

KIC 008637903

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})
008637903-01	OBS	8276.01	385.862165	343.640637	560.2	12.305	7.5	7.7	1.20	6551	3.29	1.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008637903-01	OBS	PC	0.54	0	0	0	0	NO_COMMENT

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

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

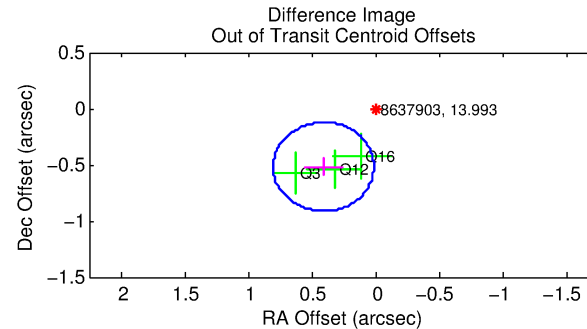
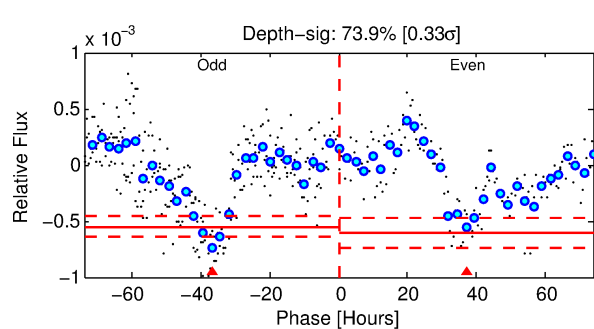
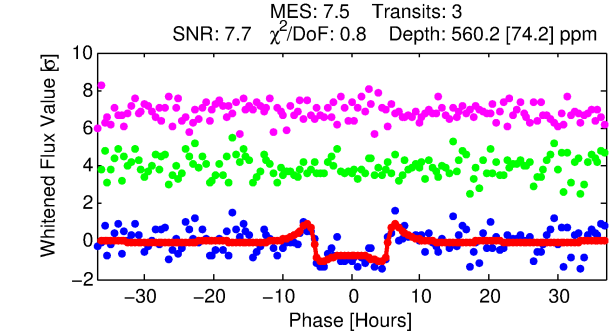
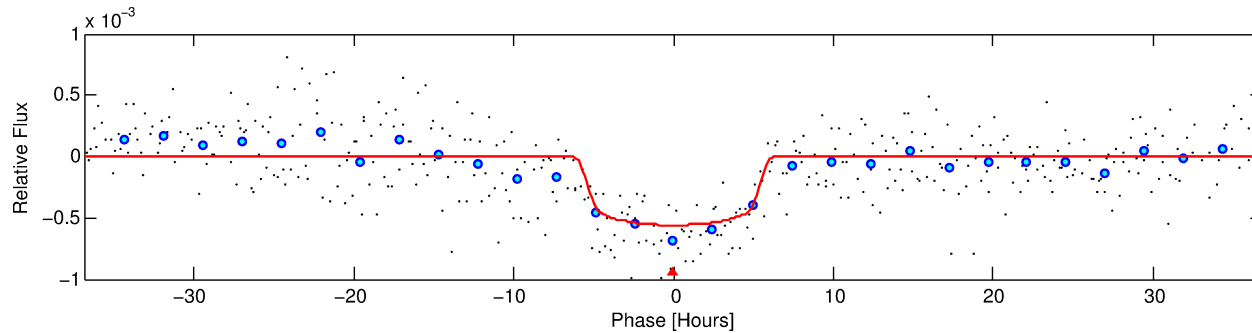
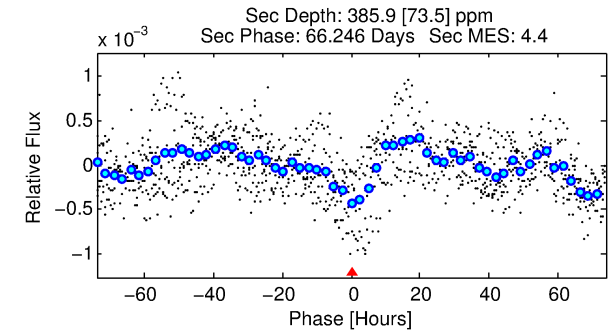
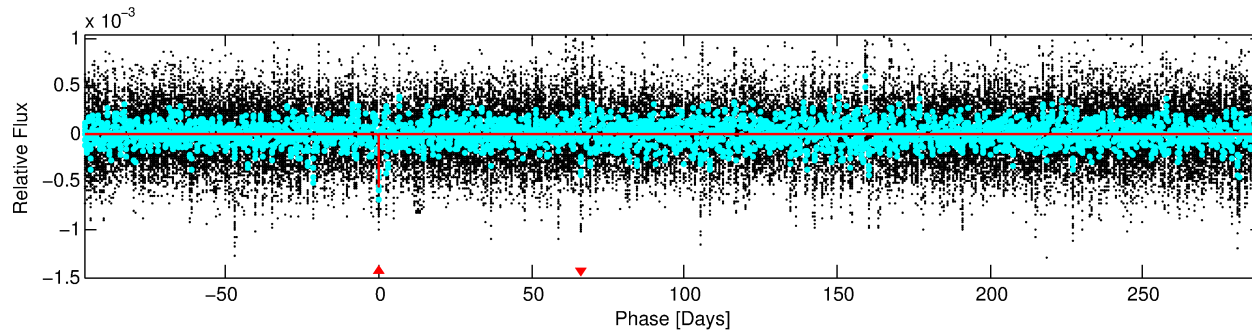
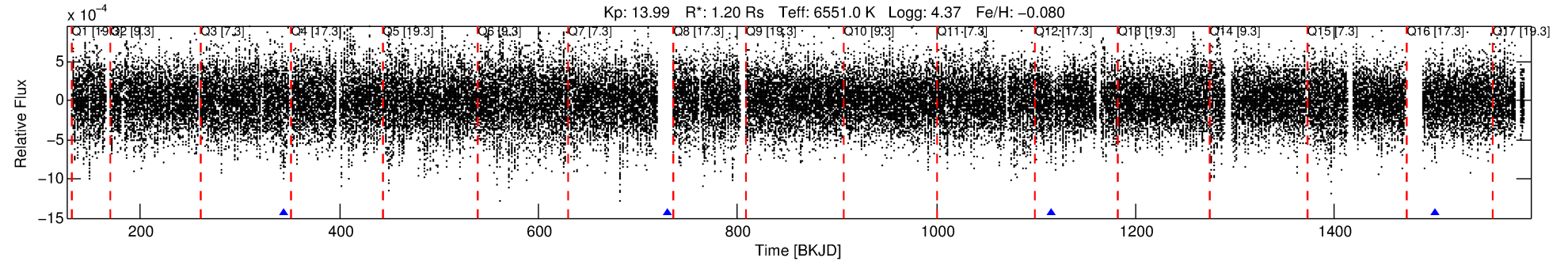
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008637903-01

