

KIC 008686097

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})
008686097-01	OBS	0374.01	172.705001	236.921436	643.7	11.625	79.4	76.1	1.12	5851	3.01	3.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008686097-01	OBS	PC	0.99	0	0	0	0	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.

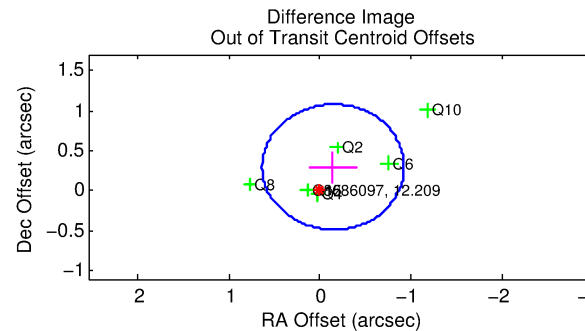
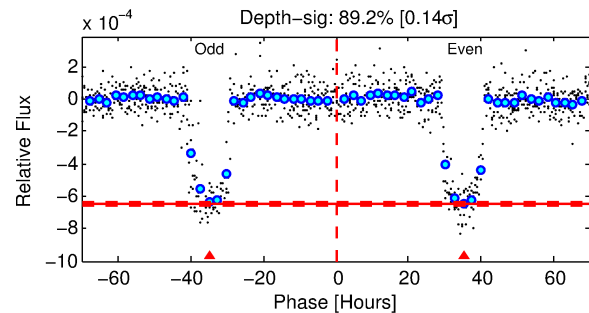
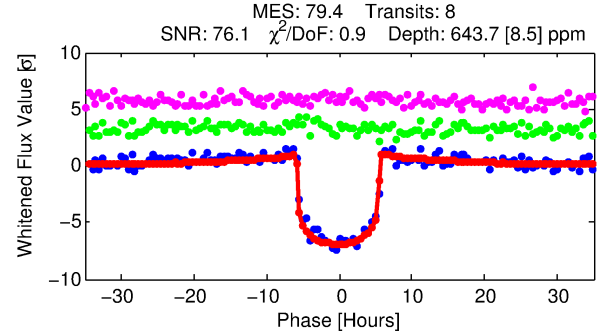
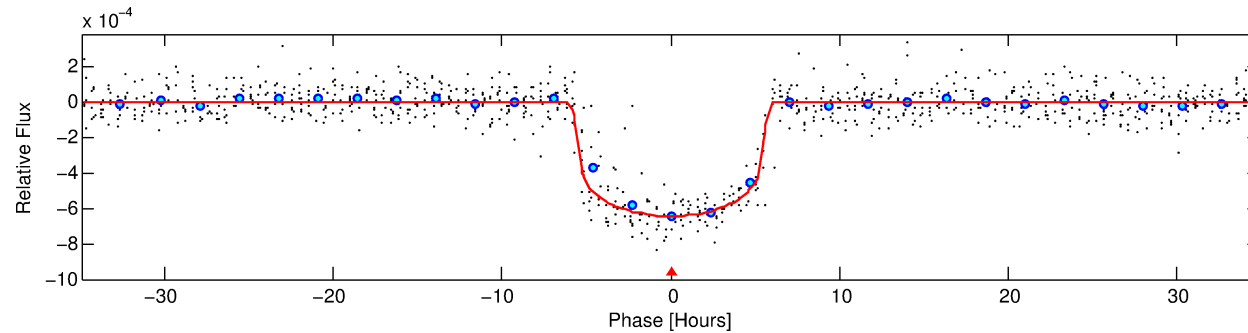
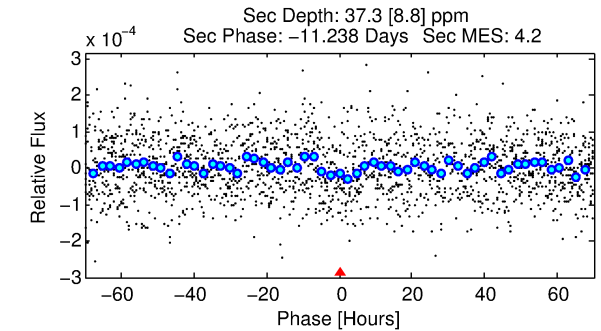
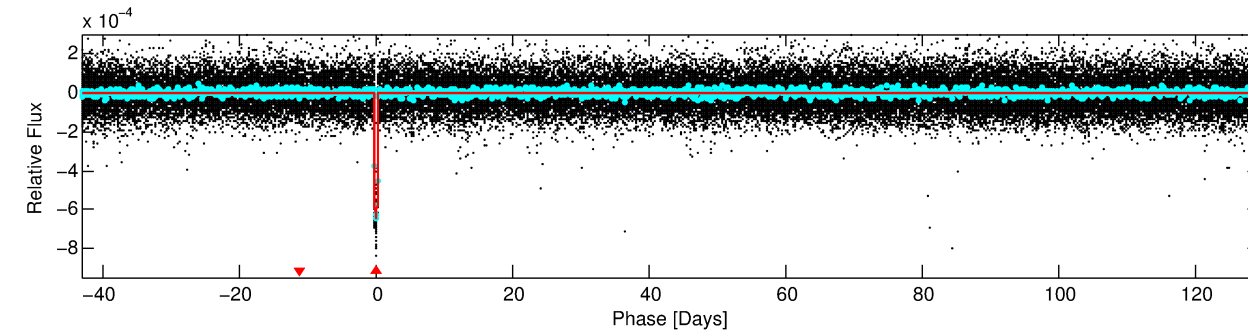
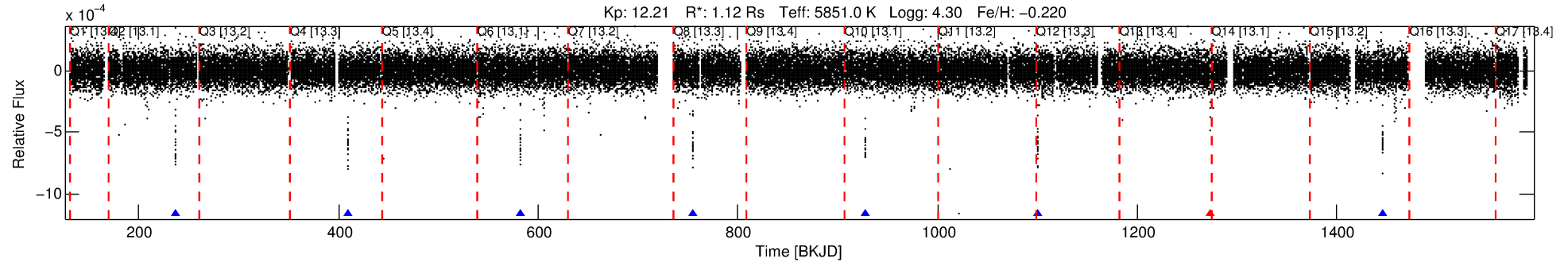
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008686097-01

