

KIC 010721830

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})
010721830-01	OBS	No	2.762755	133.563568	39.0	26.389	7.6	8.4	0.83	5651	0.54	445.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010721830-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL — LPP_DV — CENT_FEW_DIFFS

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

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

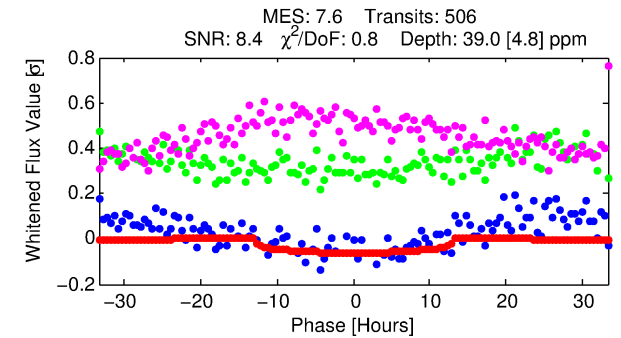
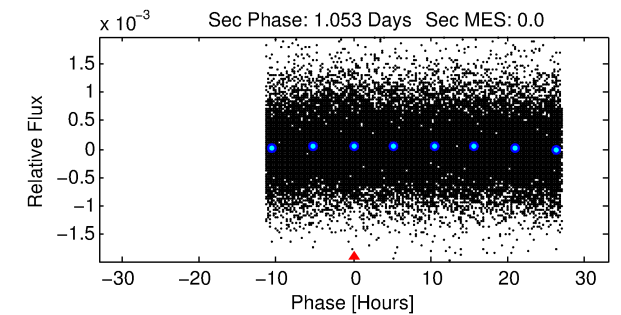
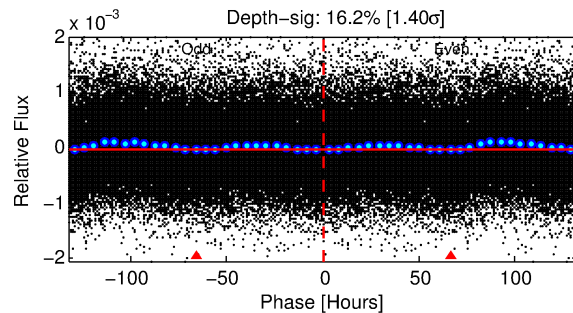
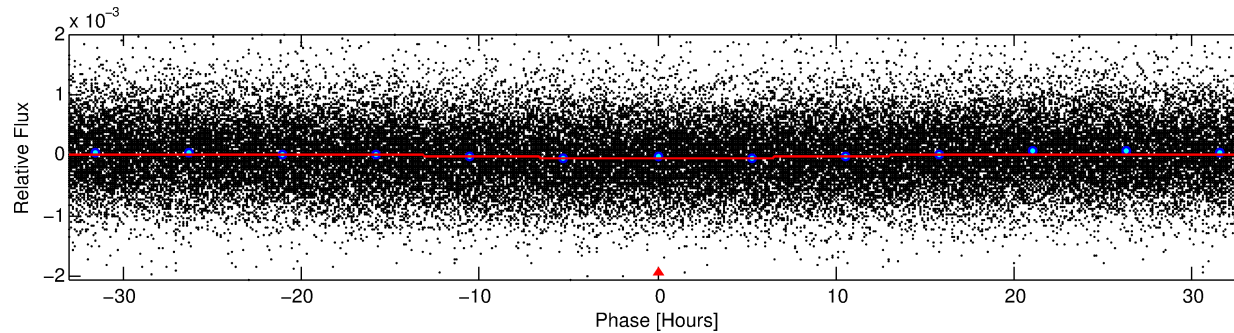
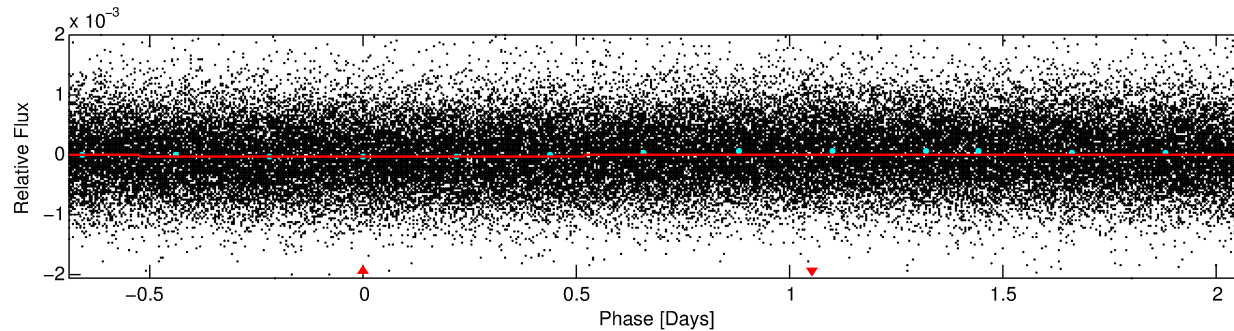
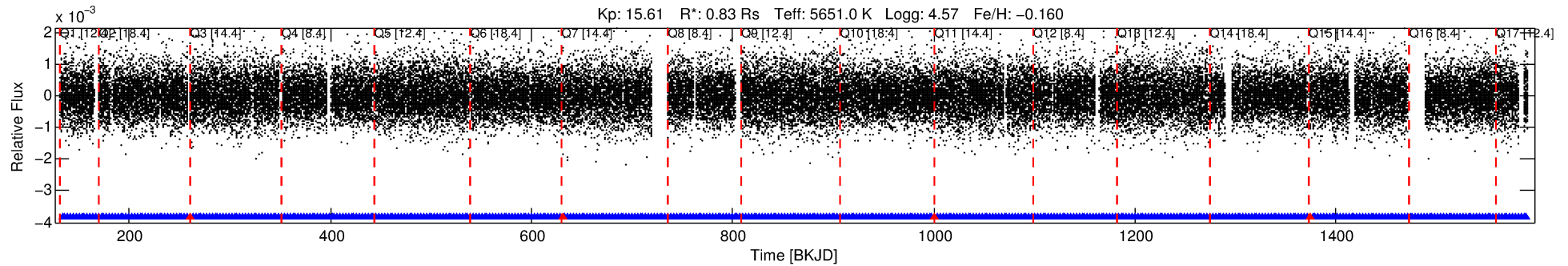
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010721830-01

No Significant Match Found

DV One-Page Summary

KIC: 10721830 Candidate: 1 of 1 Period: 2.763 d



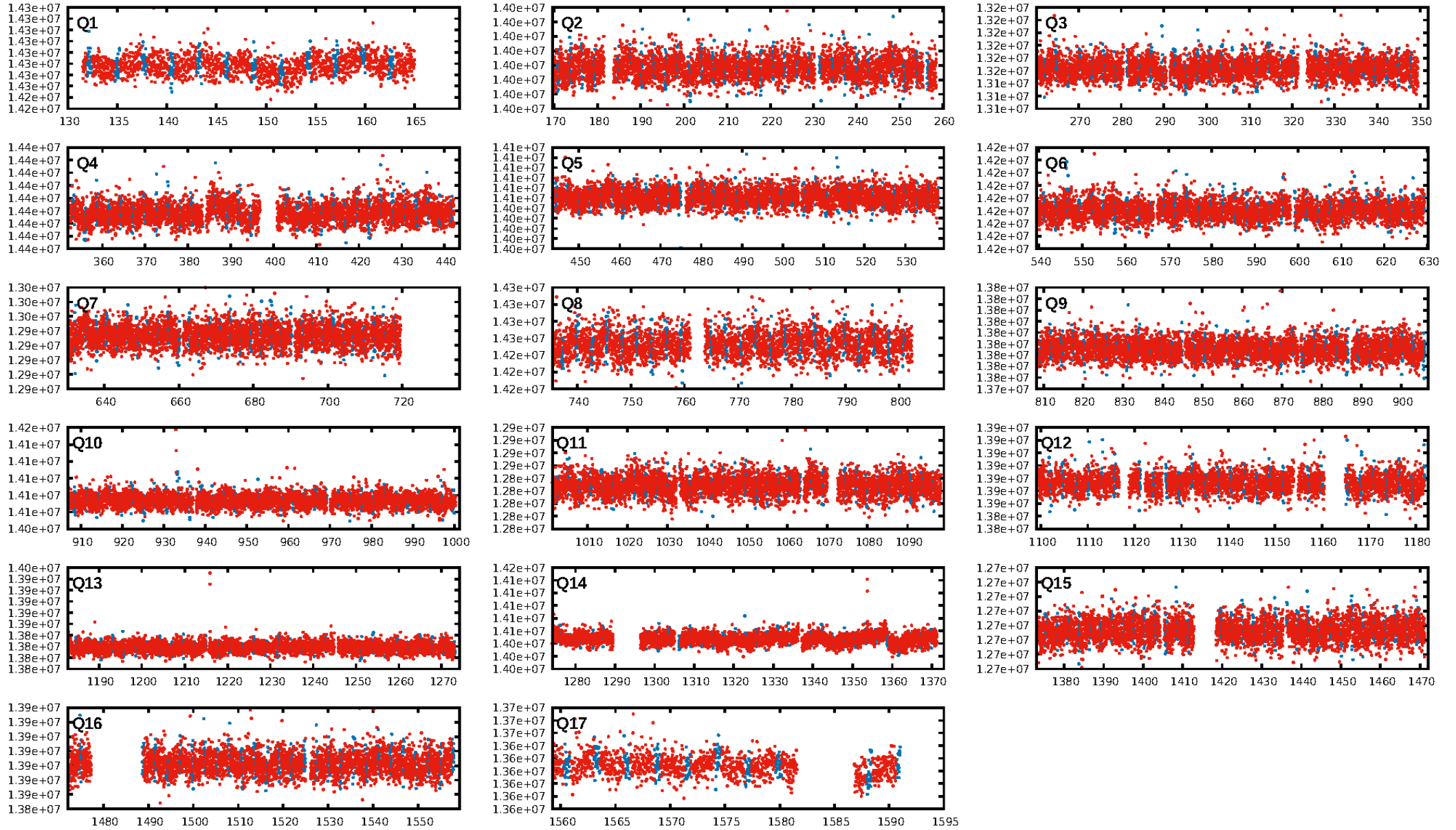
DV Fit Results:

