

KIC 009108715

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})
009108715-01	OBS	No	1.433147	132.672918	14.1	6.507	7.7	8.4	3.19	8162	1.36	40579.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009108715-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

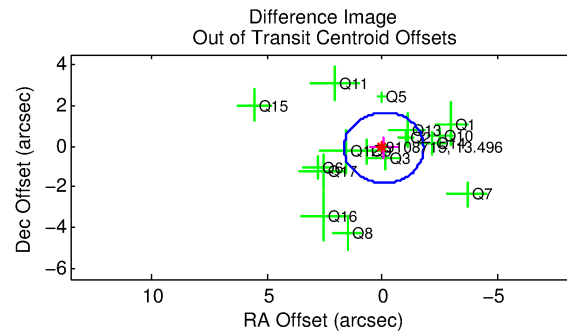
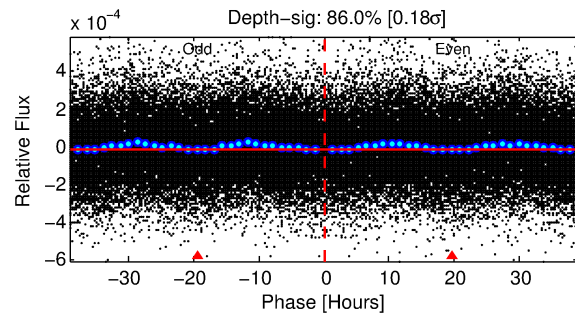
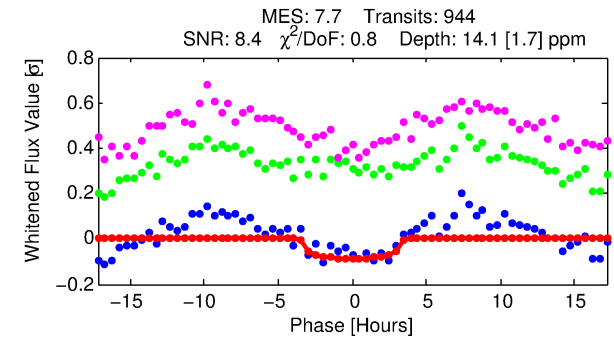
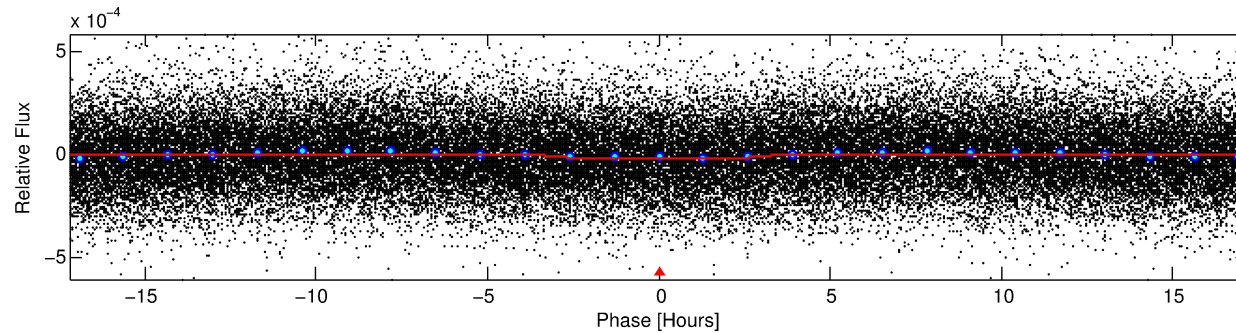
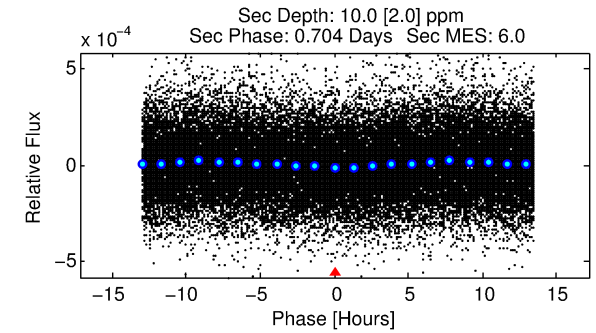
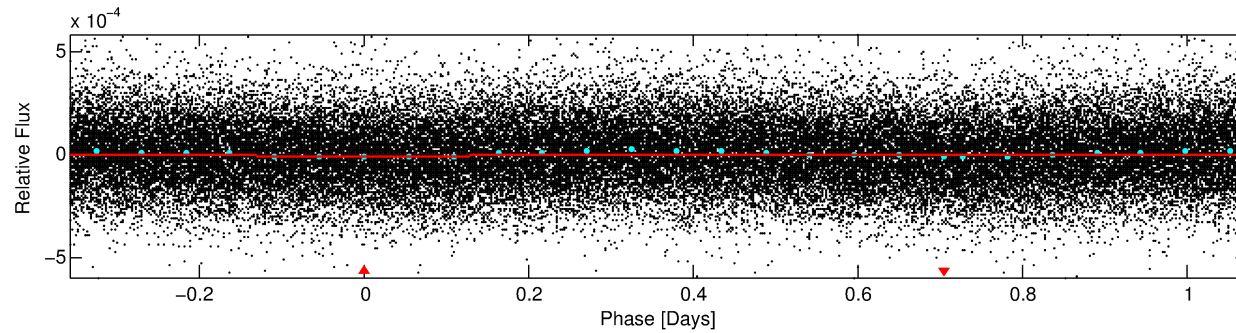
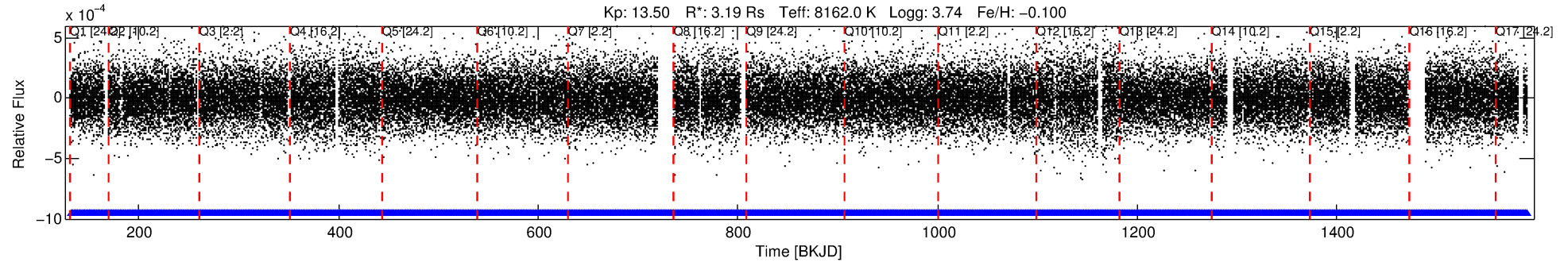
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009108715-01

No Significant Match Found

DV One-Page Summary

KIC: 9108715 Candidate: 1 of 1 Period: 1.433 d



DV Fit Results:

Period = 1.43315 [0.00002] d
Epoch = 132.6729 [0.0079] BKJD
Rp/R* = 0.0039 [0.0015]
a/R* = 1.25 [1.06]
b = 0.87 [0.68]
Seff = 40579.88 [30392.88]
Teq = 3619 [678] K
Rp = 1.36 [0.82] Re
a = 0.0316 [0.0142] AU
Ag = 2.95 [3.18] [0.61σ]
Teffp = 7331 [1489] K [2.27σ]

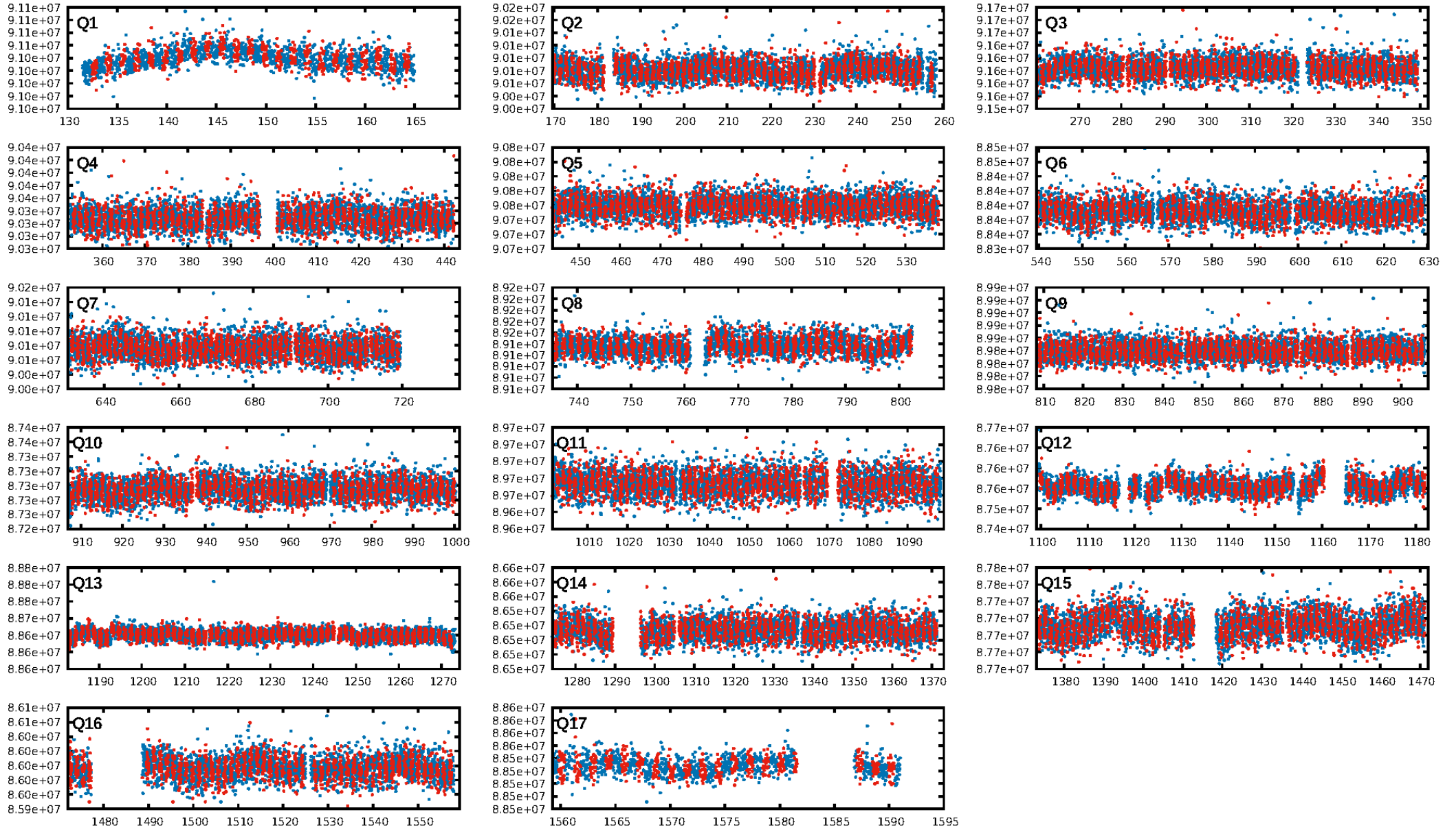
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.51e-12
RollingBand-fgt: 1.00 [902/902]
GhostDiagnostic-chr: 4.322
Centroid-sig: 1.6%
Centroid-so: 2.494 arcsec [1.48σ]
OotOffset-rm: 0.101 arcsec [0.18σ]
KicOffset-rm: 0.291 arcsec [0.59σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 1.00 [17/17]