No Significant Match Found

DV One-Page Summary

KIC: 8637903 Candidate: 1 of 1 Period: 385.862 d



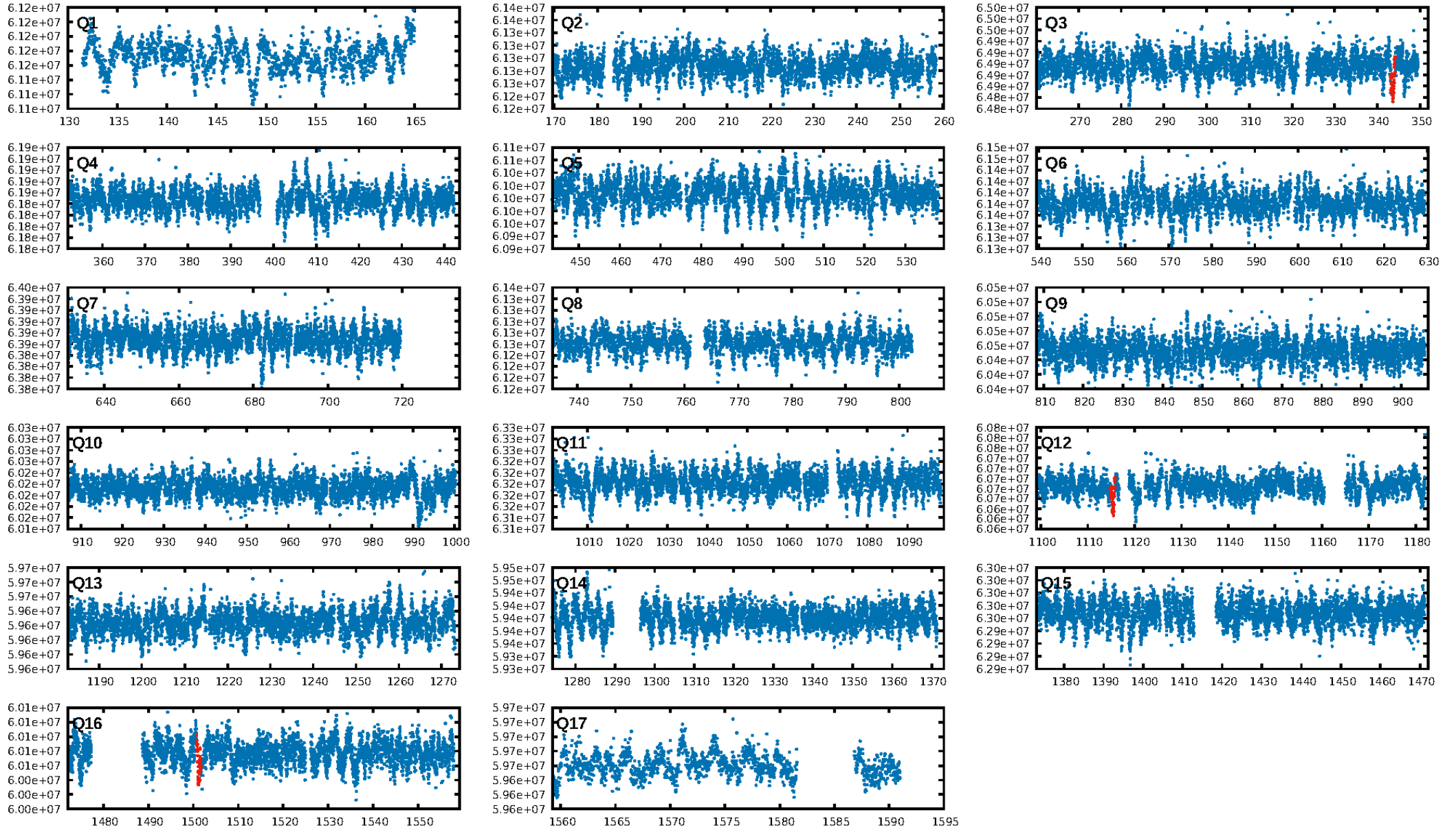
DV Fit Results:

Period = 385.86216 [0.00528] d
Epoch = 343.6406 [0.0118] BKJD
Rp/R* = 0.0252 [0.0022]
a/R* = 120.39 [29.69]
b = 0.89 [0.06]
Seff = 1.93 [0.75]
Teq = 300 [29] K
Rp = 3.29 [1.06] Re
a = 1.1064 [0.2831] AU
Ag = 24042.93 [10733.31] [2.24 σ]
Teffp = 5783 [419] K [13.05 σ]

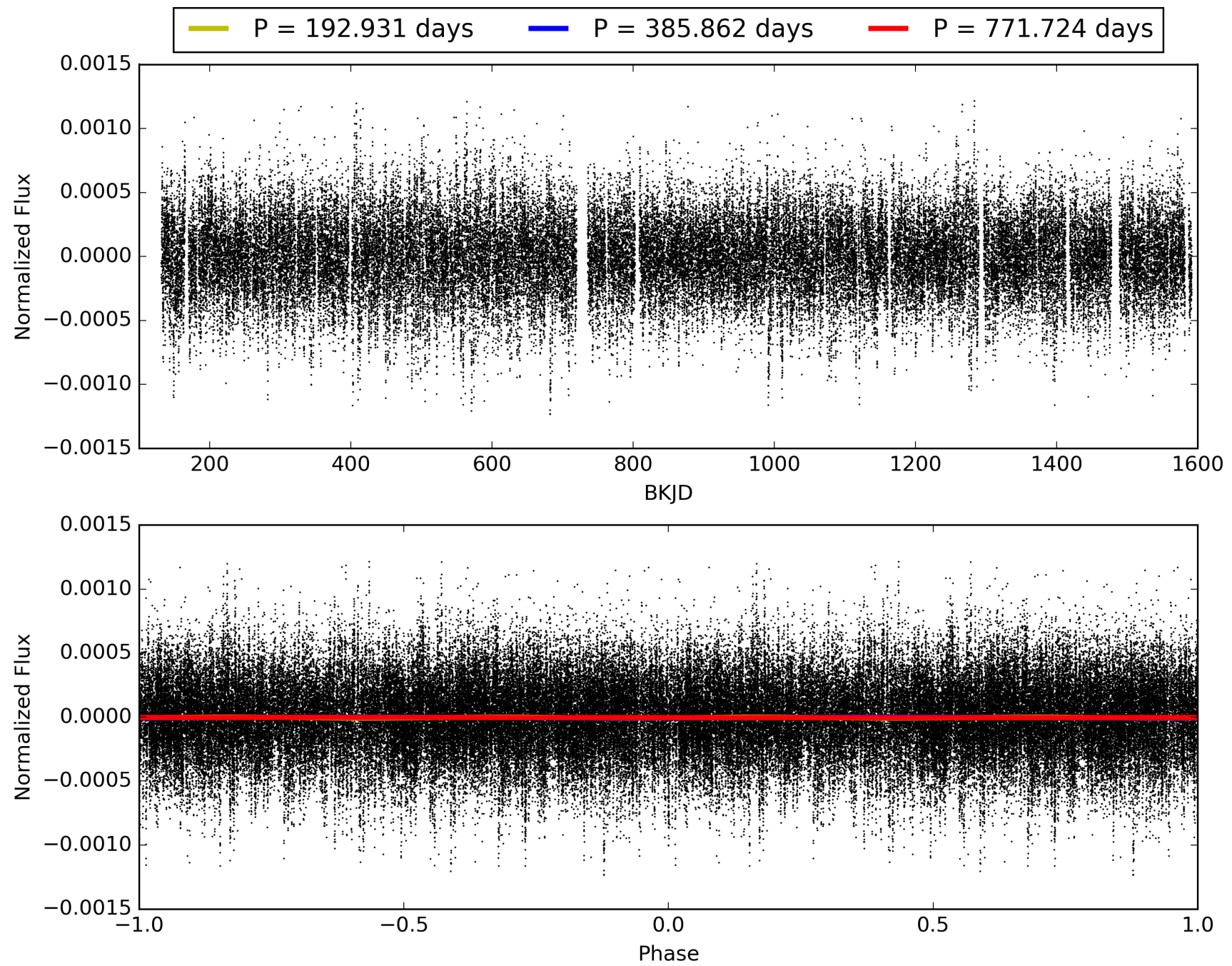
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 89.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.61e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.501
Centroid-sig: 64.2%
Centroid-so: 0.318 arcsec [0.52 σ]
OotOffset-rm: 0.659 arcsec [5.00 σ]
KicOffset-rm: 0.647 arcsec [4.08 σ]
OotOffset-st: 0/1/2/0 [3]
KicOffset-st: 0/1/2/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 008637903-01, PDC Light Curves