Period = 2.76275 [0.00011] d
Epoch = 133.5636 [0.0274] BKJD
Rp/R* = 0.0059 [0.0040]
a/R* = 1.04 [0.24]
b = 0.60 [3.29]
Seff = 445.94 [151.17]
Teff = 1172 [99] K
Rp = 0.54 [0.39] Re
a = 0.0374 [0.0081] AU
Ag = N/A
Teffp = N/A

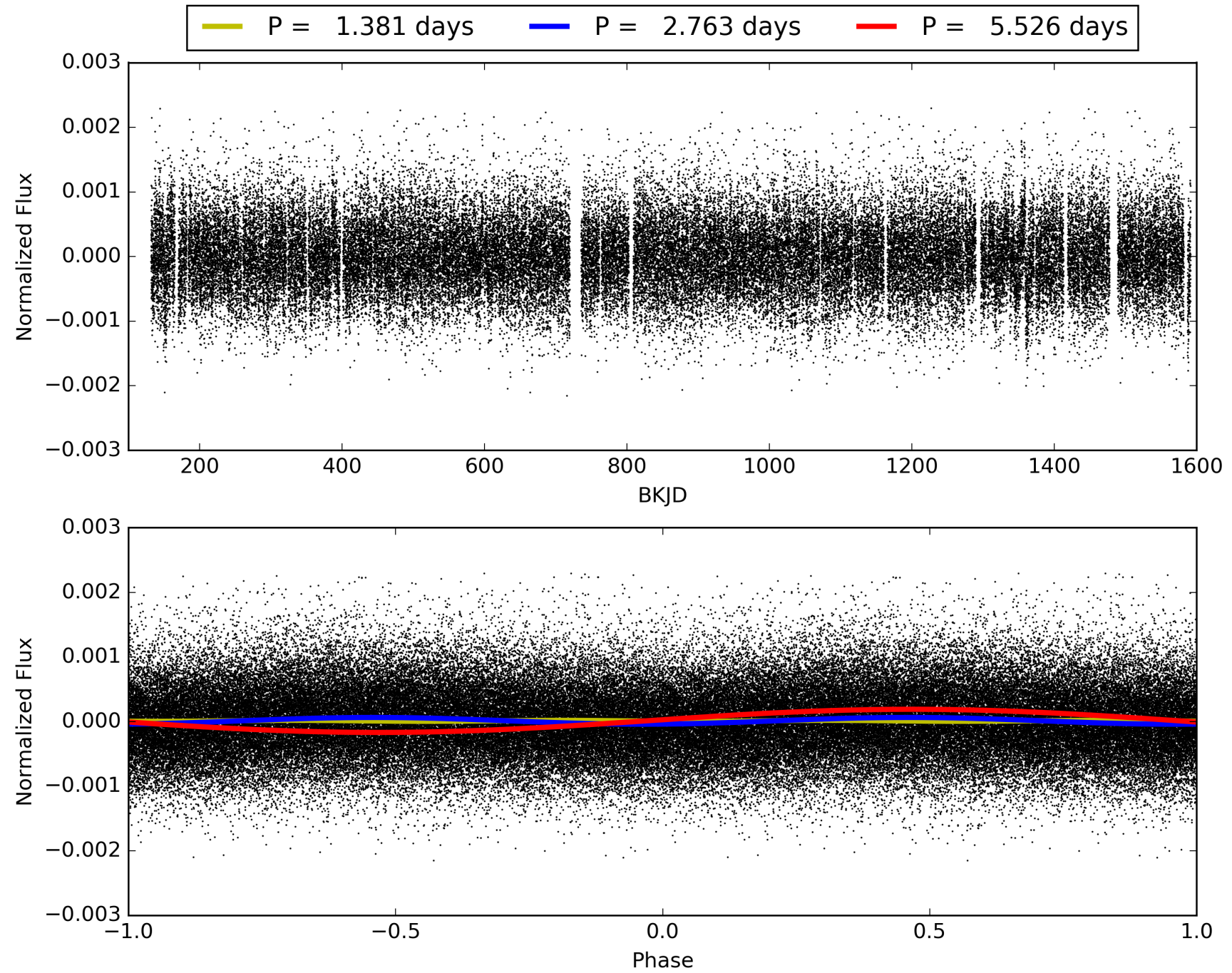
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [479/483]
GhostDiagnostic-chr: 7.036
Centroid-sig: 1.7%
Centroid-so: 3.505 arcsec [2.14 σ]
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 010721830-01, PDC Light Curves

