

KIC 009228115

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})
009228115-01	OBS	No	2.189137	133.243985	38.3	26.270	10.9	16.6	2.27	8564	1.81	14019.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009228115-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_MEAS

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

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

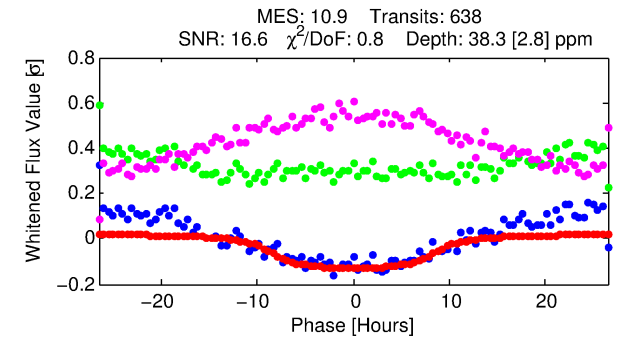
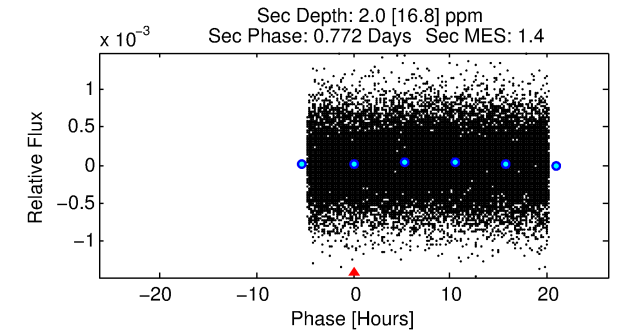
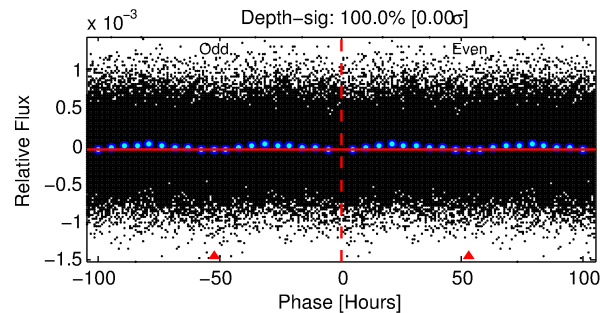
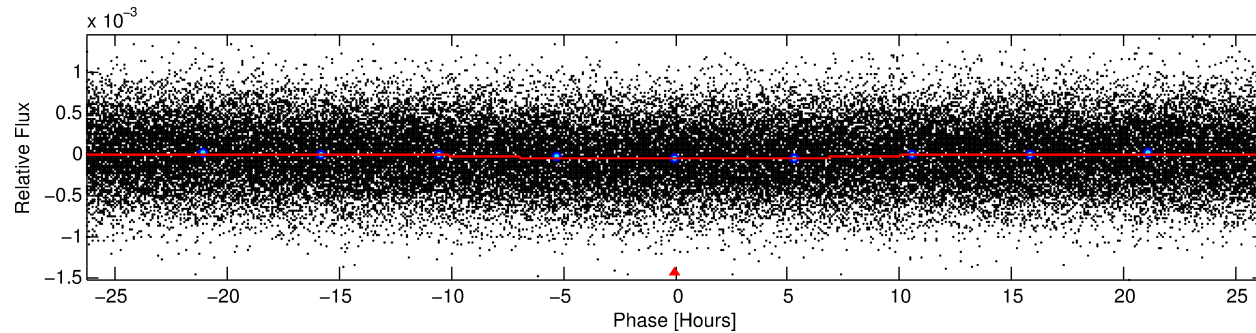
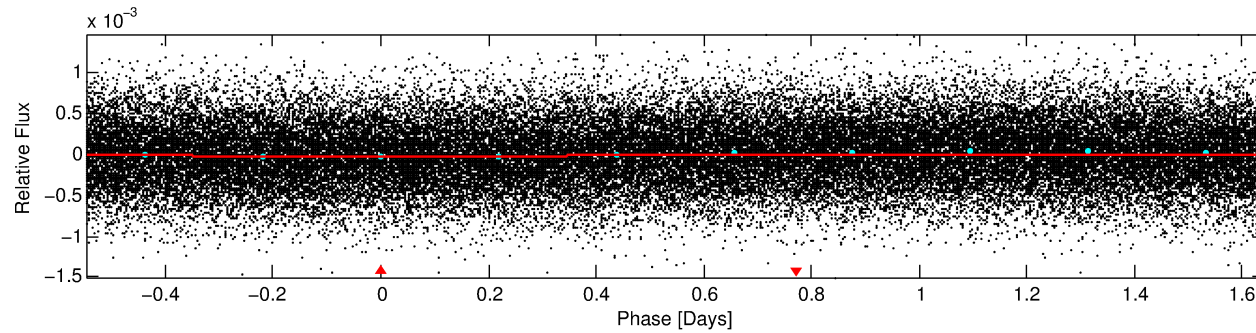
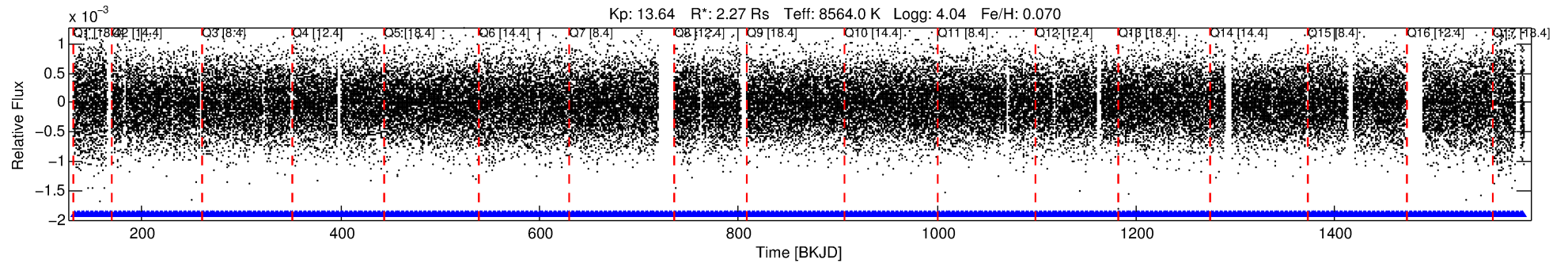
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009228115-01

No Significant Match Found

DV One-Page Summary

KIC: 9228115 Candidate: 1 of 1 Period: 2.189 d



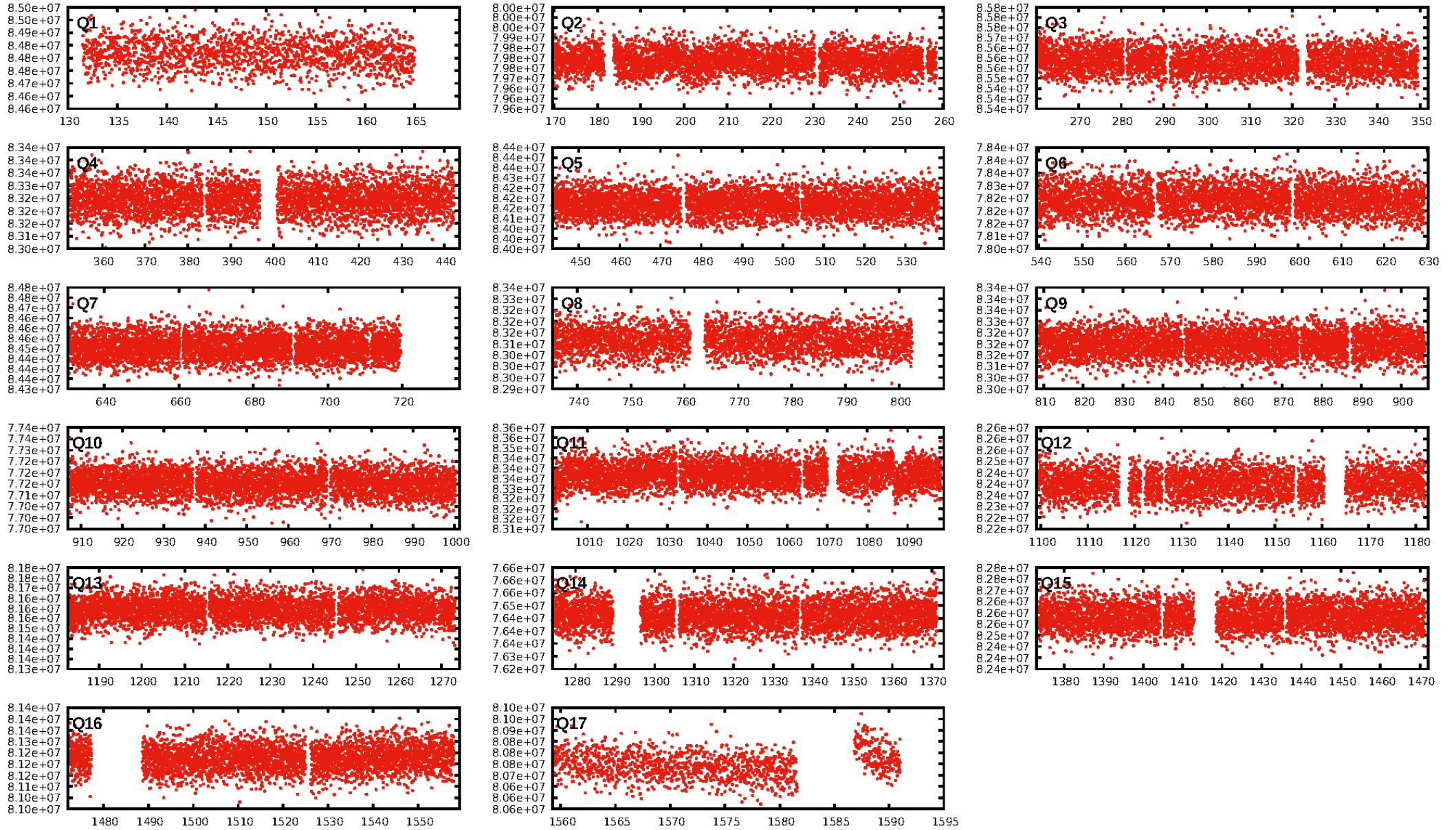
DV Fit Results:

