

KIC 008935352

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})
008935352-01	OBS	5584.01	10.910040	135.311636	506126.8	10.500	4489.1	-1.0	2.06	5323	45.62	382.14
008935352-02	OBS	No	5.454924	135.341502	164994.4	16.885	1313.8	1313.9	2.06	5323	118.16	962.96
008935352-03	OBS	No	75.664733	154.628504	1368.9	9.885	13.5	9.4	2.06	5323	9.89	28.89
008935352-04	OBS	No	44.830394	154.146864	508.0	3.726	8.4	6.3	2.06	5323	5.36	58.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008935352-01	OBS	FP	0.00	0	1	0	0	HAS_SEC_TCE—CENT_NOFITS
008935352-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008935352-03	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
008935352-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

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

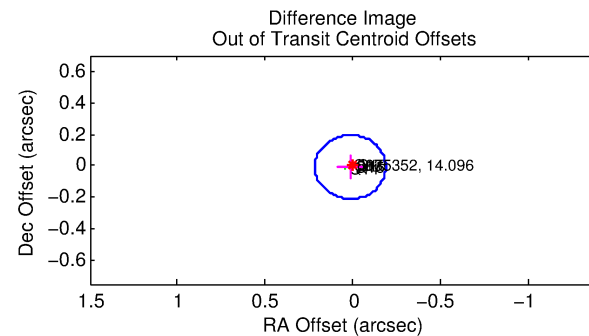
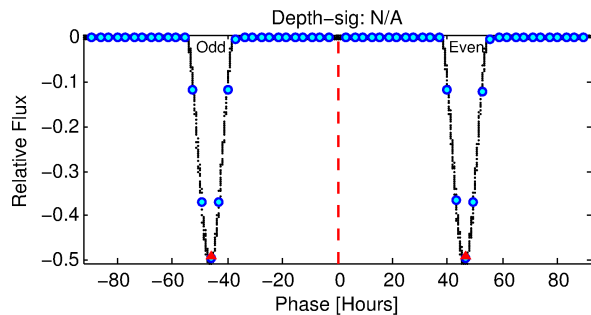
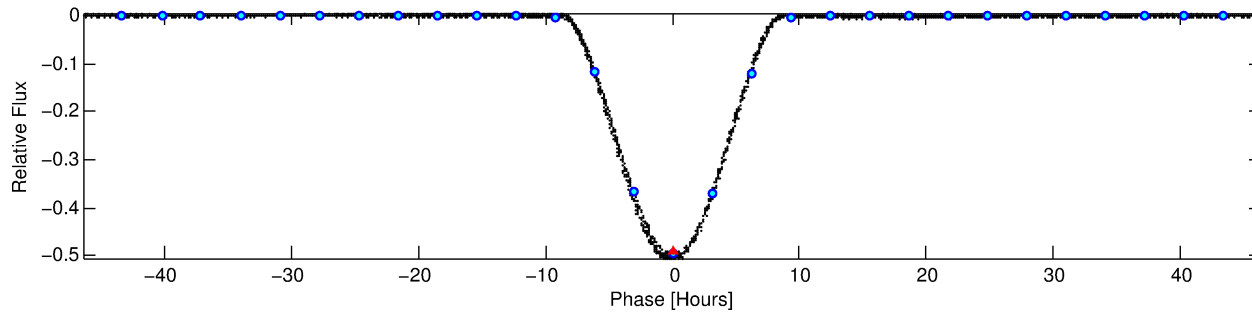
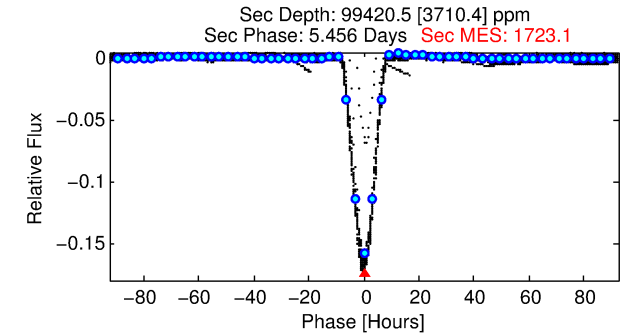
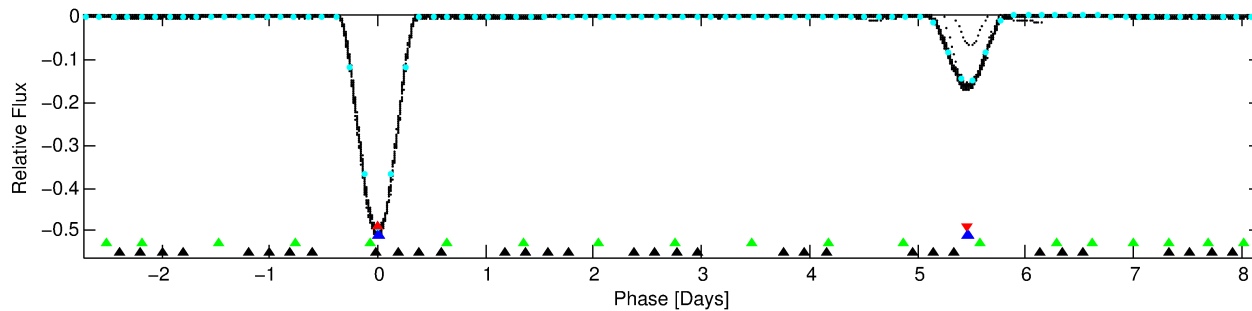
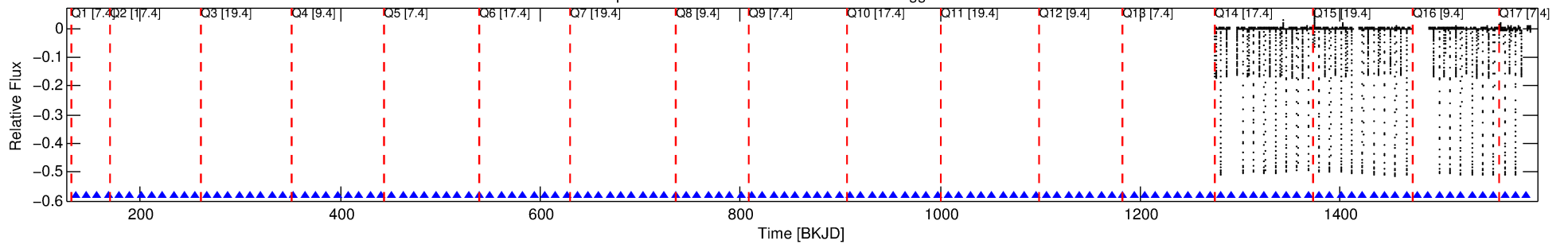
Ephemeris Match Information For 008935352-01

No Significant Match Found

DV One-Page Summary

KIC: 8935352 Candidate: 1 of 4 Period: 10.910 d
KOI: K05584.01 Corr: 0.796

Kp: 14.10 R*: 2.06 Rs Teff: 5323.0 K Logg: 3.71 Fe/H: -0.760



TPS TCE Results:

Period = 10.91004 d
Epoch = 135.3116 BKJD

DV fit results are unavailable

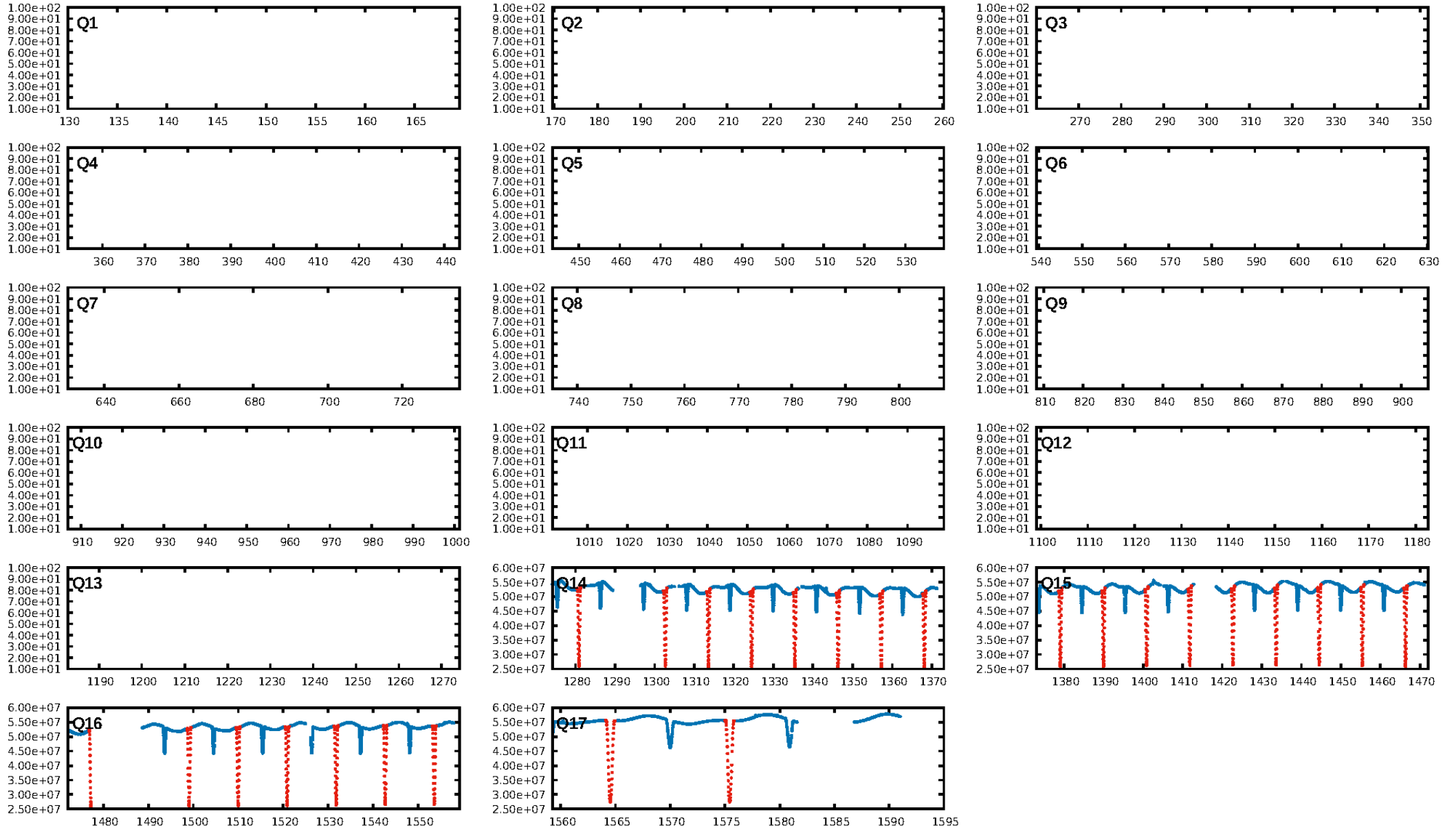
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.58 σ]
LongPeriod-sig: 100.0% [73.07 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [23/23]
GhostDiagnostic-chr: 0.7215
Centroid-sig: N/A
Centroid-so: 0.147 arcsec [184.45 σ]
OotOffset-rm: 0.018 arcsec [0.27 σ]
KicOffset-rm: 0.160 arcsec [2.27 σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 0.00 [0/4]

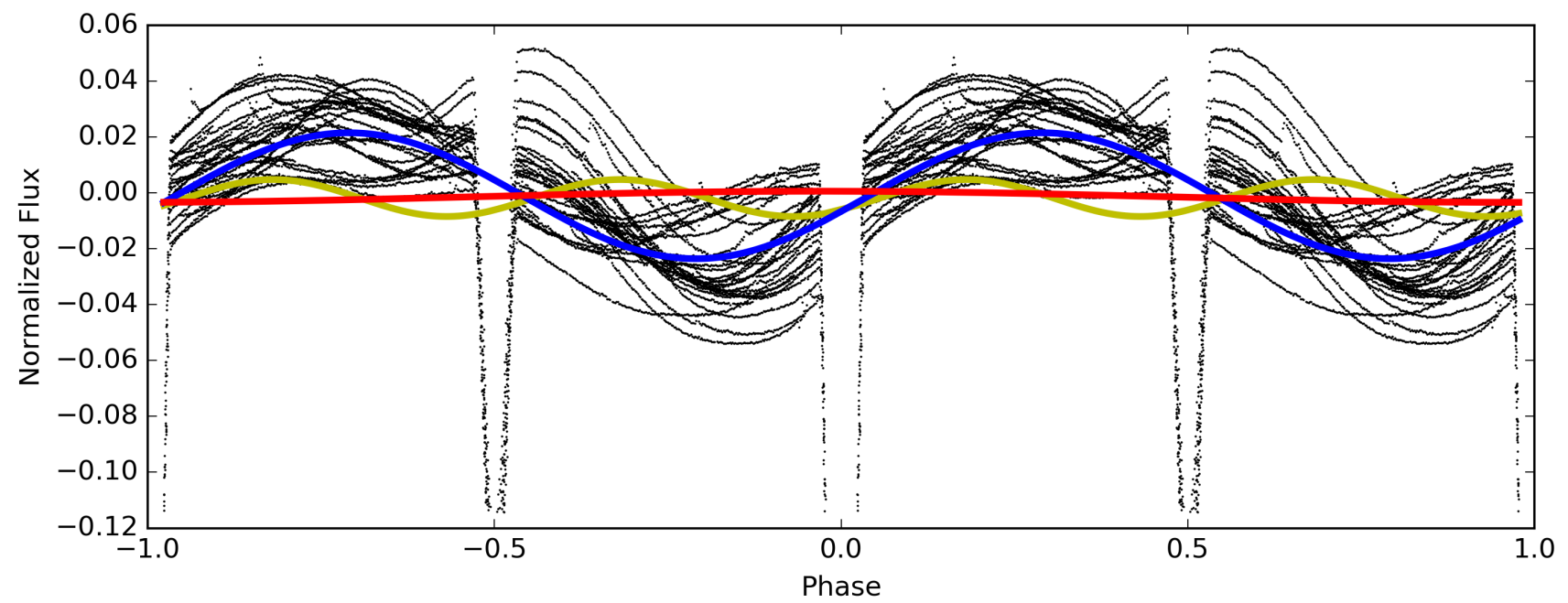
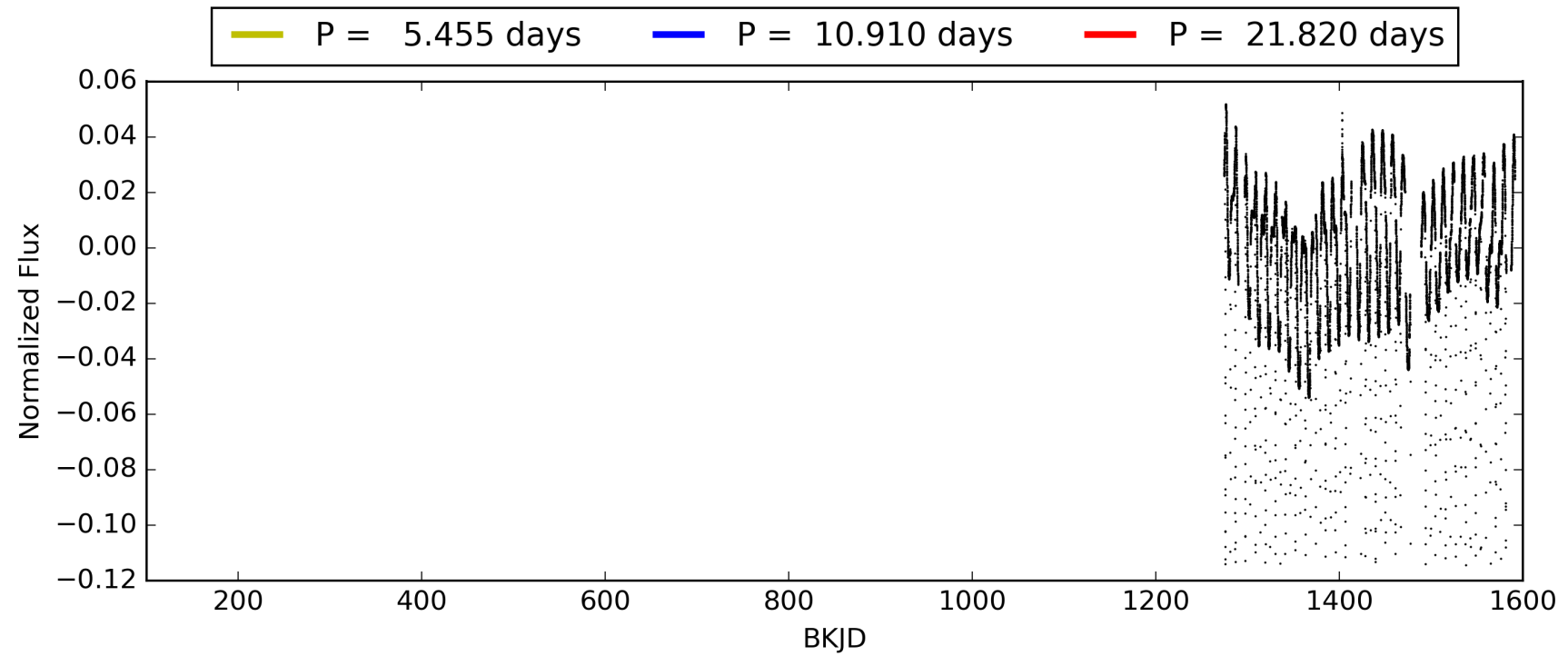
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008935352-01, PDC Light Curves

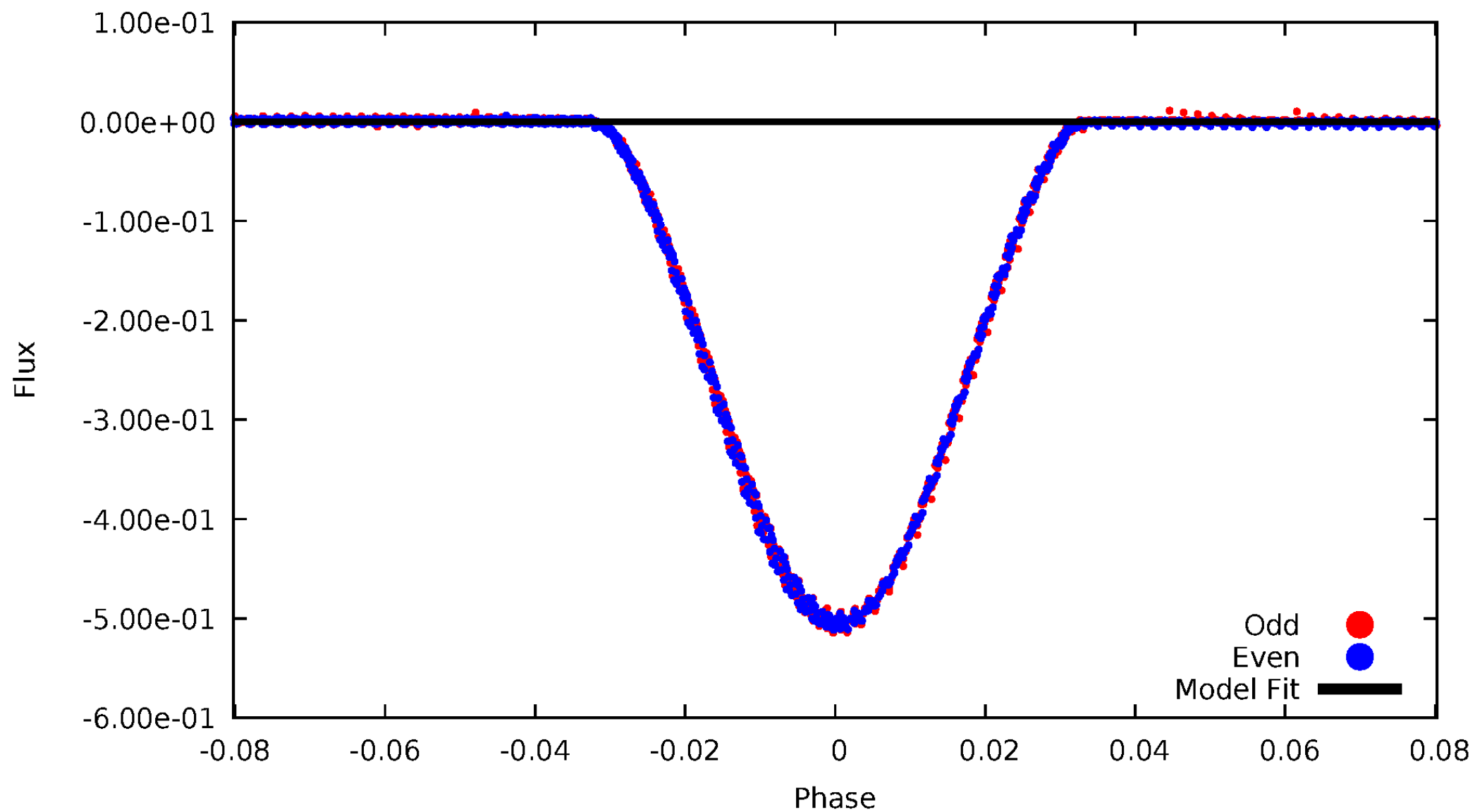


TCE 008935352-01



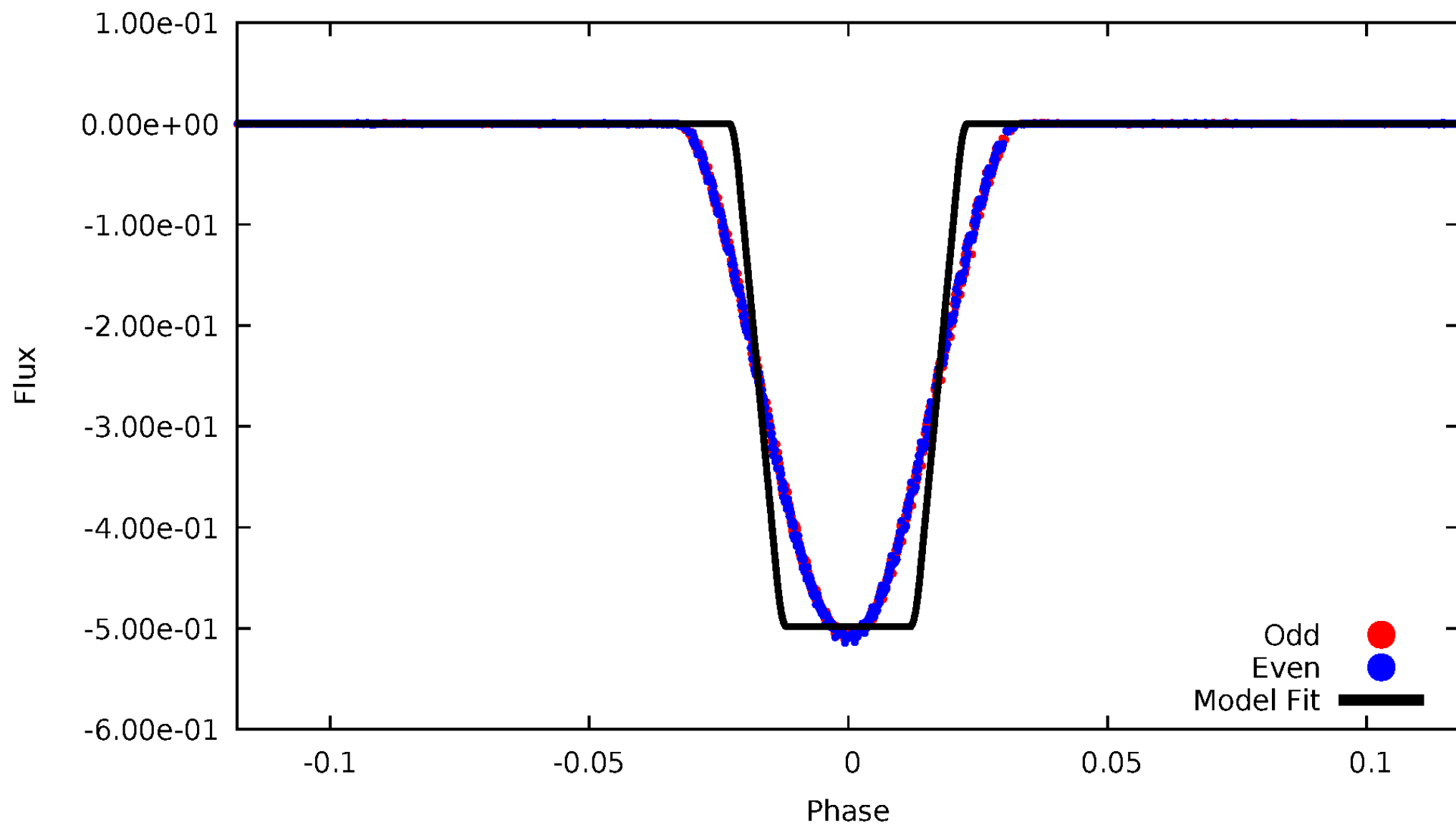
DV Odd/Even

TCE 008935352-01



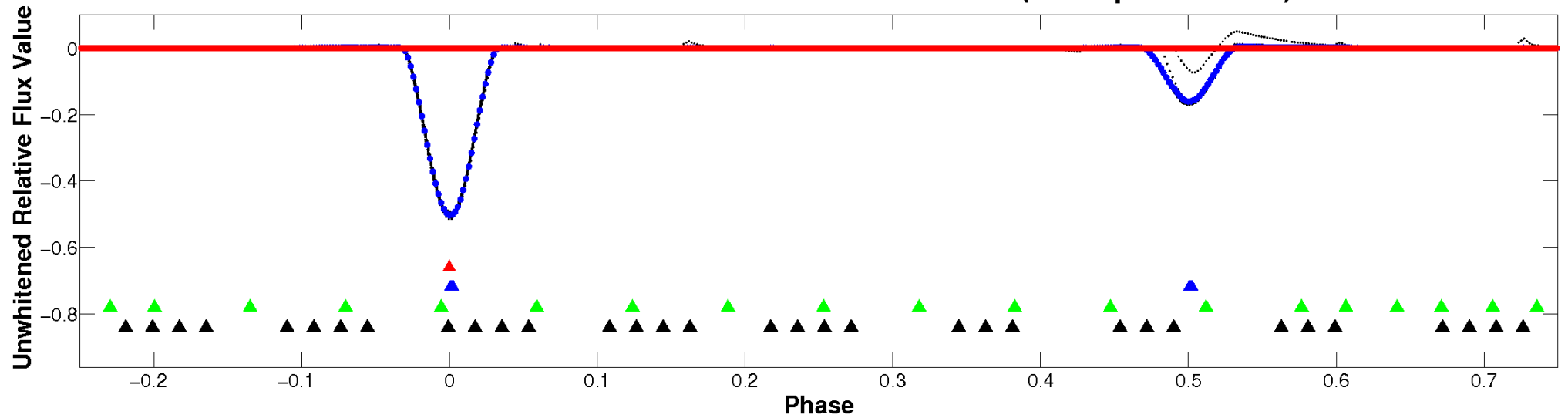
ALT Odd/Even

TCE 008935352-01



Non-Whitened Vs. Whitened Light Curve

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

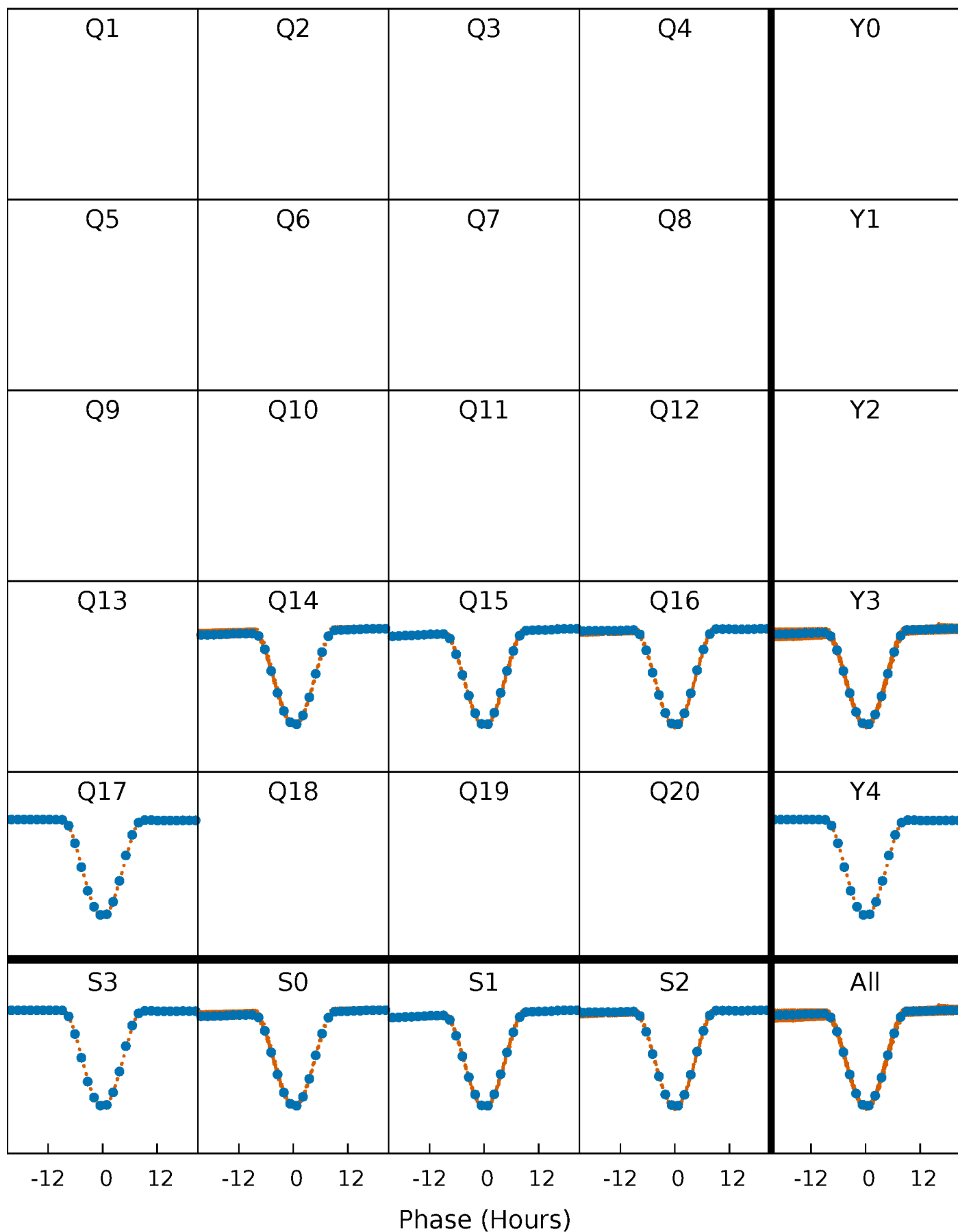


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



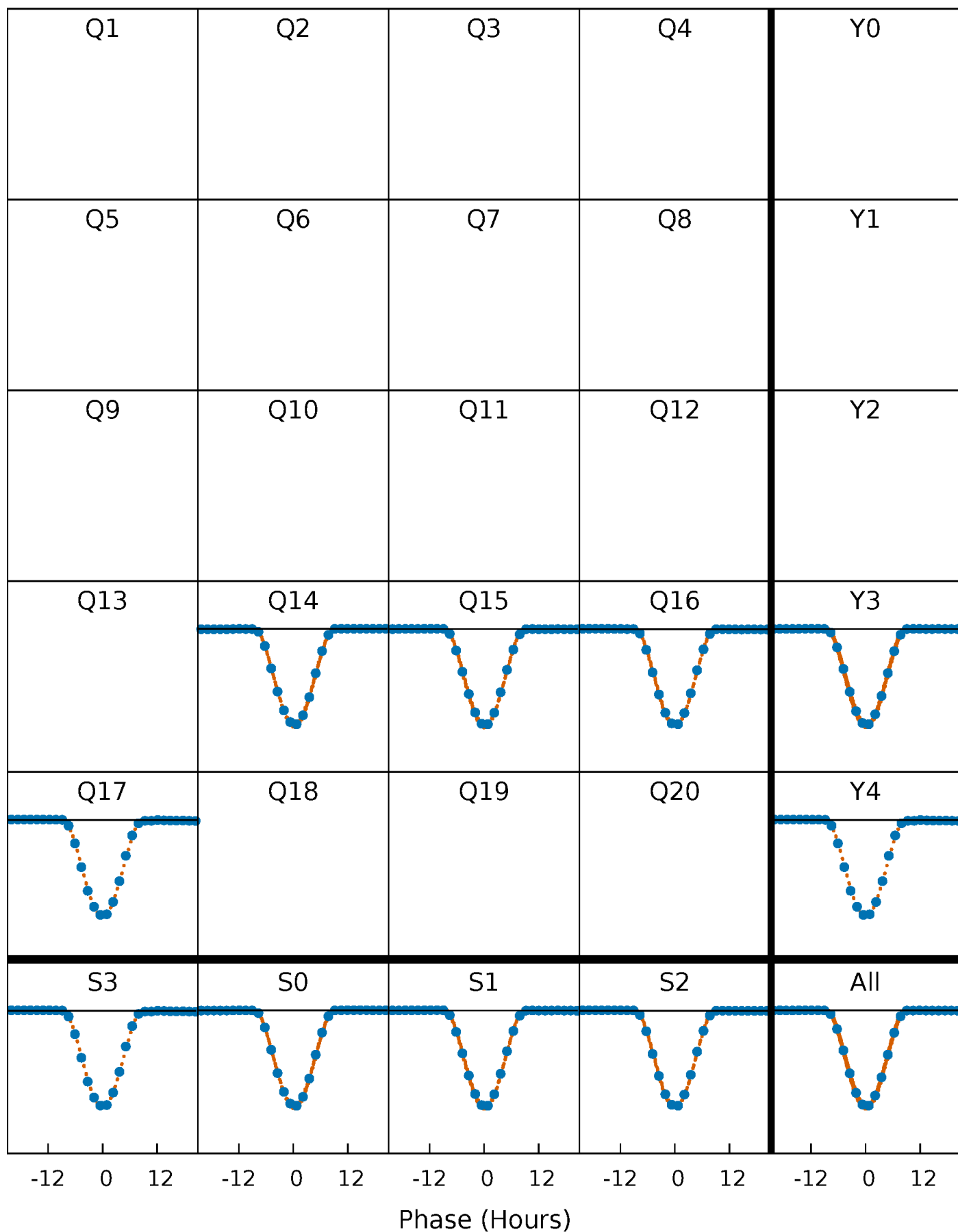
PDC Quarter-Phased Transit Curves

TCE 008935352-01 P= 10.910040 Days $T_0=135.311636$ (BKJD)