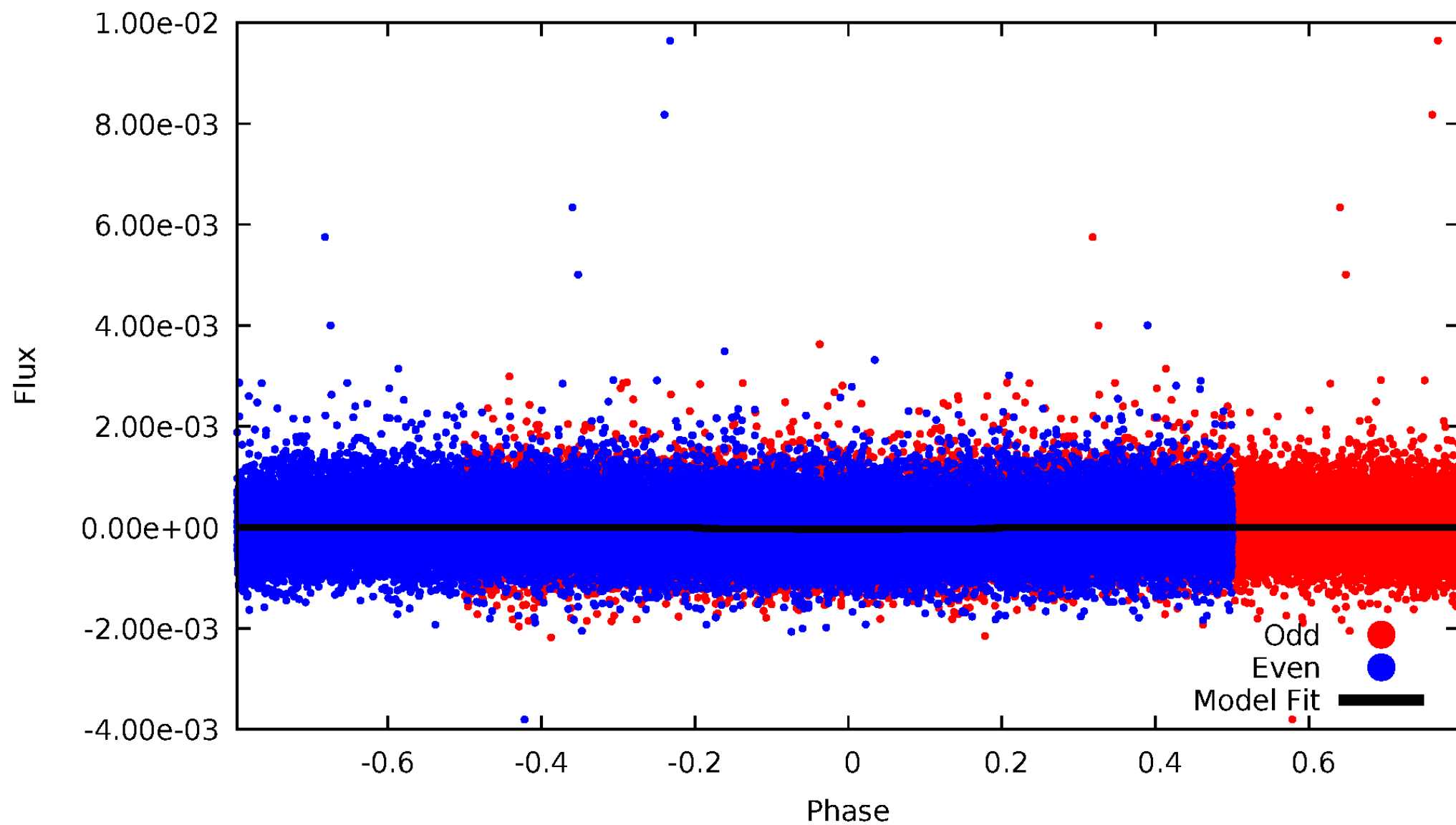


TCE 010721830-01



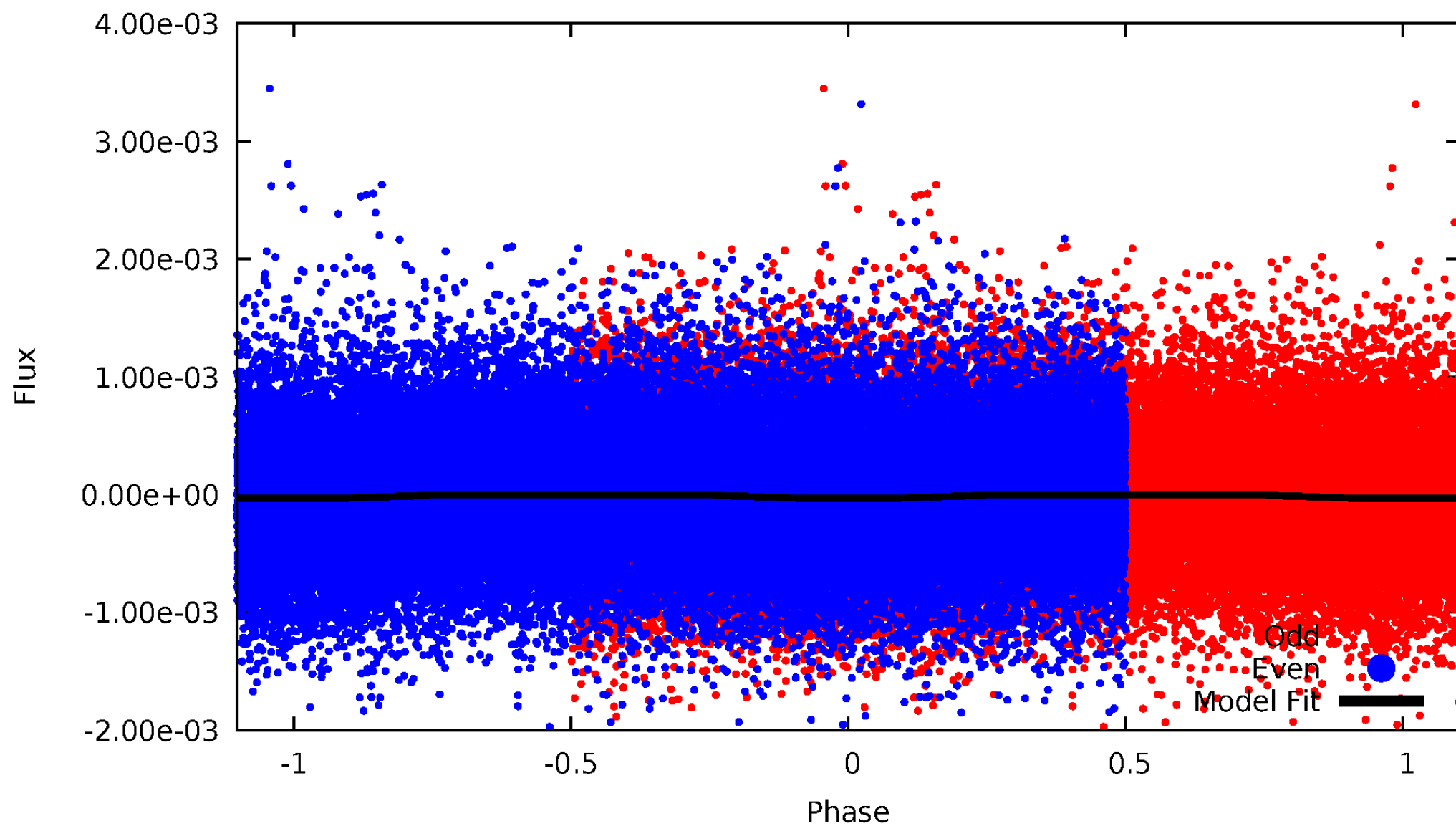
DV Odd/Even

TCE 010721830-01

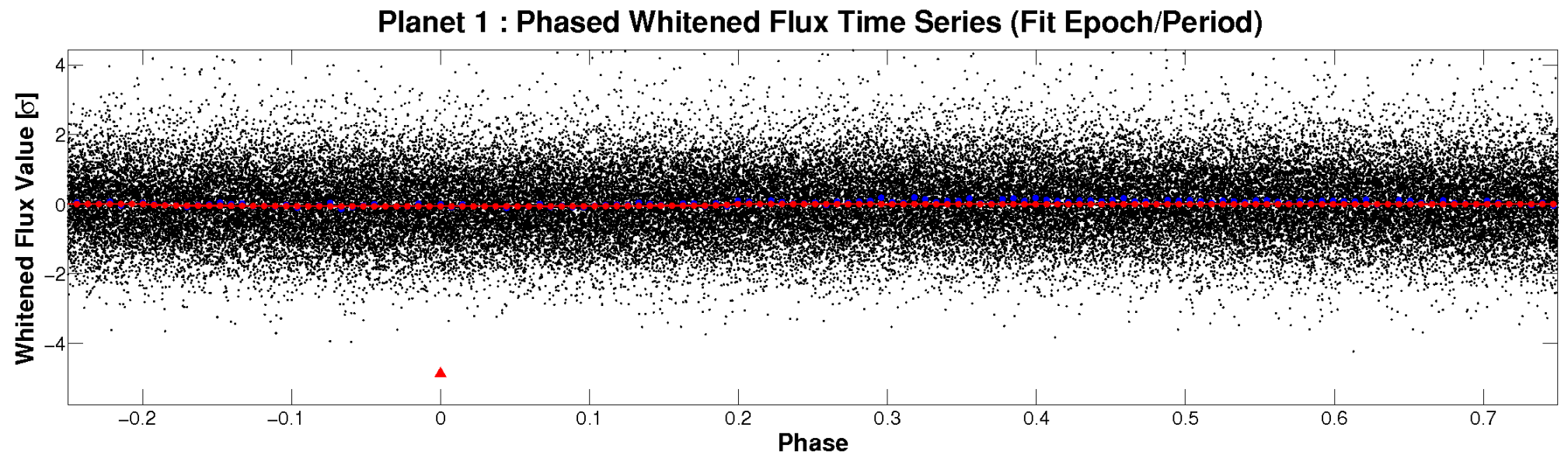
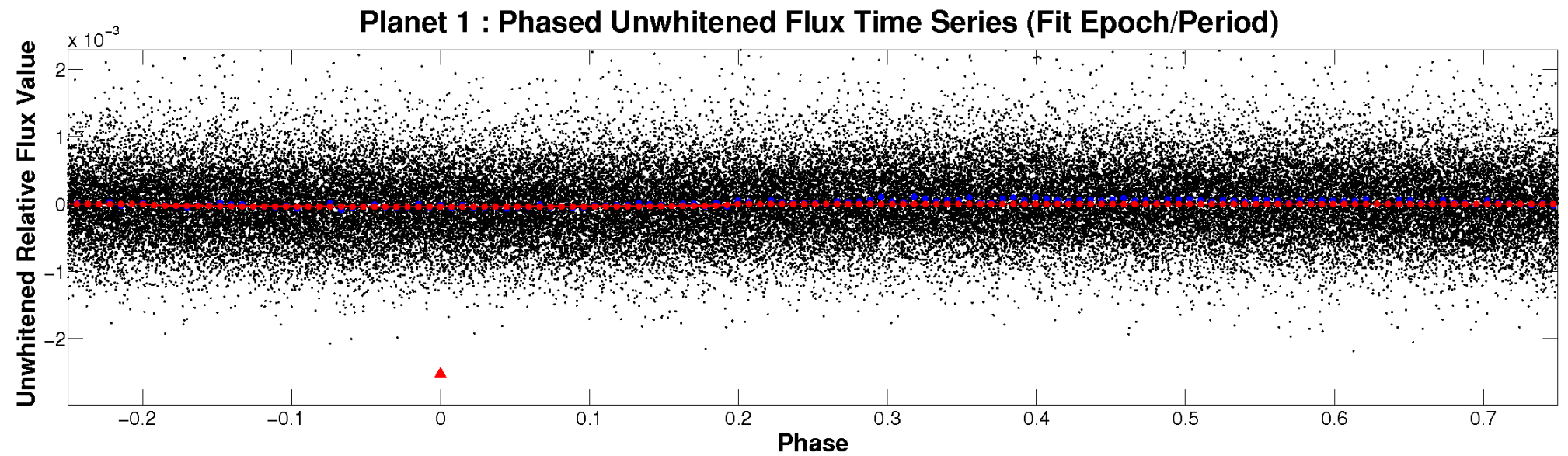


