

KIC 008110758

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})
008110758-01	OBS	7866.01	0.517999	132.039829	896.1	1.084	61.5	50.8	1.21	5876	4.34	9796.40
008110758-02	OBS	No	0.518061	131.682869	499.8	1.500	14.5	-1.0	1.21	5876	2.69	9794.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008110758-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST
008110758-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_NOFITS—HALO_GHOST

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

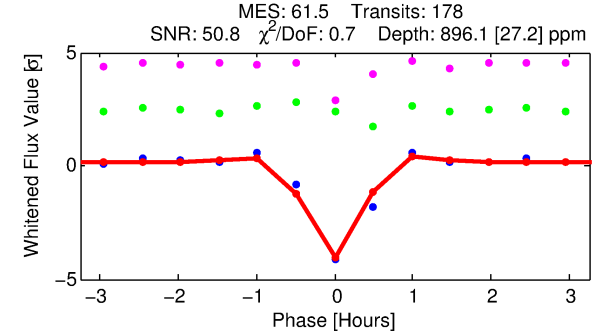
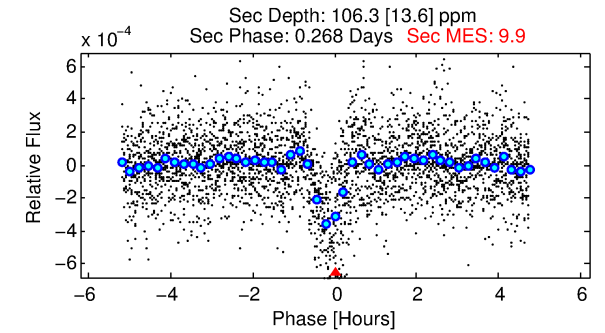
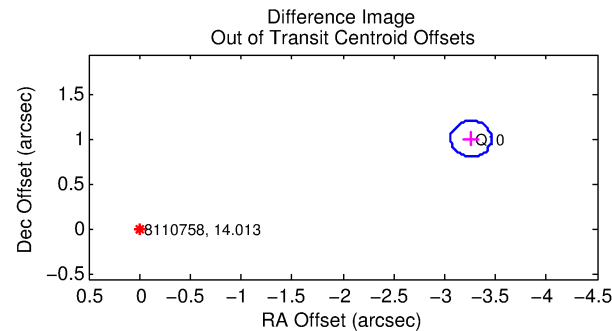
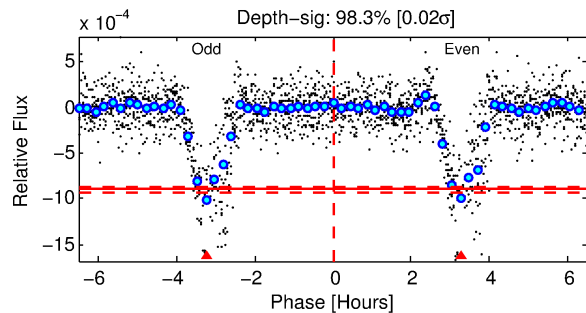
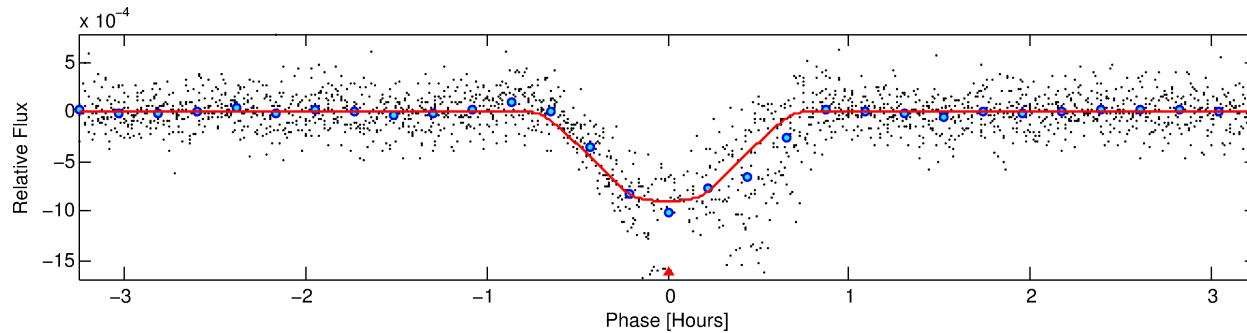
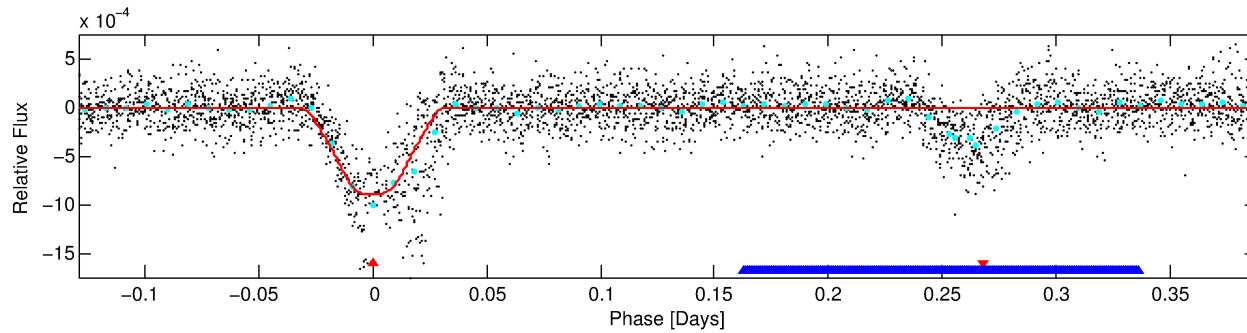
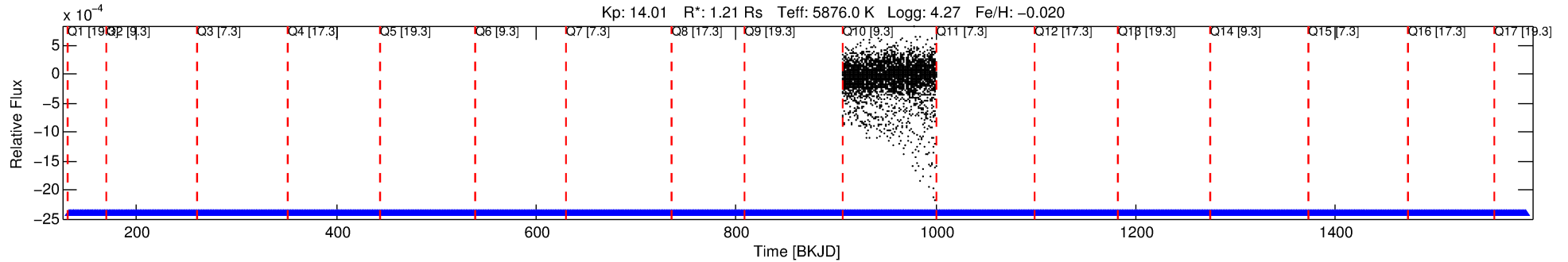
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008110758-01

No Significant Match Found

DV One-Page Summary

KIC: 8110758 Candidate: 1 of 2 Period: 0.518 d



DV Fit Results:

Period = 0.51800 [0.00000] d
Epoch = 132.0398 [0.0002] BKJD
Rp/R* = 0.0329 [0.0027]
a/R* = 2.07 [0.56]
b = 0.90 [0.08]
Seff = 9796.40 [3650.72]
Teq = 2537 [236] K
Rp = 4.34 [1.33] Re
a = 0.0126 [0.0031] AU
Ag = 0.50 [0.20] [-2.53 σ]
Teffp = 3290 [205] K [2.41 σ]

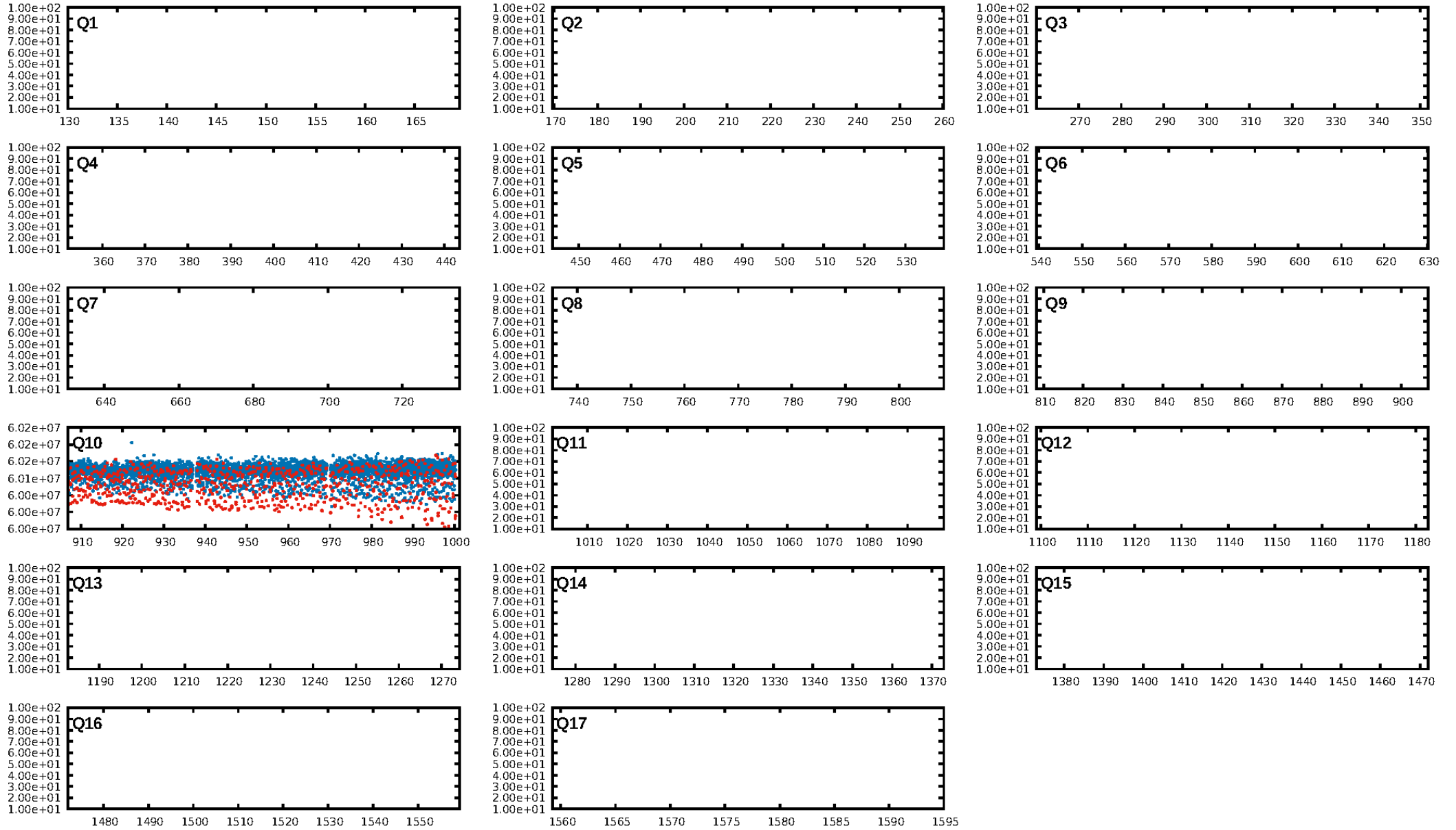
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00 σ]
ModelChiSquare2-sig: 30.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [178/178]
GhostDiagnostic-chr: -0.1264
Centroid-sig: N/A
Centroid-so: 34.649 arcsec [256.71 σ]
OotOffset-rm: 3.412 arcsec [51.09 σ]
KicOffset-rm: 4.744 arcsec [71.03 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.00 [0/1]

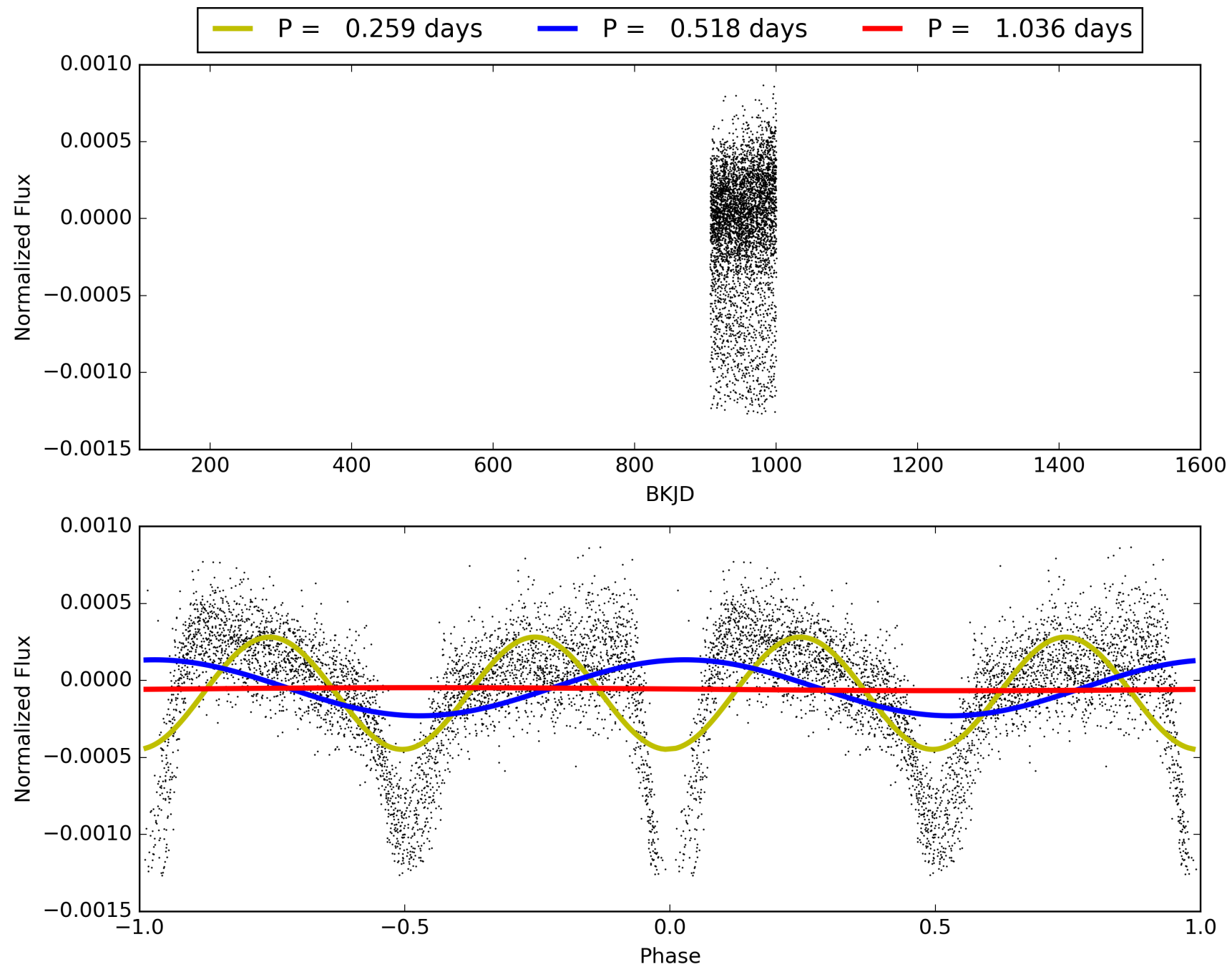
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:33:13 Z