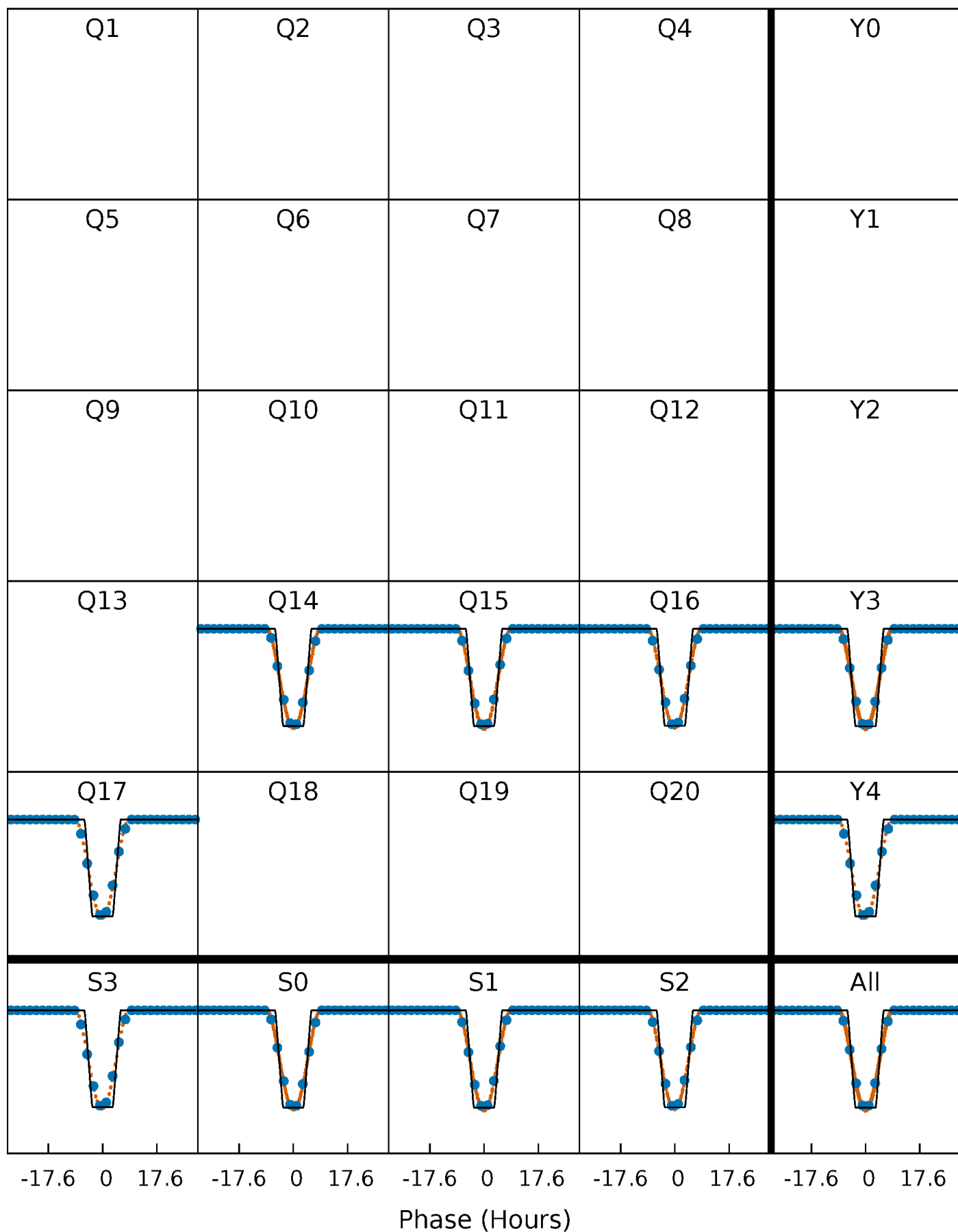
DV Quarter-Phased Transit Curves

TCE 008935352-01 P= 10.910040 Days $T_0=135.311636$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

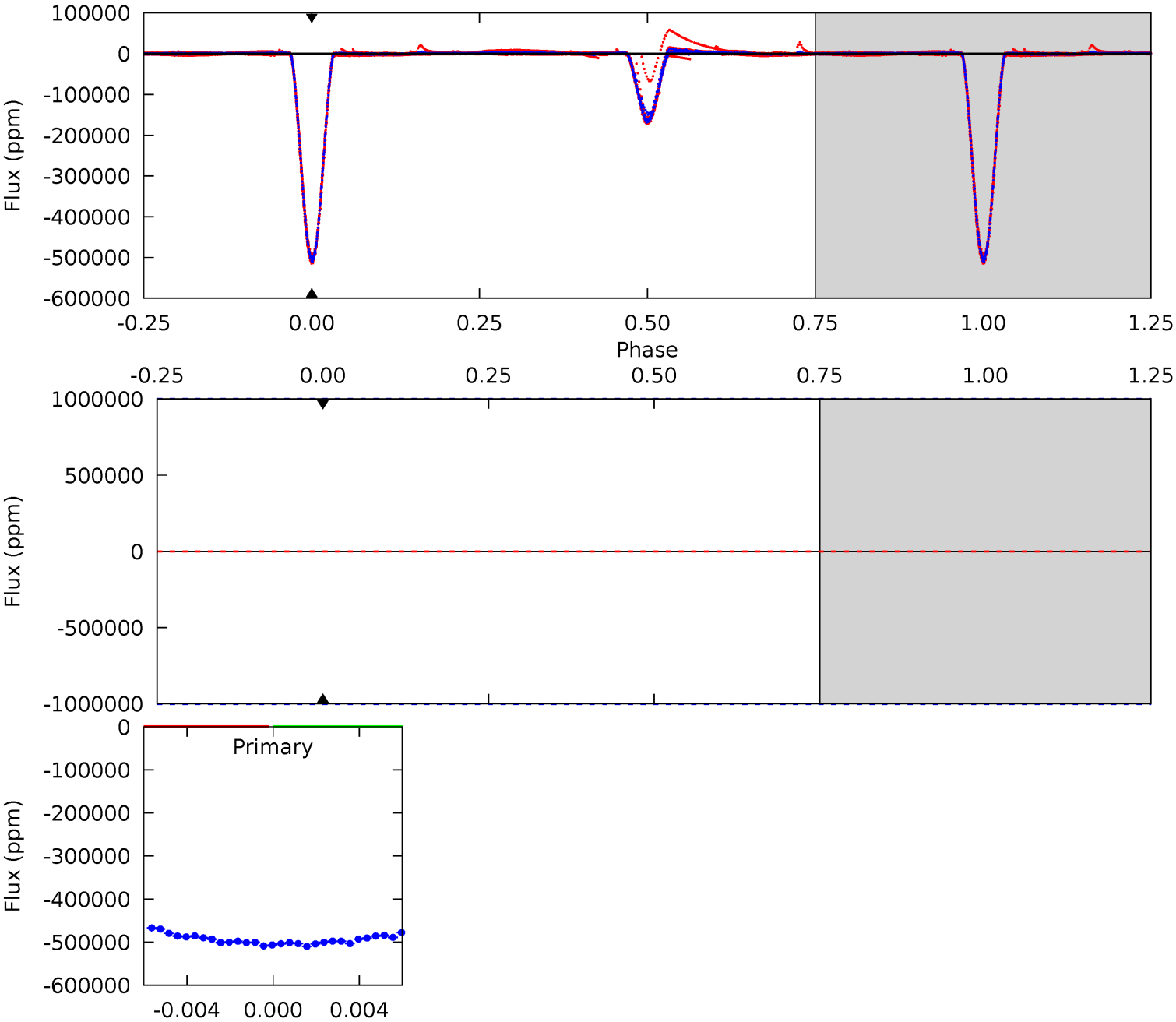
TCE 008935352-01 P= 10.910040 Days $T_0=135.316854$ (BKJD)



DV Model-Shift Uniqueness Test

008935352-01, P = 10.910040 Days, E = 135.311636 Days

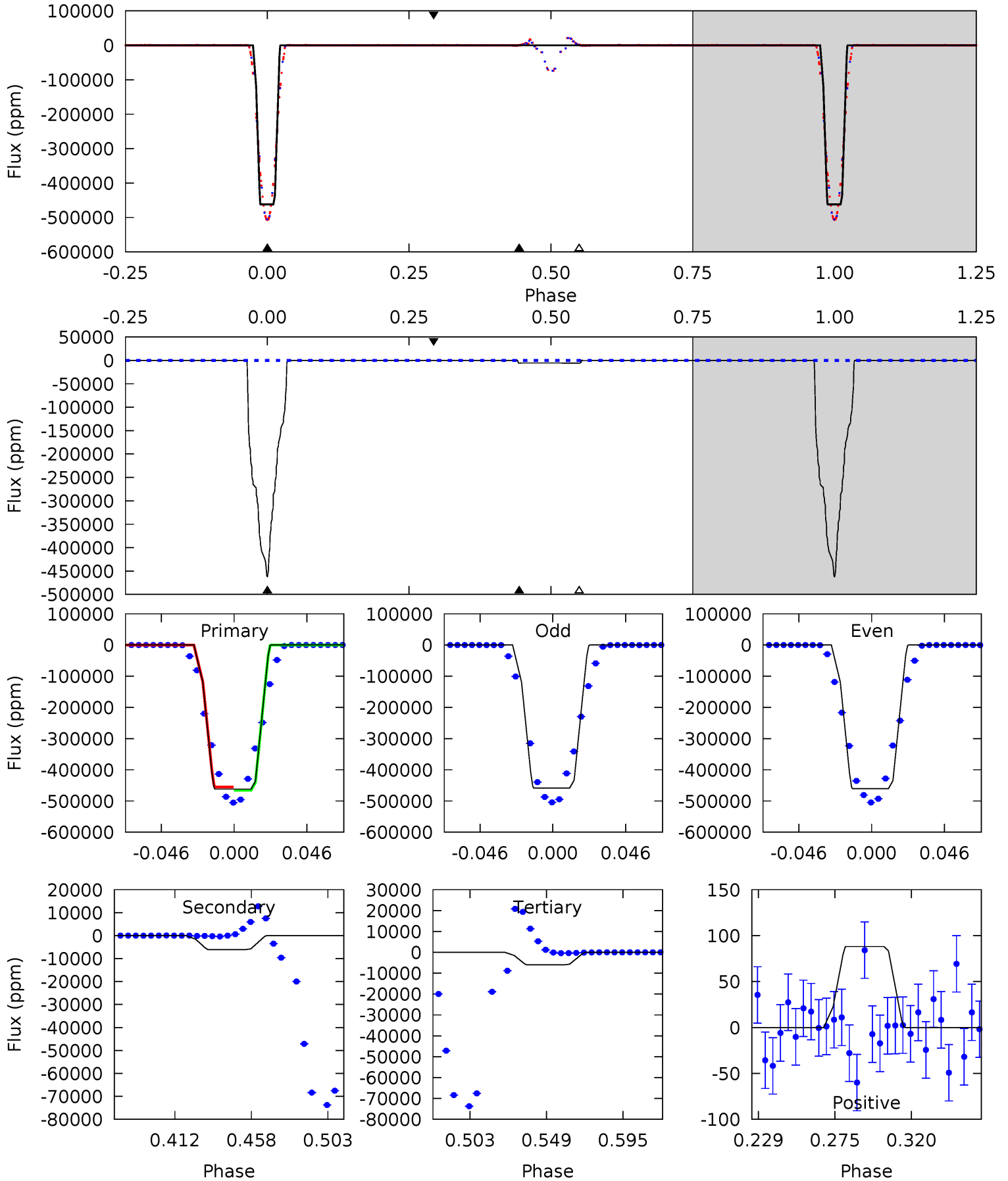
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008935352-01, P = 10.910040 Days, E = 135.316854 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2348	30.8	30.3	0.45	4.73	2.00	1.64	2317	2347	0.46	30.3	4.82	1.00	0.00	0



Stellar Parameters For KIC 008935352

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5323^{+186}_{-167}	$3.714^{+0.960}_{-0.320}$	$-0.760^{+0.350}_{-0.300}$	$2.064^{+1.378}_{-1.516}$	$0.804^{+0.214}_{-0.142}$	$0.129^{+3.411}_{-0.106}$
	+3%/-3%	+26%/-9%	+46%/-39%	+67%/-73%	+27%/-18%	+2650%/-82%
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 008935352-01 / KOI 5584.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$39.78^{+32.54}_{-21.43}$	1533^{+262}_{-305}	3125^{+4242}_{-10127}	$5.717^{+431.049}_{-388.902}$
Alt.	-6062 ± 197	$150.66^{+58.96}_{-56.88}$	1545^{+219}_{-320}	2491^{+134}_{-150}	$1.207^{+1.894}_{-0.560}$

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 $A_{obs} \gg 1.0$

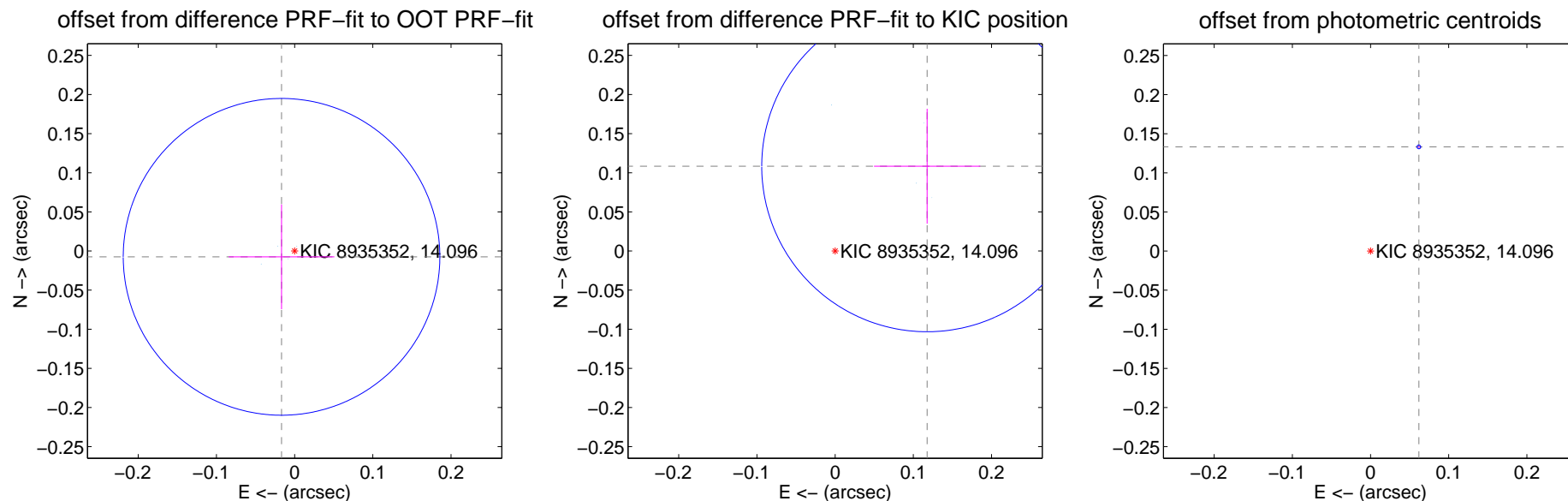
DV Centroid Data

Supplemental centroid analysis for 008935352-01. Kepler magnitude: 14.10. Transit SNR -1.00

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.018 ± 0.067	0.27	0.017 ± 0.068	-0.007 ± 0.067
PRF-fit source offset from KIC position	0.160 ± 0.071	2.27	-0.118 ± 0.068	0.108 ± 0.073
photometric centroid source offset	0.15 ± 0.00	184.45	-0.06 ± 0.00	0.13 ± 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.



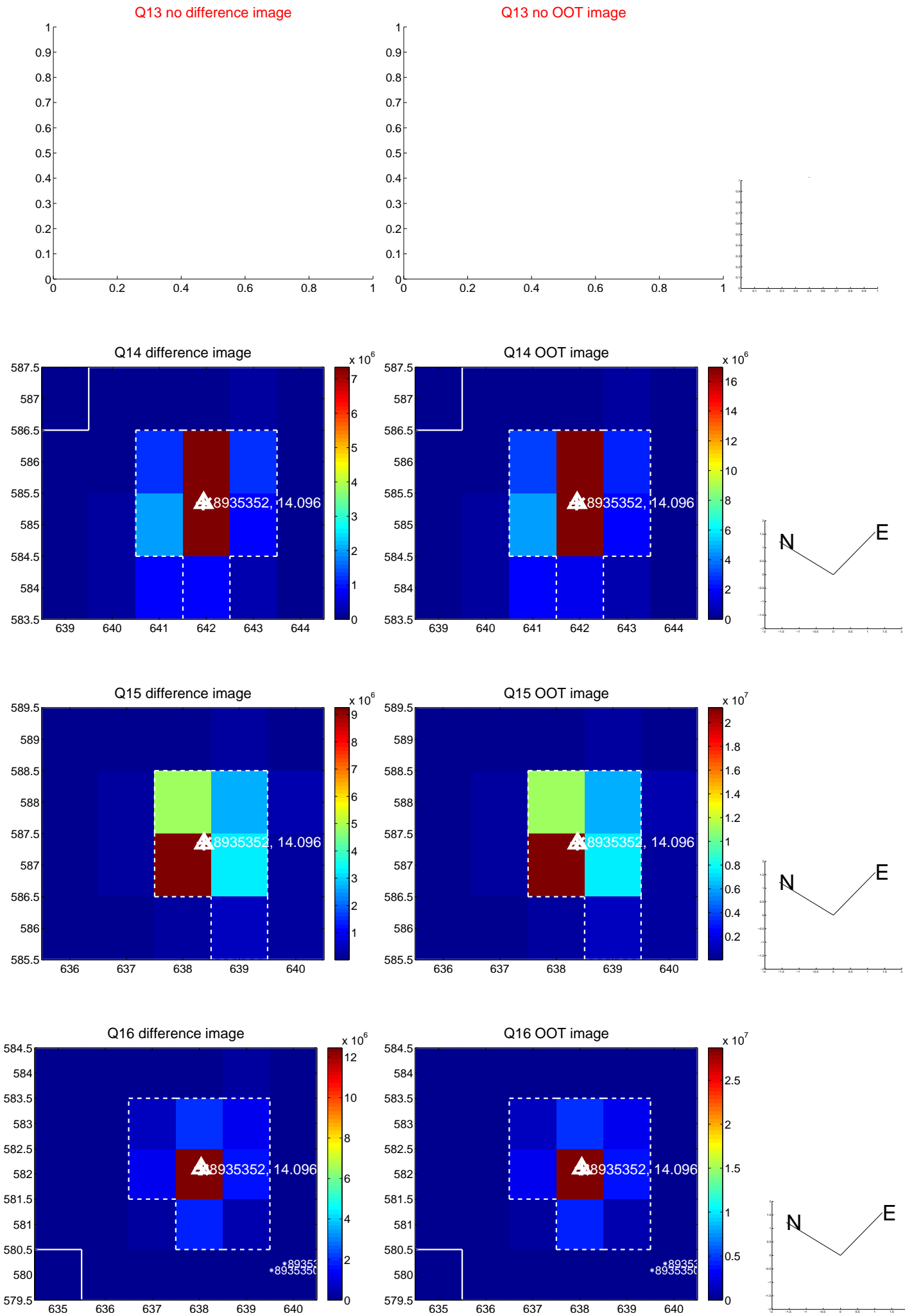
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



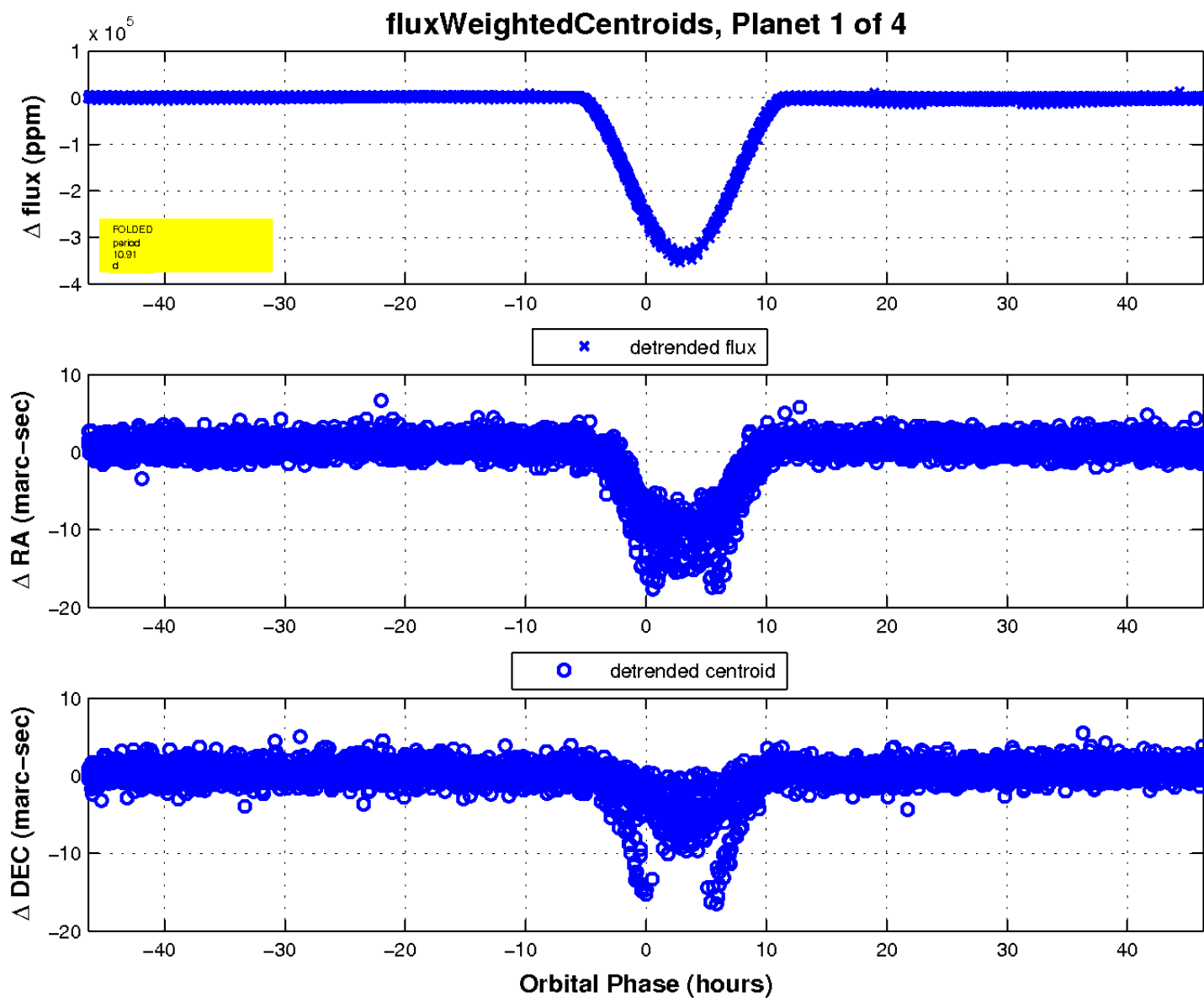
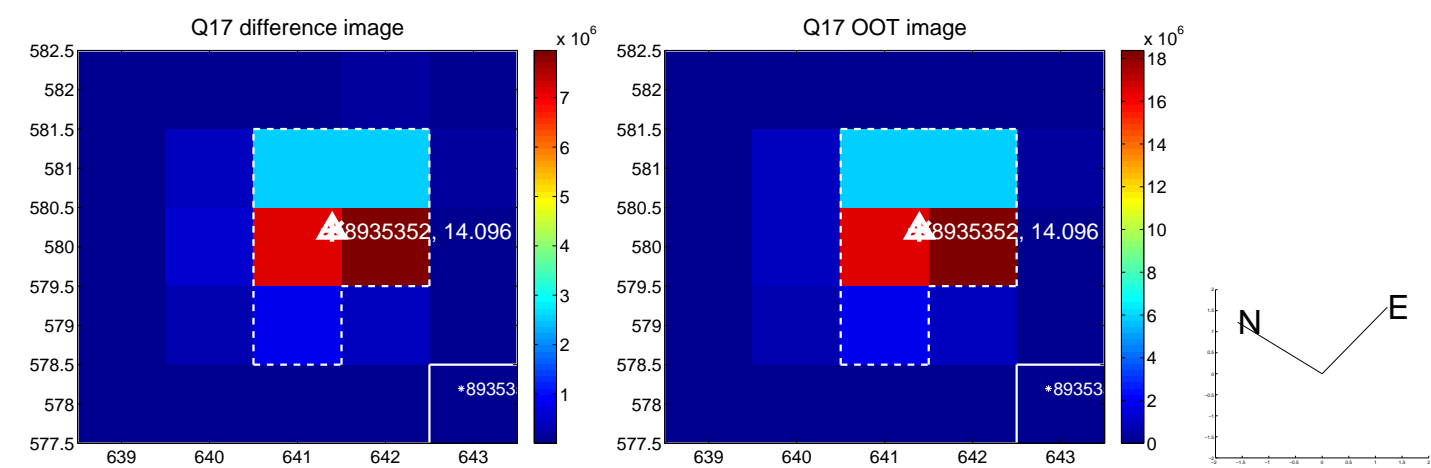
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

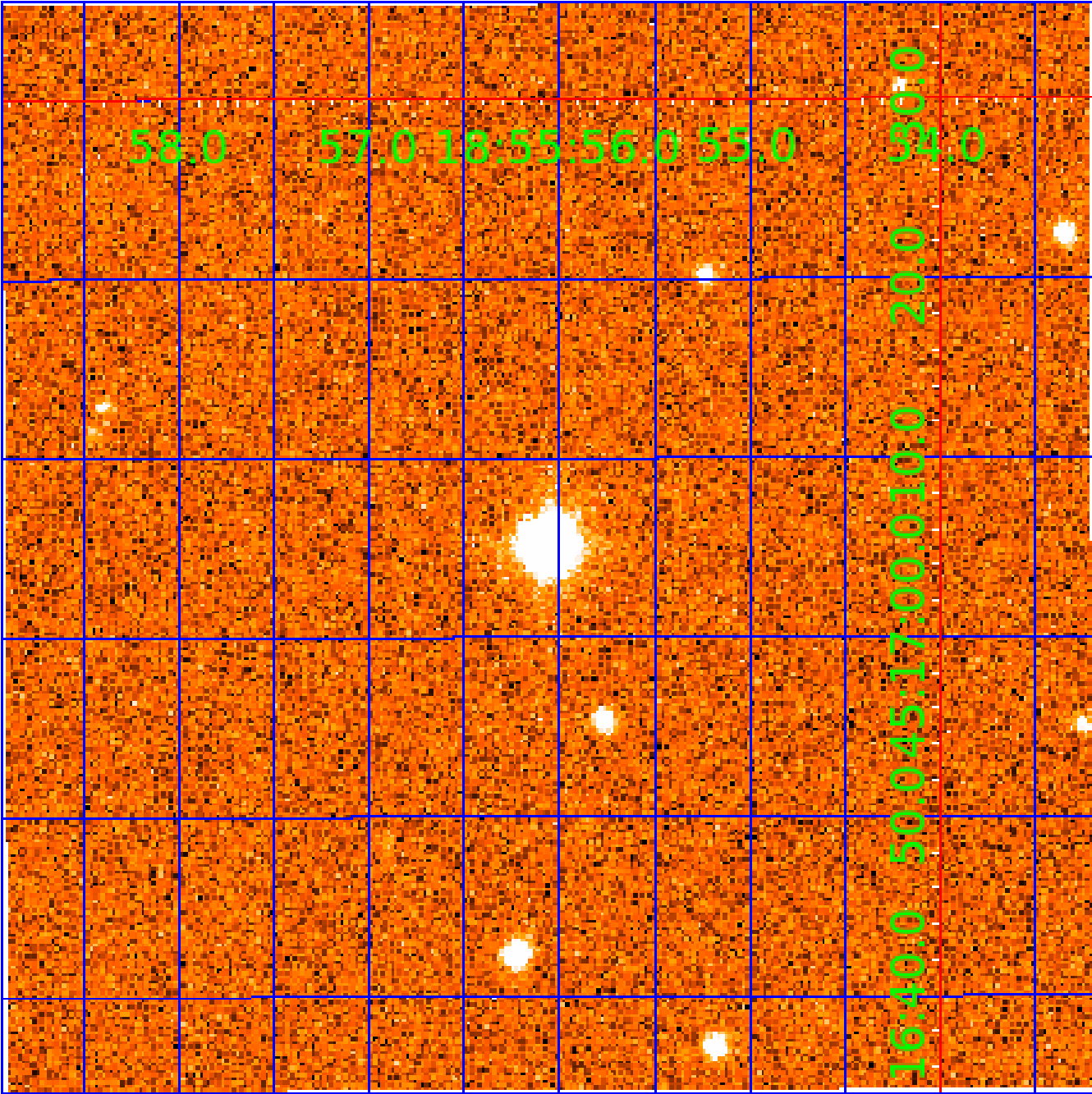


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008935352

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})
008935352-01	OBS	5584.01	10.910040	135.311636	506126.8	10.500	4489.1	-1.0	2.06	5323	45.62	382.14
008935352-02	OBS	No	5.454924	135.341502	164994.4	16.885	1313.8	1313.9	2.06	5323	118.16	962.96
008935352-03	OBS	No	75.664733	154.628504	1368.9	9.885	13.5	9.4	2.06	5323	9.89	28.89
008935352-04	OBS	No	44.830394	154.146864	508.0	3.726	8.4	6.3	2.06	5323	5.36	58.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008935352-01	OBS	FP	0.00	0	1	0	0	HAS_SEC_TCE—CENT_NOFITS
008935352-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008935352-03	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
008935352-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

