

KIC 002714803

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})
002714803-01	OBS	No	0.968131	132.531752	18.2	9.154	7.6	8.0	1.03	6341	0.45	3984.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002714803-01	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—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.

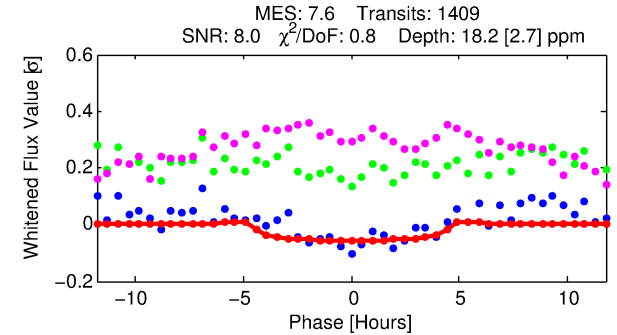
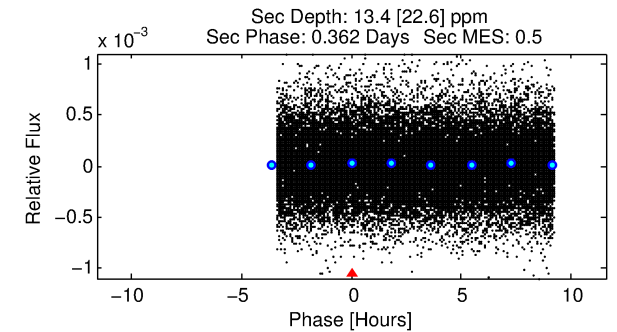
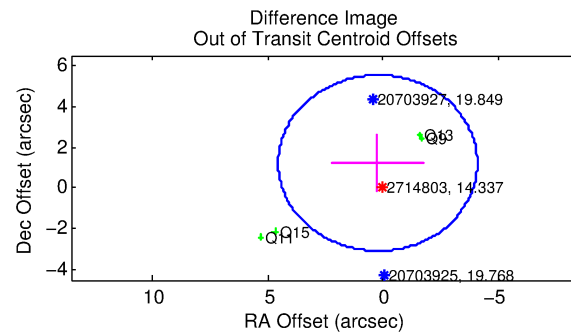
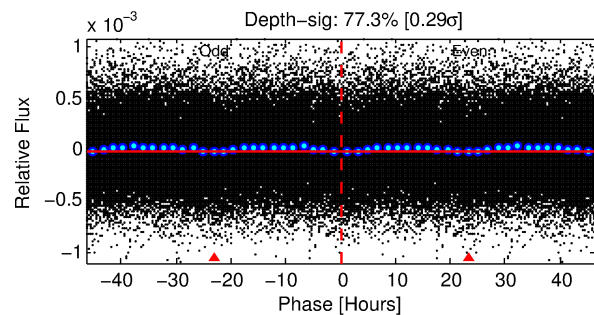
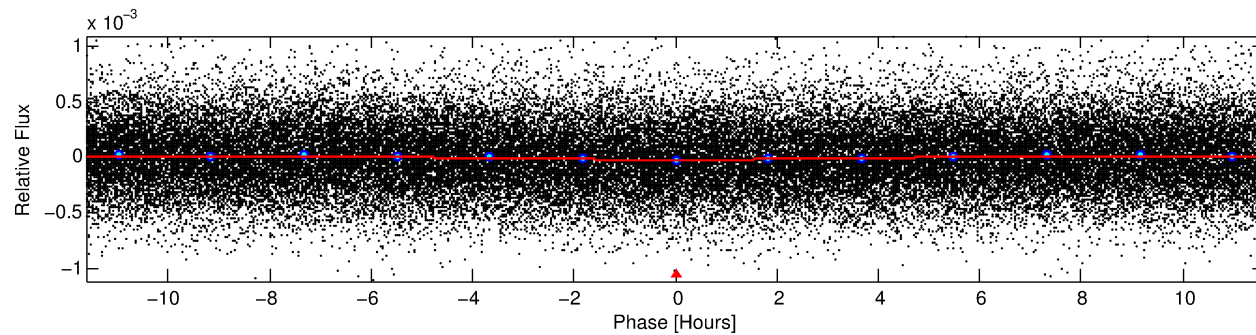
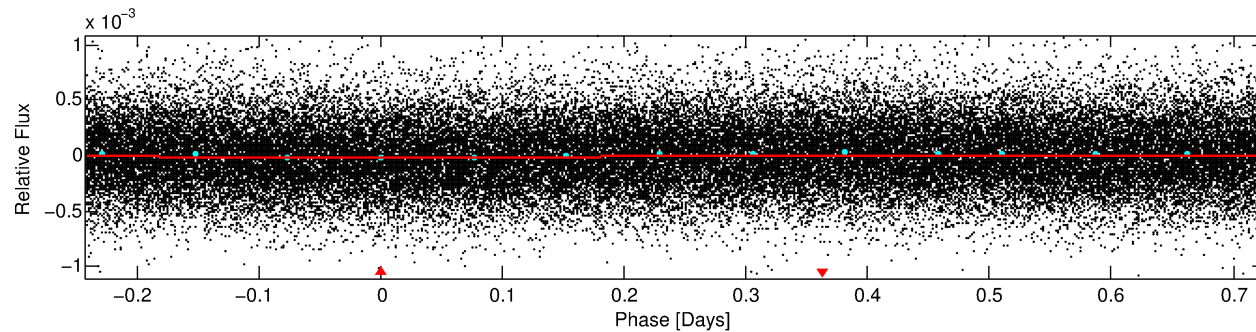
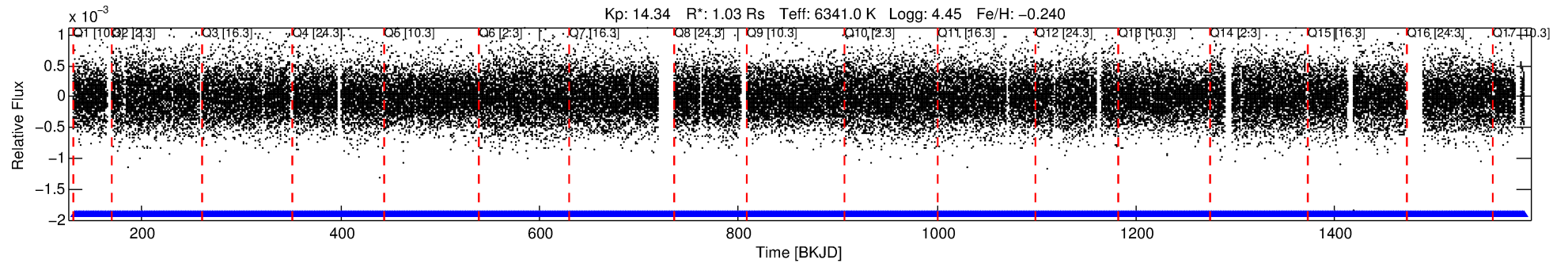
Ephemeris Match Information For 002714803-01

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
002714803-01	2714803	002714831-01	2714831	1:1	36.0	9	1	14.65	14.34	1.06	Direct-PRF	1	2.70	2.93

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: 2714803 Candidate: 1 of 1 Period: 0.968 d



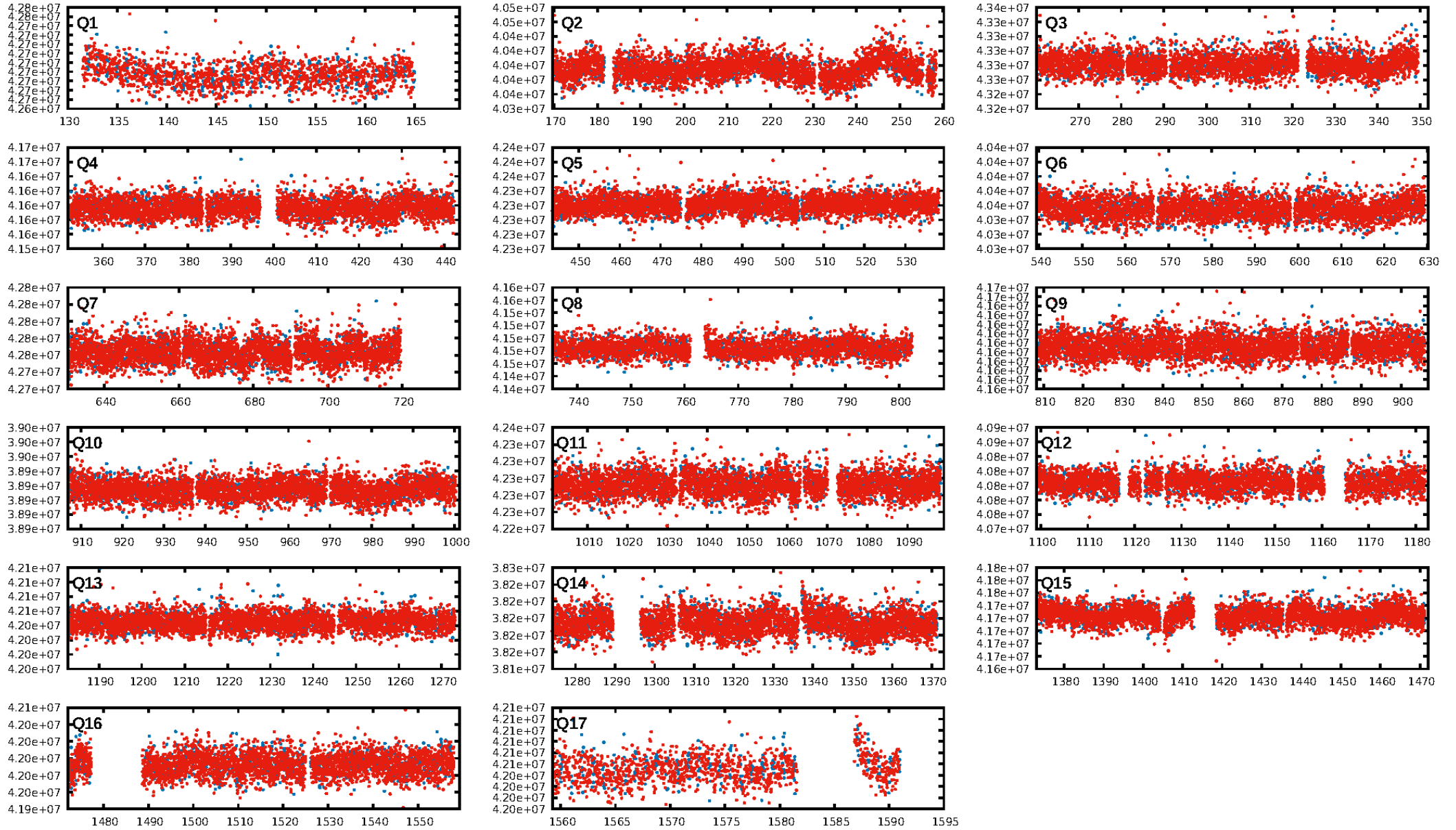
DV Fit Results:

Period = 0.96813 [0.00002] d
Epoch = 132.5318 [0.0110] BKJD
Rp/R* = 0.0040 [0.0056]
a/R* = 1.05 [0.76]
b = 0.38 [16.65]
Seff = 3984.25 [1718.39]
Teq = 2026 [218] K
Rp = 0.45 [0.65] Re
a = 0.0197 [0.0056] AU
Ag = 14.23 [46.99] [0.28 σ]
Teffp = 6084 [4986] K [0.81 σ]

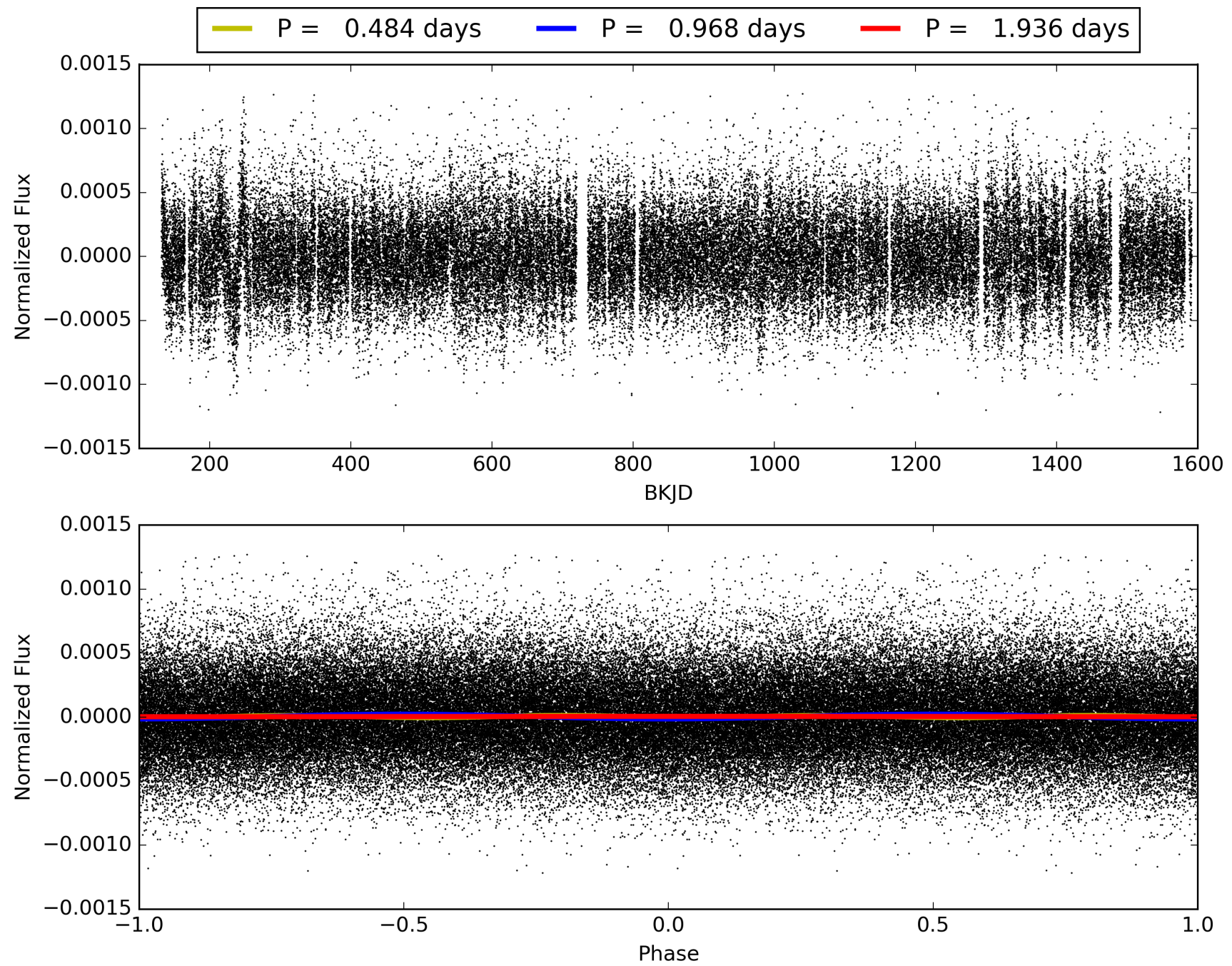
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1346/1346]
GhostDiagnostic-chr: 0.4888
Centroid-sig: 0.5%
Centroid-so: 3.708 arcsec [2.11 σ]
OotOffset-rm: 1.248 arcsec [0.87 σ]
KicOffset-rm: 1.088 arcsec [0.76 σ]
OotOffset-st: 0/2/0/2 [4]
KicOffset-st: 0/2/0/2 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 002714803-01, PDC Light Curves

