

KIC 008380743

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})
008380743-01	OBS	5510.01	1.018798	132.164868	291126.7	3.500	7600.7	-1.0	1.67	6225	51.73	9321.64
008380743-02	OBS	No	6.112969	132.900476	15361.4	15.000	1158.4	-1.0	1.67	6225	20.80	854.95
008380743-03	OBS	No	11.464079	134.830614	78070.8	27.978	157.9	95.8	1.67	6225	47.01	369.68
008380743-04	OBS	No	2.374788	131.715329	4963.0	3.500	93.6	-1.0	1.67	6225	11.83	3016.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008380743-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
008380743-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—NO_FITS—RESIDUAL_TCE—CENT_NOFITS
008380743-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008380743-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

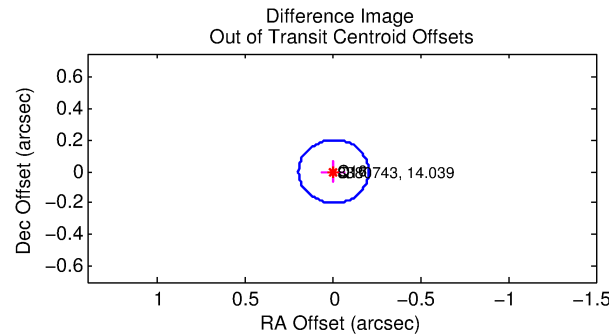
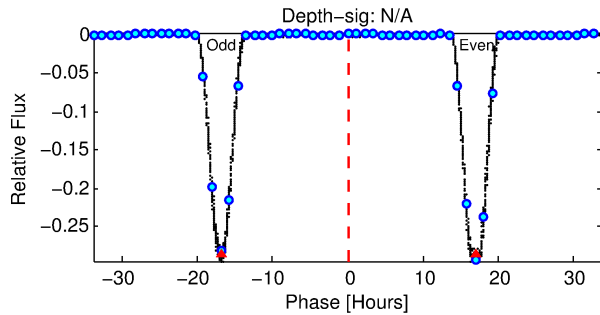
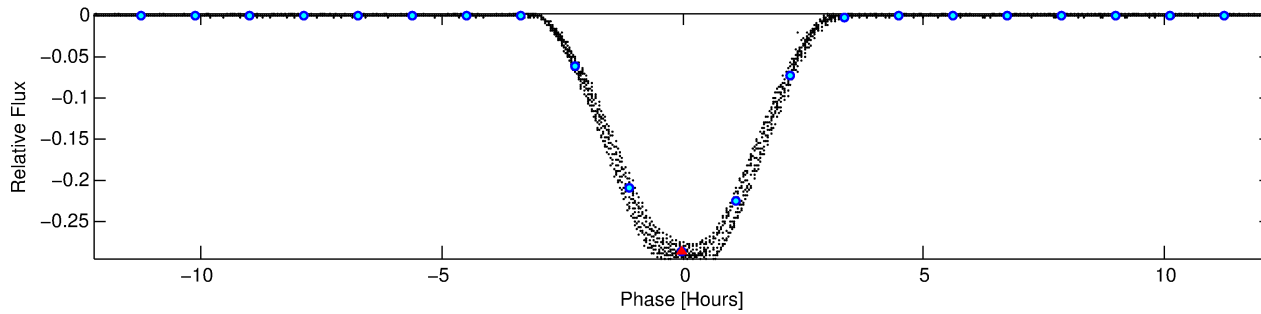
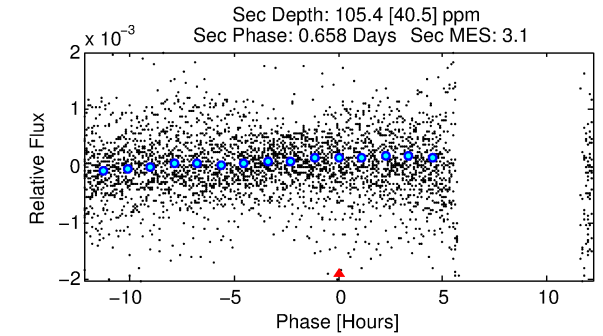
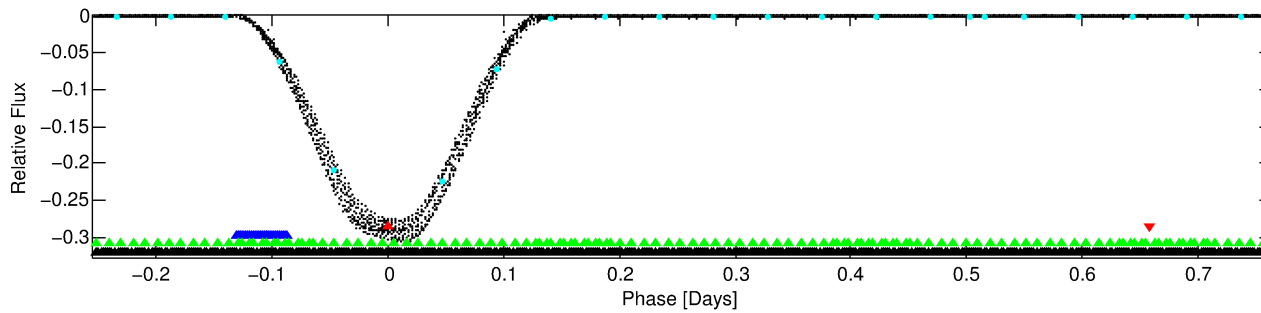
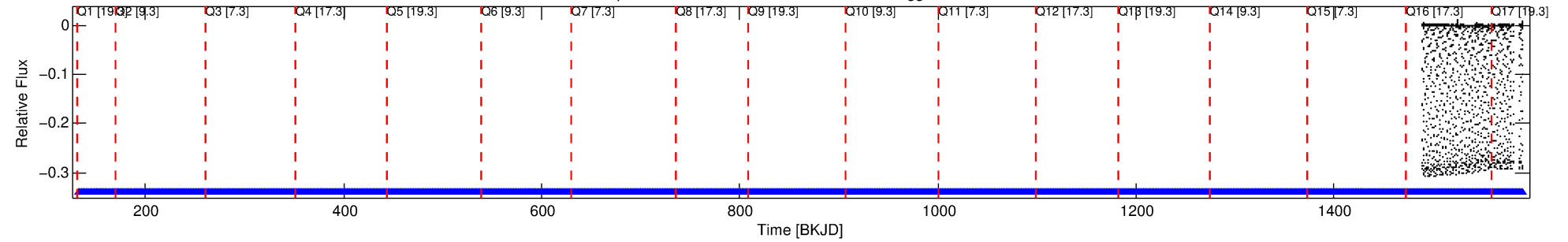
Ephemeris Match Information For 008380743-01

No Significant Match Found

DV One-Page Summary

KIC: 8380743 Candidate: 1 of 4 Period: 1.019 d
KOI: K05510 Corr: No Ephemeris Match

Kp: 14.04 R*: 1.67 Rs Teff: 6225.0 K Logg: 4.01 Fe/H: -0.400



TPS TCE Results:

Period = 1.01880 d
Epoch = 132.1649 BKJD

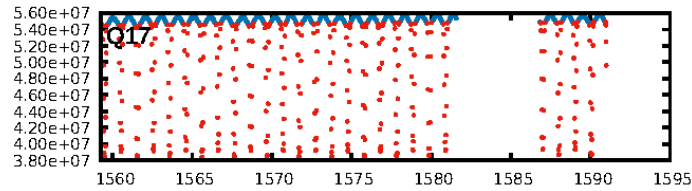
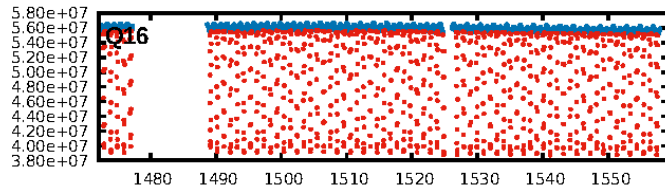
DV fit results are unavailable

DV Diagnostic Results:

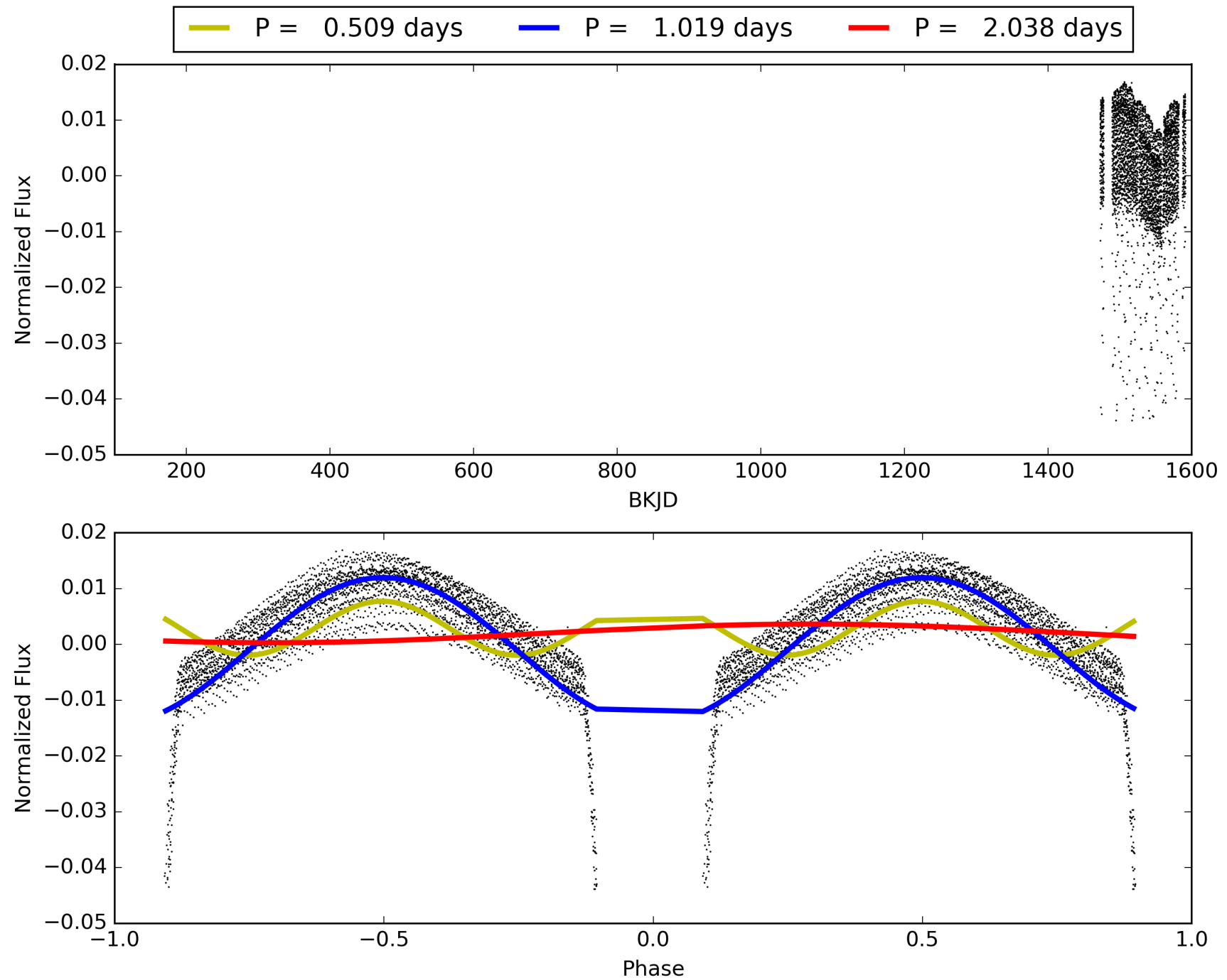
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [6.57 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [67/67]
GhostDiagnostic-chr: 1.385

Centroid-sig: 0.0%
Centroid-so: 0.095 arcsec [82.55 σ]
OotOffset-rm: 0.005 arcsec [0.07 σ]
KicOffset-rm: 0.125 arcsec [1.64 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
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TCE 008380743-01, PDC Light Curves

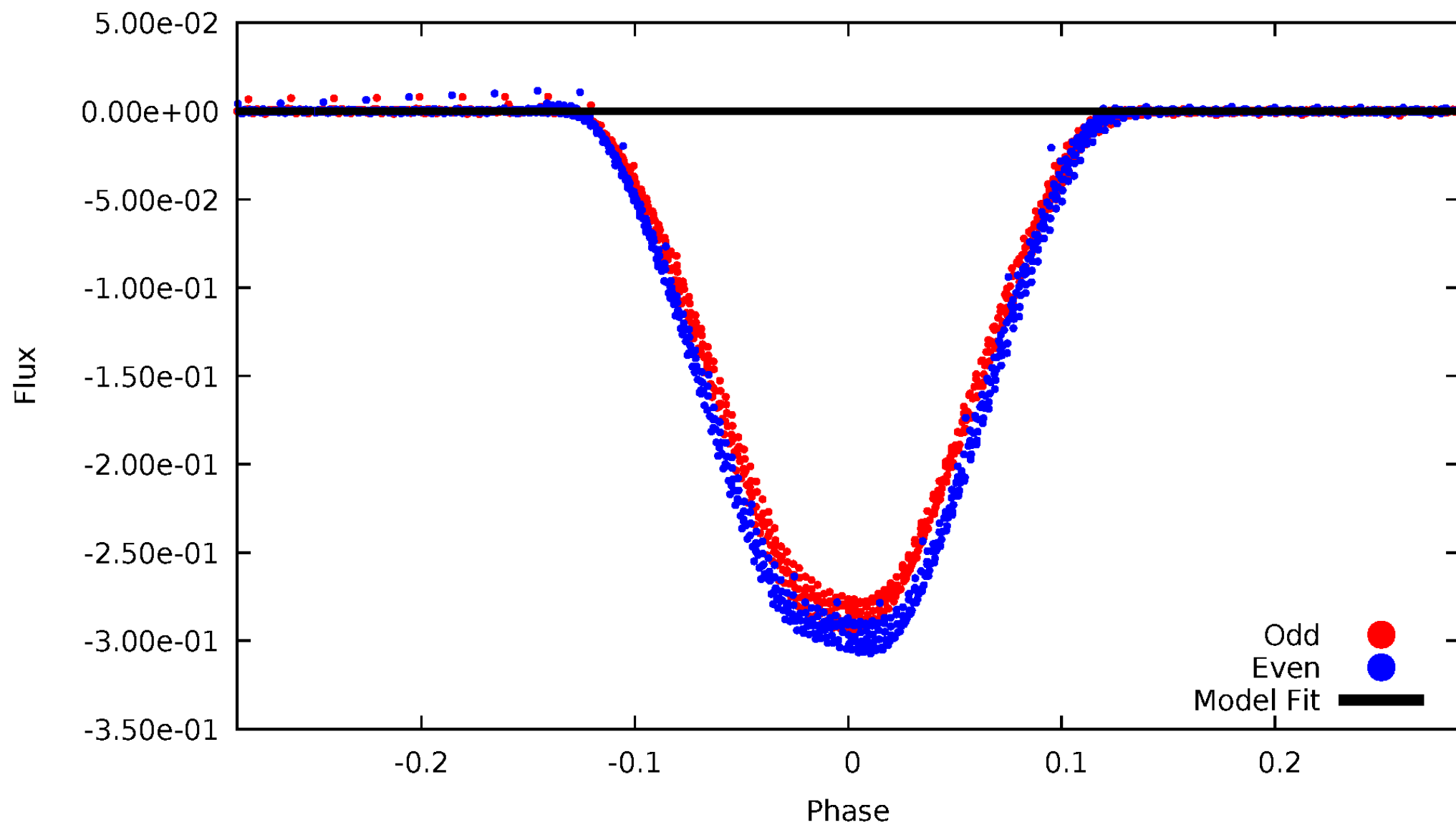


TCE 008380743-01



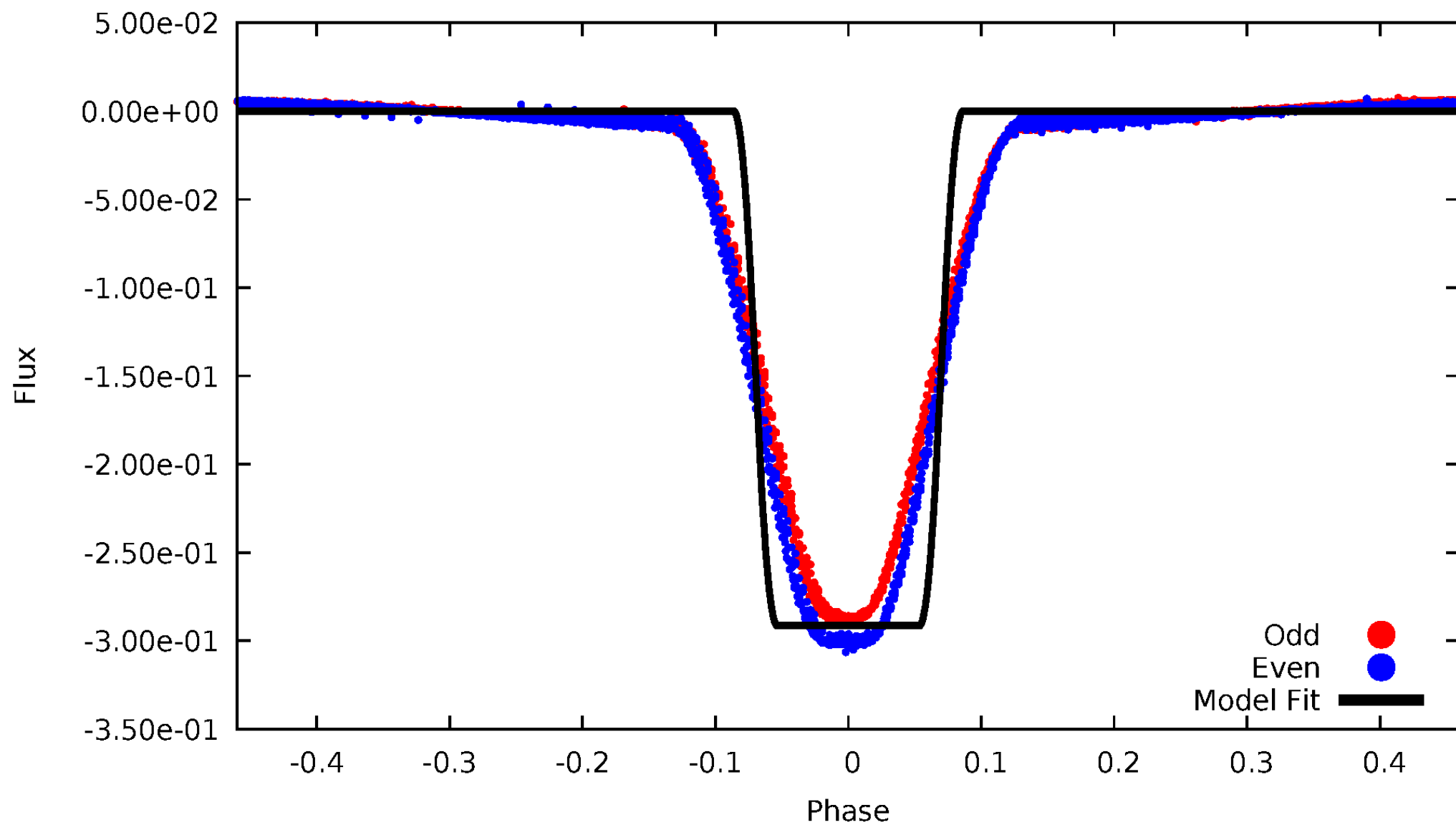
DV Odd/Even

TCE 008380743-01



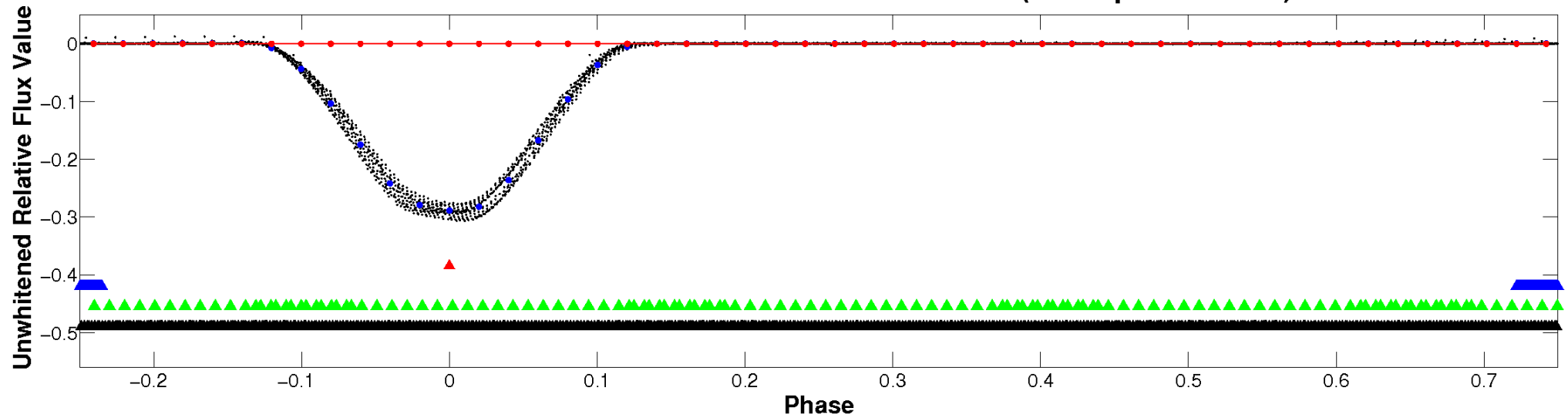
ALT Odd/Even

TCE 008380743-01



Non-Whitened Vs. Whitened Light Curve

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

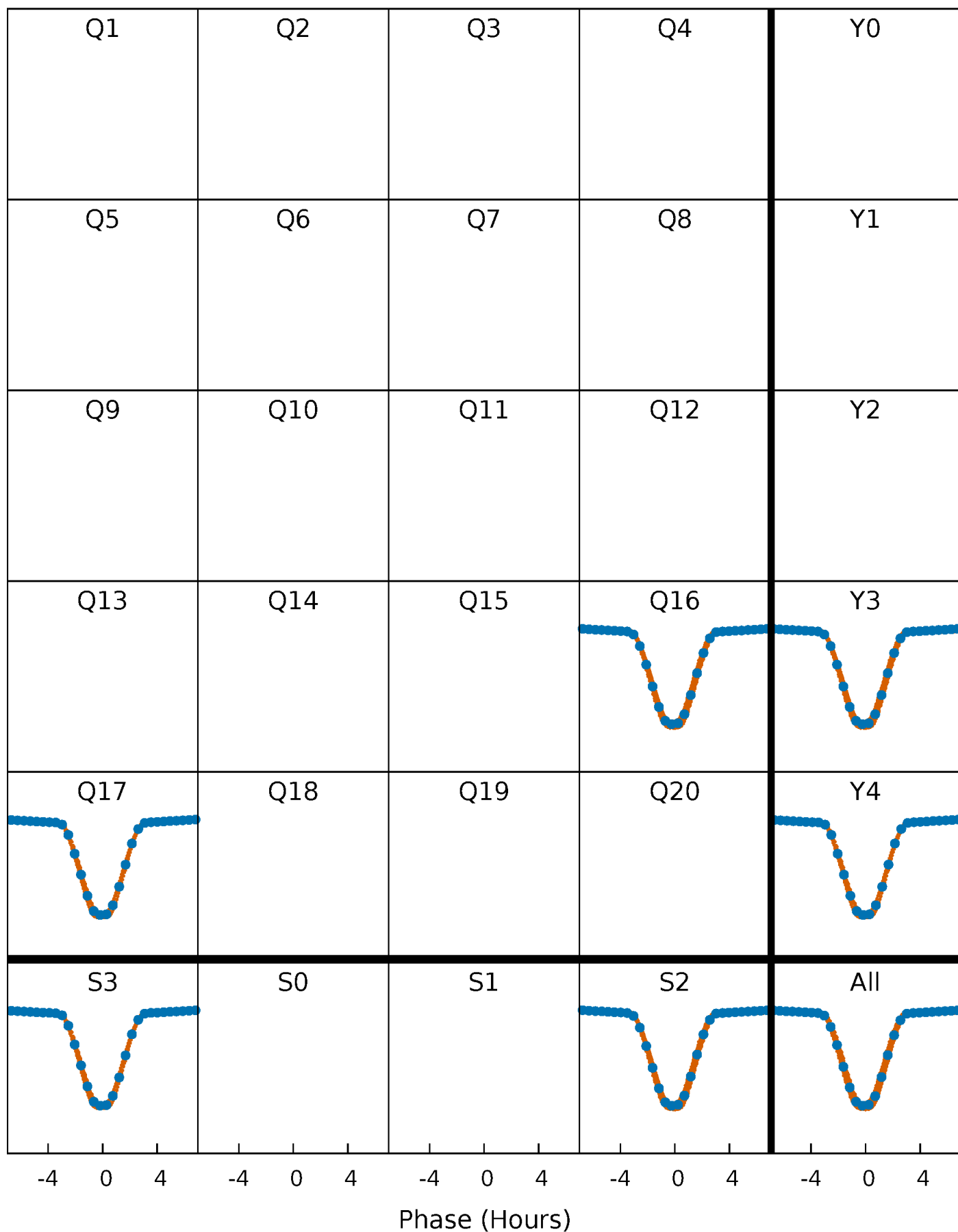


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



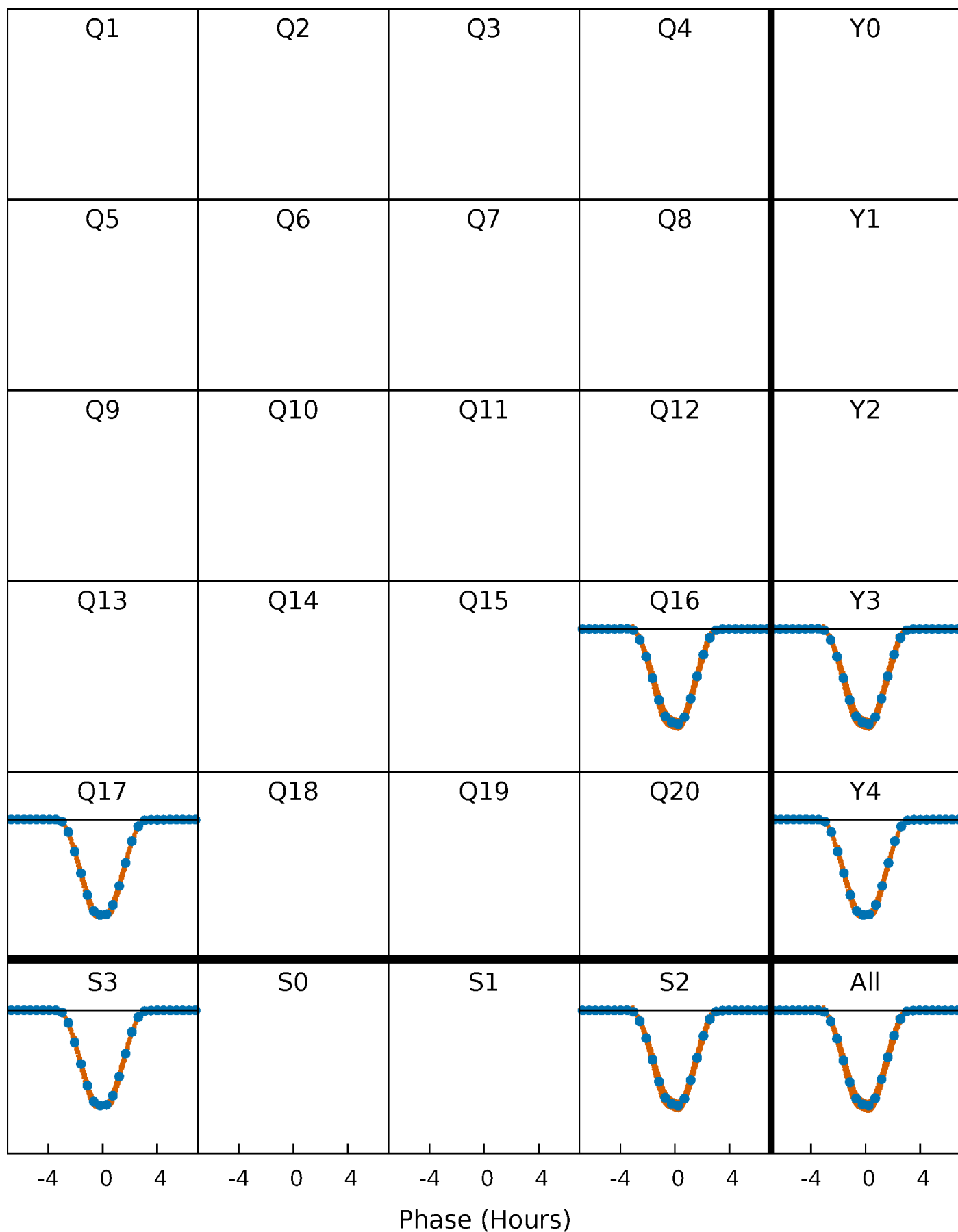
PDC Quarter-Phased Transit Curves

TCE 008380743-01 P= 1.018798 Days $T_0=132.164868$ (BKJD)