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

TCE 008110758-01, PDC Light Curves

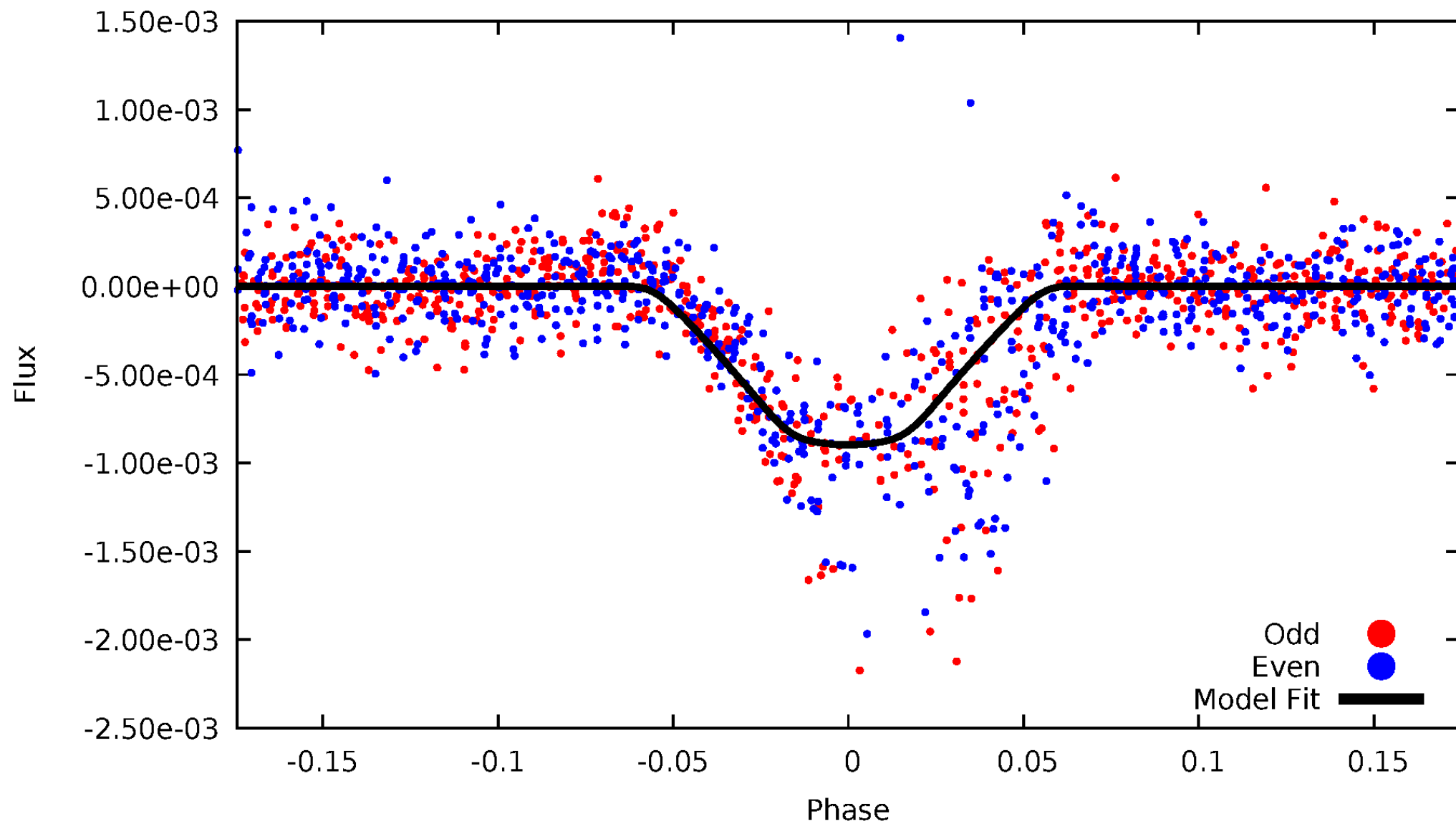


TCE 008110758-01



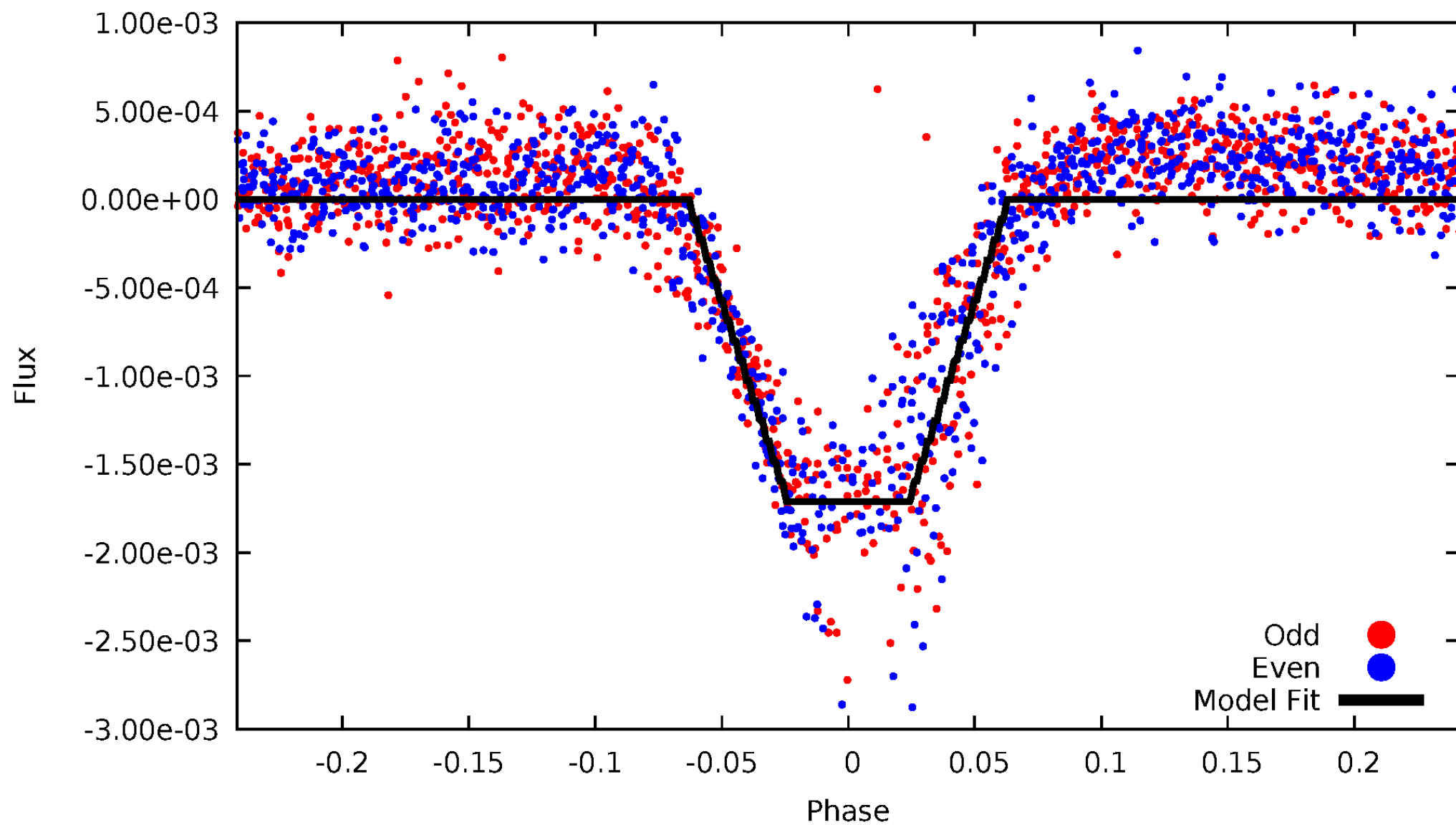
DV Odd/Even

TCE 008110758-01



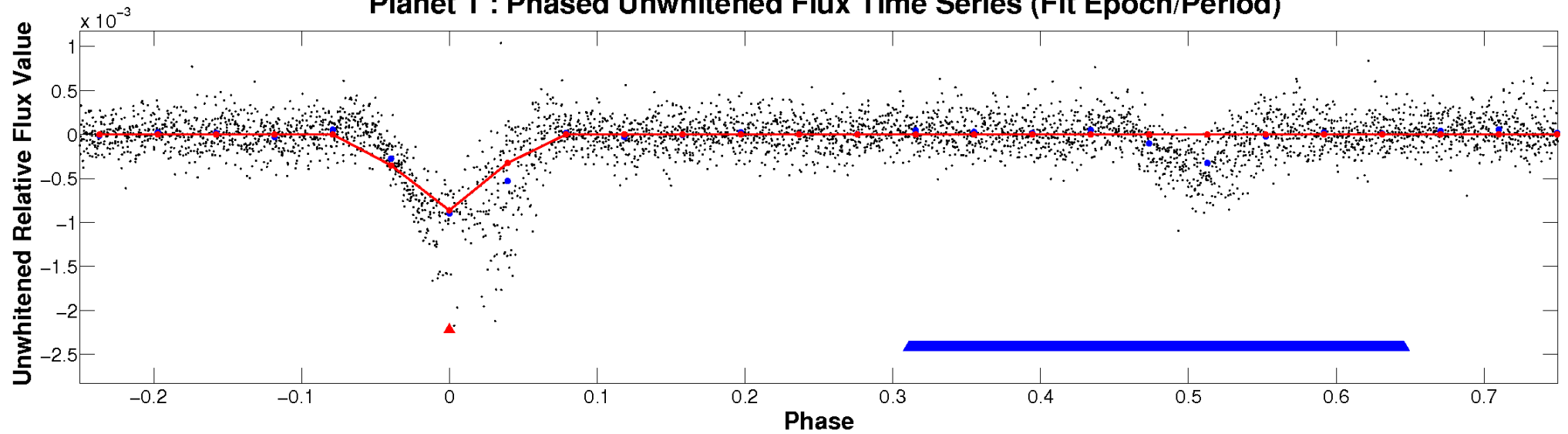
ALT Odd/Even

TCE 008110758-01

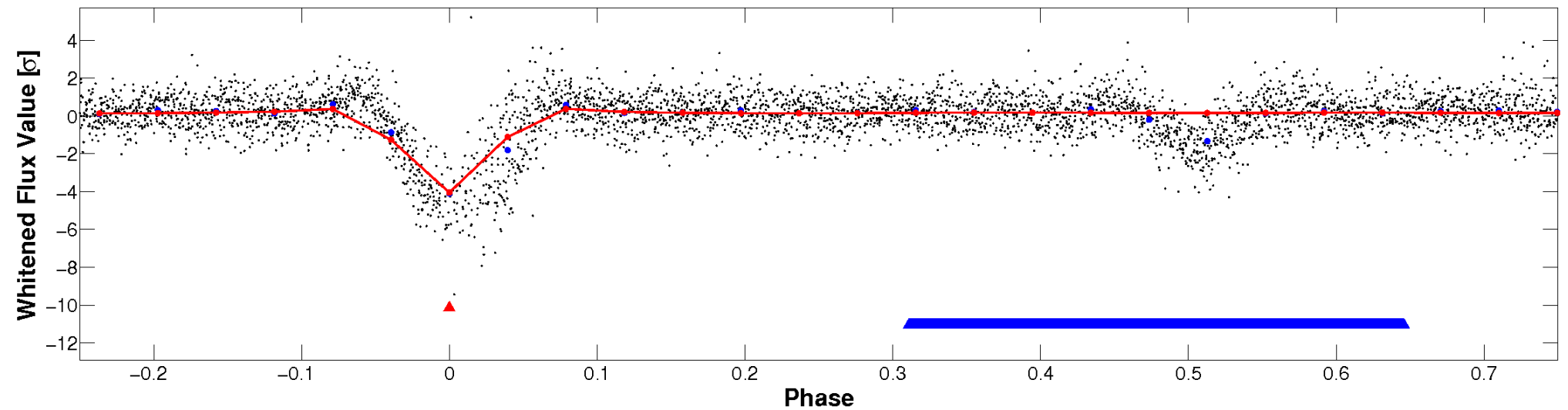


Non-Whitened Vs. Whitened Light Curve

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

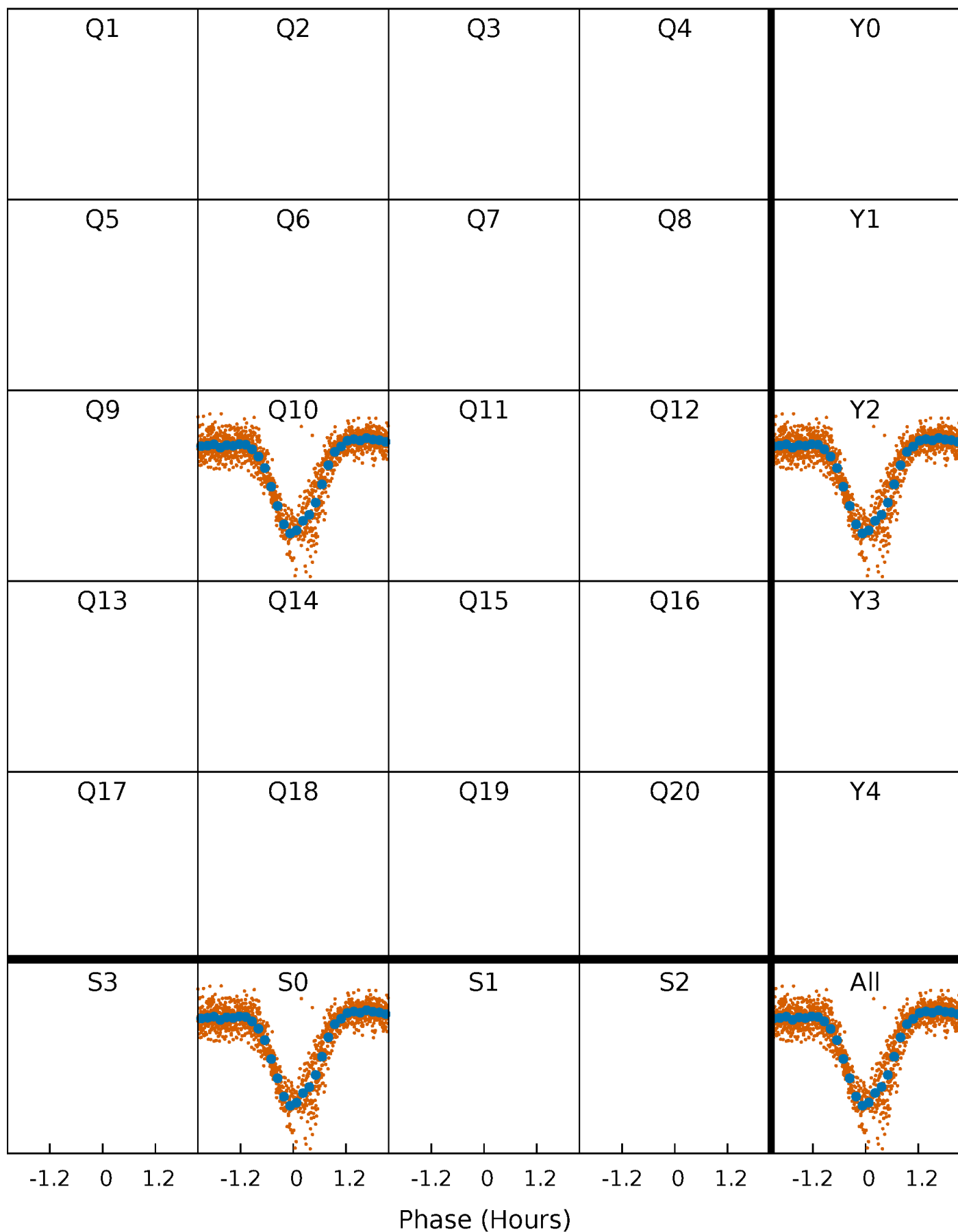


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



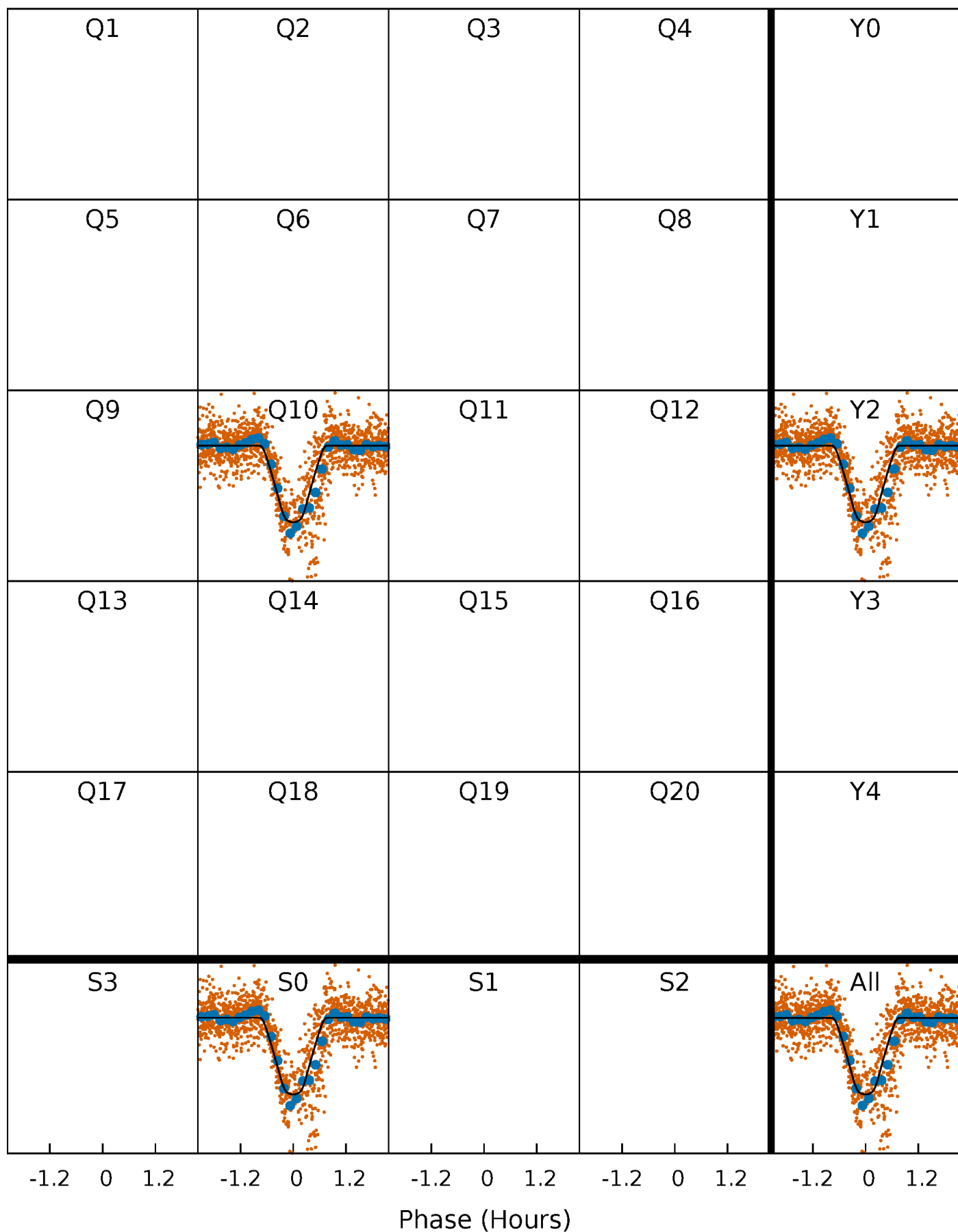
PDC Quarter-Phased Transit Curves

TCE 008110758-01 P= 0.517999 Days $T_0=132.039829$ (BKJD)