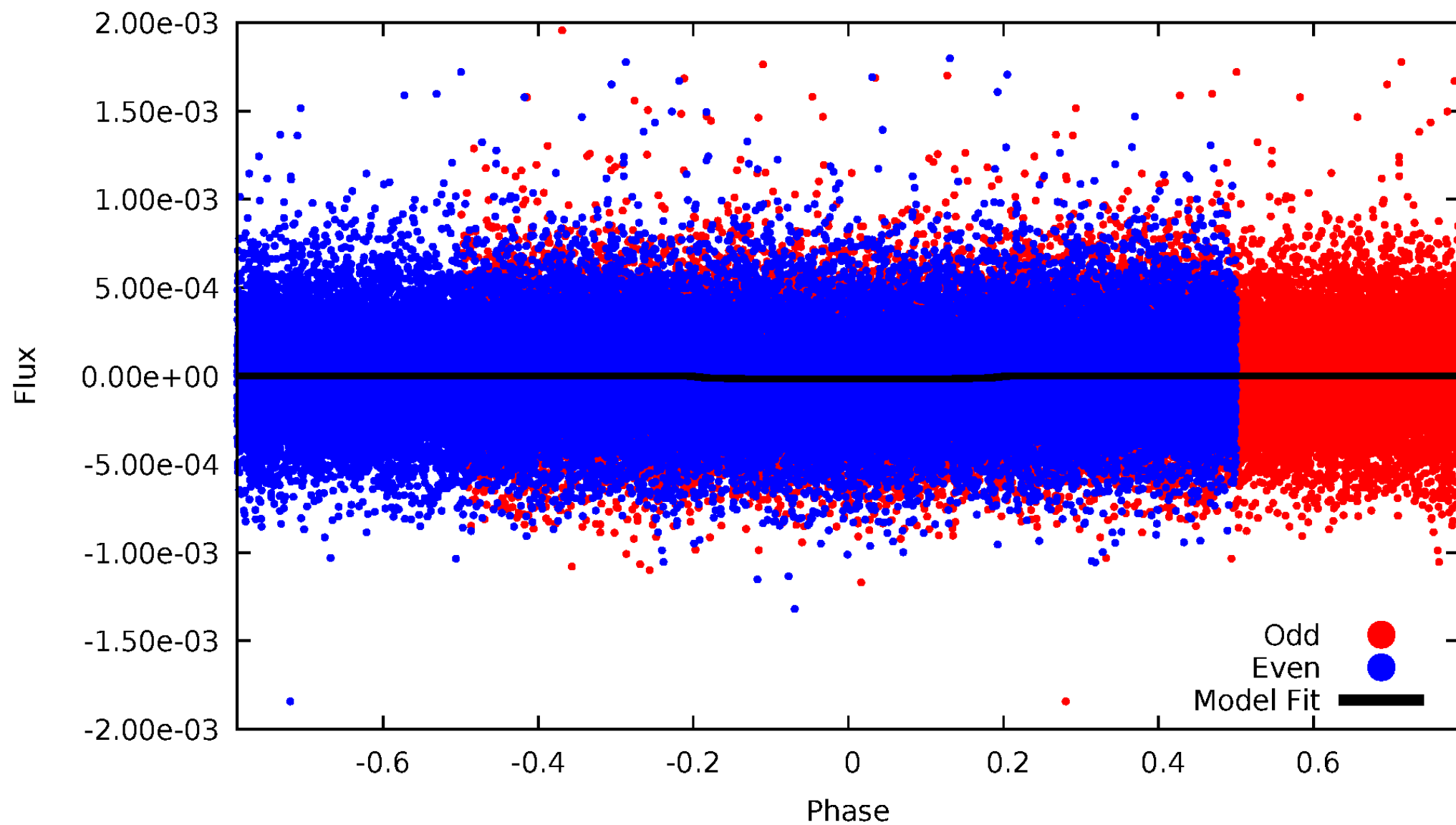


TCE 002714803-01



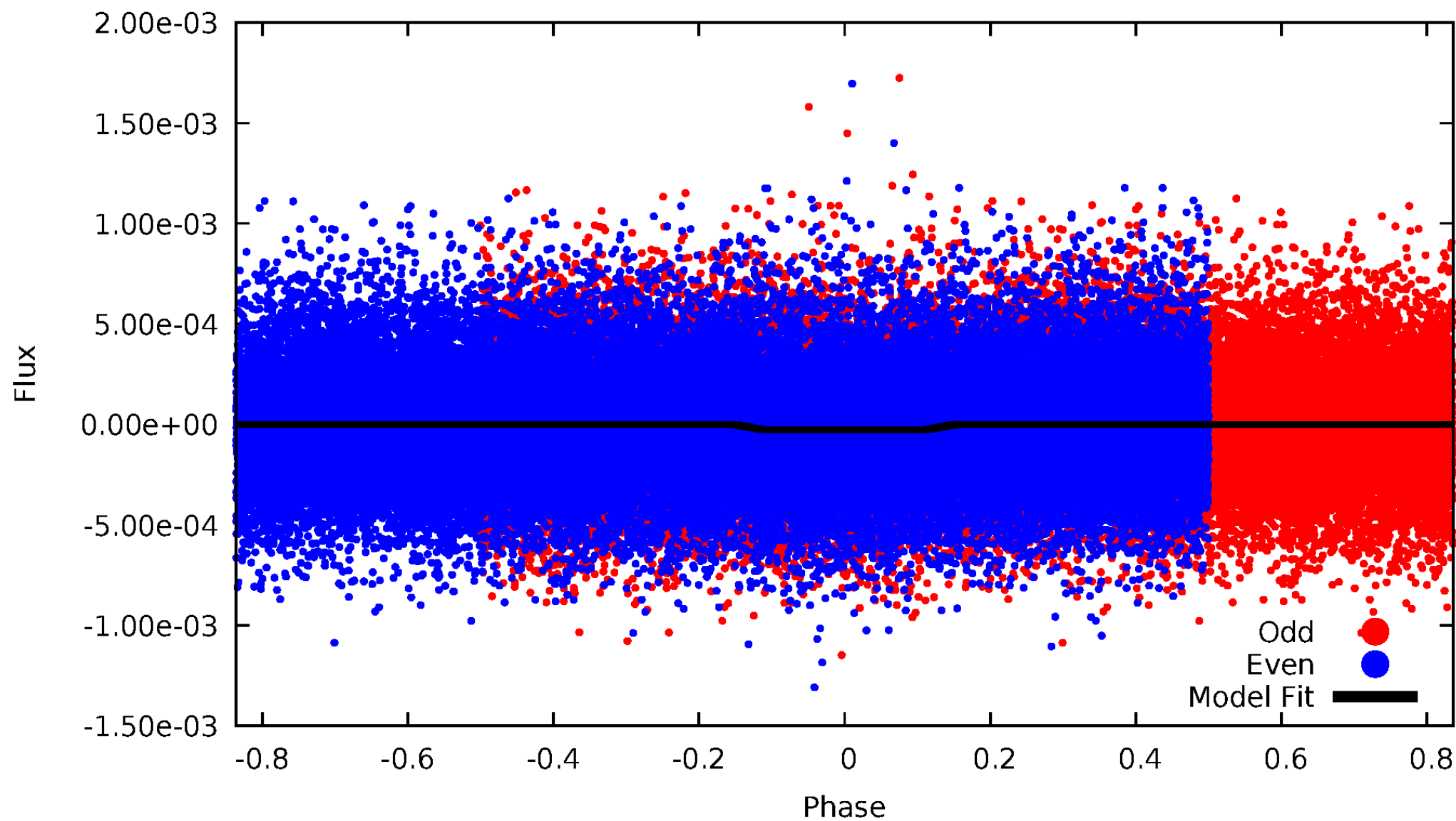
DV Odd/Even

TCE 002714803-01



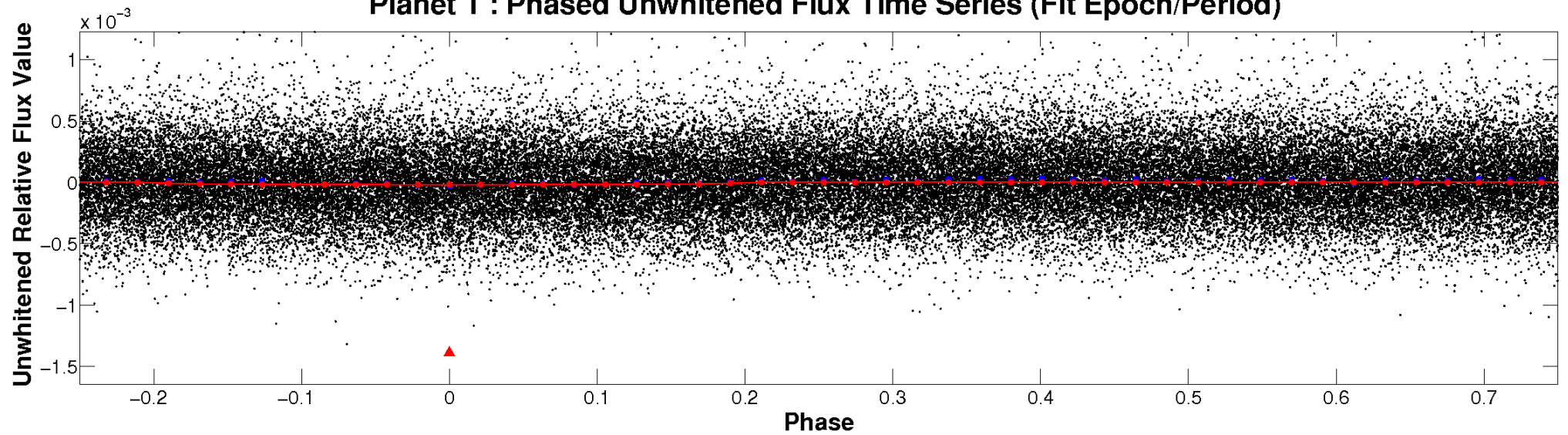
ALT Odd/Even

TCE 002714803-01

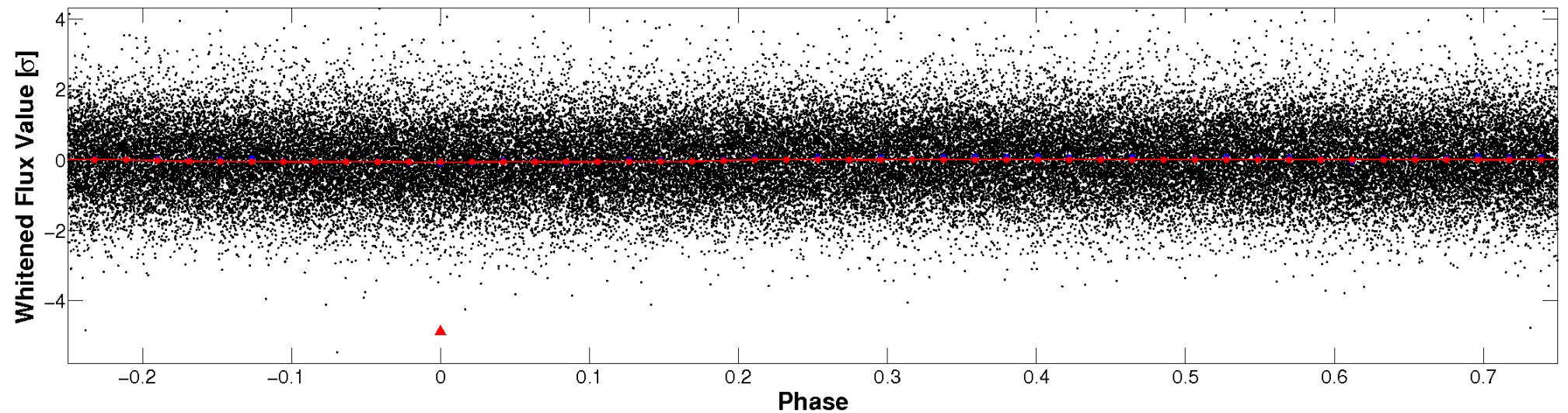


Non-Whitened Vs. Whitened Light Curve

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

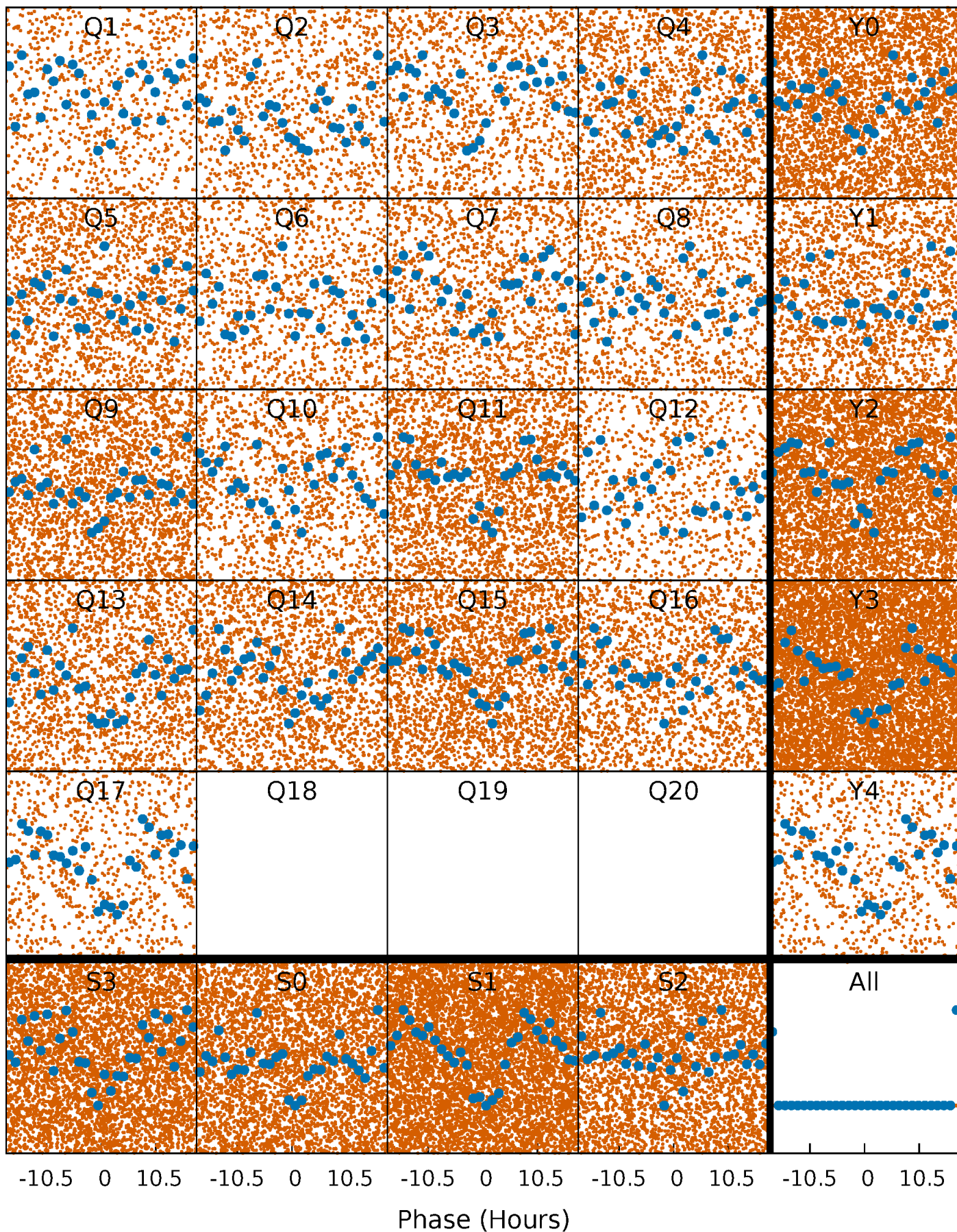


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



