

KIC 011186837

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})
011186837-01	OBS	No	486.187684	150.321778	1710.3	3.371	18.6	7.3	0.82	5985	3.40	0.58
011186837-02	OBS	No	368.795140	187.446756	1176.0	2.715	18.1	5.4	0.82	5985	3.00	0.84
011186837-04	OBS	No	383.220877	355.166138	2773.2	6.522	16.4	8.6	0.82	5985	4.55	0.80
011186837-05	OBS	No	330.476390	456.373983	654.5	3.593	16.2	2.8	0.82	5985	2.18	0.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011186837-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011186837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV
011186837-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011186837-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

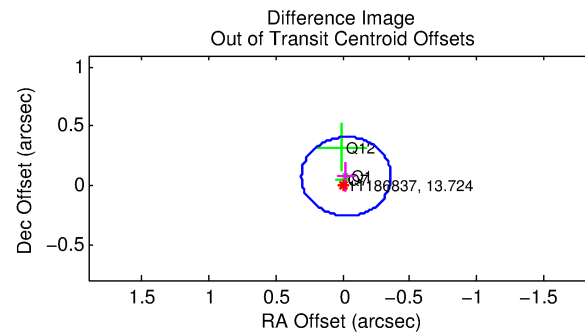
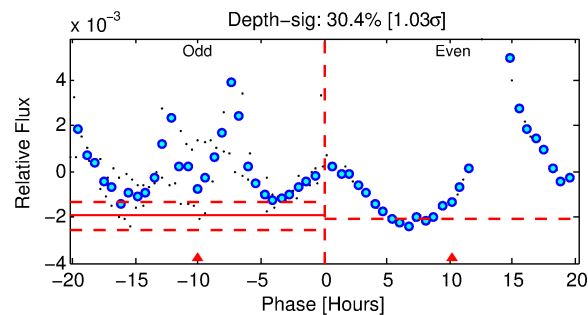
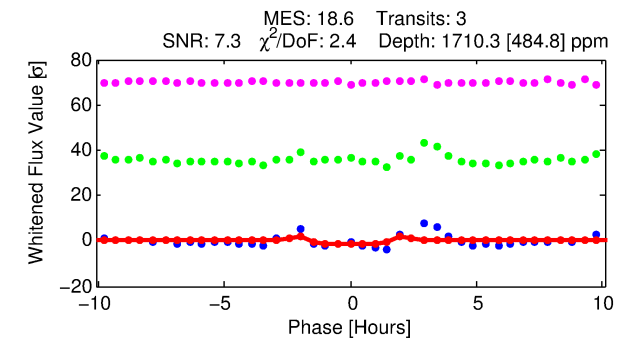
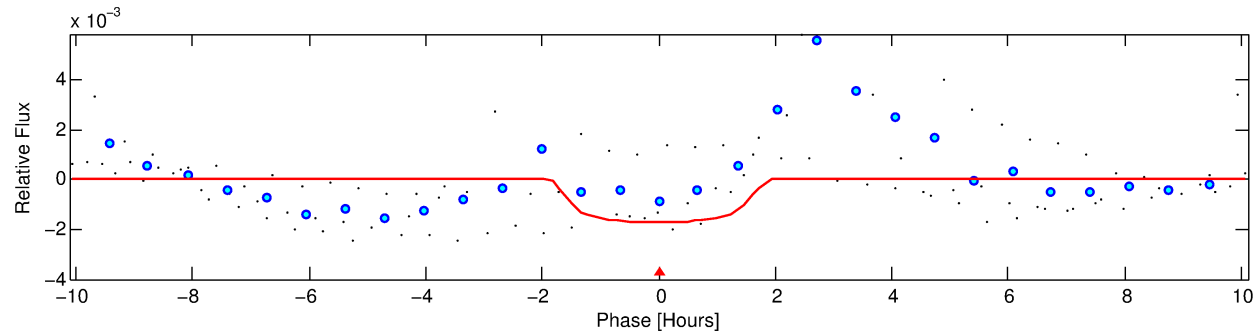
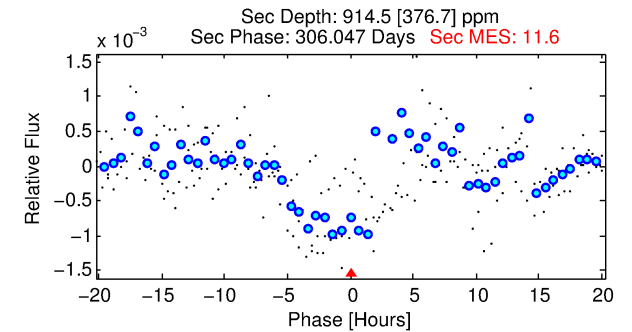
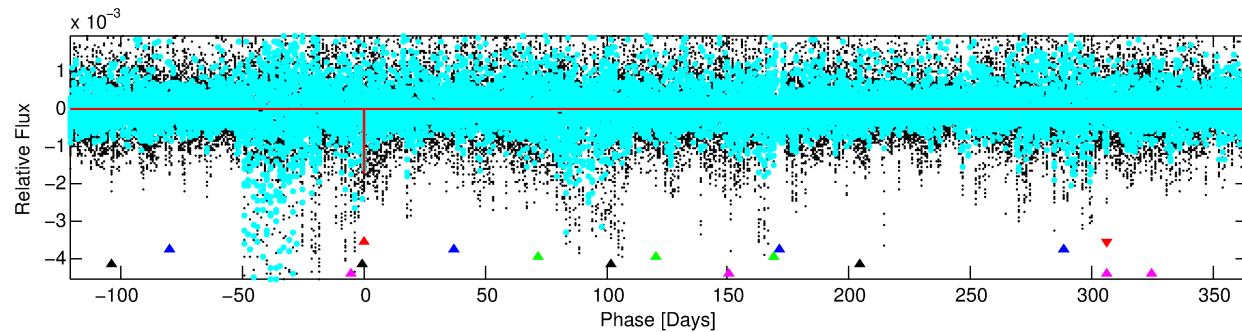
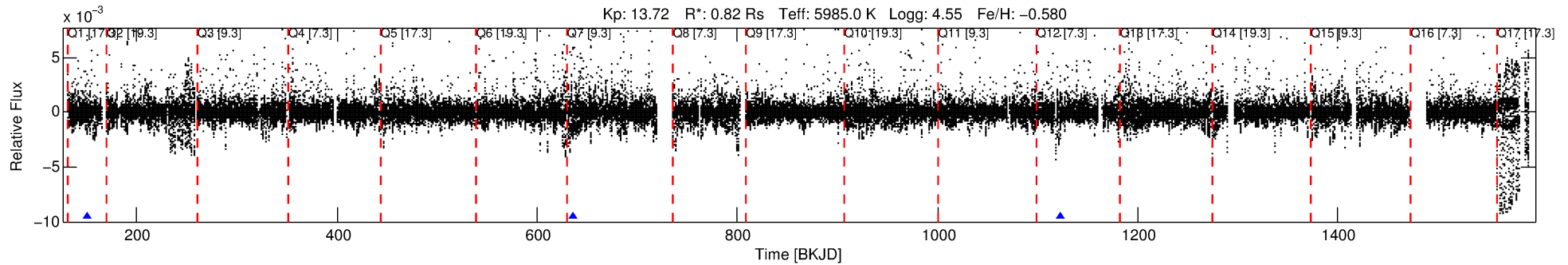
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011186837-01

No Significant Match Found

DV One-Page Summary

KIC: 11186837 Candidate: 1 of 5 Period: 486.188 d



DV Fit Results:

Period = 486.18768 [0.00603] d
Epoch = 150.3218 [0.0068] BKJD
Rp/R* = 0.0379 [0.1808]
a/R* = 1143.66 [27267.09]
b = 0.00 [9411.50]
Seff = 0.58 [0.20]
Teq = 223 [19] K
Rp = 3.40 [16.24] Re
a = 1.1547 [0.2548] AU
Ag = 57928.71 [553042.84] [0.10 σ]
Teffp = 5343 [12747] K [0.40 σ]

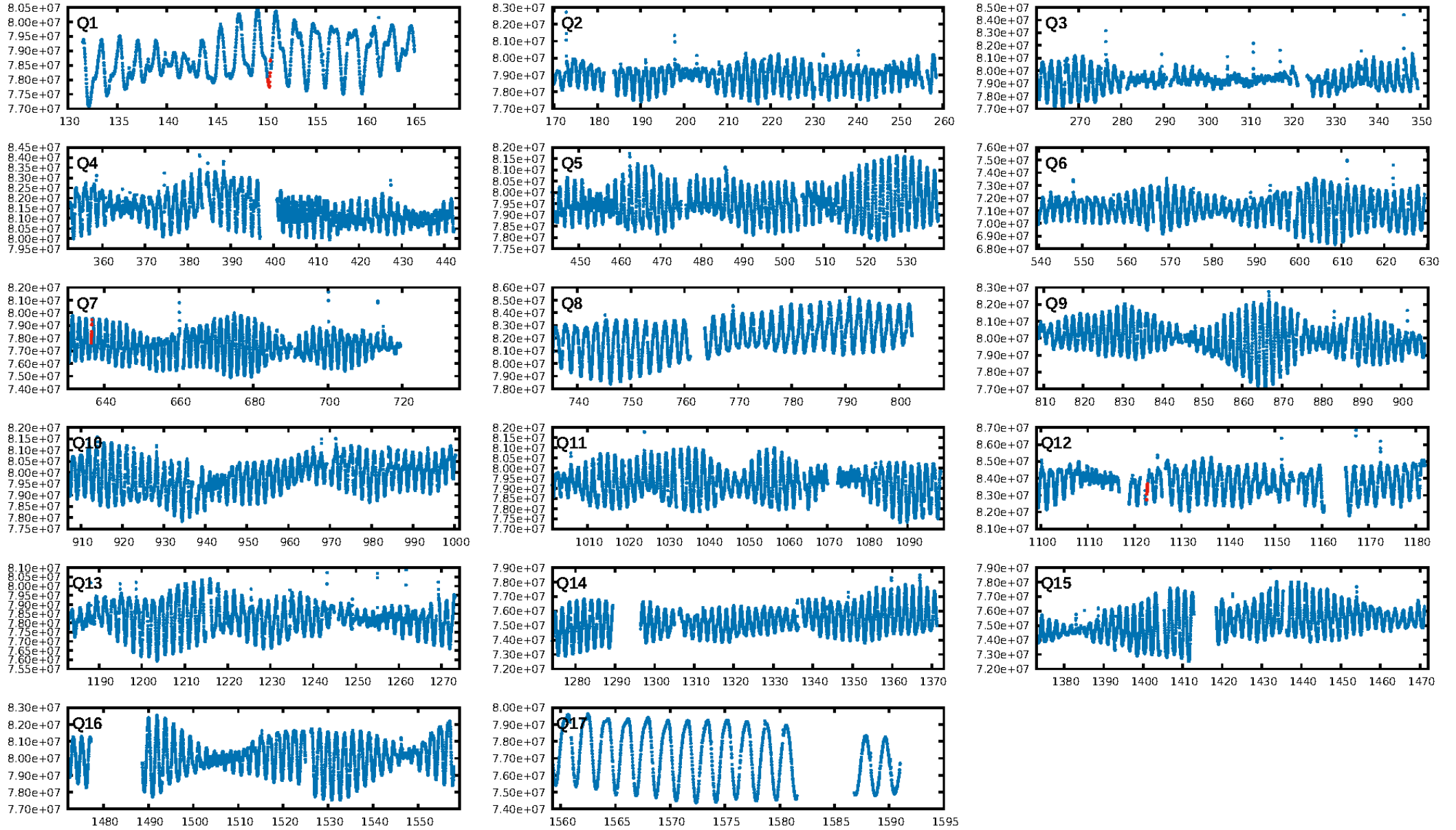
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [220.86 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 40.5%
ModelChiSquareGof-sig: 2.9%
Bootstrap-pfa: 8.09e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 1.272
Centroid-sig: N/A
Centroid-so: 0.322 arcsec [0.87 σ]
OotOffset-rm: 0.080 arcsec [0.71 σ]
KicOffset-rm: 0.118 arcsec [1.25 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

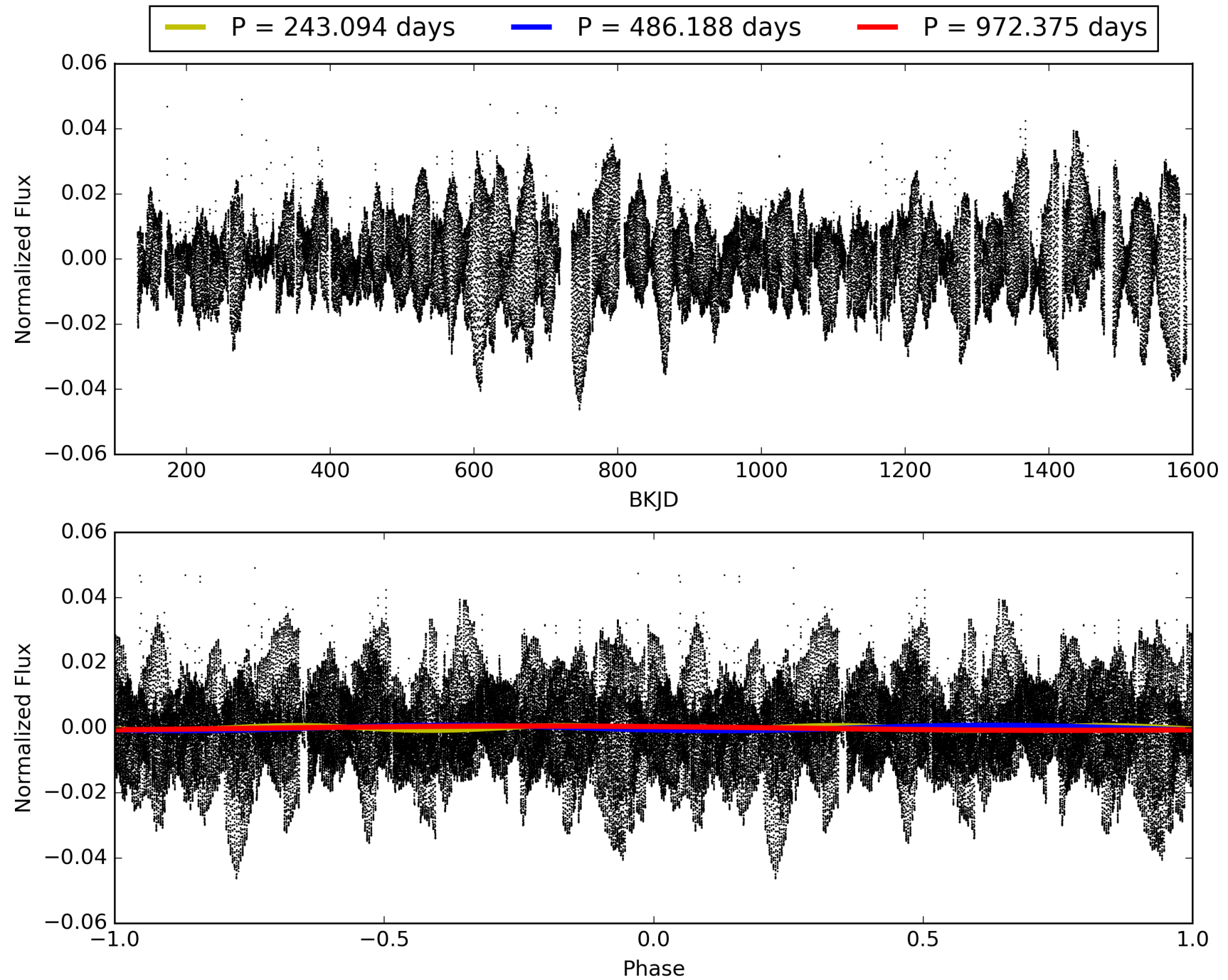
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:15:12 Z

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

TCE 011186837-01, PDC Light Curves

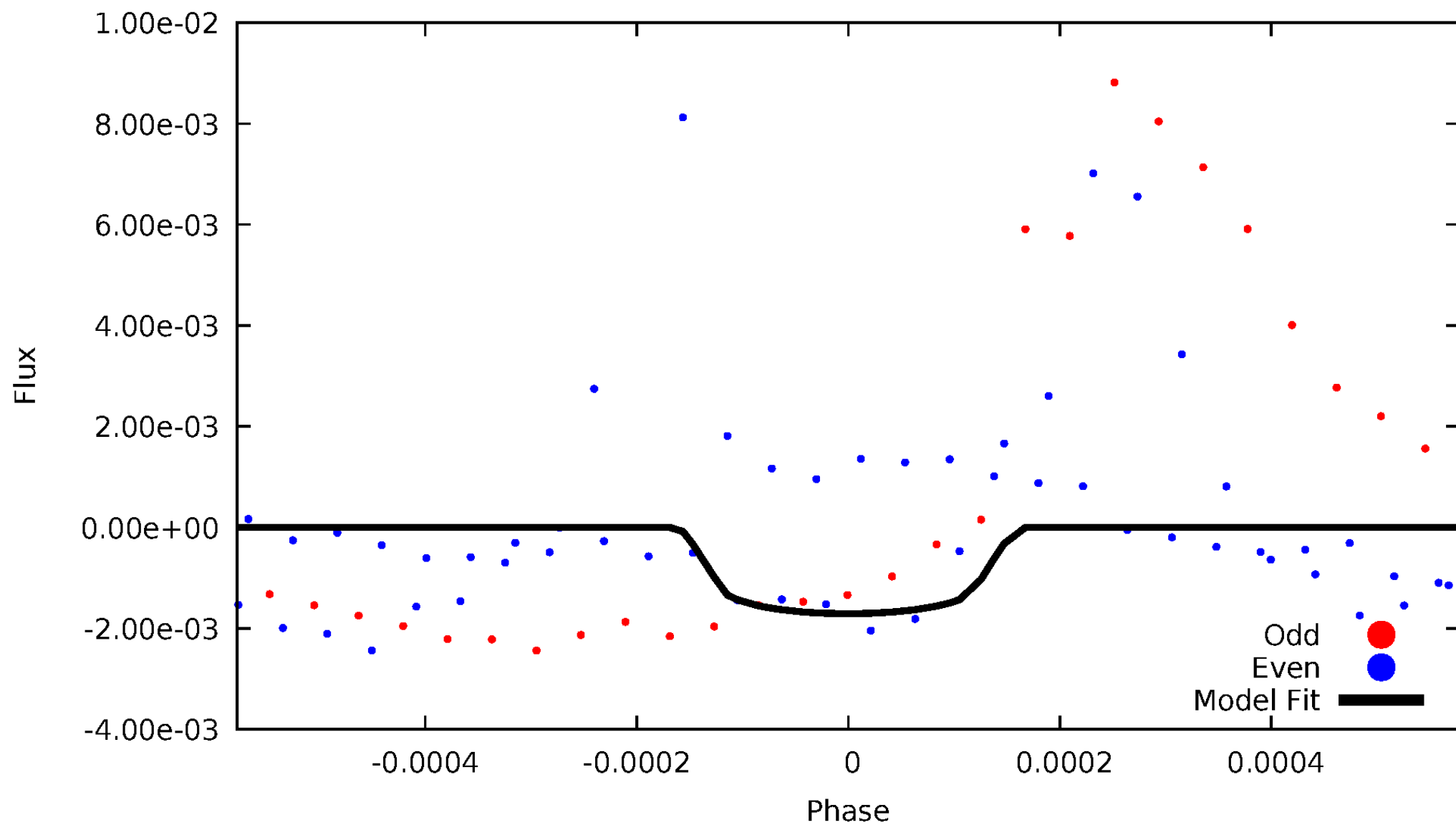


TCE 011186837-01



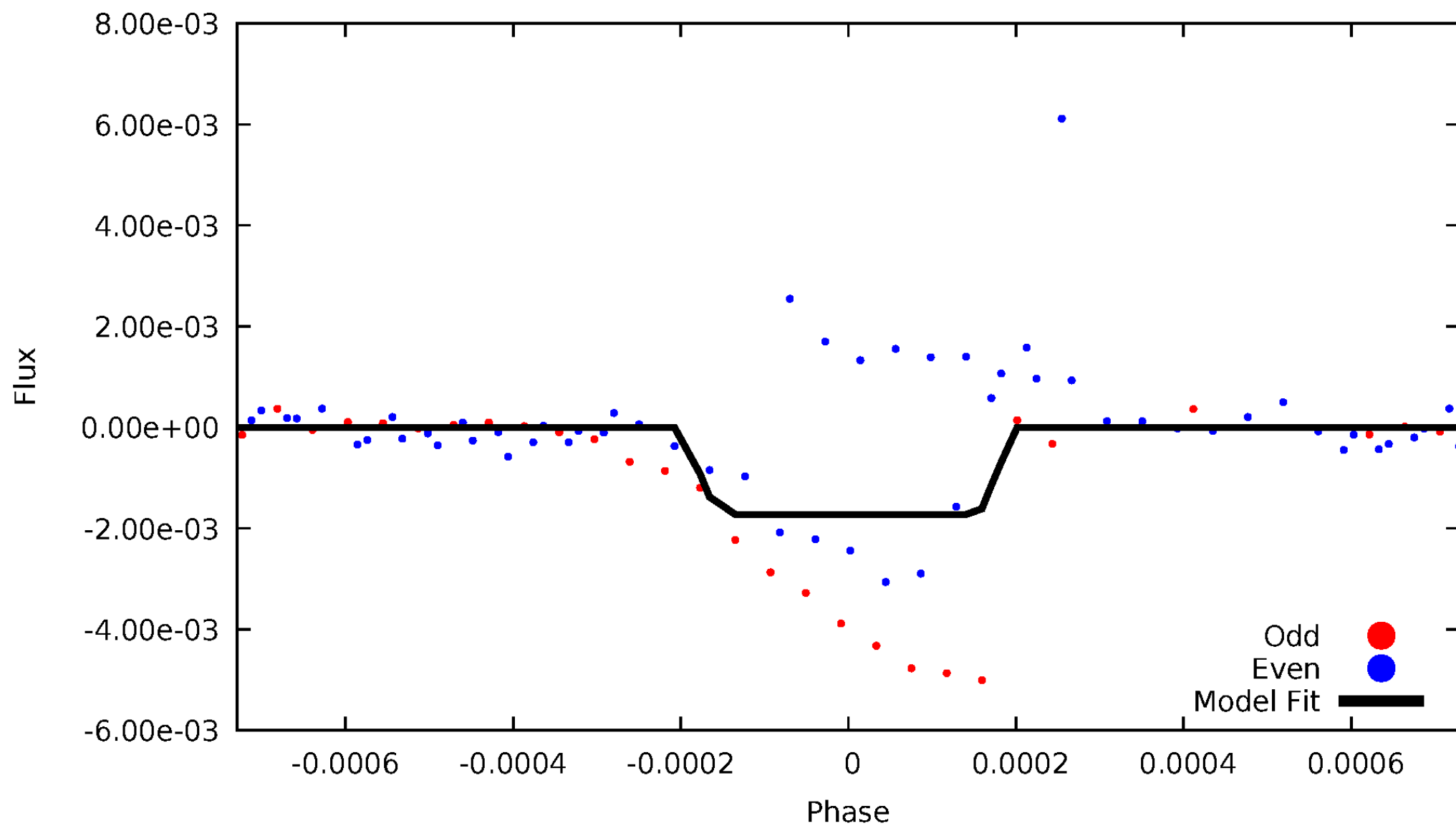
DV Odd/Even

TCE 011186837-01



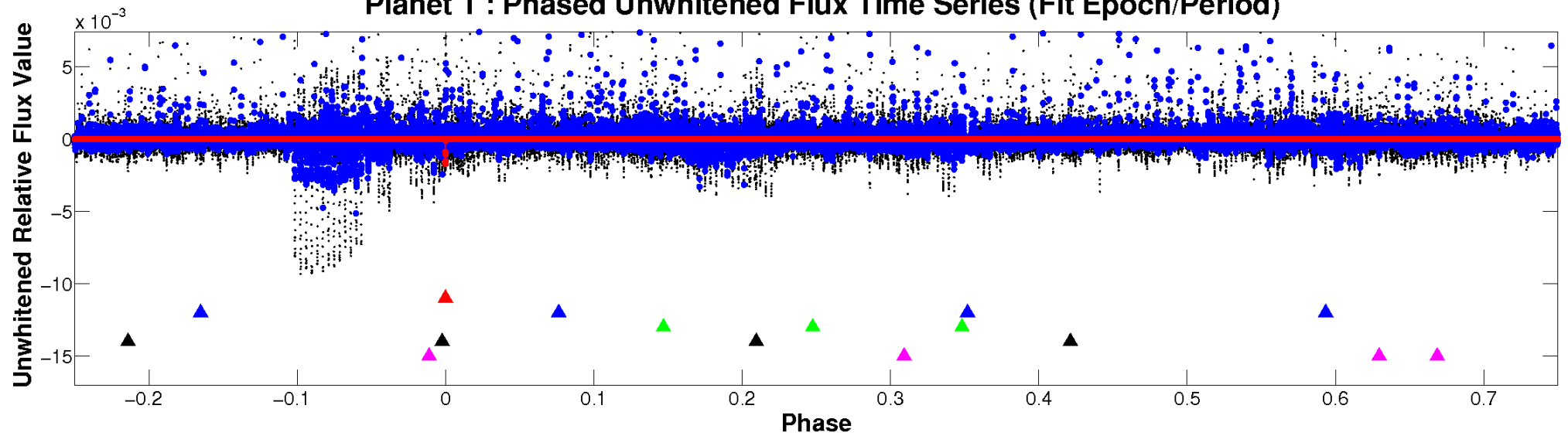
ALT Odd/Even

TCE 011186837-01

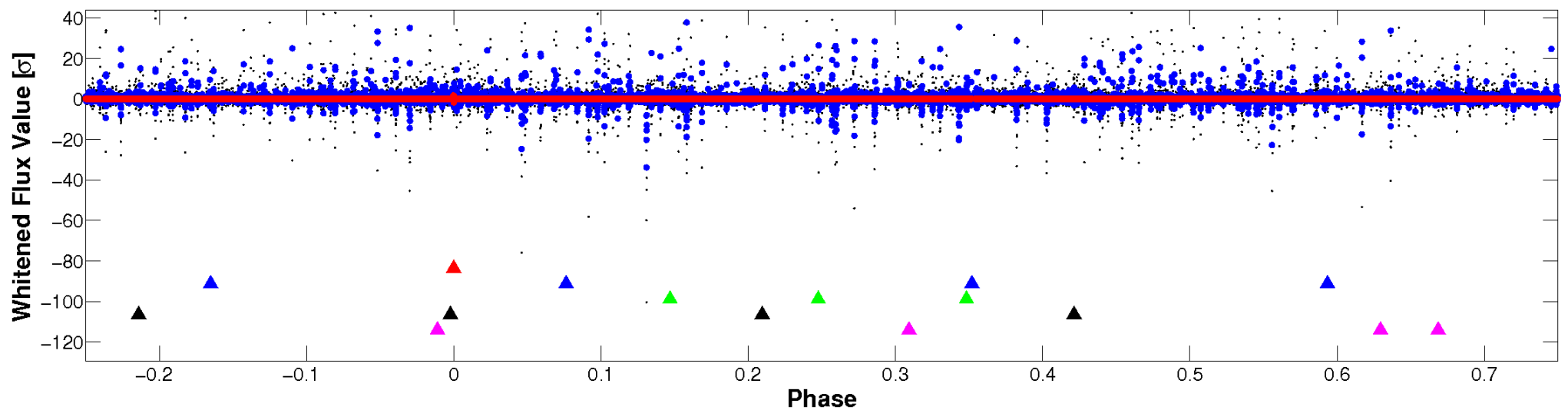


Non-Whitened Vs. Whitened Light Curve

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

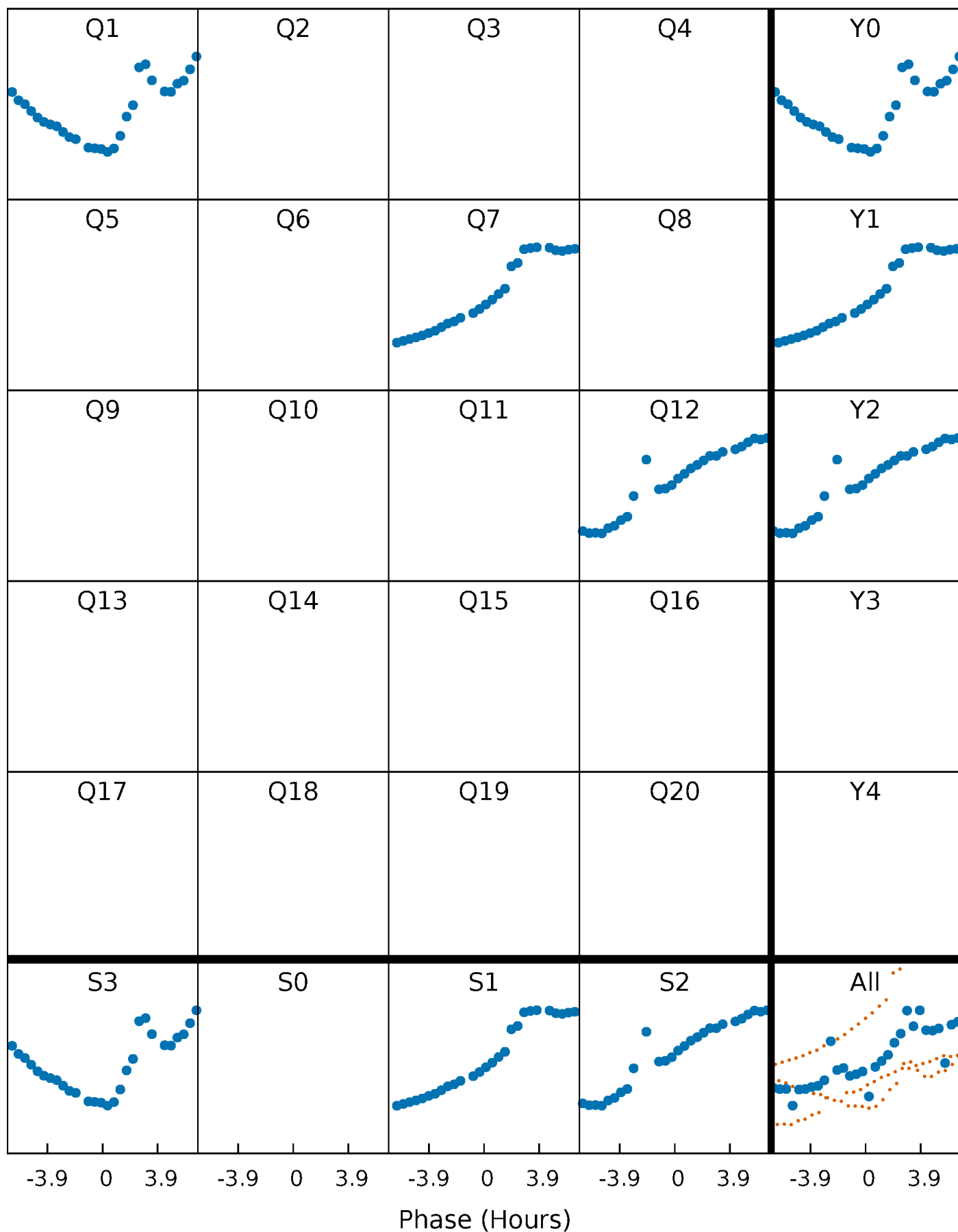


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



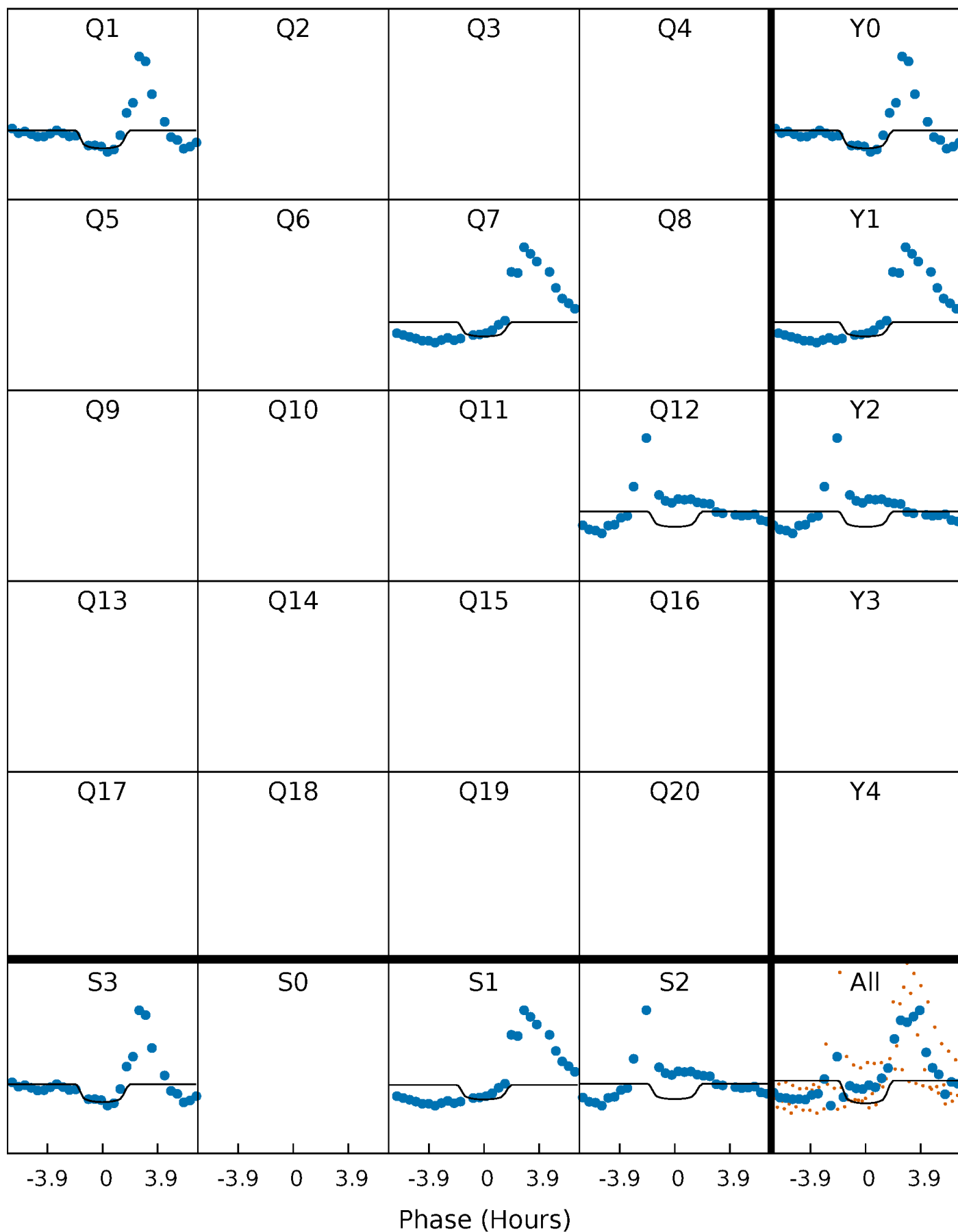
PDC Quarter-Phased Transit Curves

TCE 011186837-01 P=486.187684 Days $T_0=150.321778$ (BKJD)



