

KIC 012505815

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})
012505815-01	OBS	No	404.804911	185.683777	265.1	7.603	7.2	7.0	1.11	6178	2.05	1.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012505815-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_MEAS

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

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

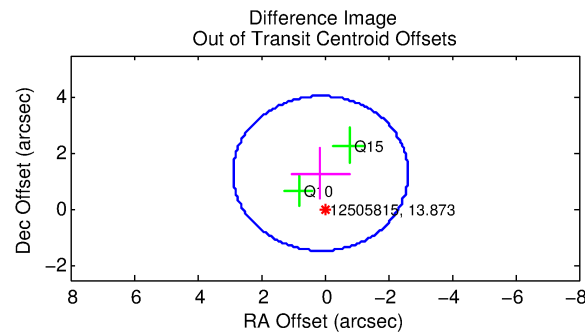
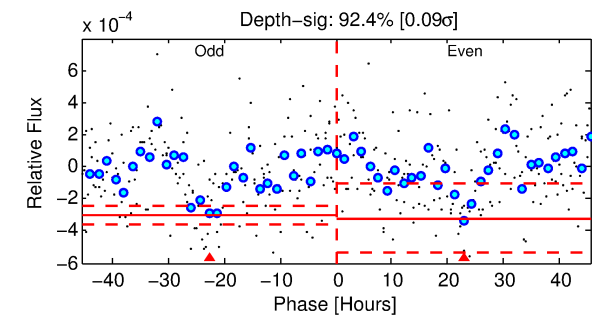
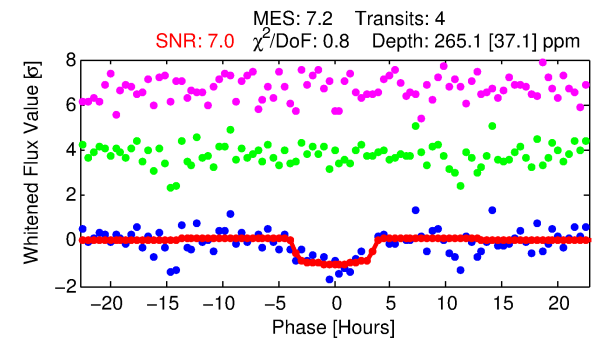
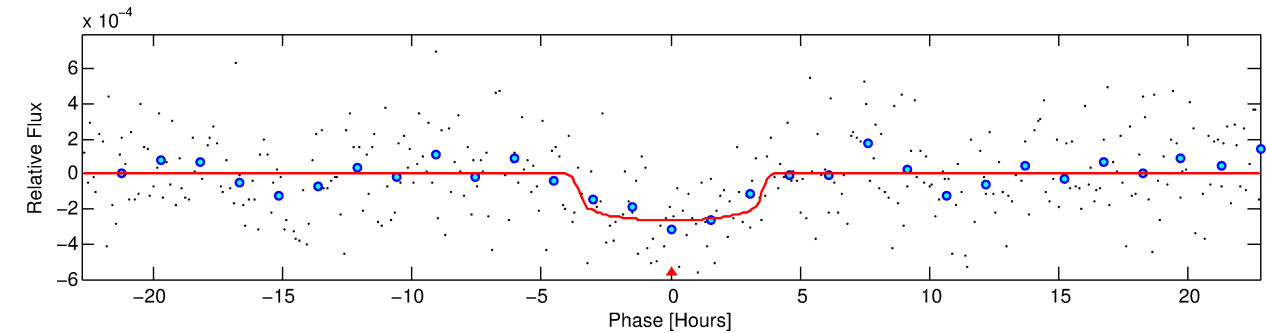
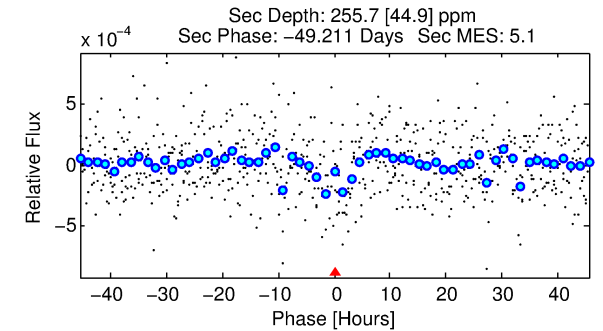
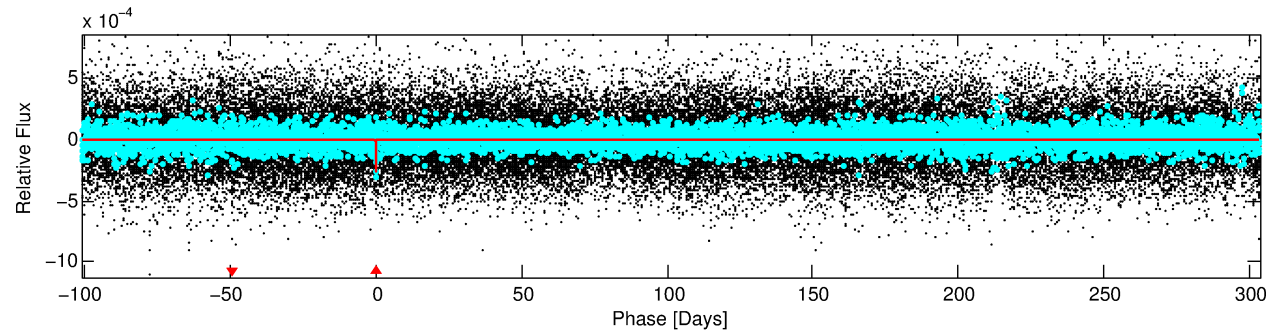
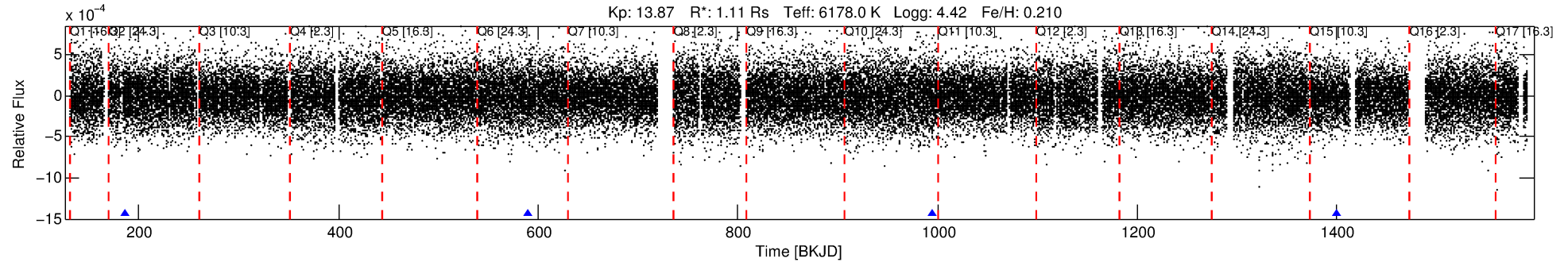
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012505815-01

No Significant Match Found

DV One-Page Summary

KIC: 12505815 Candidate: 1 of 1 Period: 404.805 d



DV Fit Results:

Period = 404.80491 [0.00802] d
Epoch = 185.6838 [0.0159] BKJD
Rp/R* = 0.0169 [0.0085]
a/R* = 233.11 [570.90]
b = 0.84 [0.87]
Seff = 1.25 [0.55]
Teq = 270 [30] K
Rp = 2.05 [1.25] Re
a = 1.1388 [0.3289] AU
Ag = 43437.99 [47880.30] [0.91σ]
Teff = 6017 [1548] K [3.71σ]