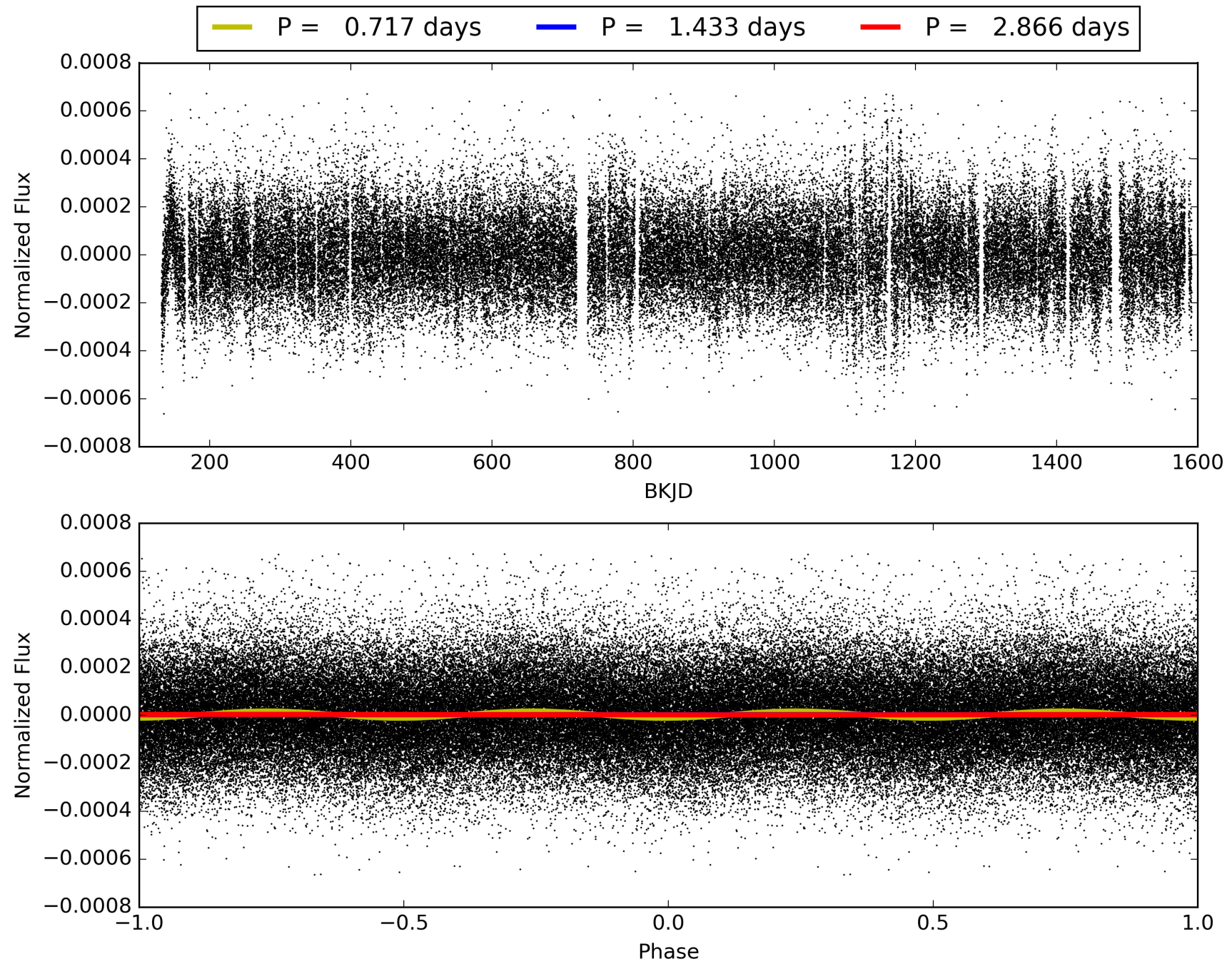
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 17:07:27 Z

