

KIC 008176877

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})
008176877-01	OBS	No	367.043530	206.387772	1204.9	11.155	8.4	9.0	0.88	5650	3.74	0.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008176877-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

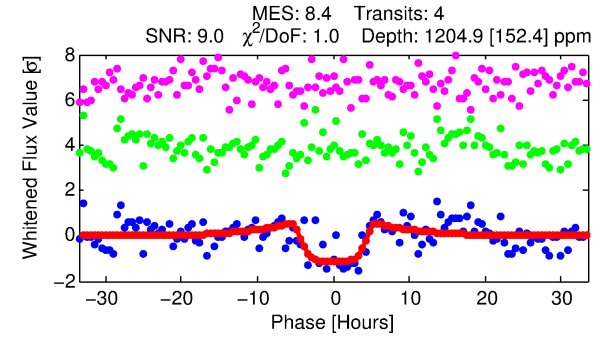
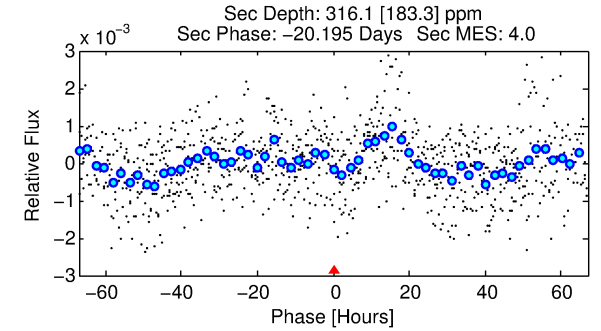
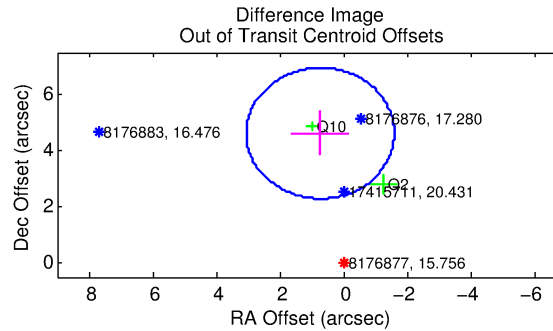
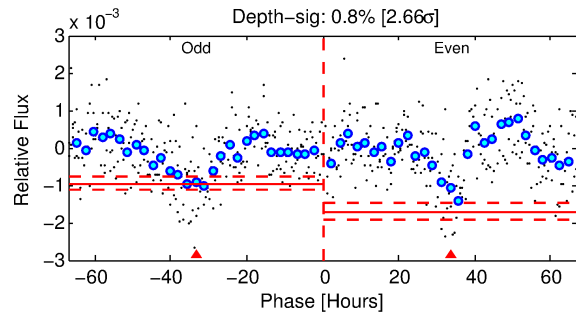
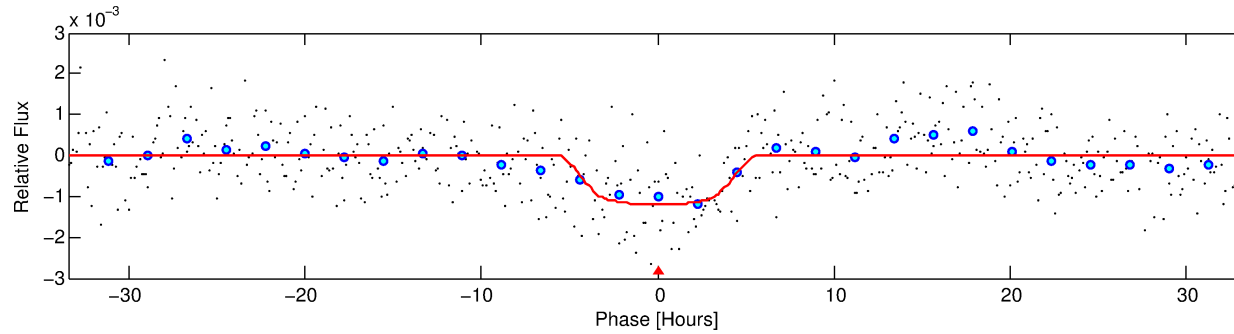
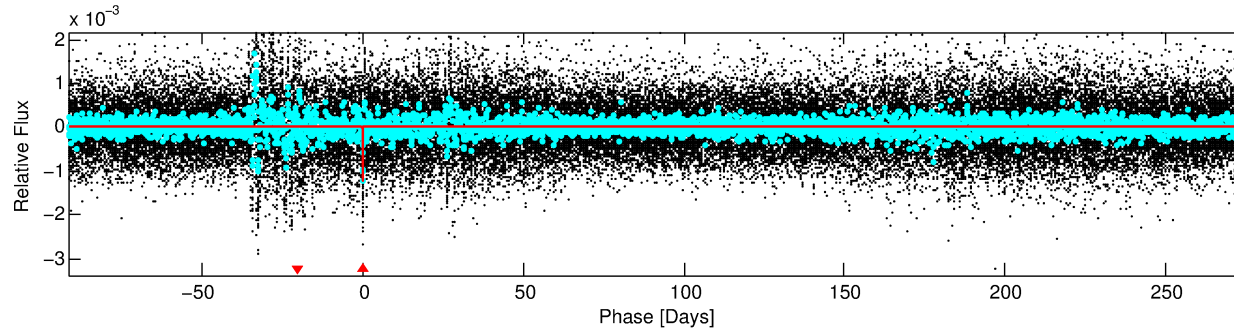
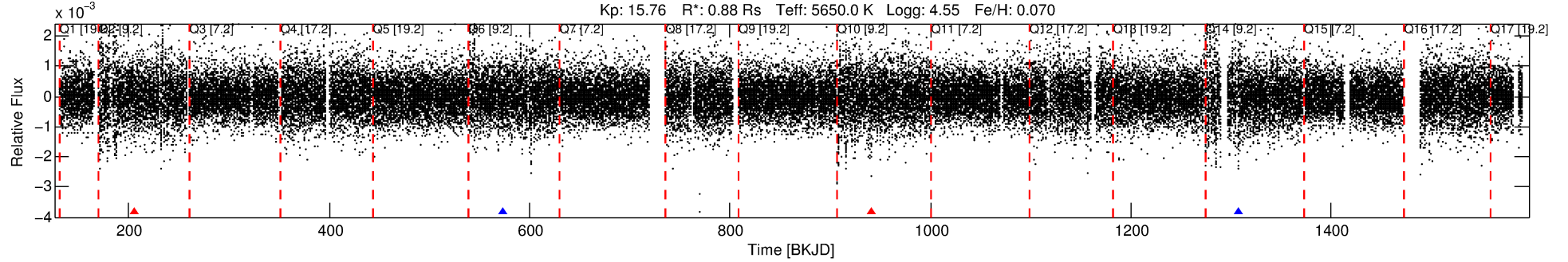
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008176877-01

No Significant Match Found

DV One-Page Summary

KIC: 8176877 Candidate: 1 of 1 Period: 367.044 d



DV Fit Results:

Period = 367.04353 [0.00991] d
Epoch = 206.3878 [0.0190] BKJD
Rp/R* = 0.0392 [0.0038]
a/R* = 119.23 [30.93]
b = 0.92 [0.04]
Seff = 0.70 [0.23]
Teq = 233 [19] K
Rp = 3.74 [0.99] Re
a = 1.0019 [0.2109] AU
Ag = 12459.31 [8527.21] [1.46 σ]
Teffp = 3807 [593] K [6.03 σ]

