

KIC 009693885

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})
009693885-01	OBS	No	427.081119	347.243246	196.8	16.029	7.8	7.7	1.55	6745	2.36	2.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009693885-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

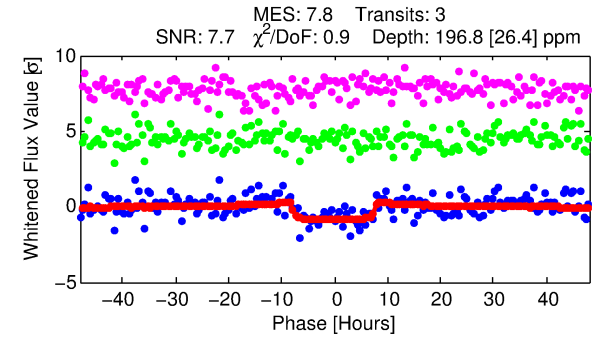
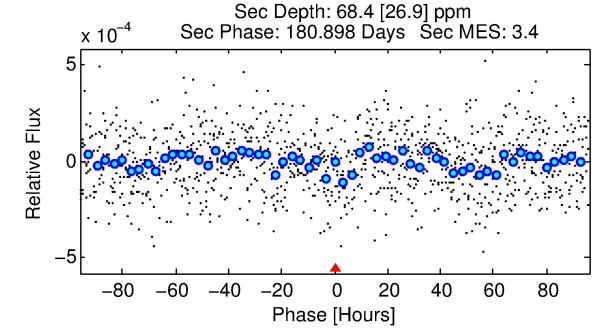
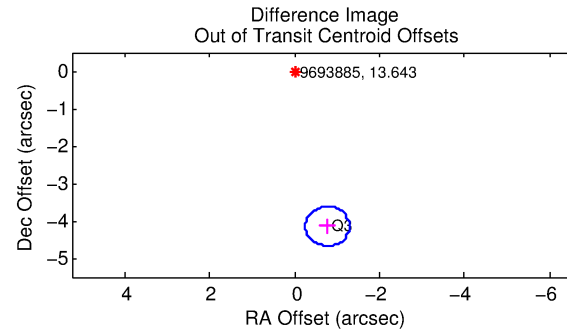
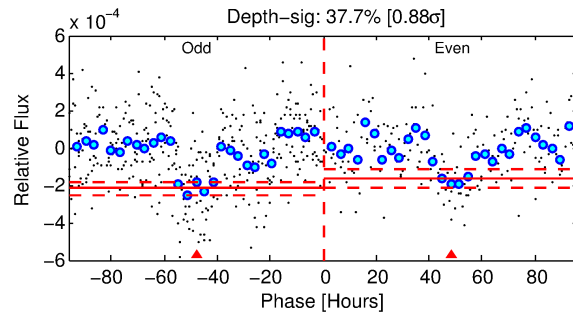
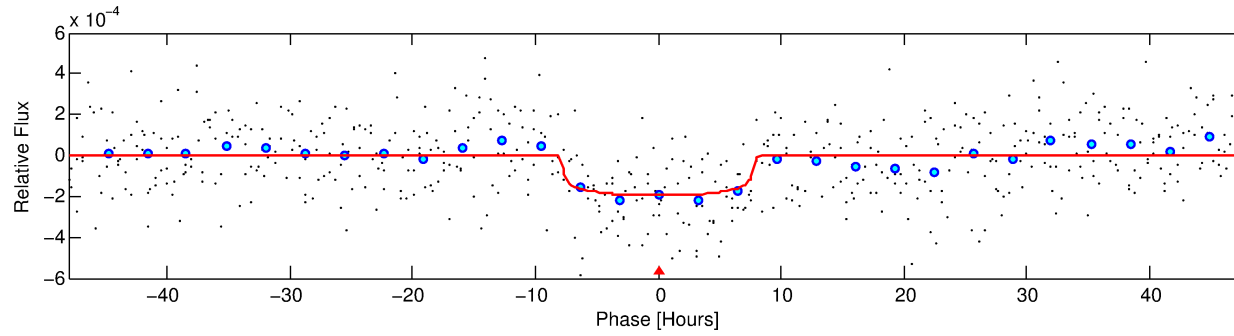
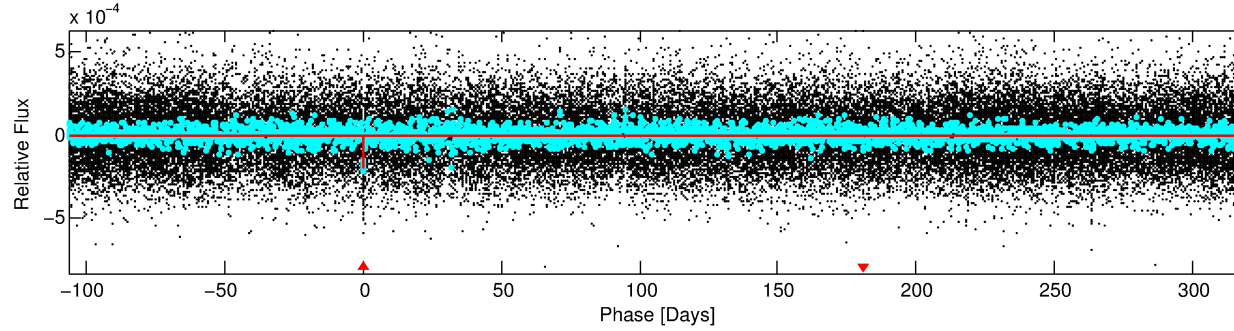
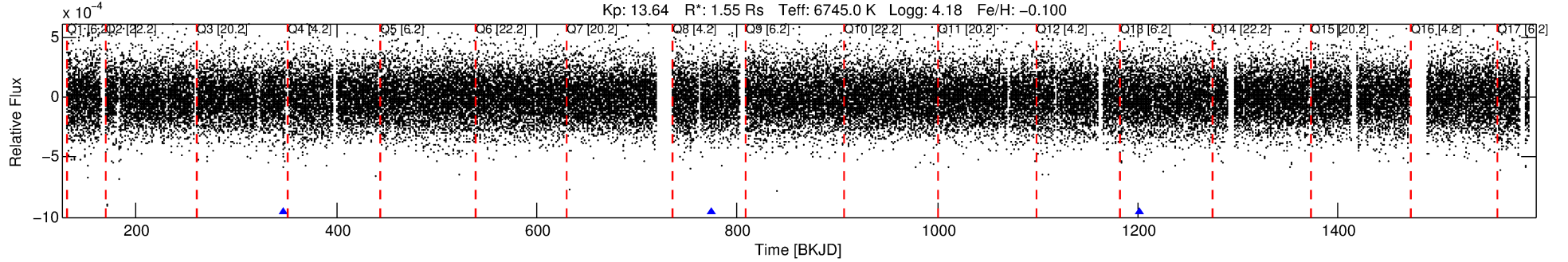
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009693885-01

No Significant Match Found

DV One-Page Summary

KIC: 9693885 Candidate: 1 of 1 Period: 427.081 d



DV Fit Results:

Period = 427.08112 [0.01529] d
Epoch = 347.2432 [0.0191] BKJD
Rp/R* = 0.0140 [0.0039]
a/R* = 138.34 [214.05]
b = 0.75 [0.89]
Seff = 2.99 [1.18]
Teq = 335 [33] K
Rp = 2.36 [1.00] Re
a = 1.2201 [0.3126] AU
Ag = 10062.37 [7758.07] [1.30 σ]
Teffp = 5192 [913] K [5.31 σ]

