

KIC 009832545

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})
009832545-01	OBS	No	1.020860	132.232027	406110.8	3.000	2630.1	-1.0	2.40	8120	89.85	37778.09
009832545-02	OBS	No	1.020823	131.772363	87419.8	4.186	185.0	149.4	2.40	8120	77.59	37779.94
009832545-03	OBS	No	4.084967	134.199836	91131.1	14.420	55.3	7.8	2.40	8120	122.50	5946.71
009832545-04	OBS	No	4.083111	132.549700	1512.9	12.000	61.7	-1.0	2.40	8120	9.44	5950.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009832545-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
009832545-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
009832545-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
009832545-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

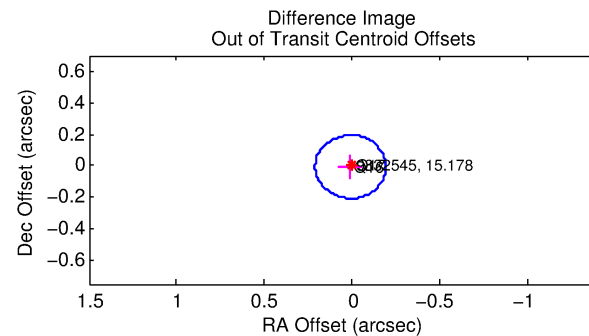
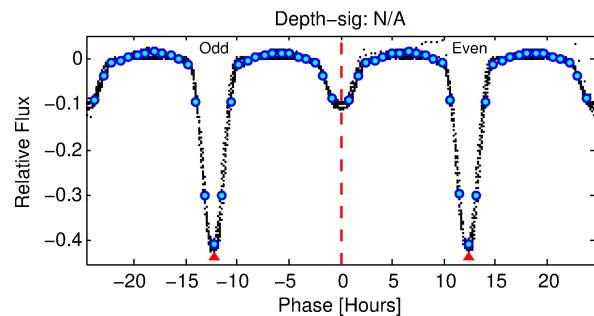
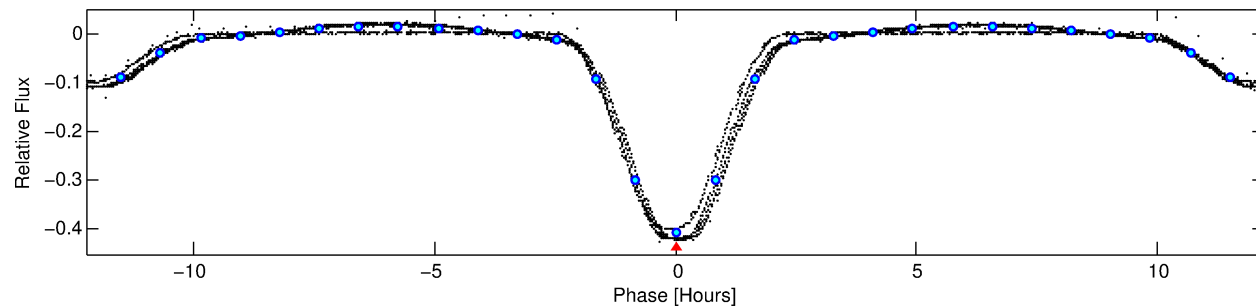
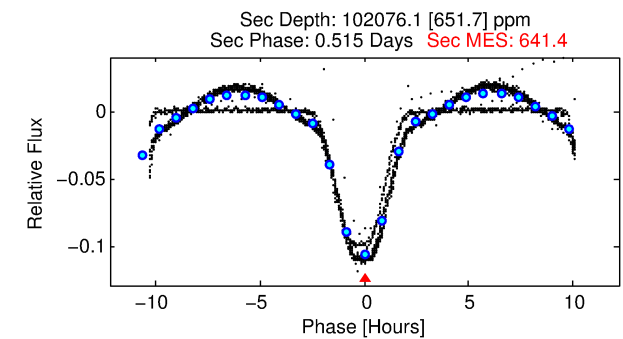
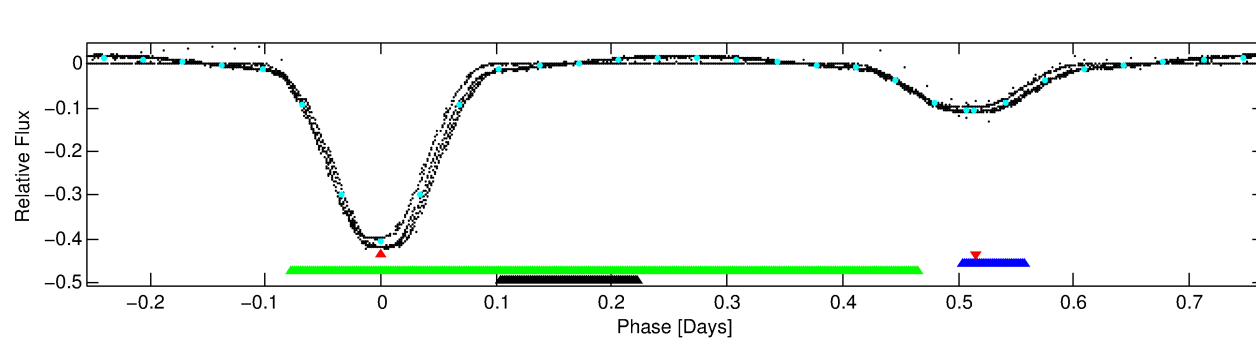
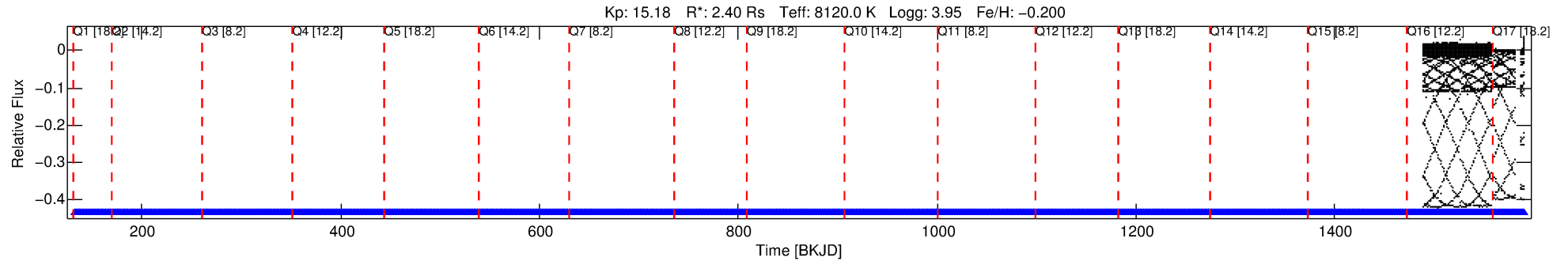
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009832545-01

No Significant Match Found

DV One-Page Summary

KIC: 9832545 Candidate: 1 of 4 Period: 1.021 d



TPS TCE Results:

Period = 1.02086 d
Epoch = 132.2320 BKJD

DV fit results are unavailable

DV Diagnostic Results:

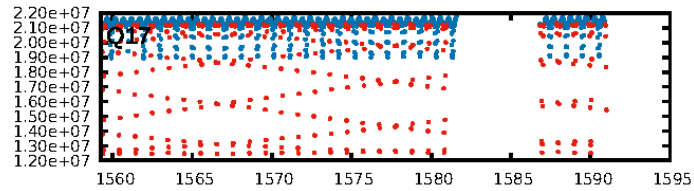
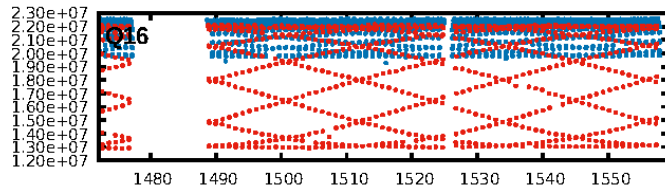
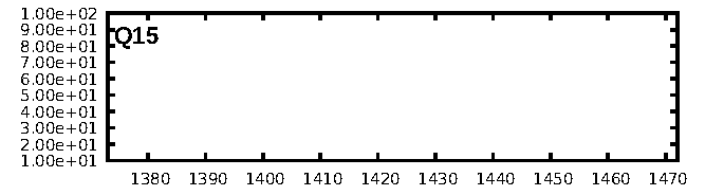
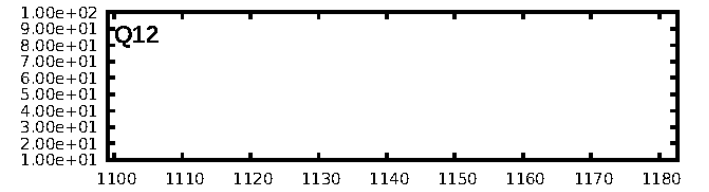
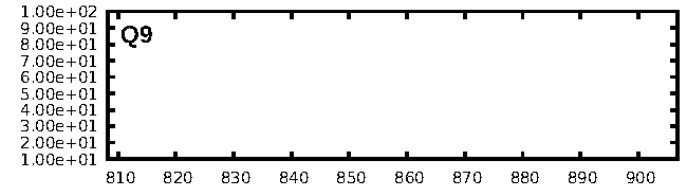
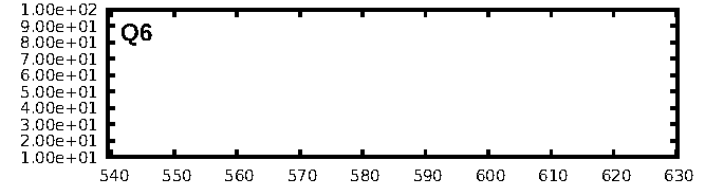
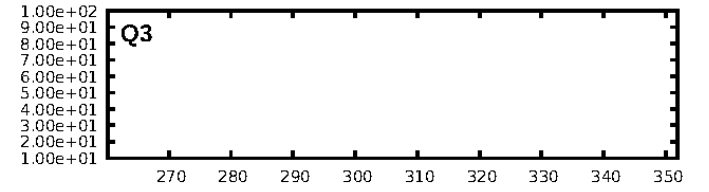
ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [5.94σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [67/67]
GhostDiagnostic-chr: 0.5997

Centroid-sig: N/A
Centroid-so: 0.170 arcsec [66.90σ]
OotOffset-rm: 0.012 arcsec [0.18σ]
KicOffset-rm: 0.088 arcsec [1.17σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

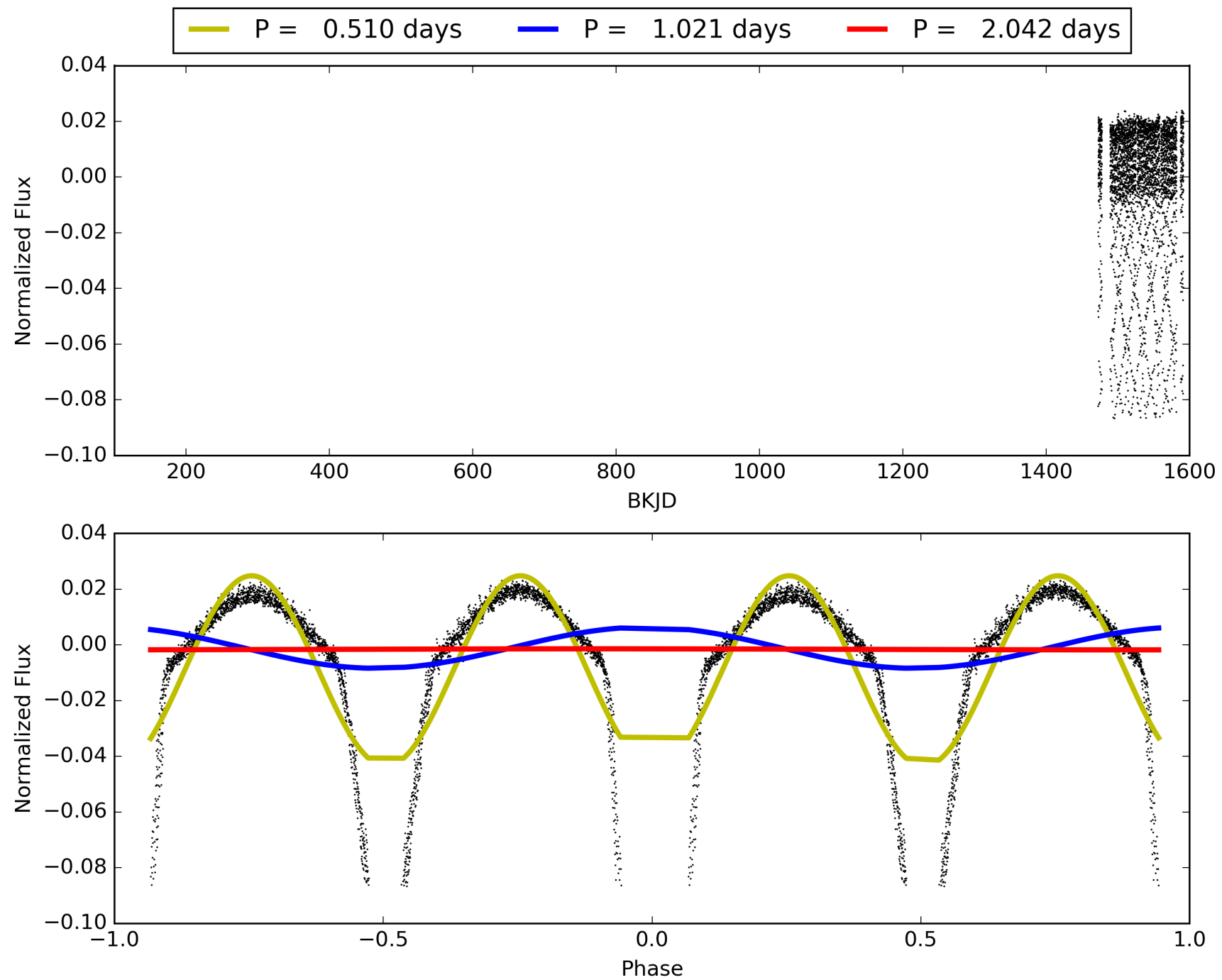
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:41:38 Z

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

TCE 009832545-01, PDC Light Curves

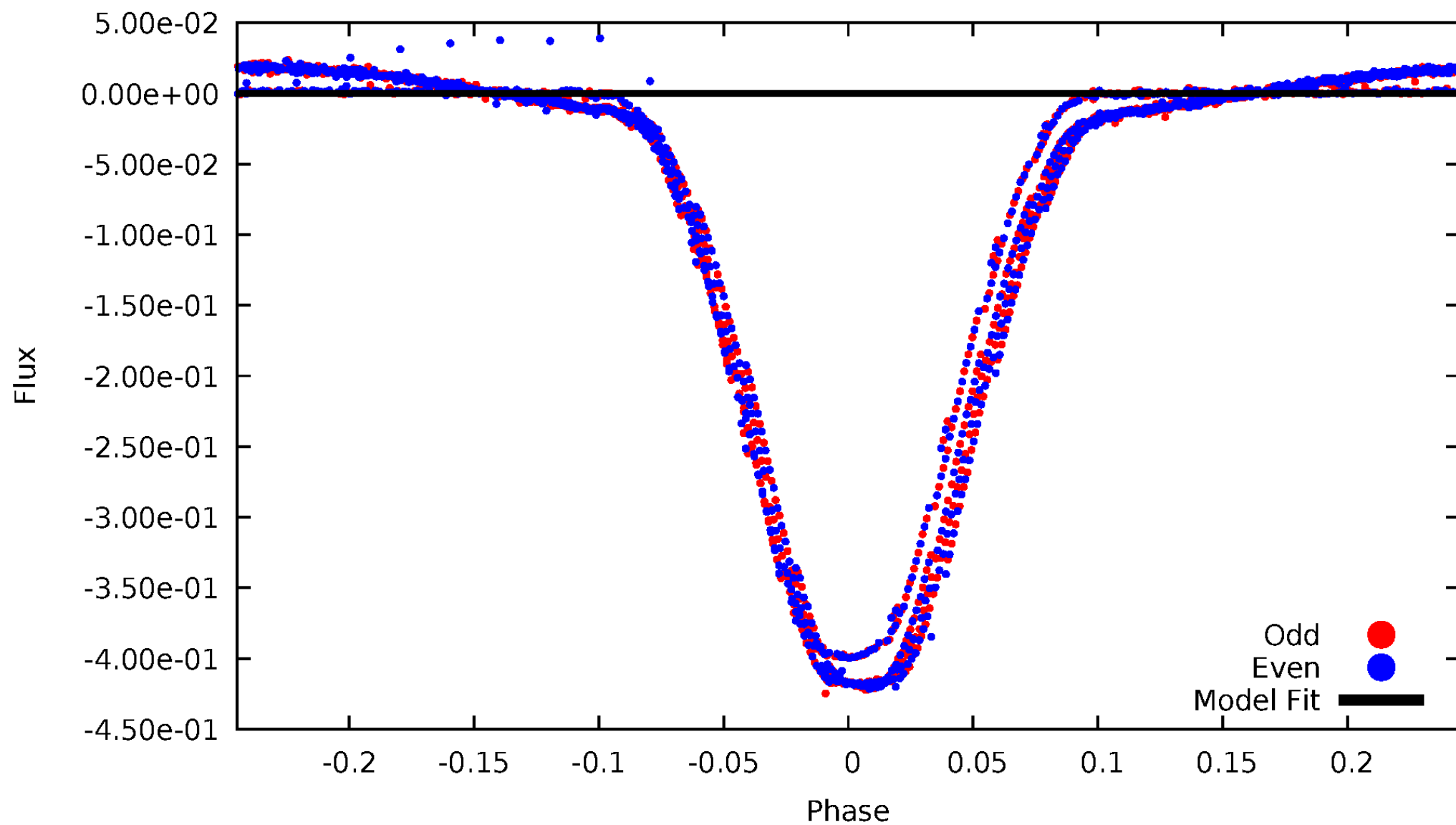


TCE 009832545-01



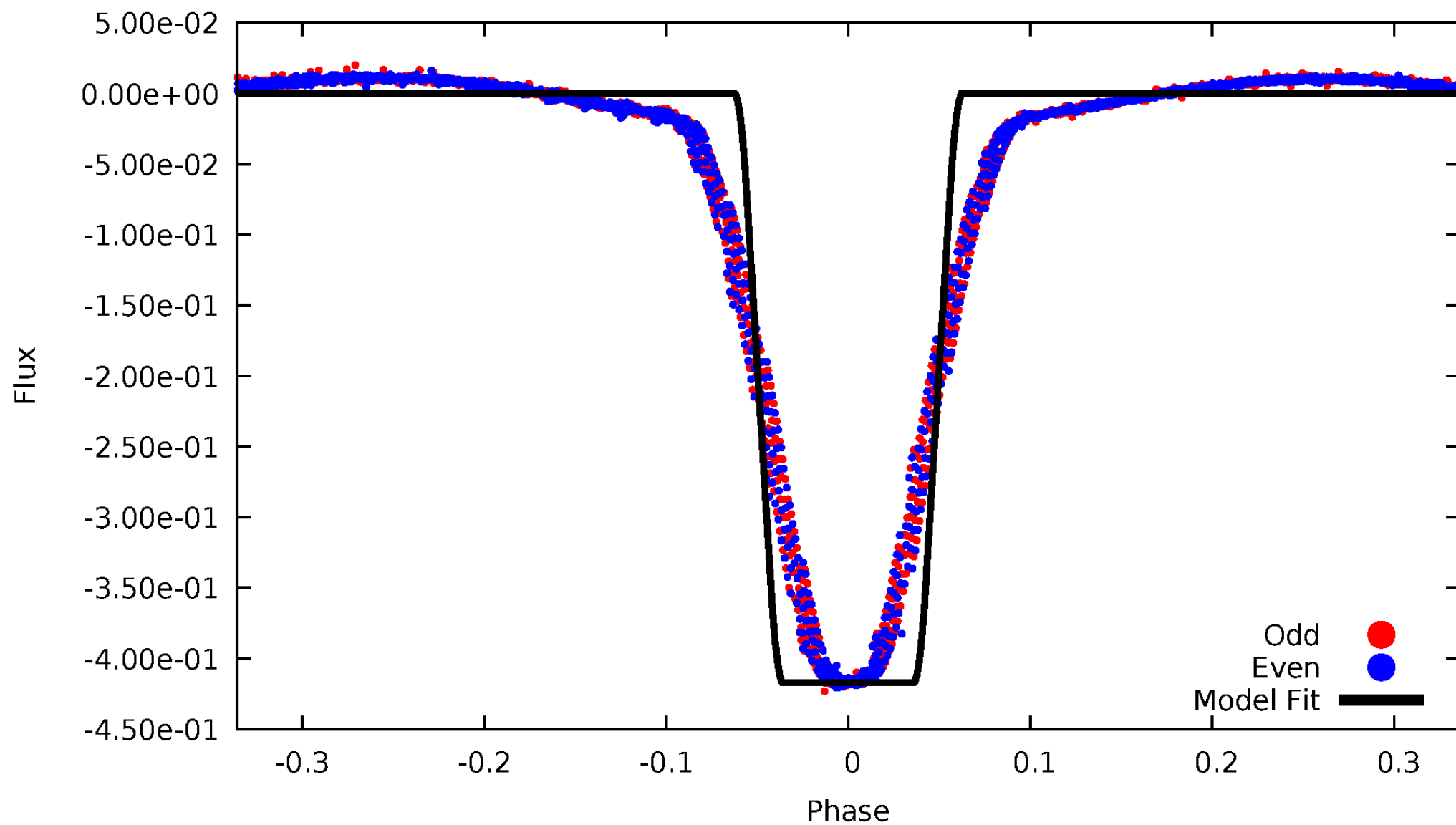
DV Odd/Even

TCE 009832545-01



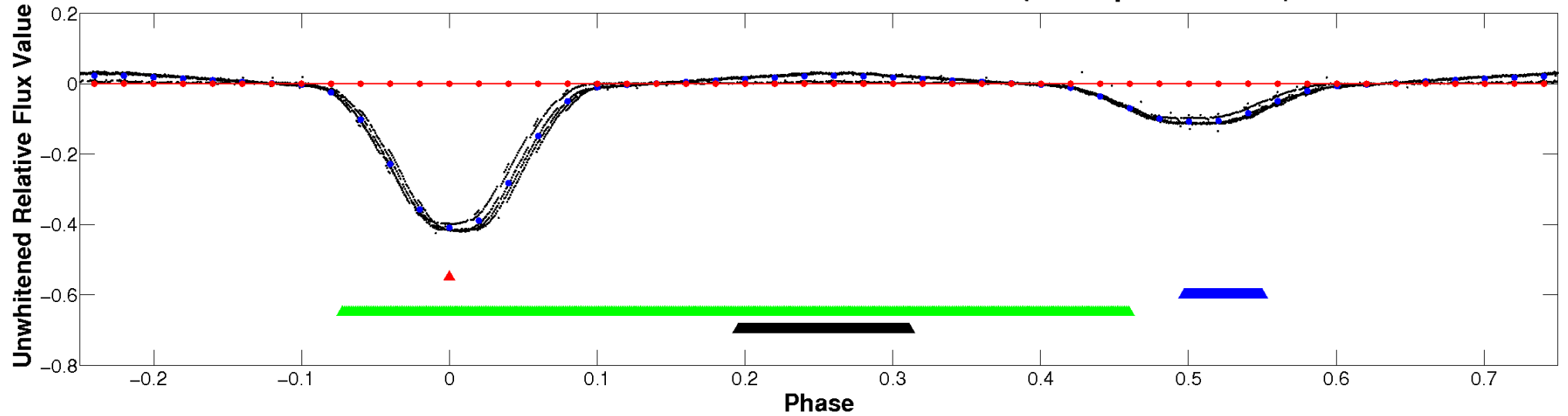
ALT Odd/Even

TCE 009832545-01



Non-Whitened Vs. Whitened Light Curve

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

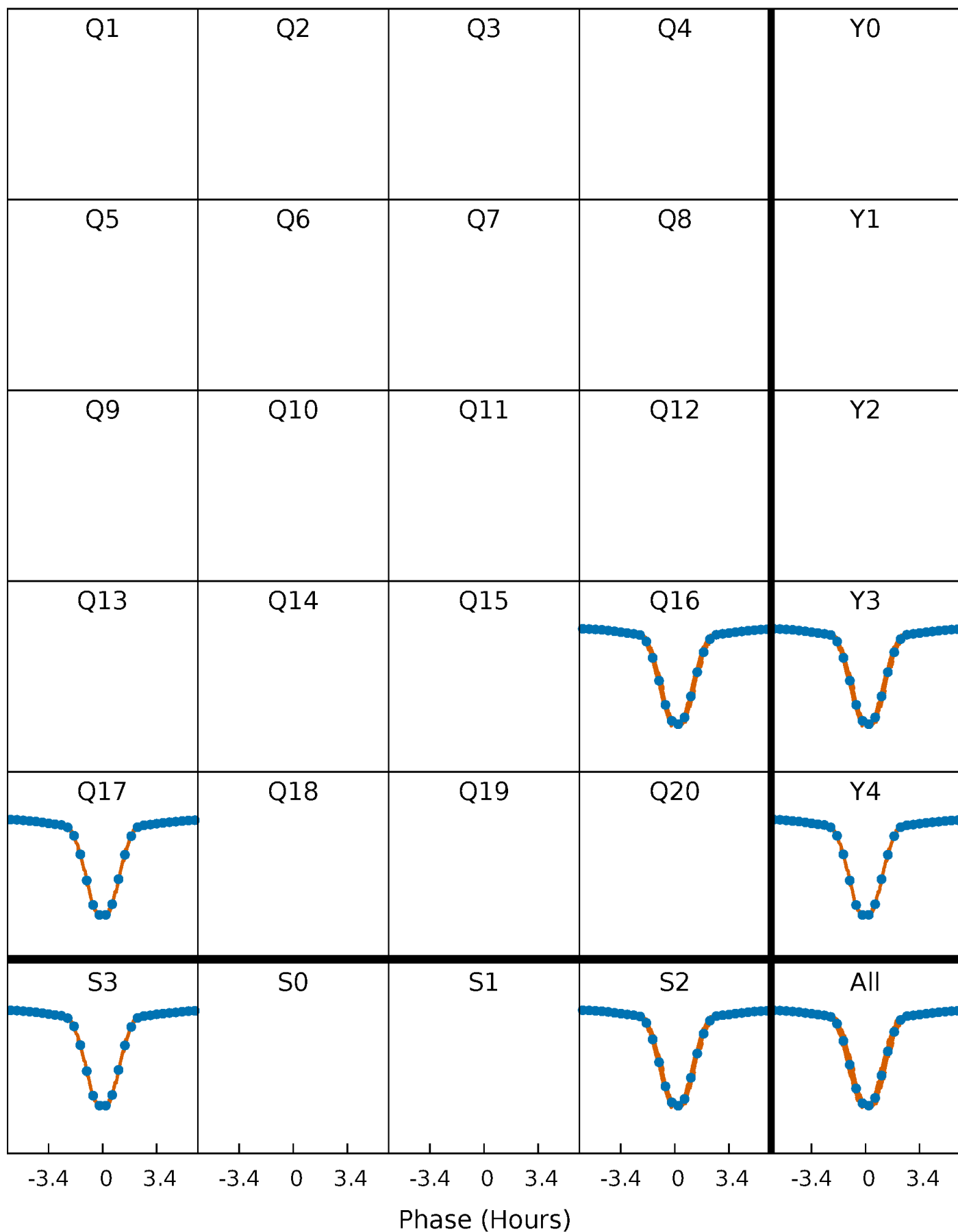


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



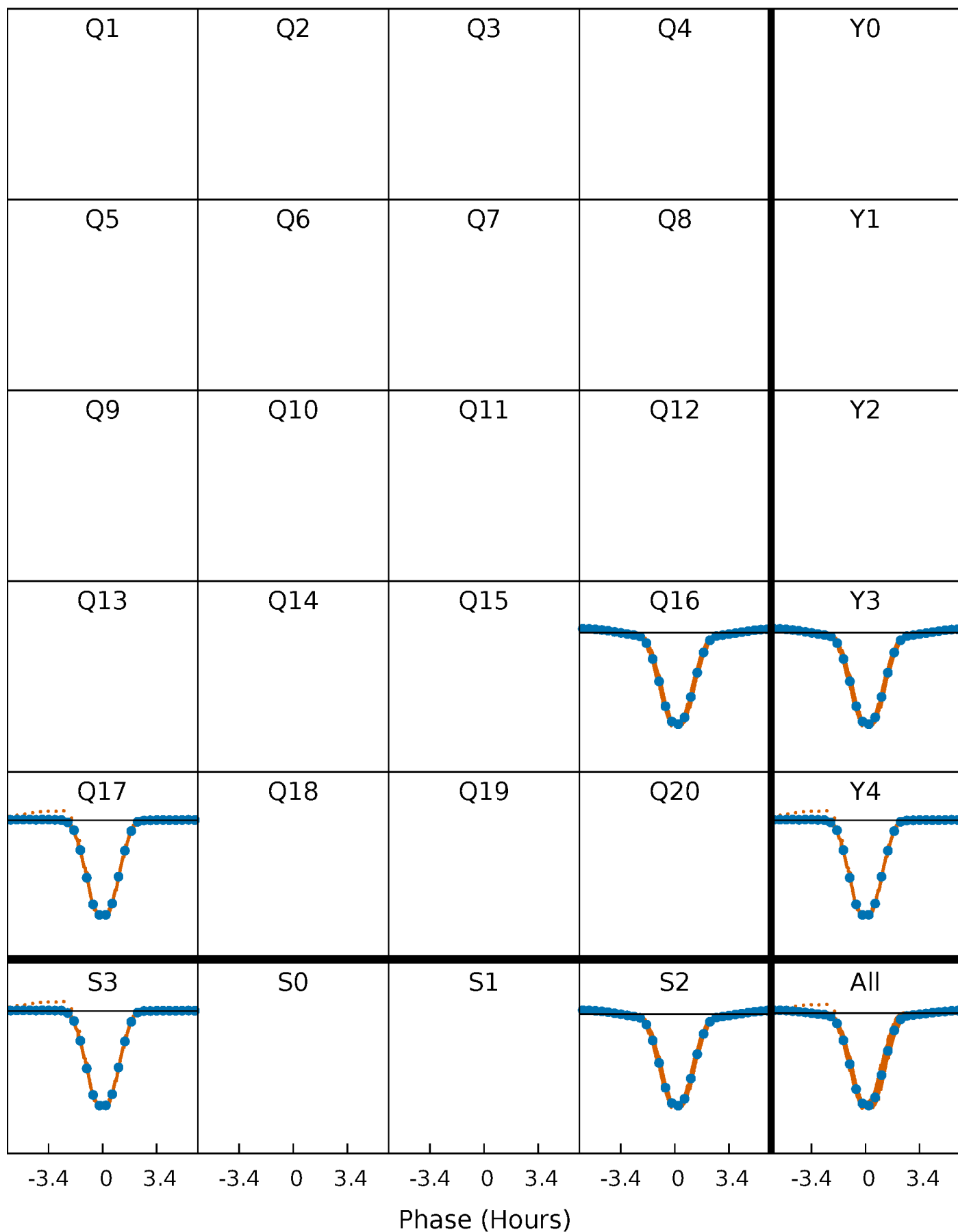
PDC Quarter-Phased Transit Curves

TCE 009832545-01 P= 1.020860 Days $T_0=132.232027$ (BKJD)