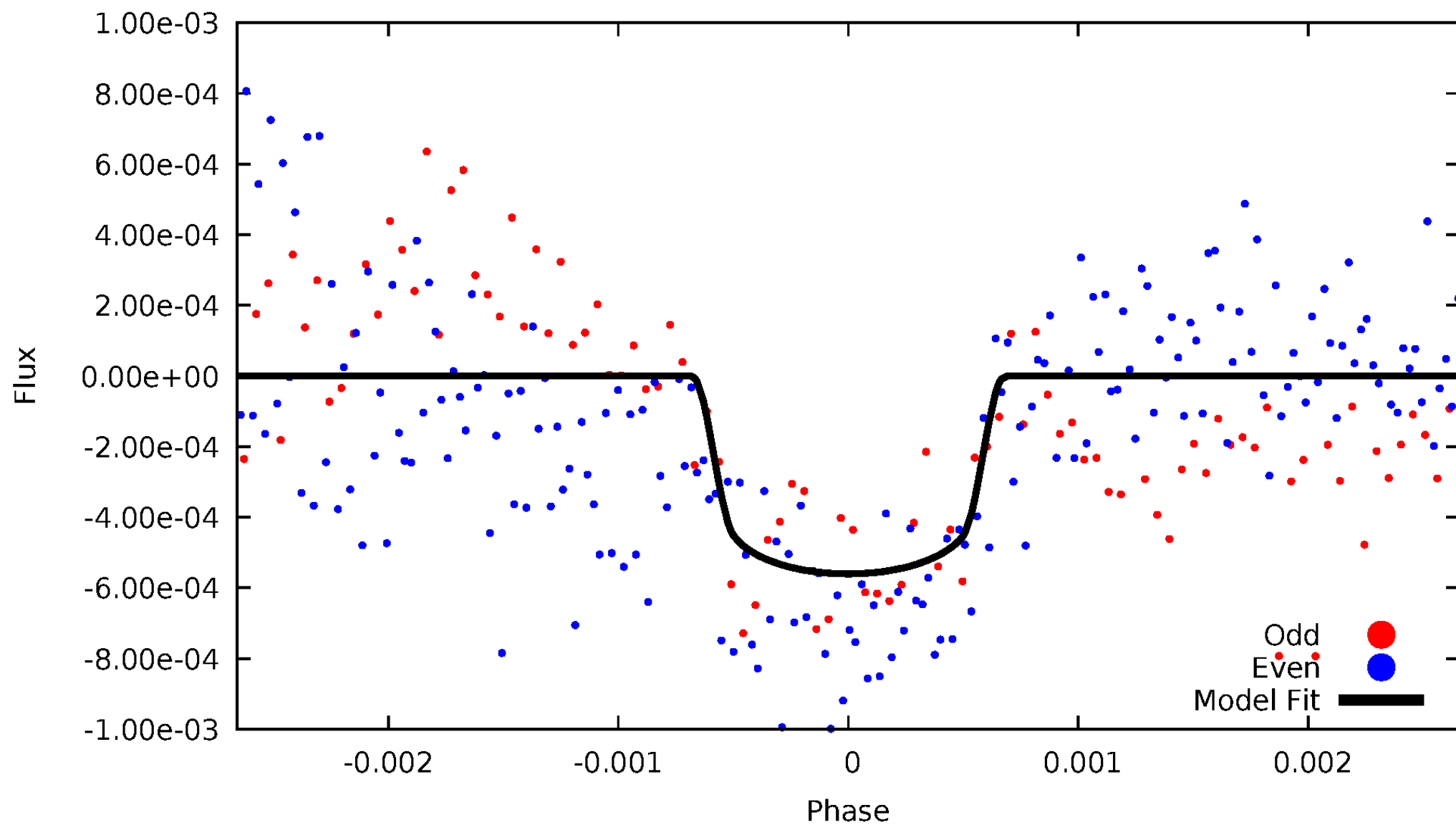


TCE 008637903-01



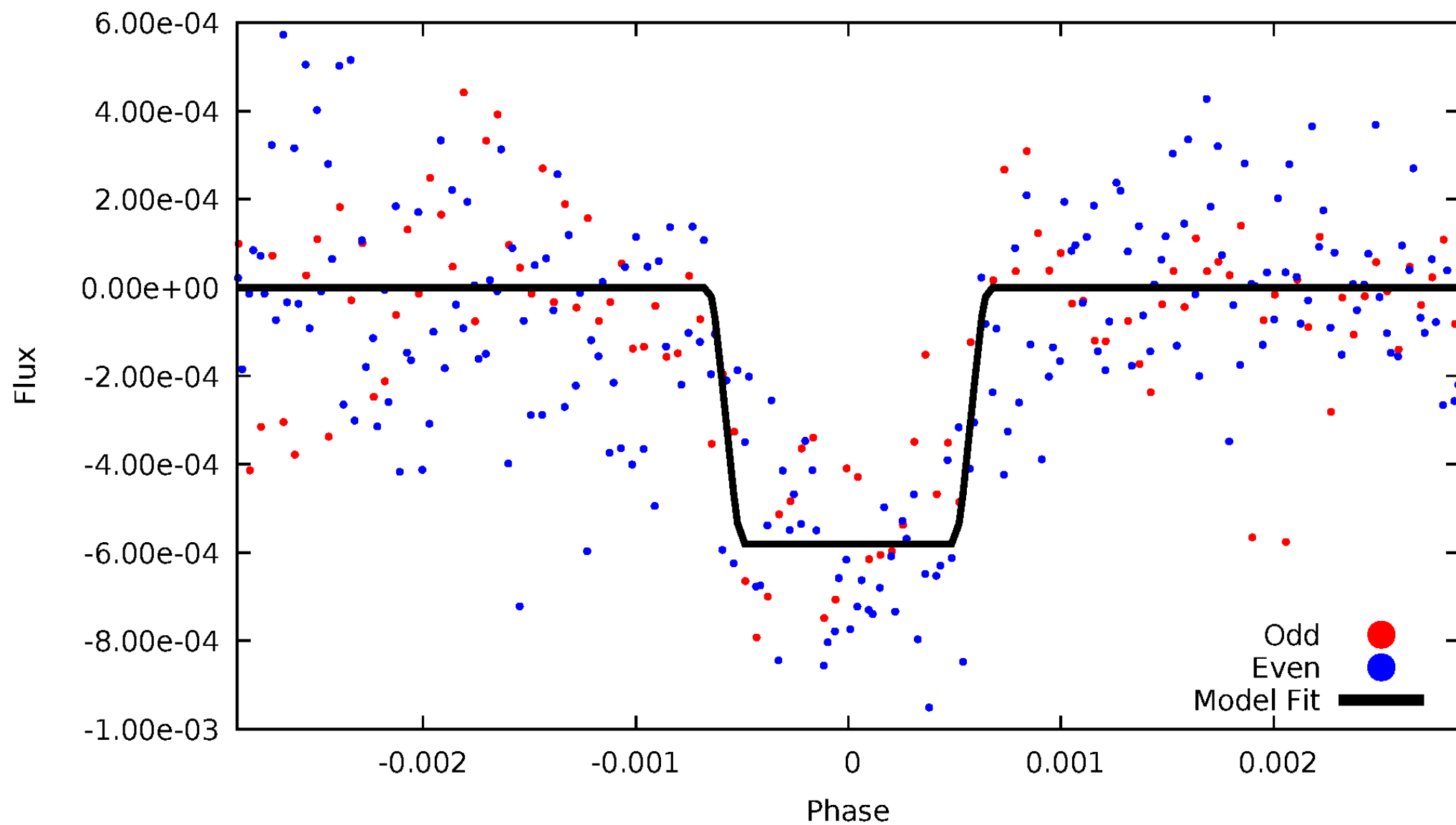
DV Odd/Even

TCE 008637903-01



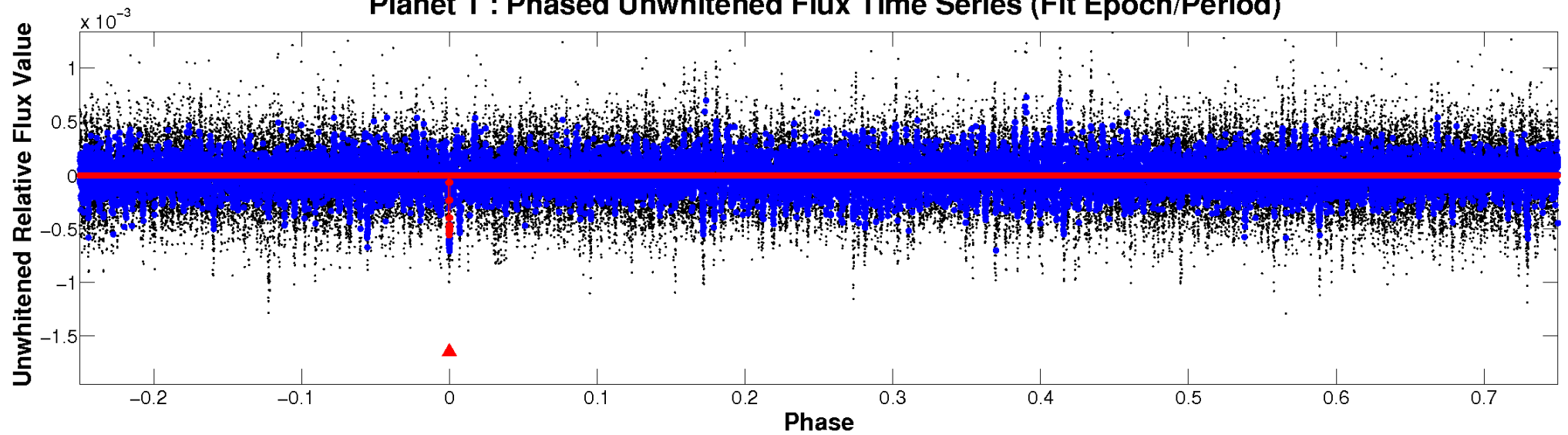
ALT Odd/Even

TCE 008637903-01

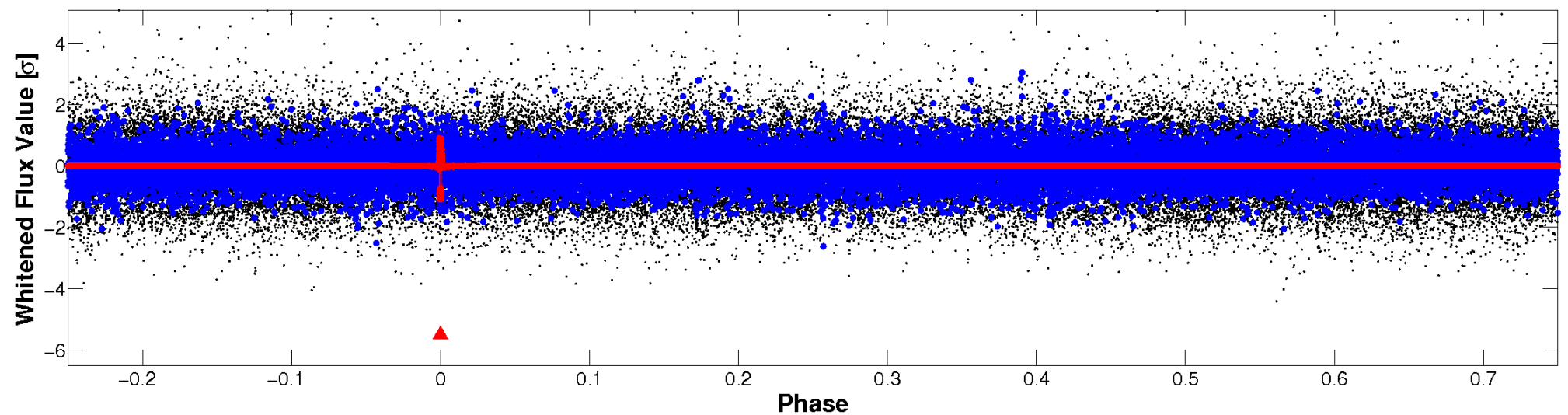


Non-Whitened Vs. Whitened Light Curve

