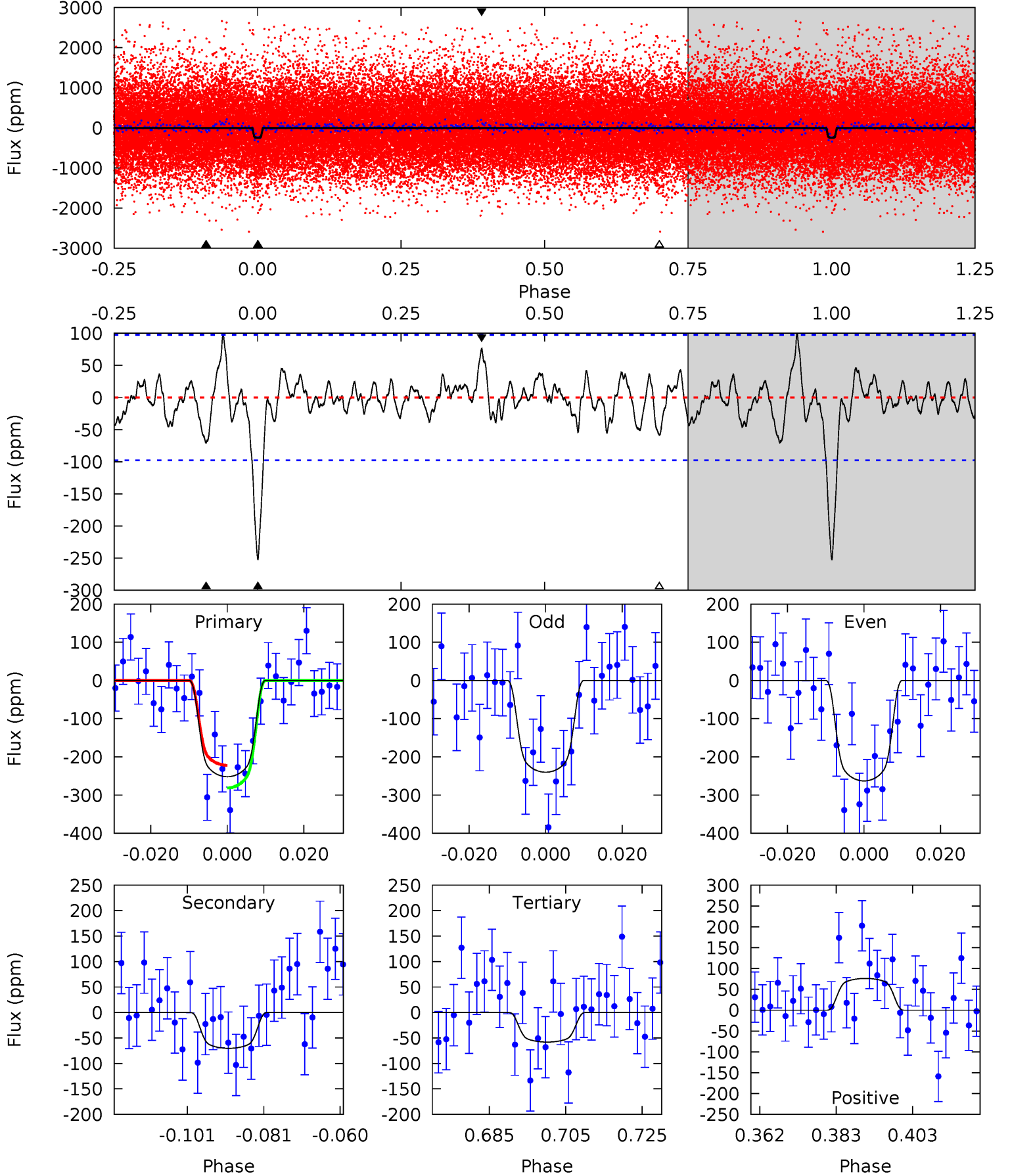
TCE 009843517-01 P= 11.937728 Days $T_0=133.268187$ (BKJD)



DV Model-Shift Uniqueness Test

009843517-01, $P = 11.937871$ Days, $E = 121.313466$ Days

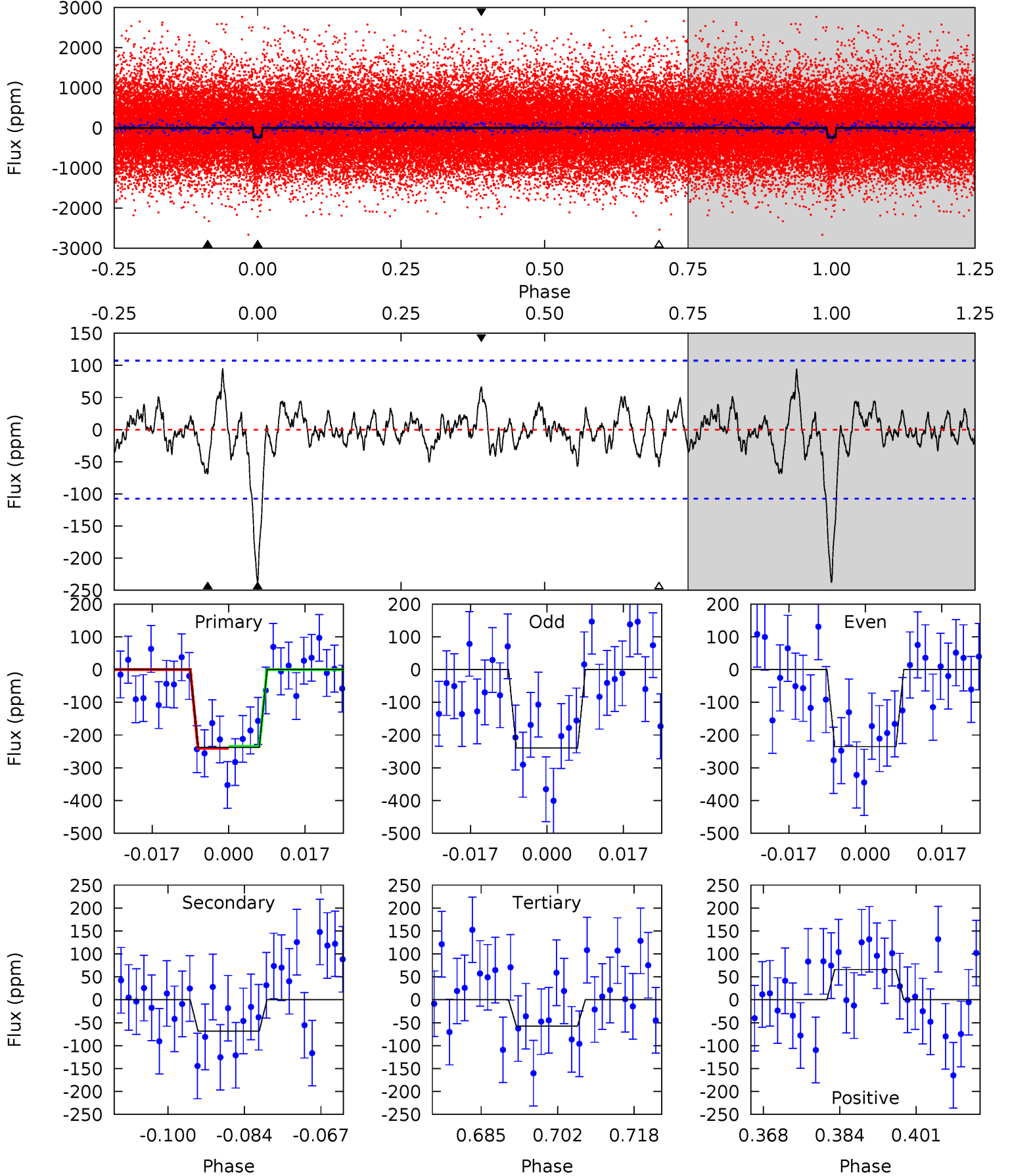
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	3.52	2.90	3.81	4.89	2.32	1.21	9.70	8.79	0.61	-0.29	0.57	0.92	0.28	1.49



