

KIC 009764489

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})
009764489-01	OBS	No	492.816351	513.865161	568.7	8.001	11.6	7.9	0.82	5645	2.08	0.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009764489-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

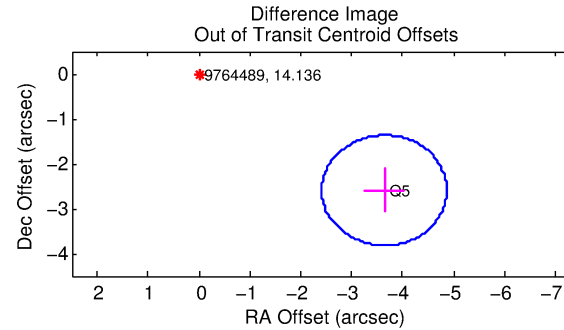
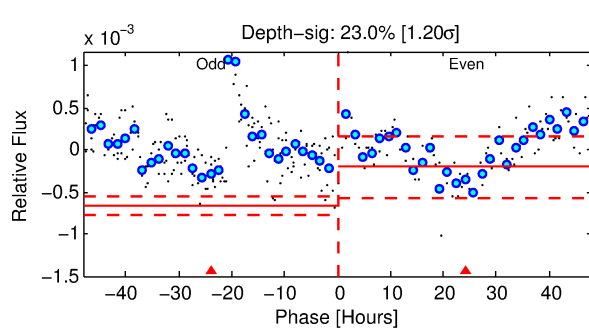
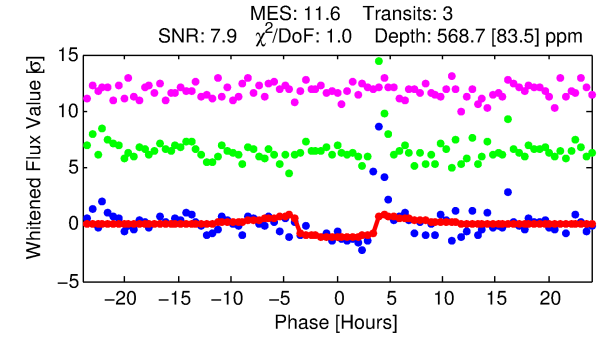
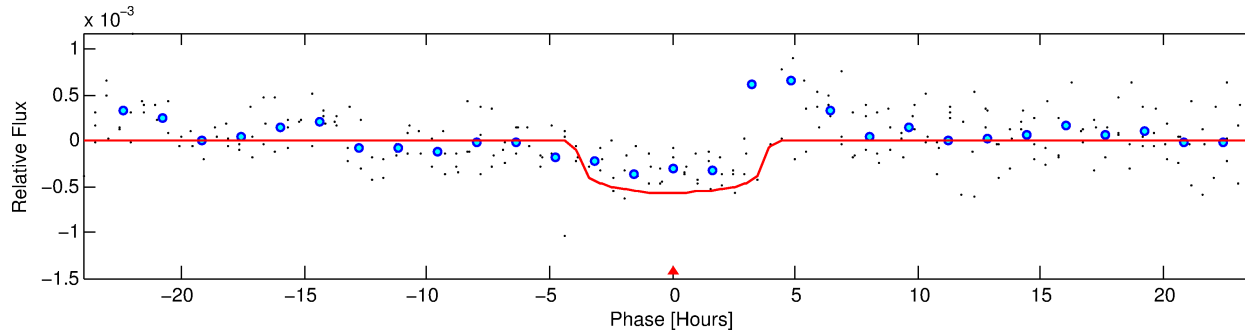
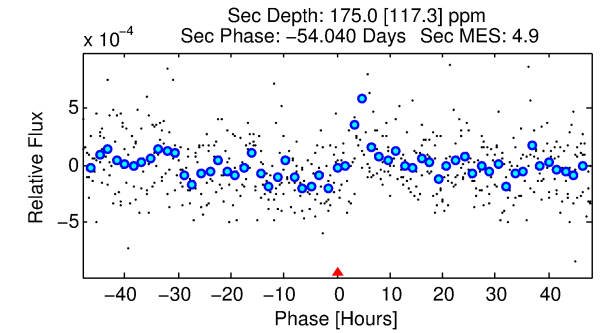
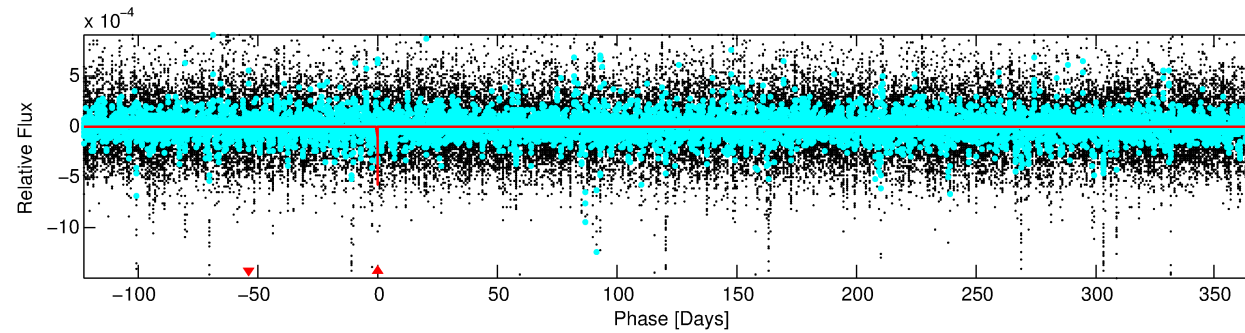
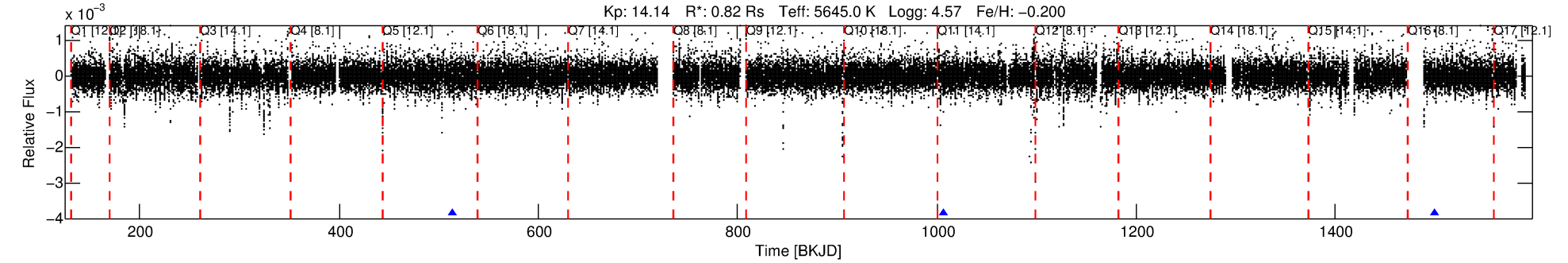
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009764489-01

No Significant Match Found

DV One-Page Summary

KIC: 9764489 Candidate: 1 of 1 Period: 492.816 d



DV Fit Results:

Period = 492.81635 [0.00801] d
Epoch = 513.8652 [0.0112] BKJD
Rp/R* = 0.0234 [0.0166]
a/R* = 348.98 [1059.29]
b = 0.71 [2.20]
Seff = 0.44 [0.14]
Teq = 207 [16] K
Rp = 2.08 [1.56] Re
a = 1.1802 [0.2334] AU
Ag = 30917.82 [49370.60] [0.63 σ]
Teffp = 4248 [1671] K [2.42 σ]

