

KIC 011615481

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})
011615481-01	OBS	7461.01	65.431764	144.171237	153046.2	12.263	1227.2	1060.4	1.04	6201	60.34	13.61
011615481-02	OBS	No	59.974816	165.752884	3294.4	0.670	26.6	0.4	1.04	6201	6.88	15.28
011615481-03	OBS	No	42.767932	157.592767	578.7	15.955	25.1	4.6	1.04	6201	4.85	23.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011615481-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—CENT_FEW_DIFFS
011615481-02	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
011615481-03	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

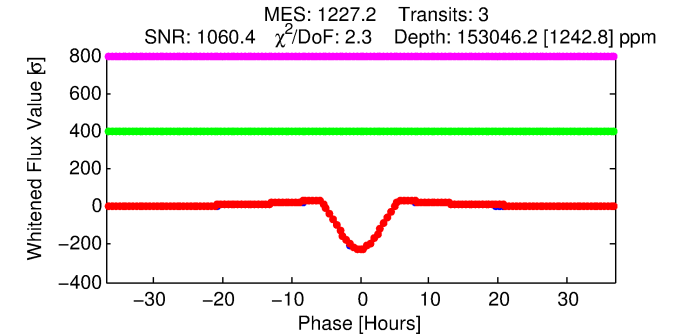
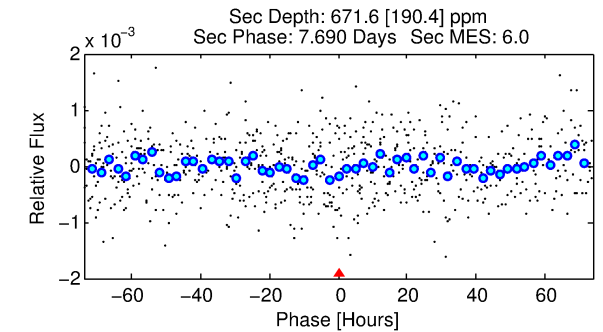
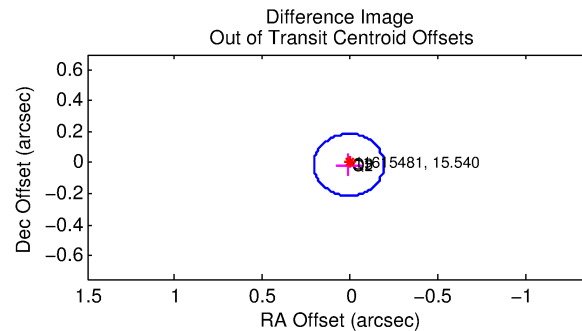
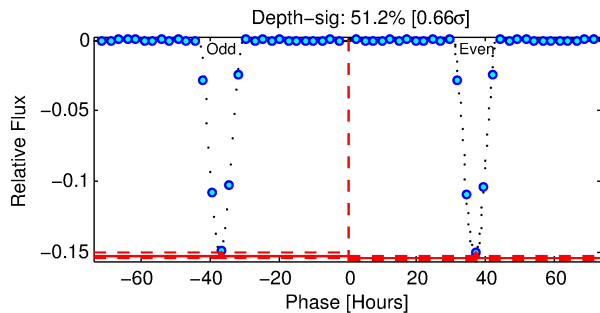
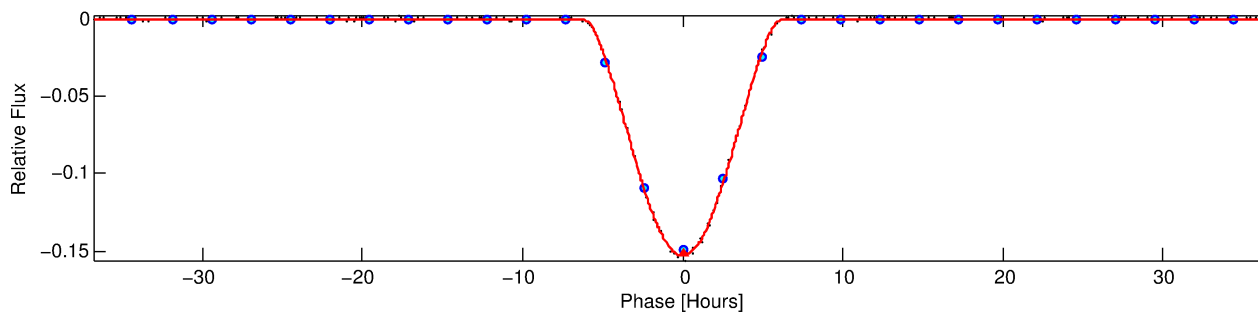
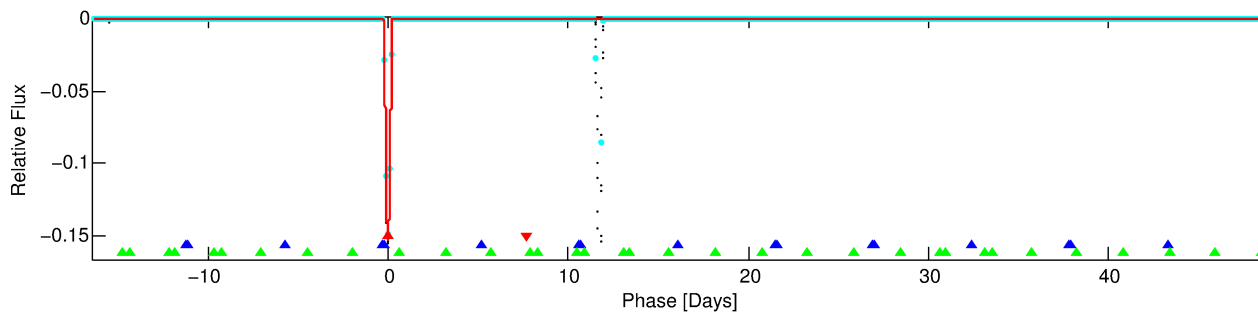
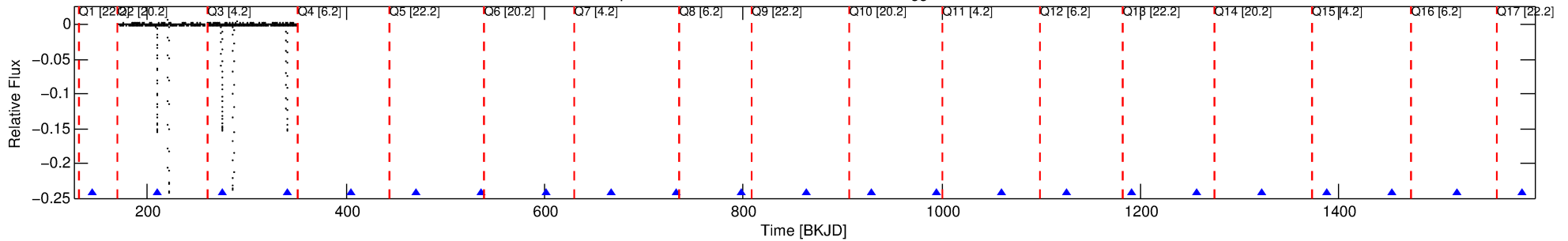
Ephemeris Match Information For 011615481-01

No Significant Match Found

DV One-Page Summary

KIC: 11615481 Candidate: 1 of 3 Period: 65.432 d
KOI: K07461.01 Corr: 1.000

Kp: 15.54 R*: 1.04 Rs Teff: 6201.0 K Logg: 4.43 Fe/H: -0.120



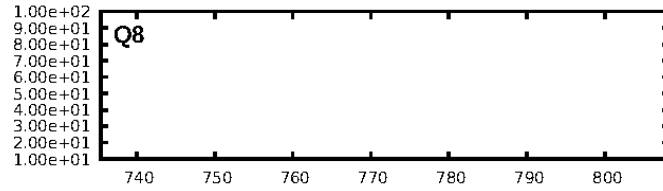
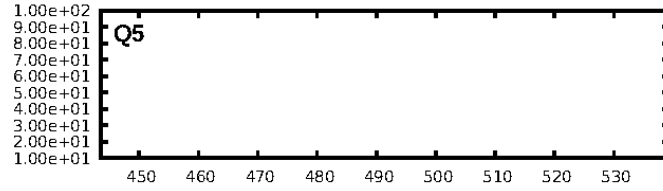
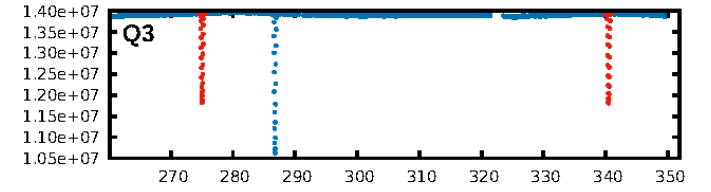
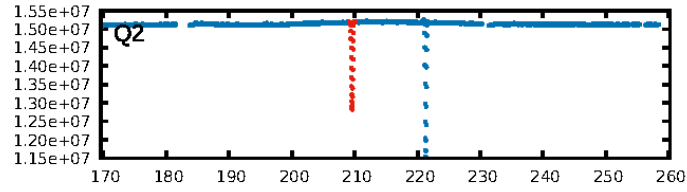
DV Fit Results:

Period = 65.43176 [0.00023] d
Epoch = 144.1712 [0.0005] BKJD
Rp/R* = 0.5317 [0.3312]
a/R* = 50.53 [3.15]
b = 0.90 [0.47]
Seff = 13.61 [5.81]
Teq = 490 [52] K
Rp = 60.34 [42.50] Re
a = 0.3245 [0.0893] AU
Ag = 10.69 [14.30] [0.68σ]
Teffp = 1369 [440] K [1.98σ]

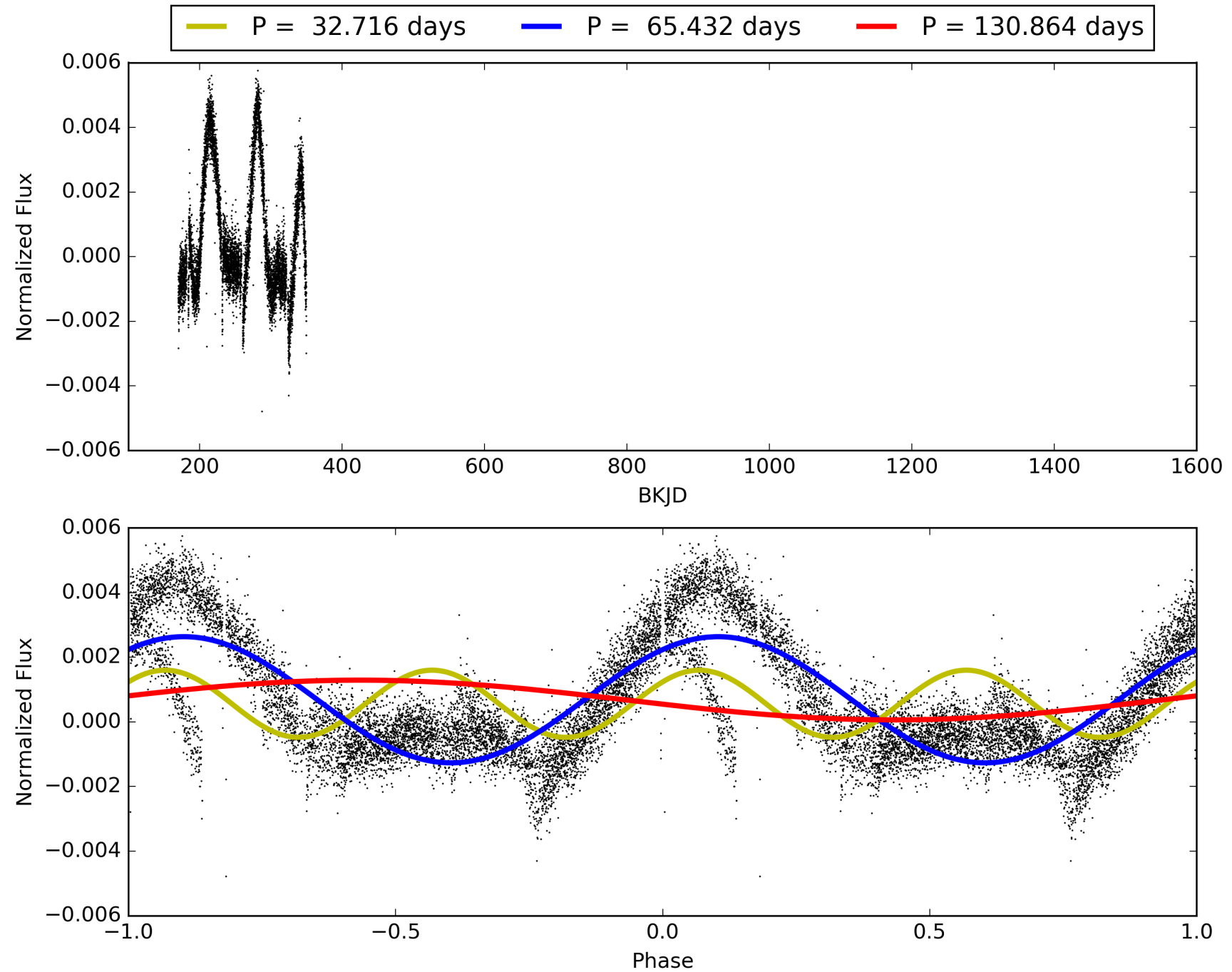
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [10.66σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 29.2%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 5.94
Centroid-sig: N/A
Centroid-so: 0.076 arcsec [6.80σ]
OotOffset-rm: 0.016 arcsec [0.23σ]
KicOffset-rm: 0.123 arcsec [1.60σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 011615481-01, PDC Light Curves