No Significant Match Found

DV One-Page Summary

KIC: 8686097 Candidate: 1 of 1 Period: 172.705 d
KOI: K00374.01 Corr: 0.985



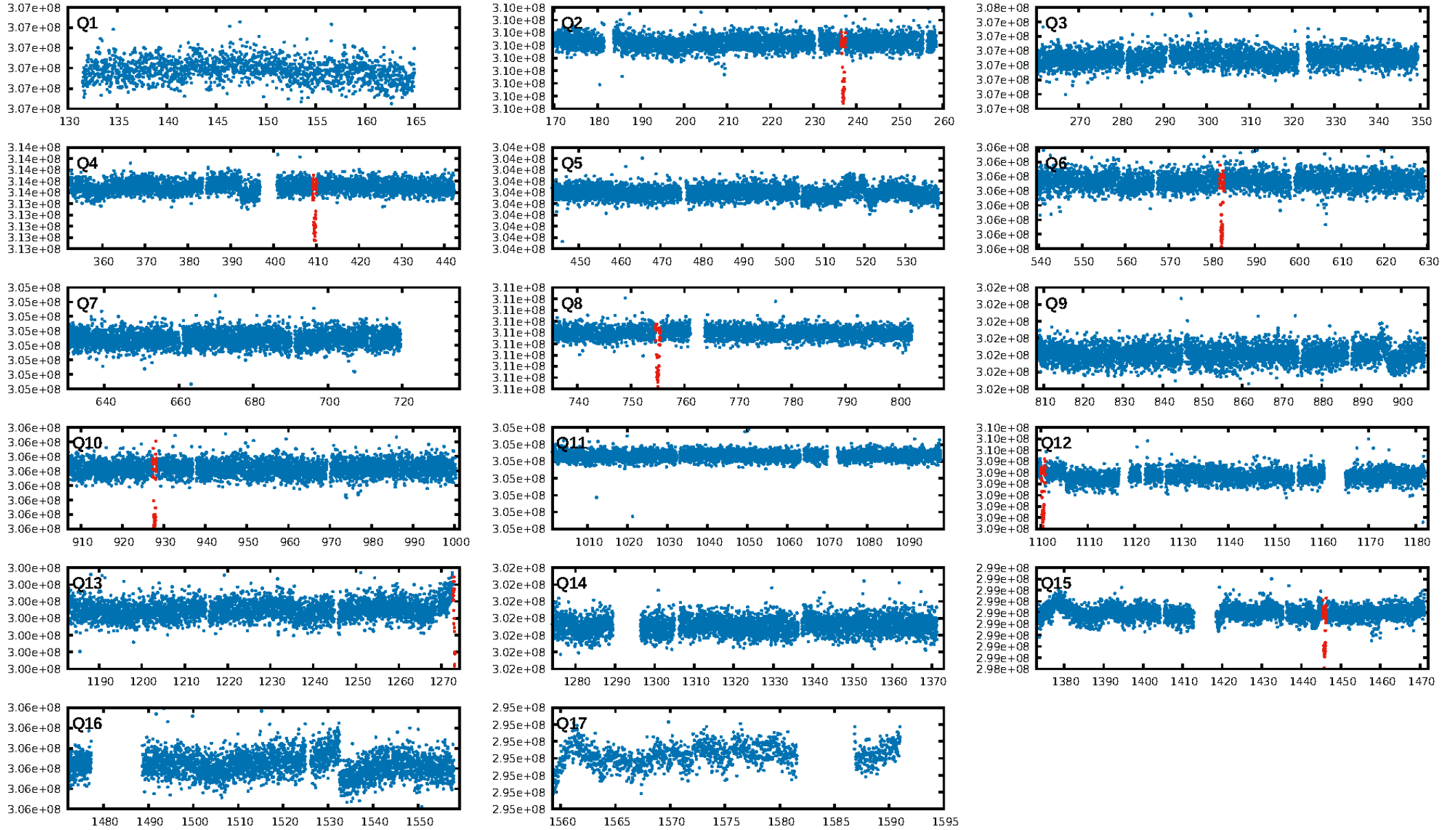
DV Fit Results:

Period = 172.70500 [0.00053] d
Epoch = 236.9214 [0.0021] BKJD
Rp/R* = 0.0247 [0.0012]
a/R* = 86.61 [19.43]
b = 0.68 [0.18]
Seff = 3.78 [1.03]
Teq = 355 [24] K
Rp = 3.01 [0.49] Re
a = 0.5884 [0.0935] AU
Ag = 783.40 [286.65] [2.73 σ]
Teffp = 2908 [195] K [12.98 σ]

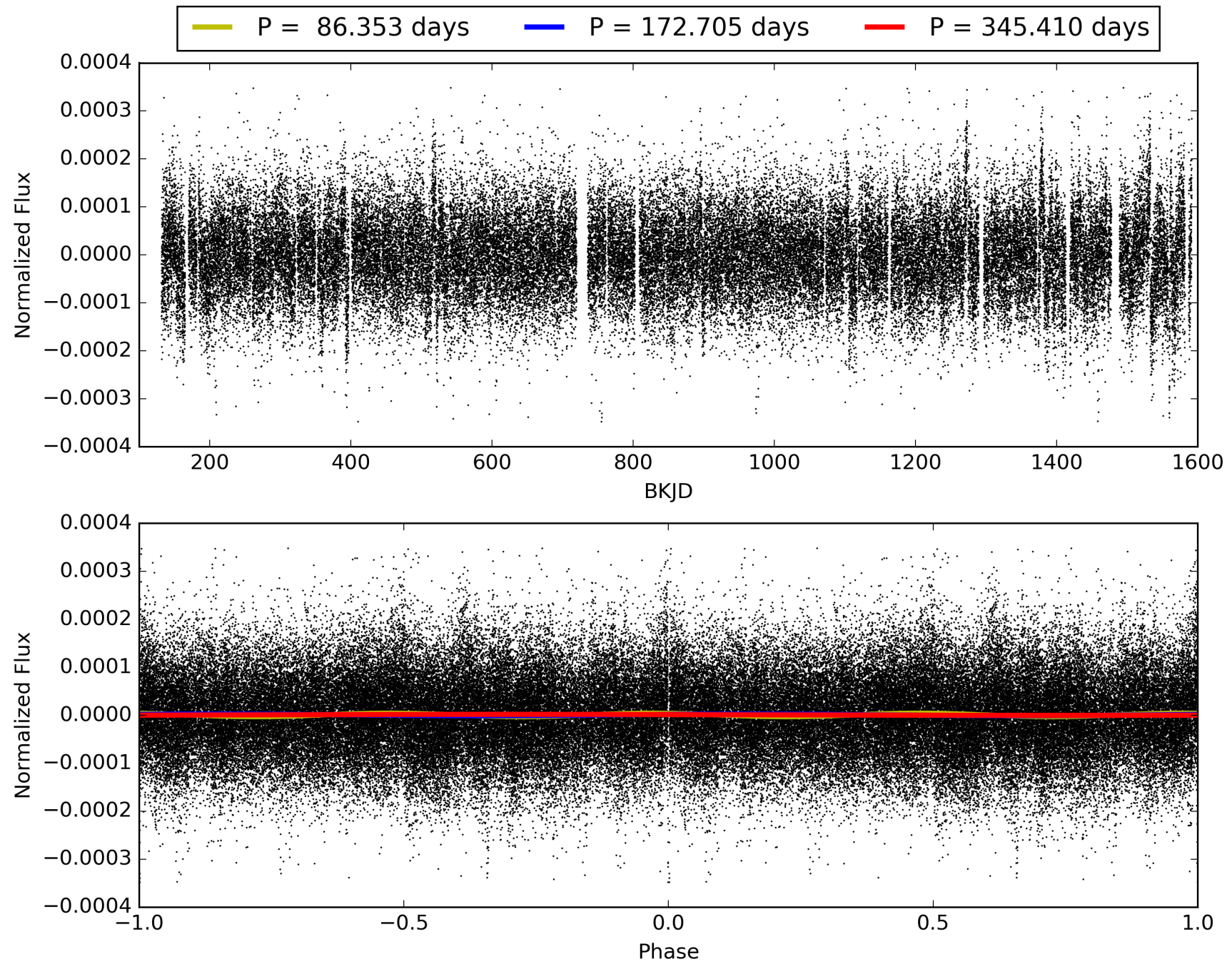
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 14.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.88 [7/8]
GhostDiagnostic-chr: 22.55
Centroid-sig: 0.0%
Centroid-so: 0.828 arcsec [4.09 σ]
OotOffset-rm: 0.330 arcsec [1.26 σ]
KicOffset-rm: 0.601 arcsec [1.75 σ]
OotOffset-st: 3/1/2/0 [6]
KicOffset-st: 3/1/2/0 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [6/6]