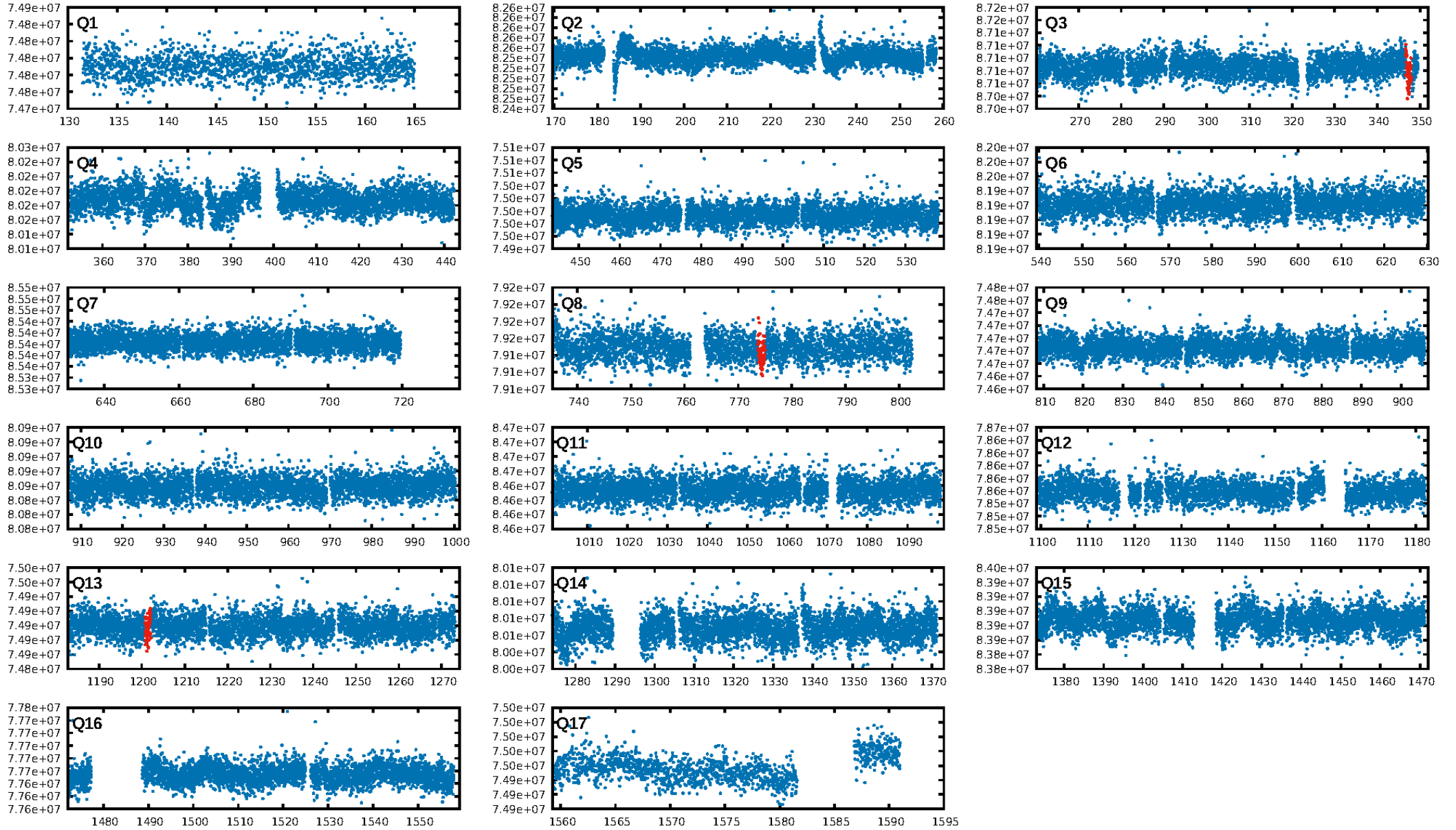
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 9.1%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 2.44e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -4.792
Centroid-sig: 15.5%
Centroid-so: 1.983 arcsec [1.10 σ]
OotOffset-rm: 4.218 arcsec [24.21 σ]
KicOffset-rm: 4.205 arcsec [24.15 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

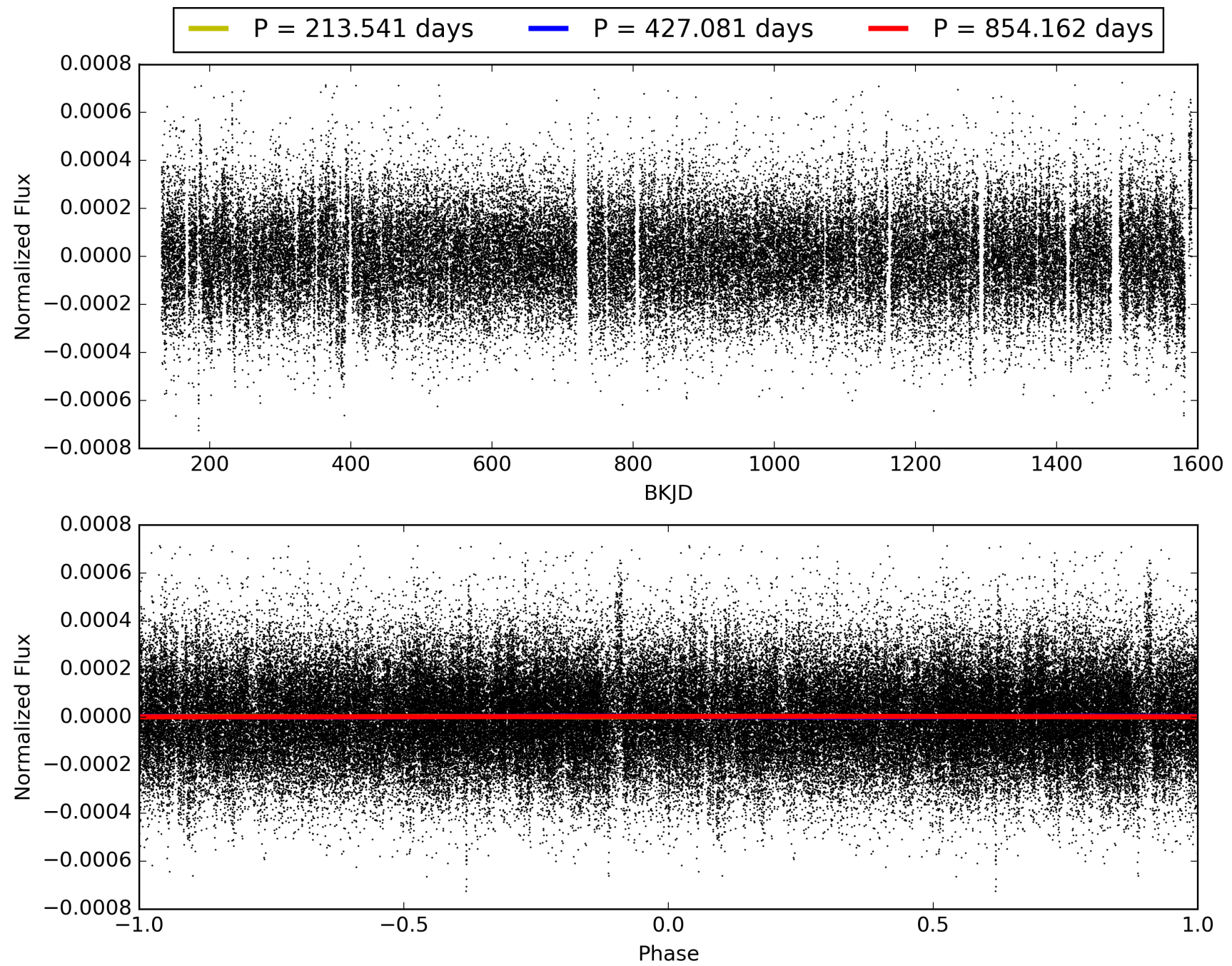
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:27:01 Z