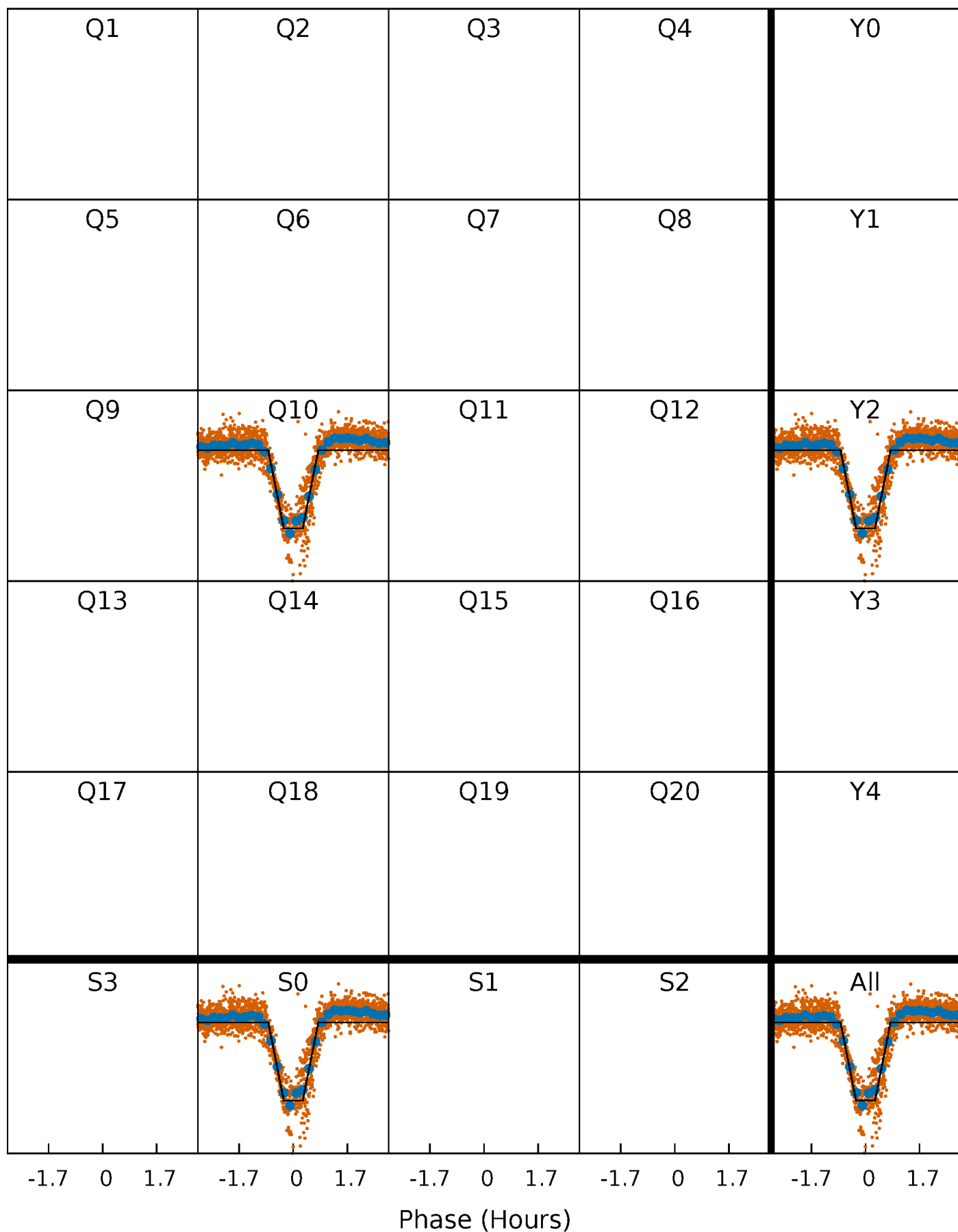
DV Quarter-Phased Transit Curves

TCE 008110758-01 P= 0.517999 Days $T_0=132.039829$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

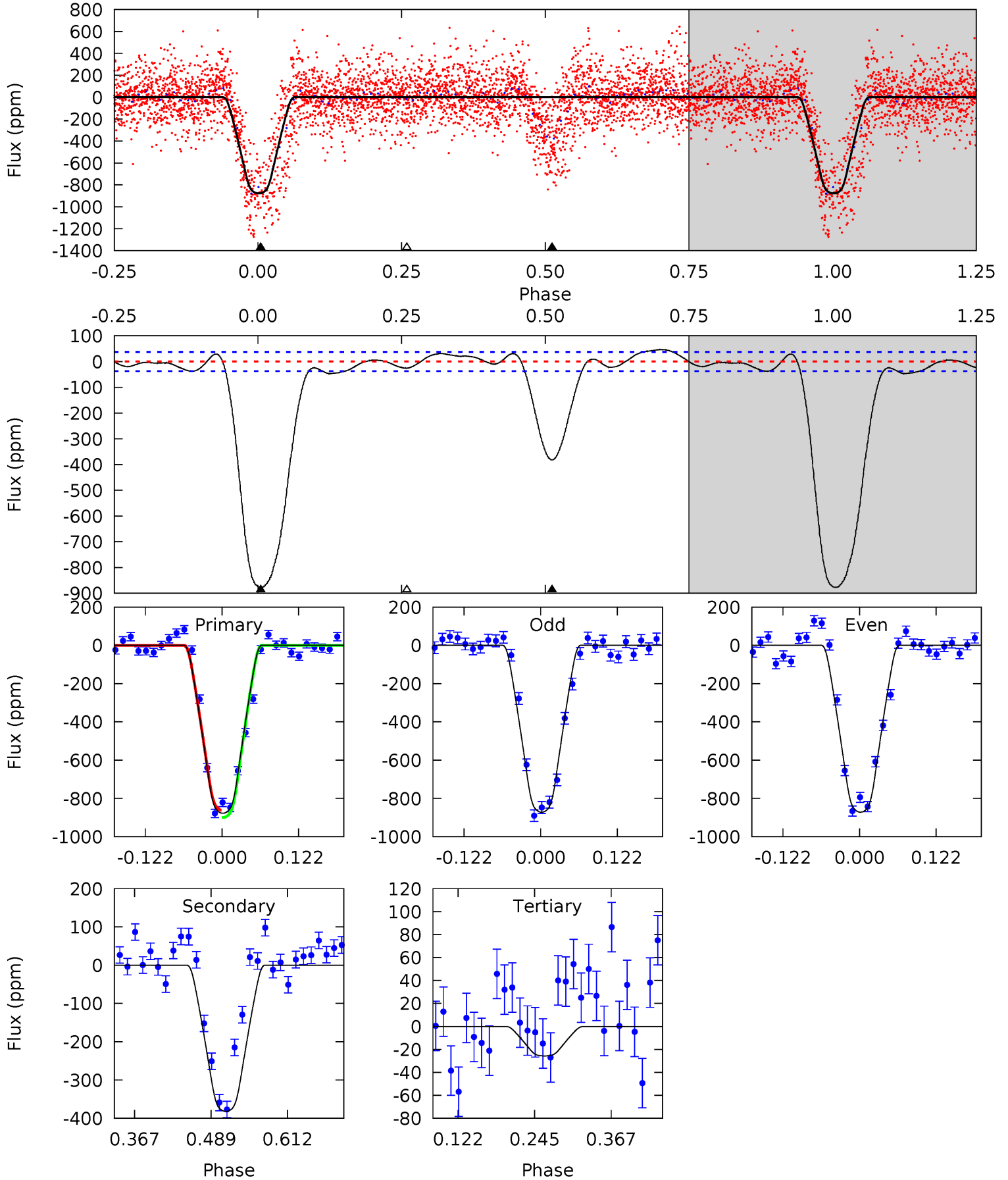
TCE 008110758-01 P= 0.518008 Days $T_0=132.028762$ (BKJD)



DV Model-Shift Uniqueness Test

008110758-01, P = 0.517999 Days, E = 132.039829 Days

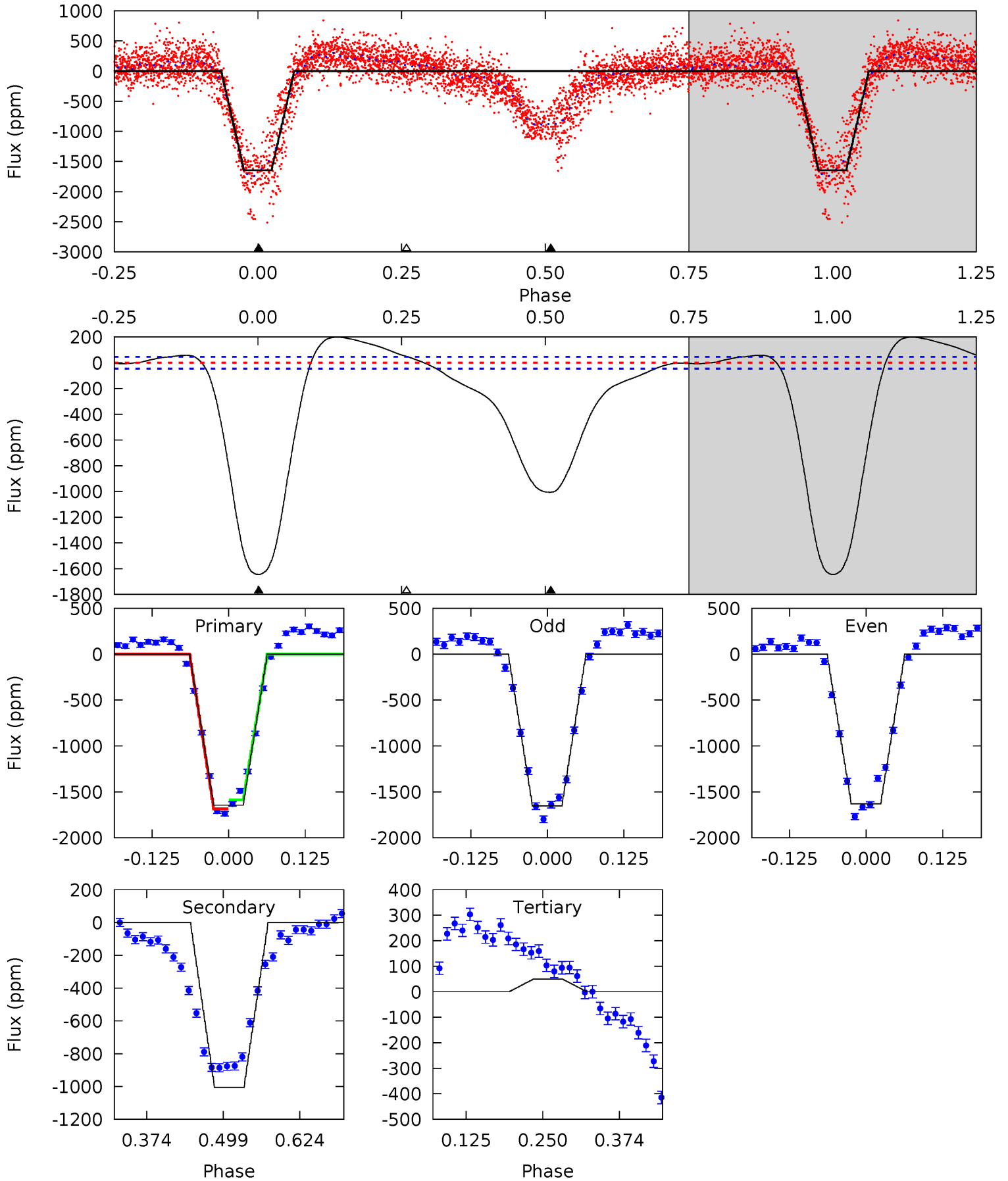
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
106.5	46.4	3.12	0	4.52	1.54	2.88	103.4	106.5	43.3	46.4	0.01	1.06	0.05	0



Alt Model-Shift Uniqueness Test

008110758-01, P = 0.518008 Days, E = 132.028762 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
162.3	99.2	-4.85	0	4.52	1.53	10.3	167.1	162.3	104.1	99.2	1.06	0.99	0.11	4.82



Stellar Parameters For KIC 008110758

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5876^{+184}_{-205}	$4.273^{+0.185}_{-0.185}$	$-0.020^{+0.250}_{-0.300}$	$1.209^{+0.357}_{-0.268}$	$0.999^{+0.153}_{-0.115}$	$0.796^{+0.783}_{-0.397}$
	+3%/-3%	+4%/-4%	+1250%/-1500%	+30%/-22%	+15%/-12%	+98%/-50%
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 008110758-01 / KOI 7866.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-382 ± 8	$4.42^{+0.77}_{-0.66}$	3574^{+287}_{-264}	4501^{+219}_{-210}	$1.733^{+0.635}_{-0.445}$
Alt.	-1006 ± 10	$5.44^{+0.96}_{-0.76}$	3522^{+309}_{-253}	5072^{+232}_{-205}	$3.014^{+1.090}_{-0.855}$

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 $A_{obs} \gg 1.0$

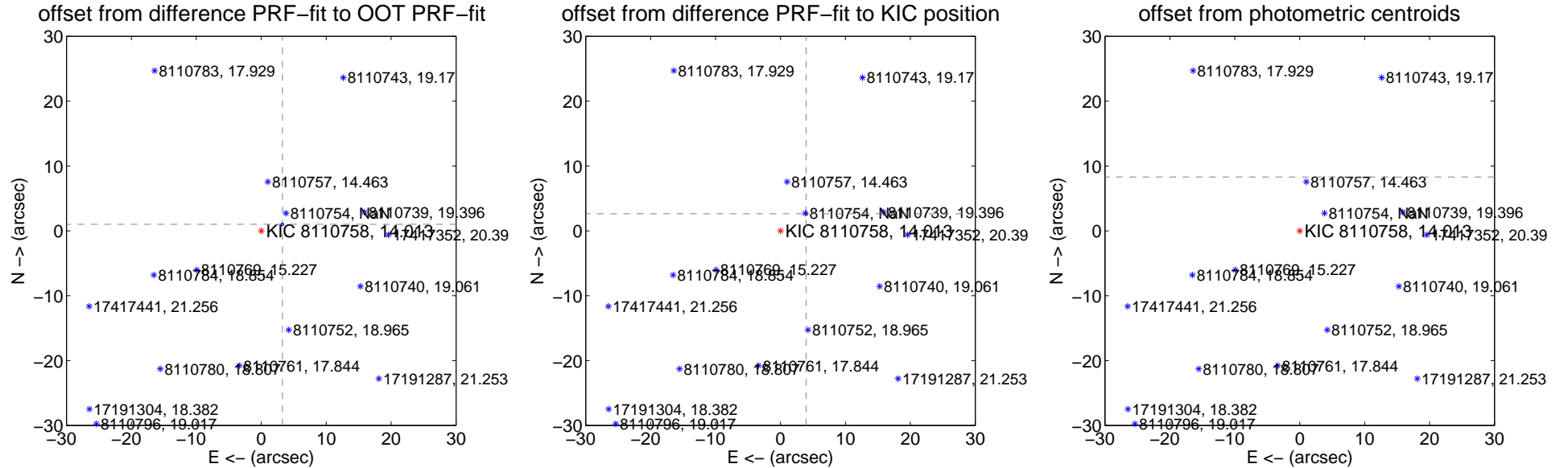
DV Centroid Data

Supplemental centroid analysis for 008110758-01. Kepler magnitude: 14.01. Transit SNR 50.84

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.76 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.412 ± 0.067	51.09	-3.259 ± 0.067	1.010 ± 0.067
PRF-fit source offset from KIC position	4.744 ± 0.067	71.03	-3.947 ± 0.067	2.632 ± 0.067
photometric centroid source offset	34.65 ± 0.13	256.71	-33.64 ± 0.14	8.29 ± 0.13