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

TCE 009108715-01, PDC Light Curves

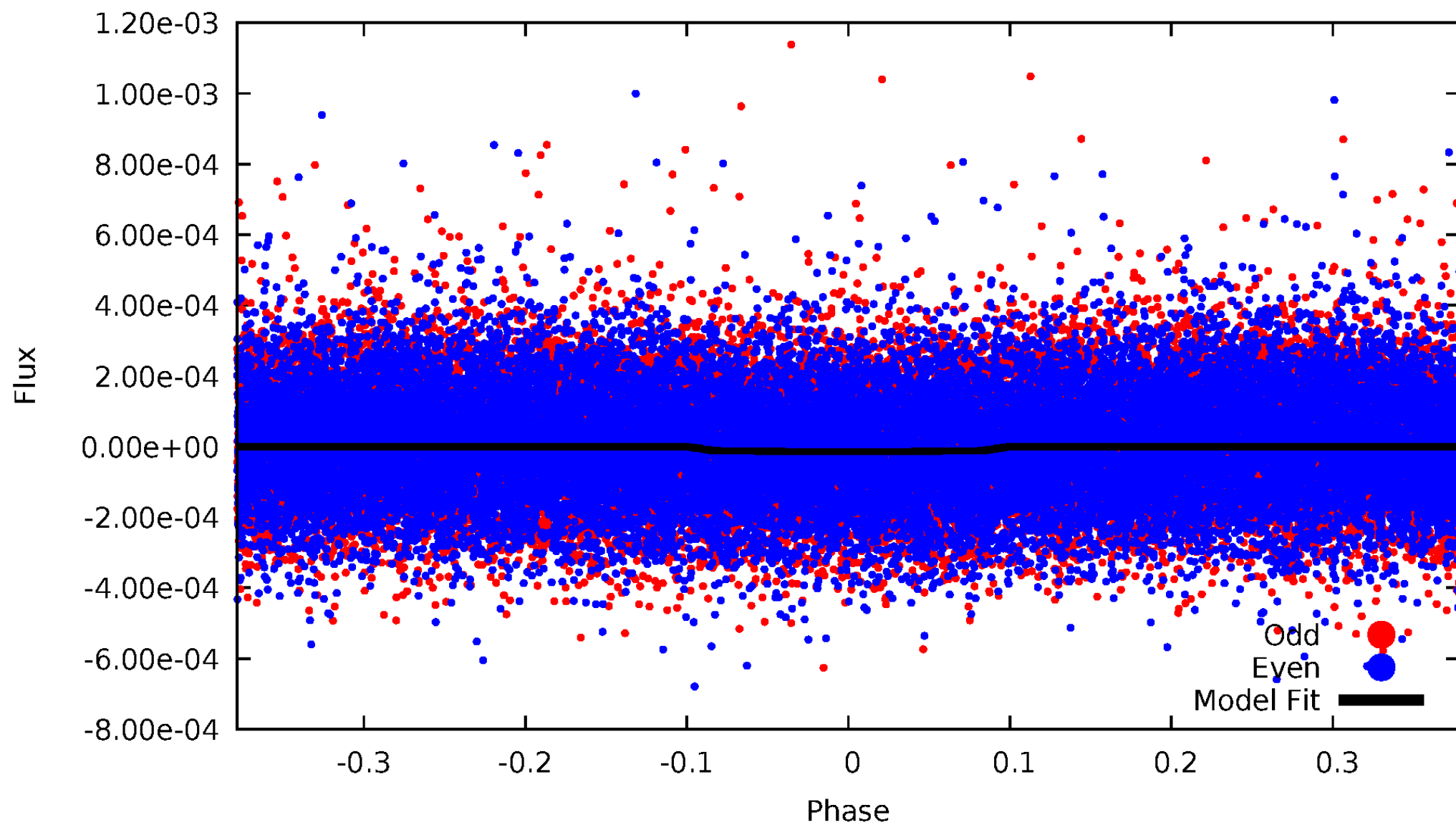


TCE 009108715-01



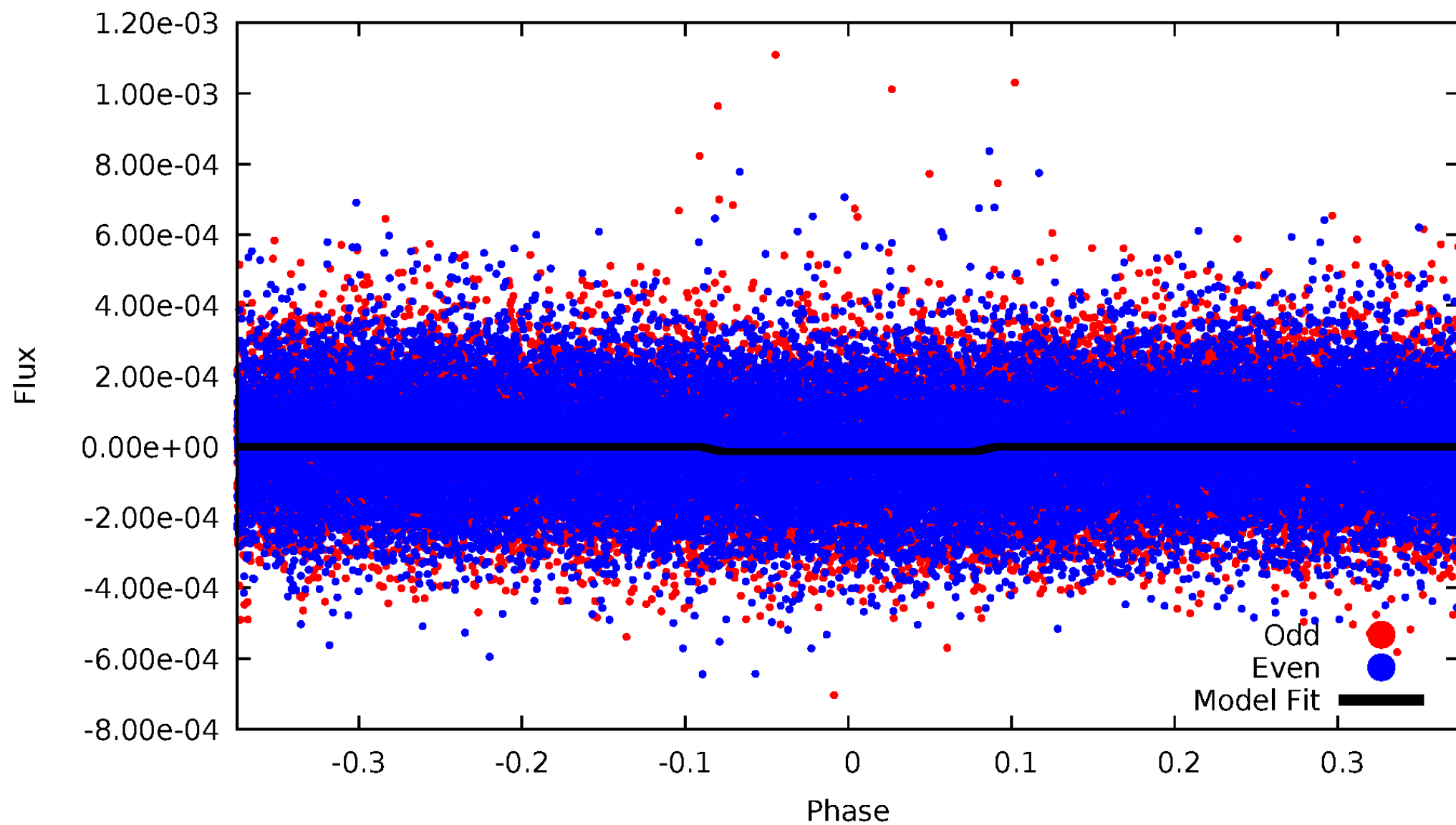
DV Odd/Even

TCE 009108715-01



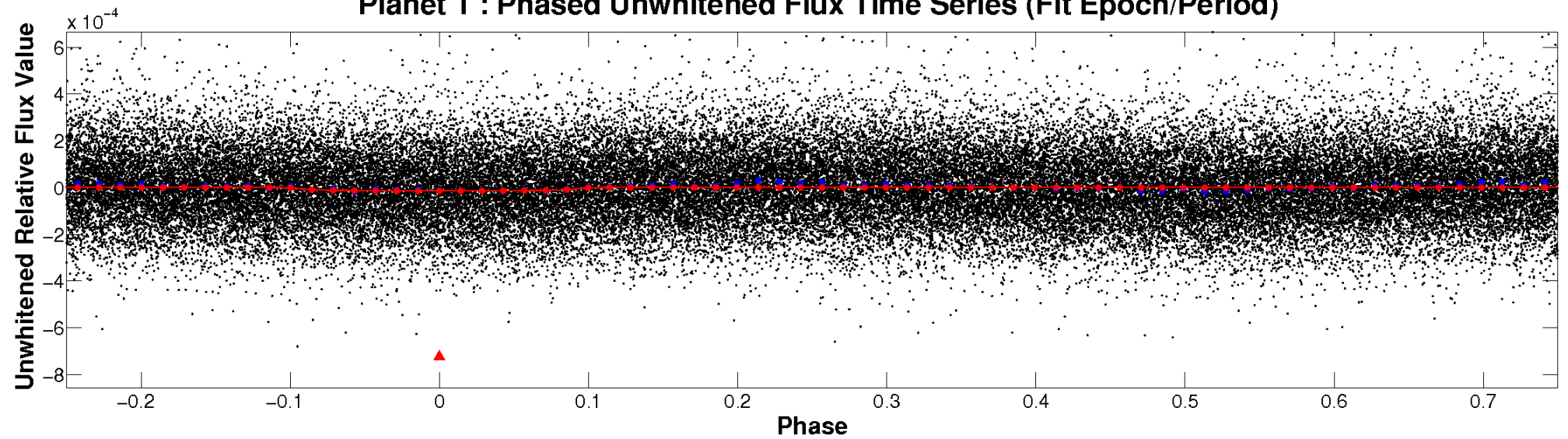
ALT Odd/Even

TCE 009108715-01

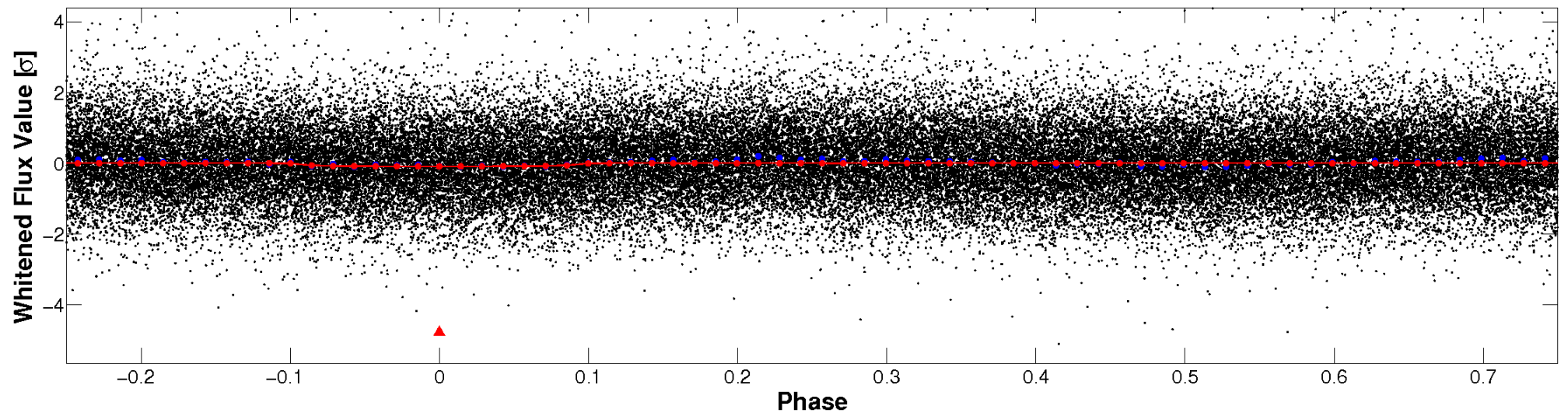


Non-Whitened Vs. Whitened Light Curve

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

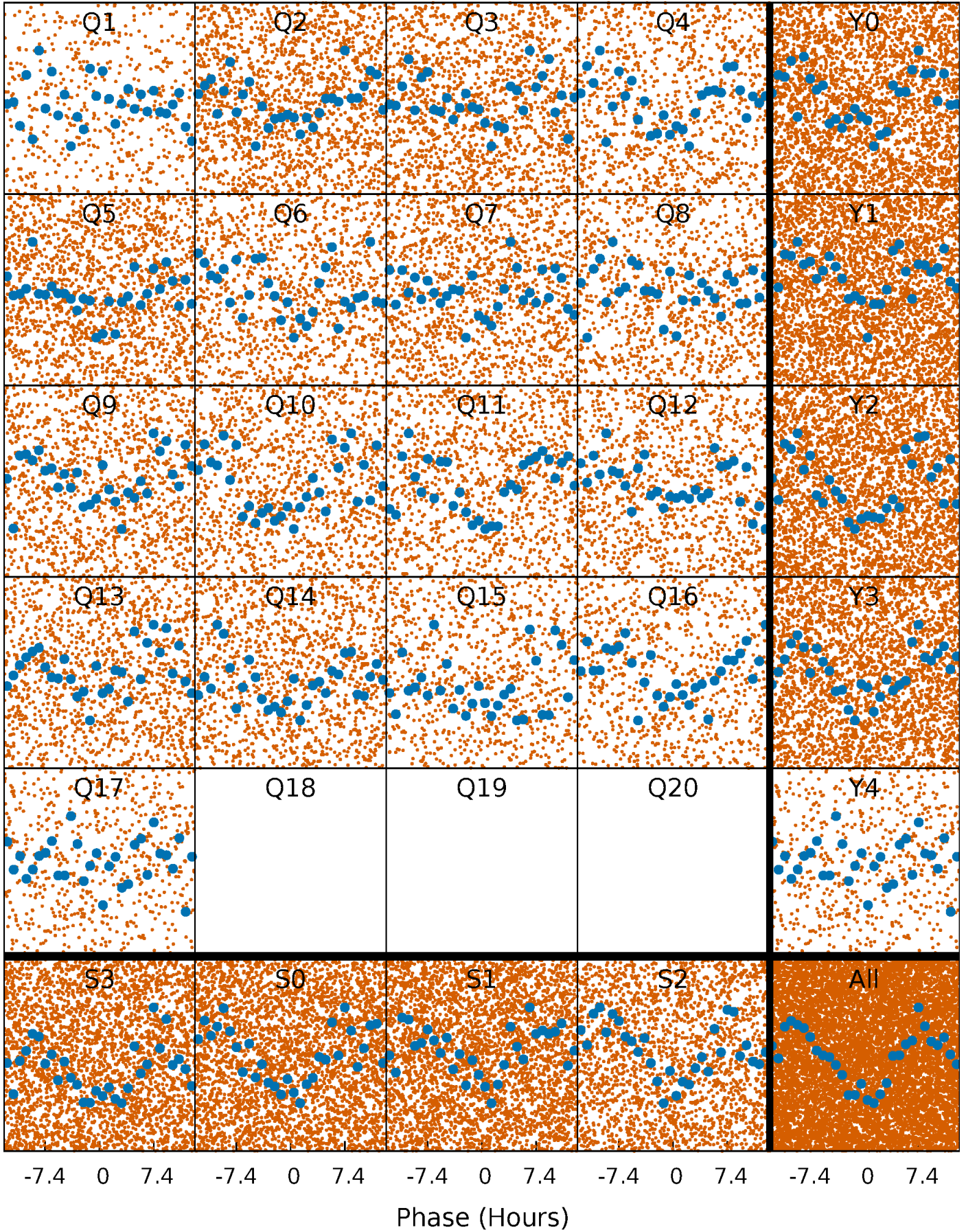


