

KIC 010658726

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})
010658726-01	OBS	No	447.178259	346.904417	782.5	4.315	8.0	6.6	8.04	5016	27.45	18.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010658726-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_ALT—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.

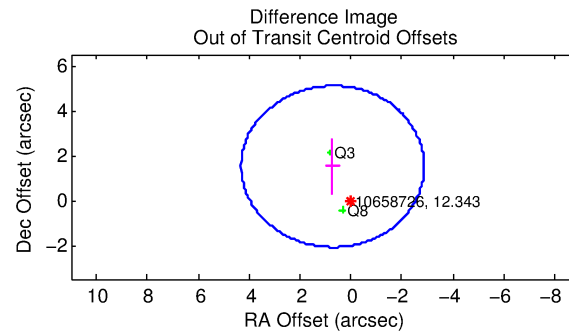
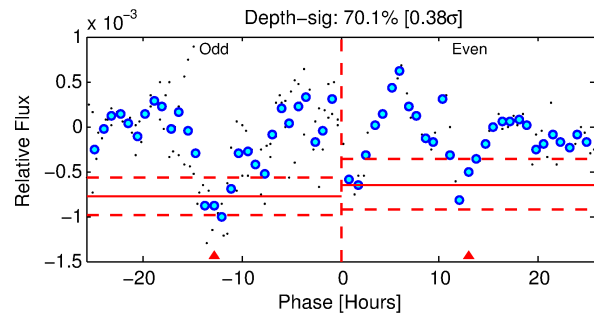
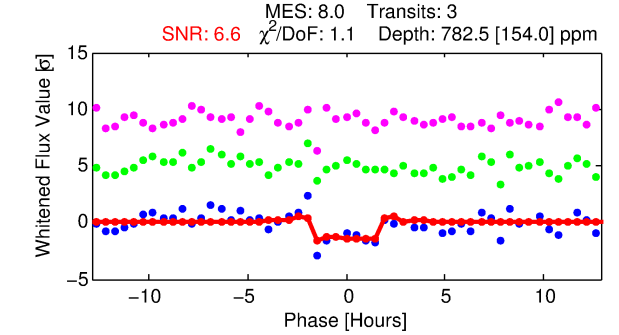
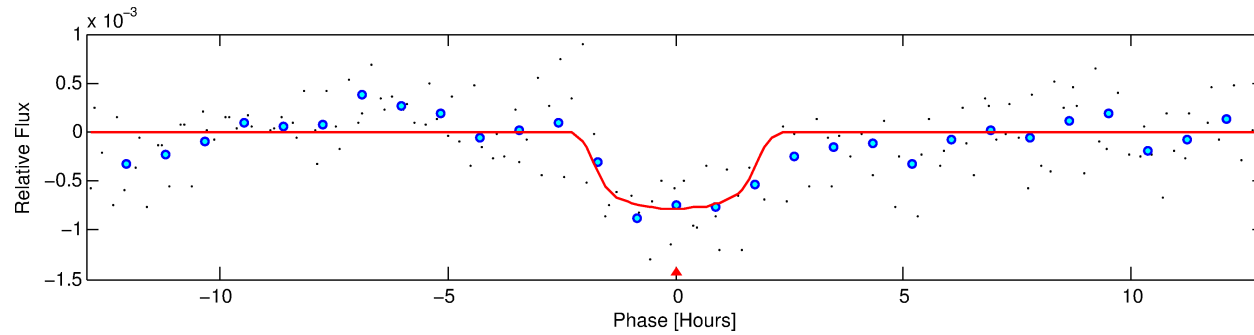
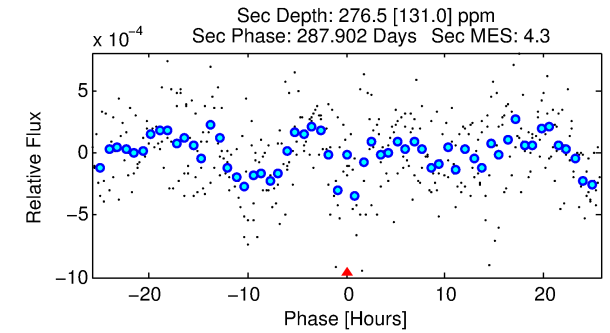
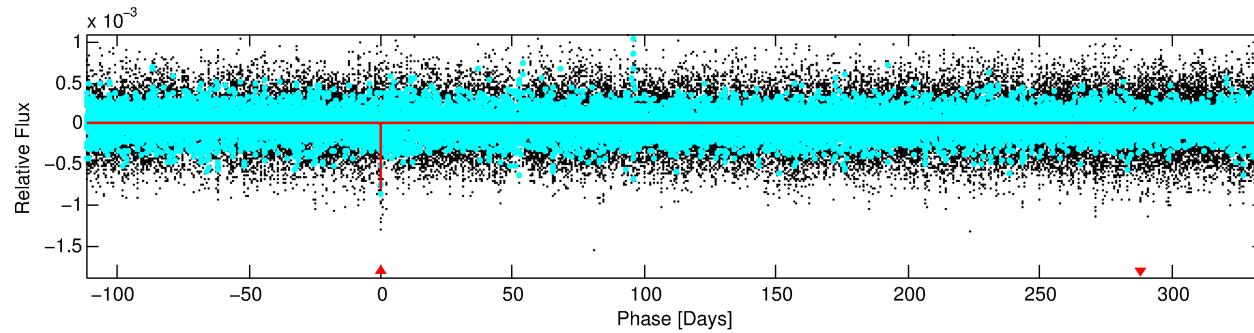
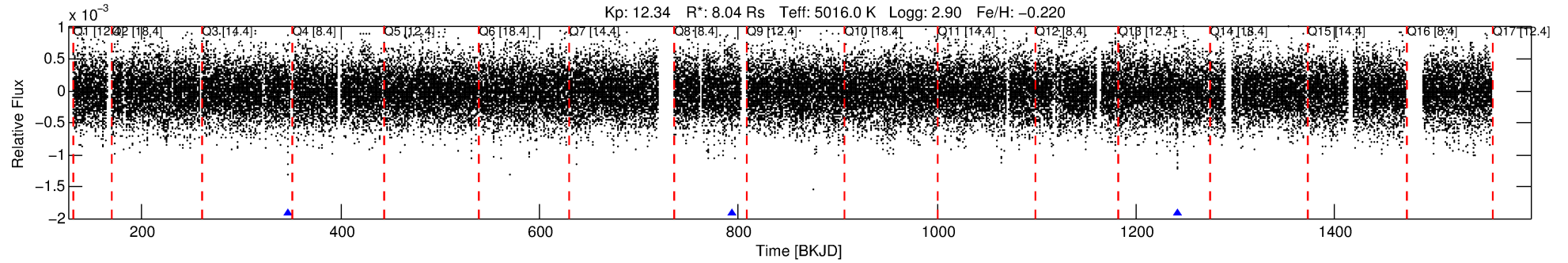
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010658726-01

No Significant Match Found

DV One-Page Summary

KIC: 10658726 Candidate: 1 of 1 Period: 447.178 d



DV Fit Results:

Period = 447.17826 [0.00527] d
Epoch = 346.9044 [0.0062] BKJD
Rp/R* = 0.0313 [0.0048]
a/R* = 390.37 [142.16]
b = 0.91 [0.08]
Seff = 18.50 [3.35]
Teff = 529 [24] K
Rp = 27.46 [7.33] Re
a = 1.4077 [0.2087] AU
Ag = 399.86 [233.79] [1.71 σ]
Teffp = 3656 [523] K [5.98 σ]