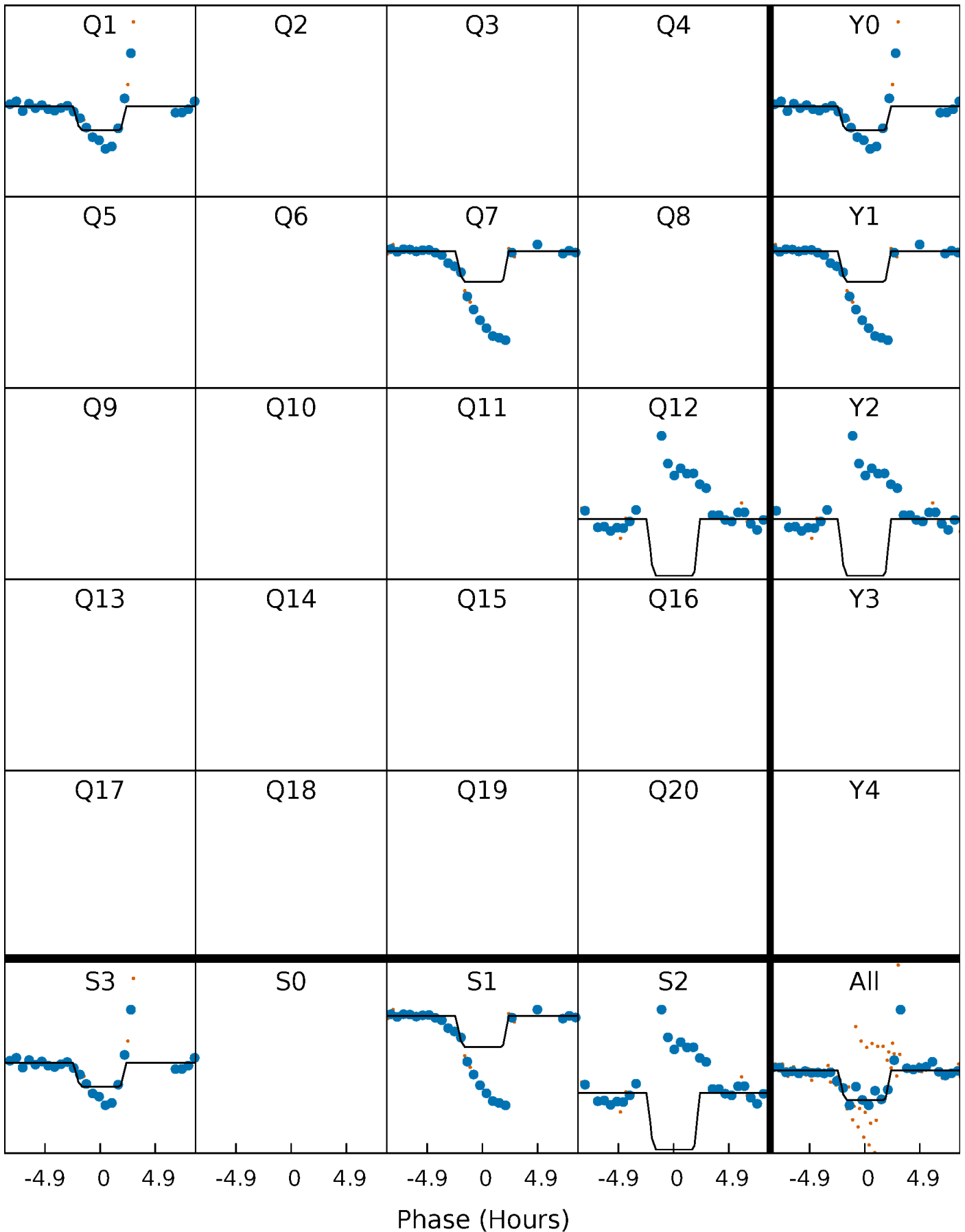
DV Quarter-Phased Transit Curves

TCE 011186837-01 P=486.187684 Days $T_0=150.321778$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

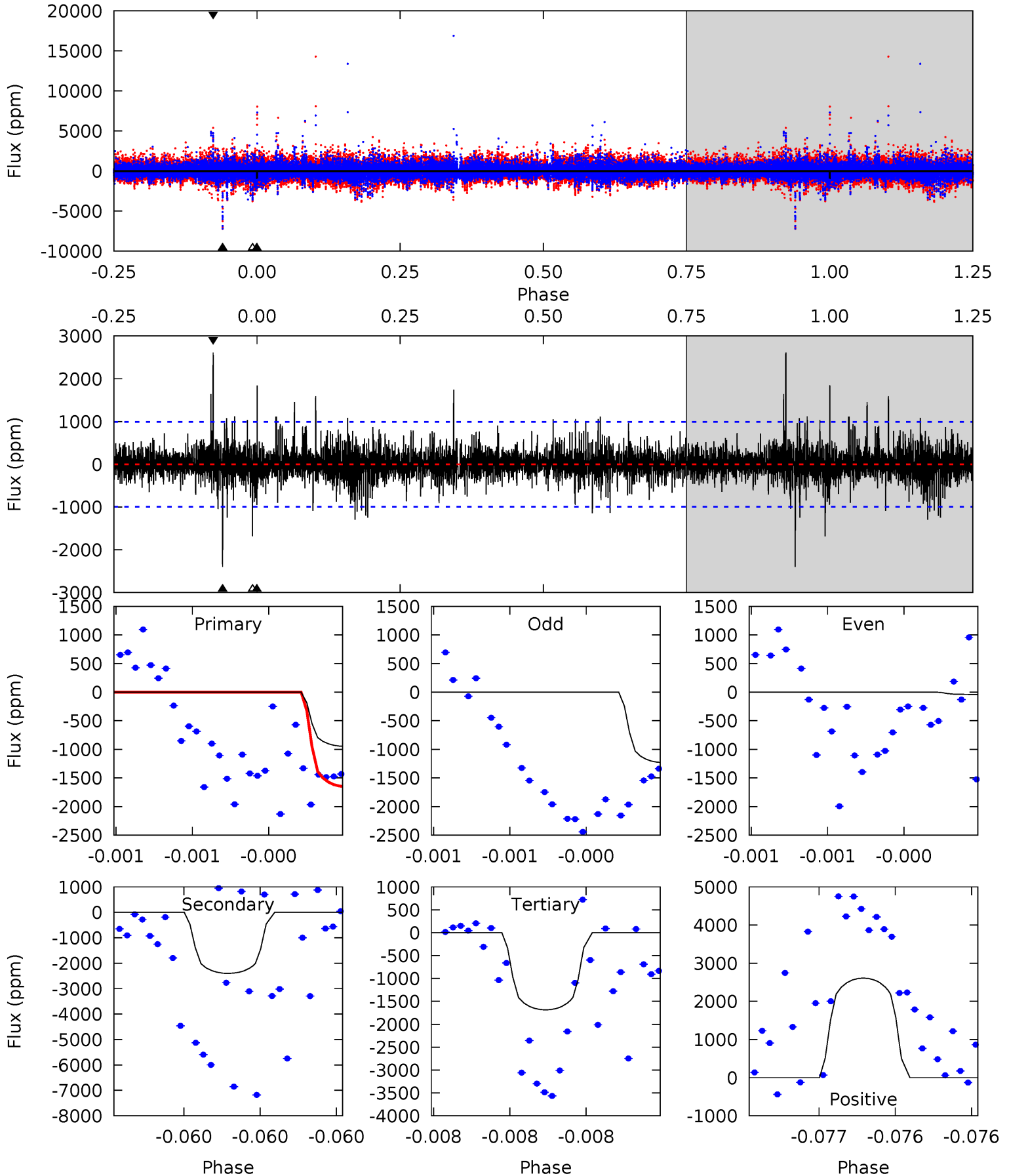
TCE 011186837-01 P=486.182504 Days $T_0=150.310412$ (BKJD)



DV Model-Shift Uniqueness Test

011186837-01, P = 486.187684 Days, E = 150.321778 Days

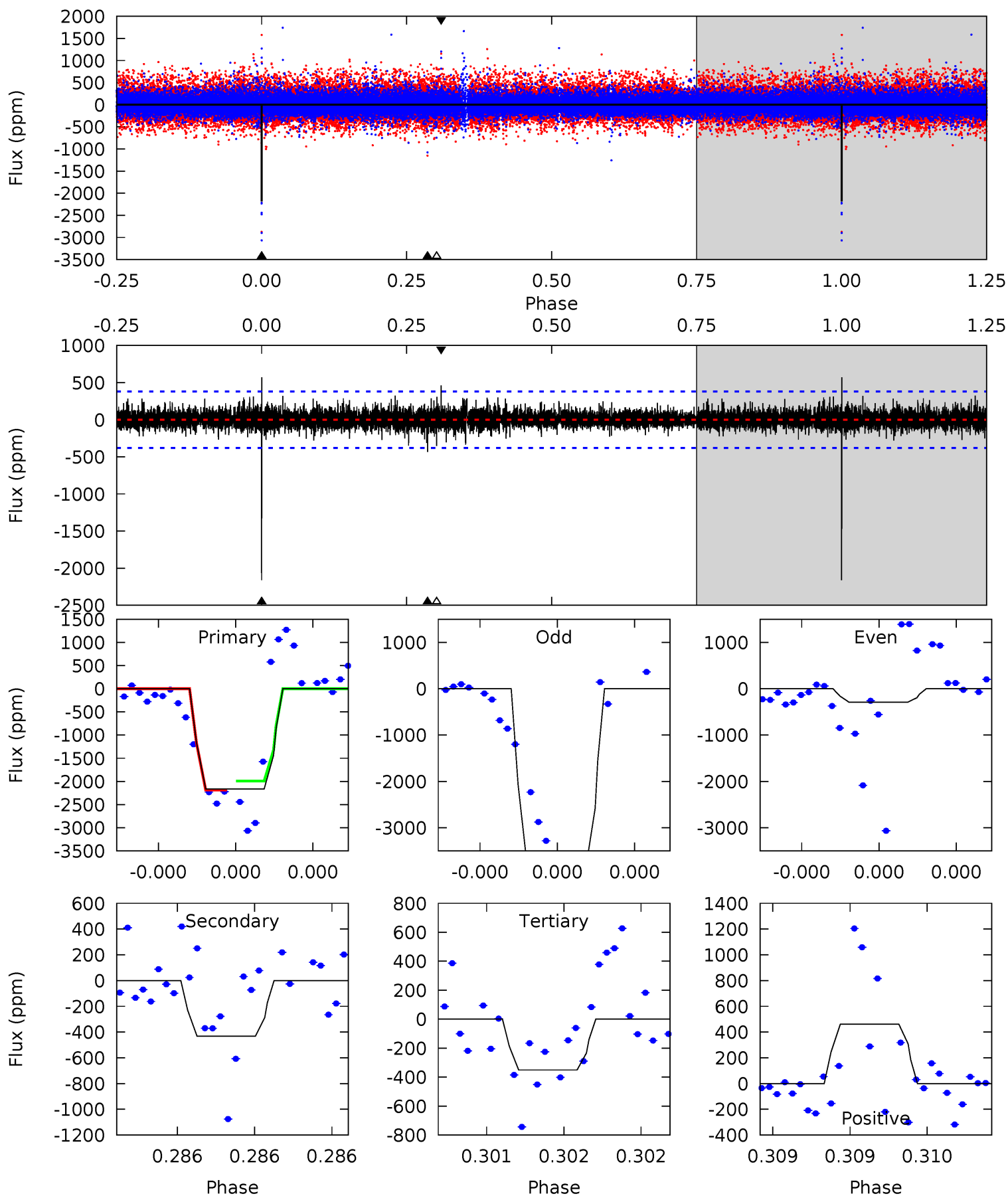
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.40	13.7	9.62	14.9	5.66	3.62	1.49	-4.22	-9.49	4.08	-1.20	2.48	0.34	0.52	4.51



Alt Model-Shift Uniqueness Test

011186837-01, P = 486.182504 Days, E = 150.310412 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.0	6.38	5.19	6.82	5.64	3.58	0.96	26.8	25.1	1.19	-0.44	35.0	0.71	0.21	0



Stellar Parameters For KIC 011186837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5985^{+161}_{-161}	$4.547^{+0.046}_{-0.184}$	$-0.580^{+0.300}_{-0.300}$	$0.822^{+0.209}_{-0.070}$	$0.868^{+0.090}_{-0.090}$	$2.203^{+0.519}_{-1.033}$
	+3%/-3%	+1%/-4%	+52%/-52%	+25%/-9%	+10%/-10%	+24%/-47%
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 011186837-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2402 ± 175	$13.19^{+12.30}_{-9.44}$	317^{+21}_{-14}	3886^{+2893}_{-718}	$10086^{+113295}_{-7375}$
Alt.	-432 ± 68	$12.67^{+13.17}_{-9.00}$	319^{+19}_{-16}	3003^{+1487}_{-518}	1901^{+21488}_{-1450}

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

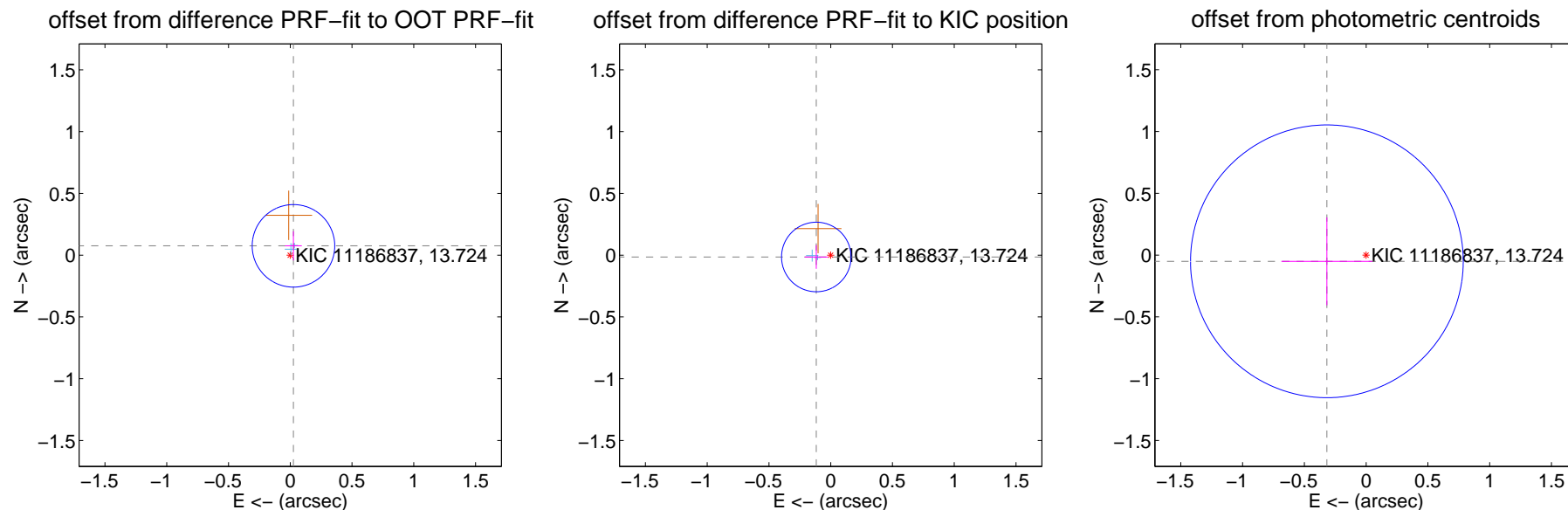
DV Centroid Data

Supplemental centroid analysis for 011186837-01. Kepler magnitude: 13.72. Transit SNR 7.31

There are 2 quarters with good PRF difference image offsets

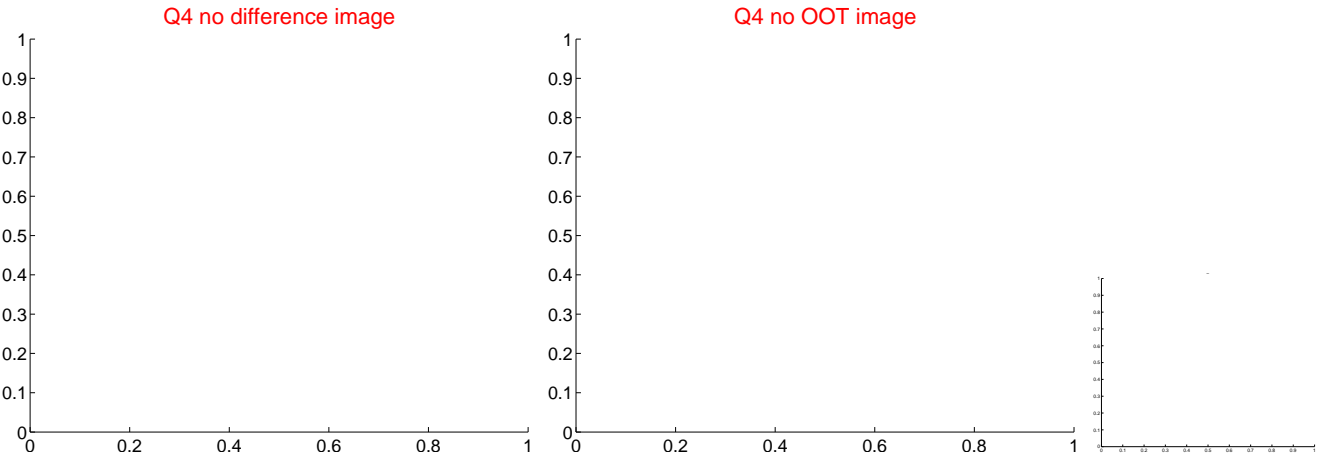
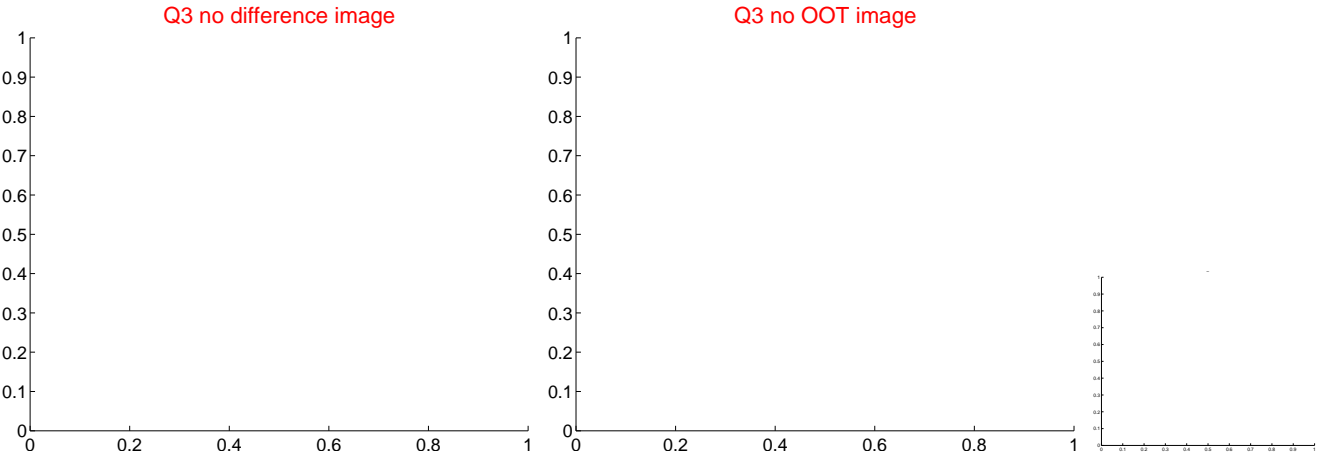
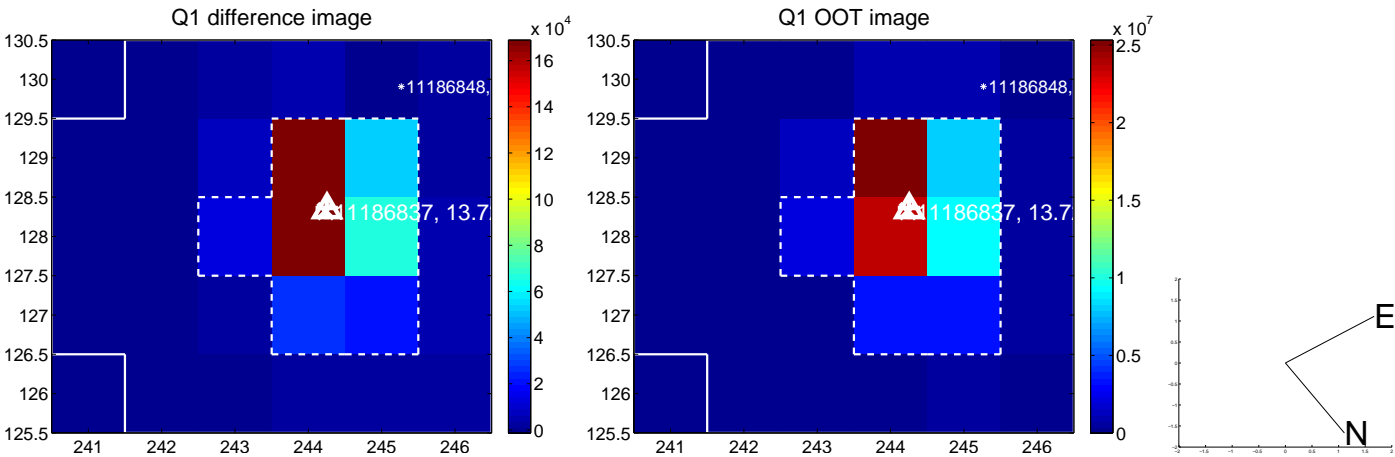
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.080 ± 0.111	0.71	-0.026 ± 0.068	0.075 ± 0.118
PRF-fit source offset from KIC position	0.118 ± 0.094	1.25	0.117 ± 0.094	-0.015 ± 0.096
photometric centroid source offset	0.32 ± 0.37	0.87	0.32 ± 0.37	-0.05 ± 0.36

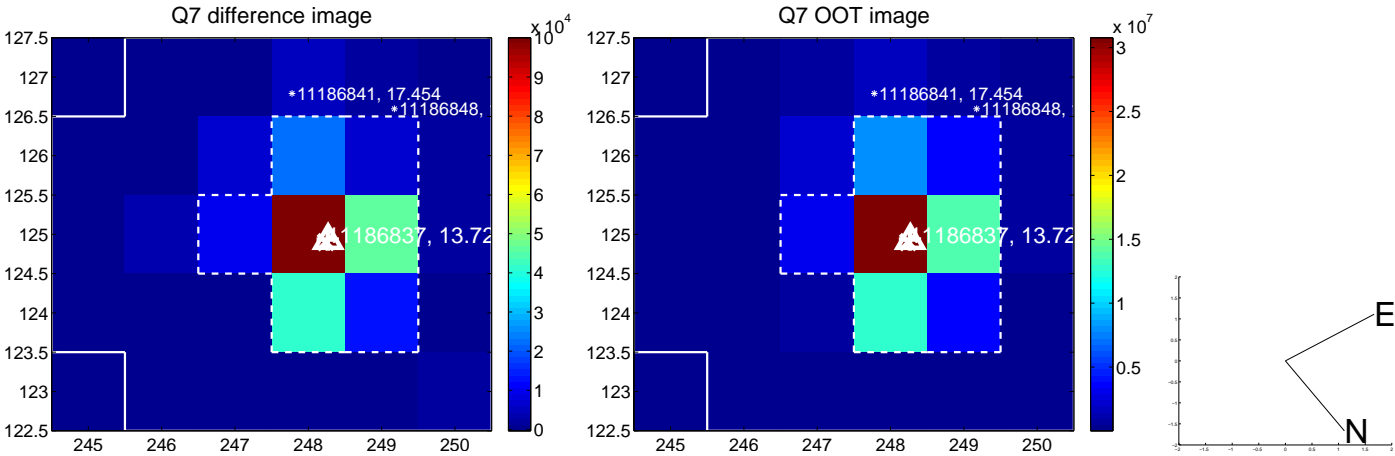


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

Q9 no difference image



Q9 no OOT image



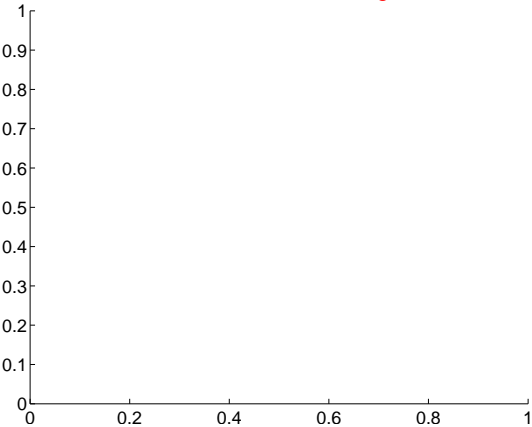
Q10 no difference image



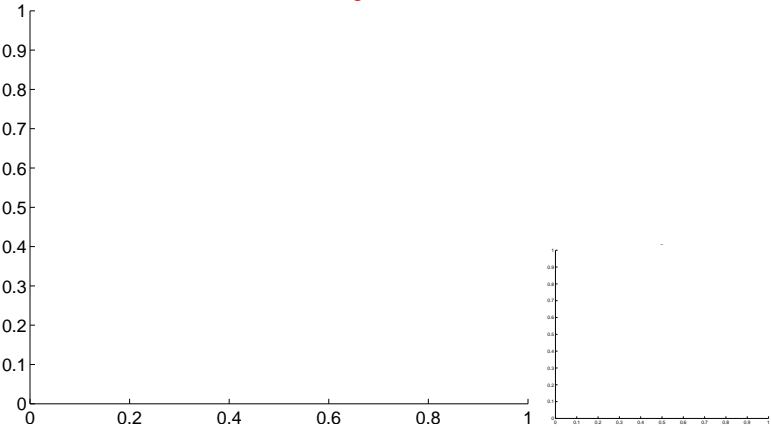
Q10 no OOT image



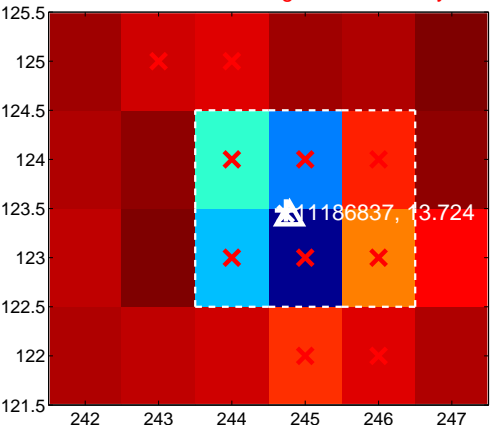
Q11 no difference image



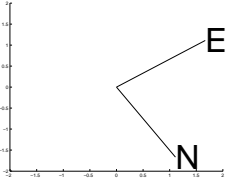
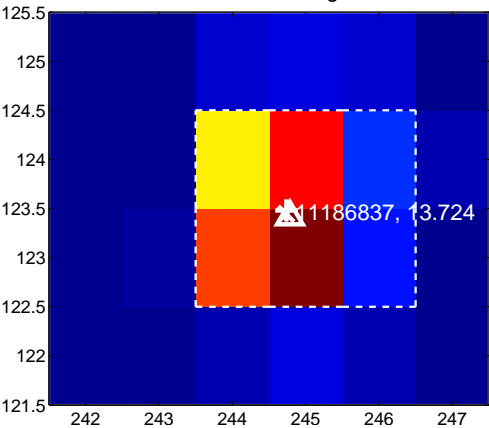
Q11 no OOT image



Q12 difference image. Poor Quality



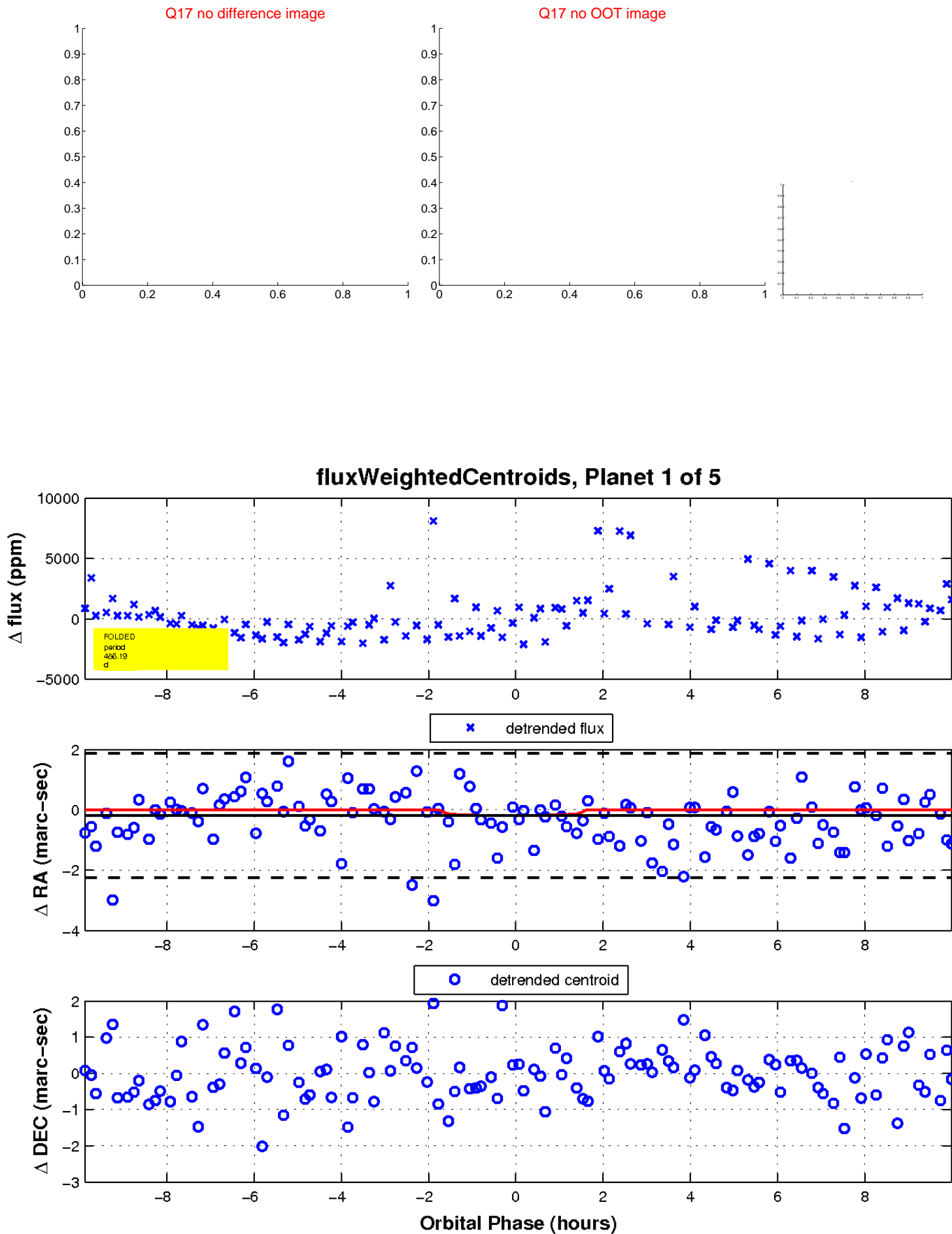
Q12 OOT image



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

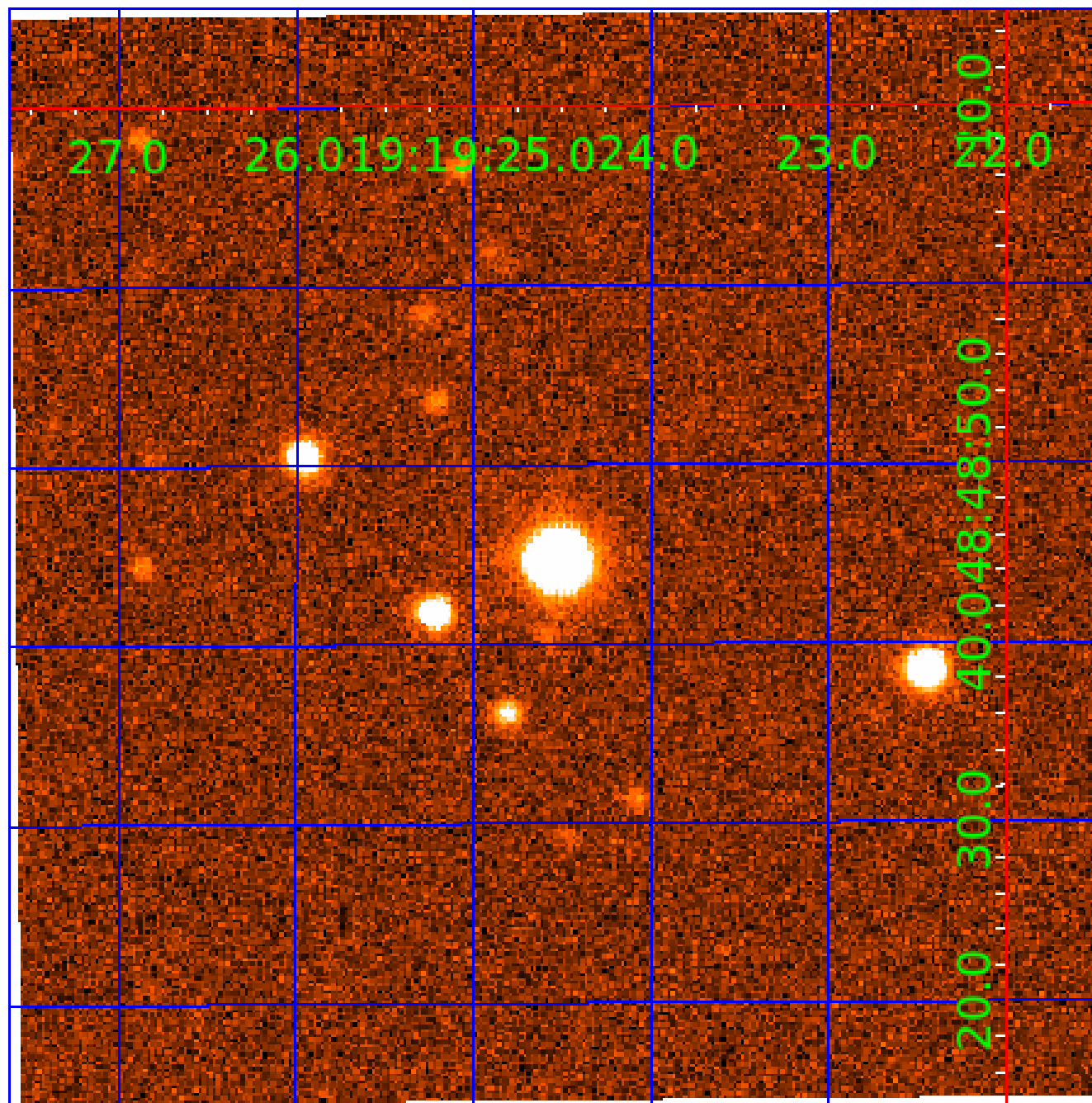


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011186837

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})
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011186837-05	OBS	No	330.476390	456.373983	654.5	3.593	16.2	2.8	0.82	5985	2.18	0.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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011186837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV
011186837-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011186837-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

