

KIC 003109997

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})
003109997-01	OBS	No	1.661044	132.151656	67.5	14.571	8.0	9.6	1.38	6289	1.13	3606.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003109997-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV

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

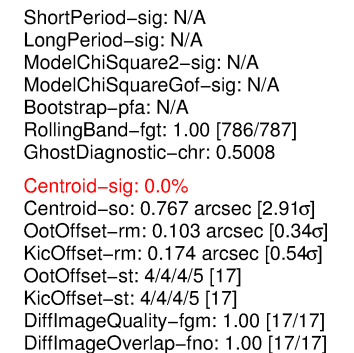
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

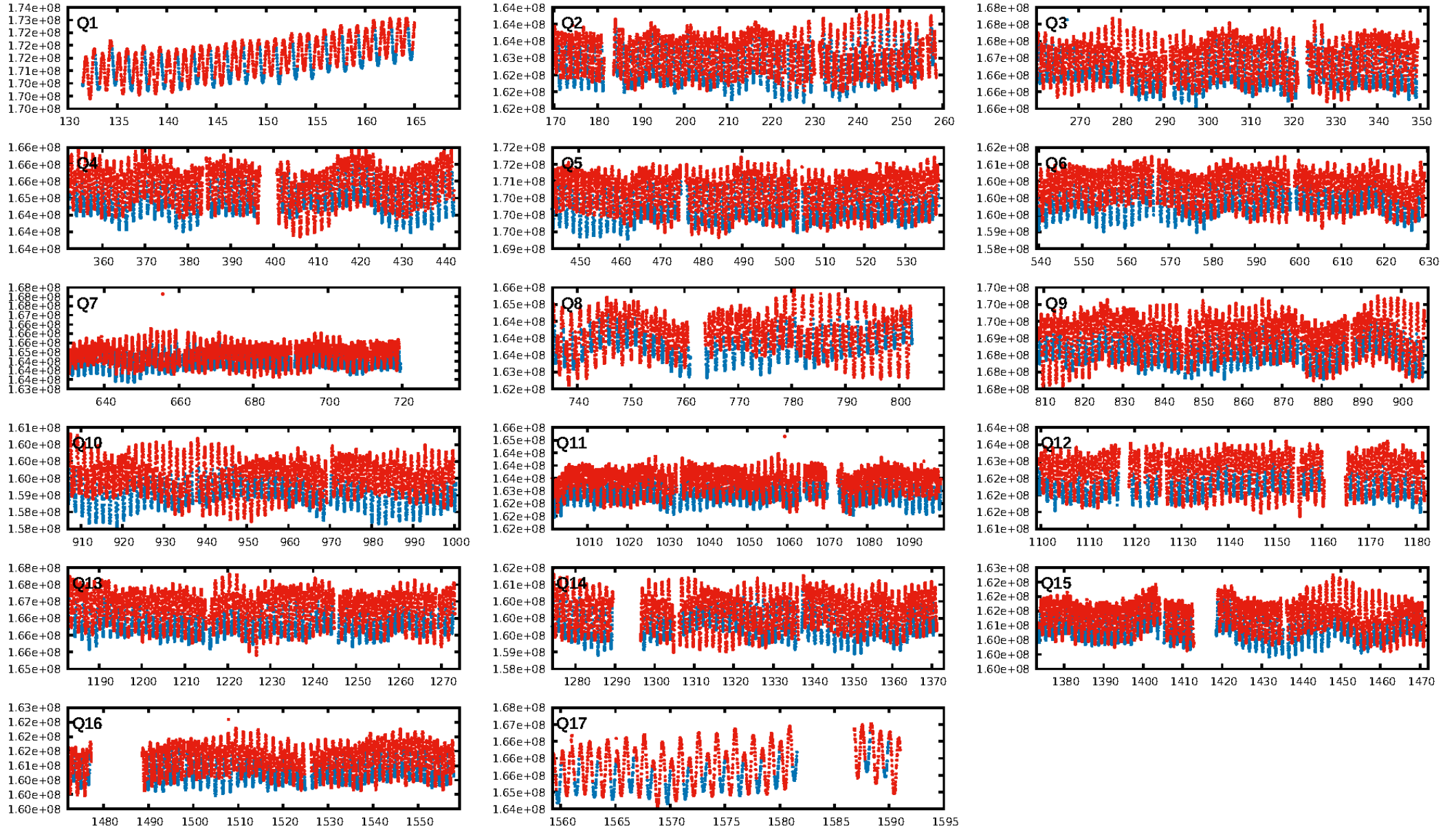
Ephemeris Match Information For 003109997-01

No Significant Match Found

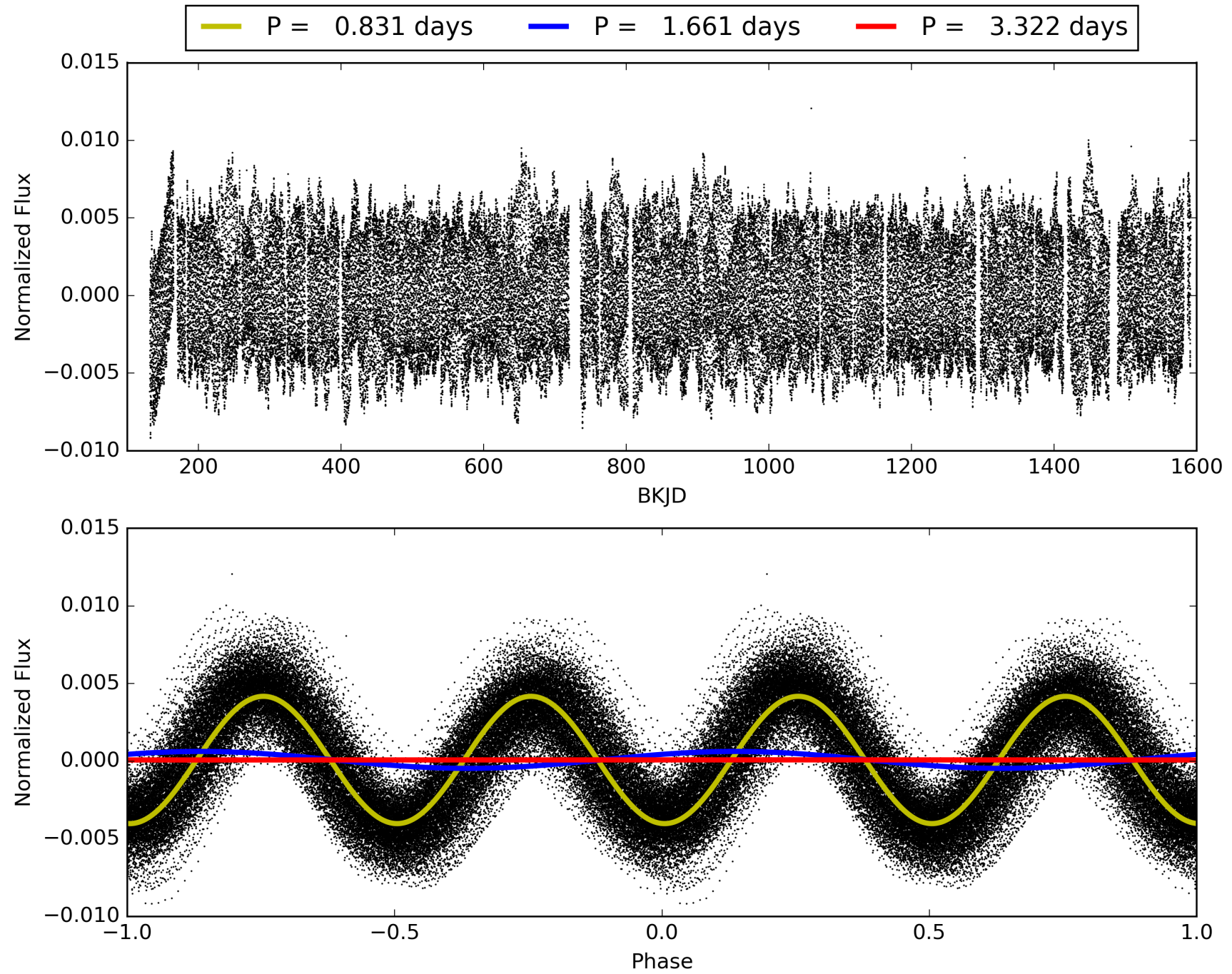
KIC: 3109997 Candidate: 1 of 1 Period: 1.661 d