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



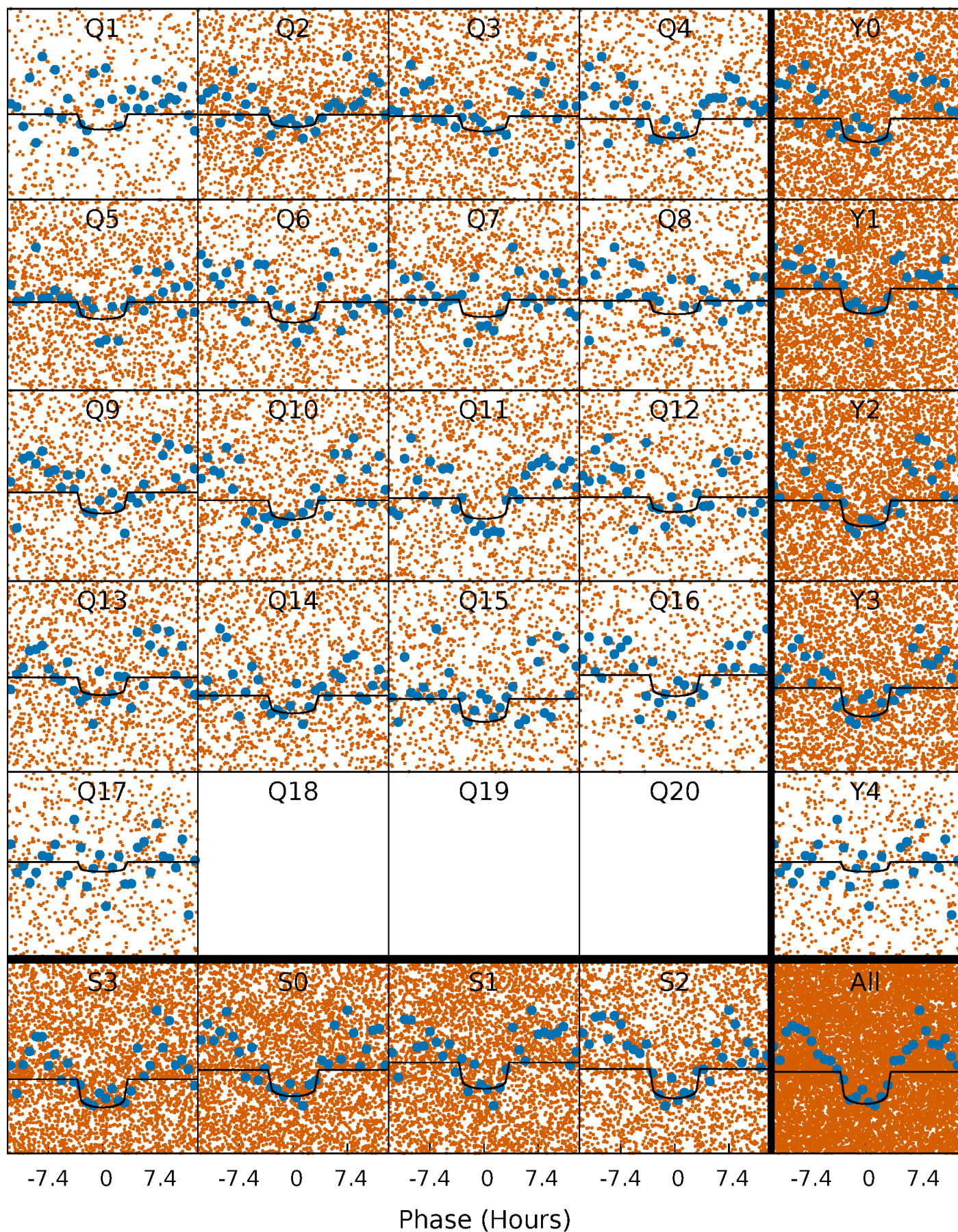
PDC Quarter-Phased Transit Curves

TCE 009108715-01 P= 1.433147 Days $T_0=132.672918$ (BKJD)



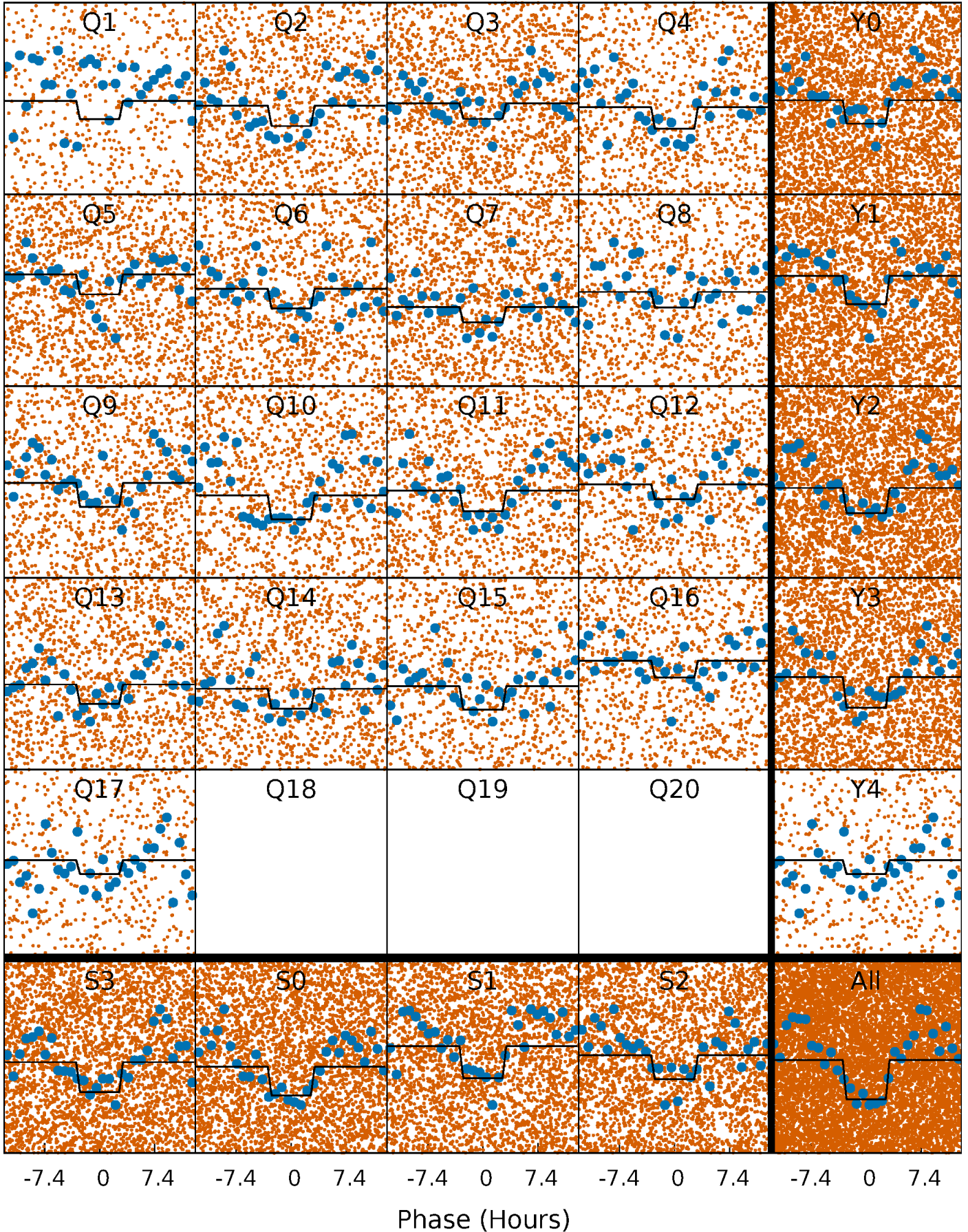
DV Quarter-Phased Transit Curves

TCE 009108715-01 P= 1.433147 Days $T_0=132.672918$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

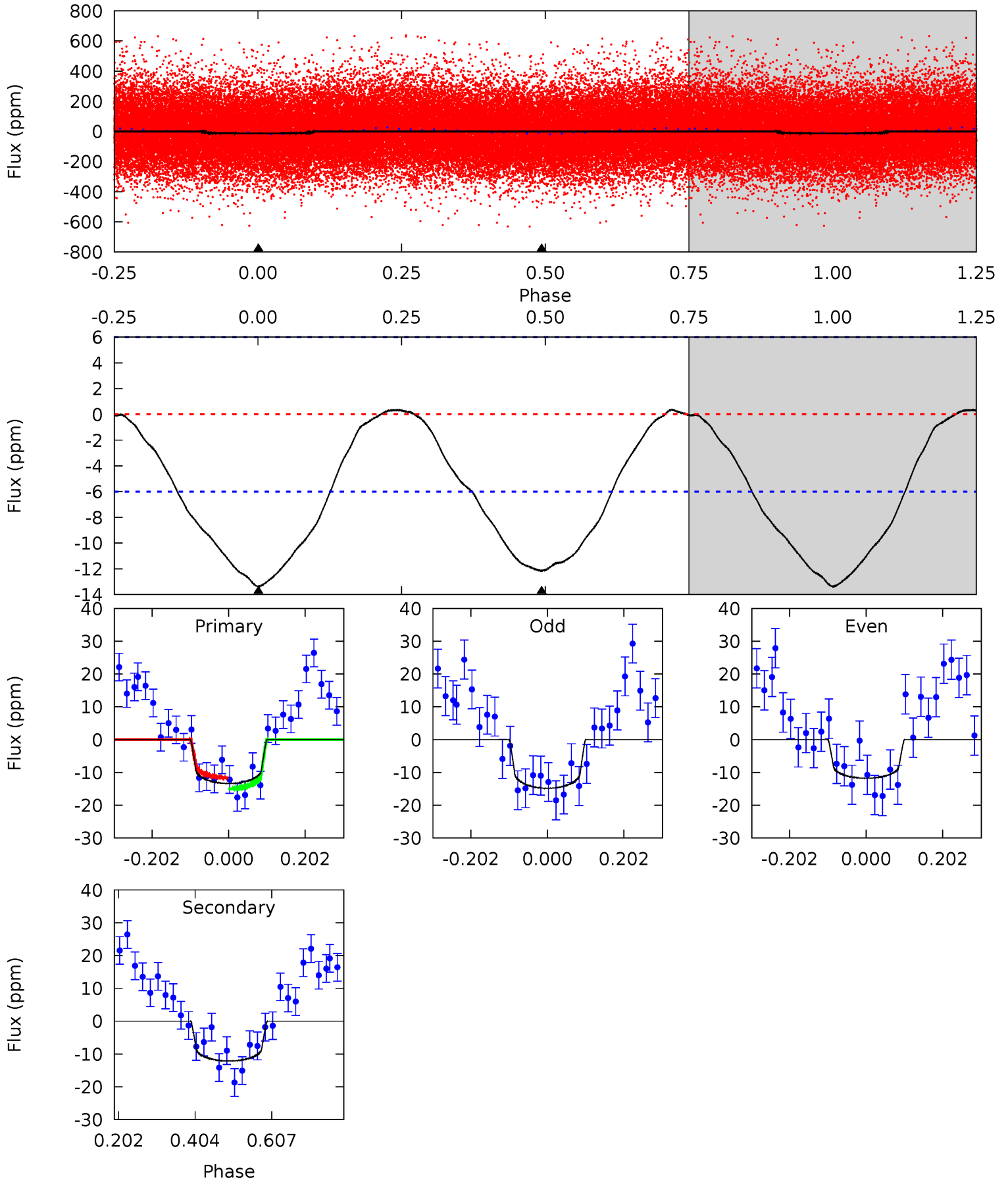
TCE 009108715-01 P= 1.433103 Days $T_0=132.695761$ (BKJD)



