

KIC 011859408

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})
011859408-01	OBS	No	369.153878	387.650627	166.9	21.789	10.5	9.3	3.22	9030	4.57	32.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011859408-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—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.

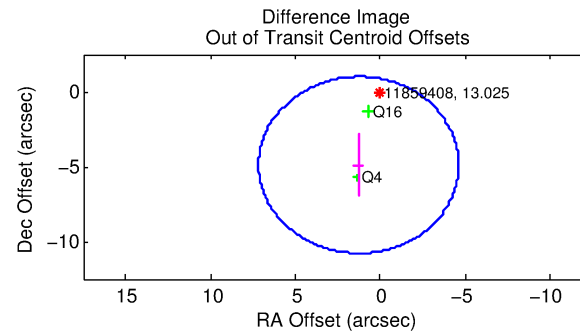
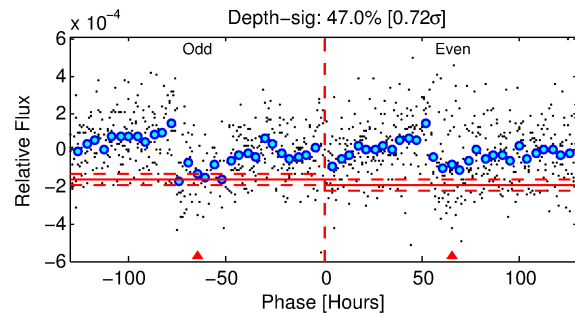
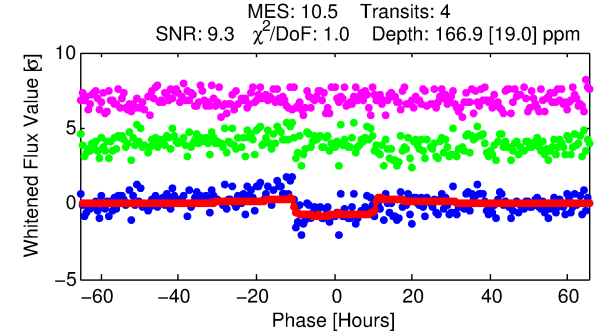
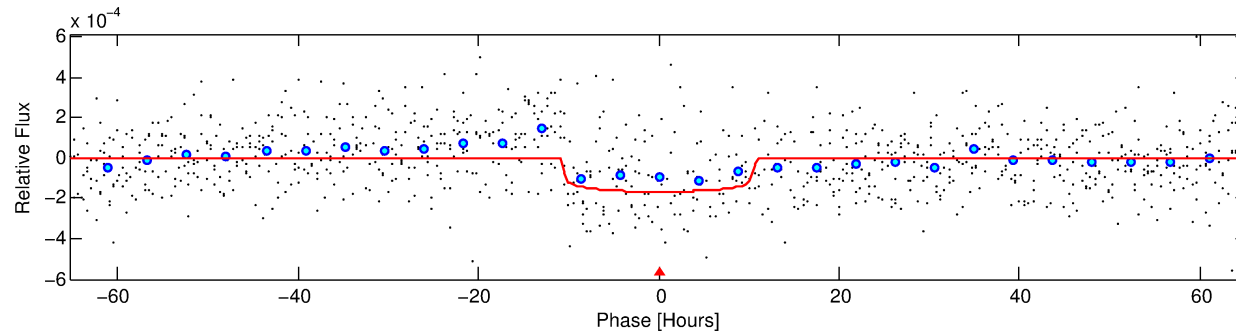
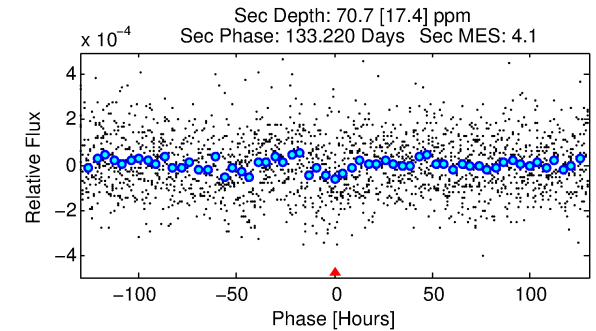
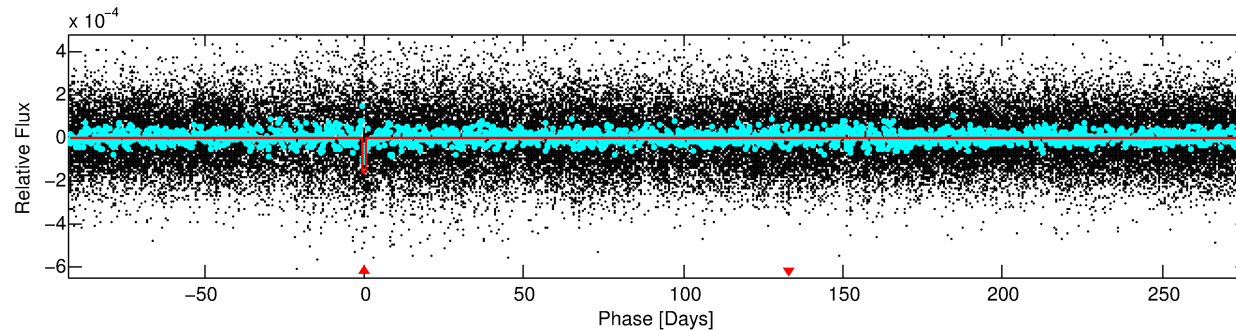
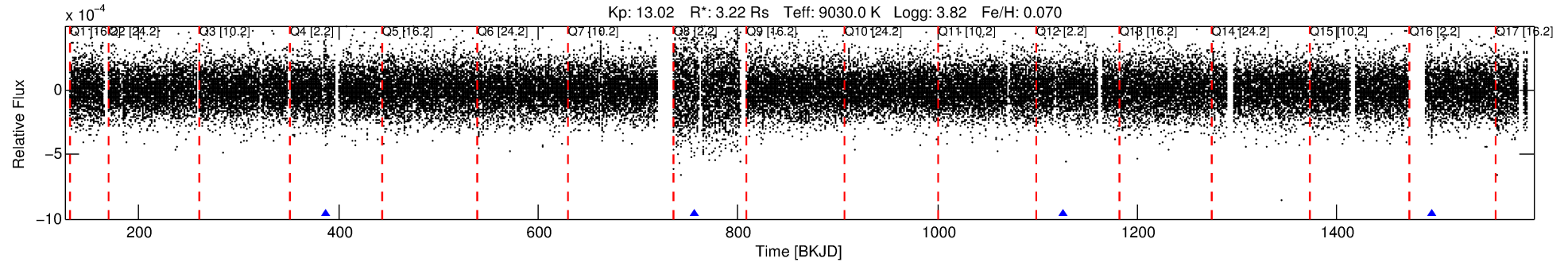
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011859408-01

No Significant Match Found

DV One-Page Summary

KIC: 11859408 Candidate: 1 of 1 Period: 369.154 d



DV Fit Results:

Period = 369.15388 [0.00930] d
Epoch = 387.6506 [0.0203] BKJD
Rp/R* = 0.0130 [0.0019]
a/R* = 81.52 [74.96]
b = 0.79 [0.43]
Seff = 32.94 [23.41]
Teq = 611 [109] K
Rp = 4.57 [2.25] Re
a = 1.3684 [0.5970] AU
Ag = 3488.75 [2744.70] [1.27σ]
Teffp = 7259 [783] K [8.41σ]

