

KIC 004825003

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})
004825003-01	OBS	No	390.930312	485.839189	317.6	7.209	10.0	6.8	0.67	5158	1.28	0.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004825003-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—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.

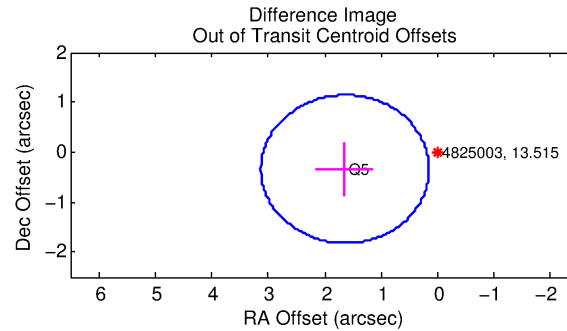
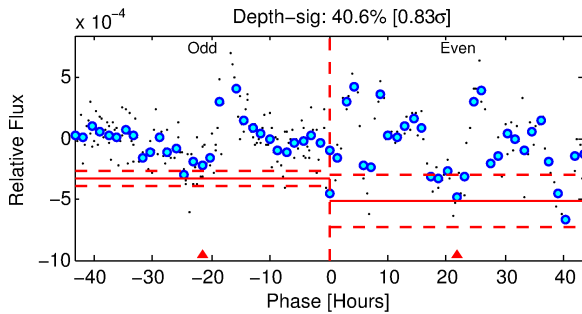
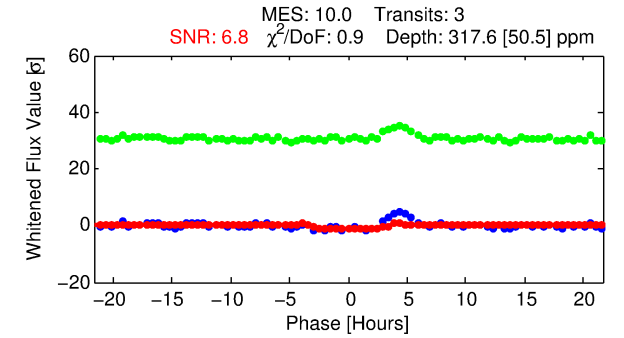
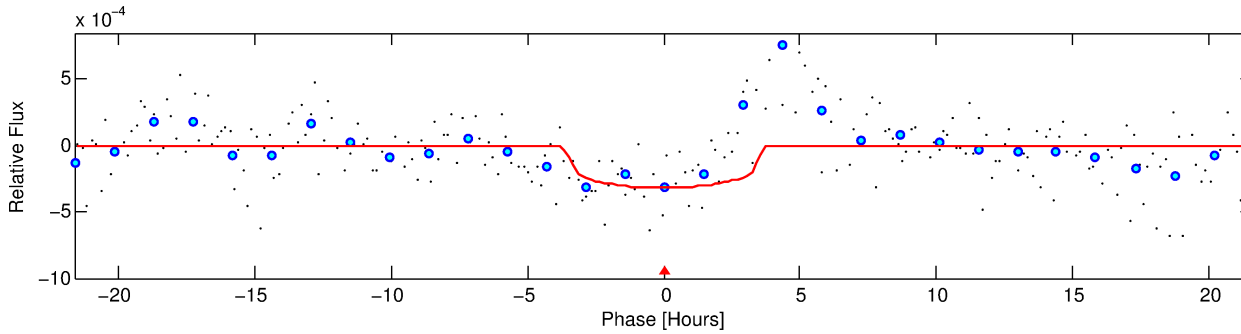
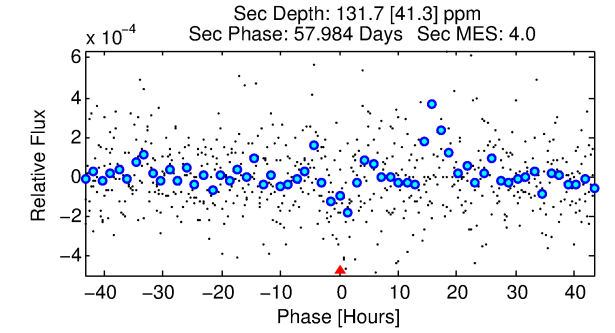
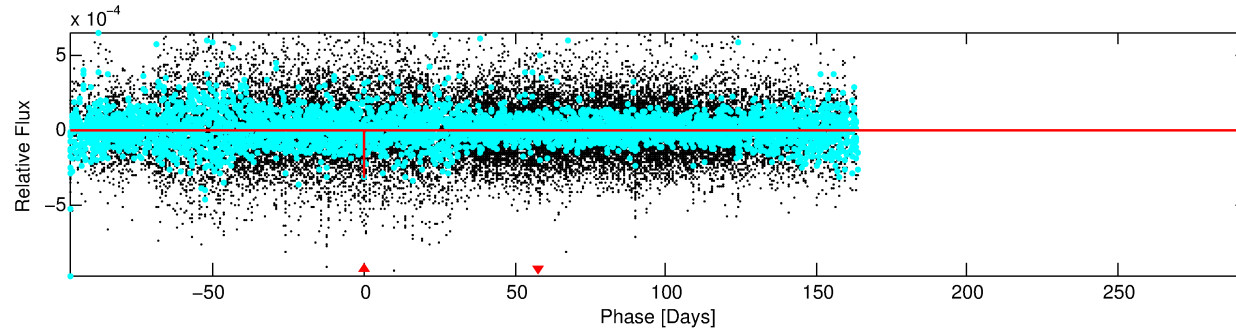
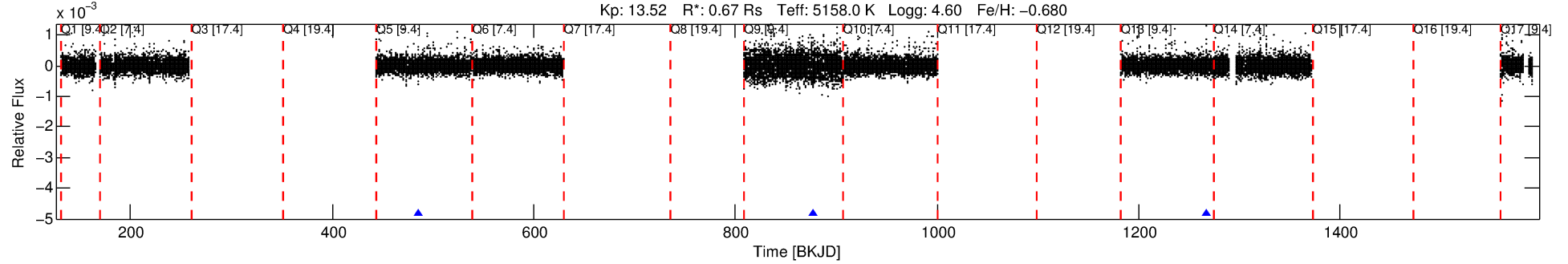
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004825003-01

No Significant Match Found

DV One-Page Summary

KIC: 4825003 Candidate: 1 of 1 Period: 390.930 d



DV Fit Results:

Period = 390.93031 [0.00911] d
Epoch = 485.8392 [0.0131] BKJD
Rp/R* = 0.0174 [0.0203]
a/R* = 307.94 [1449.76]
b = 0.69 [3.55]
Seff = 0.35 [0.07]
Teq = 196 [9] K
Rp = 1.28 [1.50] Re
a = 0.9073 [0.0798] AU
Ag = 36601.66 [86474.85] [0.42 σ]
Teffp = 4191 [2476] K [1.61 σ]