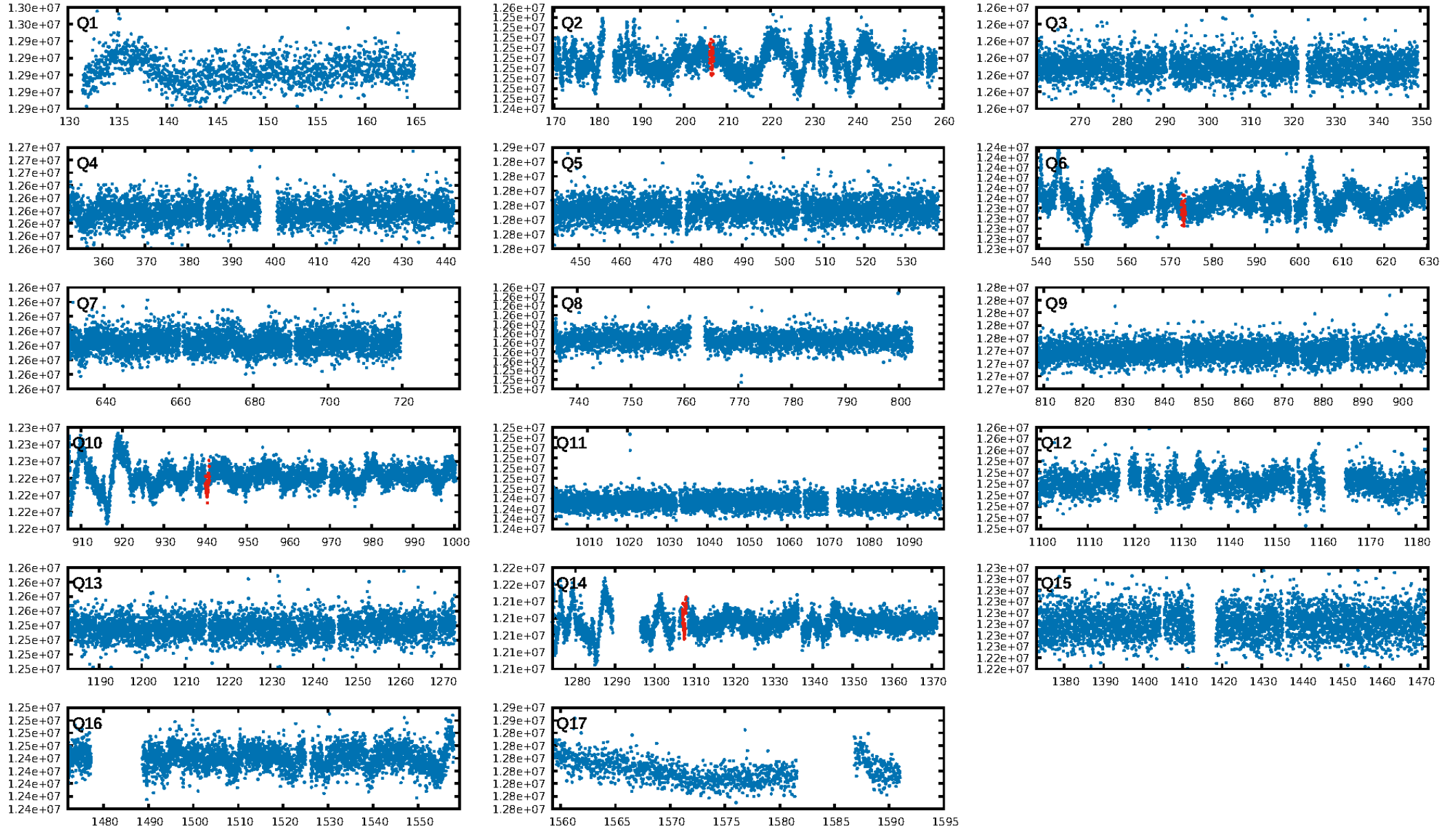
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 89.8%
Bootstrap-pfa: 1.68e-11
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: 0.5034
Centroid-sig: 47.6%
Centroid-so: 2.070 arcsec [0.95 σ]
OotOffset-rm: 4.674 arcsec [6.02 σ]
KicOffset-rm: 4.638 arcsec [4.01 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

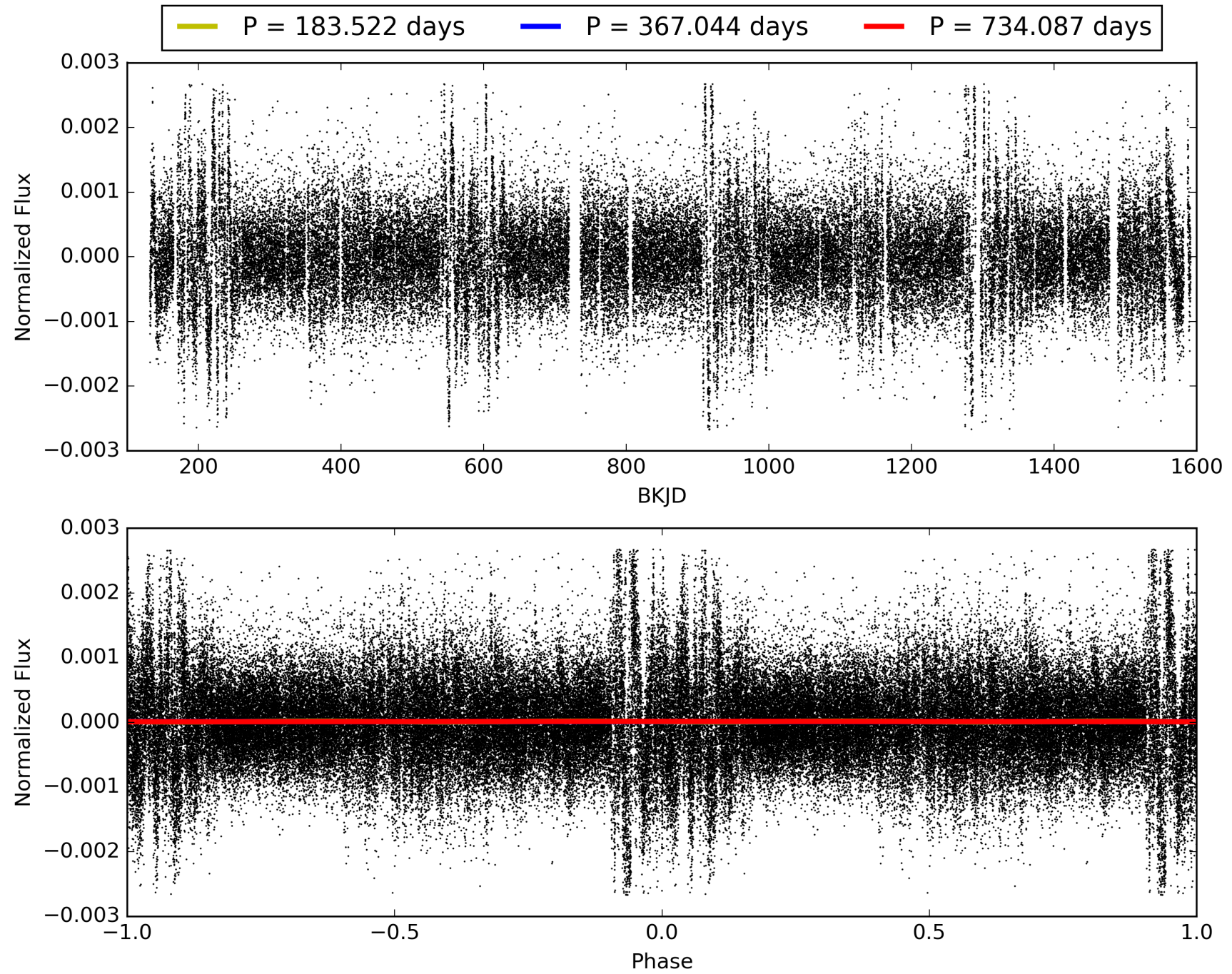
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:31:26 Z