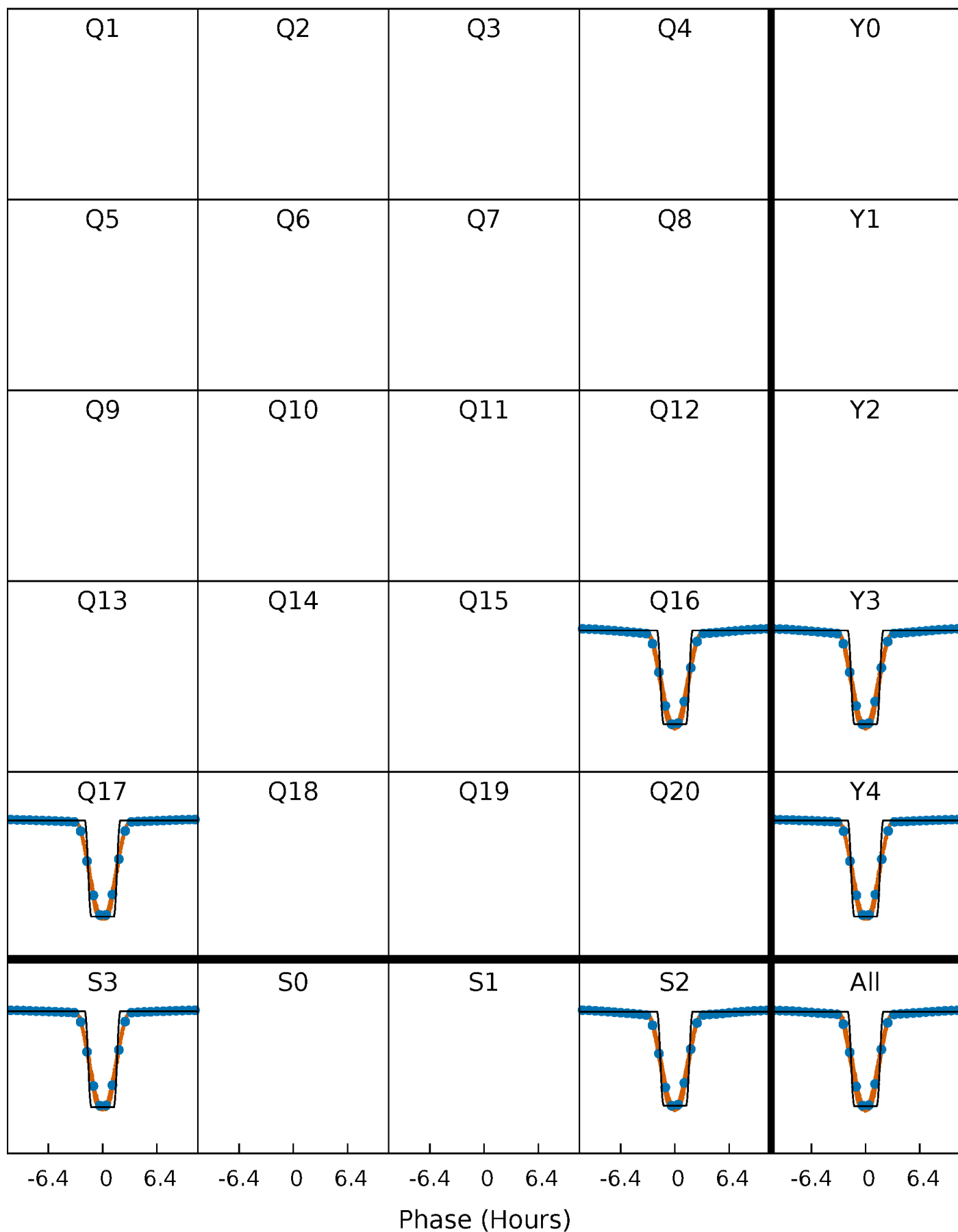
DV Quarter-Phased Transit Curves

TCE 008380743-01 P= 1.018798 Days $T_0=132.164868$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

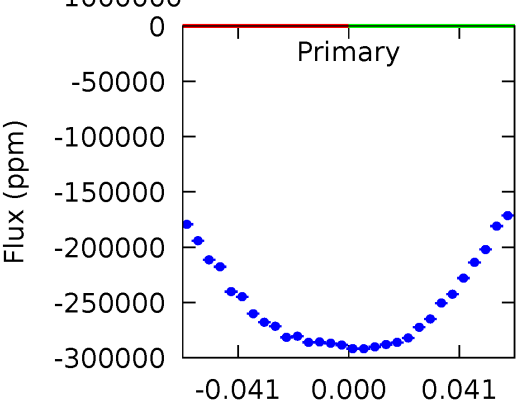
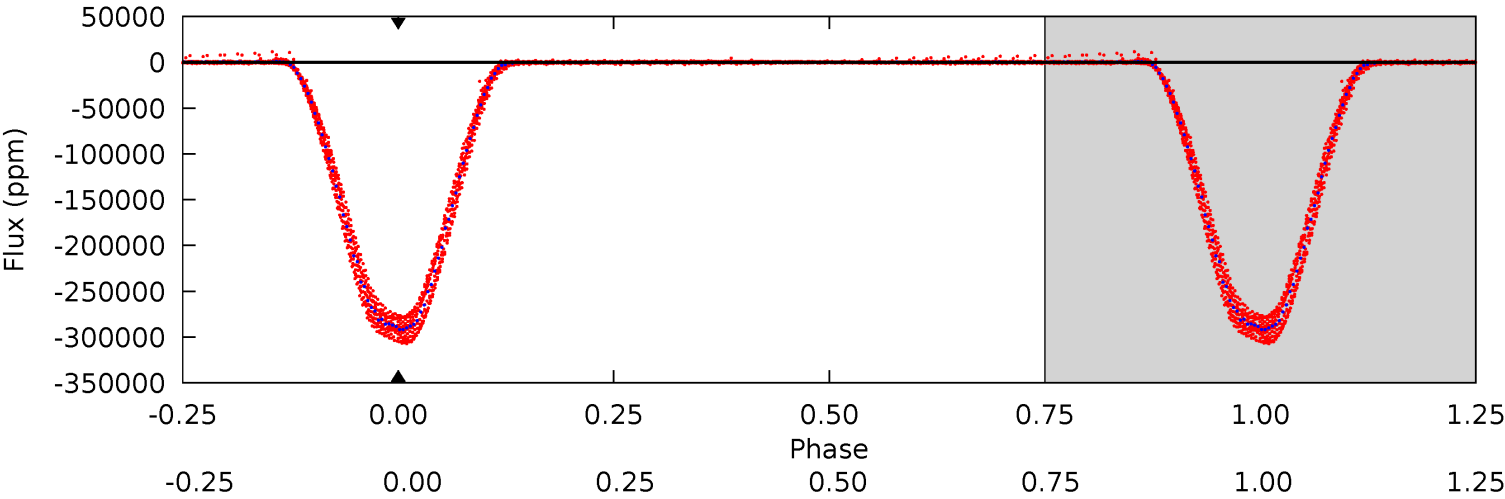
TCE 008380743-01 P= 1.018798 Days $T_0=132.161466$ (BKJD)



DV Model-Shift Uniqueness Test

008380743-01, P = 1.018798 Days, E = 132.164868 Days

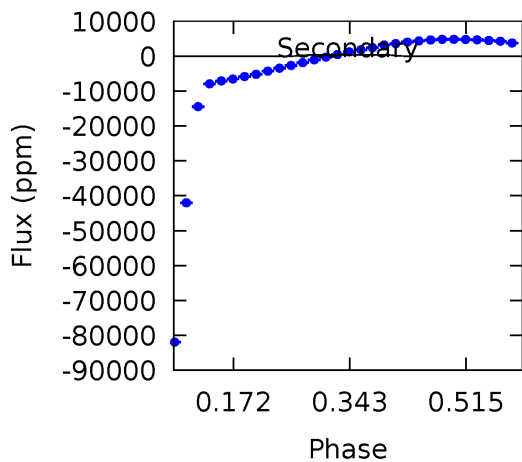
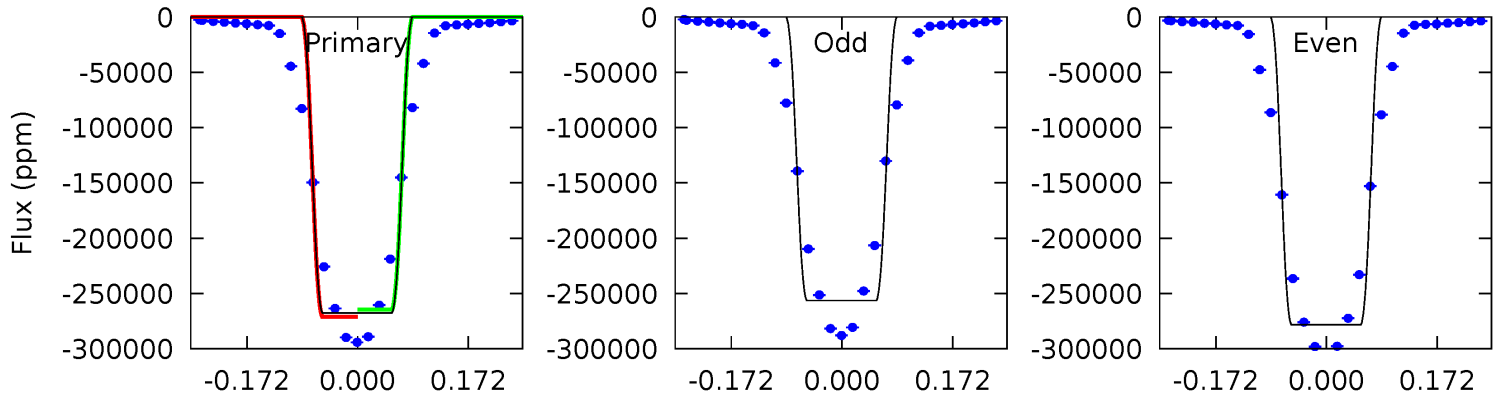
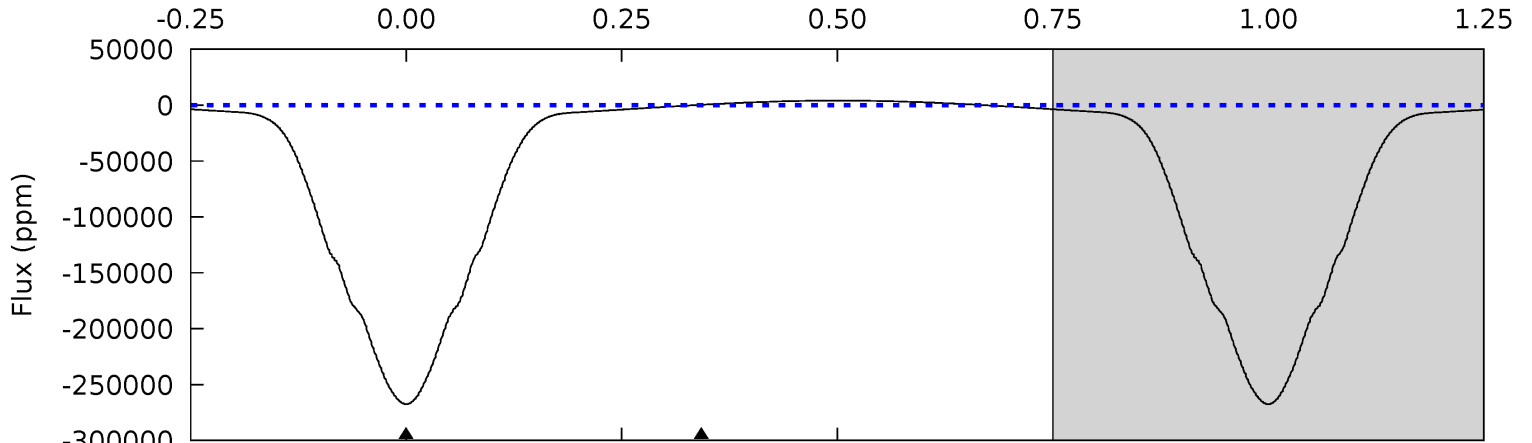
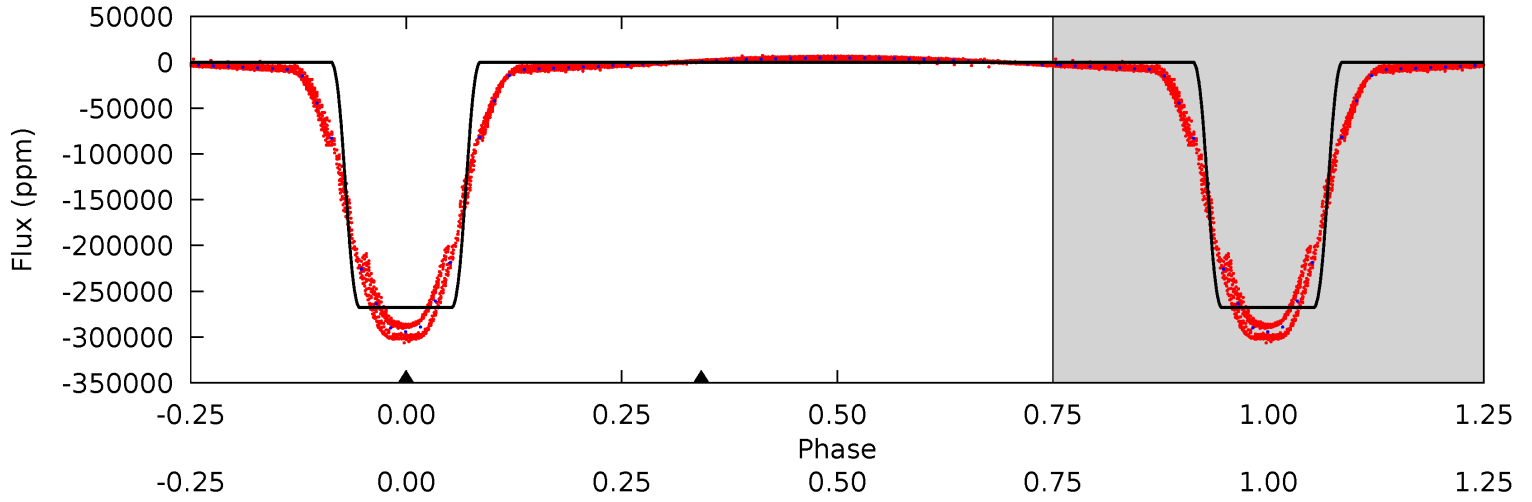
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008380743-01, P = 1.018798 Days, E = 132.161466 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1881	-2.35	0	0	4.45	1.37	25.2	1881	1881	-2.35	-2.35	76.3	1.00	0.02	22.3



Stellar Parameters For KIC 008380743

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6225^{+198}_{-242}	$4.009^{+0.385}_{-0.137}$	$-0.400^{+0.300}_{-0.300}$	$1.672^{+0.434}_{-0.651}$	$1.041^{+0.164}_{-0.164}$	$0.314^{+1.004}_{-0.134}$
	+3%/-4%	+10%/-3%	+75%/-75%	+26%/-39%	+16%/-16%	+320%/-43%
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 008380743-01 / KOI 5510.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$49.26^{+19.98}_{-18.78}$	3416^{+263}_{-349}	-3368^{+10408}_{-3144}	$0.031^{+12.267}_{-9.020}$
Alt.	335 ± 142	$92.57^{+26.61}_{-24.54}$	3409^{+287}_{-360}	-3352^{+213}_{-170}	$-0.008^{+0.004}_{-0.009}$

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 $A_{obs} \gg 1.0$

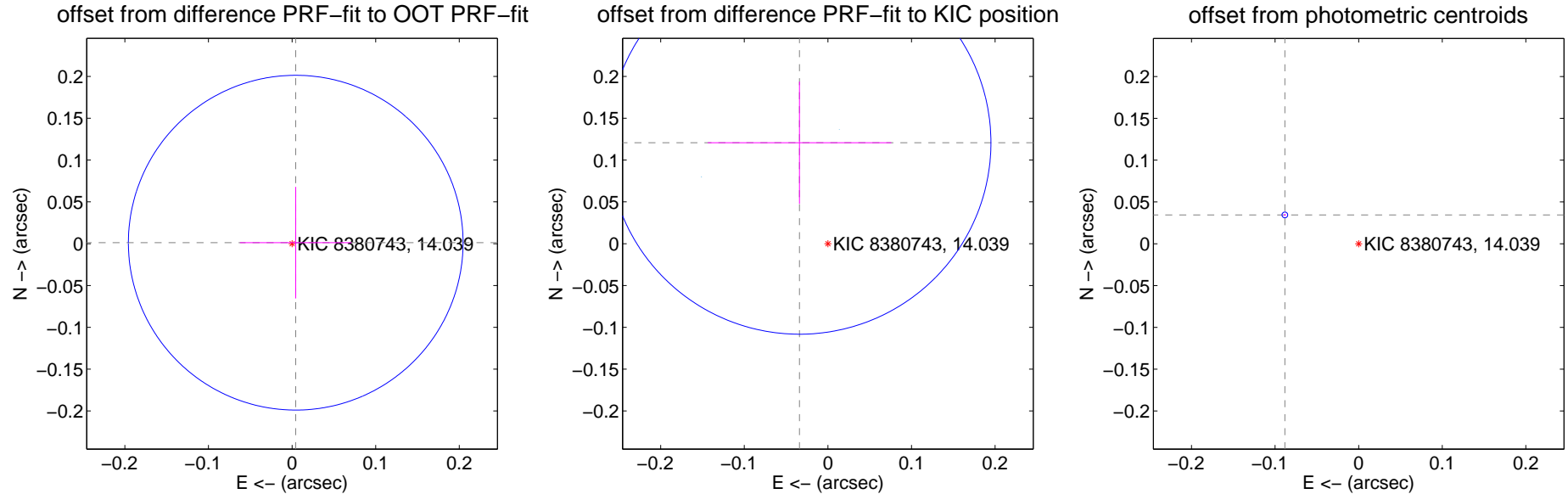
DV Centroid Data

Supplemental centroid analysis for 008380743-01. Kepler magnitude: 14.04. 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 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.005 ± 0.067	0.07	-0.004 ± 0.067	0.001 ± 0.067
PRF-fit source offset from KIC position	0.125 ± 0.076	1.64	0.034 ± 0.110	0.121 ± 0.073
photometric centroid source offset	0.09 ± 0.00	82.55	0.09 ± 0.00	0.03 ± 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.



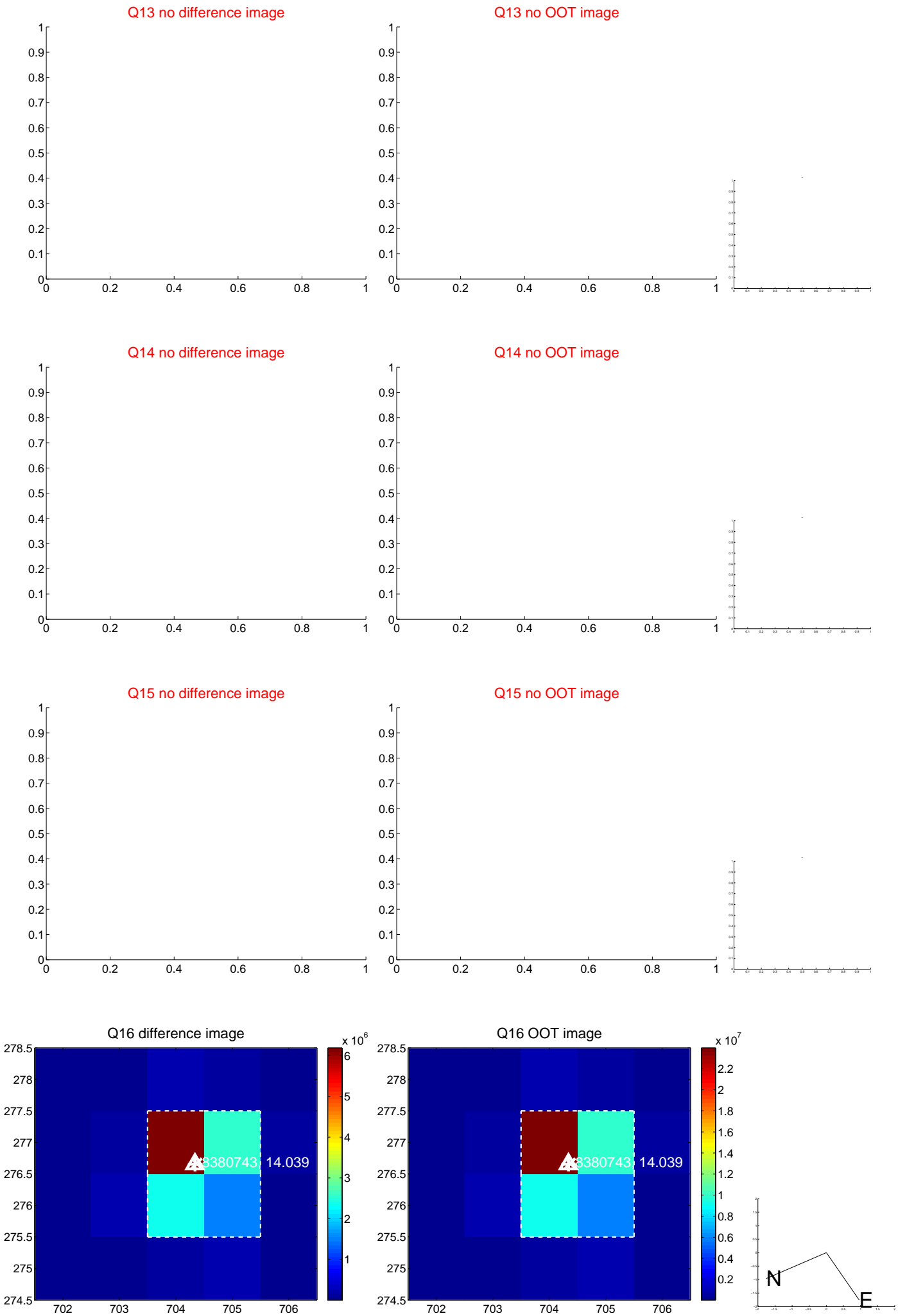
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



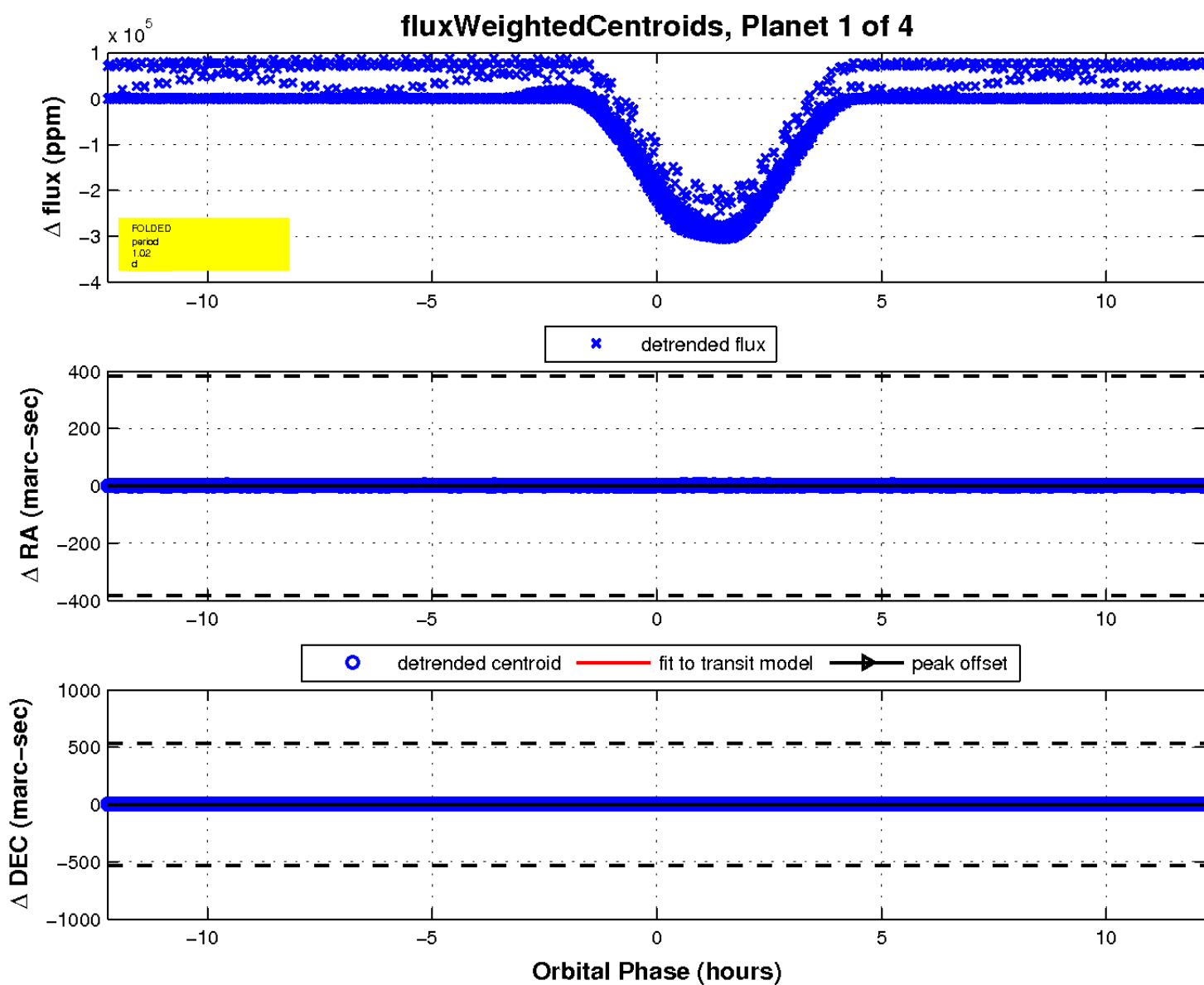
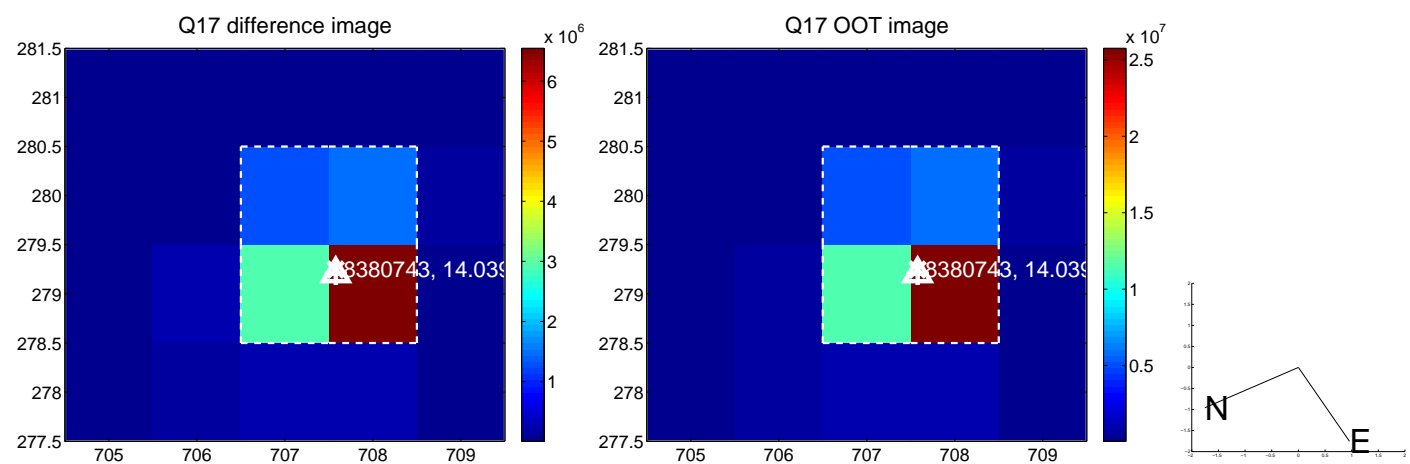
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

