

KIC 010231863

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})
010231863-01	OBS	No	489.618835	366.694802	2718.0	6.072	15.0	6.9	0.76	4925	3.84	0.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010231863-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT

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

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

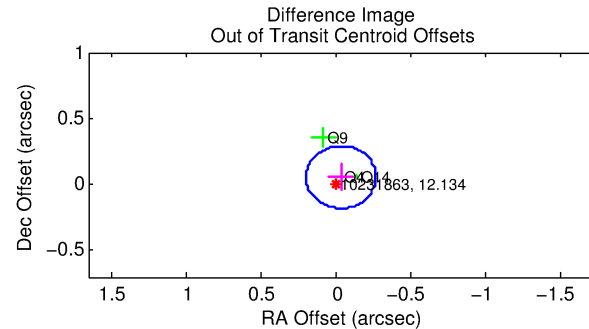
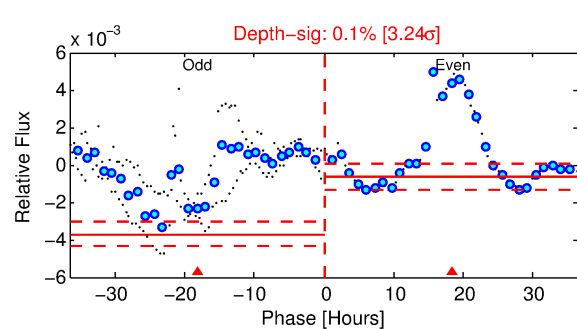
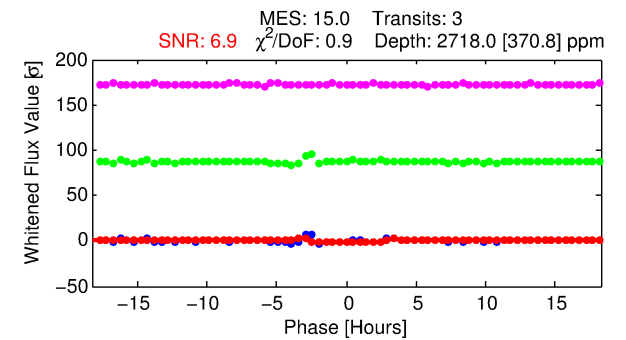
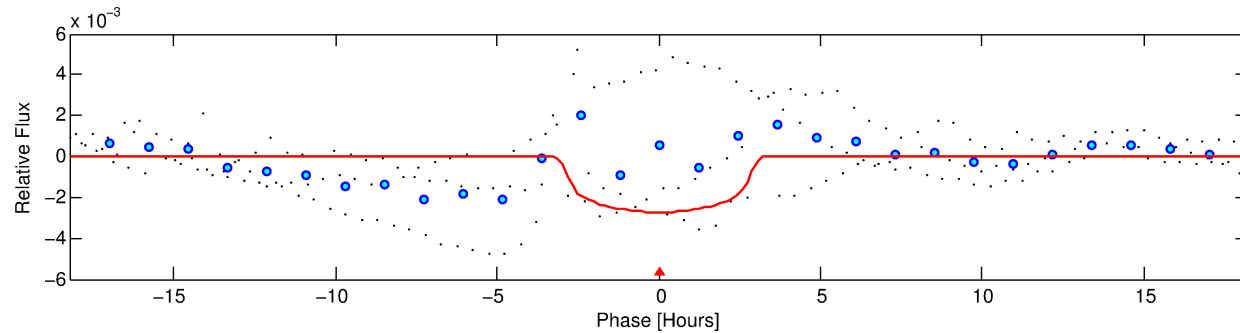
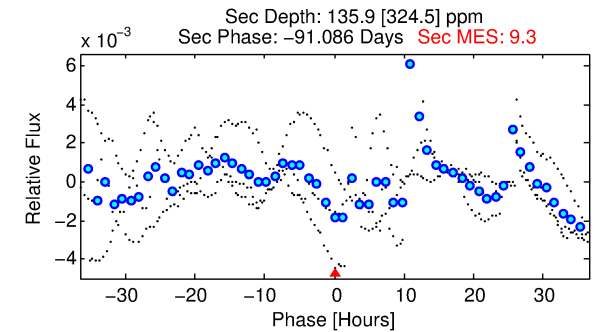
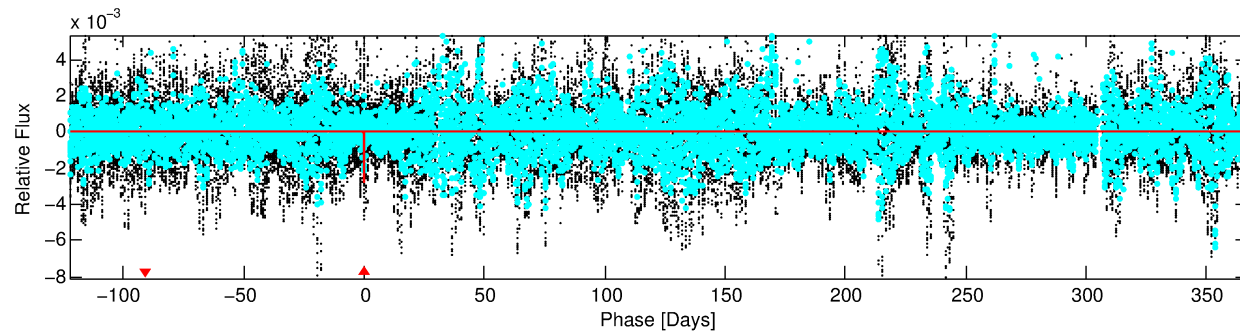
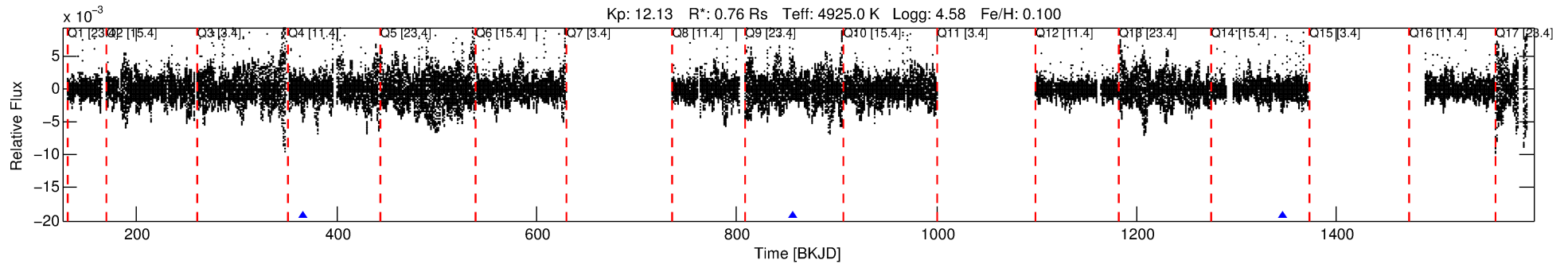
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010231863-01

No Significant Match Found

DV One-Page Summary

KIC: 10231863 Candidate: 1 of 1 Period: 489.619 d



DV Fit Results:

Period = 489.61883 [0.00299] d
Epoch = 366.6948 [0.0033] BKJD
Rp/R* = 0.0462 [0.0176]
a/R* = 638.98 [780.15]
b = 0.14 [8.88]
Seff = 0.24 [0.04]
Teq = 179 [8] K
Rp = 3.84 [1.50] Re
a = 1.1287 [0.0840] AU
Ag = 6459.85 [16211.43] [0.40 σ]
Teffp = 2475 [1553] K [1.48 σ]

