

KIC 004938893

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})
004938893-01	OBS	No	1.179579	132.233023	57.3	4.358	8.3	8.1	0.90	5758	0.78	1696.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004938893-01	OBS	FP	0.00	1	0	1	1	LPP_DV—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.

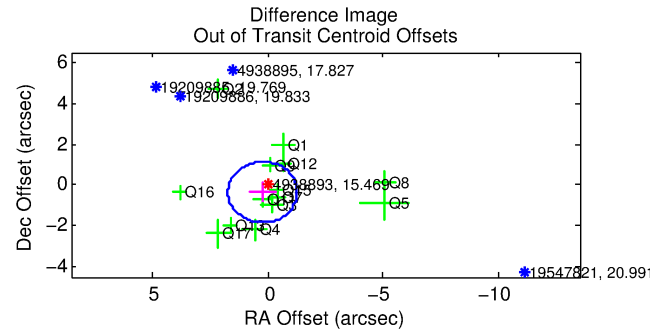
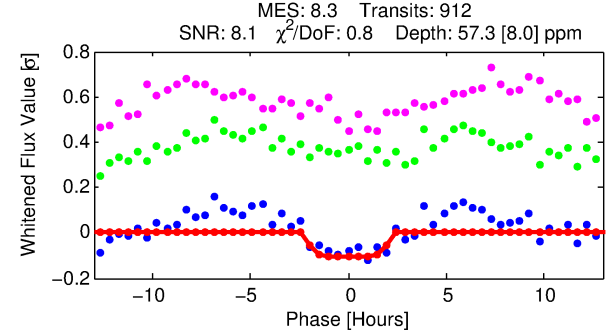
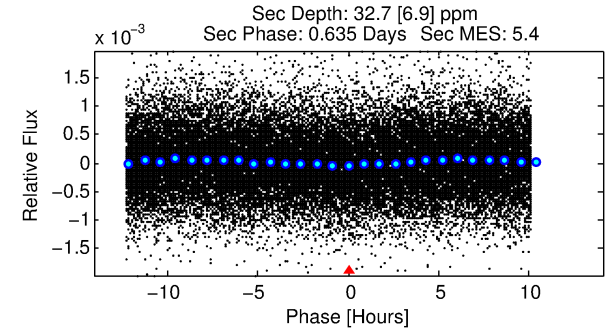
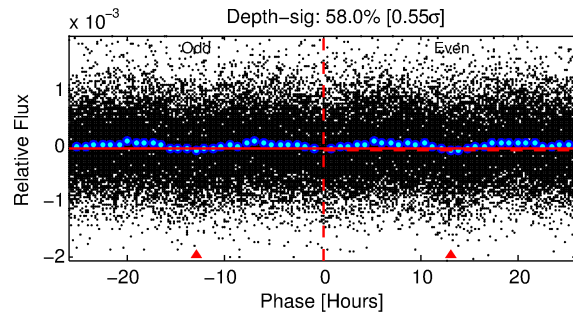
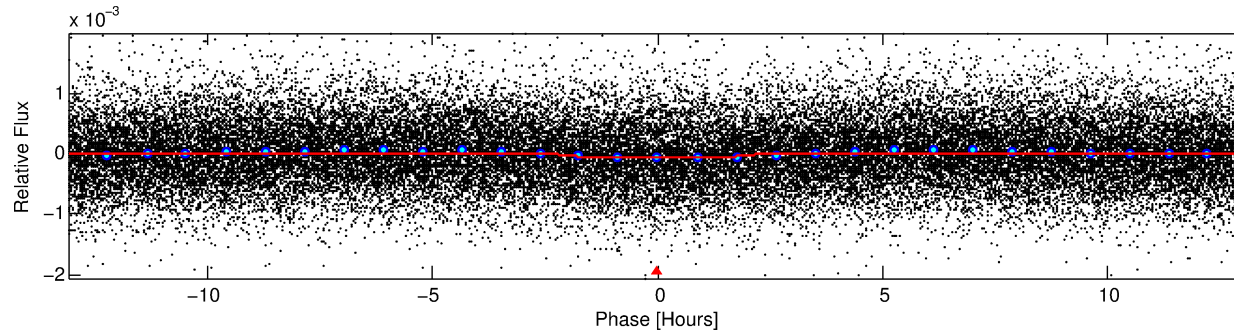
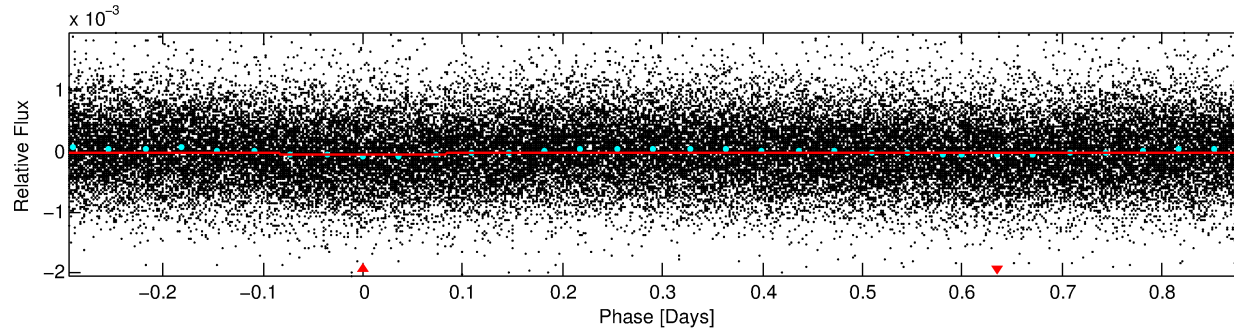
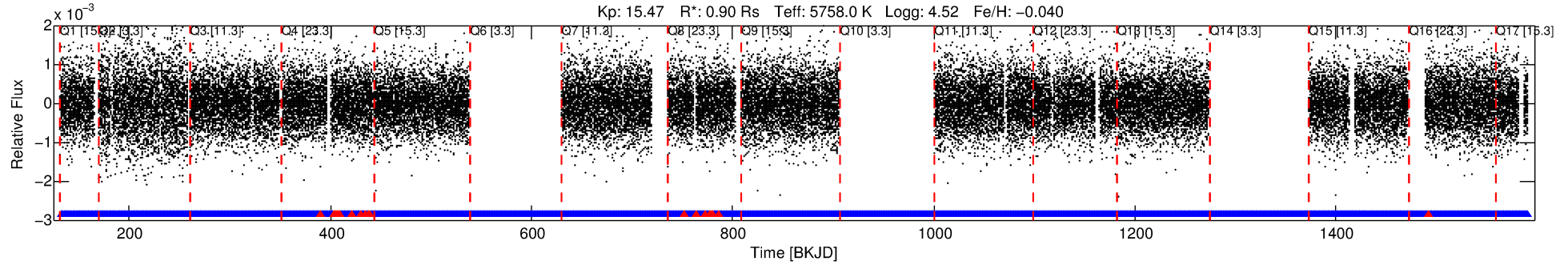
Ephemeris Match Information For 004938893-01

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
004938893-01	4938893	004850843-01	4850843	1:1	243.4	61	2	15.24	15.47	0.77	Col-Anomaly	1	2.87	0.05

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: 4938893 Candidate: 1 of 1 Period: 1.180 d



DV Fit Results:

Period = 1.17958 [0.00002] d
Epoch = 132.2330 [0.0066] BKJD
Rp/R* = 0.0079 [0.0062]
a/R* = 1.43 [2.68]
b = 0.85 [1.18]
Seff = 1696.36 [658.21]
Teq = 1636 [159] K
Rp = 0.78 [0.65] Re
a = 0.0217 [0.0053] AU
Ag = 13.91 [22.49] [0.57 σ]
Teff = 4887 [1932] K [1.68 σ]

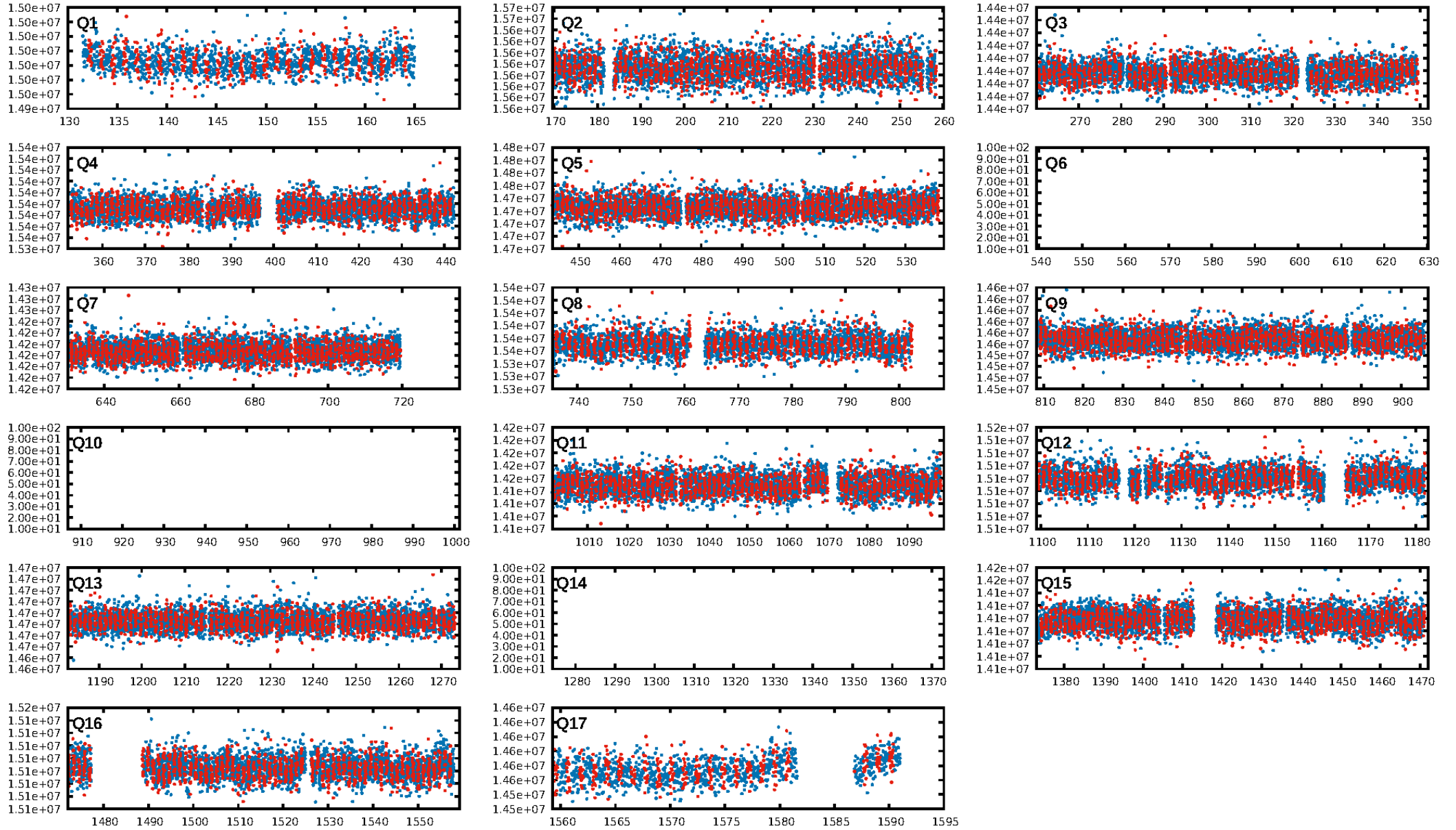
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.16e-15
RollingBand-fgt: 0.98 [843/862]
GhostDiagnostic-chr: -0.2271
Centroid-sig: 0.0%
Centroid-so: 4.408 arcsec [2.97 σ]
OotOffset-rm: 0.418 arcsec [0.84 σ]
KicOffset-rm: 0.490 arcsec [0.98 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 1.00 [14/14]