Period = 2.18914 [0.00010] d
Epoch = 133.2440 [0.0355] BKJD
Rp/R* = 0.0073 [0.0004]
a/R* = 1.01 [0.00]
b = 0.98 [0.01]
Seff = 14019.86 [5261.75]
Teff = 2775 [260] K
Rp = 1.81 [0.53] Re
a = 0.0420 [0.0097] AU
Ag = 0.59 [4.97] [-0.08σ]
Teffp = 3766 [7881] K [0.13σ]

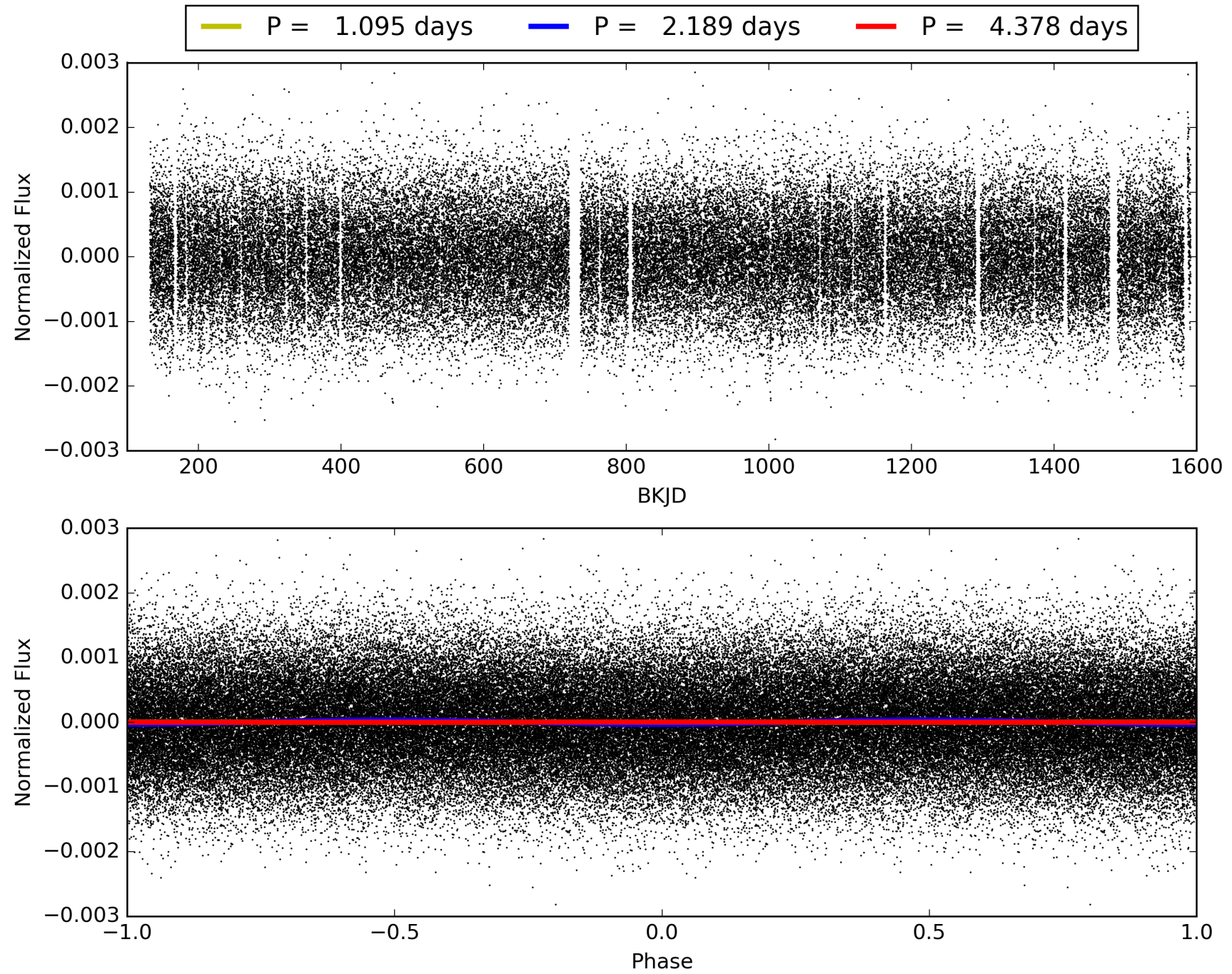
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [609/609]
GhostDiagnostic-chr: 4.056
Centroid-sig: 0.0%
Centroid-so: 1.186 arcsec [2.57σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009228115-01, PDC Light Curves

