

KIC 009824928

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})
009824928-01	OBS	4650.01	1.699989	131.633530	86.9	3.399	8.6	9.2	0.55	4289	0.63	180.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009824928-01	OBS	PC	0.84	0	0	0	0	CENT_UNCERTAIN

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 009824928-01

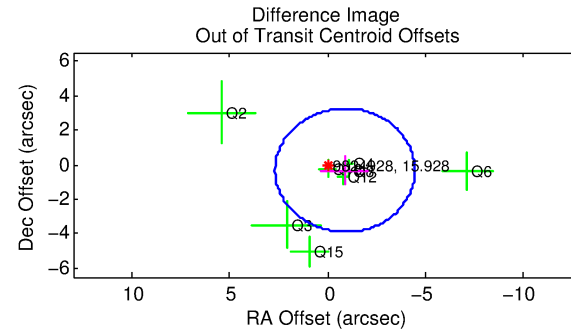
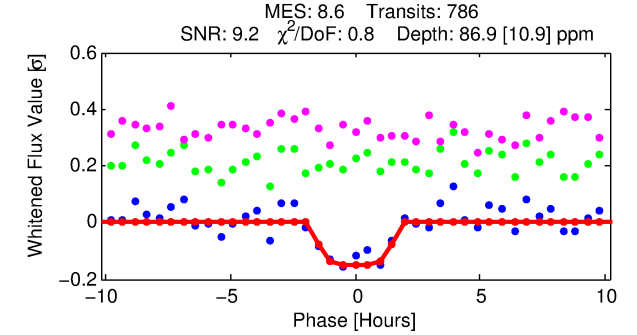
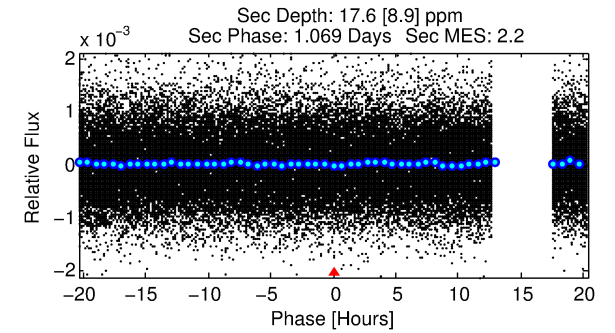
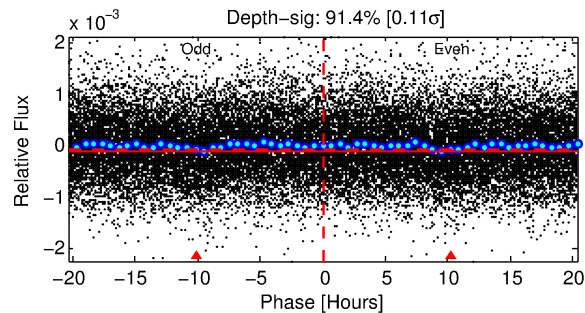
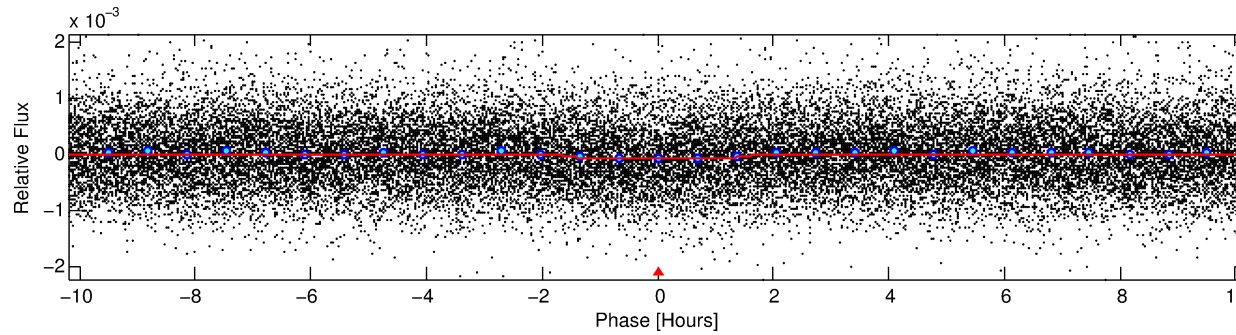
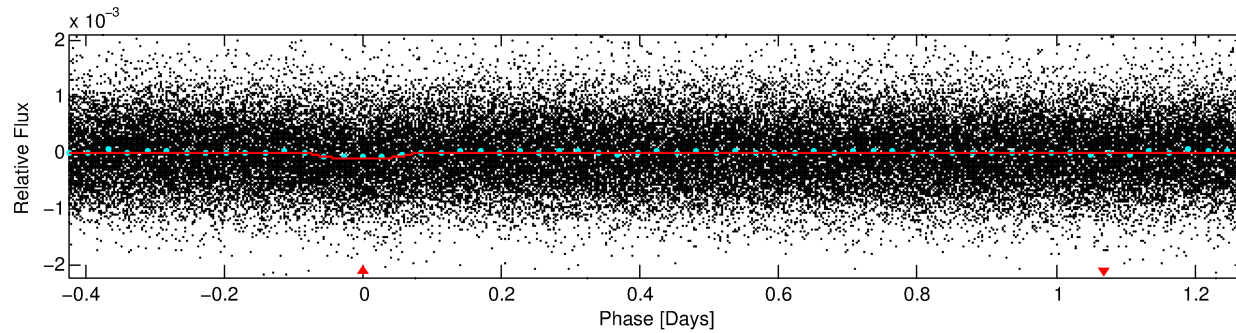
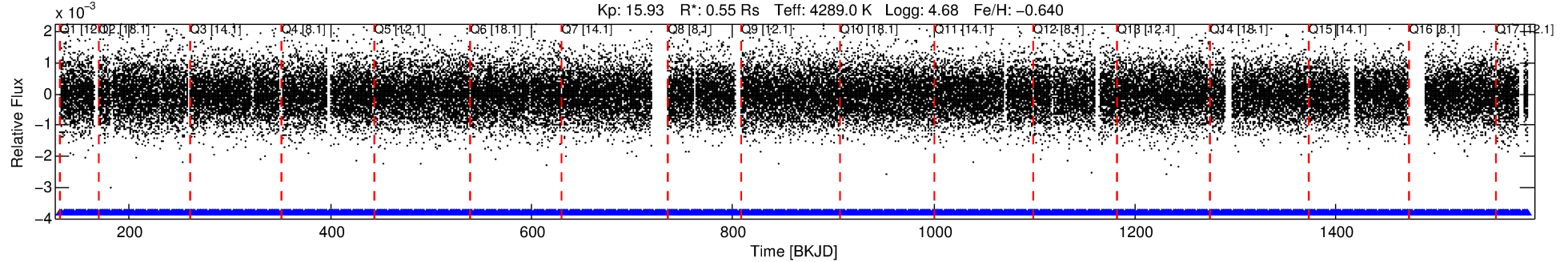
No Significant Match Found

DV One-Page Summary

KIC: 9824928 Candidate: 1 of 1 Period: 1.700 d

KOI: K04650.01 Corr: 0.950

Kp: 15.93 R*: 0.55 Rs Teff: 4289.0 K Logg: 4.68 Fe/H: -0.640



DV Fit Results:

Period = 1.69999 [0.00002] d
Epoch = 131.6335 [0.0052] BKJD
Rp/R* = 0.0104 [0.0080]
a/R* = 1.95 [4.98]
b = 0.91 [0.70]
Seff = 180.33 [31.21]
Teq = 934 [40] K
Rp = 0.63 [0.49] Re
a = 0.0227 [0.0018] AU
Ag = 12.73 [20.66] [0.57σ]
Teffp = 2729 [1108] K [1.62σ]

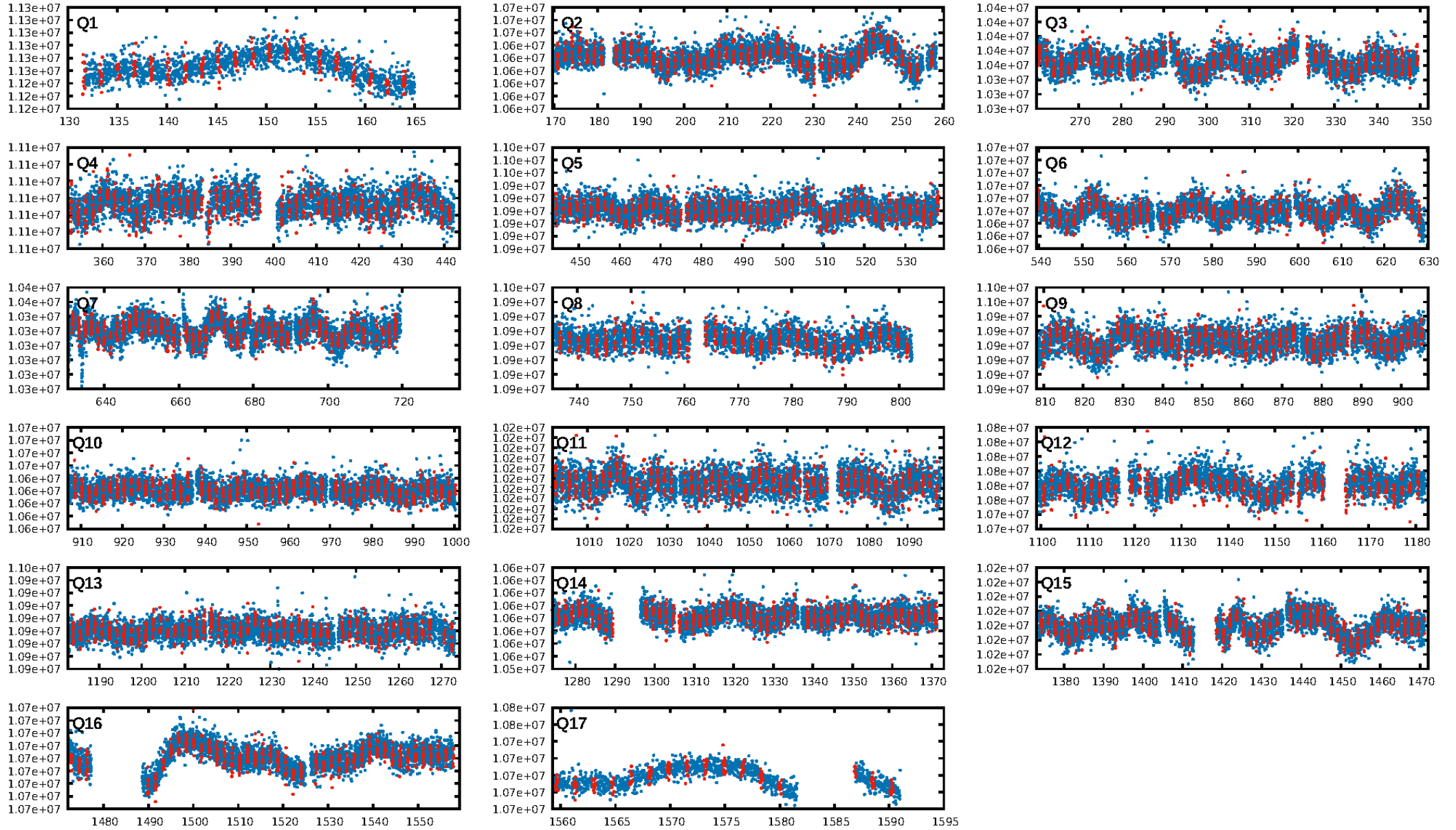
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.76e-19
RollingBand-fgt: 1.00 [750/750]
GhostDiagnostic-chr: 1.321
Centroid-sig: 0.0%
Centroid-so: 3.855 arcsec [2.72σ]
OotOffset-rm: 0.948 arcsec [0.80σ]
KicOffset-rm: 0.960 arcsec [0.98σ]
OotOffset-st: 2/2/4/0 [8]
KicOffset-st: 2/2/4/0 [8]
DiffImageQuality-fgm: 0.50 [4/8]
DiffImageOverlap-fno: 1.00 [17/17]