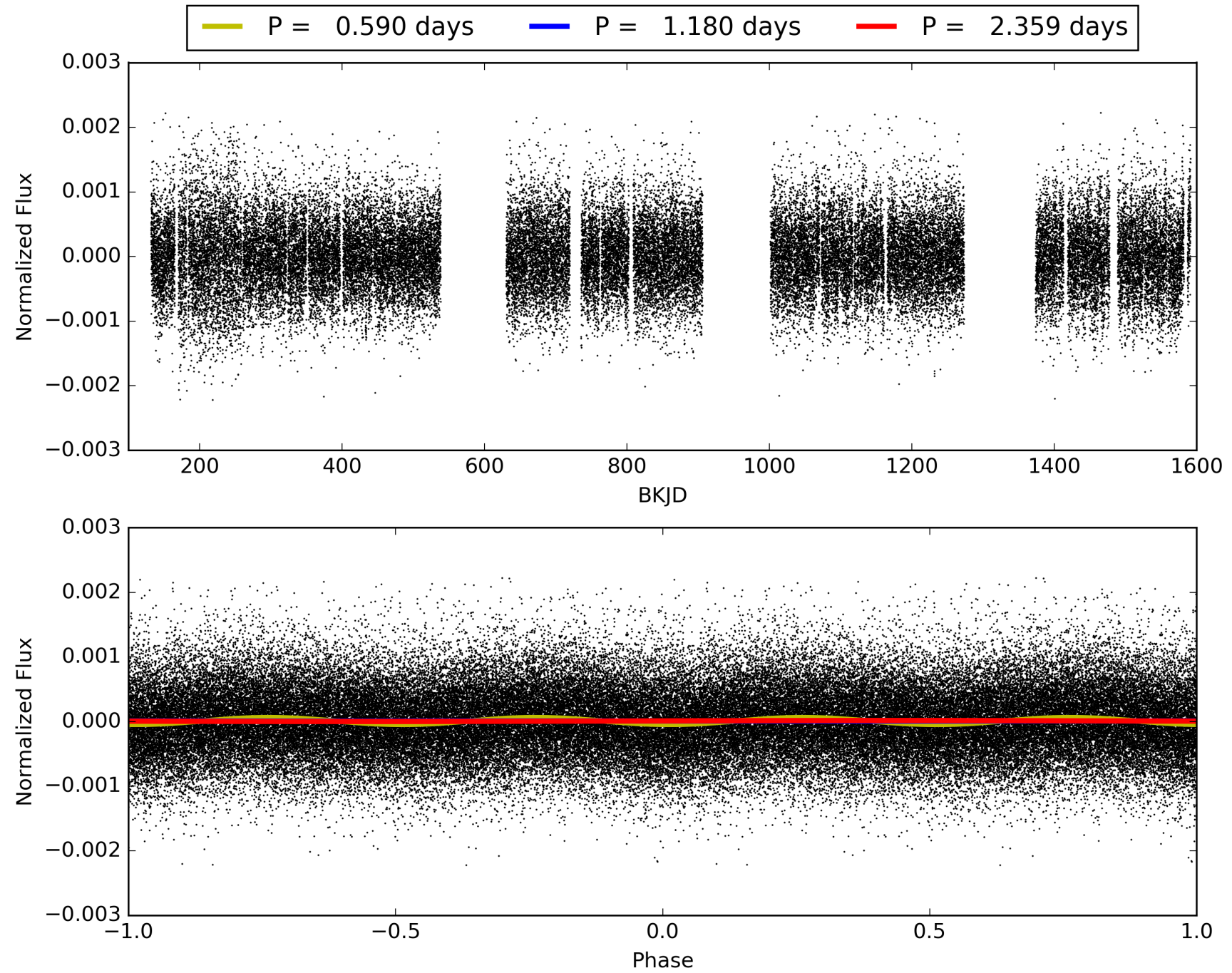
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:30:52 Z

