

KIC 009843435

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})
009843435-01	OBS	No	1.684727	131.572294	347656.7	4.500	2862.5	-1.0	1.69	7512	47.57	7988.56
009843435-02	OBS	No	1.684727	132.416882	8097.1	4.500	316.2	-1.0	1.69	7512	15.45	7988.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009843435-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
009843435-02	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—CENT_NOFITS

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.

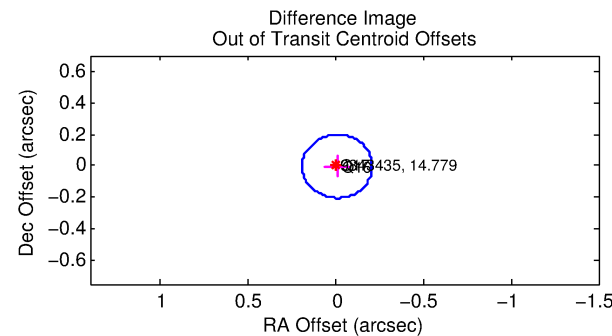
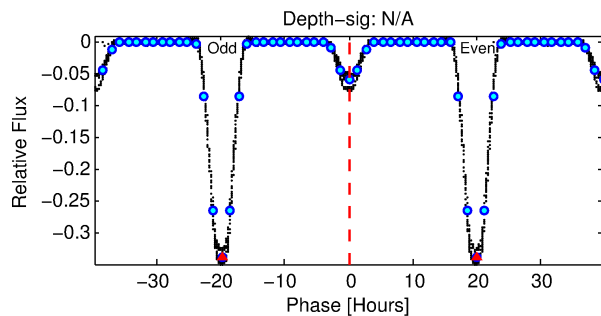
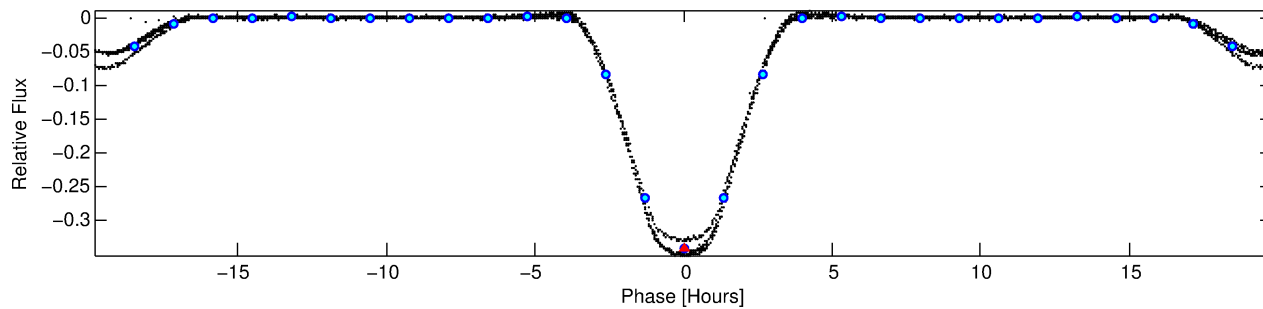
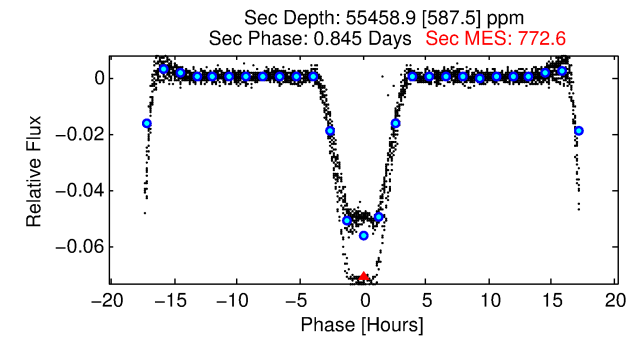
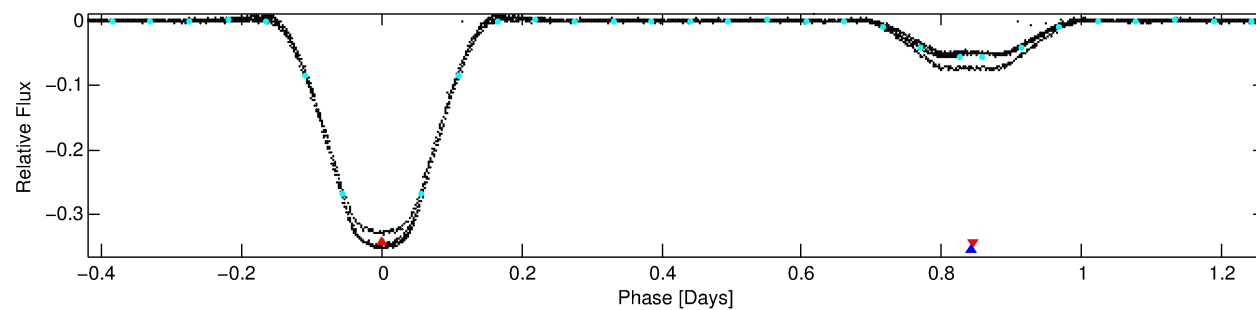
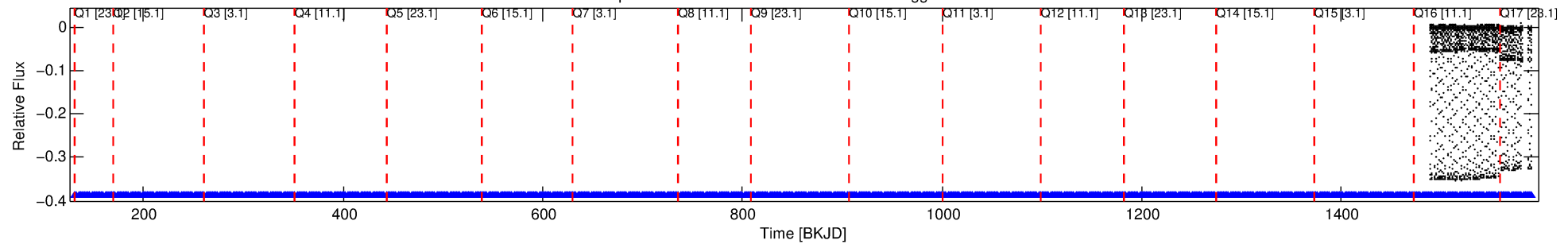
Ephemeris Match Information For 009843435-01

No Significant Match Found

DV One-Page Summary

KIC: 9843435 Candidate: 1 of 2 Period: 1.685 d

Kp: 14.78 R*: 1.69 Rs Teff: 7512.0 K Logg: 4.17 Fe/H: -0.120



TPS TCE Results:

Period = 1.68473 d
Epoch = 131.5723 BKJD

DV fit results are unavailable

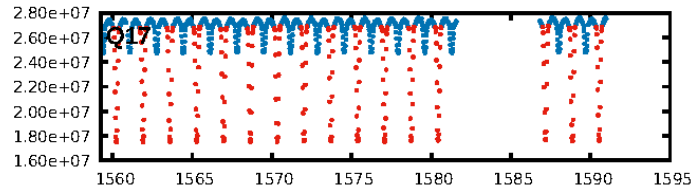
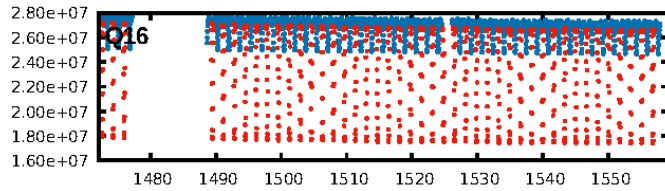
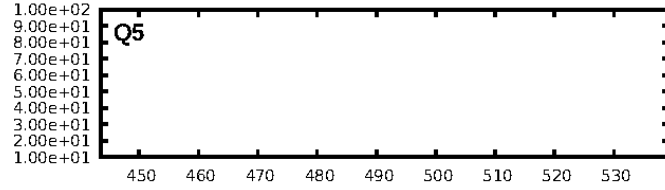
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [41/41]
GhostDiagnostic-chr: 1.085
Centroid-sig: N/A
Centroid-so: 0.234 arcsec [135.15σ]
OotOffset-rm: 0.009 arcsec [0.14σ]
KicOffset-rm: 0.109 arcsec [1.51σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
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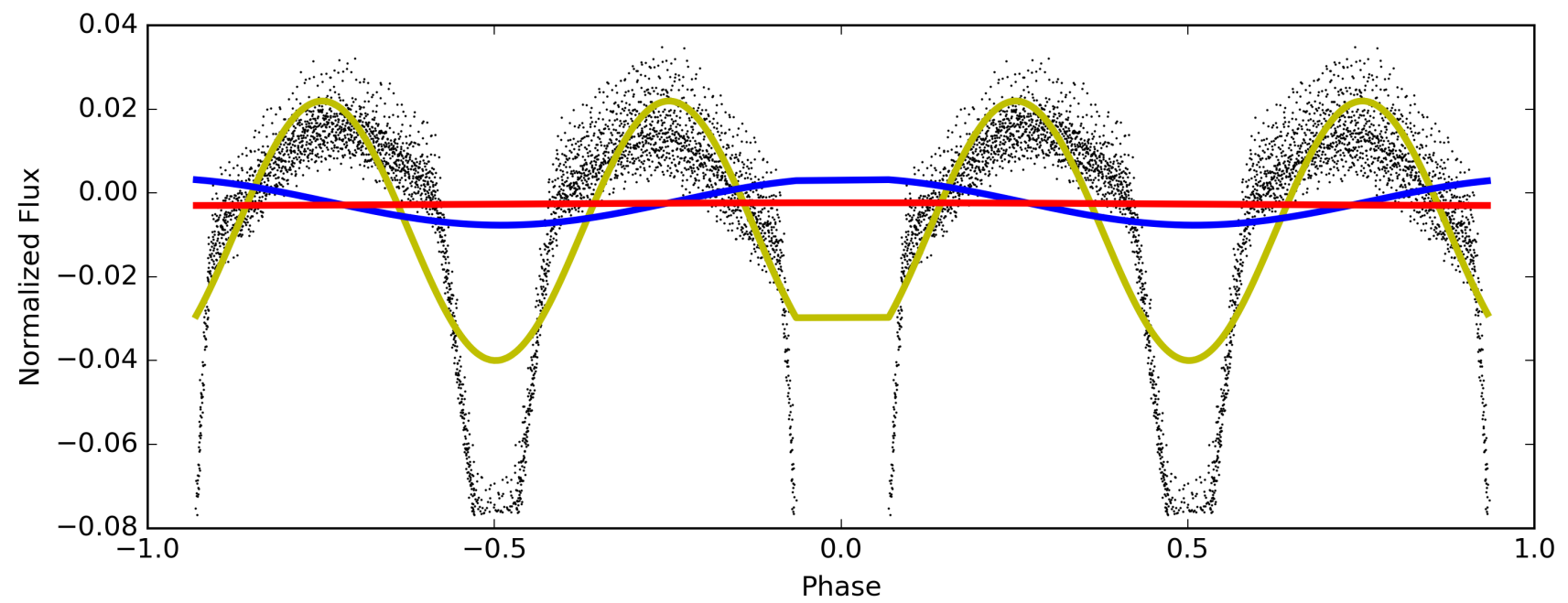
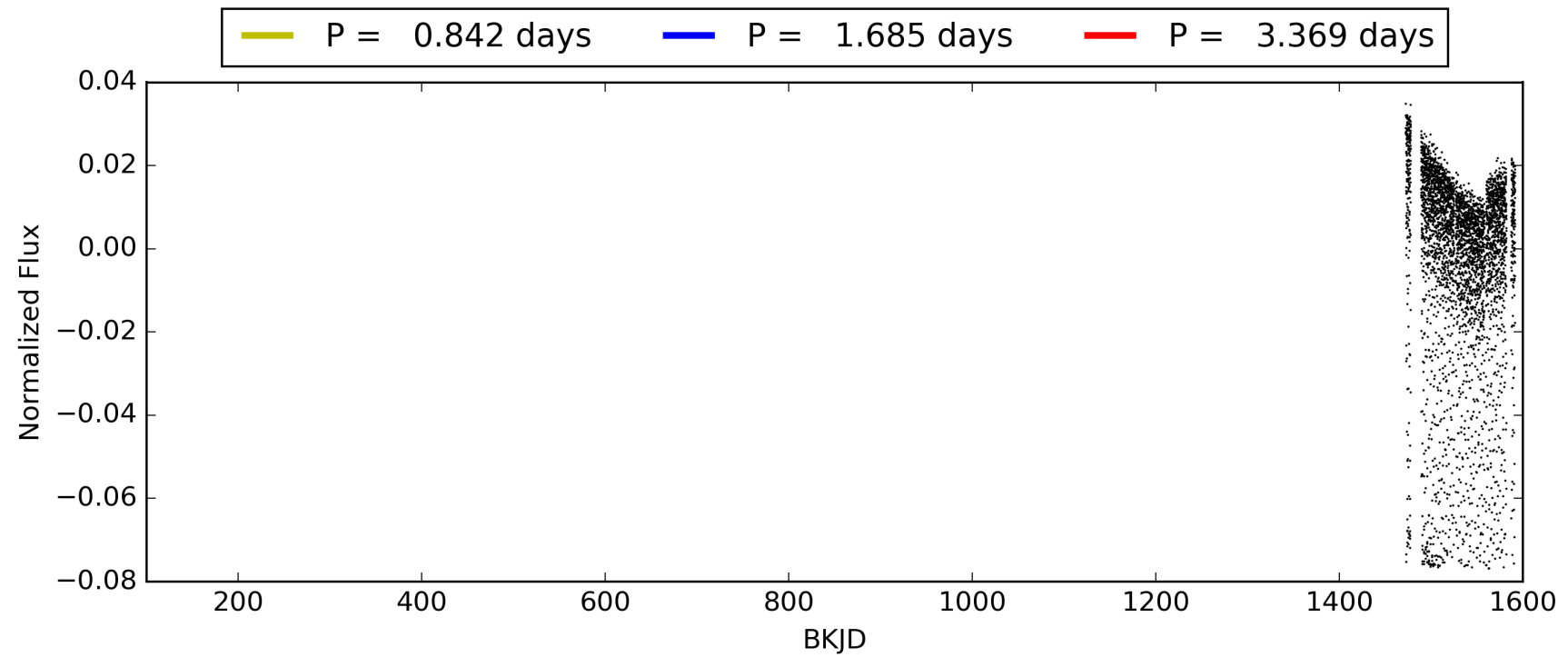
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:25:54 Z

