

KIC 010873904

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})
010873904-01	OBS	No	9.885092	133.385092	24.4	30.647	12.7	5.6	1.73	6795	1.04	621.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010873904-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS

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

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

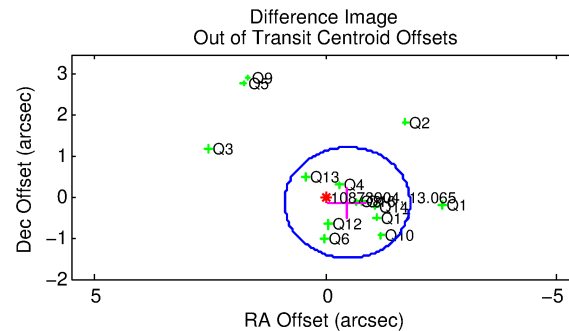
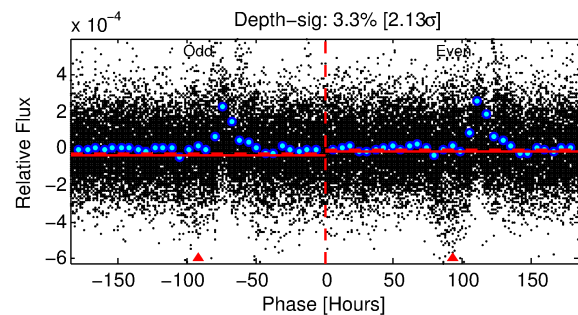
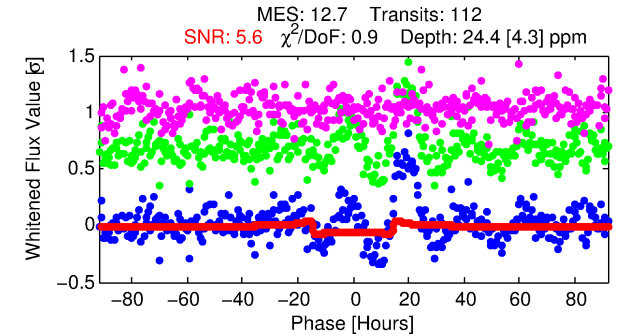
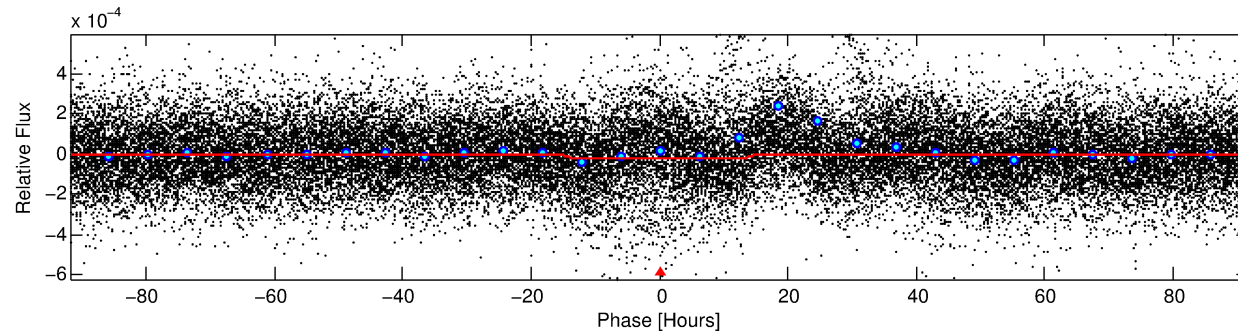
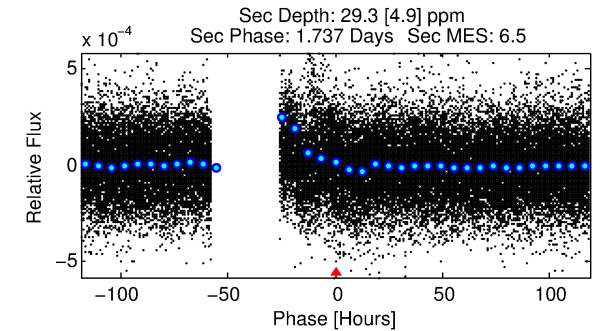
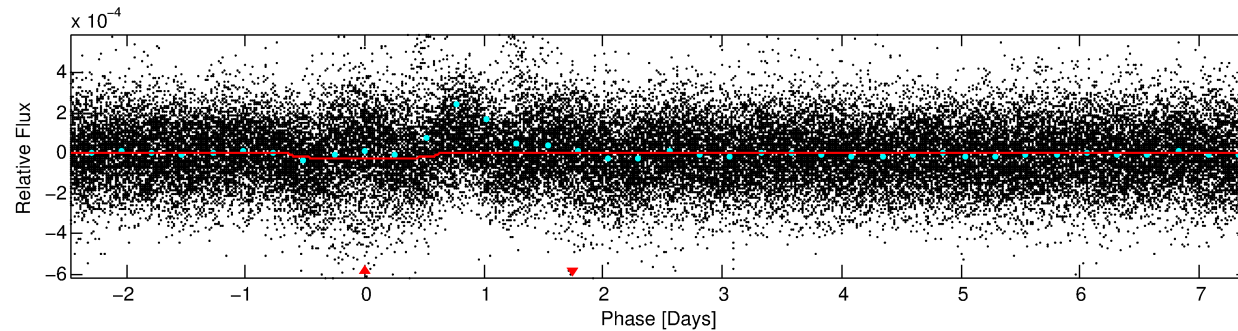
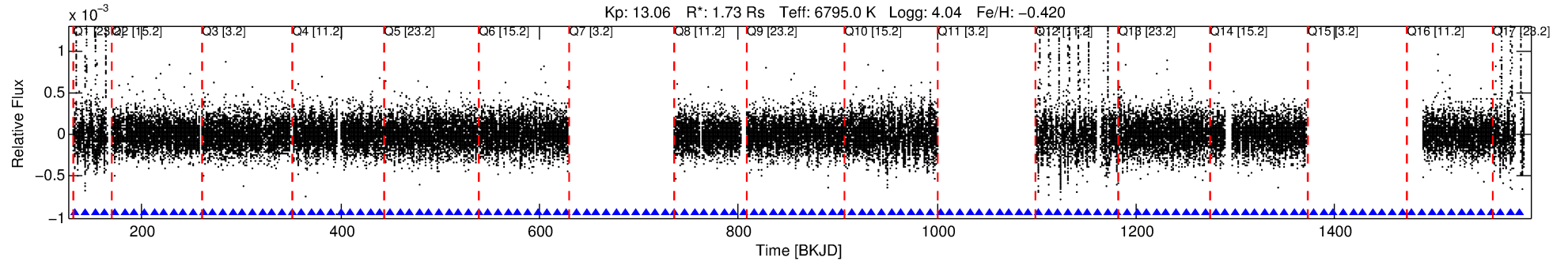
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010873904-01

No Significant Match Found

DV One-Page Summary

KIC: 10873904 Candidate: 1 of 1 Period: 9.885 d



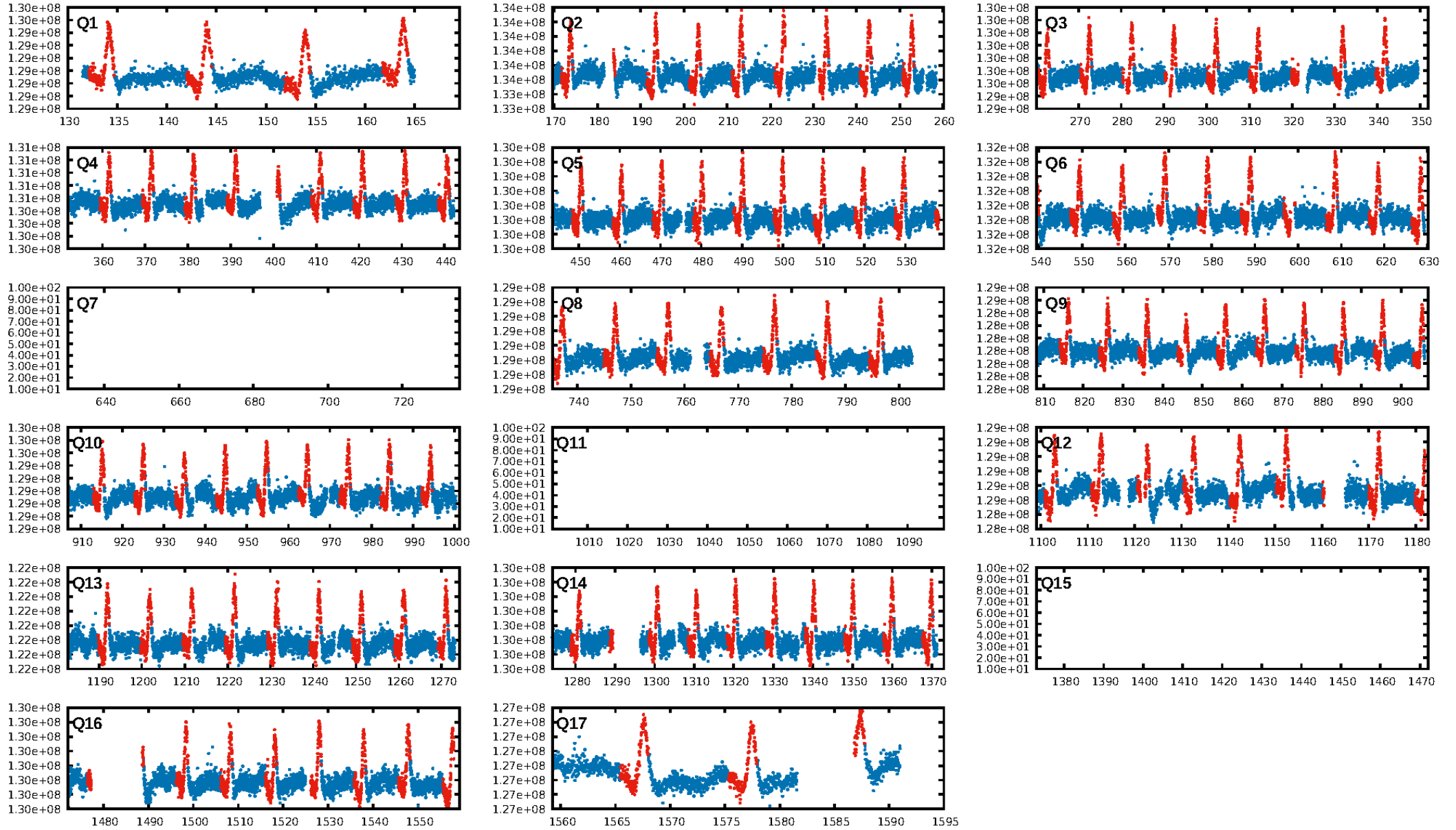
DV Fit Results:

Period = 9.88509 [0.00047] d
Epoch = 133.3851 [0.0372] BKJD
Rp/R* = 0.0055 [0.0007]
a/R* = 1.29 [0.24]
b = 0.94 [0.05]
Seff = 621.41 [321.94]
Teff = 1273 [165] K
Rp = 1.04 [0.35] Re
a = 0.0960 [0.0297] AU
Ag = 138.09 [79.74] [1.72σ]
Teffp = 6748 [551] K [9.52σ]

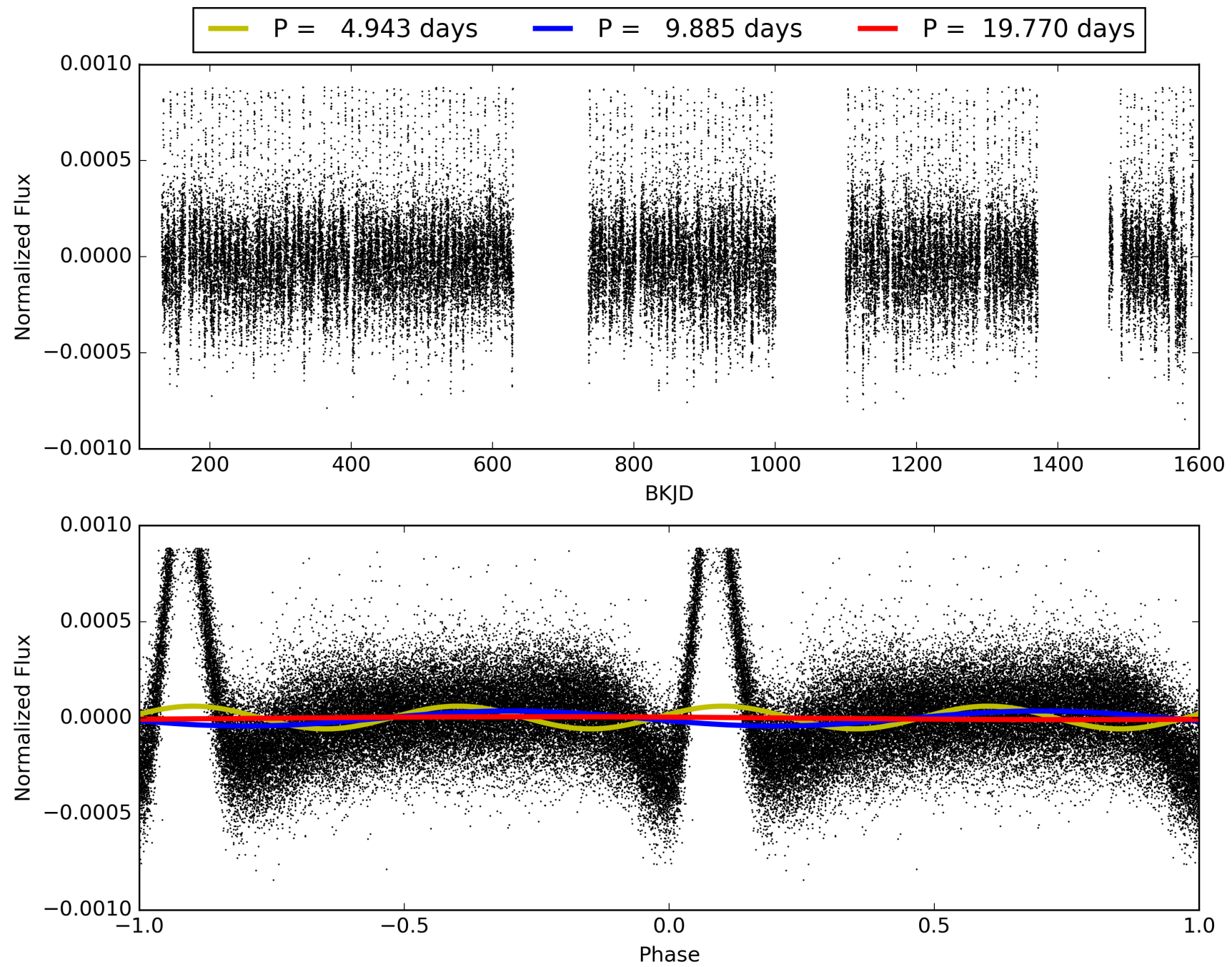
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 85.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.60e-36
RollingBand-fgt: 1.00 [105/105]
GhostDiagnostic-chr: 0.4437
Centroid-sig: 0.0%
Centroid-so: 3.180 arcsec [2.29σ]
OotOffset-rm: 0.492 arcsec [1.09σ]
KicOffset-rm: 0.385 arcsec [1.09σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010873904-01, PDC Light Curves

