

KIC 007433177

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})
007433177-01	OBS	No	508.283000	534.918595	929.5	2.593	13.3	8.7	2.95	5016	10.00	3.26
007433177-03	OBS	No	476.619557	302.914980	131.2	4.653	13.4	1.2	2.95	5016	3.31	3.56
007433177-04	OBS	No	504.350785	317.029150	886.6	3.087	10.1	8.1	2.95	5016	9.38	3.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007433177-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007433177-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007433177-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

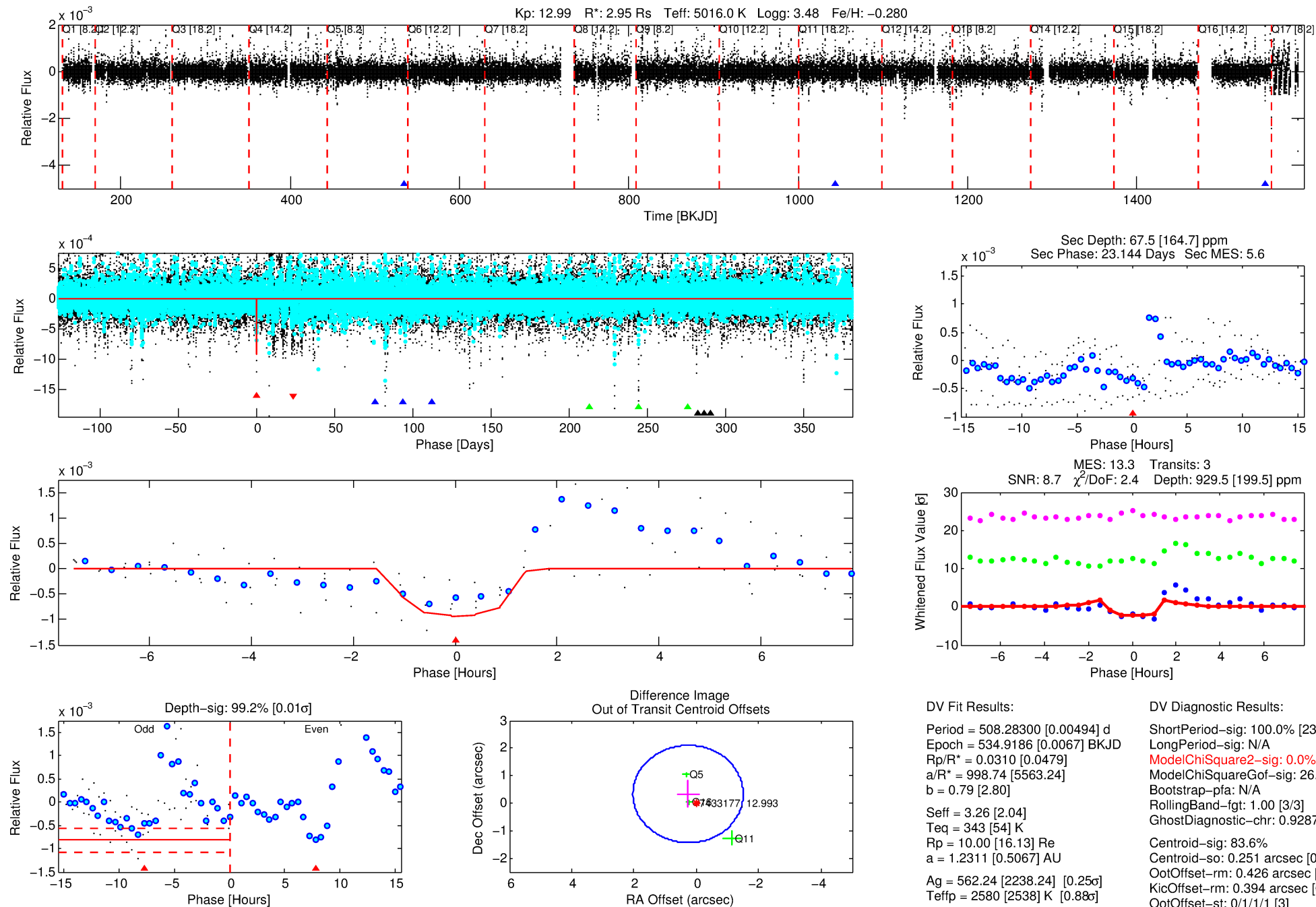
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007433177-01

No Significant Match Found

DV One-Page Summary

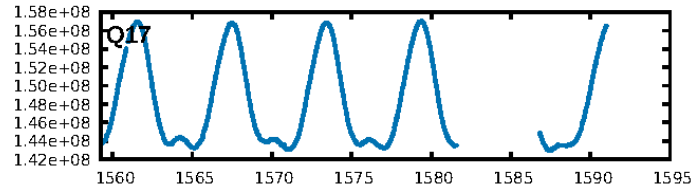
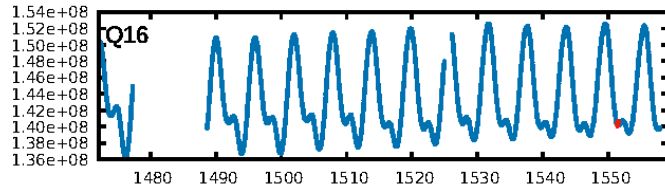
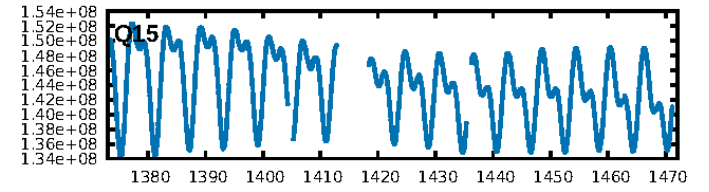
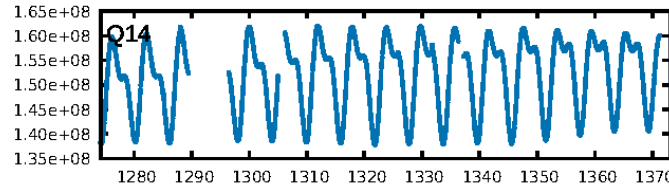
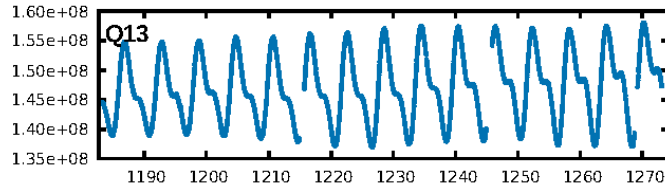
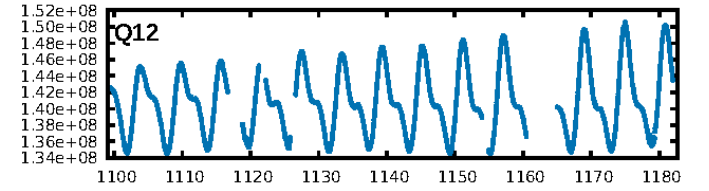
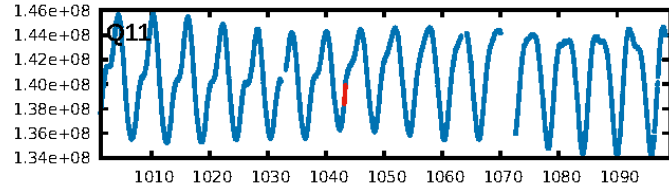
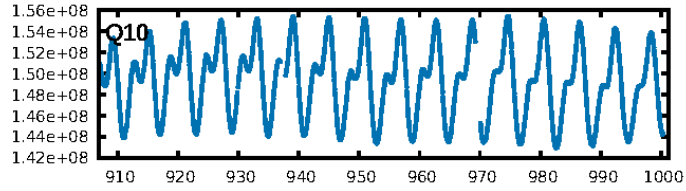
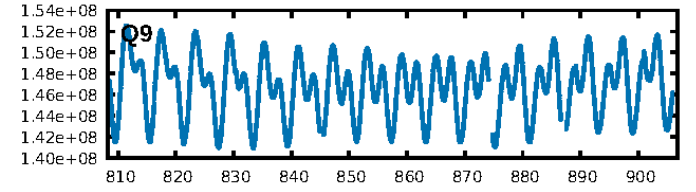
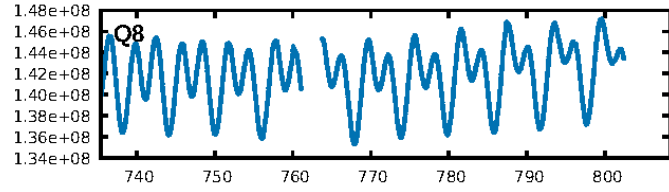
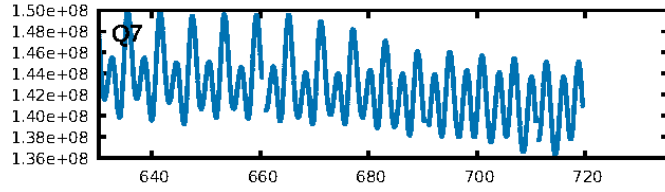
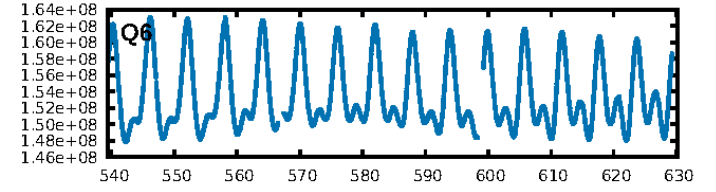
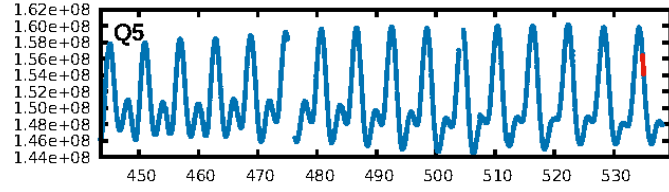
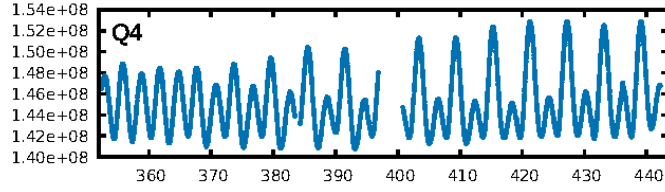
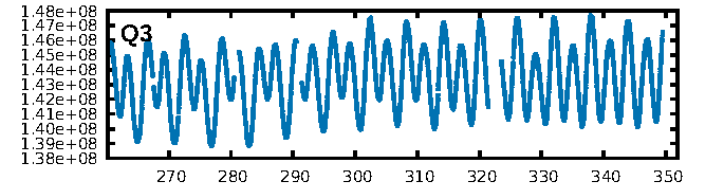
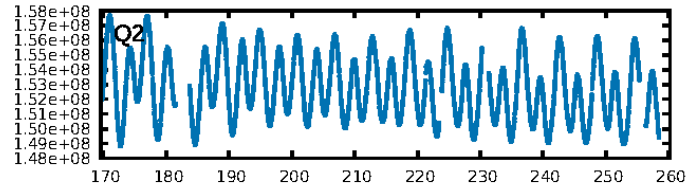
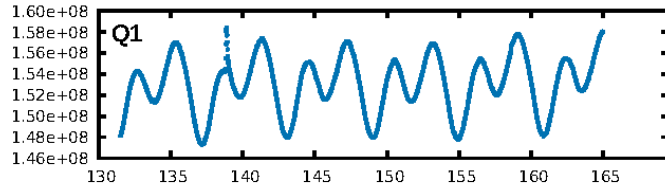
KIC: 7433177 Candidate: 1 of 4 Period: 508.283 d



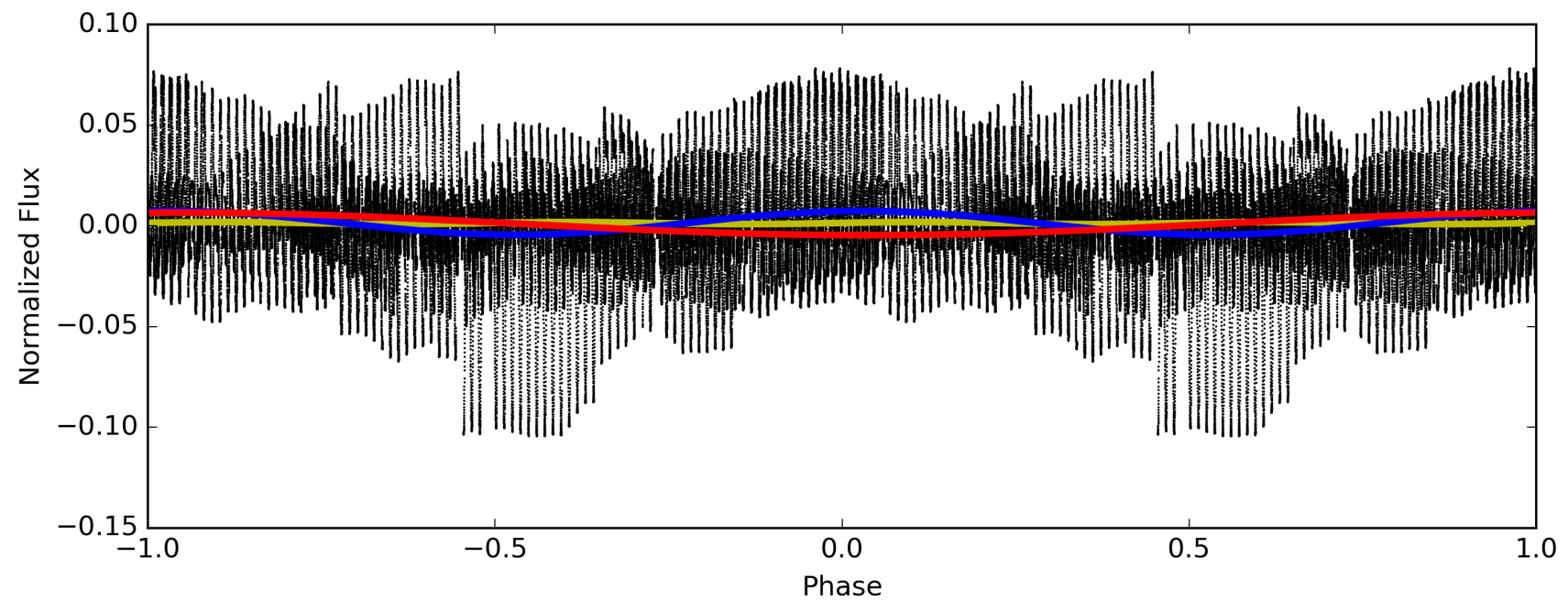
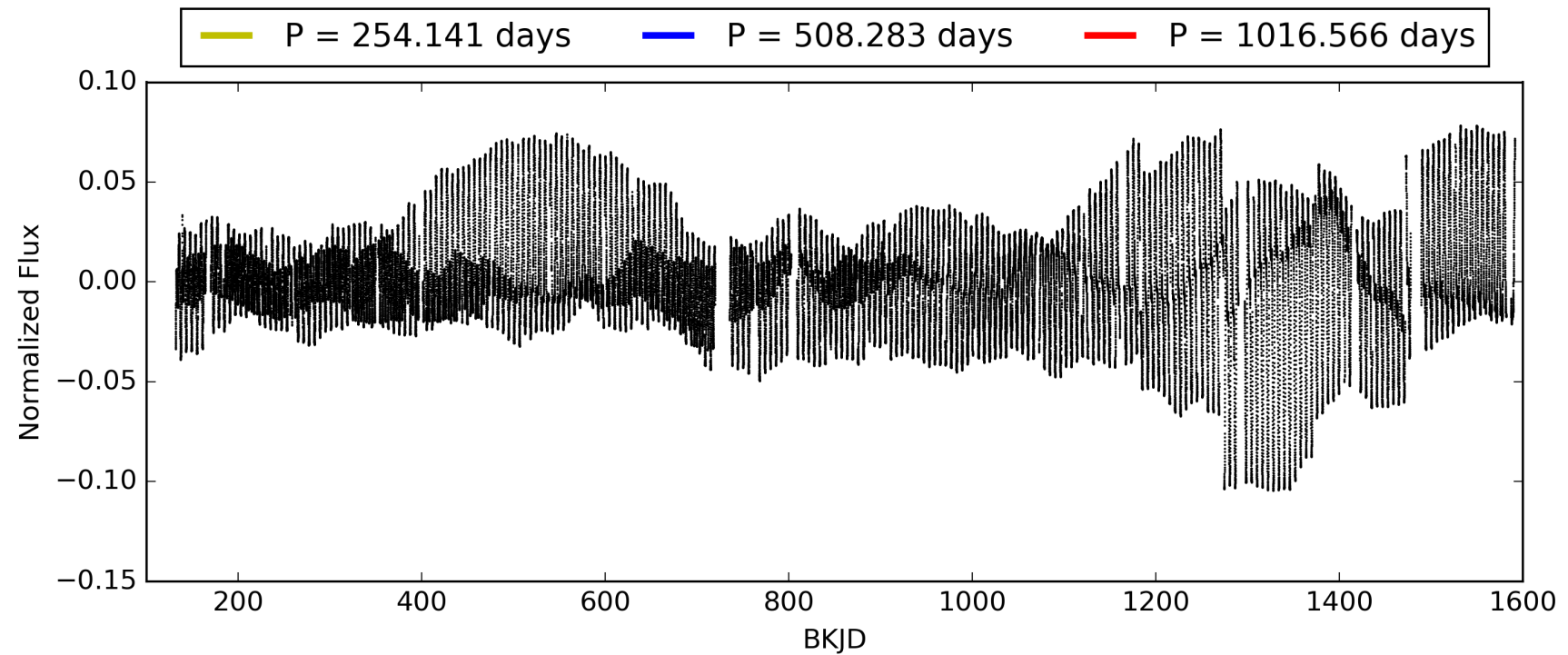
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007433177-01, PDC Light Curves

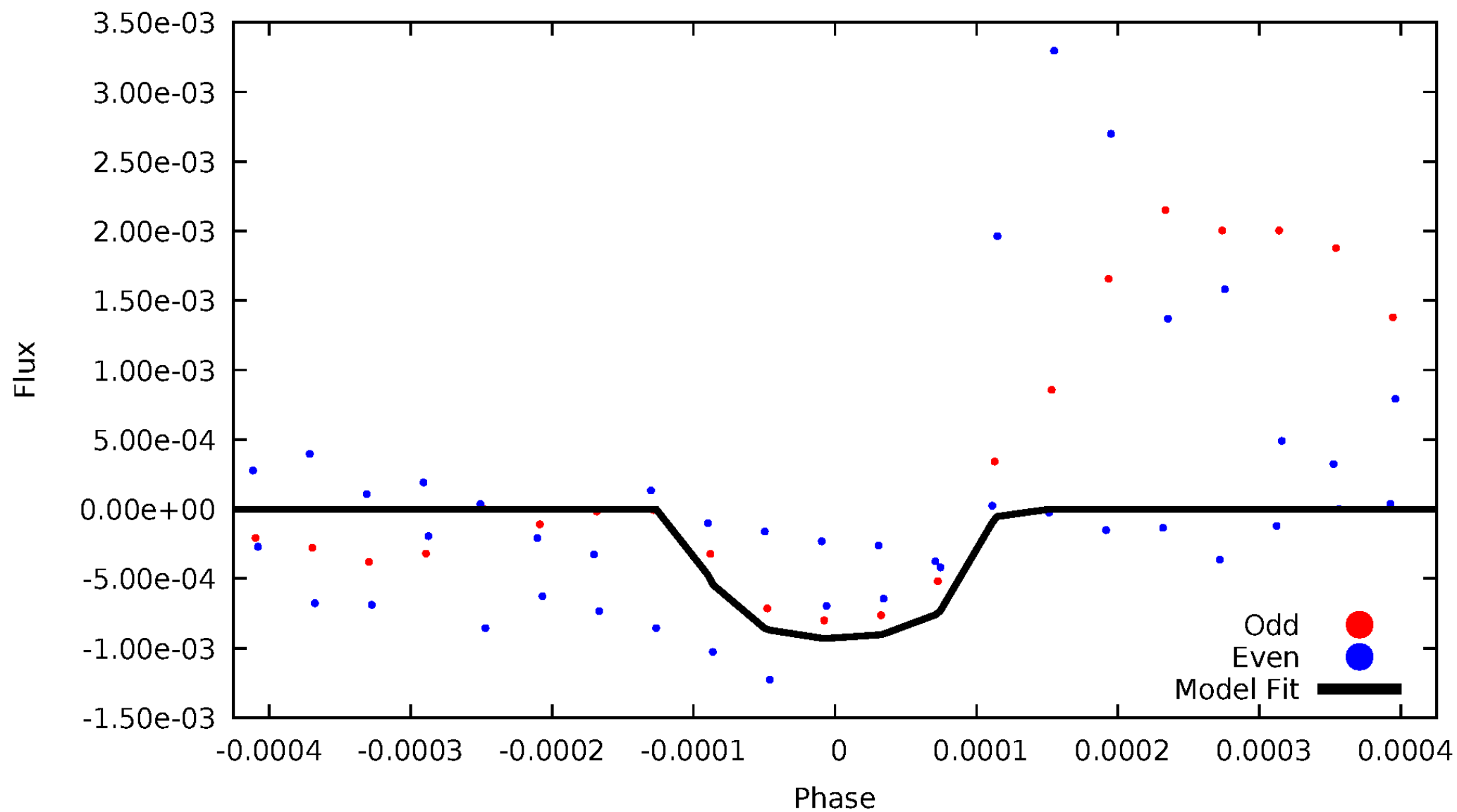


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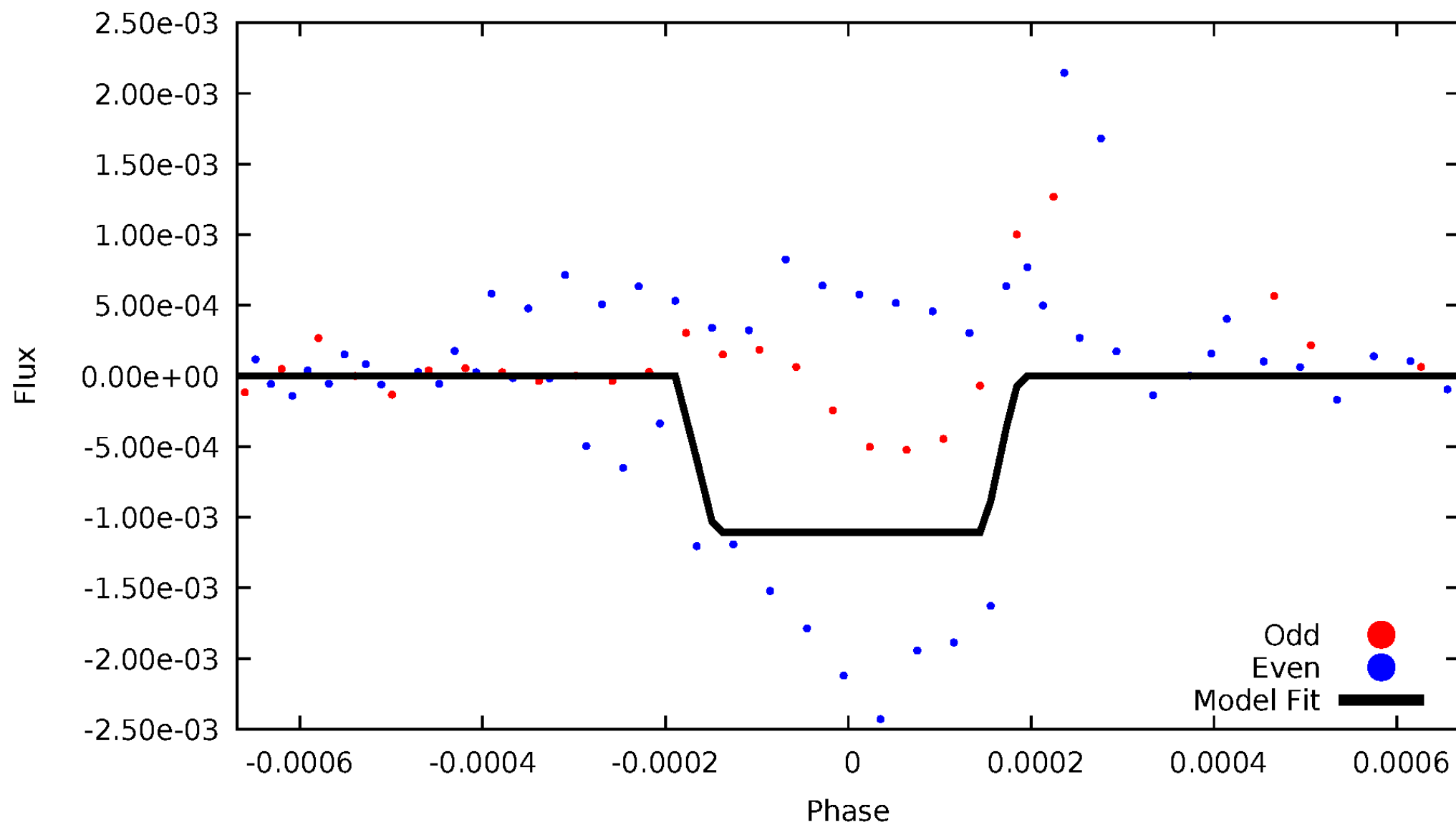
DV Odd/Even