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

TCE 004938893-01, PDC Light Curves

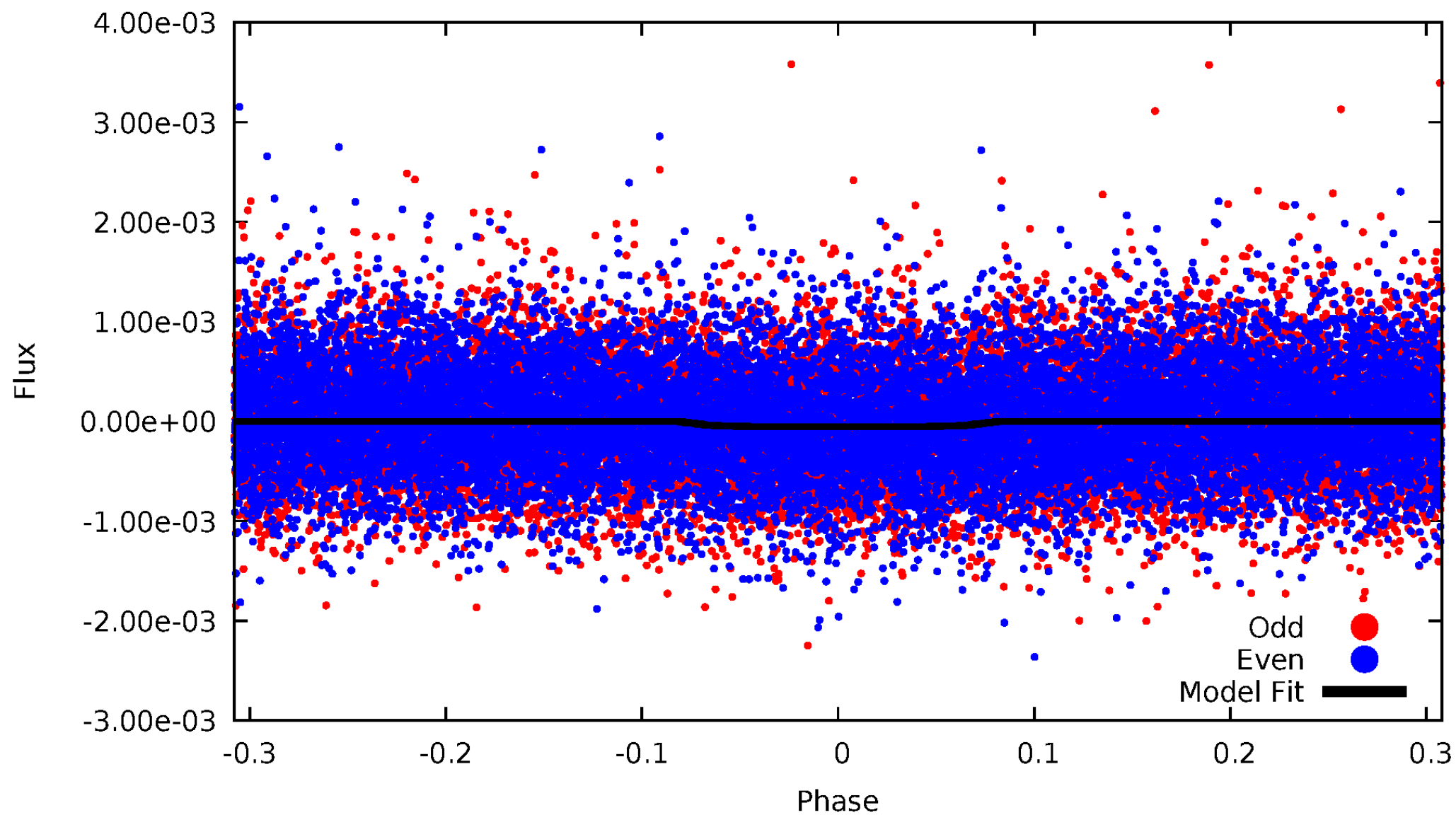


TCE 004938893-01



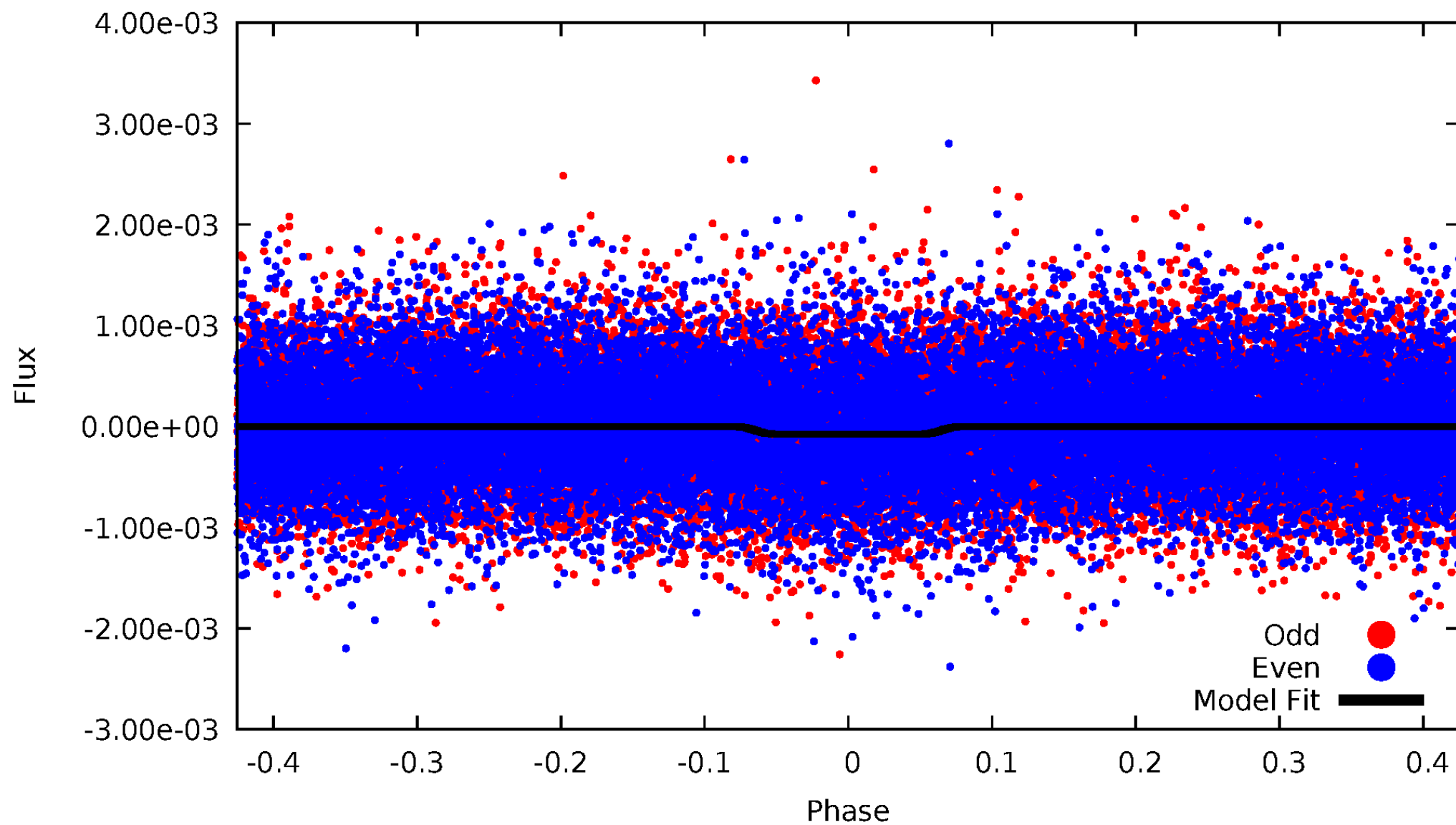
DV Odd/Even

TCE 004938893-01



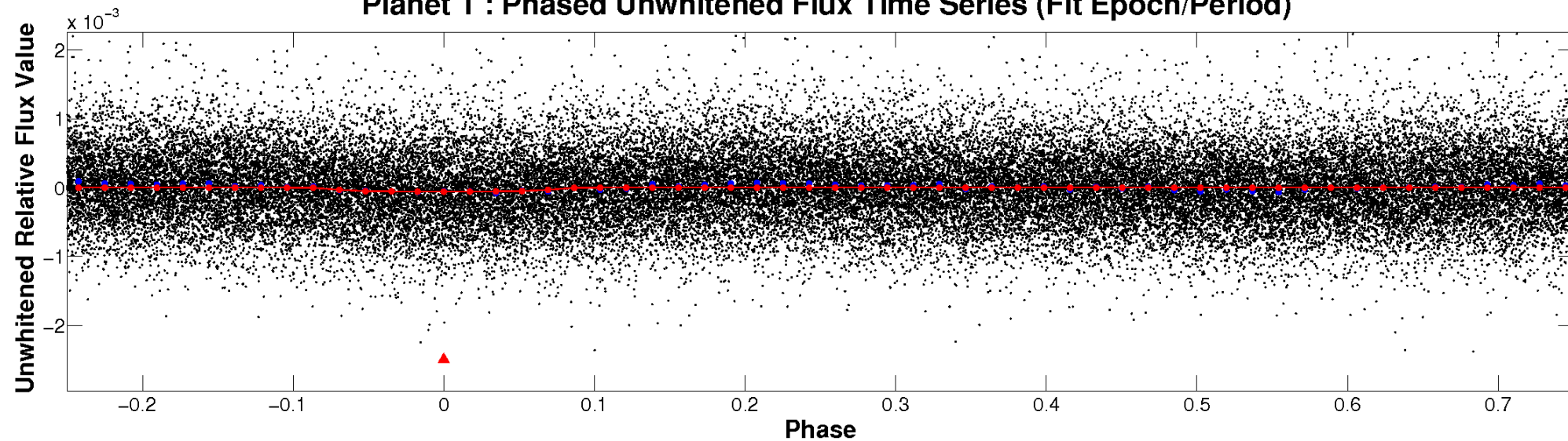
ALT Odd/Even

TCE 004938893-01

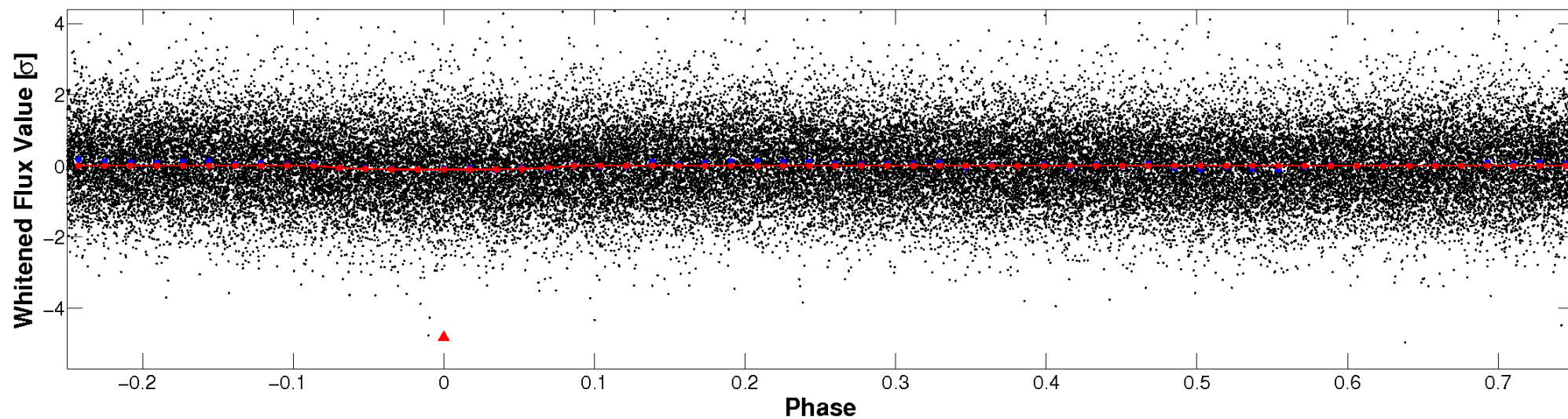


Non-Whitened Vs. Whitened Light Curve

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

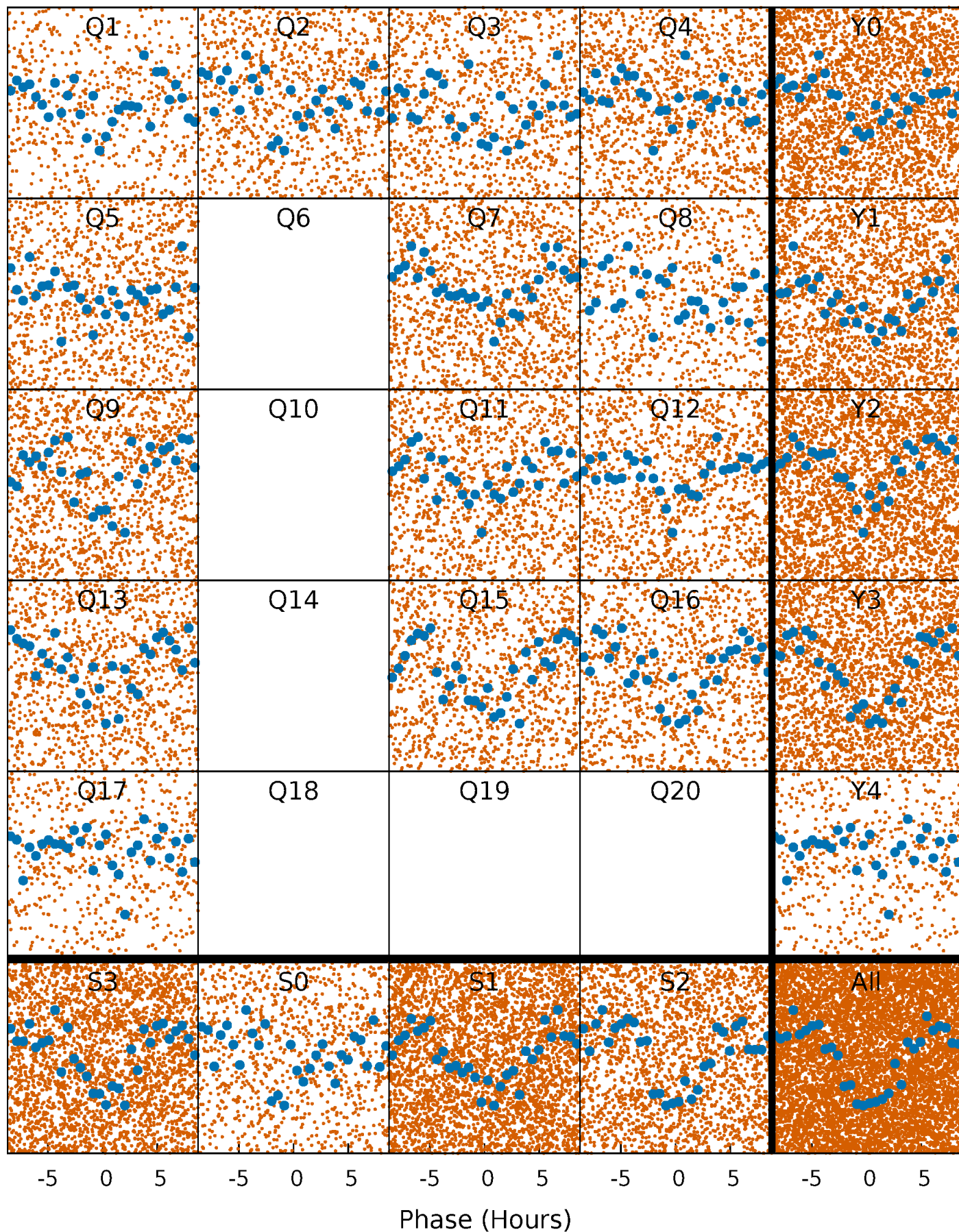