Alt Model-Shift Uniqueness Test

009843517-01, $P = 11.937728$ Days, $E = 121.330459$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	3.14	2.63	3.03	4.93	2.39	1.04	8.26	7.86	0.51	0.11	0.10	1.18	0.28	0.14



Stellar Parameters For KIC 009843517

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5469^{+162}_{-162}	$4.611^{+0.037}_{-0.112}$	$-0.380^{+0.300}_{-0.300}$	$0.738^{+0.131}_{-0.056}$	$0.826^{+0.075}_{-0.092}$	$2.891^{+0.444}_{-1.005}$
	+3%/-3%	+1%/-2%	+79%/-79%	+18%/-8%	+9%/-11%	+15%/-35%
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 009843517-01 / KOI 3480.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-70 ± 20	$1.52^{+0.24}_{-0.23}$	951^{+44}_{-36}	3963^{+308}_{-269}	145^{+71}_{-49}
Alt.	-68 ± 22	$1.25^{+0.25}_{-0.20}$	953^{+44}_{-38}	4255^{+393}_{-335}	212^{+122}_{-81}

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

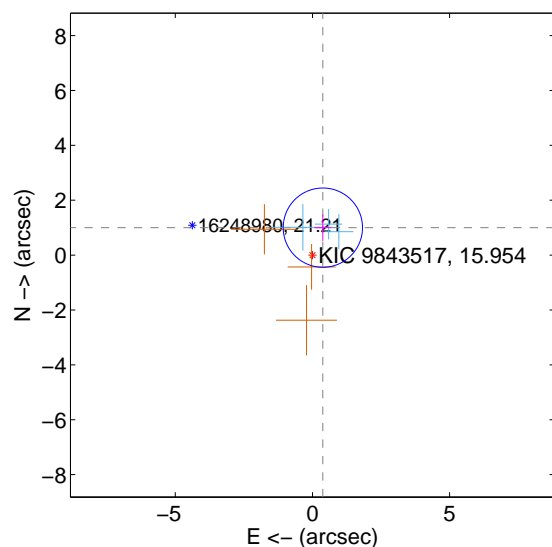
Supplemental centroid analysis for 009843517-01. Kepler magnitude: 15.95. Transit SNR 8.83

There are 3 quarters with good PRF difference image offsets

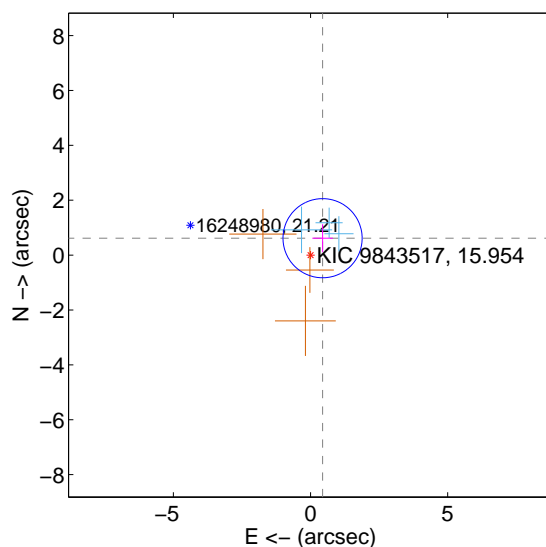
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.070 ± 0.482	2.22	-0.380 ± 0.320	1.000 ± 0.479
PRF-fit source offset from KIC position	0.756 ± 0.481	1.57	-0.439 ± 0.376	0.616 ± 0.511
photometric centroid source offset	2.26 ± 1.70	1.33	-2.04 ± 1.69	-0.98 ± 1.71

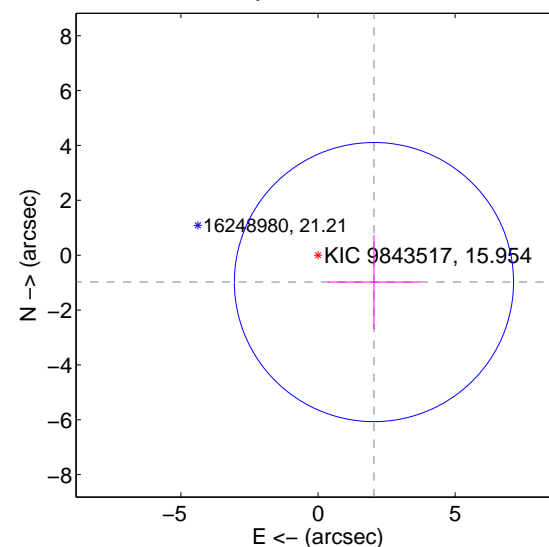
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

