

KIC 002714947

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})
002714947-01	OBS	No	0.968228	132.476663	32.2	7.682	8.8	12.1	0.99	6170	0.56	3339.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002714947-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_FEW_DIFFS—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.

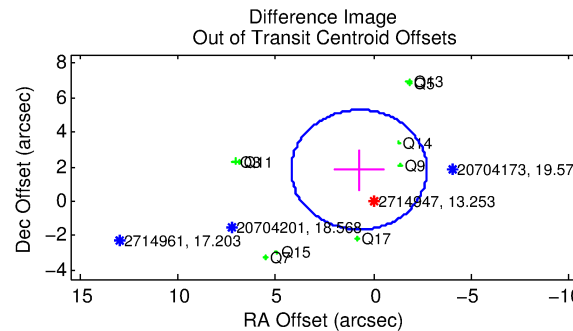
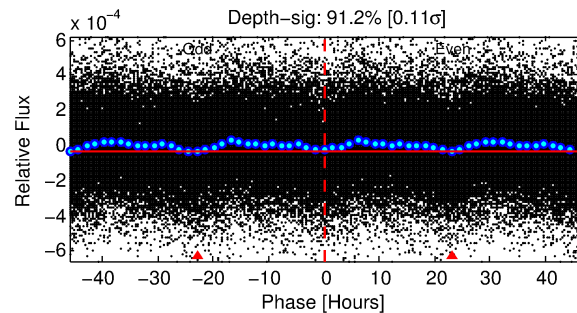
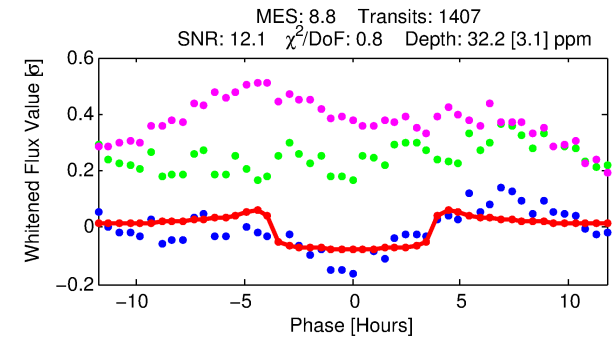
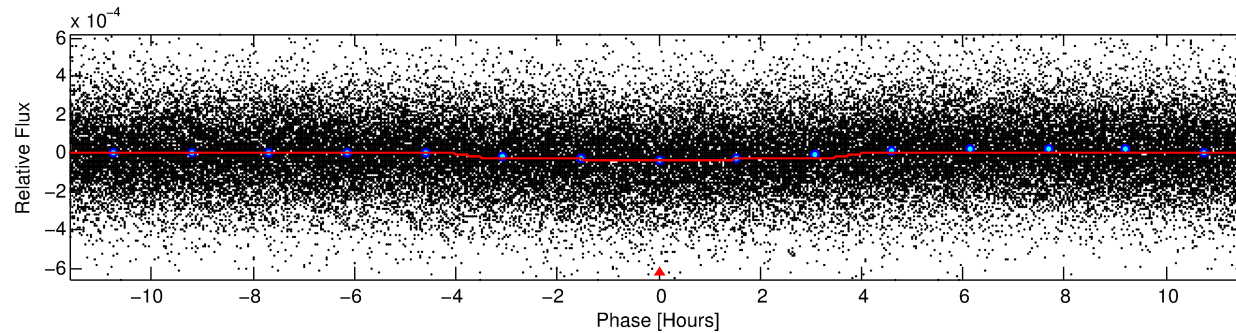
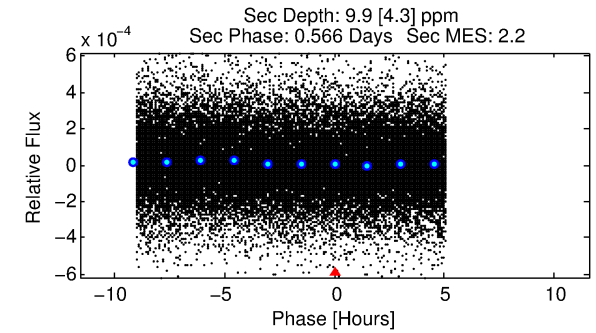
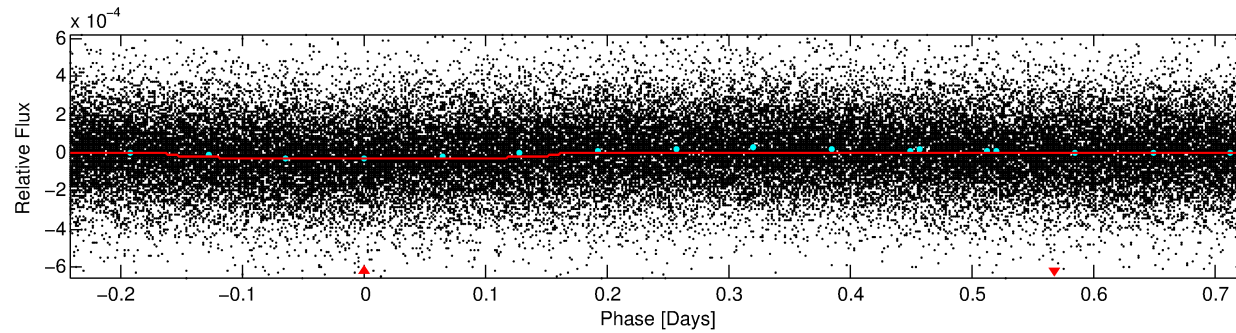
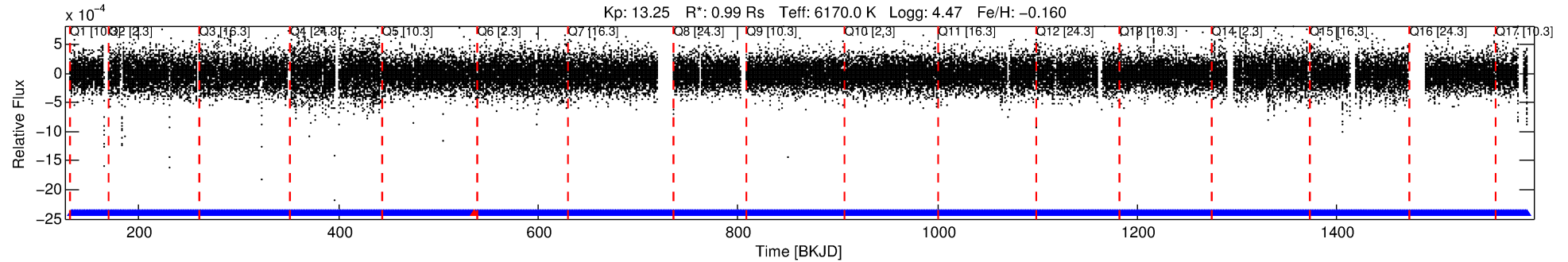
Ephemeris Match Information For 002714947-01

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
002714947-01	2714947	002714887-01	2714887	1:3	63.0	-16	-1	14.43	13.25	1.72	Direct-PRF	1	1.04	3.78

Notes: P₁:P₂ 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. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ 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: 2714947 Candidate: 1 of 1 Period: 0.968 d



DV Fit Results:

Period = 0.96823 [0.00001] d
Epoch = 132.4767 [0.0033] BKJD
Rp/R* = 0.0052 [0.0033]
a/R* = 1.17 [0.97]
b = 0.00 [837.53]
Seff = 3339.95 [1408.82]
Teq = 1938 [204] K
Rp = 0.56 [0.40] Re
a = 0.0196 [0.0054] AU
Ag = 6.56 [9.18] [0.61σ]
Teffp = 4796 [1613] K [1.76σ]