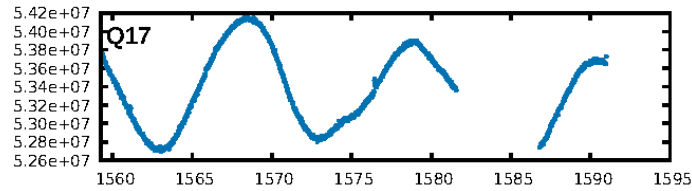
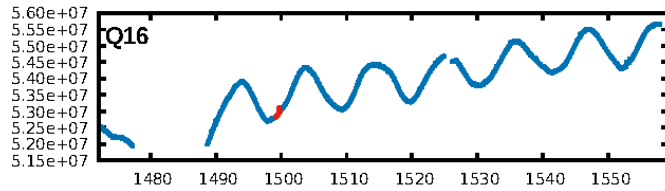
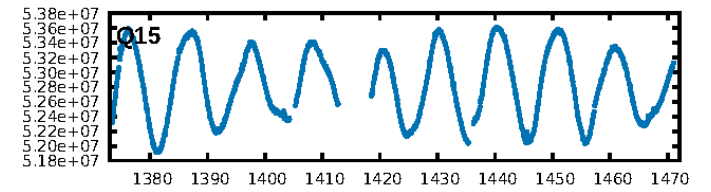
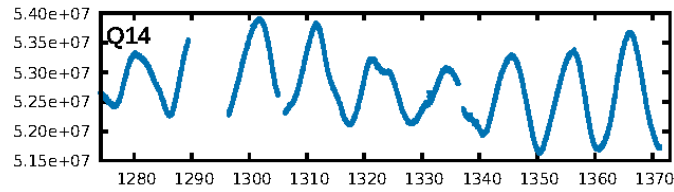
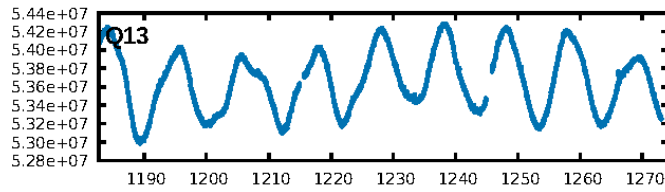
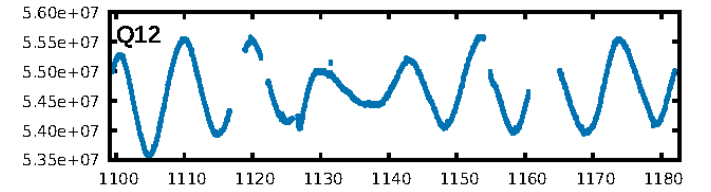
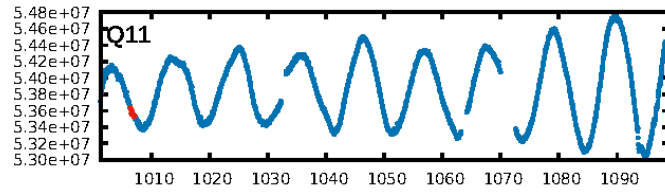
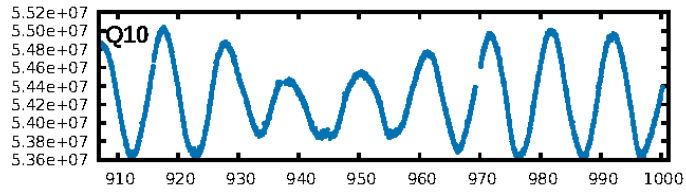
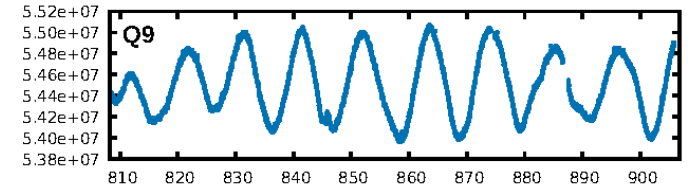
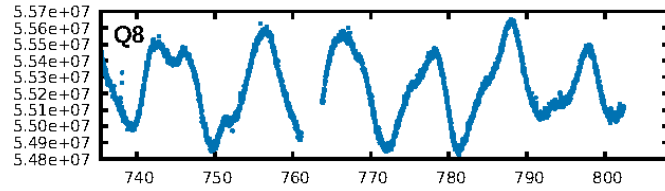
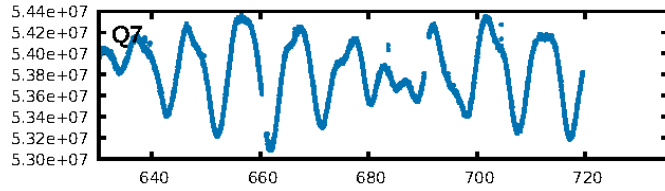
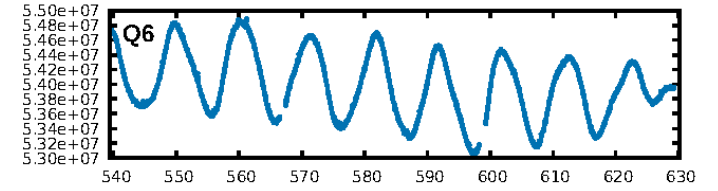
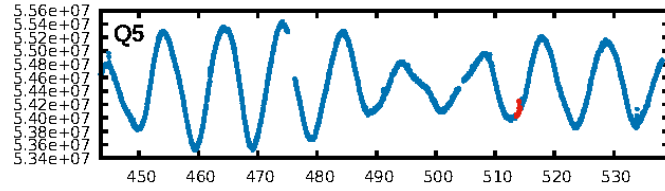
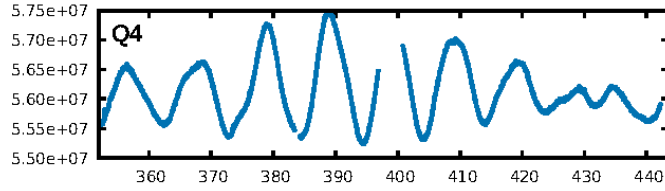
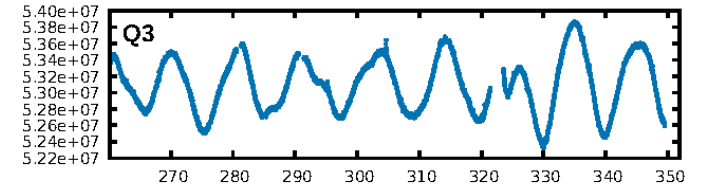
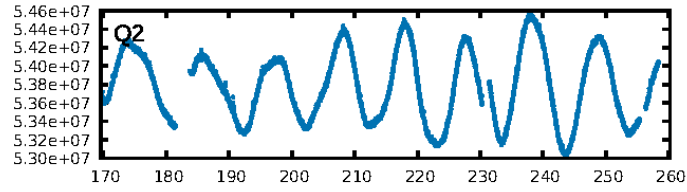
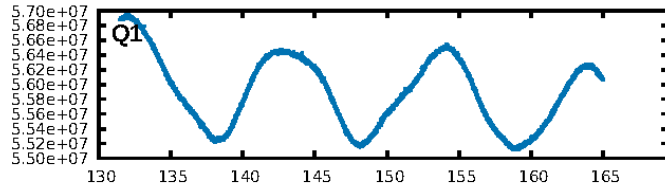
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.9%
ModelChiSquareGof-sig: 99.0%
Bootstrap-pfa: 4.48e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.919
Centroid-sig: 9.7%
Centroid-so: 0.997 arcsec [1.47 σ]
OotOffset-rm: 4.470 arcsec [10.92 σ]
KicOffset-rm: 4.383 arcsec [10.77 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