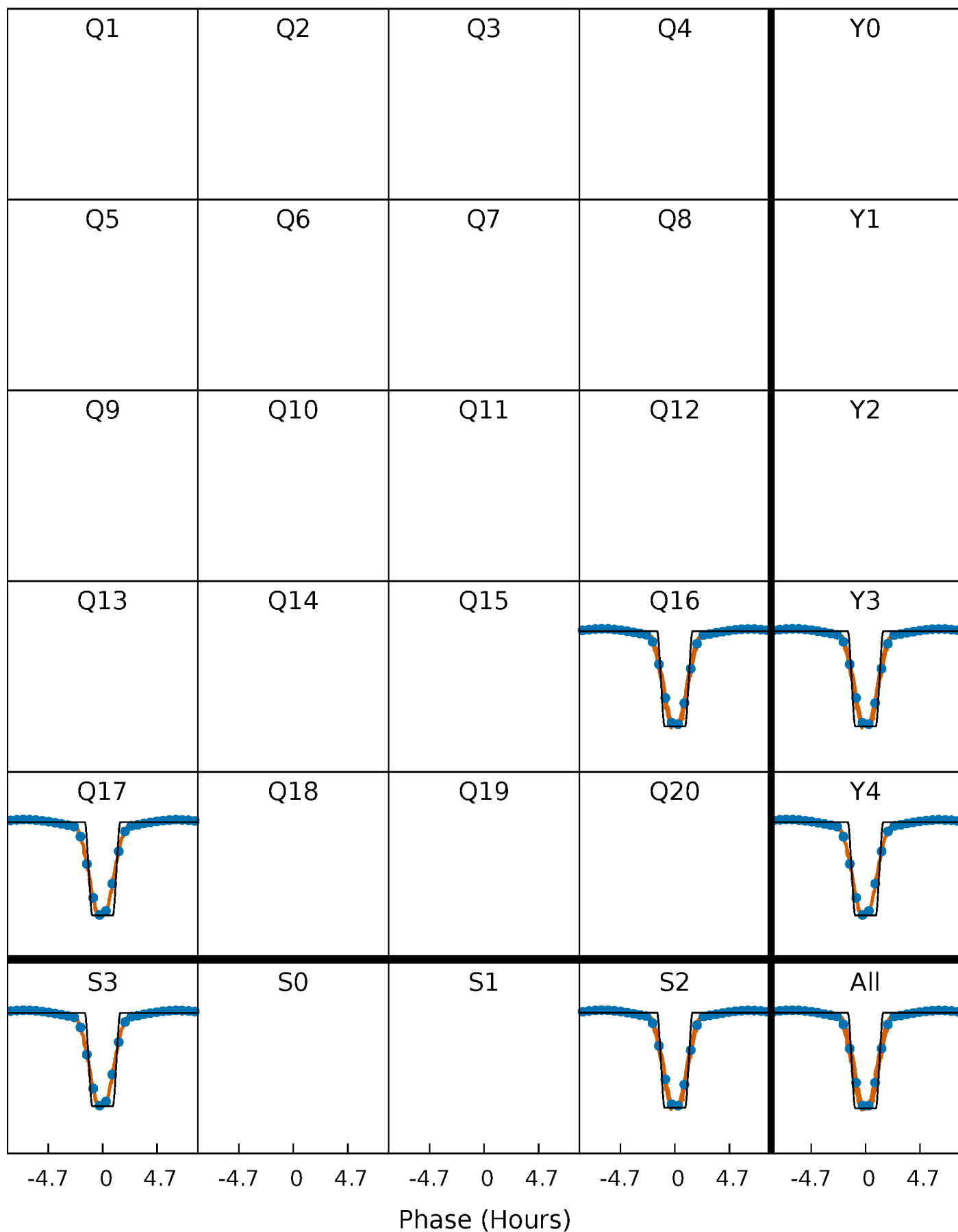
DV Quarter-Phased Transit Curves

TCE 009832545-01 P= 1.020860 Days $T_0=132.232027$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

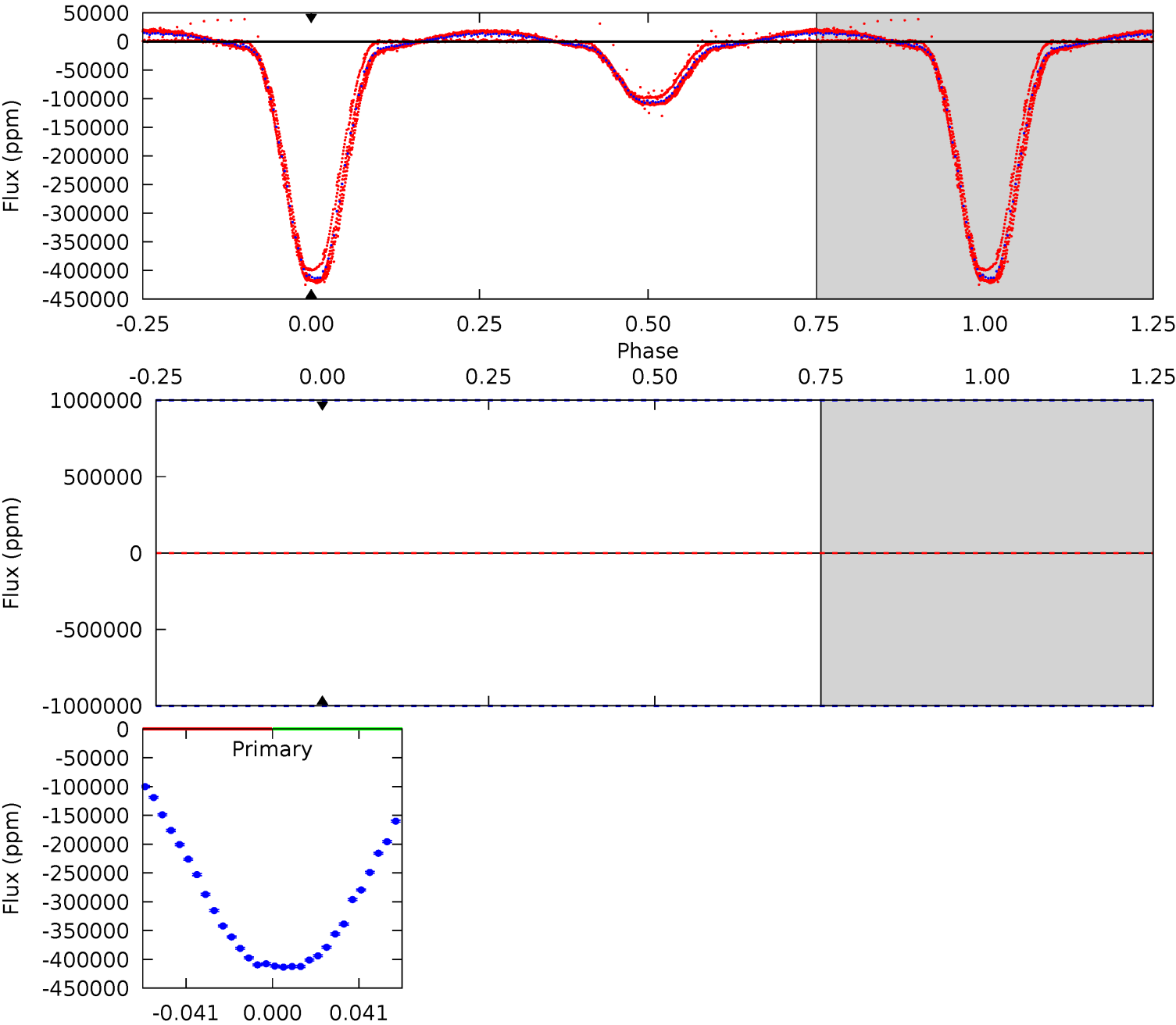
TCE 009832545-01 P= 1.020860 Days $T_0=132.236011$ (BKJD)



DV Model-Shift Uniqueness Test

009832545-01, P = 1.020860 Days, E = 132.232027 Days

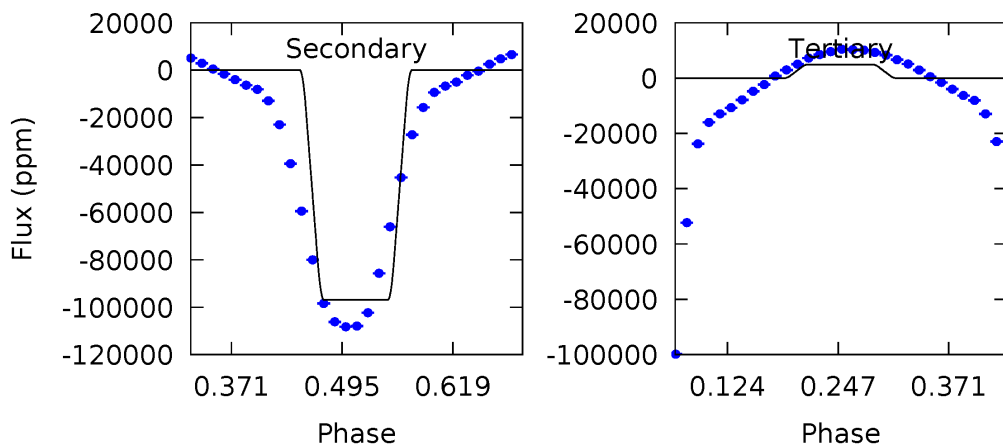
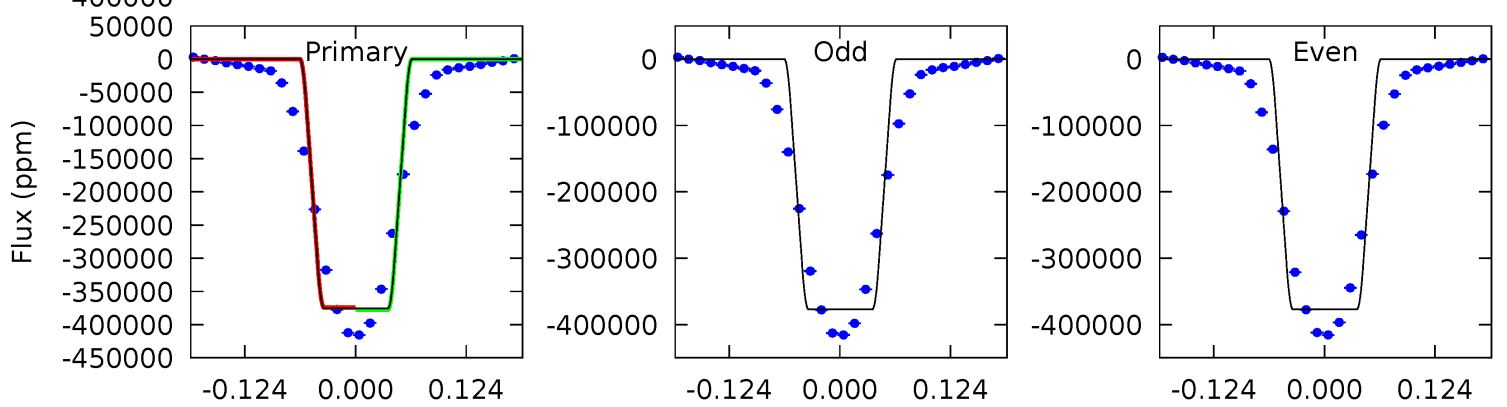
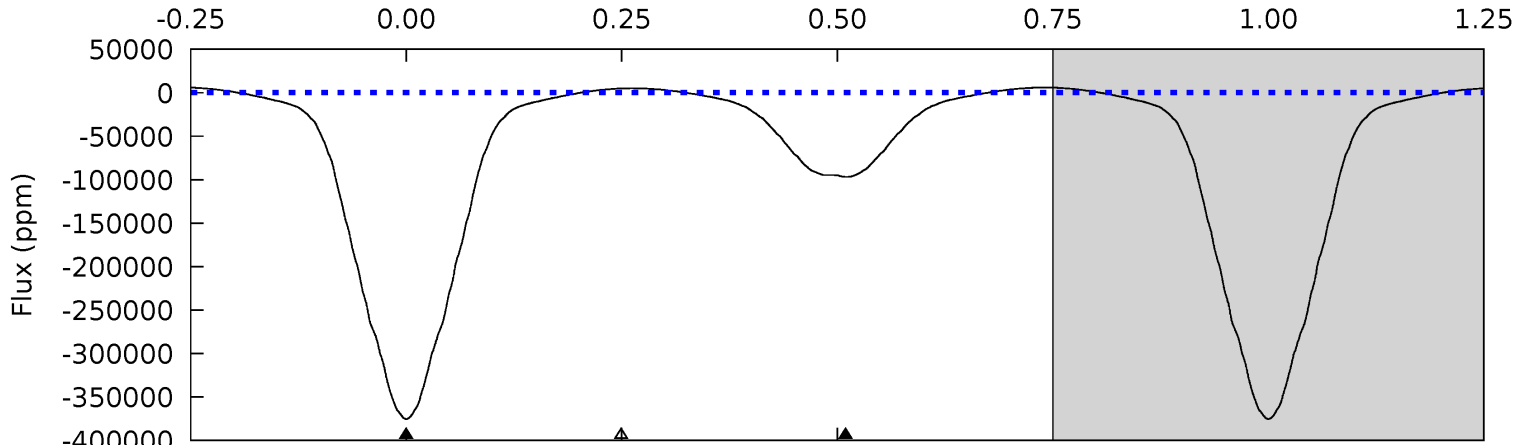
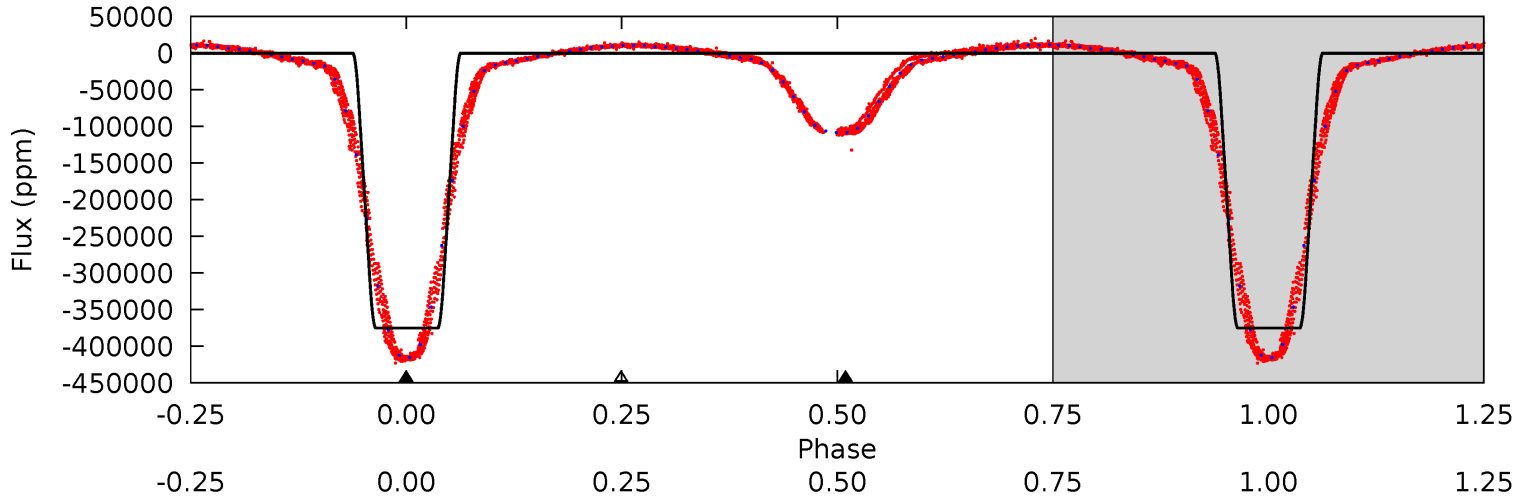
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009832545-01, P = 1.020860 Days, E = 132.236011 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1149	296.3	-15.0	0	4.52	1.54	19.2	1164	1149	311.4	296.3	0.16	1.00	0.02	4.73



Stellar Parameters For KIC 009832545

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8120^{+226}_{-340}	$3.946^{+0.259}_{-0.111}$	$-0.200^{+0.200}_{-0.350}$	$2.405^{+0.367}_{-0.794}$	$1.863^{+0.096}_{-0.384}$	$0.189^{+0.334}_{-0.068}$
	+3%/-4%	+7%/-3%	+100%/-175%	+15%/-33%	+5%/-21%	+177%/-36%
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 009832545-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$85.75^{+29.51}_{-29.46}$	4893^{+318}_{-408}	-4457^{+12440}_{-3305}	$-0.114^{+5.549}_{-4.503}$
Alt.	-96833 ± 327	$160.22^{+32.91}_{-34.99}$	4901^{+286}_{-412}	5344^{+492}_{-489}	$1.341^{+0.747}_{-0.423}$

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 $A_{obs} \gg 1.0$

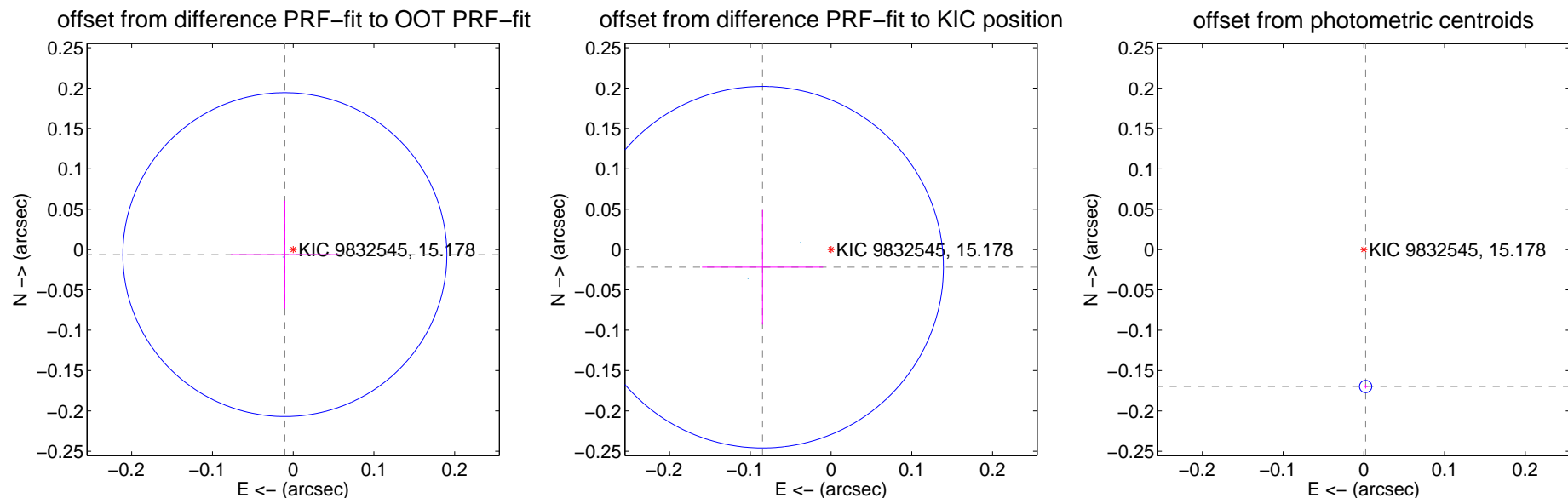
DV Centroid Data

Supplemental centroid analysis for 009832545-01. Kepler magnitude: 15.18. 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 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.012 ± 0.067	0.18	0.010 ± 0.067	-0.006 ± 0.067
PRF-fit source offset from KIC position	0.088 ± 0.075	1.17	0.085 ± 0.075	-0.022 ± 0.071
photometric centroid source offset	0.17 ± 0.00	66.90	-0.00 ± 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.



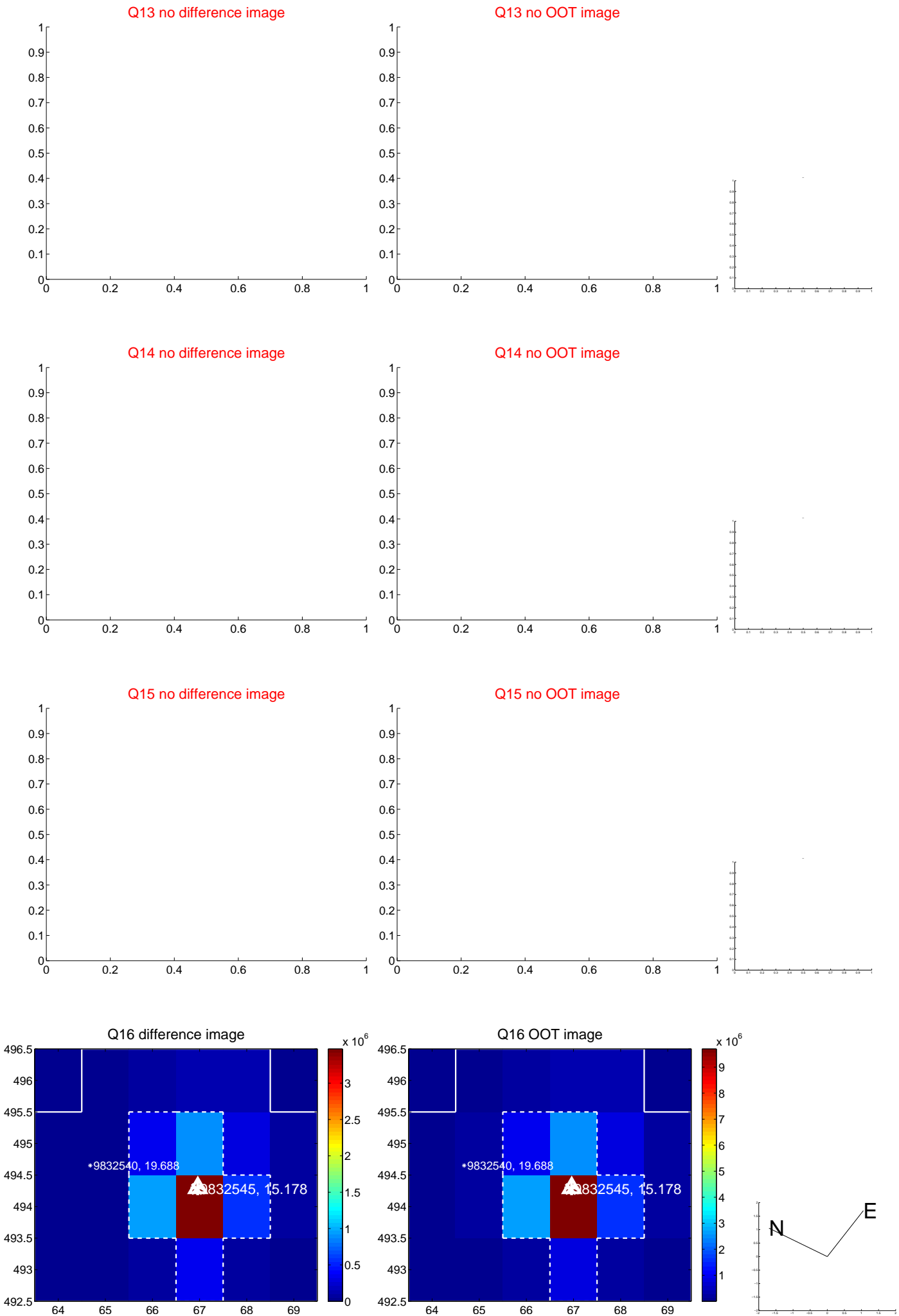
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



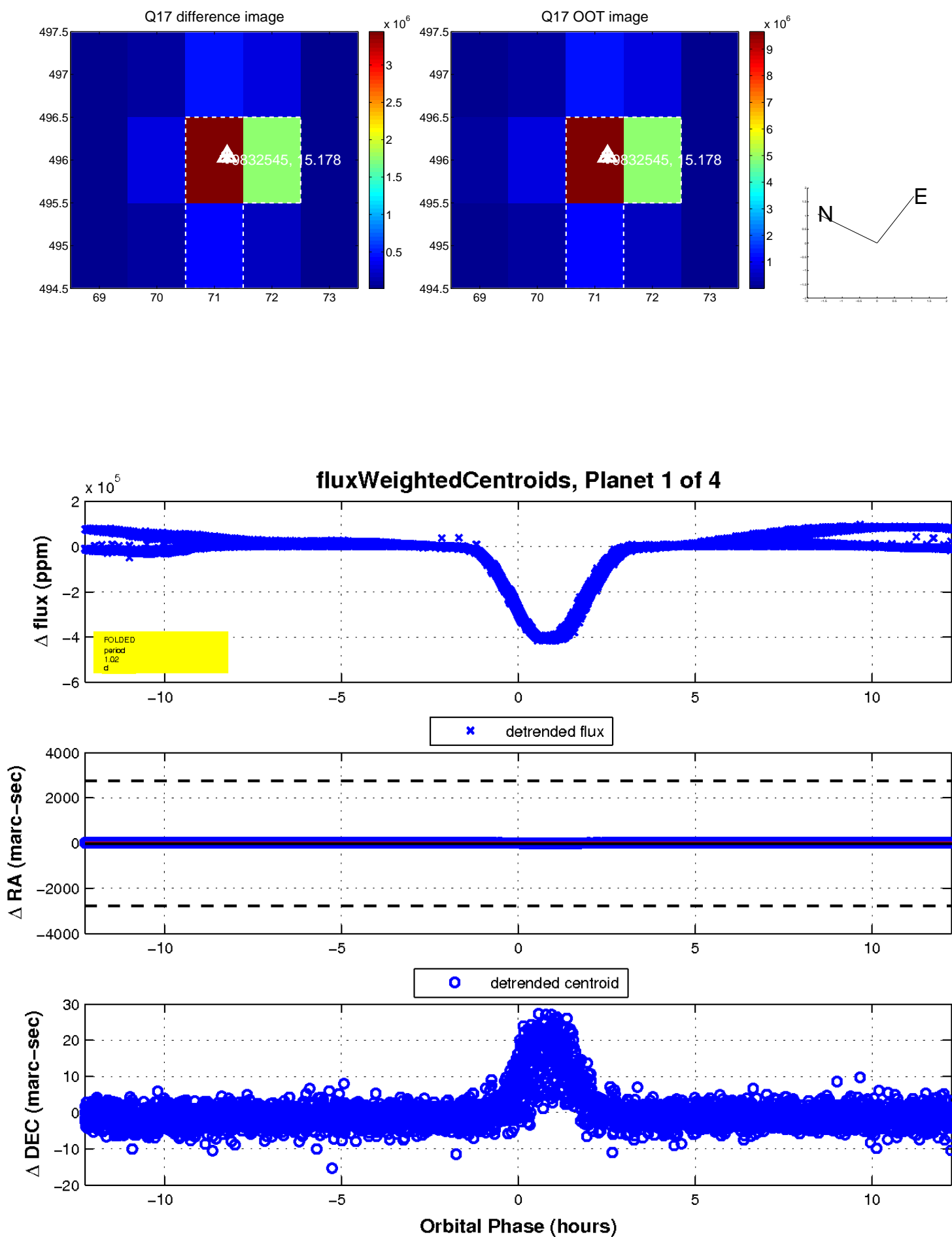
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



This figure shows a false-color astronomical image of a star field. A green grid is overlaid on the image, with labels indicating the Right Ascension (RA) and Declination (Dec) coordinates. The RA labels at the top range from 19:29:47.0 to 19:29:52.0. The Dec labels on the right range from 39:00:10.0 to 39:00:40.0. The image displays numerous stars of varying brightness against a dark background.

