

KIC 003430610

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})
003430610-01	OBS	No	487.910735	198.798804	775.4	6.271	15.6	3.9	1.55	5915	4.57	1.91
003430610-02	OBS	No	492.626577	201.177145	618.3	8.590	14.5	2.9	1.55	5915	3.88	1.88
003430610-03	OBS	No	458.430089	464.666904	1381.5	11.002	14.7	6.3	1.55	5915	5.80	2.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003430610-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003430610-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003430610-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

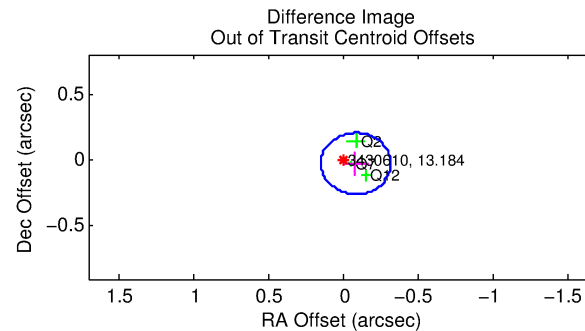
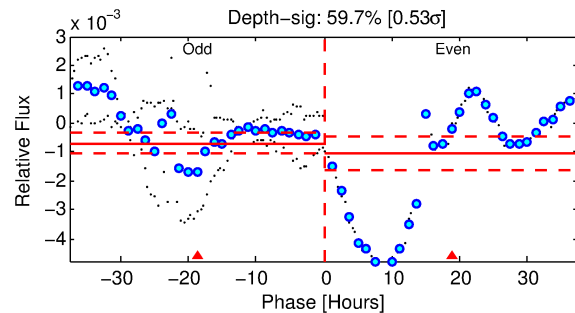
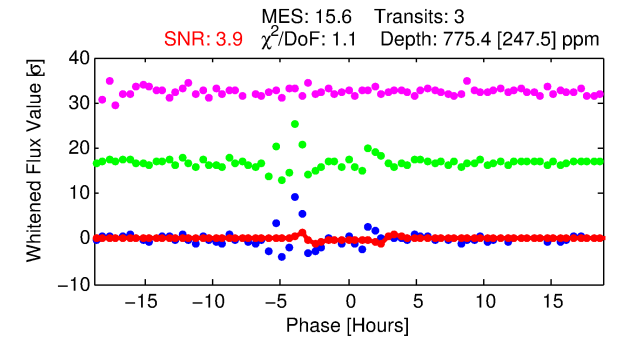
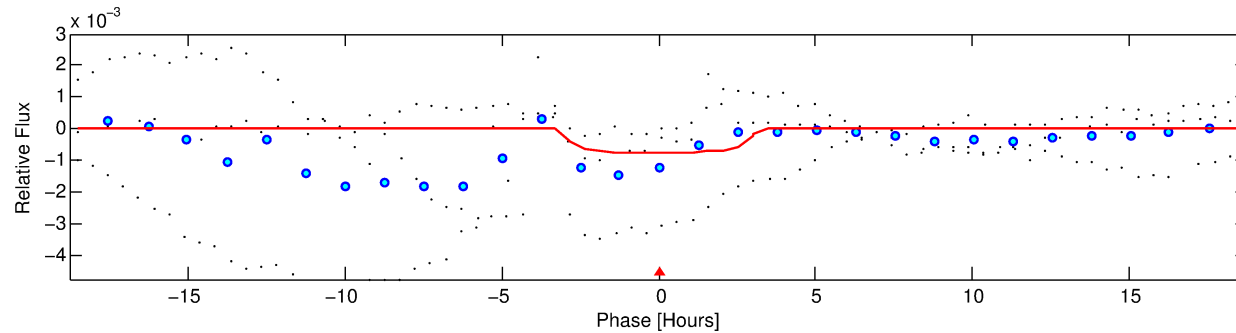
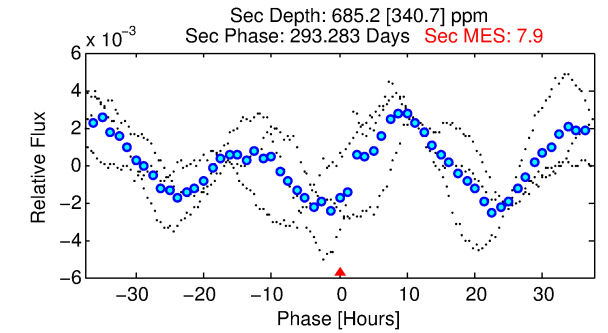
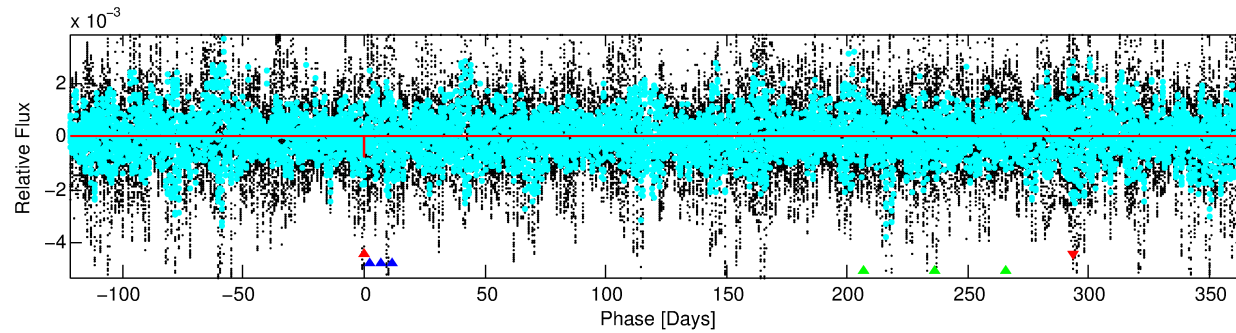
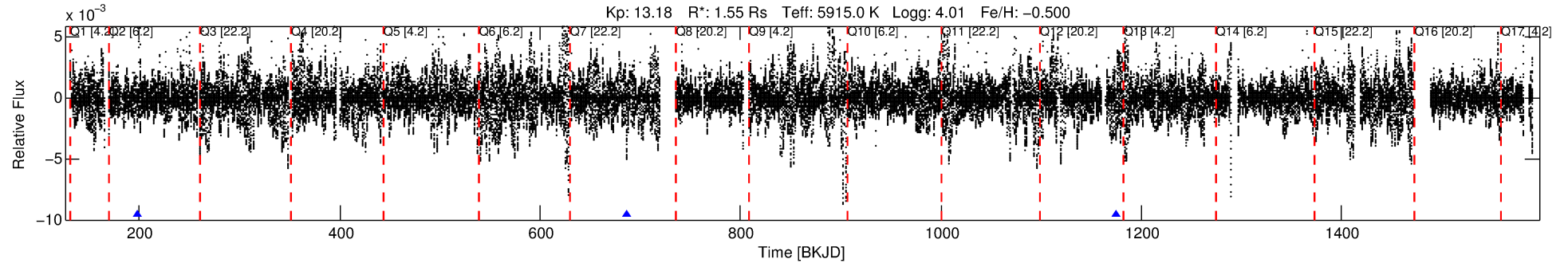
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003430610-01

No Significant Match Found

DV One-Page Summary

KIC: 3430610 Candidate: 1 of 3 Period: 487.911 d



DV Fit Results:

Period = 487.91074 [0.00543] d
Epoch = 198.7988 [0.0067] BKJD
Rp/R* = 0.0271 [0.0264]
a/R* = 461.31 [2212.50]
b = 0.67 [3.93]
Seff = 1.91 [1.42]
Teq = 300 [56] K
Rp = 4.57 [4.86] Re
a = 1.1729 [0.5182] AU
Ag = 24791.64 [53091.24] [0.47 σ]
Teffp = 5814 [2930] K [1.88 σ]

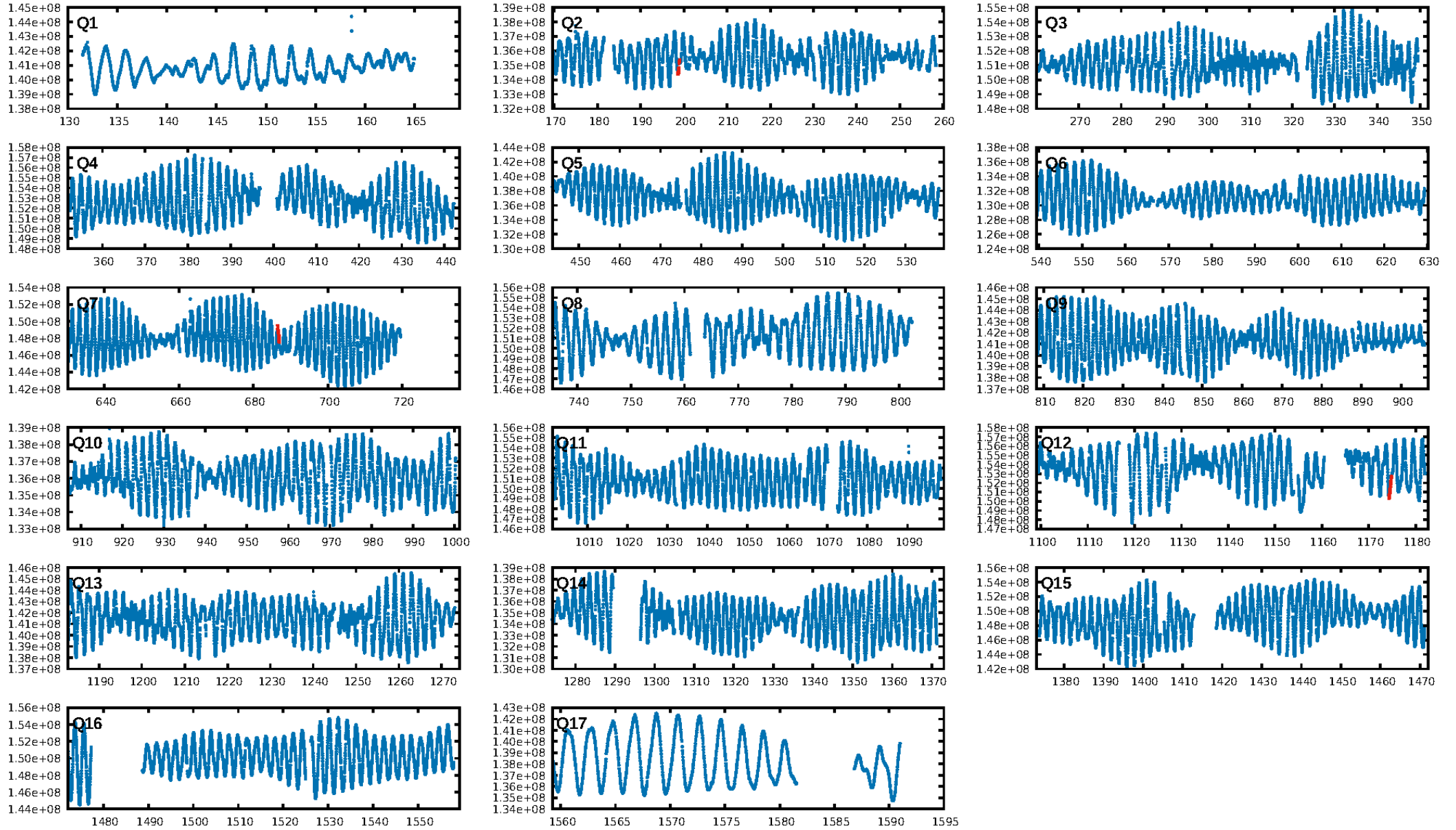
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [55.87 σ]
LongPeriod-sig: 100.0% [10.64 σ]
ModelChiSquare2-sig: 92.6%
ModelChiSquareGof-sig: 90.9%
Bootstrap-pfa: 2.42e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -10.43
Centroid-sig: 57.1%
Centroid-so: 0.410 arcsec [0.76 σ]
OotOffset-rm: 0.091 arcsec [1.17 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 0.166 arcsec [2.07 σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

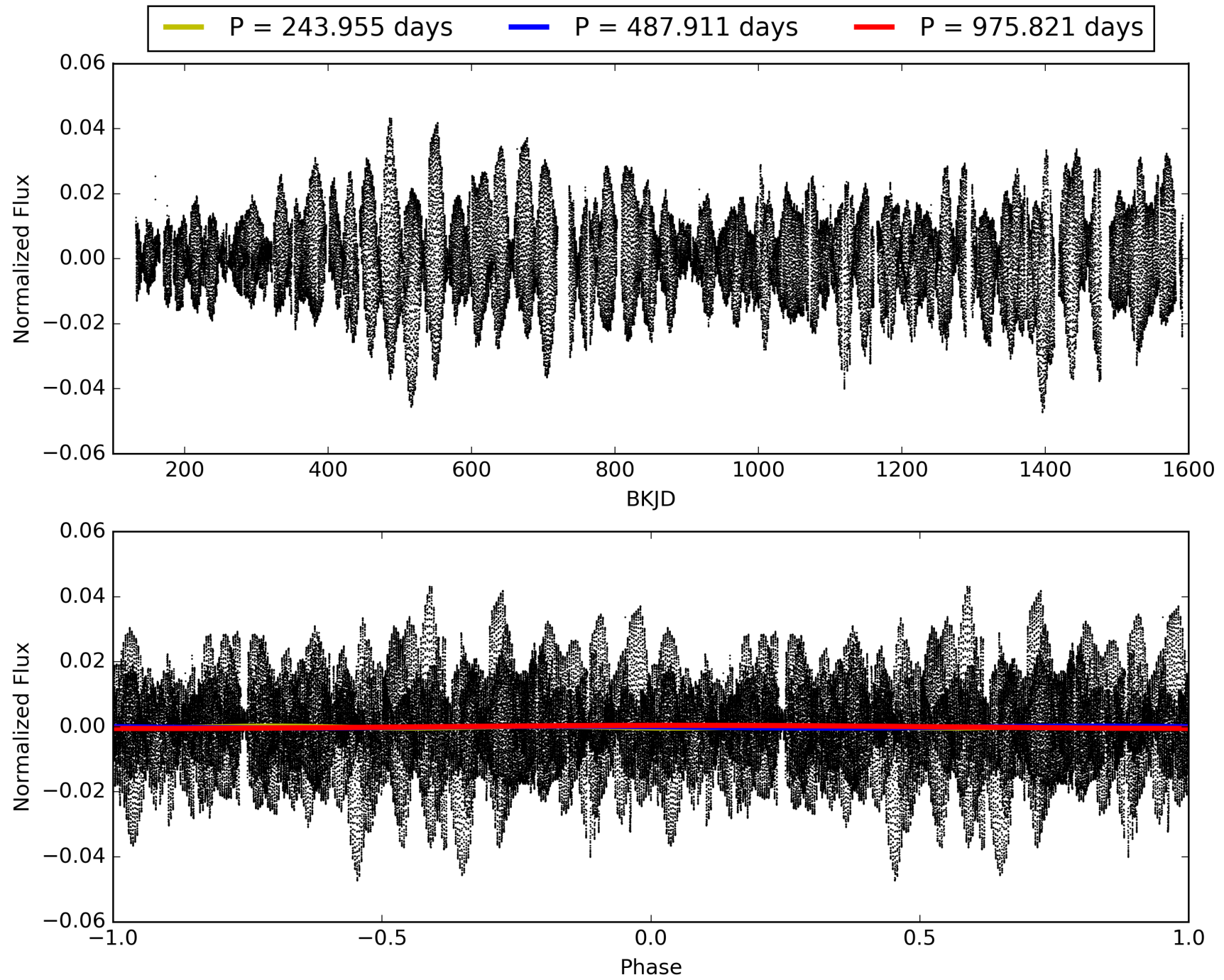
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:43:19 Z