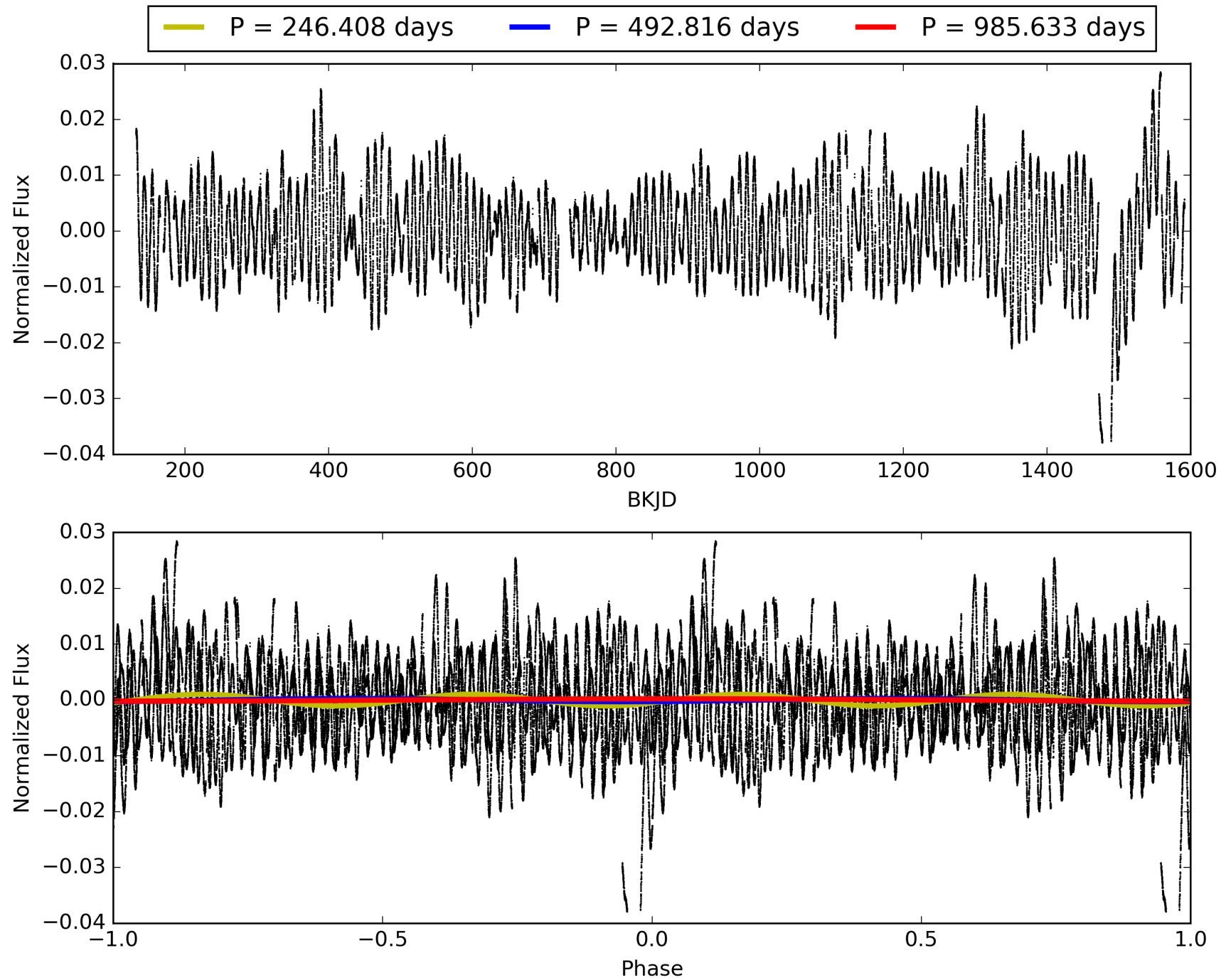
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:28:31 Z