DV Model-Shift Uniqueness Test

009108715-01, P = 1.433147 Days, E = 131.239771 Days

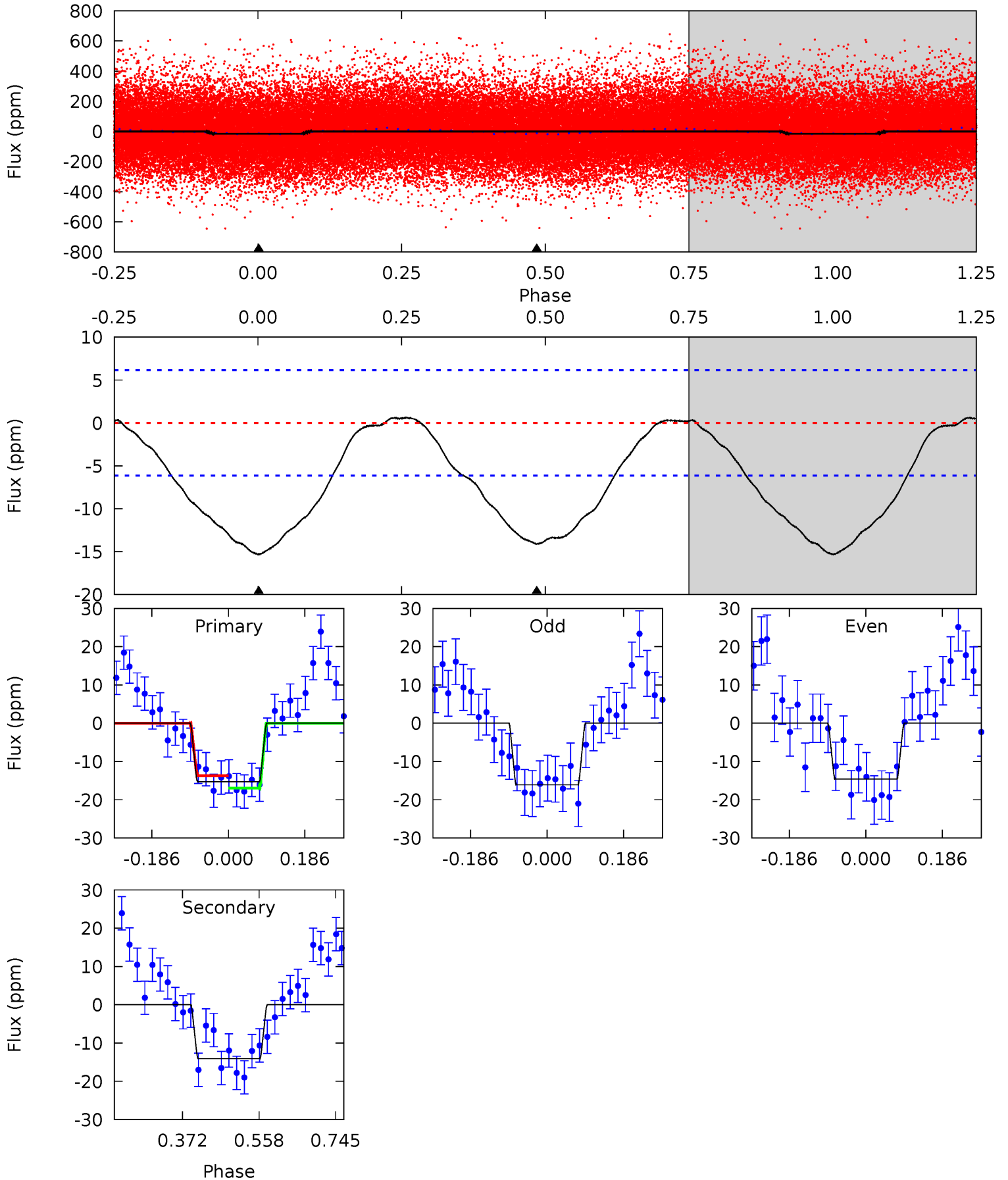
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.85	8.94	0	0	4.41	1.28	0.31	9.85	9.85	8.94	8.94	1.13	0.91	0.03	1.24



Alt Model-Shift Uniqueness Test

009108715-01, P = 1.433103 Days, E = 131.262658 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	10.2	0	0	4.43	1.32	0.62	11.1	11.1	10.2	10.2	0.54	0.89	0.04	1.17



Stellar Parameters For KIC 009108715

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8162^{+226}_{-340}	$3.741^{+0.432}_{-0.108}$	$-0.100^{+0.250}_{-0.400}$	$3.191^{+0.675}_{-1.463}$	$2.046^{+0.333}_{-0.499}$	$0.089^{+0.363}_{-0.035}$
	+3%/-4%	+12%/-3%	+250%/-400%	+21%/-46%	+16%/-24%	+410%/-40%
Source	KIC0	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 009108715-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-12 ± 1	$1.23^{+0.66}_{-0.51}$	4893^{+378}_{-555}	7321^{+2725}_{-1303}	$4.400^{+7.774}_{-2.510}$
Alt.	-14 ± 1	$1.17^{+0.56}_{-0.49}$	4904^{+361}_{-584}	8077^{+3435}_{-1578}	$5.705^{+11.305}_{-3.110}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

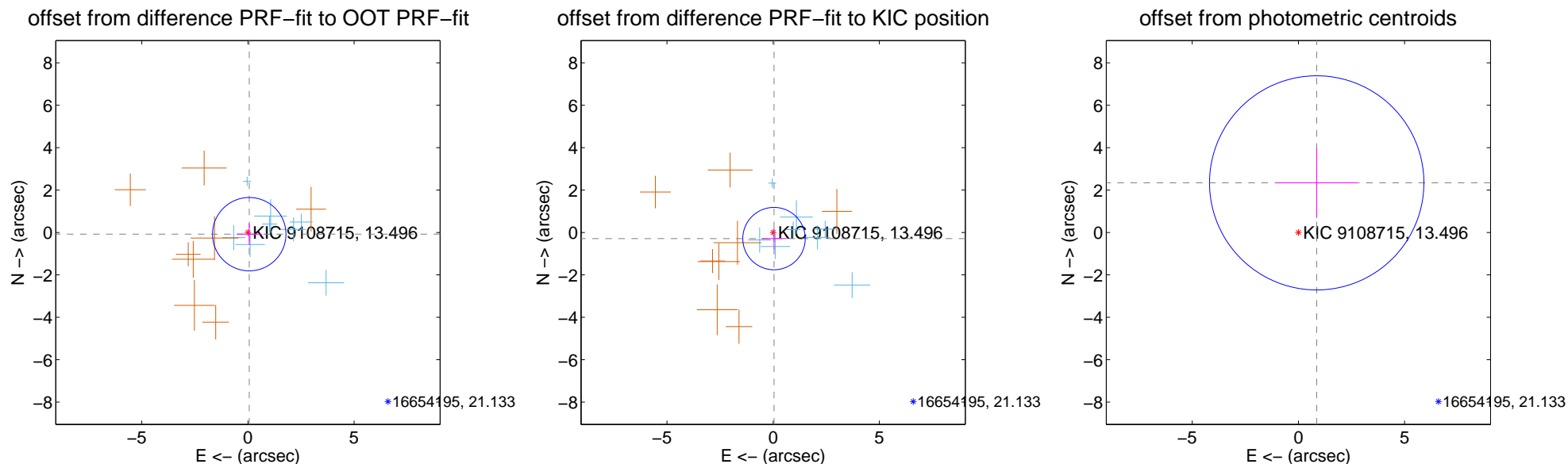
DV Centroid Data

Supplemental centroid analysis for 009108715-01. Kepler magnitude: 13.50. Transit SNR 8.41