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

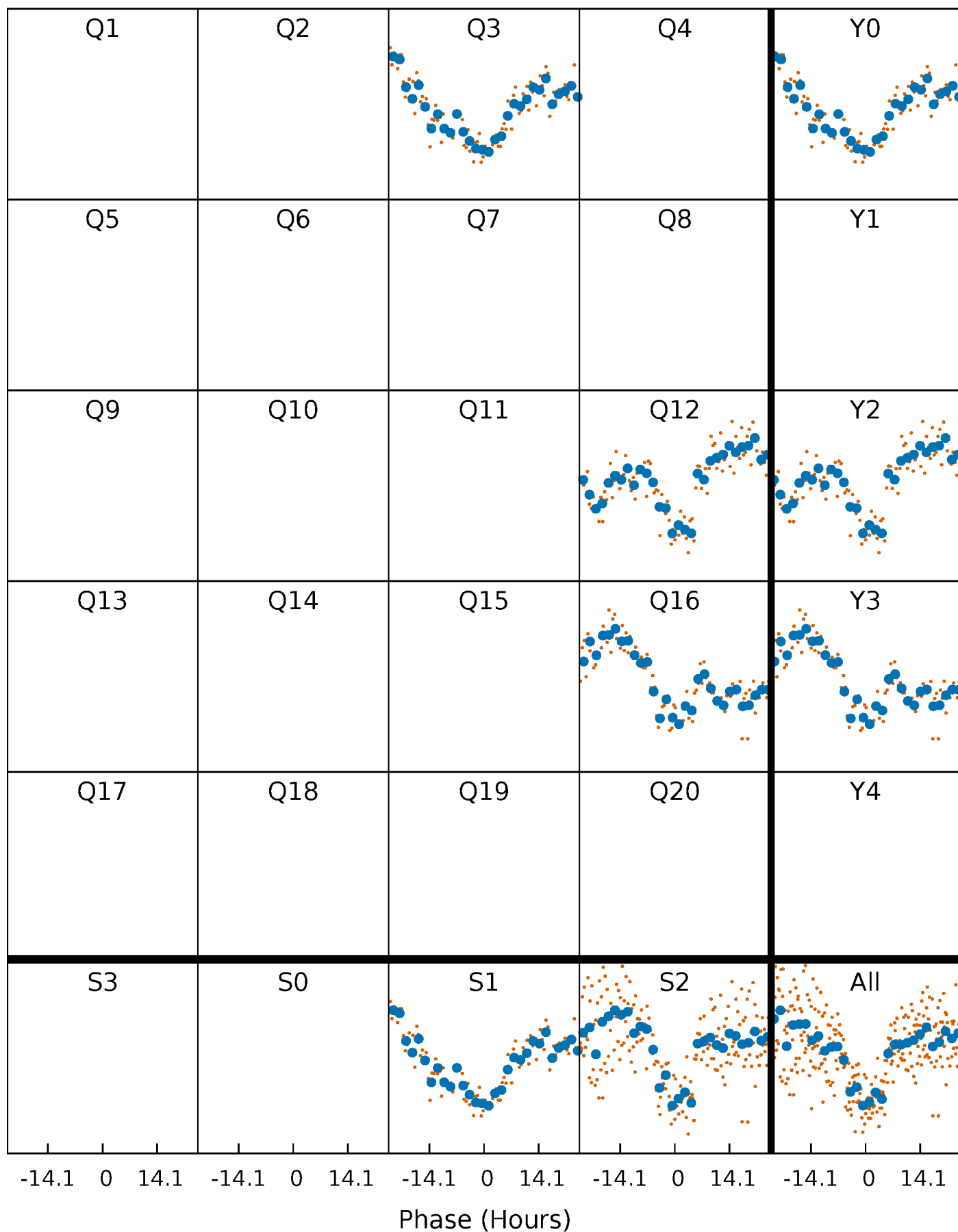


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



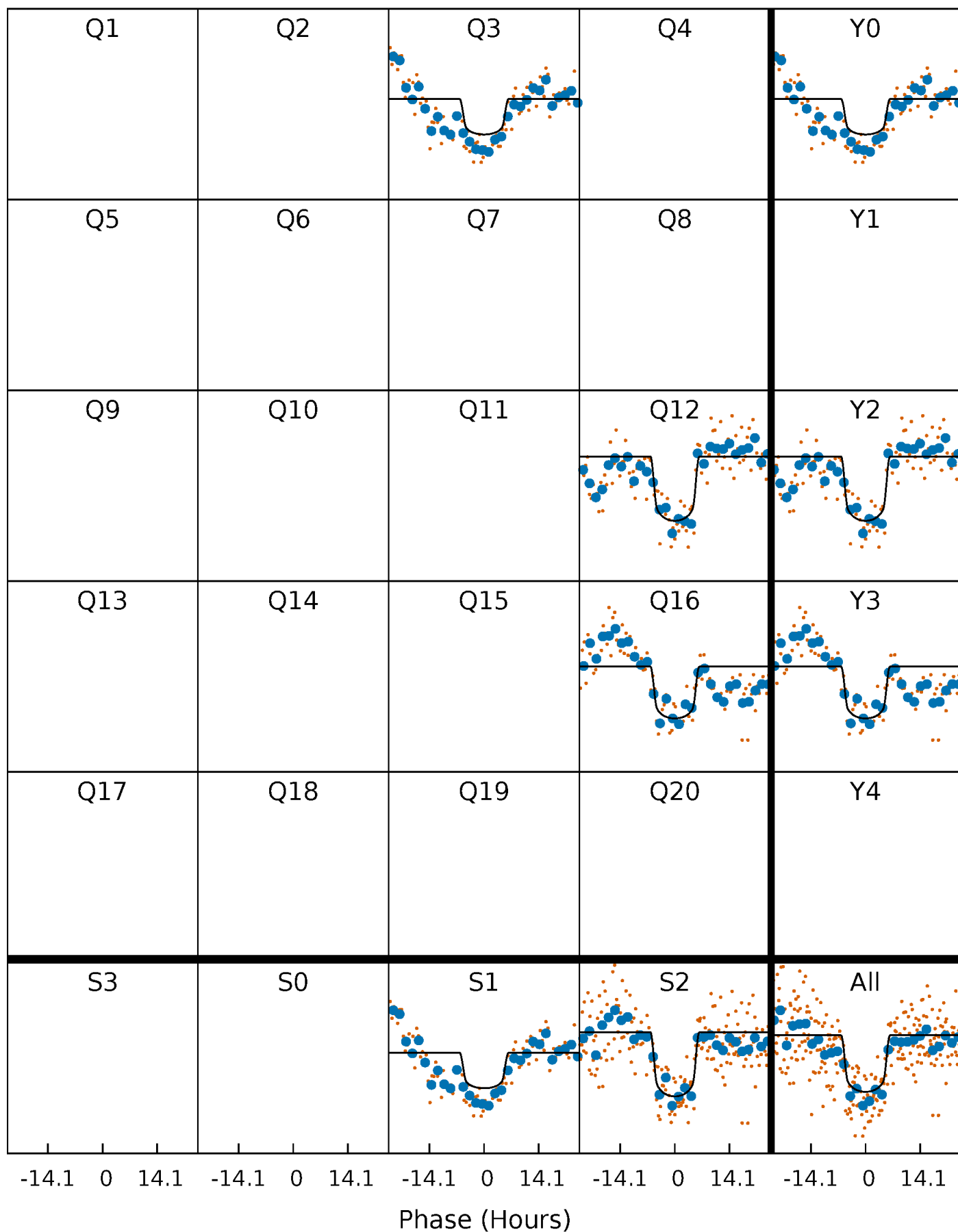
PDC Quarter-Phased Transit Curves

TCE 008637903-01 P=385.862165 Days $T_0=343.640637$ (BKJD)