Declination

KIC 009832545

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})
009832545-01	OBS	No	1.020860	132.232027	406110.8	3.000	2630.1	-1.0	2.40	8120	89.85	37778.09
009832545-02	OBS	No	1.020823	131.772363	87419.8	4.186	185.0	149.4	2.40	8120	77.59	37779.94
009832545-03	OBS	No	4.084967	134.199836	91131.1	14.420	55.3	7.8	2.40	8120	122.50	5946.71
009832545-04	OBS	No	4.083111	132.549700	1512.9	12.000	61.7	-1.0	2.40	8120	9.44	5950.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009832545-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
009832545-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
009832545-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
009832545-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

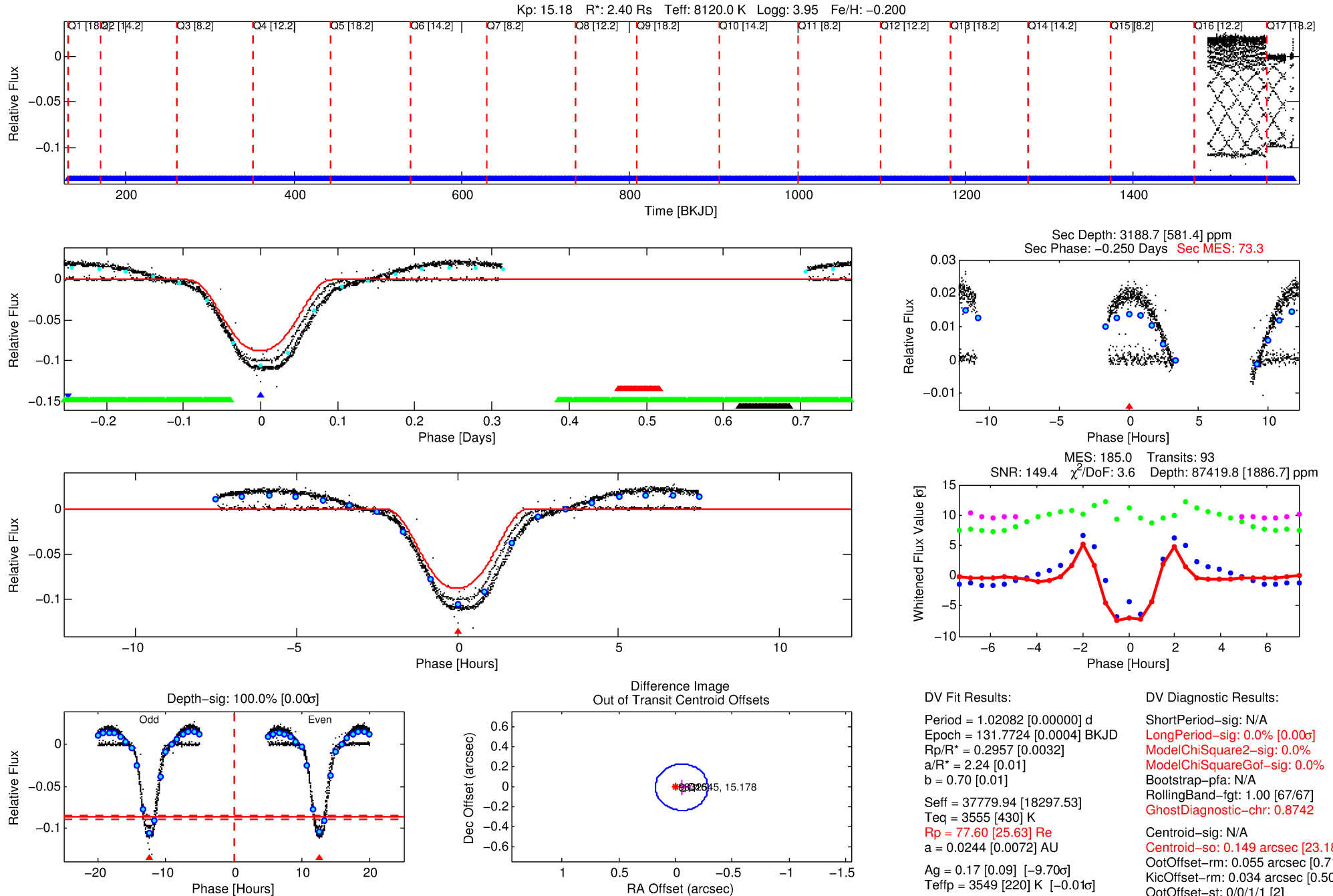
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009832545-02

No Significant Match Found

DV One-Page Summary

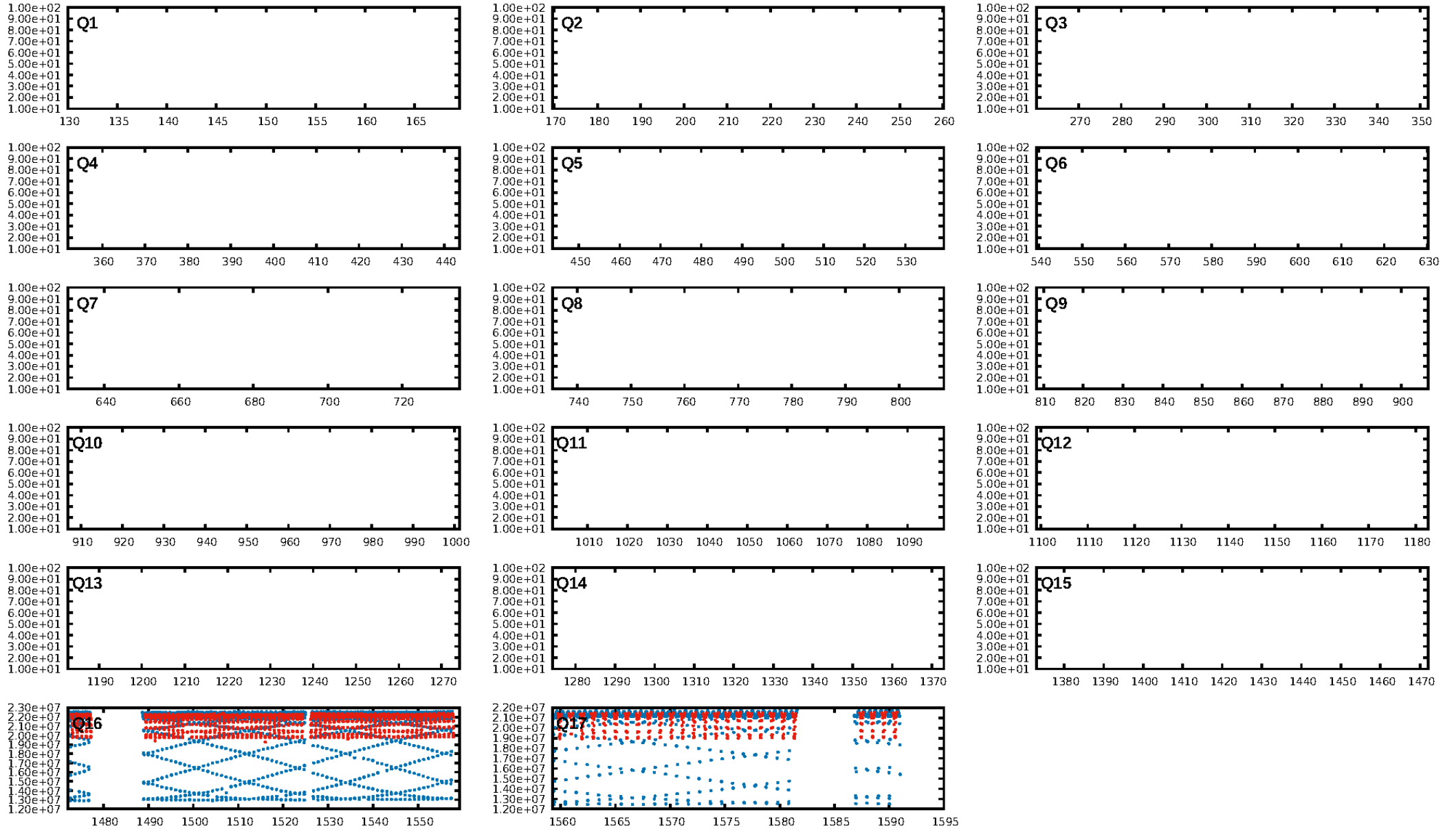
KIC: 9832545 Candidate: 2 of 4 Period: 1.021 d



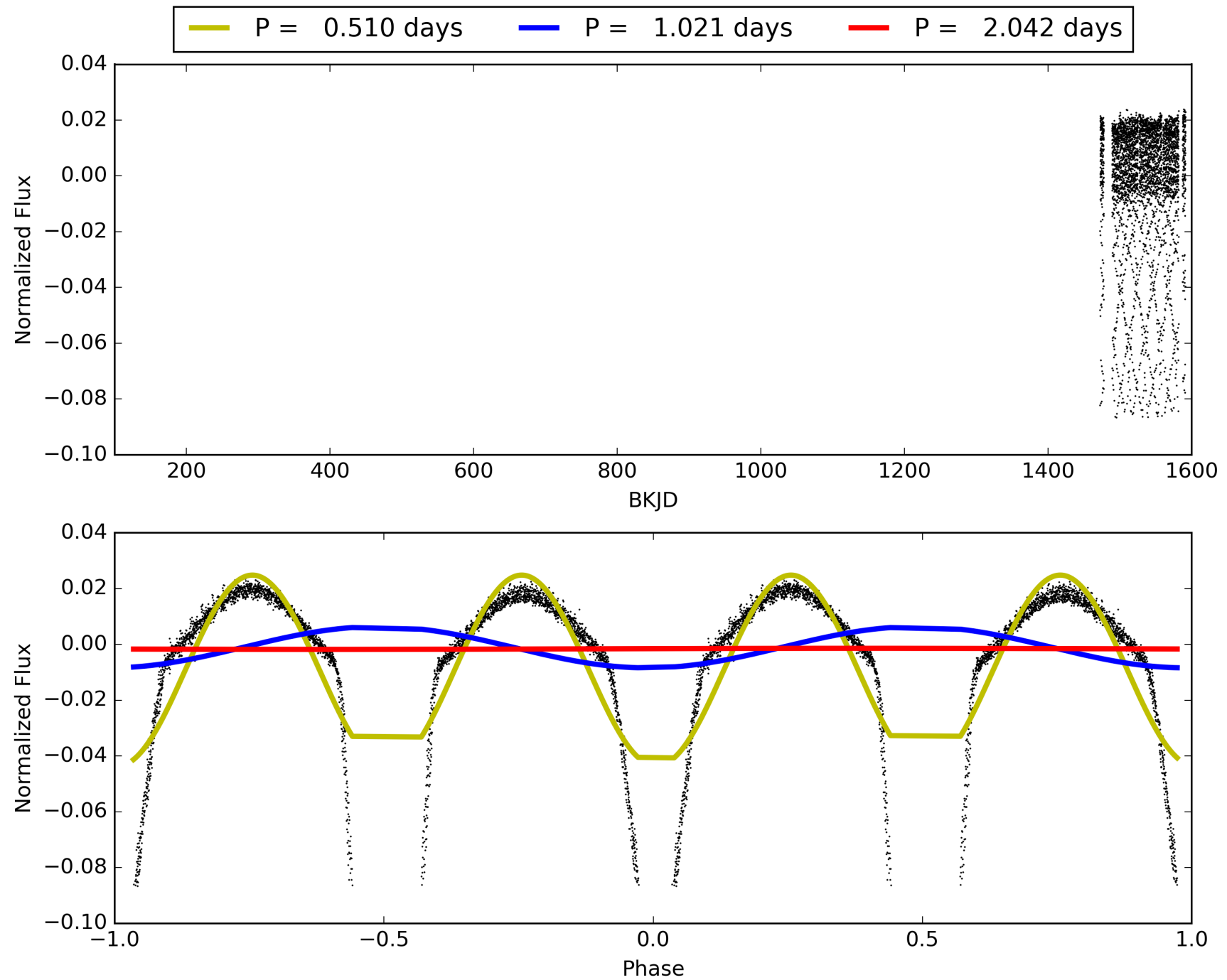
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:41:45 Z

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

TCE 009832545-02, PDC Light Curves

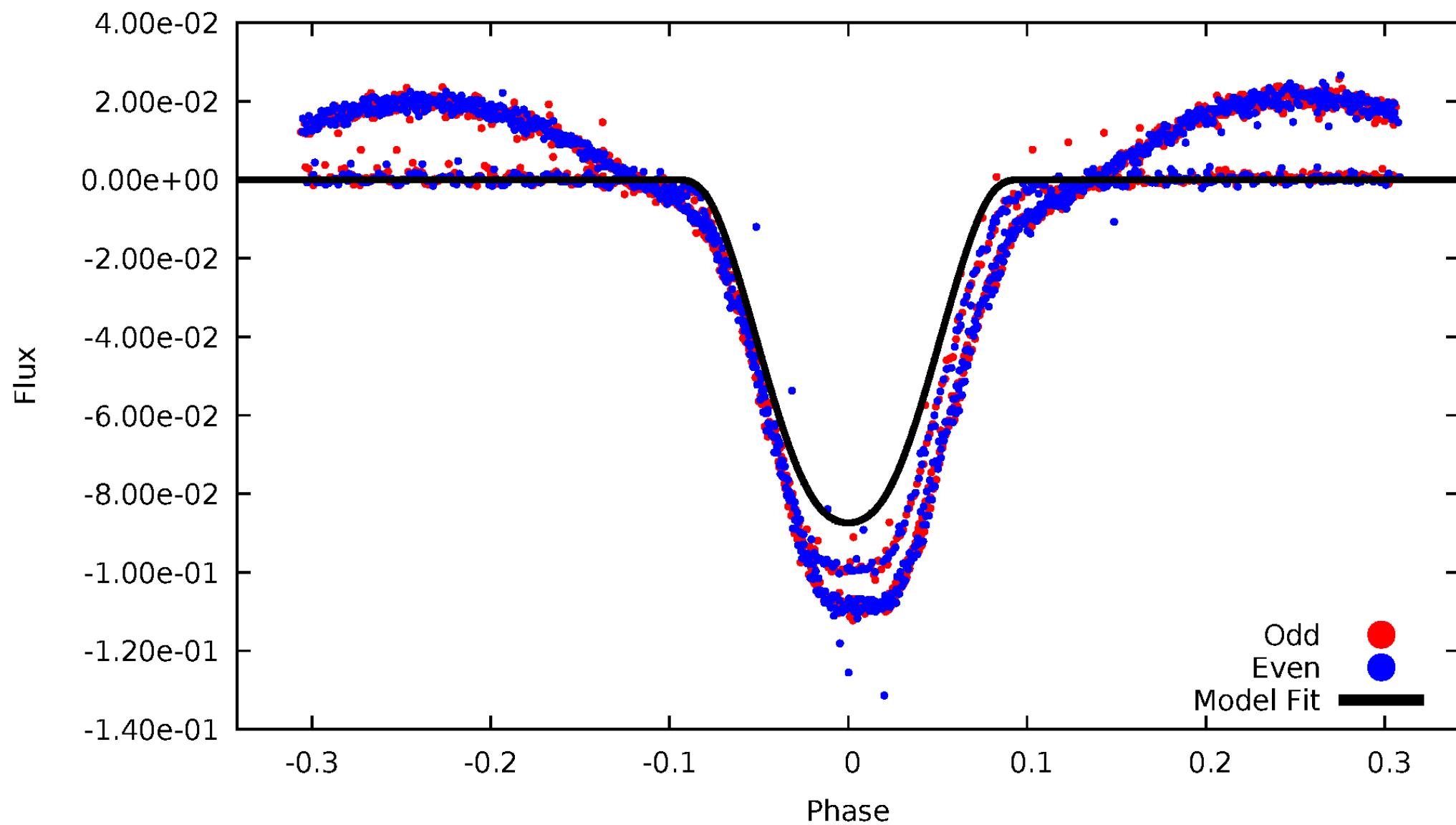


TCE 009832545-02



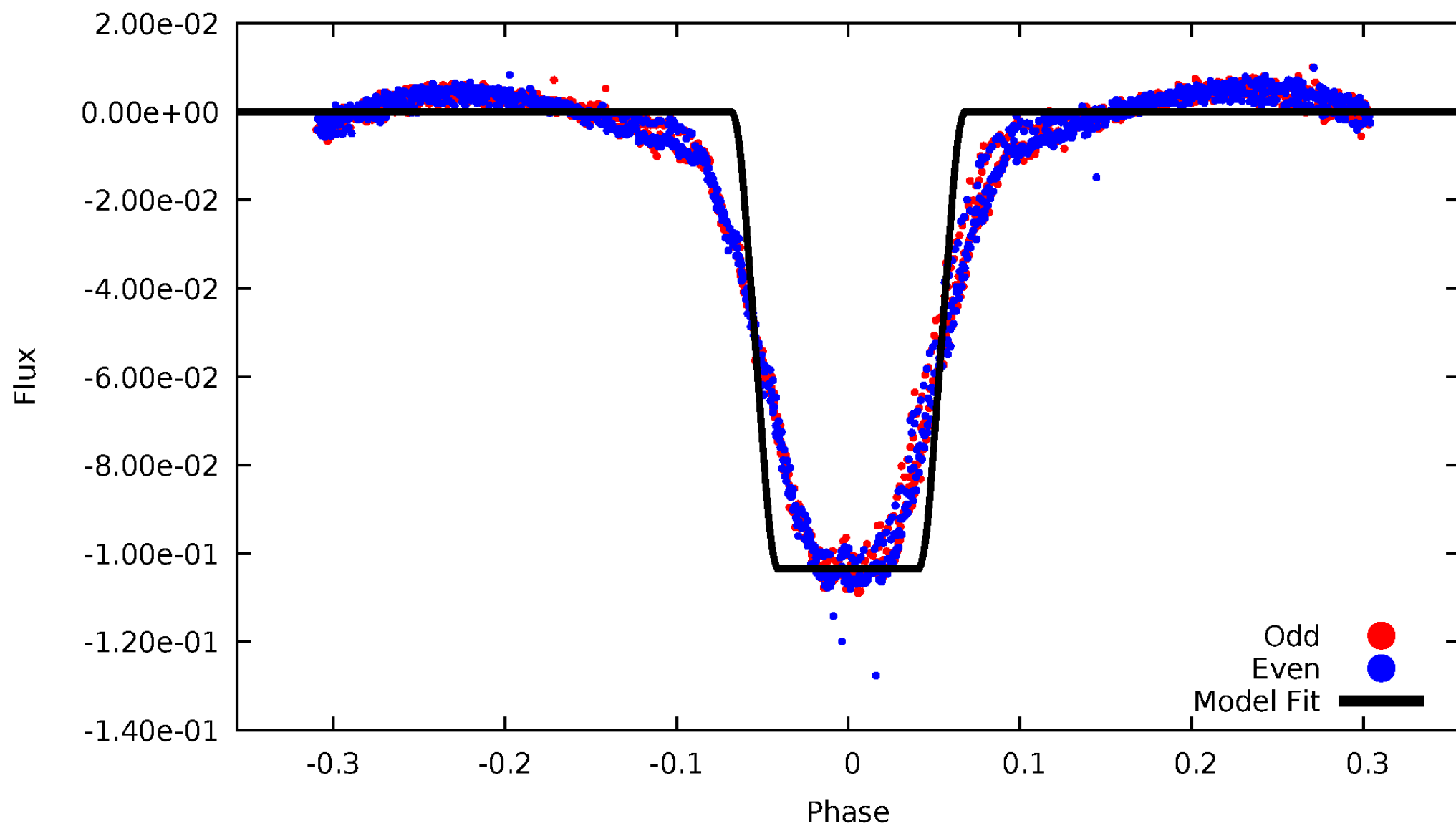
DV Odd/Even

TCE 009832545-02



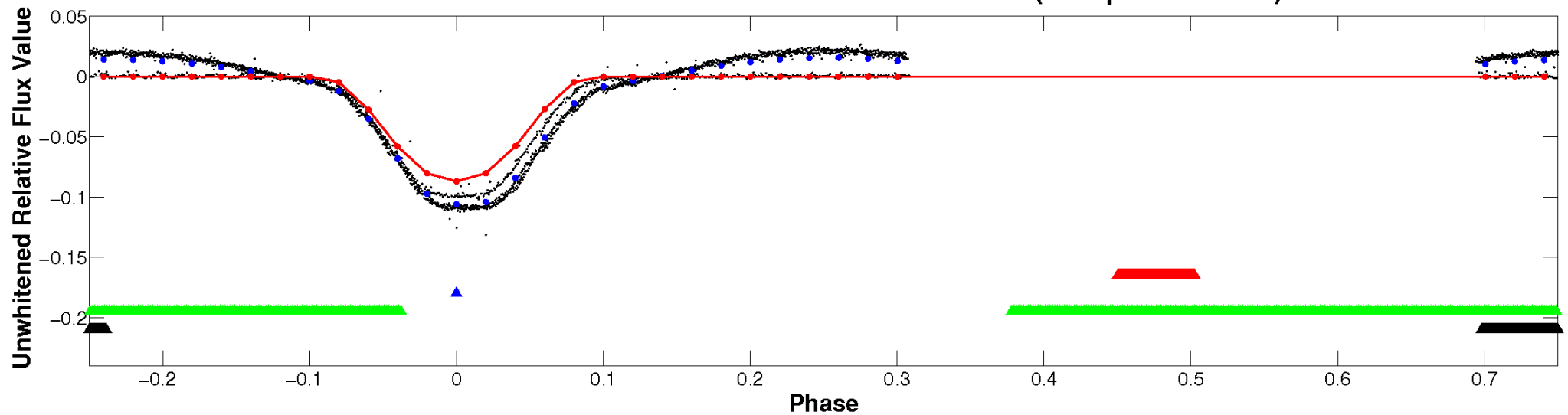
ALT Odd/Even

TCE 009832545-02

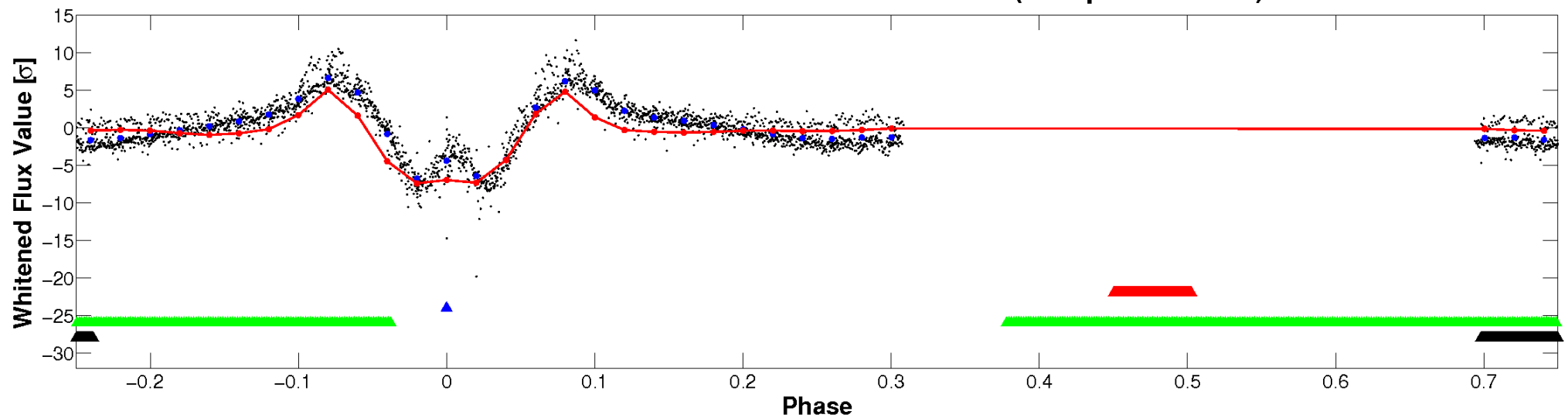


Non-Whitened Vs. Whitened Light Curve

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

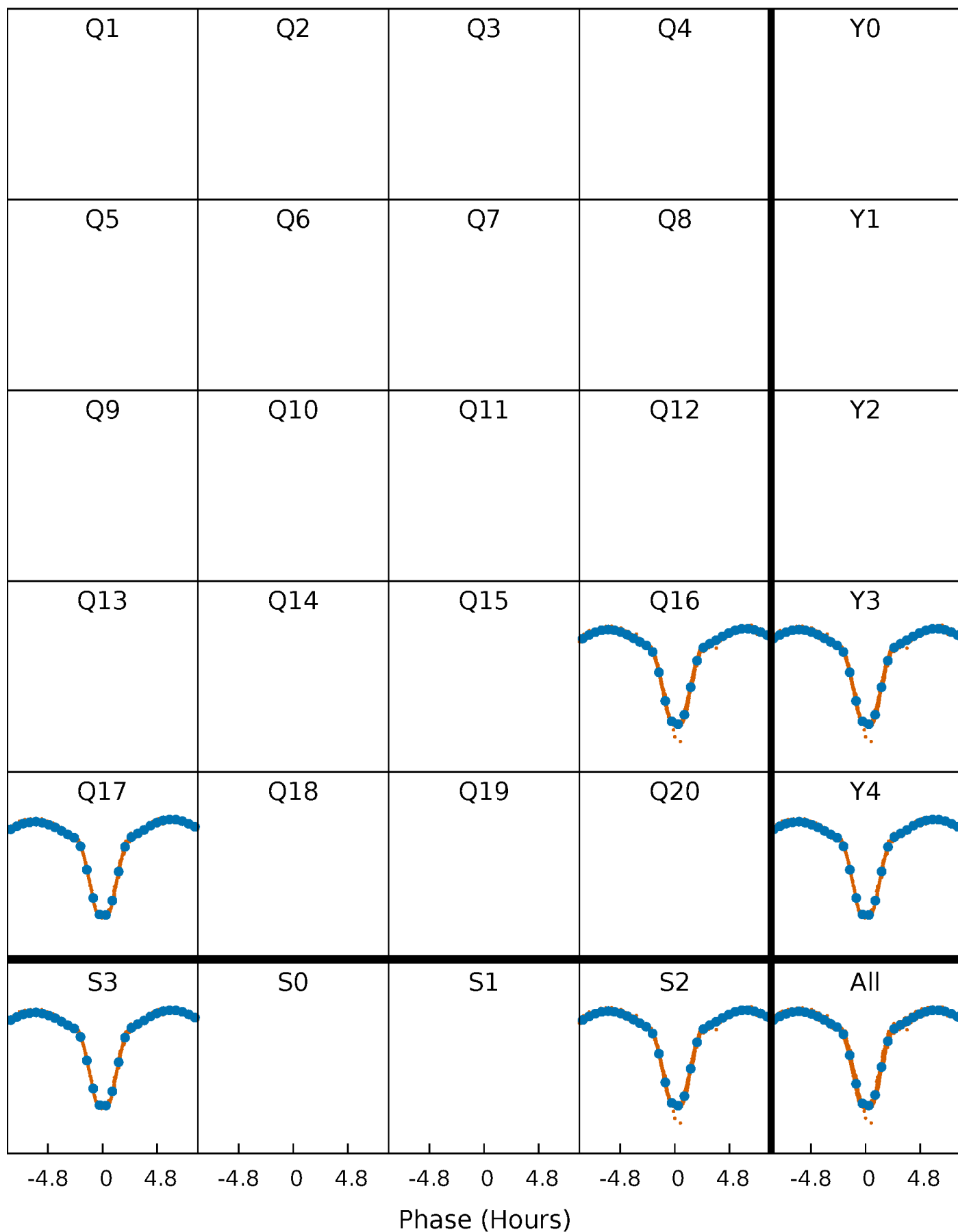


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



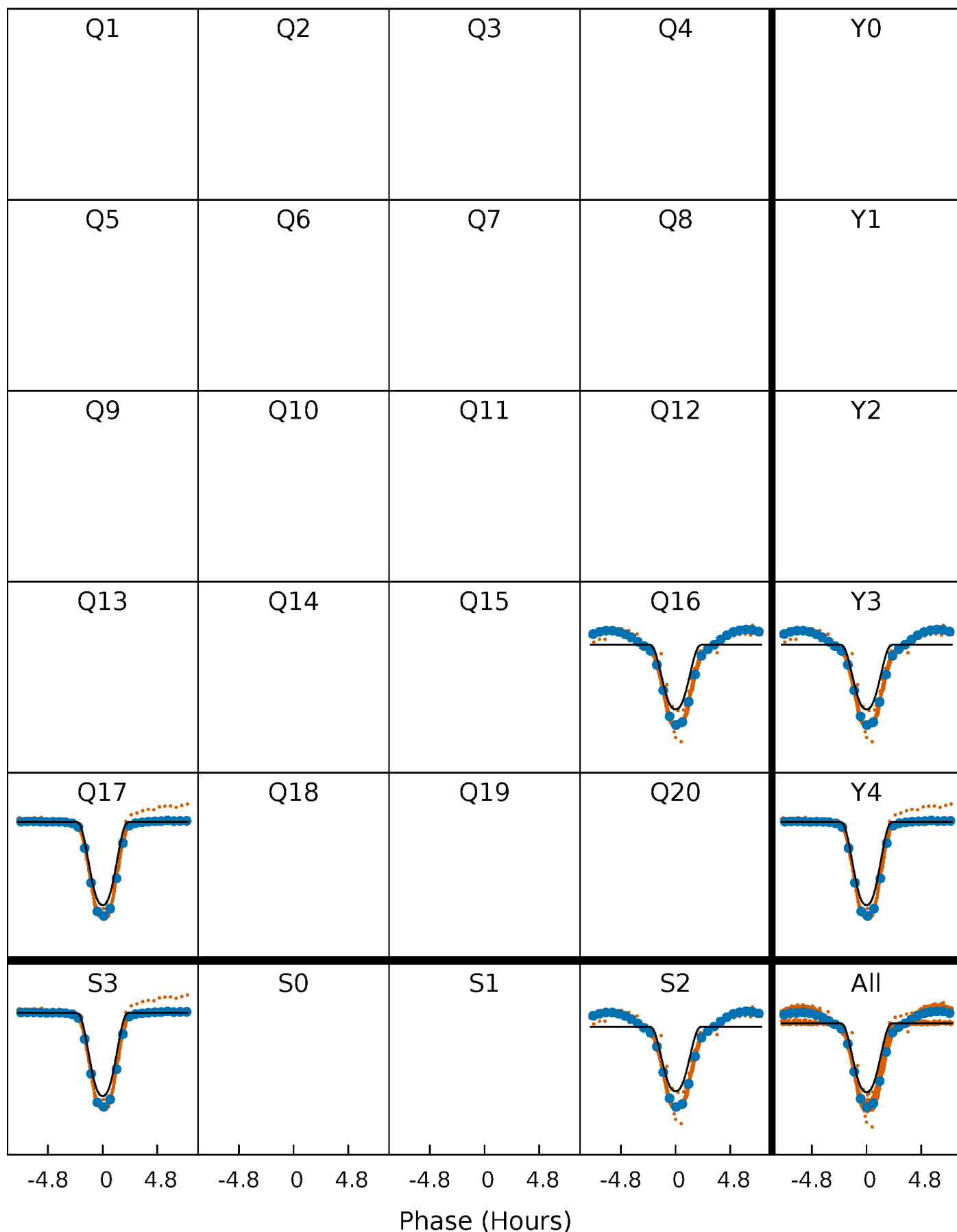
PDC Quarter-Phased Transit Curves

TCE 009832545-02 P= 1.020823 Days $T_0=131.772363$ (BKJD)