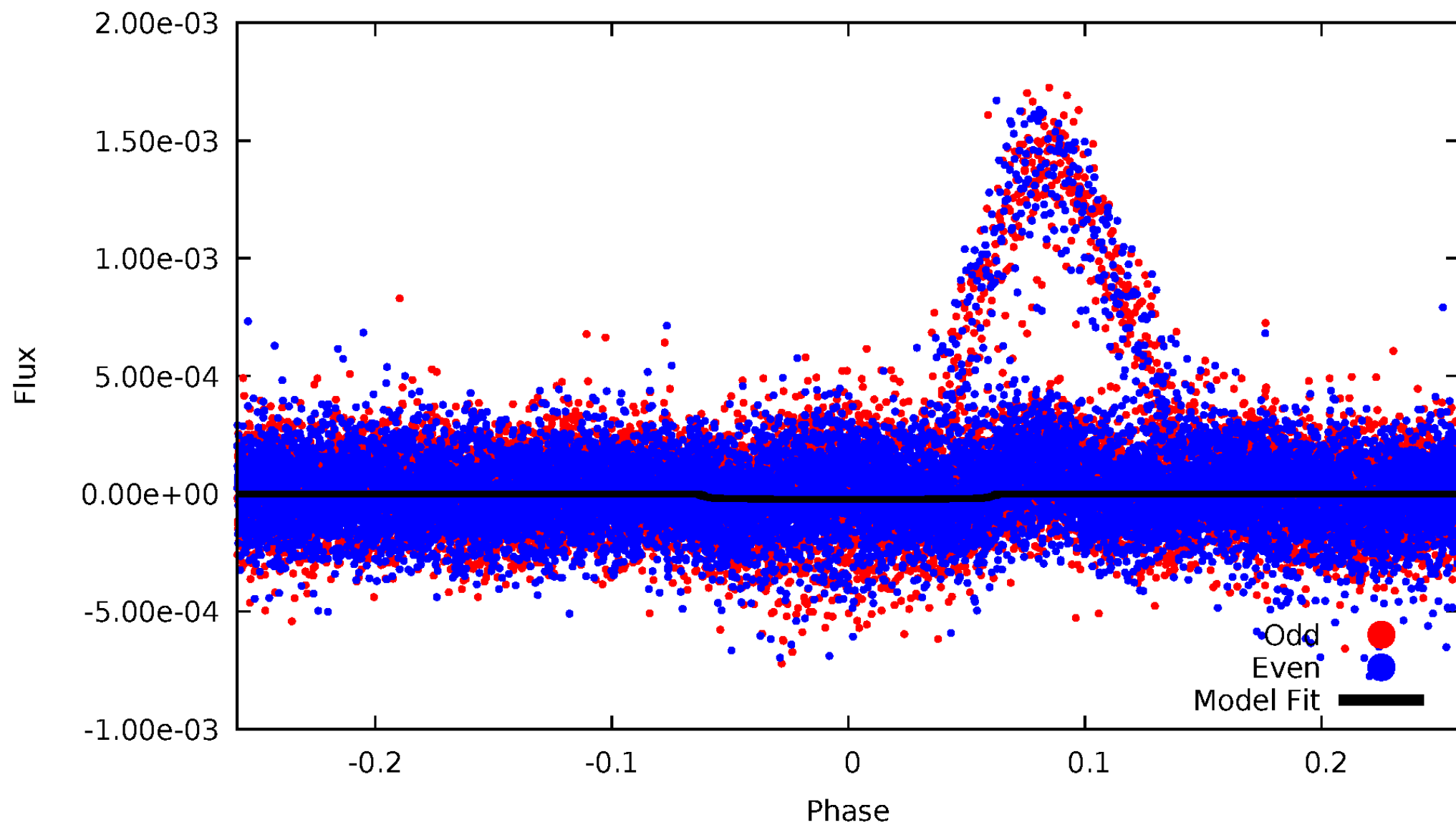


TCE 010873904-01



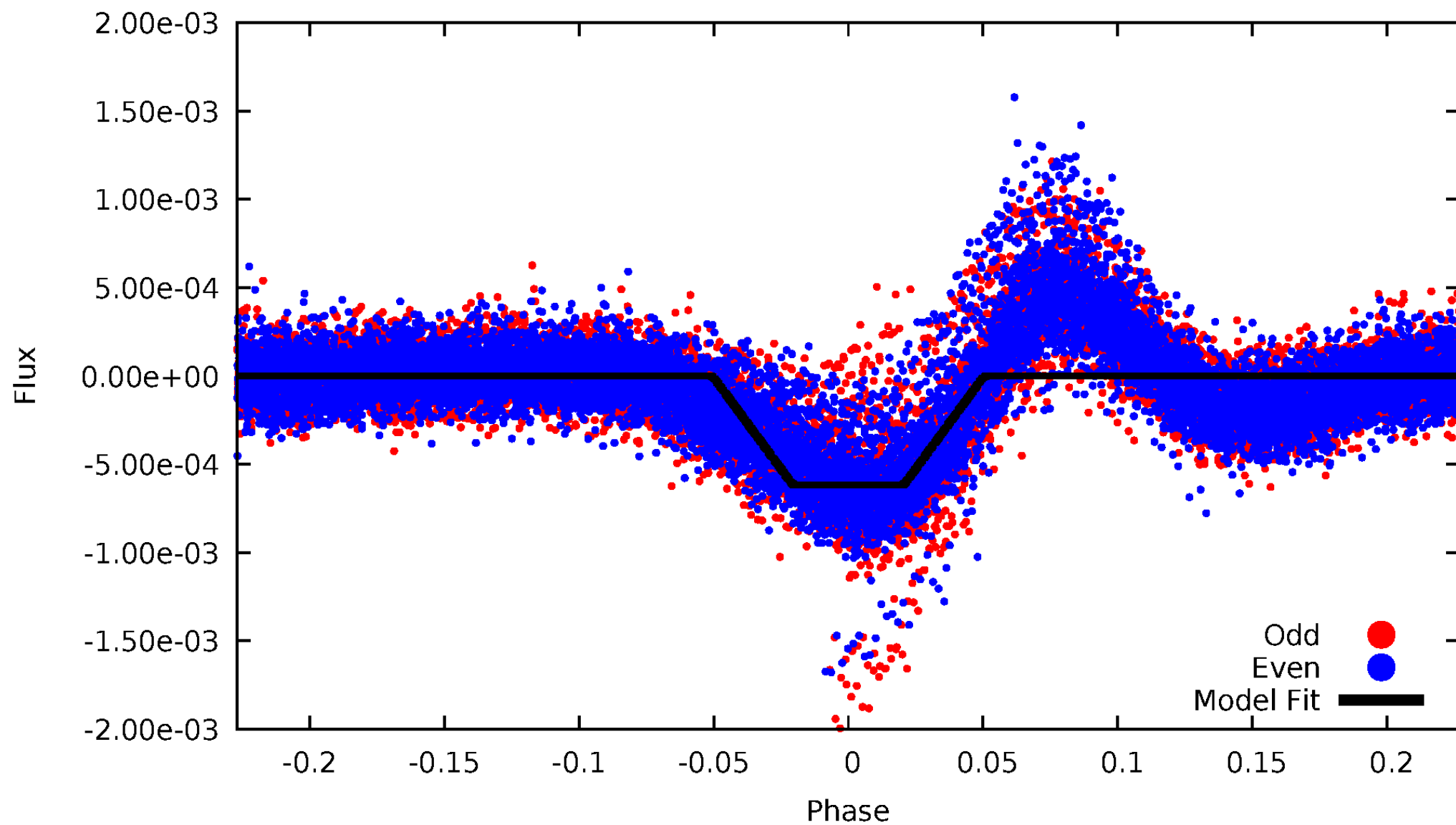
DV Odd/Even

TCE 010873904-01



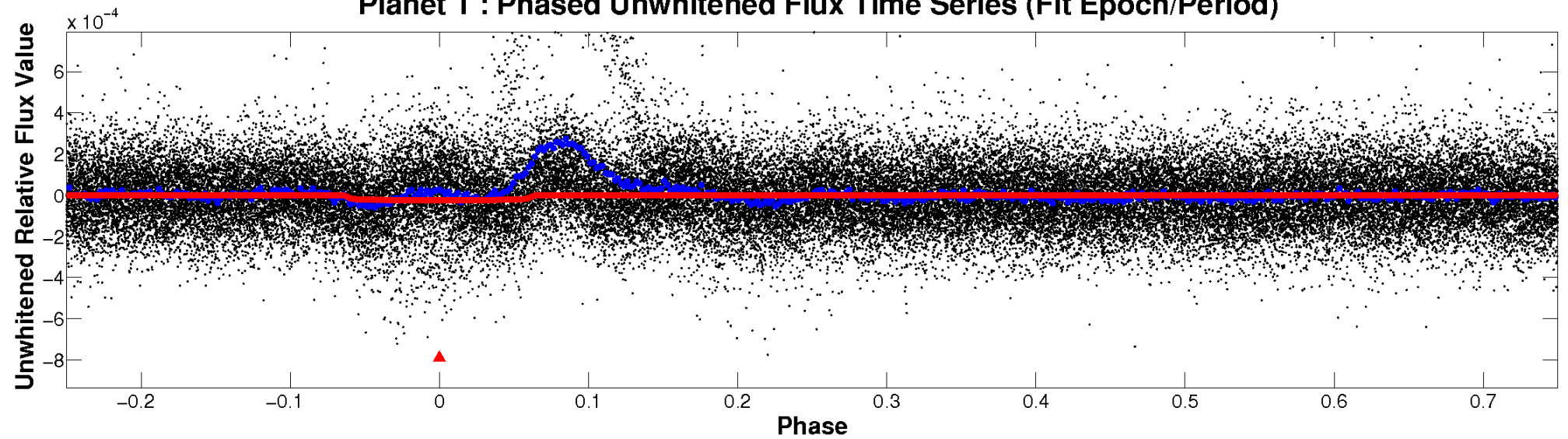
ALT Odd/Even

TCE 010873904-01

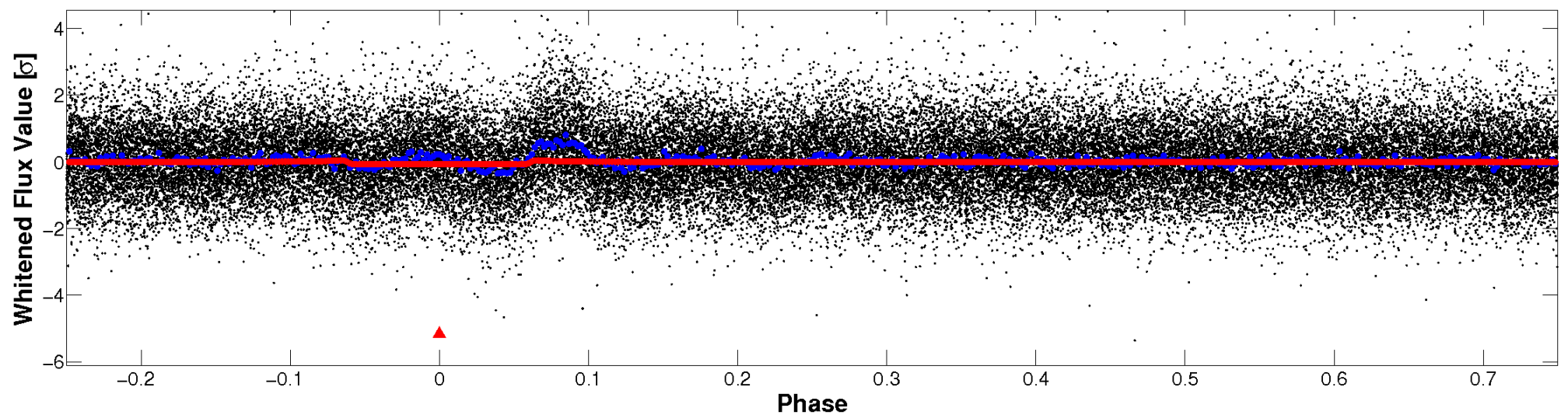


Non-Whitened Vs. Whitened Light Curve

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

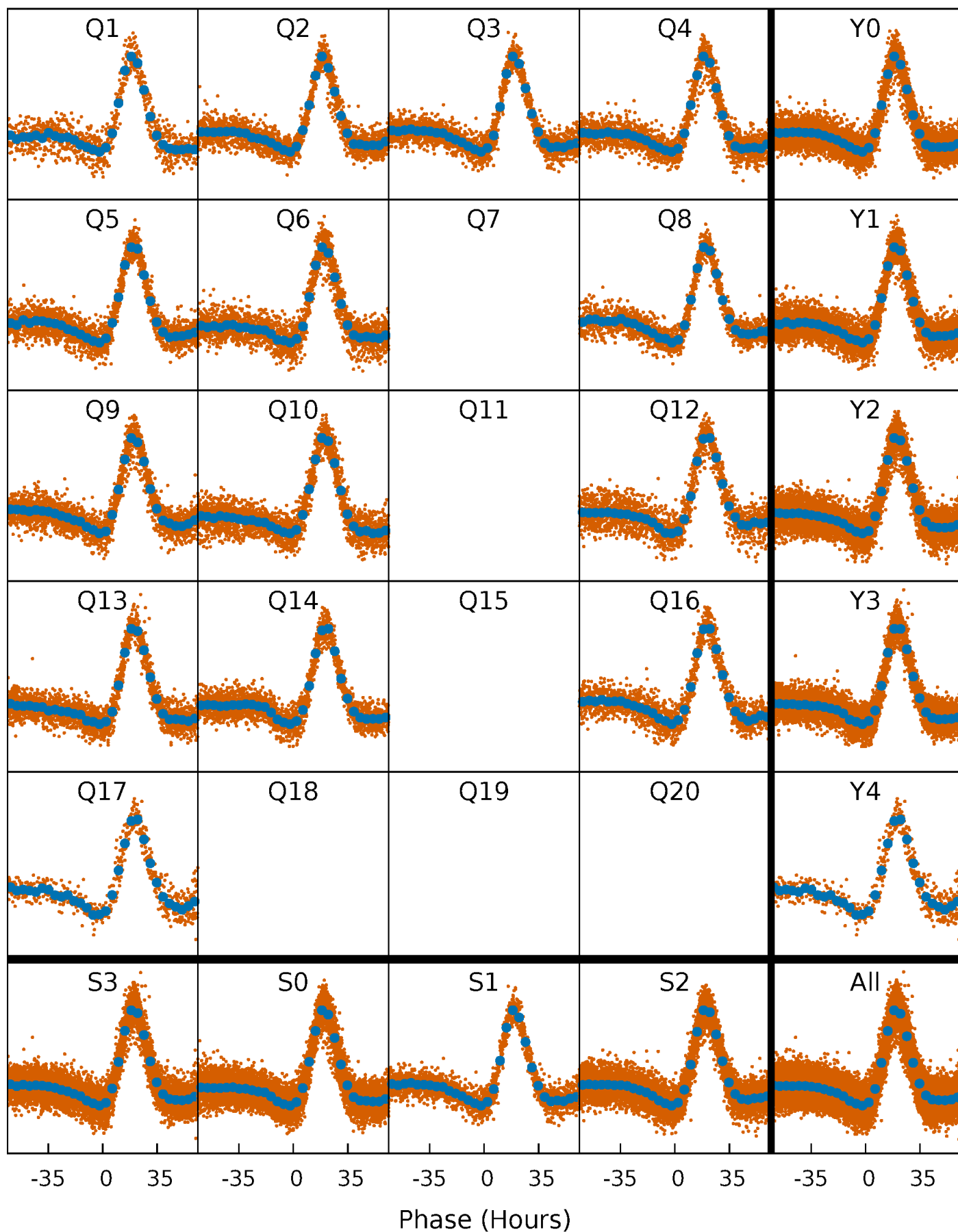


