

KIC 011610797

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})
011610797-01	OBS	No	584.269114	392.444970	176.6	2.512	17.5	1.0	1.67	5868	2.39	1.51
011610797-03	OBS	No	334.465372	159.429282	919.7	4.172	17.3	5.8	1.67	5868	5.03	3.17
011610797-04	OBS	No	189.180010	155.573500	271.8	2.500	13.7	-1.0	1.67	5868	2.74	6.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011610797-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_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—CENT_FEW_DIFFS
011610797-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—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
011610797-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

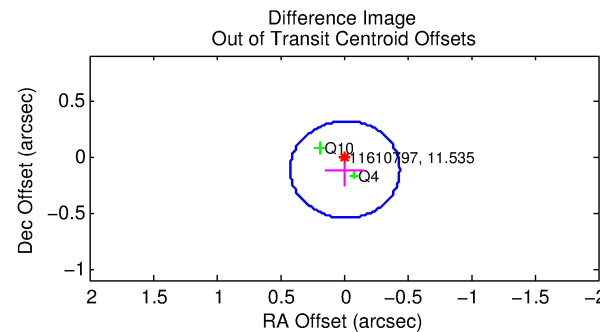
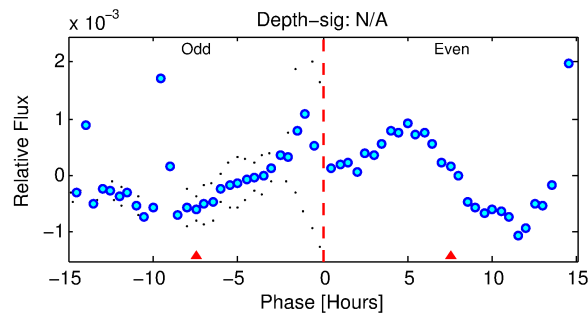
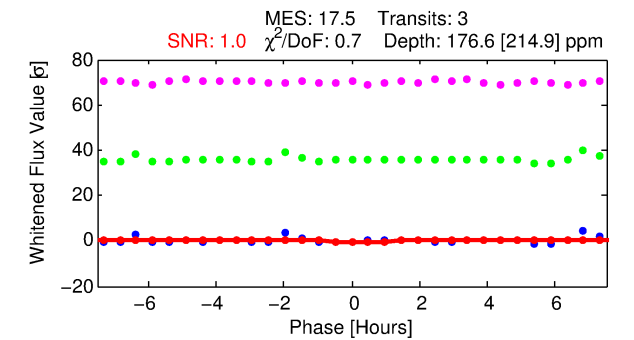
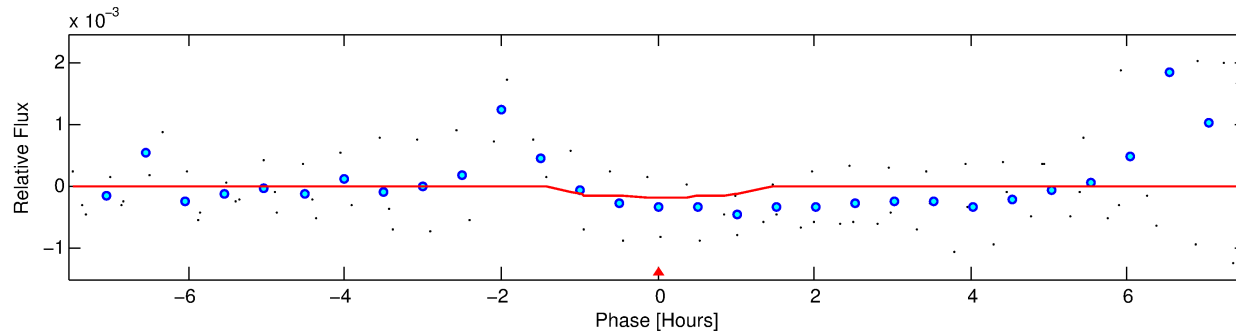
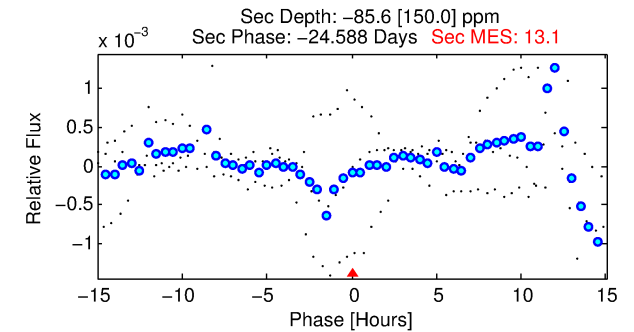
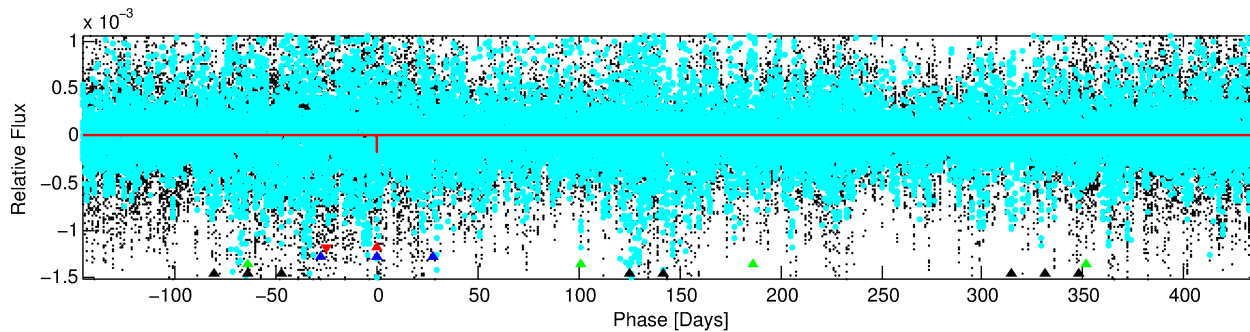
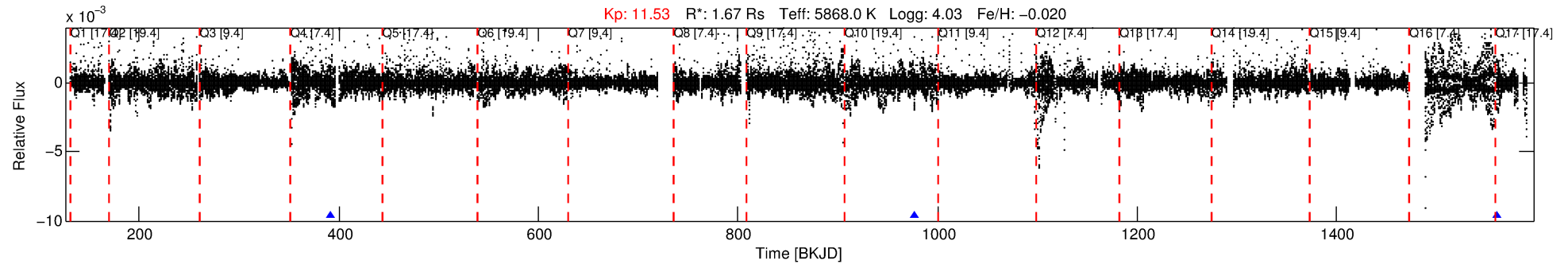
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011610797-01

No Significant Match Found

DV One-Page Summary

KIC: 11610797 Candidate: 1 of 4 Period: 584.269 d



DV Fit Results:

Period = 584.26911 [0.02375] d
Epoch = 392.4450 [0.0341] BKJD
Rp/R* = 0.0131 [0.0580]
a/R* = 1269.53 [25004.77]
b = 0.72 [13.48]
Seff = 1.51 [0.53]
Teq = 282 [25] K
Rp = 2.39 [10.59] Re
a = 1.4025 [0.3133] AU
Ag = N/A
Teffp = N/A

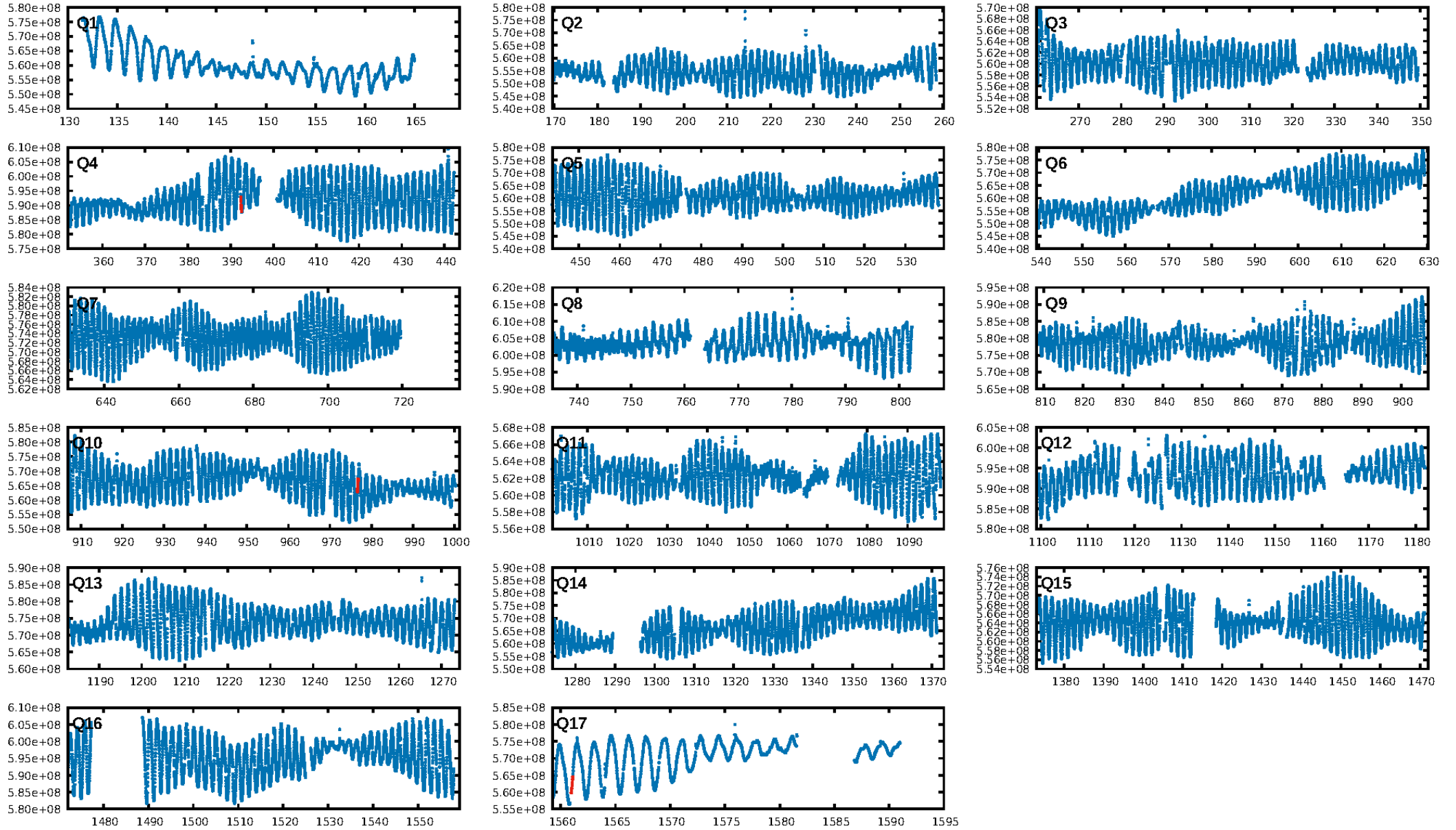
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1231.17]
LongPeriod-sig: 100.0% [155.73]
ModelChiSquare2-sig: 9.0%
ModelChiSquareGof-sig: 98.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 3.057
Centroid-sig: 14.7%
Centroid-so: 1.921 arcsec [1.61]
OotOffset-rm: 0.118 arcsec [0.82]
KicOffset-rm: 0.166 arcsec [1.55]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.50 [1/2]

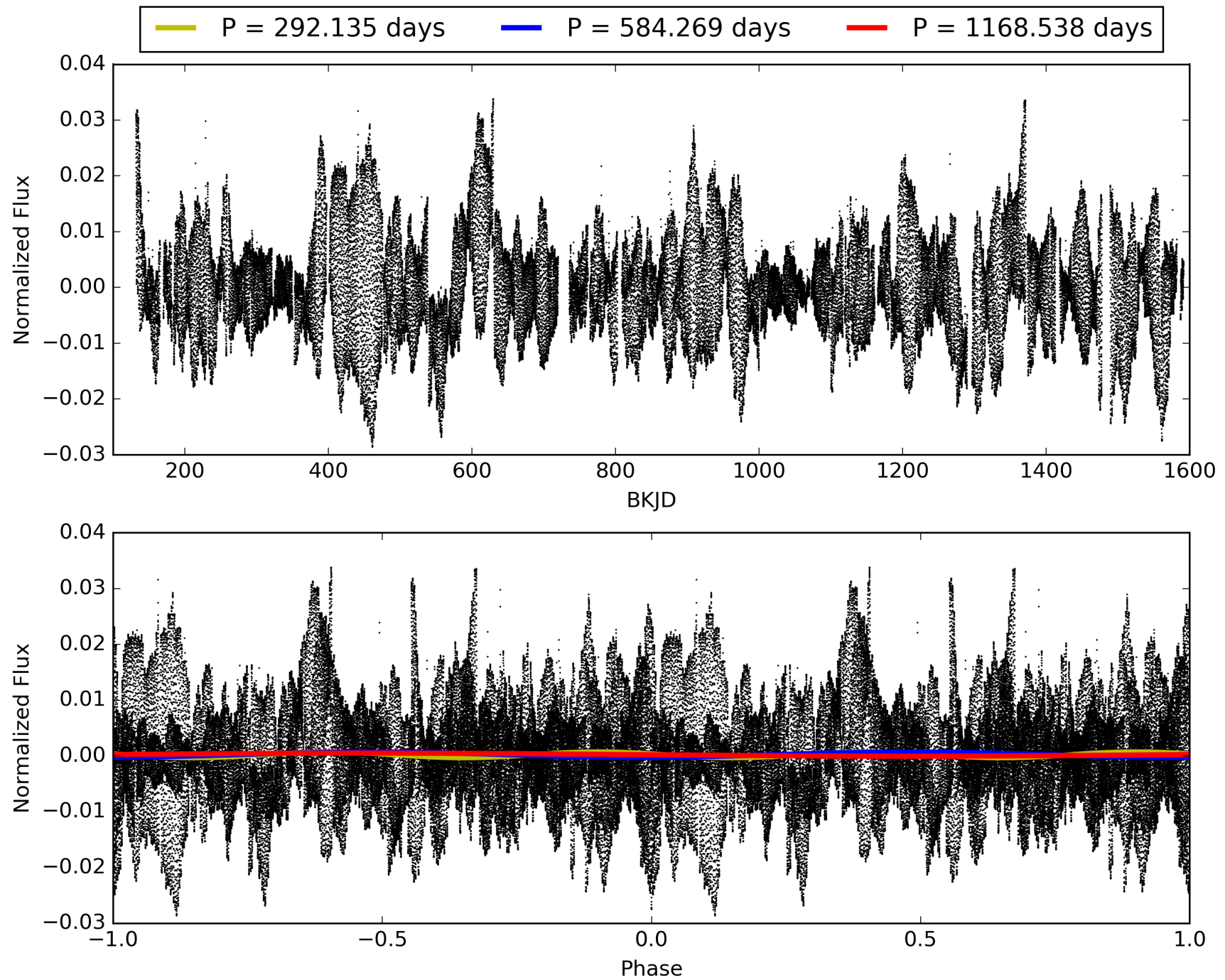
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:06:14 Z