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

TCE 009764489-01, PDC Light Curves

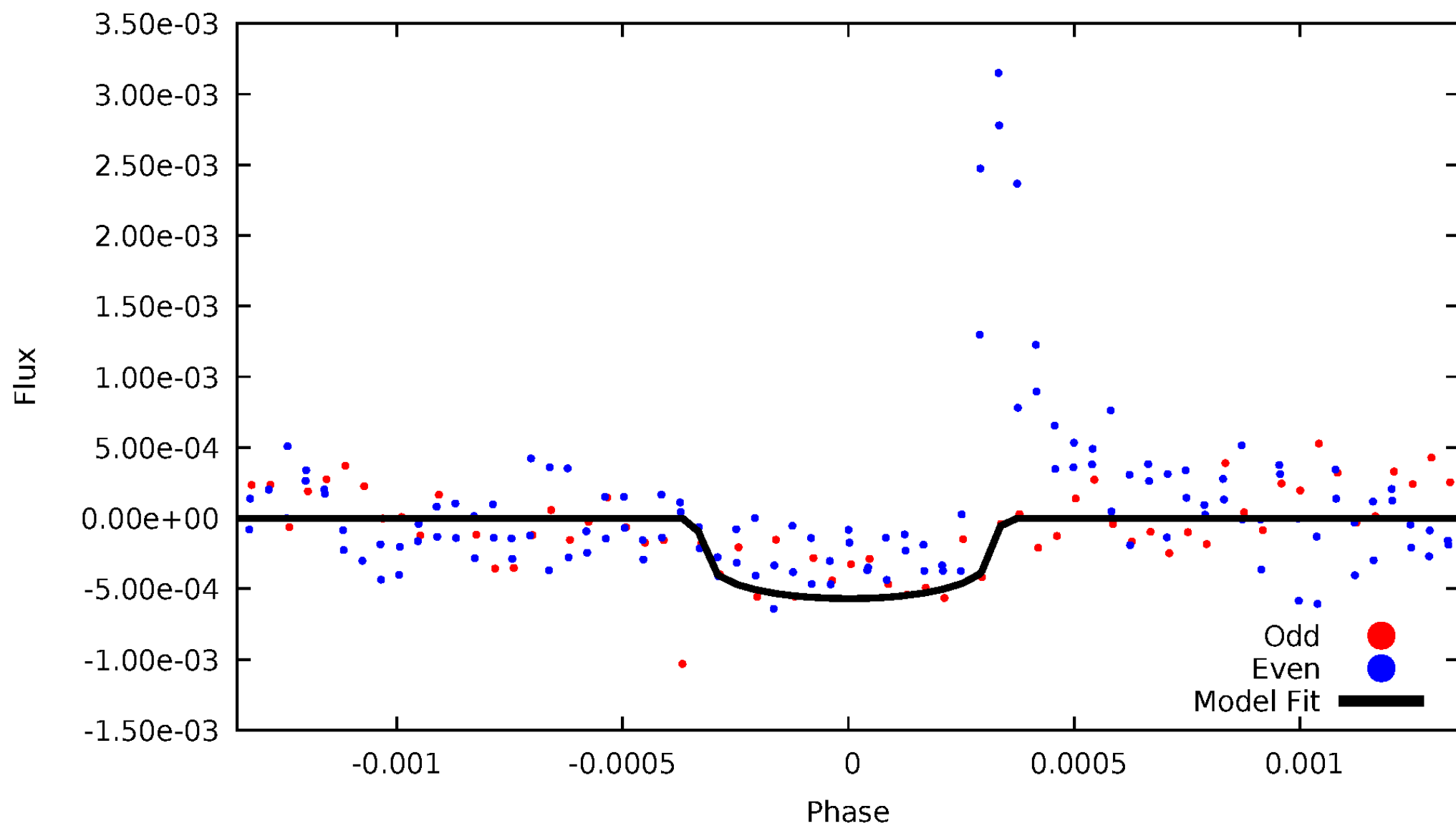


TCE 009764489-01



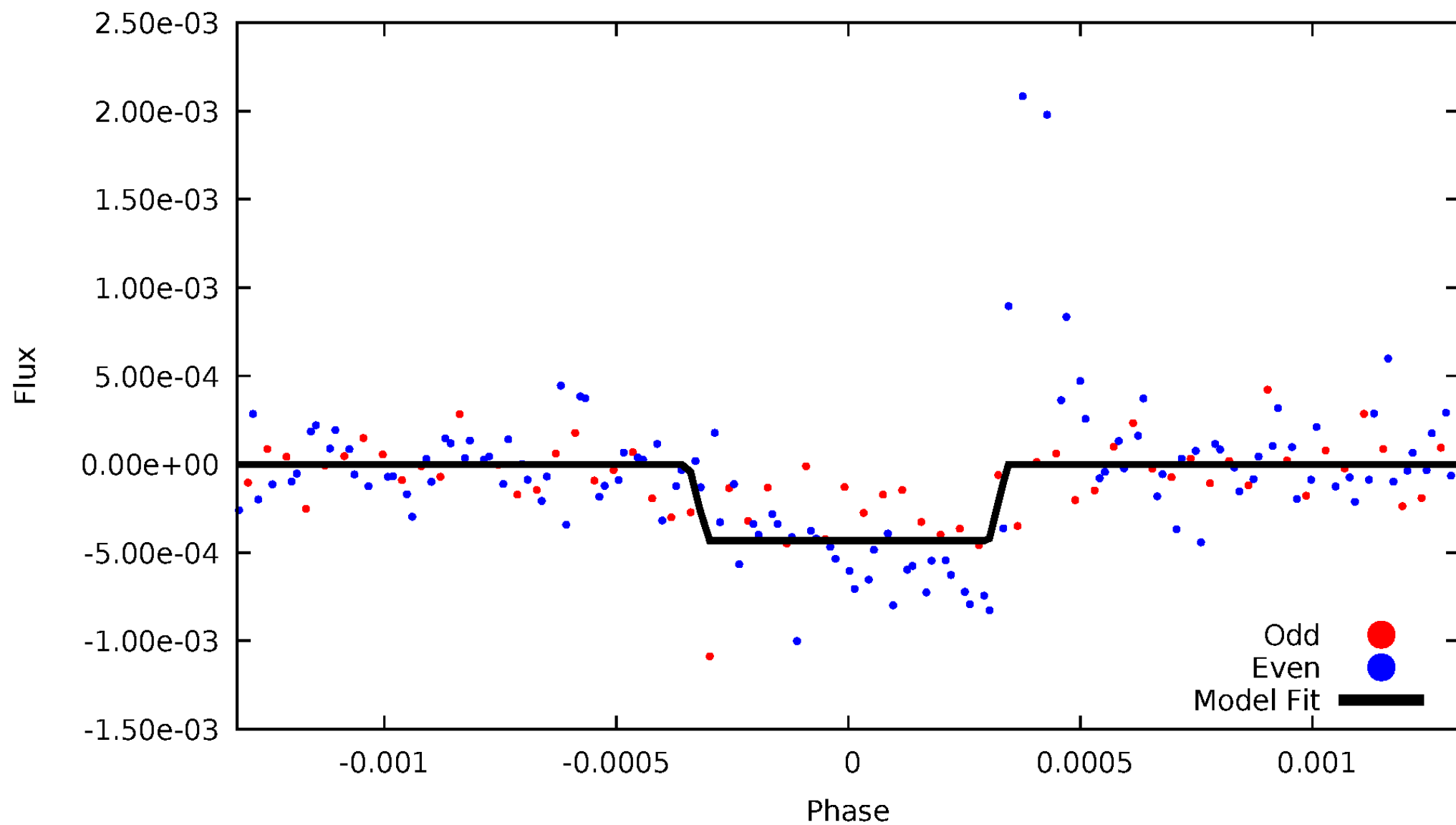
DV Odd/Even

TCE 009764489-01



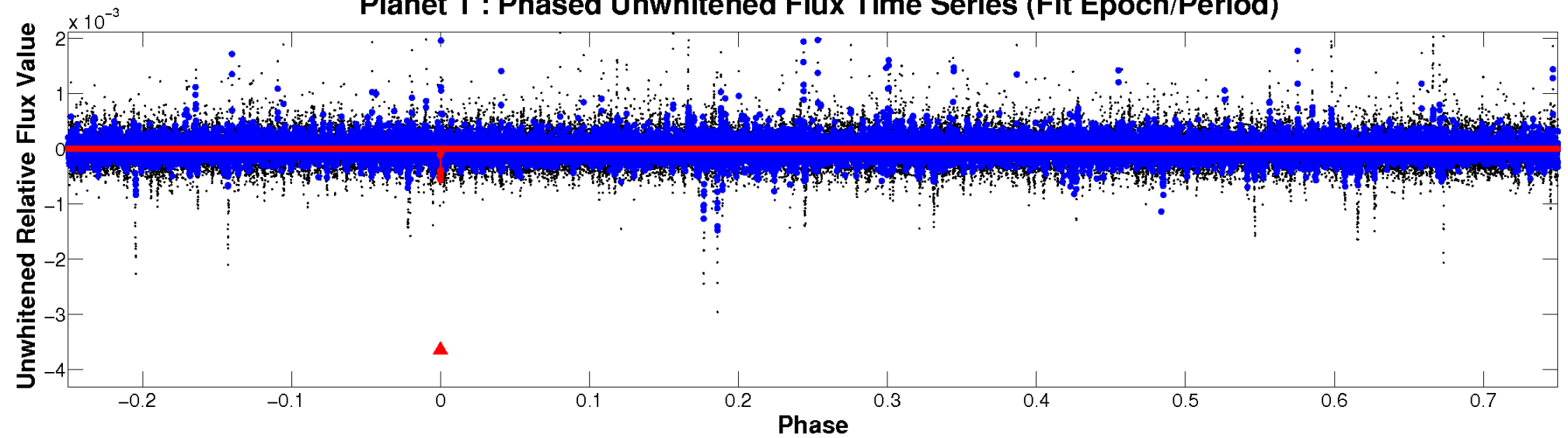
ALT Odd/Even

TCE 009764489-01

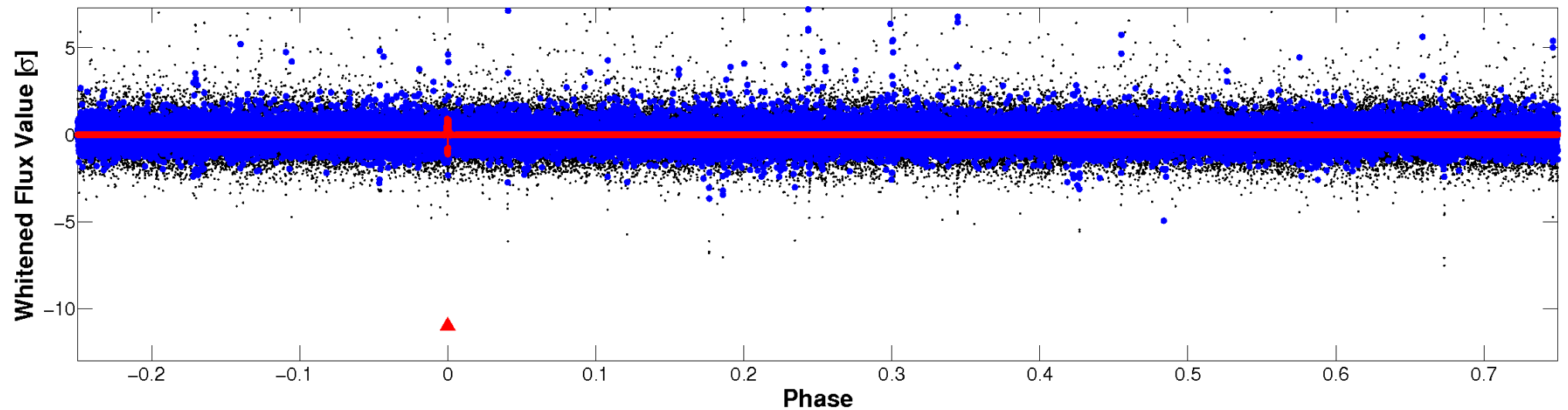