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



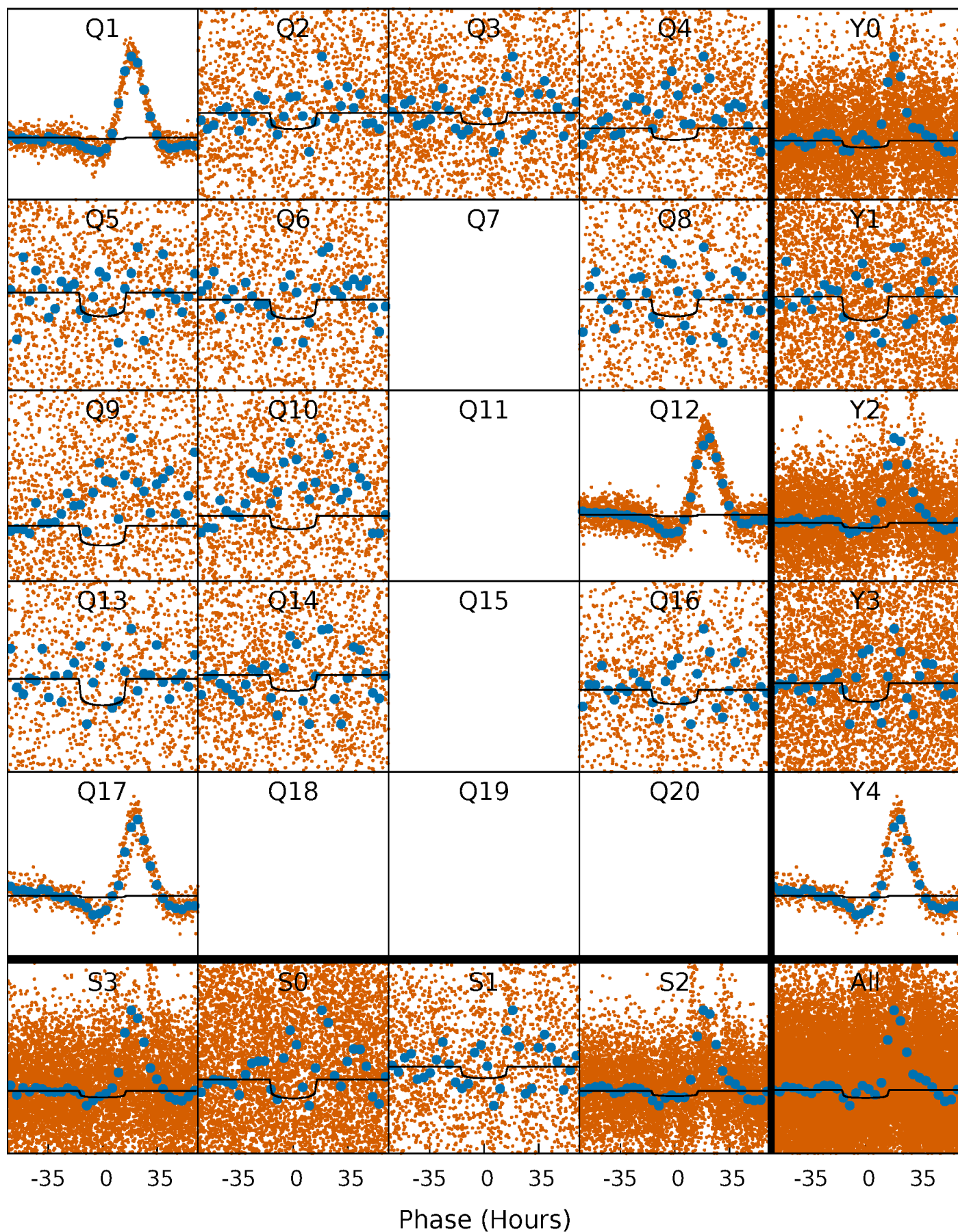
PDC Quarter-Phased Transit Curves

TCE 010873904-01 P= 9.885092 Days $T_0=133.385092$ (BKJD)



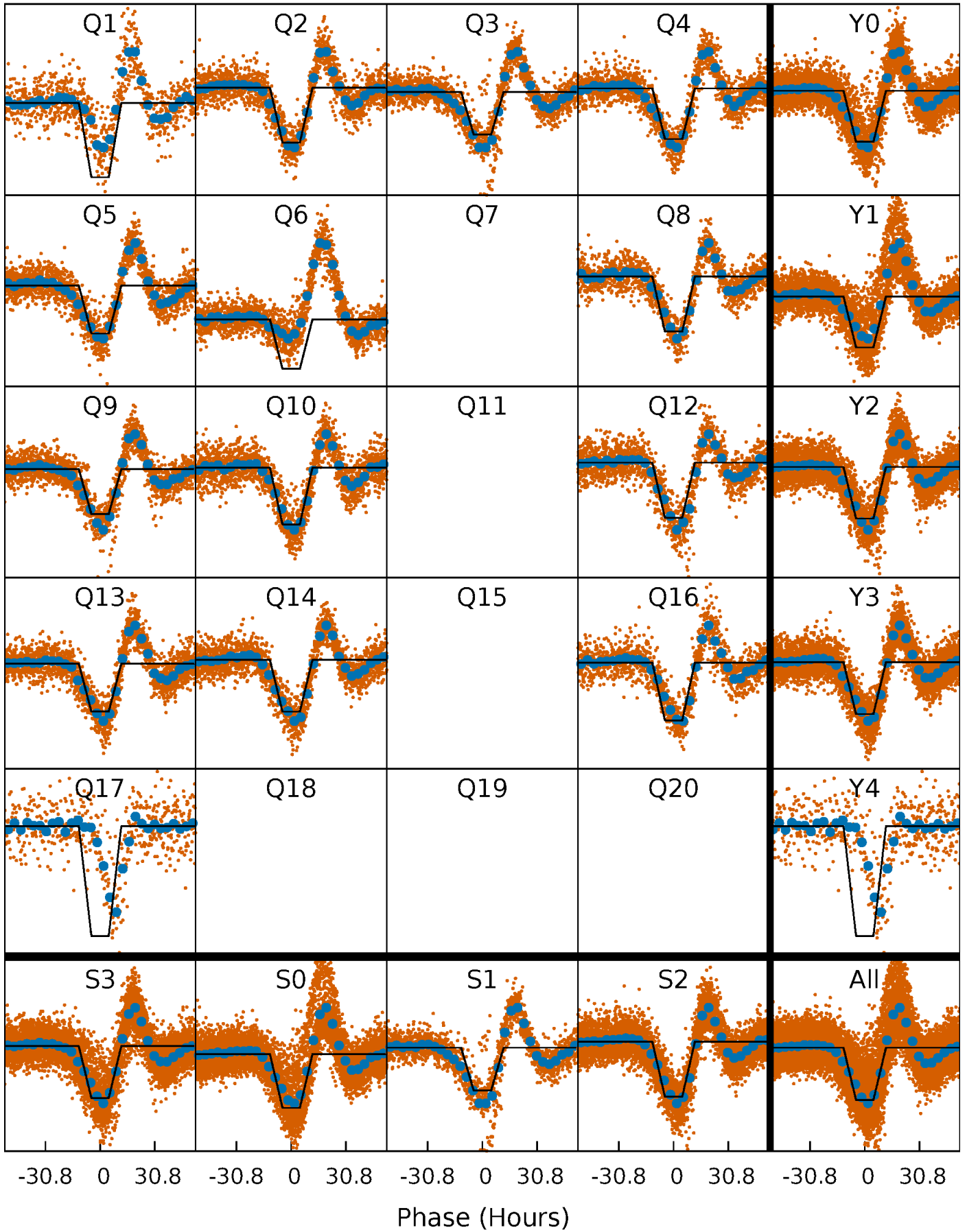
DV Quarter-Phased Transit Curves

TCE 010873904-01 P= 9.885092 Days $T_0=133.385092$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