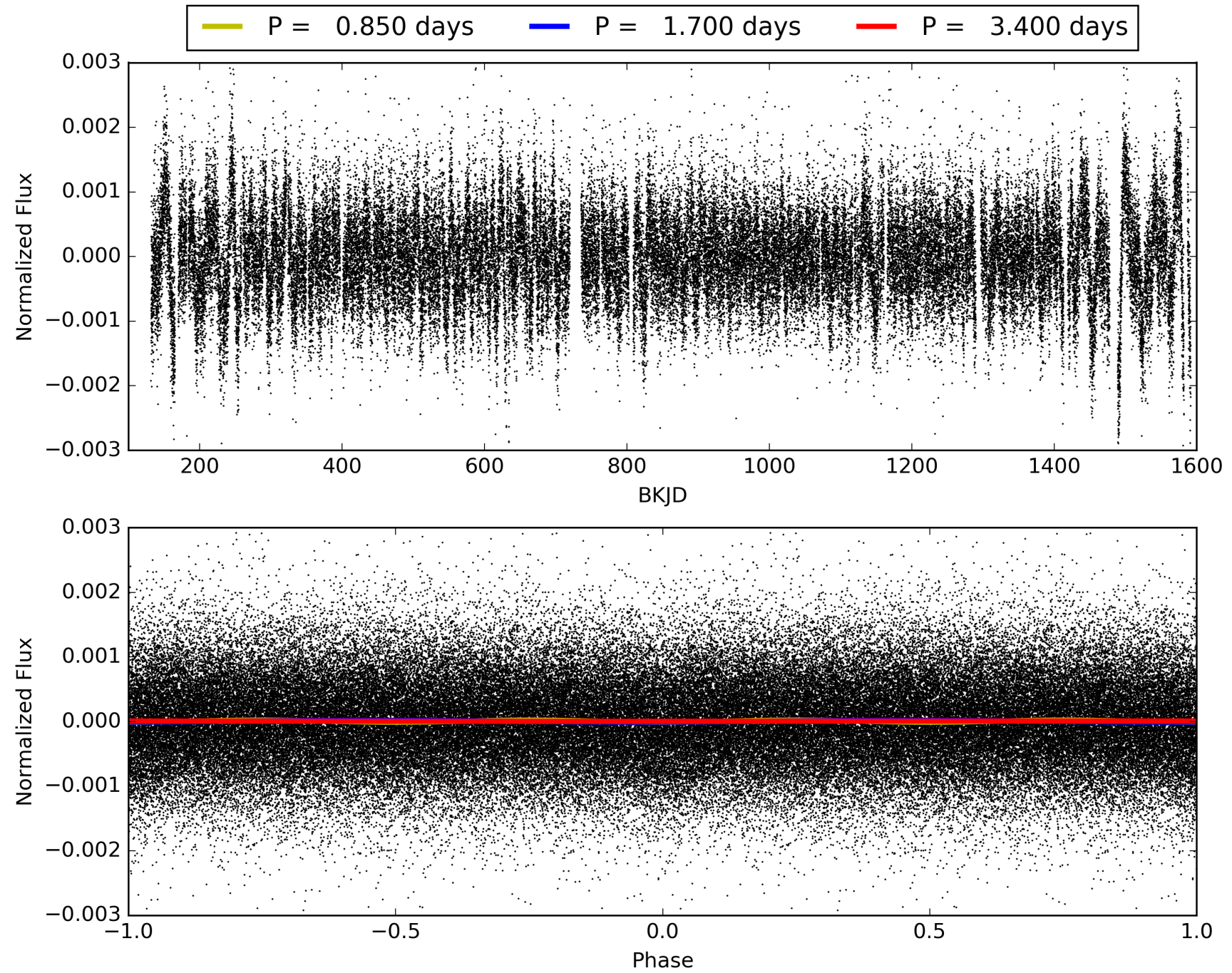
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:40:01 Z