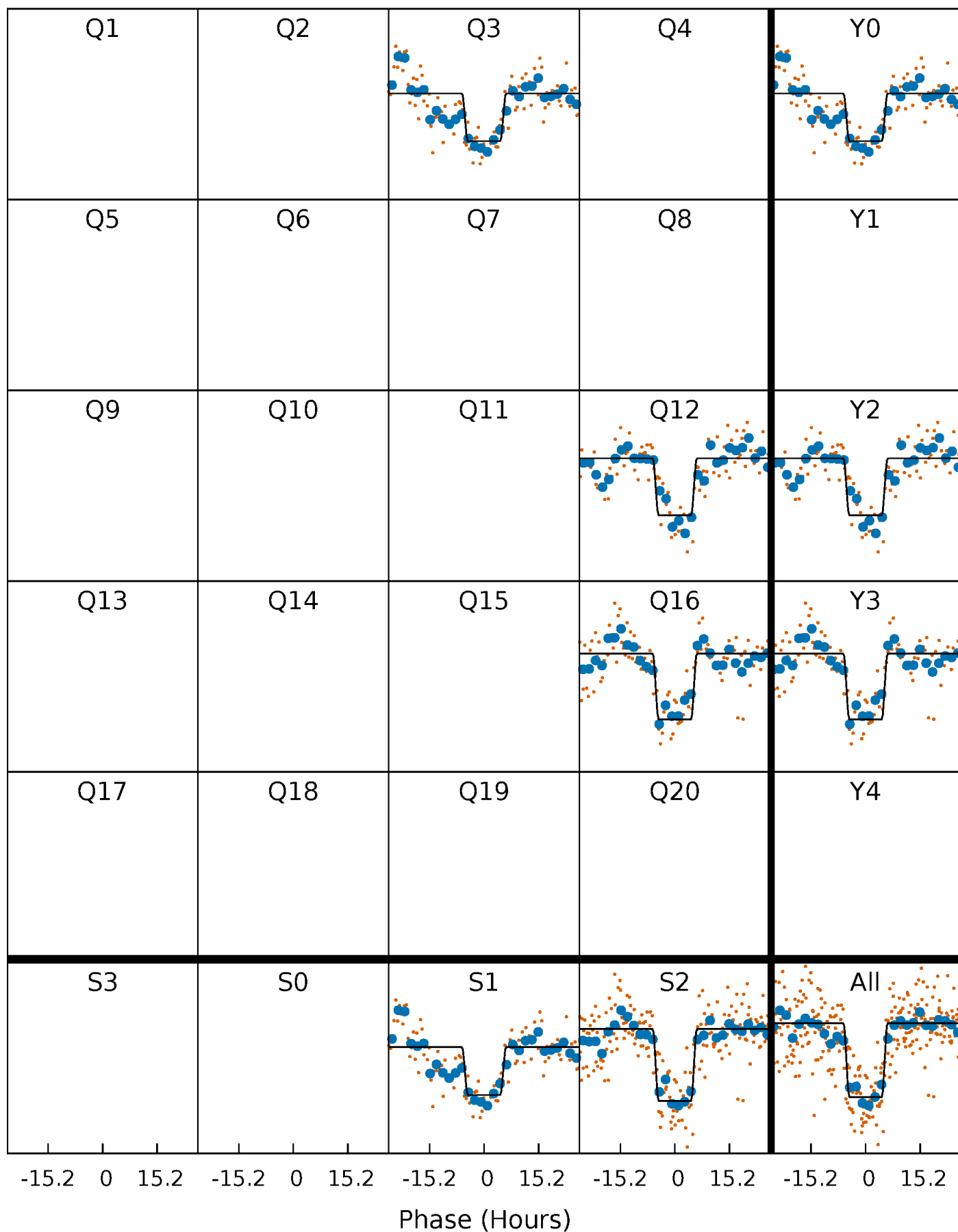
DV Quarter-Phased Transit Curves

TCE 008637903-01 P=385.862165 Days $T_0=343.640637$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

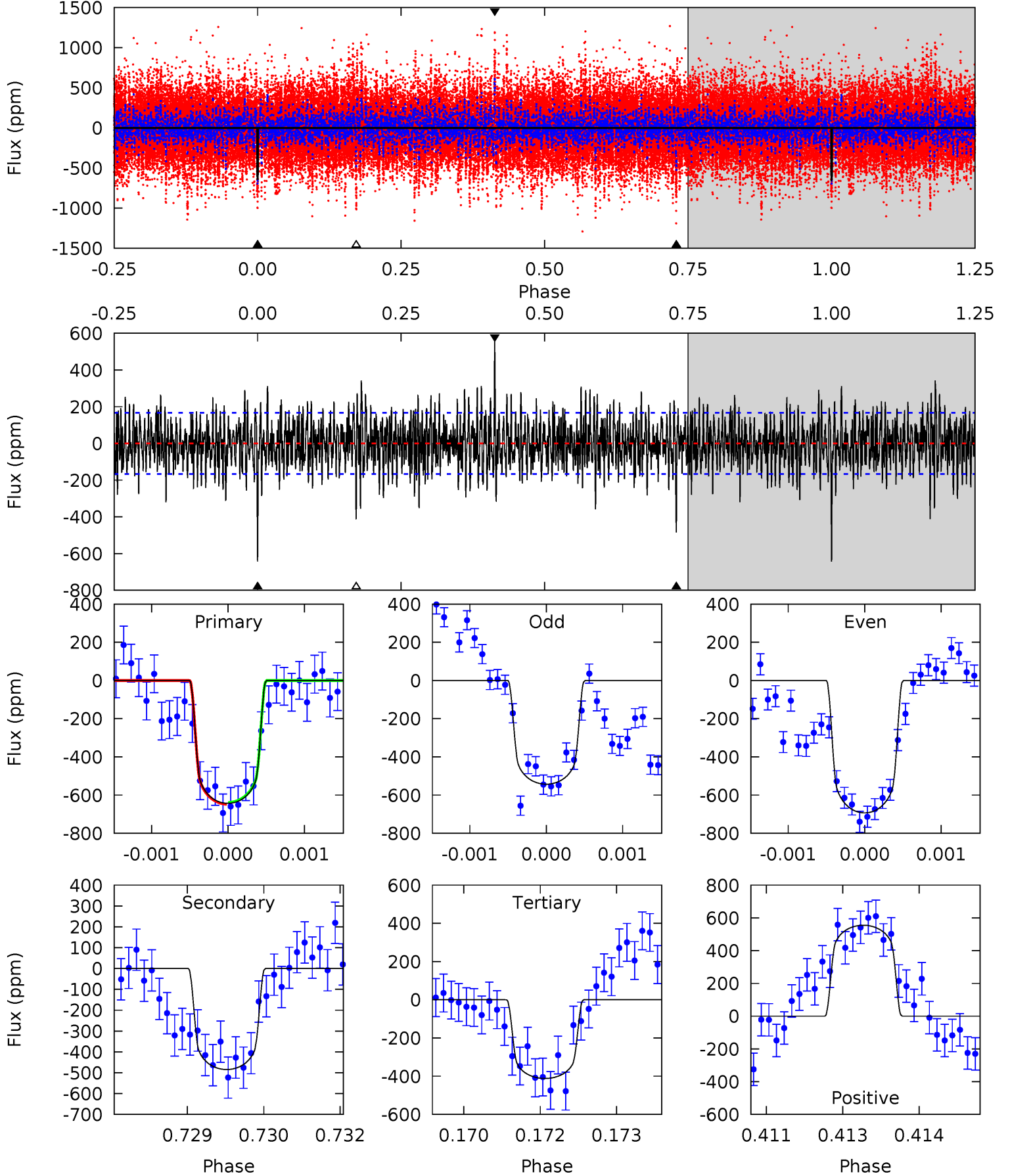
TCE 008637903-01 P=385.853725 Days $T_0=343.656059$ (BKJD)