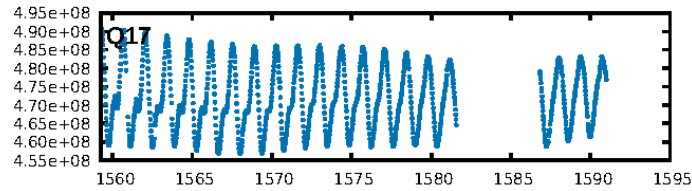
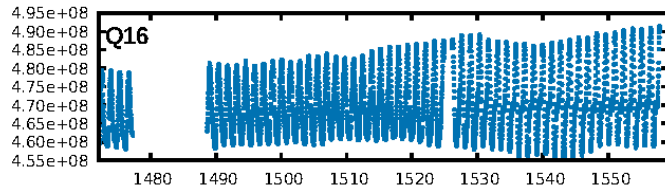
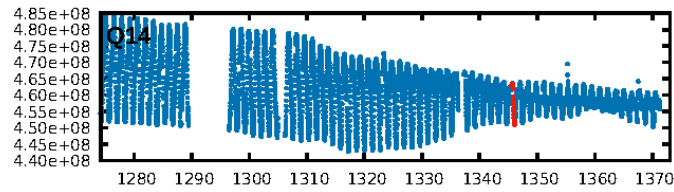
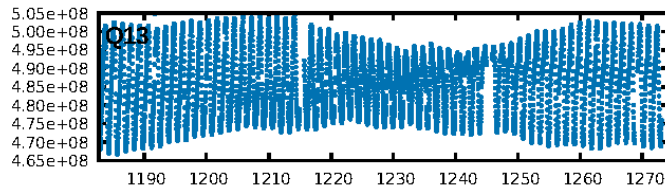
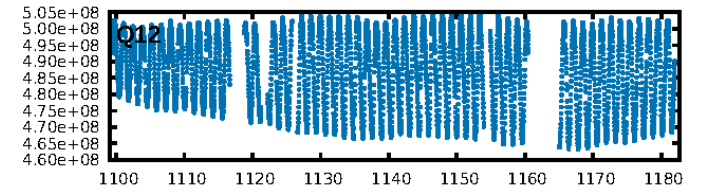
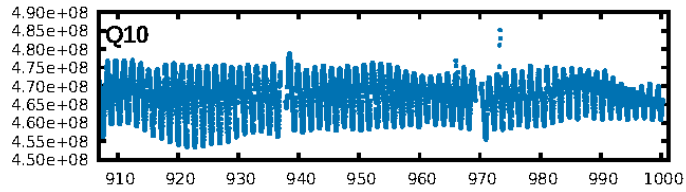
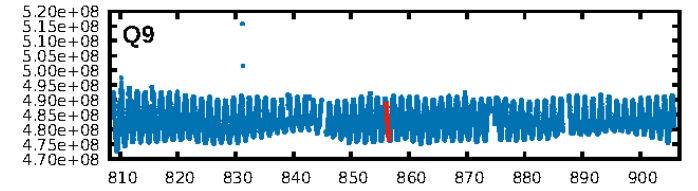
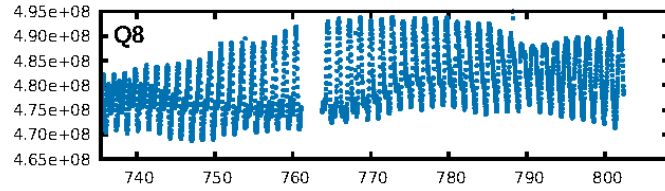
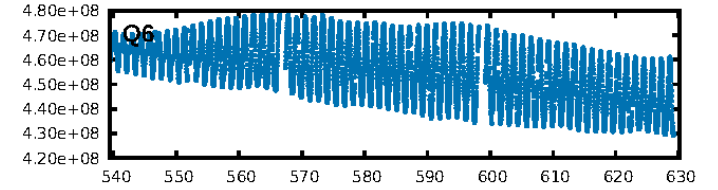
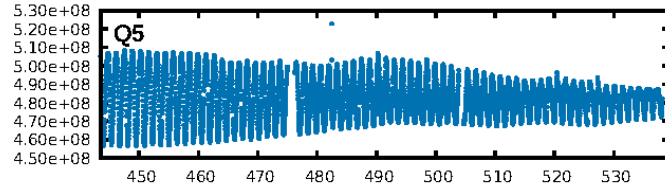
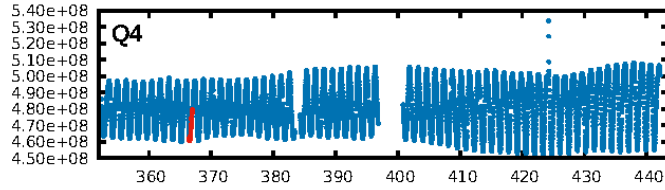
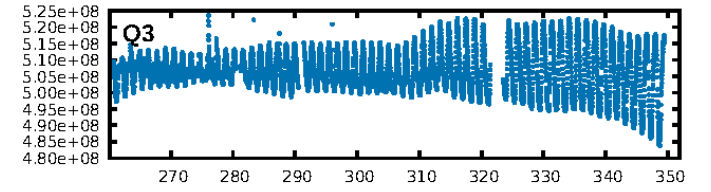
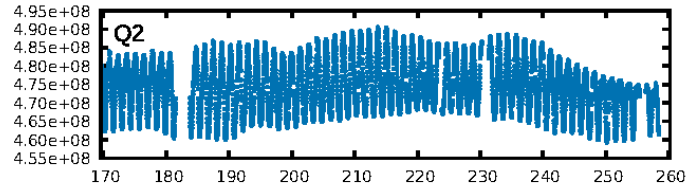
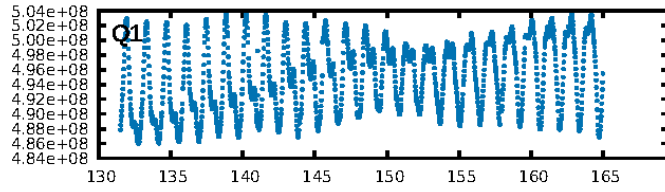
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.9%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 1.62e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.722
Centroid-sig: 32.3%
Centroid-so: 0.094 arcsec [0.81 σ]
OotOffset-rm: 0.068 arcsec [0.87 σ]
KicOffset-rm: 0.243 arcsec [1.77 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

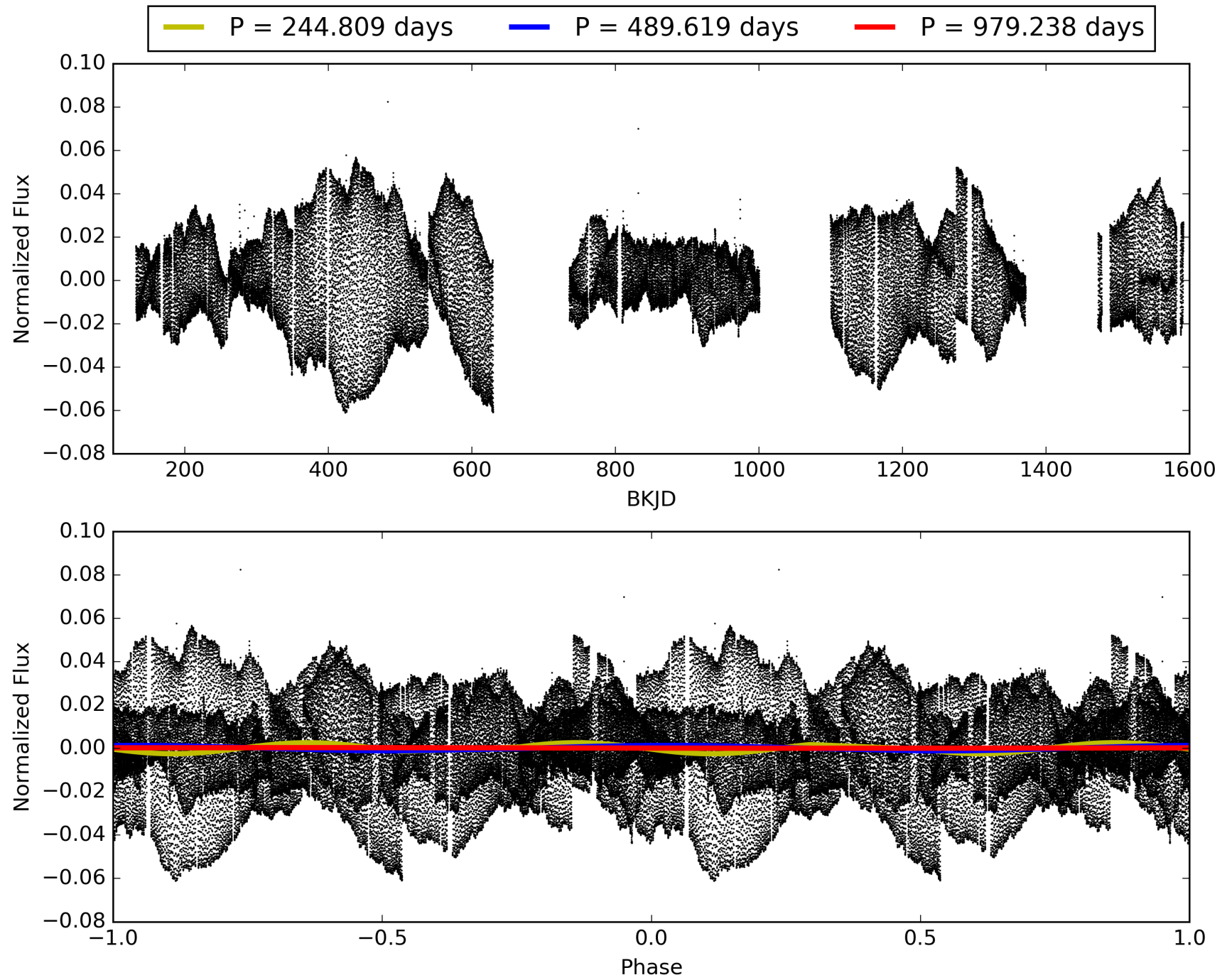
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:07:52 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010231863-01, PDC Light Curves