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

TCE 008176877-01, PDC Light Curves

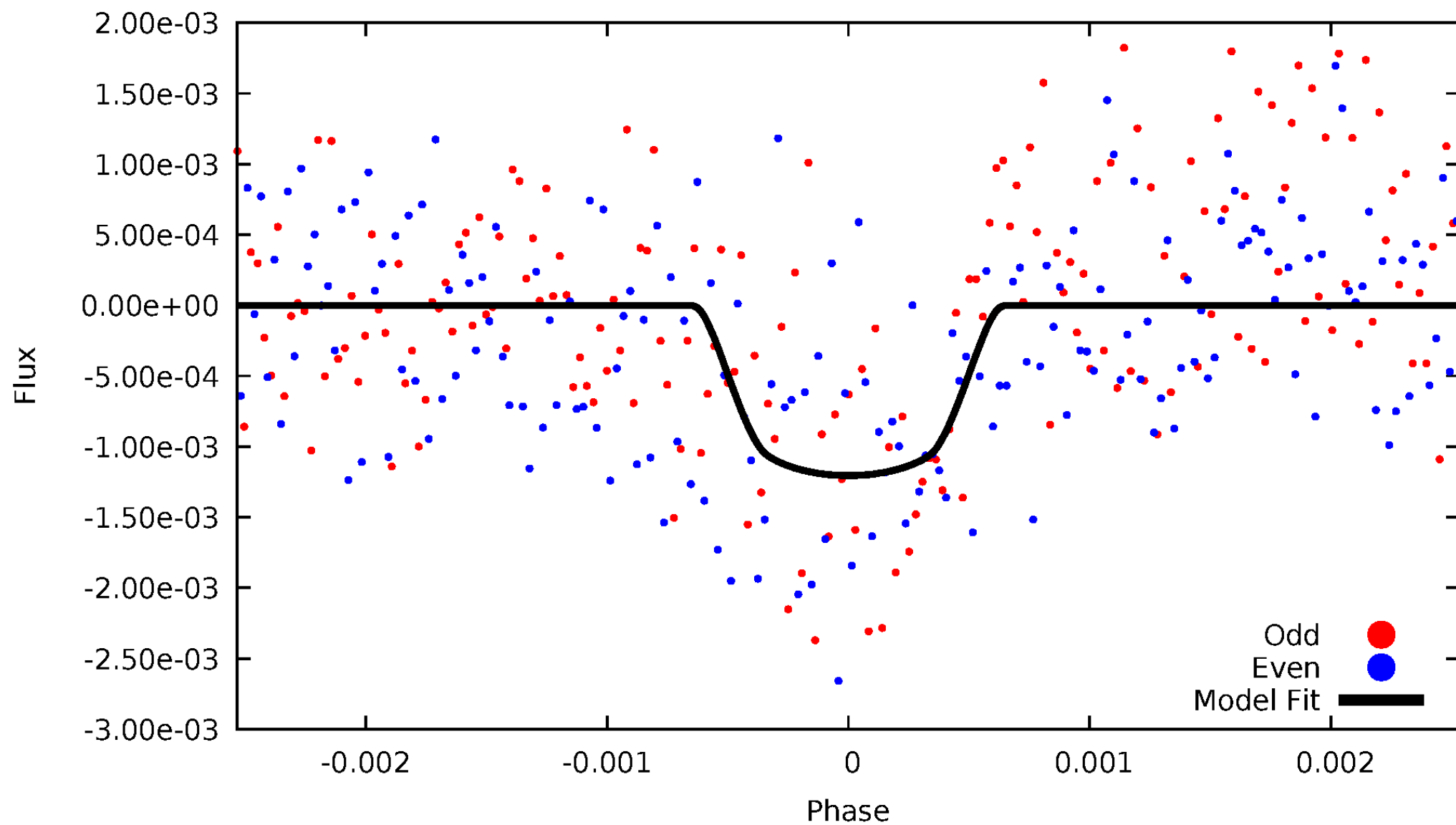


TCE 008176877-01



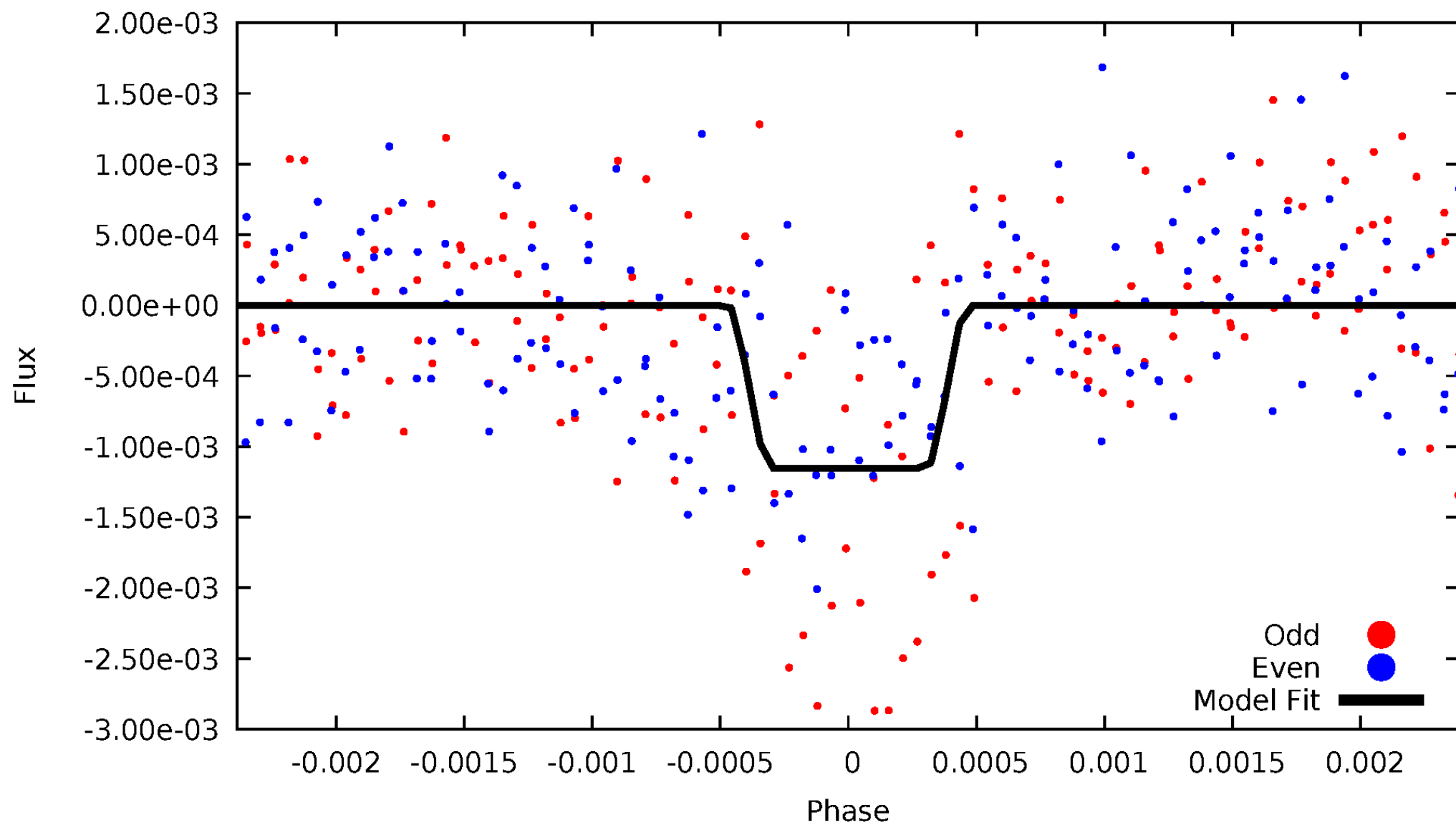
DV Odd/Even

TCE 008176877-01



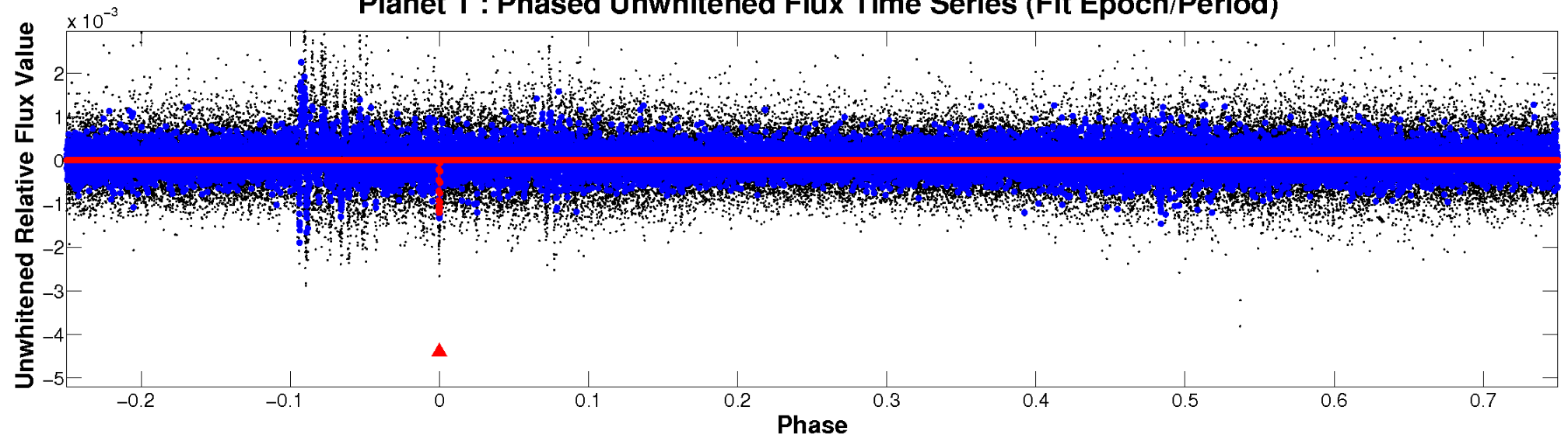
ALT Odd/Even

TCE 008176877-01