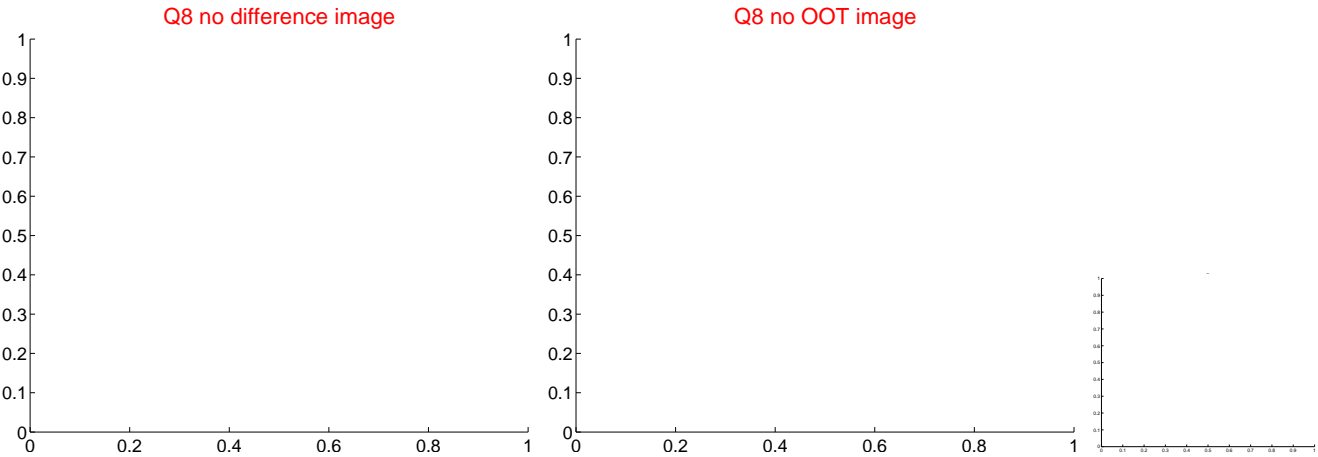
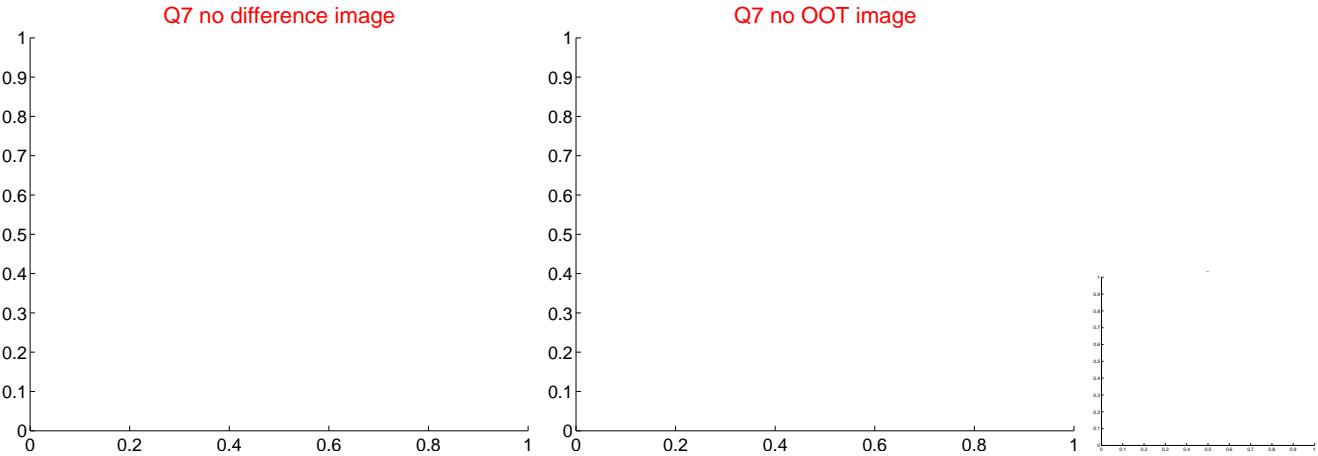
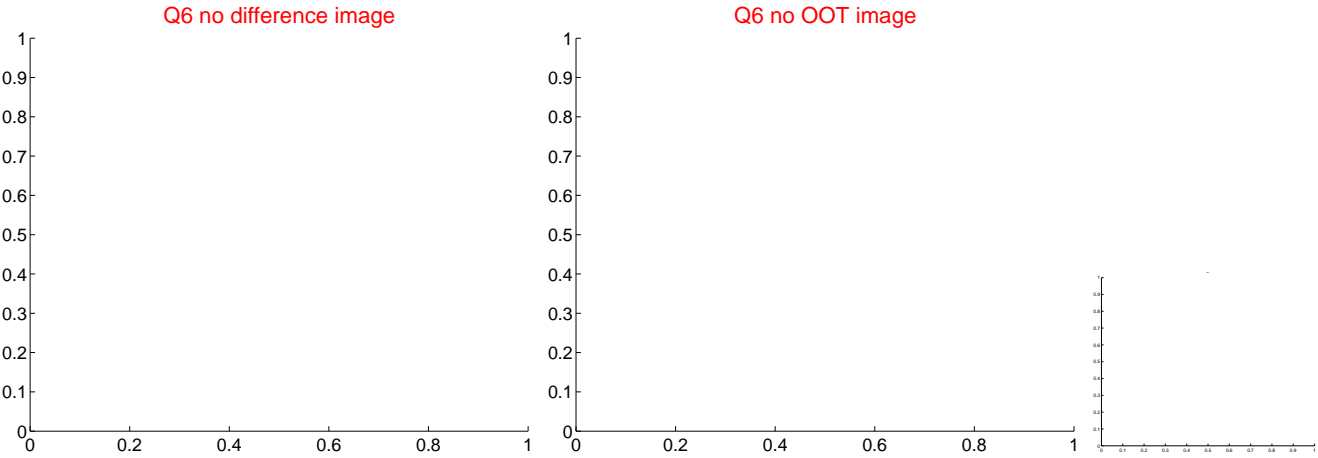
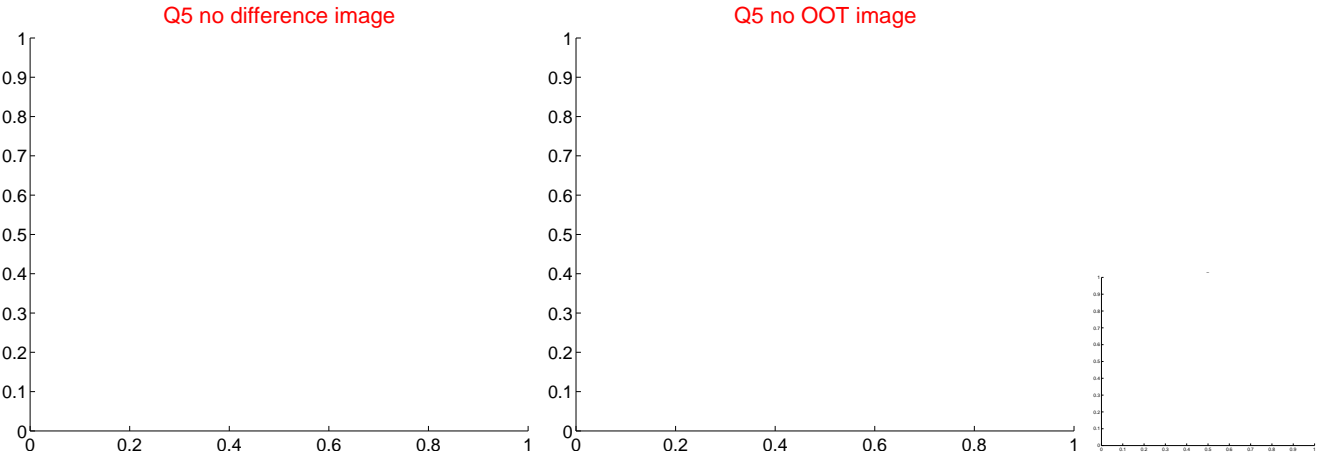