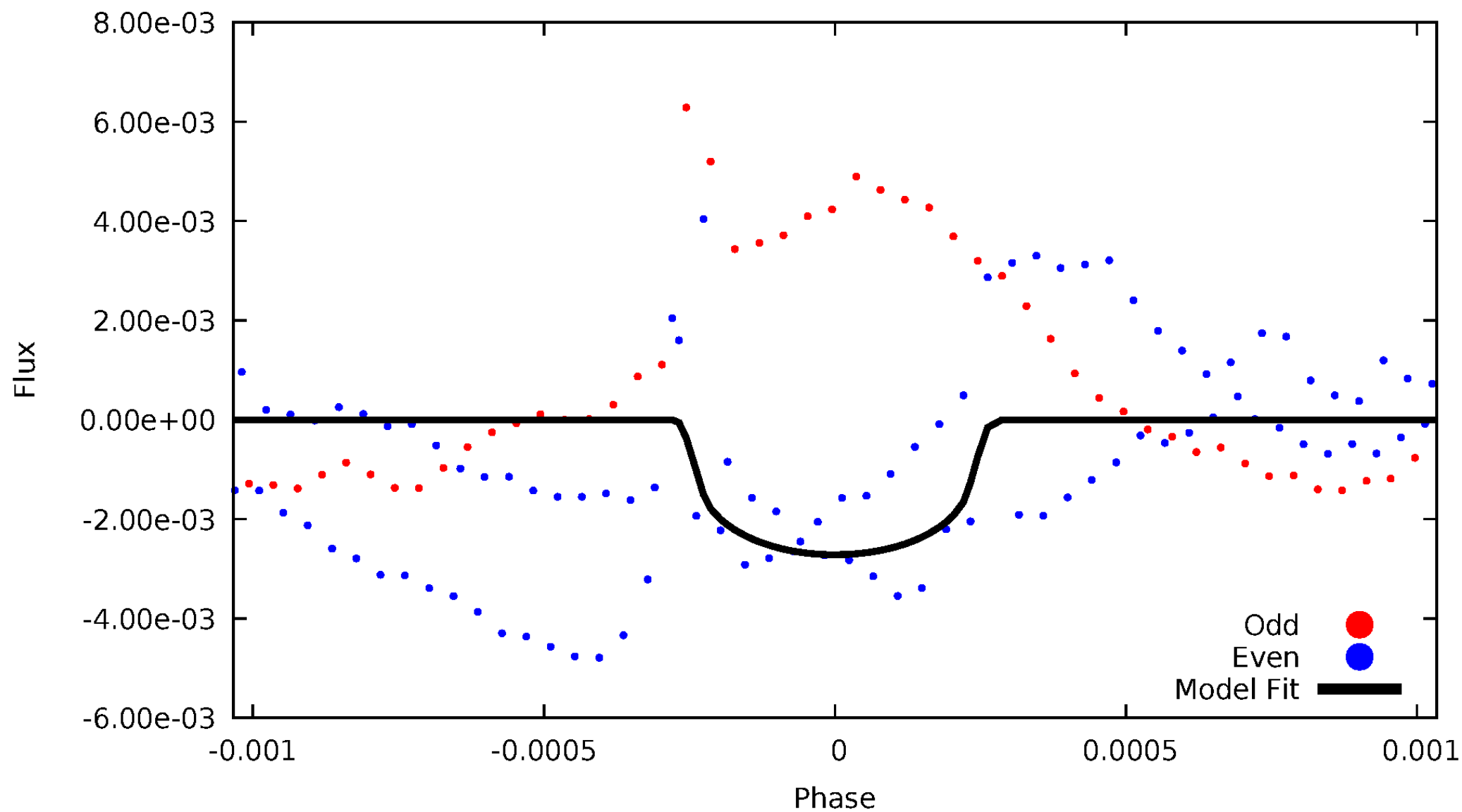


TCE 010231863-01



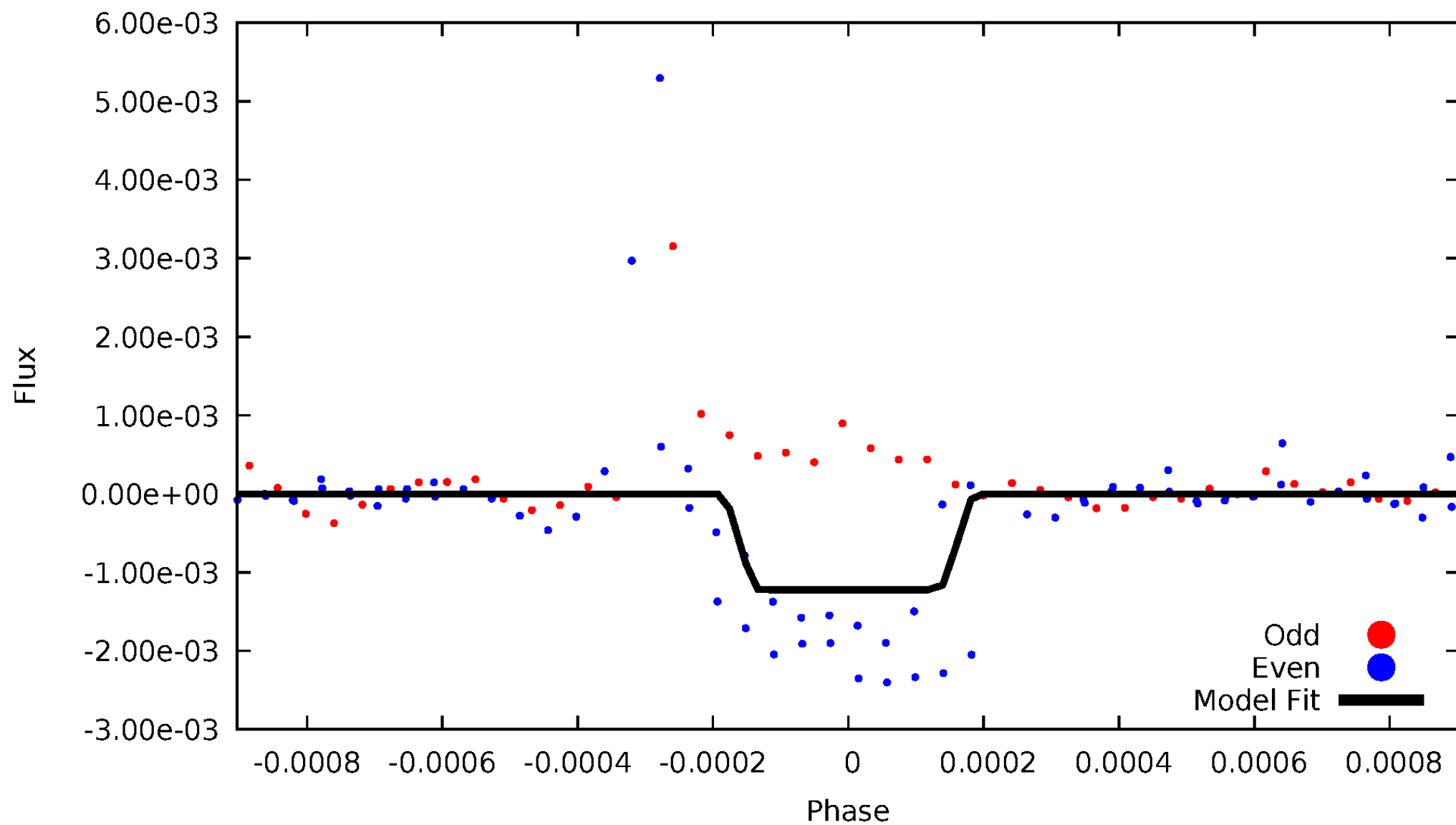
DV Odd/Even

TCE 010231863-01



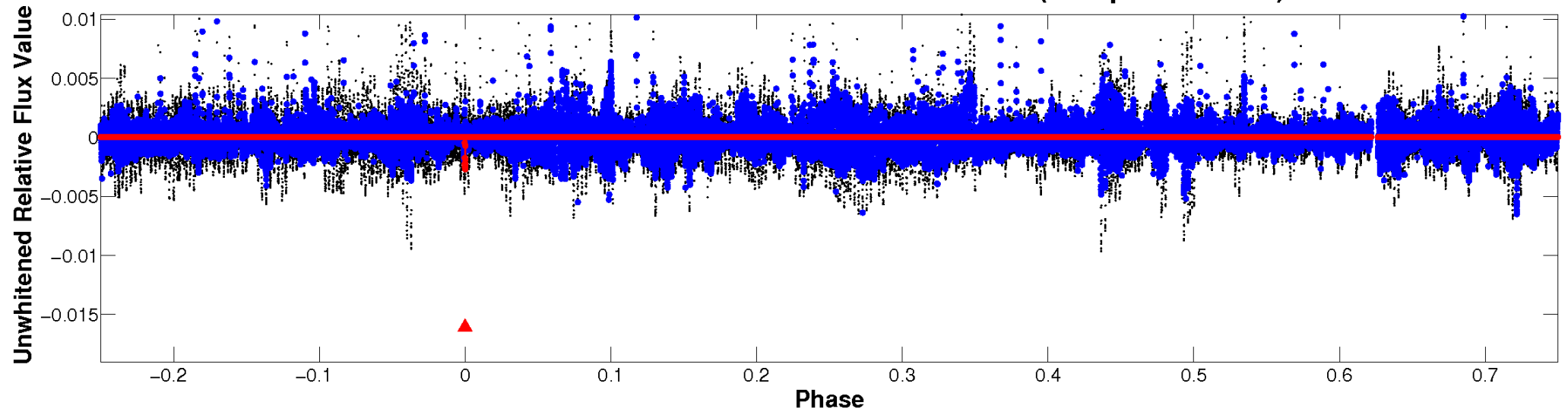
ALT Odd/Even

TCE 010231863-01

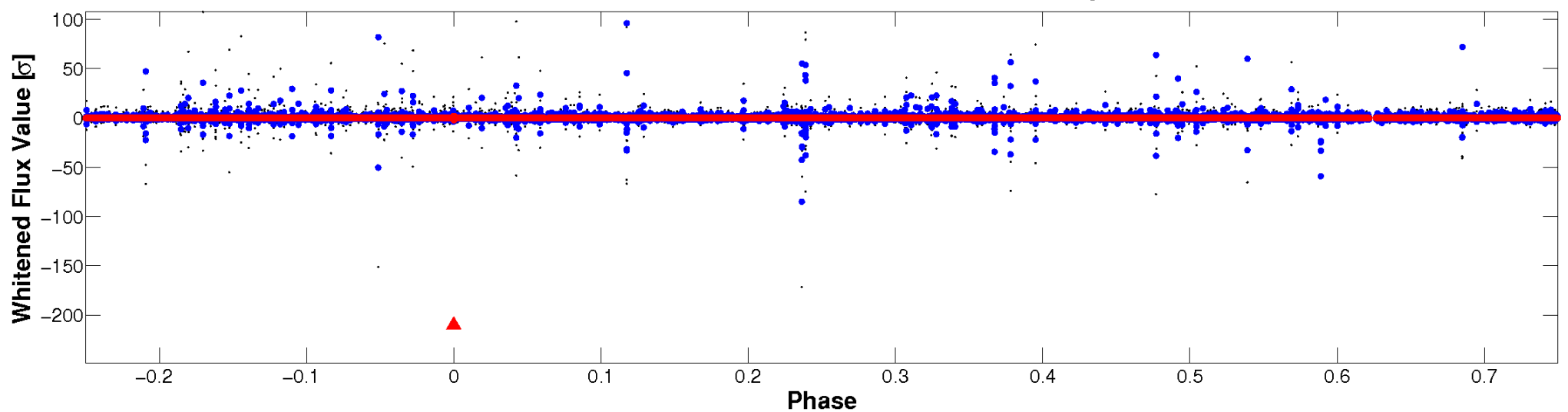