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

TCE 003430610-01, PDC Light Curves

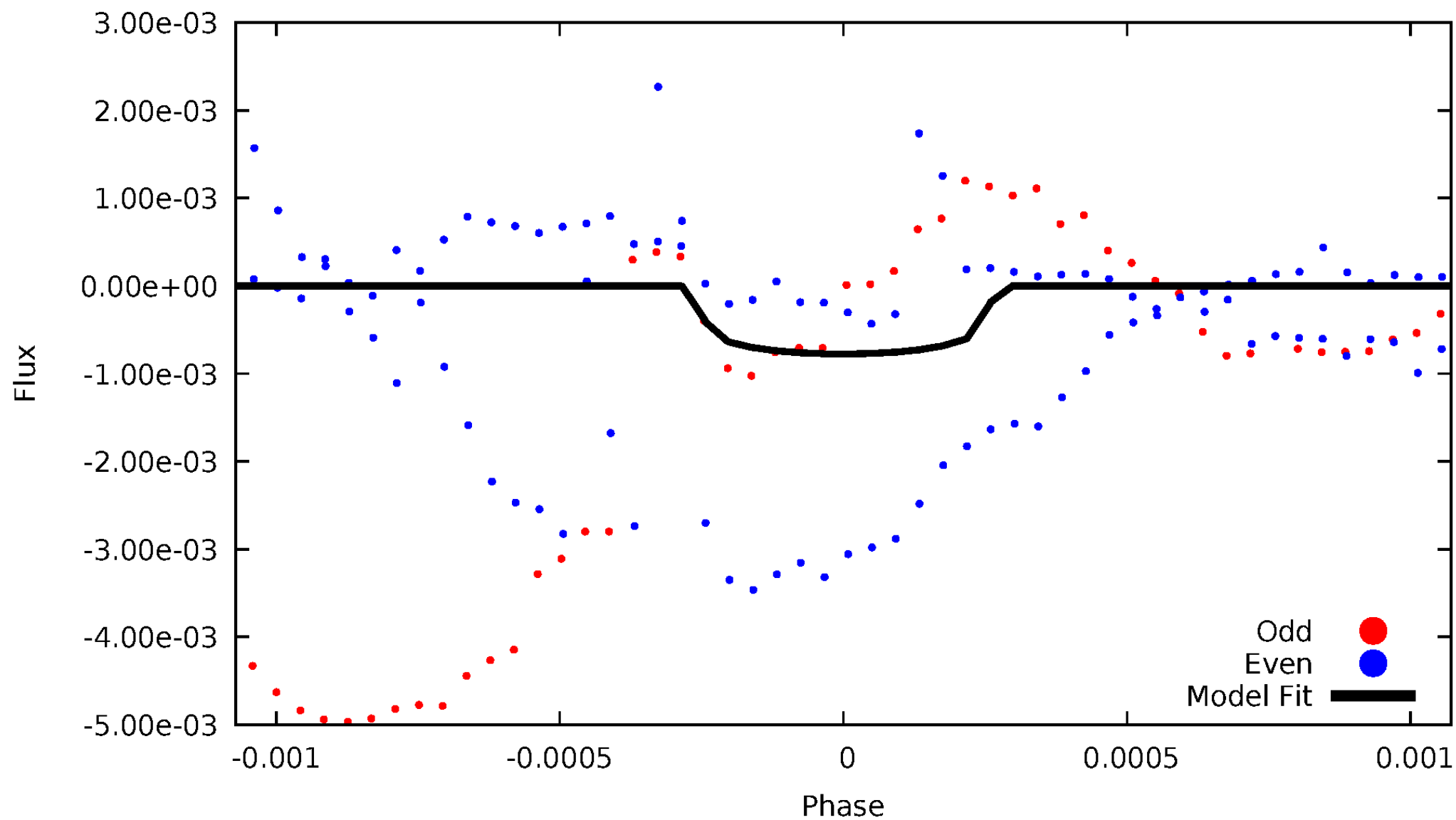


TCE 003430610-01



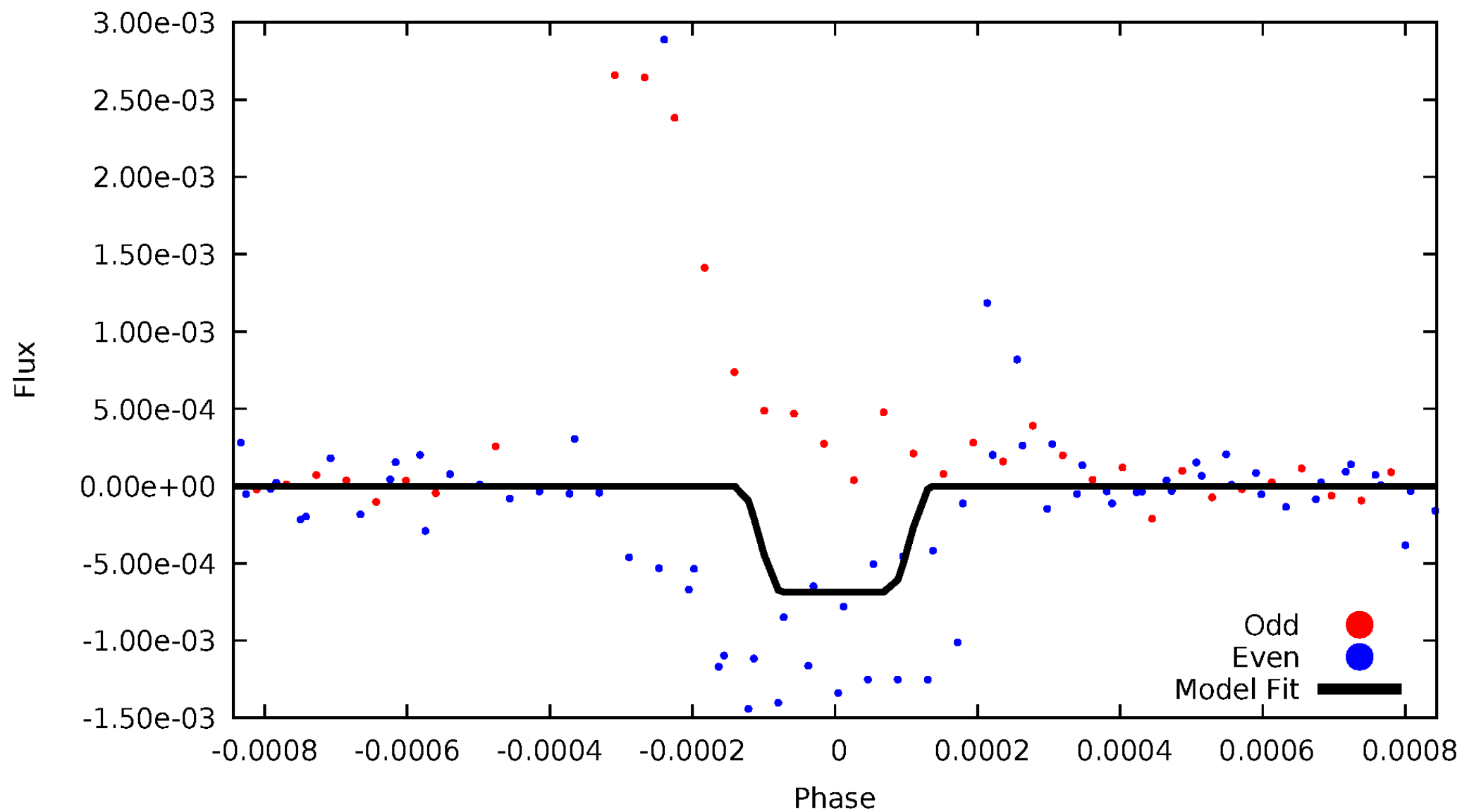
DV Odd/Even

TCE 003430610-01



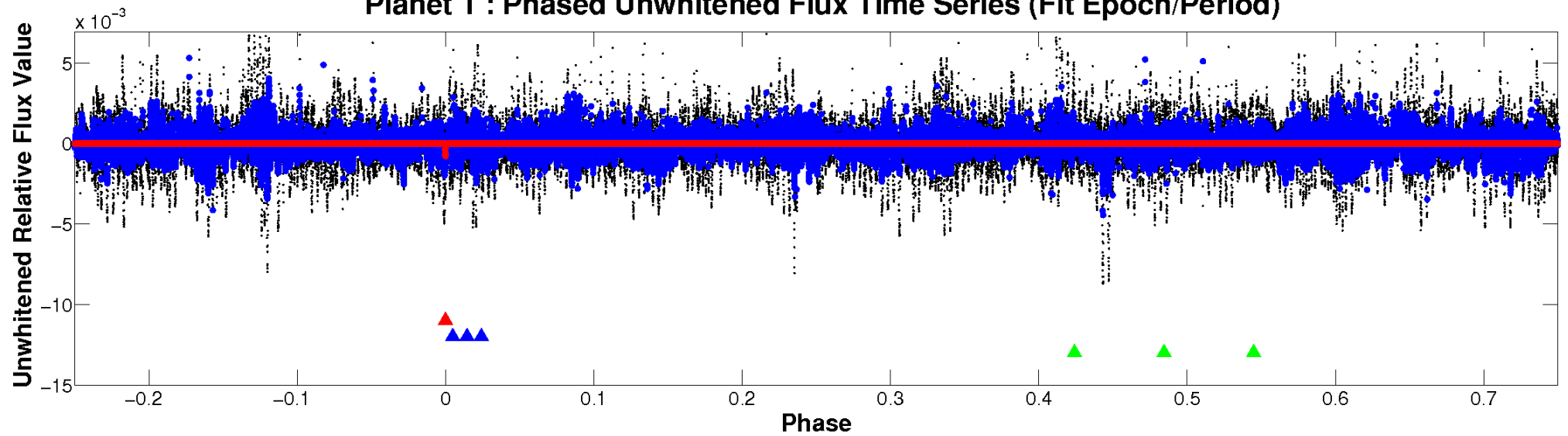
ALT Odd/Even

TCE 003430610-01

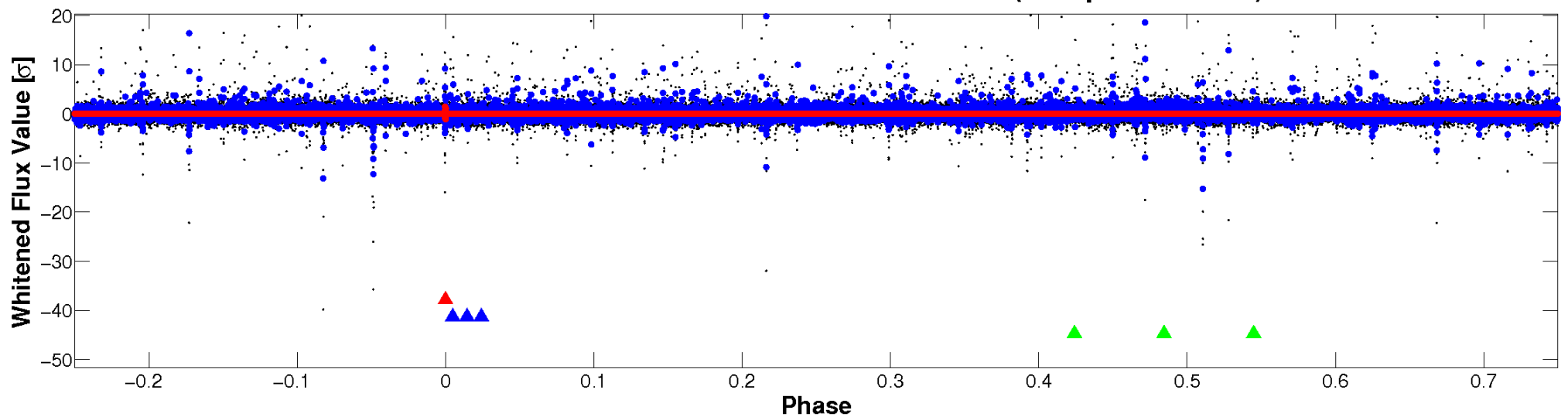


Non-Whitened Vs. Whitened Light Curve

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

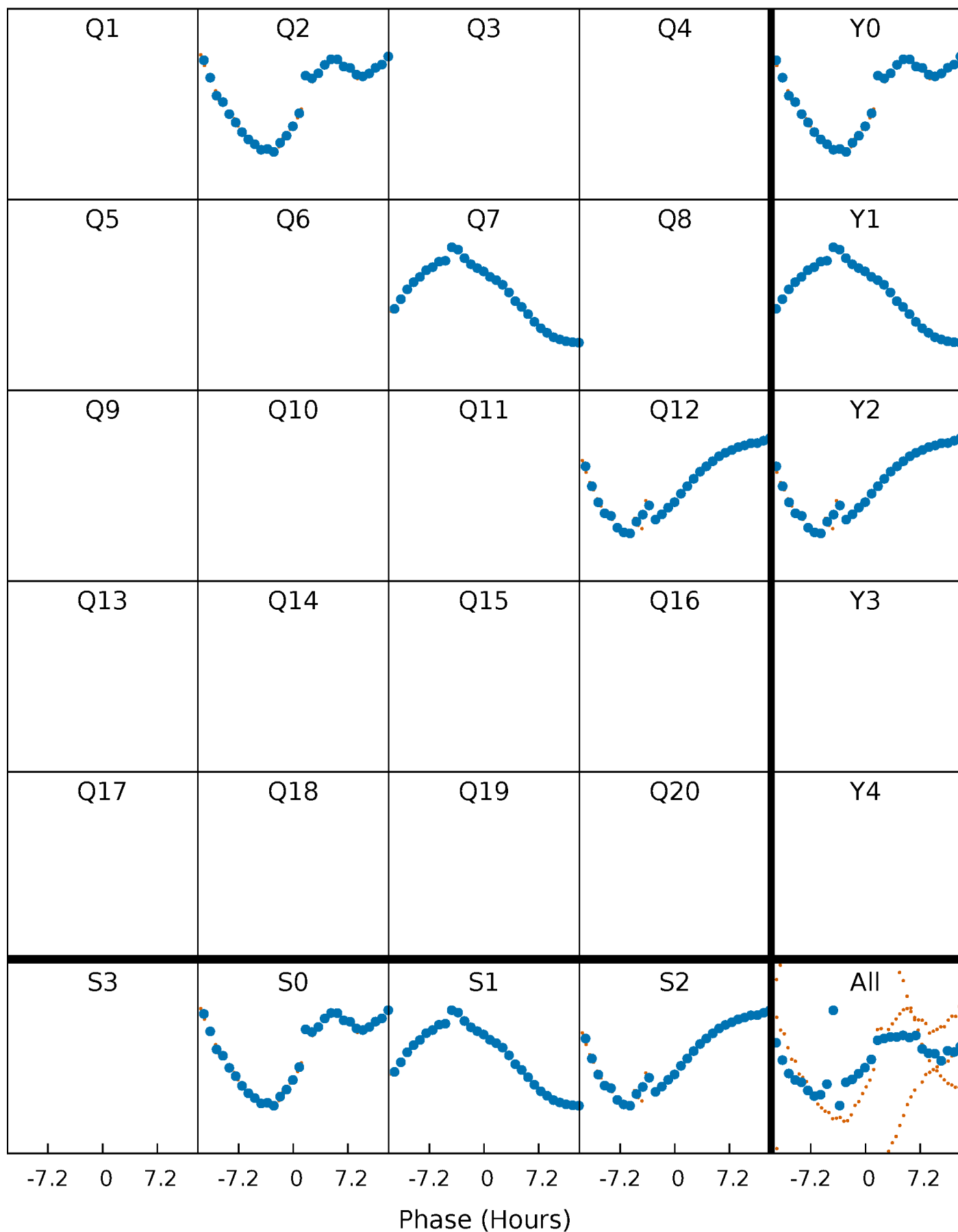


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



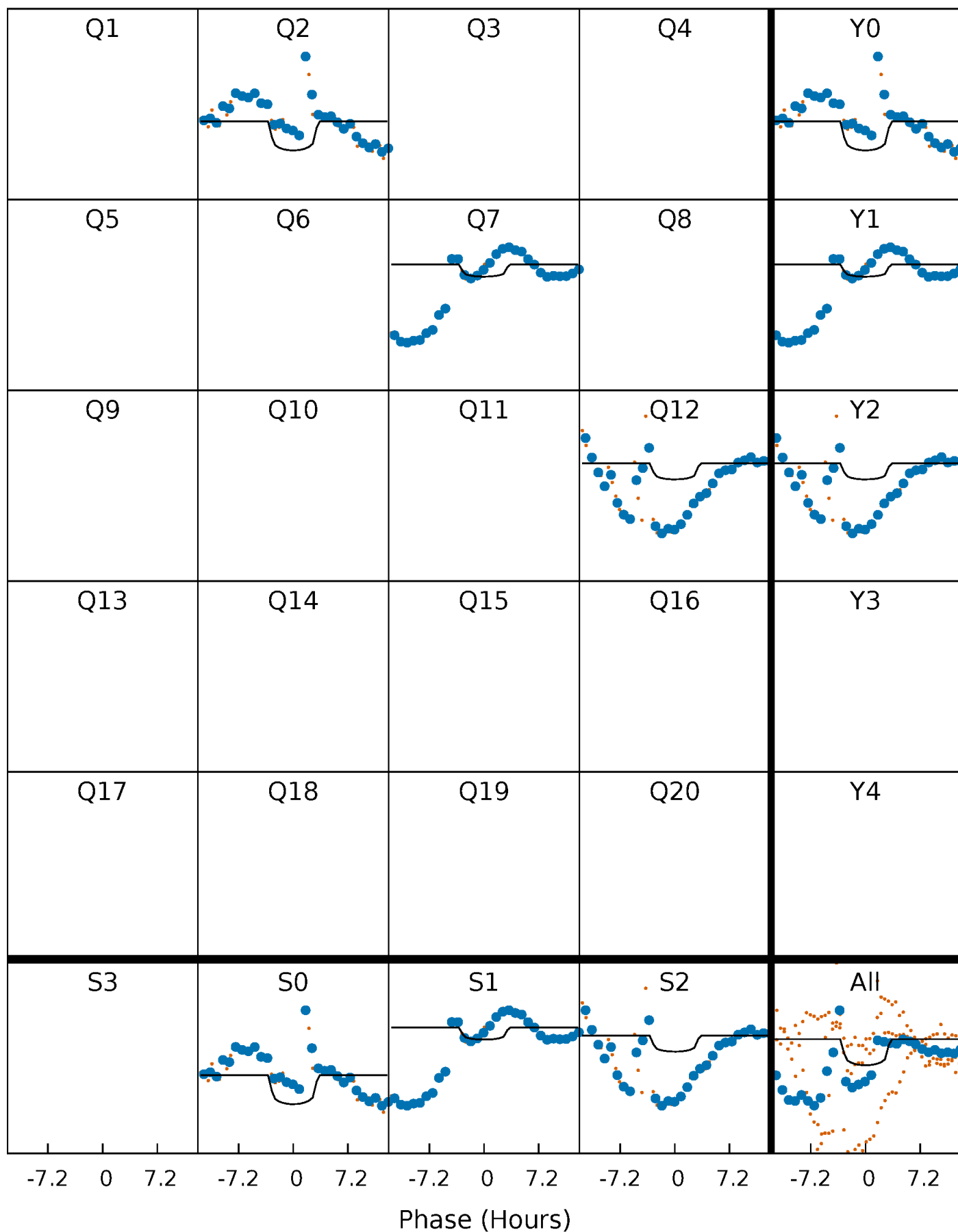
PDC Quarter-Phased Transit Curves

TCE 003430610-01 P=487.910735 Days $T_0=198.798804$ (BKJD)



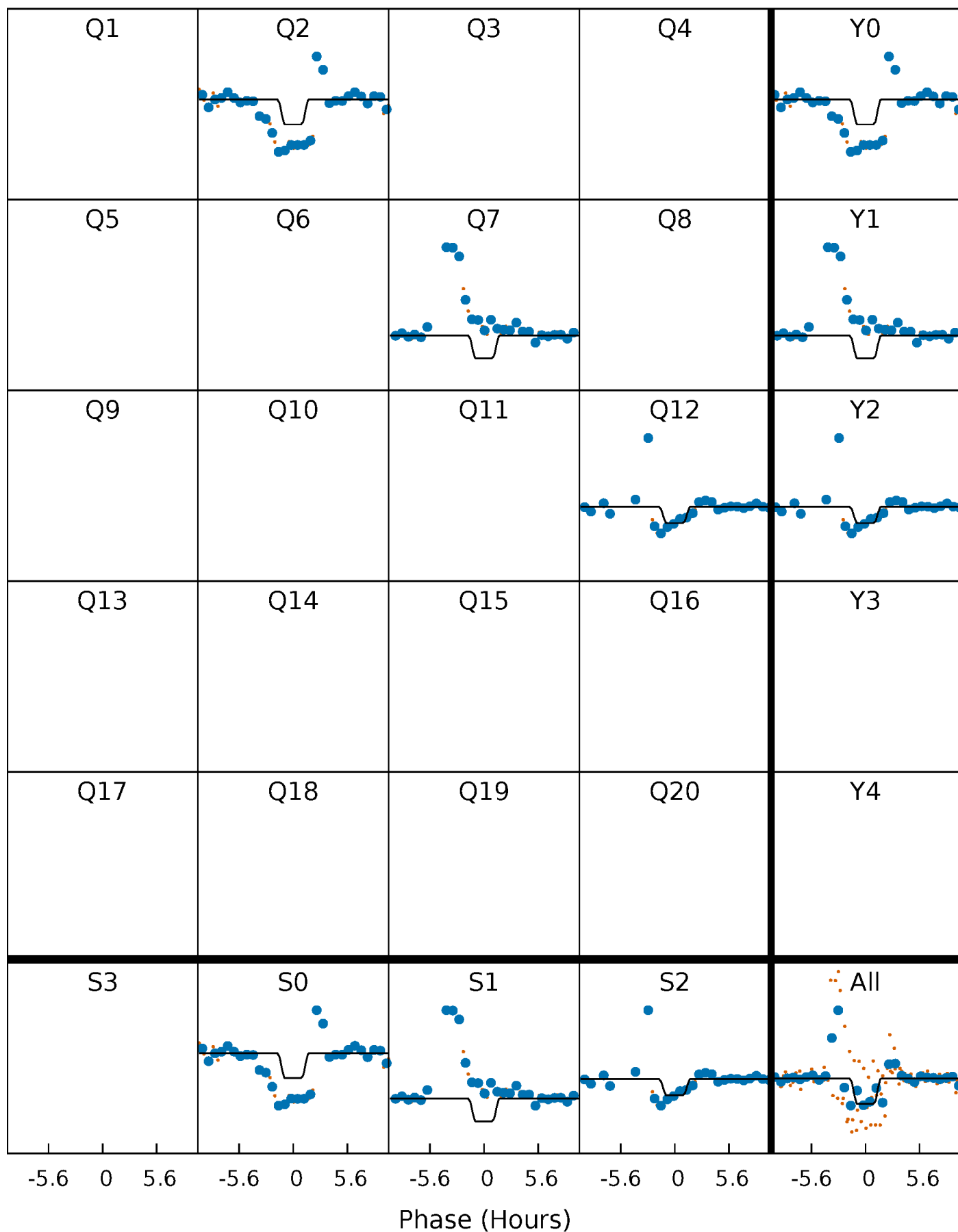
DV Quarter-Phased Transit Curves

TCE 003430610-01 P=487.910735 Days $T_0=198.798804$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

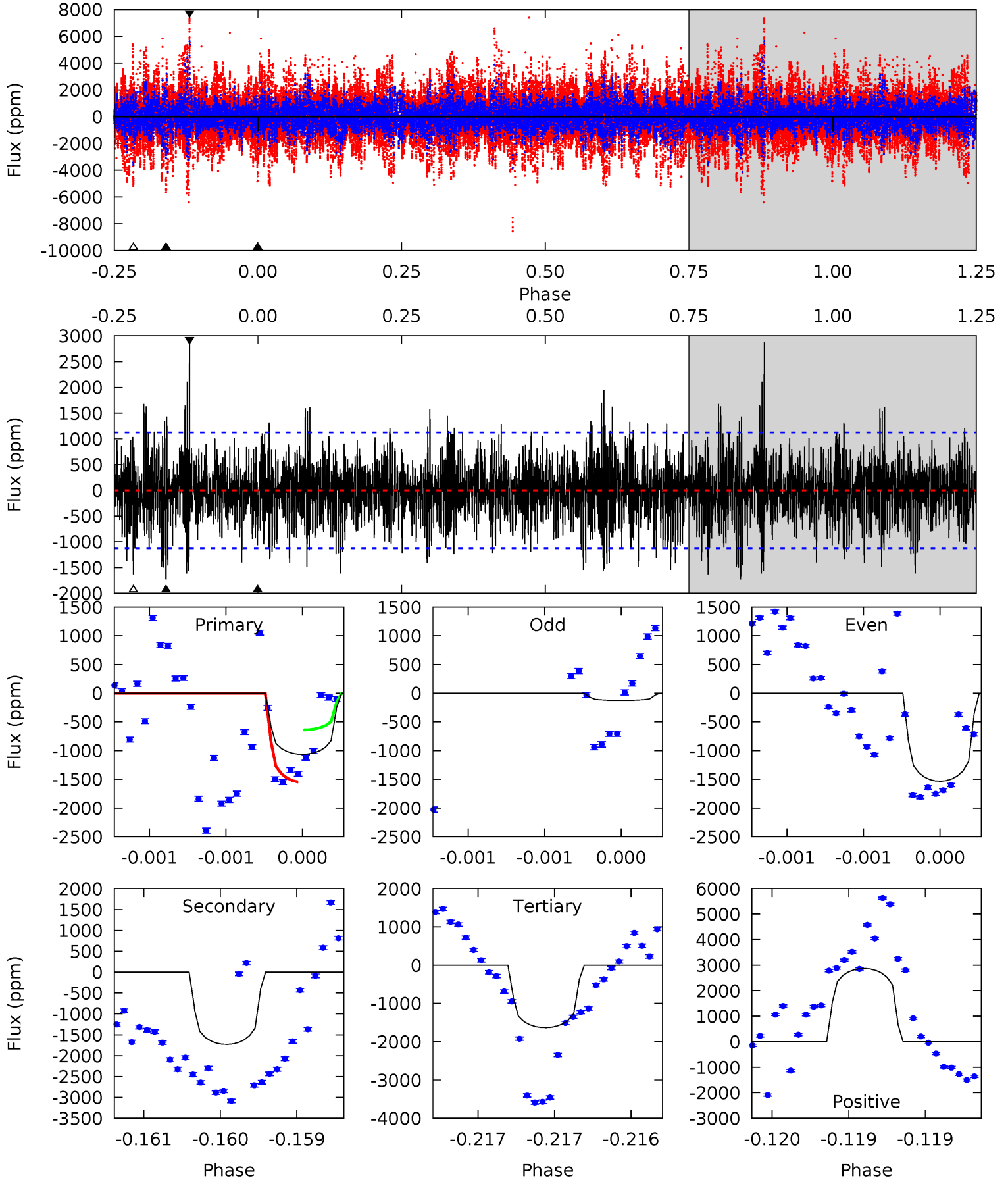
TCE 003430610-01 P=487.919357 Days $T_0=198.759569$ (BKJD)



DV Model-Shift Uniqueness Test

003430610-01, P = 487.910735 Days, E = 198.798804 Days

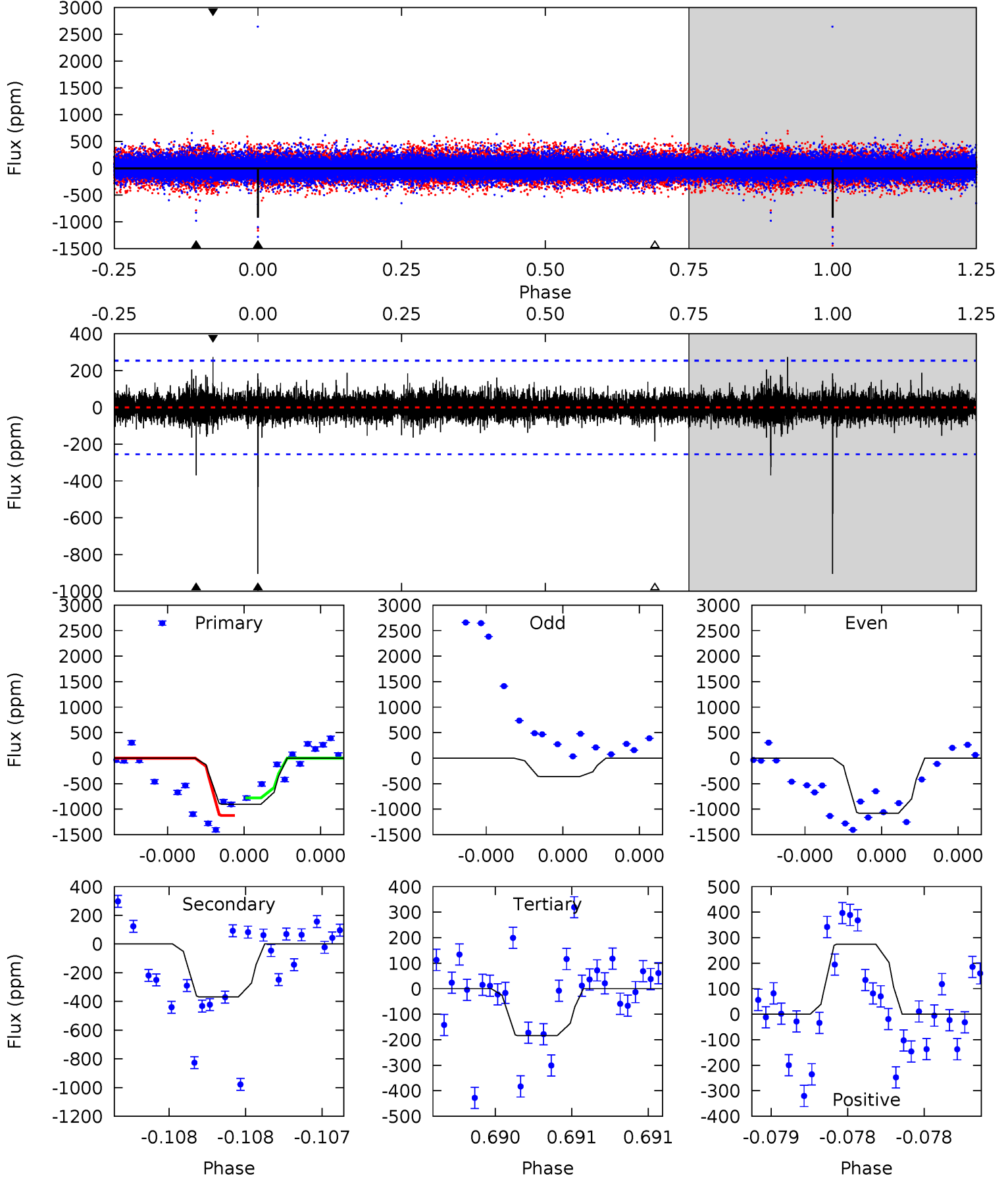
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.27	8.55	8.07	14.2	5.55	3.44	2.40	-2.80	-8.92	0.48	-5.64	3.05	8.38	0.62	2.25



Alt Model-Shift Uniqueness Test

003430610-01, P = 487.919357 Days, E = 198.759569 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	8.24	4.13	6.14	5.70	3.67	0.77	16.1	14.1	4.12	2.10	10.7	0.78	0.23	0



Stellar Parameters For KIC 003430610

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5915^{+195}_{-177}	$4.015^{+0.441}_{-0.157}$	$-0.500^{+0.300}_{-0.250}$	$1.547^{+0.440}_{-0.659}$	$0.903^{+0.114}_{-0.103}$	$0.344^{+1.352}_{-0.175}$
	+3%/-3%	+11%/-4%	+60%/-50%	+28%/-43%	+13%/-11%	+393%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003430610-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1731 ± 202	$4.90^{+4.24}_{-3.06}$	410^{+36}_{-48}	6793^{+6126}_{-1679}	$54127^{+316719}_{-38732}$
Alt.	-368 ± 45	$4.93^{+4.10}_{-3.00}$	413^{+37}_{-52}	4754^{+2476}_{-934}	11669^{+61435}_{-8390}

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 $A_{obs} \gg 1.0$

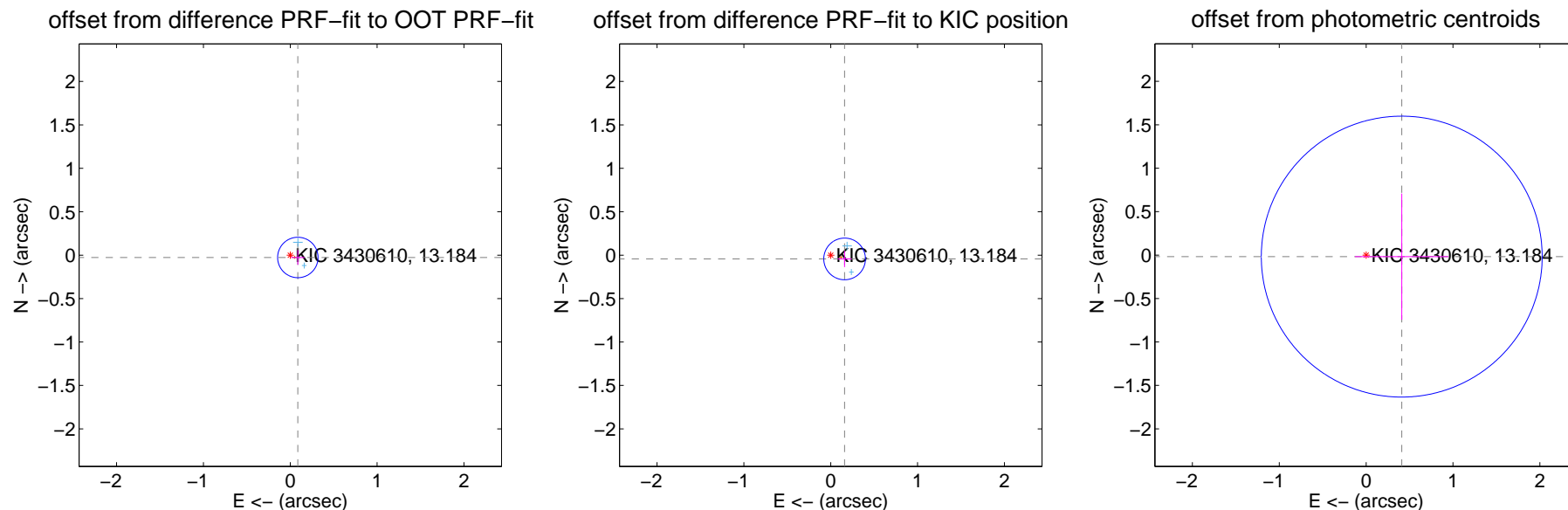
DV Centroid Data

Supplemental centroid analysis for 003430610-01. Kepler magnitude: 13.18. Transit SNR 3.95