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

TCE 011610797-01, PDC Light Curves

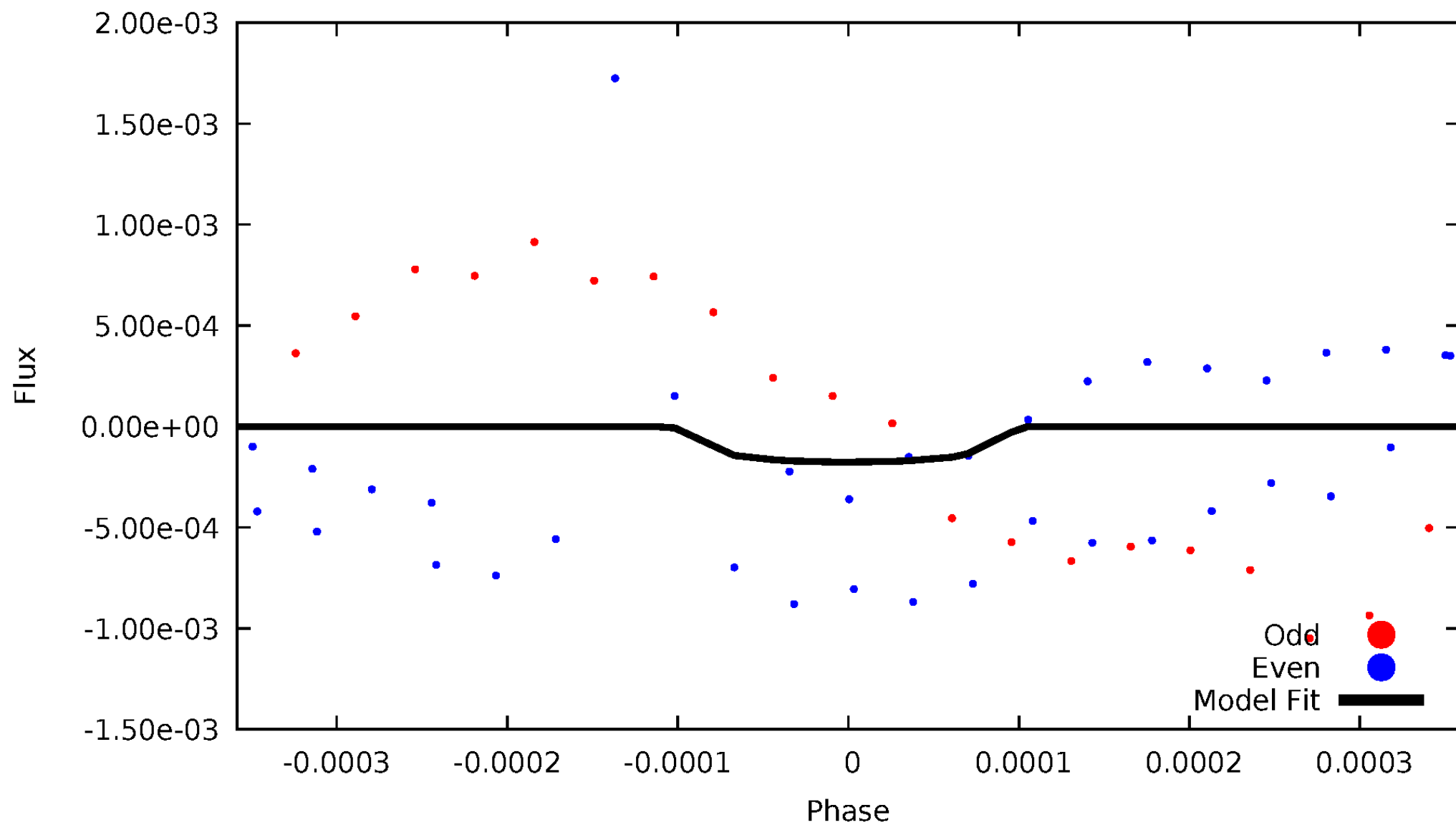


TCE 011610797-01



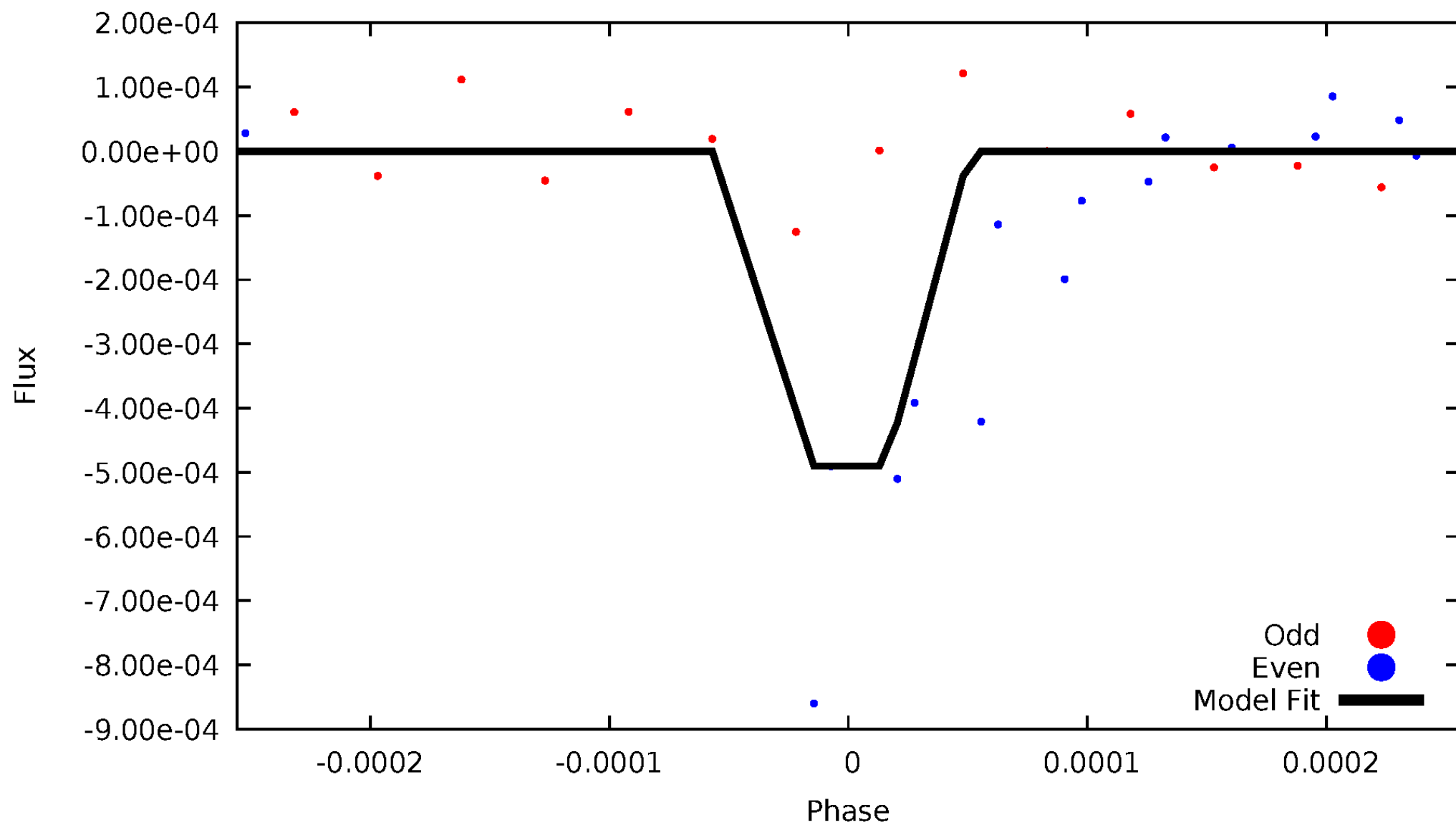
DV Odd/Even

TCE 011610797-01



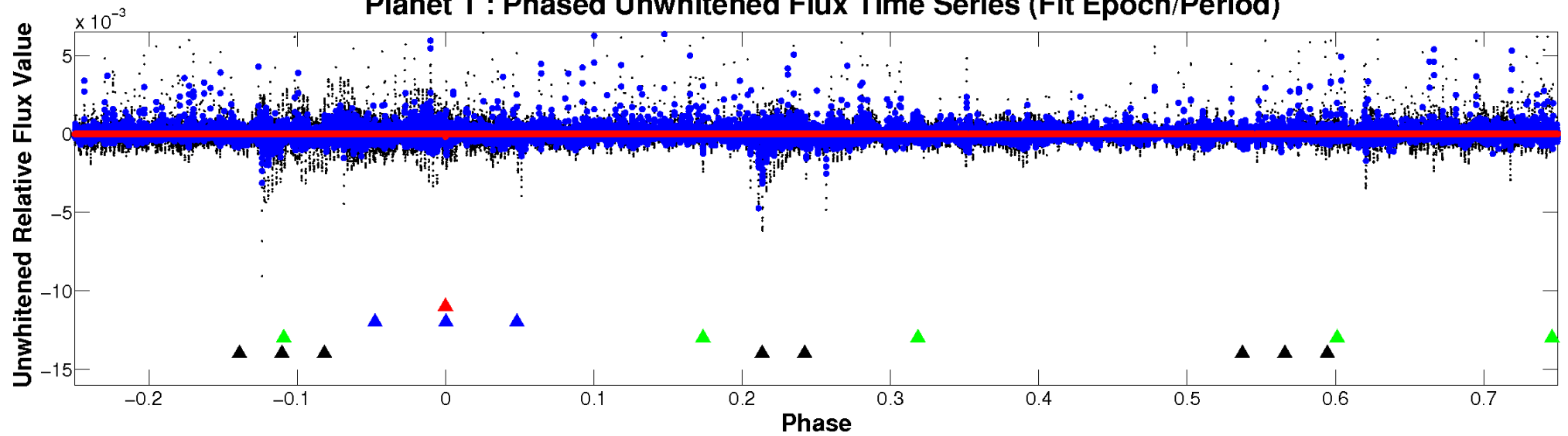
ALT Odd/Even

TCE 011610797-01

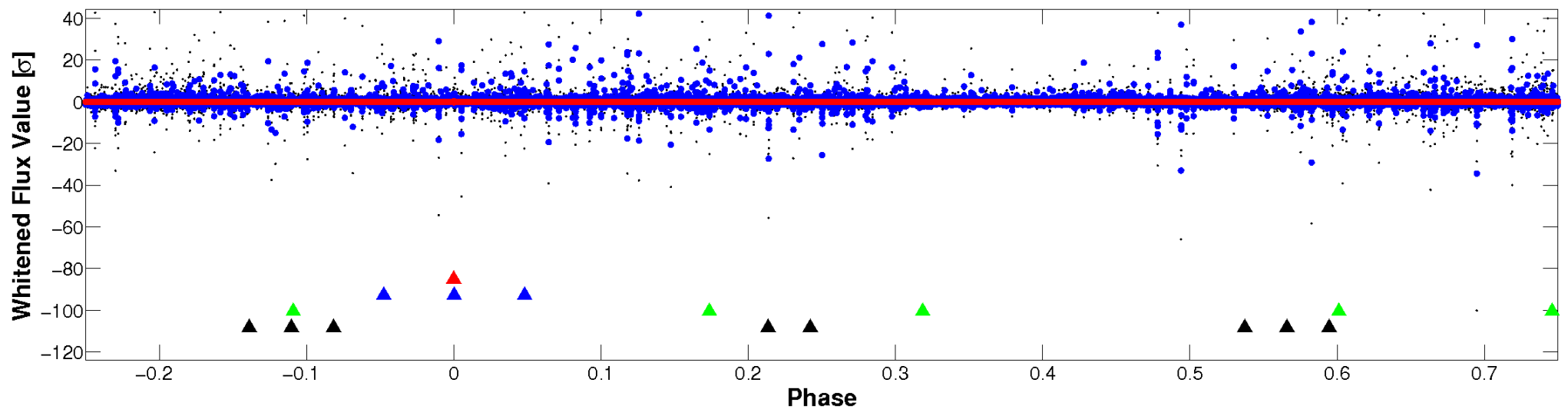


Non-Whitened Vs. Whitened Light Curve

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

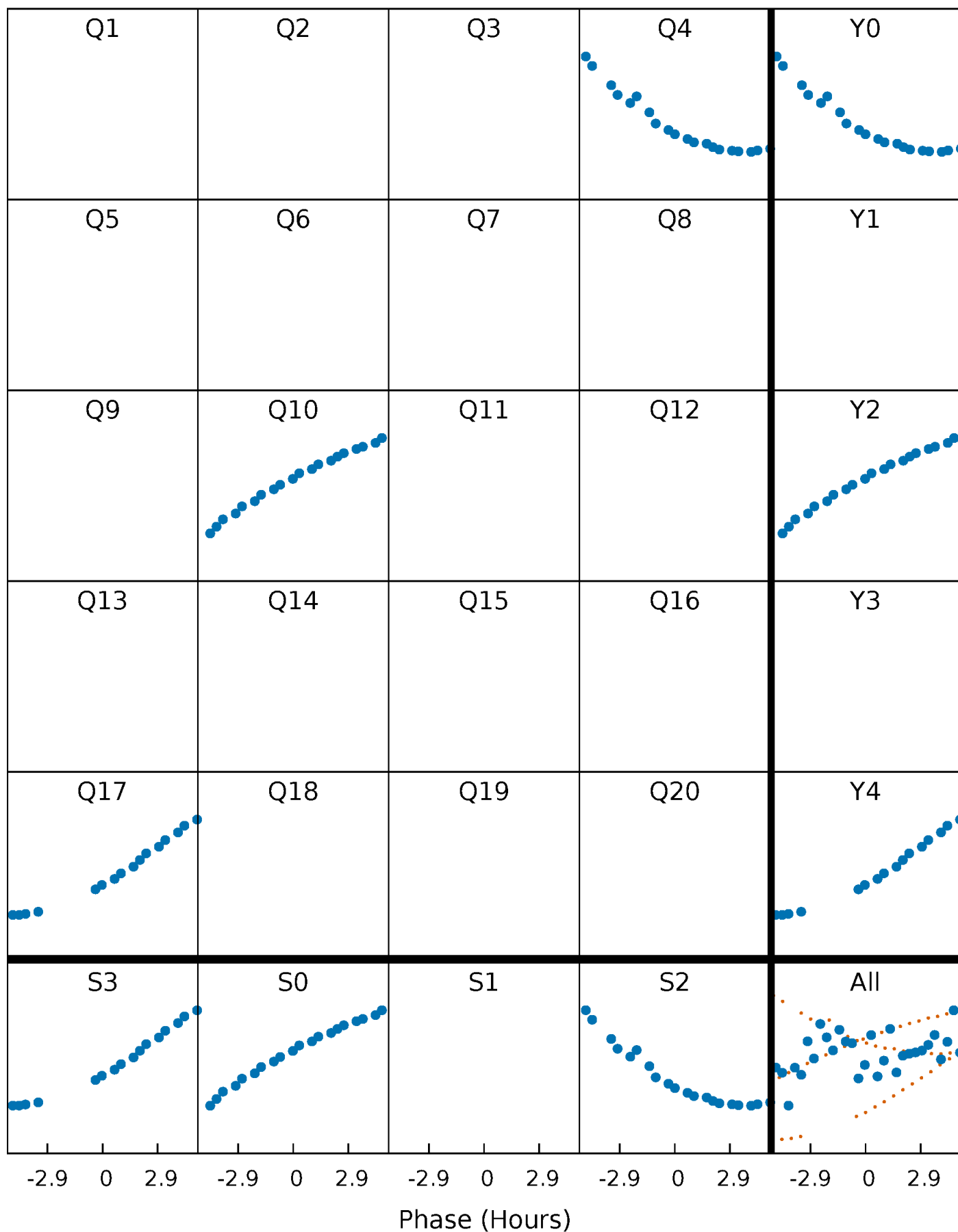


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



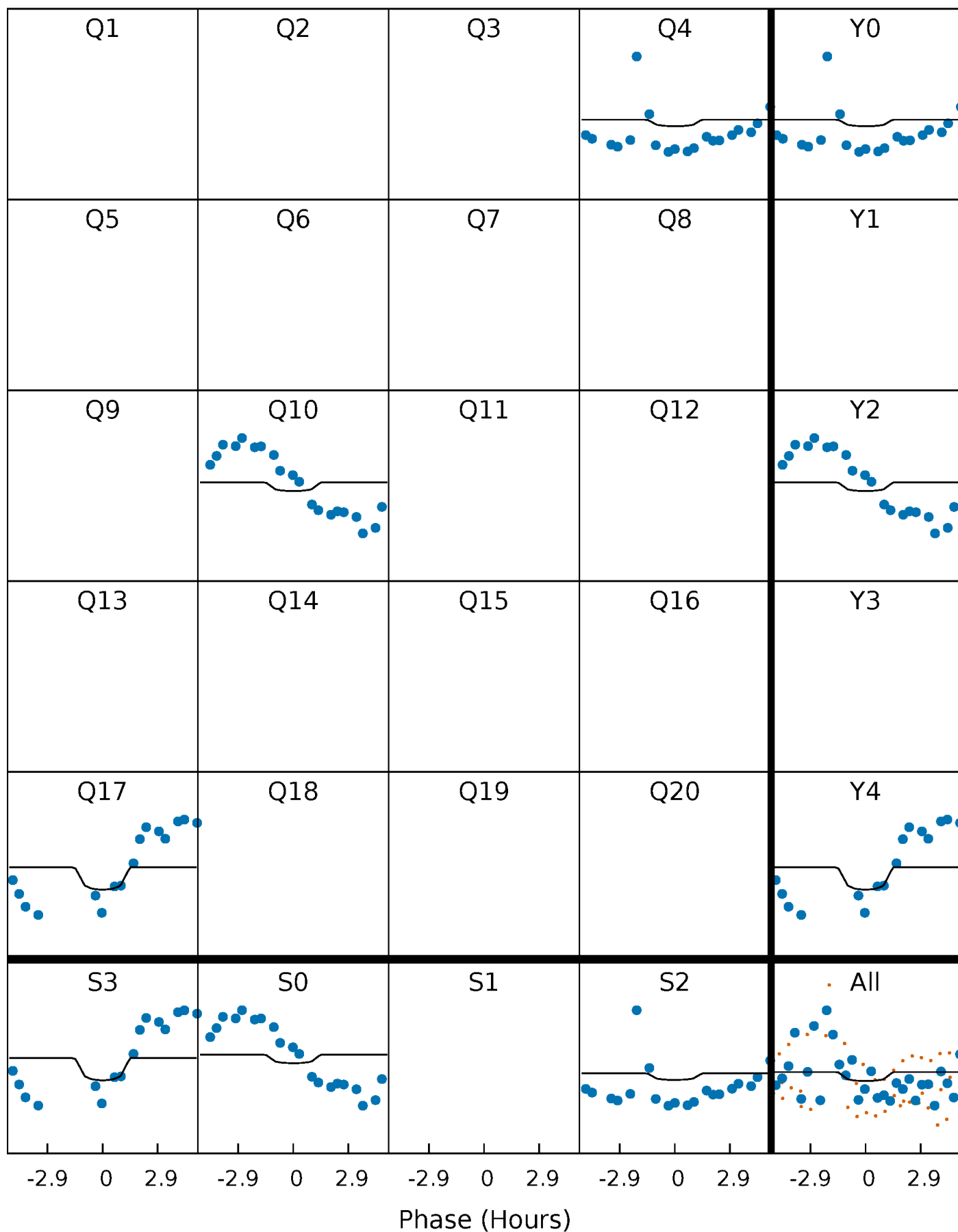
PDC Quarter-Phased Transit Curves

TCE 011610797-01 P=584.269114 Days $T_0=392.444970$ (BKJD)



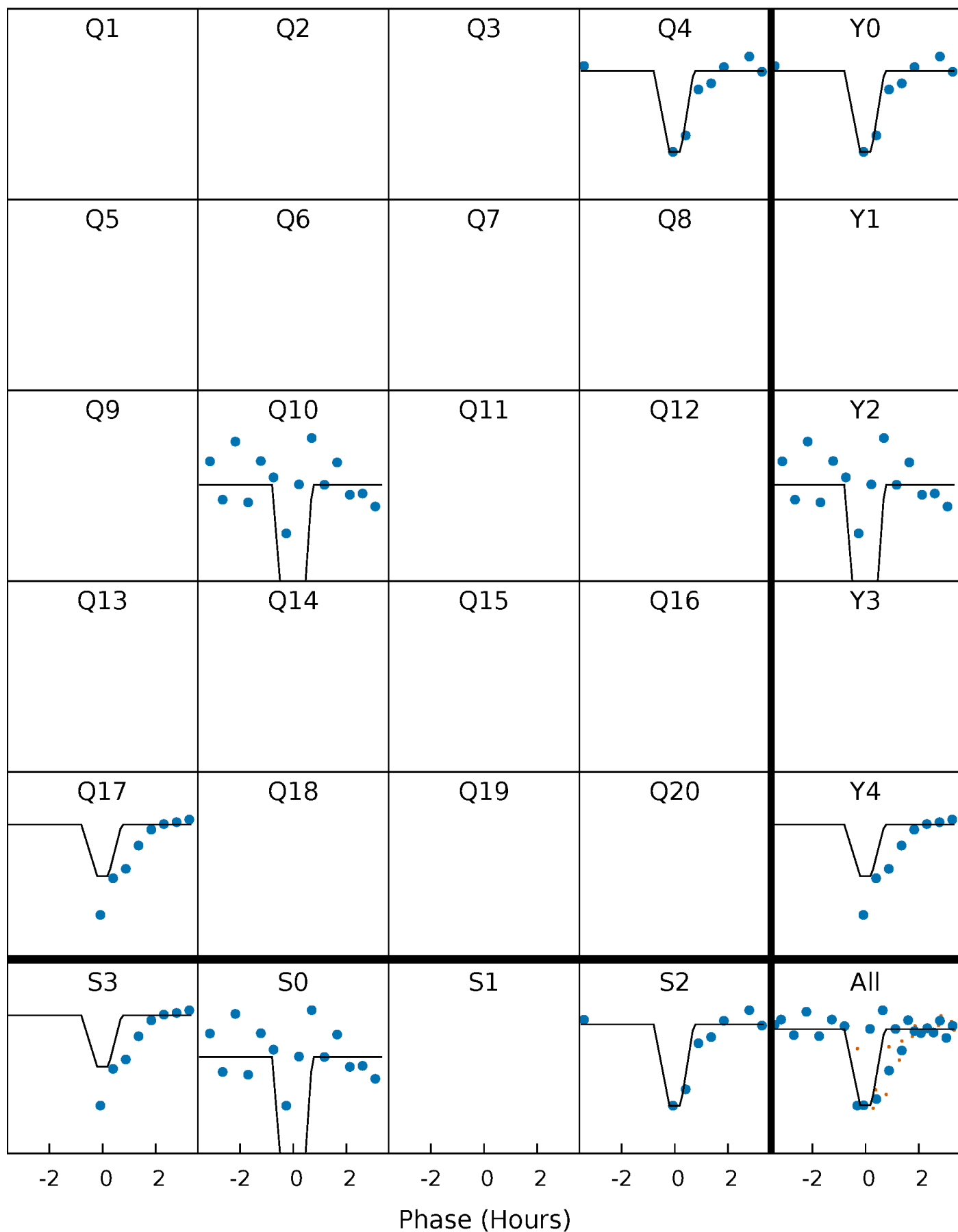
DV Quarter-Phased Transit Curves

TCE 011610797-01 P=584.269114 Days $T_0=392.444970$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

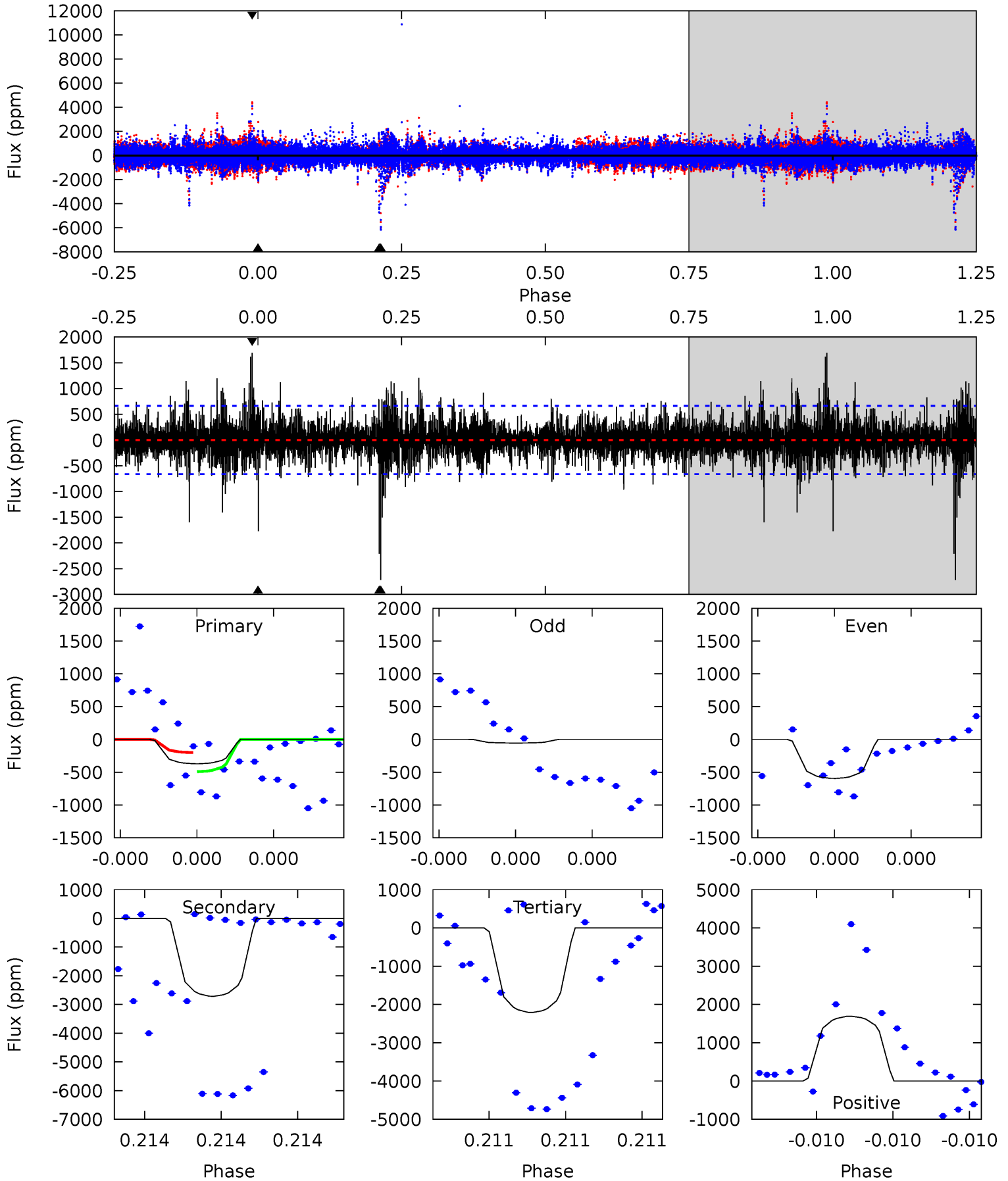
TCE 011610797-01 P=584.290837 Days $T_0=392.410233$ (BKJD)



DV Model-Shift Uniqueness Test

011610797-01, P = 584.269114 Days, E = 392.444970 Days

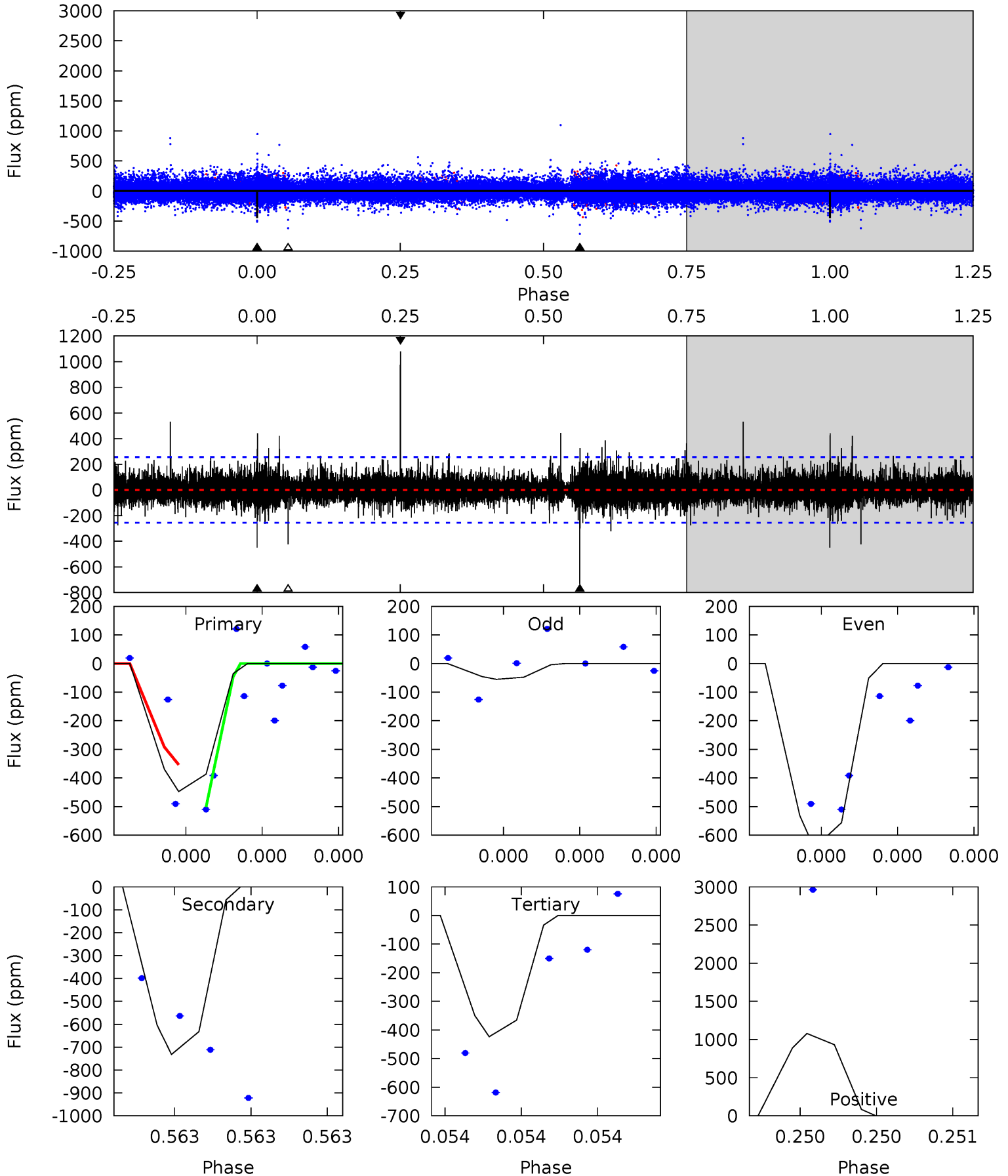
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.22	23.5	19.1	14.7	5.74	3.74	2.02	-15.9	-11.4	4.39	8.87	1.80	1.49	0.38	1.21



Alt Model-Shift Uniqueness Test

011610797-01, P = 584.290837 Days, E = 392.410233 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	16.8	9.74	24.8	5.89	3.95	1.26	0.55	-14.5	7.09	-7.99	6.64	0.84	0.60	1.46



Stellar Parameters For KIC 011610797

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5868^{+78}_{-78}	$4.025^{+0.203}_{-0.087}$	$-0.020^{+0.150}_{-0.150}$	$1.670^{+0.267}_{-0.401}$	$1.078^{+0.102}_{-0.102}$	$0.326^{+0.363}_{-0.089}$
	+1%/-1%	+5%/-2%	+750%/-750%	+16%/-24%	+9%/-9%	+111%/-27%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011610797-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2716 ± 115	$7.87^{+7.99}_{-5.40}$	390^{+19}_{-26}	6315^{+7658}_{-1735}	$48071^{+437954}_{-36302}$
Alt.	-732 ± 43	$8.45^{+7.81}_{-5.76}$	390^{+17}_{-25}	4565^{+3464}_{-957}	$11025^{+102474}_{-7892}$

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 $A_{obs} \gg 1.0$

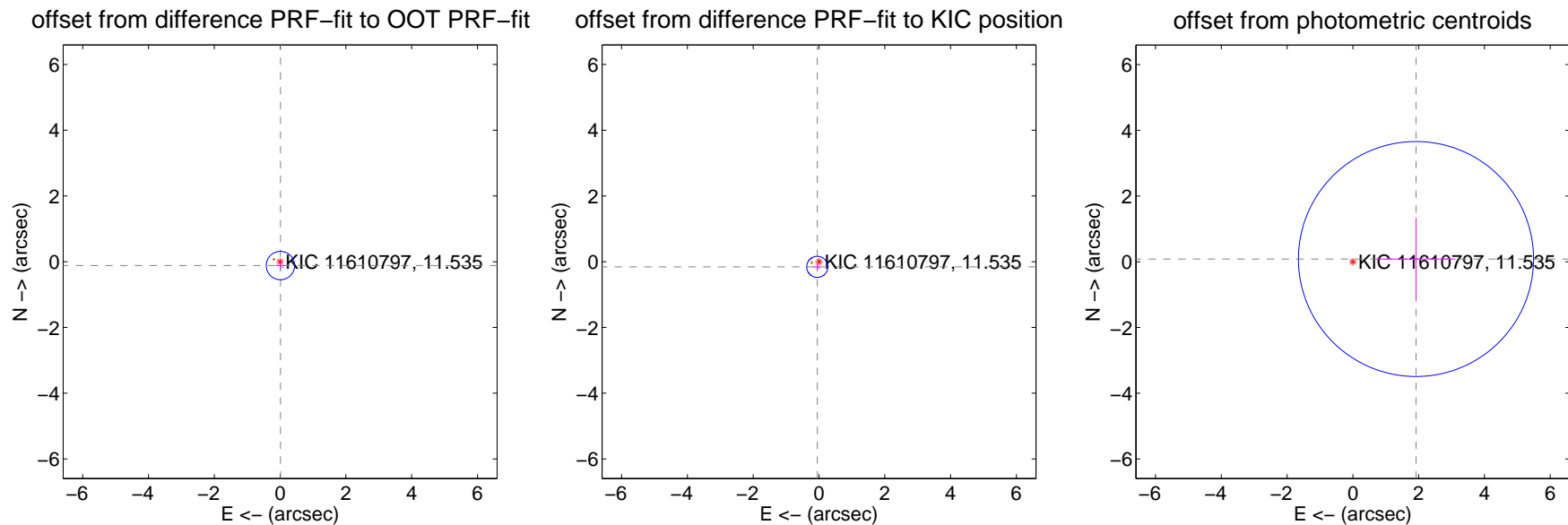
DV Centroid Data

Supplemental centroid analysis for 011610797-01. **Kepler magnitude: 11.54.** Transit SNR 0.98

There are 1 quarters with good PRF difference image offsets

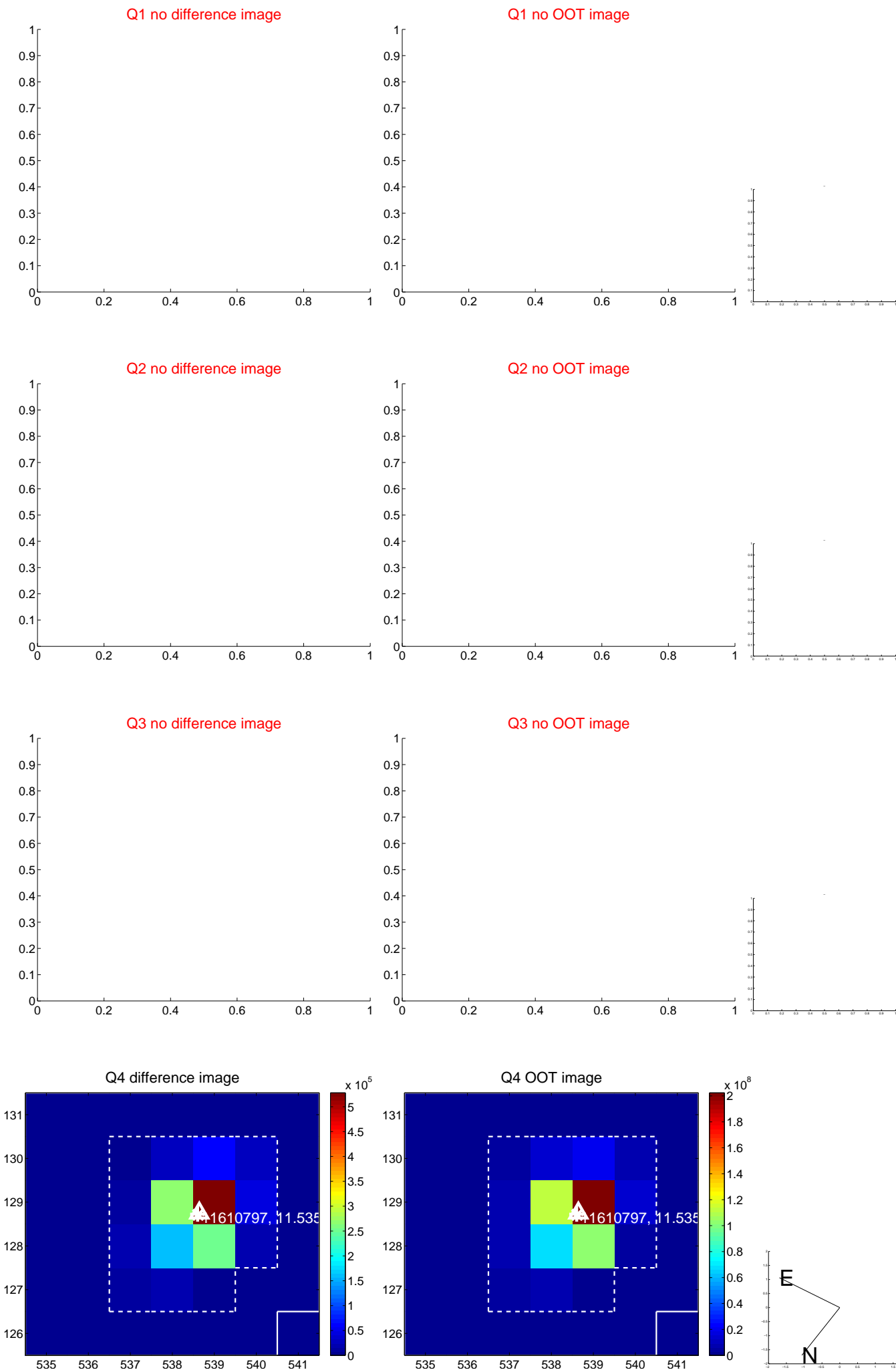
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.118 ± 0.144	0.82	-0.010 ± 0.144	-0.117 ± 0.135
PRF-fit source offset from KIC position	0.166 ± 0.107	1.55	0.052 ± 0.132	-0.157 ± 0.104
photometric centroid source offset	1.92 ± 1.19	1.61	-1.92 ± 1.19	0.08 ± 1.26



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.