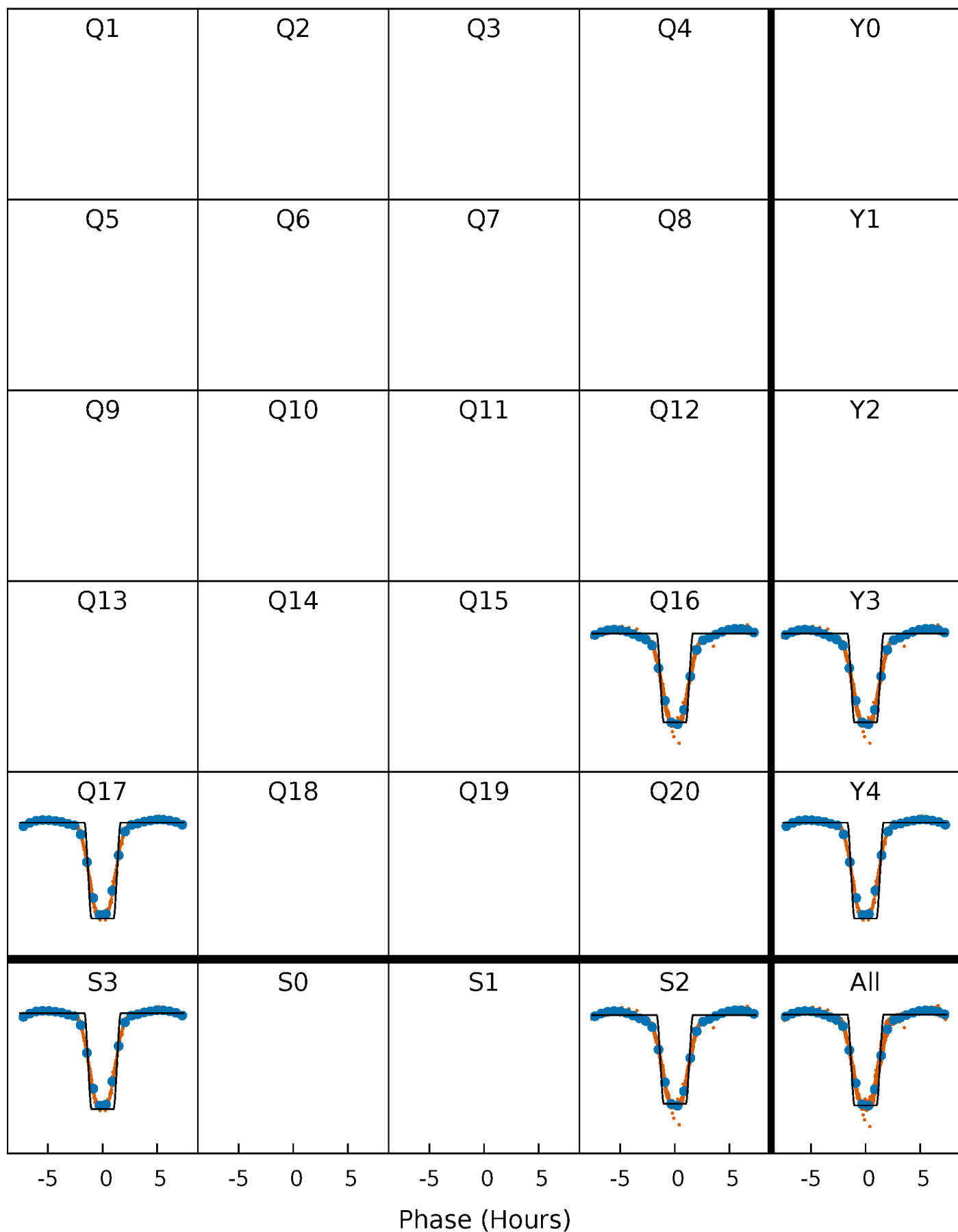
DV Quarter-Phased Transit Curves

TCE 009832545-02 P= 1.020823 Days $T_0=131.772363$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

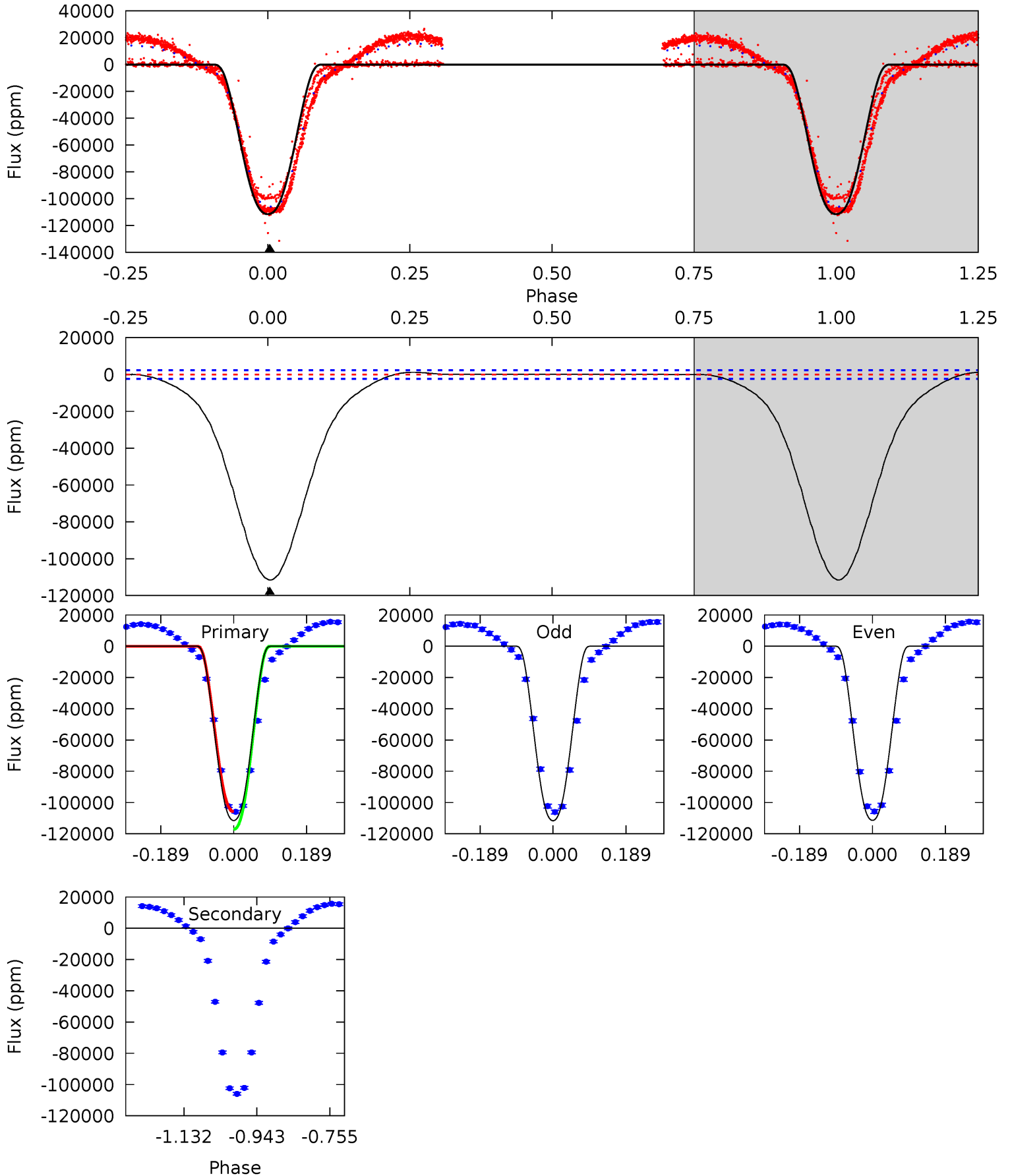
TCE 009832545-02 P= 1.020826 Days $T_0=131.772472$ (BKJD)



DV Model-Shift Uniqueness Test

009832545-02, P = 1.020823 Days, E = 131.772363 Days

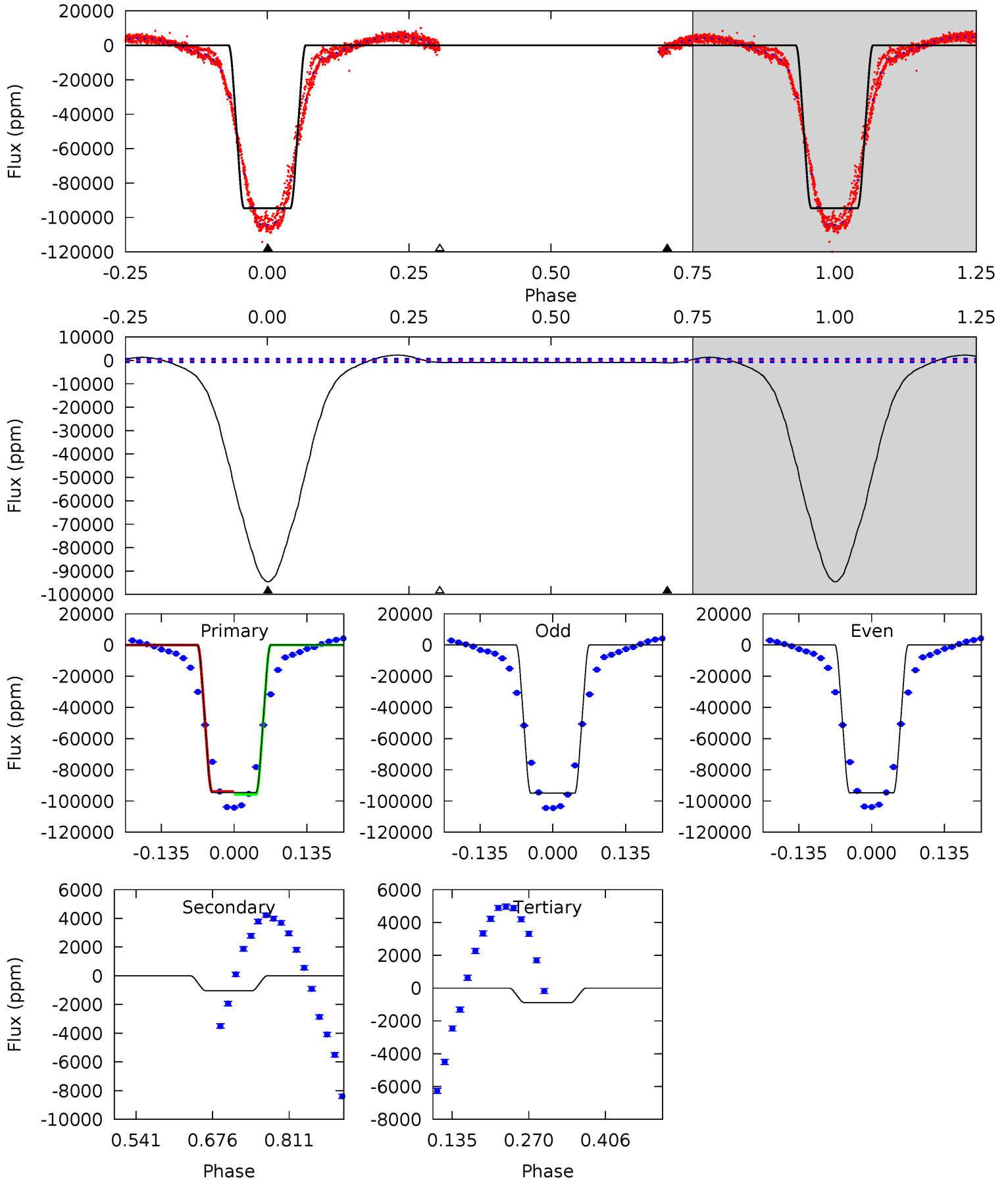
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
206.0	0	0	0	4.43	1.31	2.09	206.0	206.0	0	0	0.22	0.98	0.01	10.5



Alt Model-Shift Uniqueness Test

009832545-02, P = 1.020826 Days, E = 131.772472 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
638.8	7.03	6.01	0	4.50	1.49	14.7	632.8	638.8	1.03	7.03	0.91	0.99	0.02	11.0



Stellar Parameters For KIC 009832545

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8120^{+226}_{-340}	$3.946^{+0.259}_{-0.111}$	$-0.200^{+0.200}_{-0.350}$	$2.405^{+0.367}_{-0.794}$	$1.863^{+0.096}_{-0.384}$	$0.189^{+0.334}_{-0.068}$
	+3%/-4%	+7%/-3%	+100%/-175%	+15%/-33%	+5%/-21%	+177%/-36%
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 009832545-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 542	$76.16^{+7.90}_{-13.54}$	4893^{+292}_{-438}	-4175^{+284}_{-180}	$0.001^{+0.033}_{-0.032}$
Alt.	-1041 ± 148	$83.46^{+7.91}_{-14.07}$	4894^{+318}_{-403}	-4037^{+260}_{-198}	$0.050^{+0.020}_{-0.011}$

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 $A_{obs} \gg 1.0$

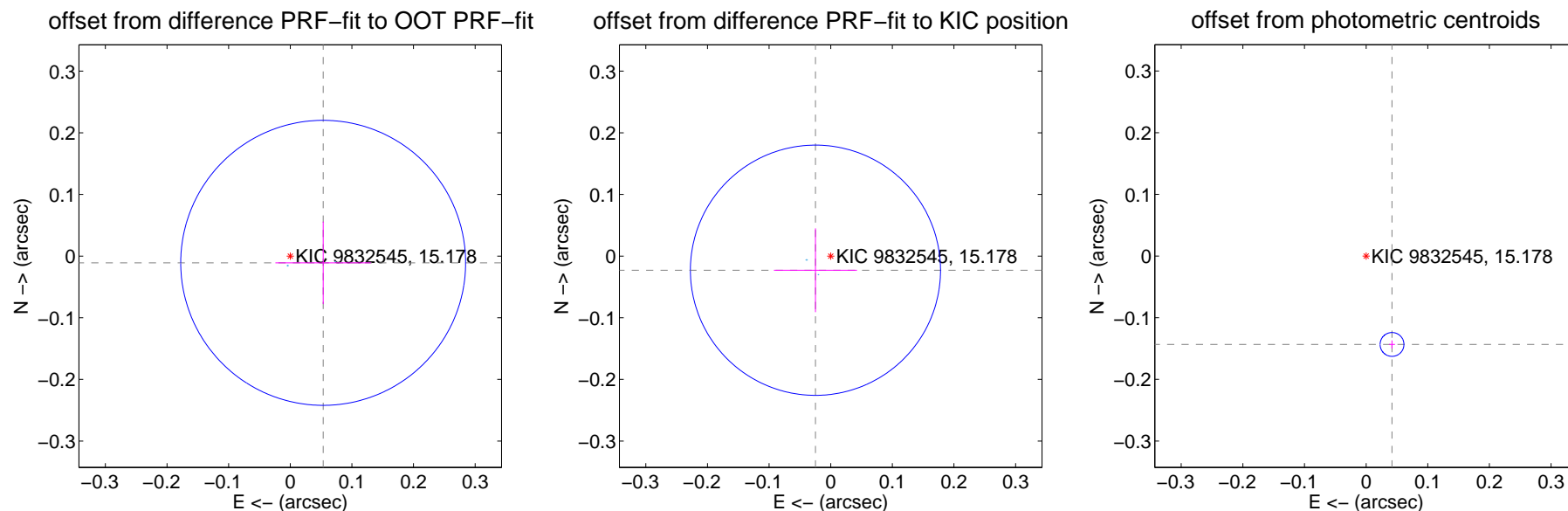
DV Centroid Data

Supplemental centroid analysis for 009832545-02. Kepler magnitude: 15.18. Transit SNR 149.40

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	0.055 ± 0.077	0.71	-0.053 ± 0.077	-0.011 ± 0.067
PRF-fit source offset from KIC position	0.034 ± 0.068	0.50	0.025 ± 0.067	-0.023 ± 0.068
photometric centroid source offset	0.15 ± 0.01	23.18	-0.04 ± 0.00	-0.14 ± 0.01



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.



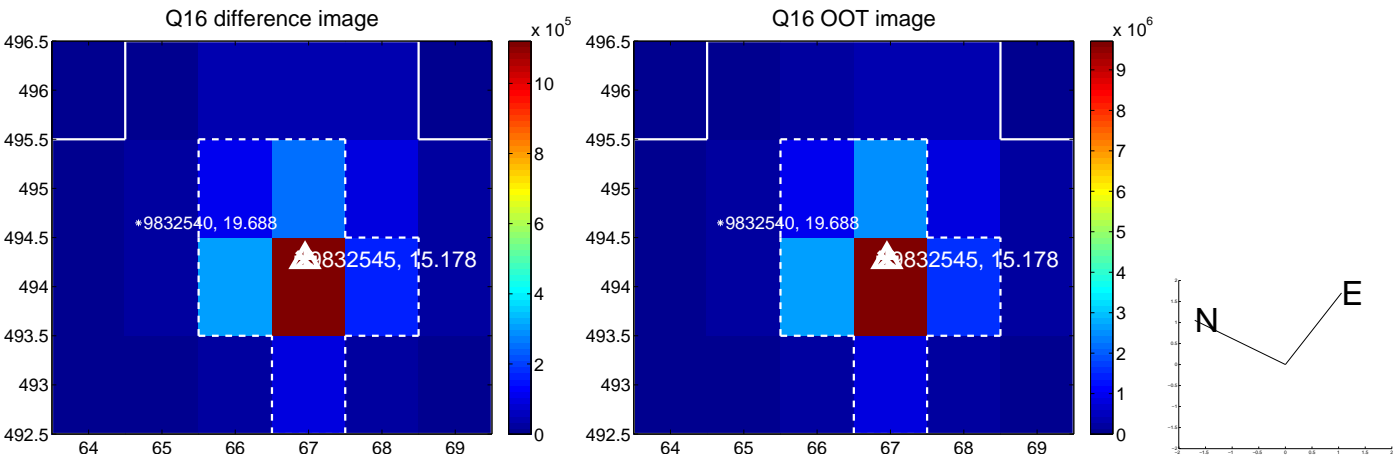
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



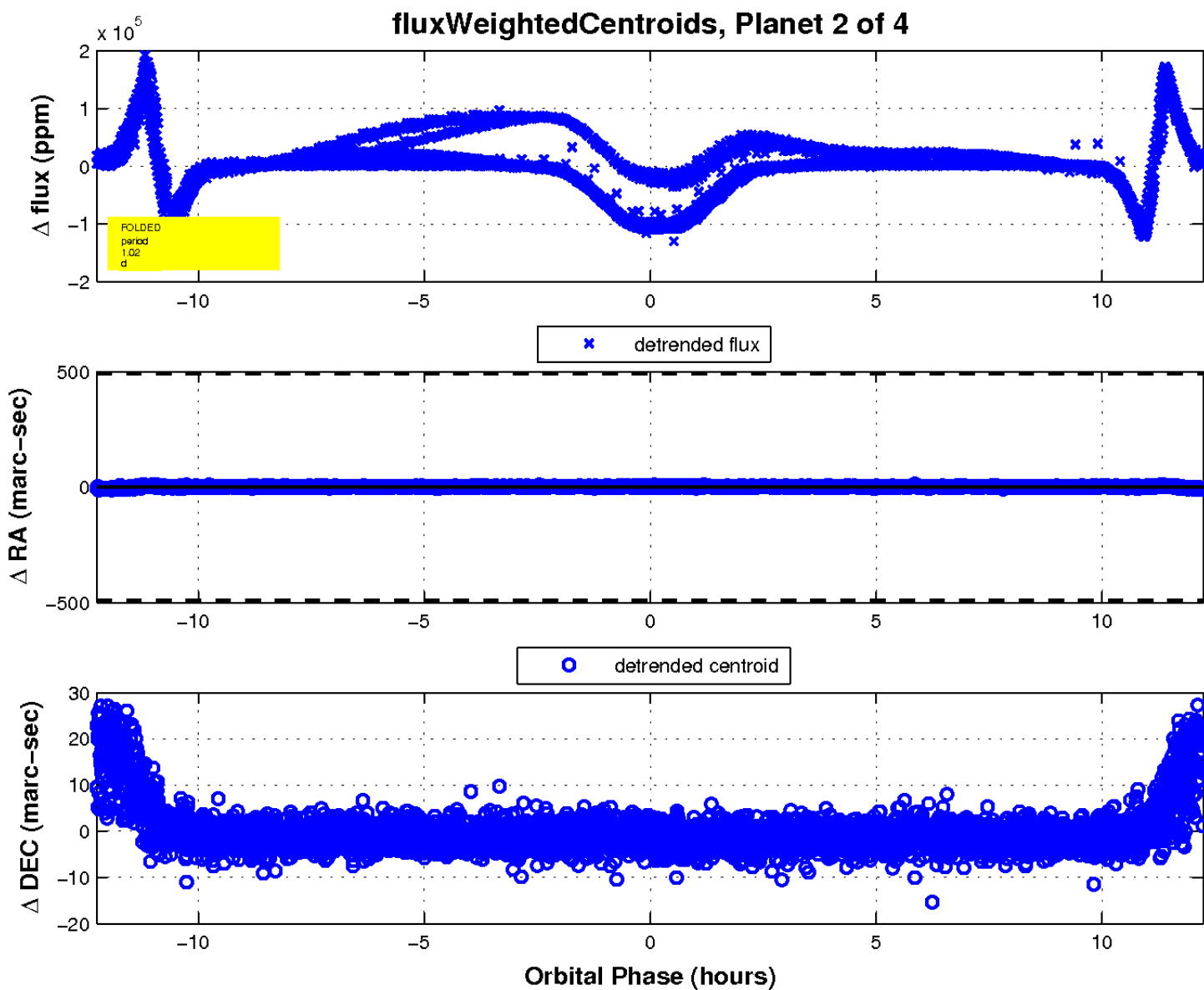
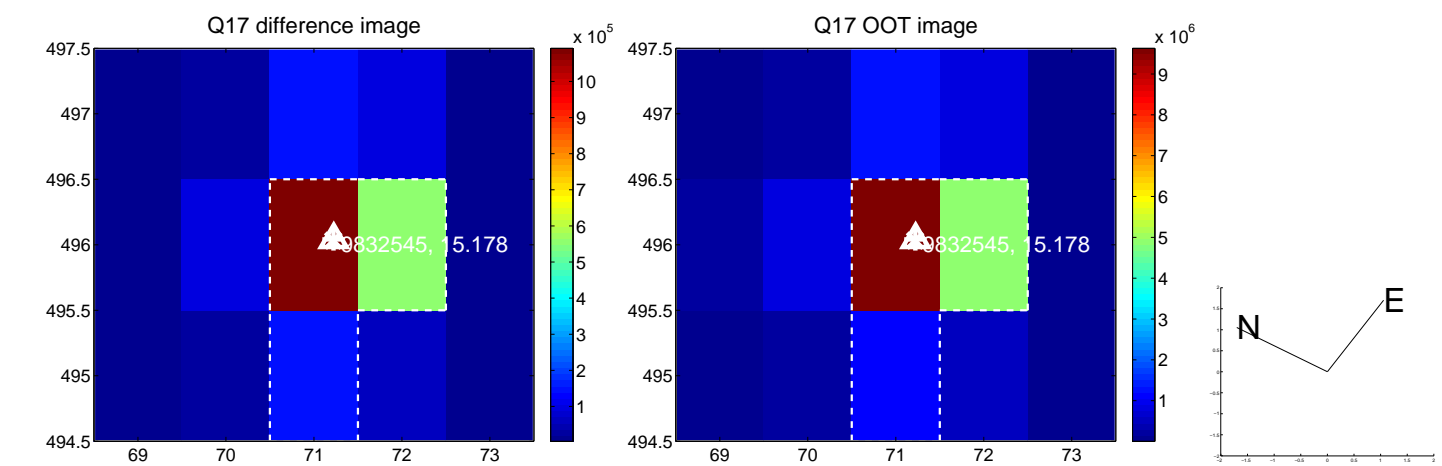
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

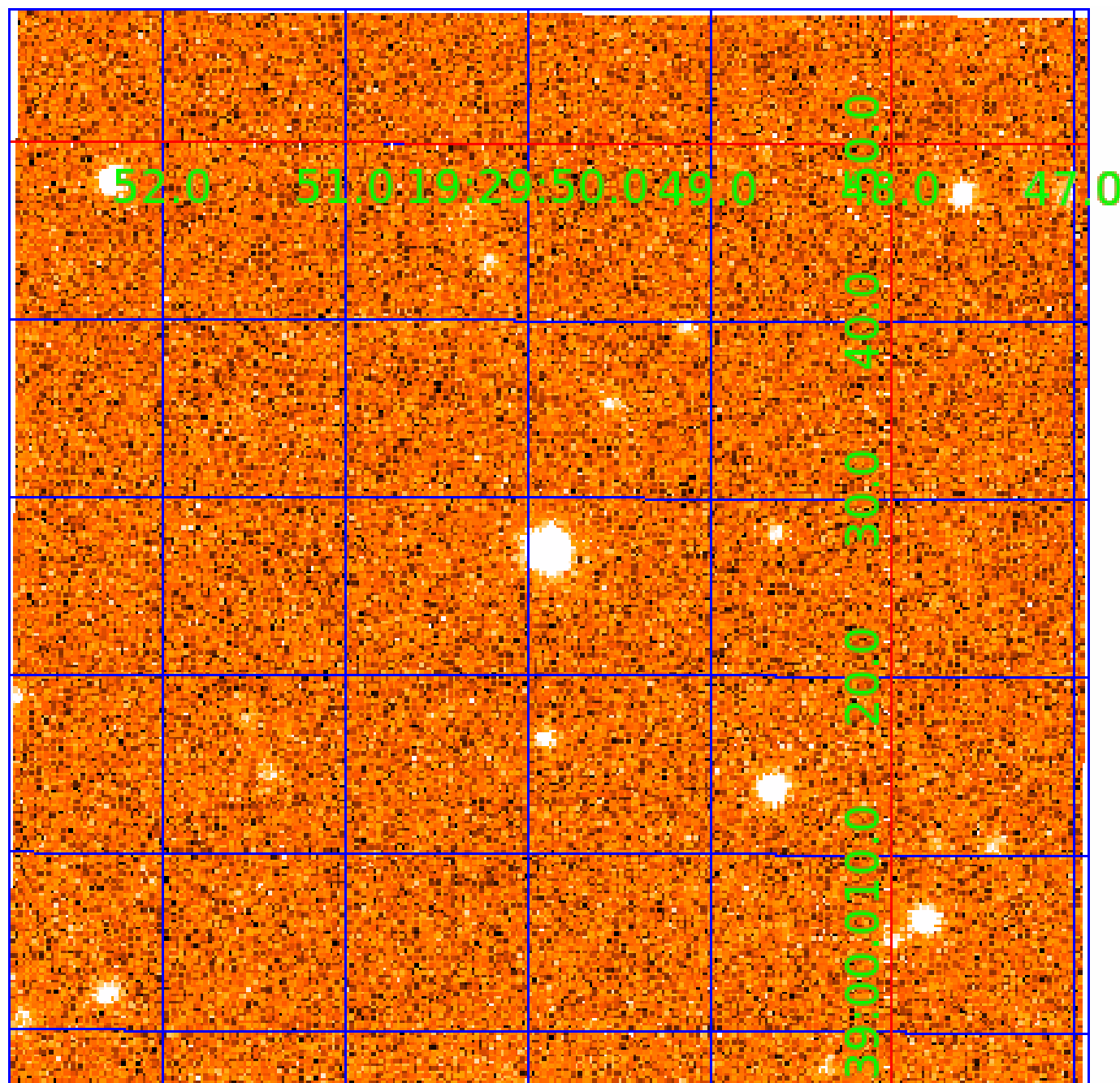


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009832545

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})
009832545-01	OBS	No	1.020860	132.232027	406110.8	3.000	2630.1	-1.0	2.40	8120	89.85	37778.09
009832545-02	OBS	No	1.020823	131.772363	87419.8	4.186	185.0	149.4	2.40	8120	77.59	37779.94
009832545-03	OBS	No	4.084967	134.199836	91131.1	14.420	55.3	7.8	2.40	8120	122.50	5946.71
009832545-04	OBS	No	4.083111	132.549700	1512.9	12.000	61.7	-1.0	2.40	8120	9.44	5950.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009832545-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
009832545-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
009832545-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
009832545-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