There are 2 quarters with good PRF difference image offsets

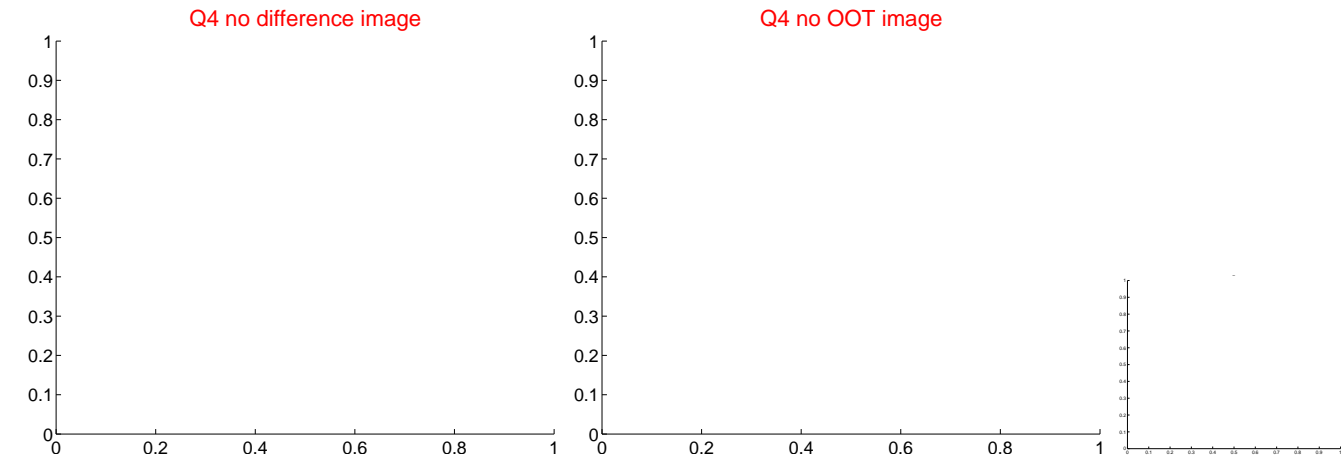
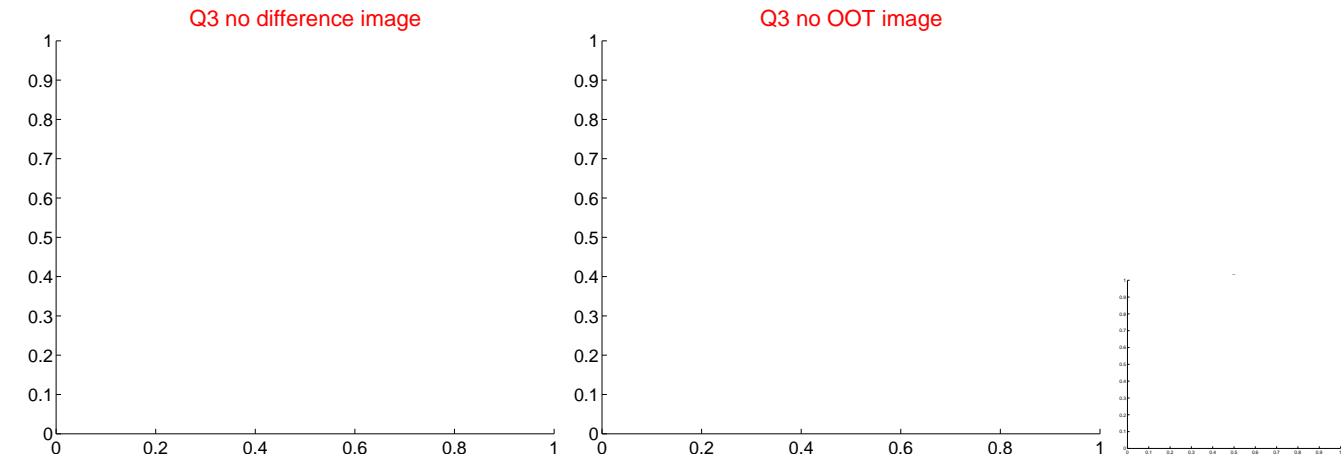
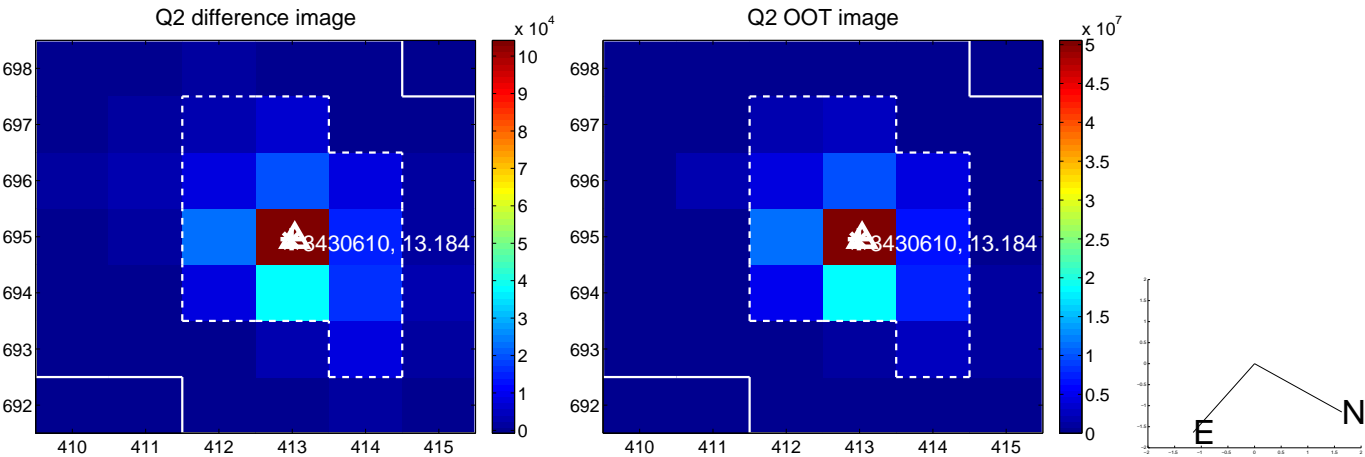
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.091 ± 0.078	1.17	-0.087 ± 0.077	-0.027 ± 0.085
PRF-fit source offset from KIC position	0.166 ± 0.080	2.07	-0.160 ± 0.079	-0.043 ± 0.094
photometric centroid source offset	0.41 ± 0.54	0.76	-0.41 ± 0.54	-0.02 ± 0.73

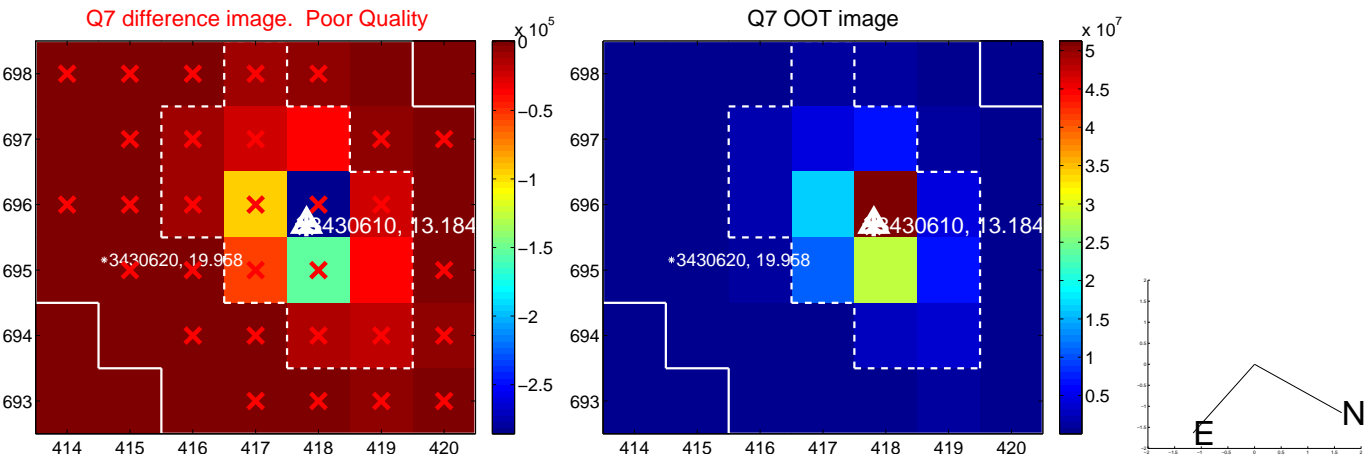


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

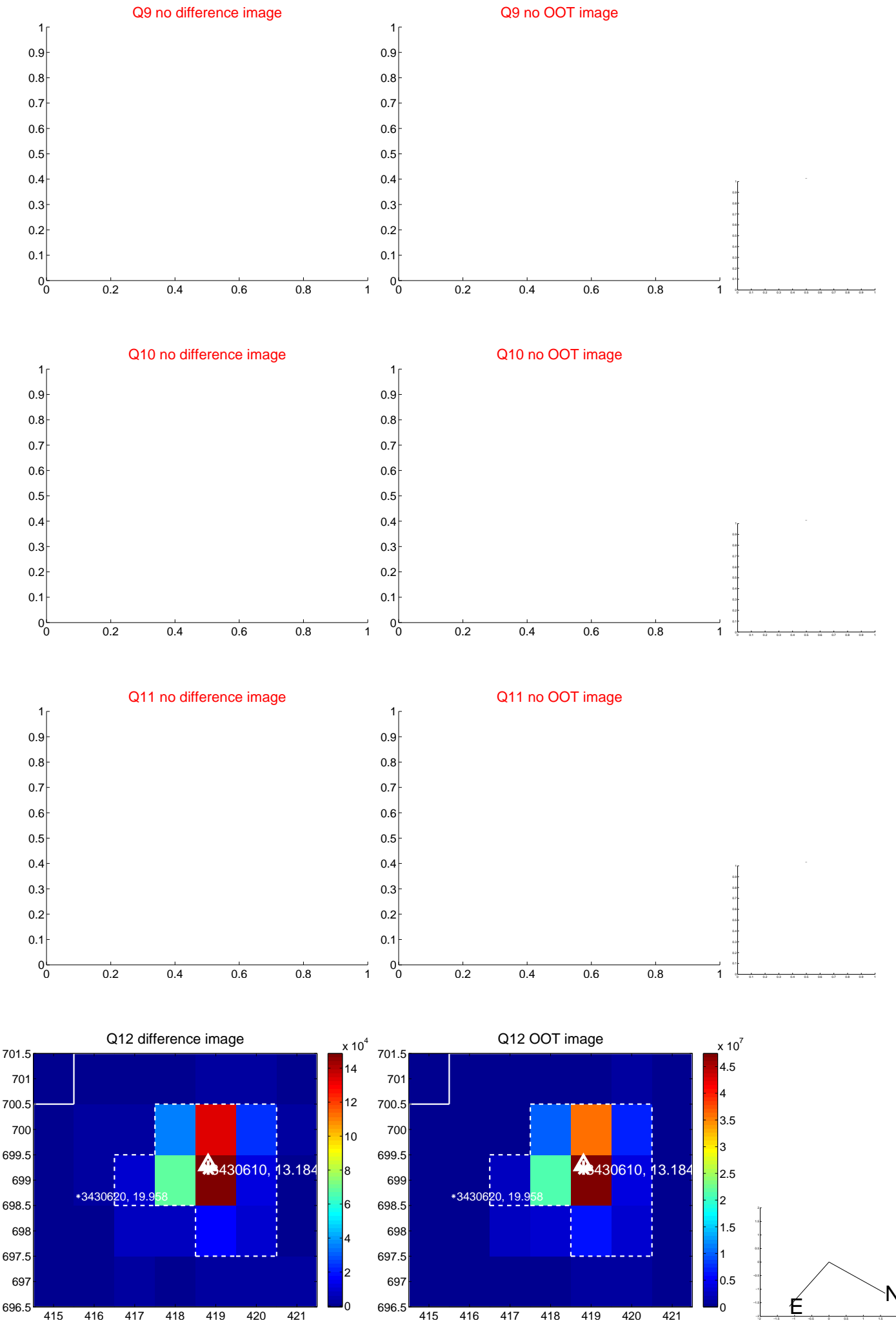
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.

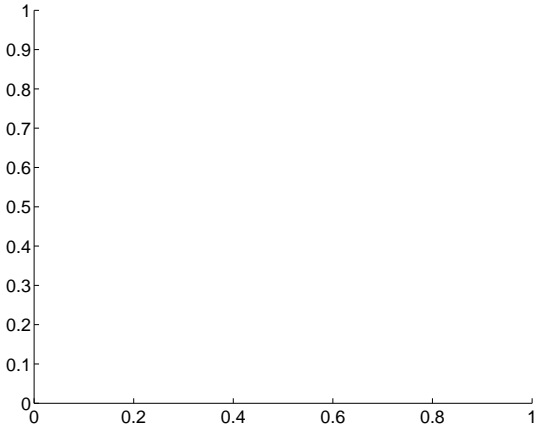


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

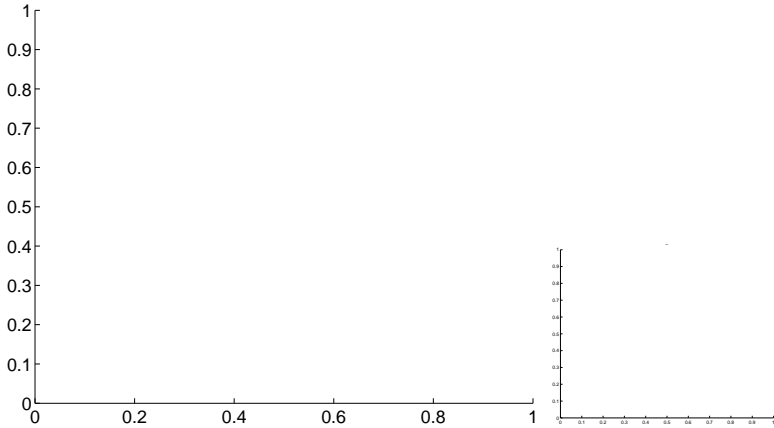


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

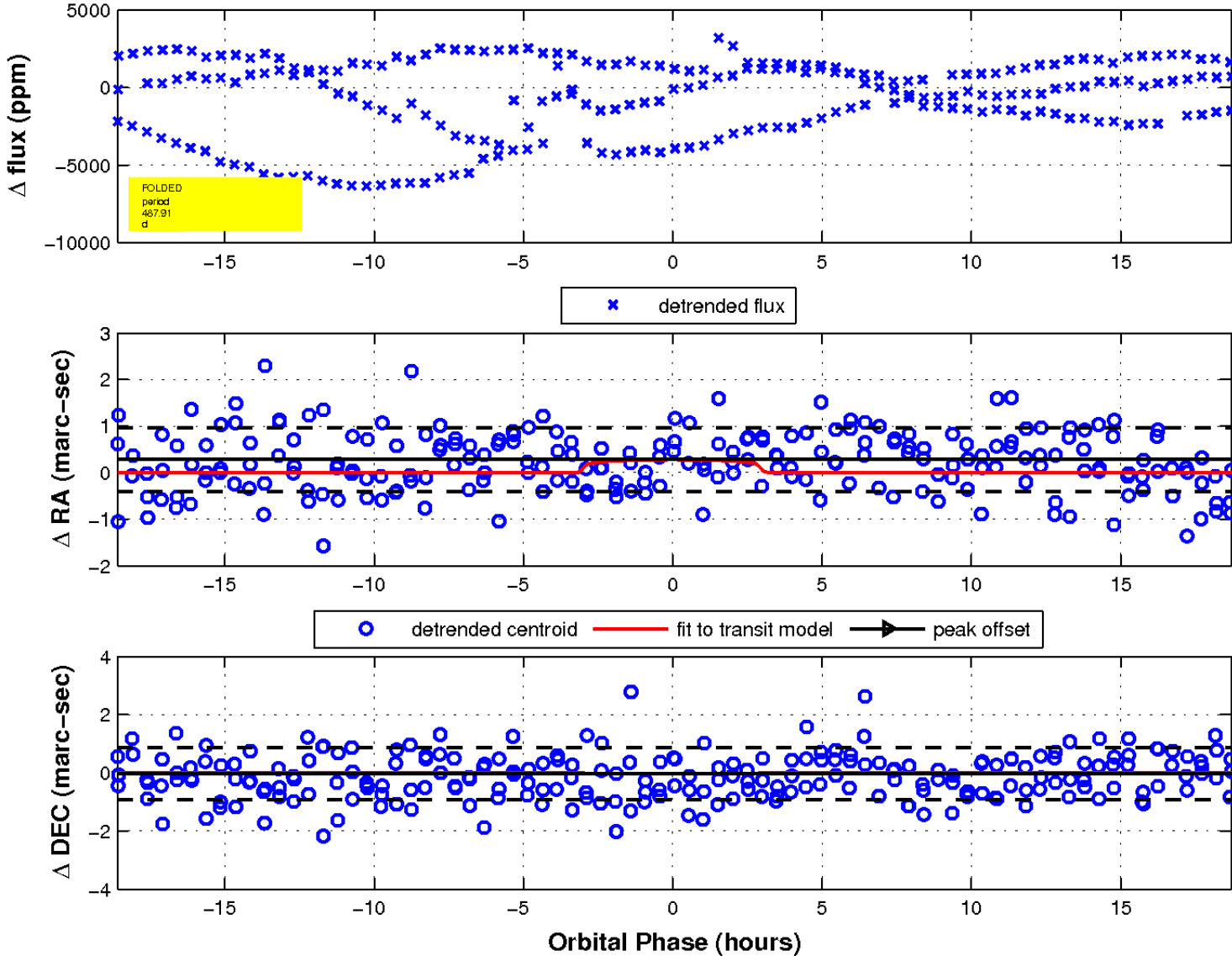
Q17 no difference image



Q17 no OOT image

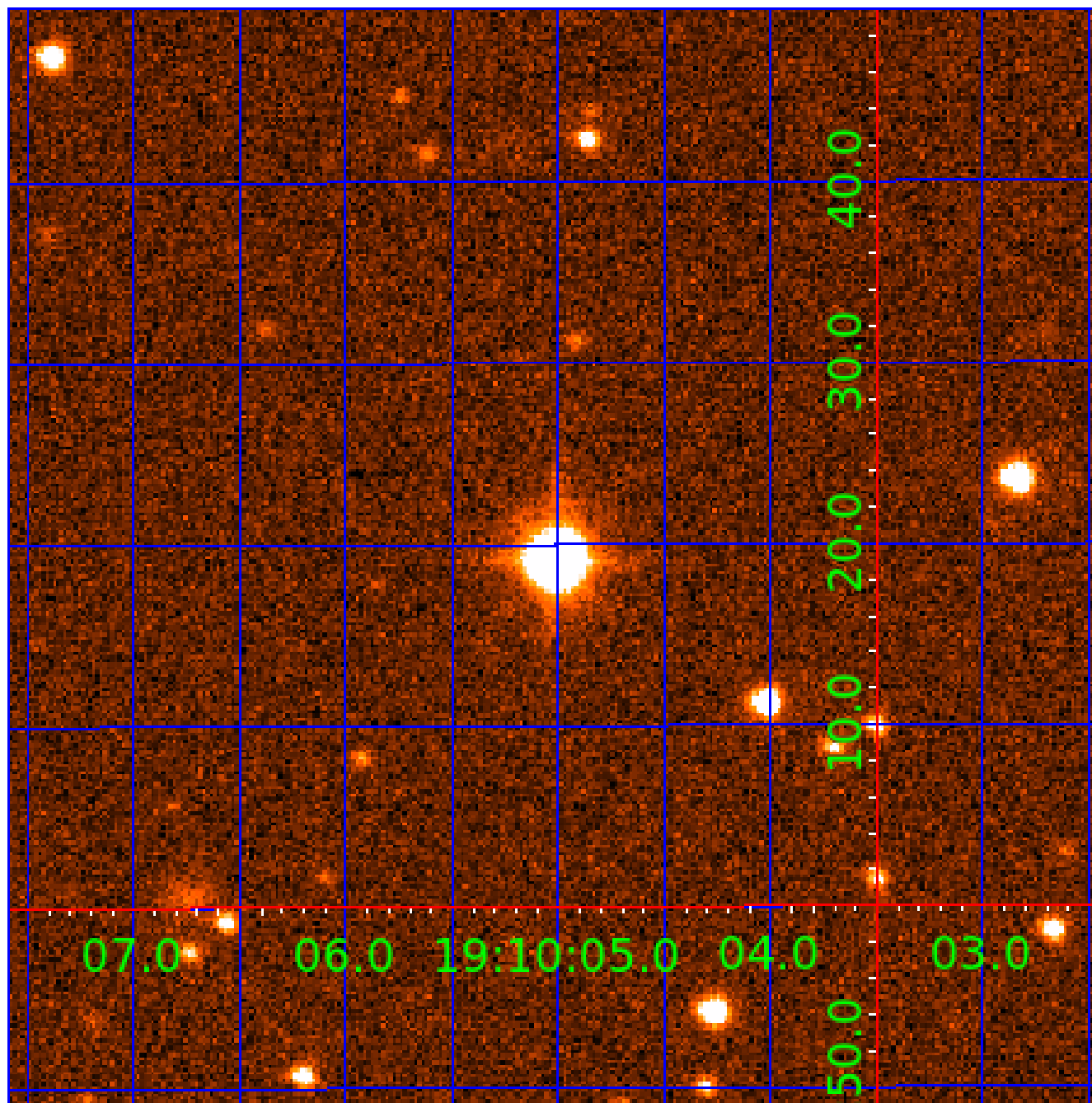


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 003430610

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})
003430610-01	OBS	No	487.910735	198.798804	775.4	6.271	15.6	3.9	1.55	5915	4.57	1.91
003430610-02	OBS	No	492.626577	201.177145	618.3	8.590	14.5	2.9	1.55	5915	3.88	1.88
003430610-03	OBS	No	458.430089	464.666904	1381.5	11.002	14.7	6.3	1.55	5915	5.80	2.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003430610-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003430610-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003430610-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

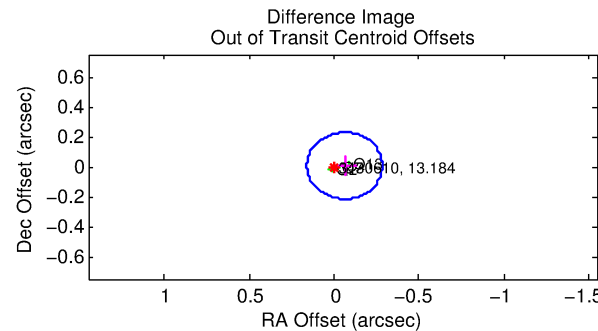
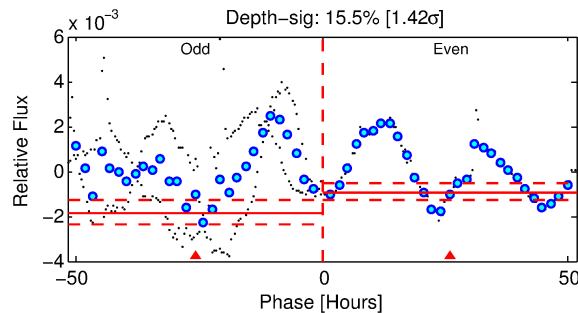
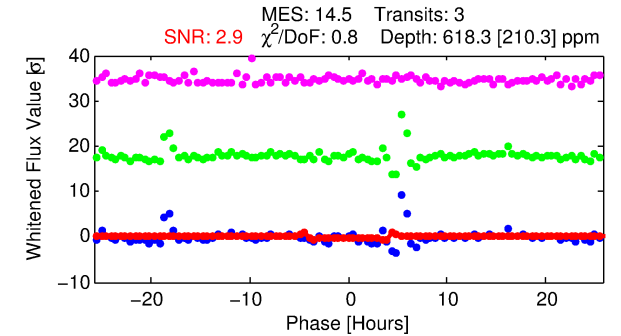
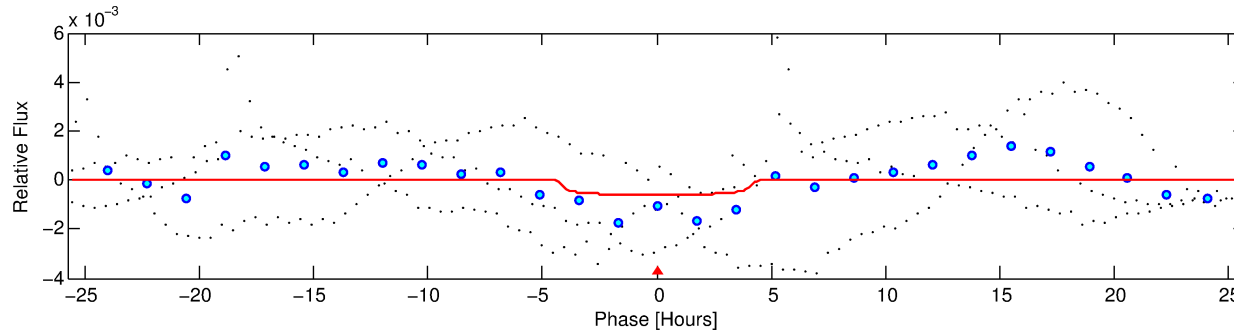
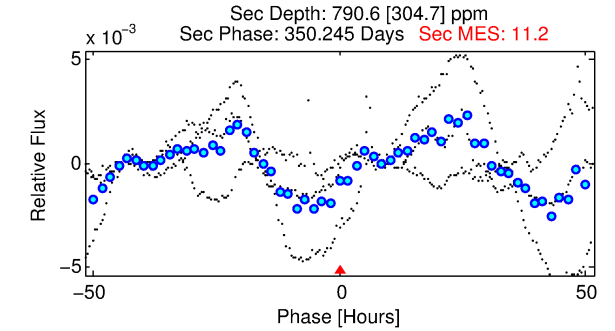
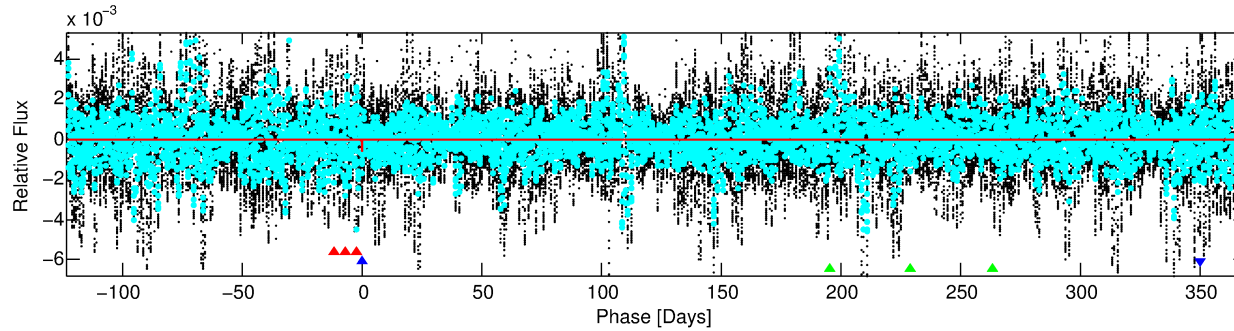
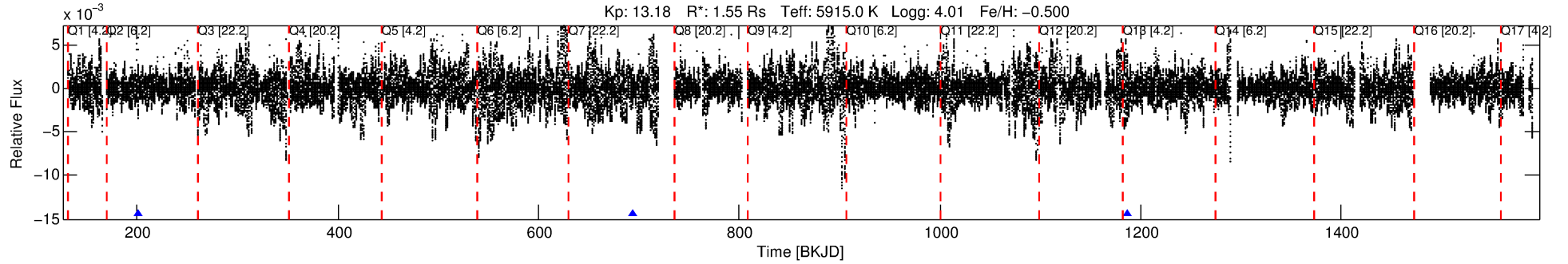
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003430610-02

