

KIC 002714831

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})
002714831-01	OBS	No	0.968159	132.492063	18.8	9.765	9.1	6.6	0.60	4583	0.25	548.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002714831-01	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.

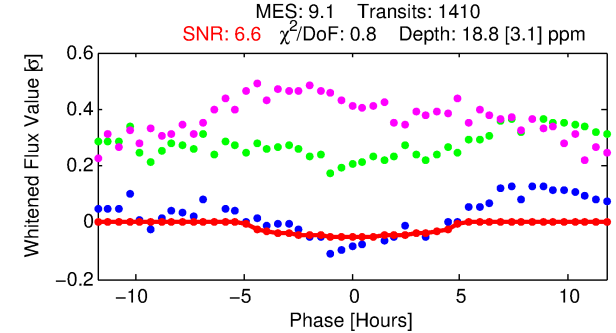
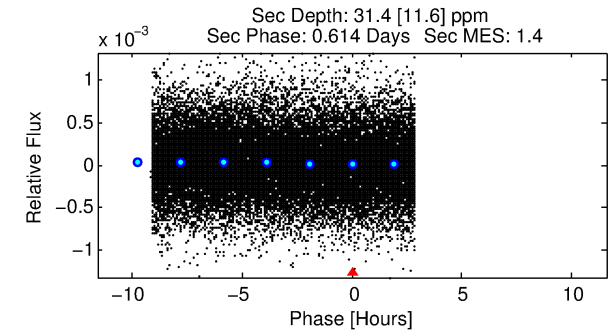
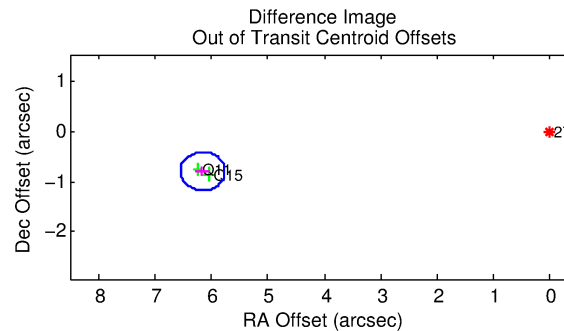
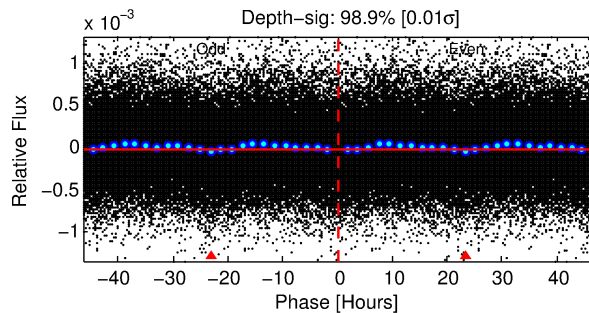
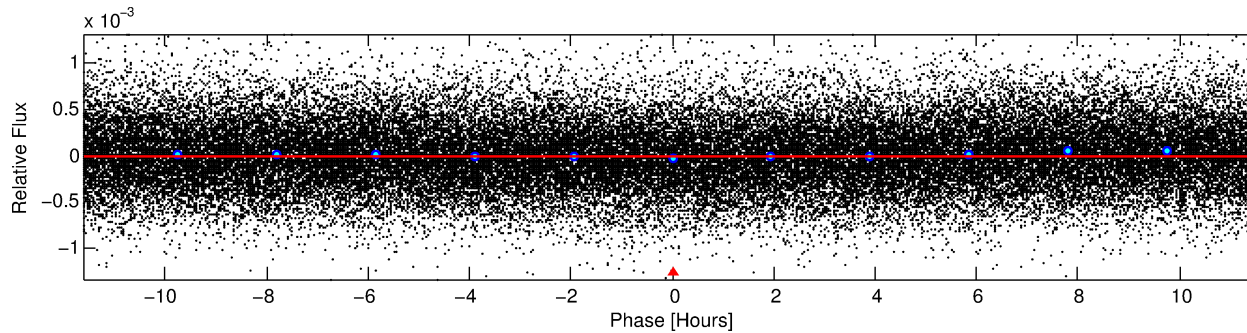
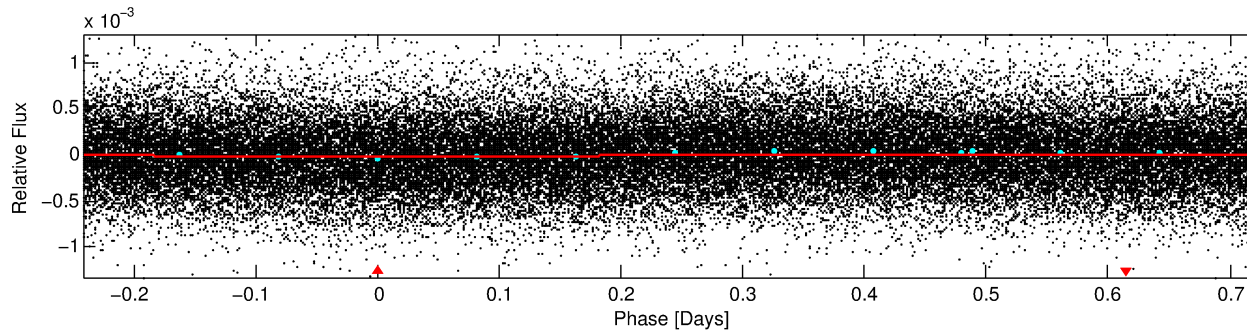
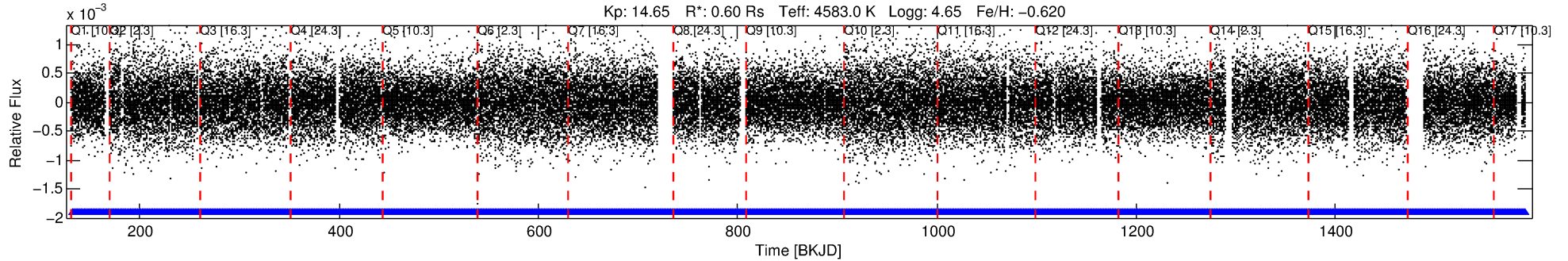
Ephemeris Match Information For 002714831-01

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
002714831-01	2714831	002714803-01	2714803	1:1	36.0	-9	-1	14.34	14.65	0.95	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: 2714831 Candidate: 1 of 1 Period: 0.968 d



DV Fit Results:

Period = 0.96816 [0.00003] d
Epoch = 132.4921 [0.0173] BKJD
Rp/R* = 0.0038 [0.0045]
a/R* = 1.04 [0.25]
b = 0.05 [71.97]
Seff = 548.97 [86.00]
Teff = 1234 [48] K
Rp = 0.25 [0.30] Re
a = 0.0160 [0.0011] AU
Ag = 71.46 [171.25] [0.41 σ]
Teffp = 5548 [3325] K [1.30 σ]

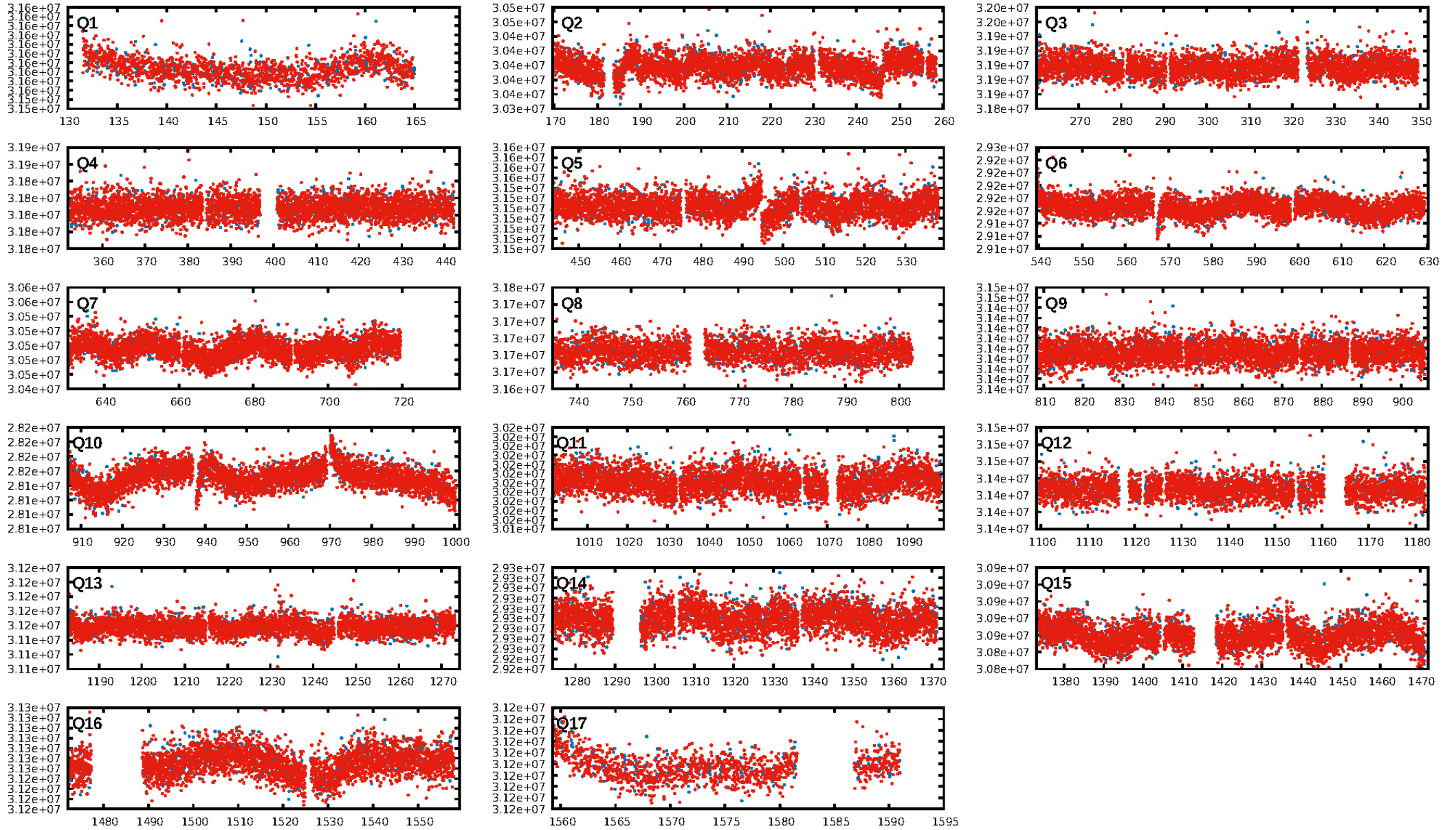
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1347/1347]
GhostDiagnostic-chr: 0.1625
Centroid-sig: 0.0%
Centroid-so: 6.099 arcsec [2.77 σ]
OotOffset-rm: 6.202 arcsec [47.74 σ]
KicOffset-rm: 6.411 arcsec [55.95 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [17/17]