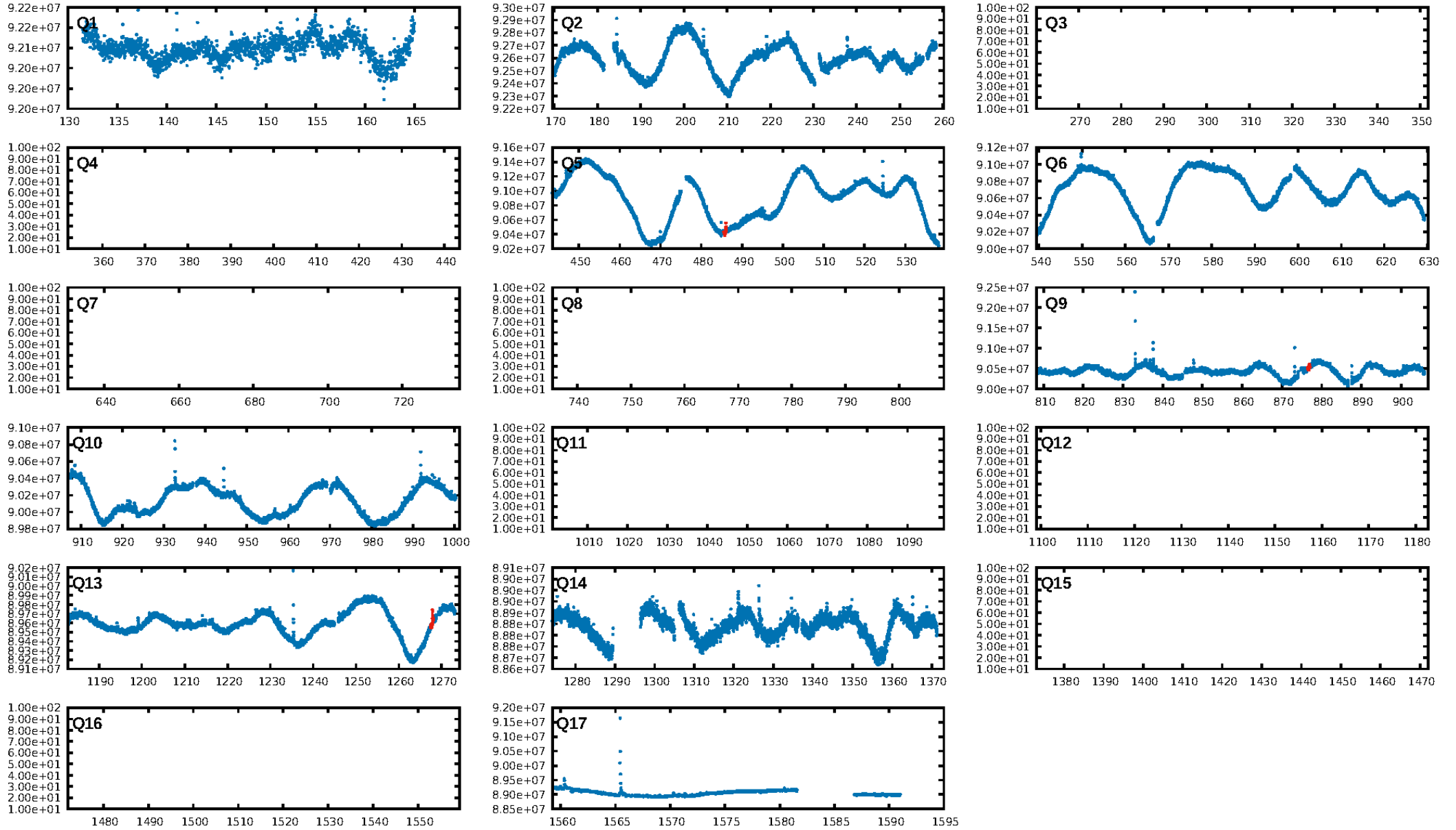
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 89.3%
ModelChiSquareGof-sig: 98.9%
Bootstrap-pfa: 5.40e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7336
Centroid-sig: 76.2%
Centroid-so: 0.573 arcsec [0.52 σ]
OotOffset-rm: 1.675 arcsec [3.38 σ]
KicOffset-rm: 1.638 arcsec [3.31 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

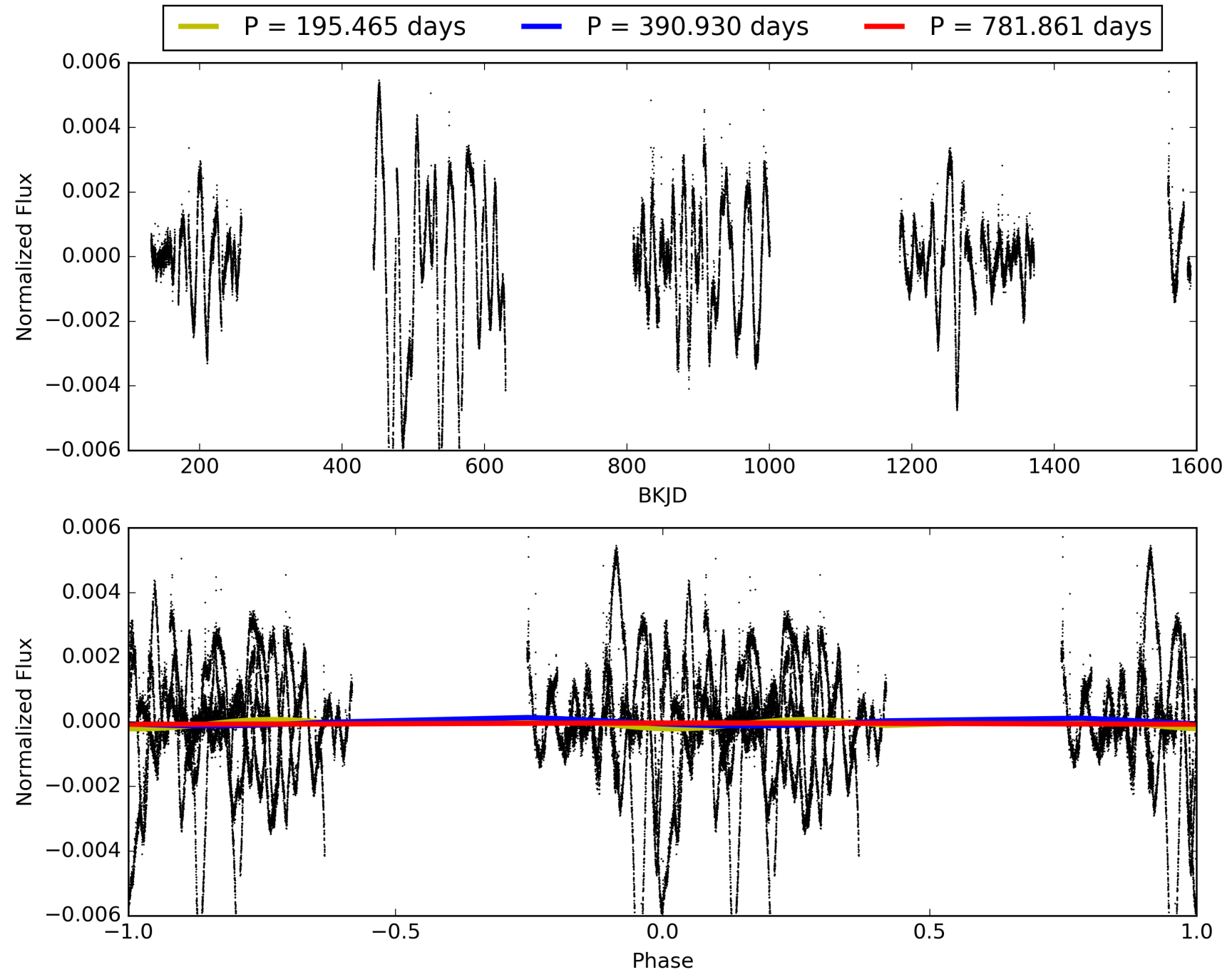
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:41:00 Z