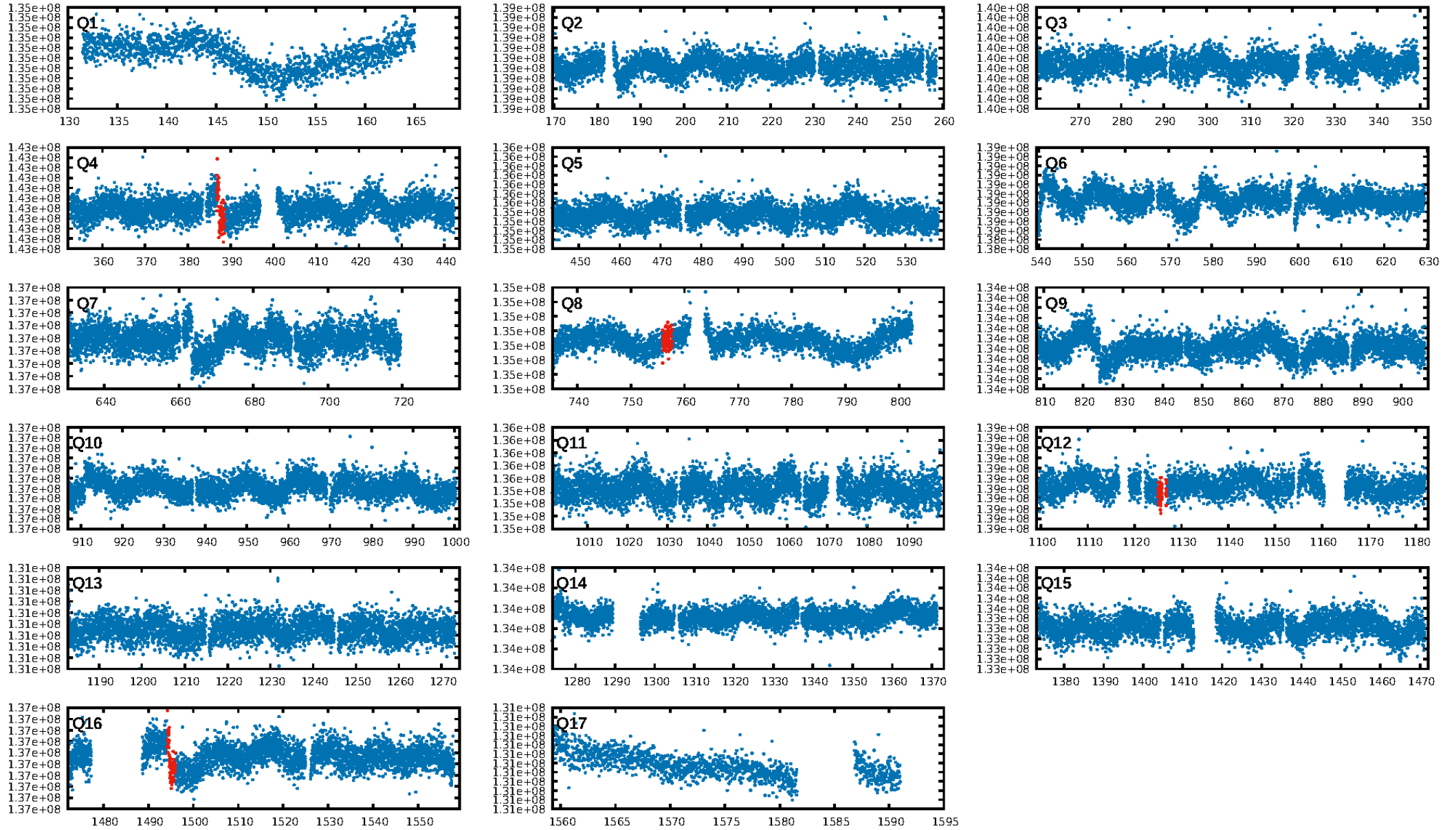
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.1%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 4.95e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.471
Centroid-sig: 0.0%
Centroid-so: 4.390 arcsec [3.90σ]
OotOffset-rm: 5.048 arcsec [2.57σ]
KicOffset-rm: 5.262 arcsec [2.62σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

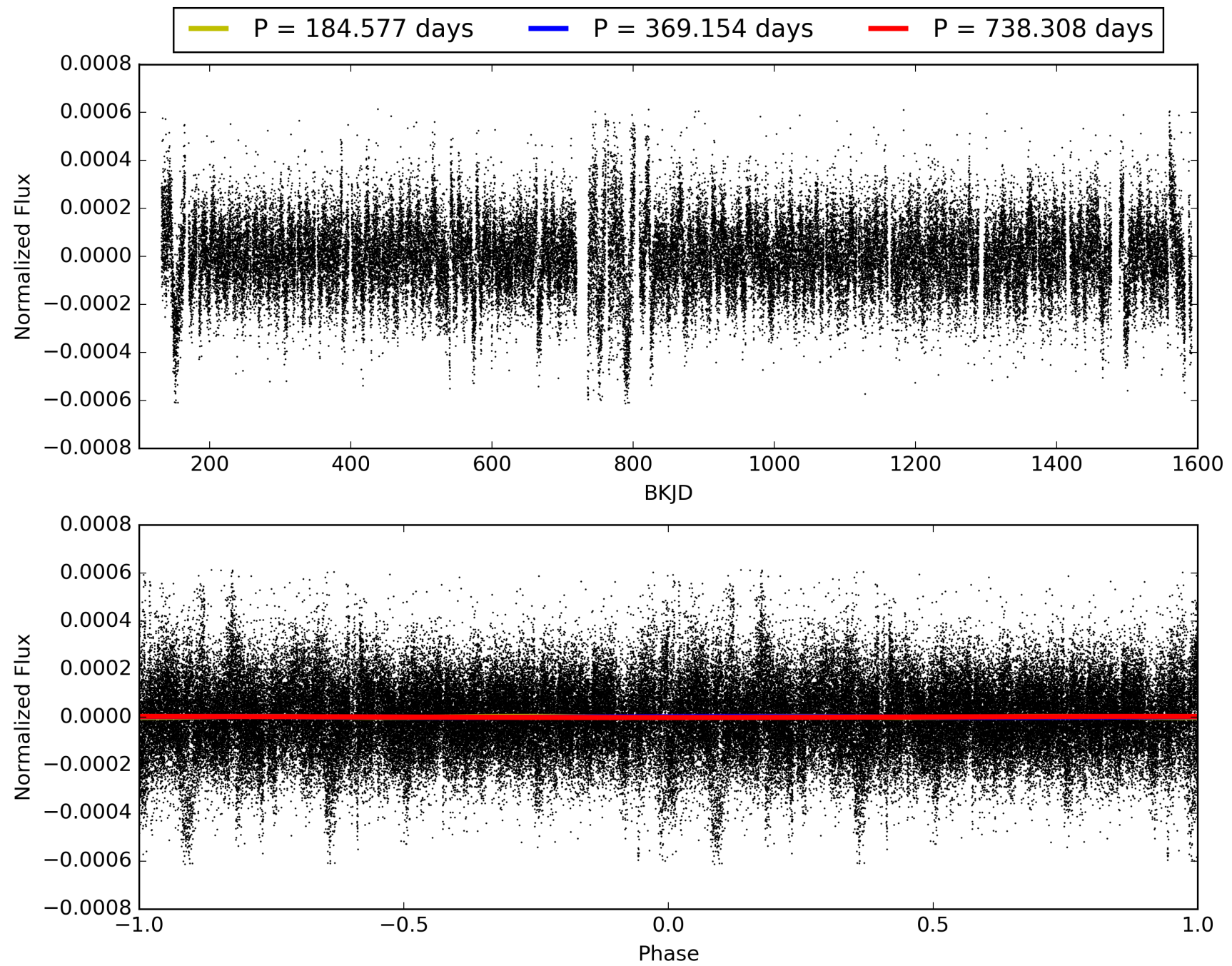
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:39:11 Z