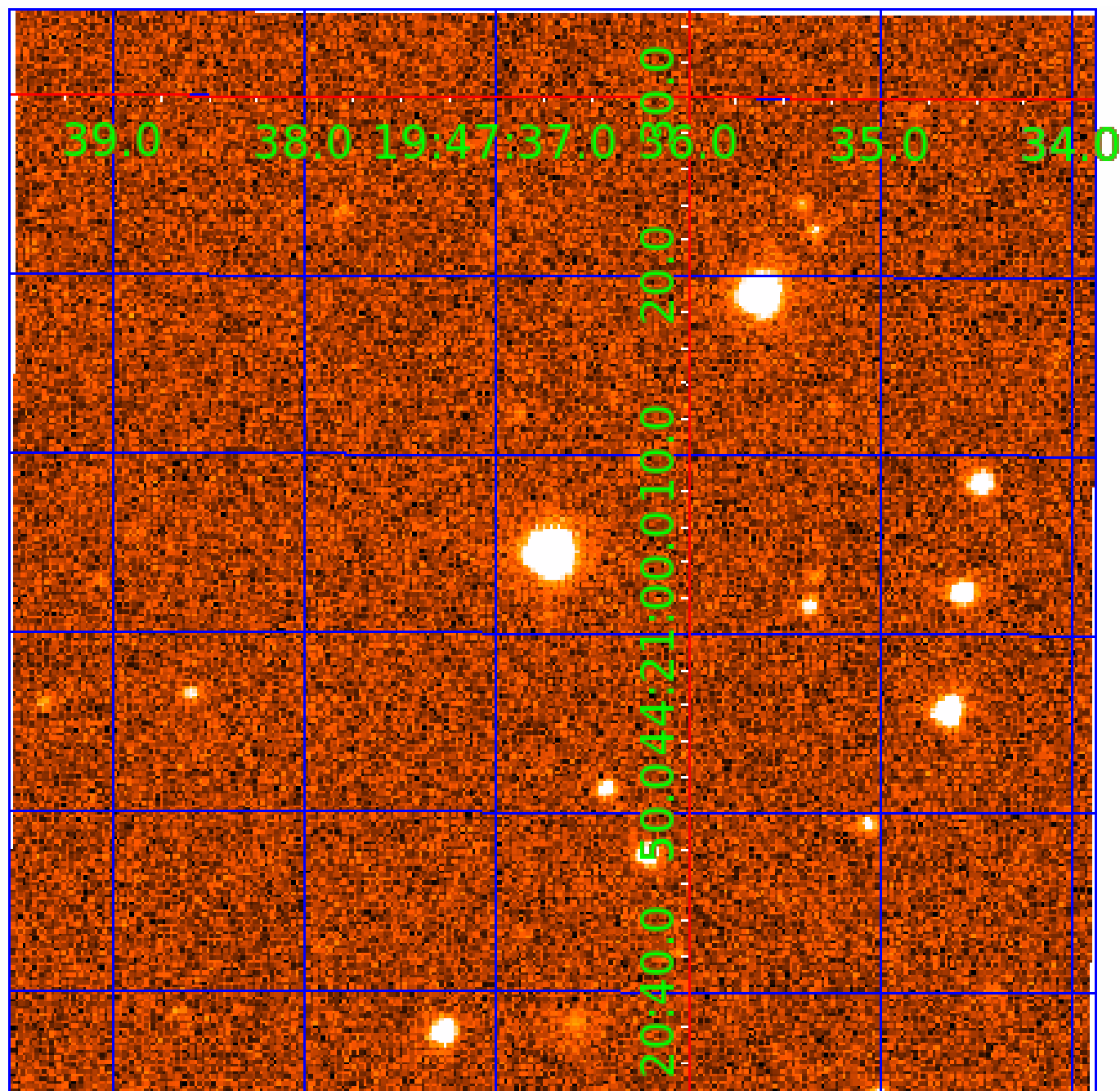


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008380743

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})
008380743-01	OBS	5510.01	1.018798	132.164868	291126.7	3.500	7600.7	-1.0	1.67	6225	51.73	9321.64
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008380743-03	OBS	No	11.464079	134.830614	78070.8	27.978	157.9	95.8	1.67	6225	47.01	369.68
008380743-04	OBS	No	2.374788	131.715329	4963.0	3.500	93.6	-1.0	1.67	6225	11.83	3016.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008380743-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
008380743-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—NO_FITS—RESIDUAL_TCE—CENT_NOFITS
008380743-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008380743-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

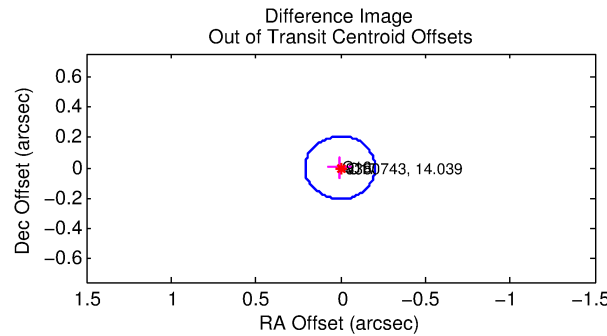
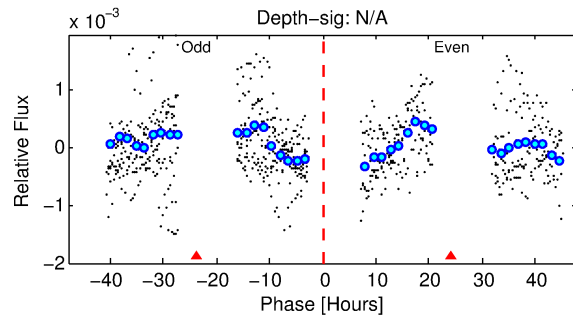
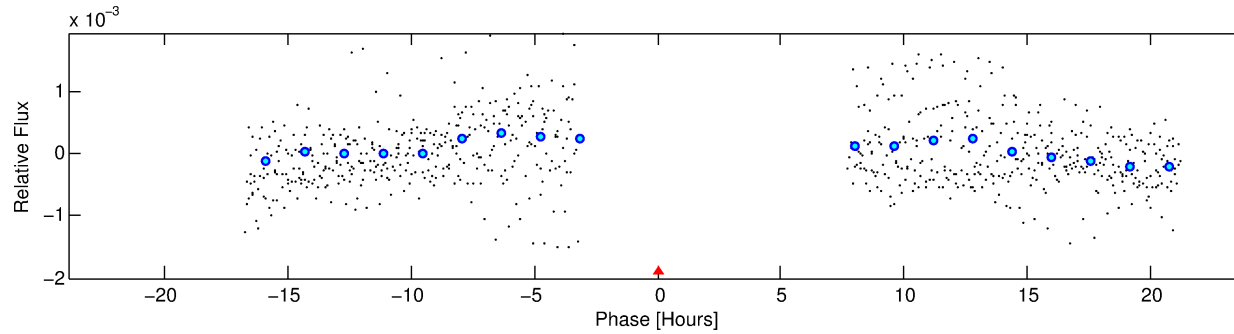
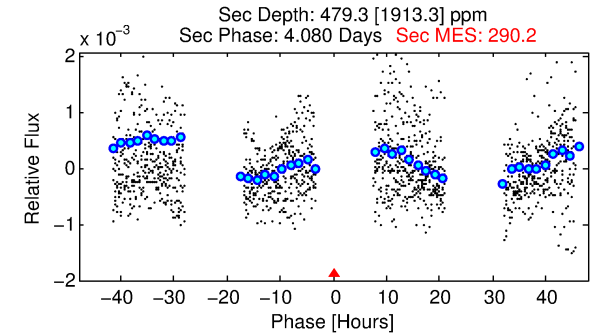
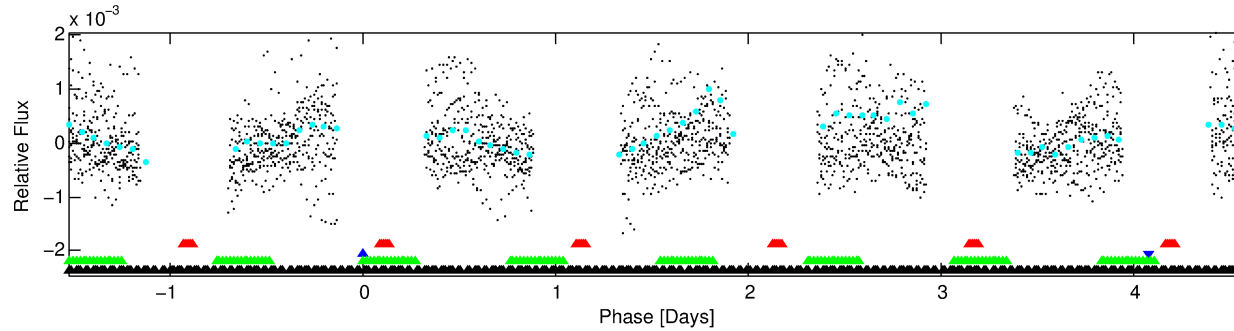
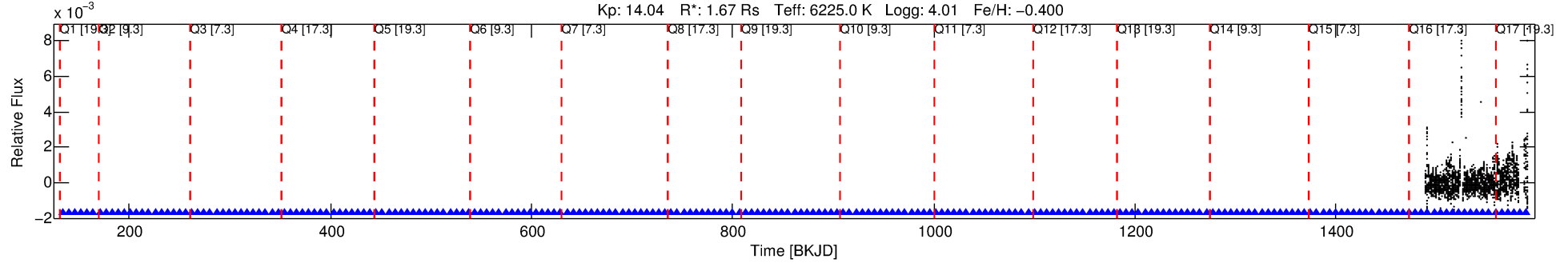
Ephemeris Match Information For 008380743-02

No Significant Match Found

DV One-Page Summary

KIC: 8380743 Candidate: 2 of 4 Period: 6.113 d
KOI: K05510 Corr: No Ephemeris Match

Kp: 14.04 R*: 1.67 Rs Teff: 6225.0 K Logg: 4.01 Fe/H: -0.400



TPS TCE Results:

Period = 6.11297 d
Epoch = 132.9005 BKJD

DV fit results are unavailable

DV Diagnostic Results:

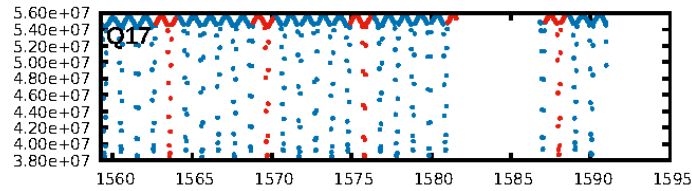
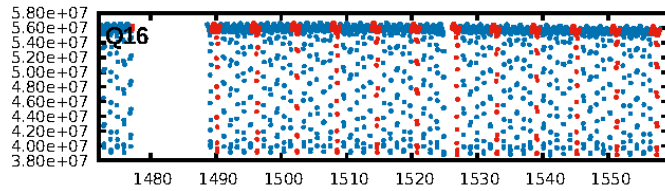
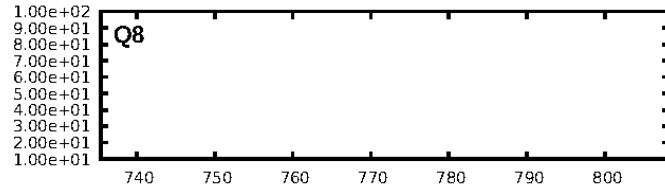
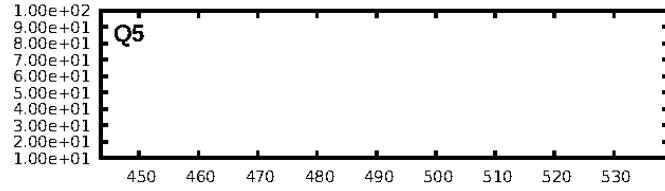
ShortPeriod-sig: 100.0% [5.82 σ]
LongPeriod-sig: 100.0% [4.05 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: 0.3376

Centroid-sig: 10.1%
Centroid-so: 0.109 arcsec [7.47 σ]
OotOffset-rm: 0.003 arcsec [0.04 σ]
KicOffset-rm: 0.131 arcsec [1.53 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]

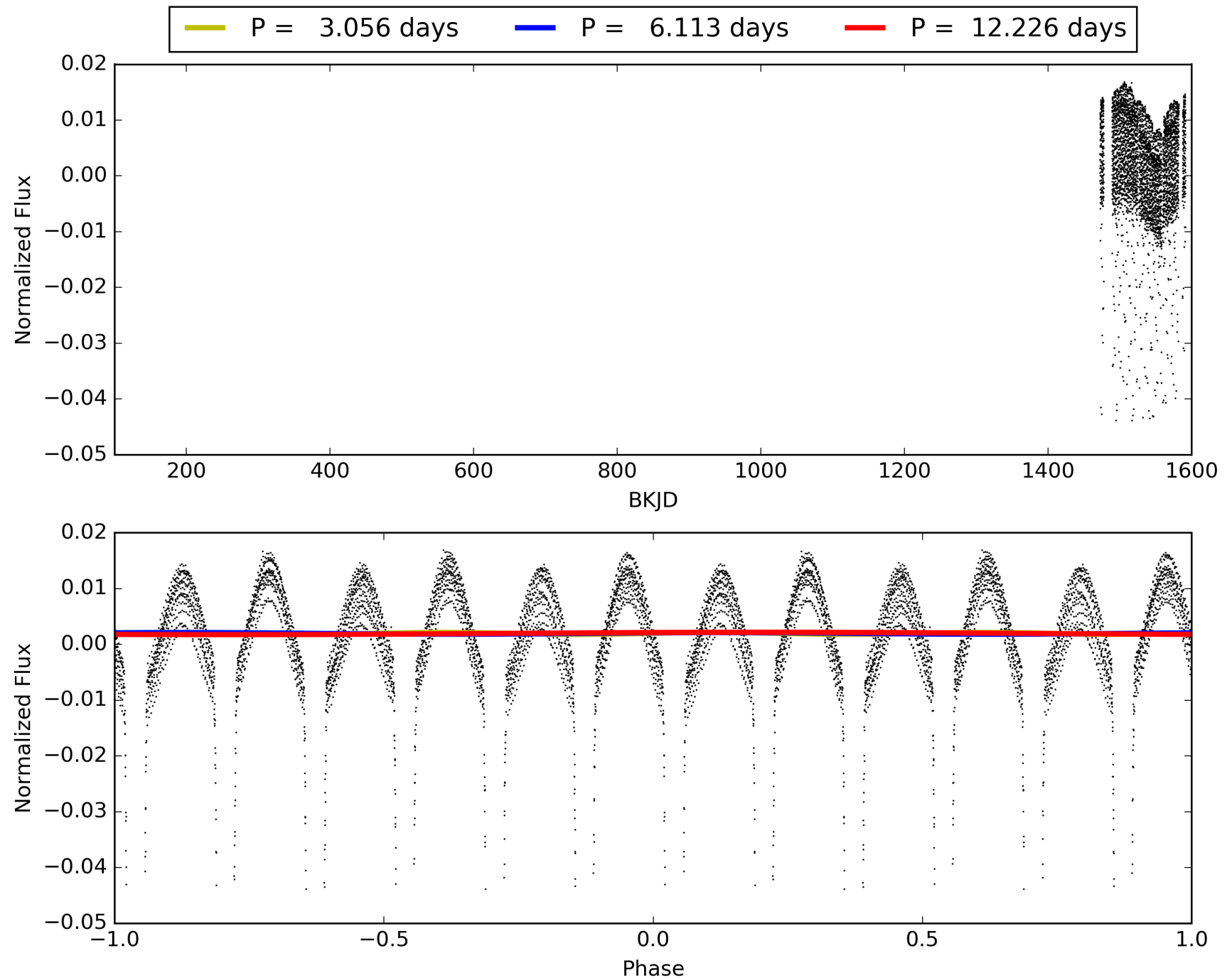
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:28:53 Z