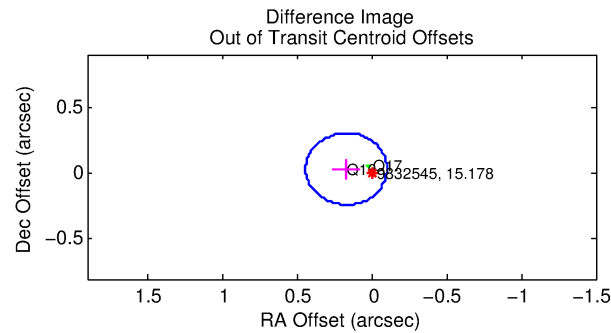
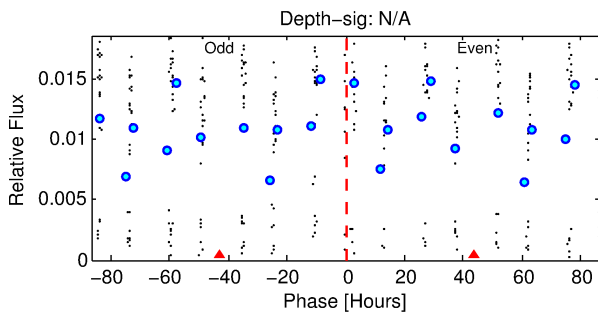
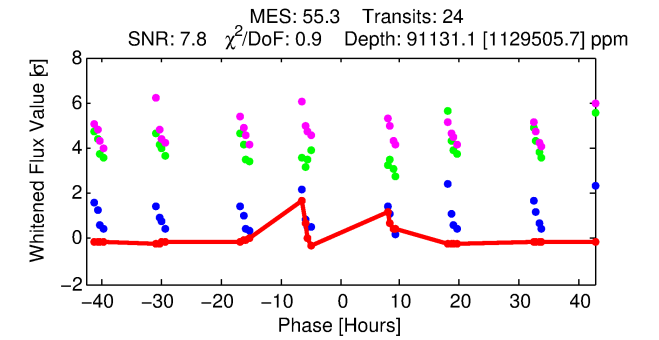
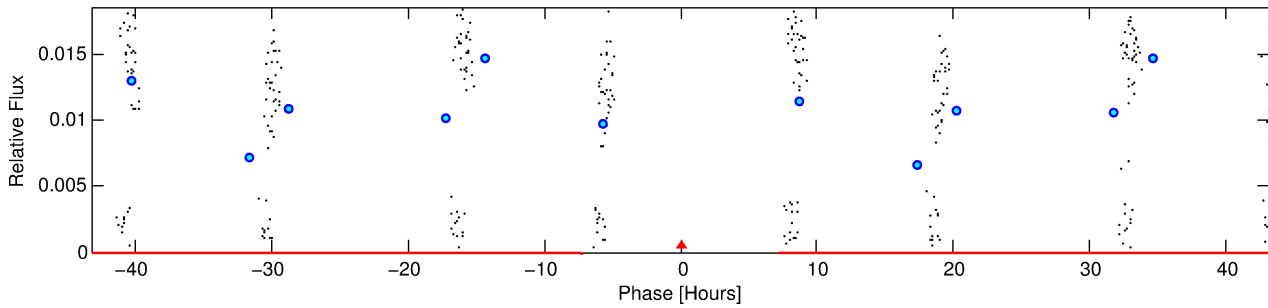
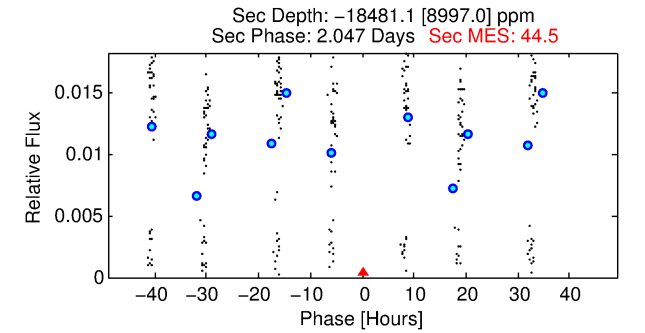
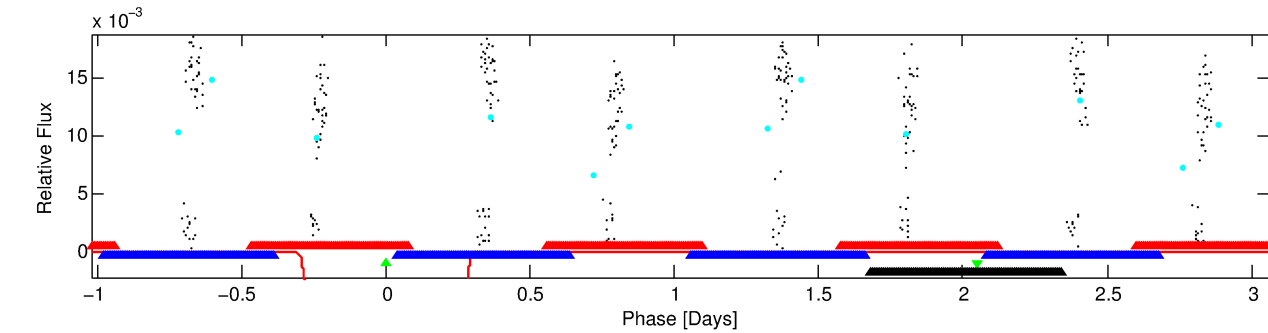
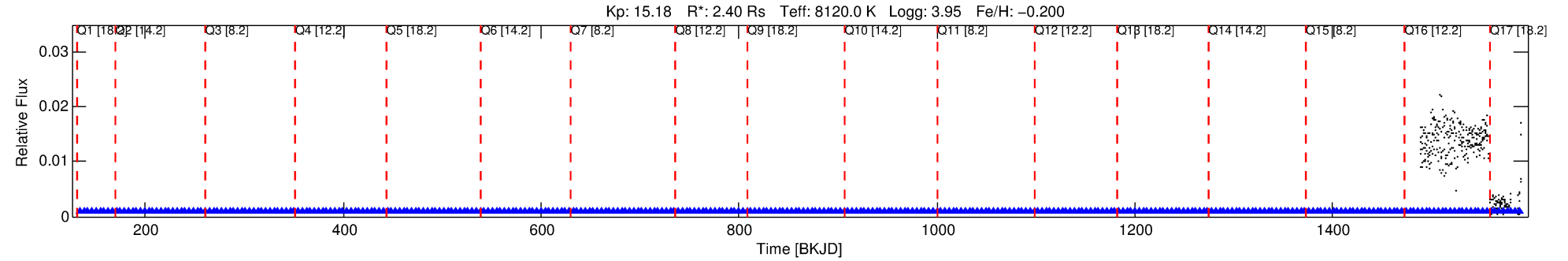
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009832545-03

No Significant Match Found

DV One-Page Summary

KIC: 9832545 Candidate: 3 of 4 Period: 4.085 d



DV Fit Results:

Period = 4.08497 [0.00014] d
Epoch = 134.1998 [0.0591] BKJD
Rp/R* = 0.4668 [52.2337]
a/R* = 2.61 [41.34]
b = 1.00 [64.78]
Seff = 5946.71 [2880.10]
Teq = 2239 [271] K
Rp = 122.50 [13708.29] Re
a = 0.0616 [0.0183] AU
Ag = N/A
Teffp = N/A

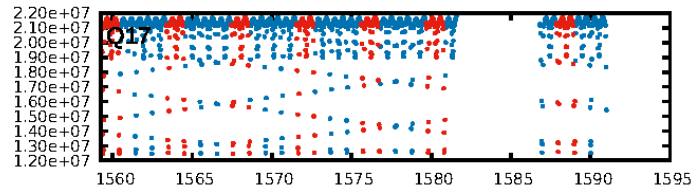
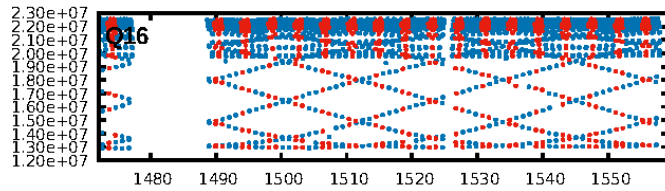
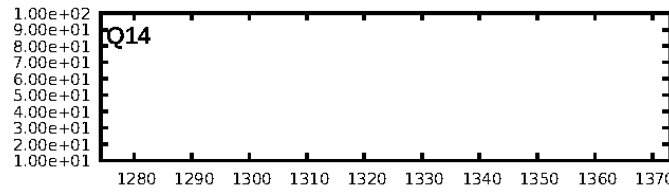
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [17/17]
GhostDiagnostic-chr: -1.368
Centroid-sig: N/A
Centroid-so: 0.141 arcsec [20.94σ]
OotOffset-rm: 0.172 arcsec [1.90σ]
KicOffset-rm: 0.254 arcsec [2.36σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 0.00 [0/2]

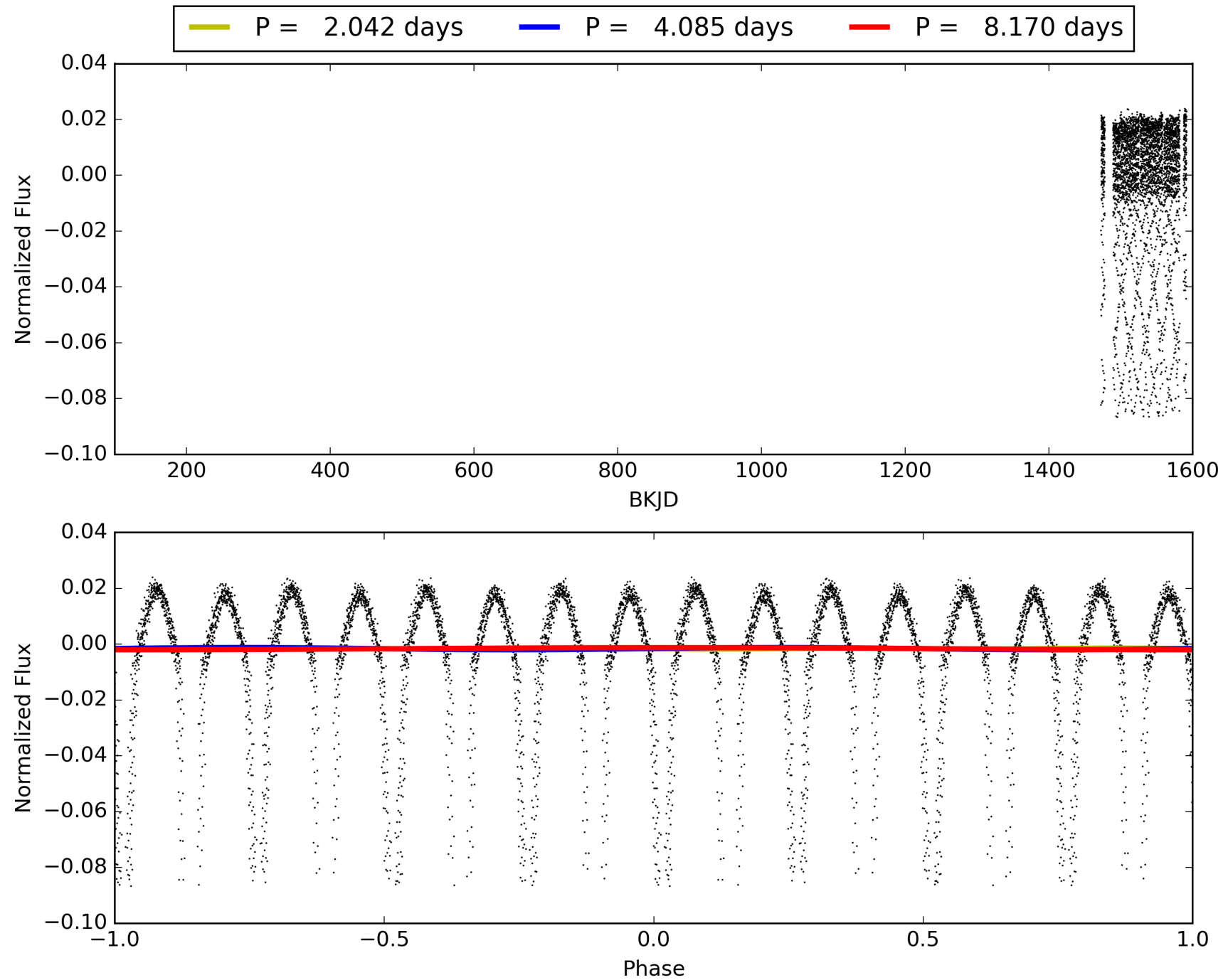
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:41:50 Z

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

TCE 009832545-03, PDC Light Curves

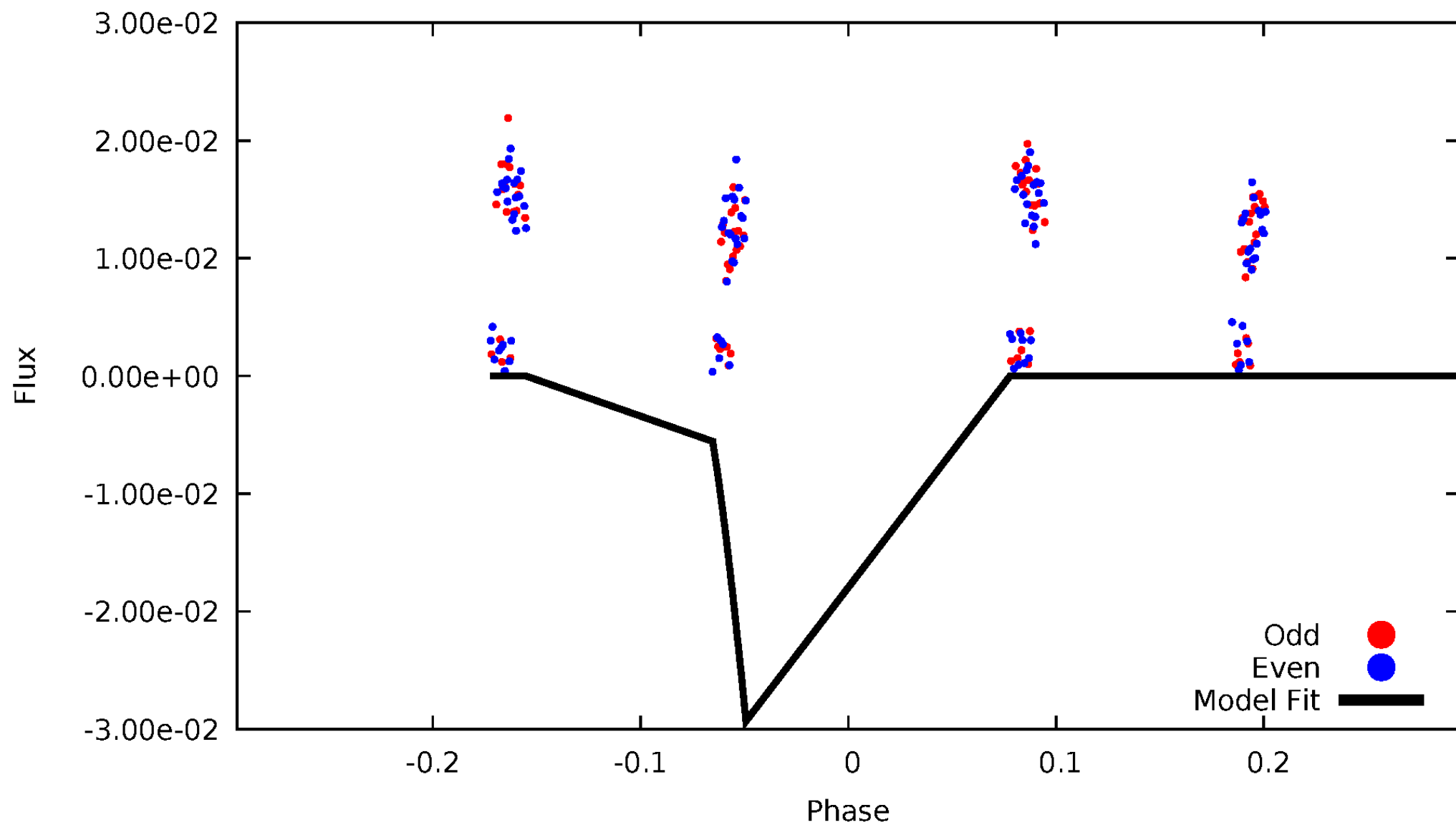


TCE 009832545-03



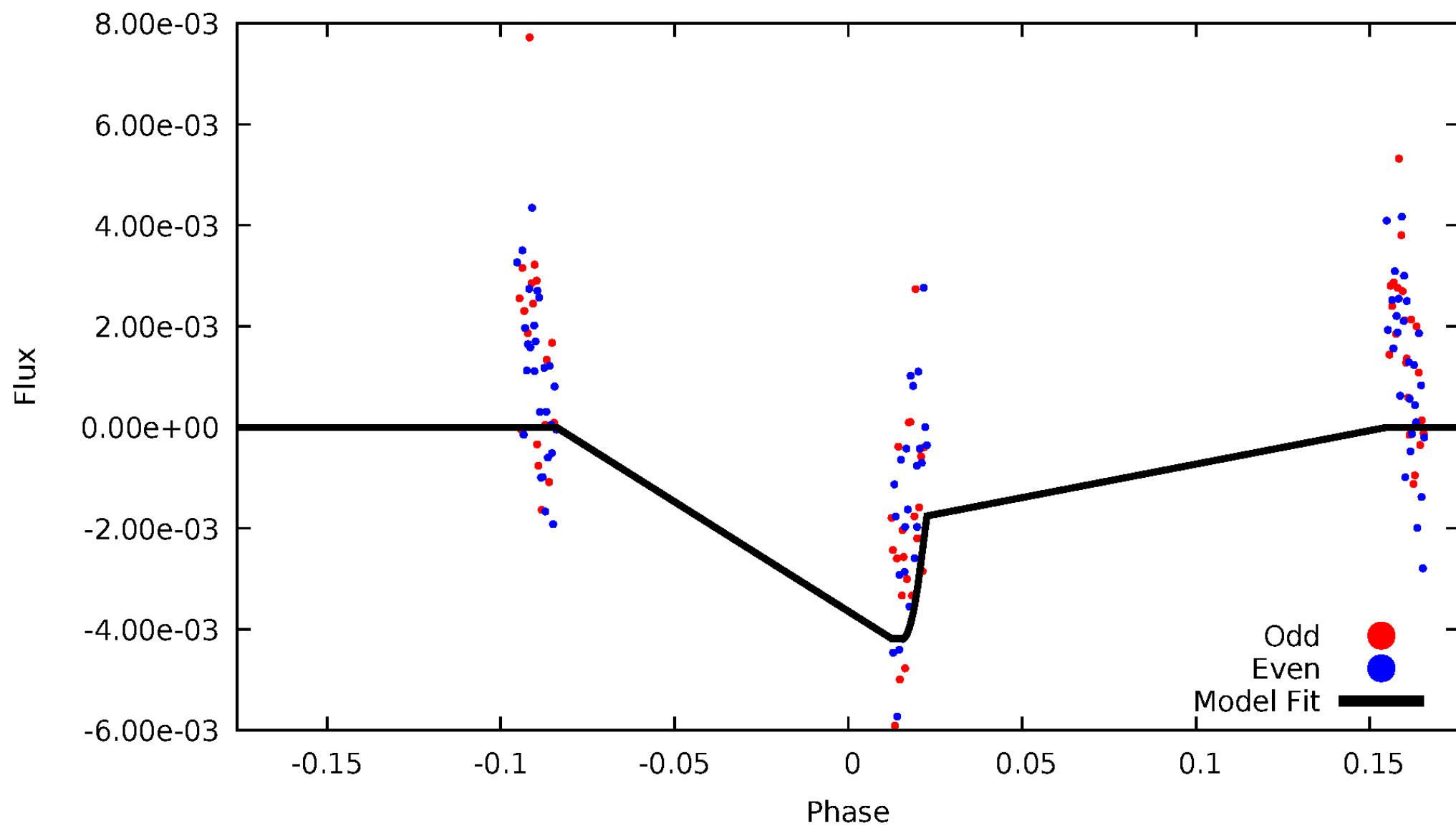
DV Odd/Even

TCE 009832545-03



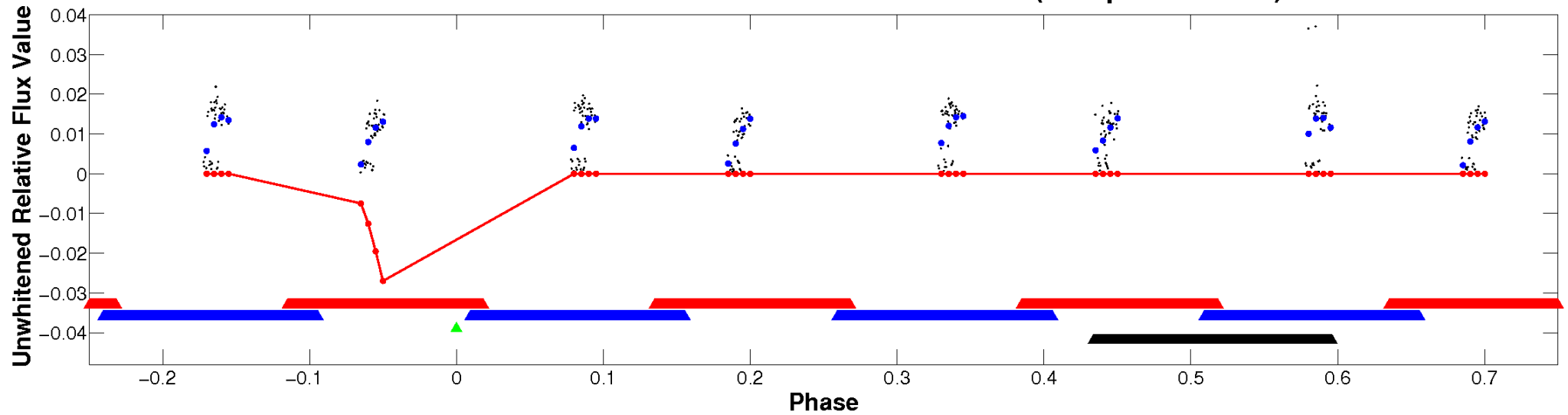
ALT Odd/Even

TCE 009832545-03

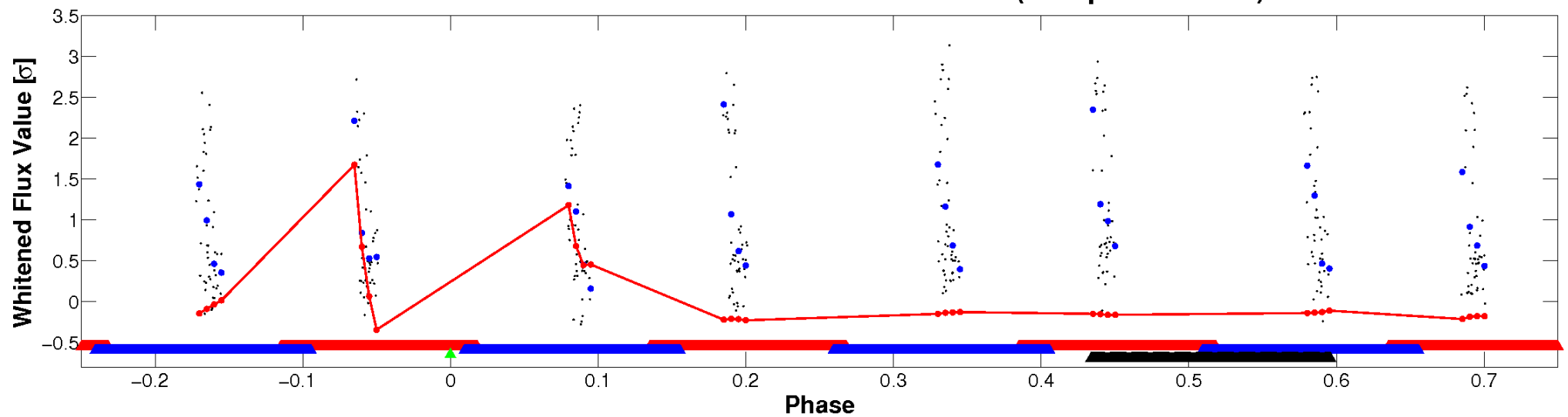


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

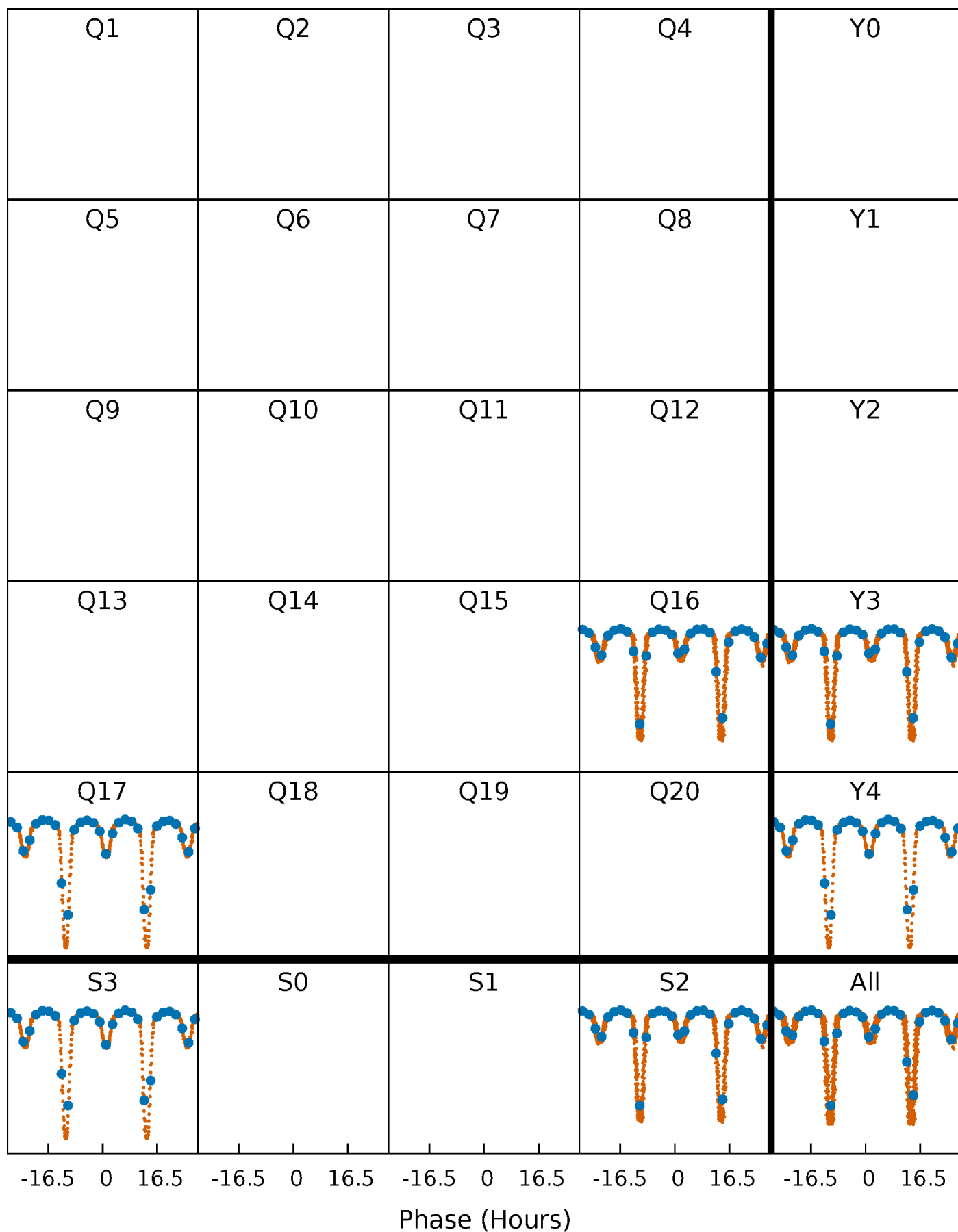


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



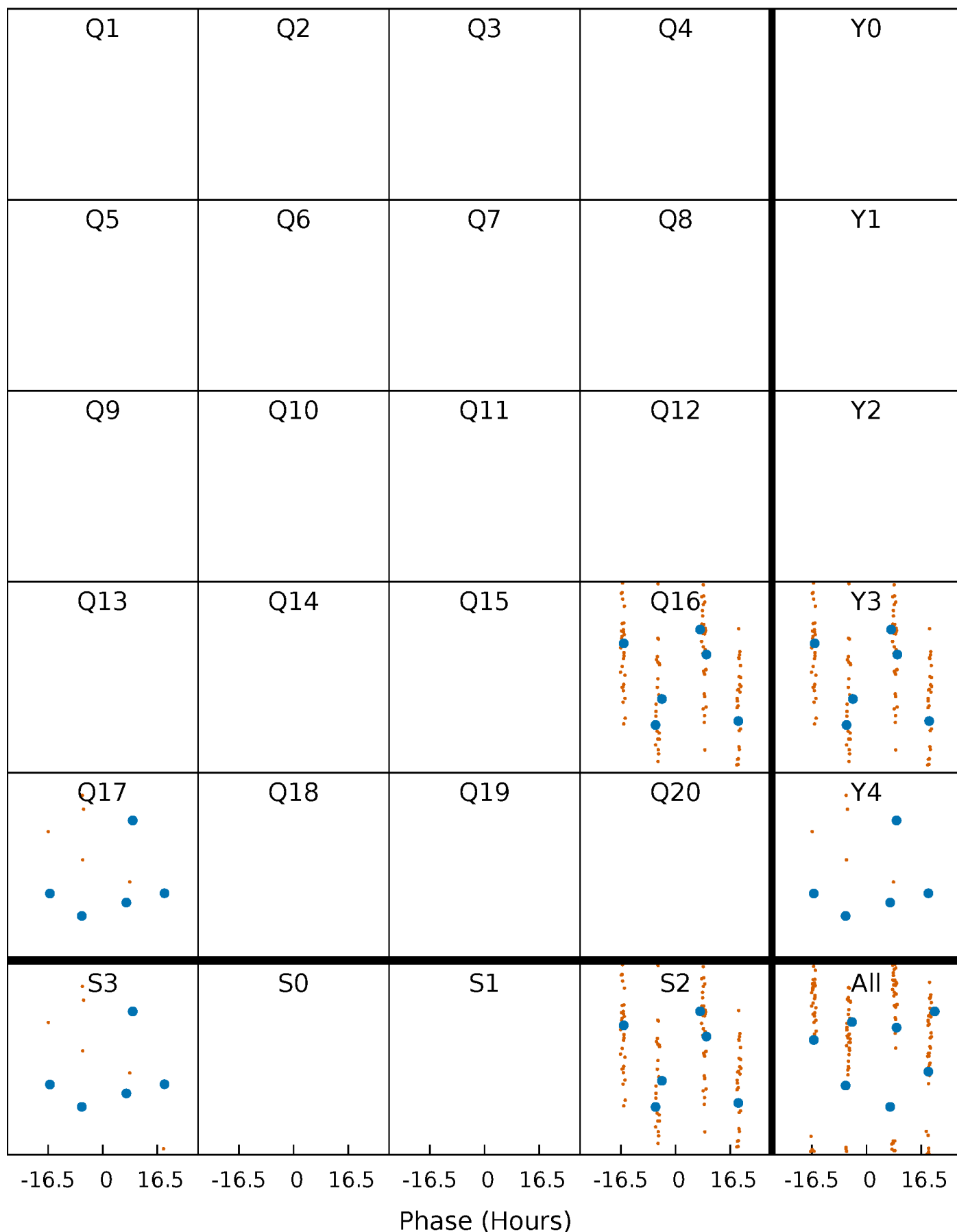
PDC Quarter-Phased Transit Curves

TCE 009832545-03 $P = 4.084967$ Days $T_0 = 134.199837$ (BKJD)