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

TCE 011859408-01, PDC Light Curves

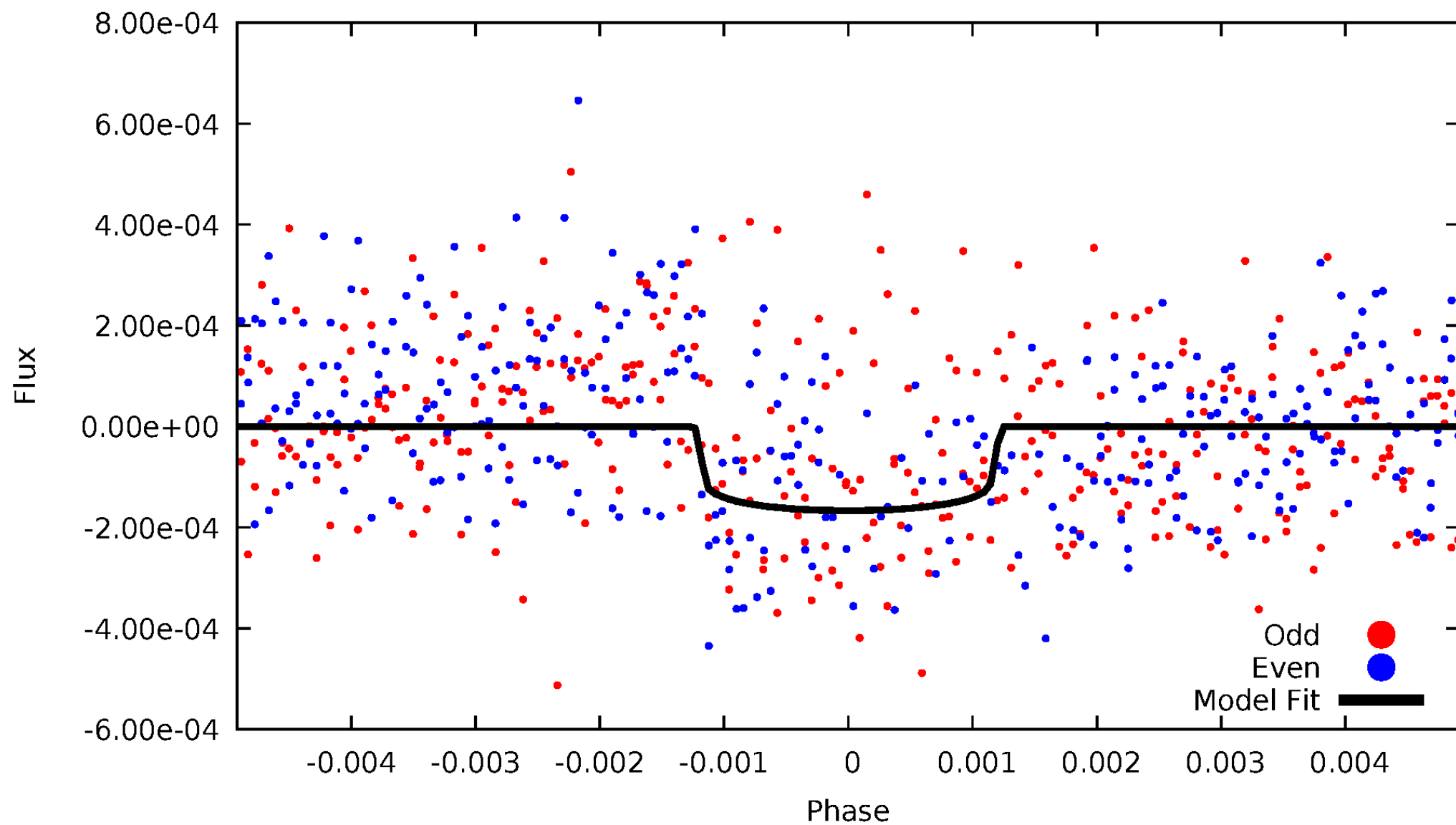


TCE 011859408-01



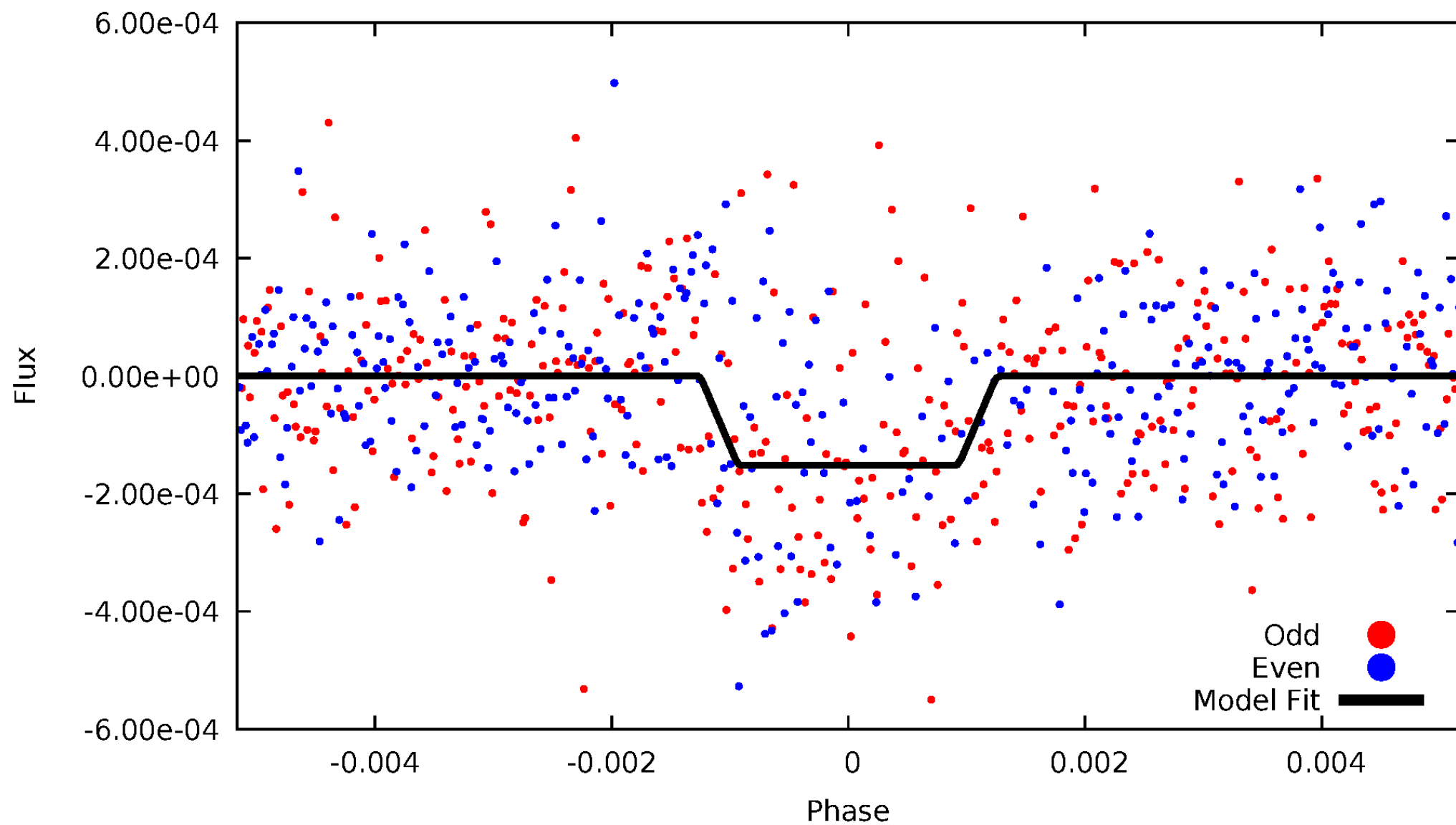
DV Odd/Even

TCE 011859408-01



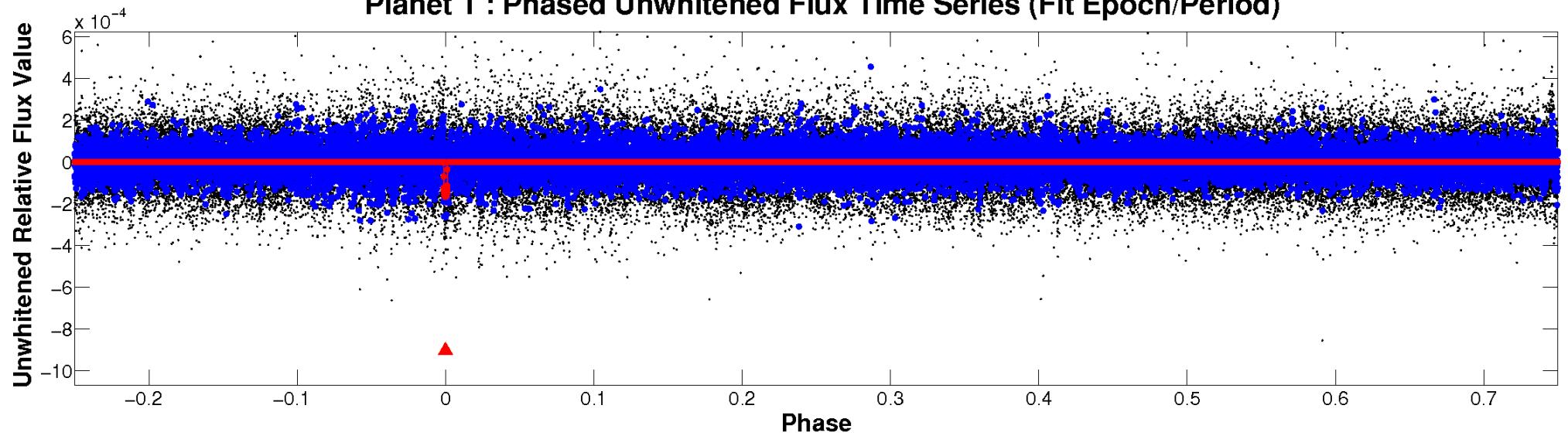
ALT Odd/Even

TCE 011859408-01