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

TCE 009843435-01, PDC Light Curves

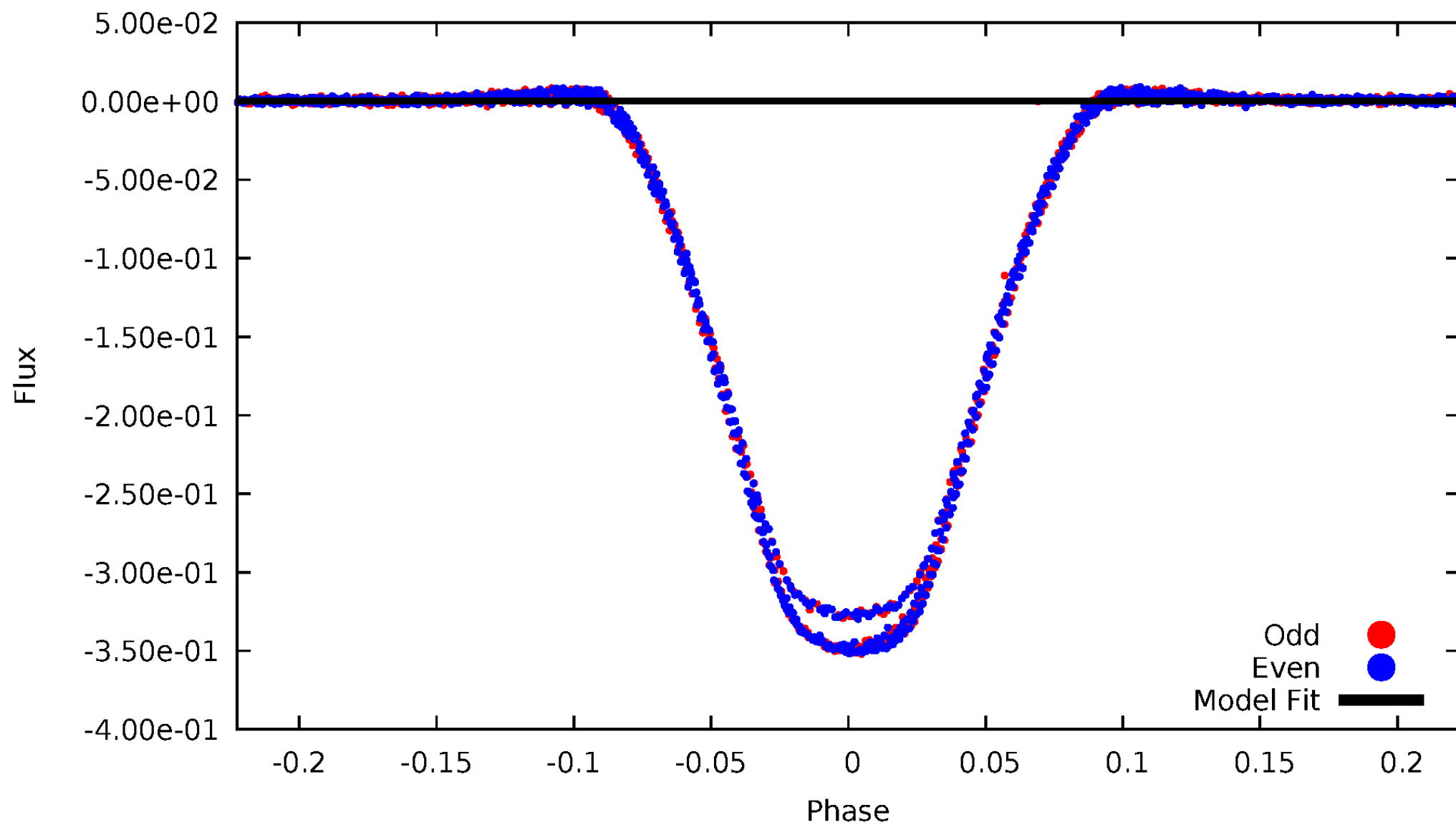


TCE 009843435-01



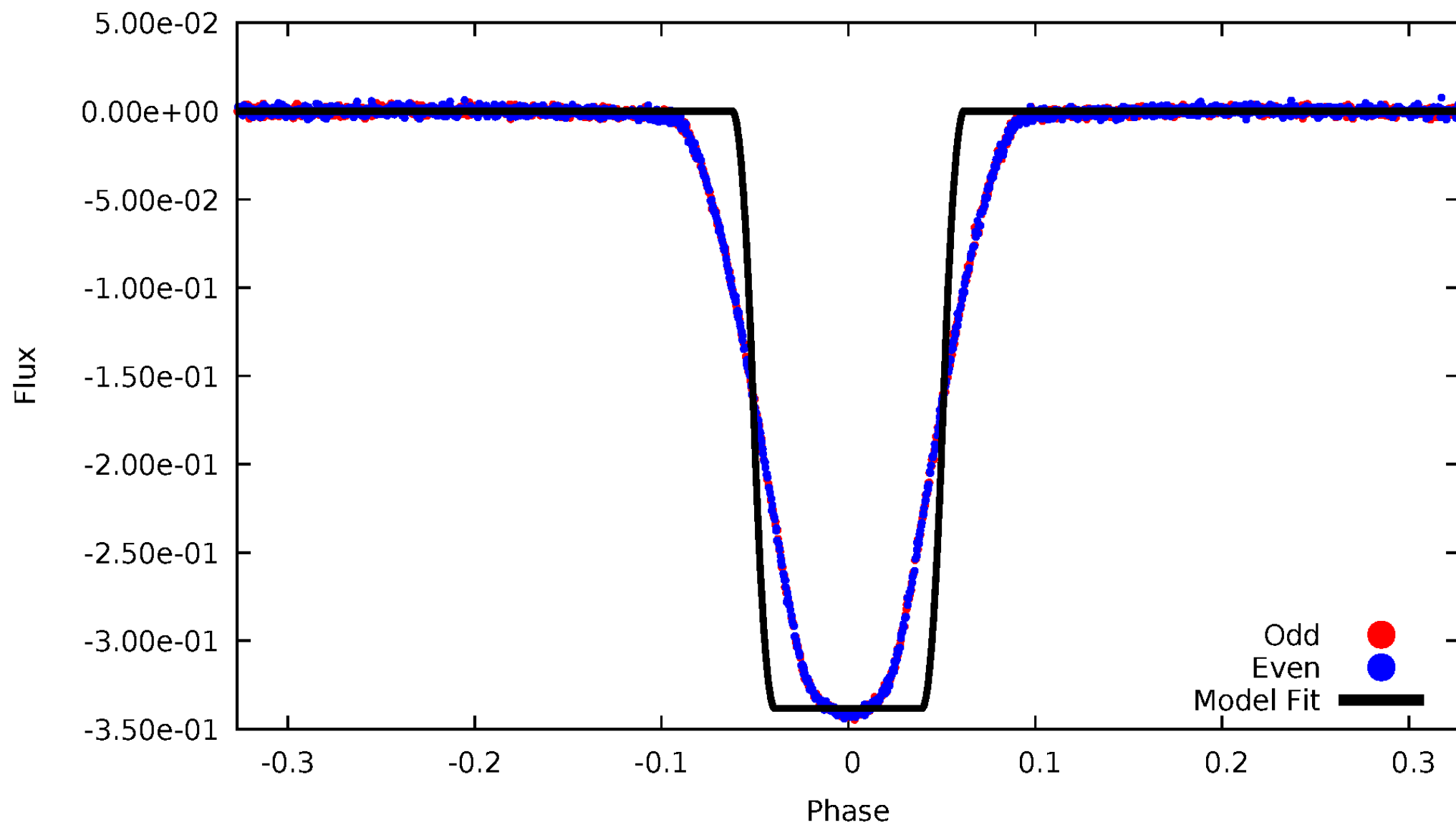
DV Odd/Even

TCE 009843435-01



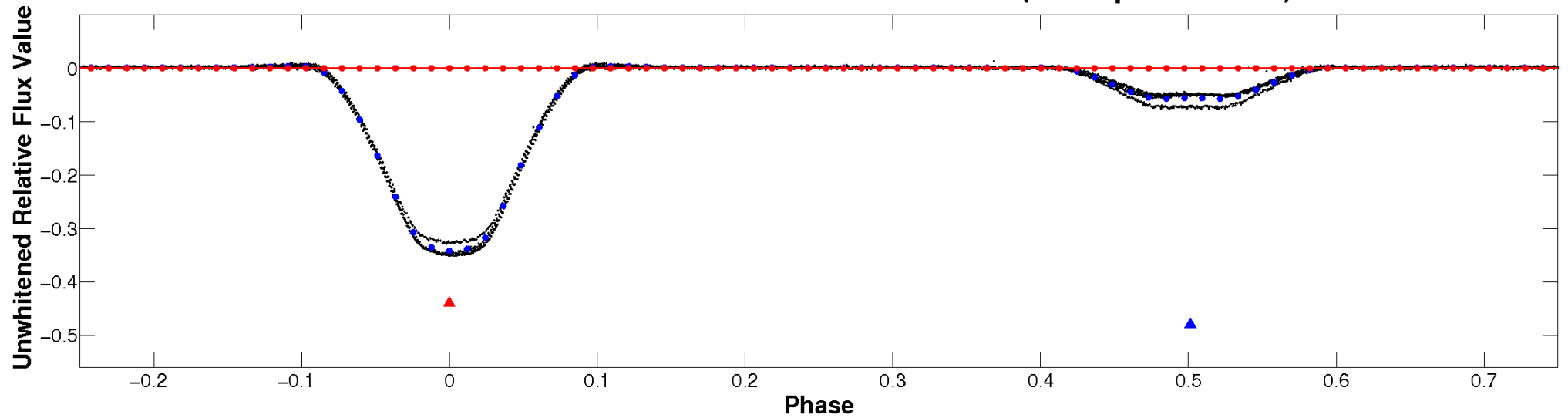
ALT Odd/Even

TCE 009843435-01



Non-Whitened Vs. Whitened Light Curve

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

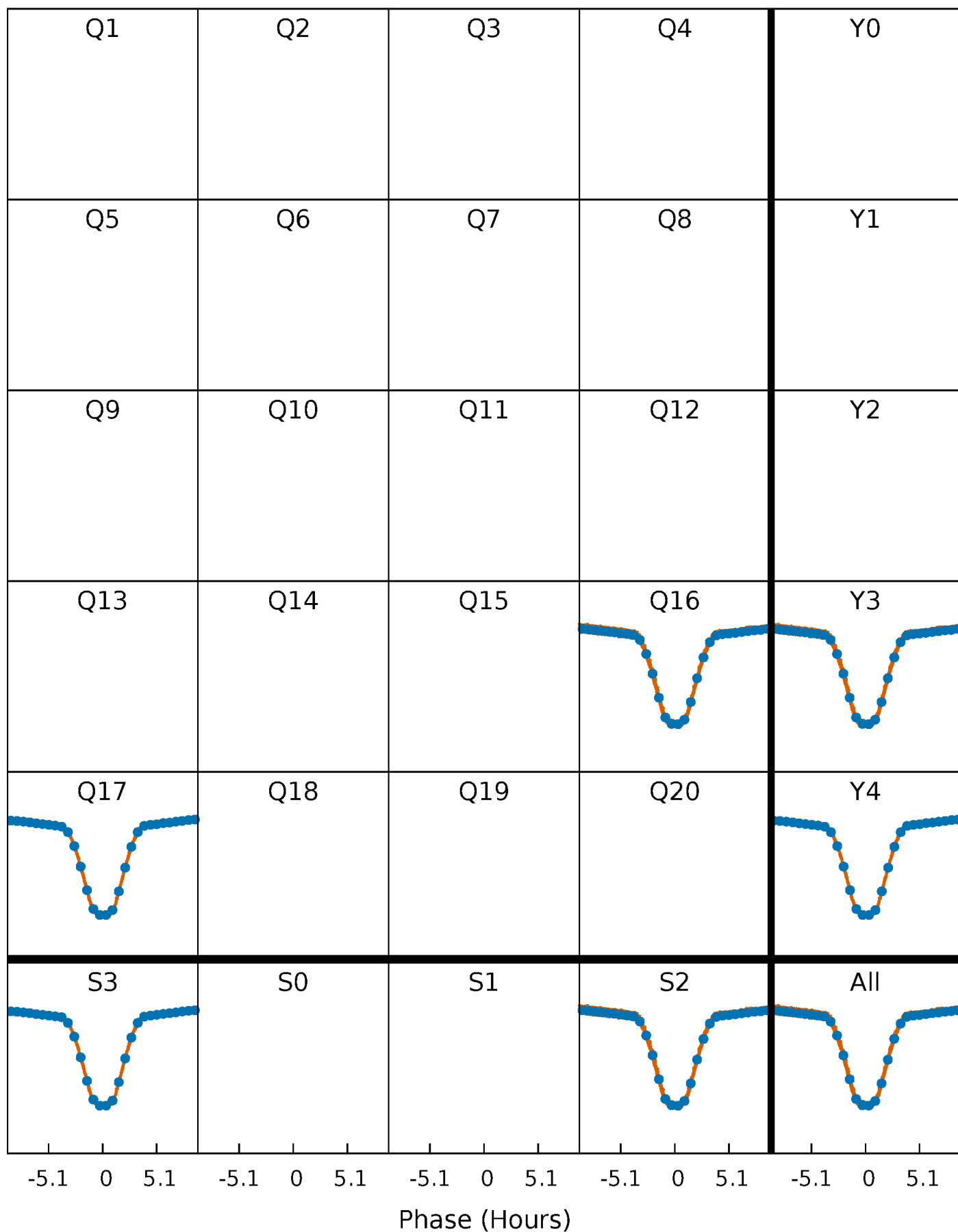


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



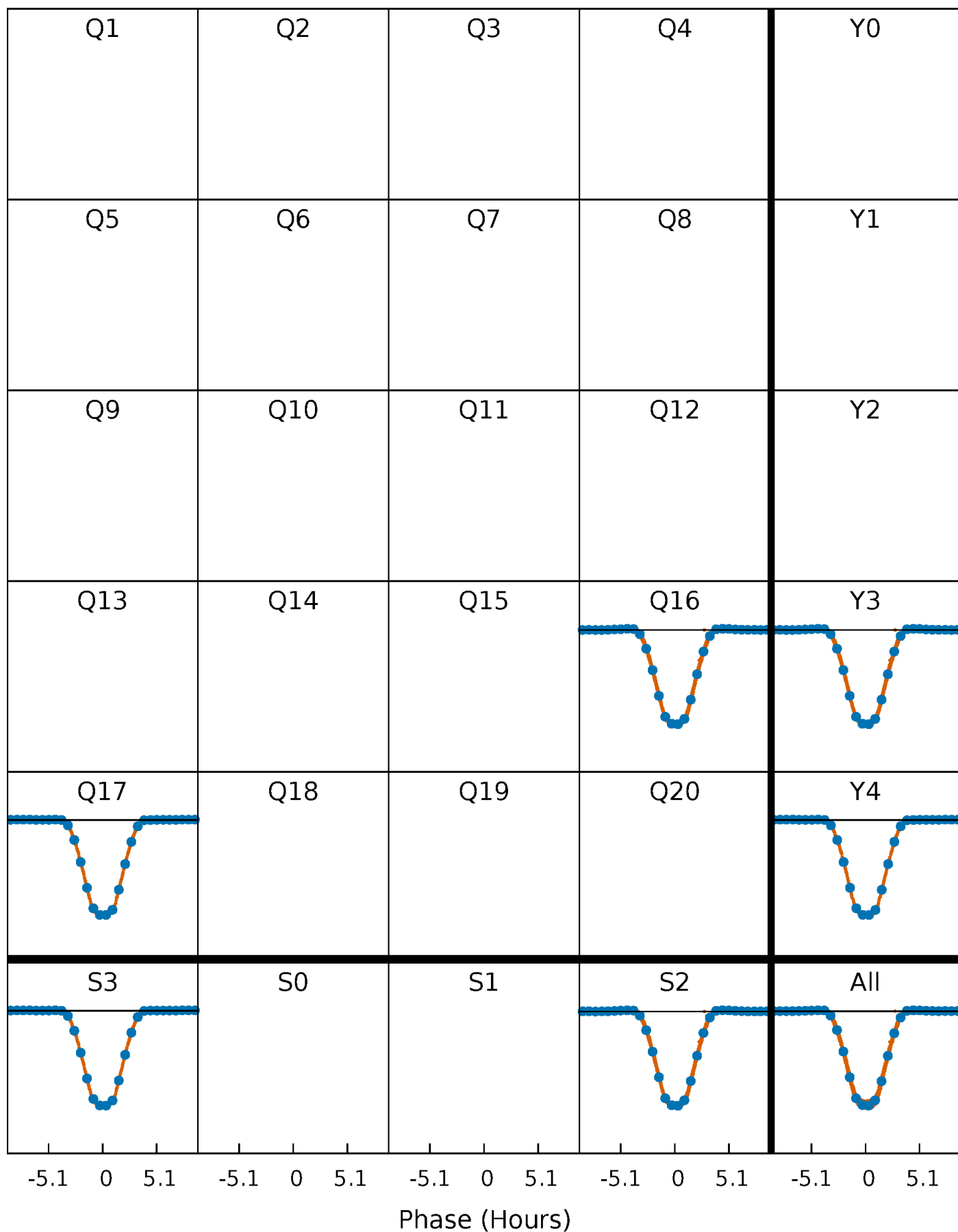
PDC Quarter-Phased Transit Curves

TCE 009843435-01 P= 1.684727 Days $T_0=131.572294$ (BKJD)