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

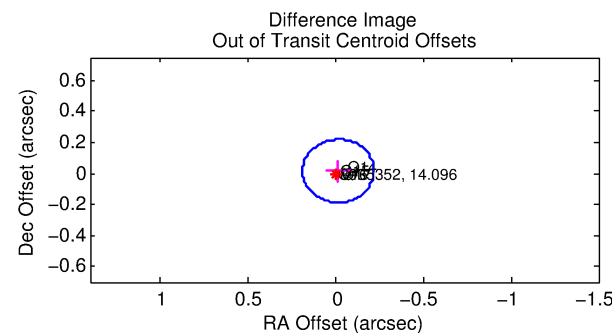
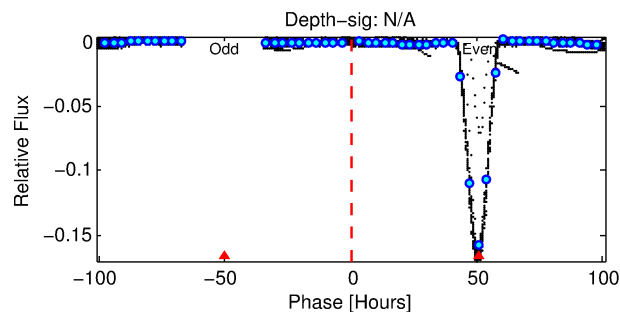
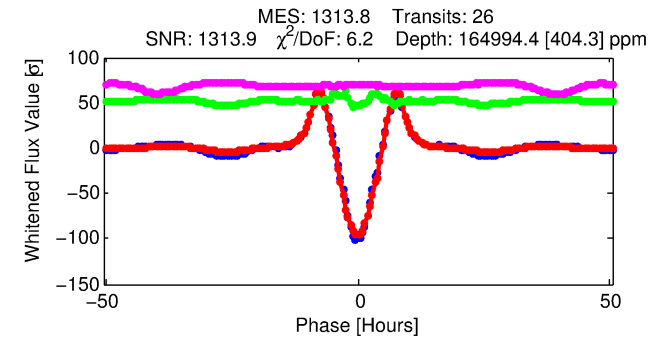
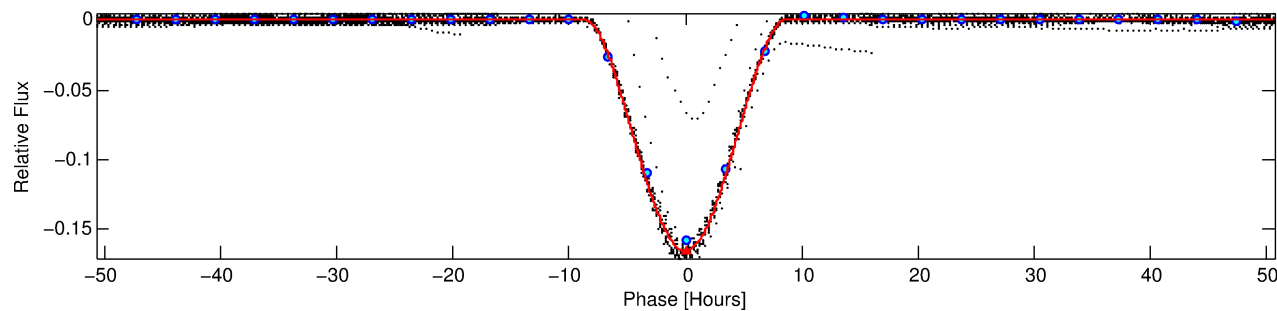
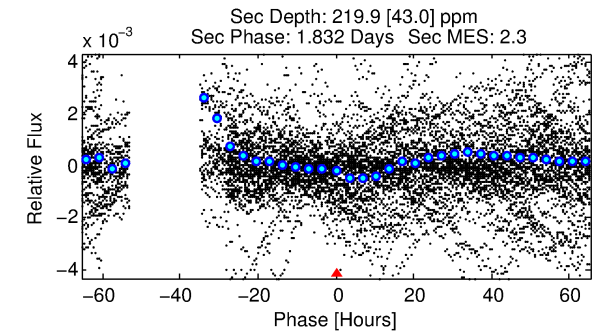
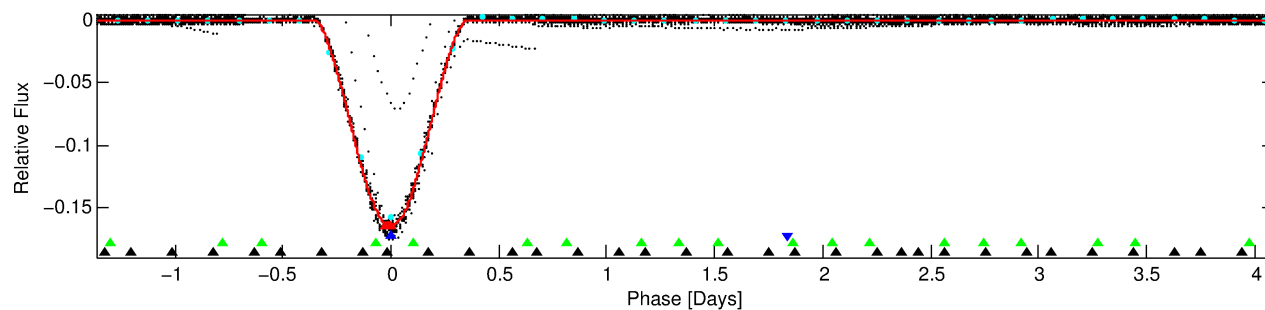
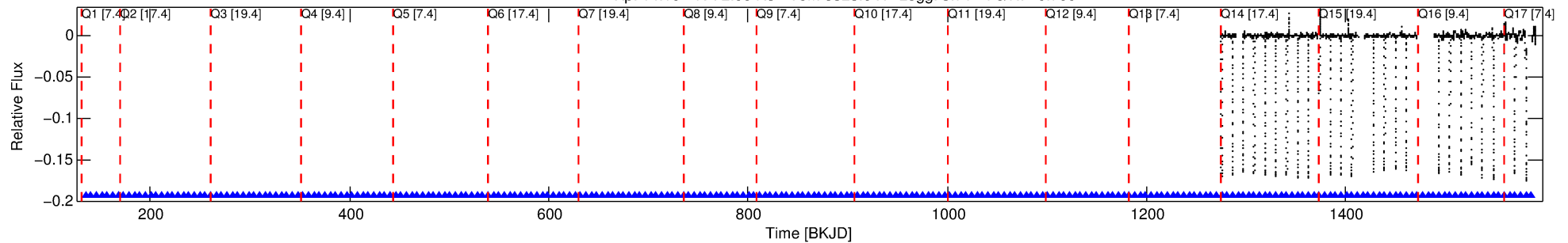
Ephemeris Match Information For 008935352-02

No Significant Match Found

DV One-Page Summary

KIC: 8935352 Candidate: 2 of 4 Period: 5.455 d
KOI: K05584 Corr: No Ephemeris Match

Kp: 14.10 R*: 2.06 Rs Teff: 5323.0 K Logg: 3.71 Fe/H: -0.760



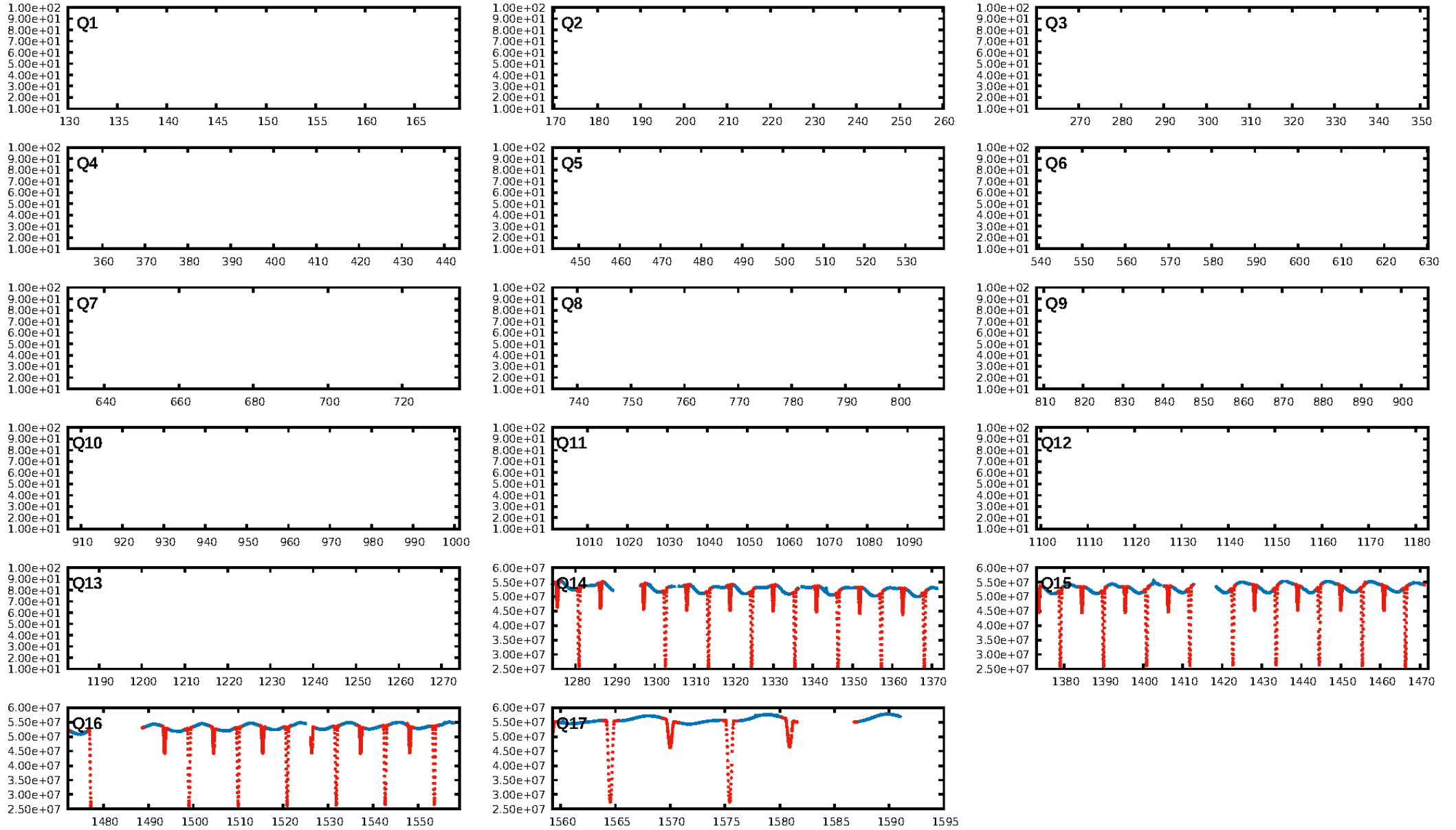
DV Fit Results:

Period = 5.45492 [0.00001] d
Epoch = 135.3415 [0.0013] BKJD
Rp/R* = 0.5246 [0.0963]
a/R* = 3.31 [0.09]
b = 0.86 [0.14]
Seff = 962.96 [1501.40]
Teq = 1420 [554] K
Rp = 118.16 [89.46] Re
a = 0.0564 [0.0499] AU
Ag = 0.03 [0.04] [-21.94σ]
Teffp = 895 [98] K [-0.93σ]

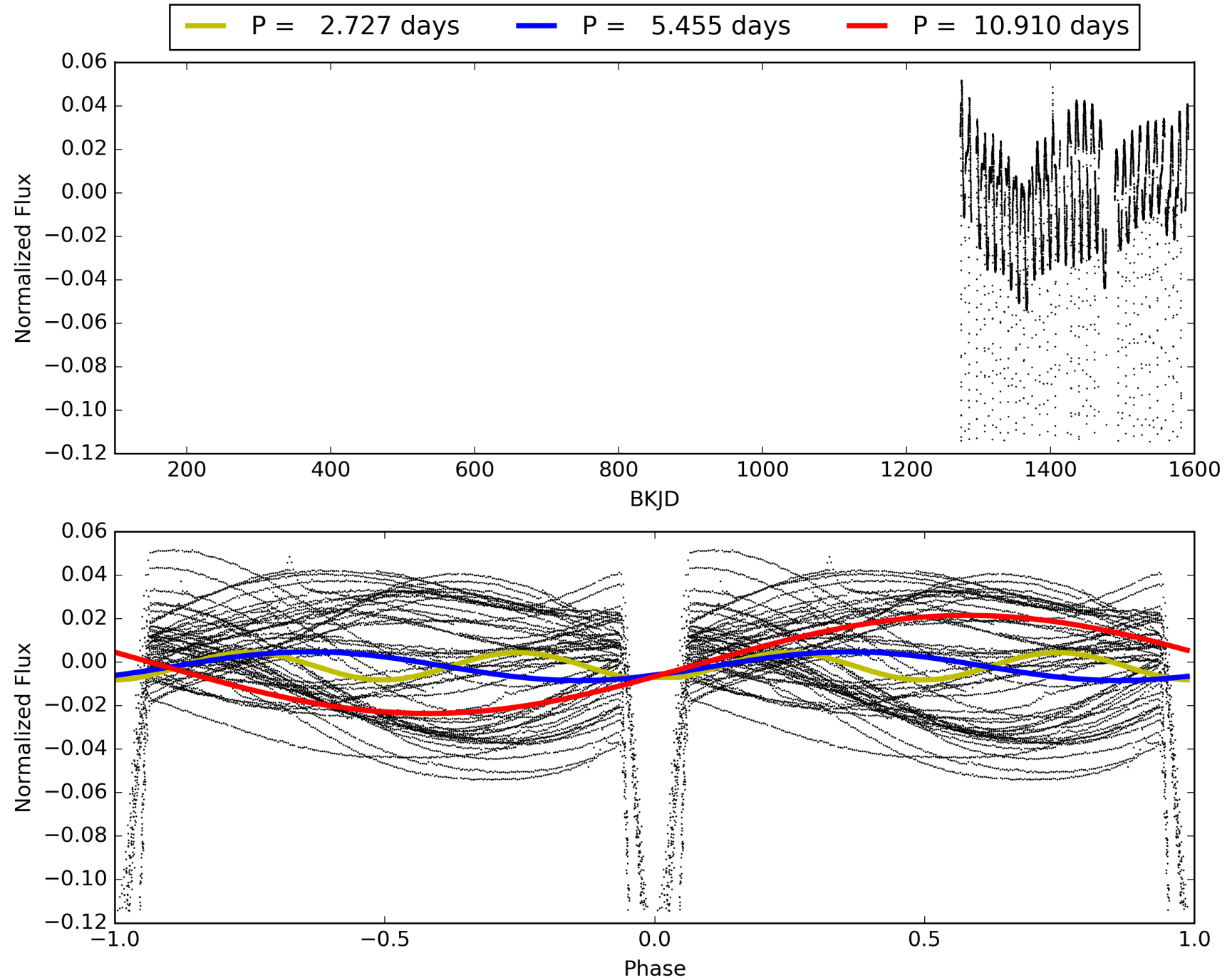
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [6.58σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [23/23]
GhostDiagnostic-chr: 1.061
Centroid-sig: N/A
Centroid-so: 0.156 arcsec [107.34σ]
OotOffset-rm: 0.022 arcsec [0.33σ]
KicOffset-rm: 0.197 arcsec [2.46σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 008935352-02, PDC Light Curves

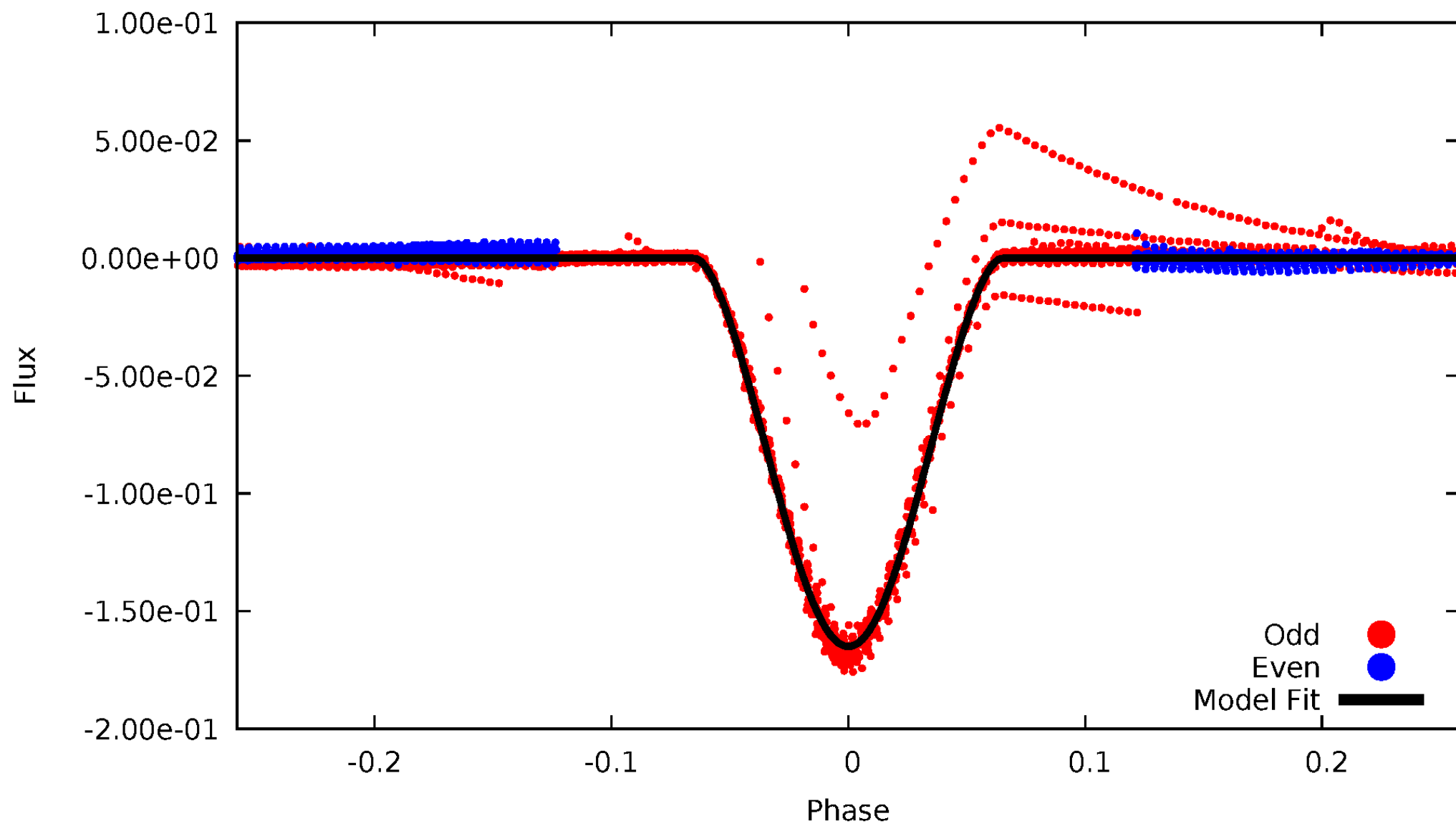


TCE 008935352-02



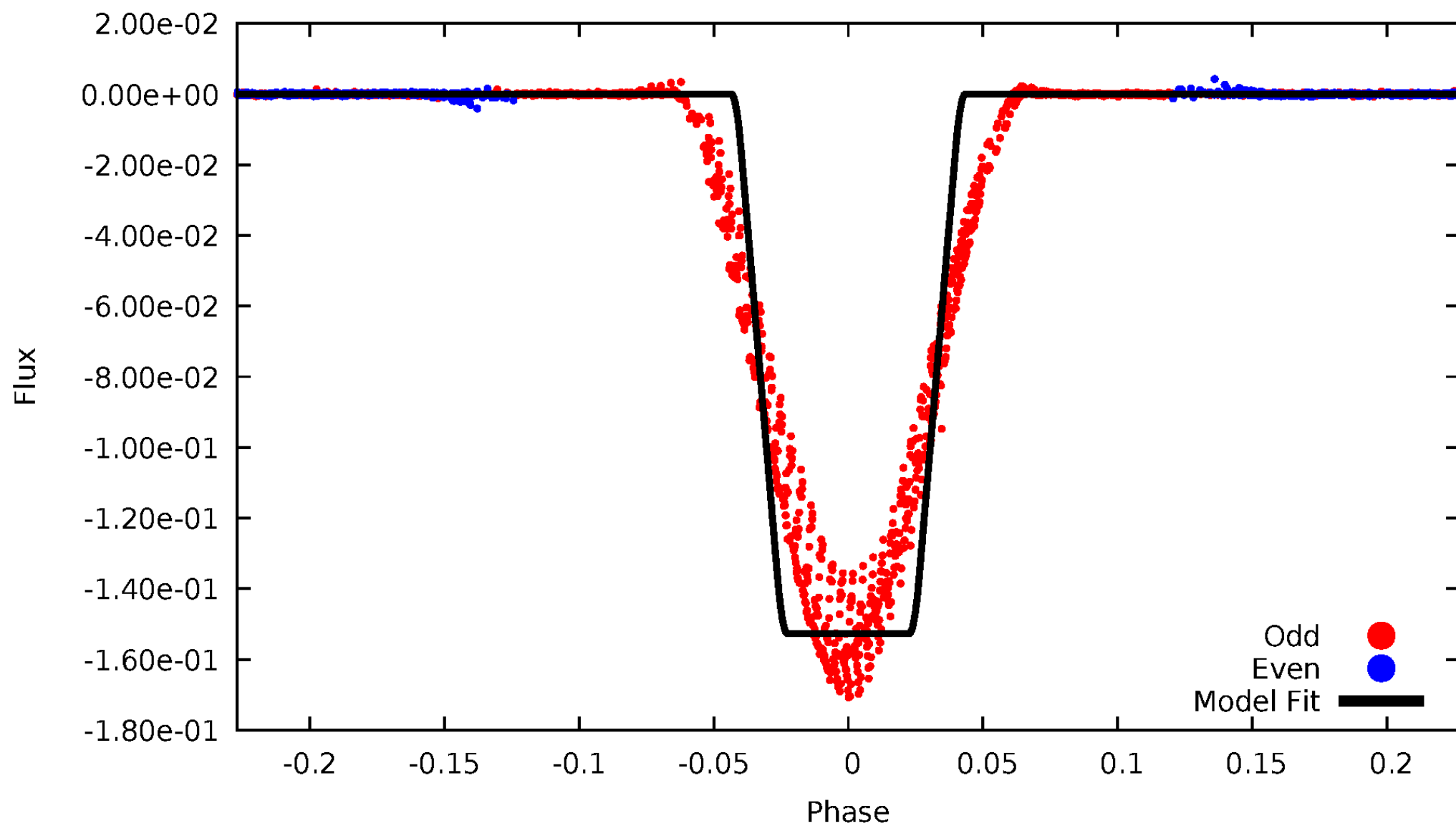
DV Odd/Even

TCE 008935352-02



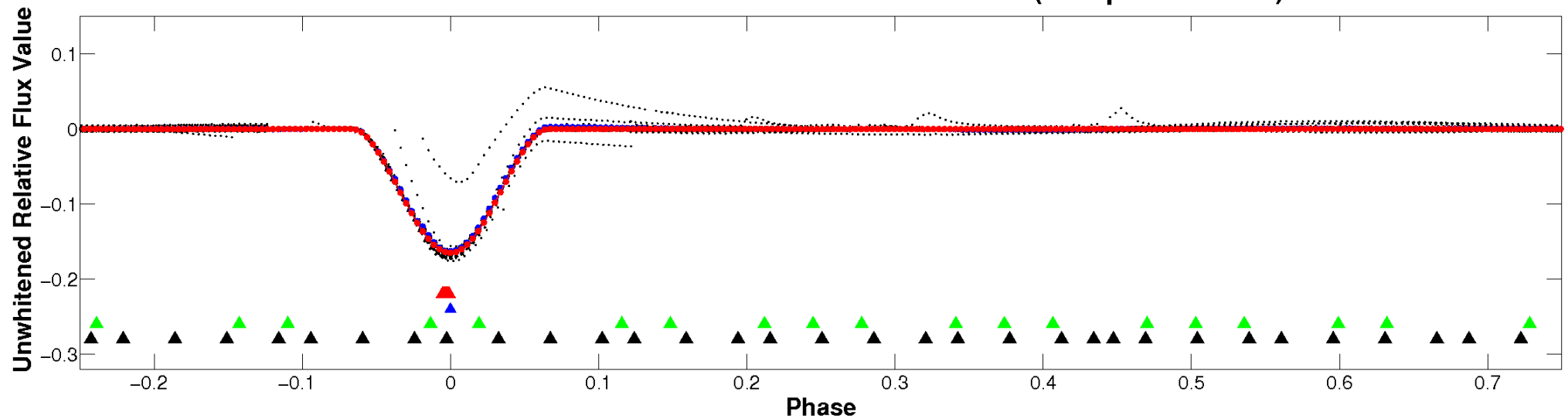
ALT Odd/Even

TCE 008935352-02

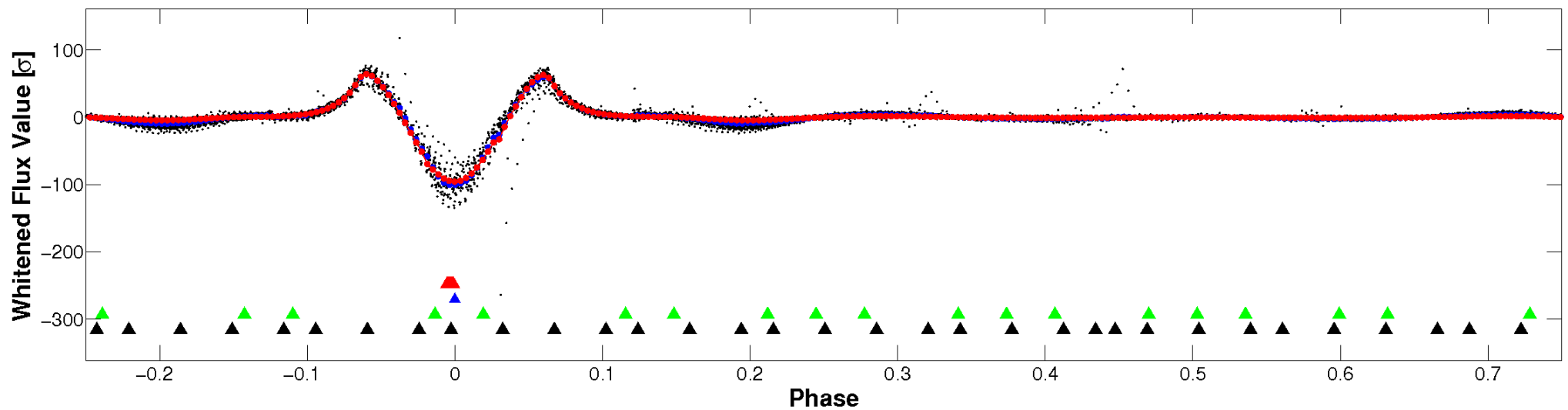


Non-Whitened Vs. Whitened Light Curve

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

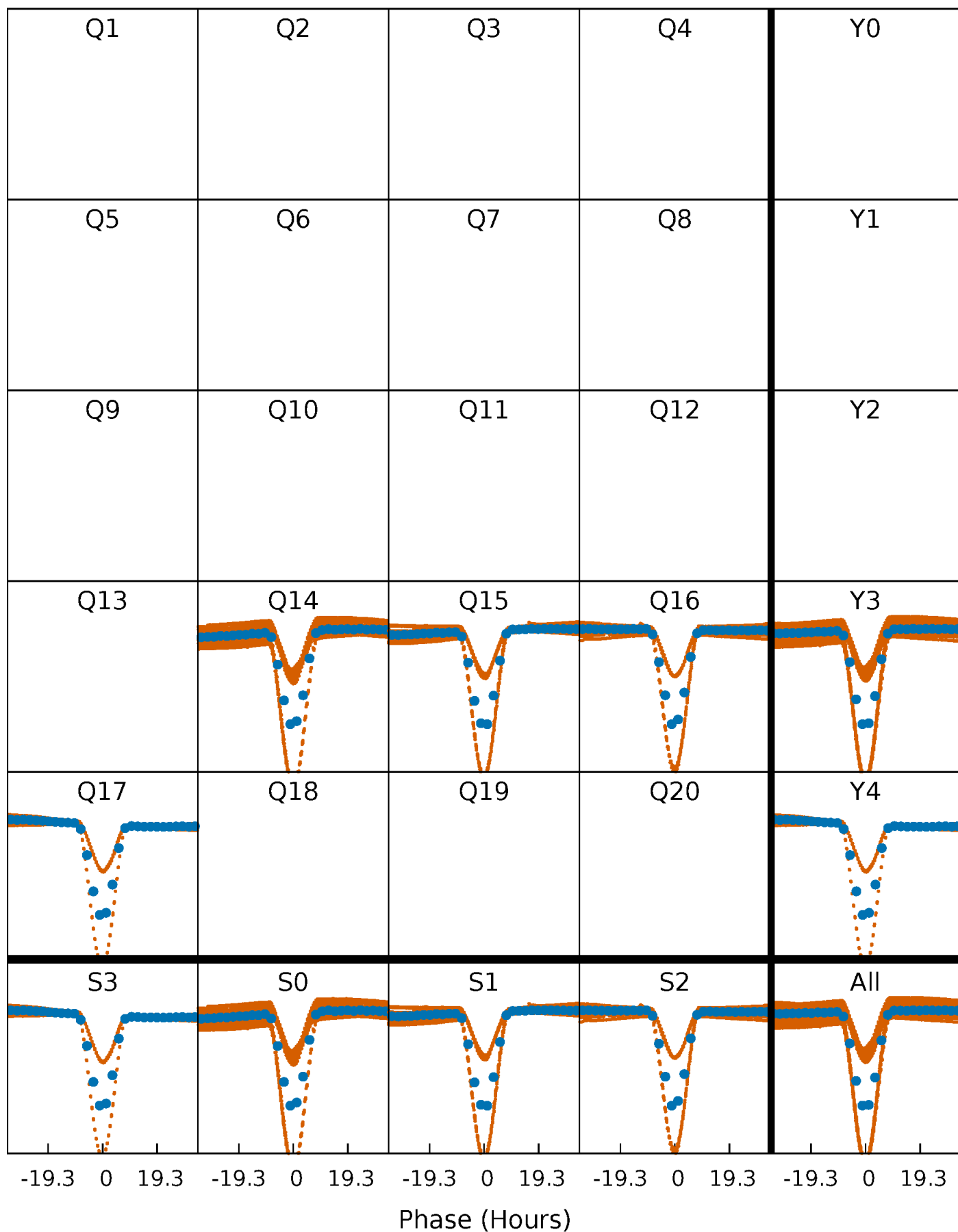


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



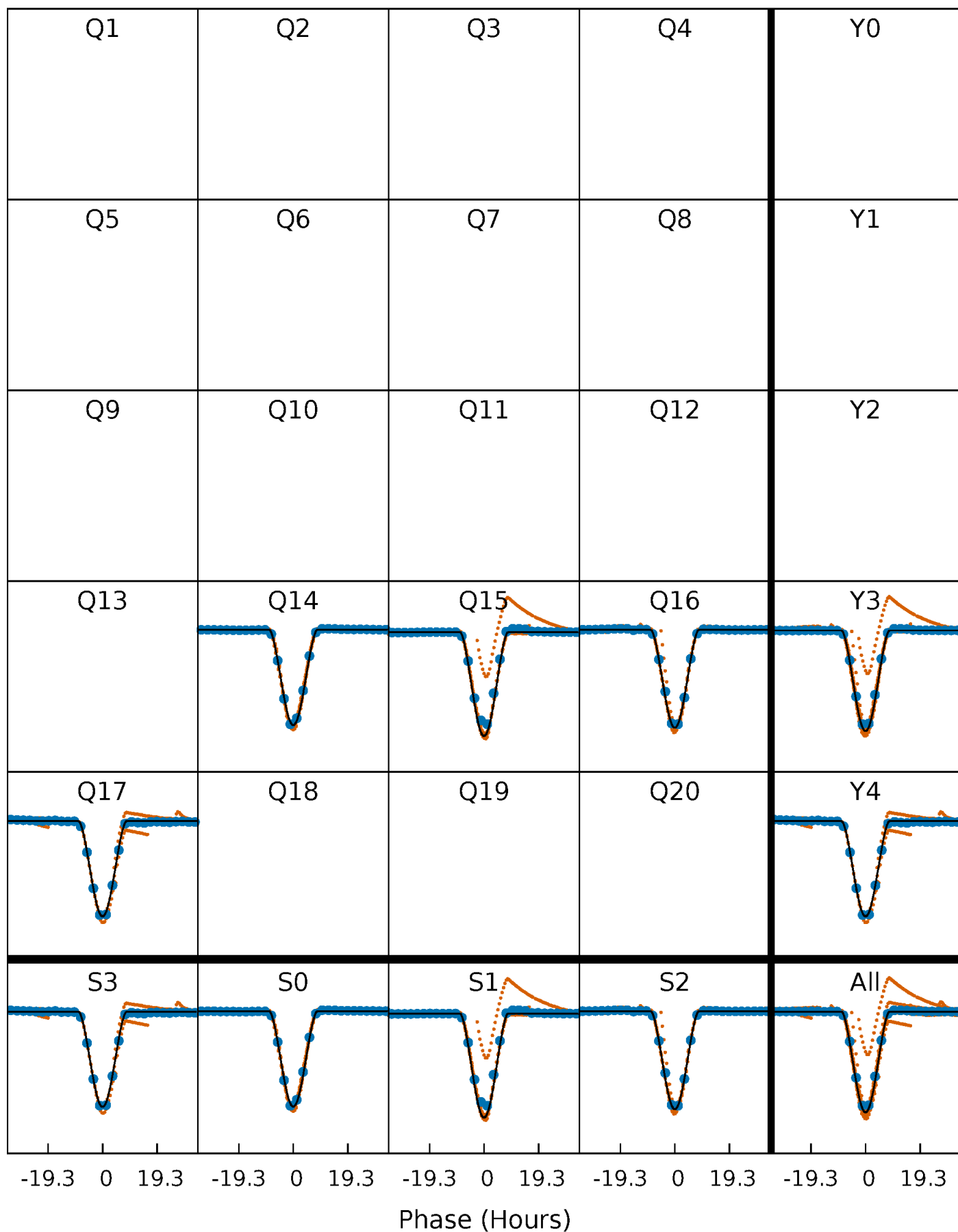
PDC Quarter-Phased Transit Curves

TCE 008935352-02 $P = 5.454925$ Days $T_0 = 135.341502$ (BKJD)