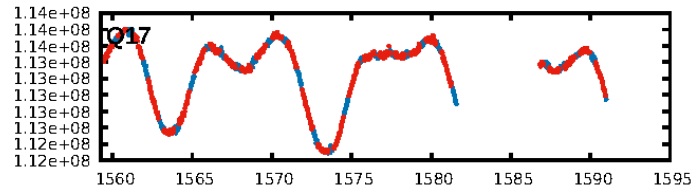
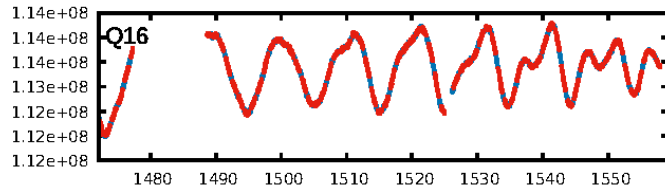
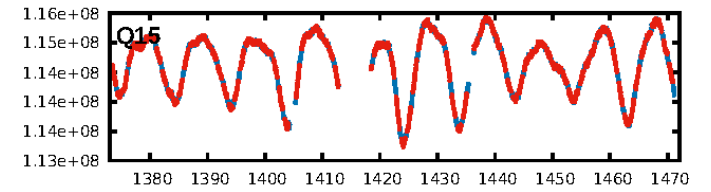
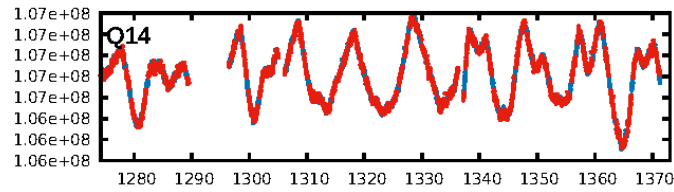
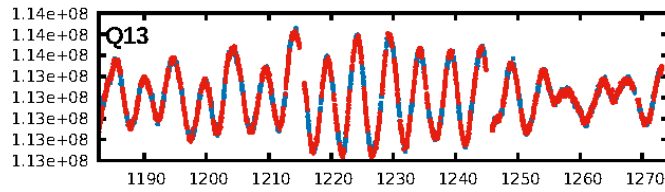
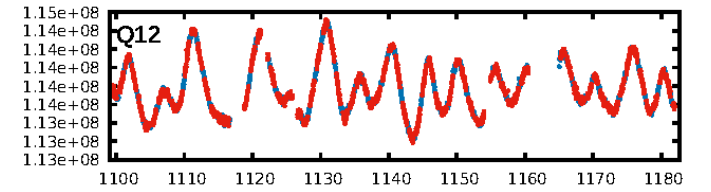
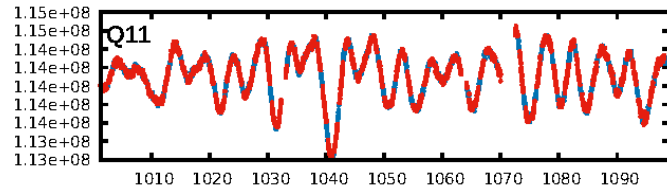
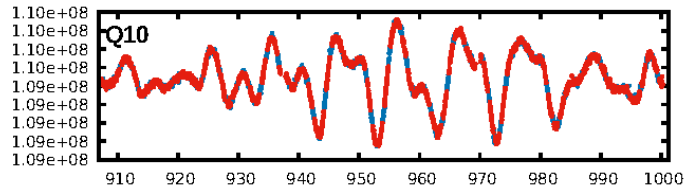
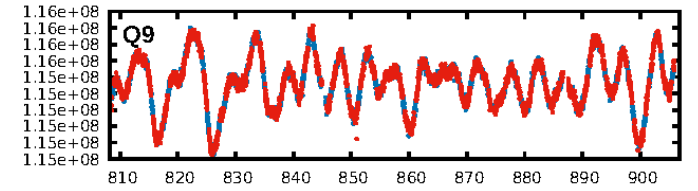
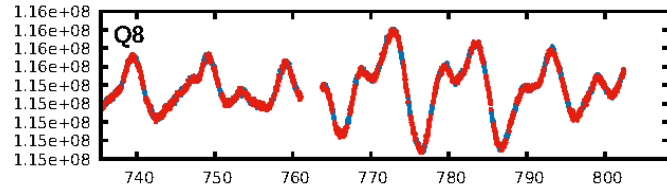
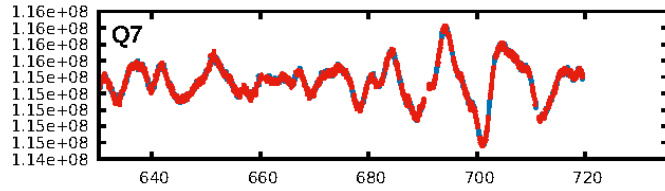
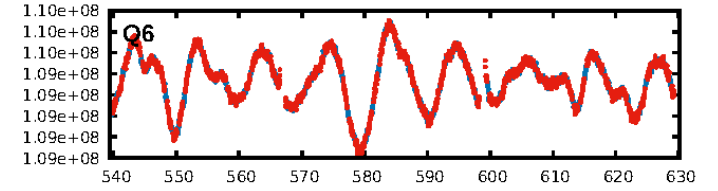
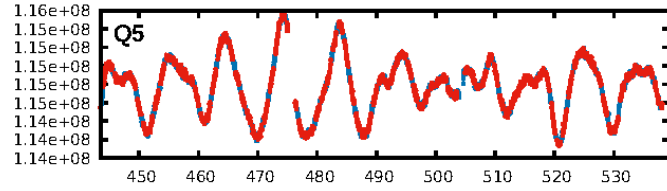
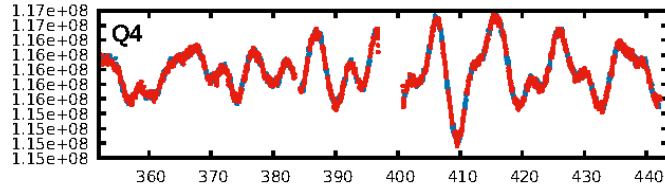
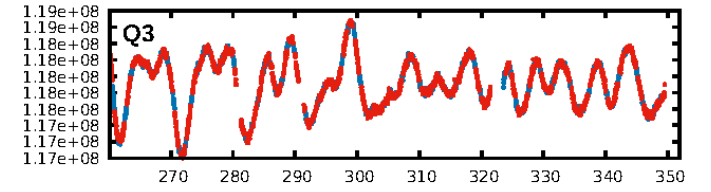
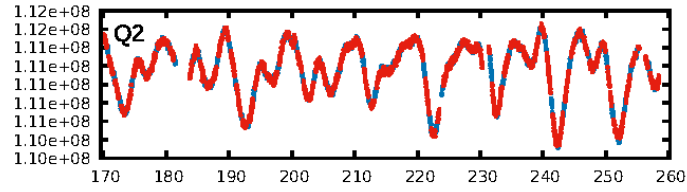
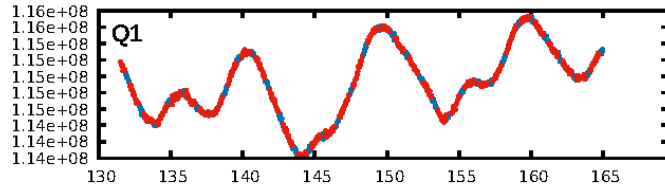
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1343/1344]
GhostDiagnostic-chr: 0.06227
Centroid-sig: 0.0%
Centroid-so: 3.652 arcsec [6.55σ]
OotOffset-rm: 1.967 arcsec [1.70σ]
KicOffset-rm: 2.175 arcsec [1.89σ]
OotOffset-st: 1/4/0/4 [9]
KicOffset-st: 1/4/0/4 [9]
DiffImageQuality-fgm: 0.11 [1/9]
DiffImageOverlap-fno: 1.00 [17/17]

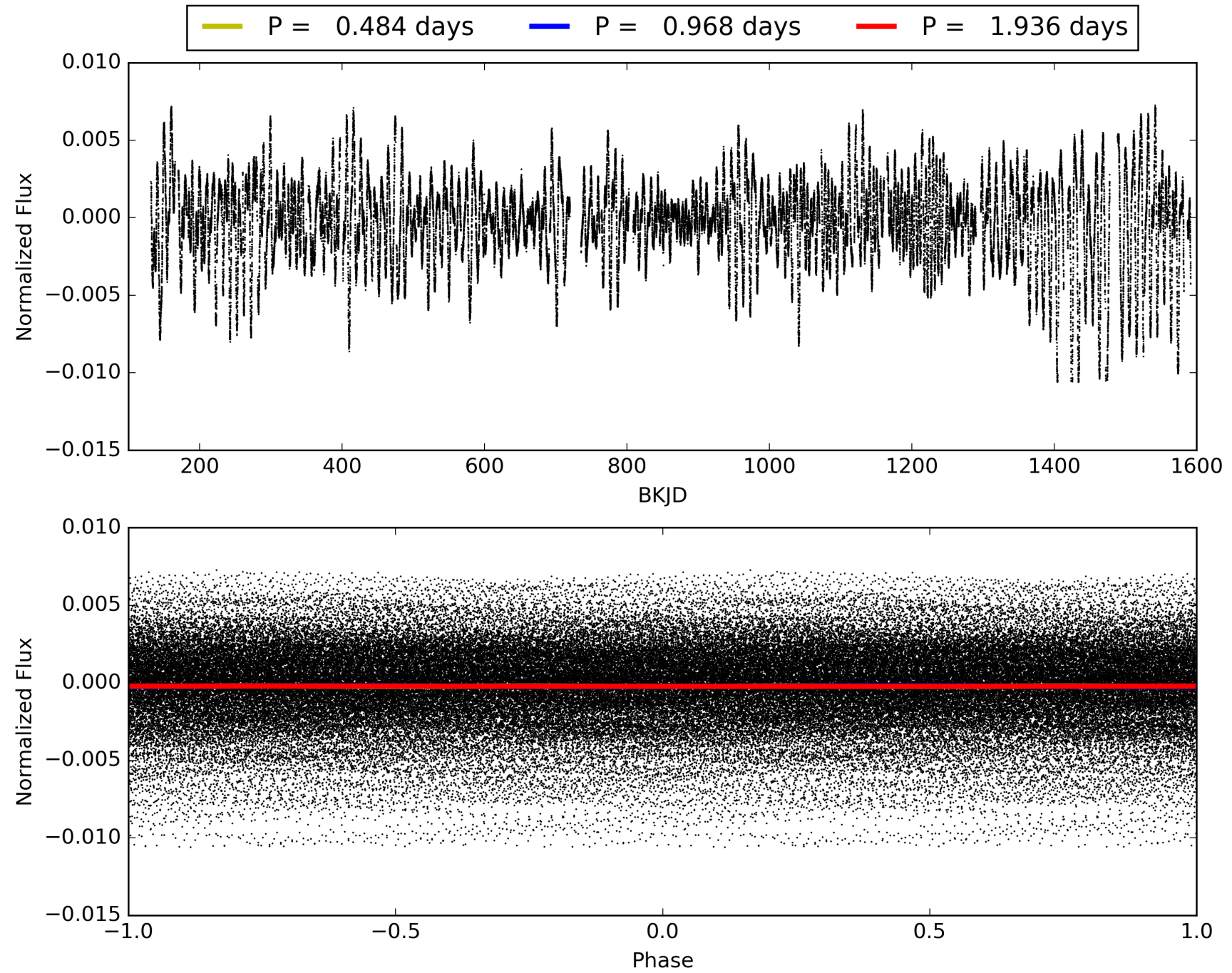
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 23:19:47 Z