Non-Whitened Vs. Whitened Light Curve

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

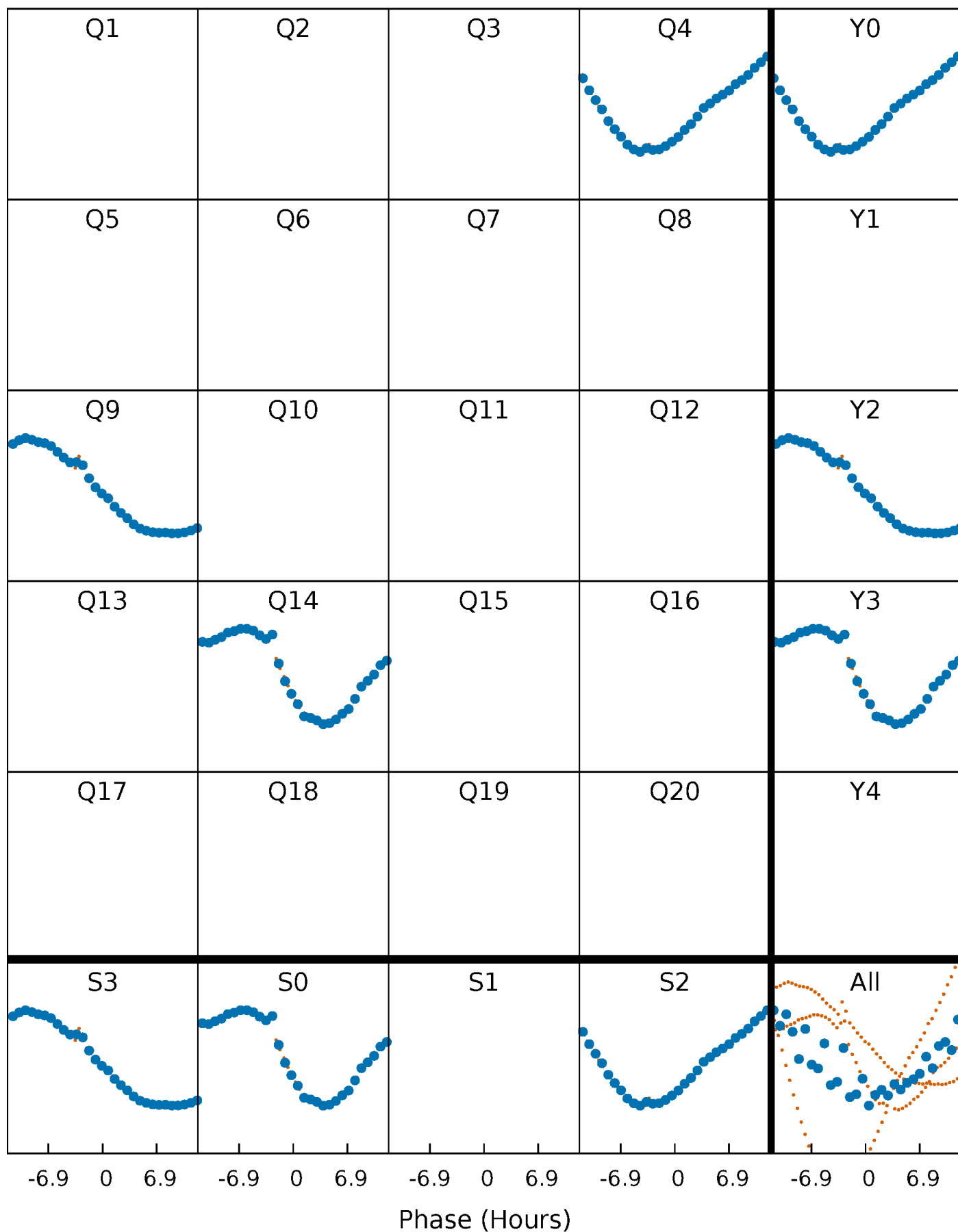


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



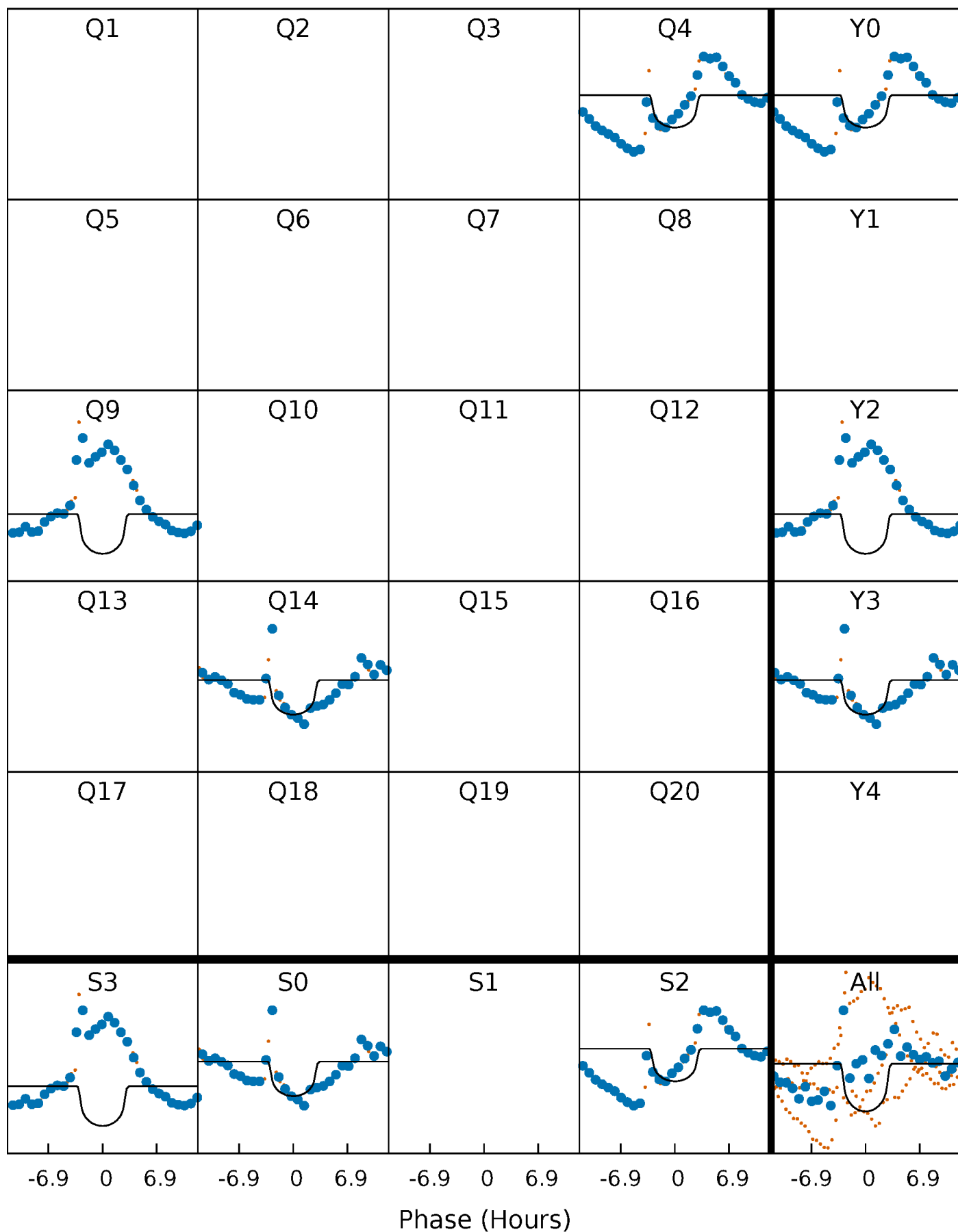
PDC Quarter-Phased Transit Curves

