

KIC 007664421

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})
007664421-01	OBS	No	253.077995	219.531971	756.7	3.889	7.9	7.2	0.89	5305	2.76	0.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007664421-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—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.

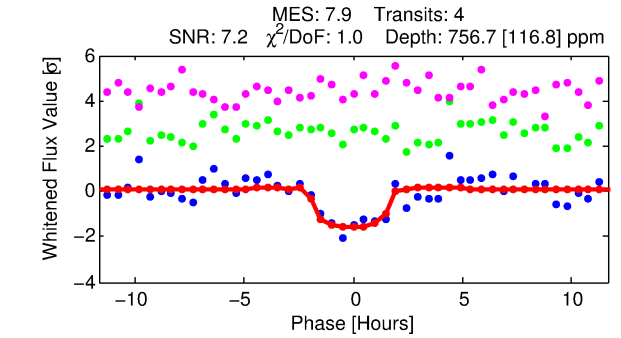
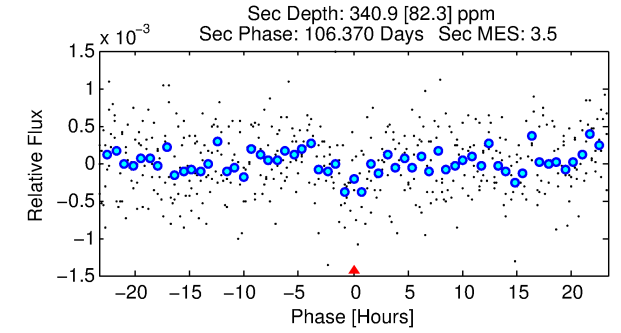
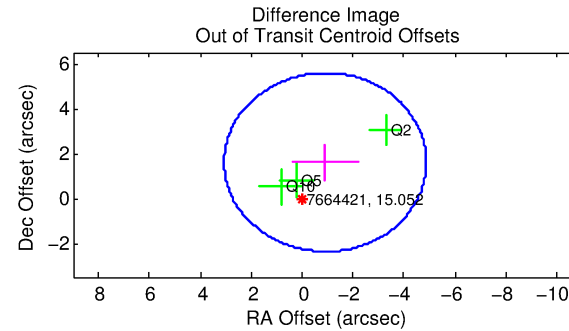
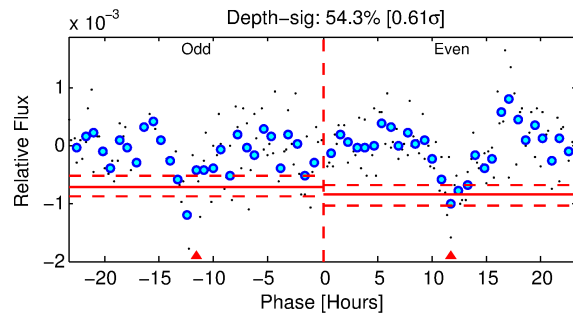
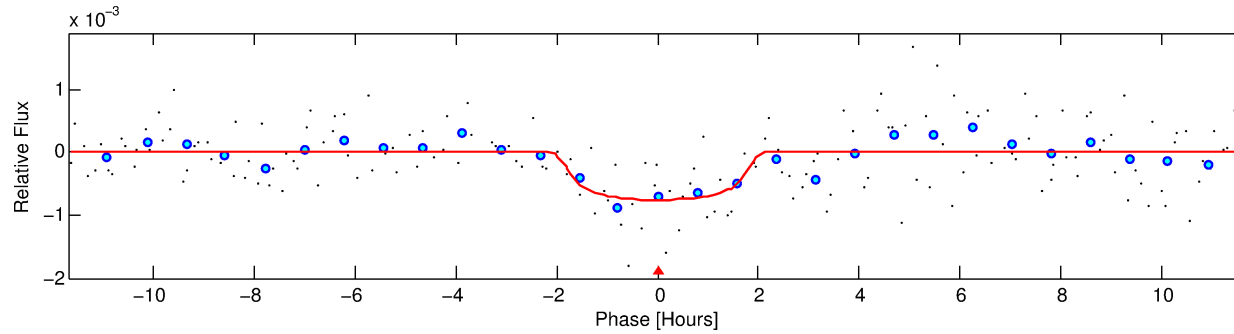
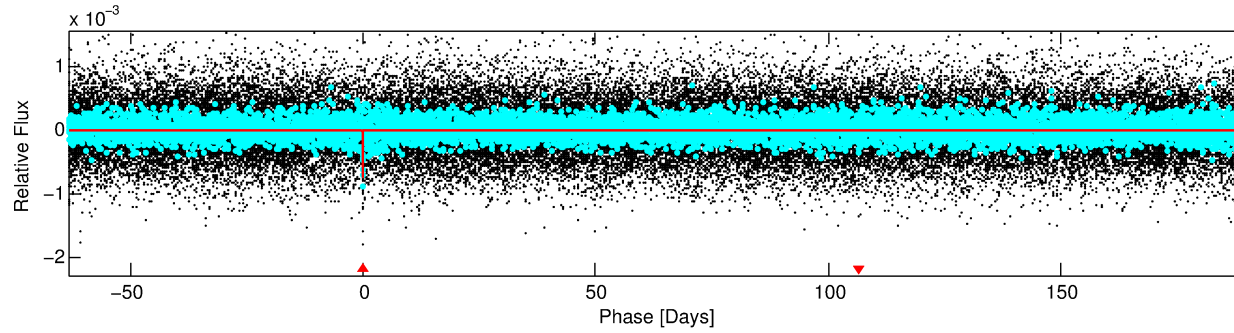
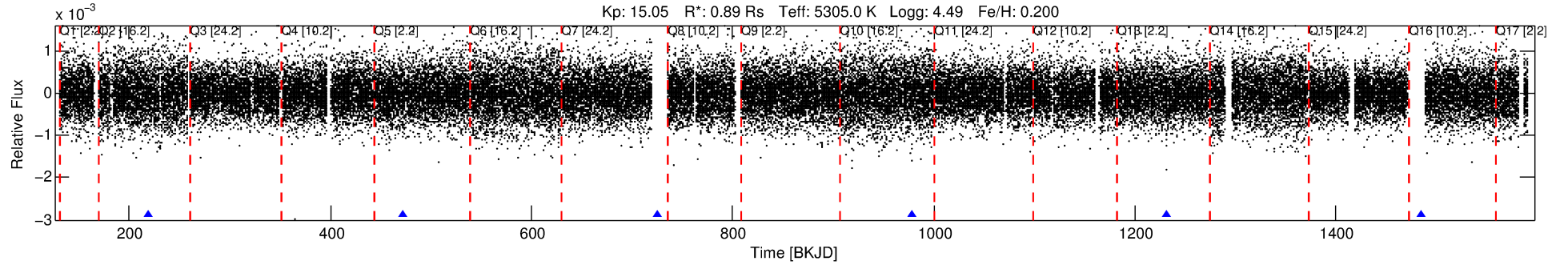
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007664421-01

No Significant Match Found

DV One-Page Summary

KIC: 7664421 Candidate: 1 of 1 Period: 253.078 d



DV Fit Results:

Period = 253.07800 [0.00435] d
Epoch = 219.5320 [0.0108] BKJD
Rp/R* = 0.0283 [0.0326]
a/R* = 316.17 [1379.59]
b = 0.81 [1.92]
Seff = 0.99 [0.27]
Teq = 255 [17] K
Rp = 2.76 [3.22] Re
a = 0.7553 [0.1179] AU
Ag = 14035.61 [32662.34] [0.43 σ]
Teffp = 4285 [2484] K [1.62 σ]