DV Model-Shift Uniqueness Test

008637903-01, P = 385.862165 Days, E = 343.640637 Days

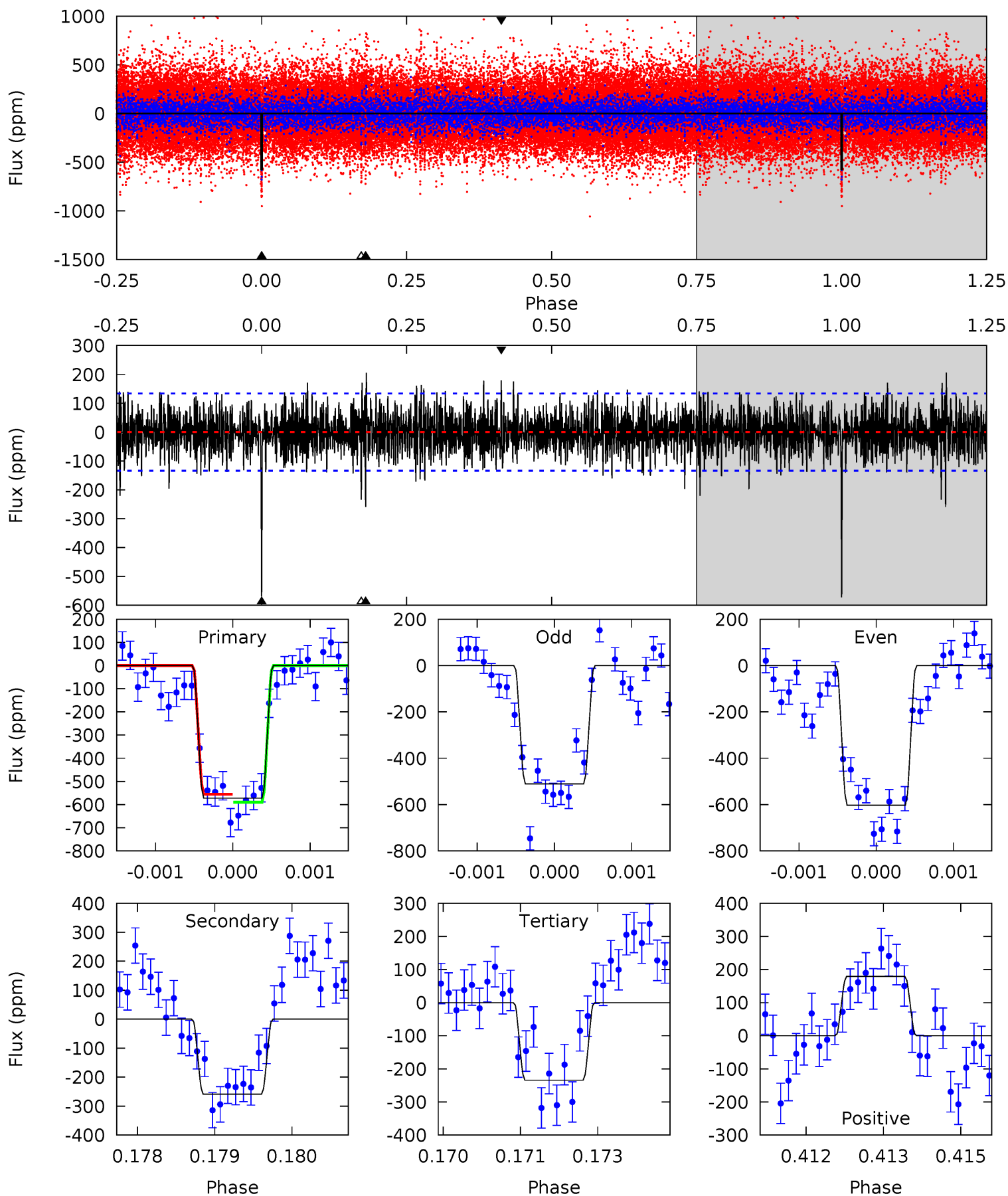
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.8	15.7	13.3	17.9	5.40	3.20	3.55	7.48	2.86	2.35	-2.27	2.29	1.10	0.46	0.15



Alt Model-Shift Uniqueness Test

008637903-01, P = 385.853725 Days, E = 343.656059 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.1	10.5	9.46	7.23	5.41	3.22	2.29	13.7	15.9	1.01	3.24	1.76	0.96	0.26	0.69



Stellar Parameters For KIC 008637903

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6551^{+149}_{-216}	$4.367^{+0.065}_{-0.195}$	$-0.080^{+0.250}_{-0.300}$	$1.195^{+0.372}_{-0.149}$	$1.215^{+0.170}_{-0.170}$	$1.003^{+0.345}_{-0.499}$
	+2%/-3%	+1%/-4%	+312%/-375%	+31%/-12%	+14%/-14%	+34%/-50%
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 008637903-01 / KOI 8276.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-485 ± 31	$3.42^{+0.58}_{-0.43}$	427^{+30}_{-21}	6085^{+365}_{-308}	27424^{+8224}_{-6565}
Alt.	-259 ± 25	$3.26^{+0.61}_{-0.42}$	425^{+32}_{-21}	5344^{+292}_{-268}	15958^{+5079}_{-4462}

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

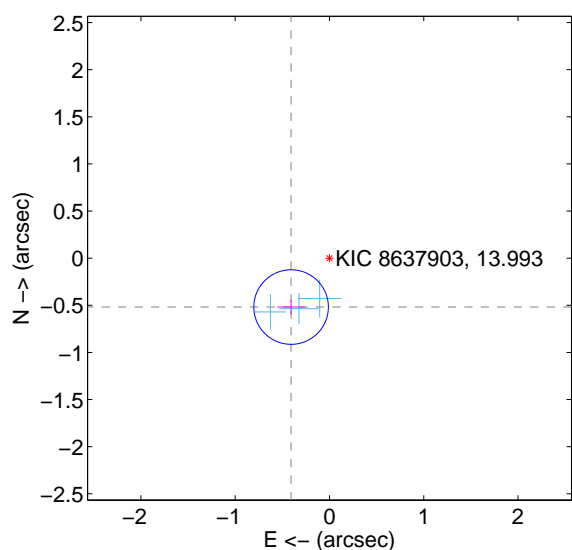
Supplemental centroid analysis for 008637903-01. Kepler magnitude: 13.99. Transit SNR 7.71

There are 3 quarters with good PRF difference image offsets

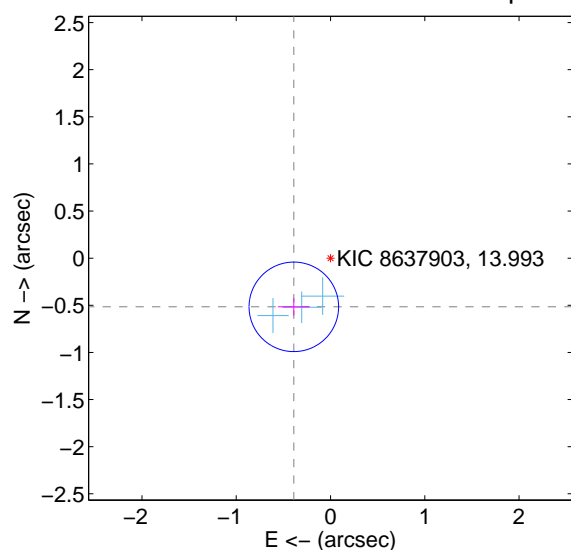
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.659 ± 0.132	5.00	0.407 ± 0.146	-0.519 ± 0.079
PRF-fit source offset from KIC position	0.647 ± 0.158	4.08	0.389 ± 0.169	-0.516 ± 0.092
photometric centroid source offset	0.32 ± 0.61	0.52	-0.22 ± 0.65	0.23 ± 0.57