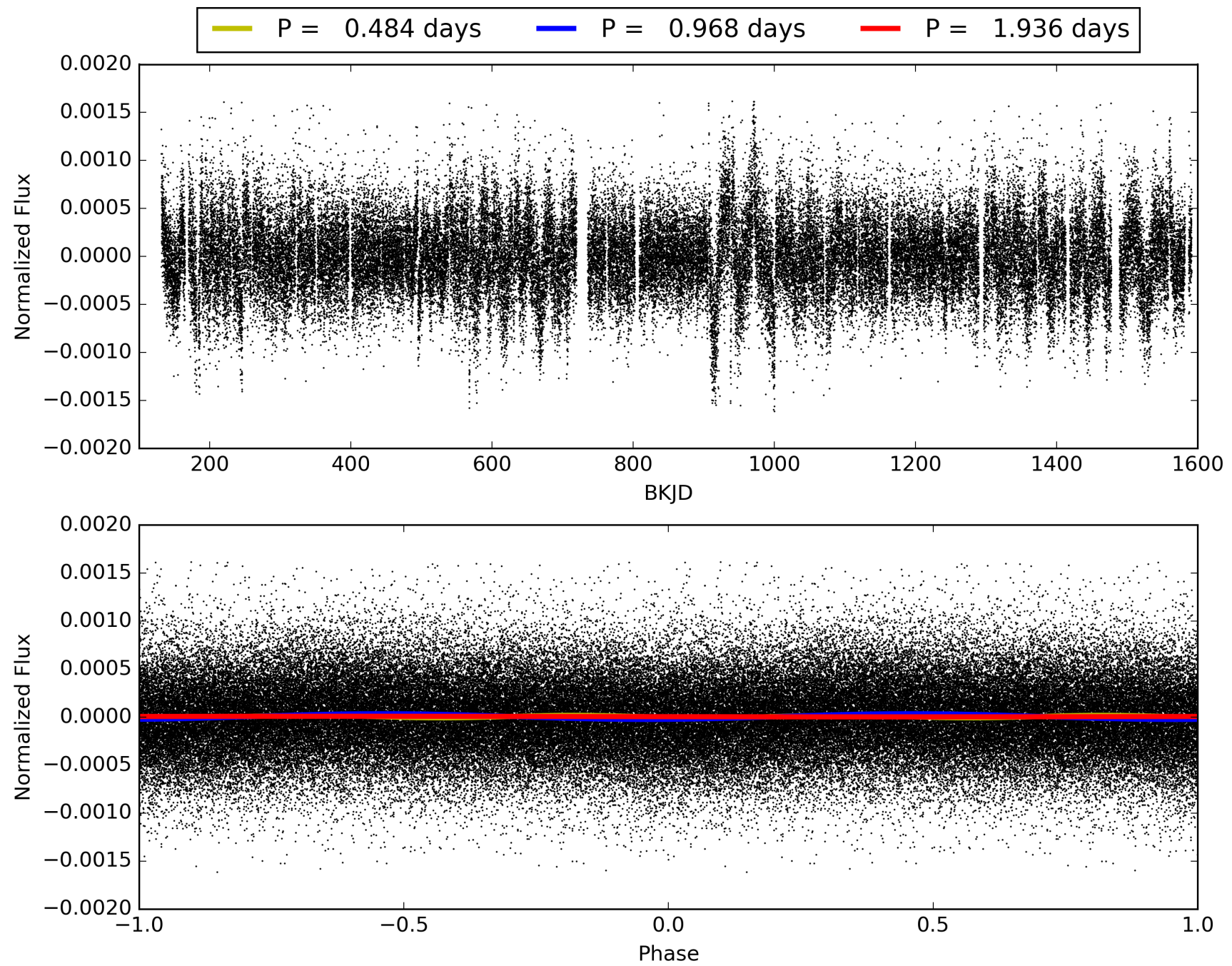
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 21:24:27 Z