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

TCE 004825003-01, PDC Light Curves

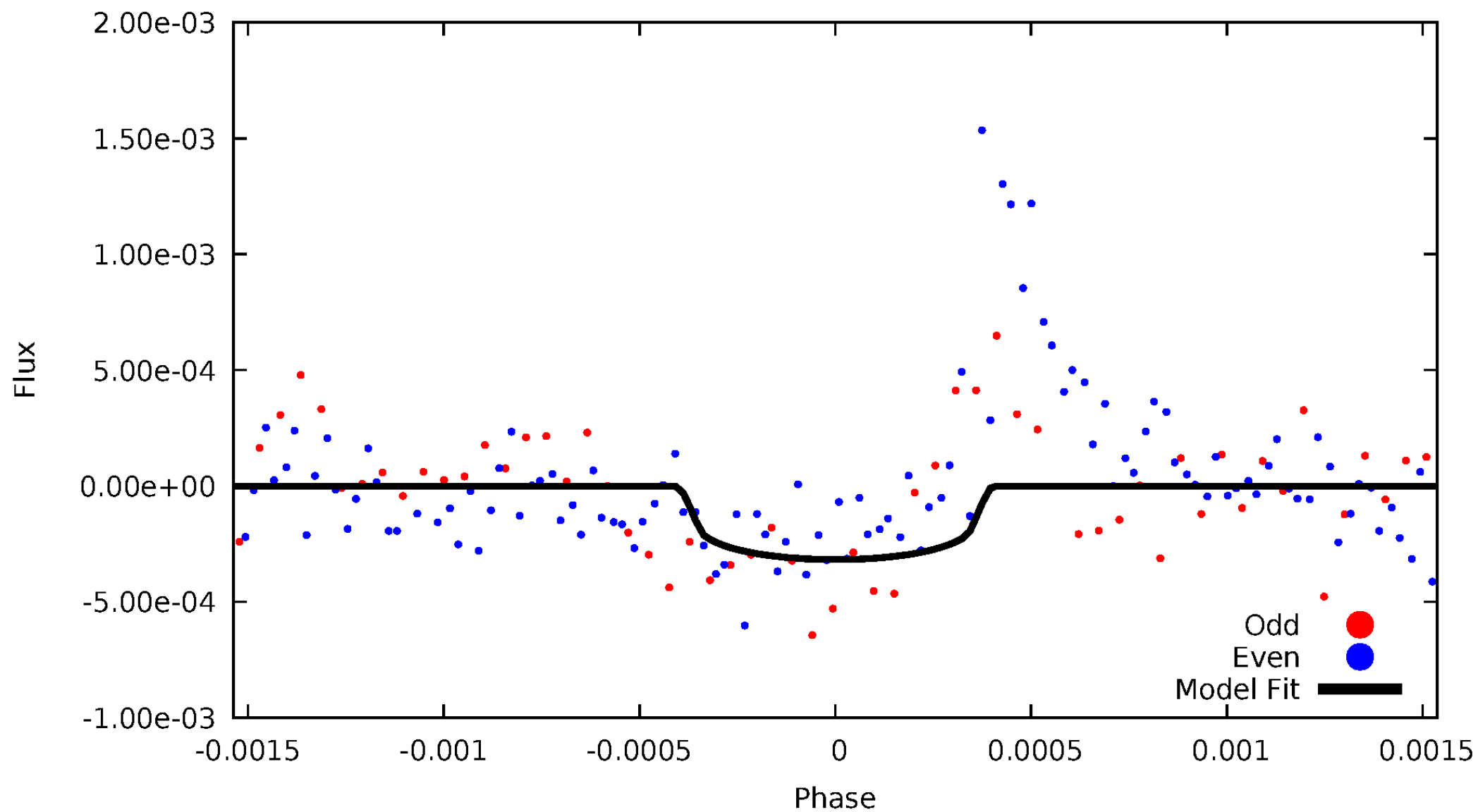


TCE 004825003-01



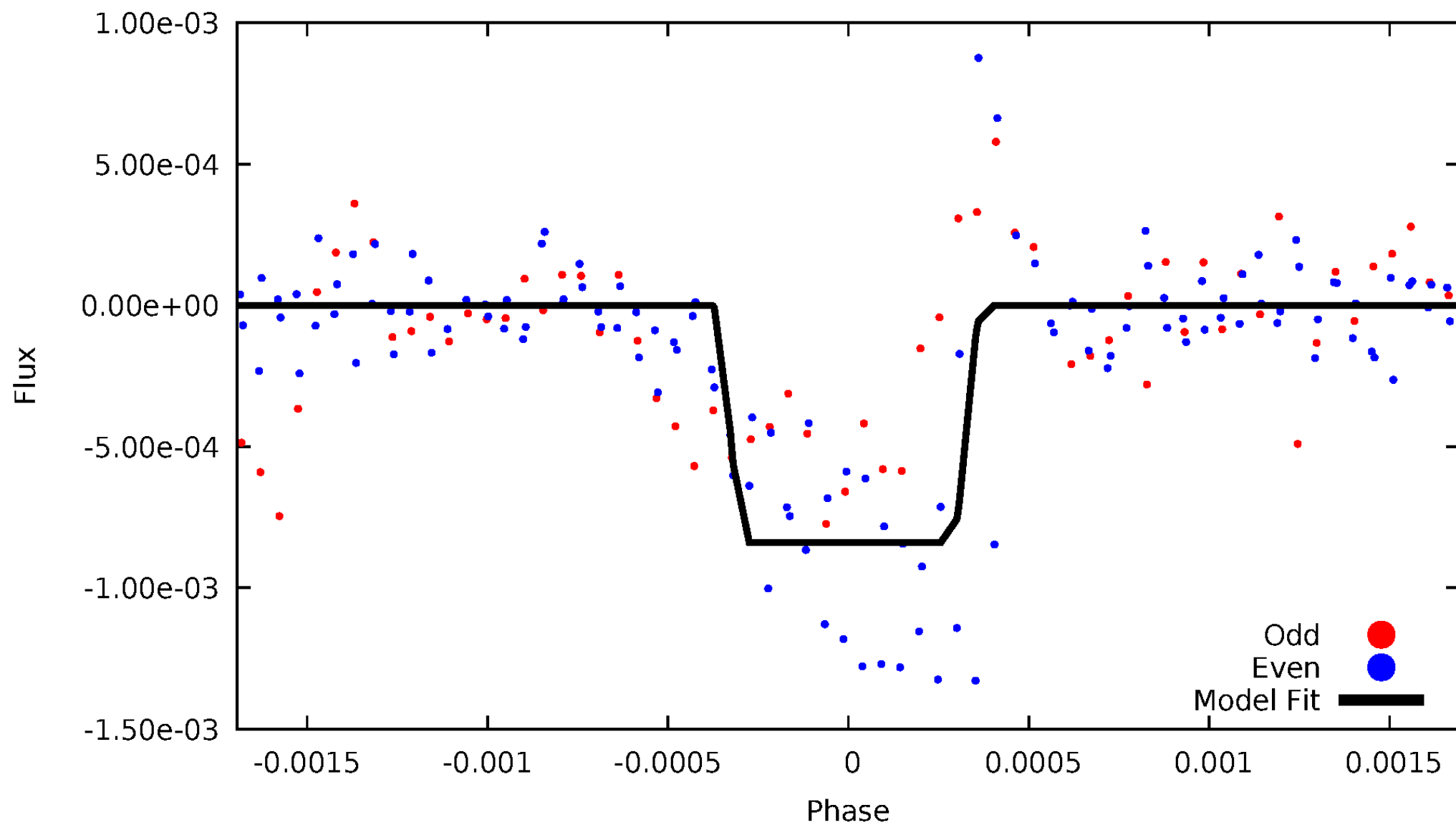
DV Odd/Even

TCE 004825003-01



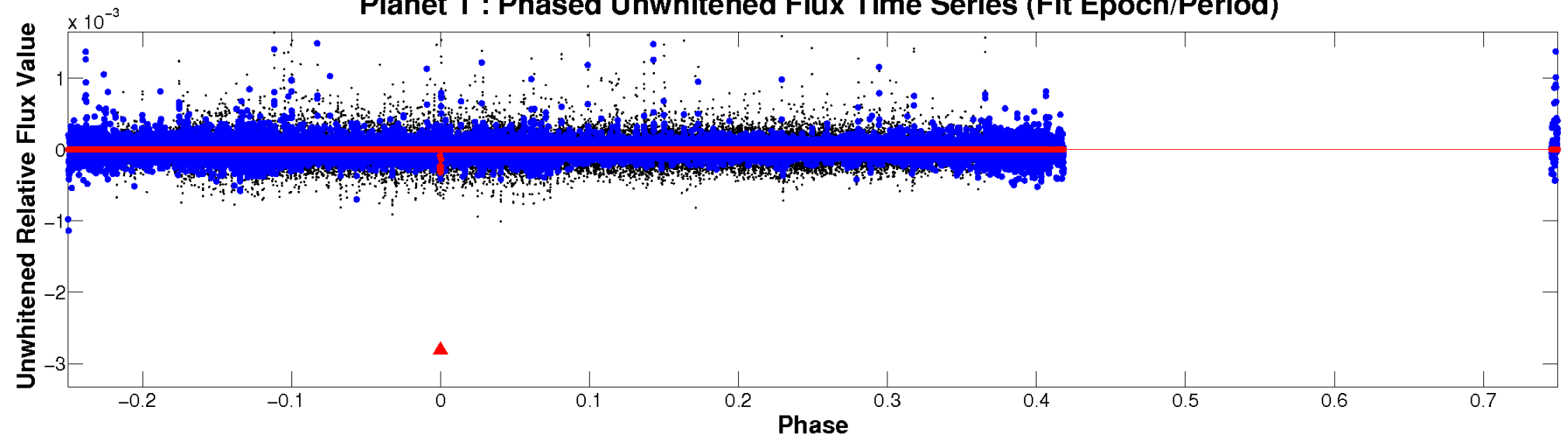
ALT Odd/Even