There are 8 quarters with good PRF difference image offsets

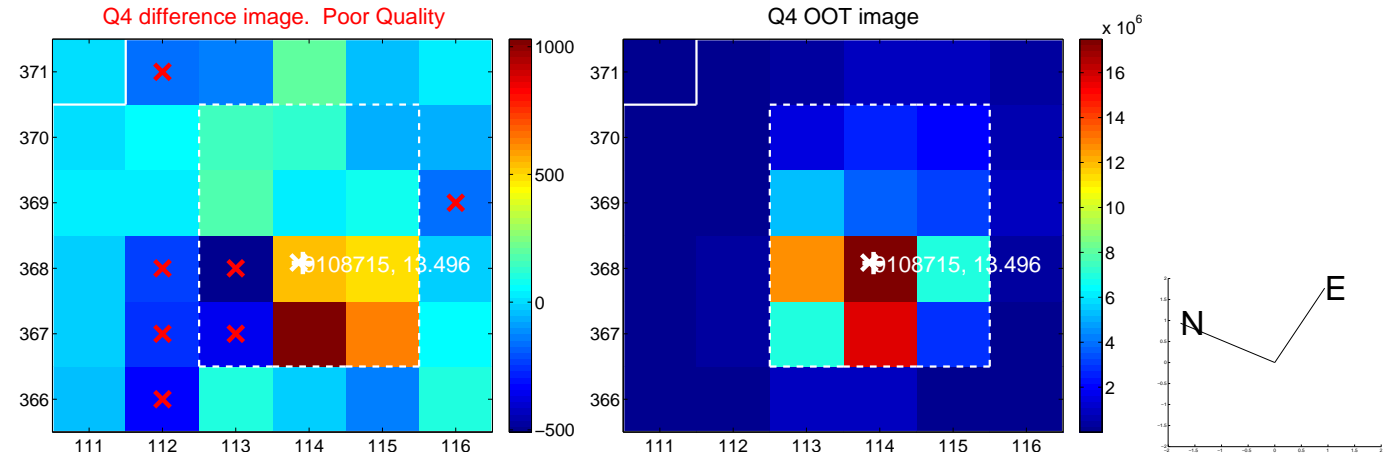
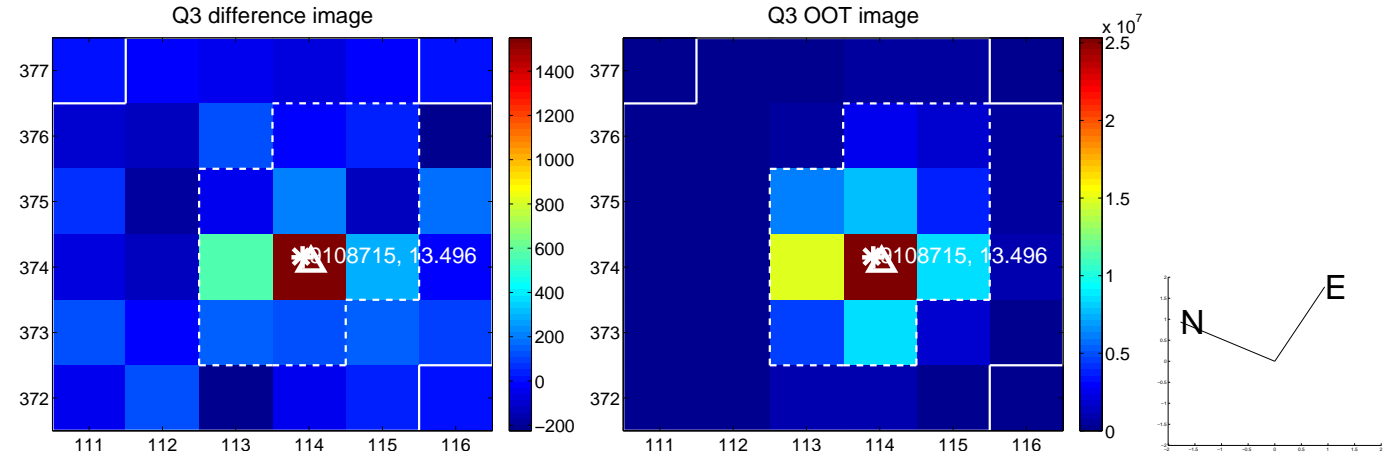
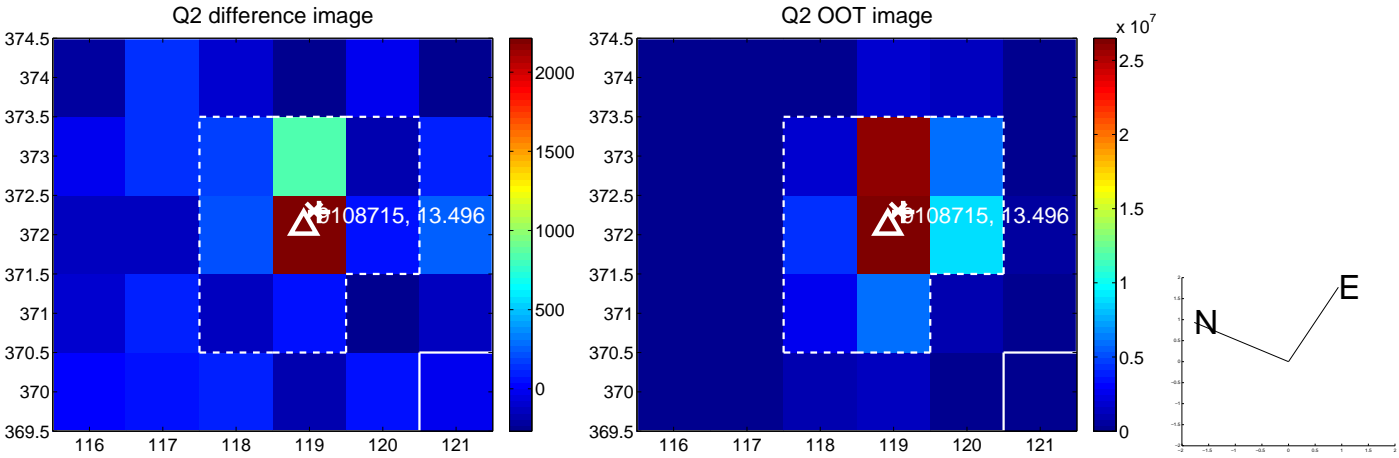
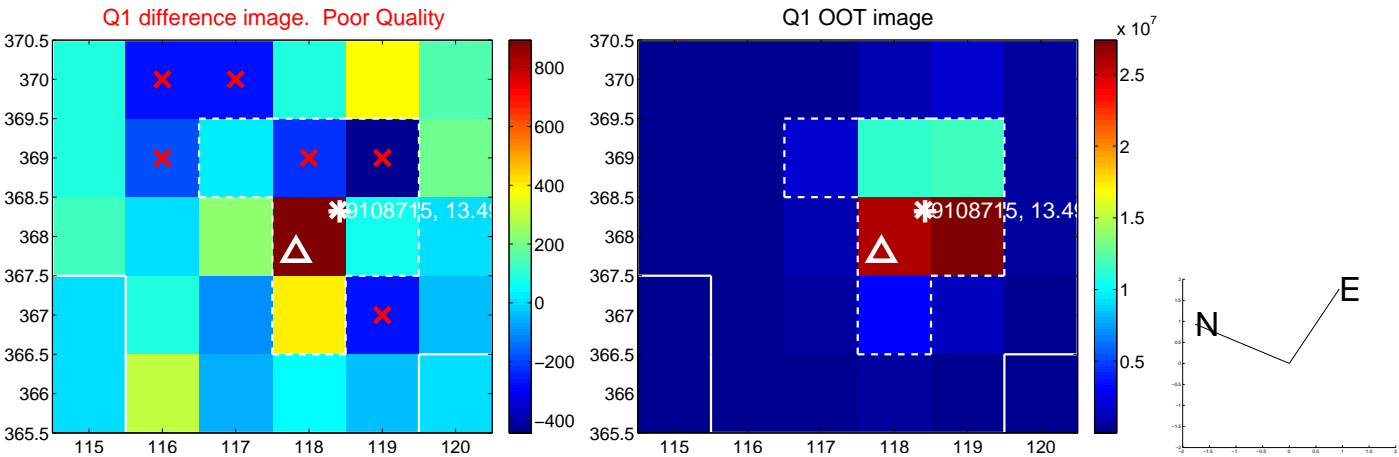
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.101 ± 0.576	0.18	-0.062 ± 0.594	-0.080 ± 0.511
PRF-fit source offset from KIC position	0.291 ± 0.490	0.59	-0.040 ± 0.593	-0.288 ± 0.488
photometric centroid source offset	2.49 ± 1.68	1.48	-0.86 ± 1.91	2.34 ± 1.65