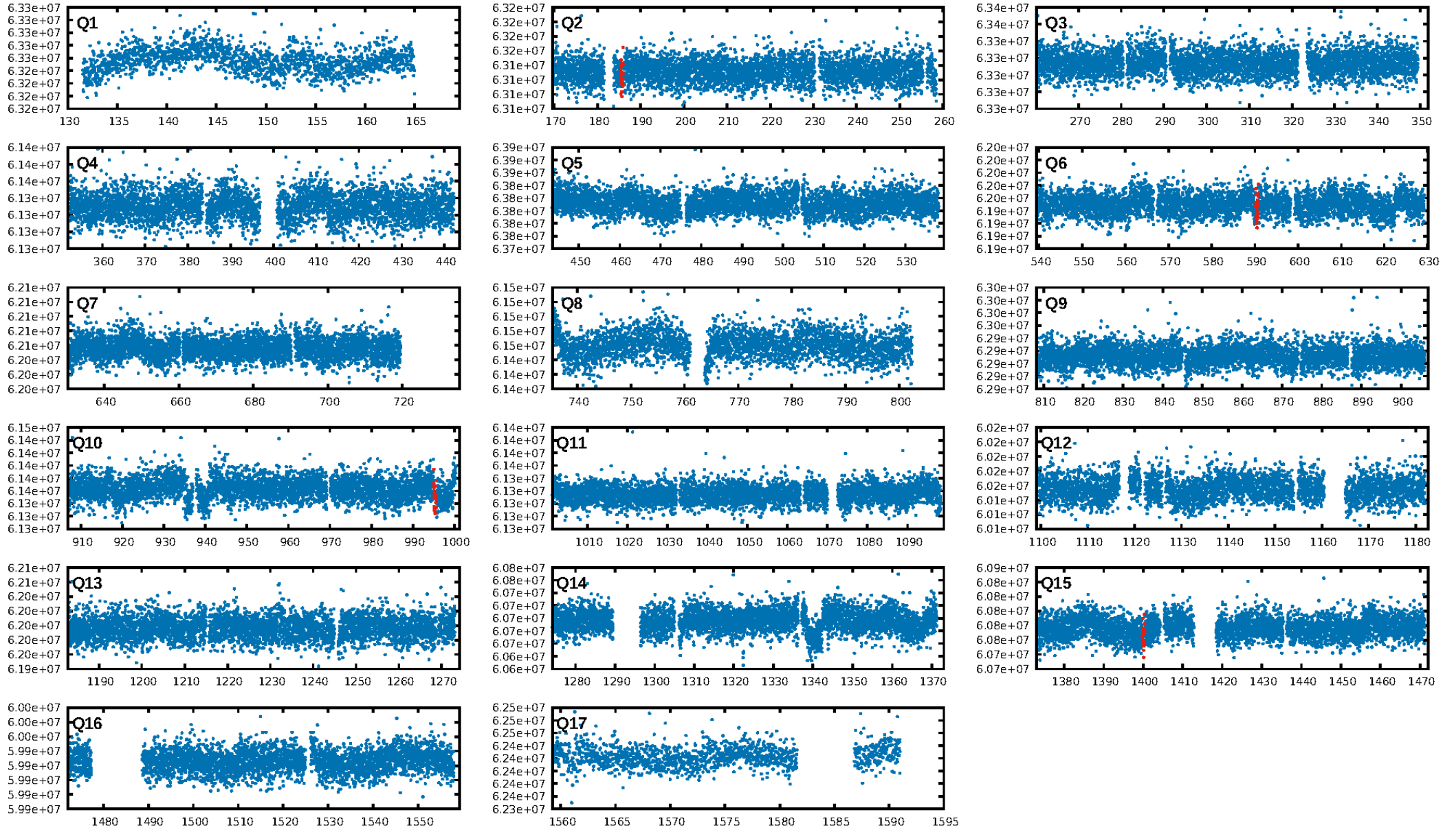
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.84e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -24.91
Centroid-sig: 5.2%
Centroid-so: 3.808 arcsec [1.70σ]
OotOffset-rm: 1.300 arcsec [1.42σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-rm: 1.279 arcsec [1.39σ]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [4/4]

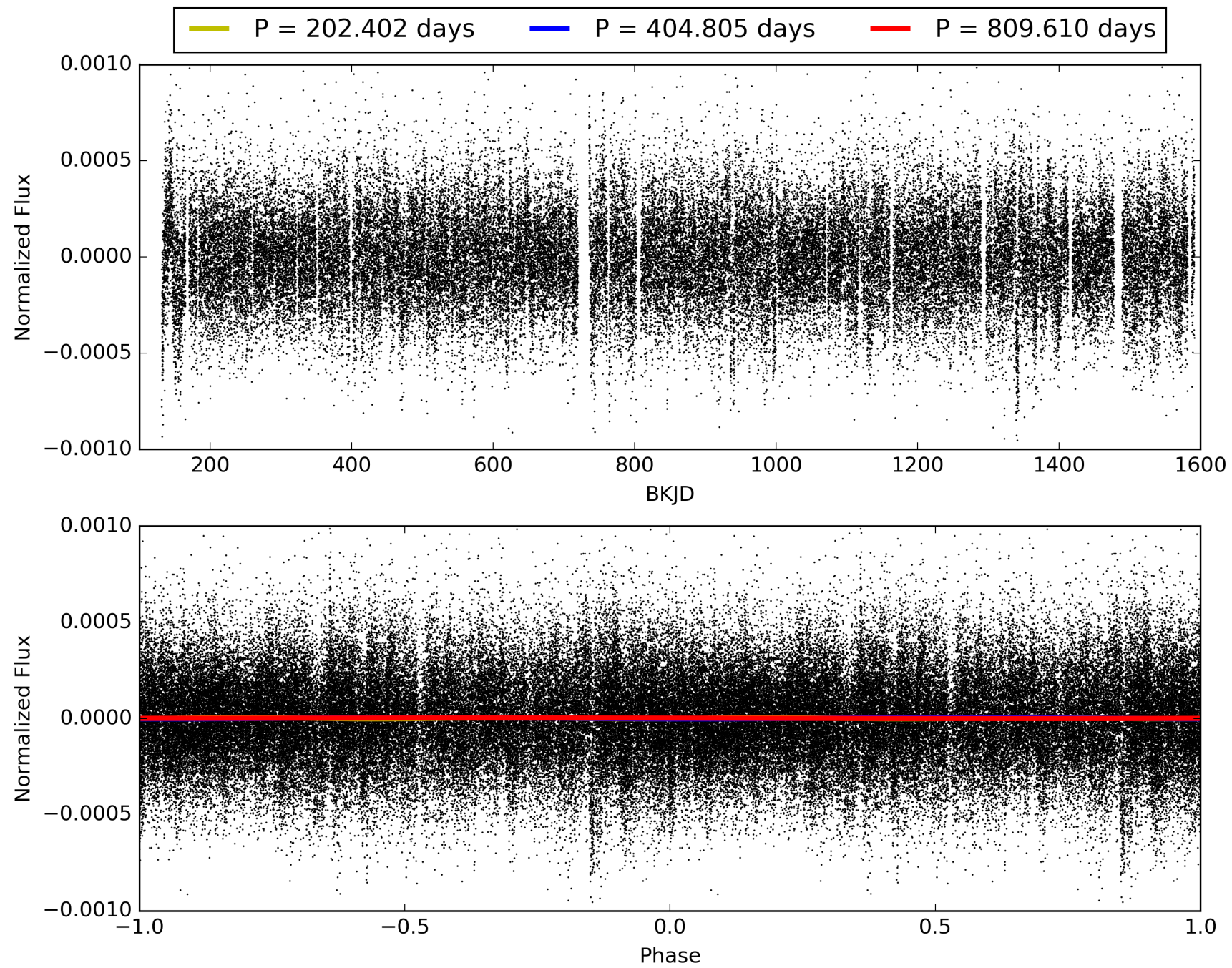
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:26:52 Z