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

TCE 009693885-01, PDC Light Curves

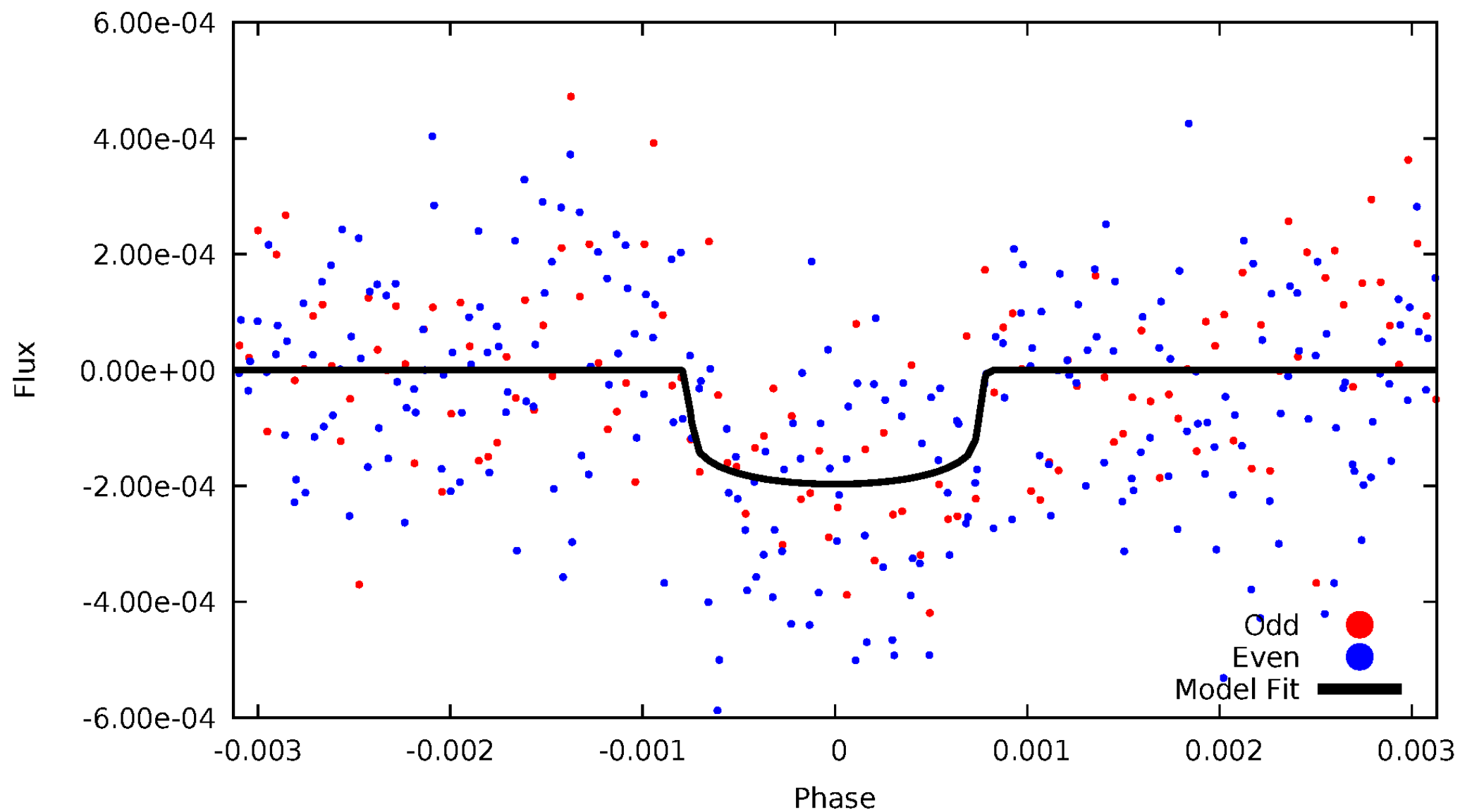


TCE 009693885-01



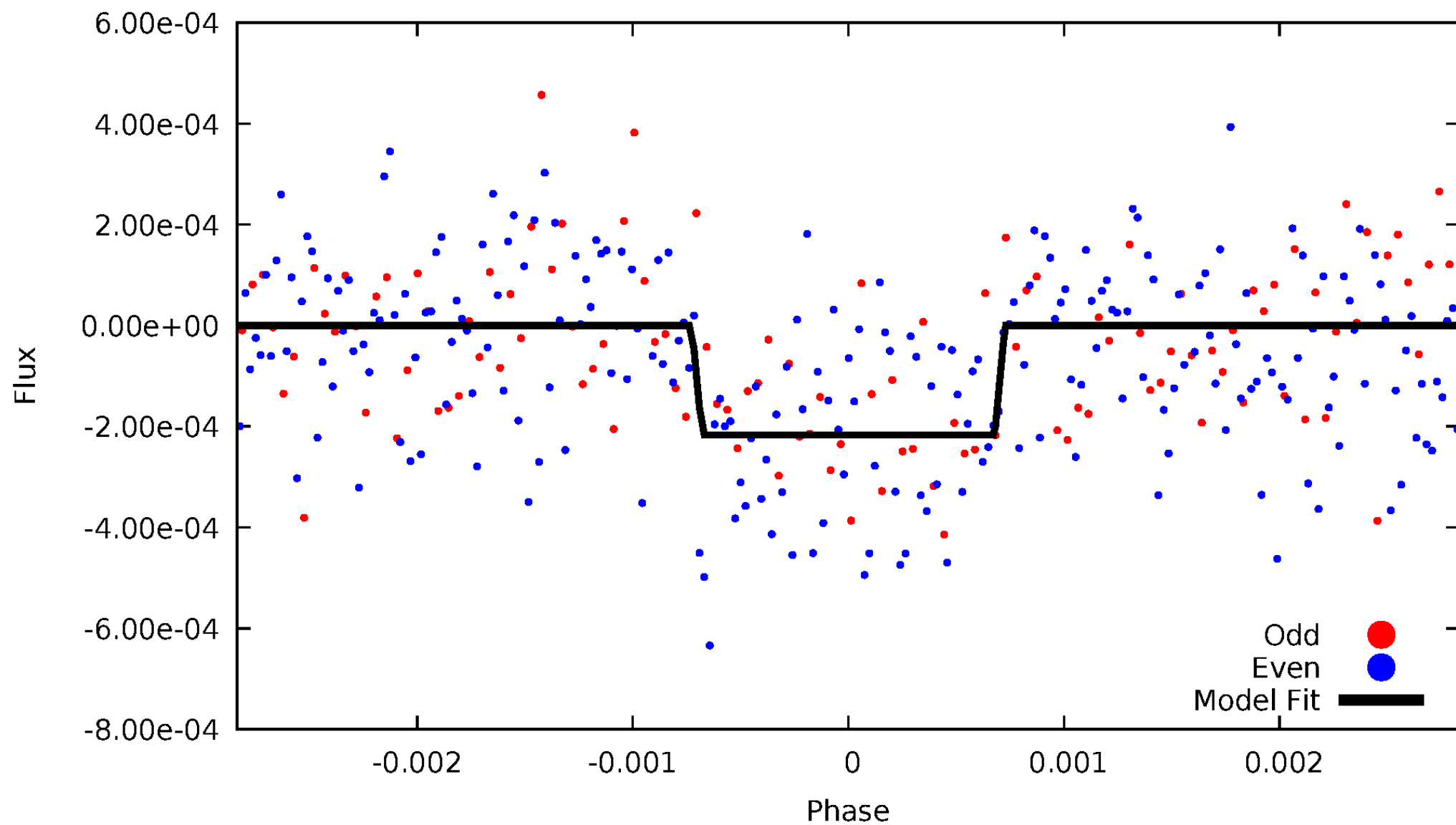
DV Odd/Even

TCE 009693885-01



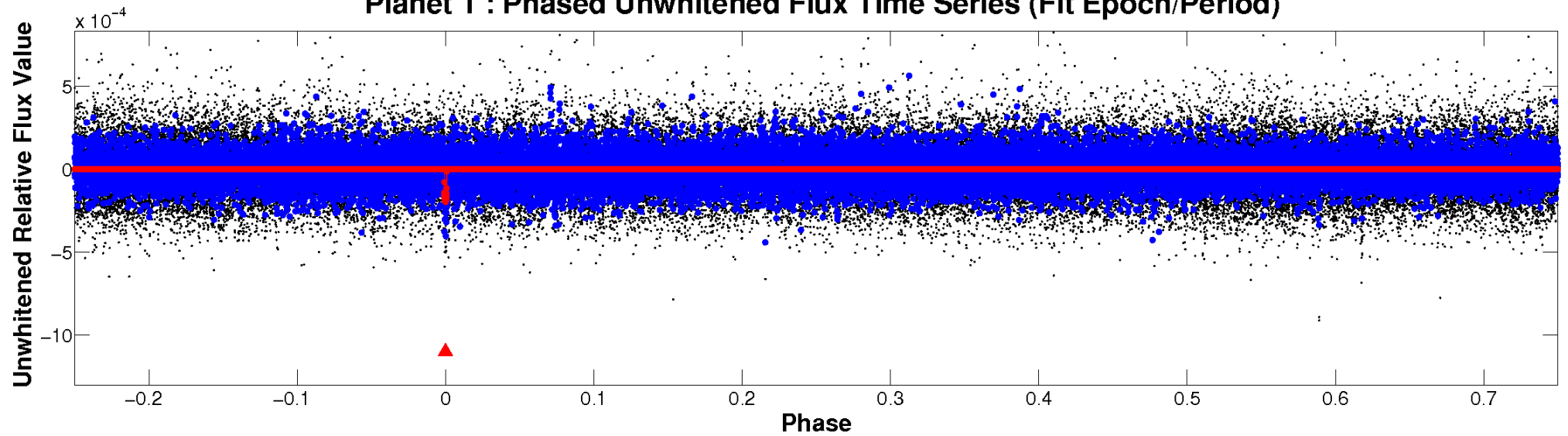