No Significant Match Found

DV One-Page Summary

KIC: 3430610 Candidate: 2 of 3 Period: 492.627 d



DV Fit Results:

Period = 492.62658 [0.00706] d
Epoch = 201.1771 [0.0089] BKJD
Rp/R* = 0.0230 [0.0202]
a/R* = 429.57 [1768.31]
b = 0.29 [12.96]
Seff = 1.88 [1.41]
Teq = 299 [56] K
Rp = 3.87 [3.79] Re
a = 1.1804 [0.5216] AU
Ag = 40365.81 [78556.60] [0.51 σ]
Teffp = 6547 [2958] K [2.11 σ]

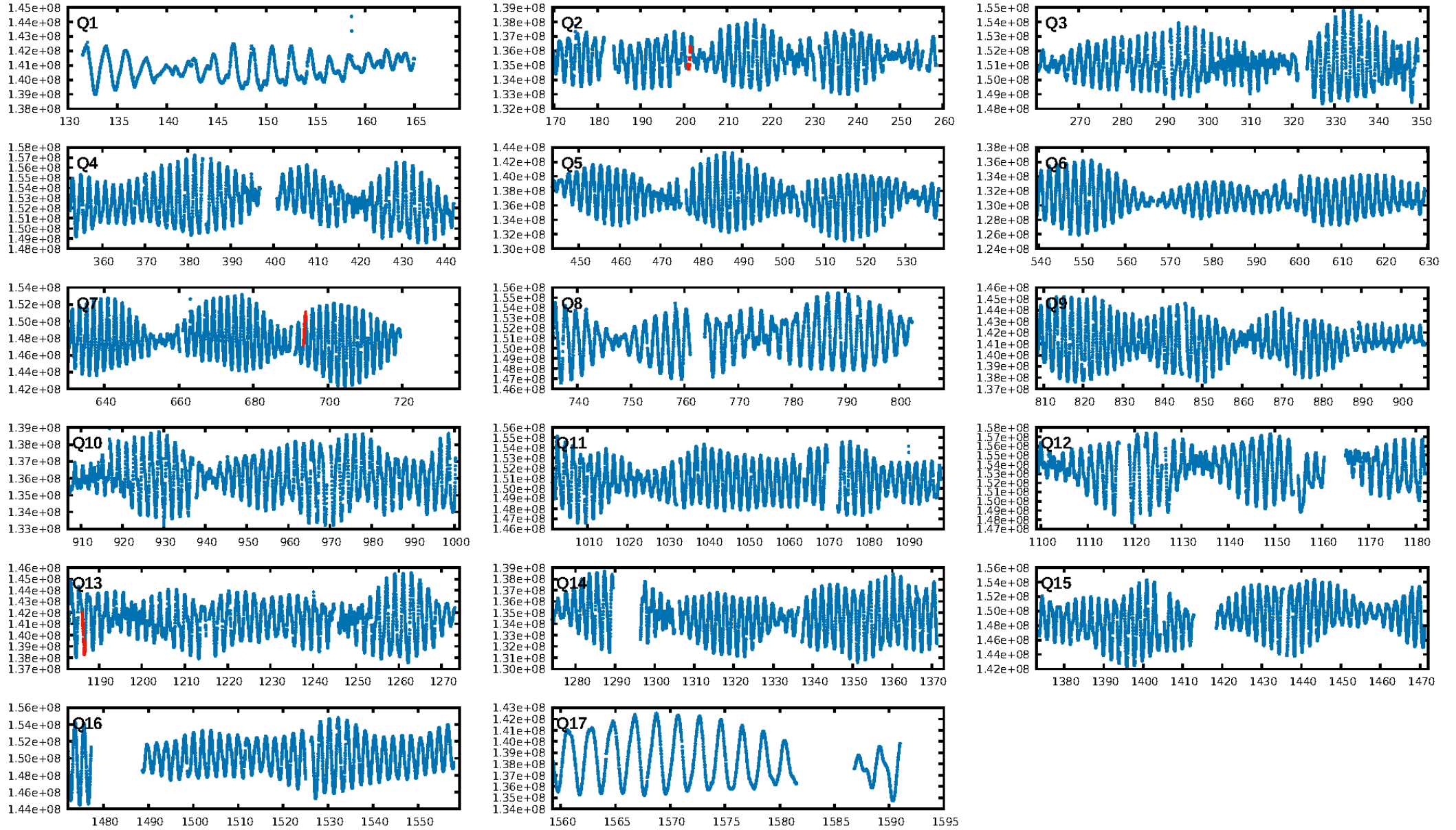
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [10.64 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 64.8%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 1.30e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.7264
Centroid-sig: 86.0%
Centroid-so: 0.268 arcsec [0.44 σ]
OotOffset-rm: 0.062 arcsec [0.84 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 0.151 arcsec [1.96 σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

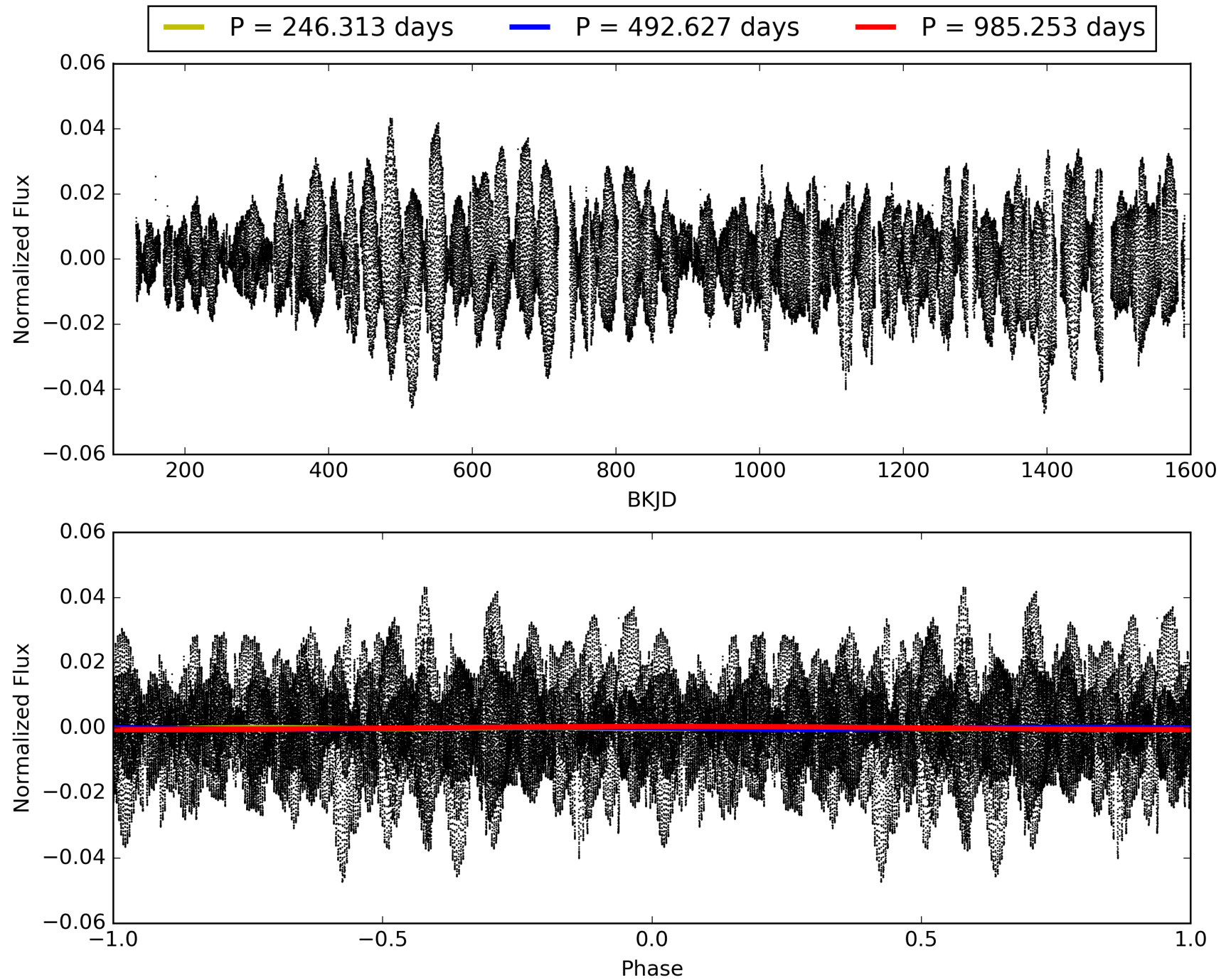
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:43:30 Z

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

TCE 003430610-02, PDC Light Curves

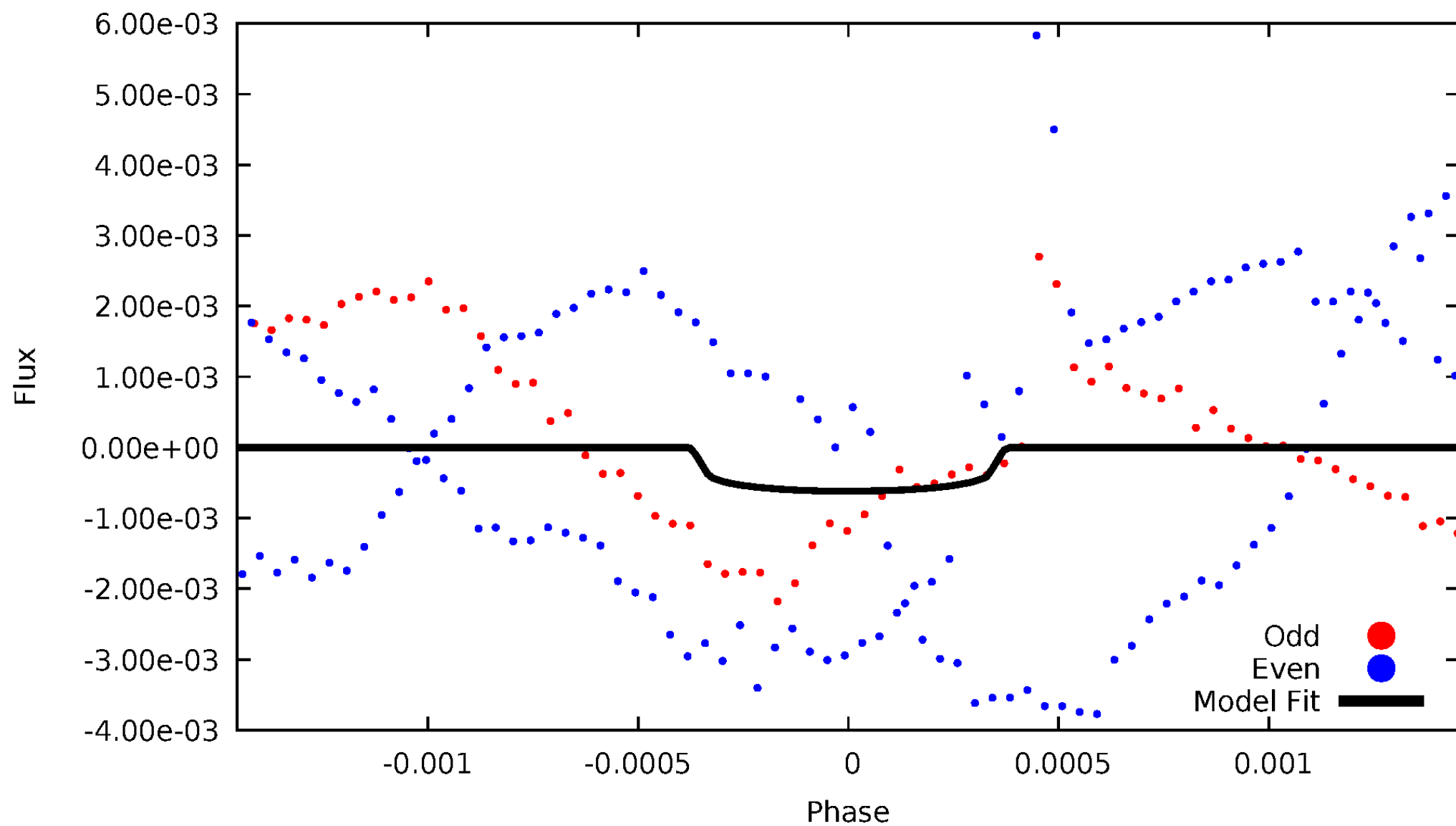


TCE 003430610-02



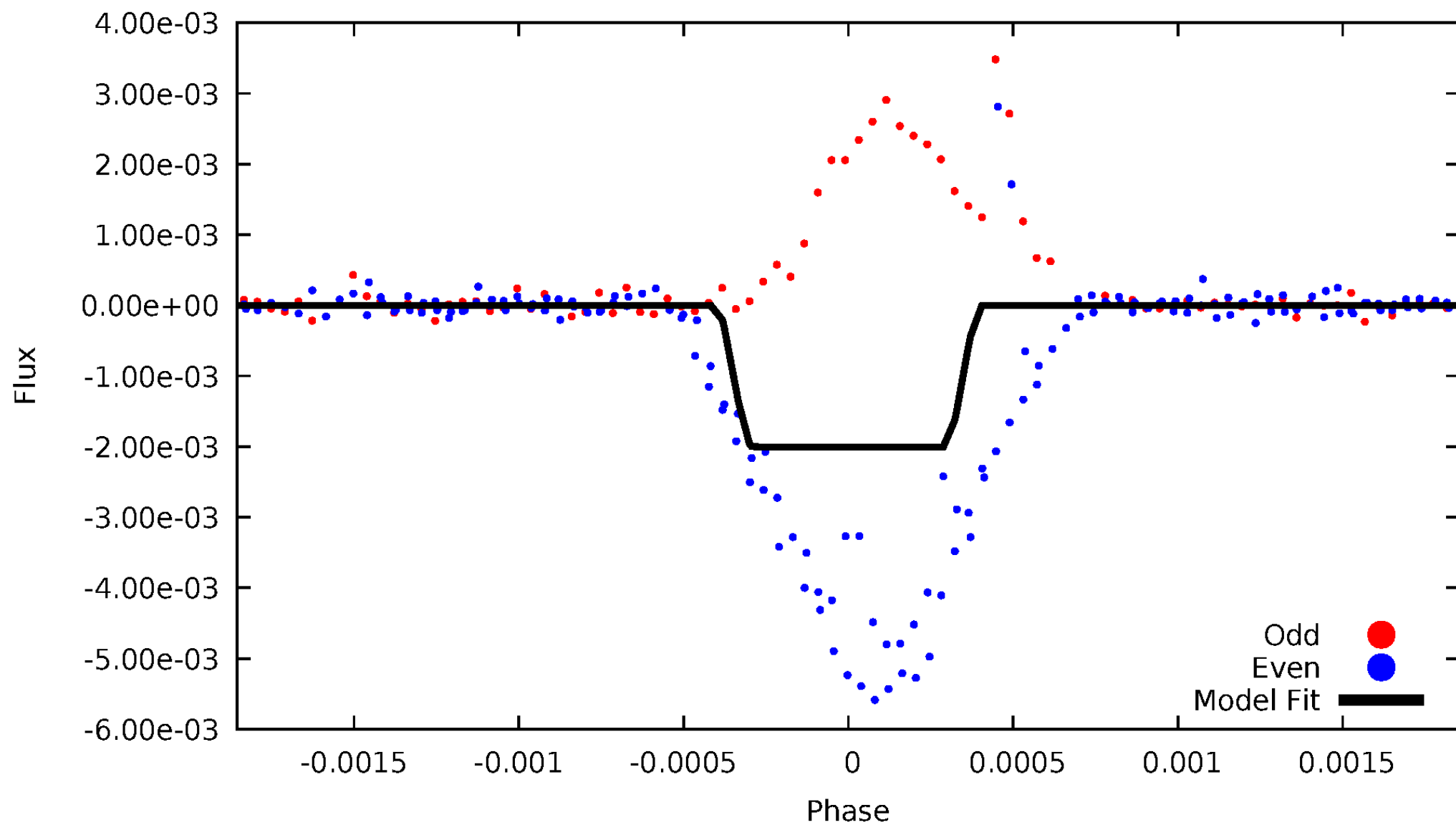
DV Odd/Even

TCE 003430610-02



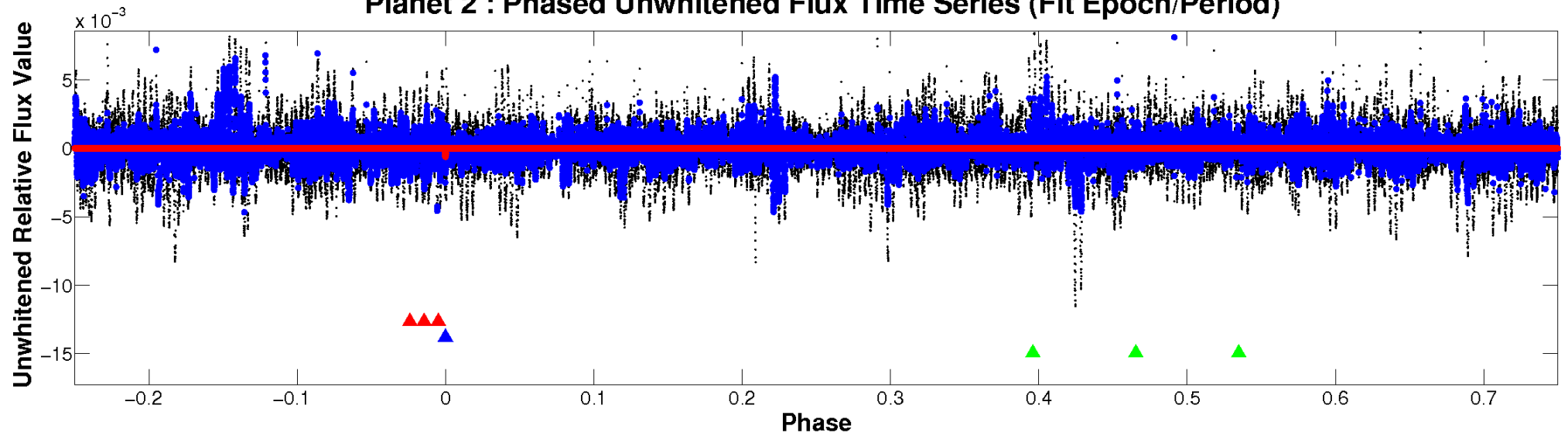
ALT Odd/Even

TCE 003430610-02

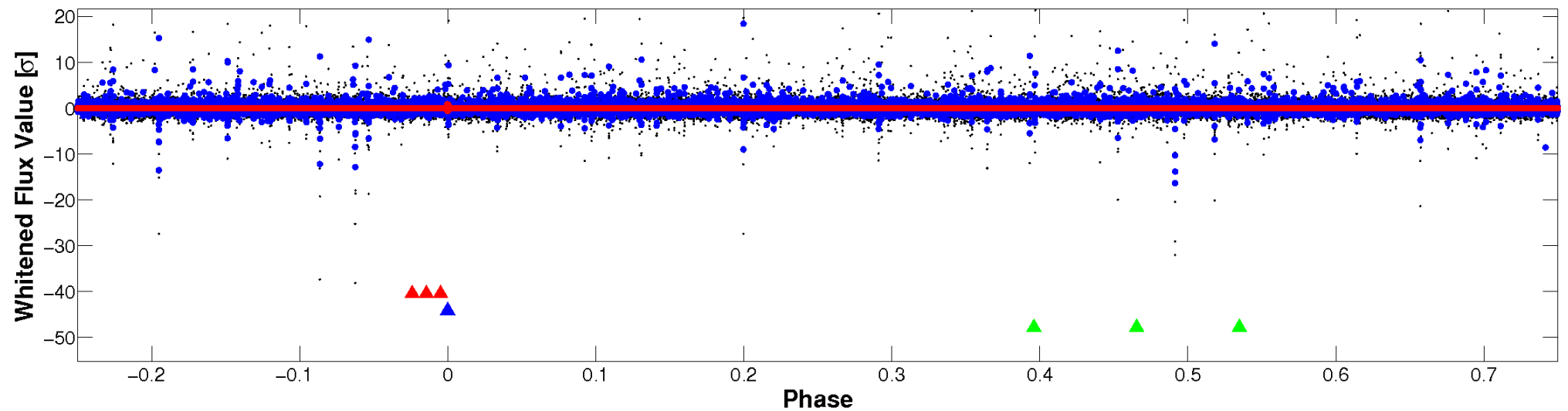


Non-Whitened Vs. Whitened Light Curve

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

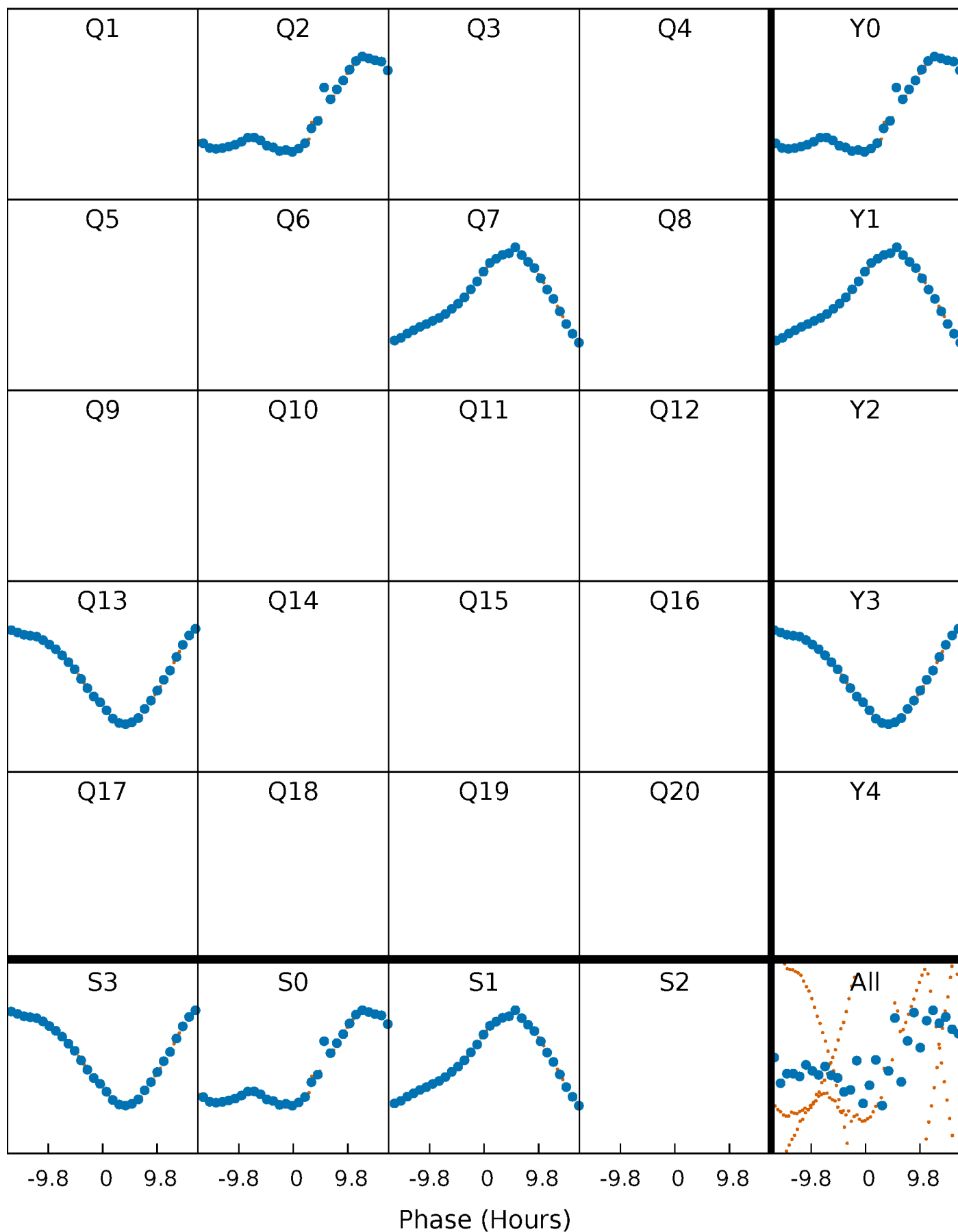


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



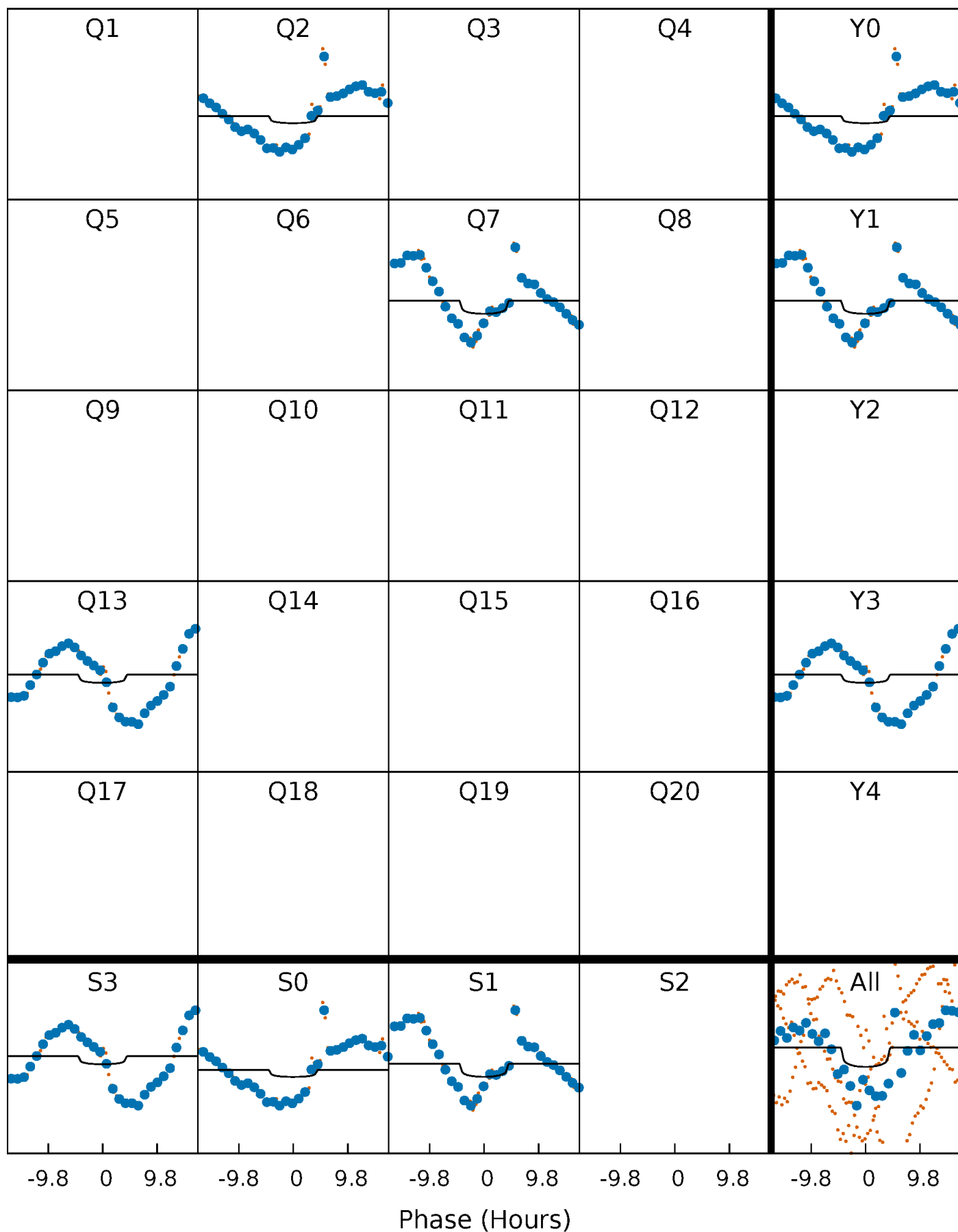
PDC Quarter-Phased Transit Curves

TCE 003430610-02 P=492.626577 Days $T_0=201.177145$ (BKJD)