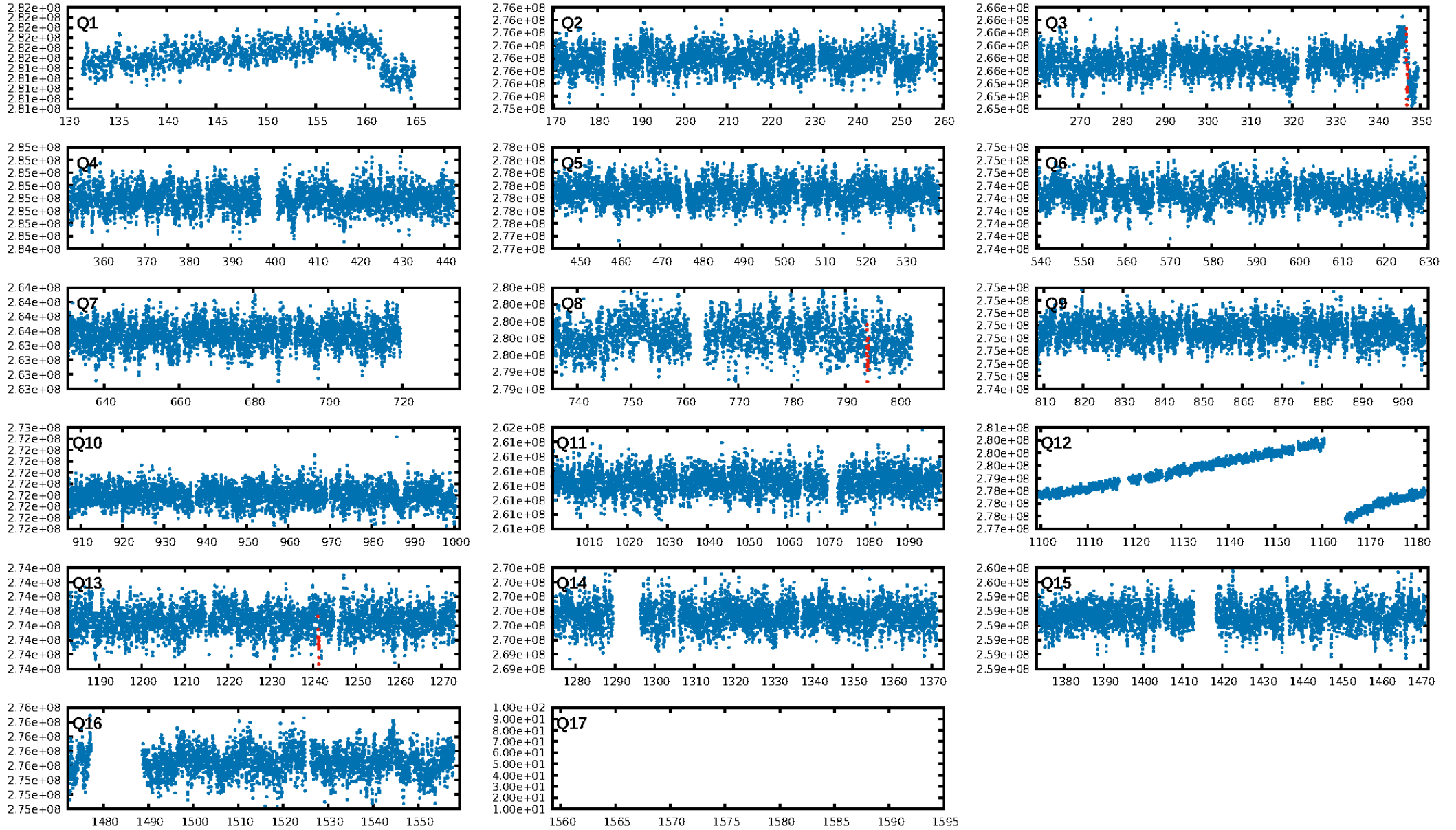
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 47.6%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 1.79e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.601
Centroid-sig: 60.2%
Centroid-so: 0.173 arcsec [0.71 σ]
OotOffset-rm: 1.667 arcsec [1.39 σ]
KicOffset-rm: 1.658 arcsec [1.44 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

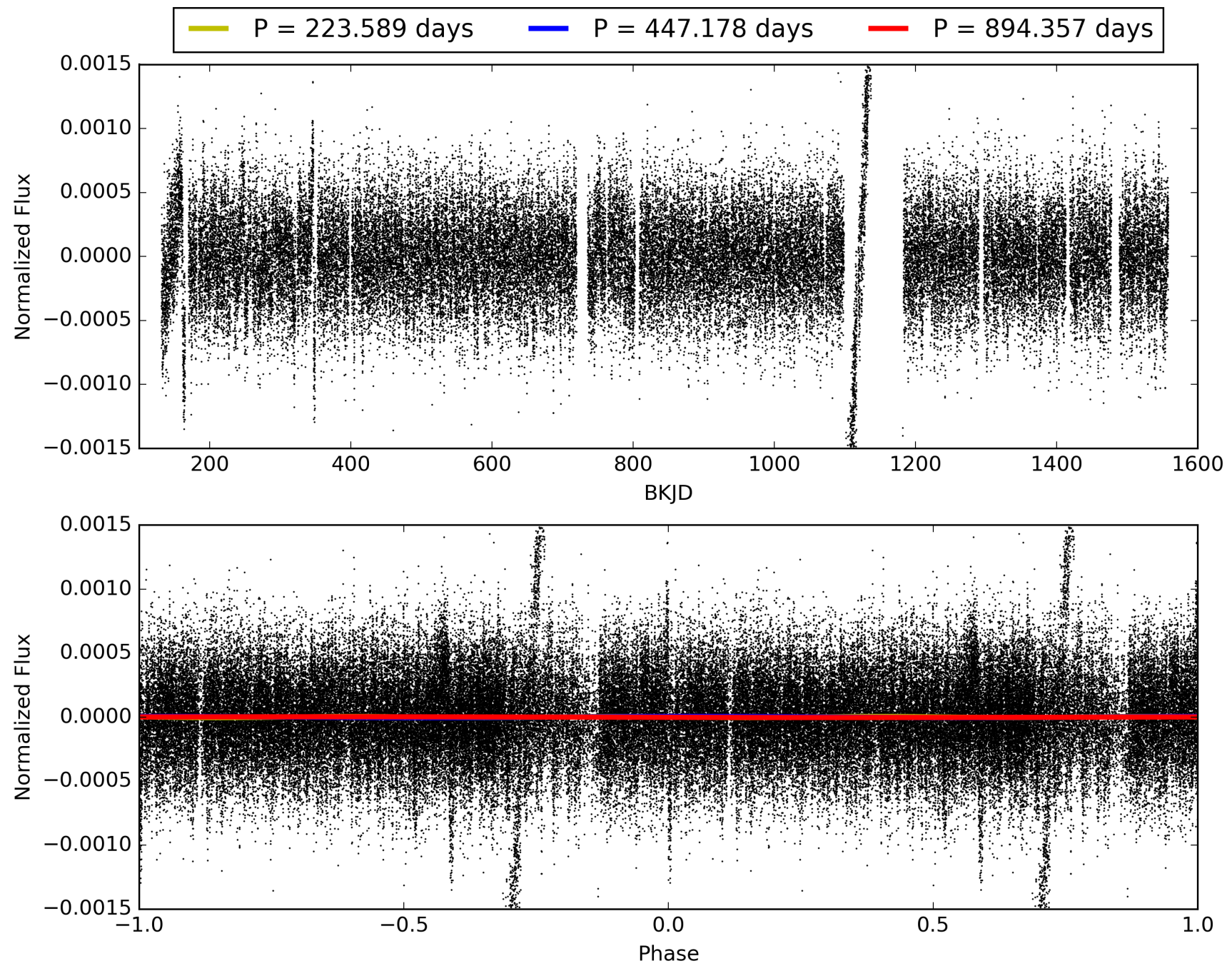
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:53:33 Z