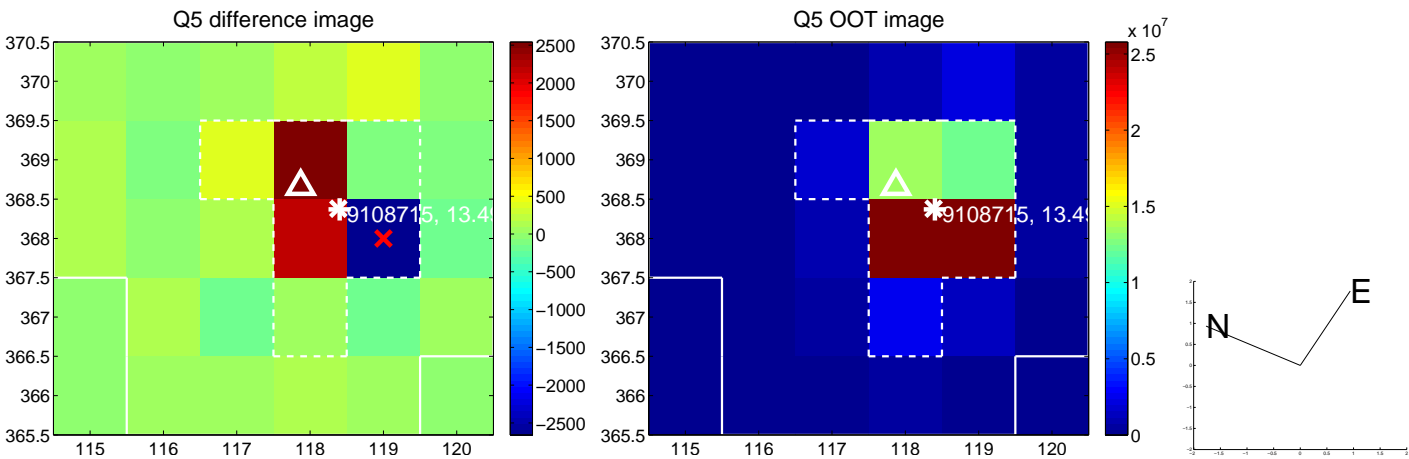


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

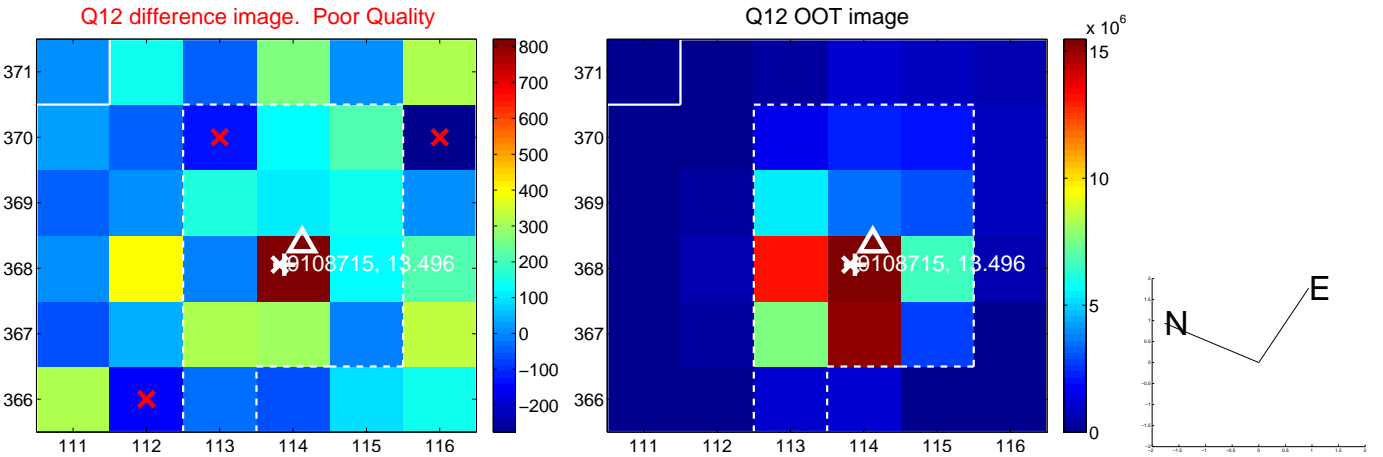
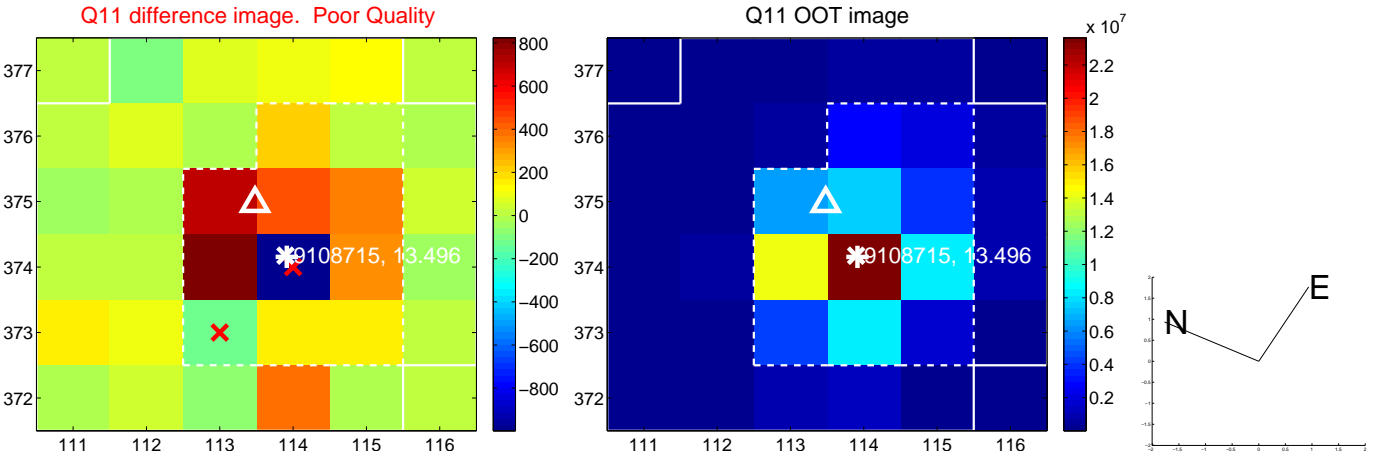
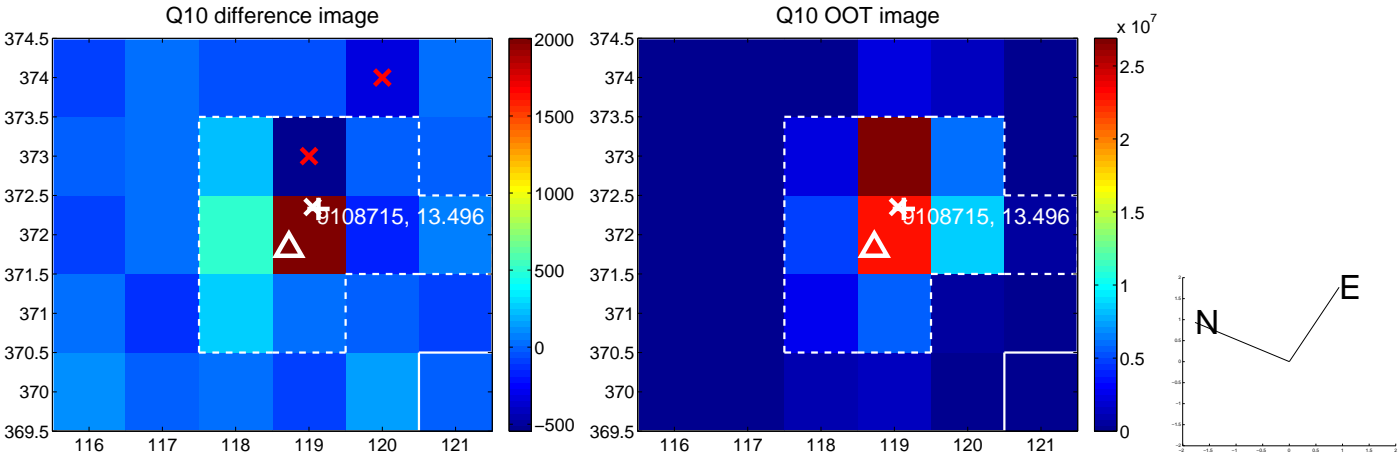
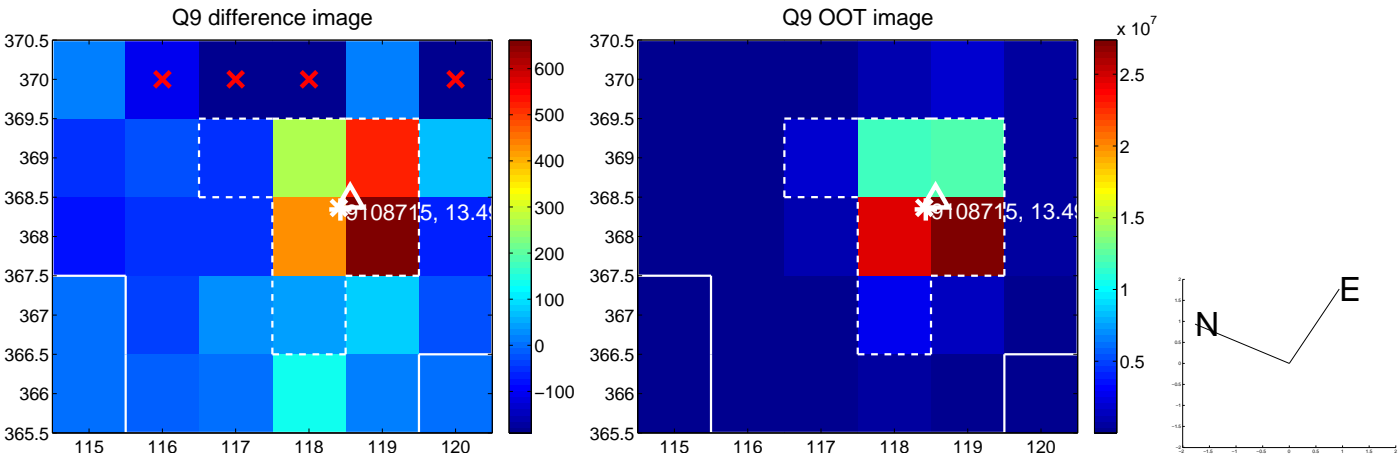
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