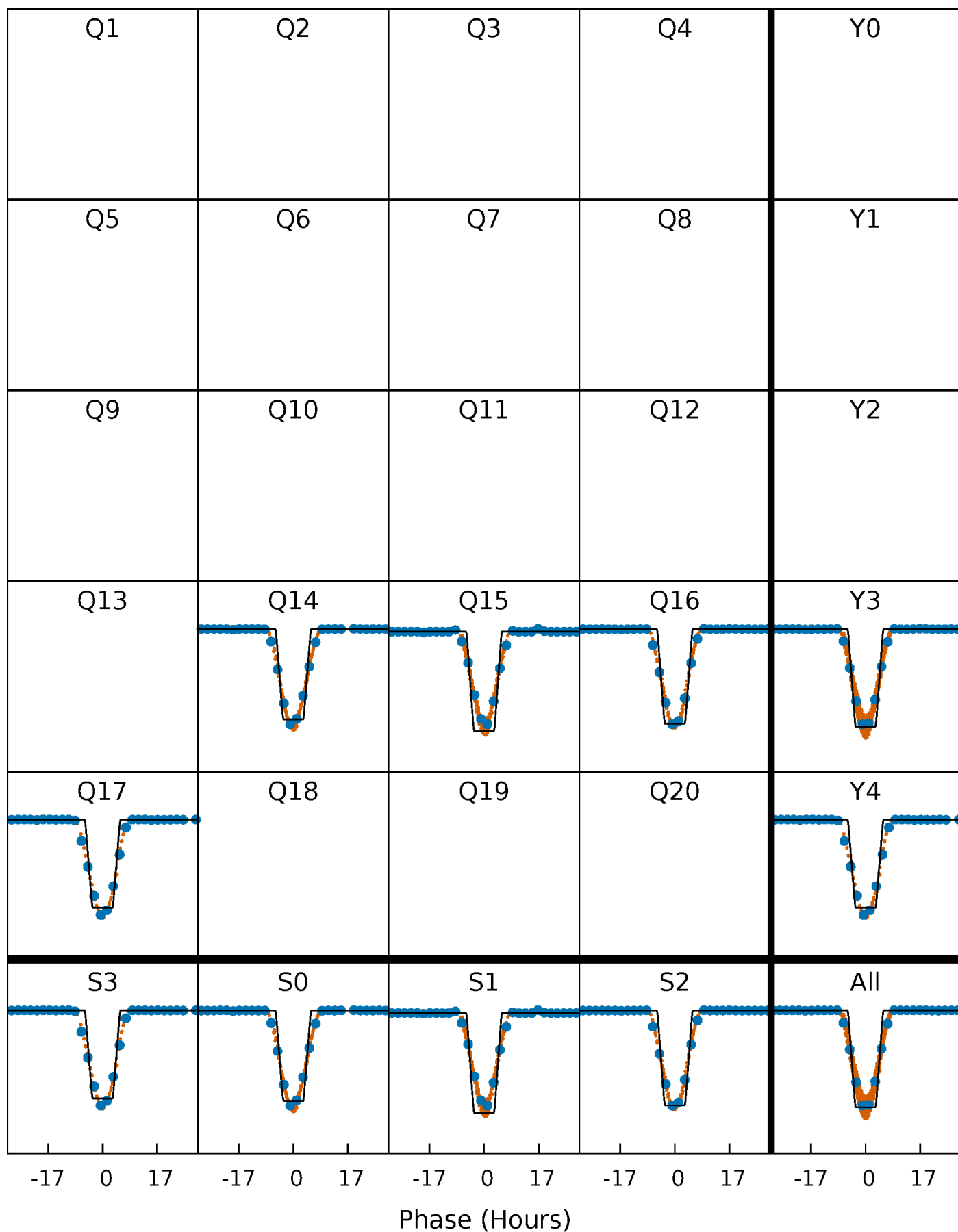
DV Quarter-Phased Transit Curves

TCE 008935352-02 P= 5.454925 Days $T_0=135.341502$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

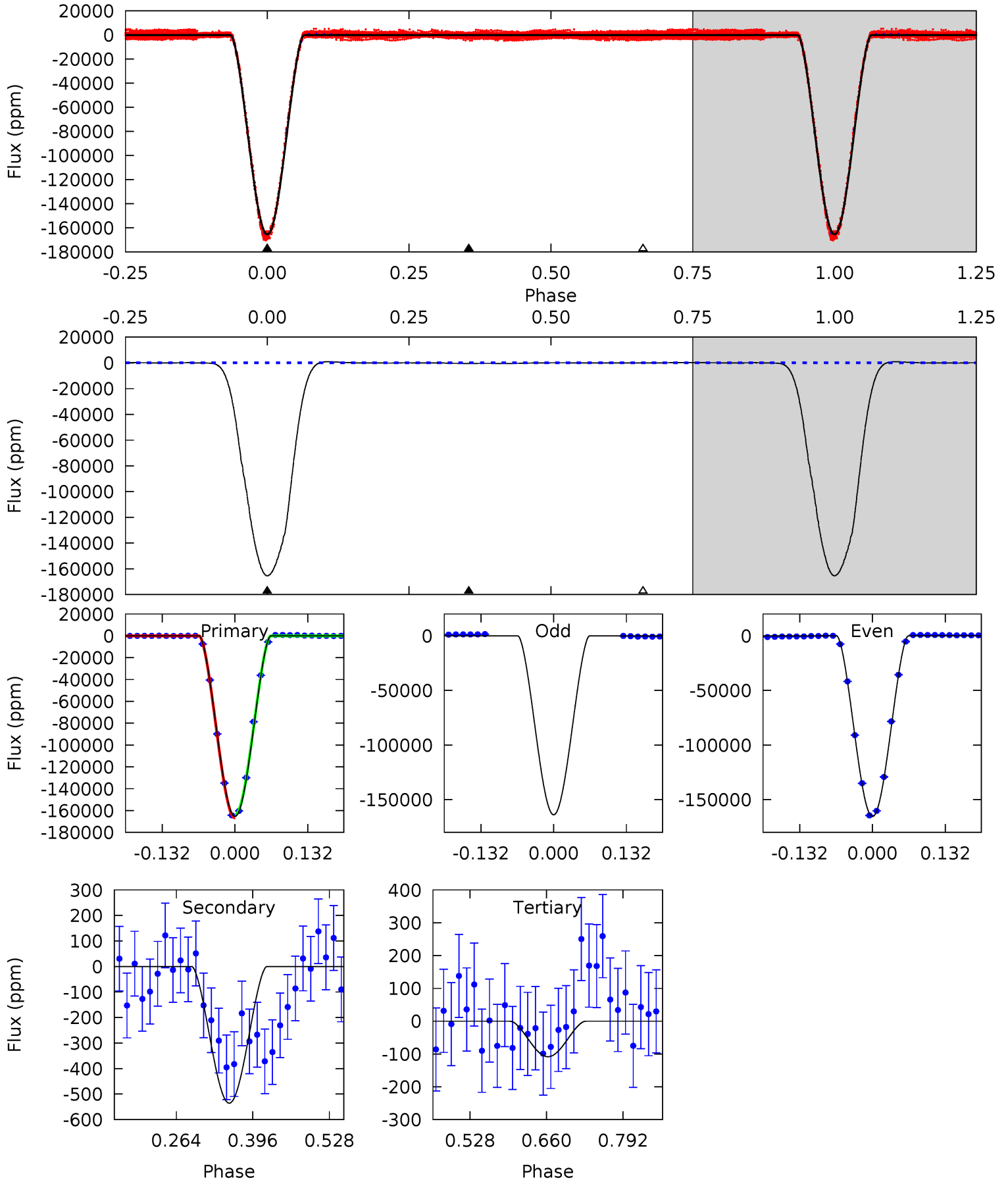
TCE 008935352-02 P= 5.455088 Days $T_0=135.303779$ (BKJD)



DV Model-Shift Uniqueness Test

008935352-02, P = 5.454925 Days, E = 135.341502 Days

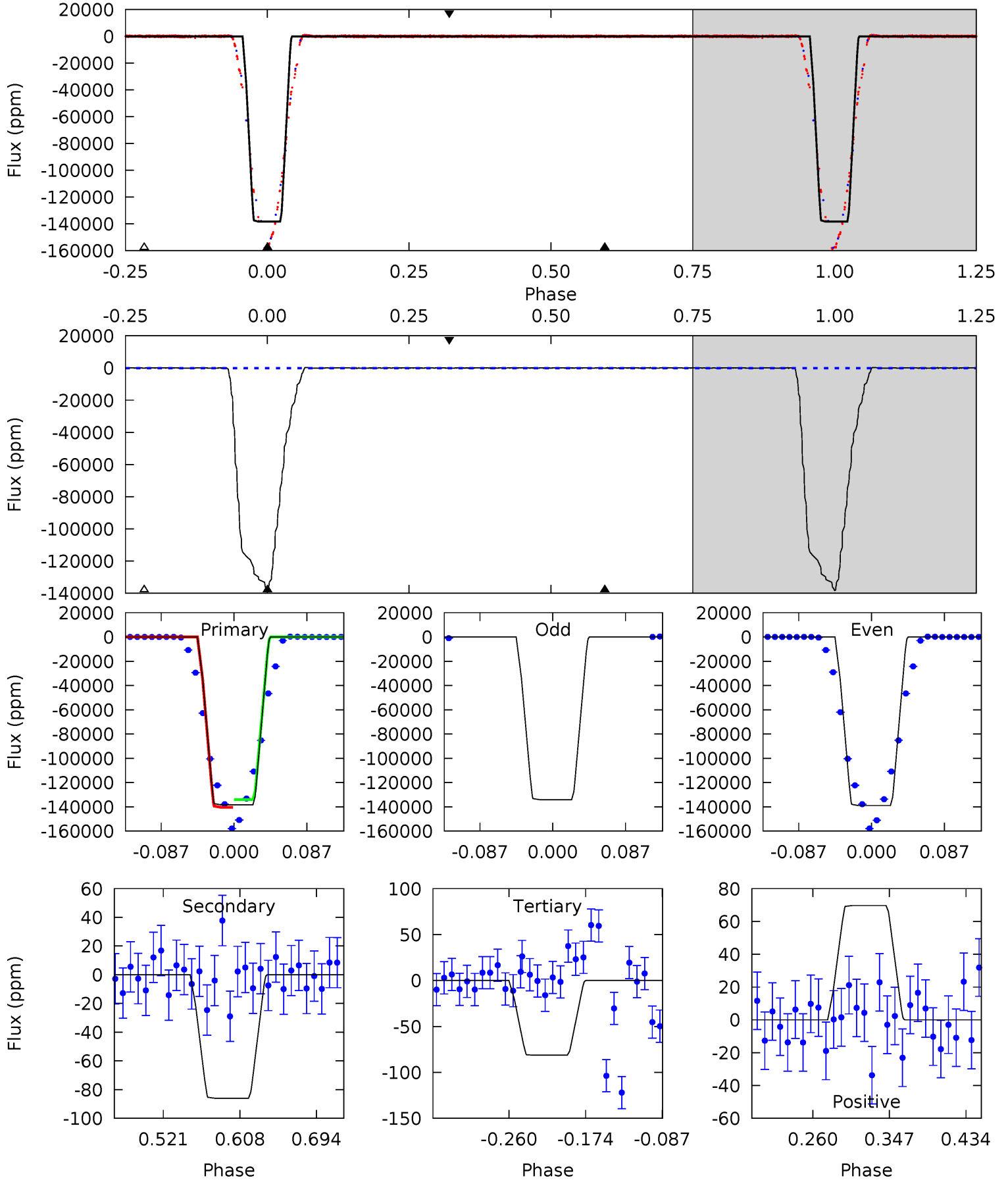
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2832	9.17	1.85	0	4.51	1.51	2.04	2830	2832	7.32	9.17	19.3	0.97	0.01	0



Alt Model-Shift Uniqueness Test

008935352-02, P = 5.455088 Days, E = 135.303779 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5319	3.31	3.13	2.68	4.59	1.71	1.31	5315	5316	0.18	0.63	120.5	0.99	0.00	0



Stellar Parameters For KIC 008935352

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5323^{+186}_{-167}	$3.714^{+0.960}_{-0.320}$	$-0.760^{+0.350}_{-0.300}$	$2.064^{+1.378}_{-1.516}$	$0.804^{+0.214}_{-0.142}$	$0.129^{+3.411}_{-0.106}$
	+3%/-3%	+26%/-9%	+46%/-39%	+67%/-73%	+27%/-18%	+2650%/-82%
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 008935352-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-536 ± 58	$107.21^{+49.22}_{-43.14}$	1909^{+327}_{-391}	-2337^{+452}_{-233}	$0.083^{+0.145}_{-0.043}$
Alt.	-86 ± 26	$78.14^{+43.91}_{-31.30}$	1930^{+319}_{-415}	-2414^{+288}_{-207}	$0.023^{+0.046}_{-0.013}$

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 $A_{obs} \gg 1.0$

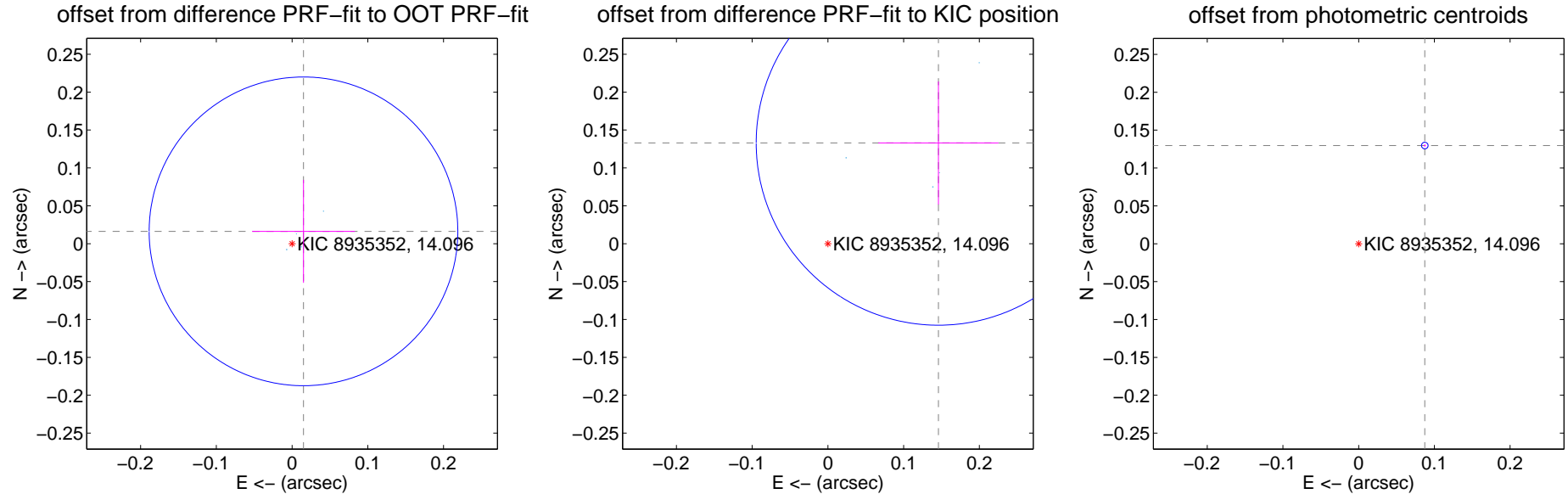
DV Centroid Data

Supplemental centroid analysis for 008935352-02. Kepler magnitude: 14.10. Transit SNR 1313.94

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.022 ± 0.068	0.33	-0.015 ± 0.068	0.016 ± 0.068
PRF-fit source offset from KIC position	0.197 ± 0.080	2.46	-0.146 ± 0.079	0.133 ± 0.081
photometric centroid source offset	0.16 ± 0.00	107.34	-0.09 ± 0.00	0.13 ± 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.



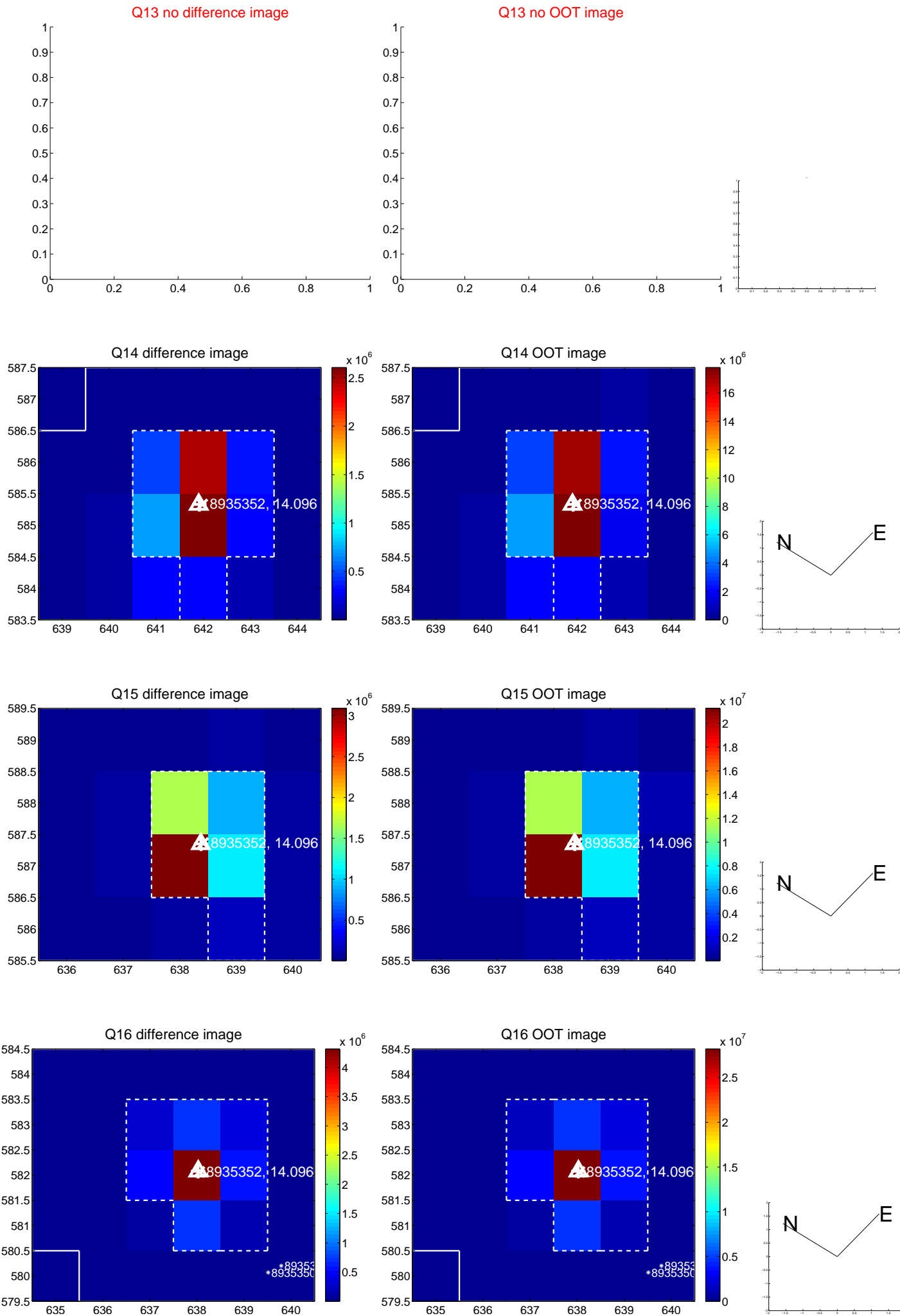
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



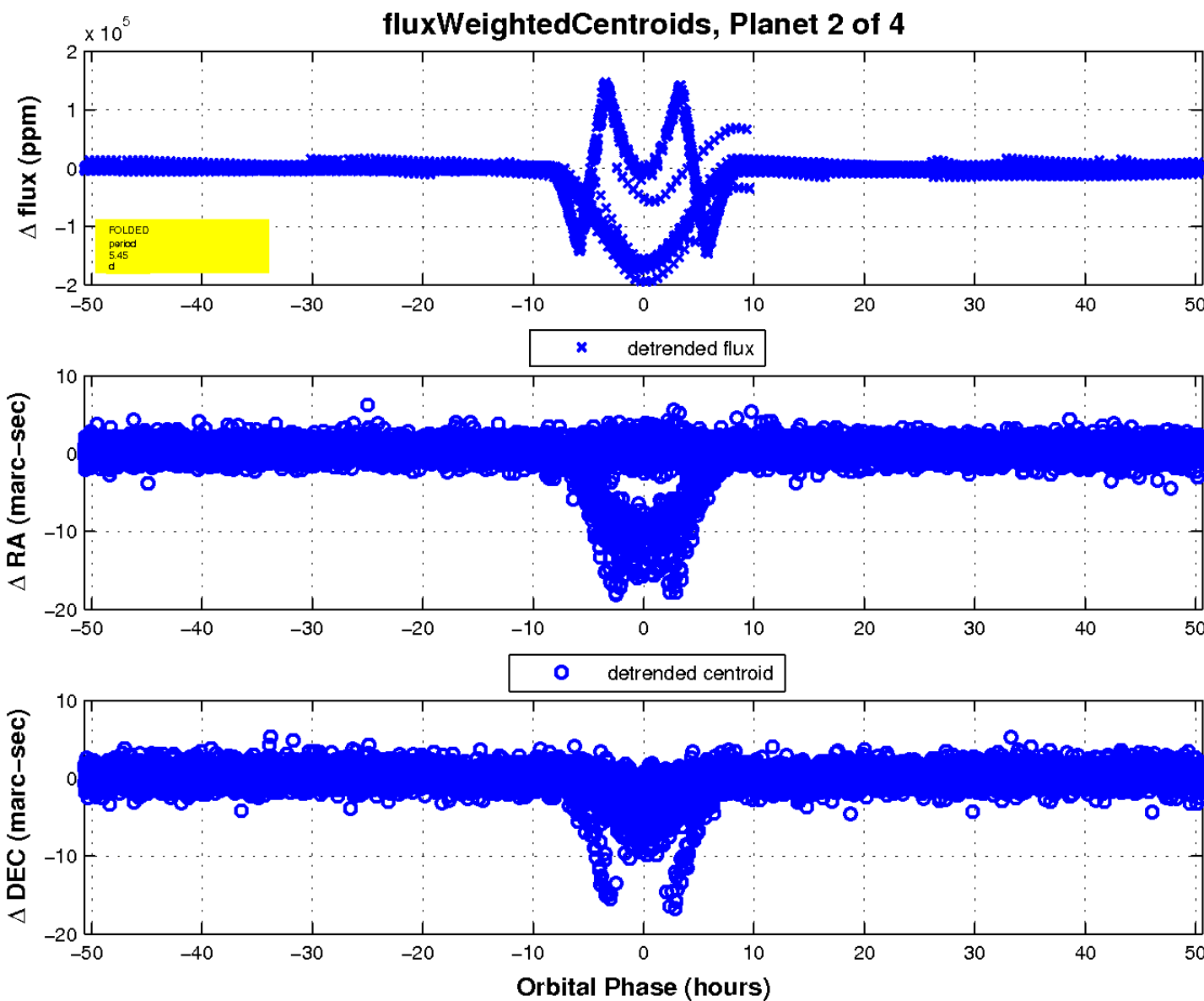
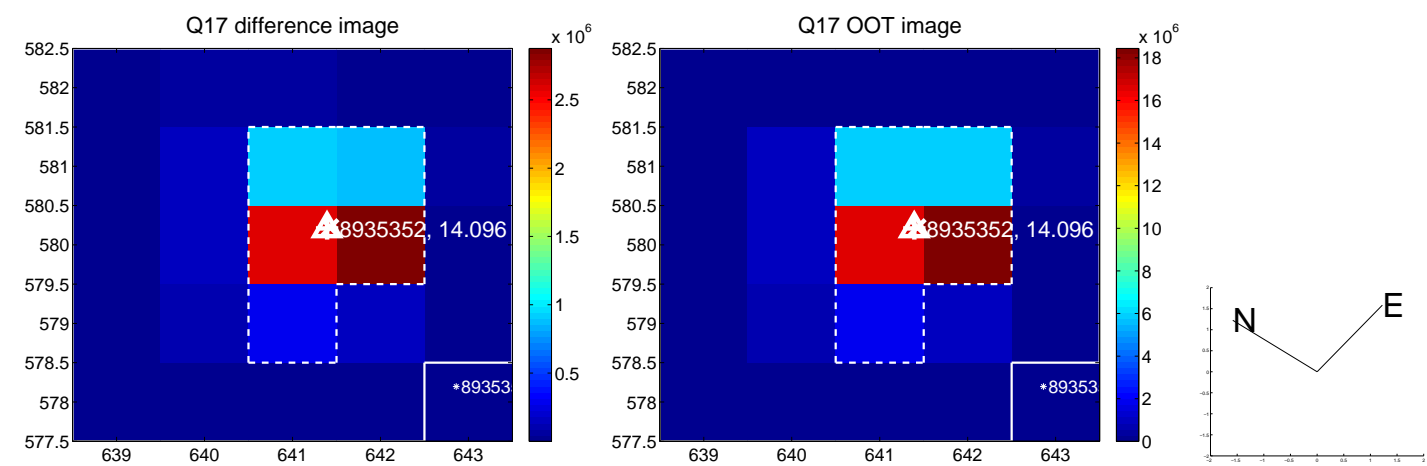
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

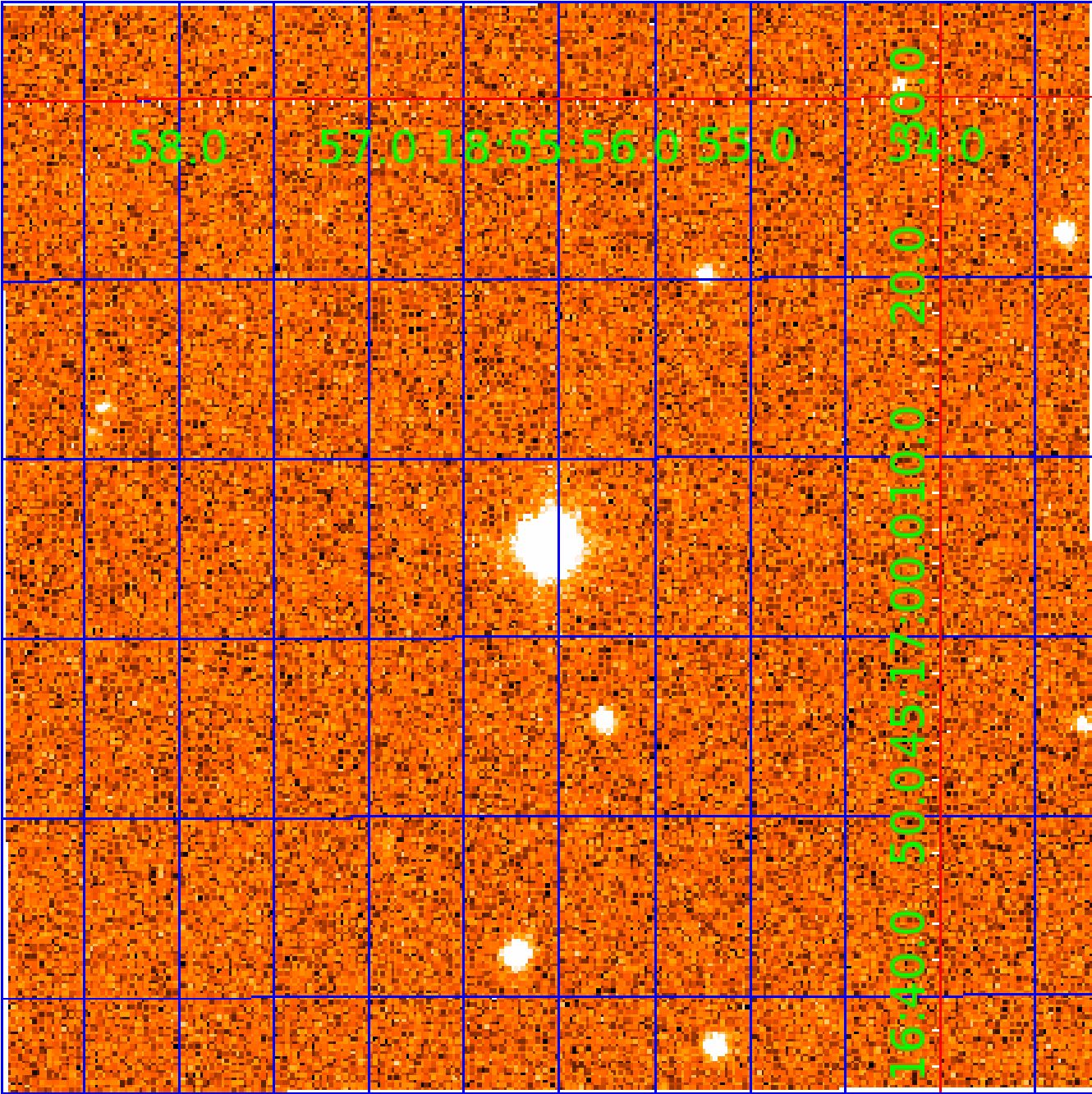


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008935352

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})
008935352-01	OBS	5584.01	10.910040	135.311636	506126.8	10.500	4489.1	-1.0	2.06	5323	45.62	382.14
008935352-02	OBS	No	5.454924	135.341502	164994.4	16.885	1313.8	1313.9	2.06	5323	118.16	962.96
008935352-03	OBS	No	75.664733	154.628504	1368.9	9.885	13.5	9.4	2.06	5323	9.89	28.89
008935352-04	OBS	No	44.830394	154.146864	508.0	3.726	8.4	6.3	2.06	5323	5.36	58.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008935352-01	OBS	FP	0.00	0	1	0	0	HAS_SEC_TCE—CENT_NOFITS
008935352-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008935352-03	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
008935352-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