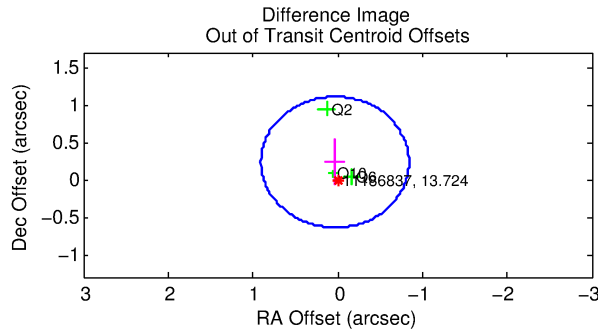
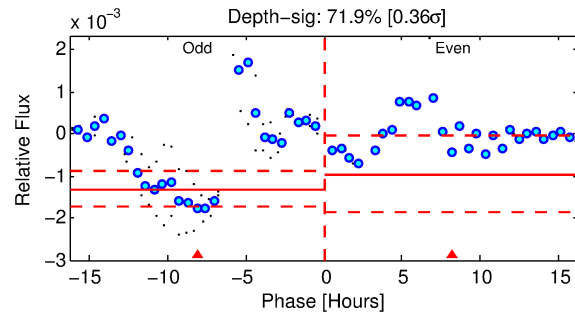
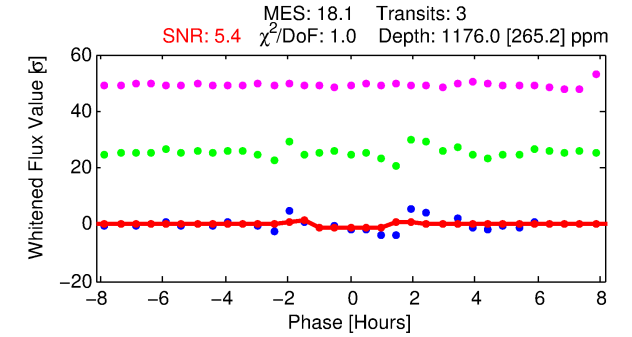
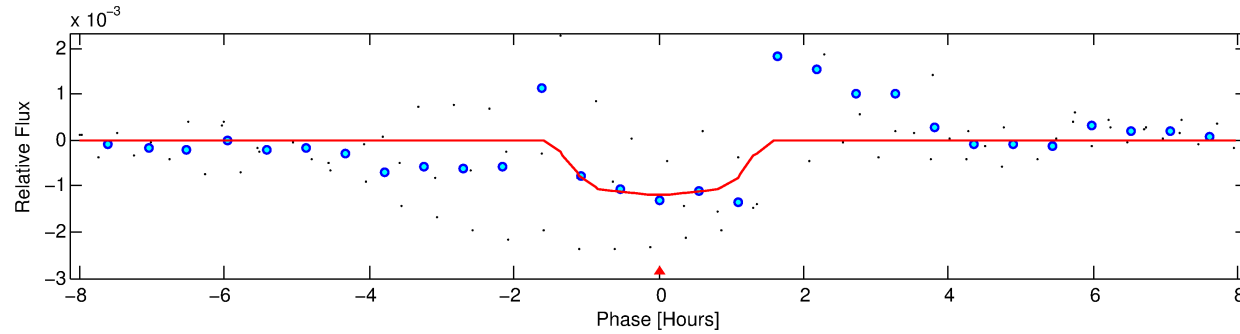
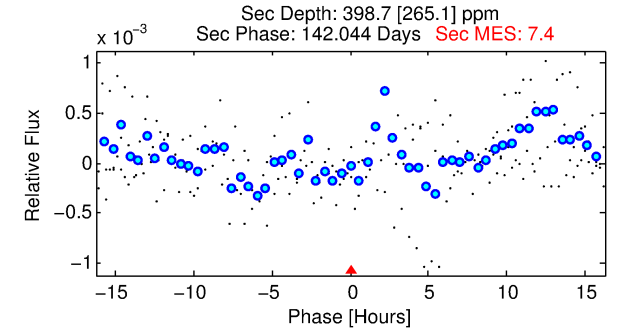
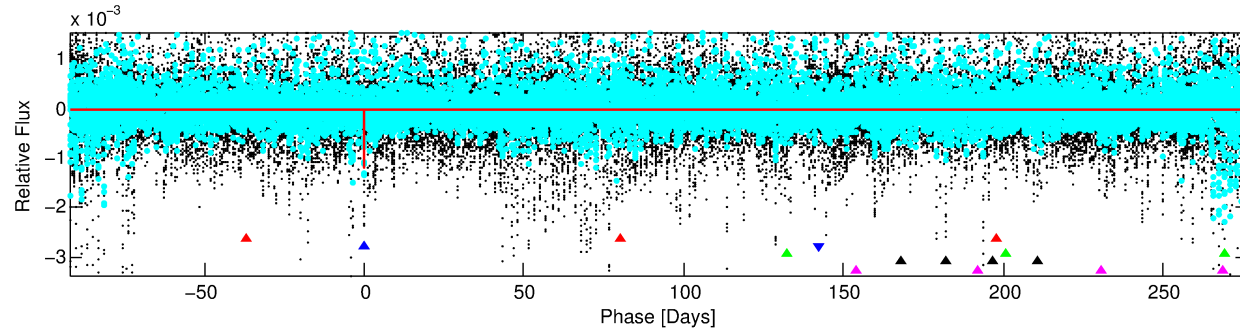
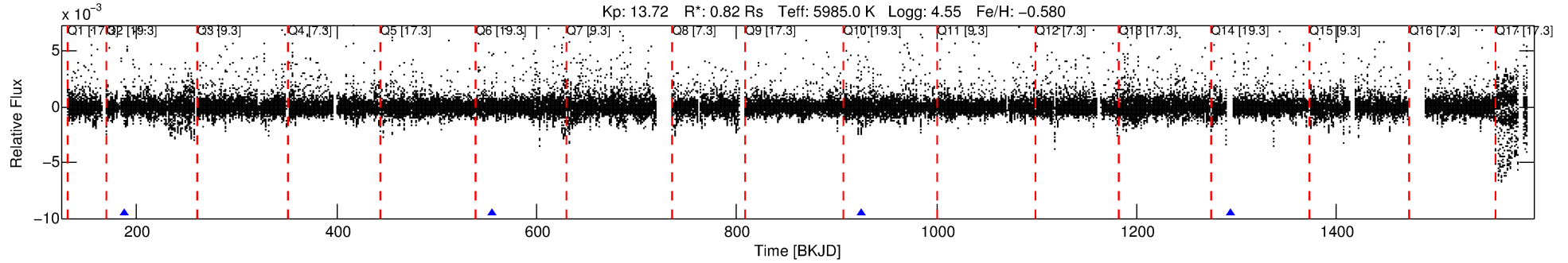
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011186837-02

No Significant Match Found

DV One-Page Summary

KIC: 11186837 Candidate: 2 of 5 Period: 368.795 d



DV Fit Results:

Period = 368.79514 [0.00437] d
Epoch = 187.4468 [0.0058] BKJD
Rp/R* = 0.0335 [0.0620]
a/R* = 807.40 [7535.15]
b = 0.68 [7.43]
Seff = 0.84 [0.29]
Teq = 244 [21] K
Rp = 3.00 [5.61] Re
a = 0.9604 [0.2119] AU
Ag = 22415.50 [84620.96] [0.26 σ]
Teffp = 4621 [4346] K [1.01 σ]

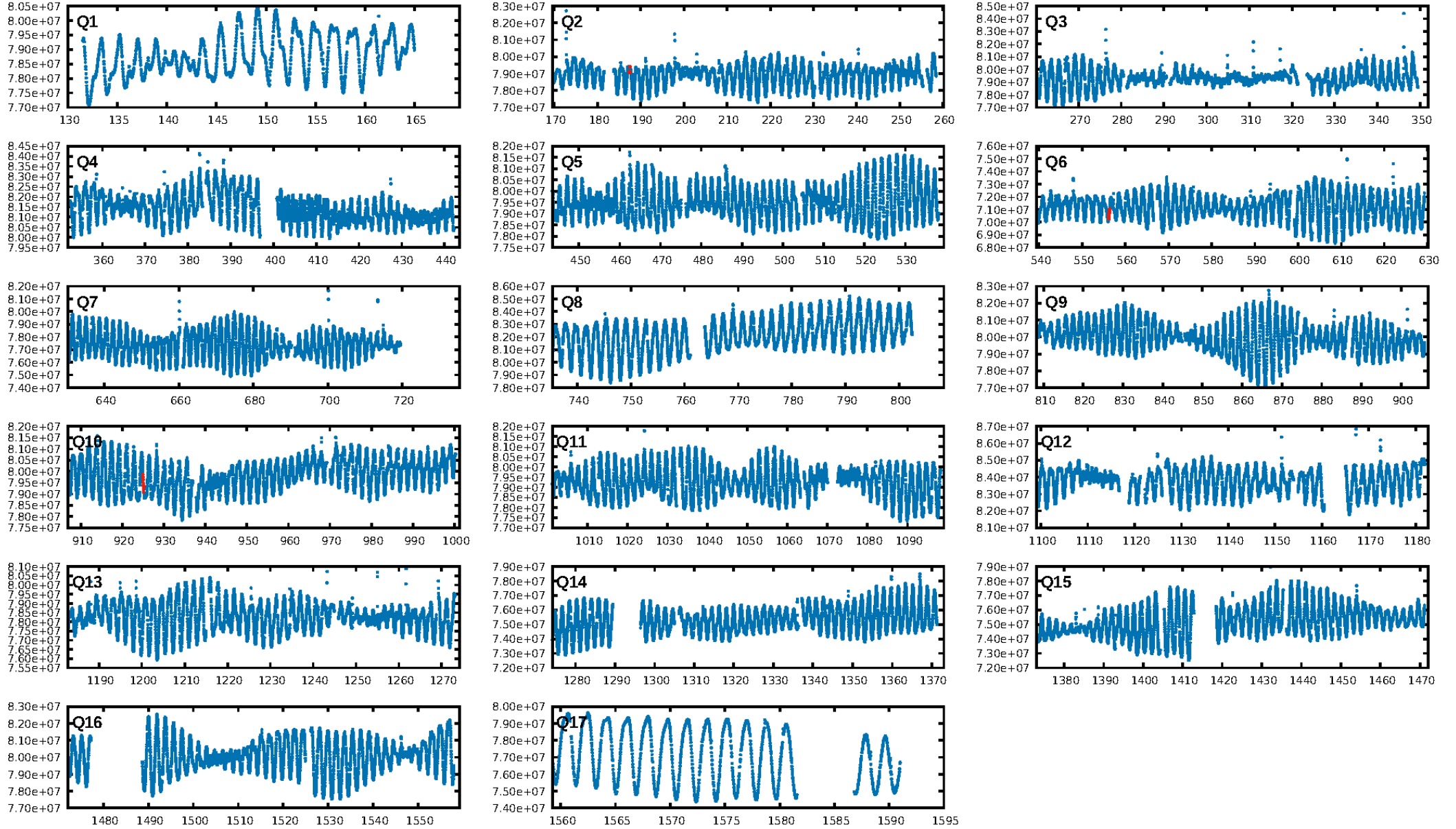
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [204.23 σ]
LongPeriod-sig: 100.0% [49.01 σ]
ModelChiSquare2-sig: 75.2%
ModelChiSquareGof-sig: 86.9%
Bootstrap-pfa: 2.91e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 5.784
Centroid-sig: N/A
Centroid-so: 0.565 arcsec [1.15 σ]
OotOffset-rm: 0.235 arcsec [0.81 σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-rm: 0.443 arcsec [2.37 σ]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

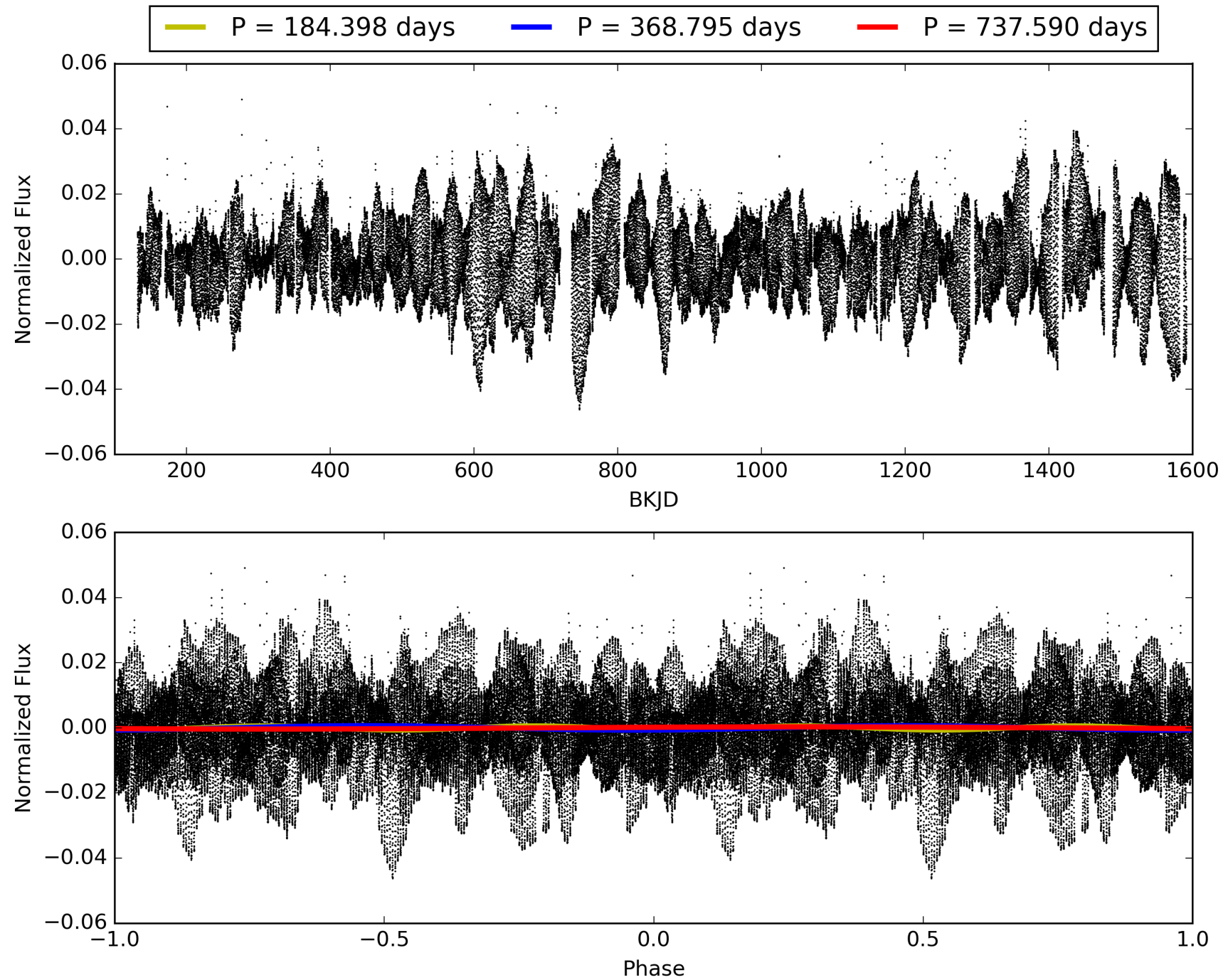
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:15:31 Z

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

TCE 011186837-02, PDC Light Curves

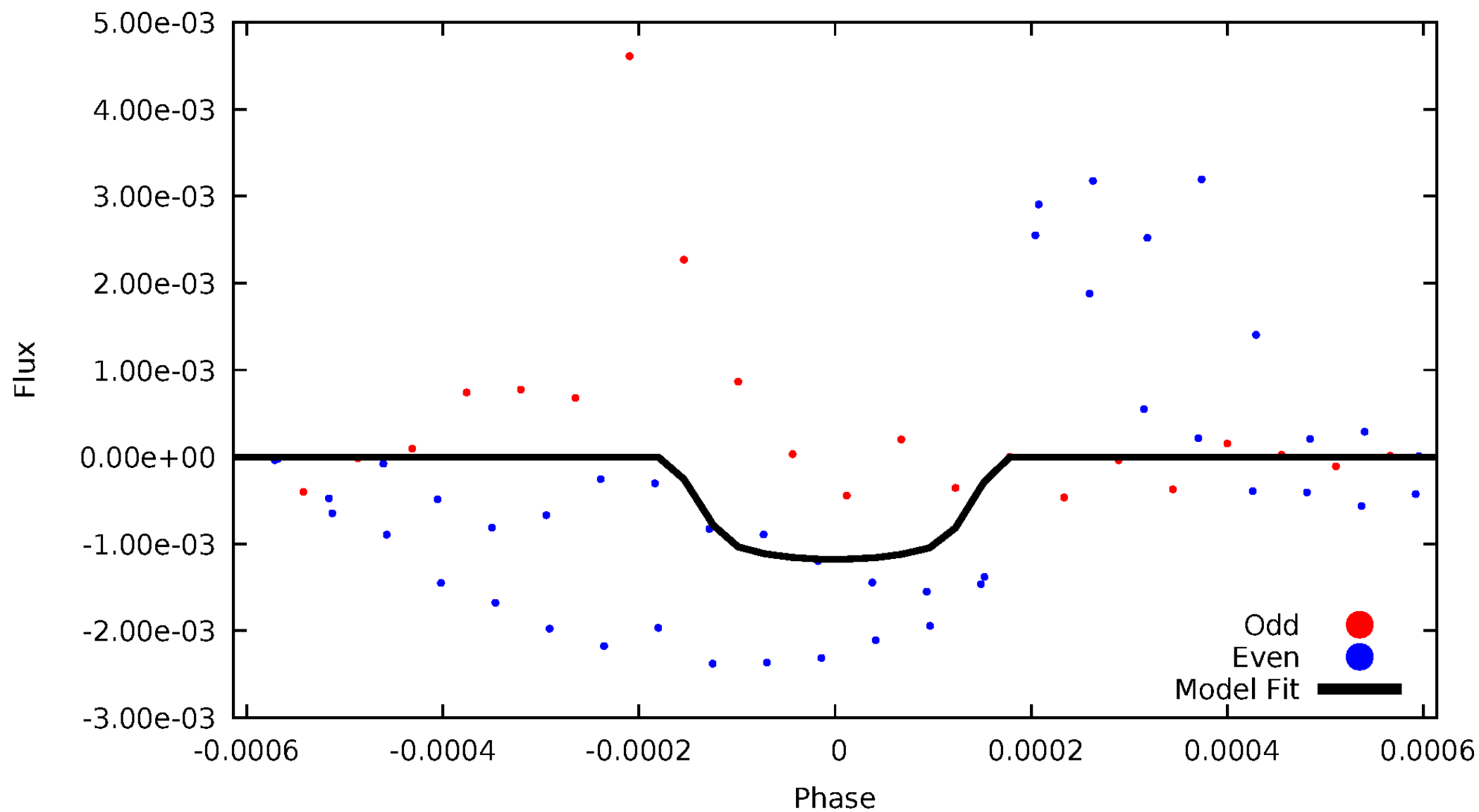


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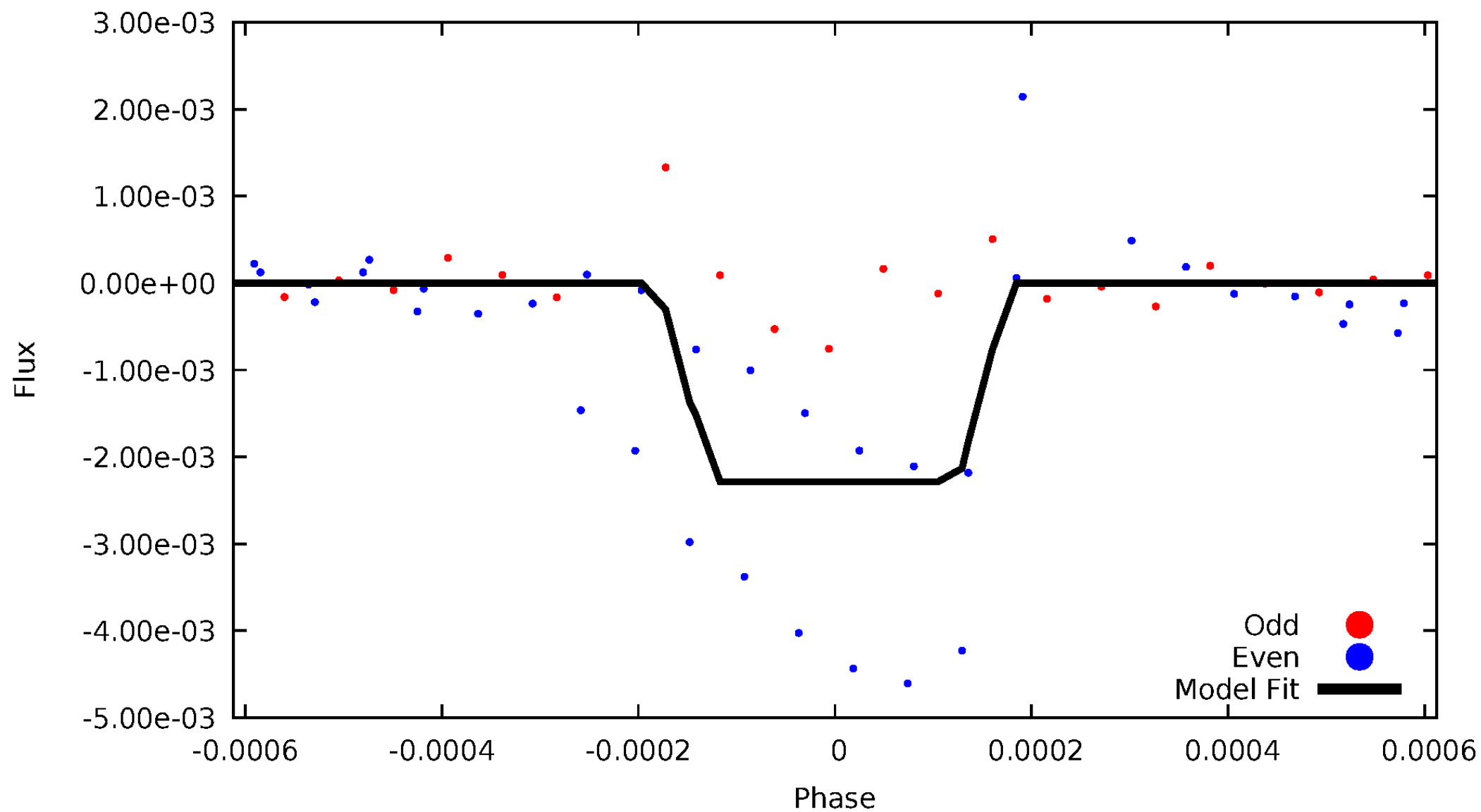
DV Odd/Even

TCE 011186837-02



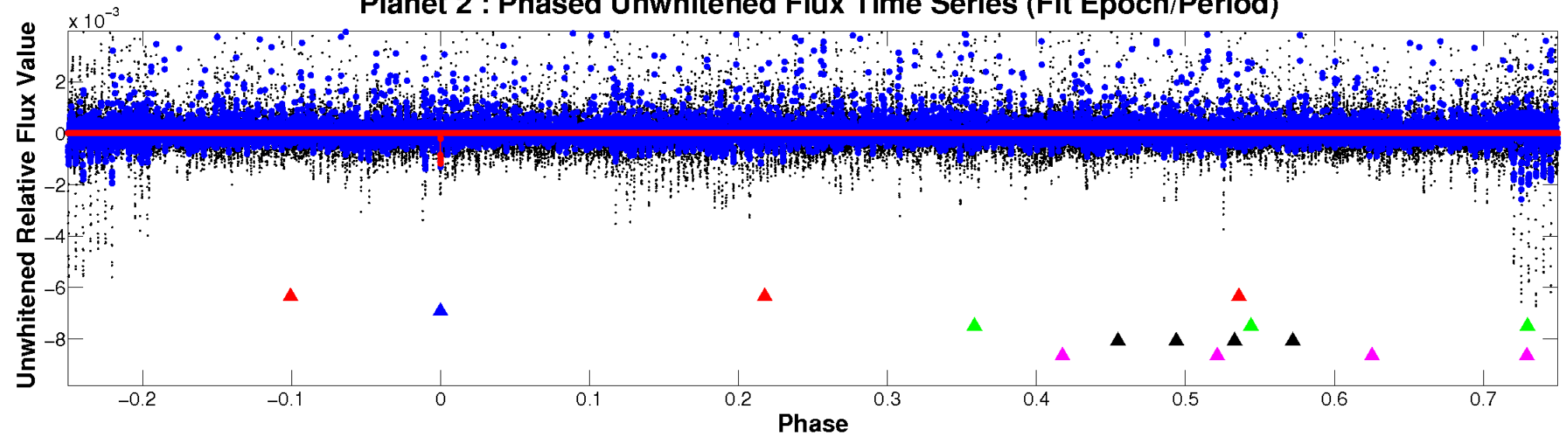
ALT Odd/Even

TCE 011186837-02

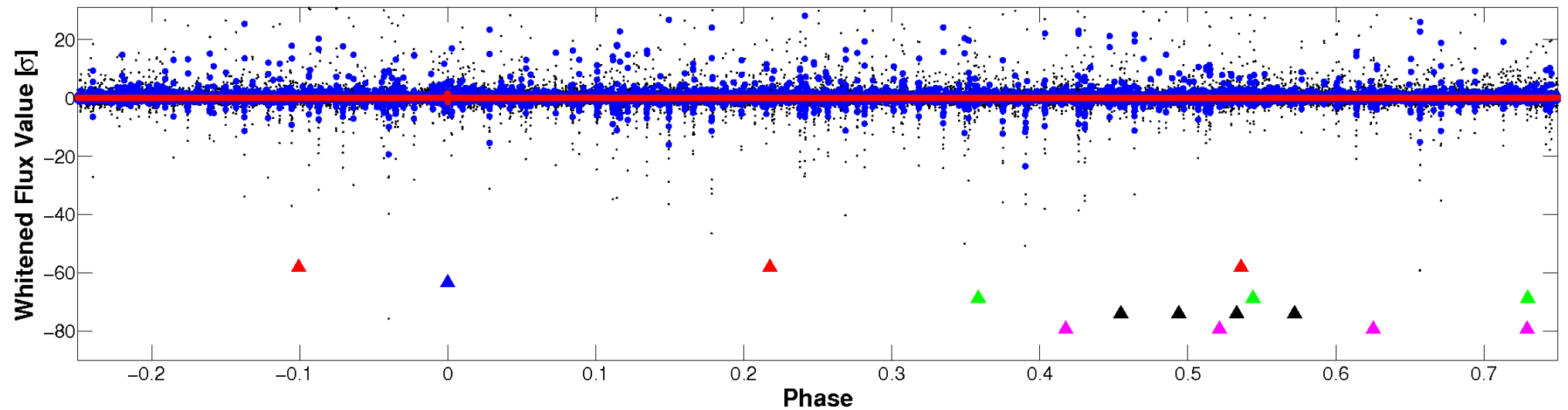


Non-Whitened Vs. Whitened Light Curve

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

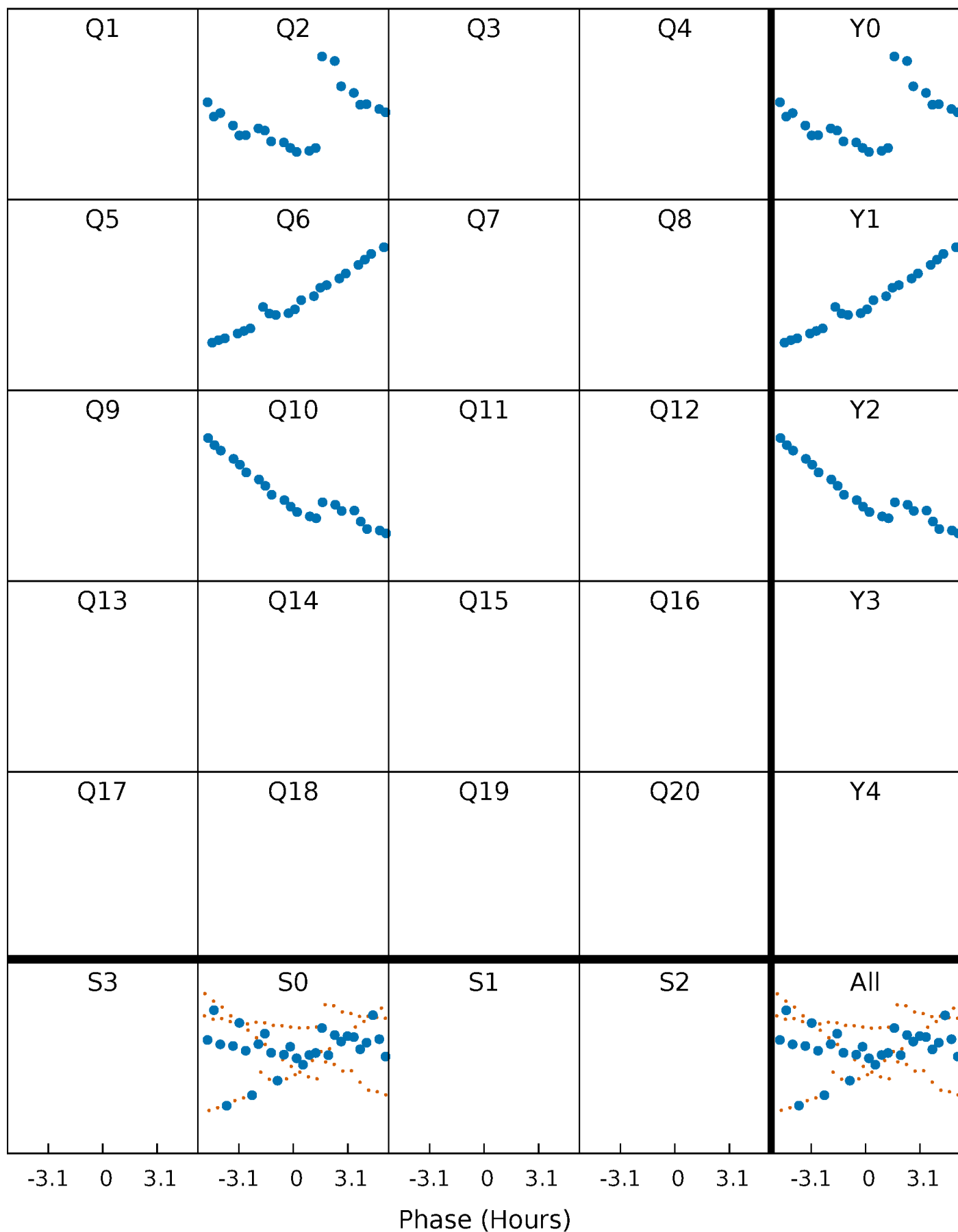


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 011186837-02 P=368.795140 Days $T_0=187.446756$ (BKJD)