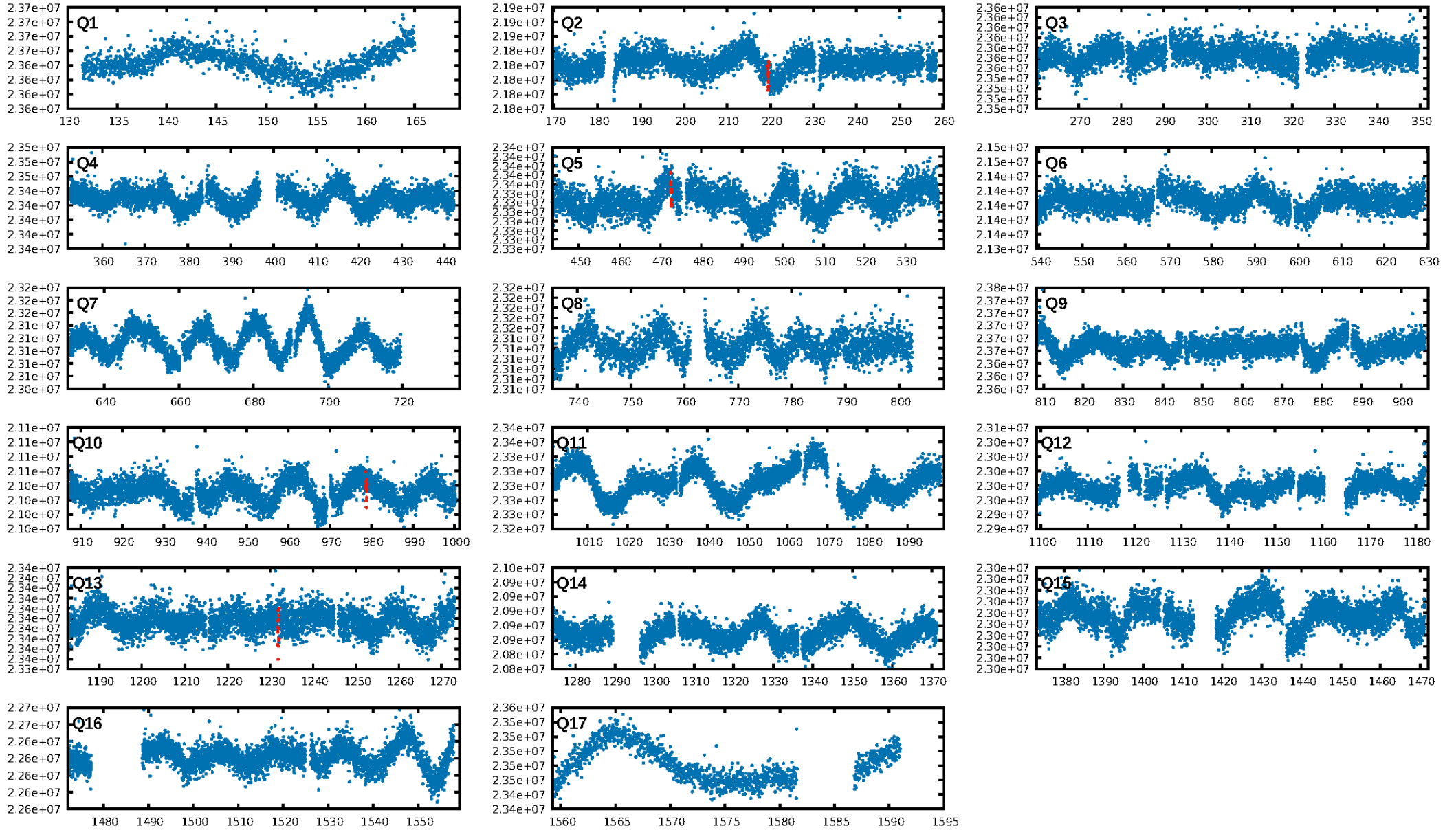
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 44.2%
ModelChiSquareGof-sig: 98.6%
Bootstrap-pfa: 1.27e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 9.386
Centroid-sig: 67.0%
Centroid-so: 1.132 arcsec [0.59 σ]
OotOffset-rm: 1.845 arcsec [1.39 σ]
KicOffset-rm: 1.926 arcsec [1.58 σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

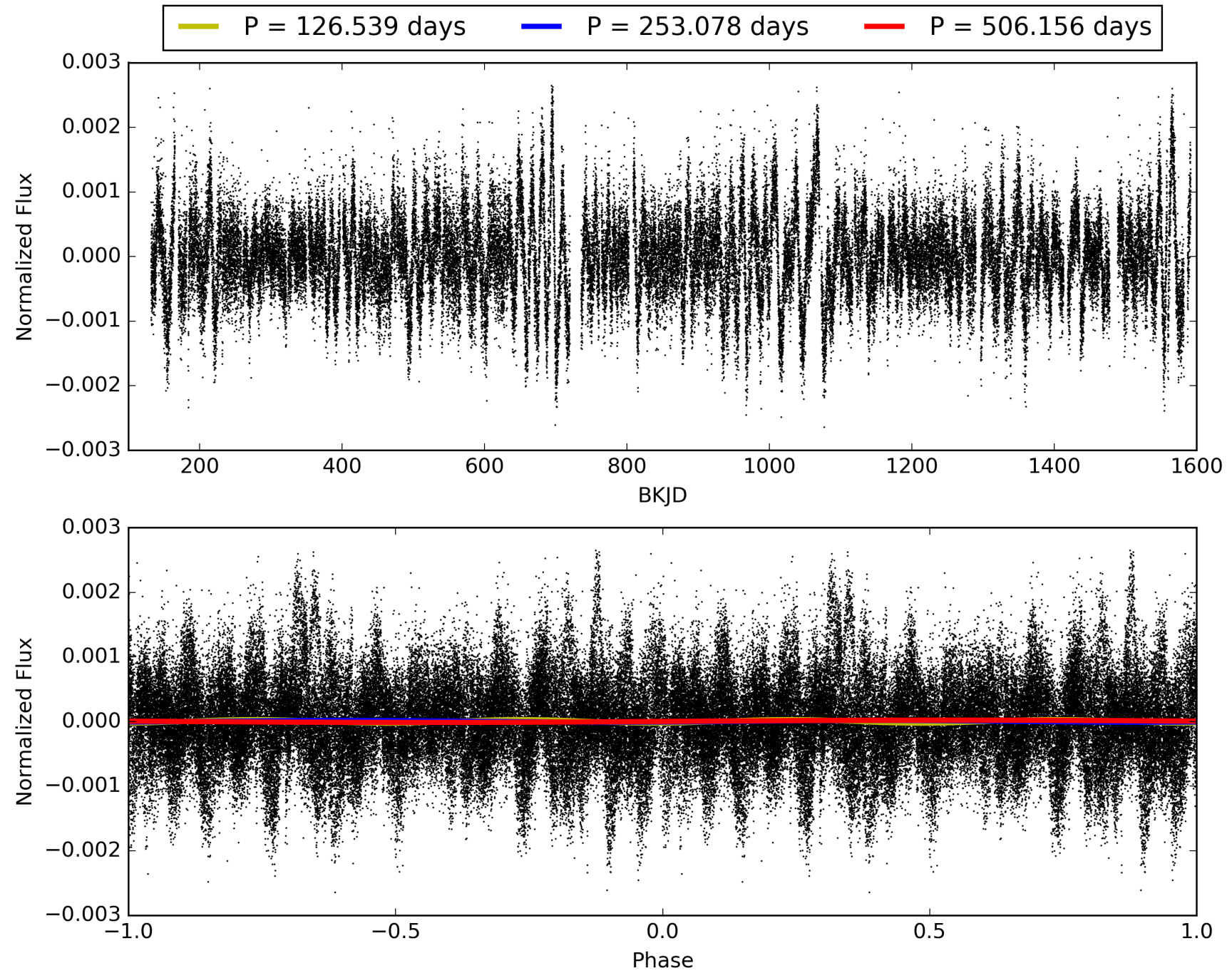
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:48:35 Z