Non-Whitened Vs. Whitened Light Curve

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

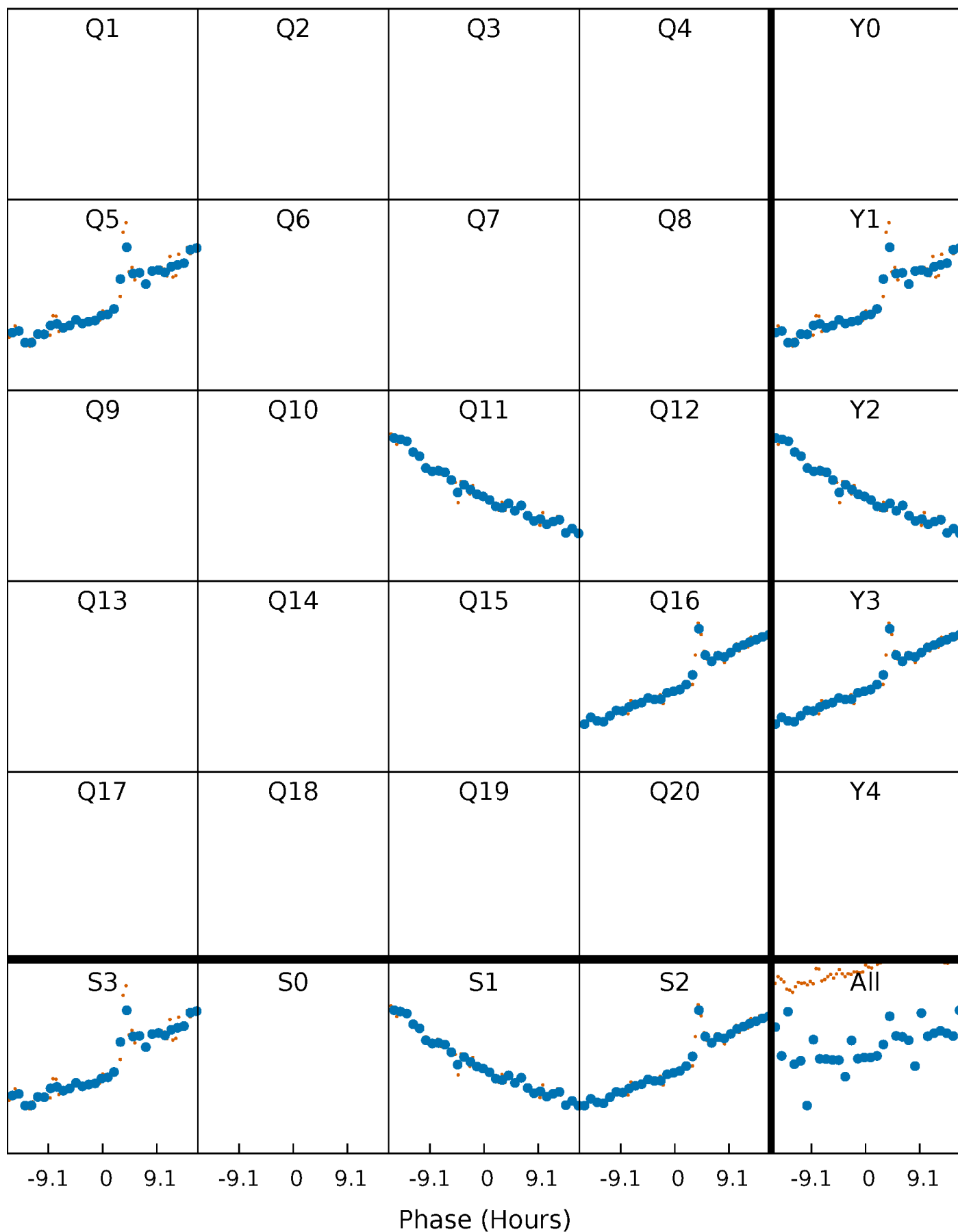


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



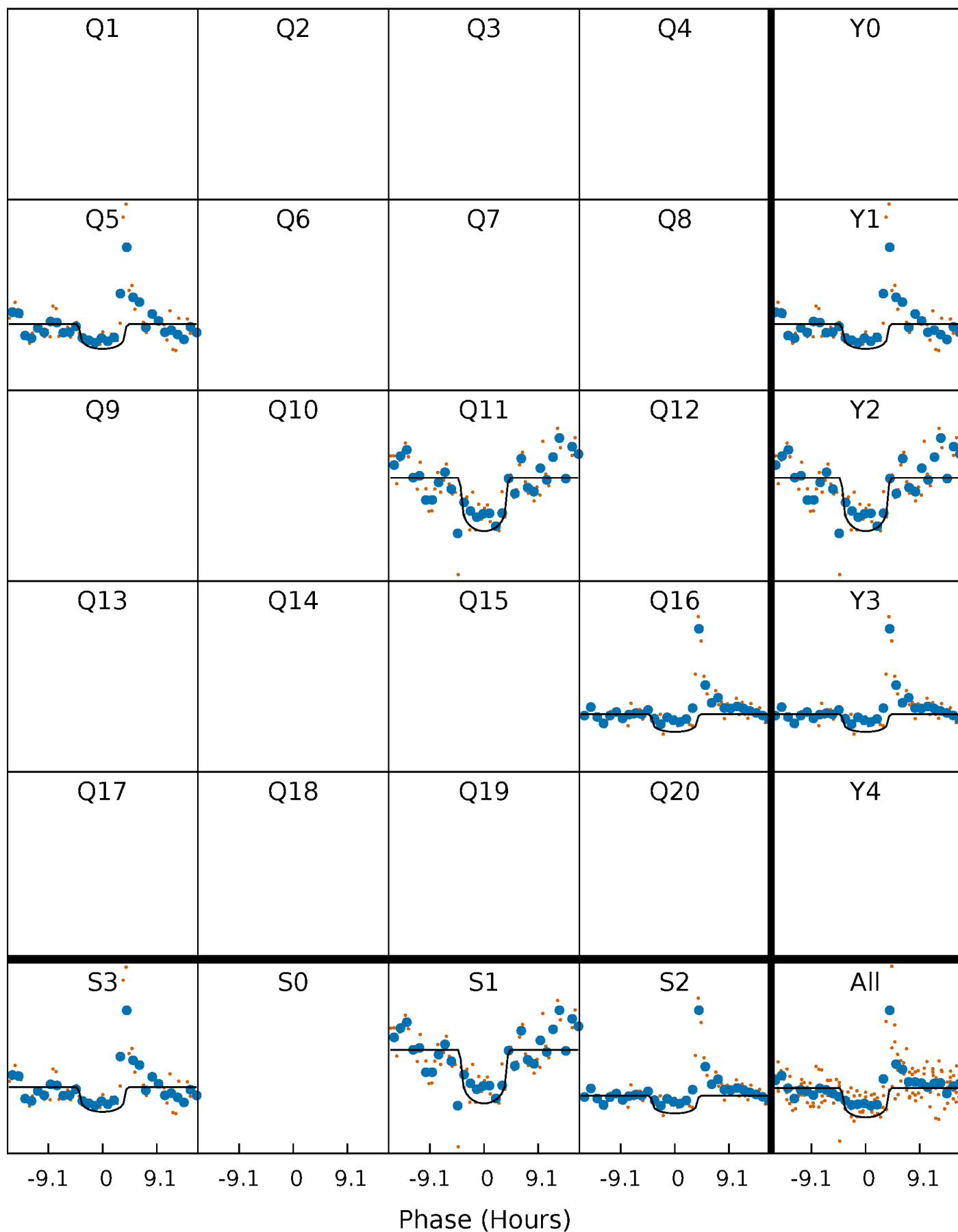
PDC Quarter-Phased Transit Curves

TCE 009764489-01 P=492.816351 Days $T_0=513.865161$ (BKJD)



