

KIC 008164615

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})
008164615-01	OBS	No	336.151402	462.858854	957.6	6.067	9.9	9.7	0.94	5774	3.12	0.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008164615-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—MOD_POS_DV—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.

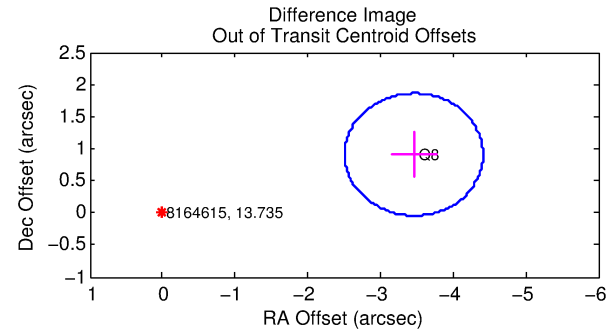
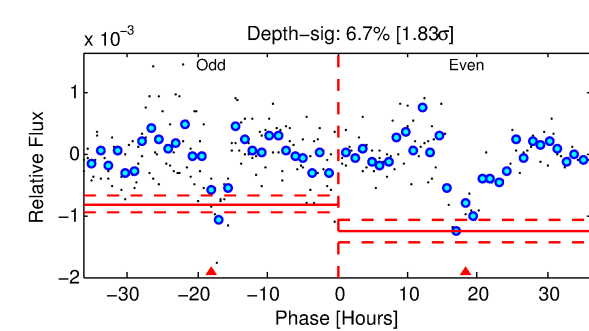
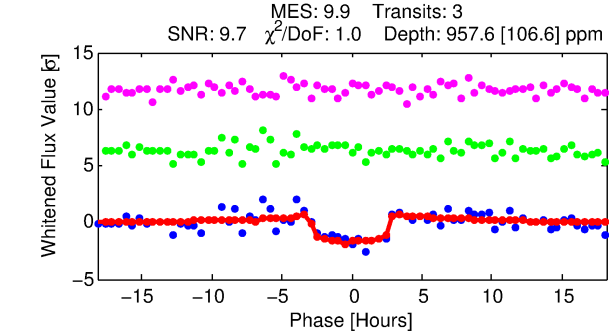
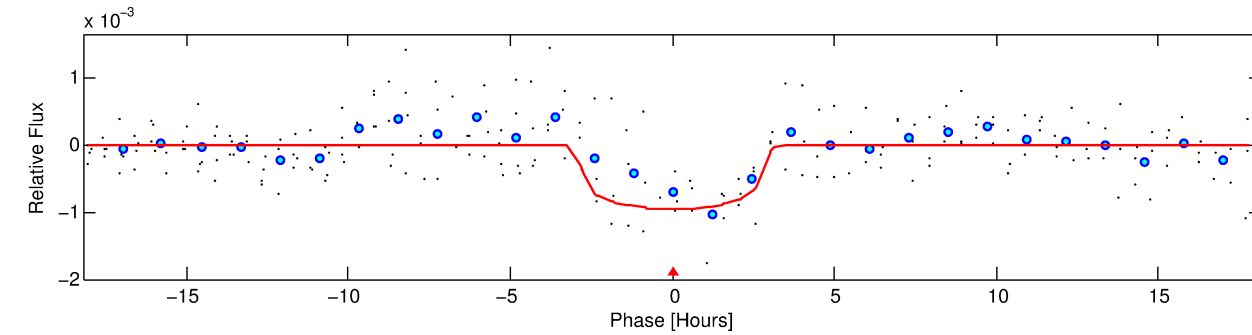
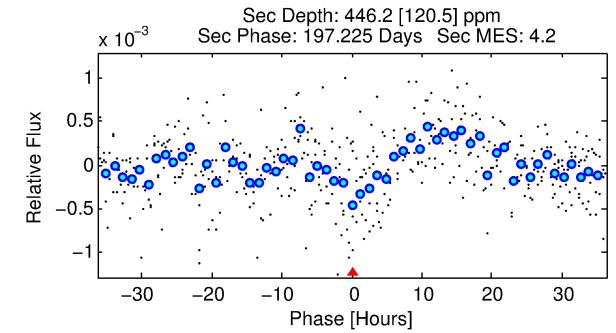
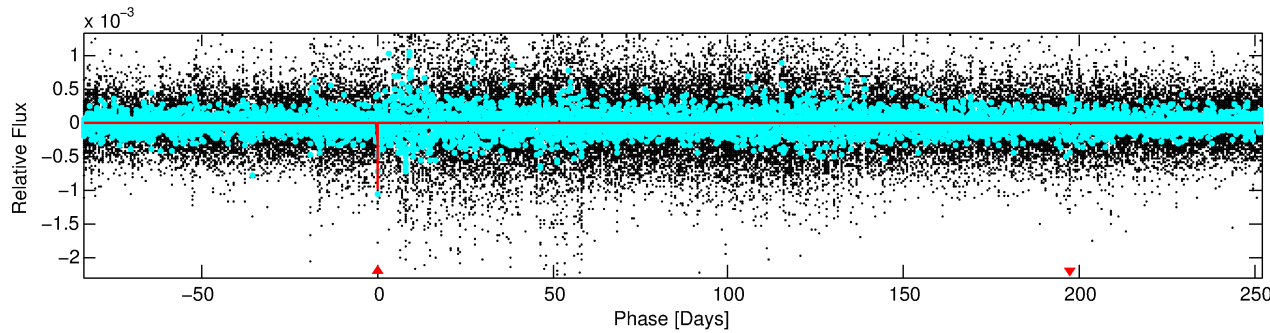
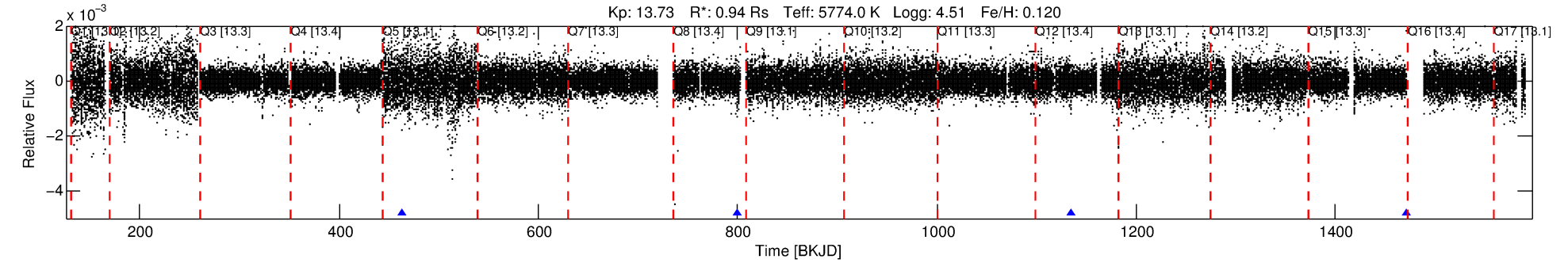
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008164615-01

No Significant Match Found

DV One-Page Summary

KIC: 8164615 Candidate: 1 of 1 Period: 336.151 d



DV Fit Results:

Period = 336.15140 [0.00713] d
Epoch = 462.8589 [0.0110] BKJD
Rp/R* = 0.0304 [0.0125]
a/R* = 313.79 [539.29]
b = 0.72 [1.20]
Seff = 0.96 [0.37]
Teq = 252 [24] K
Rp = 3.12 [1.57] Re
a = 0.9589 [0.2386] AU
Ag = 23119.80 [21741.21] [1.06σ]
Teffp = 4811 [1051] K [4.34σ]