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

TCE 002714947-01, PDC Light Curves

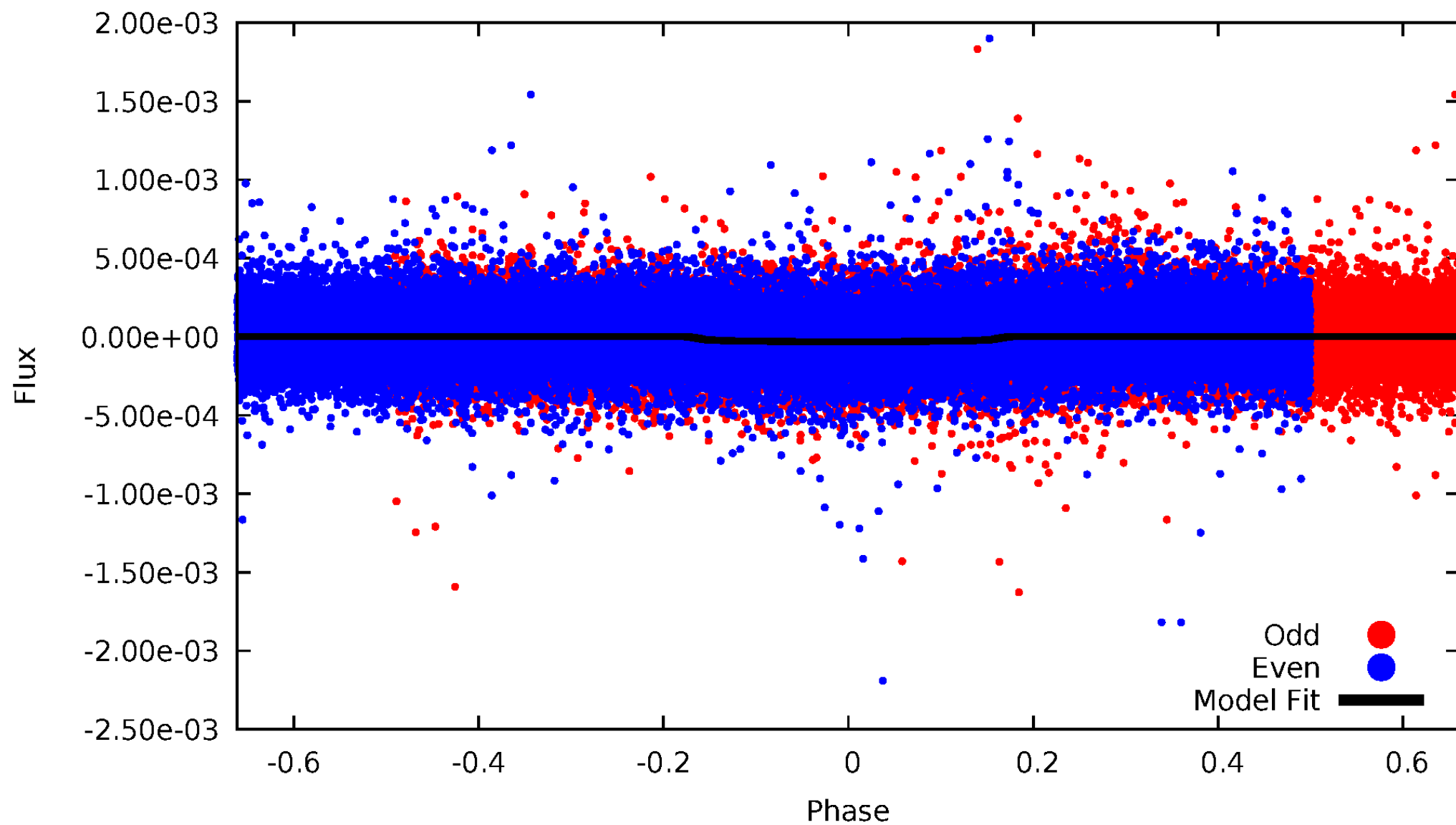


TCE 002714947-01



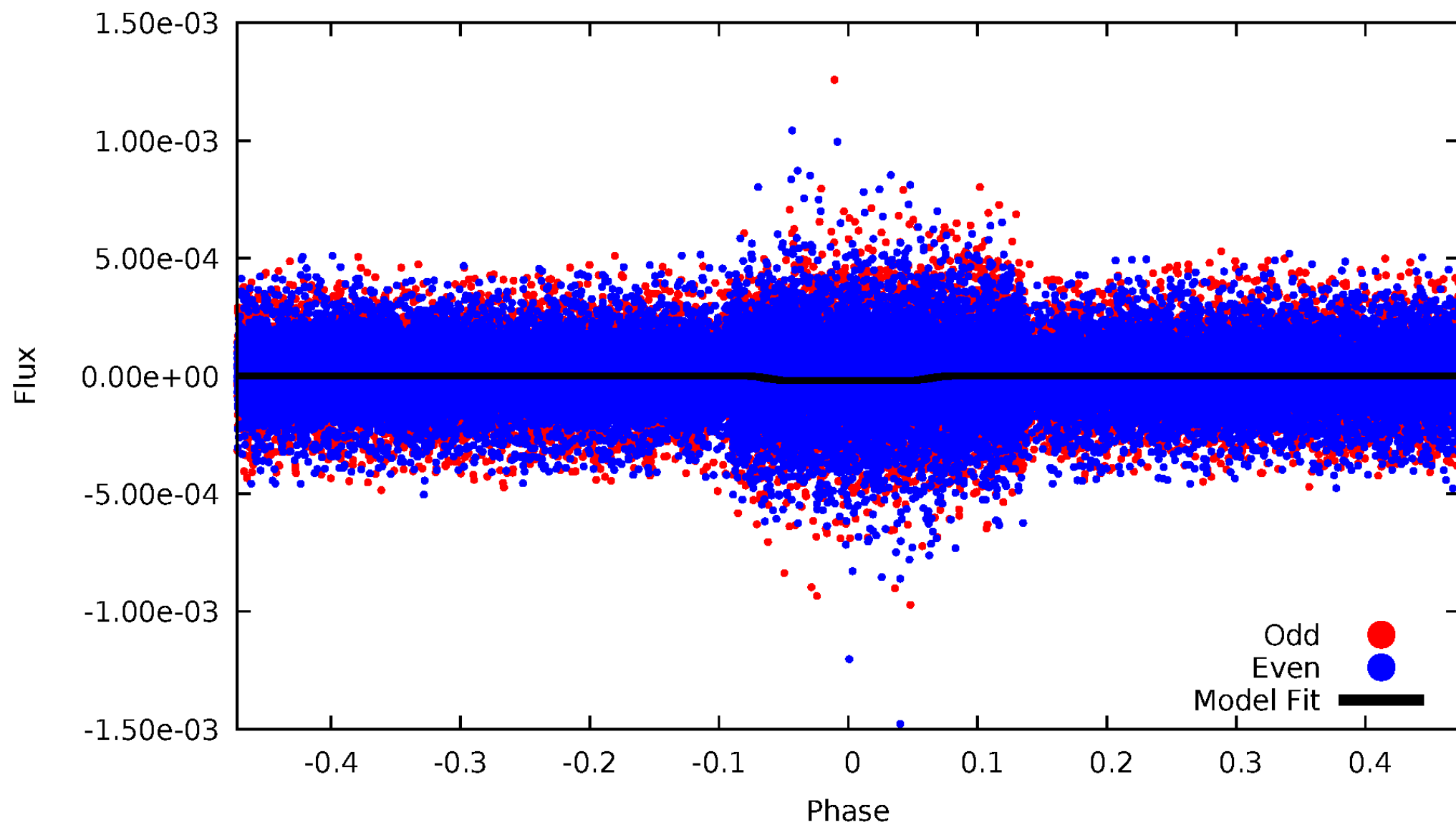
DV Odd/Even

TCE 002714947-01



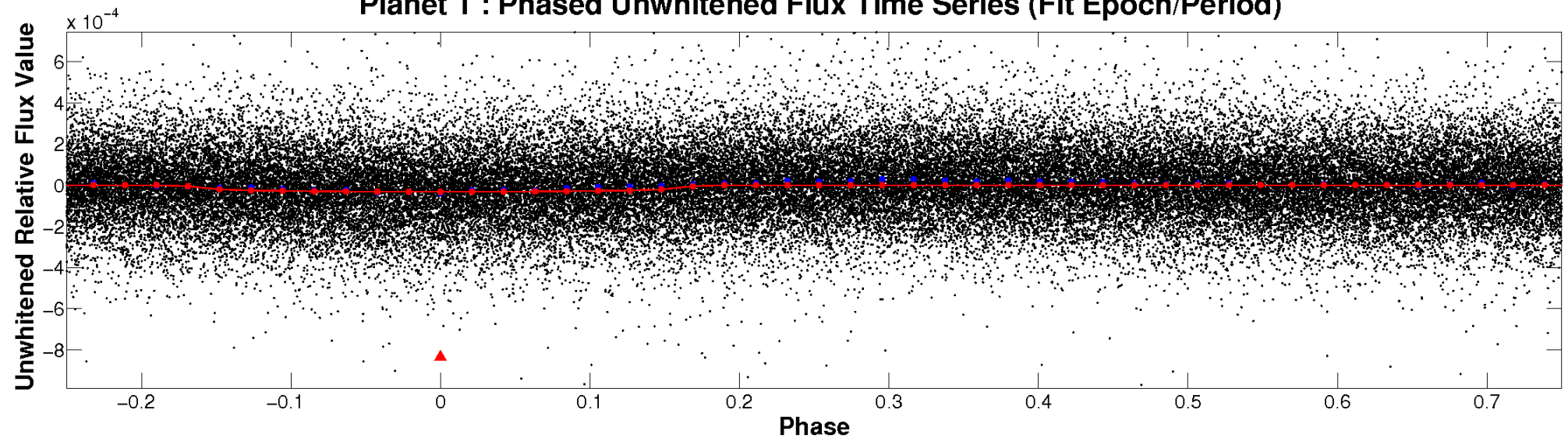
ALT Odd/Even

TCE 002714947-01

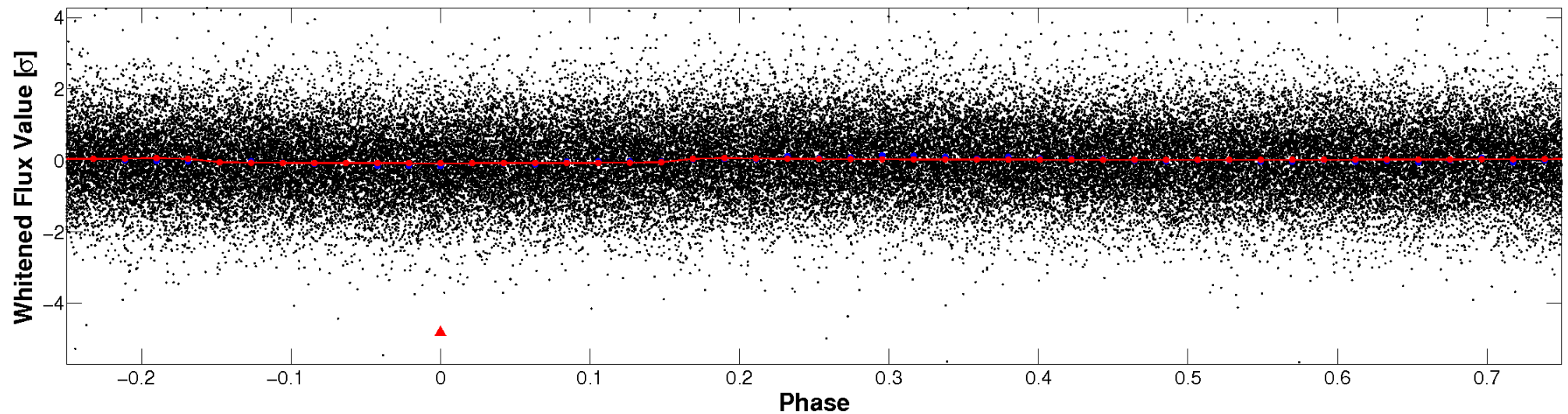