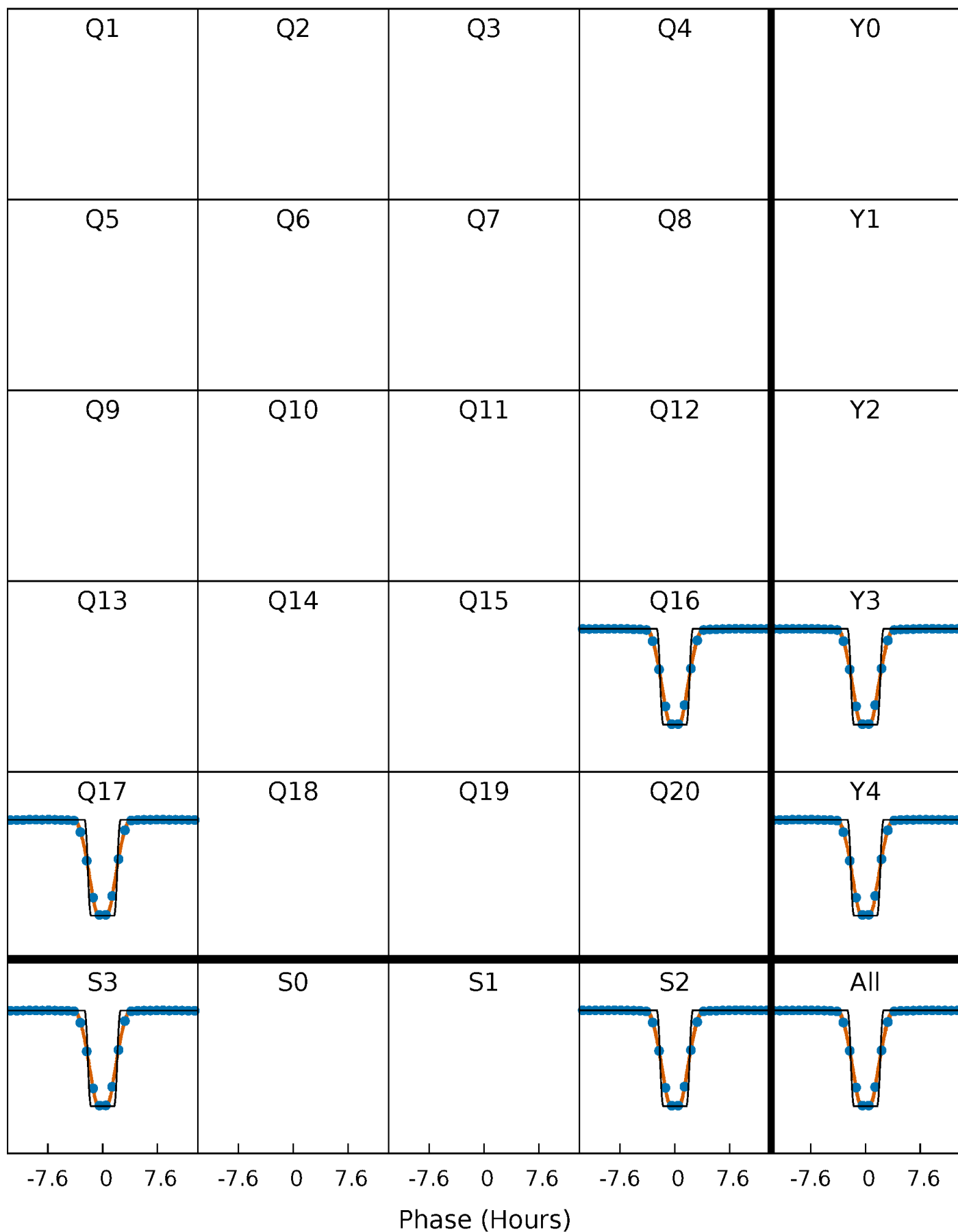
DV Quarter-Phased Transit Curves

TCE 009843435-01 P= 1.684727 Days $T_0=131.572294$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

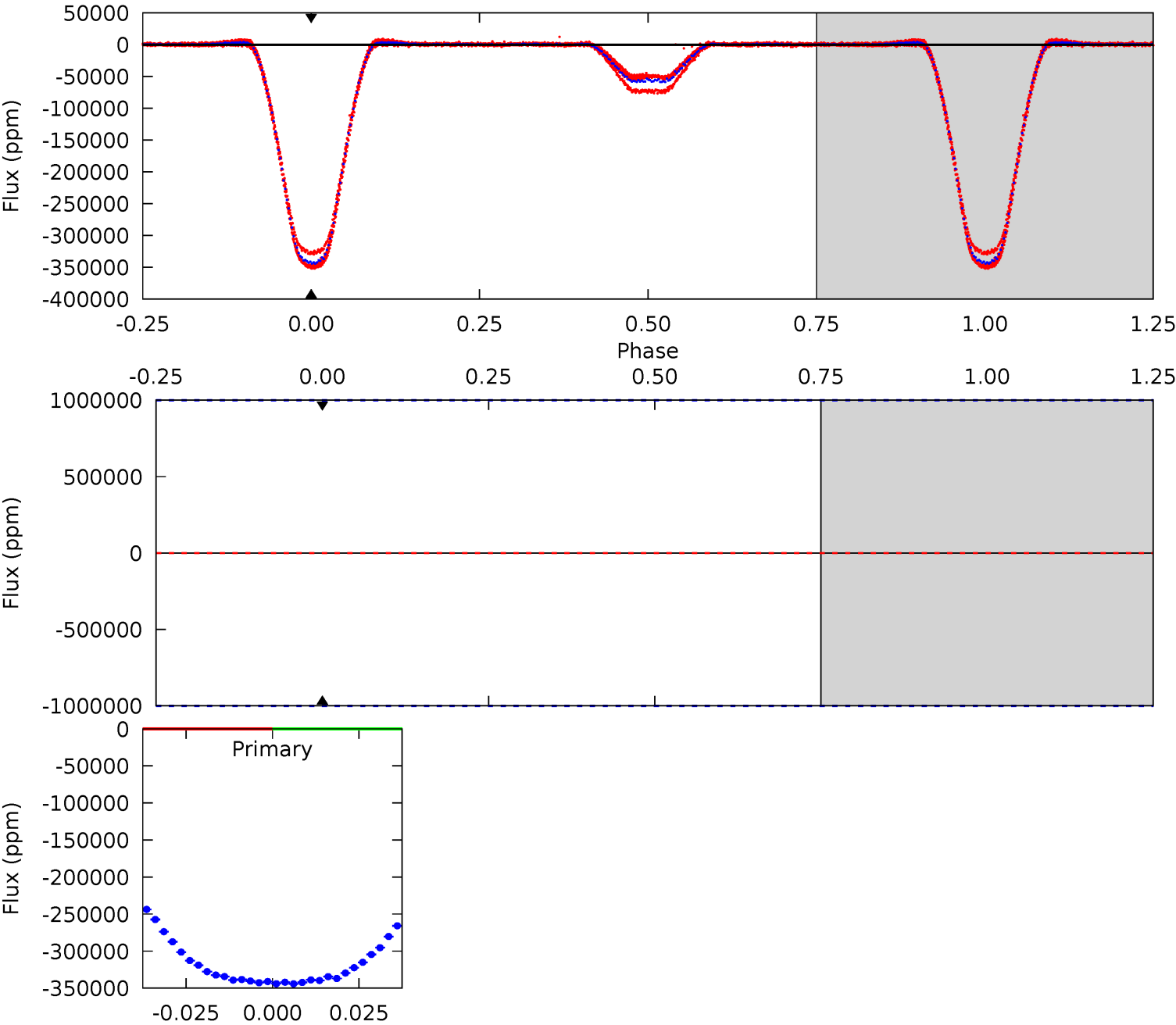
TCE 009843435-01 P= 1.684727 Days $T_0=131.574651$ (BKJD)



DV Model-Shift Uniqueness Test

009843435-01, P = 1.684727 Days, E = 131.572294 Days

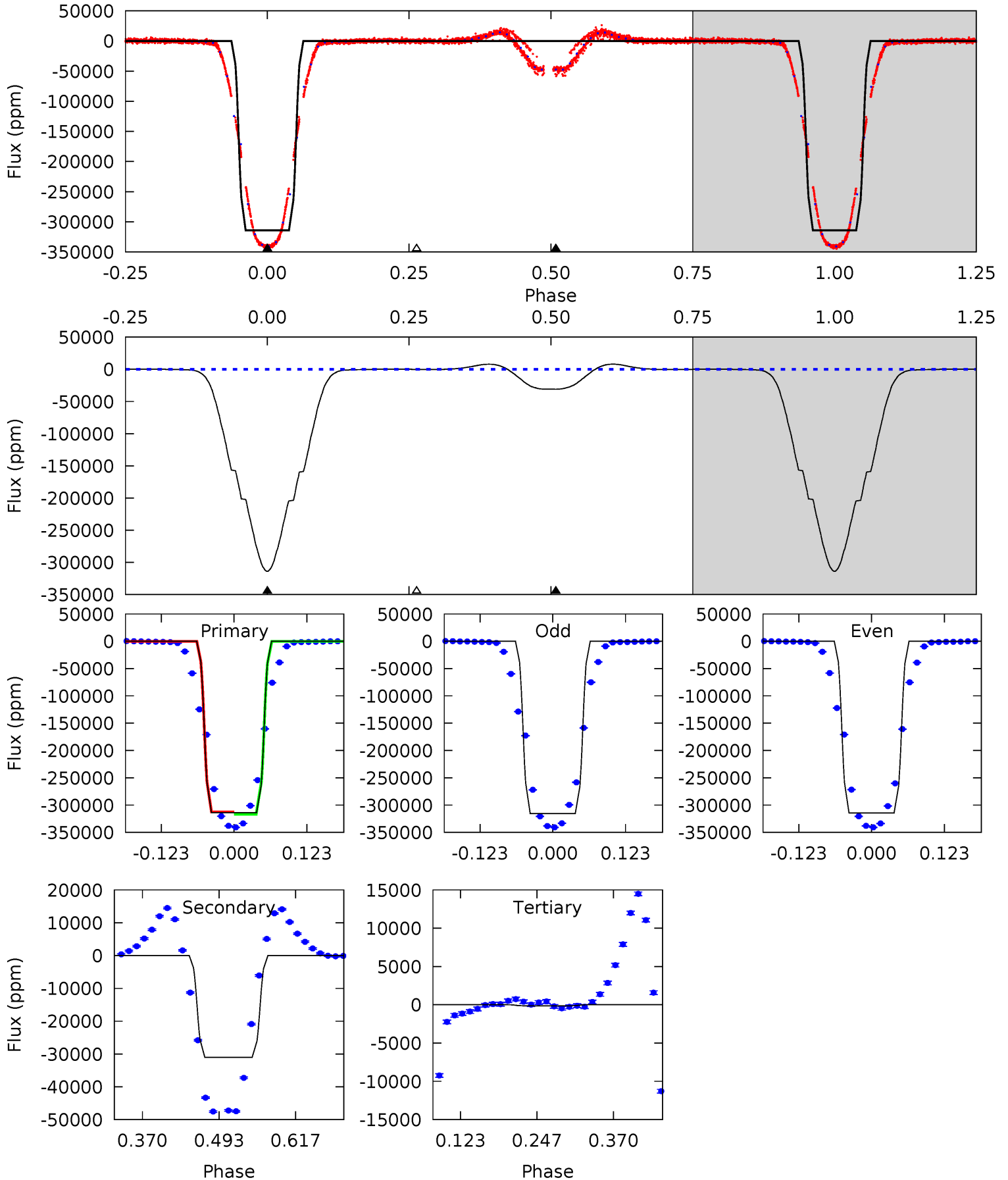
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009843435-01, P = 1.684727 Days, E = 131.574651 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2891	285.5	1.20	0	4.52	1.54	16.2	2890	2891	284.3	285.5	5.35	1.00	0.02	21.0



Stellar Parameters For KIC 009843435

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7512^{+235}_{-314}	$4.167^{+0.124}_{-0.186}$	$-0.120^{+0.200}_{-0.350}$	$1.690^{+0.542}_{-0.333}$	$1.529^{+0.212}_{-0.235}$	$0.446^{+0.272}_{-0.227}$
	+3%/-4%	+3%/-4%	+167%/-292%	+32%/-20%	+14%/-15%	+61%/-51%
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 009843435-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$48.19^{+21.74}_{-18.62}$	3387^{+264}_{-223}	-3573^{+12570}_{-5188}	$-0.191^{+29.582}_{-26.176}$
Alt.	-31003 ± 109	$108.62^{+28.19}_{-22.18}$	3393^{+262}_{-217}	4139^{+385}_{-342}	$1.507^{+0.830}_{-0.547}$