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



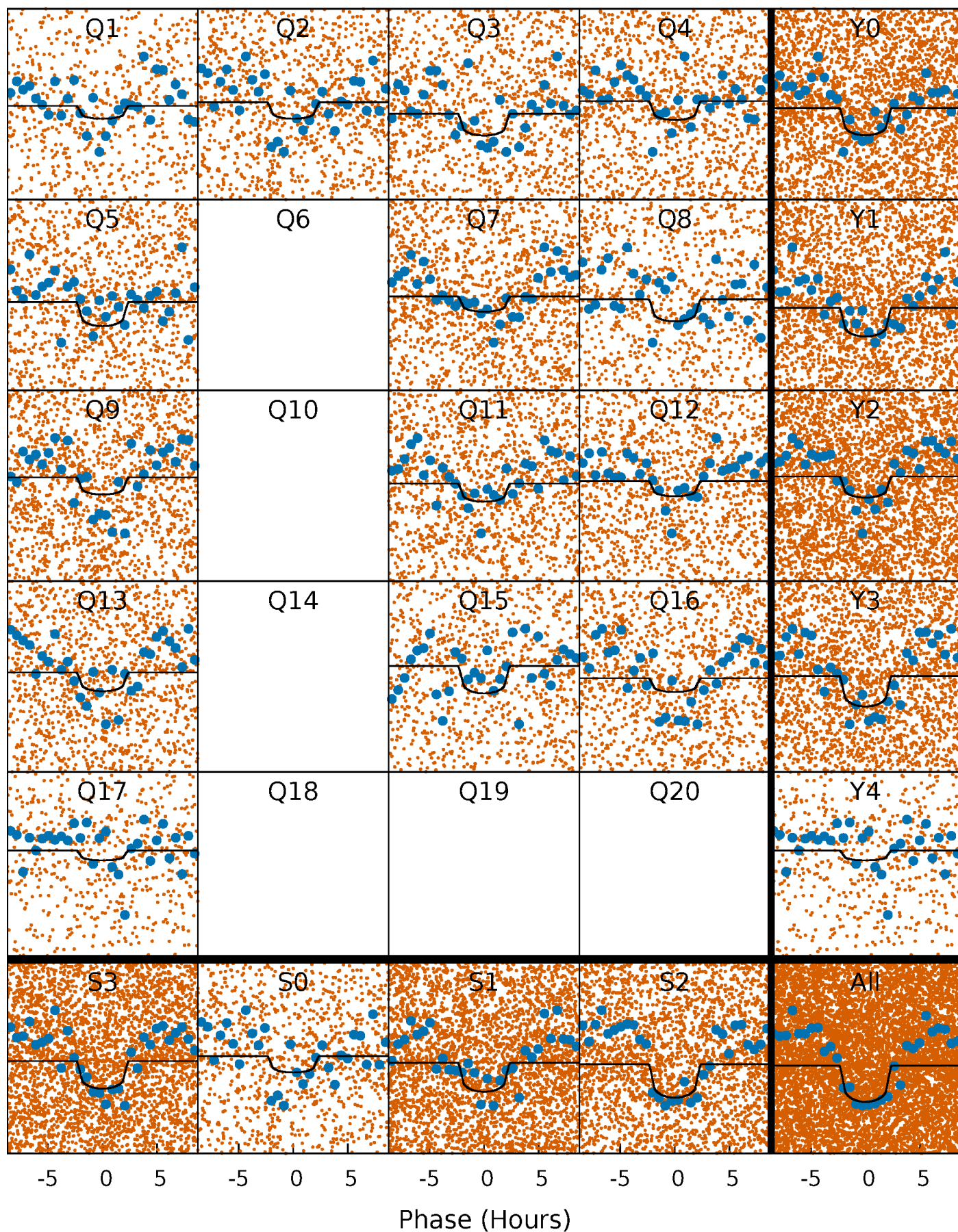
PDC Quarter-Phased Transit Curves

TCE 004938893-01 P= 1.179579 Days $T_0=132.233023$ (BKJD)



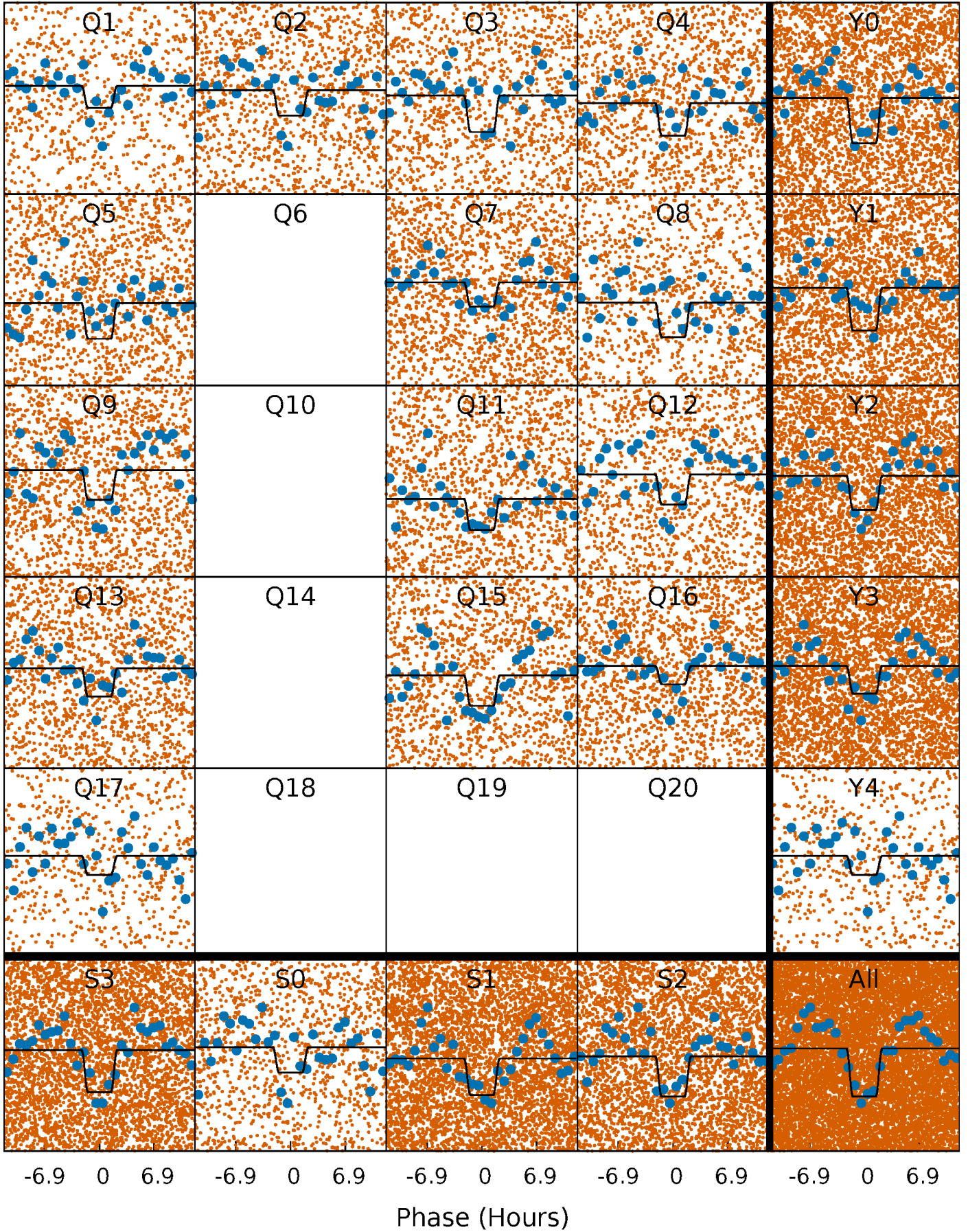
DV Quarter-Phased Transit Curves

TCE 004938893-01 P= 1.179579 Days $T_0=132.233023$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

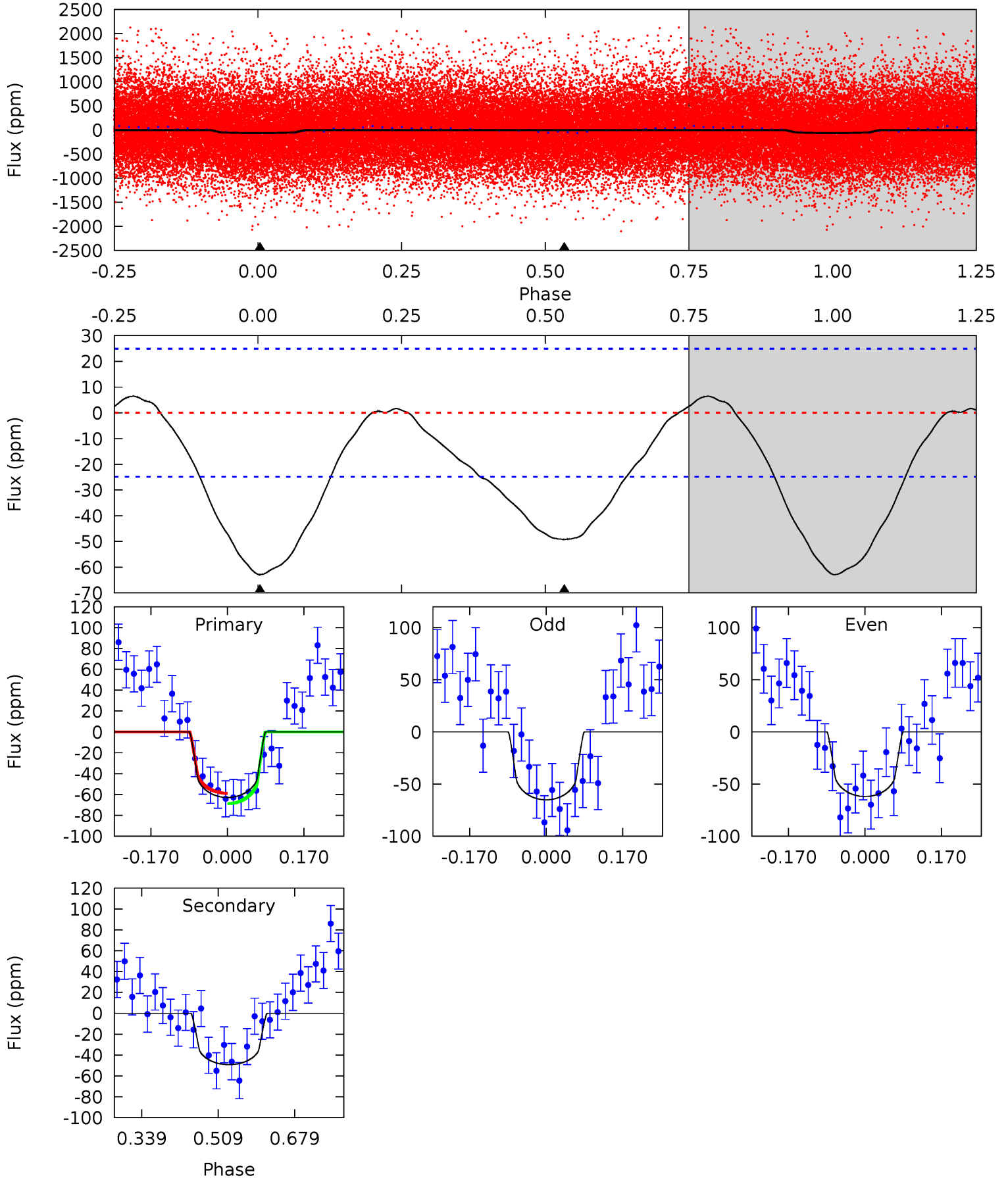
TCE 004938893-01 P= 1.179636 Days $T_0=132.206862$ (BKJD)