TCE 007433177-01



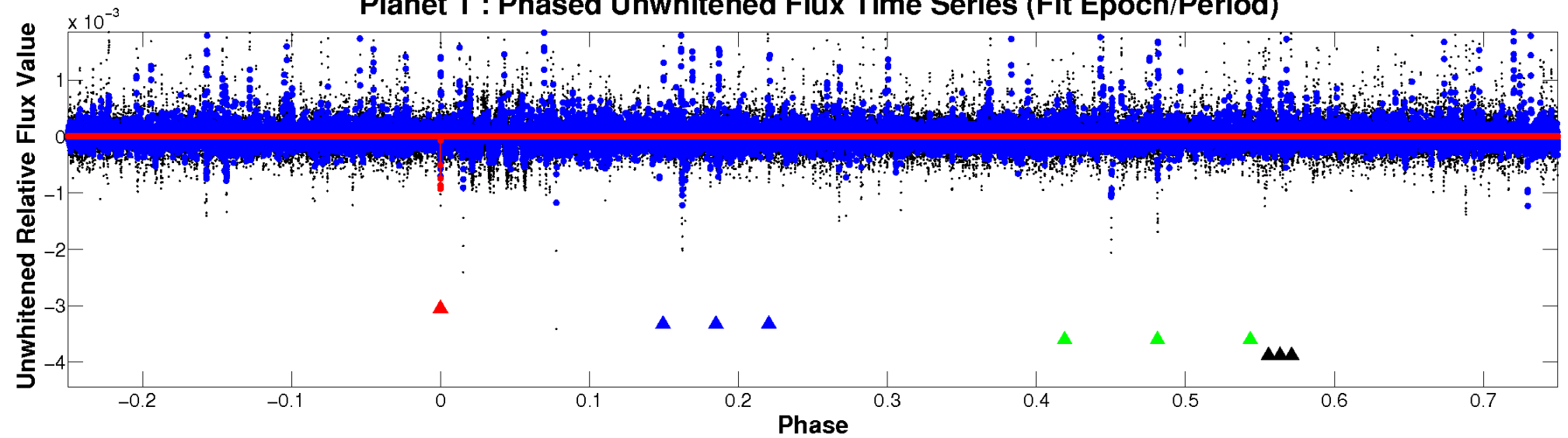
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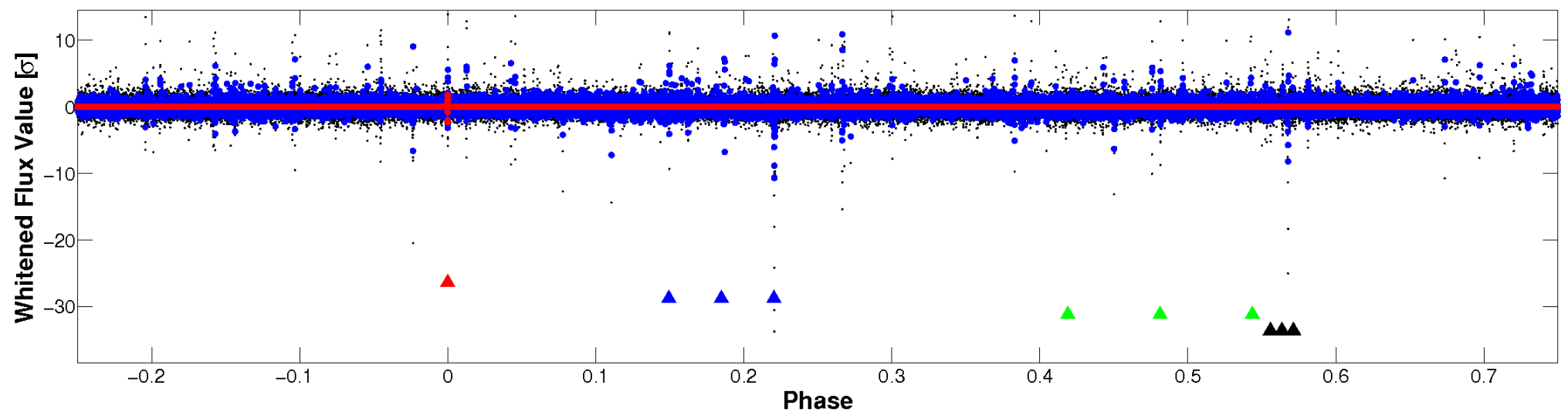


Non-Whitened Vs. Whitened Light Curve

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

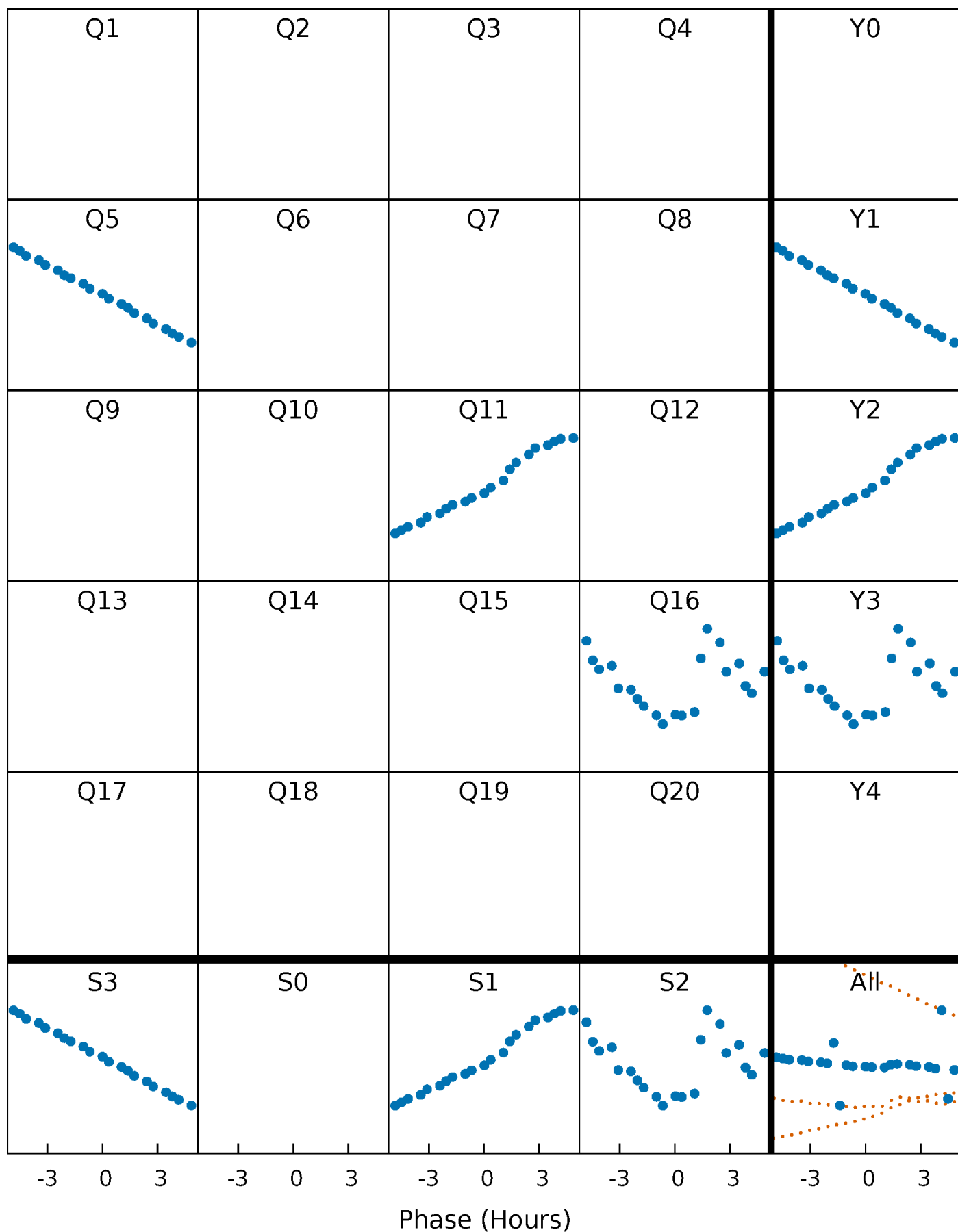


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



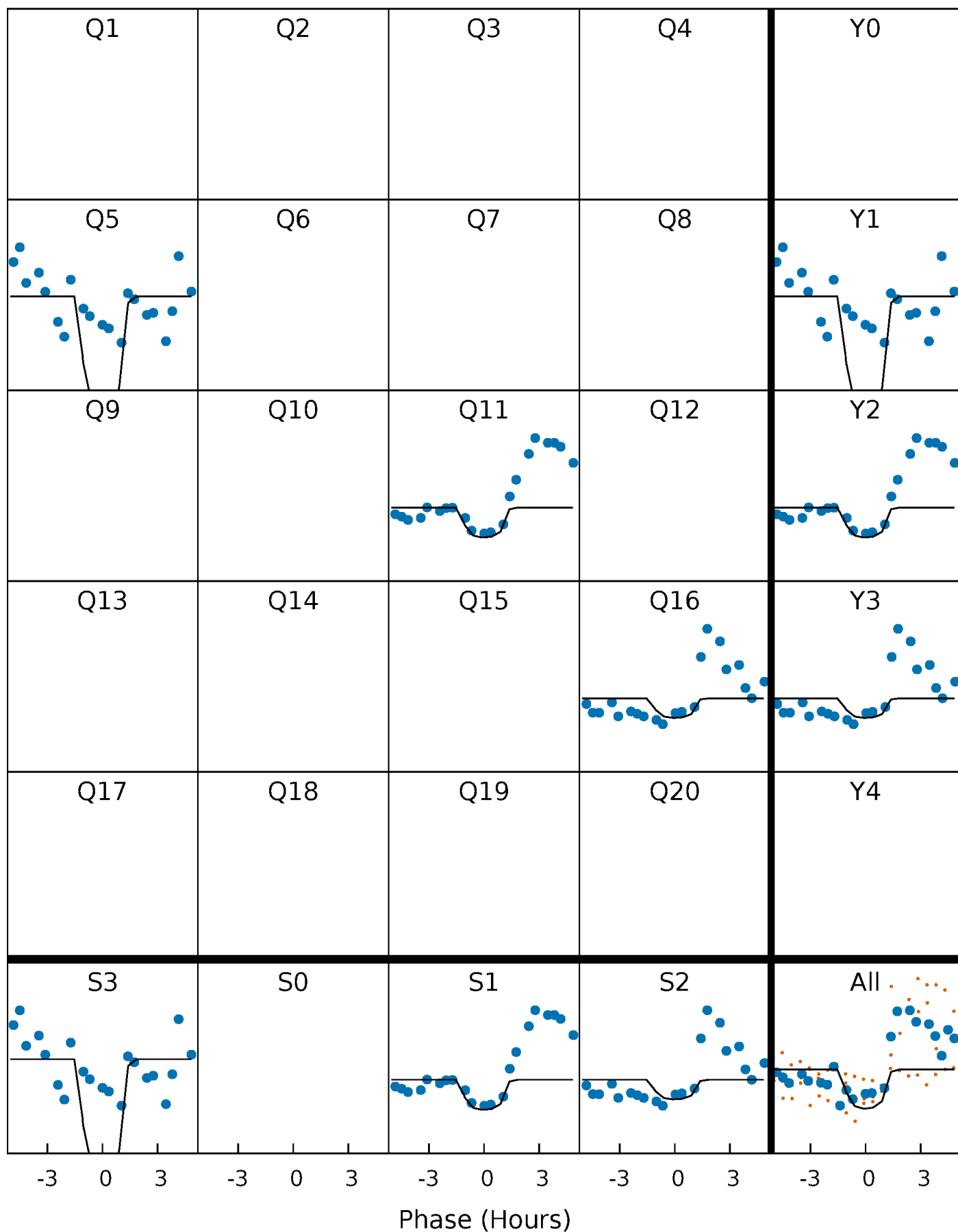
PDC Quarter-Phased Transit Curves

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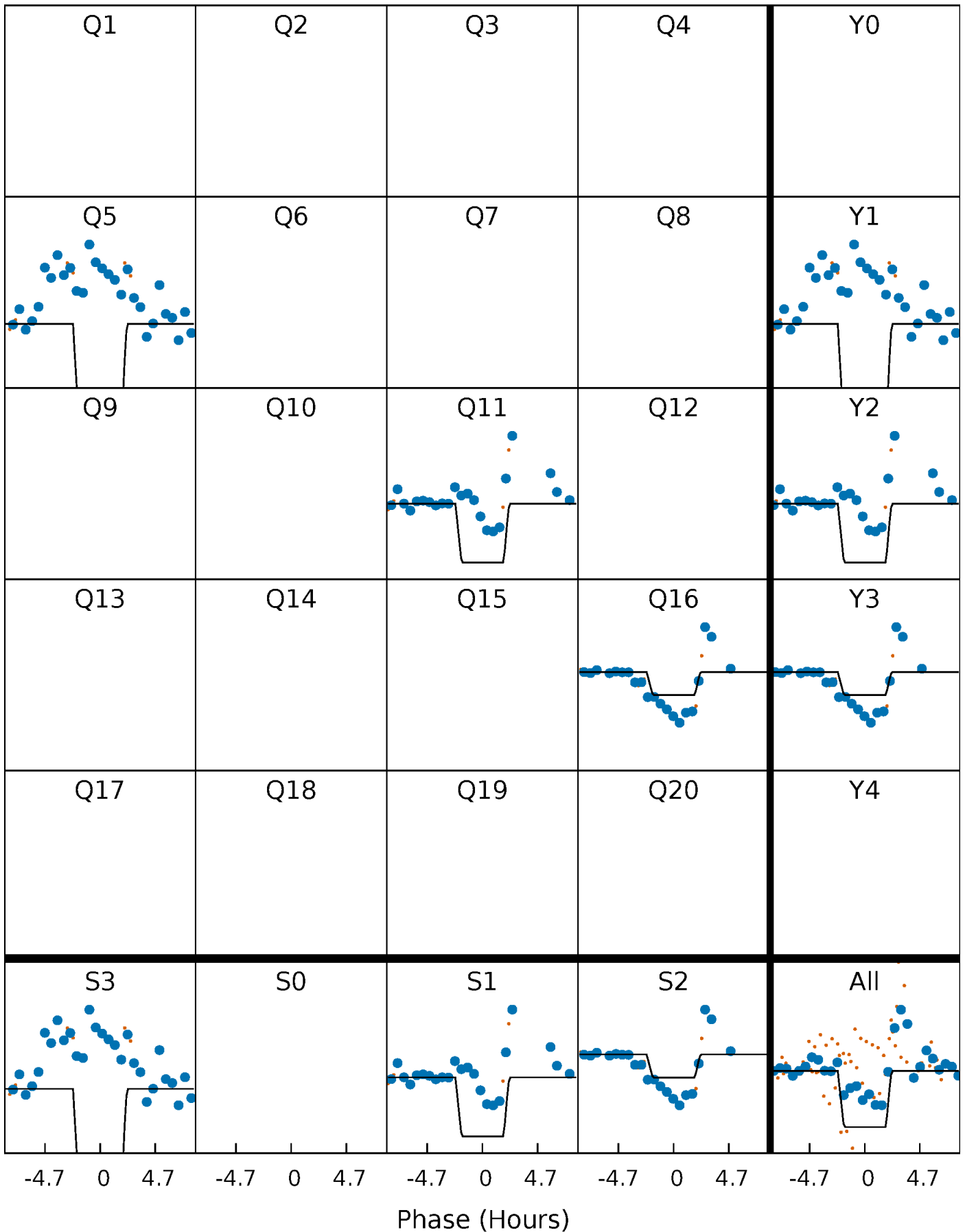
DV Quarter-Phased Transit Curves

TCE 007433177-01 P=508.283000 Days $T_0=534.918595$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

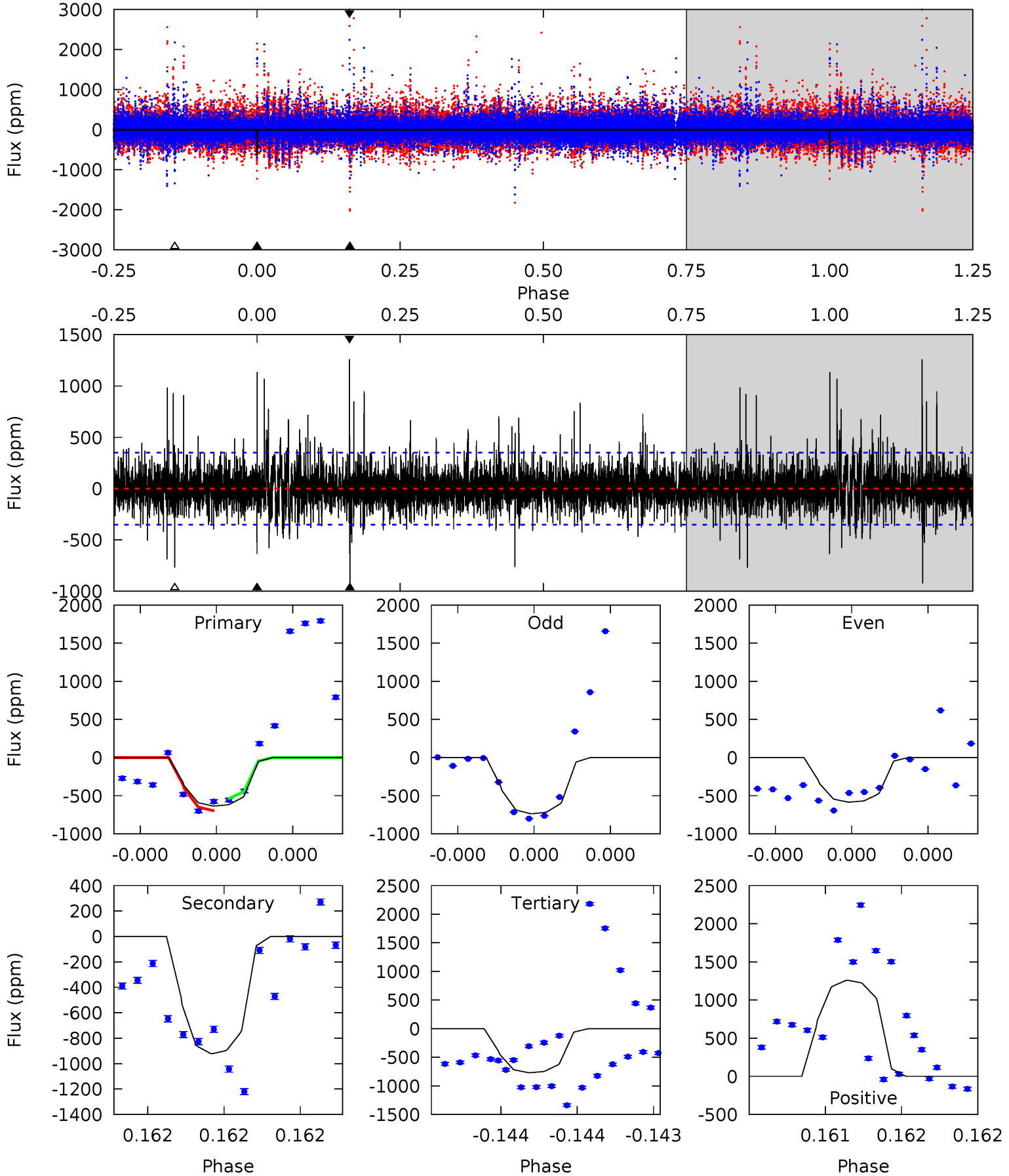
TCE 007433177-01 P=508.277994 Days $T_0=534.887359$ (BKJD)



DV Model-Shift Uniqueness Test

007433177-01, P = 508.283000 Days, E = 26.635595 Days

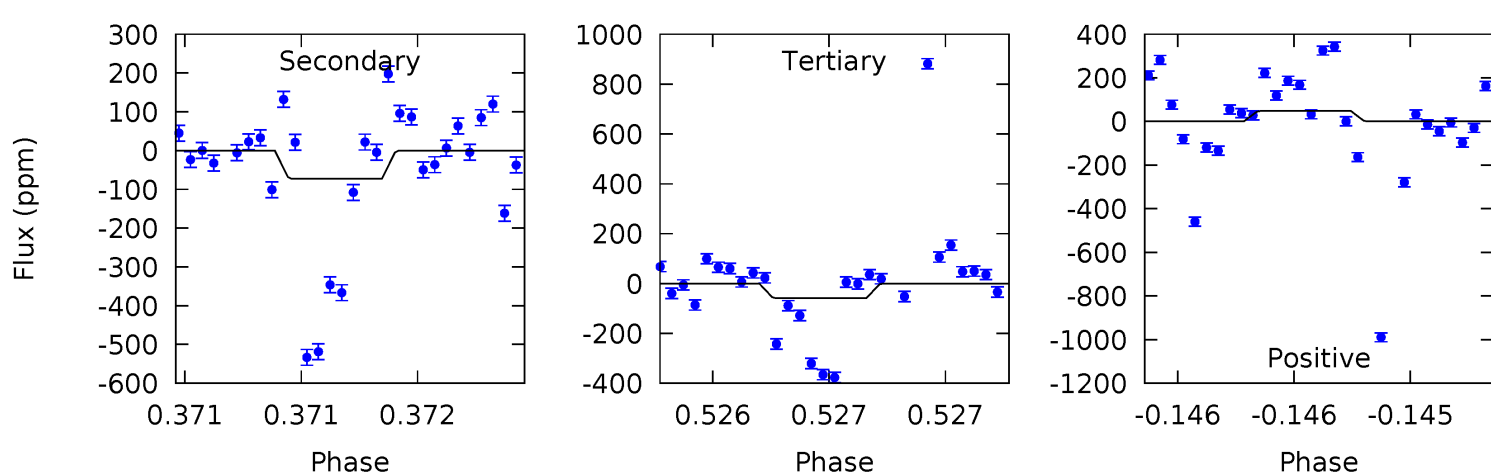
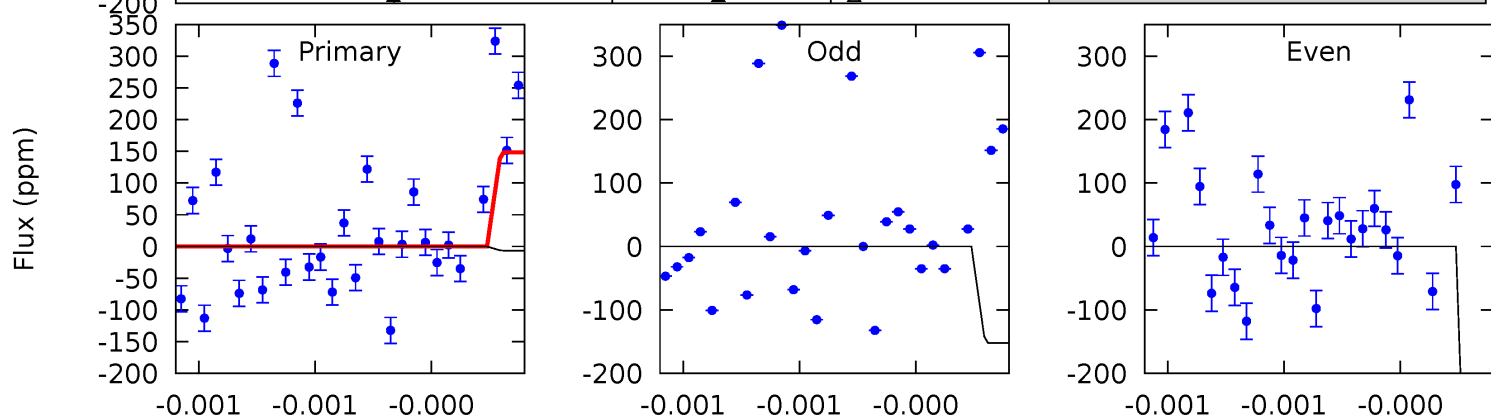
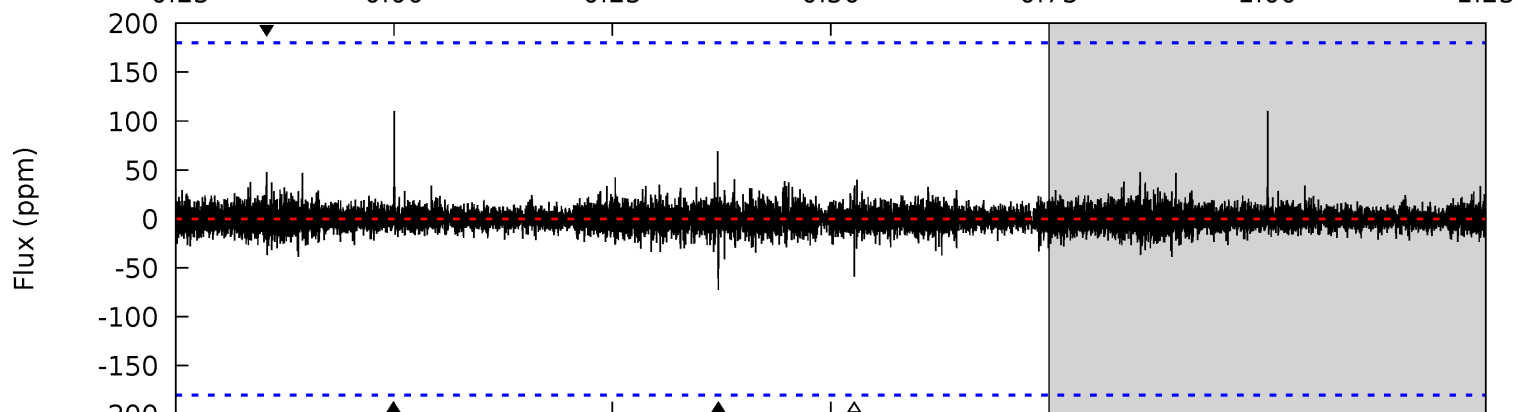
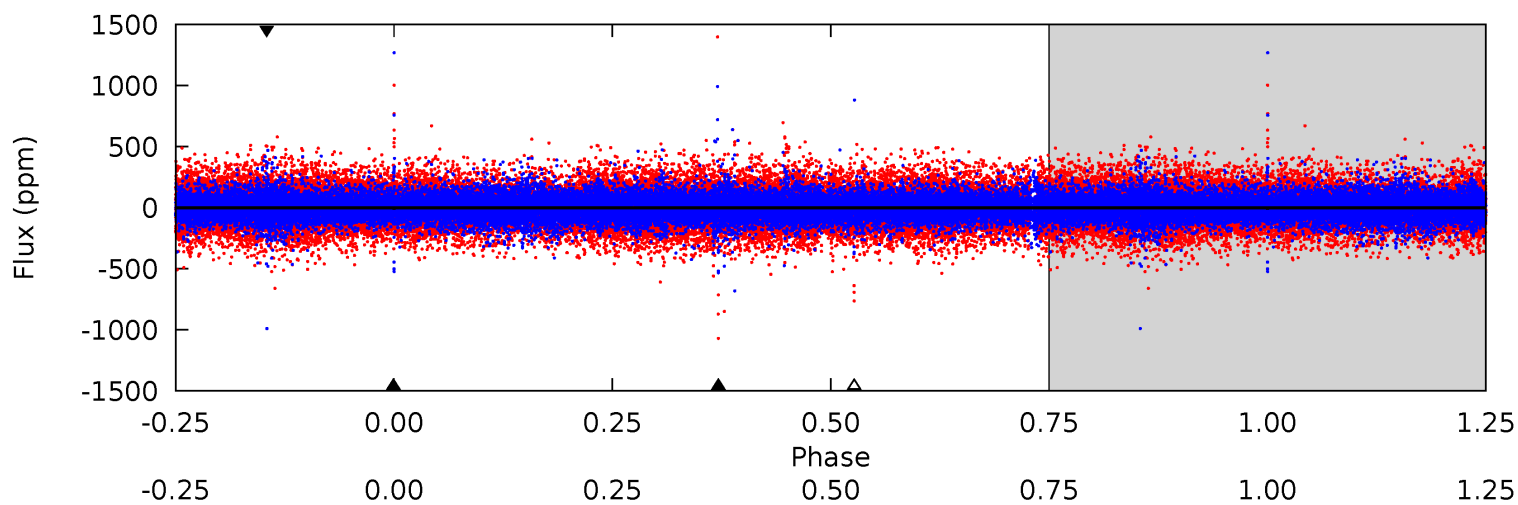
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	15.0	12.6	20.6	5.73	3.71	2.23	-2.19	-10.2	2.48	-5.51	1.08	0.85	0.58	1.29