TCE 003109997-01, PDC Light Curves

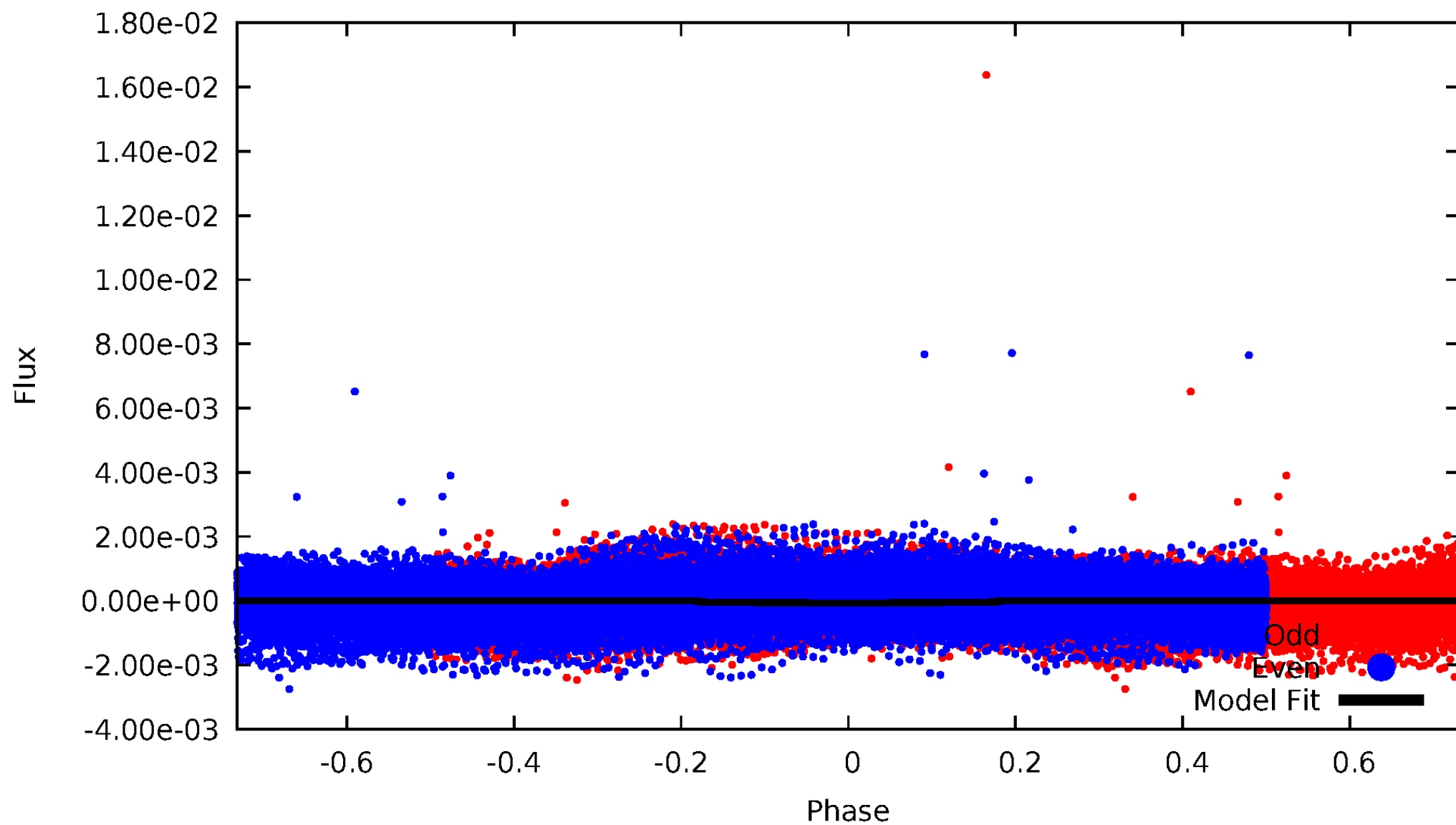


TCE 003109997-01



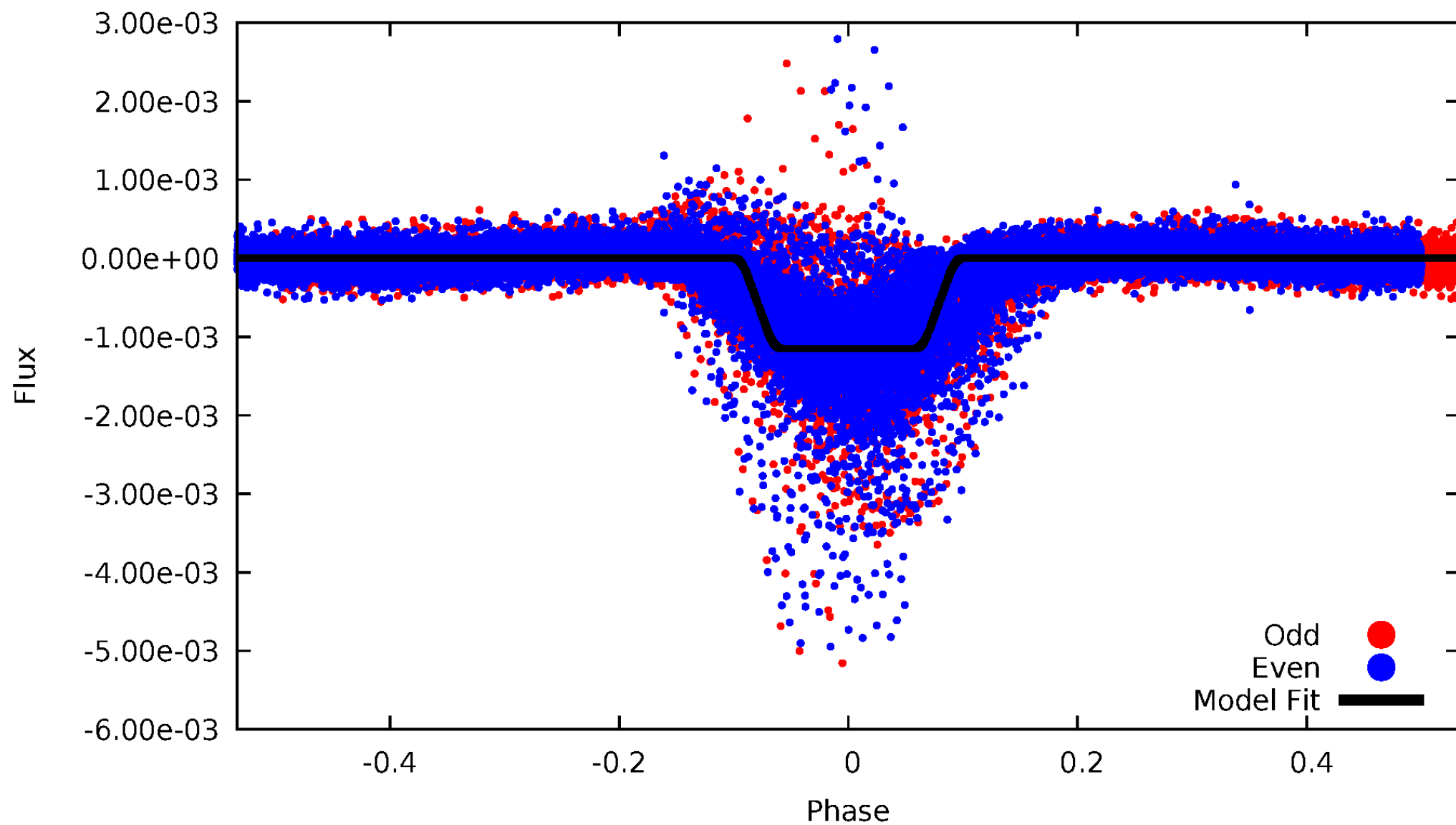
DV Odd/Even

TCE 003109997-01



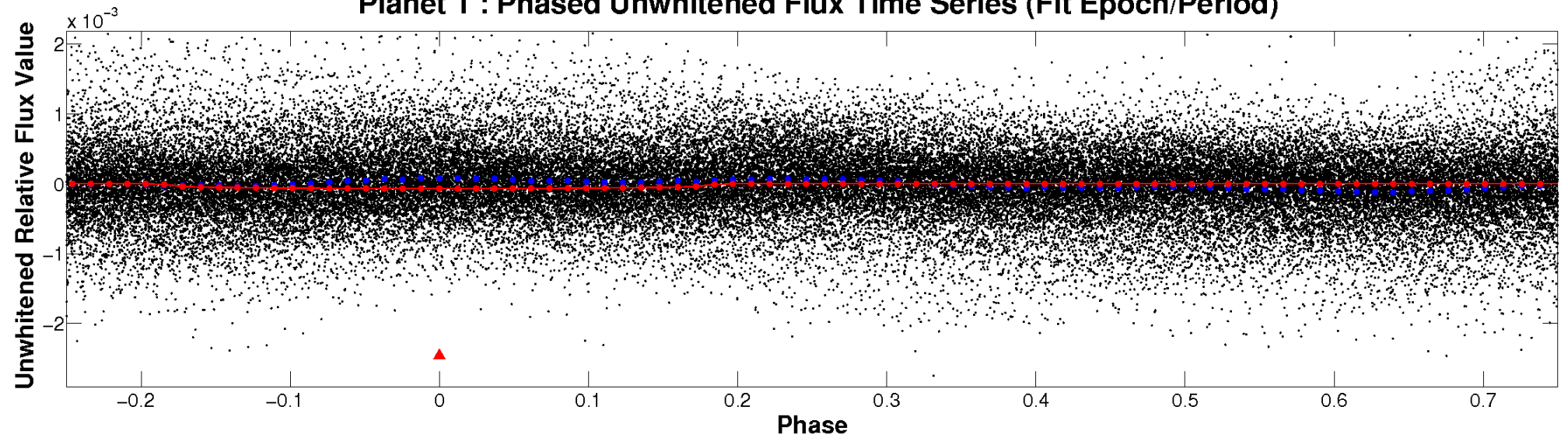
ALT Odd/Even

TCE 003109997-01