TCE 010231863-01 P=489.618835 Days $T_0=366.694802$ (BKJD)



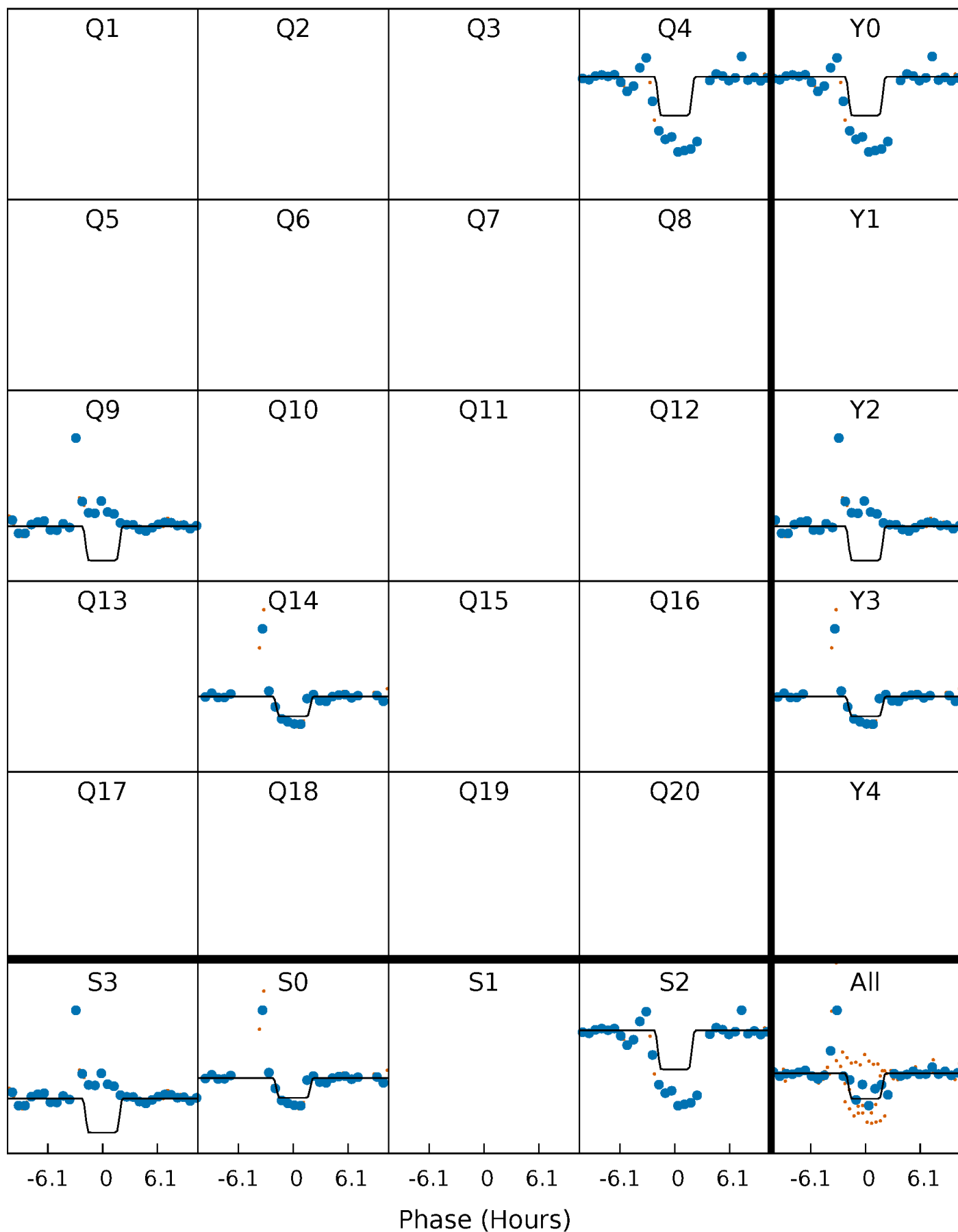
DV Quarter-Phased Transit Curves

TCE 010231863-01 P=489.618835 Days $T_0=366.694802$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