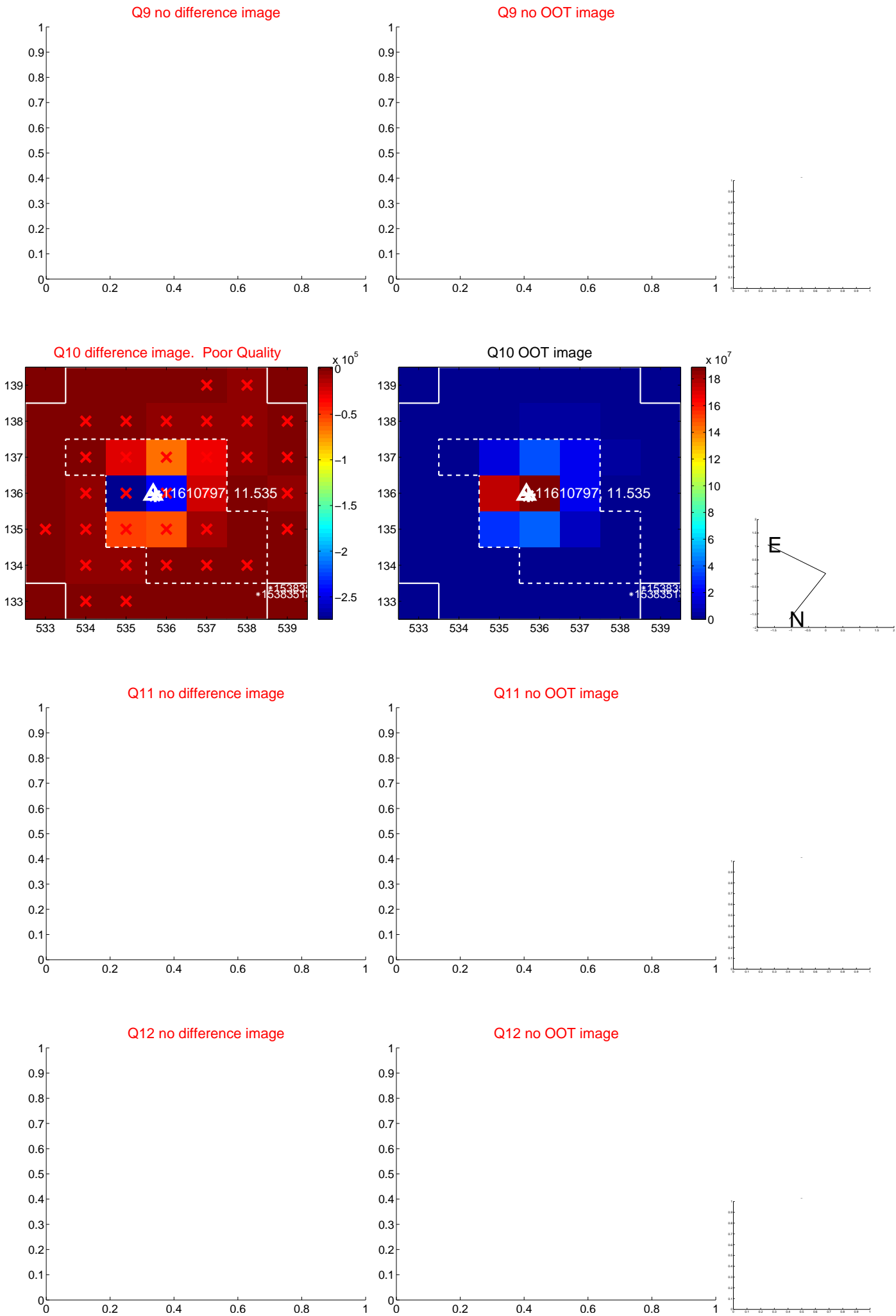
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



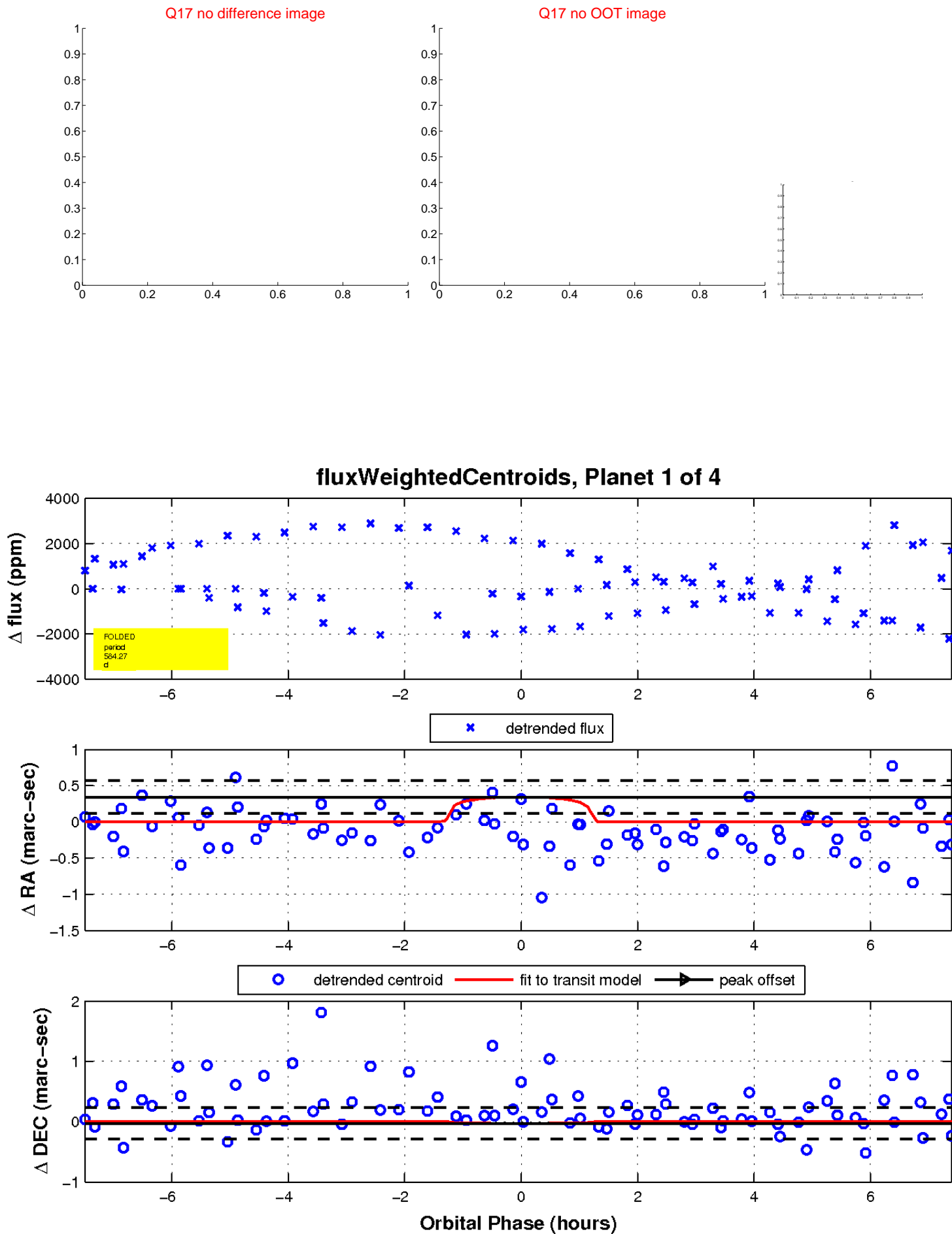
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

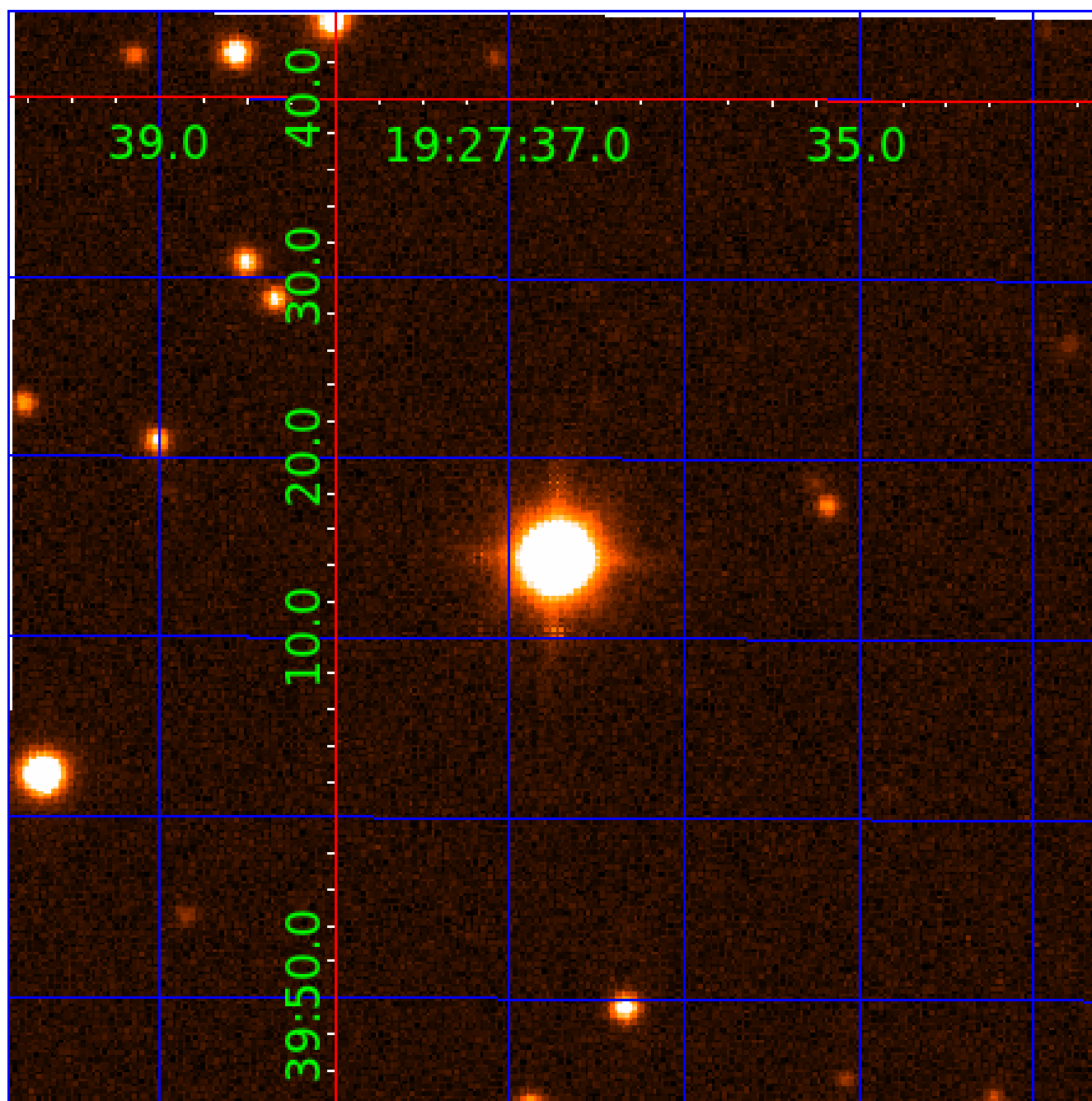


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011610797

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})
011610797-01	OBS	No	584.269114	392.444970	176.6	2.512	17.5	1.0	1.67	5868	2.39	1.51
011610797-03	OBS	No	334.465372	159.429282	919.7	4.172	17.3	5.8	1.67	5868	5.03	3.17
011610797-04	OBS	No	189.180010	155.573500	271.8	2.500	13.7	-1.0	1.67	5868	2.74	6.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011610797-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_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—CENT_FEW_DIFFS
011610797-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—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
011610797-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

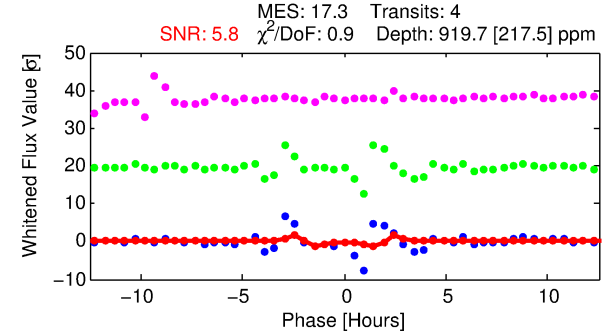
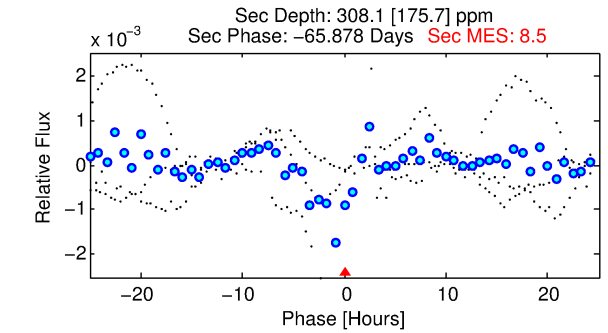
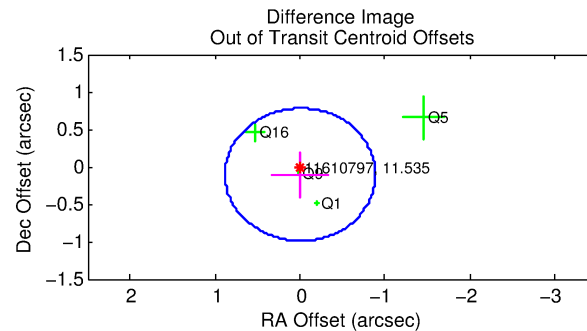
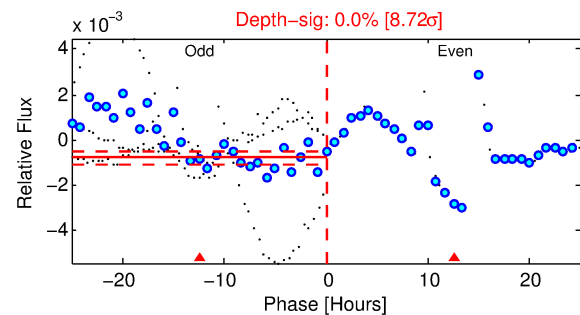
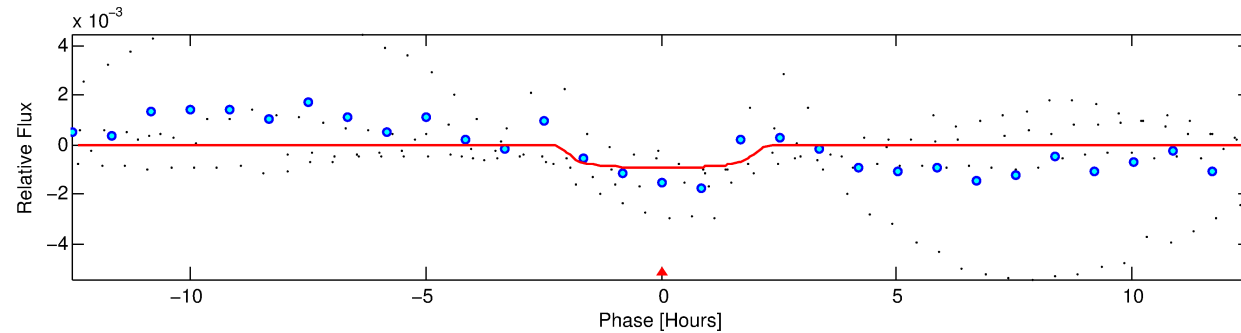
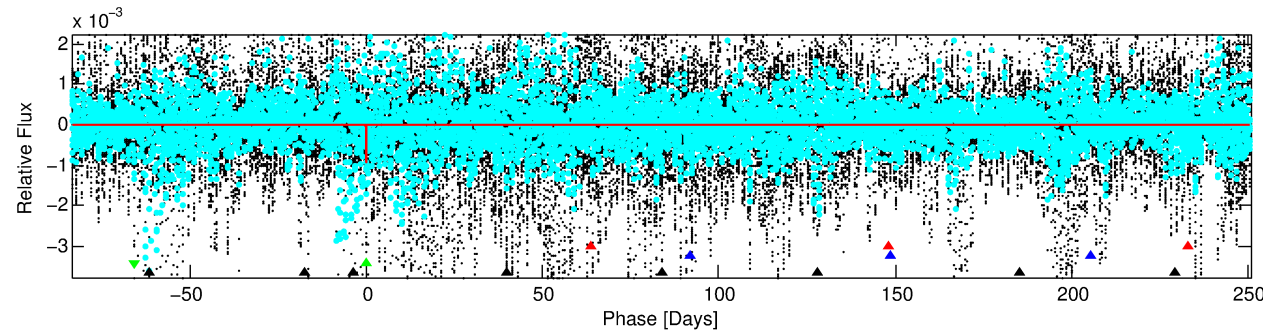
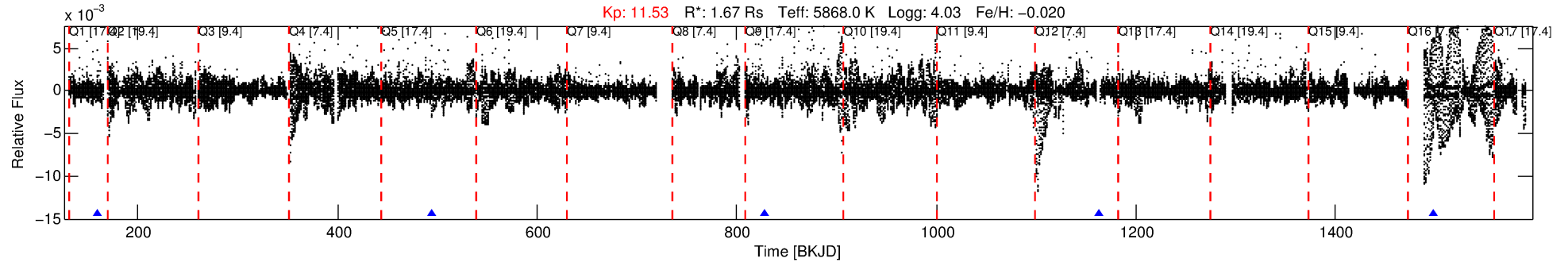
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011610797-03

No Significant Match Found

DV One-Page Summary

KIC: 11610797 Candidate: 3 of 4 Period: 334.465 d



DV Fit Results:

Period = 334.46537 [0.00267] d
Epoch = 159.4293 [0.0048] BKJD
Rp/R* = 0.0276 [0.0436]
a/R* = 627.64 [4385.96]
b = 0.08 [90.74]
Seff = 3.17 [1.12]
Teq = 340 [30] K
Rp = 5.03 [8.04] Re
a = 0.9670 [0.2160] AU
Ag = 6264.37 [20242.51] [0.31σ]
Teffp = 4680 [3759] K [1.15σ]

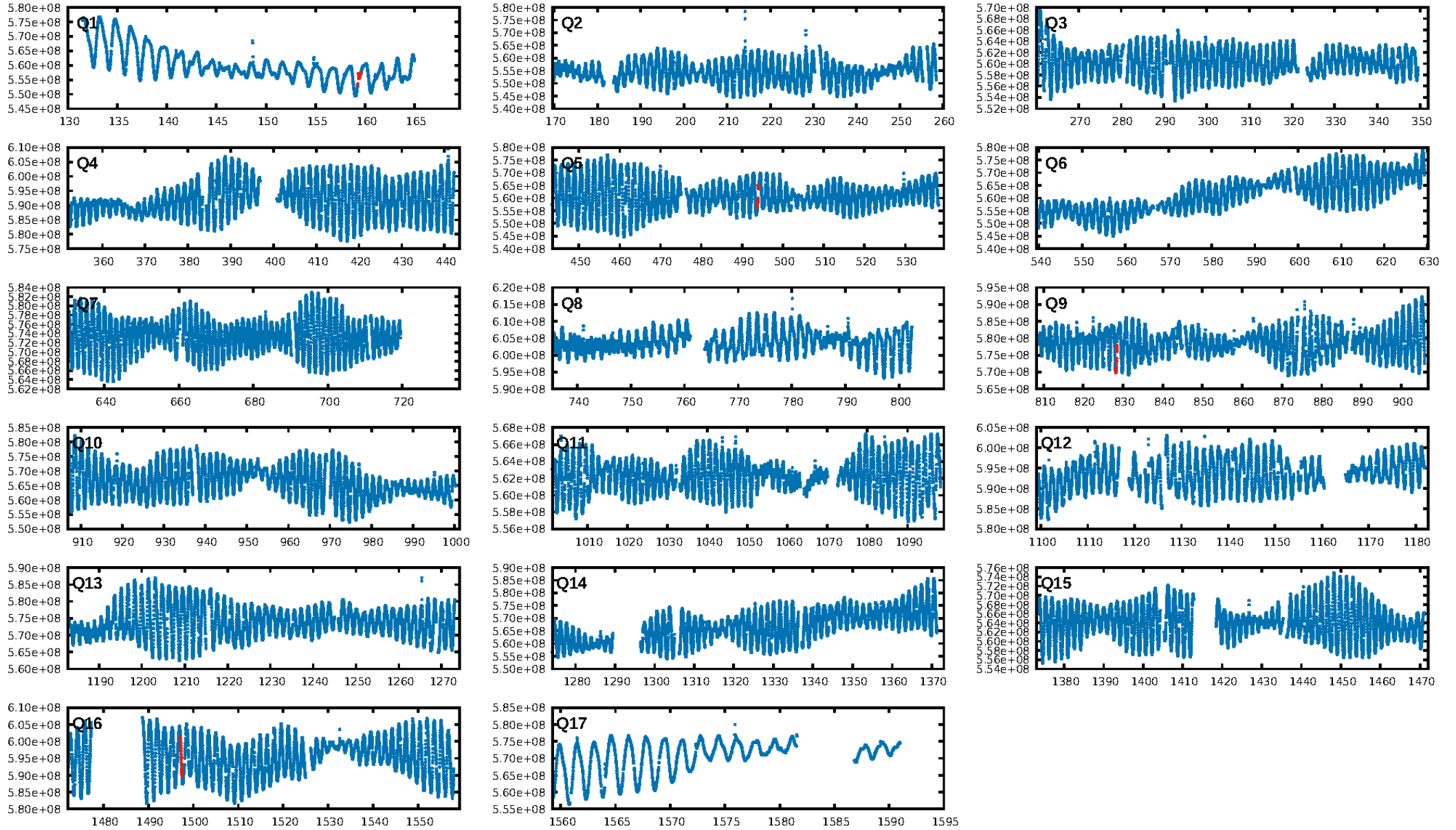
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [716.96σ]
LongPeriod-sig: 100.0% [1231.17σ]
ModelChiSquare2-sig: 36.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 659.5
Centroid-sig: 65.9%
Centroid-so: 0.151 arcsec [0.81σ]
OotOffset-rm: 0.107 arcsec [0.36σ]
OotOffset-st: 0/0/1/3 [4]
KicOffset-rm: 0.200 arcsec [0.69σ]
KicOffset-st: 0/0/1/3 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 1.00 [4/4]

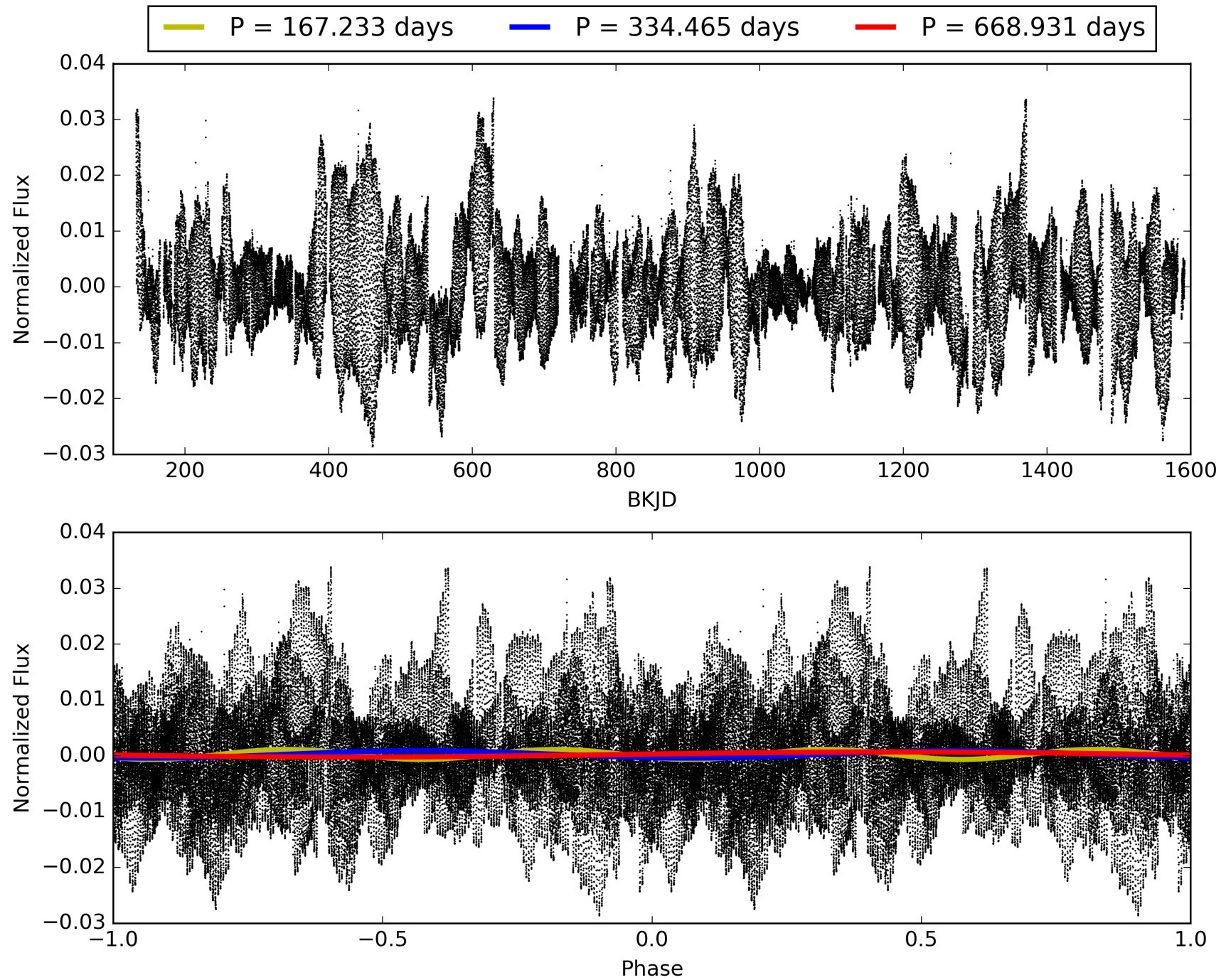
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:07:12 Z