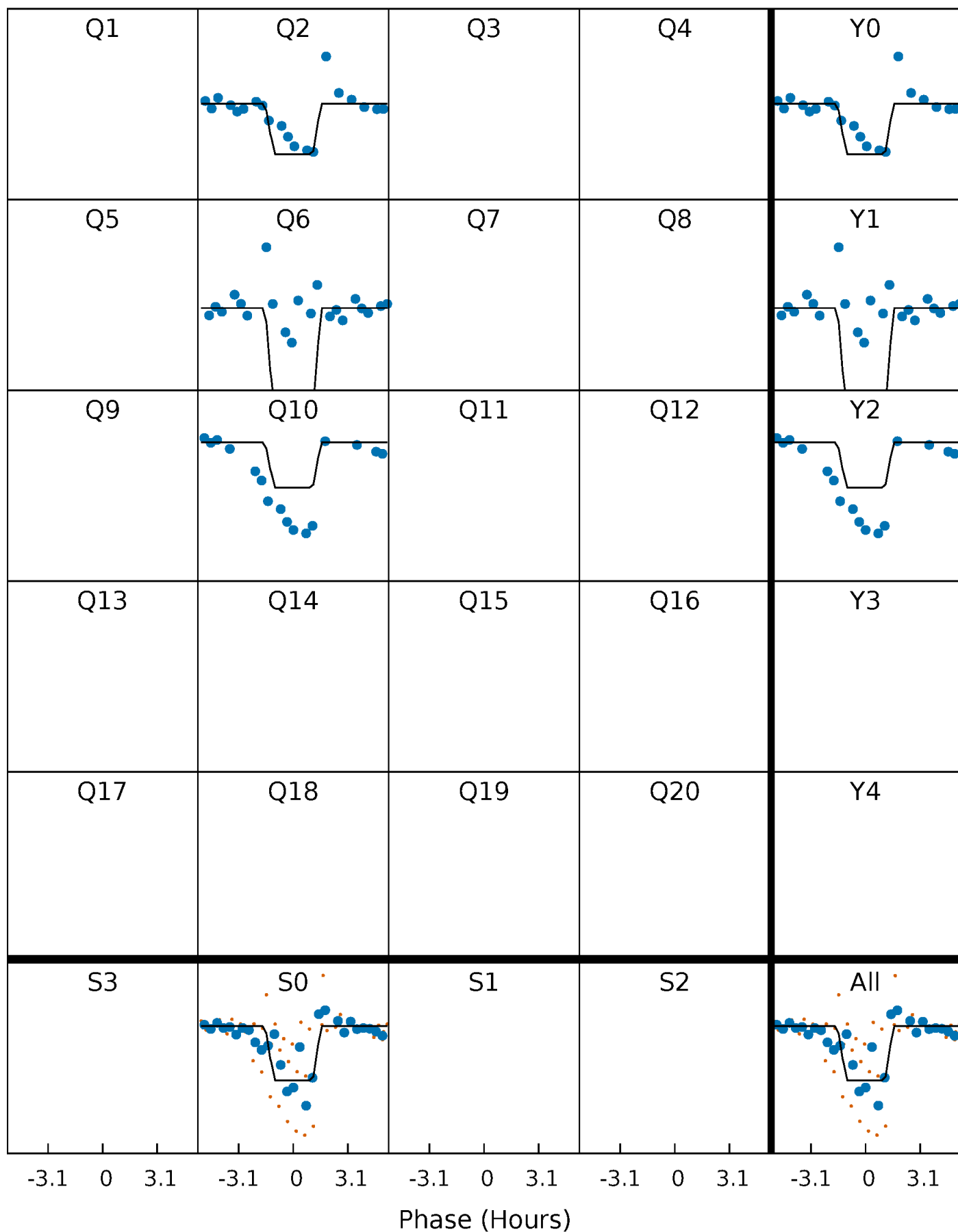
DV Quarter-Phased Transit Curves

TCE 011186837-02 $P=368.795140$ Days $T_0=187.446756$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

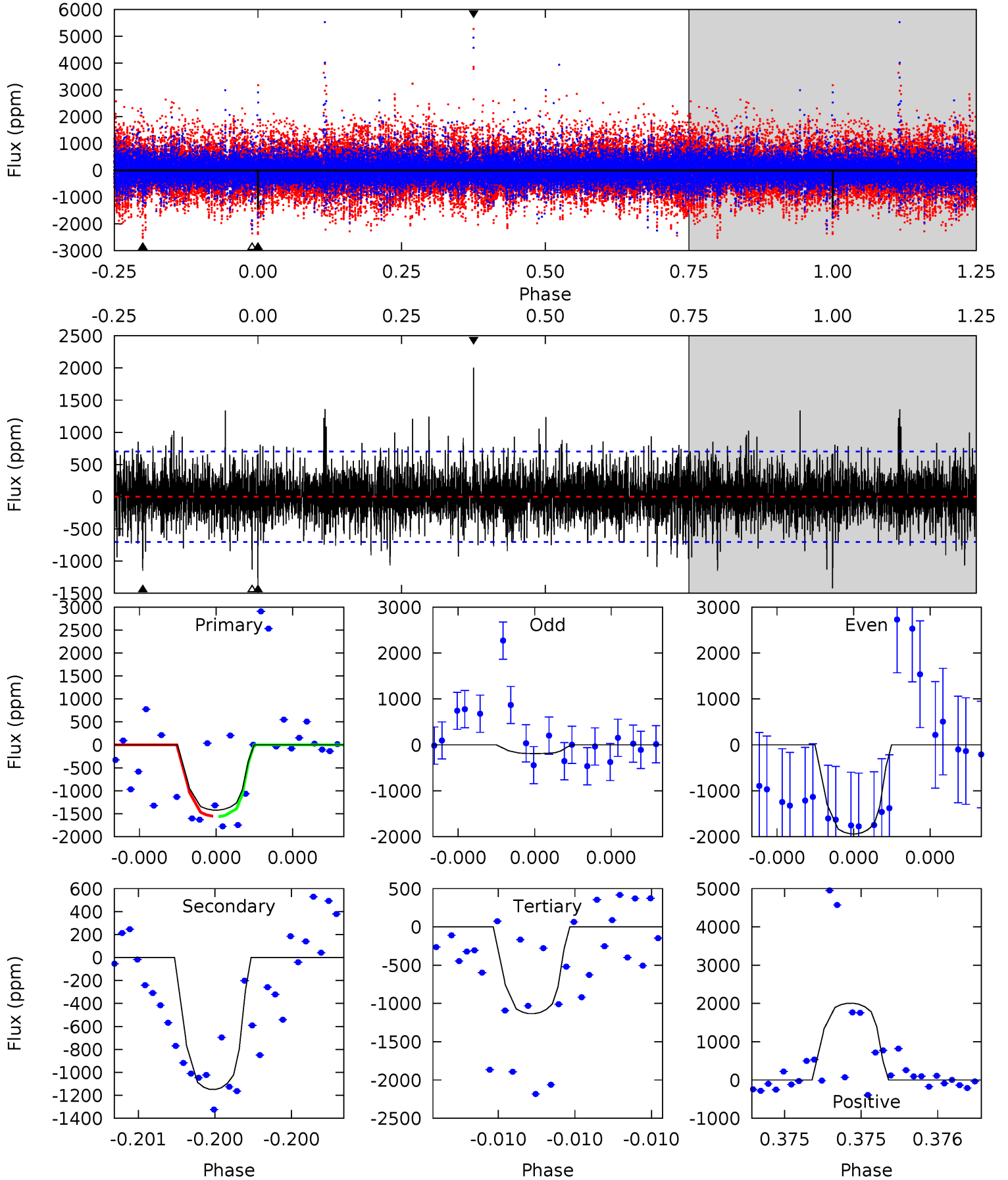
TCE 011186837-02 P=368.796938 Days $T_0=187.451630$ (BKJD)



DV Model-Shift Uniqueness Test

011186837-02, P = 368.795140 Days, E = 187.446756 Days

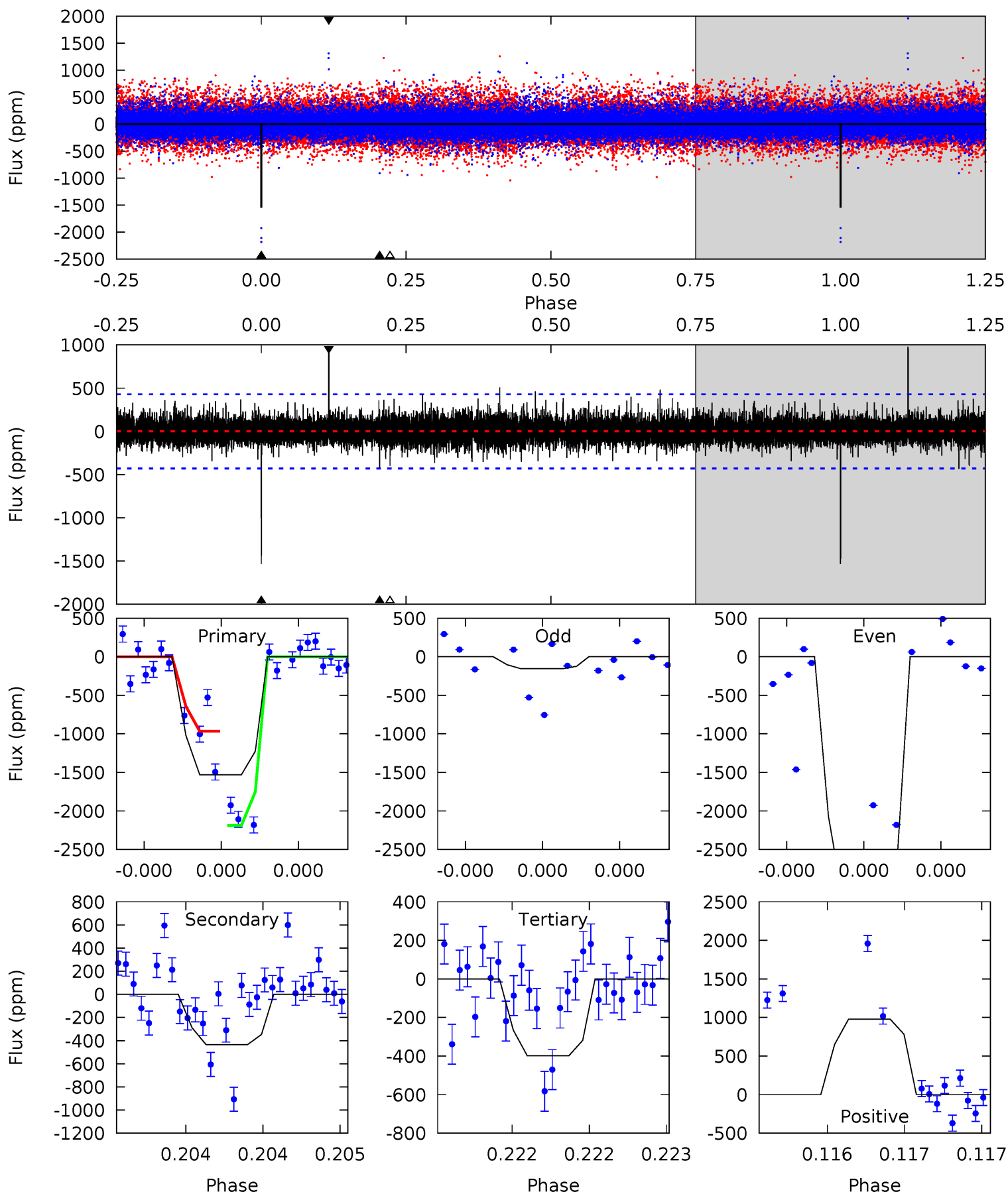
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	9.20	9.07	16.1	5.63	3.57	2.06	2.30	-4.69	0.13	-6.86	5.52	0.88	0.59	0.04



Alt Model-Shift Uniqueness Test

011186837-02, P = 368.796938 Days, E = 187.451630 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	5.71	5.24	12.9	5.66	3.61	1.13	14.9	7.28	0.47	-7.15	24.4	1.18	0.39	8.34



Stellar Parameters For KIC 011186837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5985^{+161}_{-161}	$4.547^{+0.046}_{-0.184}$	$-0.580^{+0.300}_{-0.300}$	$0.822^{+0.209}_{-0.070}$	$0.868^{+0.090}_{-0.090}$	$2.203^{+0.519}_{-1.033}$
	+3%/-3%	+1%/-4%	+52%/-52%	+25%/-9%	+10%/-10%	+24%/-47%
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 011186837-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1149±125	$5.41^{+4.83}_{-3.69}$	347^{+21}_{-15}	4741^{+3776}_{-984}	$19523^{+178737}_{-14039}$
Alt.	-434±76	$5.88^{+5.31}_{-3.49}$	348^{+22}_{-14}	3836^{+1539}_{-715}	6486^{+30867}_{-4766}

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 $A_{obs} \gg 1.0$

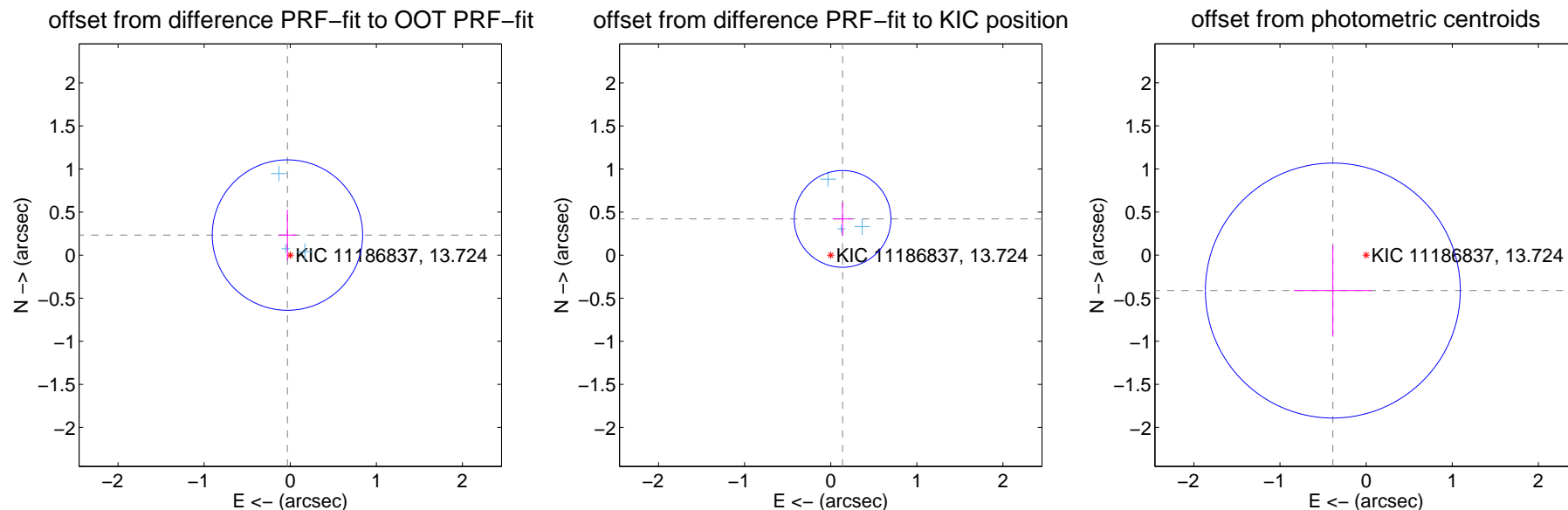
DV Centroid Data

Supplemental centroid analysis for 011186837-02. Kepler magnitude: 13.72. Transit SNR 5.40

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.235 ± 0.291	0.81	0.033 ± 0.106	0.233 ± 0.294
PRF-fit source offset from KIC position	0.443 ± 0.187	2.37	-0.138 ± 0.114	0.421 ± 0.193
photometric centroid source offset	0.56 ± 0.49	1.15	0.39 ± 0.45	-0.41 ± 0.52



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.

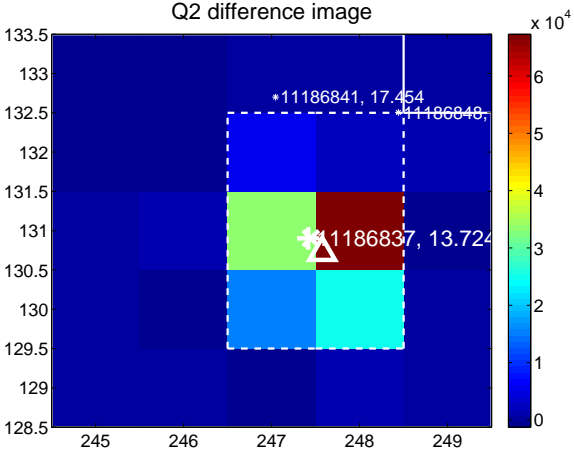
Q1 no difference image



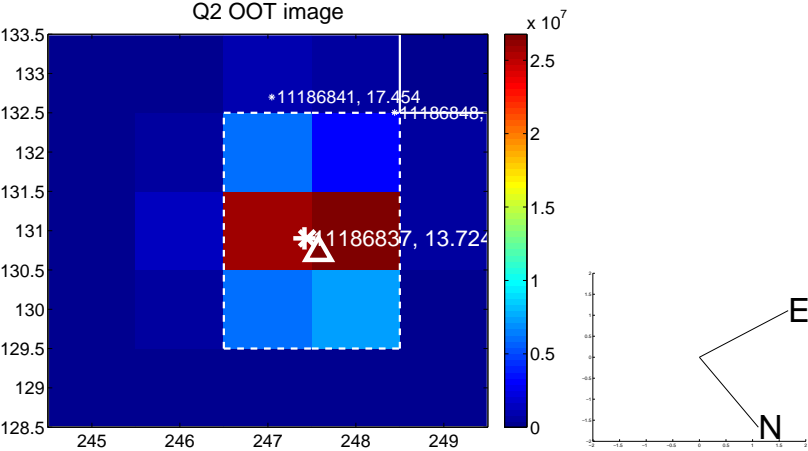
Q1 no OOT image



Q2 difference image



Q2 OOT image



Q3 no difference image



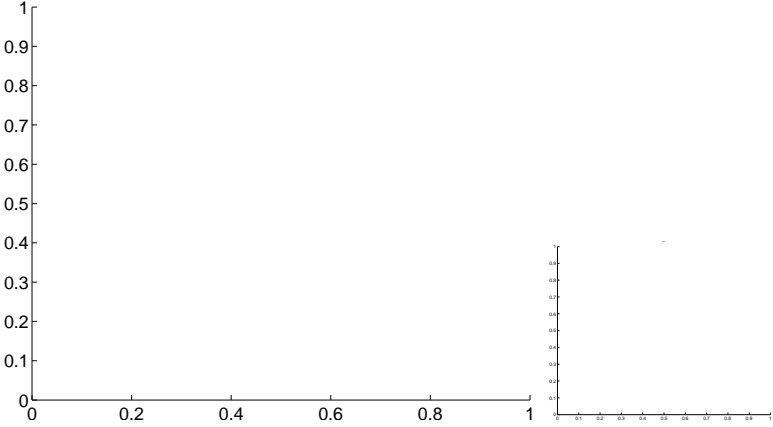
Q3 no OOT image



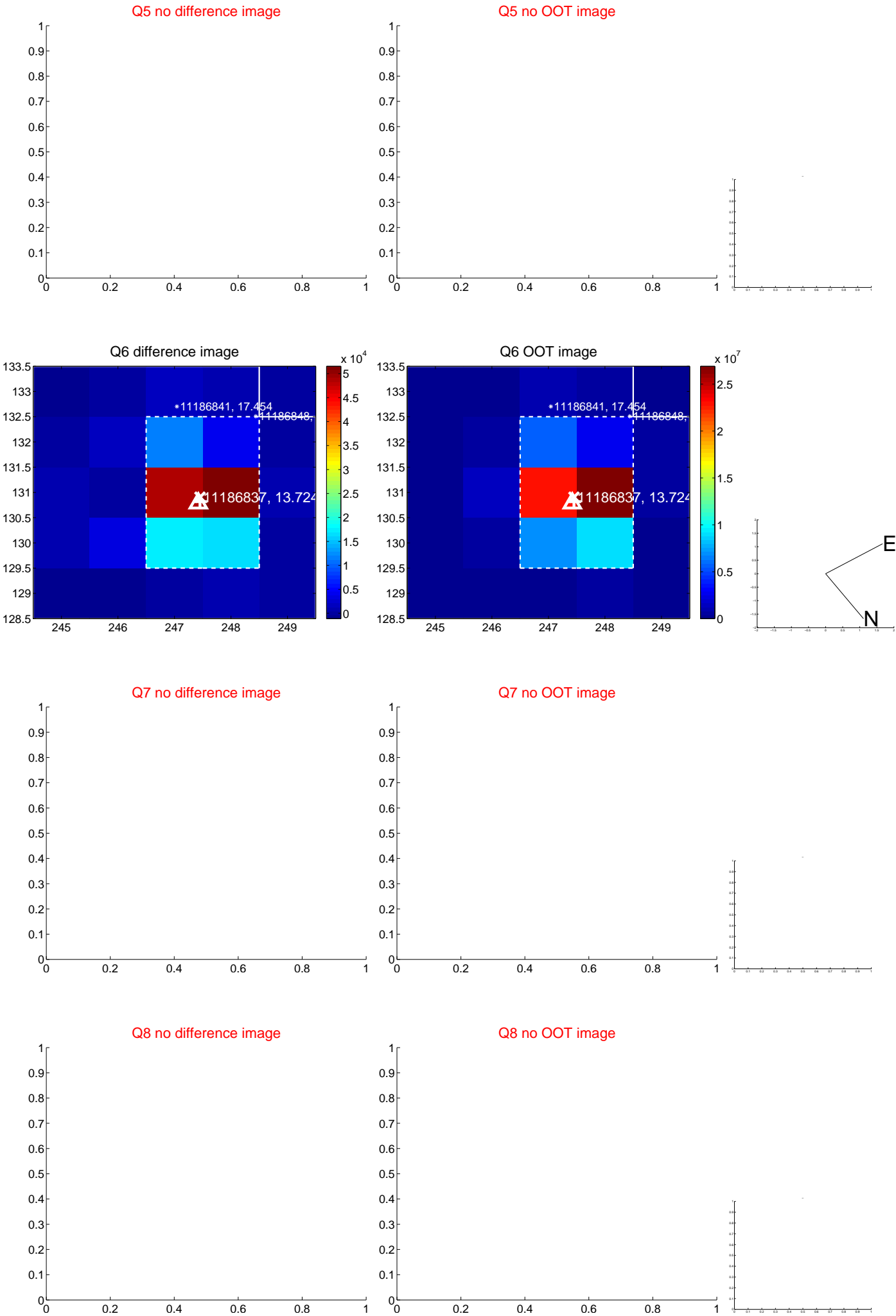
Q4 no difference image



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.

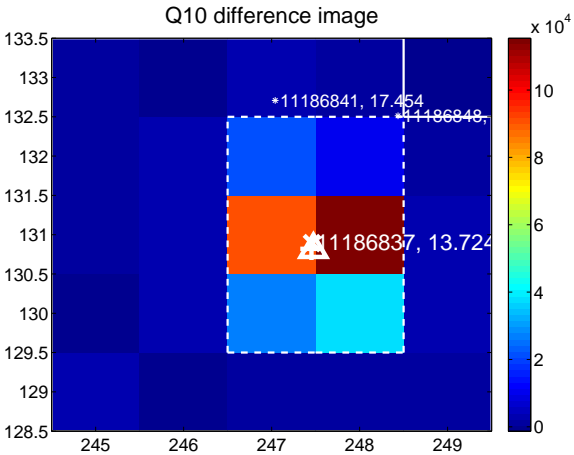
Q9 no difference image



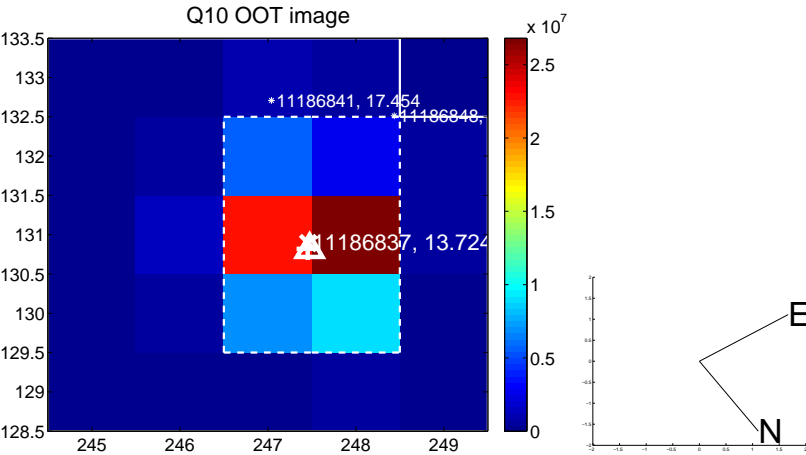
Q9 no OOT image



Q10 difference image



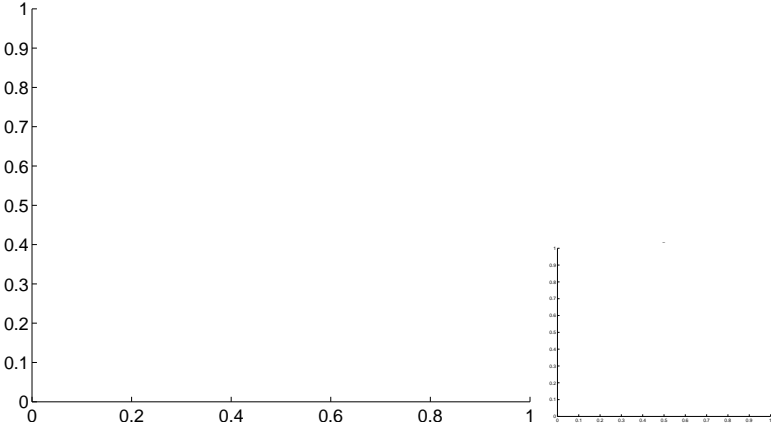
Q10 OOT image



Q11 no difference image



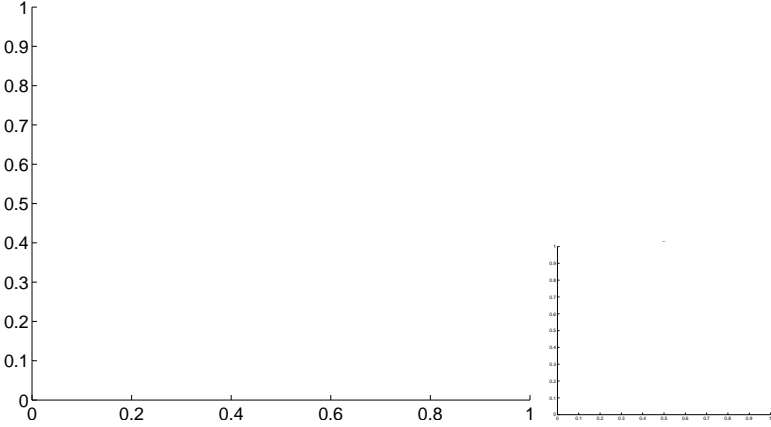
Q11 no OOT image



Q12 no difference image



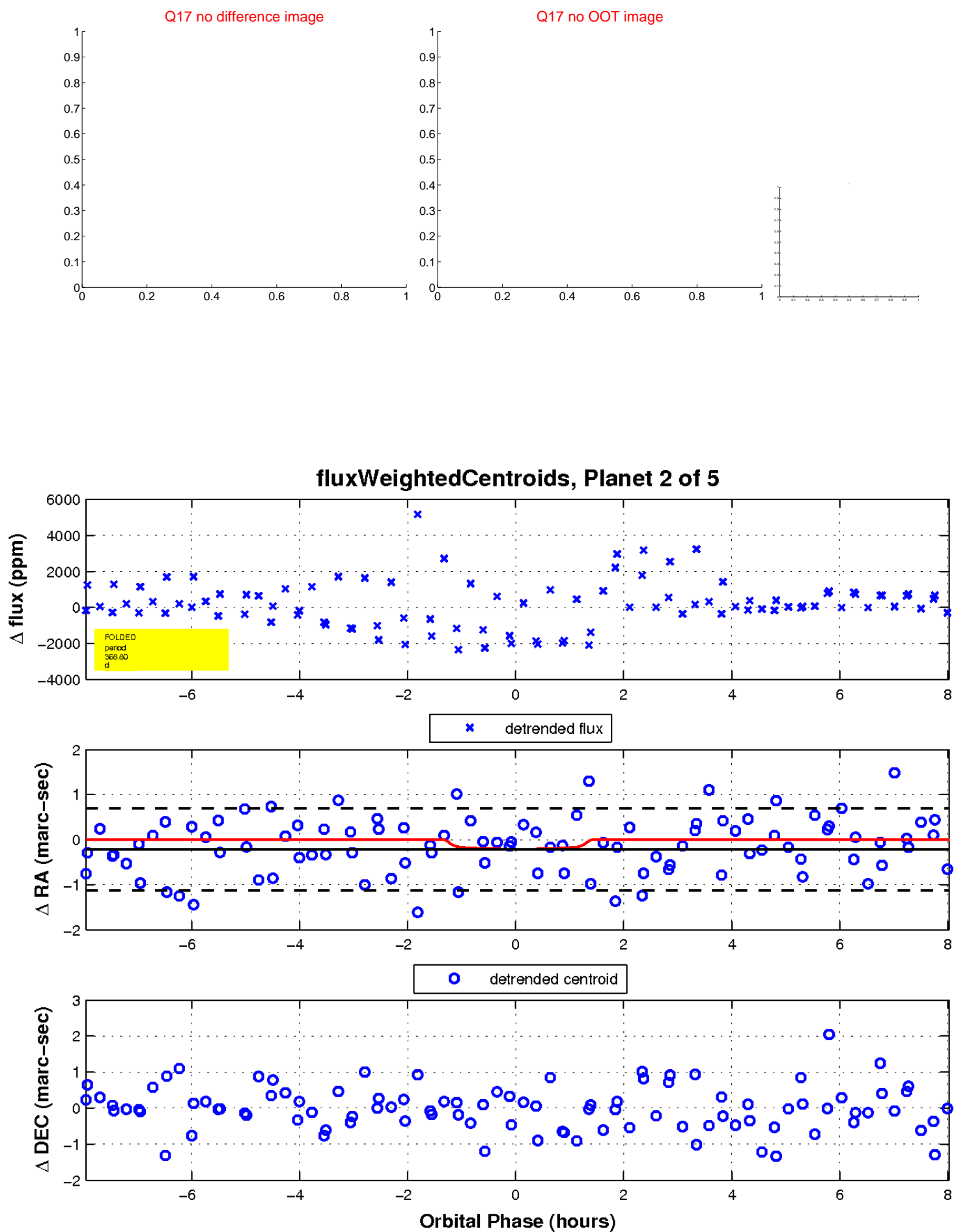
Q12 no OOT image



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

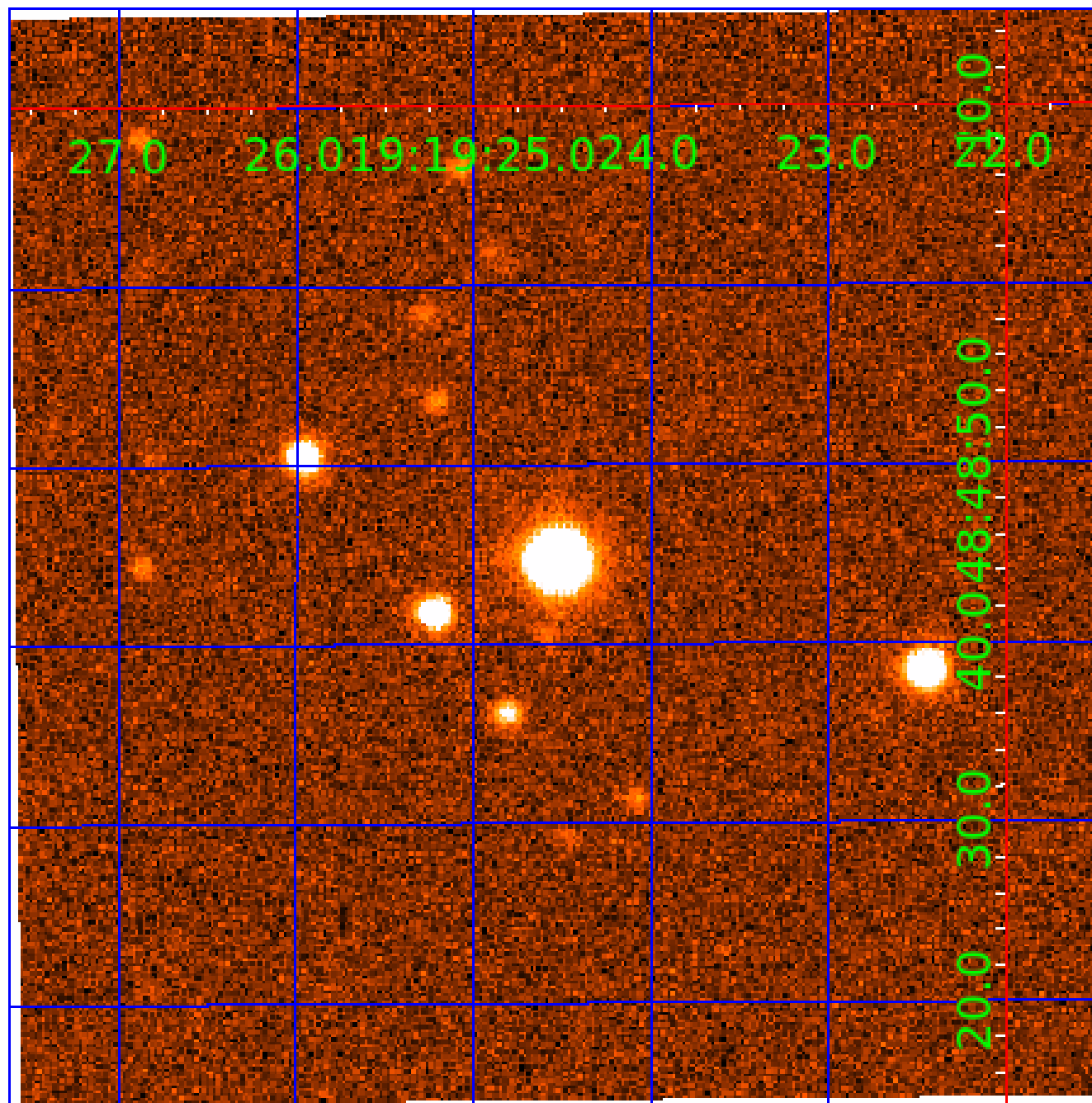


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011186837

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})
011186837-01	OBS	No	486.187684	150.321778	1710.3	3.371	18.6	7.3	0.82	5985	3.40	0.58
011186837-02	OBS	No	368.795140	187.446756	1176.0	2.715	18.1	5.4	0.82	5985	3.00	0.84
011186837-04	OBS	No	383.220877	355.166138	2773.2	6.522	16.4	8.6	0.82	5985	4.55	0.80
011186837-05	OBS	No	330.476390	456.373983	654.5	3.593	16.2	2.8	0.82	5985	2.18	0.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011186837-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011186837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV
011186837-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011186837-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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.