TCE 004825003-01

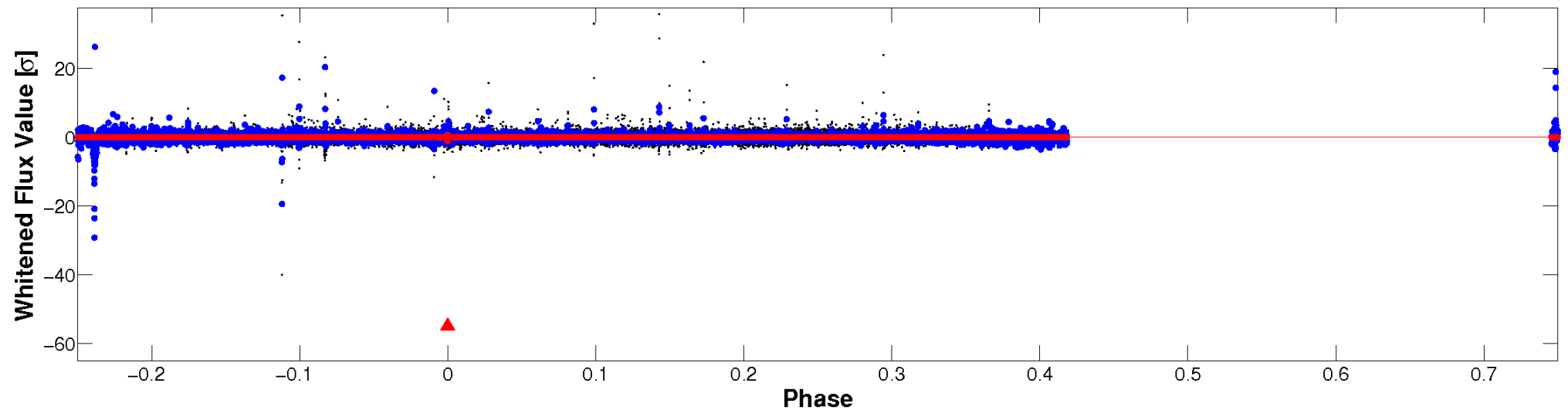


Non-Whitened Vs. Whitened Light Curve

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

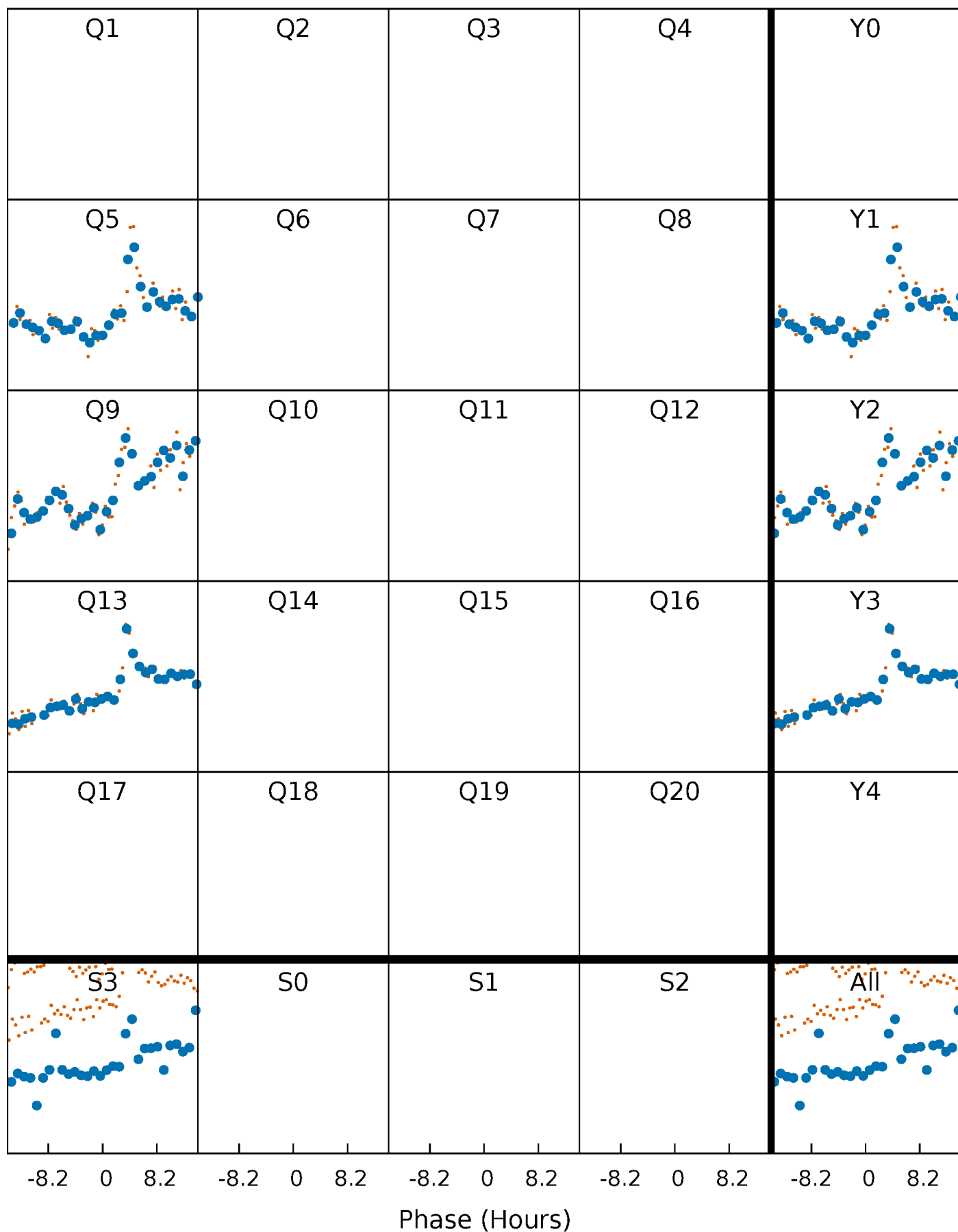


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



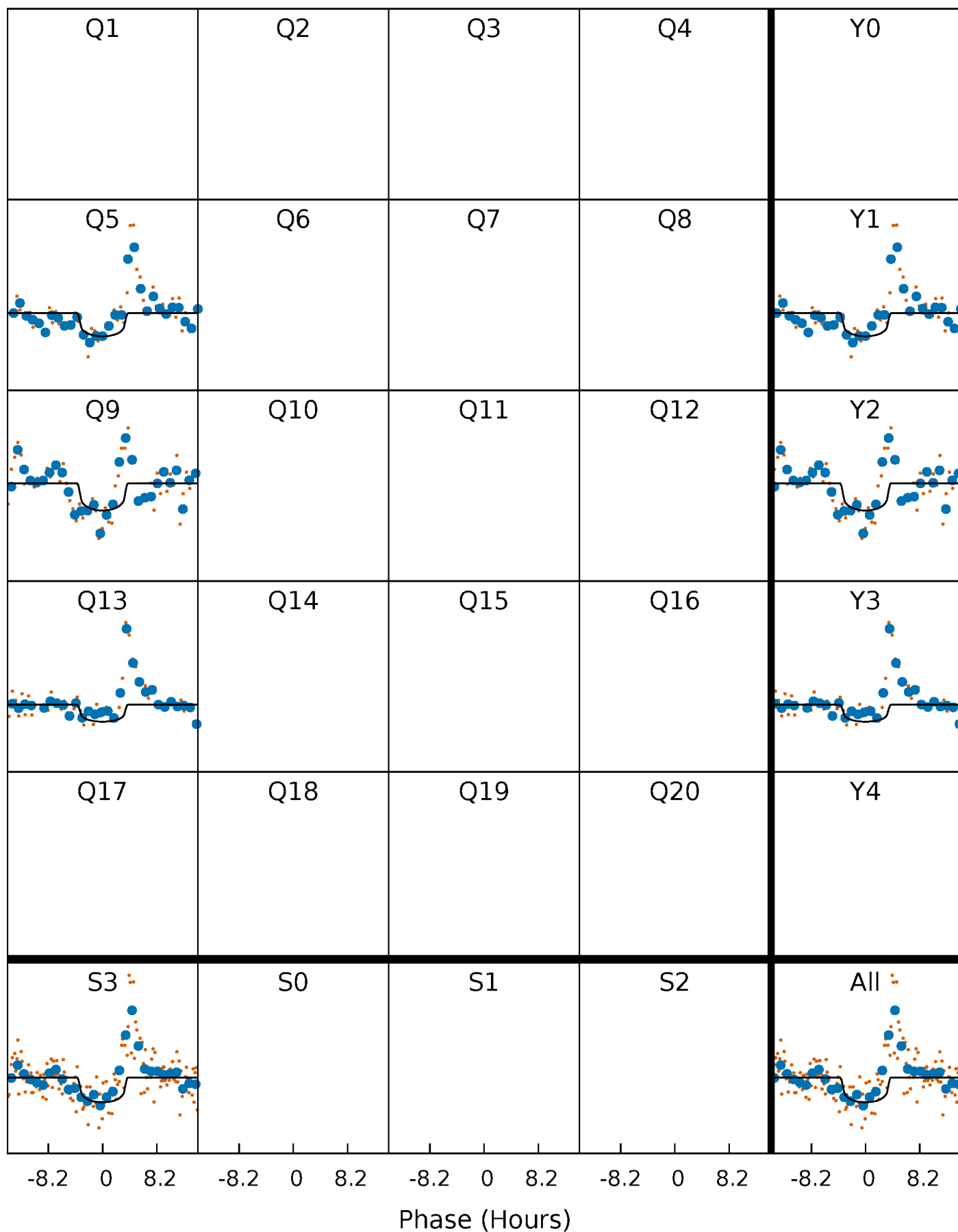