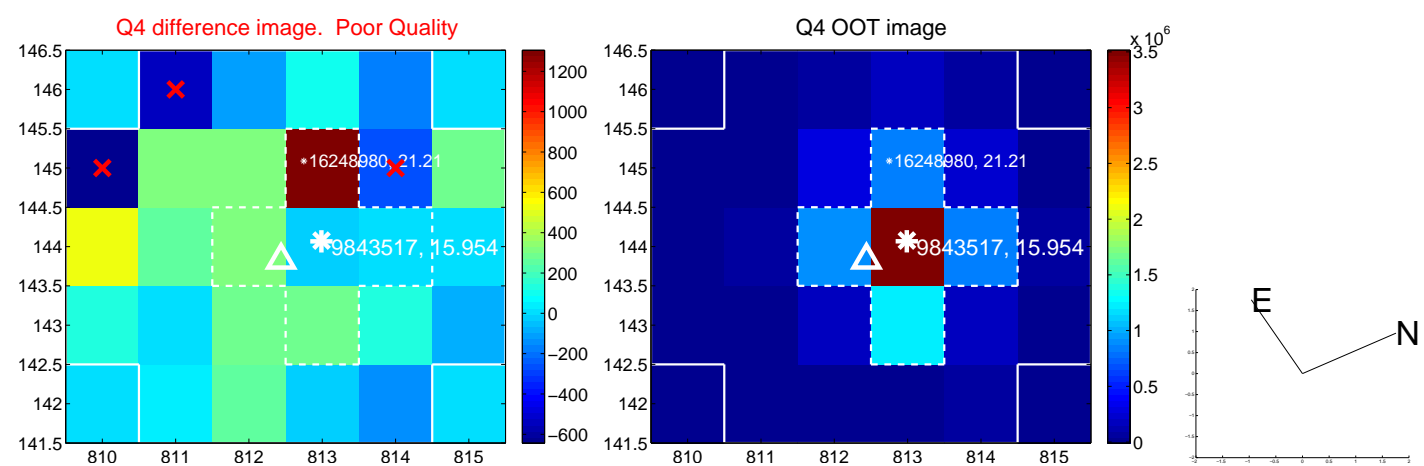
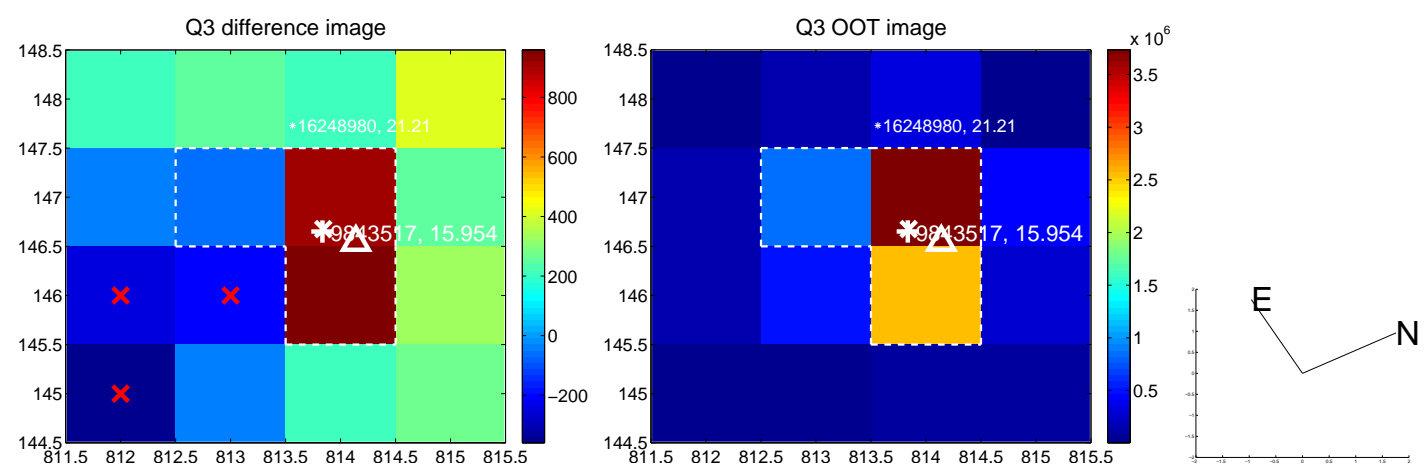