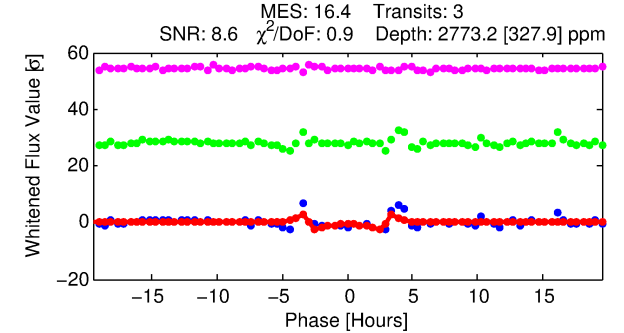
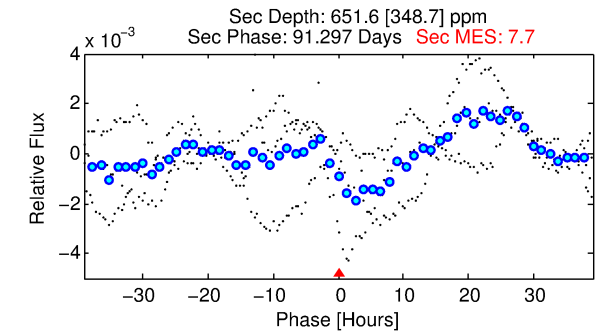
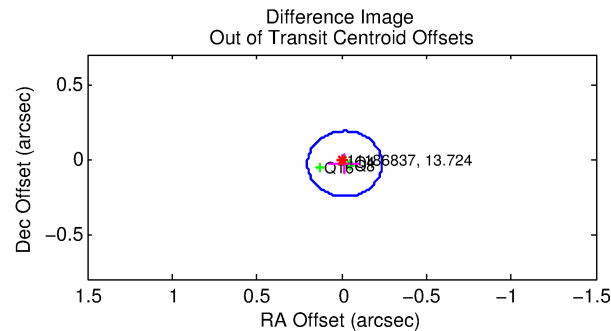
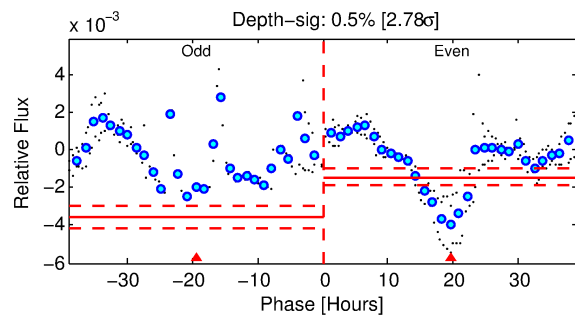
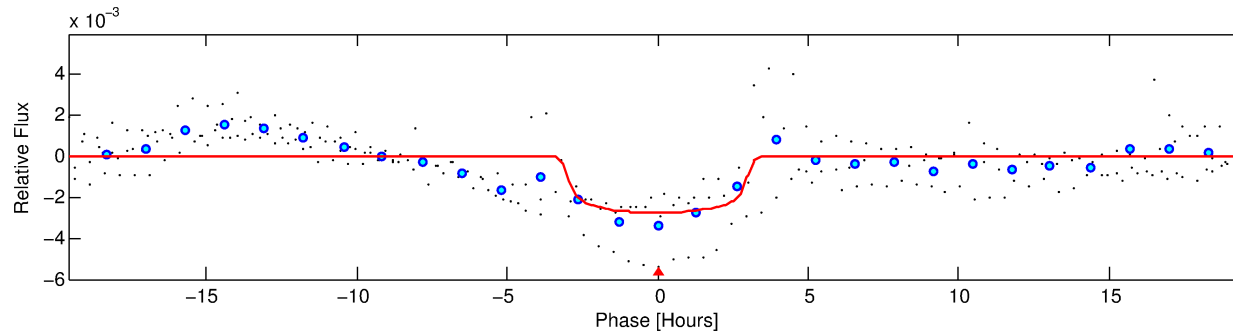
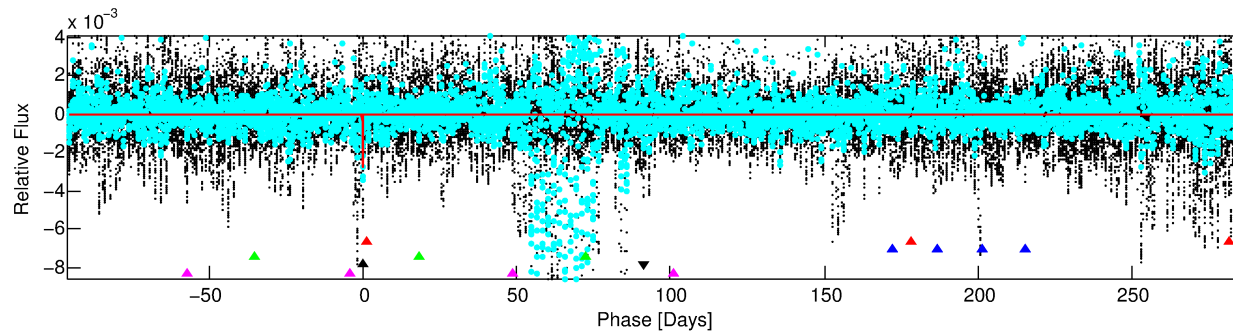
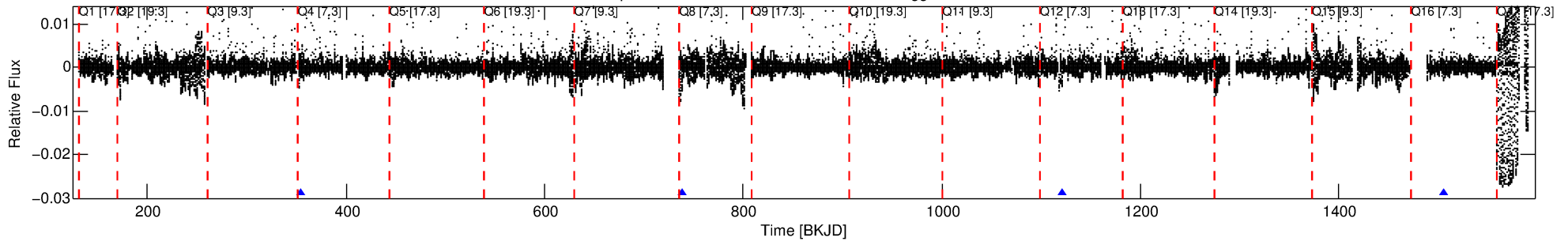
Ephemeris Match Information For 011186837-04

No Significant Match Found

DV One-Page Summary

KIC: 11186837 Candidate: 4 of 5 Period: 383.221 d

Kp: 13.72 R*: 0.82 Rs Teff: 5985.0 K Logg: 4.55 Fe/H: -0.580



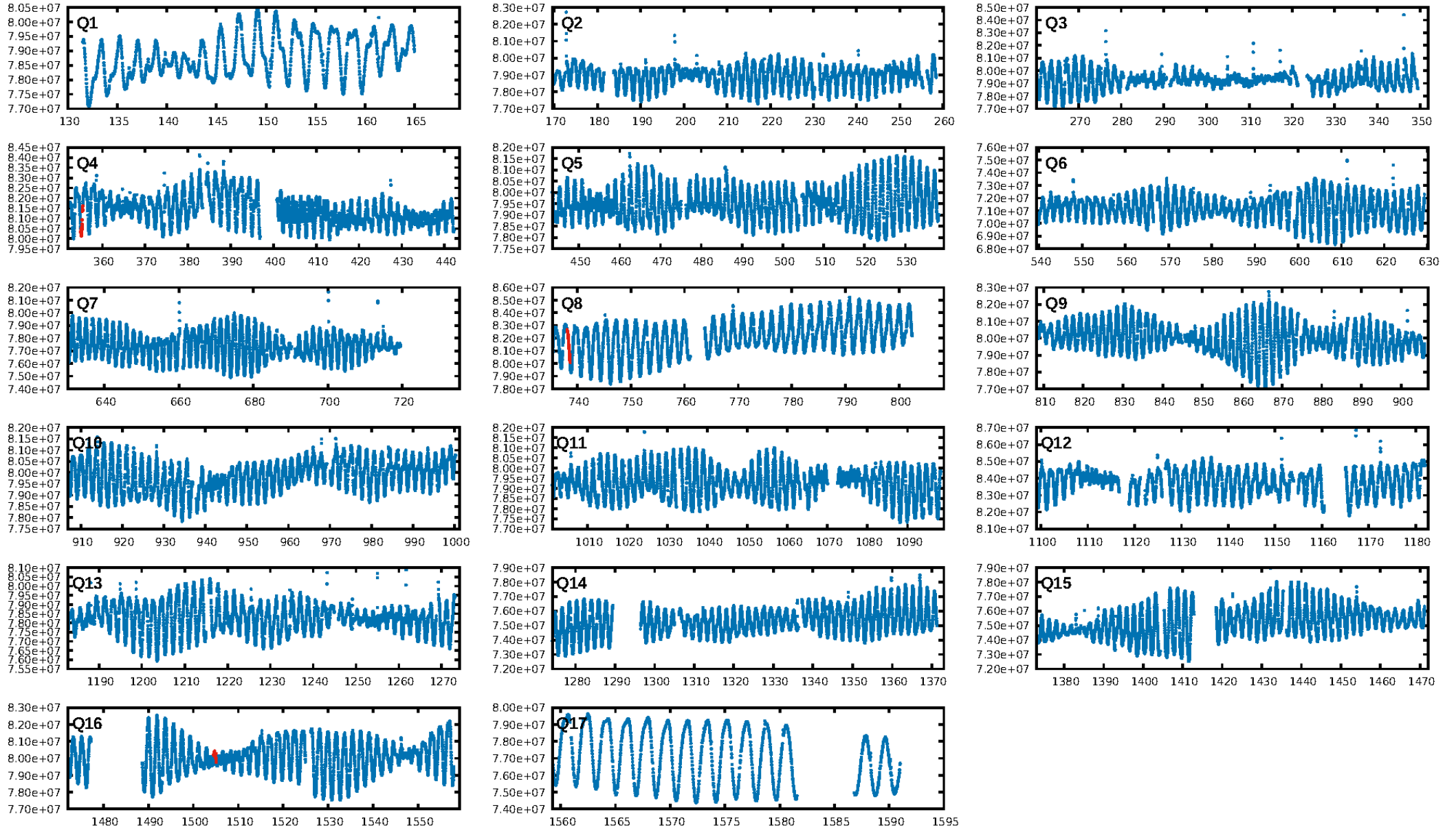
DV Fit Results:

Period = 383.22088 [0.00145] d
Epoch = 355.1661 [0.0029] BKJD
Rp/R* = 0.0507 [0.0062]
a/R* = 378.88 [169.45]
b = 0.63 [0.43]
Seff = 0.80 [0.28]
Teq = 241 [21] K
Rp = 4.55 [1.28] Re
a = 0.9853 [0.2174] AU
Ag = 16805.21 [11323.07] [1.48σ]
Teffp = 4245 [634] K [6.31σ]

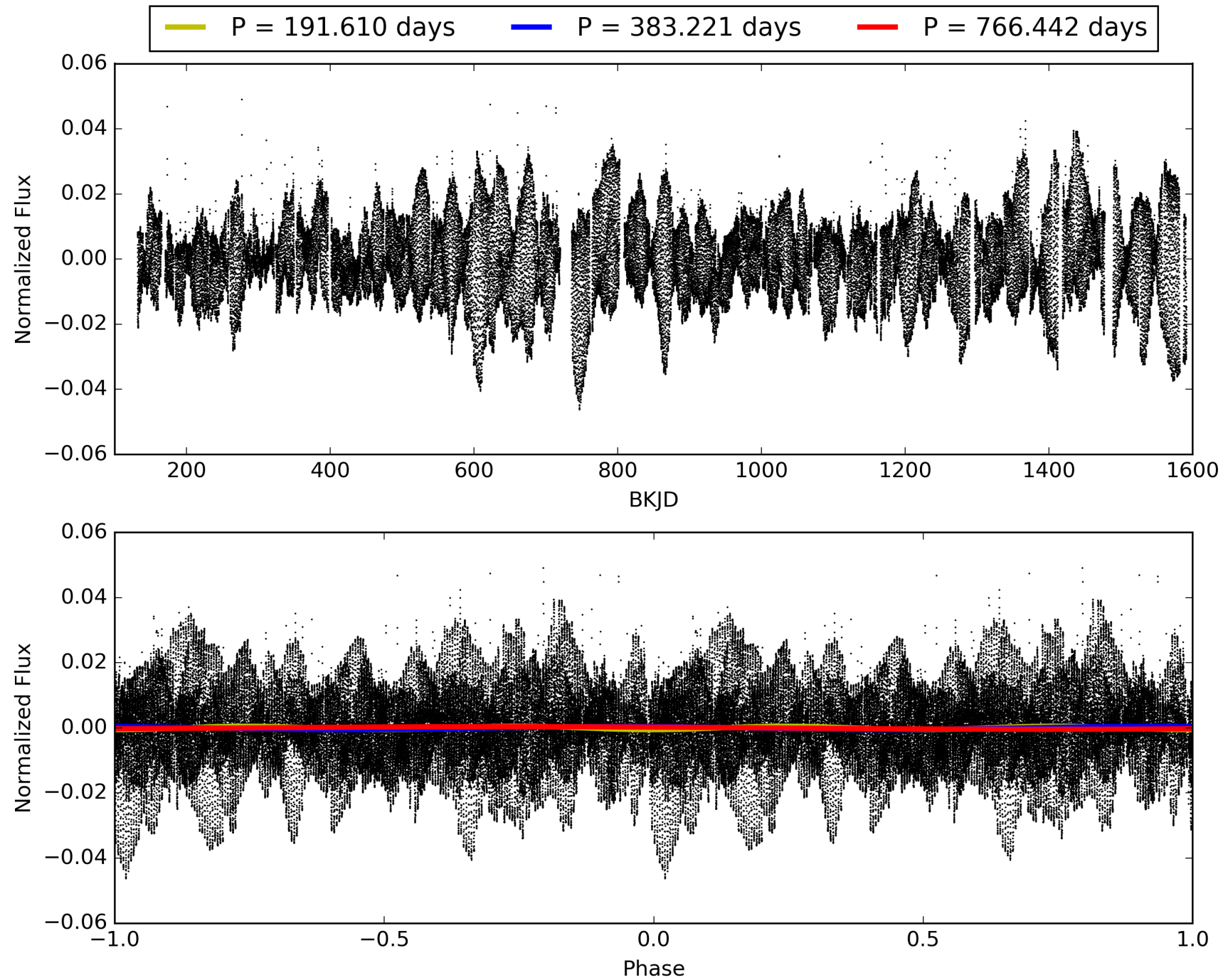
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [49.01σ]
LongPeriod-sig: 100.0% [168.15σ]
ModelChiSquare2-sig: 40.1%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 5.79e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.5401
Centroid-sig: N/A
Centroid-so: 0.514 arcsec [3.41σ]
OotOffset-rm: 0.036 arcsec [0.49σ]
KicOffset-rm: 0.151 arcsec [1.96σ]
OotOffset-st: 0/0/3/0 [3]
KicOffset-st: 0/0/3/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 011186837-04, PDC Light Curves

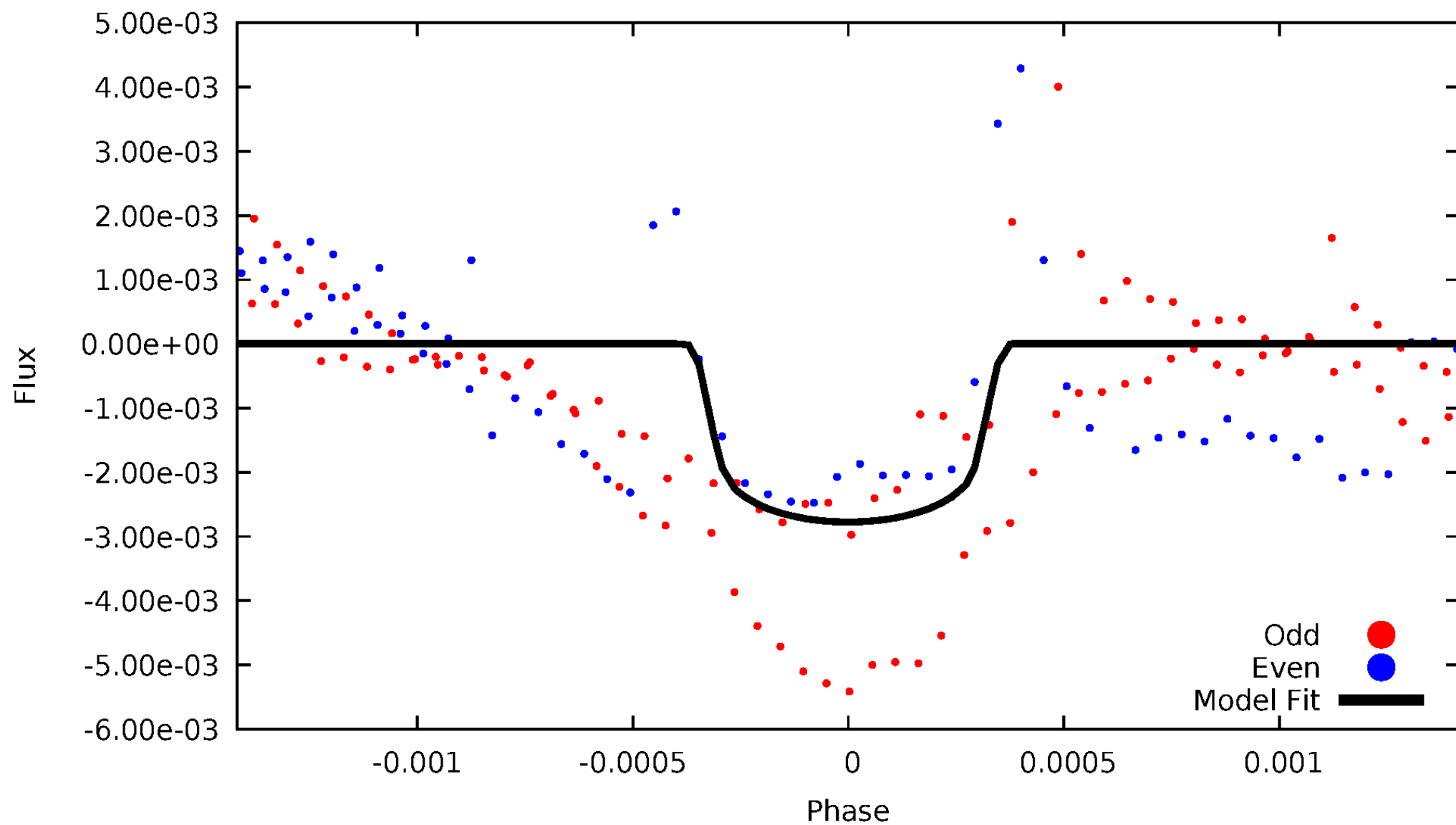


TCE 011186837-04



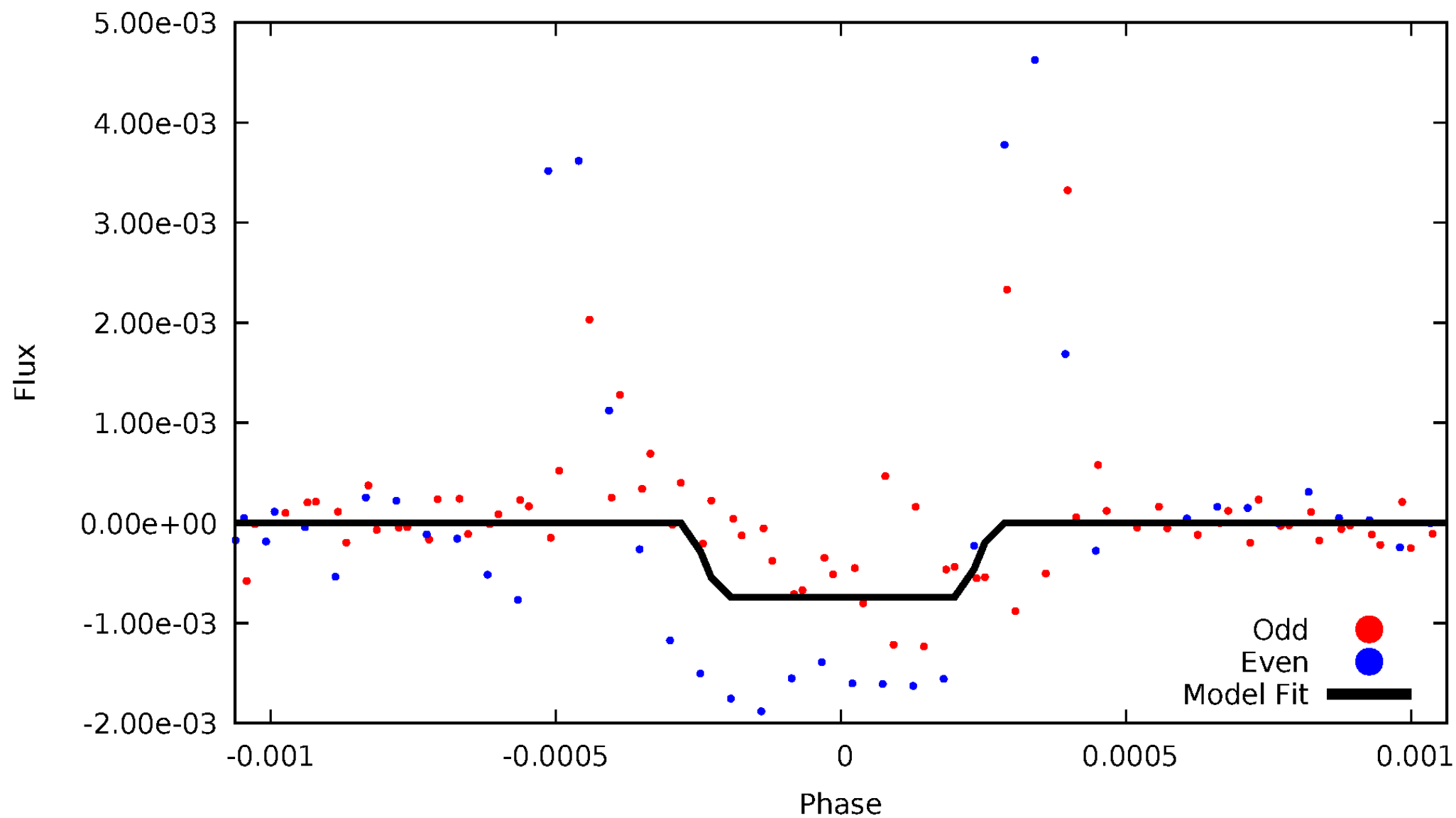
DV Odd/Even

TCE 011186837-04



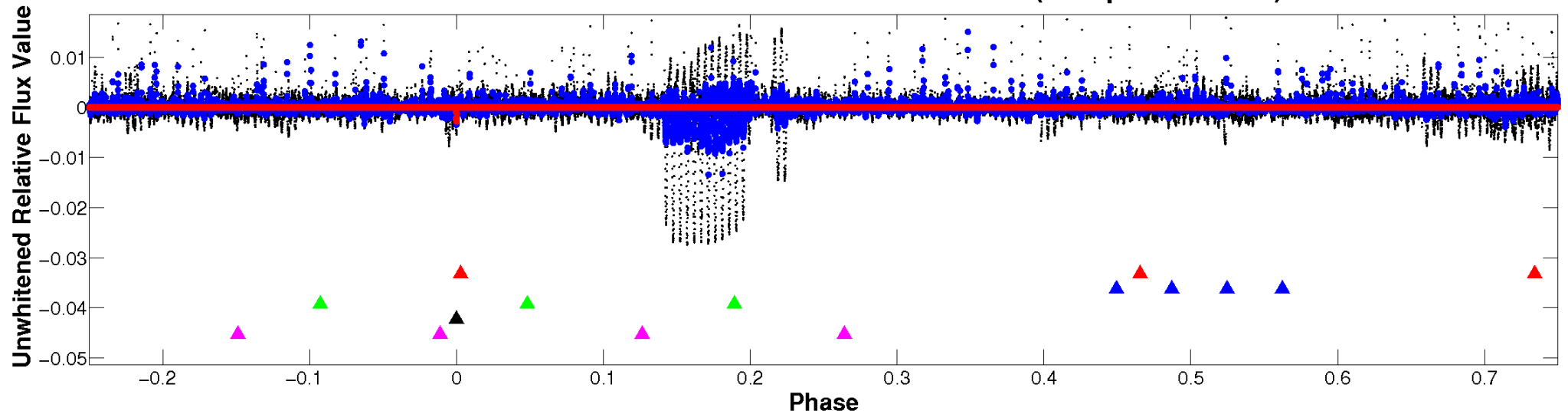
ALT Odd/Even

TCE 011186837-04

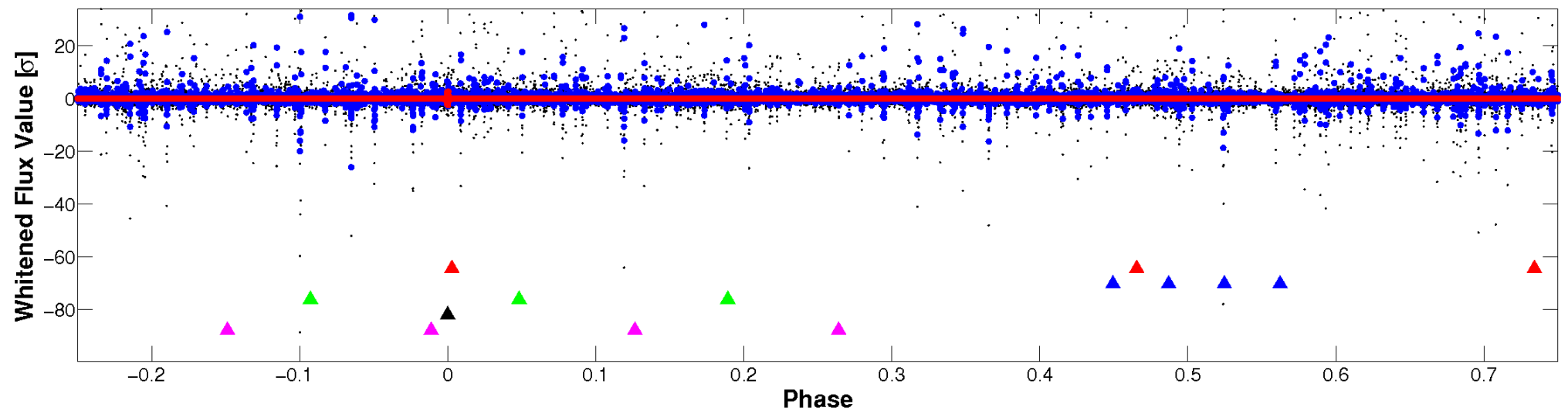


Non-Whitened Vs. Whitened Light Curve

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

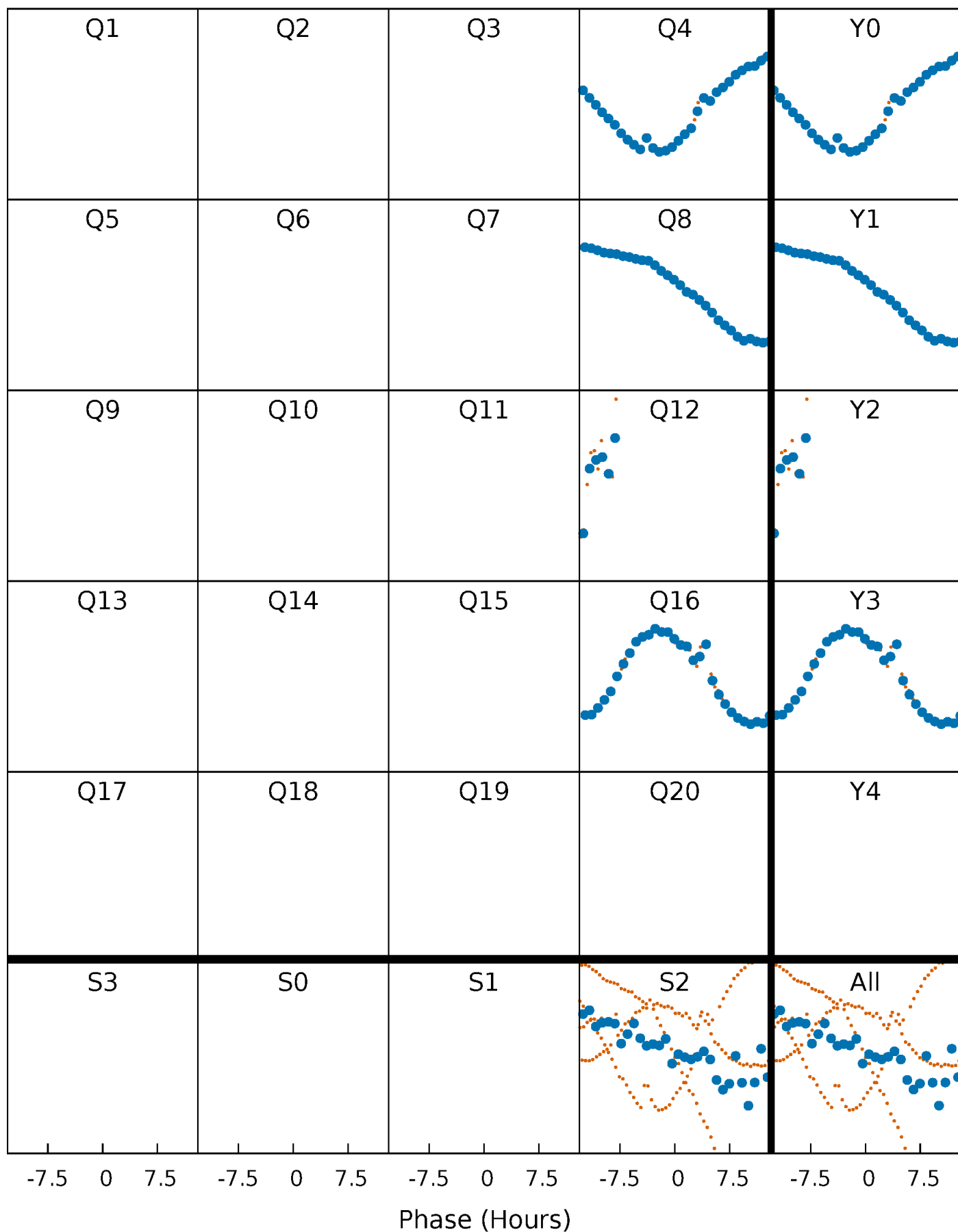


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



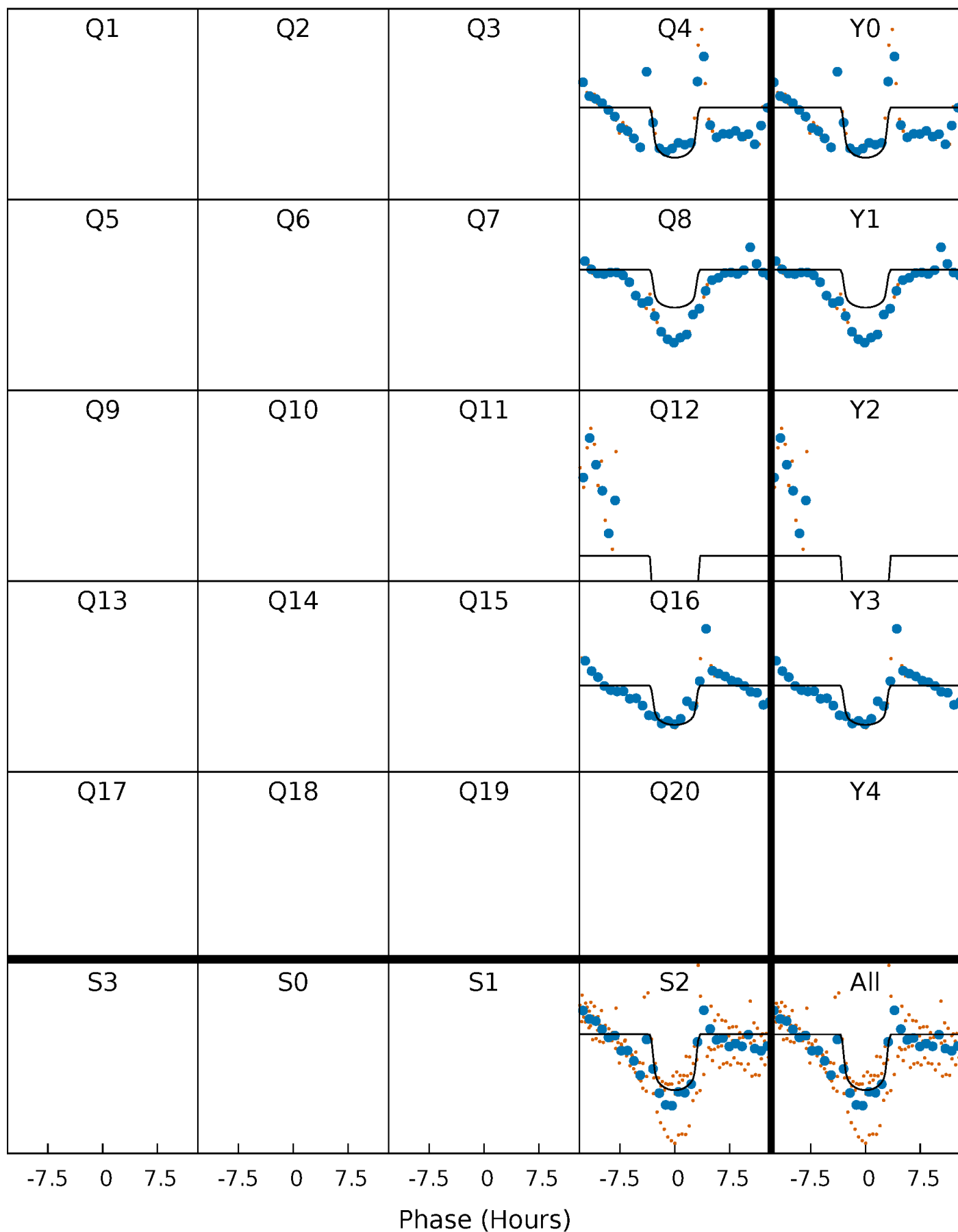
PDC Quarter-Phased Transit Curves

TCE 011186837-04 $P=383.220877$ Days $T_0=355.166138$ (BKJD)