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

TCE 012505815-01, PDC Light Curves

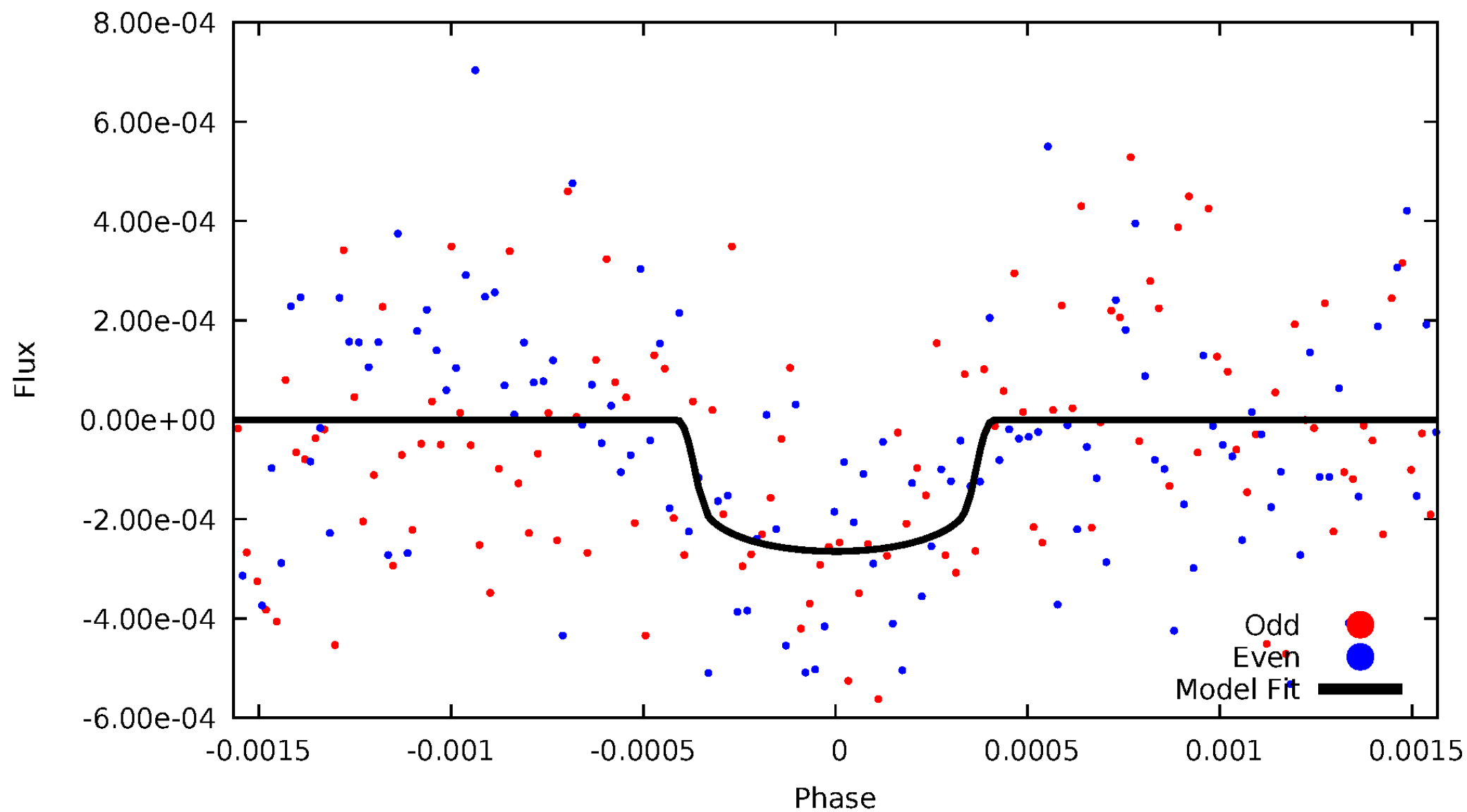


TCE 012505815-01



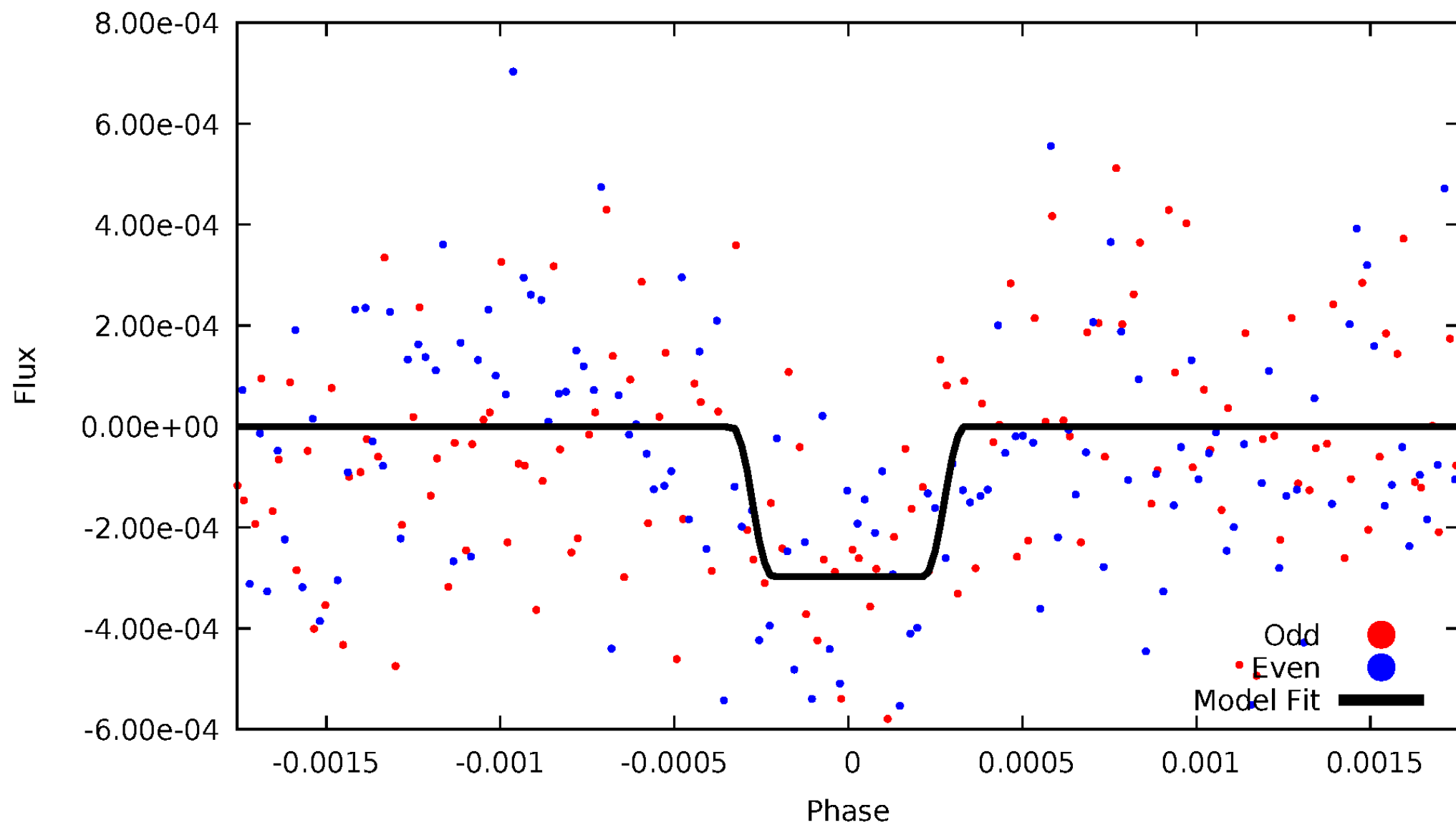
DV Odd/Even

TCE 012505815-01

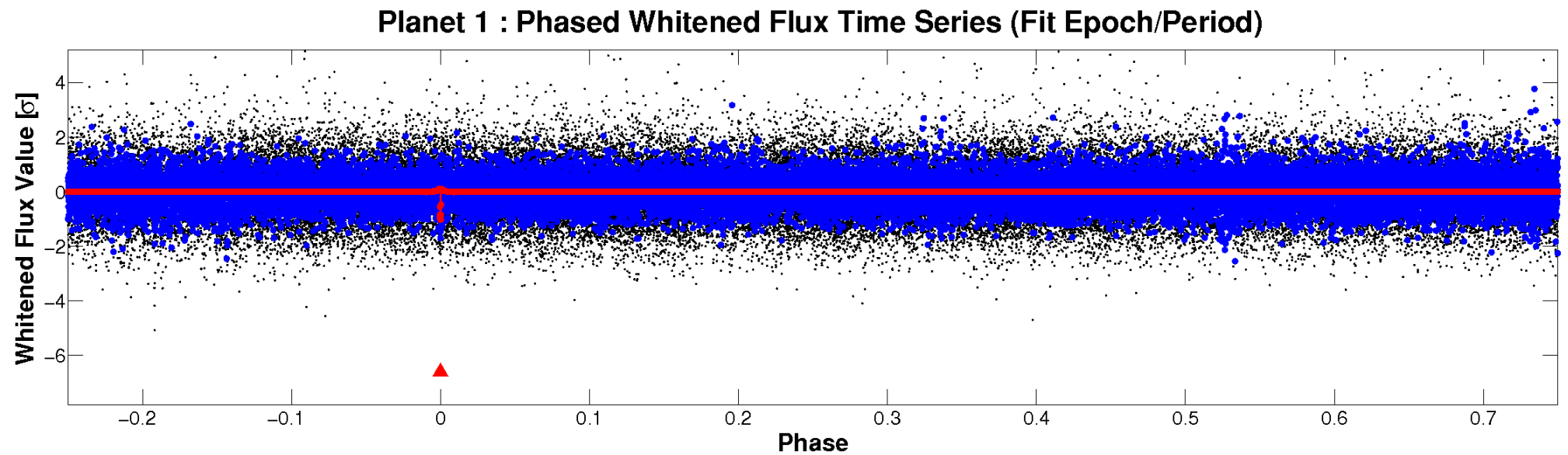
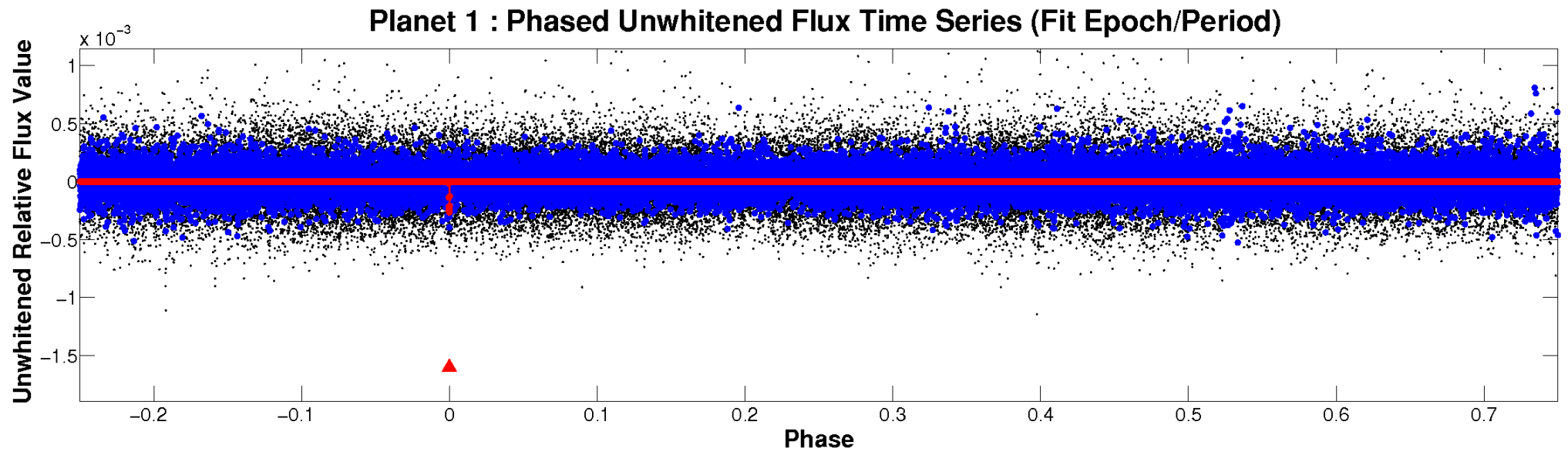


ALT Odd/Even

TCE 012505815-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 012505815-01 P=404.804911 Days $T_0=185.683777$ (BKJD)