Non-Whitened Vs. Whitened Light Curve

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

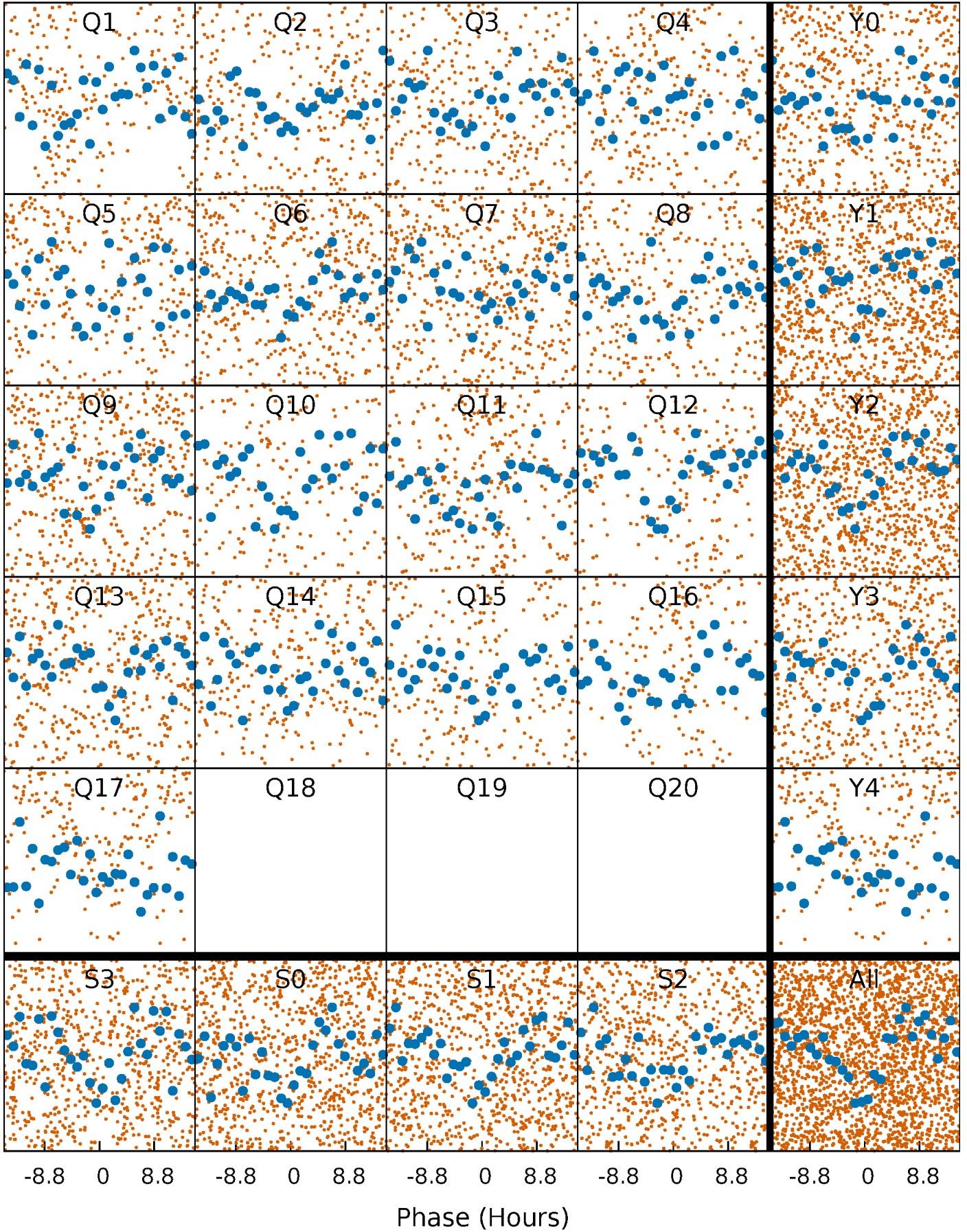


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



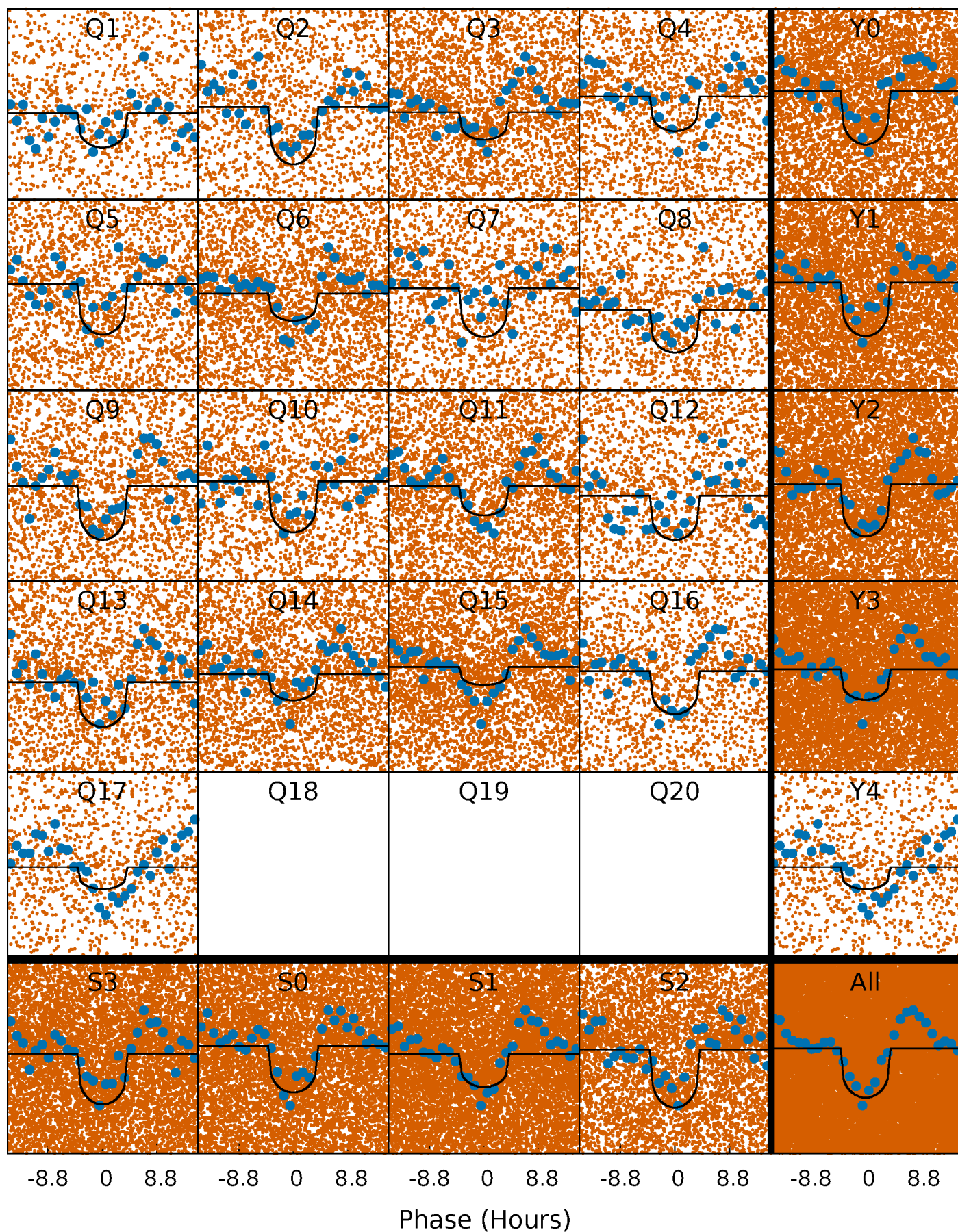
PDC Quarter-Phased Transit Curves

TCE 002714947-01 P= 0.968228 Days $T_0=132.476663$ (BKJD)