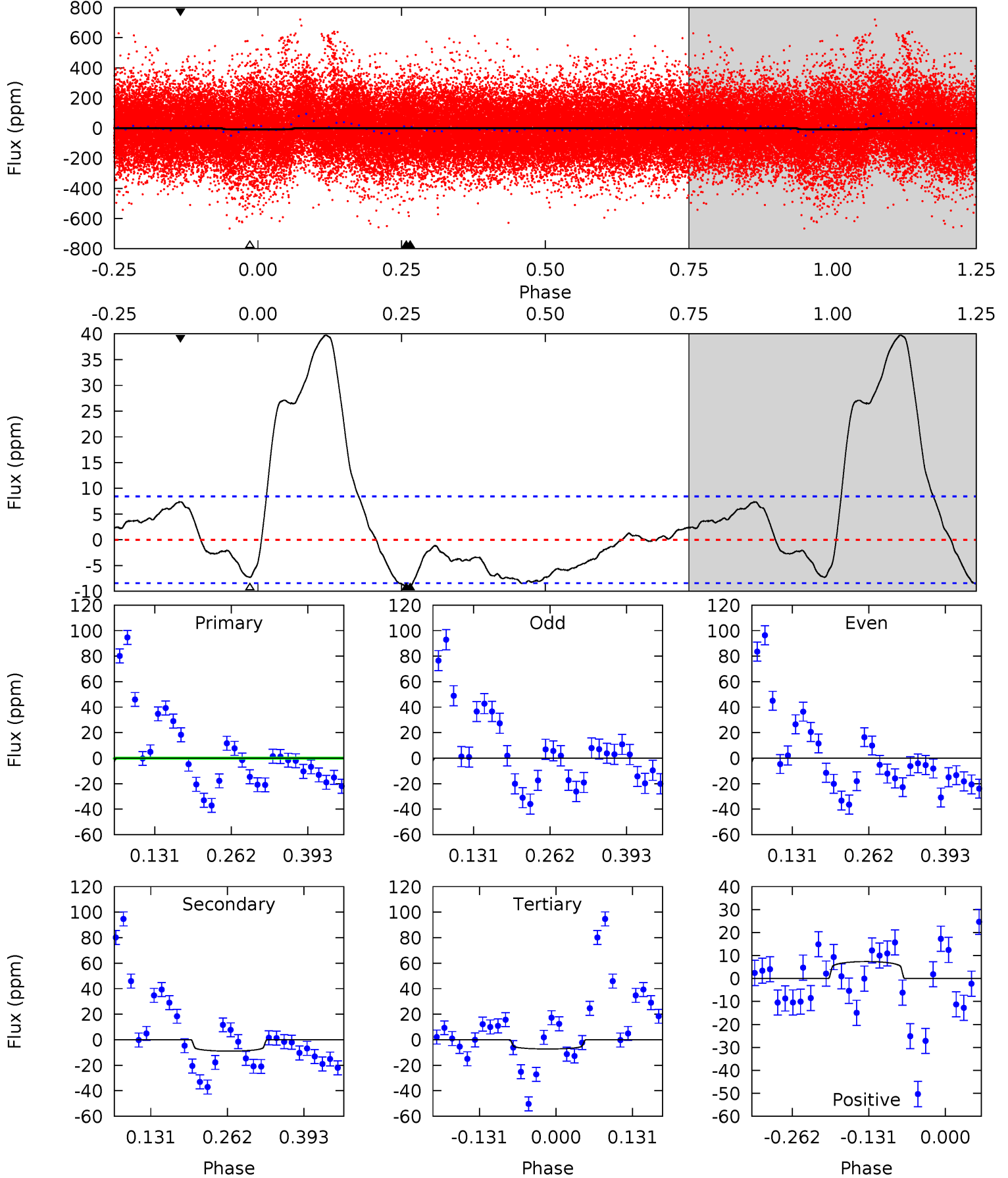
TCE 010873904-01 P= 9.885129 Days $T_0=133.449843$ (BKJD)



DV Model-Shift Uniqueness Test

010873904-01, P = 9.885092 Days, E = 123.500000 Days

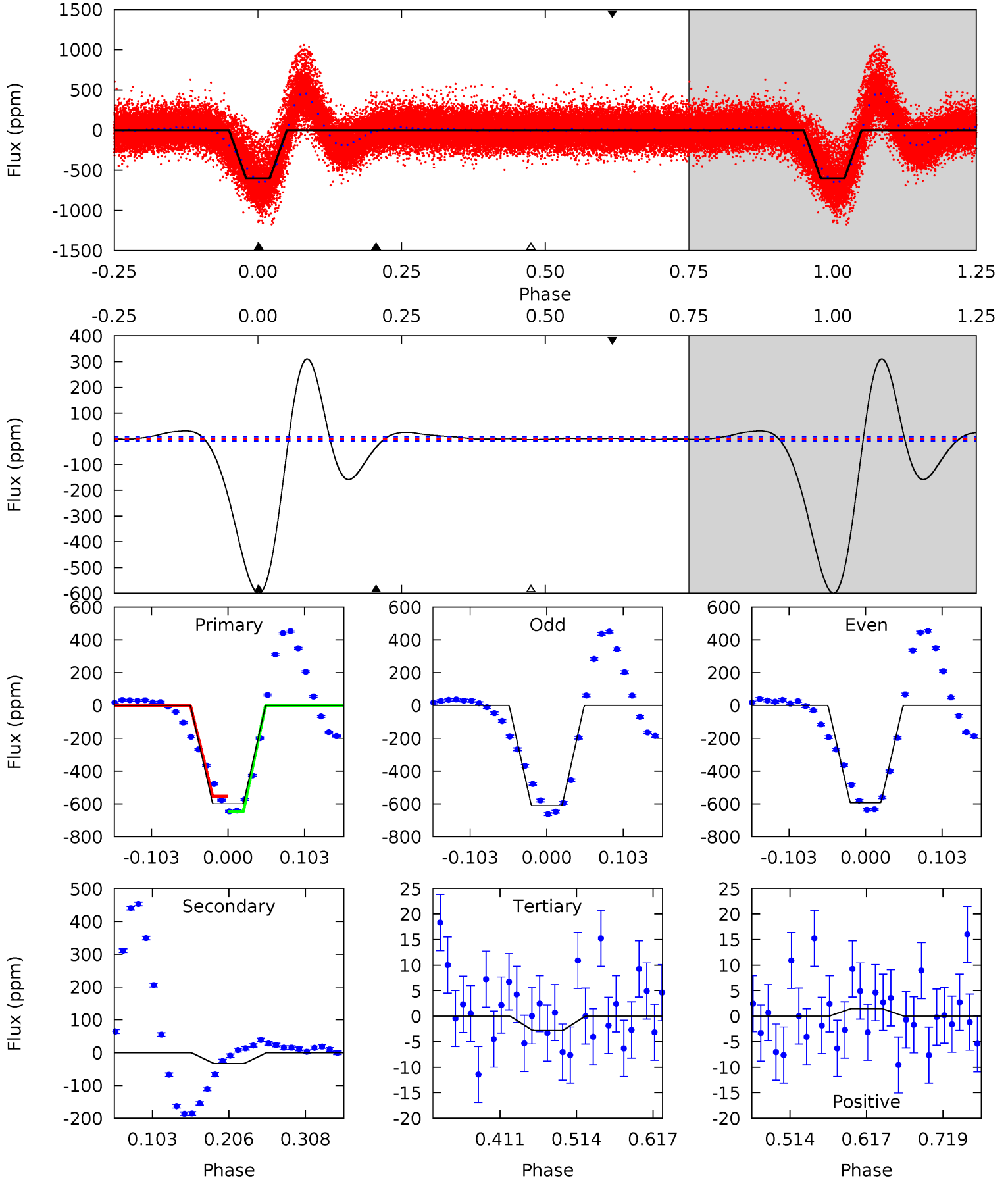
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.82	4.79	3.89	3.95	4.51	1.51	6.40	0.93	0.87	0.90	0.84	1.19	0.13	0.82	3.18



Alt Model-Shift Uniqueness Test

010873904-01, P = 9.885129 Days, E = 123.564714 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
330.7	18.0	1.52	0.82	4.56	1.63	4.85	329.2	329.8	16.5	17.2	4.67	1.04	0.34	23.4



Stellar Parameters For KIC 010873904

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6795^{+183}_{-245}	$4.043^{+0.293}_{-0.158}$	$-0.420^{+0.300}_{-0.300}$	$1.732^{+0.502}_{-0.553}$	$1.208^{+0.189}_{-0.170}$	$0.328^{+0.585}_{-0.136}$
	+3%/-4%	+7%/-4%	+71%/-71%	+29%/-32%	+16%/-14%	+179%/-42%
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 010873904-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 2	$1.01^{+0.20}_{-0.18}$	1752^{+135}_{-152}	5042^{+410}_{-350}	44^{+25}_{-15}
Alt.	-33 ± 2	$4.63^{+0.74}_{-0.81}$	1747^{+148}_{-161}	3639^{+89}_{-95}	$7.718^{+3.538}_{-1.804}$

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

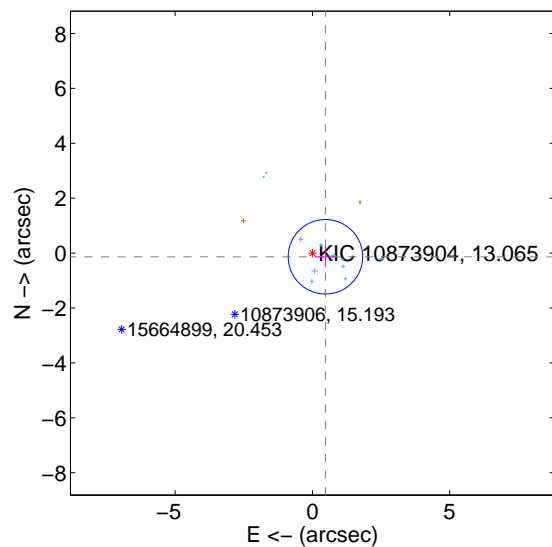
Supplemental centroid analysis for 010873904-01. Kepler magnitude: 13.06. Transit SNR 5.56

There are 12 quarters with good PRF difference image offsets

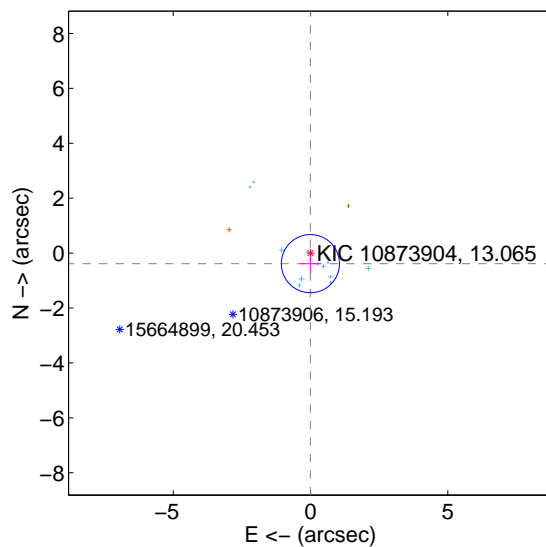
The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.492 ± 0.452	1.09	-0.473 ± 0.395	-0.134 ± 0.379
PRF-fit source offset from KIC position	0.385 ± 0.353	1.09	0.005 ± 0.375	-0.385 ± 0.356
photometric centroid source offset	3.18 ± 1.39	2.29	-2.44 ± 1.40	2.04 ± 1.37