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

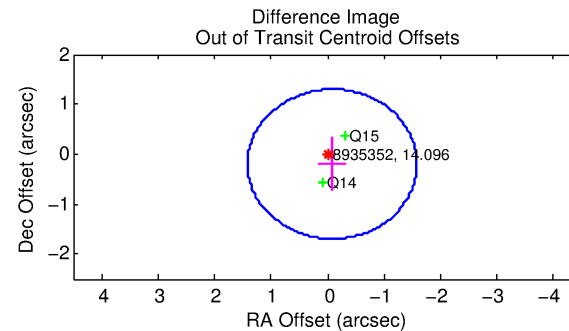
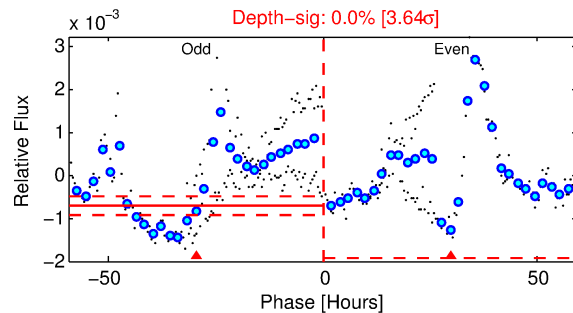
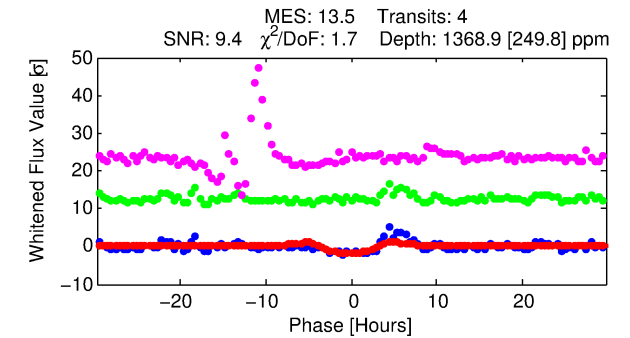
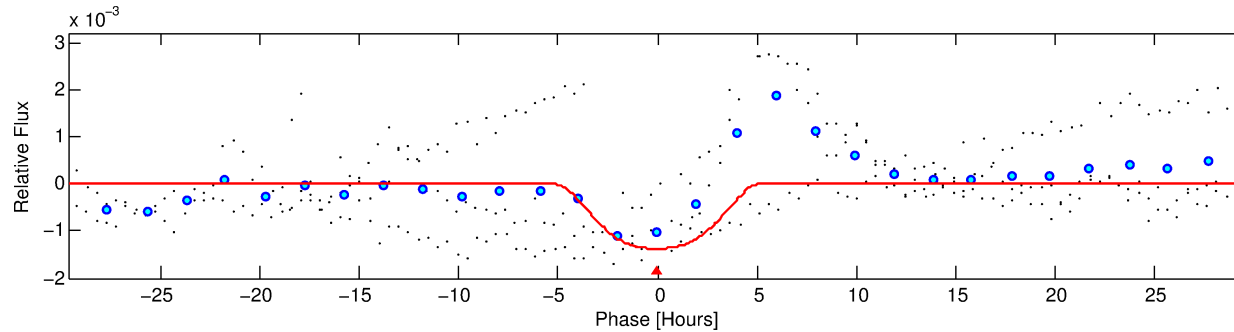
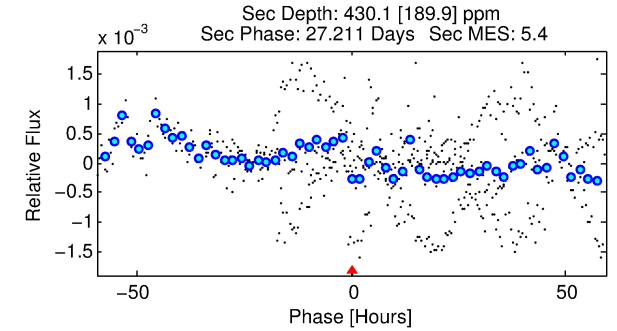
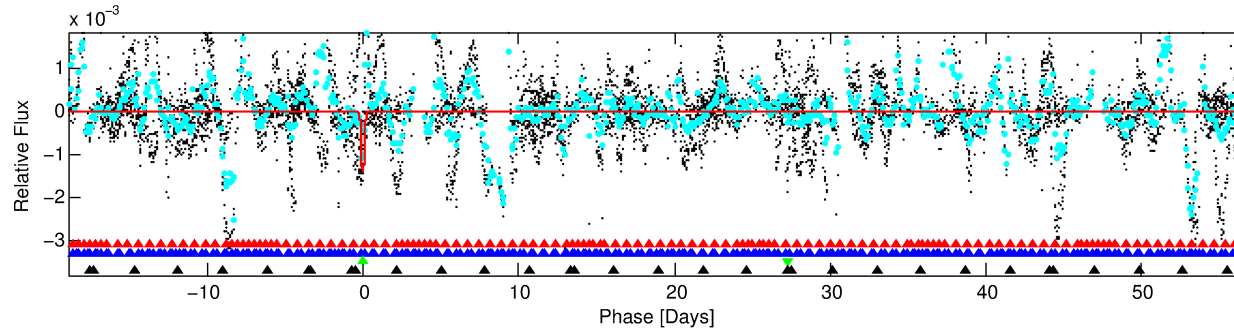
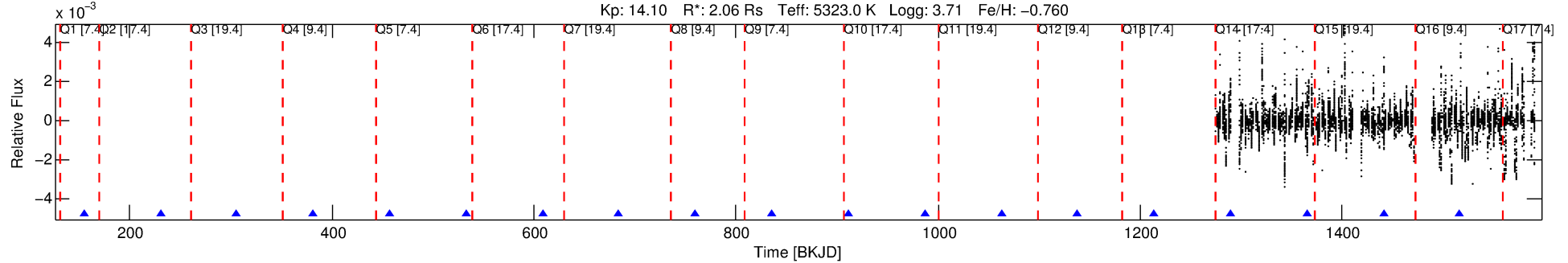
Ephemeris Match Information For 008935352-03

No Significant Match Found

DV One-Page Summary

KIC: 8935352 Candidate: 3 of 4 Period: 75.665 d
KOI: K05584 Corr: No Ephemeris Match

Kp: 14.10 R*: 2.06 Rs Teff: 5323.0 K Logg: 3.71 Fe/H: -0.760



DV Fit Results:

Period = 75.66473 [0.01223] d
Epoch = 154.6285 [0.2052] BKJD
Rp/R* = 0.0439 [0.0050]
a/R* = 24.71 [3.19]
b = 0.95 [0.02]
Seff = 28.89 [45.05]
Teq = 591 [230] K
Rp = 9.89 [7.35] Re
a = 0.3257 [0.2881] AU
Ag = 256.37 [418.02] [0.61σ]
Teffp = 3658 [472] K [5.84σ]

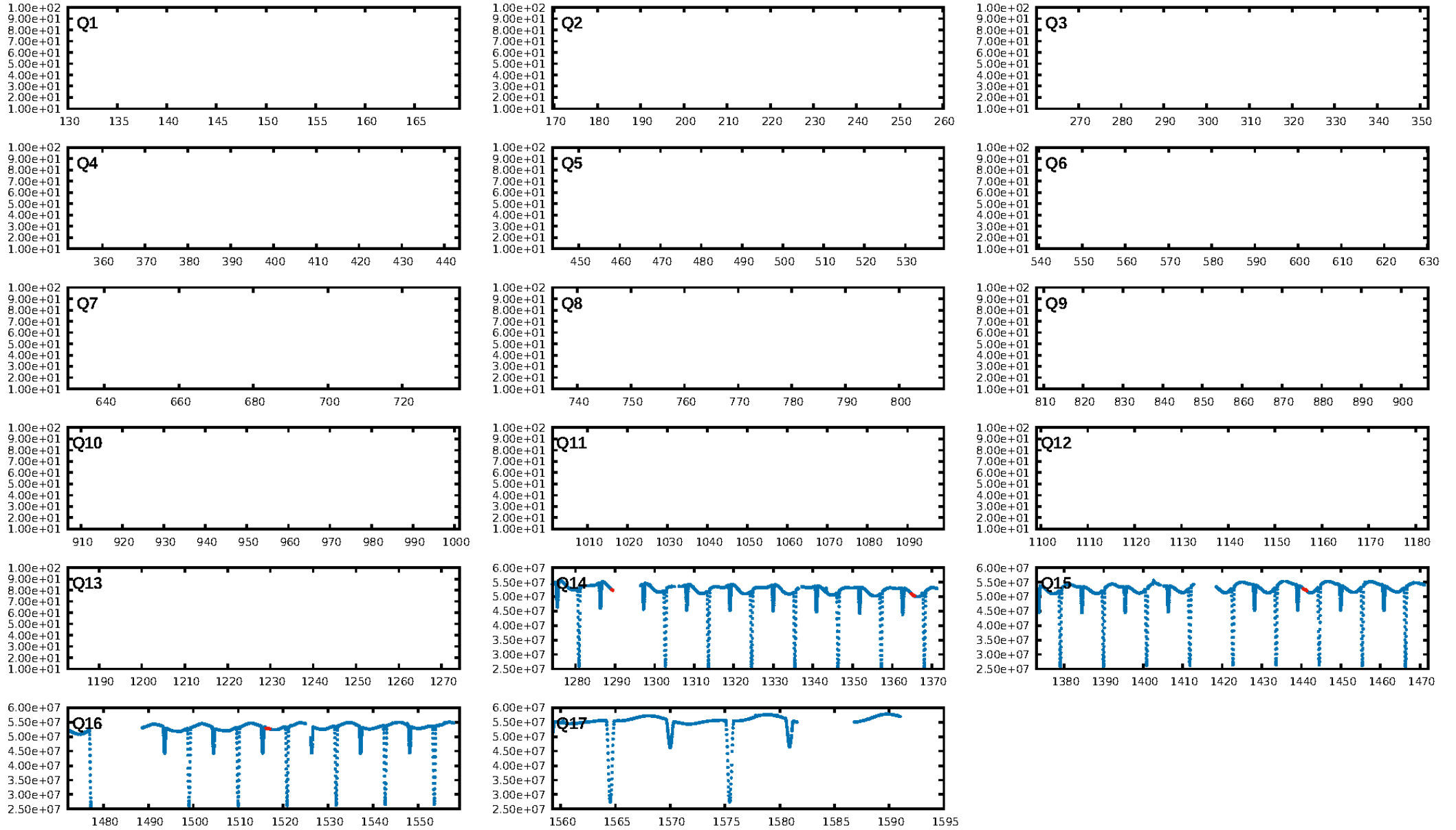
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [70.05σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 94.4%
Bootstrap-pfa: 3.37e-14
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.2163
Centroid-sig: N/A
Centroid-so: 0.116 arcsec [0.22σ]
OotOffset-rm: 0.215 arcsec [0.43σ]
KicOffset-rm: 0.261 arcsec [1.24σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.50 [1/2]

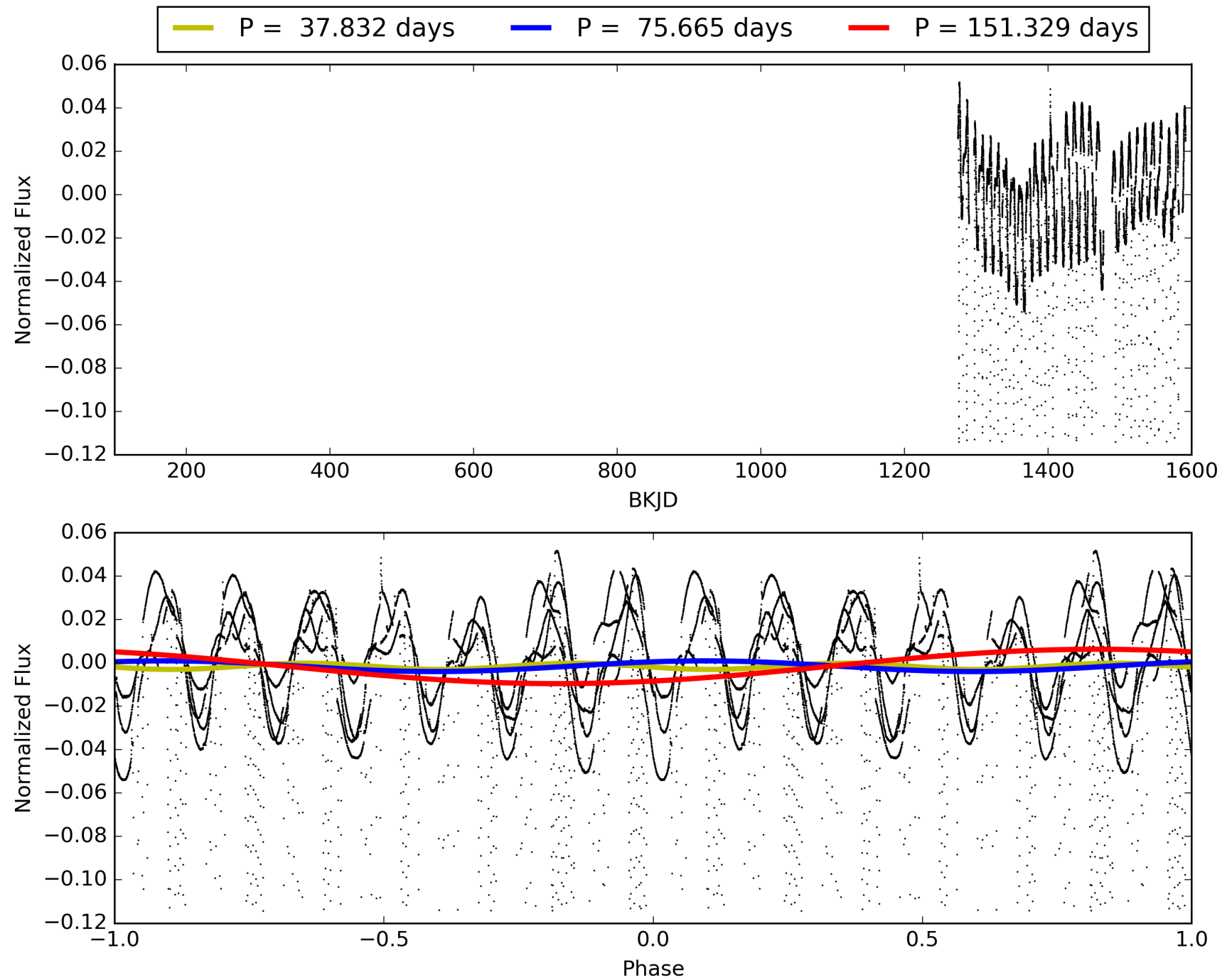
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 02:57:27 Z

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

TCE 008935352-03, PDC Light Curves

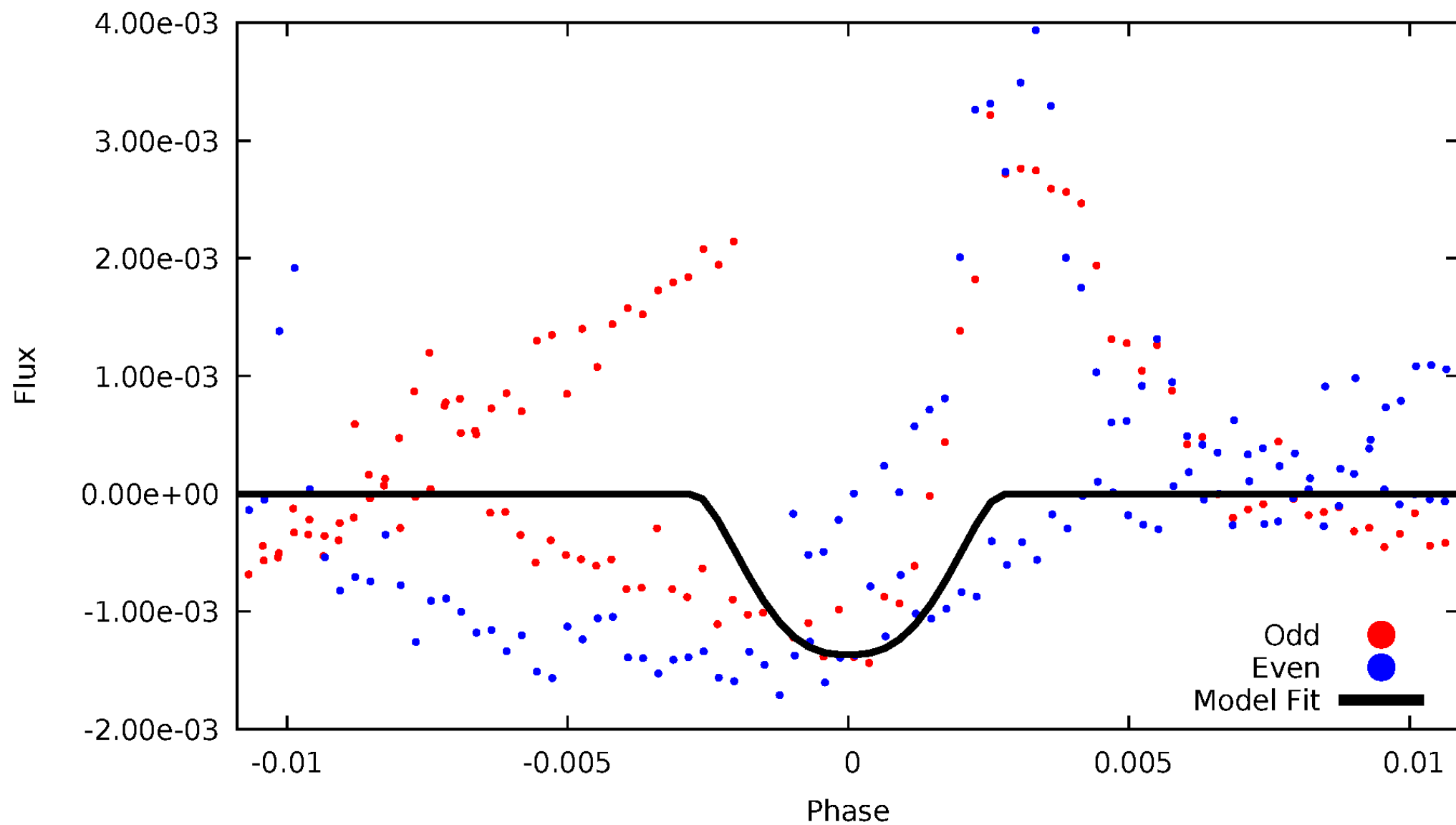


TCE 008935352-03



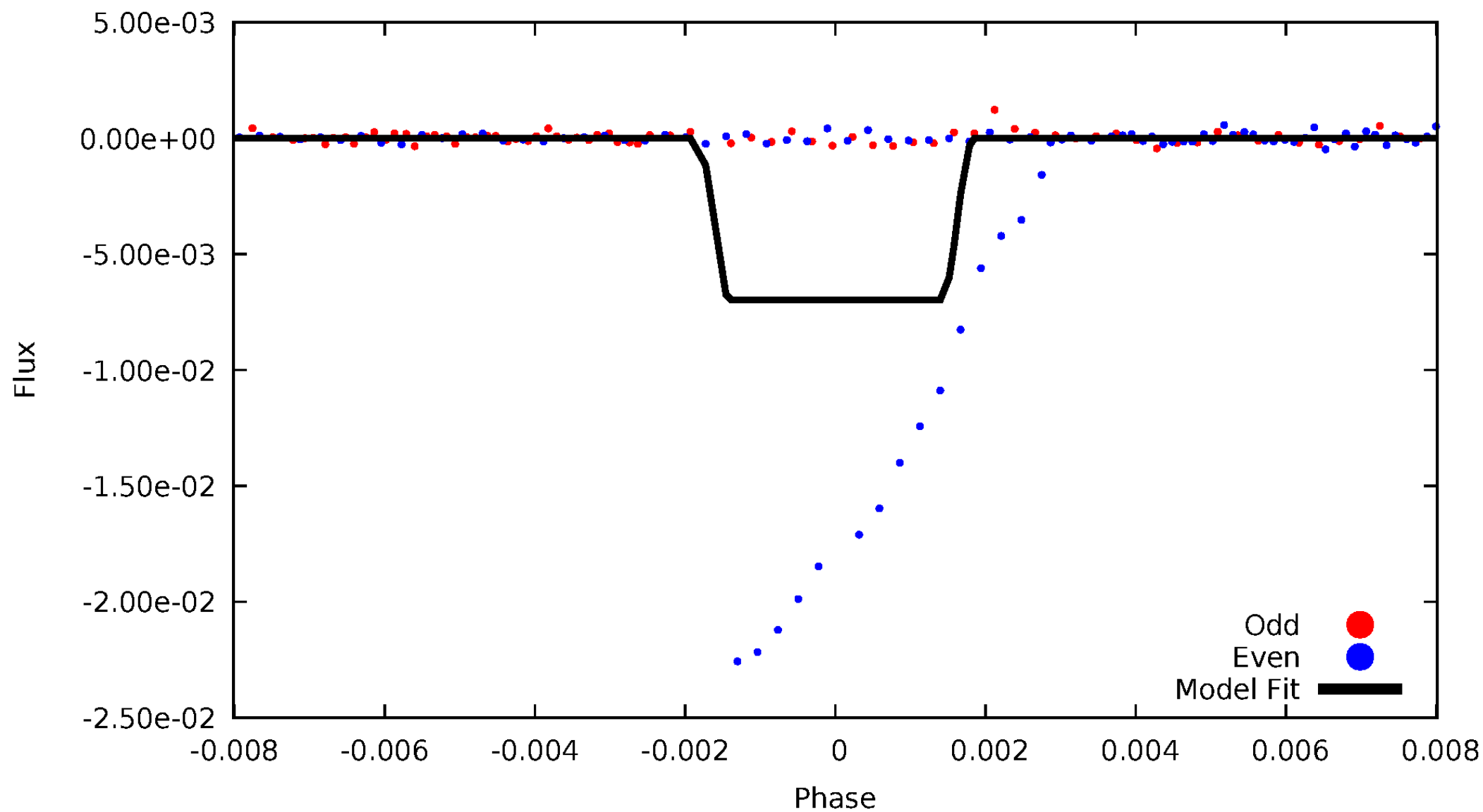
DV Odd/Even

TCE 008935352-03



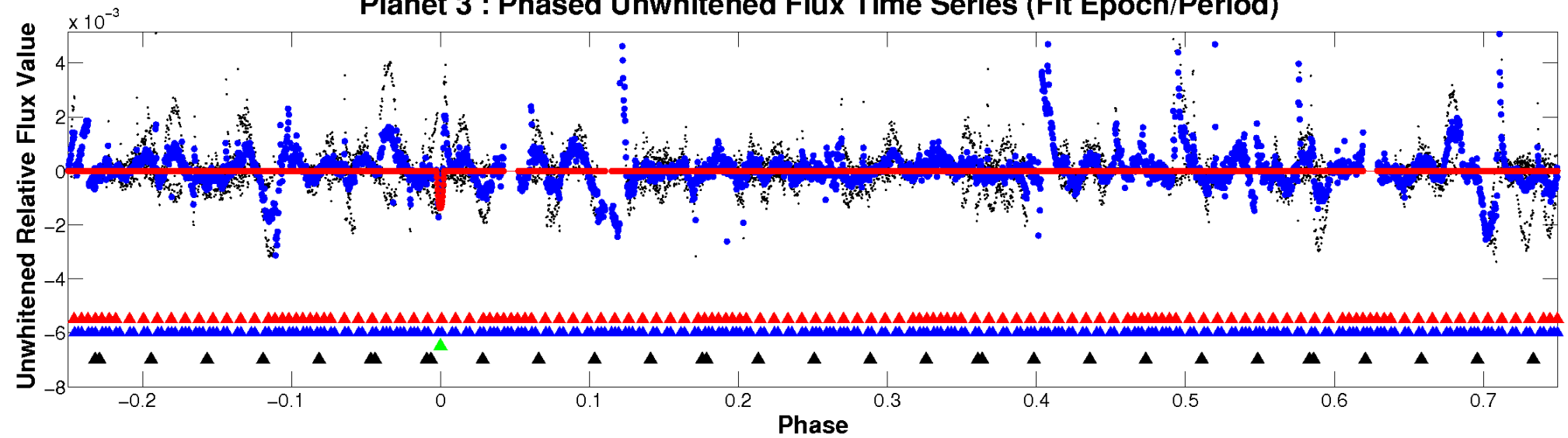
ALT Odd/Even

TCE 008935352-03

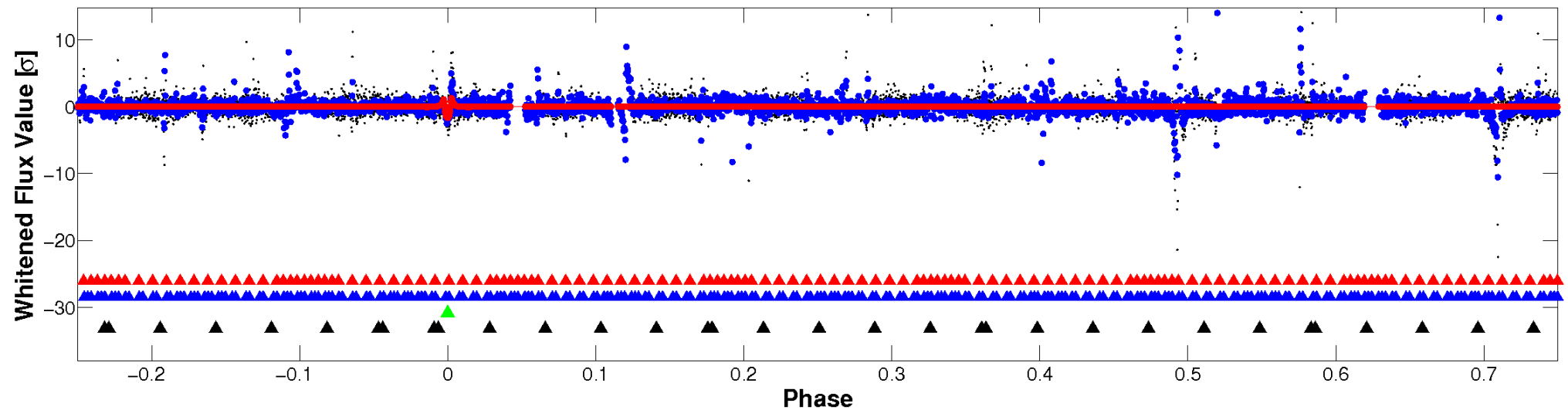


Non-Whitened Vs. Whitened Light Curve

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

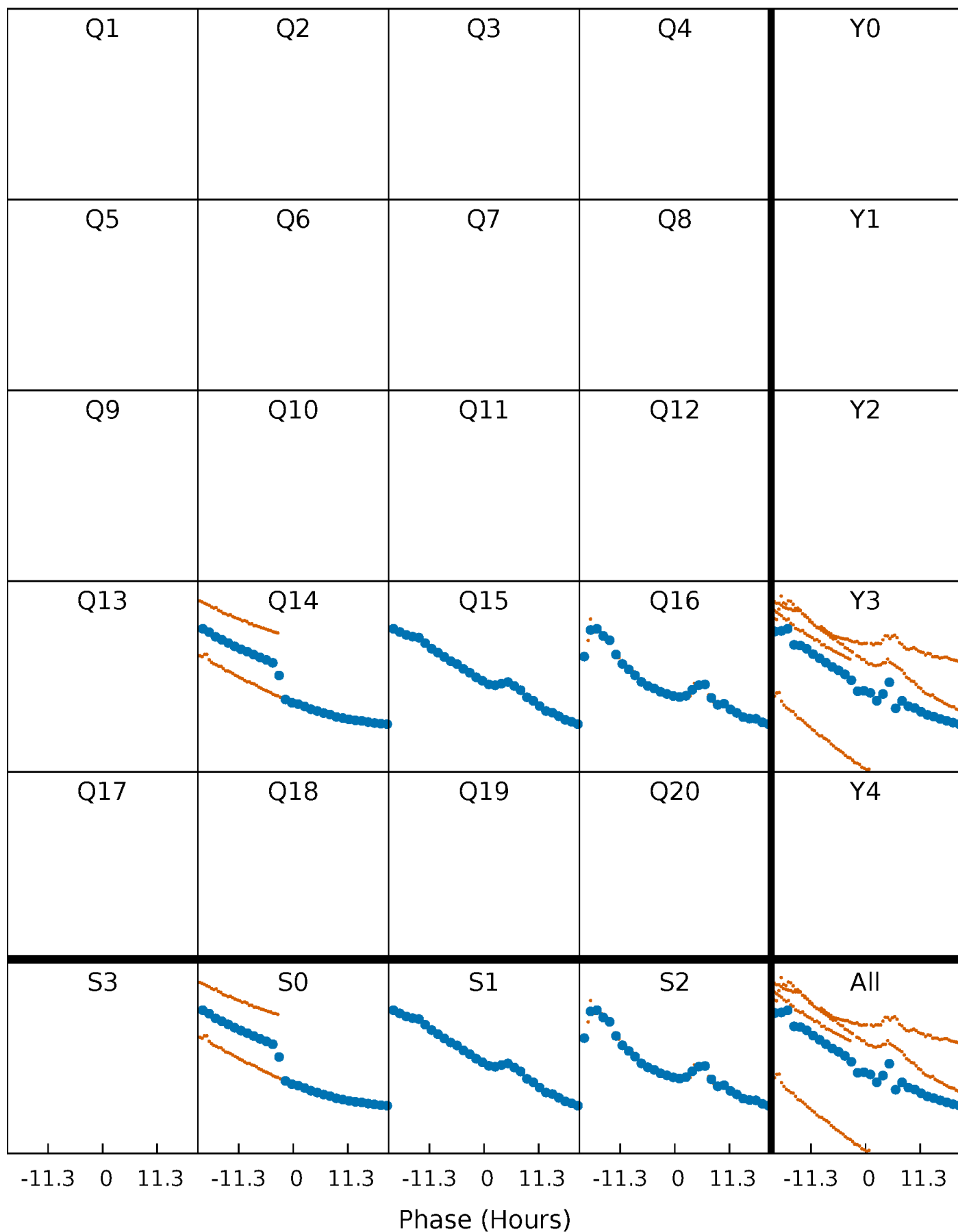


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



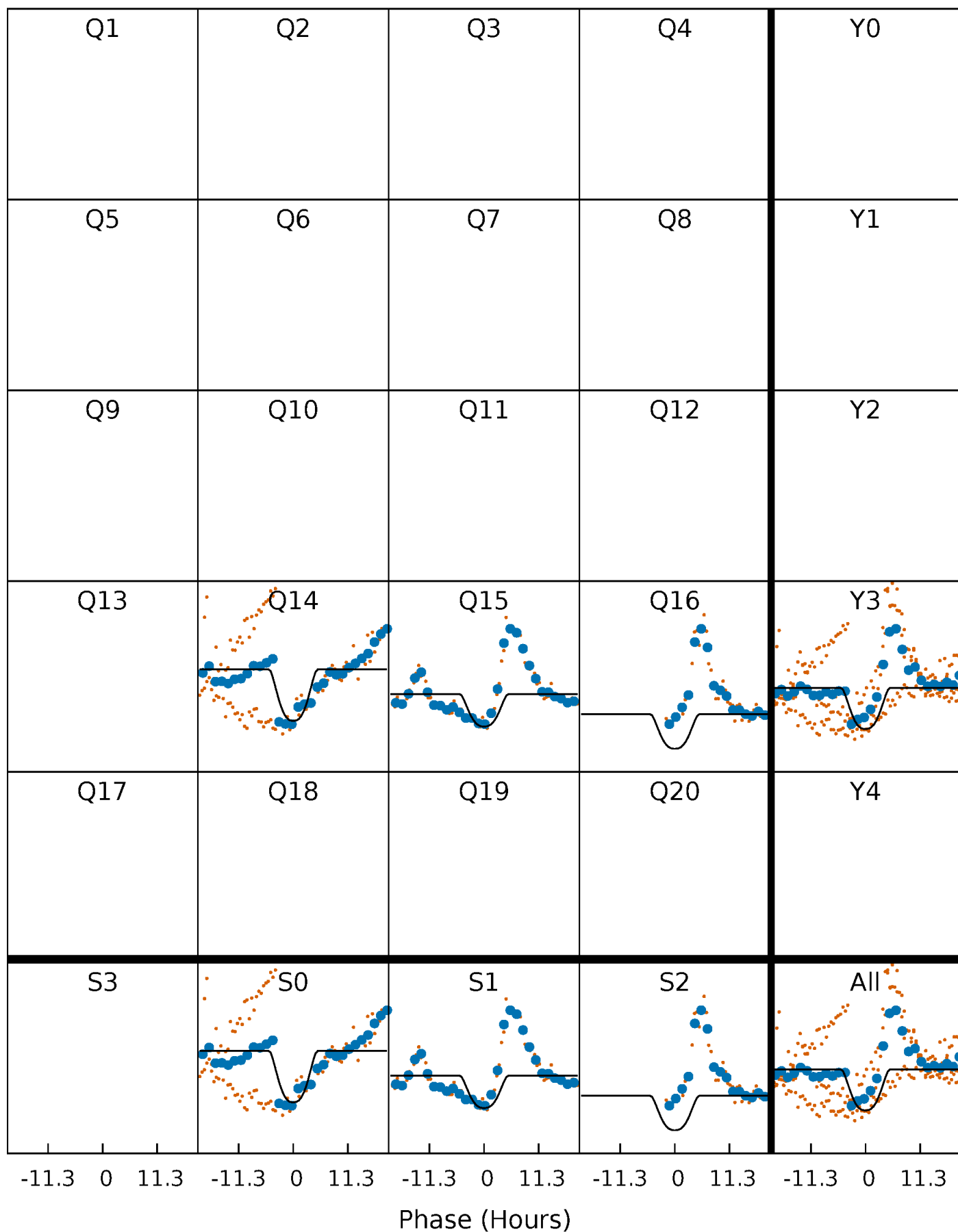
PDC Quarter-Phased Transit Curves

TCE 008935352-03 P= 75.664733 Days $T_0=154.628504$ (BKJD)