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

TCE 008380743-02, PDC Light Curves

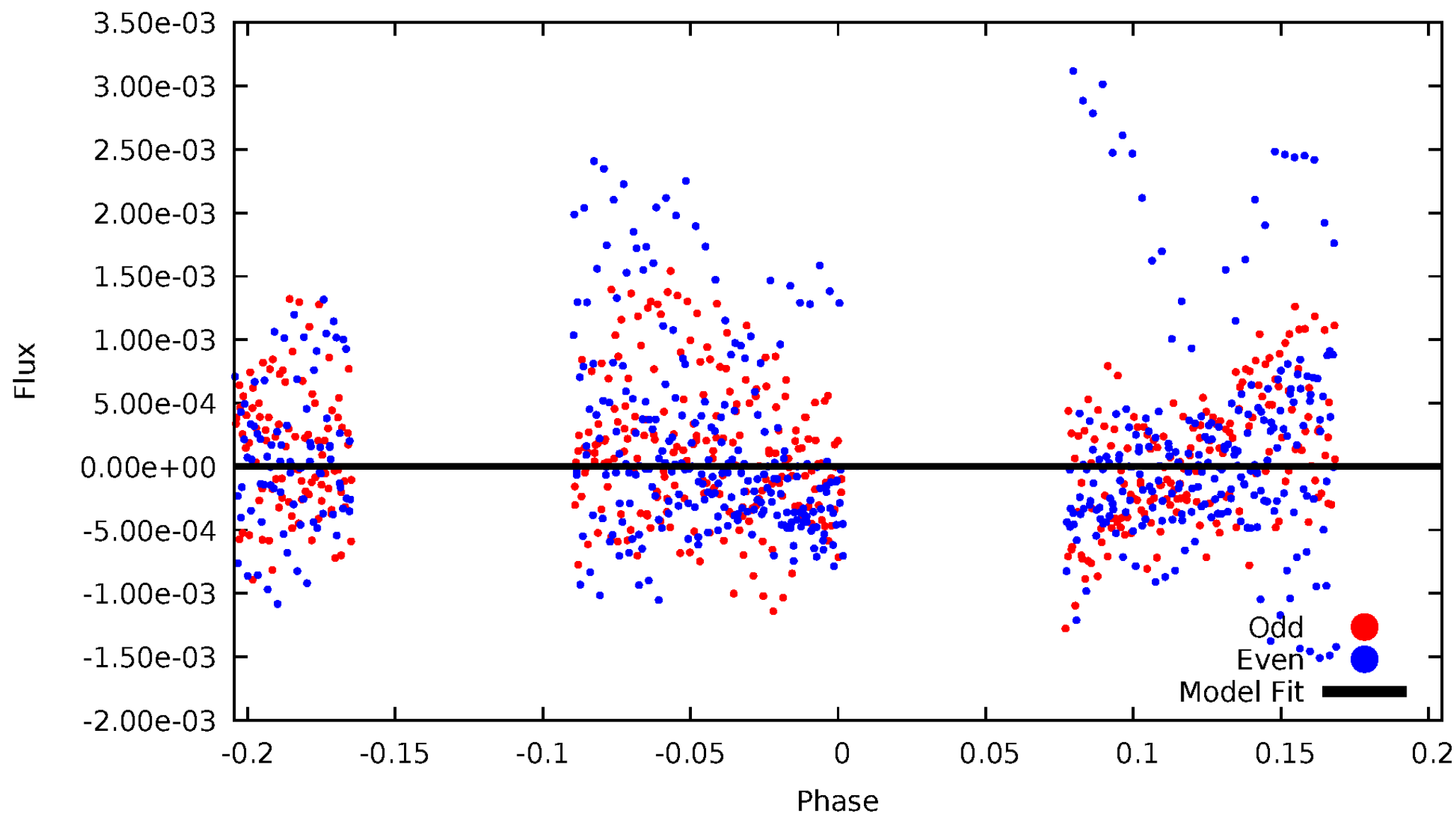


TCE 008380743-02



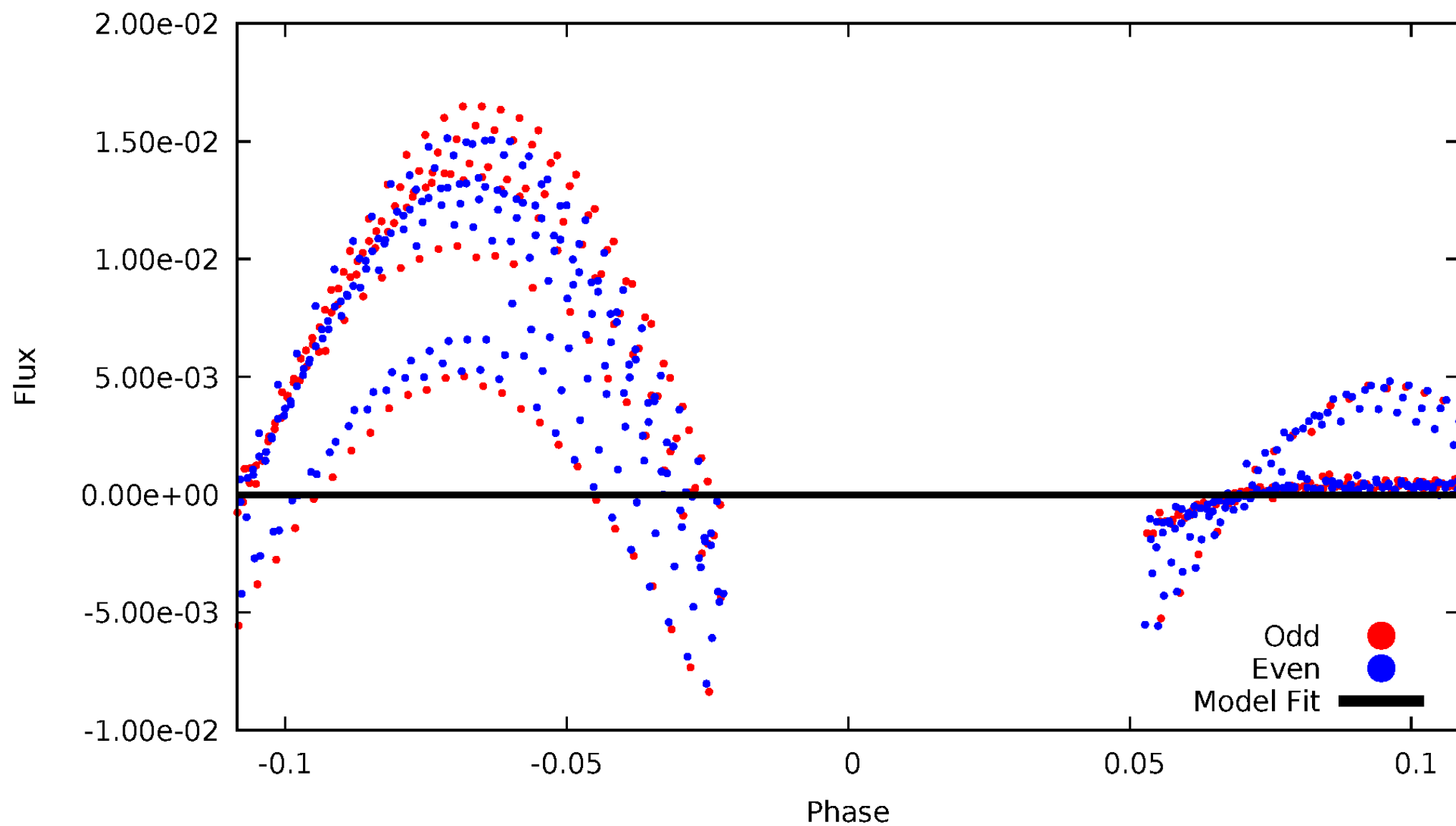
DV Odd/Even

TCE 008380743-02



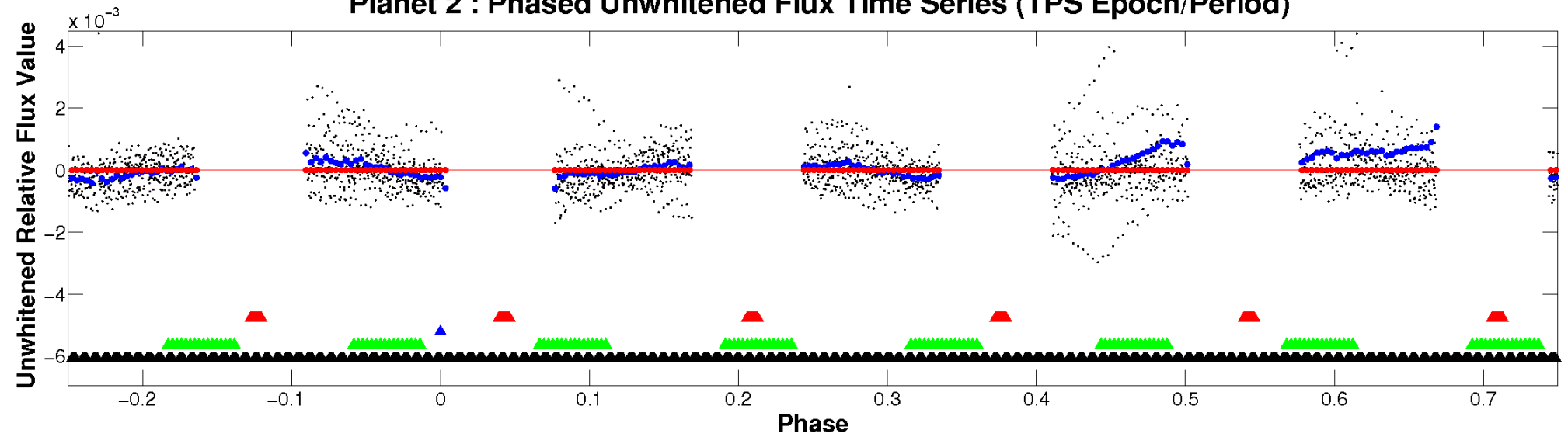
ALT Odd/Even

TCE 008380743-02



Non-Whitened Vs. Whitened Light Curve

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

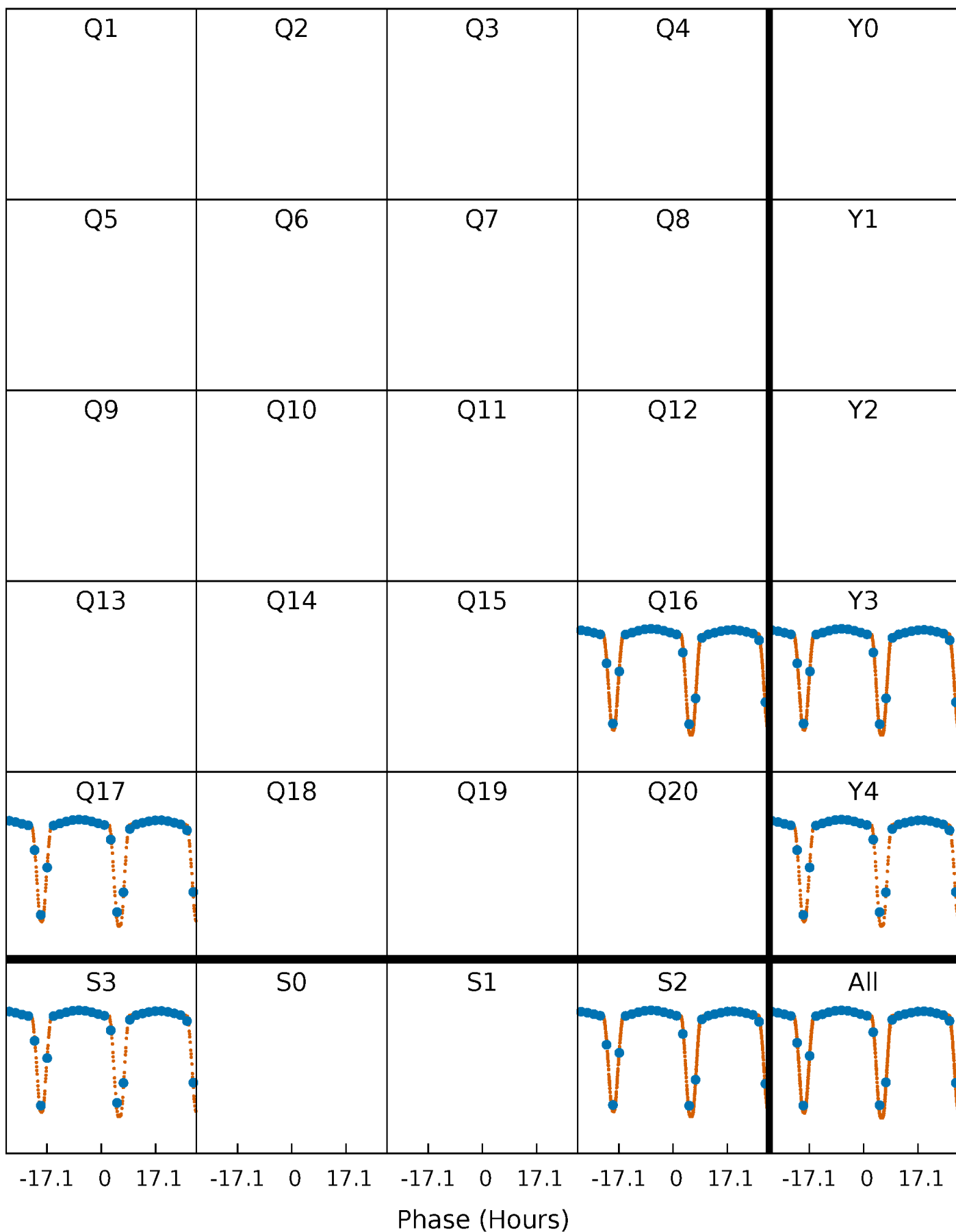


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



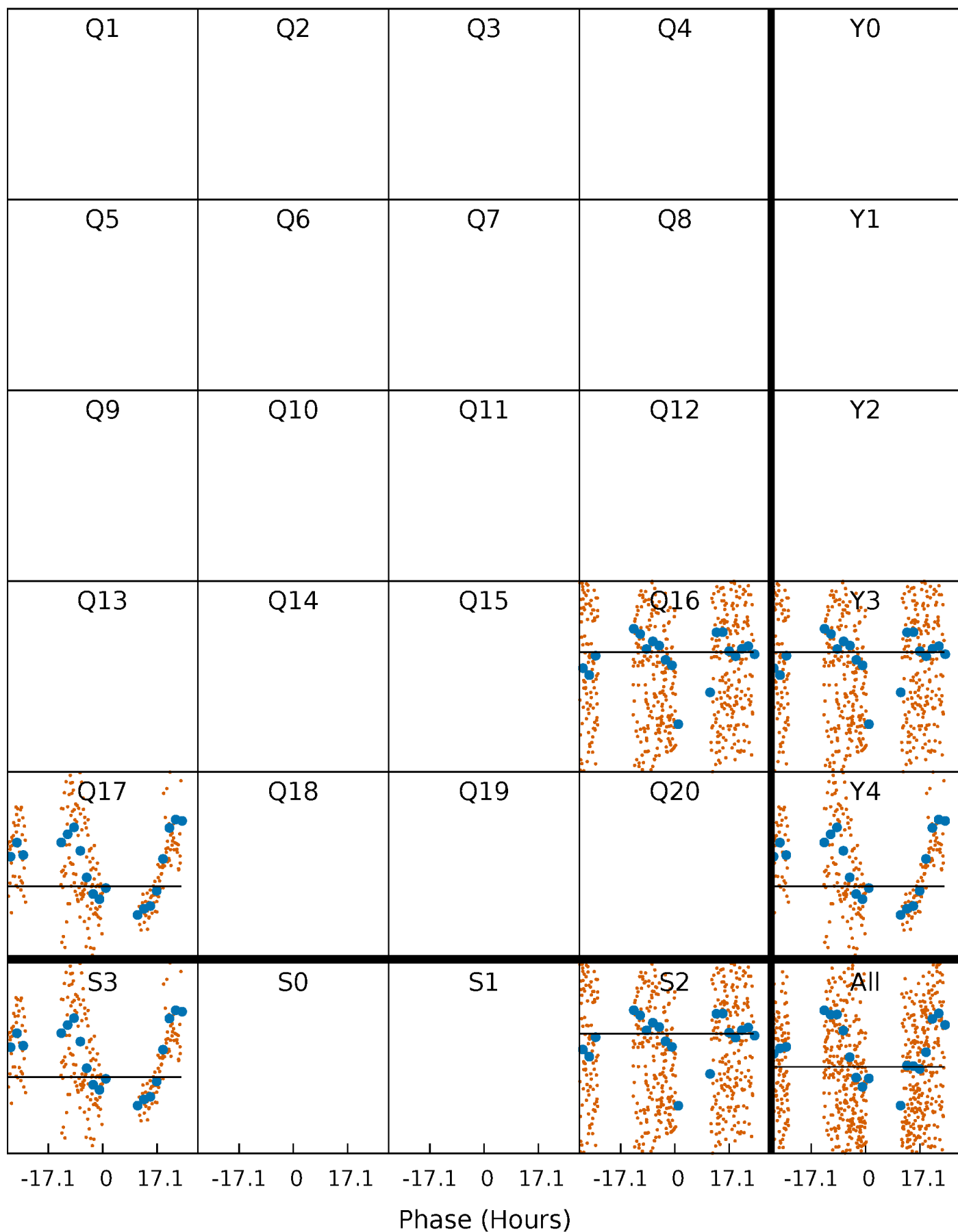
PDC Quarter-Phased Transit Curves

TCE 008380743-02 P= 6.112969 Days $T_0=132.900476$ (BKJD)



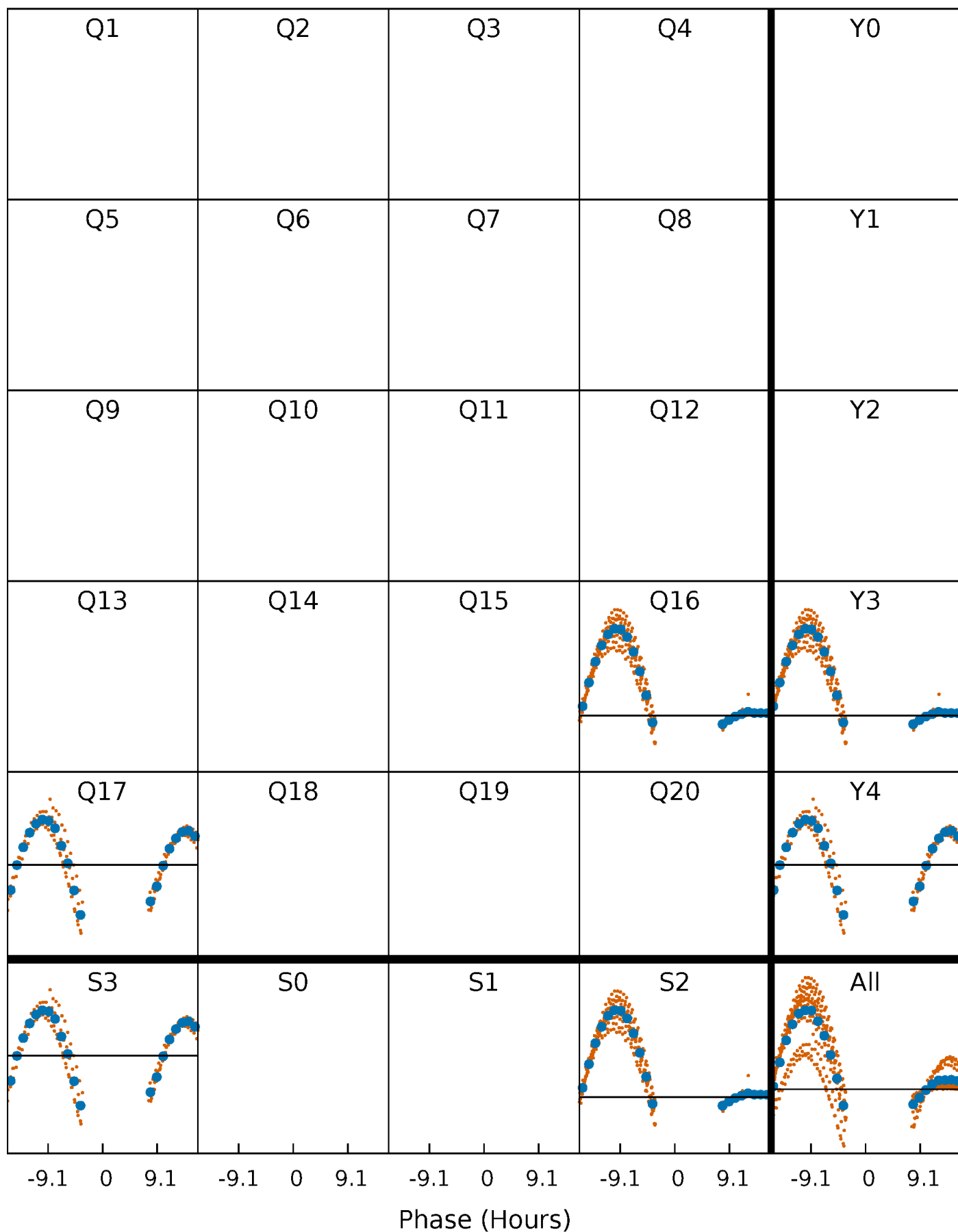
DV Quarter-Phased Transit Curves

TCE 008380743-02 P= 6.112969 Days $T_0=132.900476$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

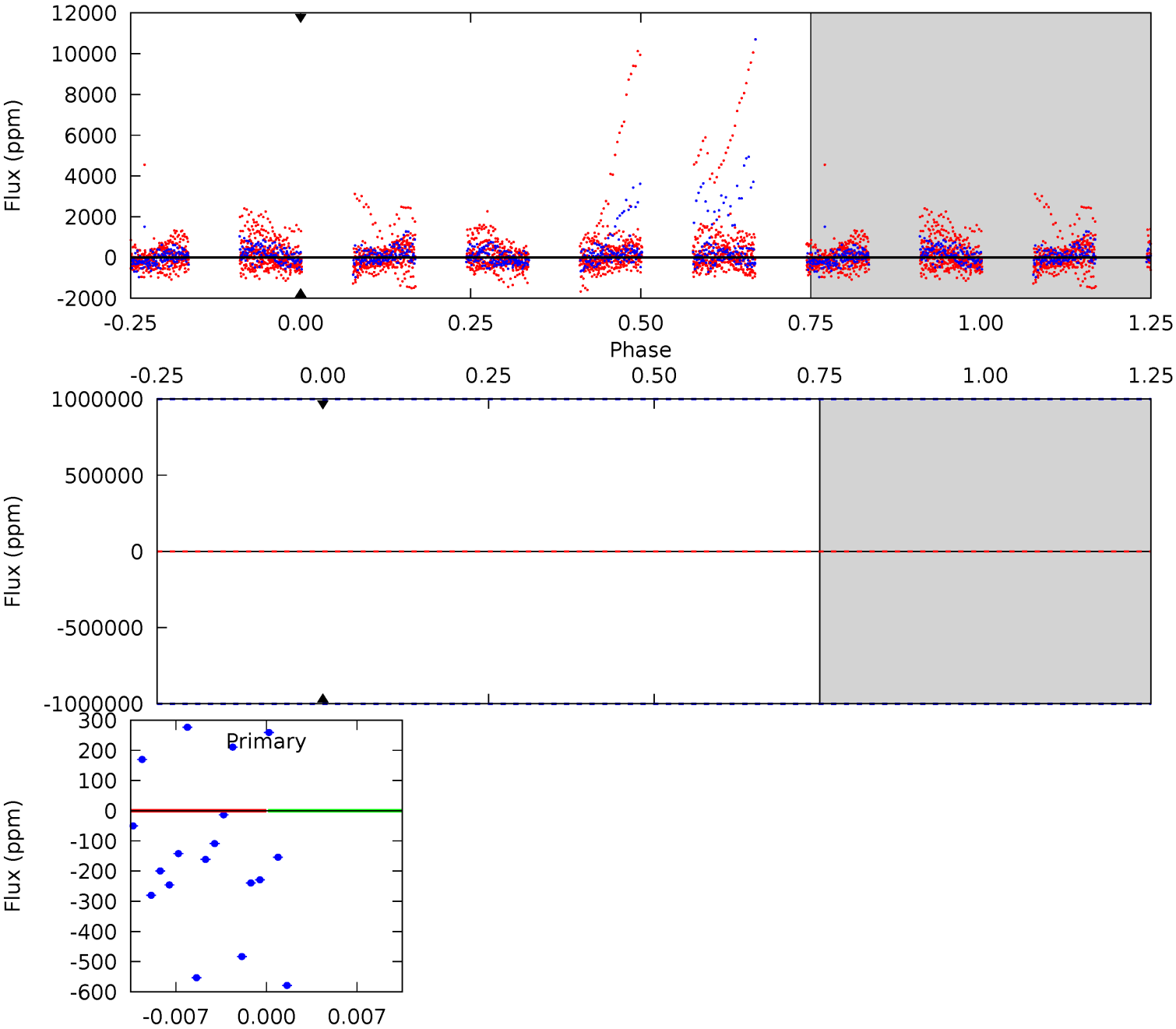
TCE 008380743-02 $P = 6.112969$ Days $T_0 = 134.067722$ (BKJD)



DV Model-Shift Uniqueness Test

008380743-02, P = 6.112969 Days, E = 132.900476 Days

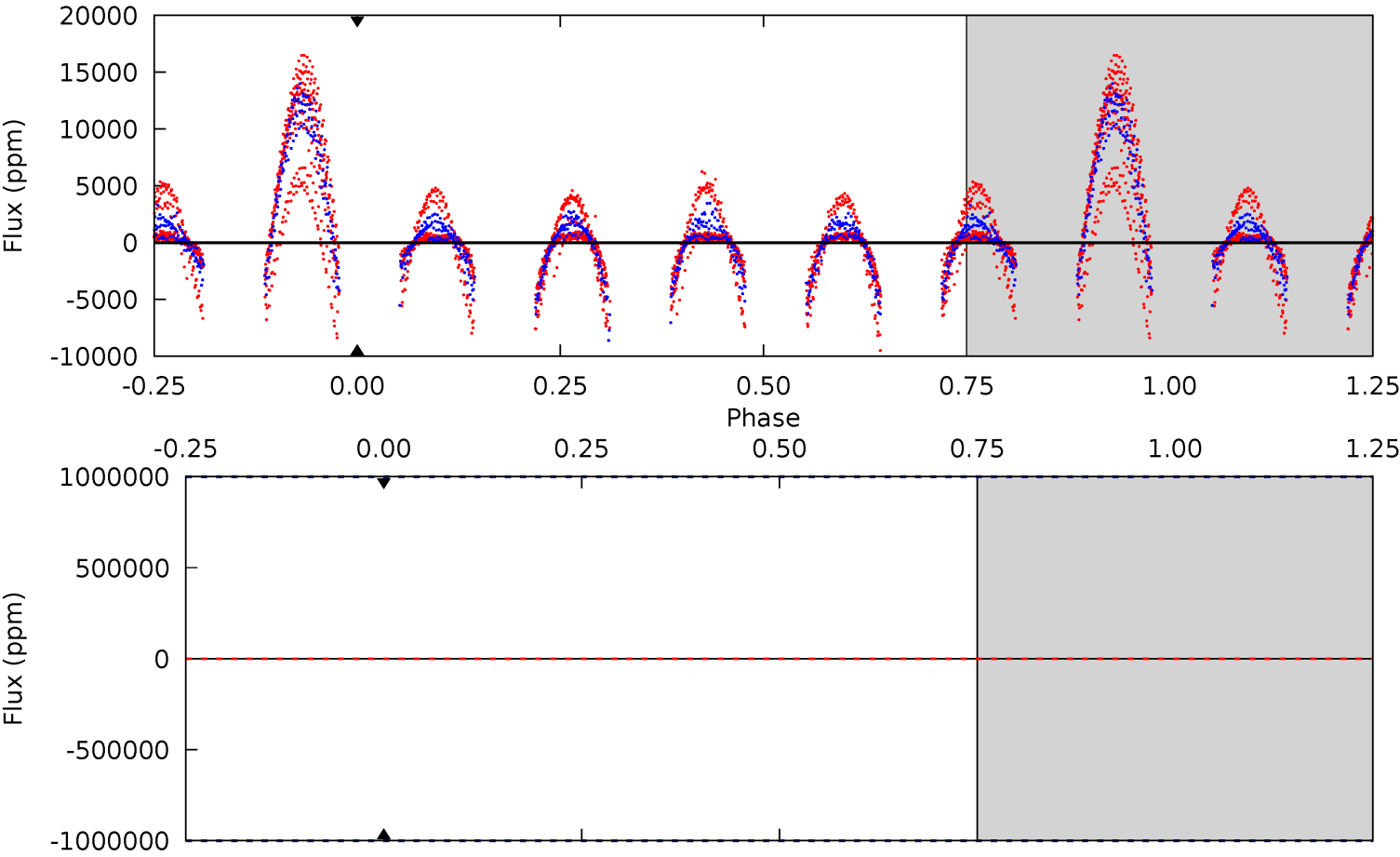
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008380743-02, P = 6.112969 Days, E = 134.067722 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



Stellar Parameters For KIC 008380743

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6225^{+198}_{-242}	$4.009^{+0.385}_{-0.137}$	$-0.400^{+0.300}_{-0.300}$	$1.672^{+0.434}_{-0.651}$	$1.041^{+0.164}_{-0.164}$	$0.314^{+1.004}_{-0.134}$
	+3%/-4%	+10%/-3%	+75%/-75%	+26%/-39%	+16%/-16%	+320%/-43%
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 008380743-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$22.23^{+16.75}_{-13.28}$	1883^{+150}_{-184}	-4586^{+17085}_{-7403}	$-19.709^{+833.024}_{-616.778}$
Alt.	0 ± 1000000	$23.45^{+19.38}_{-14.17}$	1884^{+149}_{-203}	-2952^{+15119}_{-9087}	$-0.874^{+732.317}_{-641.529}$

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 $A_{obs} \gg 1.0$

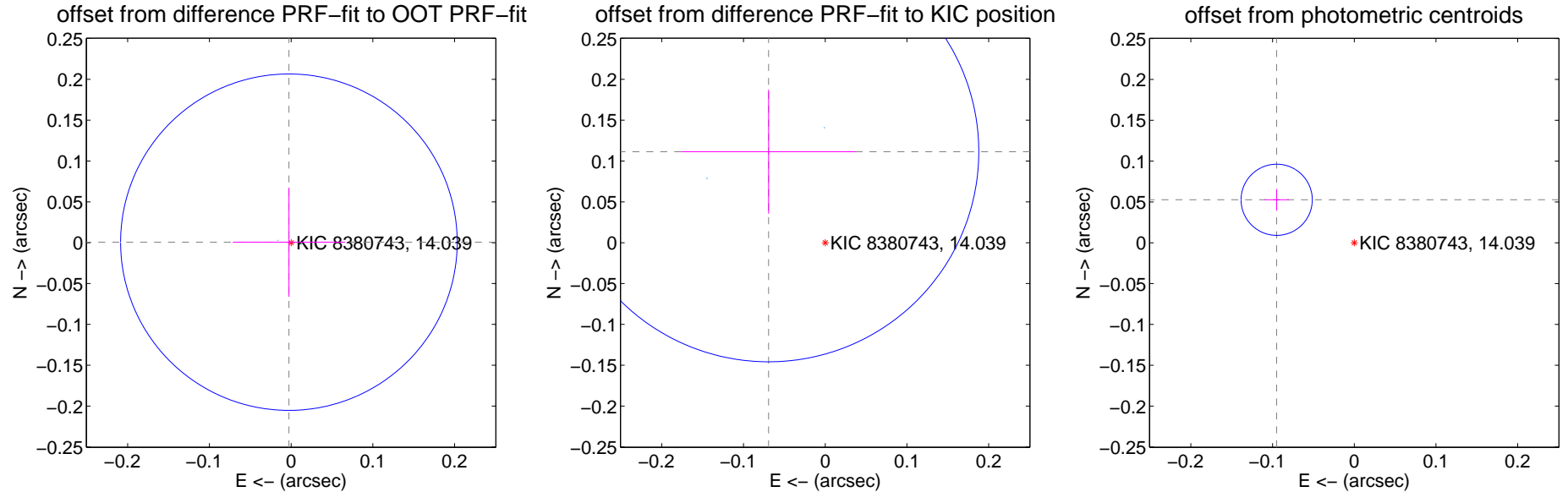
DV Centroid Data

Supplemental centroid analysis for 008380743-02. Kepler magnitude: 14.04. 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 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.003 ± 0.069	0.04	0.003 ± 0.069	0.001 ± 0.067
PRF-fit source offset from KIC position	0.131 ± 0.086	1.53	0.069 ± 0.107	0.111 ± 0.076
photometric centroid source offset	0.11 ± 0.01	7.47	0.09 ± 0.01	0.05 ± 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.

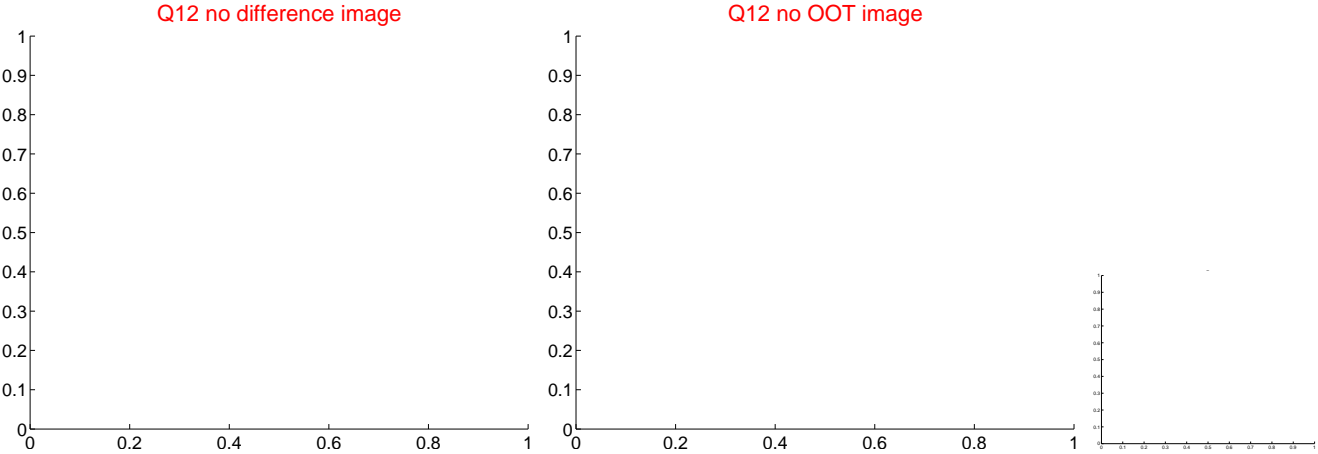
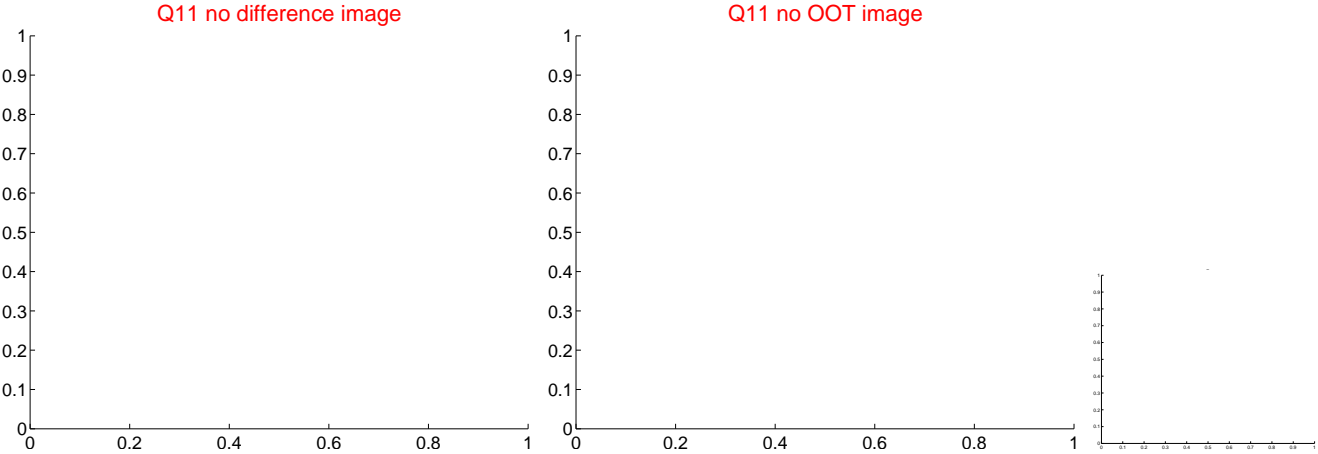
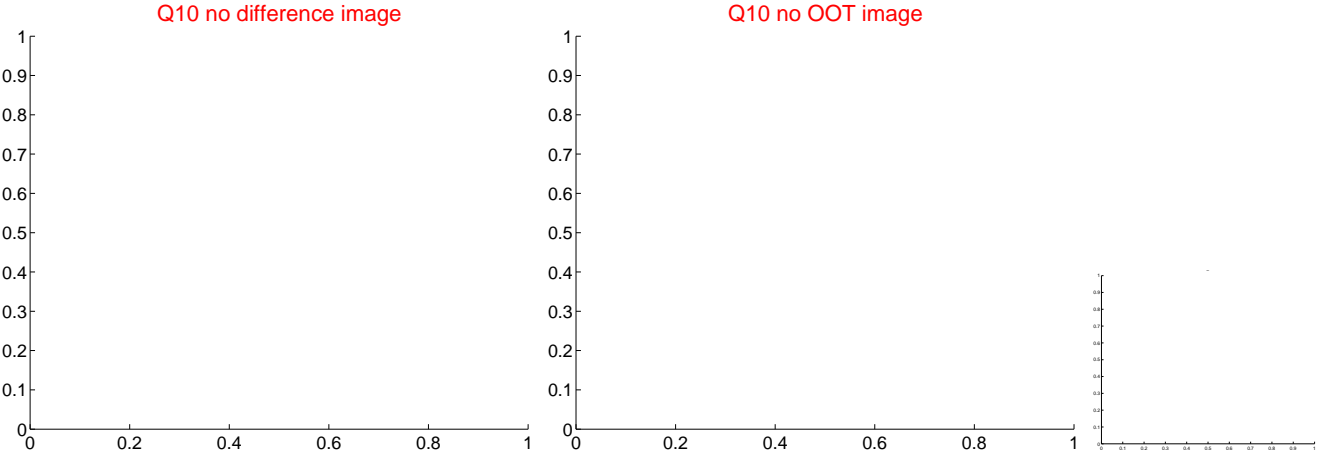
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



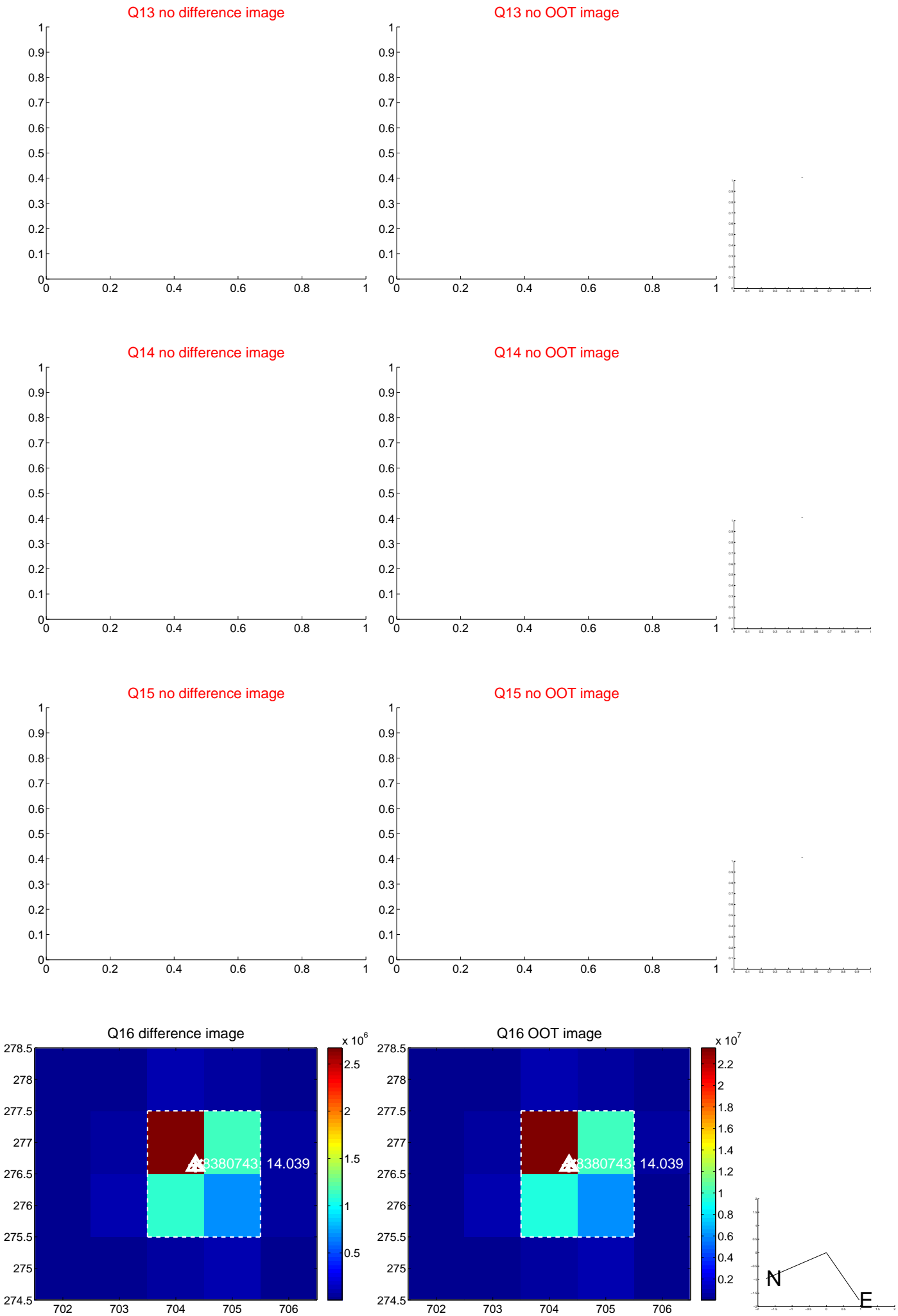
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