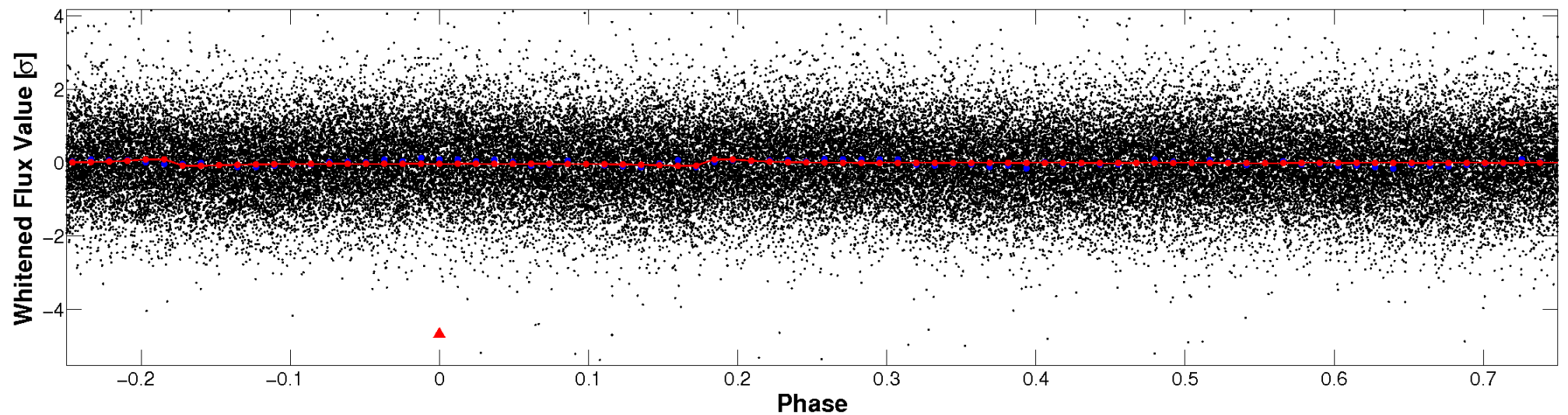


Non-Whitened Vs. Whitened Light Curve

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

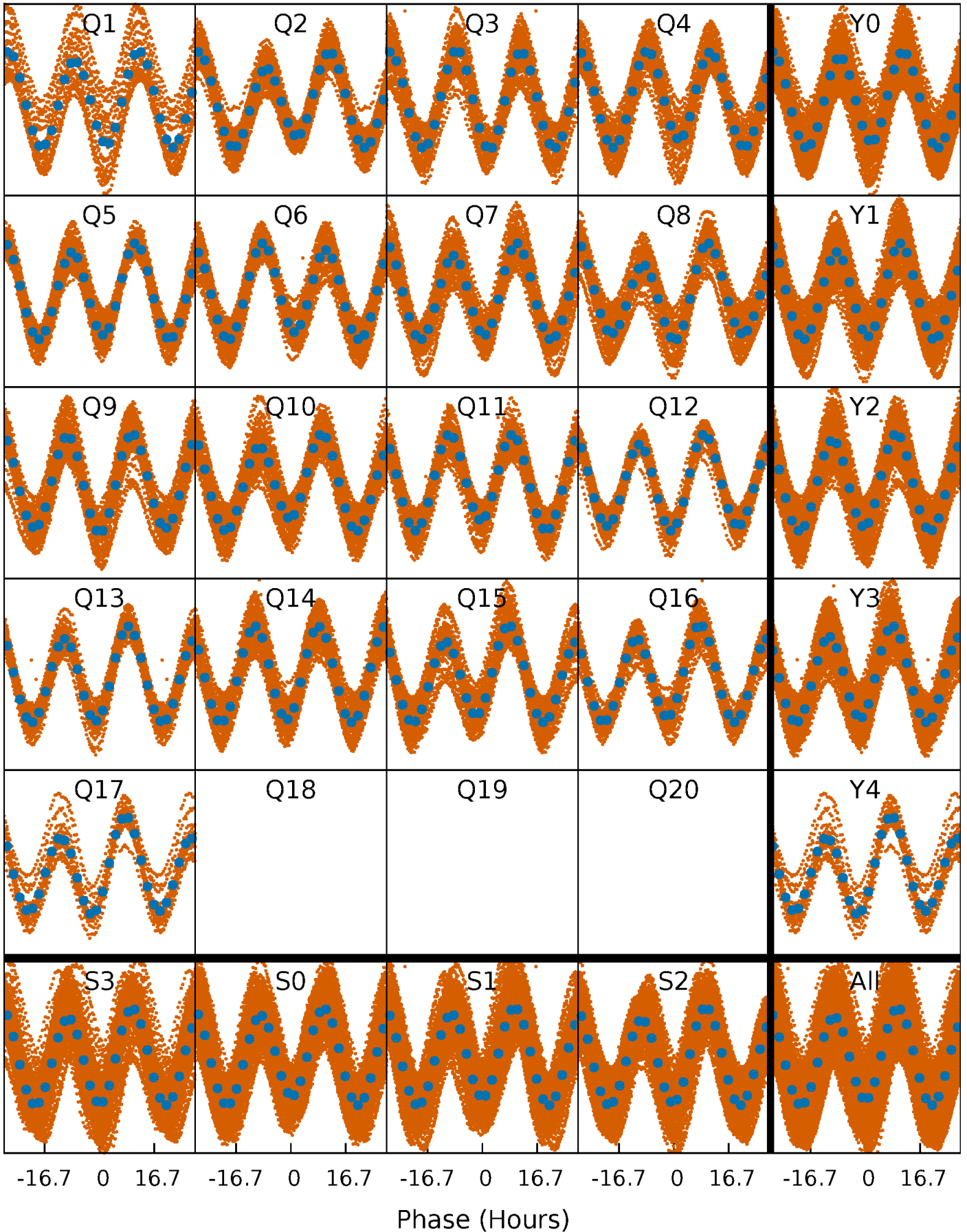


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



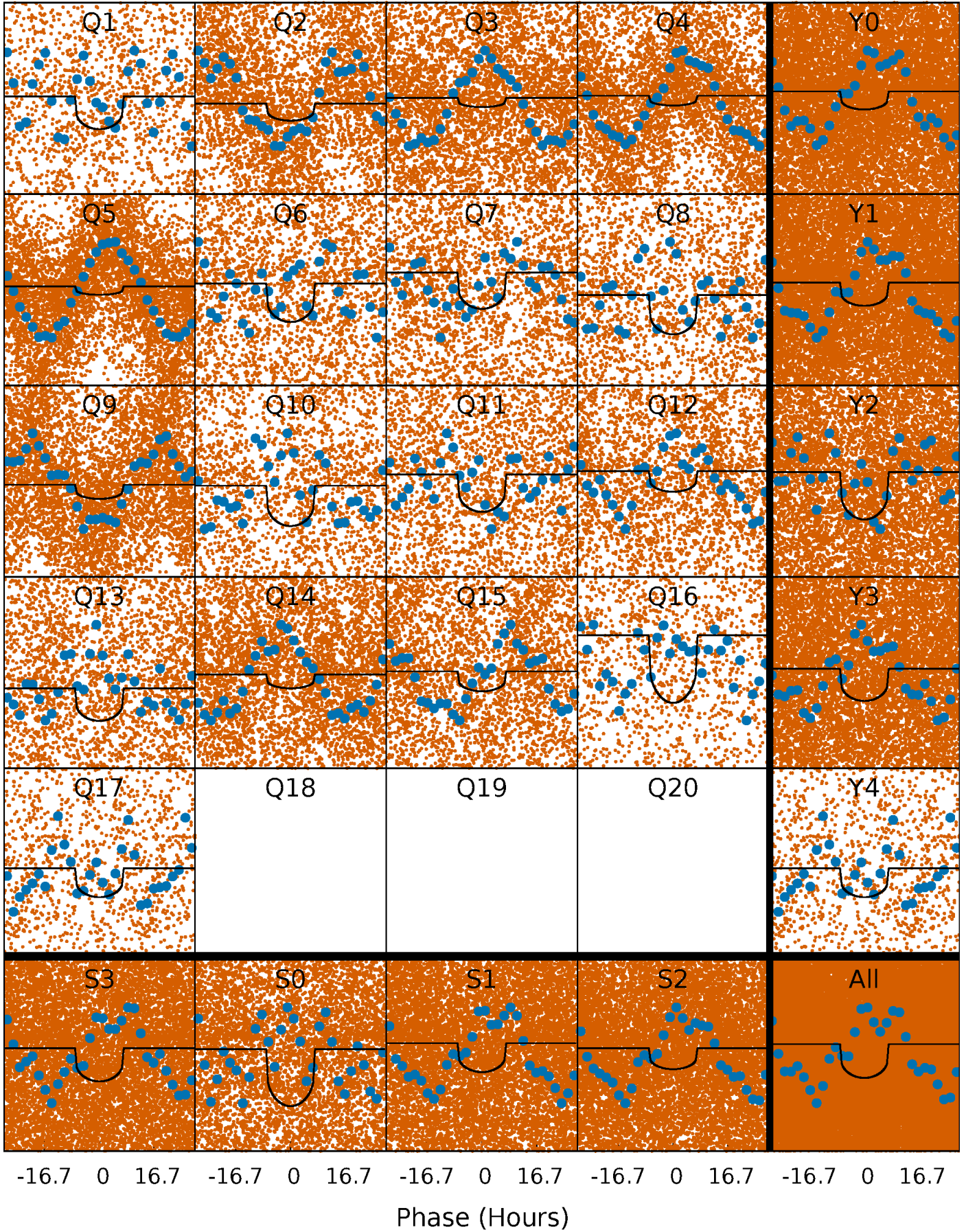