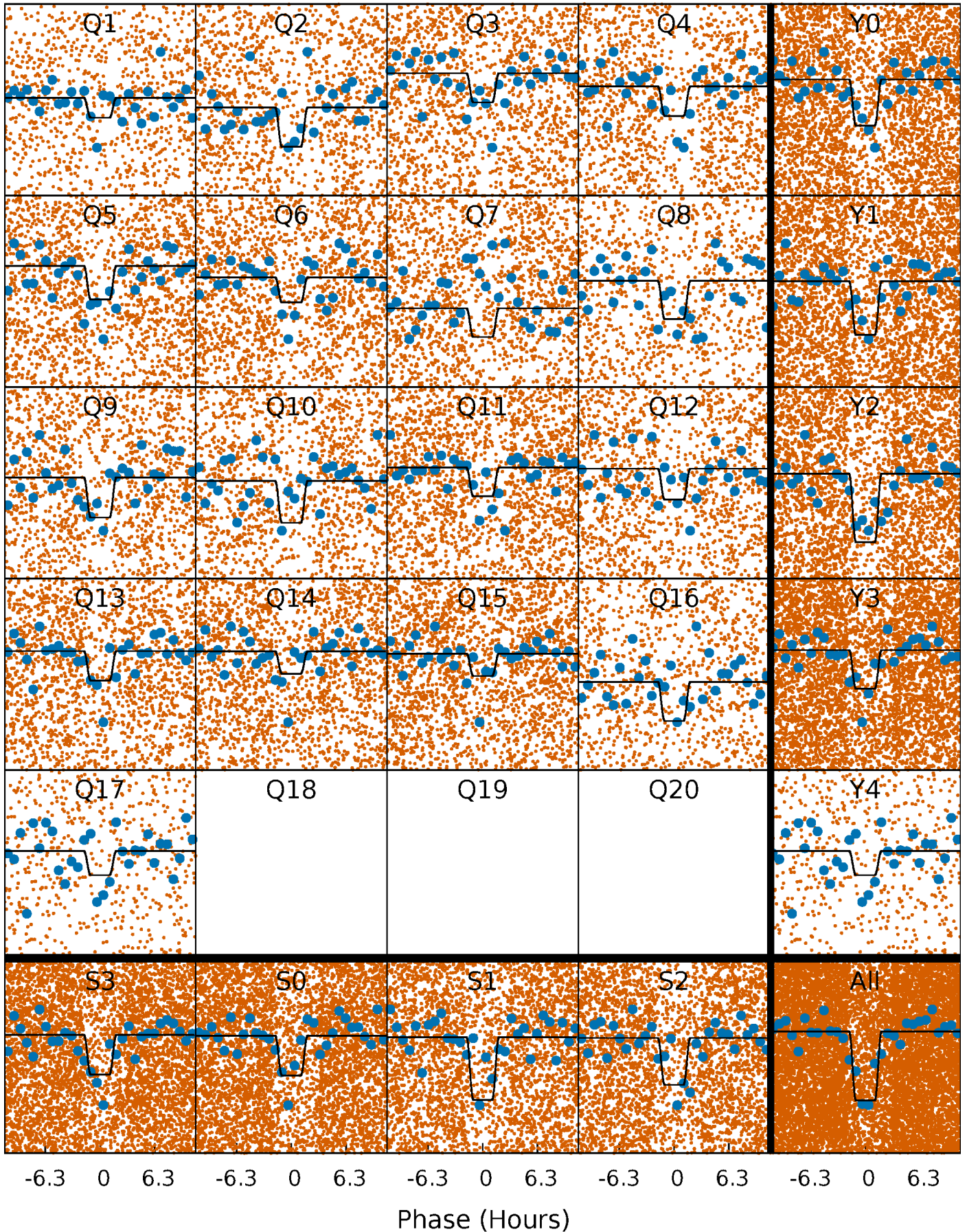
DV Quarter-Phased Transit Curves

TCE 002714947-01 P= 0.968228 Days $T_0=132.476663$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

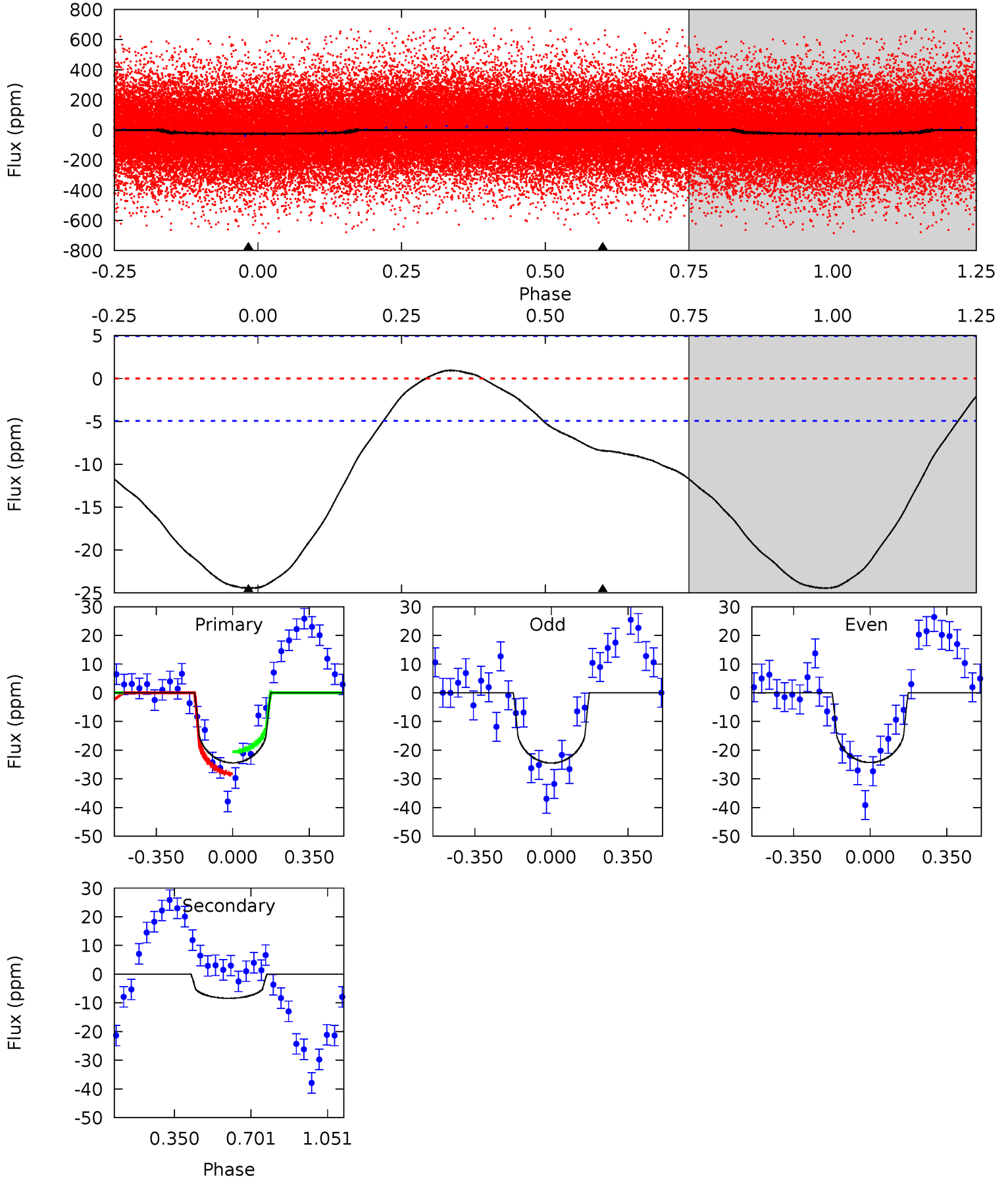
TCE 002714947-01 P= 0.968237 Days $T_0=132.450867$ (BKJD)



DV Model-Shift Uniqueness Test

002714947-01, P = 0.968228 Days, E = 131.508435 Days

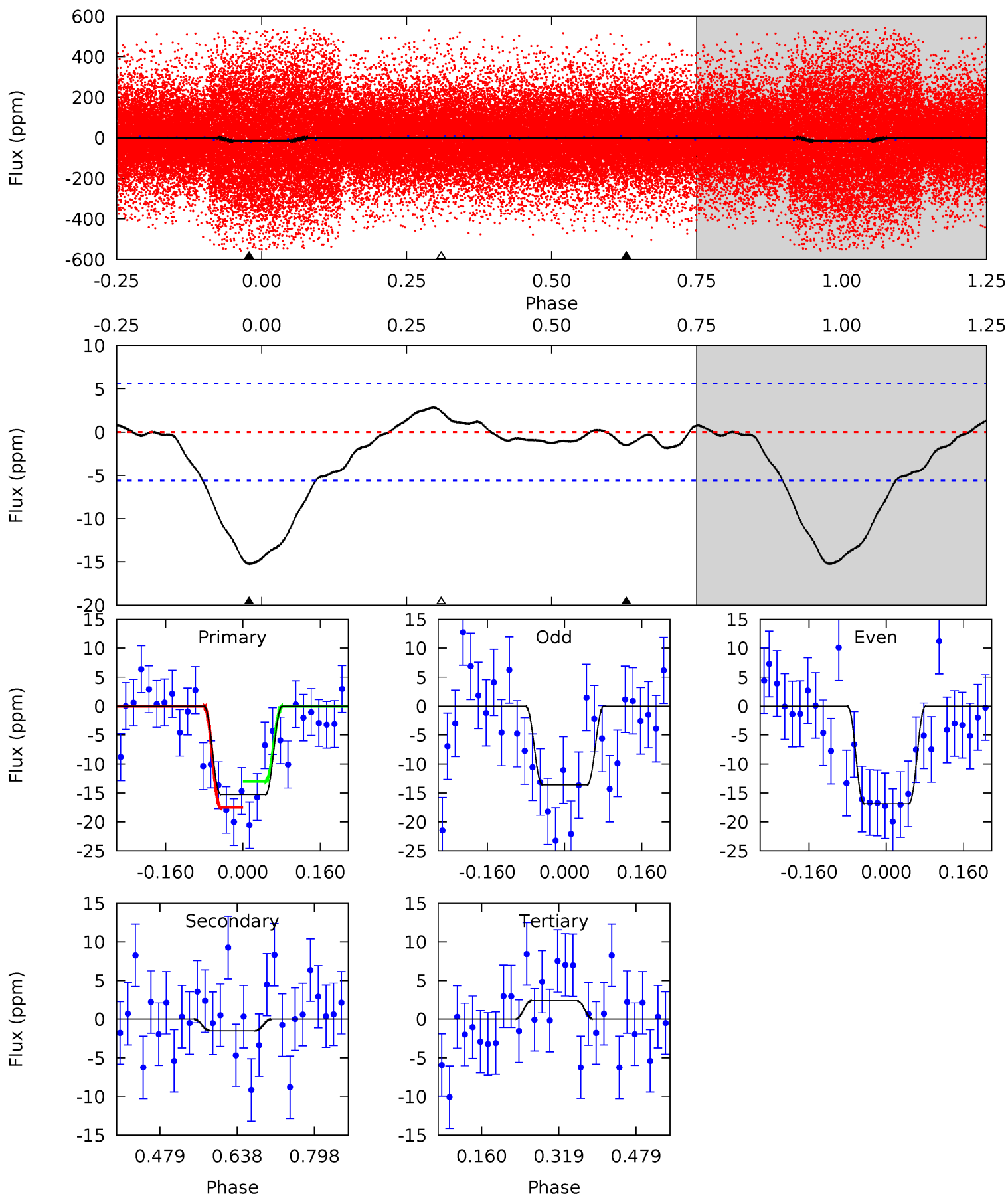
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	7.30	0	0	4.29	0.93	0.96	21.2	21.2	7.30	7.30	0.09	0.87	0.04	3.40