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 $A_{obs} \gg 1.0$

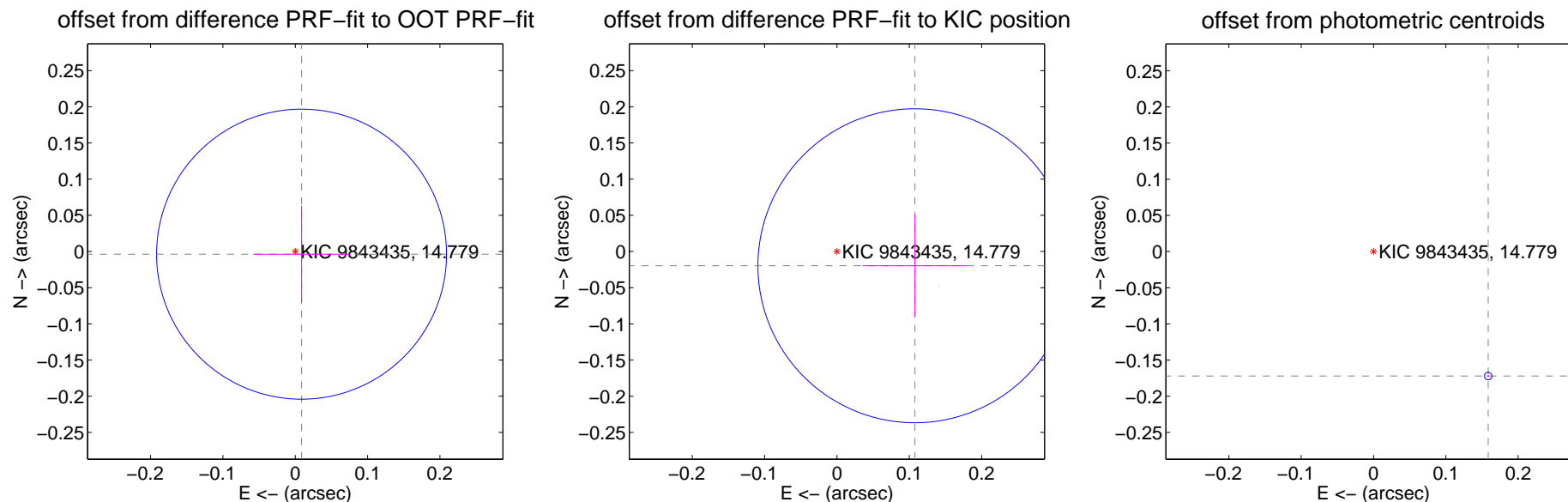
DV Centroid Data

Supplemental centroid analysis for 009843435-01. Kepler magnitude: 14.78. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.009 ± 0.067	0.14	-0.009 ± 0.067	-0.004 ± 0.067
PRF-fit source offset from KIC position	0.109 ± 0.072	1.51	-0.108 ± 0.072	-0.020 ± 0.071
photometric centroid source offset	0.23 ± 0.00	135.15	-0.16 ± 0.00	-0.17 ± 0.00



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.



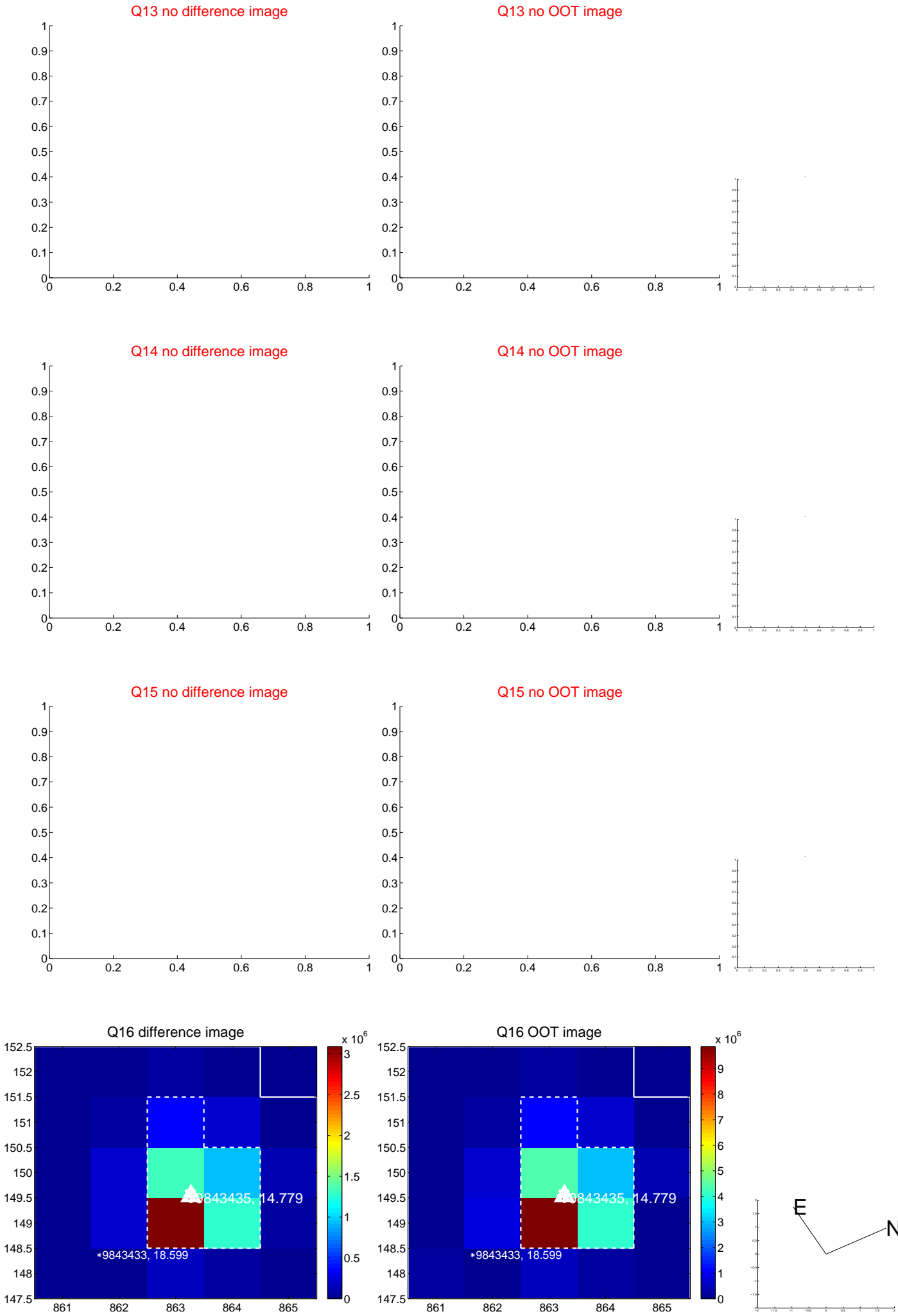
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



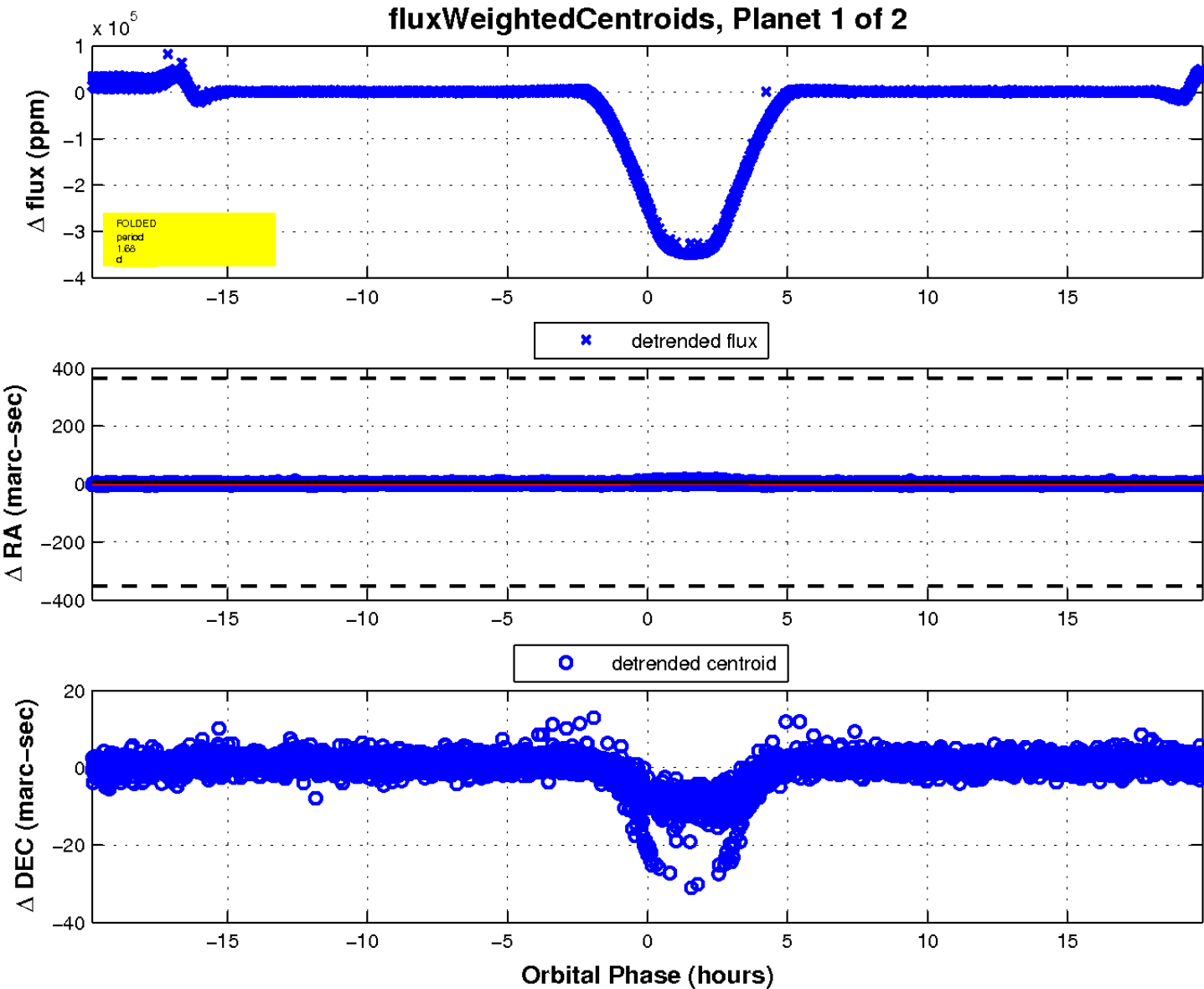
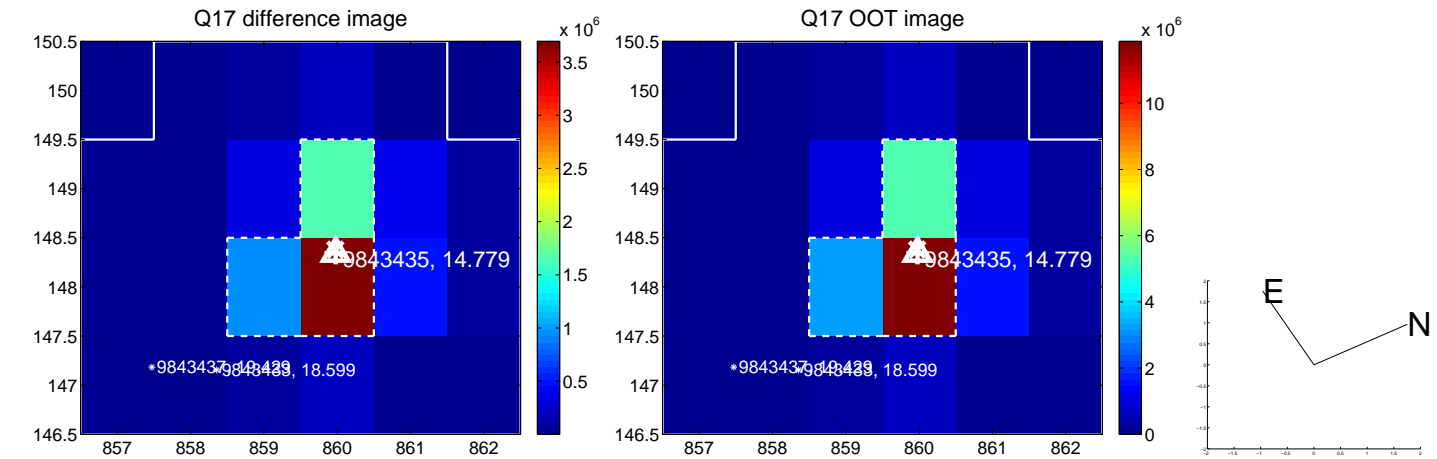
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

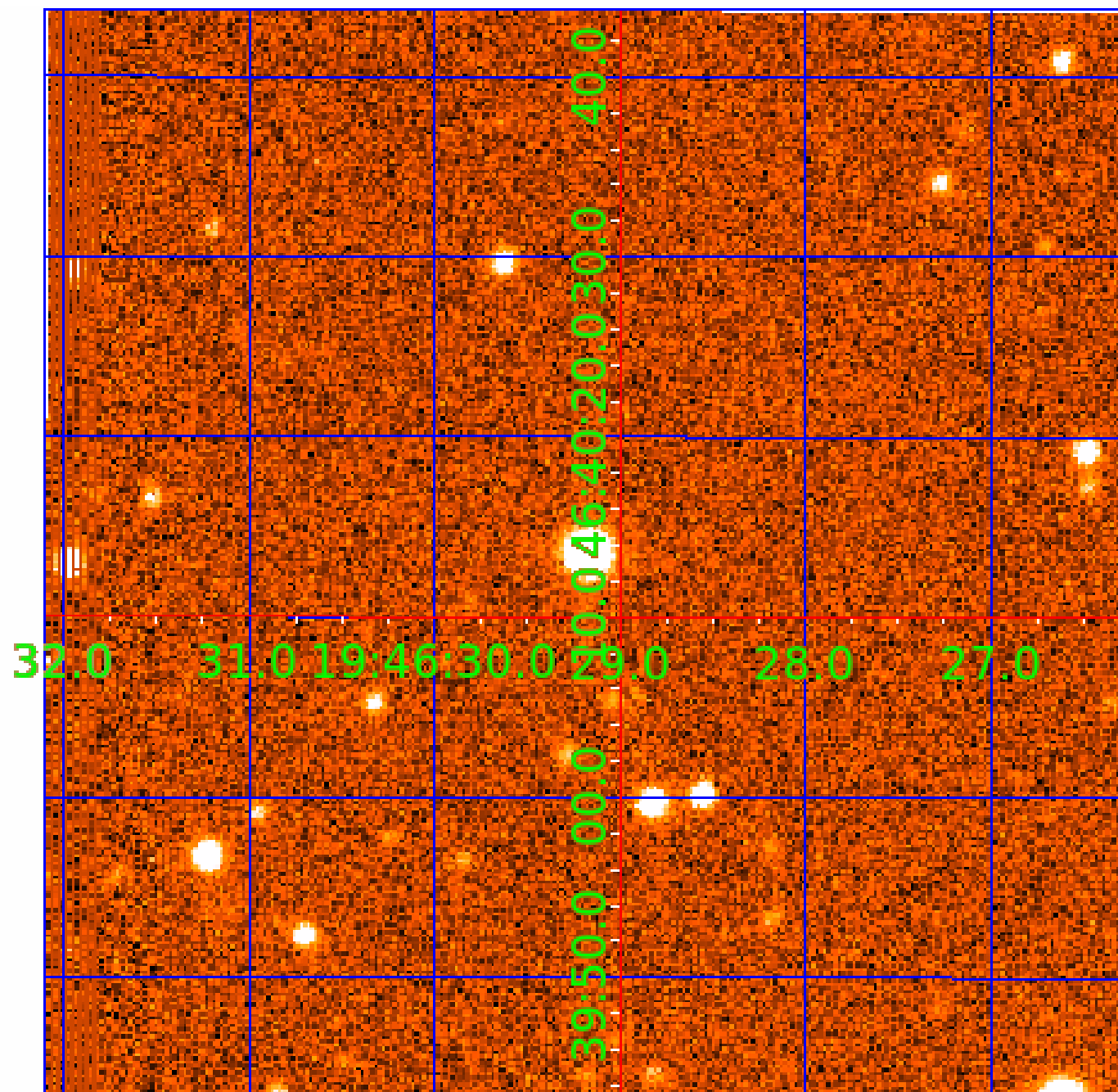


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009843435

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})
009843435-01	OBS	No	1.684727	131.572294	347656.7	4.500	2862.5	-1.0	1.69	7512	47.57	7988.56
009843435-02	OBS	No	1.684727	132.416882	8097.1	4.500	316.2	-1.0	1.69	7512	15.45	7988.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009843435-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
009843435-02	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—CENT_NOFITS

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.