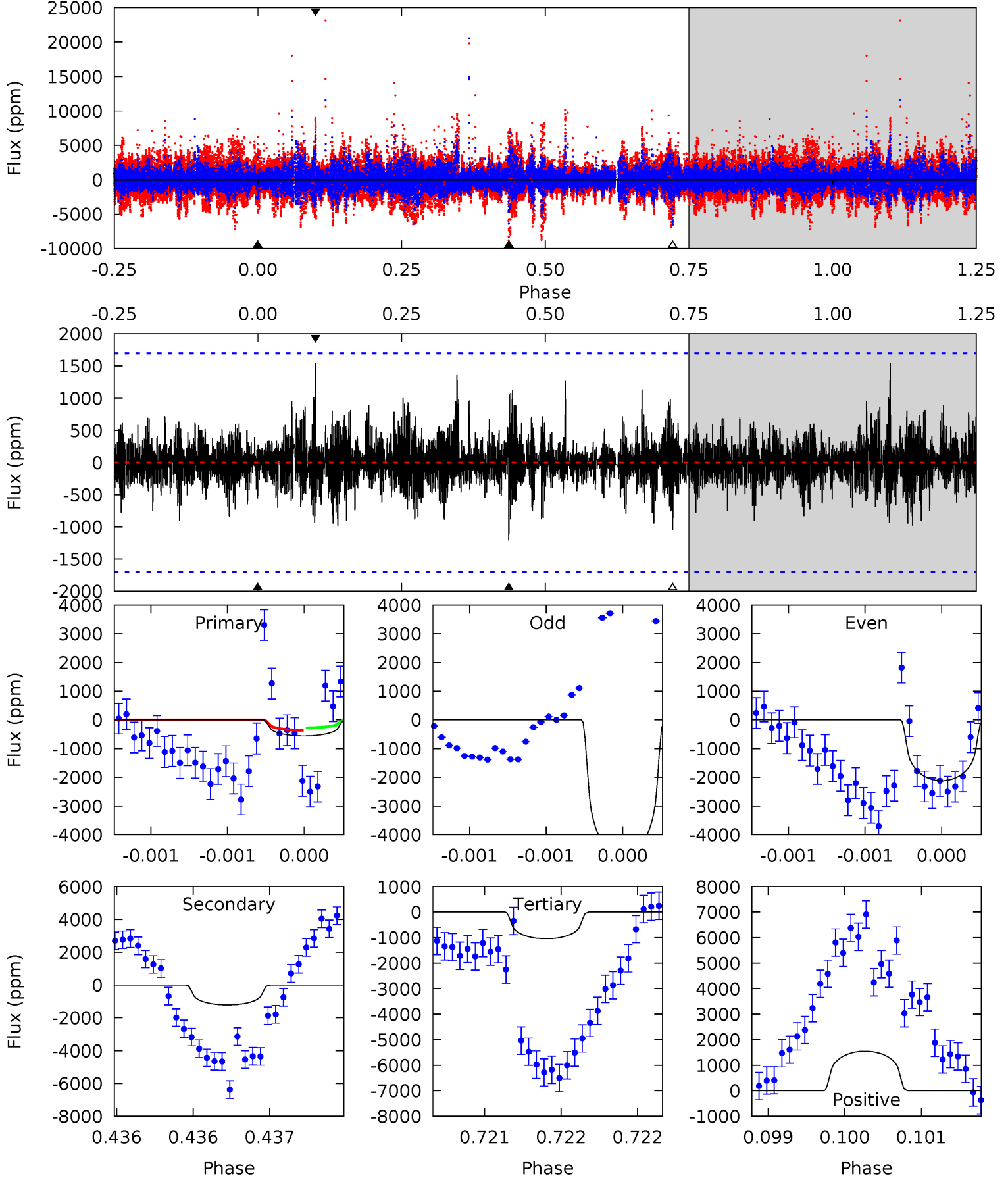
TCE 010231863-01 P=489.622154 Days $T_0=366.713703$ (BKJD)



DV Model-Shift Uniqueness Test

010231863-01, P = 489.618835 Days, E = 366.694802 Days

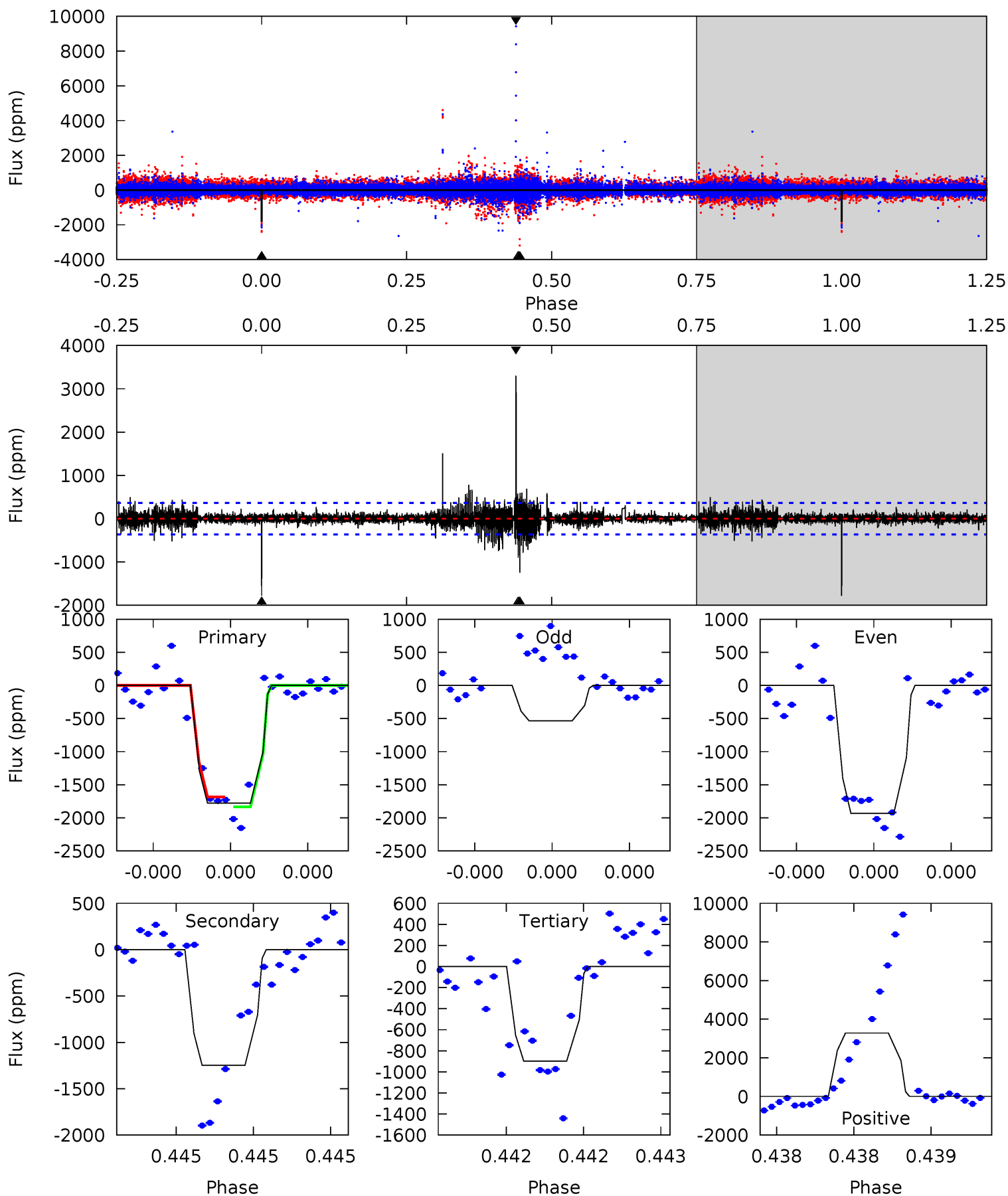
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.84	3.97	3.41	5.09	5.57	3.47	0.92	-1.58	-3.25	0.56	-1.11	4.11	-0.10	0.56	0.14



Alt Model-Shift Uniqueness Test

010231863-01, P = 489.622154 Days, E = 366.713703 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.5	19.3	13.9	50.8	5.62	3.56	1.86	13.6	-23.3	5.38	-31.5	10.7	0.74	0.65	0



Stellar Parameters For KIC 010231863

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4925^{+169}_{-169}	$4.577^{+0.040}_{-0.055}$	$0.100^{+0.250}_{-0.300}$	$0.762^{+0.070}_{-0.063}$	$0.801^{+0.062}_{-0.069}$	$2.546^{+0.492}_{-0.495}$
	+3%/-3%	+1%/-1%	+250%/-300%	+9%/-8%	+8%/-9%	+19%/-19%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 010231863-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1211 ± 305	$3.87^{+1.56}_{-1.44}$	250^{+10}_{-9}	4390^{+945}_{-551}	55259^{+91509}_{-27817}
Alt.	-1246 ± 65	$2.96^{+1.45}_{-1.33}$	250^{+10}_{-9}	4886^{+1646}_{-707}	$98442^{+226398}_{-54682}$