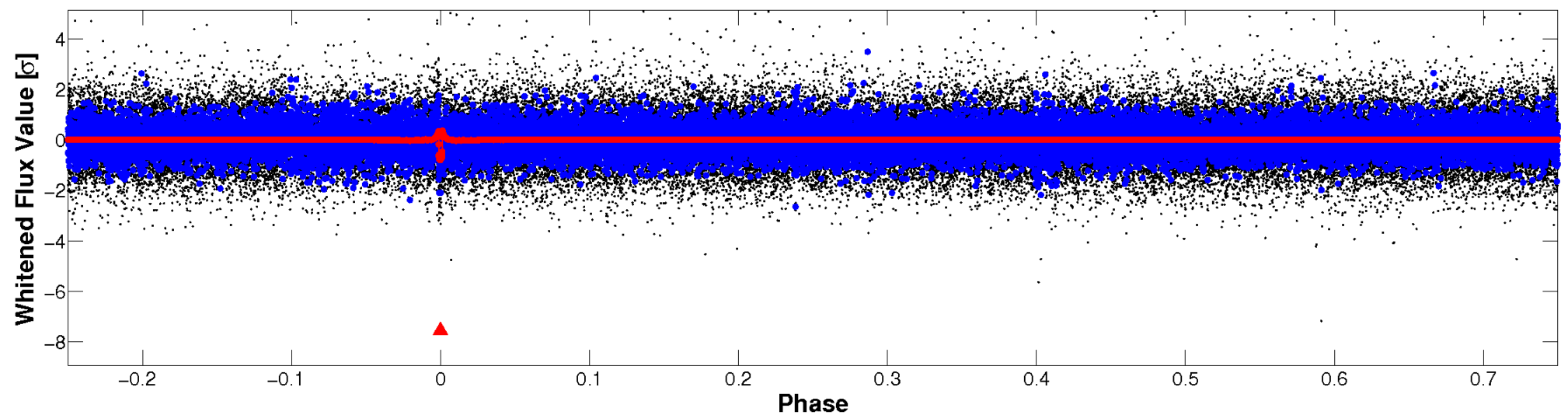


Non-Whitened Vs. Whitened Light Curve

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



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



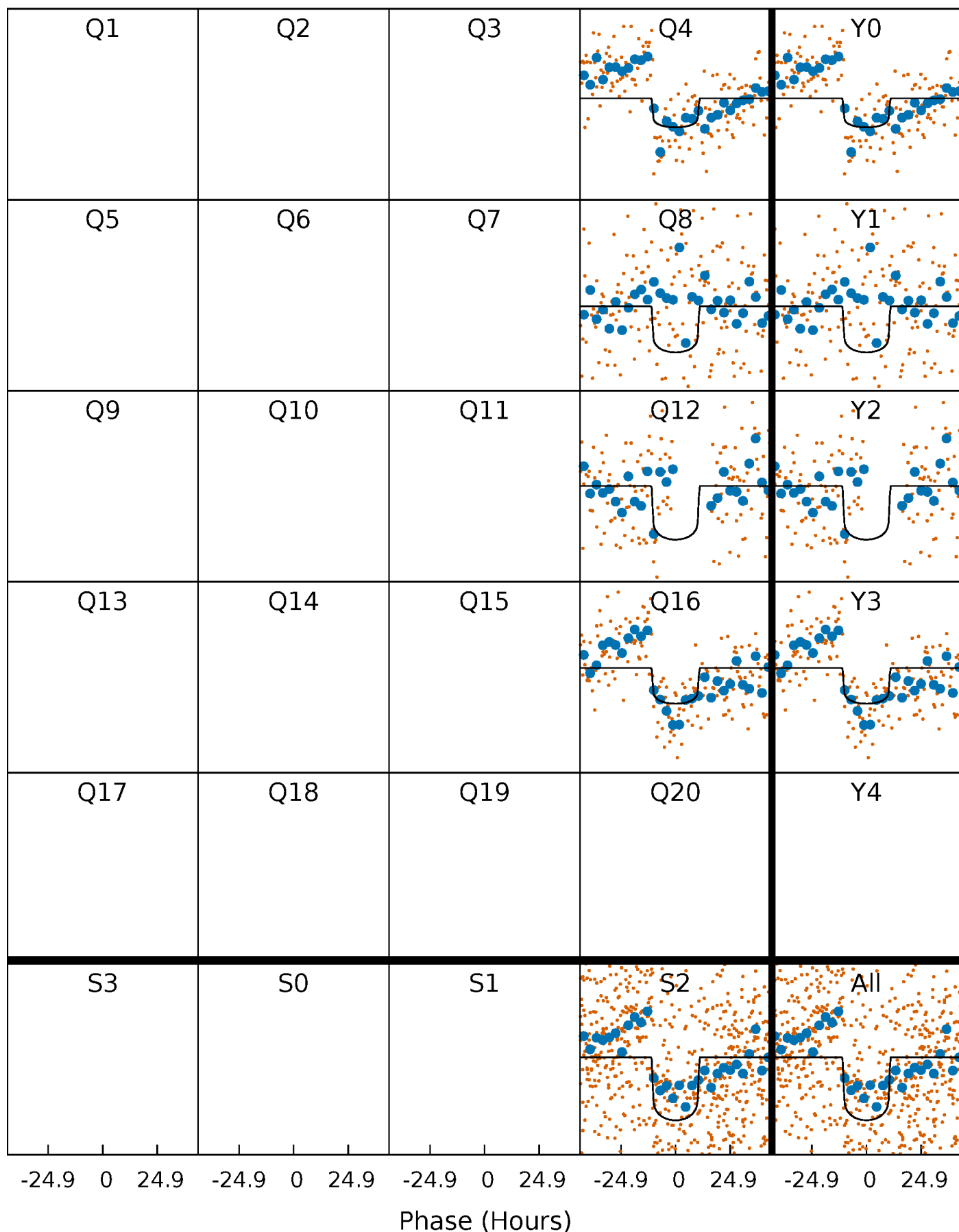
PDC Quarter-Phased Transit Curves