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

TCE 007664421-01, PDC Light Curves

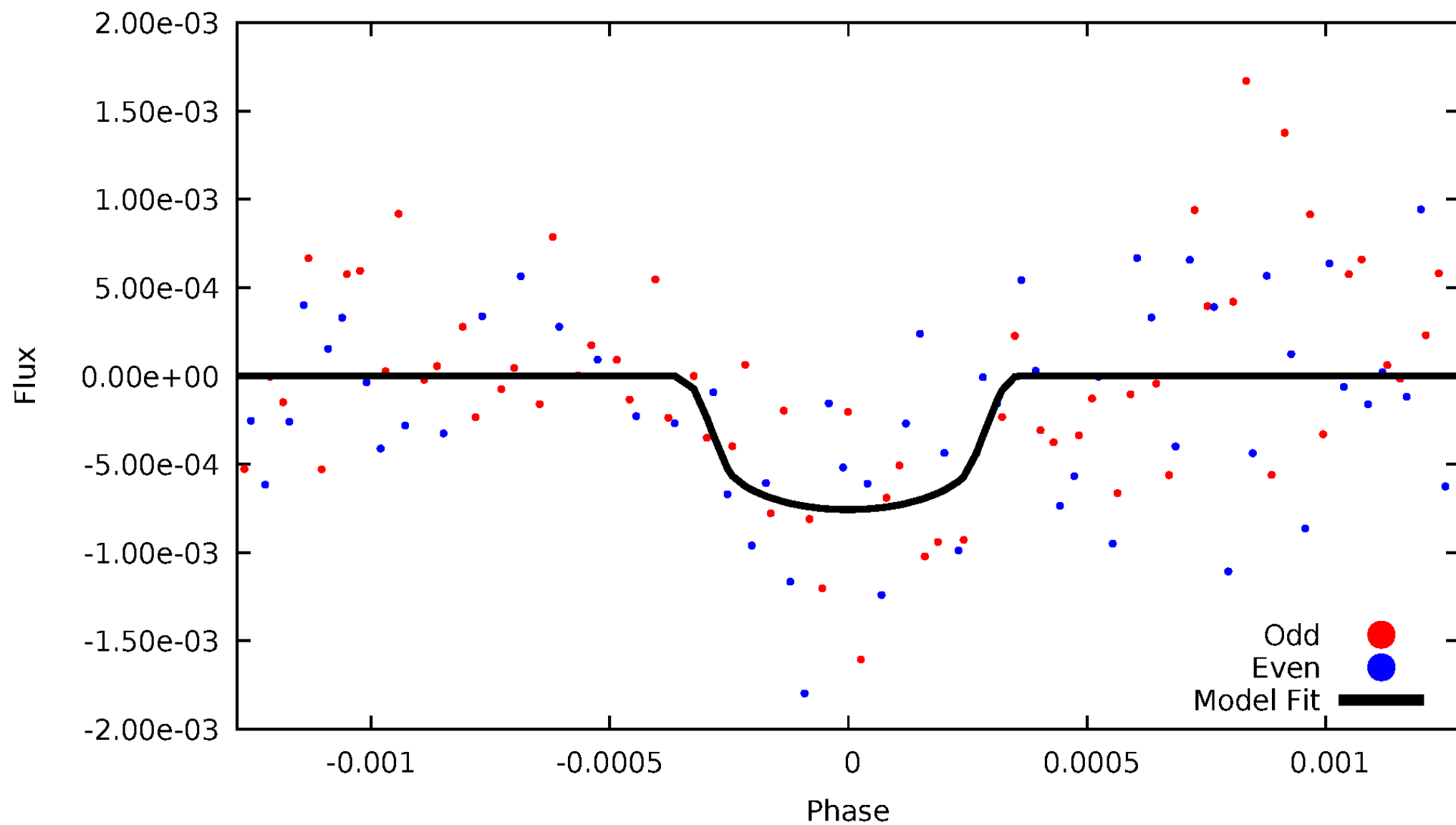


TCE 007664421-01



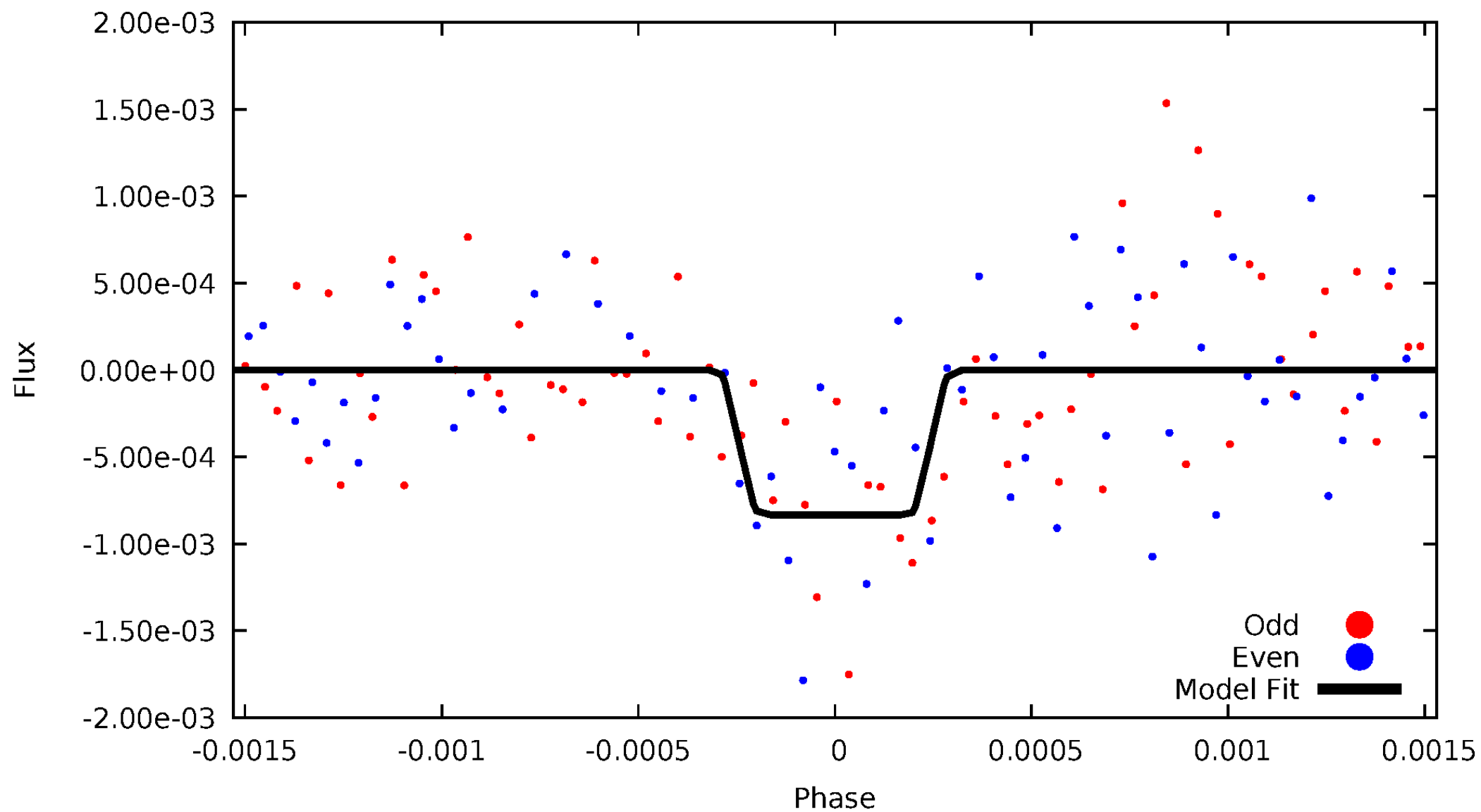
DV Odd/Even

TCE 007664421-01



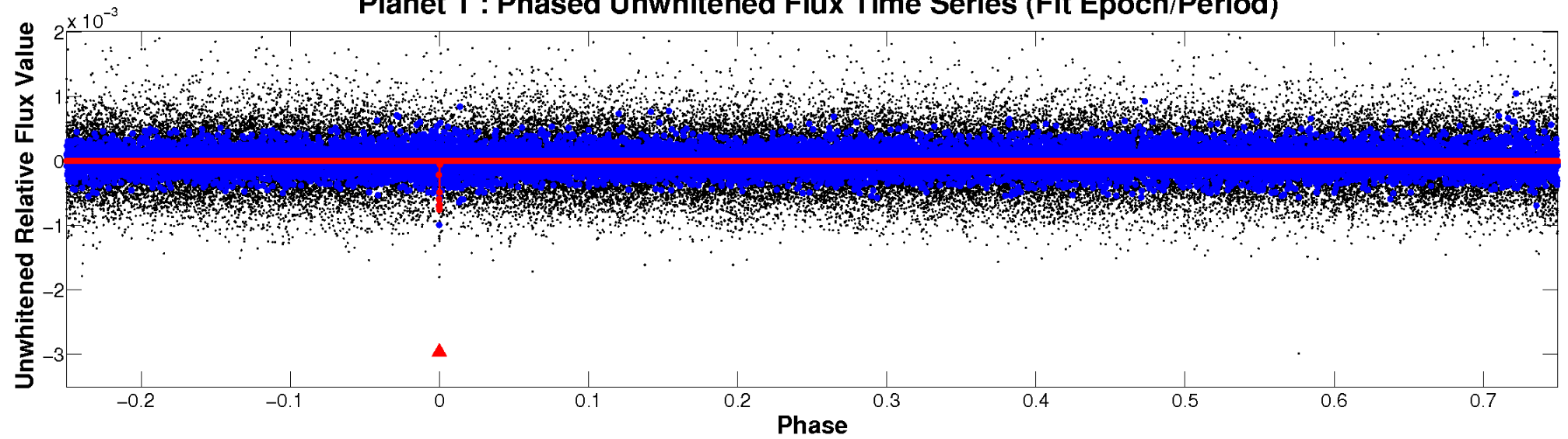
ALT Odd/Even

TCE 007664421-01

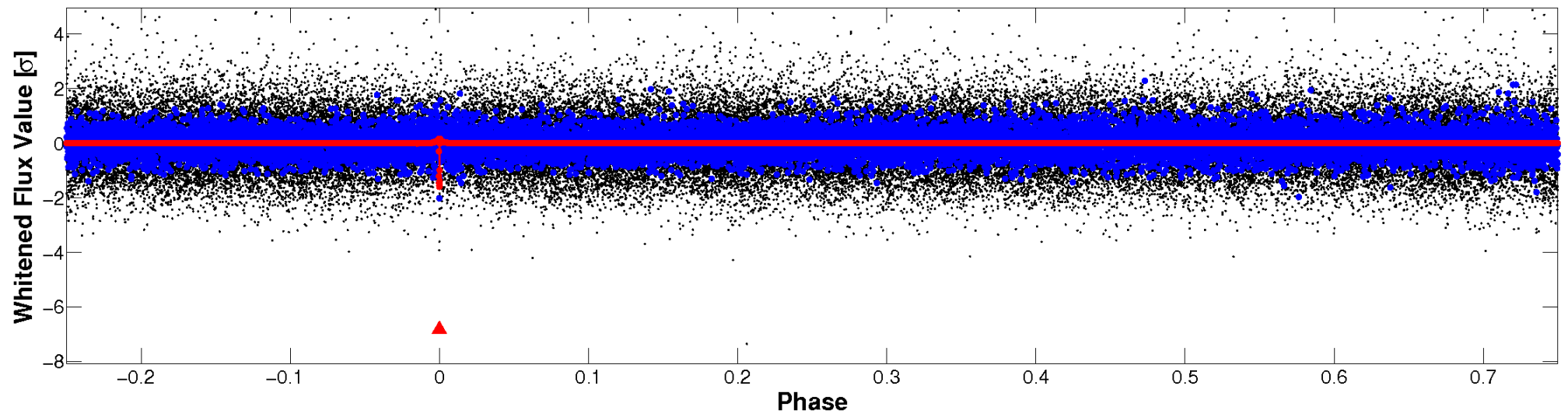