PDC Quarter-Phased Transit Curves

TCE 003109997-01 P= 1.661044 Days $T_0=132.151656$ (BKJD)



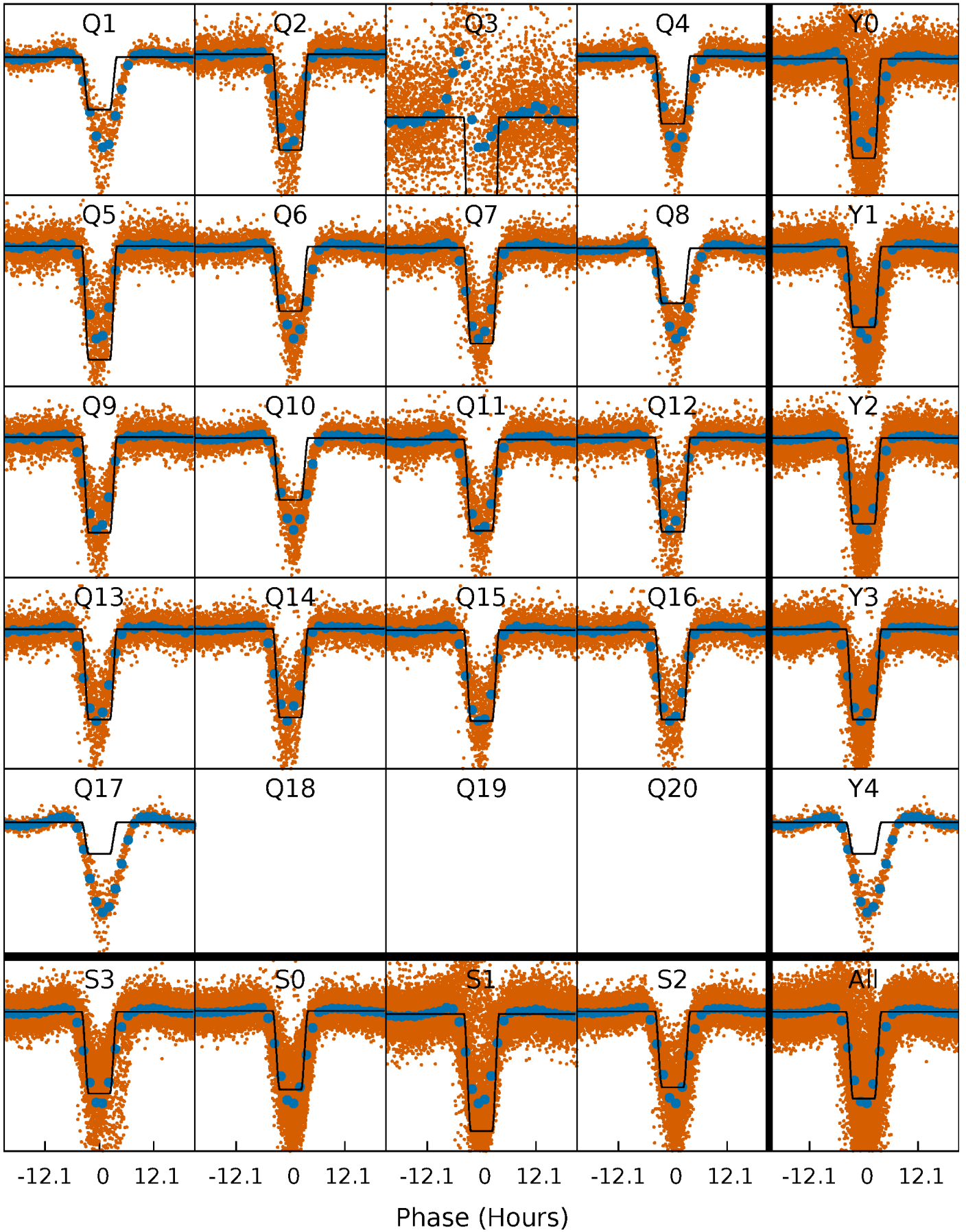
DV Quarter-Phased Transit Curves

TCE 003109997-01 P= 1.661044 Days $T_0=132.151656$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