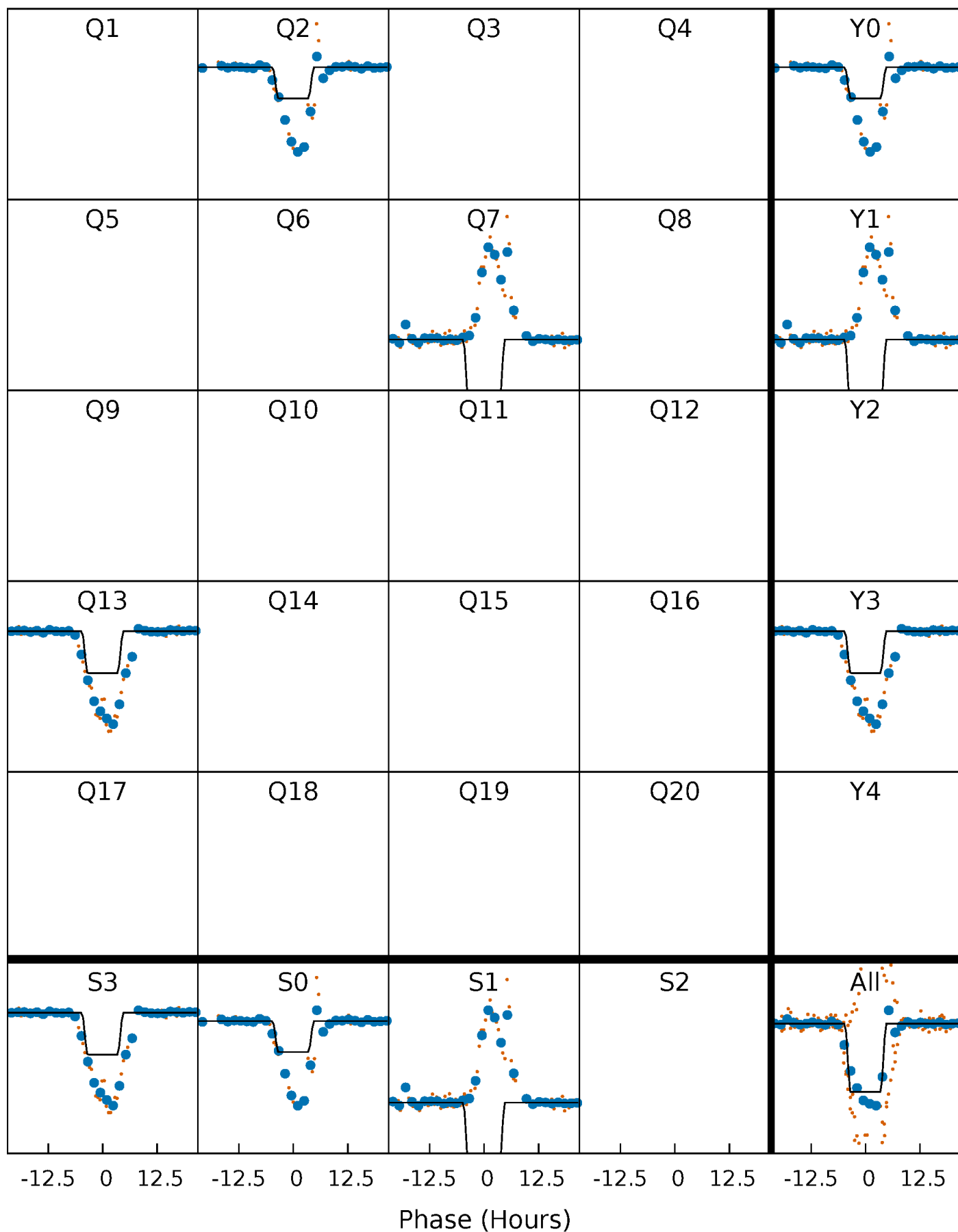
DV Quarter-Phased Transit Curves

TCE 003430610-02 P=492.626577 Days $T_0=201.177145$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

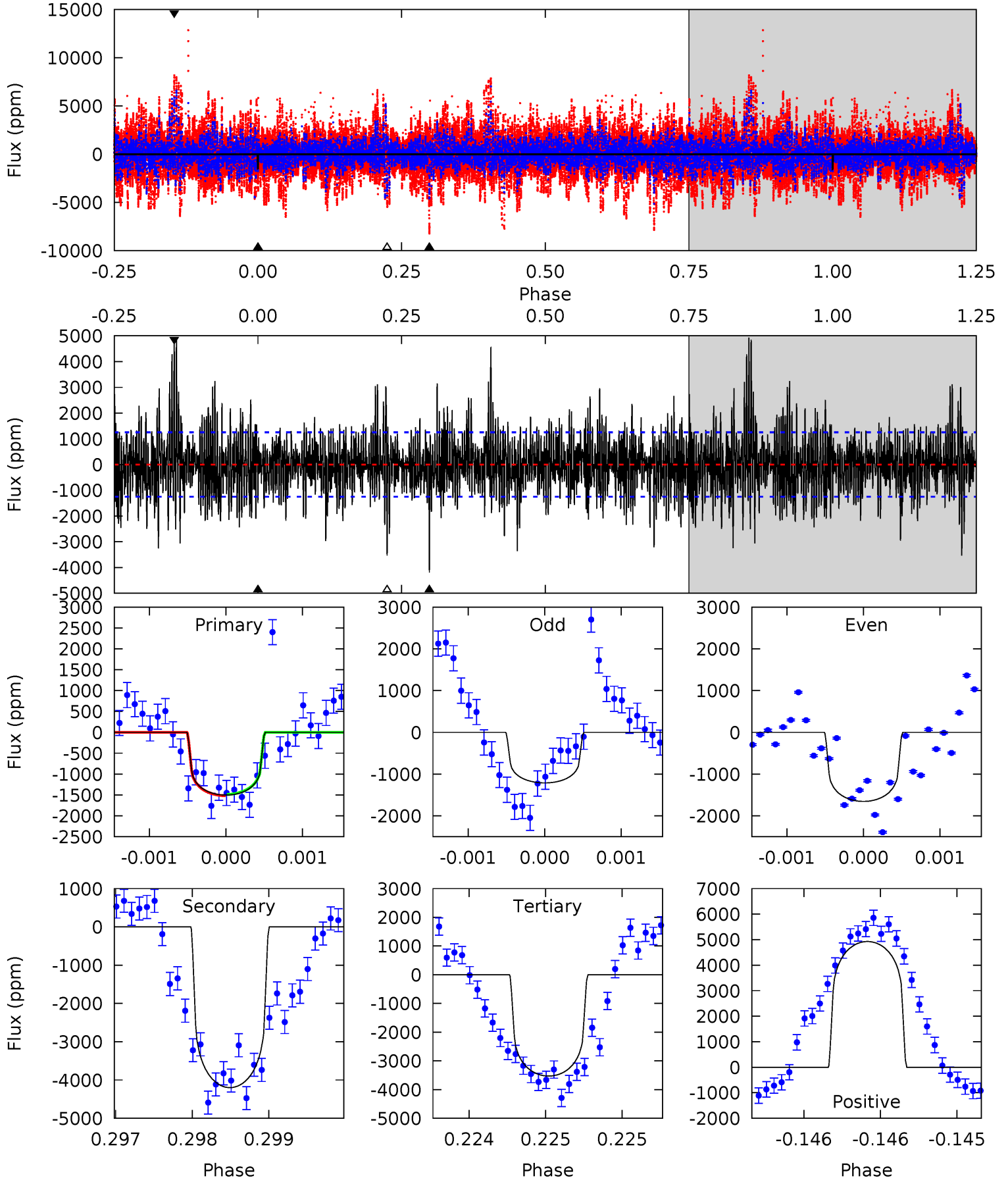
TCE 003430610-02 P=492.632698 Days $T_0=201.174246$ (BKJD)



DV Model-Shift Uniqueness Test

003430610-02, P = 492.626577 Days, E = 201.177145 Days

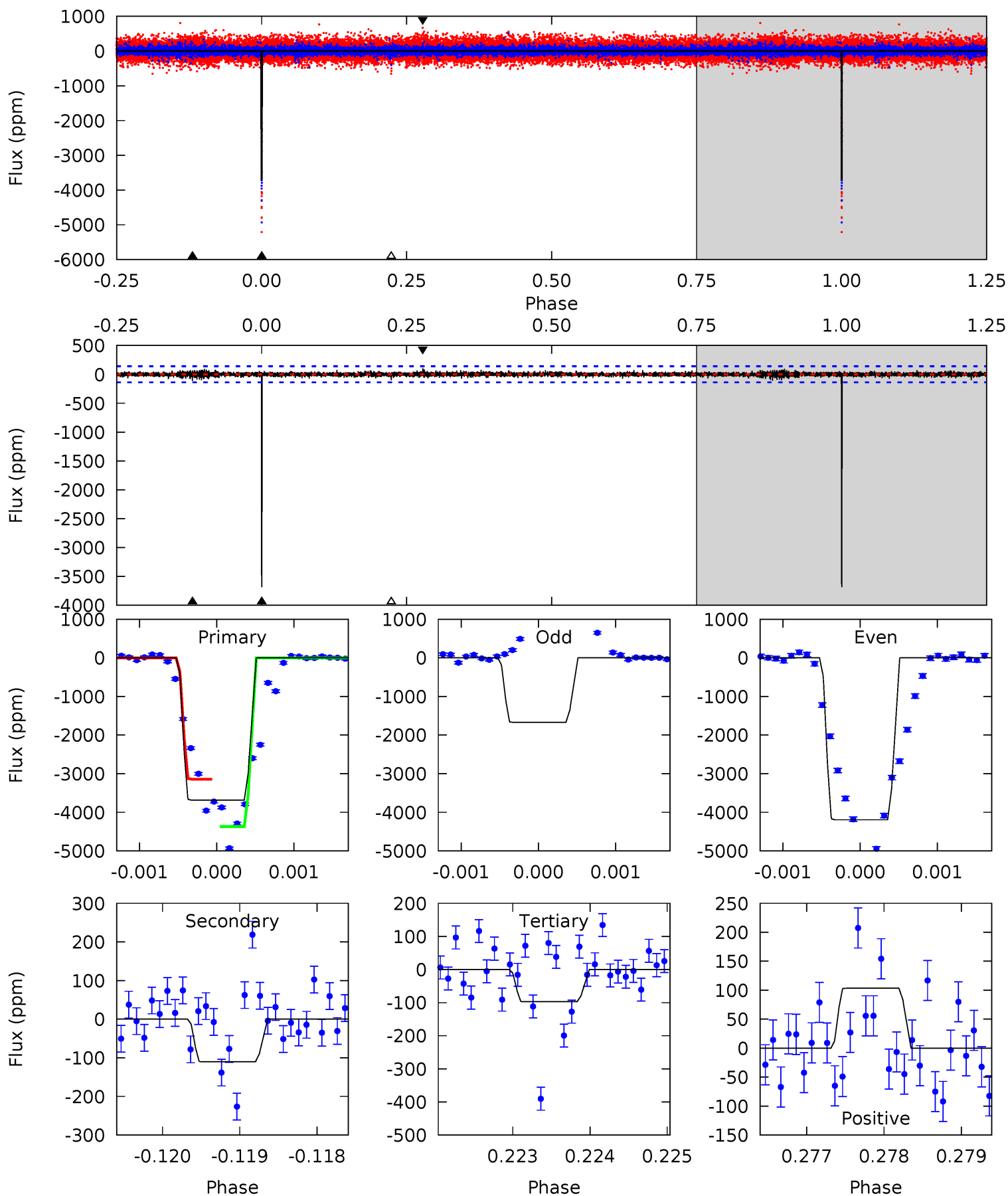
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.60	18.4	15.5	21.6	5.50	3.37	4.18	-8.89	-15.0	2.95	-3.20	0.87	1.23	0.54	0.07



Alt Model-Shift Uniqueness Test

003430610-02, P = 492.632698 Days, E = 201.174246 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
145.6	4.35	3.84	4.08	5.49	3.35	0.70	141.7	141.5	0.51	0.27	67.4	0.55	0.03	0



Stellar Parameters For KIC 003430610

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5915^{+195}_{-177}	$4.015^{+0.441}_{-0.157}$	$-0.500^{+0.300}_{-0.250}$	$1.547^{+0.440}_{-0.659}$	$0.903^{+0.114}_{-0.103}$	$0.344^{+1.352}_{-0.175}$
	+3%/-3%	+11%/-4%	+60%/-50%	+28%/-43%	+13%/-11%	+393%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003430610-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4199 ± 228	$4.03^{+3.69}_{-2.46}$	411^{+35}_{-45}	10344^{+14974}_{-3352}	$195395^{+1107774}_{-140917}$
Alt.	-110 ± 25	$6.97^{+3.80}_{-3.26}$	411^{+33}_{-47}	3400^{+763}_{-406}	1707^{+4363}_{-1015}

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

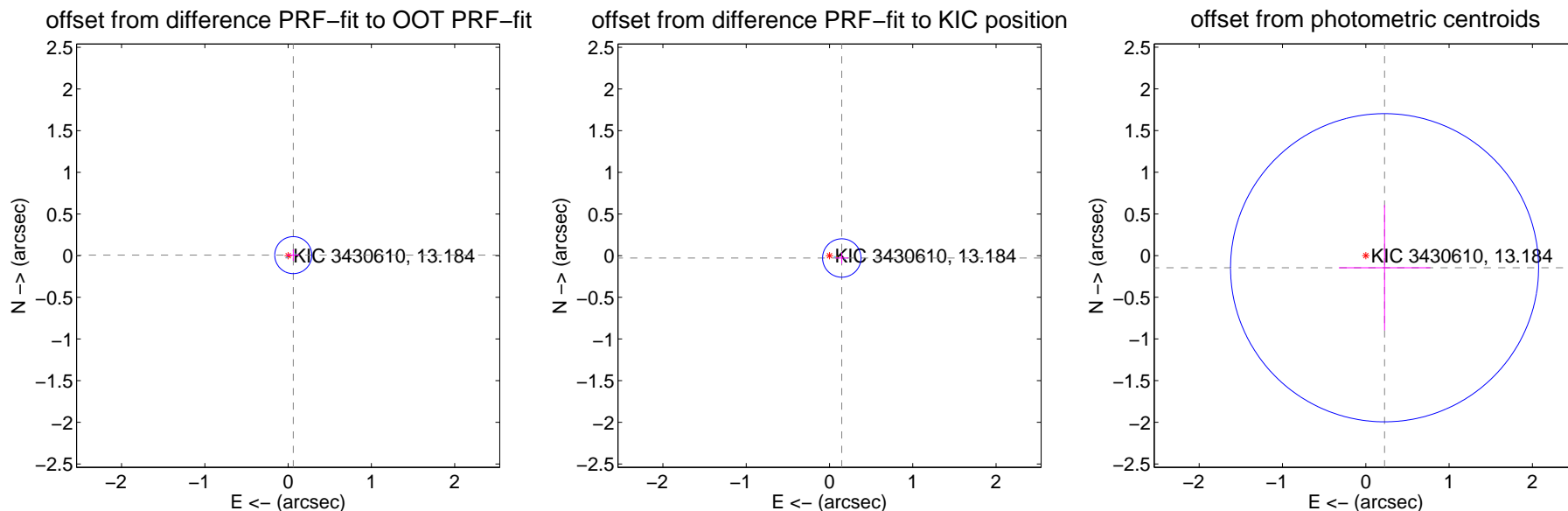
DV Centroid Data

Supplemental centroid analysis for 003430610-02. Kepler magnitude: 13.18. Transit SNR 2.89

There are 2 quarters with good PRF difference image offsets

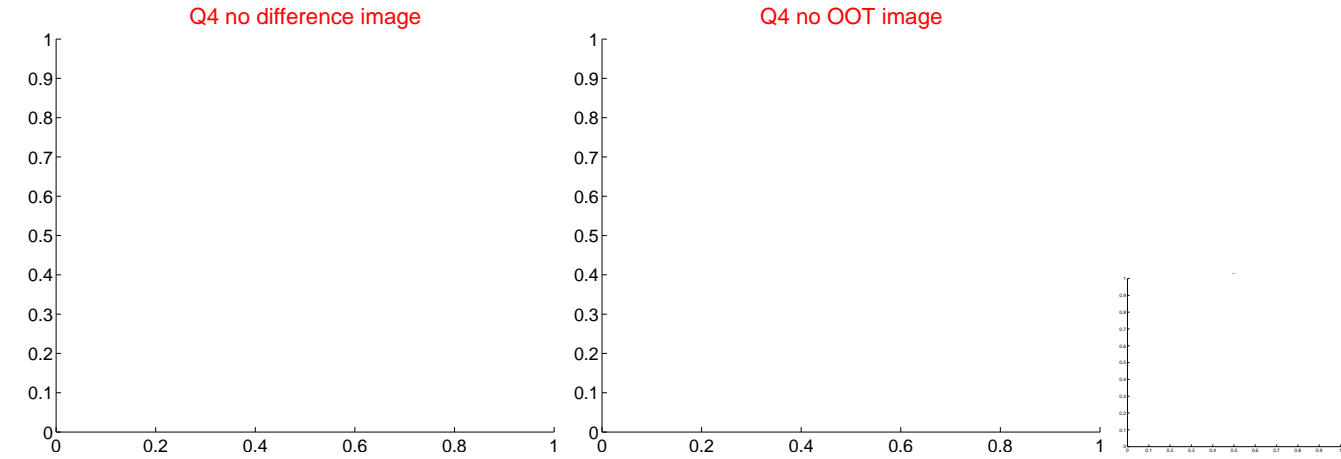
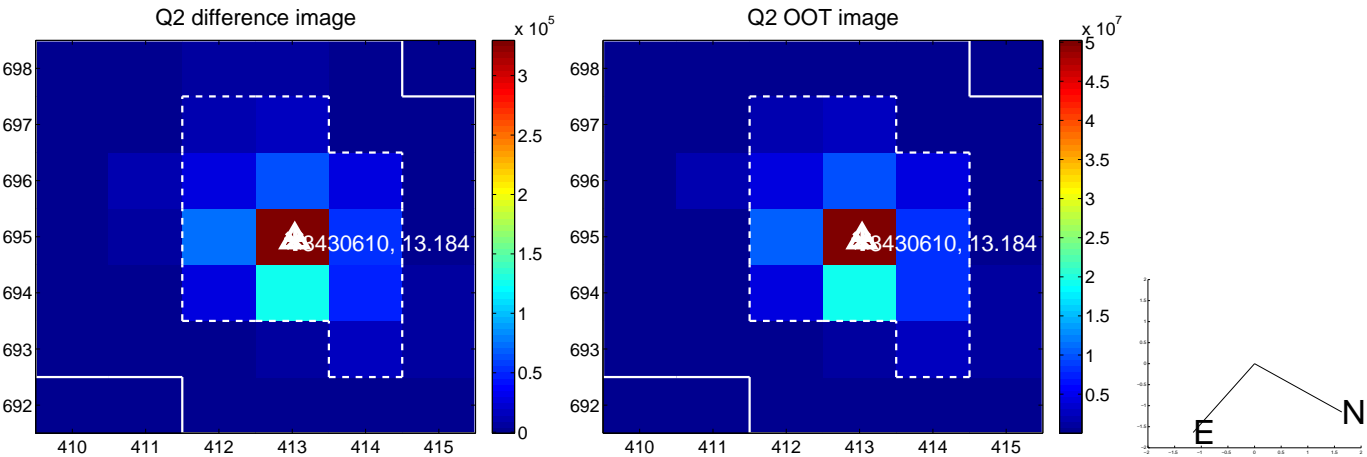
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.062 ± 0.074	0.84	-0.062 ± 0.074	0.006 ± 0.068
PRF-fit source offset from KIC position	0.151 ± 0.077	1.96	-0.148 ± 0.077	-0.028 ± 0.068
photometric centroid source offset	0.27 ± 0.62	0.44	-0.23 ± 0.55	-0.15 ± 0.75