Non-Whitened Vs. Whitened Light Curve

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

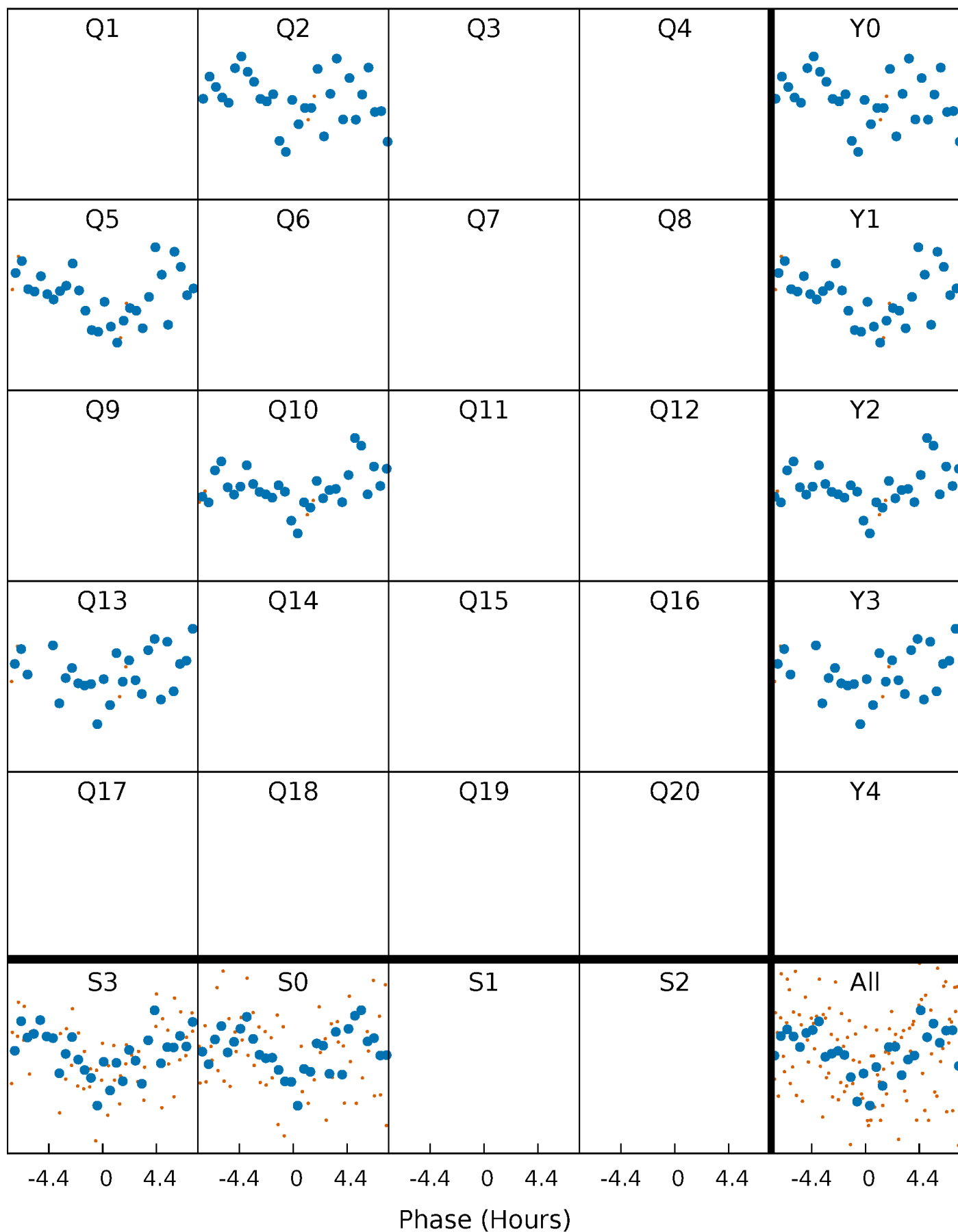


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



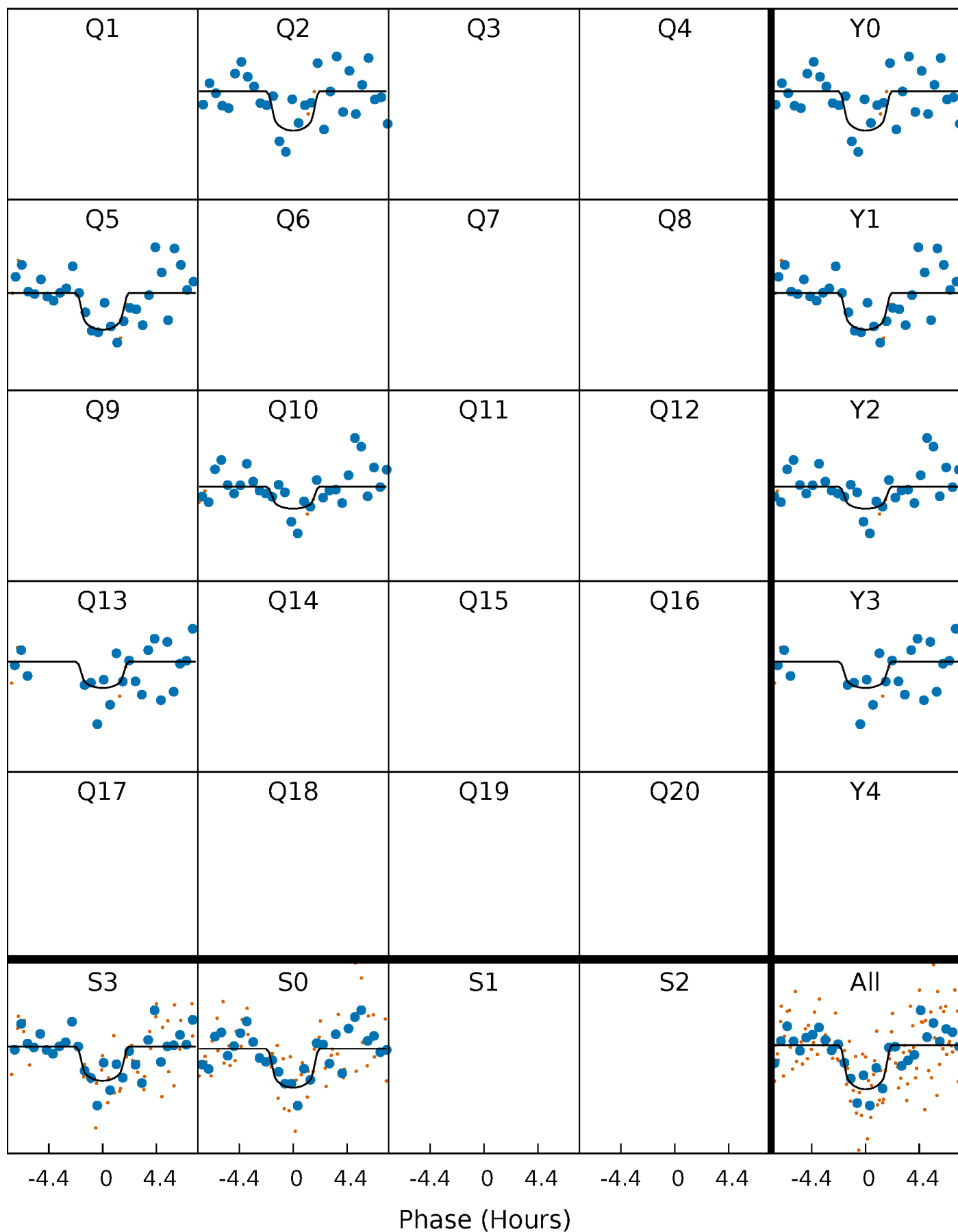
PDC Quarter-Phased Transit Curves

TCE 007664421-01 P=253.077995 Days $T_0=219.531971$ (BKJD)