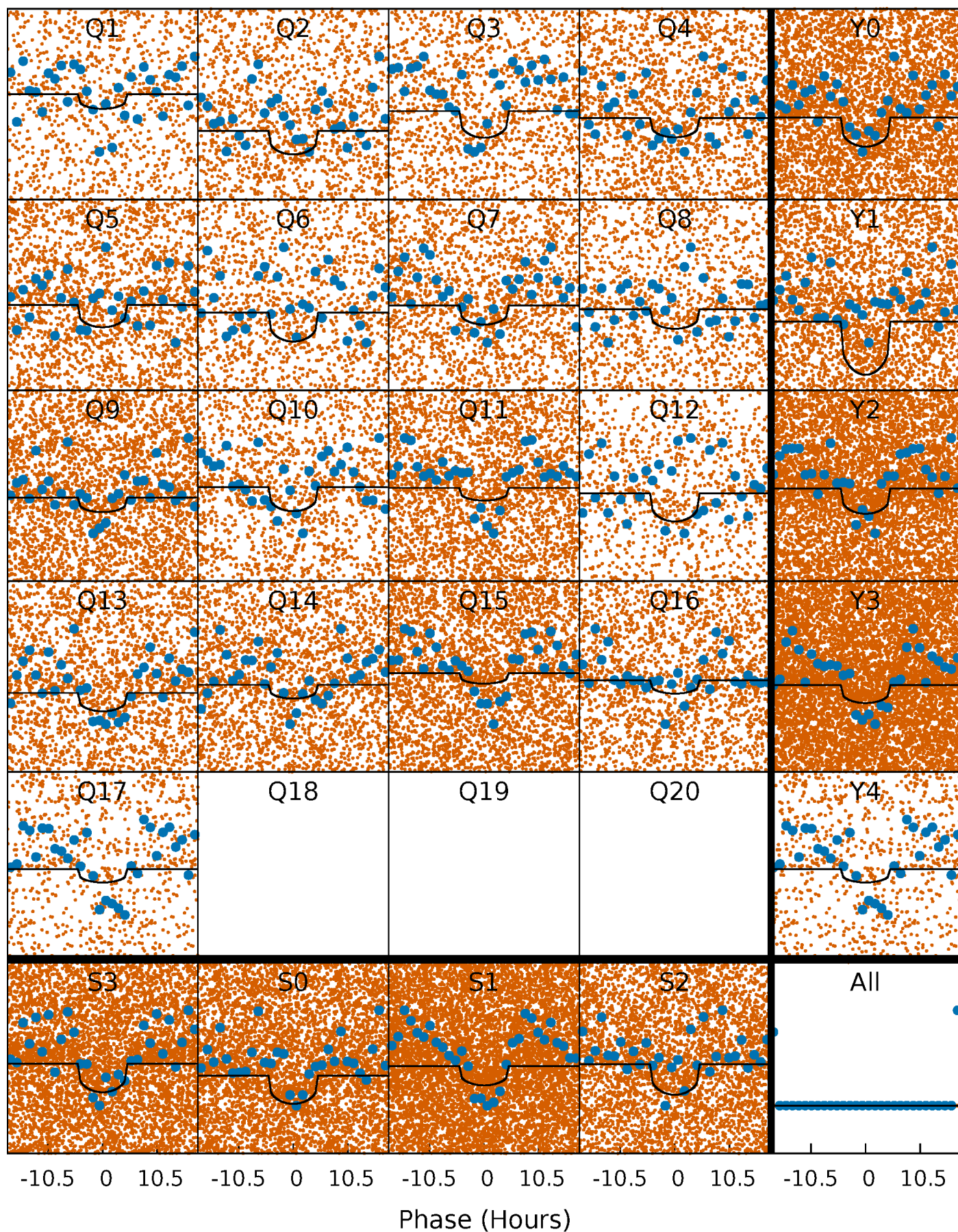
PDC Quarter-Phased Transit Curves

TCE 002714803-01 P= 0.968131 Days $T_0=132.531752$ (BKJD)



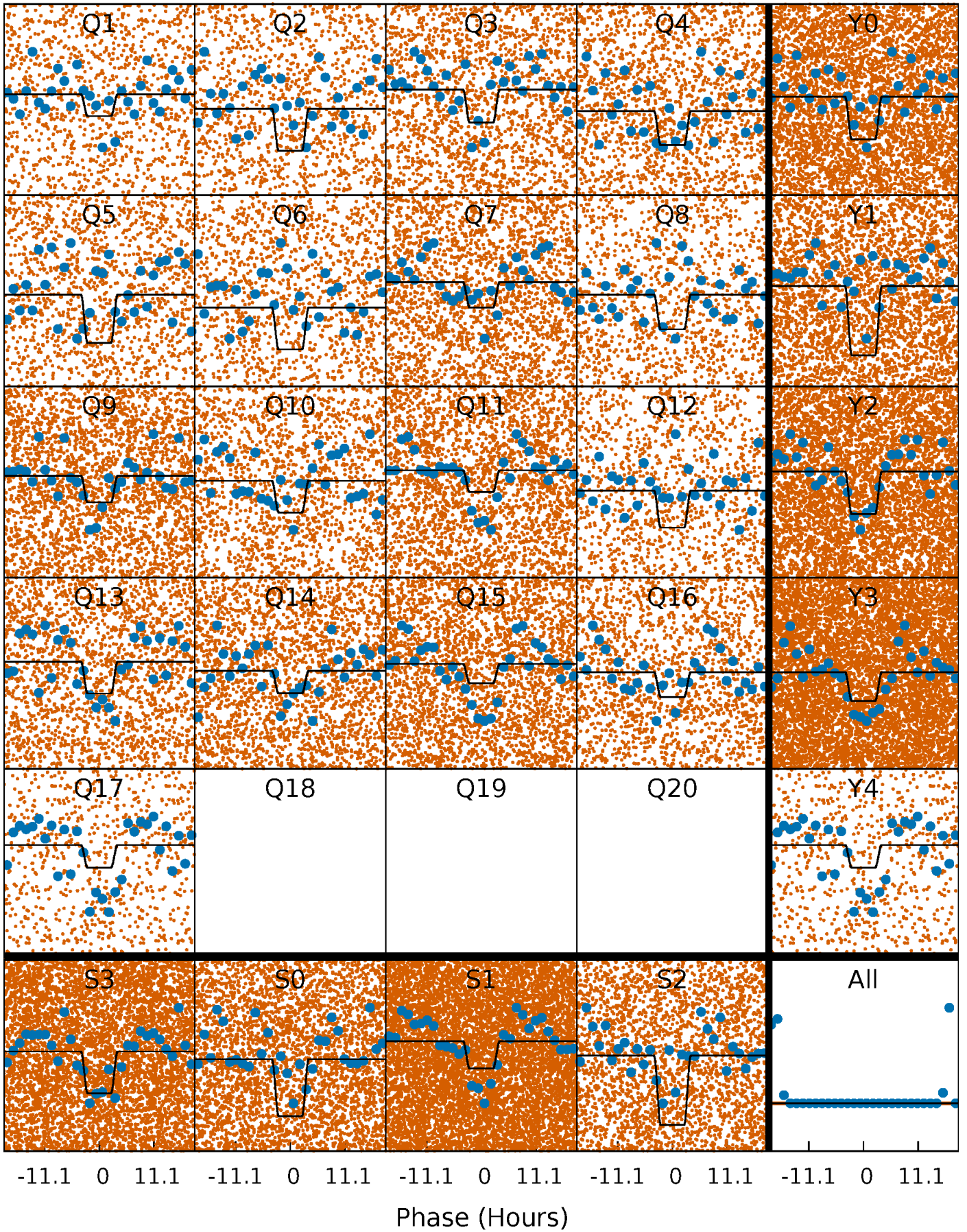
DV Quarter-Phased Transit Curves

TCE 002714803-01 P= 0.968131 Days $T_0=132.531752$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

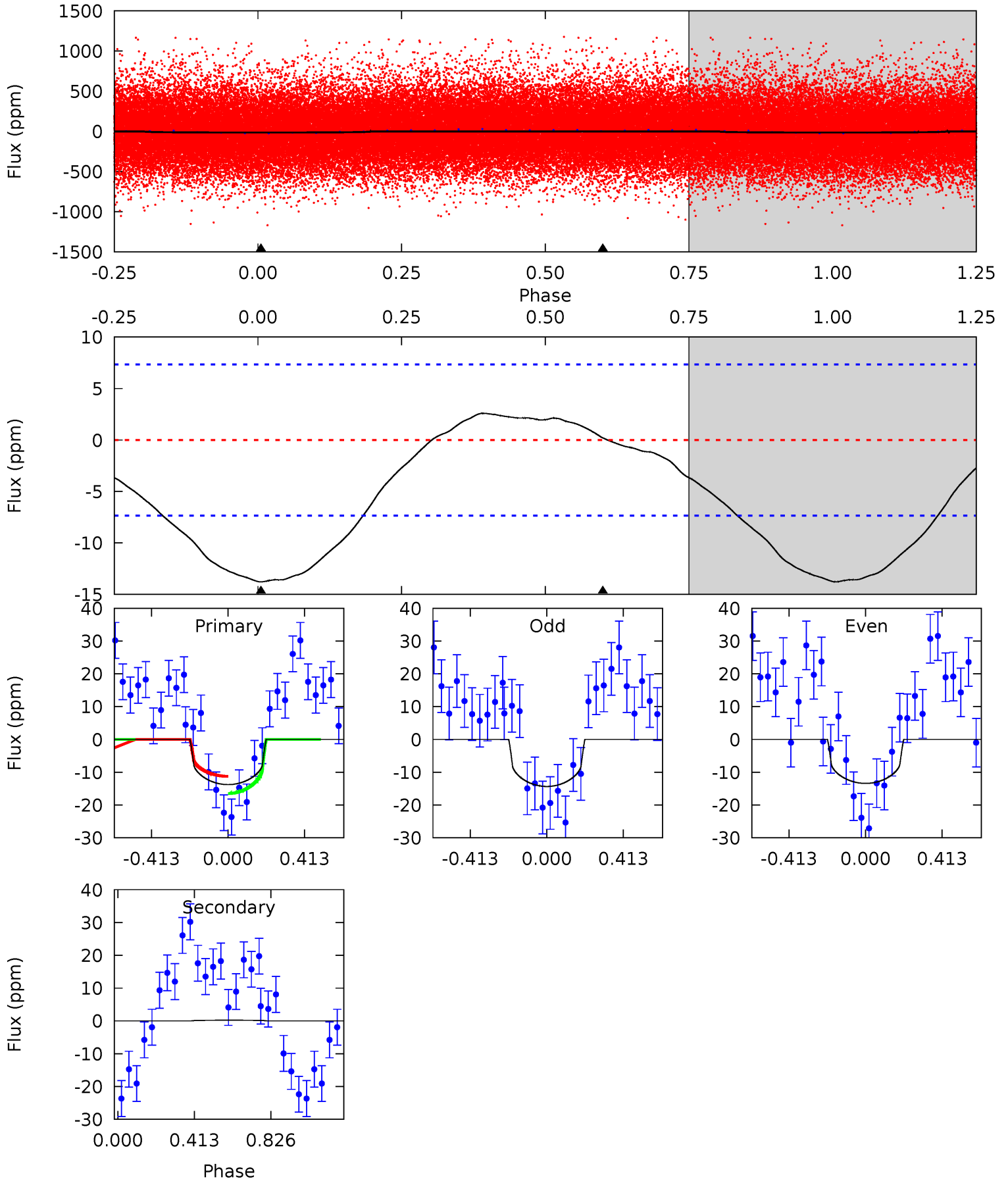
TCE 002714803-01 P= 0.968199 Days $T_0=132.483460$ (BKJD)