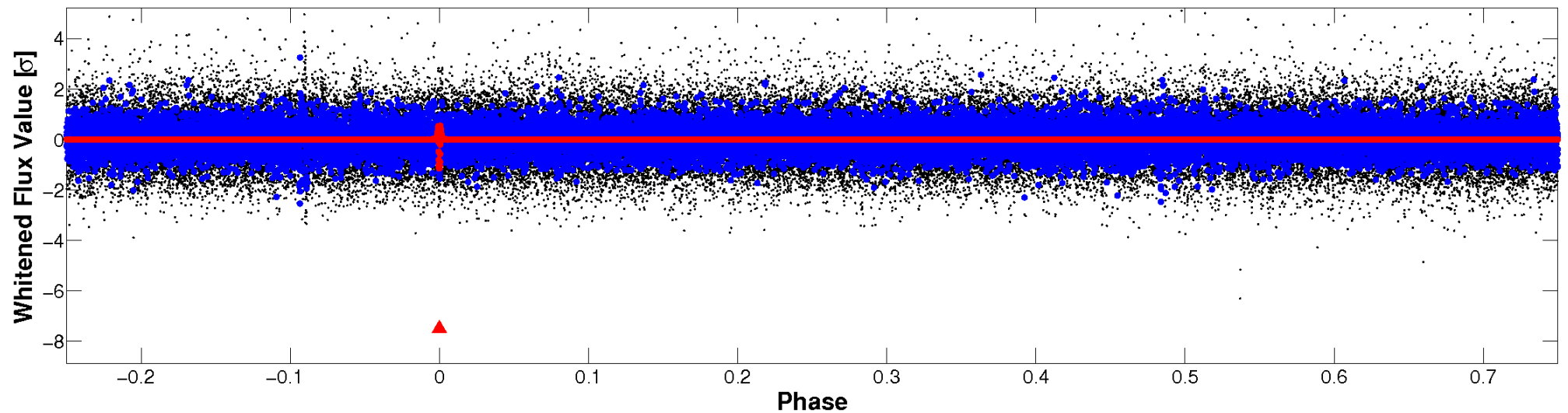


Non-Whitened Vs. Whitened Light Curve

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

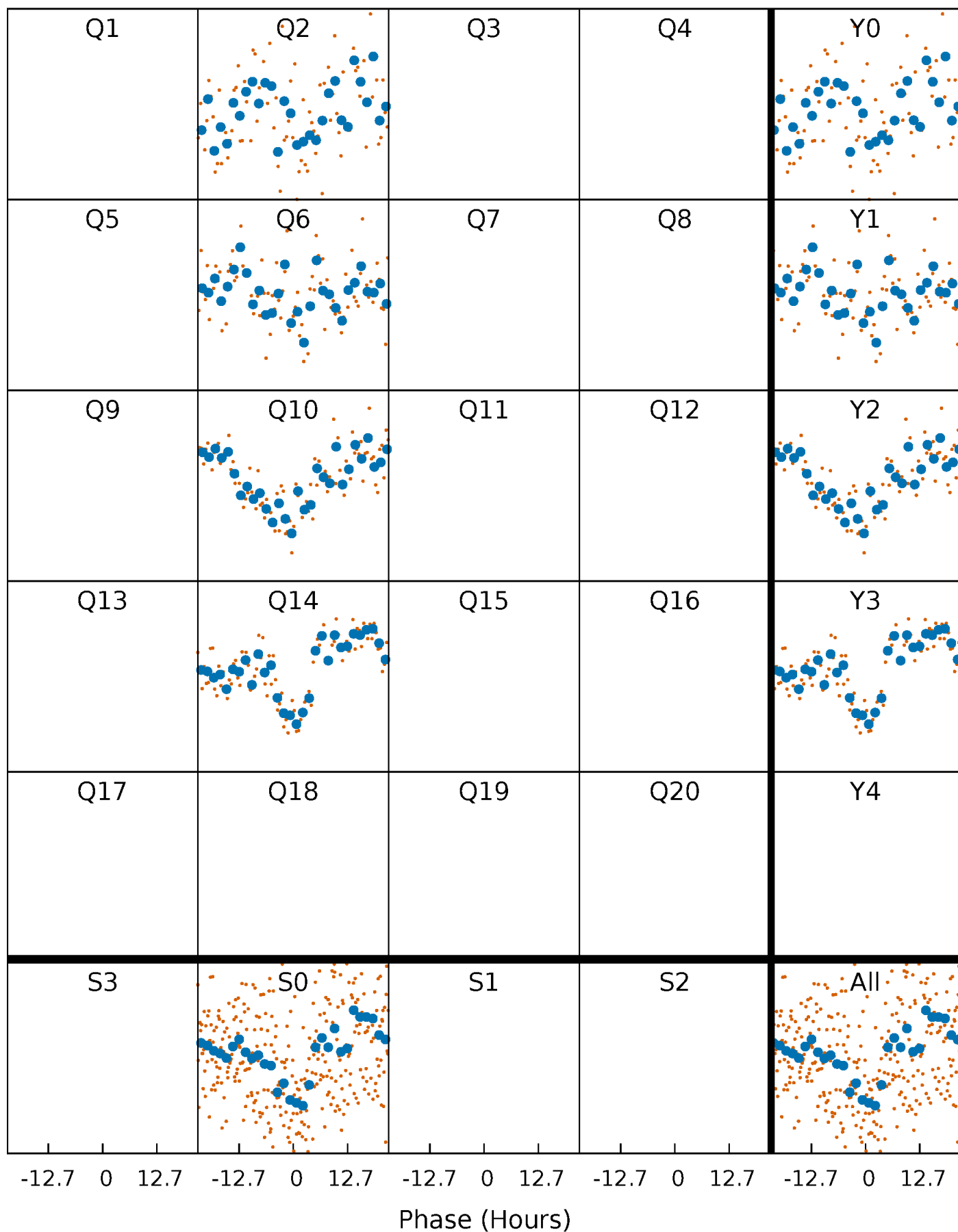


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



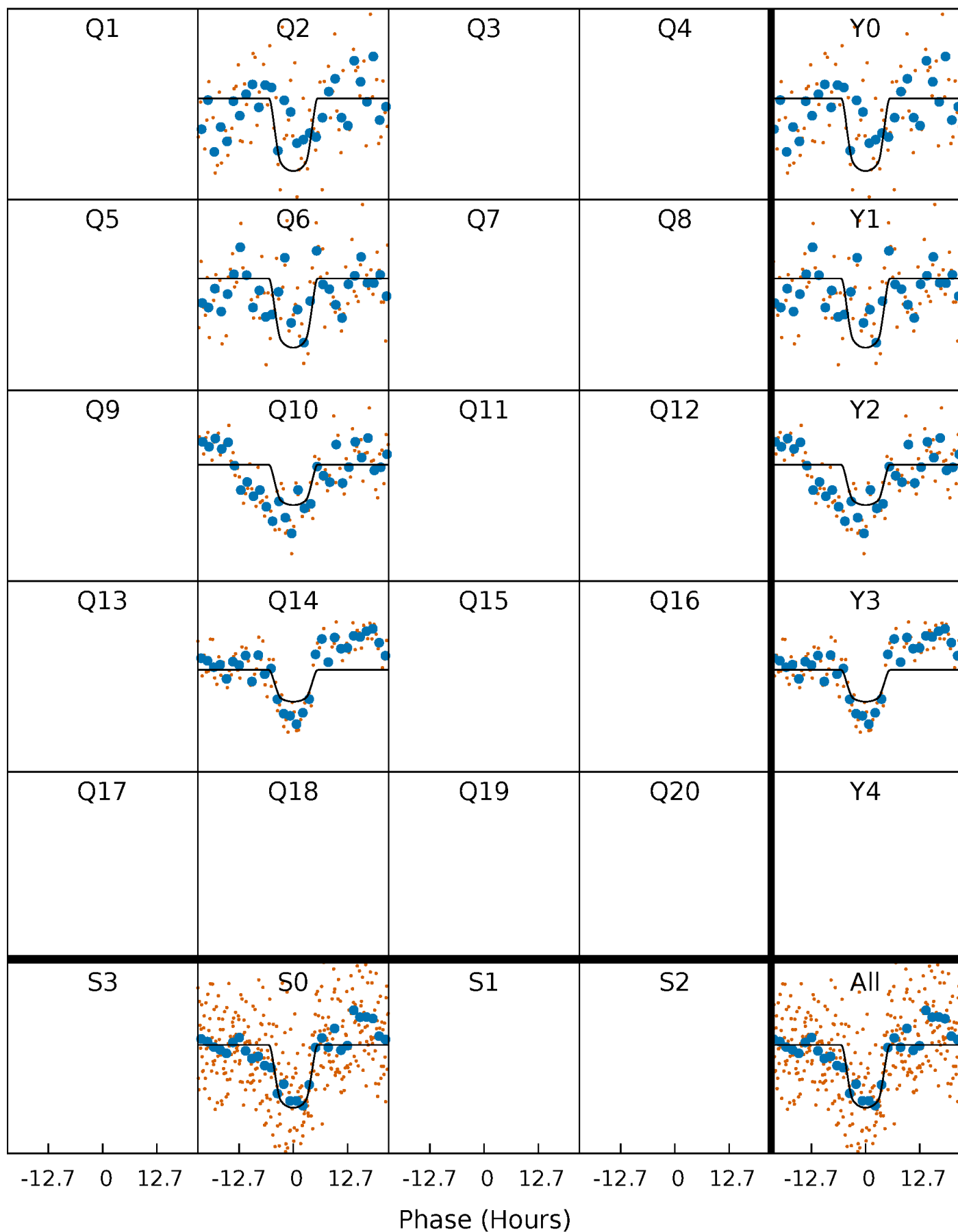
PDC Quarter-Phased Transit Curves