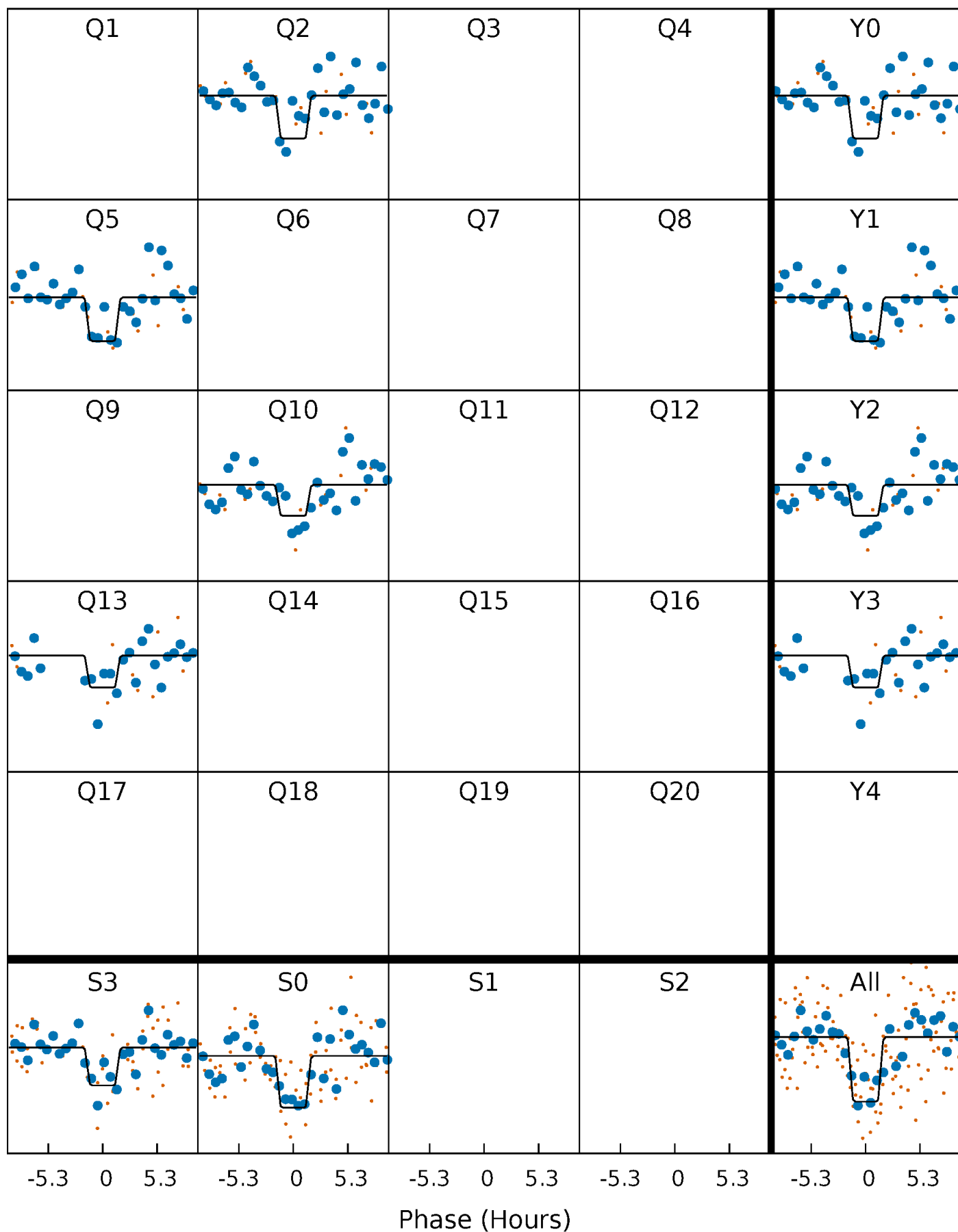
DV Quarter-Phased Transit Curves

TCE 007664421-01 P=253.077995 Days $T_0=219.531971$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

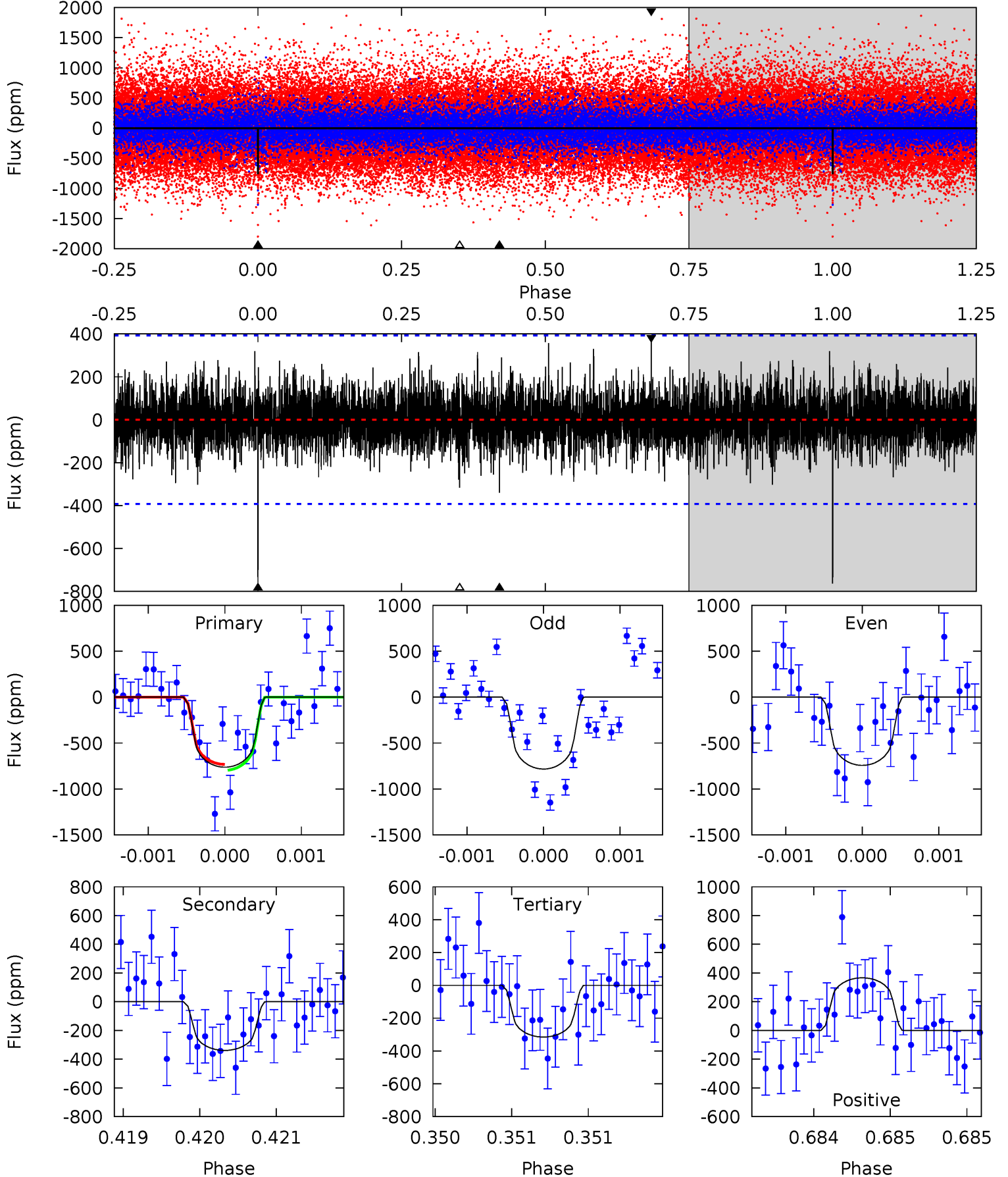
TCE 007664421-01 P=253.077526 Days $T_0=219.531139$ (BKJD)



DV Model-Shift Uniqueness Test

007664421-01, P = 253.077995 Days, E = 219.531971 Days

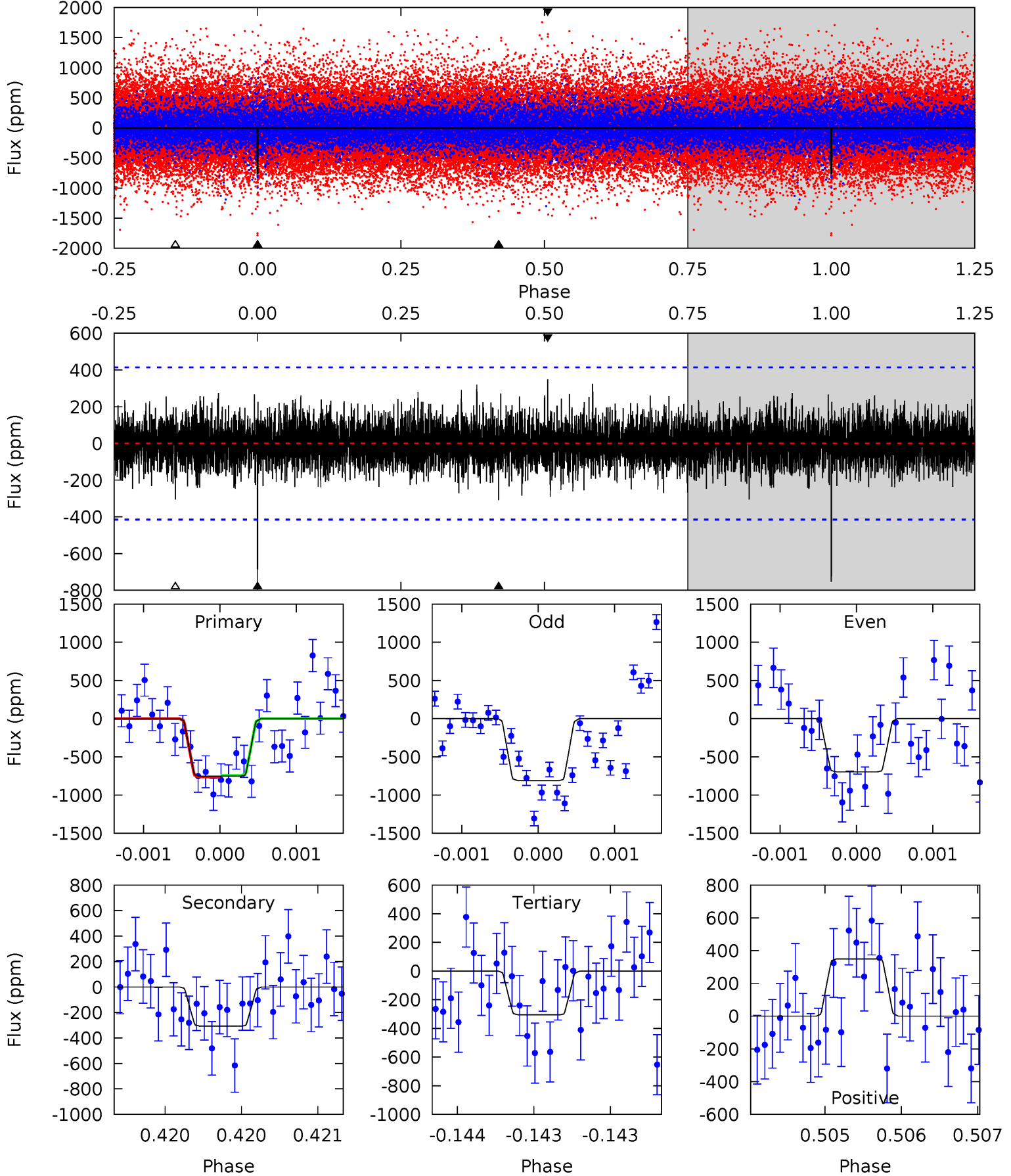
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	4.77	4.44	5.16	5.52	3.40	1.23	6.30	5.58	0.33	-0.39	0.28	0.97	0.32	0.44