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

TCE 009824928-01, PDC Light Curves

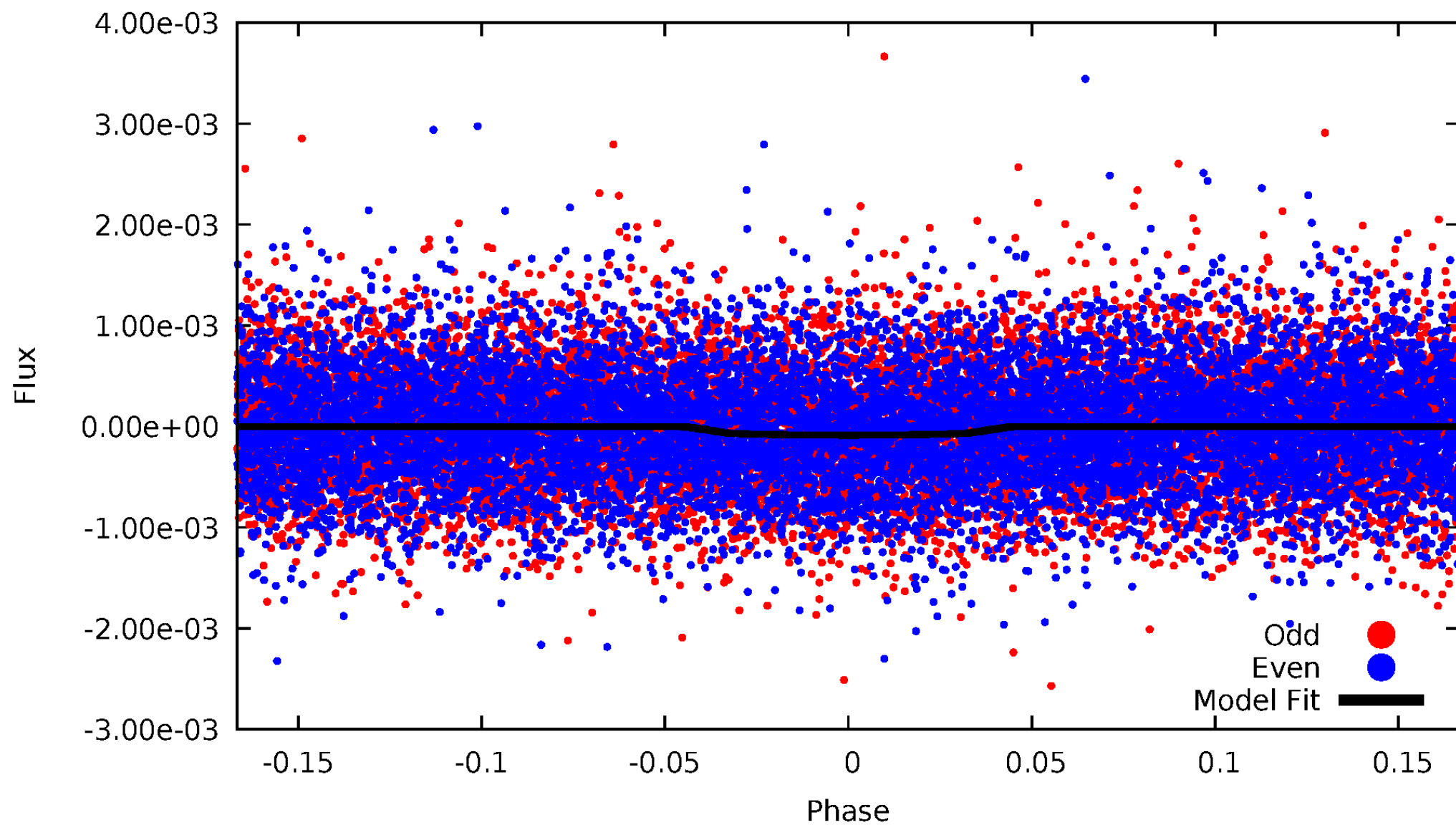


TCE 009824928-01



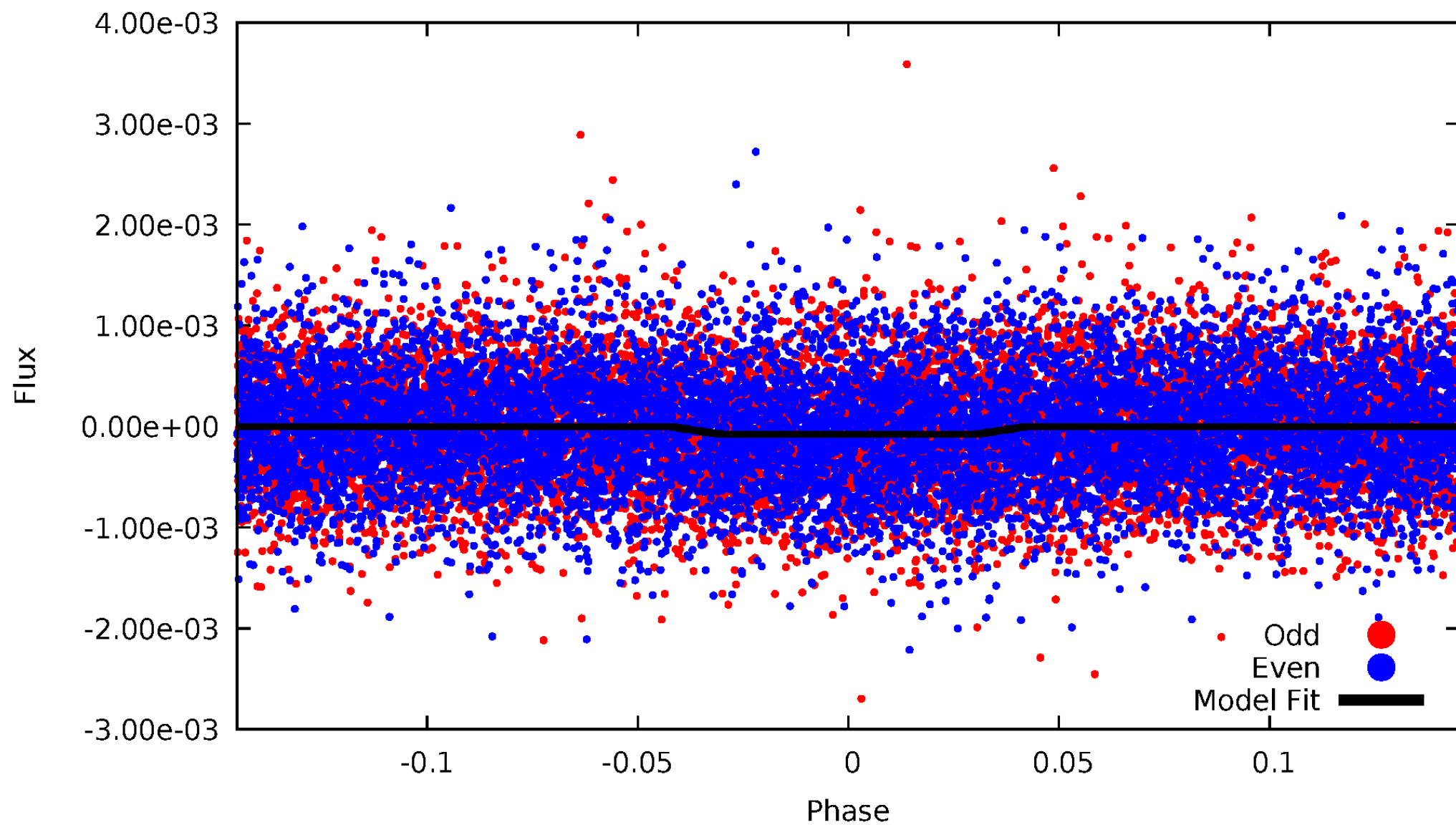
DV Odd/Even

TCE 009824928-01

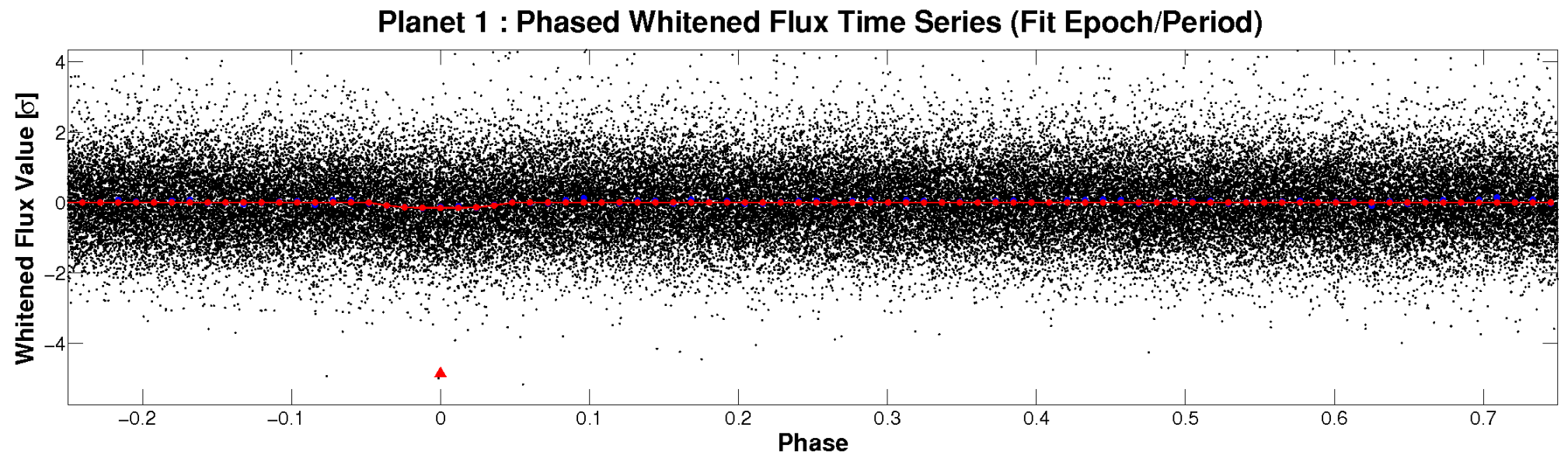
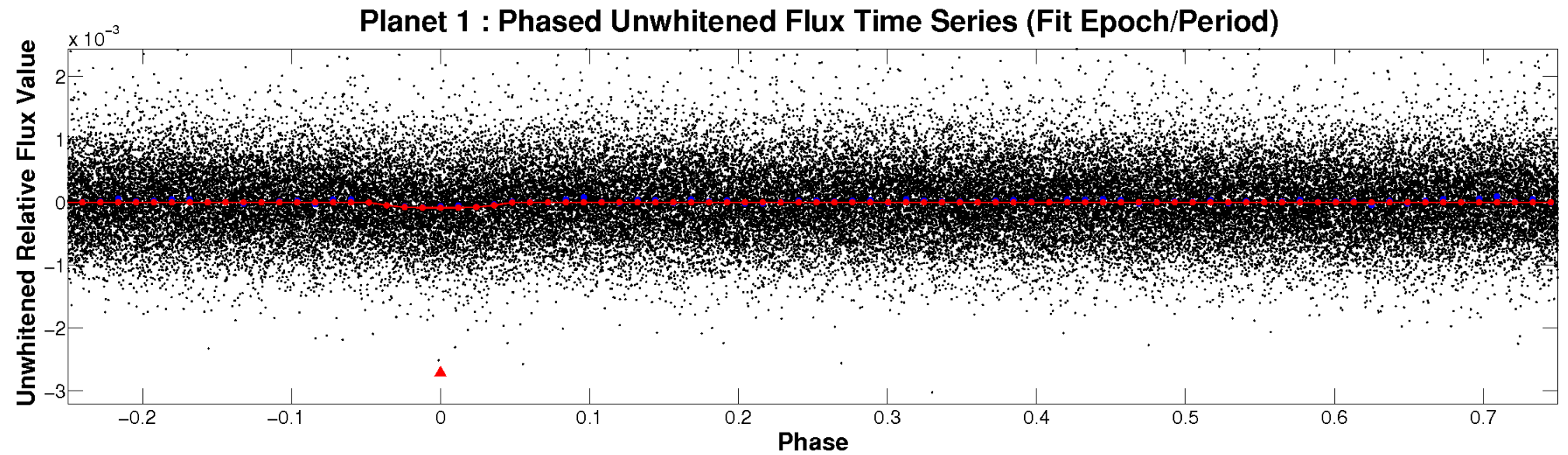