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

TCE 010658726-01, PDC Light Curves

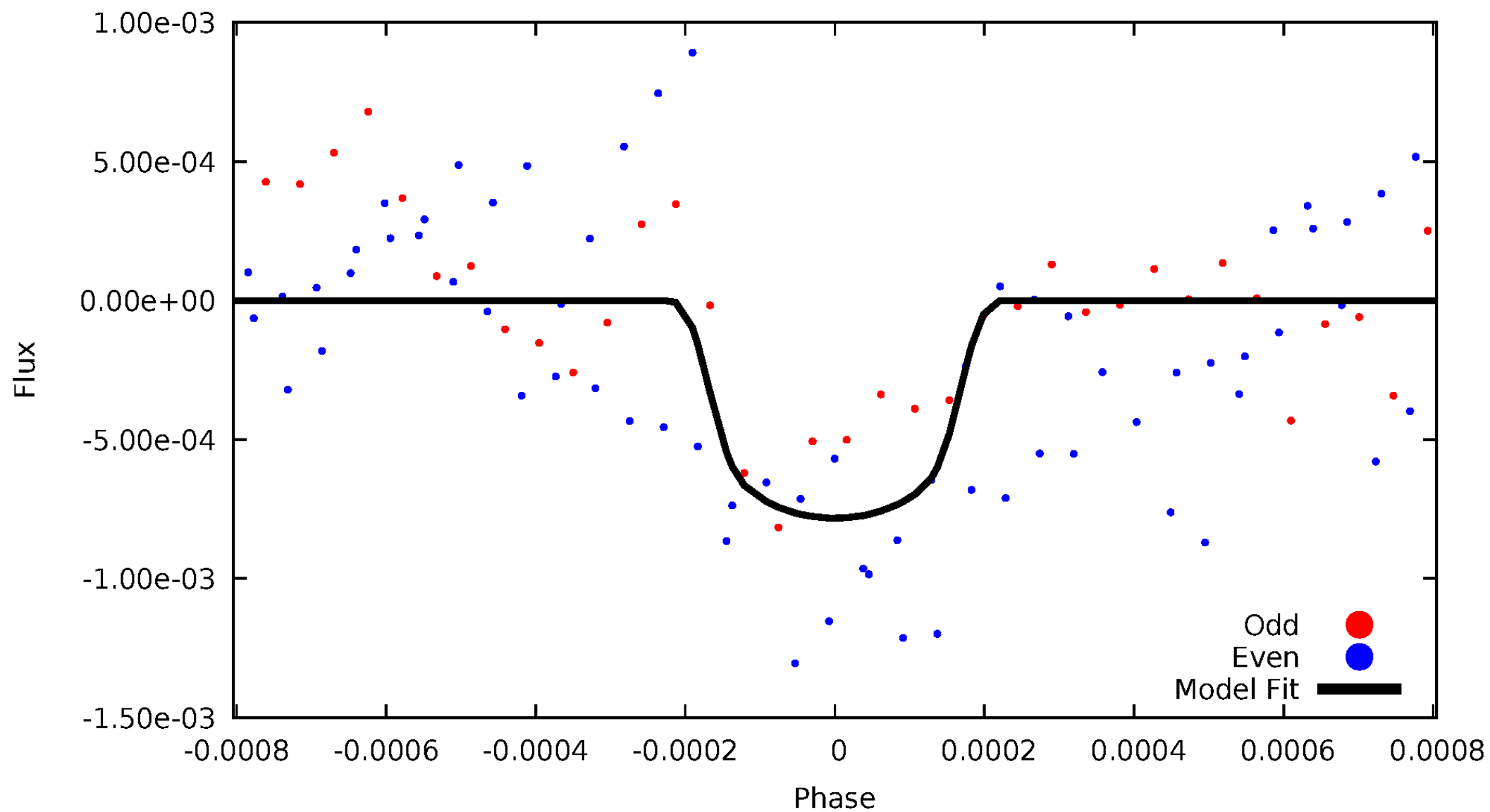


TCE 010658726-01