PDC Quarter-Phased Transit Curves

TCE 004825003-01 P=390.930312 Days $T_0=485.839189$ (BKJD)



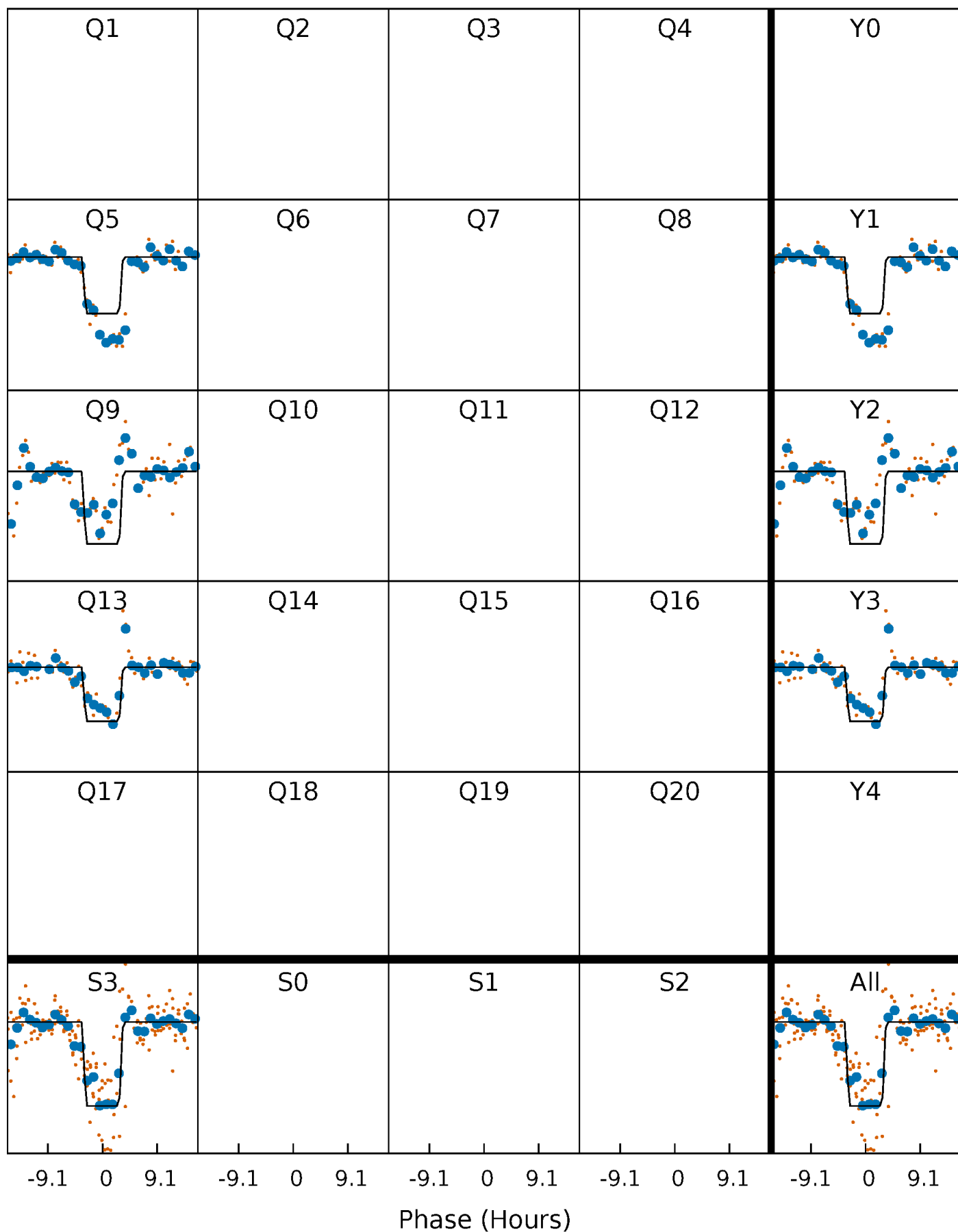
DV Quarter-Phased Transit Curves

TCE 004825003-01 P=390.930312 Days $T_0=485.839189$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