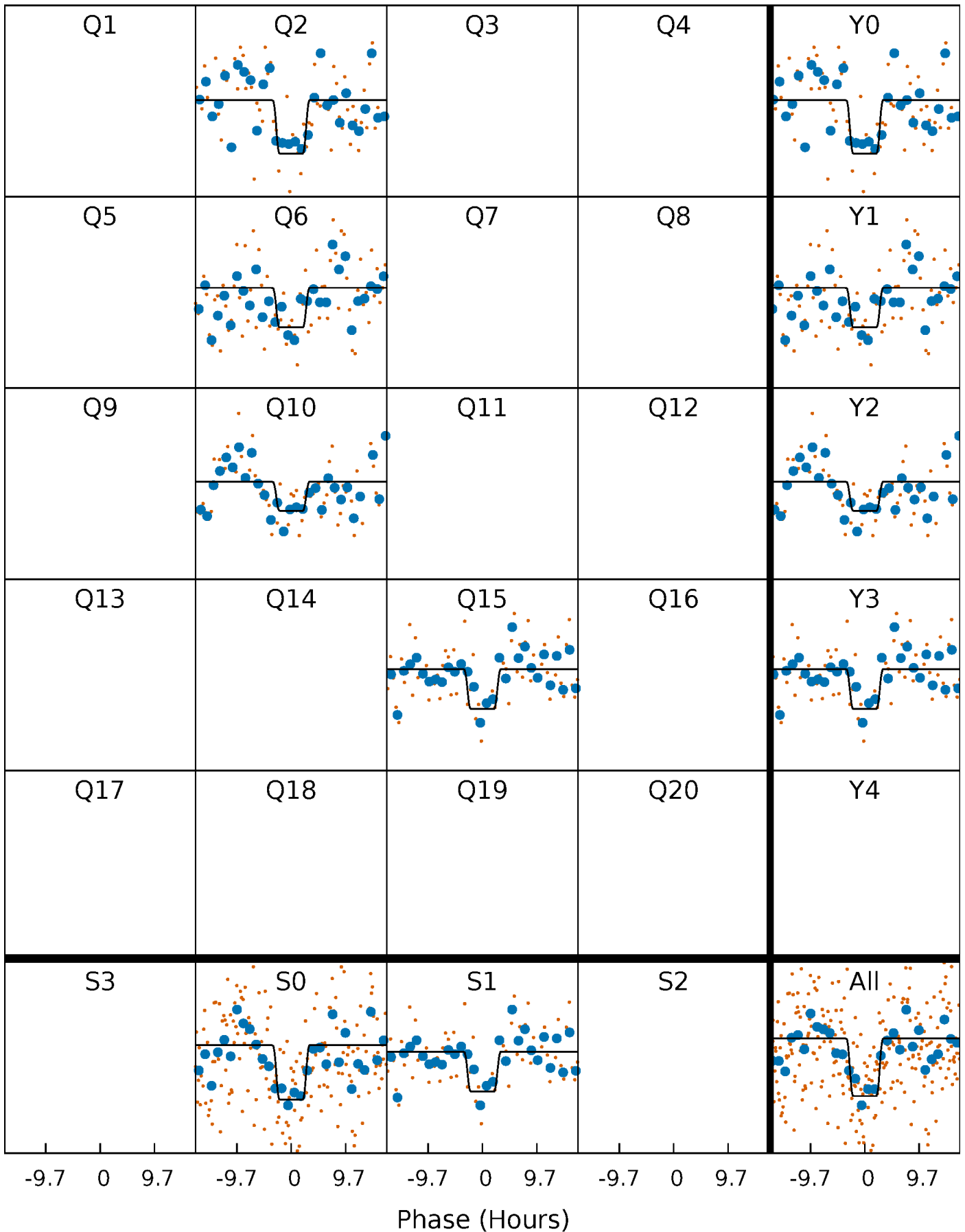
DV Quarter-Phased Transit Curves

TCE 012505815-01 P=404.804911 Days $T_0=185.683777$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

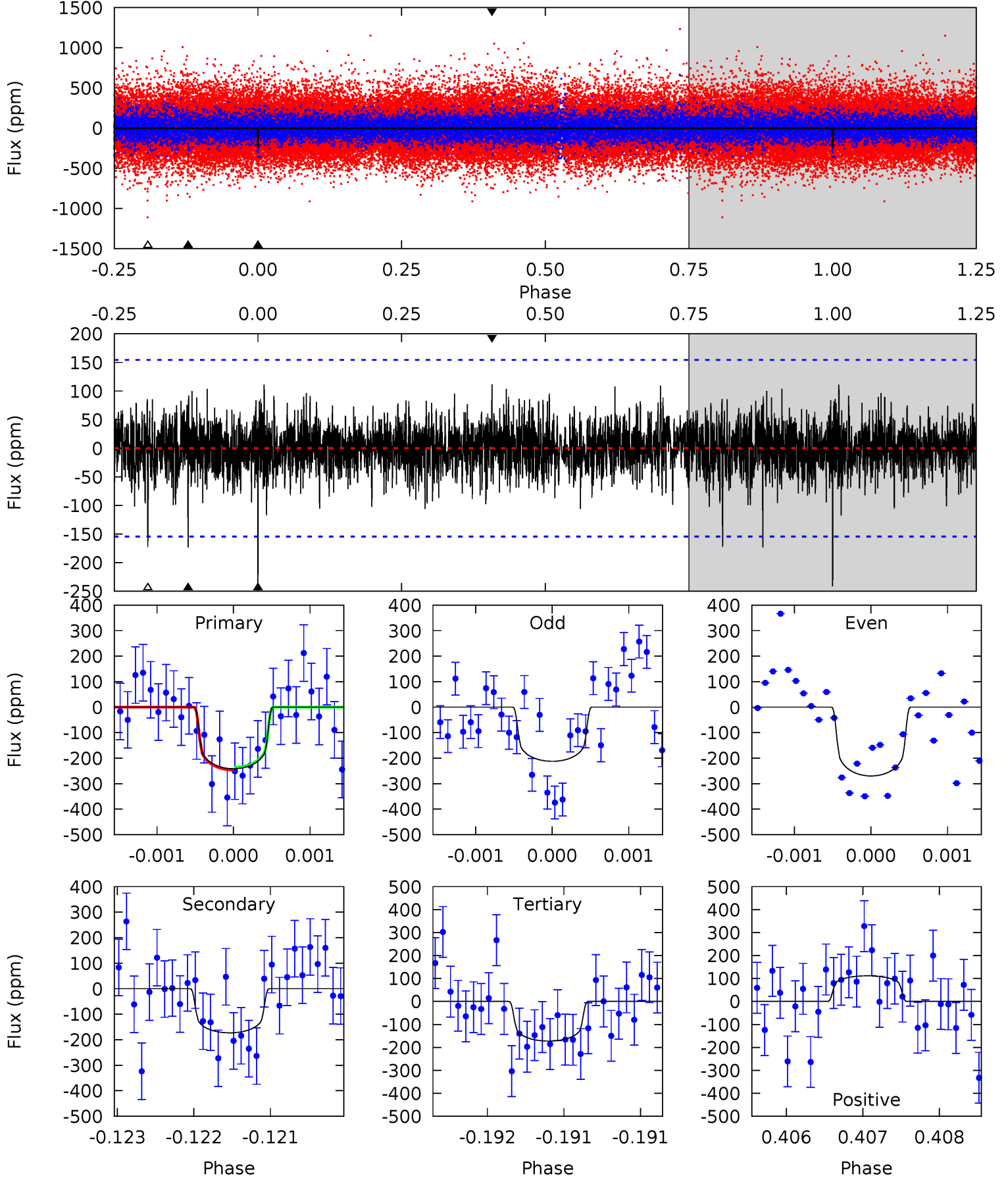
TCE 012505815-01 P=404.816068 Days $T_0=185.672080$ (BKJD)



DV Model-Shift Uniqueness Test

012505815-01, P = 404.804911 Days, E = 185.683777 Days

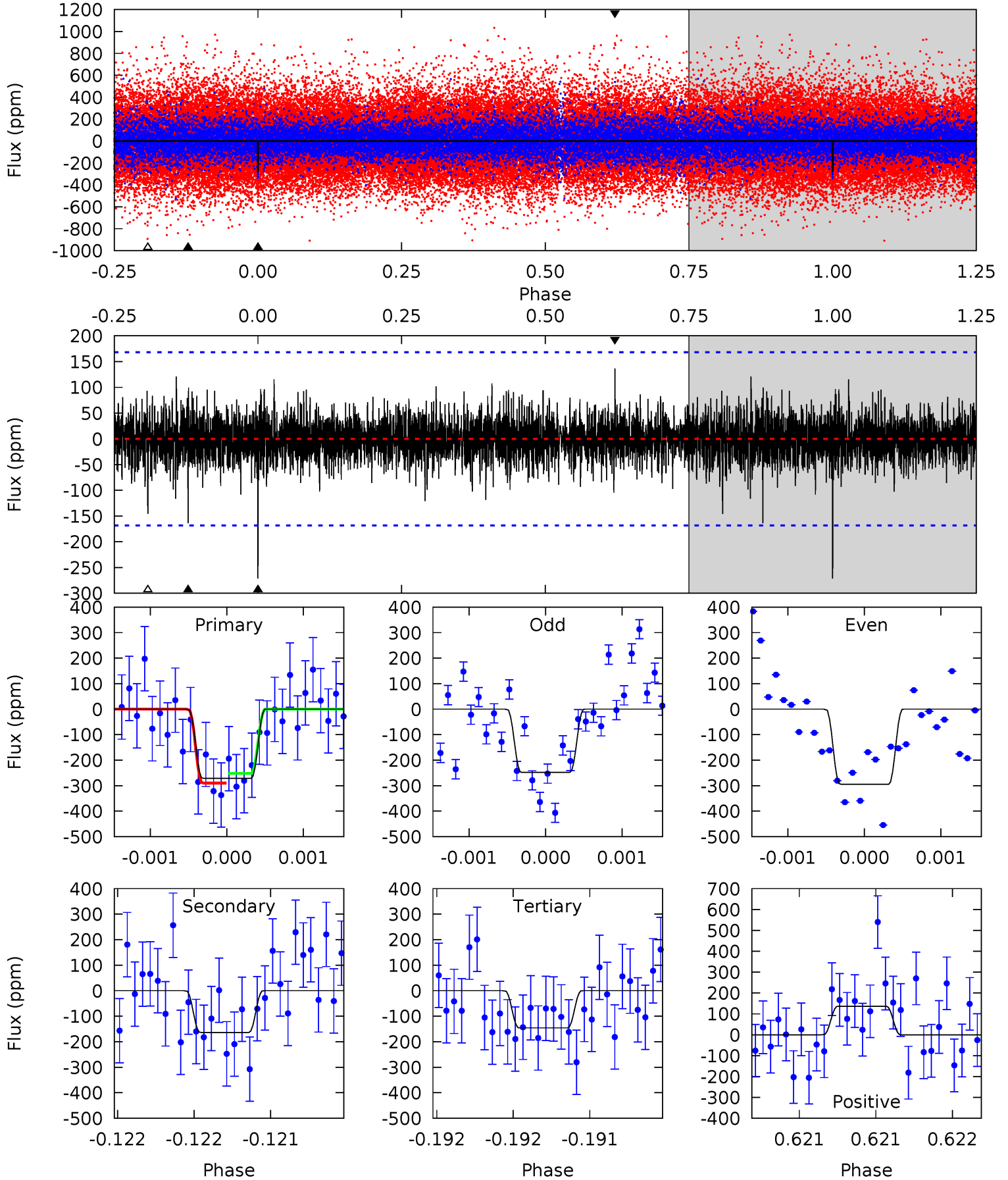
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.57	6.15	6.13	3.97	5.49	3.35	1.14	2.44	4.61	0.02	2.18	1.02	0.96	0.32	0.18