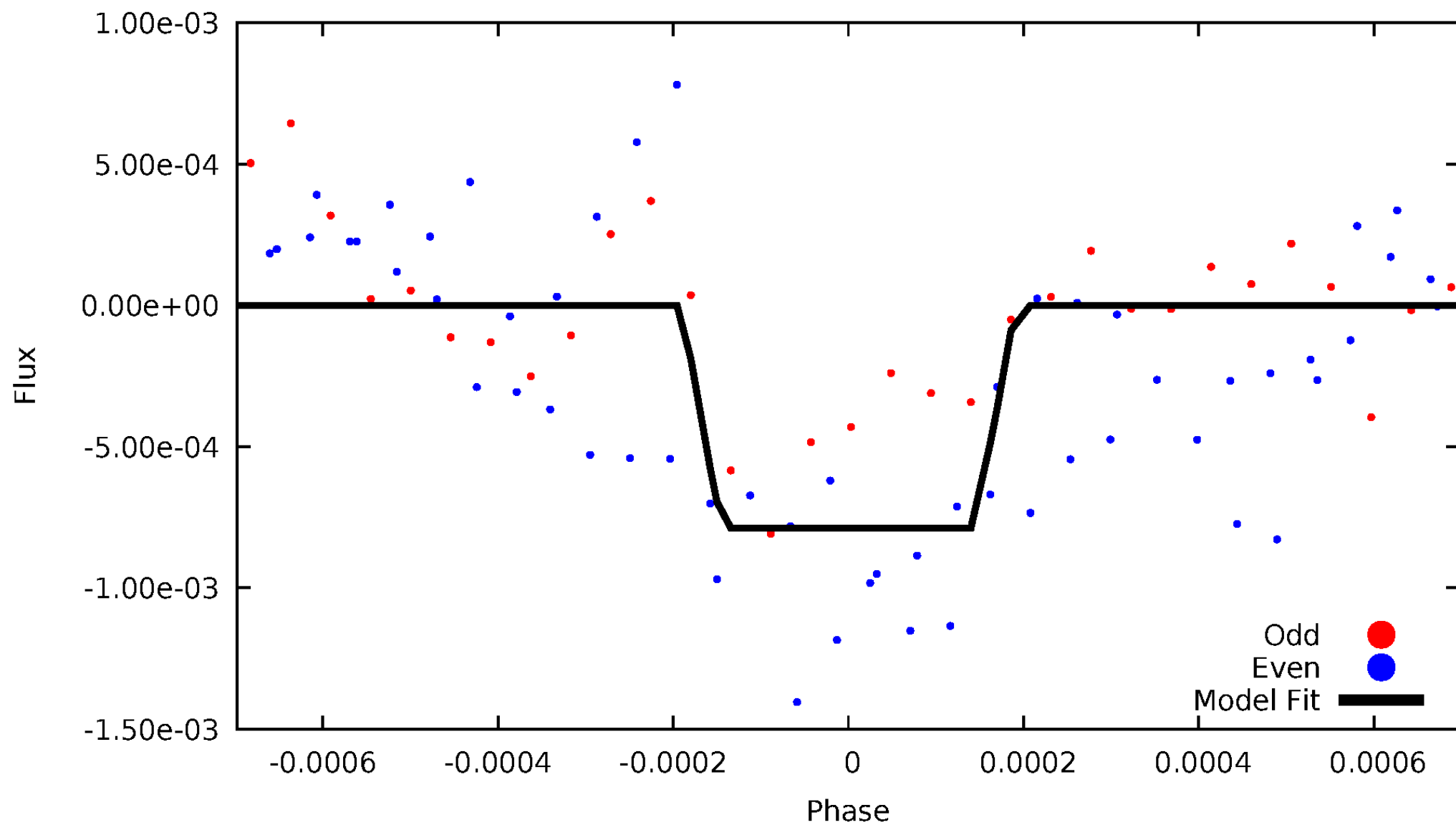
DV Odd/Even

TCE 010658726-01

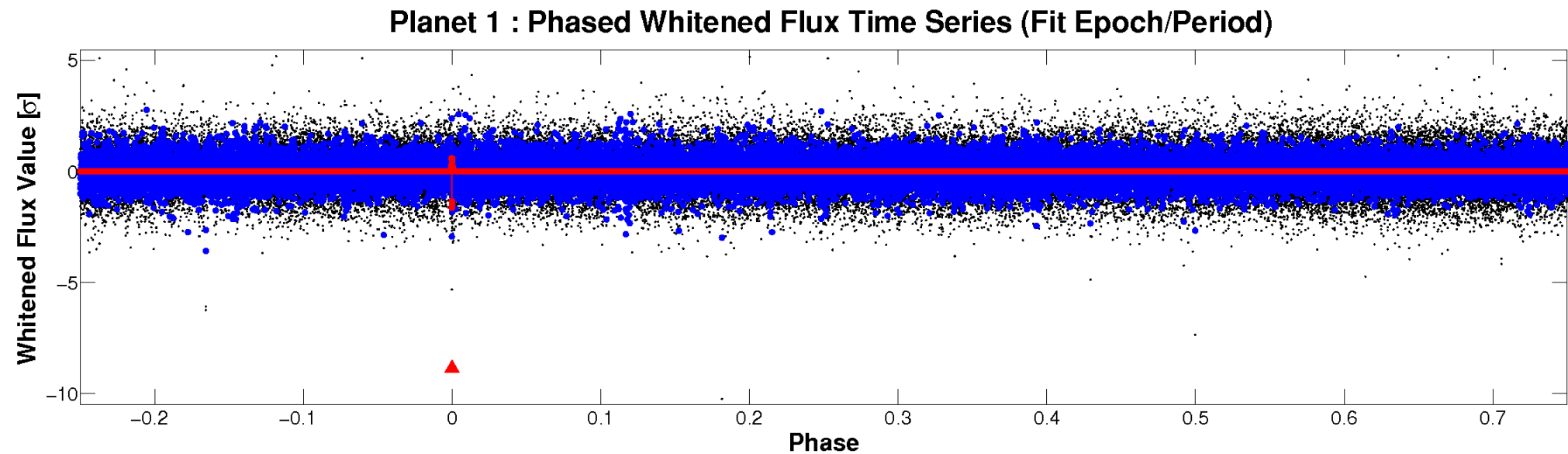
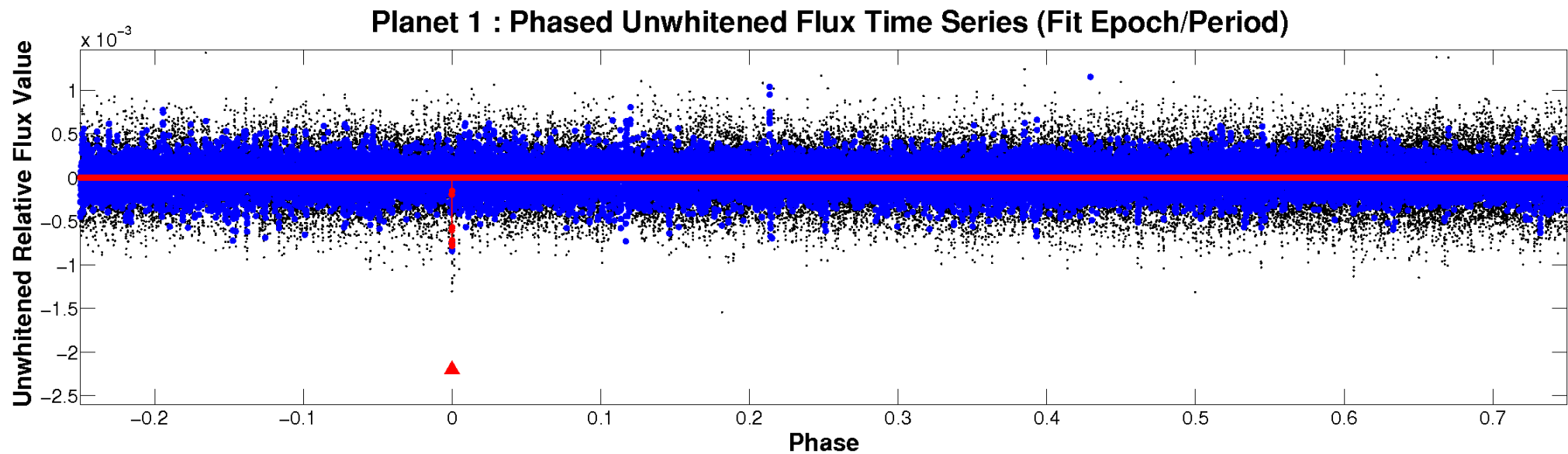