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

TCE 011610797-03, PDC Light Curves

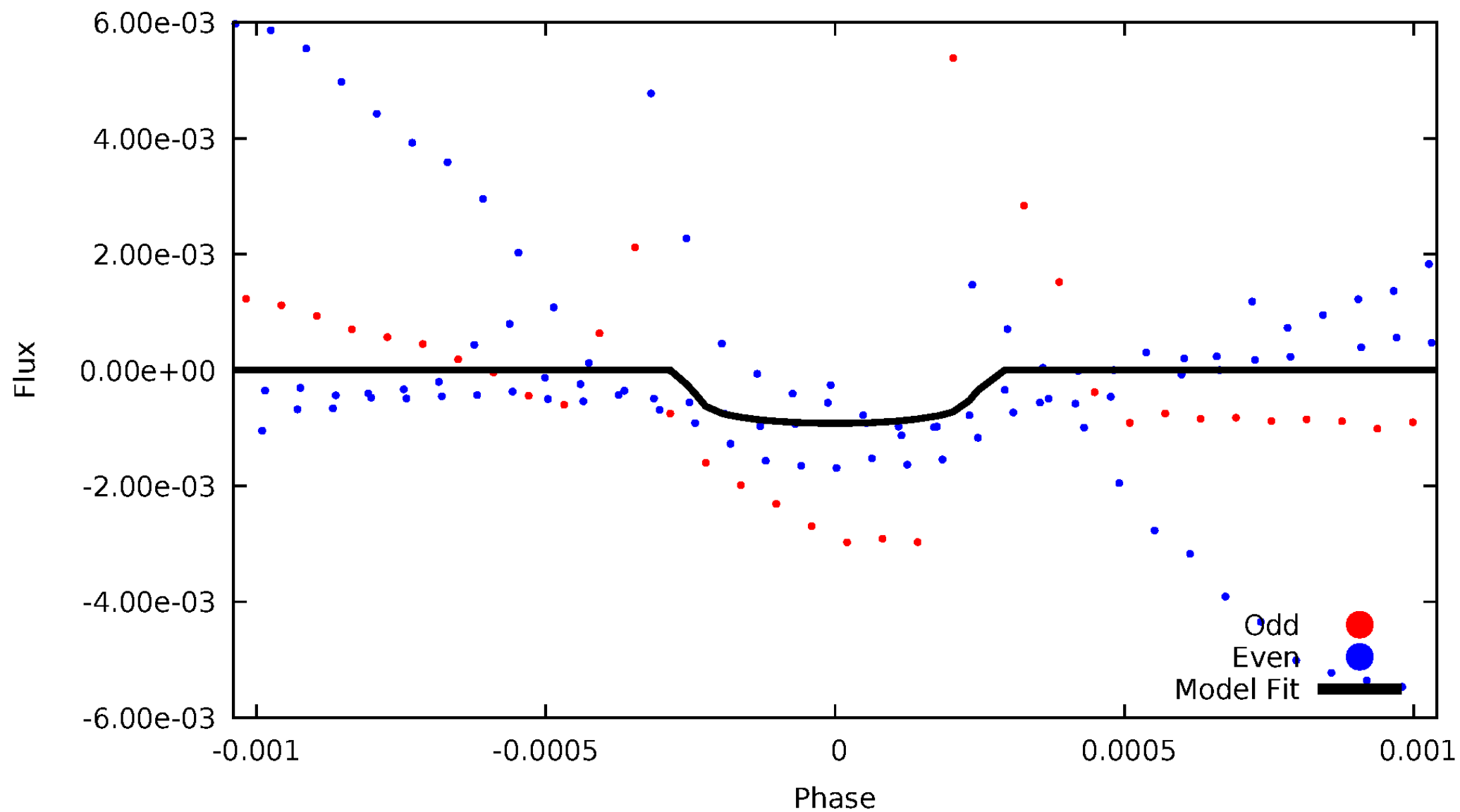


TCE 011610797-03



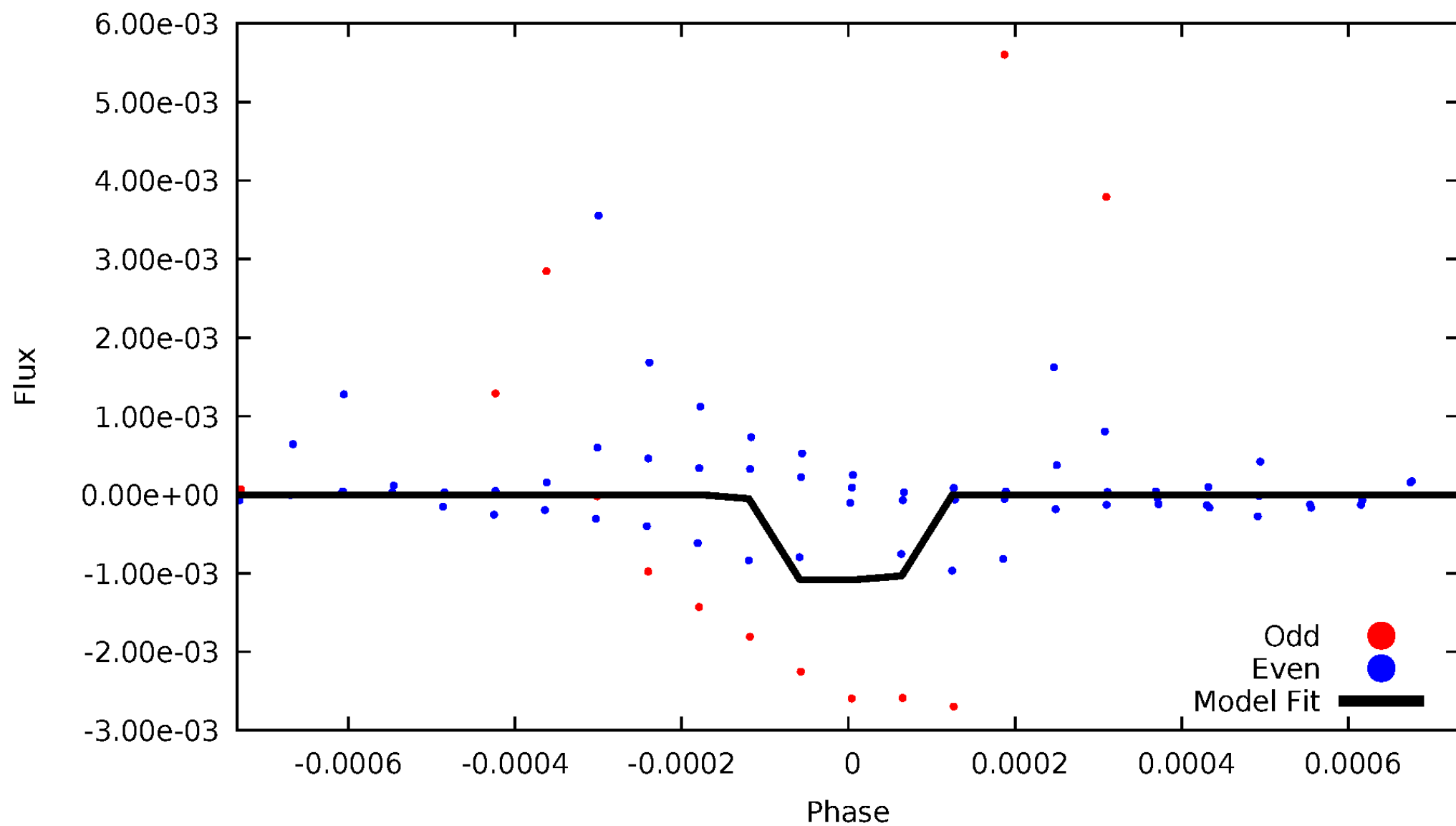
DV Odd/Even

TCE 011610797-03



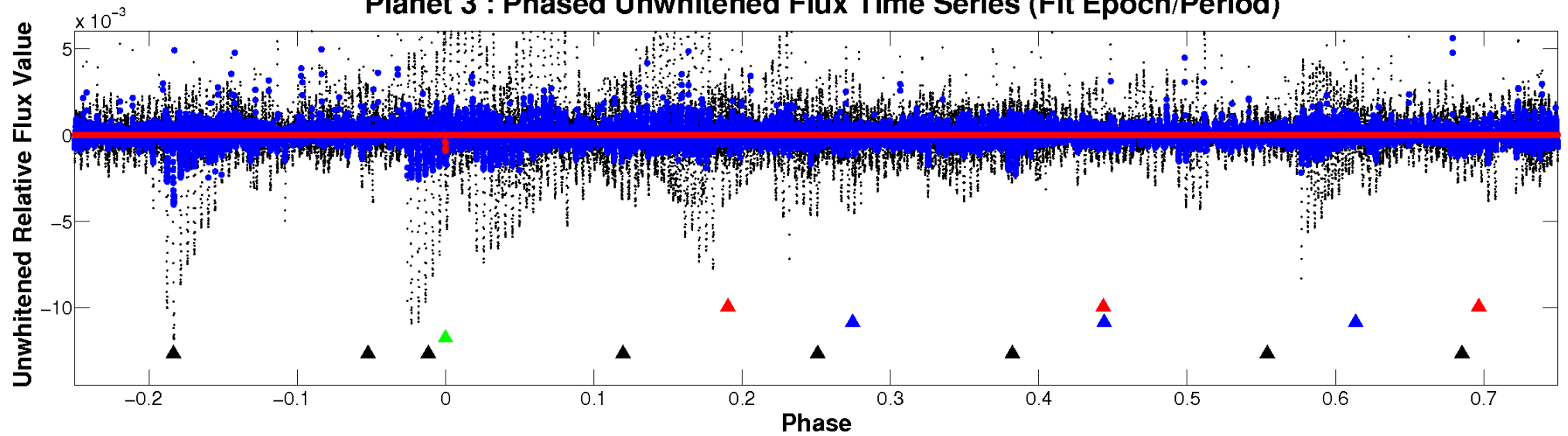
ALT Odd/Even

TCE 011610797-03

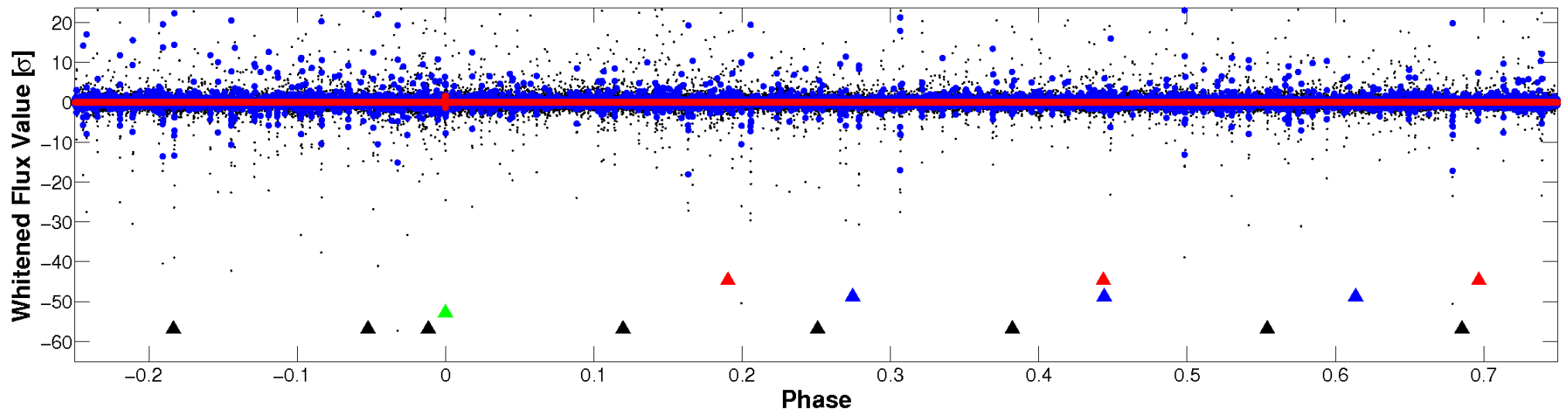


Non-Whitened Vs. Whitened Light Curve

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

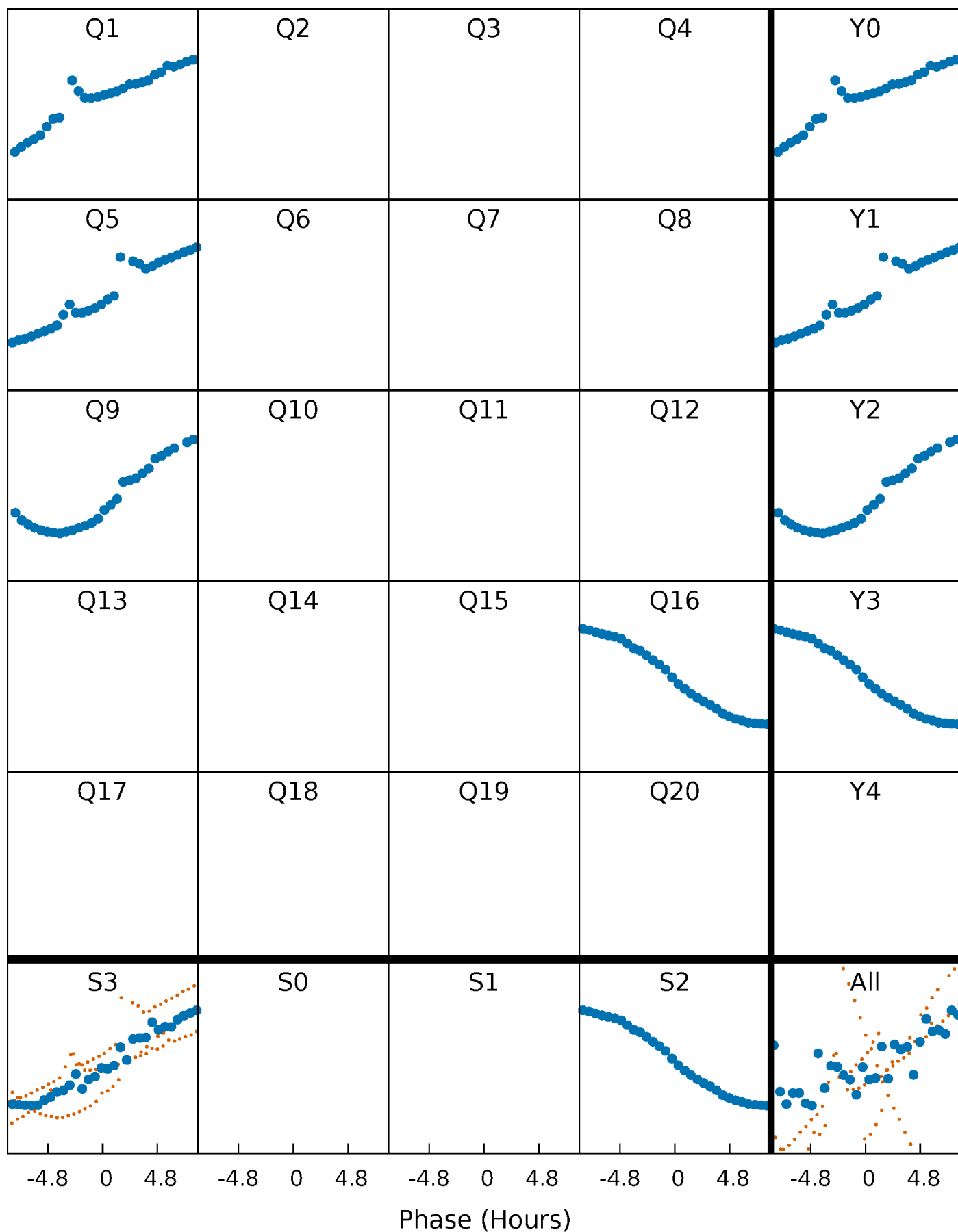


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



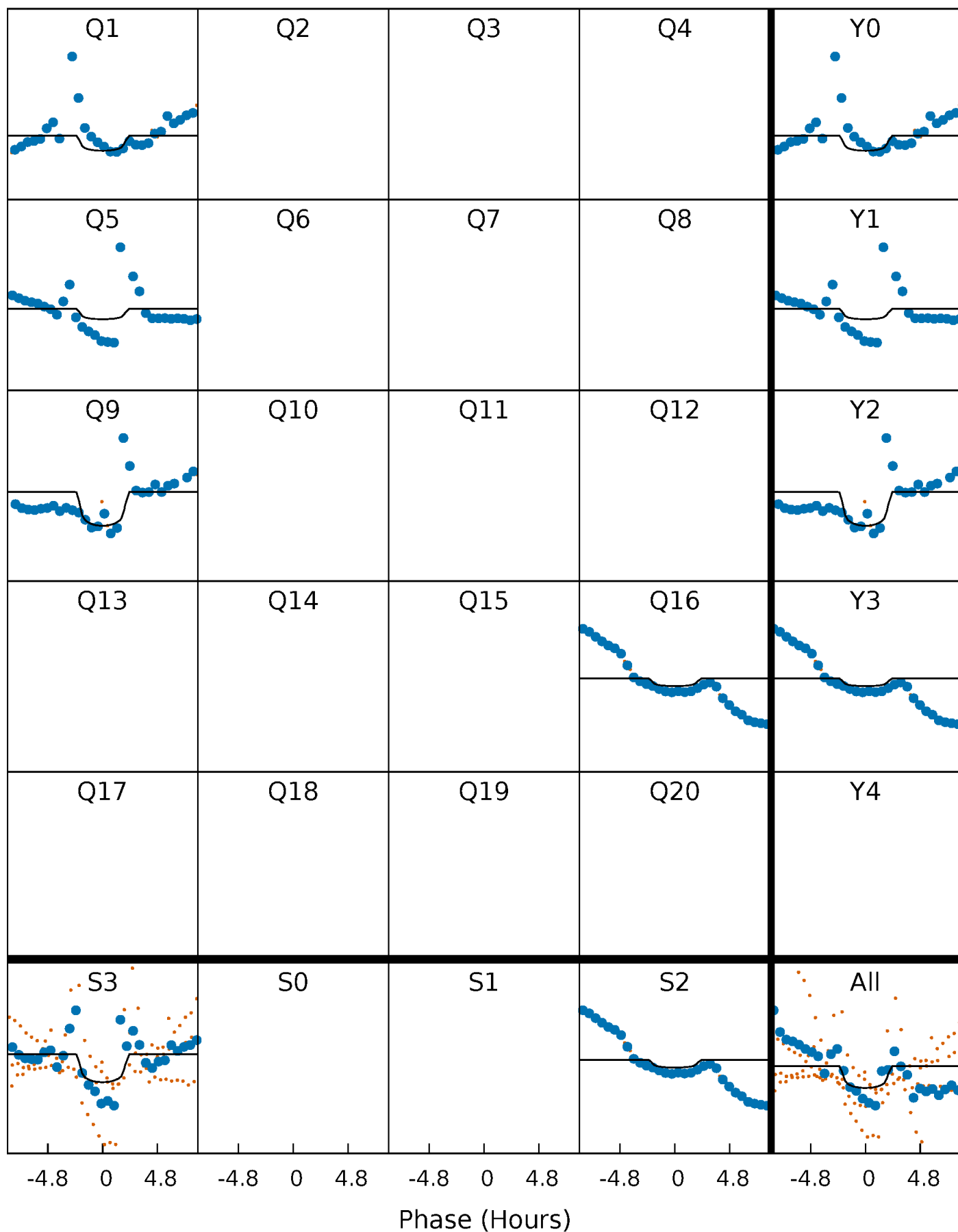
PDC Quarter-Phased Transit Curves

TCE 011610797-03 $P=334.465372$ Days $T_0=159.429282$ (BKJD)



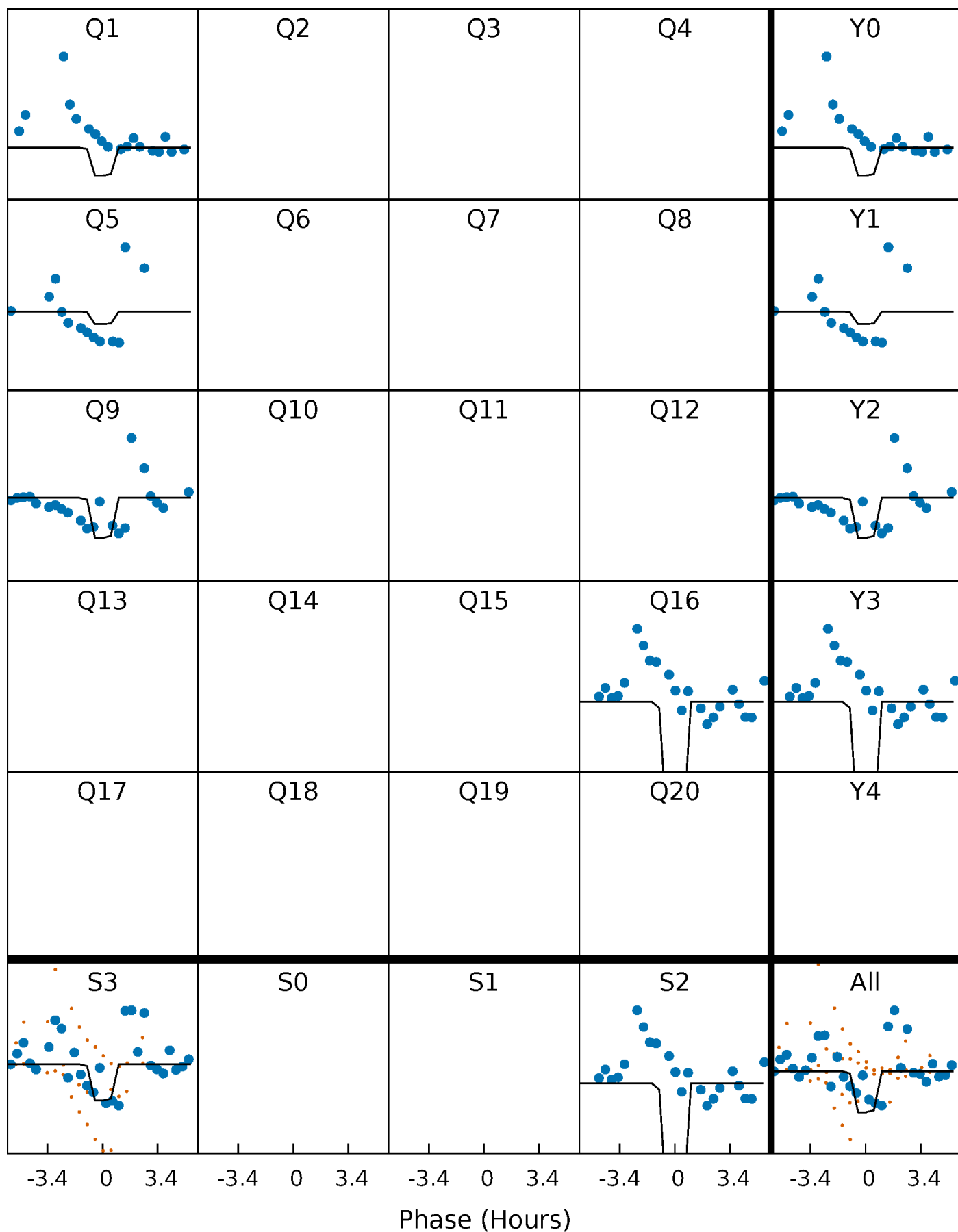
DV Quarter-Phased Transit Curves

TCE 011610797-03 $P=334.465372$ Days $T_0=159.429282$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