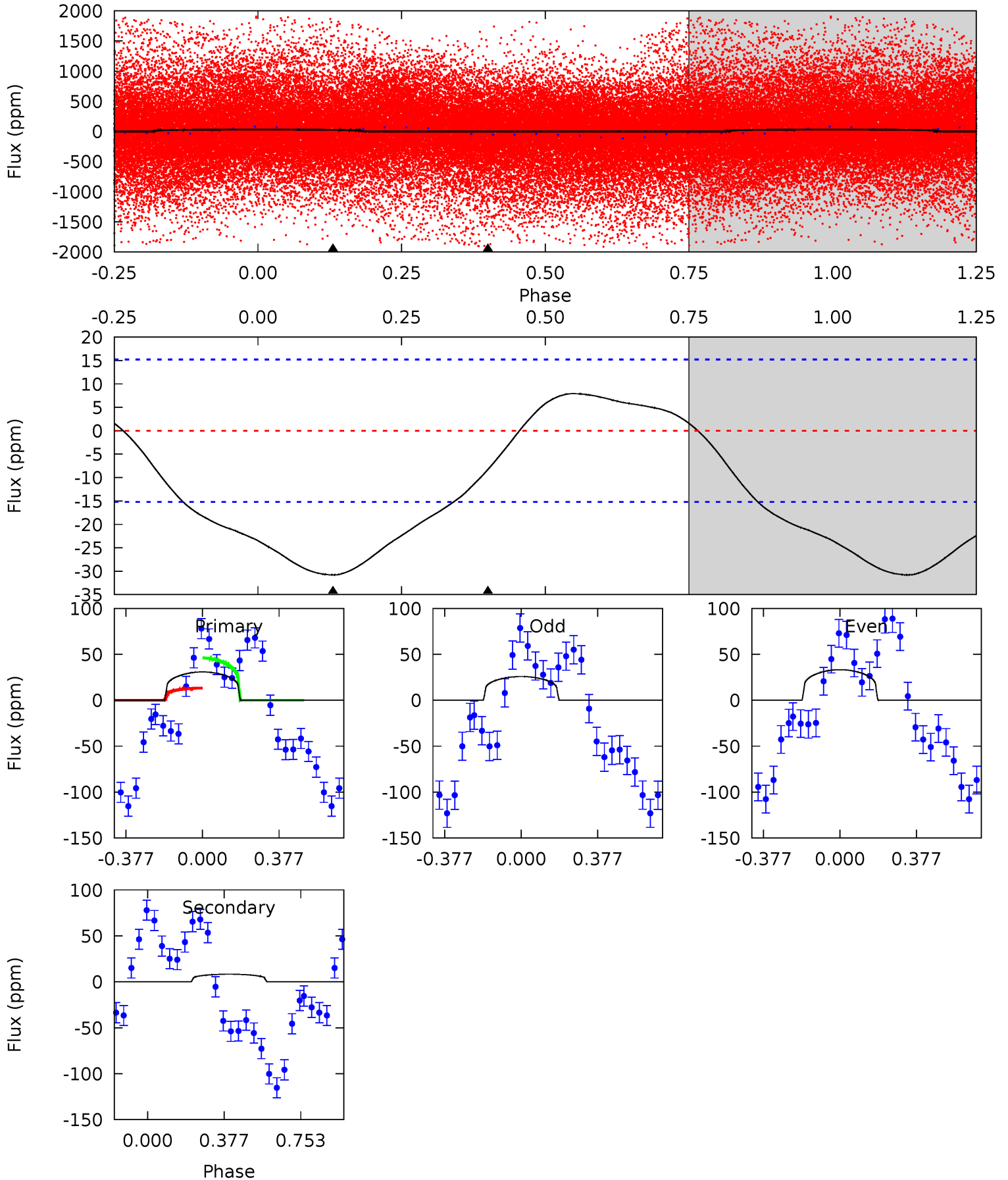
TCE 003109997-01 P= 1.660859 Days $T_0=132.145274$ (BKJD)



DV Model-Shift Uniqueness Test

003109997-01, P = 1.661044 Days, E = 130.490612 Days

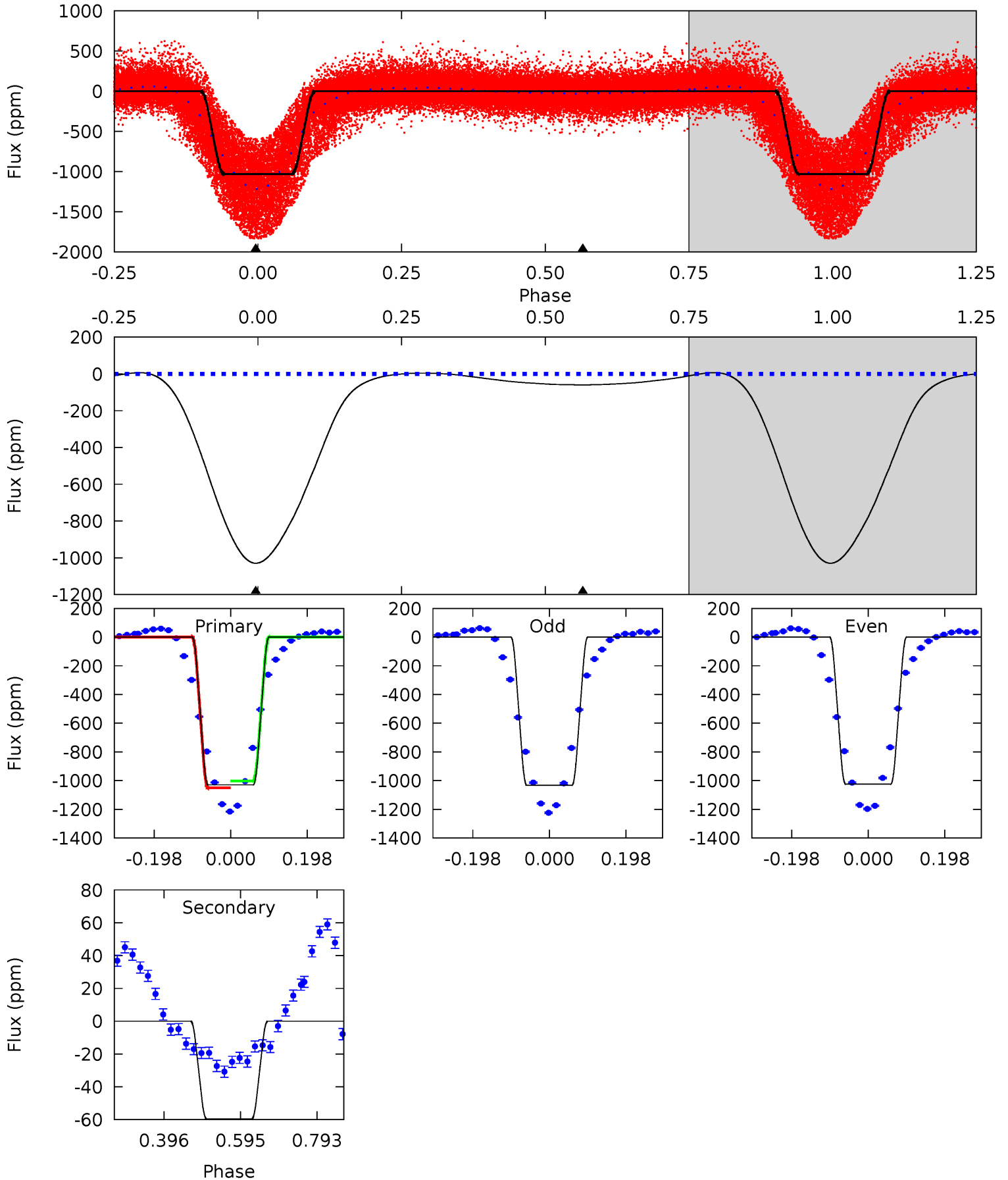
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.66	2.33	0	0	4.28	0.88	0.94	8.66	8.66	2.33	2.33	1.05	-6.76	0.20	5.02



Alt Model-Shift Uniqueness Test

003109997-01, P = 1.660859 Days, E = 130.484415 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
828.2	47.9	0	0	4.42	1.29	7.37	828.2	828.2	47.9	47.9	3.20	1.05	0.01	19.1



Stellar Parameters For KIC 003109997

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6289^{+170}_{-189}	$4.145^{+0.286}_{-0.154}$	$-0.500^{+0.300}_{-0.300}$	$1.376^{+0.387}_{-0.387}$	$0.965^{+0.146}_{-0.106}$	$0.521^{+0.842}_{-0.248}$
	+3%/-3%	+7%/-4%	+60%/-60%	+28%/-28%	+15%/-11%	+161%/-48%
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 003109997-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-8 ± 4	$1.08^{+0.42}_{-0.36}$	2716^{+216}_{-255}	4055^{+748}_{-616}	$2.818^{+4.131}_{-1.627}$
Alt.	-60 ± 1	$4.97^{+0.85}_{-0.86}$	2722^{+198}_{-219}	3300^{+131}_{-142}	$0.992^{+0.404}_{-0.265}$