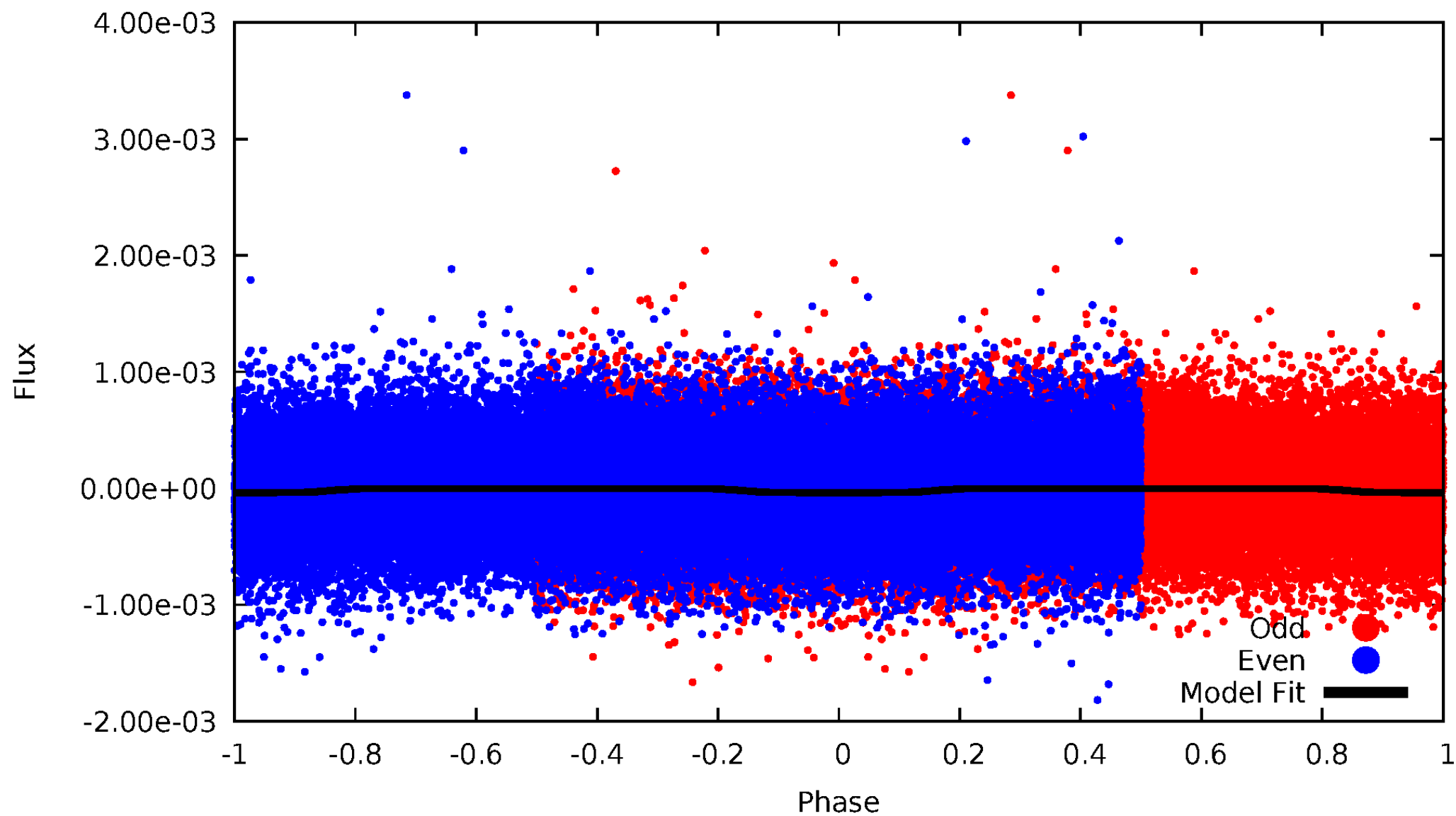


TCE 009228115-01



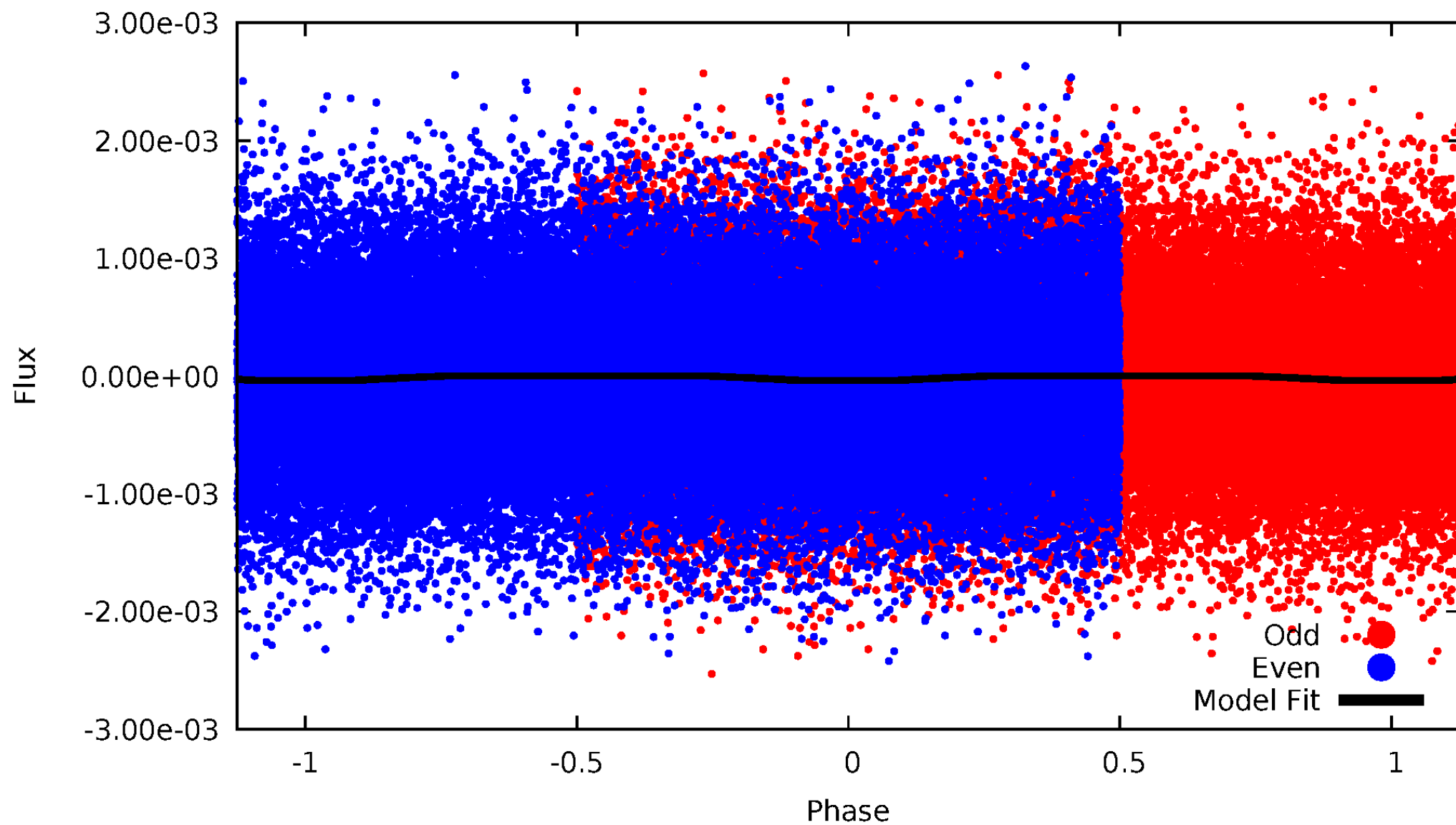
DV Odd/Even

TCE 009228115-01

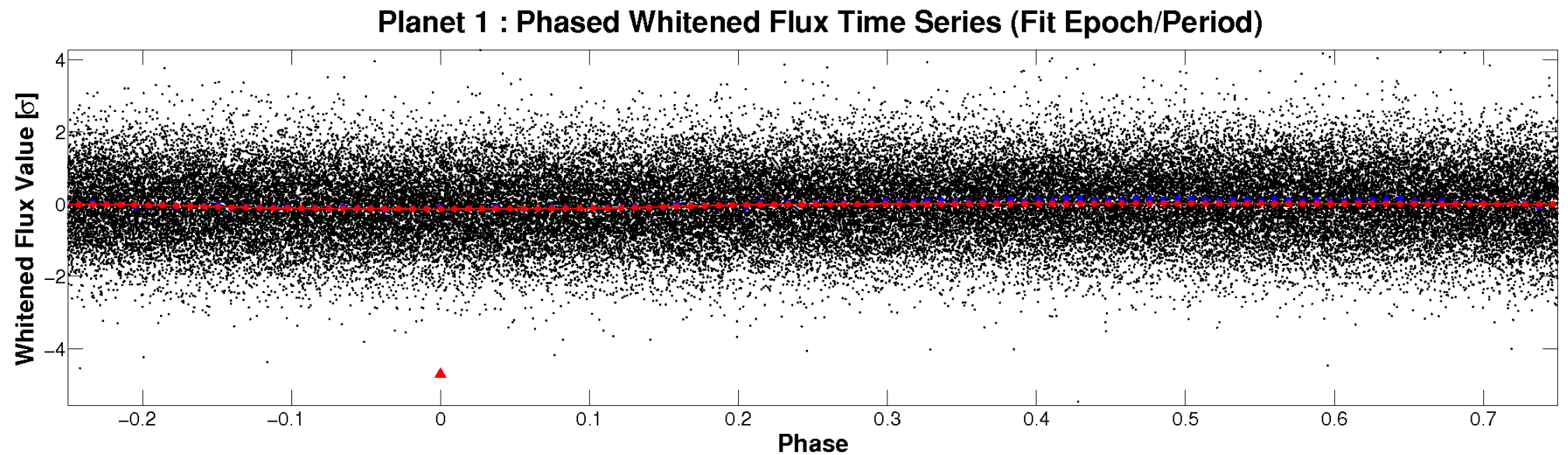
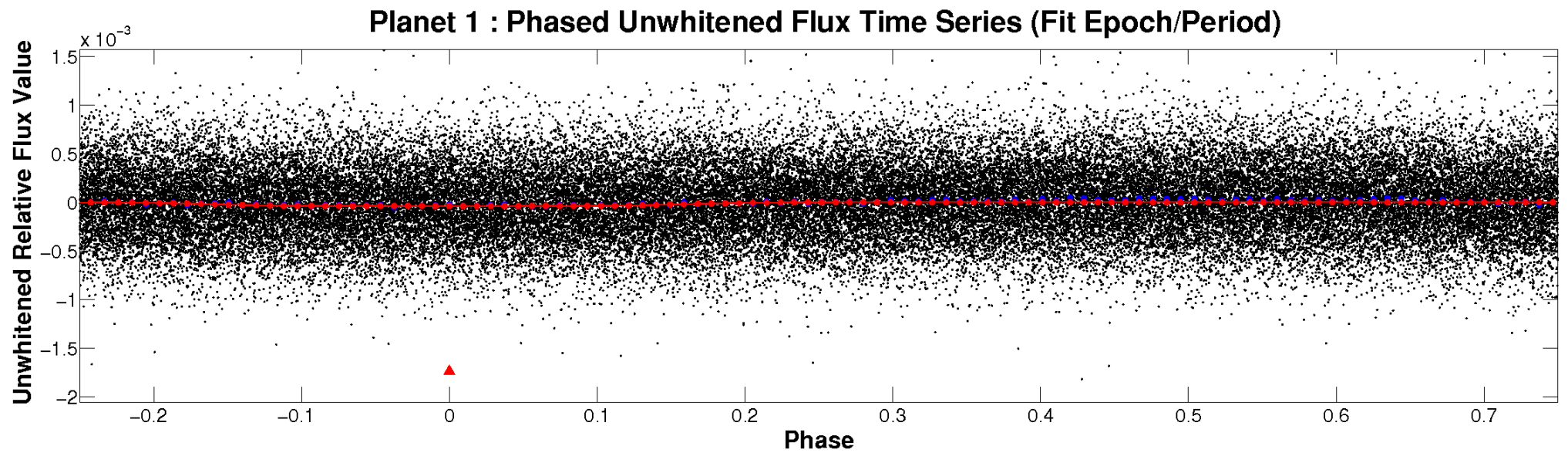