Alt Model-Shift Uniqueness Test

012505815-01, P = 404.816068 Days, E = 185.672080 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.90	5.37	4.78	4.48	5.52	3.40	1.03	4.12	4.42	0.58	0.89	0.77	1.04	0.33	0.62



Stellar Parameters For KIC 012505815

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6178^{+147}_{-220}	$4.424^{+0.054}_{-0.229}$	$0.210^{+0.200}_{-0.300}$	$1.114^{+0.383}_{-0.120}$	$1.203^{+0.140}_{-0.155}$	$1.227^{+0.289}_{-0.708}$
	+2%/-4%	+1%/-5%	+95%/-143%	+34%/-11%	+12%/-13%	+24%/-58%
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 012505815-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-173 ± 28	$2.19^{+1.08}_{-1.04}$	384^{+32}_{-18}	5403^{+2047}_{-801}	24857^{+60796}_{-13604}
Alt.	-164 ± 30	$2.23^{+1.17}_{-1.00}$	384^{+30}_{-20}	5321^{+1809}_{-845}	22933^{+47705}_{-13525}

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

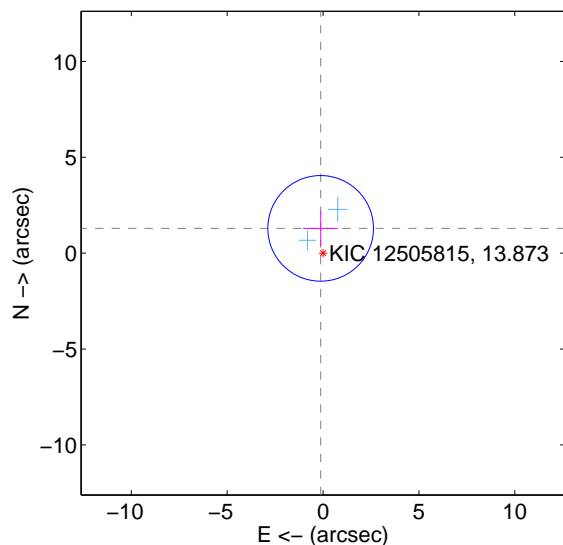
Supplemental centroid analysis for 012505815-01. Kepler magnitude: 13.87. Transit SNR 7.04

There are 2 quarters with good PRF difference image offsets

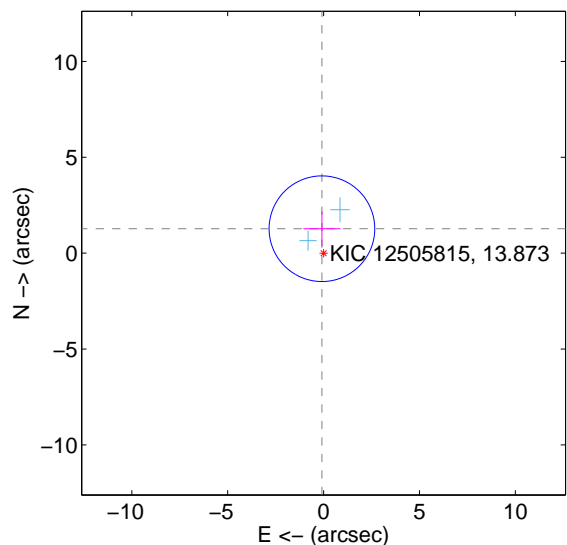
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.300 ± 0.918	1.42	0.125 ± 0.916	1.294 ± 0.918
PRF-fit source offset from KIC position	1.279 ± 0.919	1.39	0.087 ± 0.967	1.276 ± 0.918
photometric centroid source offset	3.81 ± 2.24	1.70	-3.66 ± 2.25	-1.05 ± 2.06

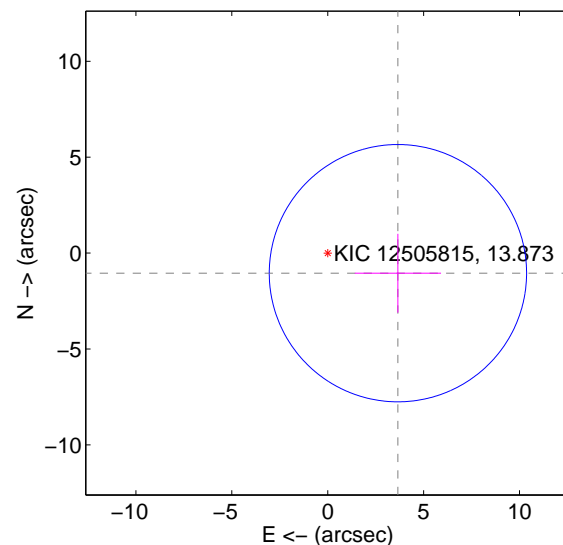
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