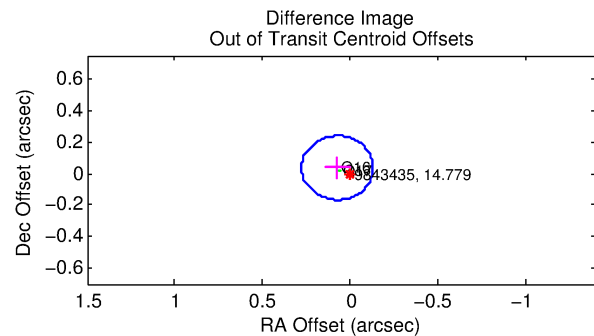
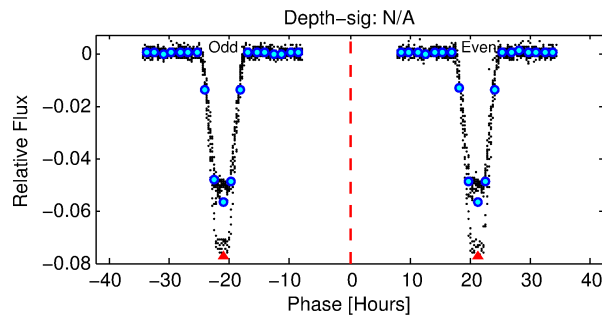
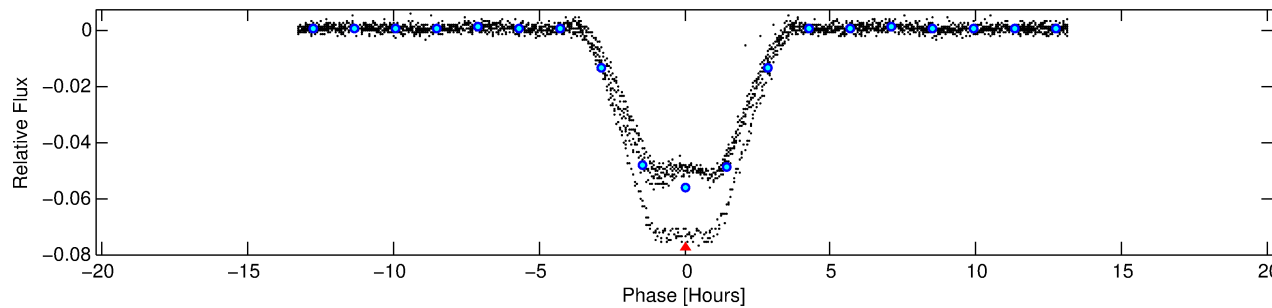
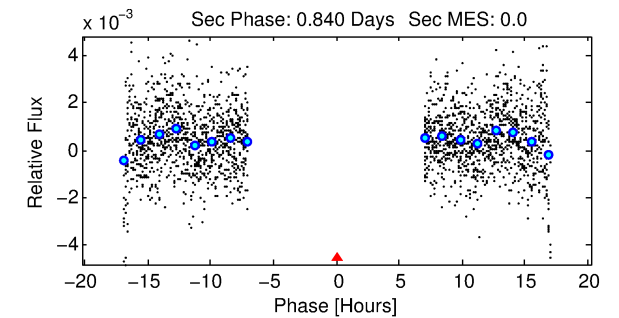
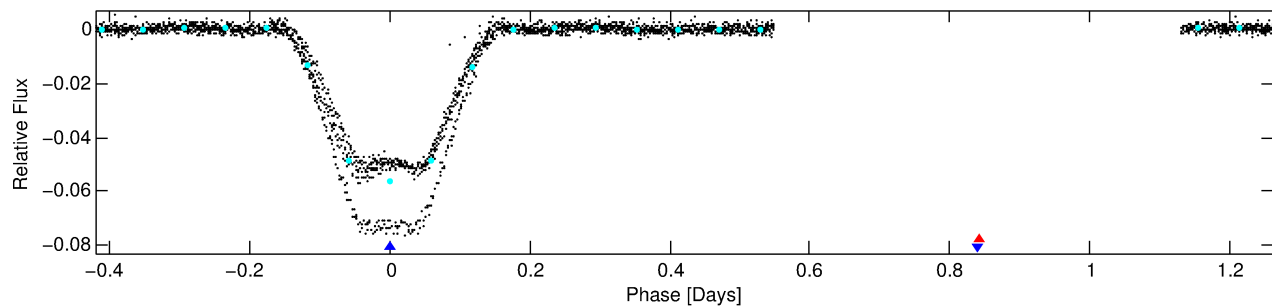
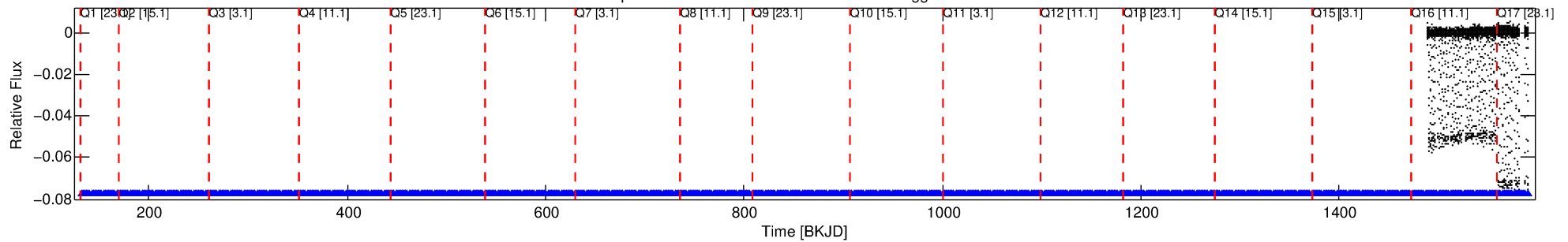
Ephemeris Match Information For 009843435-02

No Significant Match Found

DV One-Page Summary

KIC: 9843435 Candidate: 2 of 2 Period: 1.685 d

Kp: 14.78 R*: 1.69 Rs Teff: 7512.0 K Logg: 4.17 Fe/H: -0.120



TPS TCE Results:

Period = 1.68473 d
Epoch = 132.4169 BKJD

DV fit results are unavailable

DV Diagnostic Results:

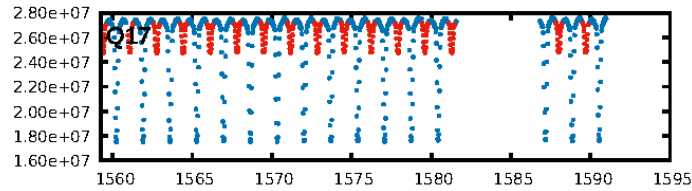
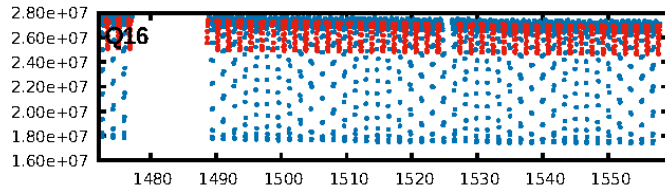
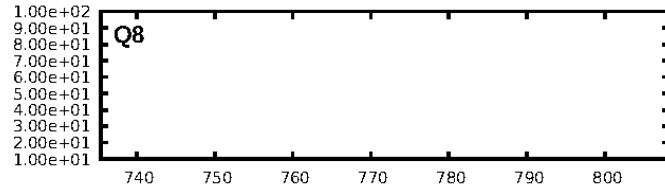
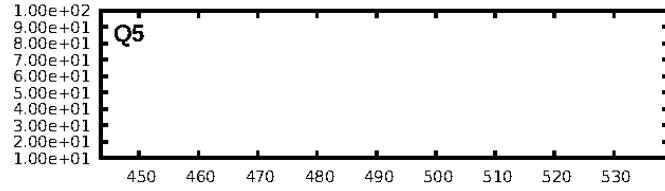
ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [41/41]
GhostDiagnostic-chr: 1.191

Centroid-sig: N/A
Centroid-so: 0.231 arcsec [63.75 σ]
OotOffset-rm: 0.083 arcsec [1.22 σ]
KicOffset-rm: 0.032 arcsec [0.40 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
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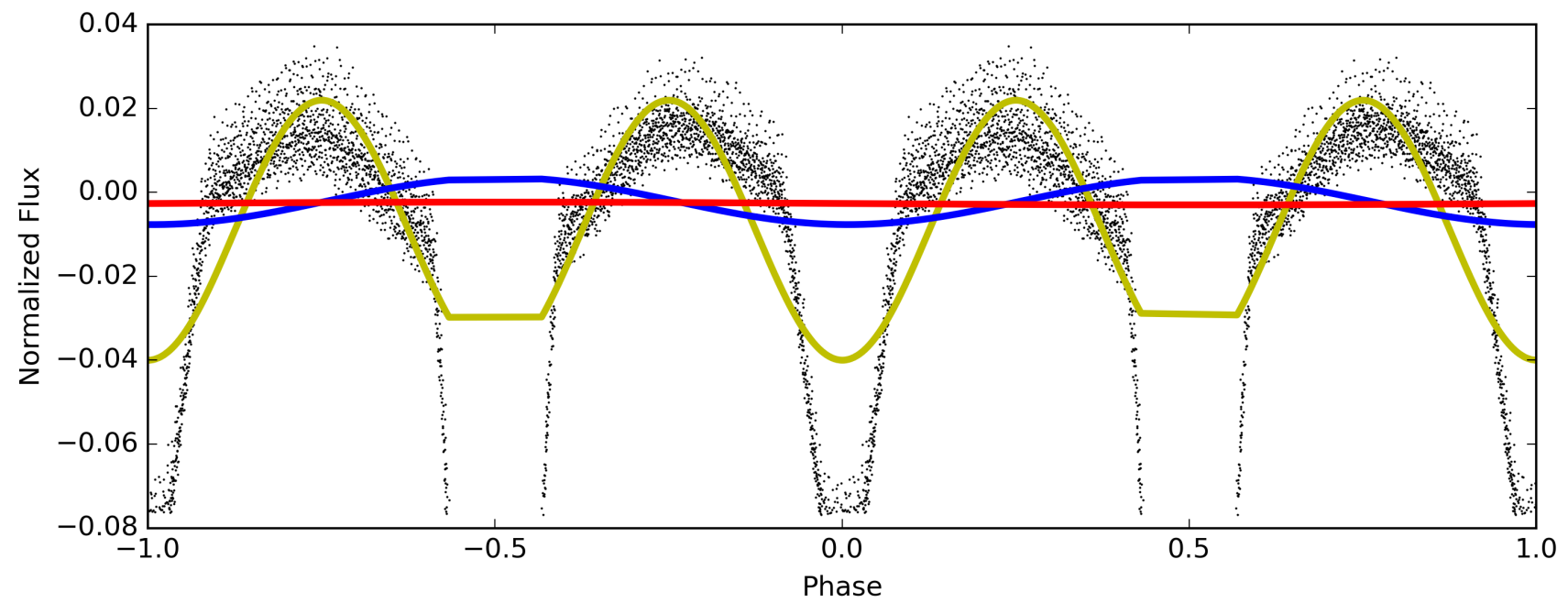
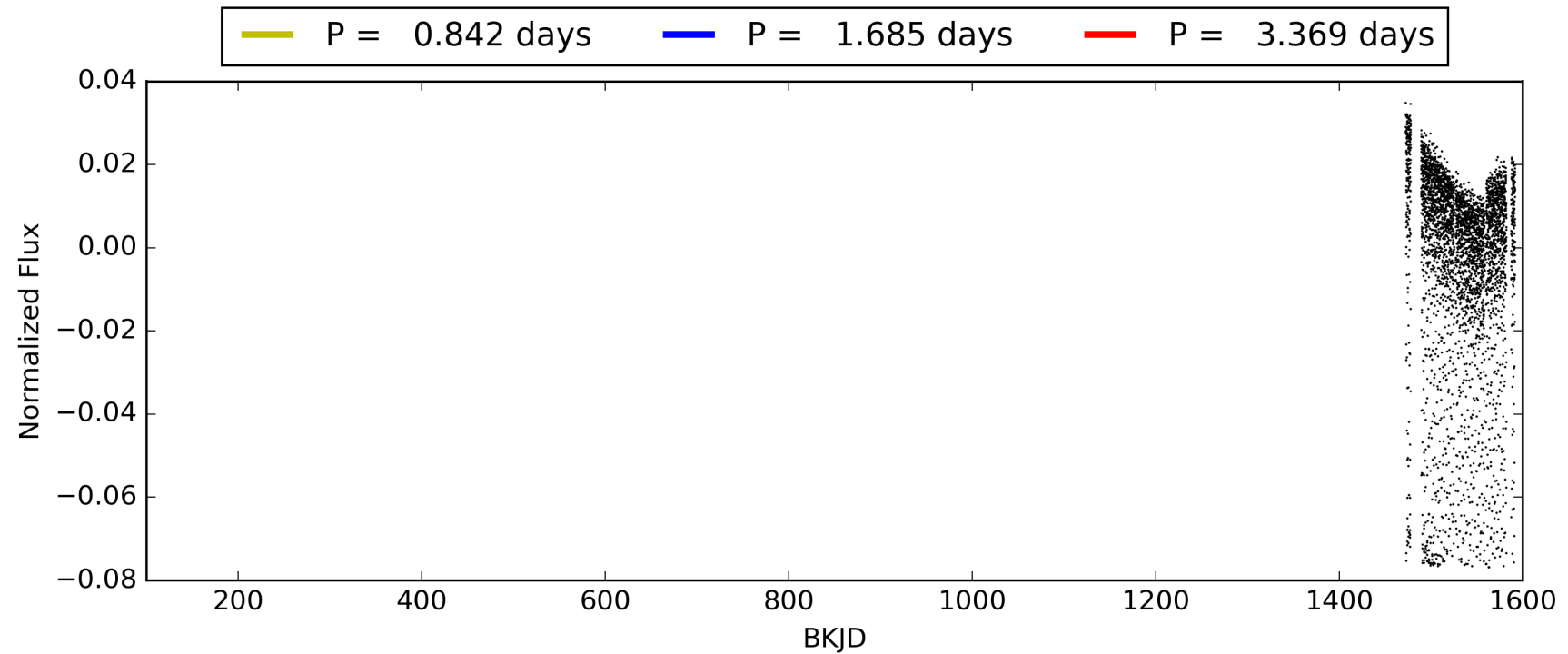
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:25:59 Z