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

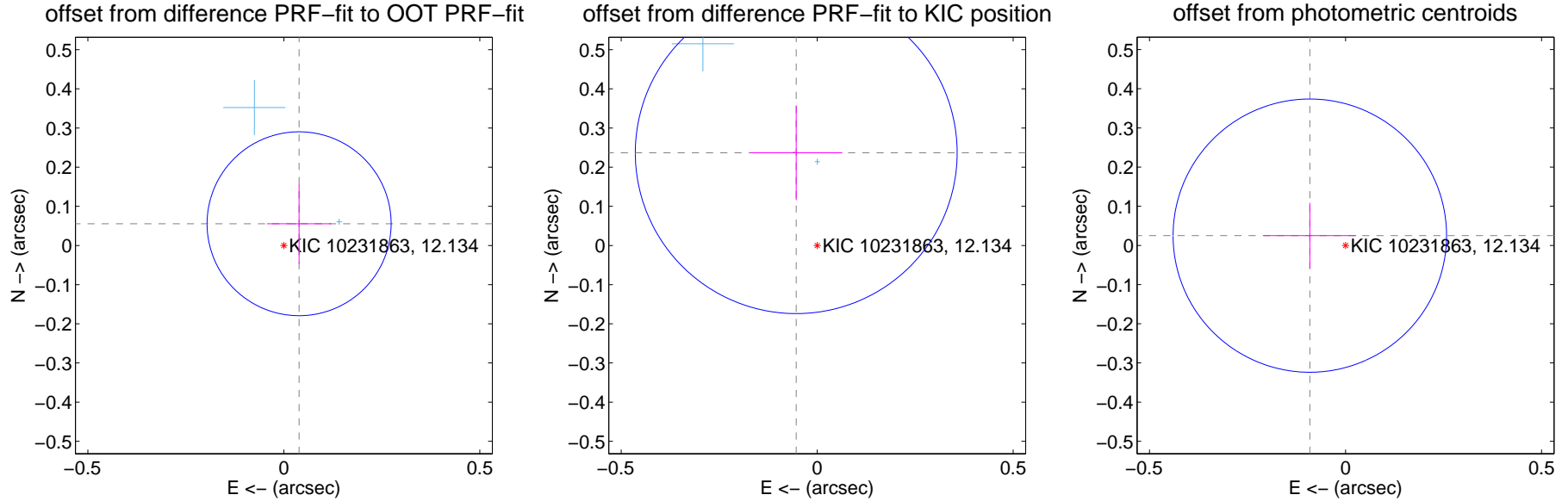
DV Centroid Data

Supplemental centroid analysis for 010231863-01. Kepler magnitude: 12.13. Transit SNR 6.94

There are 3 quarters with good PRF difference image offsets

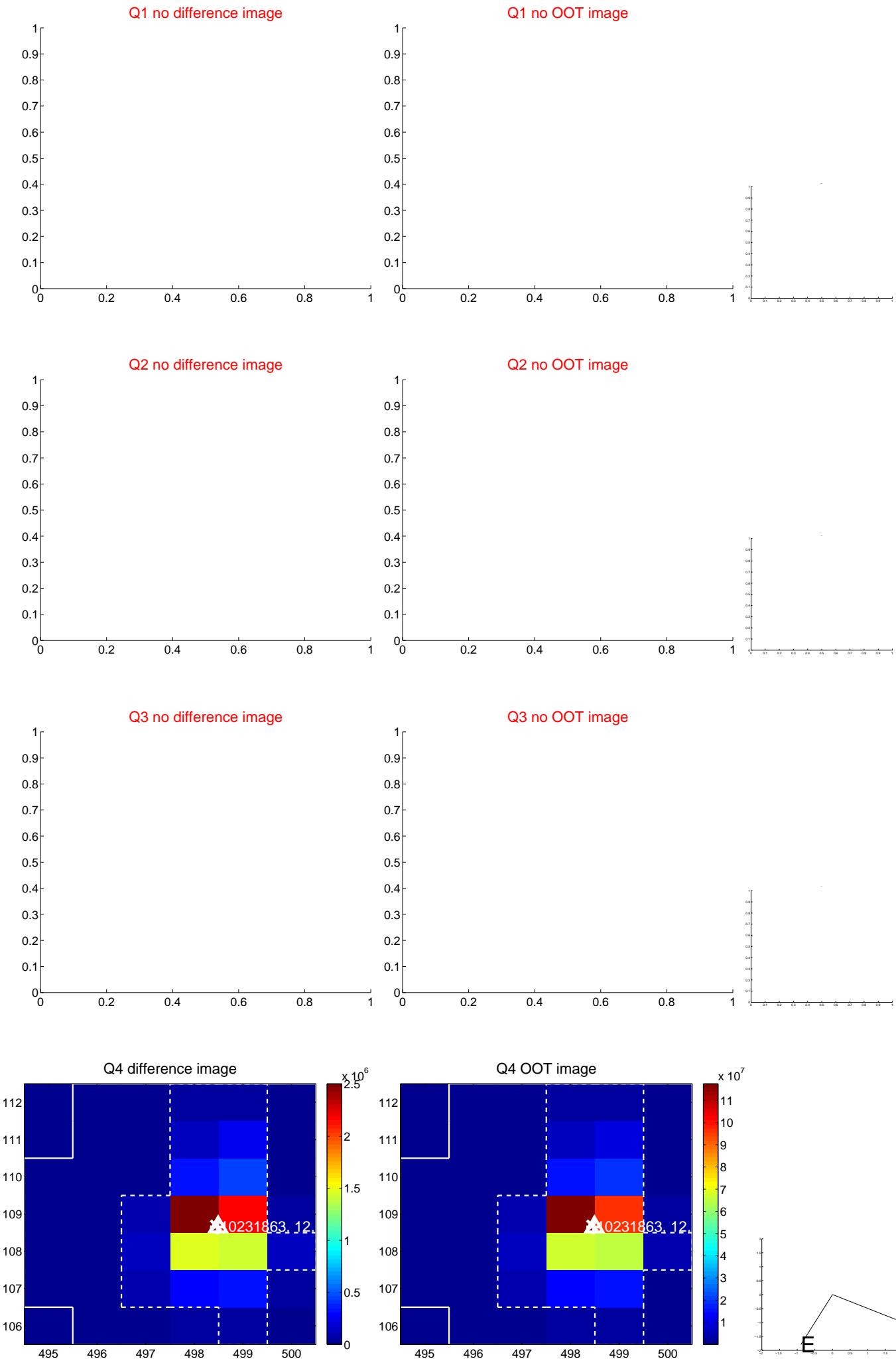
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.068 ± 0.078	0.87	-0.039 ± 0.082	0.056 ± 0.102
PRF-fit source offset from KIC position	0.243 ± 0.137	1.77	0.053 ± 0.117	0.237 ± 0.121
photometric centroid source offset	0.09 ± 0.12	0.81	0.09 ± 0.12	0.03 ± 0.08



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.

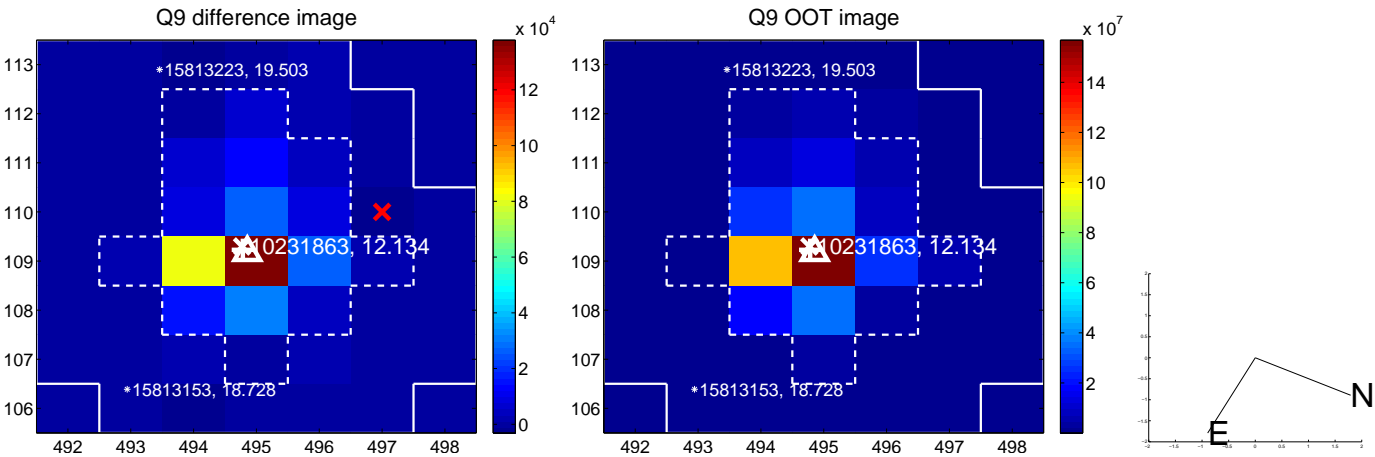
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