TCE 008686097-01, PDC Light Curves

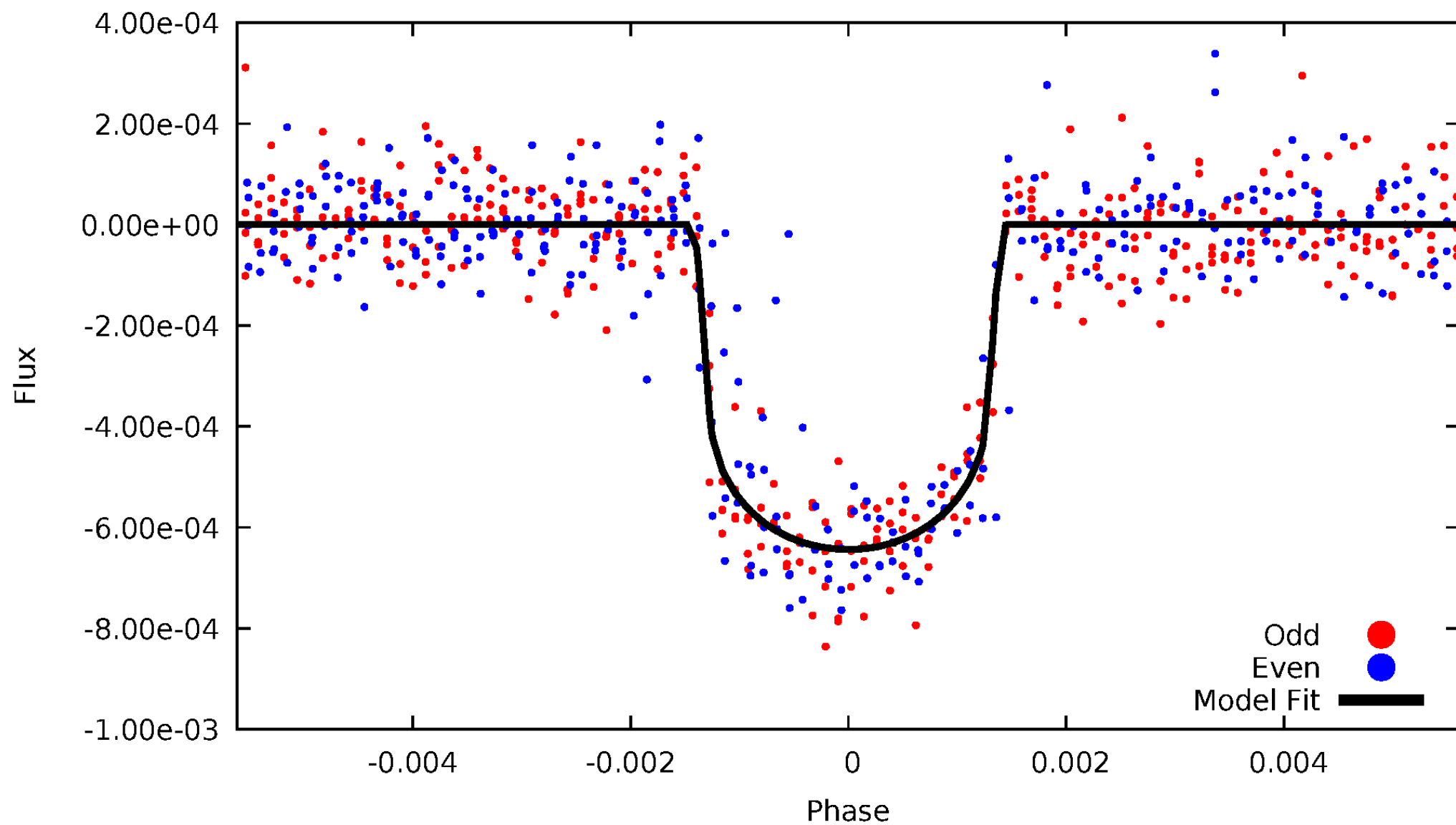


TCE 008686097-01



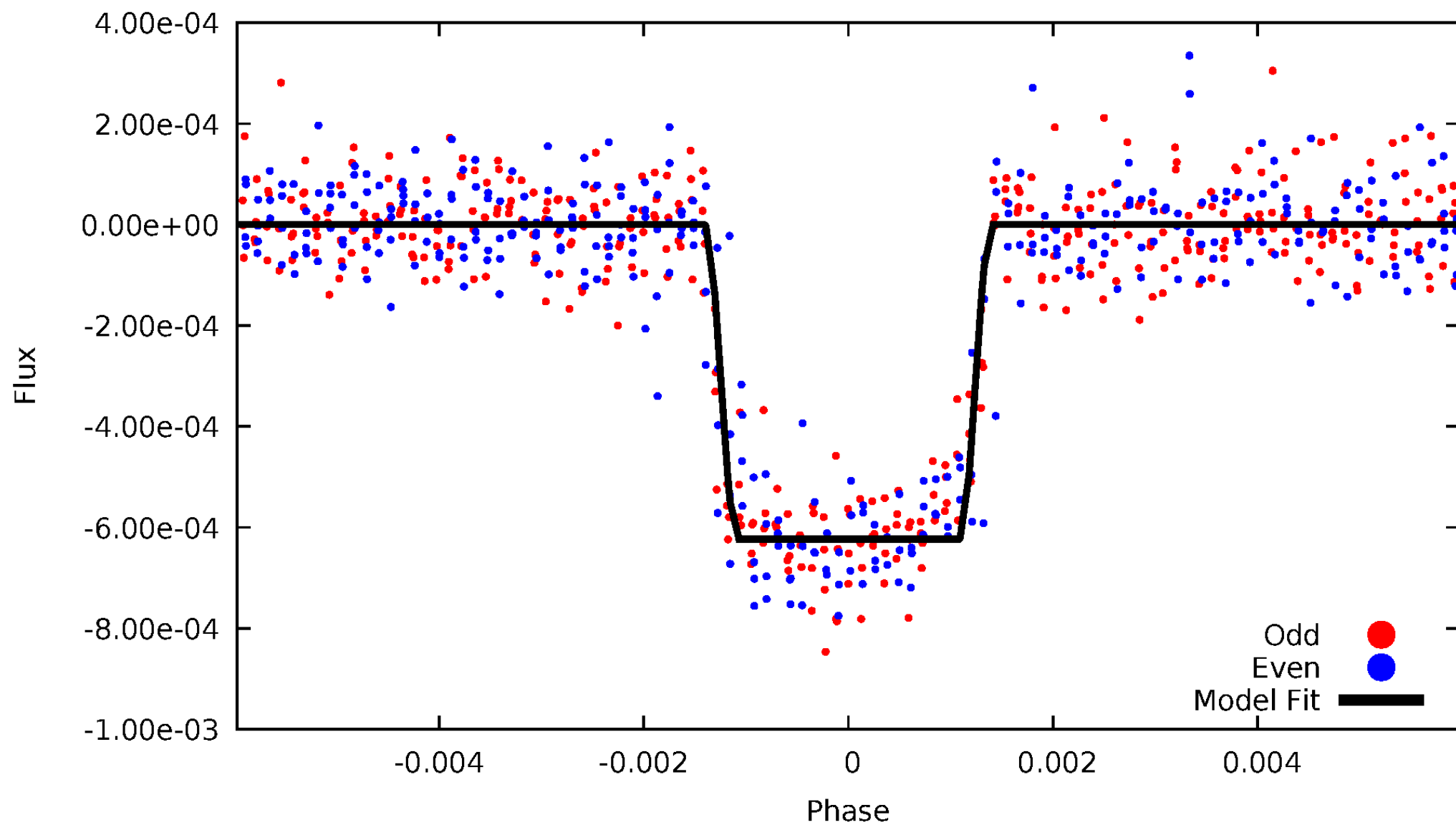
DV Odd/Even

TCE 008686097-01



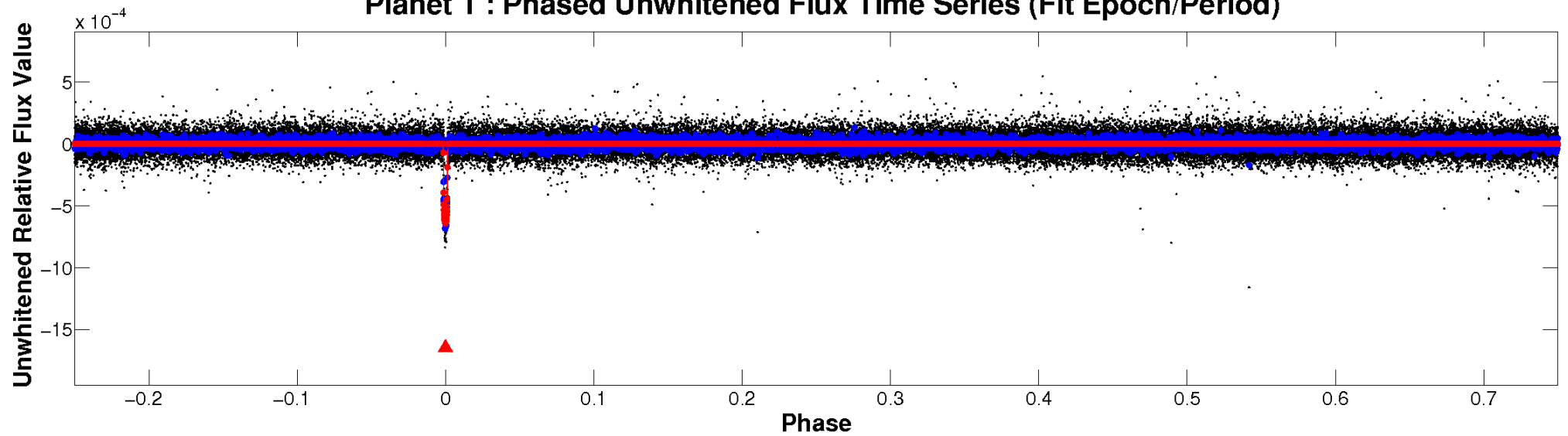
ALT Odd/Even

TCE 008686097-01

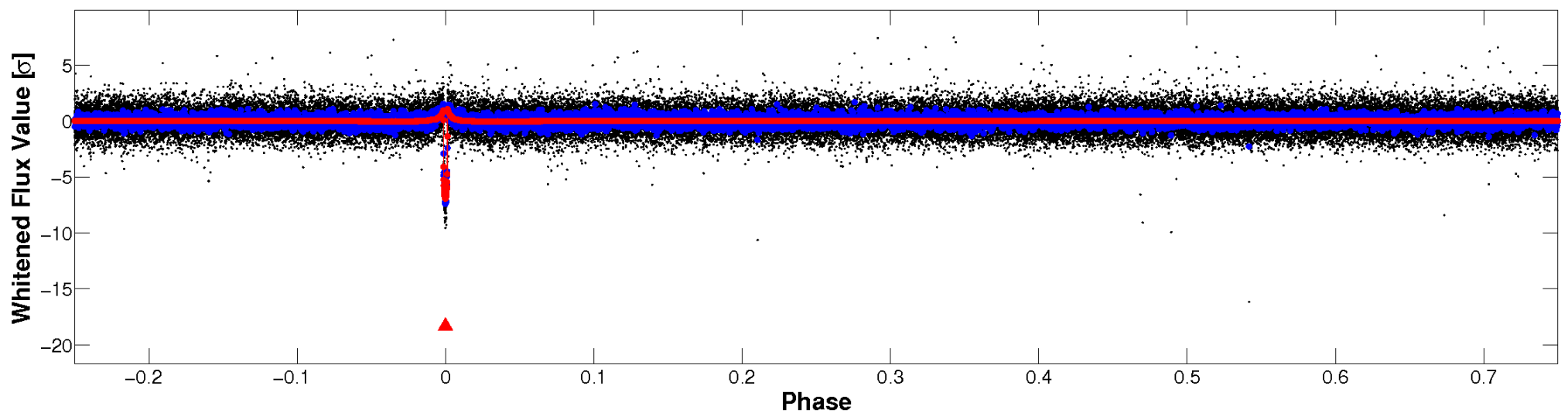


Non-Whitened Vs. Whitened Light Curve