Alt Model-Shift Uniqueness Test

007433177-01, P = 508.277994 Days, E = 26.609365 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.20	2.27	1.84	1.50	5.63	3.57	0.25	-1.63	-1.30	0.43	0.77	8.67	3.28	0.60	0



Stellar Parameters For KIC 007433177

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5016^{+126}_{-101}	$3.481^{+0.346}_{-0.283}$	$-0.280^{+0.250}_{-0.200}$	$2.953^{+1.393}_{-1.139}$	$0.964^{+0.258}_{-0.139}$	$0.053^{+0.133}_{-0.034}$
	+3%/-2%	+10%/-8%	+89%/-71%	+47%/-39%	+27%/-14%	+252%/-64%
Source	PHO1	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 007433177-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-922 ± 61	$14.85^{+15.06}_{-10.09}$	483^{+58}_{-52}	4250^{+2861}_{-839}	3583^{+31144}_{-2673}
Alt.	-73 ± 32	$15.18^{+15.42}_{-10.04}$	484^{+57}_{-52}	2798^{+1088}_{-427}	259^{+1810}_{-200}

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 $A_{obs} \gg 1.0$

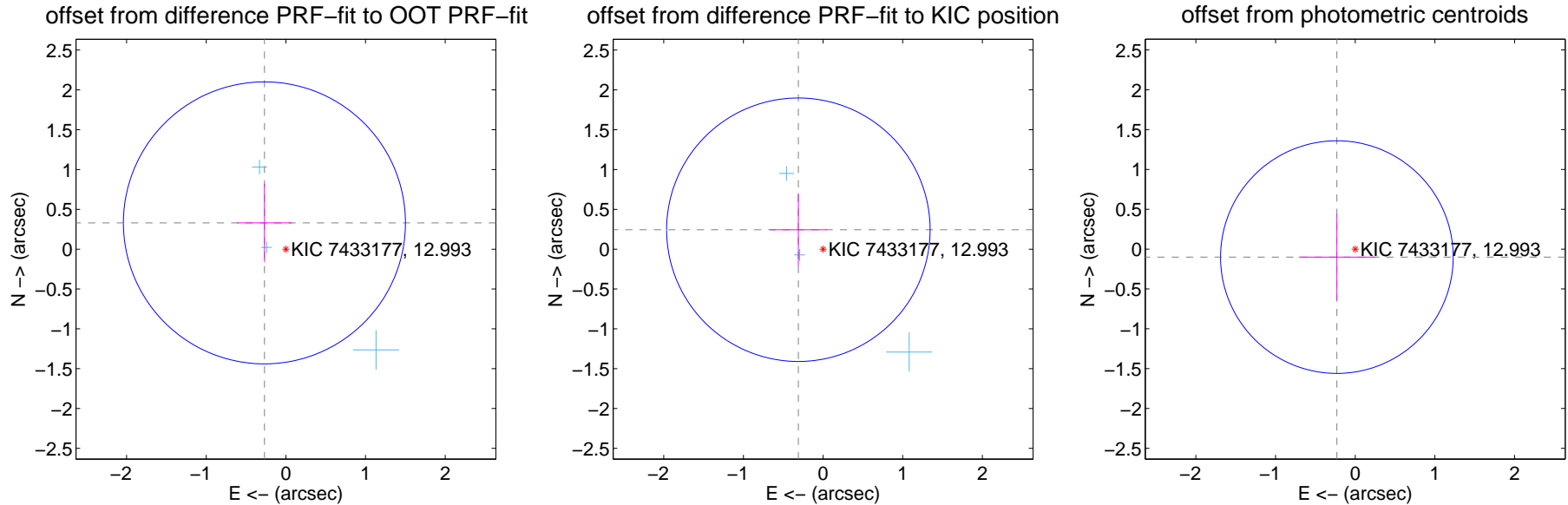
DV Centroid Data

Supplemental centroid analysis for 007433177-01. Kepler magnitude: 12.99. Transit SNR 8.71

There are 3 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	0.426 ± 0.590	0.72	0.269 ± 0.345	0.330 ± 0.493
PRF-fit source offset from KIC position	0.394 ± 0.551	0.72	0.310 ± 0.358	0.244 ± 0.457
photometric centroid source offset	0.25 ± 0.49	0.52	0.23 ± 0.48	-0.10 ± 0.54

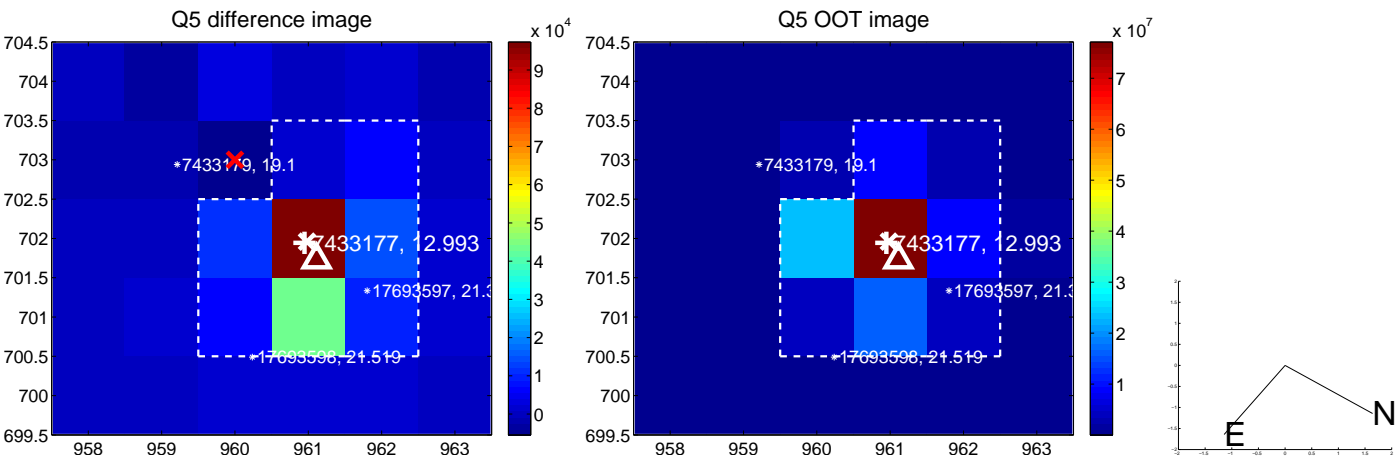


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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Q9 no difference image



Q9 no OOT image



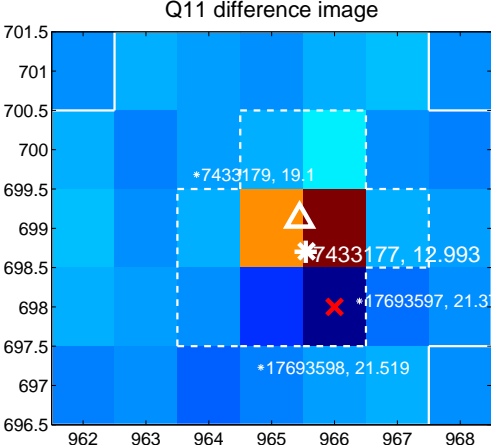
Q10 no difference image



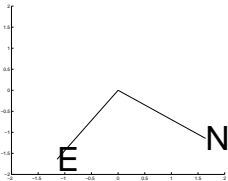
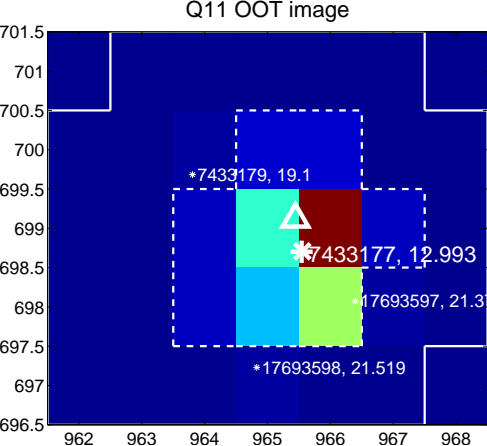
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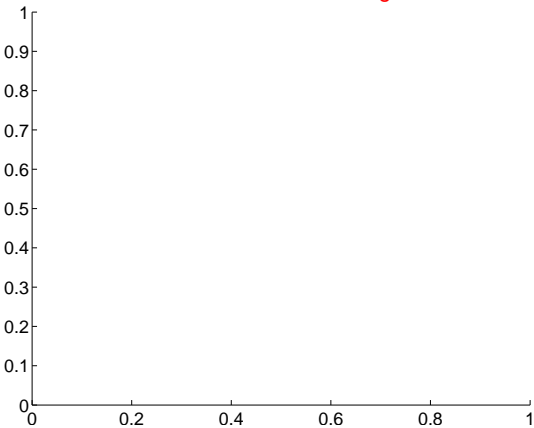
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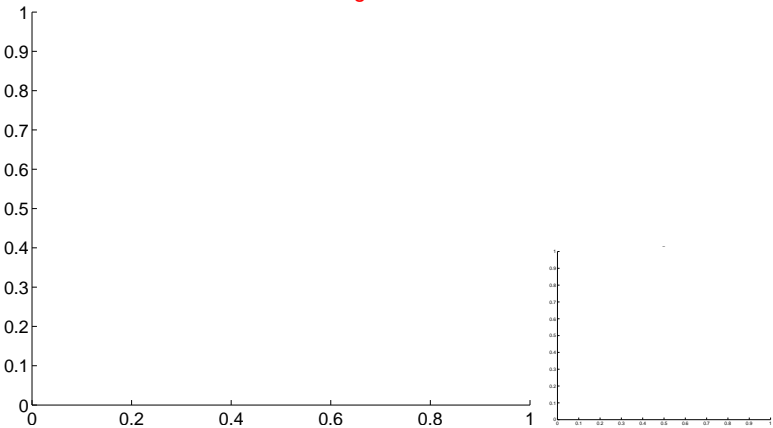
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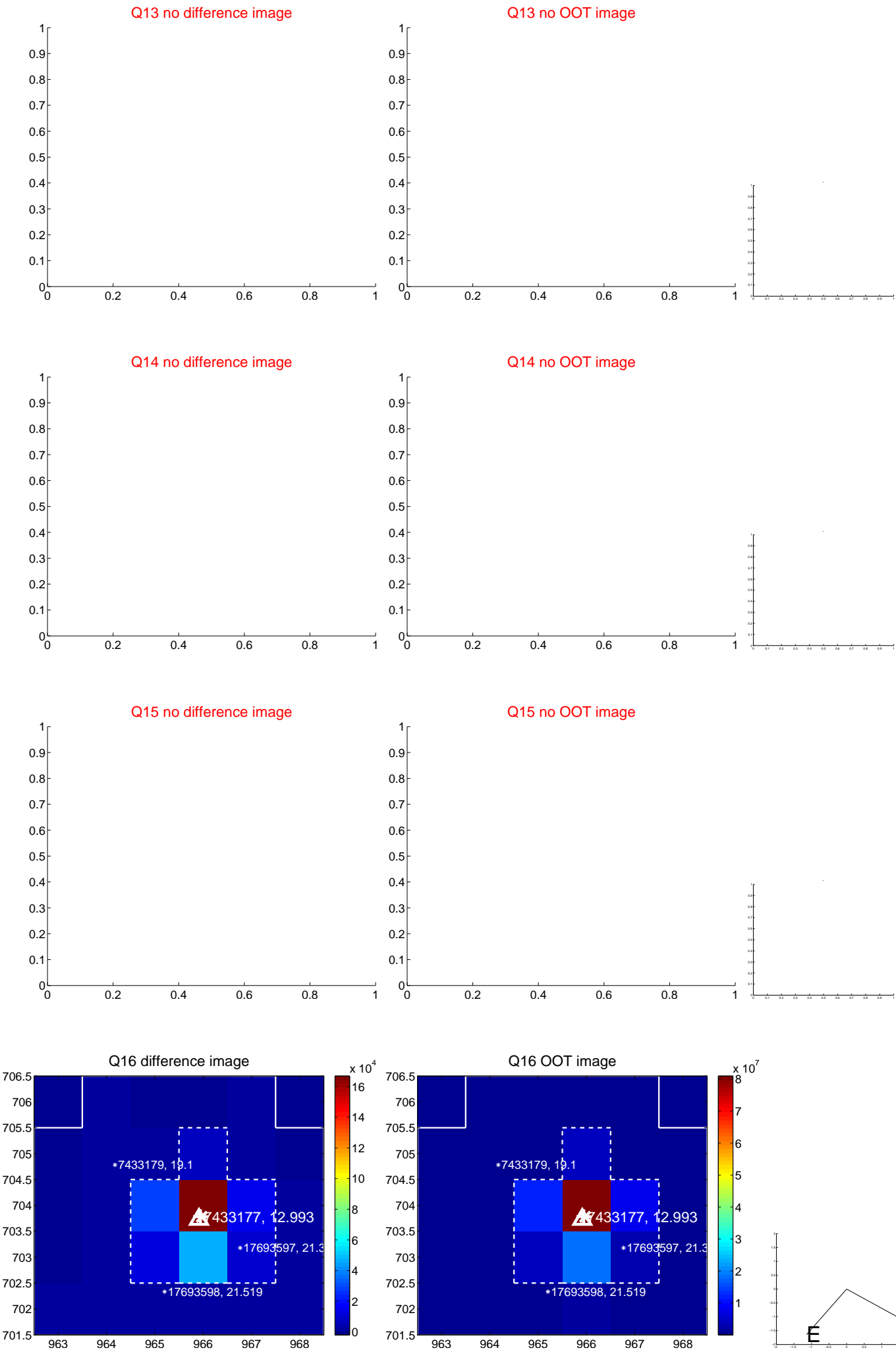
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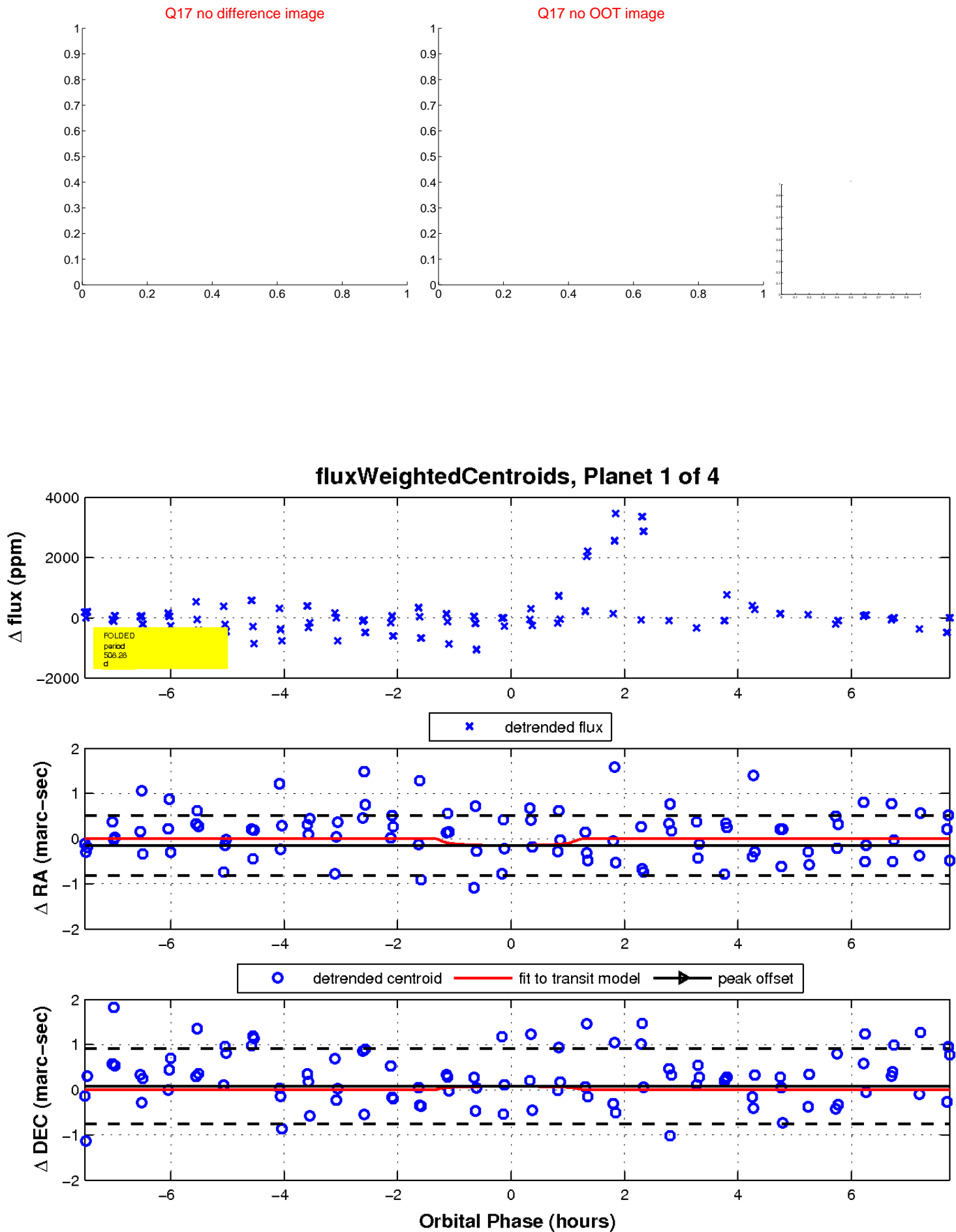
Q12 no OOT image



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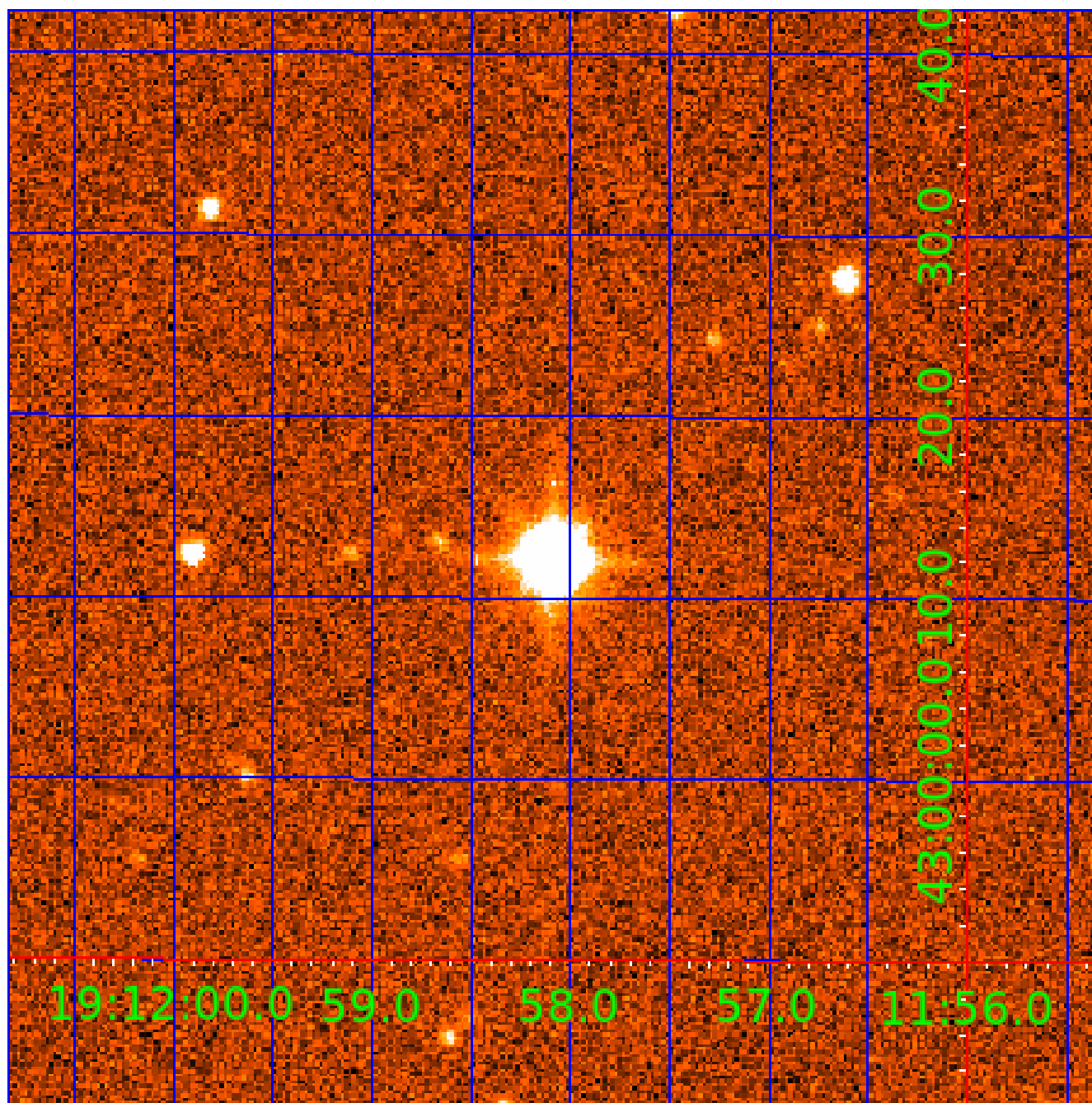


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UKIRT Image

Declination



KIC 007433177

Q1-17 DR25 TCE Parameters

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007433177-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007433177-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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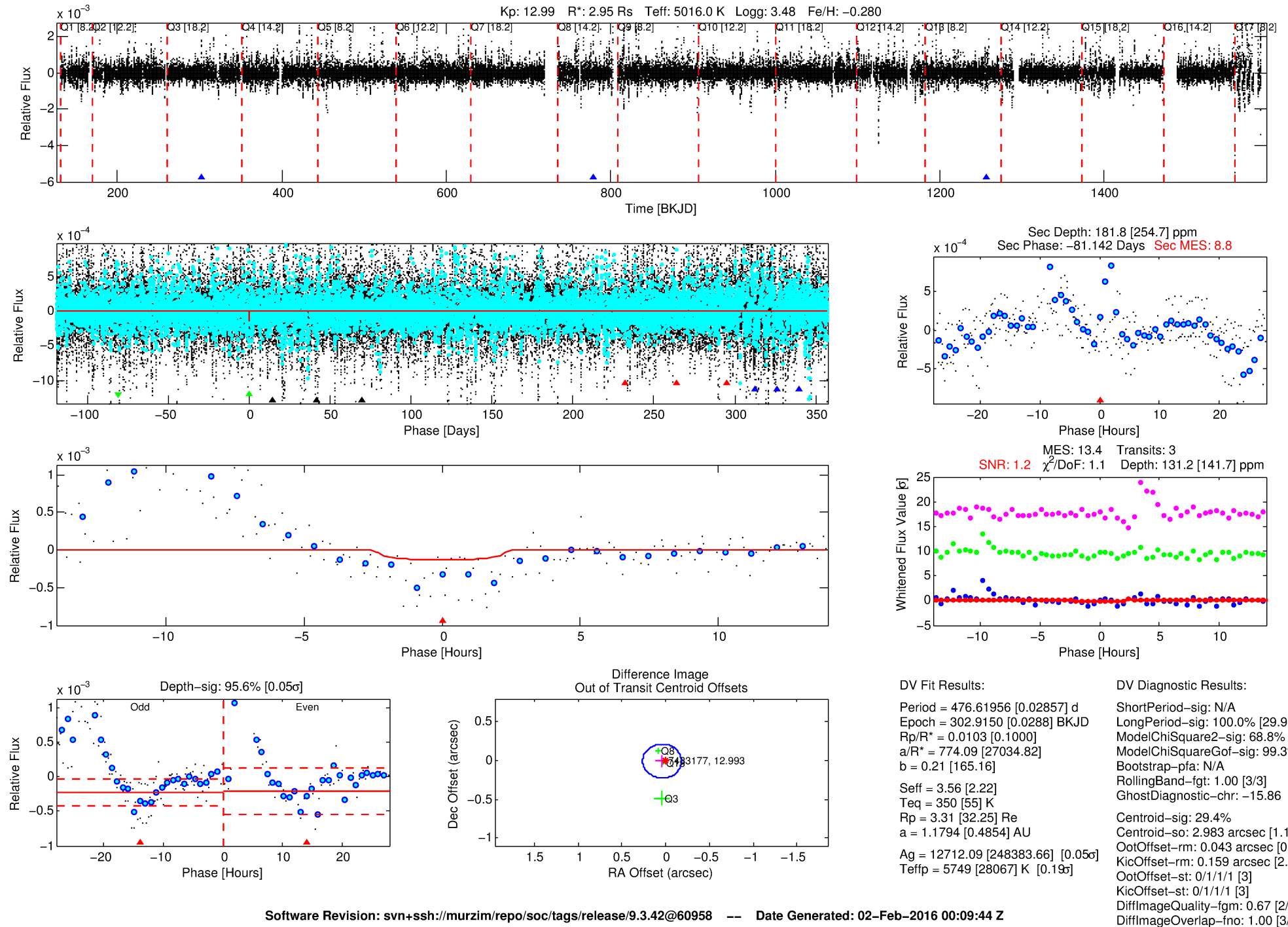
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007433177-03