TCE 008176877-01 P=367.043530 Days $T_0=206.387772$ (BKJD)



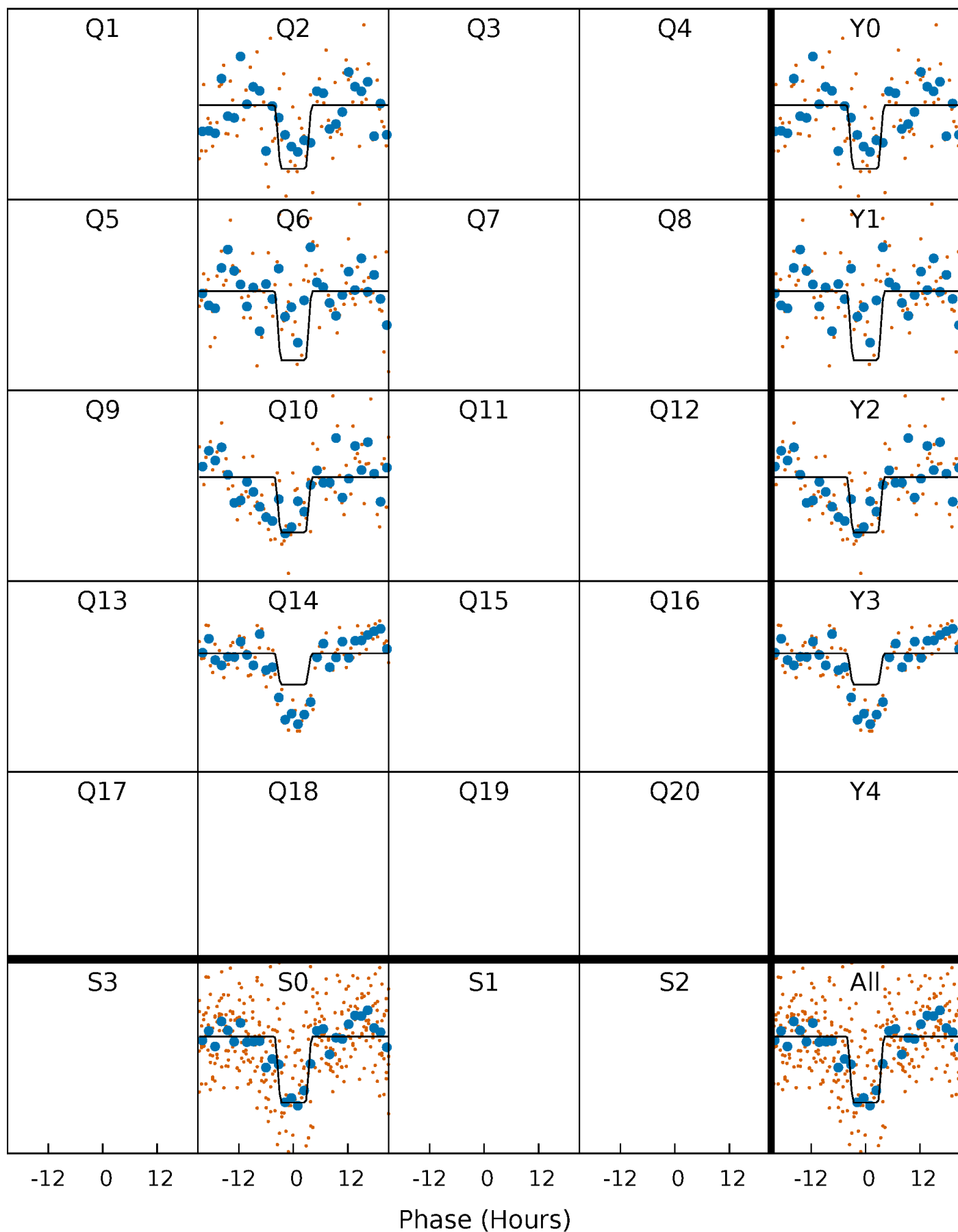
DV Quarter-Phased Transit Curves

TCE 008176877-01 P=367.043530 Days $T_0=206.387772$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

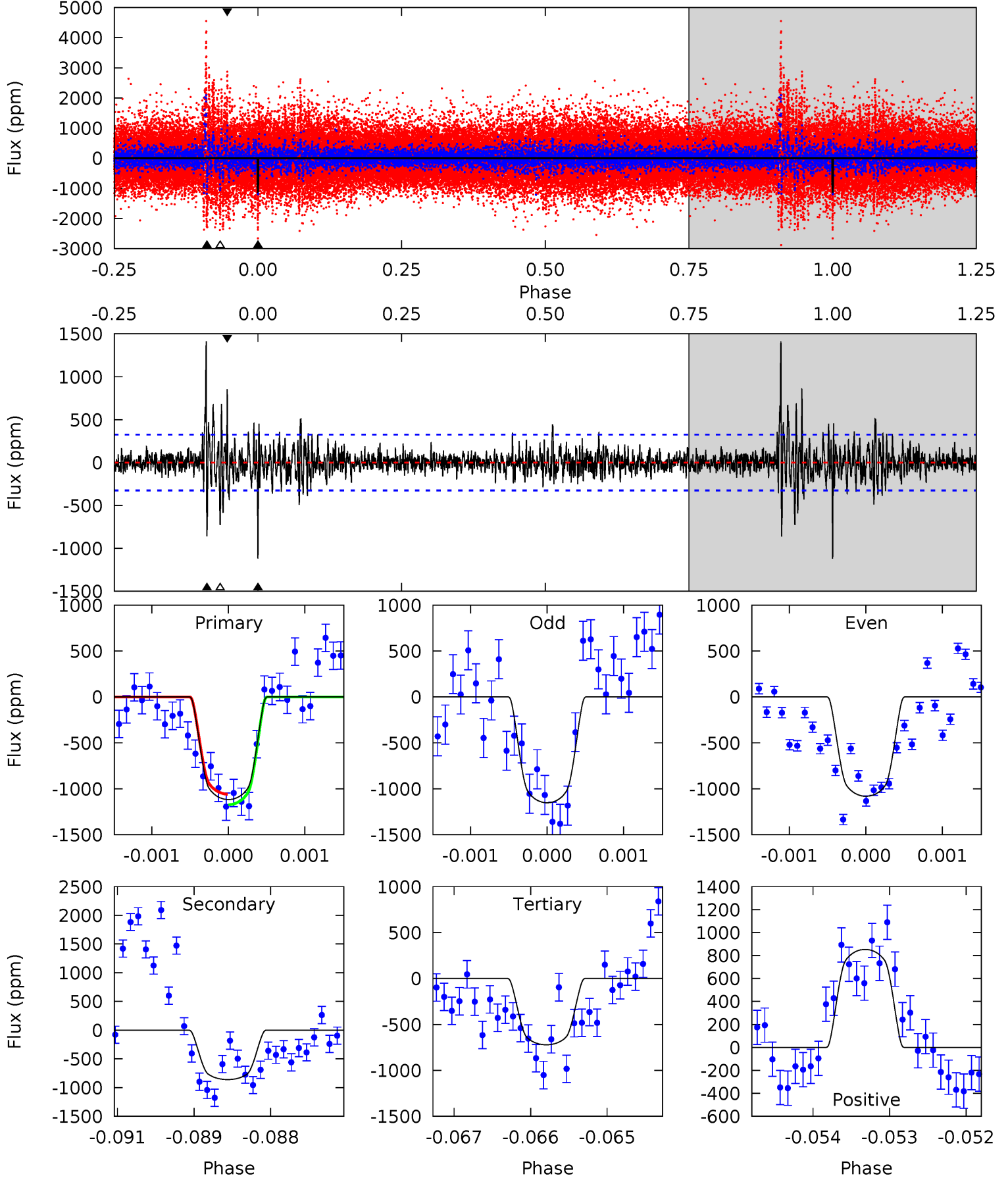
TCE 008176877-01 P=367.007171 Days $T_0=206.490393$ (BKJD)