Alt Model-Shift Uniqueness Test

007664421-01, P = 253.077526 Days, E = 219.531139 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	4.11	4.08	4.67	5.54	3.43	1.09	5.99	5.40	0.03	-0.56	0.76	0.97	0.32	0.12



Stellar Parameters For KIC 007664421

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5305^{+175}_{-159}	$4.488^{+0.070}_{-0.130}$	$0.200^{+0.200}_{-0.300}$	$0.894^{+0.161}_{-0.087}$	$0.897^{+0.071}_{-0.079}$	$1.769^{+0.521}_{-0.674}$
	+3%/-3%	+2%/-3%	+100%/-150%	+18%/-10%	+8%/-9%	+29%/-38%
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 007664421-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-339 ± 71	$3.68^{+2.95}_{-2.40}$	359^{+20}_{-17}	4037^{+2184}_{-739}	7695^{+56555}_{-5434}
Alt.	-308 ± 75	$3.69^{+3.08}_{-2.41}$	359^{+18}_{-15}	3932^{+2097}_{-694}	7120^{+48504}_{-5139}

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

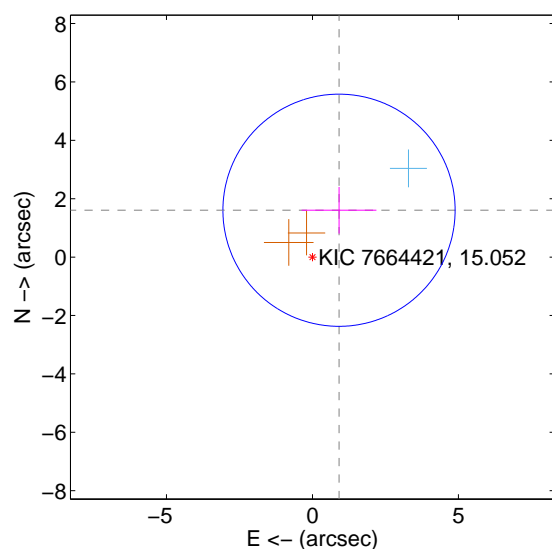
Supplemental centroid analysis for 007664421-01. Kepler magnitude: 15.05. Transit SNR 7.23

There are 1 quarters with good PRF difference image offsets

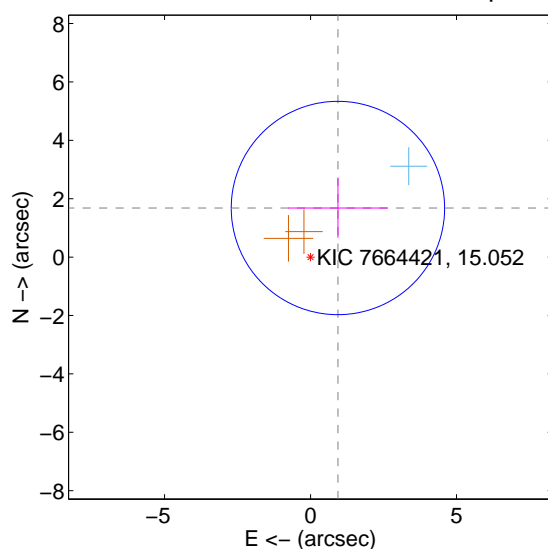
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.845 ± 1.326	1.39	-0.911 ± 1.282	1.605 ± 0.799
PRF-fit source offset from KIC position	1.926 ± 1.218	1.58	-0.939 ± 1.708	1.681 ± 1.018
photometric centroid source offset	1.13 ± 1.93	0.59	-1.10 ± 1.93	0.25 ± 1.88

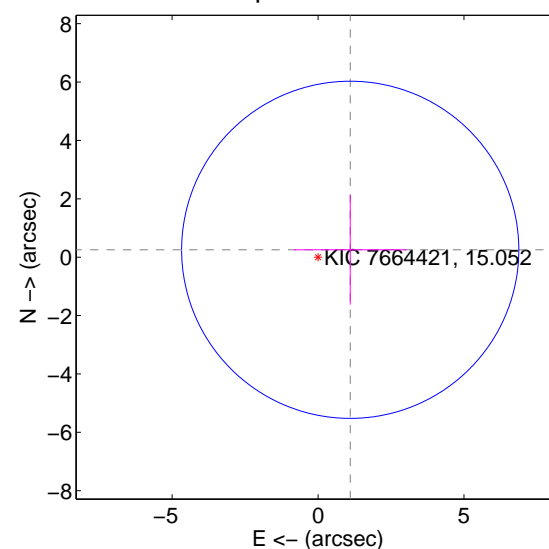
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