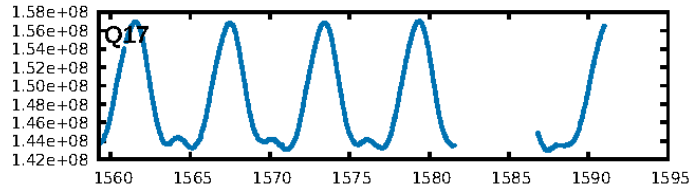
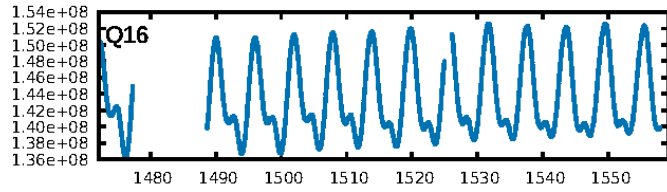
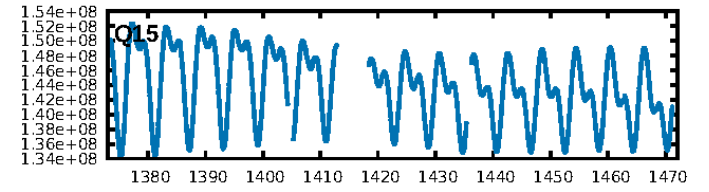
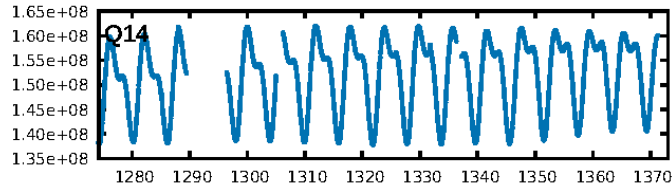
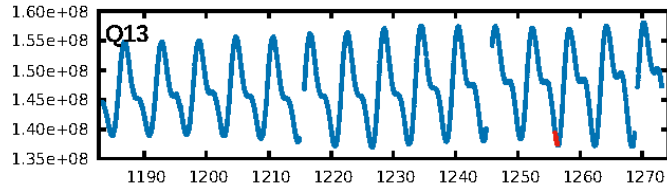
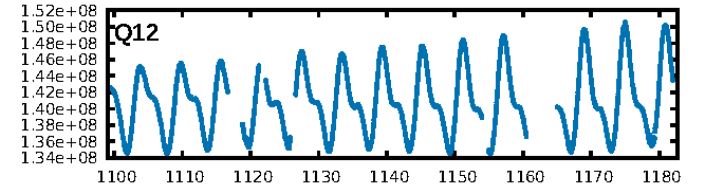
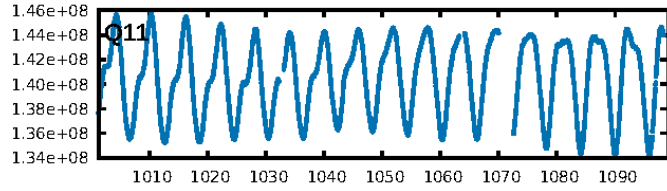
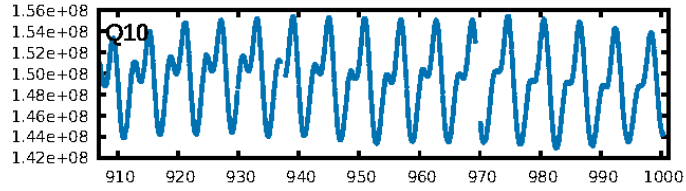
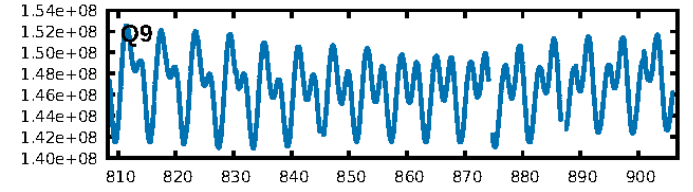
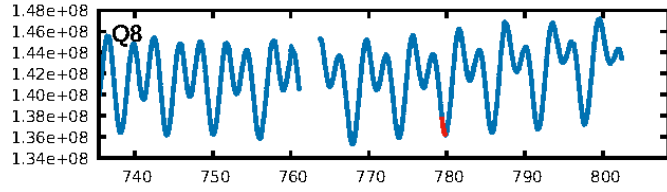
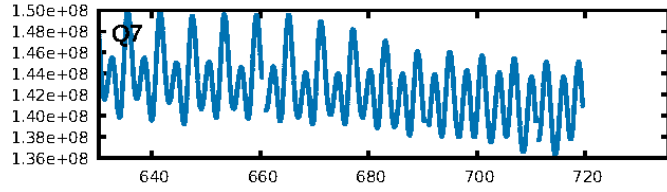
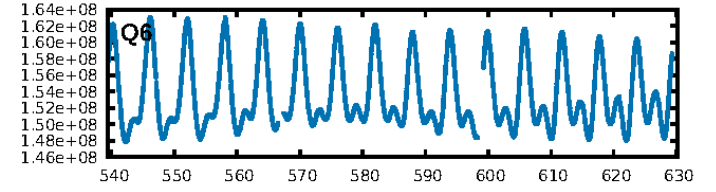
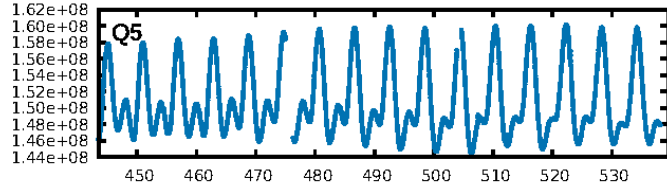
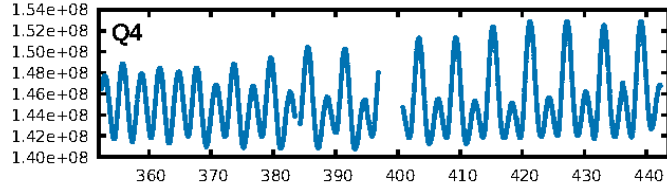
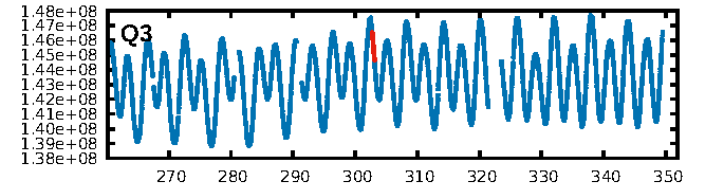
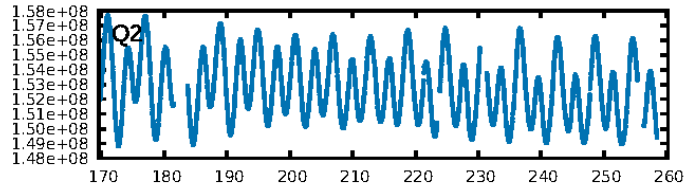
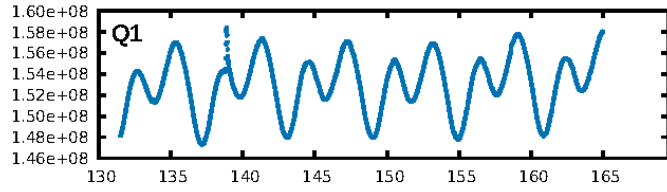
No Significant Match Found

DV One-Page Summary

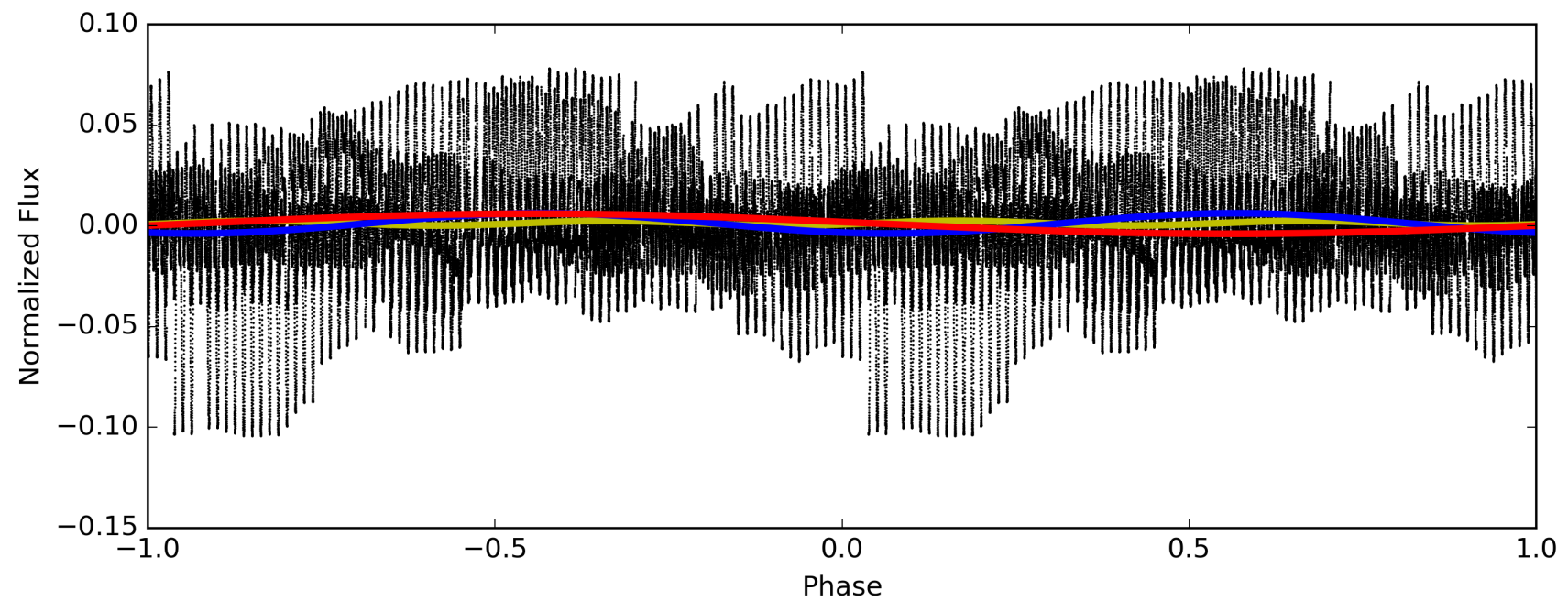
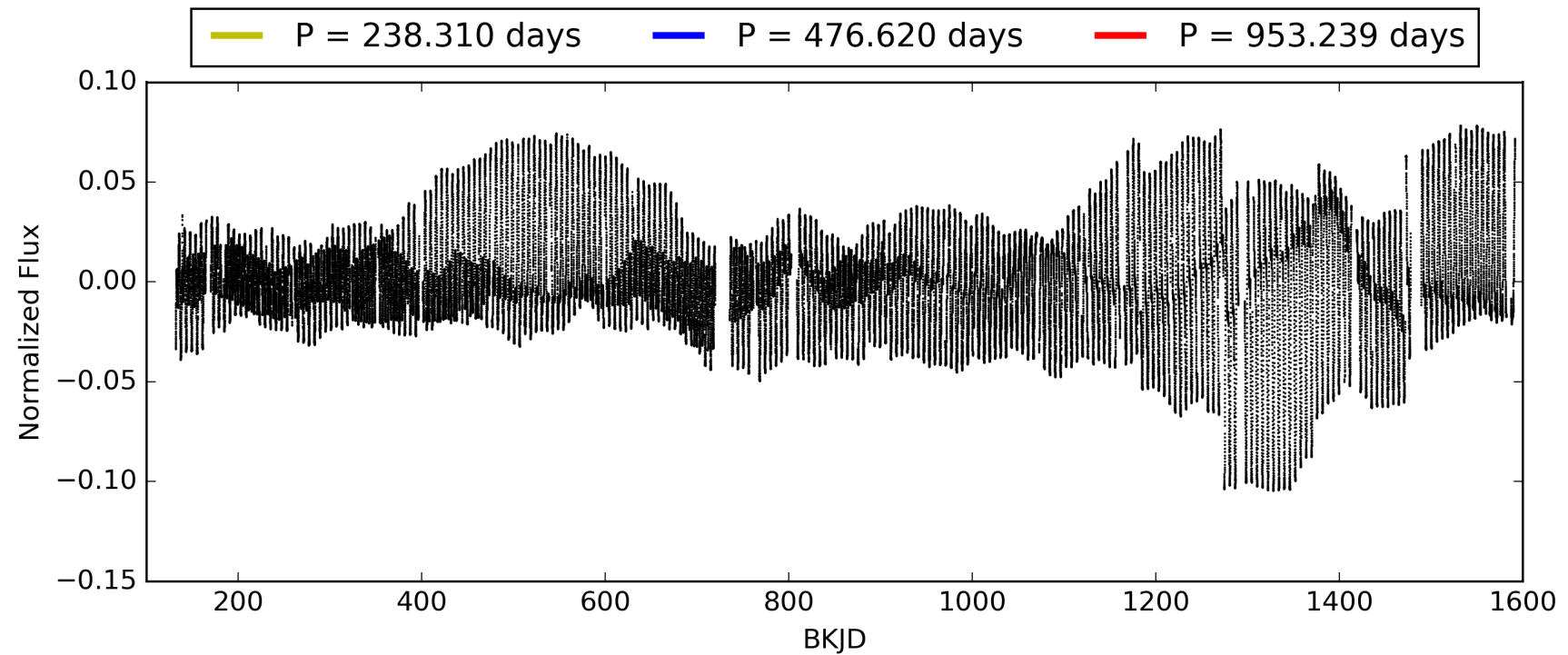
KIC: 7433177 Candidate: 3 of 4 Period: 476.620 d