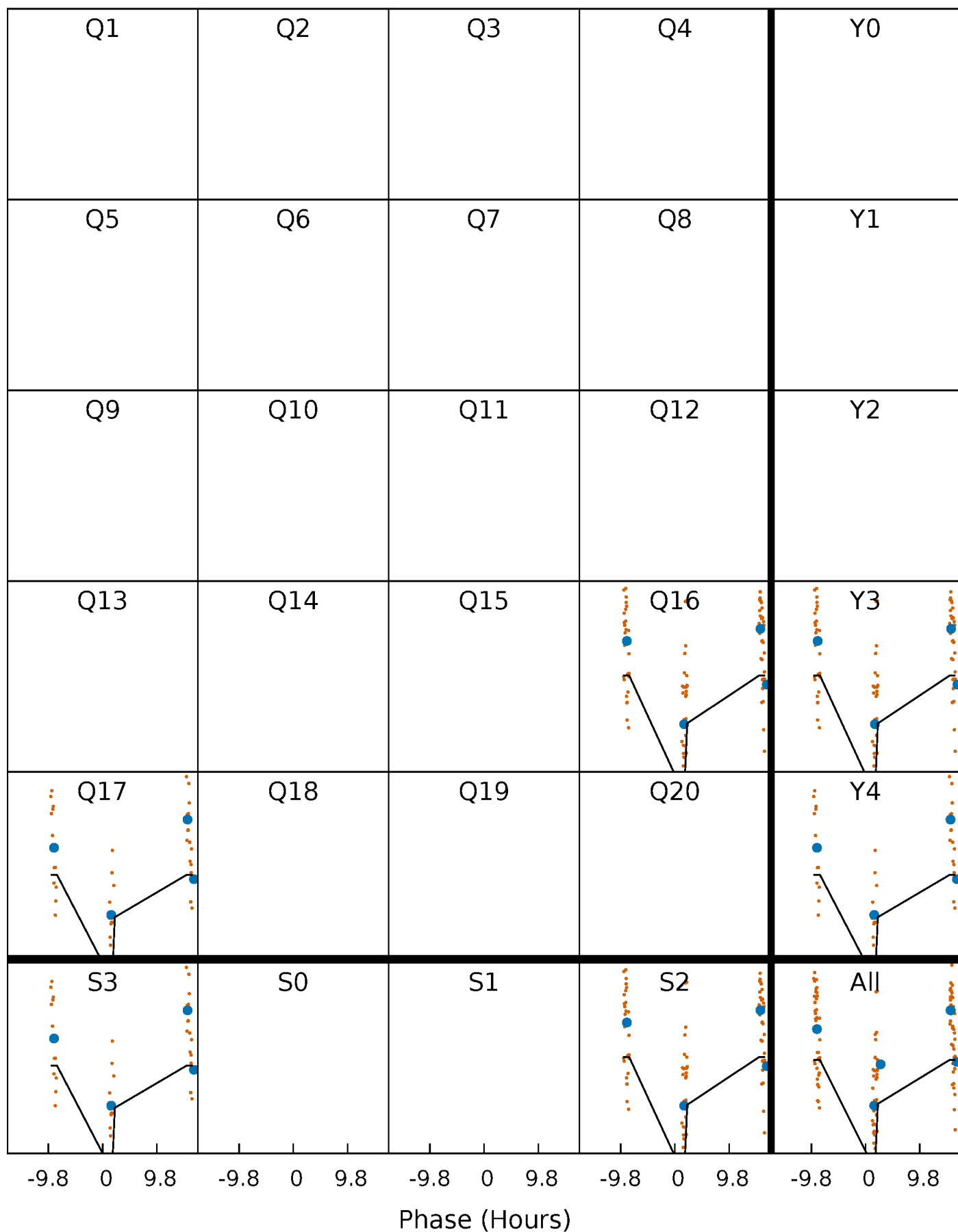
DV Quarter-Phased Transit Curves

TCE 009832545-03 P= 4.084967 Days $T_0=134.199837$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

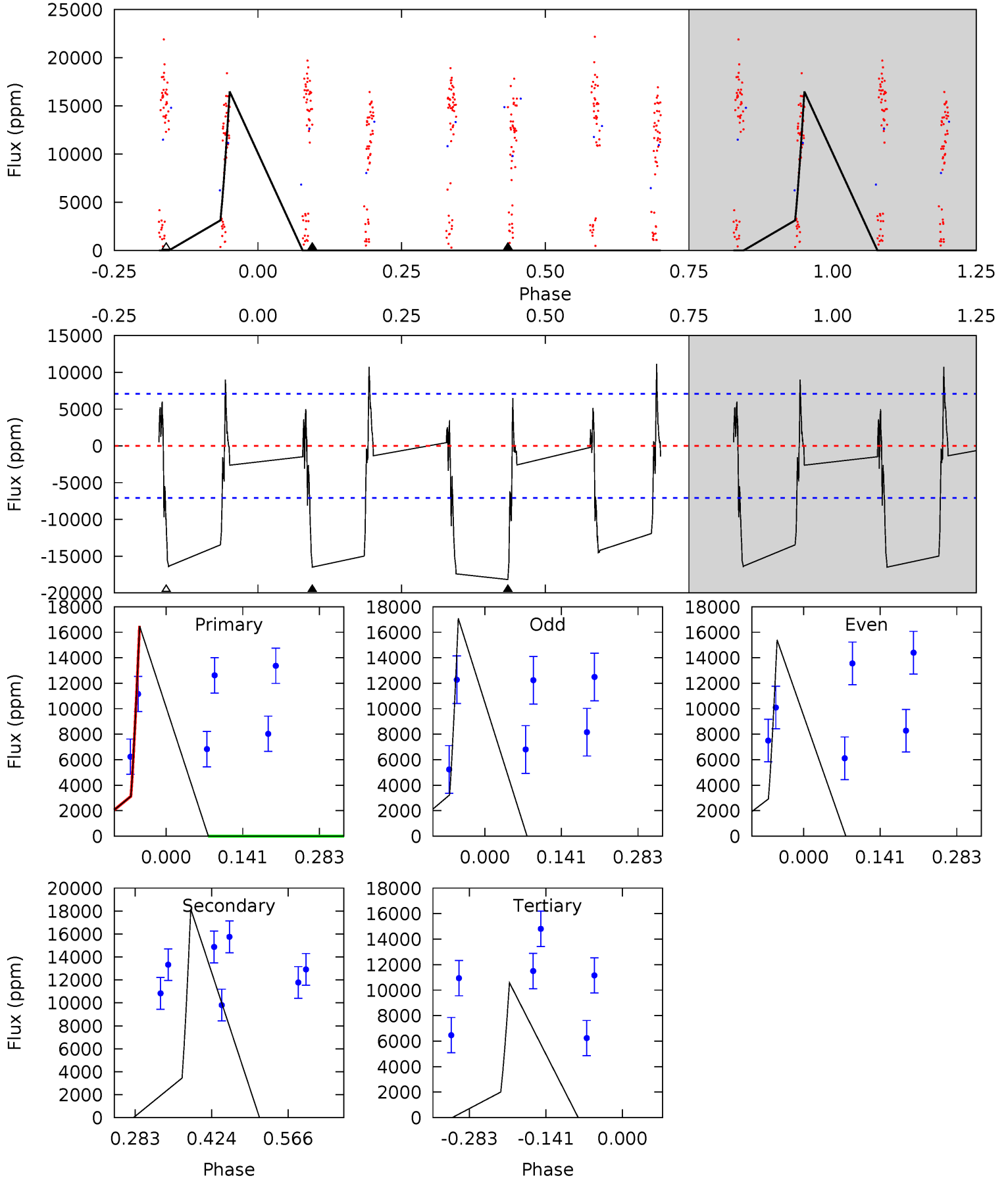
TCE 009832545-03 P= 4.083669 Days $T_0=134.342423$ (BKJD)



DV Model-Shift Uniqueness Test

009832545-03, P = 4.084967 Days, E = 134.199837 Days

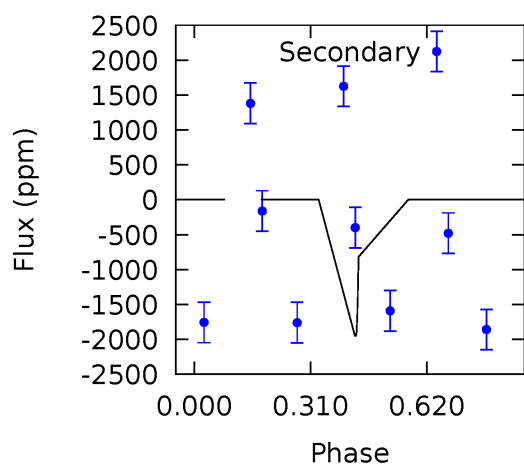
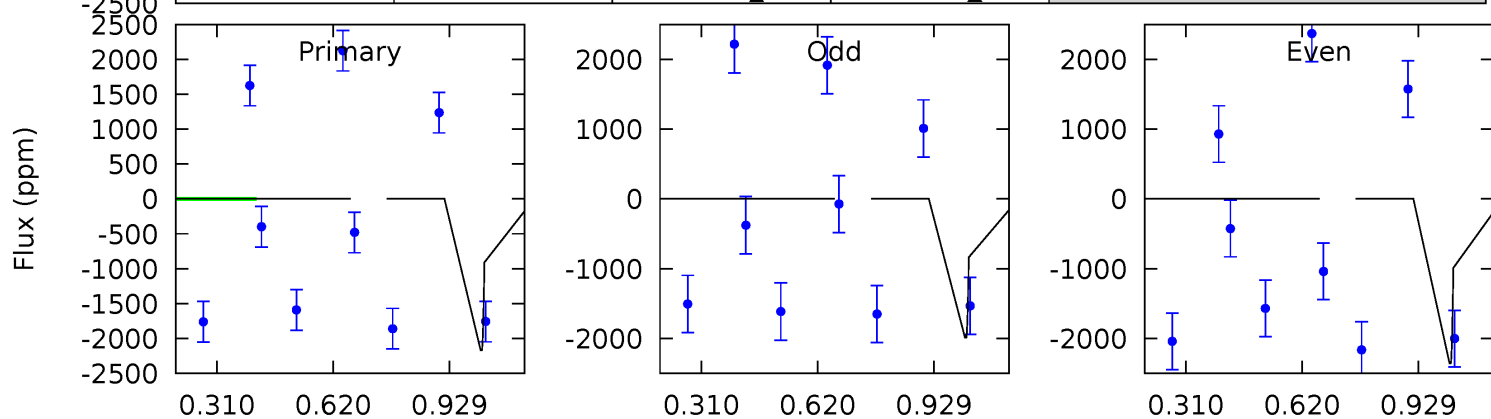
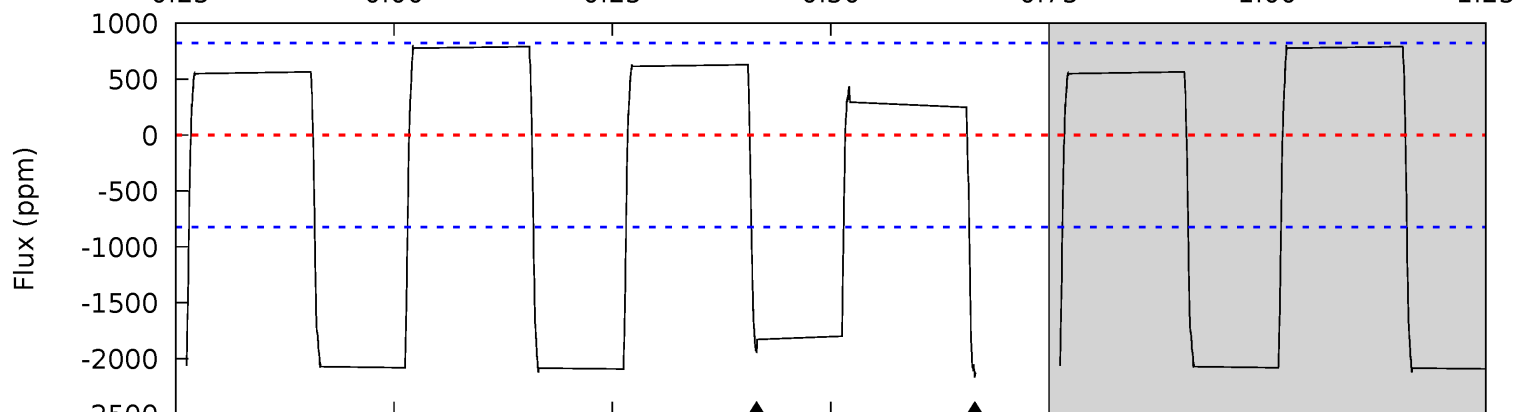
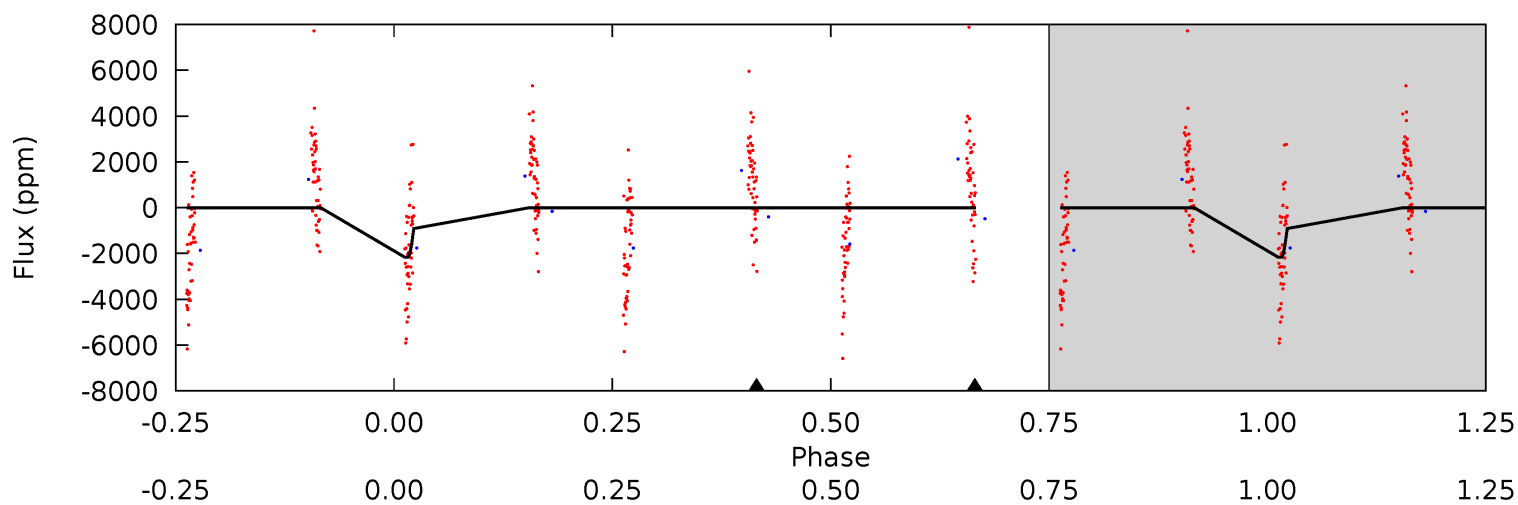
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	11.5	6.72	0	4.49	1.47	4.34	3.75	10.5	4.82	11.5	0.47	0	0.38	0



Alt Model-Shift Uniqueness Test

009832545-03, P = 4.083669 Days, E = 134.342423 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	10.2	0	0	4.32	1.02	4.89	11.4	11.4	10.2	10.2	0.96	0.93	0.27	0



Stellar Parameters For KIC 009832545

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8120^{+226}_{-340}	$3.946^{+0.259}_{-0.111}$	$-0.200^{+0.200}_{-0.350}$	$2.405^{+0.367}_{-0.794}$	$1.863^{+0.096}_{-0.384}$	$0.189^{+0.334}_{-0.068}$
	+3%/-4%	+7%/-3%	+100%/-175%	+15%/-33%	+5%/-21%	+177%/-36%
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 009832545-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-18178 ± 1575	$9334.74^{+9344.73}_{-6604.96}$	3079^{+200}_{-255}	-3083^{+164}_{-112}	$0.000^{+0.005}_{-0.000}$
Alt.	-1948 ± 191	$8442.51^{+9629.75}_{-5698.54}$	3080^{+205}_{-257}	-3089^{+152}_{-115}	$0.000^{+0.000}_{-0.000}$

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 $A_{obs} \gg 1.0$

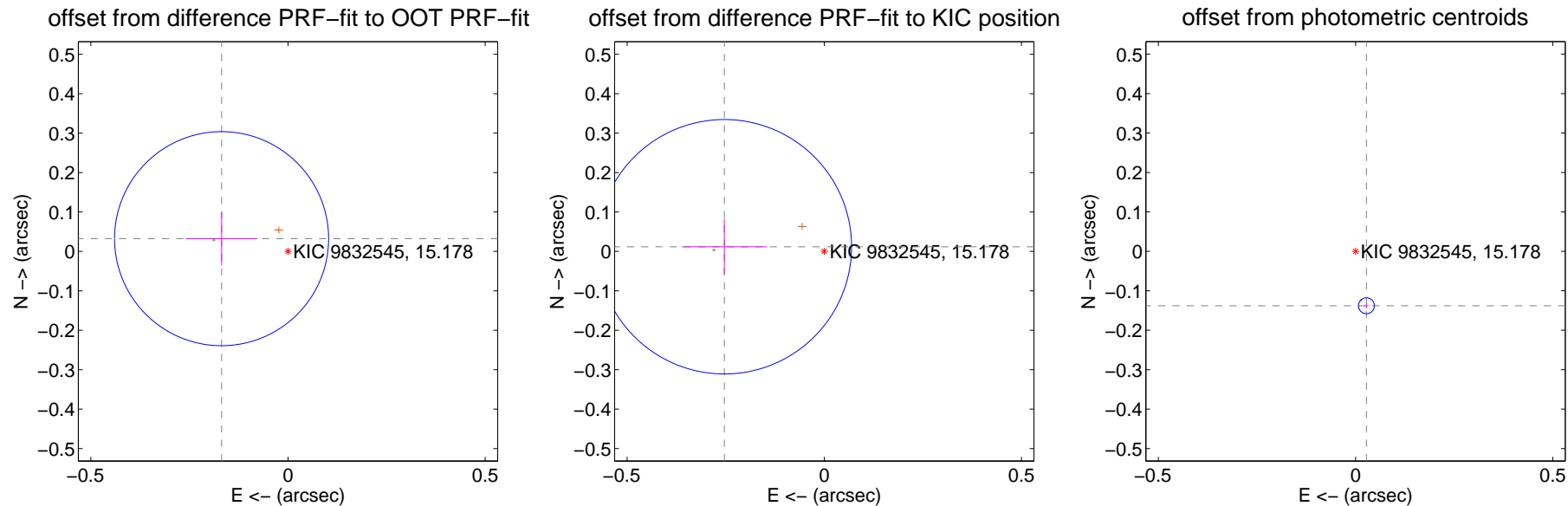
DV Centroid Data

Supplemental centroid analysis for 009832545-03. Kepler magnitude: 15.18. Transit SNR 7.76

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.172 ± 0.090	1.90	0.169 ± 0.091	0.032 ± 0.067
PRF-fit source offset from KIC position	0.254 ± 0.108	2.36	0.253 ± 0.108	0.012 ± 0.071
photometric centroid source offset	0.14 ± 0.01	20.94	-0.03 ± 0.01	-0.14 ± 0.01



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.



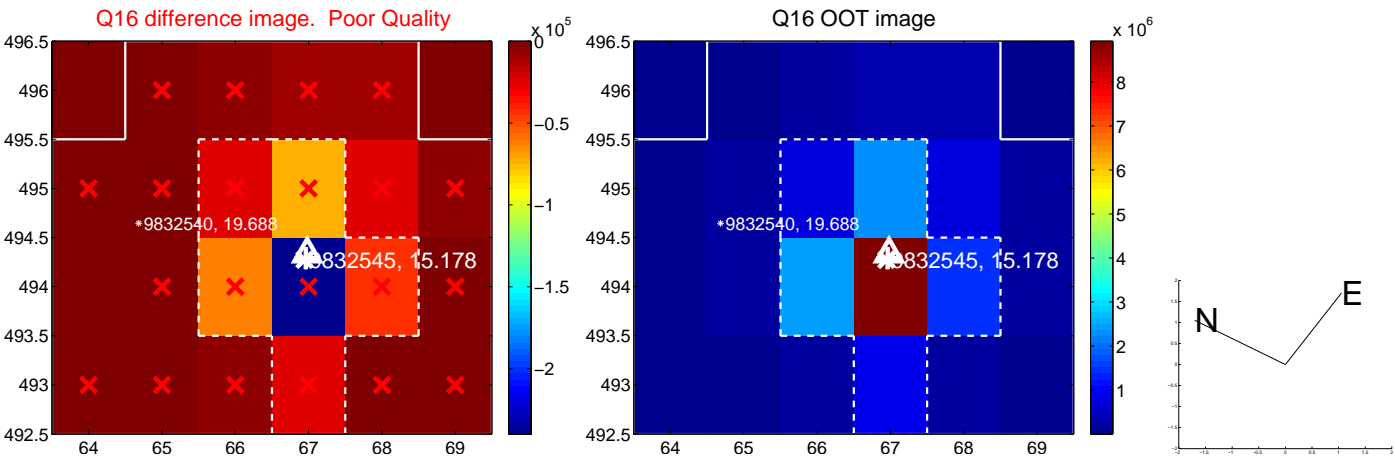
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



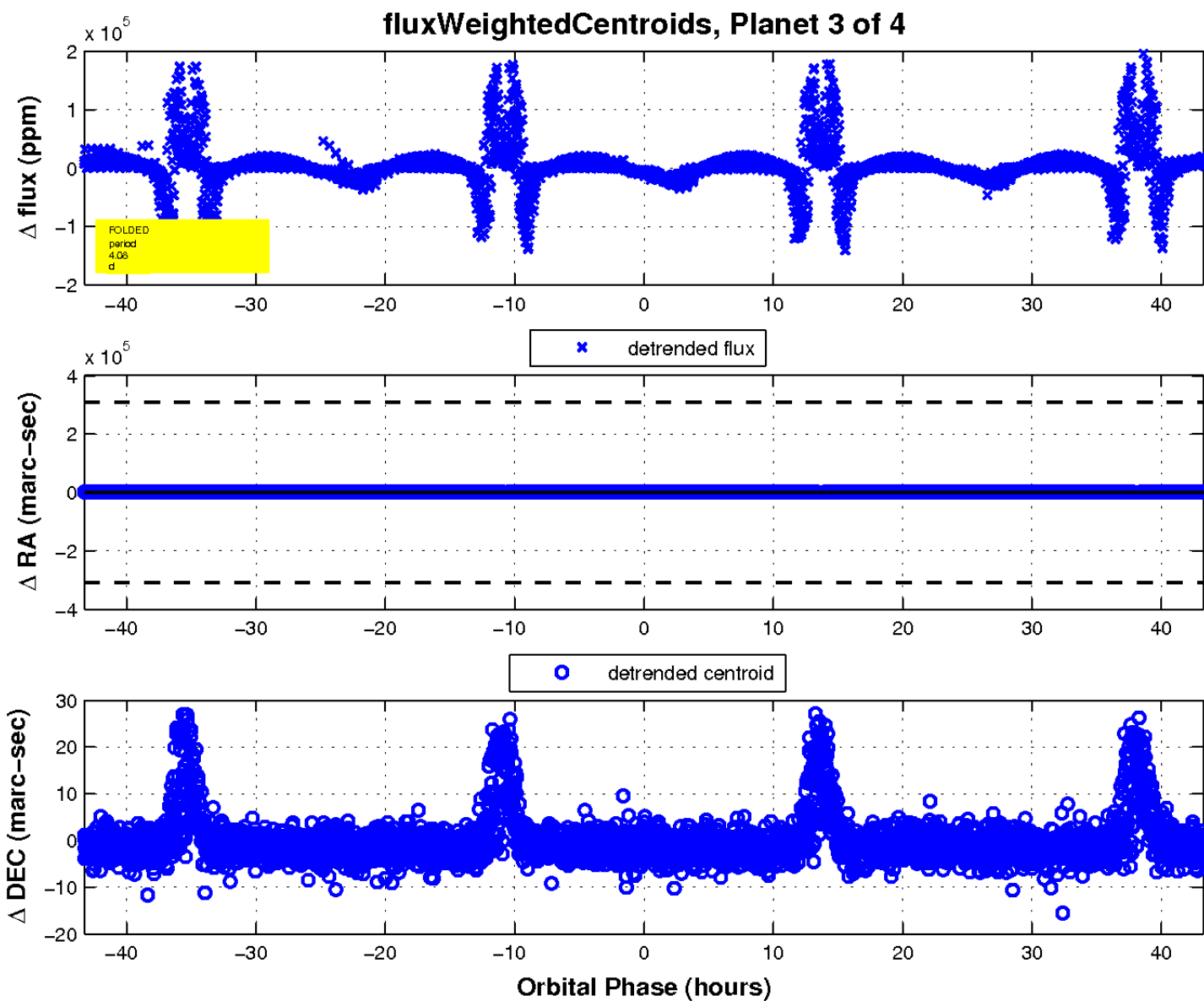
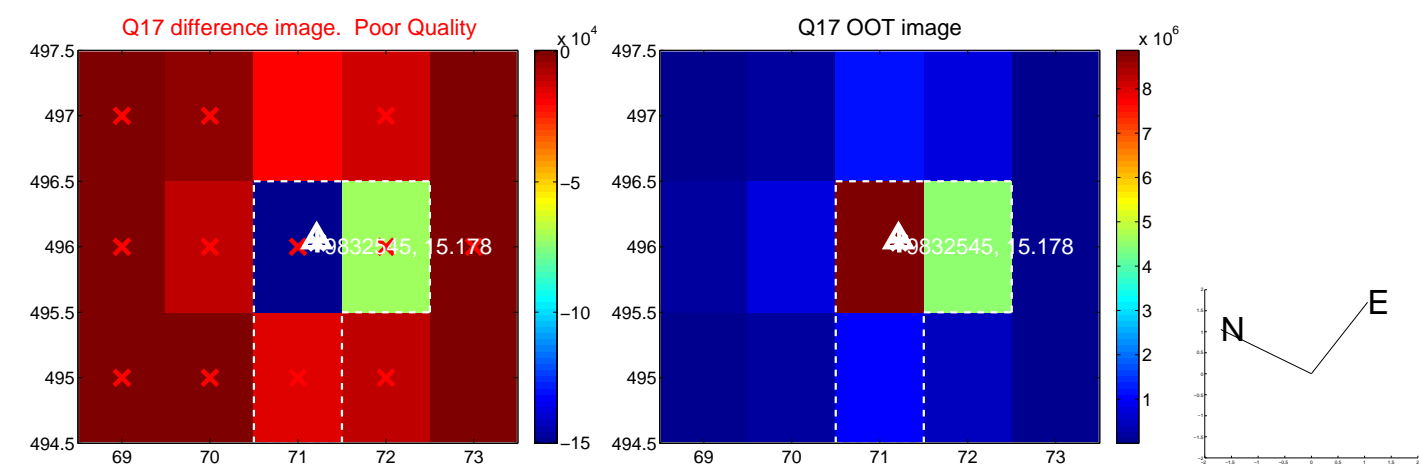
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

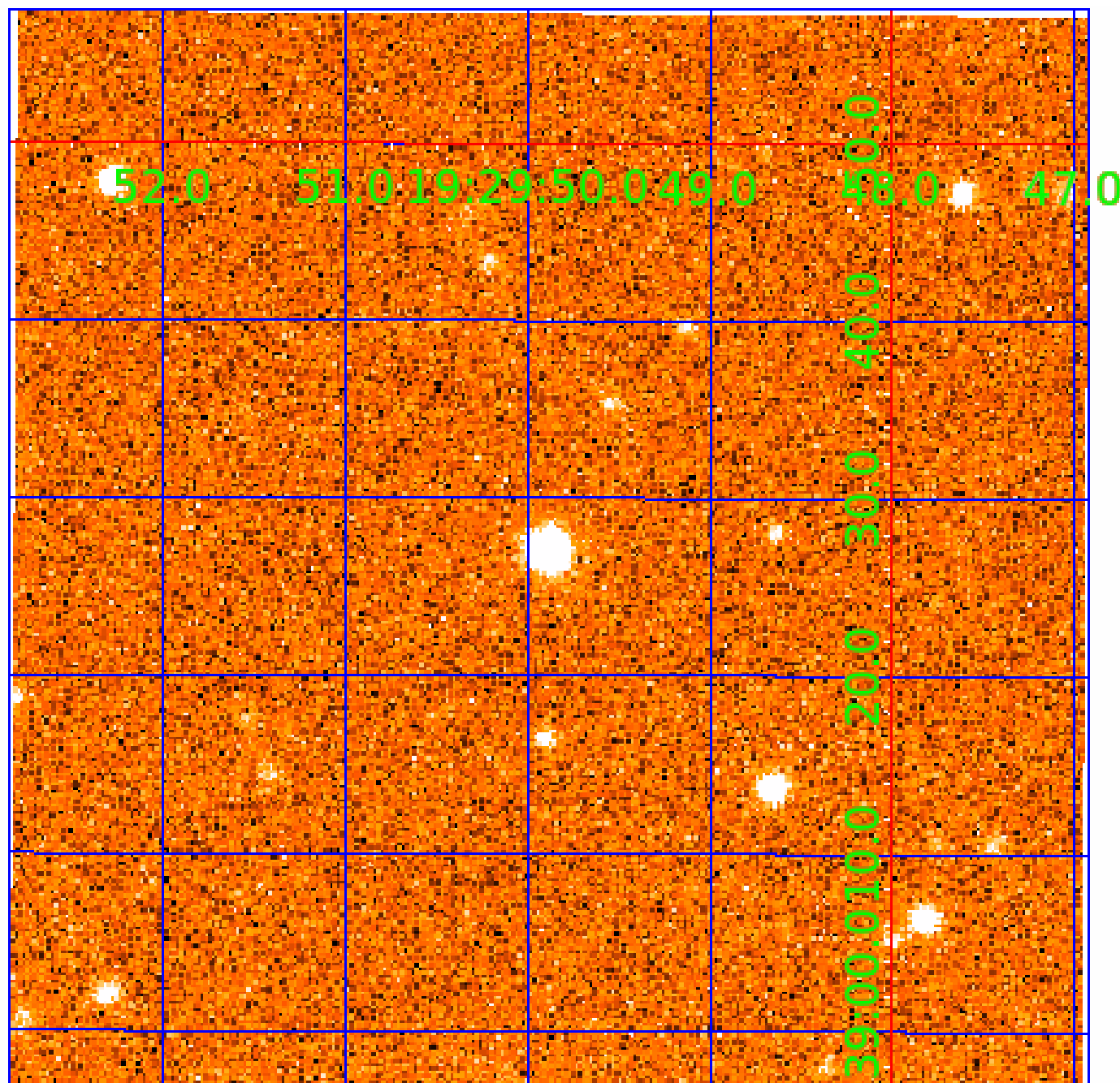


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009832545

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})
009832545-01	OBS	No	1.020860	132.232027	406110.8	3.000	2630.1	-1.0	2.40	8120	89.85	37778.09
009832545-02	OBS	No	1.020823	131.772363	87419.8	4.186	185.0	149.4	2.40	8120	77.59	37779.94
009832545-03	OBS	No	4.084967	134.199836	91131.1	14.420	55.3	7.8	2.40	8120	122.50	5946.71
009832545-04	OBS	No	4.083111	132.549700	1512.9	12.000	61.7	-1.0	2.40	8120	9.44	5950.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009832545-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
009832545-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS
009832545-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
009832545-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