DV Model-Shift Uniqueness Test

004938893-01, P = 1.179579 Days, E = 131.053444 Days

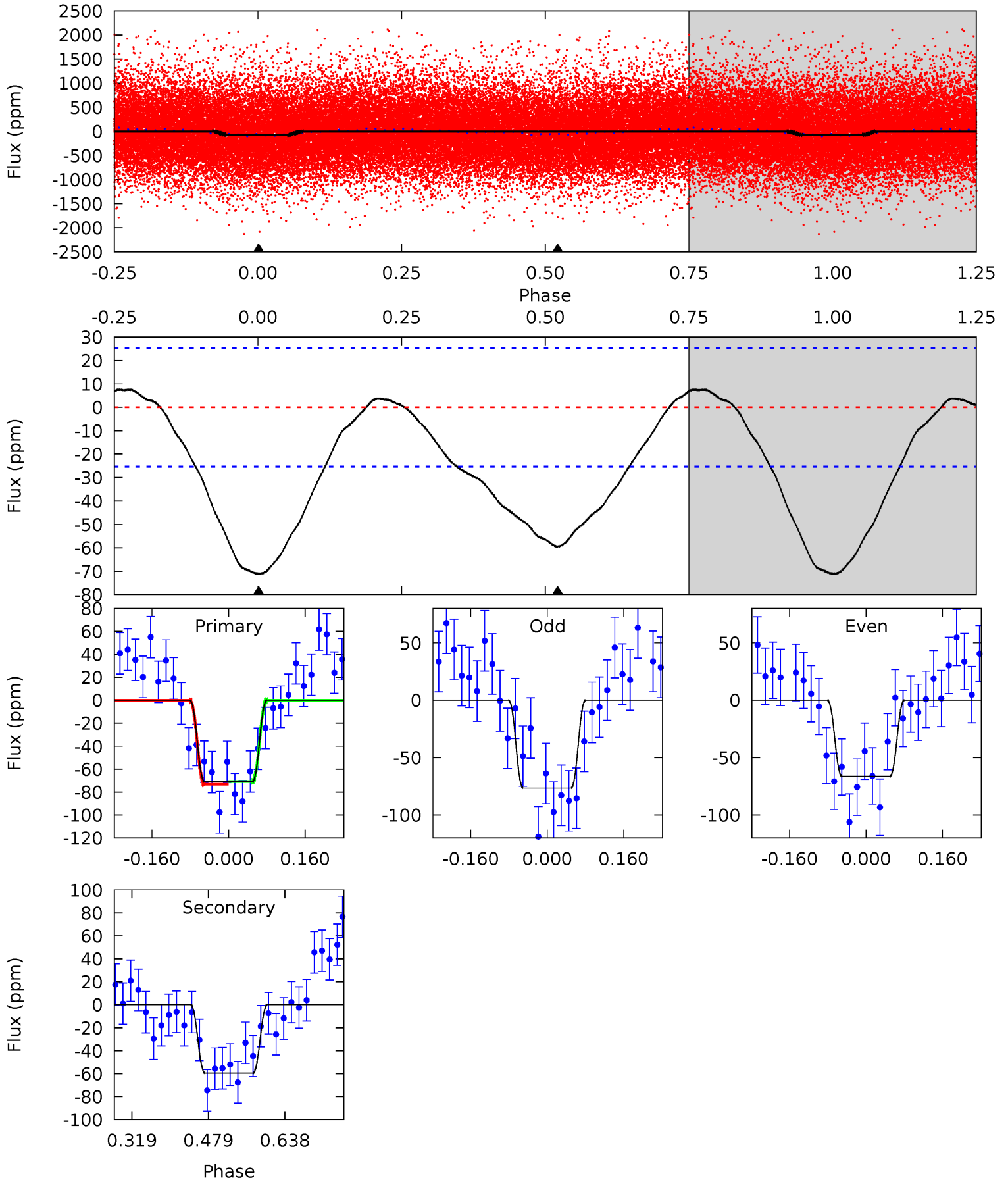
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	8.81	0	0	4.45	1.37	1.25	11.3	11.3	8.81	8.81	0.29	0.96	0.09	0.89



Alt Model-Shift Uniqueness Test

004938893-01, P = 1.179636 Days, E = 131.027226 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	10.5	0	0	4.47	1.41	1.68	12.5	12.5	10.5	10.5	0.90	1.11	0.10	0.21



Stellar Parameters For KIC 004938893

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5758^{+161}_{-202}	$4.519^{+0.050}_{-0.200}$	$-0.040^{+0.250}_{-0.300}$	$0.899^{+0.258}_{-0.086}$	$0.976^{+0.114}_{-0.124}$	$1.889^{+0.387}_{-0.997}$
	+3%/-4%	+1%/-4%	+625%/-750%	+29%/-10%	+12%/-13%	+20%/-53%
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 004938893-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-49 ± 6	$0.91^{+0.62}_{-0.57}$	2333^{+152}_{-111}	5163^{+3511}_{-995}	15^{+91}_{-10}
Alt.	-59 ± 6	$0.94^{+0.62}_{-0.53}$	2331^{+152}_{-125}	5282^{+2778}_{-1037}	17^{+71}_{-11}

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

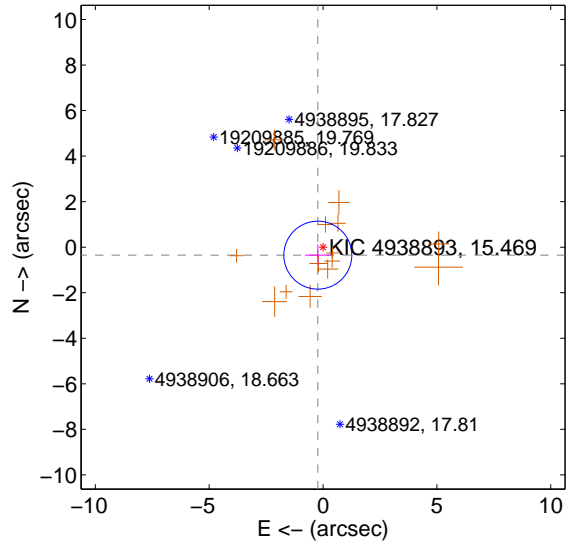
Supplemental centroid analysis for 004938893-01. Kepler magnitude: 15.47. Transit SNR 8.10

There are 0 quarters with good PRF difference image offsets

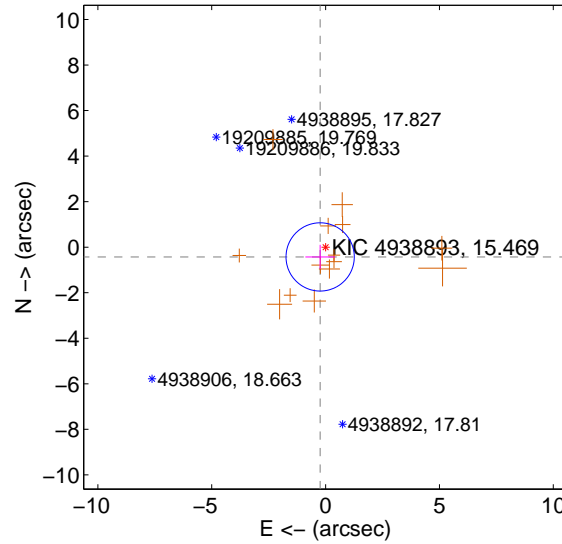
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.418 ± 0.497	0.84	0.229 ± 0.567	-0.350 ± 0.463
PRF-fit source offset from KIC position	0.490 ± 0.500	0.98	0.238 ± 0.651	-0.428 ± 0.531
photometric centroid source offset	4.41 ± 1.48	2.97	-2.43 ± 1.52	-3.68 ± 1.47

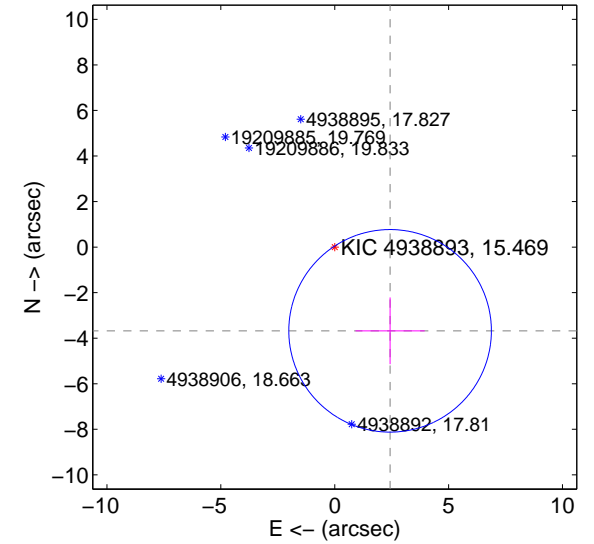
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