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

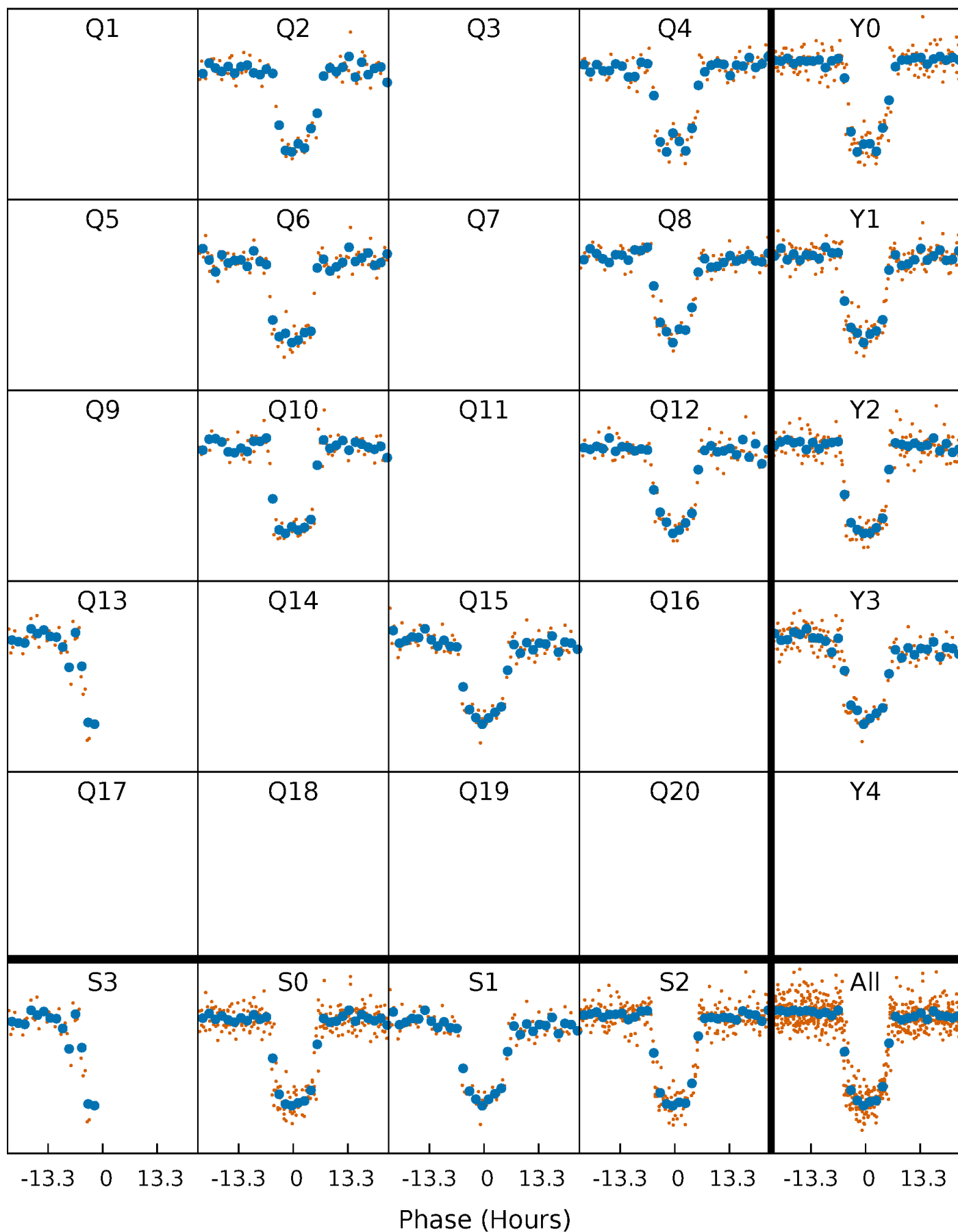


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



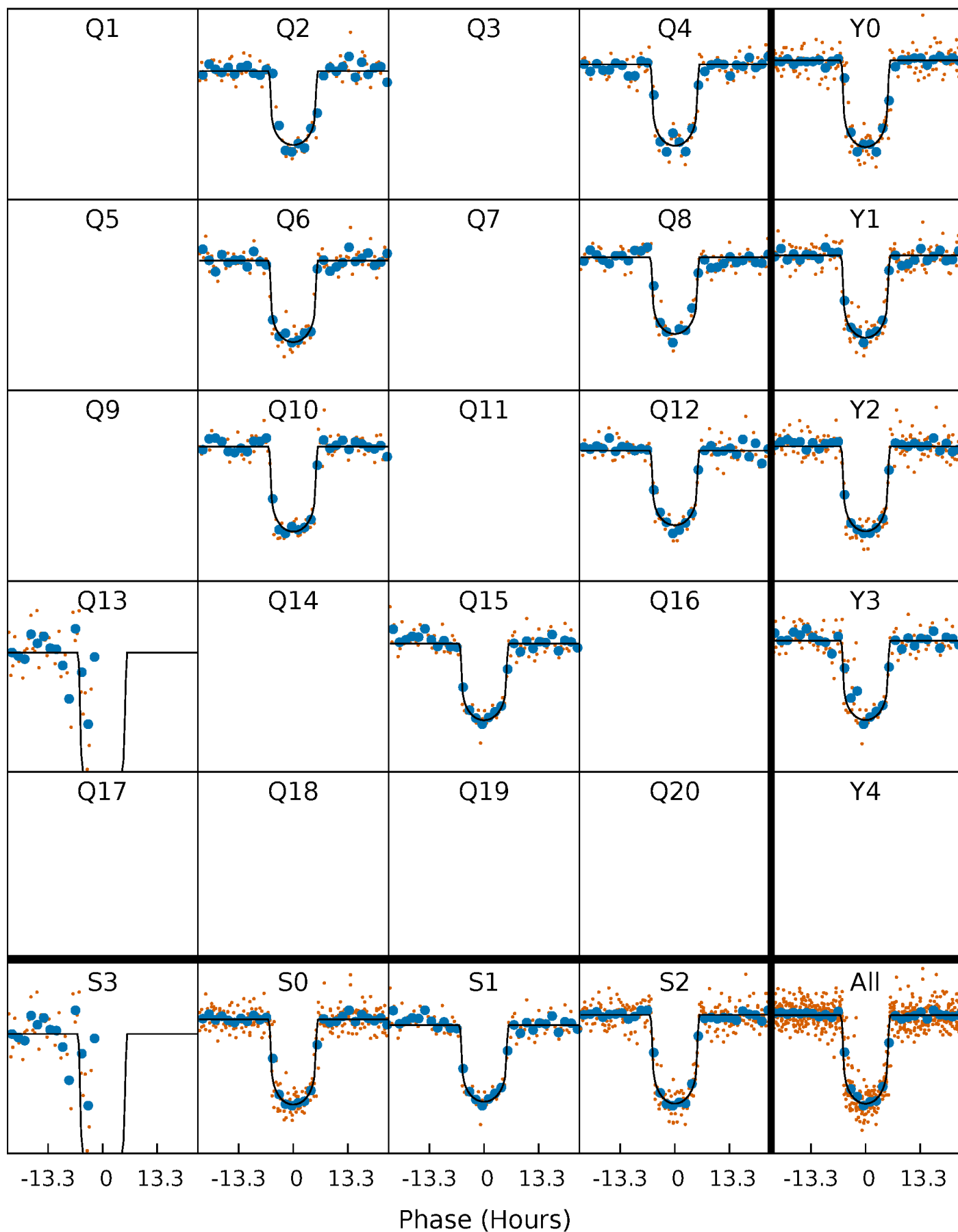
PDC Quarter-Phased Transit Curves

TCE 008686097-01 P=172.705001 Days $T_0=236.921436$ (BKJD)