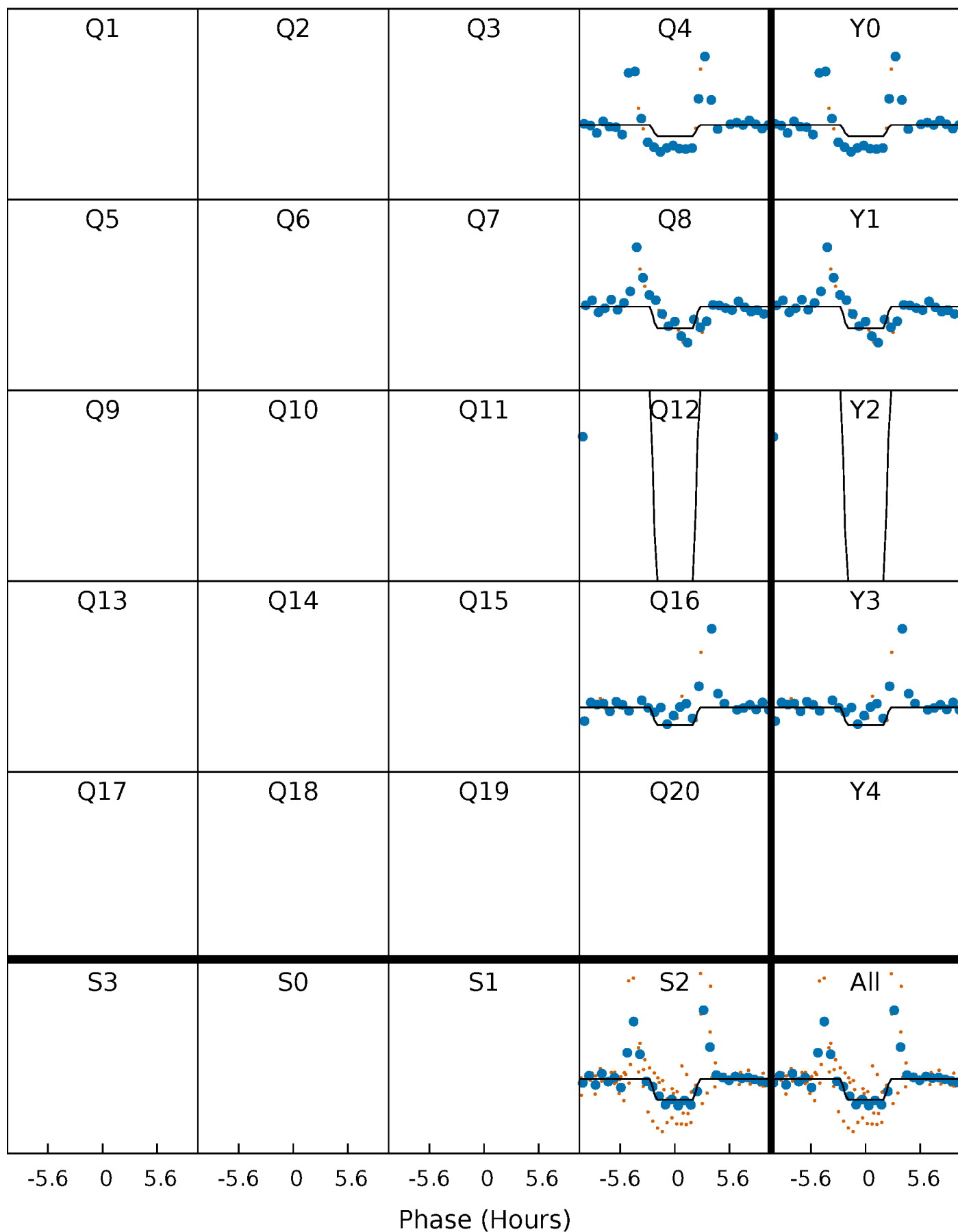
DV Quarter-Phased Transit Curves

TCE 011186837-04 $P=383.220877$ Days $T_0=355.166138$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

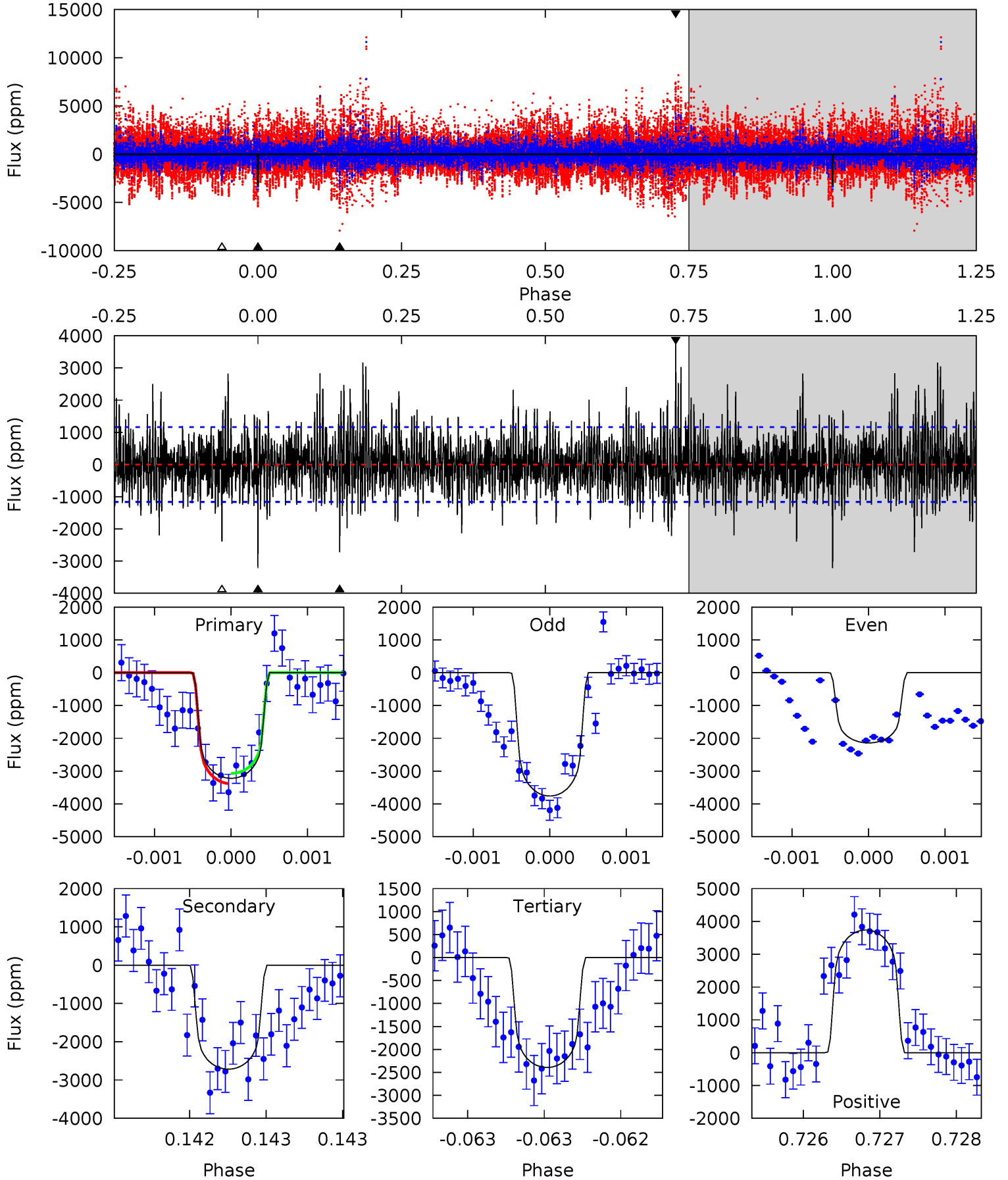
TCE 011186837-04 $P=383.224607$ Days $T_0=355.189126$ (BKJD)



DV Model-Shift Uniqueness Test

011186837-04, P = 383.220877 Days, E = 355.166138 Days

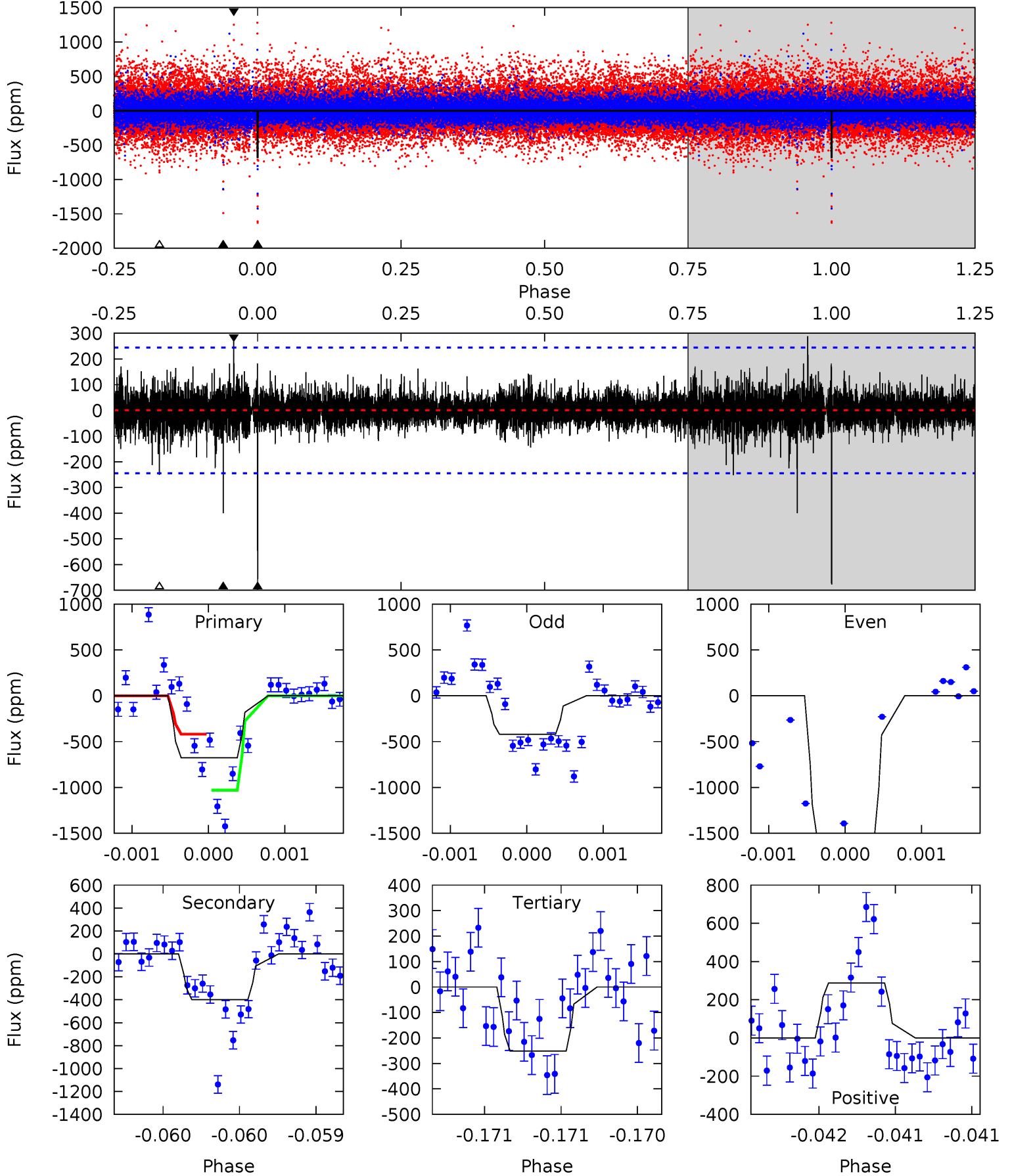
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	12.8	11.3	17.7	5.50	3.37	3.31	3.91	-2.46	1.53	-4.84	2.44	1.34	0.54	0.74



Alt Model-Shift Uniqueness Test

011186837-04, P = 383.224607 Days, E = 355.189126 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	9.09	5.71	6.55	5.56	3.47	0.92	9.69	8.86	3.38	2.54	13.4	1.30	0.30	7.13



Stellar Parameters For KIC 011186837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5985^{+161}_{-161}	$4.547^{+0.046}_{-0.184}$	$-0.580^{+0.300}_{-0.300}$	$0.822^{+0.209}_{-0.070}$	$0.868^{+0.090}_{-0.090}$	$2.203^{+0.519}_{-1.033}$
	+3%/-3%	+1%/-4%	+52%/-52%	+25%/-9%	+10%/-10%	+24%/-47%
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 011186837-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2717 ± 211	$4.73^{+0.80}_{-0.66}$	344^{+21}_{-15}	6078^{+434}_{-367}	64092^{+22081}_{-17706}
Alt.	-400 ± 44	$2.53^{+0.67}_{-0.60}$	344^{+22}_{-15}	5176^{+706}_{-447}	32130^{+23668}_{-12072}

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 $A_{obs} \gg 1.0$

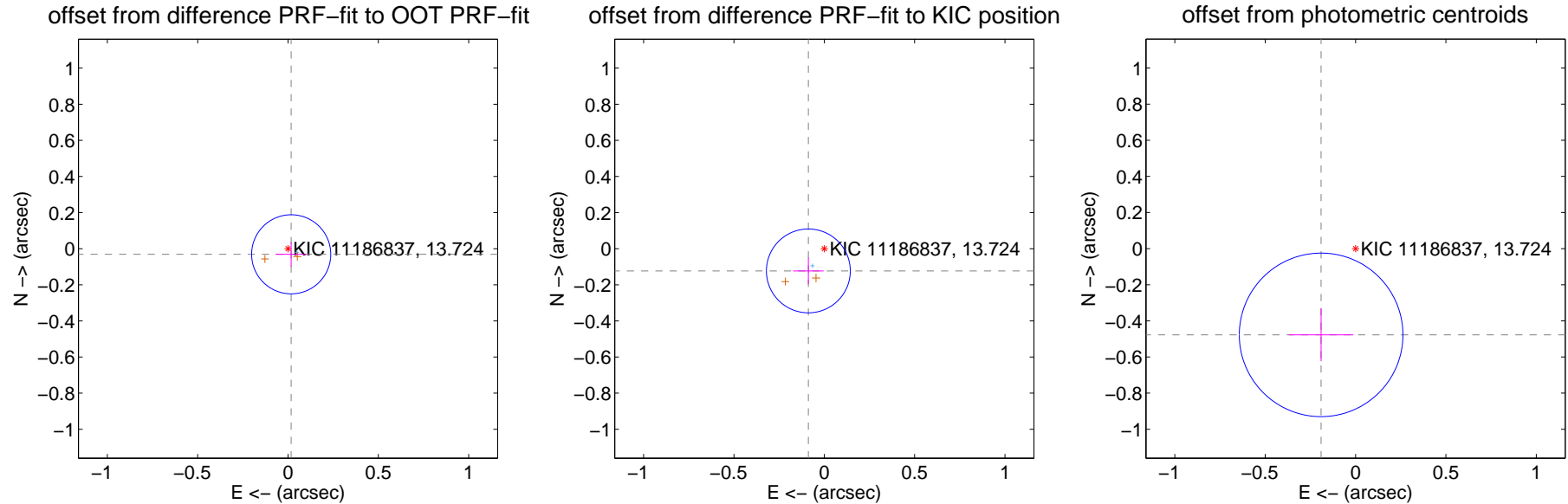
DV Centroid Data

Supplemental centroid analysis for 011186837-04. Kepler magnitude: 13.72. Transit SNR 8.55

There are 1 quarters with good PRF difference image offsets

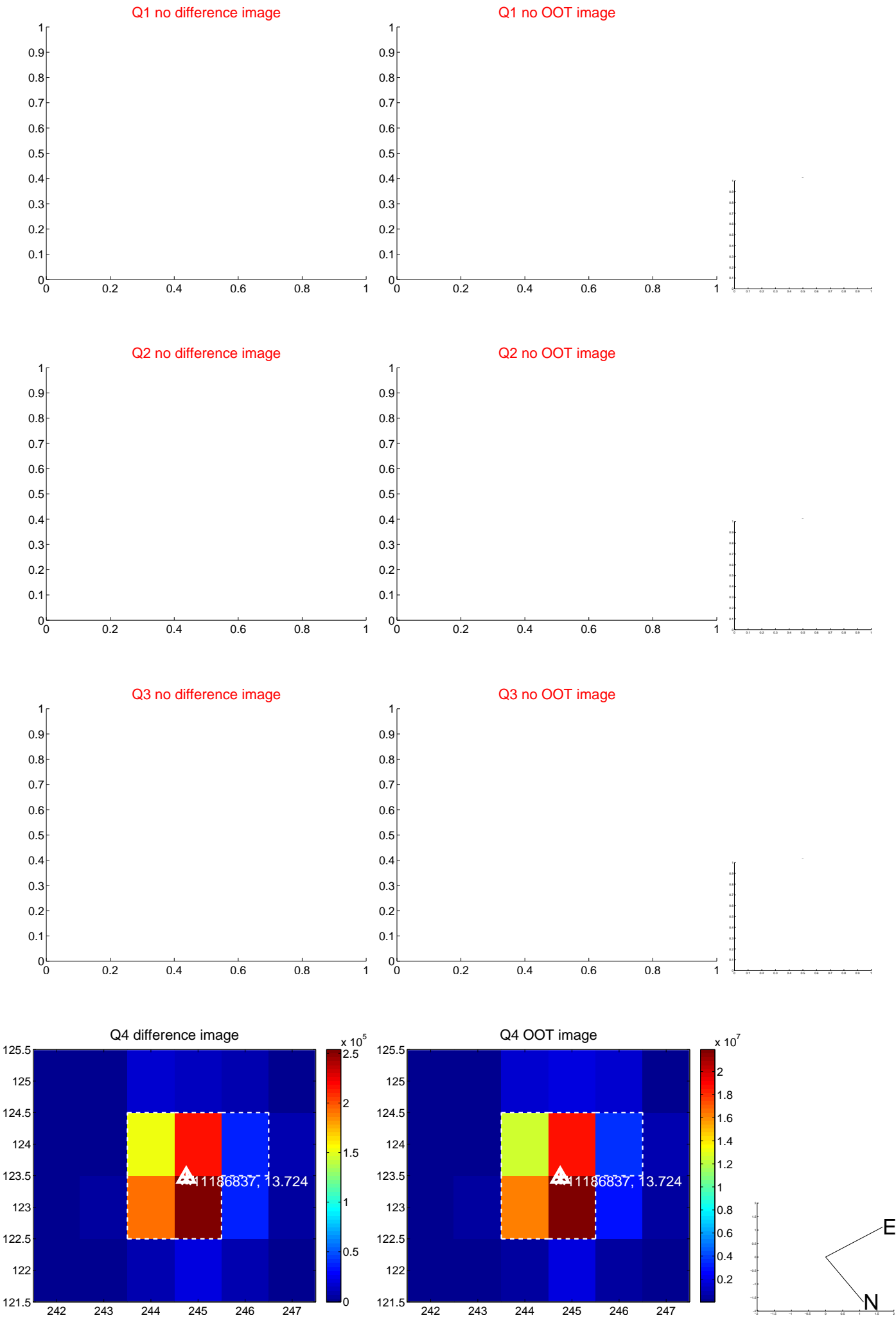
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.036 ± 0.073	0.49	-0.018 ± 0.087	-0.031 ± 0.068
PRF-fit source offset from KIC position	0.151 ± 0.077	1.96	0.088 ± 0.085	-0.123 ± 0.073
photometric centroid source offset	0.51 ± 0.15	3.41	0.19 ± 0.18	-0.48 ± 0.15

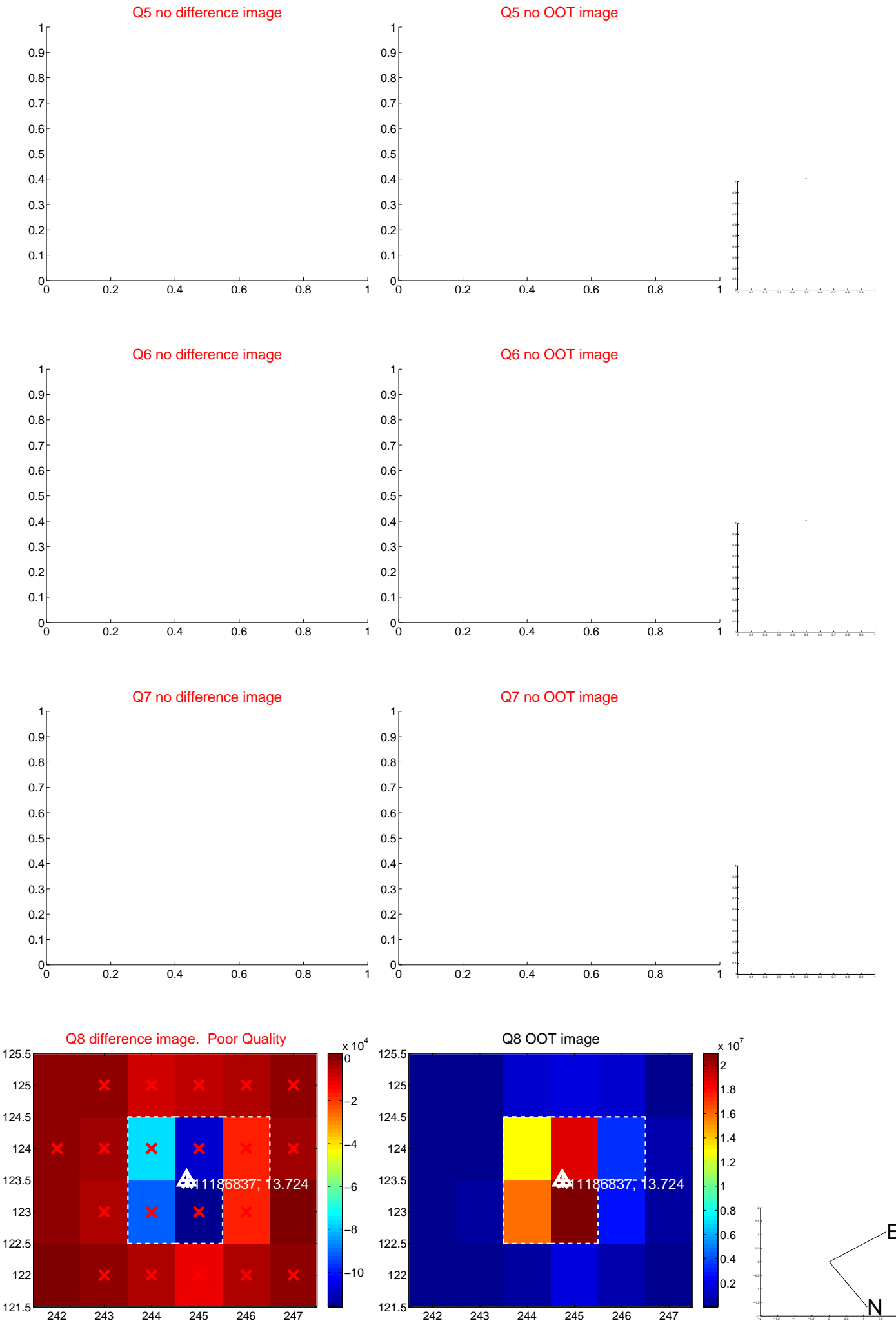


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



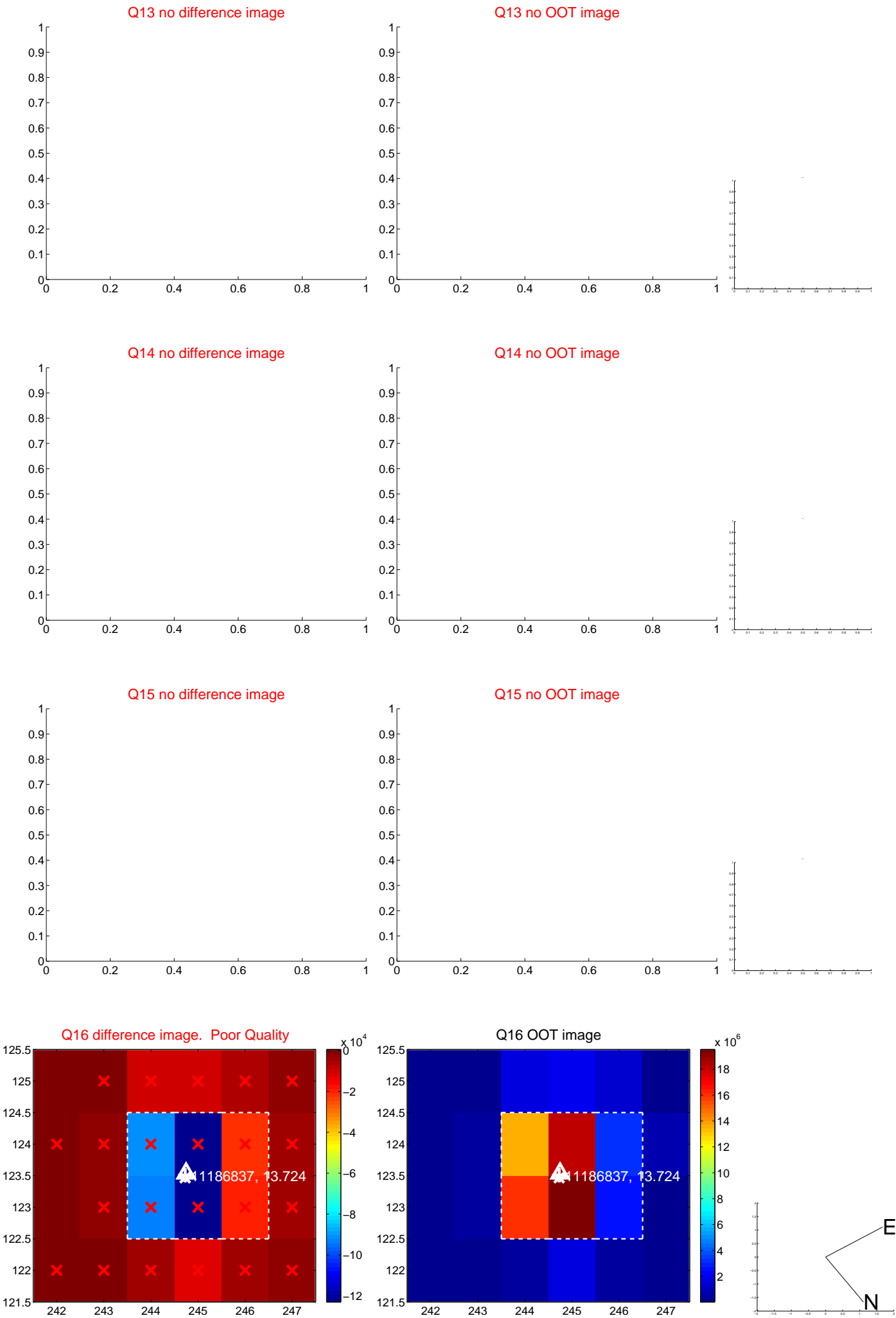
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



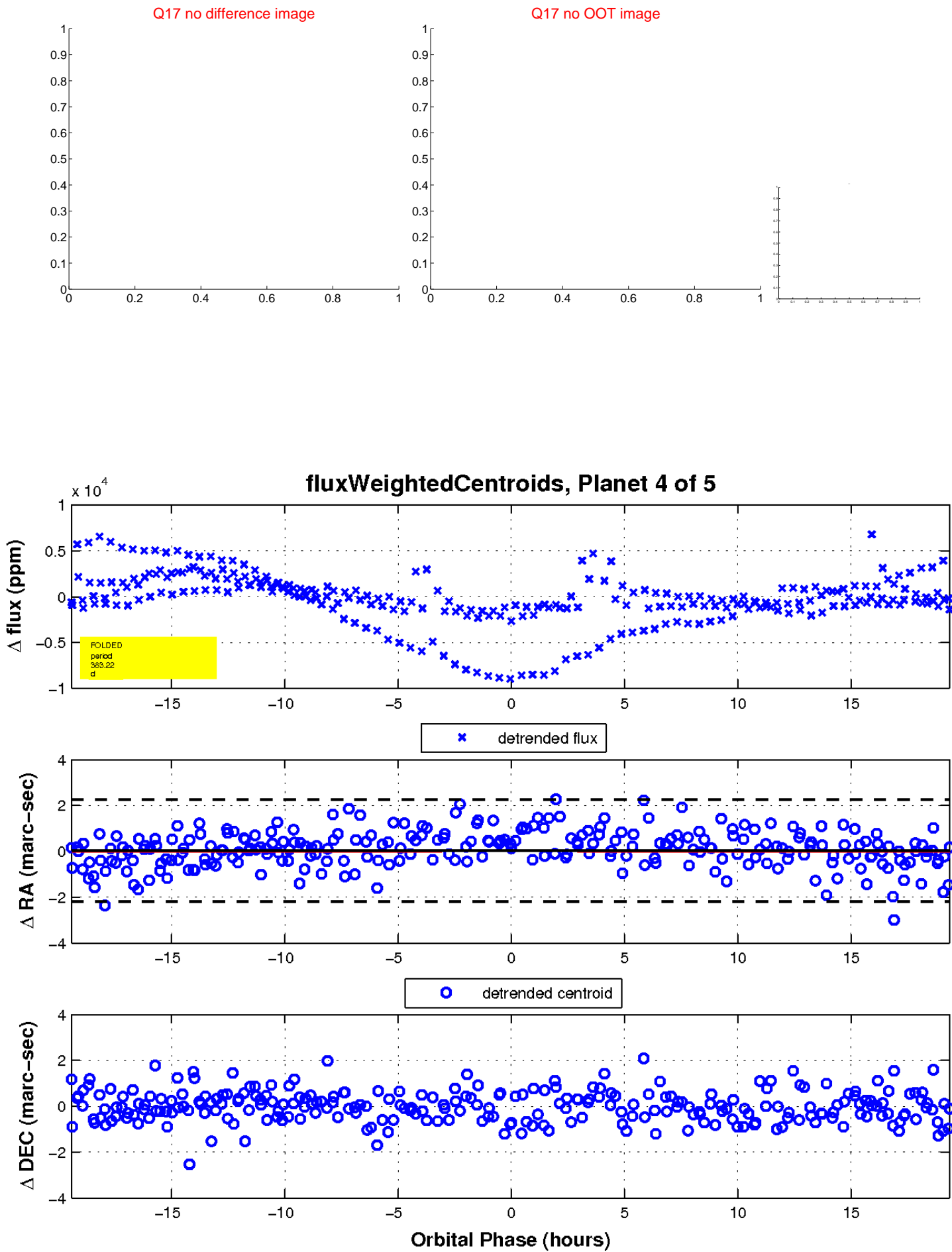
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

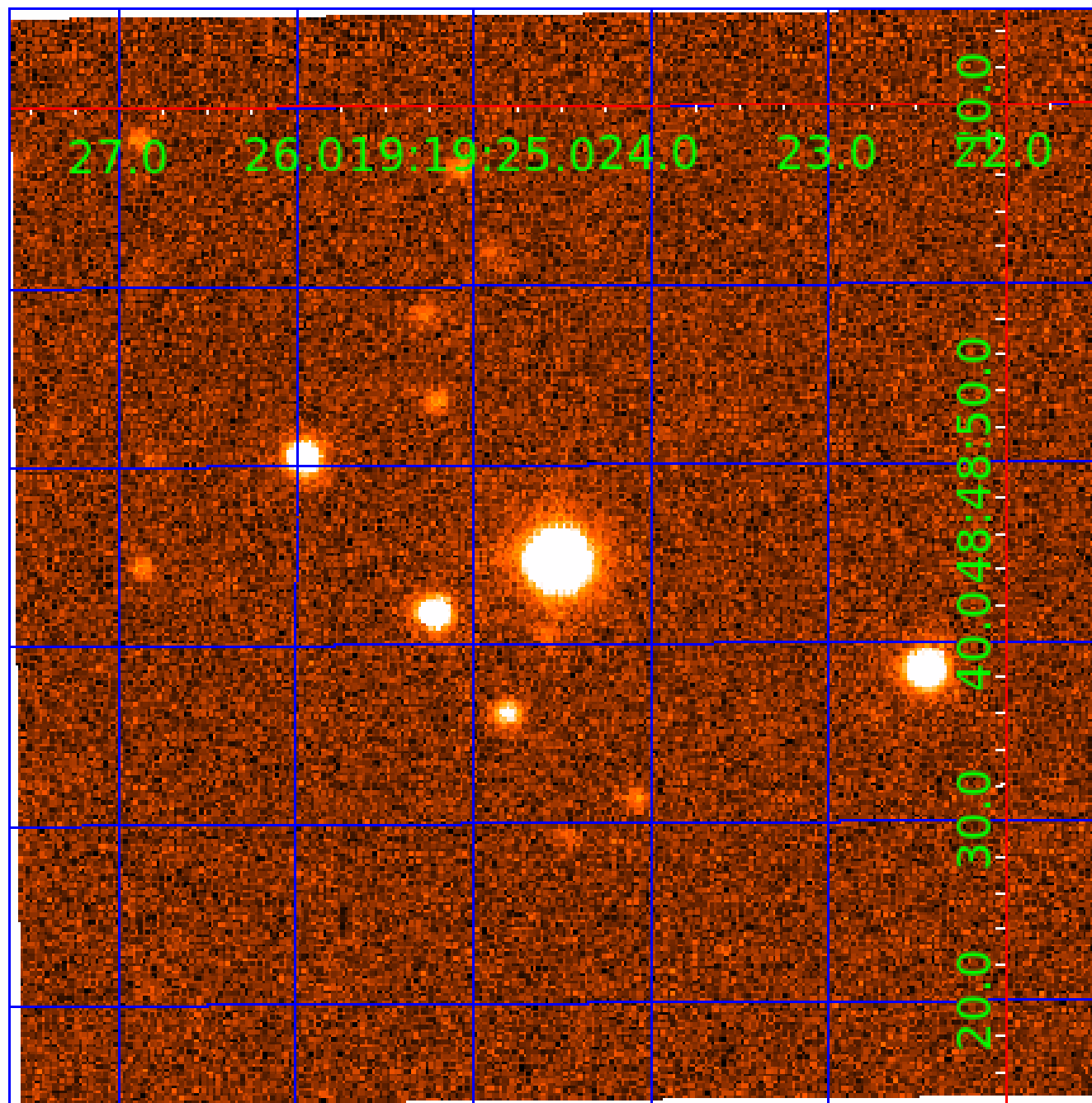


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011186837

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})
011186837-01	OBS	No	486.187684	150.321778	1710.3	3.371	18.6	7.3	0.82	5985	3.40	0.58
011186837-02	OBS	No	368.795140	187.446756	1176.0	2.715	18.1	5.4	0.82	5985	3.00	0.84
011186837-04	OBS	No	383.220877	355.166138	2773.2	6.522	16.4	8.6	0.82	5985	4.55	0.80
011186837-05	OBS	No	330.476390	456.373983	654.5	3.593	16.2	2.8	0.82	5985	2.18	0.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011186837-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
011186837-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV
011186837-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
011186837-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