ALT Odd/Even

TCE 009228115-01

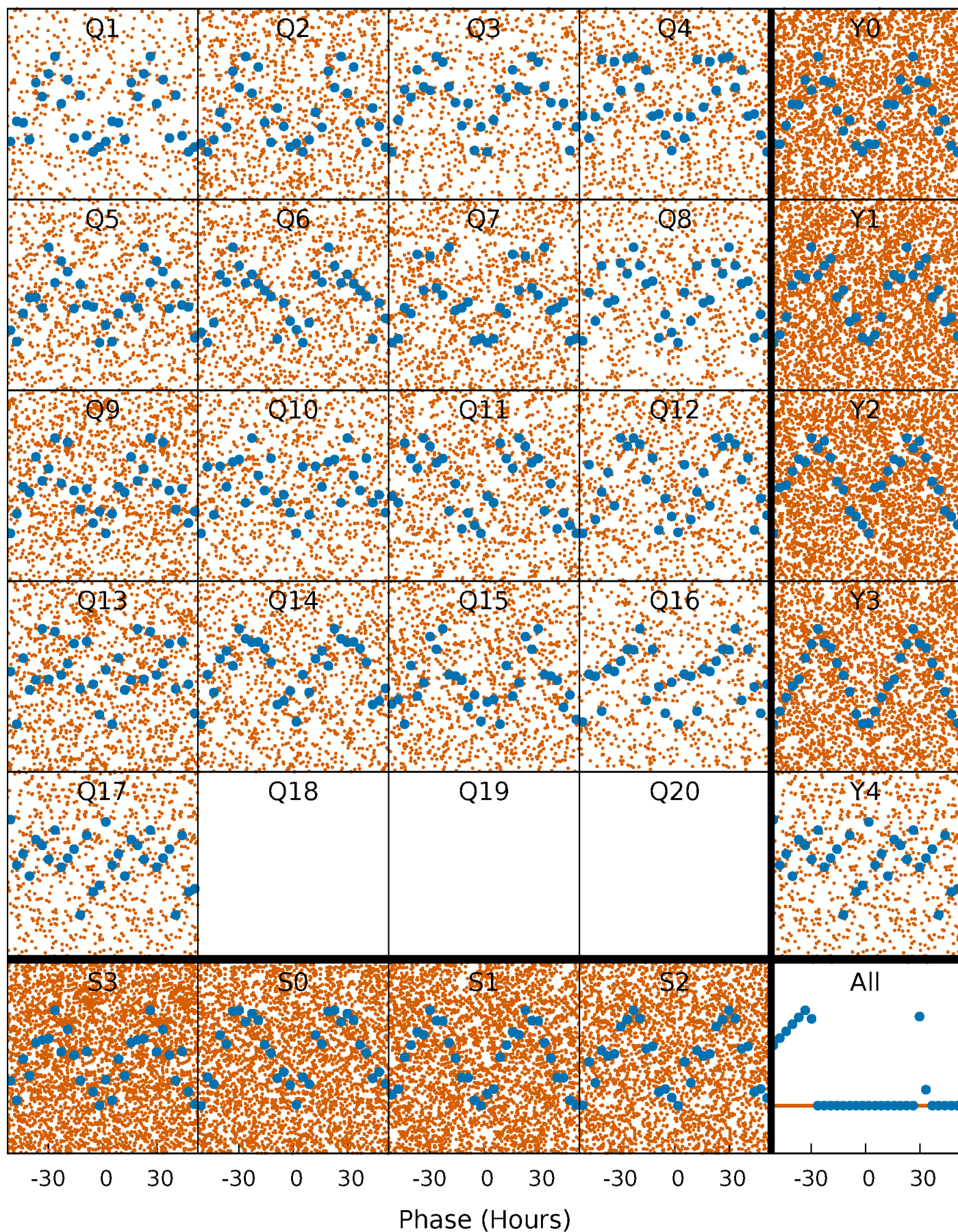


Non-Whitened Vs. Whitened Light Curve



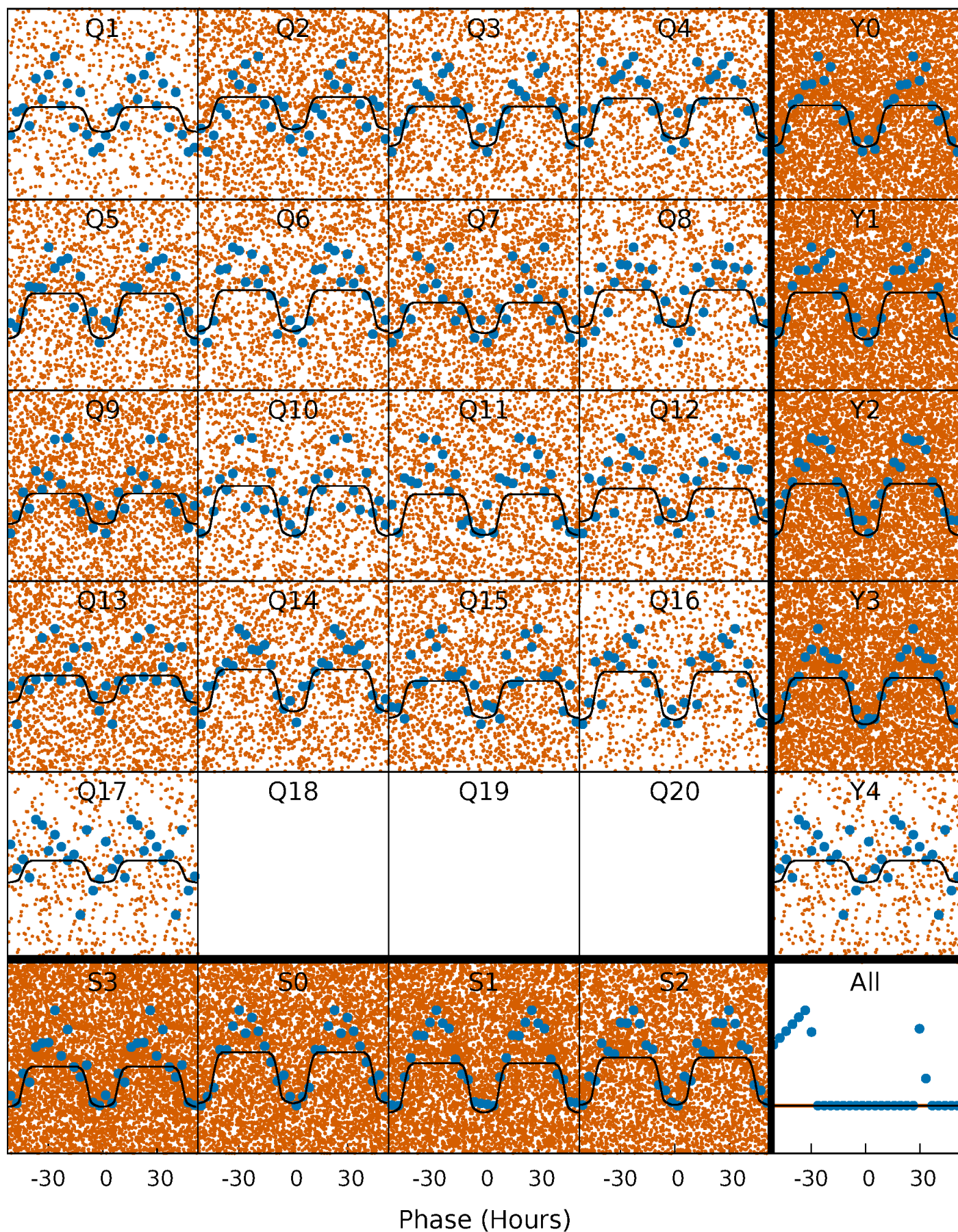
PDC Quarter-Phased Transit Curves

TCE 009228115-01 P= 2.189137 Days $T_0=133.243985$ (BKJD)