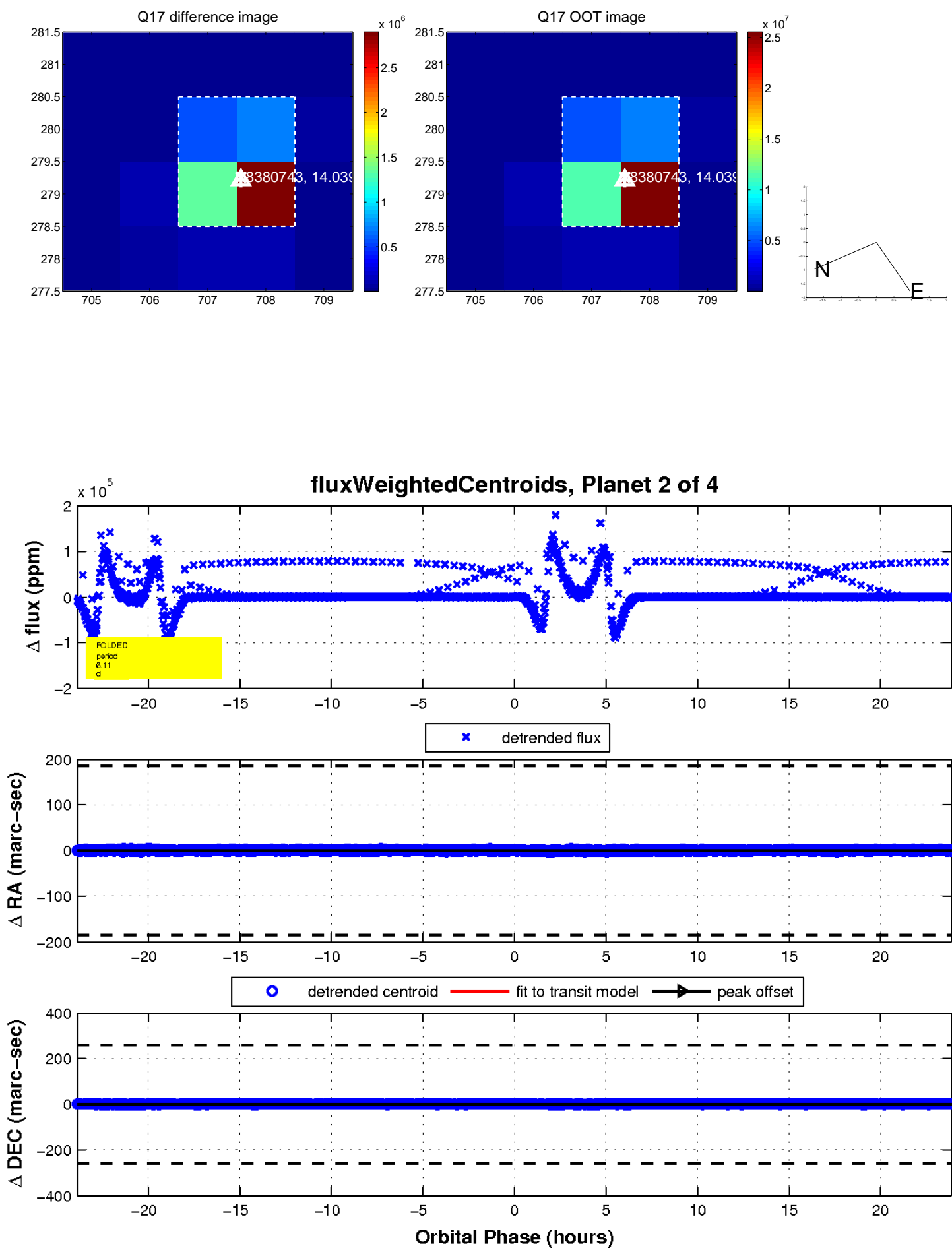
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

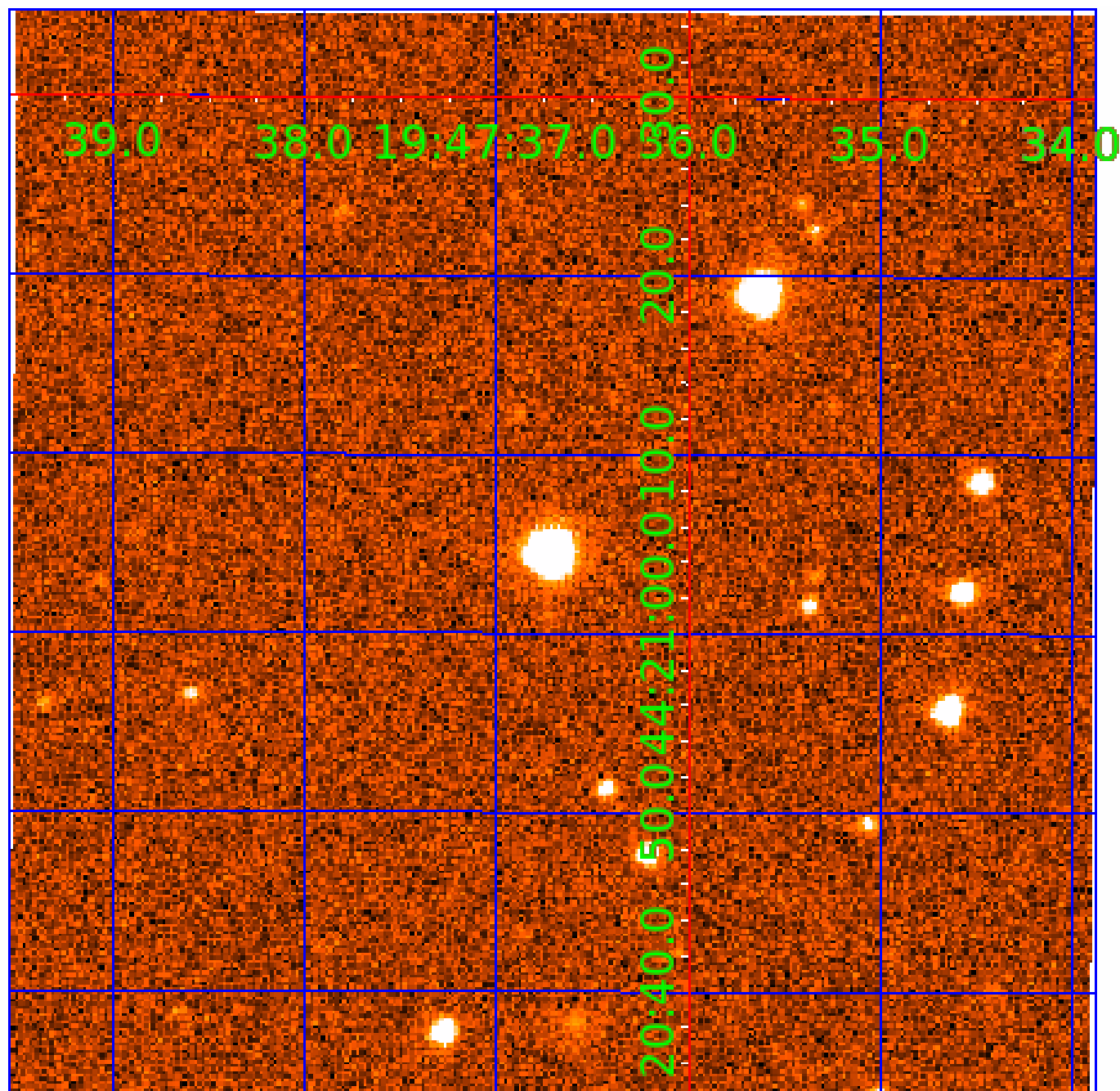


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008380743

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})
008380743-01	OBS	5510.01	1.018798	132.164868	291126.7	3.500	7600.7	-1.0	1.67	6225	51.73	9321.64
008380743-02	OBS	No	6.112969	132.900476	15361.4	15.000	1158.4	-1.0	1.67	6225	20.80	854.95
008380743-03	OBS	No	11.464079	134.830614	78070.8	27.978	157.9	95.8	1.67	6225	47.01	369.68
008380743-04	OBS	No	2.374788	131.715329	4963.0	3.500	93.6	-1.0	1.67	6225	11.83	3016.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008380743-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
008380743-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—NO_FITS—RESIDUAL_TCE—CENT_NOFITS
008380743-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008380743-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

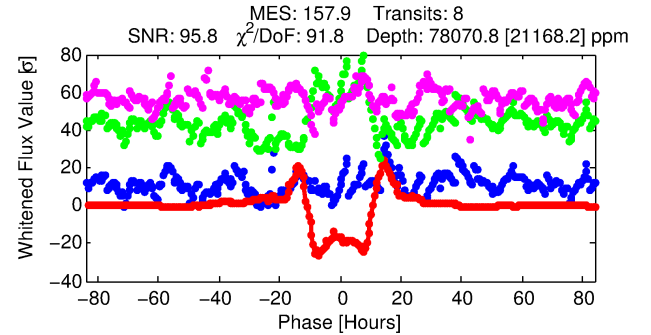
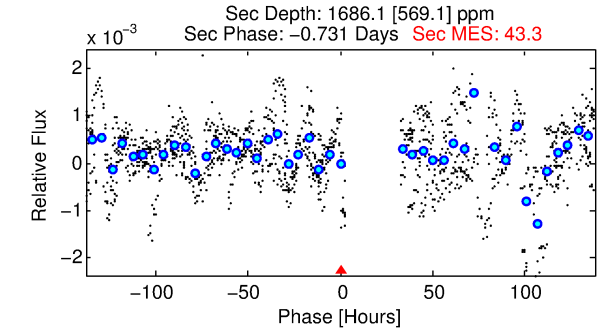
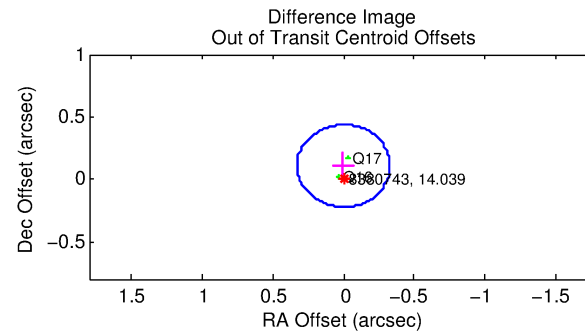
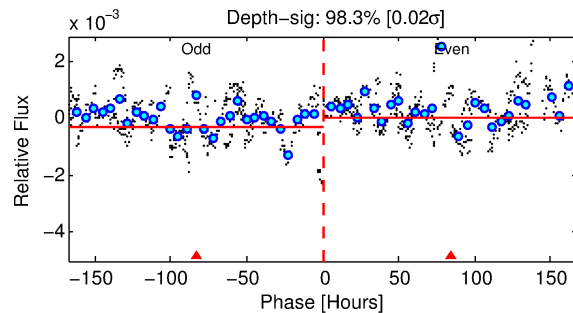
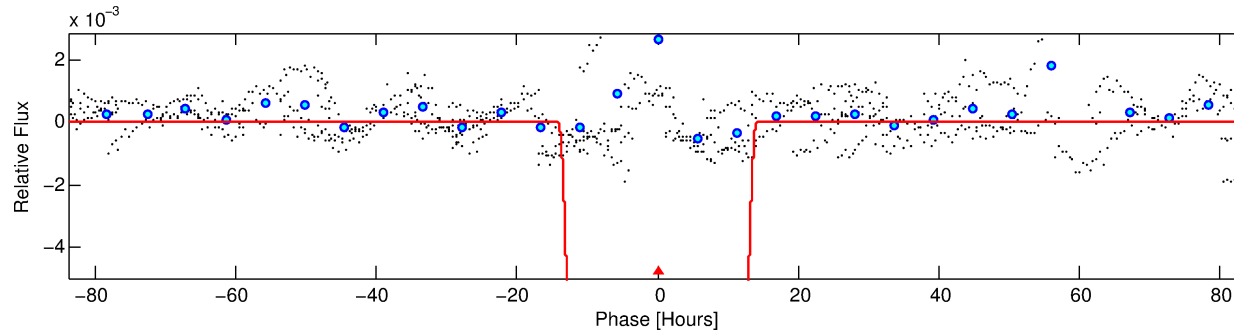
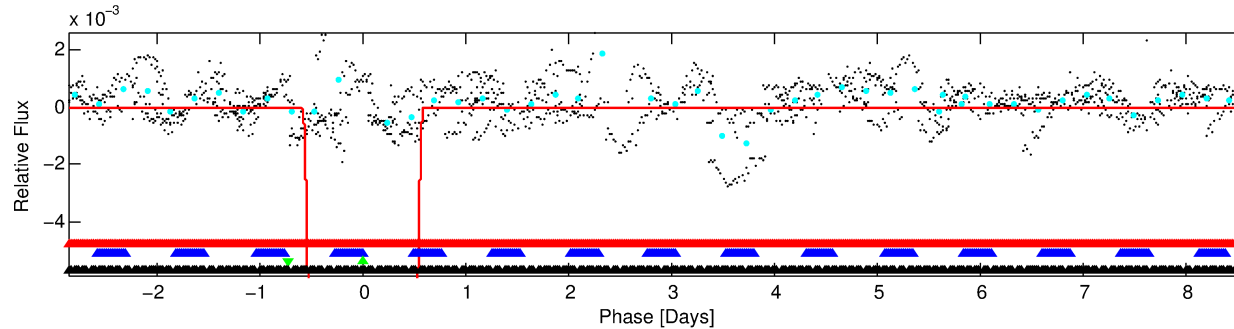
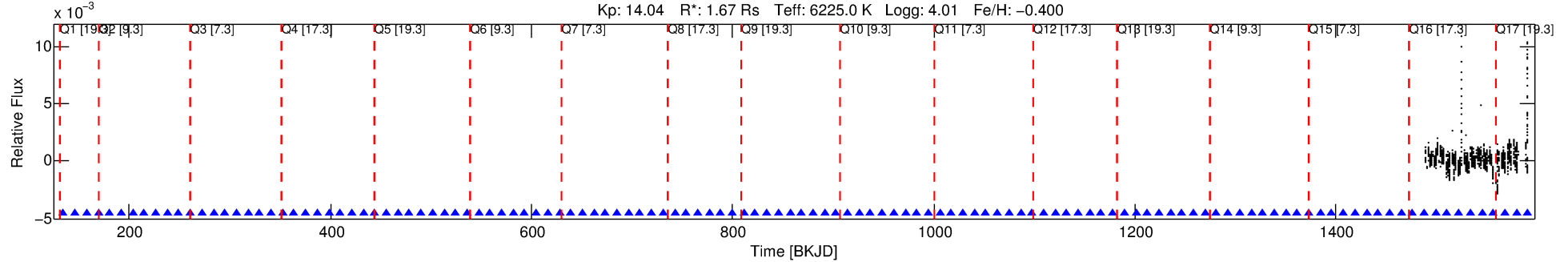
Ephemeris Match Information For 008380743-03

No Significant Match Found

DV One-Page Summary

KIC: 8380743 Candidate: 3 of 4 Period: 11.464 d
KOI: K05510 Corr: No Ephemeris Match

Kp: 14.04 R*: 1.67 Rs Teff: 6225.0 K Logg: 4.01 Fe/H: -0.400



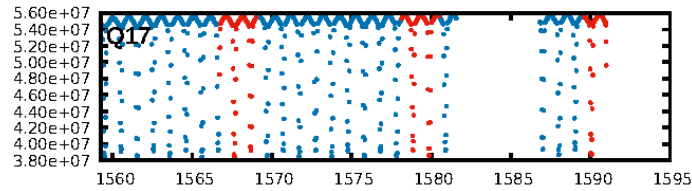
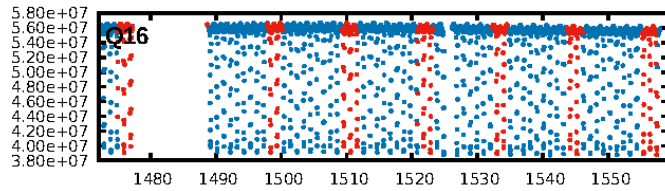
DV Fit Results:

Period = 11.46408 [0.00236] d
Epoch = 134.8306 [0.4717] BKJD
Rp/R* = 0.2576 [0.0609]
a/R* = 4.00 [1.36]
b = 0.08 [6.27]
Seff = 369.68 [245.45]
Teq = 1118 [186] K
Rp = 47.01 [21.41] Re
a = 0.1009 [0.0397] AU
Ag = 4.27 [3.71] [0.88σ]
Teffp = 2485 [374] K [3.28σ]

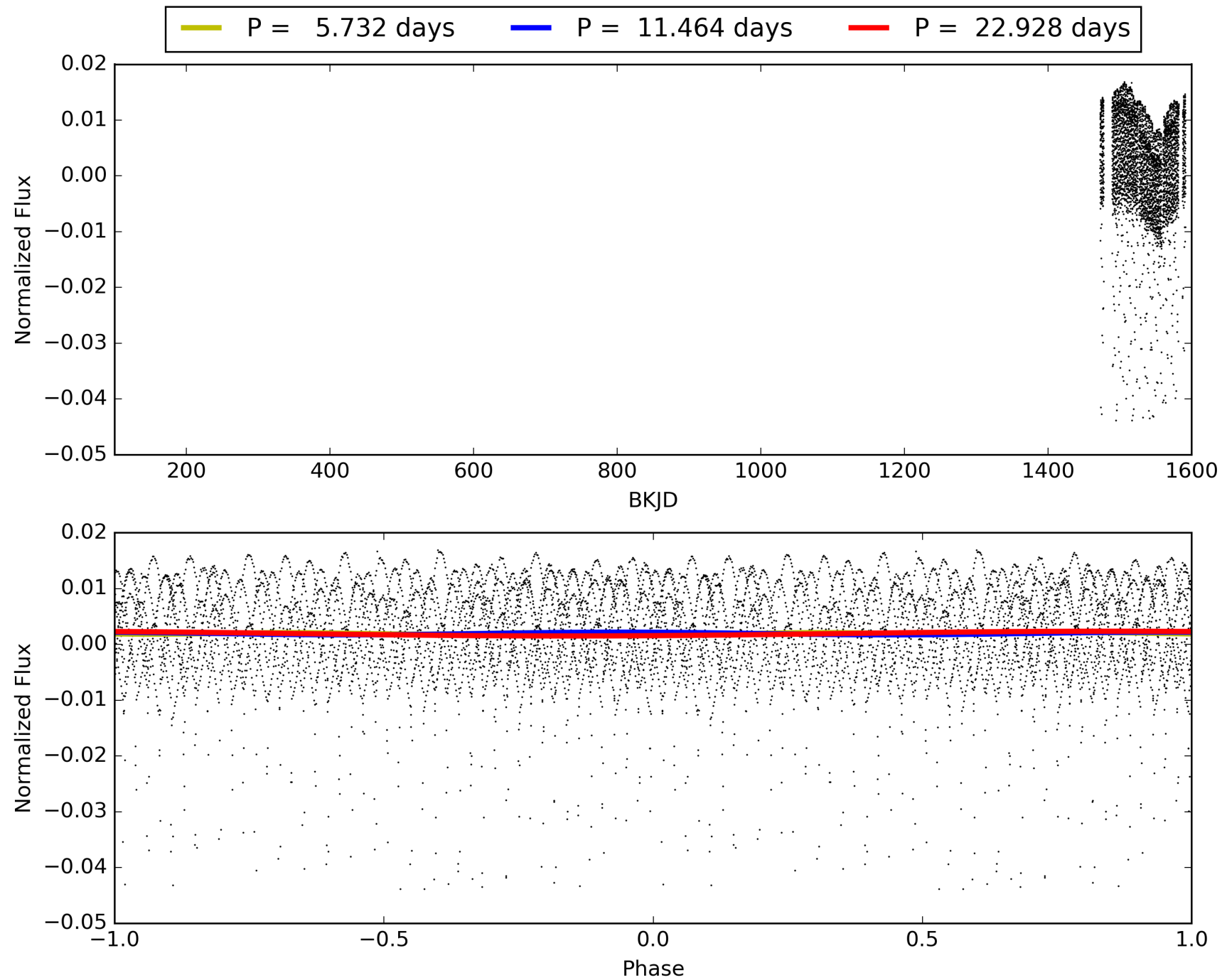
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.05σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 2.015
Centroid-sig: 16.8%
Centroid-so: 0.100 arcsec [41.85σ]
OotOffset-rm: 0.105 arcsec [0.96σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 0.220 arcsec [2.53σ]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/2]