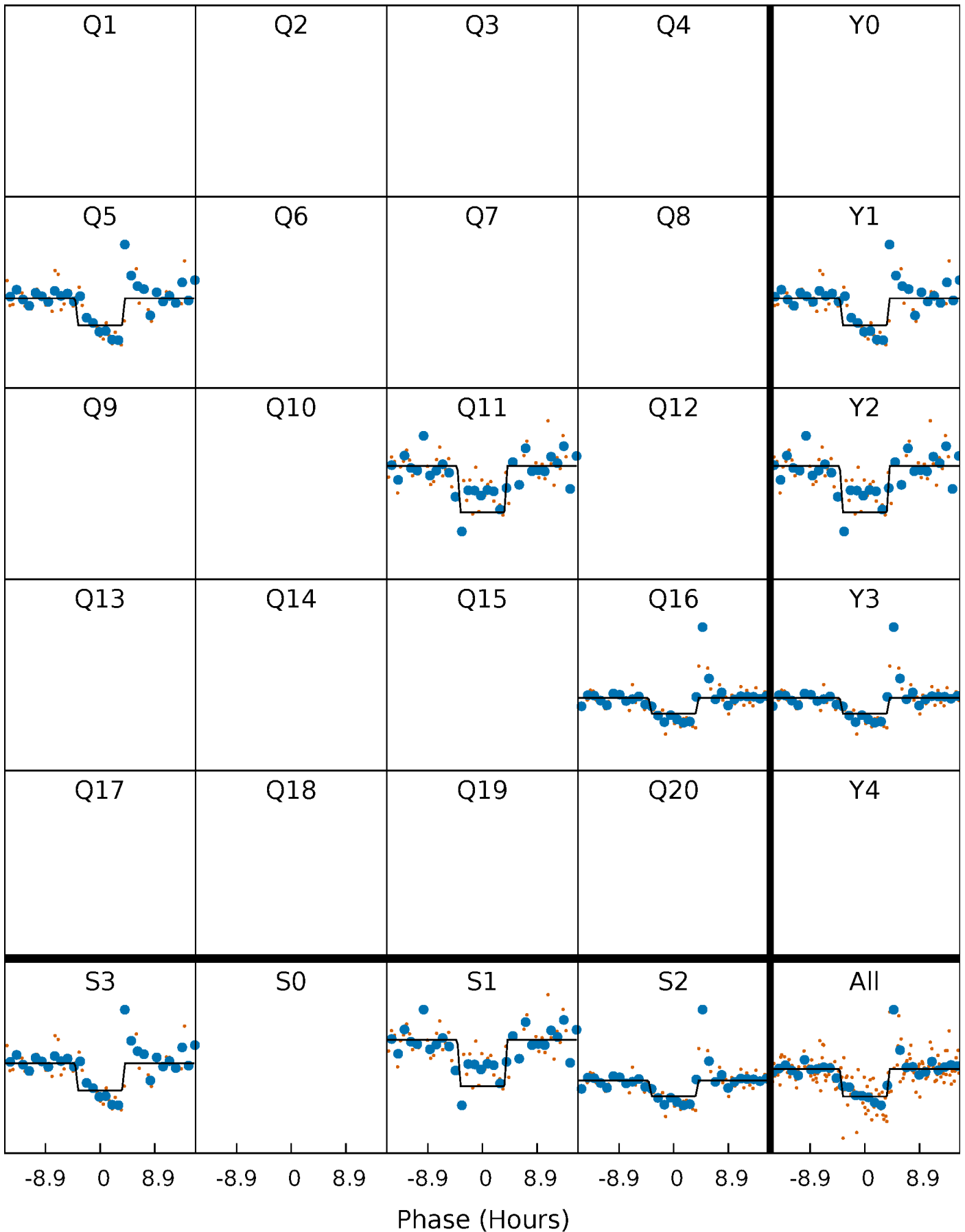
DV Quarter-Phased Transit Curves

TCE 009764489-01 P=492.816351 Days $T_0=513.865161$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

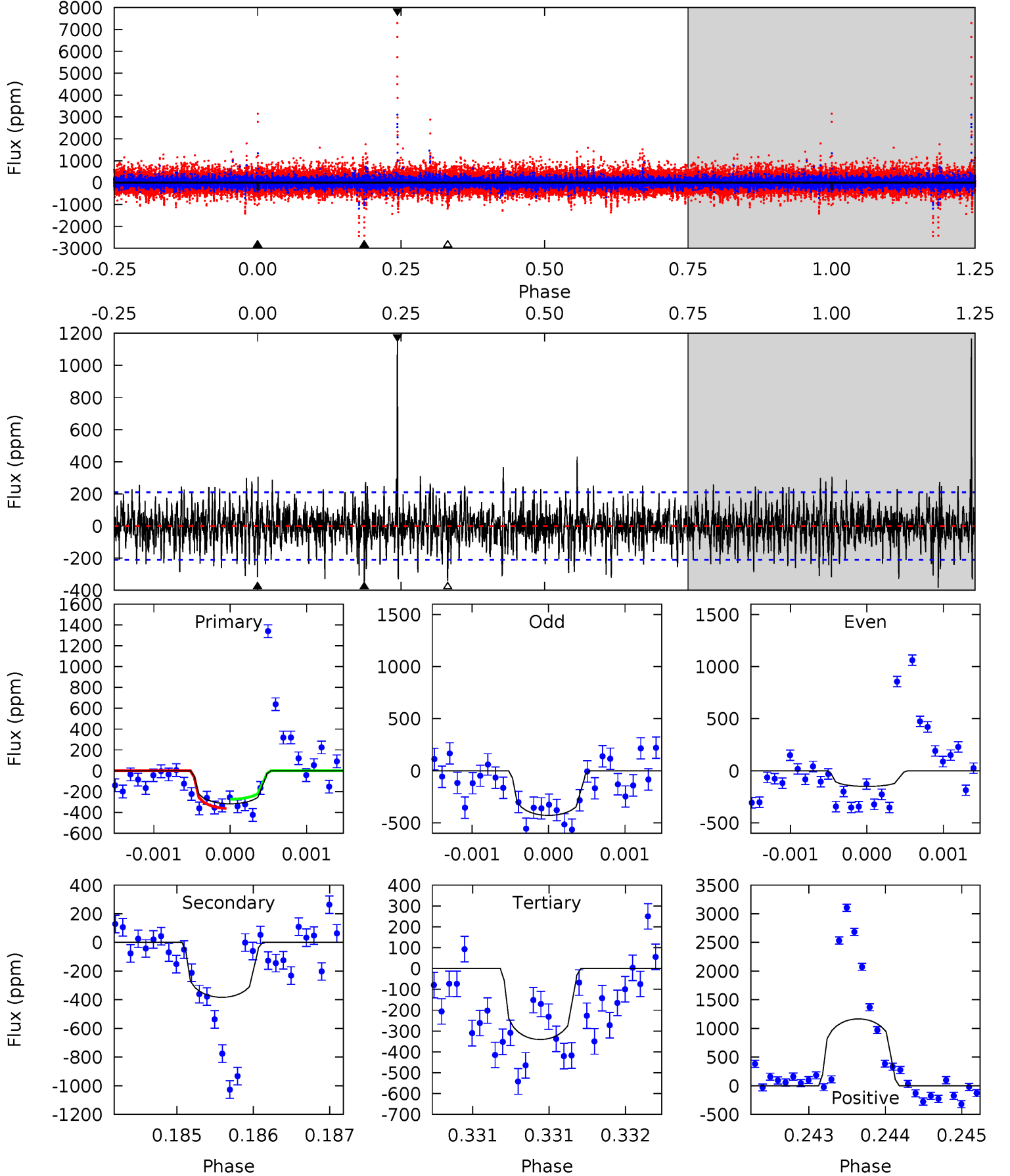
TCE 009764489-01 P=492.823411 Days $T_0=513.824132$ (BKJD)