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

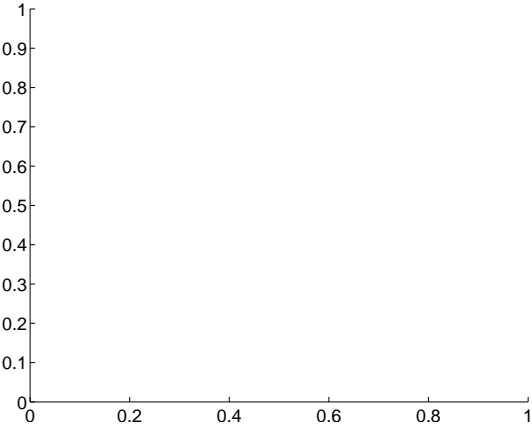


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

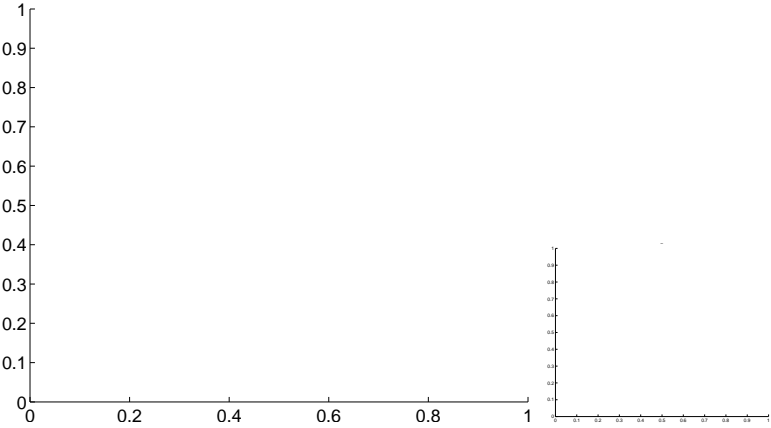


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

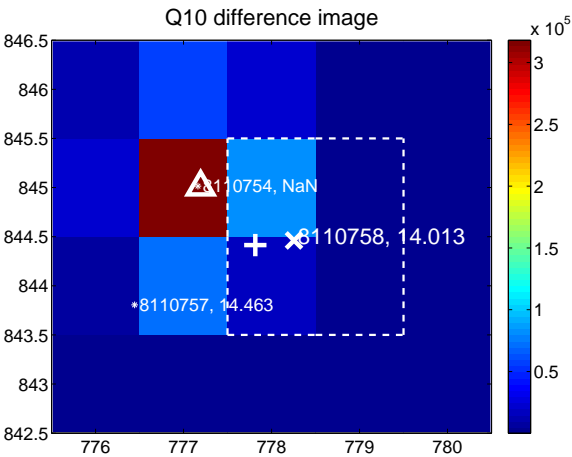
Q9 no difference image



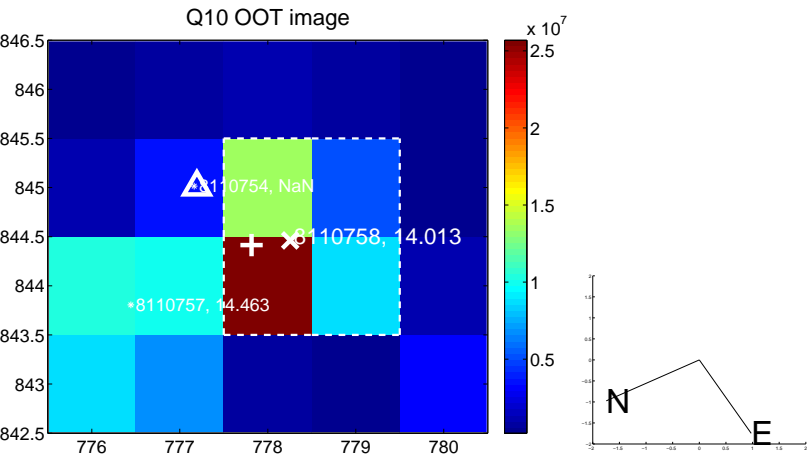
Q9 no OOT image



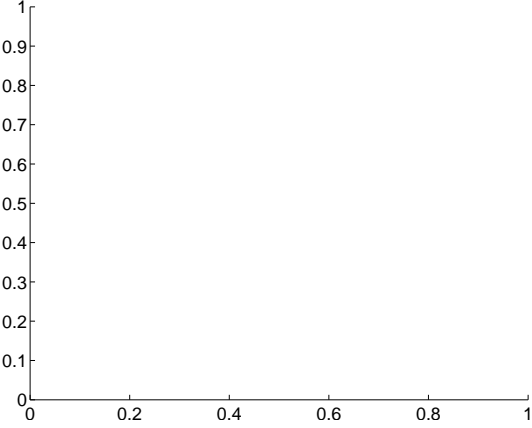
Q10 difference image



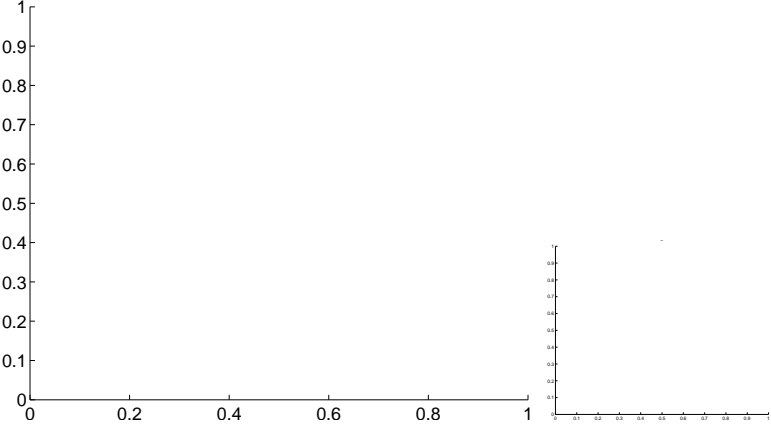
Q10 OOT image



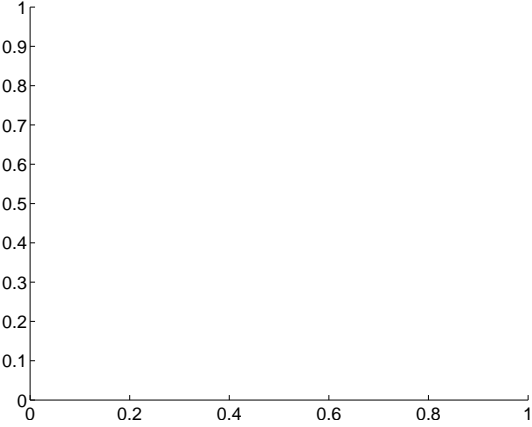
Q11 no difference image



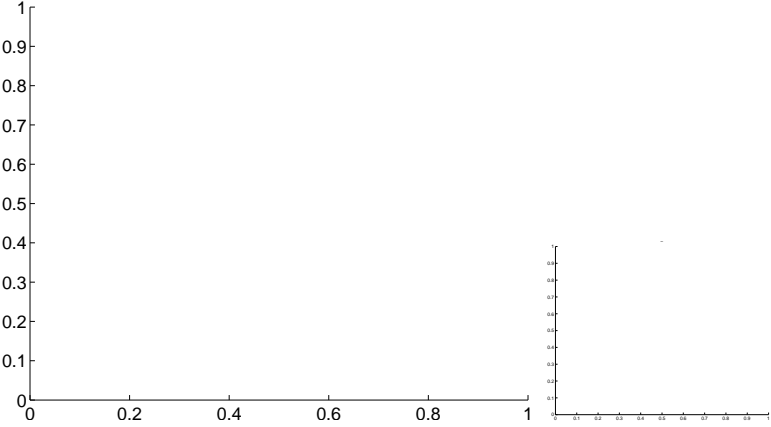
Q11 no OOT image



Q12 no difference image



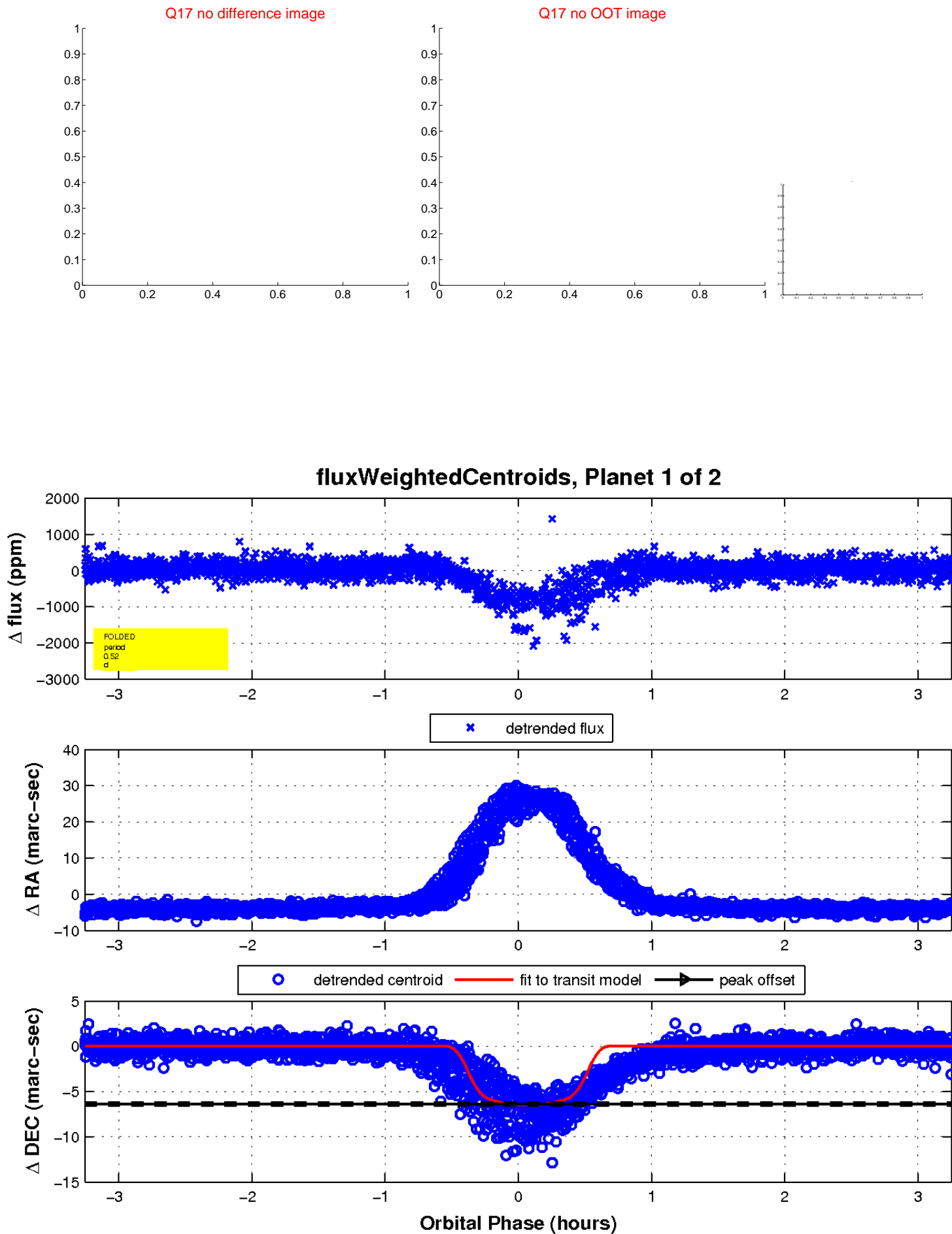
Q12 no OOT image



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

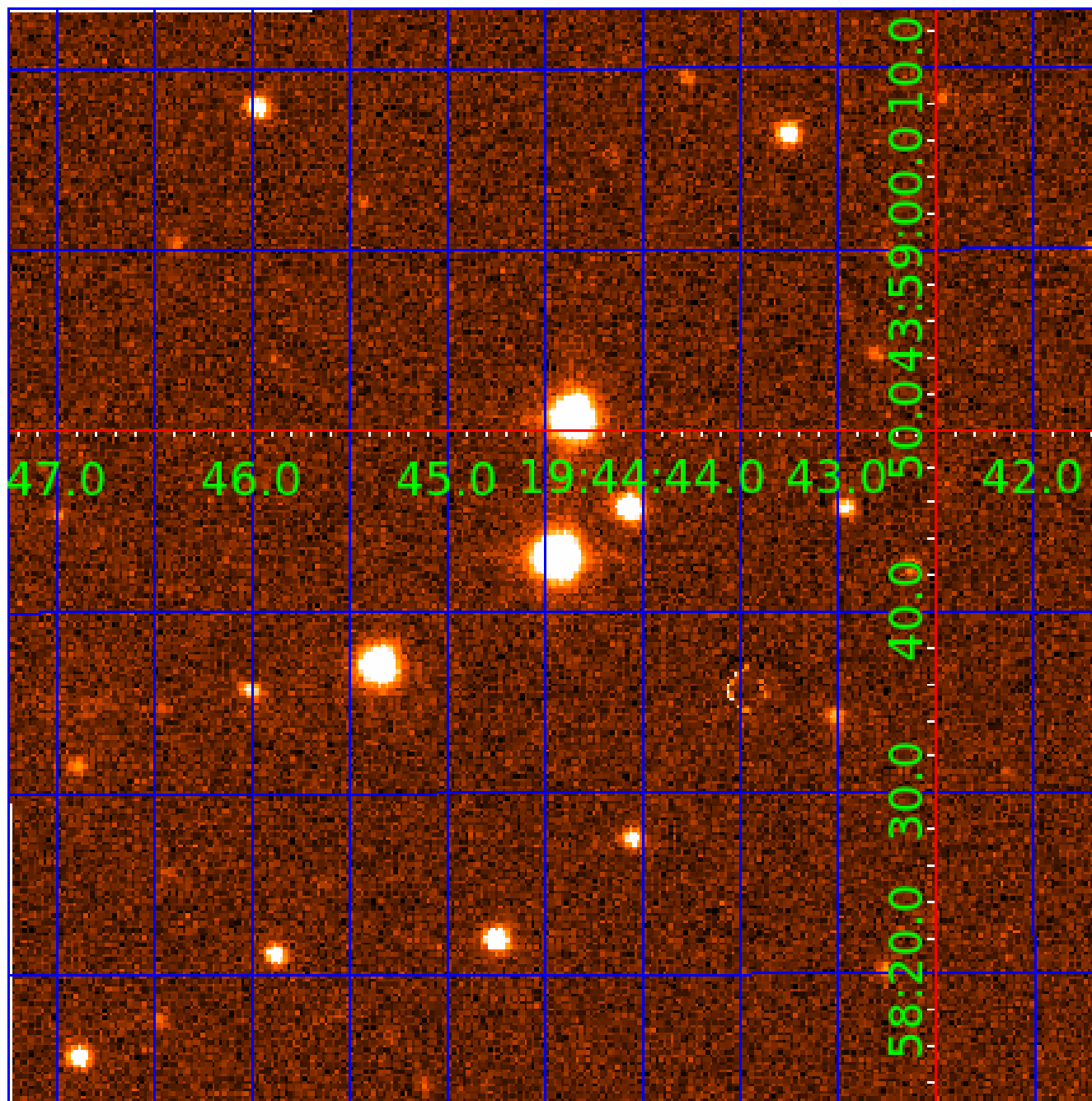


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008110758

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})
008110758-01	OBS	7866.01	0.517999	132.039829	896.1	1.084	61.5	50.8	1.21	5876	4.34	9796.40
008110758-02	OBS	No	0.518061	131.682869	499.8	1.500	14.5	-1.0	1.21	5876	2.69	9794.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008110758-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST
008110758-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_NOFITS—HALO_GHOST

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

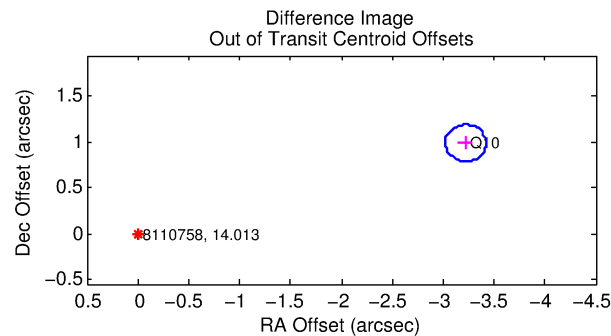
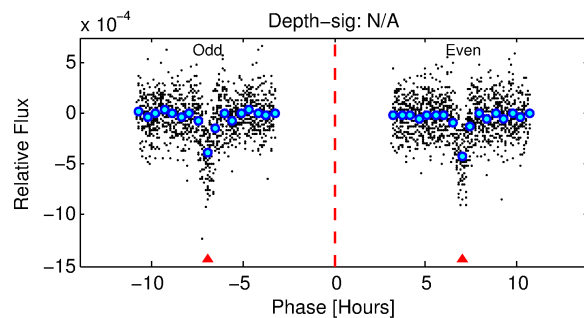
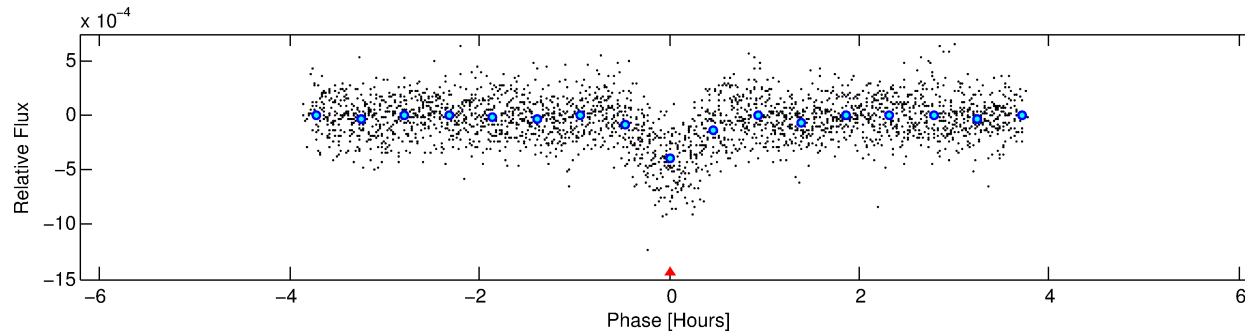
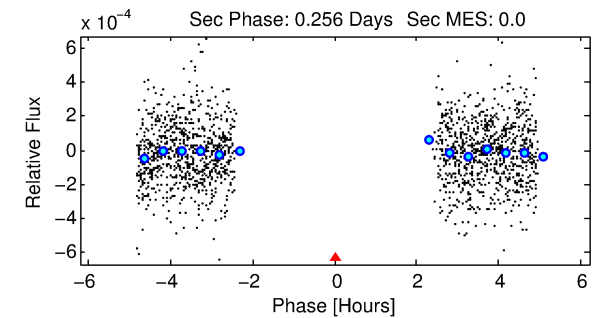
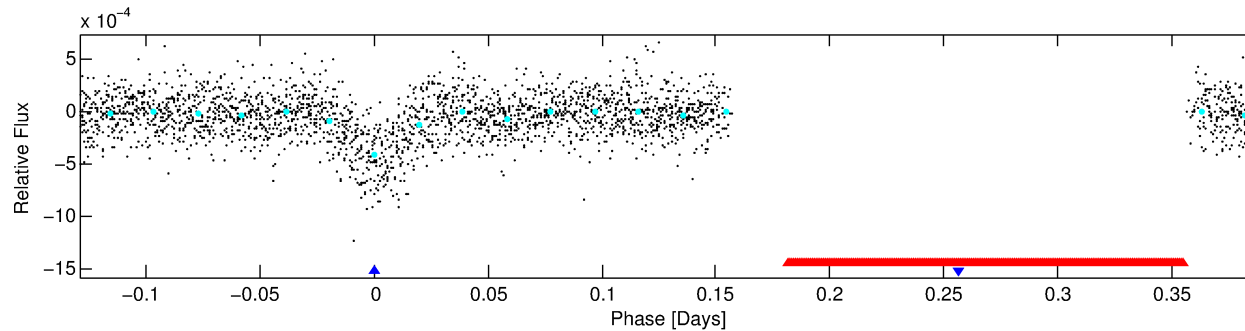
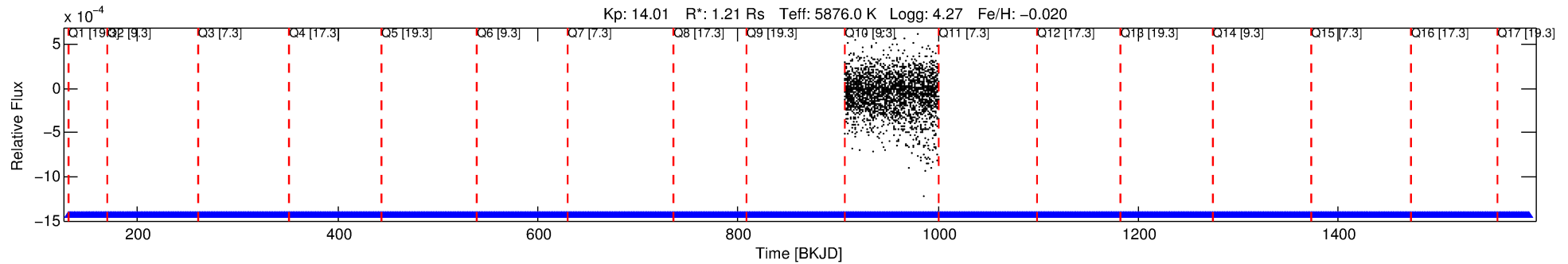
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008110758-02

No Significant Match Found

DV One-Page Summary

KIC: 8110758 Candidate: 2 of 2 Period: 0.518 d



TPS TCE Results:

Period = 0.51806 d
Epoch = 131.6829 BKJD

DV fit results are unavailable

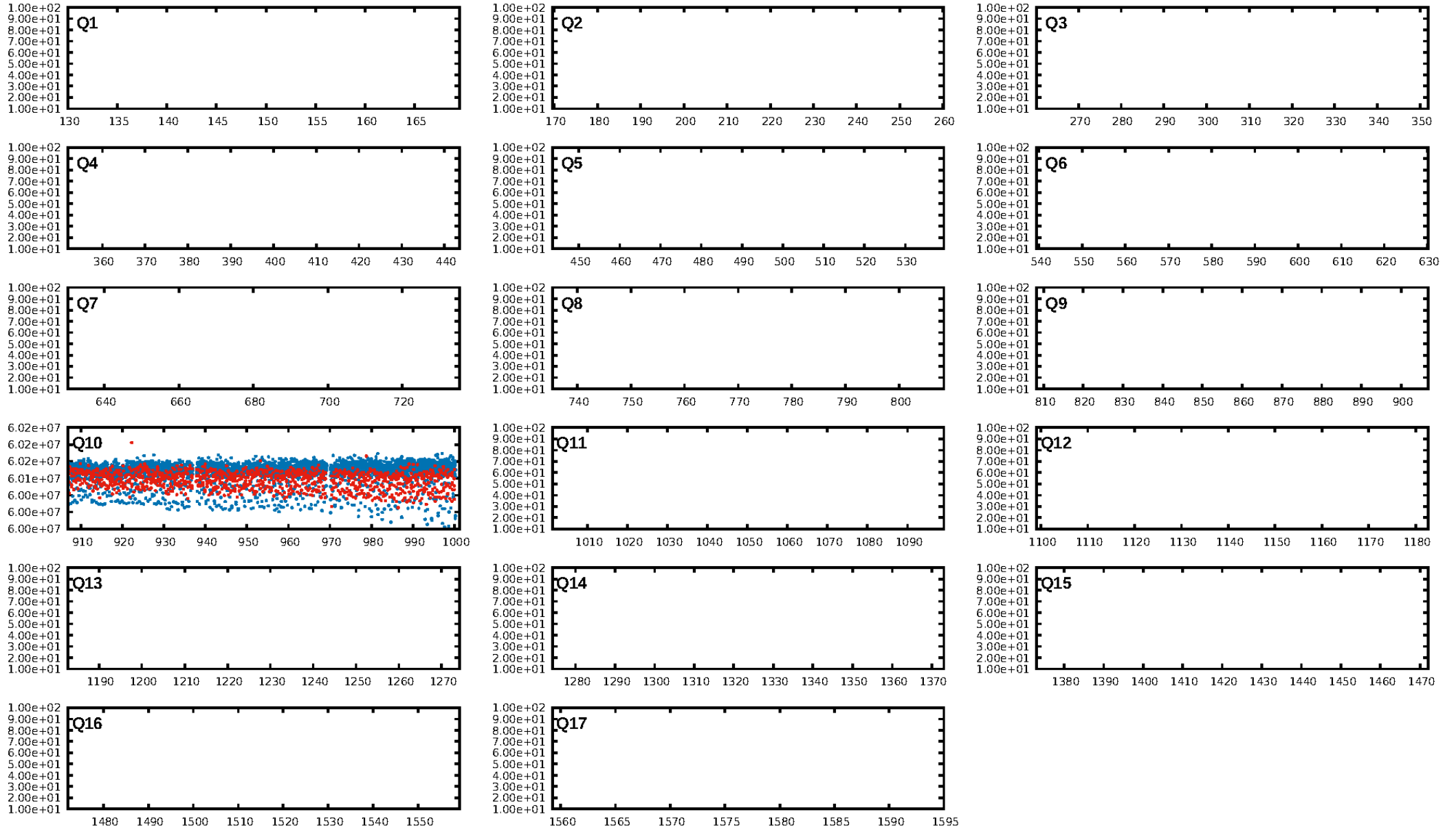
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [177/177]
GhostDiagnostic-chr: -0.007572
Centroid-sig: N/A
Centroid-so: 6.018 arcsec [72.08 σ]
OotOffset-rm: 3.369 arcsec [50.38 σ]
KicOffset-rm: 4.701 arcsec [70.31 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.00 [0/1]

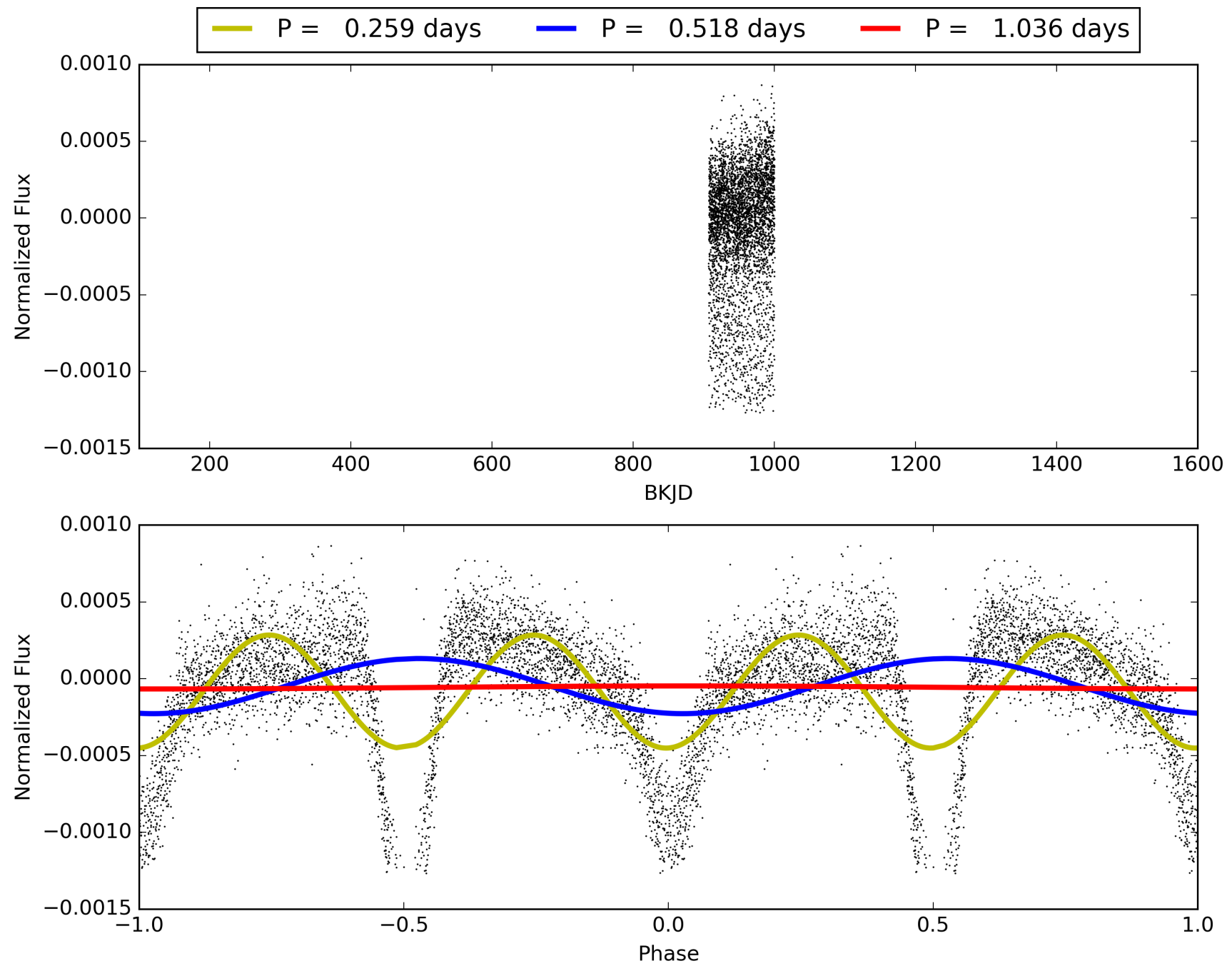
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:33:17 Z