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

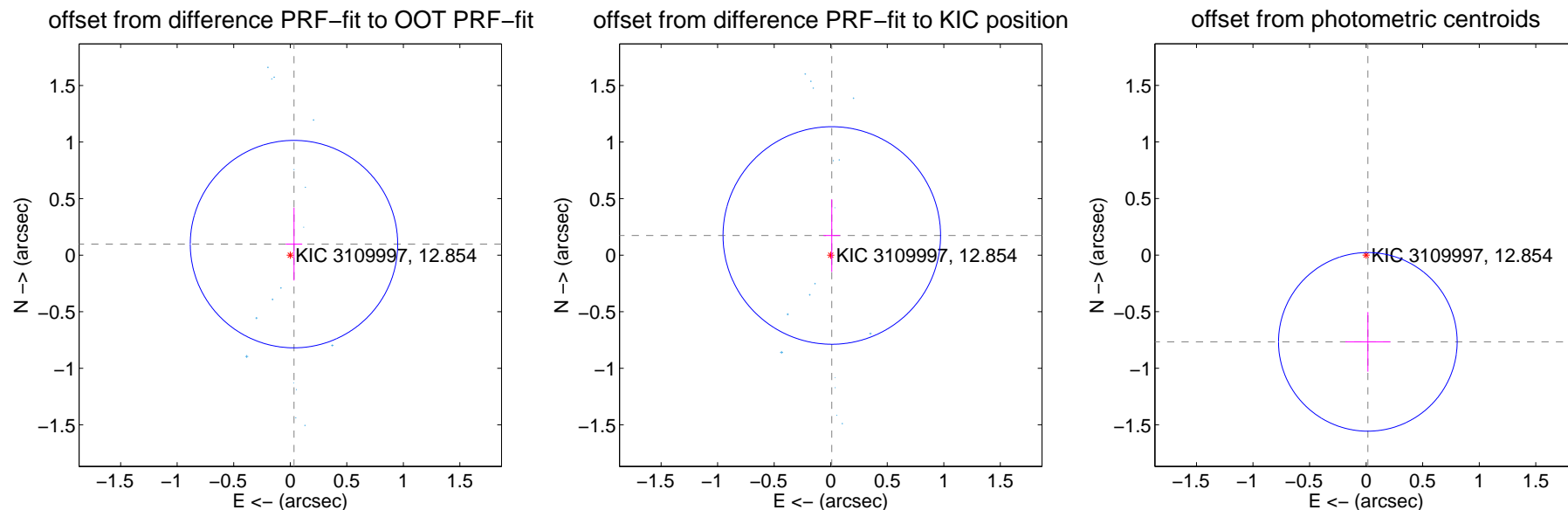
DV Centroid Data

Supplemental centroid analysis for 003109997-01. Kepler magnitude: 12.85. Transit SNR 9.64

There are 17 quarters with good PRF difference image offsets

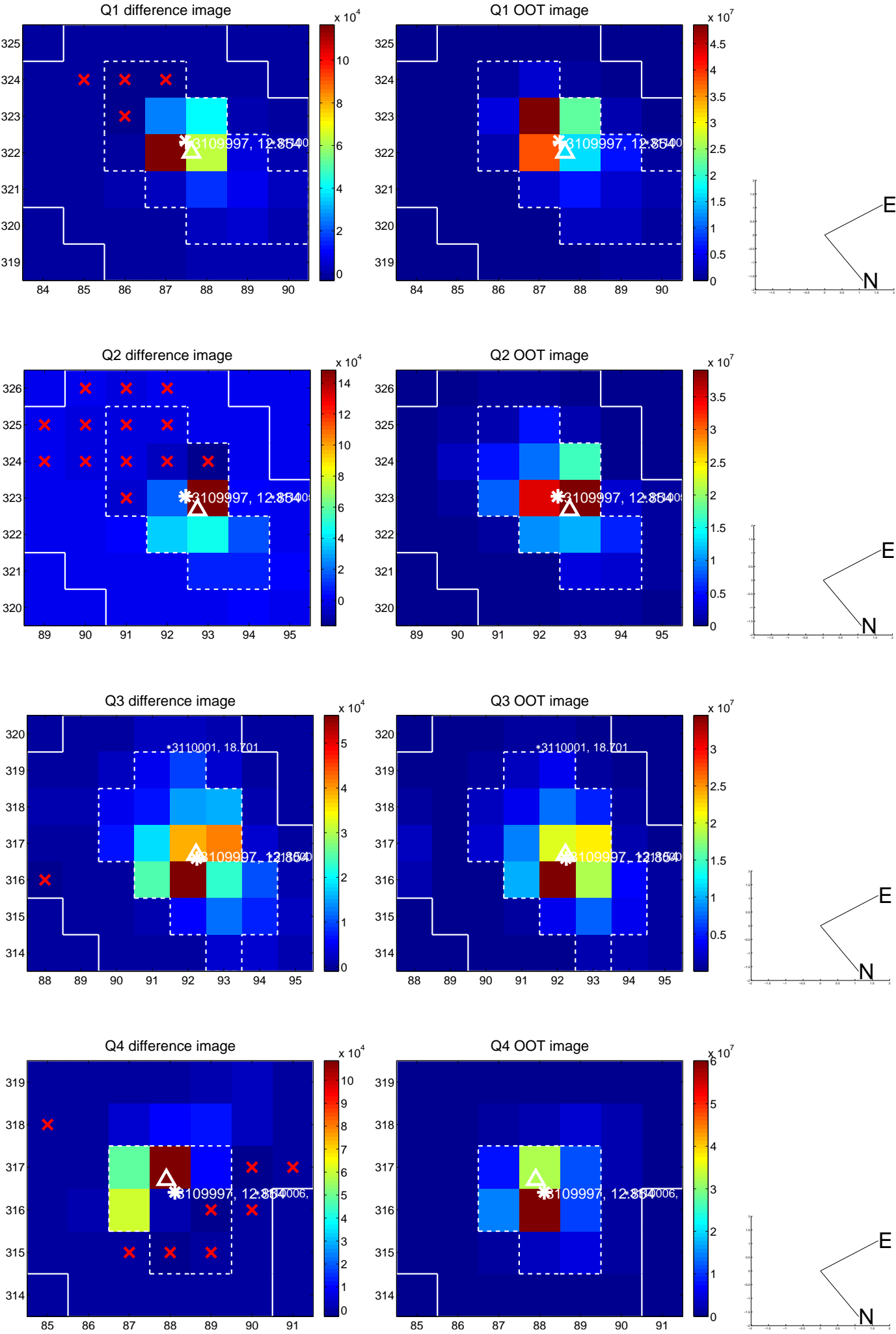
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.103 ± 0.306	0.34	-0.033 ± 0.073	0.098 ± 0.322
PRF-fit source offset from KIC position	0.174 ± 0.321	0.54	-0.010 ± 0.073	0.174 ± 0.321
photometric centroid source offset	0.77 ± 0.26	2.91	-0.02 ± 0.20	-0.77 ± 0.26