DV Model-Shift Uniqueness Test

002714803-01, P = 0.968131 Days, E = 130.595490 Days

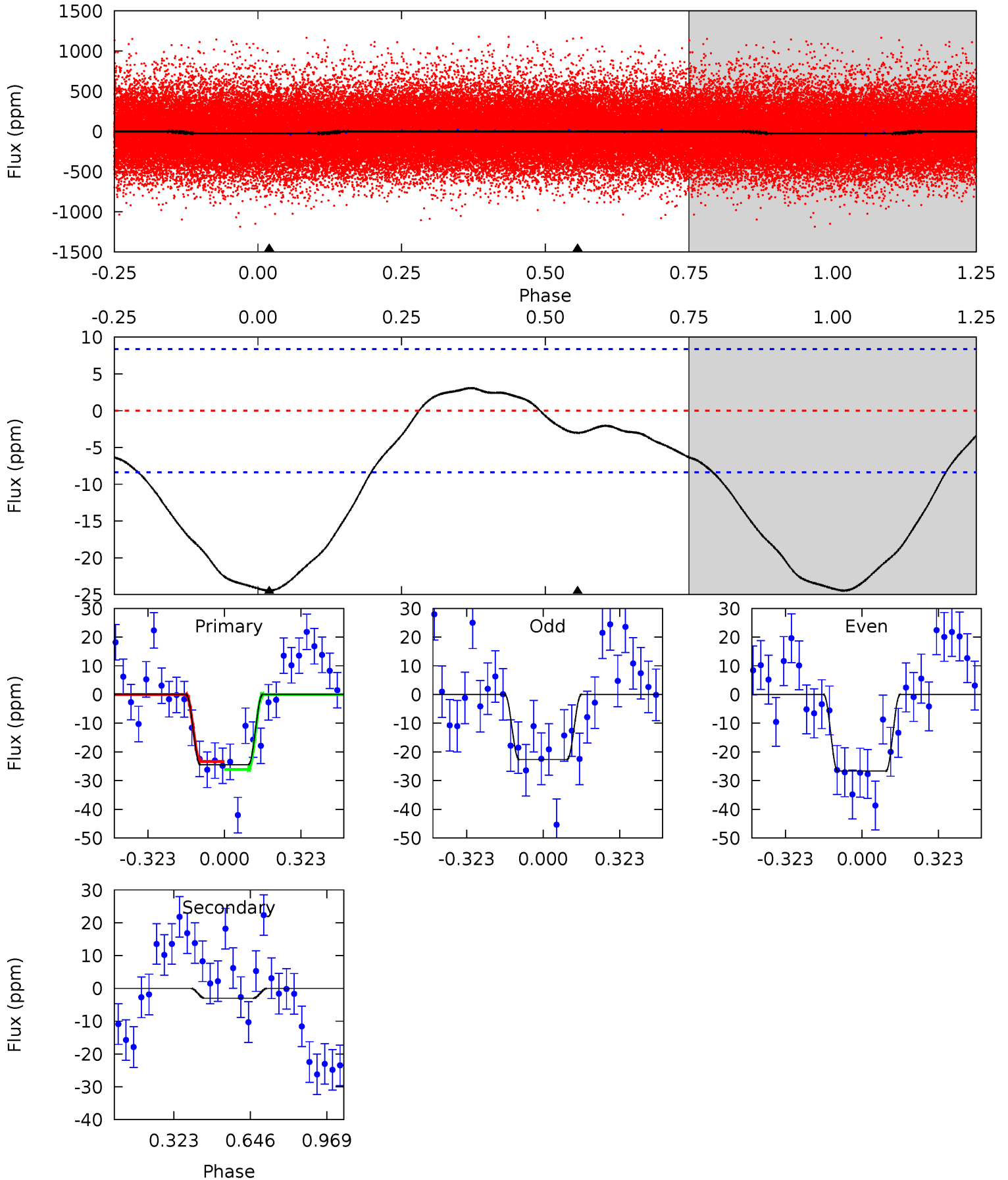
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.99	-0.12	0	0	4.26	0.82	0.72	7.99	7.99	-0.12	-0.12	0.27	1.00	0.16	1.51



Alt Model-Shift Uniqueness Test

002714803-01, P = 0.968199 Days, E = 130.547062 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	1.55	0	0	4.31	0.99	1.78	12.6	12.6	1.55	1.55	1.04	1.01	0.11	0.70



Stellar Parameters For KIC 002714803

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6341^{+169}_{-207}	$4.446^{+0.056}_{-0.224}$	$-0.240^{+0.250}_{-0.300}$	$1.033^{+0.349}_{-0.116}$	$1.083^{+0.154}_{-0.138}$	$1.383^{+0.419}_{-0.757}$
	+3%/-3%	+1%/-5%	+104%/-125%	+34%/-11%	+14%/-13%	+30%/-55%
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 002714803-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 2	$0.66^{+0.62}_{-0.46}$	2904^{+199}_{-169}	-3147^{+6492}_{-1088}	$-0.073^{+0.980}_{-1.909}$
Alt.	-3 ± 2	$0.80^{+0.62}_{-0.49}$	2885^{+213}_{-140}	3348^{+1587}_{-6049}	$0.915^{+4.880}_{-0.733}$

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

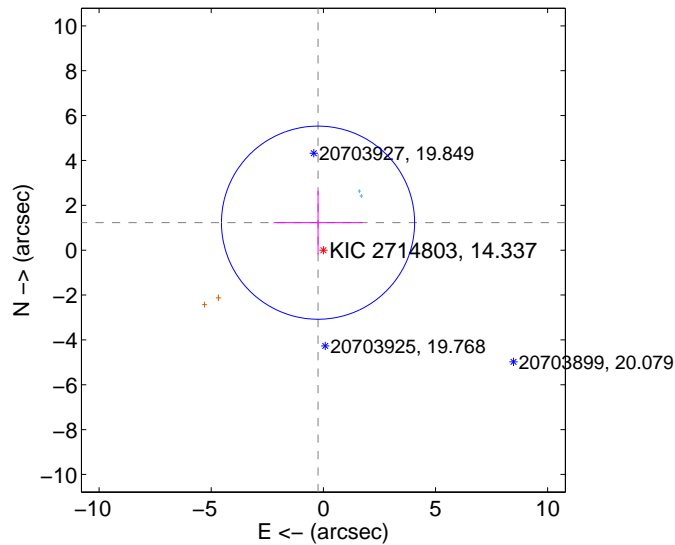
Supplemental centroid analysis for 002714803-01. Kepler magnitude: 14.34. Transit SNR 7.97

There are 2 quarters with good PRF difference image offsets

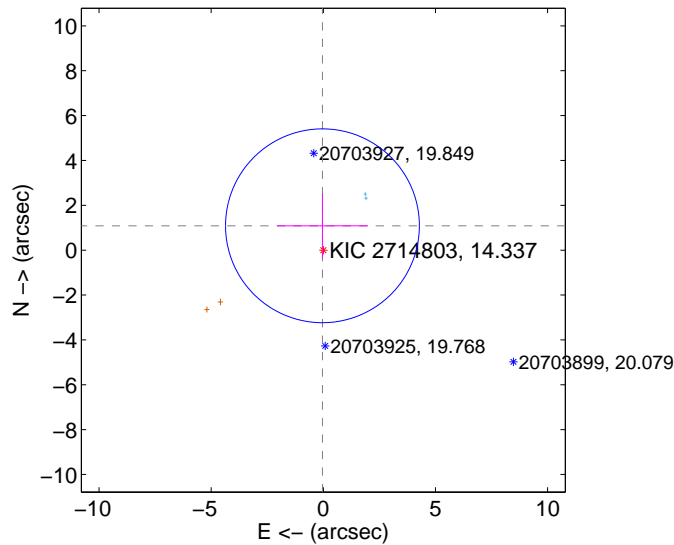
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.248 ± 1.435	0.87	0.237 ± 1.983	1.226 ± 1.410
PRF-fit source offset from KIC position	1.088 ± 1.440	0.76	0.038 ± 2.021	1.087 ± 1.439
photometric centroid source offset	3.71 ± 1.76	2.11	-1.31 ± 1.84	-3.47 ± 1.75

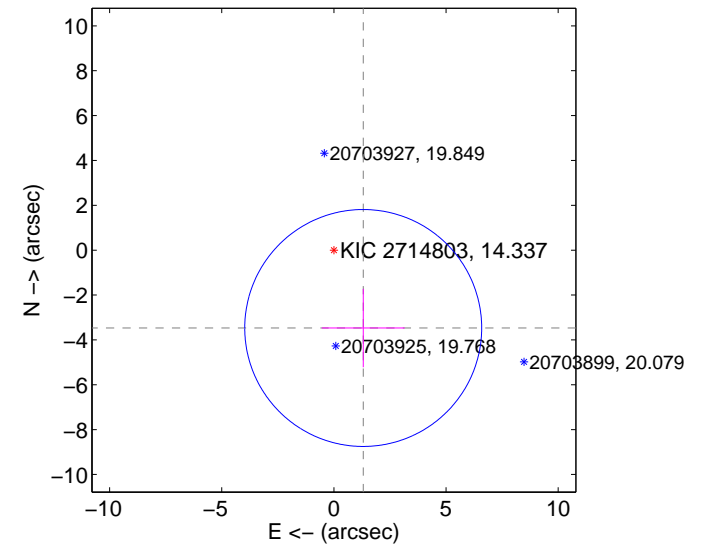
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