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

TCE 008110758-02, PDC Light Curves

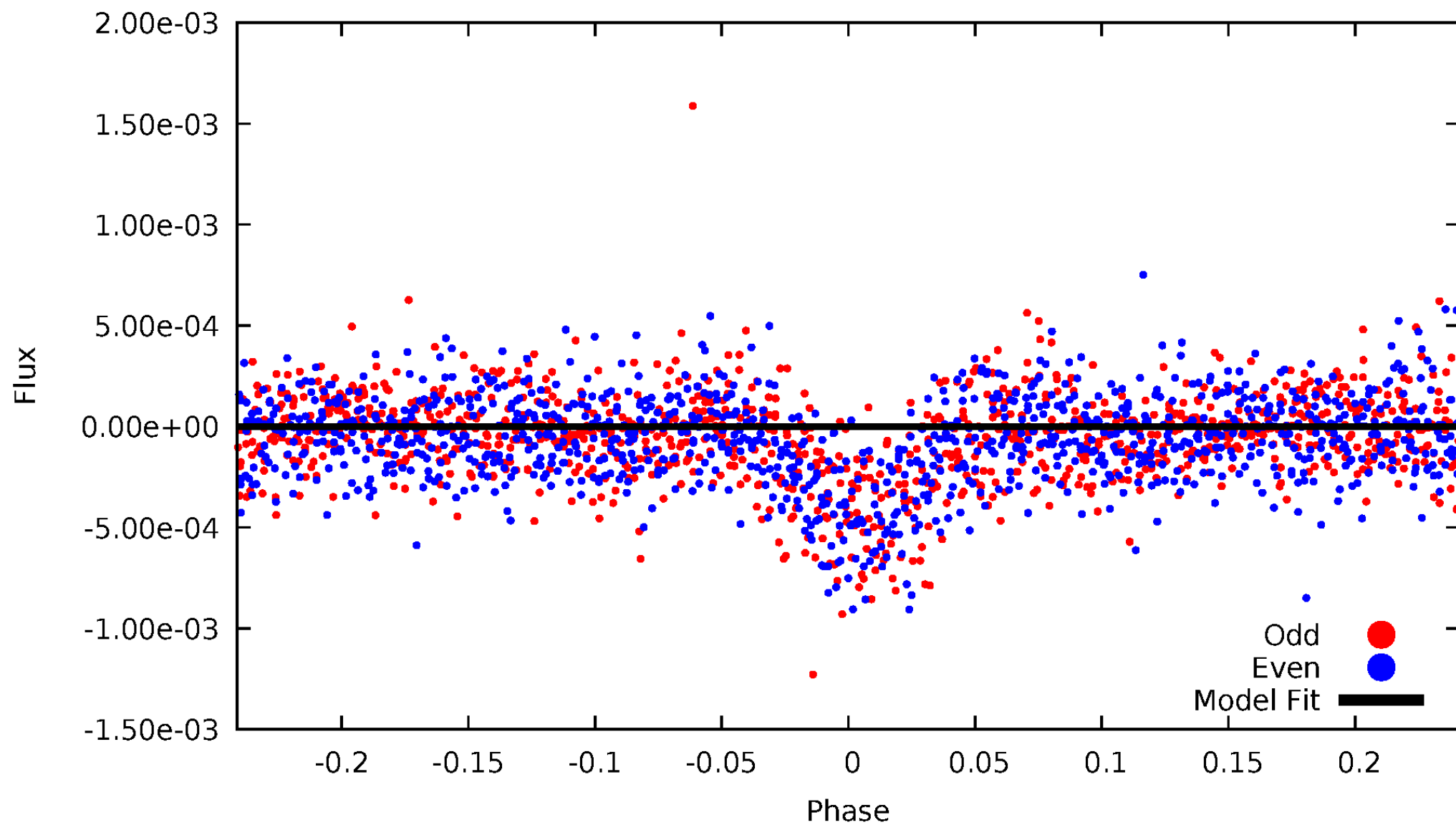


TCE 008110758-02



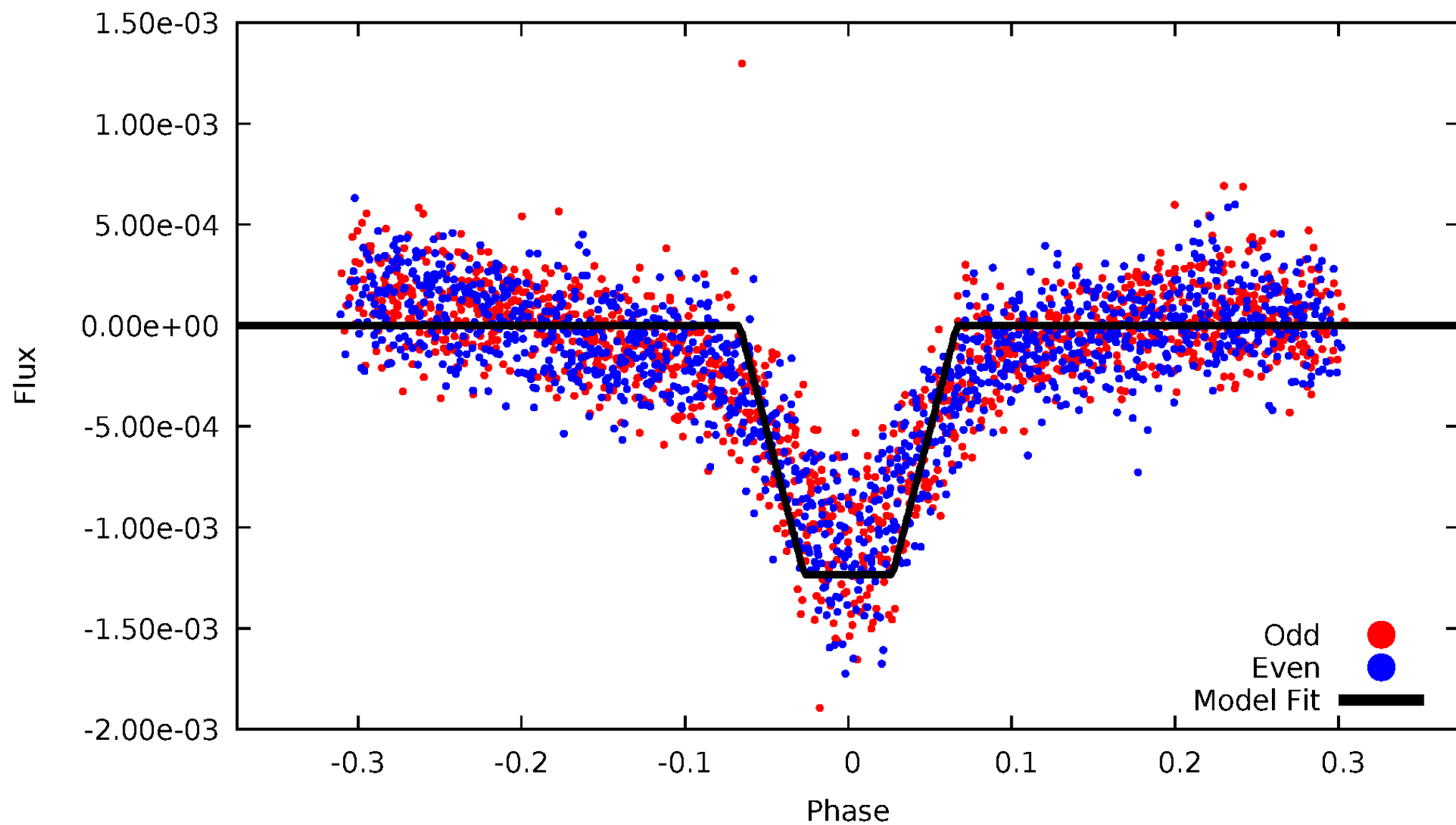
DV Odd/Even

TCE 008110758-02



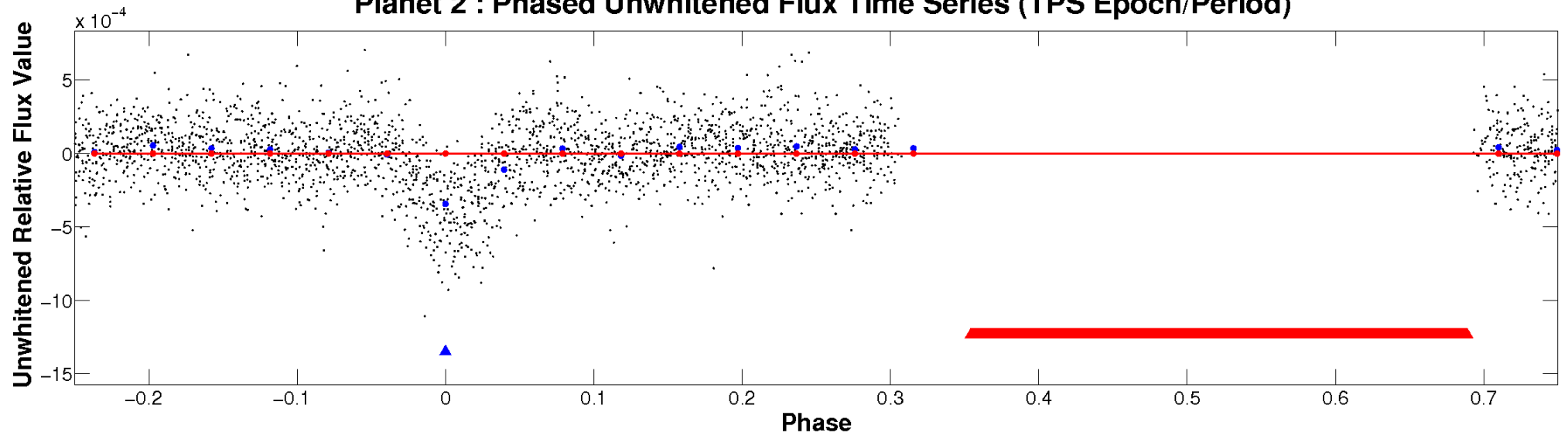
ALT Odd/Even

TCE 008110758-02

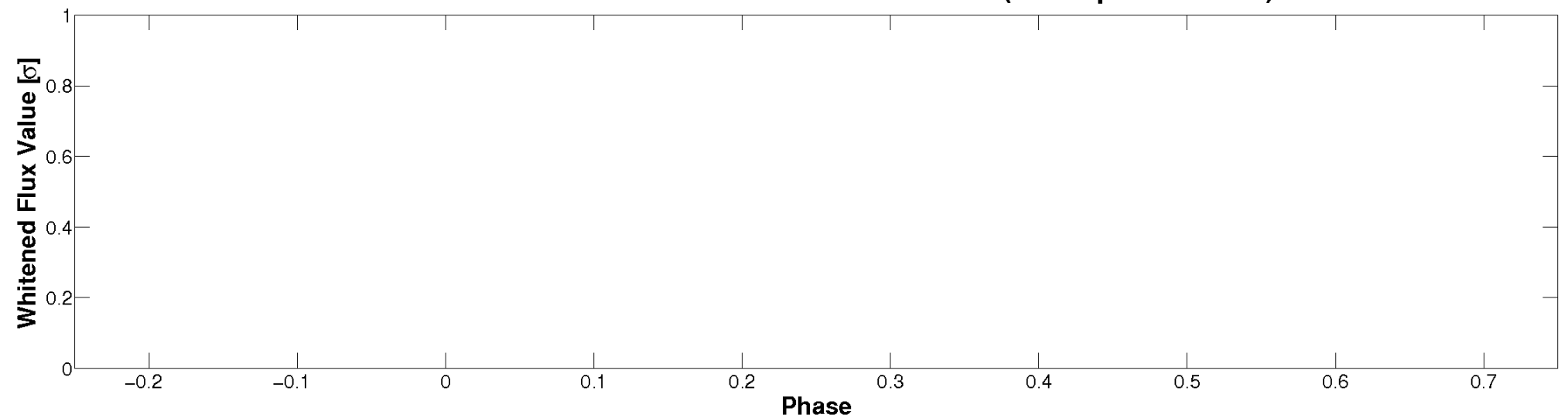


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

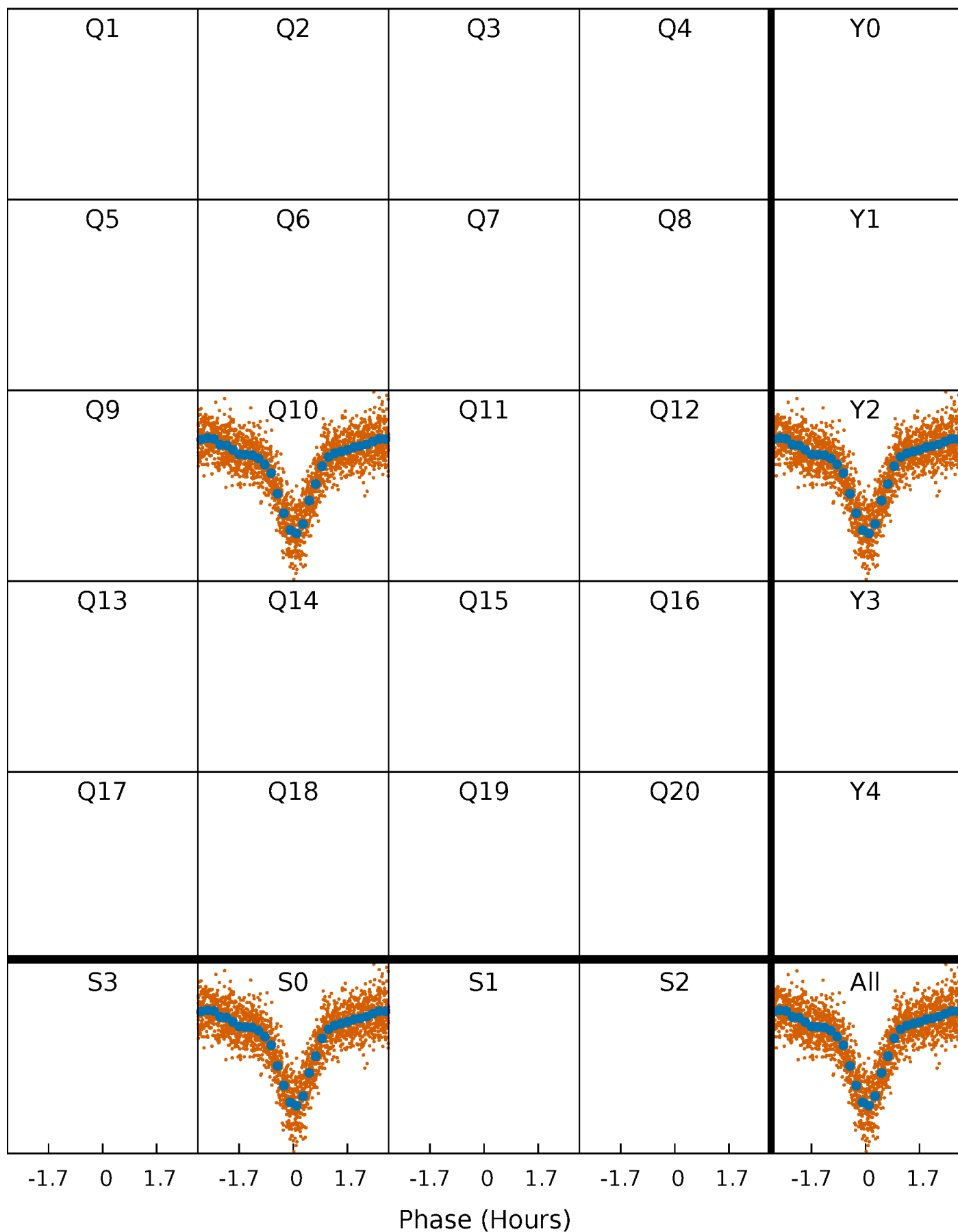


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



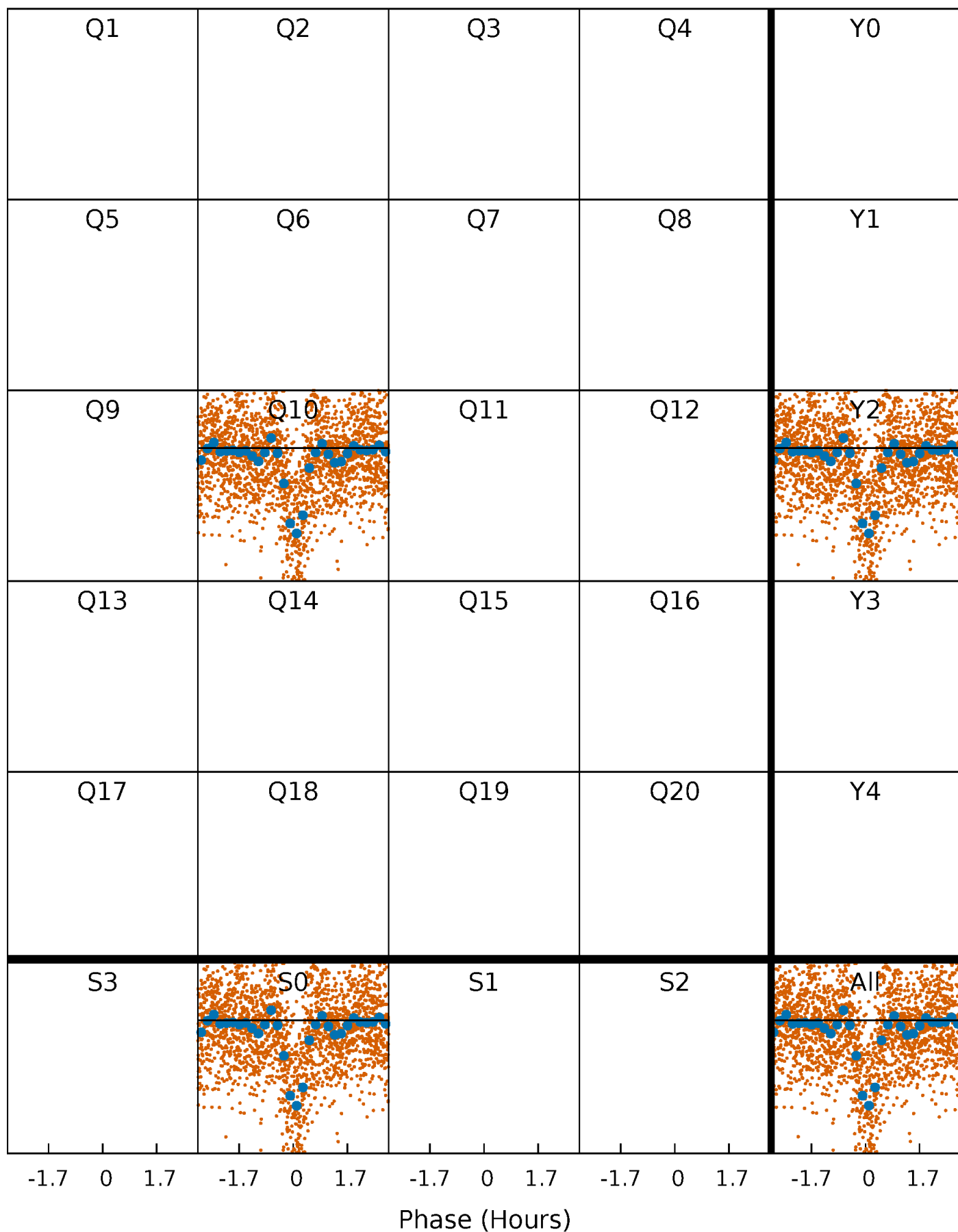
PDC Quarter-Phased Transit Curves

TCE 008110758-02 P= 0.518061 Days $T_0=131.682869$ (BKJD)