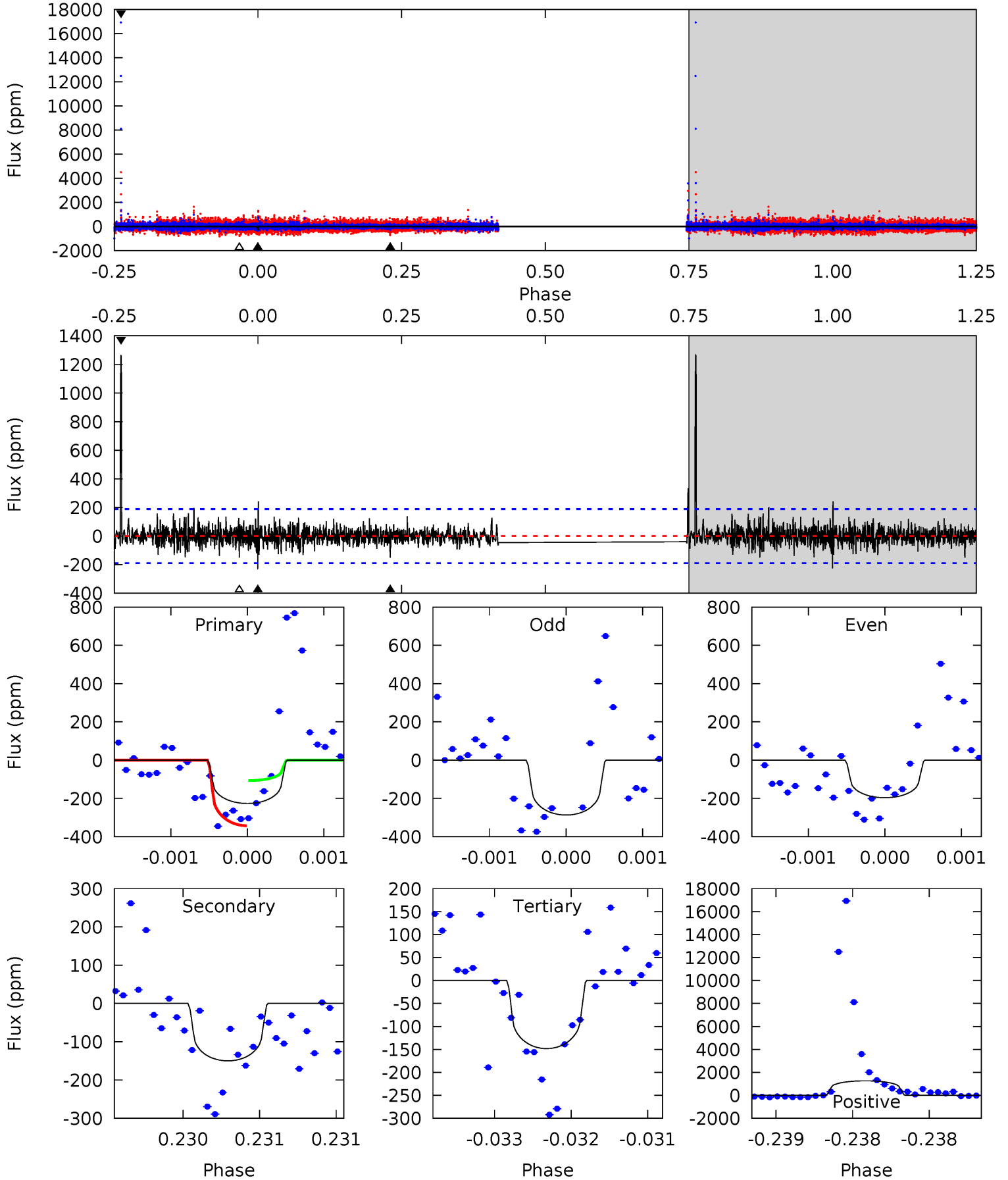
TCE 004825003-01 P=390.934870 Days $T_0=485.835747$ (BKJD)



DV Model-Shift Uniqueness Test

004825003-01, P = 390.930312 Days, E = 94.908877 Days

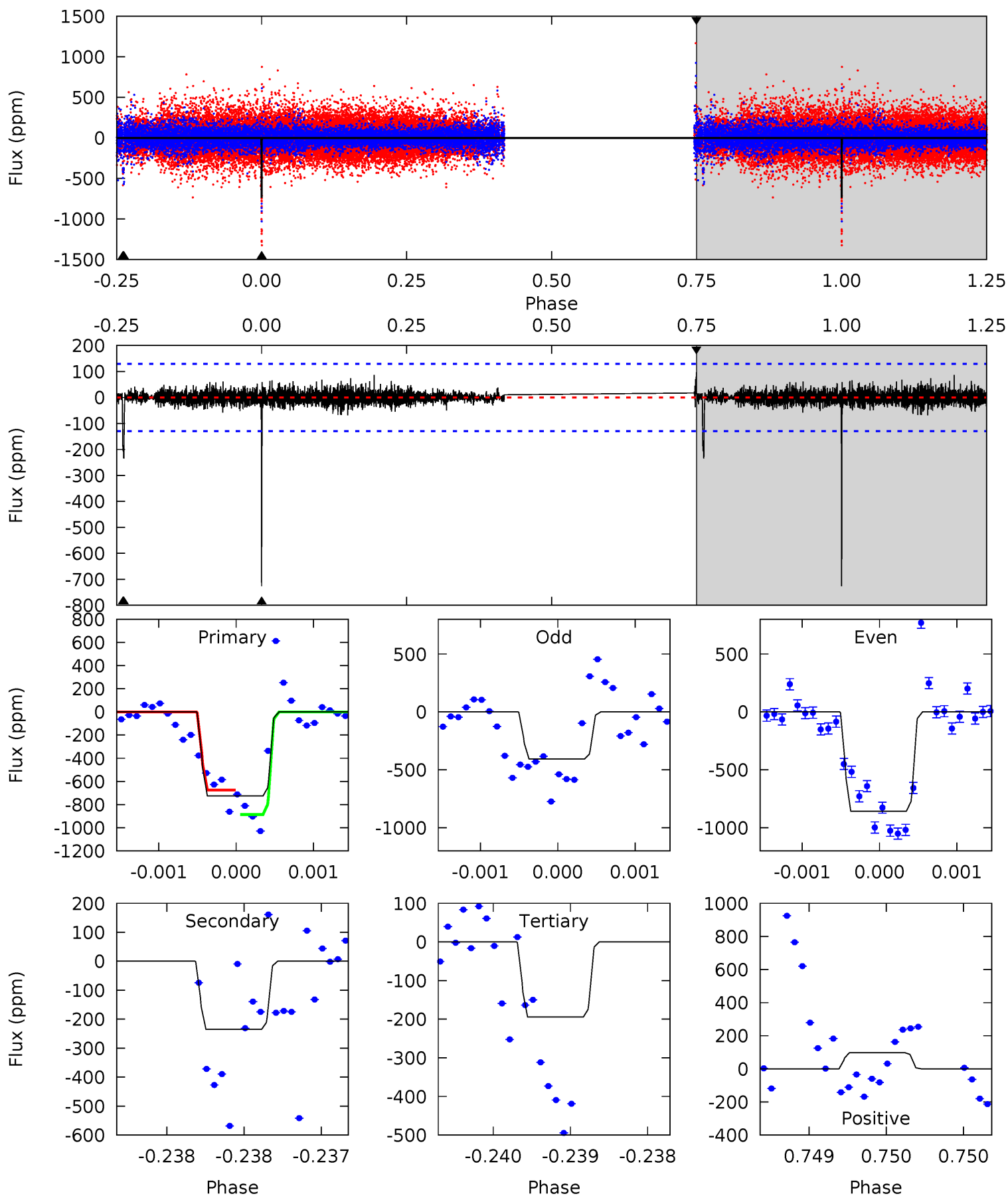
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.58	4.36	4.31	36.8	5.49	3.36	1.69	2.27	-30.2	0.05	-32.4	1.05	0.86	0.85	3.10