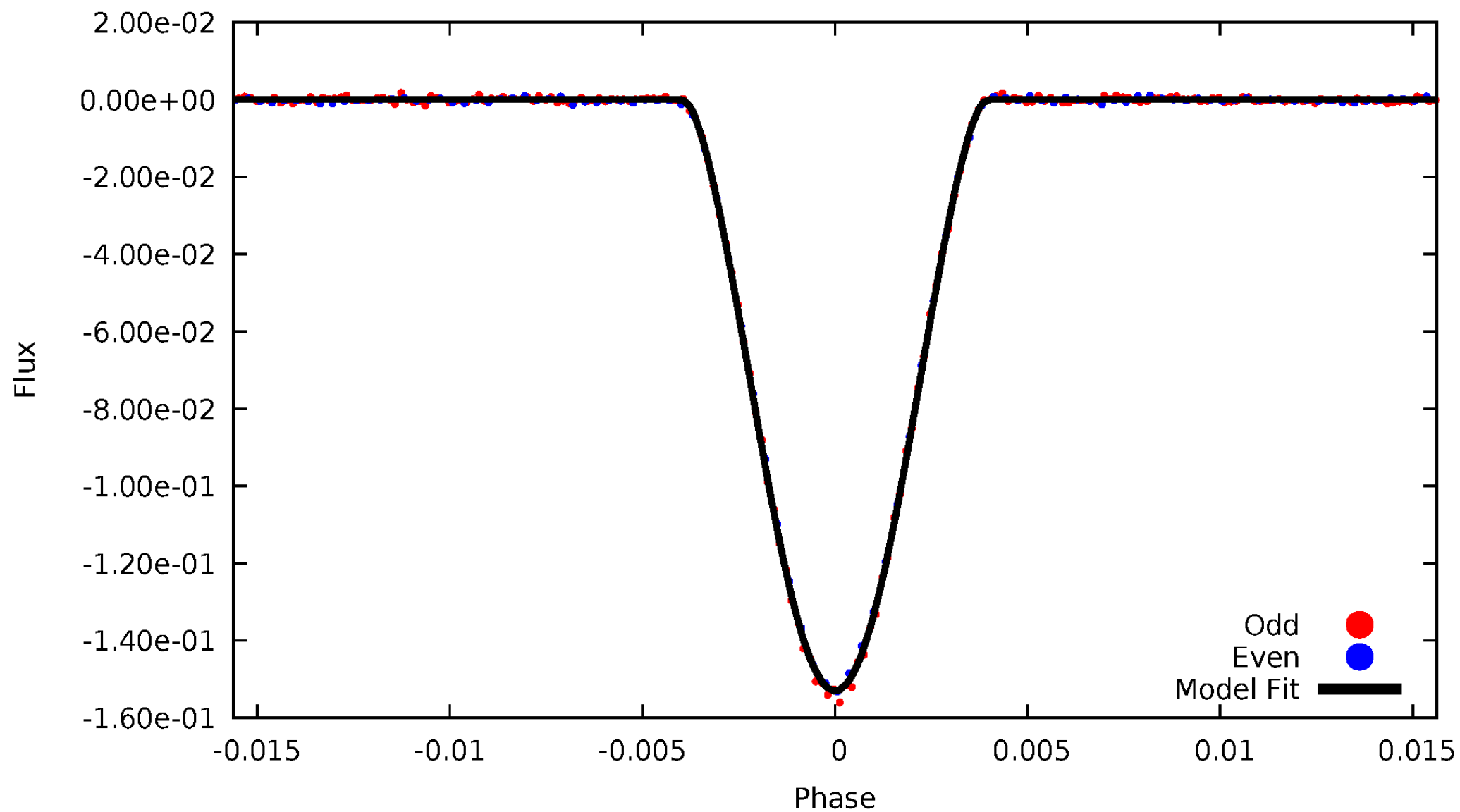


TCE 011615481-01



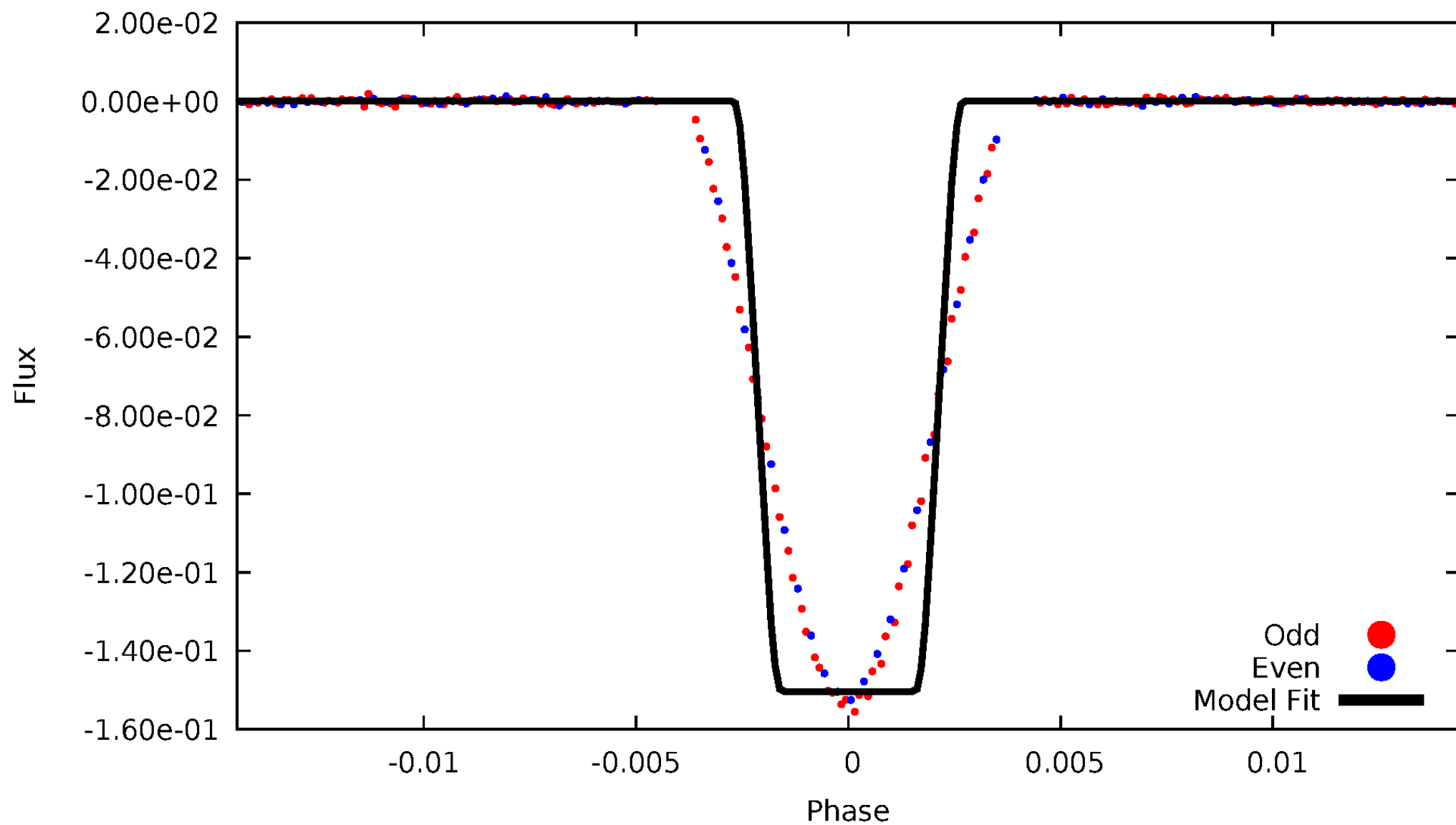
DV Odd/Even

TCE 011615481-01



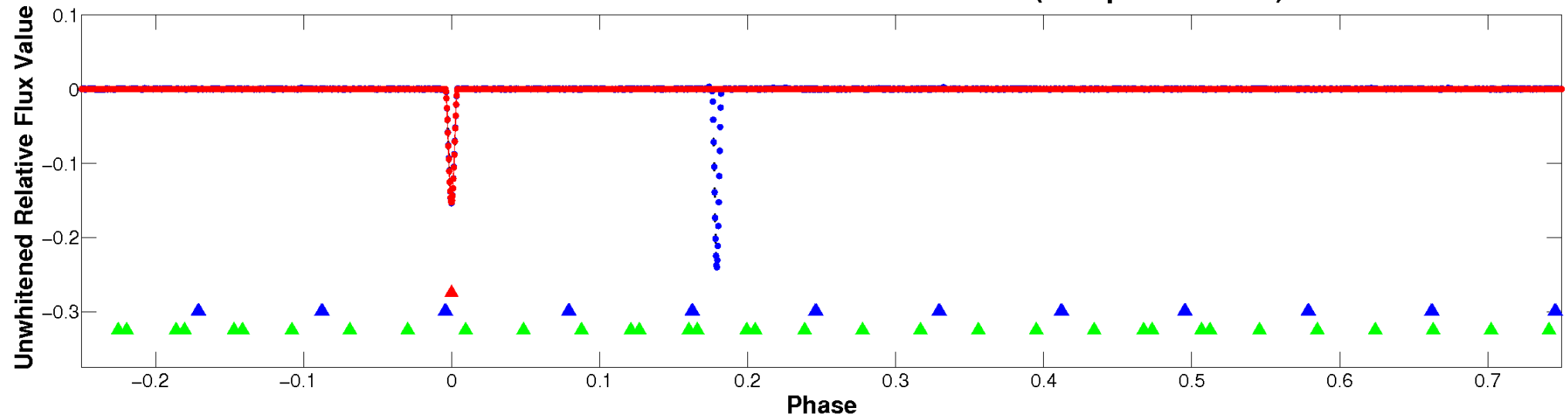
ALT Odd/Even

TCE 011615481-01

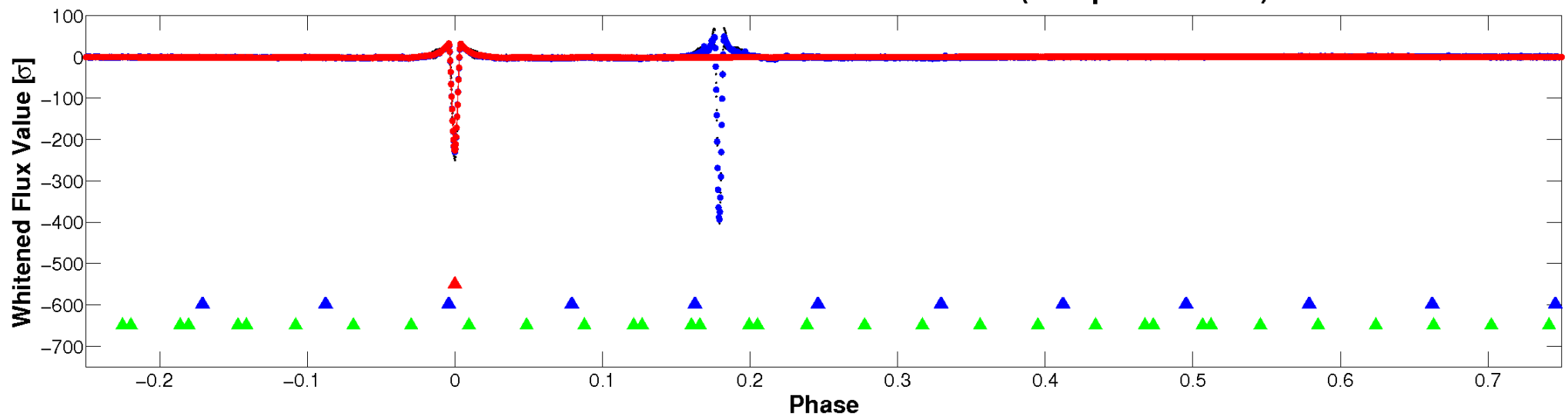


Non-Whitened Vs. Whitened Light Curve

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

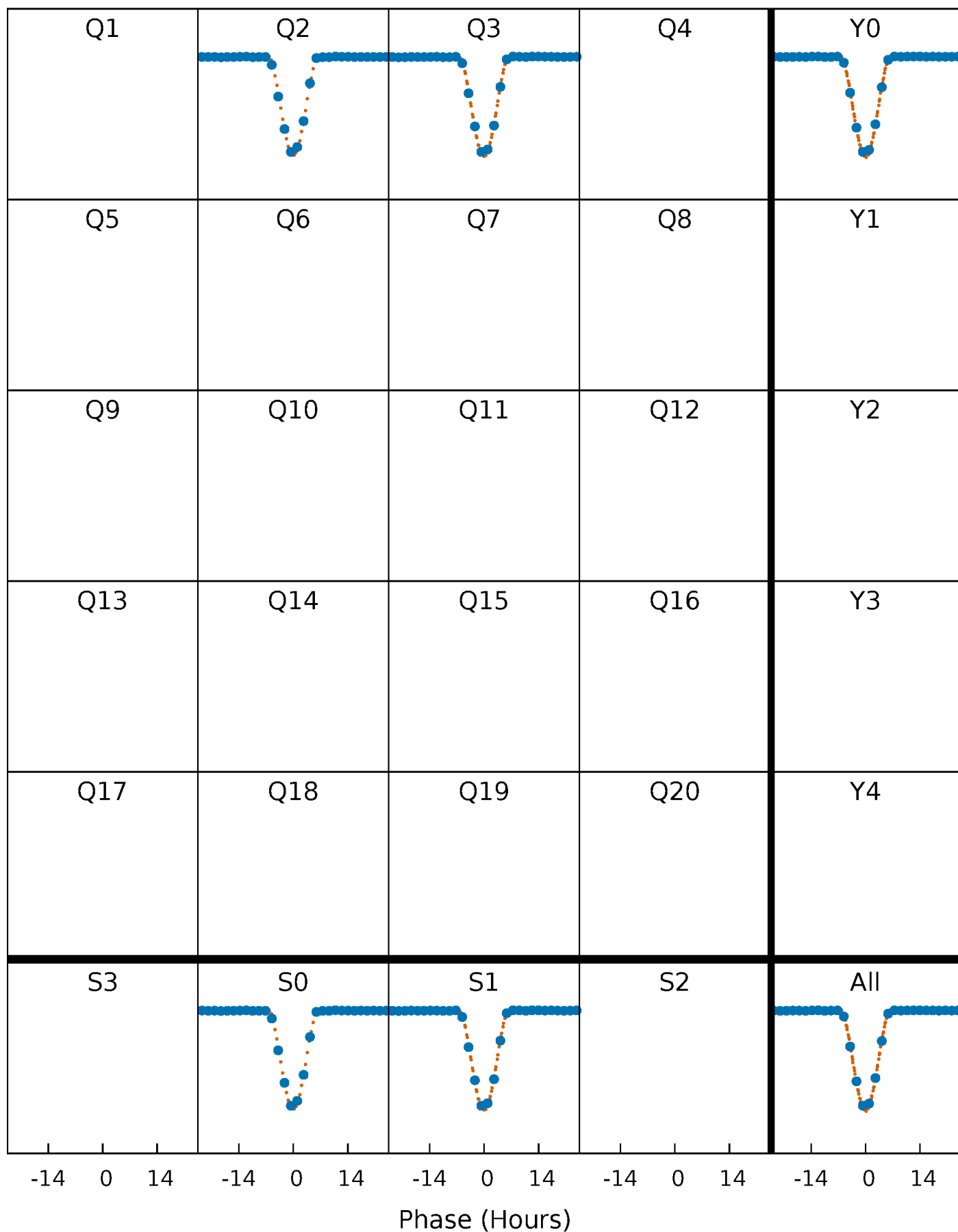


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



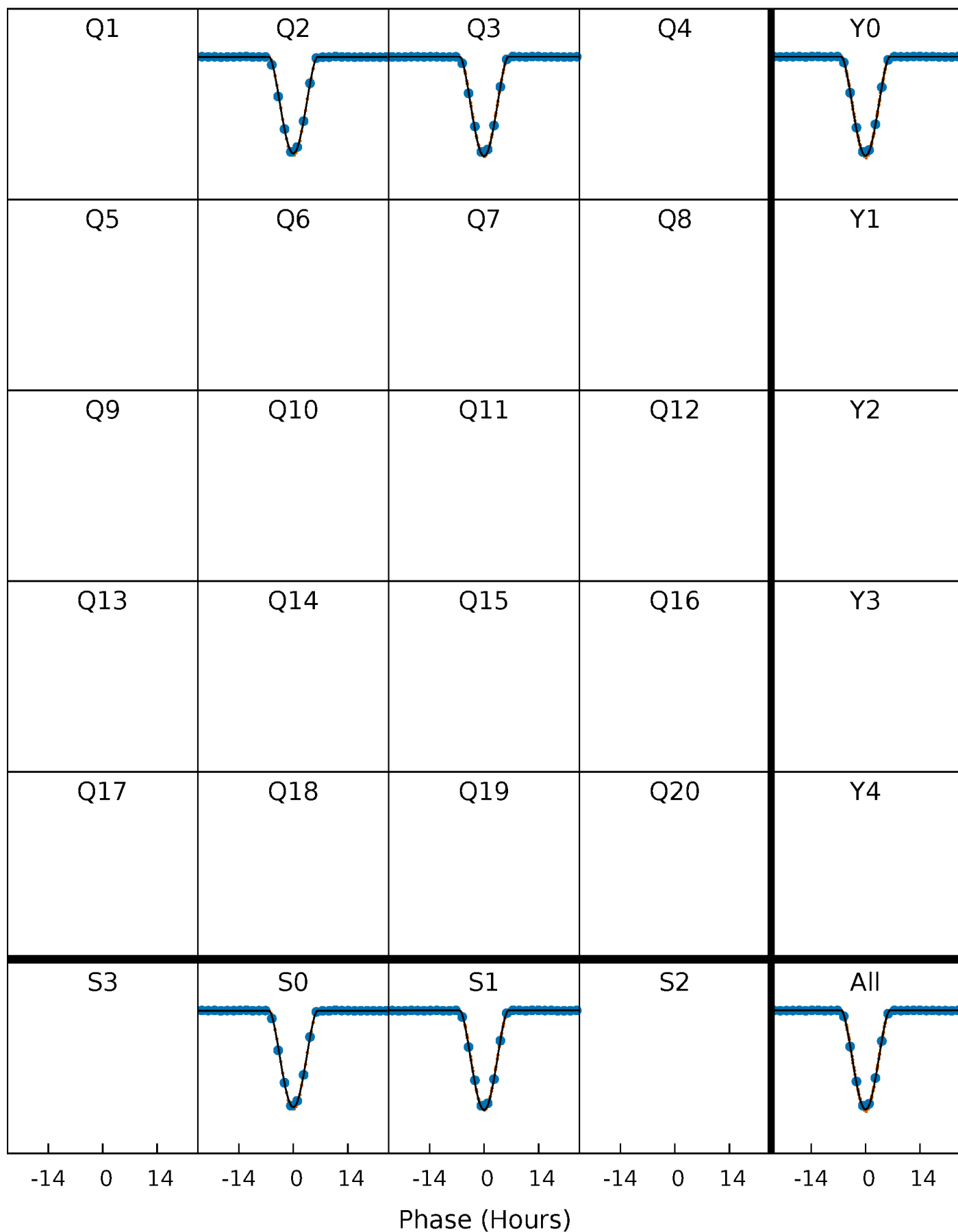
PDC Quarter-Phased Transit Curves

TCE 011615481-01 P= 65.431764 Days $T_0=144.171237$ (BKJD)