ALT Odd/Even

TCE 010721830-01

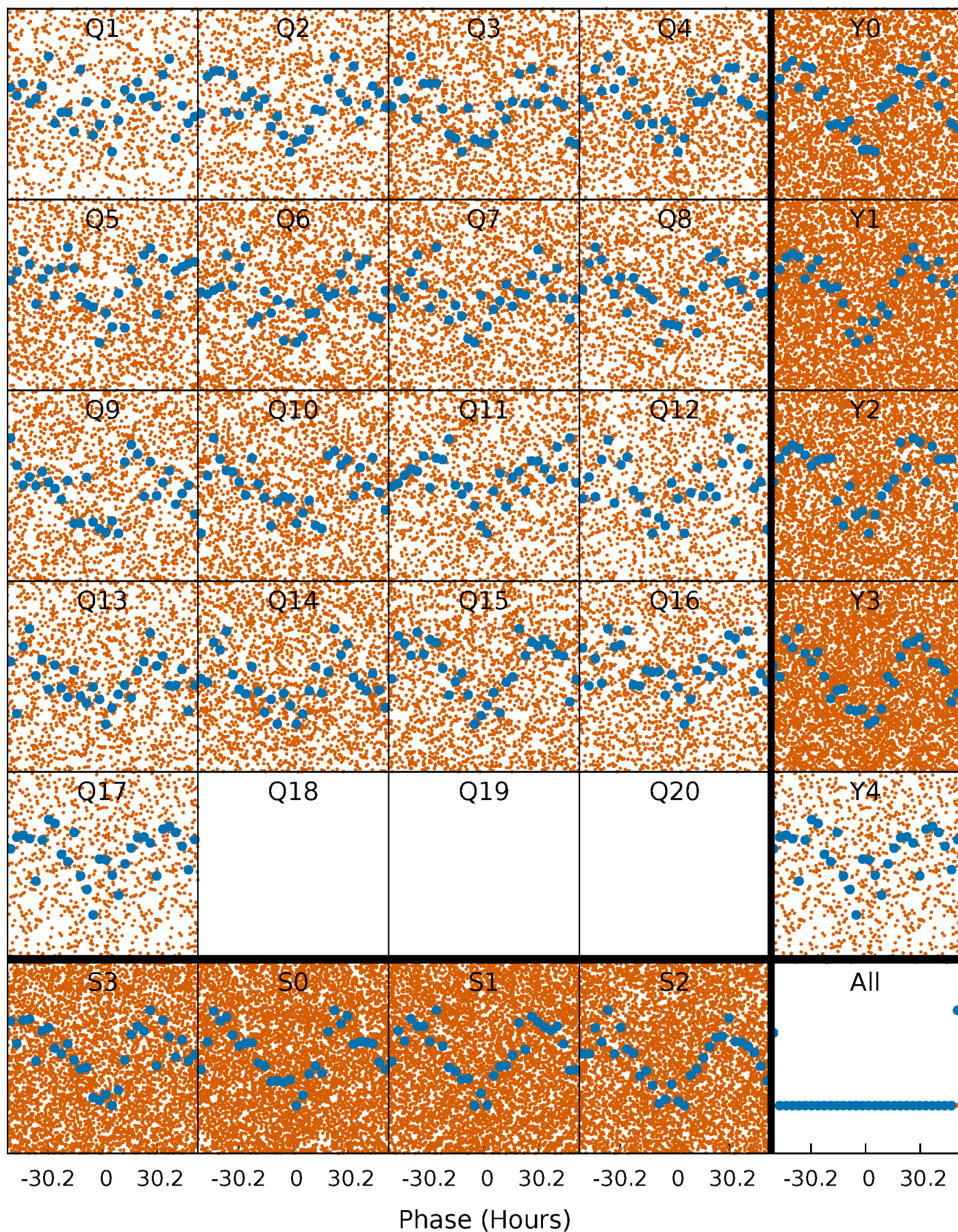


Non-Whitened Vs. Whitened Light Curve



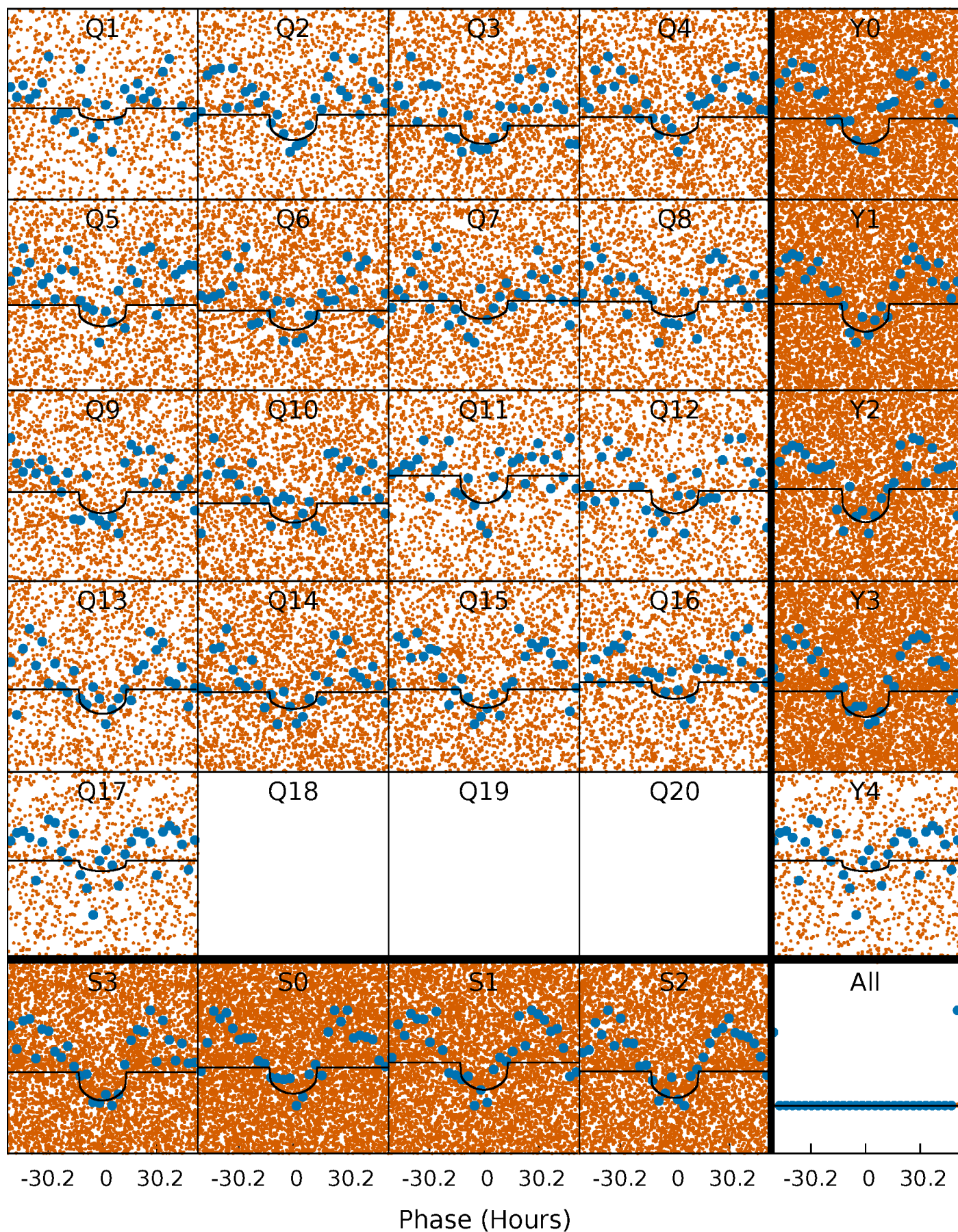
PDC Quarter-Phased Transit Curves

TCE 010721830-01 P= 2.762755 Days $T_0=133.563568$ (BKJD)