DV Model-Shift Uniqueness Test

008176877-01, P = 367.043530 Days, E = 206.387772 Days

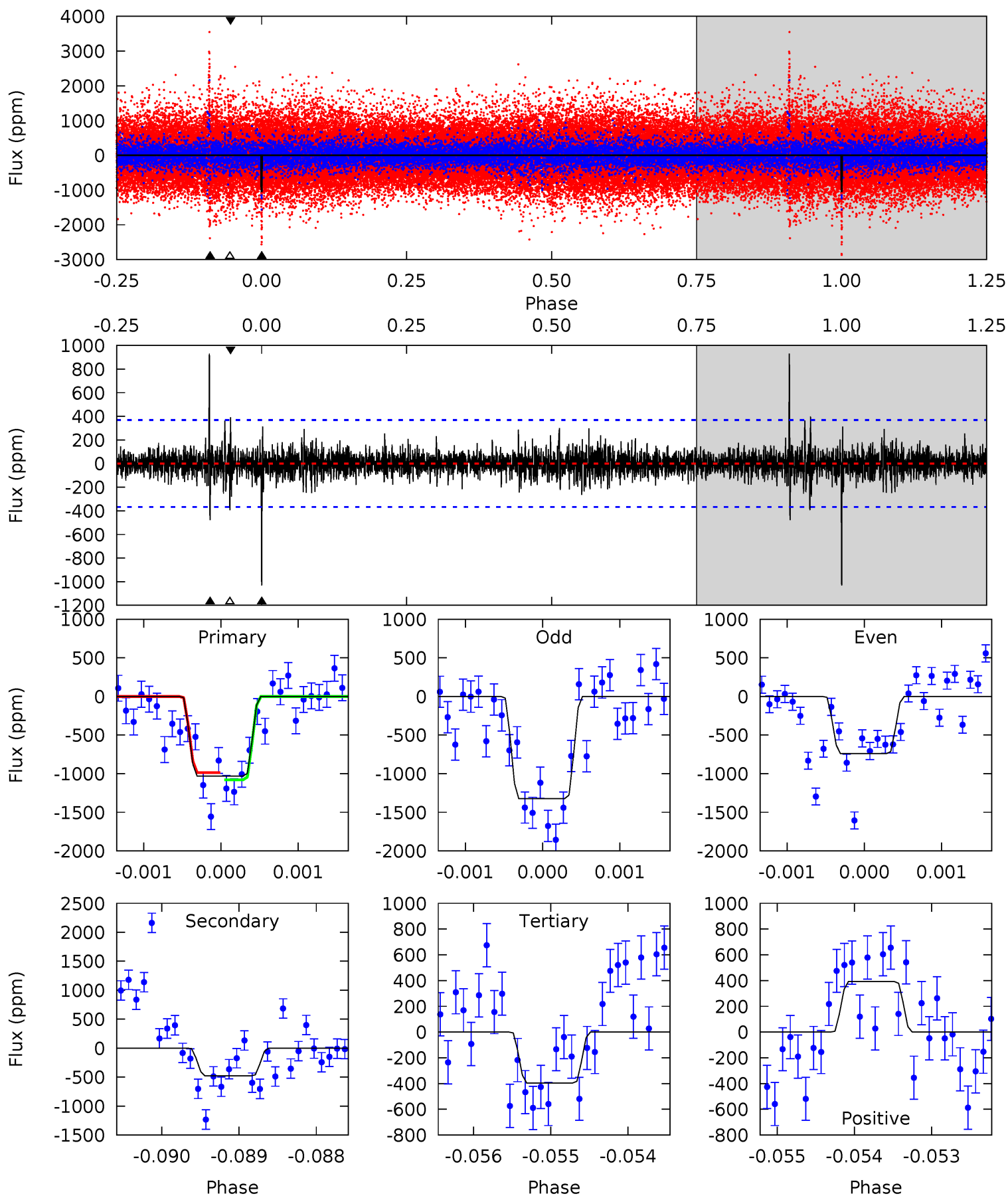
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	14.3	12.0	14.2	5.41	3.22	2.11	6.56	4.38	2.30	0.13	0.59	1.03	0.56	0.95



Alt Model-Shift Uniqueness Test

008176877-01, P = 367.007171 Days, E = 206.490393 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	7.08	5.87	5.82	5.46	3.31	1.13	9.43	9.48	1.21	1.27	4.35	1.39	0.47	0.71



Stellar Parameters For KIC 008176877

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5650^{+154}_{-171}	$4.551^{+0.030}_{-0.170}$	$0.070^{+0.250}_{-0.300}$	$0.876^{+0.217}_{-0.072}$	$0.993^{+0.089}_{-0.122}$	$2.083^{+0.342}_{-0.949}$
	+3%/-3%	+1%/-4%	+357%/-429%	+25%/-8%	+9%/-12%	+16%/-46%
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 008176877-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-861 ± 60	$3.87^{+0.64}_{-0.43}$	333^{+19}_{-14}	4954^{+274}_{-231}	30490^{+8959}_{-7266}
Alt.	-477 ± 67	$3.38^{+0.49}_{-0.46}$	333^{+18}_{-14}	4647^{+304}_{-246}	22371^{+7654}_{-5983}

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

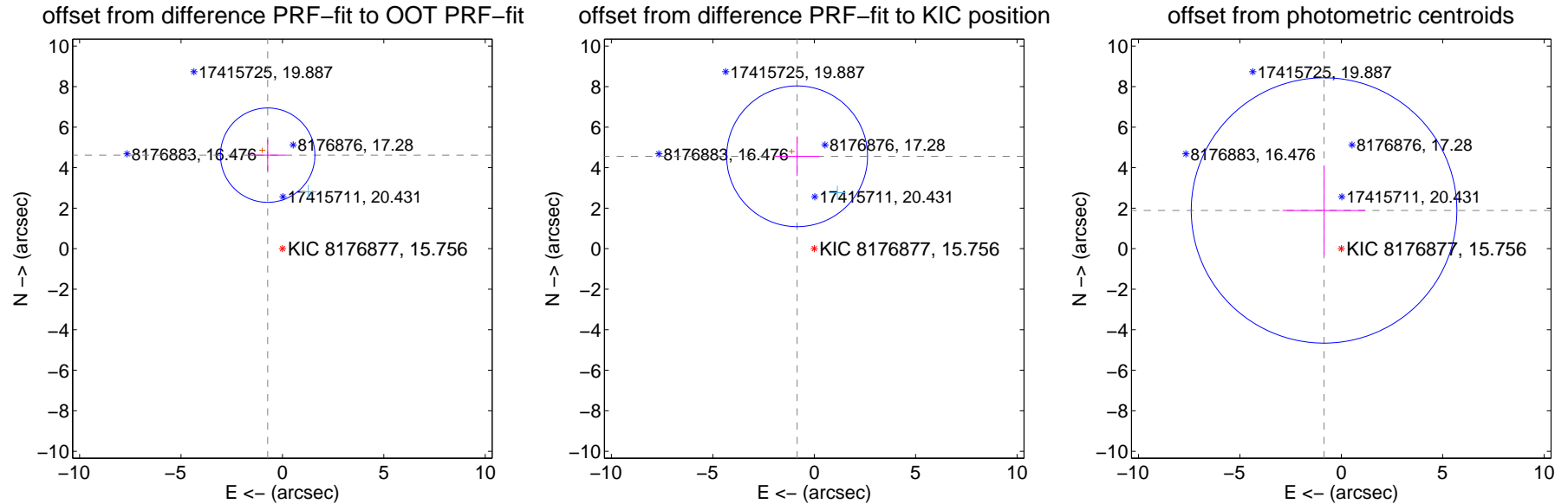
DV Centroid Data

Supplemental centroid analysis for 008176877-01. Kepler magnitude: 15.76. Transit SNR 9.01