ALT Odd/Even

TCE 009824928-01

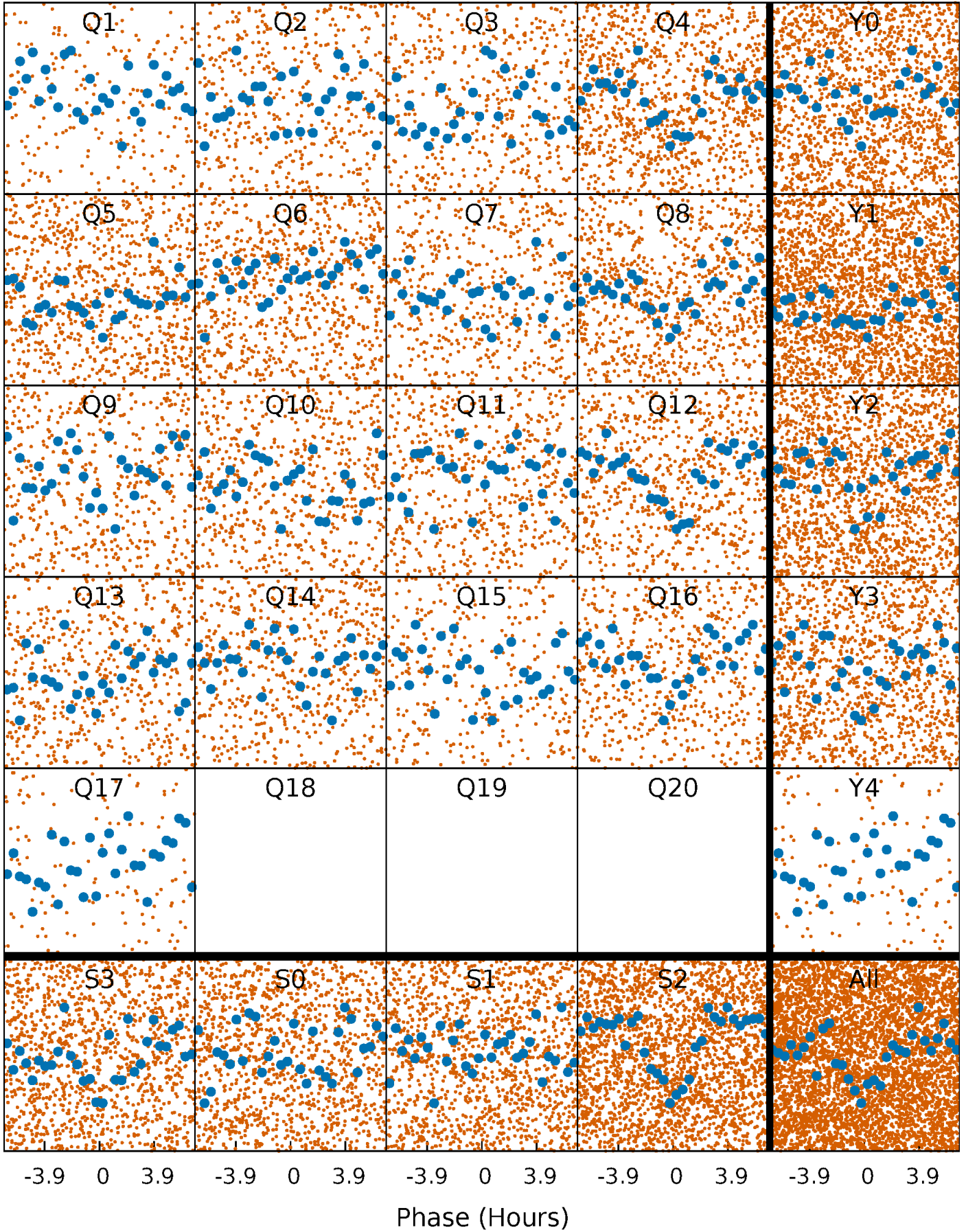


Non-Whitened Vs. Whitened Light Curve



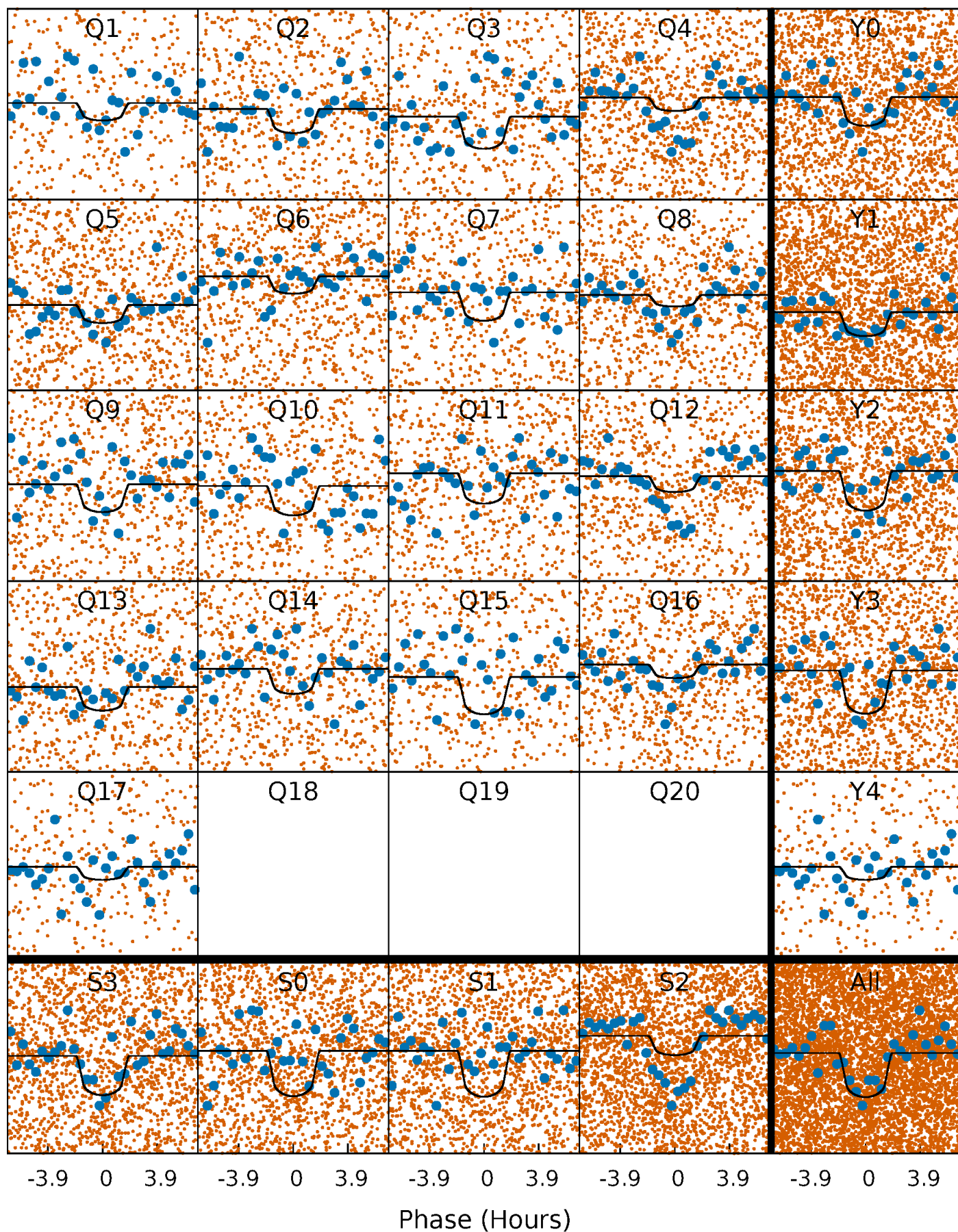
PDC Quarter-Phased Transit Curves

TCE 009824928-01 P= 1.699989 Days $T_0=131.633530$ (BKJD)



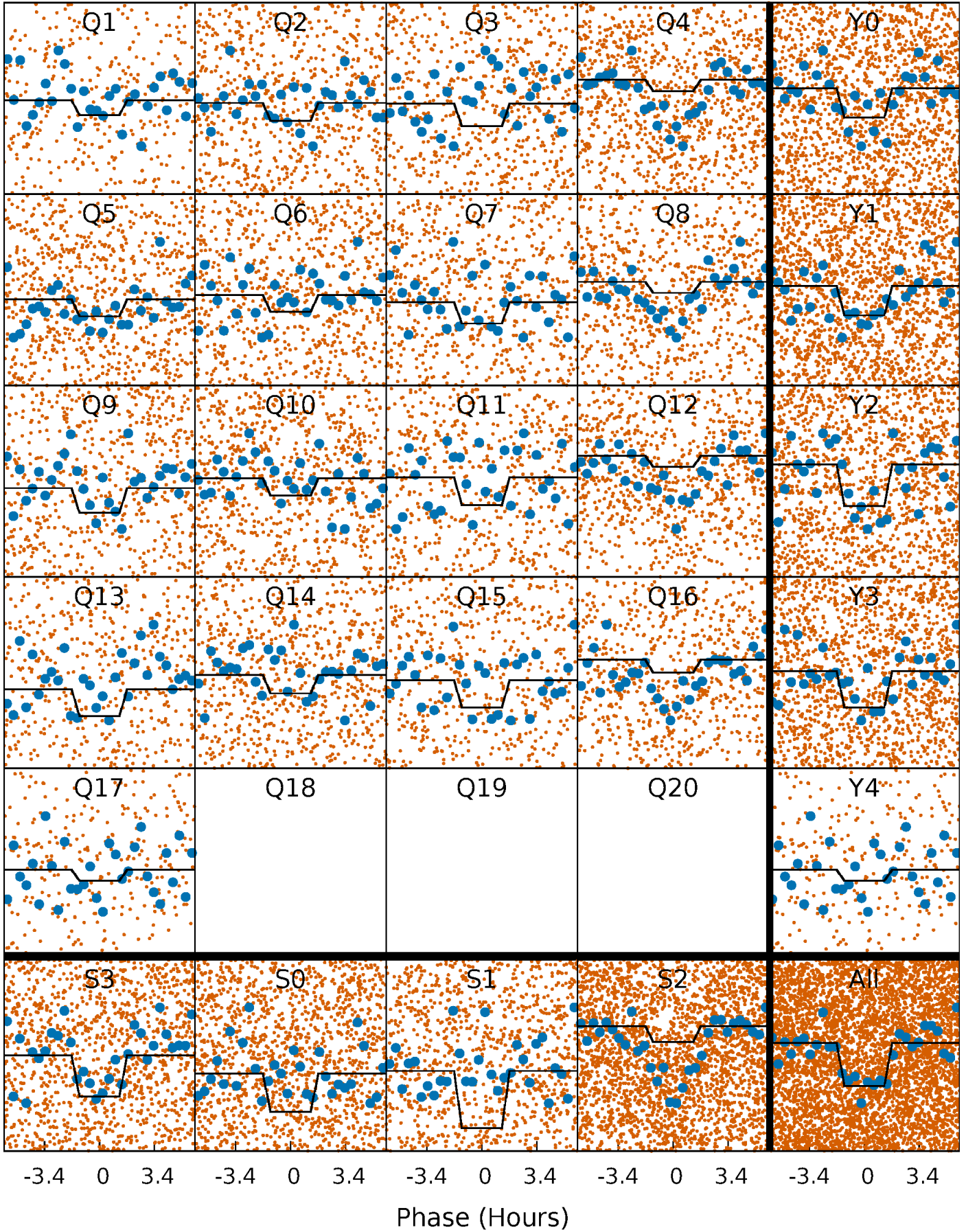
DV Quarter-Phased Transit Curves

TCE 009824928-01 P= 1.699989 Days $T_0=131.633530$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

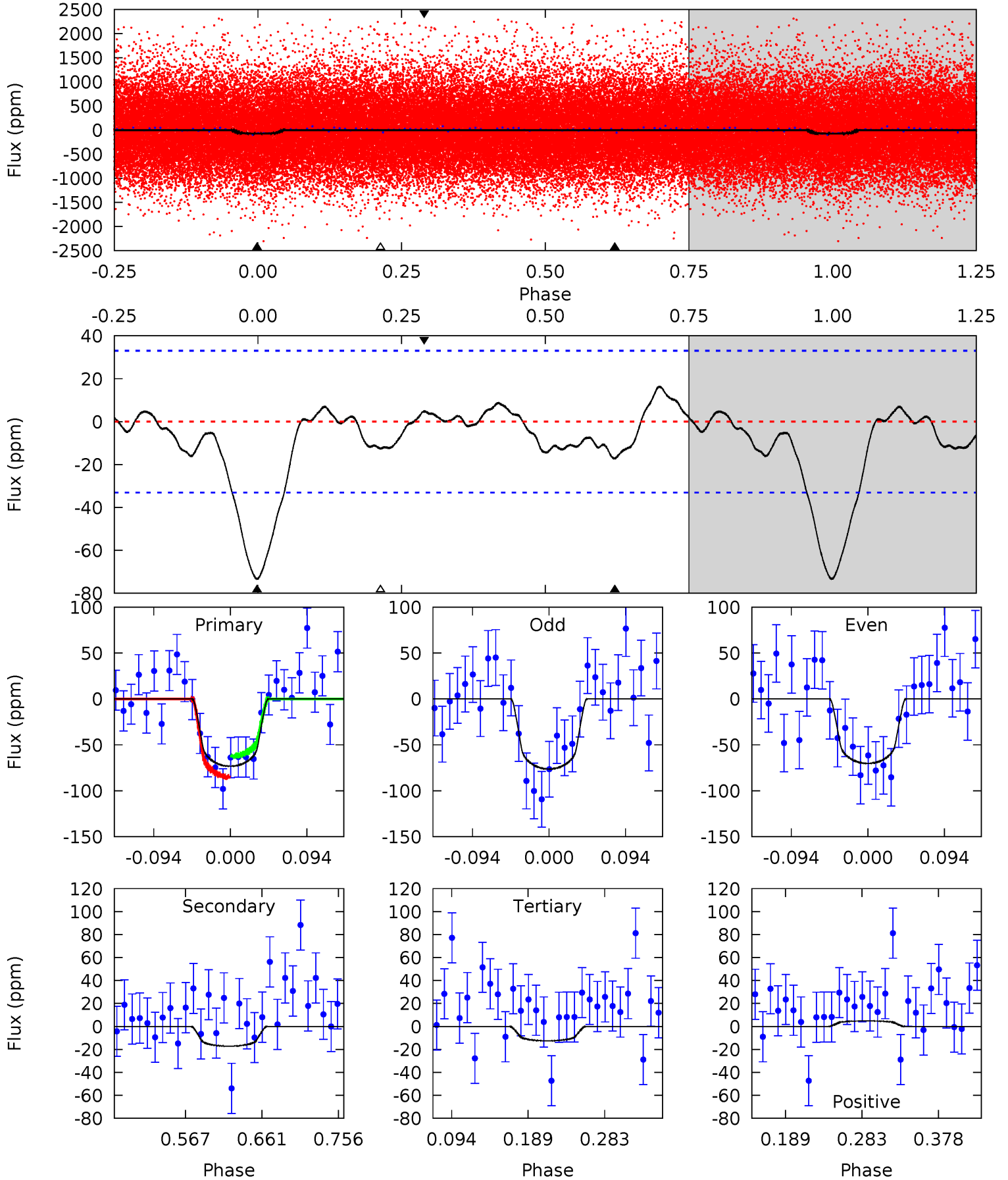
TCE 009824928-01 P= 1.699972 Days $T_0=131.635961$ (BKJD)