ALT Odd/Even

TCE 010658726-01

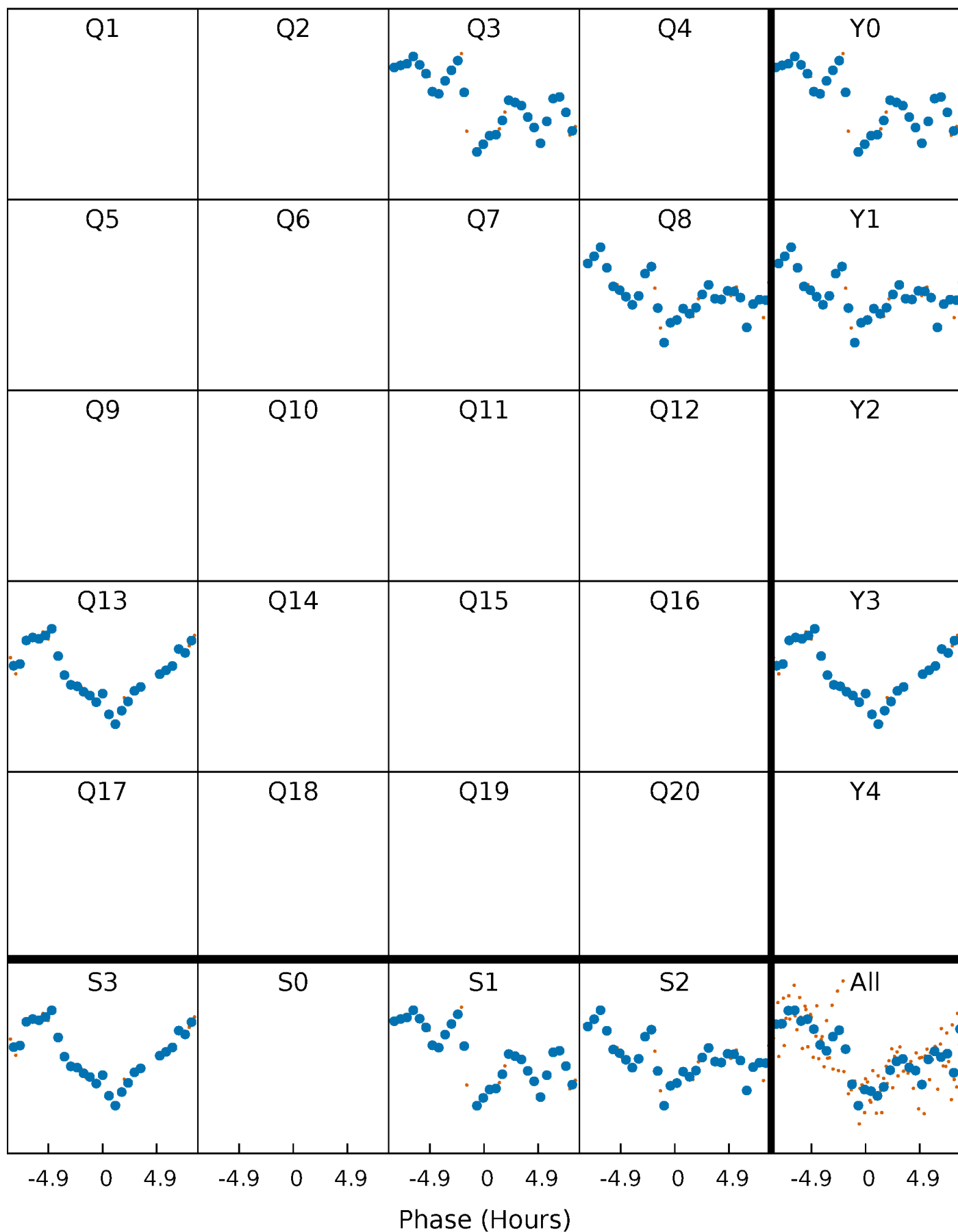


Non-Whitened Vs. Whitened Light Curve



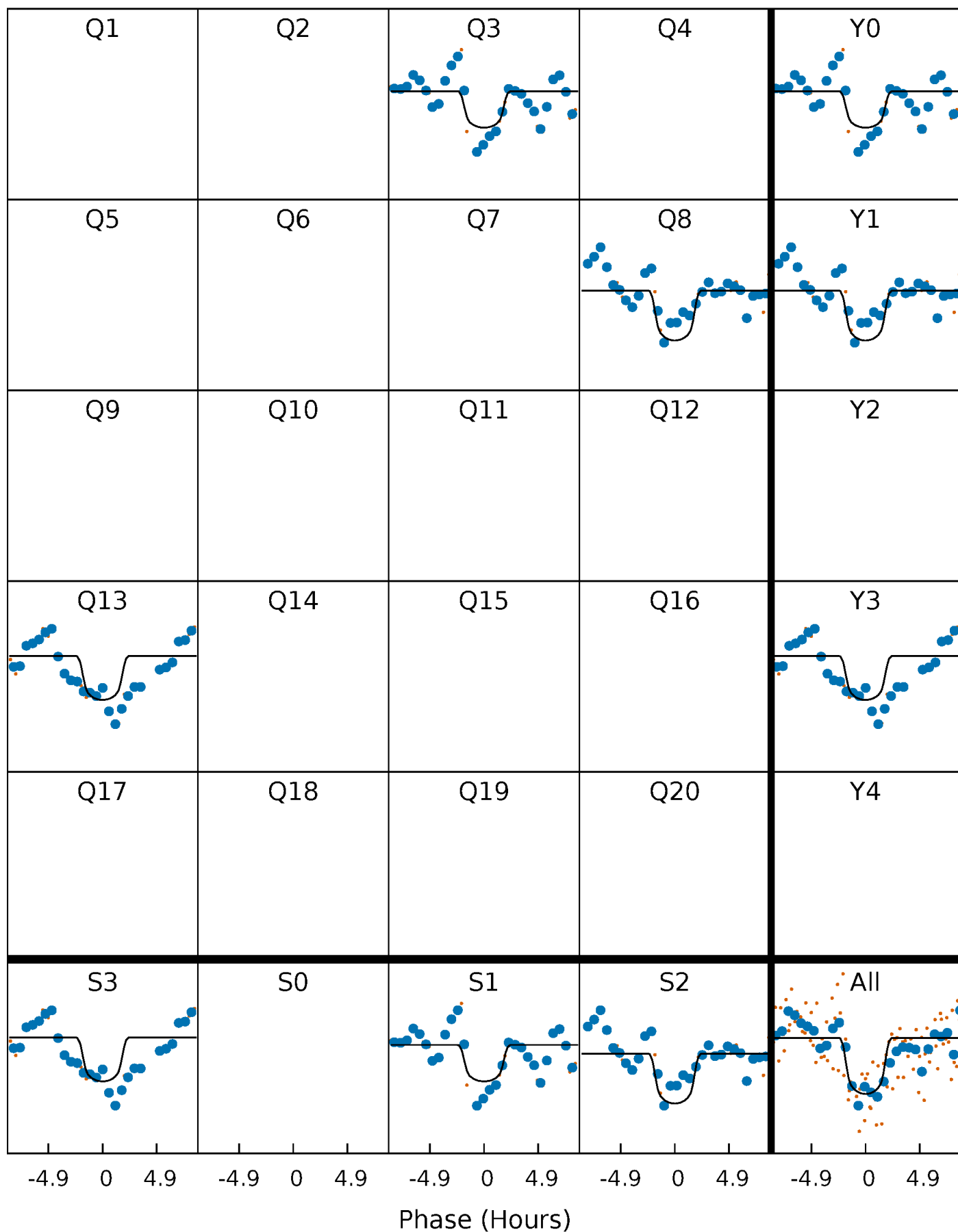
PDC Quarter-Phased Transit Curves

TCE 010658726-01 P=447.178259 Days $T_0=346.904417$ (BKJD)



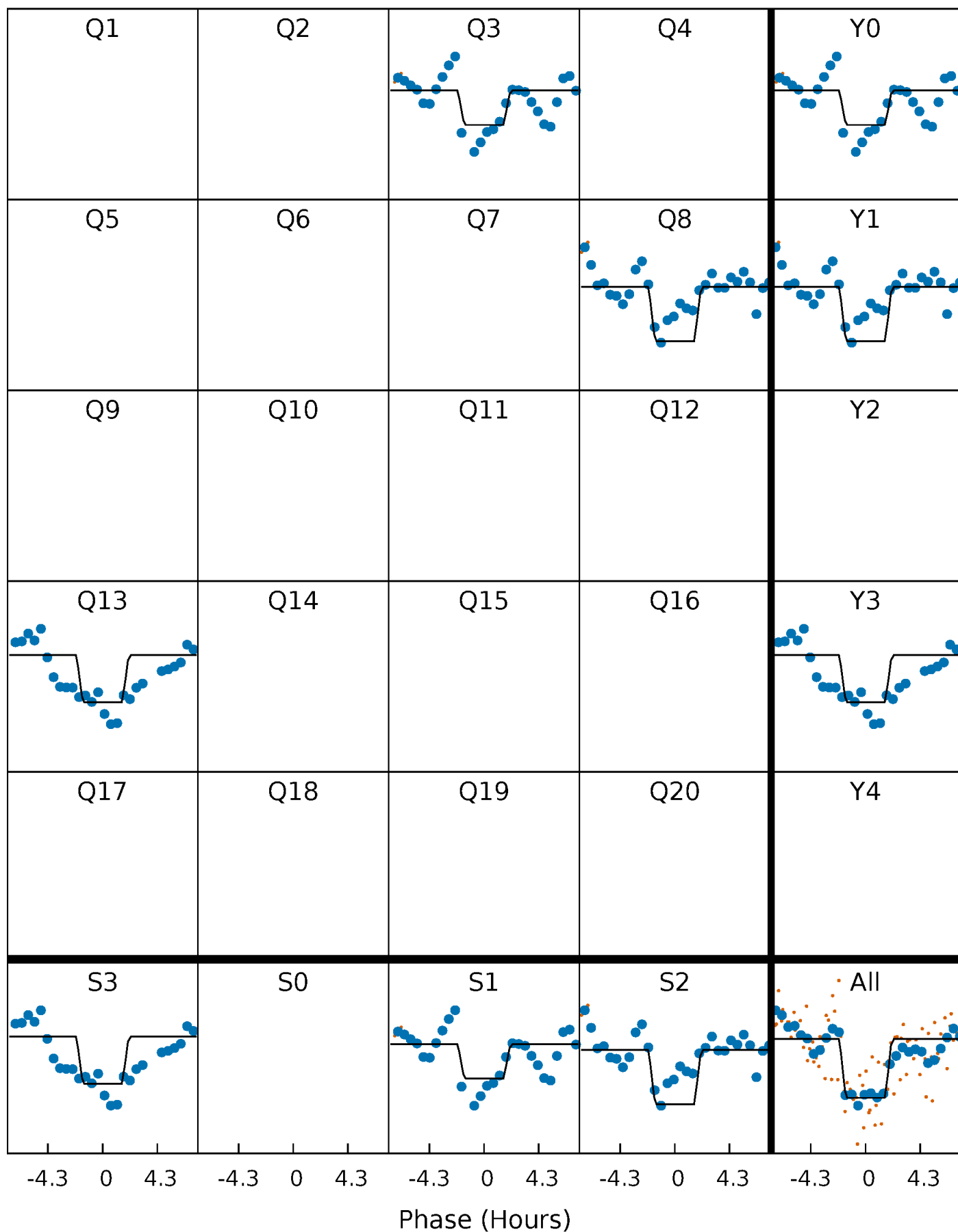
DV Quarter-Phased Transit Curves

TCE 010658726-01 P=447.178259 Days $T_0=346.904417$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