DV Model-Shift Uniqueness Test

009764489-01, P = 492.816351 Days, E = 21.048810 Days

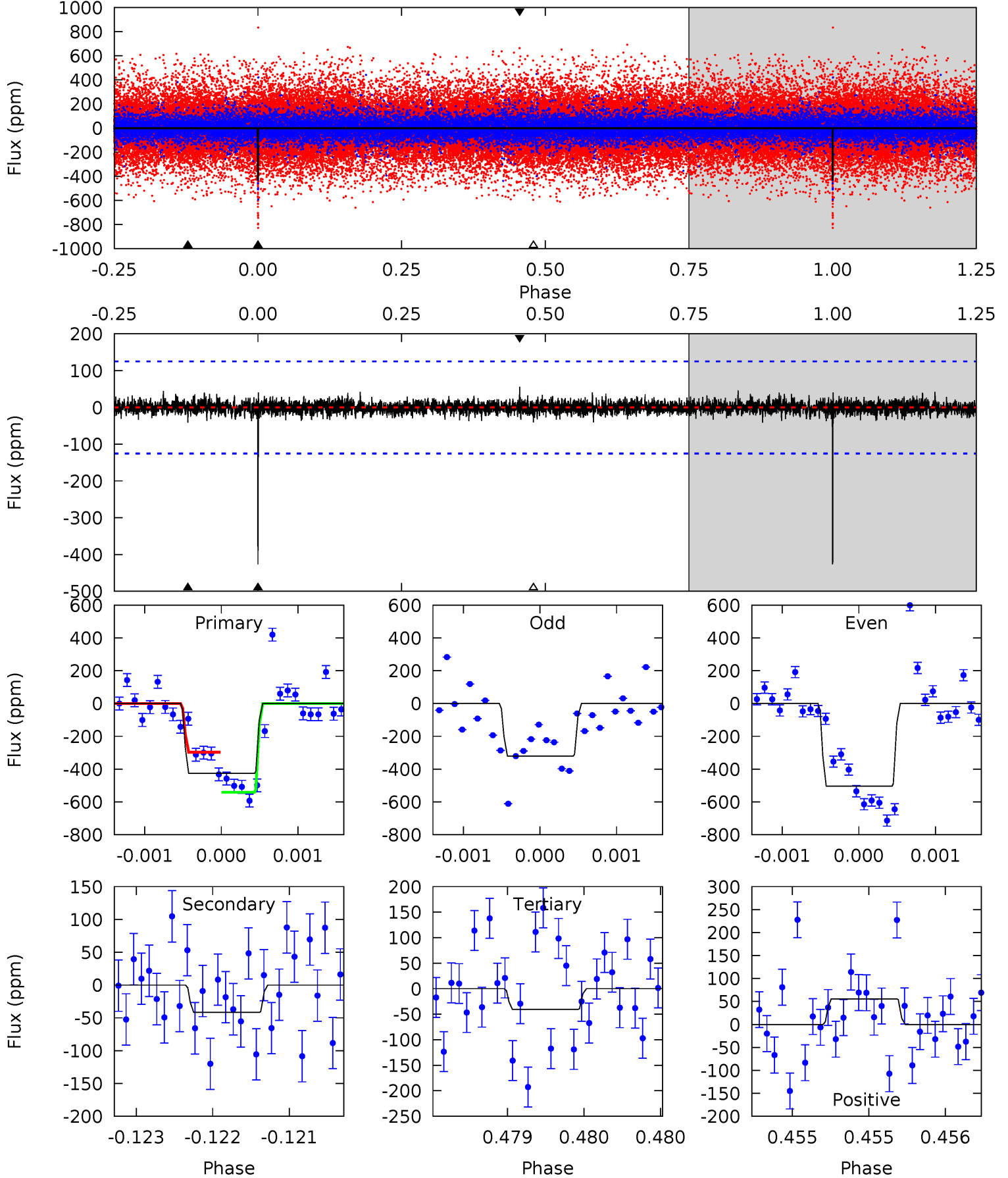
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.31	10.0	8.93	30.6	5.51	3.39	2.38	-0.63	-22.3	1.11	-20.5	3.40	1.31	0.75	1.17



Alt Model-Shift Uniqueness Test

009764489-01, P = 492.823411 Days, E = 21.000721 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	1.83	1.78	2.44	5.52	3.40	0.43	17.0	16.4	0.05	-0.61	3.85	1.00	0.12	5.40



Stellar Parameters For KIC 009764489

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5645^{+152}_{-152}	$4.569^{+0.040}_{-0.160}$	$-0.200^{+0.300}_{-0.300}$	$0.817^{+0.190}_{-0.068}$	$0.908^{+0.082}_{-0.112}$	$2.348^{+0.467}_{-0.980}$
	+3%/-3%	+1%/-4%	+150%/-150%	+23%/-8%	+9%/-12%	+20%/-42%
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 009764489-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-383 ± 38	$2.26^{+1.46}_{-1.32}$	294^{+16}_{-12}	5137^{+2743}_{-955}	$56572^{+272245}_{-35780}$
Alt.	-42 ± 23	$2.05^{+1.48}_{-1.24}$	296^{+17}_{-12}	3453^{+1384}_{-618}	6365^{+35939}_{-4639}

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

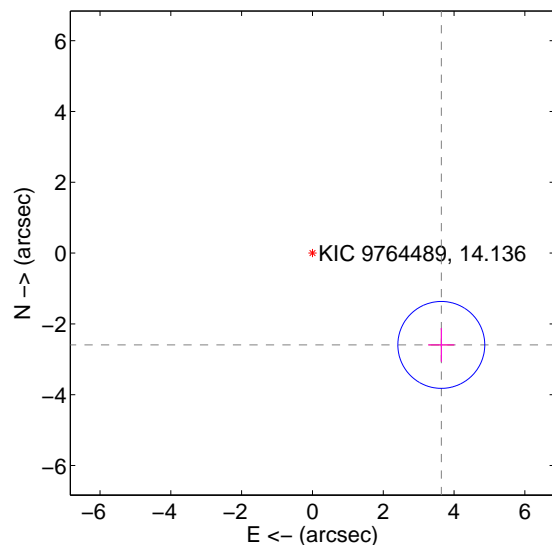
Supplemental centroid analysis for 009764489-01. Kepler magnitude: 14.14. Transit SNR 7.86

There are 0 quarters with good PRF difference image offsets

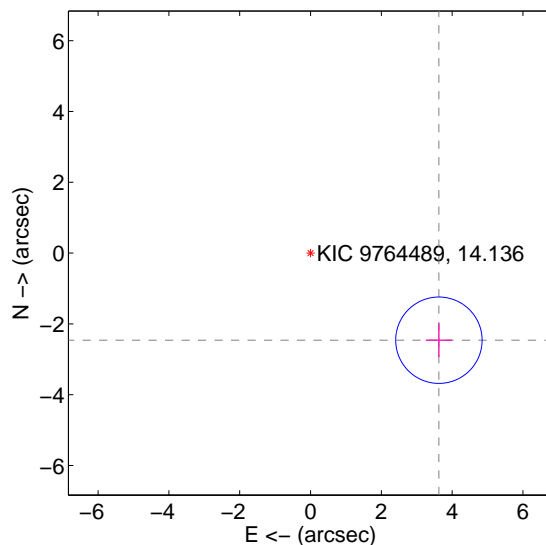
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.470 ± 0.409	10.92	-3.640 ± 0.371	-2.594 ± 0.476
PRF-fit source offset from KIC position	4.383 ± 0.407	10.77	-3.627 ± 0.371	-2.461 ± 0.476
photometric centroid source offset	1.00 ± 0.68	1.47	-0.48 ± 0.70	0.87 ± 0.67

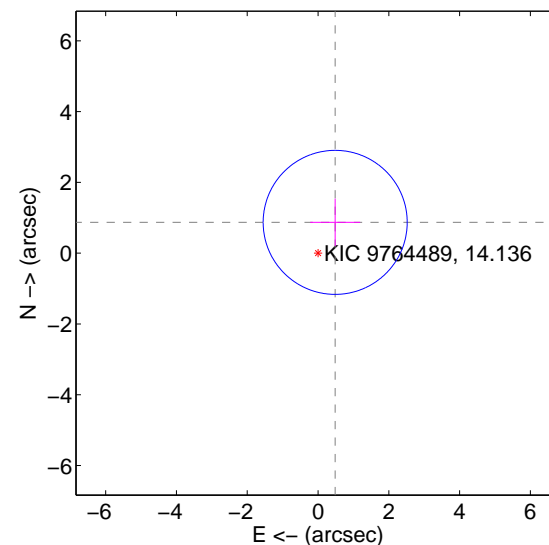
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