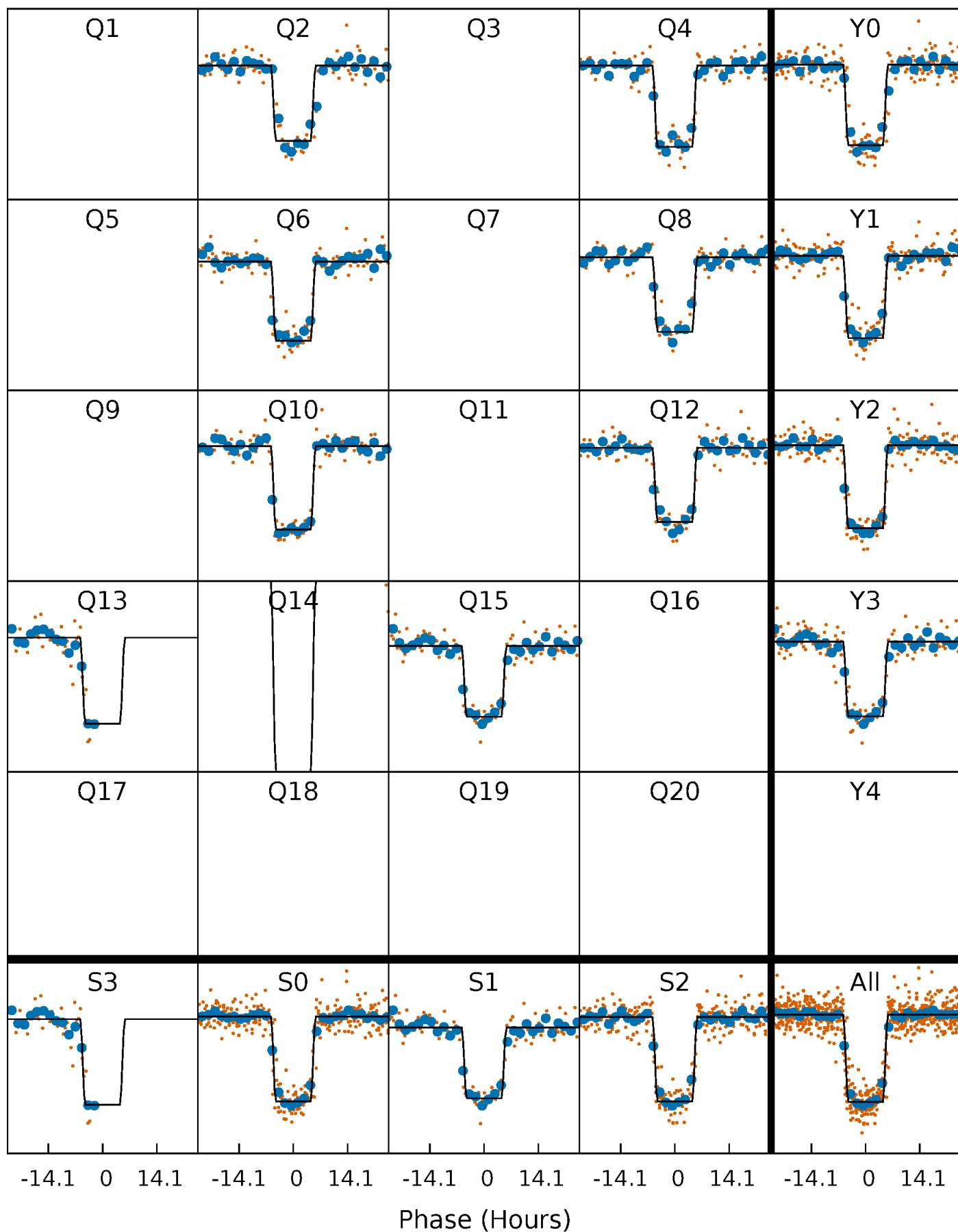
DV Quarter-Phased Transit Curves

TCE 008686097-01 P=172.705001 Days $T_0=236.921436$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

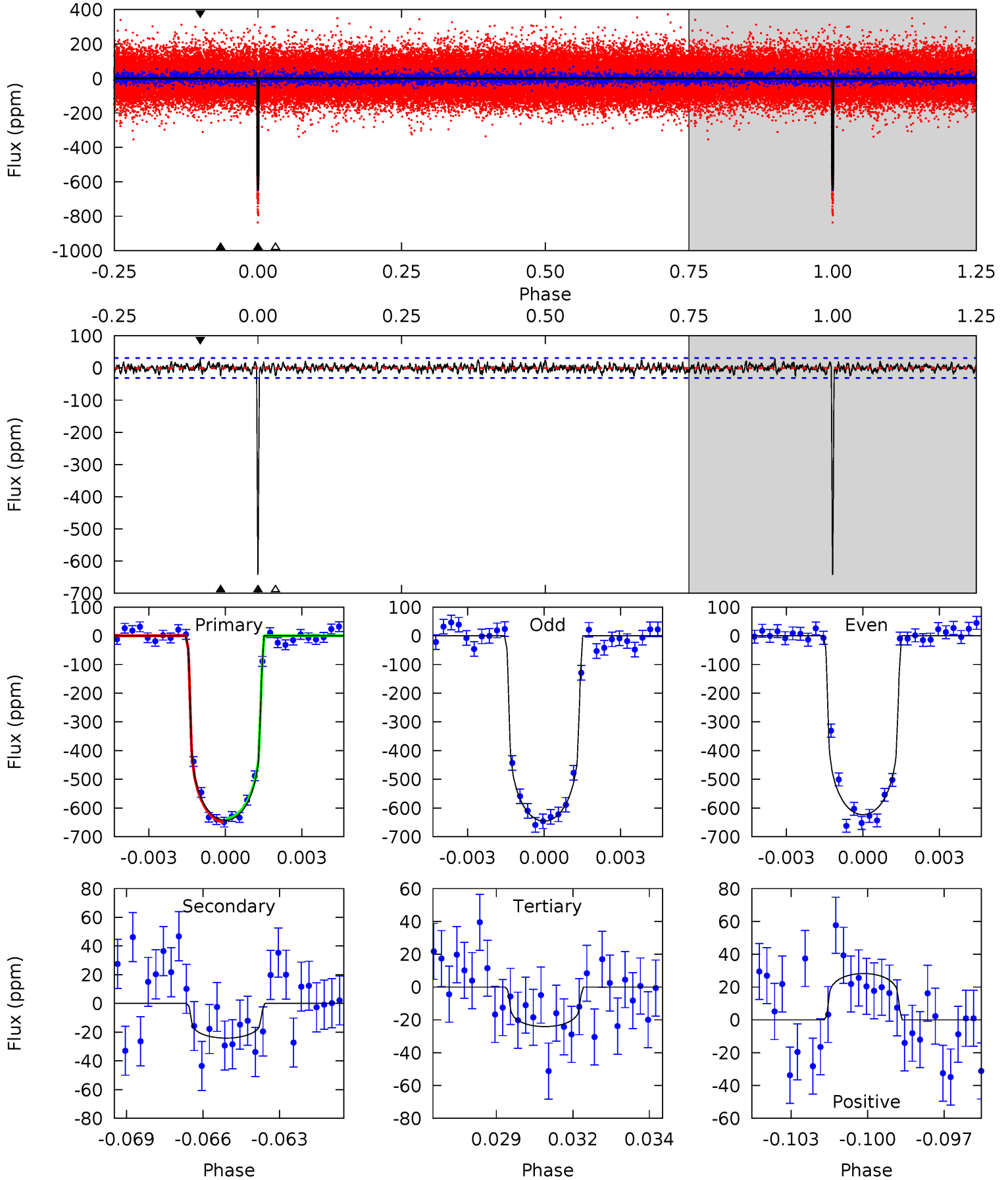
TCE 008686097-01 P=172.704449 Days $T_0=236.927319$ (BKJD)