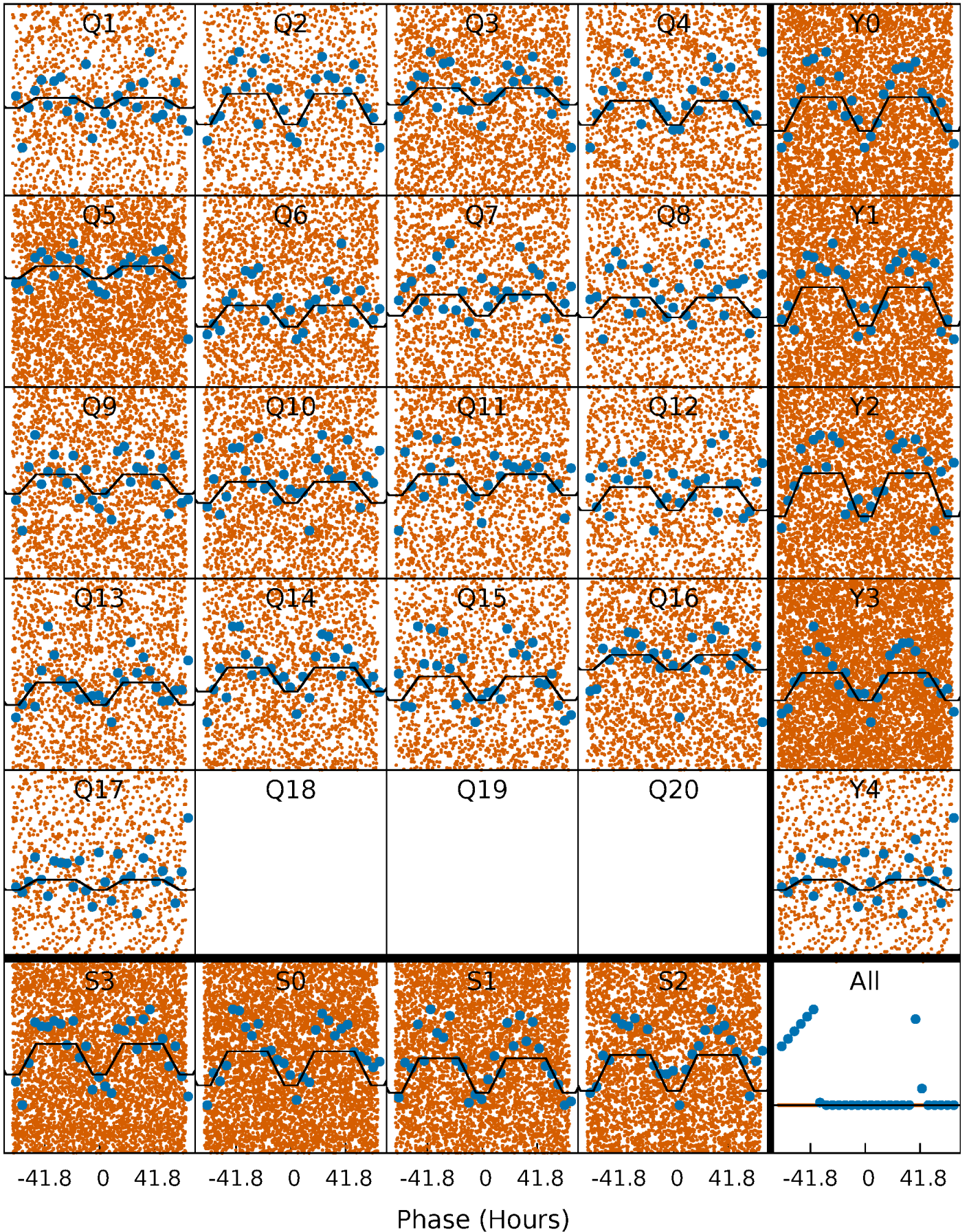
DV Quarter-Phased Transit Curves

TCE 010721830-01 P= 2.762755 Days $T_0=133.563568$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

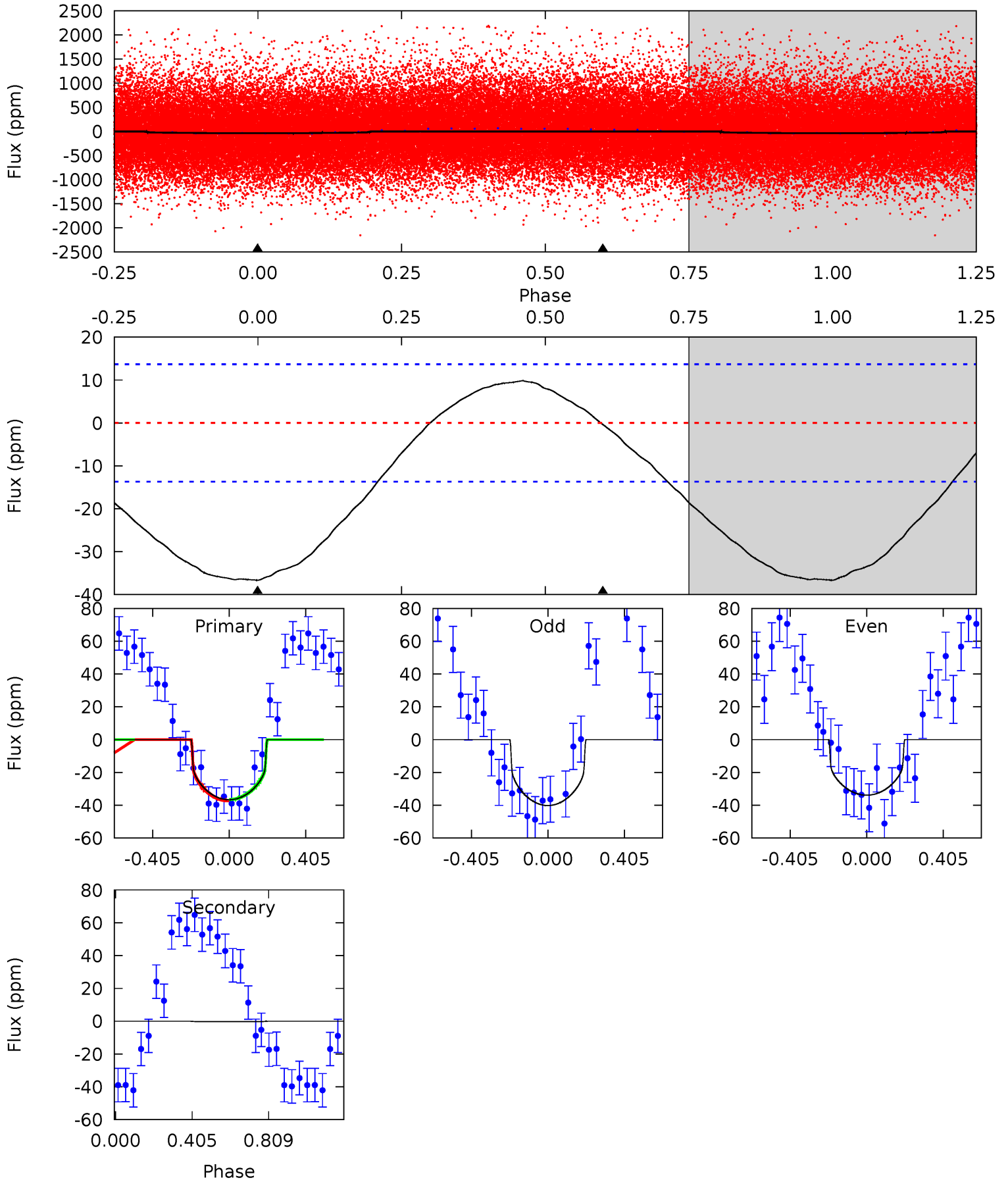
TCE 010721830-01 P= 2.763020 Days $T_0=133.492669$ (BKJD)



DV Model-Shift Uniqueness Test

010721830-01, P = 2.762755 Days, E = 130.800813 Days

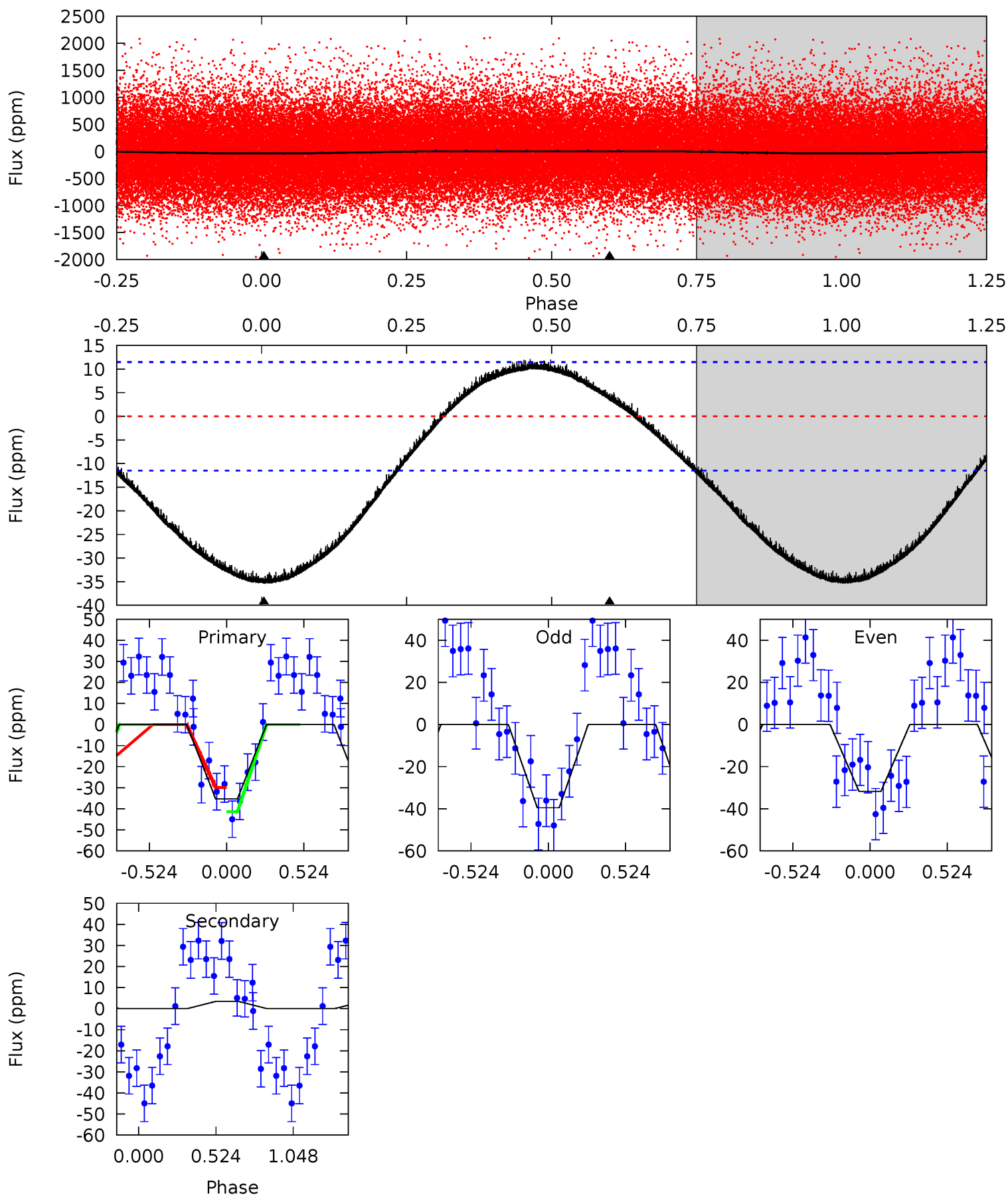
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	0.11	0	0	4.26	0.83	1.14	11.4	11.4	0.11	0.11	0.98	0.95	0.21	0.13