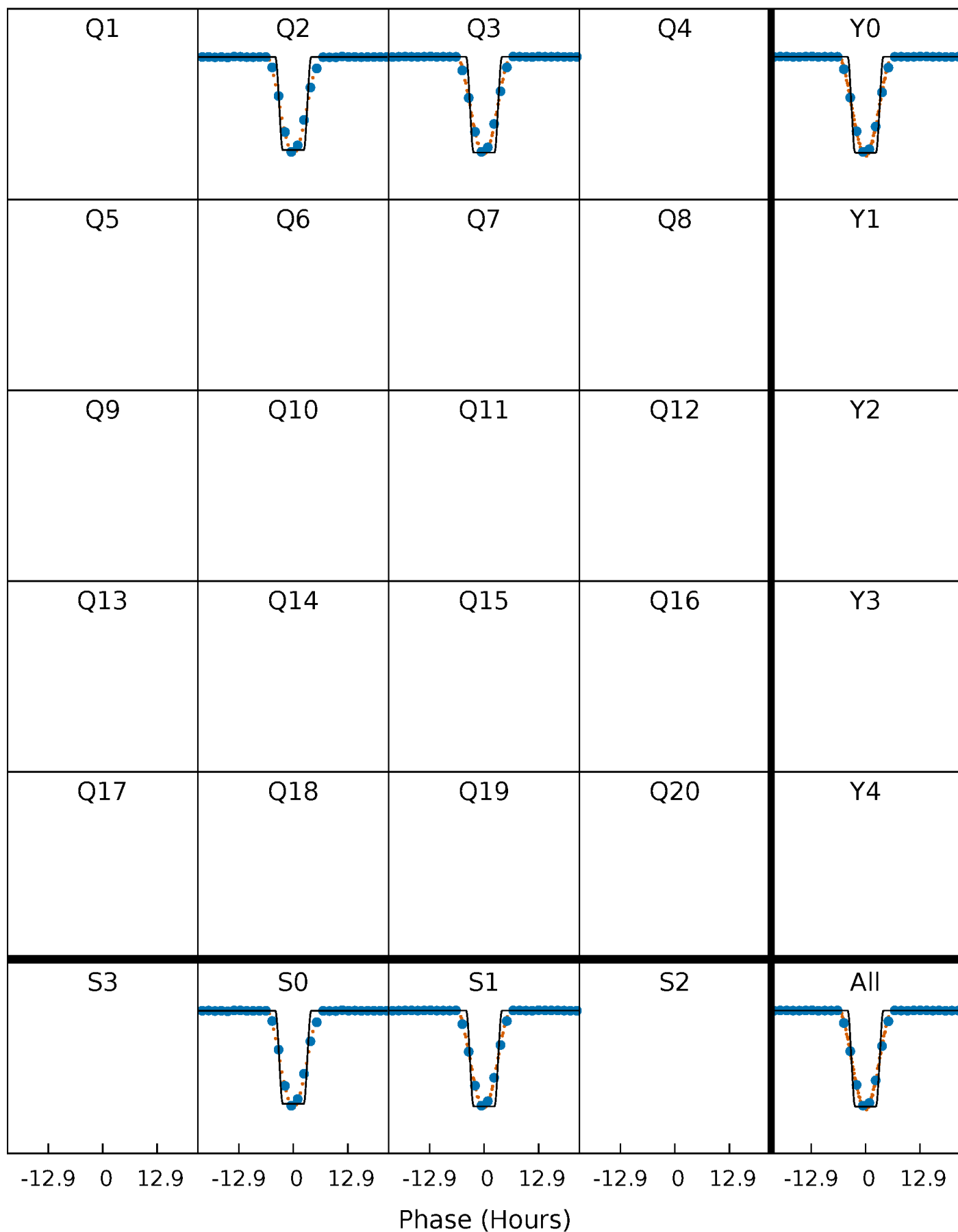
DV Quarter-Phased Transit Curves

TCE 011615481-01 P= 65.431764 Days $T_0=144.171237$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

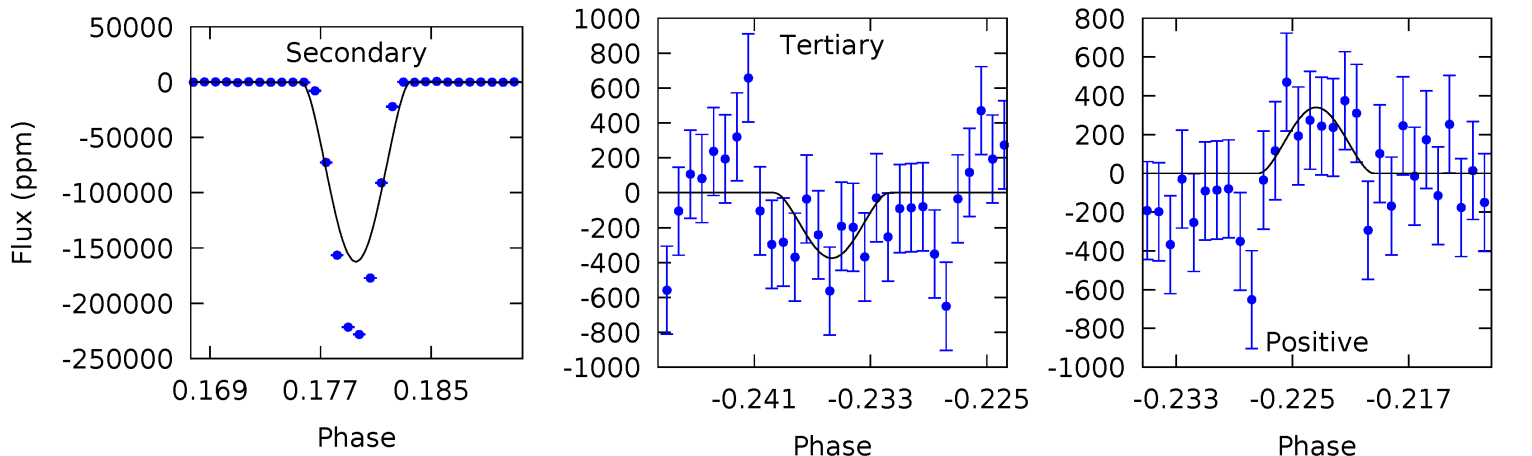
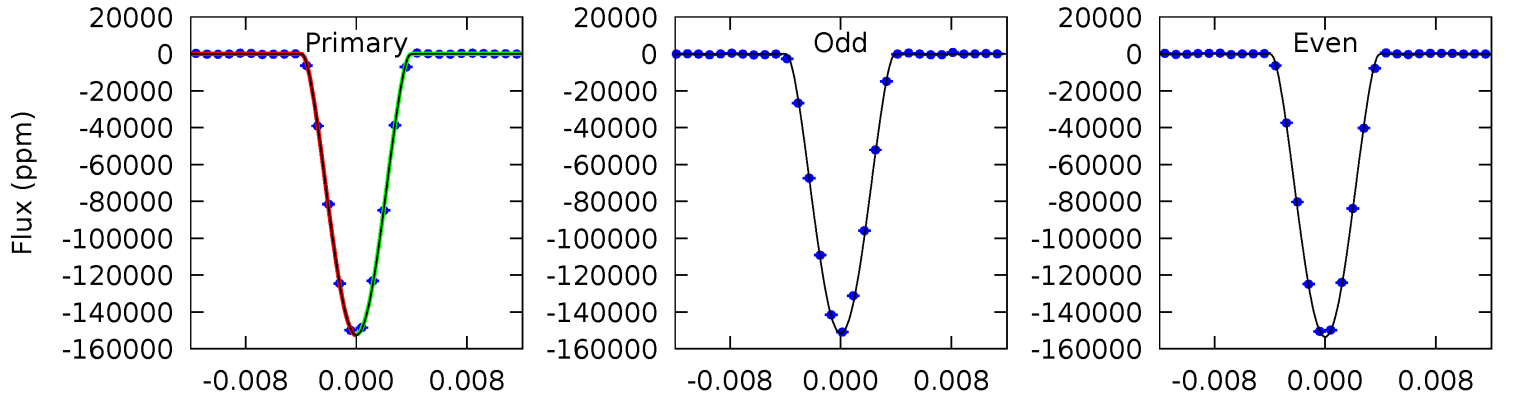
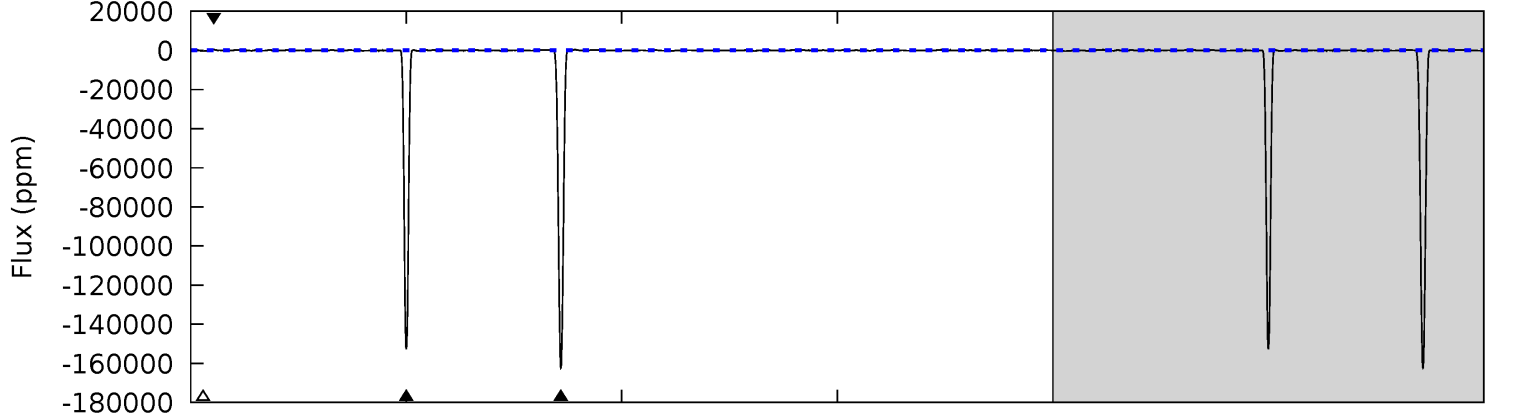
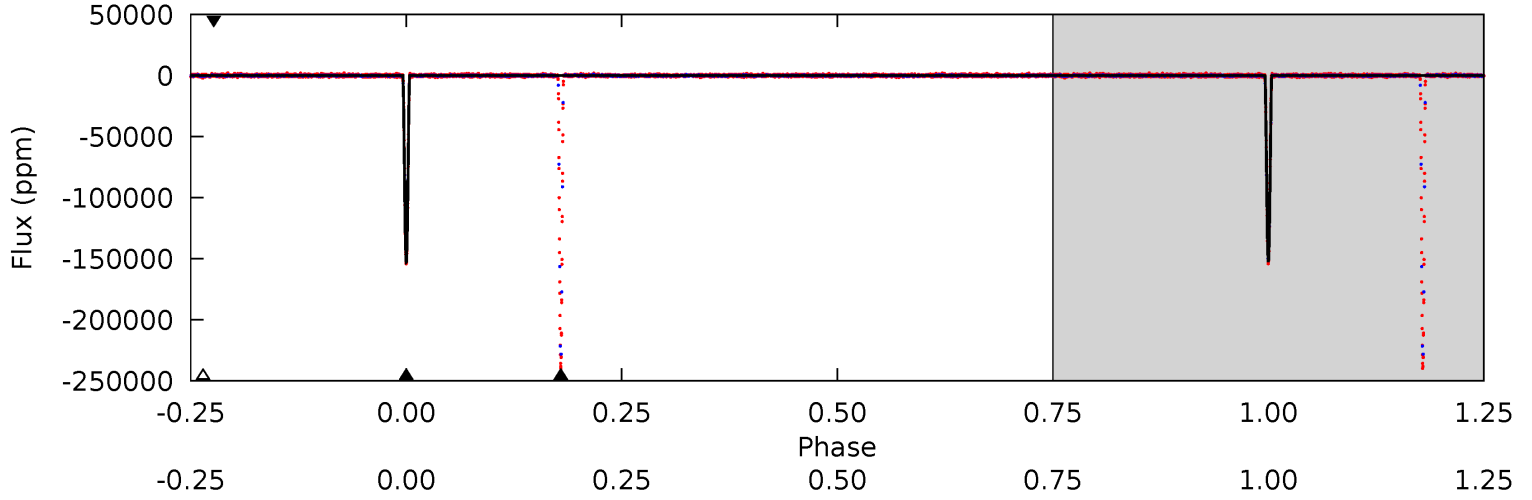
TCE 011615481-01 P= 65.433822 Days $T_0=144.167286$ (BKJD)