DV Model-Shift Uniqueness Test

008686097-01, $P = 172.705001$ Days, $E = 64.216435$ Days

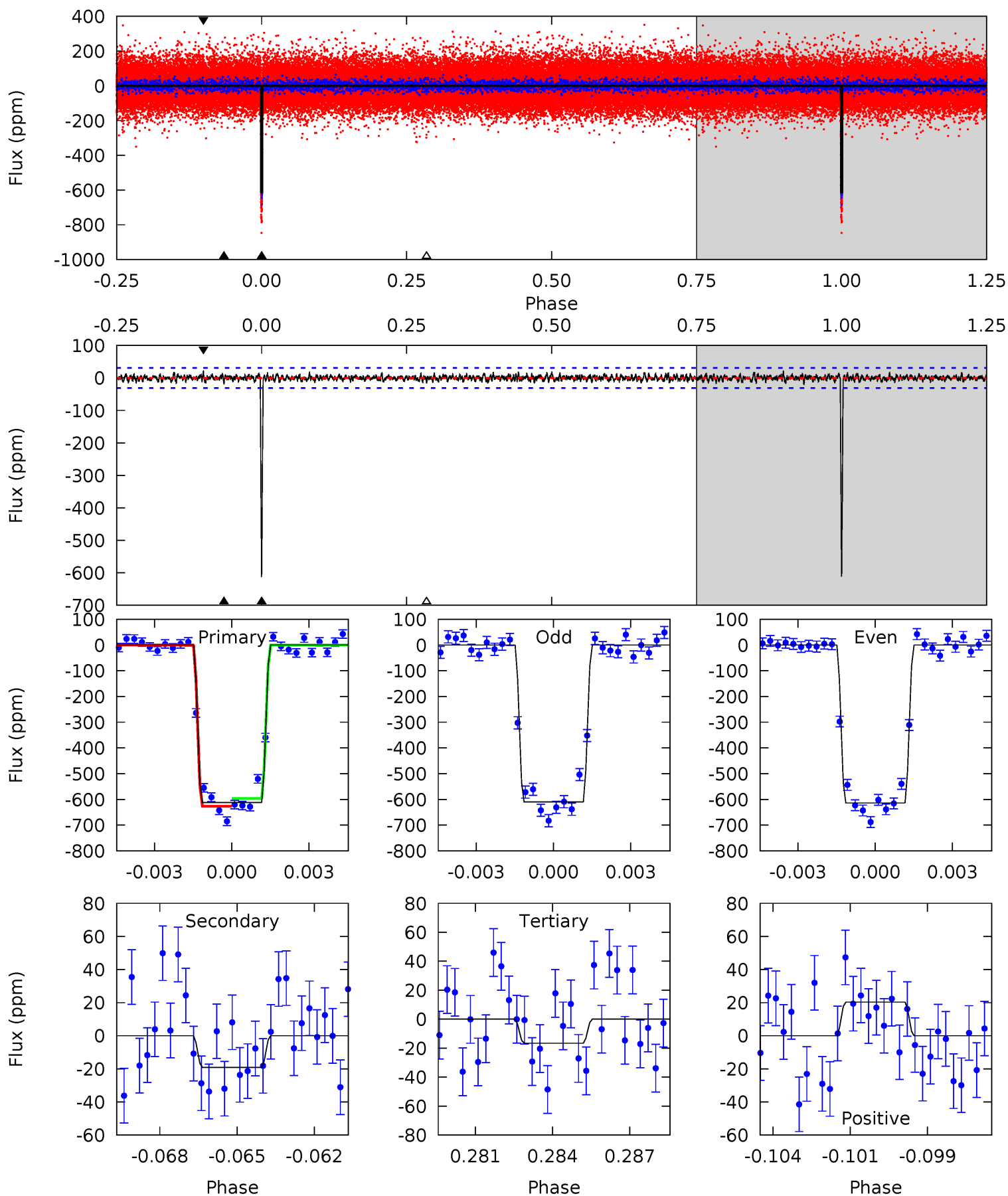
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
108.8	4.08	4.08	4.78	5.26	2.98	1.32	104.7	104.0	0.01	-0.69	1.92	0.93	0.04	1.09



Alt Model-Shift Uniqueness Test

008686097-01, $P = 172.704449$ Days, $E = 64.222870$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
103.9	3.25	2.82	3.46	5.26	2.99	0.96	101.1	100.5	0.43	-0.20	0.30	1.00	0.03	2.53



Stellar Parameters For KIC 008686097

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5851^{+105}_{-117}	$4.302^{+0.156}_{-0.104}$	$-0.220^{+0.150}_{-0.150}$	$1.116^{+0.175}_{-0.175}$	$0.910^{+0.073}_{-0.060}$	$0.922^{+0.666}_{-0.278}$
	+2%/-2%	+4%/-2%	+68%/-68%	+16%/-16%	+8%/-7%	+72%/-30%
Source	SPE59	SPE59	SPE59	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008686097-01 / KOI 0374.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-24 ± 6	$2.98^{+0.29}_{-0.30}$	494^{+21}_{-23}	3204^{+120}_{-140}	521^{+183}_{-150}
Alt.	-19 ± 6	$3.02^{+0.33}_{-0.32}$	495^{+23}_{-26}	3079^{+144}_{-179}	396^{+174}_{-144}

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 $A_{\text{obs}} \gg 1.0$

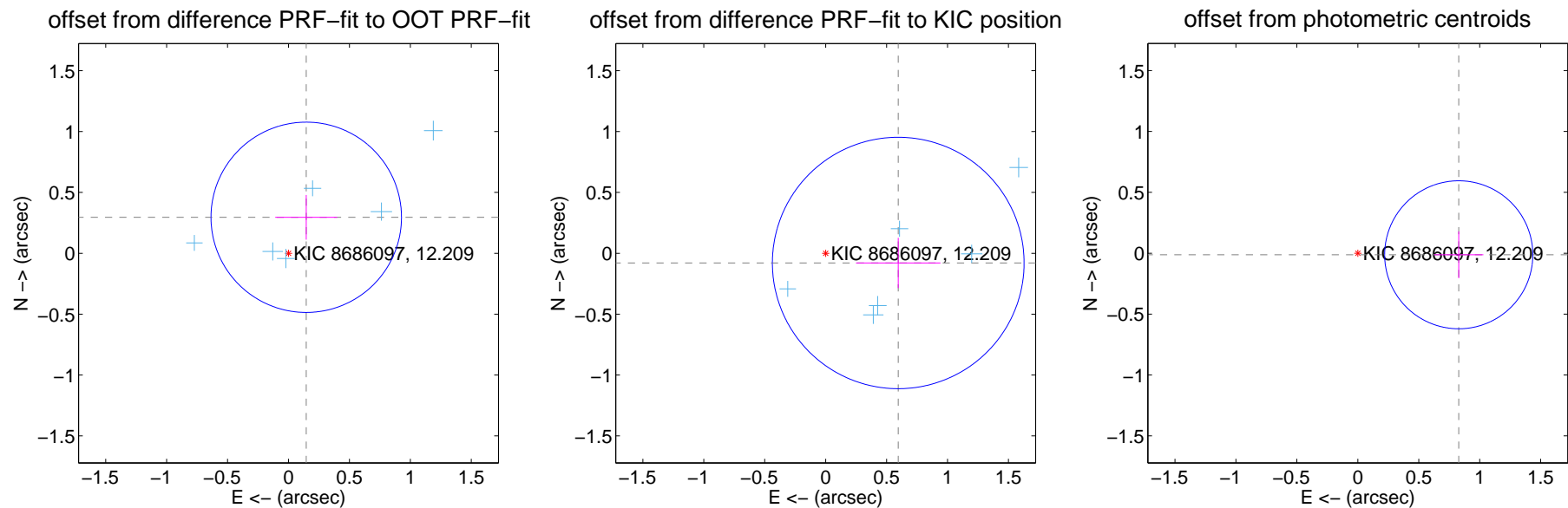
DV Centroid Data

Supplemental centroid analysis for 008686097-01. Kepler magnitude: 12.21. Transit SNR 76.09