Alt Model-Shift Uniqueness Test

002714947-01, P = 0.968237 Days, E = 131.482630 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	1.19	-1.90	0	4.47	1.41	1.26	14.0	12.1	3.10	1.19	1.29	0.83	0.16	1.76



Stellar Parameters For KIC 002714947

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6170^{+168}_{-186}	$4.472^{+0.052}_{-0.221}$	$-0.160^{+0.250}_{-0.350}$	$0.992^{+0.327}_{-0.102}$	$1.063^{+0.145}_{-0.145}$	$1.535^{+0.433}_{-0.844}$
	+3%/-3%	+1%/-5%	+156%/-219%	+33%/-10%	+14%/-14%	+28%/-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 002714947-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-8 ± 1	$0.63^{+0.39}_{-0.35}$	2765^{+196}_{-121}	4575^{+2072}_{-840}	$4.332^{+17.350}_{-2.706}$
Alt.	-1 ± 1	$0.56^{+0.37}_{-0.33}$	2764^{+229}_{-137}	3236^{+1500}_{-6017}	$0.839^{+4.563}_{-0.717}$

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

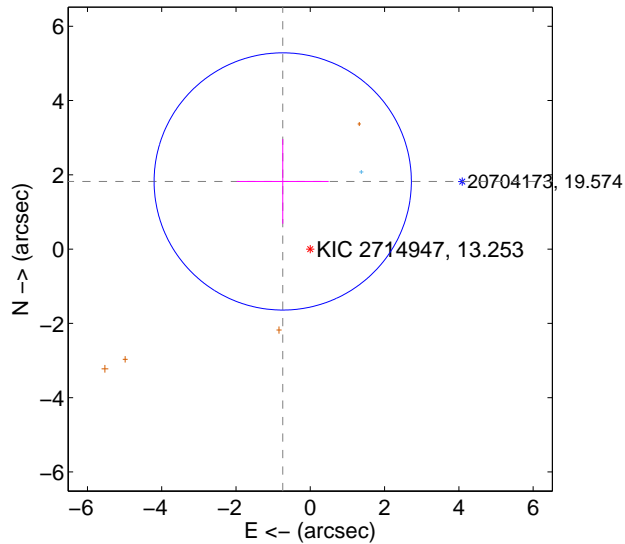
Supplemental centroid analysis for 002714947-01. Kepler magnitude: 13.25. Transit SNR 12.13

There are 1 quarters with good PRF difference image offsets

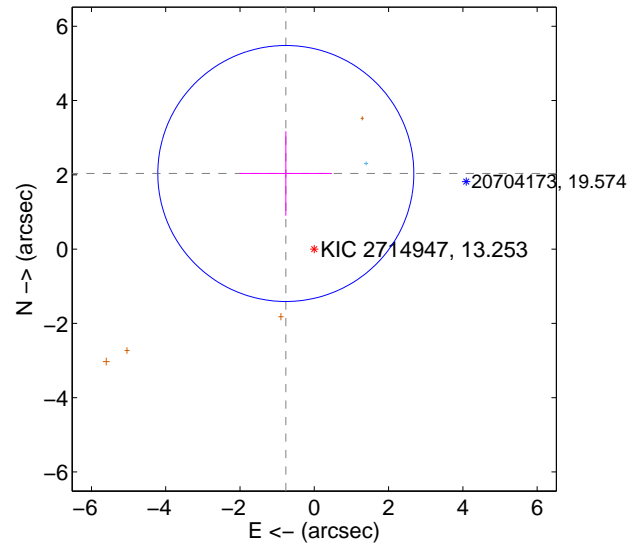
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.967 ± 1.154	1.70	0.742 ± 1.237	1.822 ± 1.140
PRF-fit source offset from KIC position	2.175 ± 1.149	1.89	0.767 ± 1.241	2.036 ± 1.135
photometric centroid source offset	3.65 ± 0.56	6.55	-1.51 ± 0.52	3.33 ± 0.57

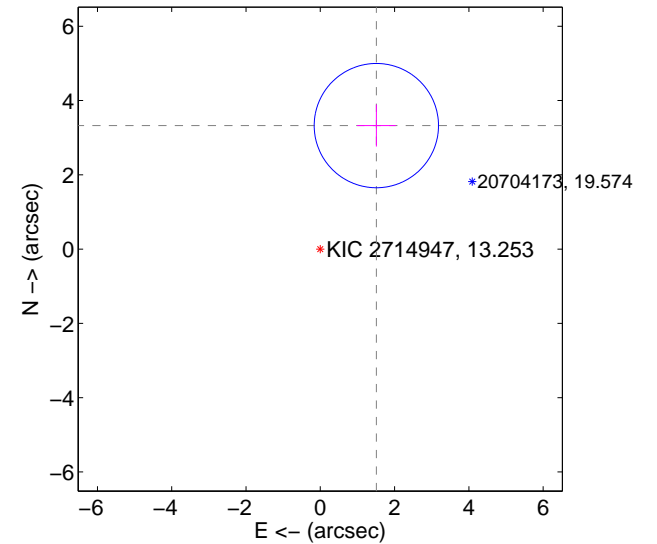
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