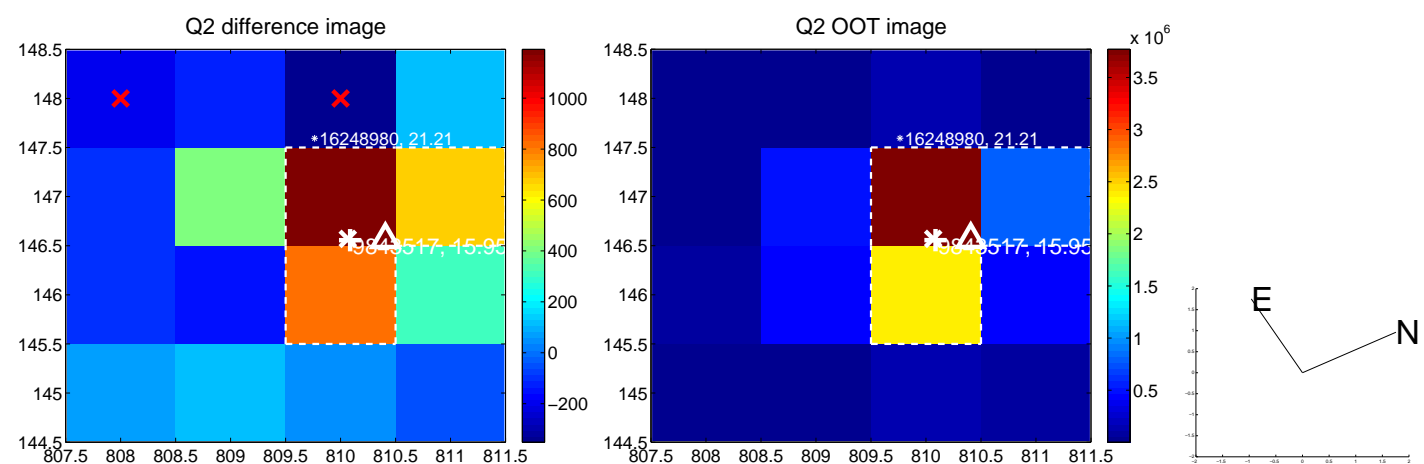
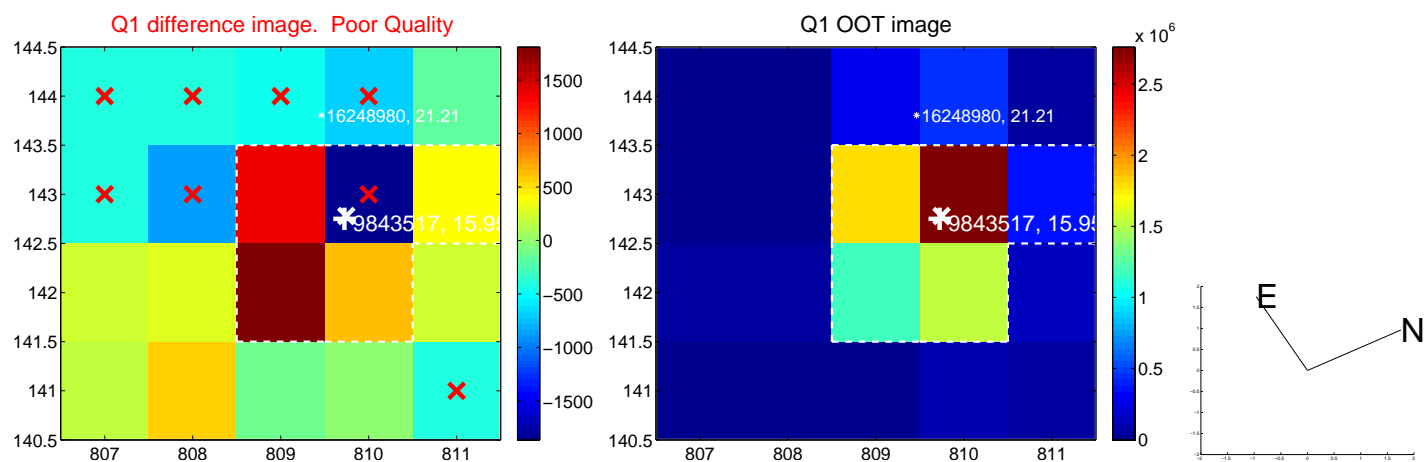