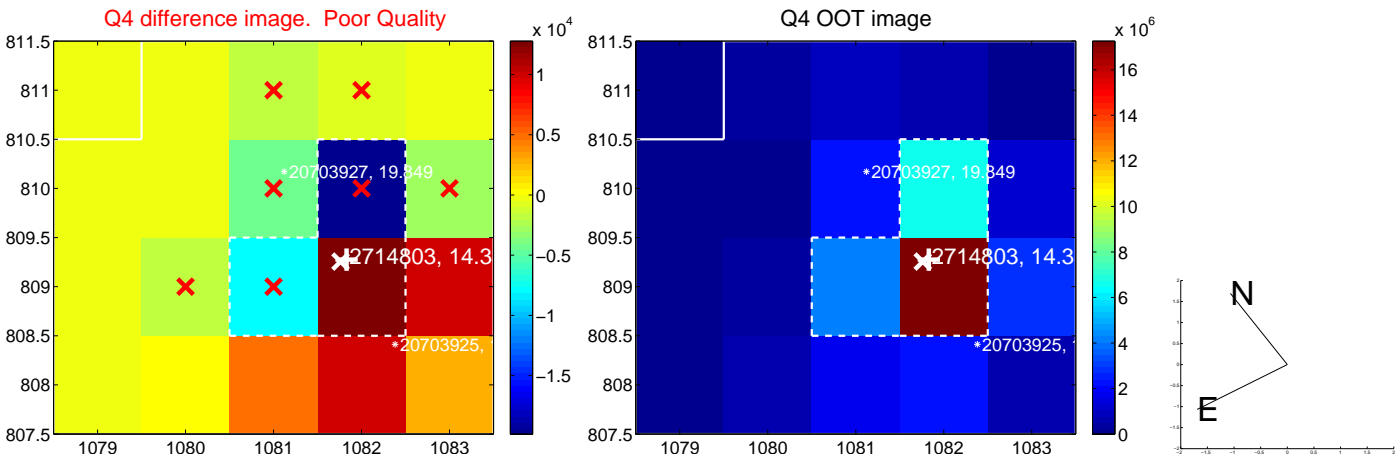
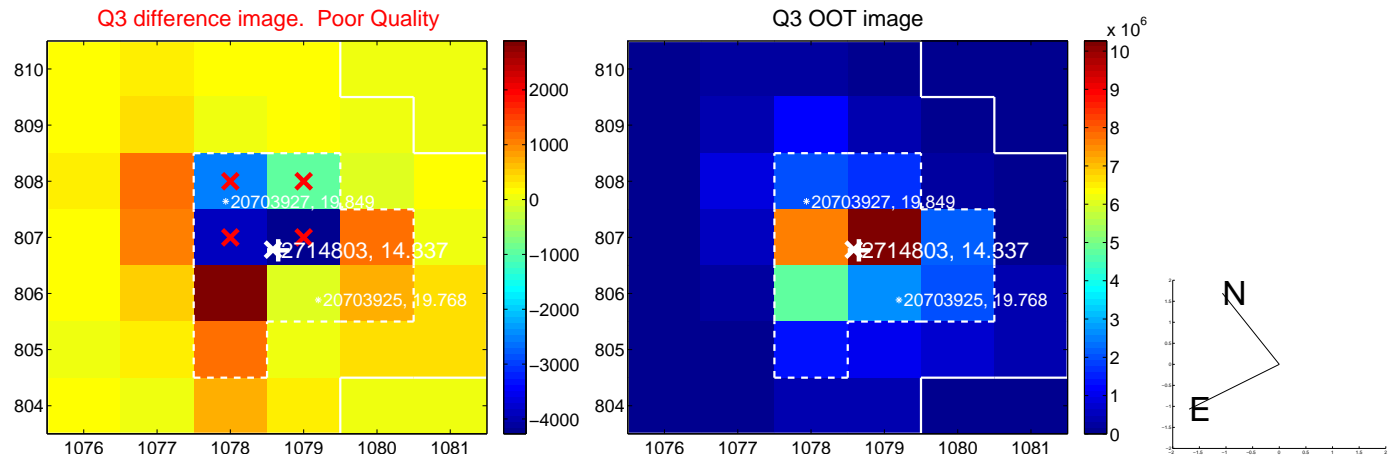
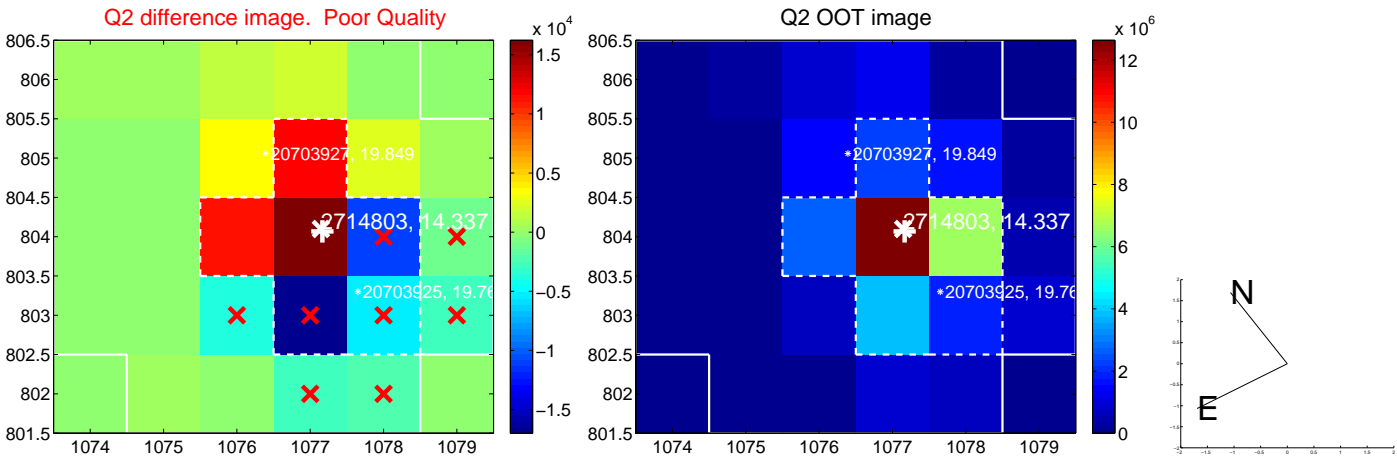
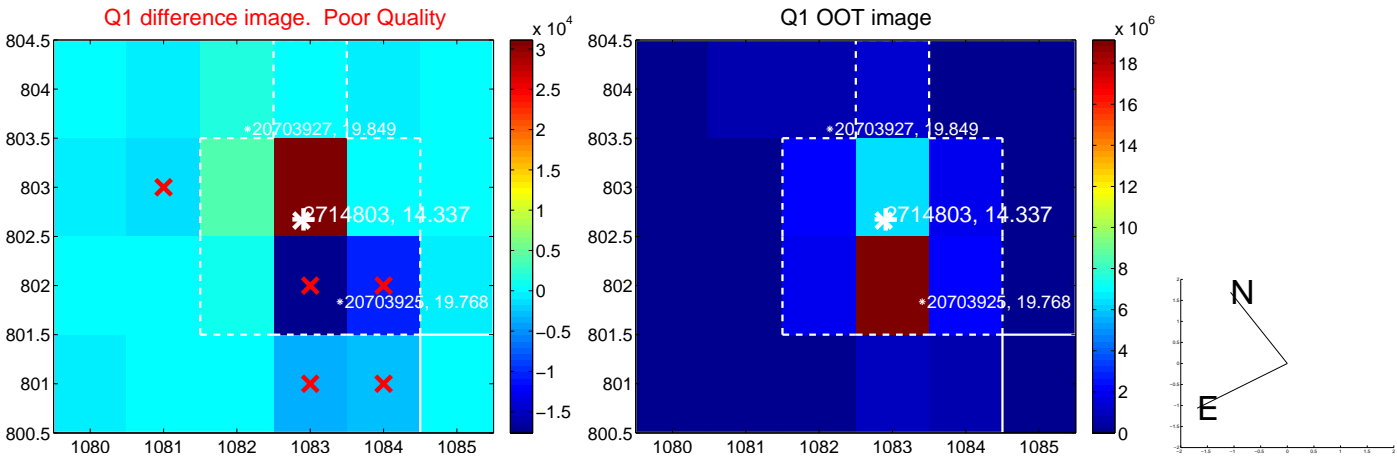


offset from photometric centroids

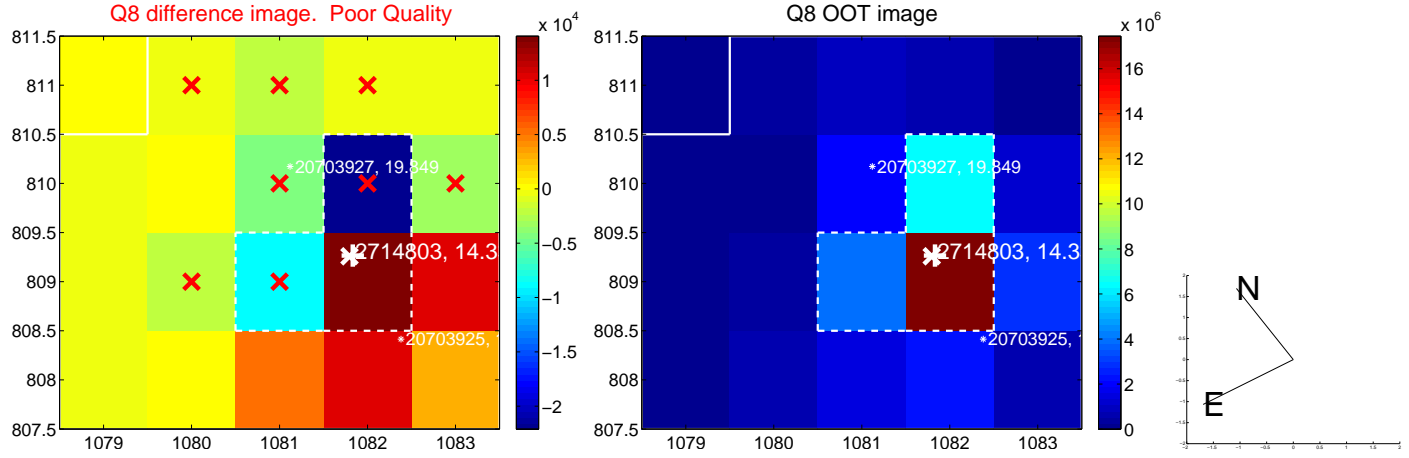
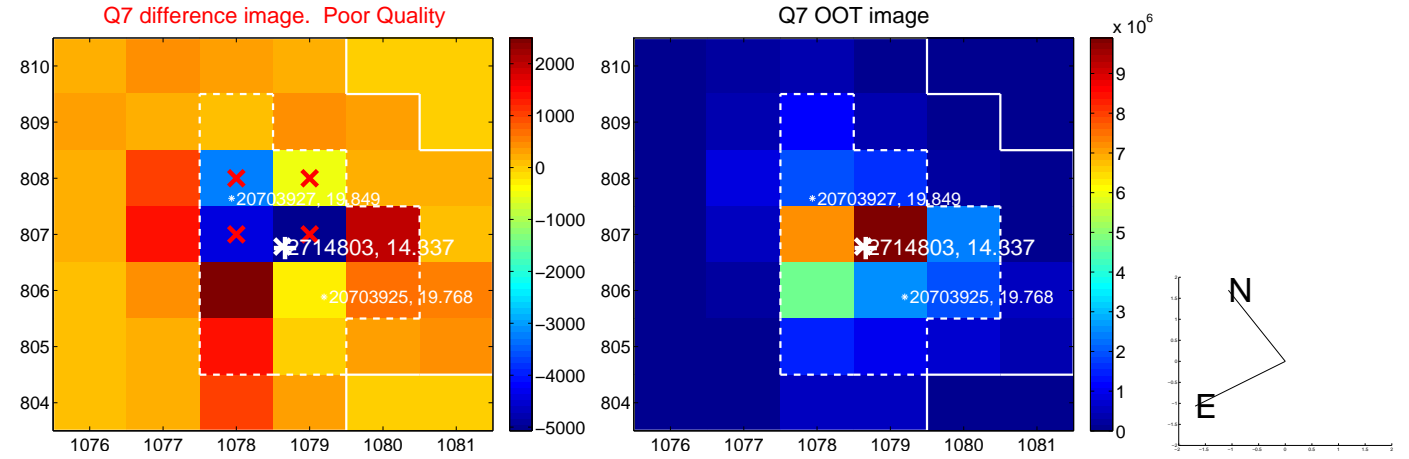
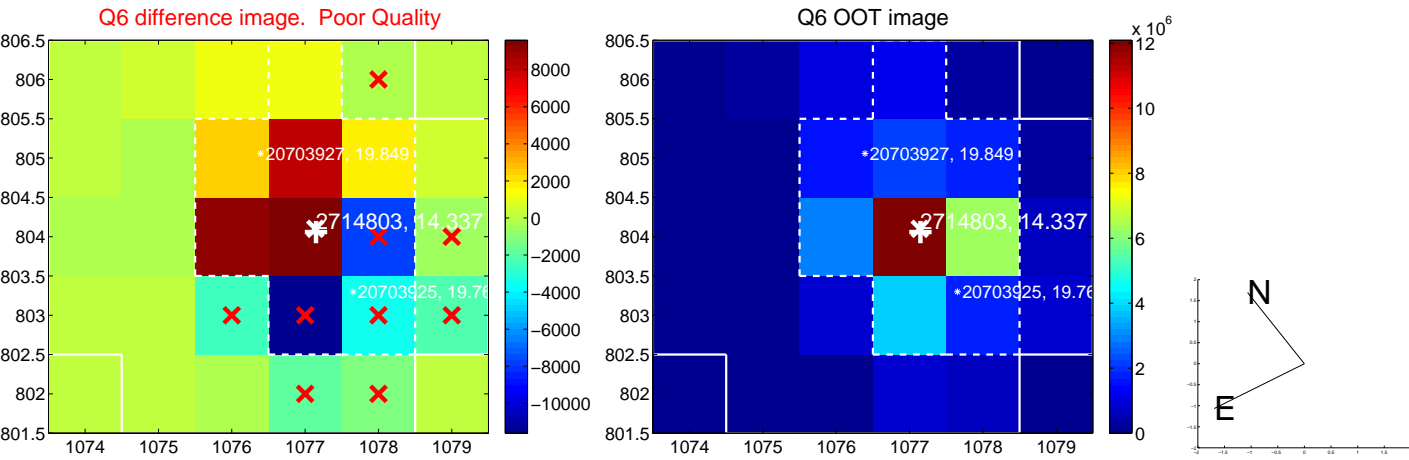
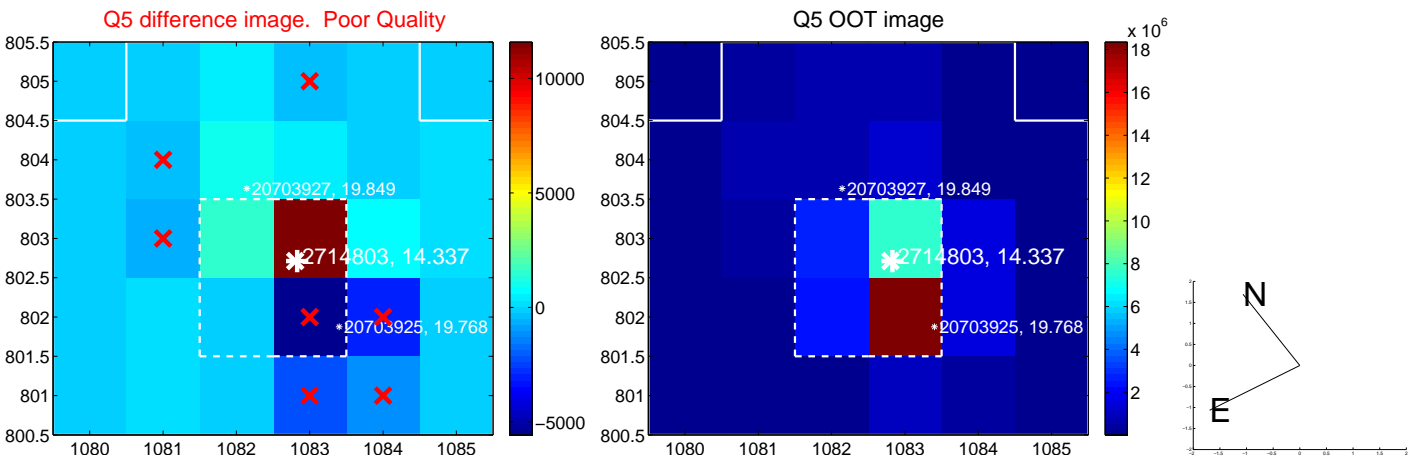