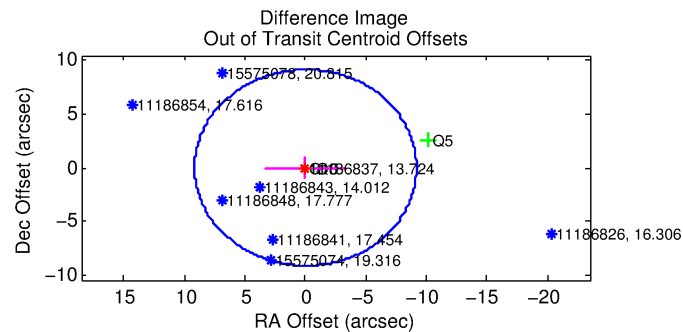
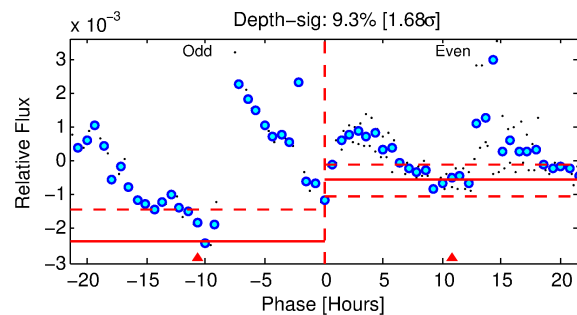
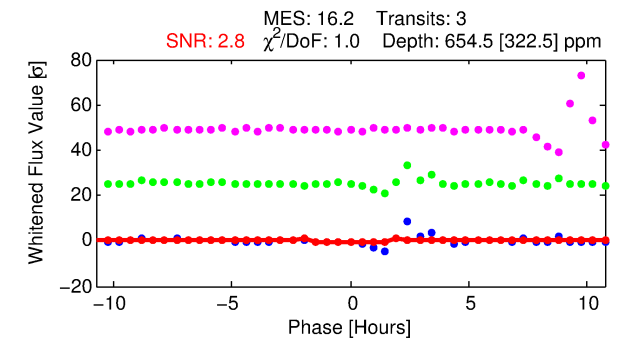
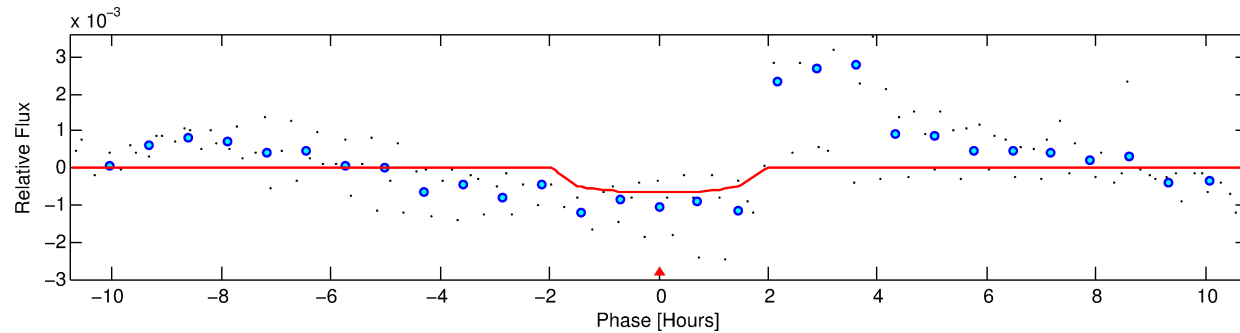
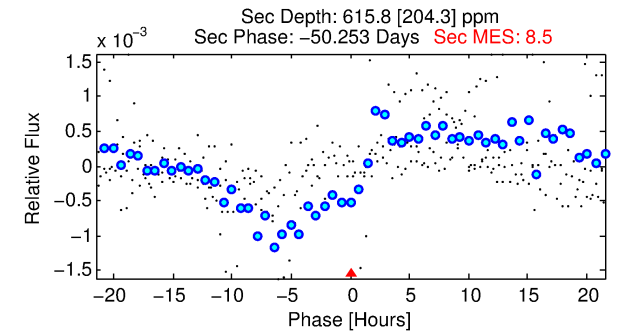
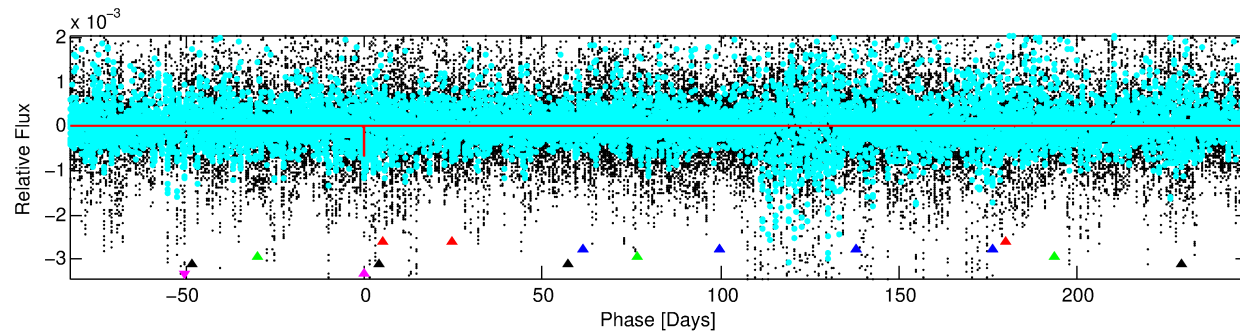
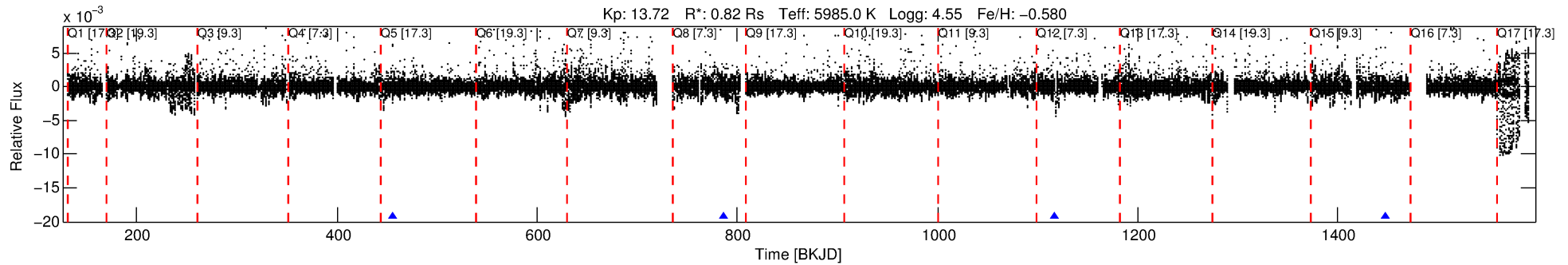
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011186837-05

No Significant Match Found

DV One-Page Summary

KIC: 11186837 Candidate: 5 of 5 Period: 330.476 d



DV Fit Results:

Period = 330.47639 [0.00970] d
Epoch = 456.3740 [0.0139] BKJD
Rp/R* = 0.0243 [0.0633]
a/R* = 608.94 [7825.78]
b = 0.55 [16.62]
Seff = 0.97 [0.34]
Teq = 253 [22] K
Rp = 2.18 [5.71] Re
a = 0.8927 [0.1970] AU
Ag = 56786.60 [297171.04] [0.19 σ]
Teffp = 6047 [7897] K [0.73 σ]

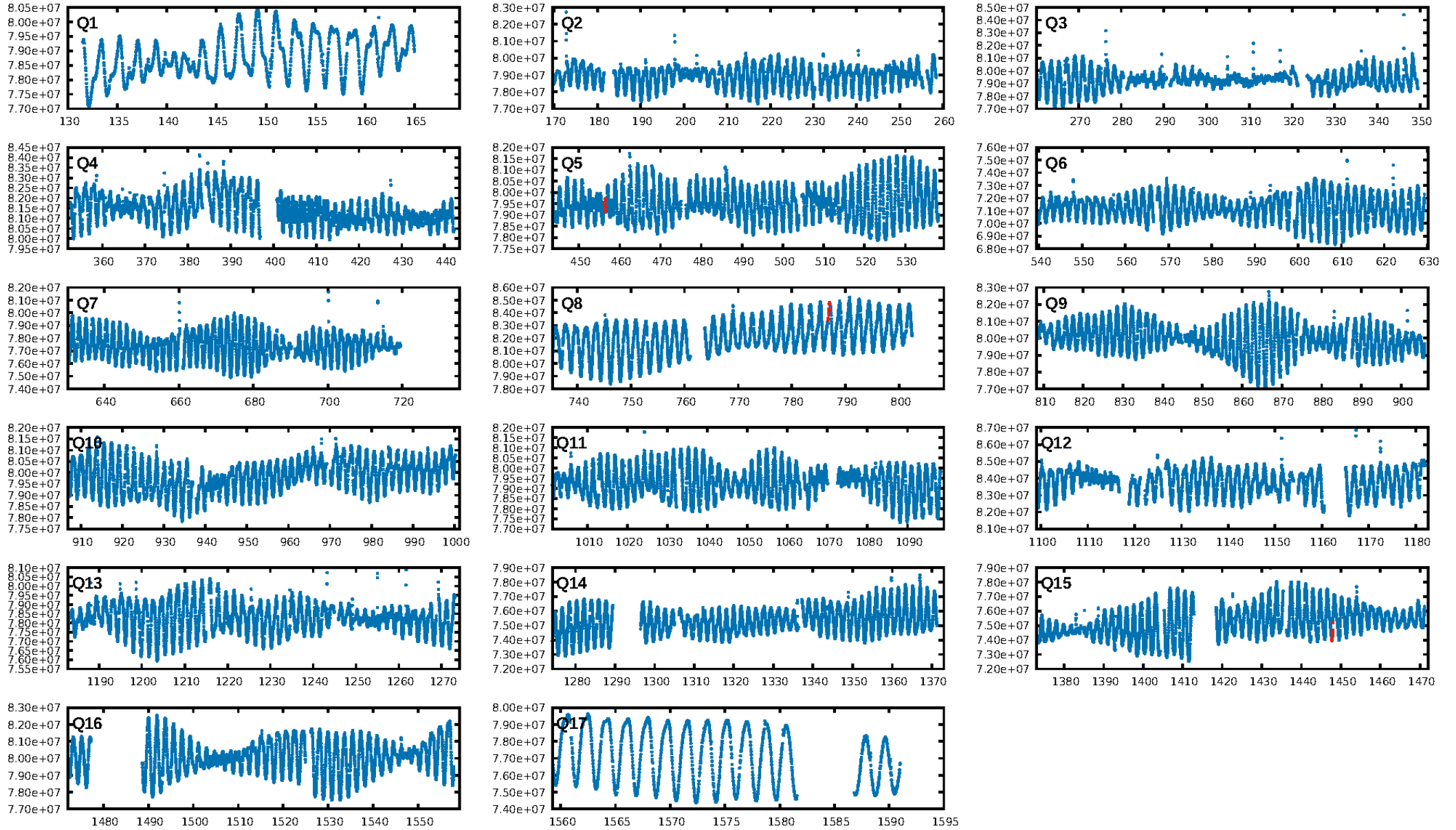
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [204.23 σ]
ModelChiSquare2-sig: 7.3%
ModelChiSquareGof-sig: 93.9%
Bootstrap-pfa: 3.65e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.2396
Centroid-sig: N/A
Centroid-so: 0.544 arcsec [0.66 σ]
OotOffset-rm: 0.014 arcsec [0.00 σ]
KicOffset-rm: 0.150 arcsec [0.07 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

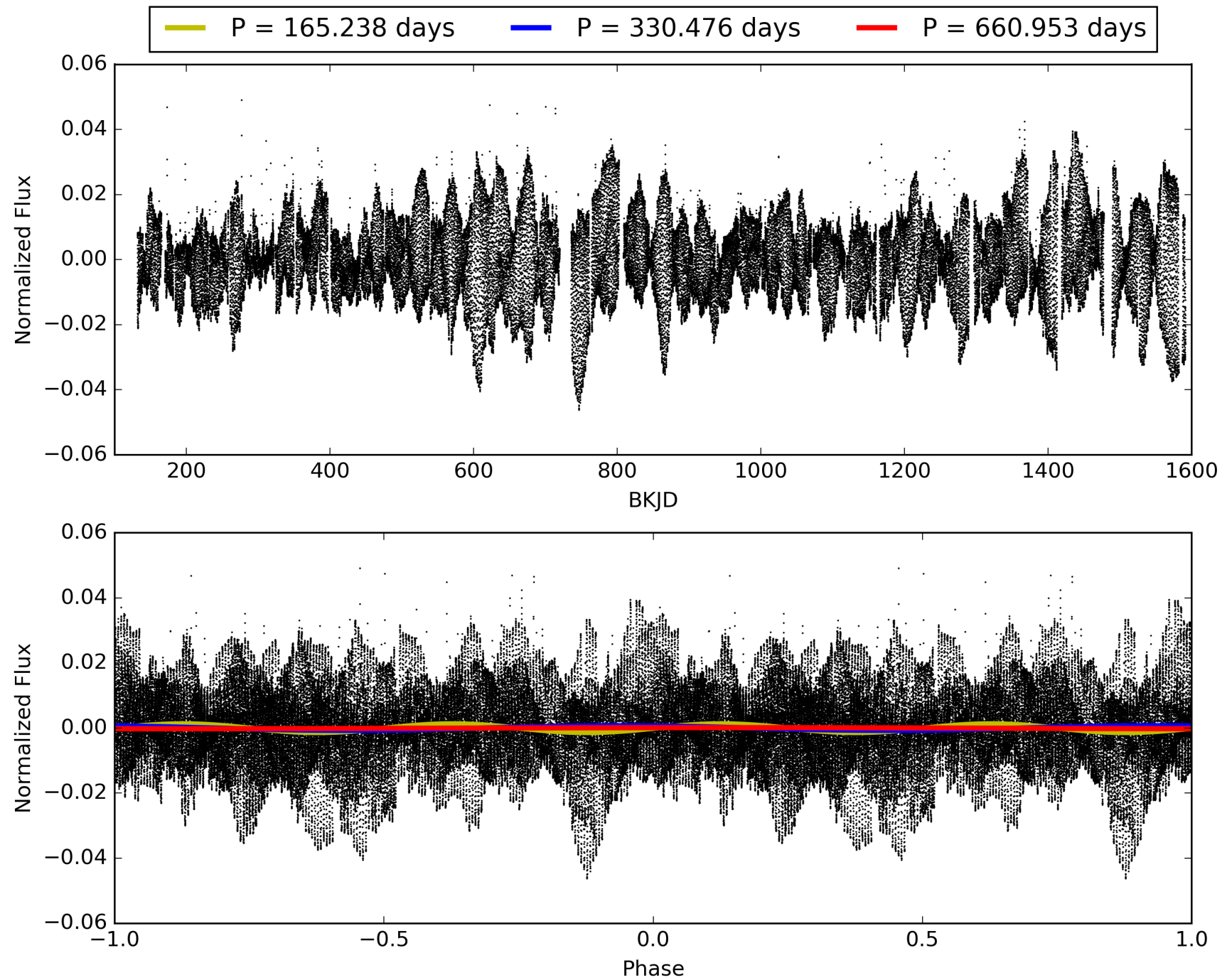
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:16:14 Z

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

TCE 011186837-05, PDC Light Curves

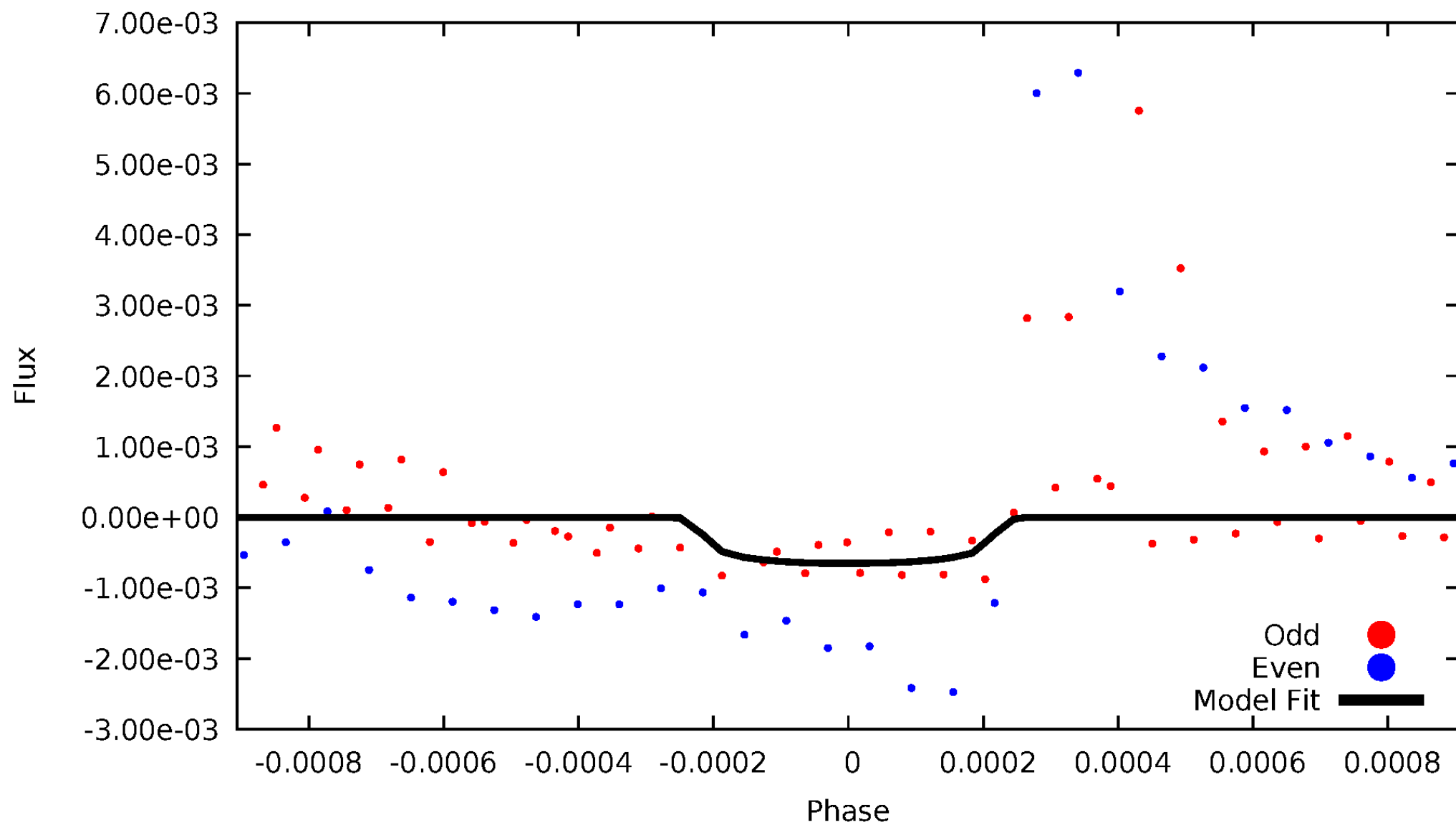


TCE 011186837-05



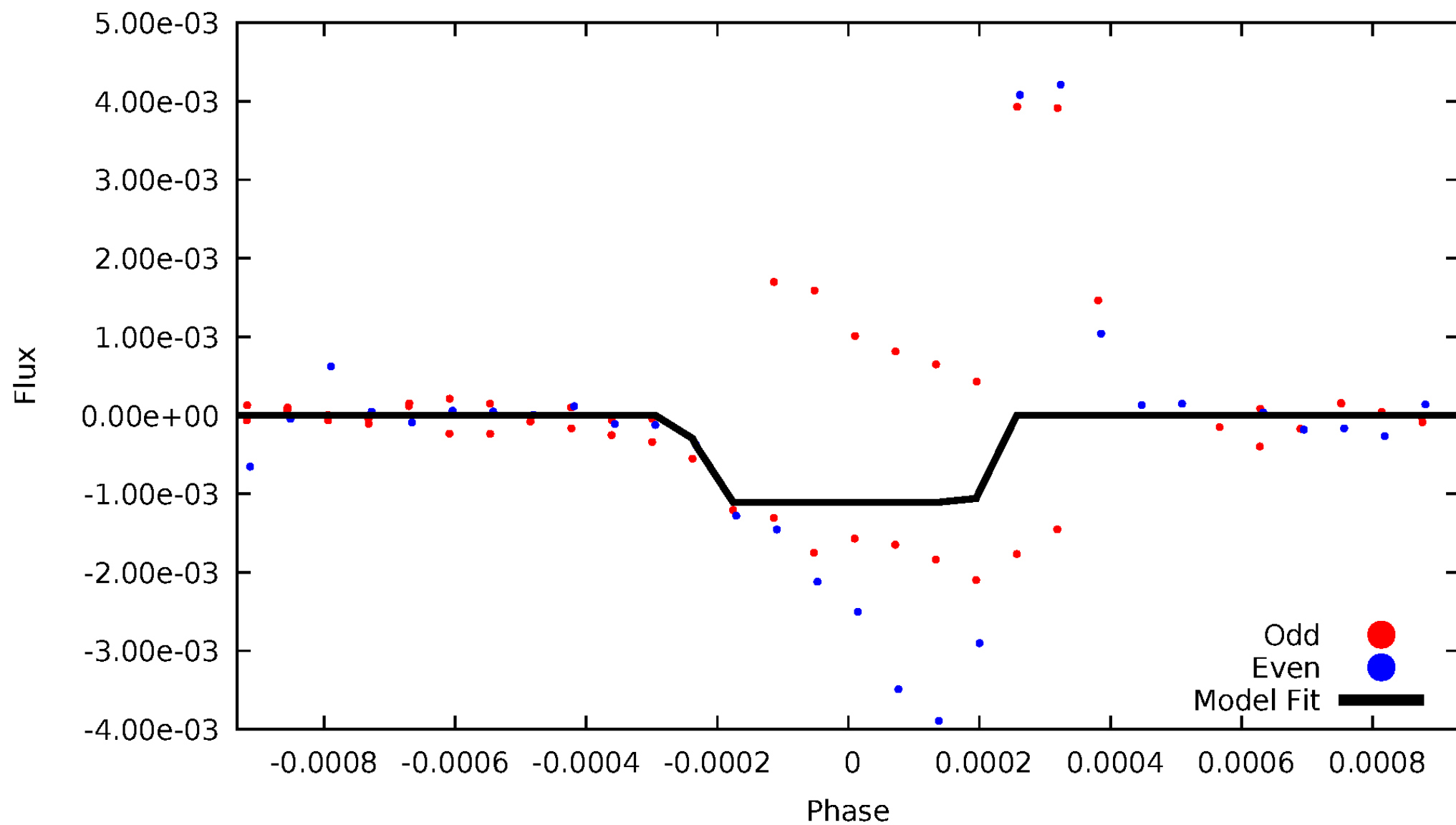
DV Odd/Even

TCE 011186837-05



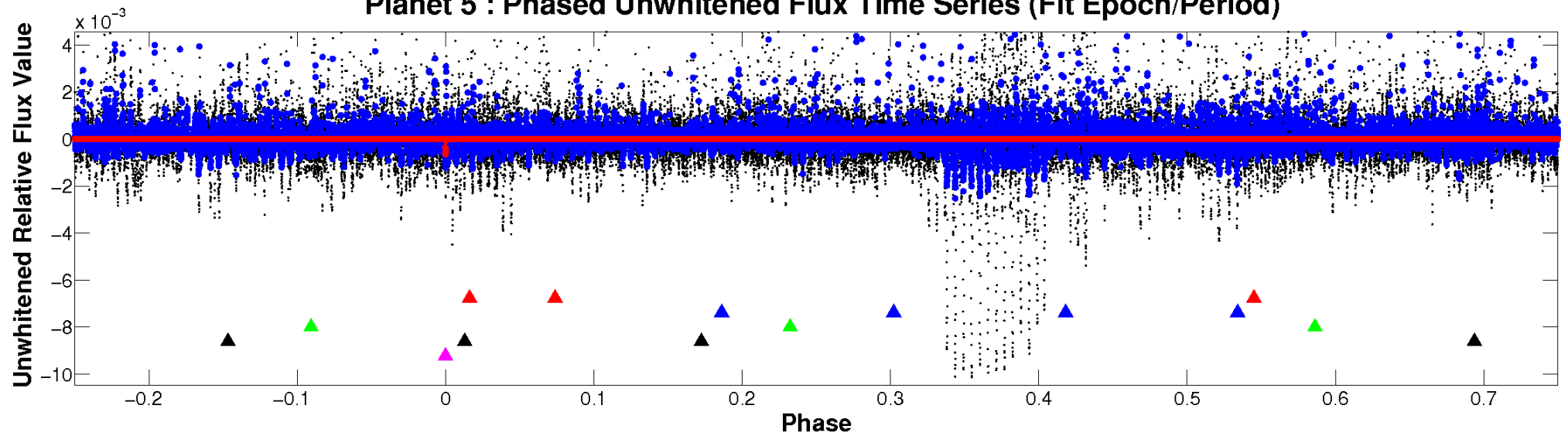
ALT Odd/Even

TCE 011186837-05

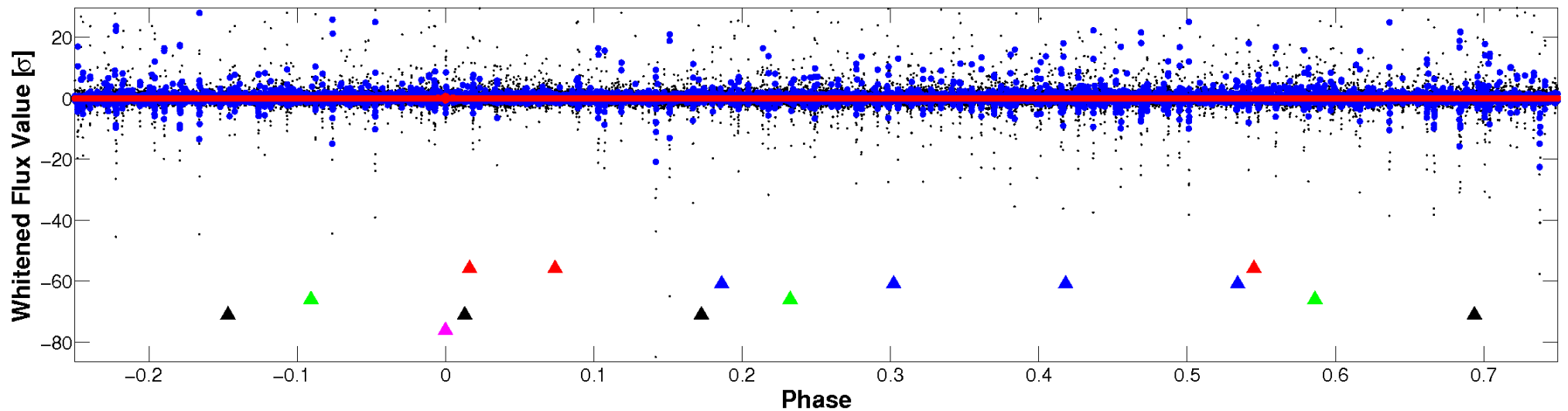


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

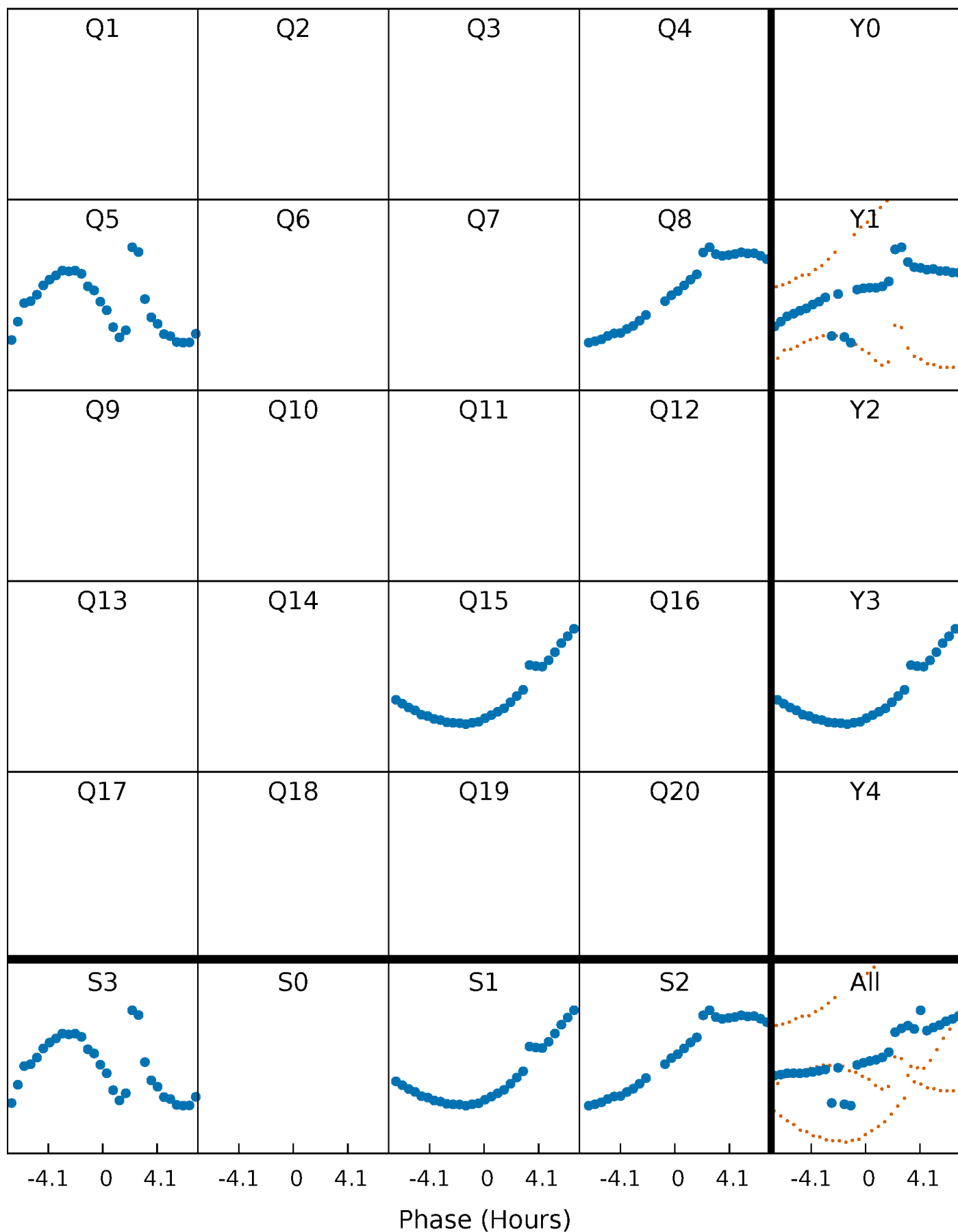


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



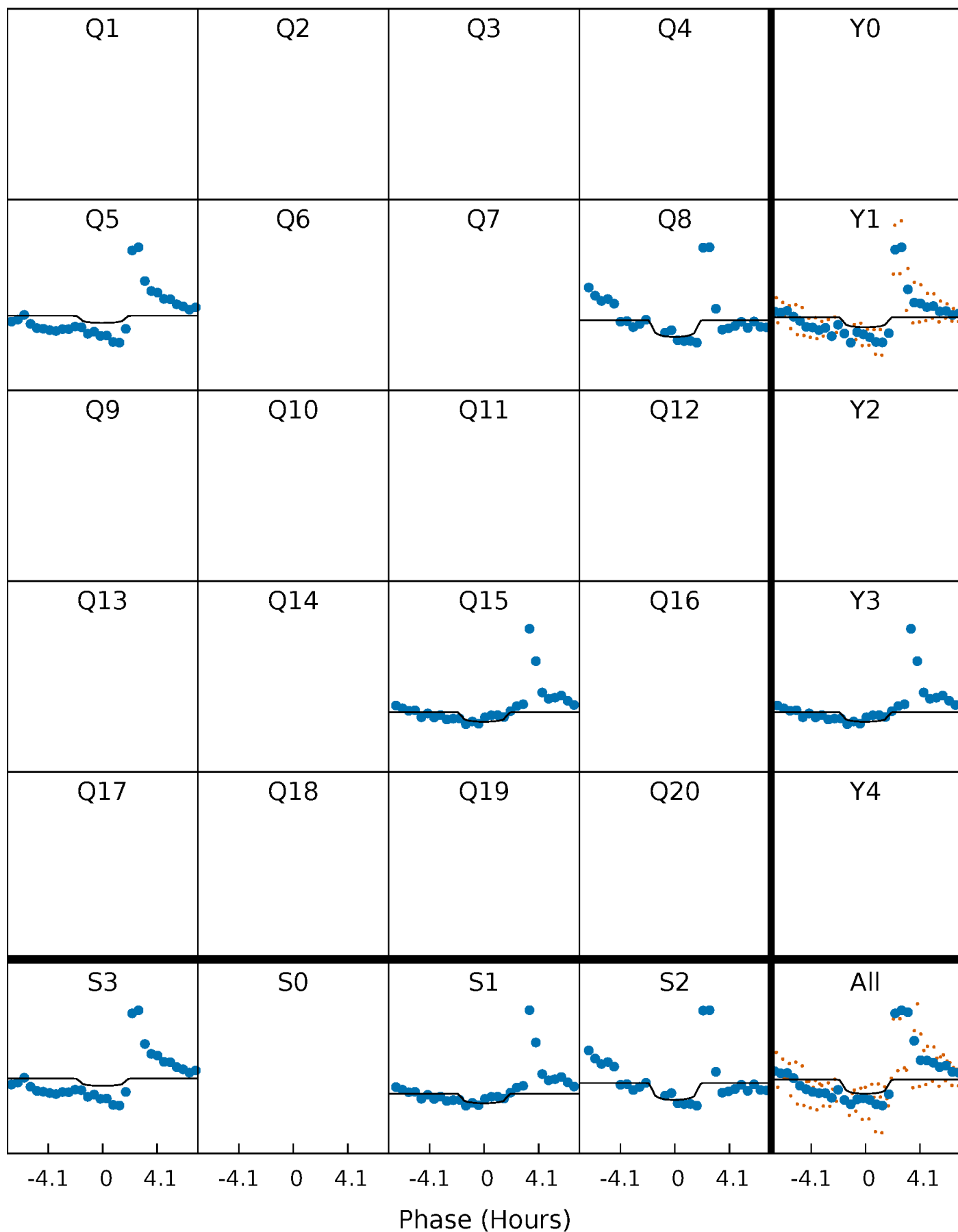
PDC Quarter-Phased Transit Curves

TCE 011186837-05 P=330.476389 Days $T_0=456.373983$ (BKJD)