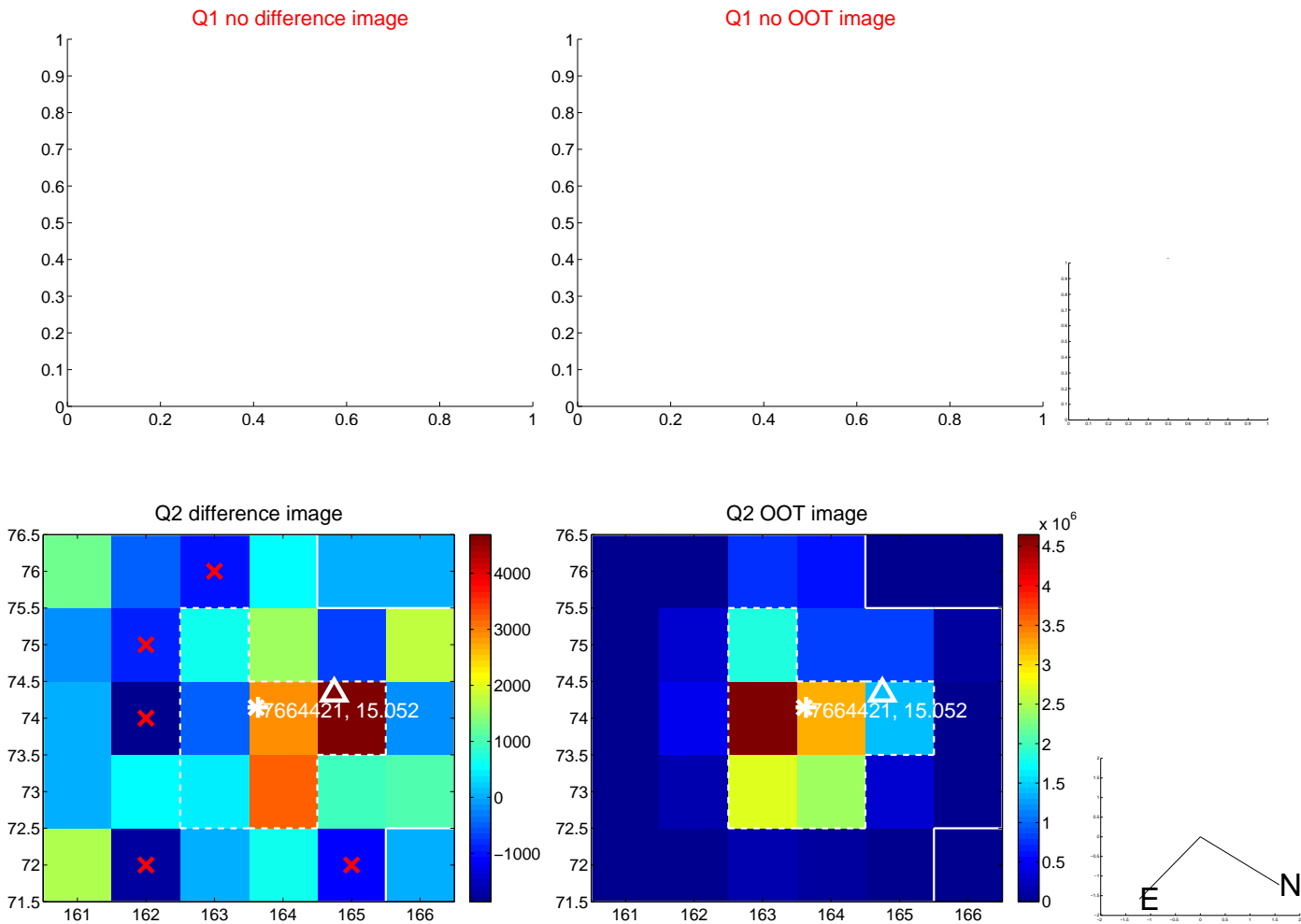


offset from photometric centroids

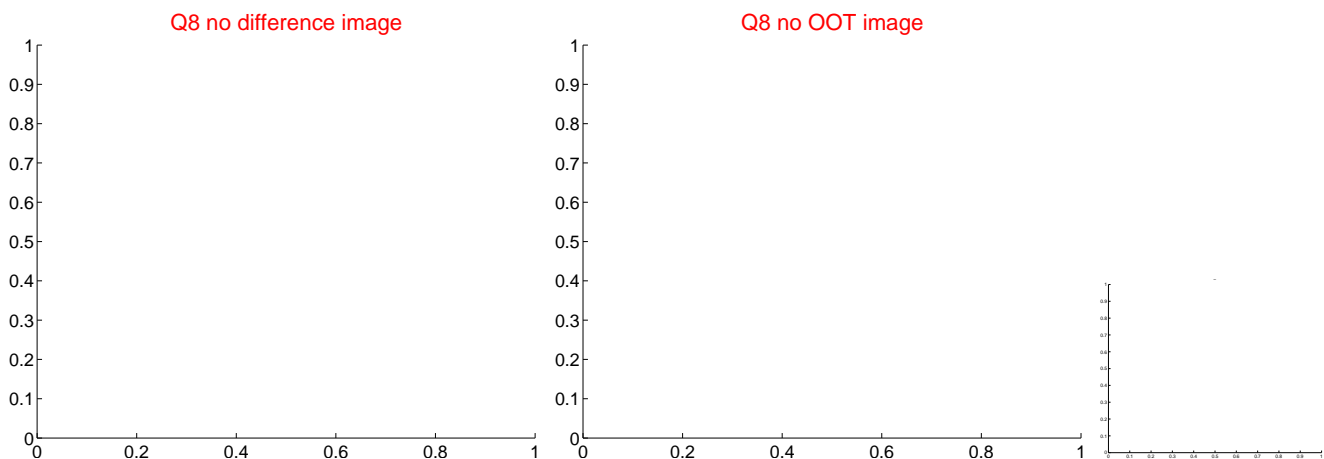
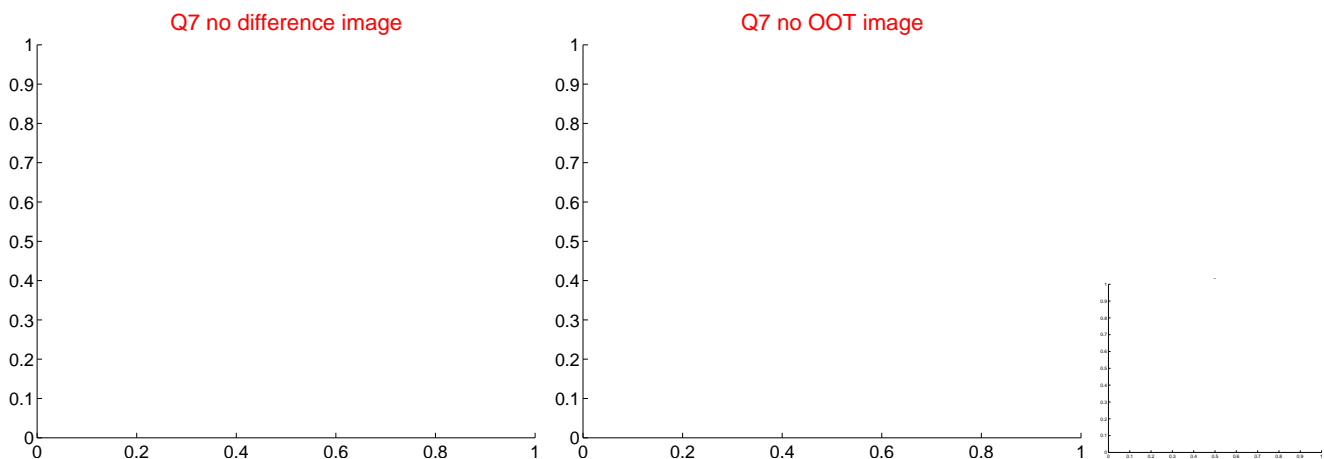
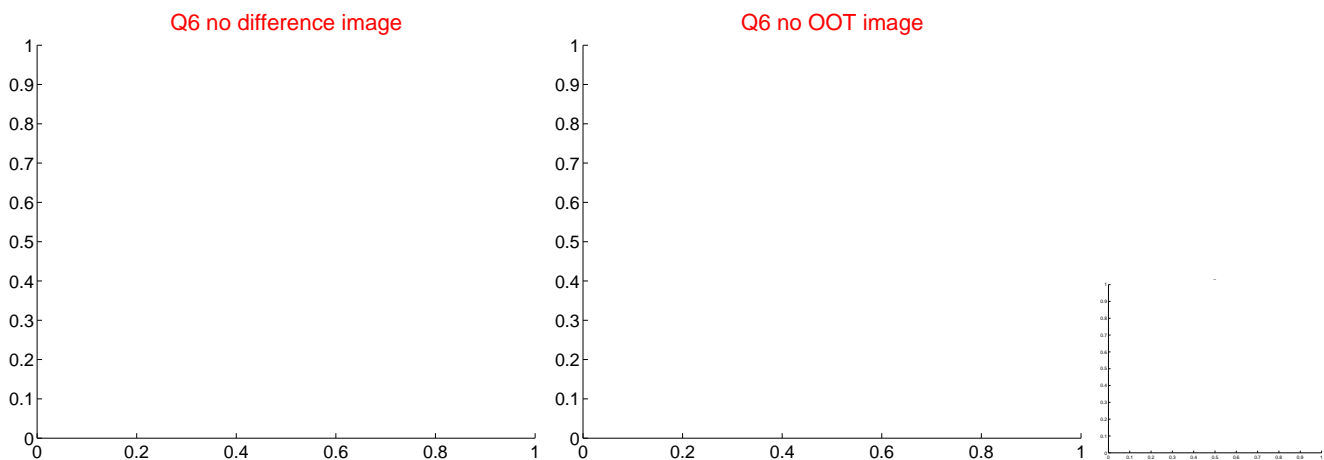
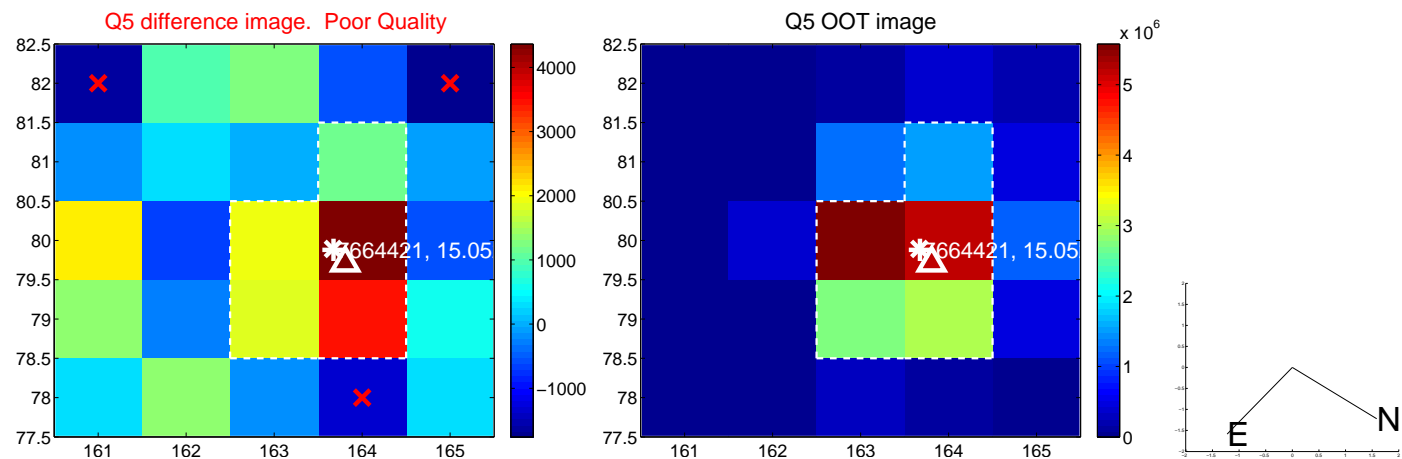