TCE 011859408-01 P=369.153878 Days $T_0=387.650627$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 011859408-01 P=369.153878 Days $T_0=387.650627$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

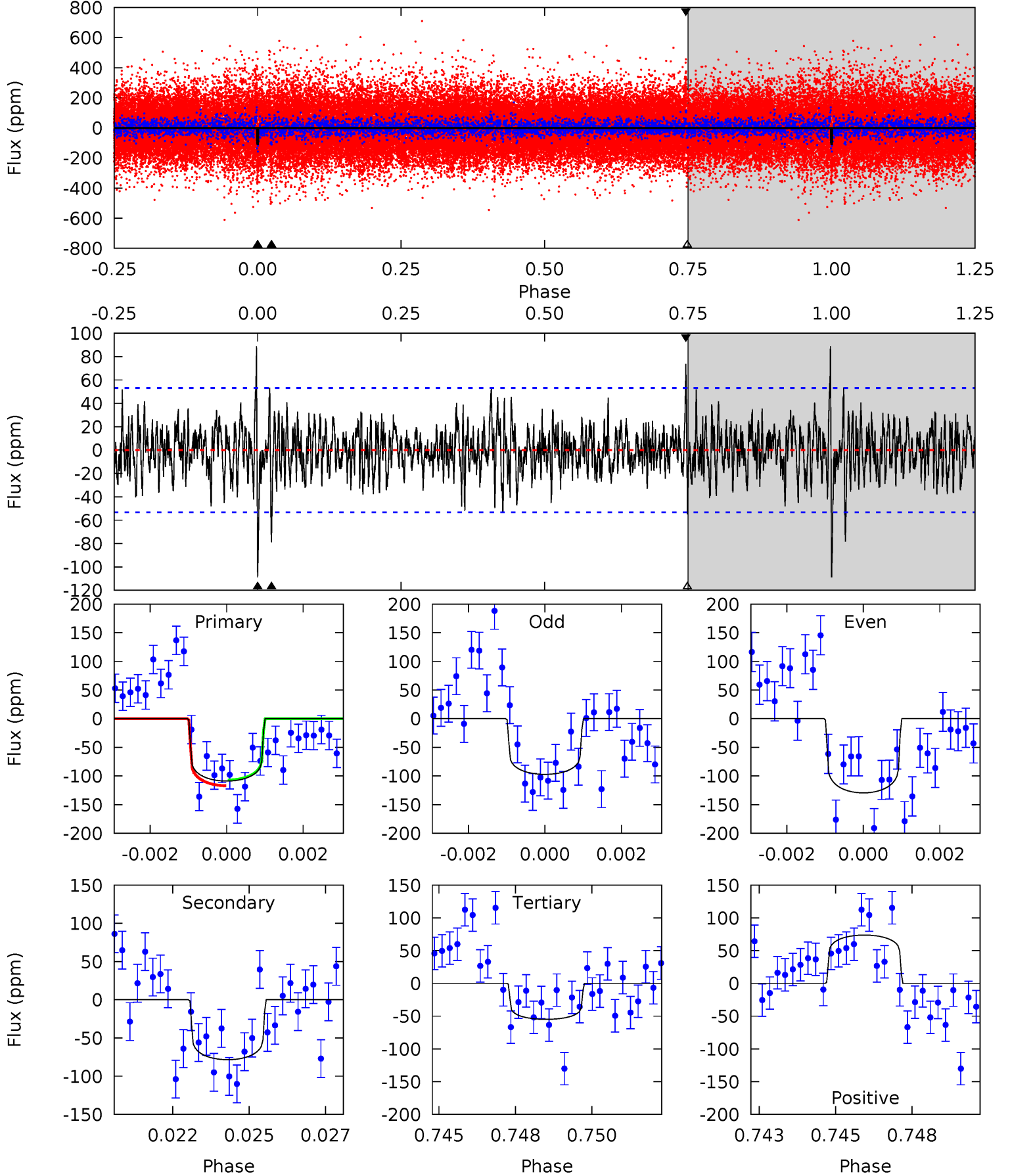
TCE 011859408-01 P=369.186751 Days $T_0=387.578207$ (BKJD)