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

TCE 002714831-01, PDC Light Curves

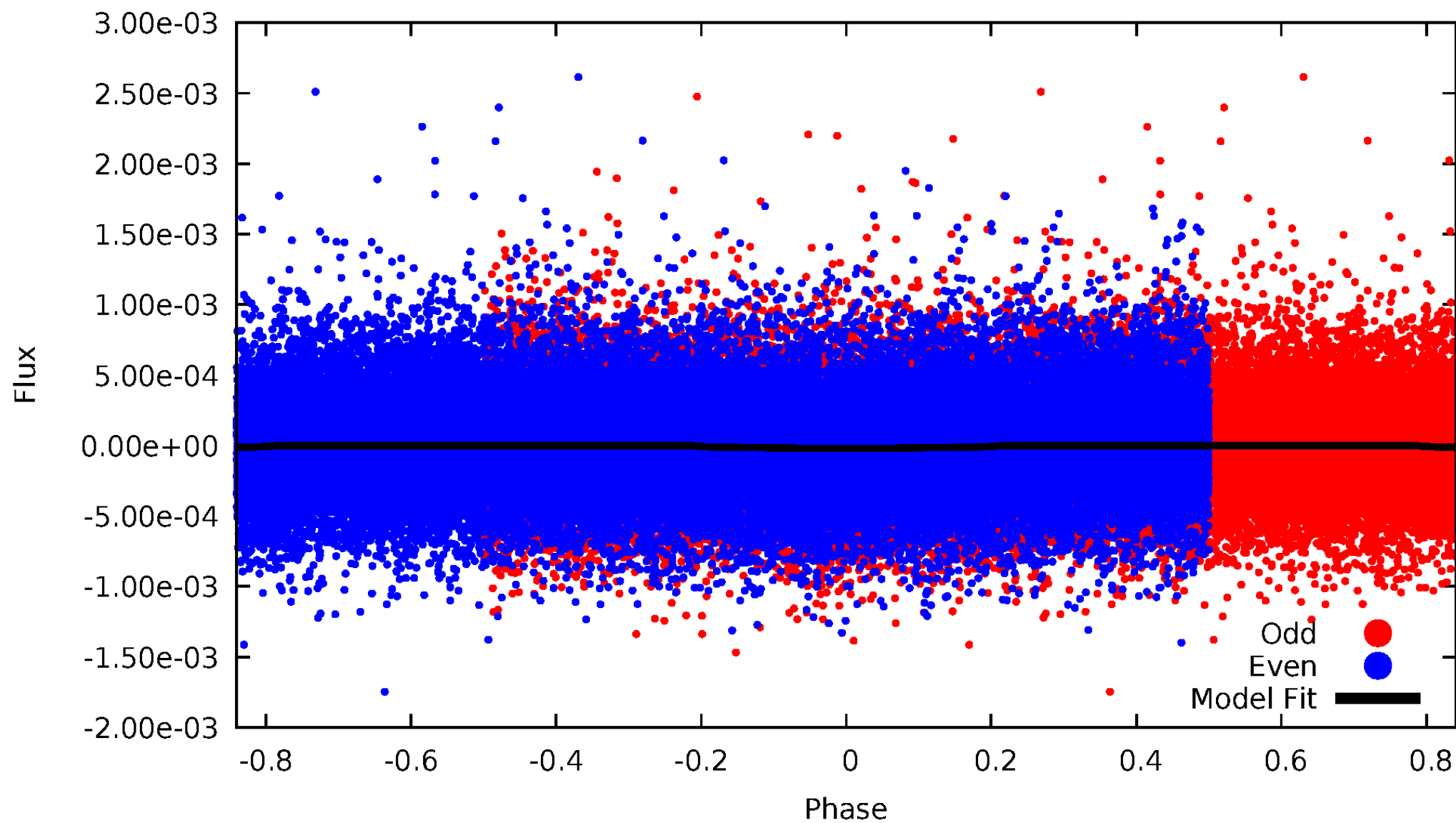


TCE 002714831-01



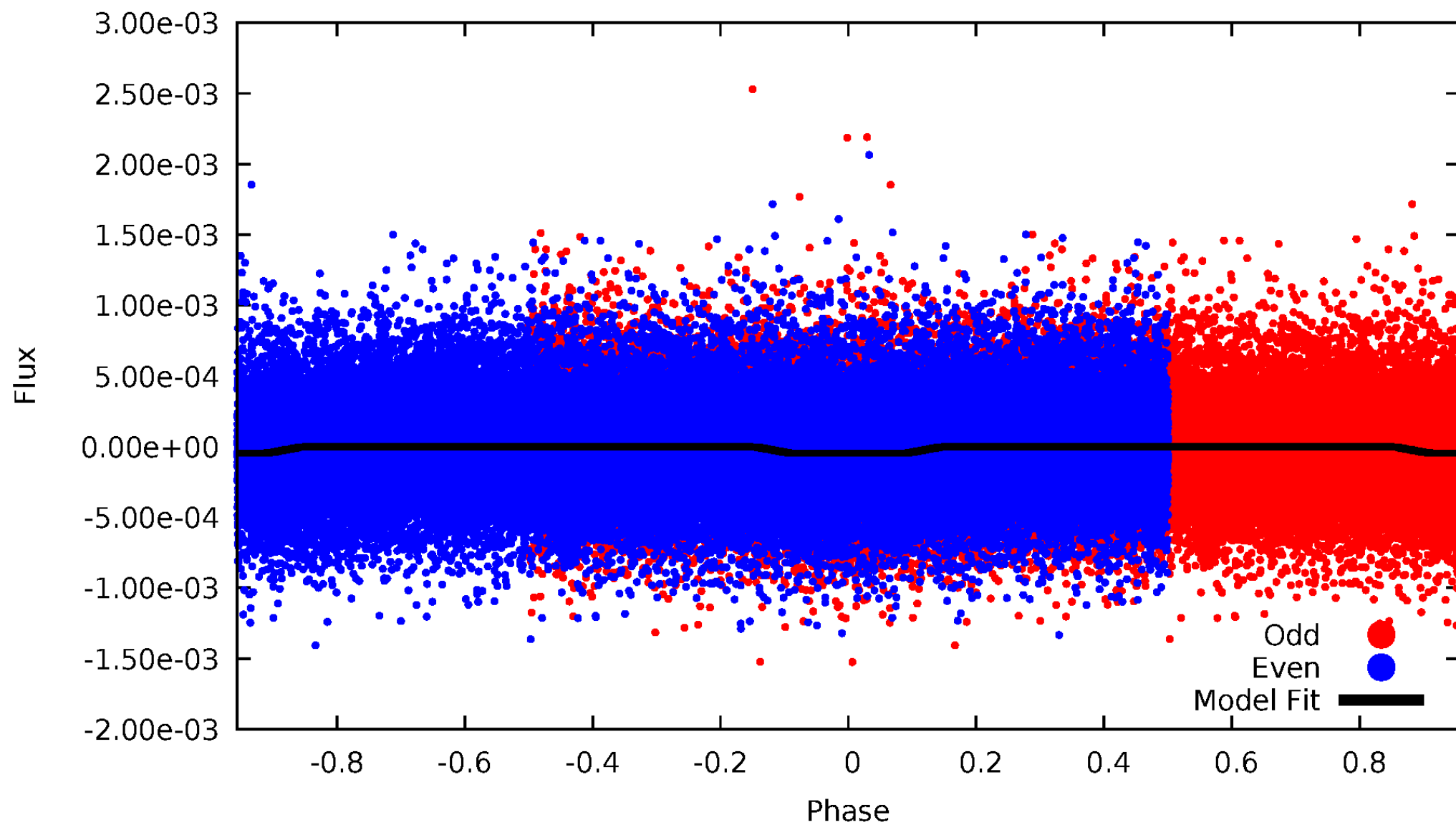
DV Odd/Even

TCE 002714831-01



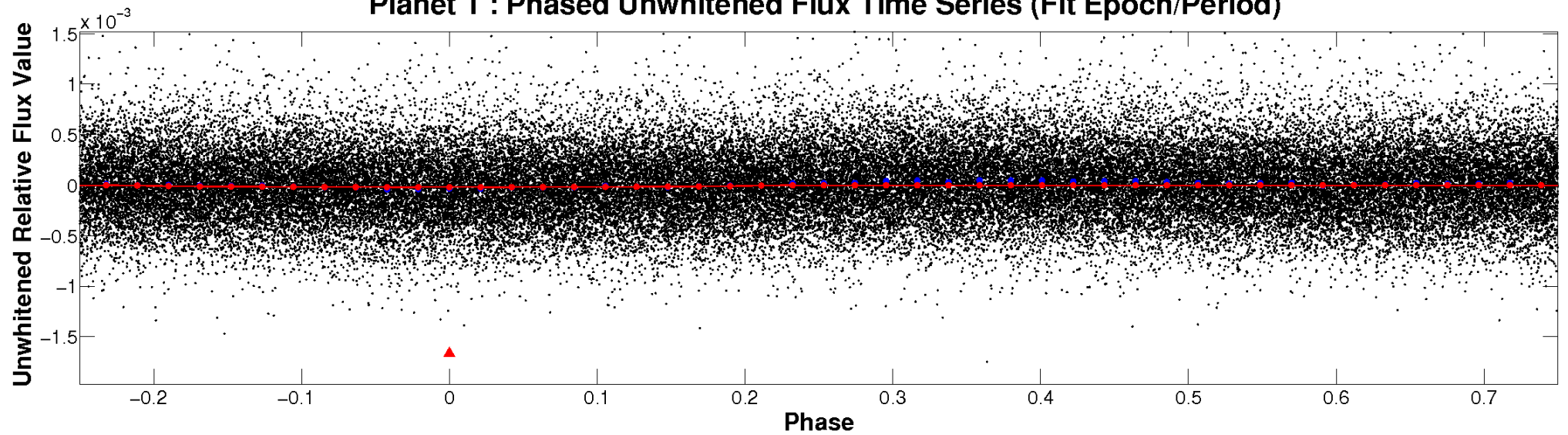
ALT Odd/Even

TCE 002714831-01

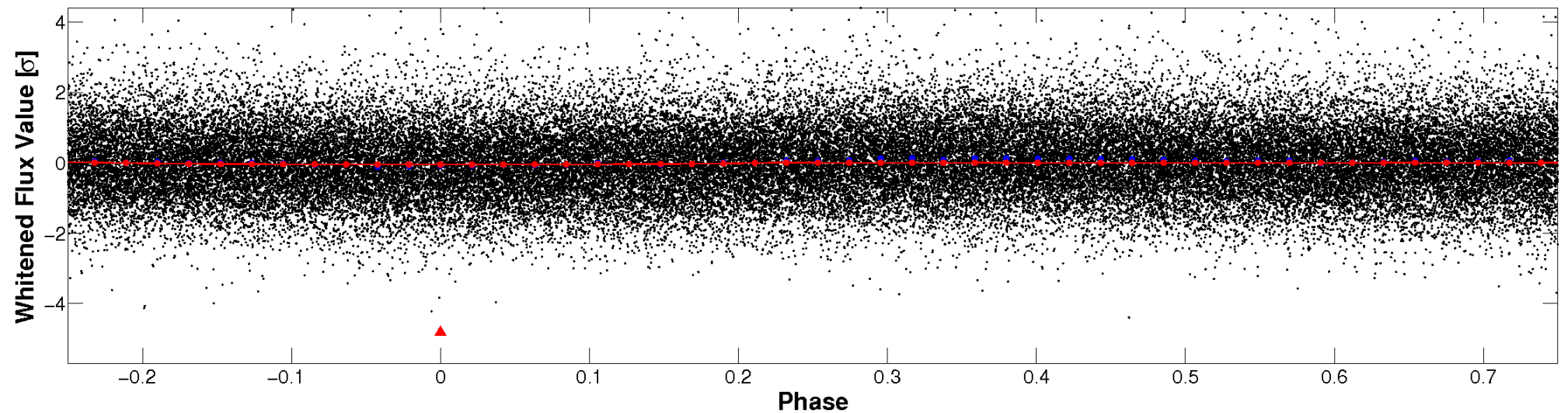


Non-Whitened Vs. Whitened Light Curve

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

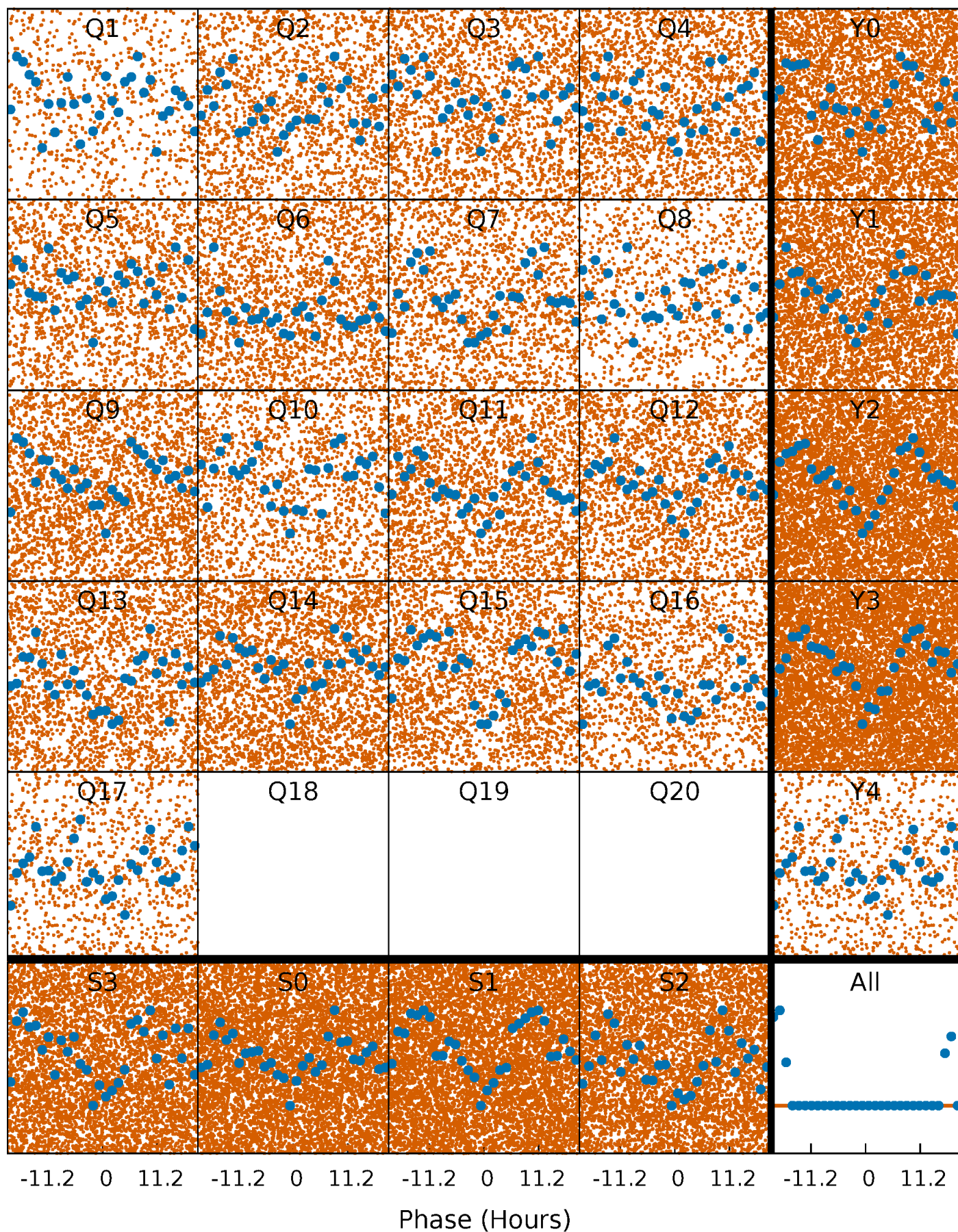


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



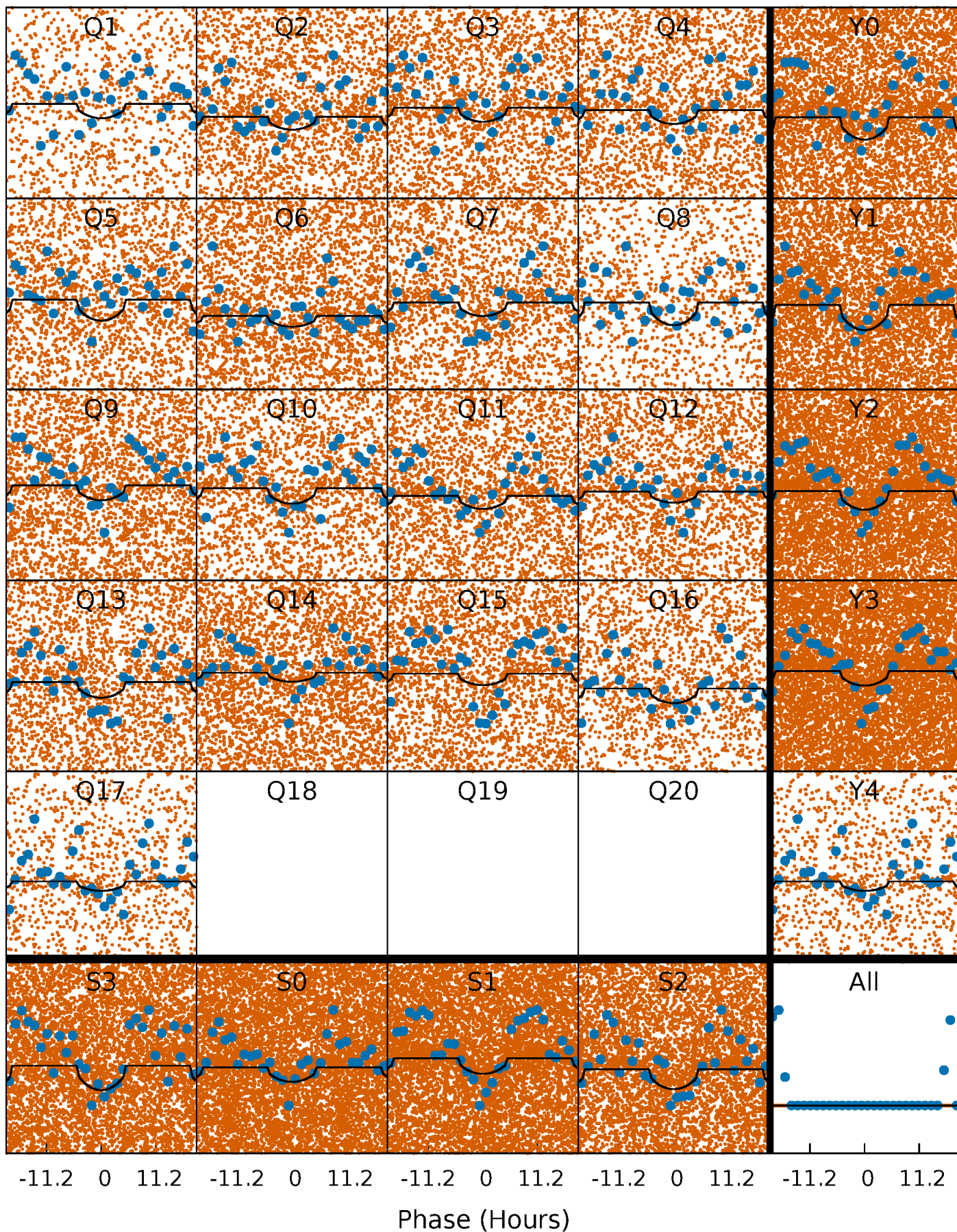
PDC Quarter-Phased Transit Curves

TCE 002714831-01 P= 0.968159 Days $T_0=132.492064$ (BKJD)