TCE 007433177-03, PDC Light Curves

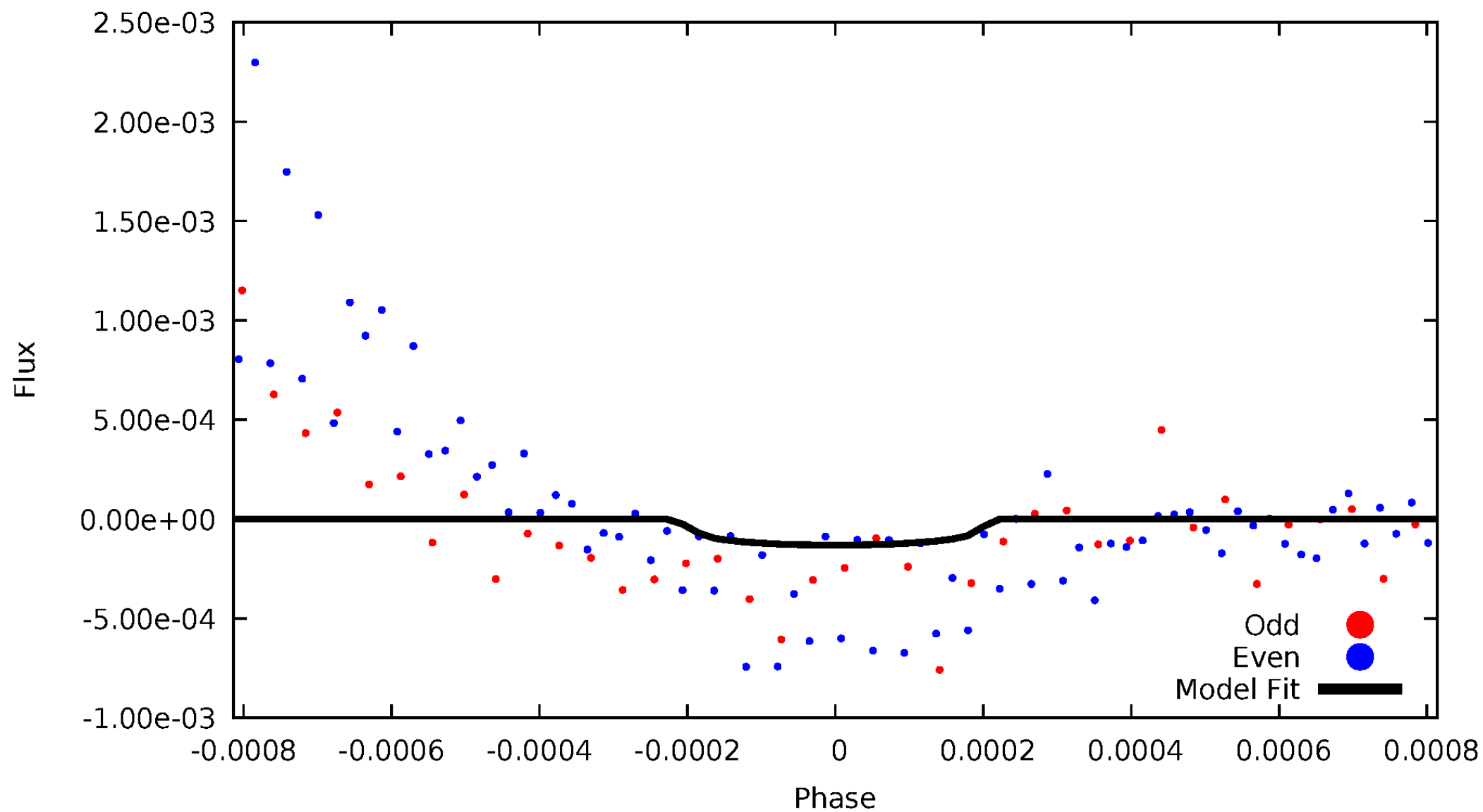


TCE 007433177-03



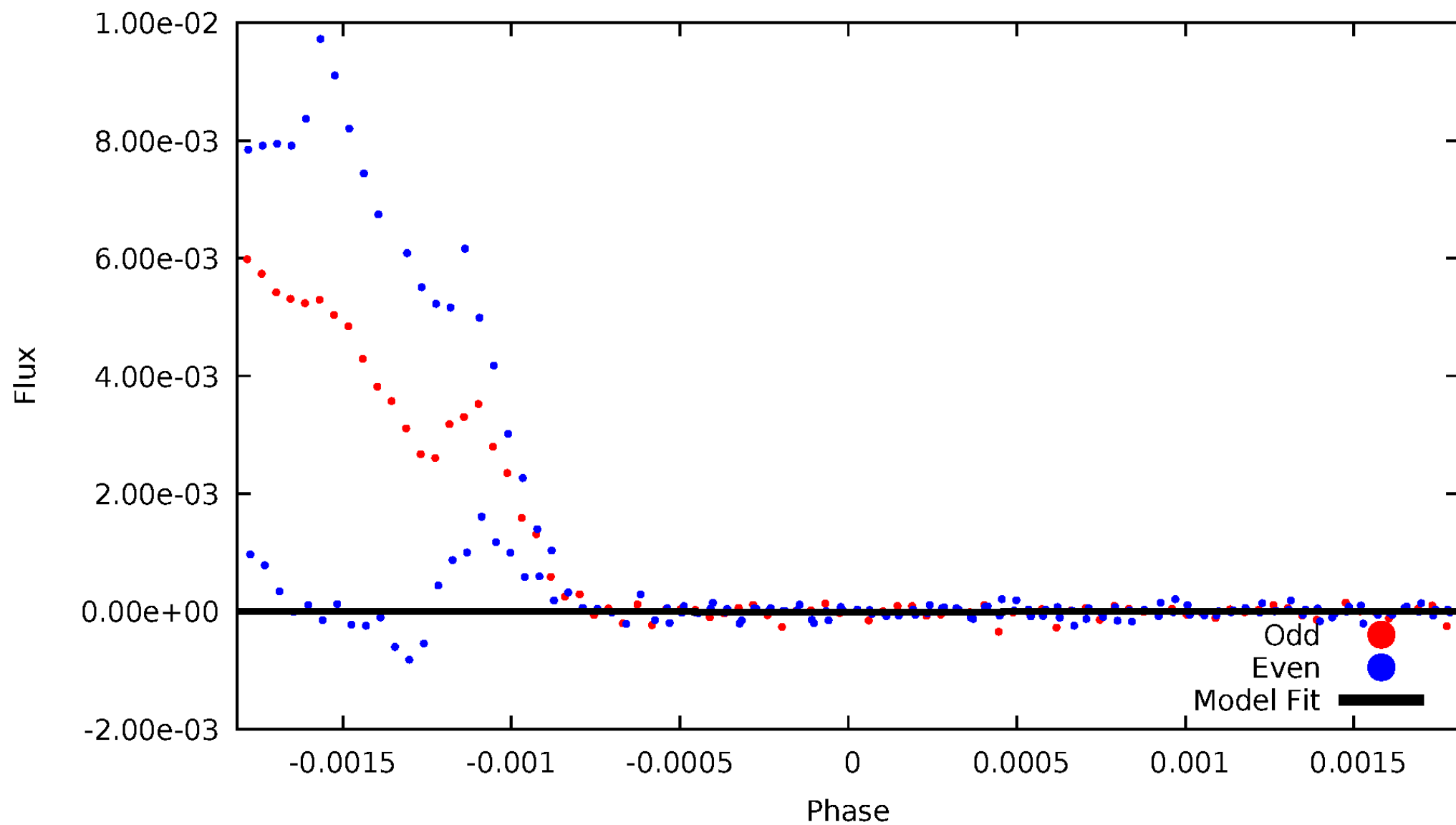
DV Odd/Even

TCE 007433177-03



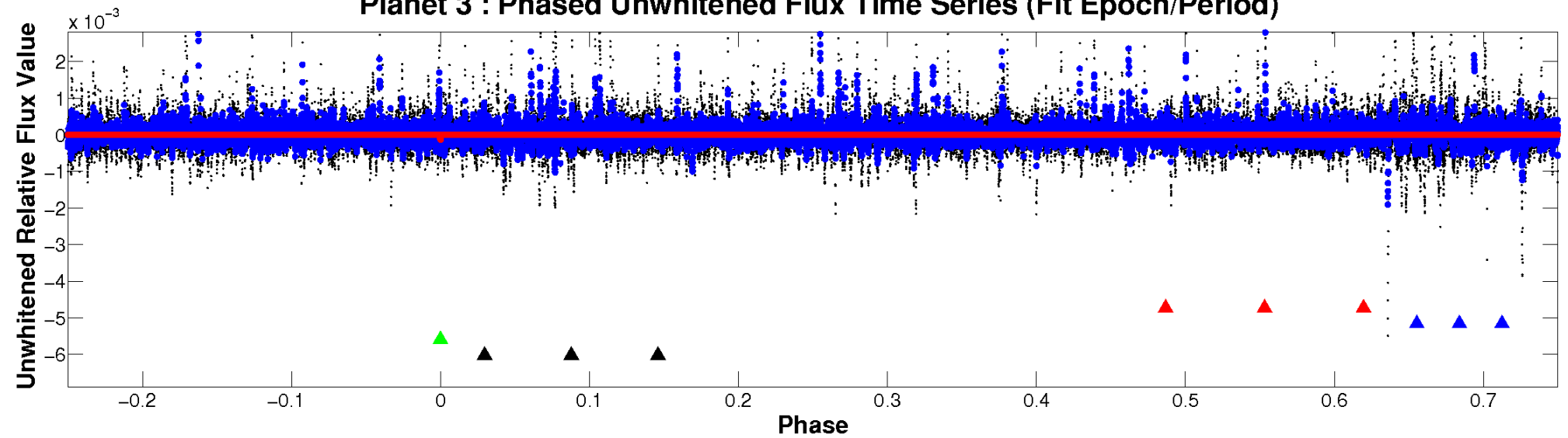
ALT Odd/Even

TCE 007433177-03

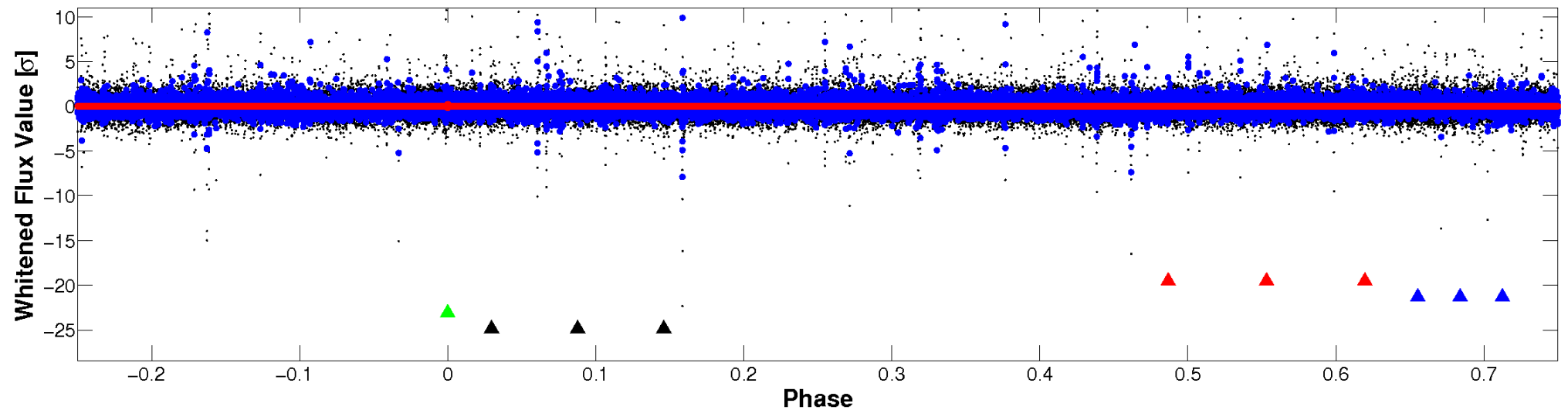


Non-Whitened Vs. Whitened Light Curve

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

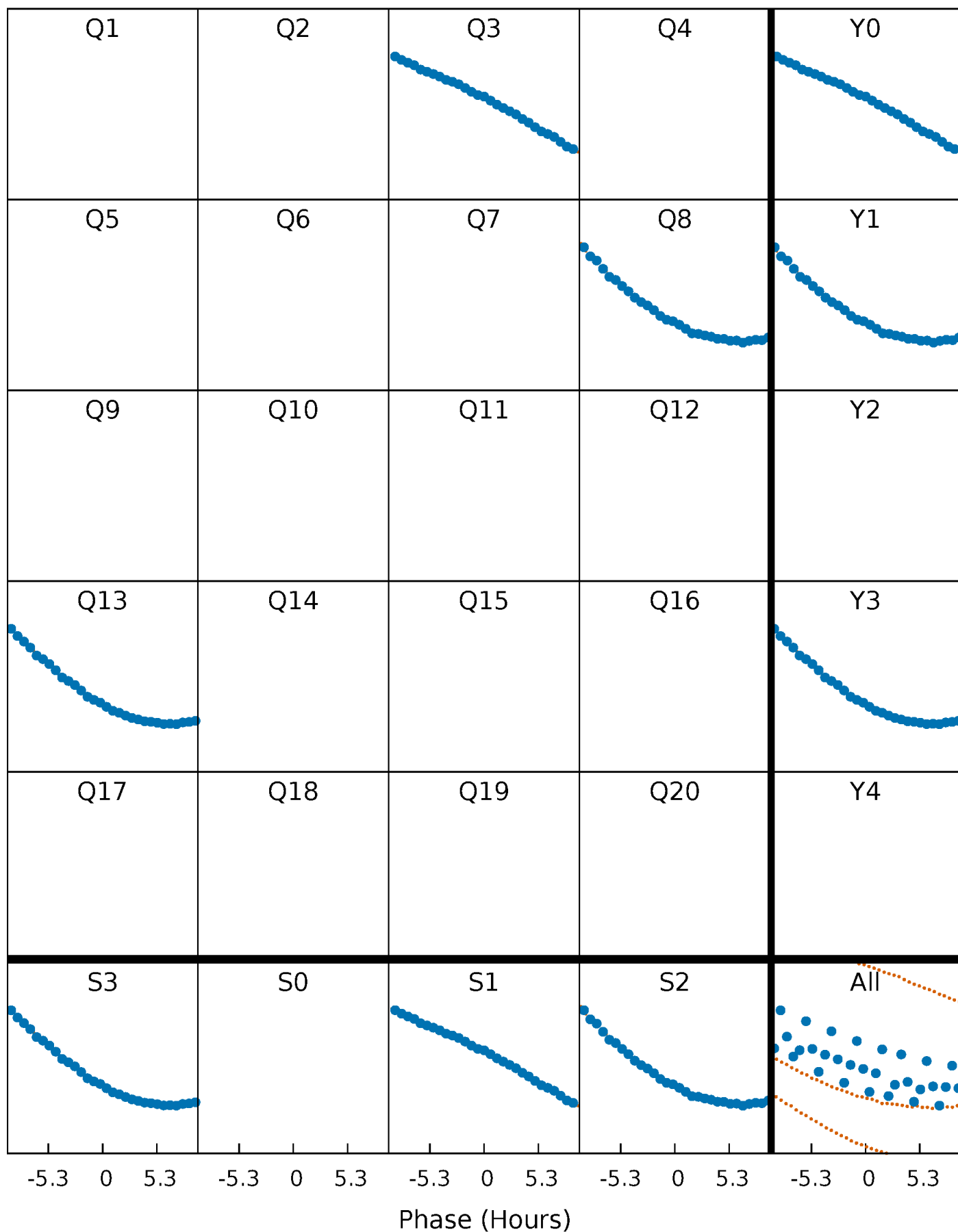


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



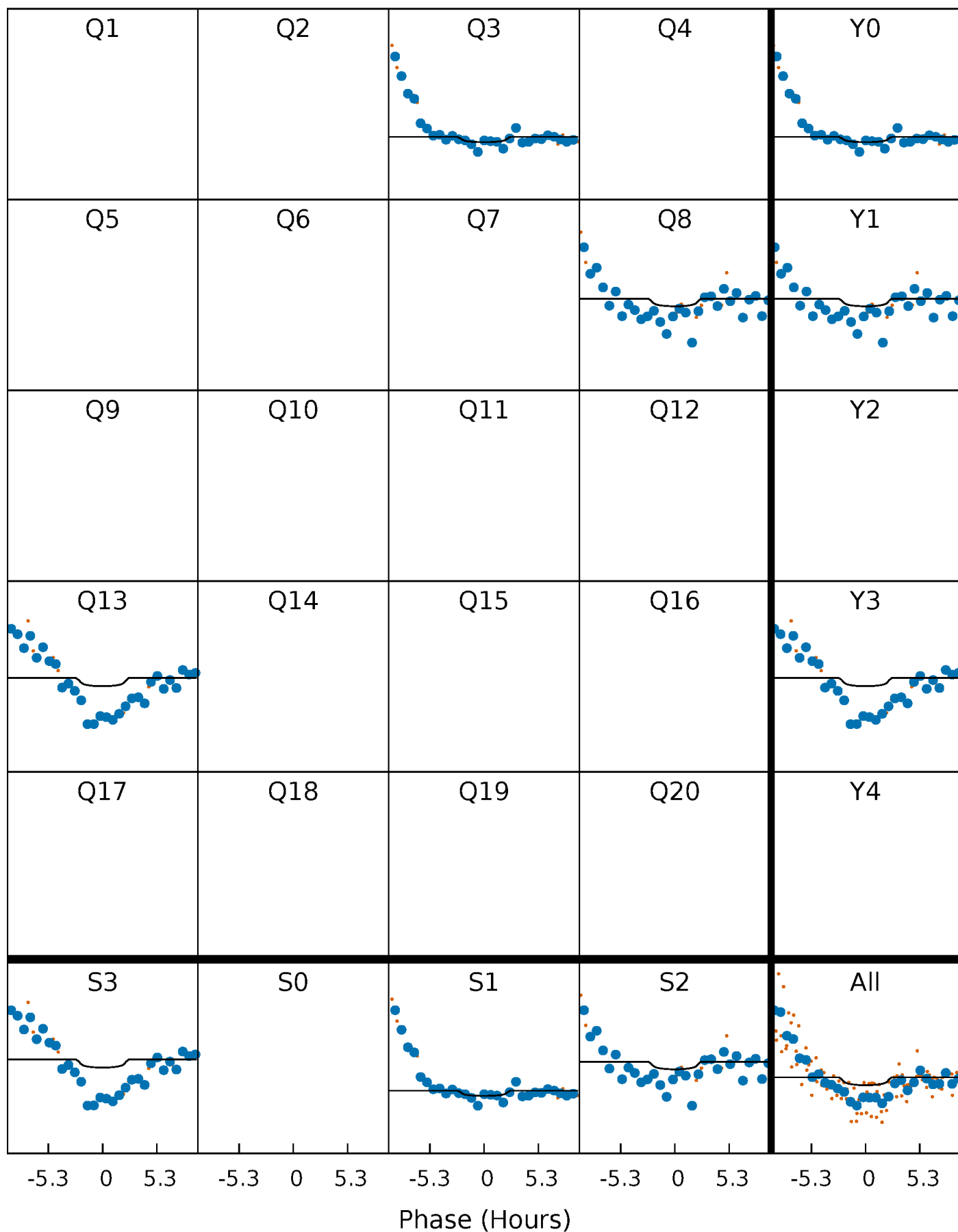
PDC Quarter-Phased Transit Curves

TCE 007433177-03 P=476.619557 Days $T_0=302.914980$ (BKJD)



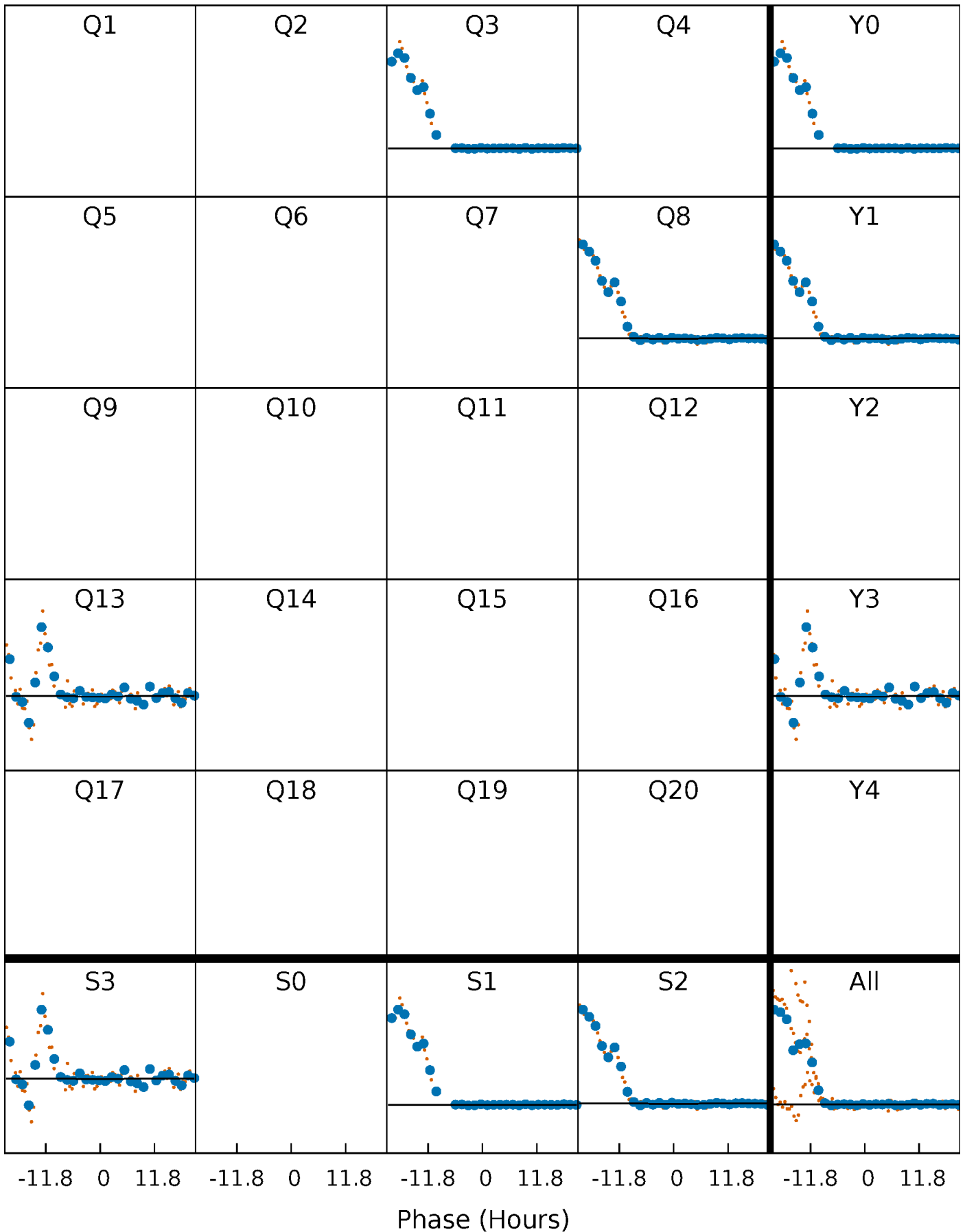
DV Quarter-Phased Transit Curves

TCE 007433177-03 $P=476.619557$ Days $T_0=302.914980$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

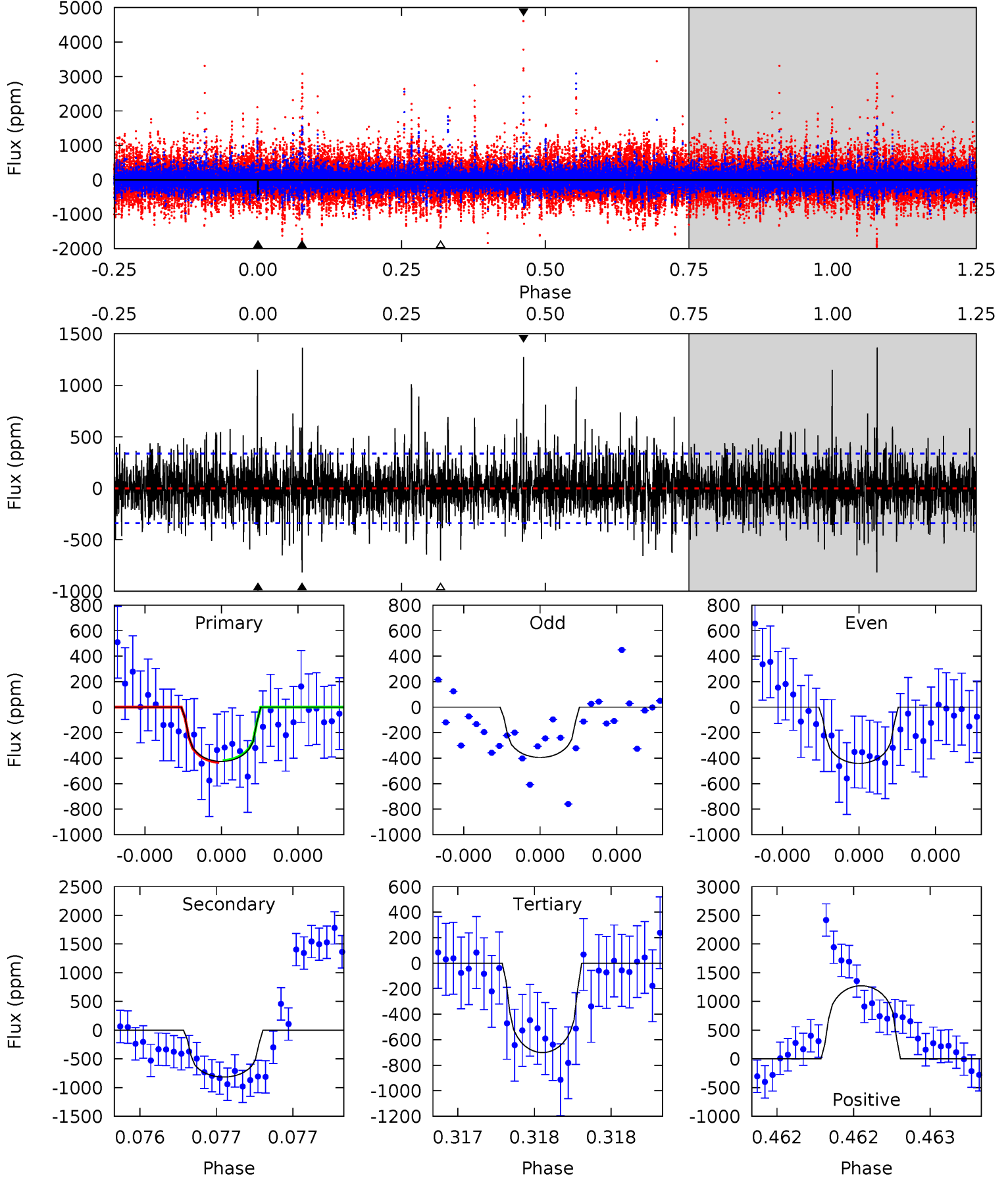
TCE 007433177-03 $P=476.551486$ Days $T_0=303.042048$ (BKJD)



DV Model-Shift Uniqueness Test

007433177-03, P = 476.619557 Days, E = 302.914980 Days

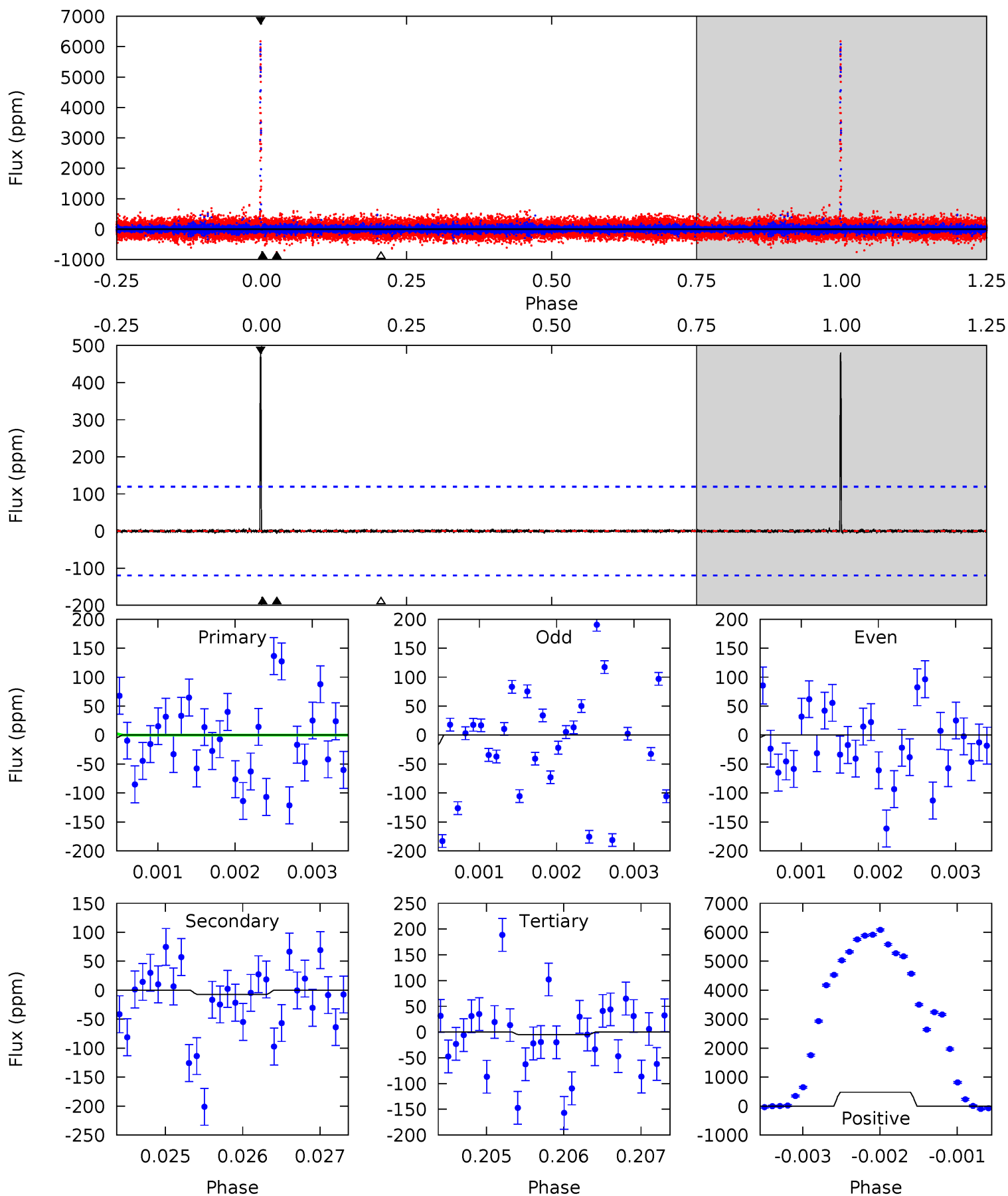
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.06	13.5	11.6	21.1	5.60	3.52	2.97	-4.56	-14.1	1.92	-7.58	0.28	1.08	0.63	0.12



Alt Model-Shift Uniqueness Test

007433177-03, P = 476.551486 Days, E = 303.042048 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.25	0.32	0.23	21.9	5.47	3.32	0.60	0.01	-21.7	0.09	-21.6	0.25	0.98	0.99	0.23



Stellar Parameters For KIC 007433177

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5016^{+126}_{-101}	$3.481^{+0.346}_{-0.283}$	$-0.280^{+0.250}_{-0.200}$	$2.953^{+1.393}_{-1.139}$	$0.964^{+0.258}_{-0.139}$	$0.053^{+0.133}_{-0.034}$
	+3%/-2%	+10%/-8%	+89%/-71%	+47%/-39%	+27%/-14%	+252%/-64%
Source	PHO1	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 007433177-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-816 ± 60	$23.59^{+26.39}_{-16.40}$	491^{+57}_{-53}	3575^{+2036}_{-684}	1152^{+11825}_{-881}
Alt.	-7 ± 22	$21.78^{+24.73}_{-15.42}$	489^{+54}_{-54}	1821^{+689}_{-4009}	$4.953^{+110.830}_{-36.142}$

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 $A_{obs} \gg 1.0$

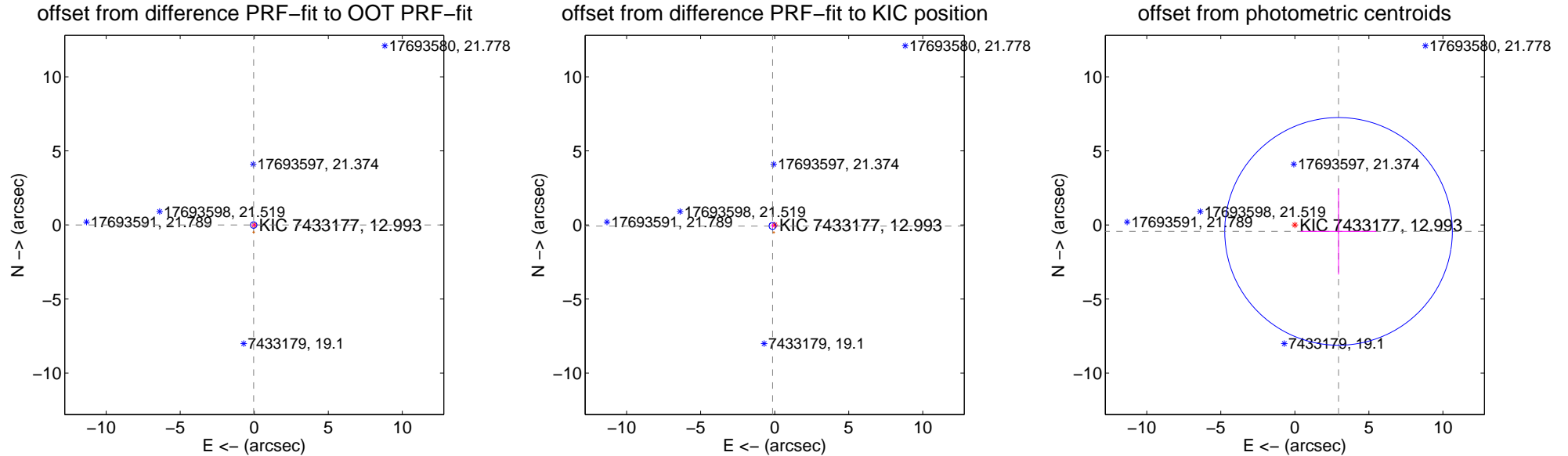
DV Centroid Data

Supplemental centroid analysis for 007433177-03. Kepler magnitude: 12.99. Transit SNR 1.17

There are 2 quarters with good PRF difference image offsets

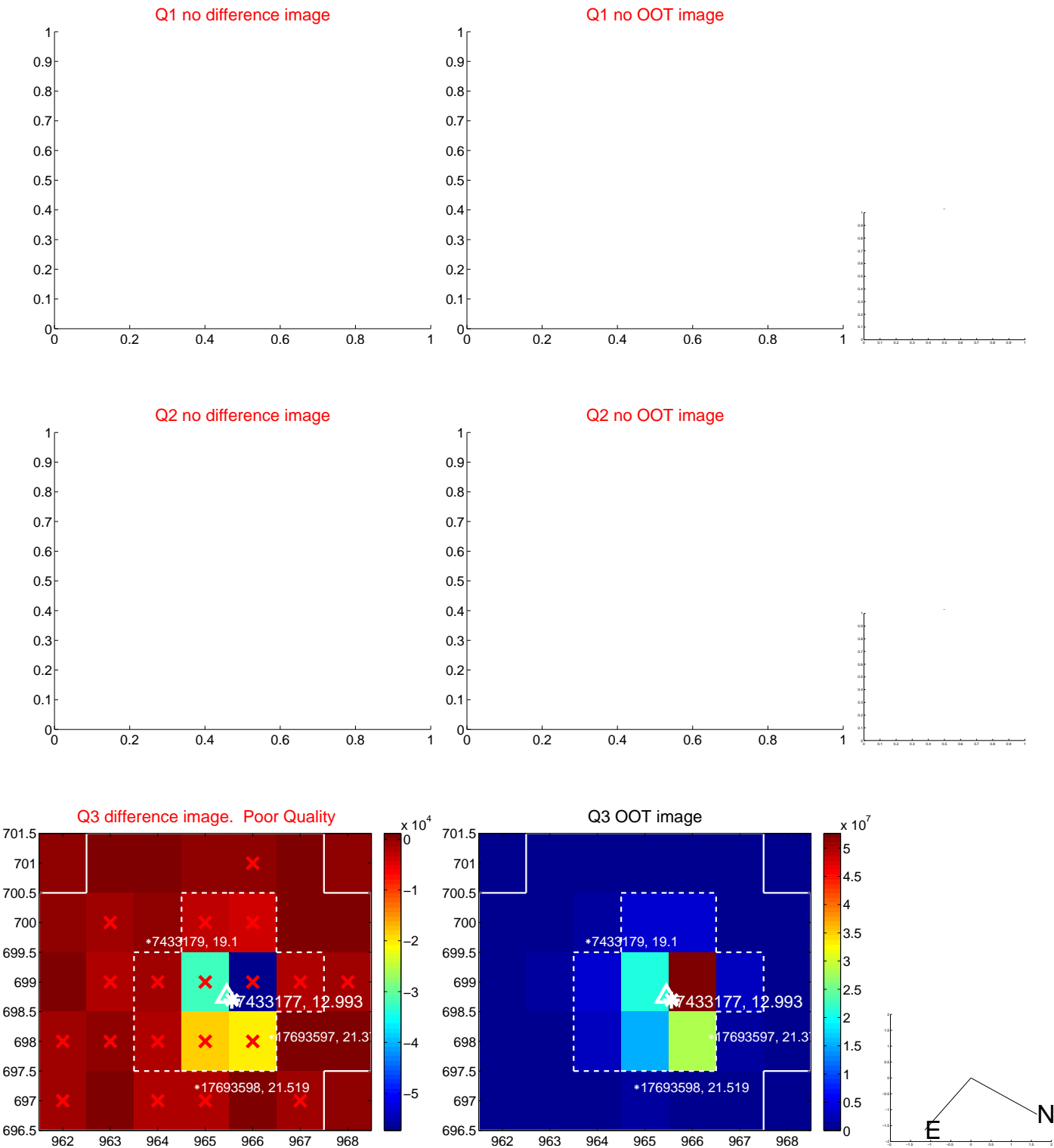
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.043 ± 0.073	0.58	0.042 ± 0.073	-0.006 ± 0.074
PRF-fit source offset from KIC position	0.159 ± 0.078	2.02	0.143 ± 0.069	-0.069 ± 0.143
photometric centroid source offset	2.98 ± 2.56	1.16	-2.95 ± 2.55	-0.44 ± 2.91