Alt Model-Shift Uniqueness Test

004825003-01, P = 390.934870 Days, E = 94.900877 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.9	10.00	8.28	4.15	5.51	3.38	0.76	22.6	26.8	1.72	5.85	8.81	1.13	0.12	4.39



Stellar Parameters For KIC 004825003

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5158^{+179}_{-179}	$4.596^{+0.072}_{-0.048}$	$-0.680^{+0.300}_{-0.300}$	$0.673^{+0.069}_{-0.062}$	$0.651^{+0.083}_{-0.035}$	$3.008^{+0.875}_{-0.568}$
	+3%/-3%	+2%/-1%	+44%/-44%	+10%/-9%	+13%/-5%	+29%/-19%
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 004825003-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-150 ± 34	$1.64^{+1.45}_{-1.03}$	272^{+12}_{-11}	4049^{+2063}_{-742}	$23942^{+150024}_{-16762}$
Alt.	-235 ± 23	$2.30^{+1.43}_{-1.34}$	272^{+12}_{-12}	3896^{+1647}_{-565}	$20461^{+101488}_{-12743}$

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

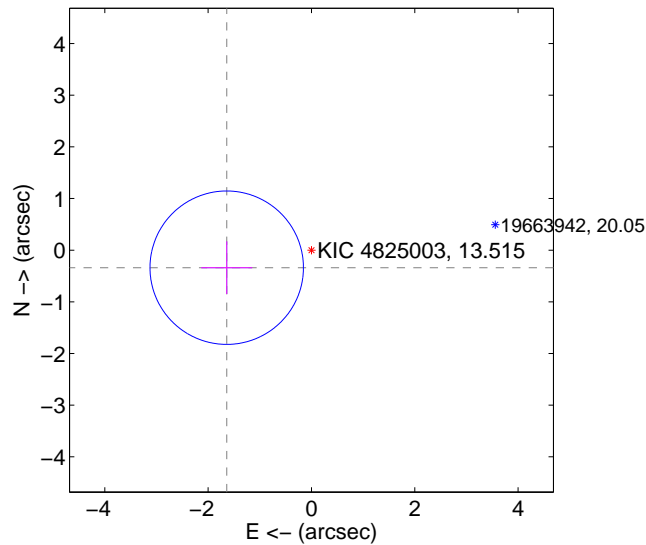
Supplemental centroid analysis for 004825003-01. Kepler magnitude: 13.52. Transit SNR 6.76

There are 1 quarters with good PRF difference image offsets

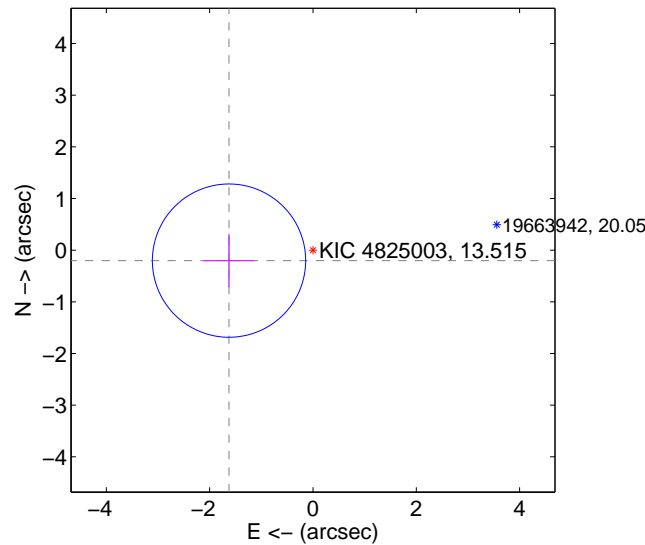
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.675 ± 0.495	3.38	1.640 ± 0.494	-0.339 ± 0.512
PRF-fit source offset from KIC position	1.638 ± 0.495	3.31	1.625 ± 0.494	-0.202 ± 0.512
photometric centroid source offset	0.57 ± 1.11	0.52	-0.30 ± 1.11	0.49 ± 1.11

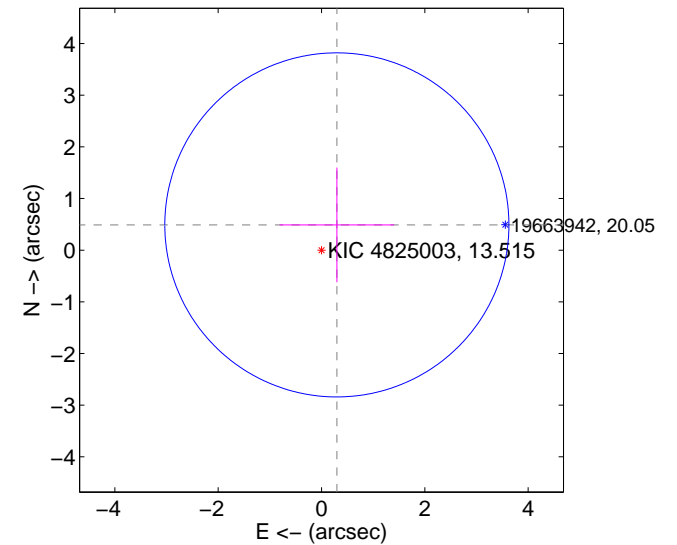
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