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

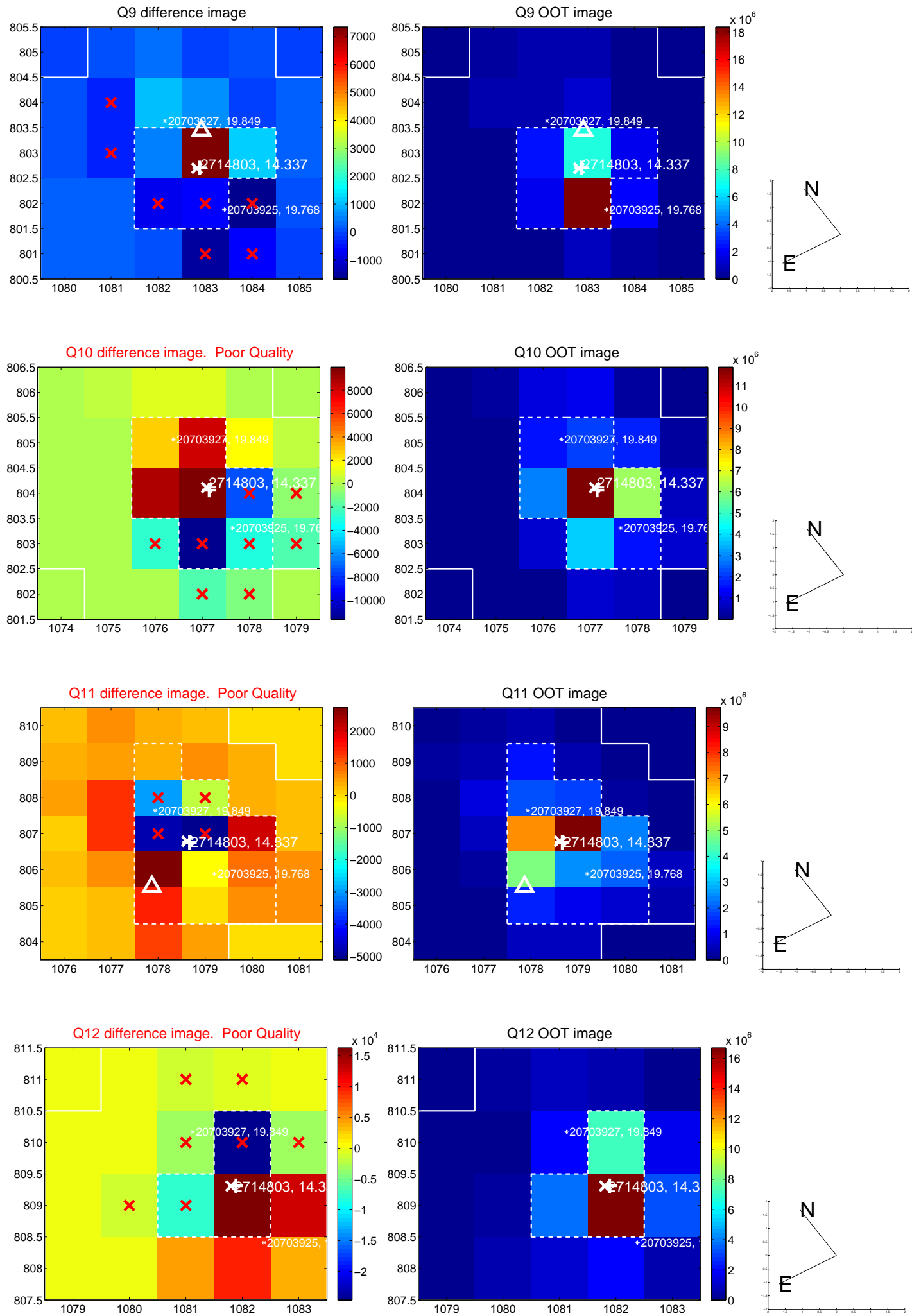
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