There are 6 quarters with good PRF difference image offsets

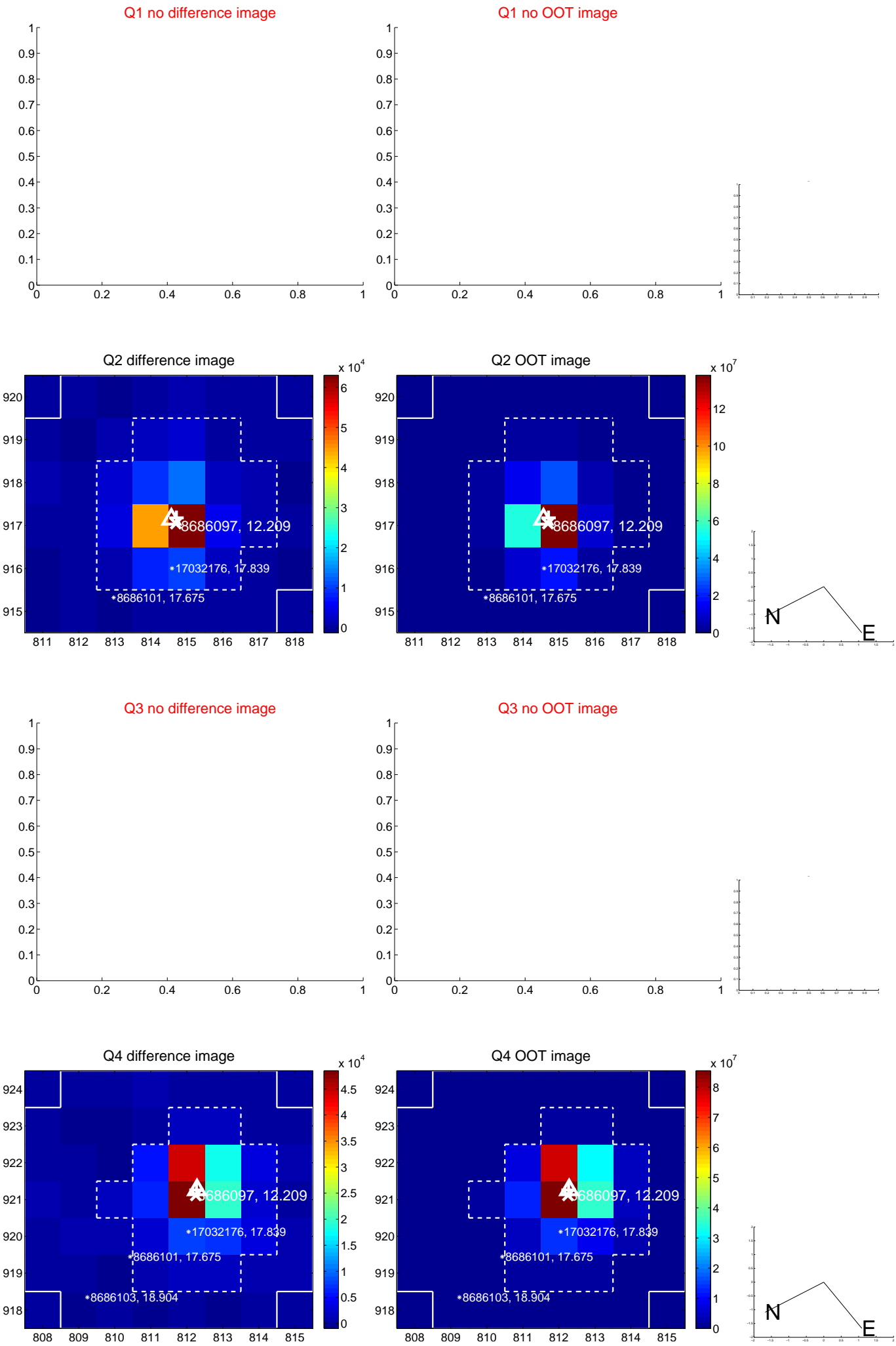
The direct PRF centroid is offset from the target star catalog position by about 0.74 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.330 ± 0.261	1.26	-0.146 ± 0.255	0.296 ± 0.184
PRF-fit source offset from KIC position	0.601 ± 0.344	1.75	-0.596 ± 0.346	-0.080 ± 0.206
photometric centroid source offset	0.83 ± 0.20	4.09	-0.83 ± 0.20	-0.01 ± 0.19

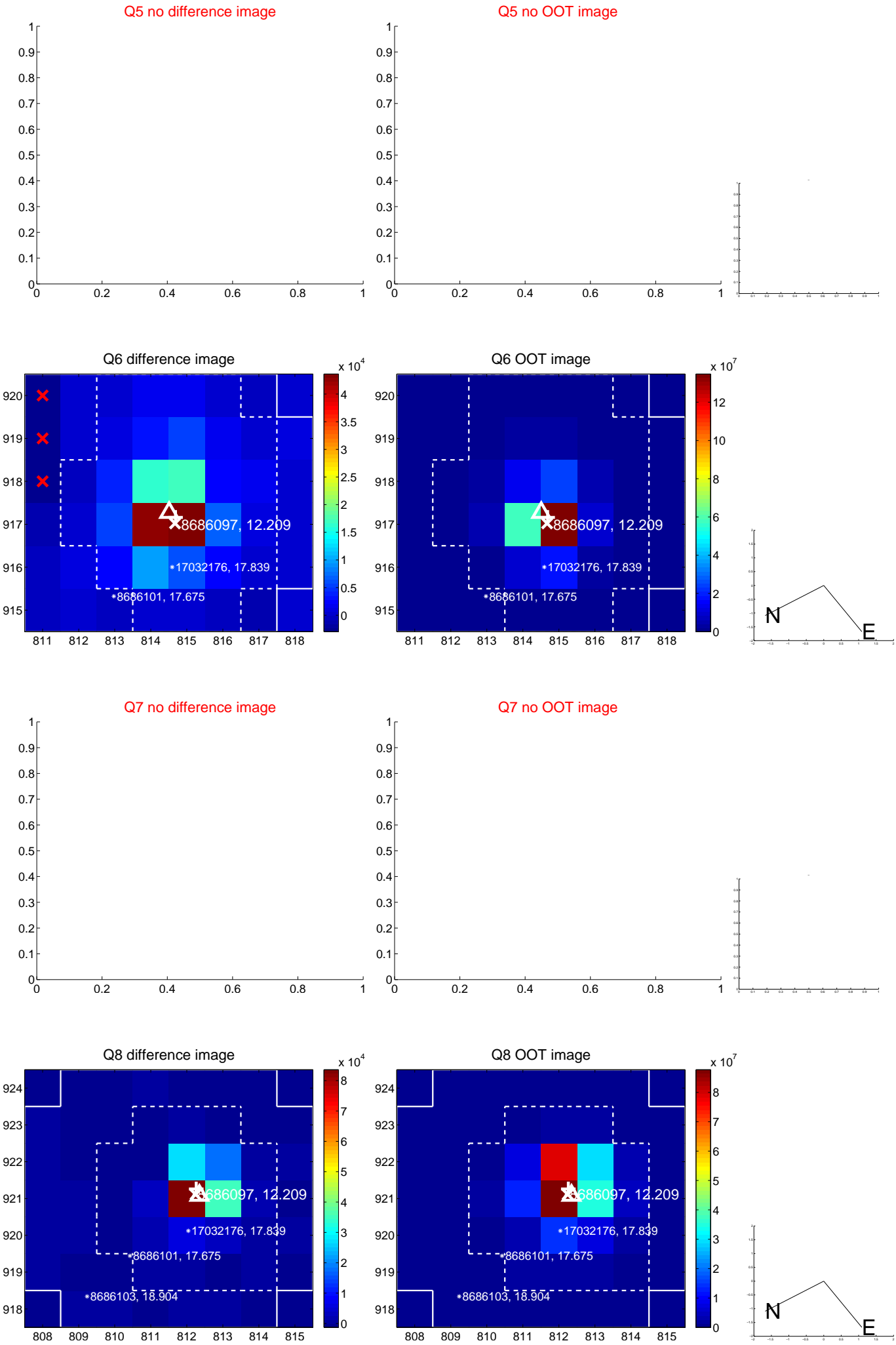


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

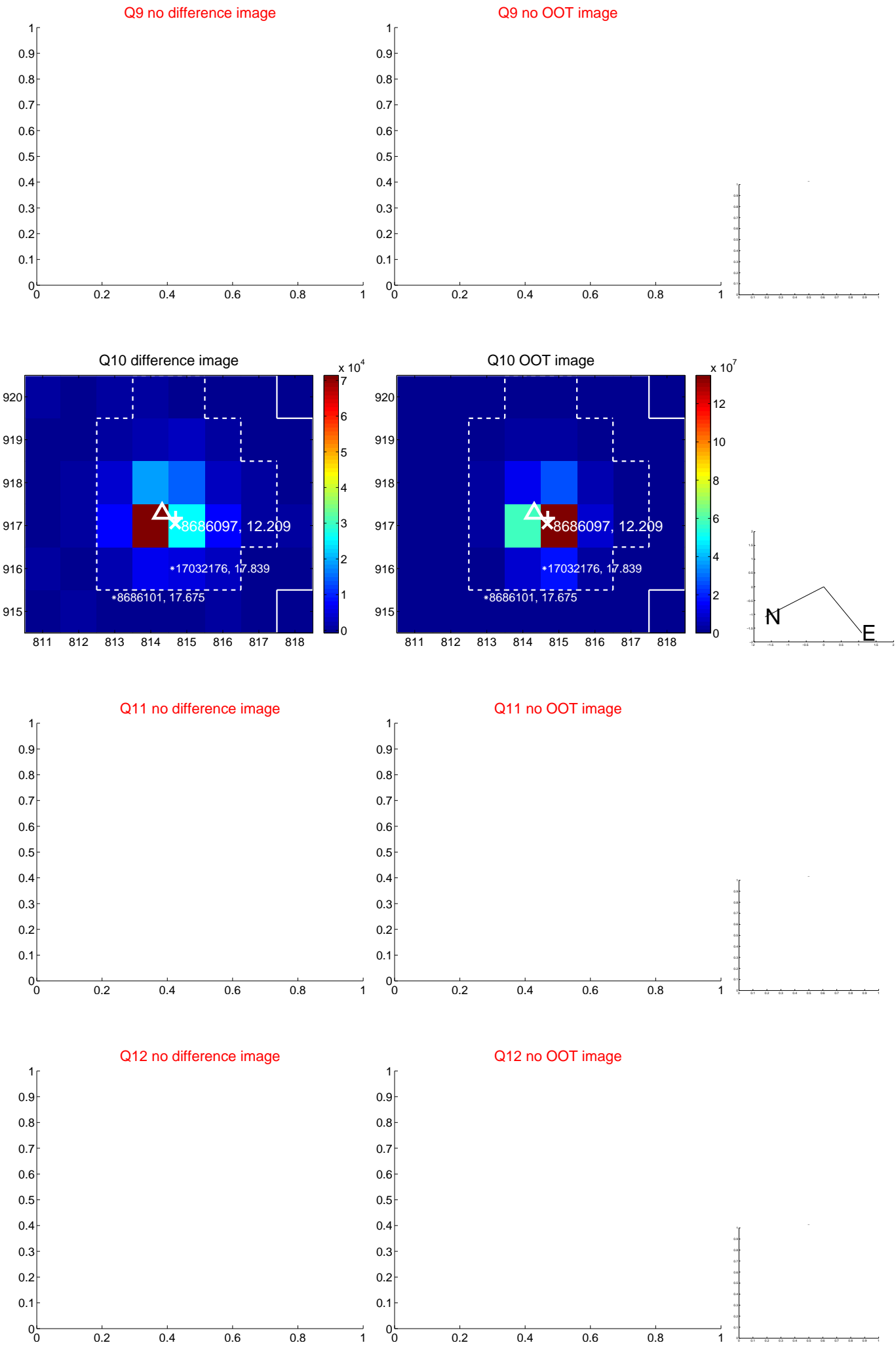
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