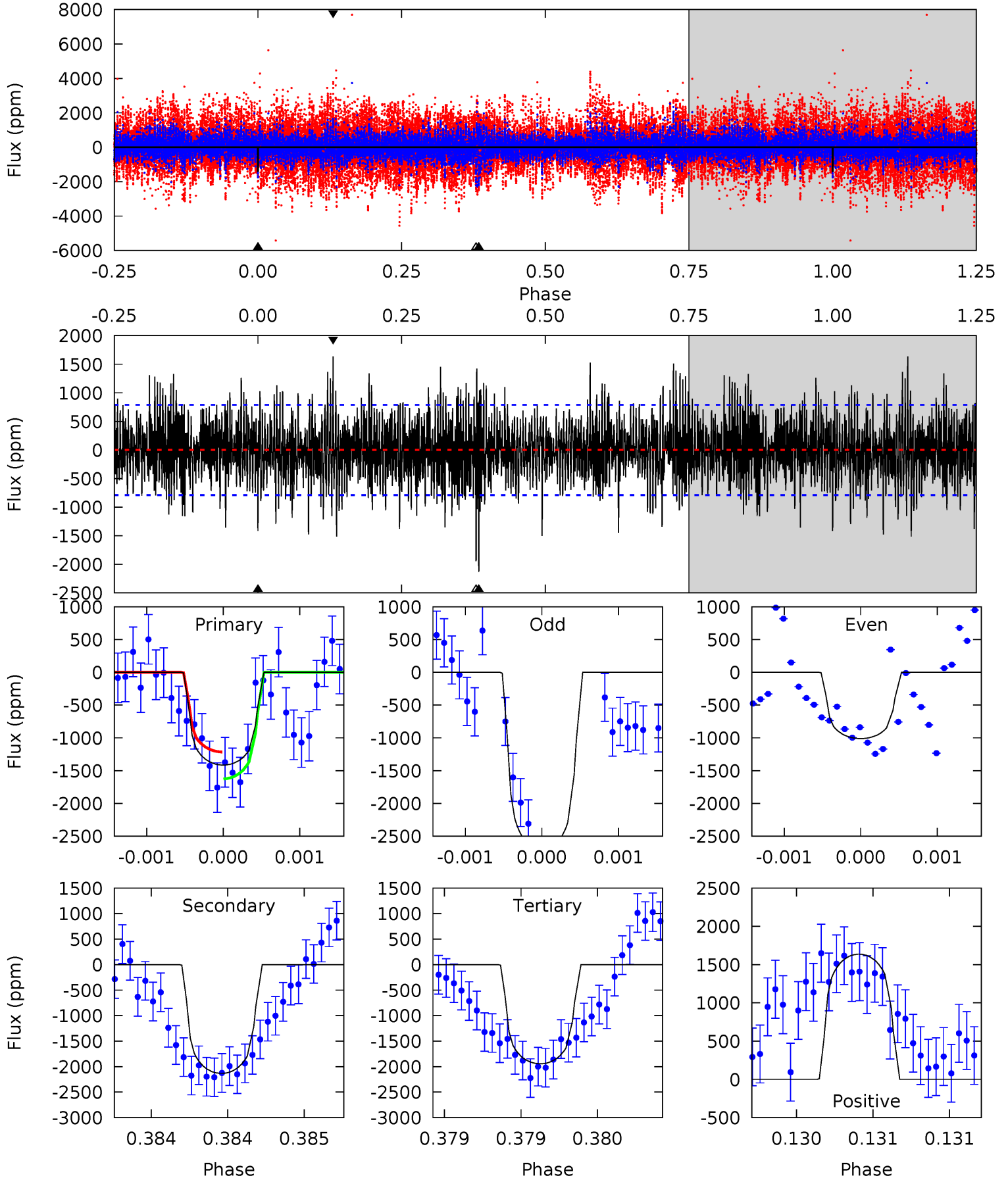
TCE 011610797-03 $P=334.456510$ Days $T_0=159.443687$ (BKJD)



DV Model-Shift Uniqueness Test

011610797-03, P = 334.465372 Days, E = 159.429282 Days

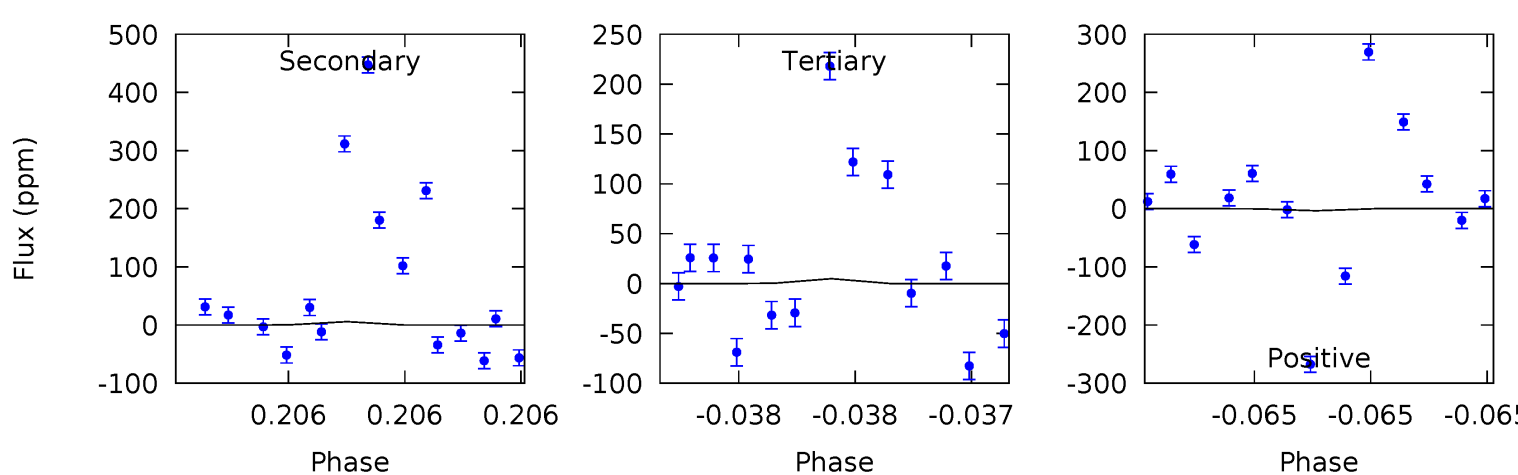
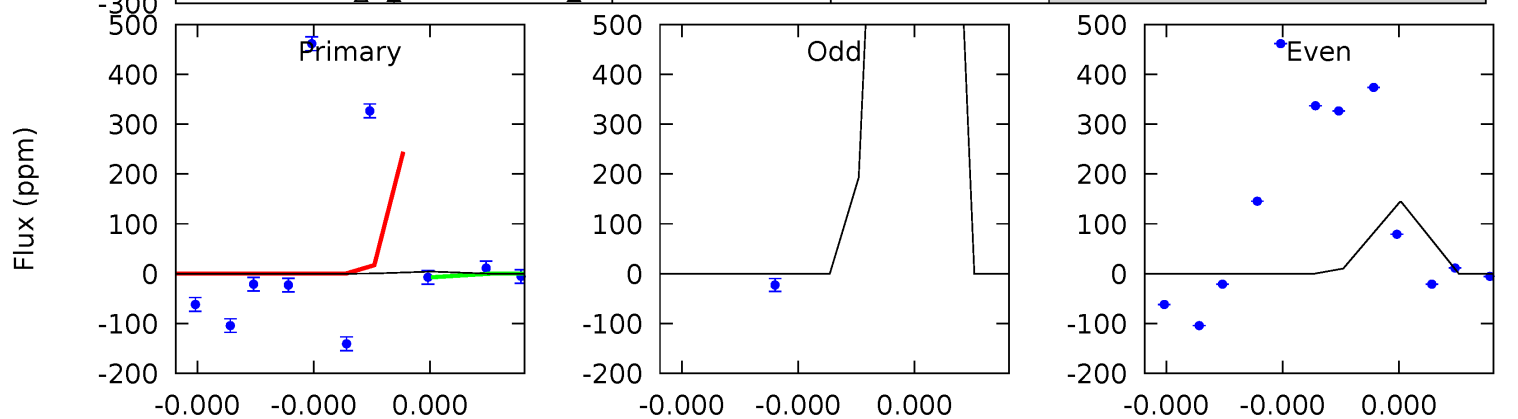
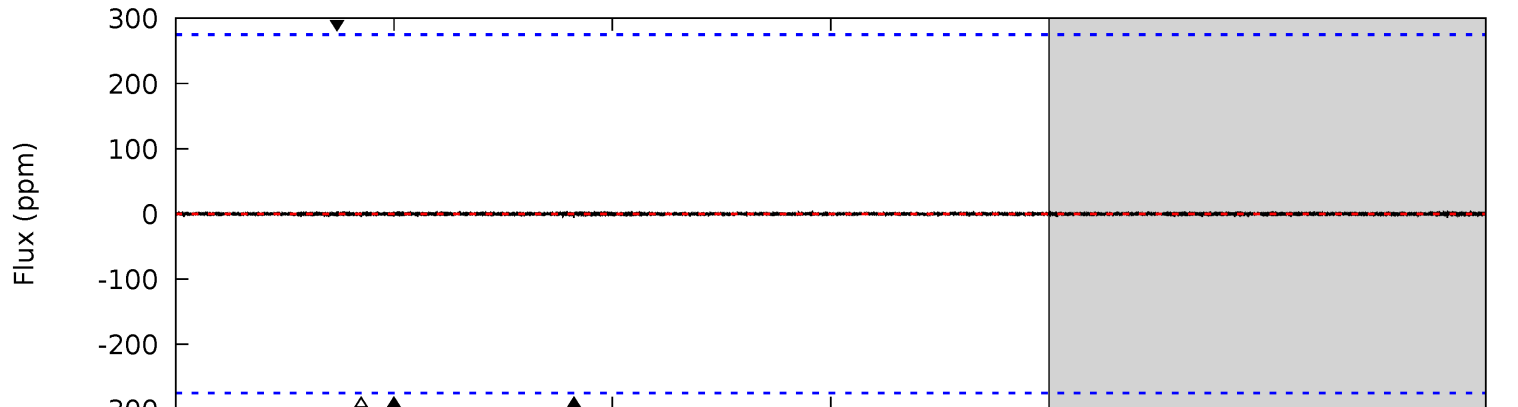
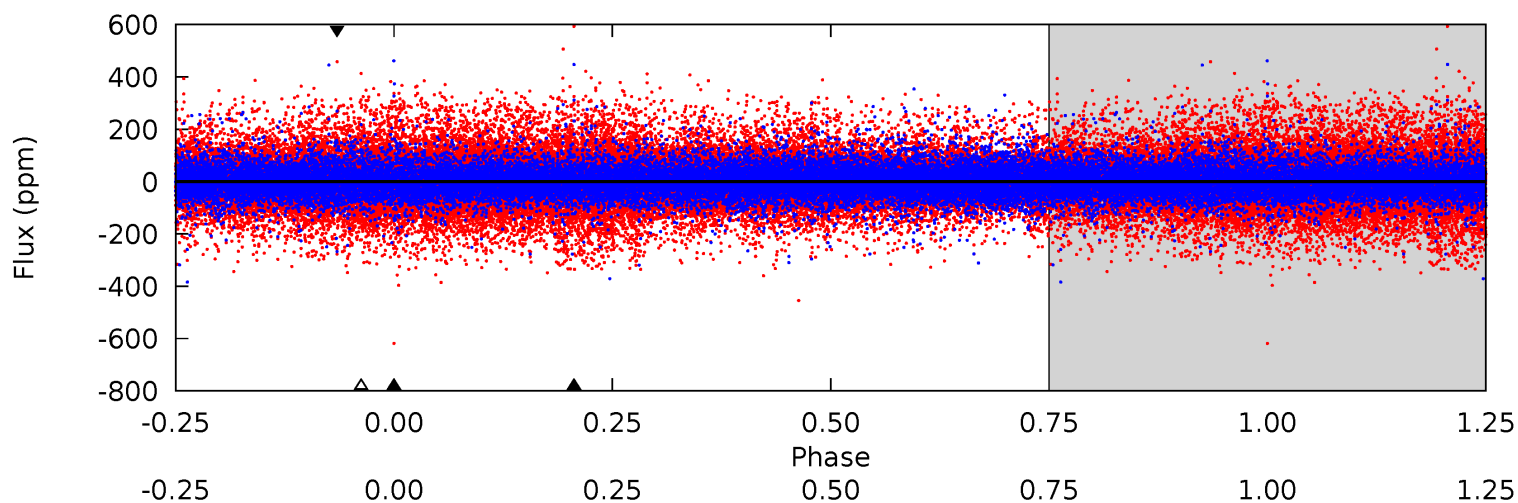
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.95	15.0	13.7	11.5	5.56	3.46	3.01	-3.72	-1.56	1.33	3.49	4.13	0.97	0.43	1.44



Alt Model-Shift Uniqueness Test

011610797-03, P = 334.456510 Days, E = 159.443687 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.09	0.12	0.10	0.07	5.70	3.67	0.02	-0.02	0.01	0.02	0.05	43.9	2.86	0.38	0



Stellar Parameters For KIC 011610797

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5868^{+78}_{-78}	$4.025^{+0.203}_{-0.087}$	$-0.020^{+0.150}_{-0.150}$	$1.670^{+0.267}_{-0.401}$	$1.078^{+0.102}_{-0.102}$	$0.326^{+0.363}_{-0.089}$
	+1%/-1%	+5%/-2%	+750%/-750%	+16%/-24%	+9%/-9%	+111%/-27%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011610797-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2133 ± 142	$7.39^{+6.48}_{-4.96}$	471^{+22}_{-28}	6164^{+6494}_{-1529}	$19939^{+168874}_{-14162}$
Alt.	-6 ± 48	$8.09^{+7.14}_{-5.20}$	470^{+22}_{-29}	2178^{+1109}_{-5271}	31^{+785}_{-519}

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

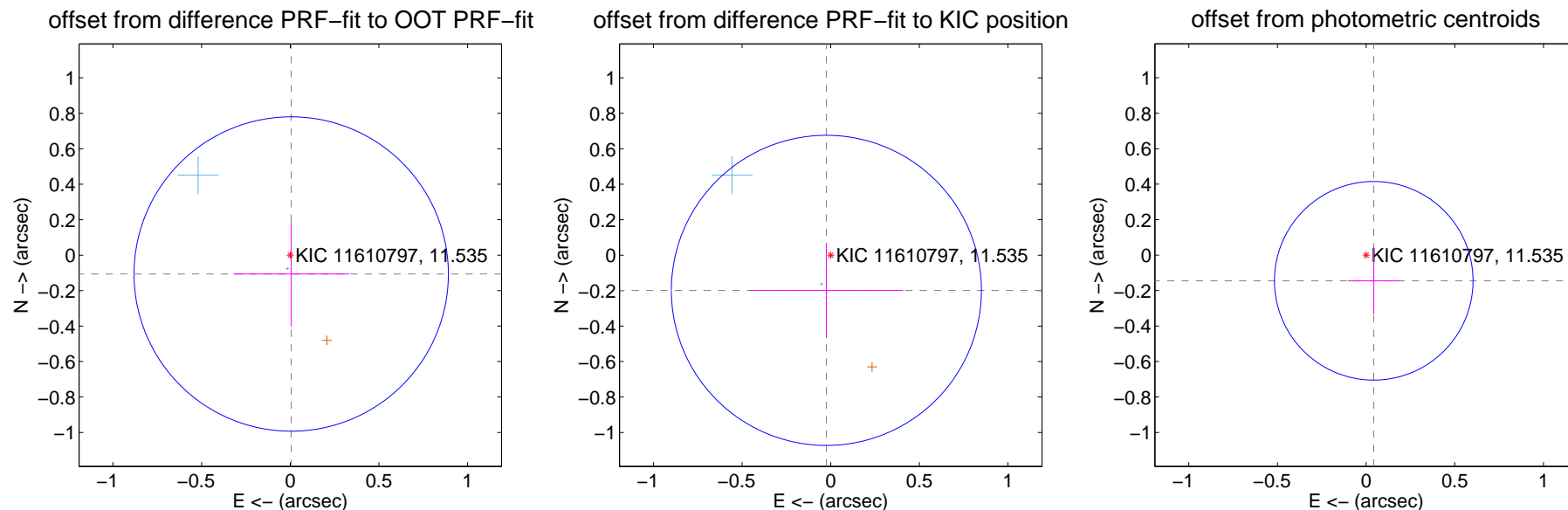
DV Centroid Data

Supplemental centroid analysis for 011610797-03. **Kepler magnitude: 11.54.** Transit SNR 5.76

There are 3 quarters with good PRF difference image offsets

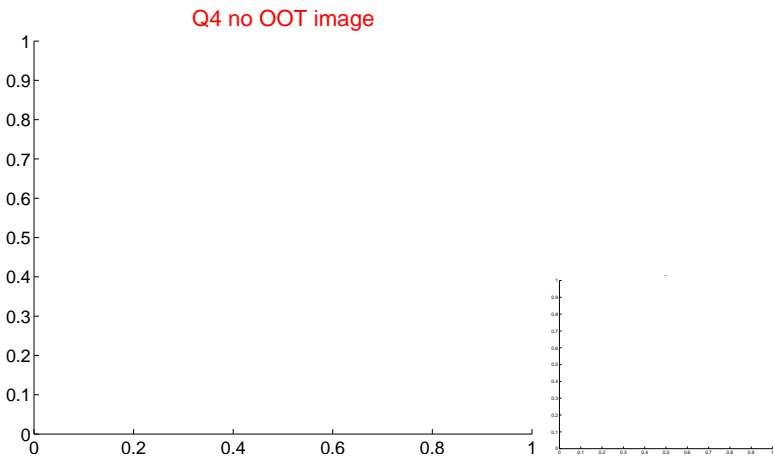
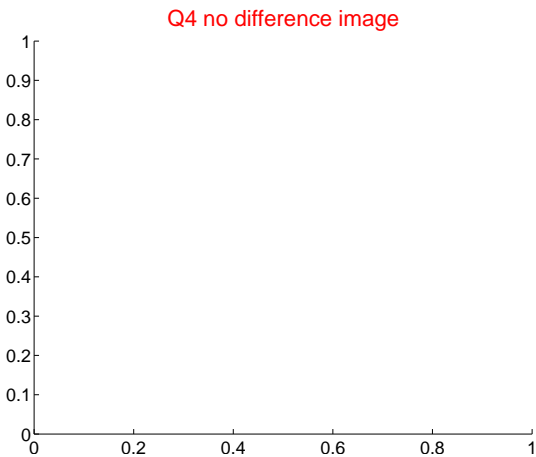
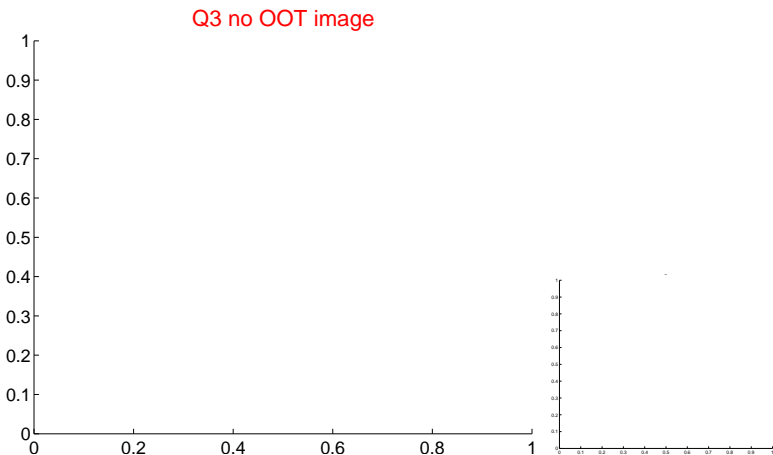
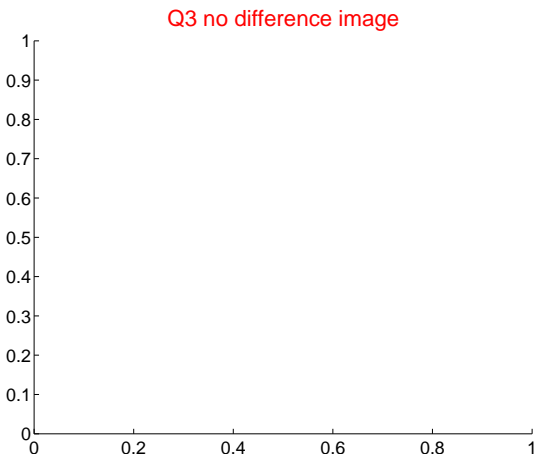
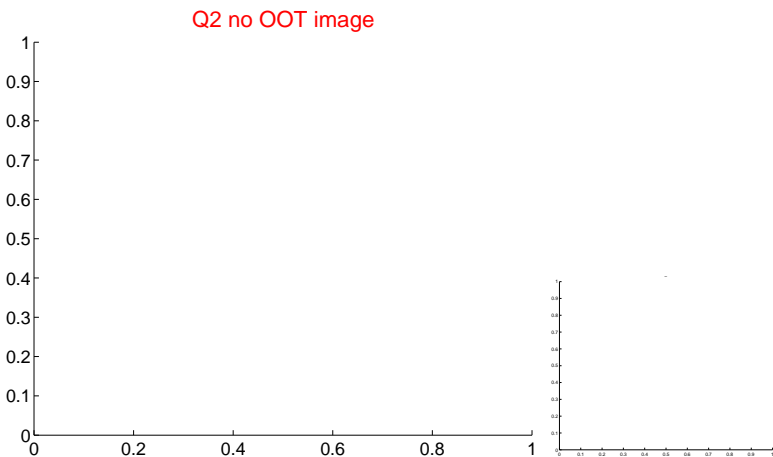
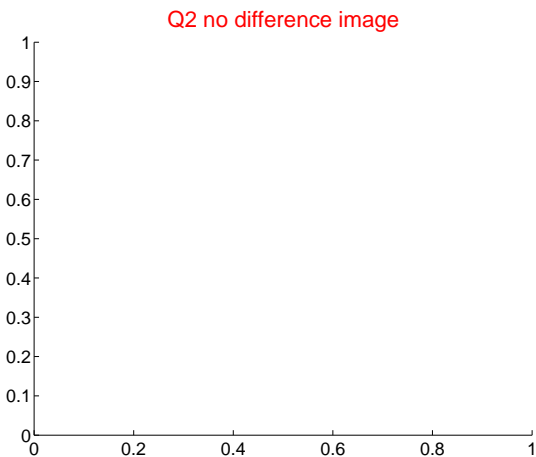
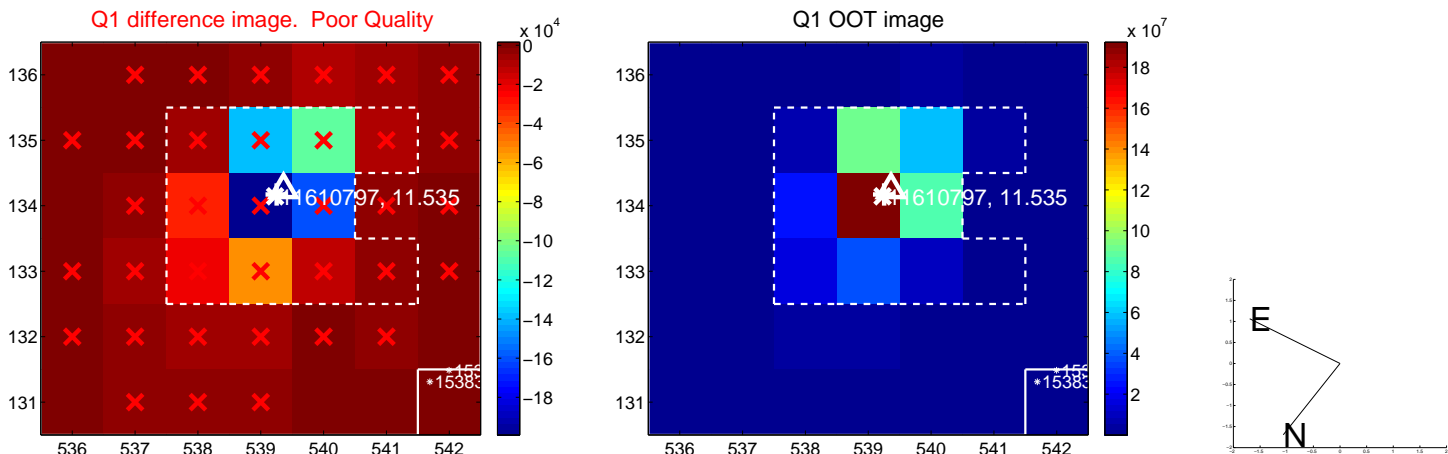
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.107 ± 0.296	0.36	-0.005 ± 0.327	-0.106 ± 0.296
PRF-fit source offset from KIC position	0.200 ± 0.291	0.69	0.024 ± 0.433	-0.199 ± 0.269
photometric centroid source offset	0.15 ± 0.19	0.81	-0.04 ± 0.15	-0.14 ± 0.19

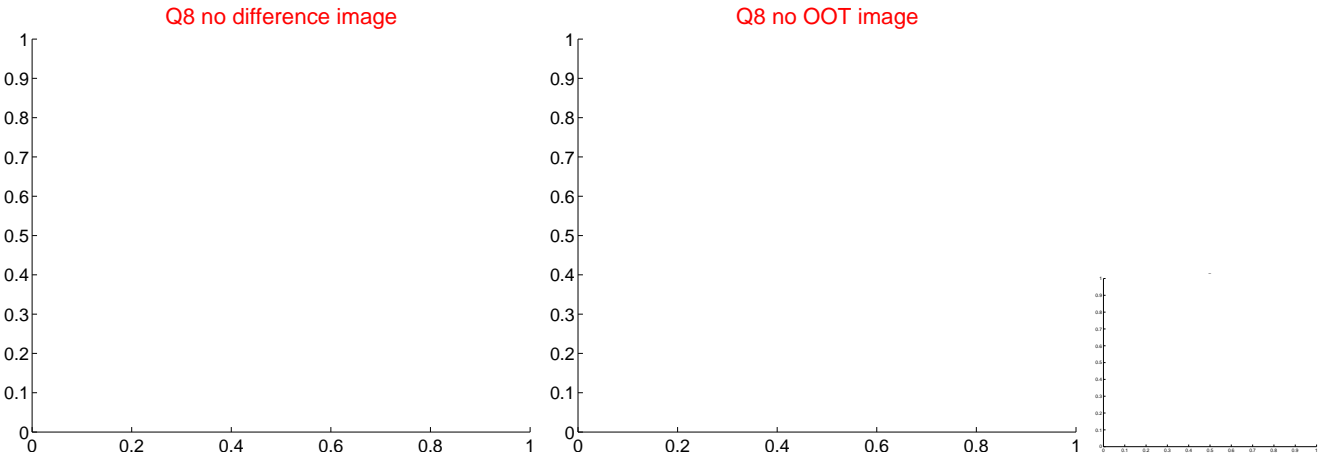
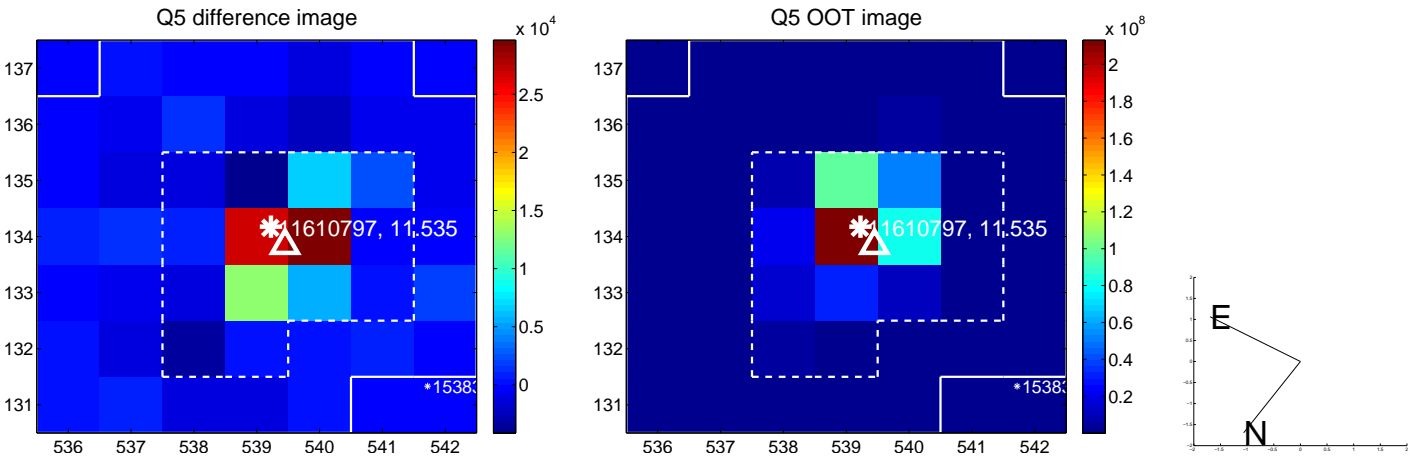