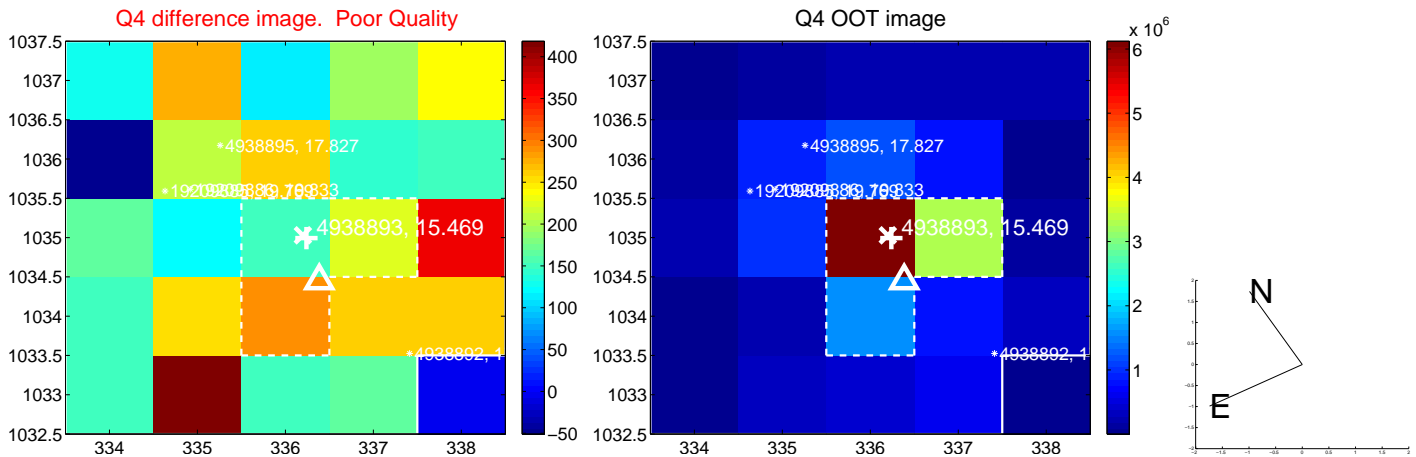
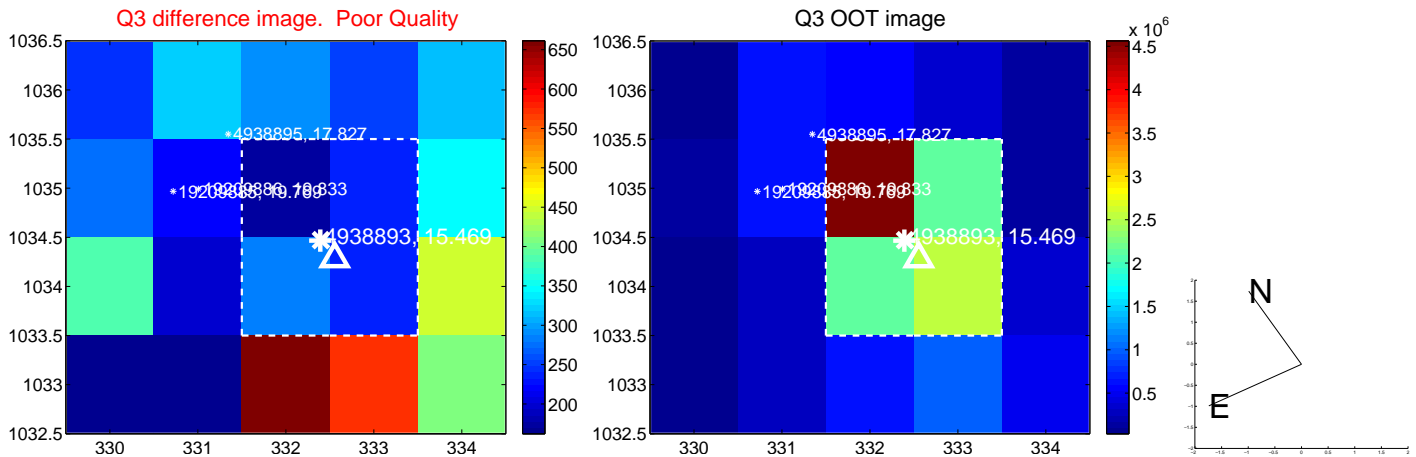
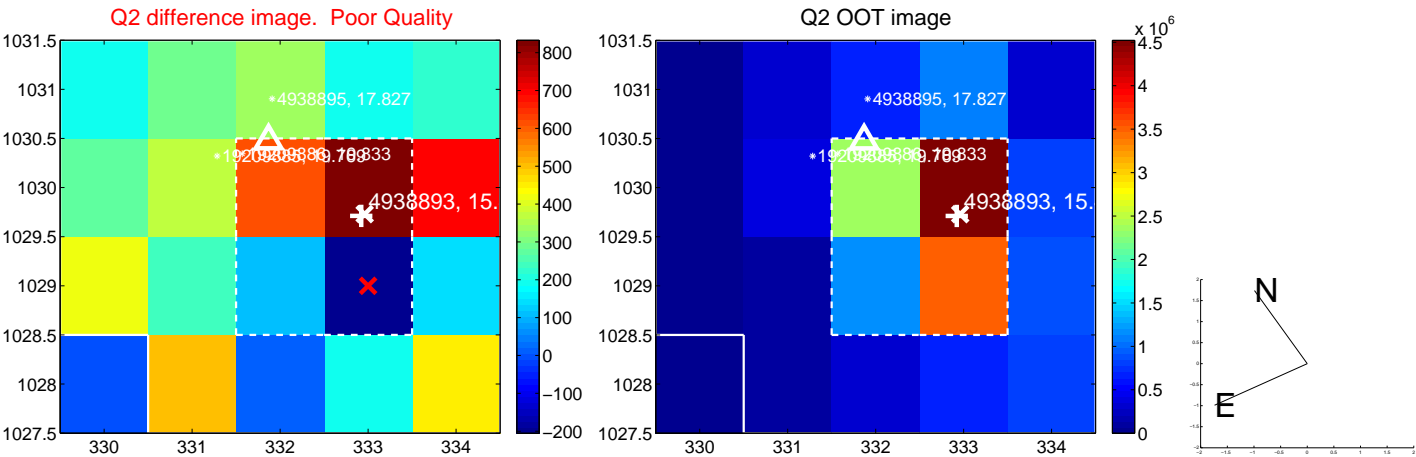
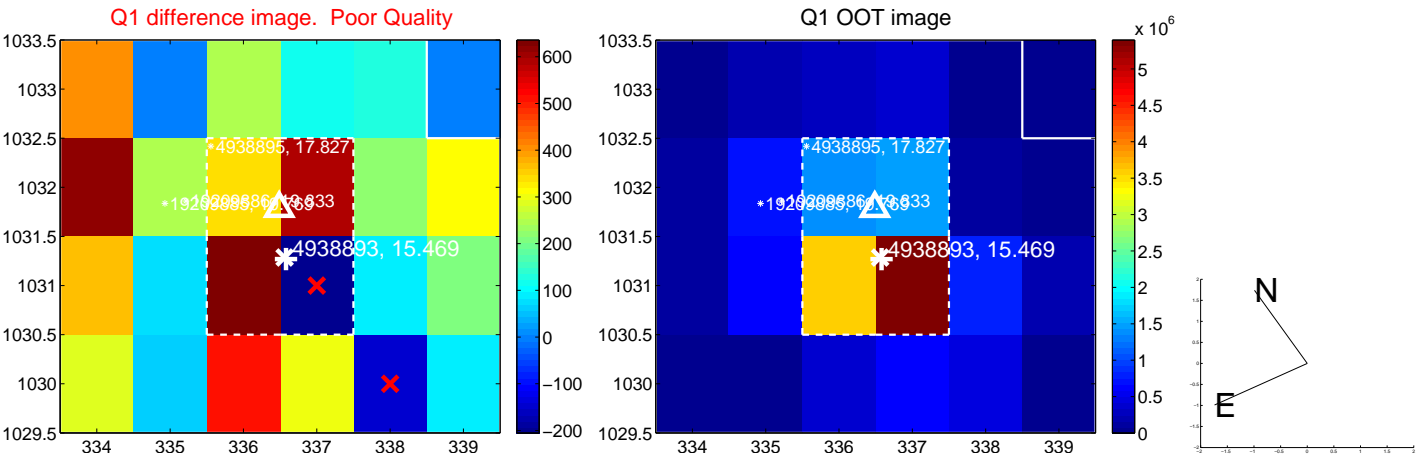


offset from photometric centroids

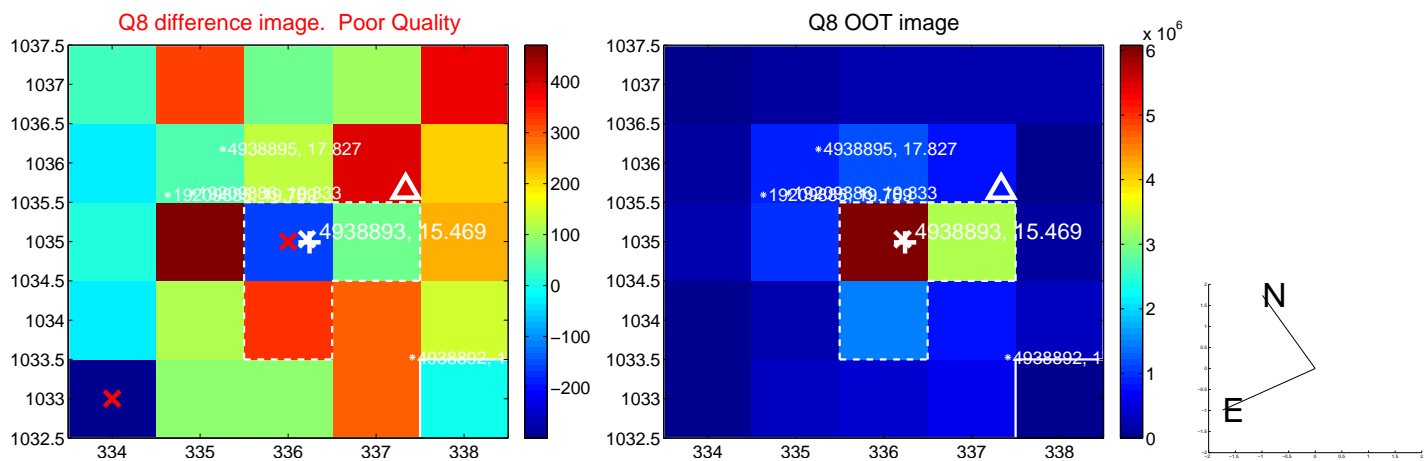
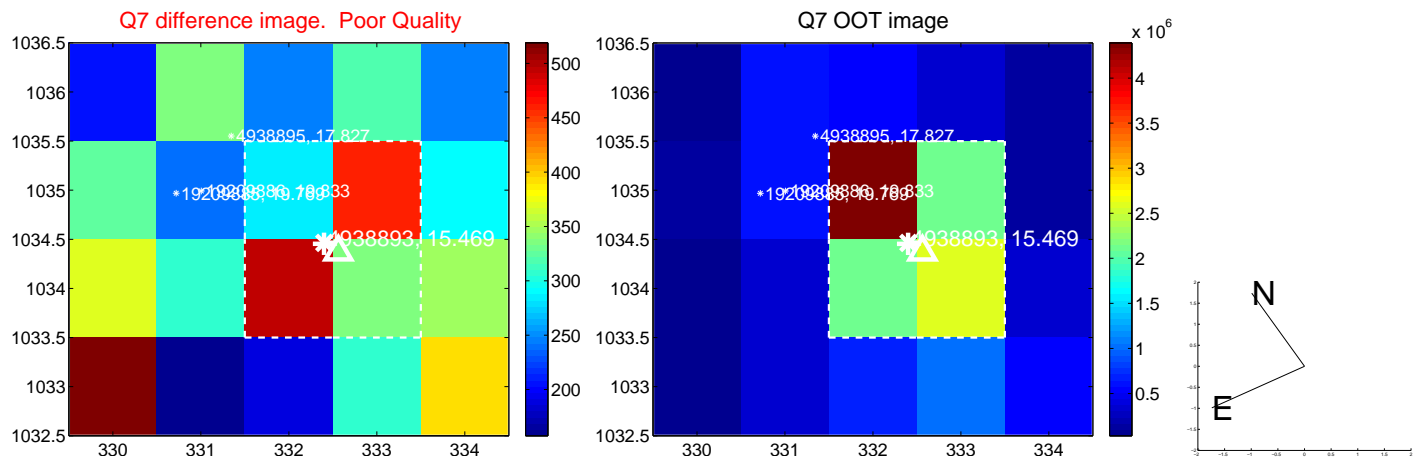
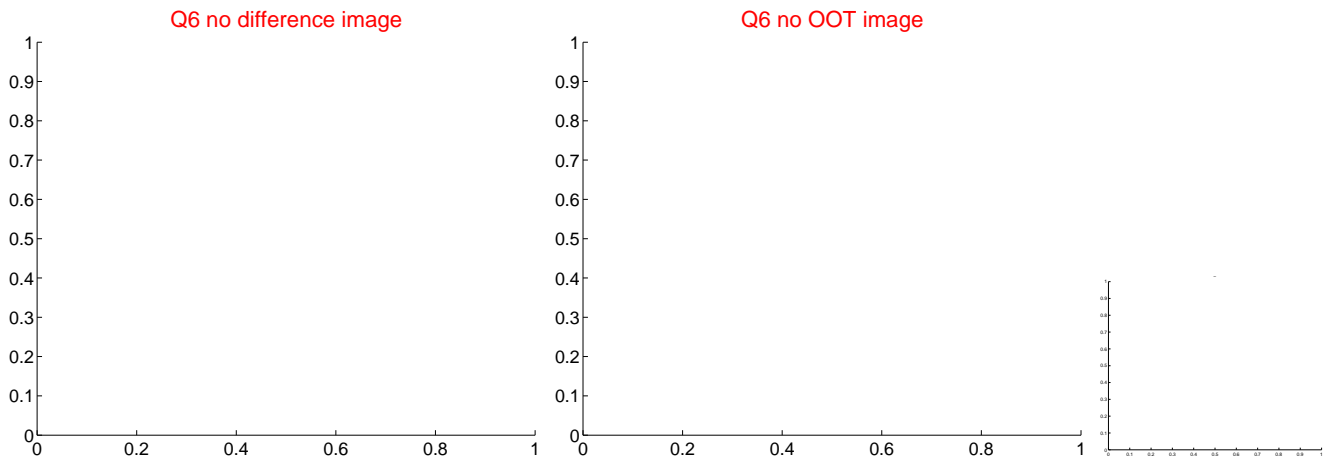
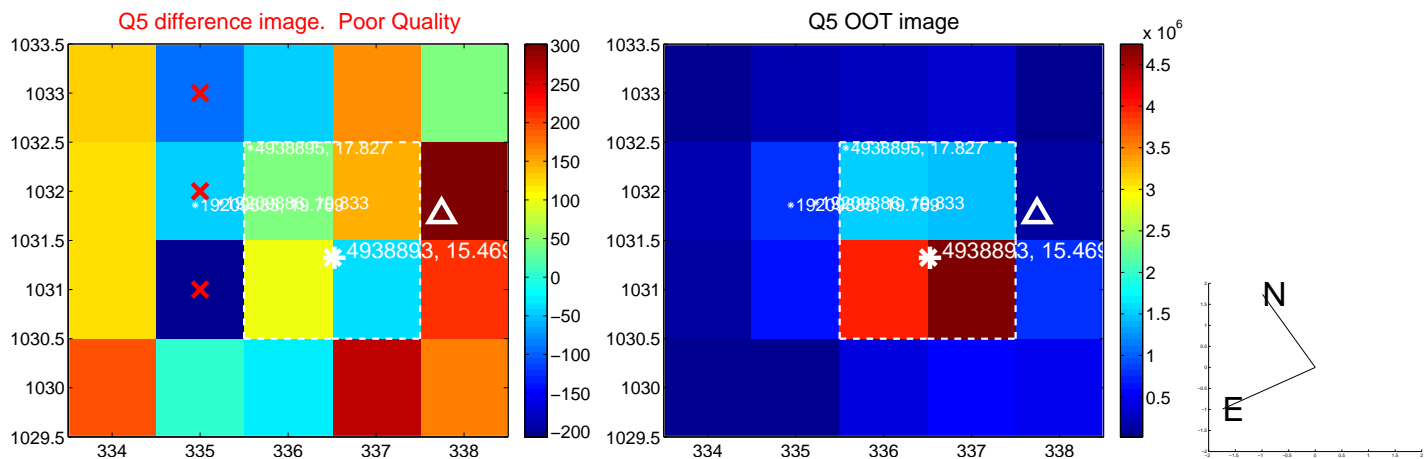