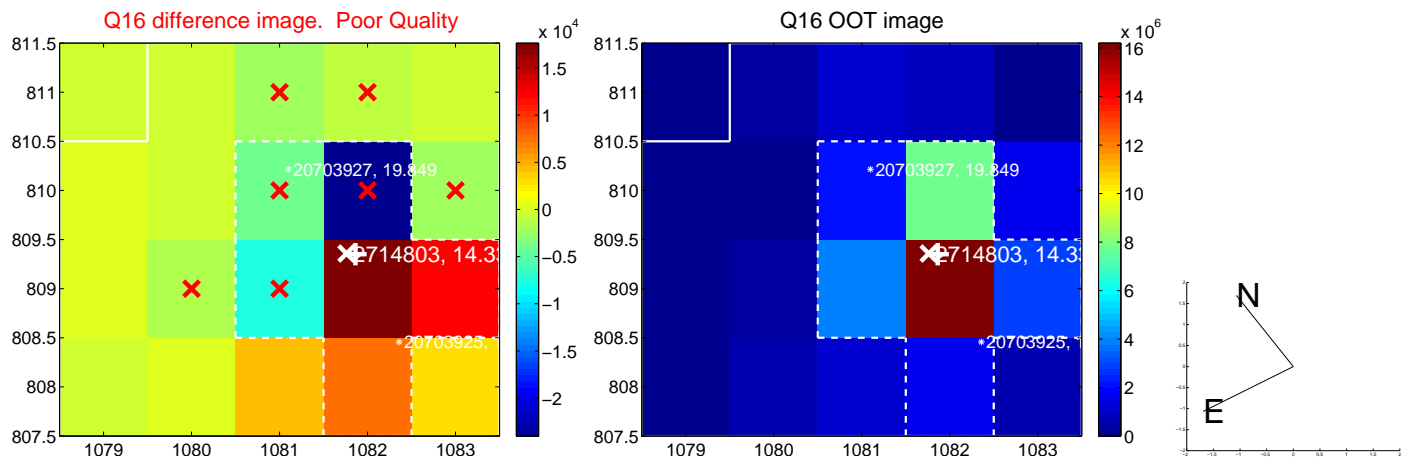
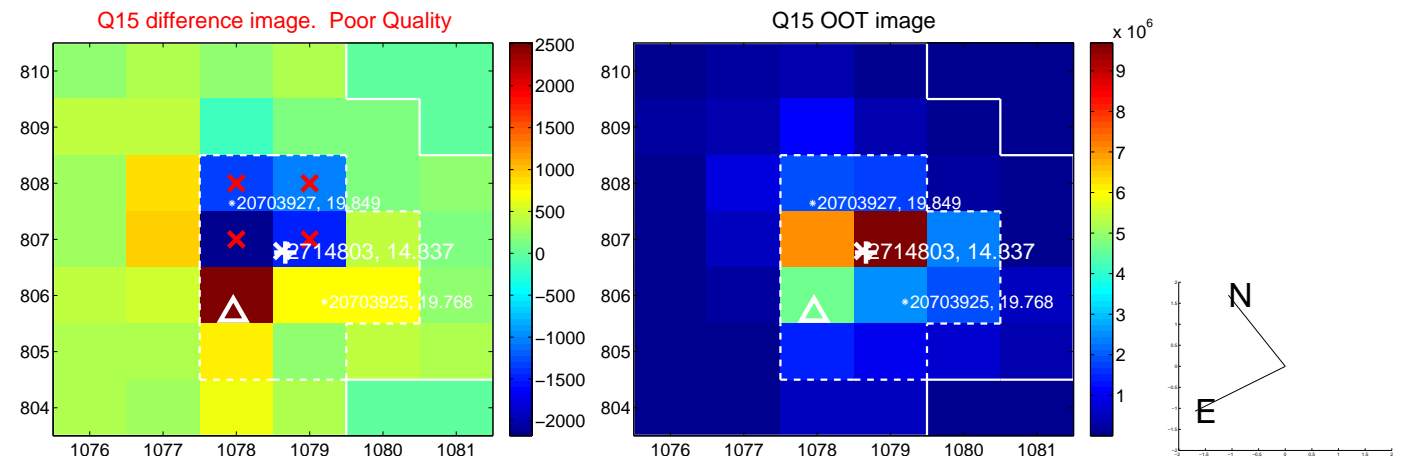
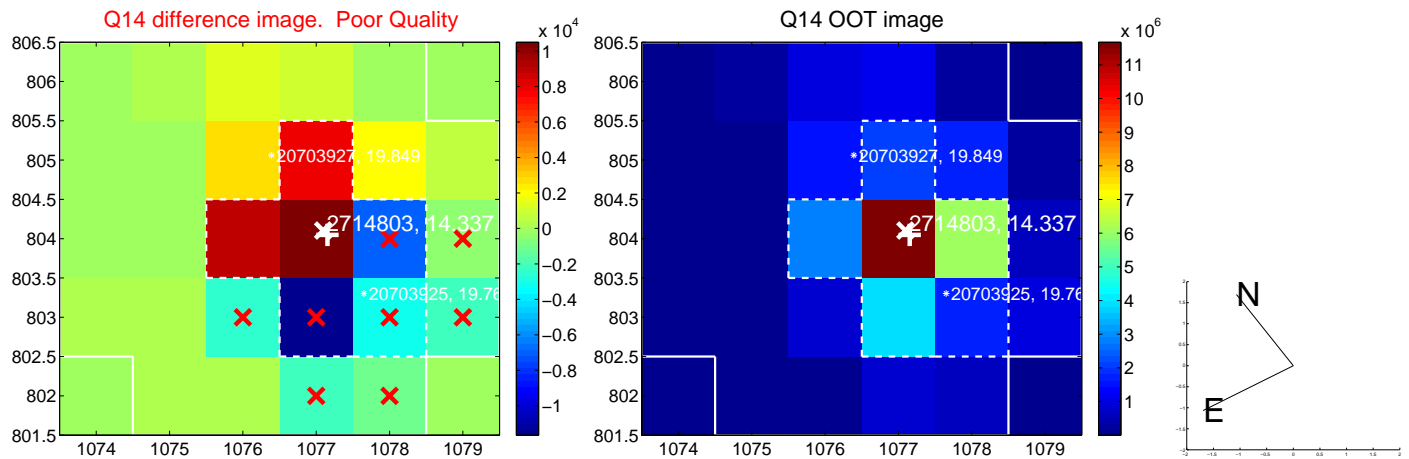
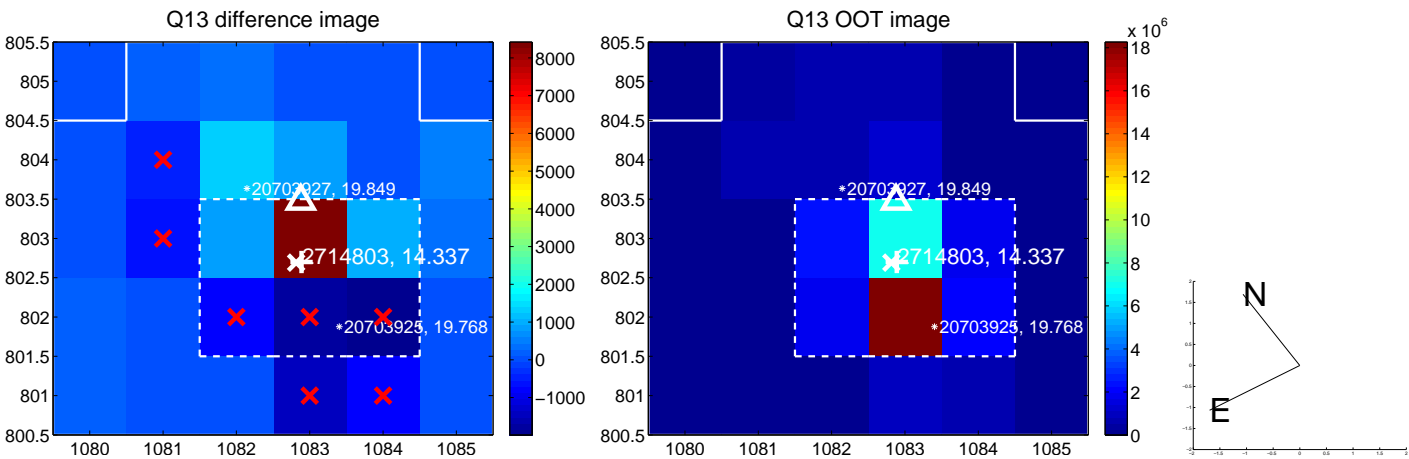
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



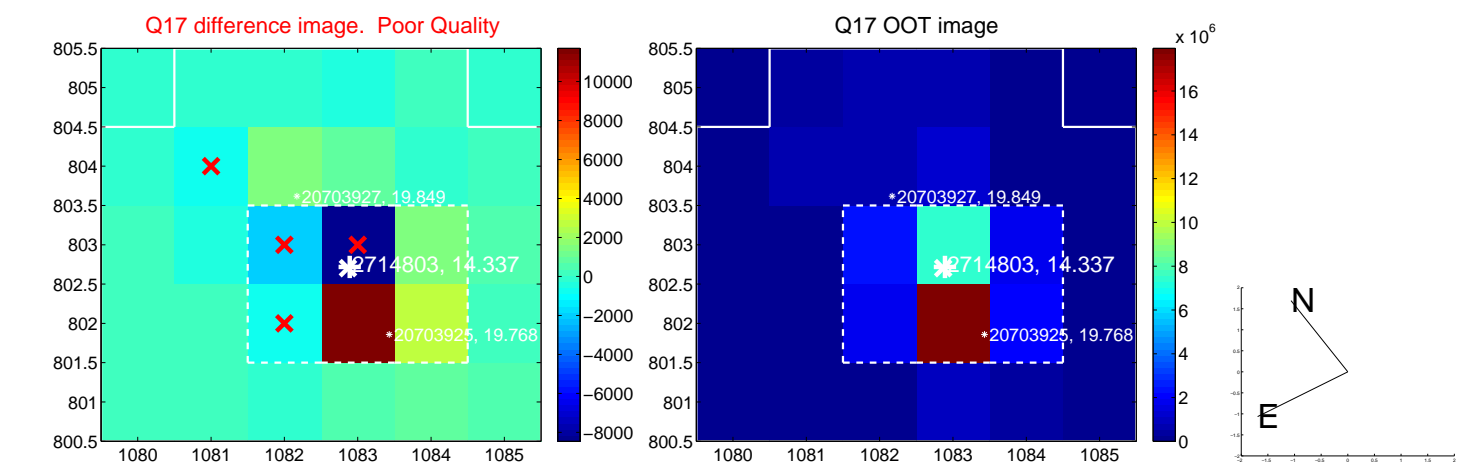
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



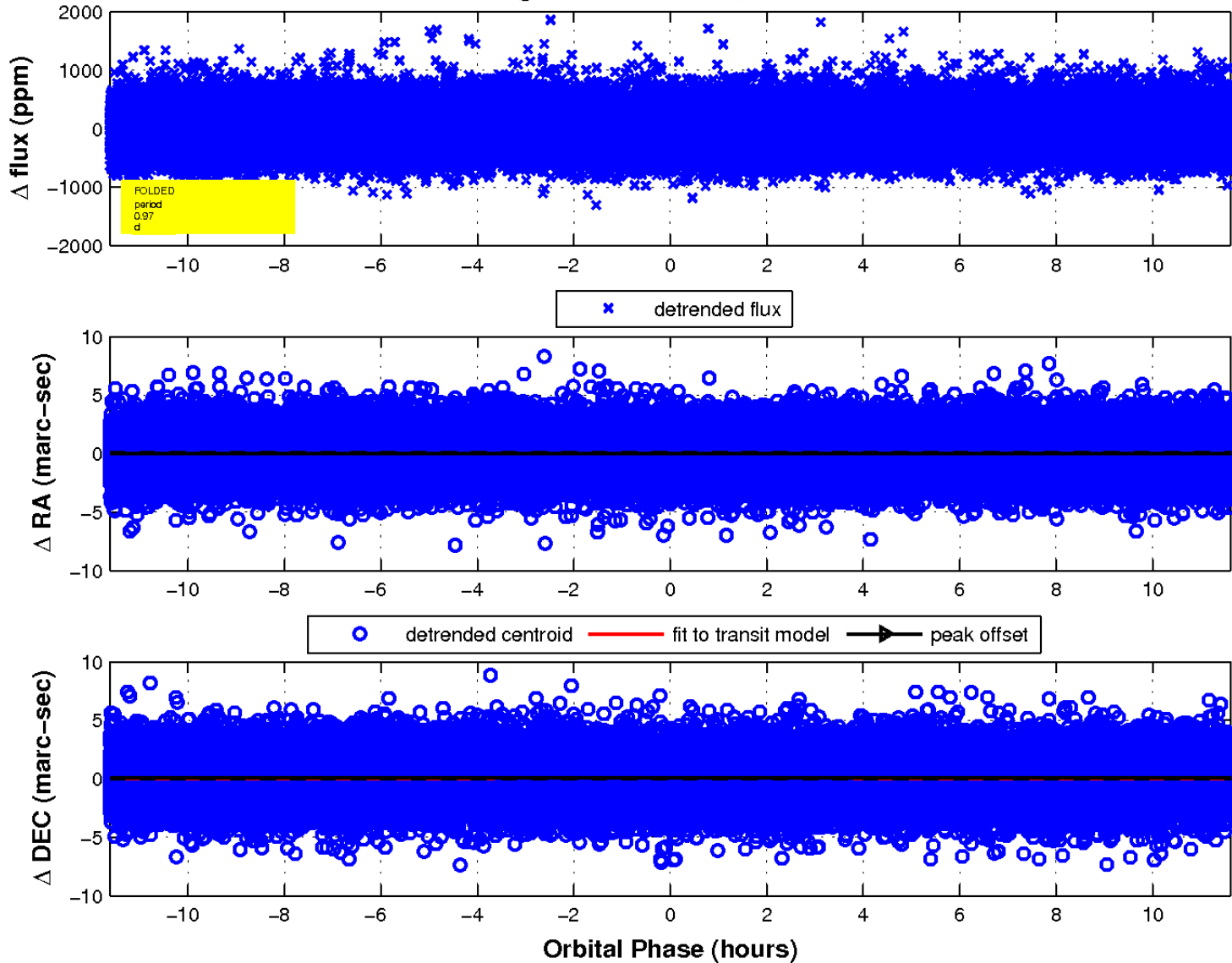
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