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

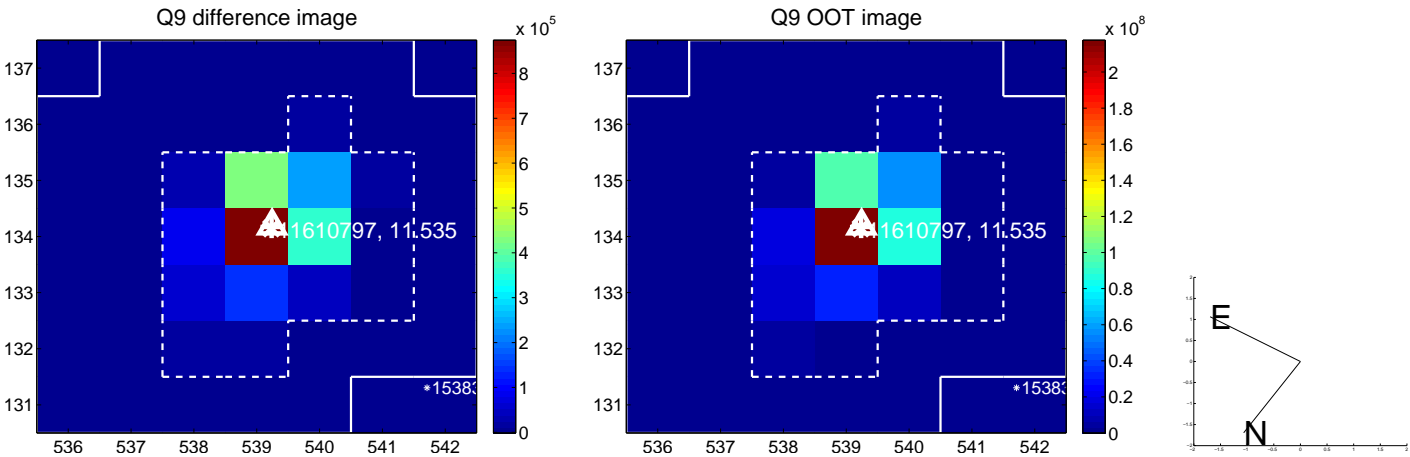
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



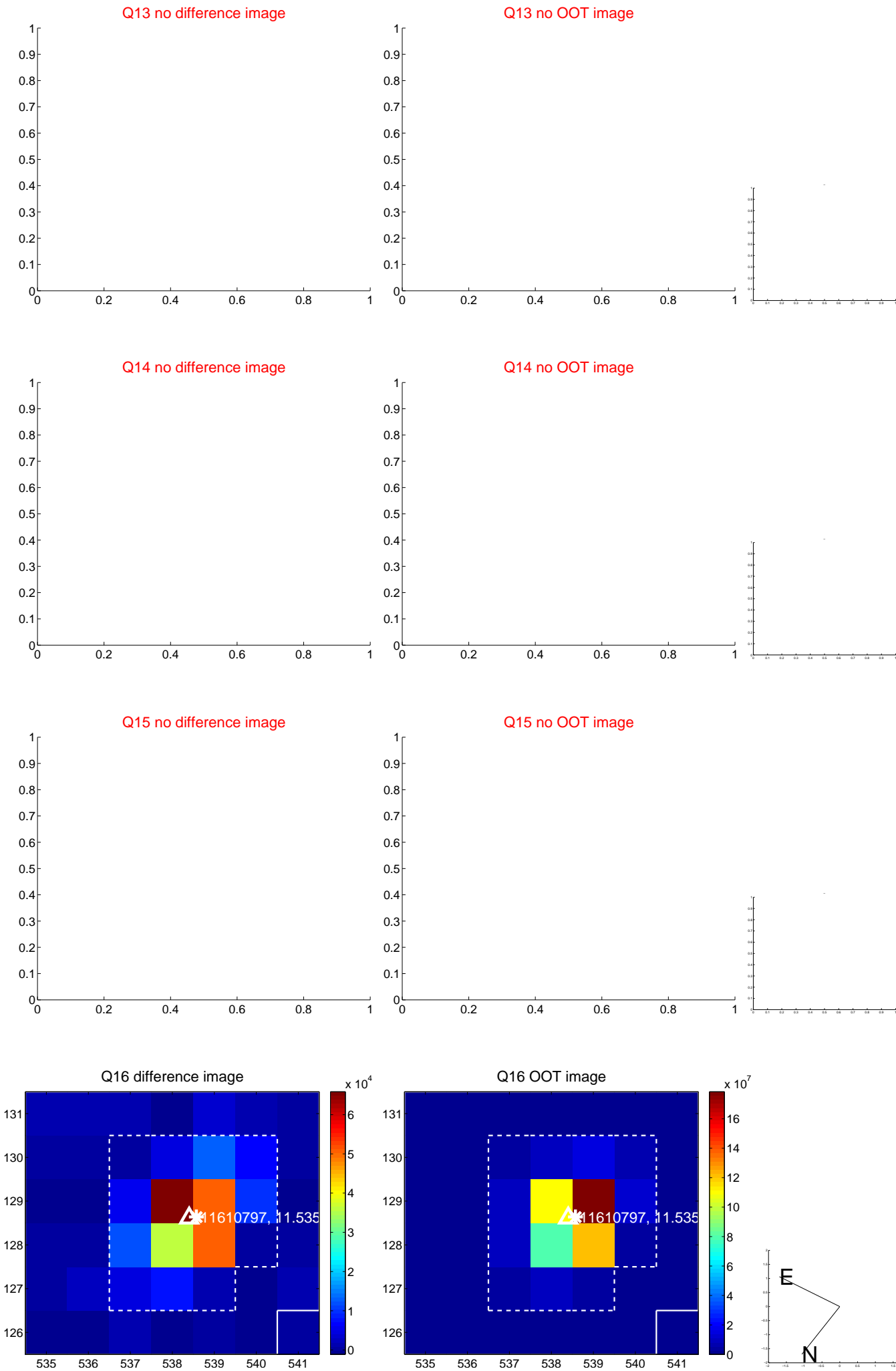
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



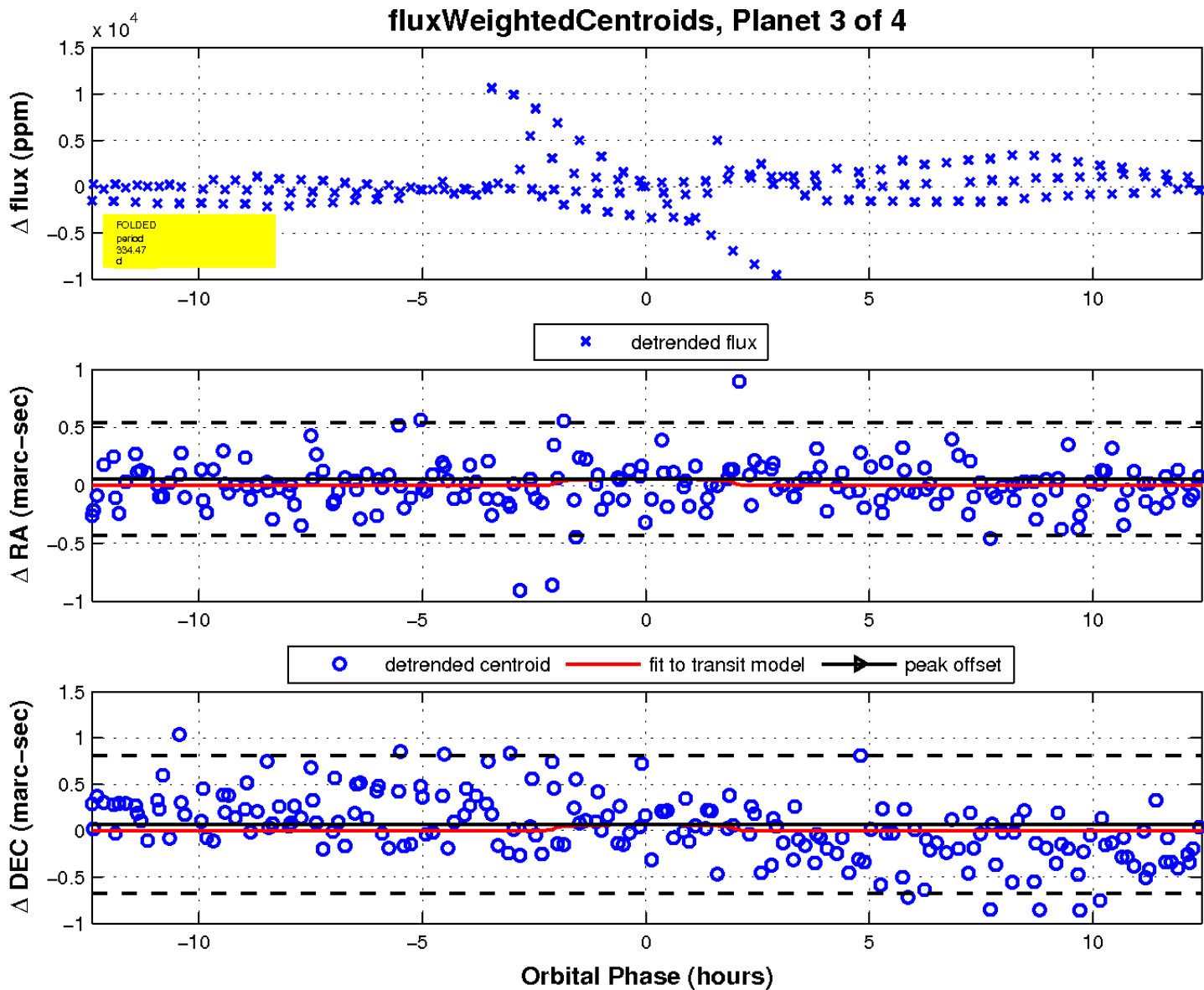
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

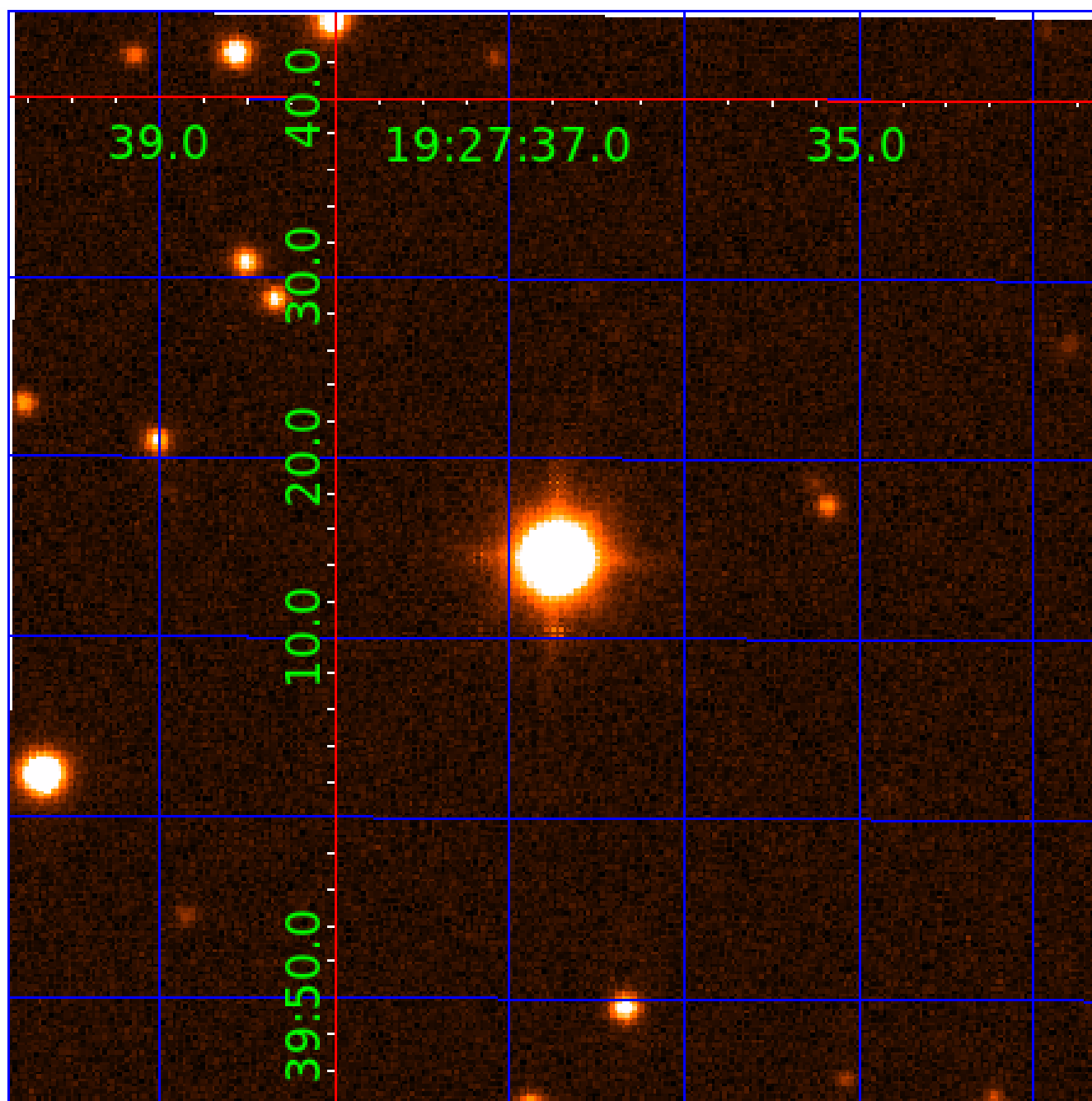
Q17 no difference image

Q17 no OOT image



UKIRT Image

Declination



KIC 011610797

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})
011610797-01	OBS	No	584.269114	392.444970	176.6	2.512	17.5	1.0	1.67	5868	2.39	1.51
011610797-03	OBS	No	334.465372	159.429282	919.7	4.172	17.3	5.8	1.67	5868	5.03	3.17
011610797-04	OBS	No	189.180010	155.573500	271.8	2.500	13.7	-1.0	1.67	5868	2.74	6.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011610797-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_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—CENT_FEW_DIFFS
011610797-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—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
011610797-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

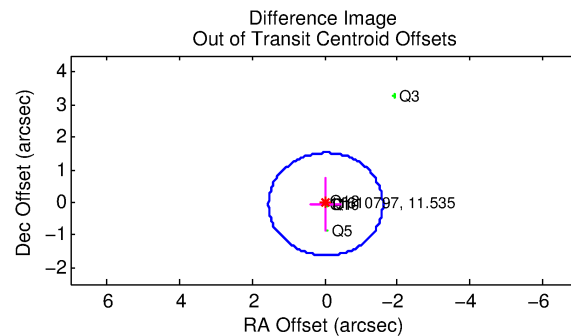
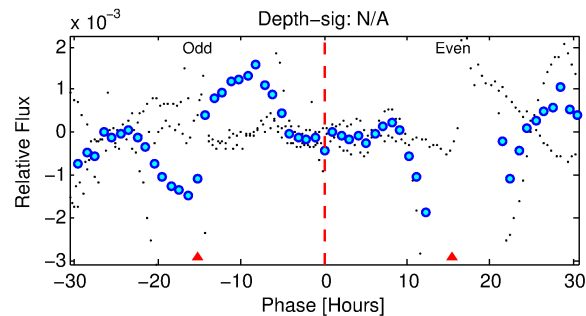
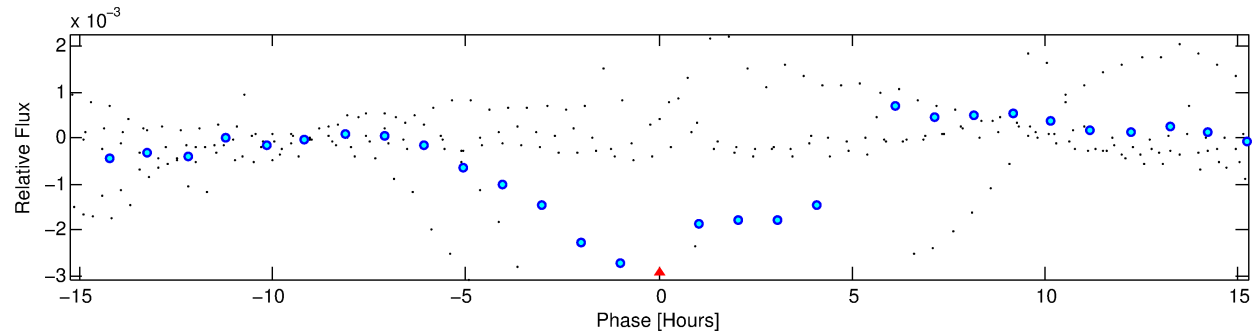
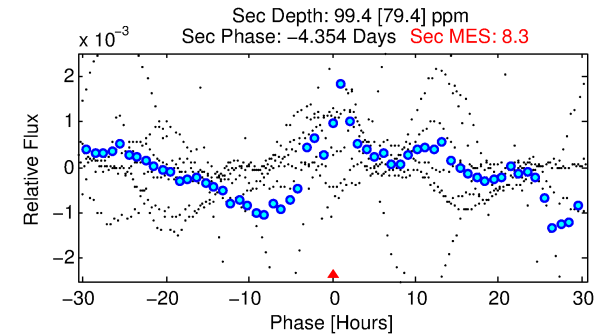
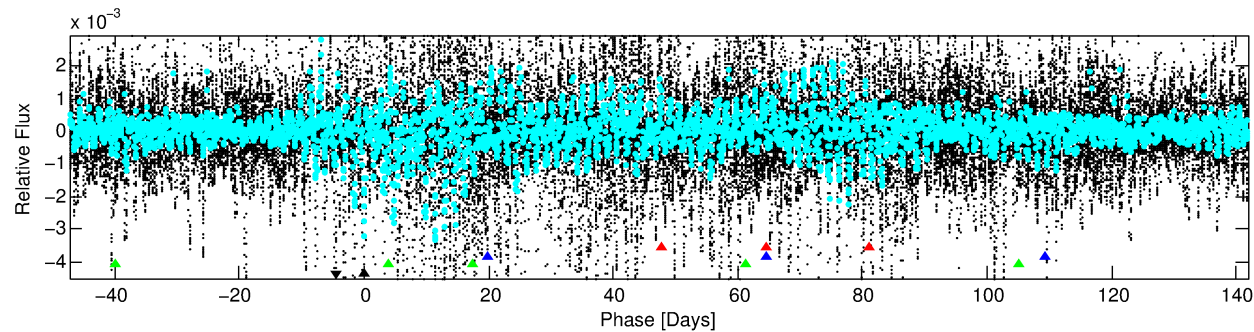
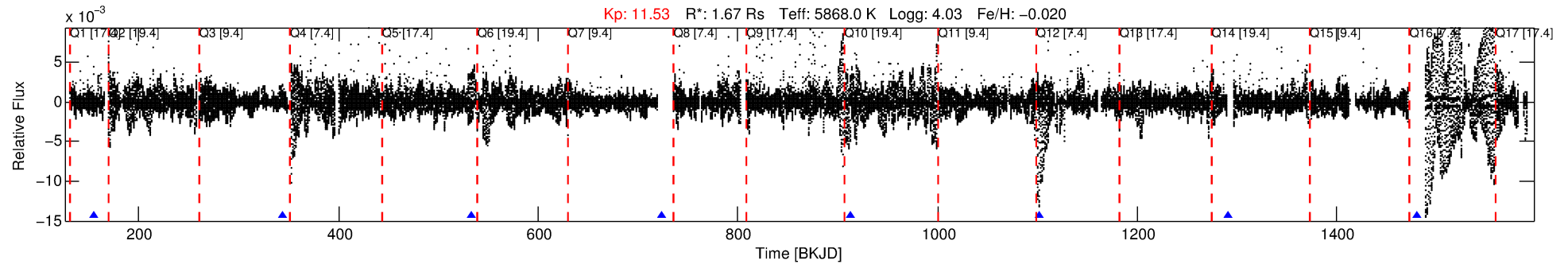
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011610797-04

No Significant Match Found

DV One-Page Summary

KIC: 11610797 Candidate: 4 of 4 Period: 189.180 d



TPS TCE Results:

Period = 189.18001 d
Epoch = 155.5735 BKJD

DV fit results are unavailable

DV Diagnostic Results:

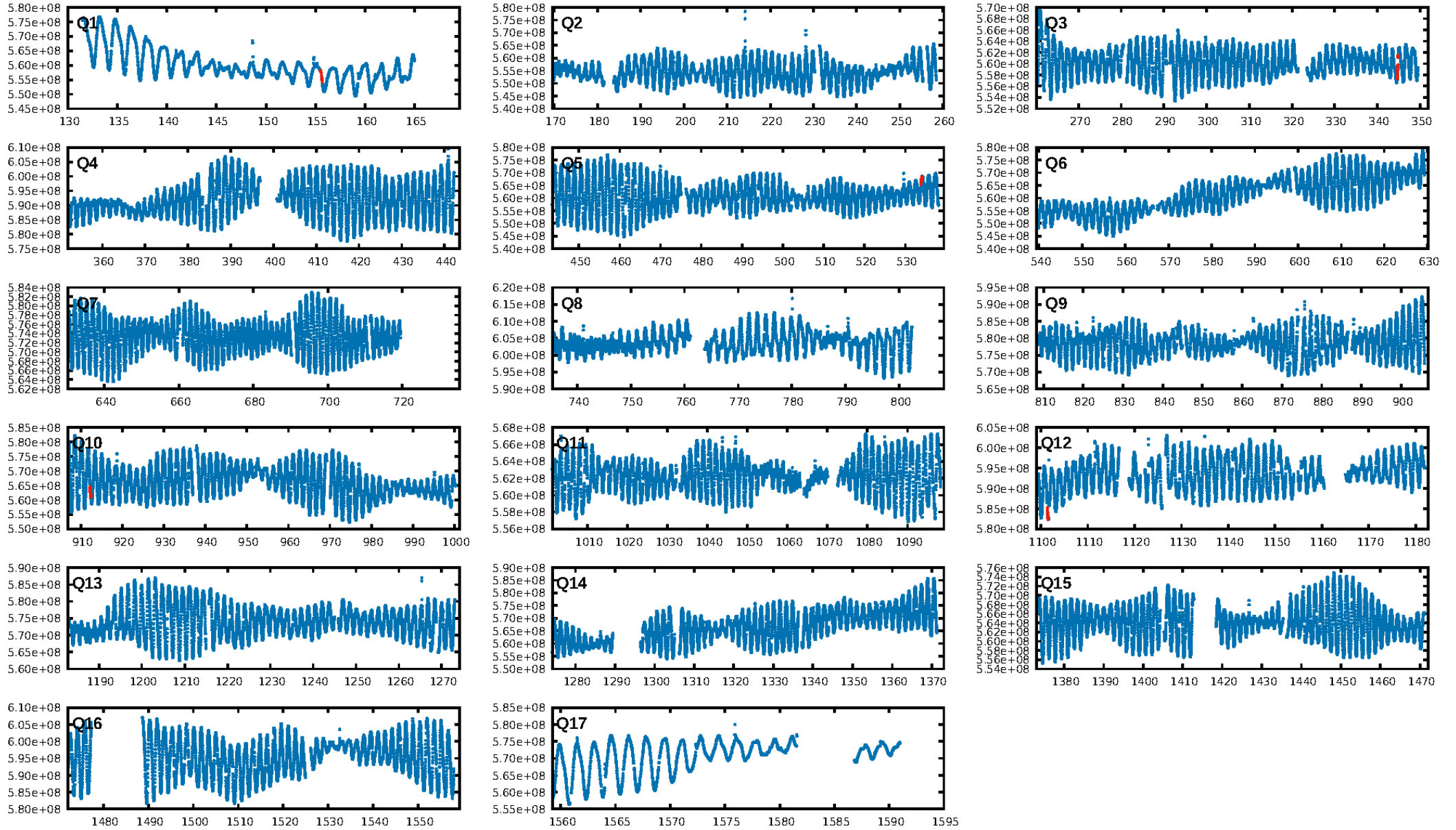
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [716.96 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.3405

Centroid-sig: 93.7%
Centroid-so: 0.103 arcsec [0.52 σ]
OotOffset-rm: 0.062 arcsec [0.12 σ]
KicOffset-rm: 0.089 arcsec [0.14 σ]
OotOffset-st: 1/1/1/2 [5]
KicOffset-st: 1/1/1/2 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 1.00 [5/5]