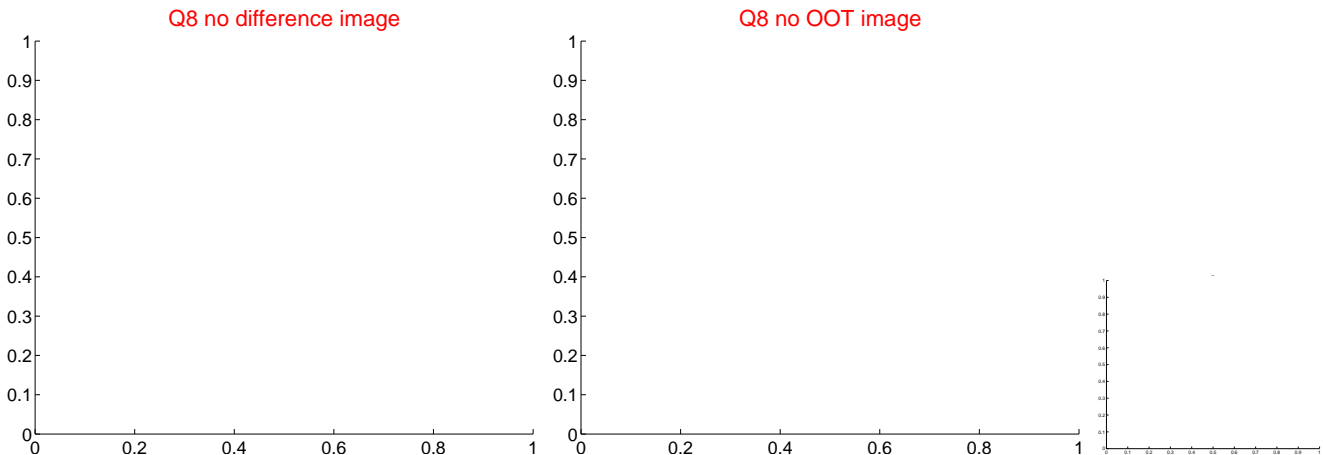
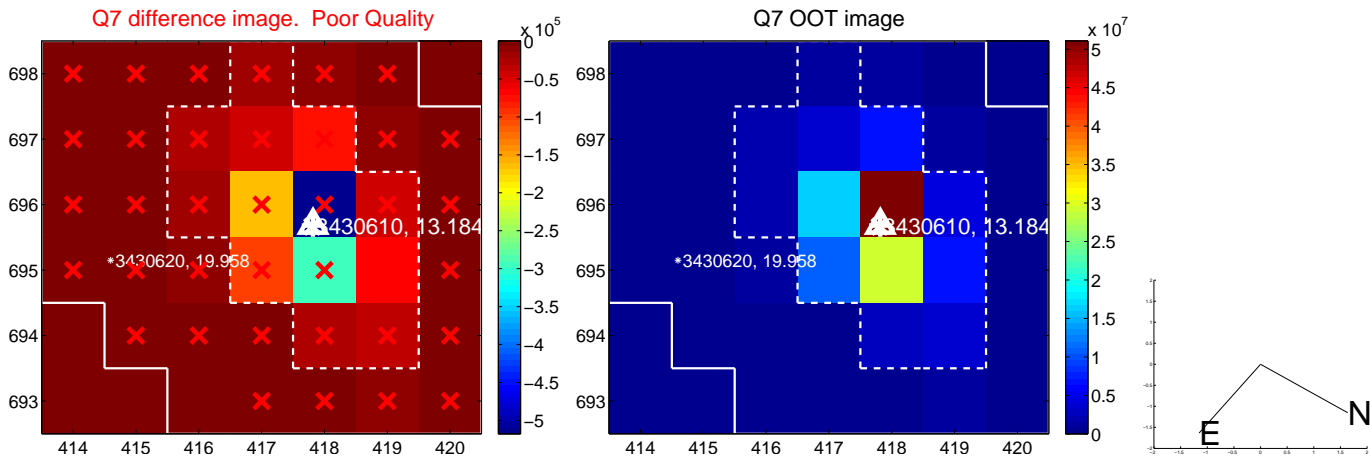
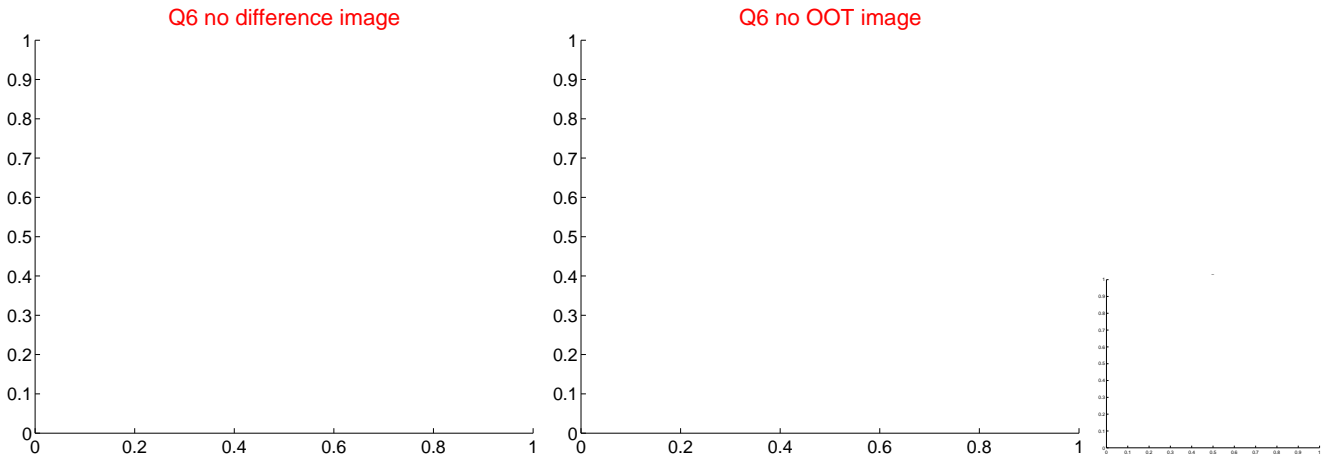
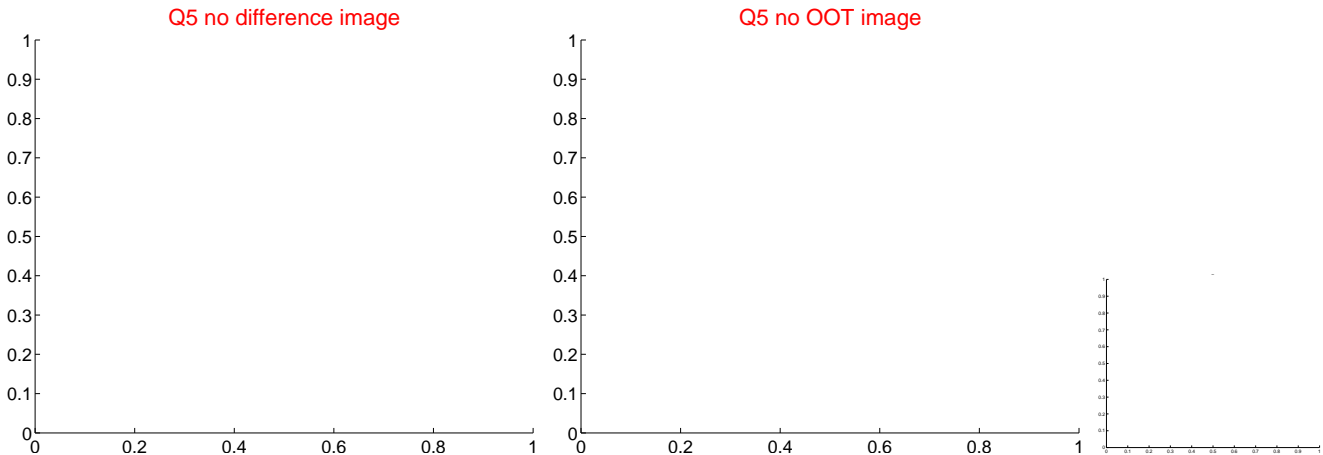


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



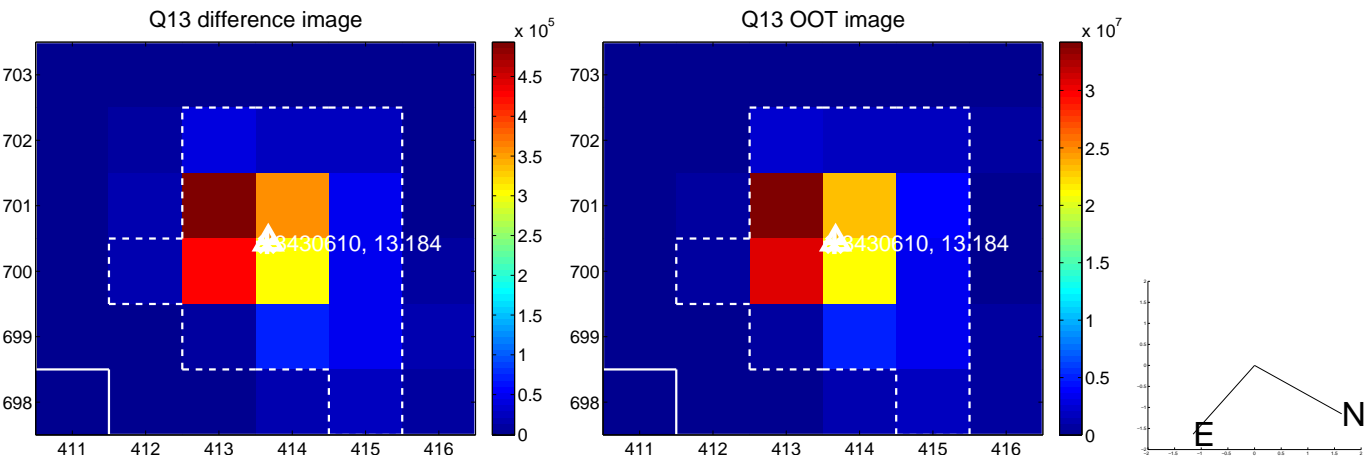
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



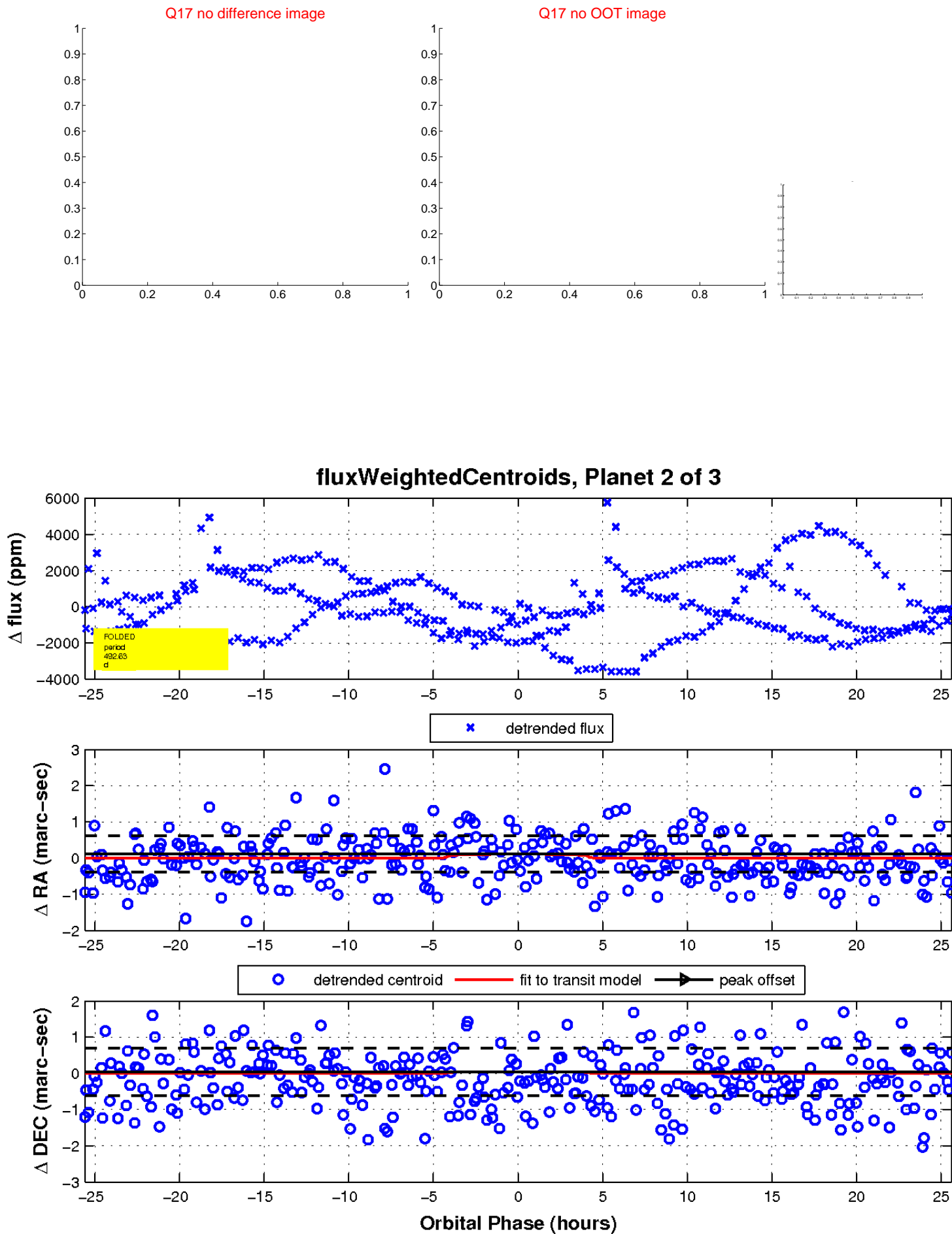
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

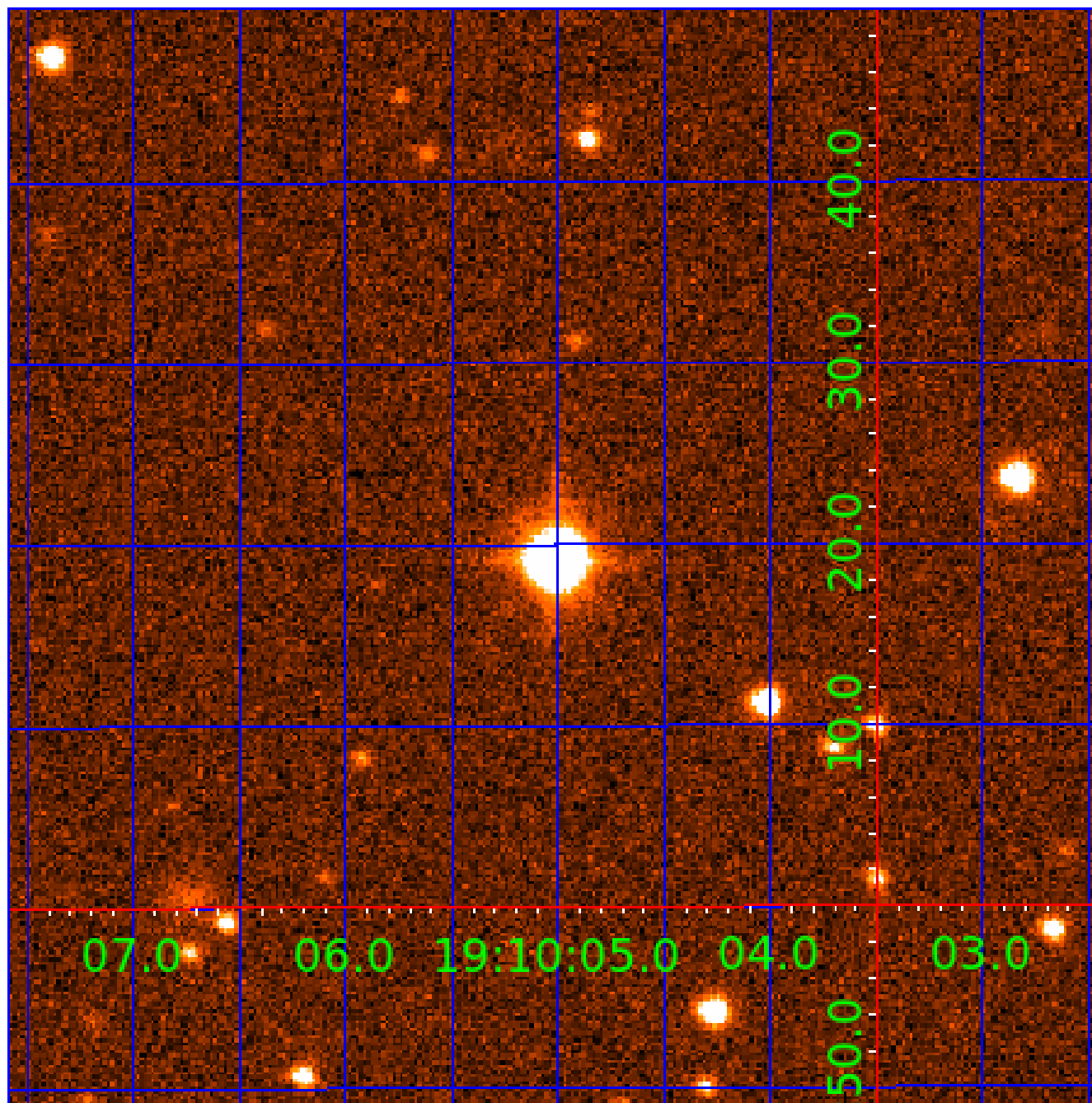


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003430610

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})
003430610-01	OBS	No	487.910735	198.798804	775.4	6.271	15.6	3.9	1.55	5915	4.57	1.91
003430610-02	OBS	No	492.626577	201.177145	618.3	8.590	14.5	2.9	1.55	5915	3.88	1.88
003430610-03	OBS	No	458.430089	464.666904	1381.5	11.002	14.7	6.3	1.55	5915	5.80	2.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003430610-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003430610-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003430610-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

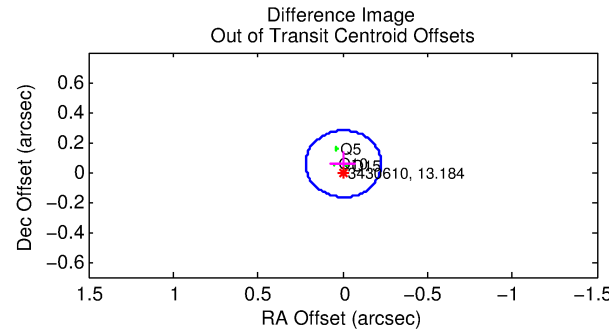
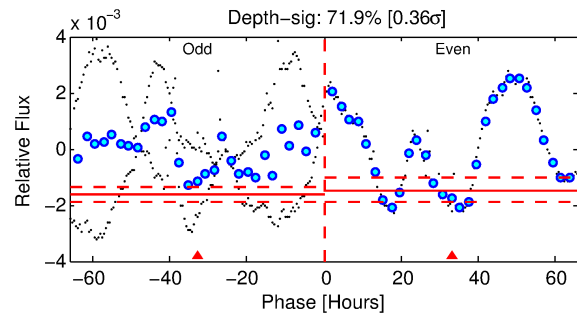
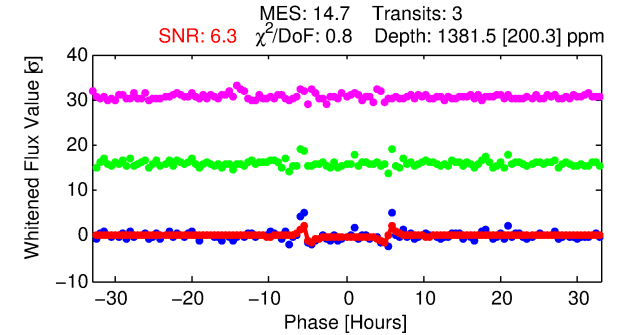
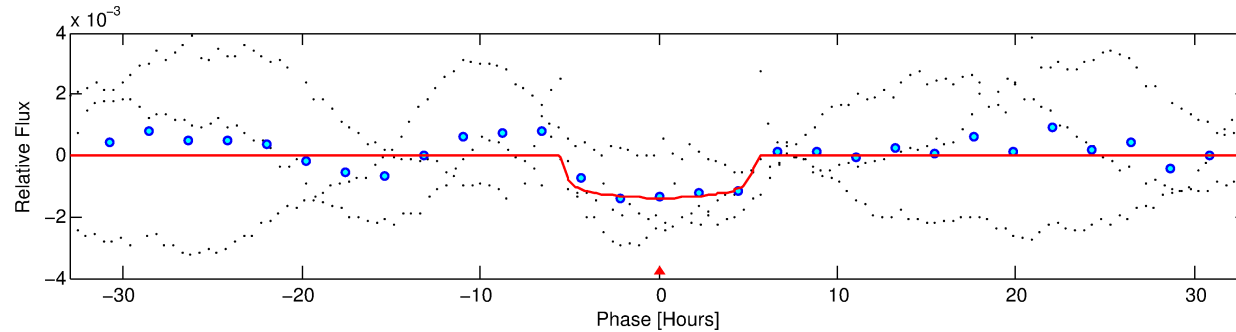
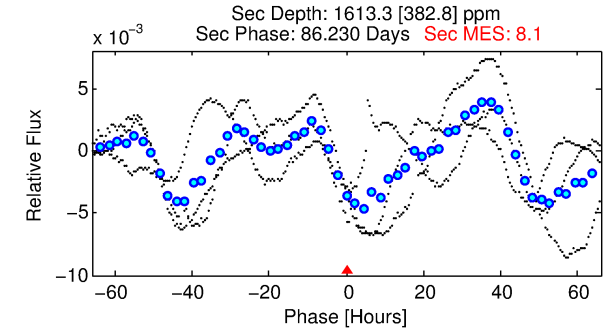
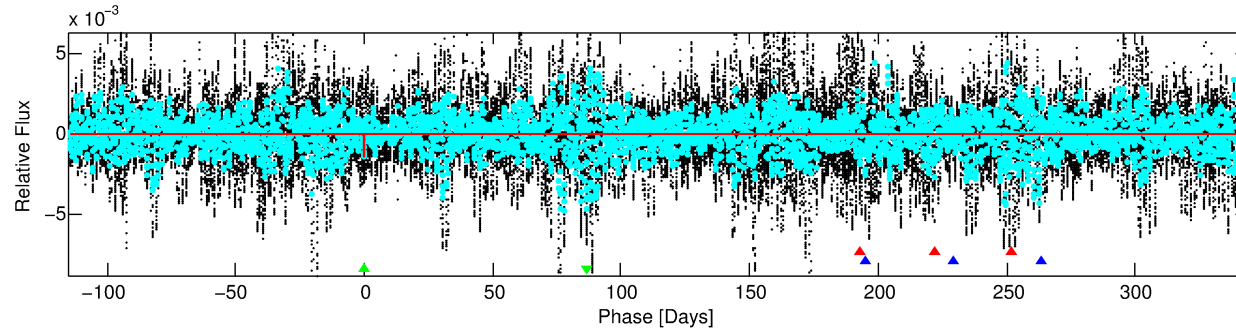
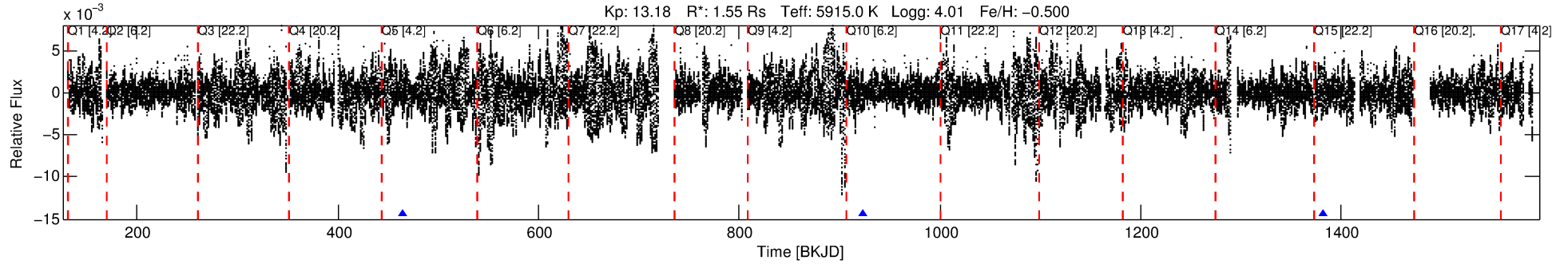
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003430610-03

No Significant Match Found

DV One-Page Summary

KIC: 3430610 Candidate: 3 of 3 Period: 458.430 d



DV Fit Results:

Period = 458.43009 [0.00257] d
Epoch = 464.6669 [0.0039] BKJD
Rp/R* = 0.0344 [0.0058]
a/R* = 313.25 [200.85]
b = 0.32 [1.80]
Seff = 2.07 [1.55]
Teq = 306 [57] K
Rp = 5.80 [2.66] Re
a = 1.1251 [0.4971] AU
Ag = 33361.28 [28112.07] [1.19 σ]
Teffp = 6394 [694] K [8.74 σ]

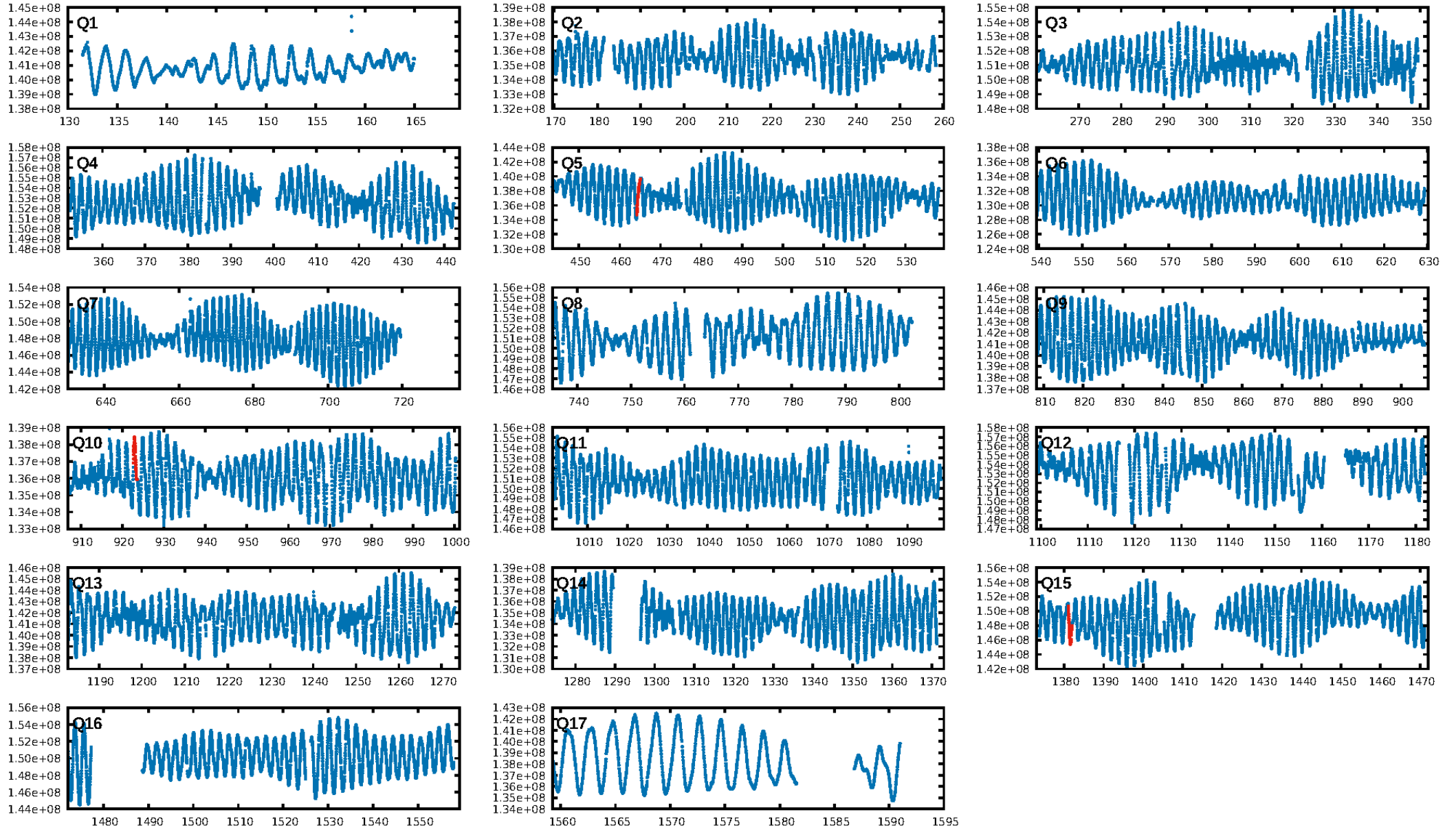
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [55.87 σ]
ModelChiSquare2-sig: 68.3%
ModelChiSquareGof-sig: 99.3%
Bootstrap-pfa: 8.02e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.044
Centroid-sig: 1.7%
Centroid-so: 0.578 arcsec [2.12 σ]
OotOffset-rm: 0.056 arcsec [0.75 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-rm: 0.072 arcsec [1.07 σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