offset from photometric centroids

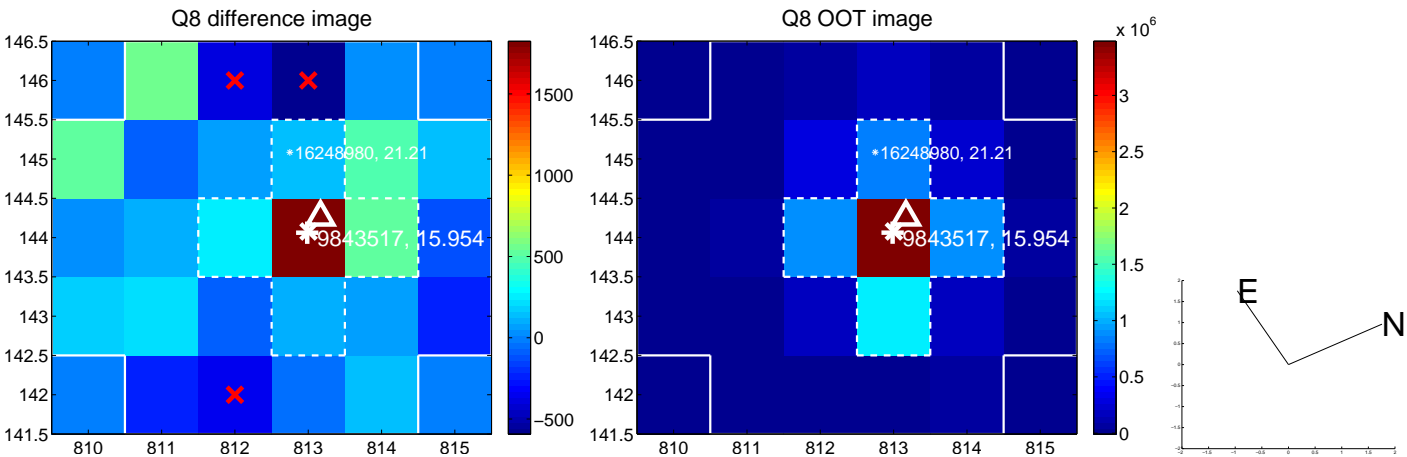
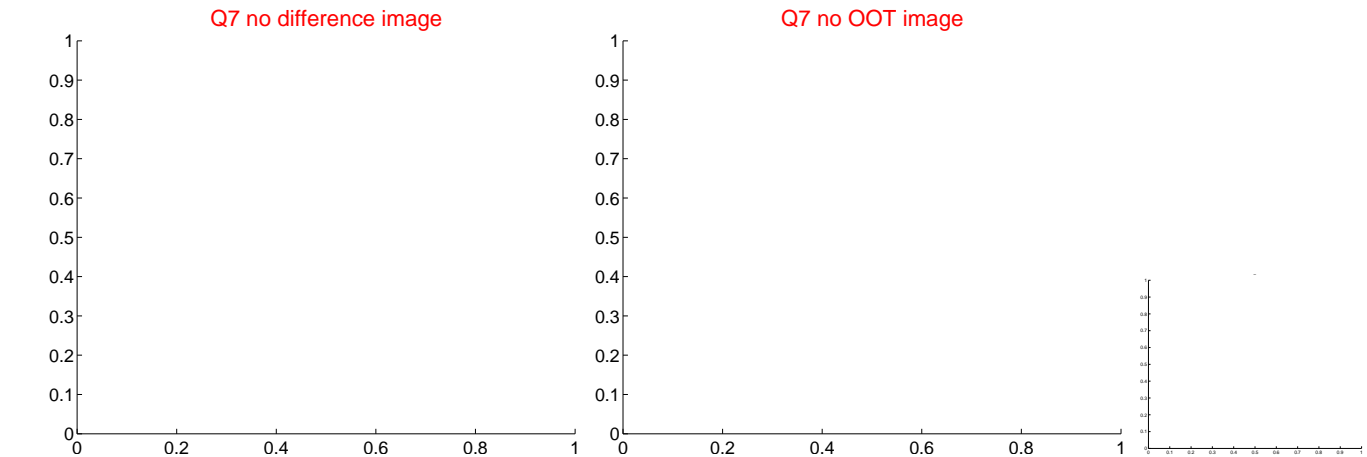
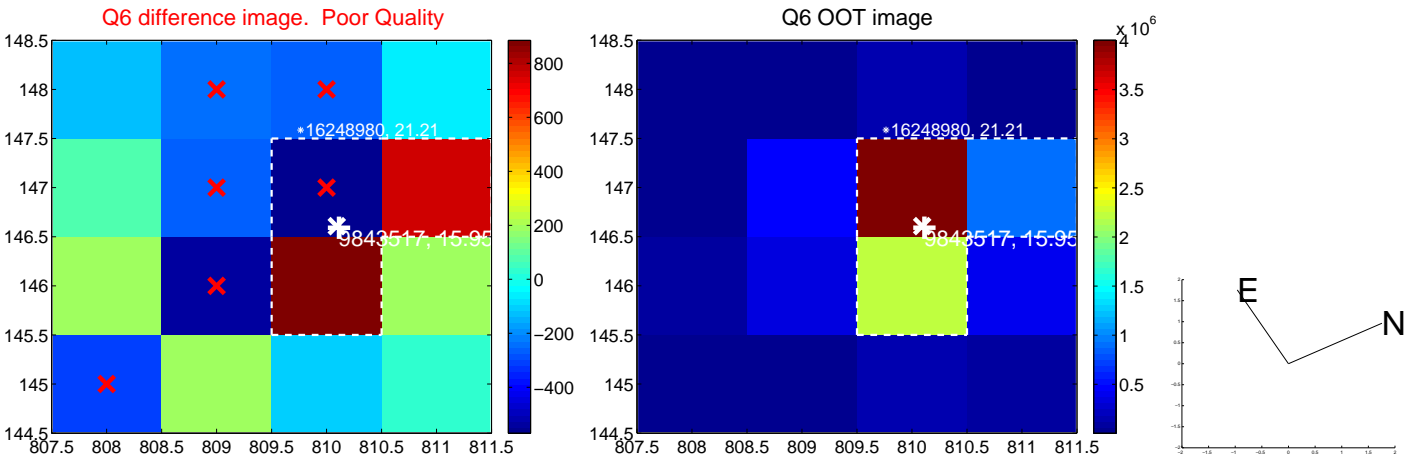
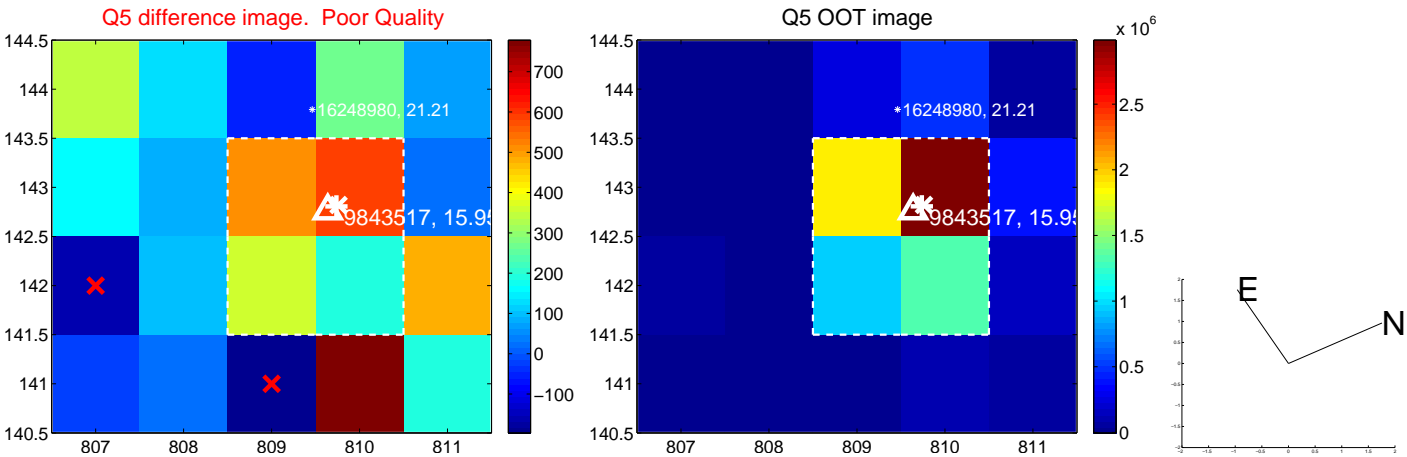