DV Model-Shift Uniqueness Test

009824928-01, P = 1.699989 Days, E = 129.933541 Days

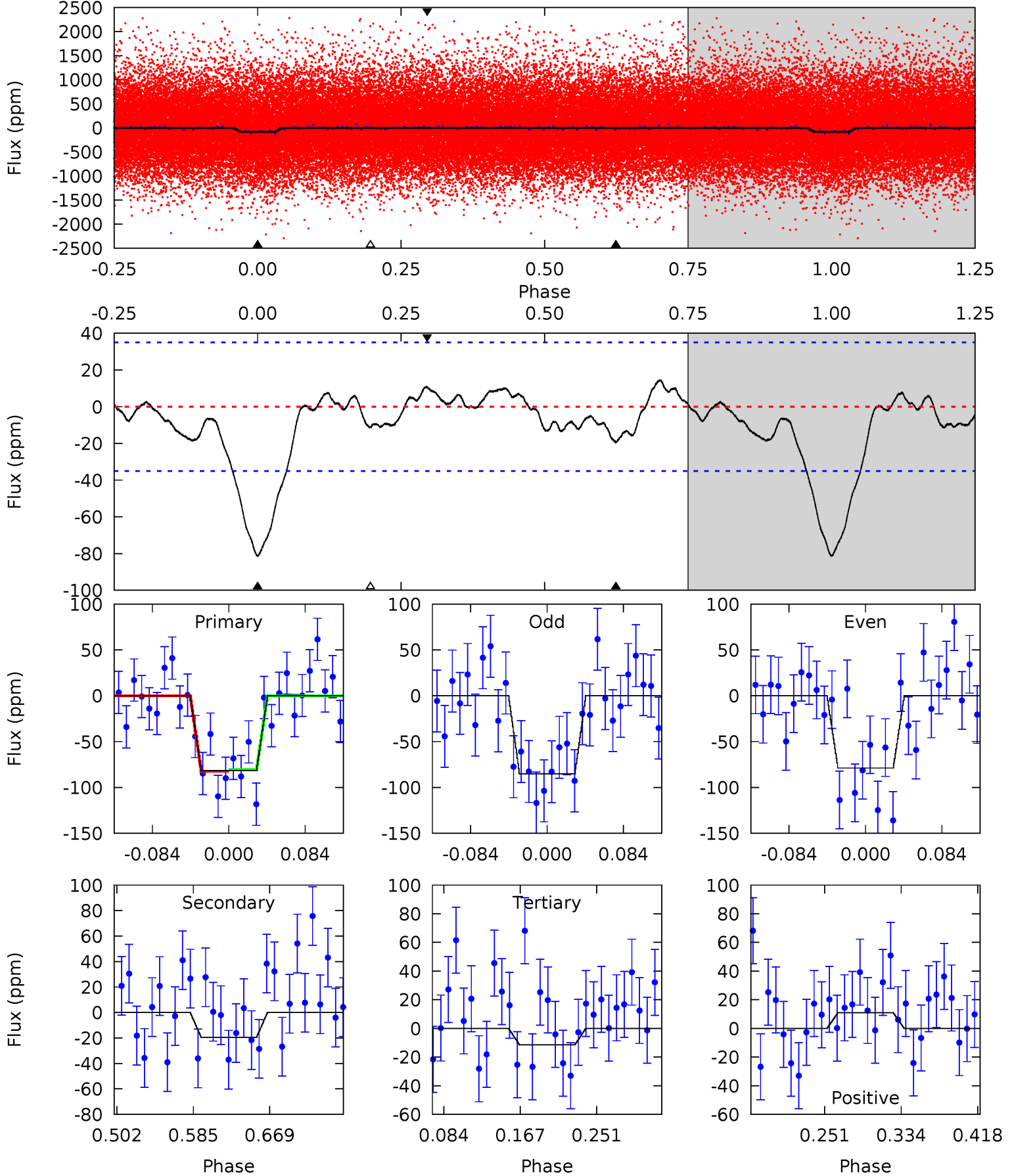
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	2.39	1.74	0.66	4.58	1.67	0.94	8.41	9.49	0.65	1.72	0.42	0.93	0.18	1.59



Alt Model-Shift Uniqueness Test

009824928-01, P = 1.699972 Days, E = 129.935989 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	2.57	1.50	1.44	4.60	1.73	1.00	9.20	9.26	1.06	1.13	0.43	1.08	0.15	0.13



Stellar Parameters For KIC 009824928

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4289^{+116}_{-142}	$4.684^{+0.059}_{-0.032}$	$-0.640^{+0.300}_{-0.300}$	$0.554^{+0.044}_{-0.054}$	$0.541^{+0.059}_{-0.041}$	$4.485^{+1.215}_{-0.615}$
	+3%/-3%	+1%/-1%	+47%/-47%	+8%/-10%	+11%/-8%	+27%/-14%
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 009824928-01 / KOI 4650.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-17 ± 7	$0.68^{+0.44}_{-0.38}$	1295^{+47}_{-47}	3060^{+919}_{-461}	10^{+44}_{-7}
Alt.	-20 ± 8	$0.60^{+0.43}_{-0.36}$	1296^{+44}_{-48}	3207^{+1173}_{-515}	15^{+77}_{-10}

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 $A_{obs} \gg 1.0$

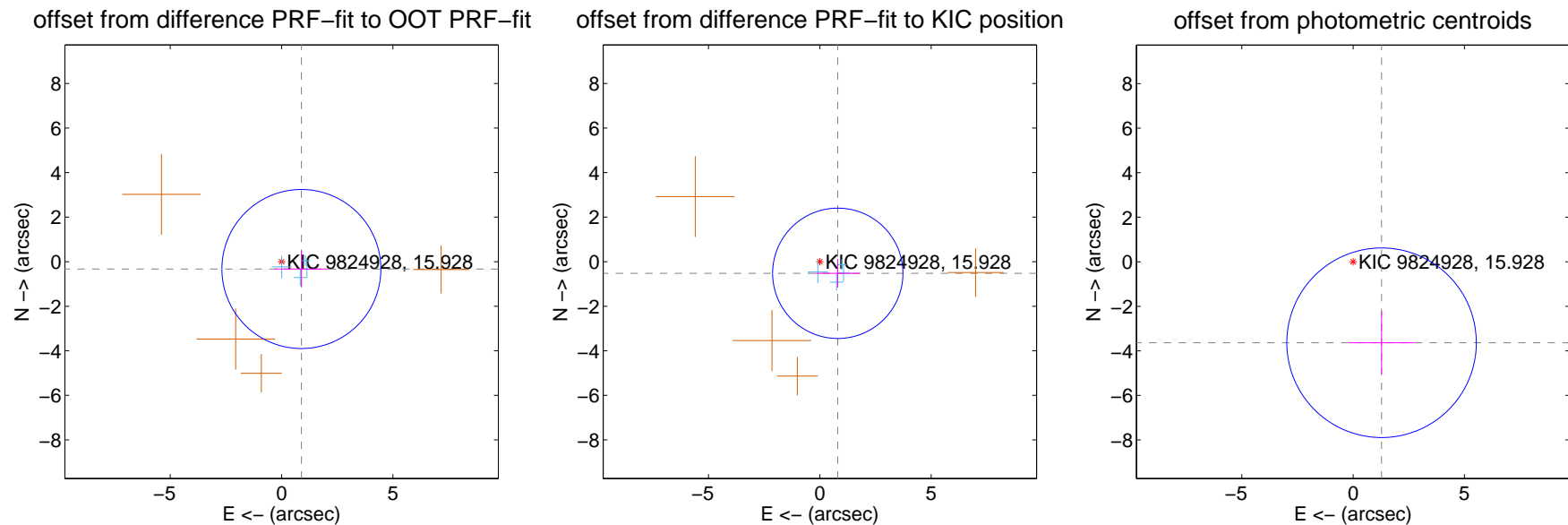
DV Centroid Data

Supplemental centroid analysis for 009824928-01. Kepler magnitude: 15.93. Transit SNR 9.19

There are 4 quarters with good PRF difference image offsets

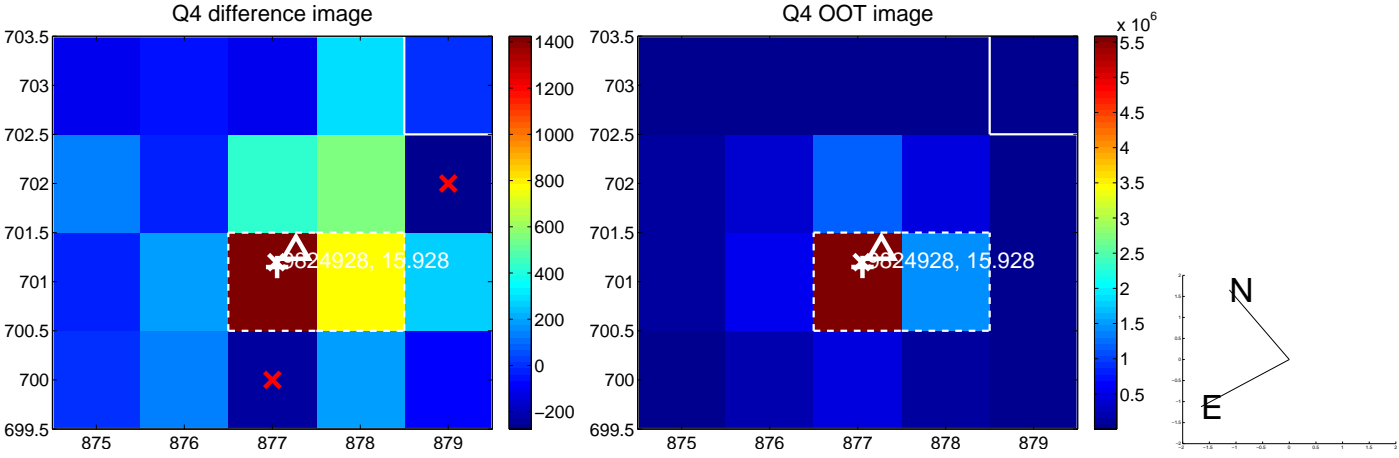
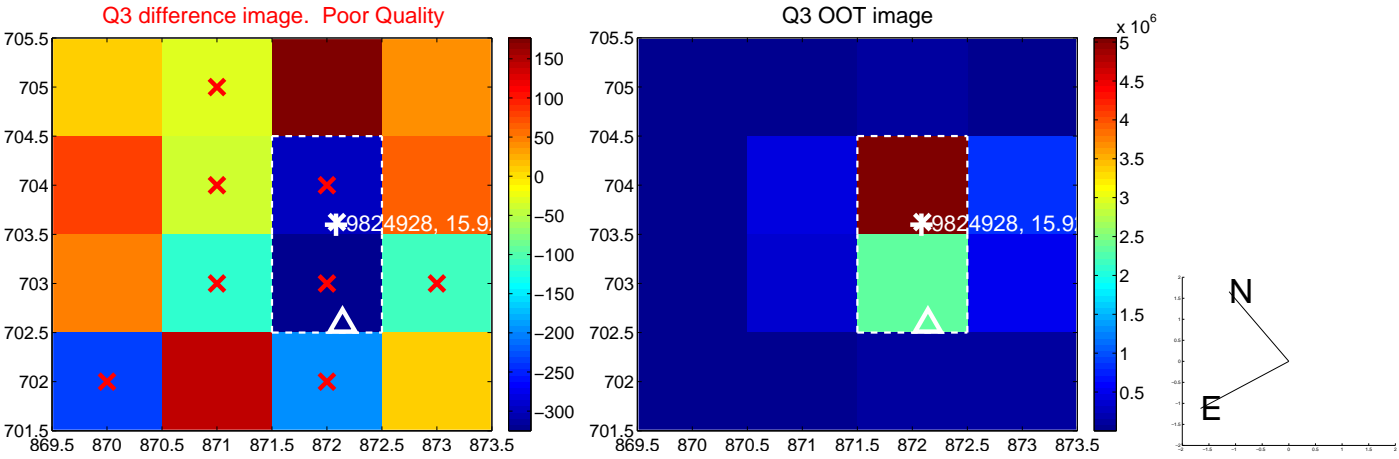
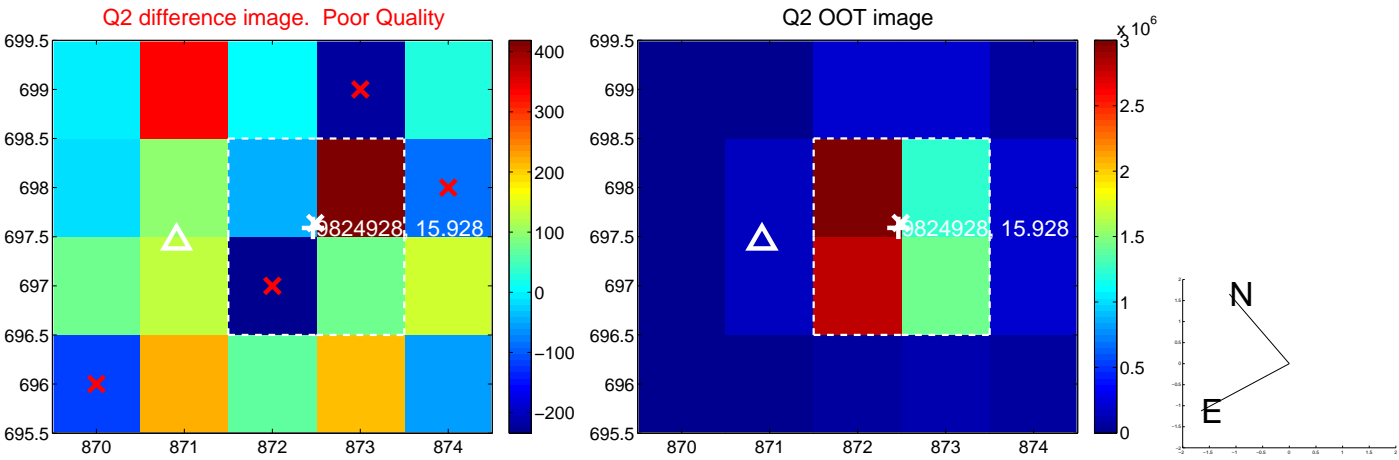
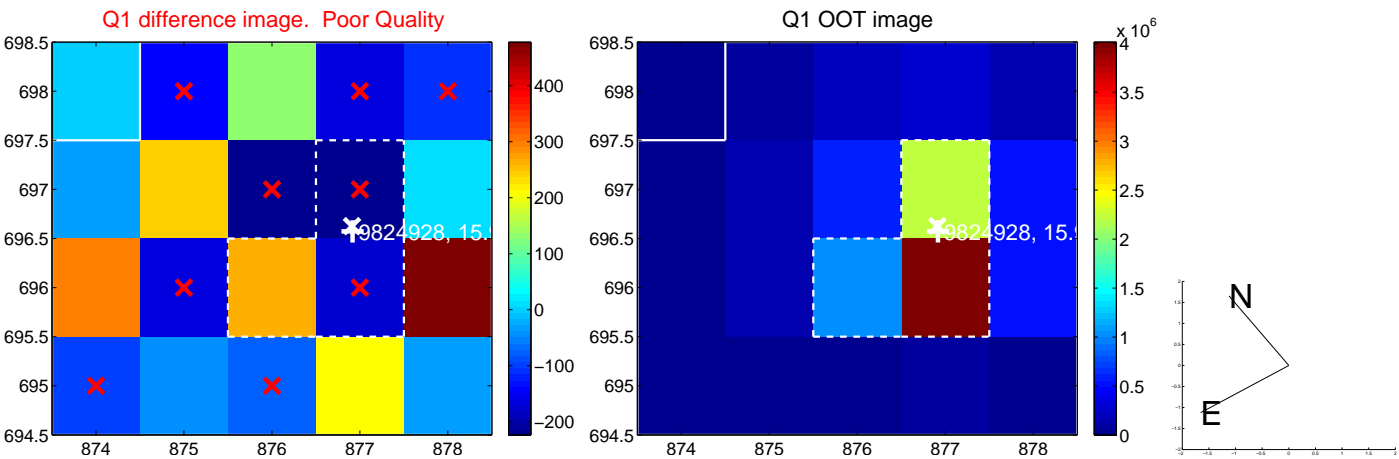
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.948 ± 1.190	0.80	-0.890 ± 1.196	-0.329 ± 0.826
PRF-fit source offset from KIC position	0.960 ± 0.975	0.98	-0.806 ± 1.013	-0.521 ± 0.637
photometric centroid source offset	3.85 ± 1.42	2.72	-1.28 ± 1.48	-3.64 ± 1.41