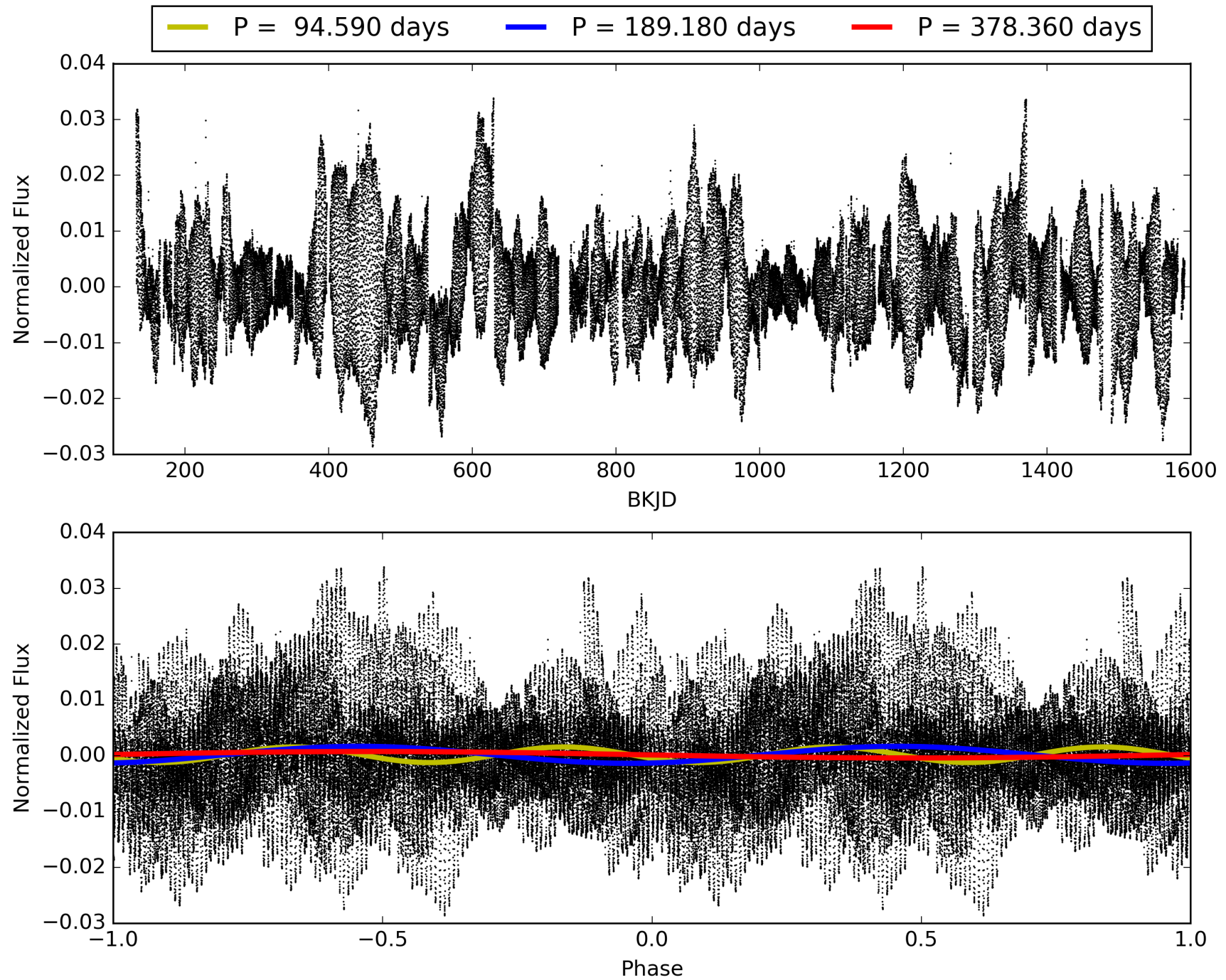
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:07:21 Z

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

TCE 011610797-04, PDC Light Curves

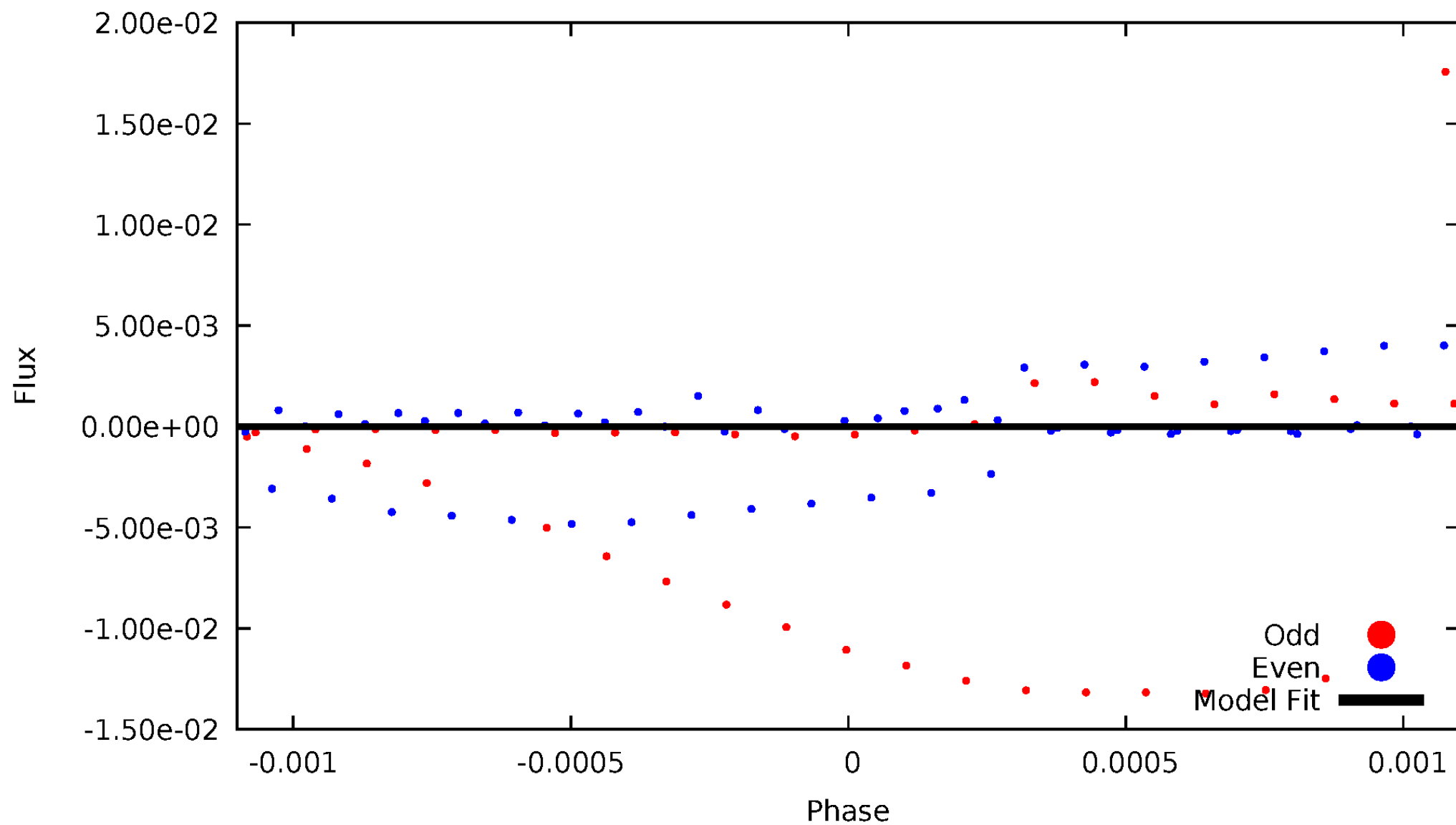


TCE 011610797-04



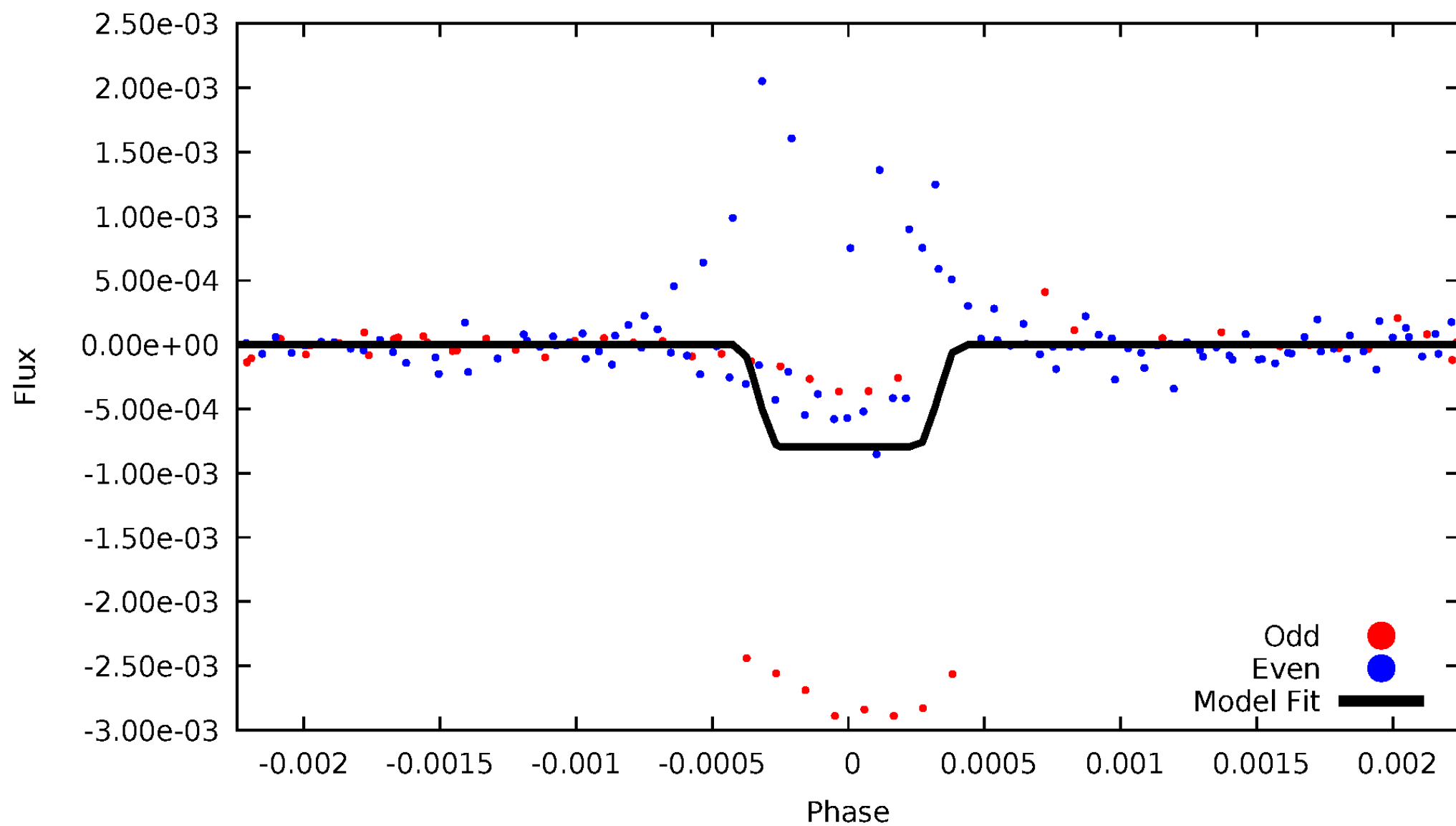
DV Odd/Even

TCE 011610797-04



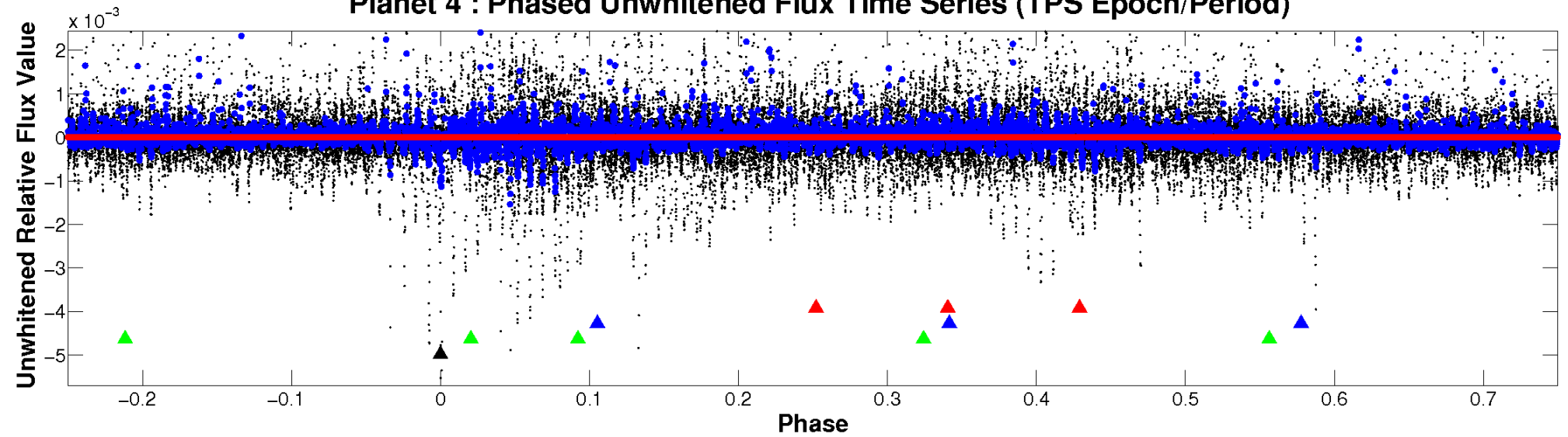
ALT Odd/Even

TCE 011610797-04



Non-Whitened Vs. Whitened Light Curve

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

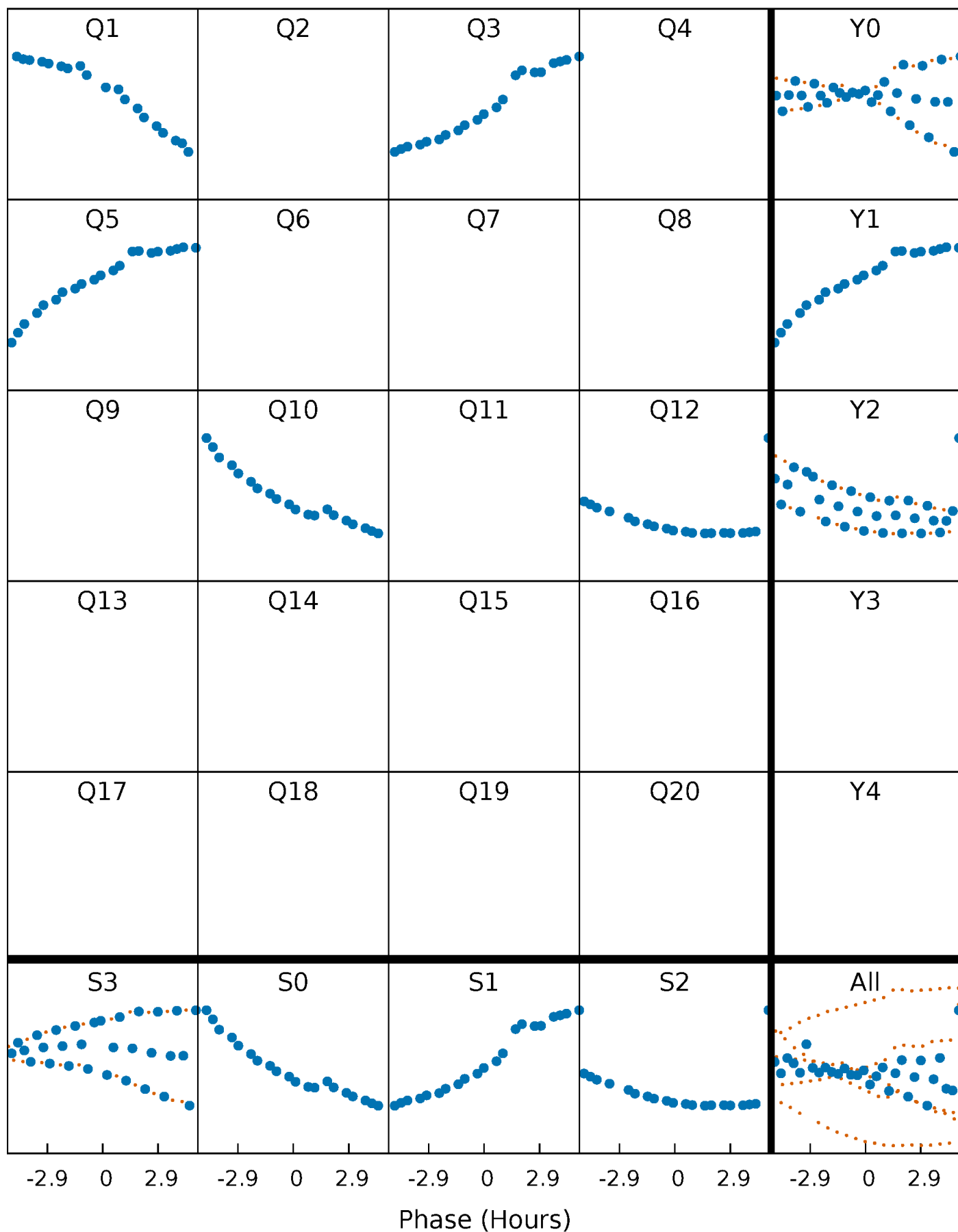


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



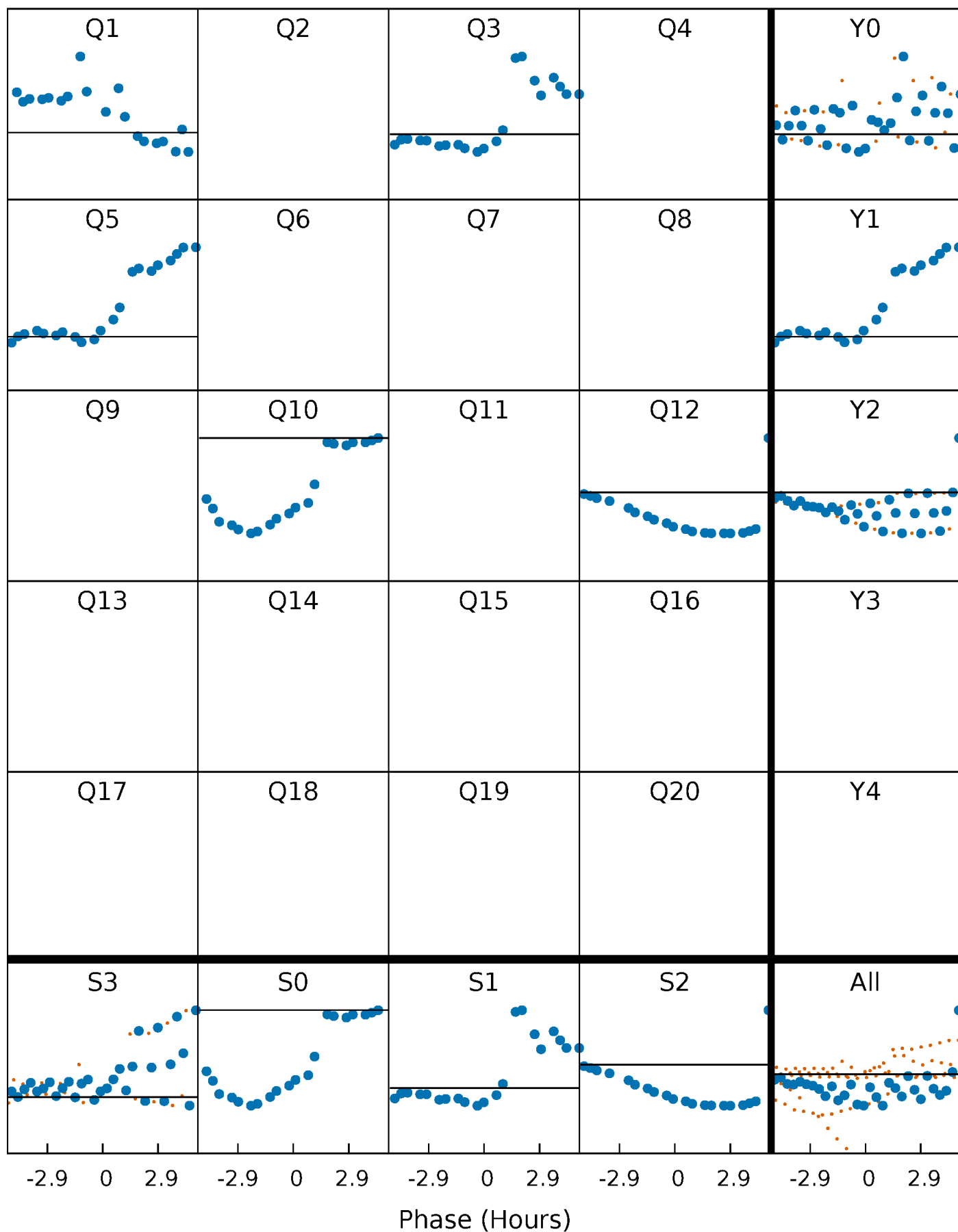
PDC Quarter-Phased Transit Curves

TCE 011610797-04 P=189.180010 Days $T_0=155.573500$ (BKJD)



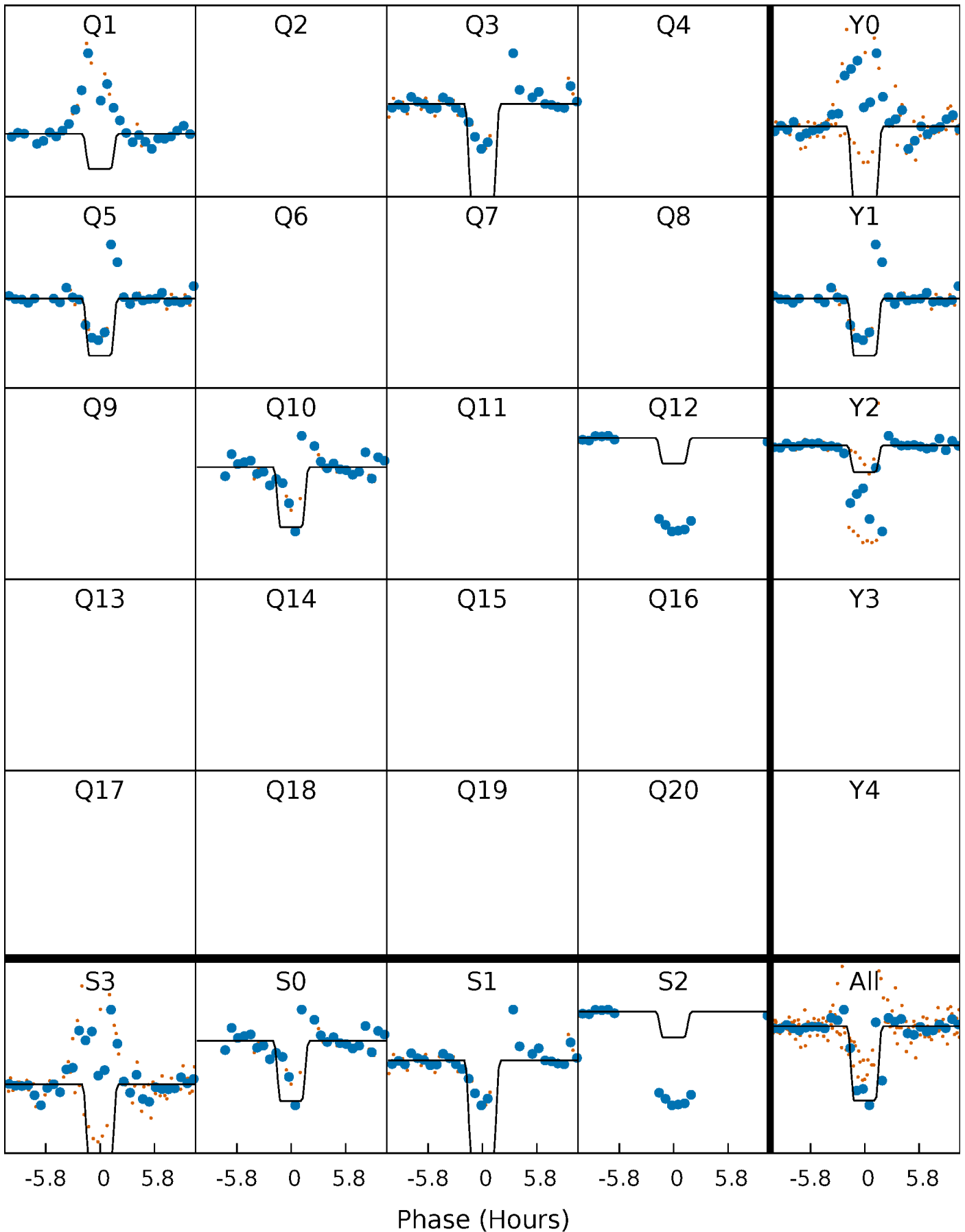
DV Quarter-Phased Transit Curves

TCE 011610797-04 P=189.180010 Days $T_0=155.573500$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

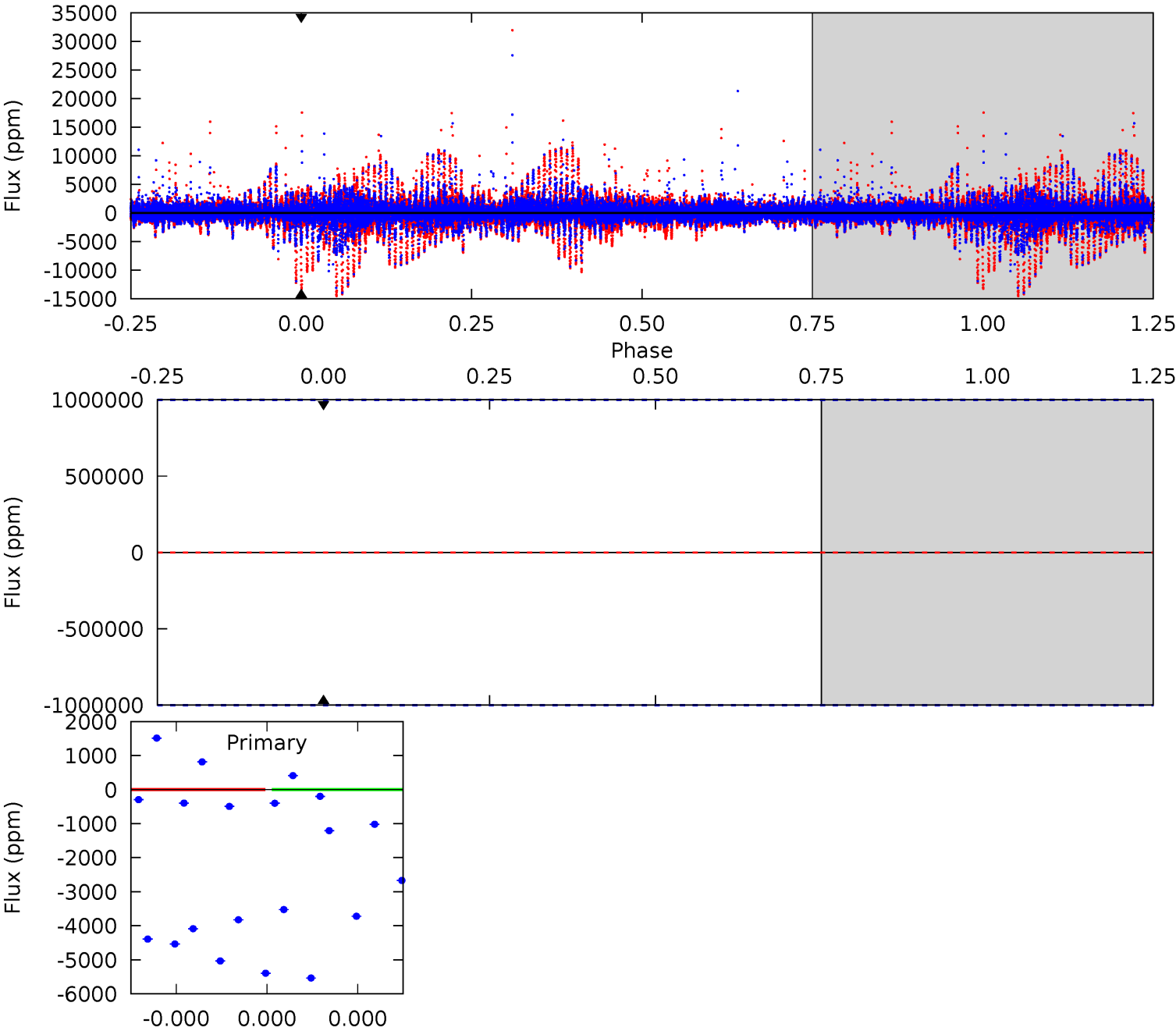
TCE 011610797-04 P=189.180010 Days $T_0=155.582127$ (BKJD)