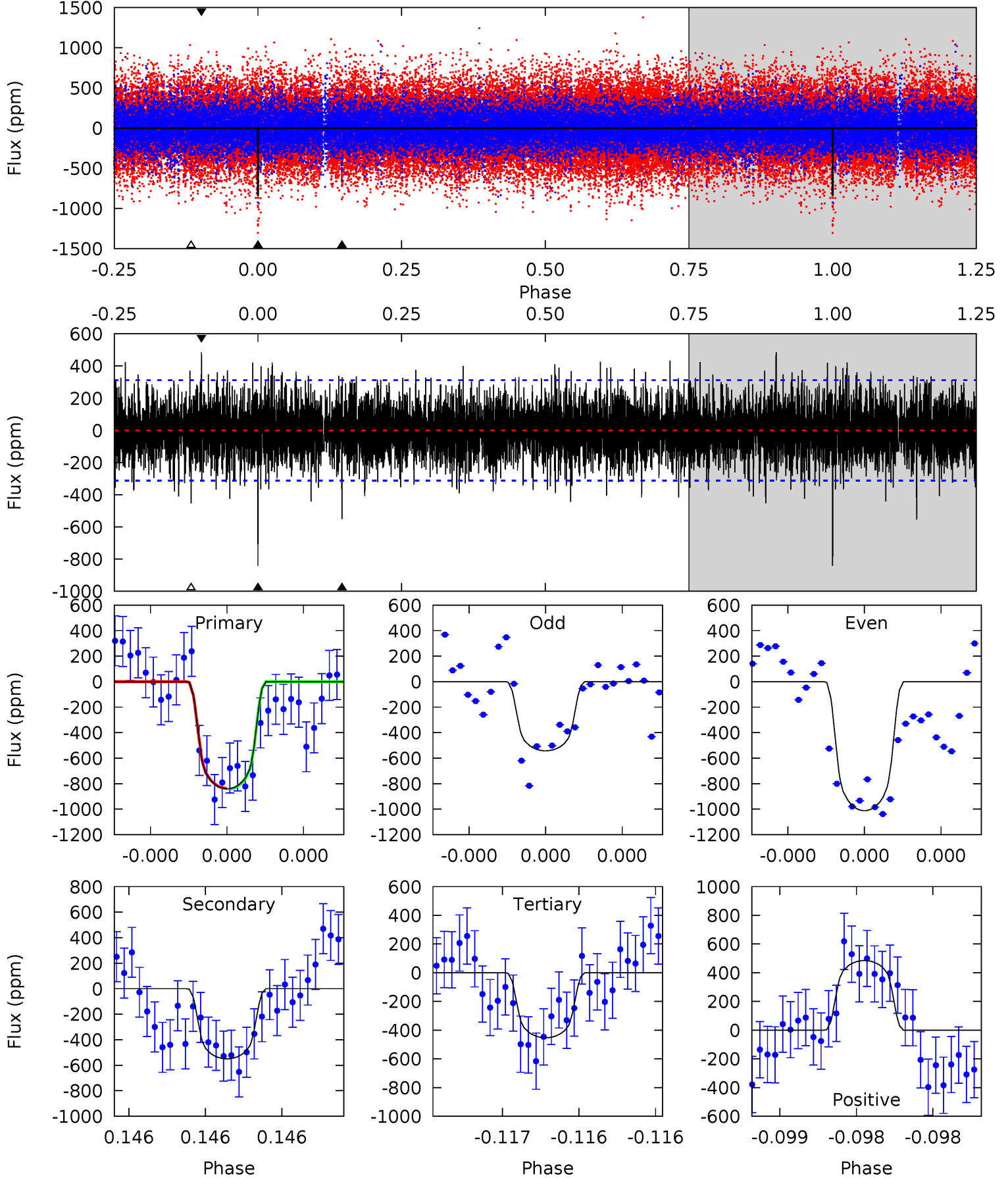
TCE 010658726-01 P=447.181649 Days $T_0=346.906763$ (BKJD)



DV Model-Shift Uniqueness Test

010658726-01, P = 447.178259 Days, E = 346.904417 Days

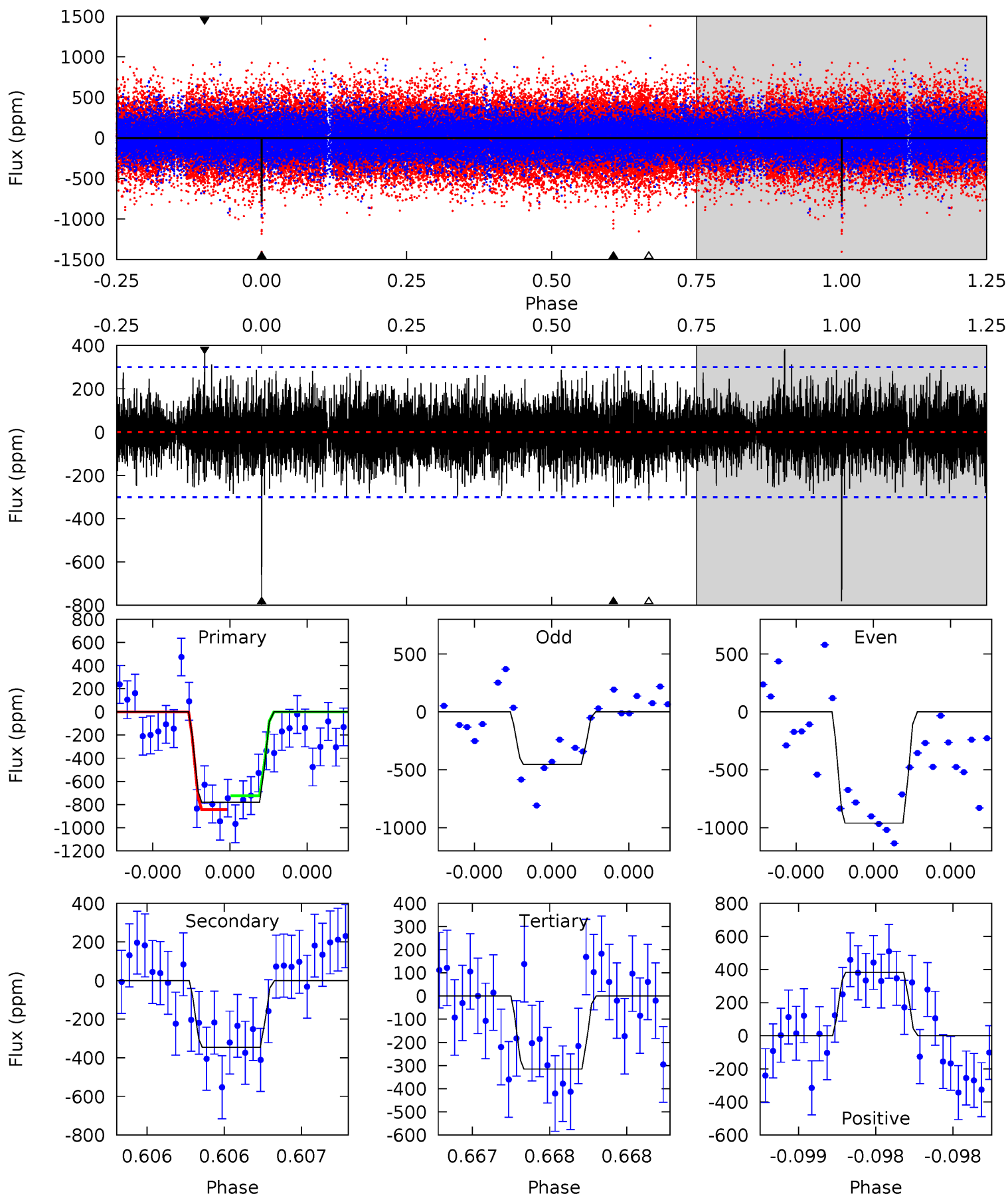
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	9.86	8.12	8.70	5.60	3.52	2.27	6.96	6.37	1.74	1.16	3.97	0.88	0.37	0.06



Alt Model-Shift Uniqueness Test

010658726-01, P = 447.181649 Days, E = 346.906763 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	6.47	5.91	7.17	5.63	3.56	1.65	8.71	7.45	0.56	-0.70	4.37	0.88	0.33	1.10



Stellar Parameters For KIC 010658726

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5016^{+49}_{-118}	$2.897^{+0.033}_{-0.027}$	$-0.220^{+0.100}_{-0.200}$	$8.040^{+0.330}_{-1.762}$	$1.862^{+0.166}_{-0.666}$	$0.005^{+0.002}_{-0.000}$
	+1%/-2%	+1%/-1%	+45%/-91%	+4%/-22%	+9%/-36%	+34%/-7%
Source	PHO55	AST55	SPE55	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010658726-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-550 ± 56	$27.30^{+4.72}_{-4.30}$	737^{+14}_{-19}	4443^{+321}_{-263}	799^{+342}_{-220}
Alt.	-345 ± 53	$24.78^{+4.58}_{-4.42}$	737^{+13}_{-20}	4220^{+340}_{-259}	623^{+312}_{-194}