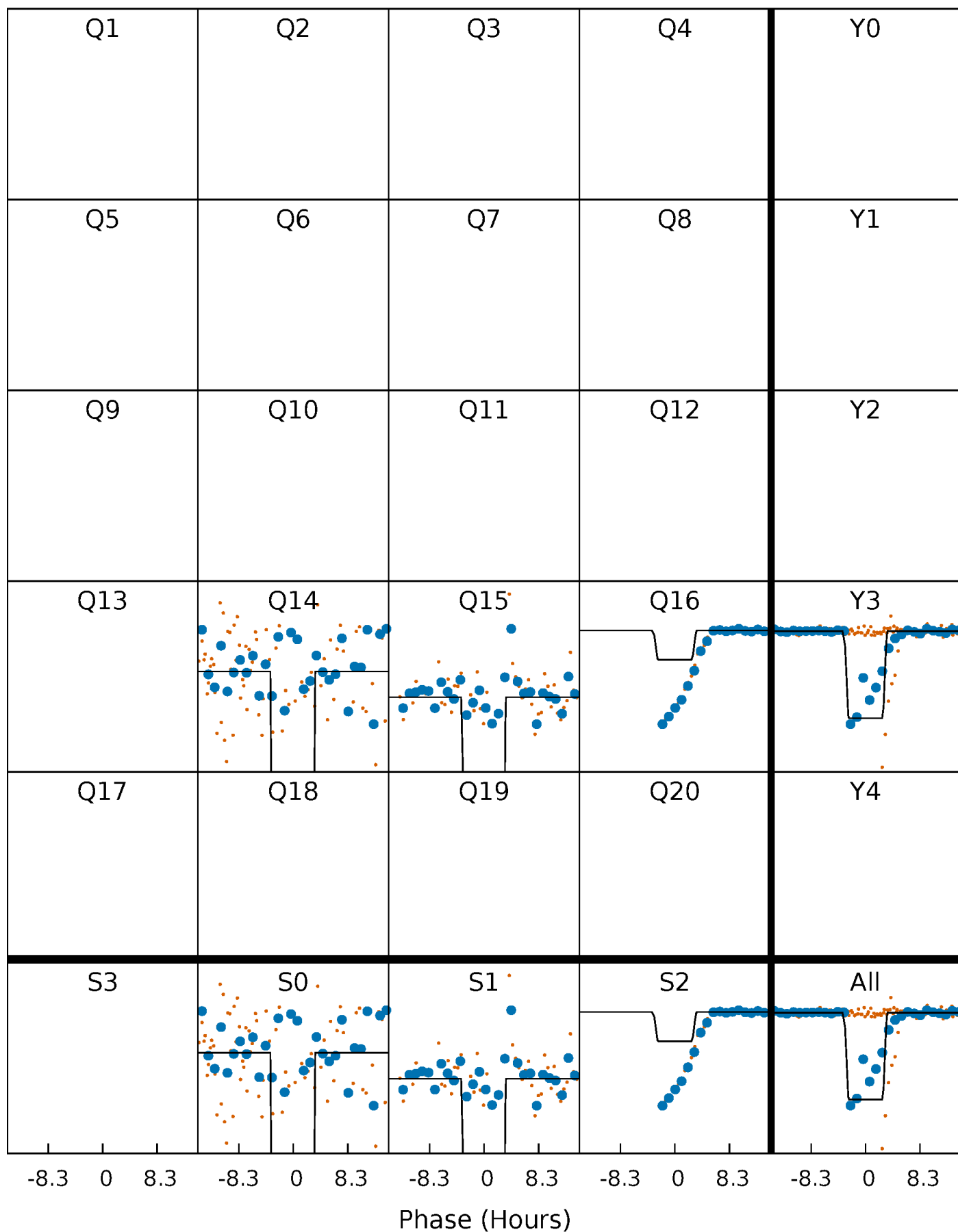
DV Quarter-Phased Transit Curves

TCE 008935352-03 P= 75.664733 Days $T_0=154.628504$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

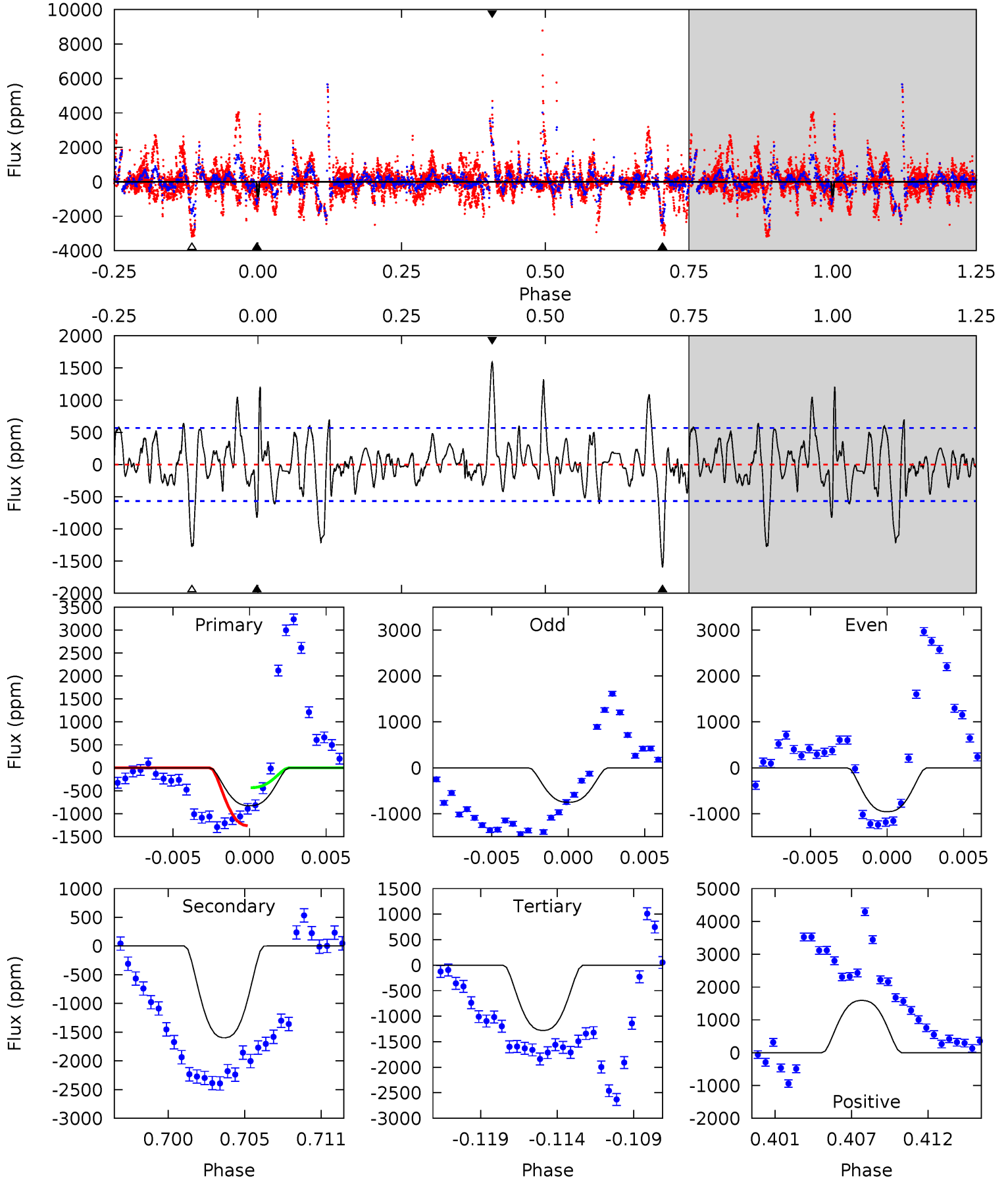
TCE 008935352-03 P= 75.658001 Days $T_0=154.773949$ (BKJD)



DV Model-Shift Uniqueness Test

008935352-03, P = 75.664733 Days, E = 154.628504 Days

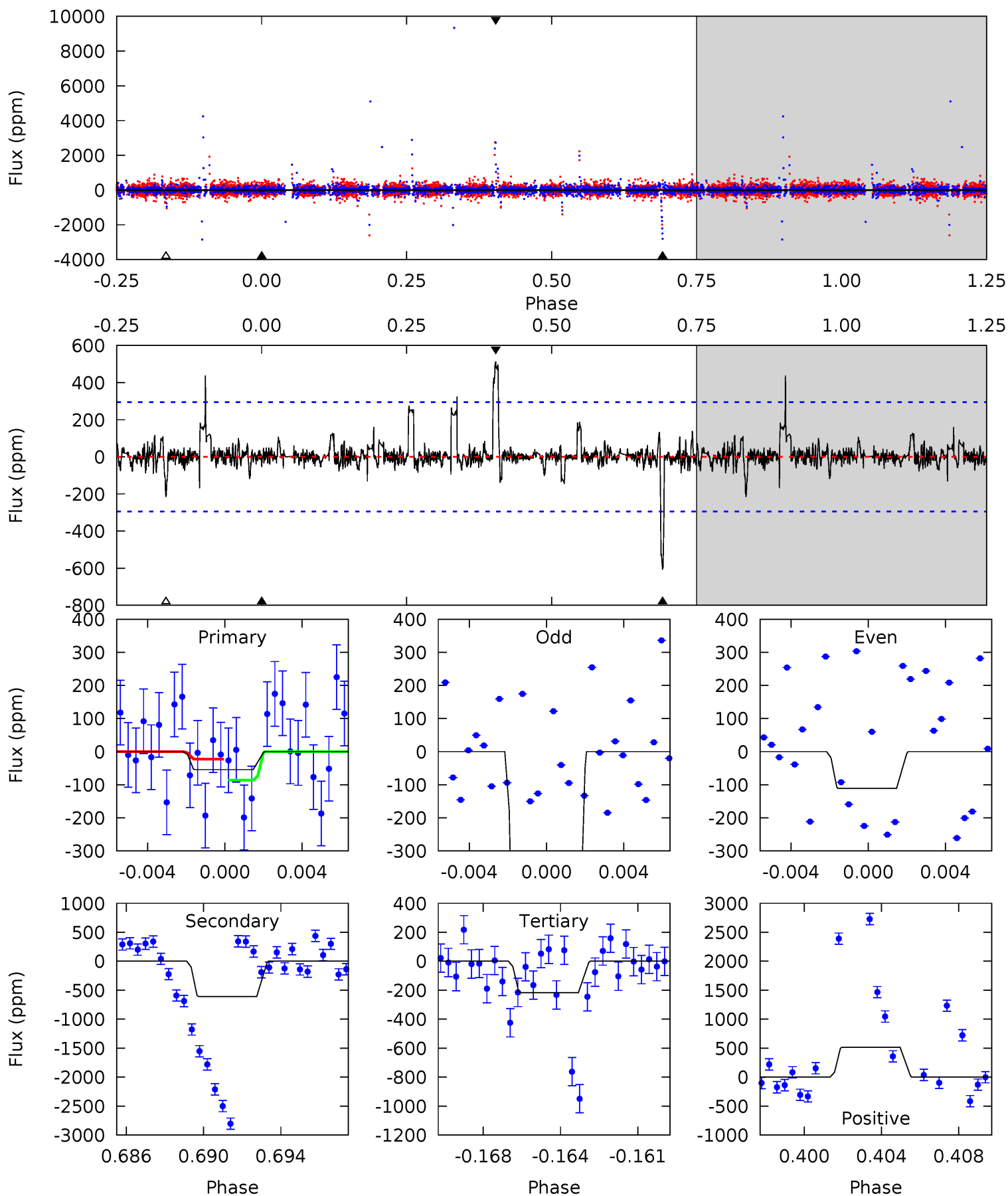
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.47	14.5	11.6	14.4	5.14	2.78	2.86	-4.10	-6.93	2.88	0.05	0.81	-3.60	0.50	3.75



Alt Model-Shift Uniqueness Test

008935352-03, P = 75.658001 Days, E = 154.773949 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.97	10.8	3.84	9.12	5.22	2.91	0.86	-2.87	-8.15	6.95	1.67	5.26	52.9	0.46	0.57



Stellar Parameters For KIC 008935352

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5323^{+186}_{-167}	$3.714^{+0.960}_{-0.320}$	$-0.760^{+0.350}_{-0.300}$	$2.064^{+1.378}_{-1.516}$	$0.804^{+0.214}_{-0.142}$	$0.129^{+3.411}_{-0.106}$
	+3%/-3%	+26%/-9%	+46%/-39%	+67%/-73%	+27%/-18%	+2650%/-82%
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 008935352-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1597 ± 111	$9.15^{+3.51}_{-3.15}$	799^{+130}_{-152}	5139^{+354}_{-285}	1167^{+1441}_{-559}
Alt.	-608 ± 56	$17.85^{+6.65}_{-6.38}$	800^{+135}_{-156}	3397^{+107}_{-100}	113^{+170}_{-52}

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

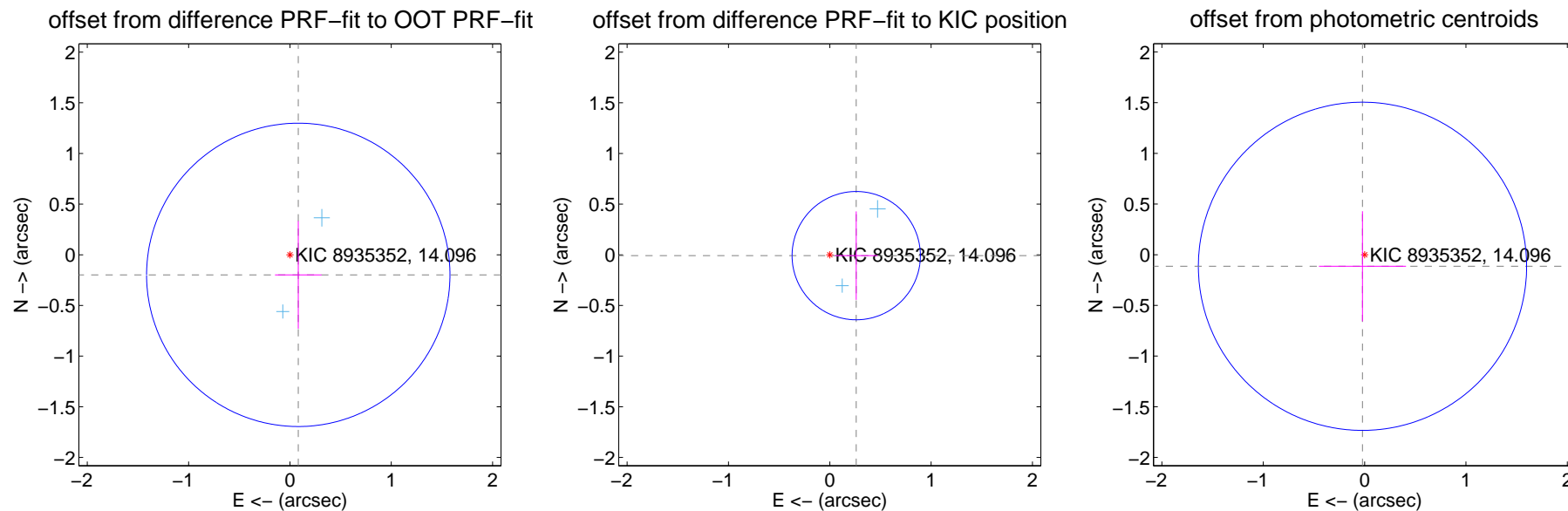
DV Centroid Data

Supplemental centroid analysis for 008935352-03. Kepler magnitude: 14.10. Transit SNR 9.44

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.215 ± 0.499	0.43	-0.082 ± 0.230	-0.198 ± 0.532
PRF-fit source offset from KIC position	0.261 ± 0.211	1.24	-0.261 ± 0.211	-0.009 ± 0.437
photometric centroid source offset	0.12 ± 0.54	0.22	0.02 ± 0.43	-0.11 ± 0.54



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.

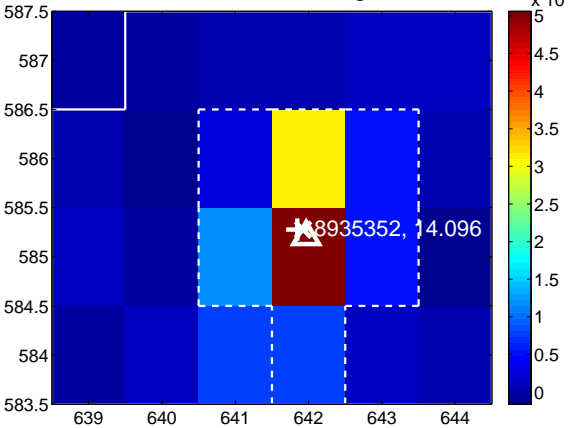
Q13 no difference image



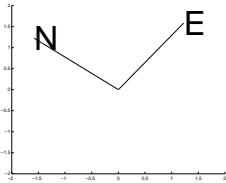
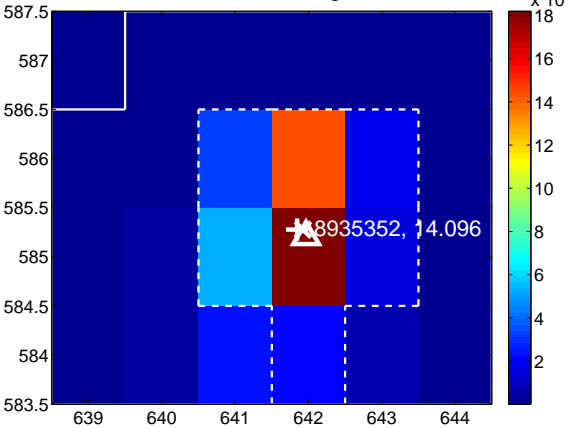
Q13 no OOT image



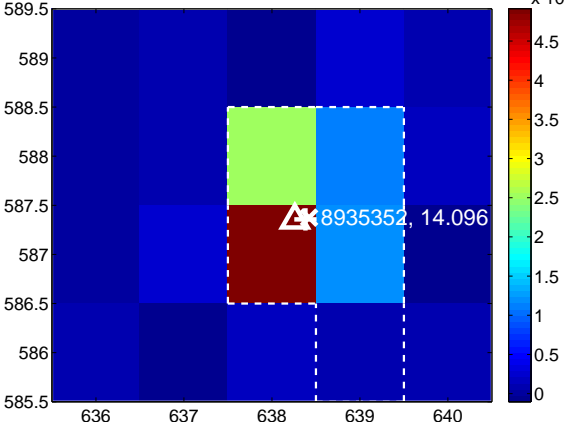
Q14 difference image



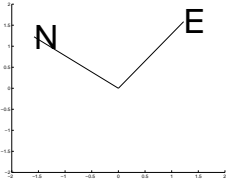
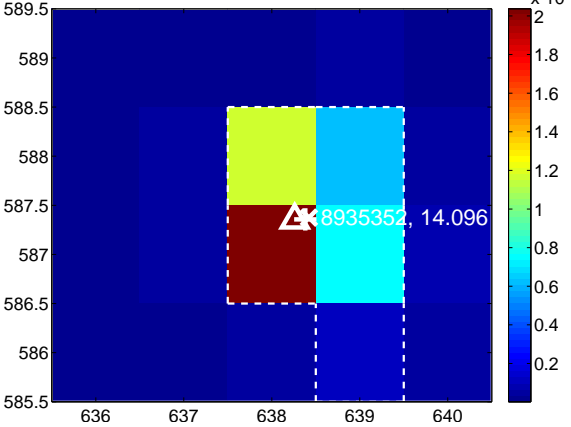
Q14 OOT image



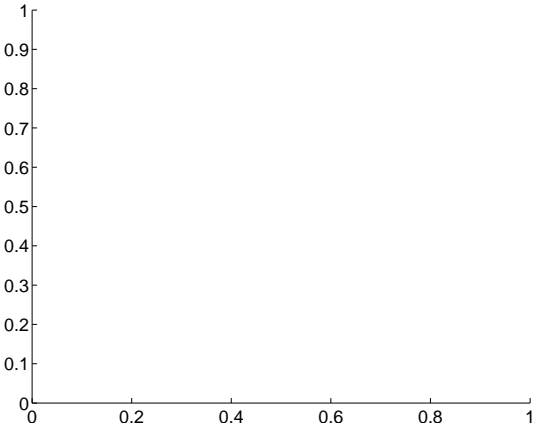
Q15 difference image



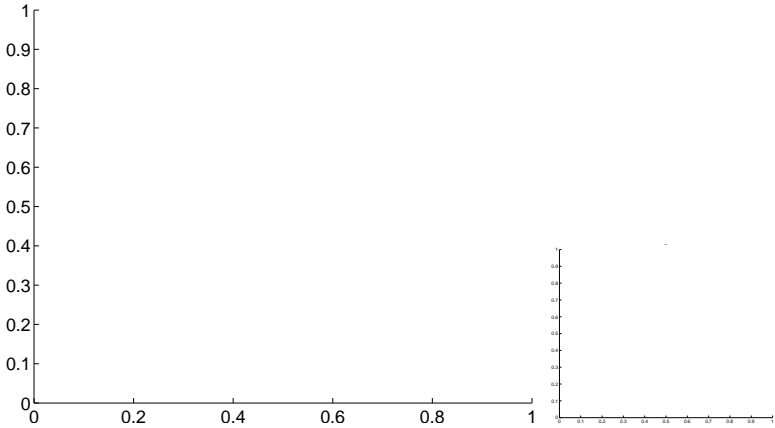
Q15 OOT image



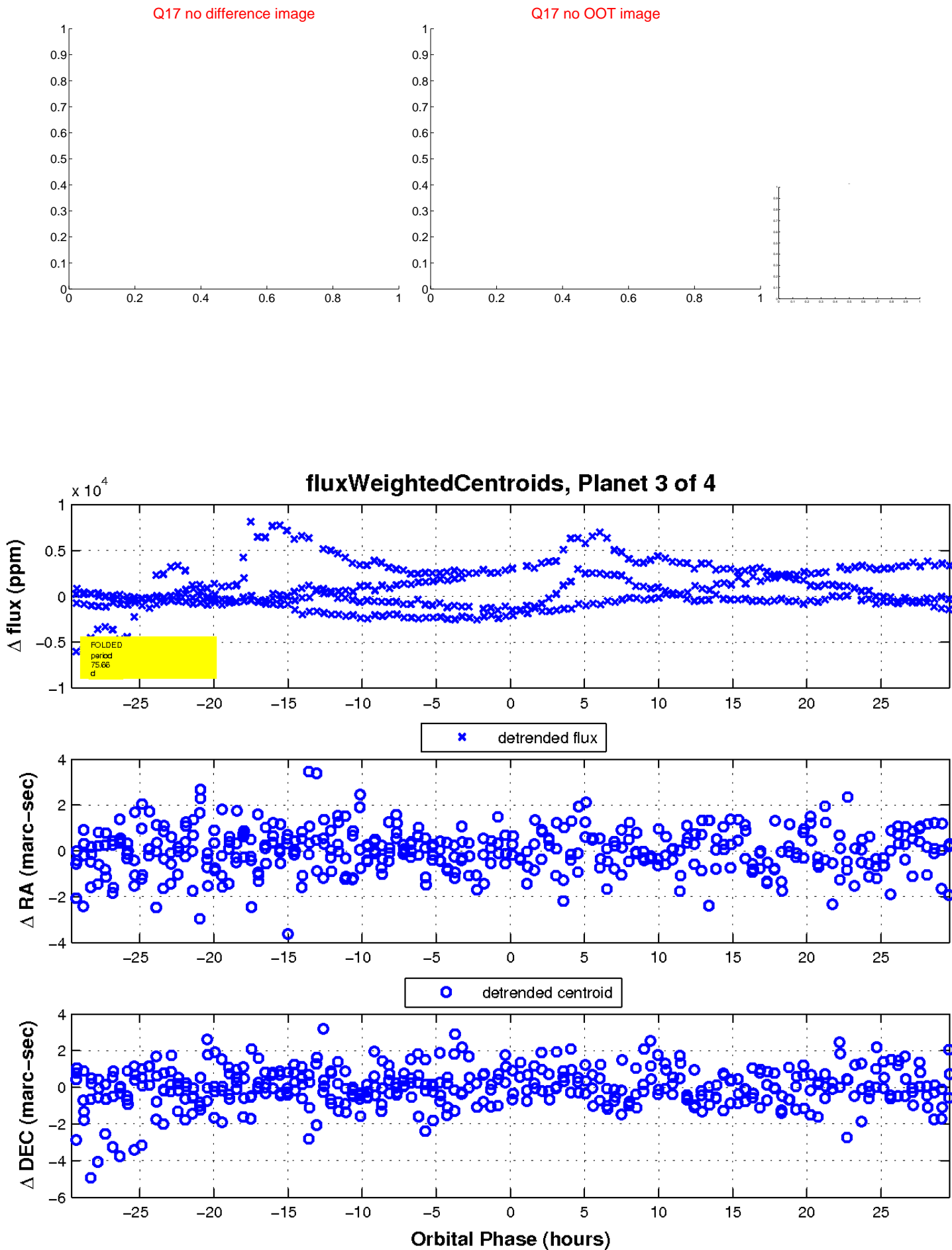
Q16 no difference image



Q16 no OOT image

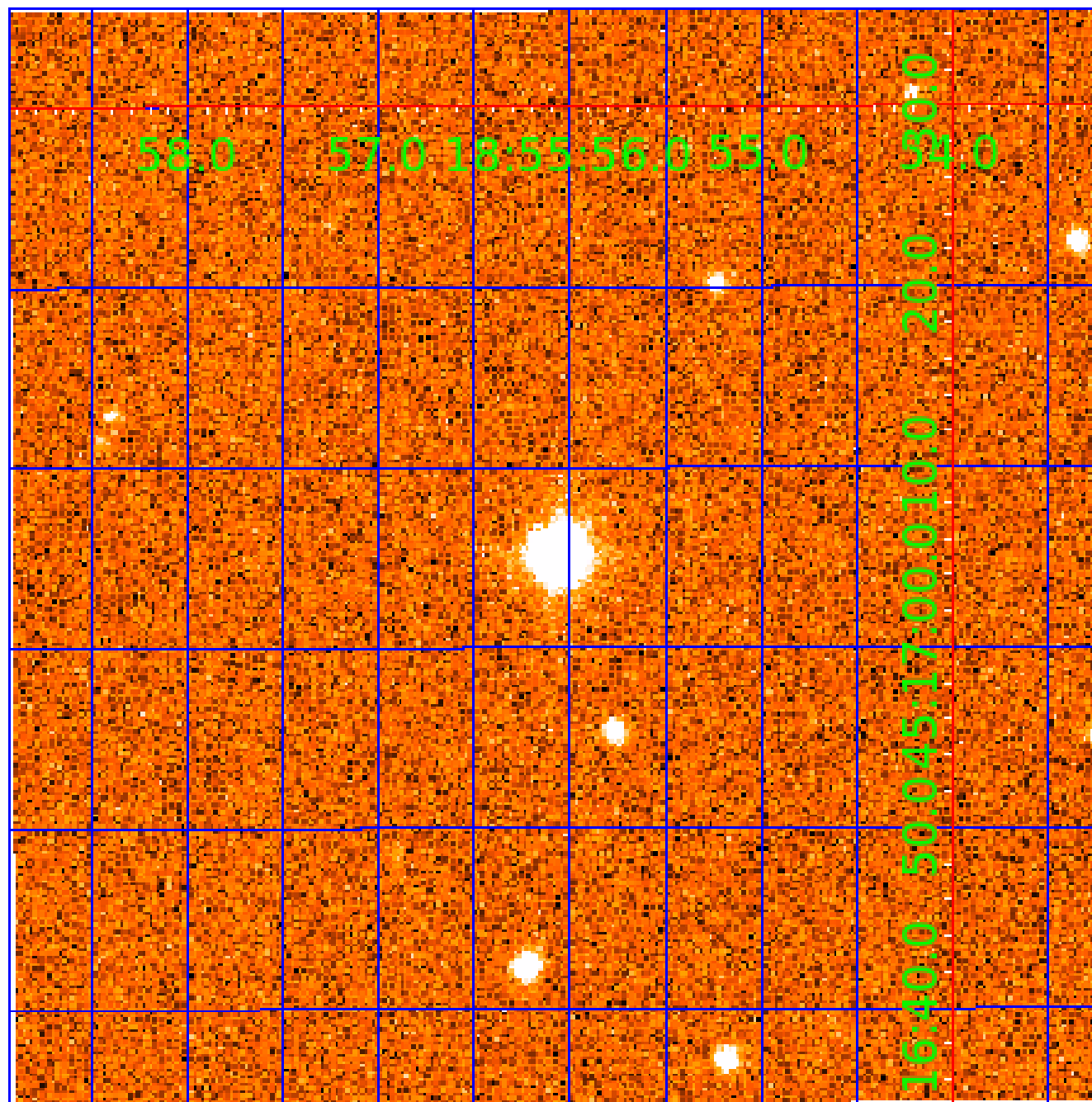


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008935352

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})
008935352-01	OBS	5584.01	10.910040	135.311636	506126.8	10.500	4489.1	-1.0	2.06	5323	45.62	382.14
008935352-02	OBS	No	5.454924	135.341502	164994.4	16.885	1313.8	1313.9	2.06	5323	118.16	962.96
008935352-03	OBS	No	75.664733	154.628504	1368.9	9.885	13.5	9.4	2.06	5323	9.89	28.89
008935352-04	OBS	No	44.830394	154.146864	508.0	3.726	8.4	6.3	2.06	5323	5.36	58.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008935352-01	OBS	FP	0.00	0	1	0	0	HAS_SEC_TCE—CENT_NOFITS
008935352-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008935352-03	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
008935352-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