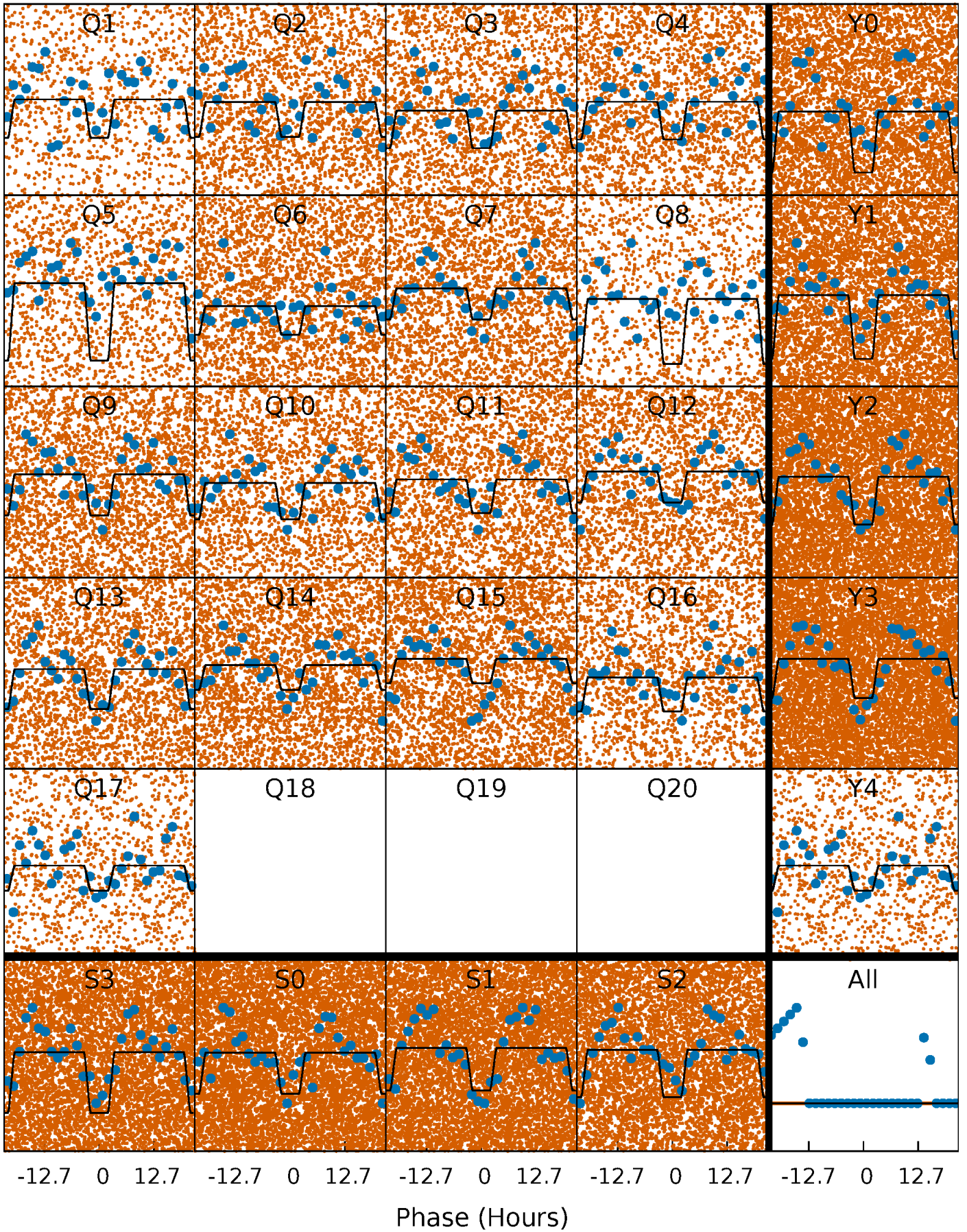
DV Quarter-Phased Transit Curves

TCE 002714831-01 P= 0.968159 Days $T_0=132.492064$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

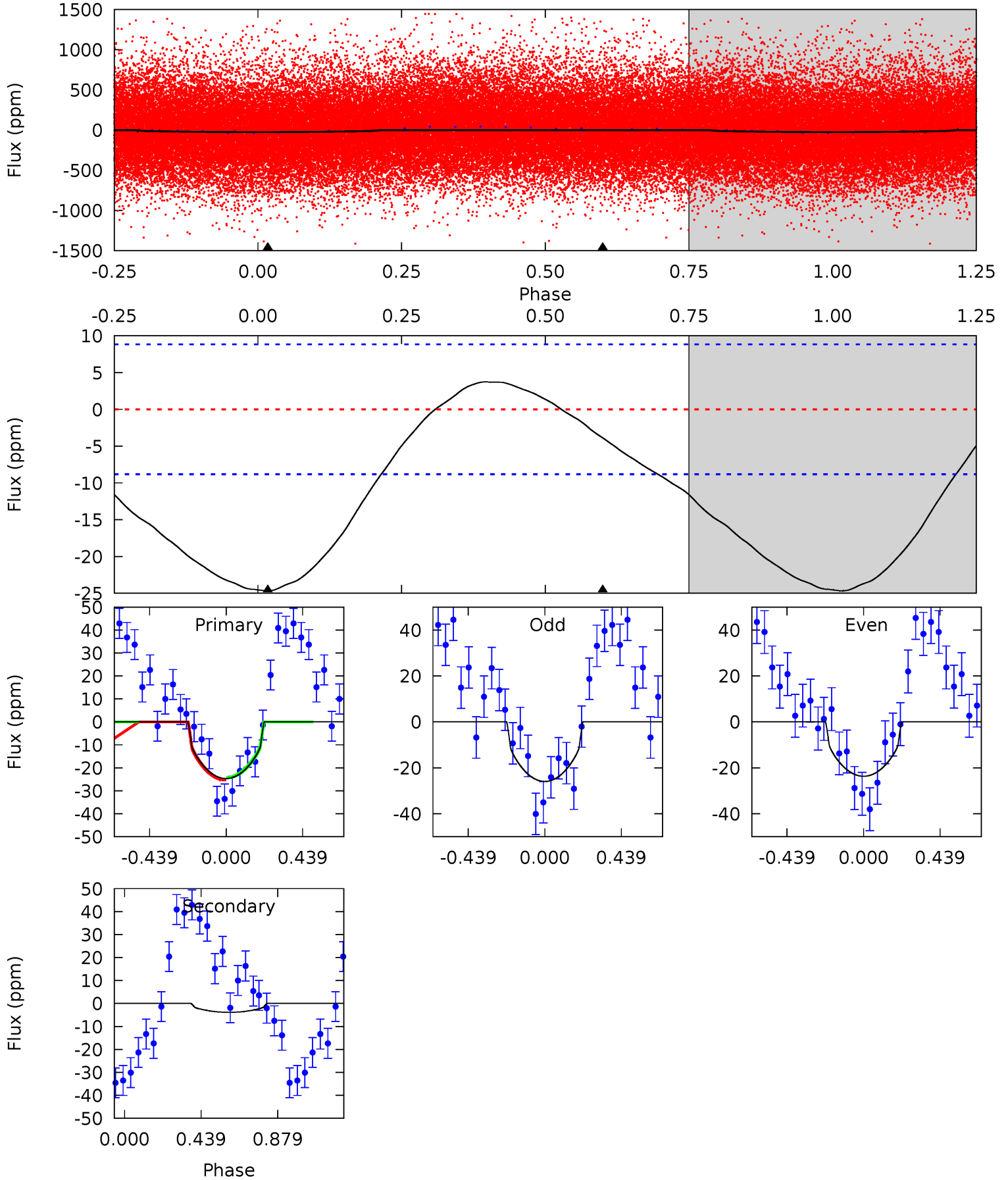
TCE 002714831-01 P= 0.968237 Days $T_0=132.431762$ (BKJD)



DV Model-Shift Uniqueness Test

002714831-01, P = 0.968159 Days, E = 130.555746 Days

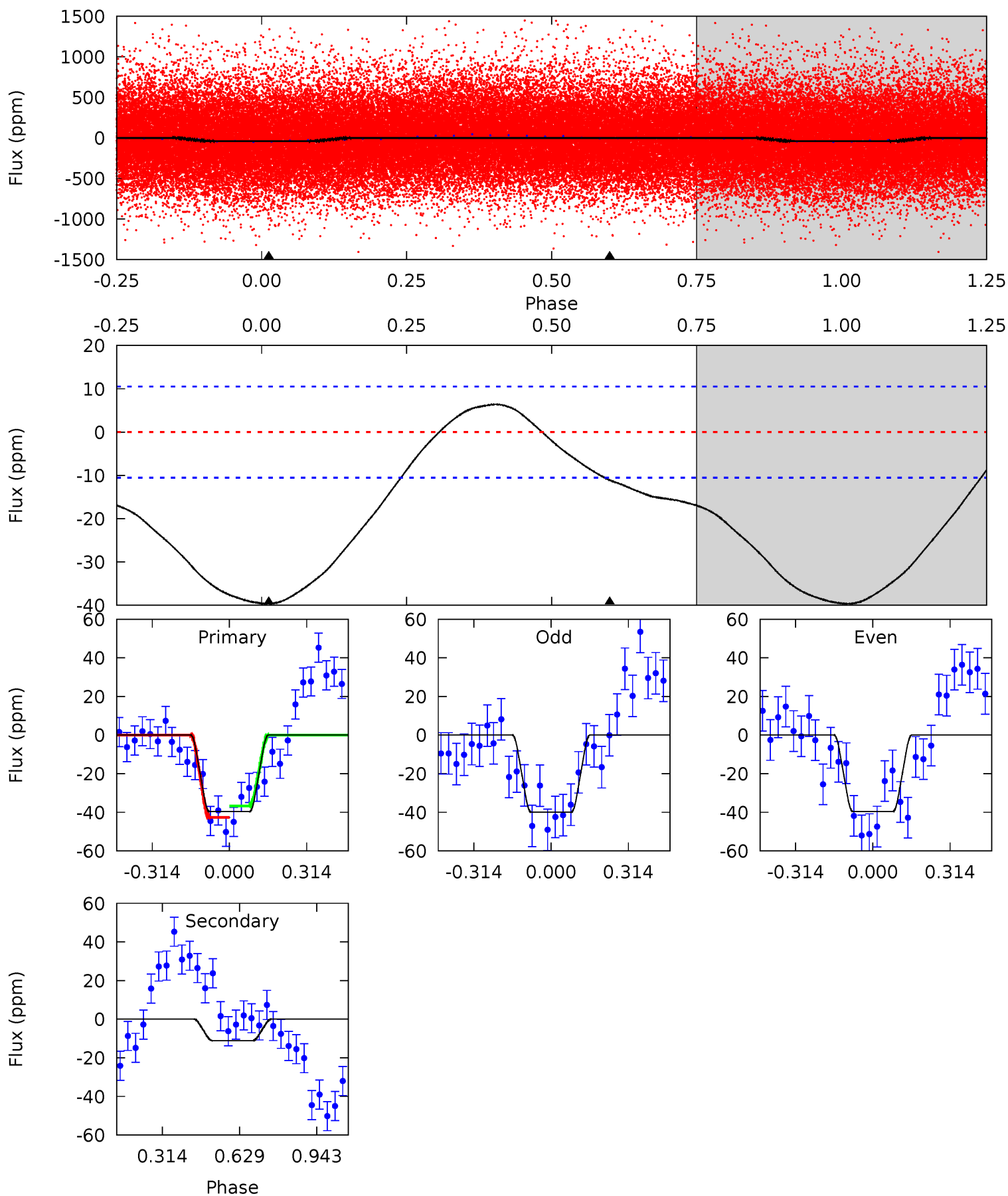
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	1.86	0	0	4.24	0.77	0.98	11.9	11.9	1.86	1.86	0.54	1.17	0.13	0.23