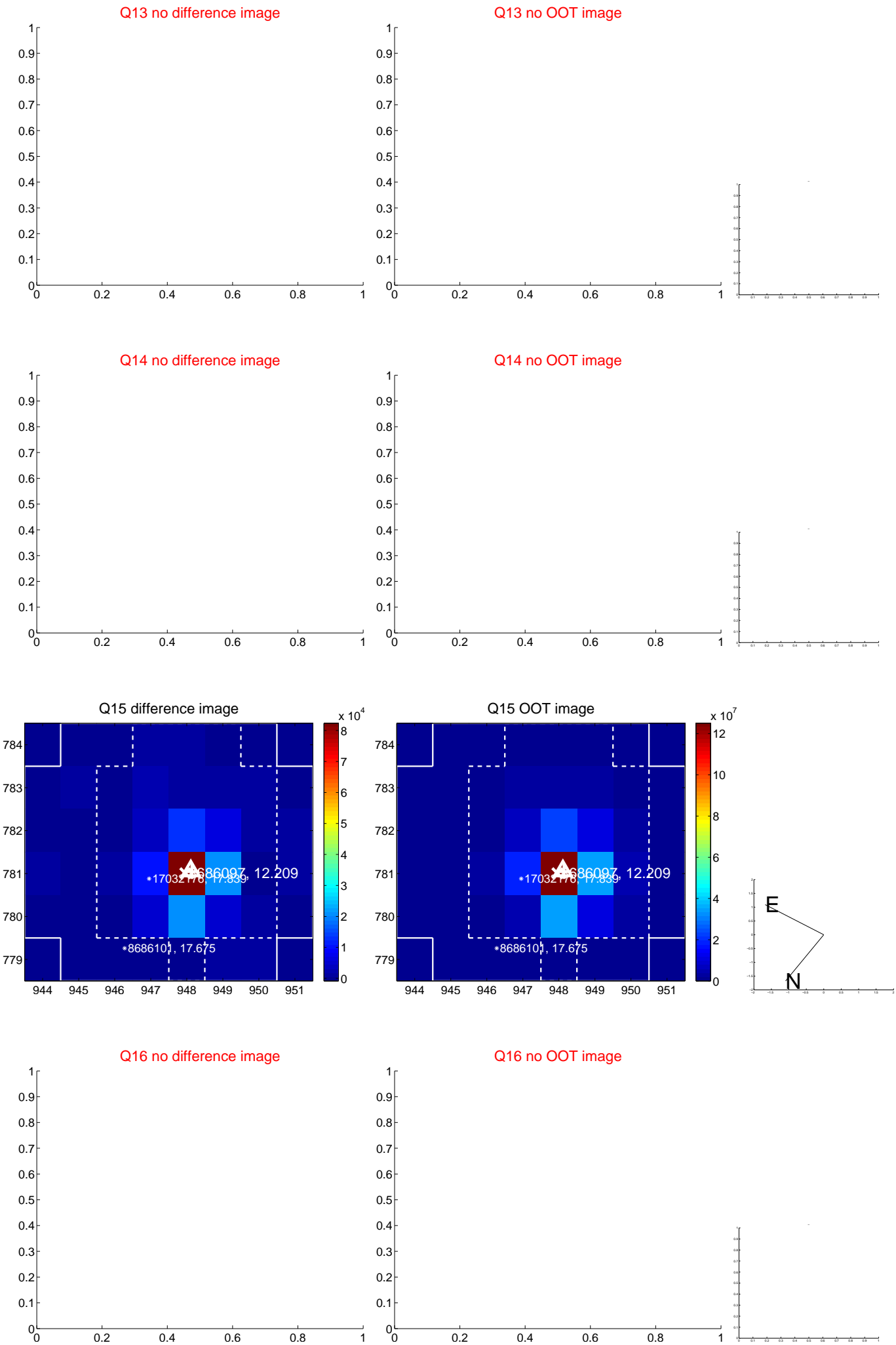
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



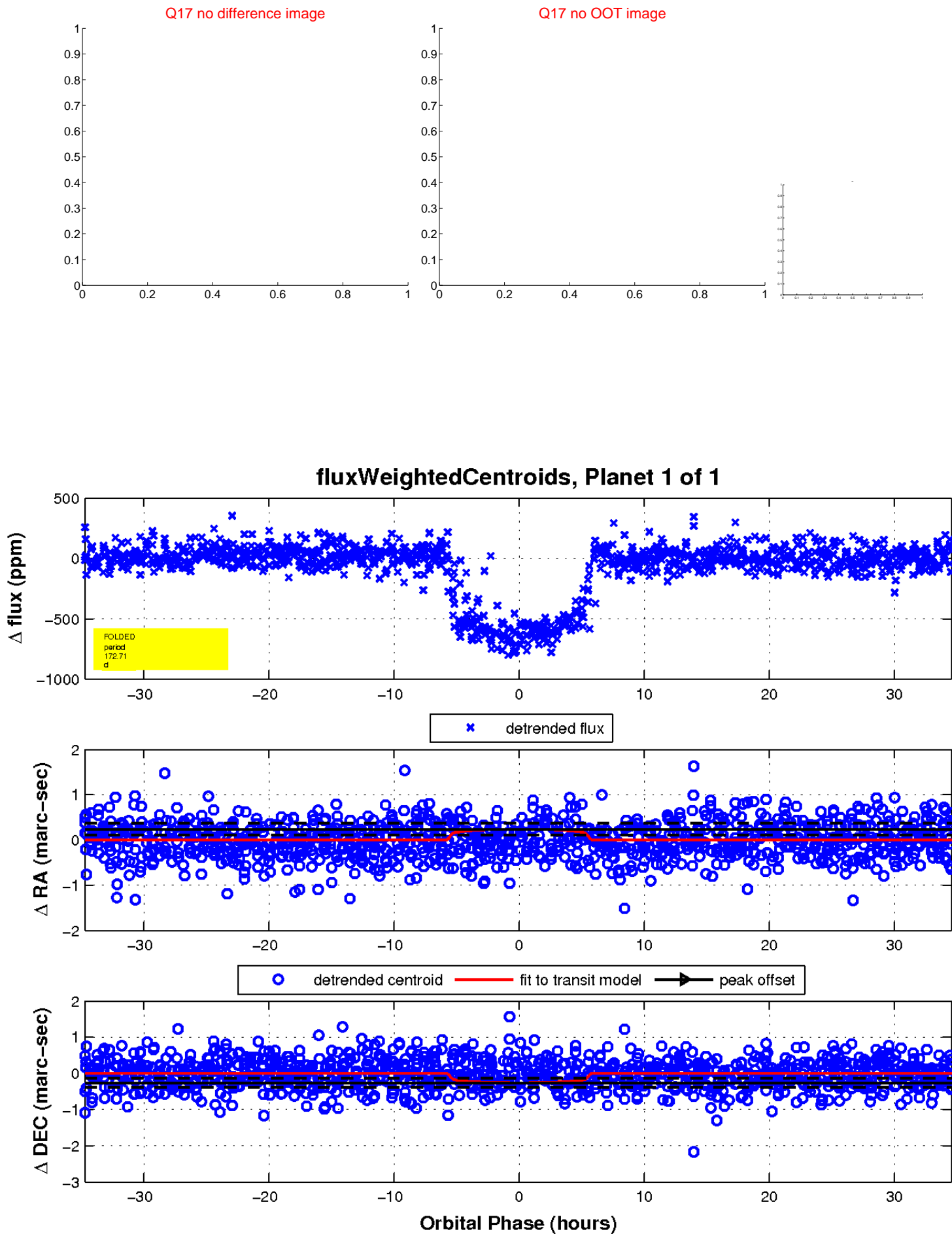
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