ALT Odd/Even

TCE 009693885-01

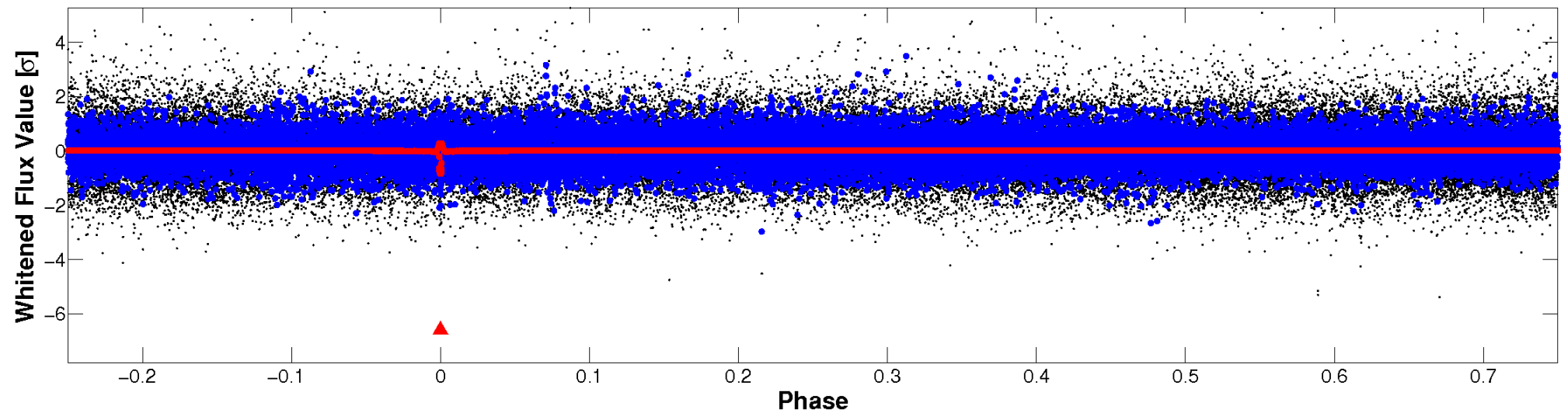


Non-Whitened Vs. Whitened Light Curve

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



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



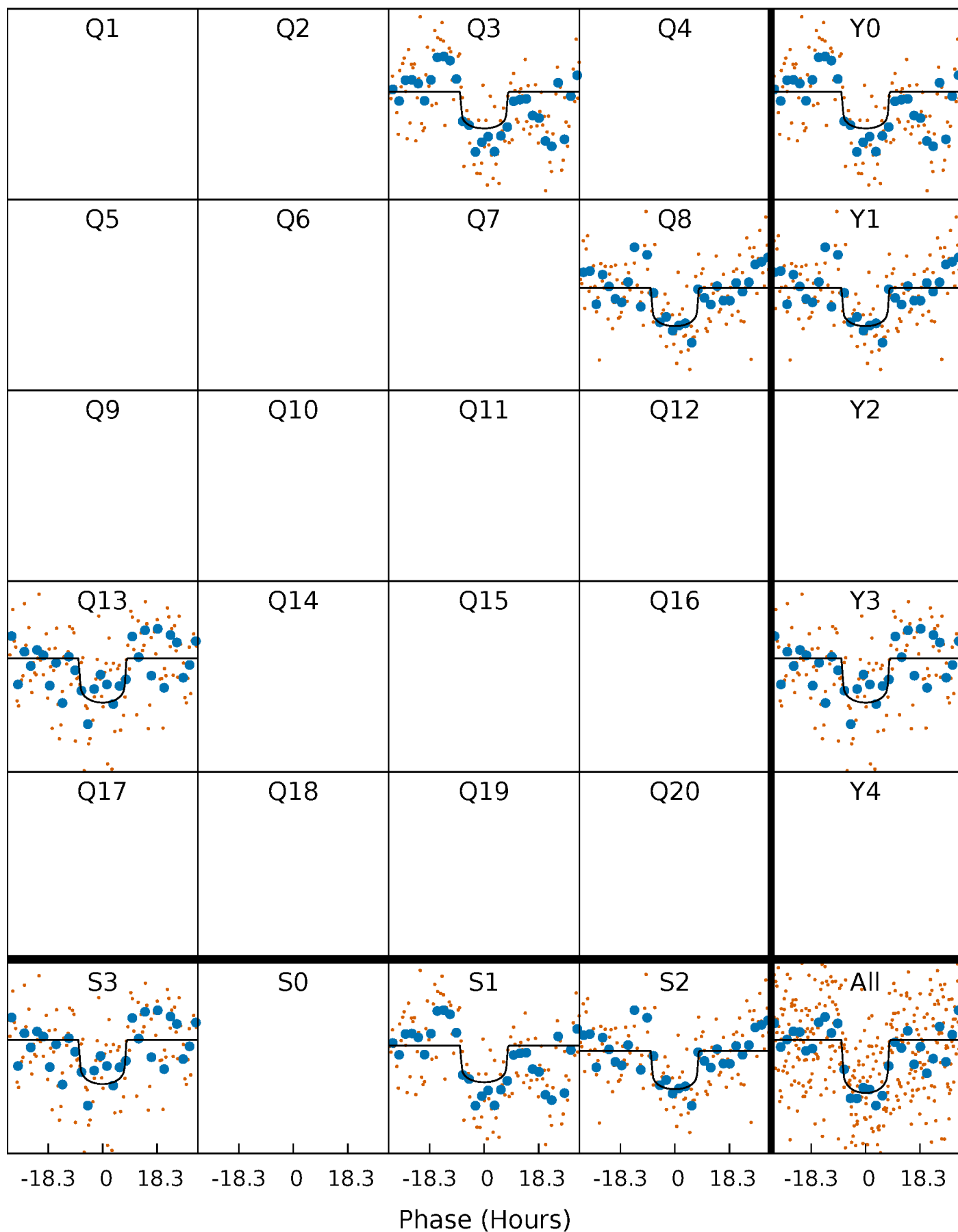