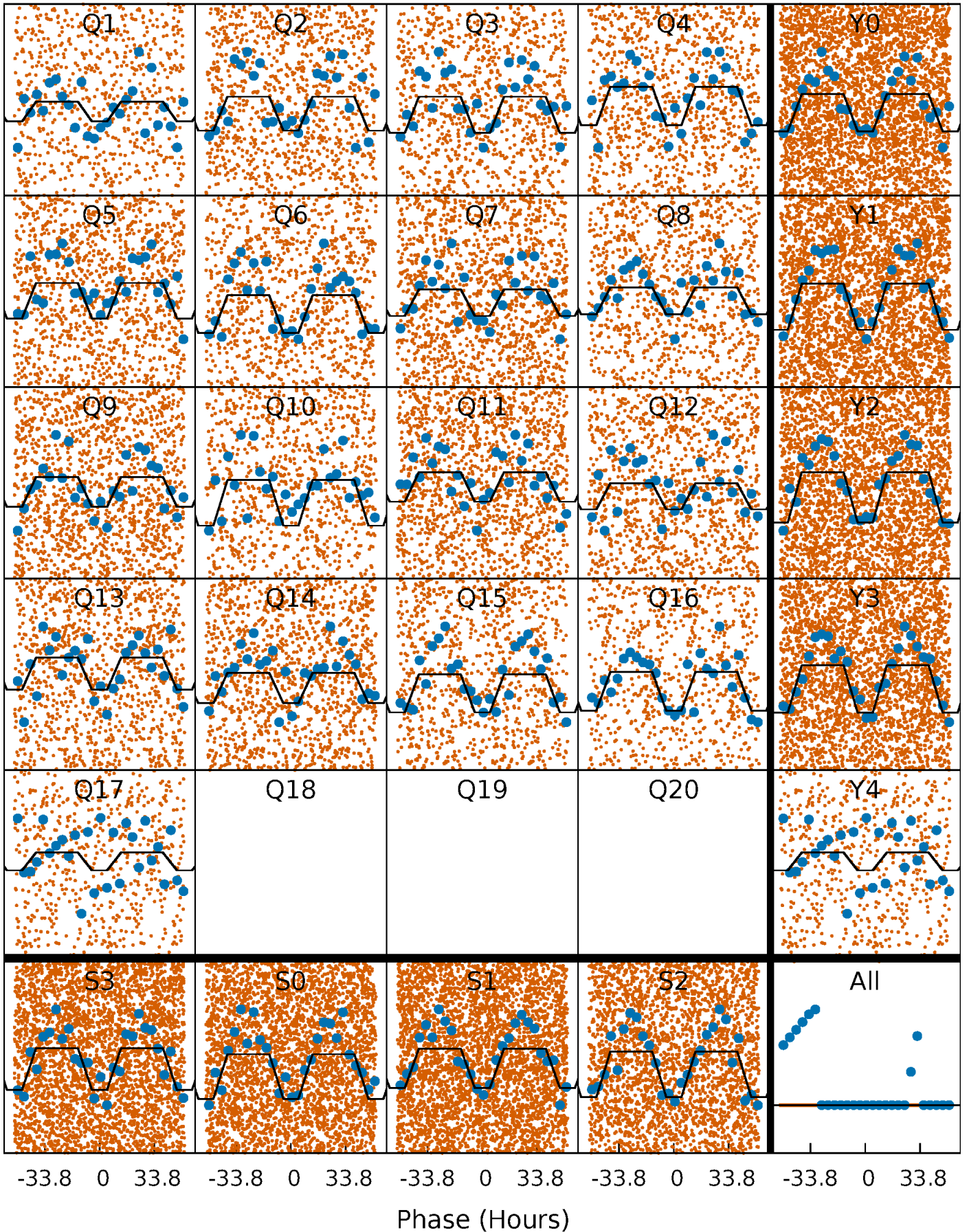
DV Quarter-Phased Transit Curves

TCE 009228115-01 P= 2.189137 Days $T_0=133.243985$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

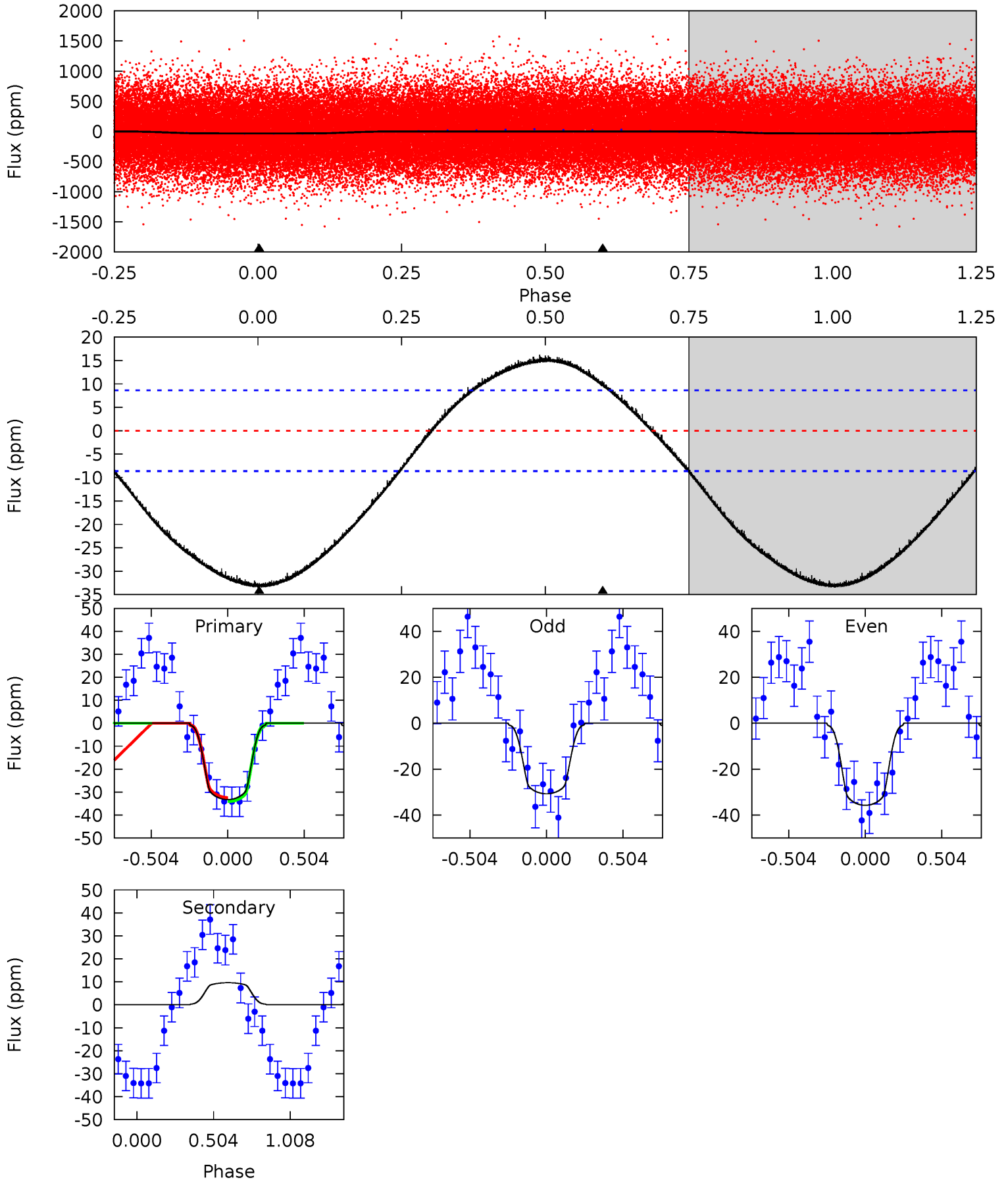
TCE 009228115-01 P= 2.189055 Days $T_0=133.269079$ (BKJD)



DV Model-Shift Uniqueness Test

009228115-01, P = 2.189137 Days, E = 131.054848 Days

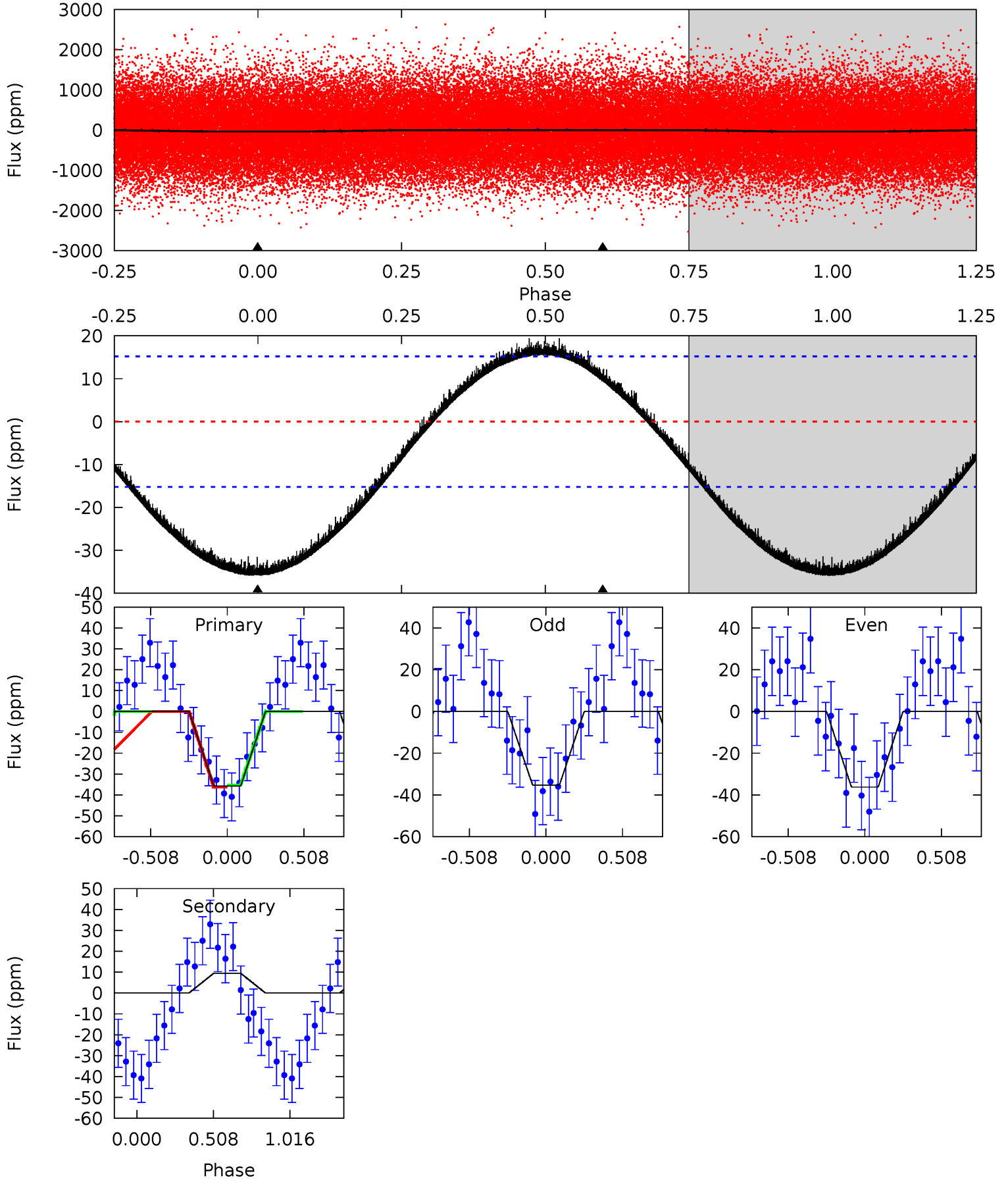
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	-4.69	0	0	4.21	0.67	2.10	16.2	16.2	-4.69	-4.69	1.24	-0.80	0.33	0.40