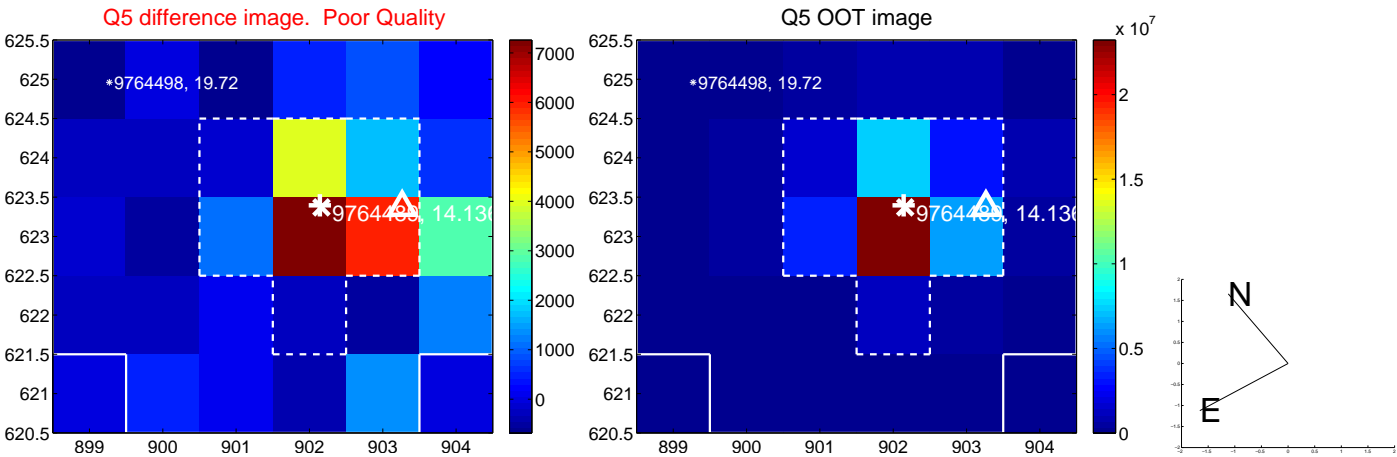


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

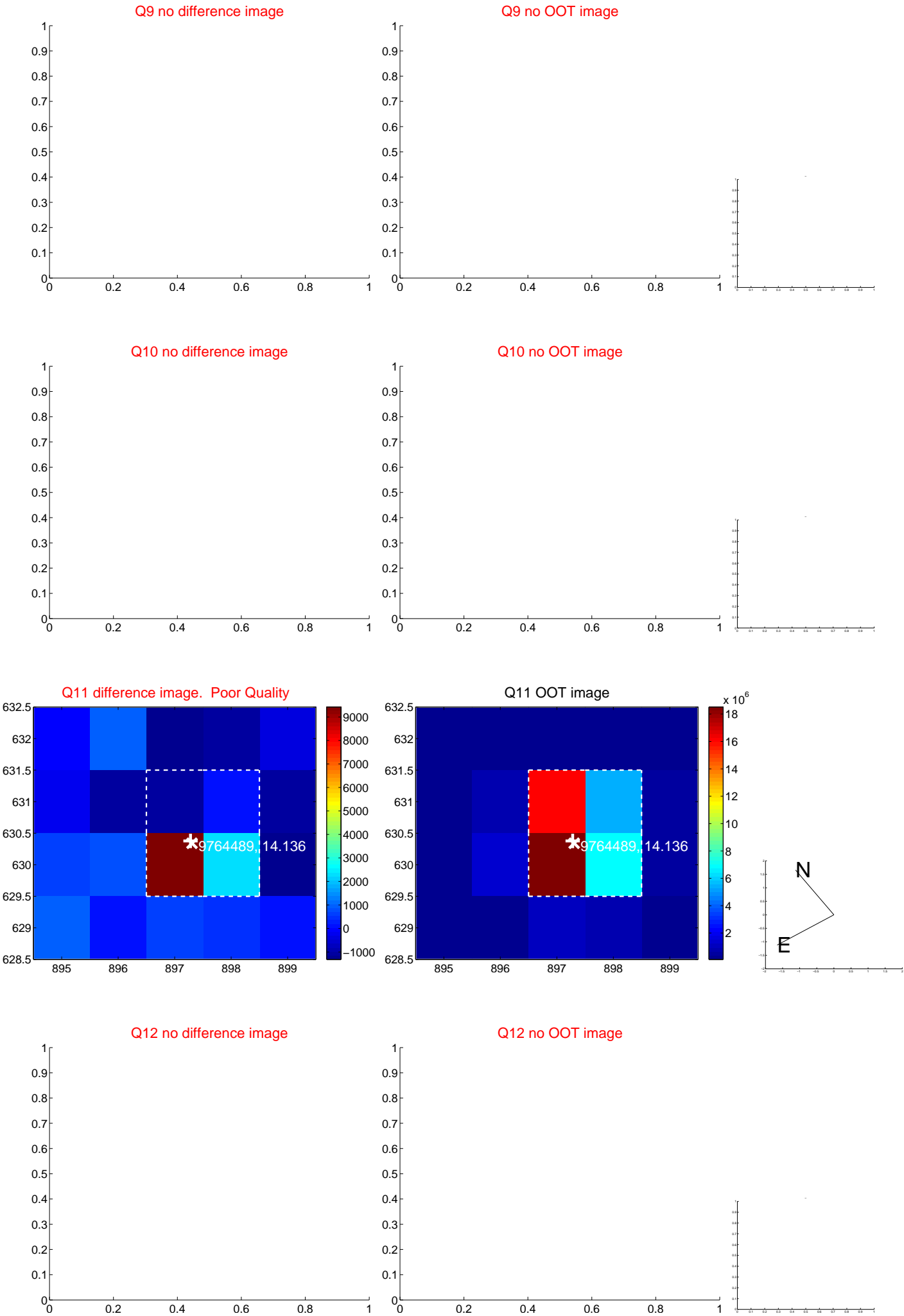
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



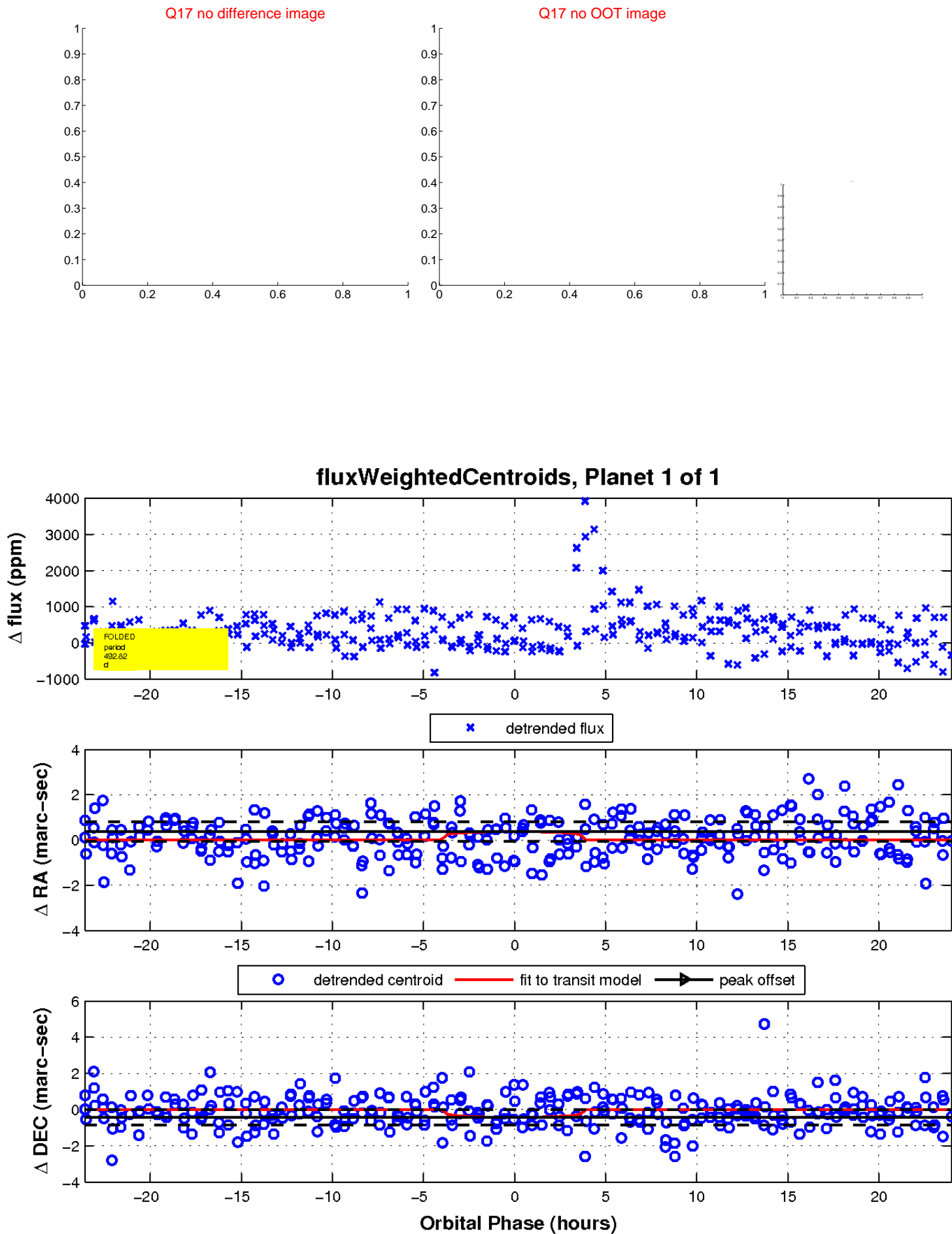
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