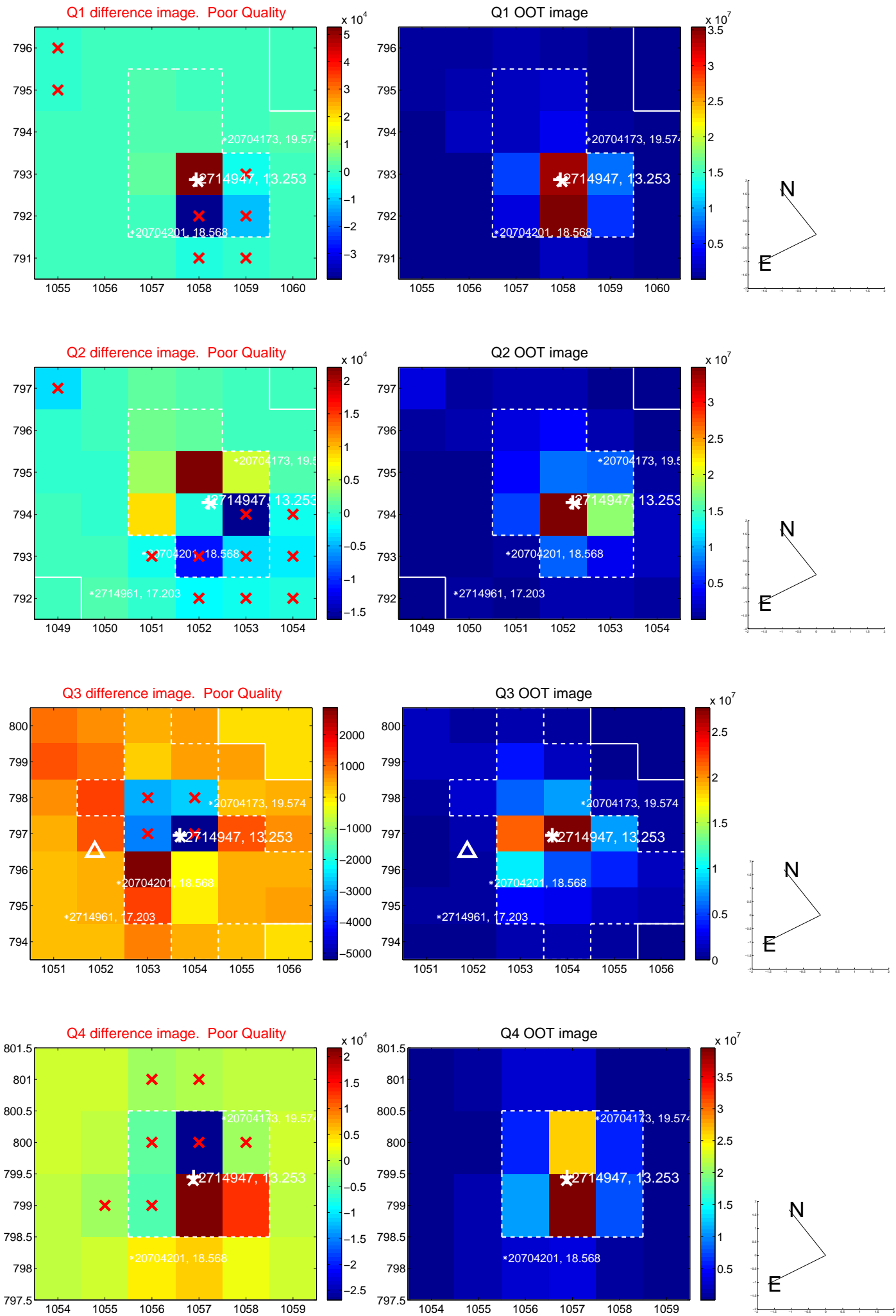


offset from photometric centroids

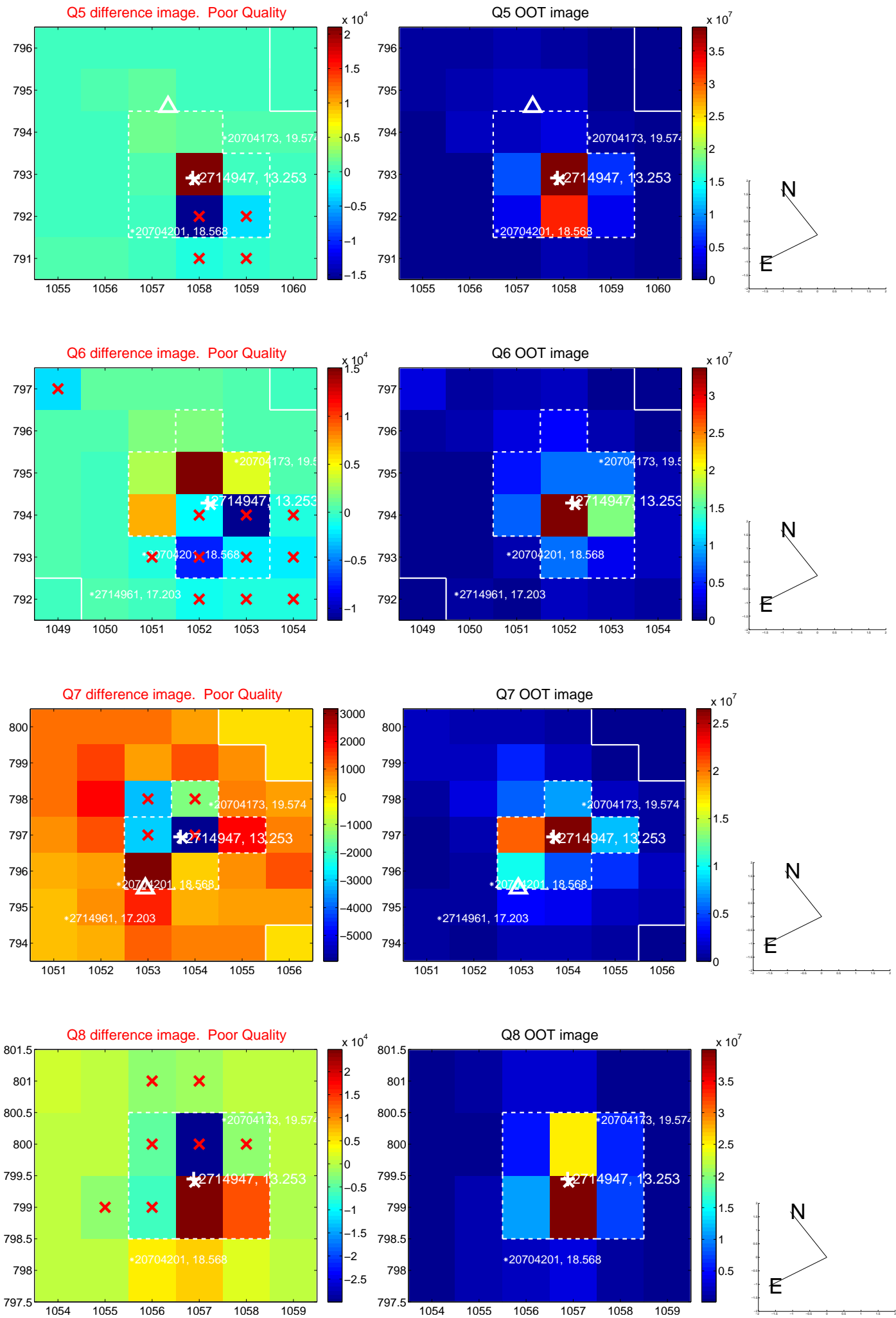


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

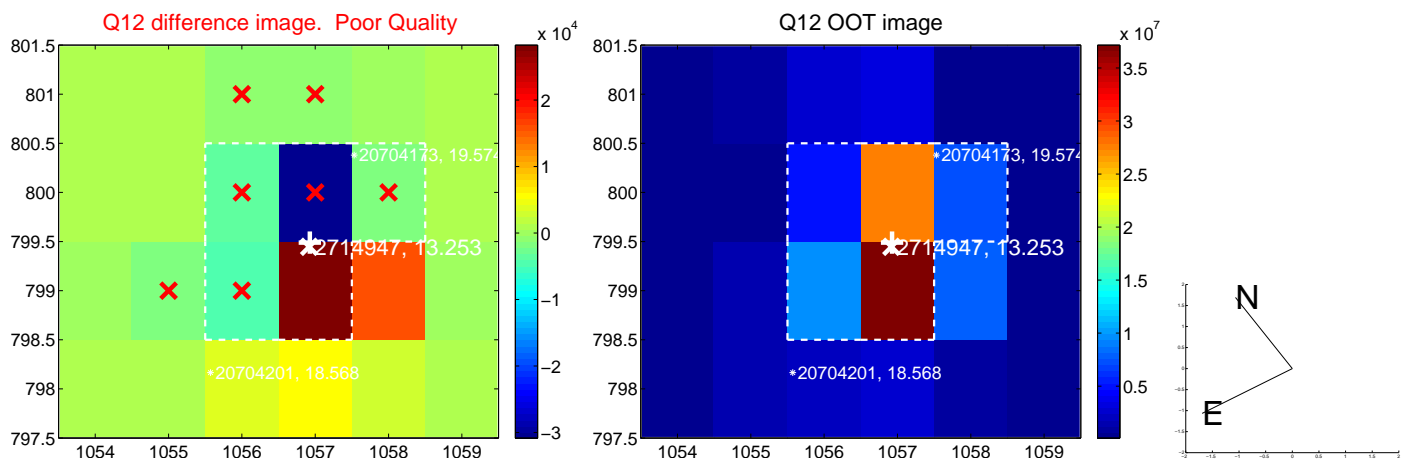
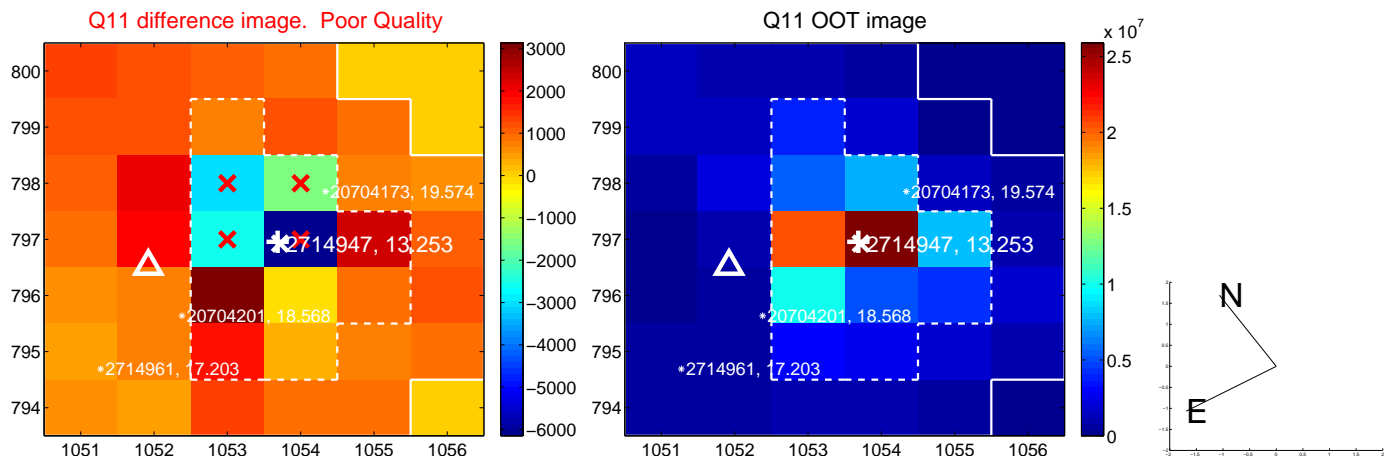
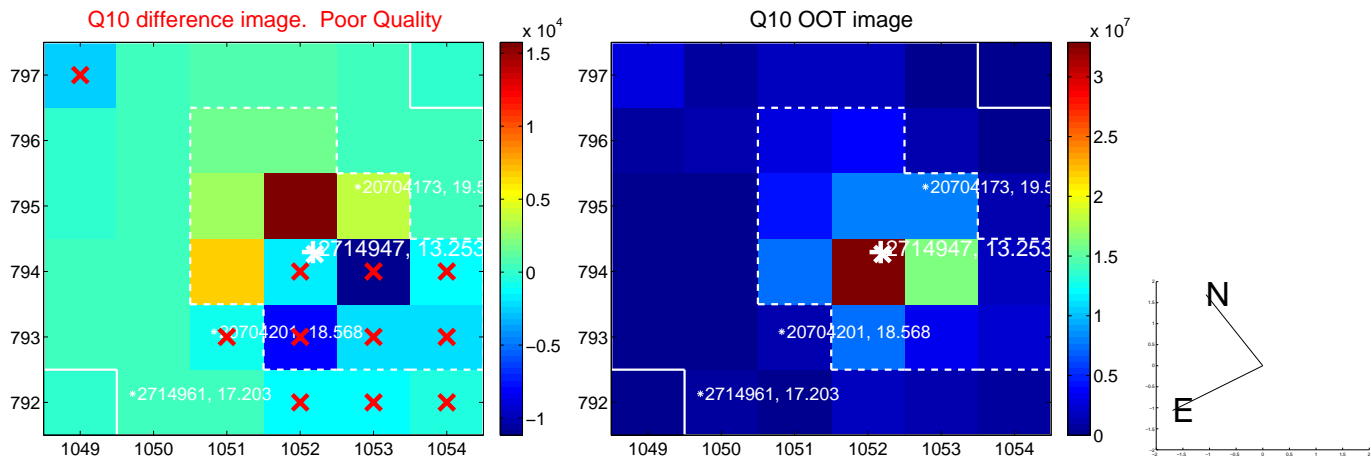
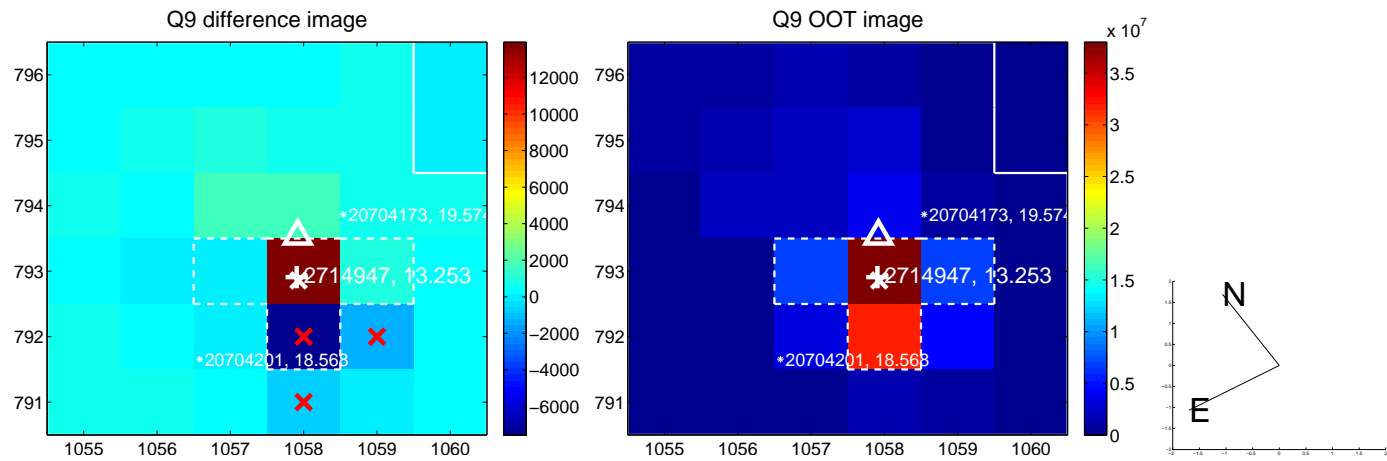
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