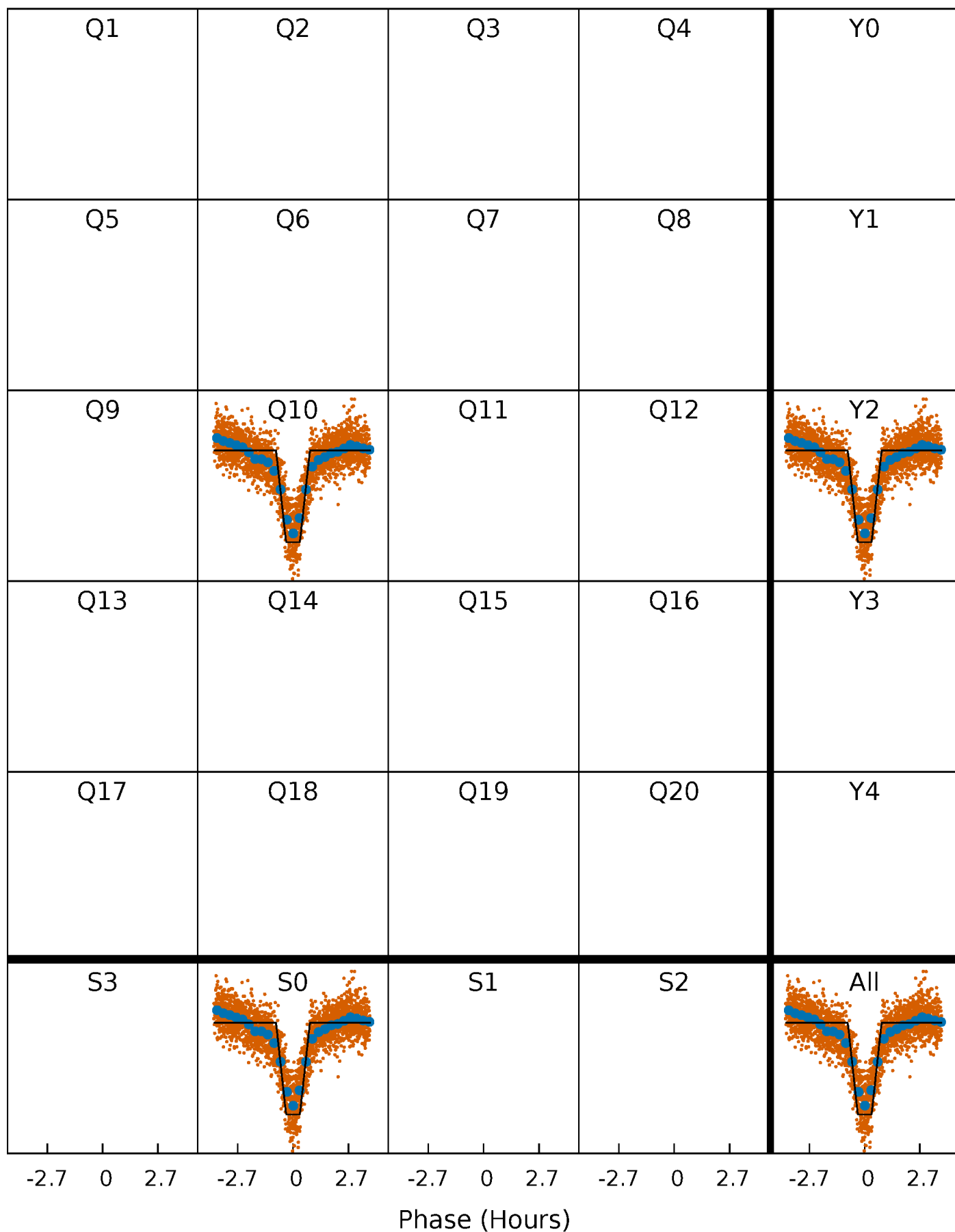
DV Quarter-Phased Transit Curves

TCE 008110758-02 P= 0.518061 Days $T_0=131.682869$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

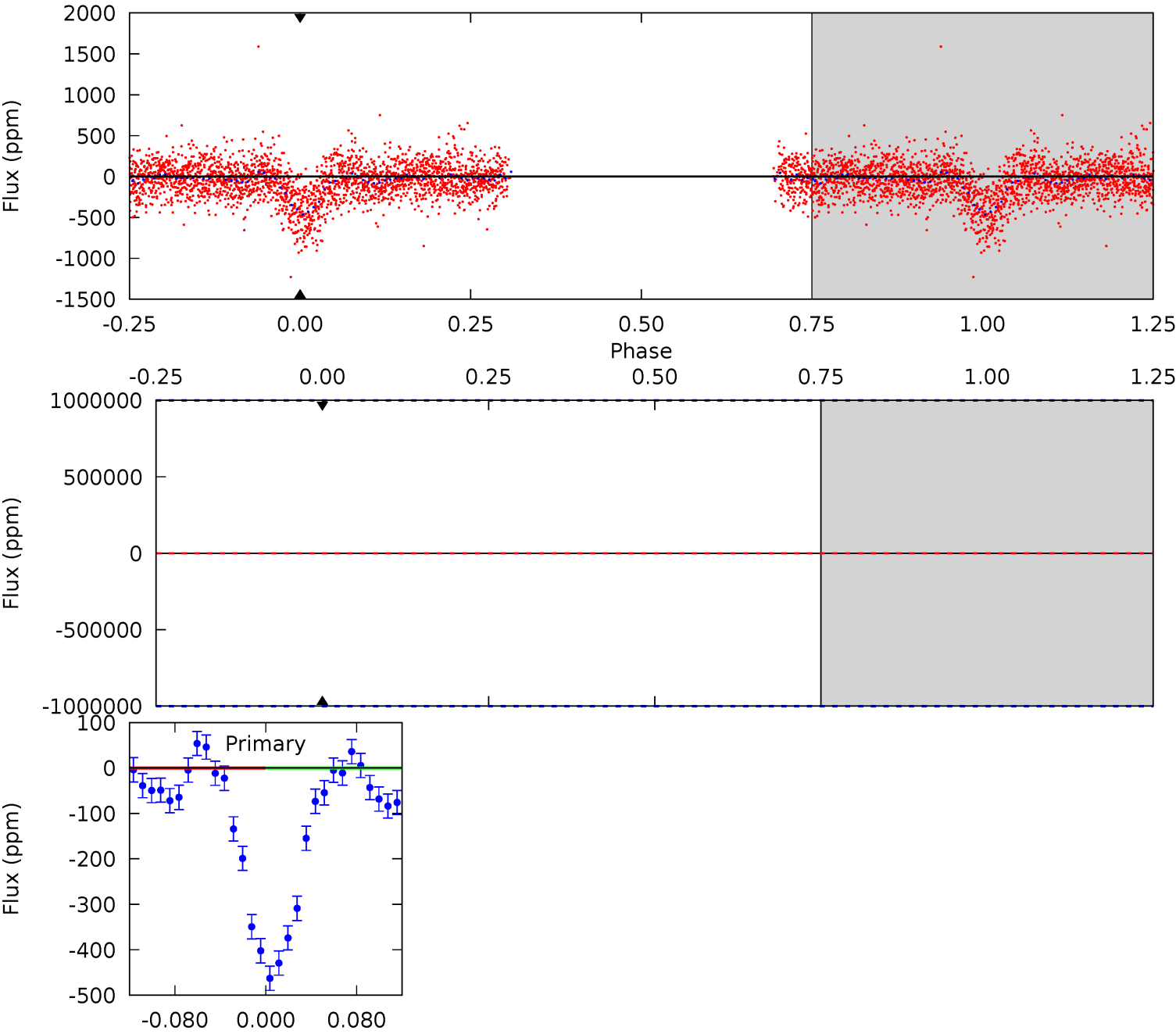
TCE 008110758-02 P= 0.518061 Days $T_0=131.684730$ (BKJD)



DV Model-Shift Uniqueness Test

008110758-02, P = 0.518061 Days, E = 131.682869 Days

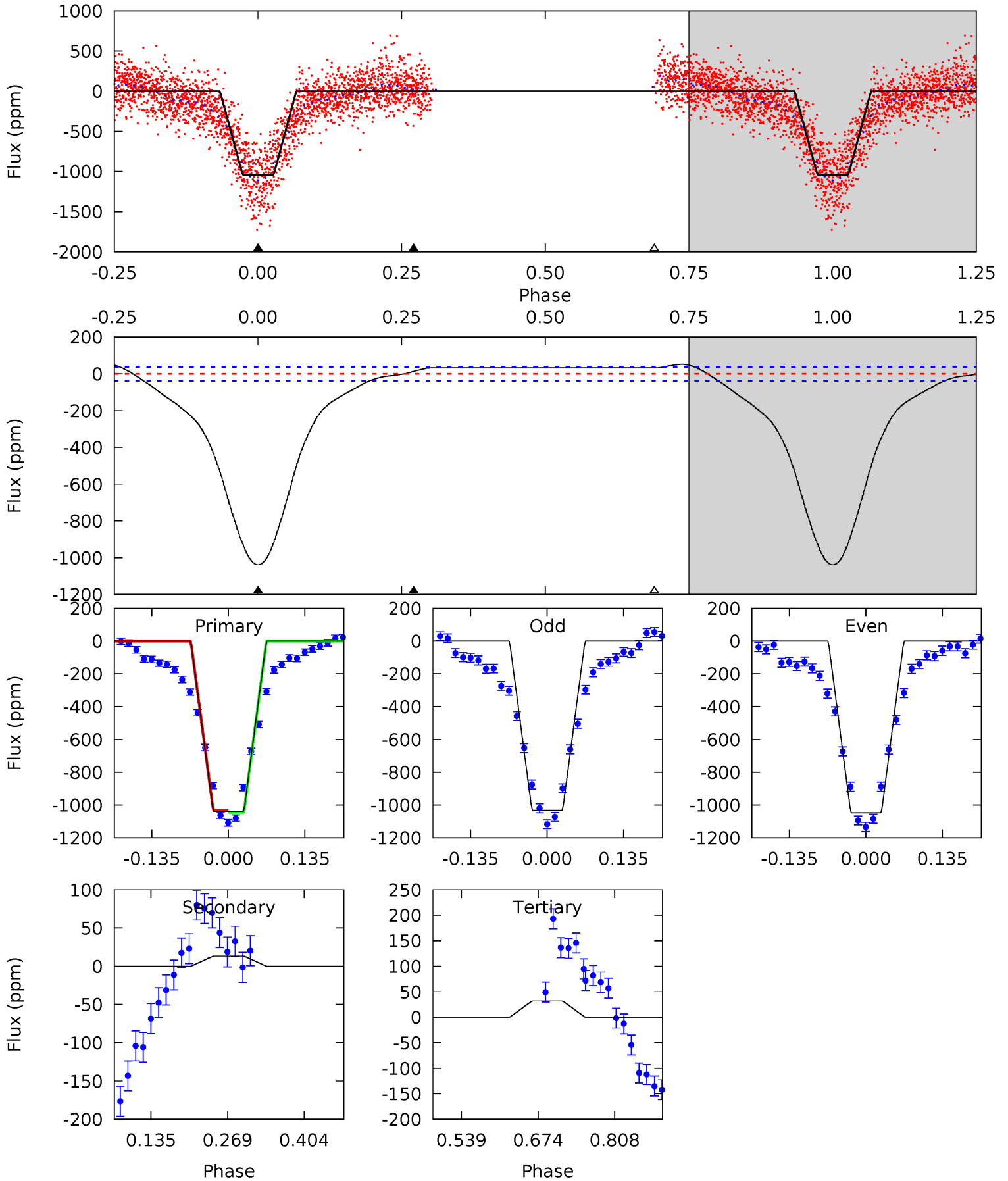
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008110758-02, P = 0.518061 Days, E = 131.684730 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
124.8	-1.60	-3.85	0	4.50	1.50	9.07	128.6	124.8	2.25	-1.60	0.90	1.04	0.05	0.78



Stellar Parameters For KIC 008110758

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5876^{+184}_{-205}	$4.273^{+0.185}_{-0.185}$	$-0.020^{+0.250}_{-0.300}$	$1.209^{+0.357}_{-0.268}$	$0.999^{+0.153}_{-0.115}$	$0.796^{+0.783}_{-0.397}$
	+3%/-3%	+4%/-4%	+1250%/-1500%	+30%/-22%	+15%/-12%	+98%/-50%
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 008110758-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$9.93^{+10.41}_{-7.00}$	3543^{+271}_{-251}	-4596^{+27805}_{-14614}	$-1.346^{+207.104}_{-127.593}$
Alt.	13 ± 8	$10.45^{+11.53}_{-6.87}$	3532^{+297}_{-246}	-3474^{+168}_{-226}	$-0.009^{+0.007}_{-0.076}$

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 $A_{obs} \gg 1.0$

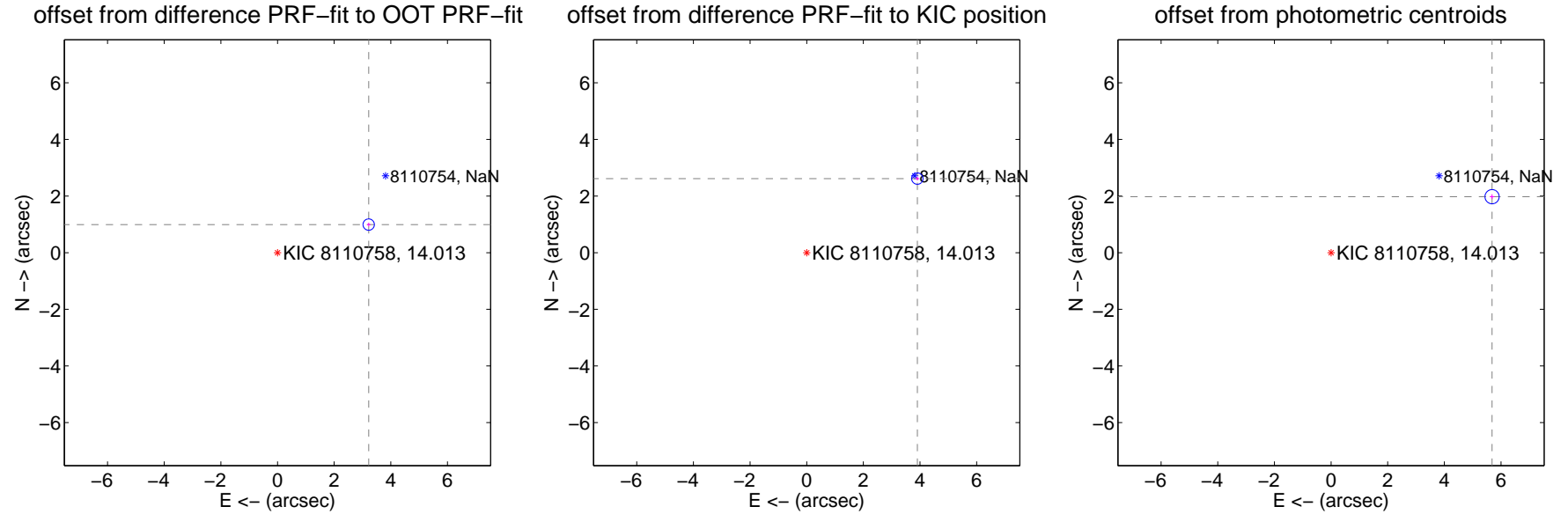
DV Centroid Data

Supplemental centroid analysis for 008110758-02. Kepler magnitude: 14.01. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