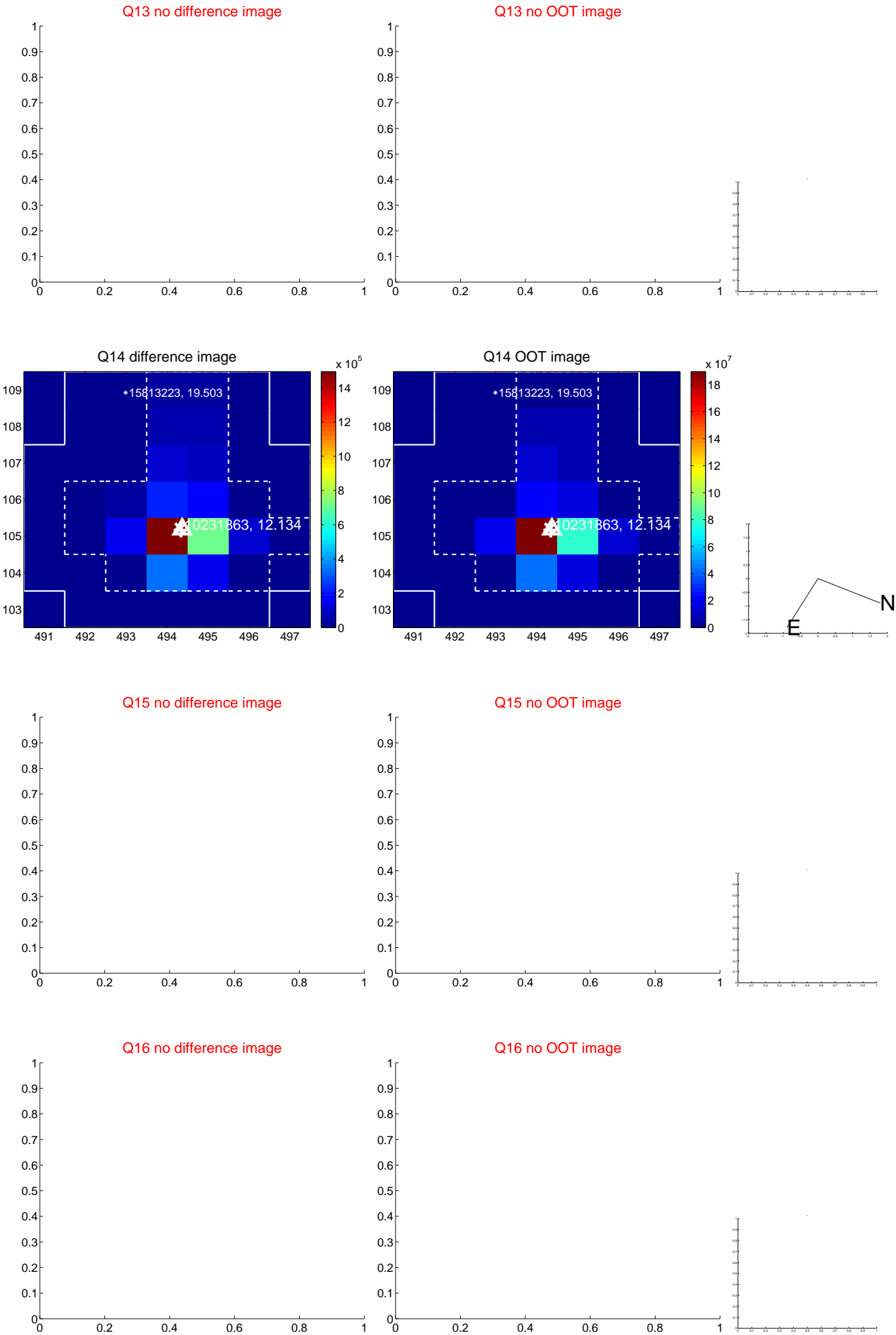
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



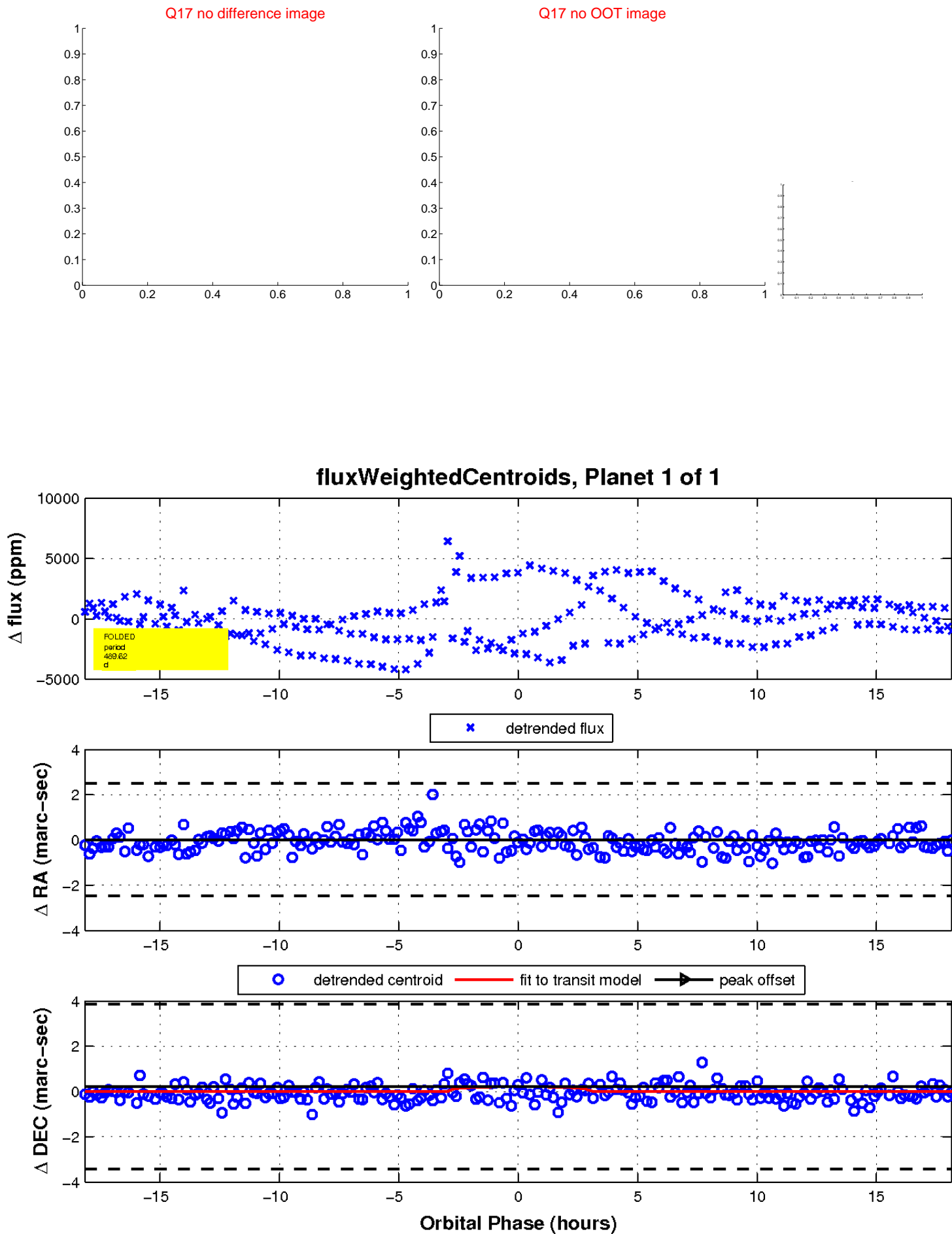
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