Alt Model-Shift Uniqueness Test

010721830-01, P = 2.763020 Days, E = 130.729649 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	-1.28	0	0	4.20	0.64	1.40	12.9	12.9	-1.28	-1.28	1.40	0.86	0.26	2.06



Stellar Parameters For KIC 010721830

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5651^{+152}_{-152}	$4.565^{+0.032}_{-0.179}$	$-0.160^{+0.300}_{-0.300}$	$0.827^{+0.207}_{-0.069}$	$0.924^{+0.094}_{-0.115}$	$2.299^{+0.388}_{-1.066}$
	+3%/-3%	+1%/-4%	+188%/-188%	+25%/-8%	+10%/-12%	+17%/-46%
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 010721830-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-0 ± 3	$0.60^{+0.38}_{-0.34}$	1675^{+103}_{-69}	1794^{+1908}_{-5499}	$0.322^{+9.446}_{-9.582}$
Alt.	3 ± 3	$0.59^{+0.37}_{-0.34}$	1675^{+97}_{-67}	-3462^{+712}_{-1189}	$-5.954^{+4.935}_{-28.161}$

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

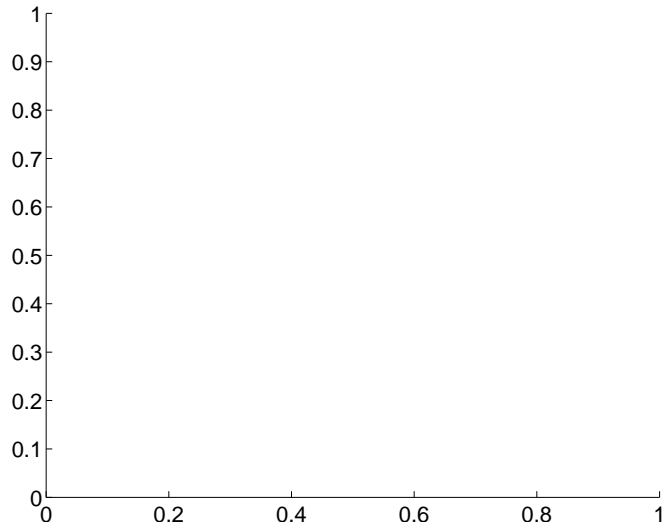
Supplemental centroid analysis for 010721830-01. Kepler magnitude: 15.61. Transit SNR 8.41

There are 0 quarters with good PRF difference image offsets

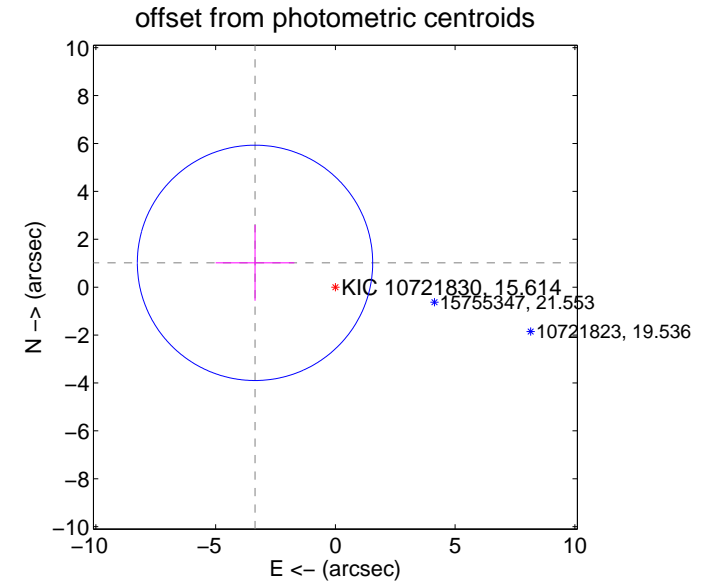
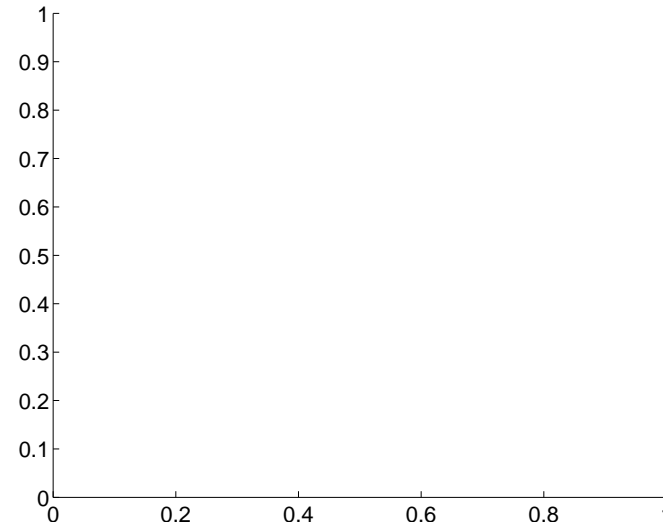
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	3.51 ± 1.64	2.14	3.36 ± 1.64	1.02 ± 1.58