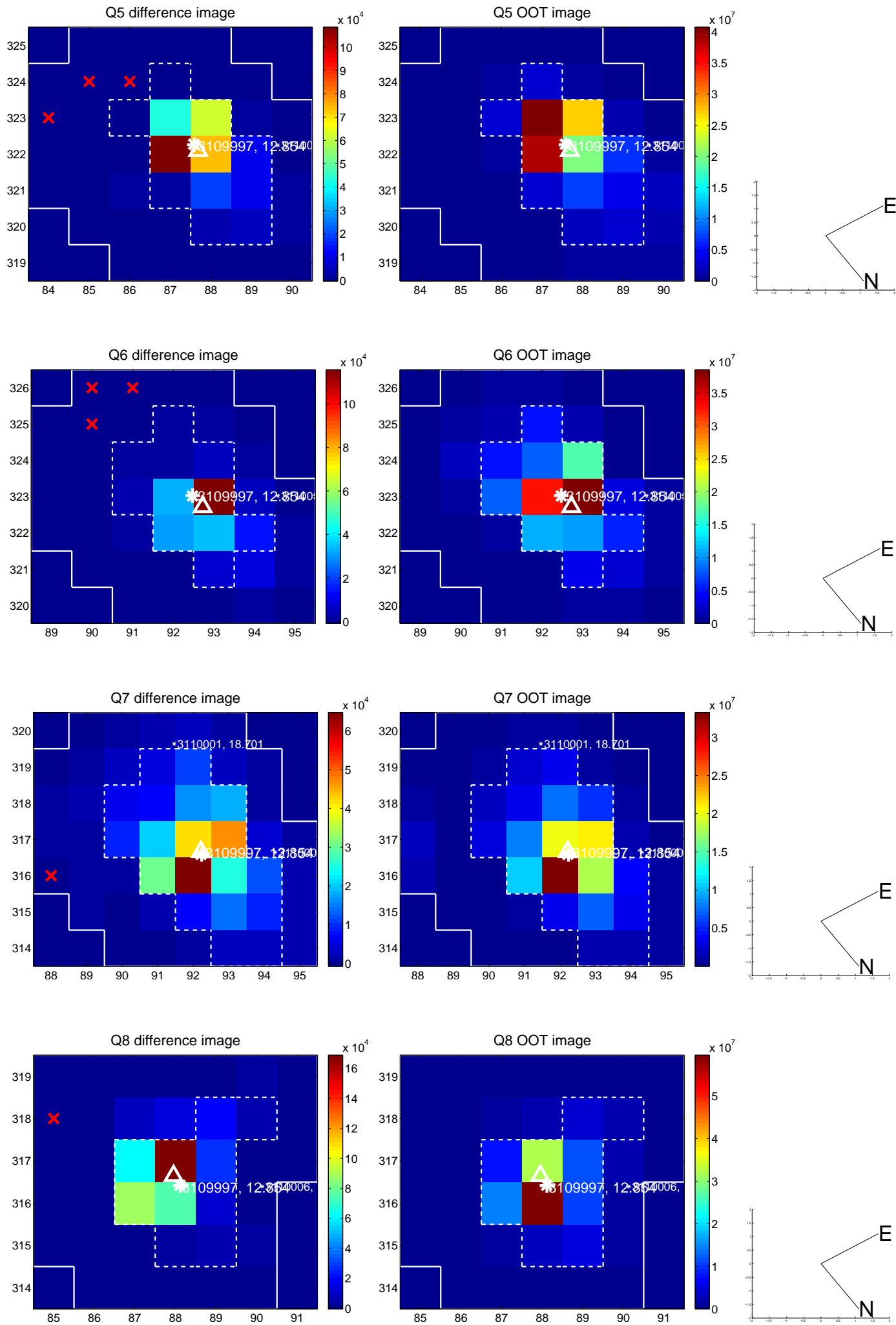


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

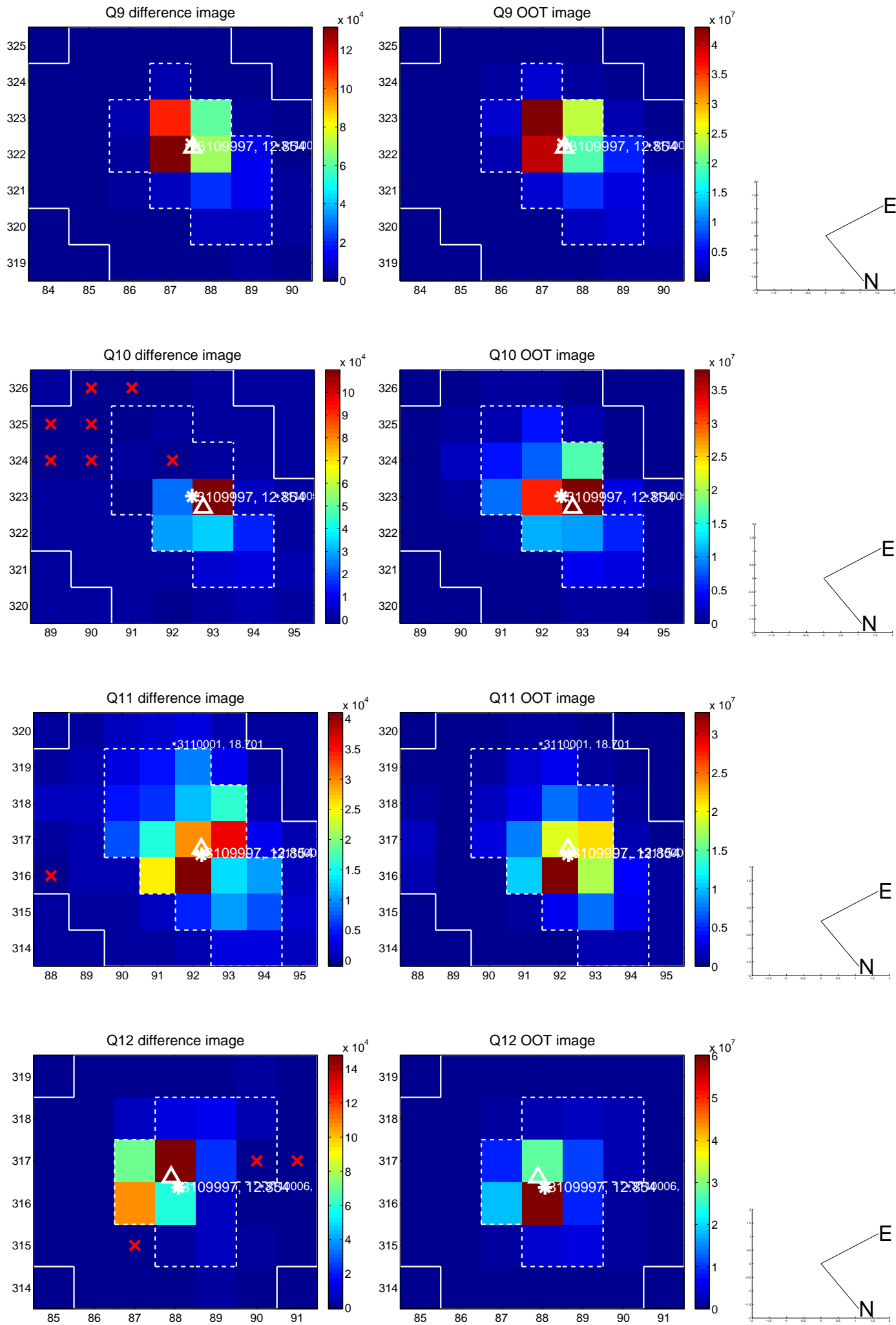
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