There are 1 quarters with good PRF difference image offsets

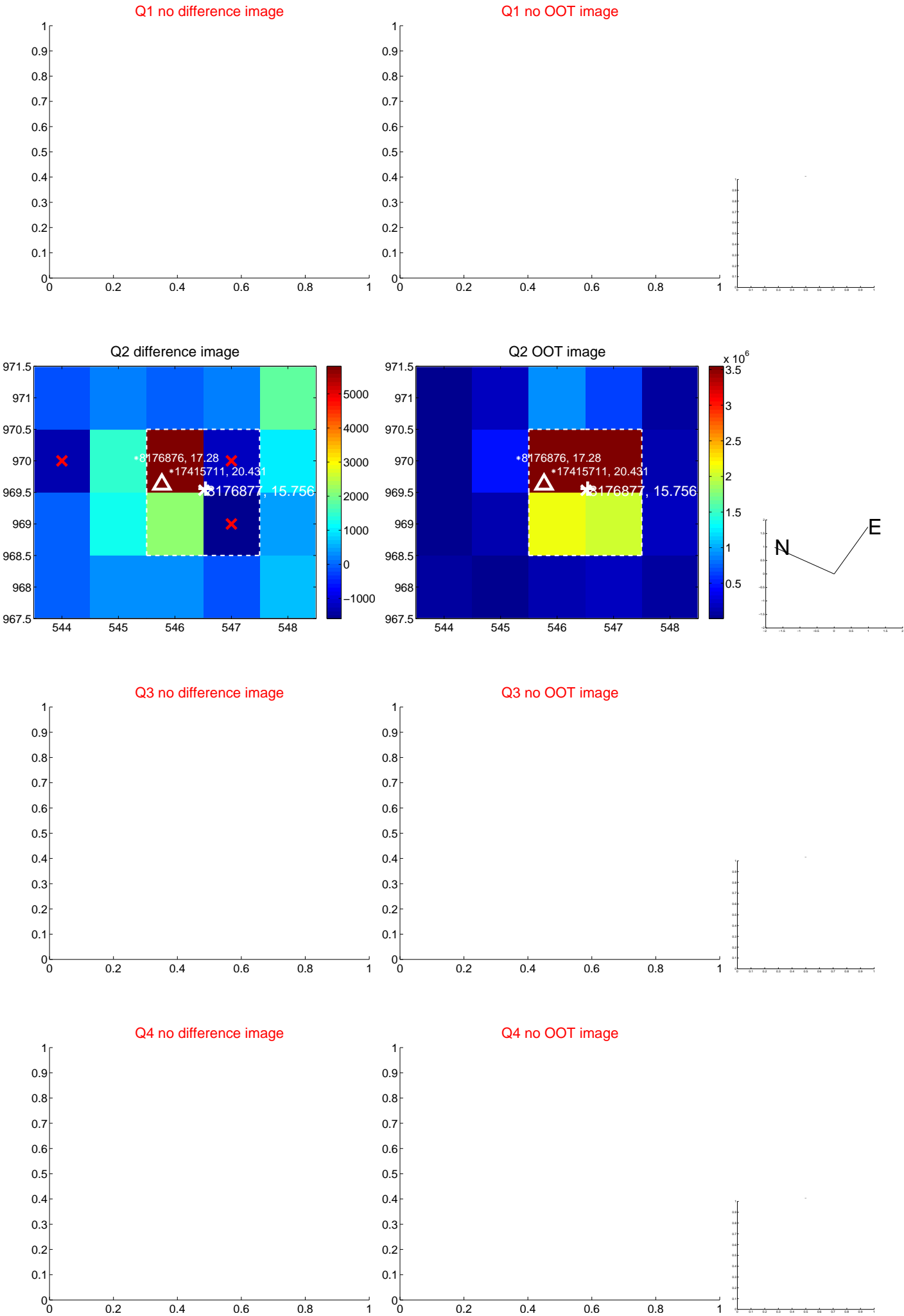
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.674 ± 0.776	6.02	0.727 ± 0.862	4.617 ± 0.774
PRF-fit source offset from KIC position	4.638 ± 1.158	4.01	0.845 ± 1.079	4.561 ± 0.978
photometric centroid source offset	2.07 ± 2.18	0.95	0.85 ± 2.04	1.89 ± 2.21