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

TCE 009843435-02, PDC Light Curves

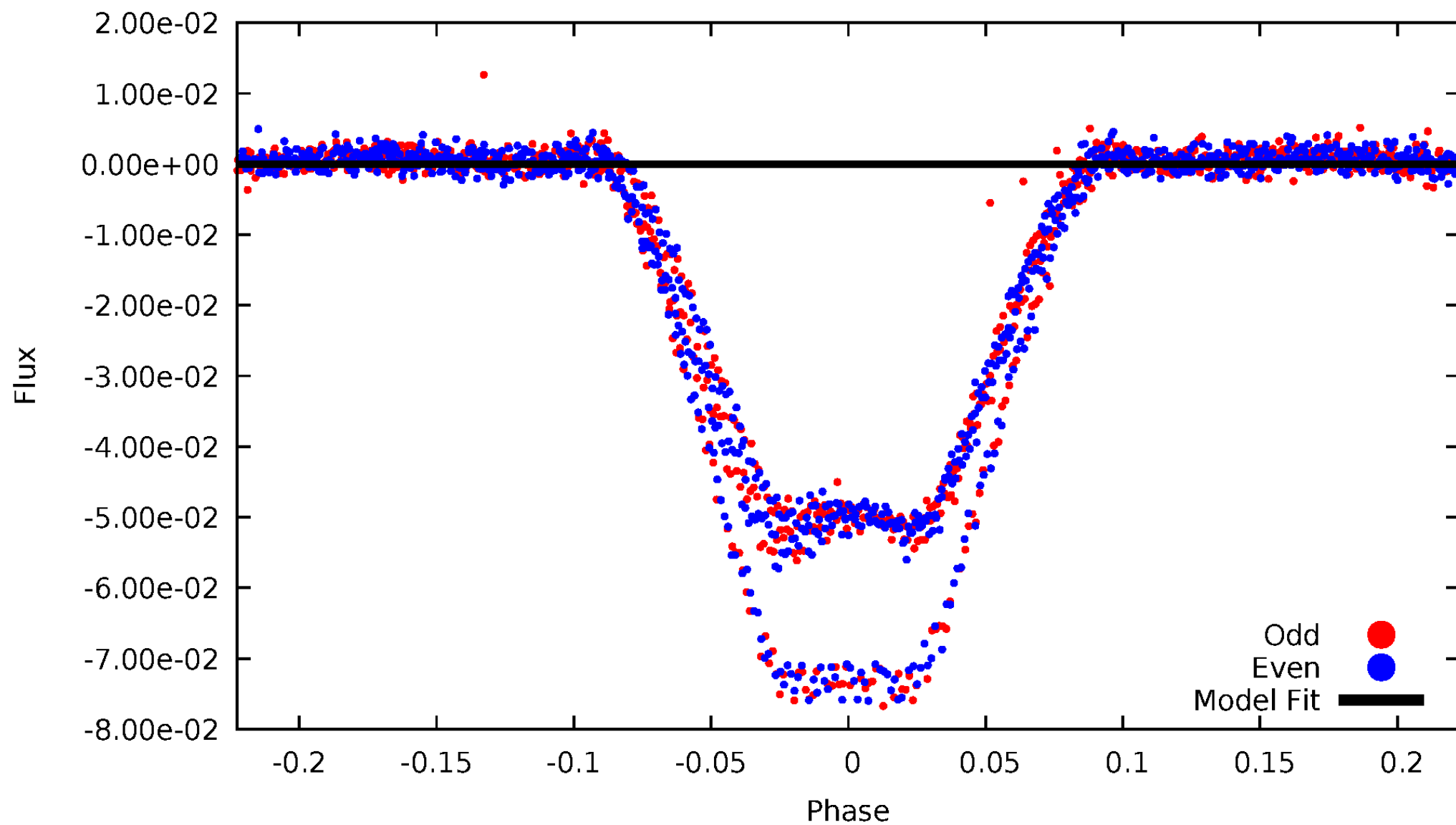


TCE 009843435-02



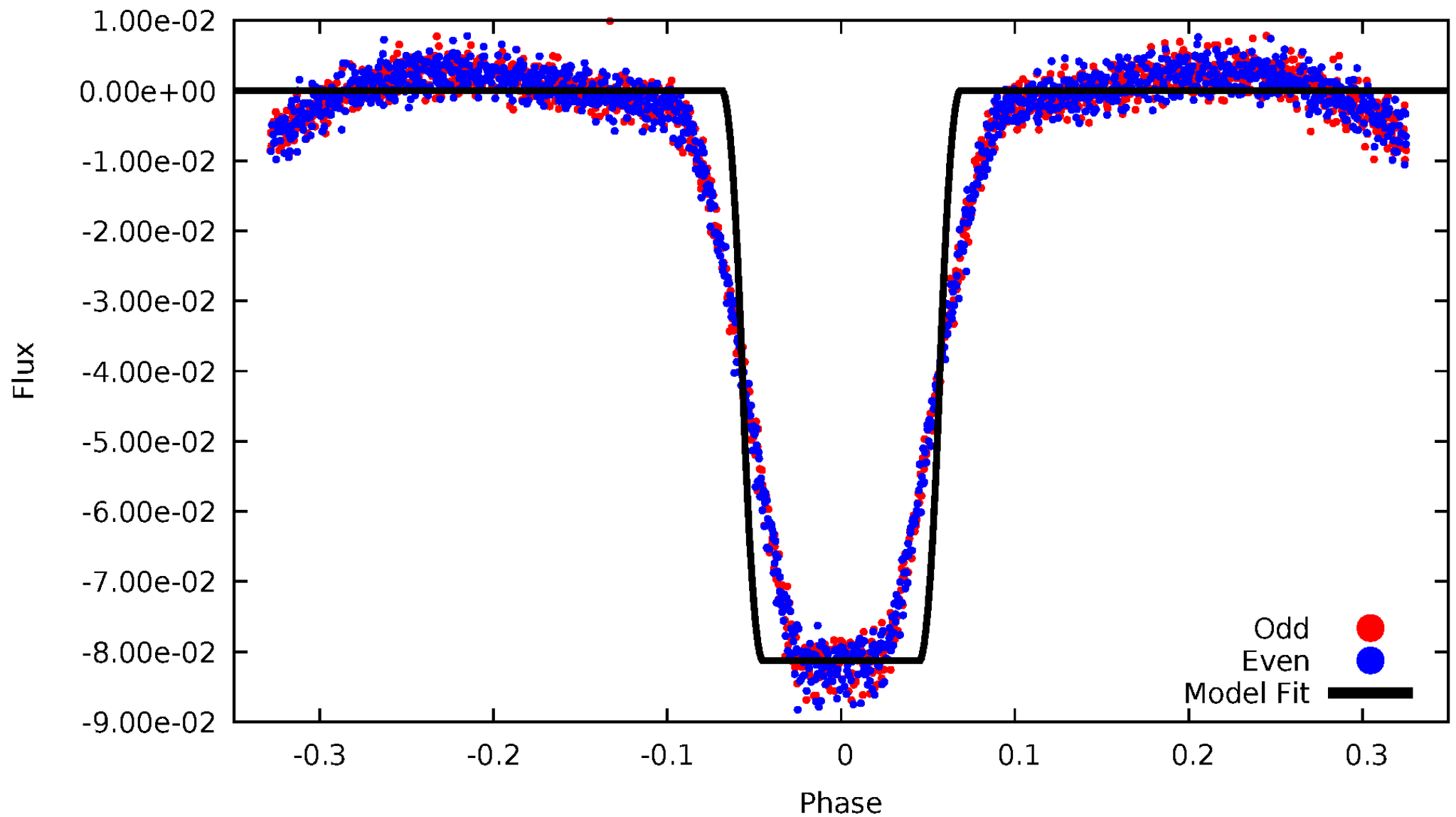
DV Odd/Even

TCE 009843435-02



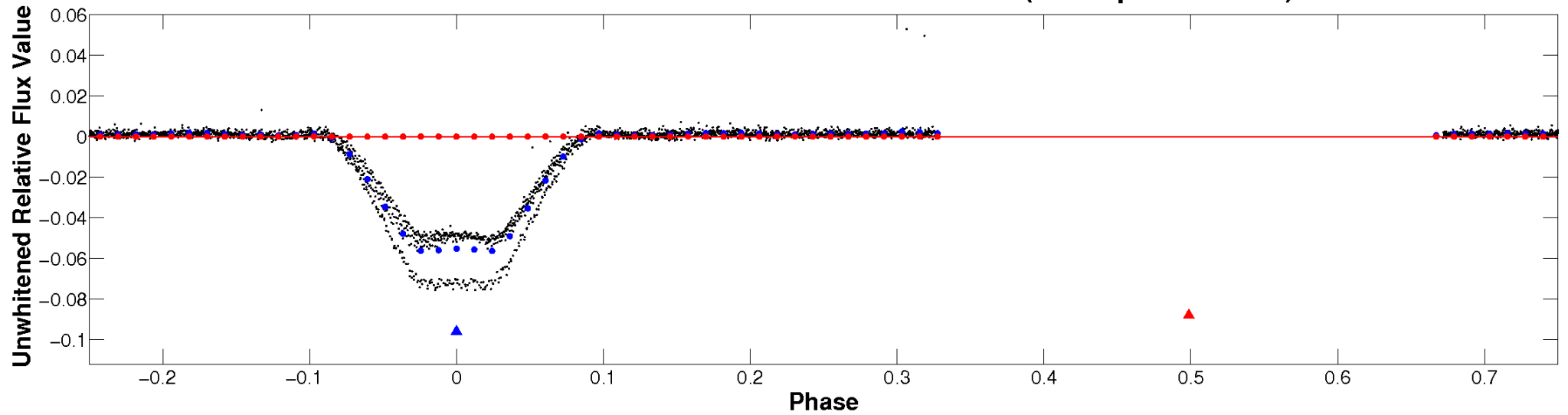
ALT Odd/Even

TCE 009843435-02



Non-Whitened Vs. Whitened Light Curve

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

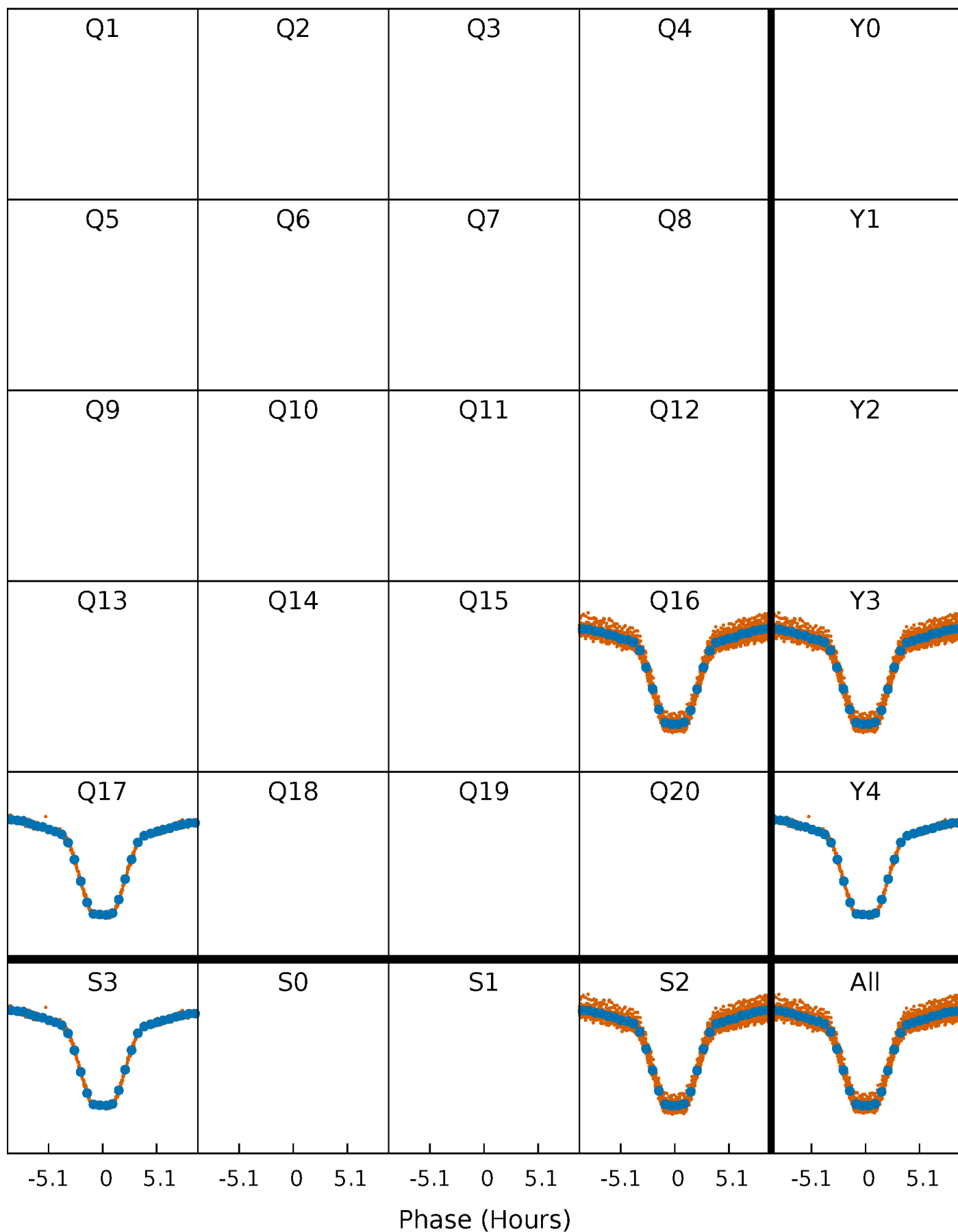


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



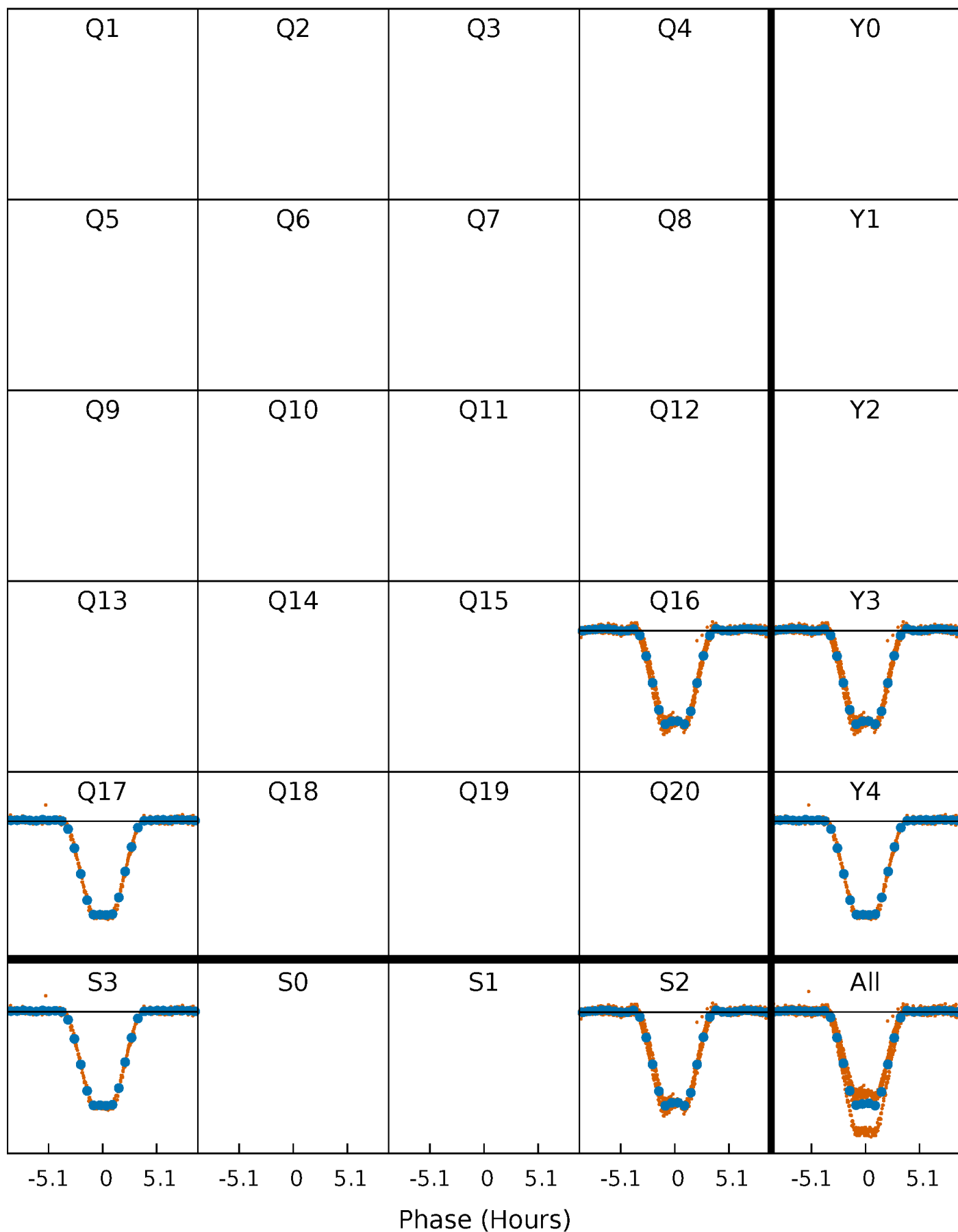
PDC Quarter-Phased Transit Curves

TCE 009843435-02 P= 1.684727 Days $T_0=132.416882$ (BKJD)



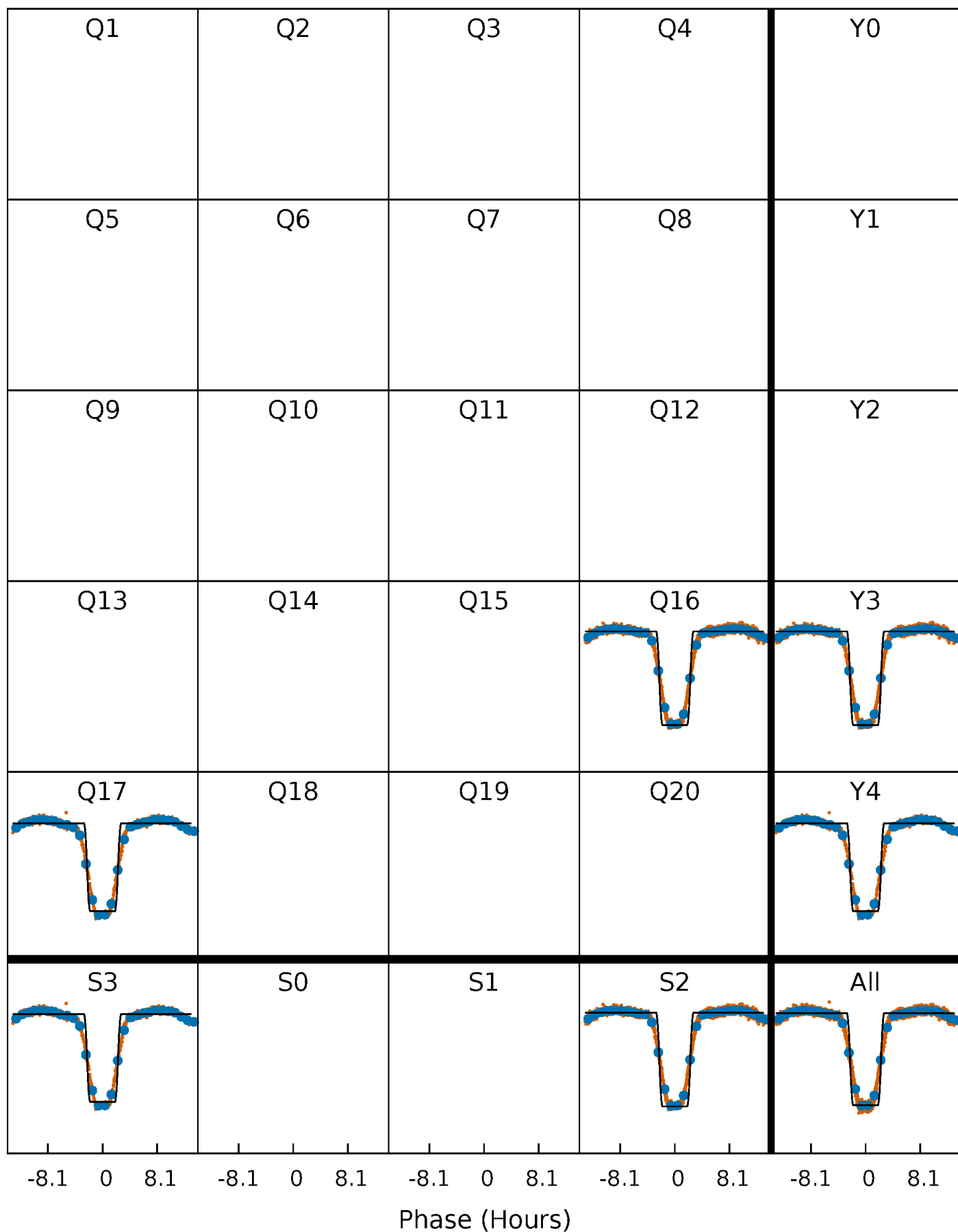