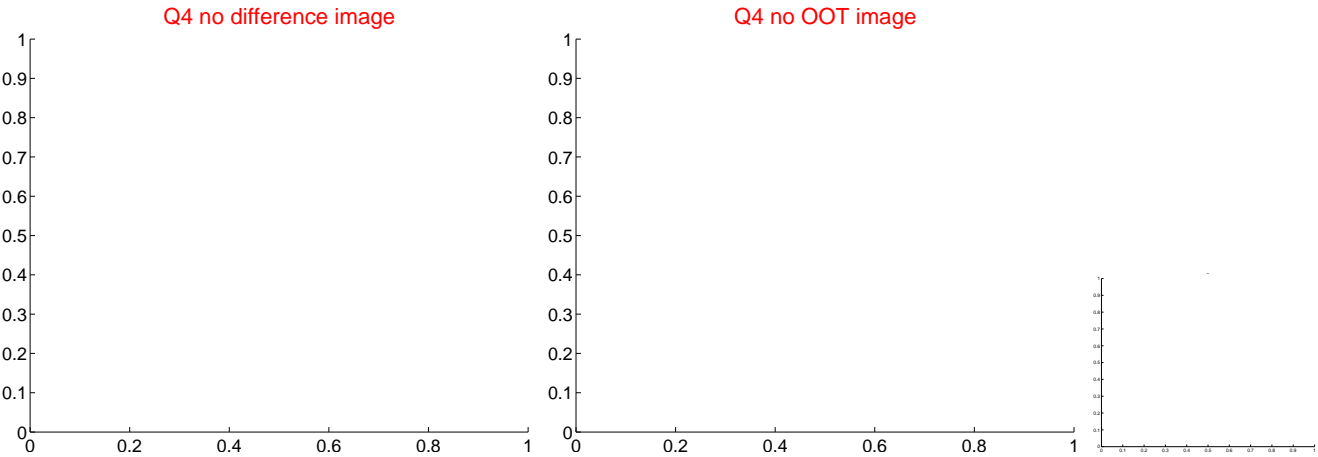
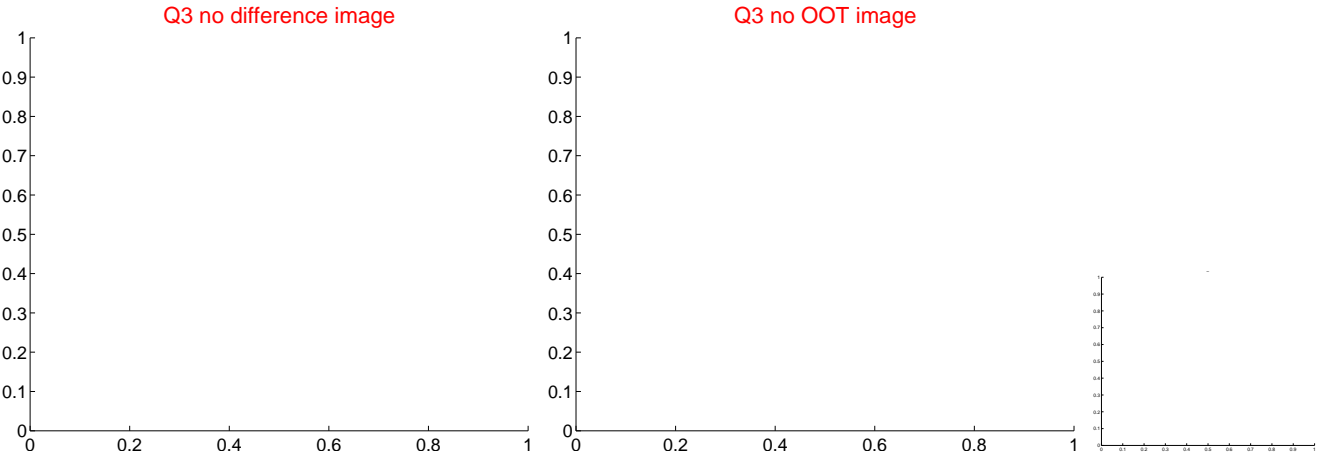
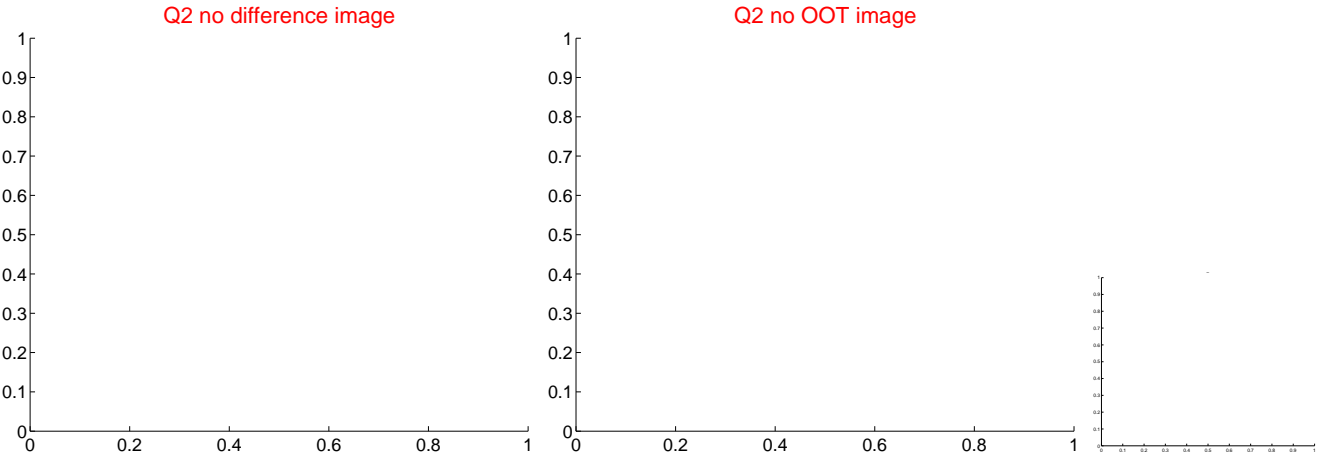
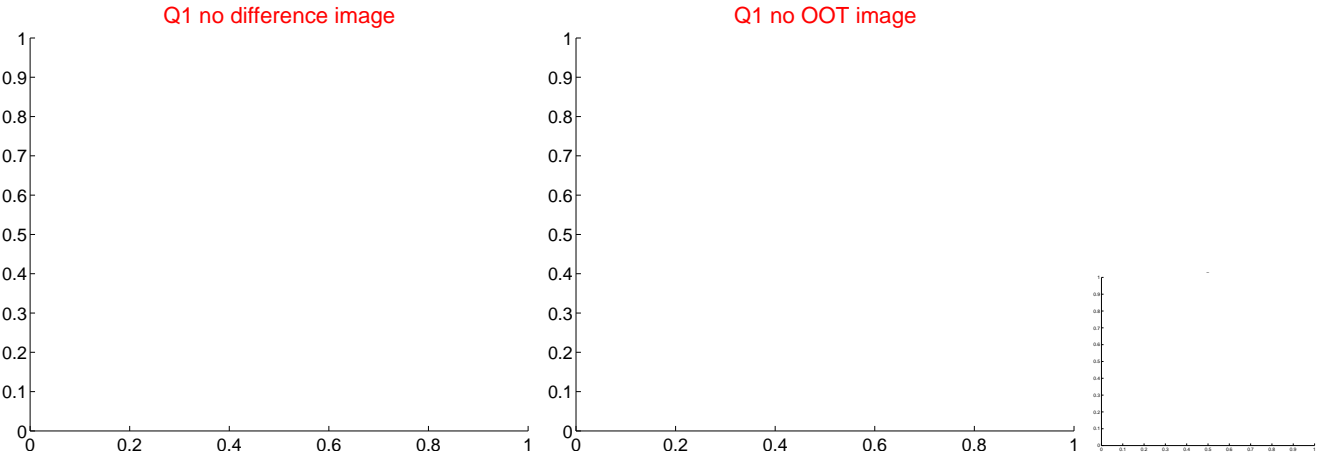
The direct PRF centroid is offset from the target star catalog position by about 1.76 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.369 ± 0.067	50.38	-3.219 ± 0.067	0.993 ± 0.067
PRF-fit source offset from KIC position	4.701 ± 0.067	70.31	-3.906 ± 0.067	2.616 ± 0.067
photometric centroid source offset	6.02 ± 0.08	72.08	-5.68 ± 0.08	1.98 ± 0.08



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.

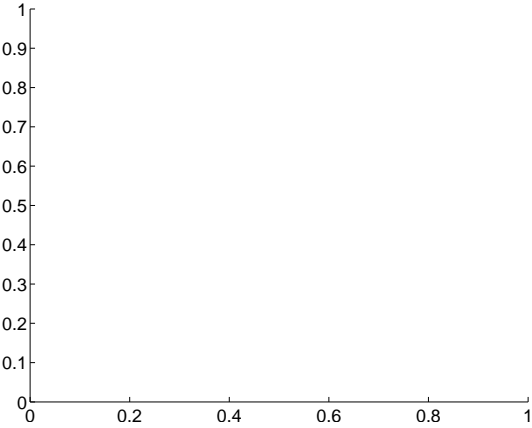


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

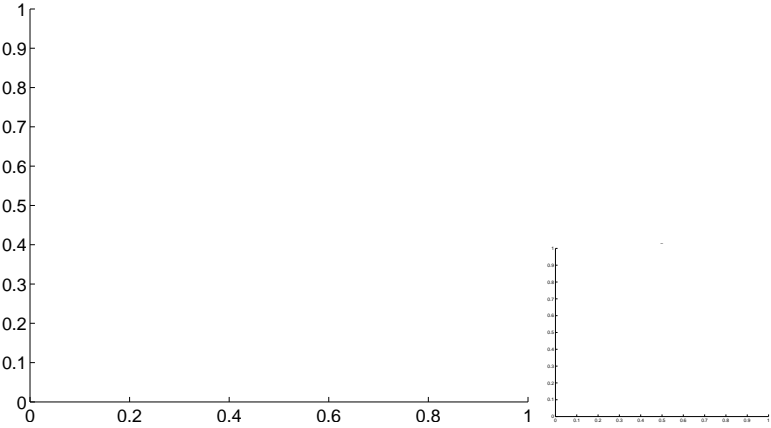


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

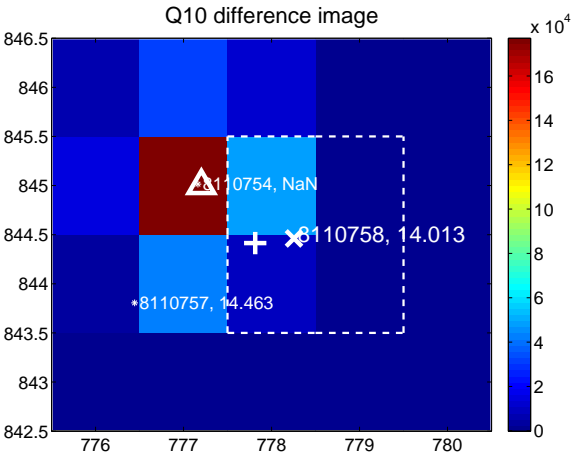
Q9 no difference image



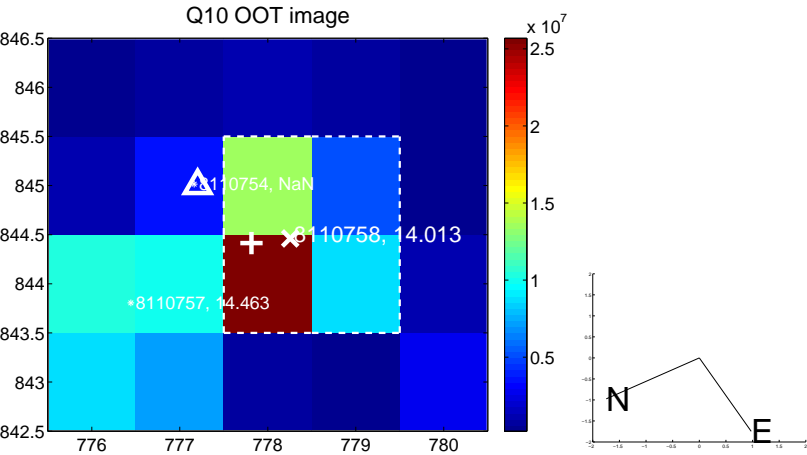
Q9 no OOT image



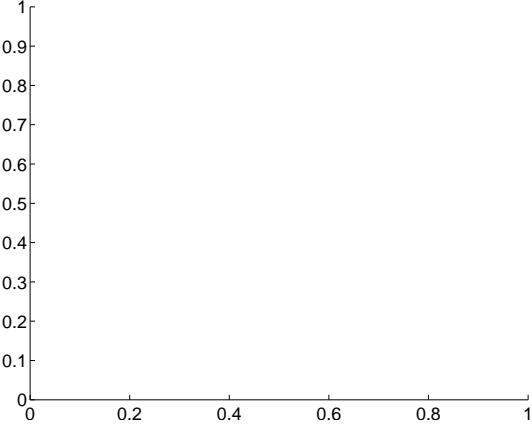
Q10 difference image



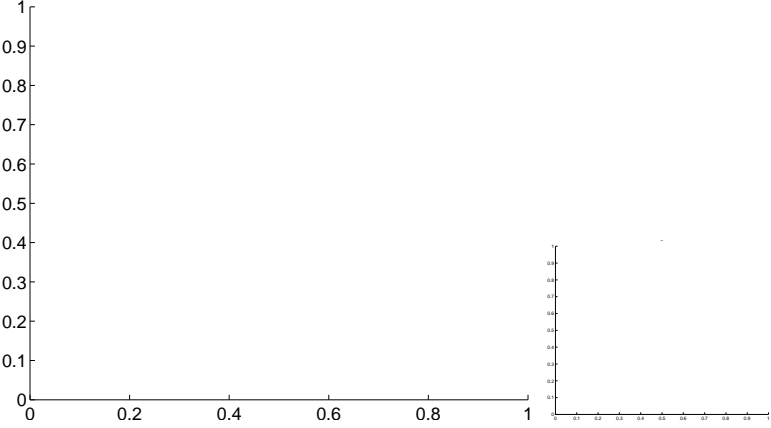
Q10 OOT image



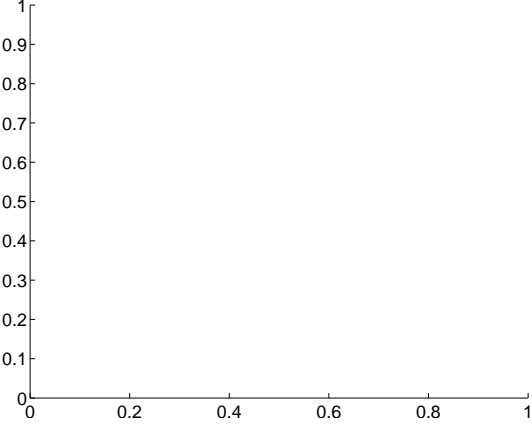
Q11 no difference image



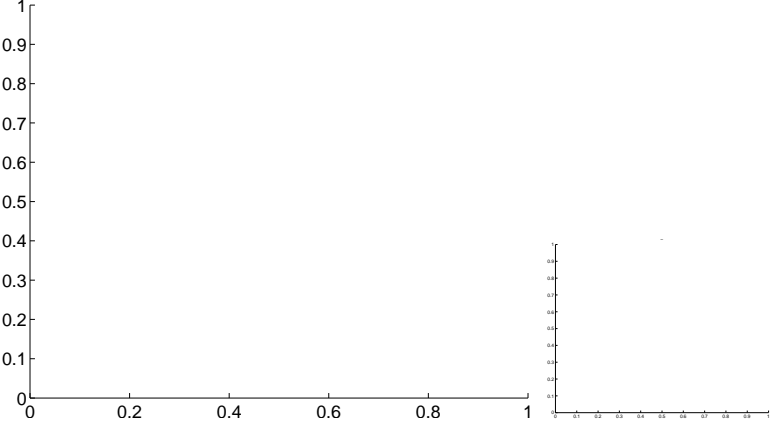
Q11 no OOT image



Q12 no difference image



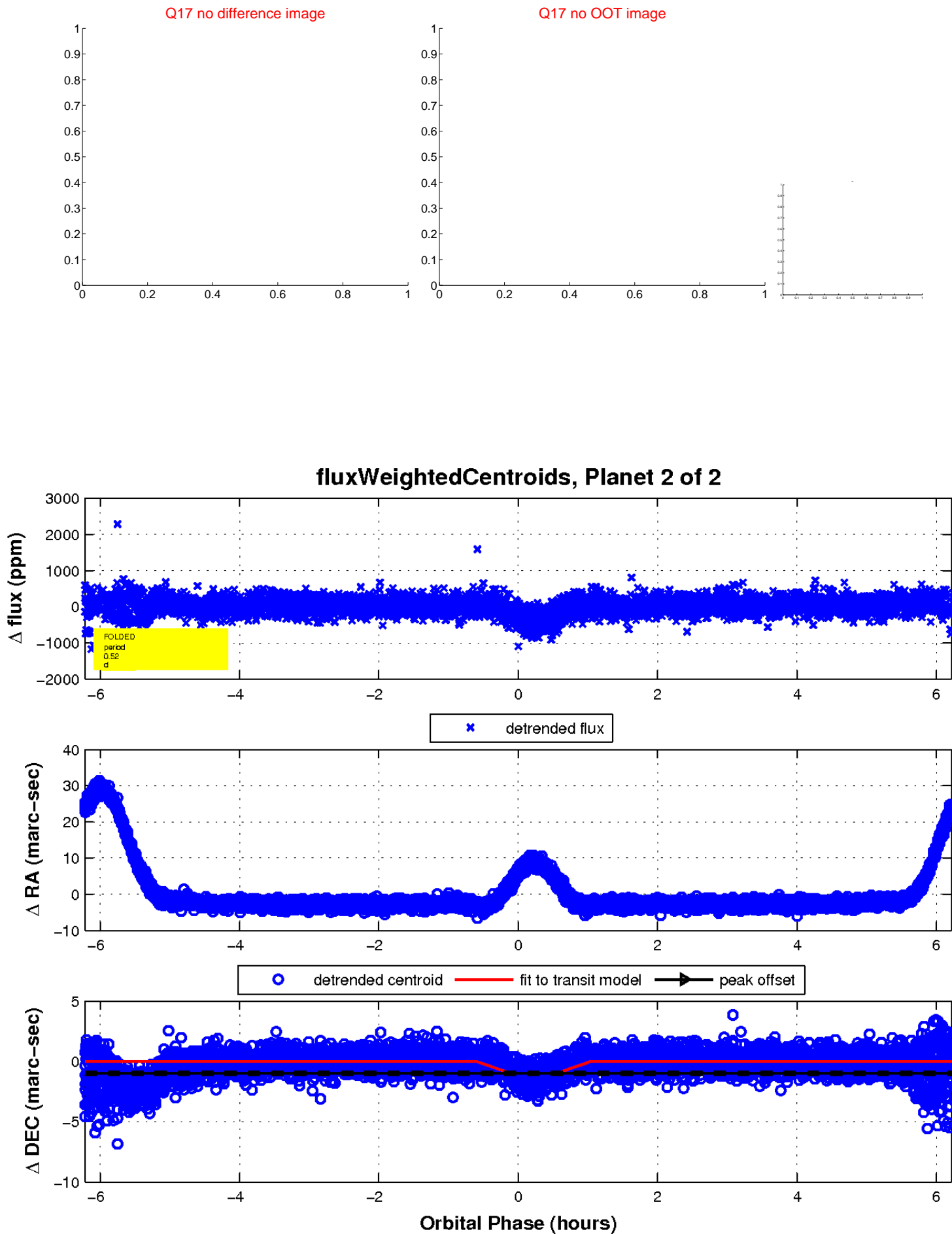
Q12 no OOT image



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.



UKIRT Image

Declination