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

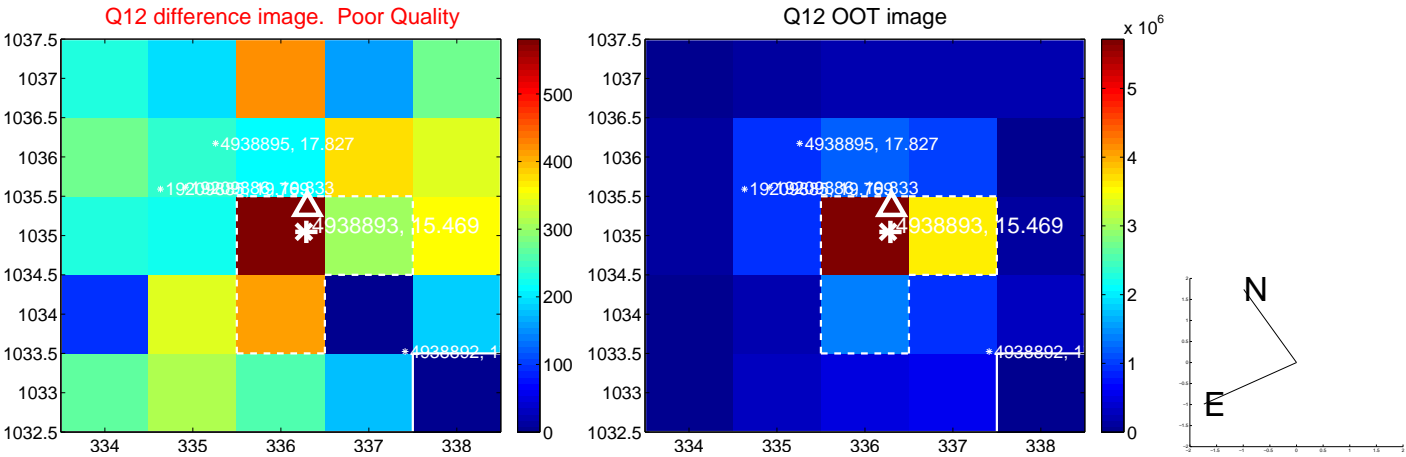
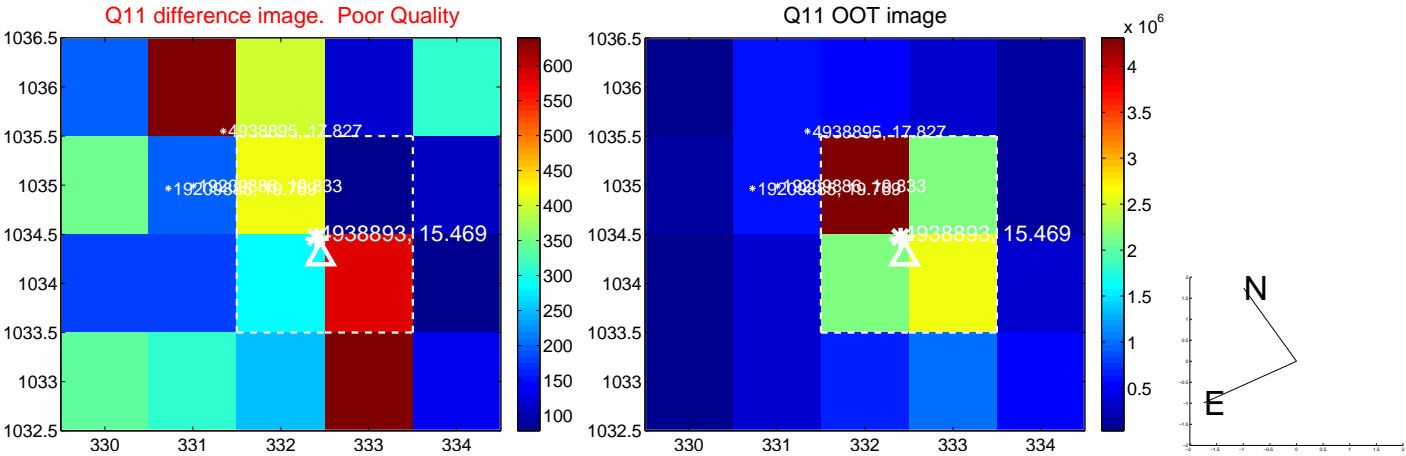
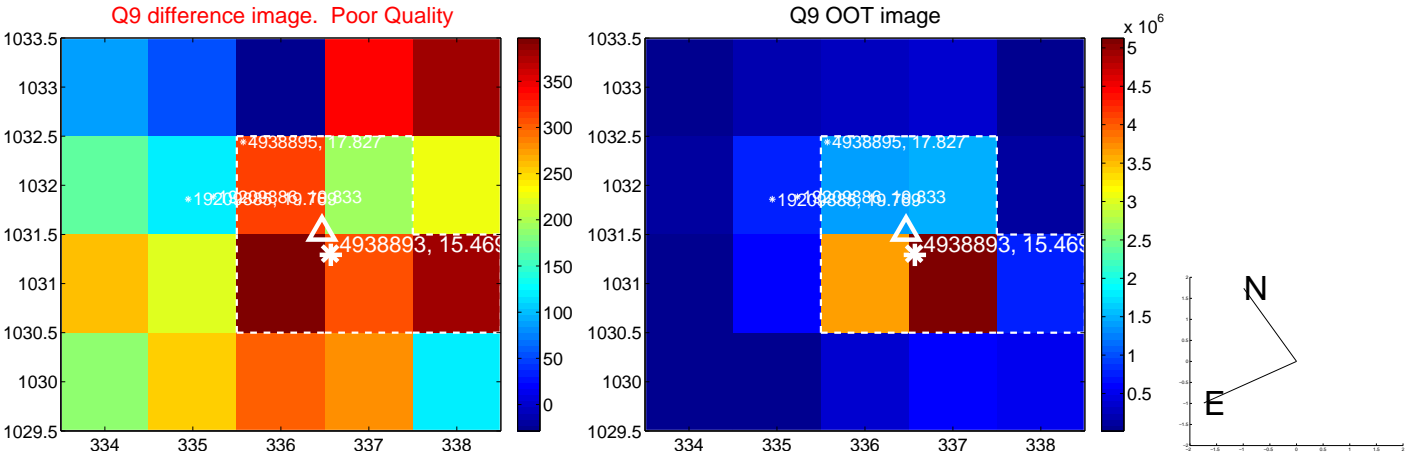
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