DV Model-Shift Uniqueness Test

011859408-01, P = 369.153878 Days, E = 18.496749 Days

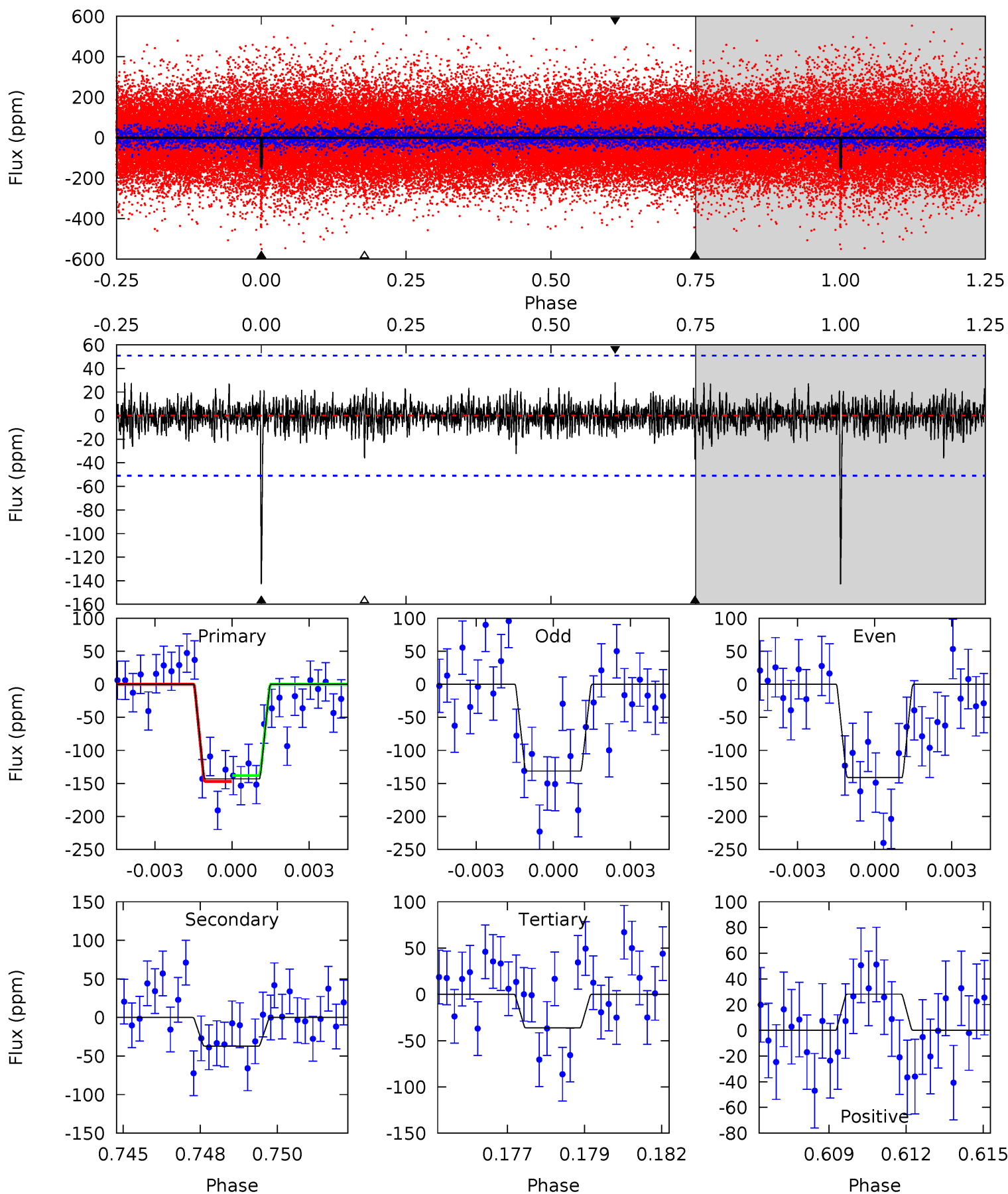
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	7.79	5.45	7.32	5.29	3.02	1.63	5.36	3.49	2.34	0.47	1.59	0.92	0.45	0.48



Alt Model-Shift Uniqueness Test

011859408-01, $P = 369.186751$ Days, $E = 18.391456$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	3.85	3.75	2.92	5.28	3.02	0.84	11.1	11.9	0.09	0.92	0.50	0.97	0.16	0.44



Stellar Parameters For KIC 011859408

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	9030^{+251}_{-430}	$3.822^{+0.397}_{-0.159}$	$0.070^{+0.150}_{-0.700}$	$3.218^{+1.005}_{-1.507}$	$2.505^{+0.307}_{-0.922}$	$0.106^{+0.369}_{-0.051}$
	+3%/-5%	+10%/-4%	+214%/-1000%	+31%/-47%	+12%/-37%	+349%/-48%
Source	KIC0	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 011859408-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-78 ± 10	$4.25^{+1.22}_{-1.13}$	826^{+83}_{-96}	7091^{+740}_{-611}	4366^{+3572}_{-1642}
Alt.	-37 ± 10	$4.05^{+1.13}_{-1.02}$	830^{+72}_{-98}	5949^{+643}_{-565}	2224^{+1639}_{-880}

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

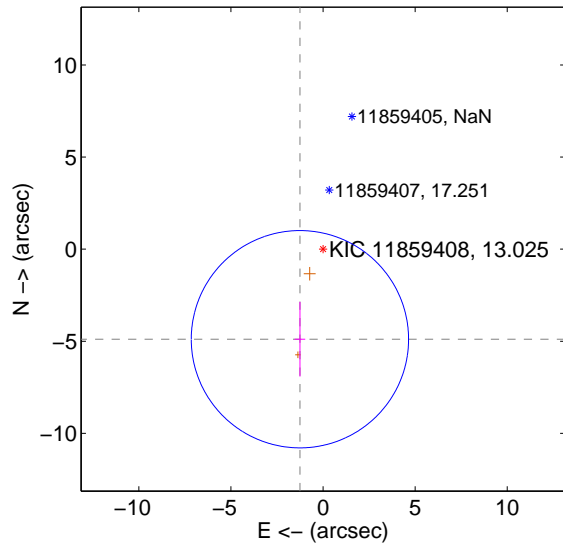
Supplemental centroid analysis for 011859408-01. Kepler magnitude: 13.03. Transit SNR 9.33

There are 0 quarters with good PRF difference image offsets

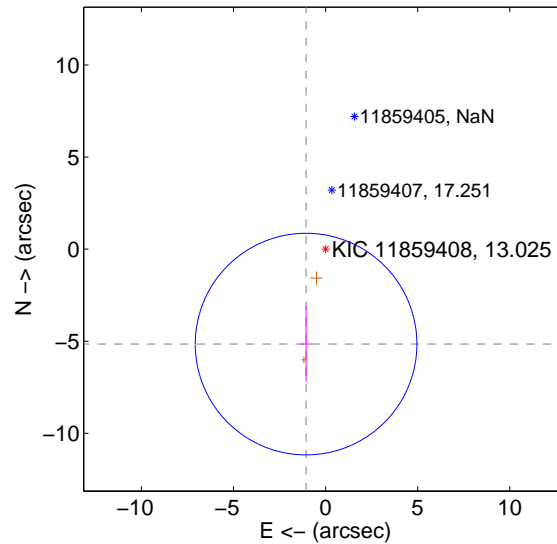
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.048 ± 1.966	2.57	1.255 ± 0.290	-4.889 ± 2.029
PRF-fit source offset from KIC position	5.262 ± 2.006	2.62	1.059 ± 0.308	-5.154 ± 2.047
photometric centroid source offset	4.39 ± 1.13	3.90	-0.44 ± 0.92	-4.37 ± 1.13

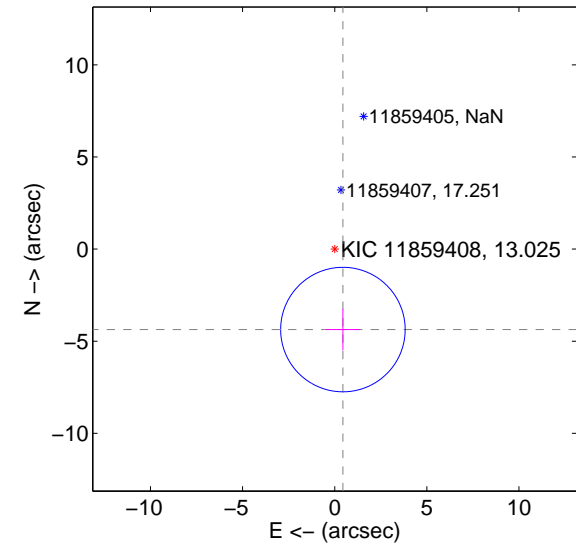
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