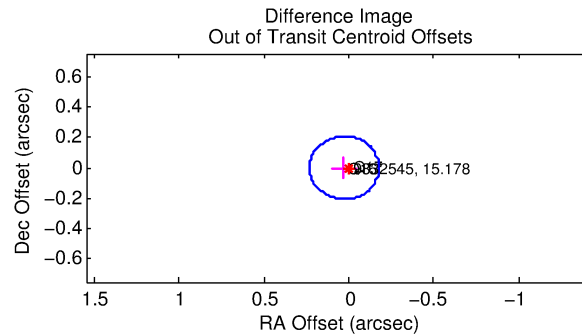
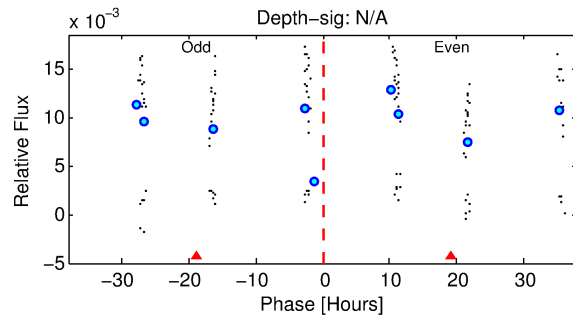
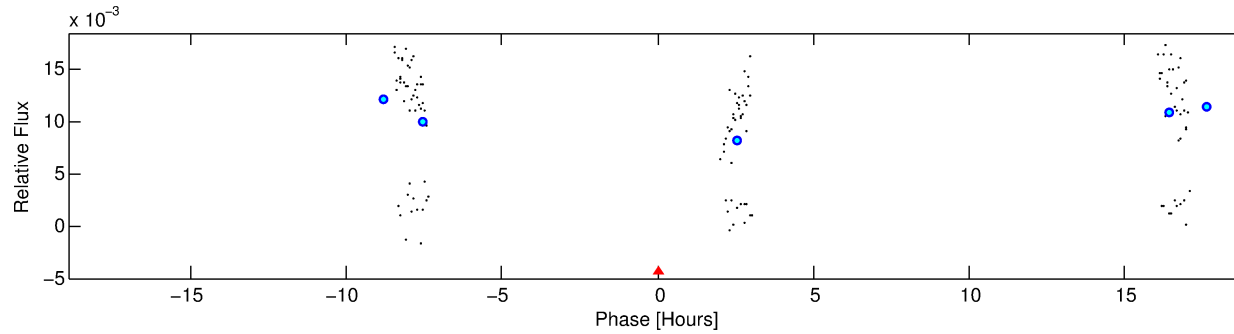
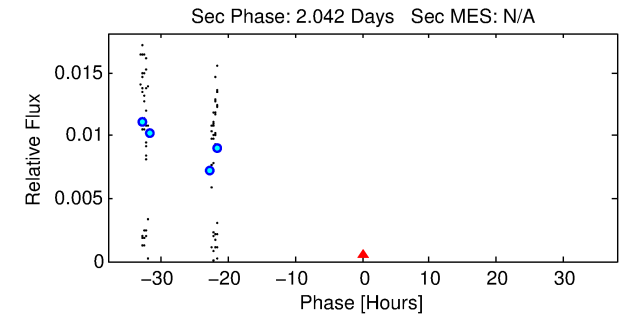
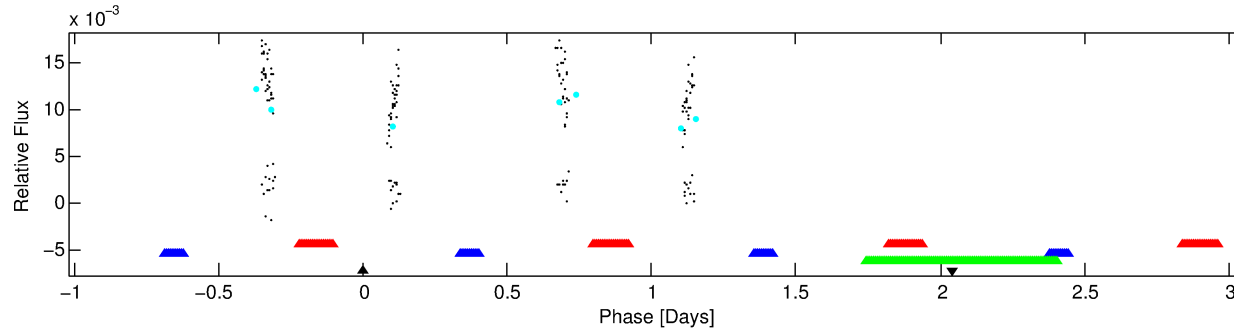
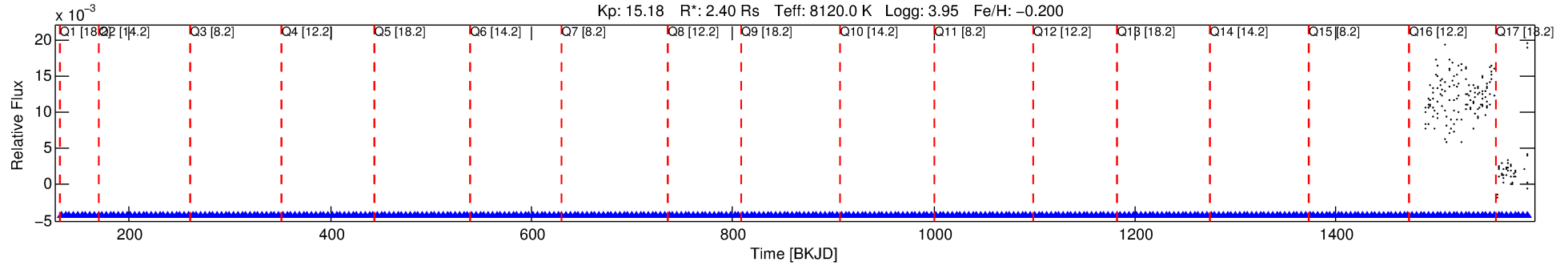
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009832545-04

No Significant Match Found

DV One-Page Summary

KIC: 9832545 Candidate: 4 of 4 Period: 4.083 d



TPS TCE Results:

Period = 4.08311 d
Epoch = 132.5497 BKJD

DV fit results are unavailable

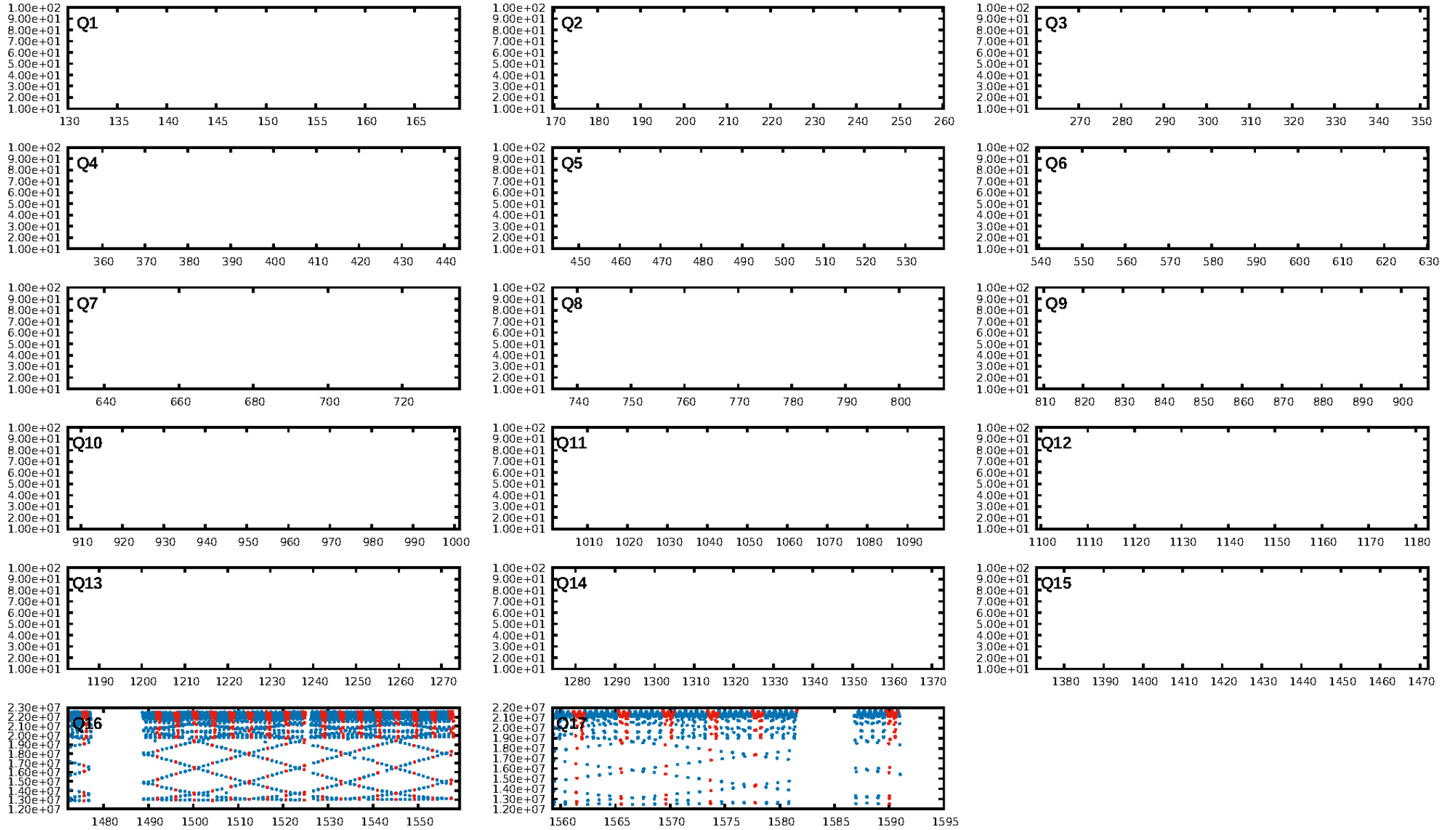
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.94 σ]
LongPeriod-sig: 0.2% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [17/17]
GhostDiagnostic-chr: -0.2927
Centroid-sig: N/A
Centroid-so: 0.308 arcsec [2.46 σ]
OotOffset-rm: 0.029 arcsec [0.42 σ]
KicOffset-rm: 0.108 arcsec [1.32 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/2]

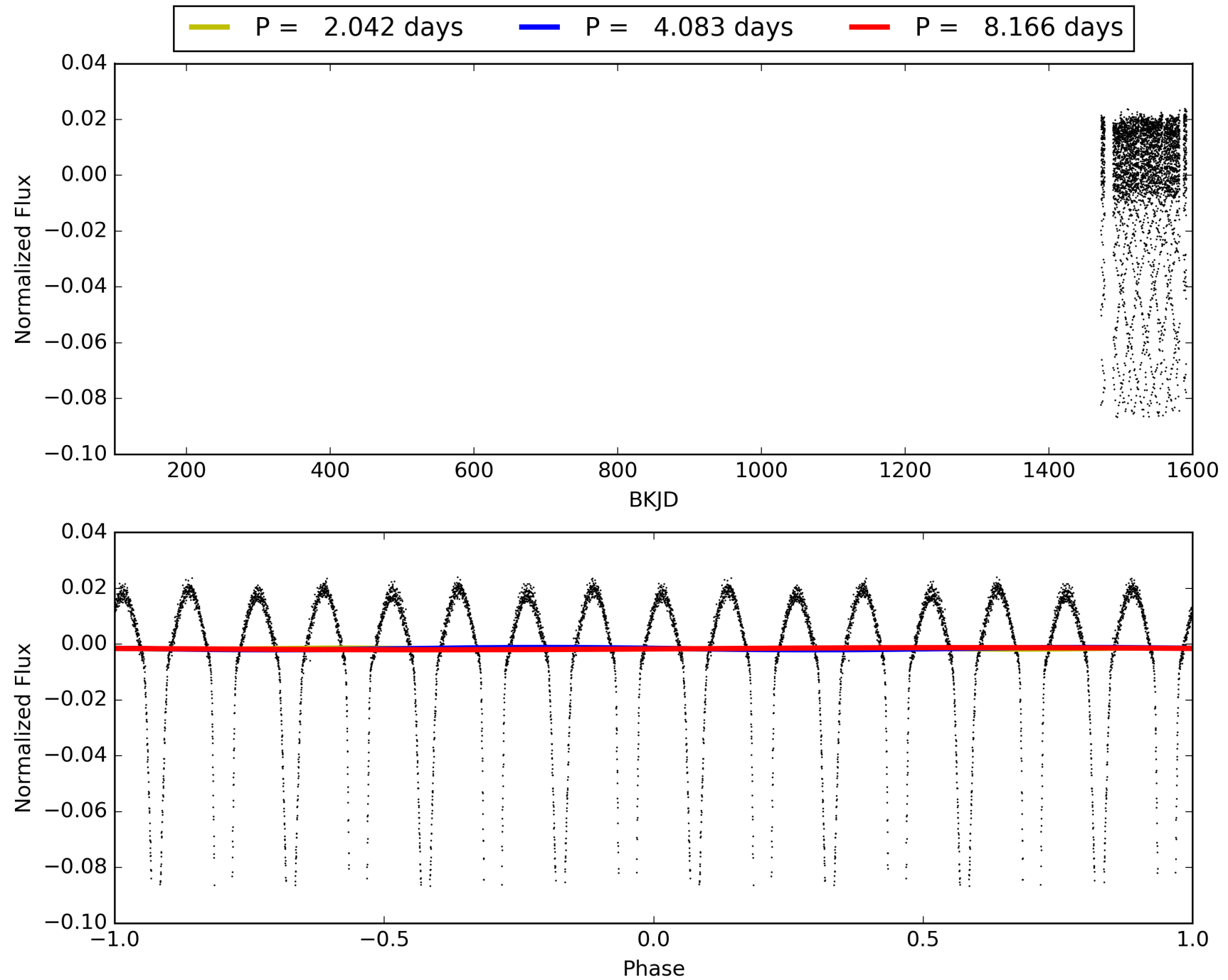
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:41:53 Z

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

TCE 009832545-04, PDC Light Curves

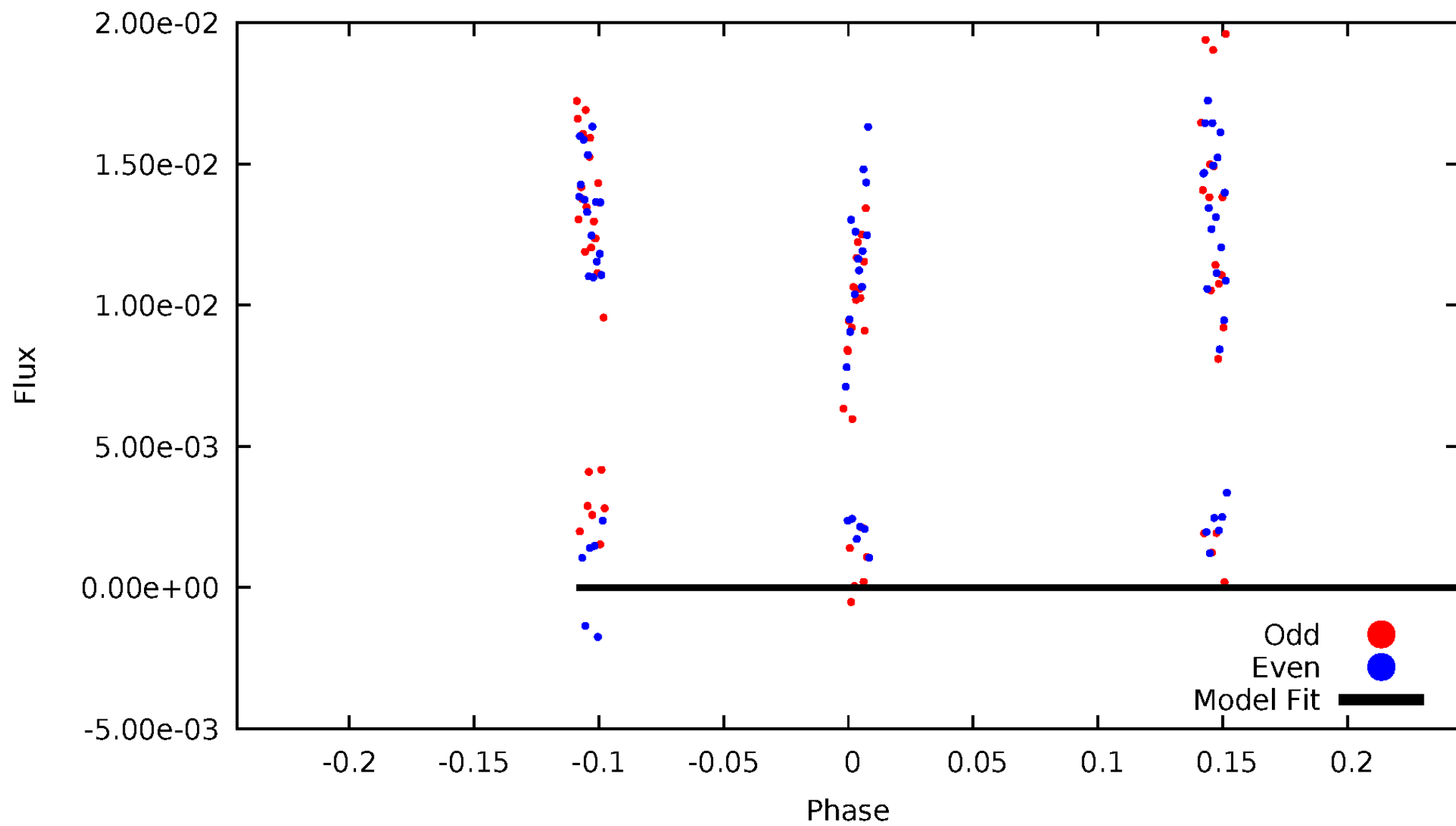


TCE 009832545-04



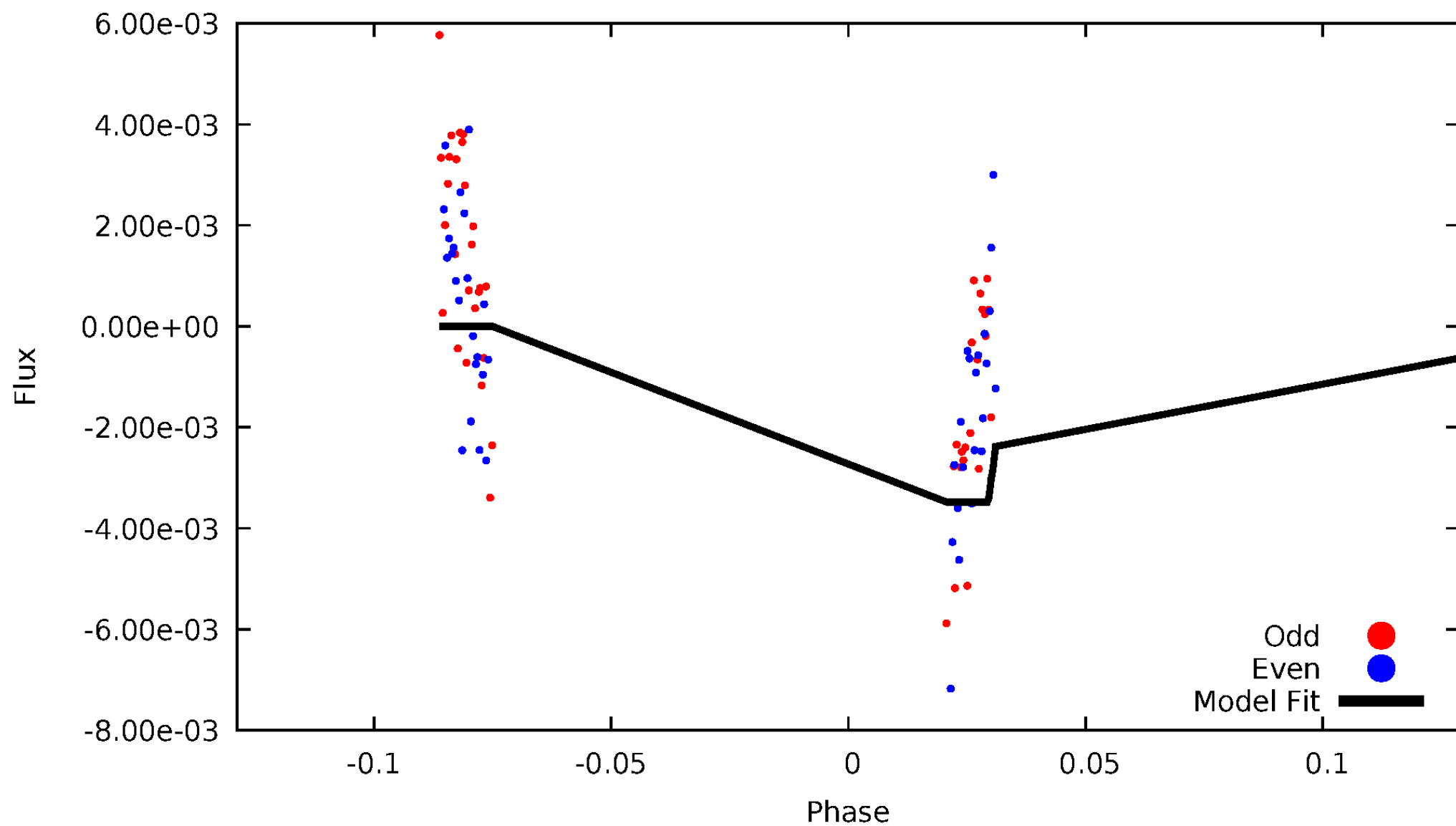
DV Odd/Even

TCE 009832545-04



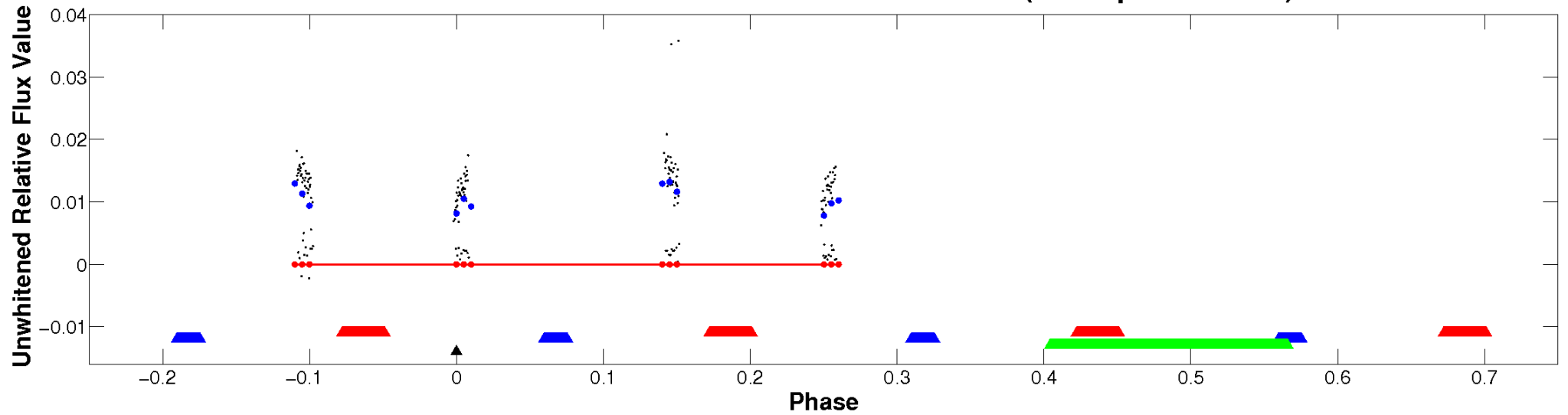
ALT Odd/Even

TCE 009832545-04



Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

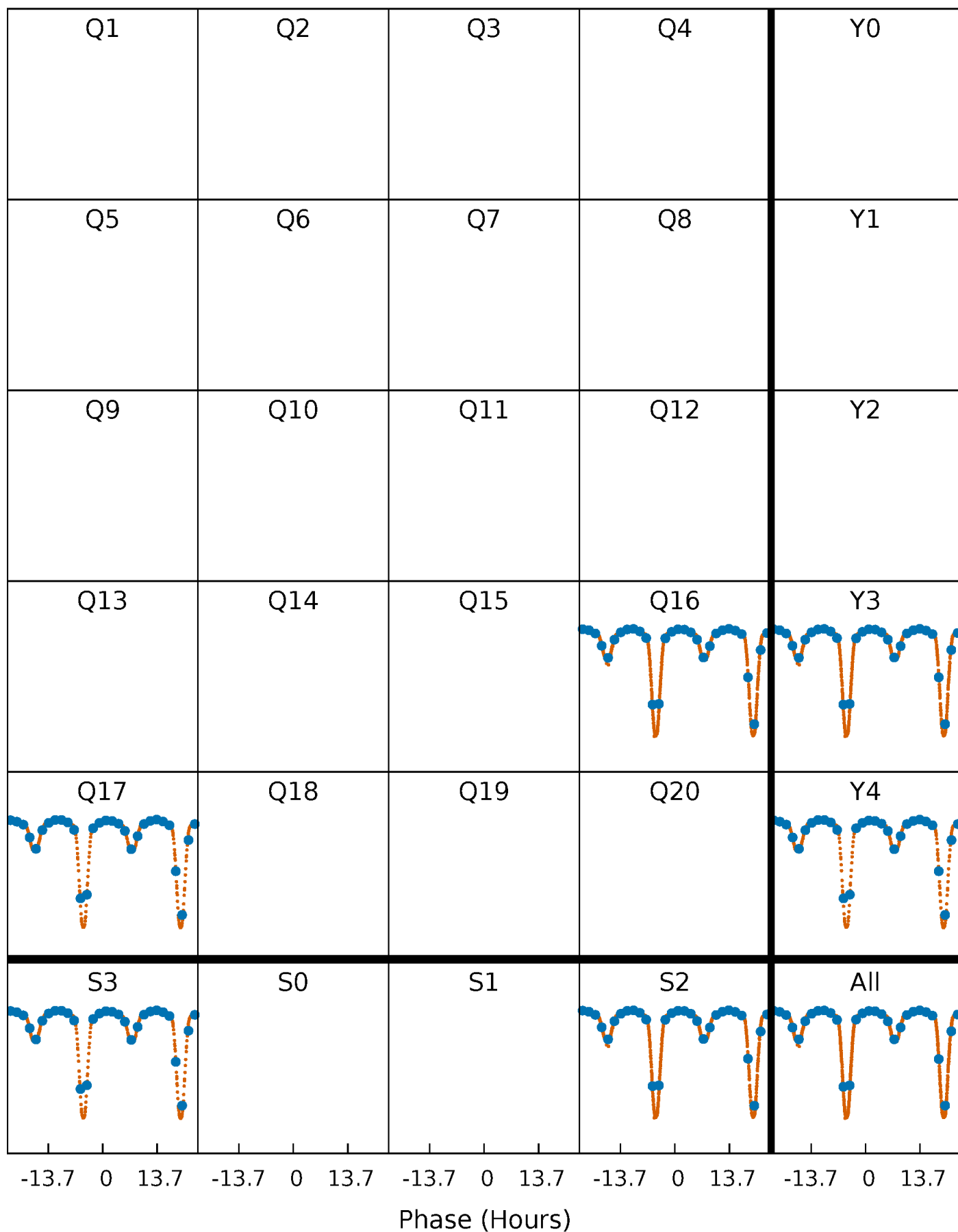


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



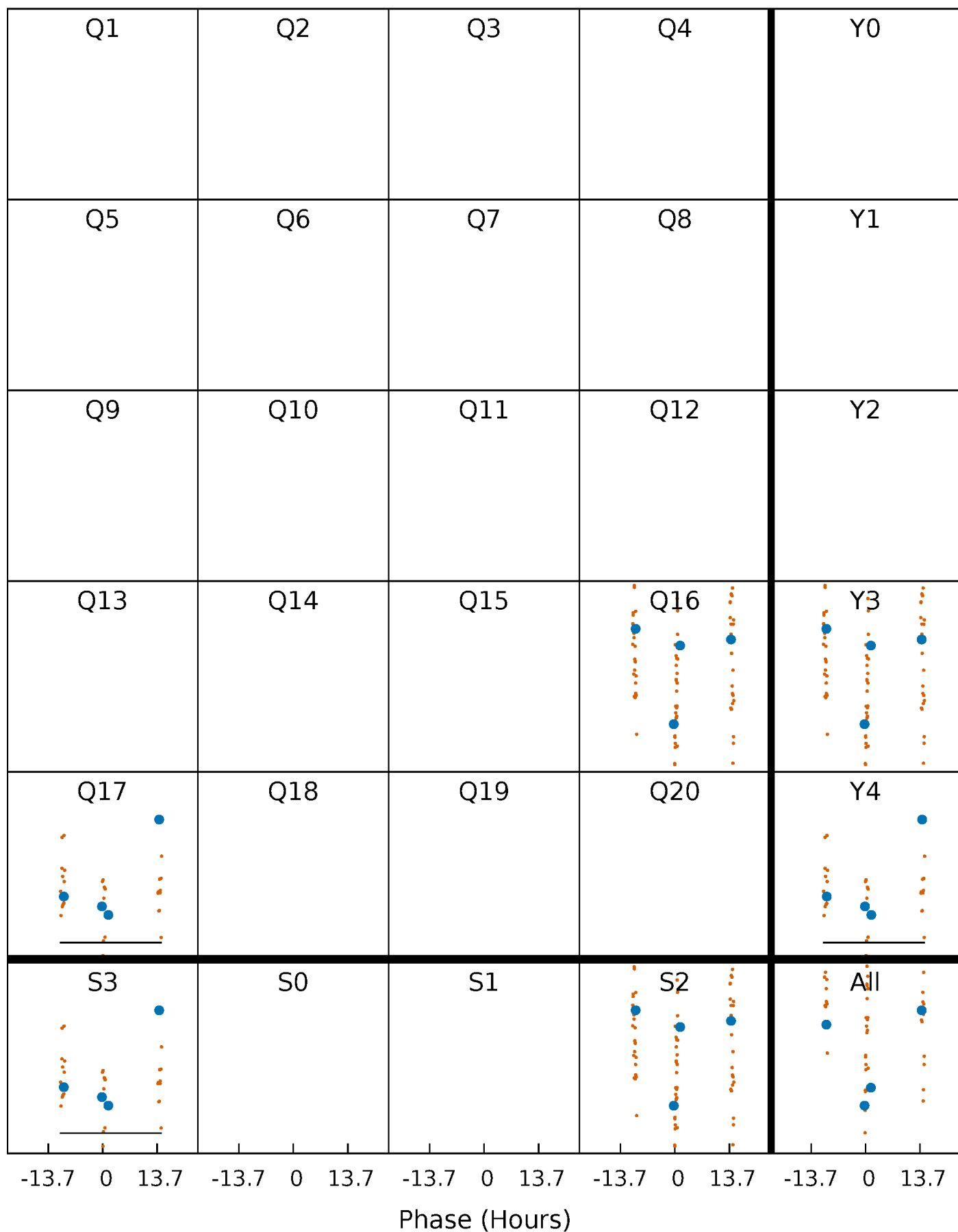
PDC Quarter-Phased Transit Curves

TCE 009832545-04 P= 4.083111 Days $T_0=132.549700$ (BKJD)