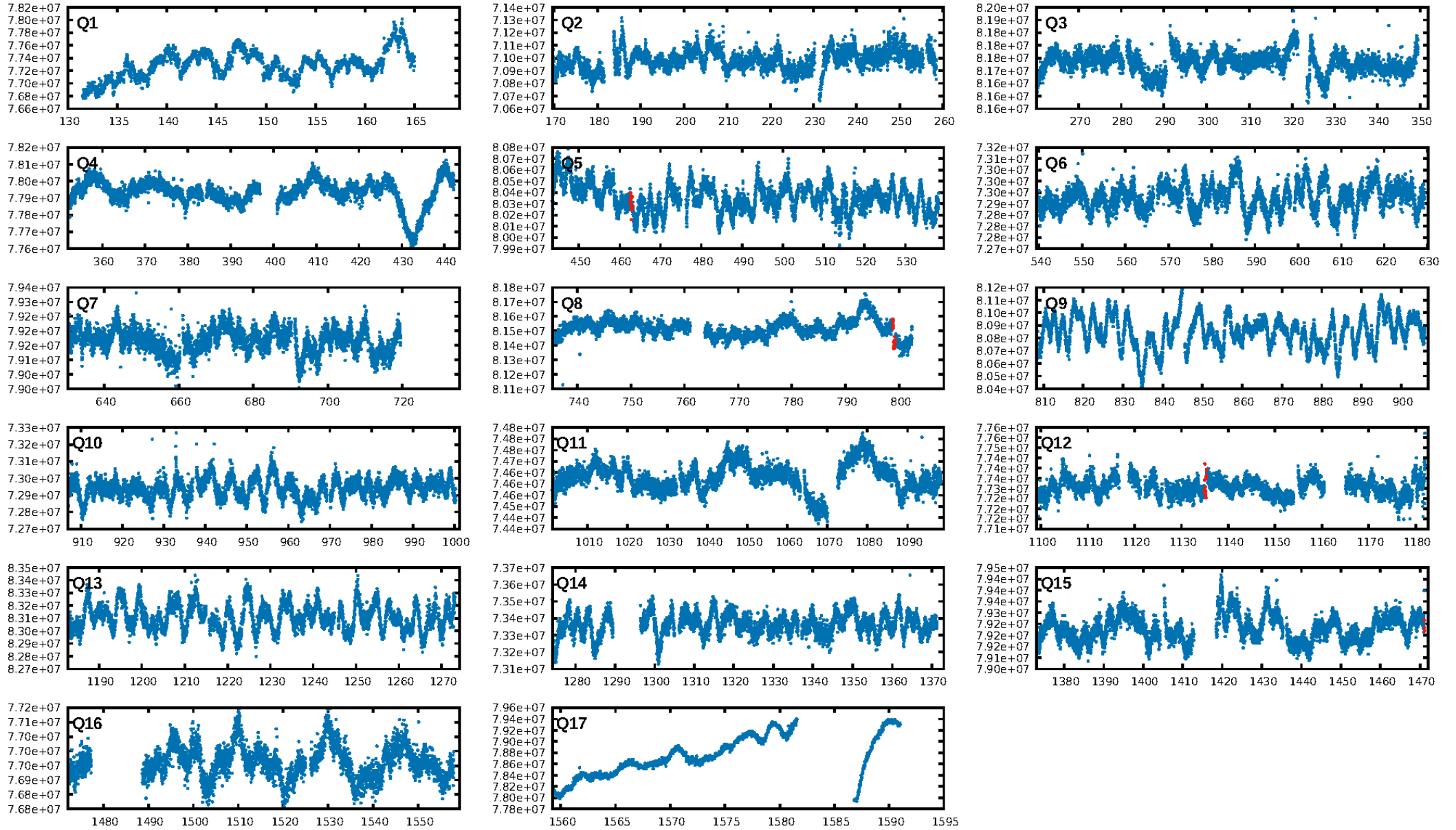
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.7%
ModelChiSquareGof-sig: 95.7%
Bootstrap-pfa: 2.14e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.357
Centroid-sig: 45.4%
Centroid-so: 2.526 arcsec [8.53σ]
OotOffset-rm: 3.575 arcsec [11.26σ]
KicOffset-rm: 0.369 arcsec [1.06σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

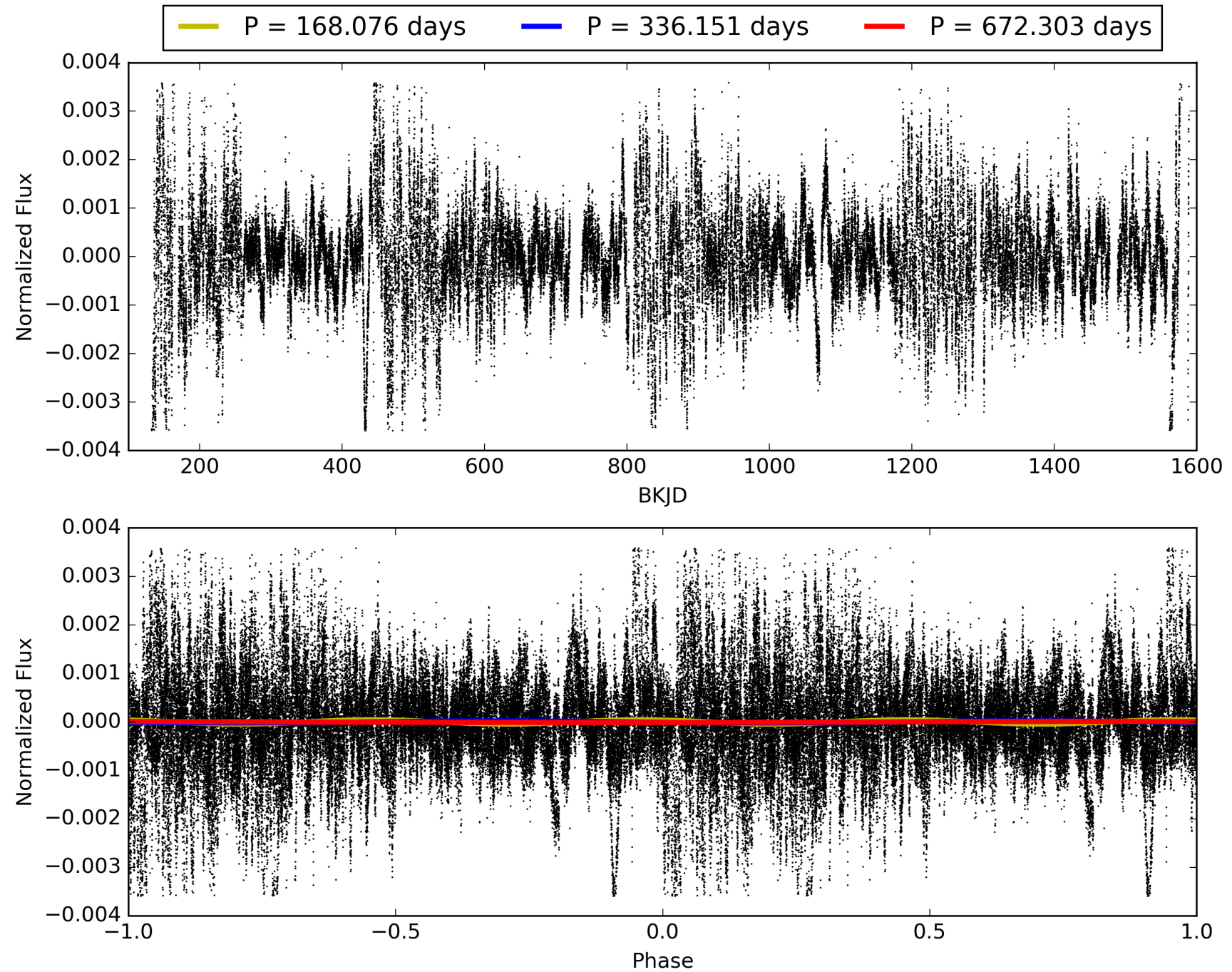
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:24:31 Z