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

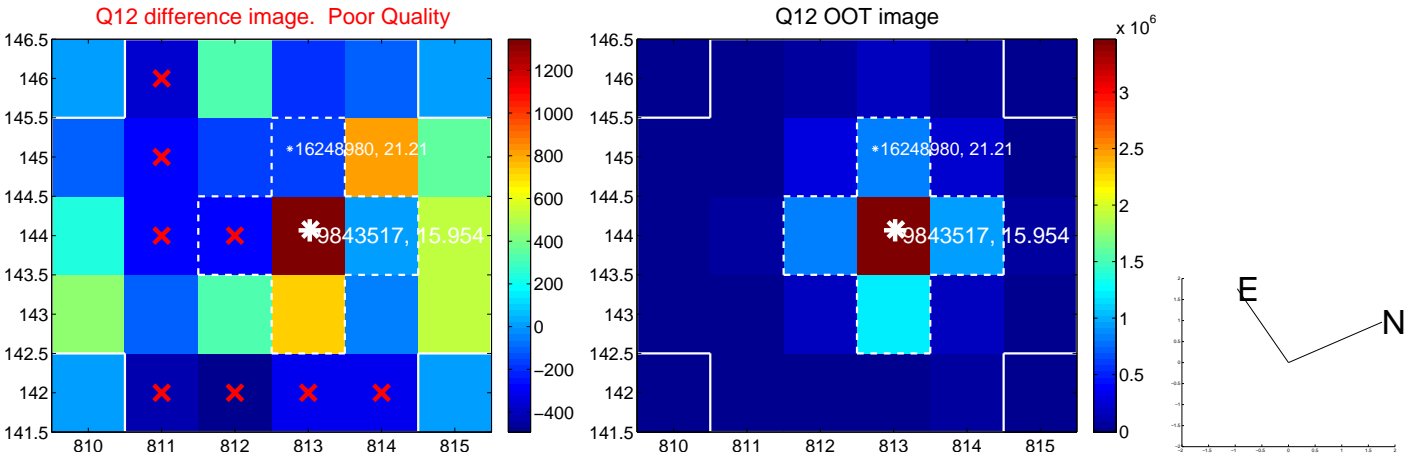
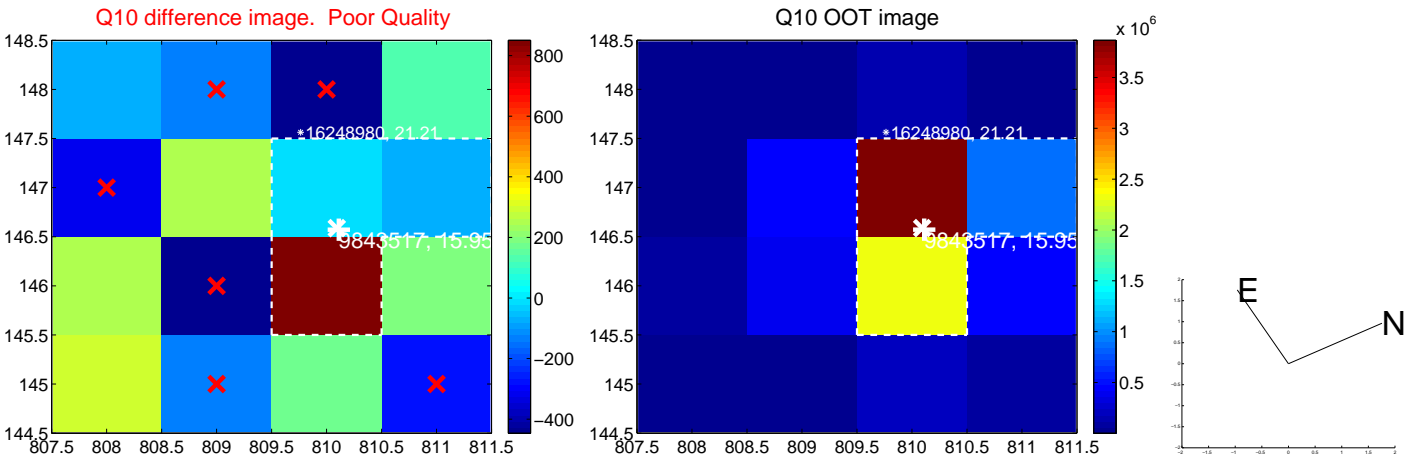
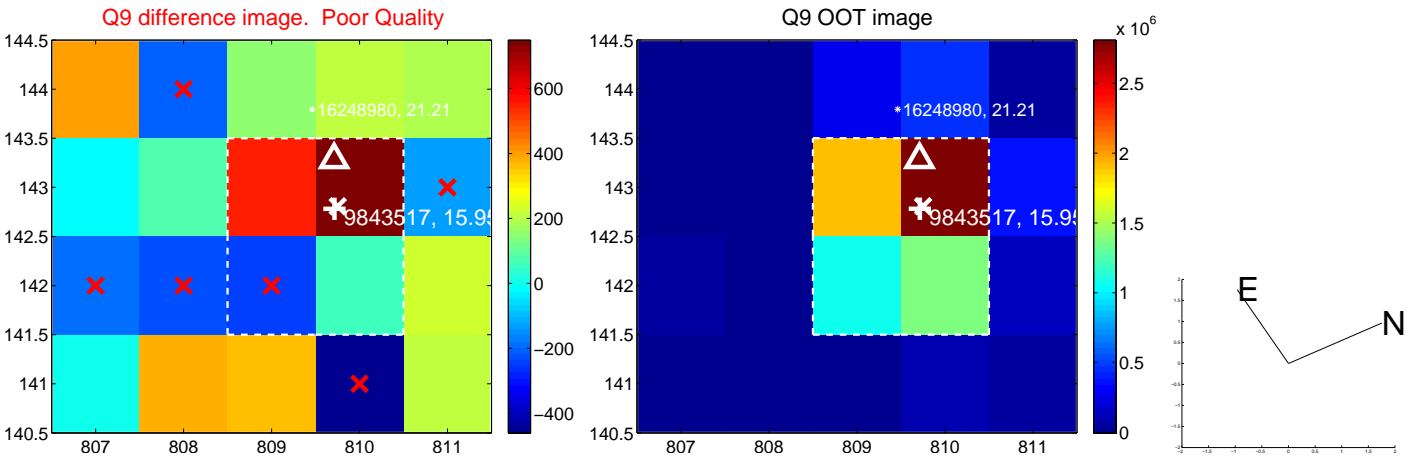
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