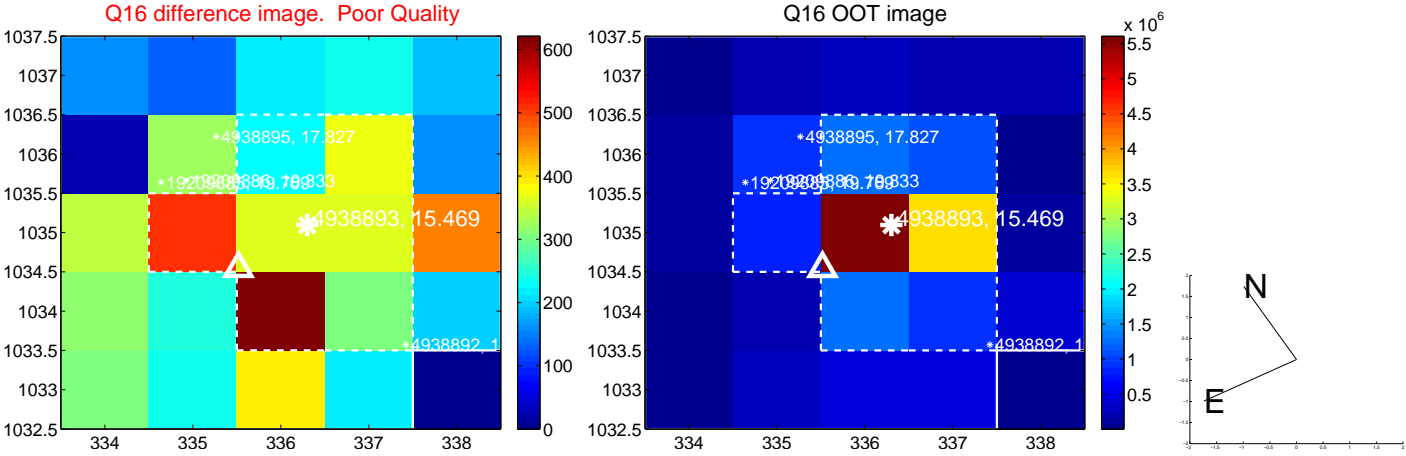
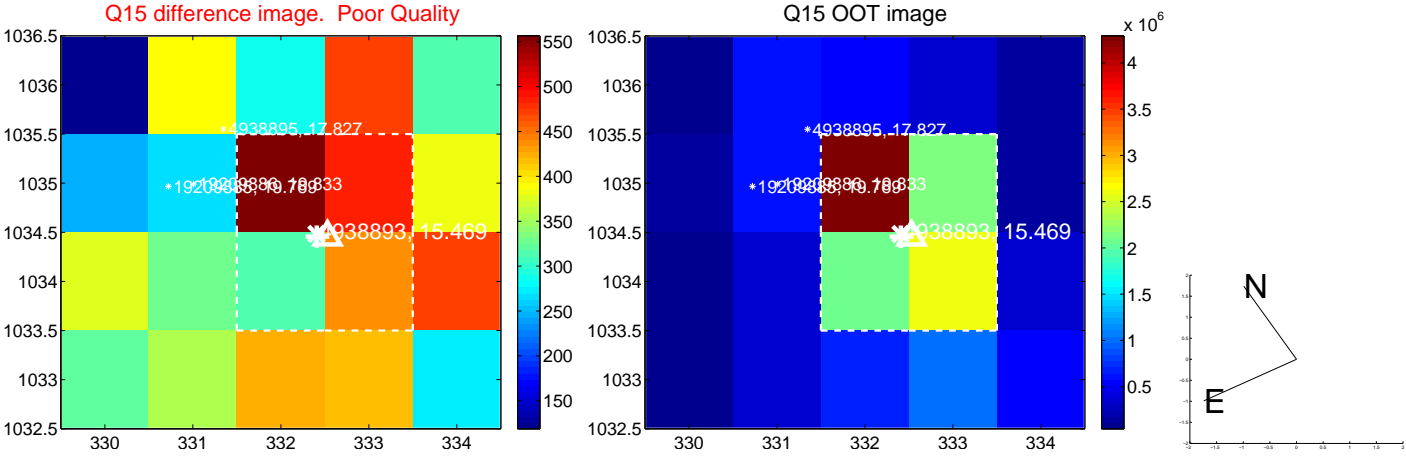
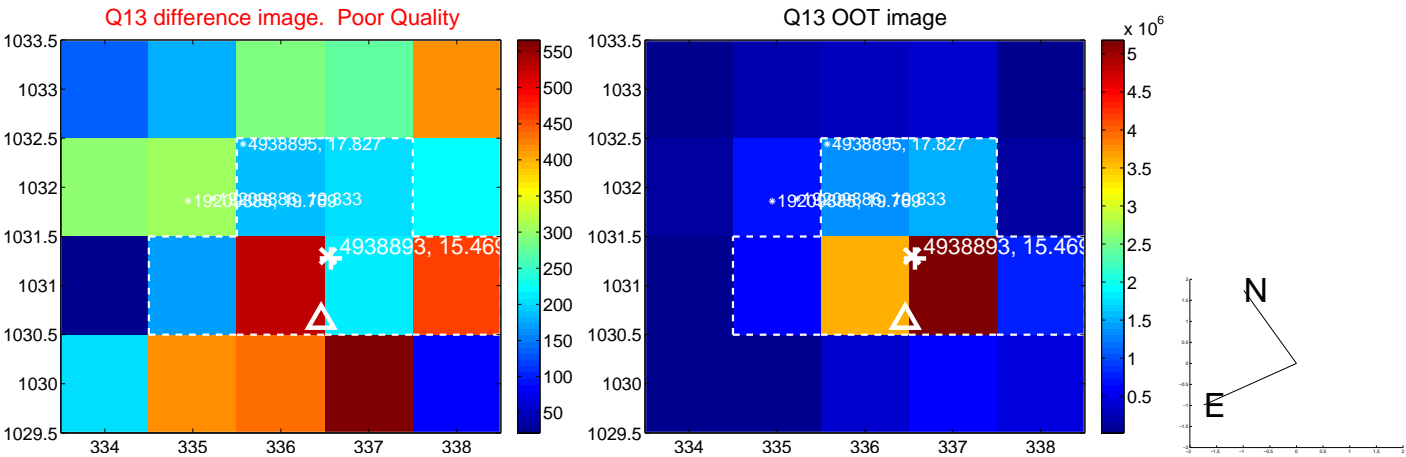
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



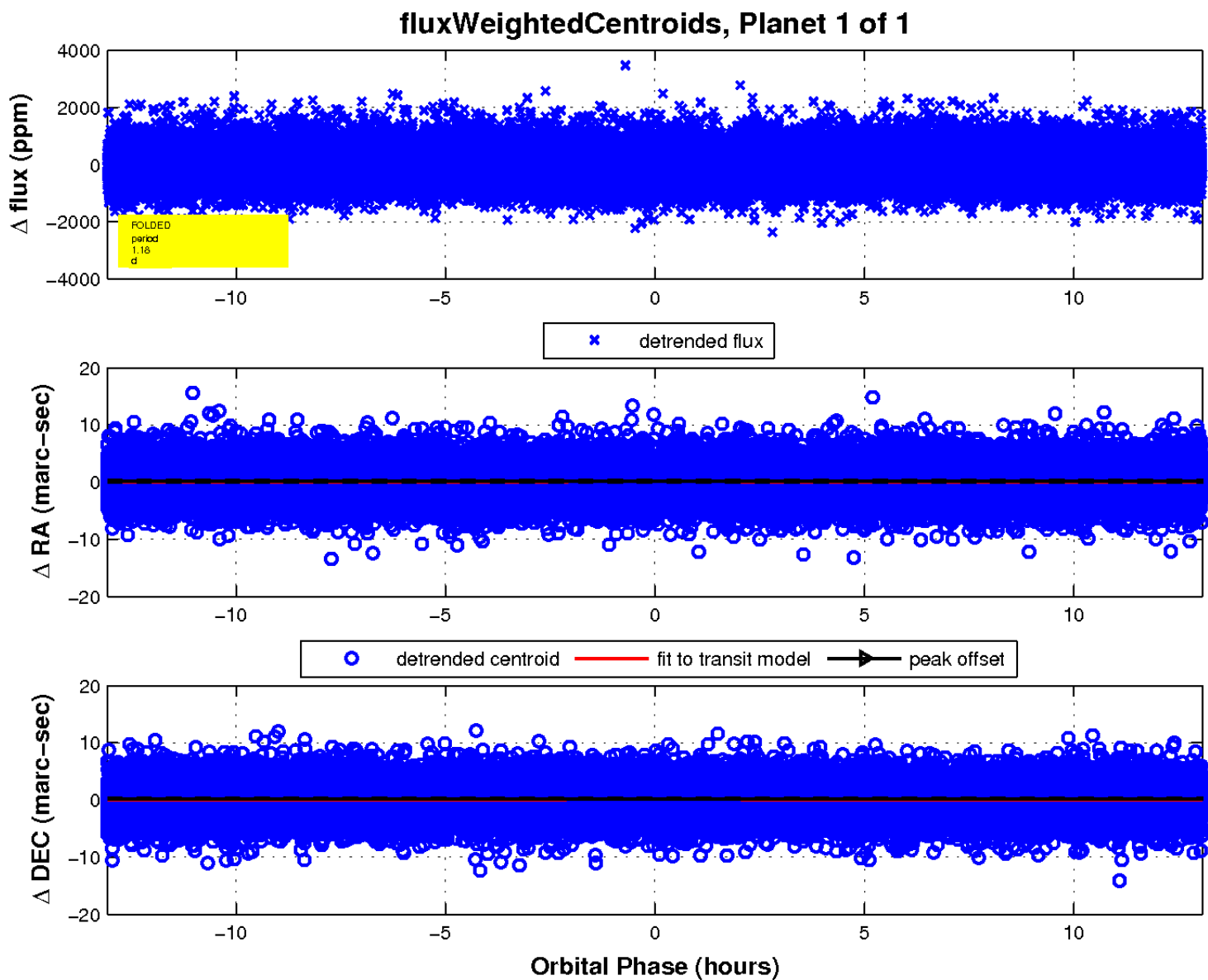
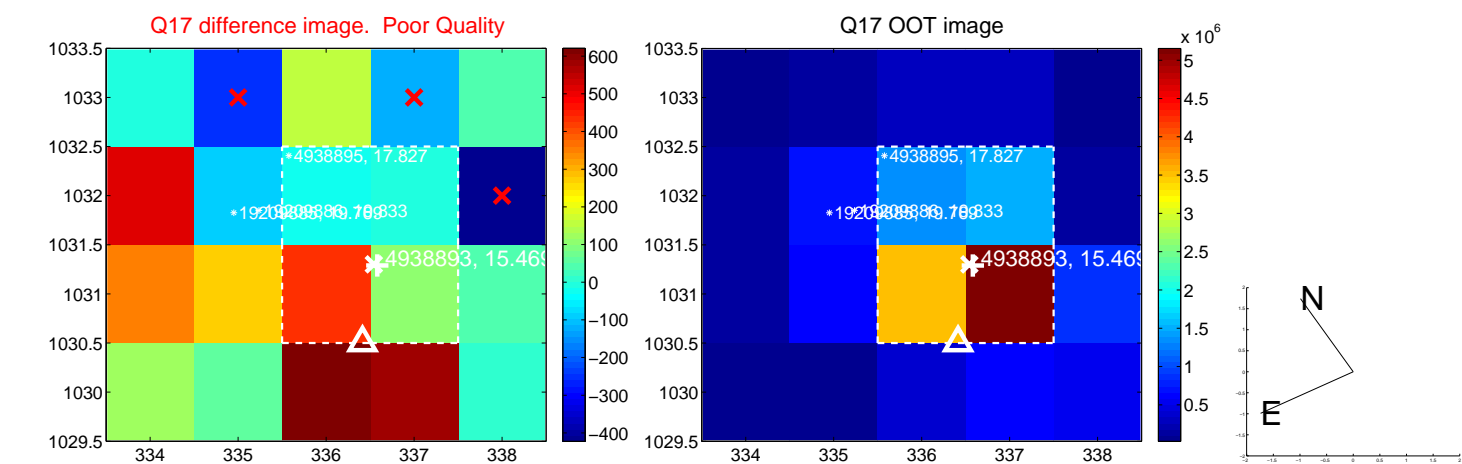
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



UKIRT Image

Declination