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

TCE 008164615-01, PDC Light Curves

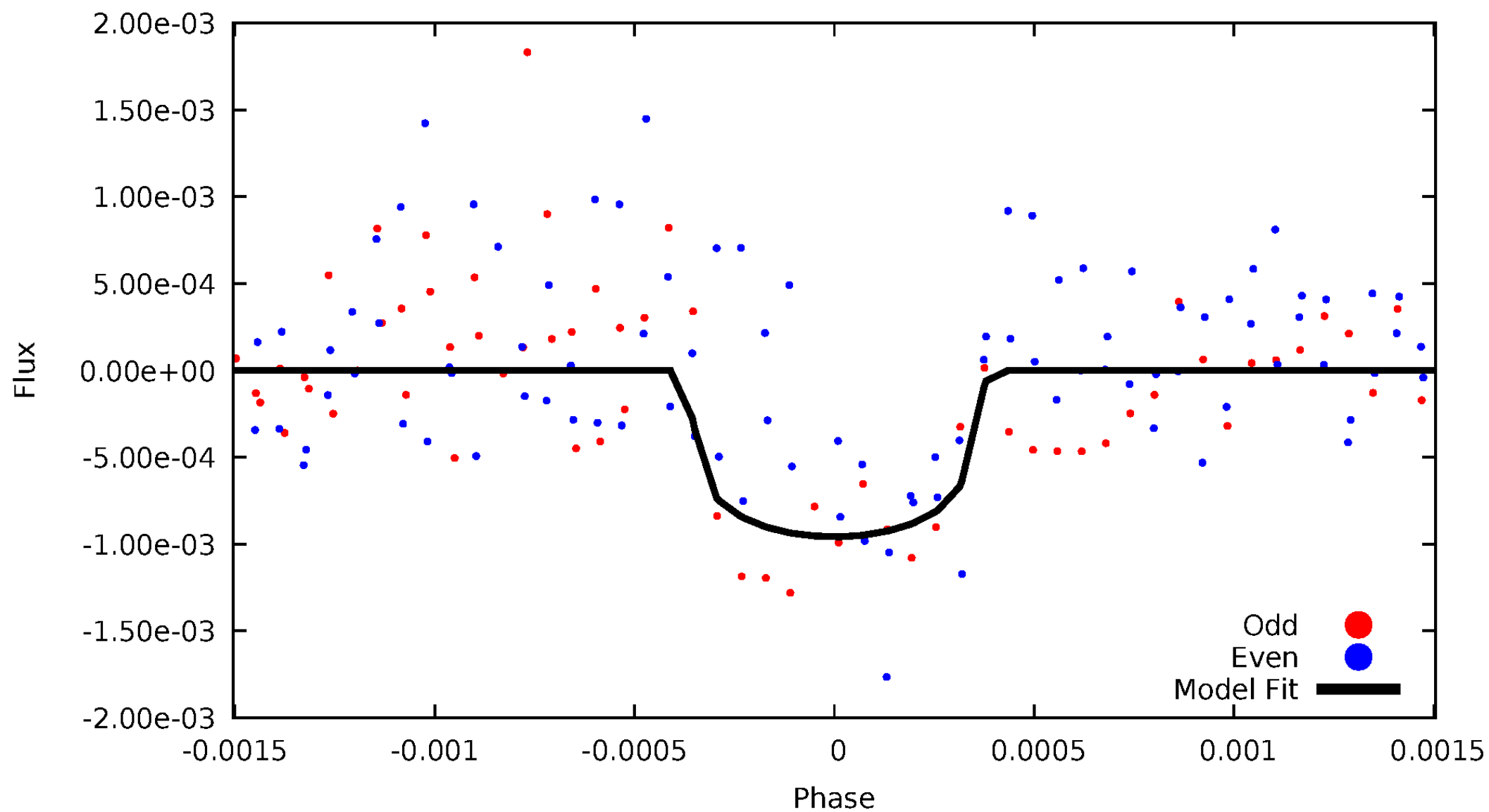


TCE 008164615-01



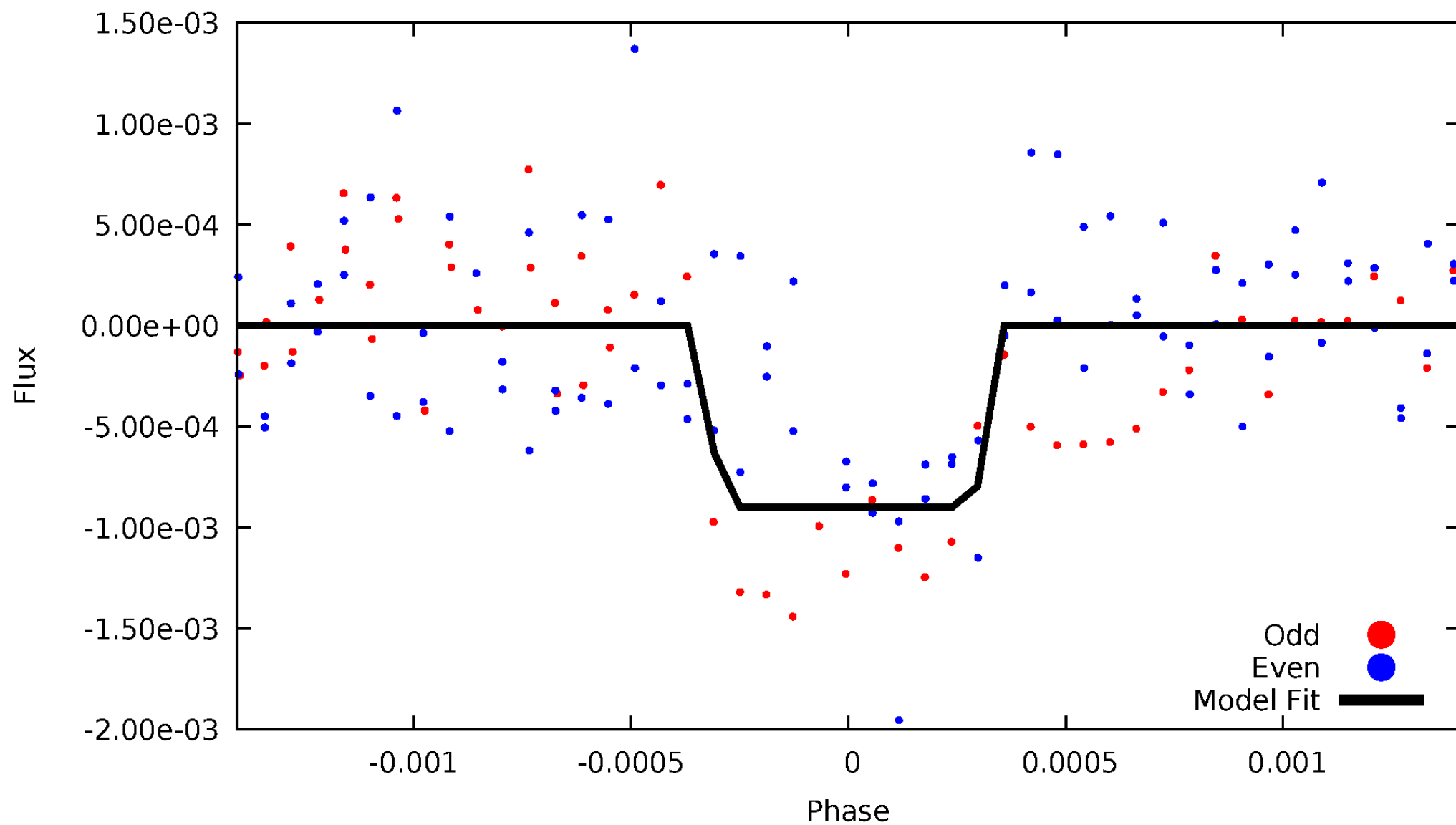
DV Odd/Even

TCE 008164615-01



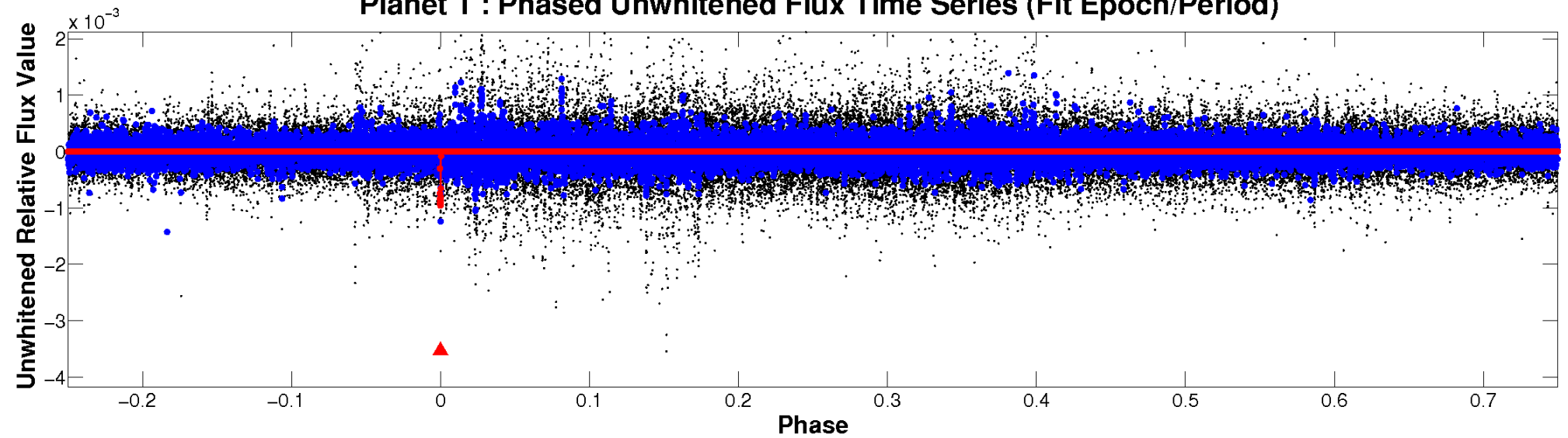
ALT Odd/Even

TCE 008164615-01