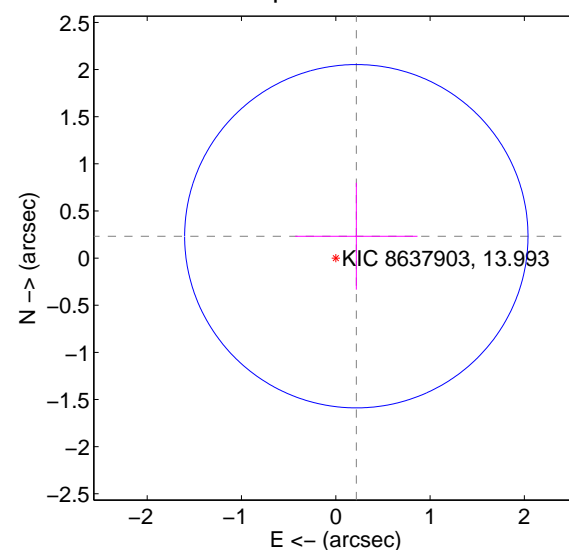
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

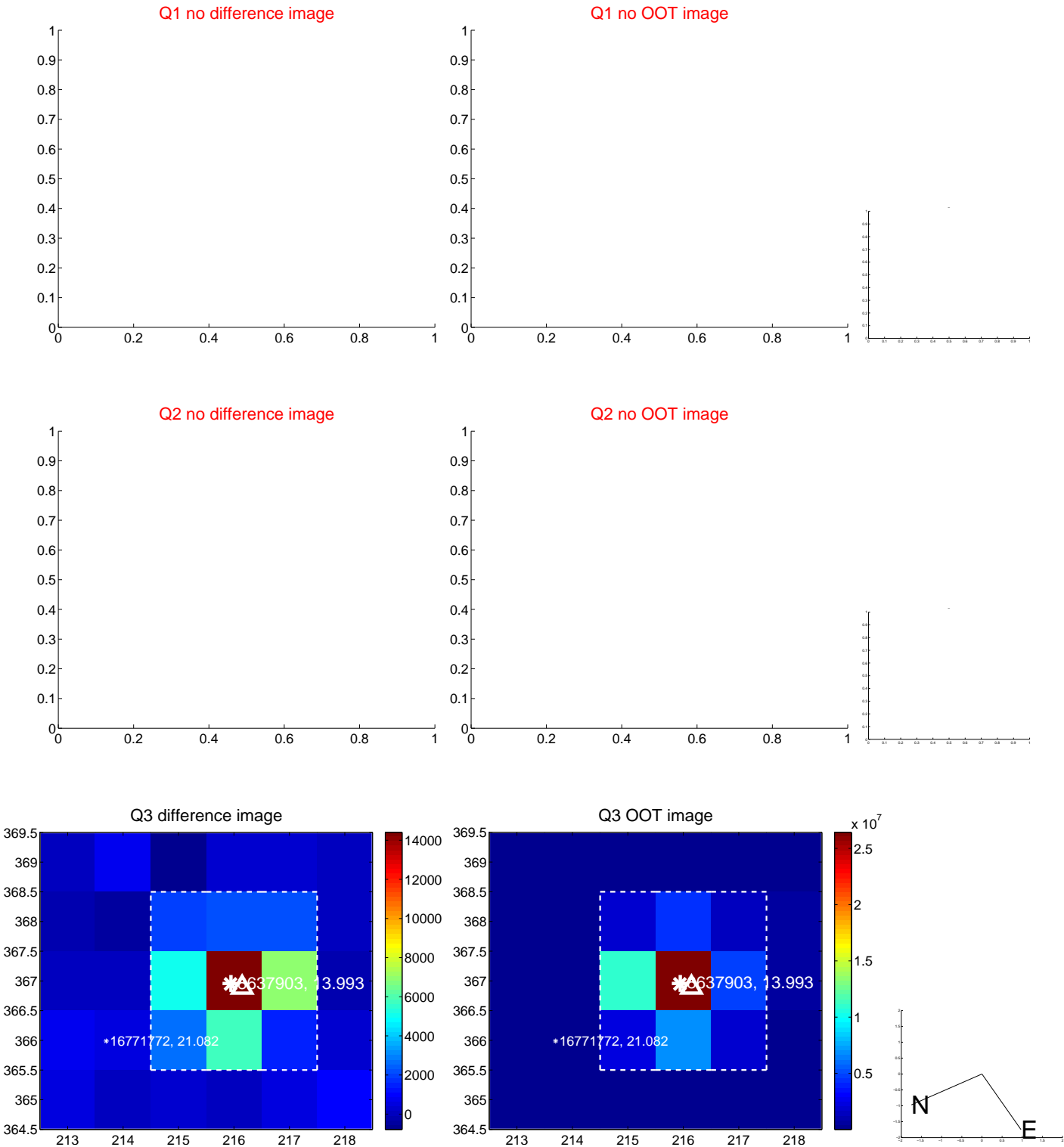


offset from photometric centroids



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.

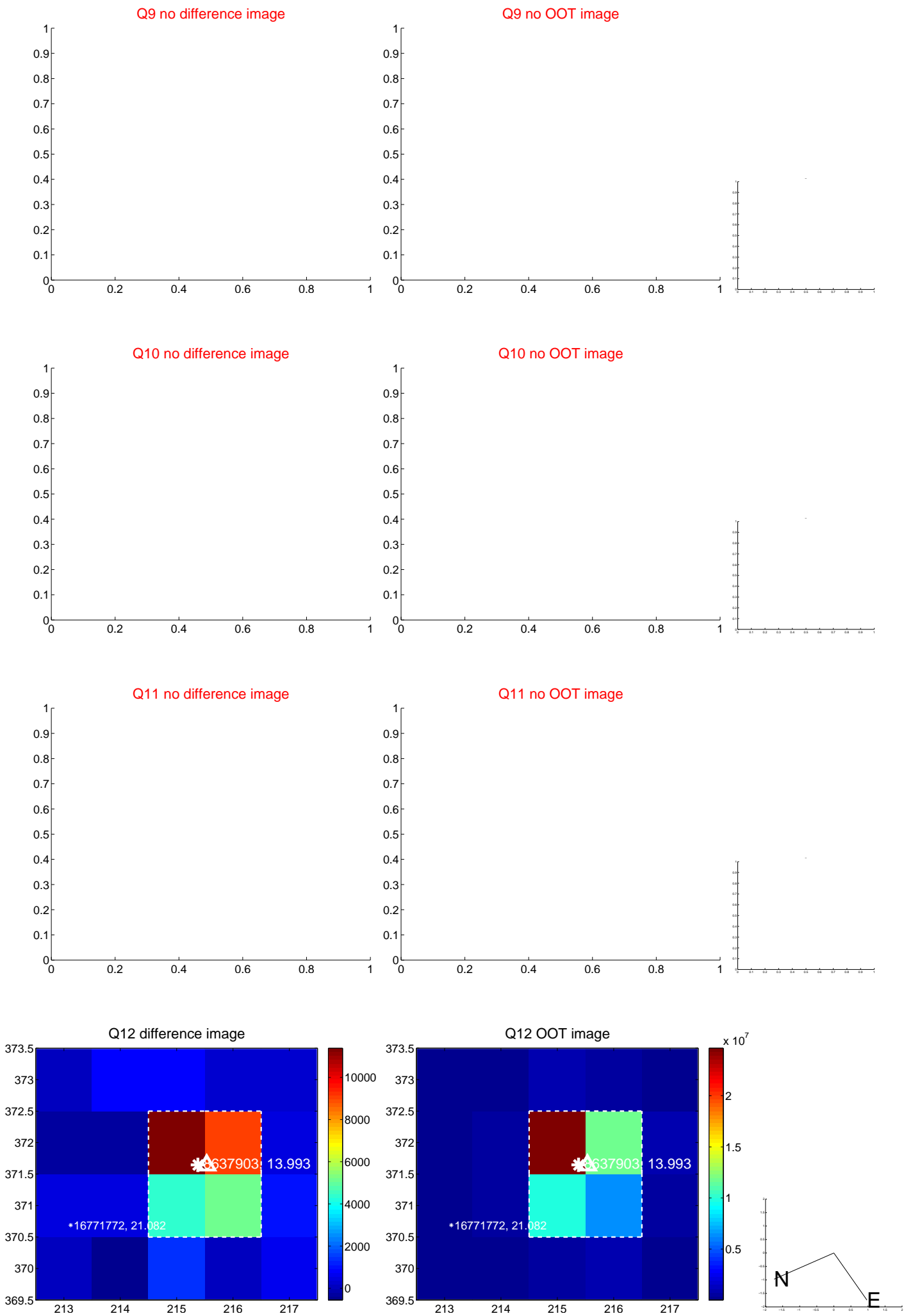
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