DV Model-Shift Uniqueness Test

011615481-01, P = 65.431764 Days, E = 144.171237 Days

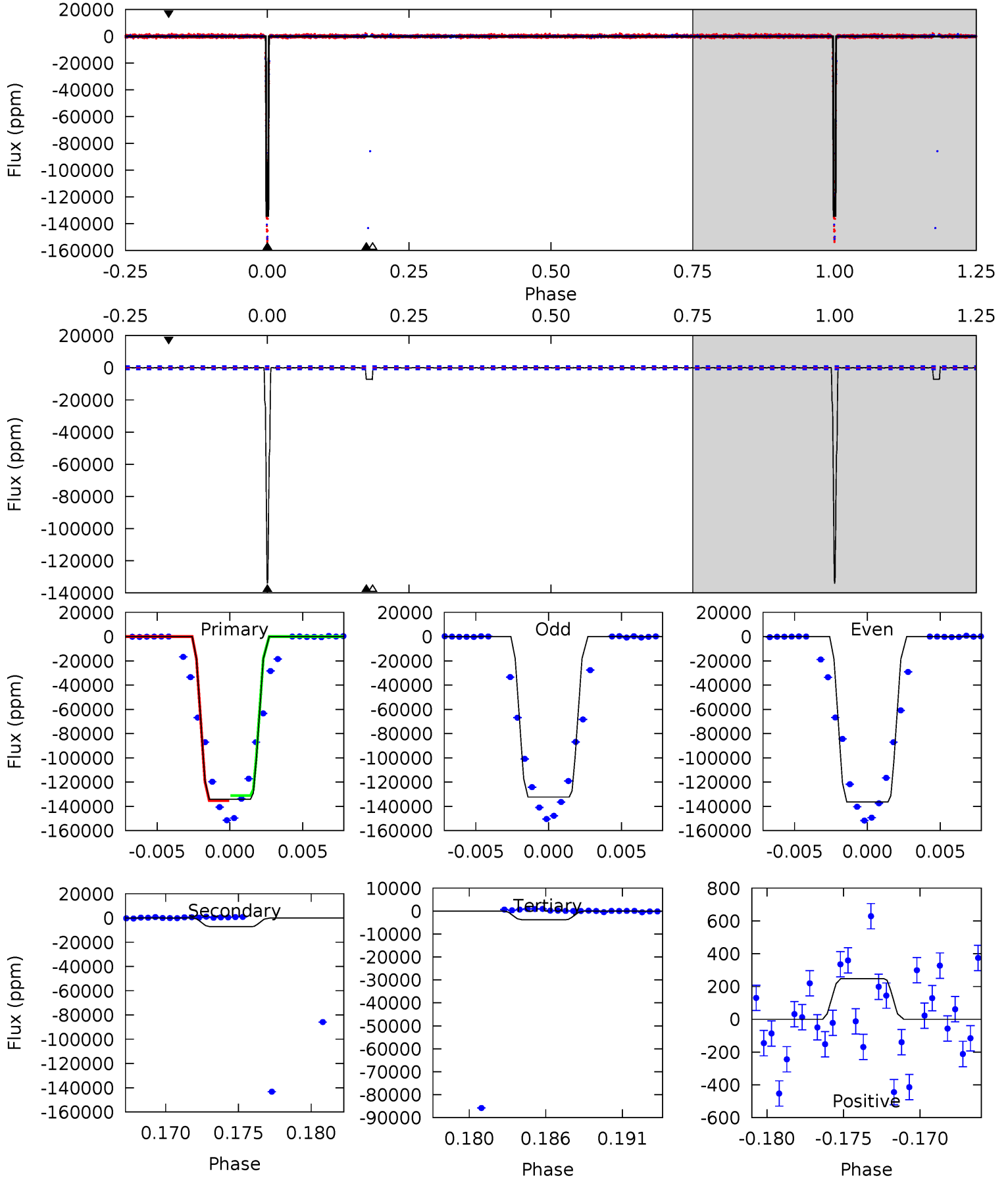
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2509	2668	6.16	5.59	5.07	2.65	1.99	2503	2503	2662	2662	15.3	1.00	0.00	3.43



Alt Model-Shift Uniqueness Test

011615481-01, P = 65.433822 Days, E = 144.167286 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
776.1	41.6	21.9	1.43	5.15	2.79	2.31	754.2	774.7	19.7	40.1	25.3	1.00	0.00	5.77



Stellar Parameters For KIC 011615481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6201^{+172}_{-237}	$4.431^{+0.072}_{-0.217}$	$-0.120^{+0.250}_{-0.350}$	$1.040^{+0.342}_{-0.122}$	$1.059^{+0.168}_{-0.137}$	$1.326^{+0.409}_{-0.740}$
	+3%/-4%	+2%/-5%	+208%/-292%	+33%/-12%	+16%/-13%	+31%/-56%
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 011615481-01 / KOI 7461.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-162314±61	$68.18^{+38.32}_{-37.59}$	693^{+55}_{-34}	5439^{+2857}_{-874}	2420^{+9063}_{-1415}
Alt.	-7184±173	$49.00^{+38.98}_{-29.52}$	696^{+53}_{-40}	3309^{+1283}_{-481}	171^{+930}_{-117}

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 $A_{obs} \gg 1.0$

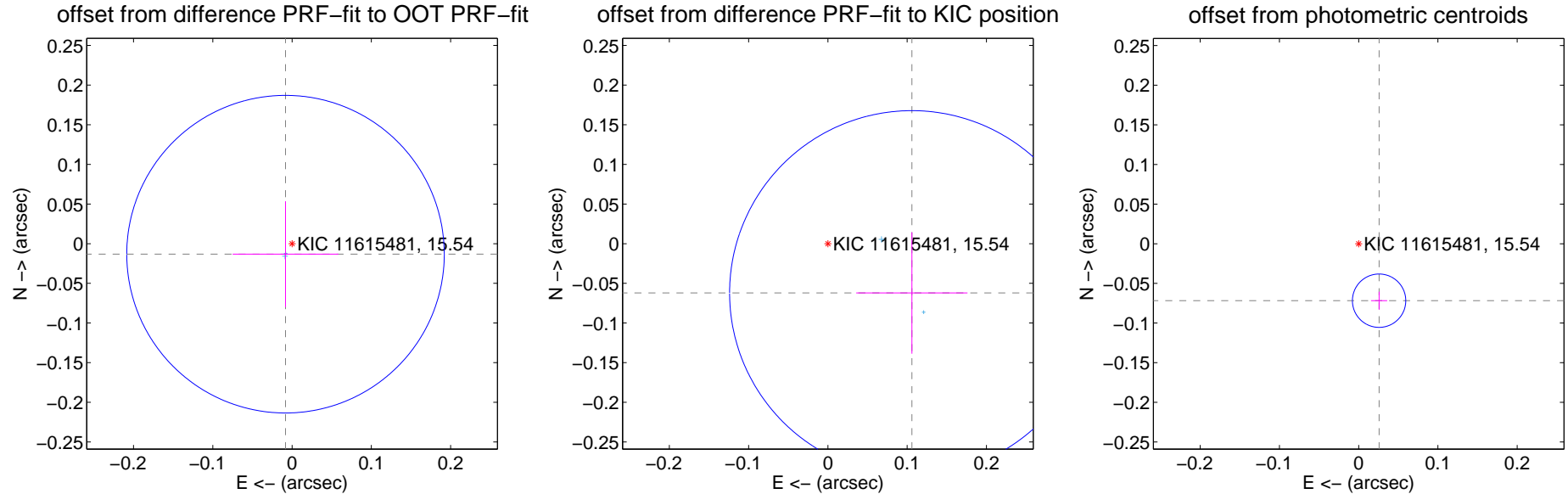
DV Centroid Data

Supplemental centroid analysis for 011615481-01. Kepler magnitude: 15.54. Transit SNR 1060.43

There are 2 quarters with good PRF difference image offsets

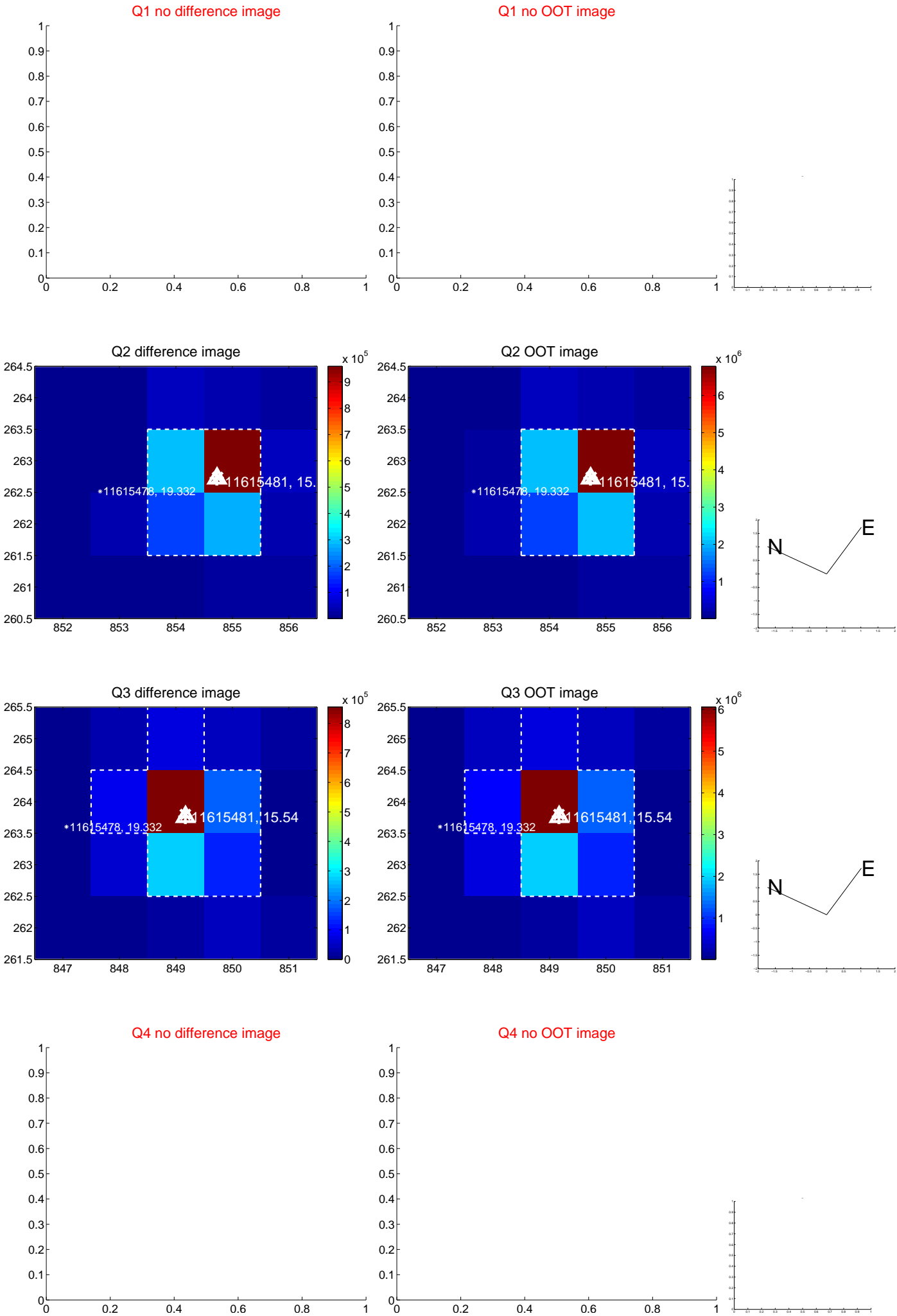
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.016 ± 0.067	0.23	0.008 ± 0.067	-0.013 ± 0.067
PRF-fit source offset from KIC position	0.123 ± 0.077	1.60	-0.106 ± 0.070	-0.062 ± 0.077
photometric centroid source offset	0.08 ± 0.01	6.80	-0.03 ± 0.01	-0.07 ± 0.01



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

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



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



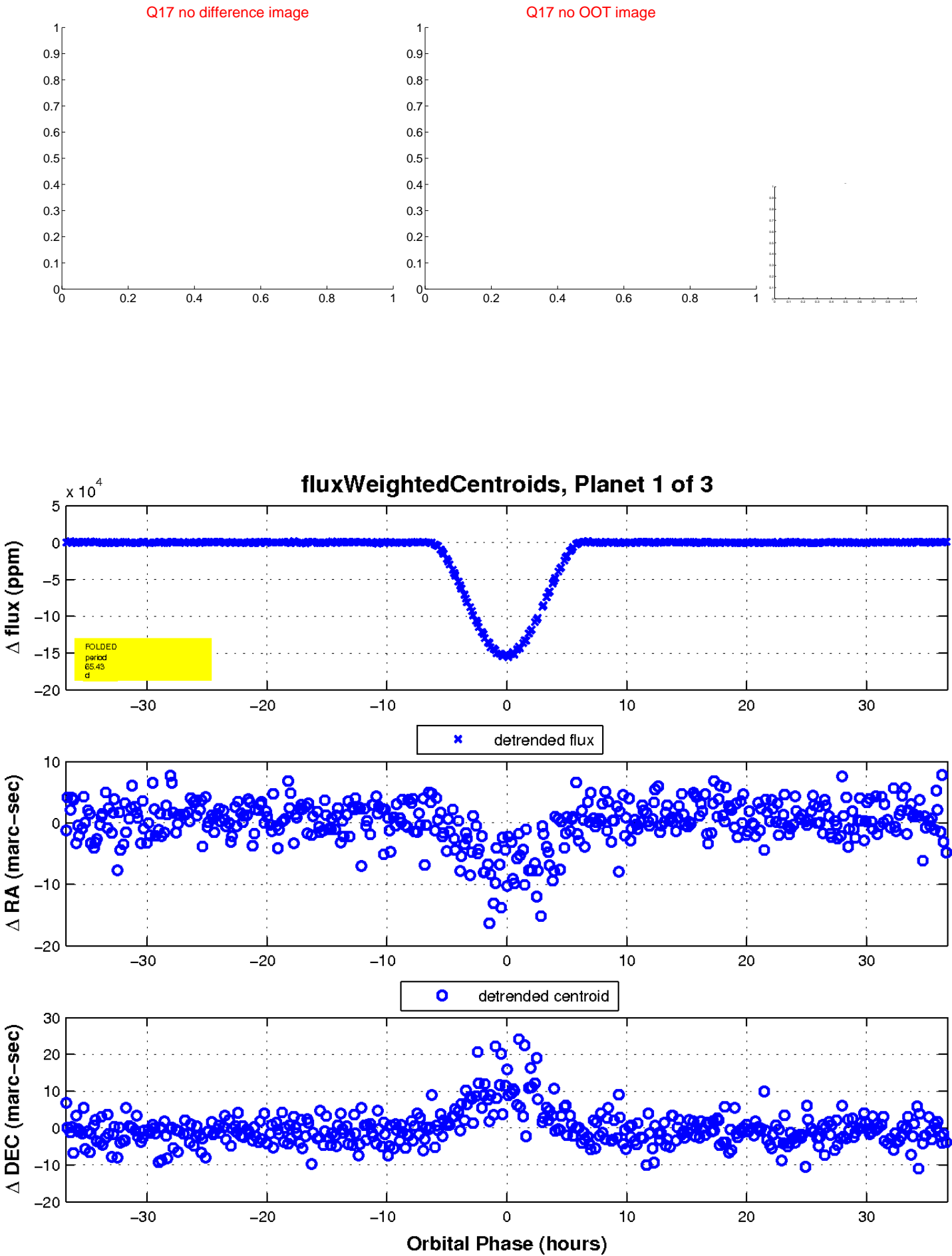
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