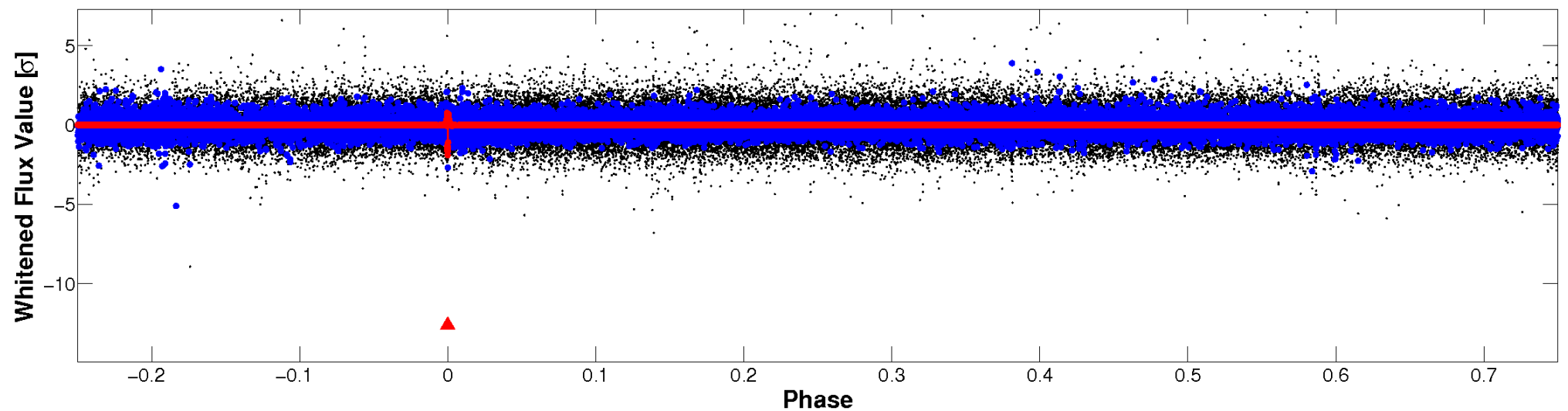


Non-Whitened Vs. Whitened Light Curve

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



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



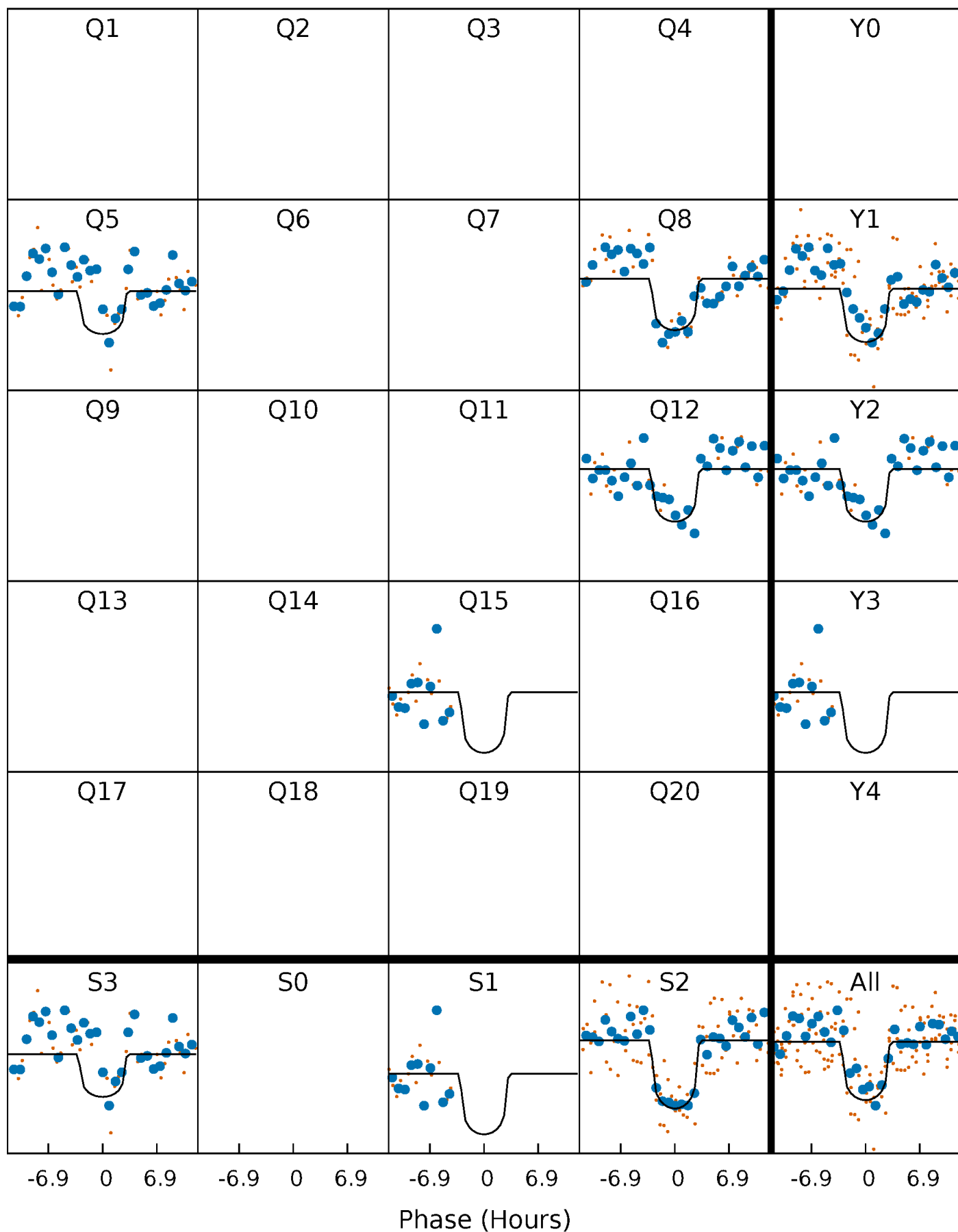
PDC Quarter-Phased Transit Curves

TCE 008164615-01 P=336.151402 Days $T_0=462.858854$ (BKJD)