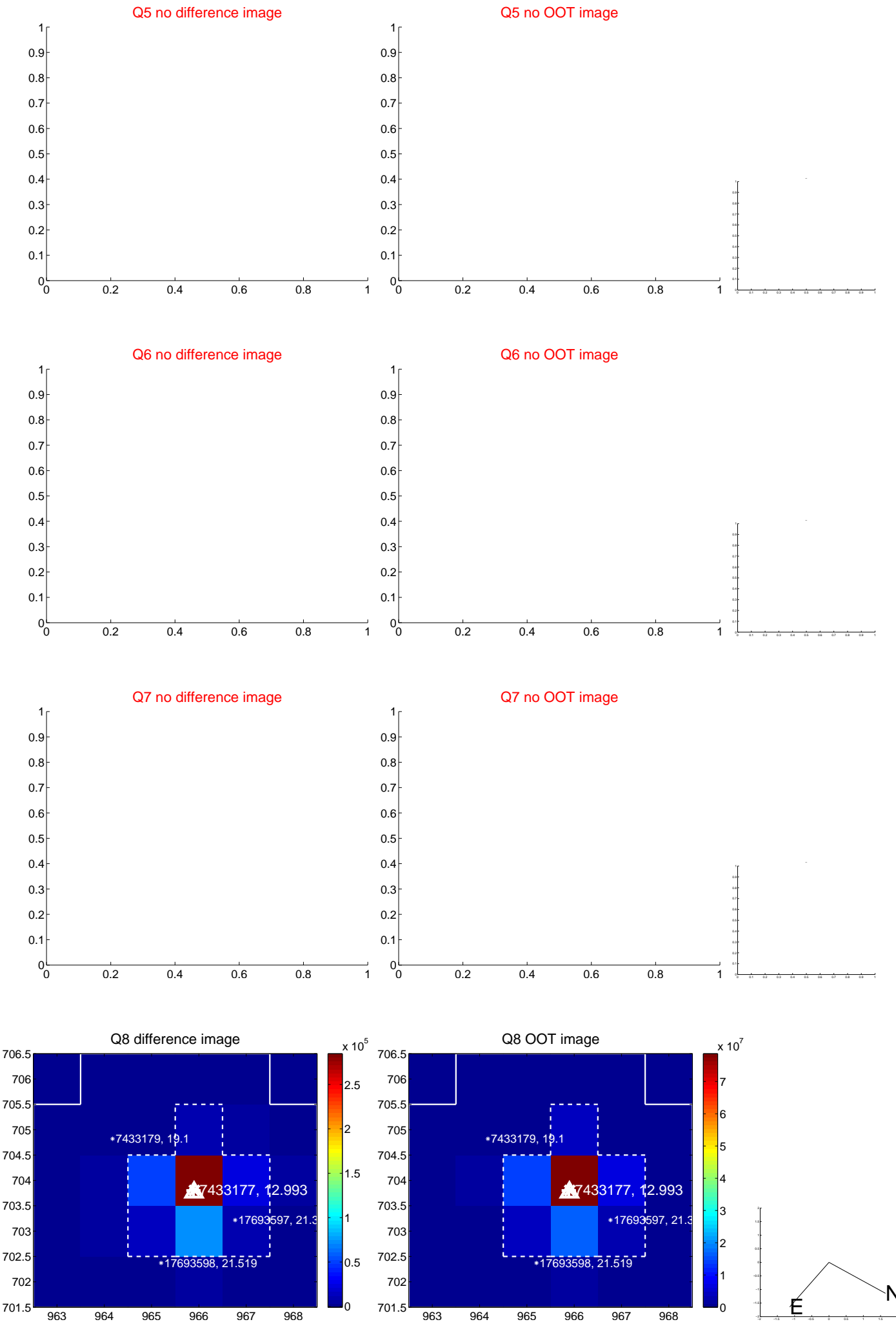


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



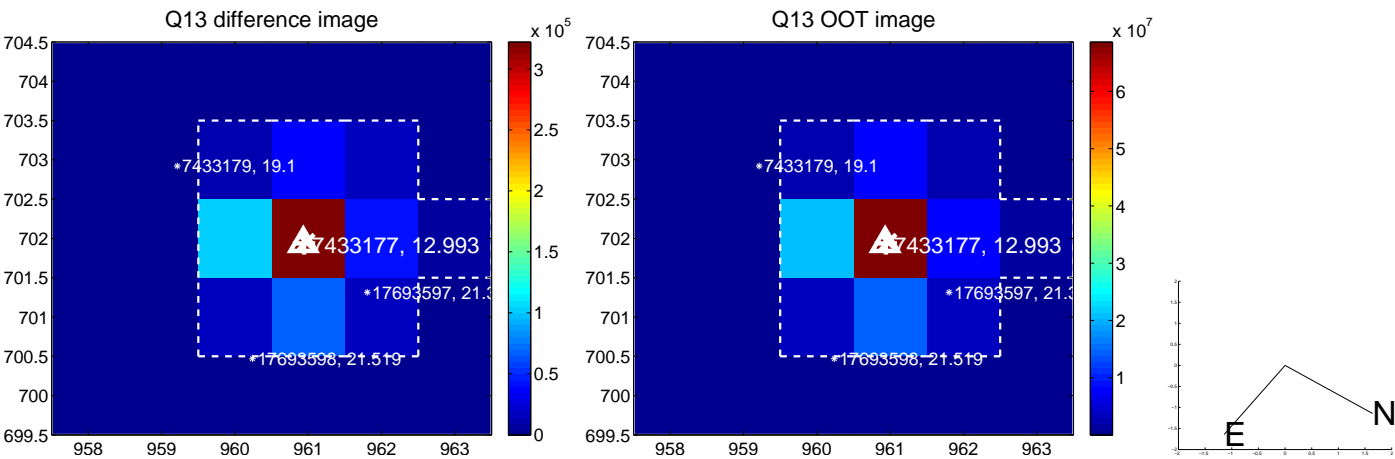
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



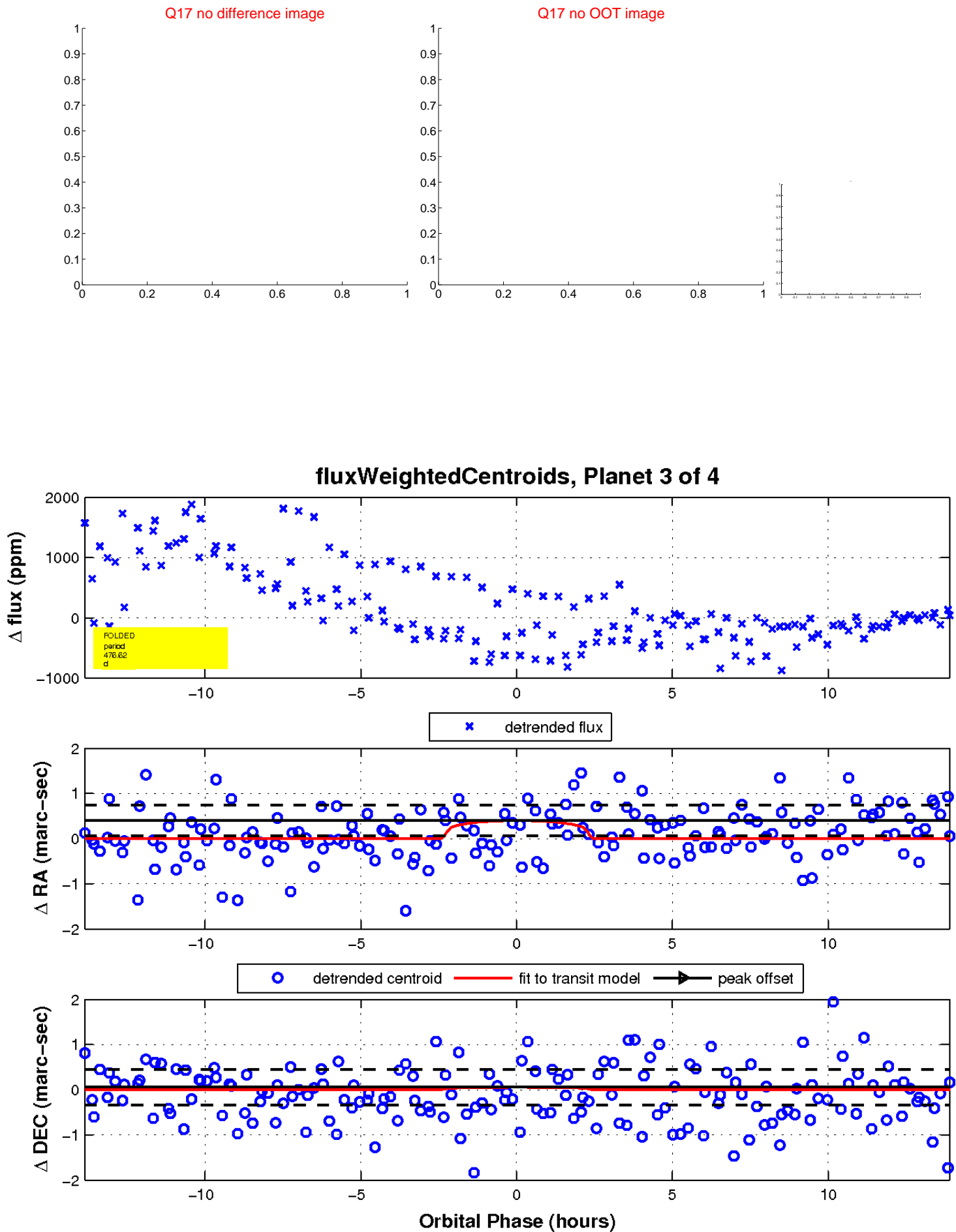
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

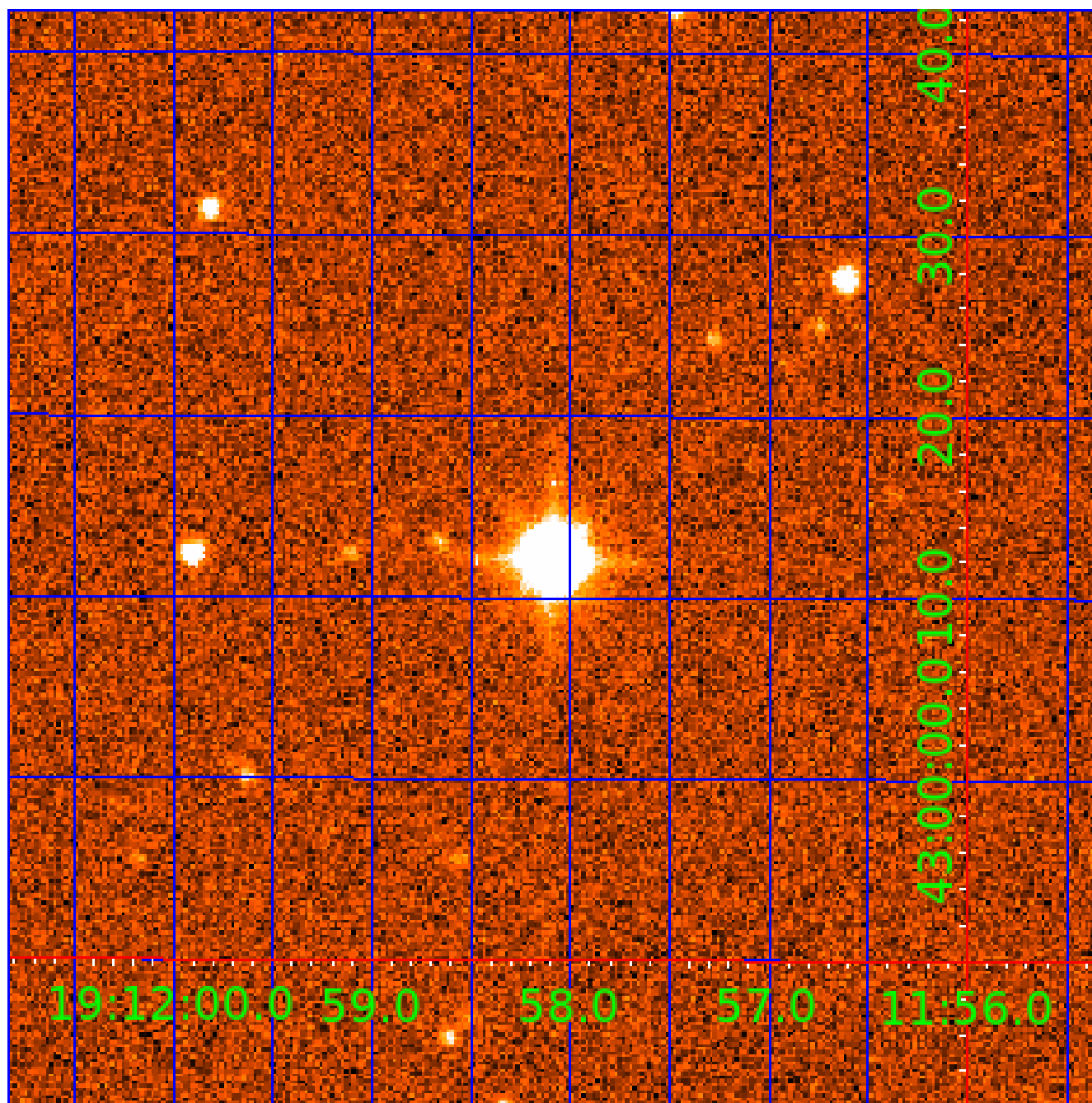


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007433177

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})
007433177-01	OBS	No	508.283000	534.918595	929.5	2.593	13.3	8.7	2.95	5016	10.00	3.26
007433177-03	OBS	No	476.619557	302.914980	131.2	4.653	13.4	1.2	2.95	5016	3.31	3.56
007433177-04	OBS	No	504.350785	317.029150	886.6	3.087	10.1	8.1	2.95	5016	9.38	3.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007433177-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007433177-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007433177-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

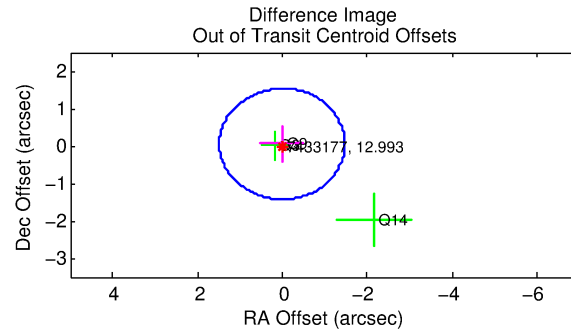
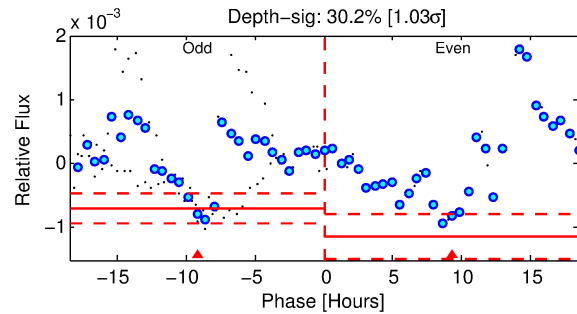
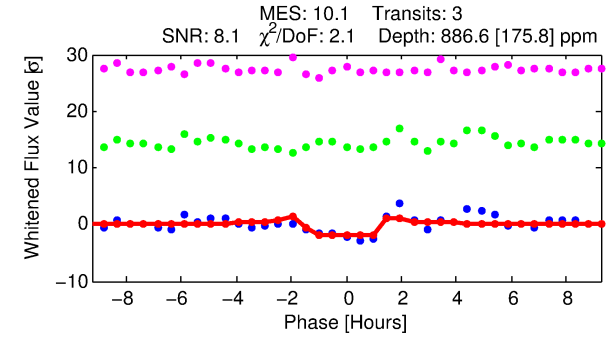
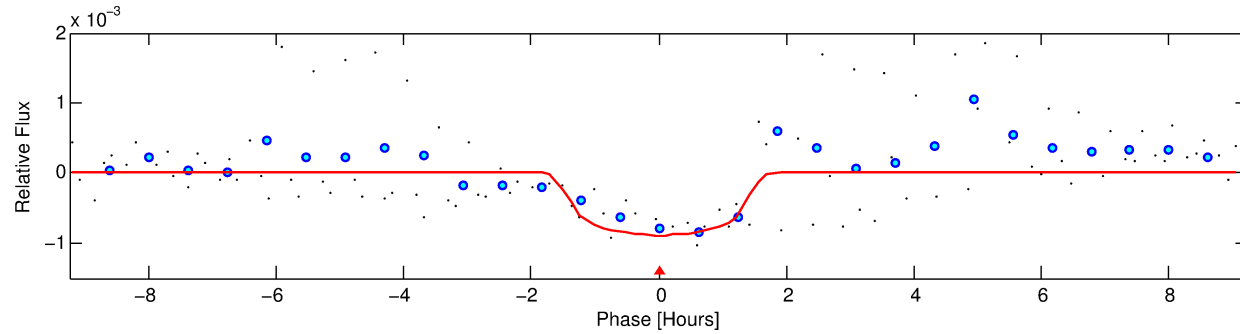
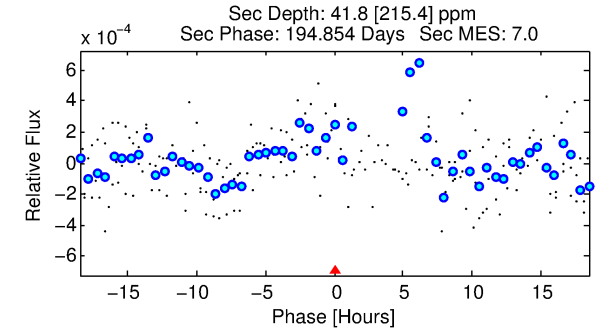
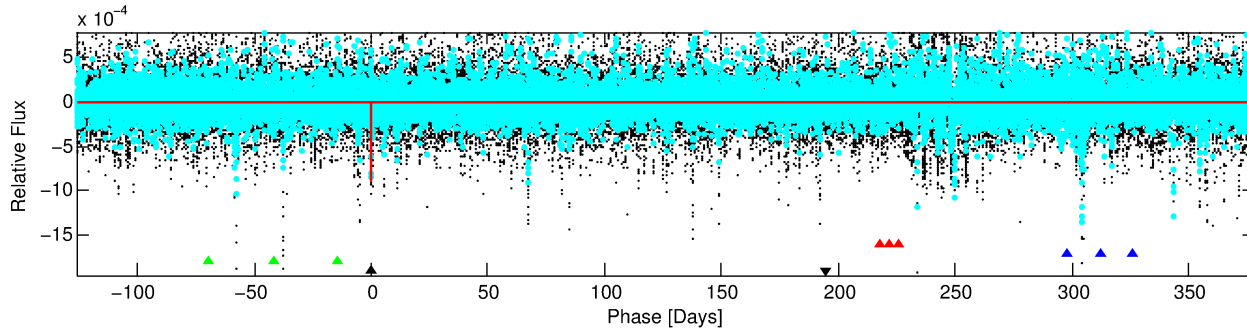
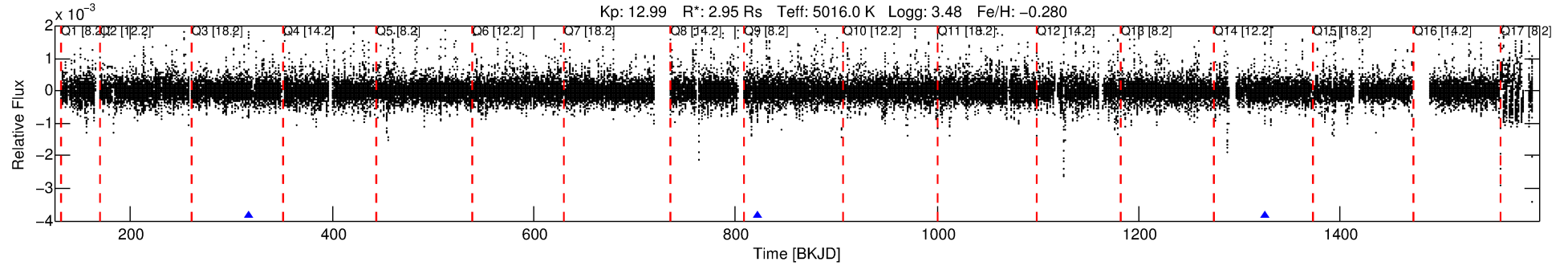
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007433177-04

No Significant Match Found

DV One-Page Summary

KIC: 7433177 Candidate: 4 of 4 Period: 504.351 d



DV Fit Results:

Period = 504.35078 [0.00437] d
Epoch = 317.0292 [0.0064] BKJD
Rp/R* = 0.0291 [0.0338]
a/R* = 943.47 [3899.82]
b = 0.70 [3.10]
Seff = 3.30 [2.06]
Teq = 344 [54] K
Rp = 9.38 [11.76] Re
a = 1.2247 [0.5041] AU
Ag = 391.74 [2229.11] [0.18 σ]
Teffp = 2364 [3343] K [0.60 σ]

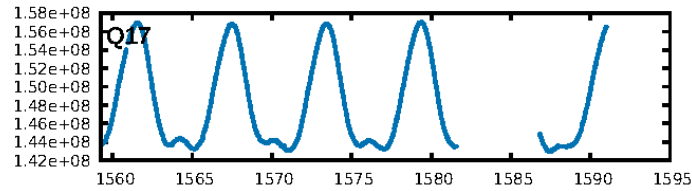
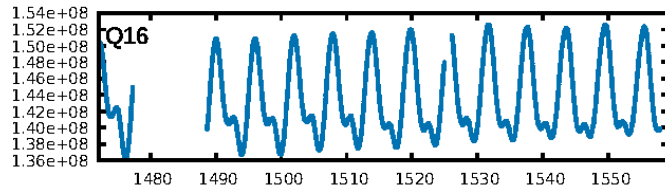
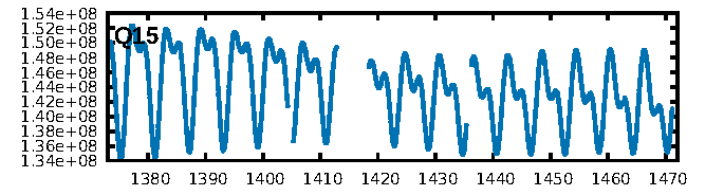
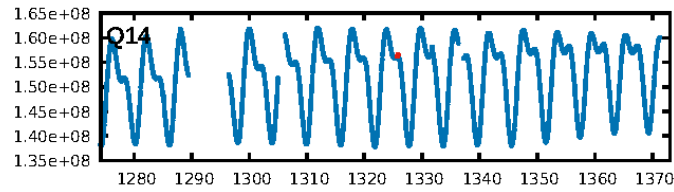
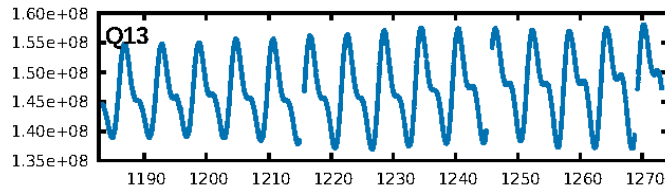
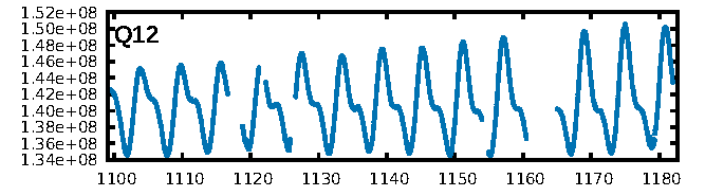
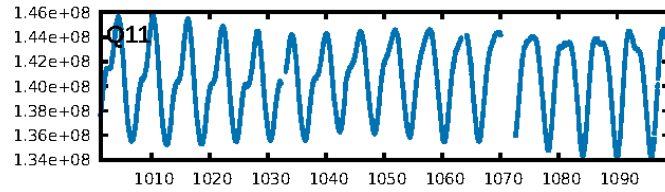
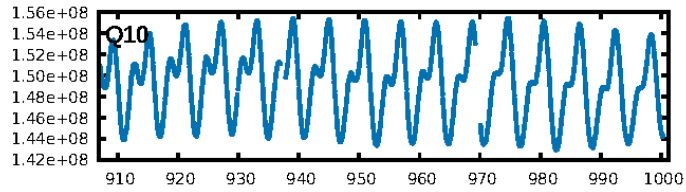
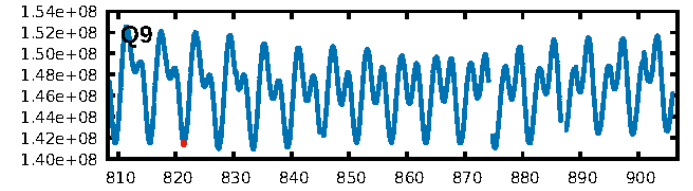
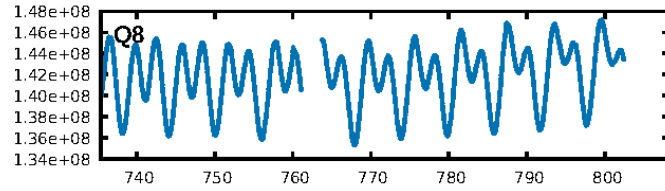
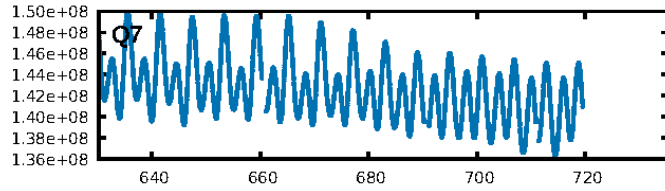
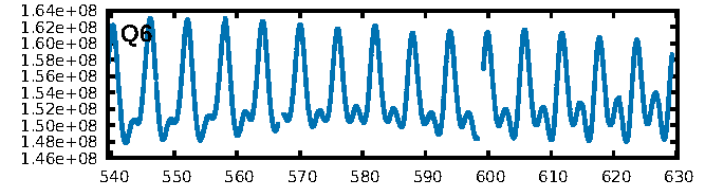
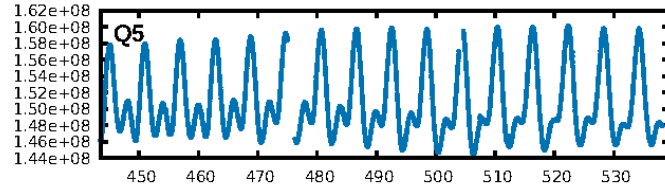
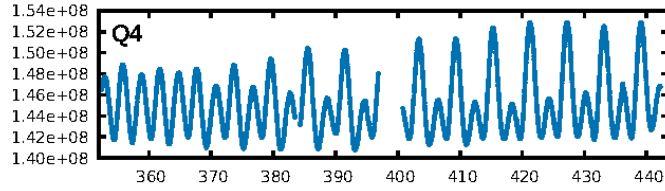
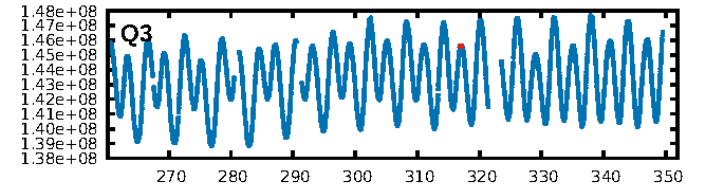
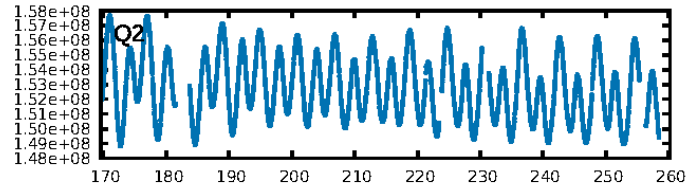
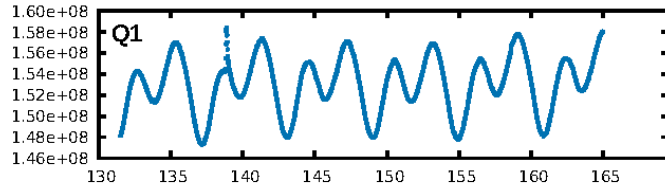
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [32.75 σ]
LongPeriod-sig: 100.0% [23.41 σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 27.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.238
Centroid-sig: 37.9%
Centroid-so: 0.402 arcsec [0.69 σ]
OotOffset-rm: 0.052 arcsec [0.10 σ]
KicOffset-rm: 0.046 arcsec [0.13 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