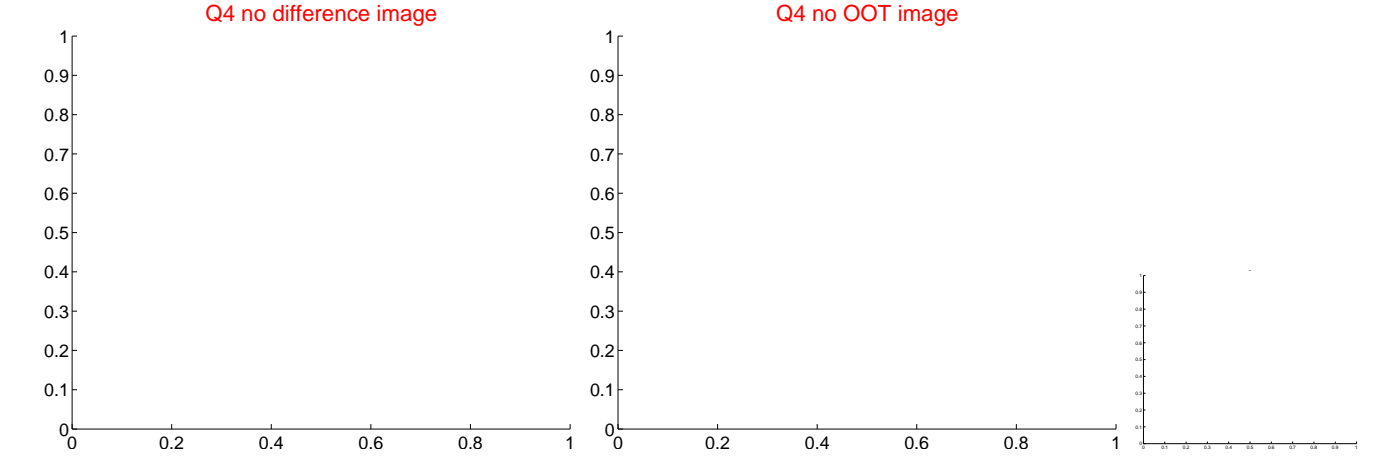
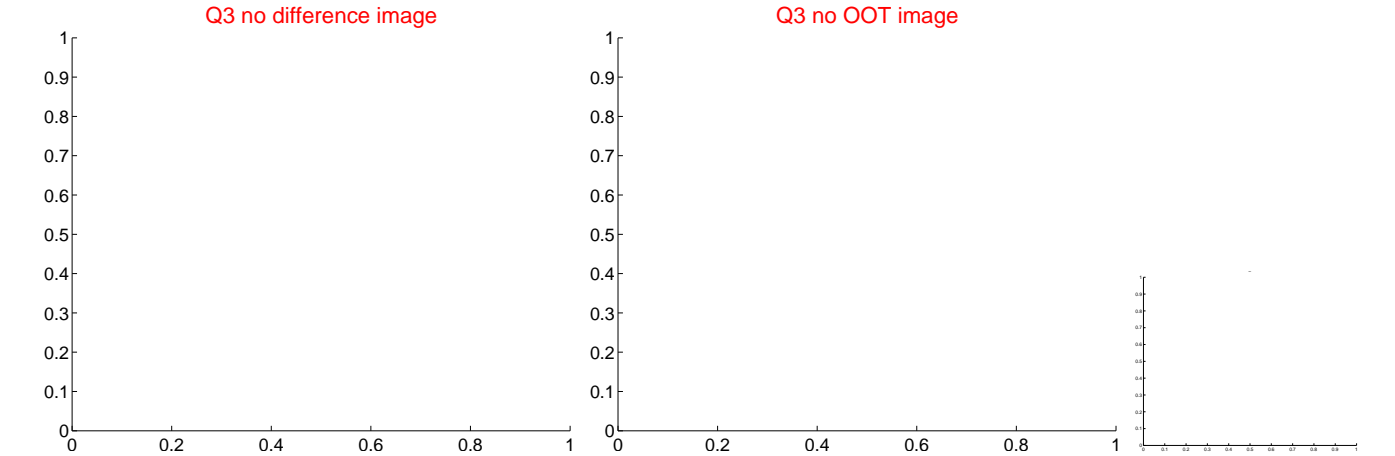
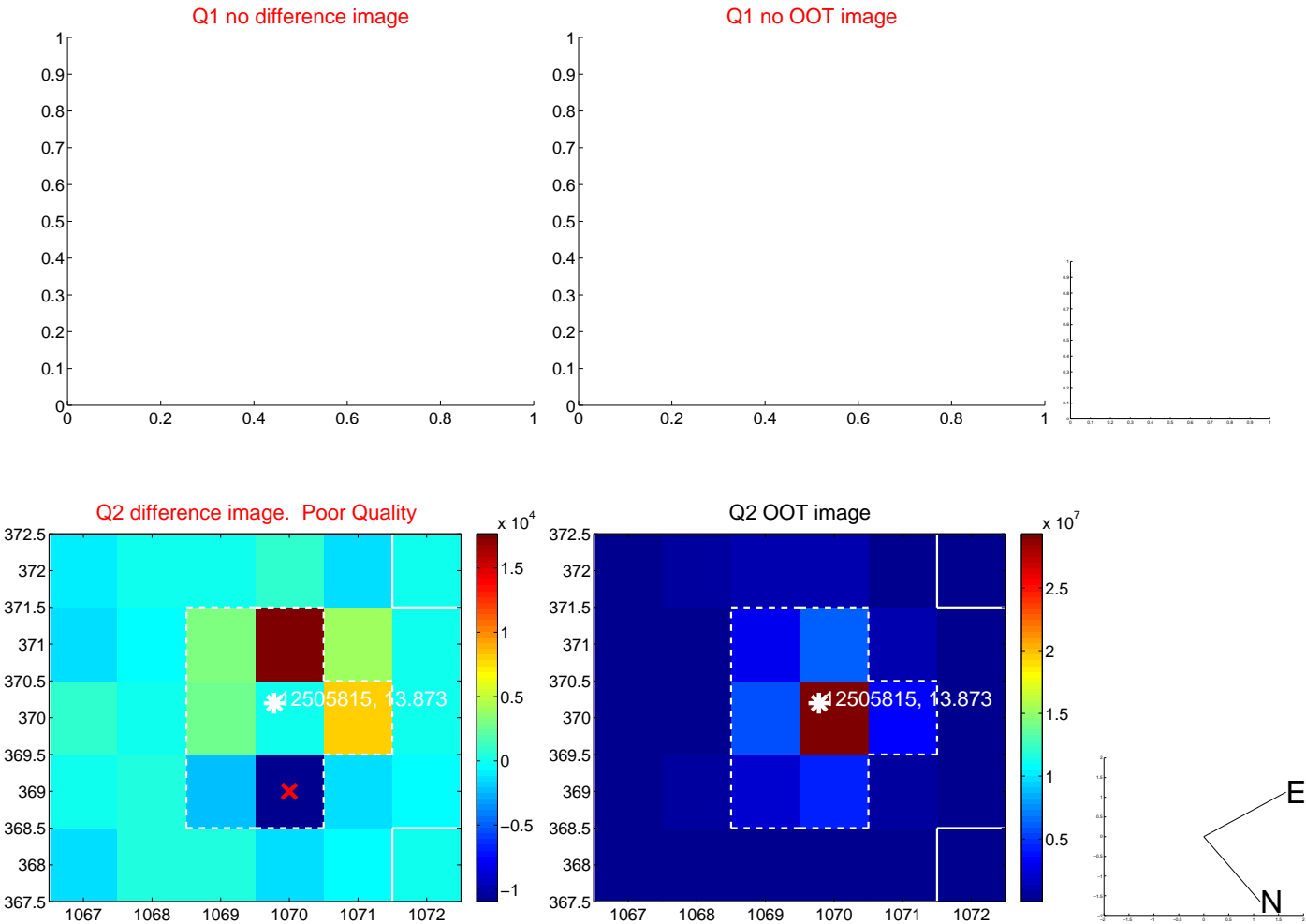