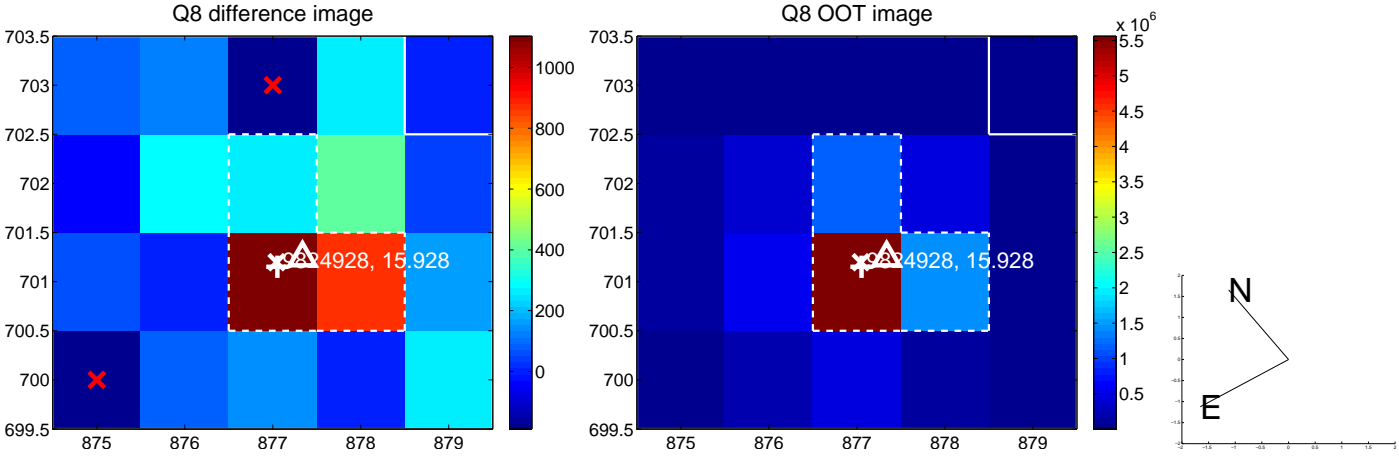
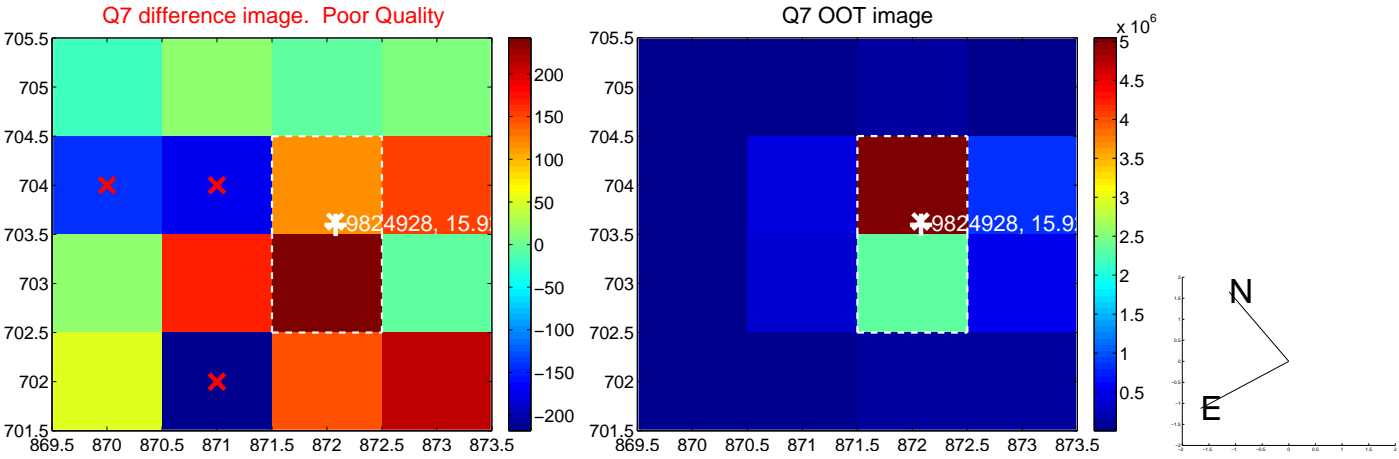
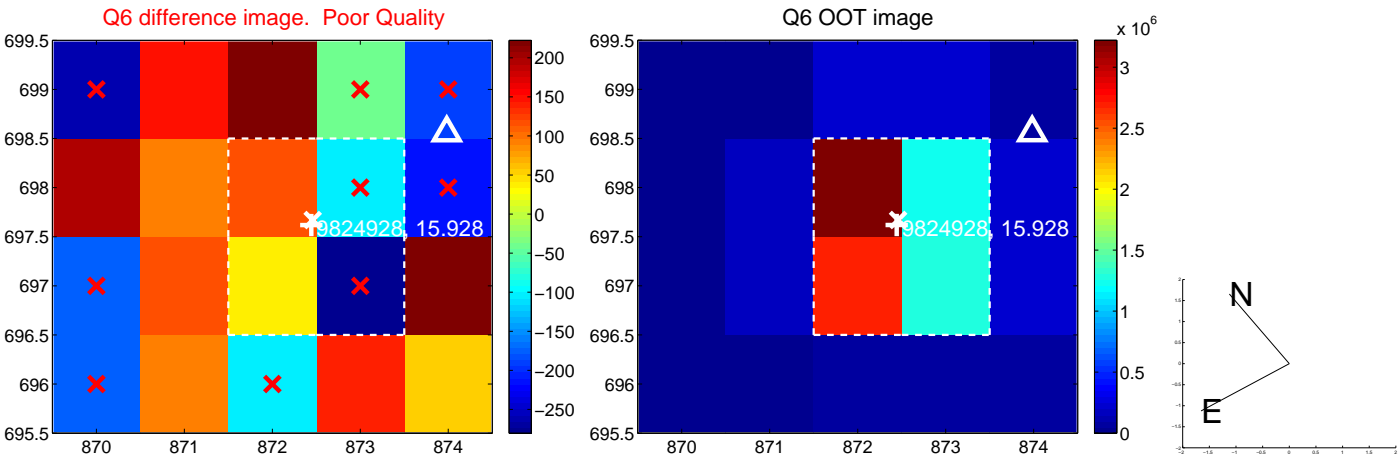
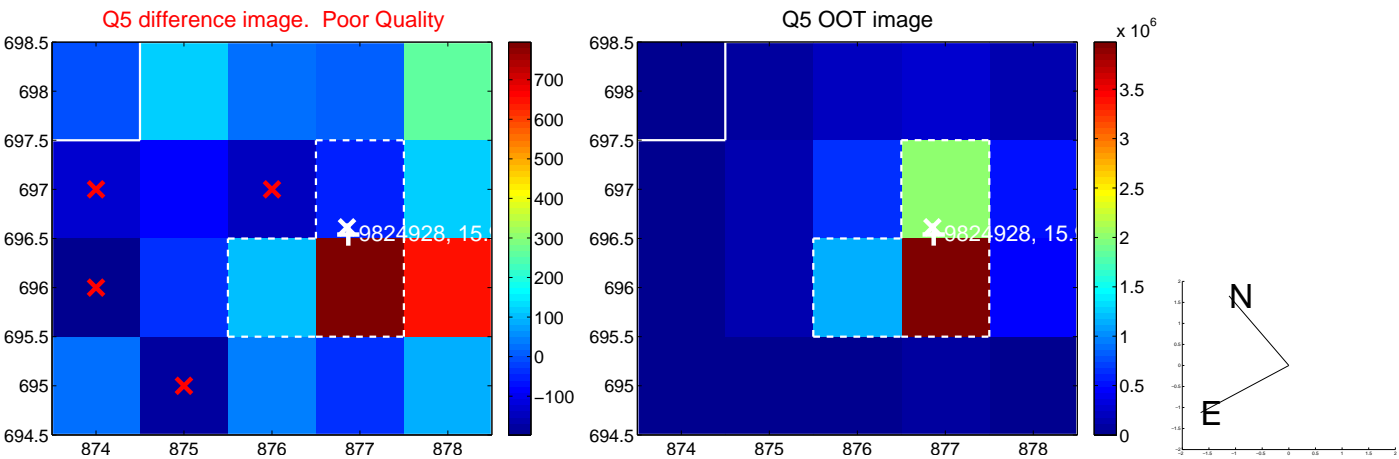