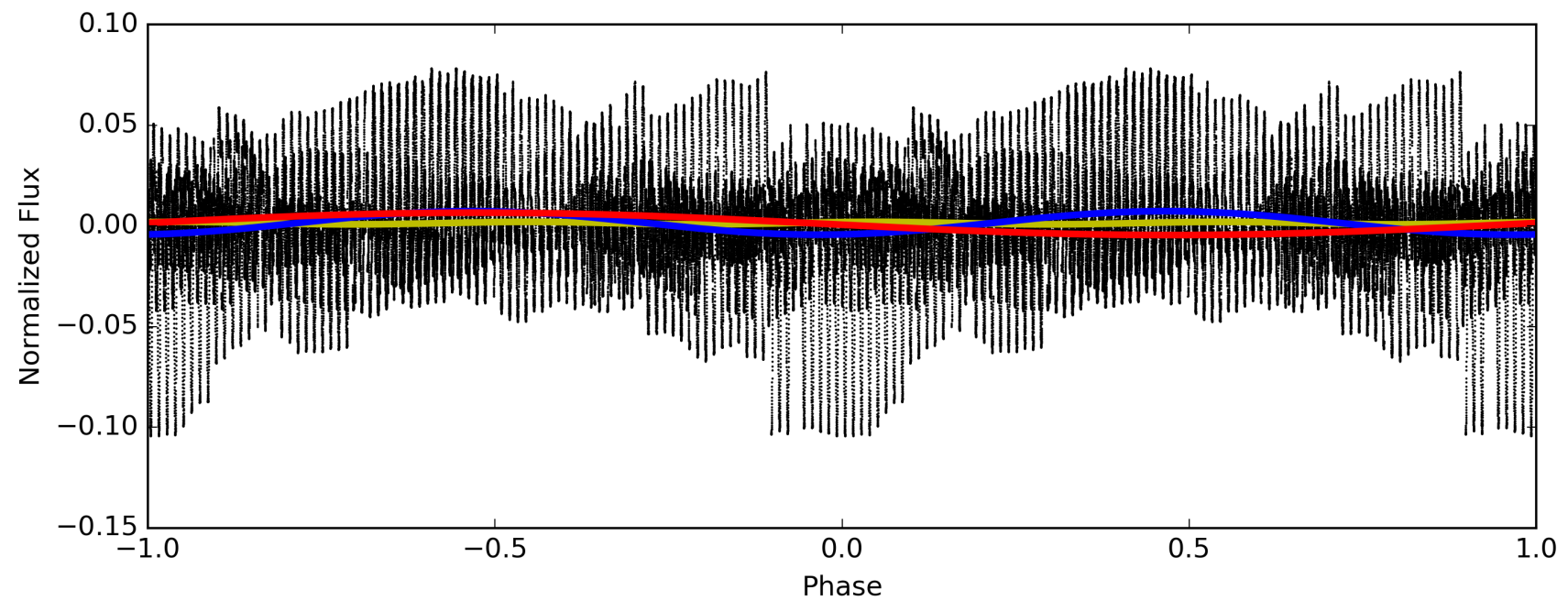
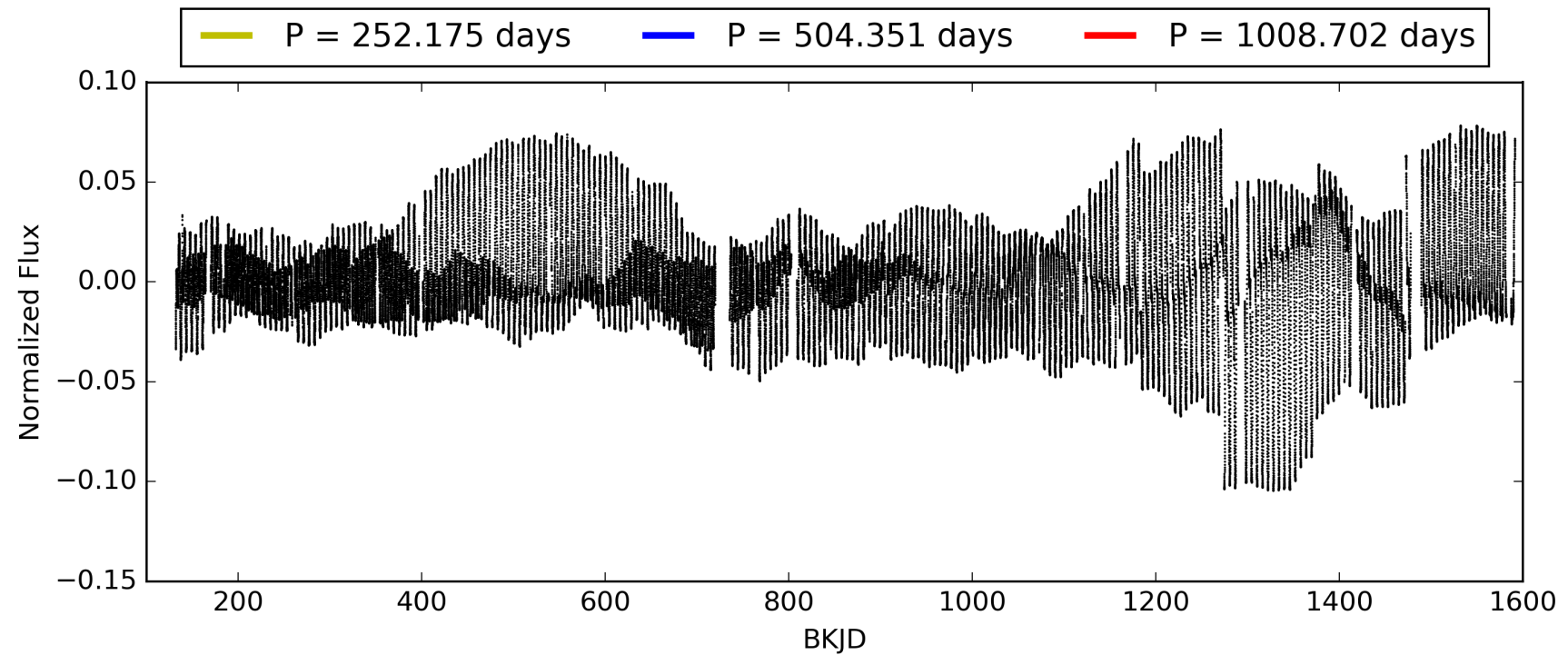
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:10:06 Z

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

TCE 007433177-04, PDC Light Curves

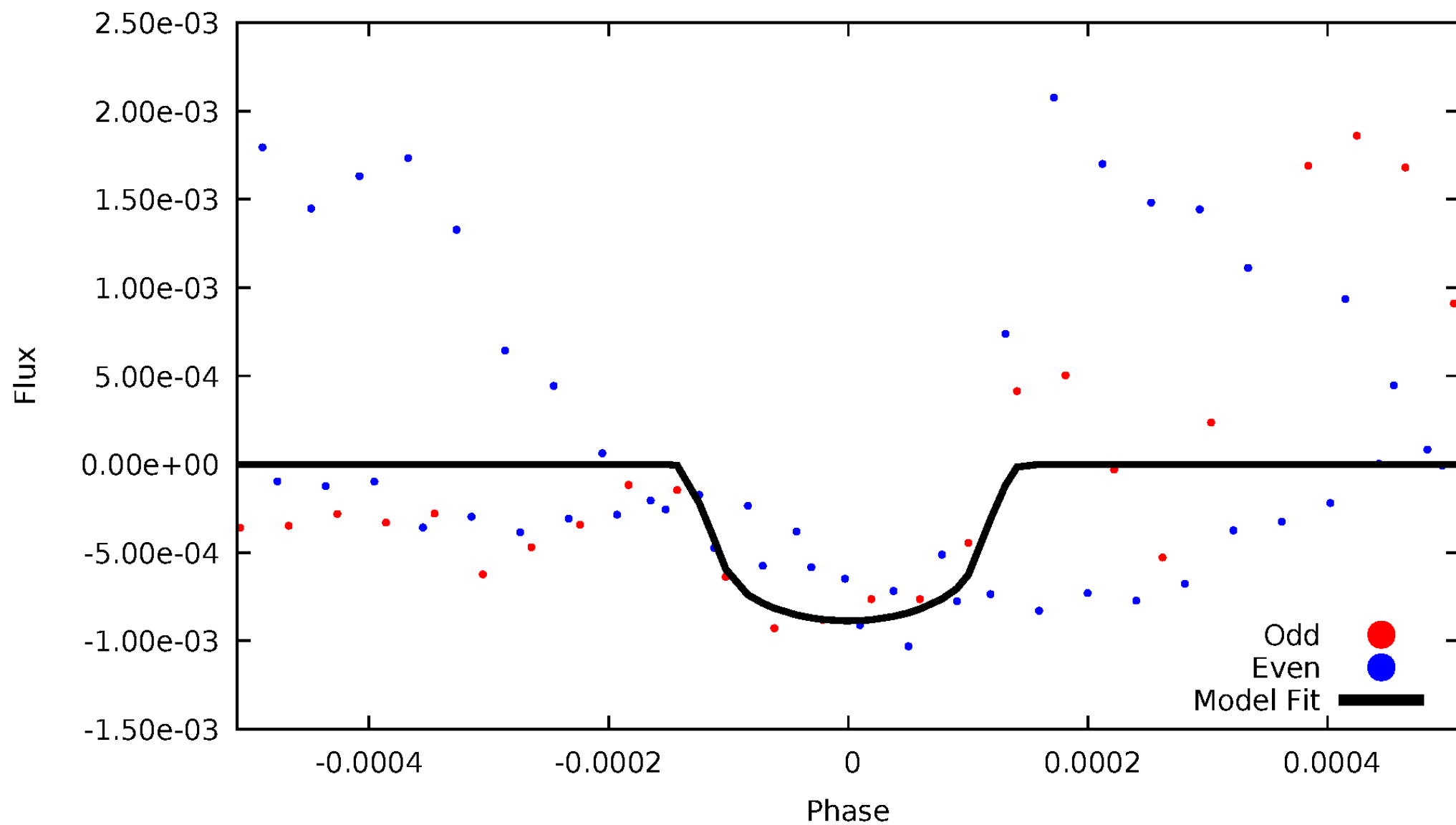


TCE 007433177-04



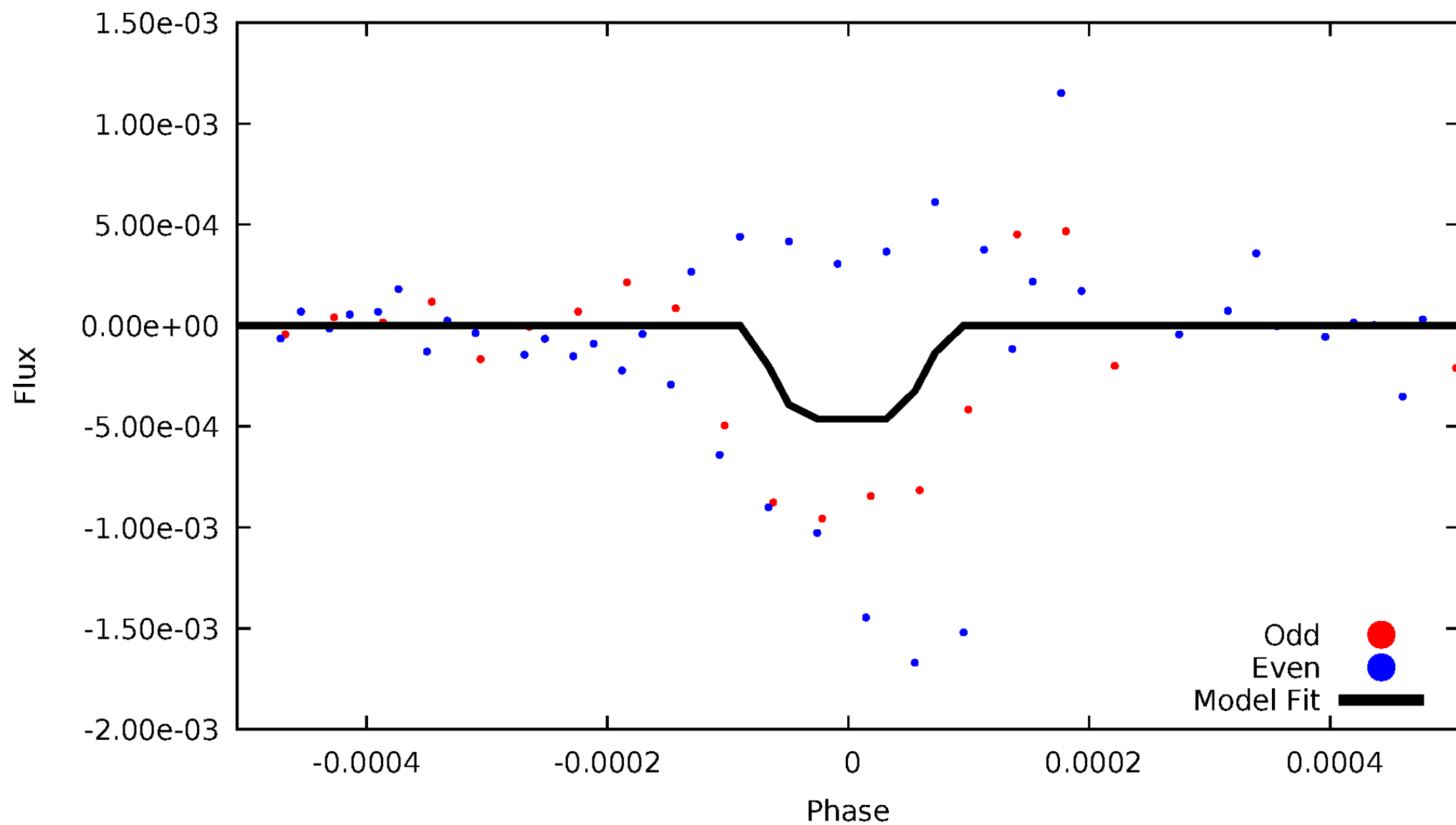
DV Odd/Even

TCE 007433177-04



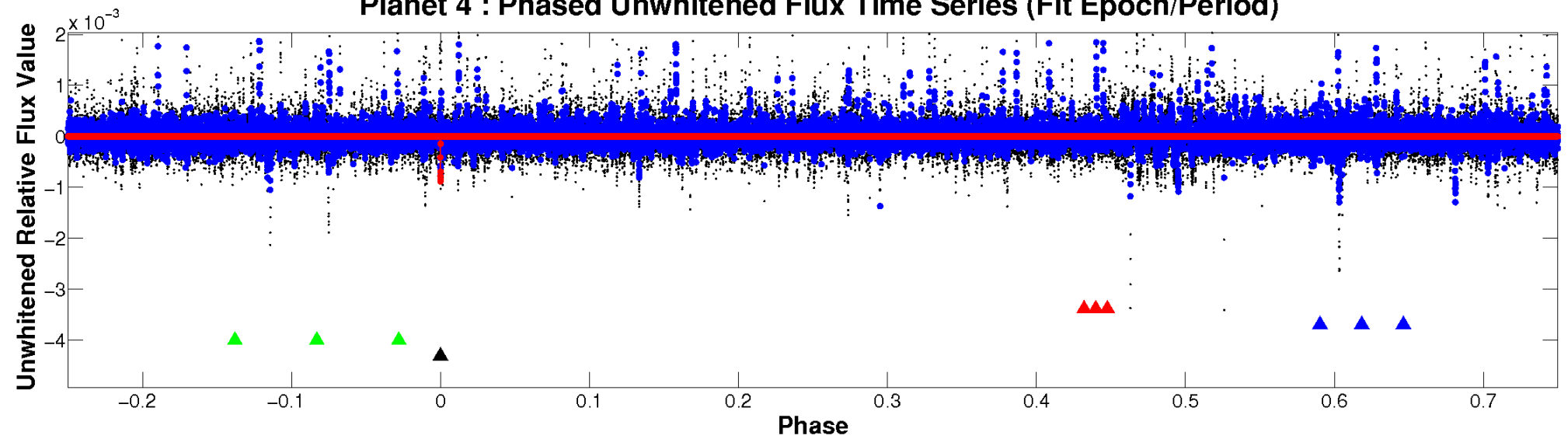
ALT Odd/Even

TCE 007433177-04

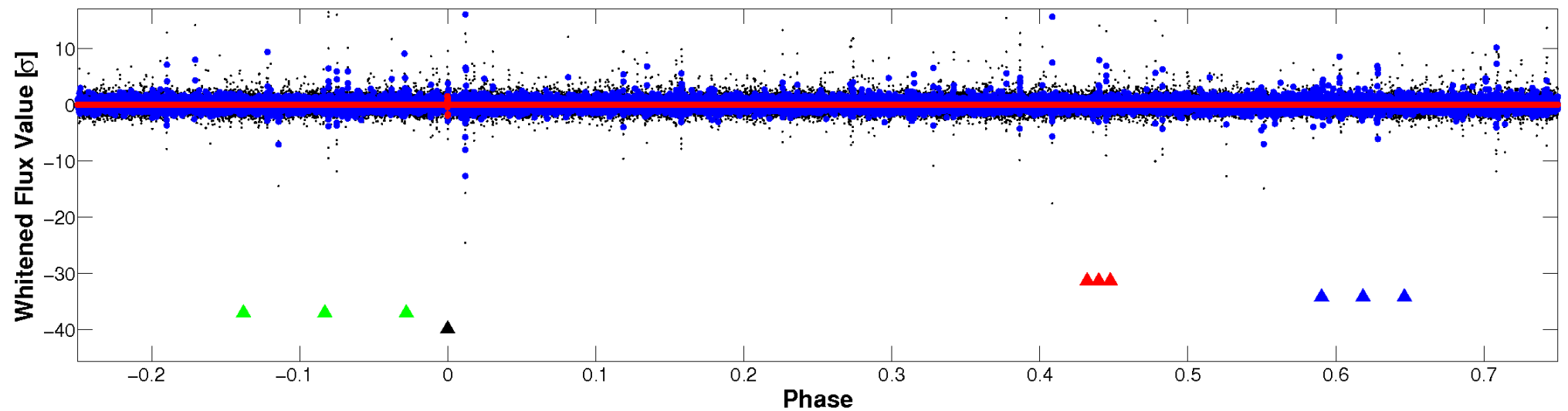


Non-Whitened Vs. Whitened Light Curve

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

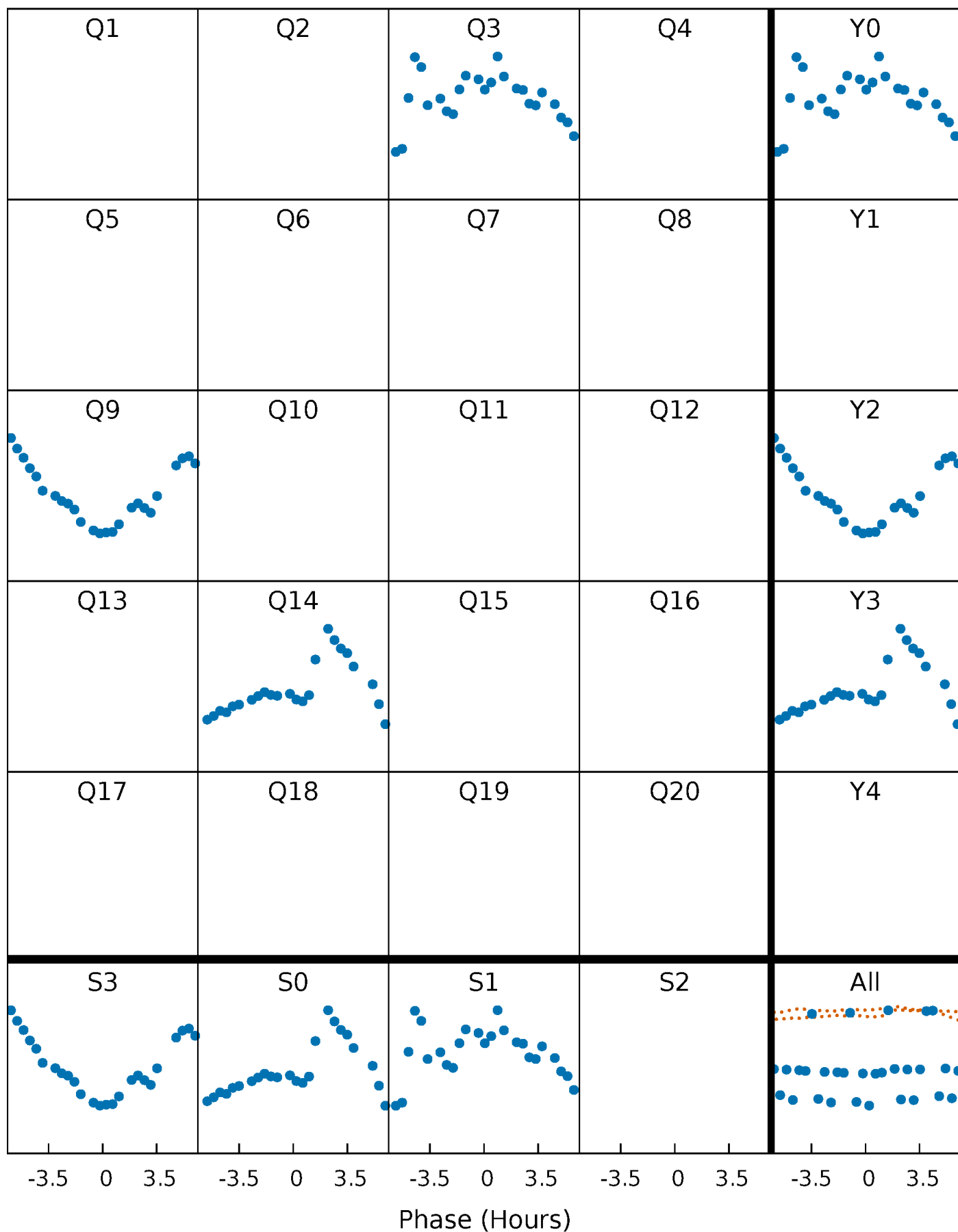


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



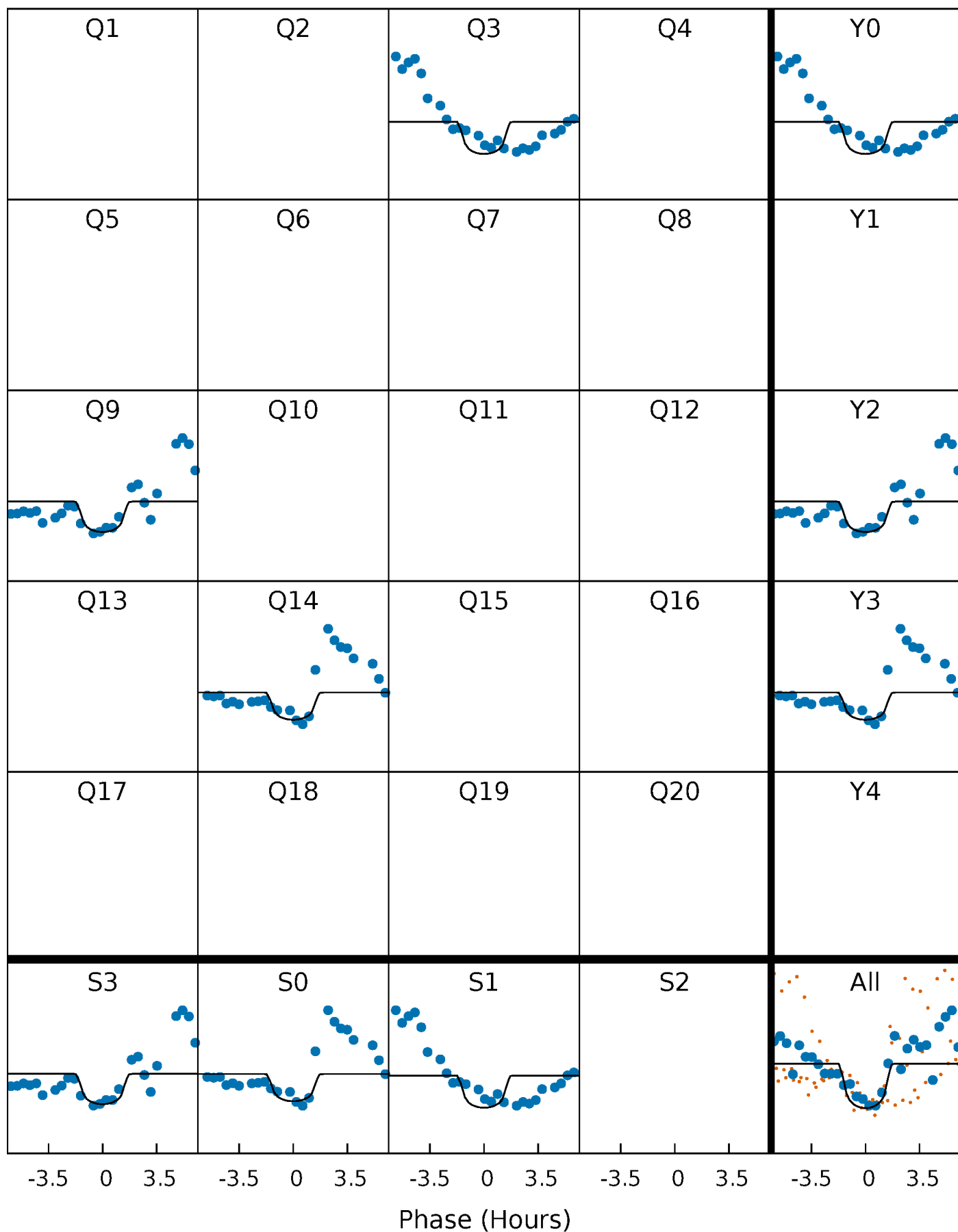
PDC Quarter-Phased Transit Curves

TCE 007433177-04 $P=504.350785$ Days $T_0=317.029151$ (BKJD)