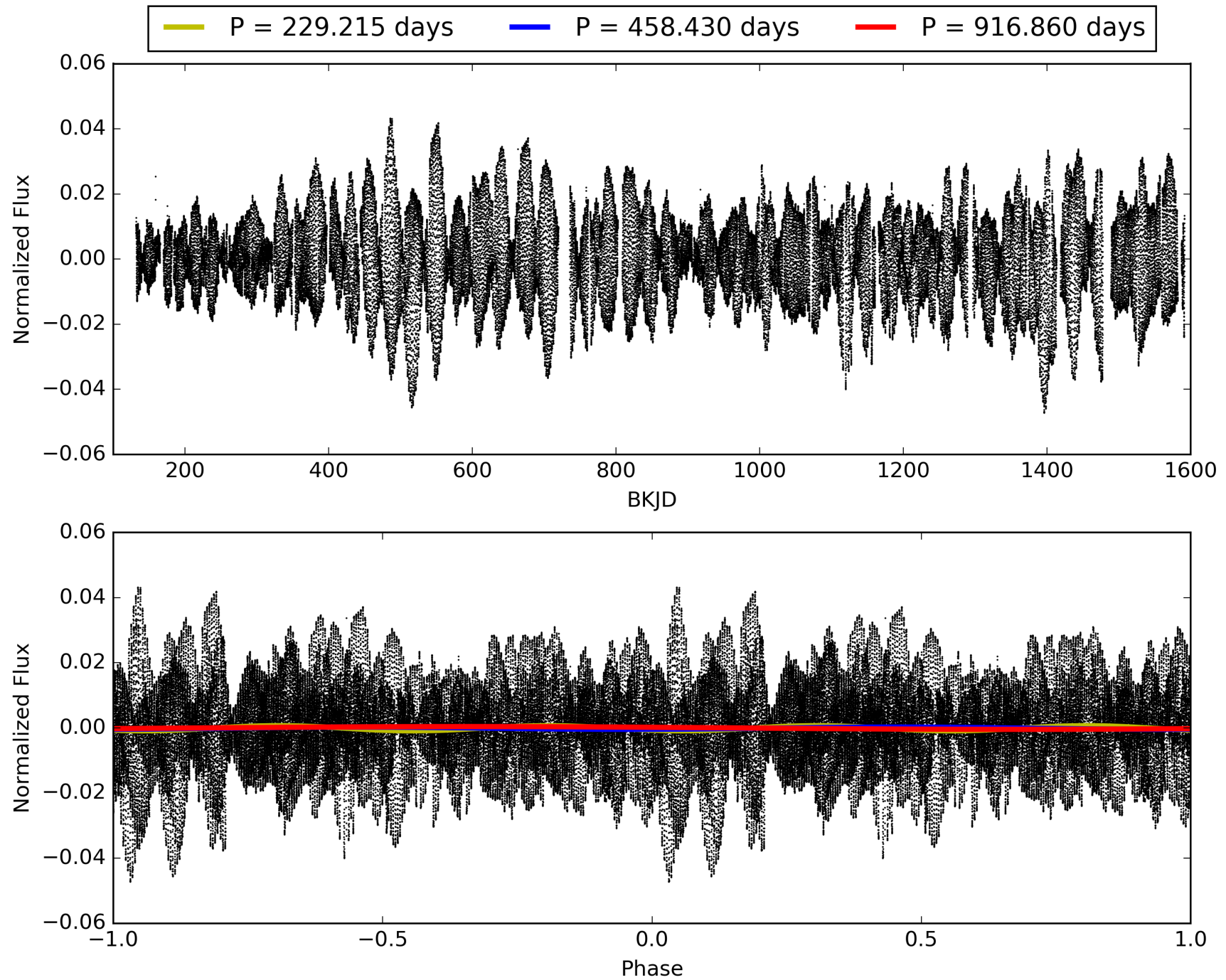
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 20:43:41 Z

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

TCE 003430610-03, PDC Light Curves

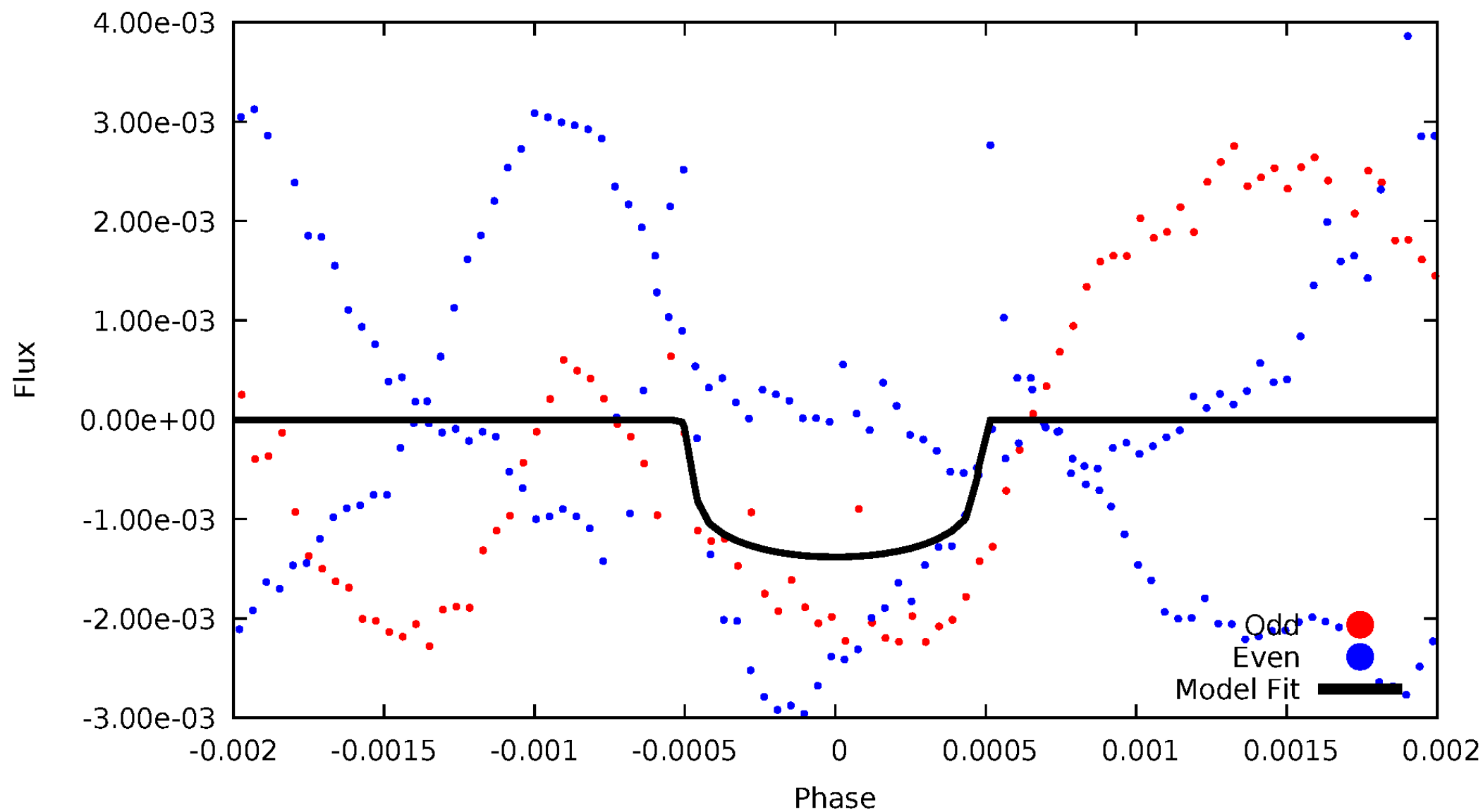


TCE 003430610-03



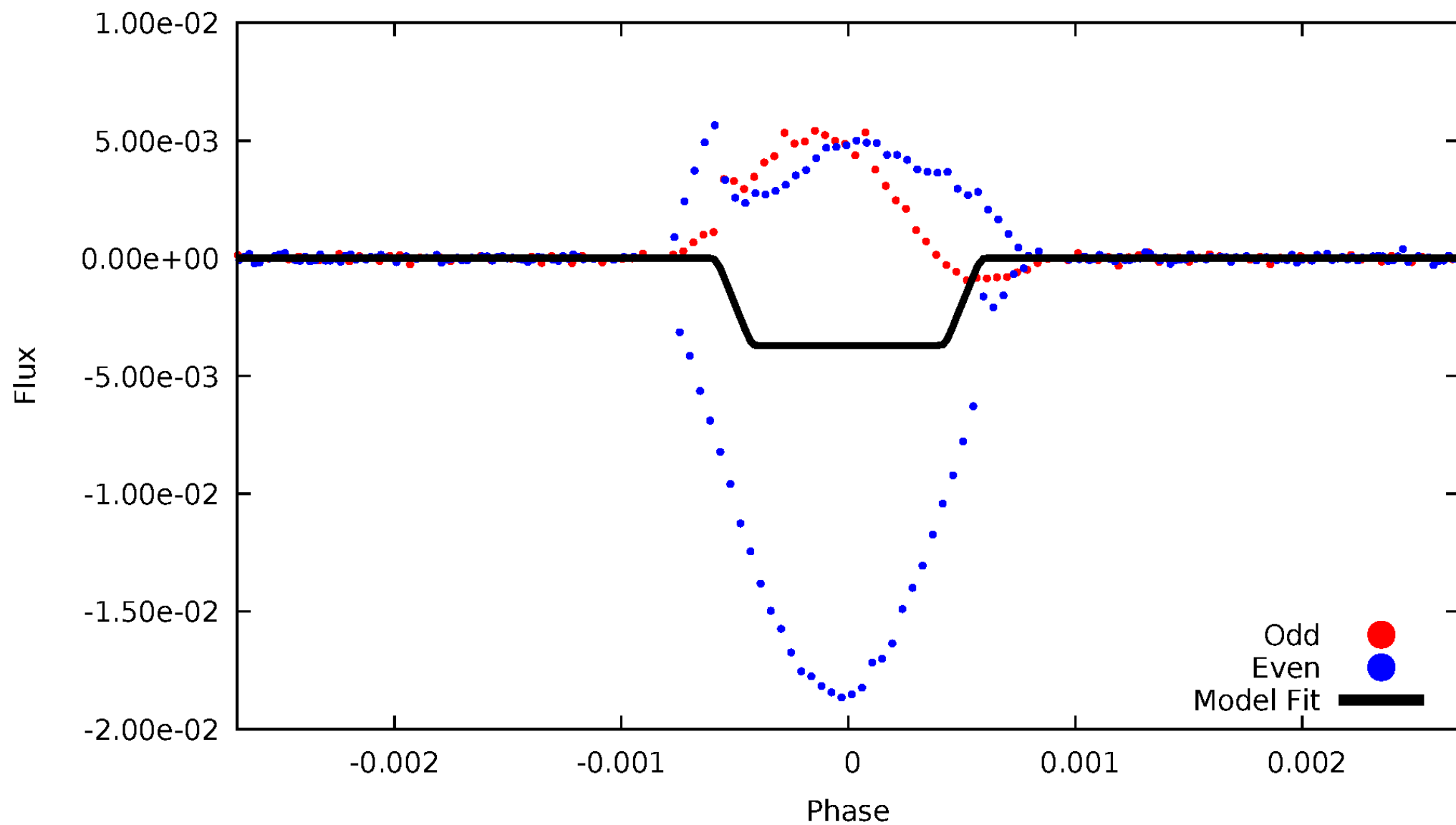
DV Odd/Even

TCE 003430610-03



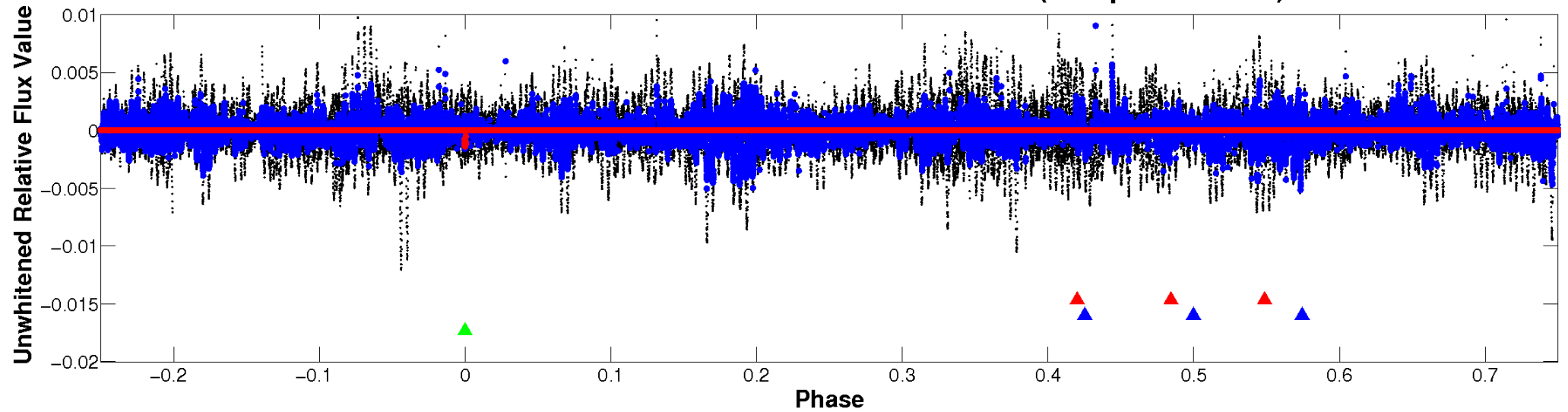
ALT Odd/Even

TCE 003430610-03

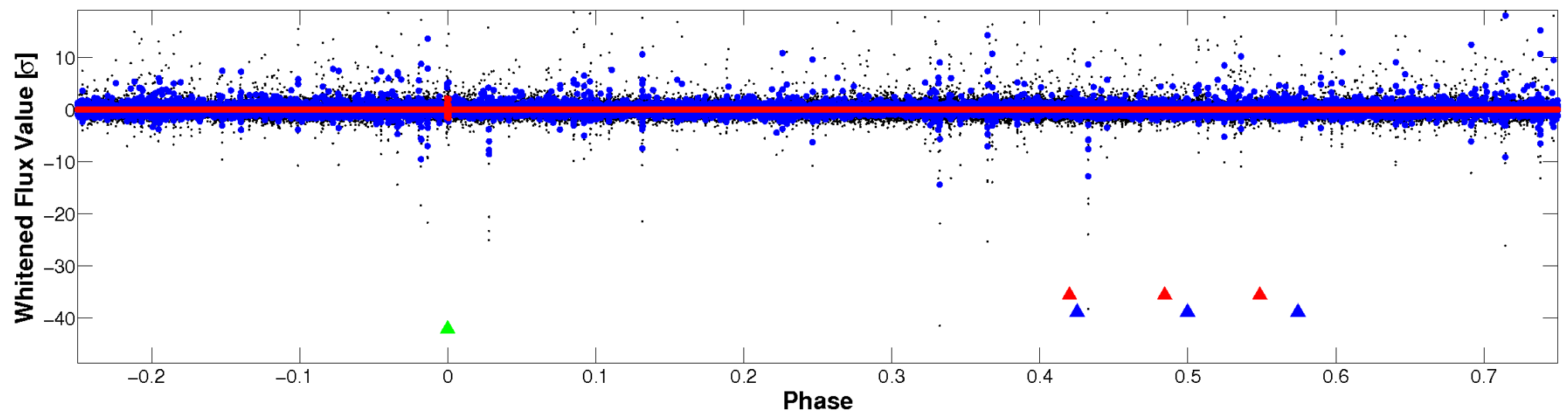


Non-Whitened Vs. Whitened Light Curve

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

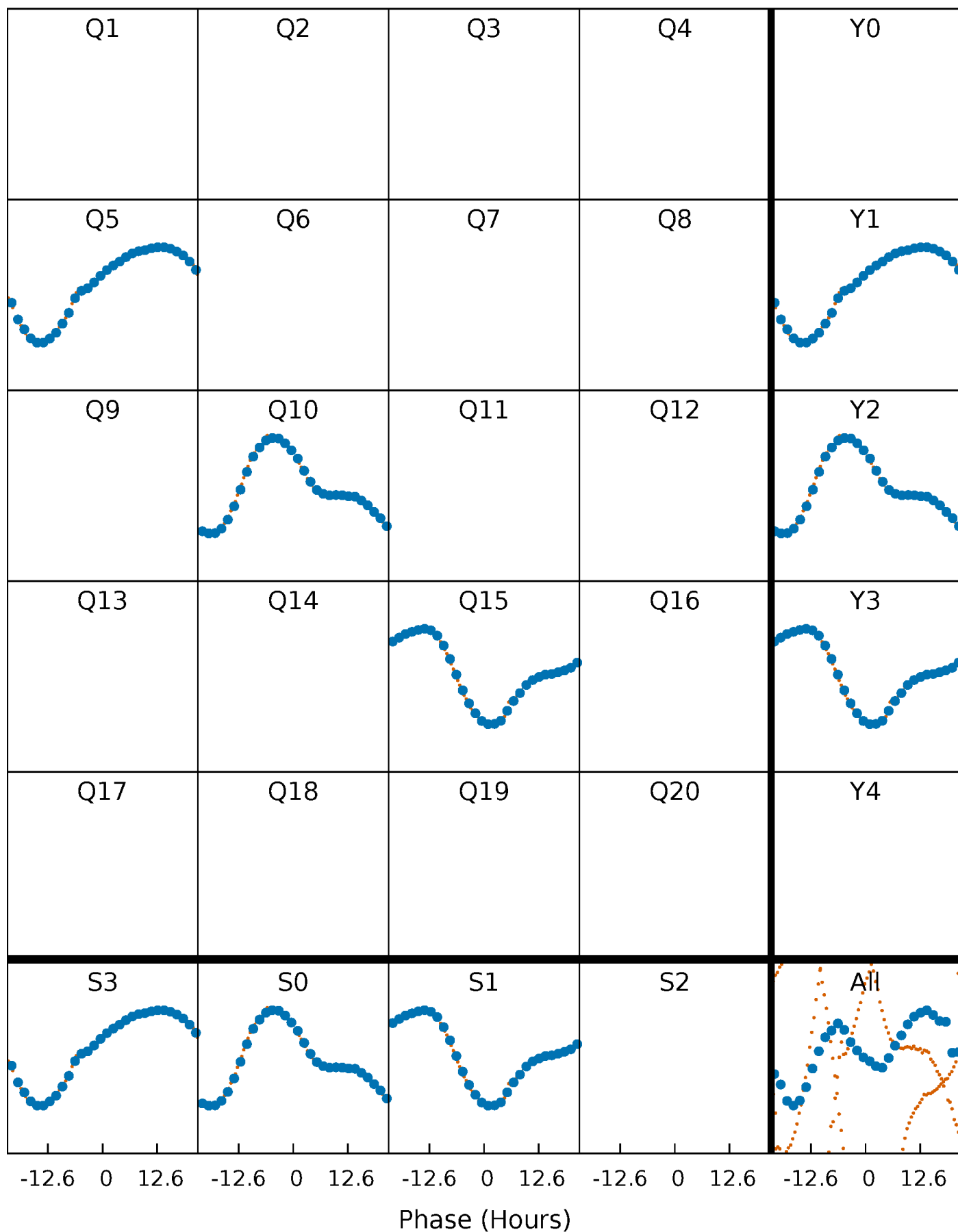


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



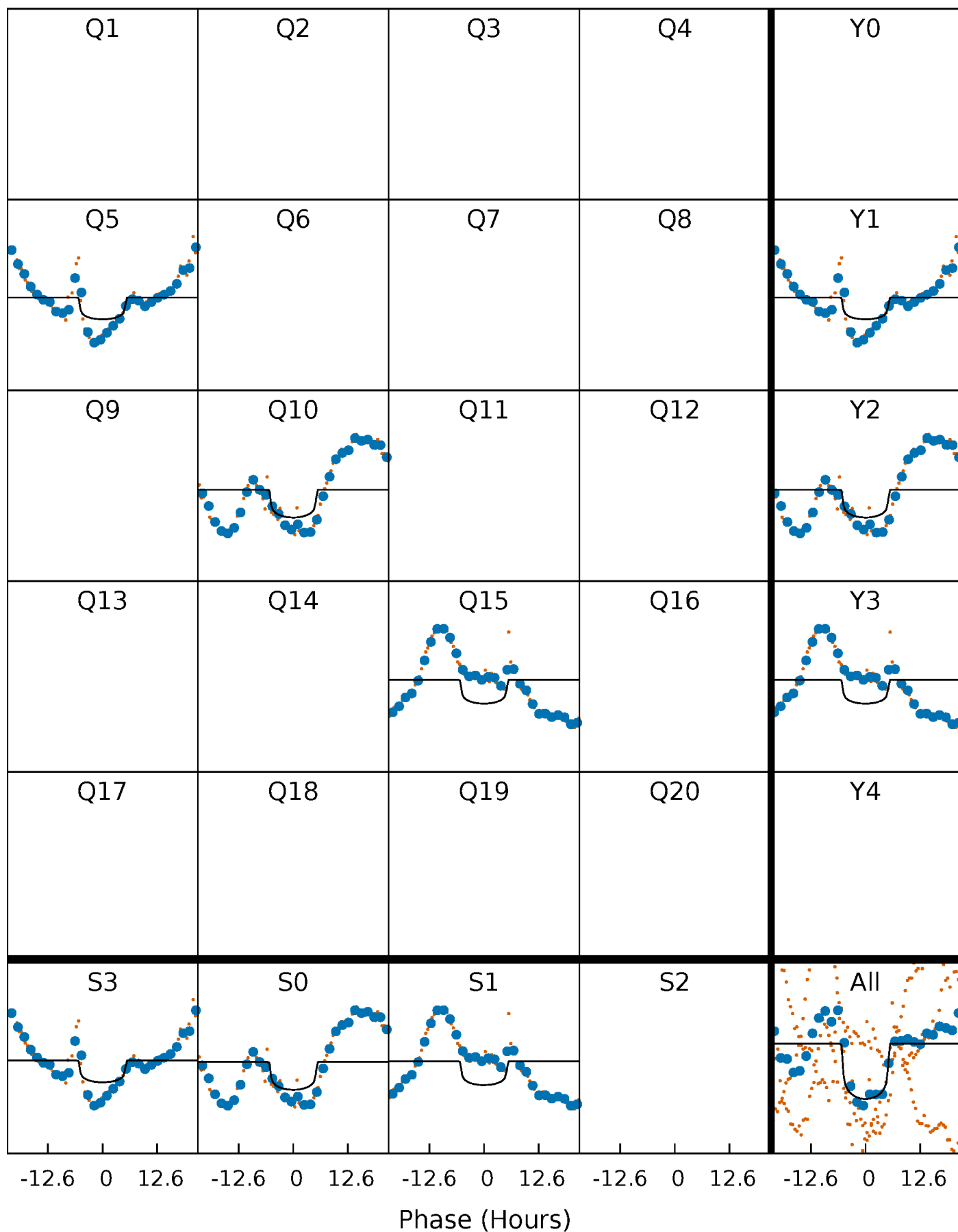
PDC Quarter-Phased Transit Curves

TCE 003430610-03 P=458.430089 Days $T_0=464.666904$ (BKJD)



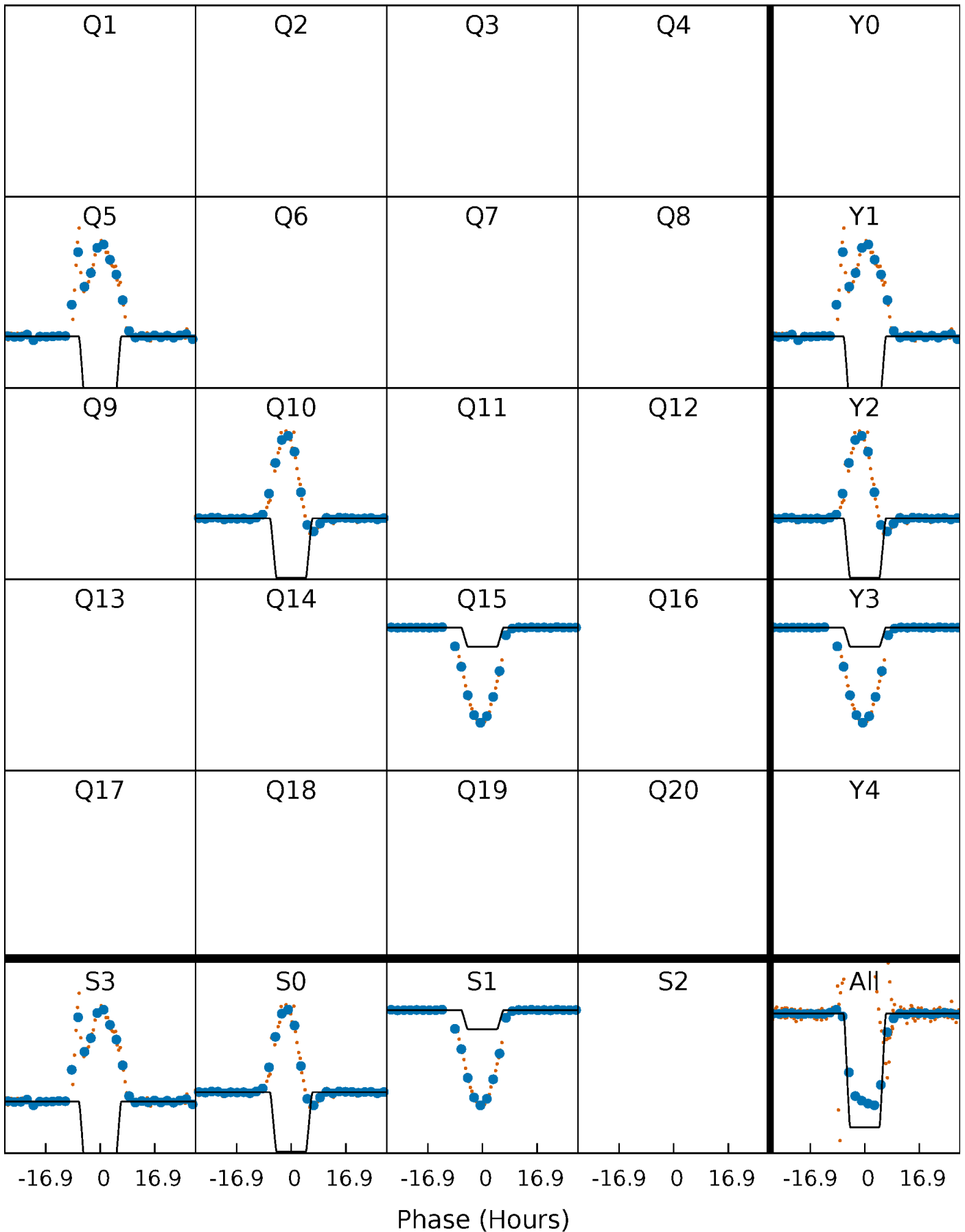
DV Quarter-Phased Transit Curves

TCE 003430610-03 $P=458.430089$ Days $T_0=464.666904$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