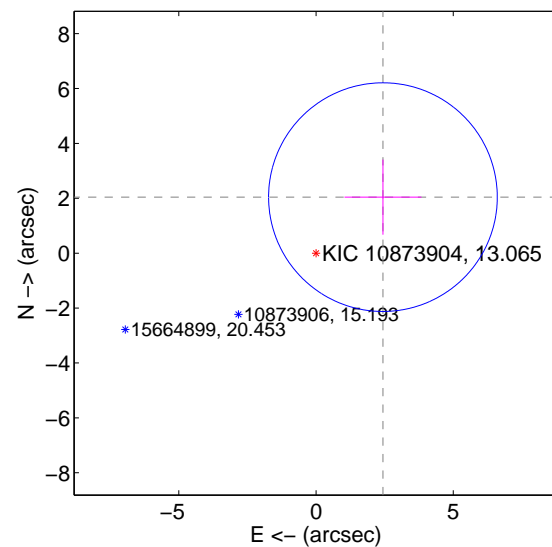
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

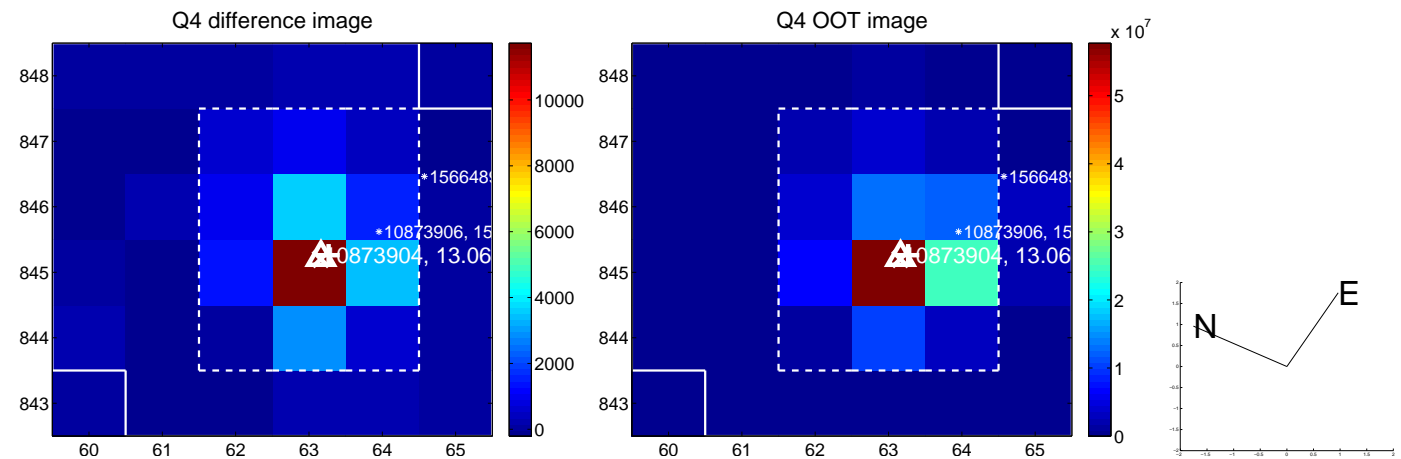
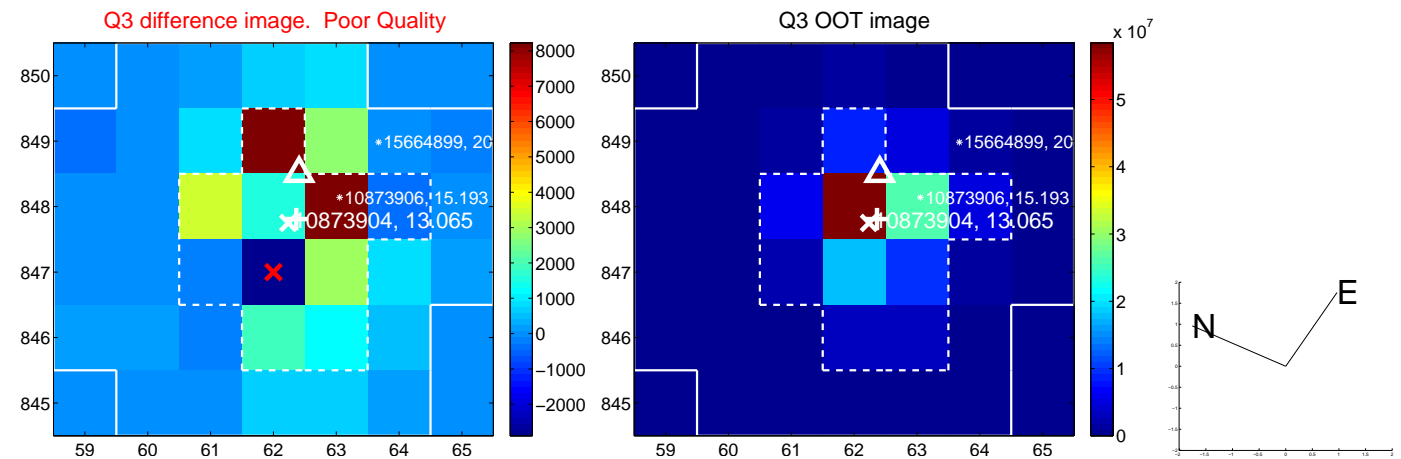
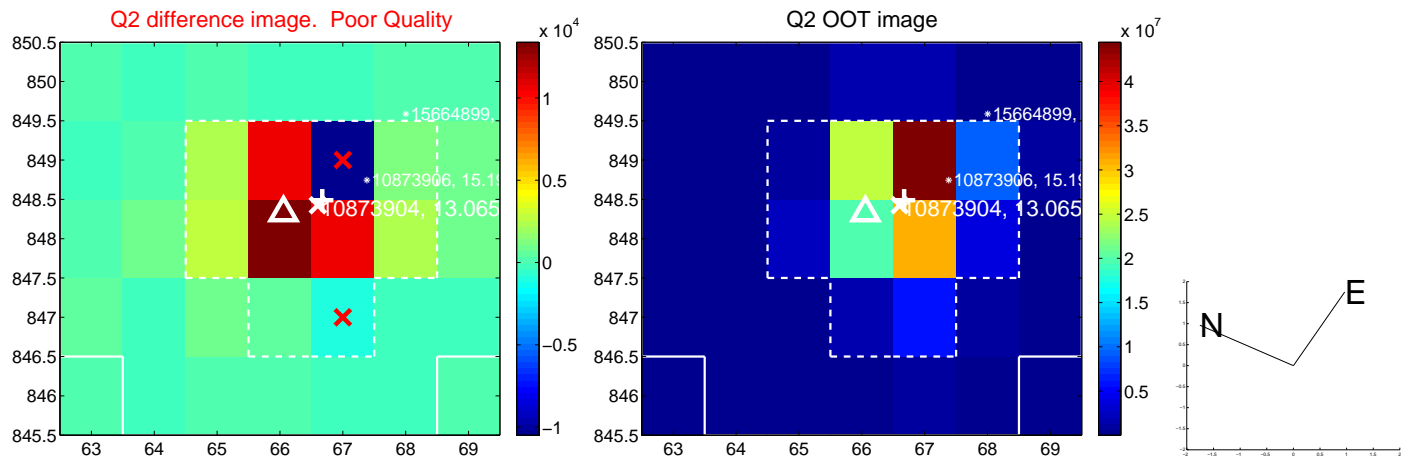
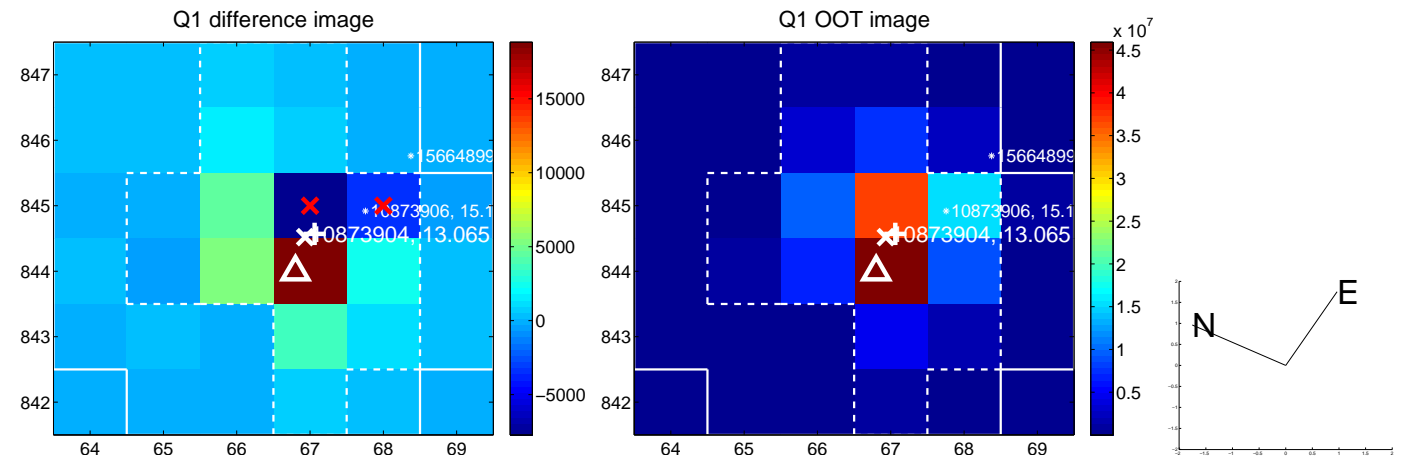