TCE 008380743-03, PDC Light Curves

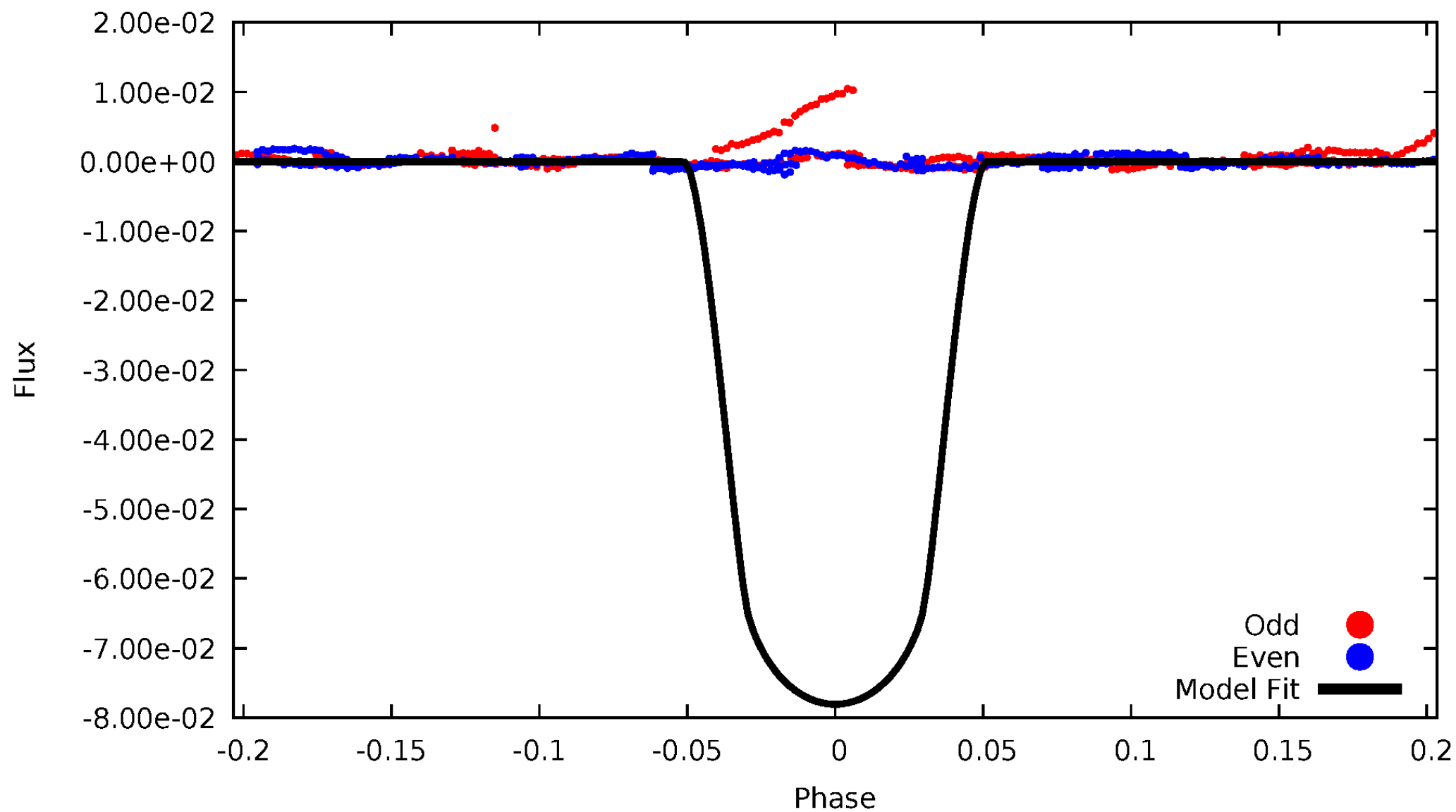


TCE 008380743-03



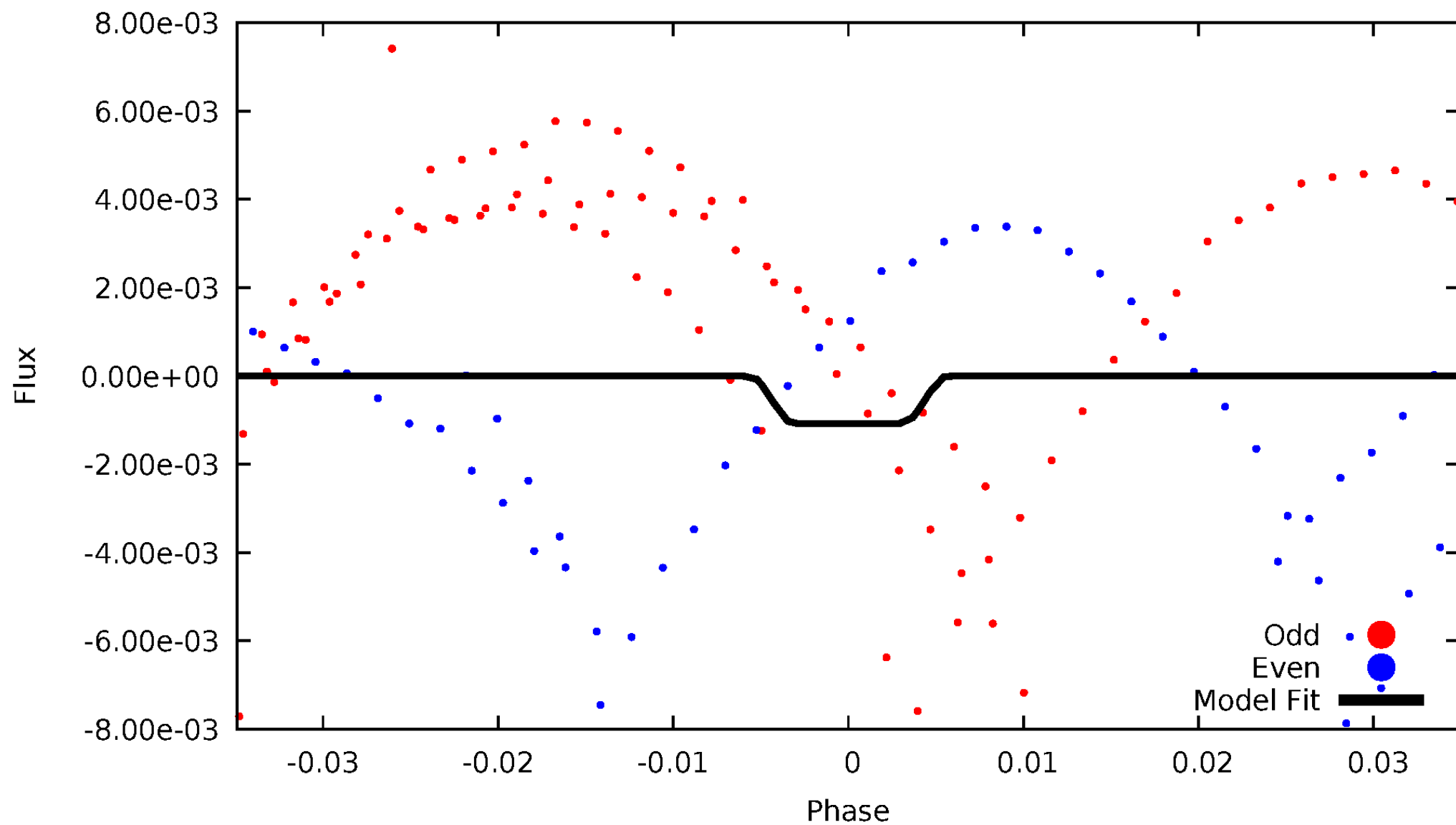
DV Odd/Even

TCE 008380743-03



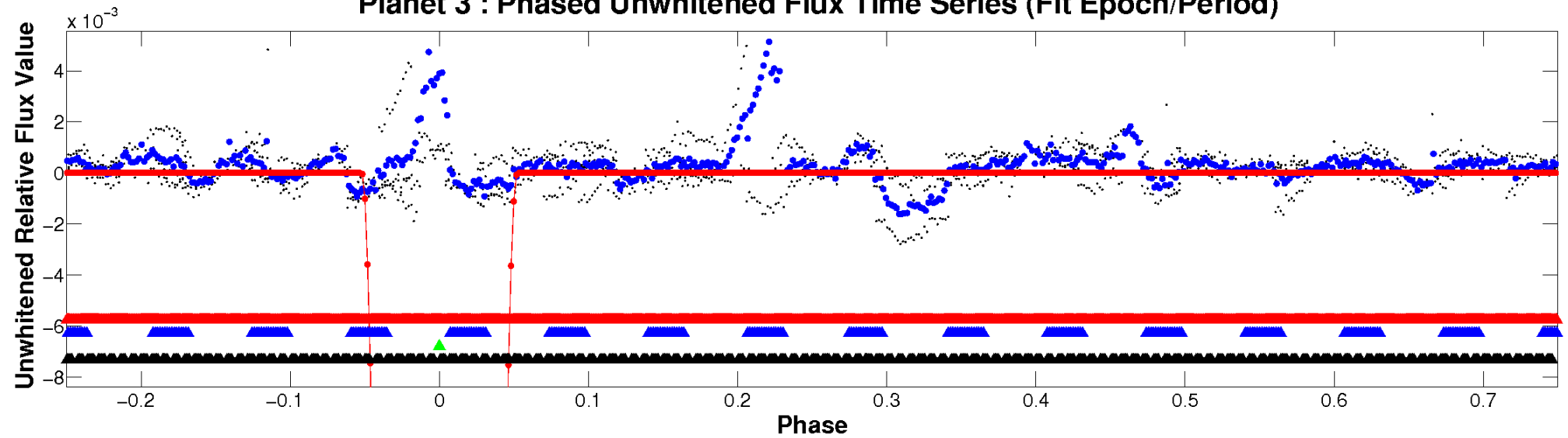
ALT Odd/Even

TCE 008380743-03

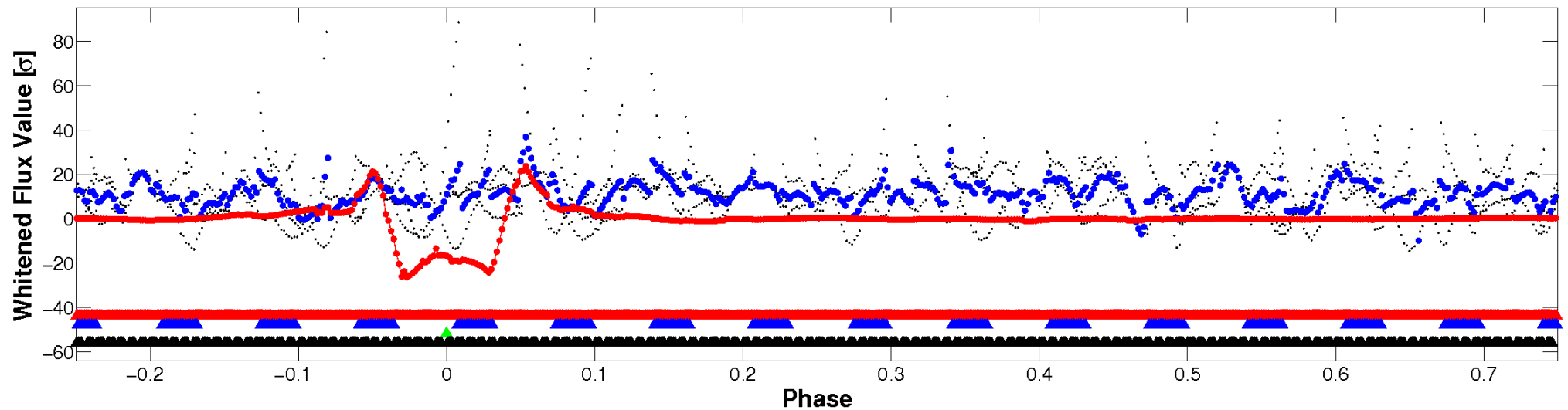


Non-Whitened Vs. Whitened Light Curve

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

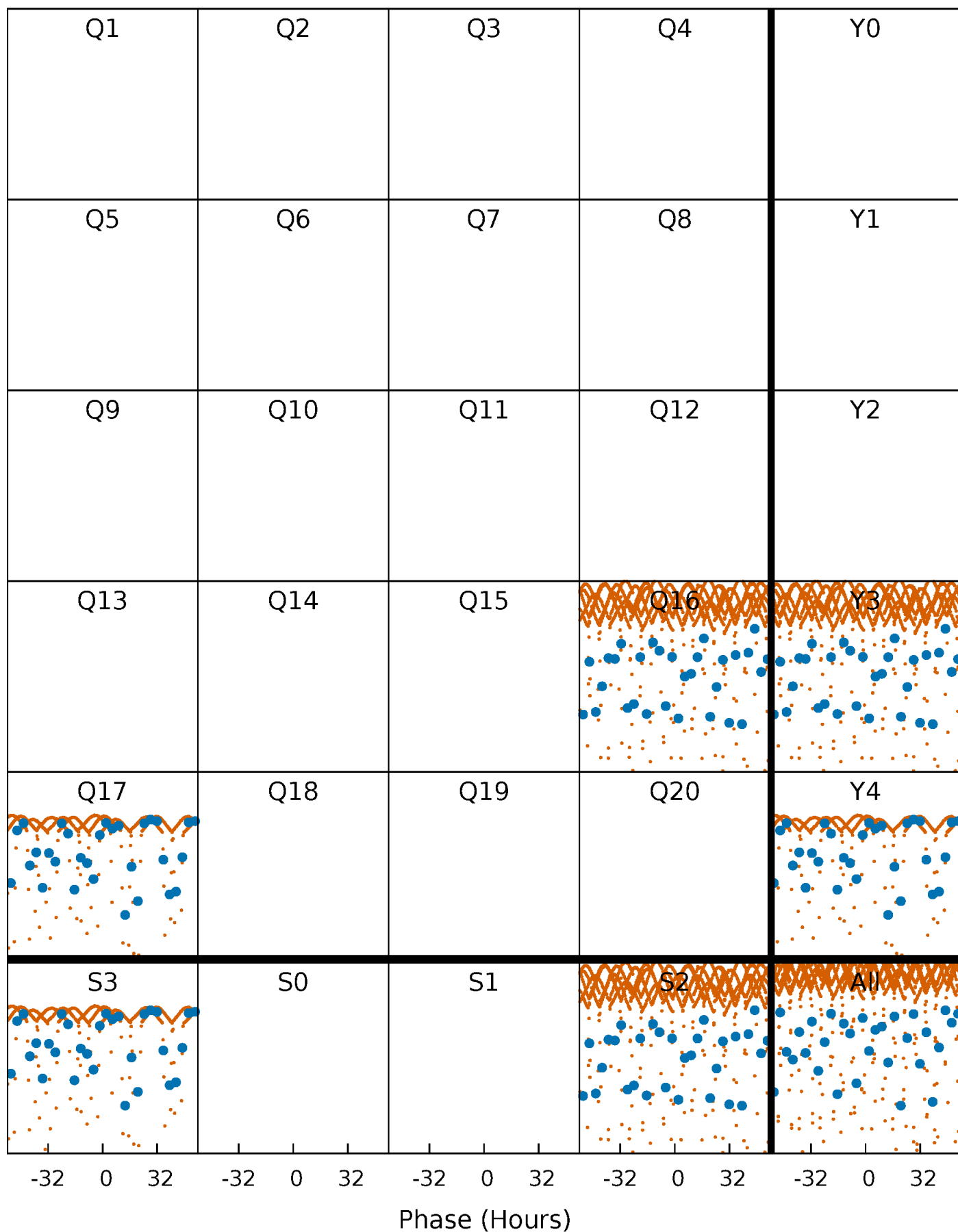


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008380743-03 P= 11.464079 Days $T_0=134.830614$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008380743-03 P= 11.464079 Days $T_0=134.830614$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

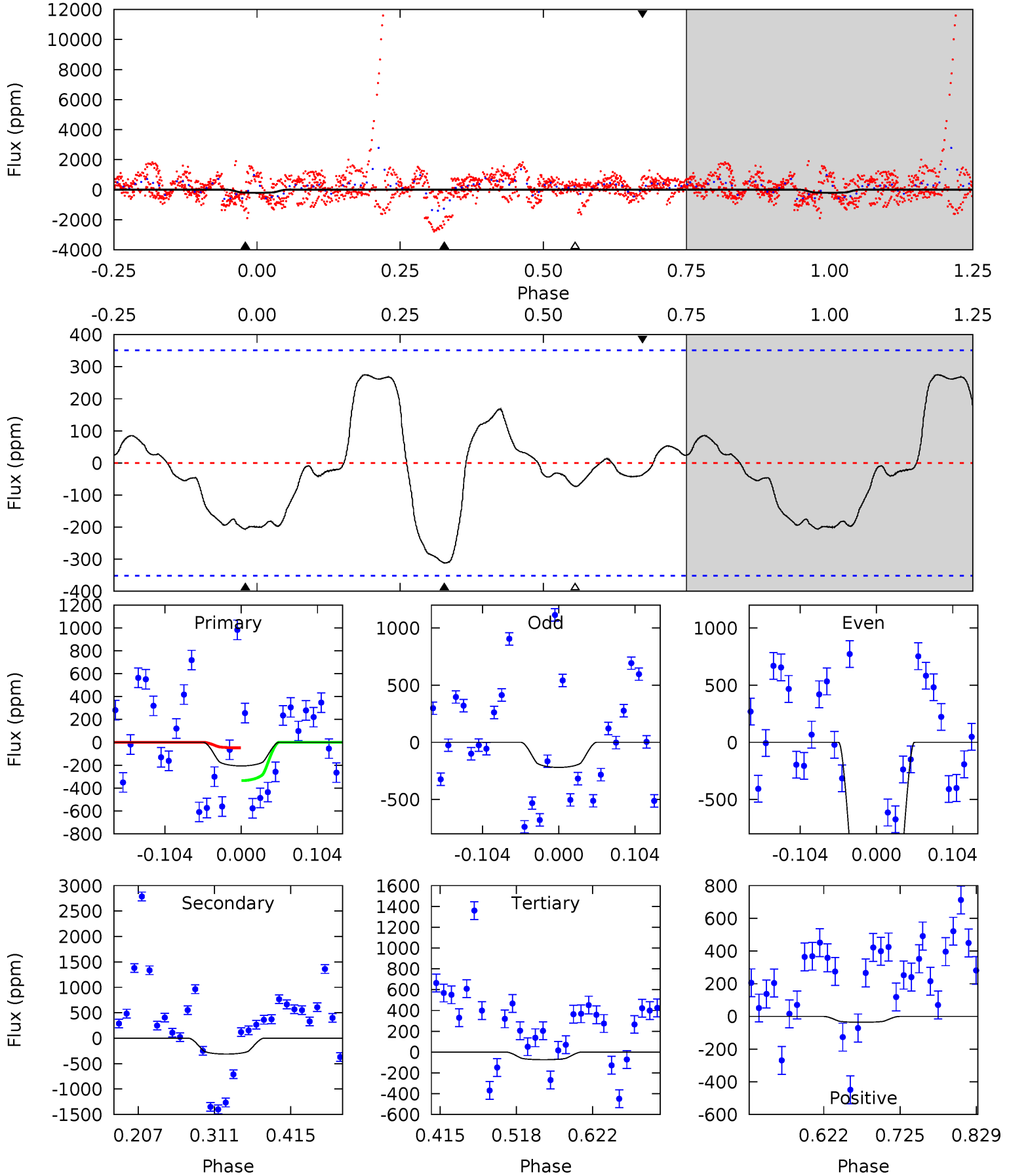
TCE 008380743-03 P= 11.452170 Days $T_0=135.275308$ (BKJD)



DV Model-Shift Uniqueness Test

008380743-03, P = 11.464079 Days, E = 134.830614 Days

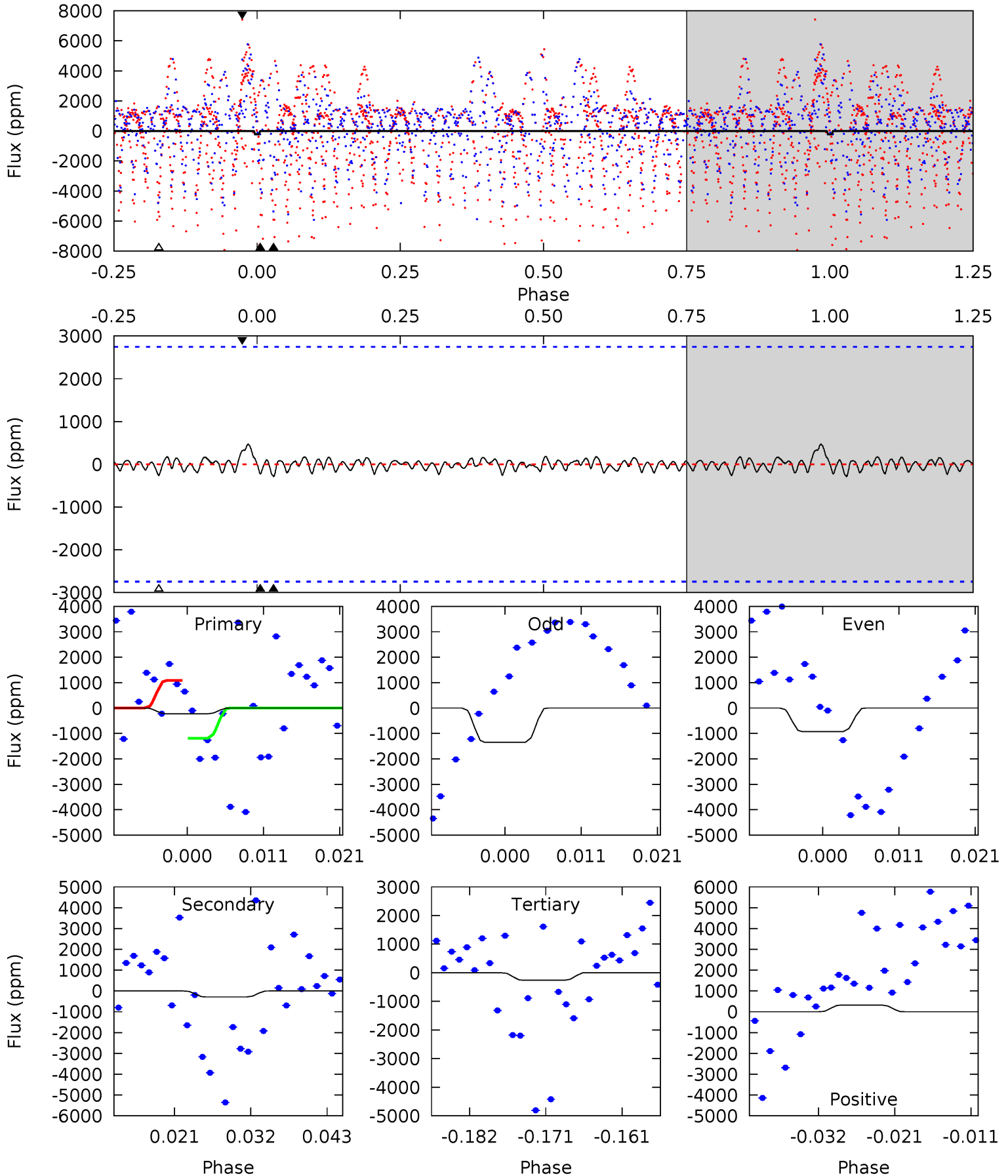
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.67	4.05	0.95	-0.47	4.56	1.63	1.07	1.72	3.14	3.10	4.52	11.1	56.2	0.47	2.74



Alt Model-Shift Uniqueness Test

008380743-03, P = 11.452170 Days, E = 135.275308 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.41	0.53	0.48	0.59	5.01	2.55	0.21	-0.07	-0.17	0.04	-0.06	0.32	-5.24	0.62	0.09



Stellar Parameters For KIC 008380743

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6225^{+198}_{-242}	$4.009^{+0.385}_{-0.137}$	$-0.400^{+0.300}_{-0.300}$	$1.672^{+0.434}_{-0.651}$	$1.041^{+0.164}_{-0.164}$	$0.314^{+1.004}_{-0.134}$
	+3%/-4%	+10%/-3%	+75%/-75%	+26%/-39%	+16%/-16%	+320%/-43%
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 008380743-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-312 ± 77	$44.08^{+14.54}_{-13.19}$	1525^{+119}_{-164}	2365^{+244}_{-256}	$0.916^{+0.917}_{-0.430}$
Alt.	-288 ± 548	$9.49^{+9.47}_{-6.42}$	1523^{+119}_{-171}	3508^{+2290}_{-7095}	12^{+148}_{-24}

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

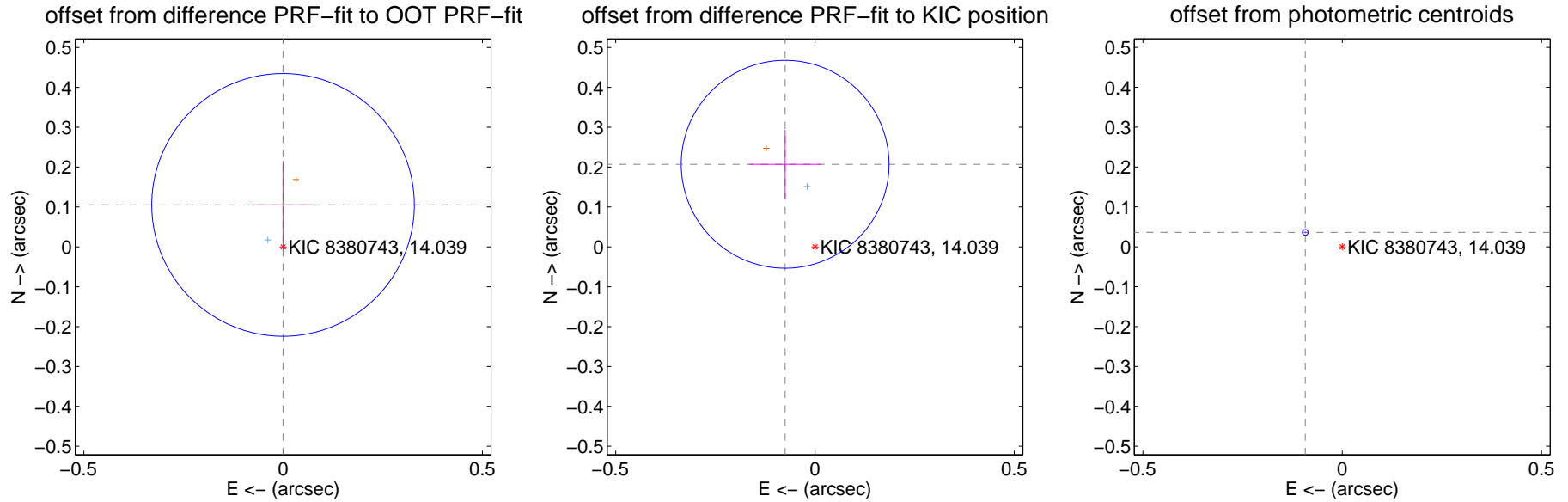
DV Centroid Data

Supplemental centroid analysis for 008380743-03. Kepler magnitude: 14.04. Transit SNR 95.78

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.105 ± 0.110	0.96	0.000 ± 0.078	0.105 ± 0.110
PRF-fit source offset from KIC position	0.220 ± 0.087	2.53	0.075 ± 0.089	0.207 ± 0.087
photometric centroid source offset	0.10 ± 0.00	41.85	0.09 ± 0.00	0.04 ± 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.



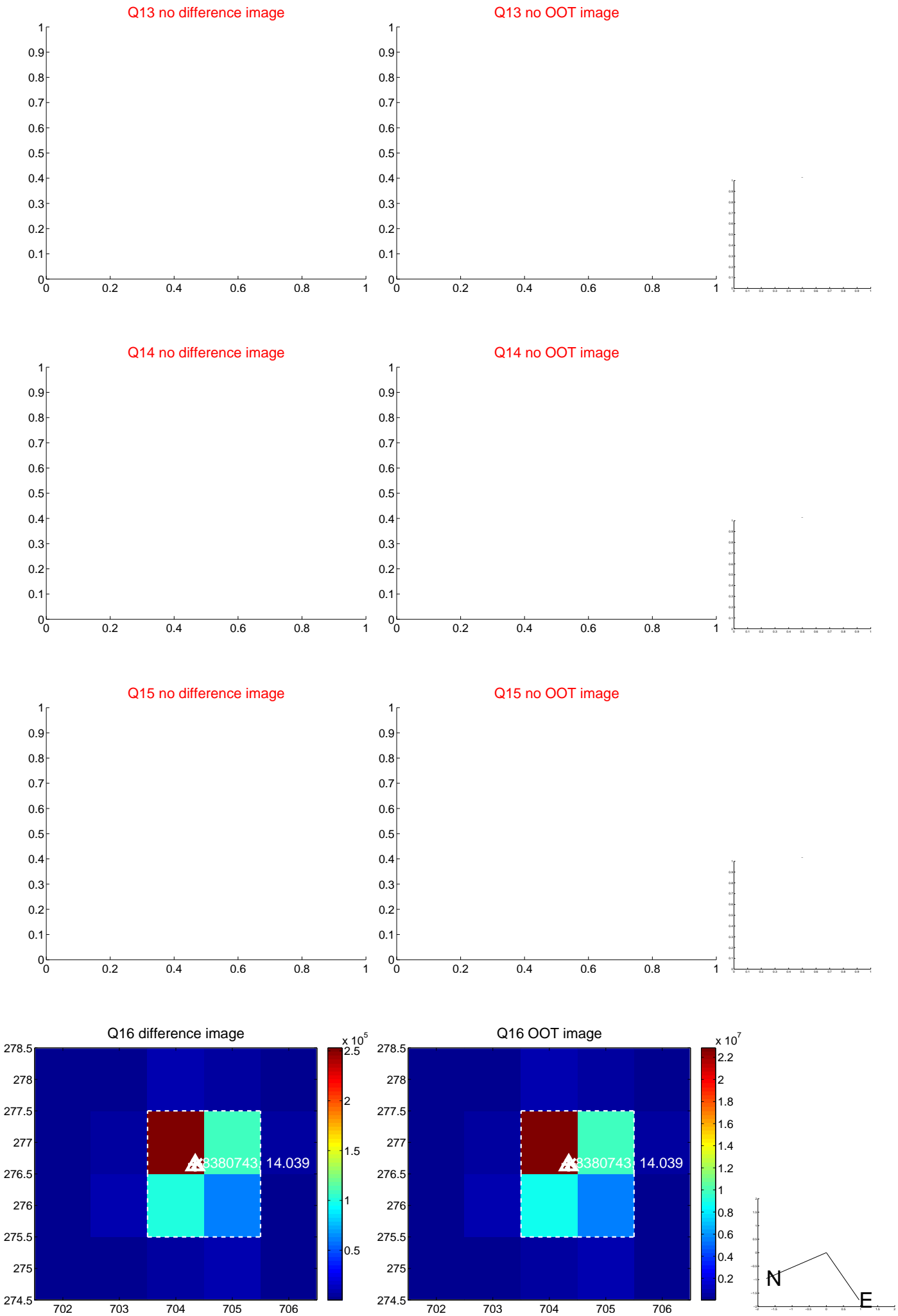
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



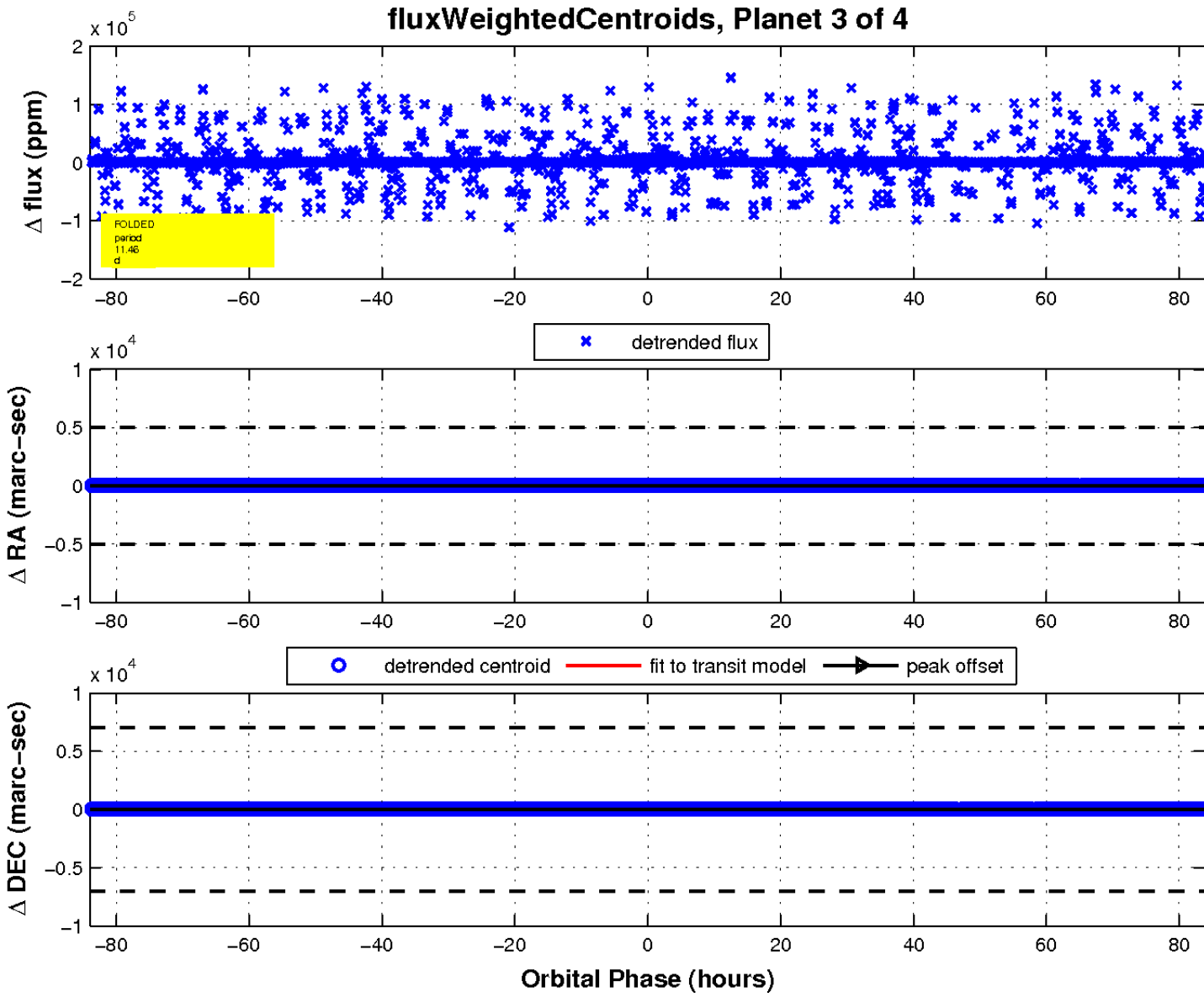
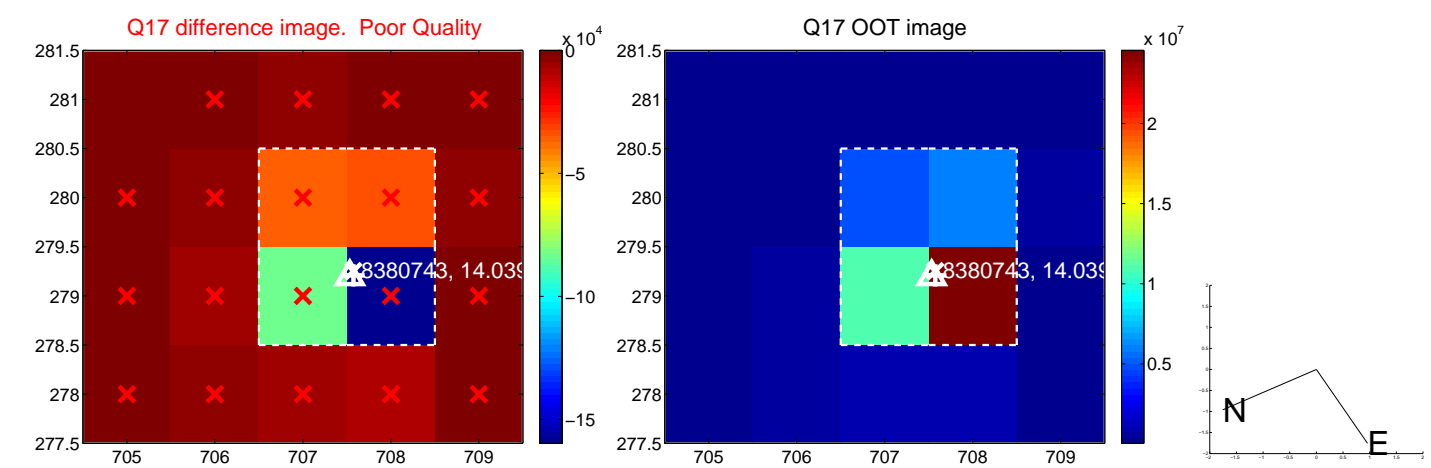
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