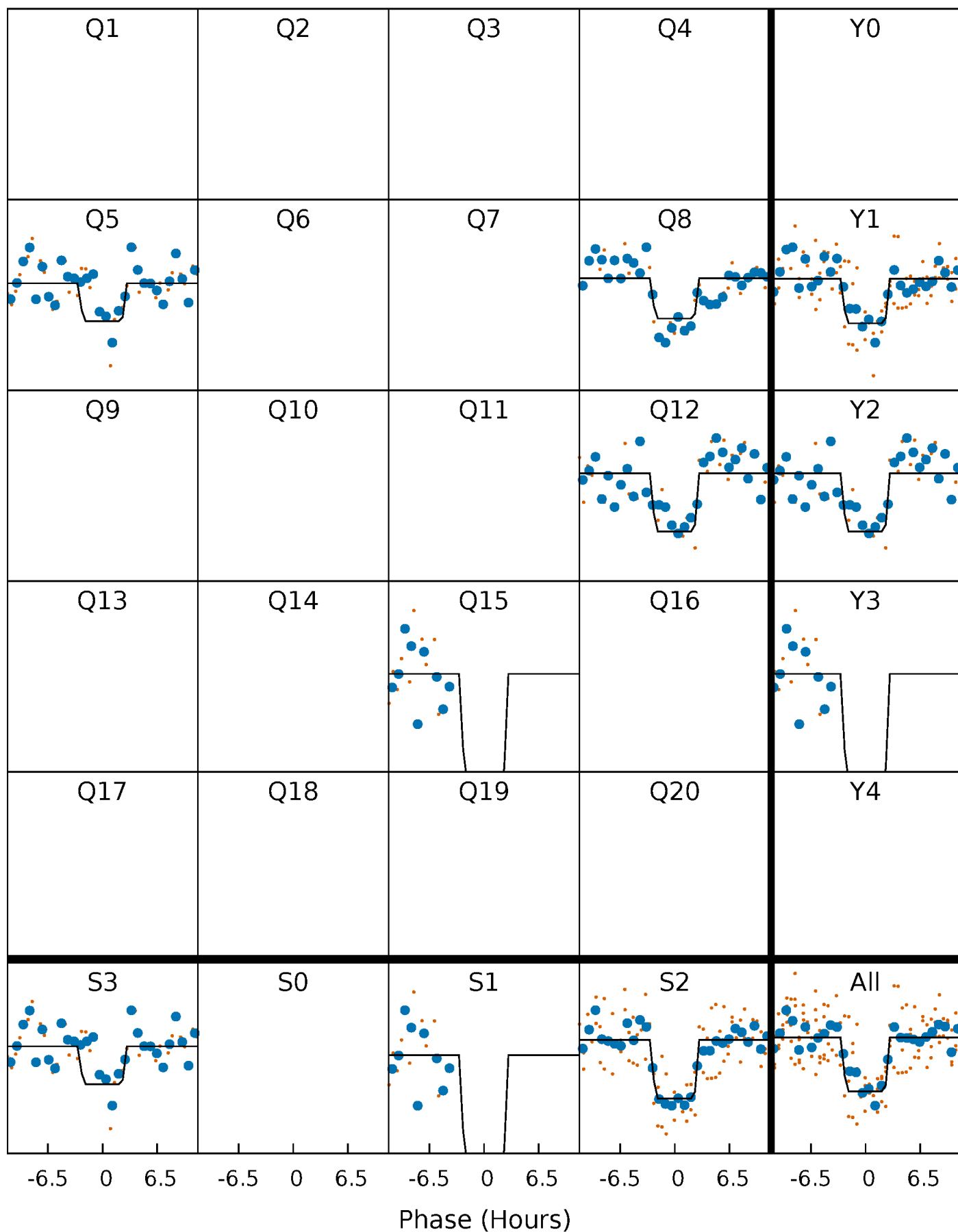
DV Quarter-Phased Transit Curves

TCE 008164615-01 P=336.151402 Days $T_0=462.858854$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

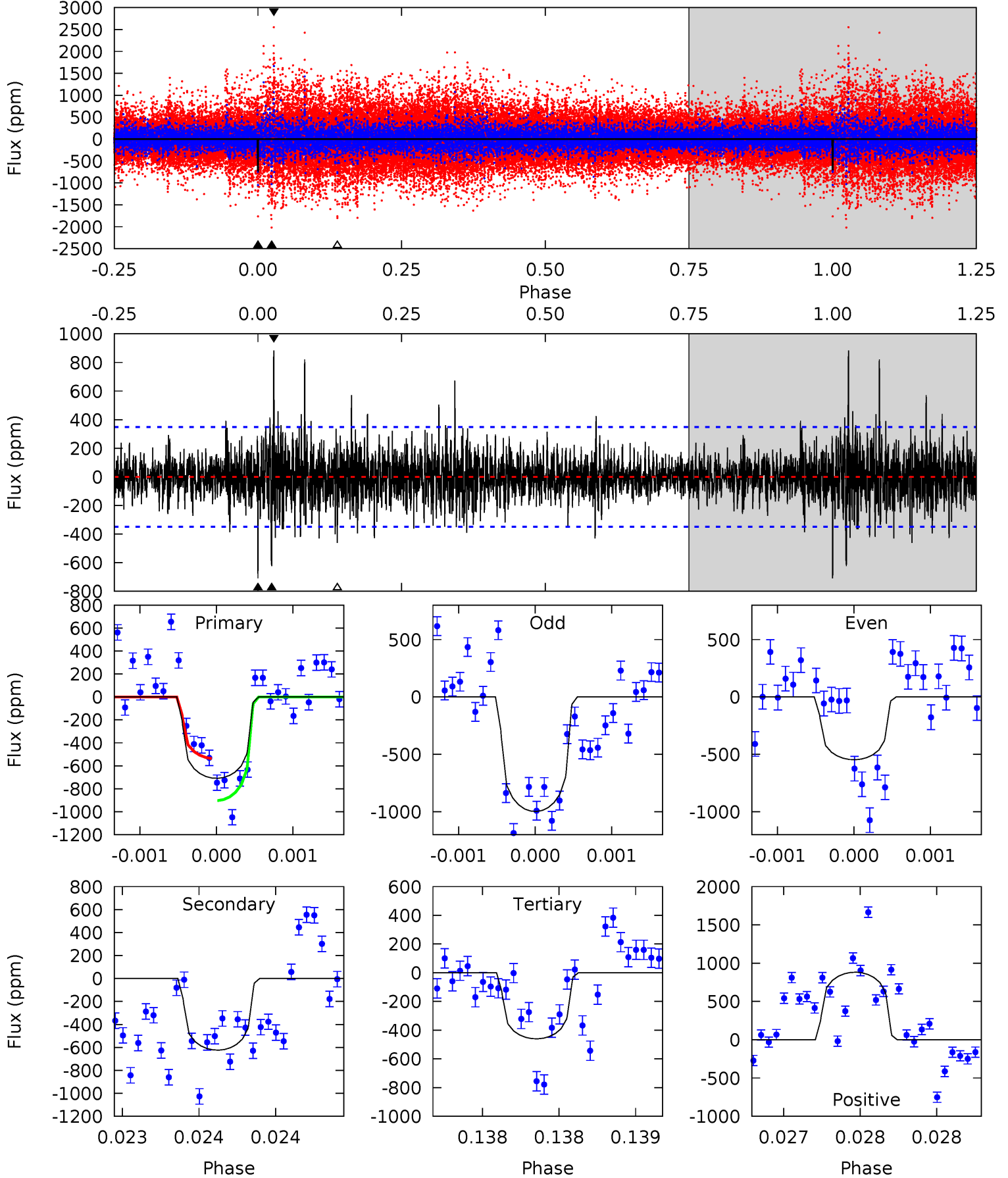
TCE 008164615-01 P=336.152495 Days $T_0=462.863581$ (BKJD)