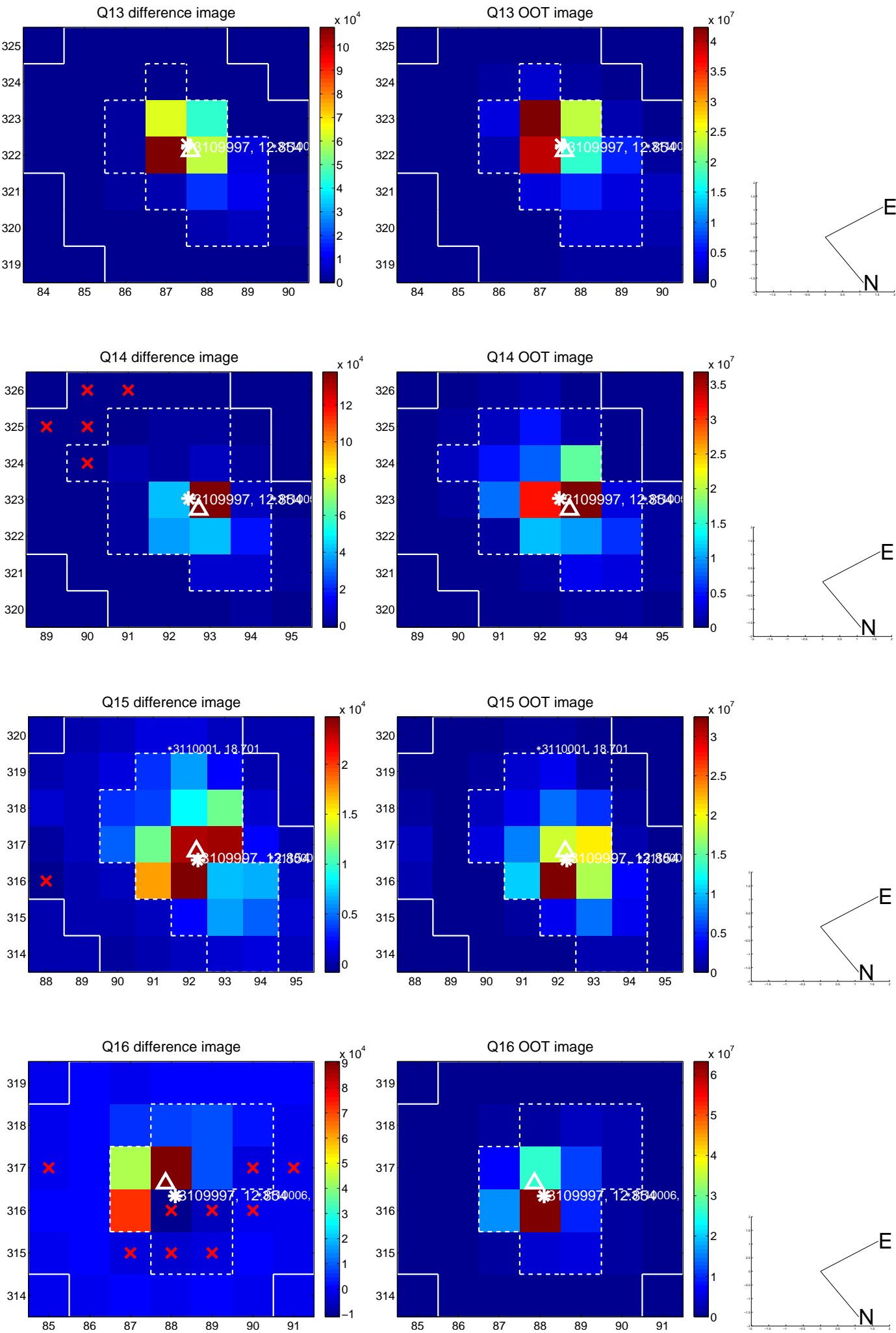
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



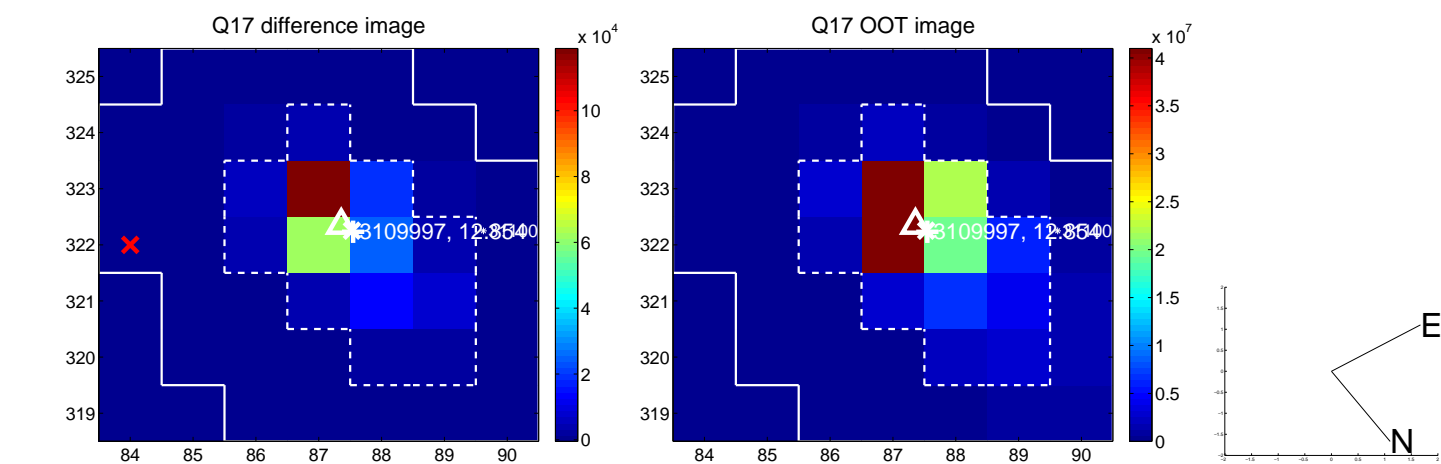
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



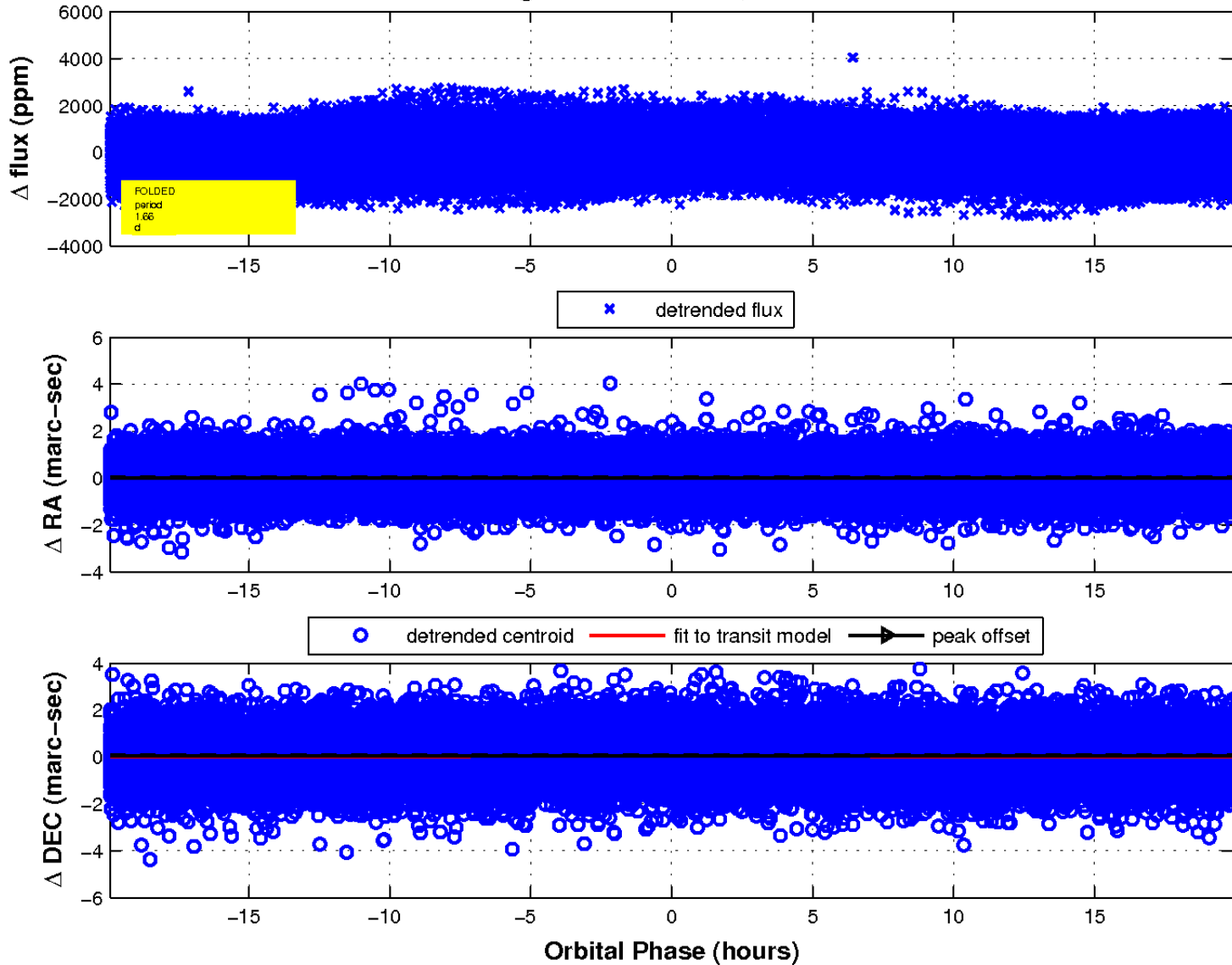
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