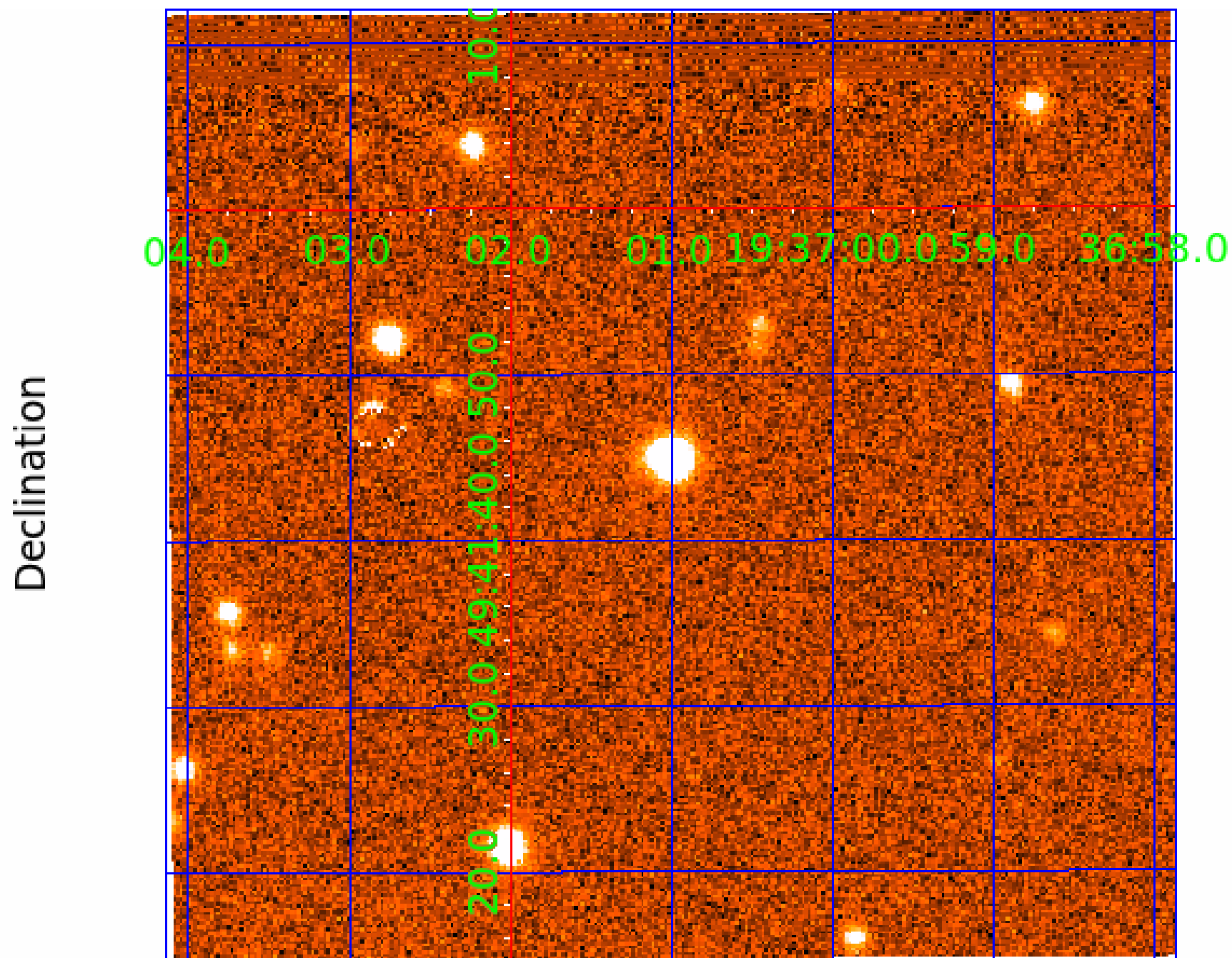
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



KIC 011615481

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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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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011615481-02	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
011615481-03	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

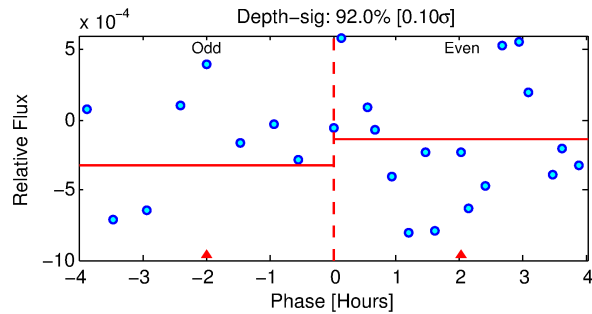
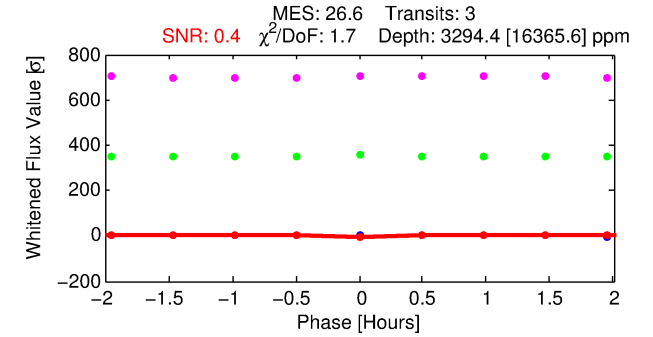
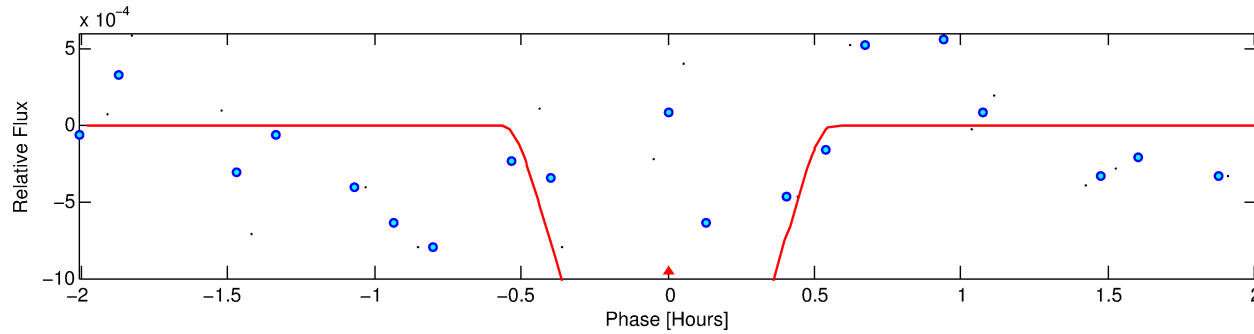
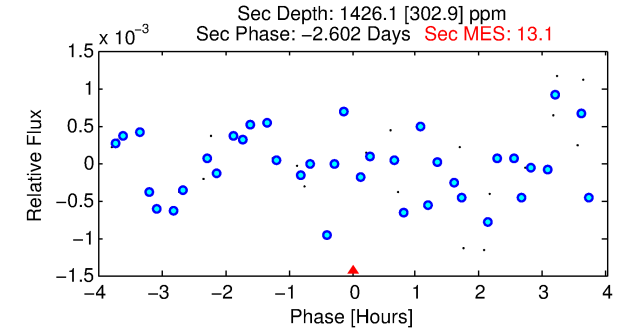
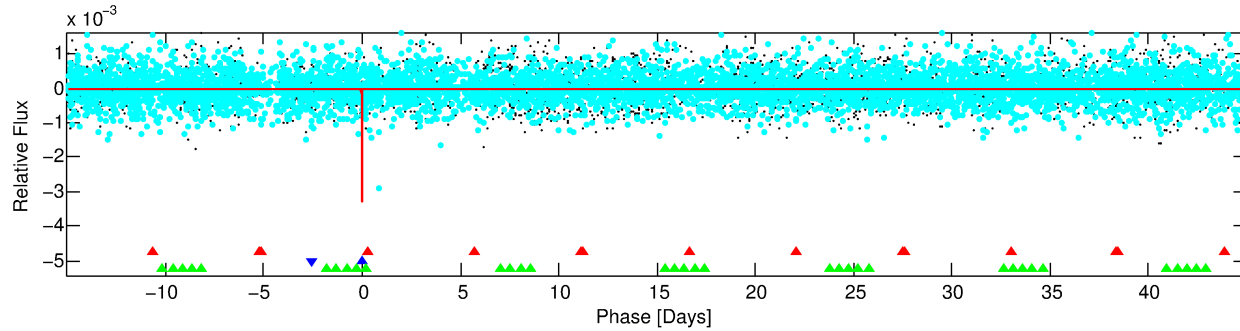
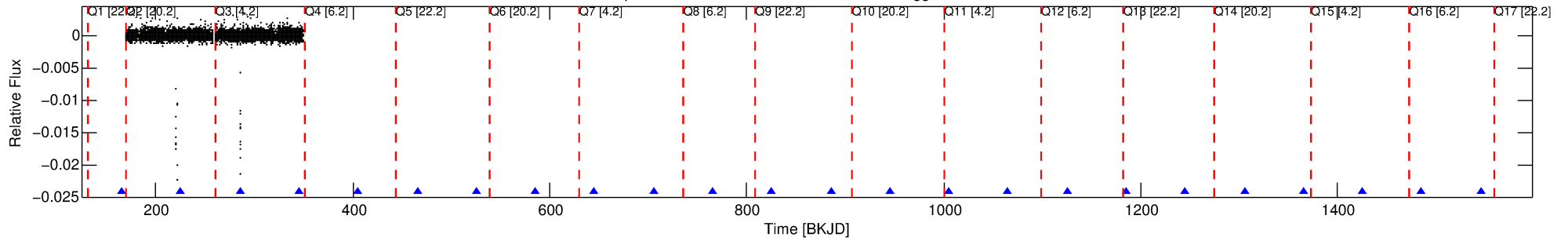
Ephemeris Match Information For 011615481-02

No Significant Match Found

DV One-Page Summary

KIC: 11615481 Candidate: 2 of 3 Period: 59.975 d
KOI: K07461 Corr: No Ephemeris Match

Kp: 15.54 R*: 1.04 Rs Teff: 6201.0 K Logg: 4.43 Fe/H: -0.120



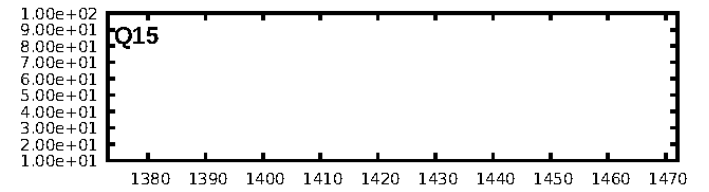
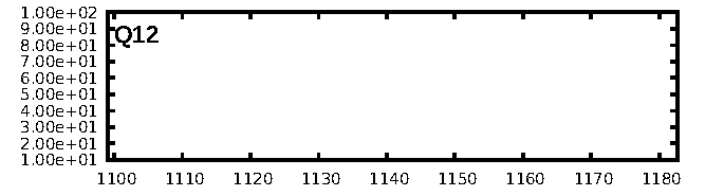
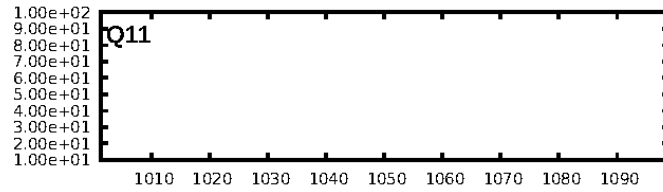
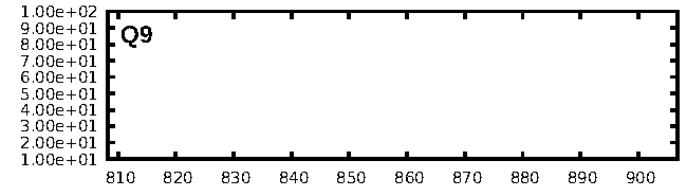
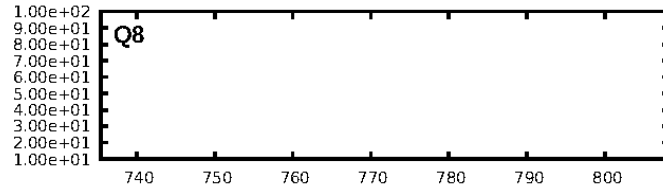
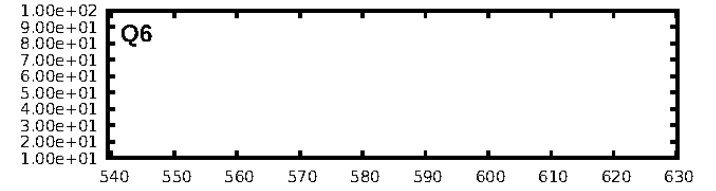
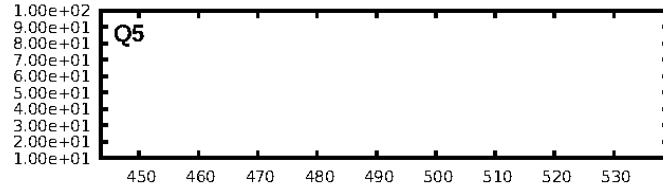
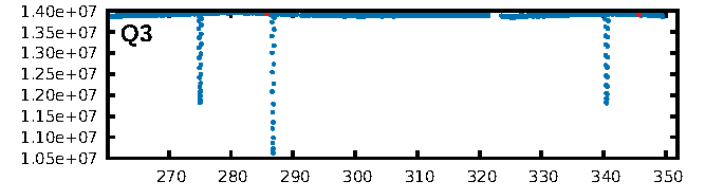
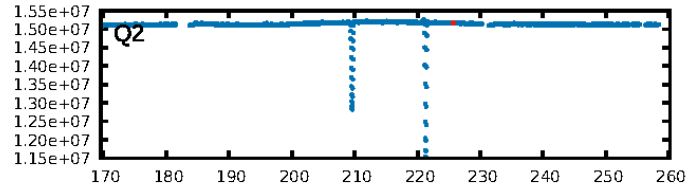
DV Fit Results:

Period = 59.97482 [0.02648] d
Epoch = 165.7529 [0.0162] BKJD
Rp/R* = 0.0606 [0.5693]
a/R* = 461.94 [12740.84]
b = 0.82 [13.69]
Seff = 15.28 [6.53]
Teq = 504 [54] K
Rp = 6.88 [64.65] Re
a = 0.3062 [0.0843] AU
Ag = 1556.08 [29254.25] [0.05σ]
Teffp = 4896 [23004] K [0.19σ]