DV Model-Shift Uniqueness Test

008164615-01, P = 336.151402 Days, E = 126.707452 Days

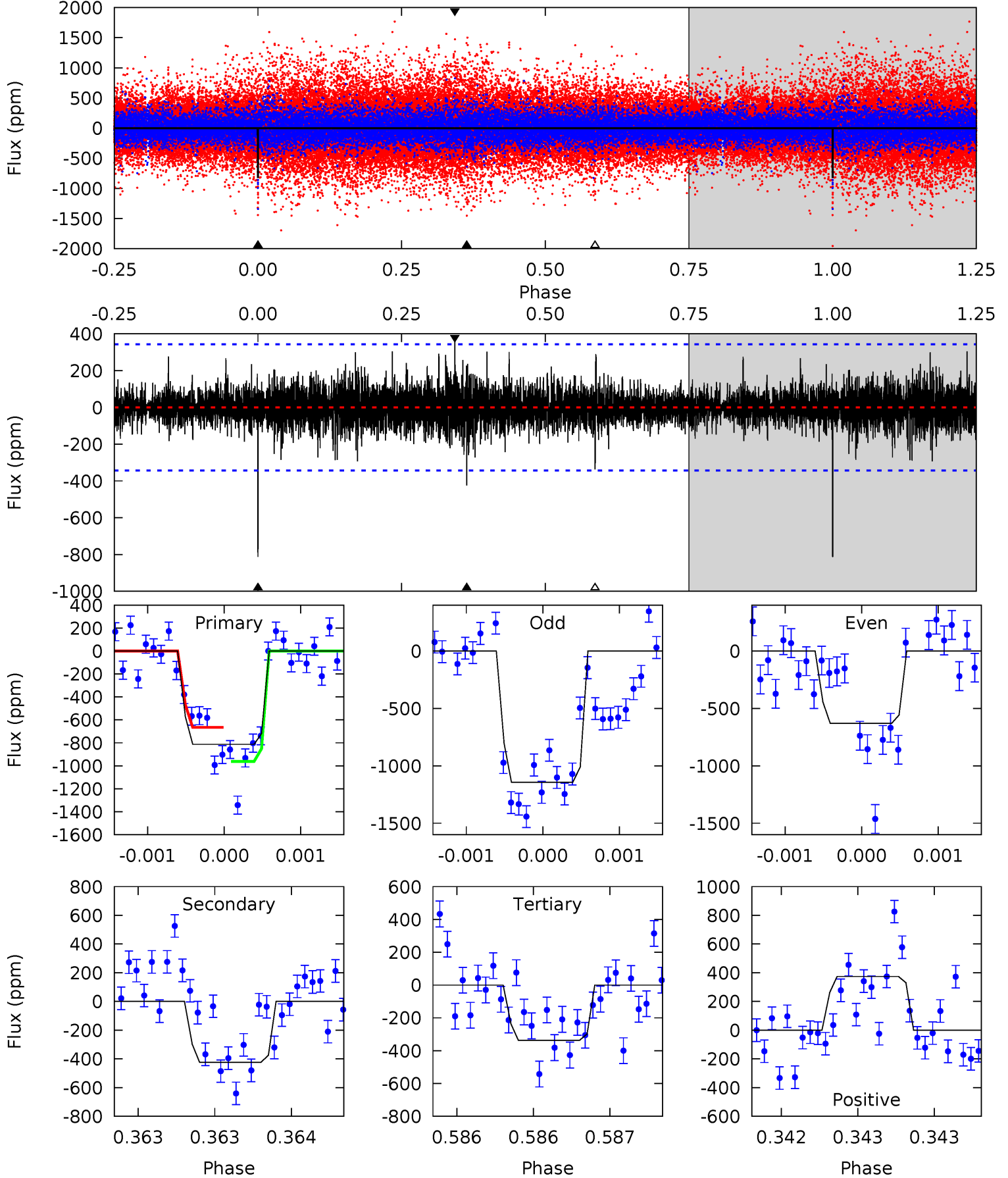
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	9.83	7.26	13.9	5.49	3.36	1.89	3.91	-2.73	2.58	-4.07	3.36	0.84	0.55	2.88



Alt Model-Shift Uniqueness Test

008164615-01, P = 336.152495 Days, E = 126.711086 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	6.84	5.43	6.04	5.54	3.43	1.09	7.70	7.09	1.41	0.80	3.97	1.07	0.31	2.40



Stellar Parameters For KIC 008164615

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5774^{+145}_{-174}	$4.508^{+0.036}_{-0.204}$	$0.120^{+0.250}_{-0.300}$	$0.941^{+0.273}_{-0.091}$	$1.038^{+0.100}_{-0.125}$	$1.755^{+0.353}_{-0.919}$
	+3%/-3%	+1%/-5%	+208%/-250%	+29%/-10%	+10%/-12%	+20%/-52%
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 008164615-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-624 ± 63	$3.30^{+1.40}_{-1.46}$	360^{+24}_{-16}	5253^{+1749}_{-707}	27932^{+59306}_{-13568}
Alt.	-424 ± 62	$3.28^{+1.36}_{-1.30}$	361^{+25}_{-16}	4878^{+1158}_{-656}	19209^{+32780}_{-9482}

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

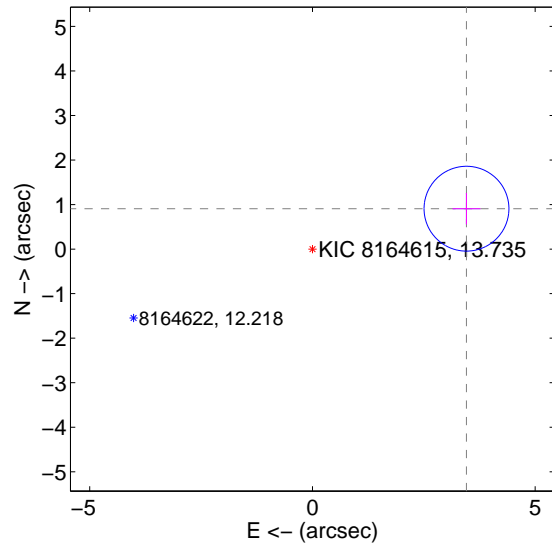
Supplemental centroid analysis for 008164615-01. Kepler magnitude: 13.73. Transit SNR 9.74

There are 1 quarters with good PRF difference image offsets

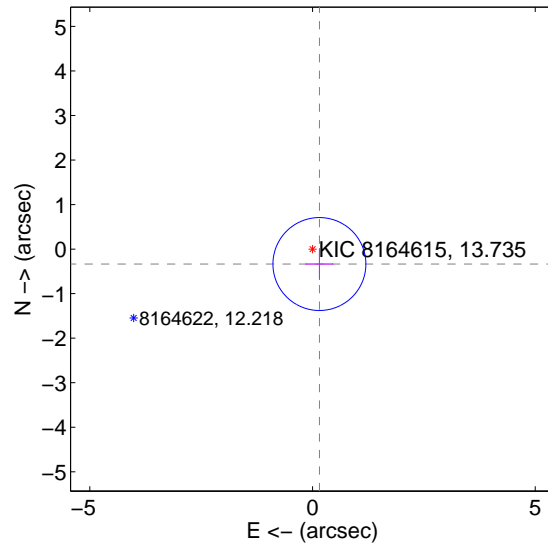
The OOT PRF centroid is offset from the target star catalog position by about 3.53 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.575 ± 0.317	11.26	-3.458 ± 0.315	0.907 ± 0.354
PRF-fit source offset from KIC position	0.369 ± 0.348	1.06	-0.155 ± 0.315	-0.335 ± 0.354
photometric centroid source offset	2.53 ± 0.30	8.53	2.32 ± 0.31	-1.00 ± 0.23

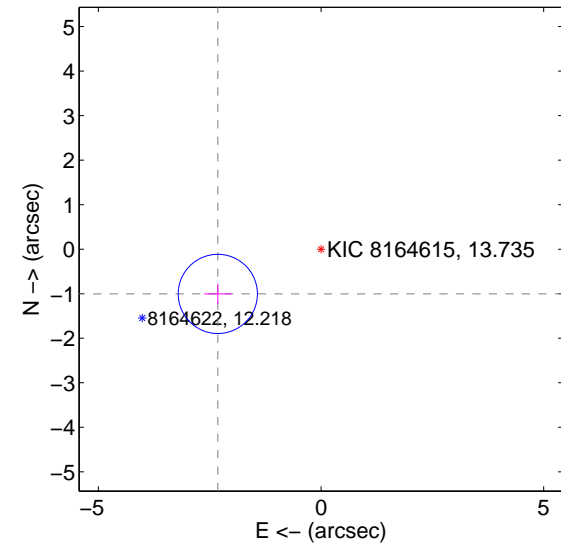
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