Alt Model-Shift Uniqueness Test

002714831-01, P = 0.968237 Days, E = 131.463525 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	4.56	0	0	4.32	1.01	1.53	16.3	16.3	4.56	4.56	0.07	1.03	0.14	1.24



Stellar Parameters For KIC 002714831

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4583^{+137}_{-137}	$4.653^{+0.054}_{-0.027}$	$-0.620^{+0.300}_{-0.300}$	$0.597^{+0.052}_{-0.052}$	$0.585^{+0.066}_{-0.033}$	$3.871^{+0.885}_{-0.496}$
	+3%/-3%	+1%/-1%	+48%/-48%	+9%/-9%	+11%/-6%	+23%/-13%
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 002714831-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 2	$0.32^{+0.28}_{-0.22}$	1714^{+60}_{-63}	3221^{+1649}_{-599}	$4.612^{+40.842}_{-3.362}$
Alt.	-11 ± 2	$0.48^{+0.29}_{-0.27}$	1714^{+57}_{-62}	3442^{+1221}_{-509}	$6.817^{+29.933}_{-4.265}$

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

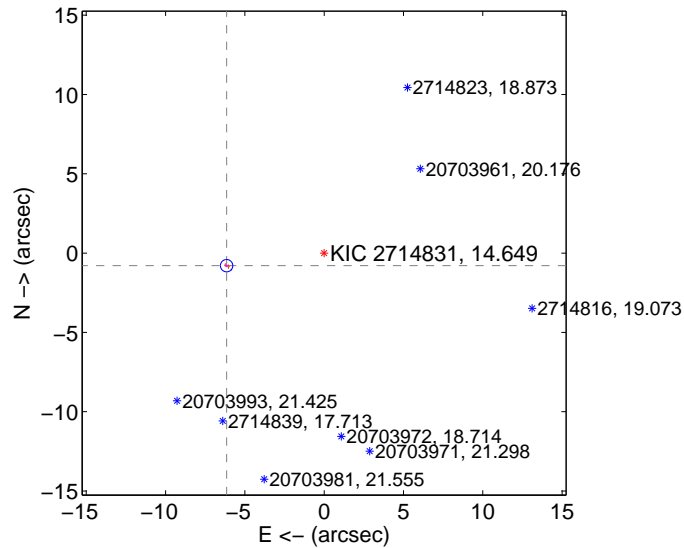
Supplemental centroid analysis for 002714831-01. Kepler magnitude: 14.65. Transit SNR 6.58

There are 0 quarters with good PRF difference image offsets

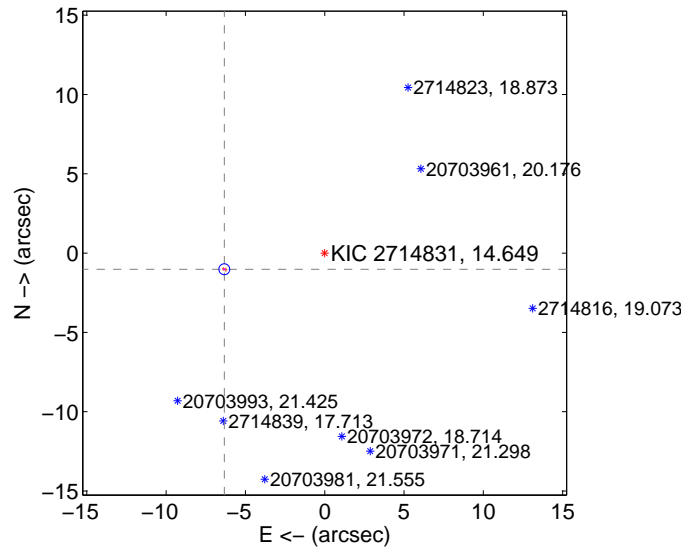
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.202 ± 0.130	47.74	6.151 ± 0.130	-0.792 ± 0.089
PRF-fit source offset from KIC position	6.411 ± 0.115	55.95	6.330 ± 0.115	-1.018 ± 0.074
photometric centroid source offset	6.10 ± 2.20	2.77	2.30 ± 2.08	5.65 ± 2.22

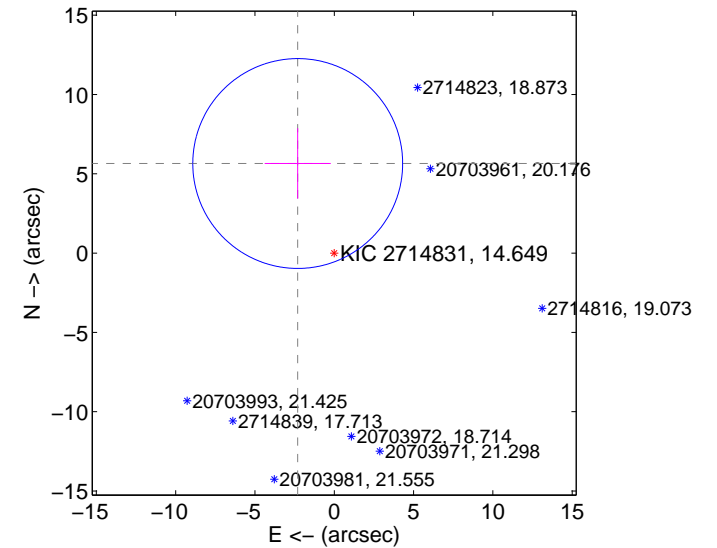
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

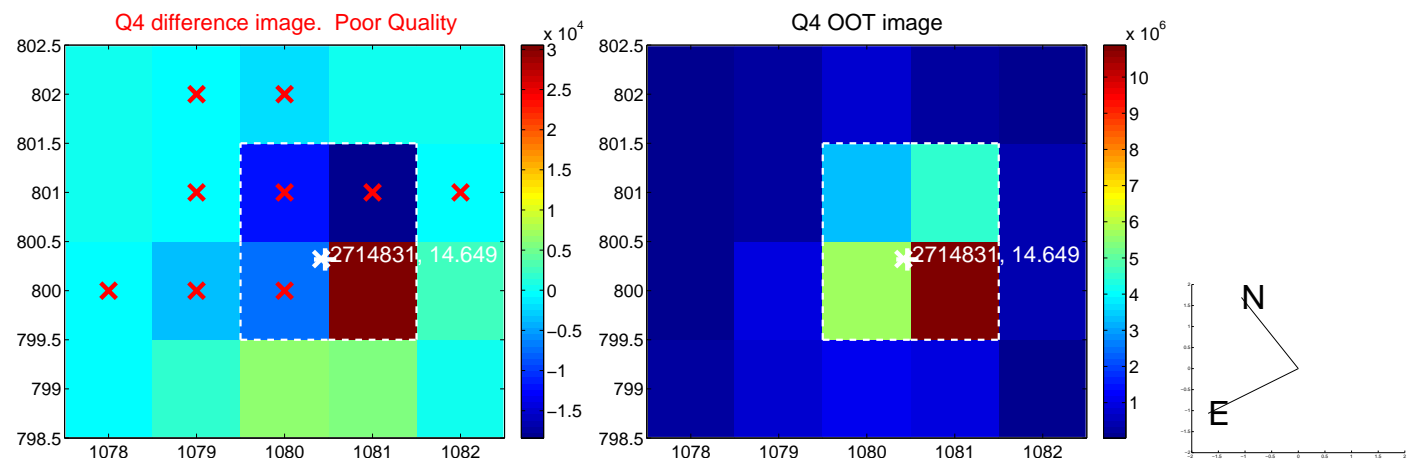
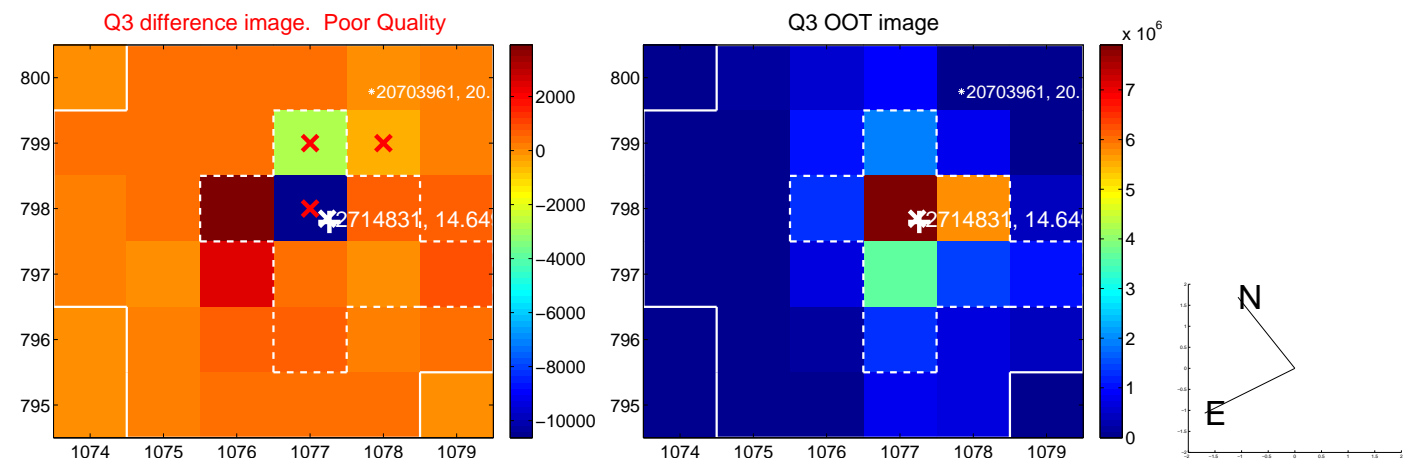
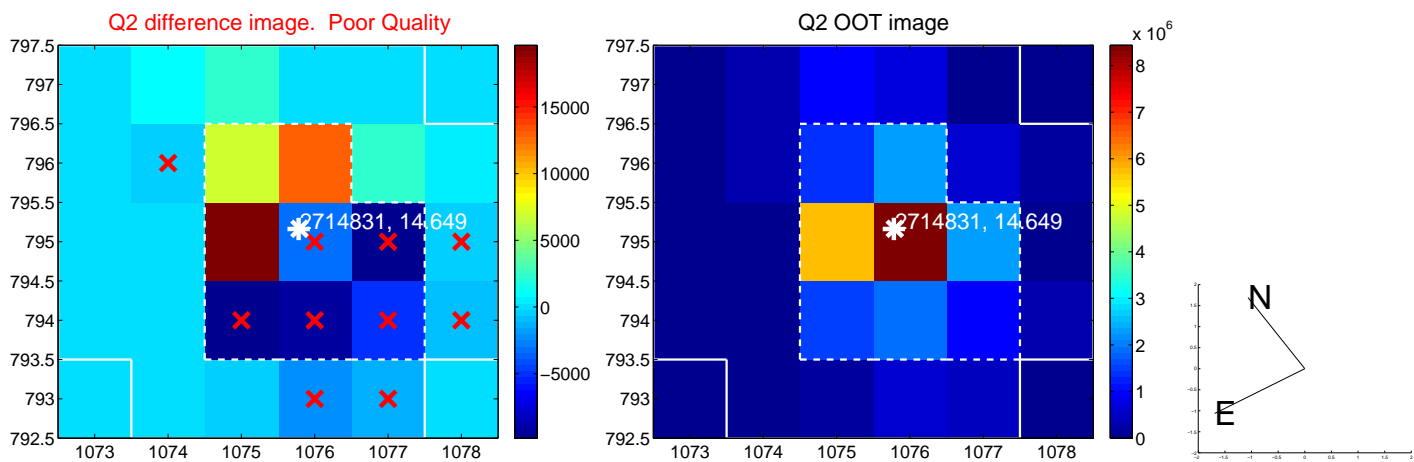
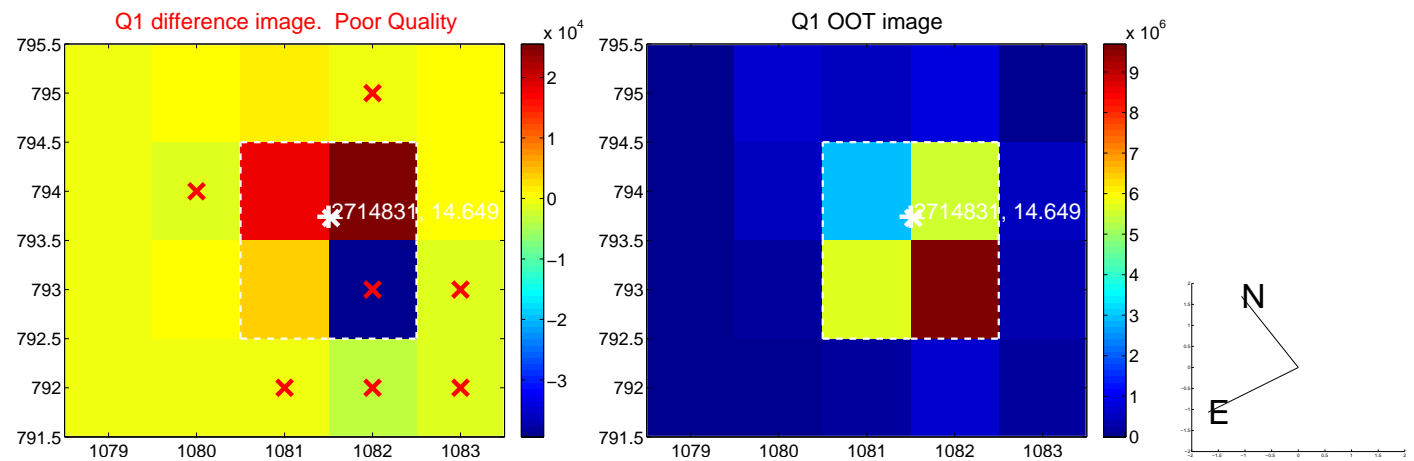