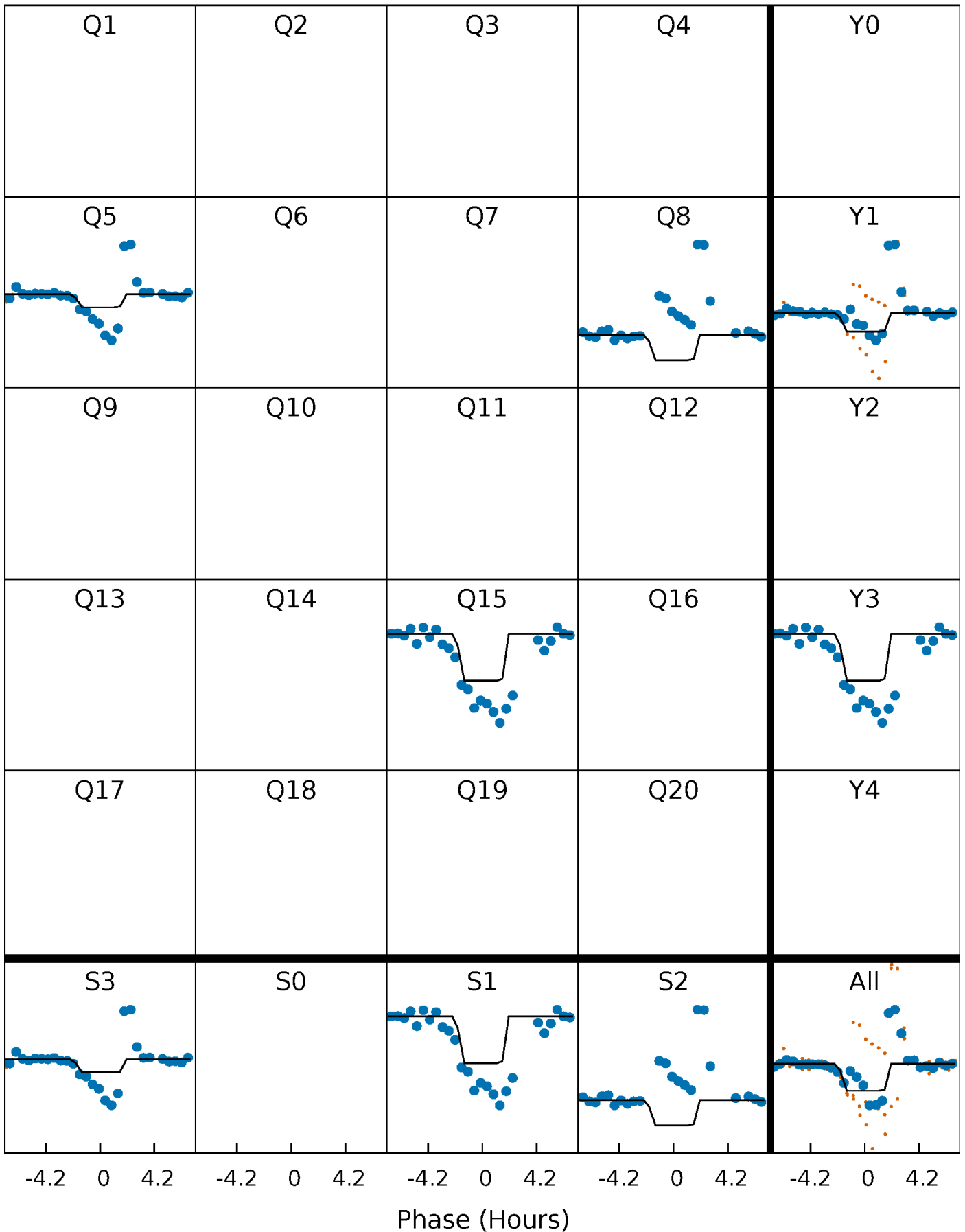
DV Quarter-Phased Transit Curves

TCE 011186837-05 $P=330.476389$ Days $T_0=456.373983$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

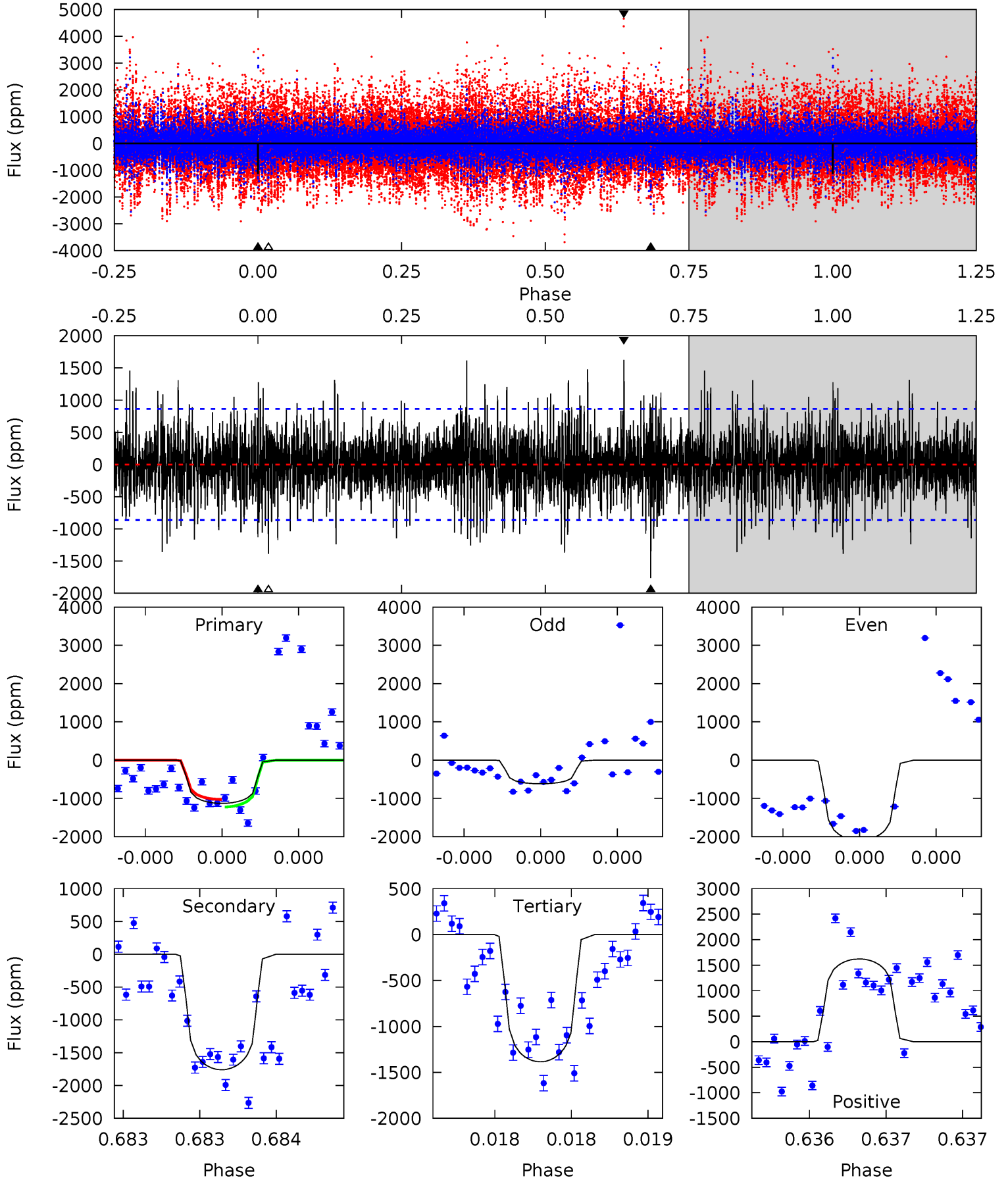
TCE 011186837-05 $P=330.473239$ Days $T_0=456.379600$ (BKJD)



DV Model-Shift Uniqueness Test

011186837-05, P = 330.476389 Days, E = 125.897594 Days

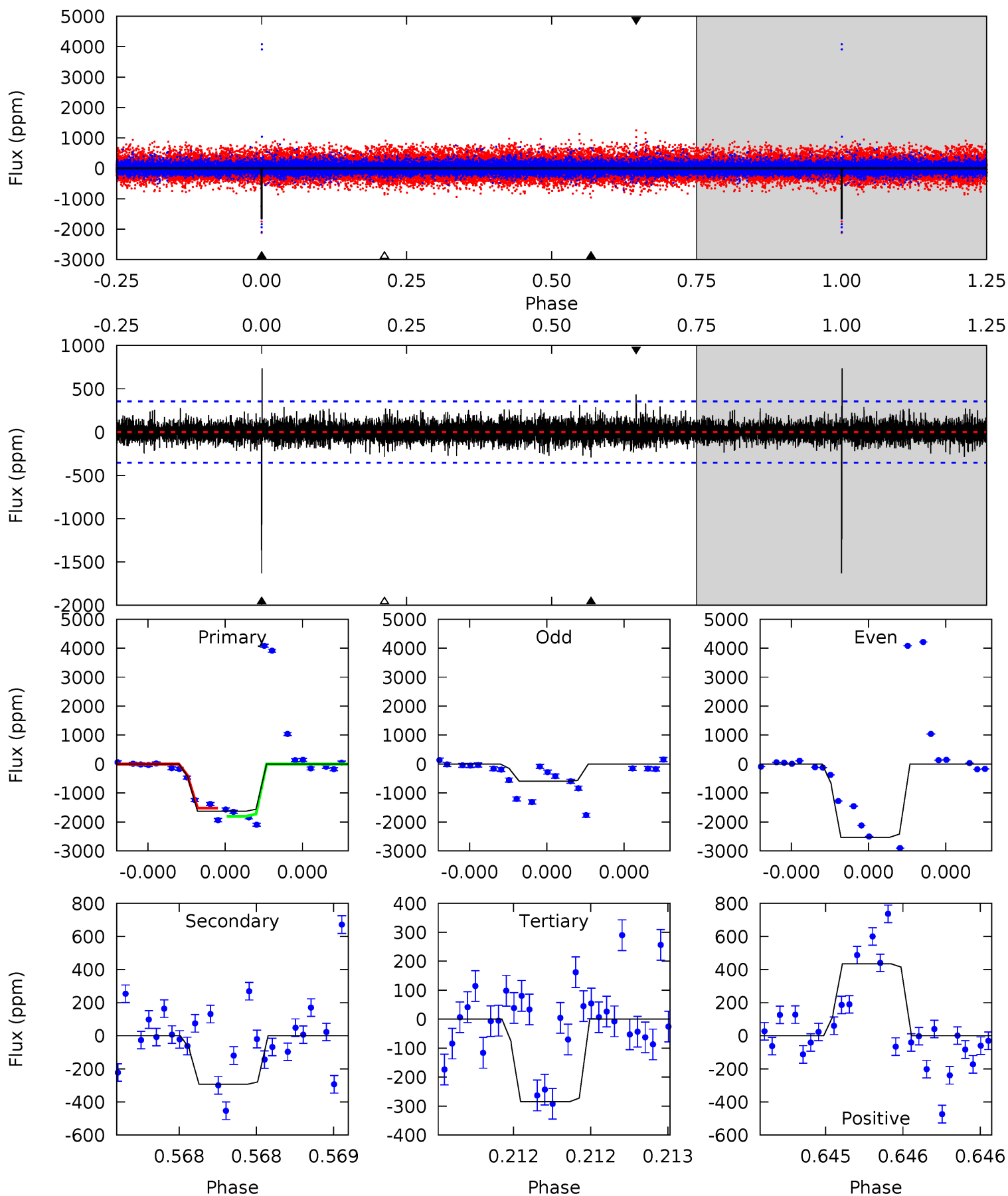
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.29	11.4	8.95	10.5	5.59	3.50	2.31	-1.66	-3.18	2.42	0.89	3.98	1.52	0.48	0.64



Alt Model-Shift Uniqueness Test

011186837-05, P = 330.473239 Days, E = 125.906361 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.7	4.60	4.49	6.84	5.58	3.49	1.04	21.2	18.8	0.12	-2.23	19.0	0.63	0.31	2.23



Stellar Parameters For KIC 011186837

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5985^{+161}_{-161}	$4.547^{+0.046}_{-0.184}$	$-0.580^{+0.300}_{-0.300}$	$0.822^{+0.209}_{-0.070}$	$0.868^{+0.090}_{-0.090}$	$2.203^{+0.519}_{-1.033}$
	+3%/-3%	+1%/-4%	+52%/-52%	+25%/-9%	+10%/-10%	+24%/-47%
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 011186837-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1760 ± 155	$4.84^{+4.64}_{-3.33}$	362^{+22}_{-16}	5423^{+5176}_{-1280}	$32916^{+292339}_{-24380}$
Alt.	-292 ± 64	$5.48^{+5.01}_{-3.77}$	361^{+23}_{-16}	3684^{+1955}_{-659}	4454^{+34534}_{-3307}

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

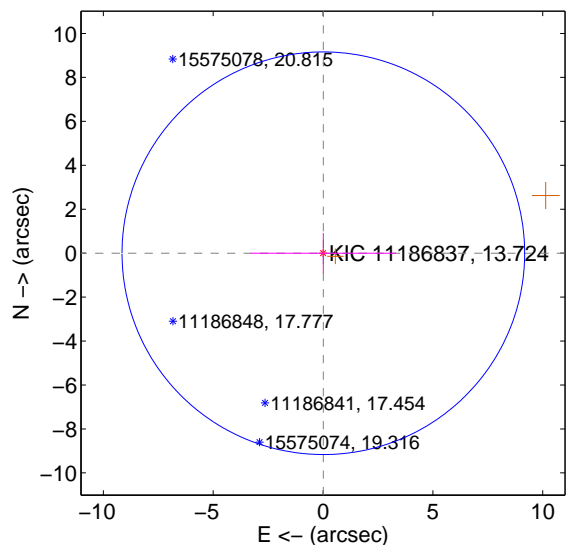
Supplemental centroid analysis for 011186837-05. Kepler magnitude: 13.72. Transit SNR 2.80

There are 1 quarters with good PRF difference image offsets

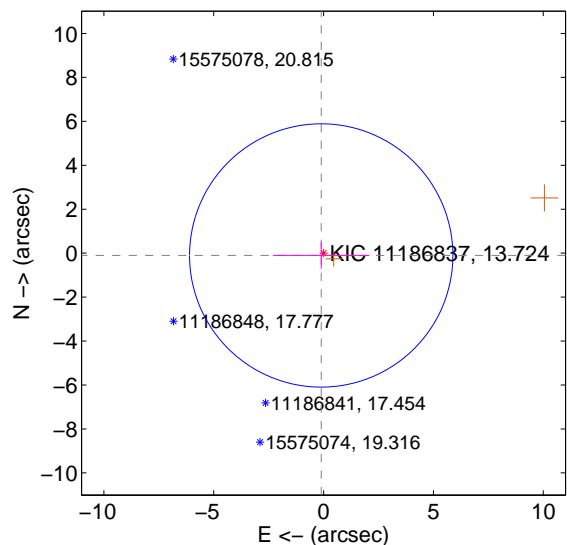
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.014 ± 3.054	0.00	-0.014 ± 3.308	-0.003 ± 0.919
PRF-fit source offset from KIC position	0.150 ± 1.997	0.07	0.108 ± 2.198	-0.104 ± 0.603
photometric centroid source offset	0.54 ± 0.83	0.66	0.29 ± 0.94	-0.46 ± 0.78

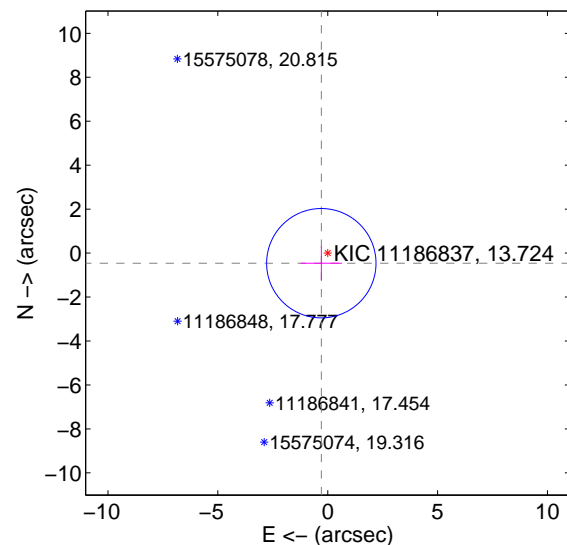
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

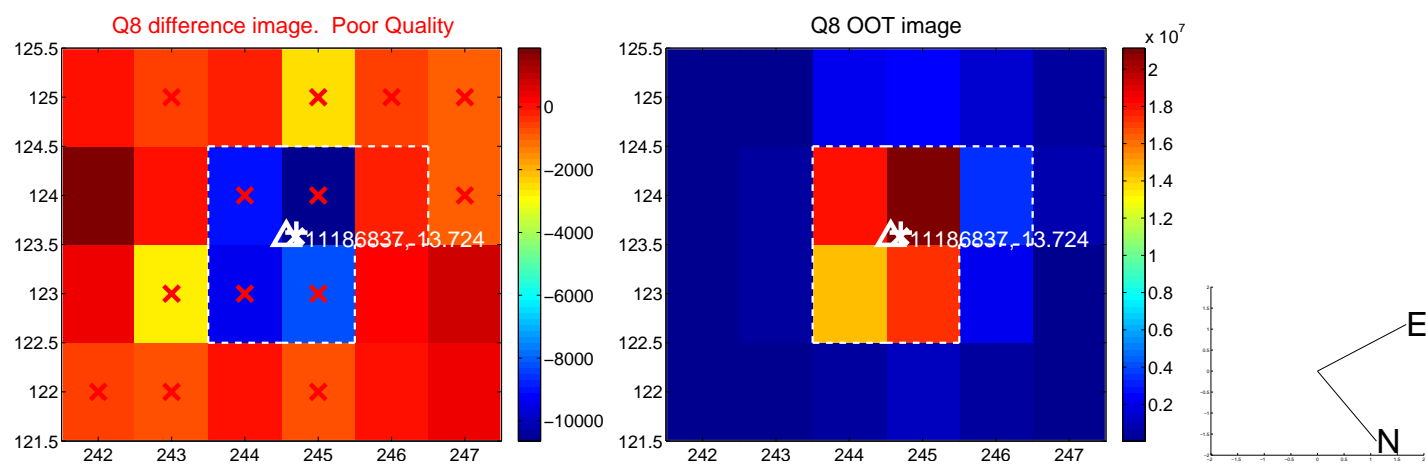
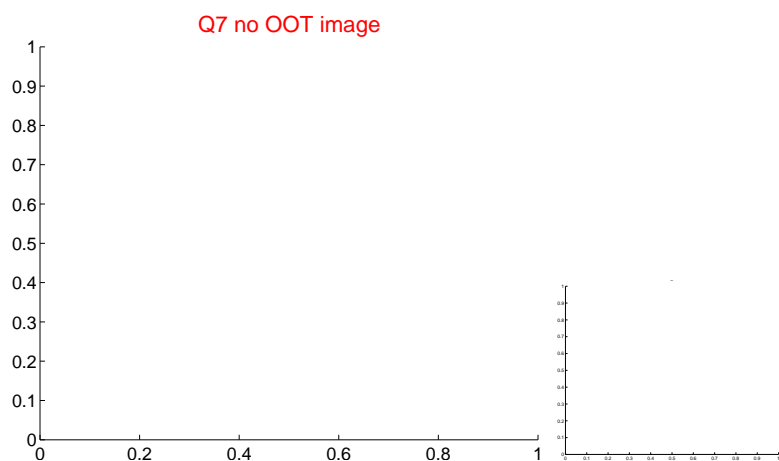
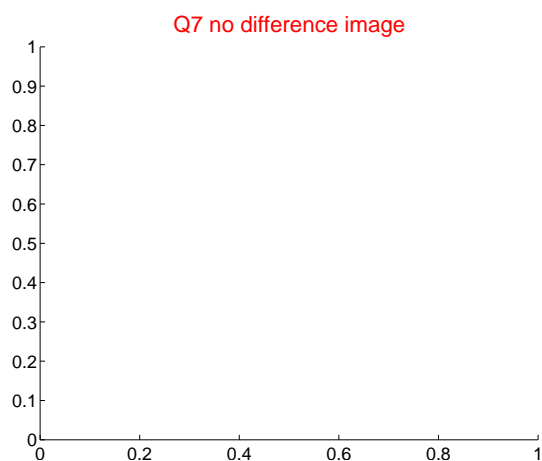
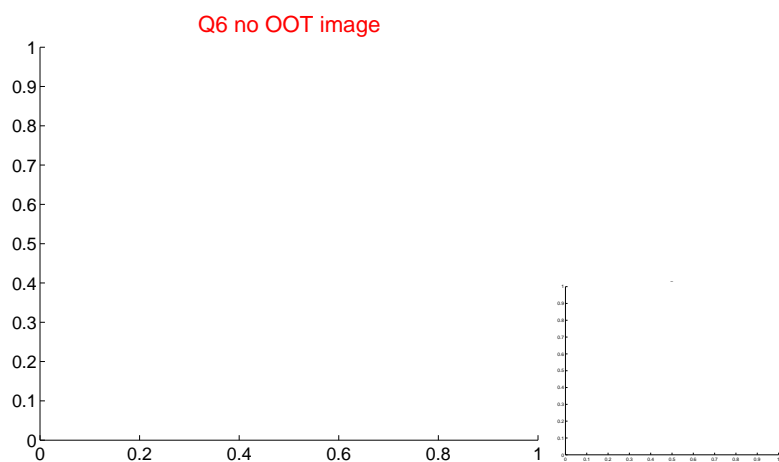
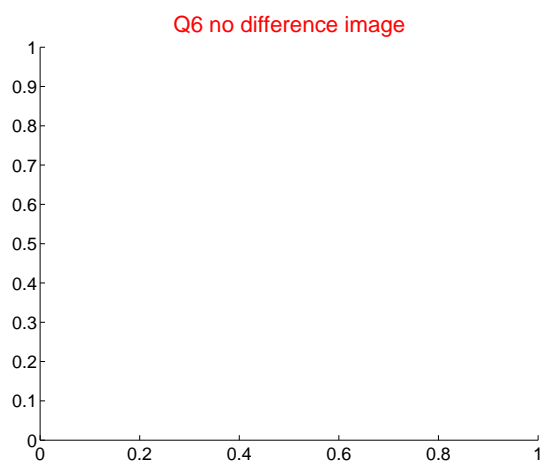
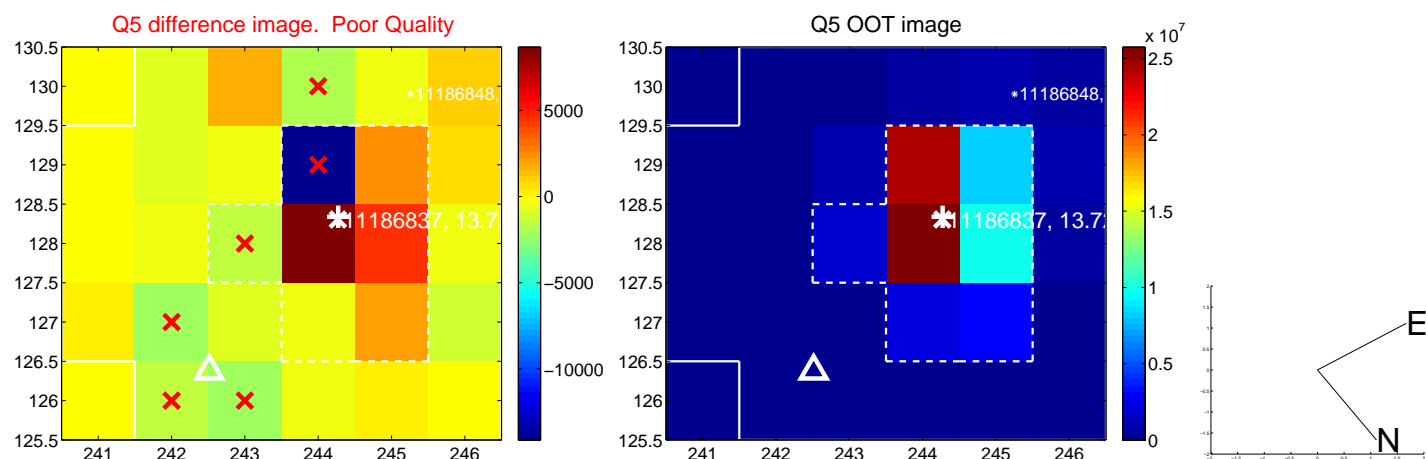


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

Q13 no difference image



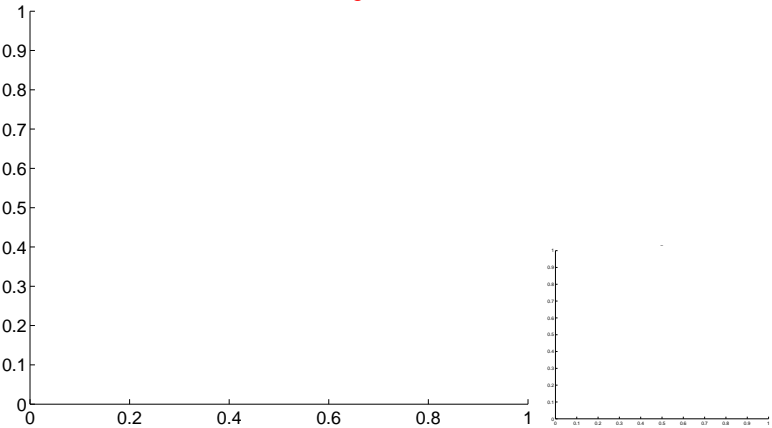
Q13 no OOT image



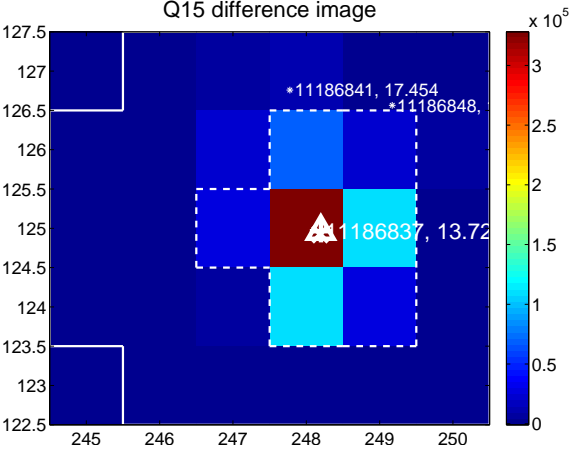
Q14 no difference image



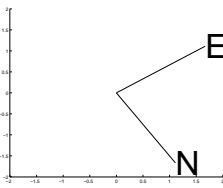
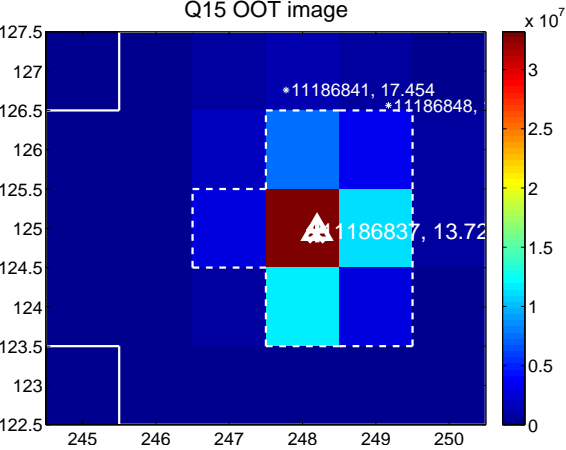
Q14 no OOT image



Q15 difference image



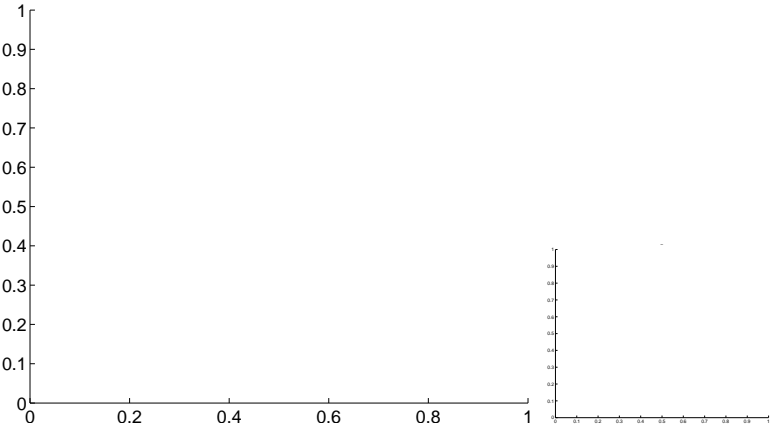
Q15 OOT image



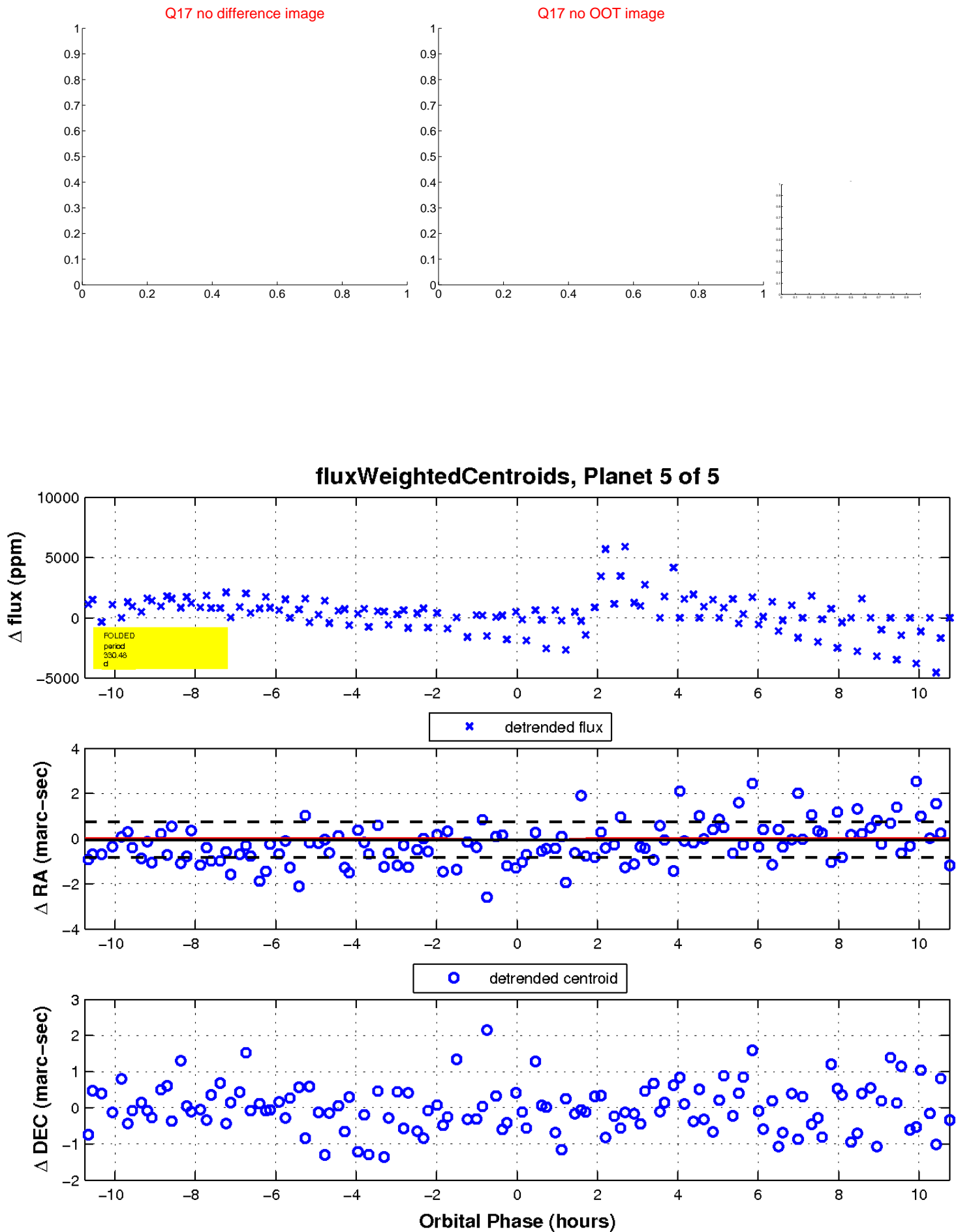
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