DV Model-Shift Uniqueness Test

011610797-04, P = 189.180010 Days, E = 155.573500 Days

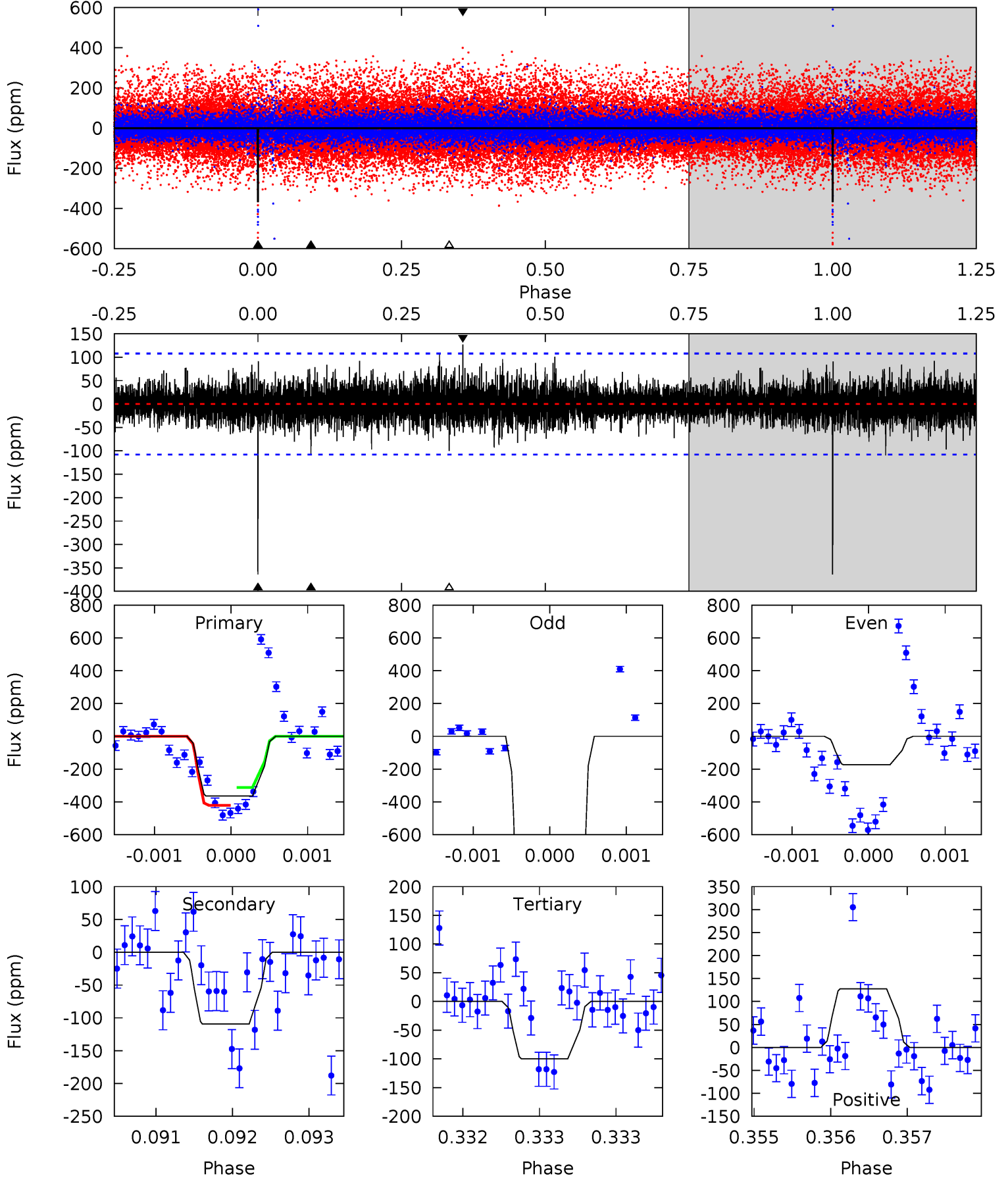
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011610797-04, P = 189.180010 Days, E = 155.582127 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	5.57	5.08	6.49	5.50	3.37	1.19	13.5	12.1	0.49	-0.91	49.5	1.65	0.26	2.63



Stellar Parameters For KIC 011610797

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5868^{+78}_{-78}	$4.025^{+0.203}_{-0.087}$	$-0.020^{+0.150}_{-0.150}$	$1.670^{+0.267}_{-0.401}$	$1.078^{+0.102}_{-0.102}$	$0.326^{+0.363}_{-0.089}$
	+1%/-1%	+5%/-2%	+750%/-750%	+16%/-24%	+9%/-9%	+111%/-27%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 011610797-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$12.98^{+12.95}_{-8.22}$	569^{+26}_{-34}	2627^{+19607}_{-21951}	$62^{+256148}_{-203108}$
Alt.	-109 ± 20	$13.74^{+14.51}_{-9.41}$	568^{+27}_{-34}	2861^{+1258}_{-465}	139^{+1150}_{-108}

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 $A_{obs} \gg 1.0$

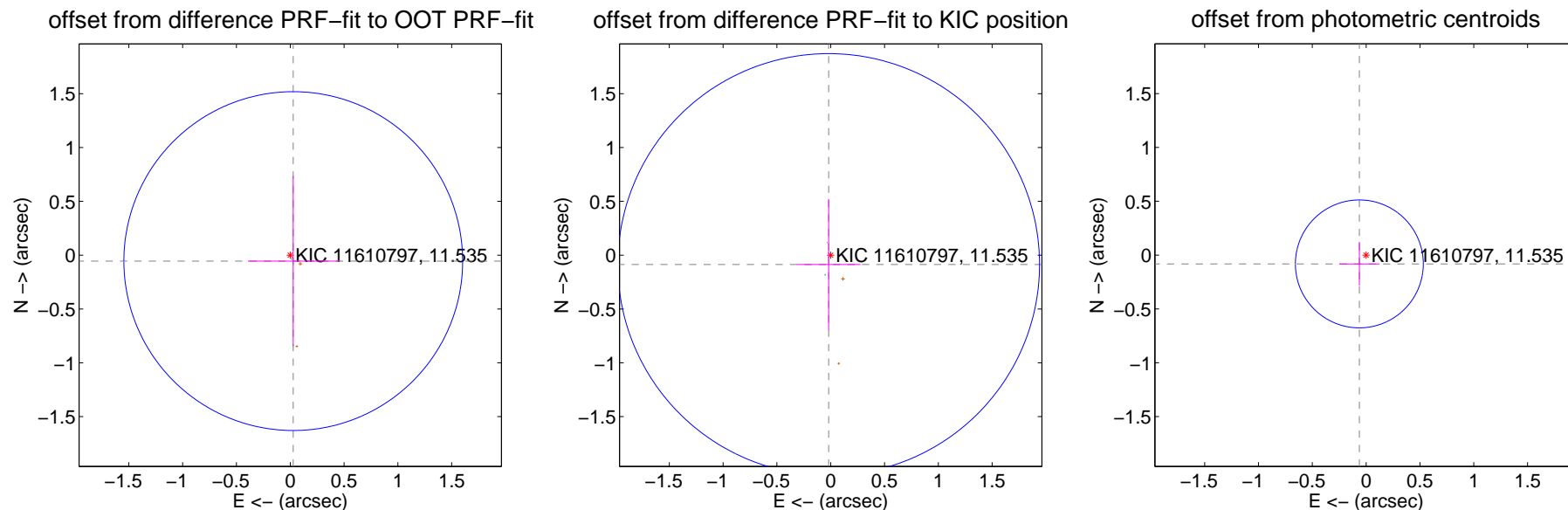
DV Centroid Data

Supplemental centroid analysis for 011610797-04. **Kepler magnitude: 11.54.** Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

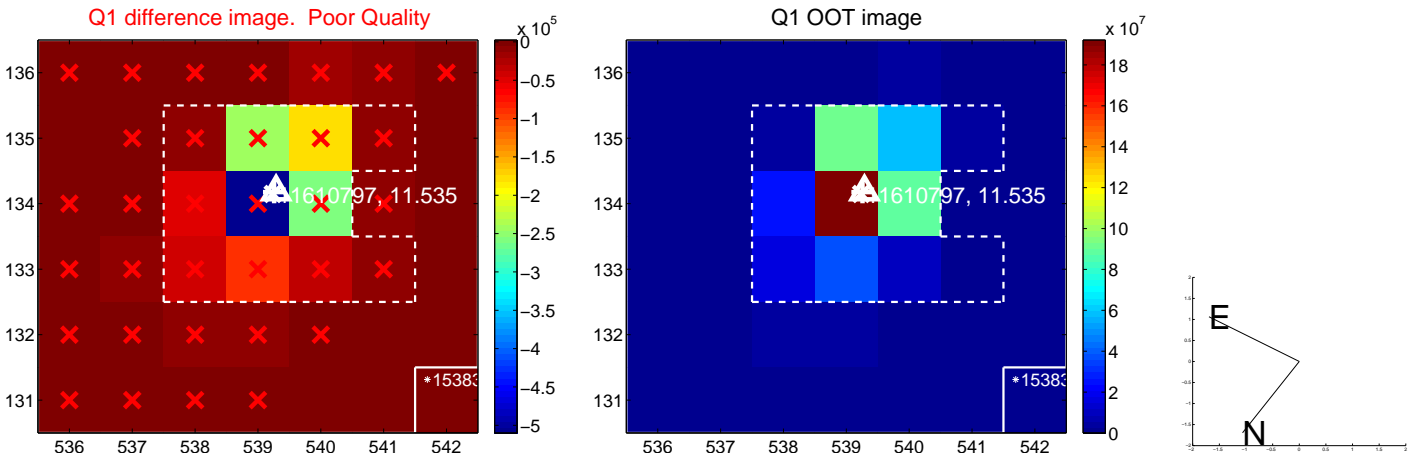
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.062 ± 0.525	0.12	-0.028 ± 0.421	-0.055 ± 0.790
PRF-fit source offset from KIC position	0.089 ± 0.653	0.14	0.019 ± 0.295	-0.087 ± 0.609
photometric centroid source offset	0.10 ± 0.20	0.52	0.06 ± 0.19	-0.08 ± 0.20

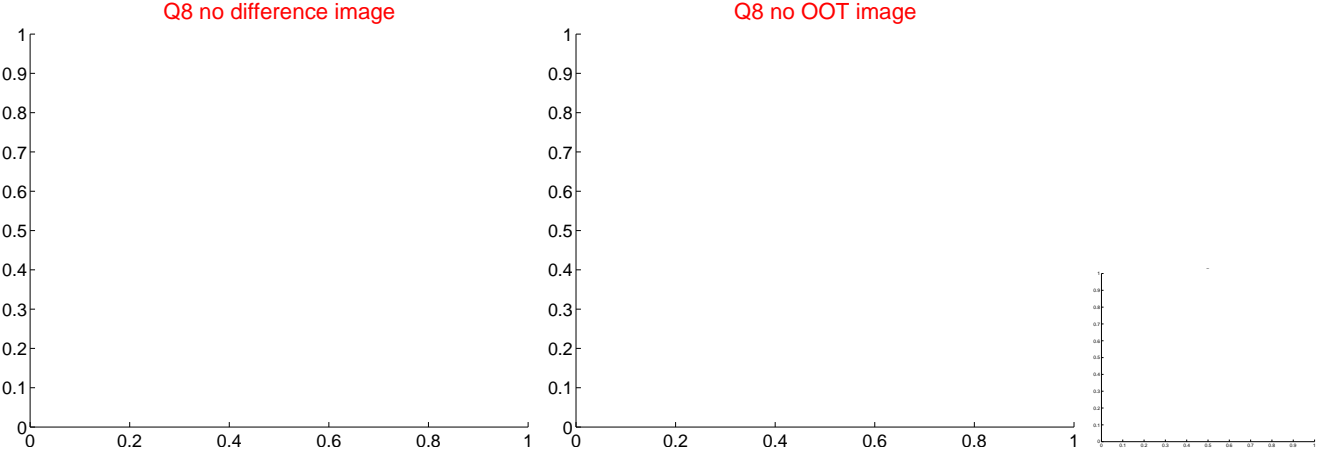
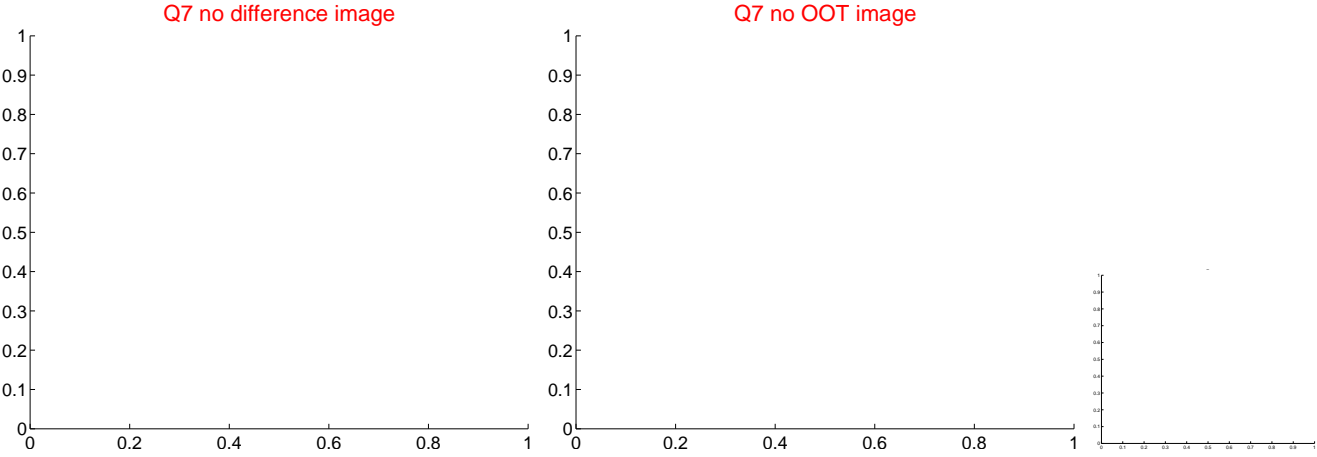
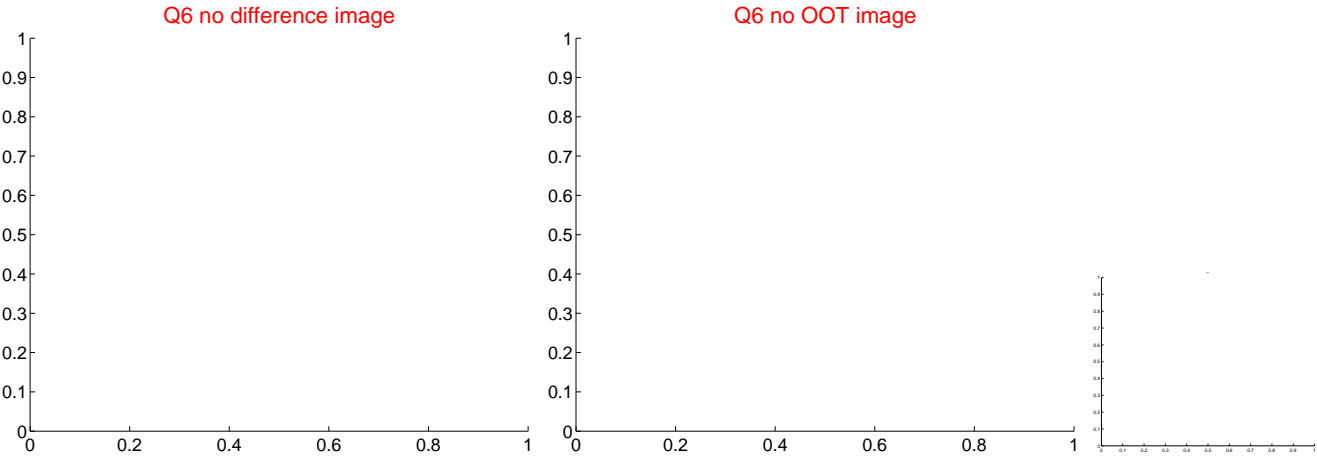
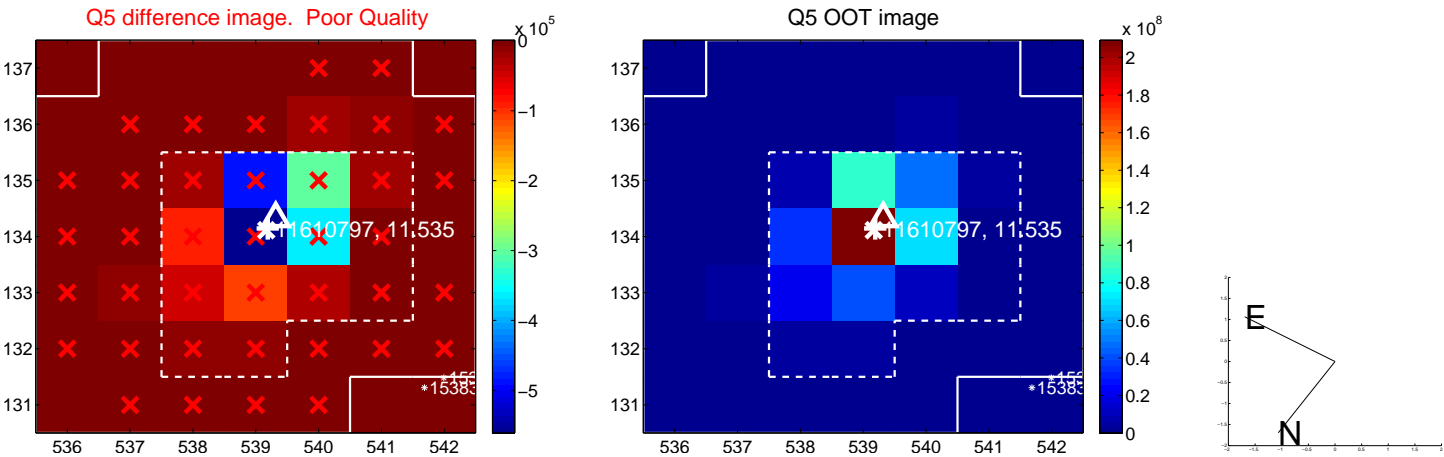


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

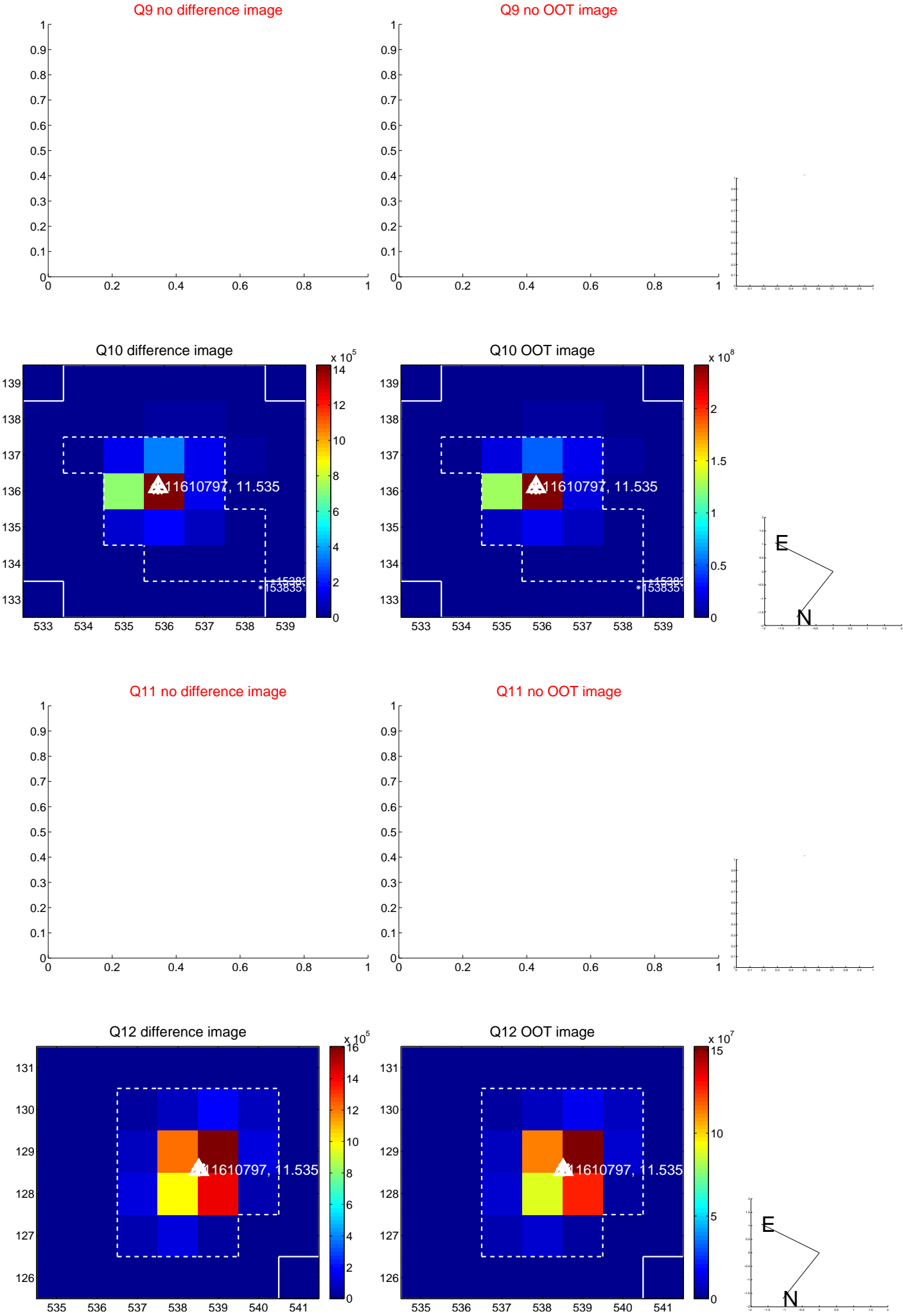
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



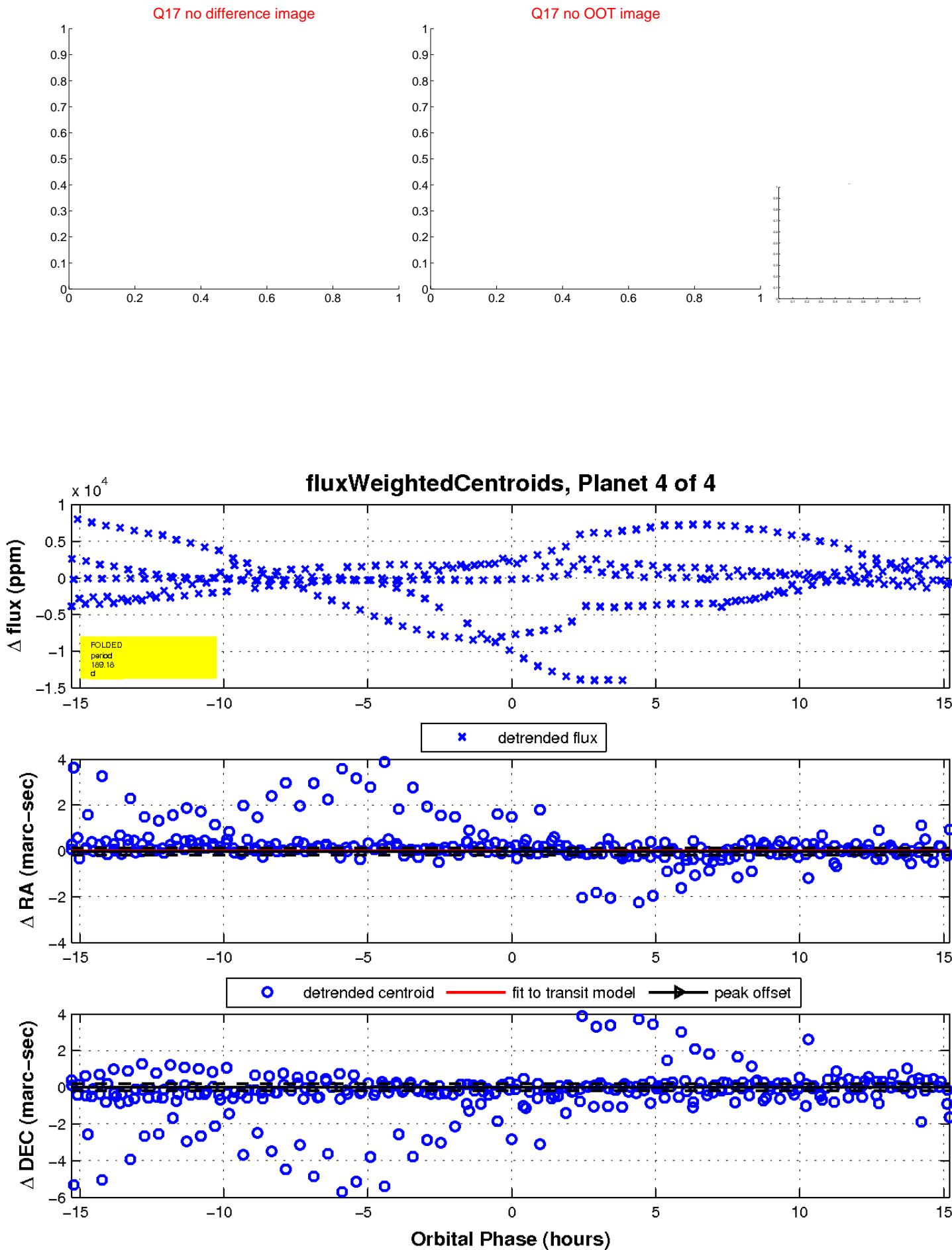
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