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

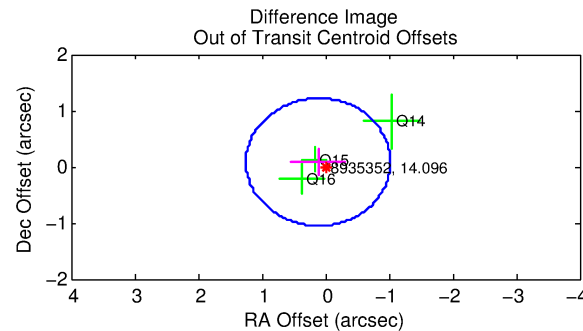
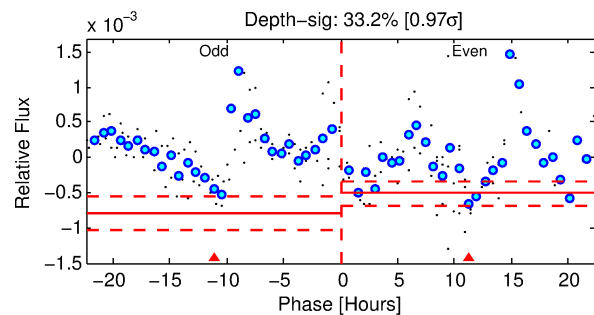
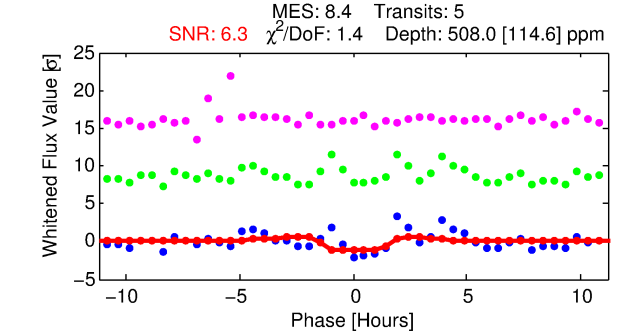
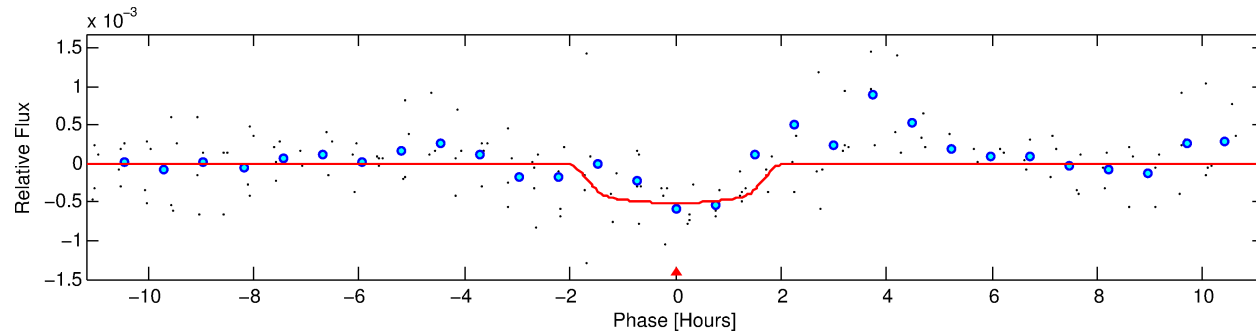
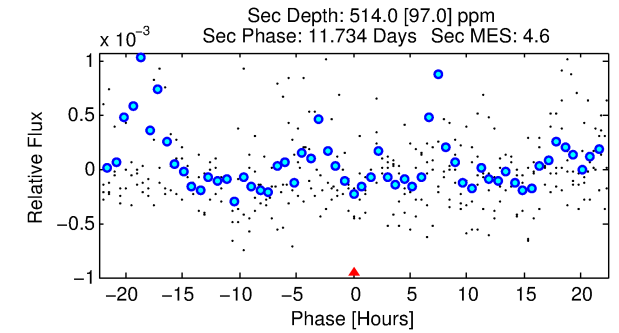
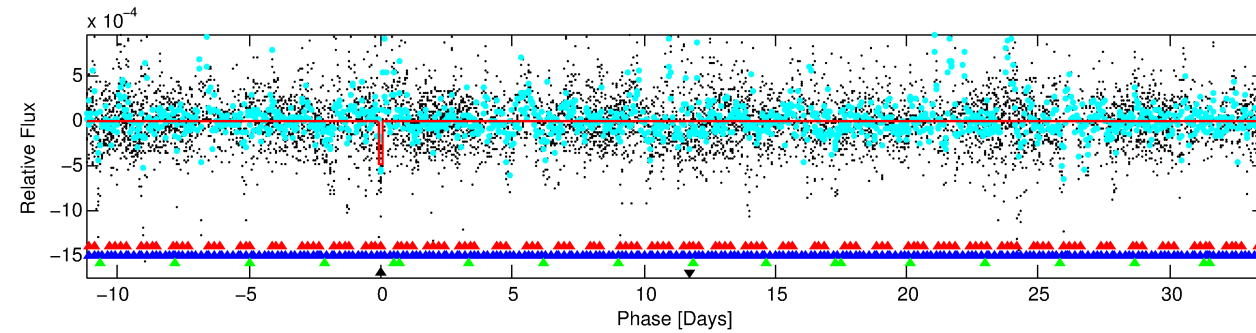
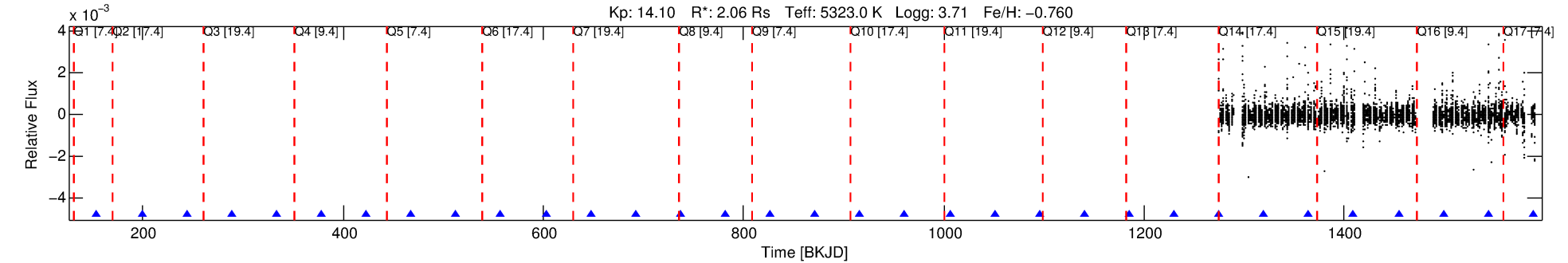
Ephemeris Match Information For 008935352-04

No Significant Match Found

DV One-Page Summary

KIC: 8935352 Candidate: 4 of 4 Period: 44.830 d
KOI: K05584 Corr: No Ephemeris Match

Kp: 14.10 R*: 2.06 Rs Teff: 5323.0 K Logg: 3.71 Fe/H: -0.760



DV Fit Results:

Period = 44.83039 [0.00343] d
Epoch = 154.1469 [0.1020] BKJD
Rp/R* = 0.0238 [0.0622]
a/R* = 50.89 [606.44]
b = 0.86 [3.66]
Seff = 58.06 [90.53]
Teff = 704 [274] K
Rp = 5.36 [14.54] Re
a = 0.2297 [0.2032] AU
Ag = 519.68 [2834.66] [0.18σ]
Teffp = 5196 [6795] K [0.66σ]

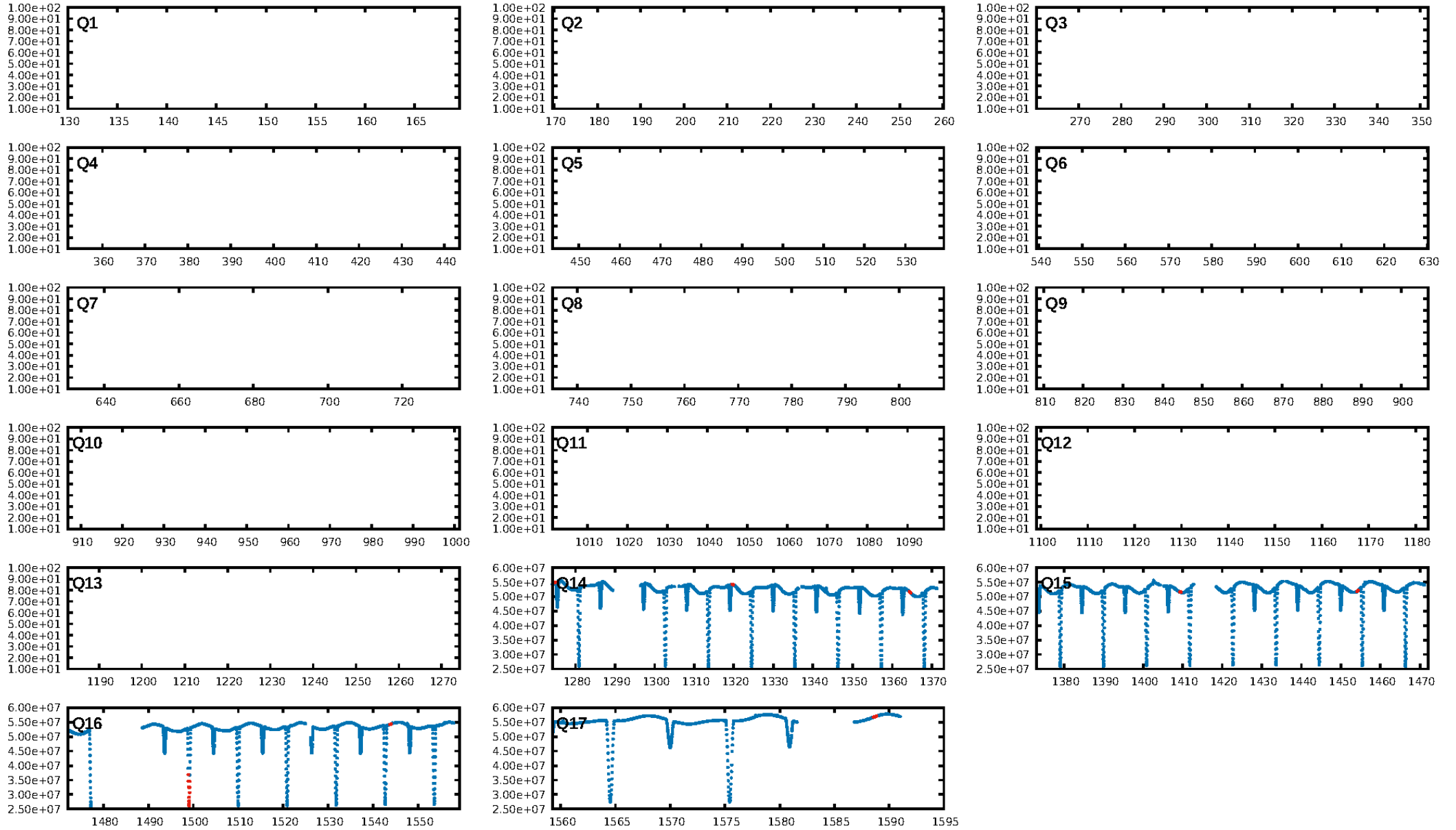
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [73.07σ]
LongPeriod-sig: 100.0% [70.05σ]
ModelChiSquare2-sig: 10.8%
ModelChiSquareGof-sig: 87.5%
Bootstrap-pfa: 1.42e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.265
Centroid-sig: N/A
Centroid-so: 0.121 arcsec [0.15σ]
OotOffset-rm: 0.139 arcsec [0.37σ]
KicOffset-rm: 0.230 arcsec [0.79σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

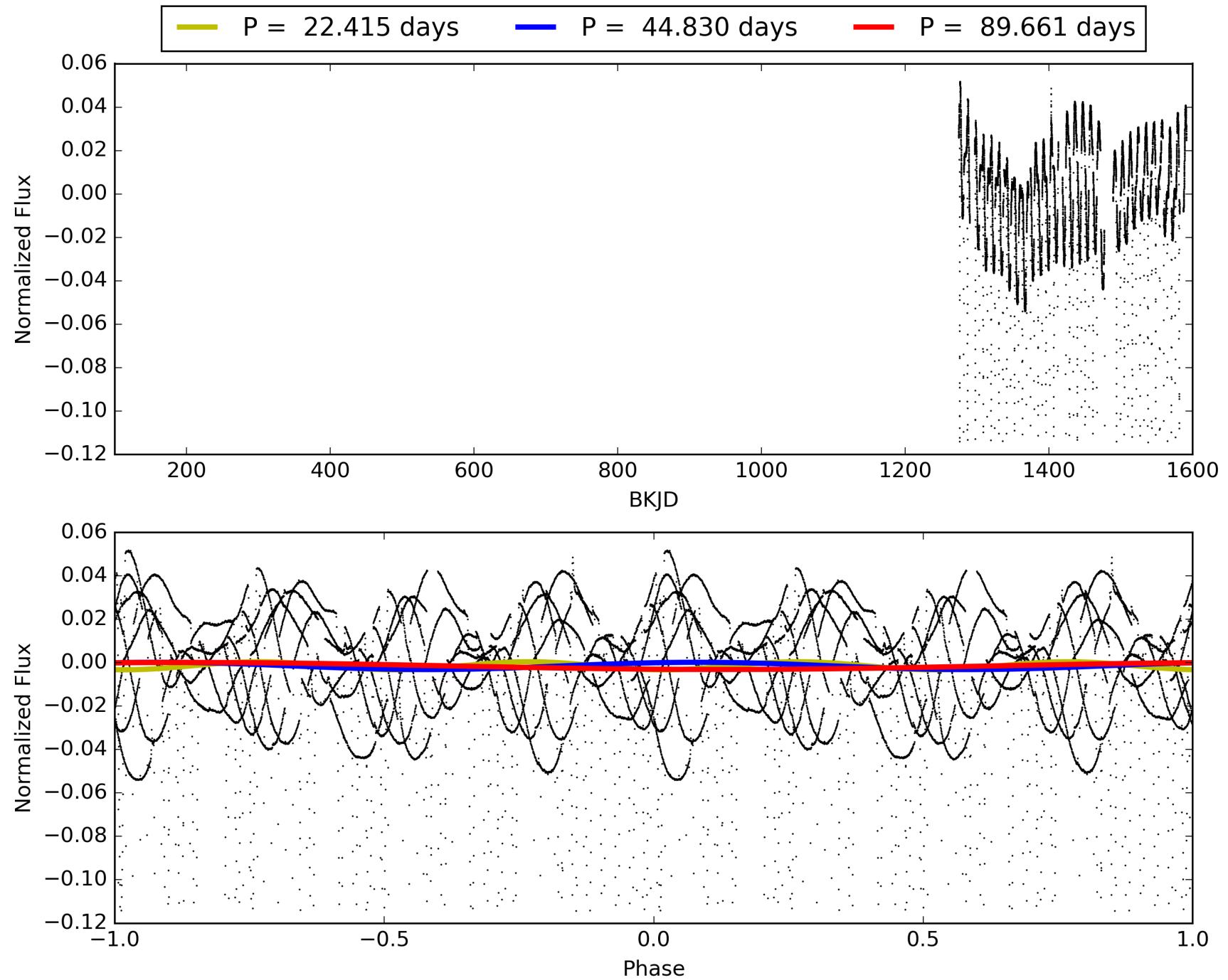
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 02:57:30 Z

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

TCE 008935352-04, PDC Light Curves

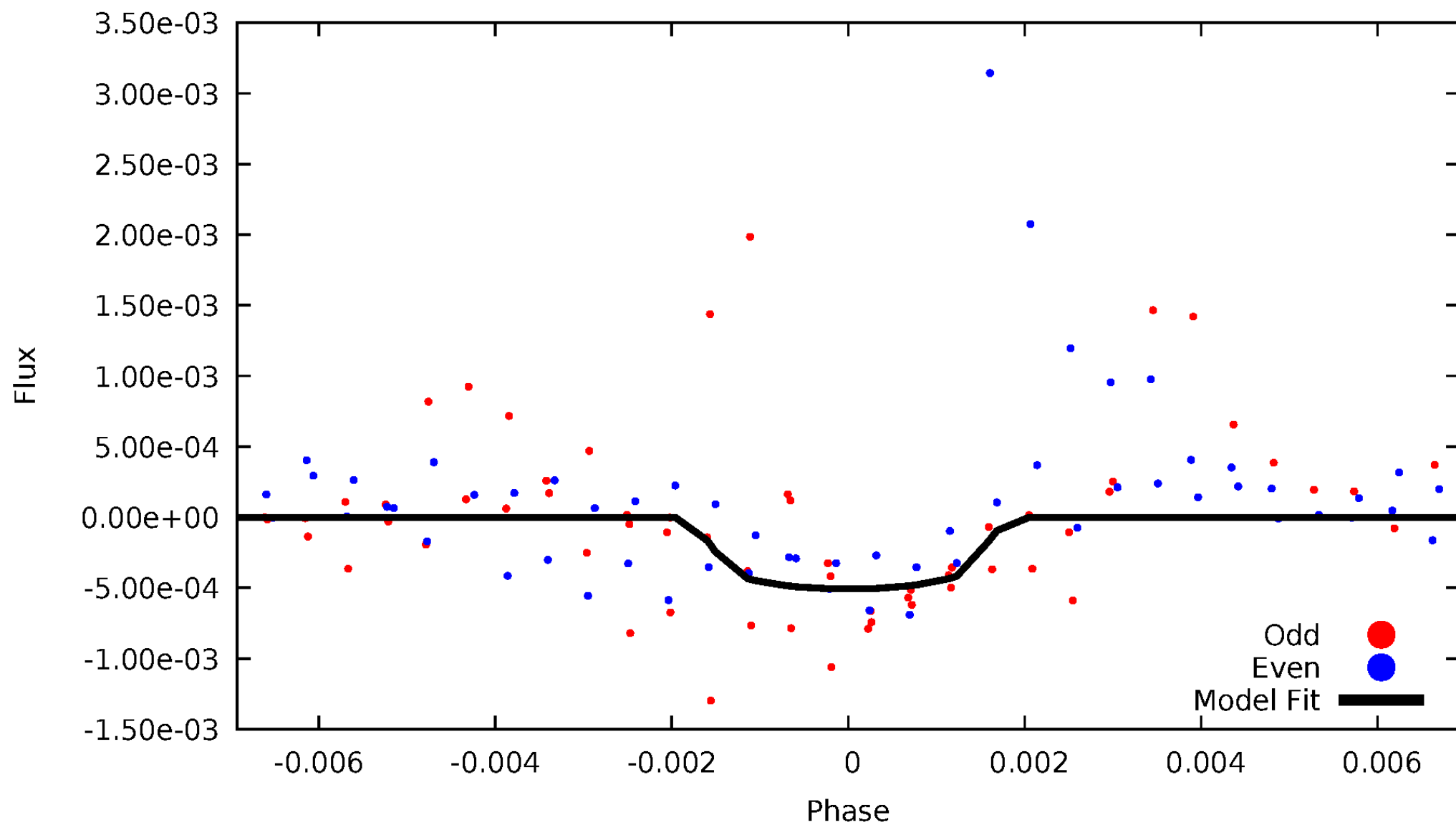


TCE 008935352-04



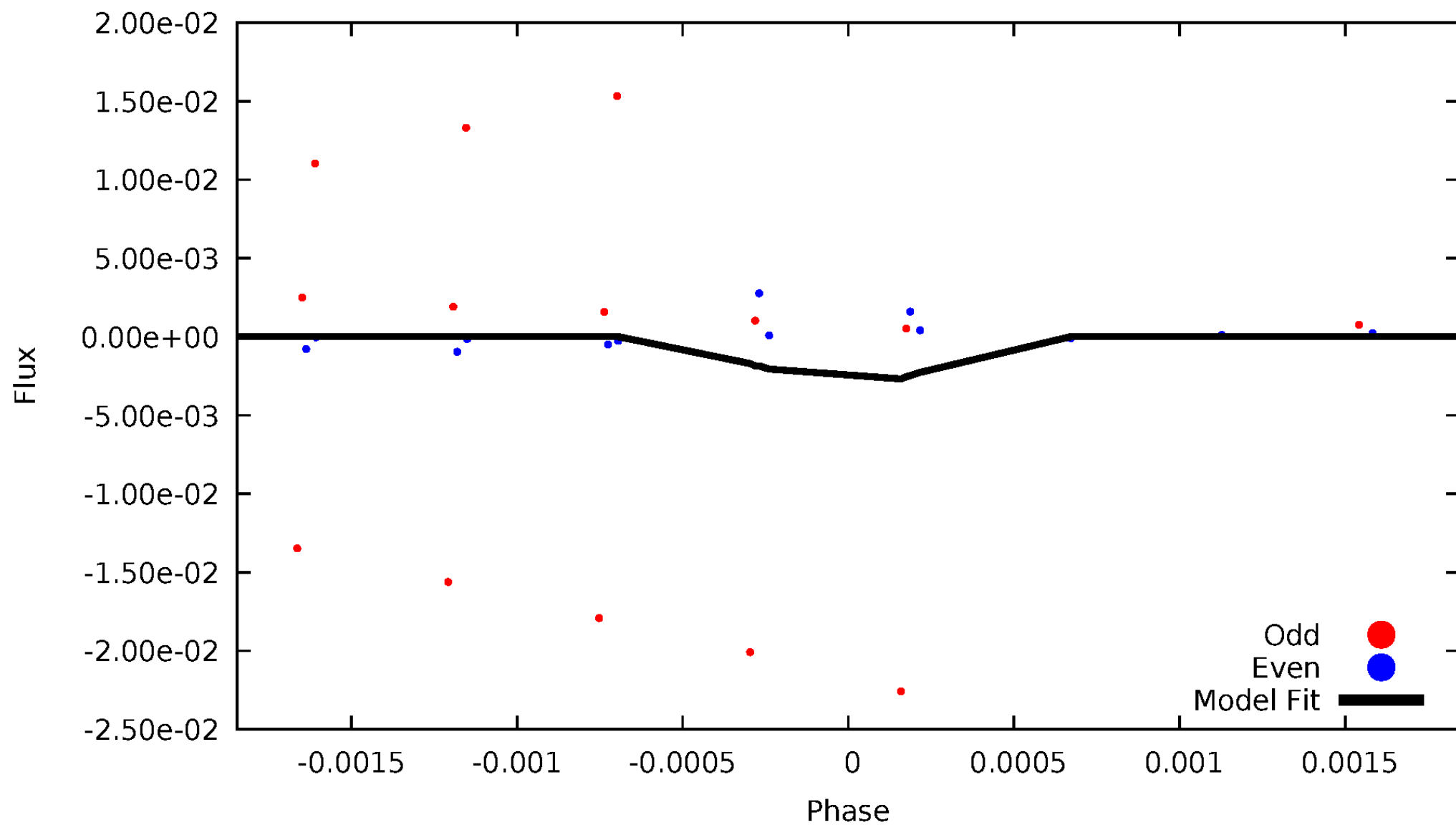
DV Odd/Even

TCE 008935352-04



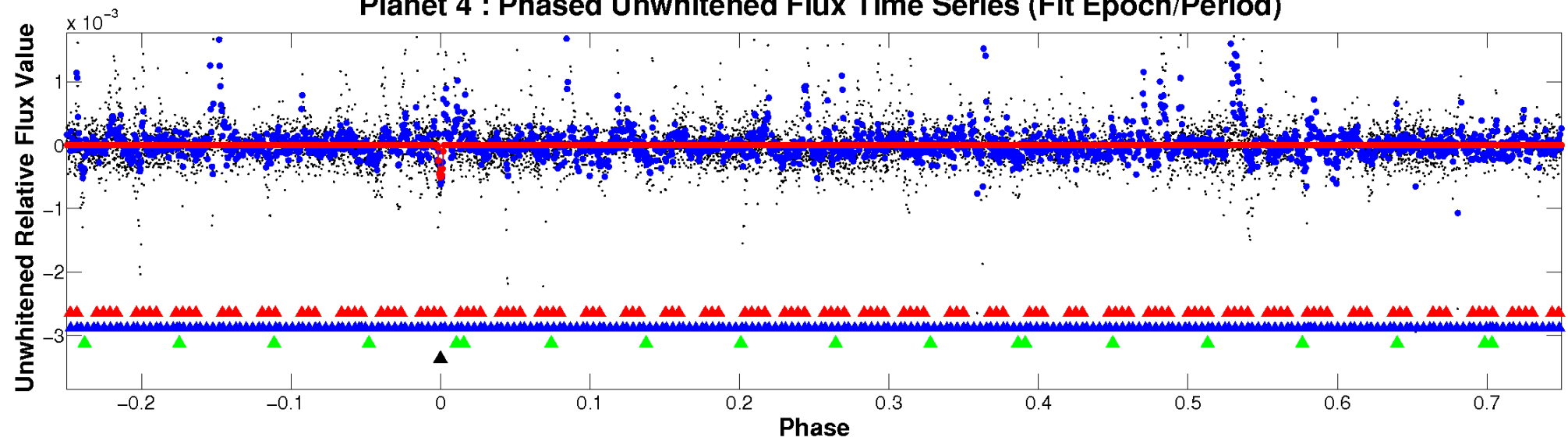
ALT Odd/Even

TCE 008935352-04

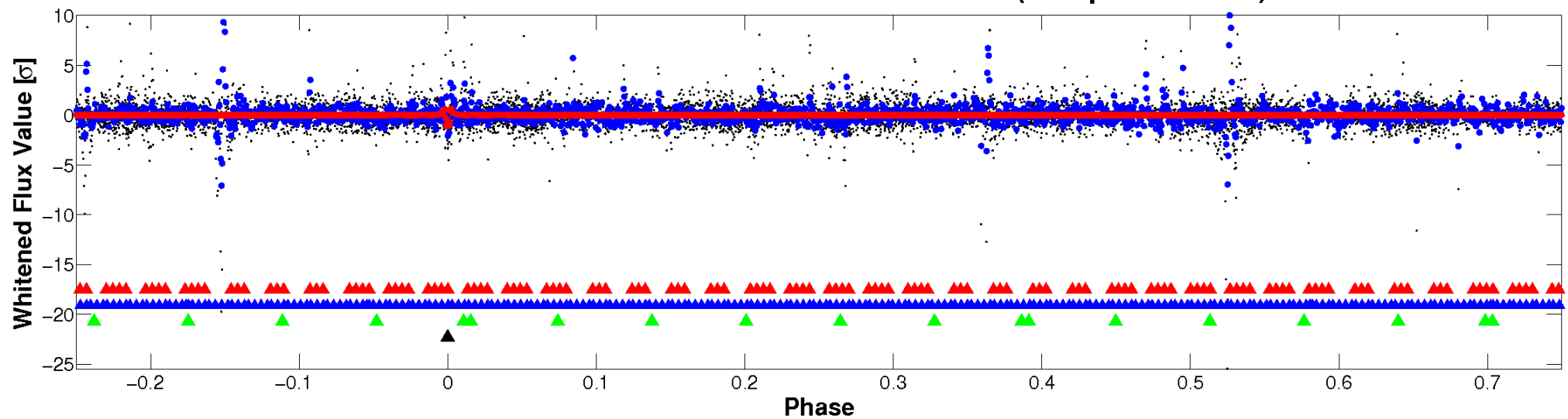


Non-Whitened Vs. Whitened Light Curve

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

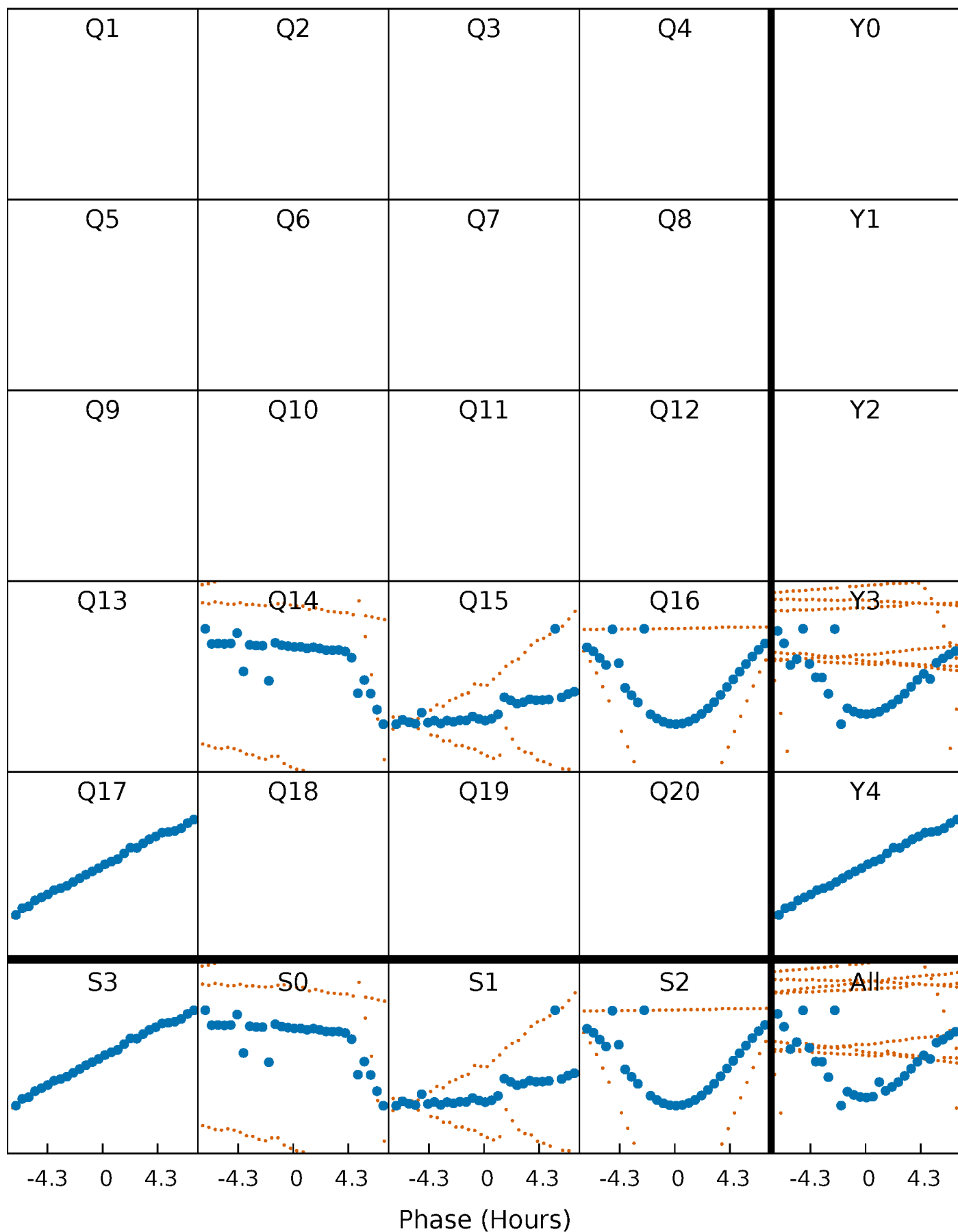


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



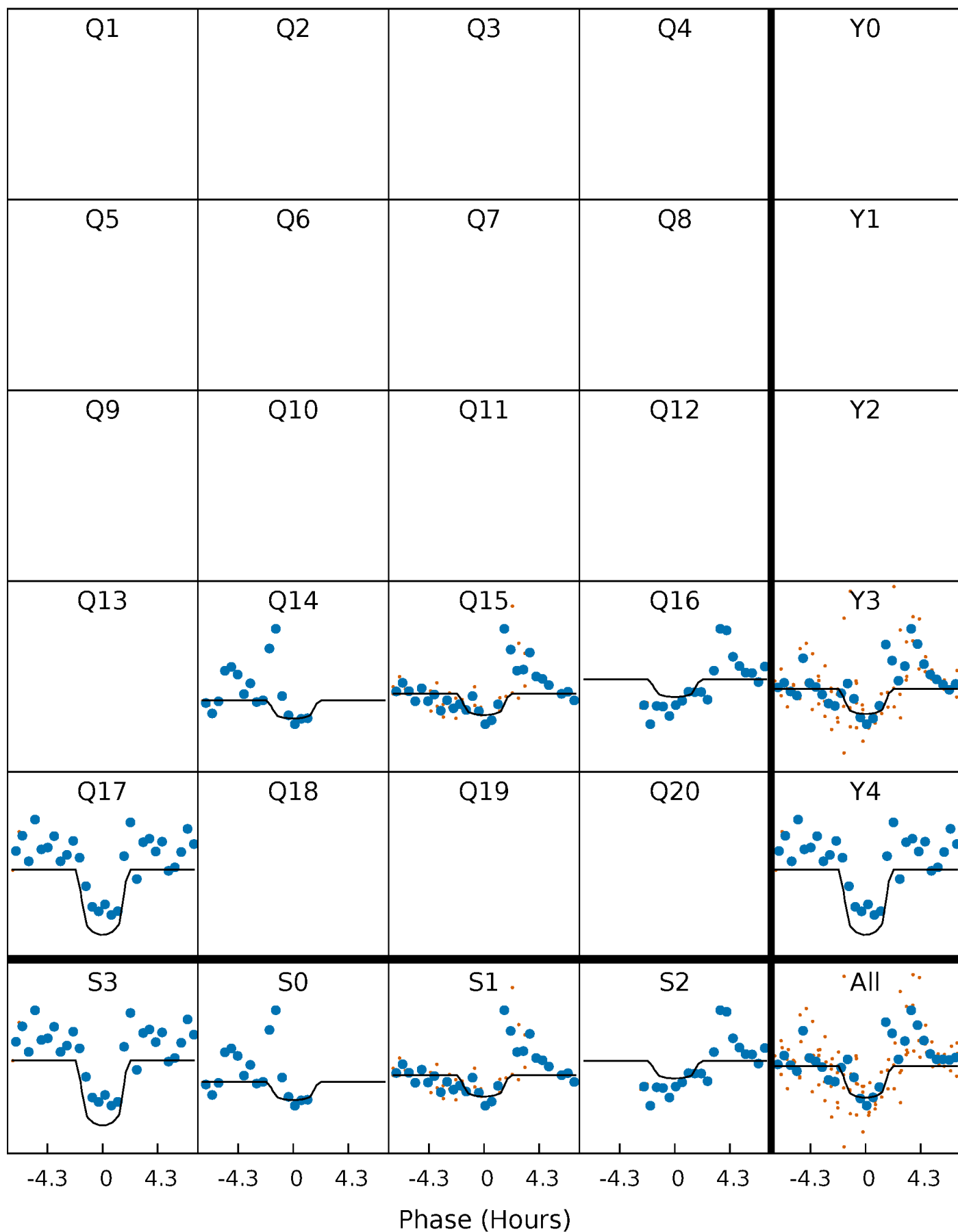
PDC Quarter-Phased Transit Curves

TCE 008935352-04 P= 44.830394 Days $T_0=154.146864$ (BKJD)