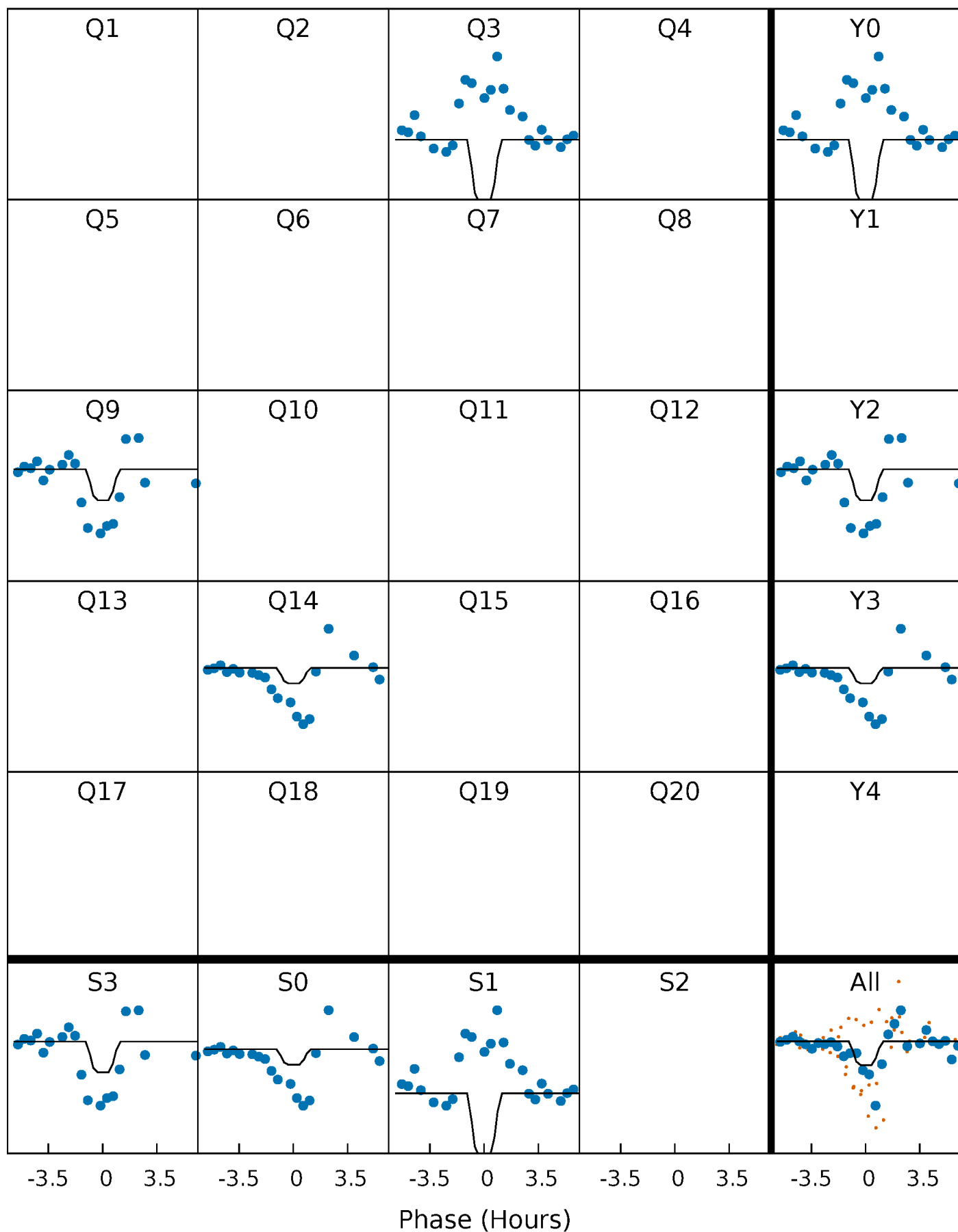
DV Quarter-Phased Transit Curves

TCE 007433177-04 P=504.350785 Days $T_0=317.029151$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

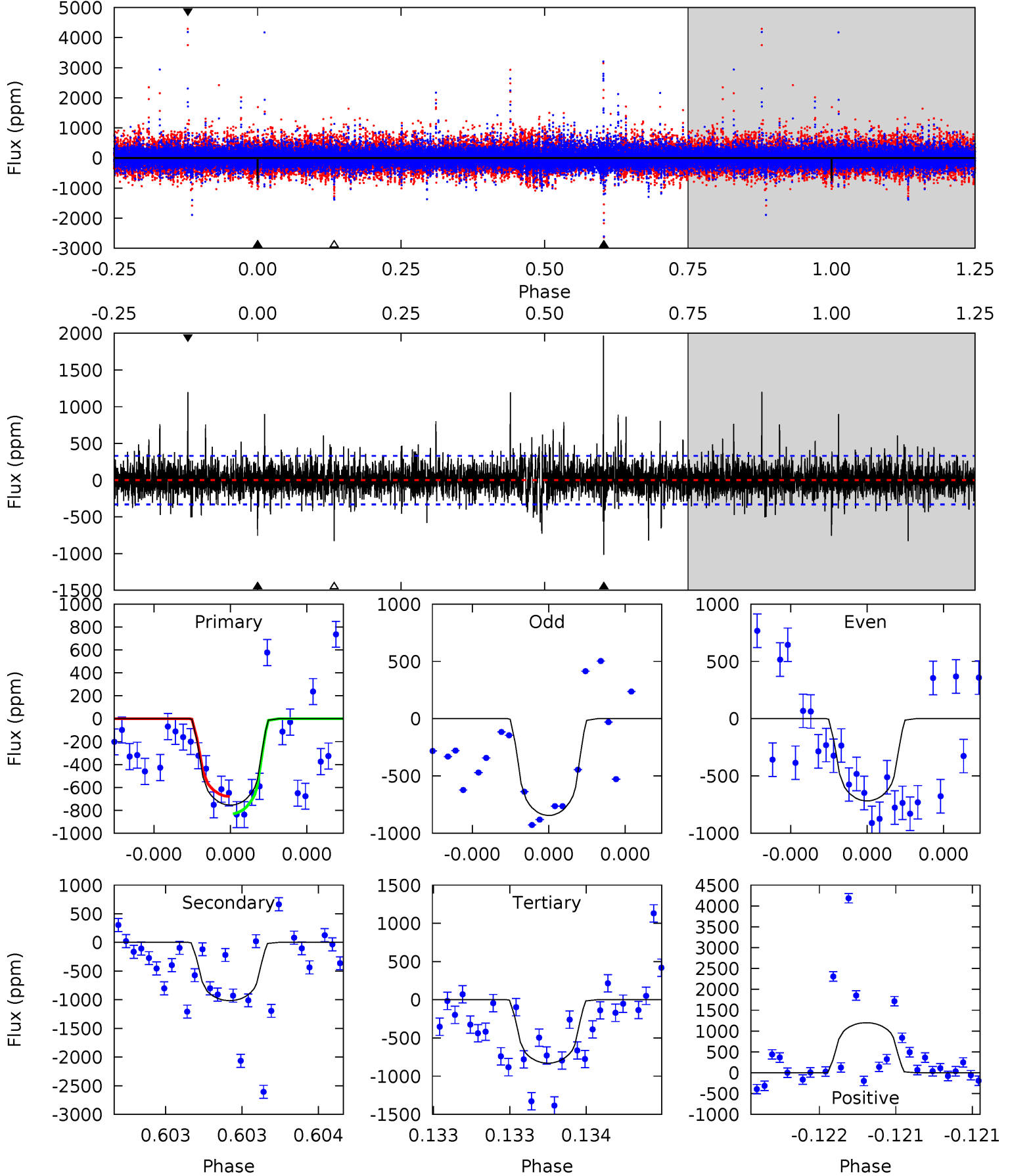
TCE 007433177-04 $P=504.347939$ Days $T_0=317.032248$ (BKJD)



DV Model-Shift Uniqueness Test

007433177-04, P = 504.350785 Days, E = 317.029151 Days

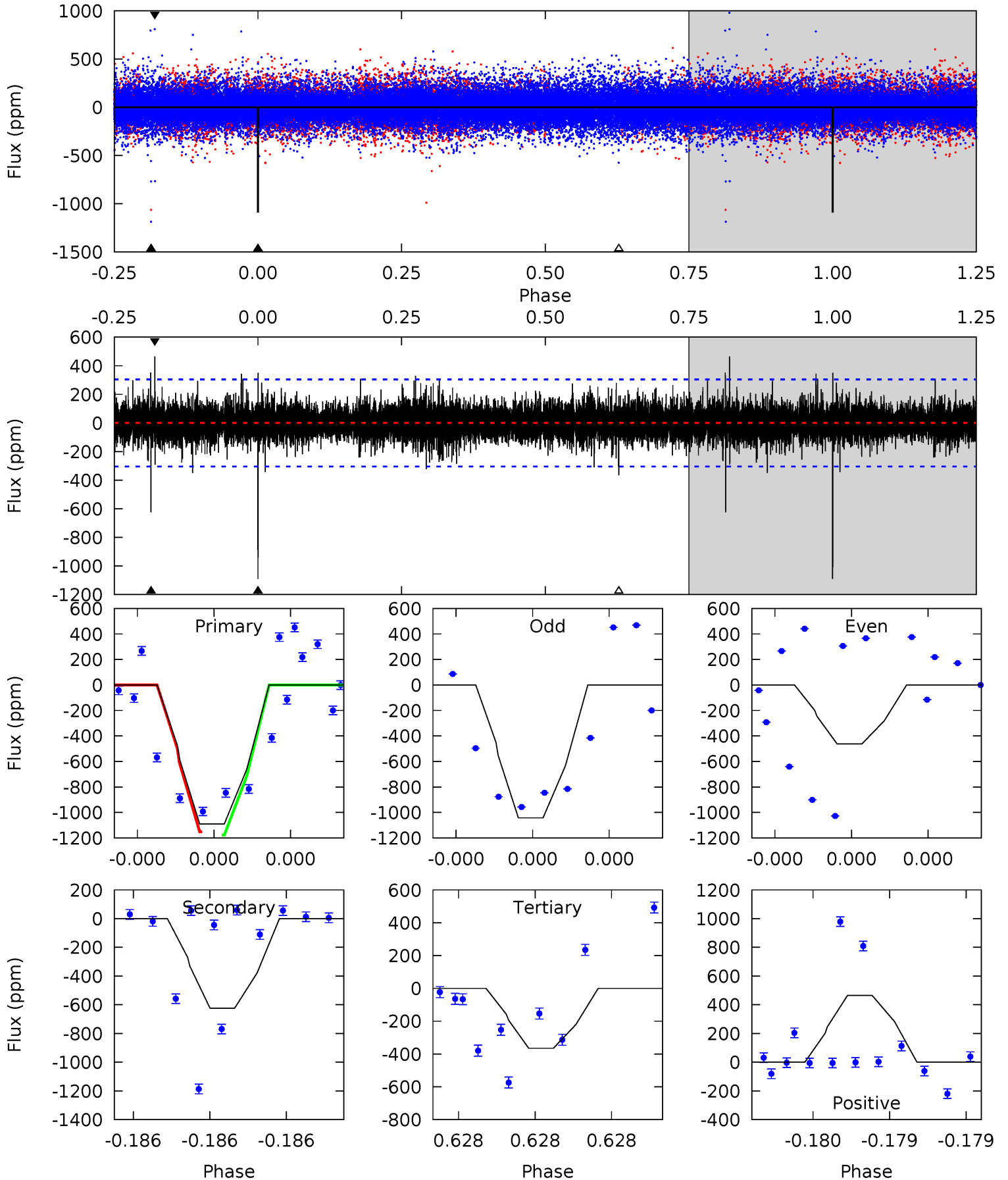
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	17.4	14.2	20.6	5.67	3.63	2.50	-1.29	-7.63	3.19	-3.15	0.82	0.92	0.66	1.30



Alt Model-Shift Uniqueness Test

007433177-04, P = 504.347939 Days, E = 317.032248 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	11.9	6.93	8.84	5.79	3.81	1.19	13.8	11.9	4.92	3.01	6.66	0.68	0.30	0



Stellar Parameters For KIC 007433177

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5016^{+126}_{-101}	$3.481^{+0.346}_{-0.283}$	$-0.280^{+0.250}_{-0.200}$	$2.953^{+1.393}_{-1.139}$	$0.964^{+0.258}_{-0.139}$	$0.053^{+0.133}_{-0.034}$
	+3%/-2%	+10%/-8%	+89%/-71%	+47%/-39%	+27%/-14%	+252%/-64%
Source	PHO1	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 007433177-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1016 ± 58	$11.64^{+10.30}_{-7.72}$	479^{+61}_{-50}	4777^{+3377}_{-982}	6351^{+49509}_{-4600}
Alt.	-624 ± 53	$10.56^{+10.21}_{-7.32}$	482^{+56}_{-49}	4532^{+3303}_{-932}	4693^{+44428}_{-3455}

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 $A_{obs} \gg 1.0$

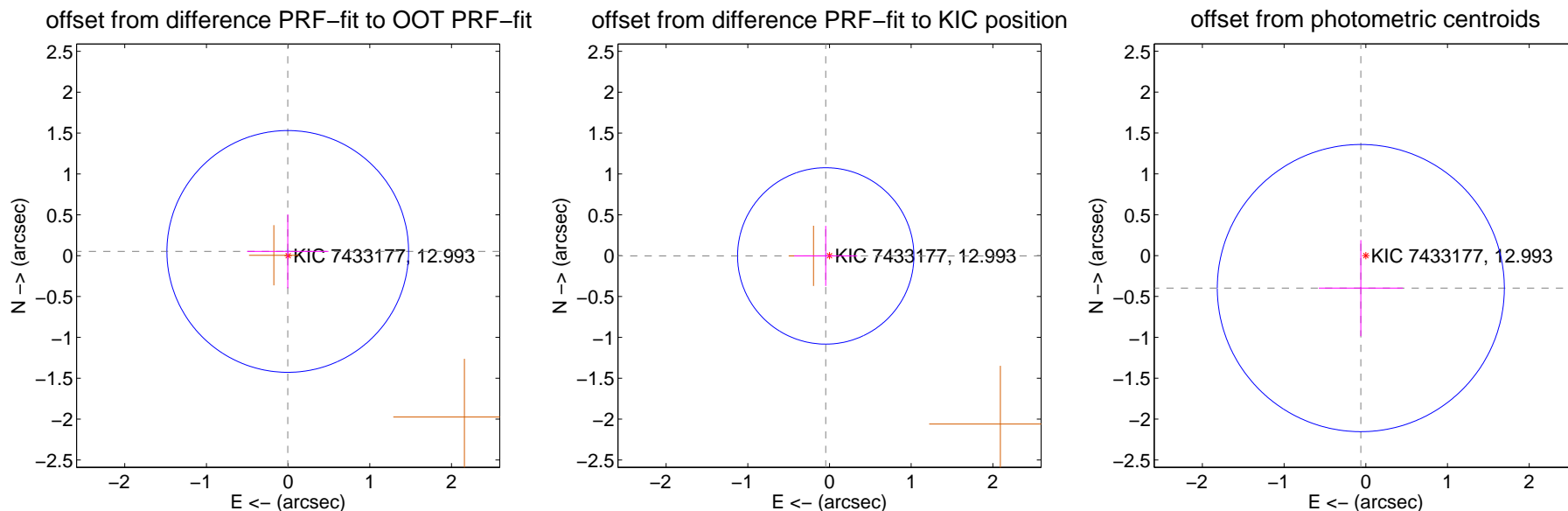
DV Centroid Data

Supplemental centroid analysis for 007433177-04. Kepler magnitude: 12.99. Transit SNR 8.11

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.052 ± 0.493	0.10	0.005 ± 0.498	0.052 ± 0.452
PRF-fit source offset from KIC position	0.046 ± 0.360	0.13	0.046 ± 0.386	-0.003 ± 0.368
photometric centroid source offset	0.40 ± 0.59	0.69	0.06 ± 0.51	-0.40 ± 0.59



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

Q1 no difference image



Q1 no OOT image



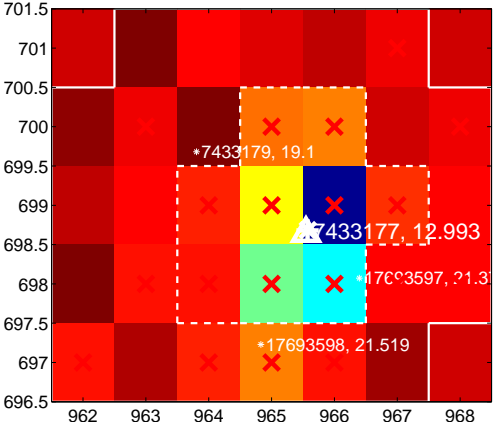
Q2 no difference image



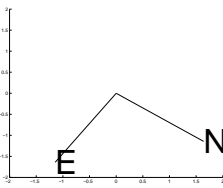
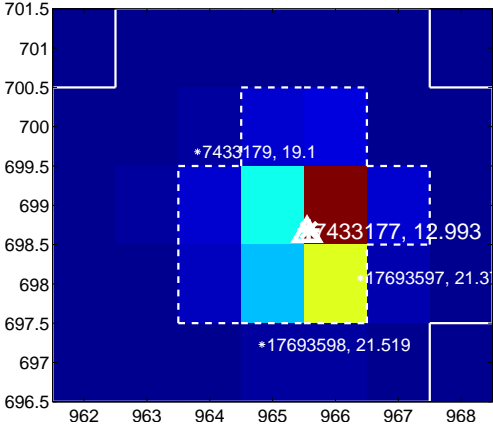
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image



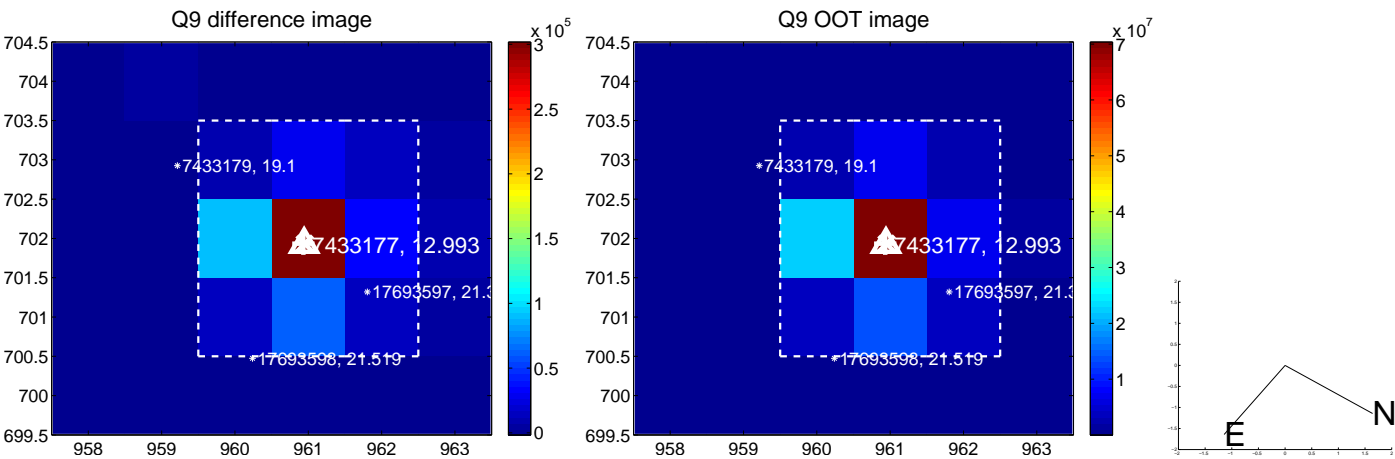
Q4 no OOT image



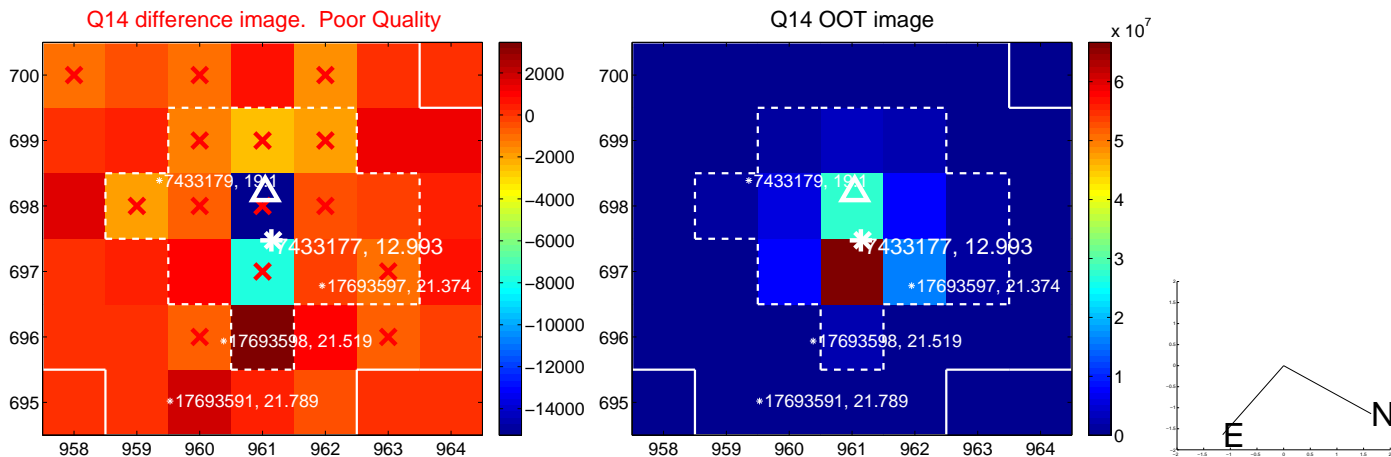
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



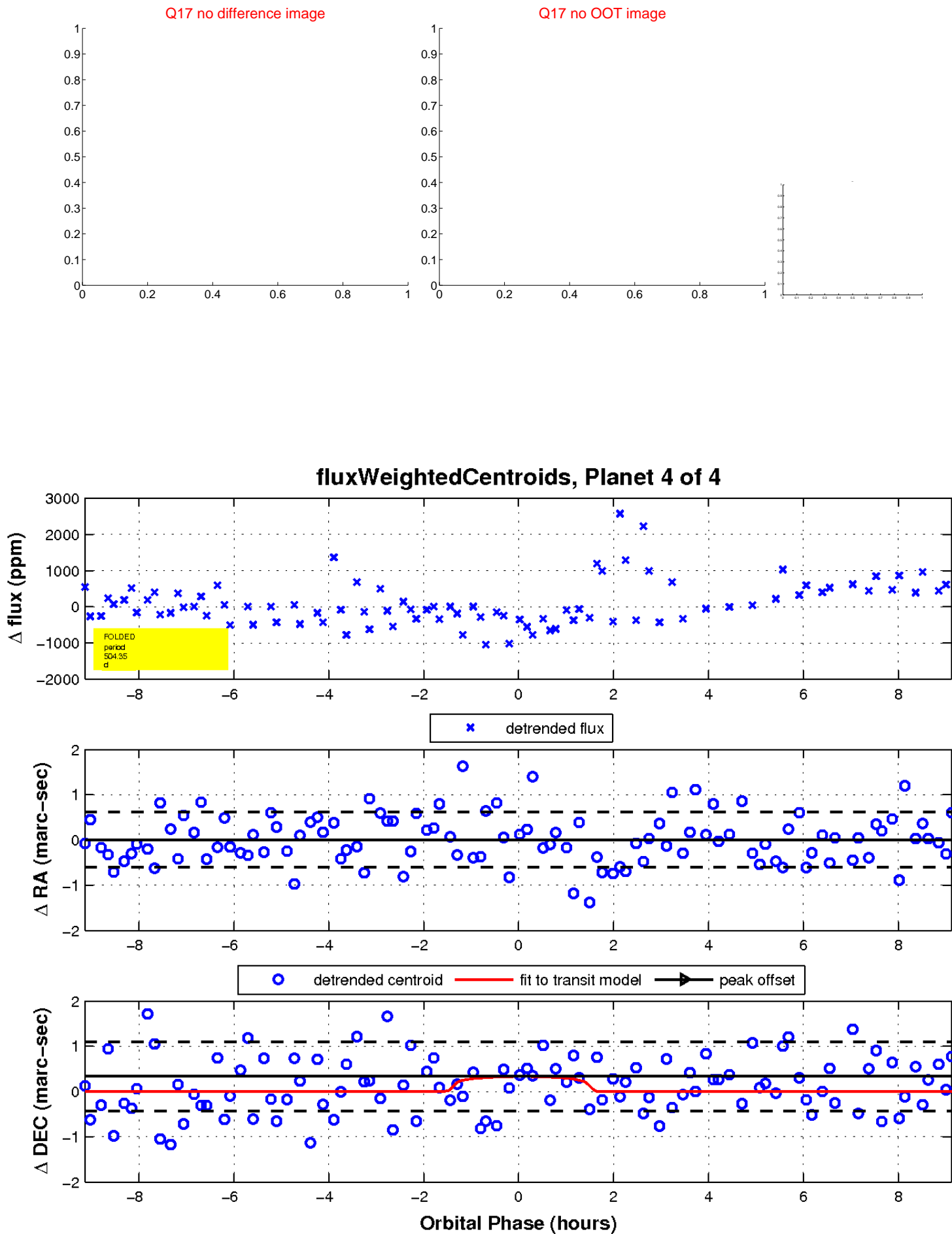
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