DV Quarter-Phased Transit Curves

TCE 009843435-02 P= 1.684727 Days $T_0=132.416882$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

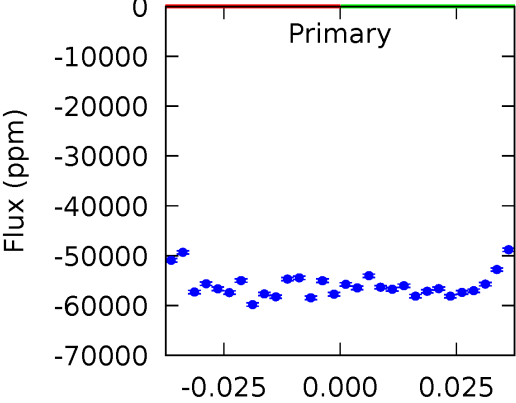
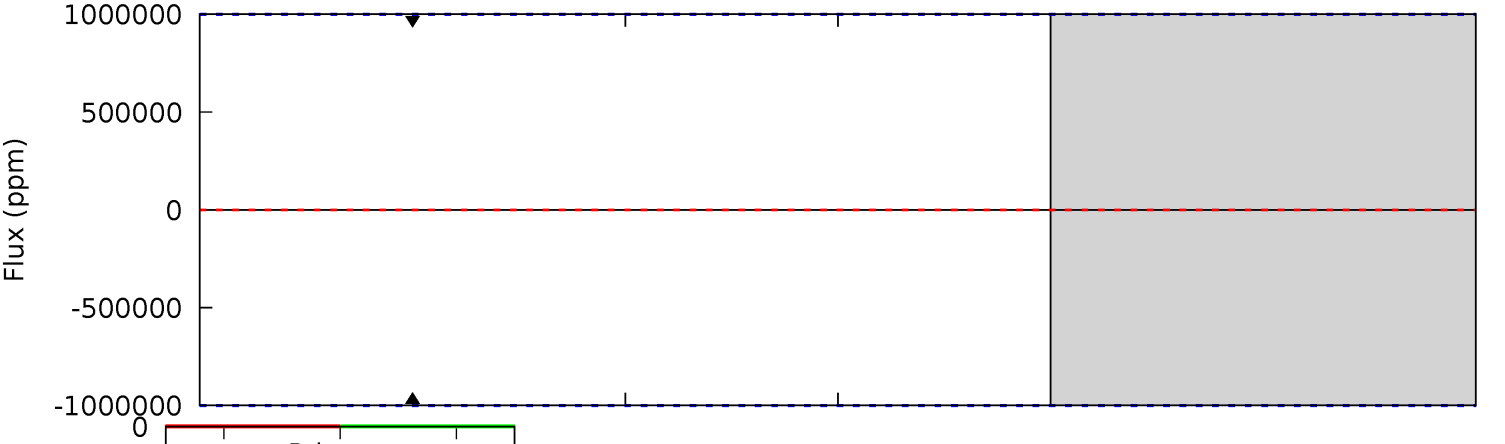
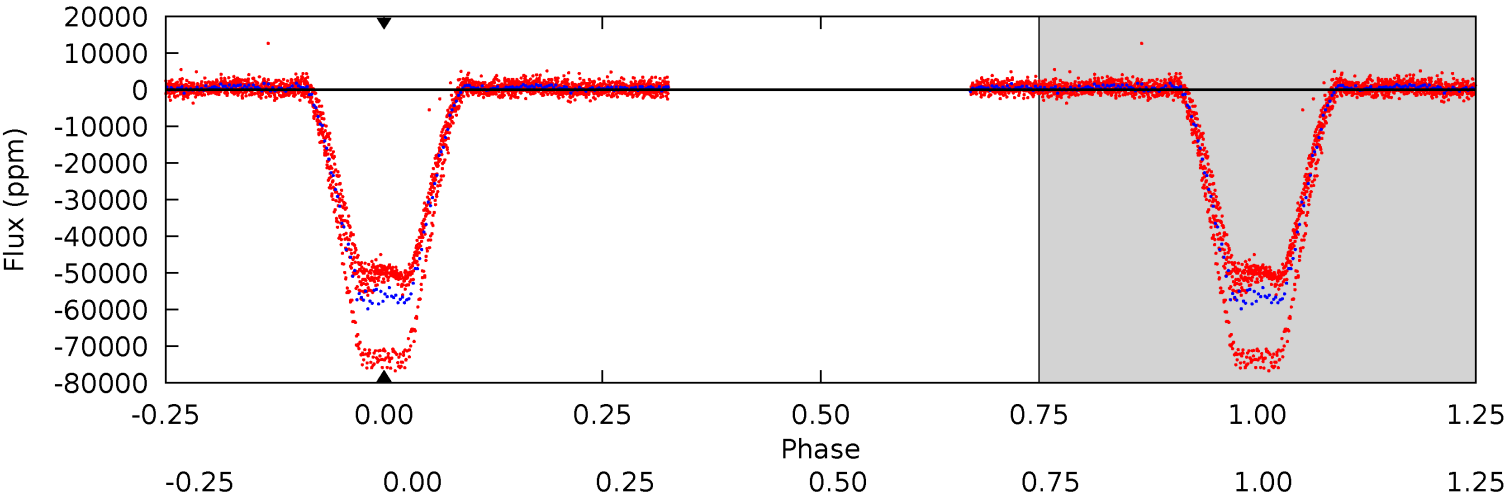
TCE 009843435-02 P= 1.684727 Days $T_0=132.417255$ (BKJD)



DV Model-Shift Uniqueness Test

009843435-02, P = 1.684727 Days, E = 132.416882 Days

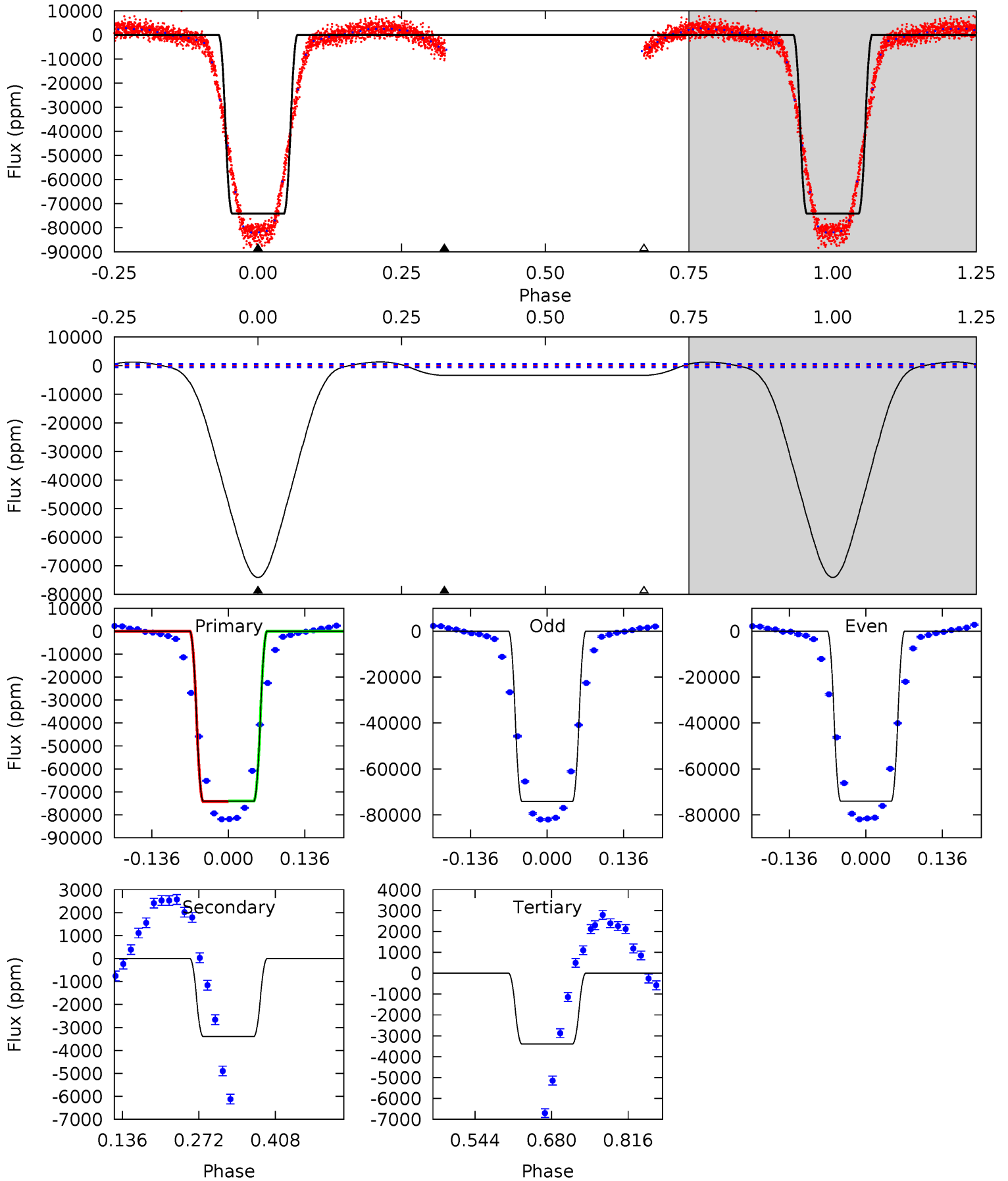
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009843435-02, P = 1.684727 Days, E = 132.417255 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
639.8	29.3	29.3	0	4.50	1.49	12.2	610.5	639.8	0.02	29.3	0.30	1.01	0.02	0.97