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

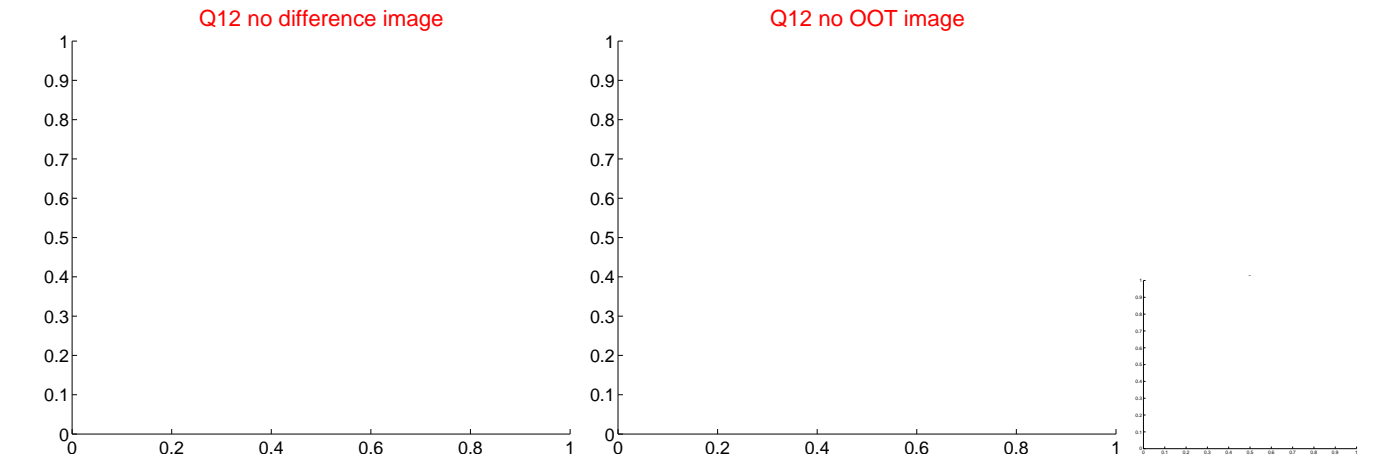
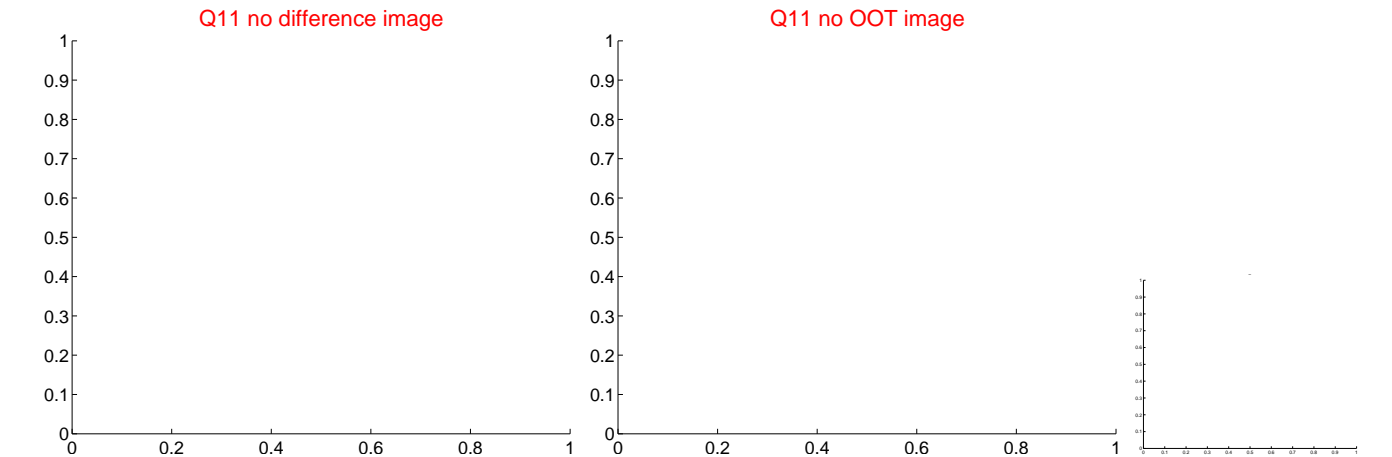
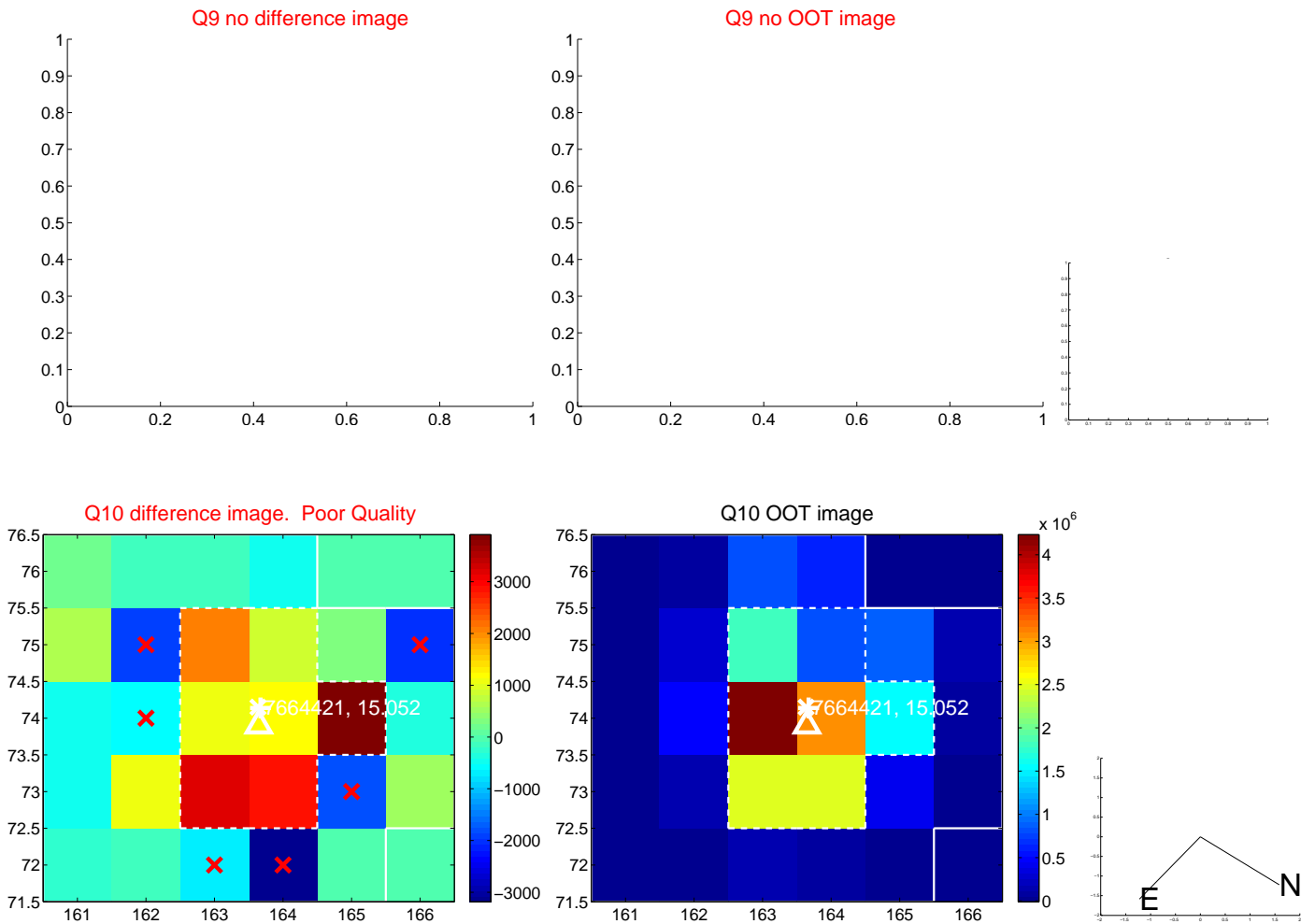
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



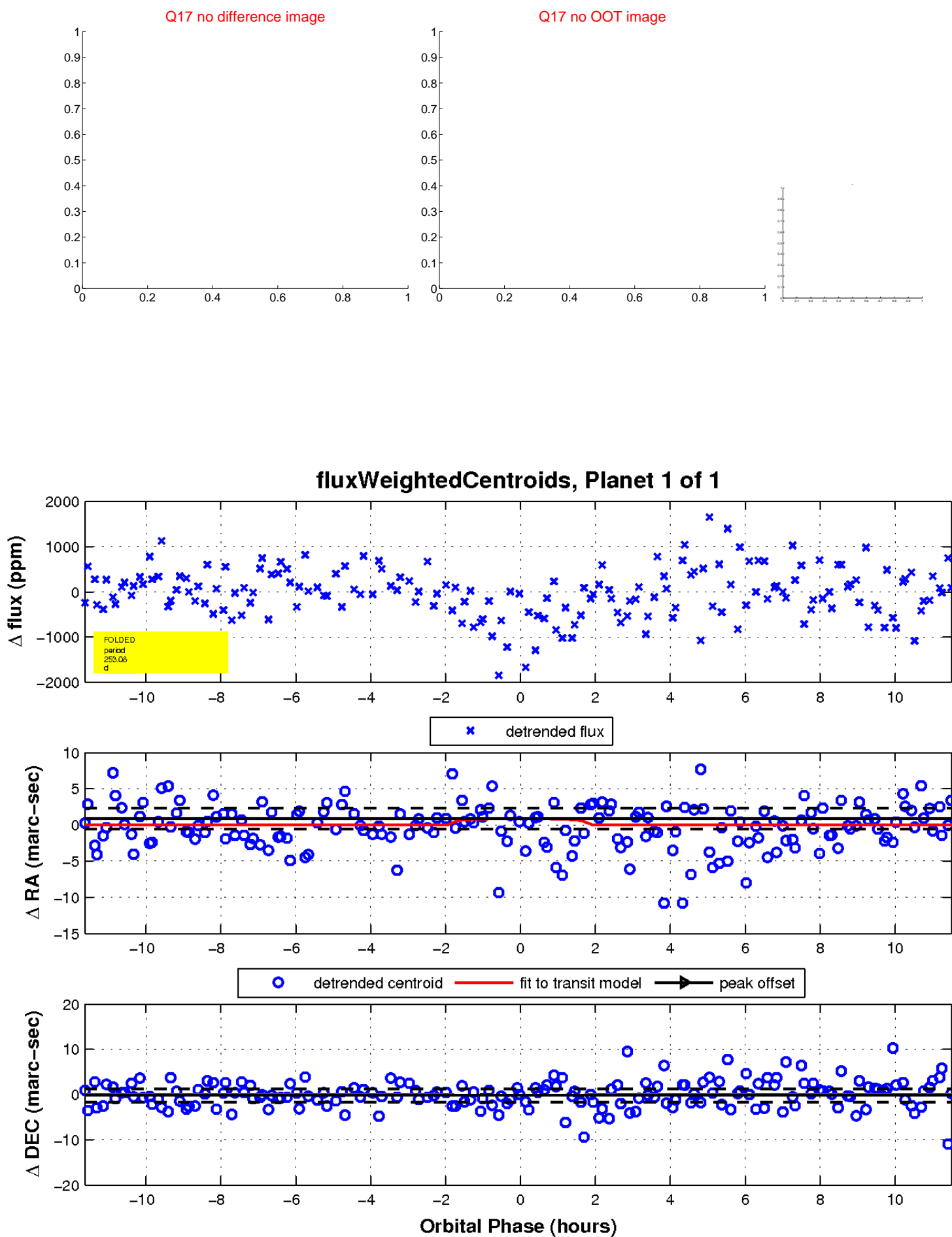
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