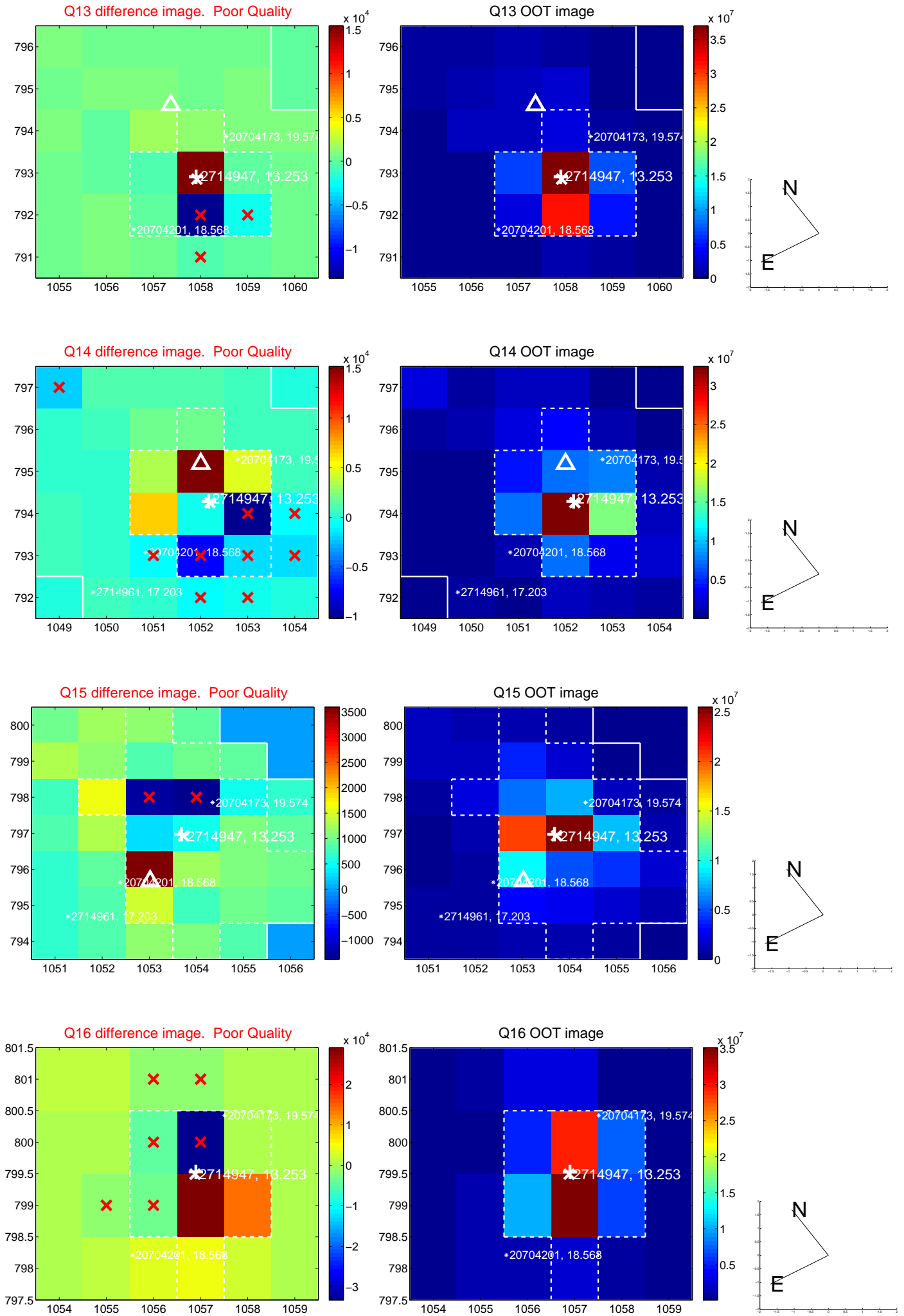
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



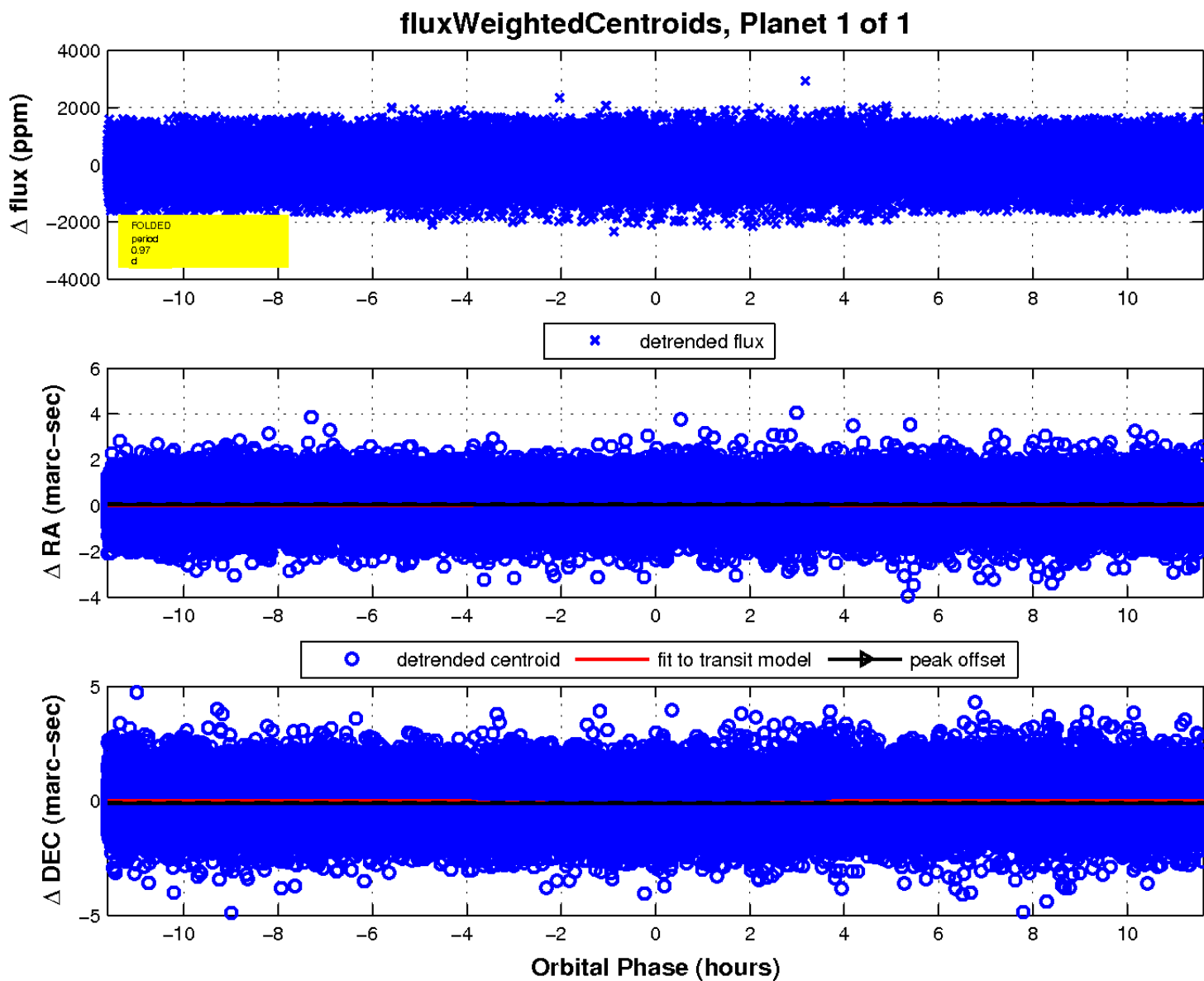
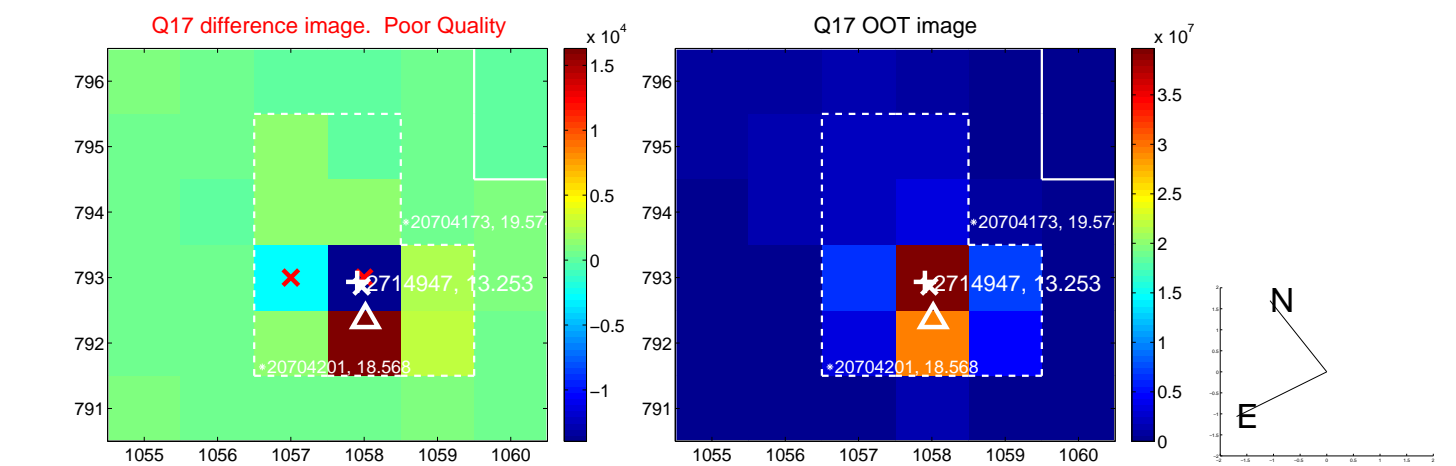
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