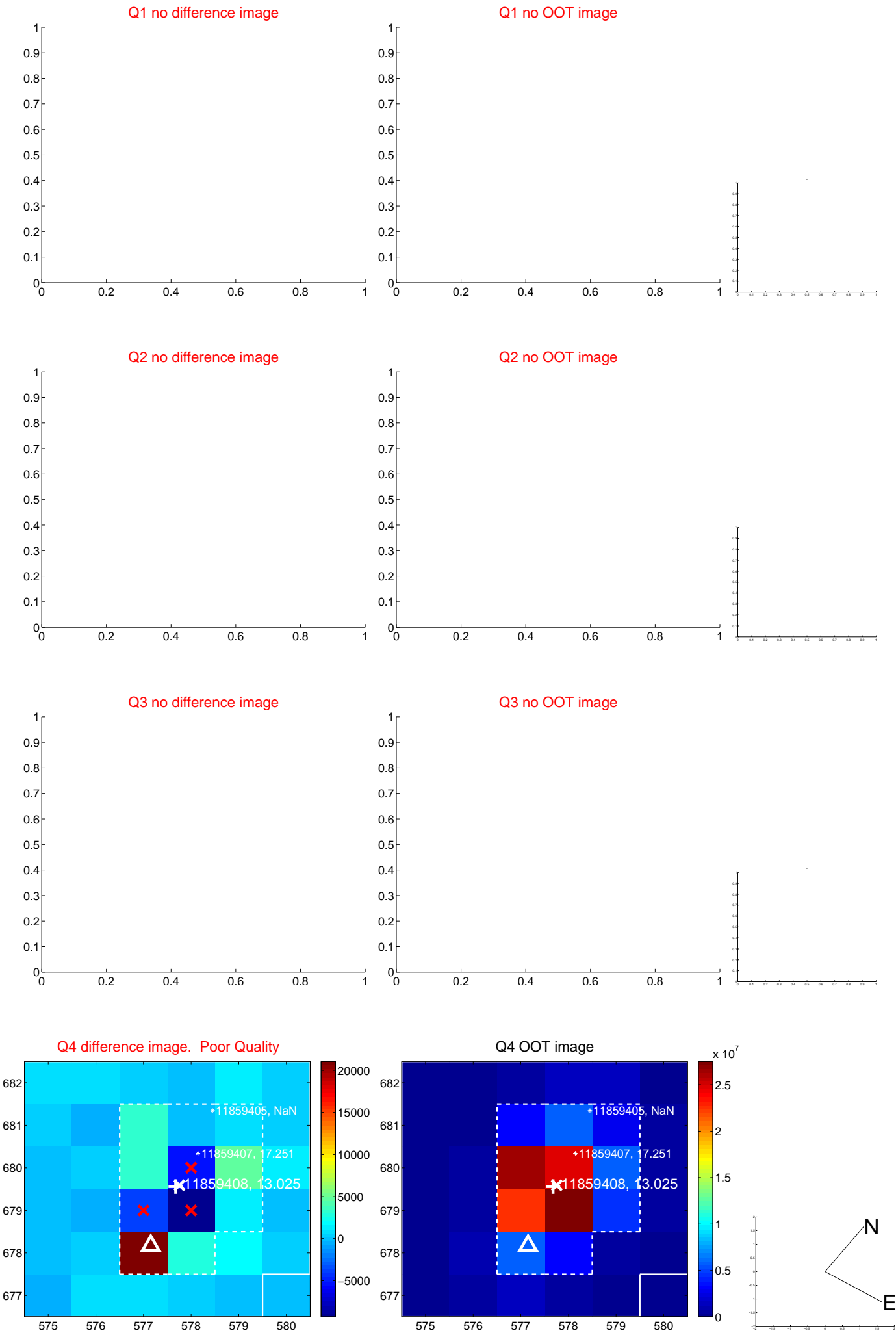


offset from photometric centroids

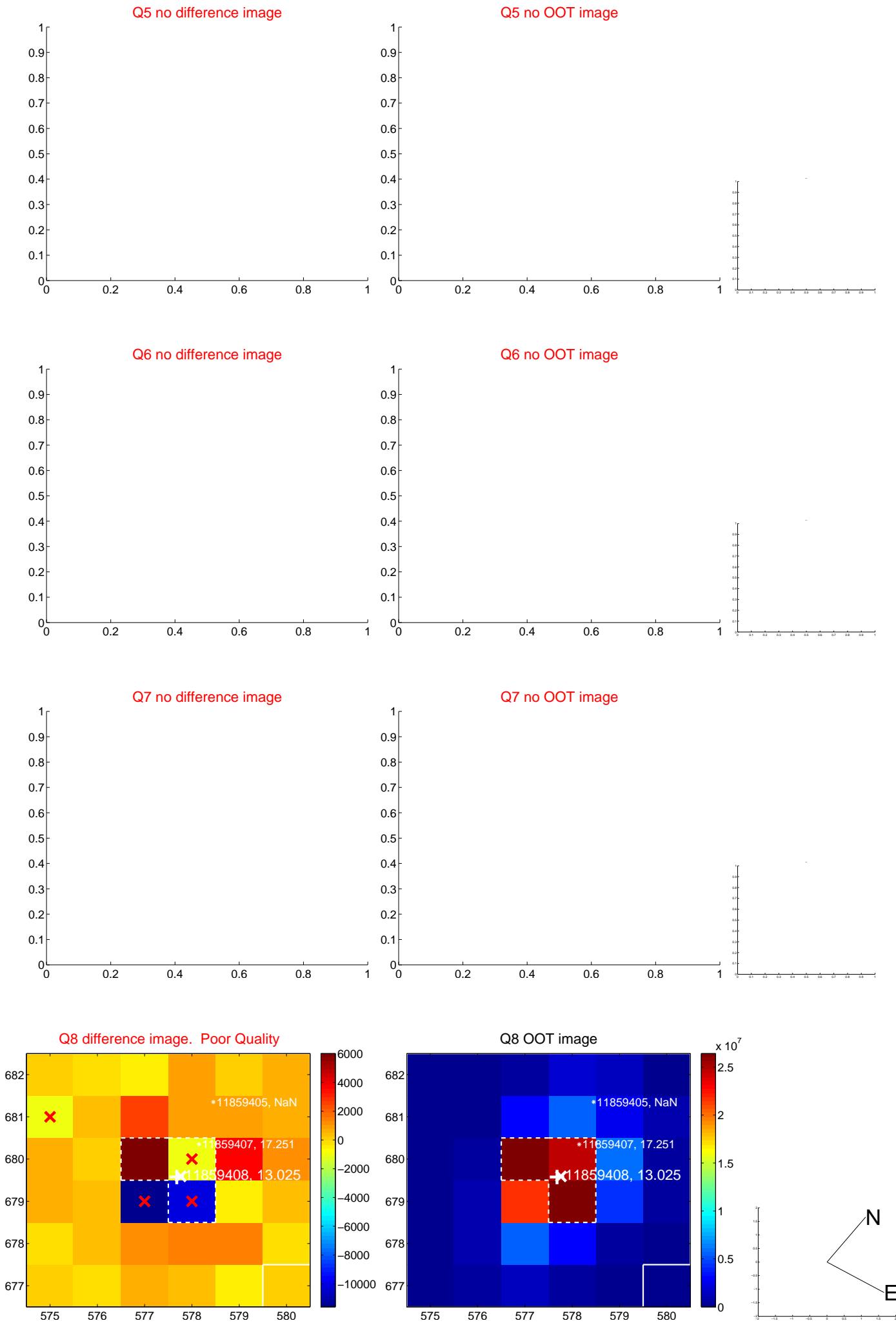


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