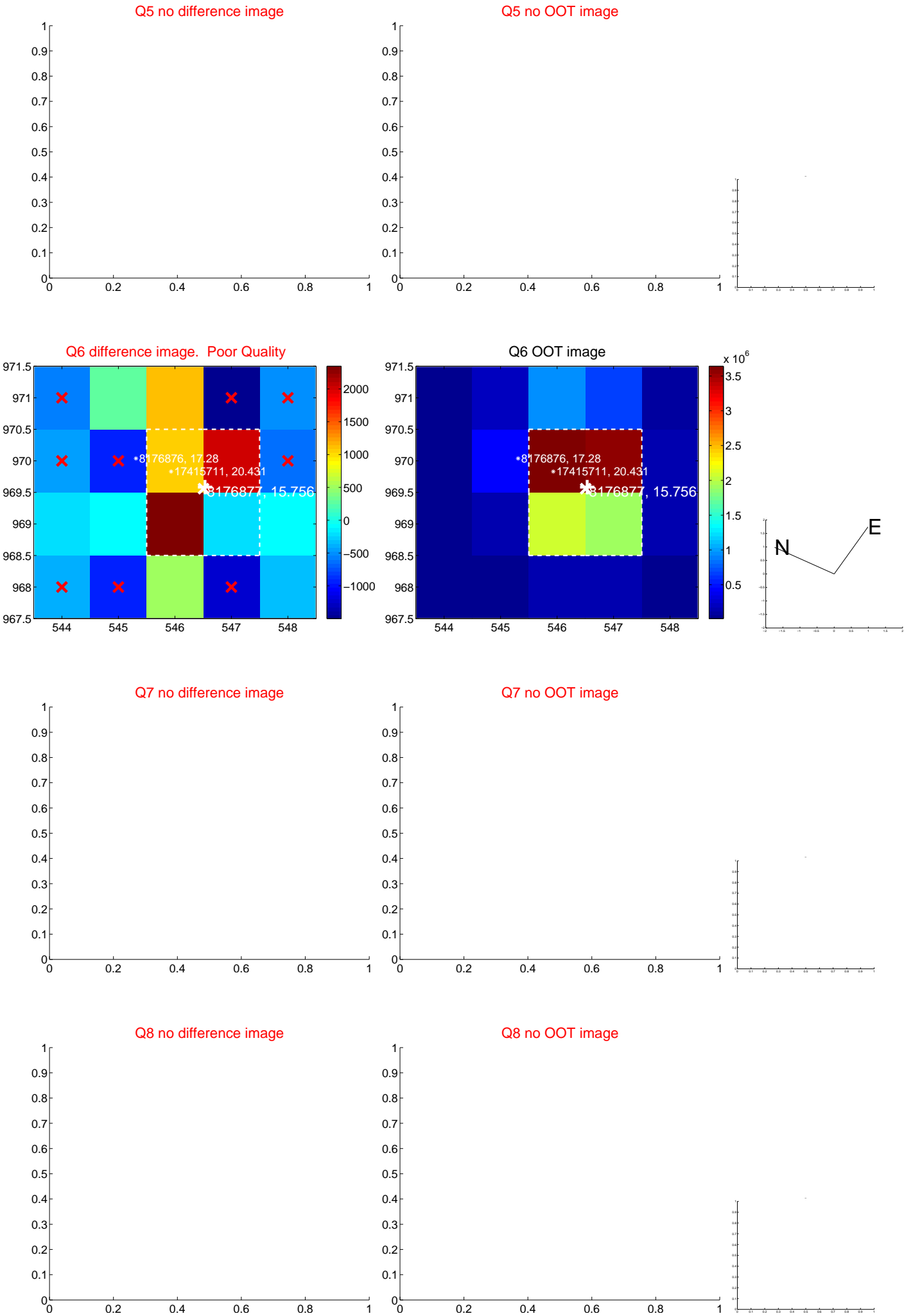


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

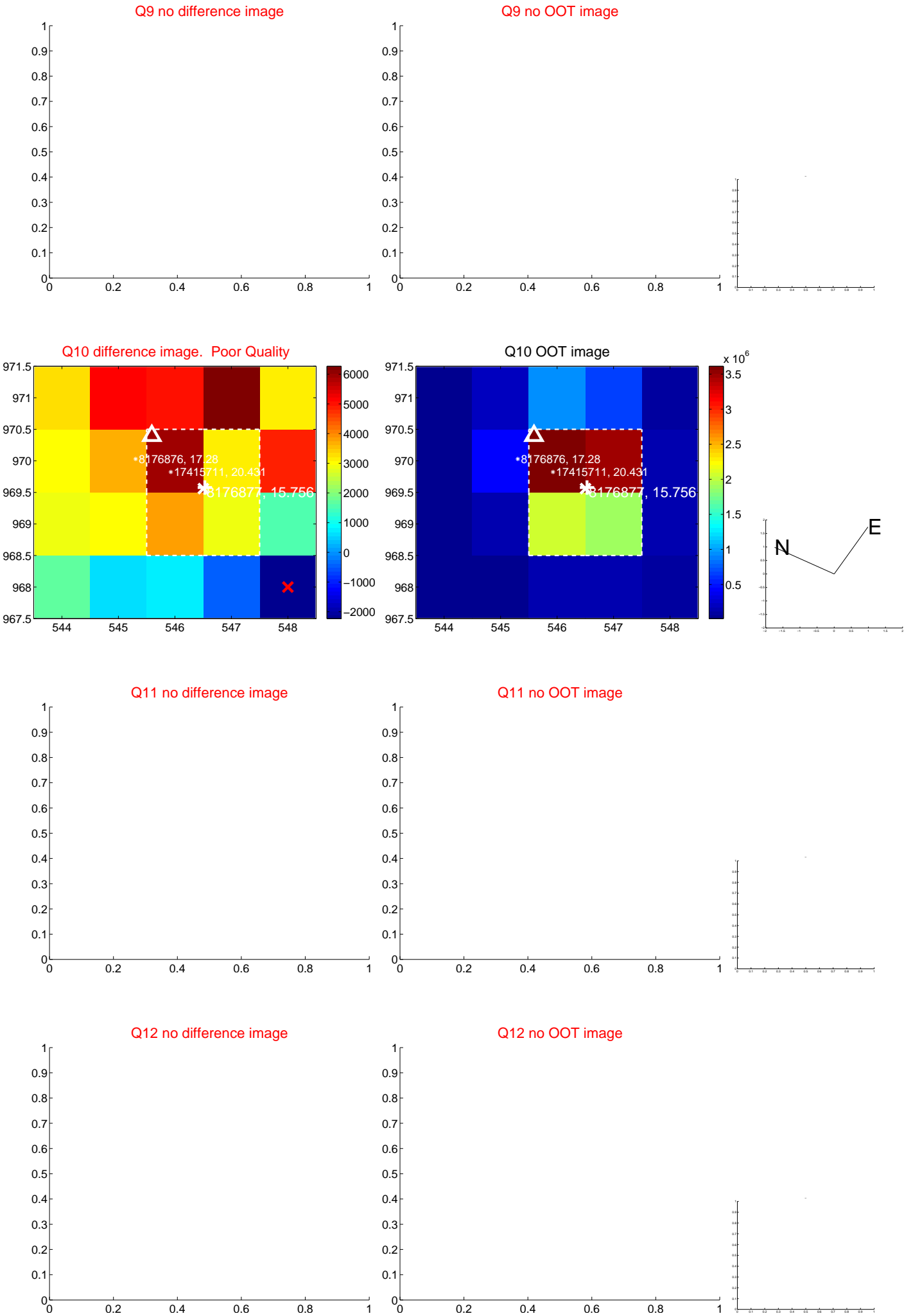
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



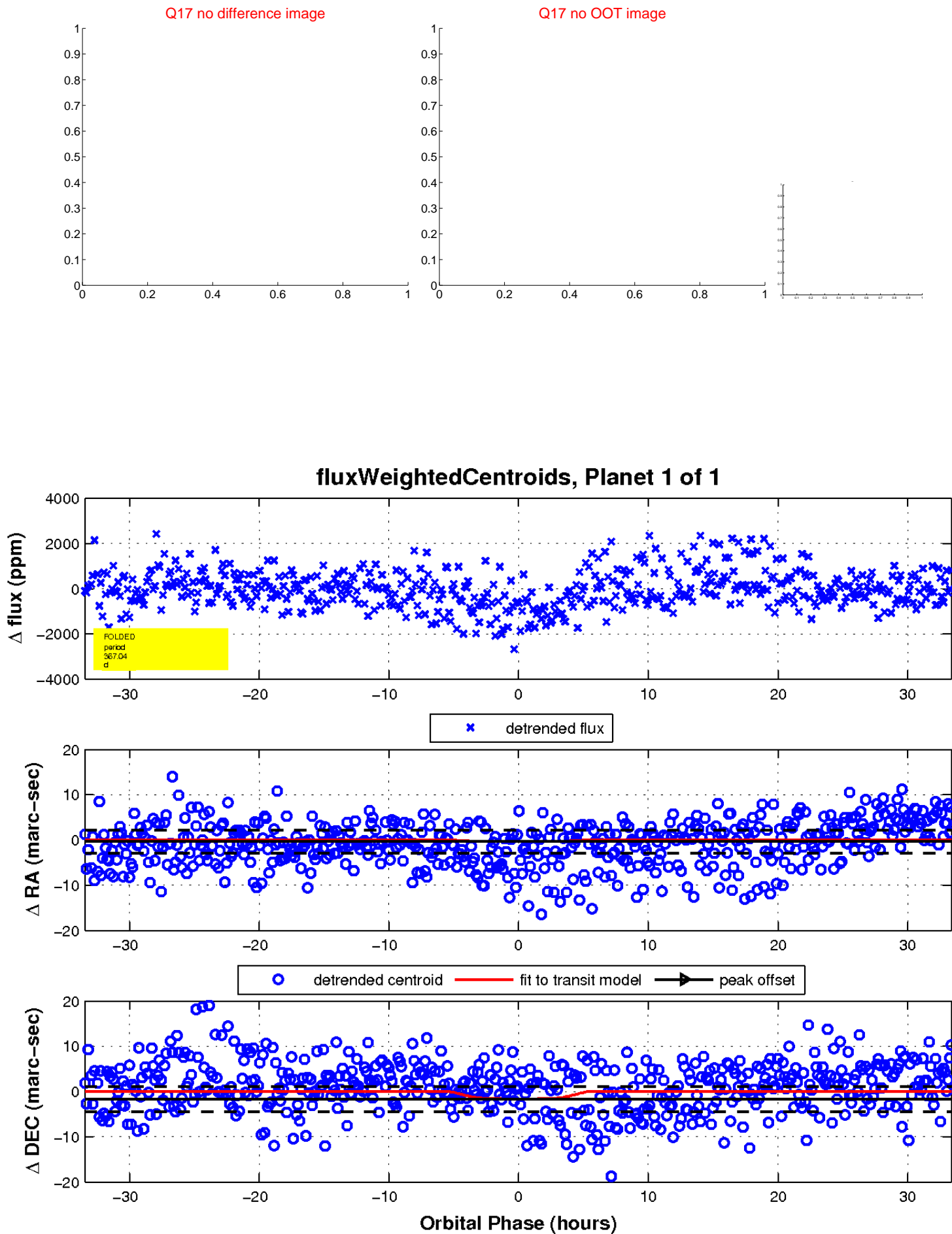
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