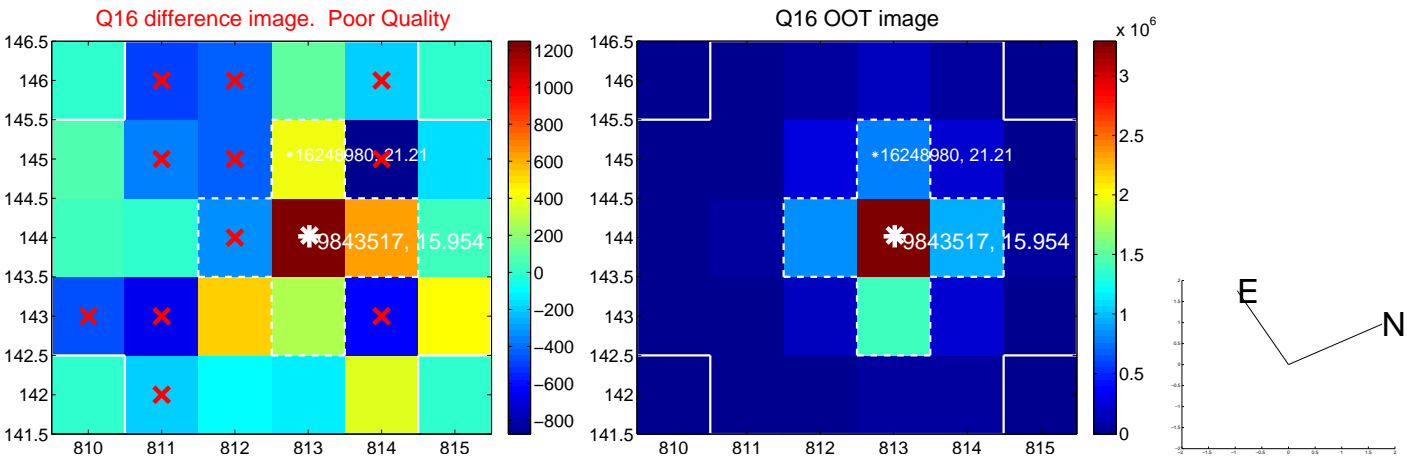
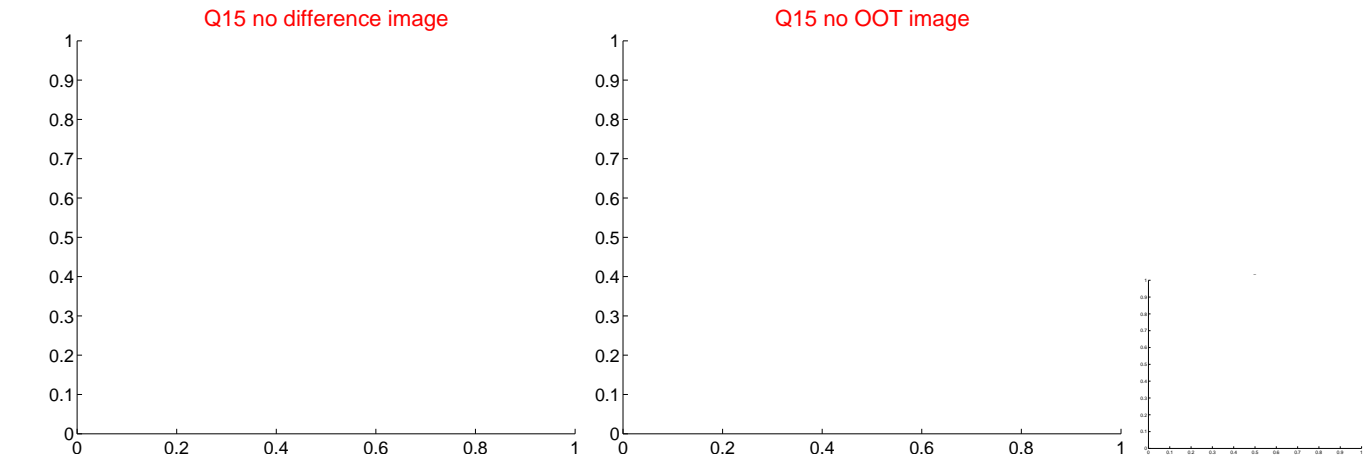
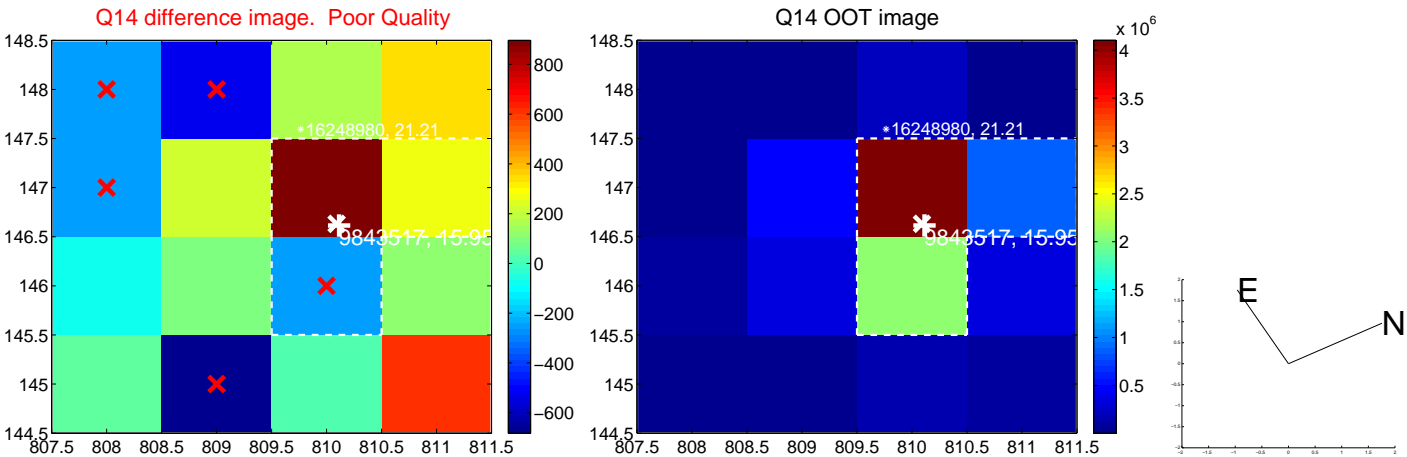
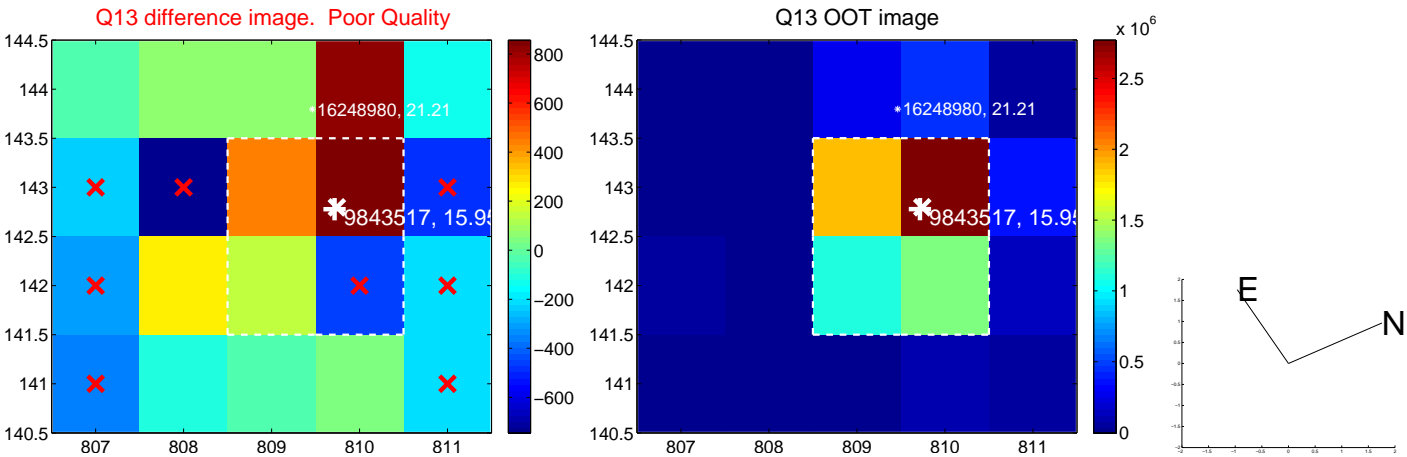
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