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

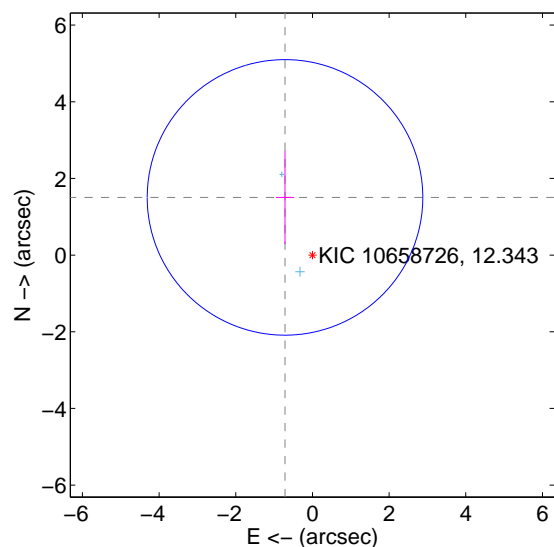
Supplemental centroid analysis for 010658726-01. Kepler magnitude: 12.34. Transit SNR 6.57

There are 2 quarters with good PRF difference image offsets

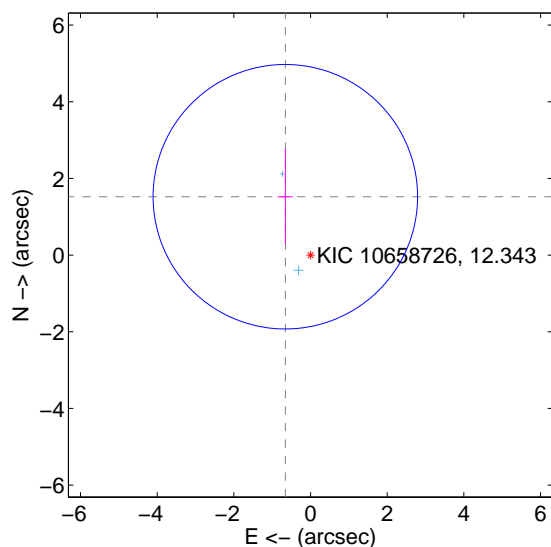
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.667 ± 1.198	1.39	0.716 ± 0.238	1.505 ± 1.218
PRF-fit source offset from KIC position	1.658 ± 1.150	1.44	0.657 ± 0.199	1.523 ± 1.250
photometric centroid source offset	0.17 ± 0.24	0.71	0.06 ± 0.22	0.16 ± 0.25

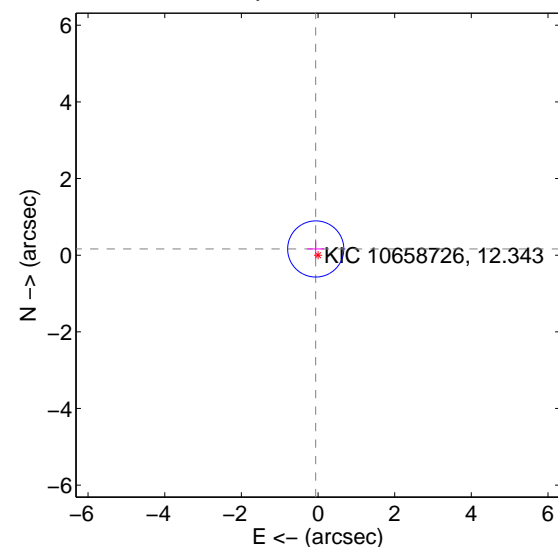
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



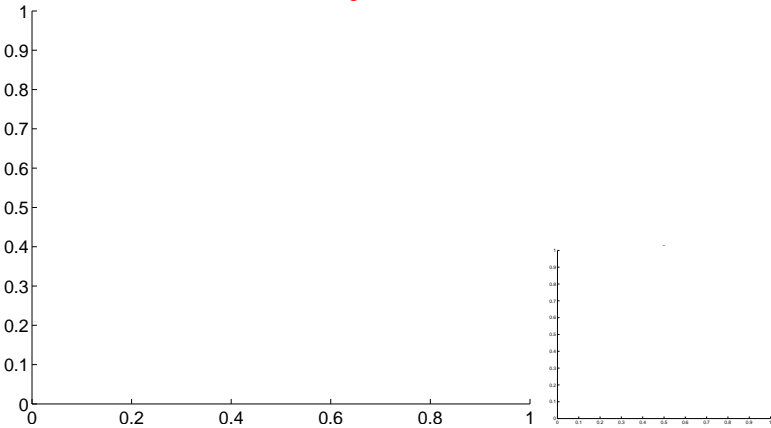
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

Q1 no difference image



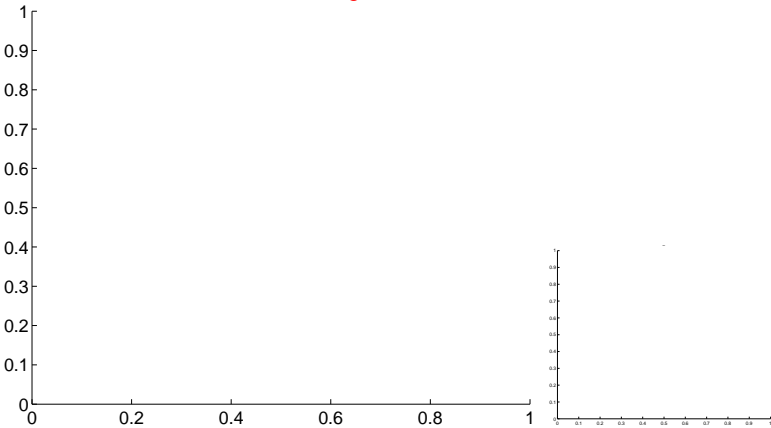
Q1 no OOT image



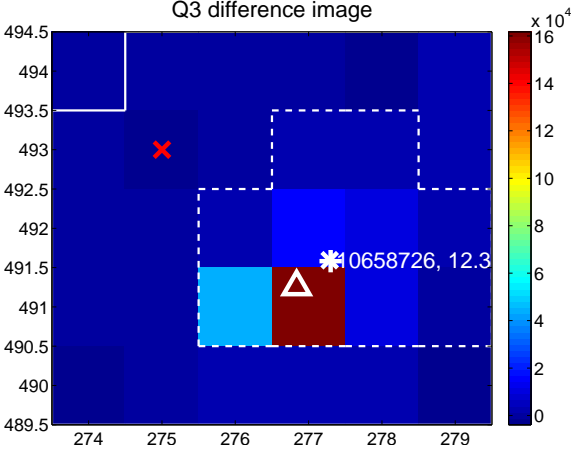
Q2 no difference image



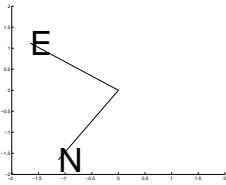
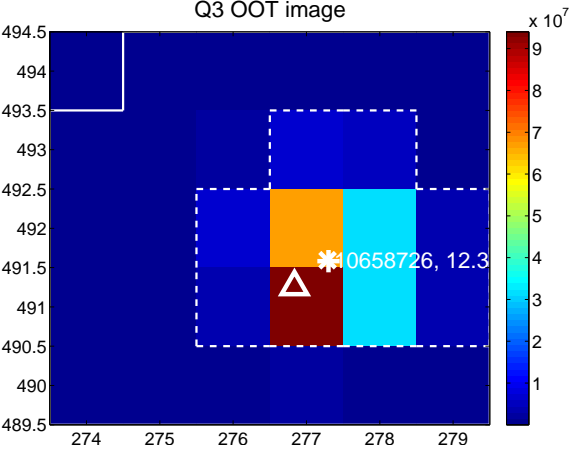
Q2 no OOT image