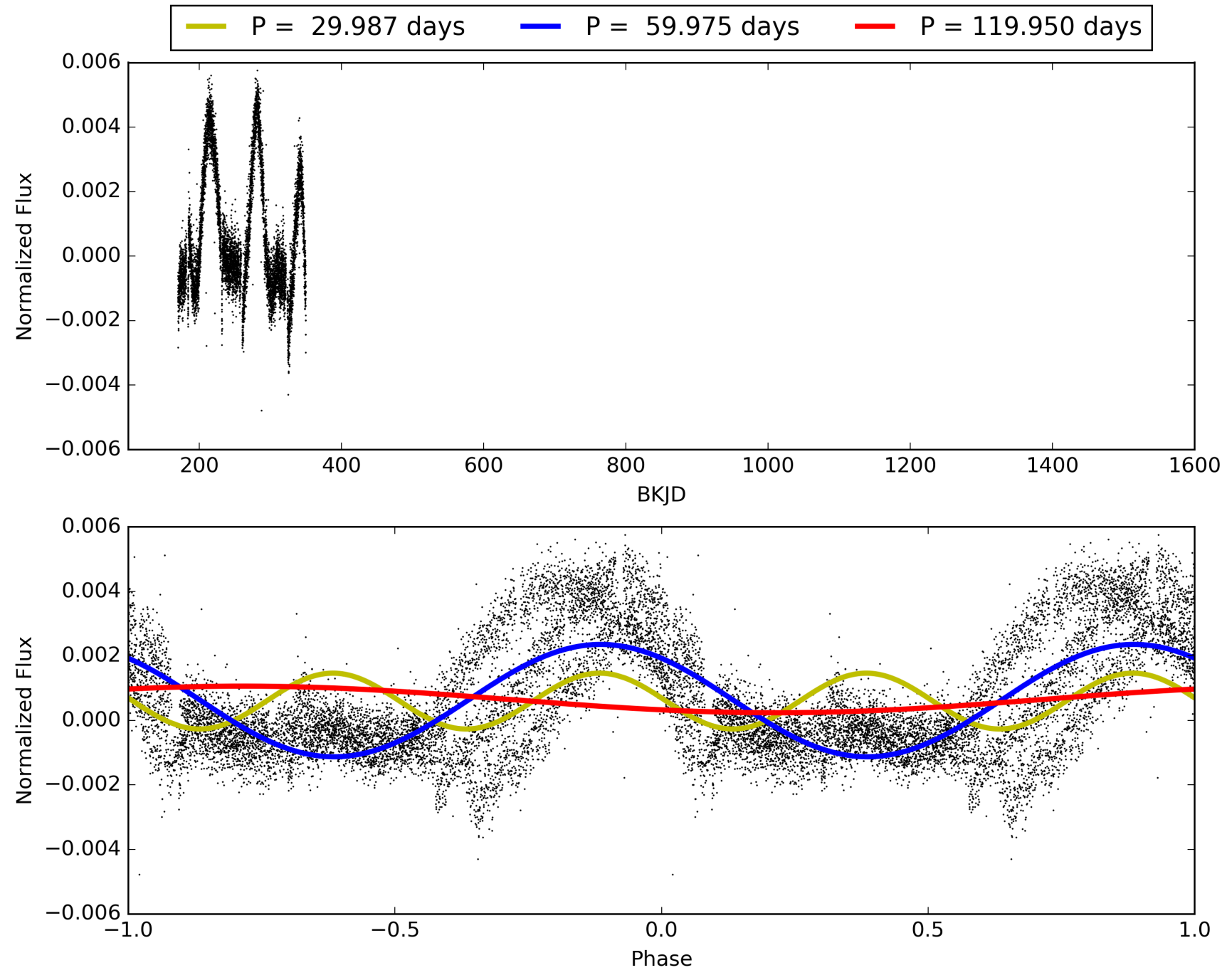
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [25.86σ]
LongPeriod-sig: 100.0% [10.66σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.77e-107
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.06
Centroid-sig: N/A
Centroid-so: 1.099 arcsec [0.68σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [2/2]