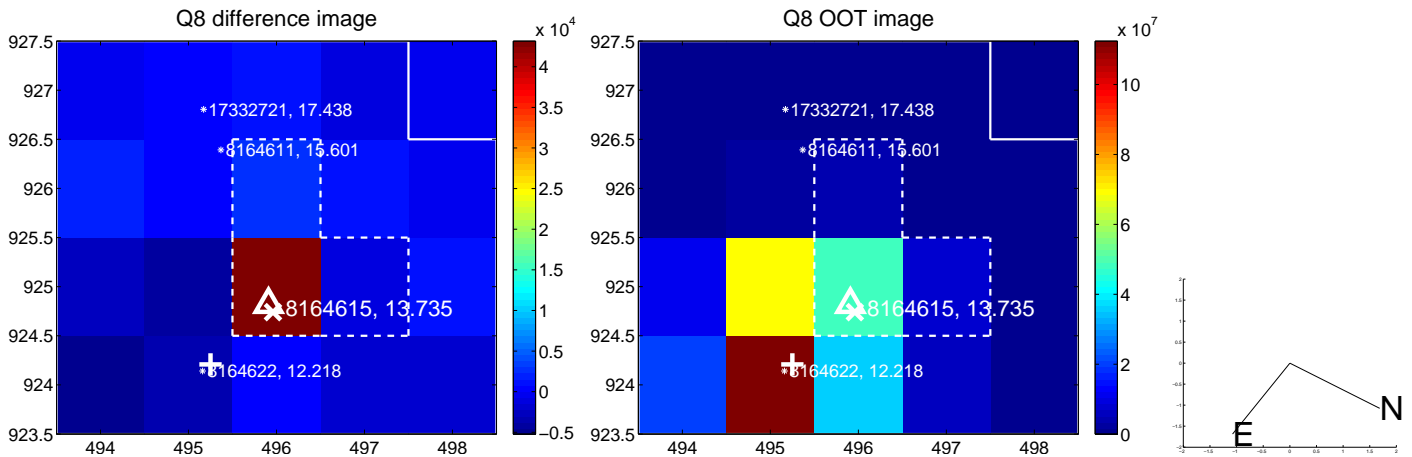
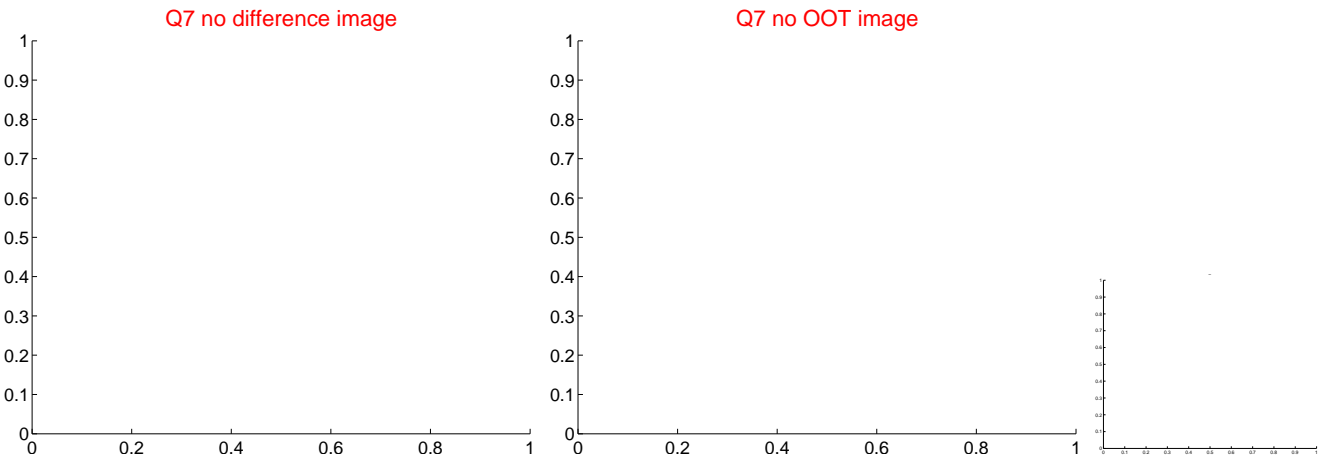
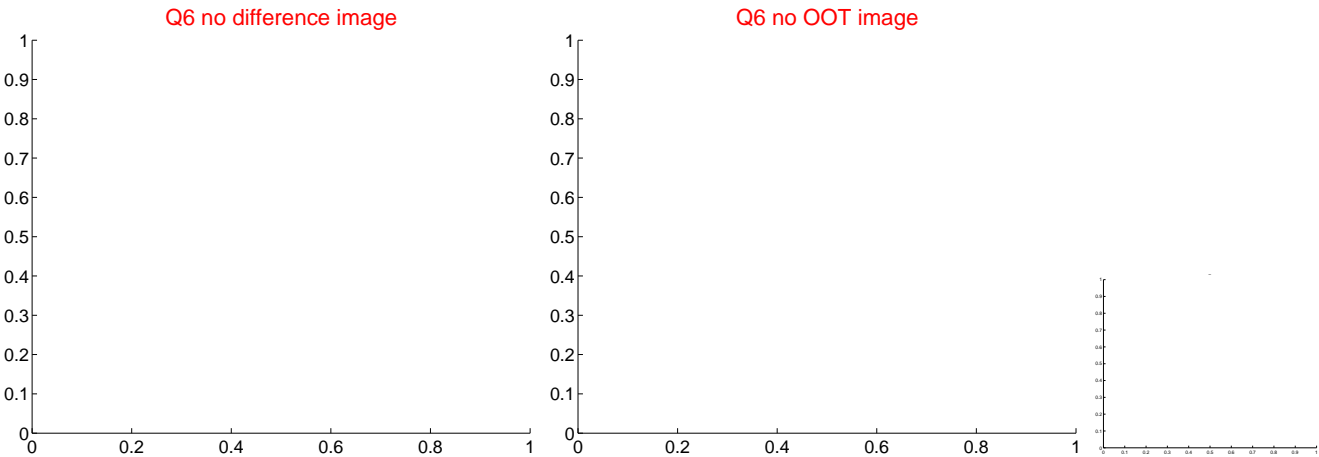
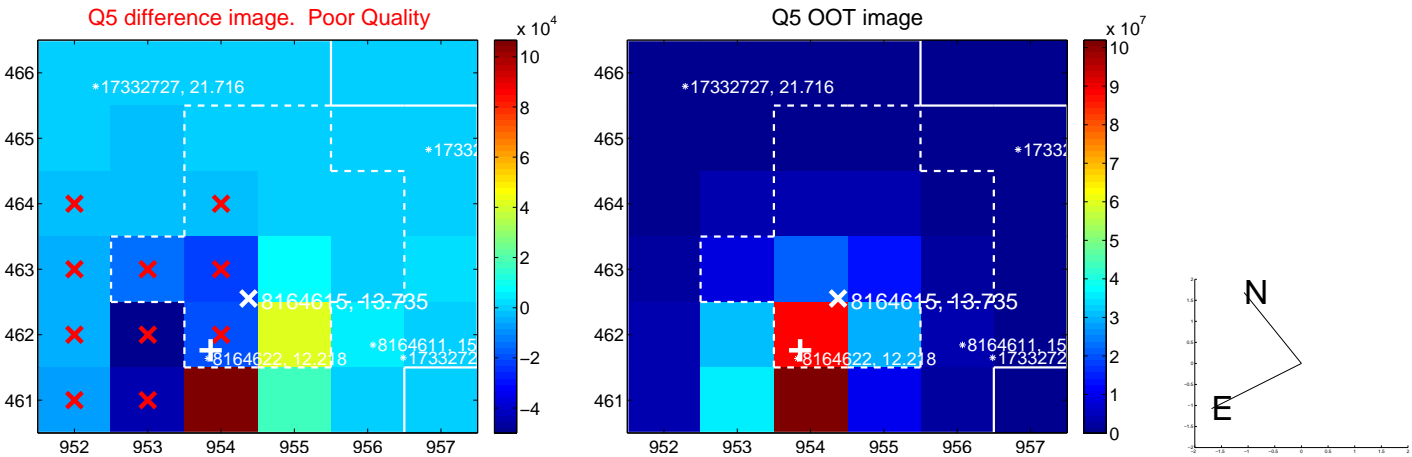