There is no PRF-fit offset from OOT-fit

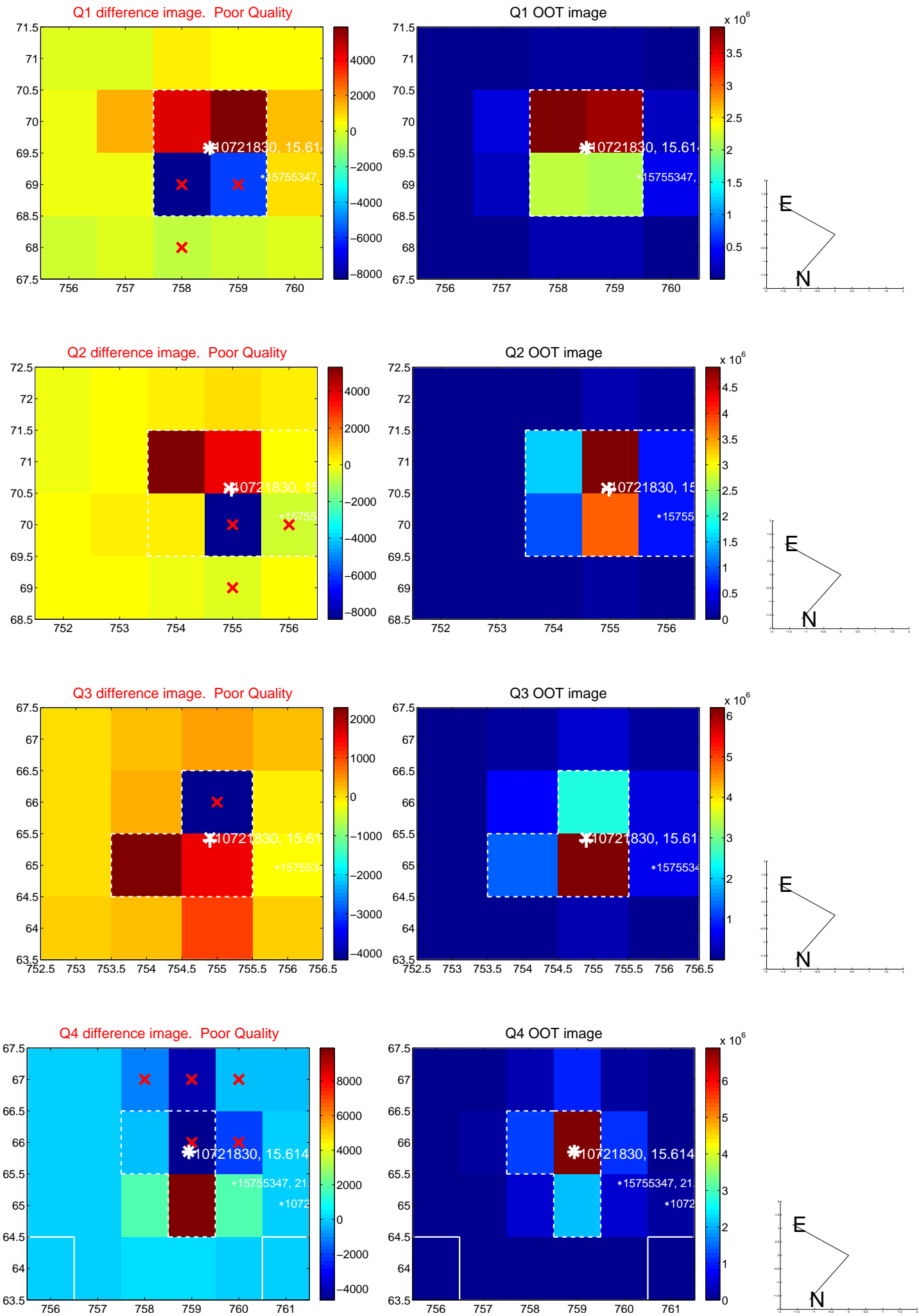


There is no PRF-fit offset from KIC

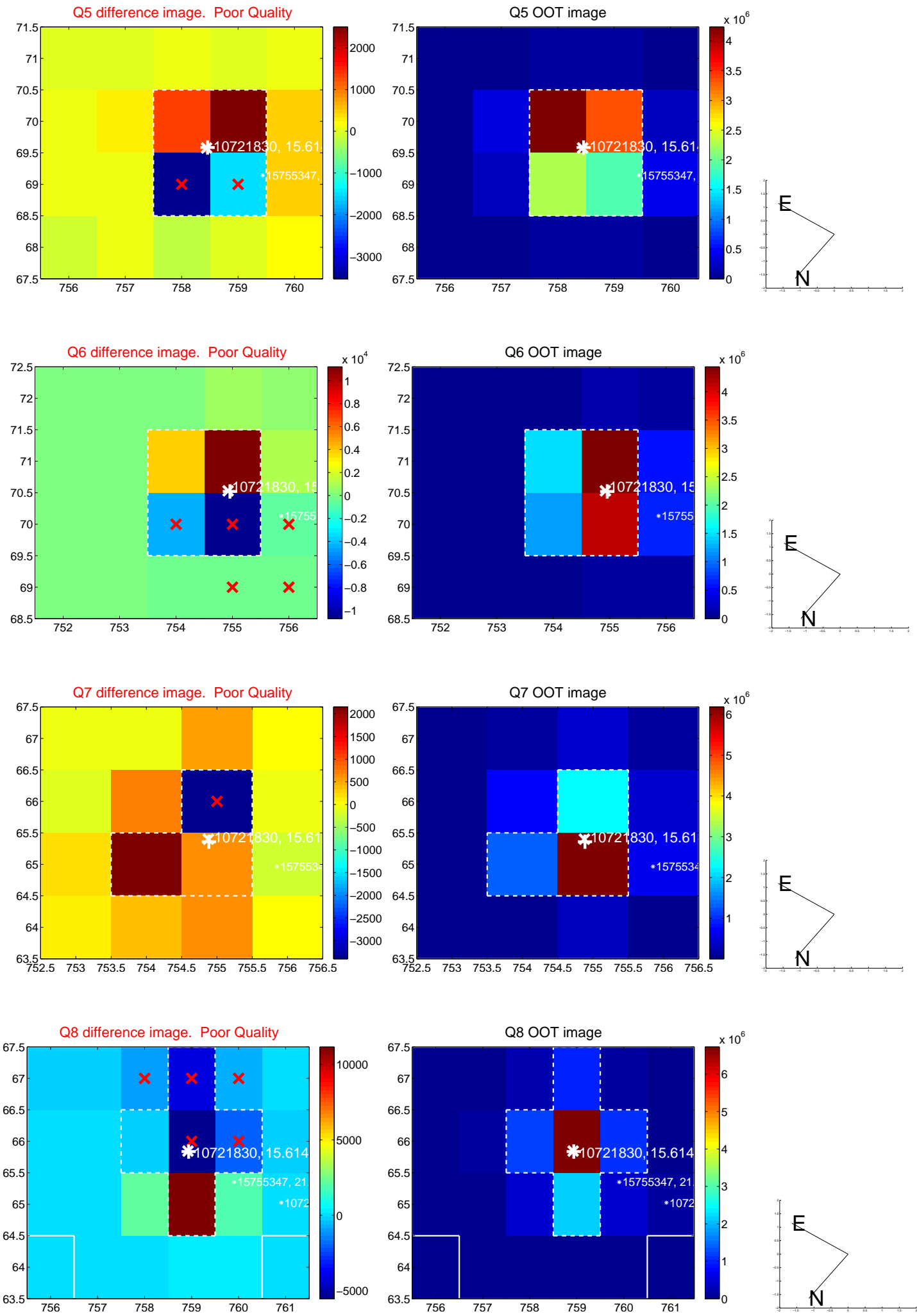


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

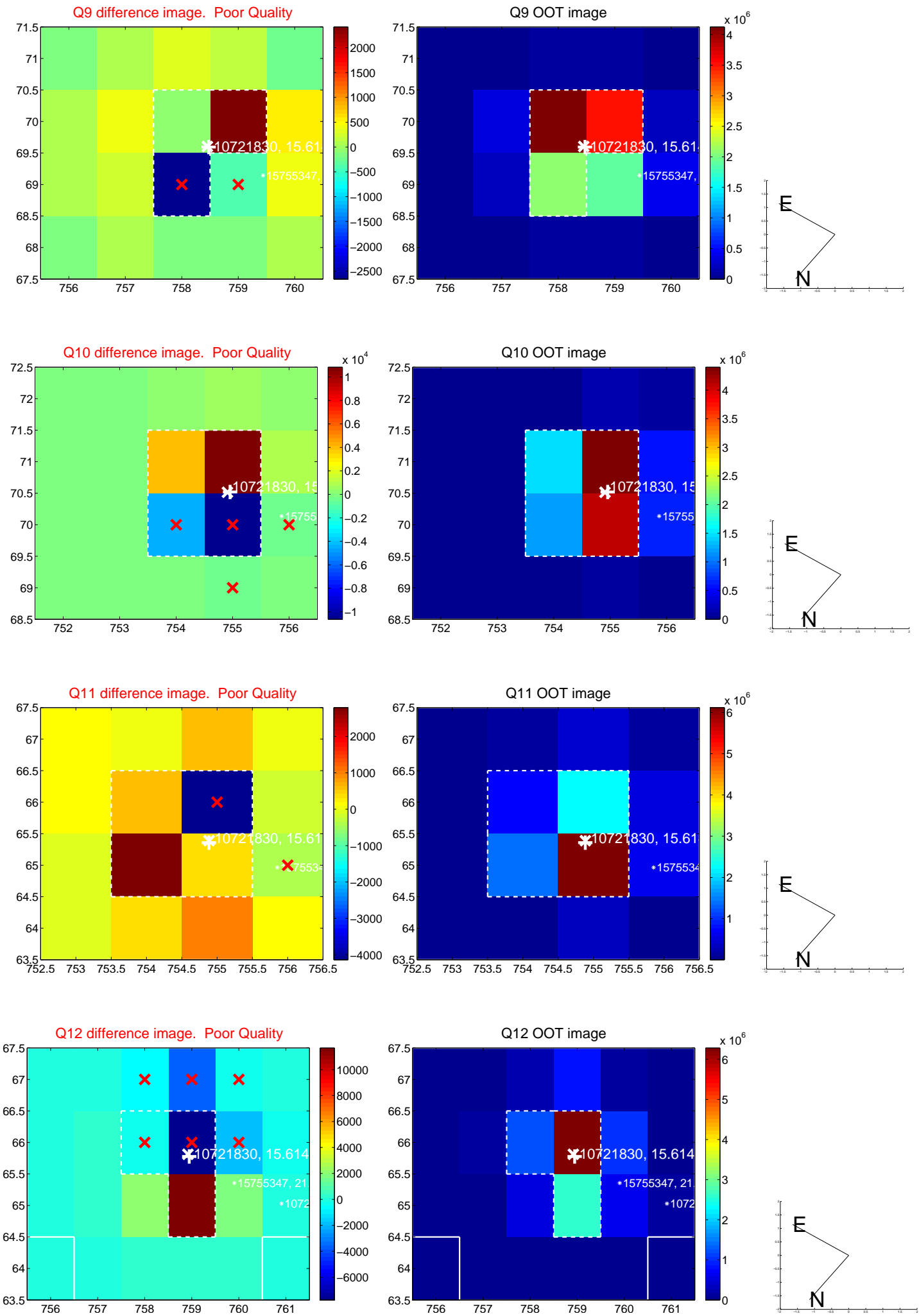
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