Alt Model-Shift Uniqueness Test

009228115-01, P = 2.189055 Days, E = 131.080024 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.89	-2.63	0	0	4.21	0.66	1.23	9.89	9.89	-2.63	-2.63	0.13	1.13	0.35	0.13



Stellar Parameters For KIC 009228115

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8564^{+235}_{-404}	$4.042^{+0.171}_{-0.140}$	$0.070^{+0.250}_{-0.550}$	$2.266^{+0.589}_{-0.648}$	$2.061^{+0.331}_{-0.497}$	$0.250^{+0.251}_{-0.110}$
	+3%/-5%	+4%/-3%	+357%/-786%	+26%/-29%	+16%/-24%	+101%/-44%
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 009228115-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	10 ± 2	$1.83^{+0.26}_{-0.27}$	3843^{+296}_{-285}	-5457^{+331}_{-300}	$-2.751^{+0.823}_{-1.081}$
Alt.	9 ± 4	$1.50^{+0.22}_{-0.25}$	3844^{+275}_{-287}	-5908^{+618}_{-592}	$-4.062^{+1.663}_{-2.162}$

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

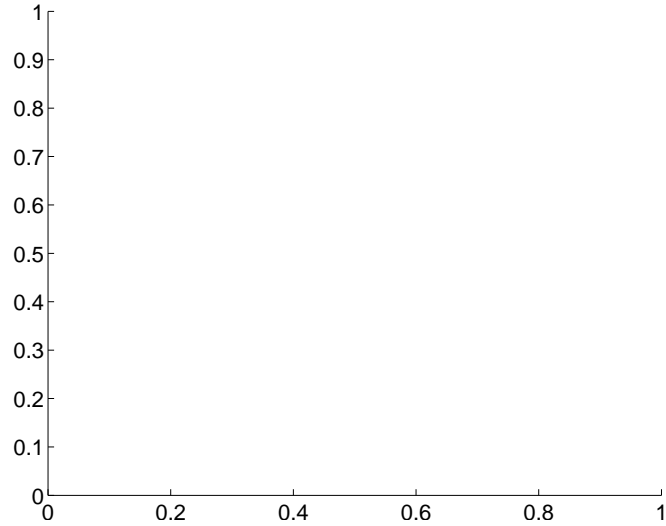
Supplemental centroid analysis for 009228115-01. Kepler magnitude: 13.64. Transit SNR 16.63

There are 0 quarters with good PRF difference image offsets

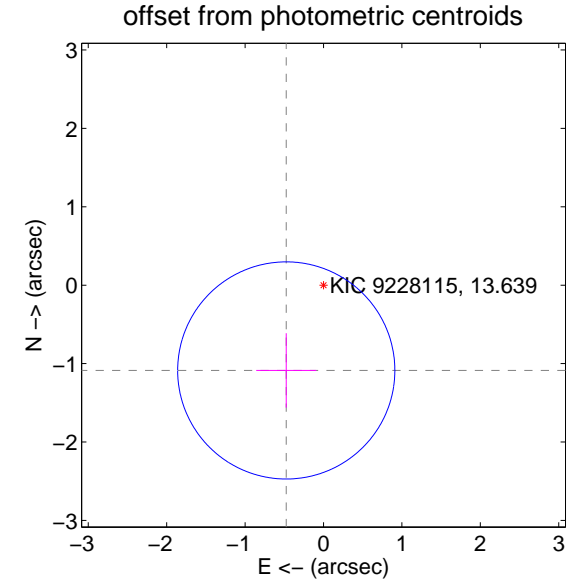
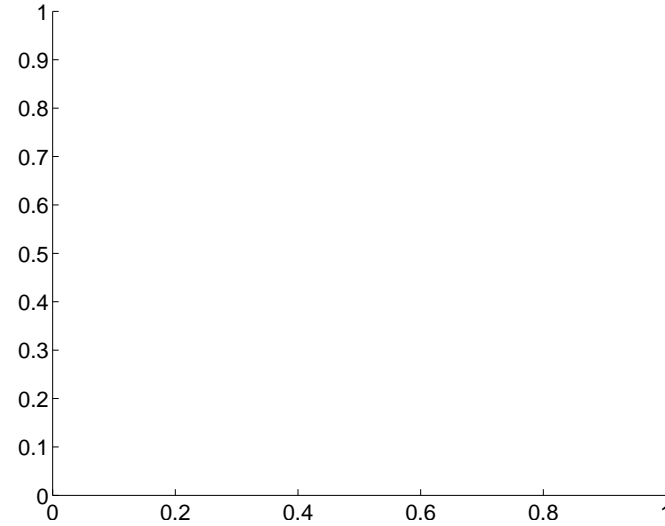
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	1.19 ± 0.46	2.57	0.47 ± 0.38	-1.09 ± 0.48