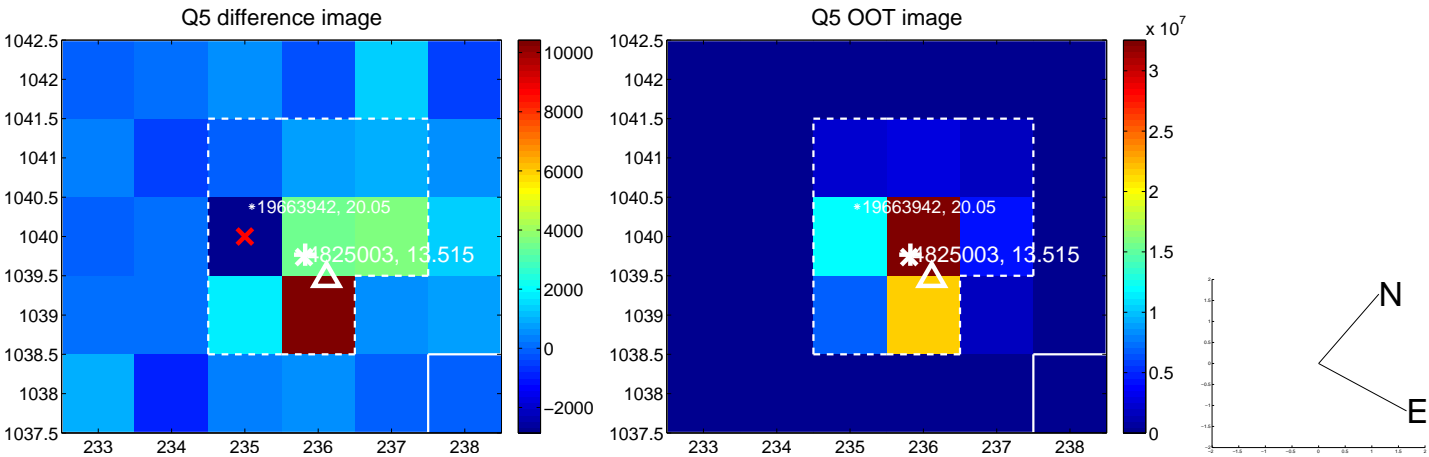


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

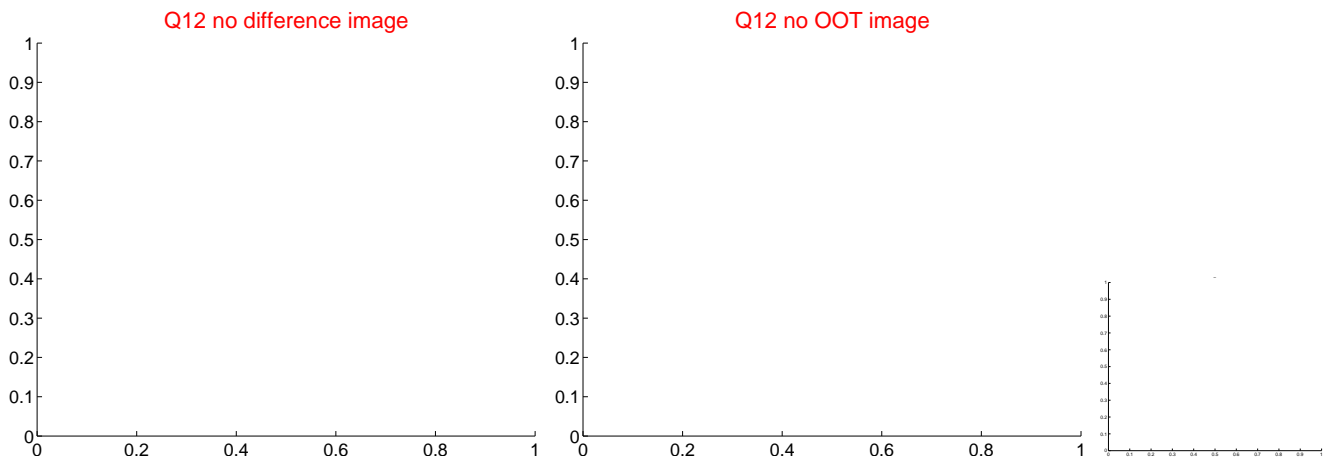
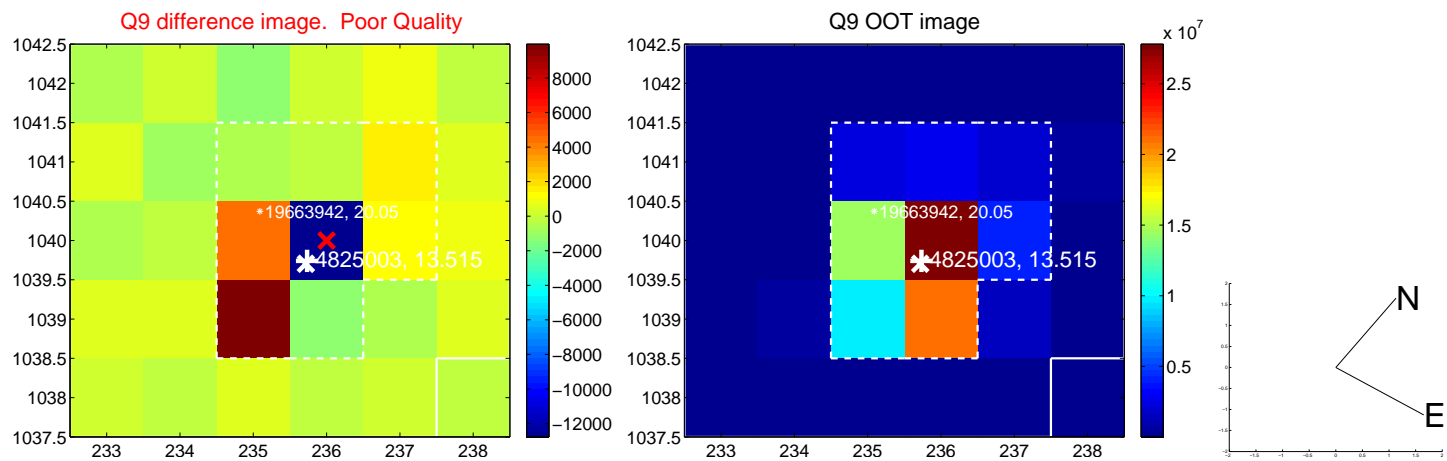
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



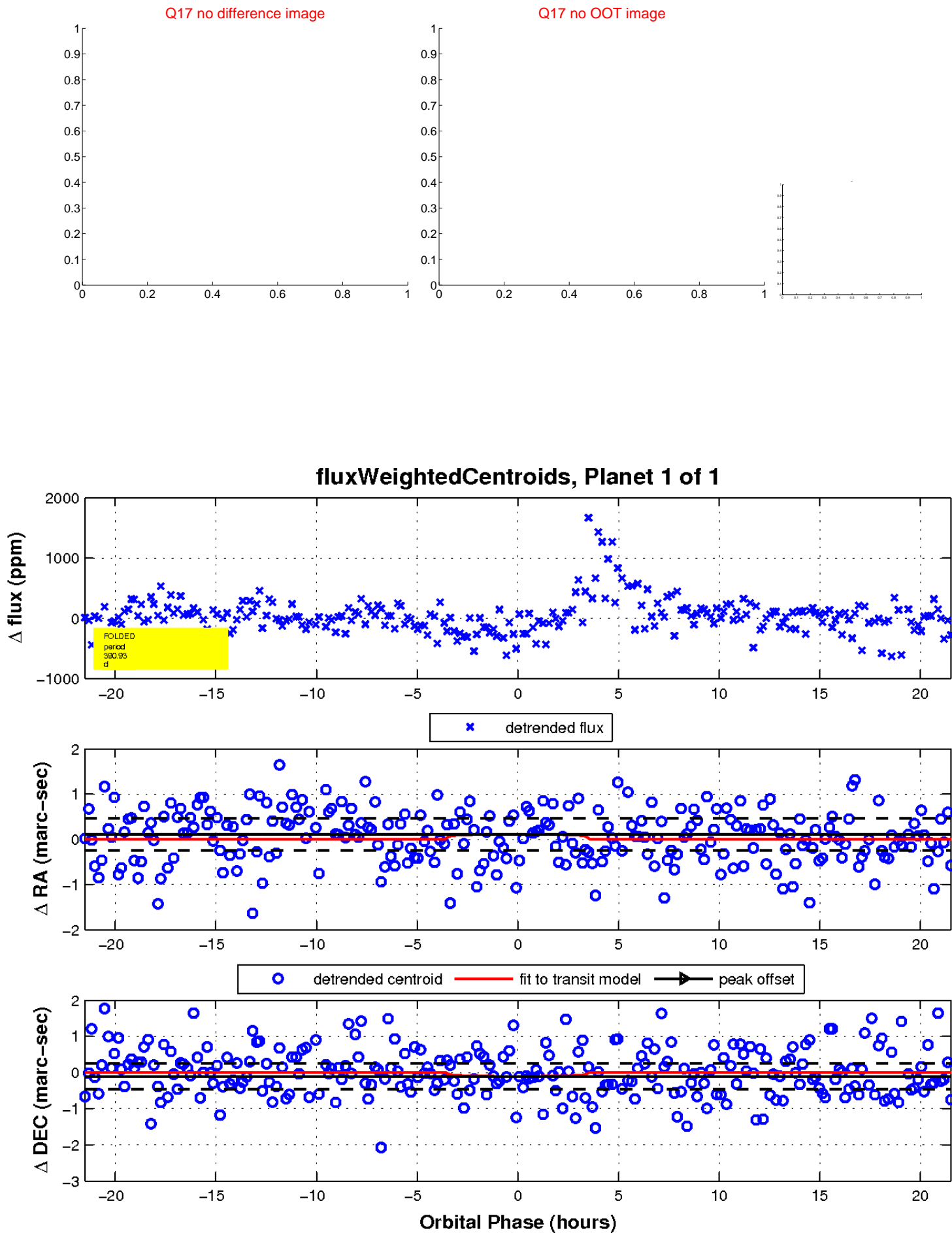
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