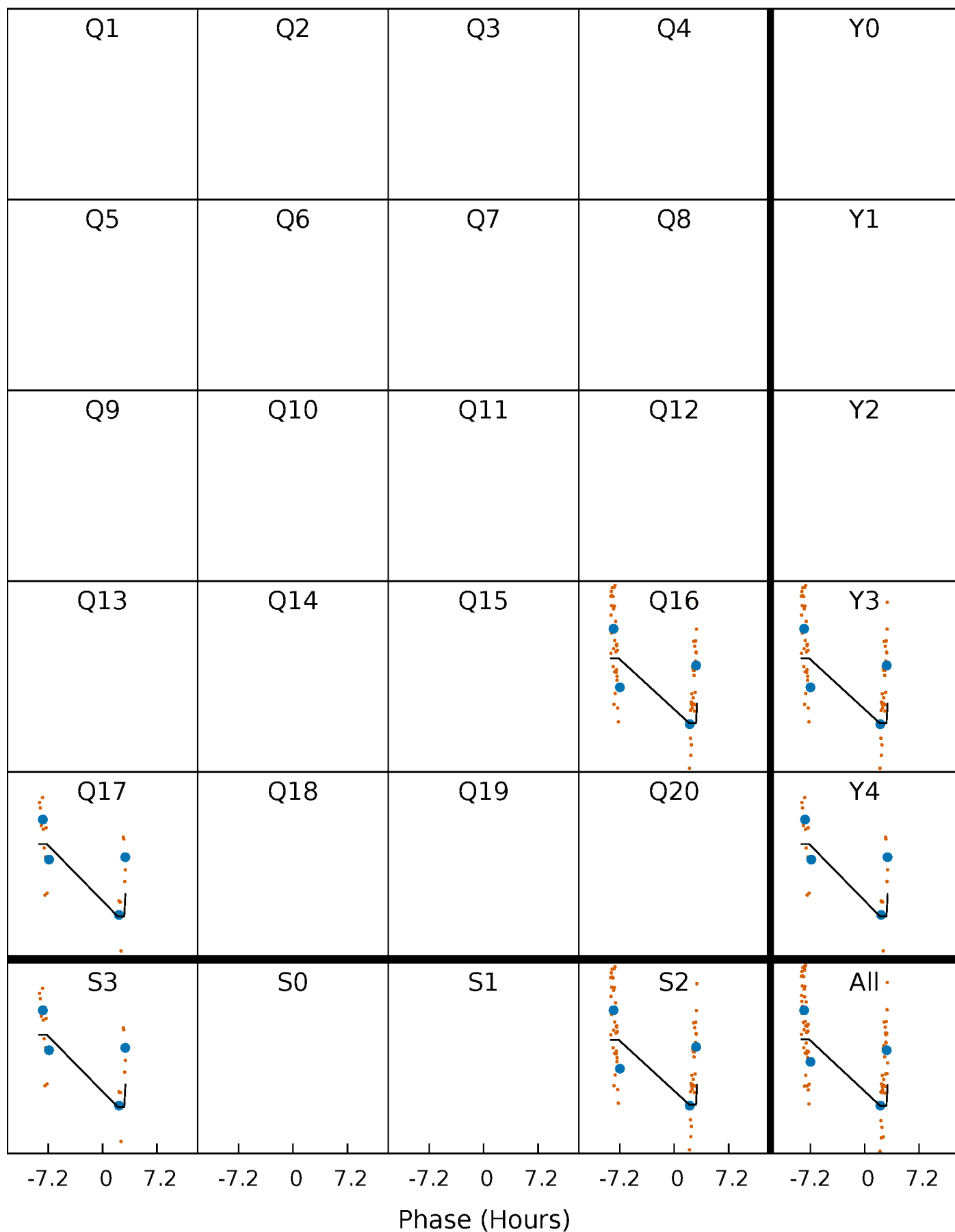
DV Quarter-Phased Transit Curves

TCE 009832545-04 P= 4.083111 Days $T_0=132.549700$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

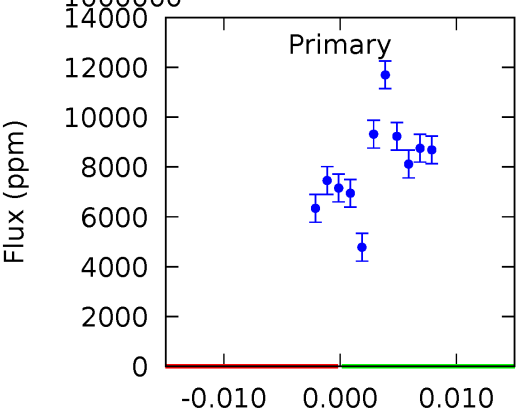
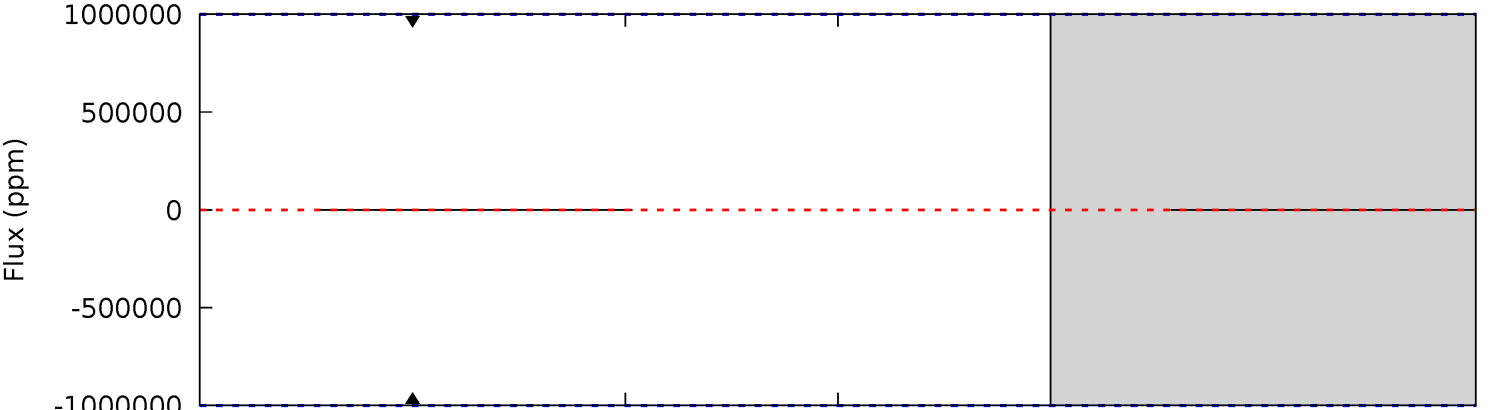
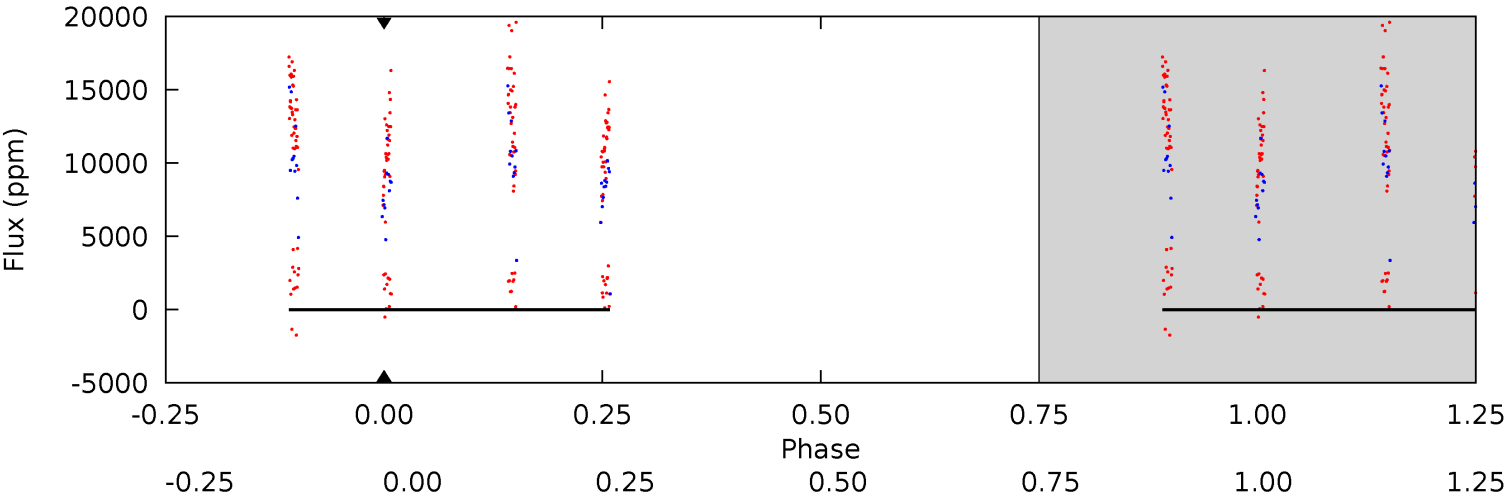
TCE 009832545-04 $P = 4.083111$ Days $T_0 = 132.457307$ (BKJD)



DV Model-Shift Uniqueness Test

009832545-04, P = 4.083111 Days, E = 132.549700 Days

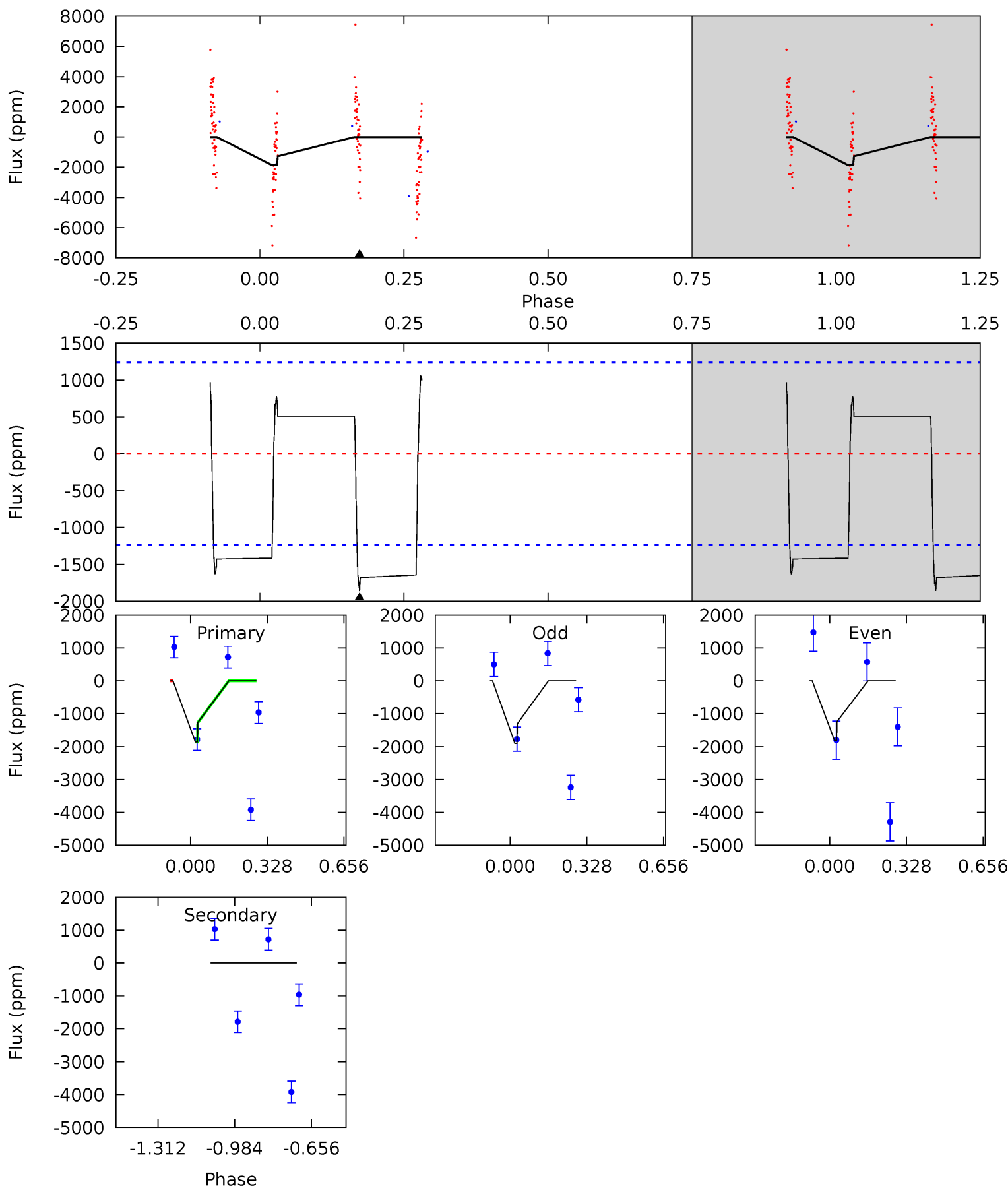
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009832545-04, P = 4.083111 Days, E = 132.457307 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.48	0	0	0	4.31	0.98	2.11	6.48	6.48	0	0	0.17	1.19	0.36	0



Stellar Parameters For KIC 009832545

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8120^{+226}_{-340}	$3.946^{+0.259}_{-0.111}$	$-0.200^{+0.200}_{-0.350}$	$2.405^{+0.367}_{-0.794}$	$1.863^{+0.096}_{-0.384}$	$0.189^{+0.334}_{-0.068}$
	+3%/-4%	+7%/-3%	+100%/-175%	+15%/-33%	+5%/-21%	+177%/-36%
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 009832545-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$20.01^{+21.74}_{-13.49}$	3090^{+197}_{-267}	-5228^{+46564}_{-35285}	$-4.994^{+959.427}_{-879.230}$
Alt.	0 ± 287	$23.91^{+21.89}_{-16.14}$	3098^{+188}_{-275}	-3071^{+7168}_{-1054}	$0.018^{+2.116}_{-1.658}$

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 $A_{obs} \gg 1.0$

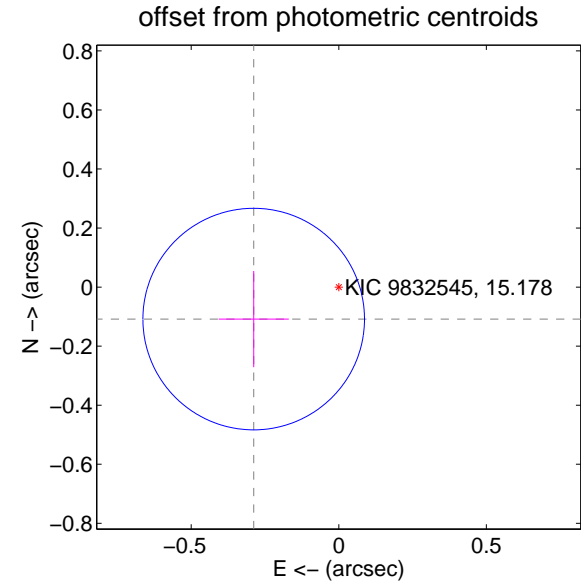
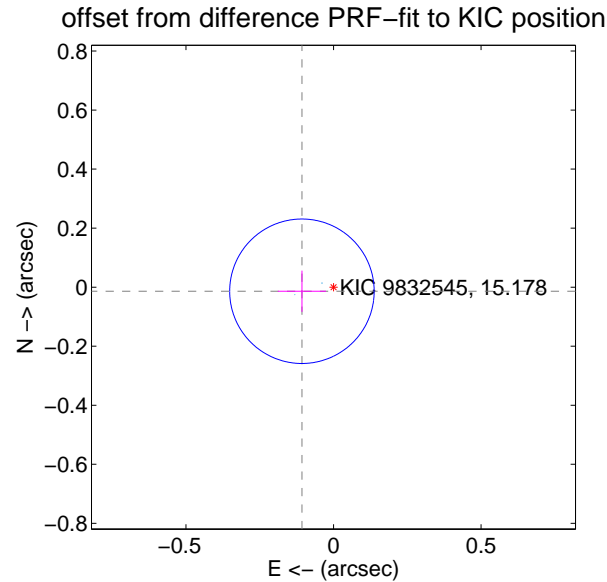
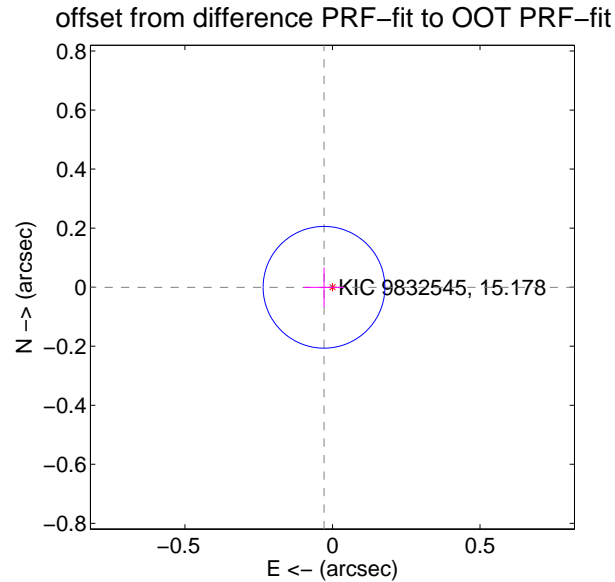
DV Centroid Data

Supplemental centroid analysis for 009832545-04. Kepler magnitude: 15.18. 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 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.029 ± 0.069	0.42	0.029 ± 0.069	-0.000 ± 0.067
PRF-fit source offset from KIC position	0.108 ± 0.082	1.32	0.107 ± 0.082	-0.014 ± 0.070
photometric centroid source offset	0.31 ± 0.13	2.46	0.29 ± 0.12	-0.11 ± 0.16



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.



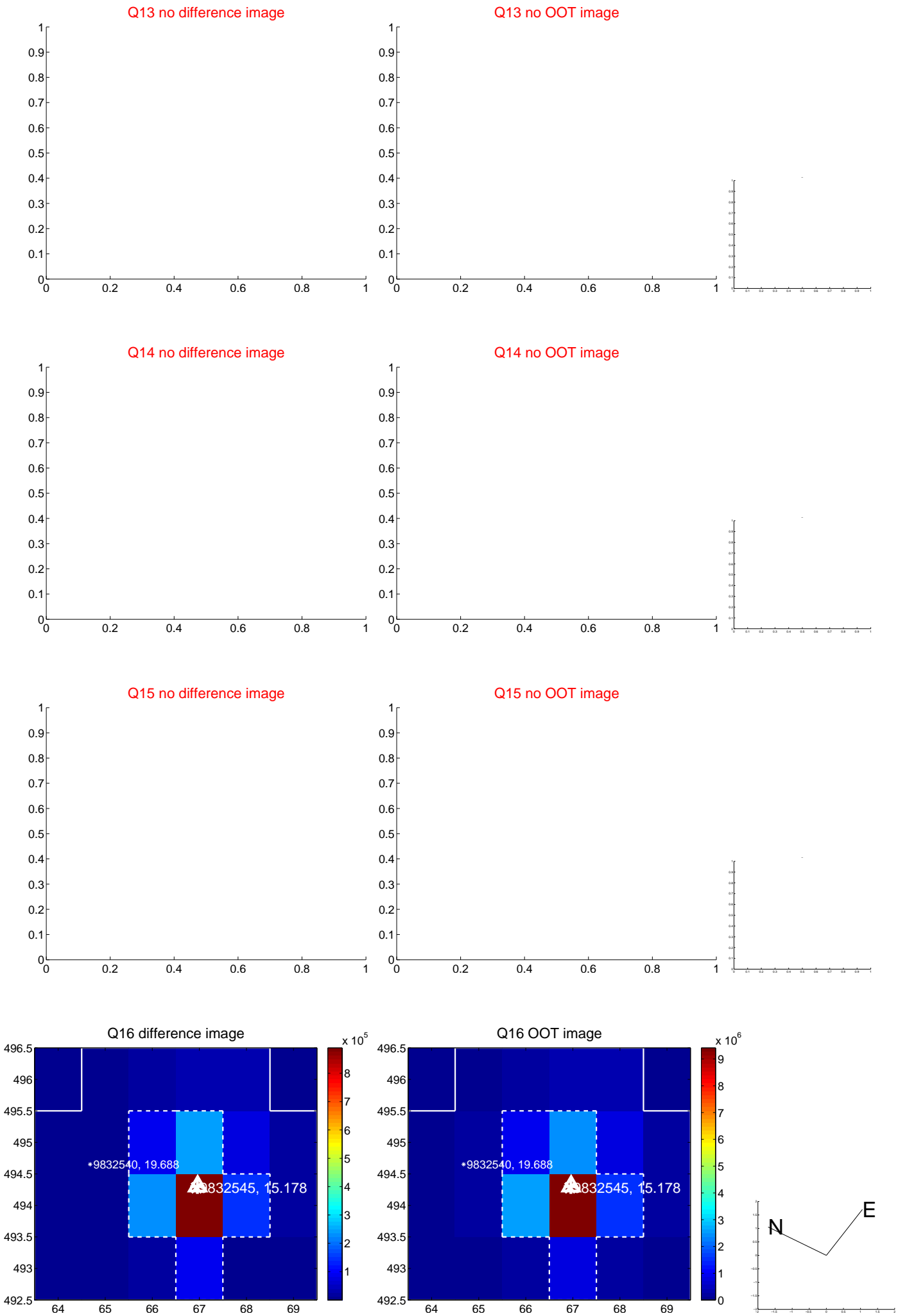
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



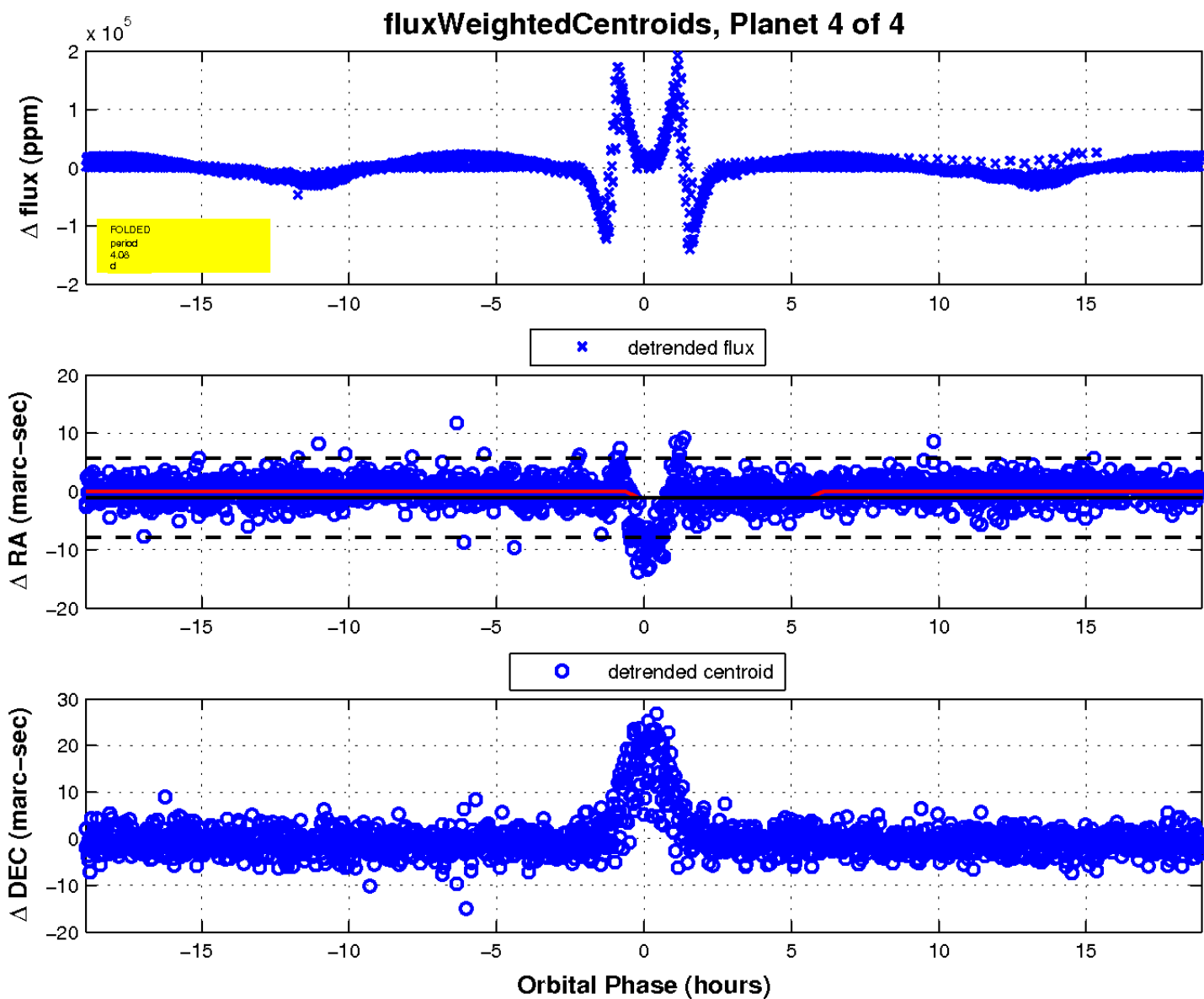
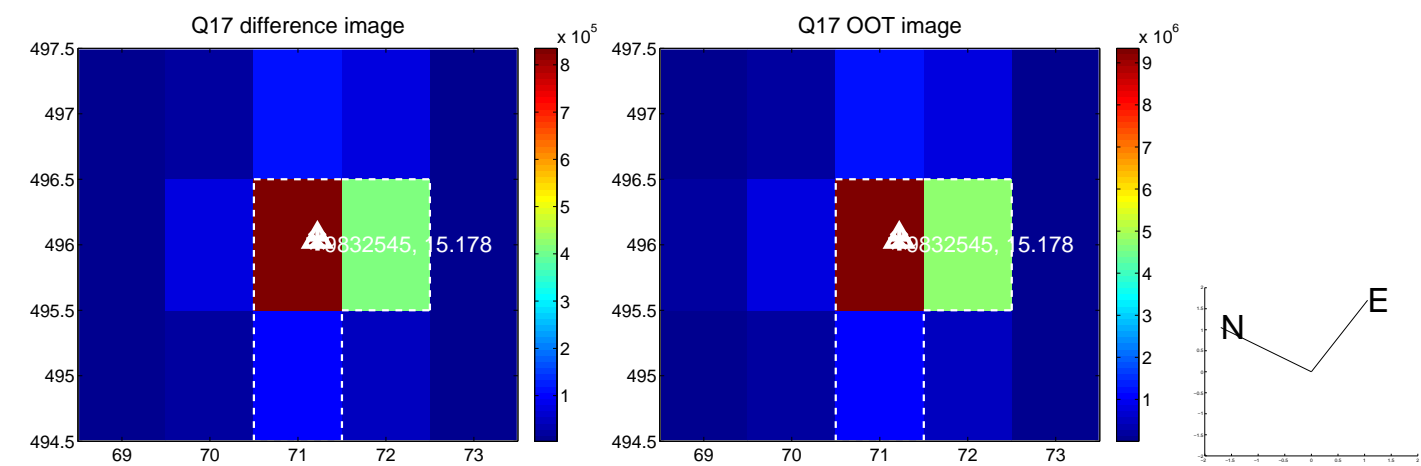
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