offset from photometric centroids

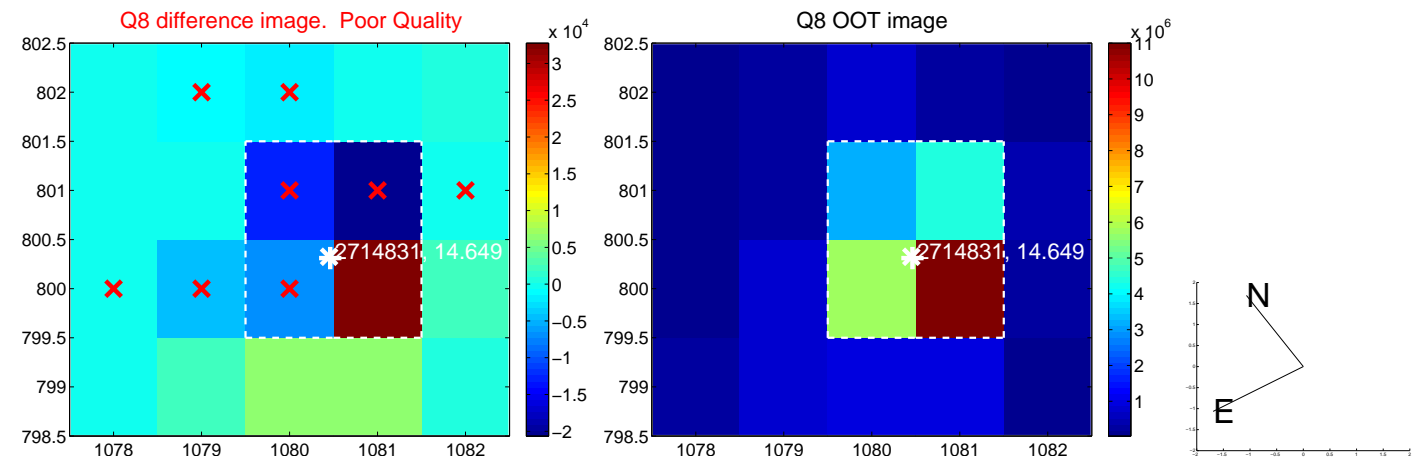
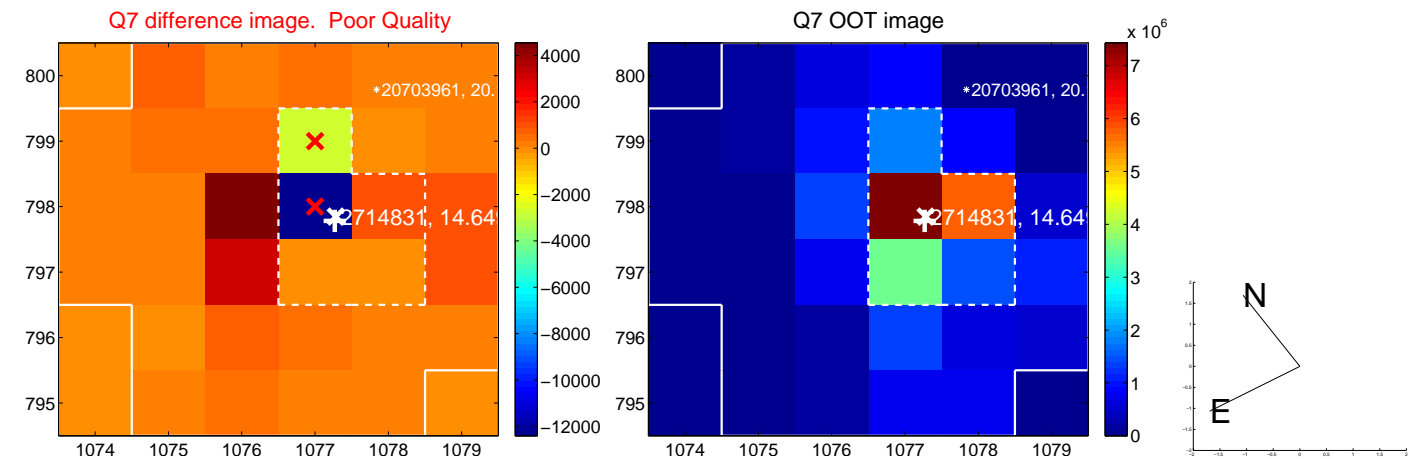
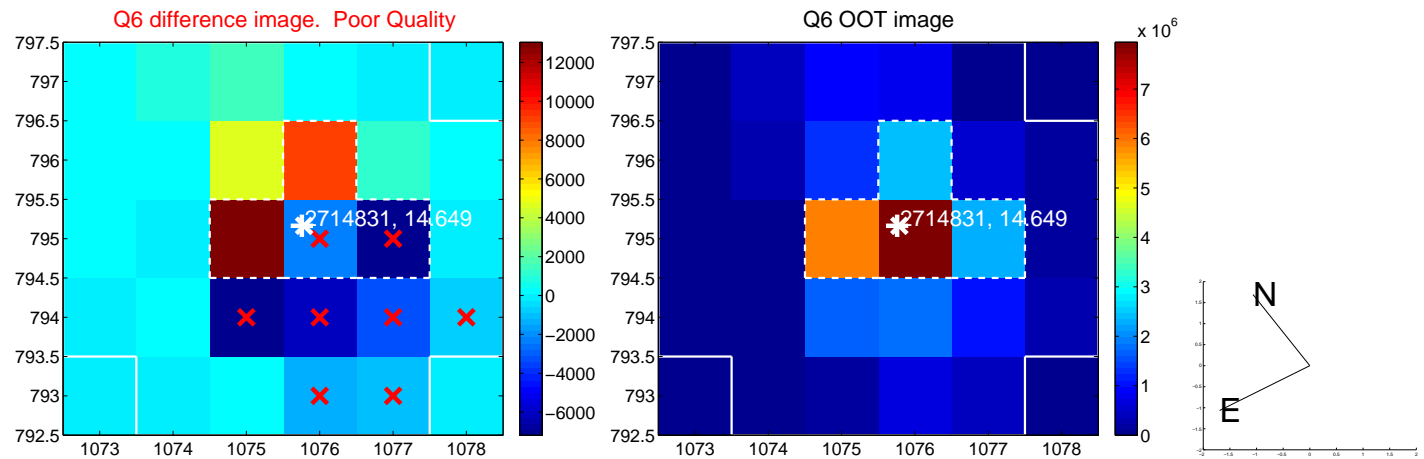
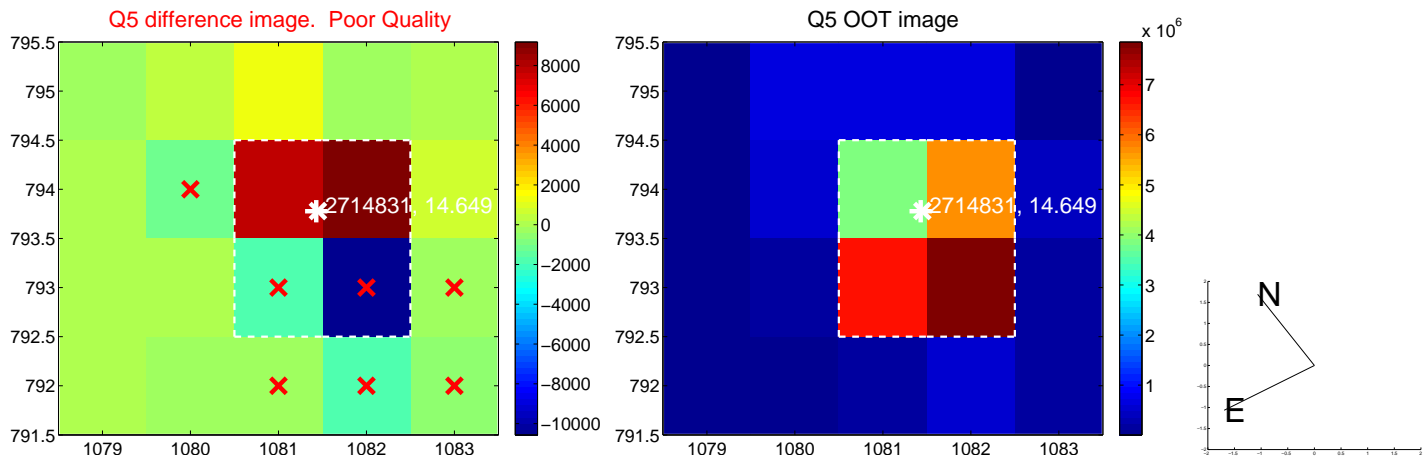