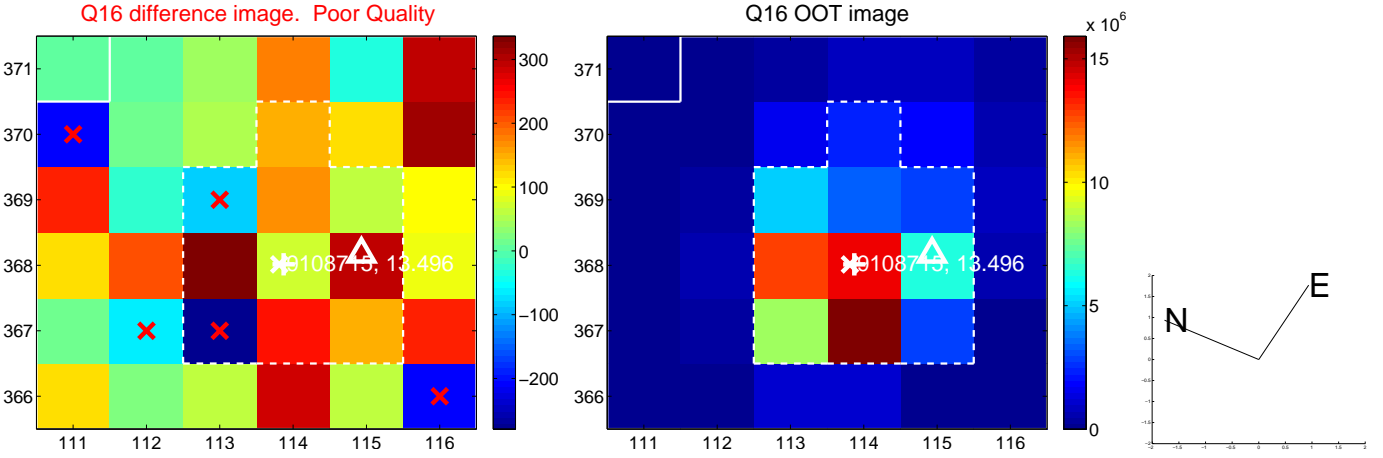
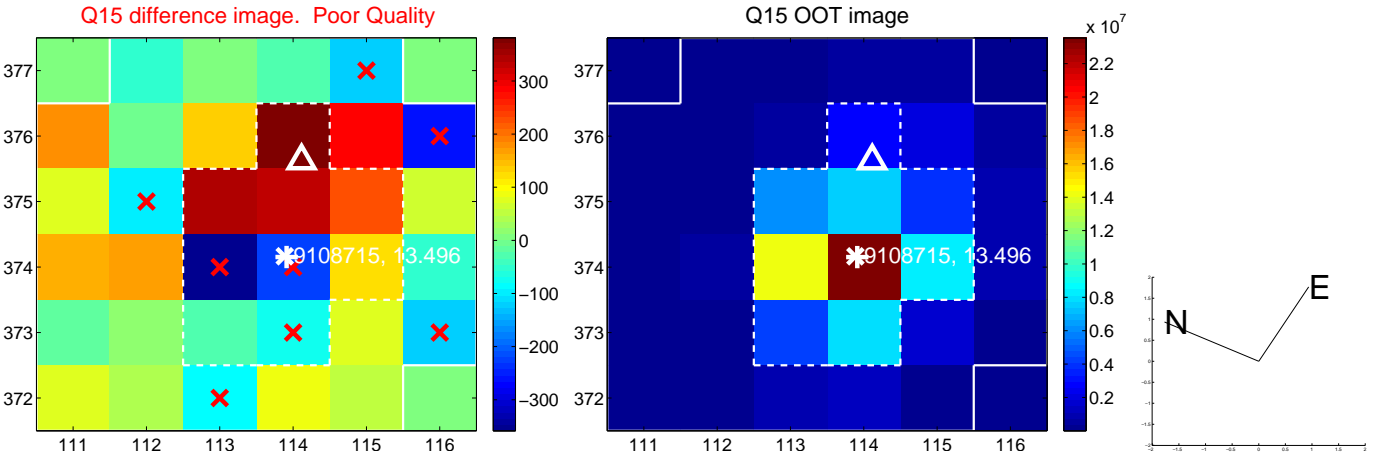
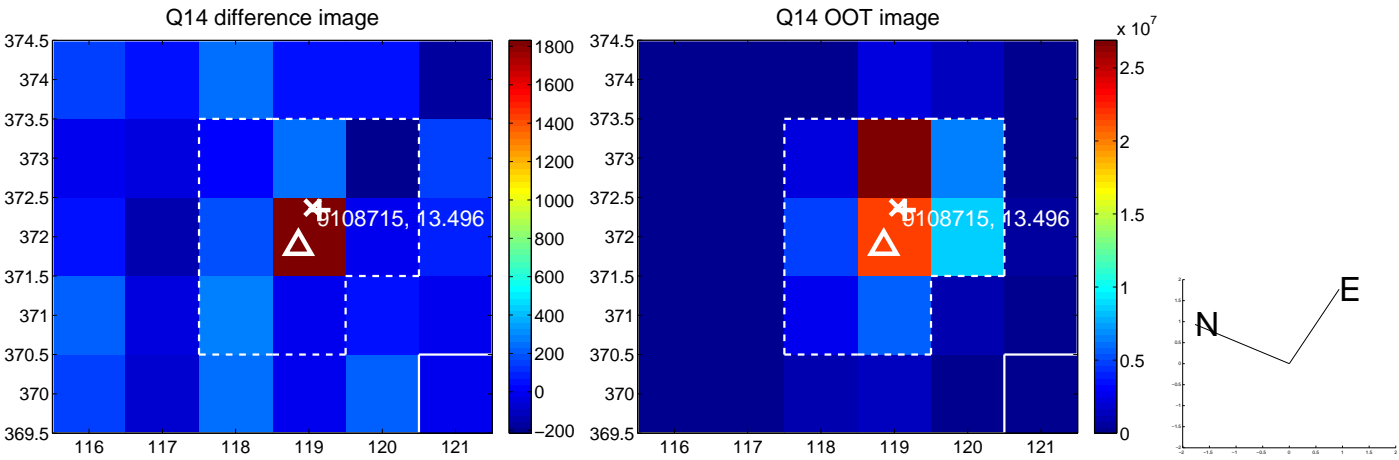
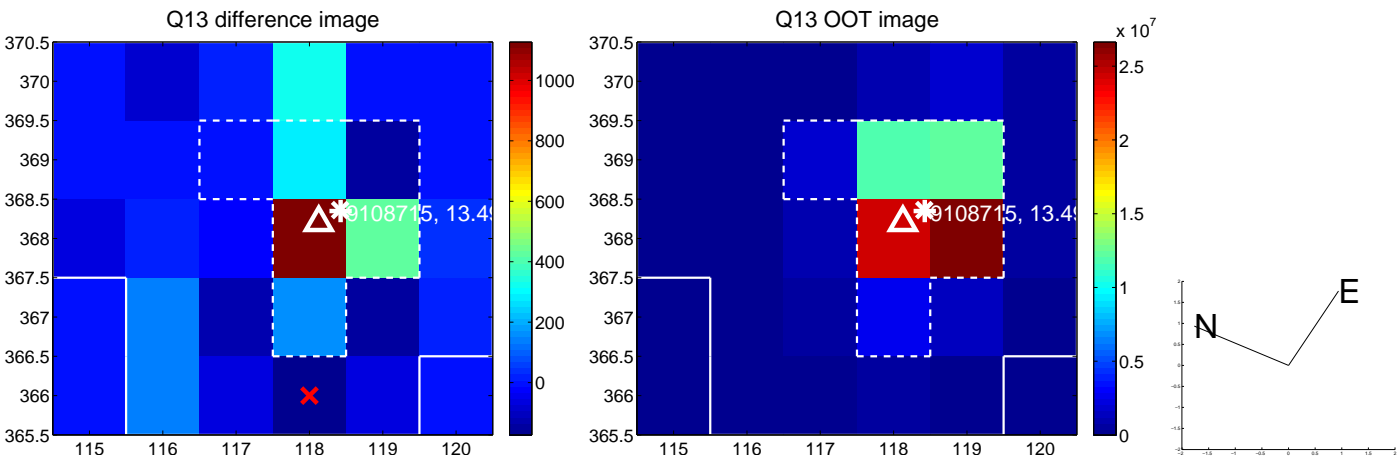
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



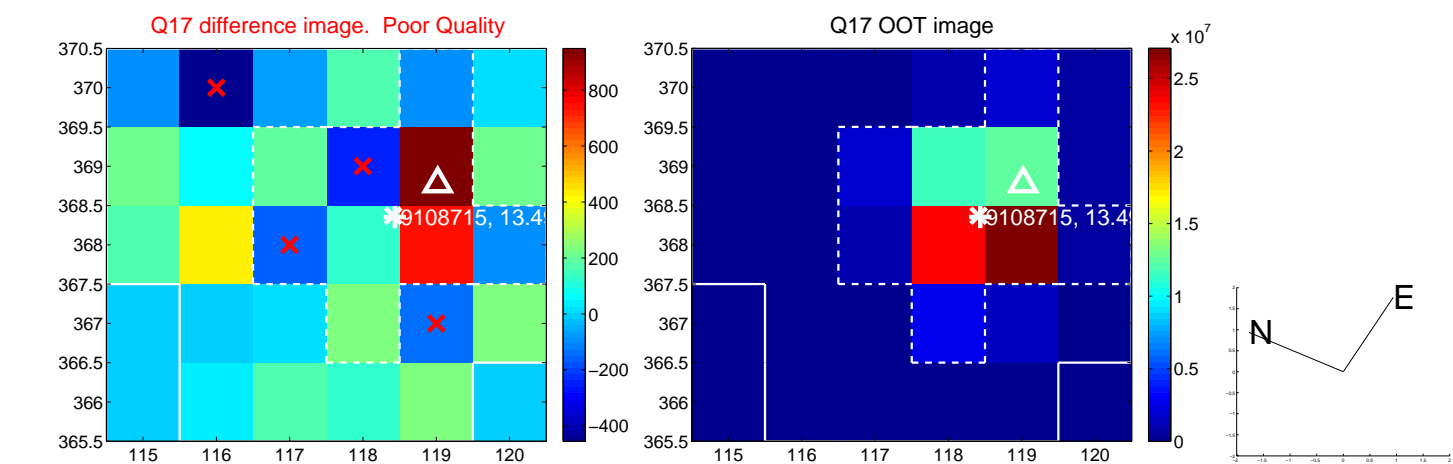
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



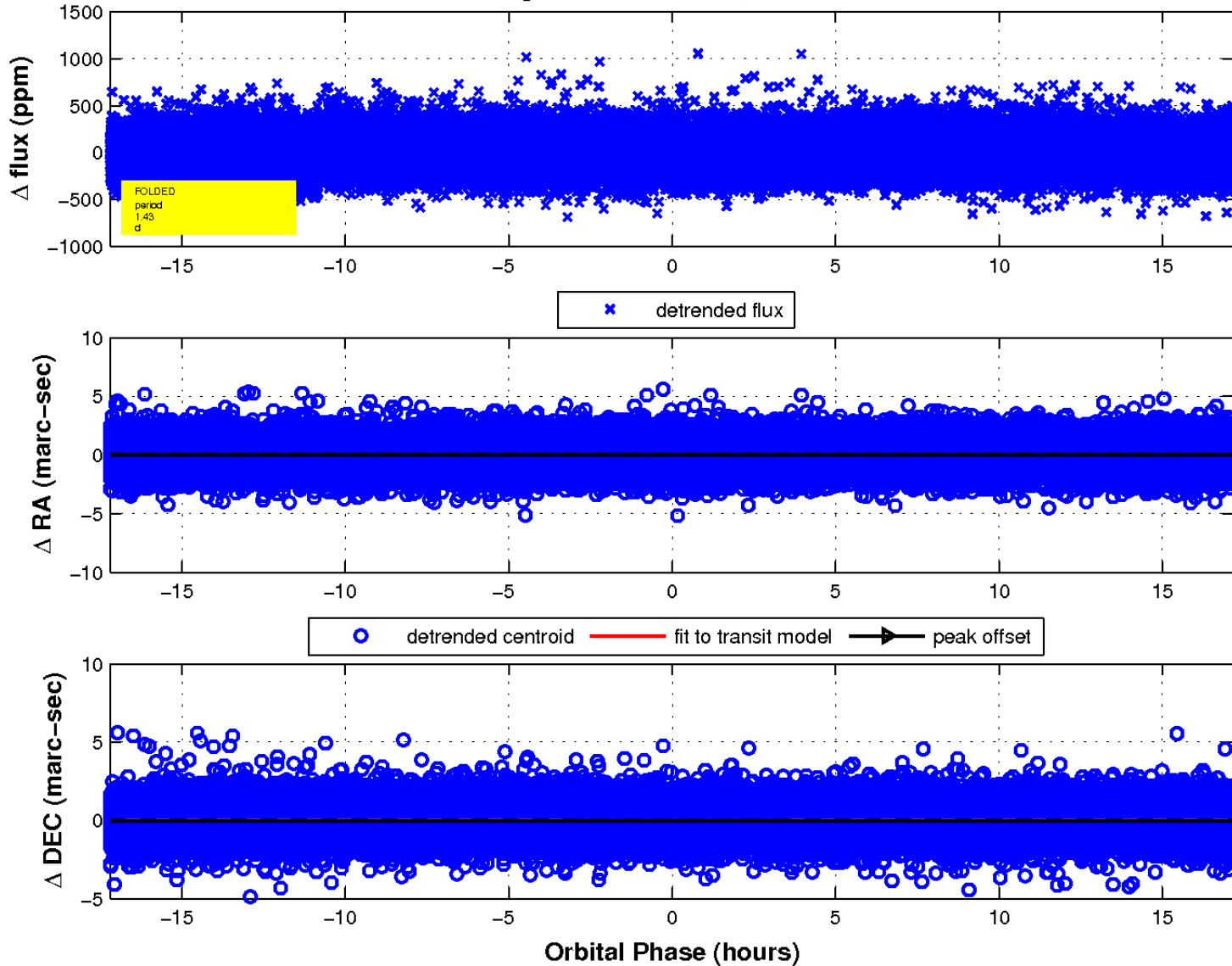
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