offset from photometric centroids

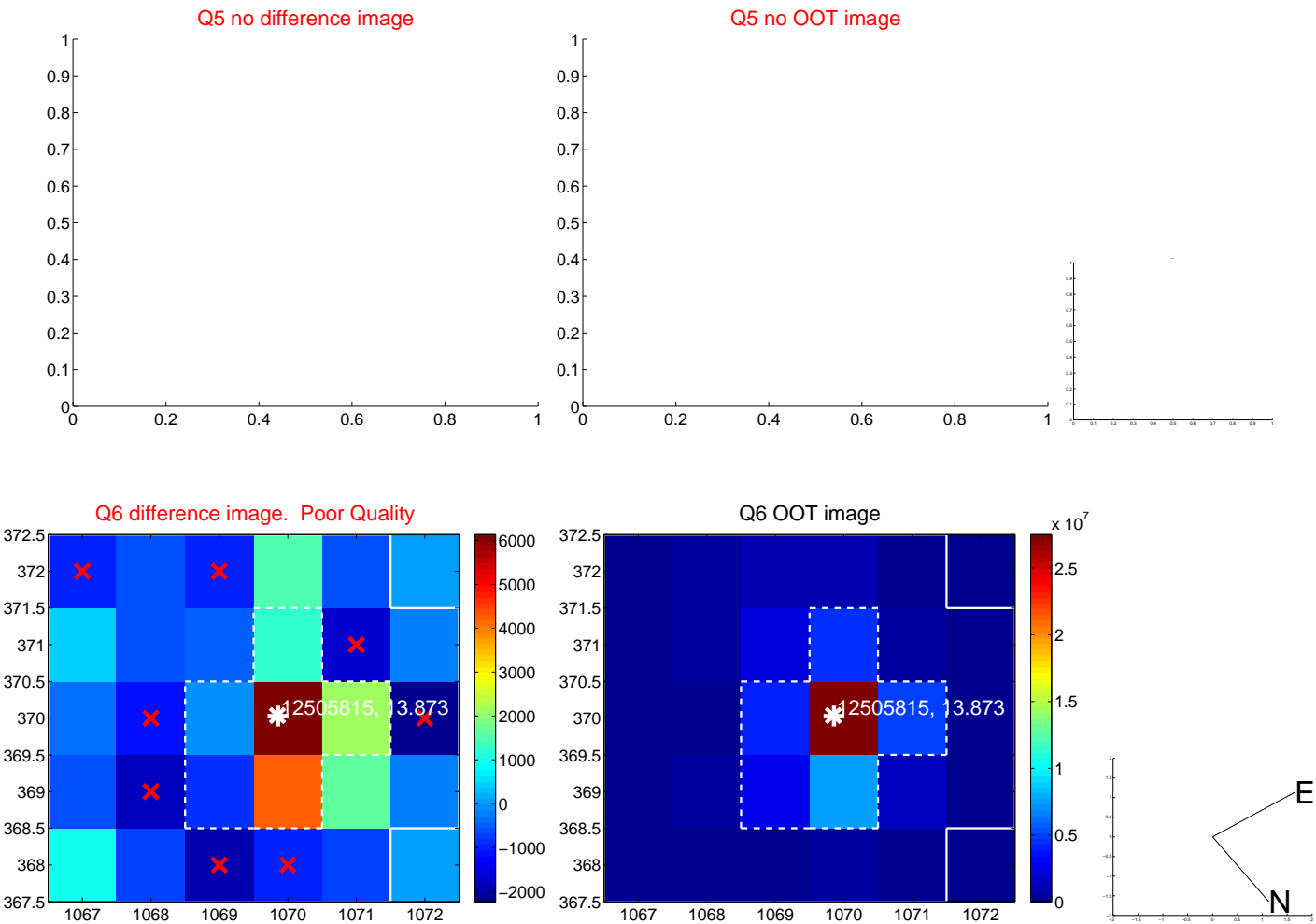


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

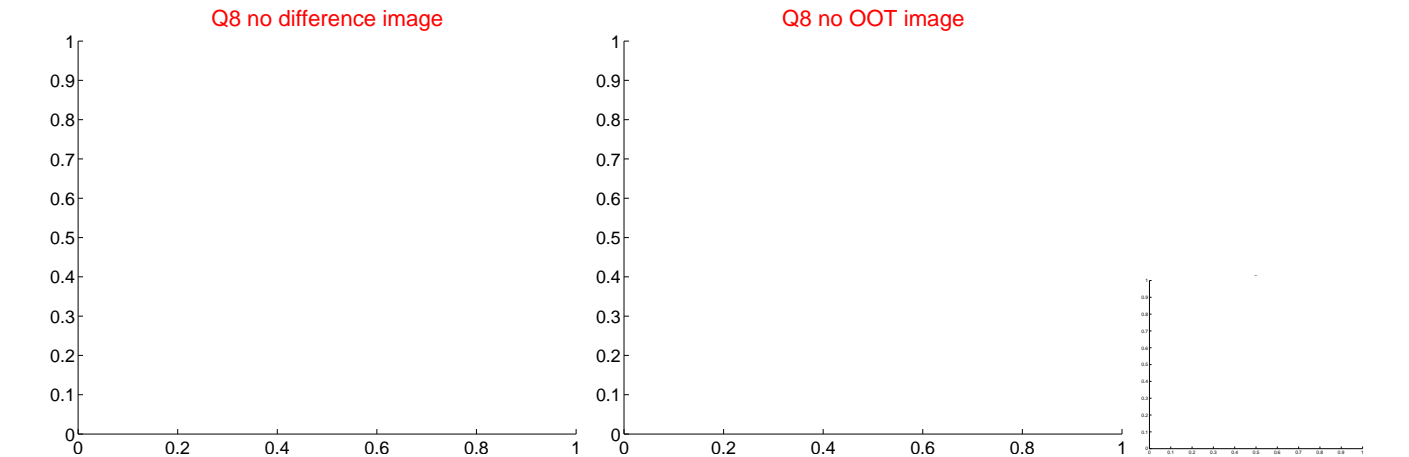
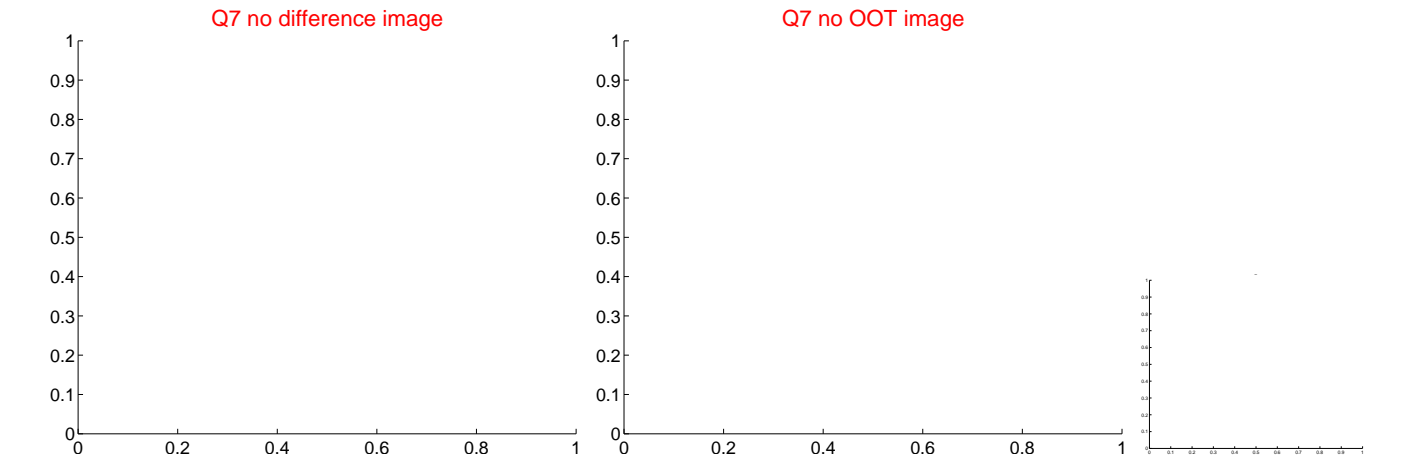


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

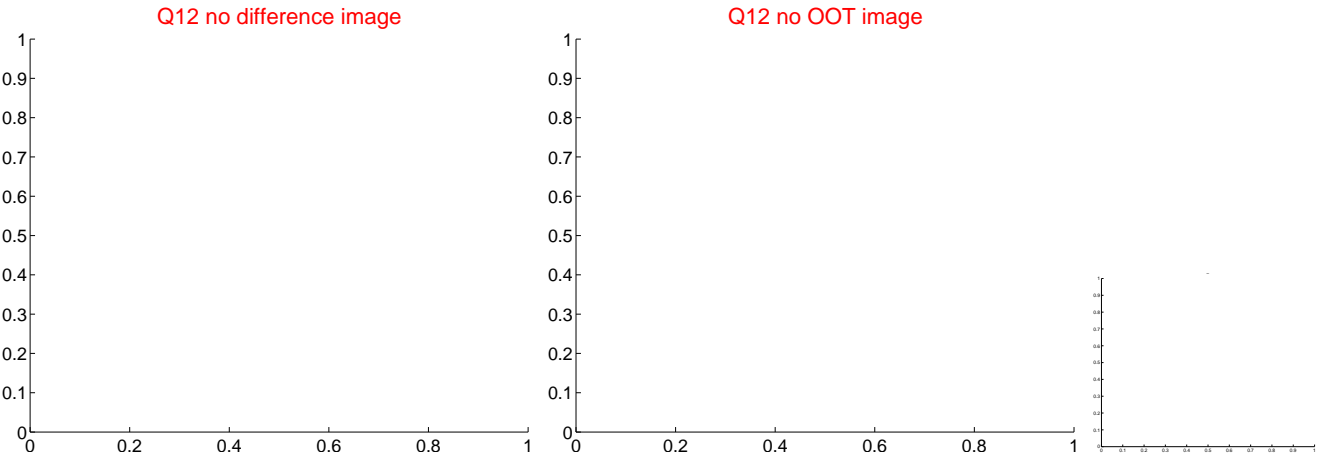
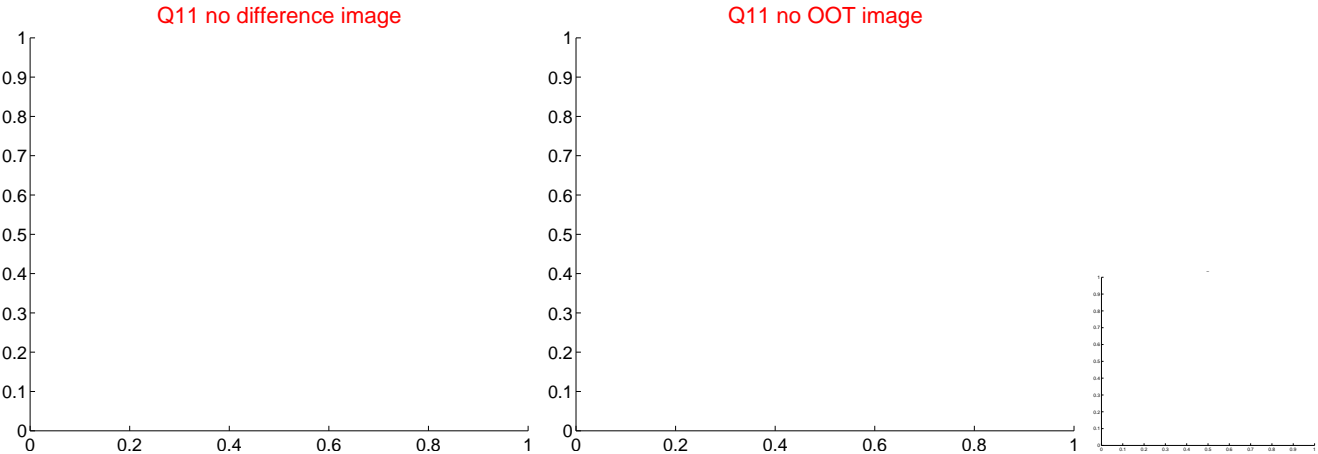
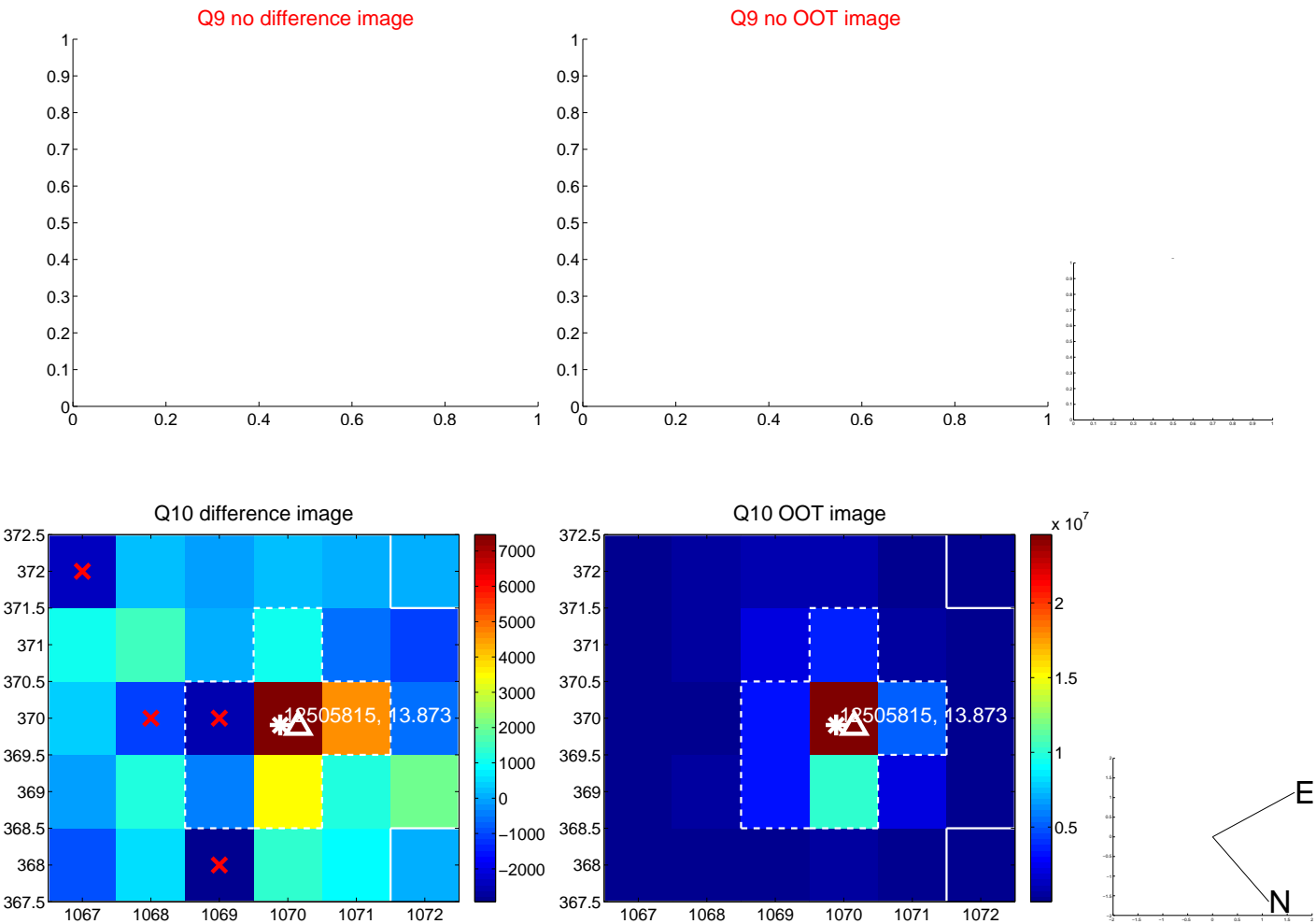