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

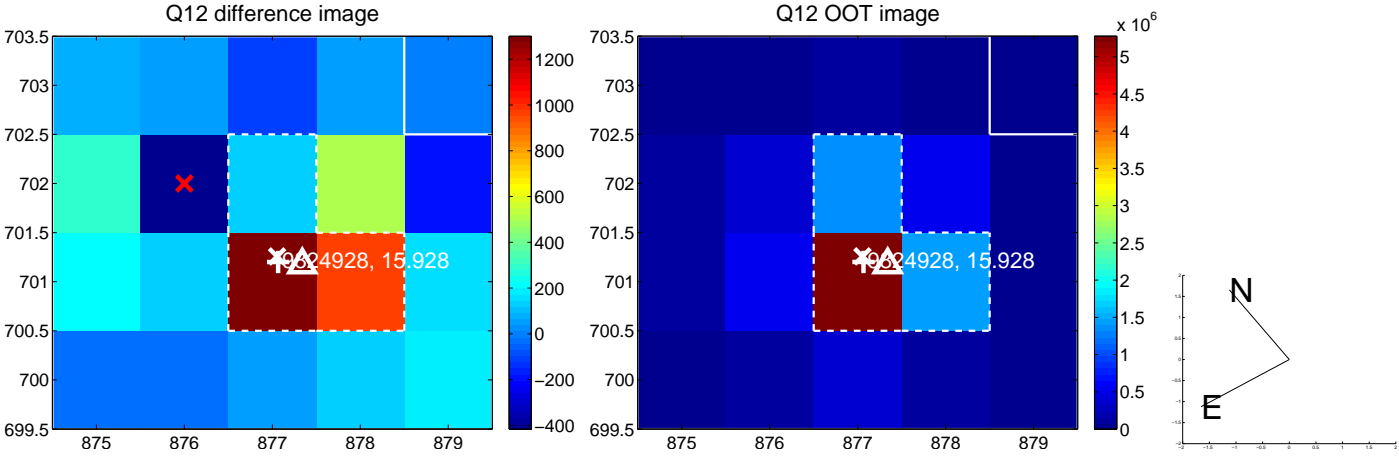
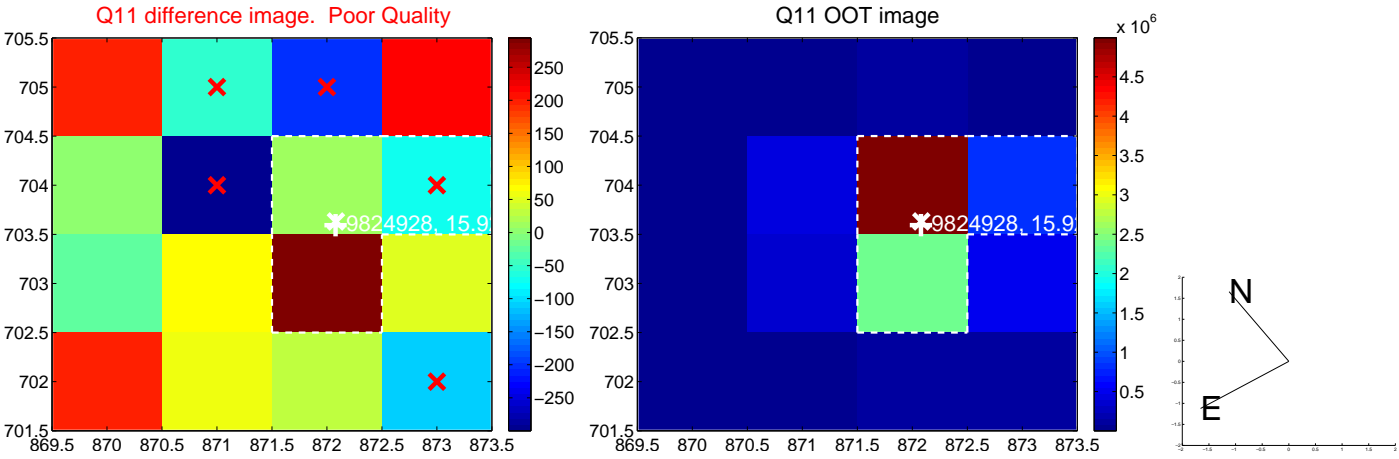
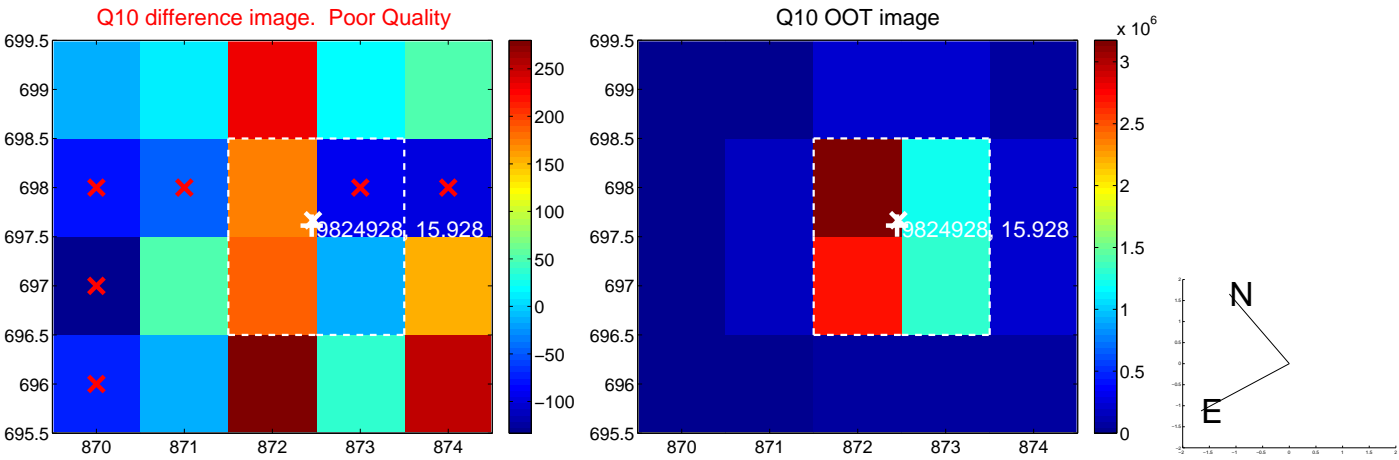
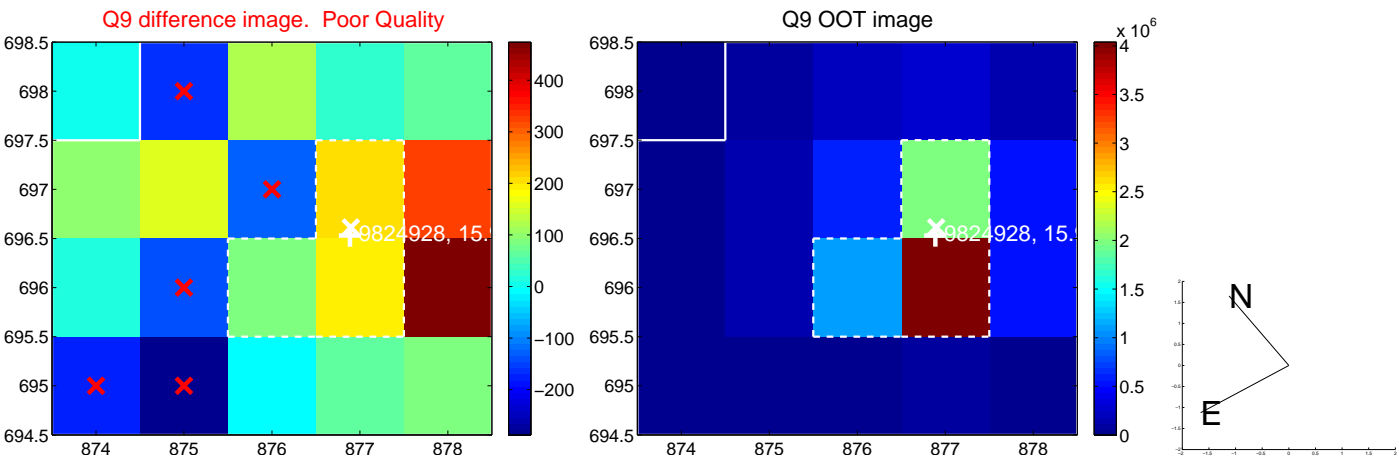
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