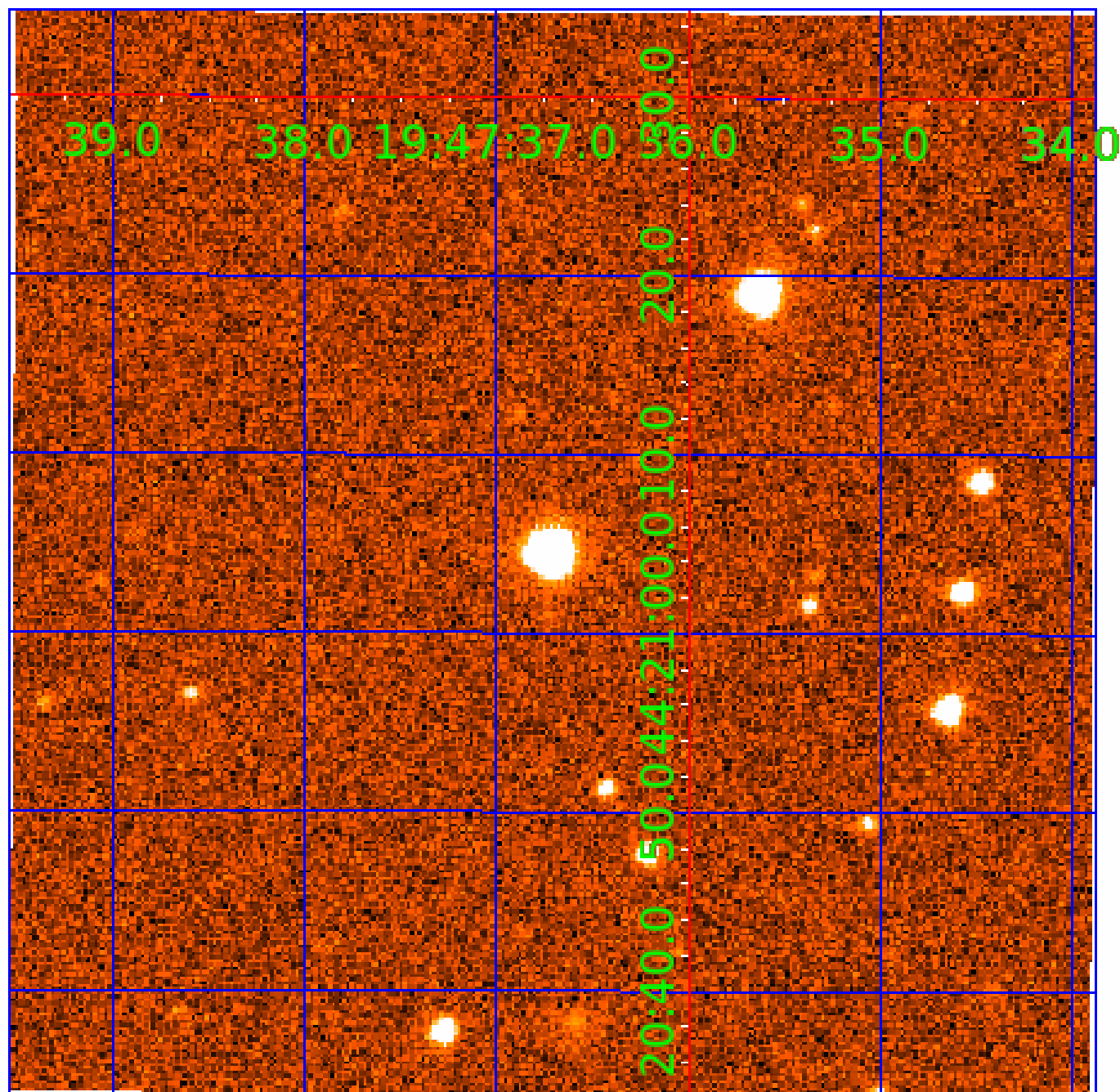


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008380743

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})
008380743-01	OBS	5510.01	1.018798	132.164868	291126.7	3.500	7600.7	-1.0	1.67	6225	51.73	9321.64
008380743-02	OBS	No	6.112969	132.900476	15361.4	15.000	1158.4	-1.0	1.67	6225	20.80	854.95
008380743-03	OBS	No	11.464079	134.830614	78070.8	27.978	157.9	95.8	1.67	6225	47.01	369.68
008380743-04	OBS	No	2.374788	131.715329	4963.0	3.500	93.6	-1.0	1.67	6225	11.83	3016.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008380743-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
008380743-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—NO_FITS—RESIDUAL_TCE—CENT_NOFITS
008380743-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
008380743-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

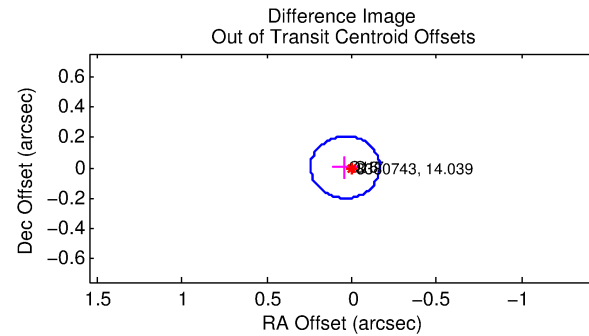
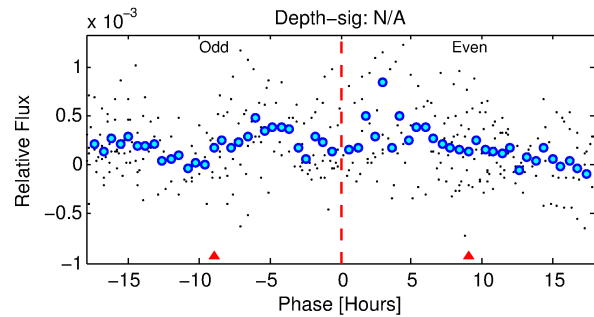
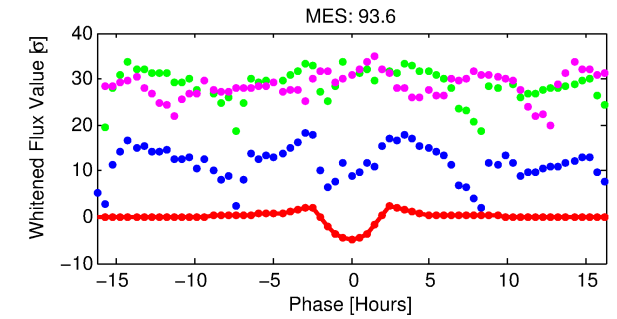
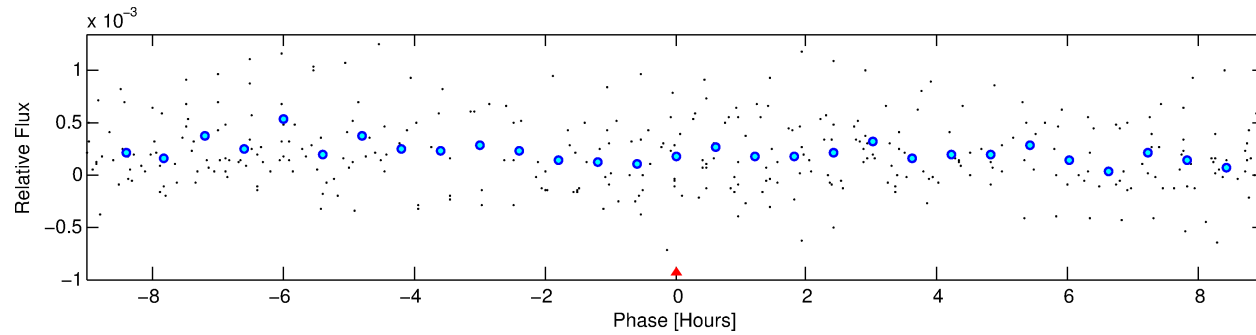
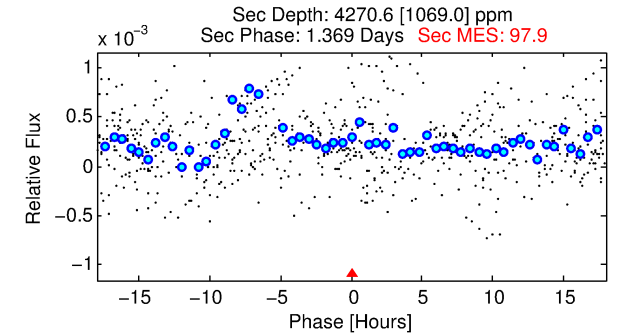
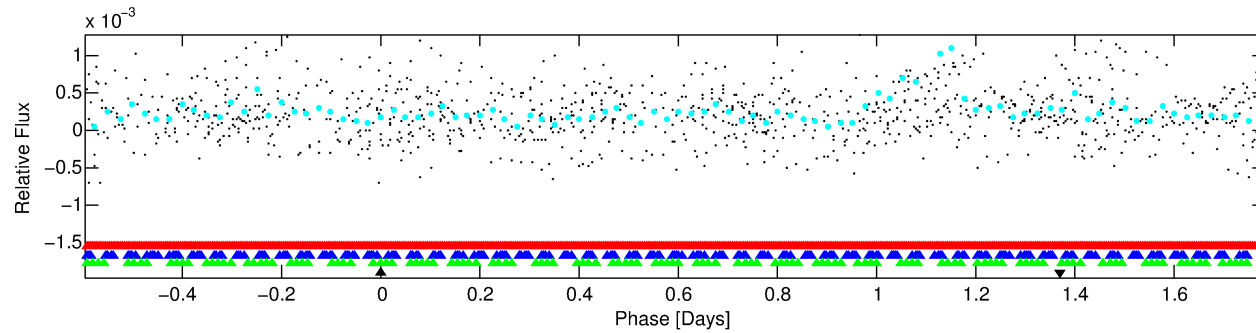
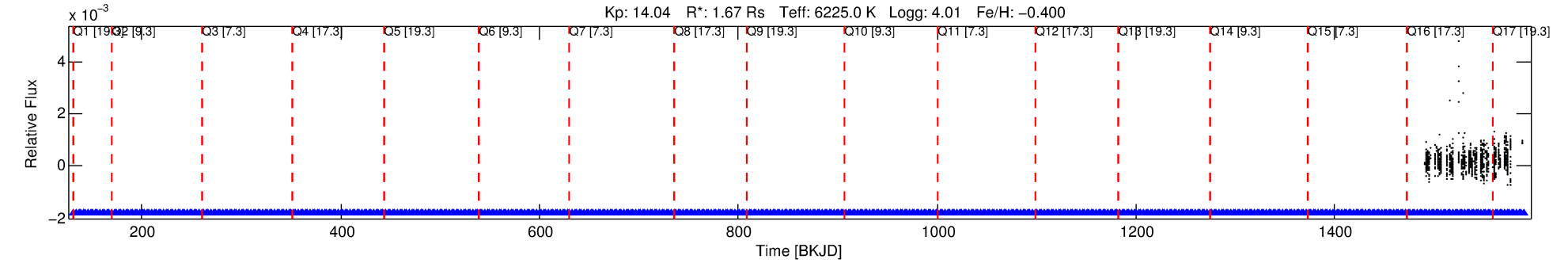
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008380743-04

No Significant Match Found

DV One-Page Summary

KIC: 8380743 Candidate: 4 of 4 Period: 2.375 d
KOI: K05510 Corr: No Ephemeris Match



TPS TCE Results:

Period = 2.37479 d
Epoch = 131.7153 BKJD

DV fit results are unavailable

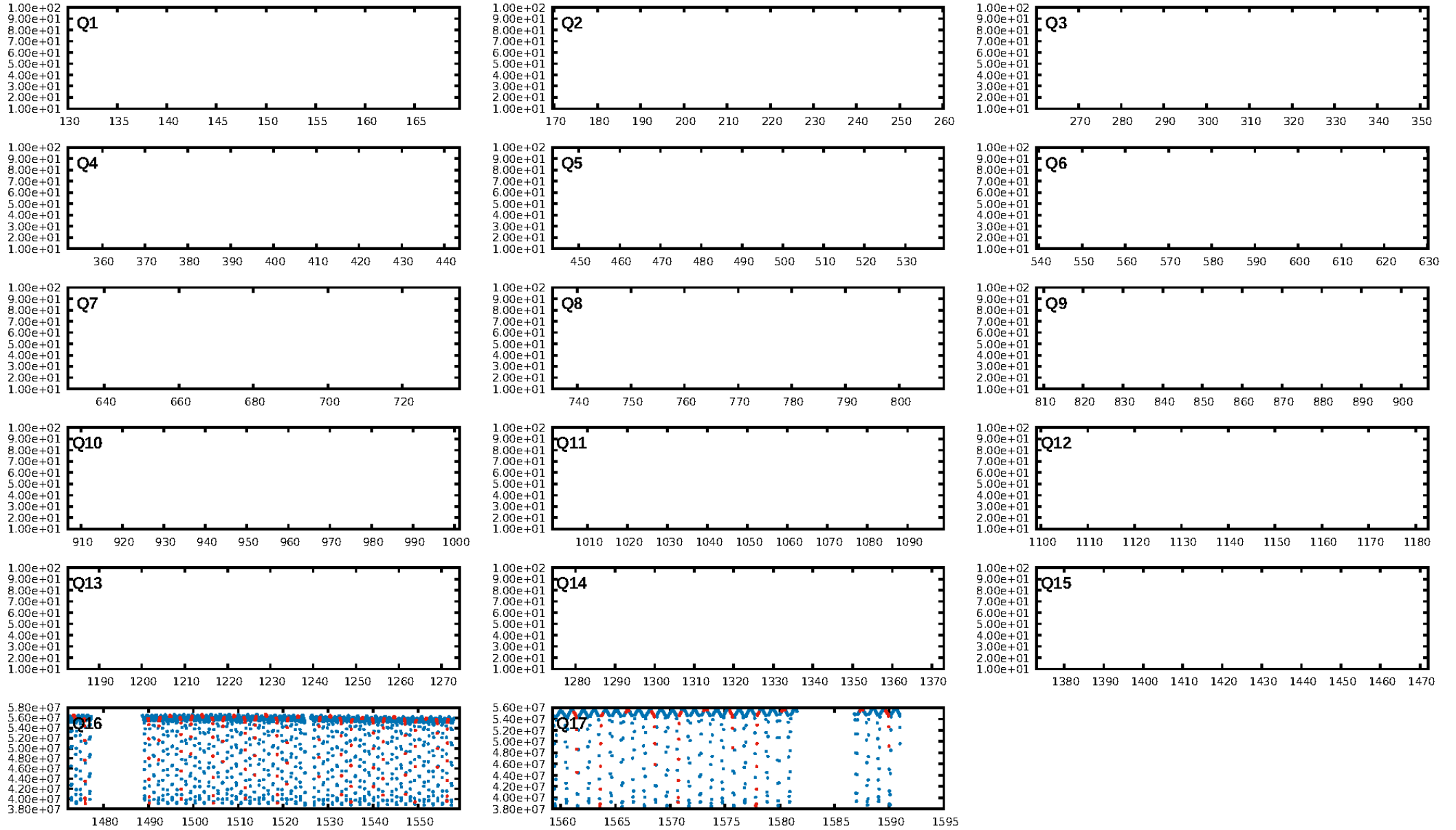
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.57σ]
LongPeriod-sig: 100.0% [5.82σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: 0.68
Centroid-sig: 48.3%
Centroid-so: 0.380 arcsec [0.77σ]
OotOffset-rm: 0.040 arcsec [0.60σ]
KicOffset-rm: 0.143 arcsec [2.00σ]
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]

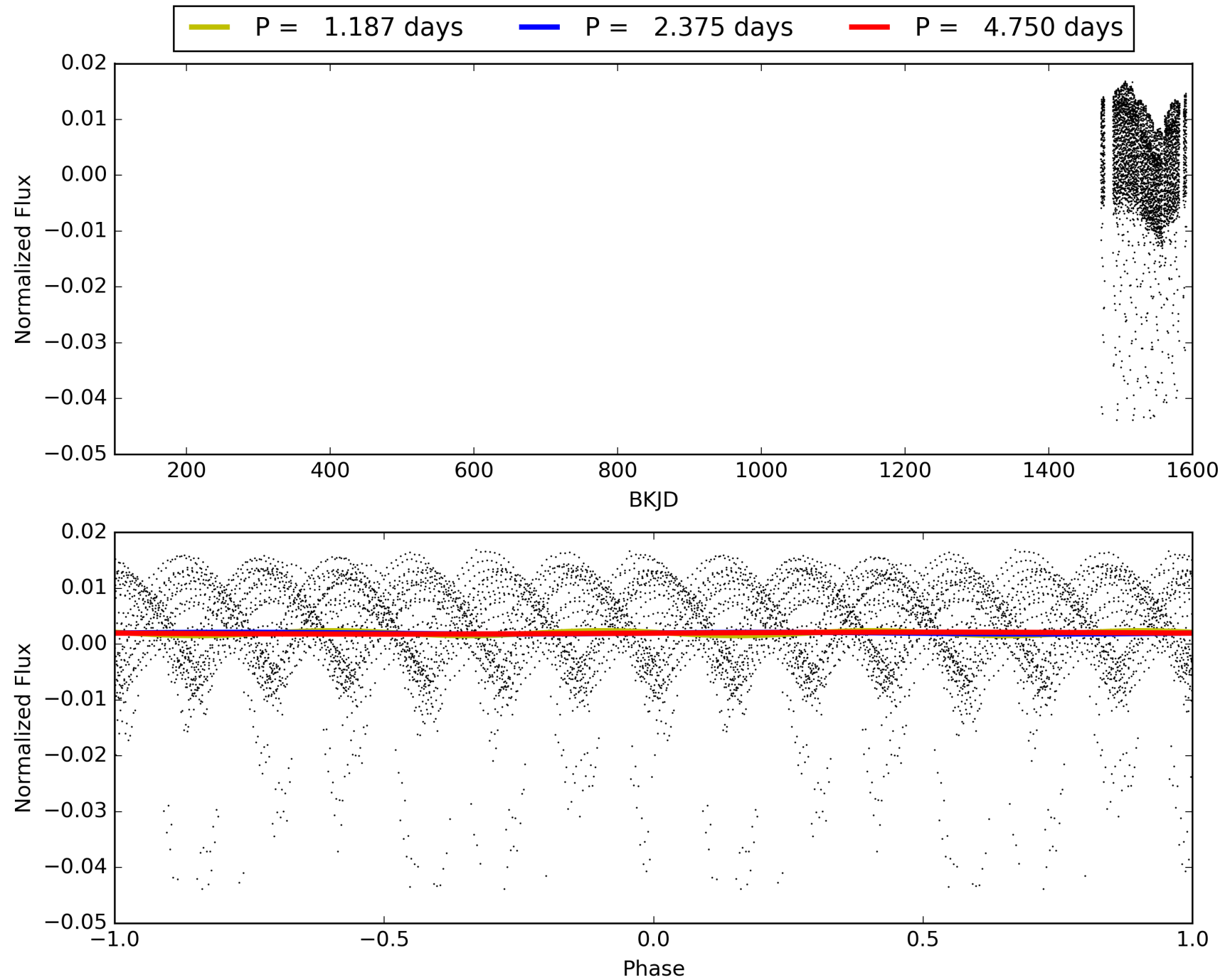
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:29:01 Z