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

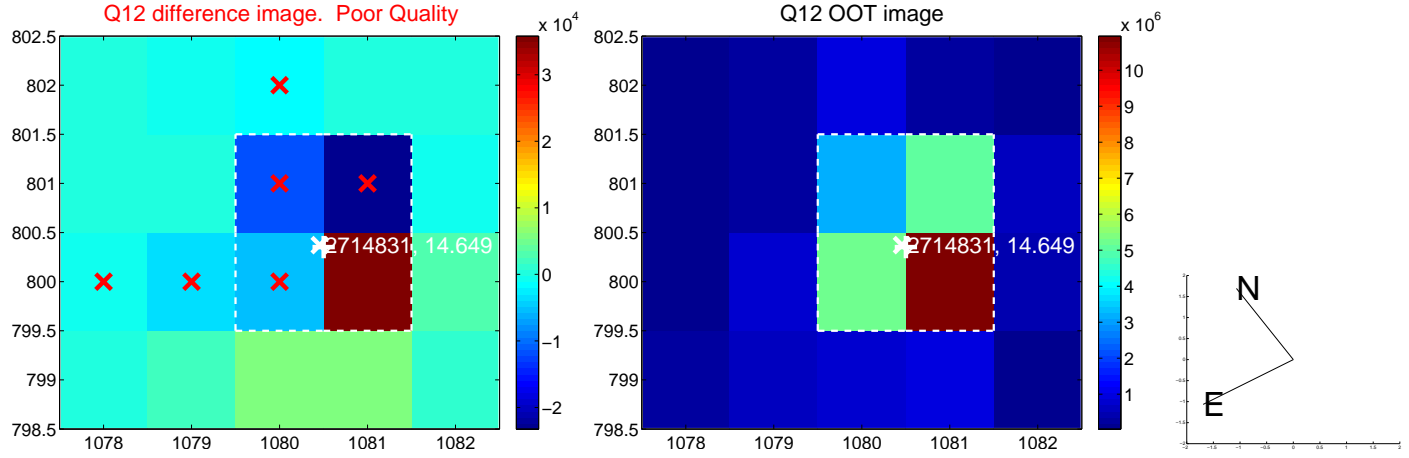
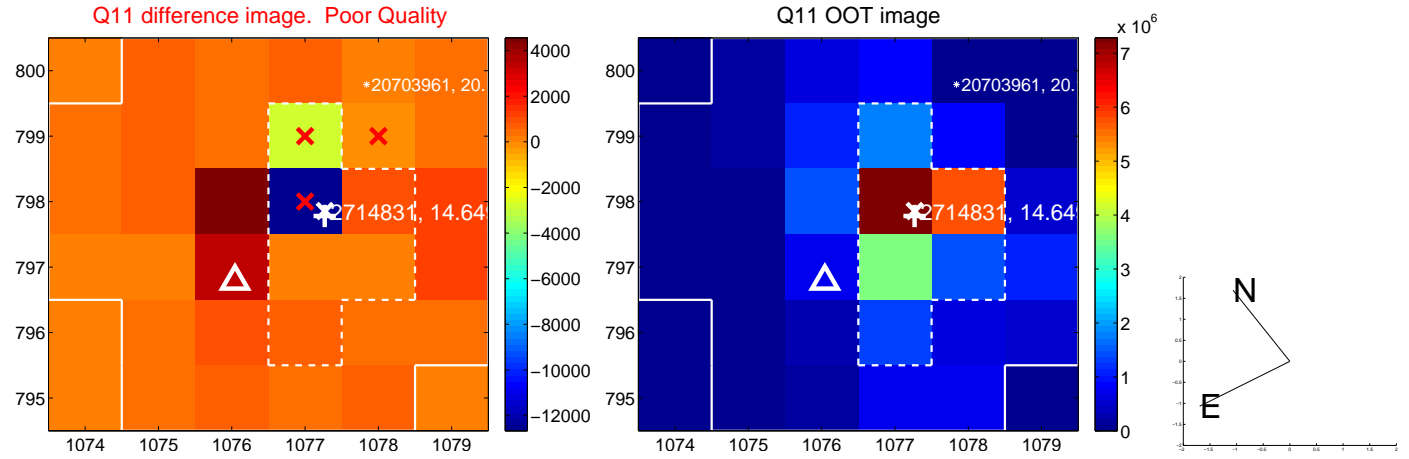
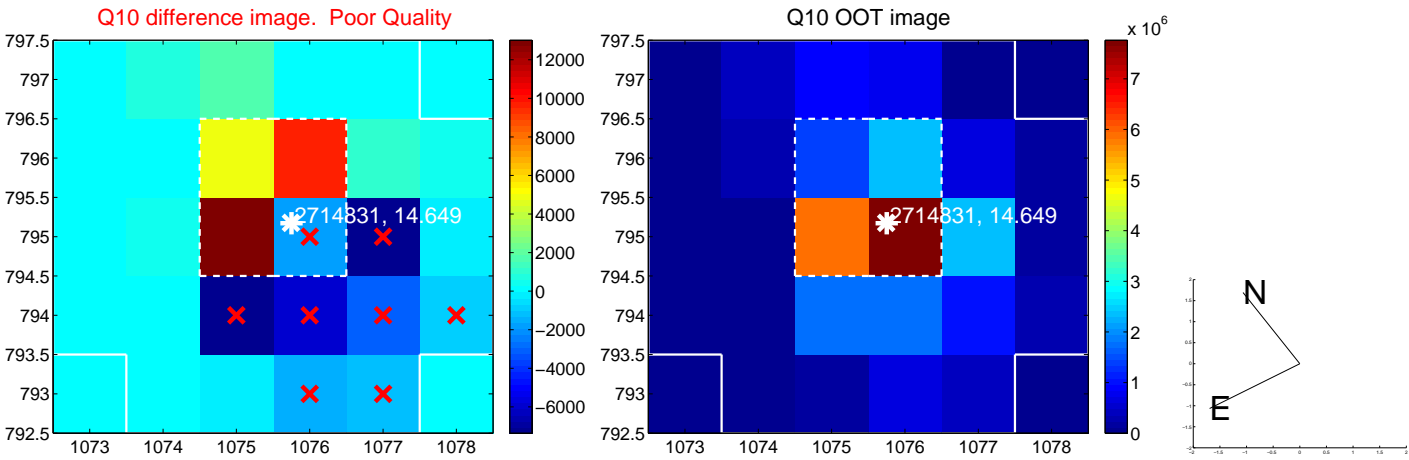
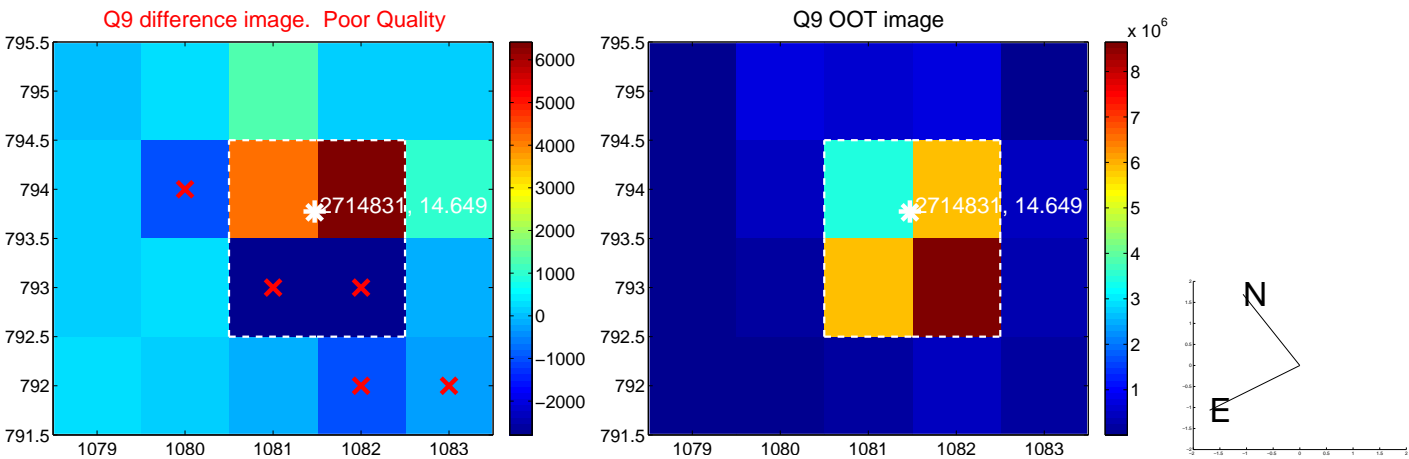
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