Q6 difference image. Poor Quality

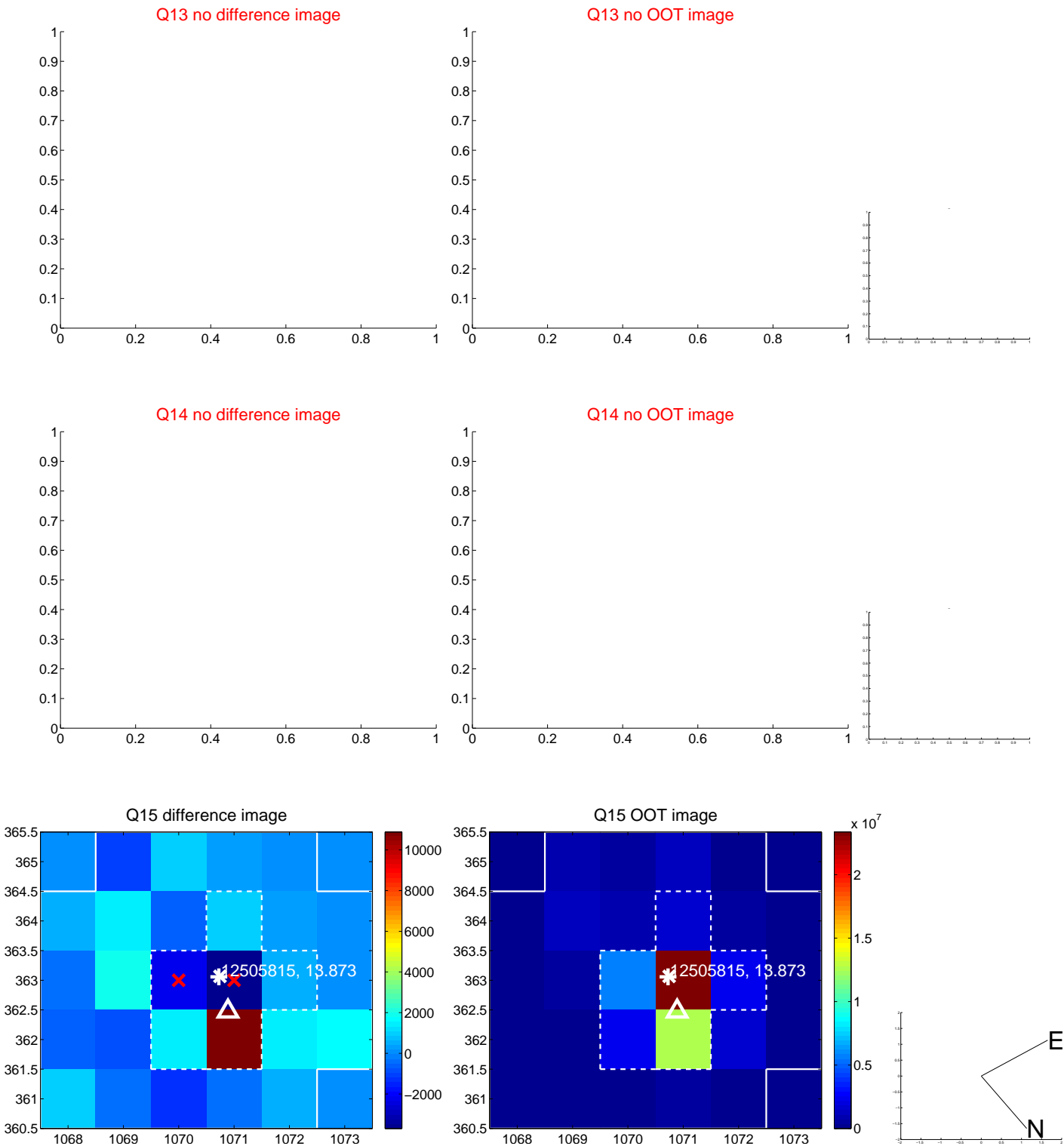
Q6 OOT image



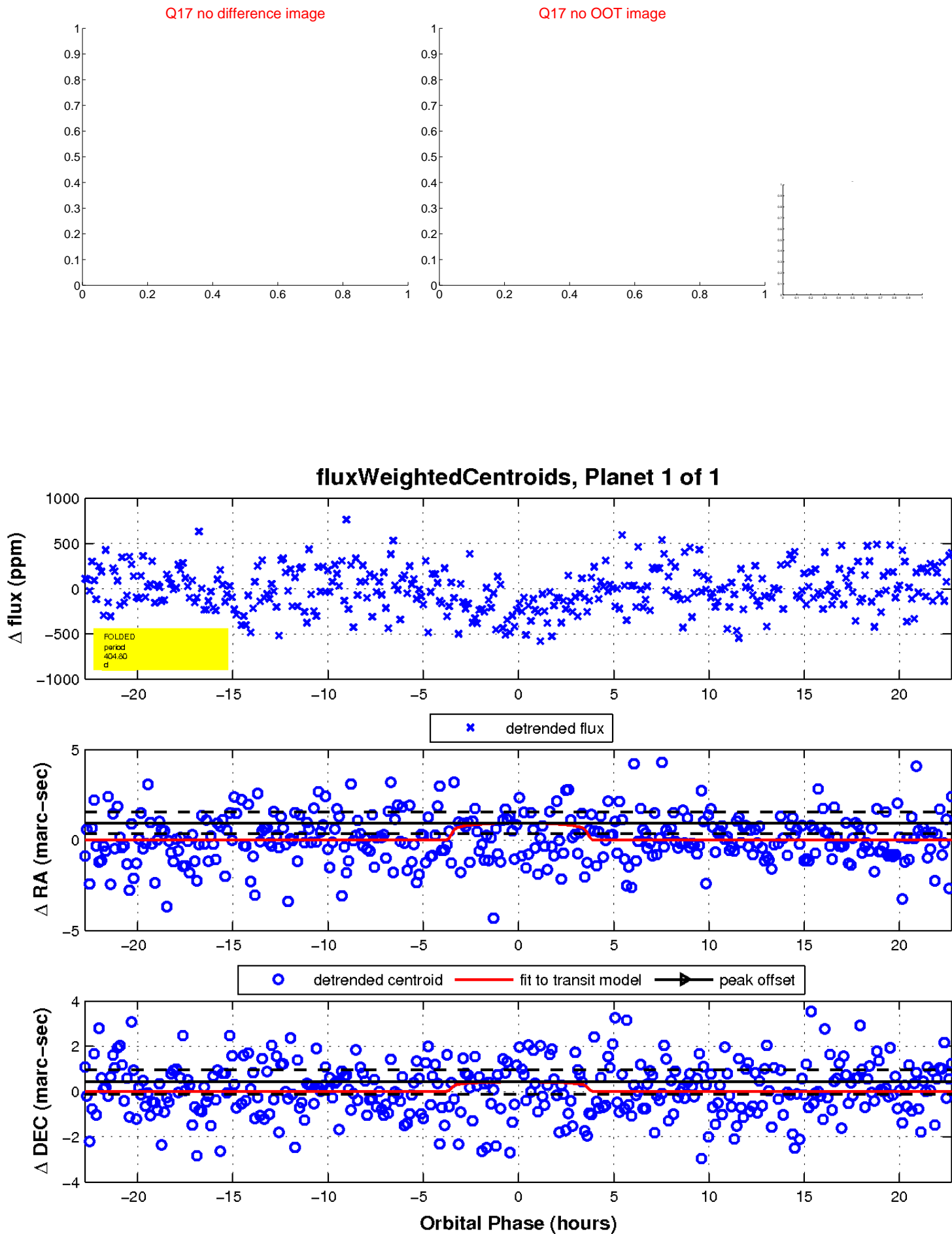
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