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

TCE 008380743-04, PDC Light Curves

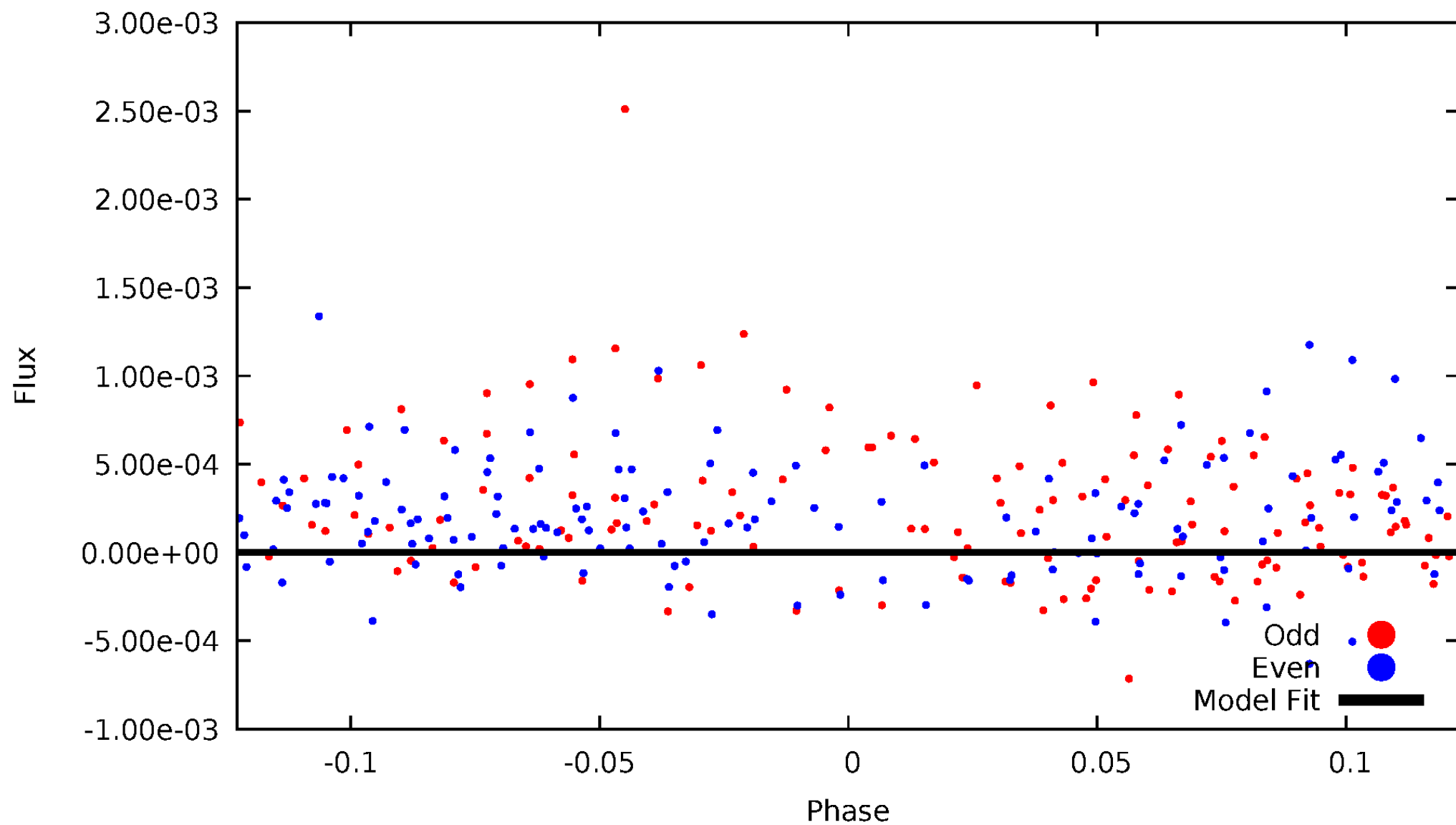


TCE 008380743-04



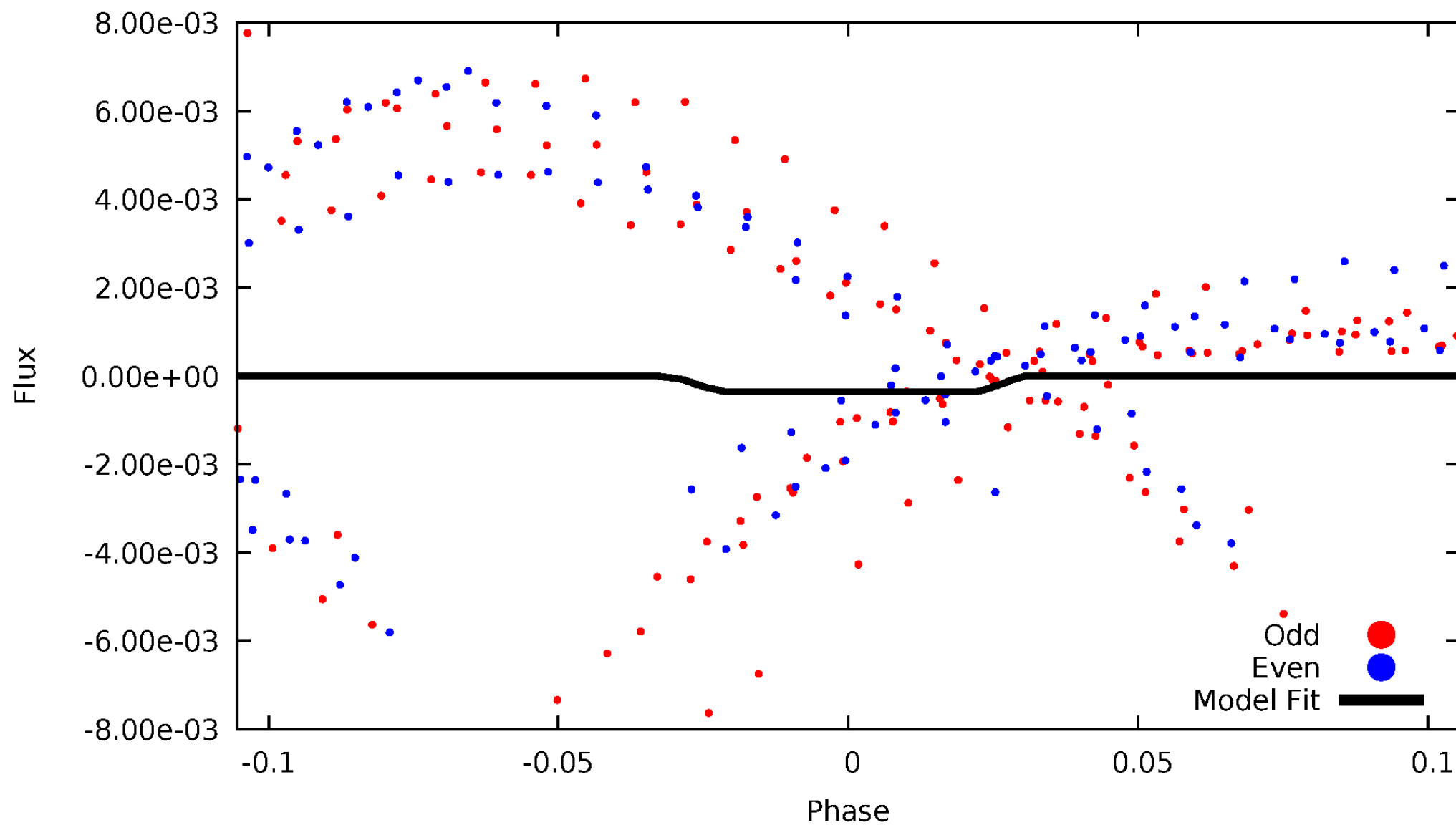
DV Odd/Even

TCE 008380743-04



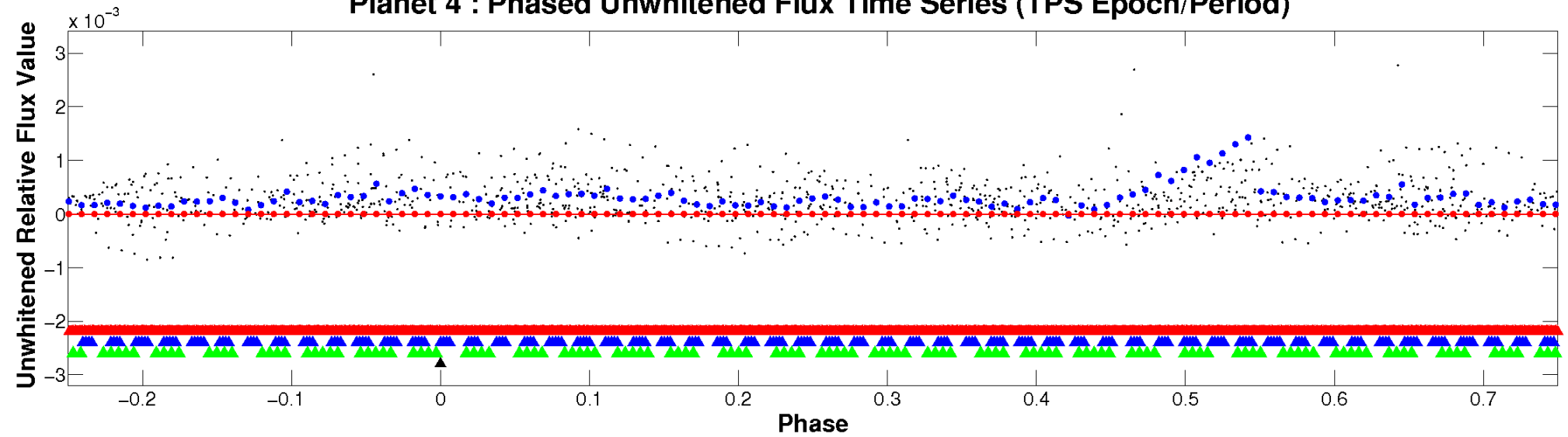
ALT Odd/Even

TCE 008380743-04



Non-Whitened Vs. Whitened Light Curve

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

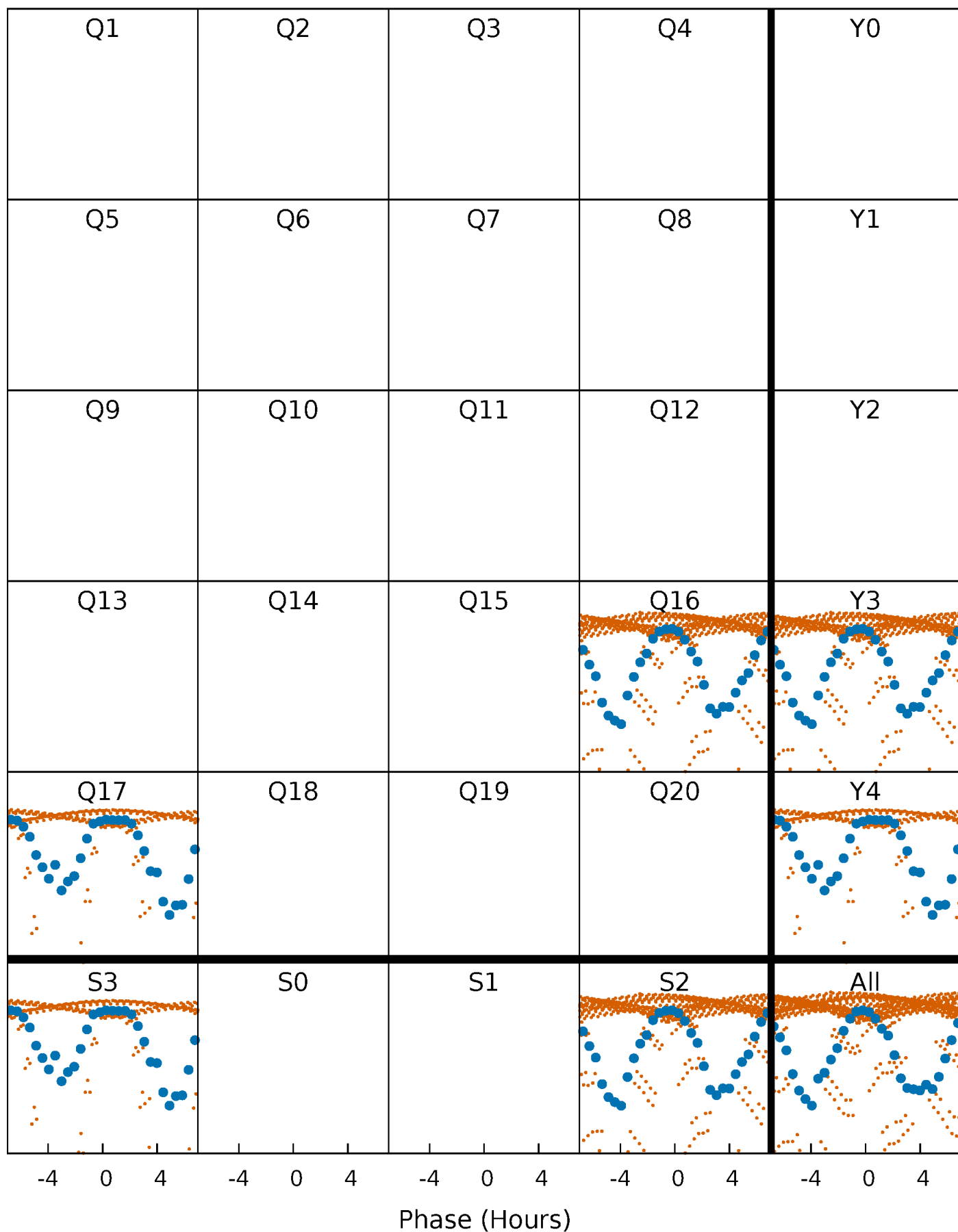


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008380743-04 P= 2.374788 Days $T_0=131.715329$ (BKJD)



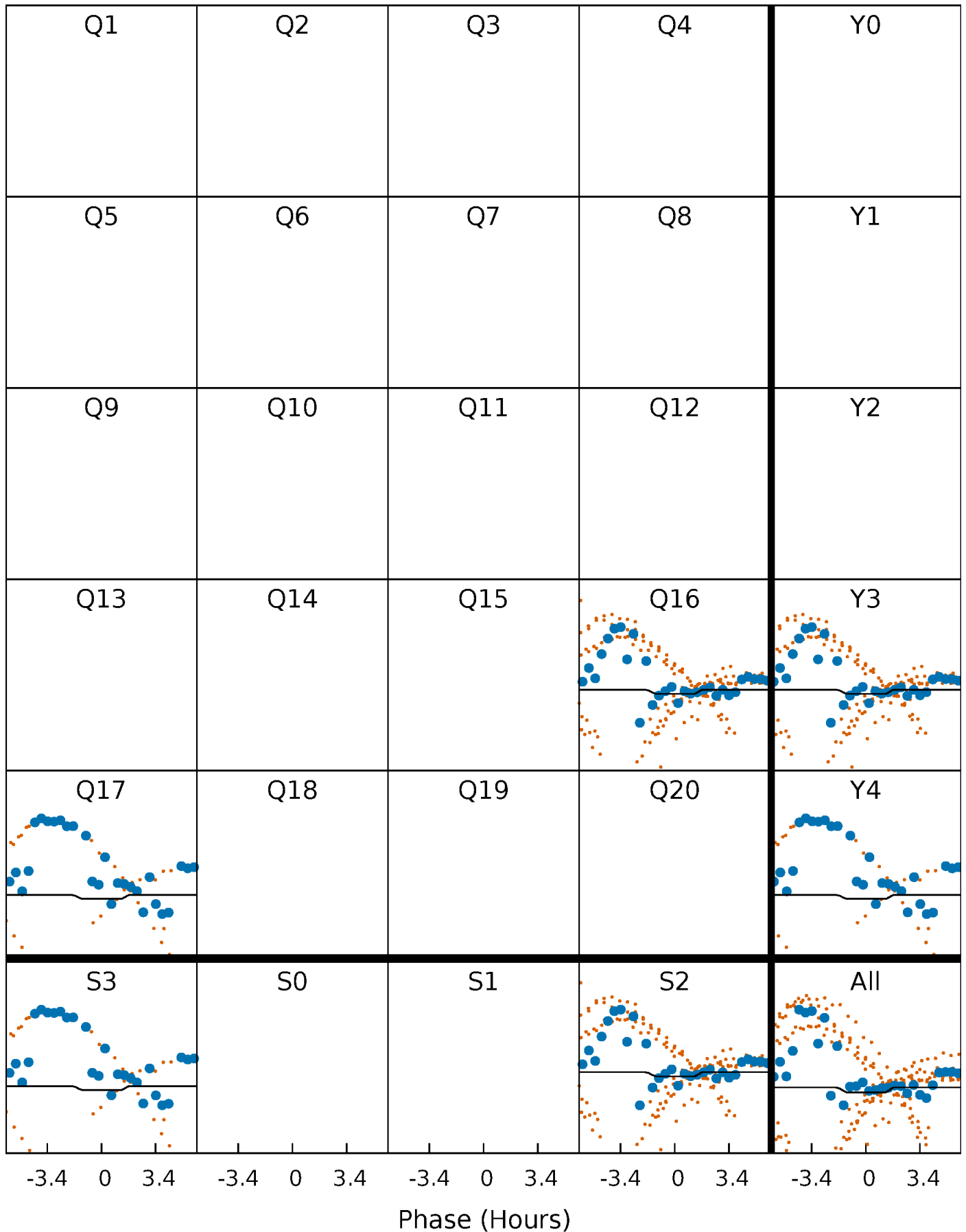
DV Quarter-Phased Transit Curves

TCE 008380743-04 P= 2.374788 Days $T_0=131.715329$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

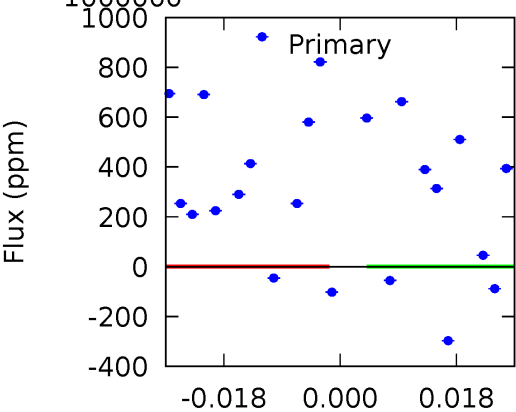
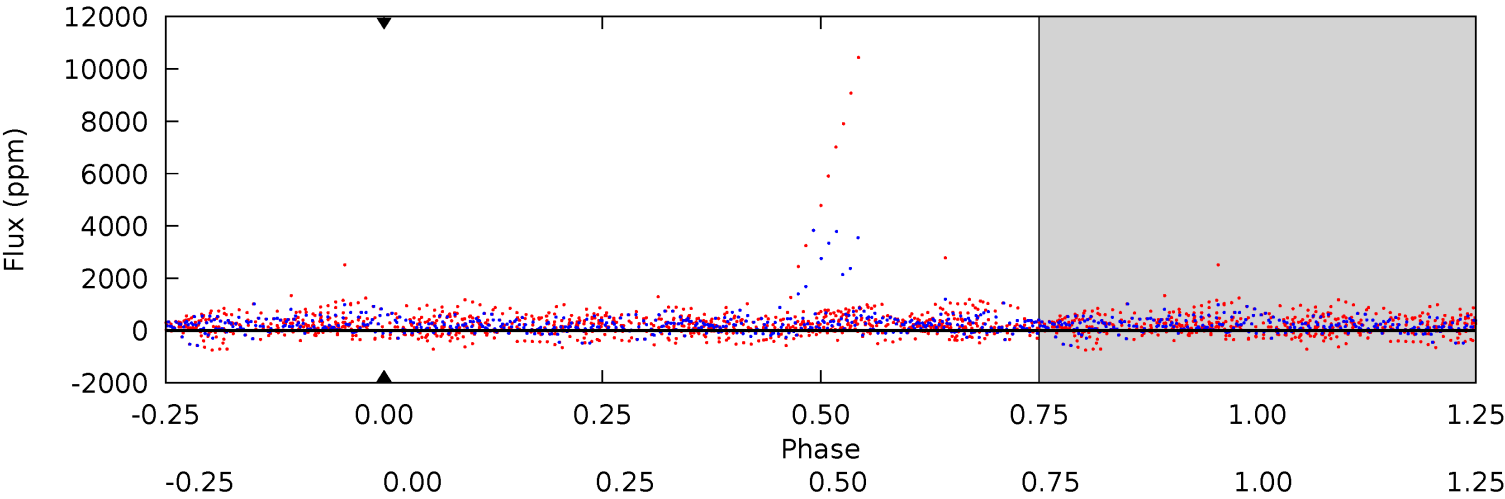
TCE 008380743-04 $P = 2.374788$ Days $T_0 = 131.854902$ (BKJD)



DV Model-Shift Uniqueness Test

008380743-04, P = 2.374788 Days, E = 131.715329 Days

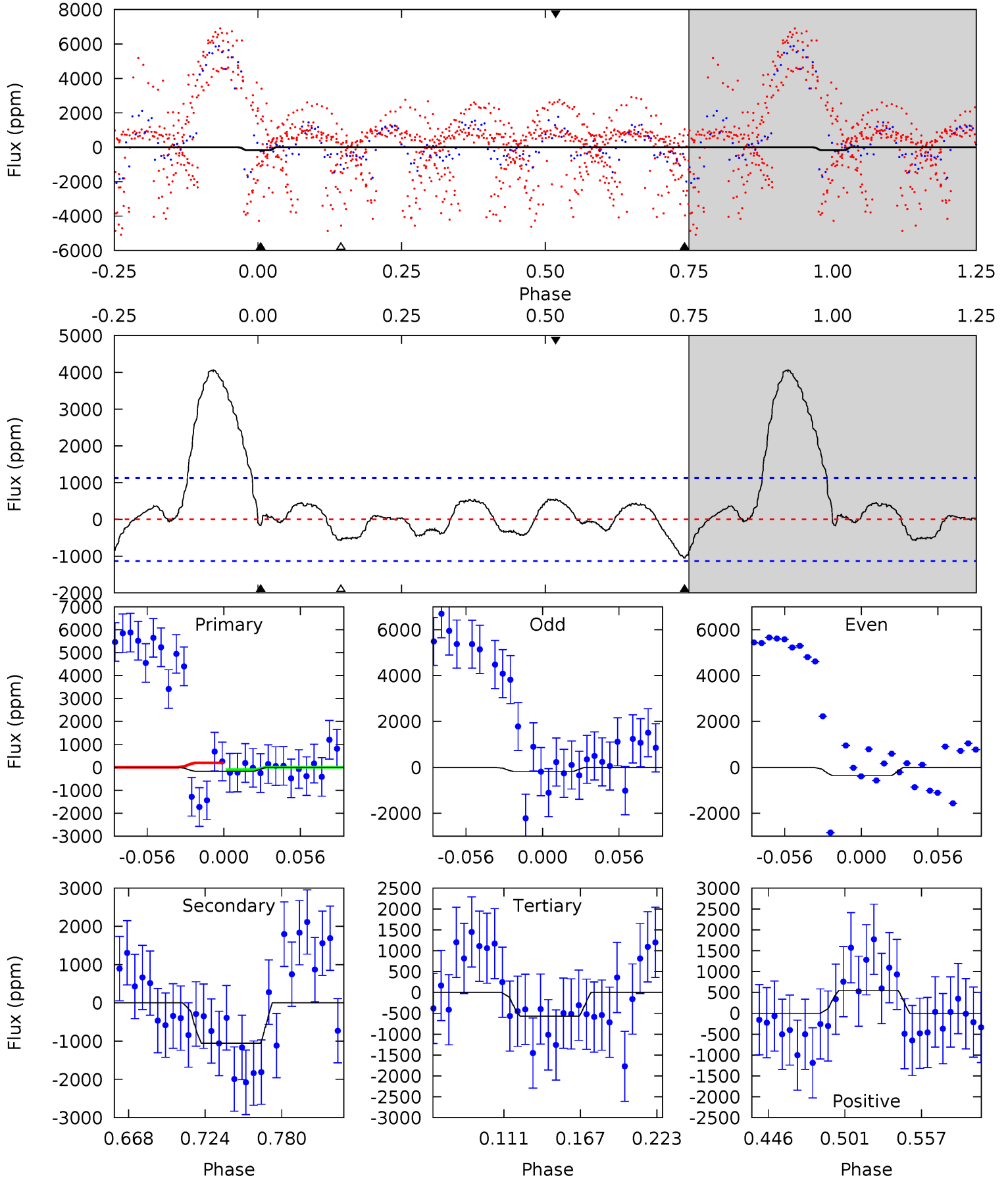
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008380743-04, P = 2.374788 Days, E = 131.854902 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.71	4.37	2.35	2.28	4.69	1.91	3.80	-1.64	-1.57	2.02	2.09	0.44	0.17	0.79	0.21



Stellar Parameters For KIC 008380743

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6225^{+198}_{-242}	$4.009^{+0.385}_{-0.137}$	$-0.400^{+0.300}_{-0.300}$	$1.672^{+0.434}_{-0.651}$	$1.041^{+0.164}_{-0.164}$	$0.314^{+1.004}_{-0.134}$
	+3%/-4%	+10%/-3%	+75%/-75%	+26%/-39%	+16%/-16%	+320%/-43%
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 008380743-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$15.93^{+15.64}_{-10.79}$	2580^{+216}_{-279}	3745^{+15298}_{-18811}	$2.012^{+523.866}_{-346.603}$
Alt.	-1054 ± 241	$12.97^{+14.95}_{-8.84}$	2573^{+220}_{-246}	4202^{+2917}_{-1017}	$4.272^{+38.959}_{-3.330}$

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 $A_{obs} \gg 1.0$

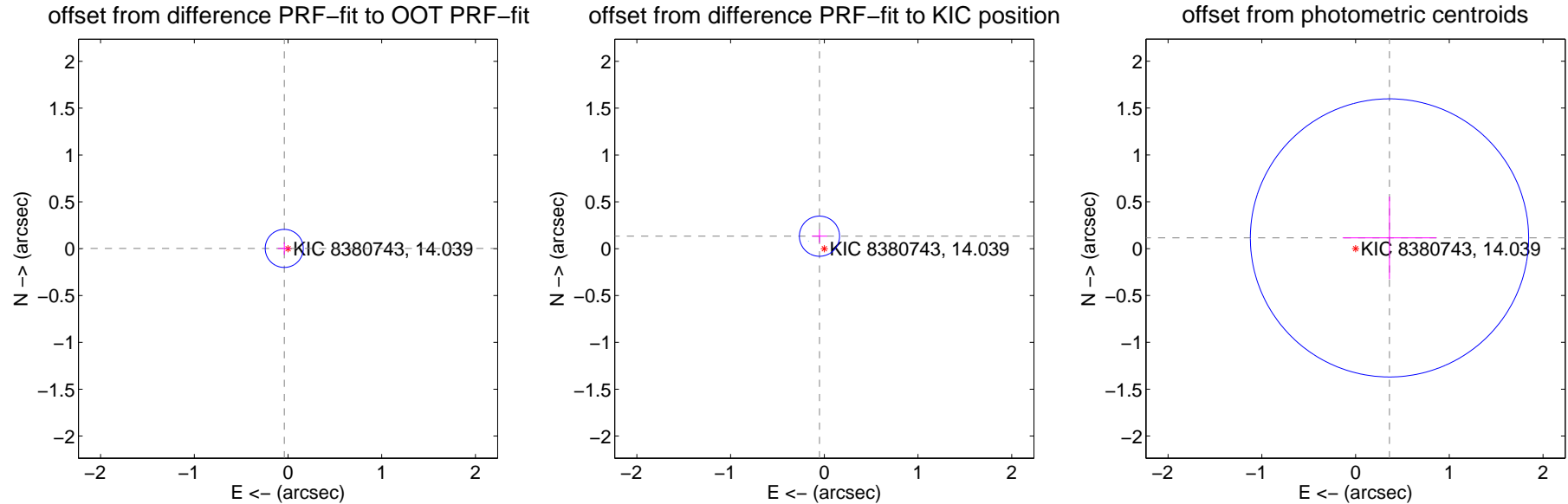
DV Centroid Data

Supplemental centroid analysis for 008380743-04. Kepler magnitude: 14.04. 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 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.040 ± 0.068	0.60	0.040 ± 0.068	0.003 ± 0.067
PRF-fit source offset from KIC position	0.143 ± 0.071	2.00	0.051 ± 0.081	0.133 ± 0.070
photometric centroid source offset	0.38 ± 0.49	0.77	-0.36 ± 0.50	0.11 ± 0.44



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.



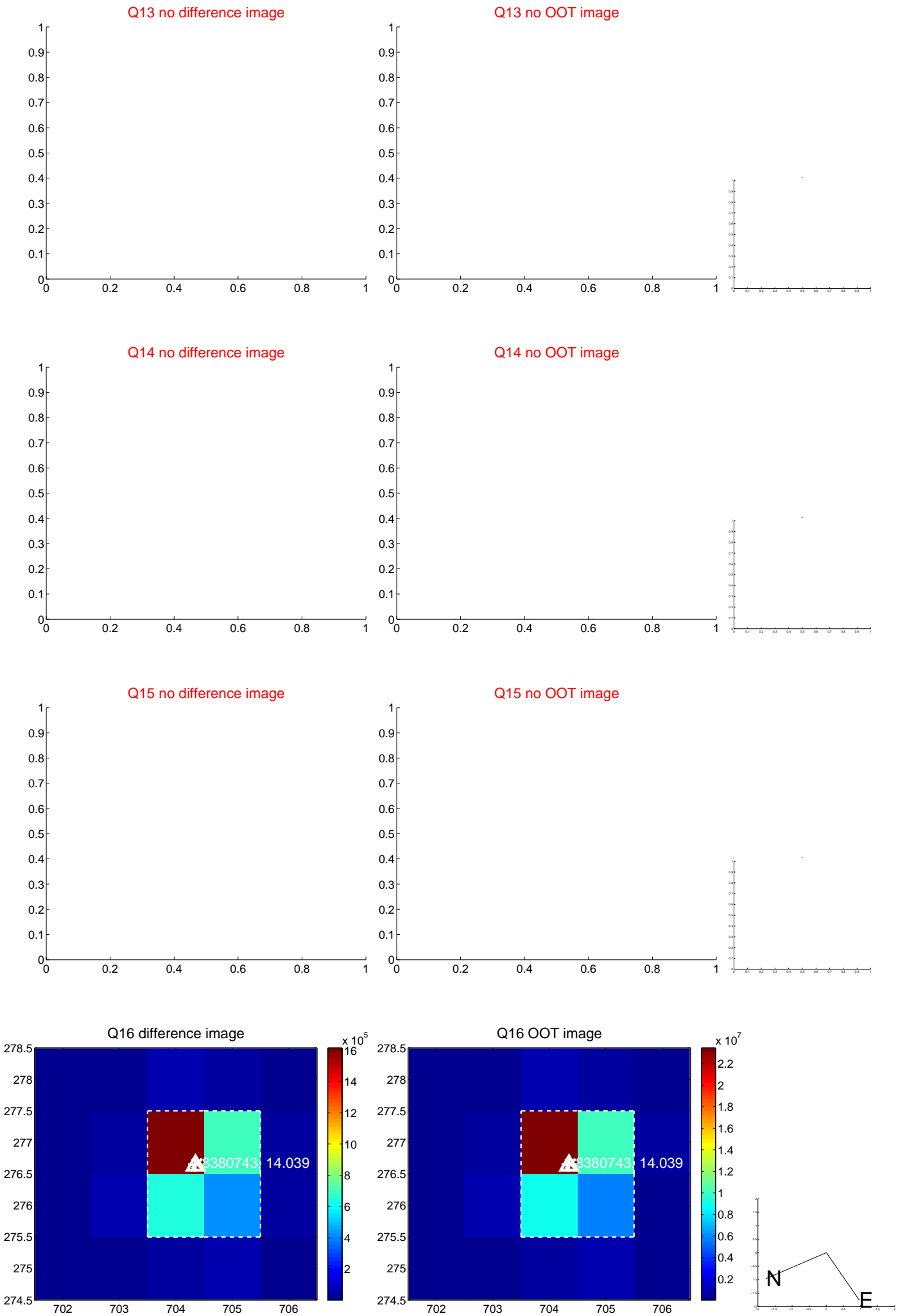
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



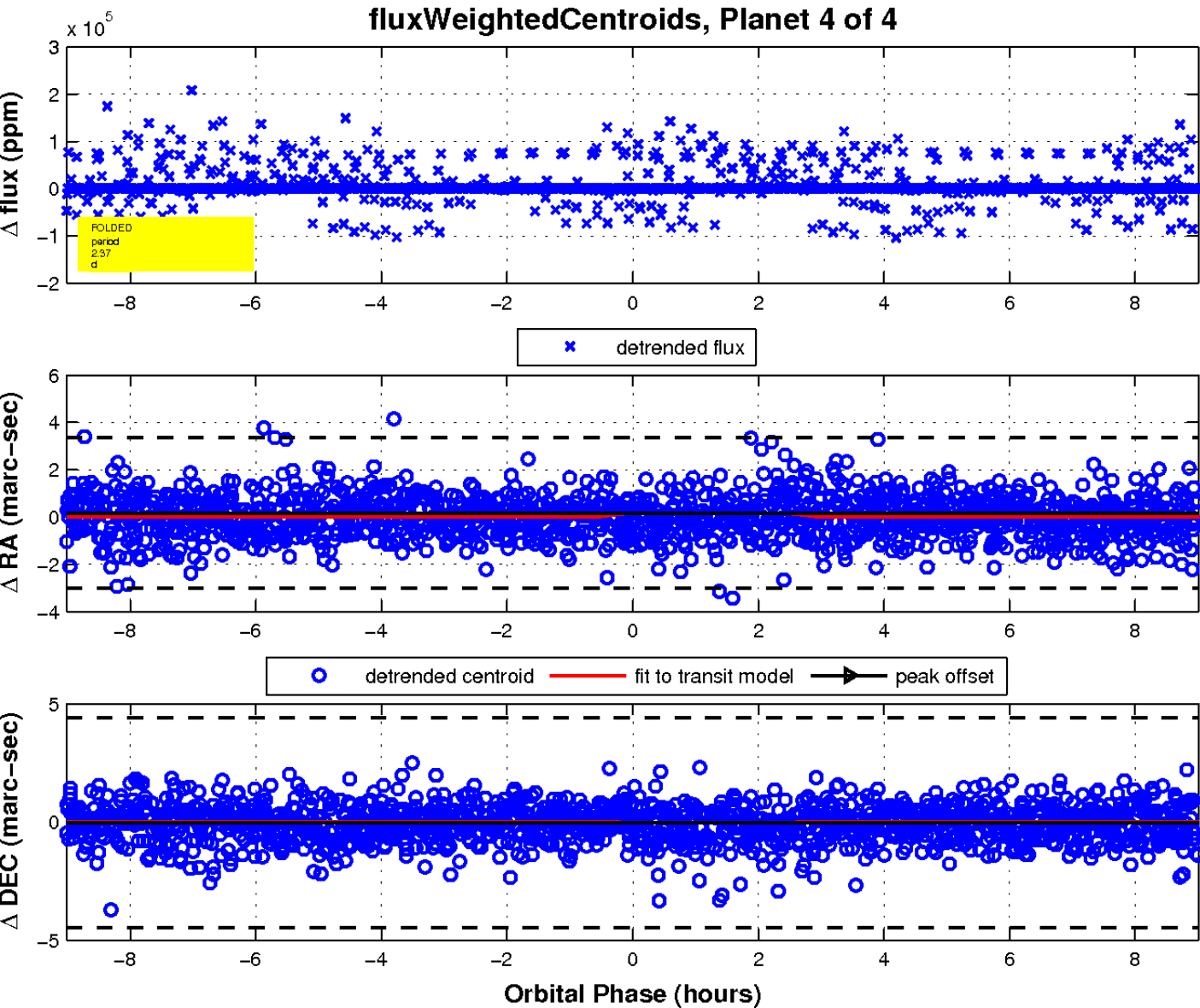
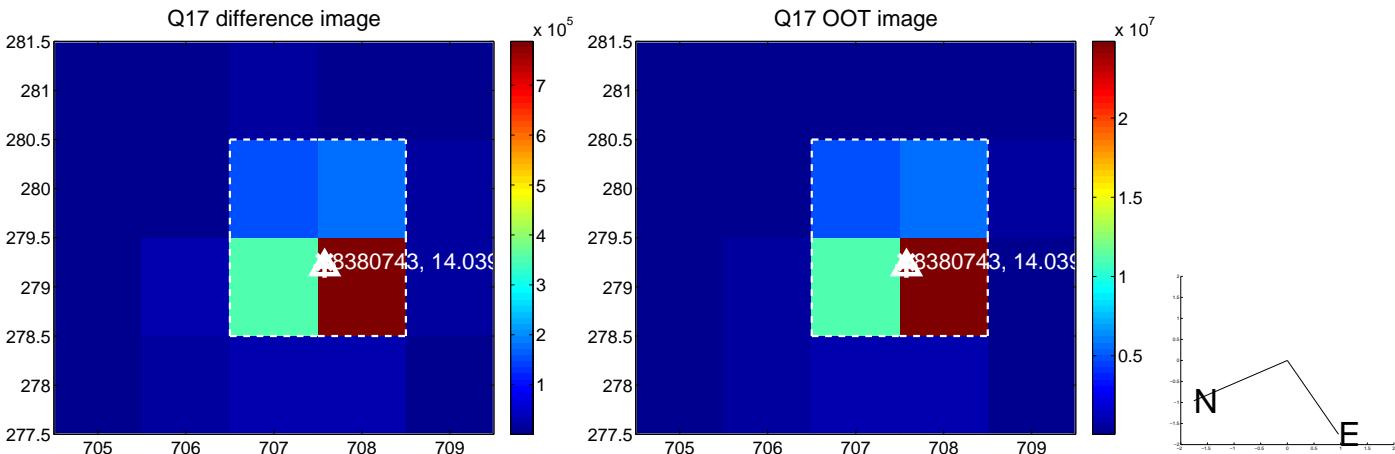
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