PDC Quarter-Phased Transit Curves

TCE 009693885-01 P=427.081119 Days $T_0=347.243246$ (BKJD)



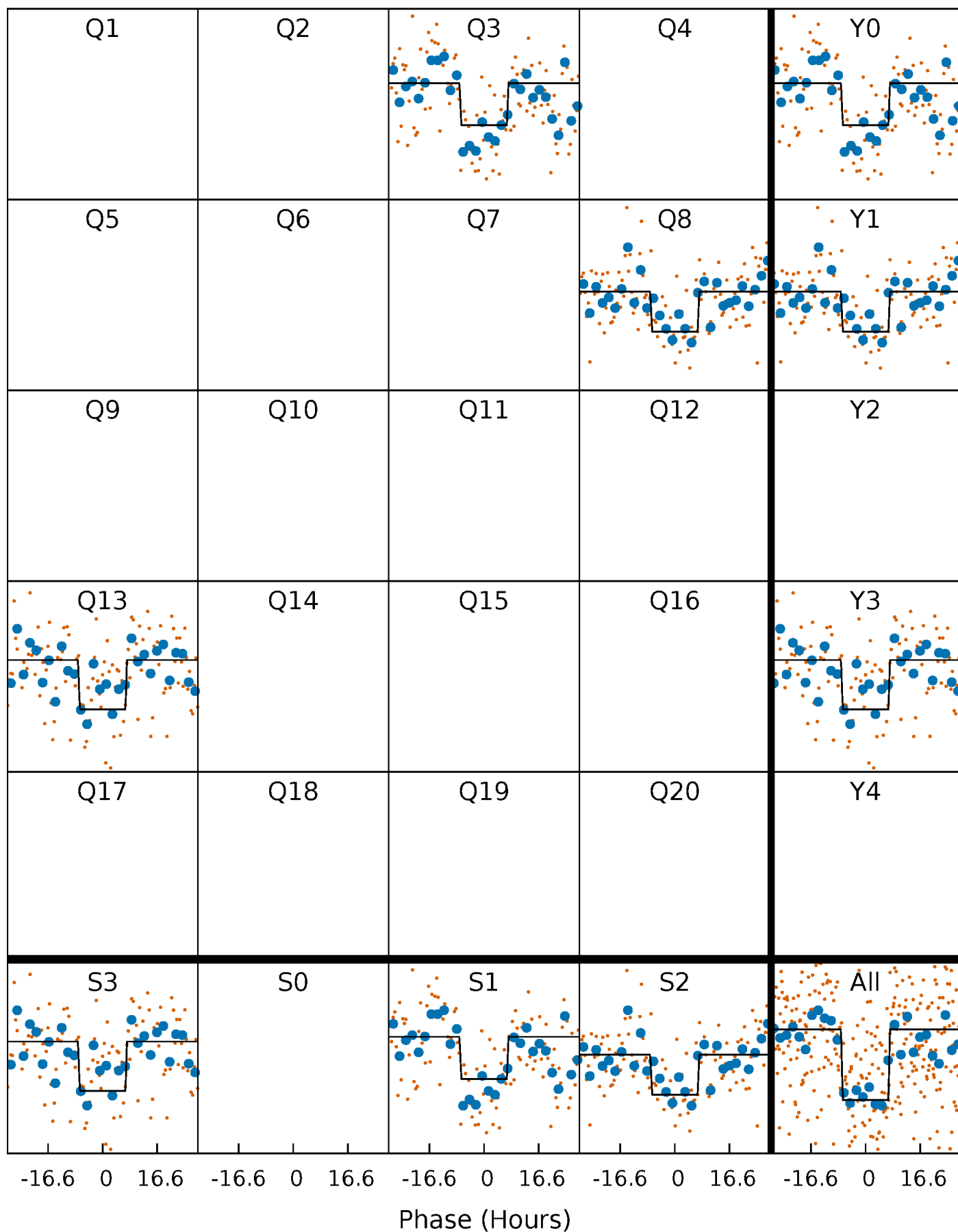
DV Quarter-Phased Transit Curves

TCE 009693885-01 $P=427.081119$ Days $T_0=347.243246$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