Q3 difference image



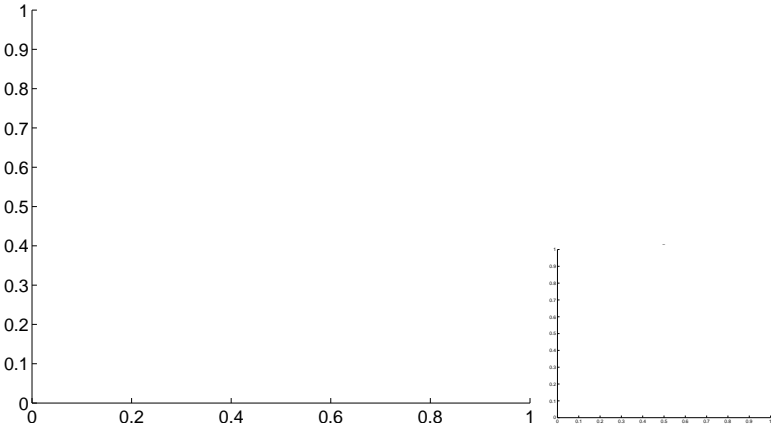
Q3 OOT image



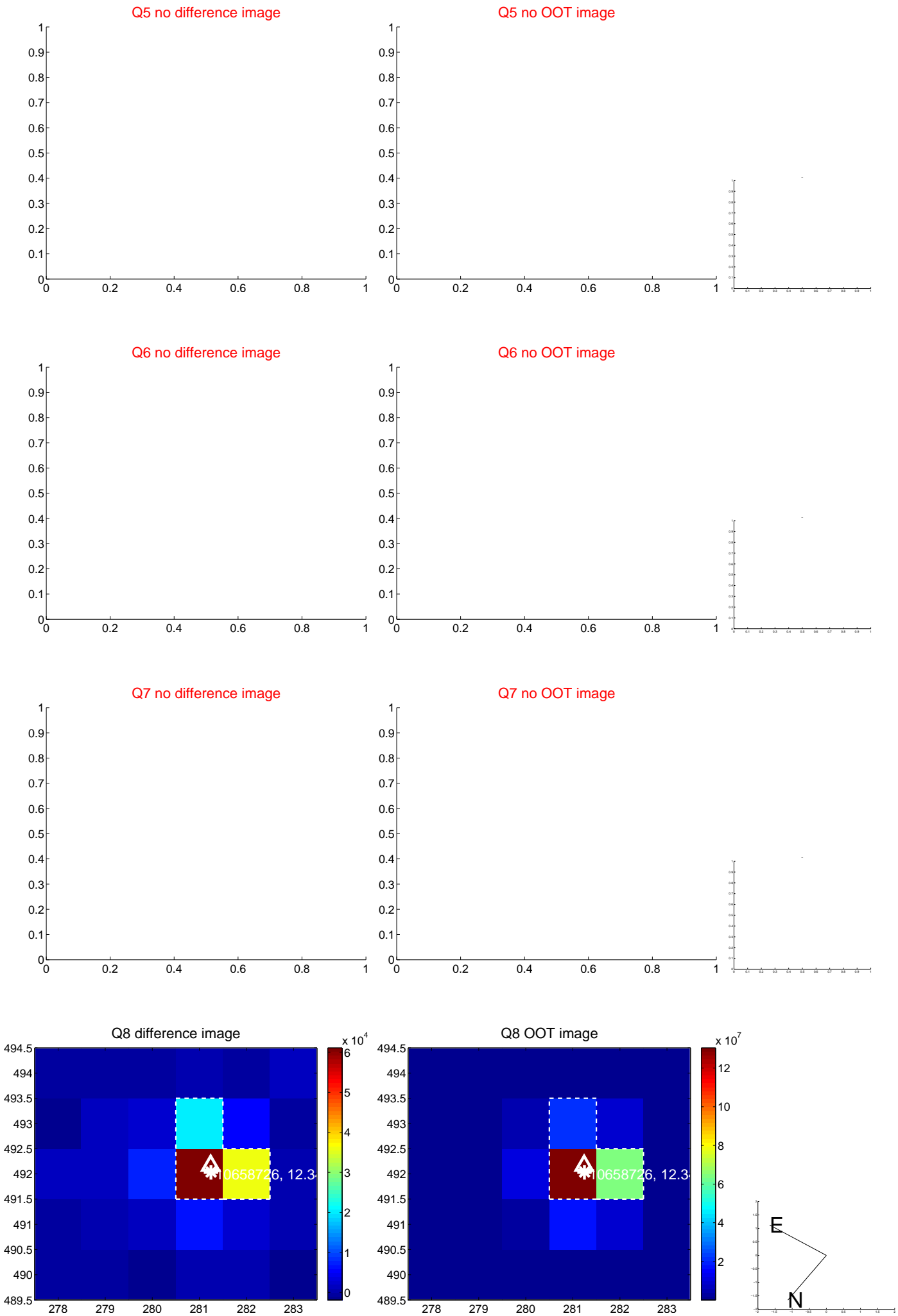
Q4 no difference image



Q4 no OOT image



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



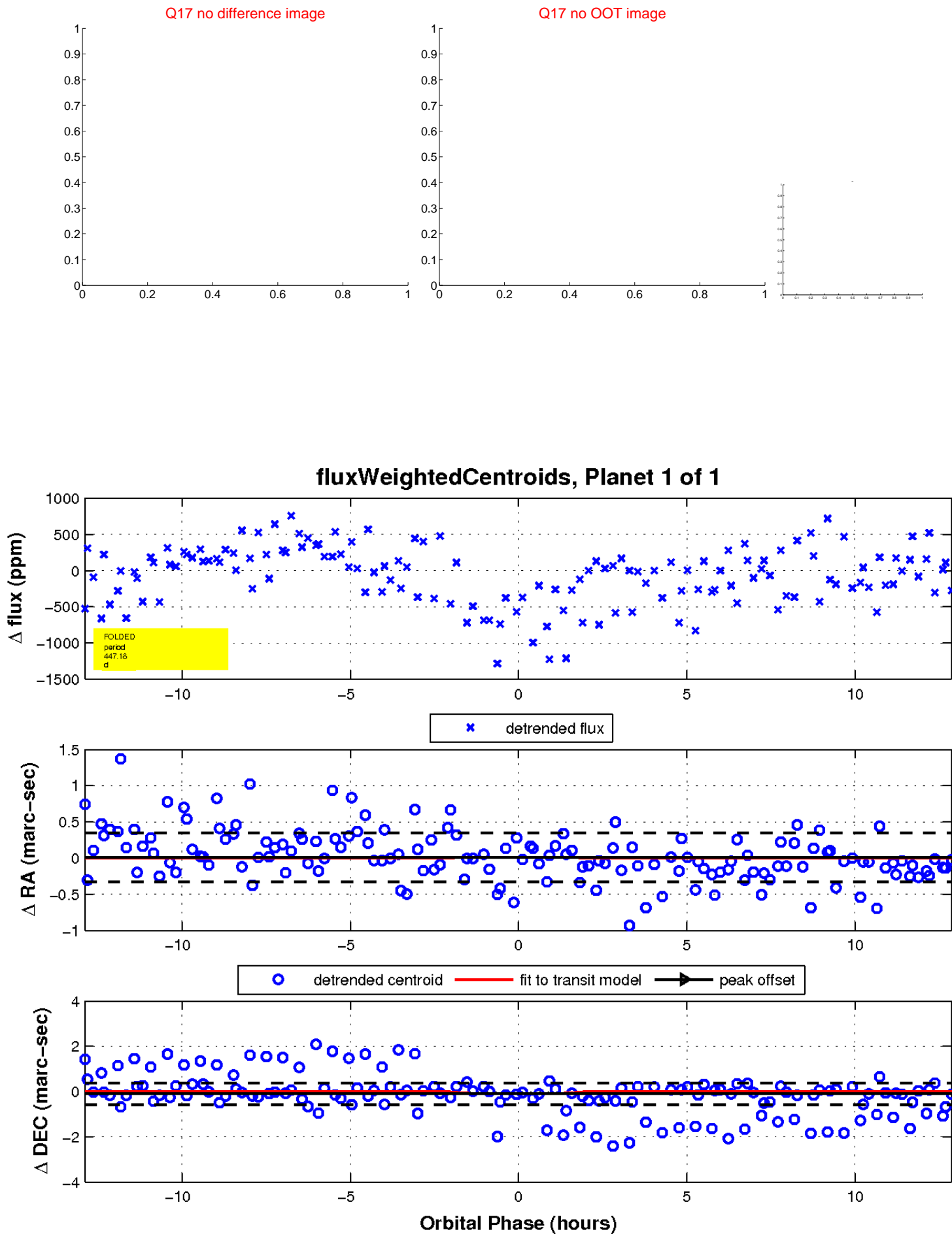
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