There is no PRF-fit offset from OOT-fit

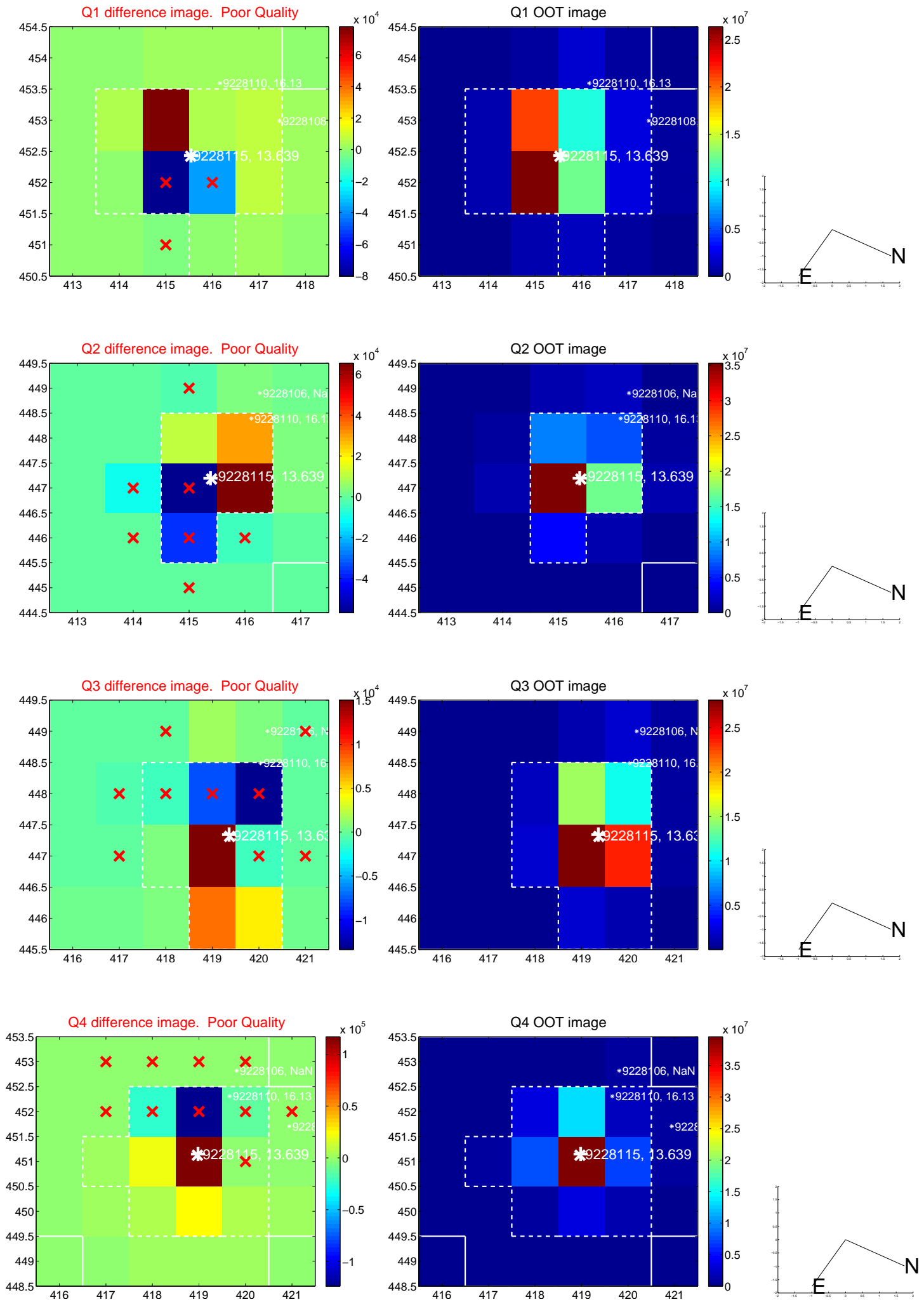


There is no PRF-fit offset from KIC

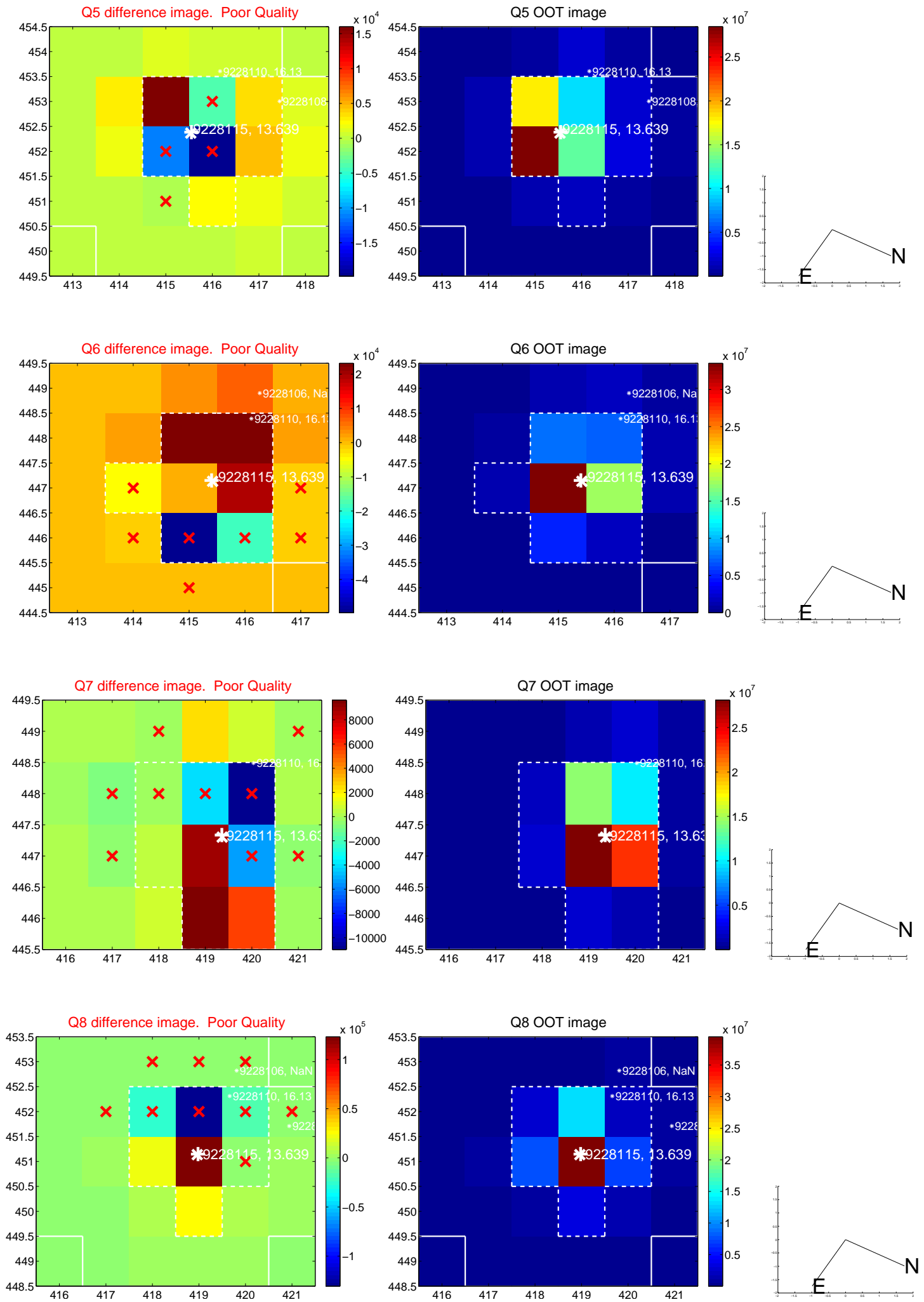


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

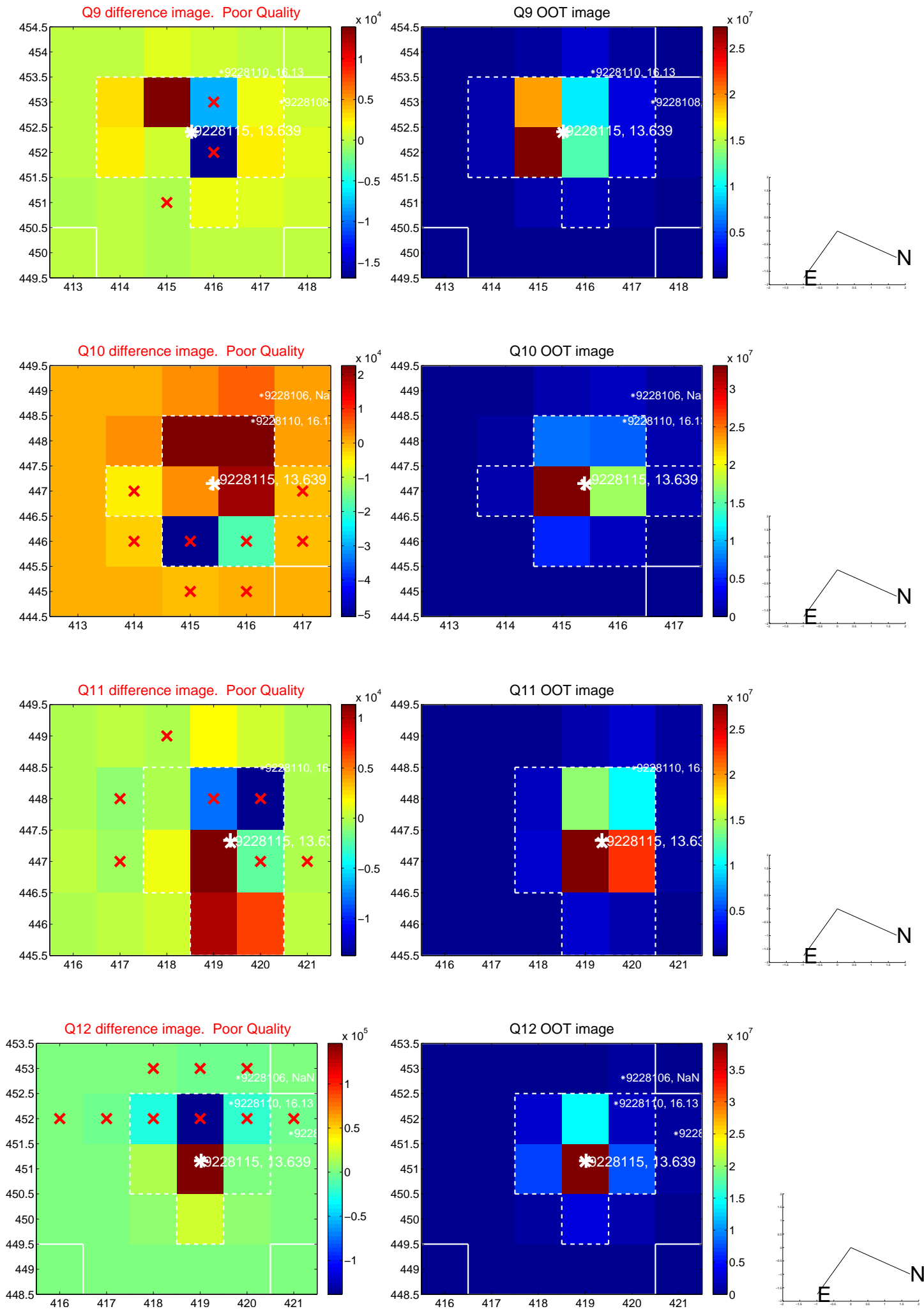
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