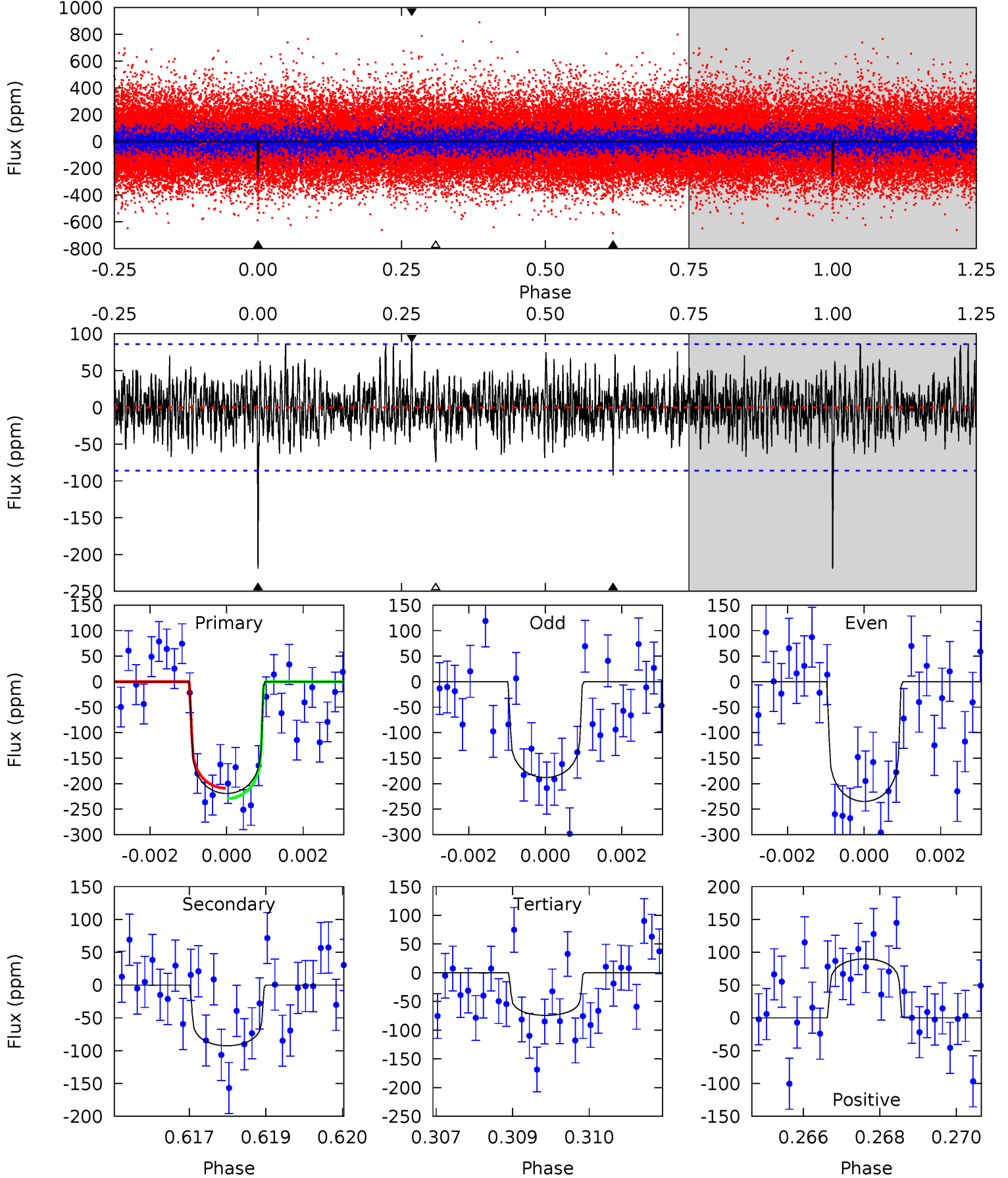
TCE 009693885-01 P=427.088649 Days $T_0=347.256746$ (BKJD)



DV Model-Shift Uniqueness Test

009693885-01, P = 427.081119 Days, E = 347.243246 Days

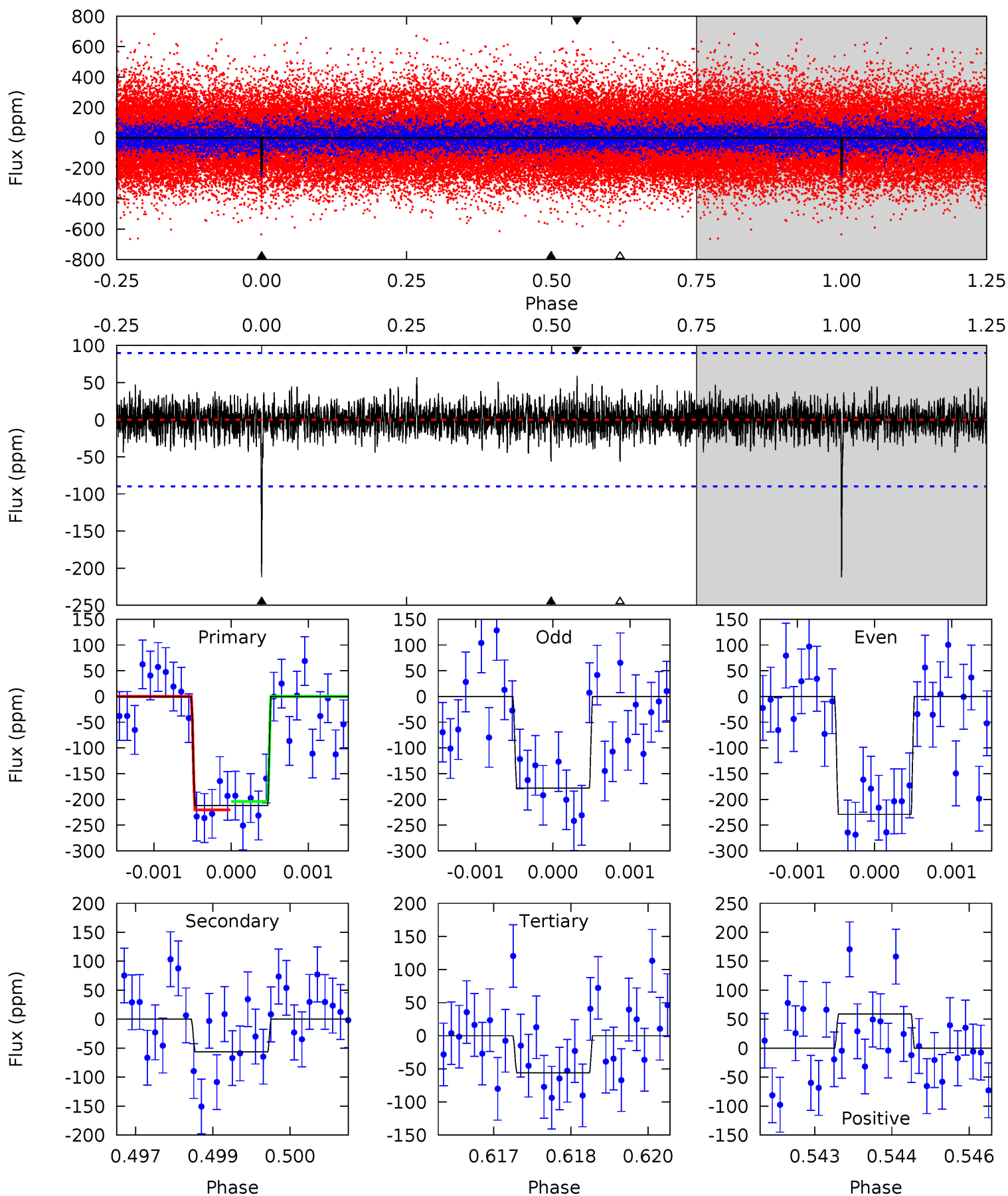
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	5.77	4.63	5.60	5.36	3.15	1.46	9.04	8.08	1.14	0.17	1.38	1.17	0.29	0.63



Alt Model-Shift Uniqueness Test

009693885-01, P = 427.088649 Days, E = 347.256746 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	3.38	3.37	3.54	5.39	3.19	0.85	9.36	9.19	0.02	-0.15	1.44	1.19	0.22	0.50



Stellar Parameters For KIC 009693885

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6745^{+189}_{-283}	$4.181^{+0.153}_{-0.187}$	$-0.100^{+0.250}_{-0.300}$	$1.549^{+0.493}_{-0.329}$	$1.336^{+0.204}_{-0.224}$	$0.507^{+0.381}_{-0.249}$
	+3%/-4%	+4%/-4%	+250%/-300%	+32%/-21%	+15%/-17%	+75%/-49%
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 009693885-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-92 ± 16	$2.42^{+0.73}_{-0.75}$	471^{+35}_{-32}	5550^{+1001}_{-637}	12628^{+14289}_{-5536}
Alt.	-56 ± 17	$2.50^{+0.87}_{-0.74}$	468^{+39}_{-33}	4855^{+807}_{-509}	7007^{+7856}_{-3315}