TCE 011615481-02, PDC Light Curves

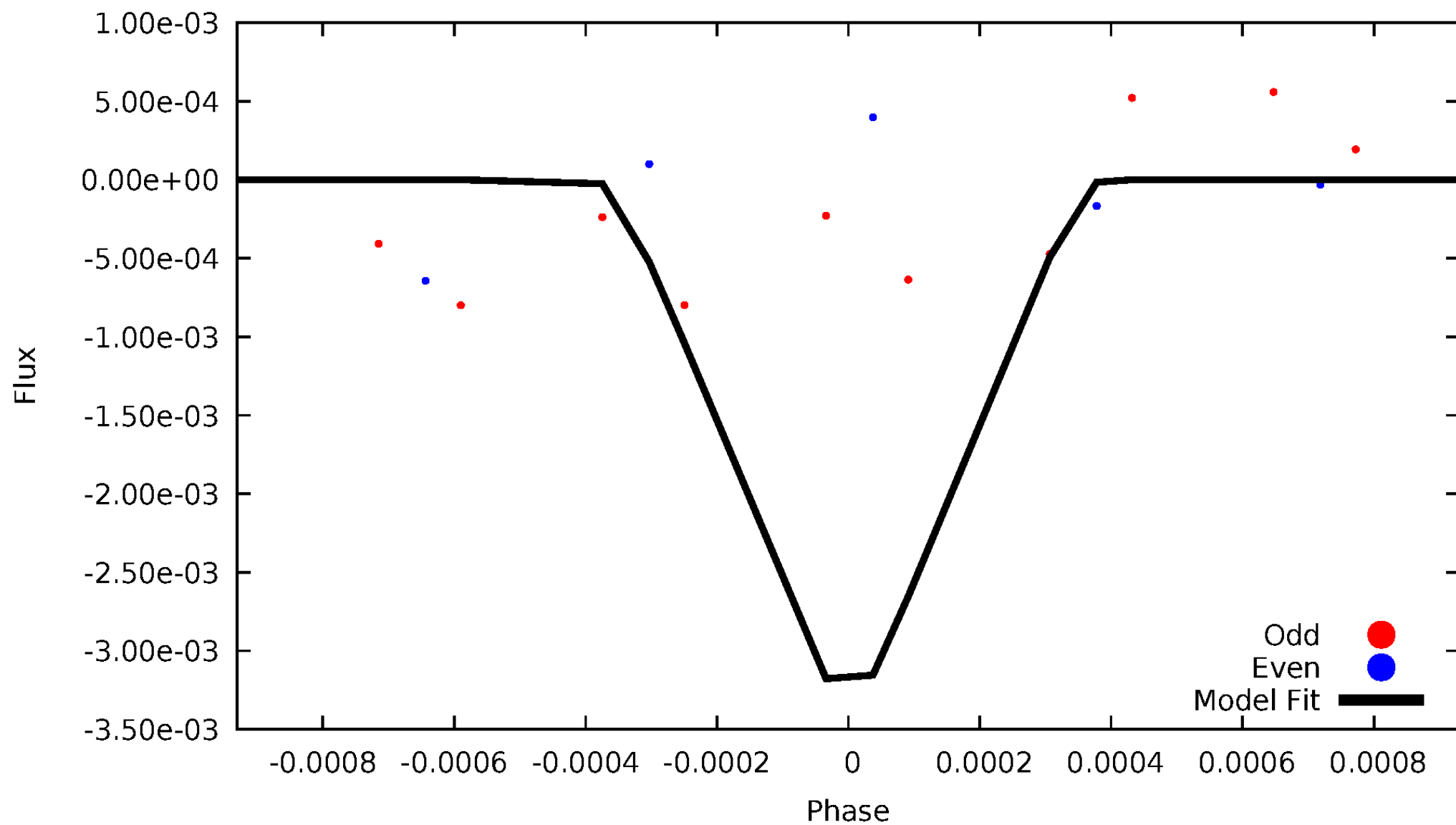


TCE 011615481-02



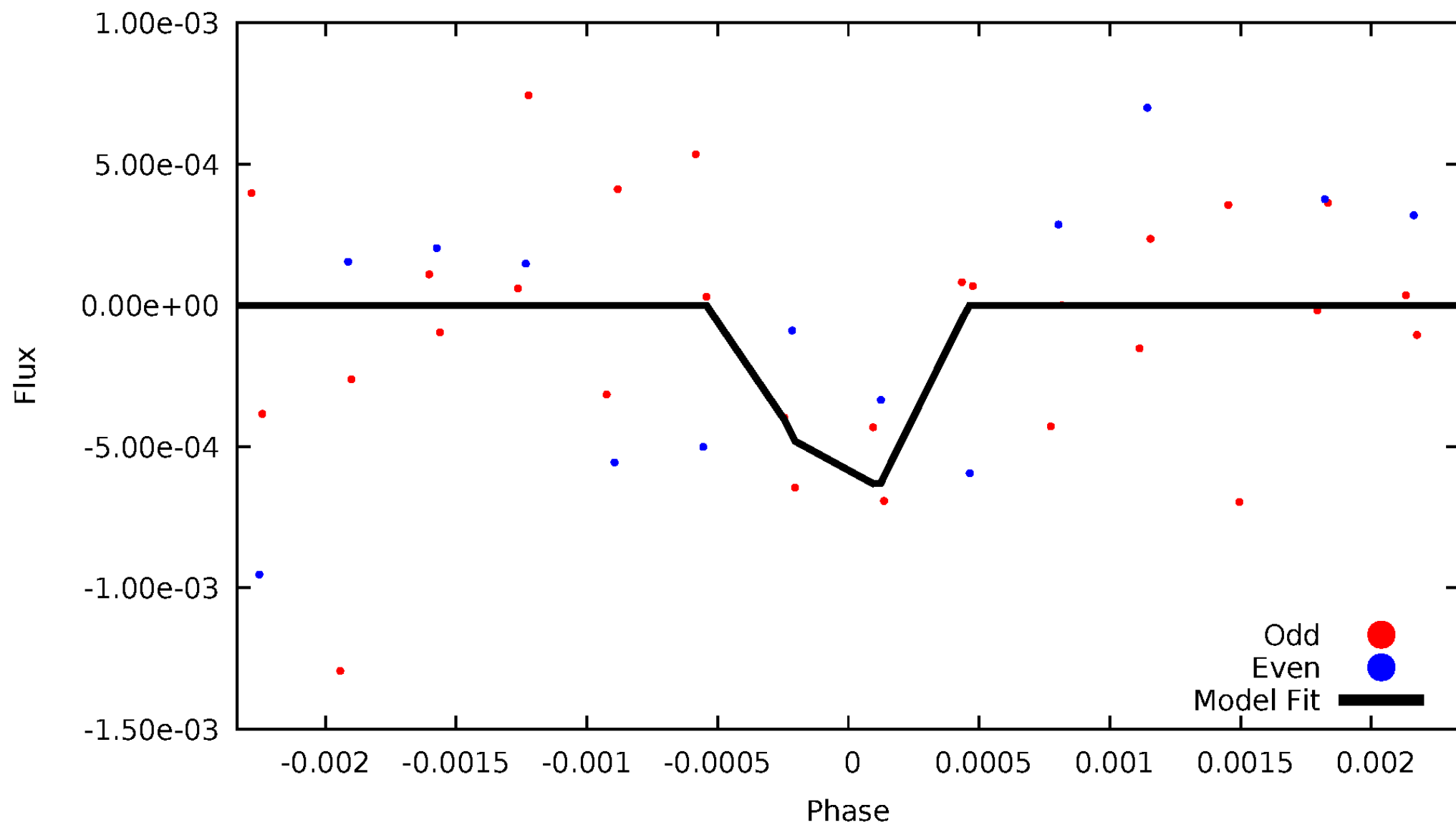
DV Odd/Even

TCE 011615481-02



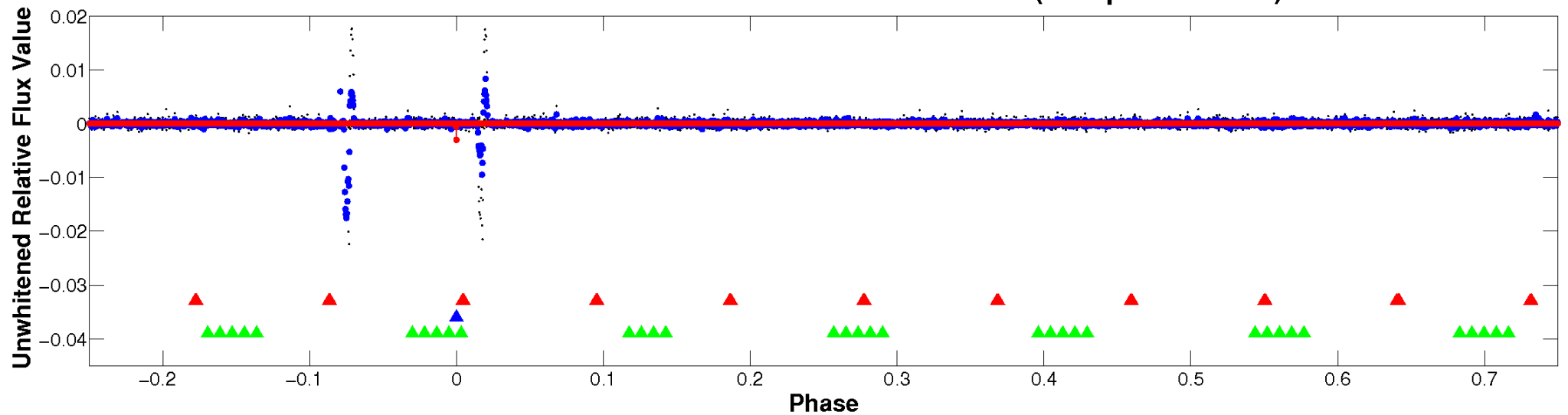
ALT Odd/Even

TCE 011615481-02

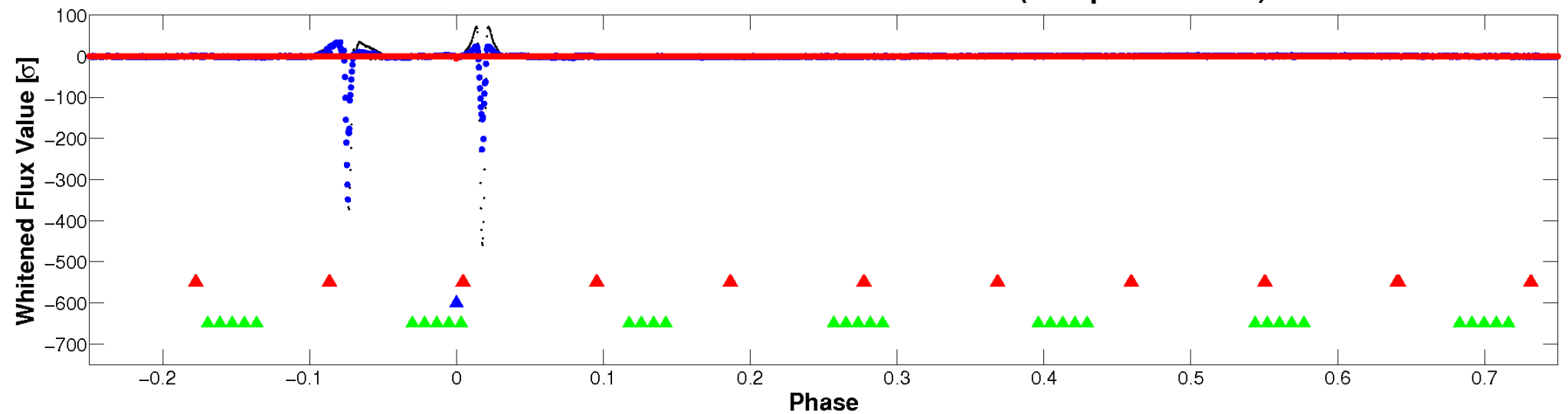


Non-Whitened Vs. Whitened Light Curve

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

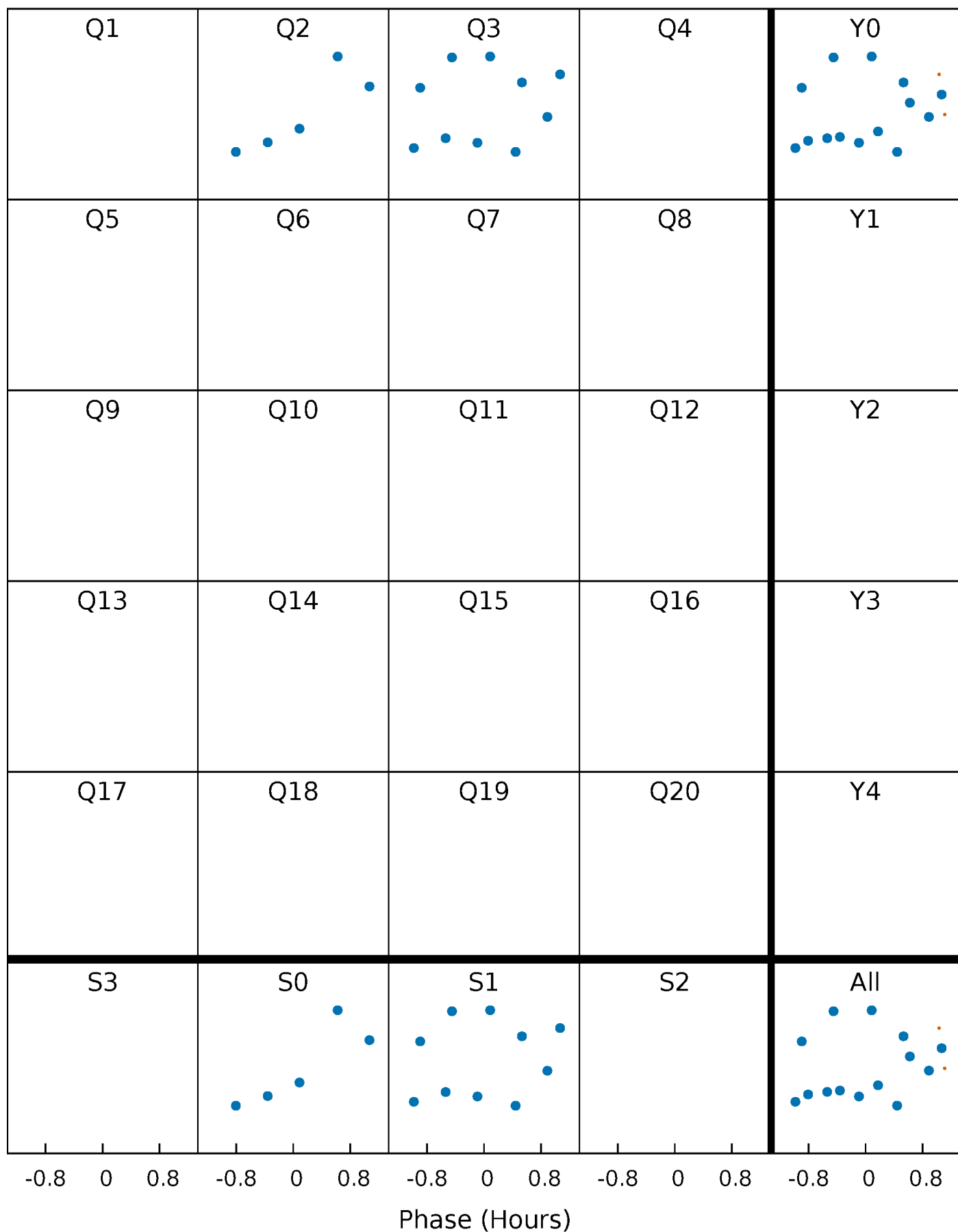


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



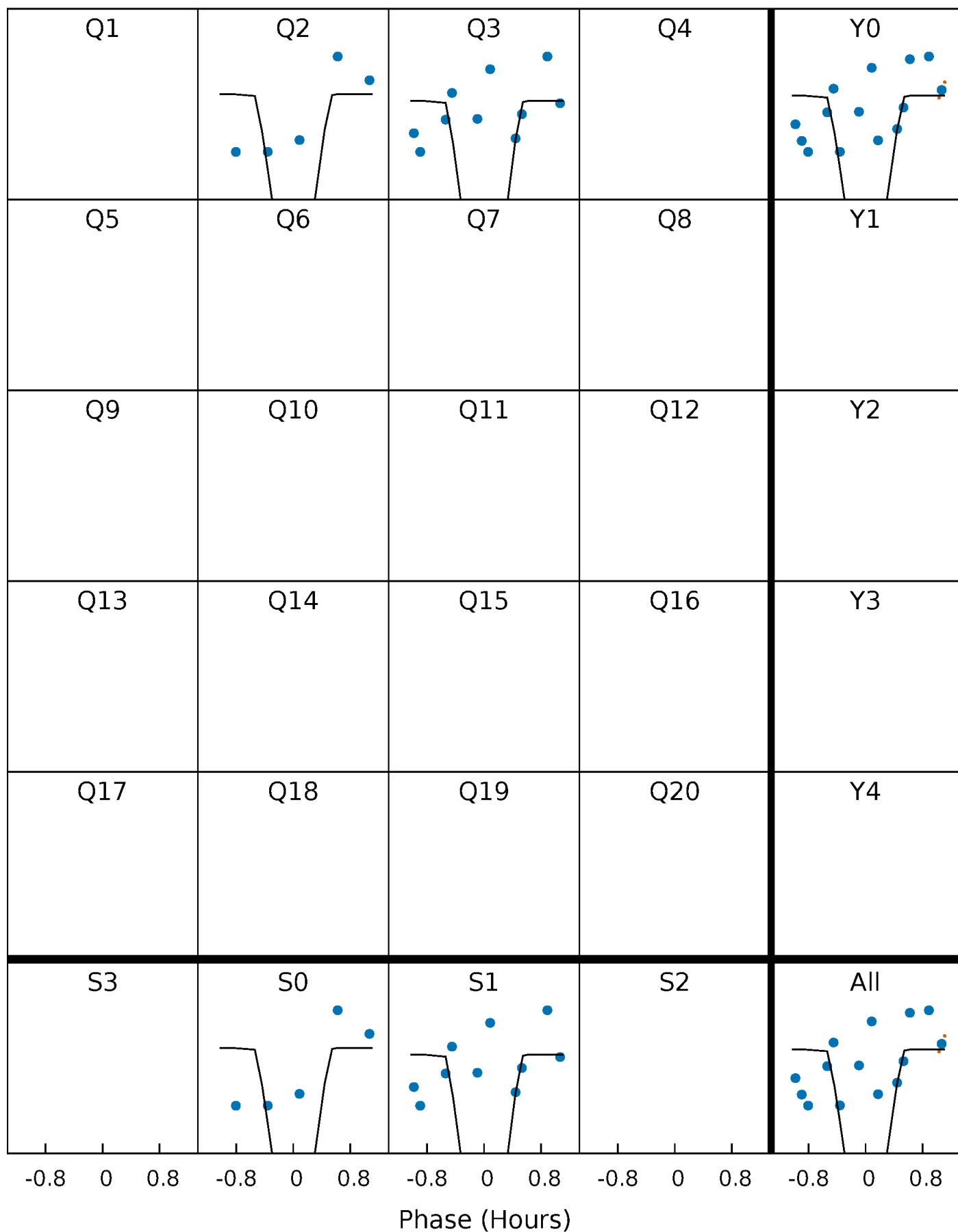
PDC Quarter-Phased Transit Curves

TCE 011615481-02 P= 59.974816 Days $T_0=165.752884$ (BKJD)



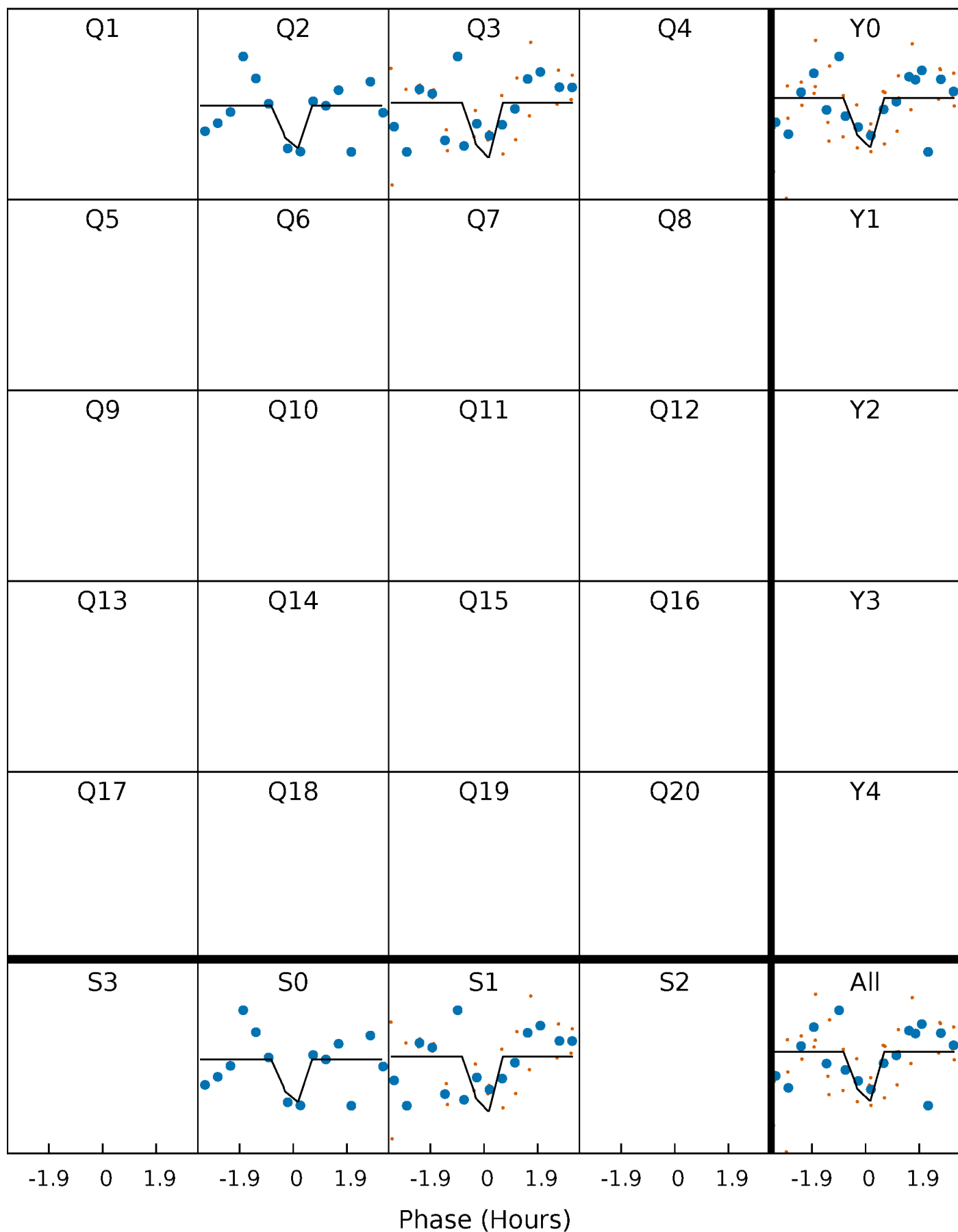
DV Quarter-Phased Transit Curves

TCE 011615481-02 P= 59.974816 Days $T_0=165.752884$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

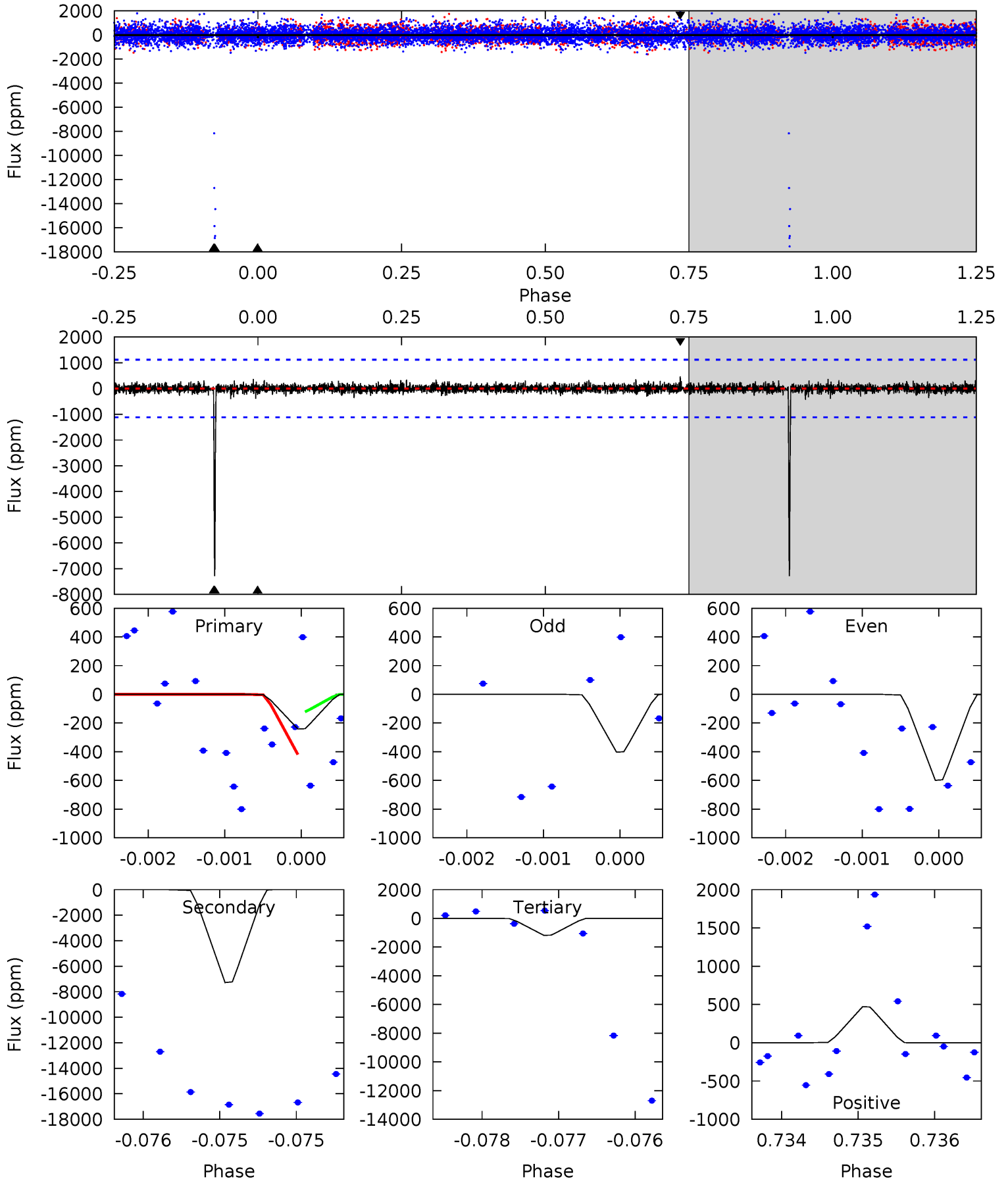
TCE 011615481-02 P= 60.176635 Days $T_0=165.650499$ (BKJD)