offset from photometric centroids

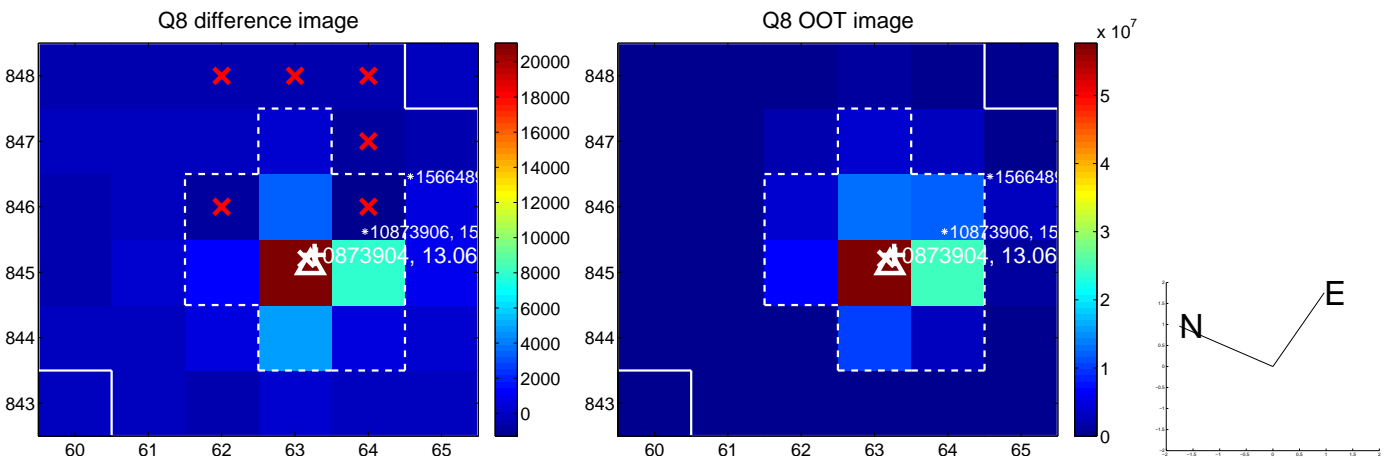
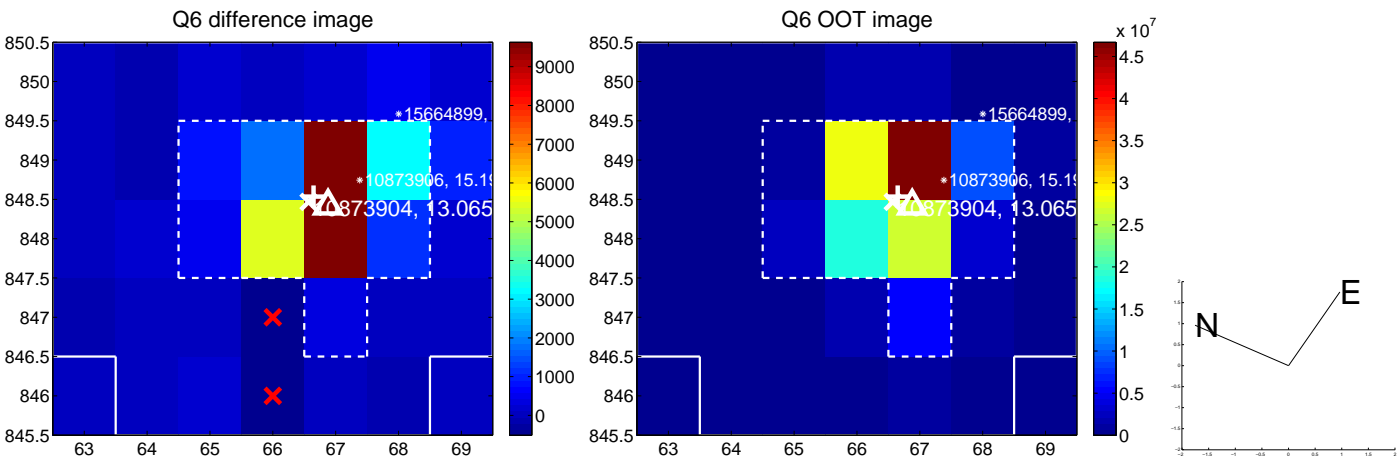
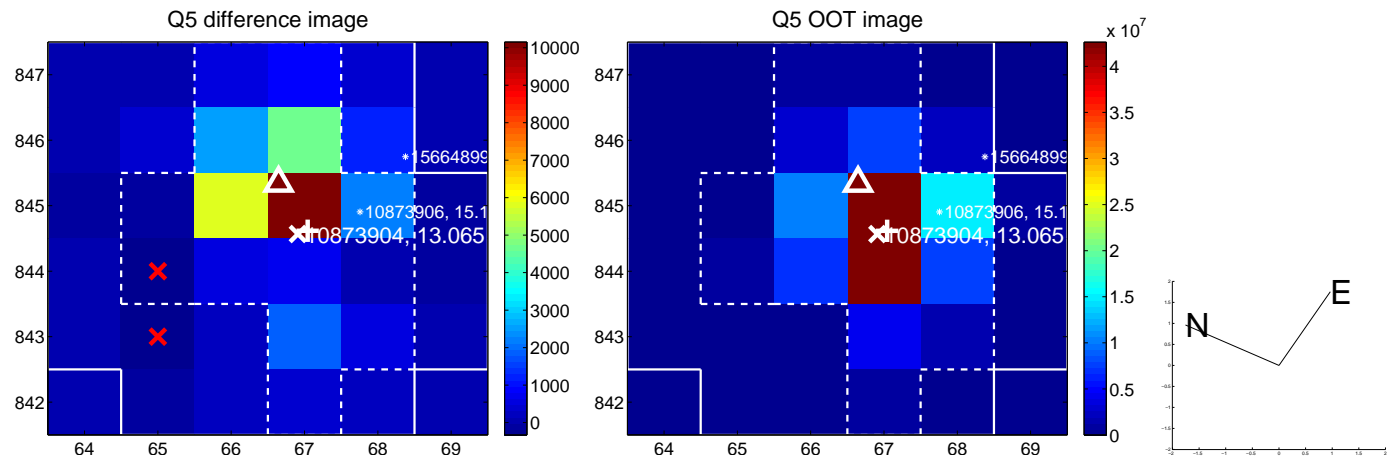


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

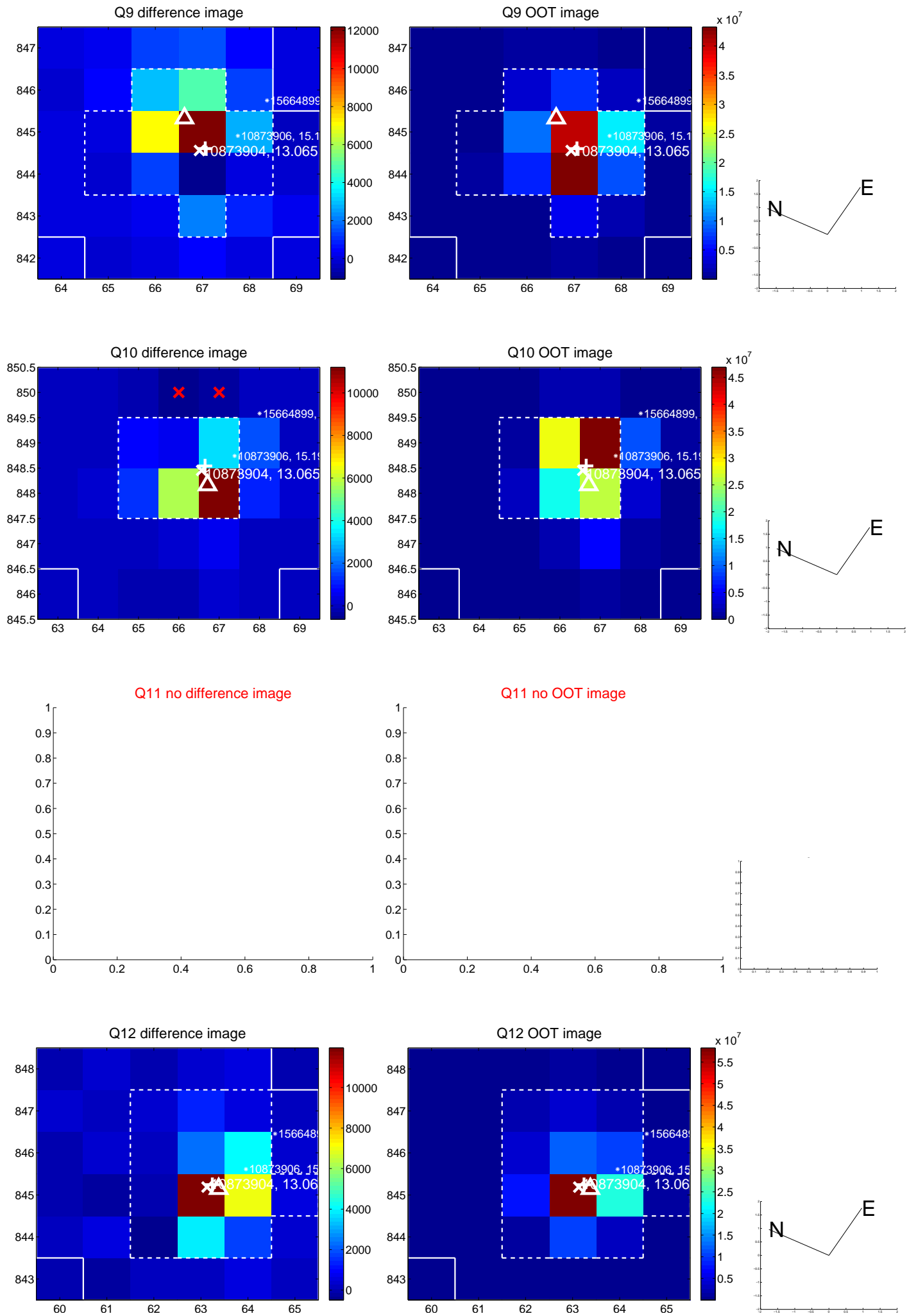
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