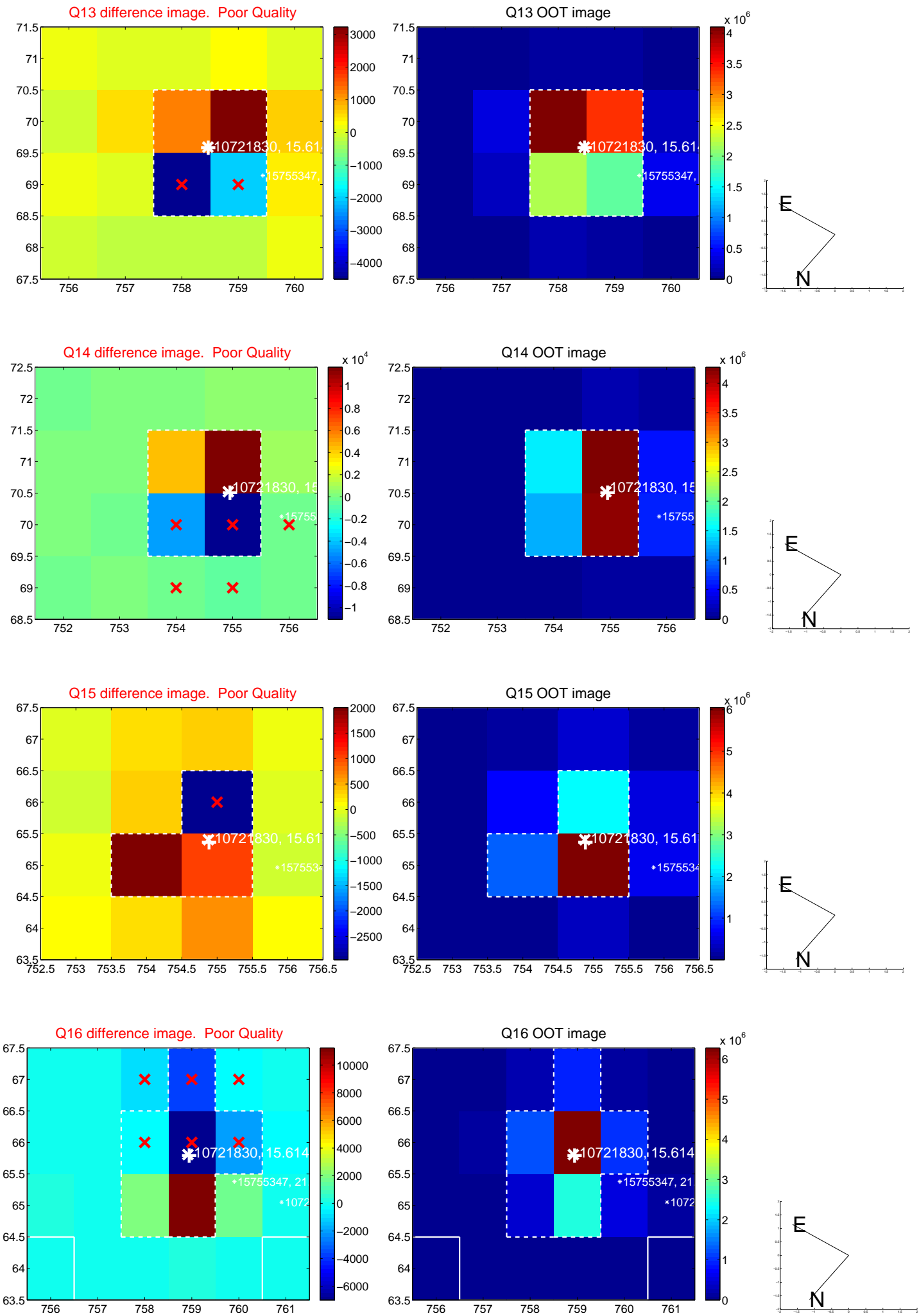
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



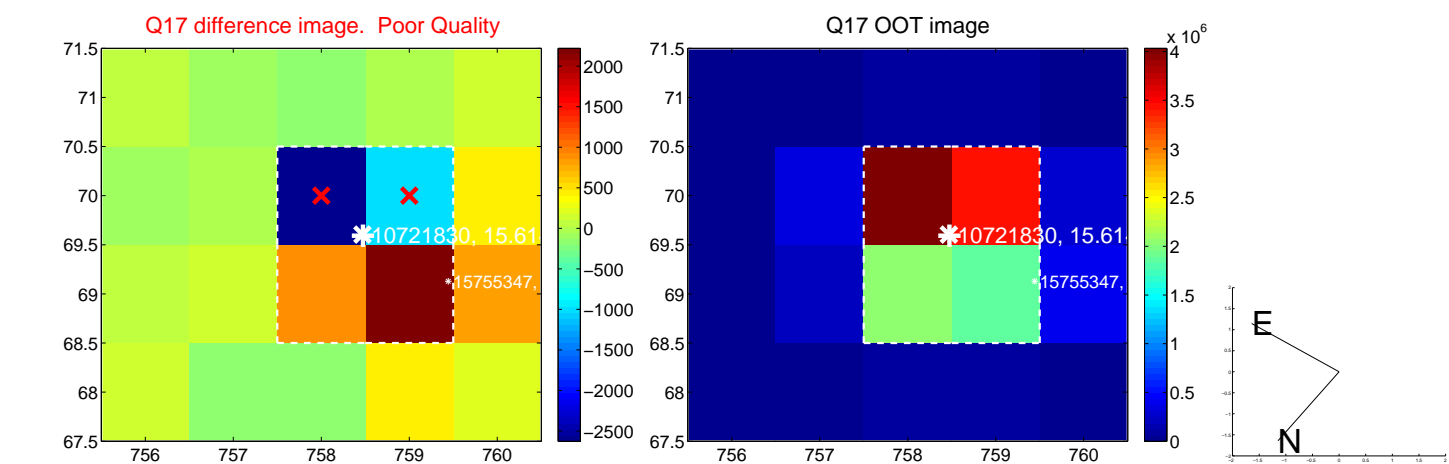
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



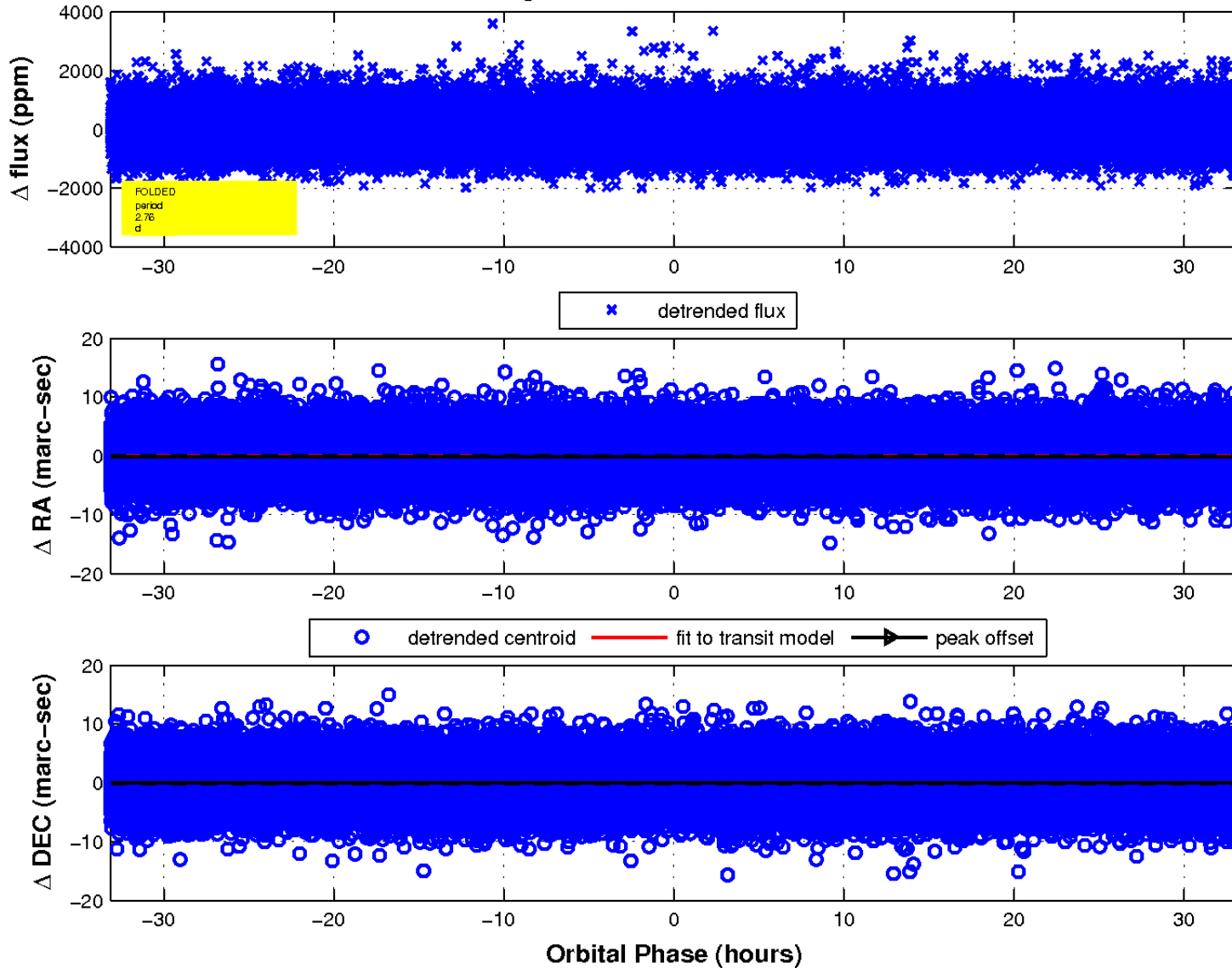
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