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

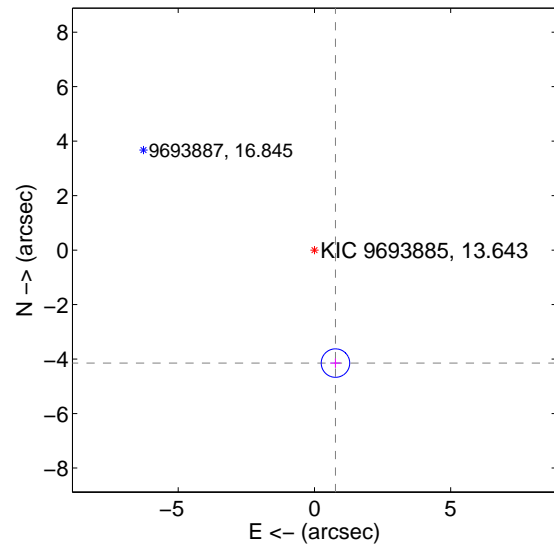
Supplemental centroid analysis for 009693885-01. Kepler magnitude: 13.64. Transit SNR 7.70

There are 1 quarters with good PRF difference image offsets

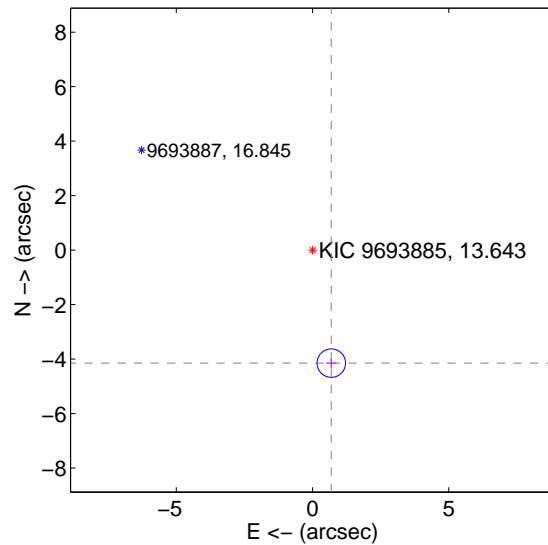
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.218 ± 0.174	24.21	-0.772 ± 0.194	-4.147 ± 0.174
PRF-fit source offset from KIC position	4.205 ± 0.174	24.15	-0.689 ± 0.194	-4.149 ± 0.174
photometric centroid source offset	1.98 ± 1.81	1.10	-1.77 ± 1.85	-0.89 ± 1.64

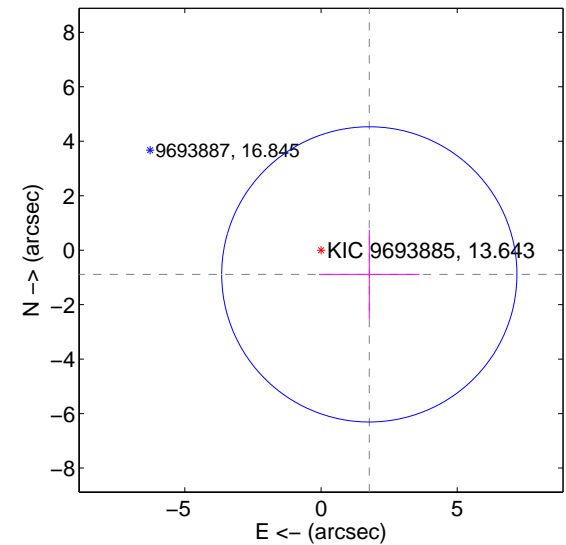
offset from difference PRF-fit to OOT PRF-fit



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



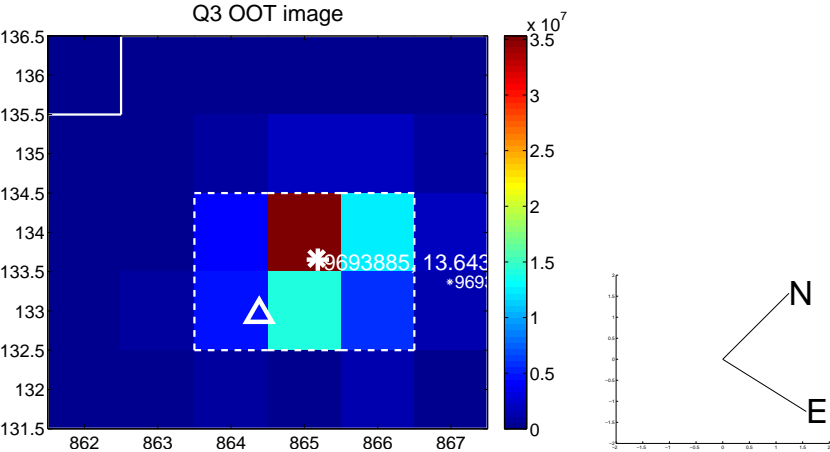
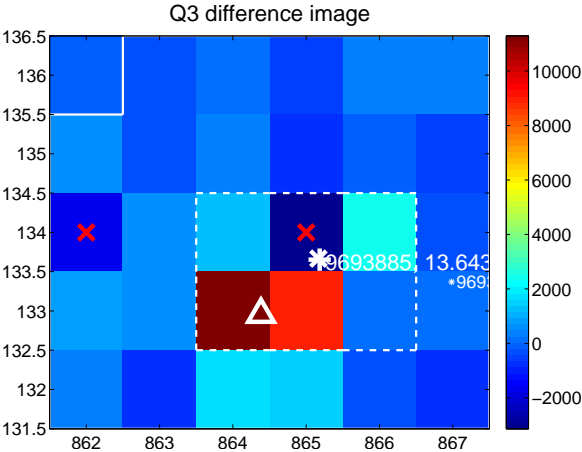
Q1 no OOT image