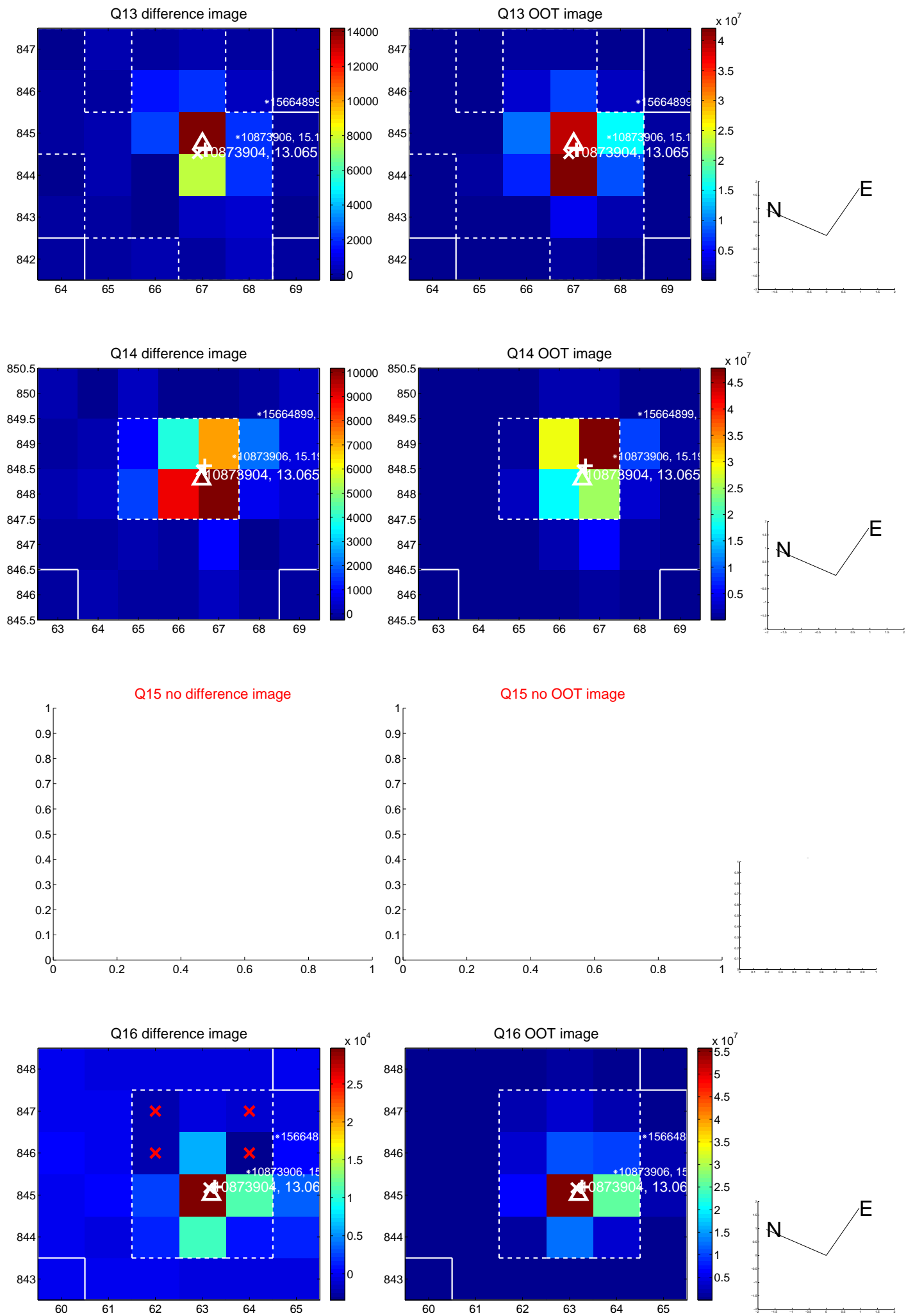
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



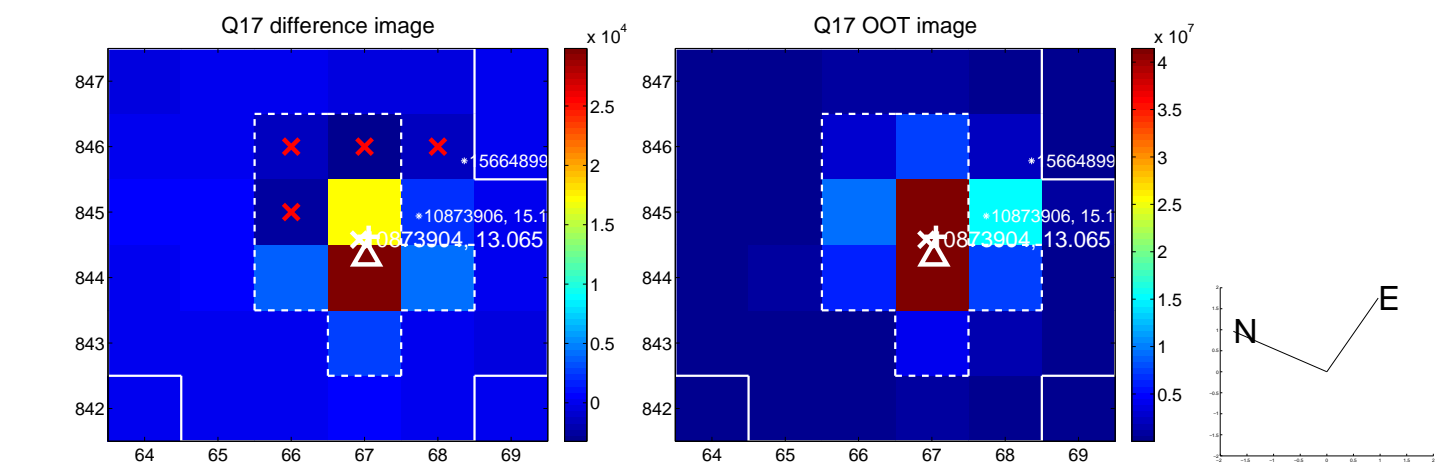
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



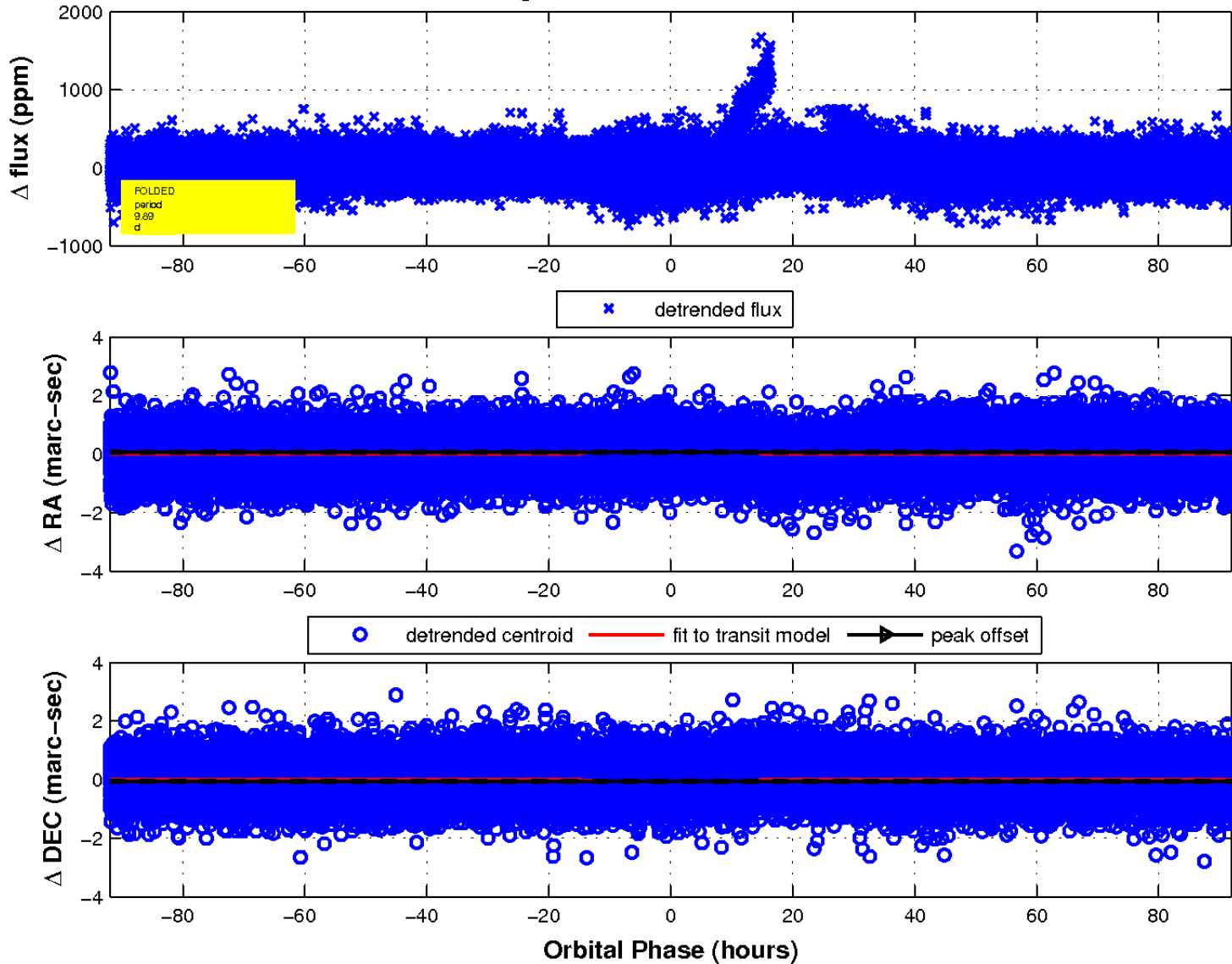
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