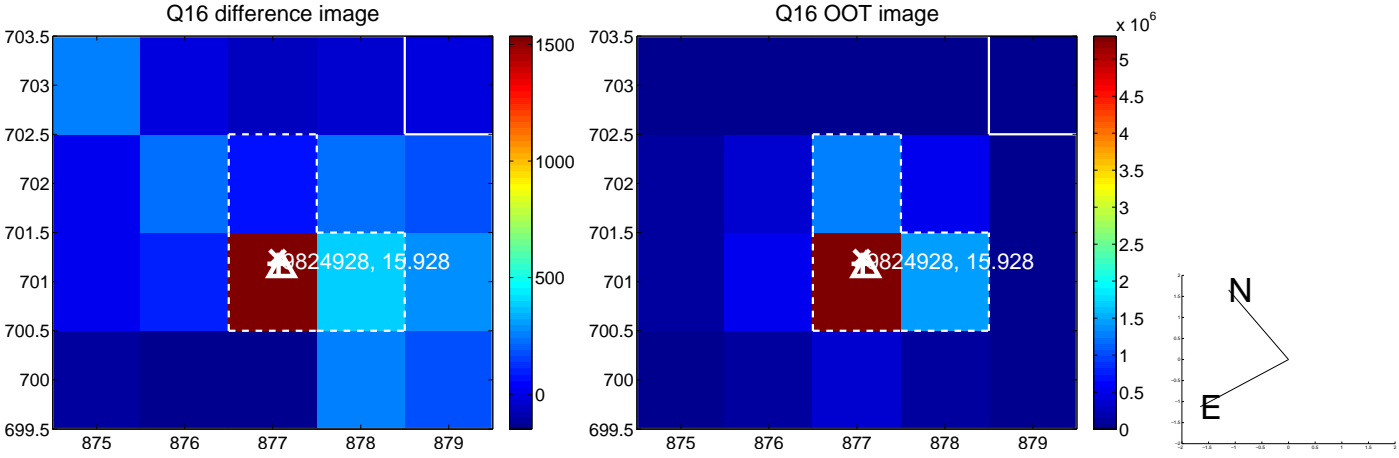
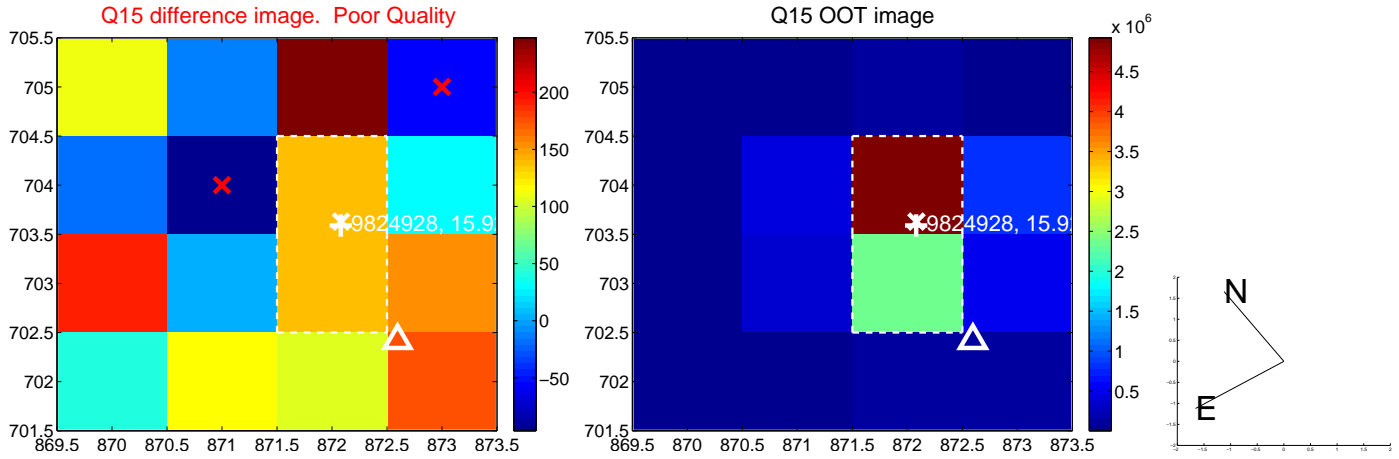
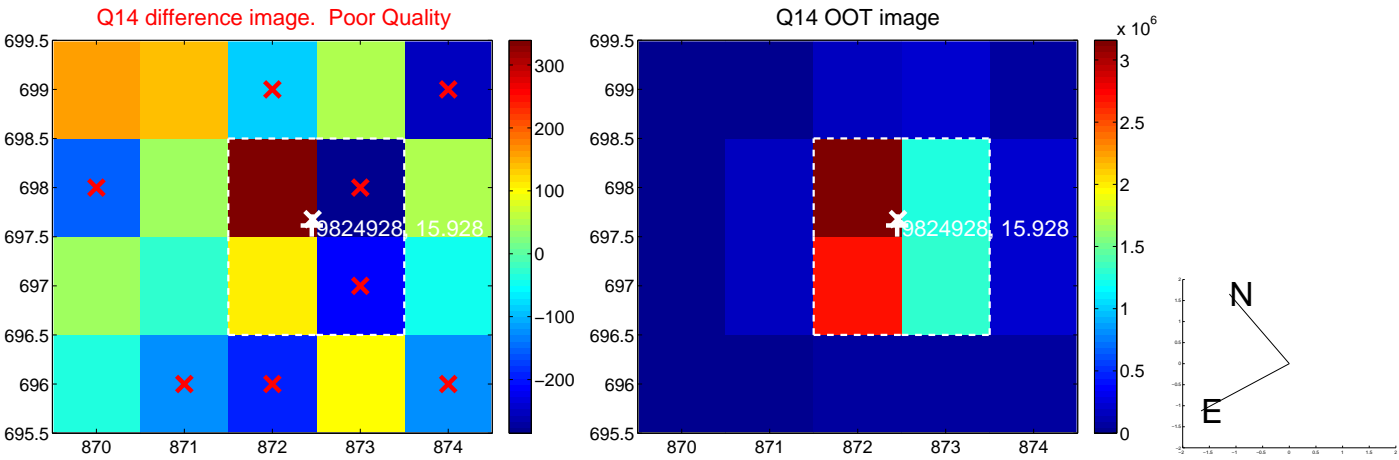
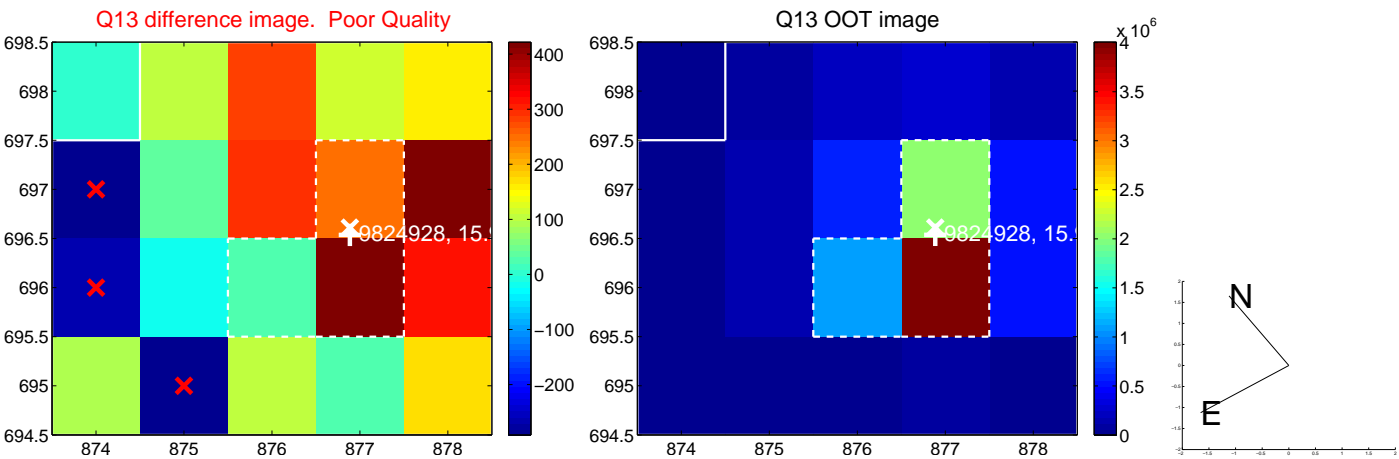
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



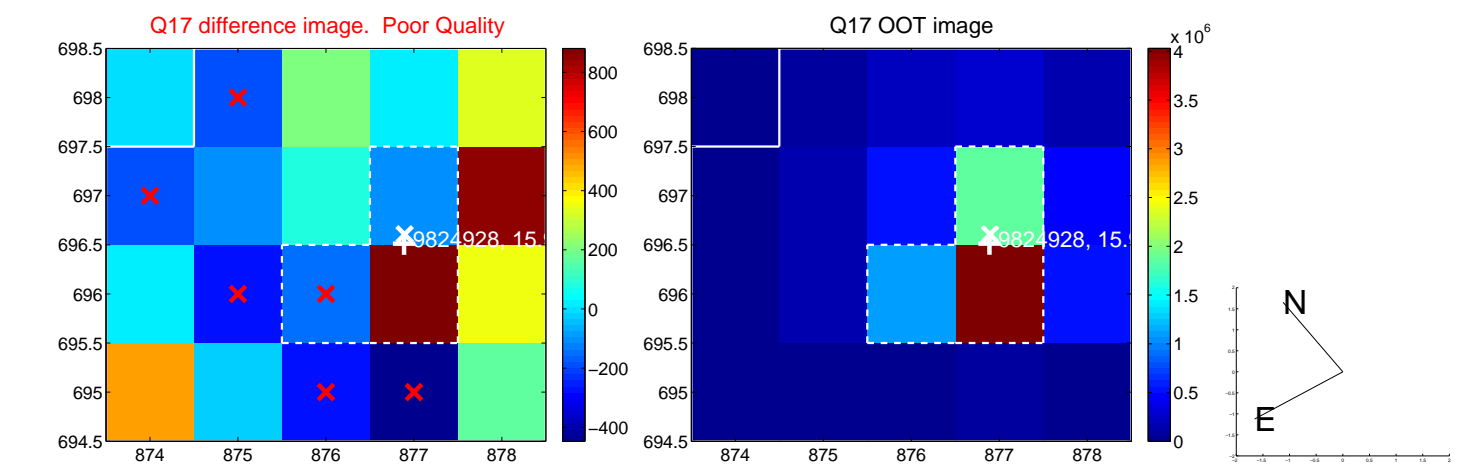
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



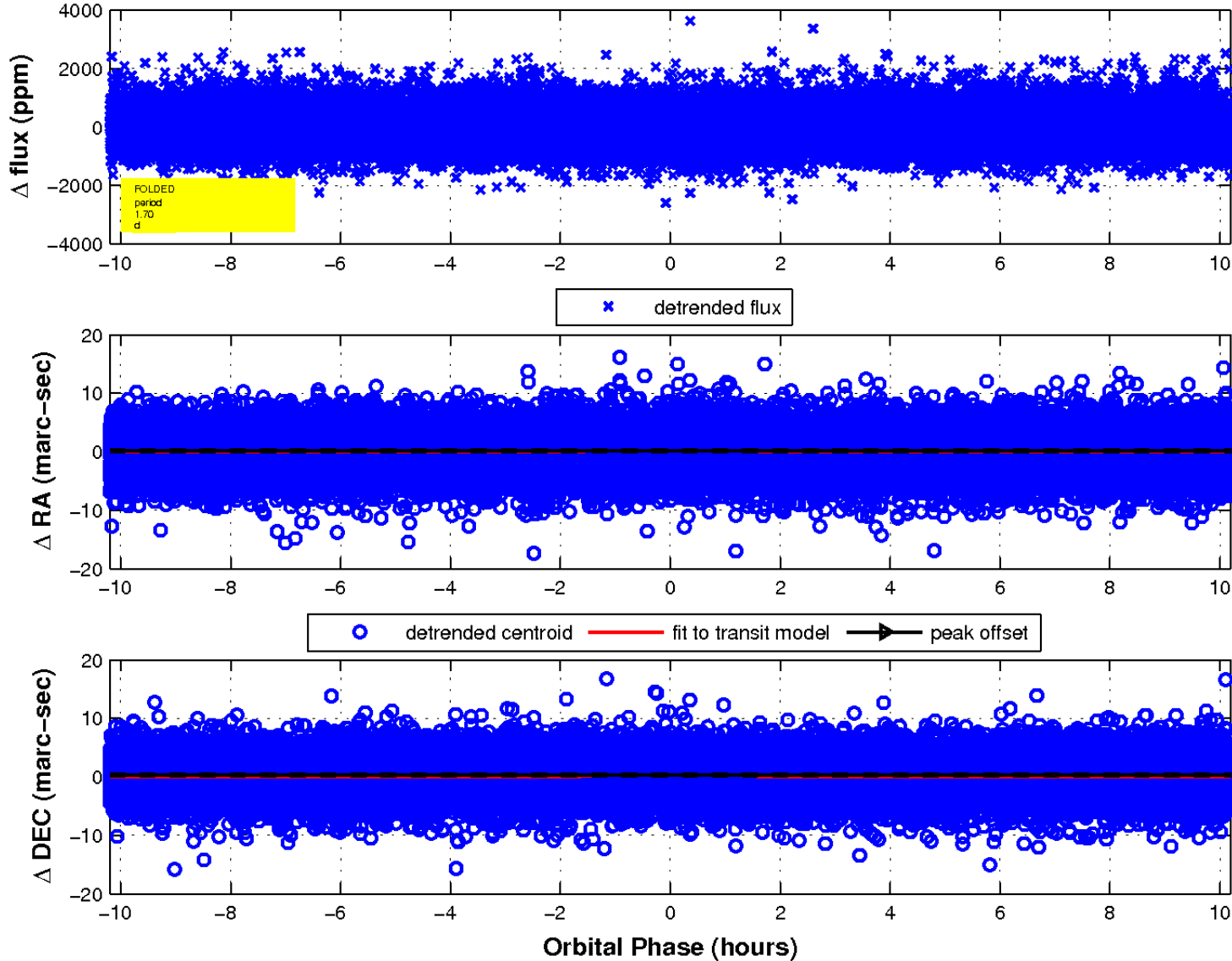
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