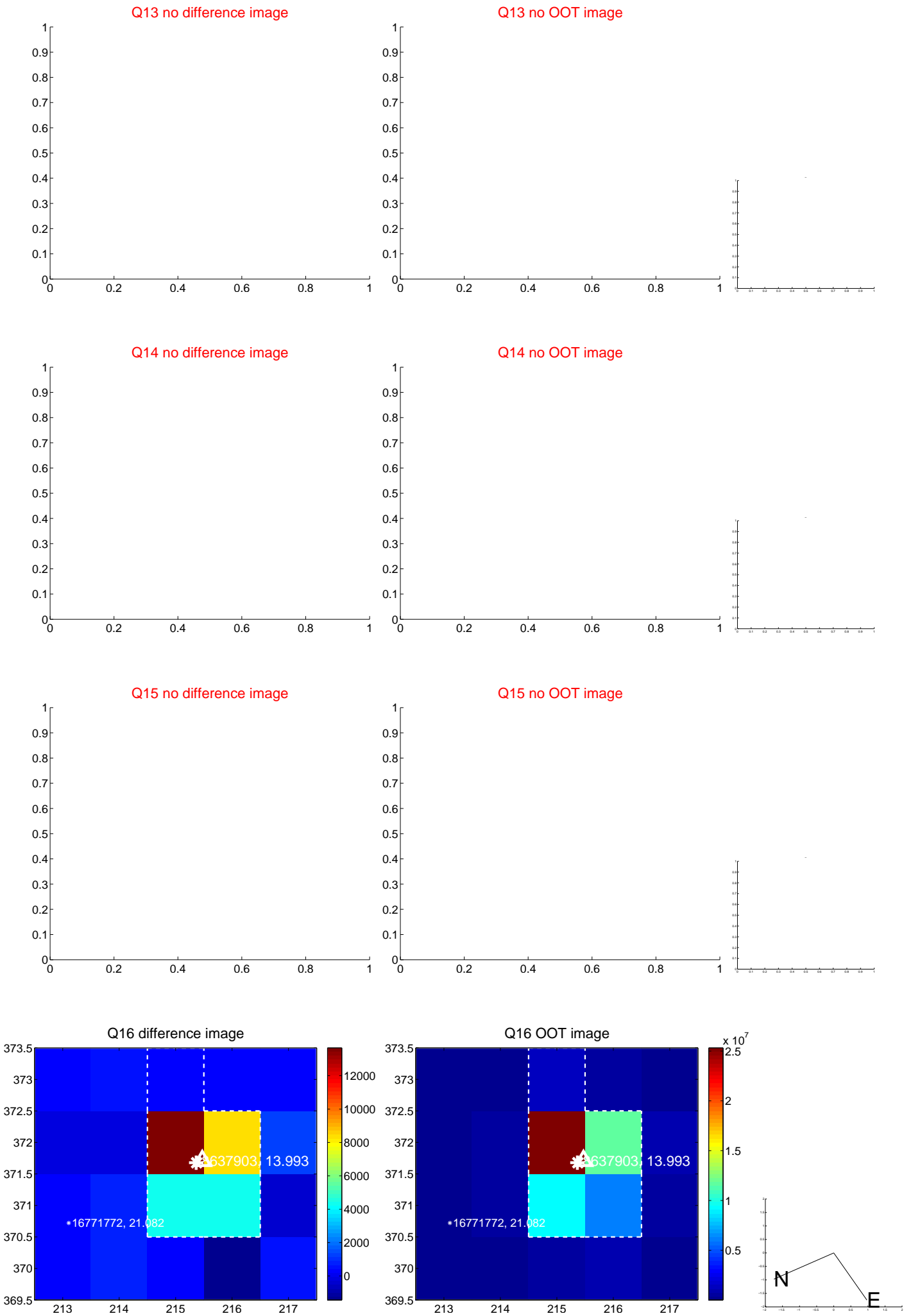
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



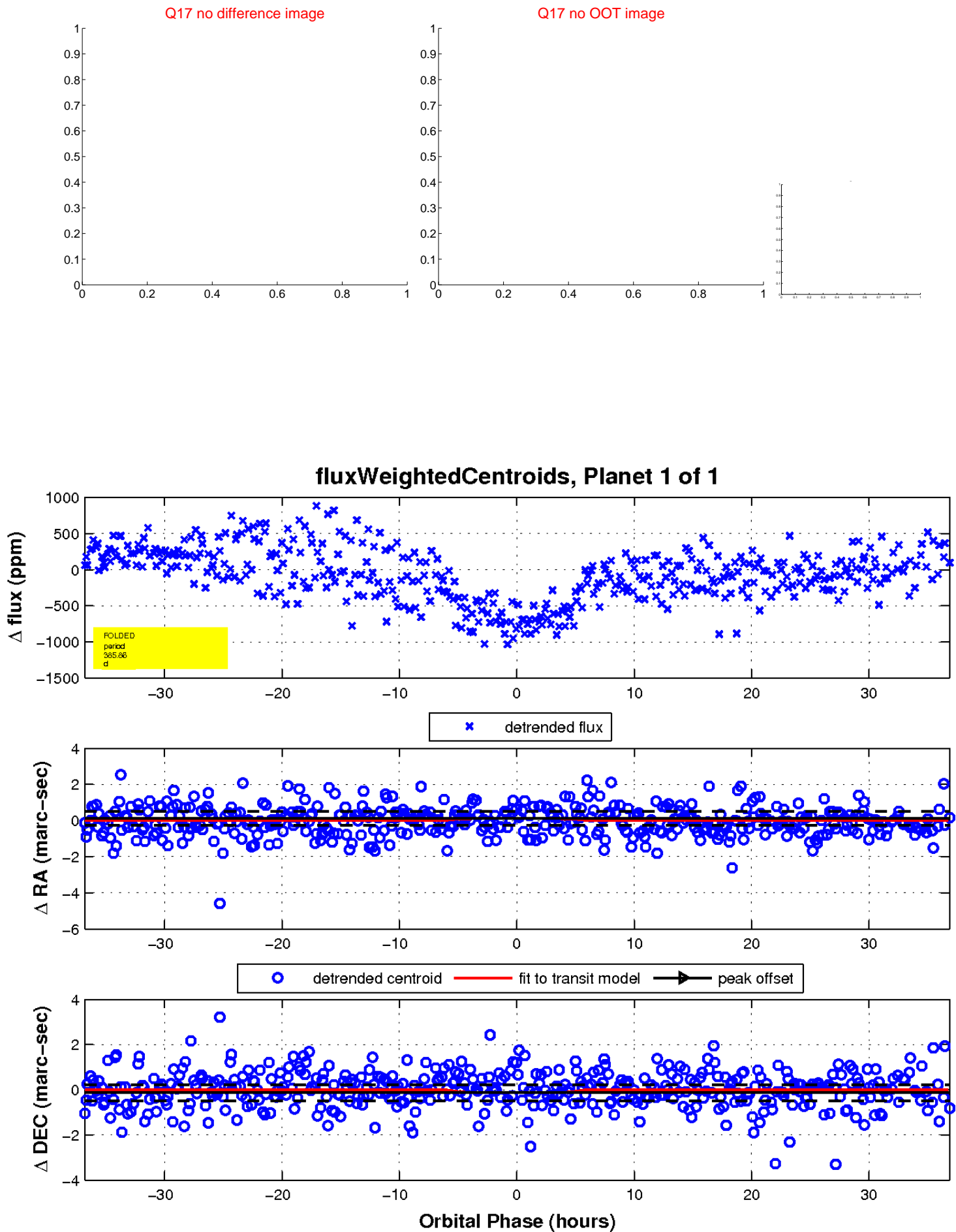
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