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

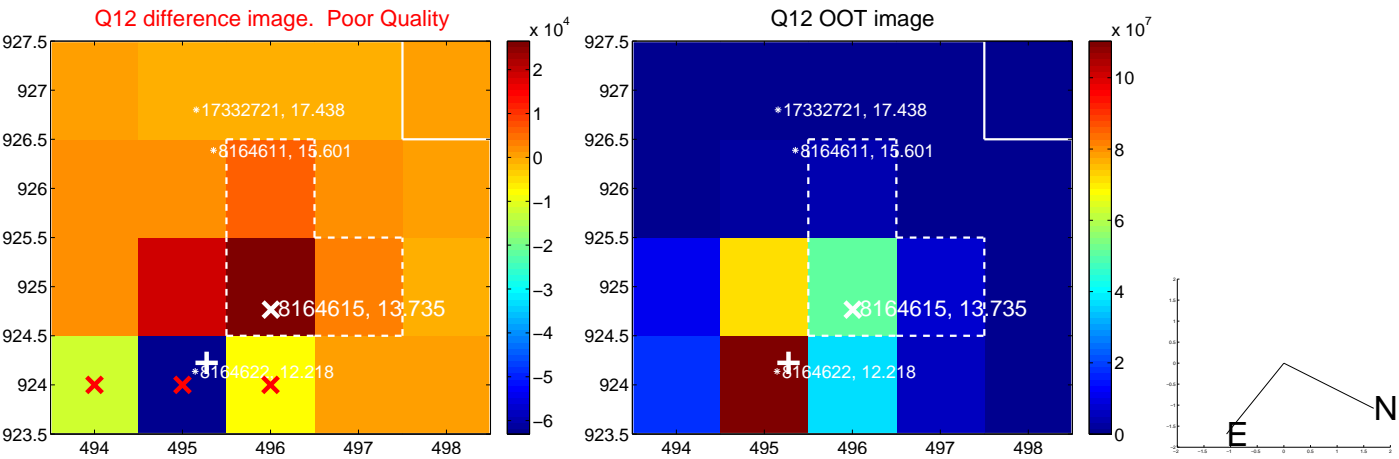
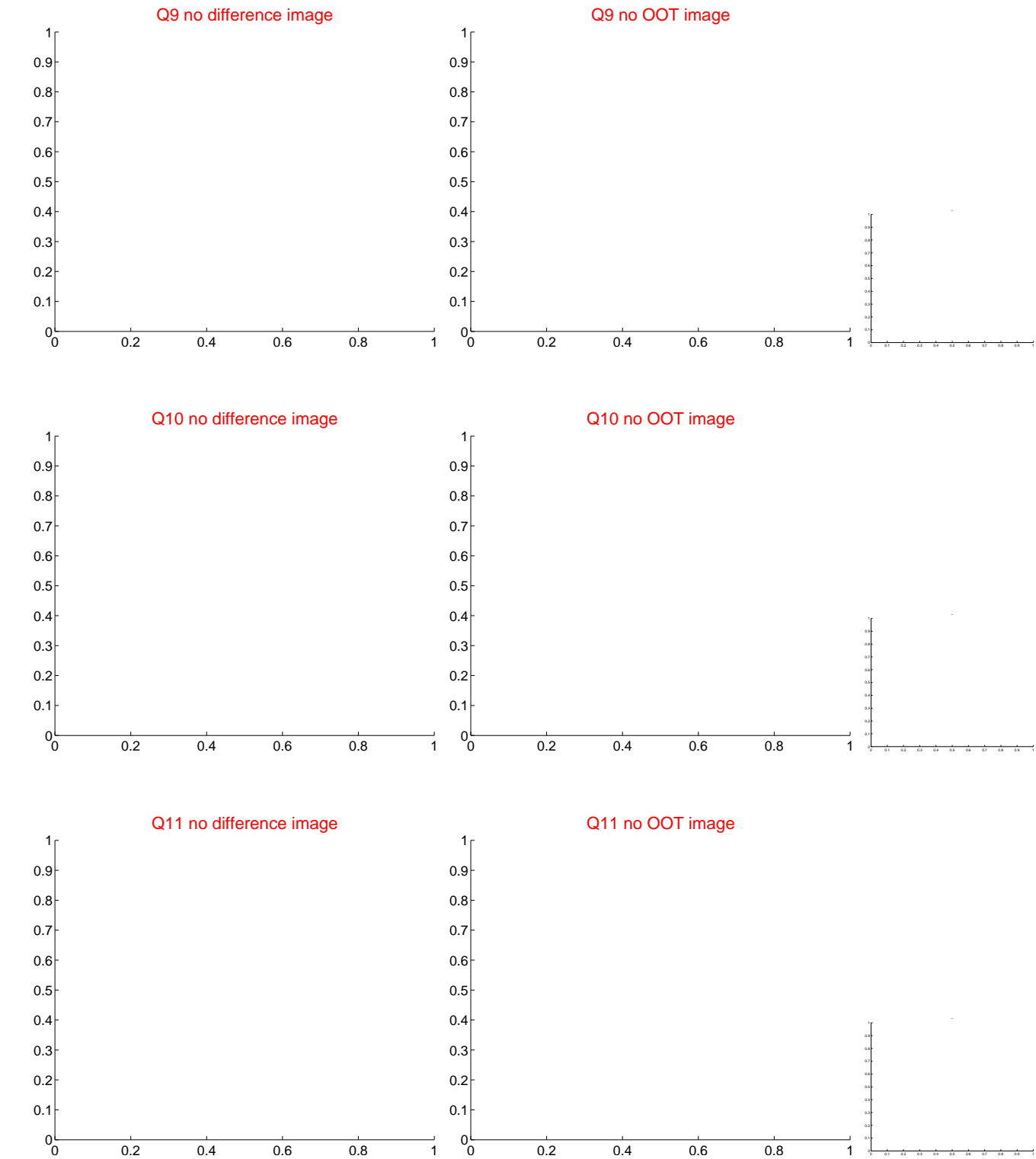
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



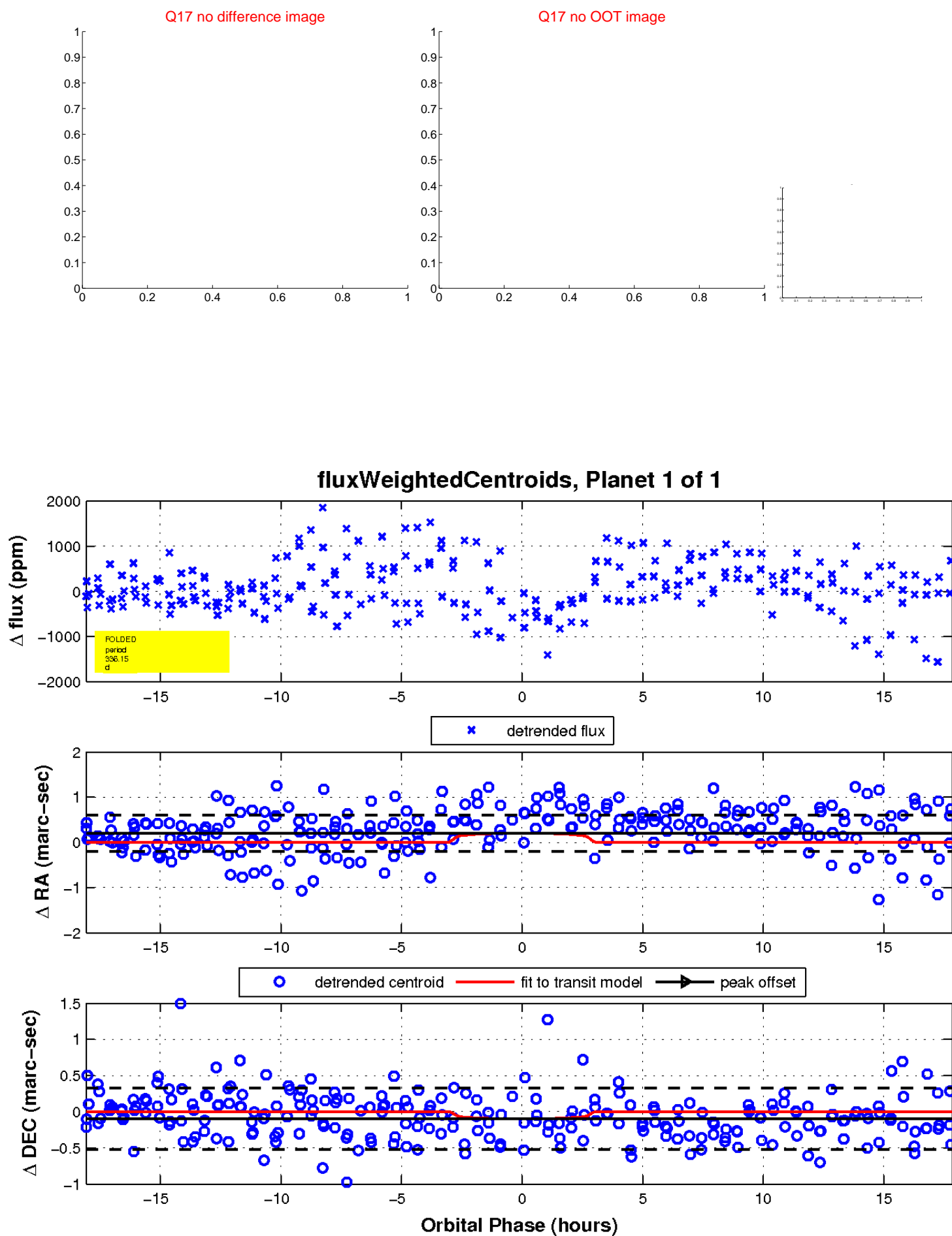
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