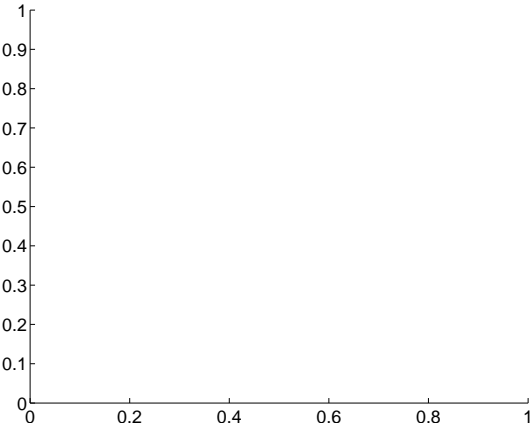
Q2 no difference image



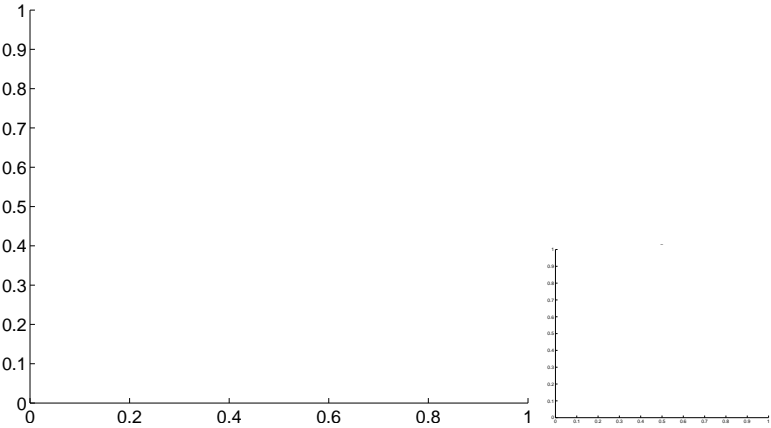
Q2 no OOT image



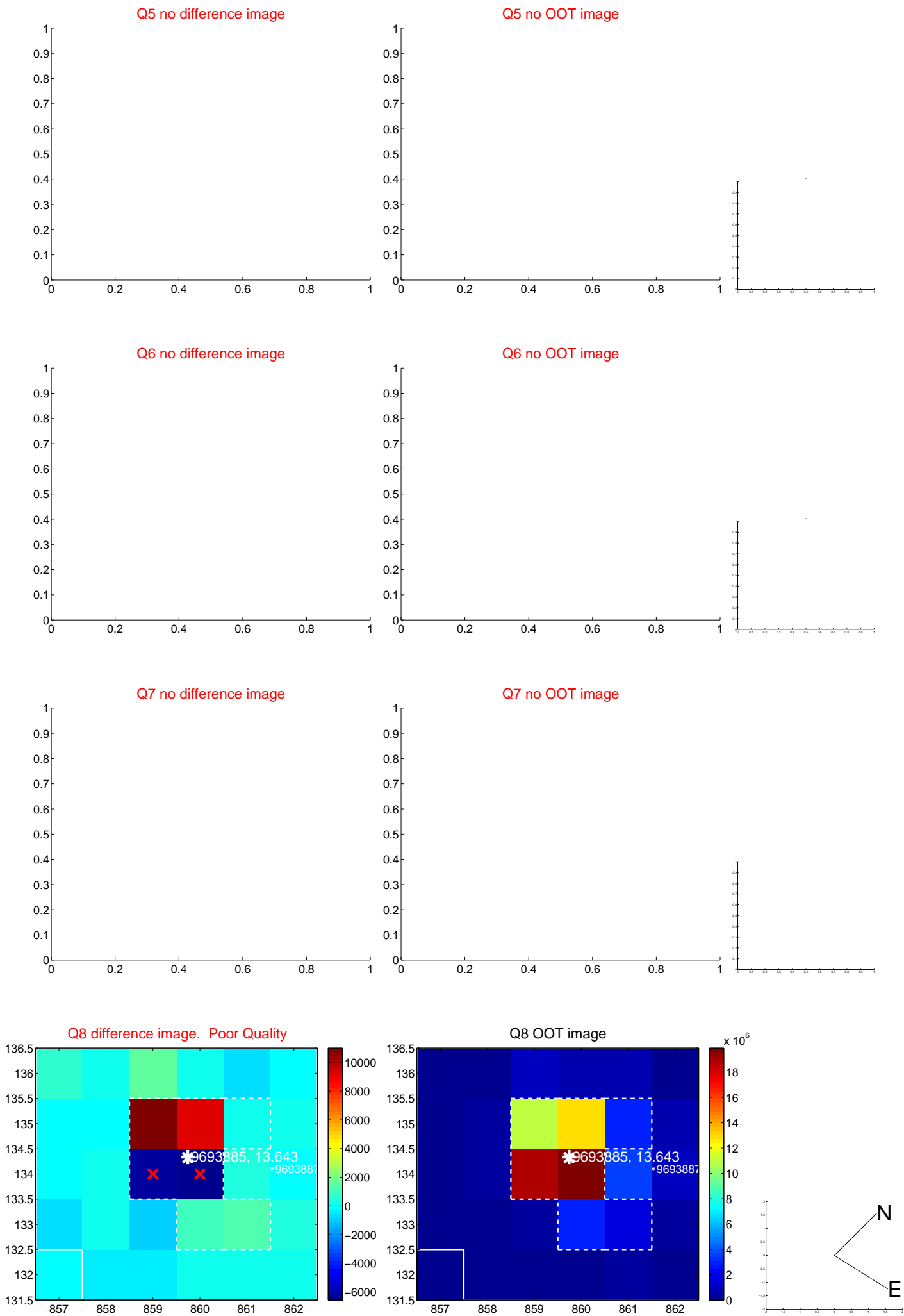
Q4 no difference image



Q4 no OOT image



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



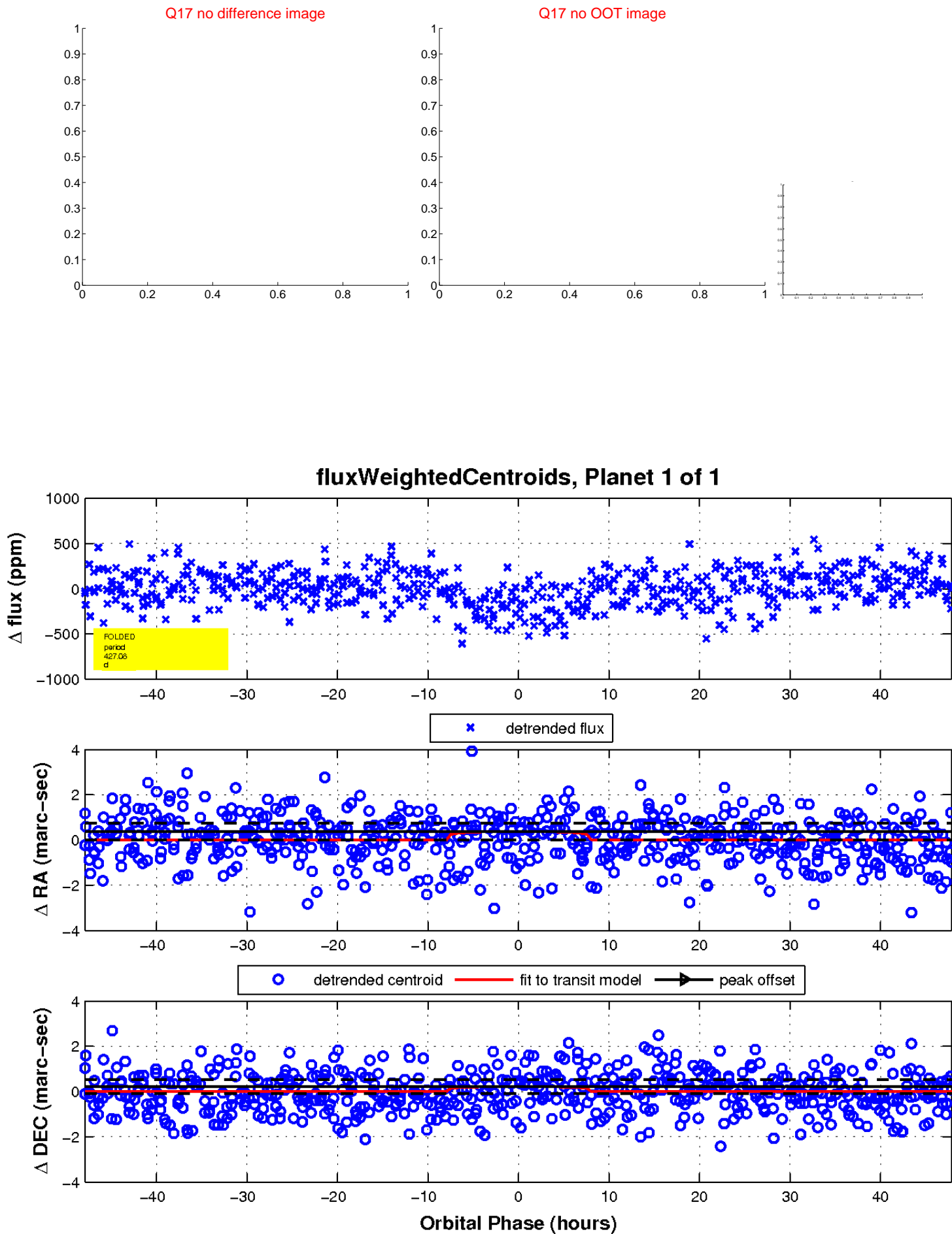
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