Stellar Parameters For KIC 009843435

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7512^{+235}_{-314}	$4.167^{+0.124}_{-0.186}$	$-0.120^{+0.200}_{-0.350}$	$1.690^{+0.542}_{-0.333}$	$1.529^{+0.212}_{-0.235}$	$0.446^{+0.272}_{-0.227}$
	+3%/-4%	+3%/-4%	+167%/-292%	+32%/-20%	+14%/-15%	+61%/-51%
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 009843435-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$20.92^{+16.76}_{-13.43}$	3396^{+278}_{-230}	-3854^{+29017}_{-14323}	$-0.240^{+248.148}_{-152.532}$
Alt.	-3397 ± 116	$54.16^{+21.19}_{-19.16}$	3401^{+264}_{-226}	3360^{+753}_{-771}	$0.650^{+0.850}_{-0.304}$

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 $A_{\text{obs}} \gg 1.0$

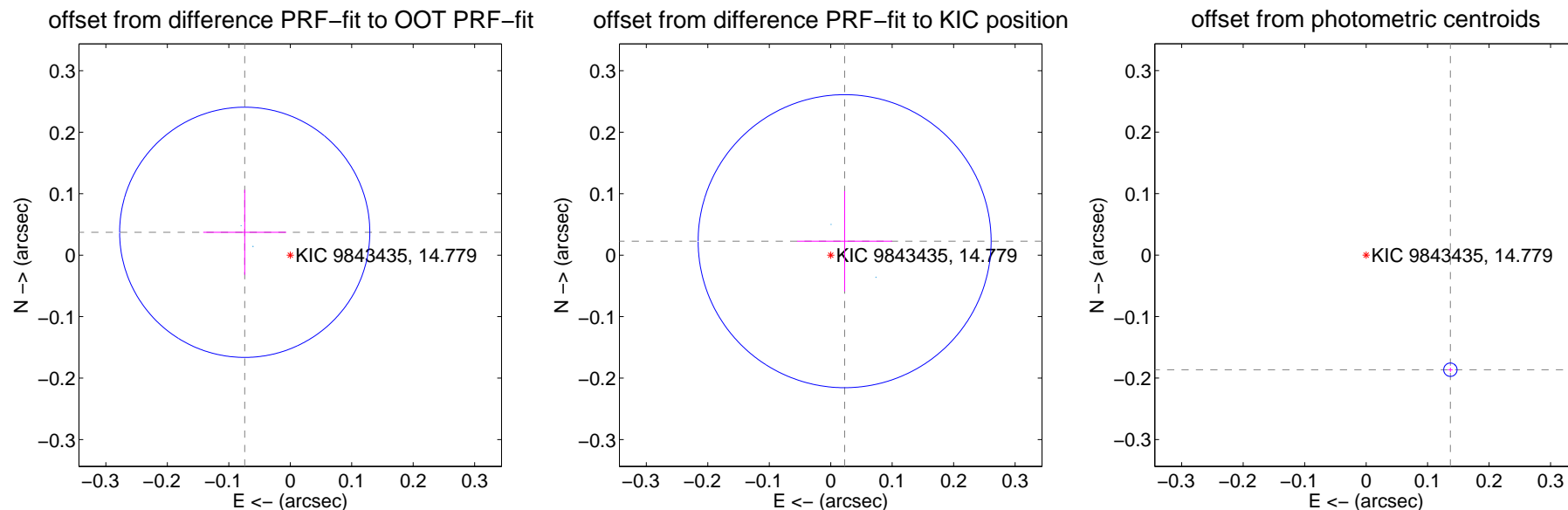
DV Centroid Data

Supplemental centroid analysis for 009843435-02. Kepler magnitude: 14.78. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.083 ± 0.068	1.22	0.074 ± 0.067	0.037 ± 0.069
PRF-fit source offset from KIC position	0.032 ± 0.079	0.40	-0.023 ± 0.077	0.023 ± 0.081
photometric centroid source offset	0.23 ± 0.00	63.75	-0.14 ± 0.00	-0.19 ± 0.00



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.



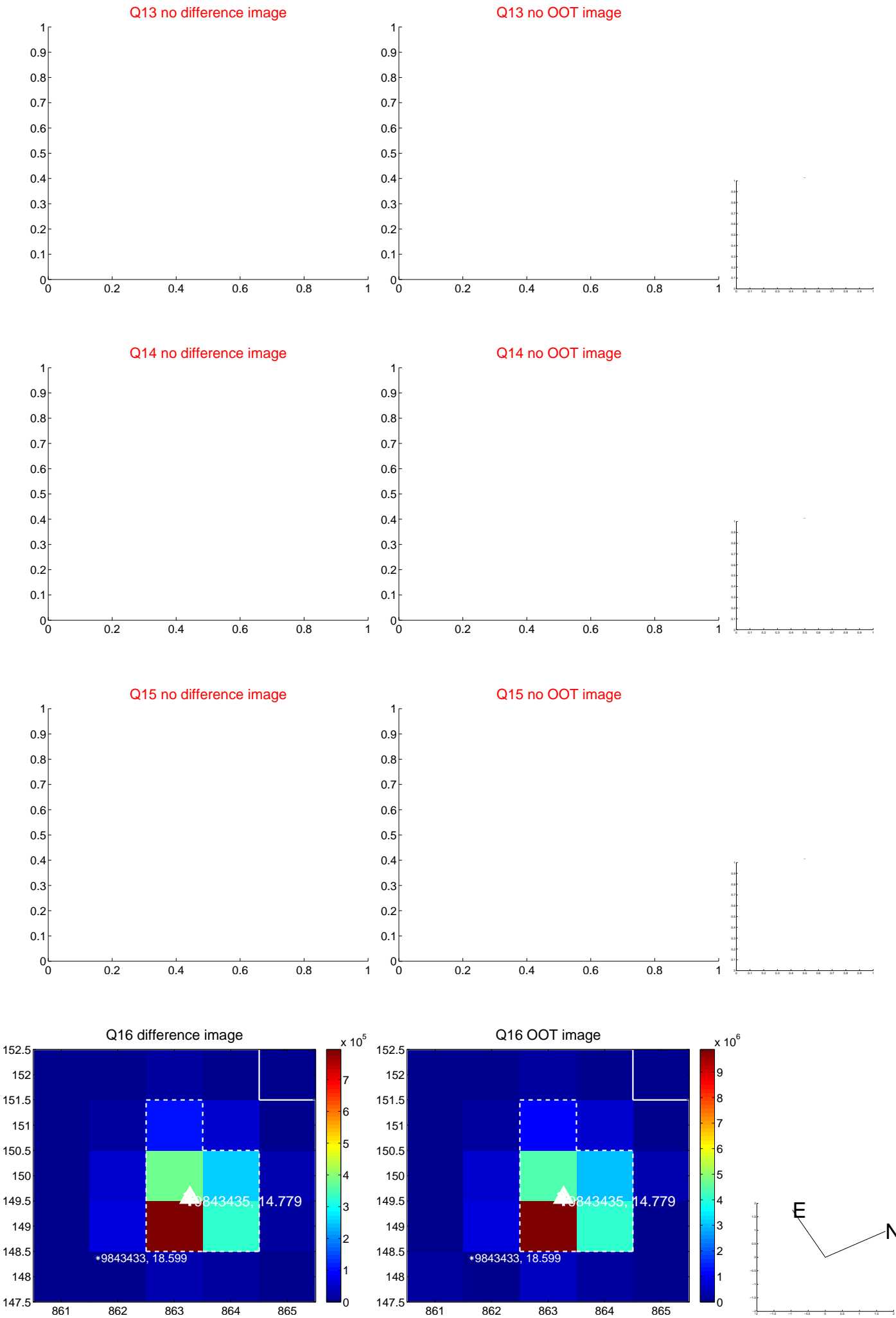
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



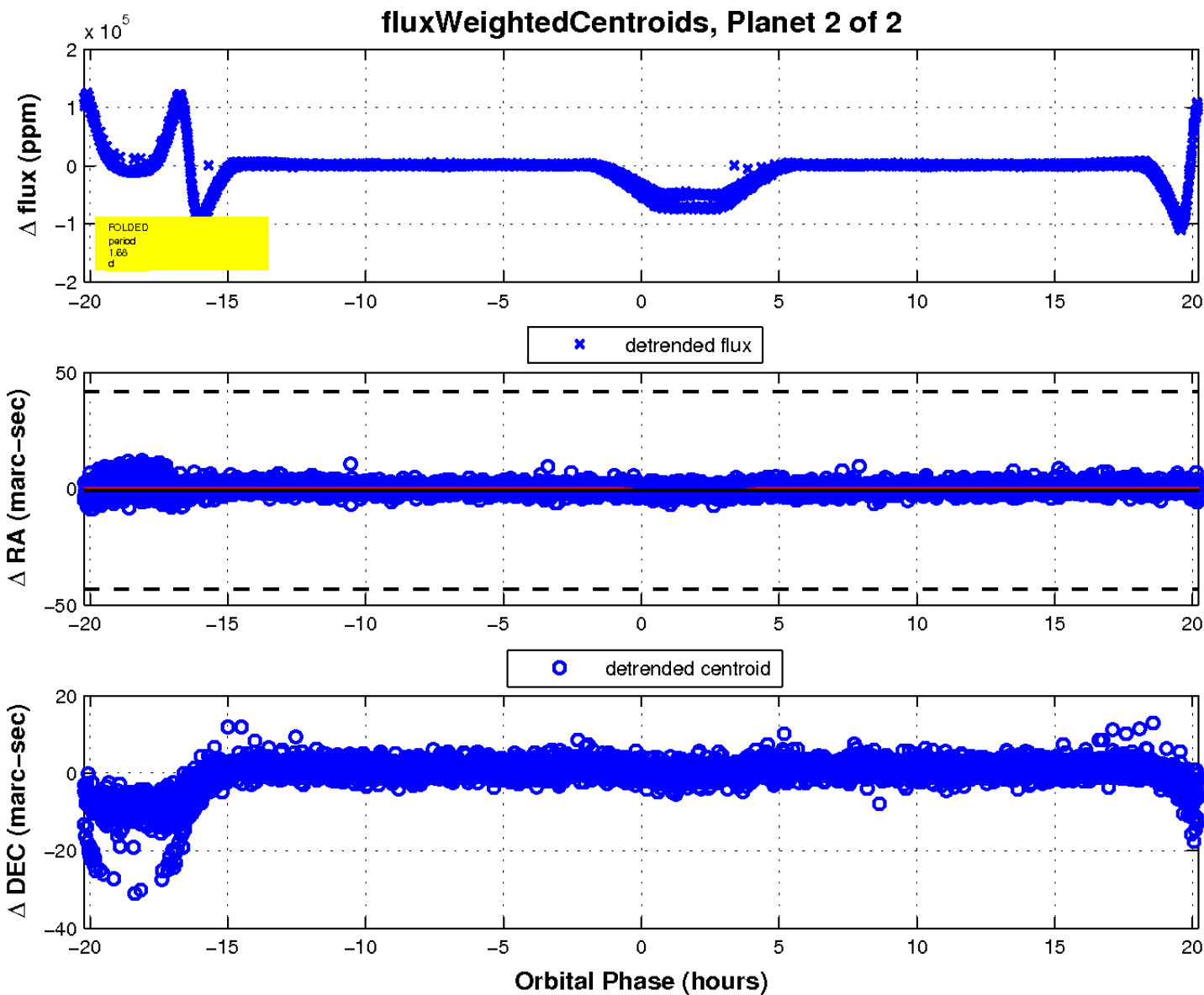
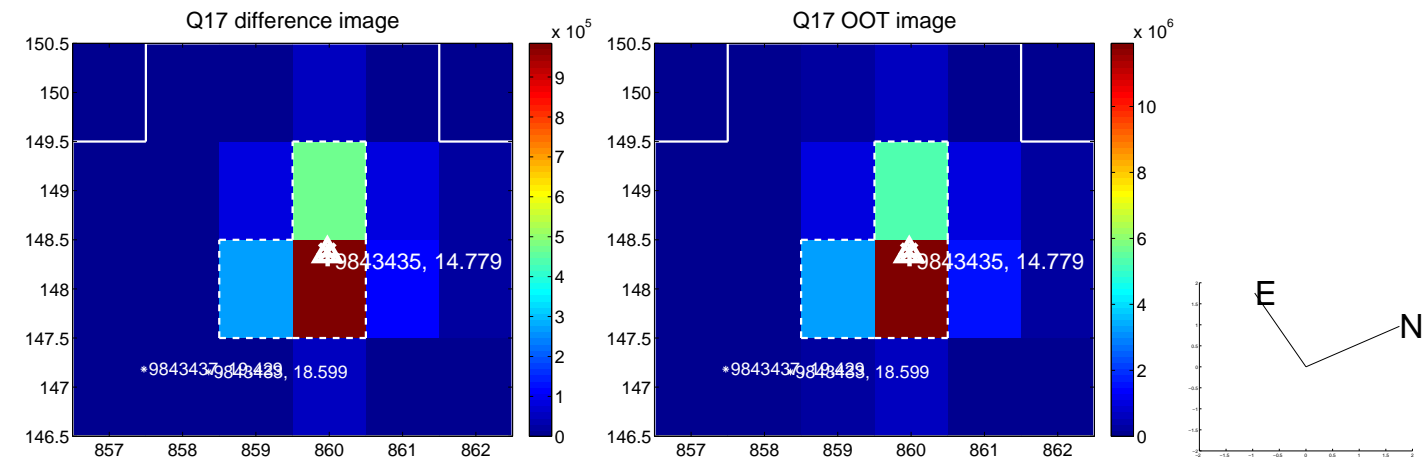
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