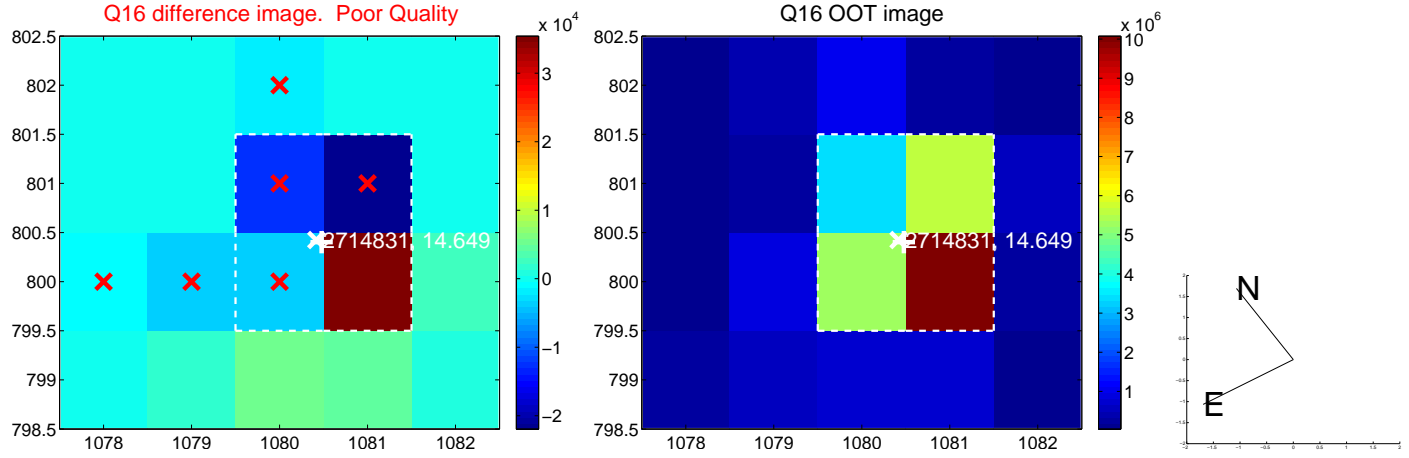
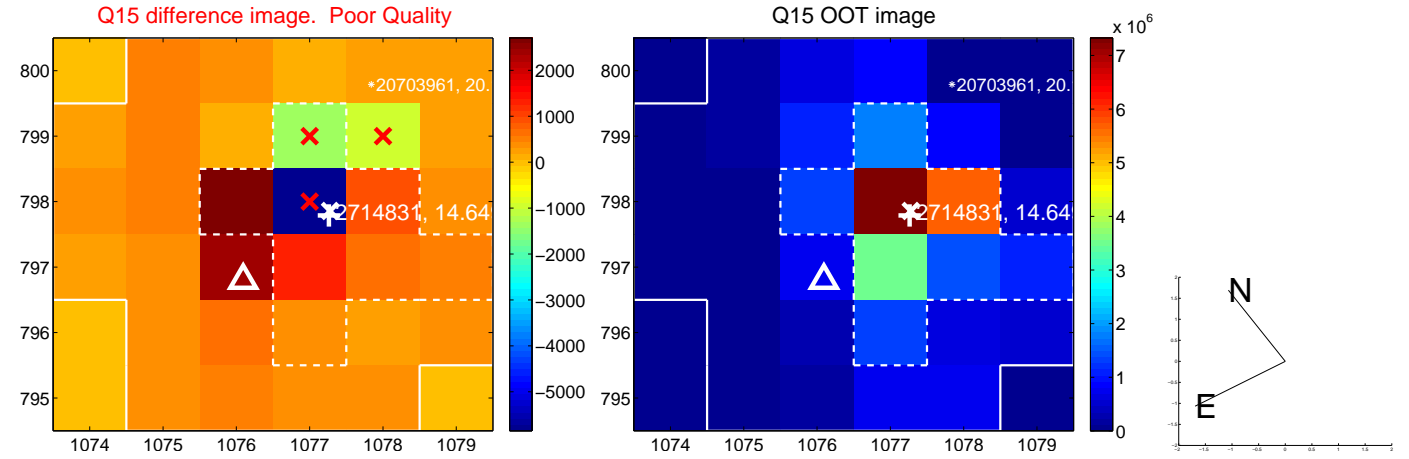
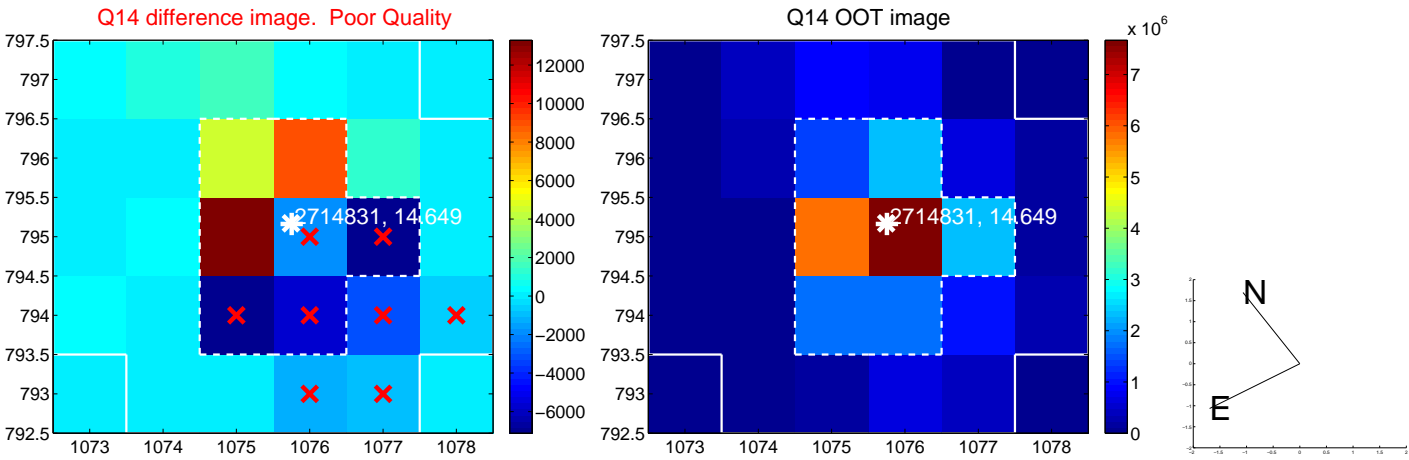
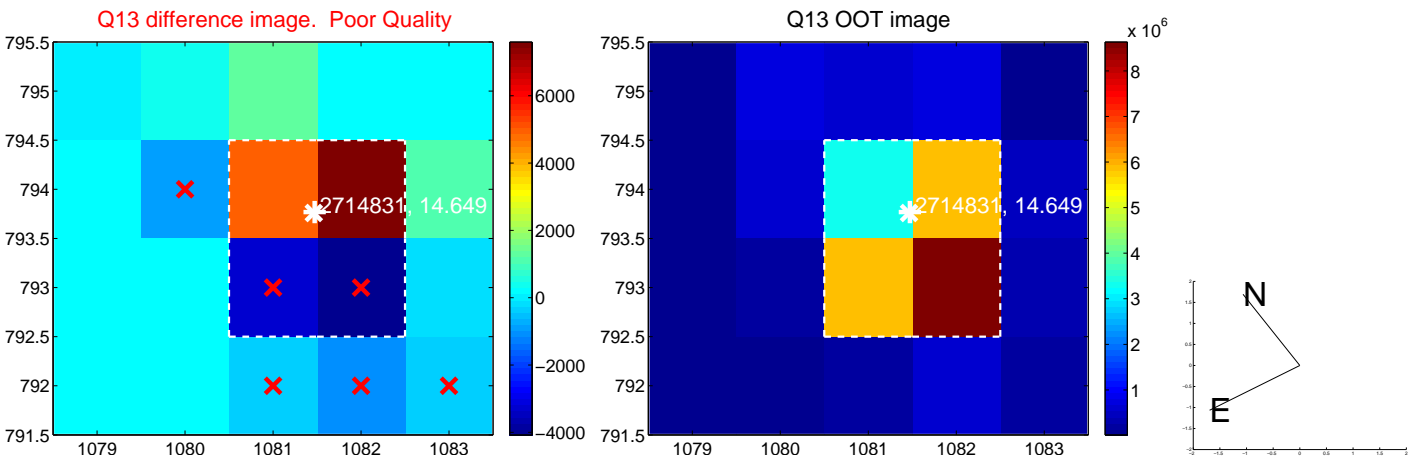
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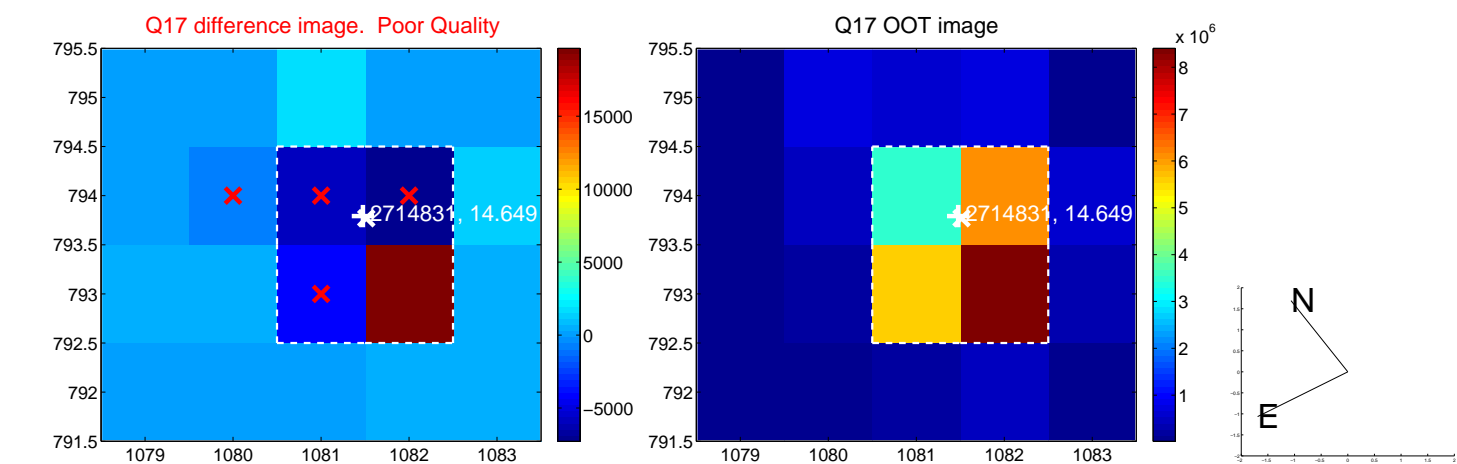
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



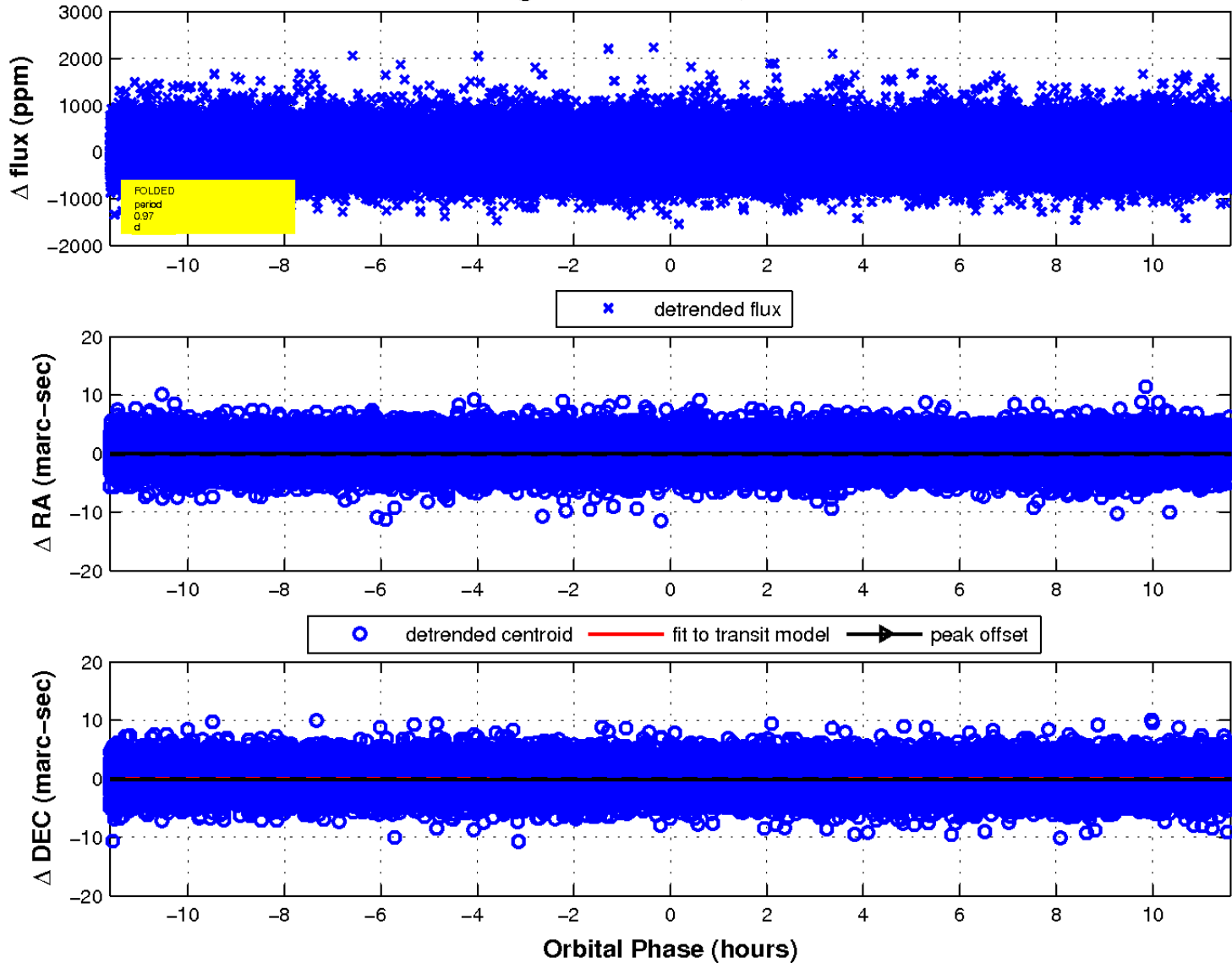
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