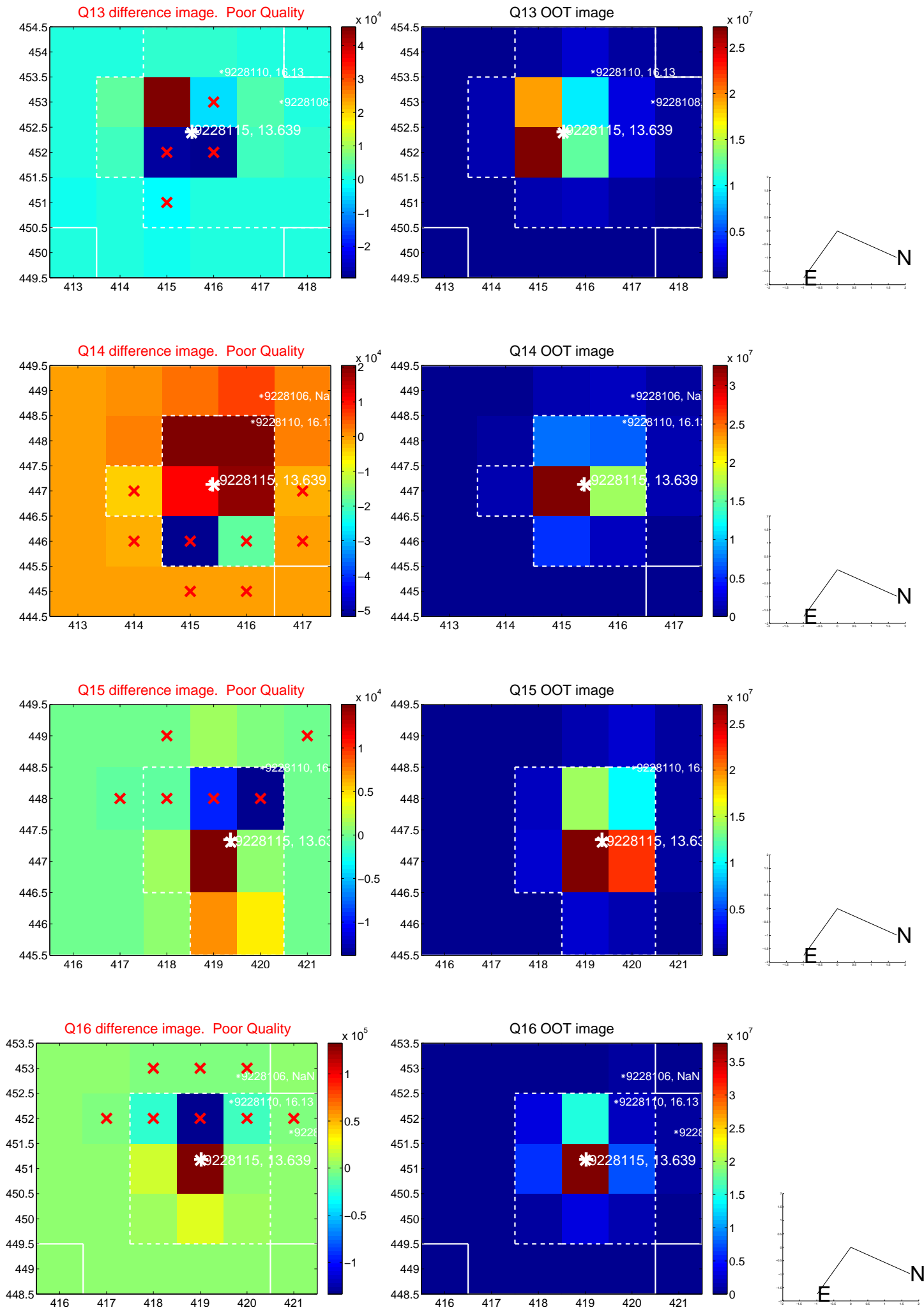
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



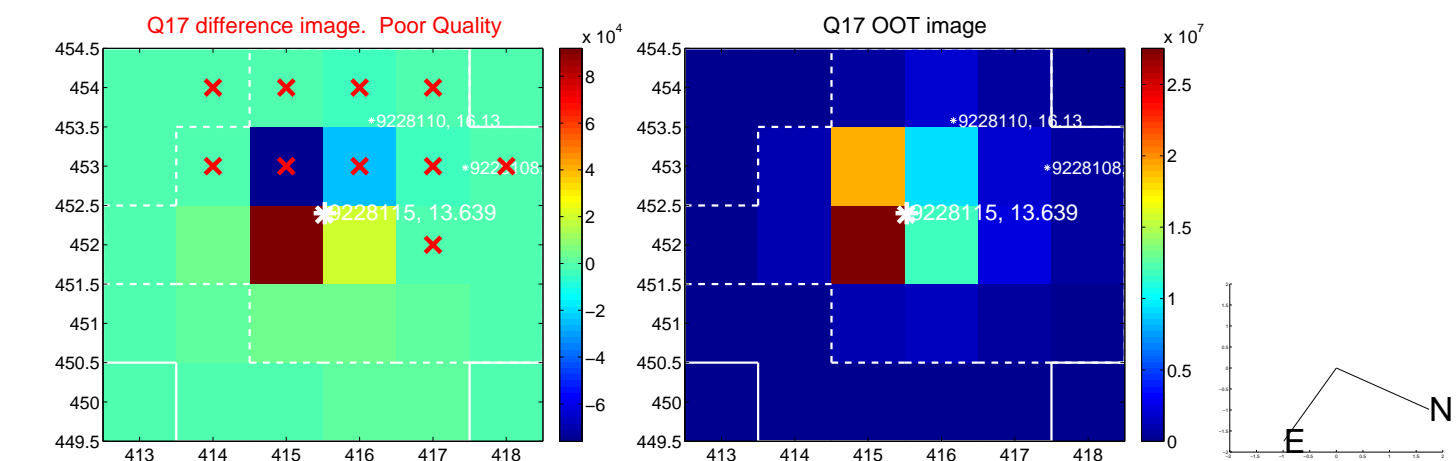
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



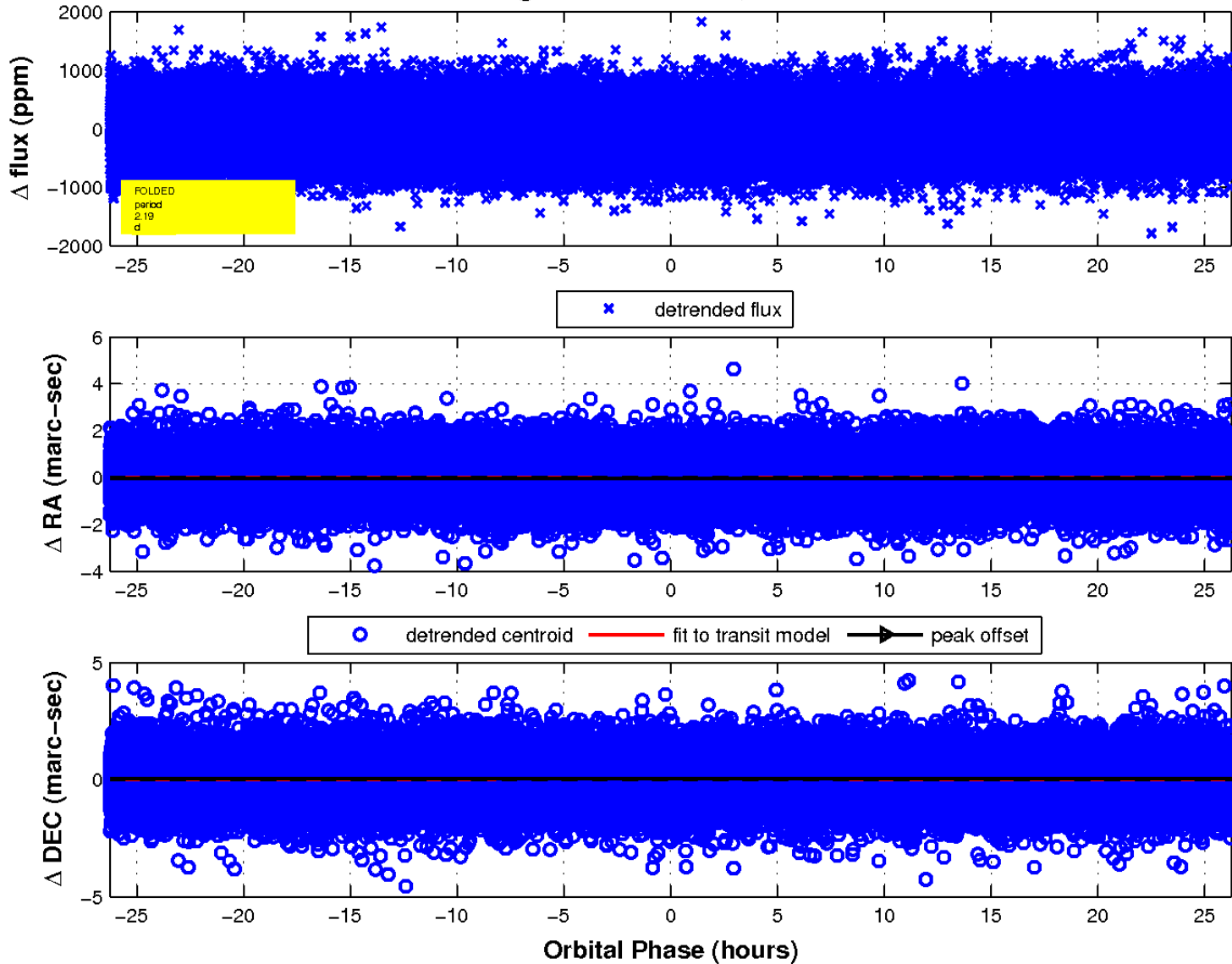
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