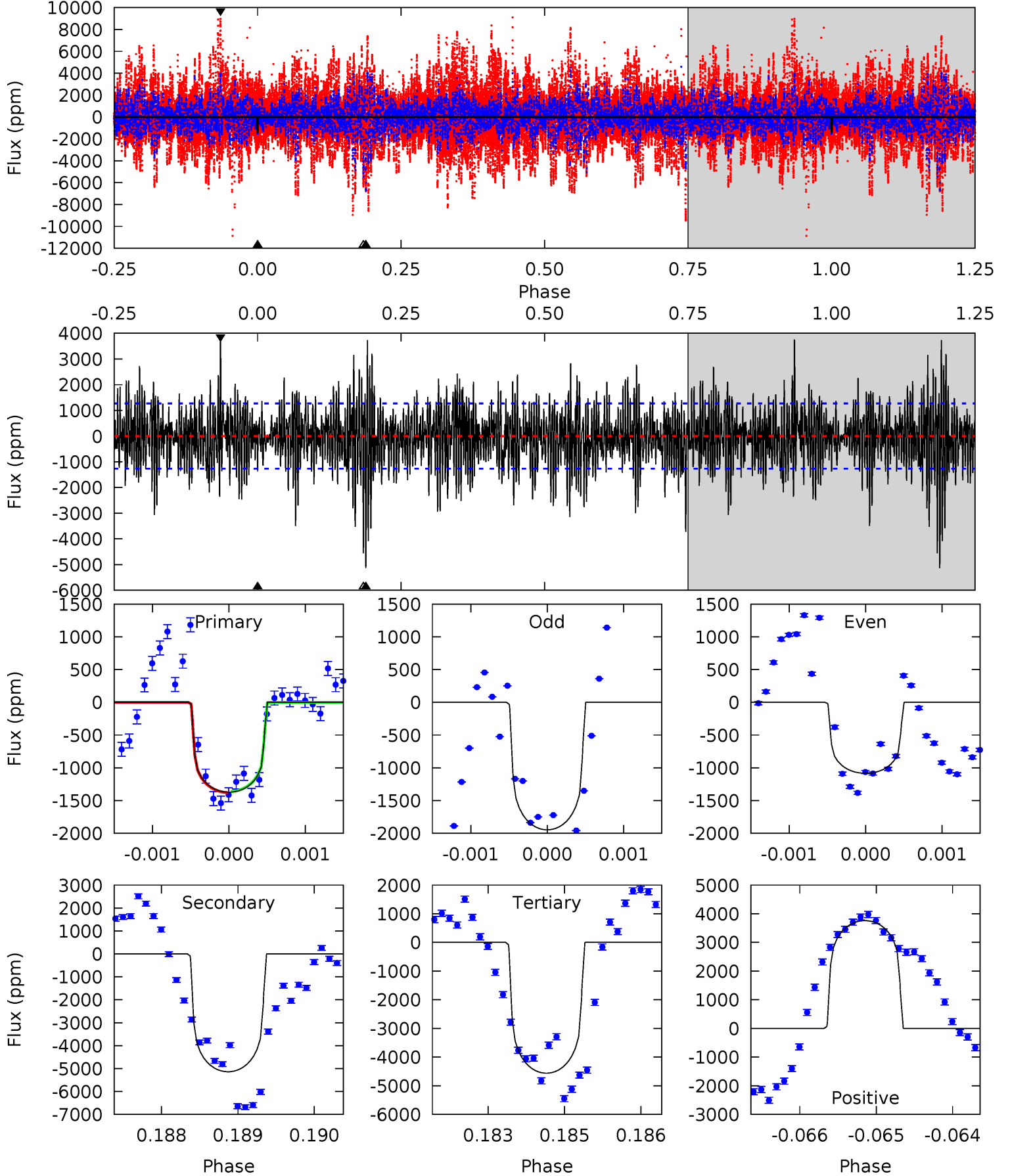
TCE 003430610-03 P=458.392863 Days $T_0=464.705152$ (BKJD)



DV Model-Shift Uniqueness Test

003430610-03, P = 458.430089 Days, E = 6.236815 Days

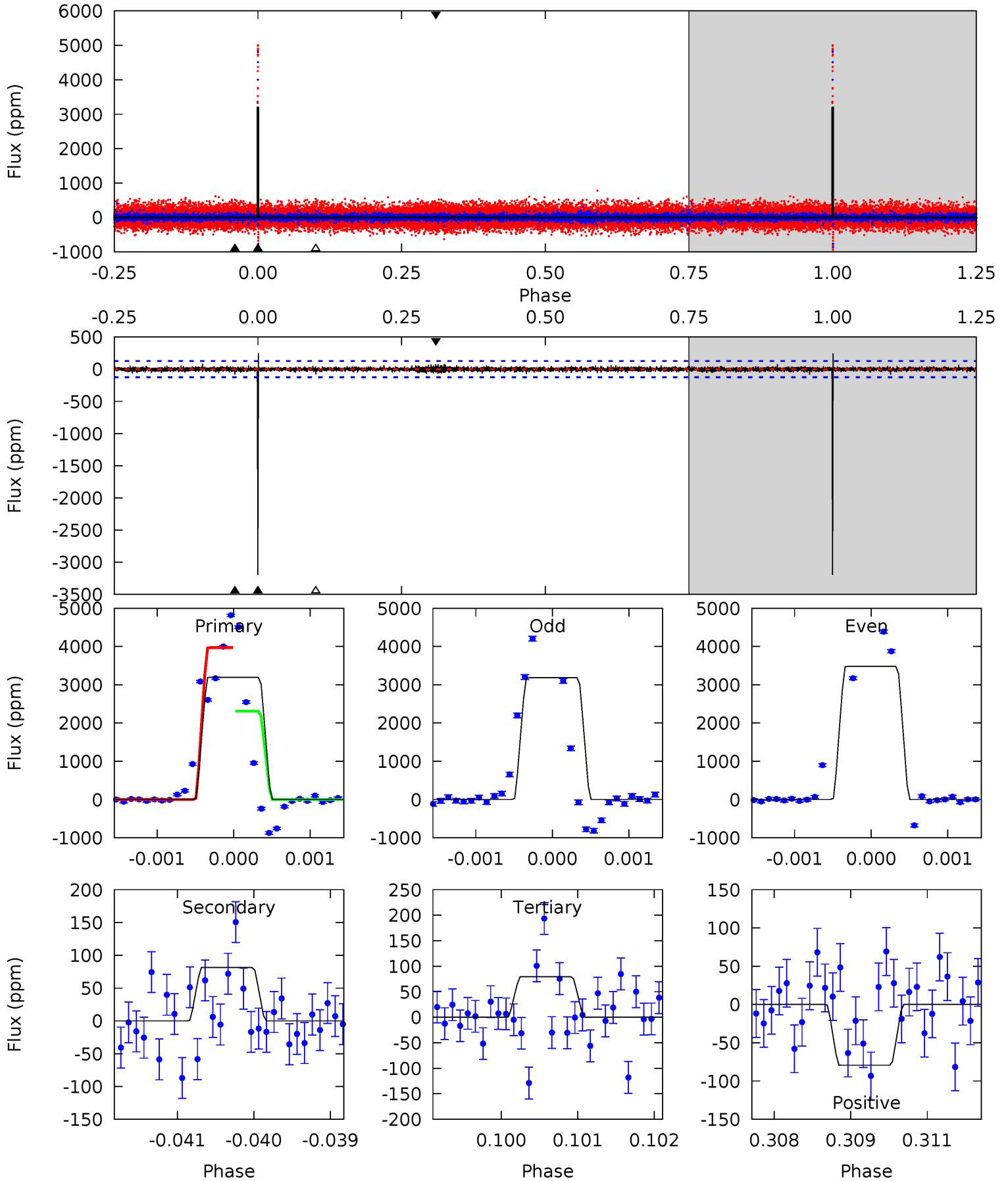
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.90	22.1	19.6	16.2	5.45	3.28	4.33	-13.7	-10.3	2.49	5.93	1.72	0.70	0.42	0.04



Alt Model-Shift Uniqueness Test

003430610-03, P = 458.392863 Days, E = 6.312289 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
137.3	3.50	3.42	3.41	5.42	3.24	0.66	133.9	133.9	0.08	0.09	8.11	-0.80	0.07	35.8



Stellar Parameters For KIC 003430610

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5915^{+195}_{-177}	$4.015^{+0.441}_{-0.157}$	$-0.500^{+0.300}_{-0.250}$	$1.547^{+0.440}_{-0.659}$	$0.903^{+0.114}_{-0.103}$	$0.344^{+1.352}_{-0.175}$
	+3%/-3%	+11%/-4%	+60%/-50%	+28%/-43%	+13%/-11%	+393%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003430610-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5140 ± 233	$5.41^{+1.50}_{-1.50}$	420^{+36}_{-49}	9110^{+1349}_{-963}	$123056^{+107691}_{-48215}$
Alt.	-81 ± 23	$9.84^{+2.03}_{-2.19}$	420^{+33}_{-47}	2958^{+164}_{-167}	598^{+427}_{-237}

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

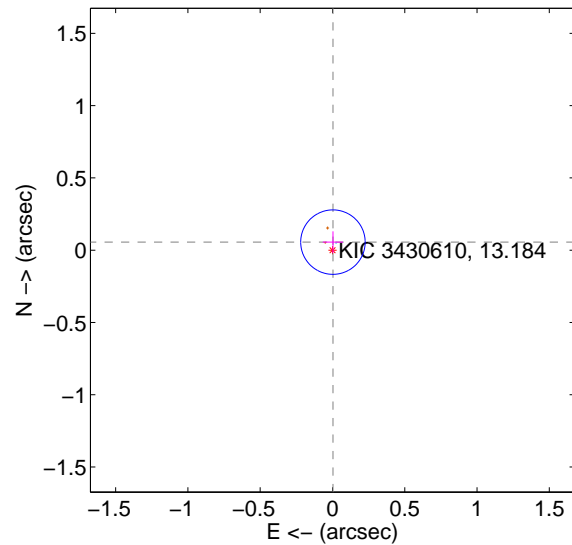
Supplemental centroid analysis for 003430610-03. Kepler magnitude: 13.18. Transit SNR 6.29

There are 1 quarters with good PRF difference image offsets

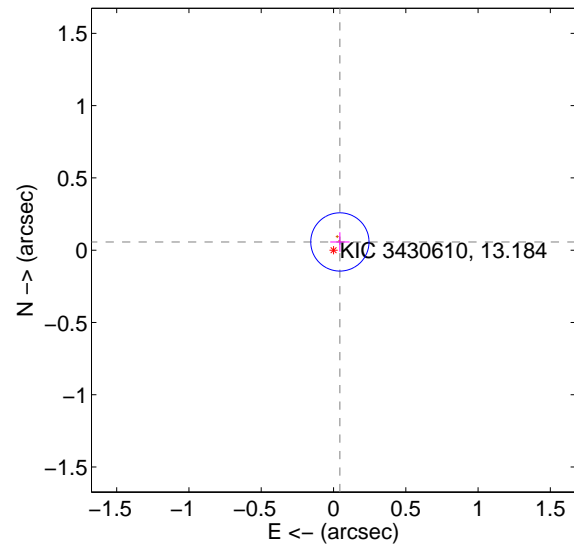
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.056 ± 0.074	0.75	-0.003 ± 0.070	0.056 ± 0.075
PRF-fit source offset from KIC position	0.072 ± 0.067	1.07	-0.044 ± 0.067	0.057 ± 0.067
photometric centroid source offset	0.58 ± 0.27	2.12	-0.55 ± 0.26	0.16 ± 0.37

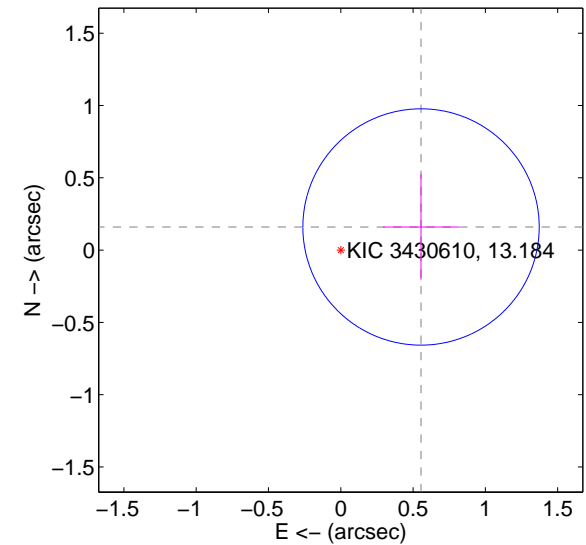
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

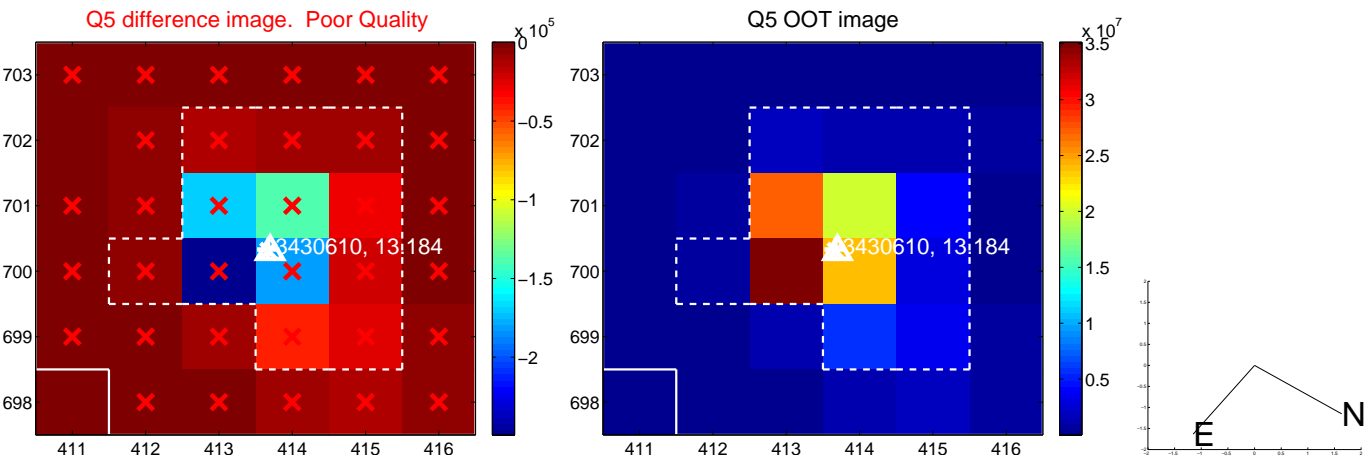


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

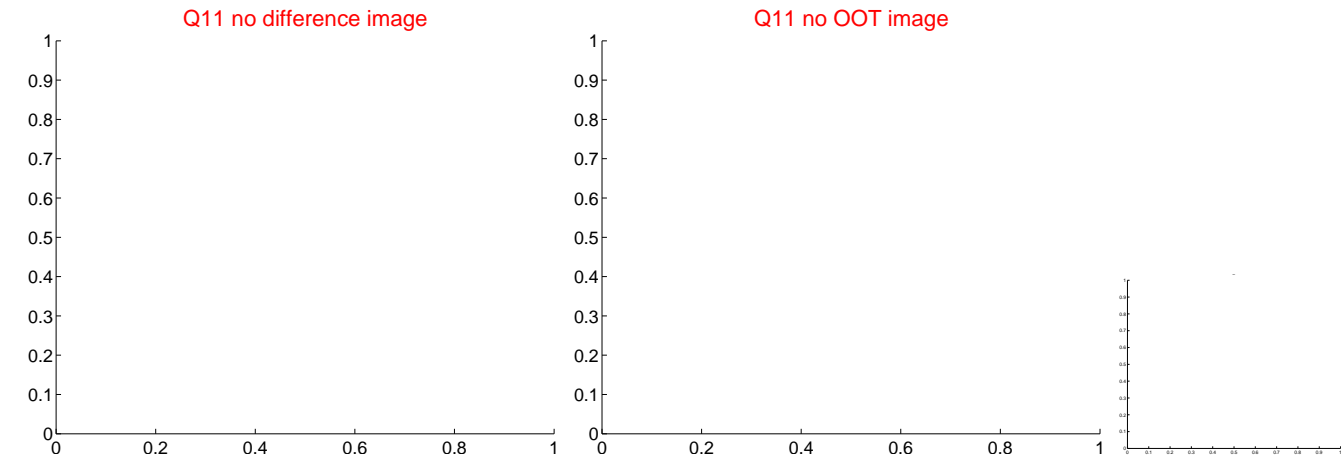
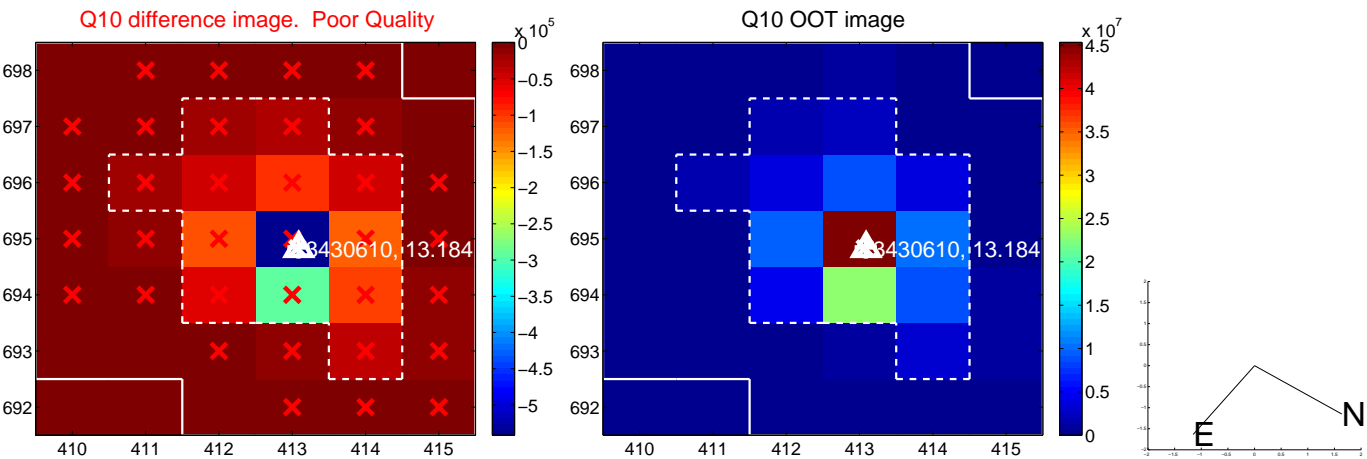
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



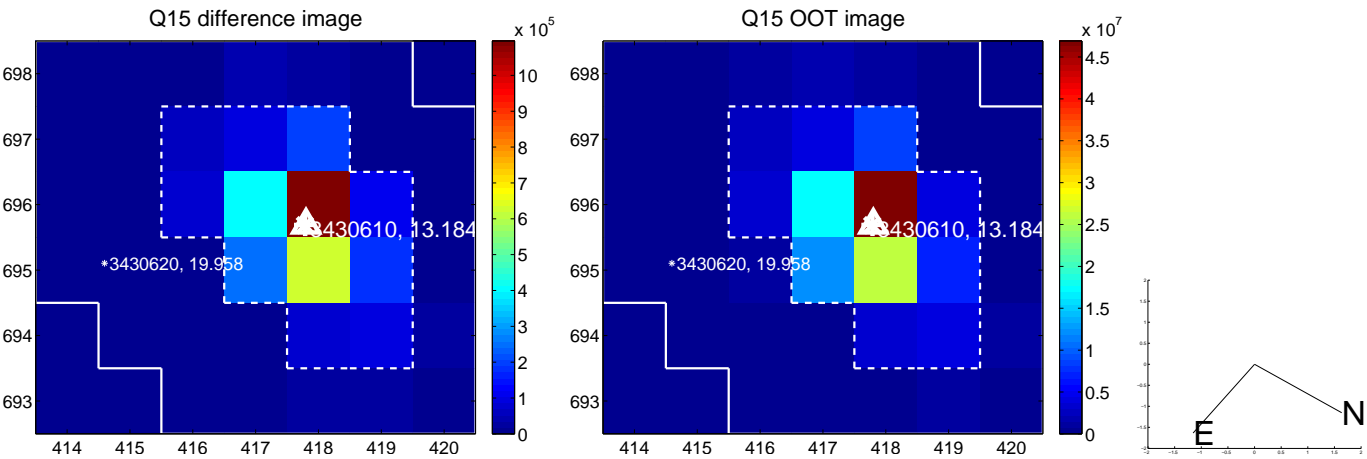
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



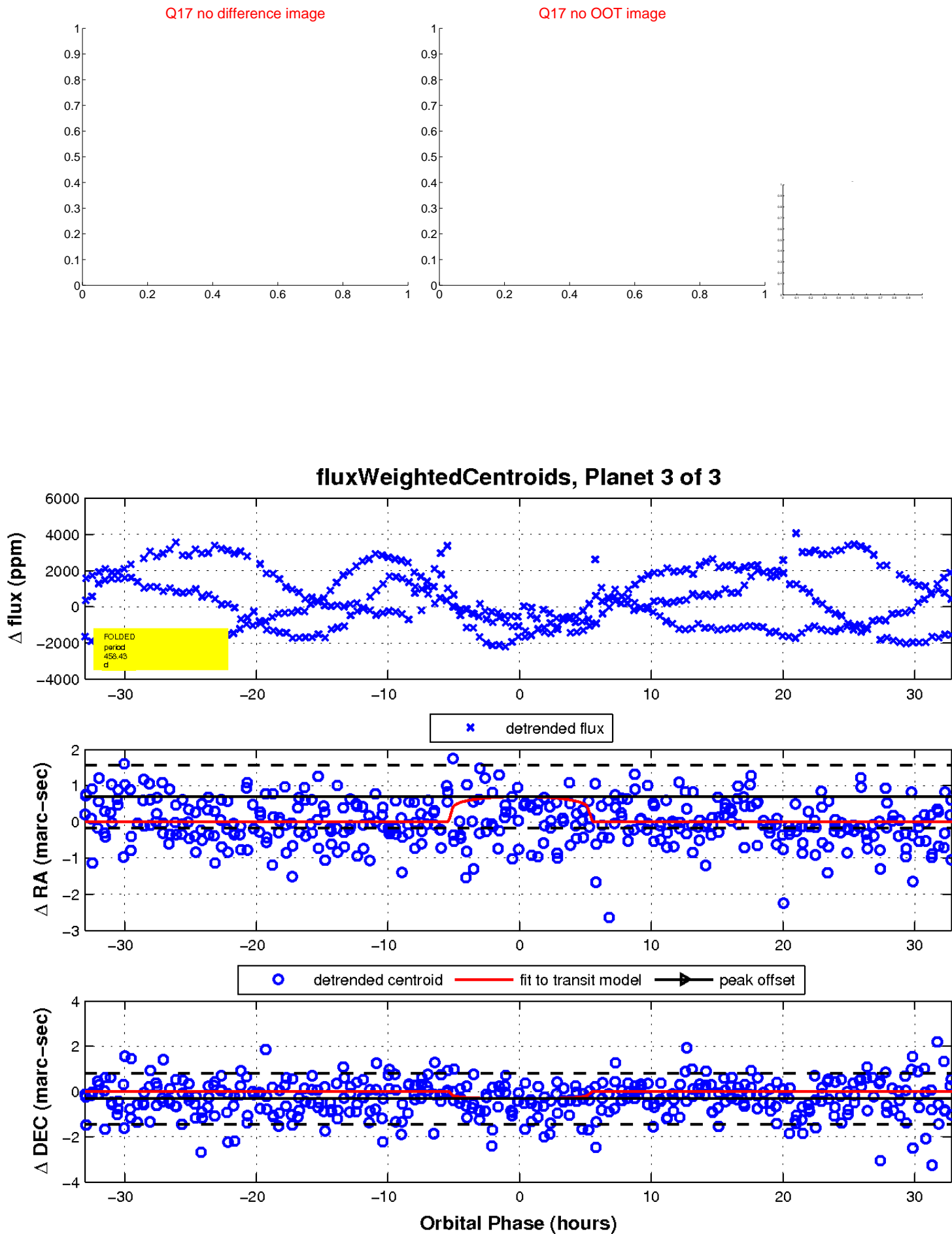
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