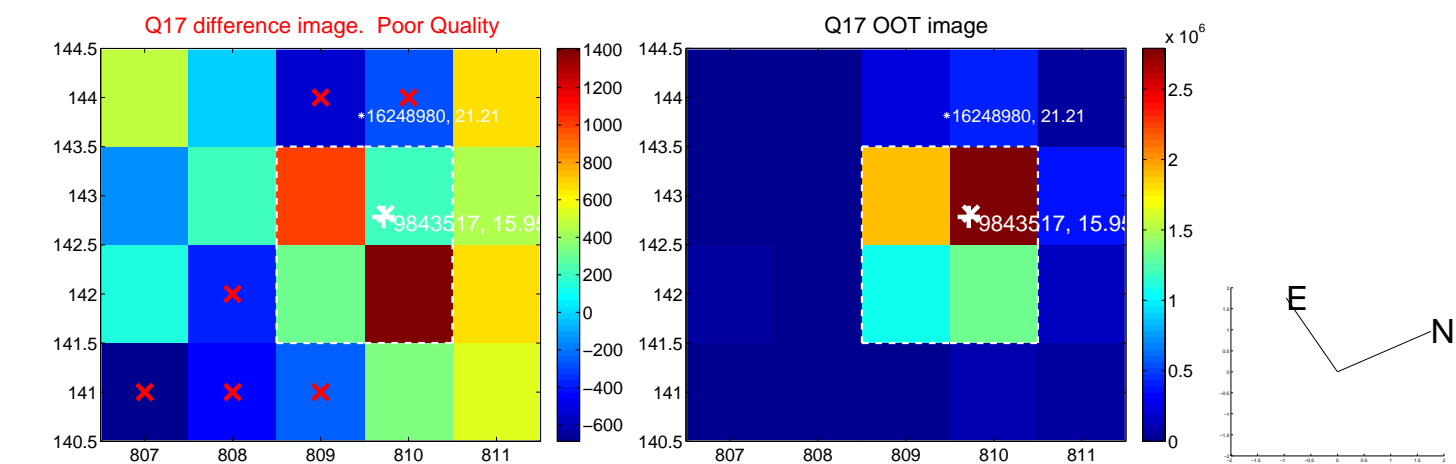
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



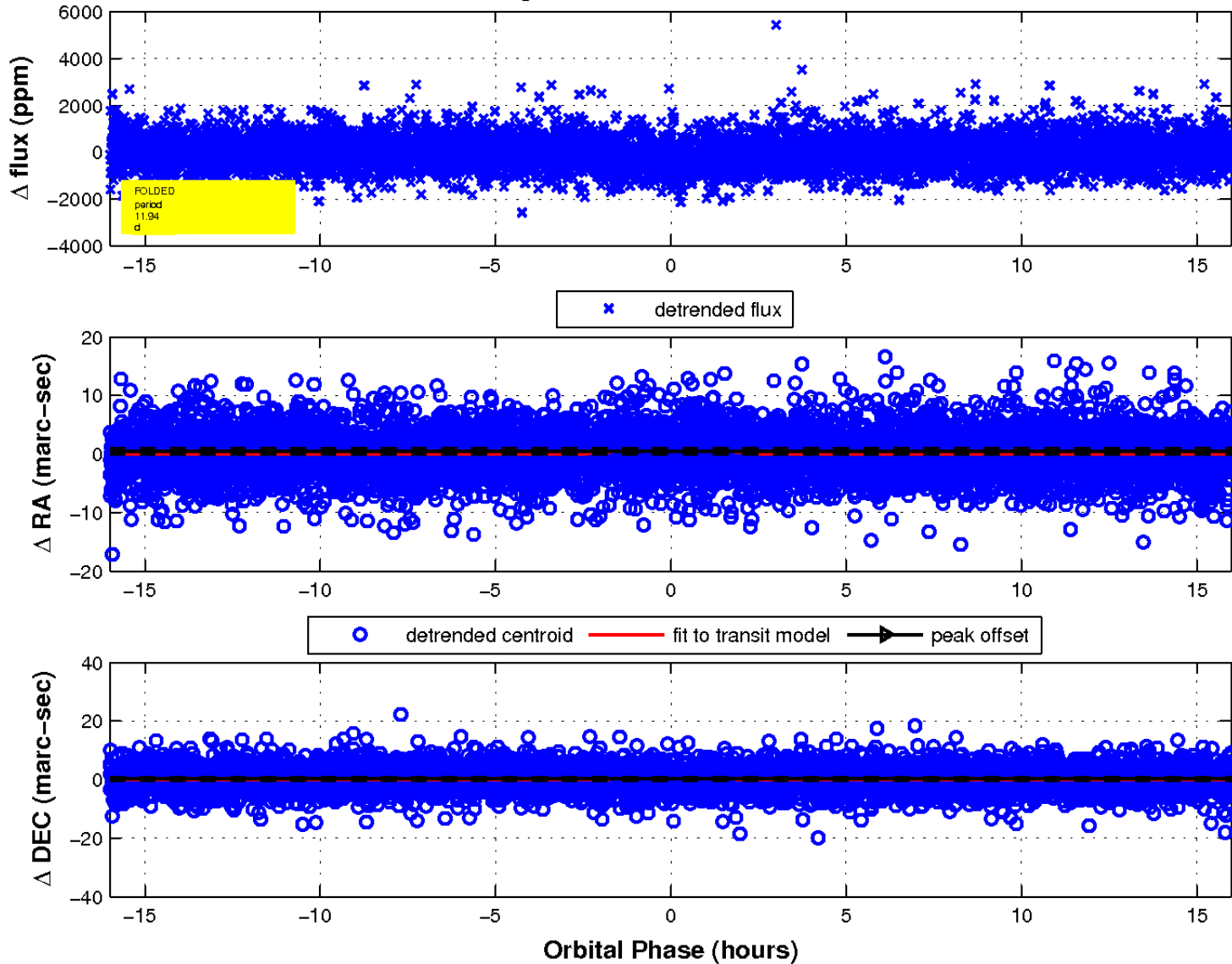
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