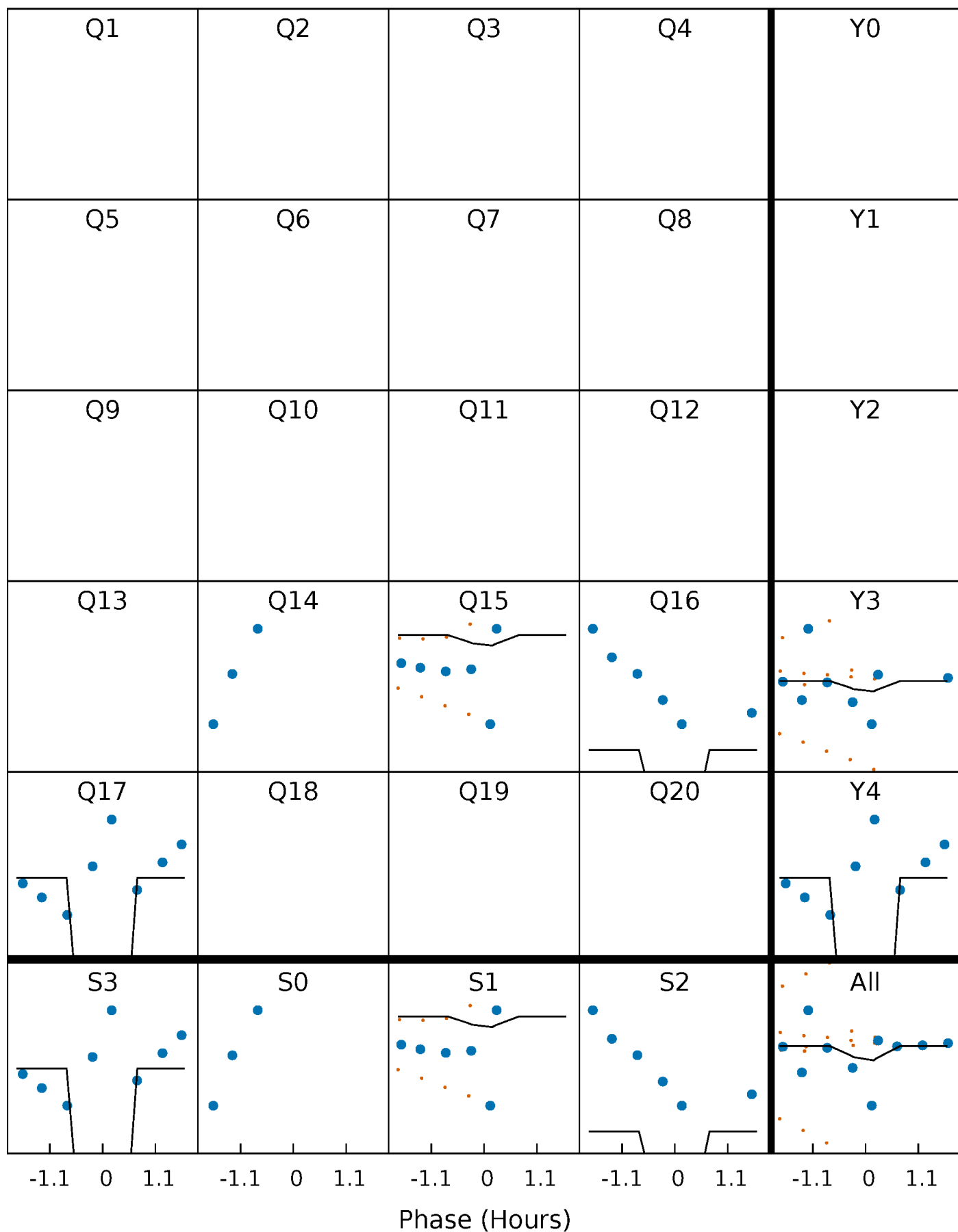
DV Quarter-Phased Transit Curves

TCE 008935352-04 P= 44.830394 Days $T_0=154.146864$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

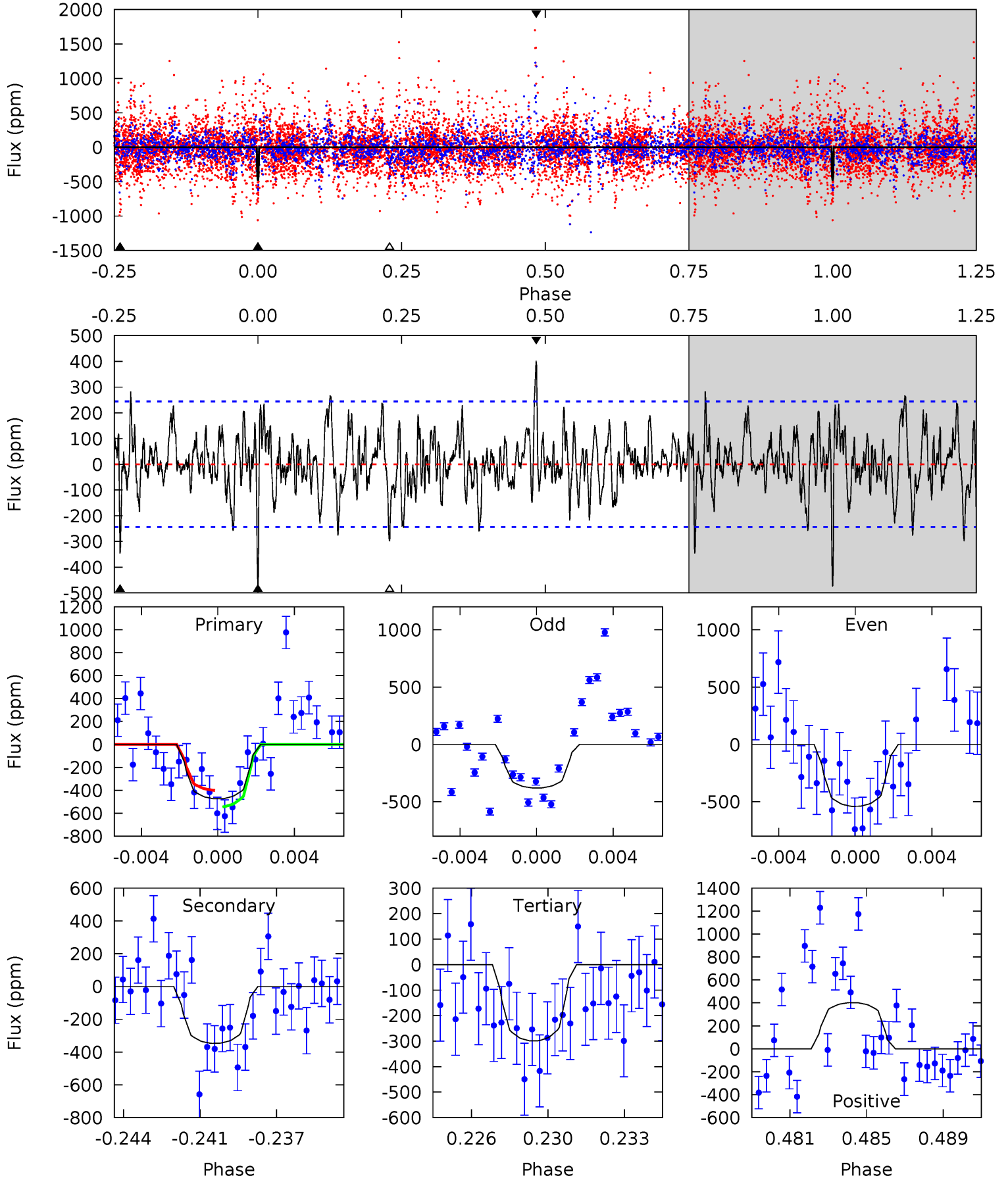
TCE 008935352-04 P= 44.830928 Days $T_0=154.216030$ (BKJD)



DV Model-Shift Uniqueness Test

008935352-04, P = 44.830394 Days, E = 154.146864 Days

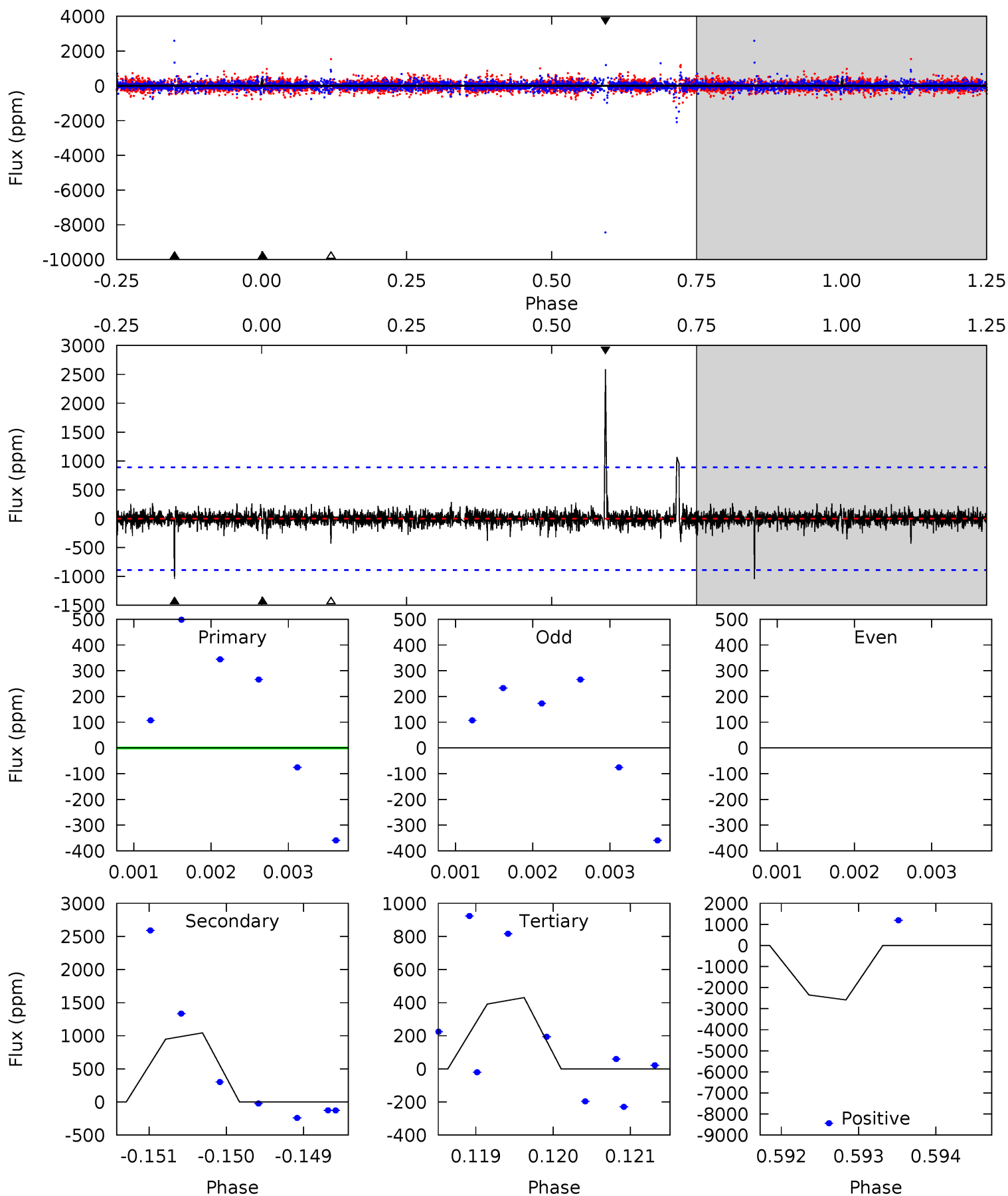
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	7.42	6.39	8.60	5.22	2.91	1.95	3.74	1.54	1.02	-1.18	1.54	1.17	0.46	1.55



Alt Model-Shift Uniqueness Test

008935352-04, P = 44.830928 Days, E = 154.216030 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.61	6.39	2.64	15.9	5.46	3.30	0.55	-1.03	-14.2	3.75	-9.46	0	-9.02	0.71	1.43



Stellar Parameters For KIC 008935352

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5323^{+186}_{-167}	$3.714^{+0.960}_{-0.320}$	$-0.760^{+0.350}_{-0.300}$	$2.064^{+1.378}_{-1.516}$	$0.804^{+0.214}_{-0.142}$	$0.129^{+3.411}_{-0.106}$
	+3%/-3%	+26%/-9%	+46%/-39%	+67%/-73%	+27%/-18%	+2650%/-82%
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 008935352-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-347 ± 47	$9.94^{+11.81}_{-6.88}$	950^{+161}_{-181}	3607^{+1969}_{-623}	97^{+879}_{-76}
Alt.	-1043 ± 163	$13.87^{+14.21}_{-9.27}$	952^{+150}_{-197}	3887^{+1832}_{-687}	157^{+1241}_{-119}

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

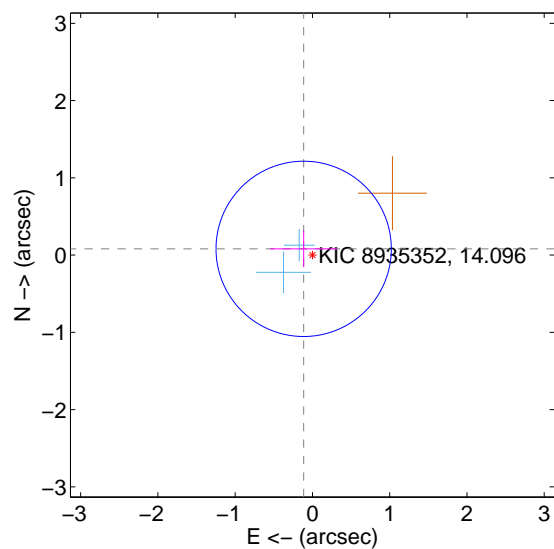
Supplemental centroid analysis for 008935352-04. Kepler magnitude: 14.10. Transit SNR 6.27

There are 2 quarters with good PRF difference image offsets

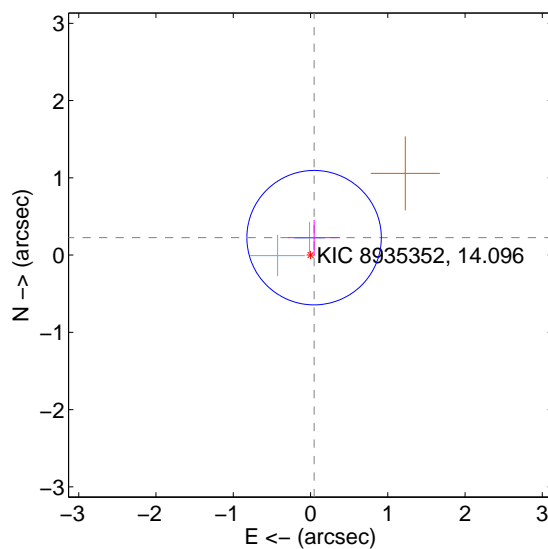
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.139 ± 0.378	0.37	0.114 ± 0.432	0.081 ± 0.238
PRF-fit source offset from KIC position	0.230 ± 0.290	0.79	-0.046 ± 0.337	0.226 ± 0.230
photometric centroid source offset	0.12 ± 0.83	0.15	0.12 ± 0.83	0.01 ± 1.01

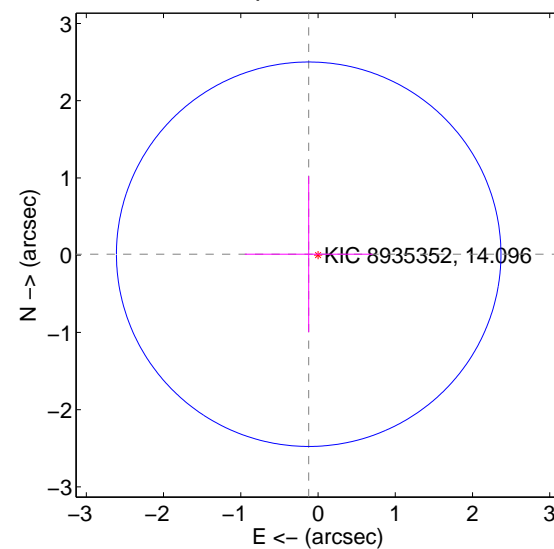
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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



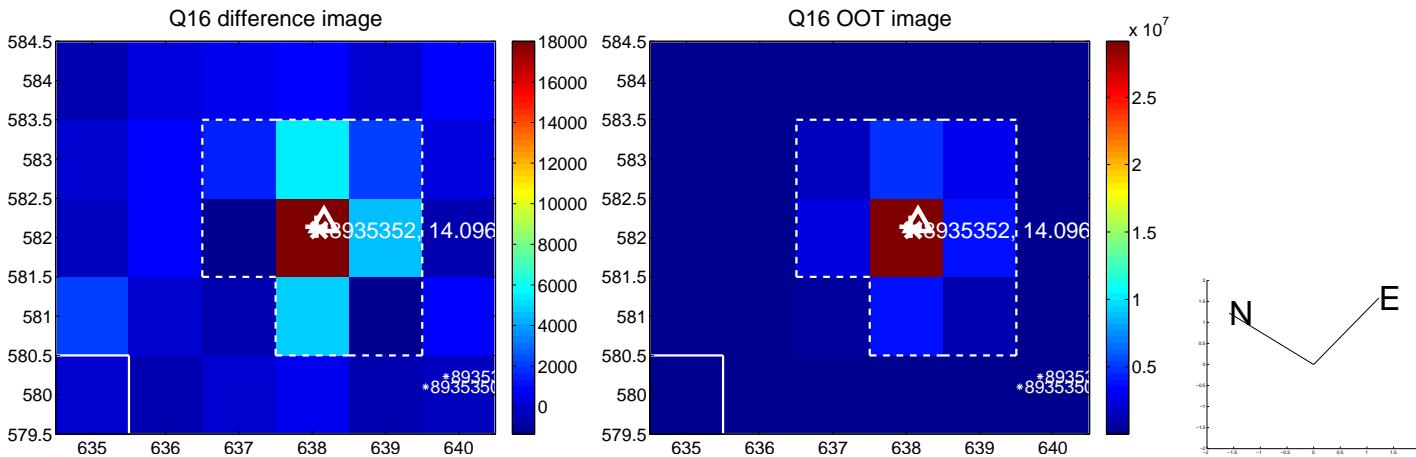
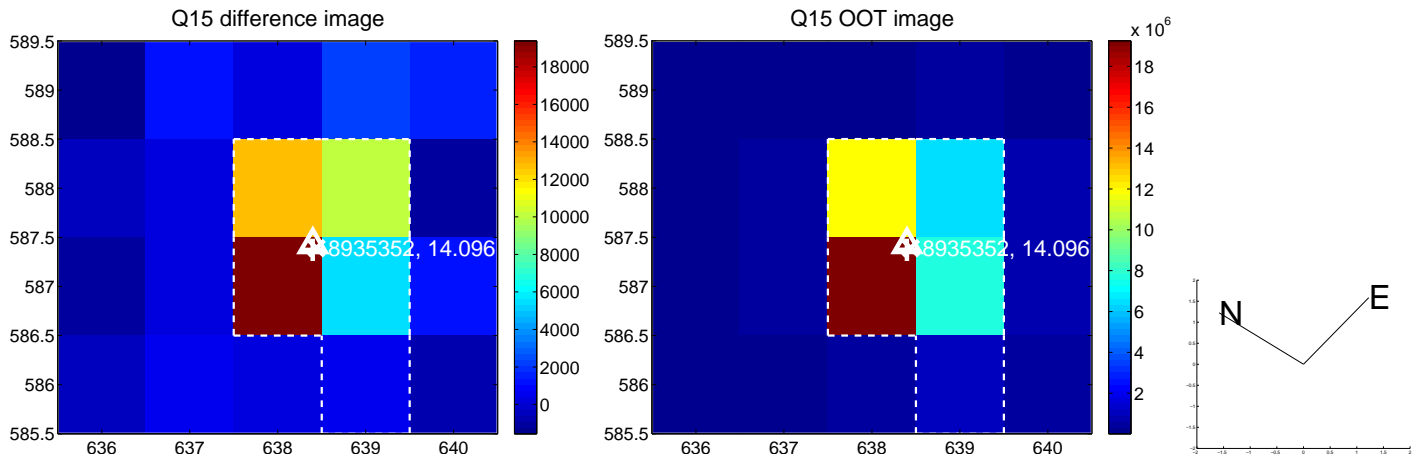
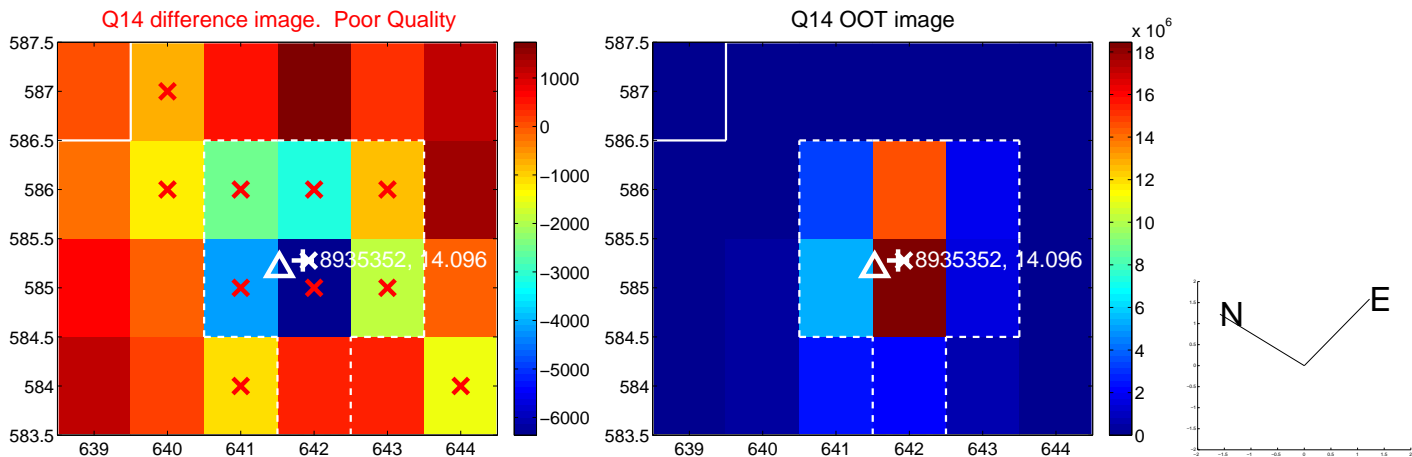
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



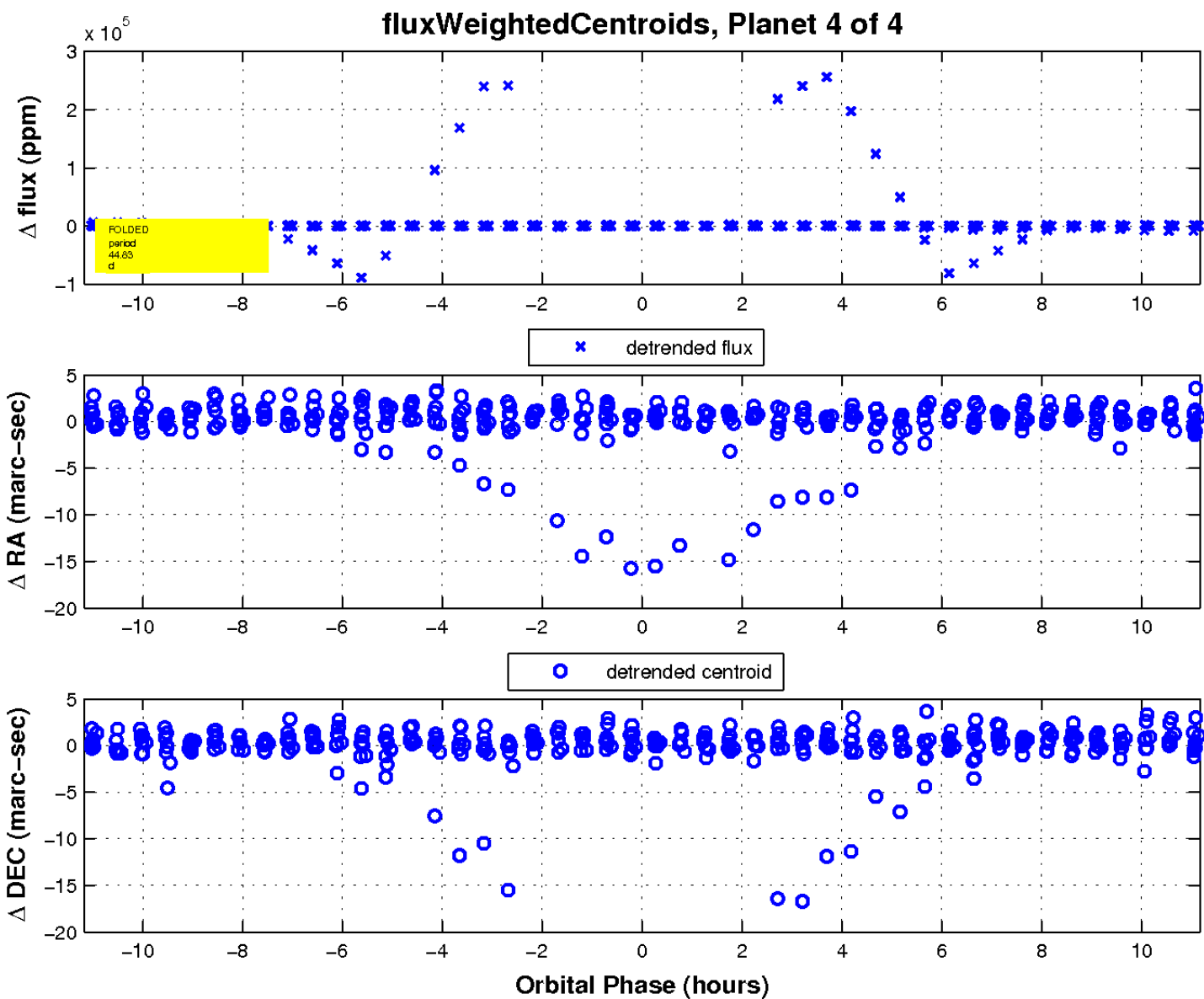
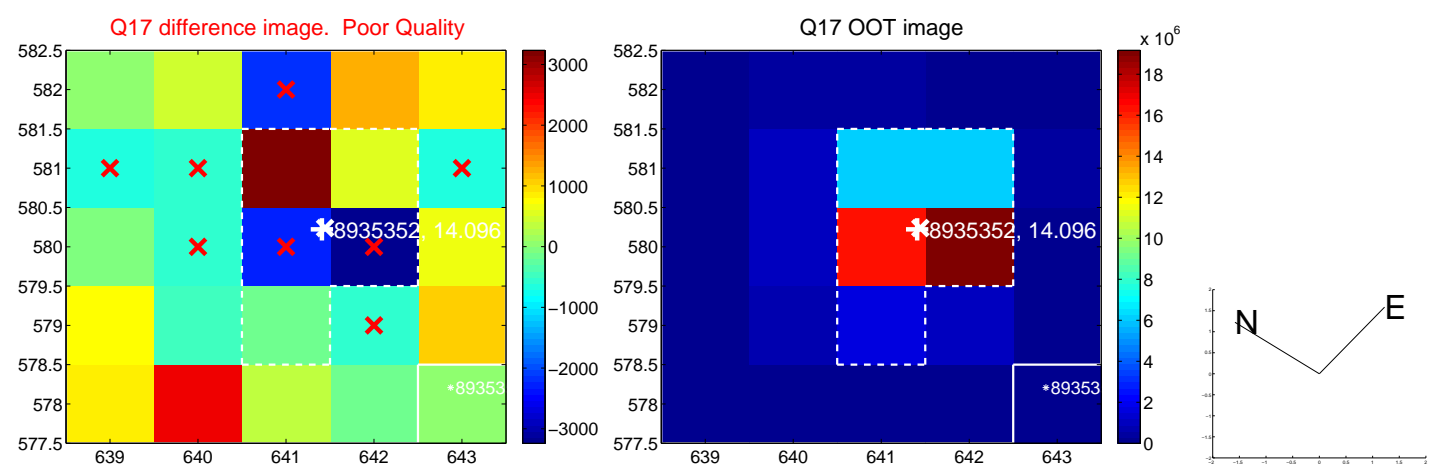
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