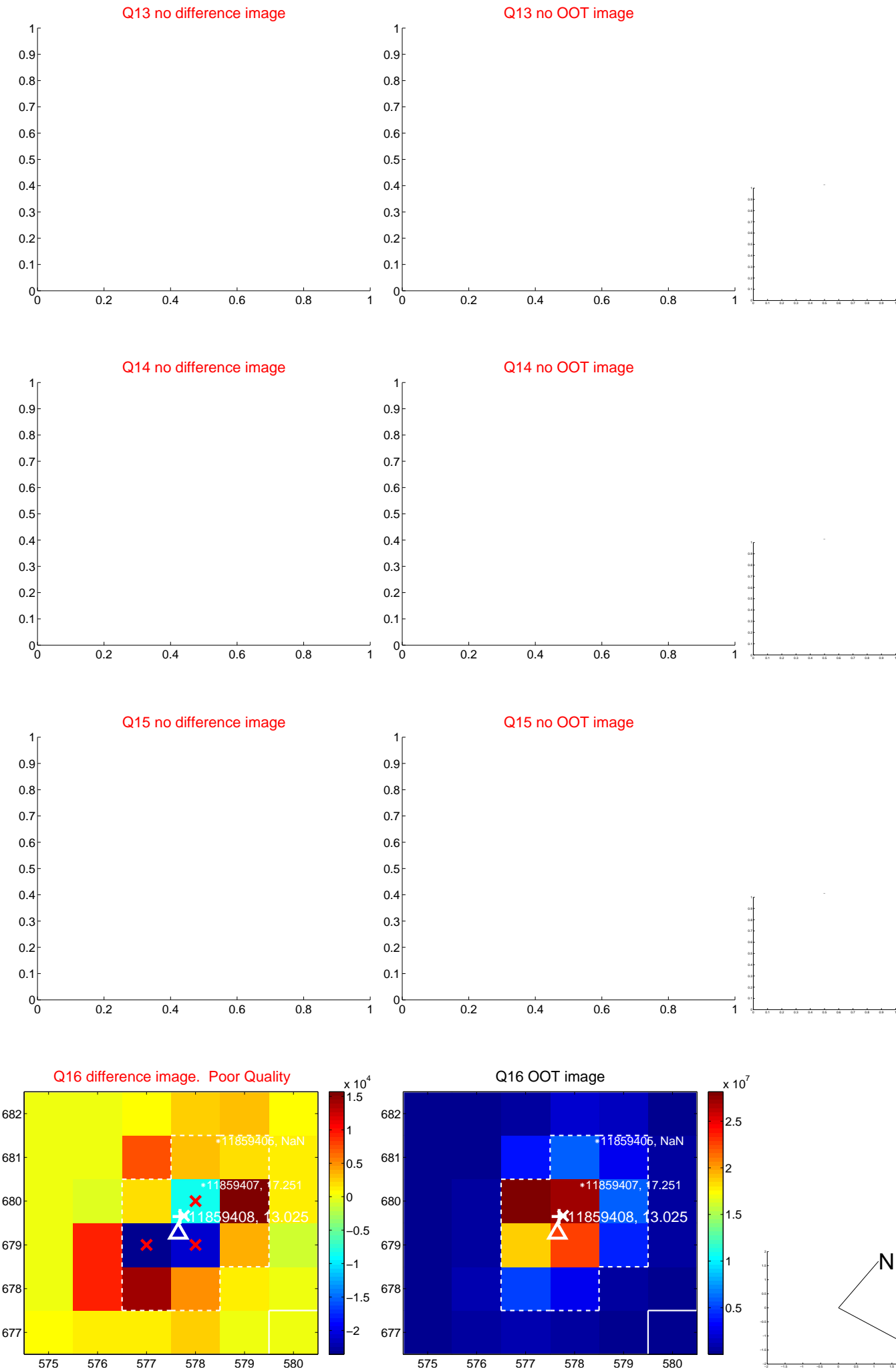
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



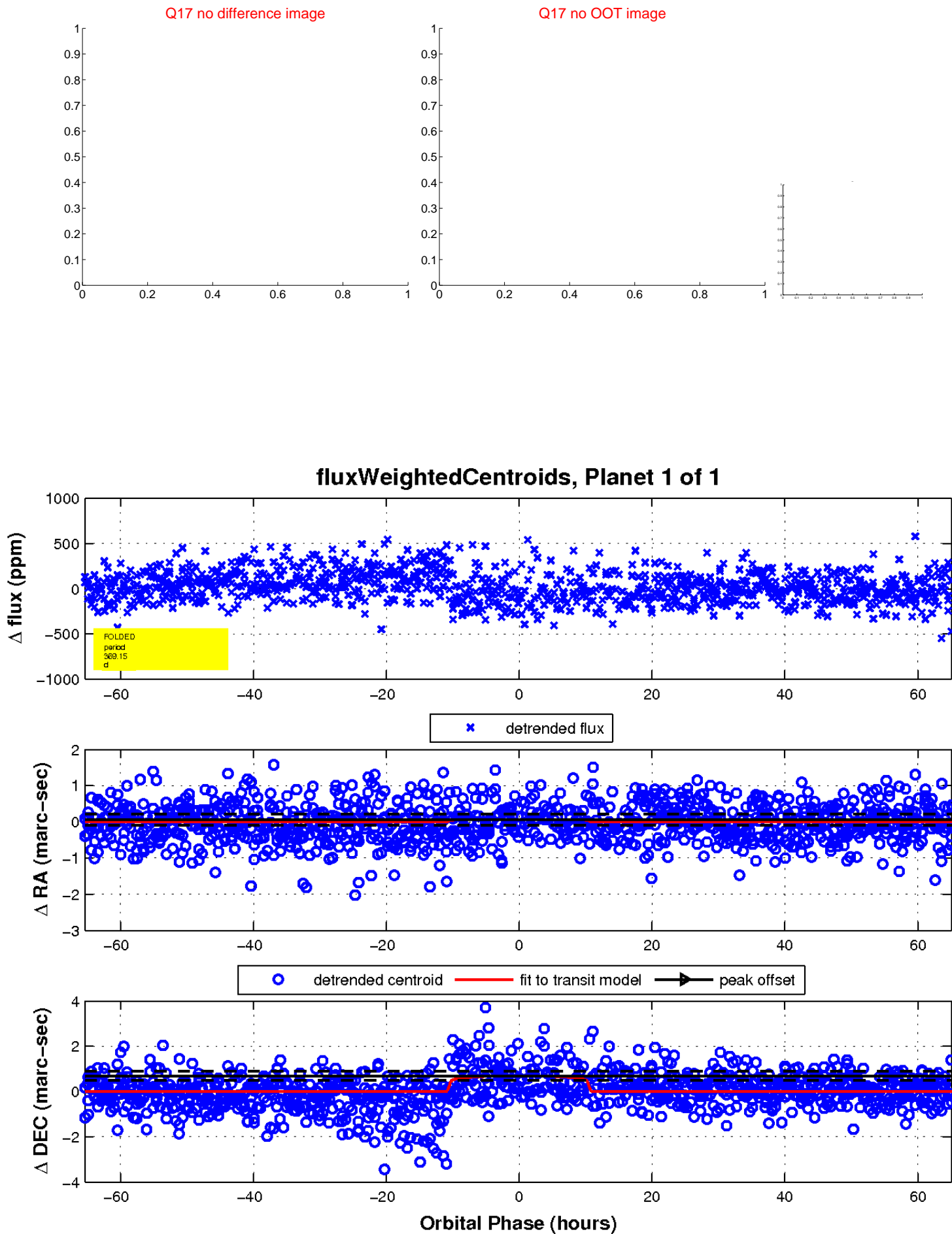
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