DV Model-Shift Uniqueness Test

011615481-02, P = 59.974816 Days, E = 165.752884 Days

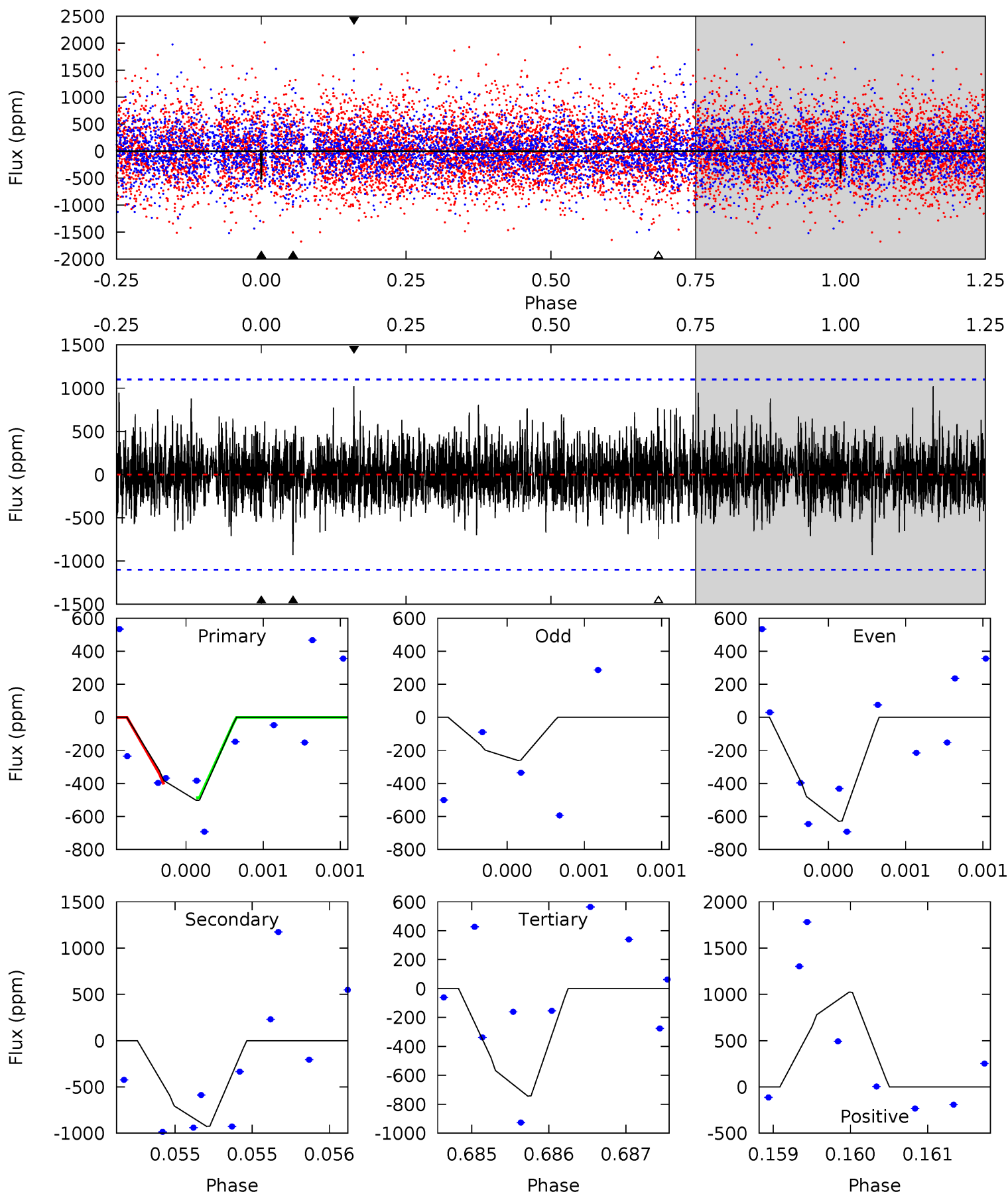
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.19	35.8	5.80	2.32	5.50	3.37	0.59	-4.61	-1.13	30.0	33.5	0.28	0.99	0.06	0.74



Alt Model-Shift Uniqueness Test

011615481-02, P = 60.176635 Days, E = 165.650499 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.52	4.64	3.73	5.13	5.51	3.39	1.16	-1.21	-2.61	0.91	-0.49	0.88	1.05	0.52	0.19



Stellar Parameters For KIC 011615481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6201^{+172}_{-237}	$4.431^{+0.072}_{-0.217}$	$-0.120^{+0.250}_{-0.350}$	$1.040^{+0.342}_{-0.122}$	$1.059^{+0.168}_{-0.137}$	$1.326^{+0.409}_{-0.740}$
	+3%/-4%	+2%/-5%	+208%/-292%	+33%/-12%	+16%/-13%	+31%/-56%
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 011615481-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7280 ± 203	$46.27^{+52.87}_{-33.73}$	715^{+59}_{-39}	3422^{+2109}_{-687}	170^{+2093}_{-132}
Alt.	-927 ± 200	$43.87^{+52.05}_{-30.72}$	715^{+59}_{-40}	2590^{+1037}_{-428}	25^{+247}_{-20}

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

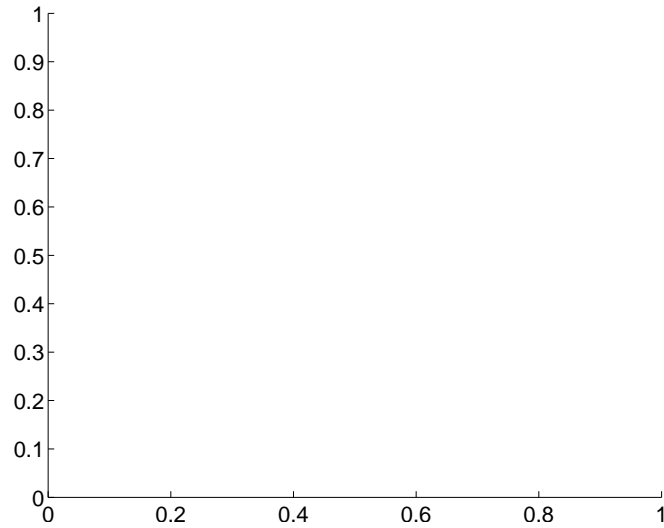
Supplemental centroid analysis for 011615481-02. Kepler magnitude: 15.54. Transit SNR 0.42

There are 0 quarters with good PRF difference image offsets

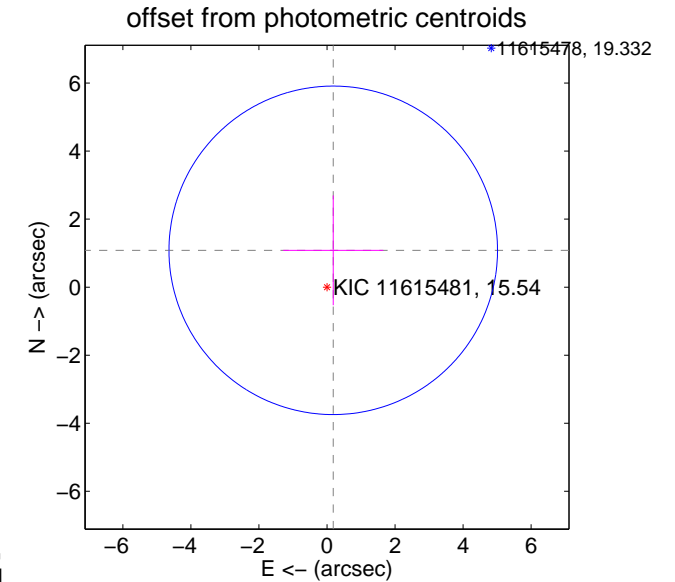
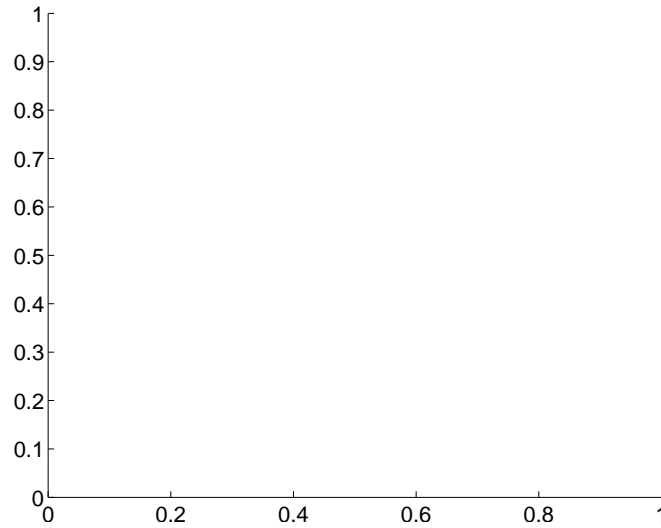
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	1.10 ± 1.61	0.68	-0.18 ± 1.47	1.08 ± 1.61

There is no PRF-fit offset from OOT-fit

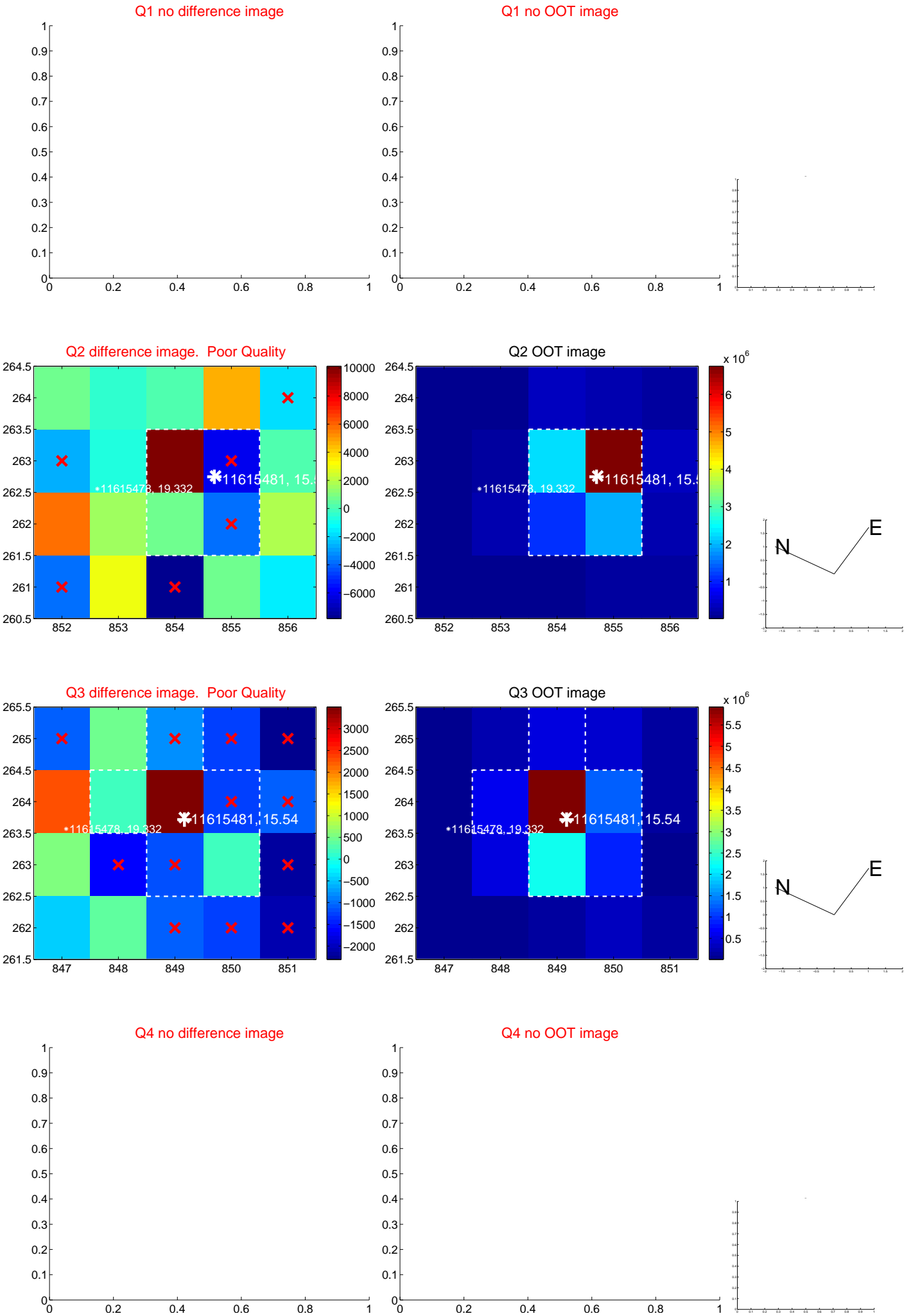


There is no PRF-fit offset from KIC



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.



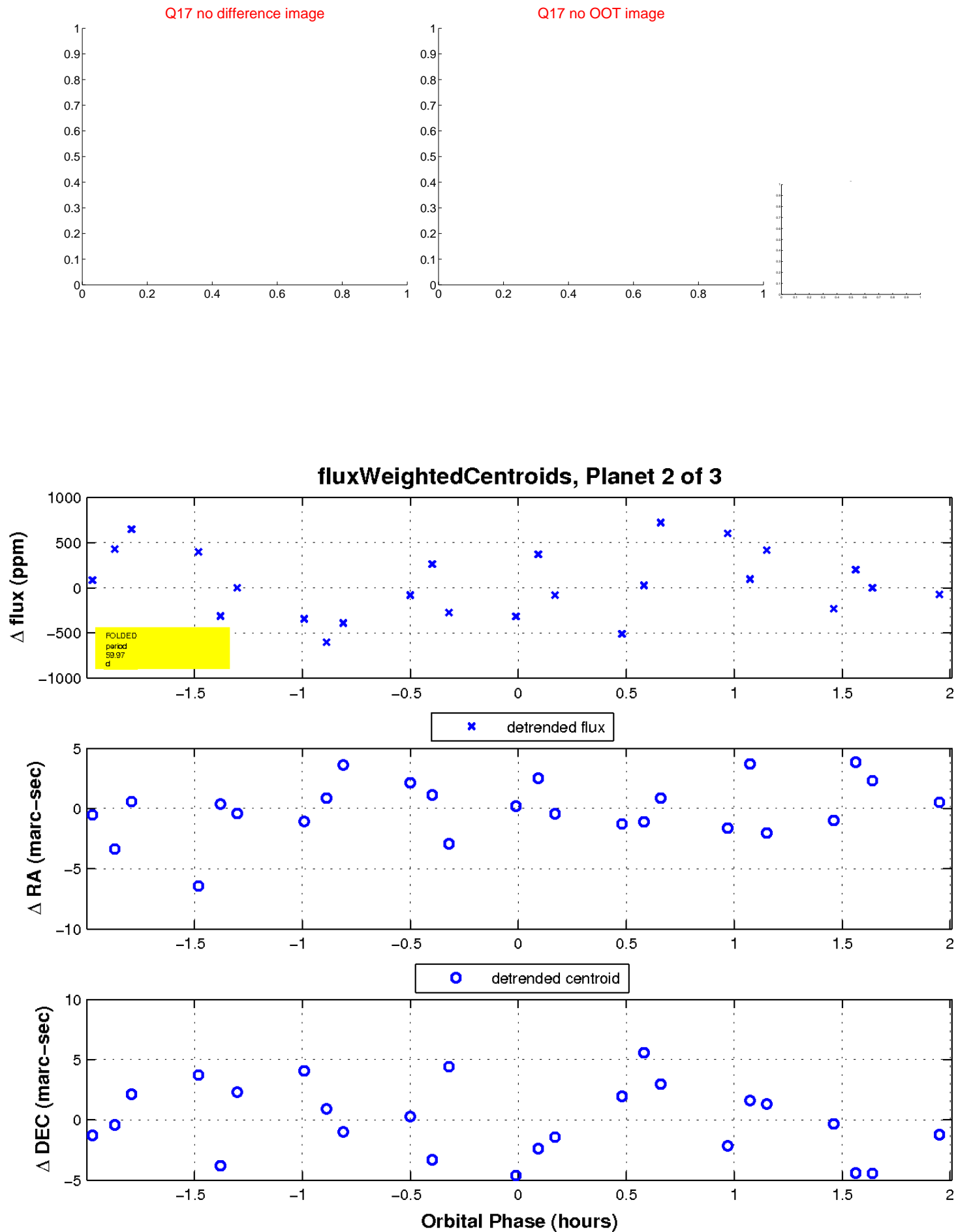
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



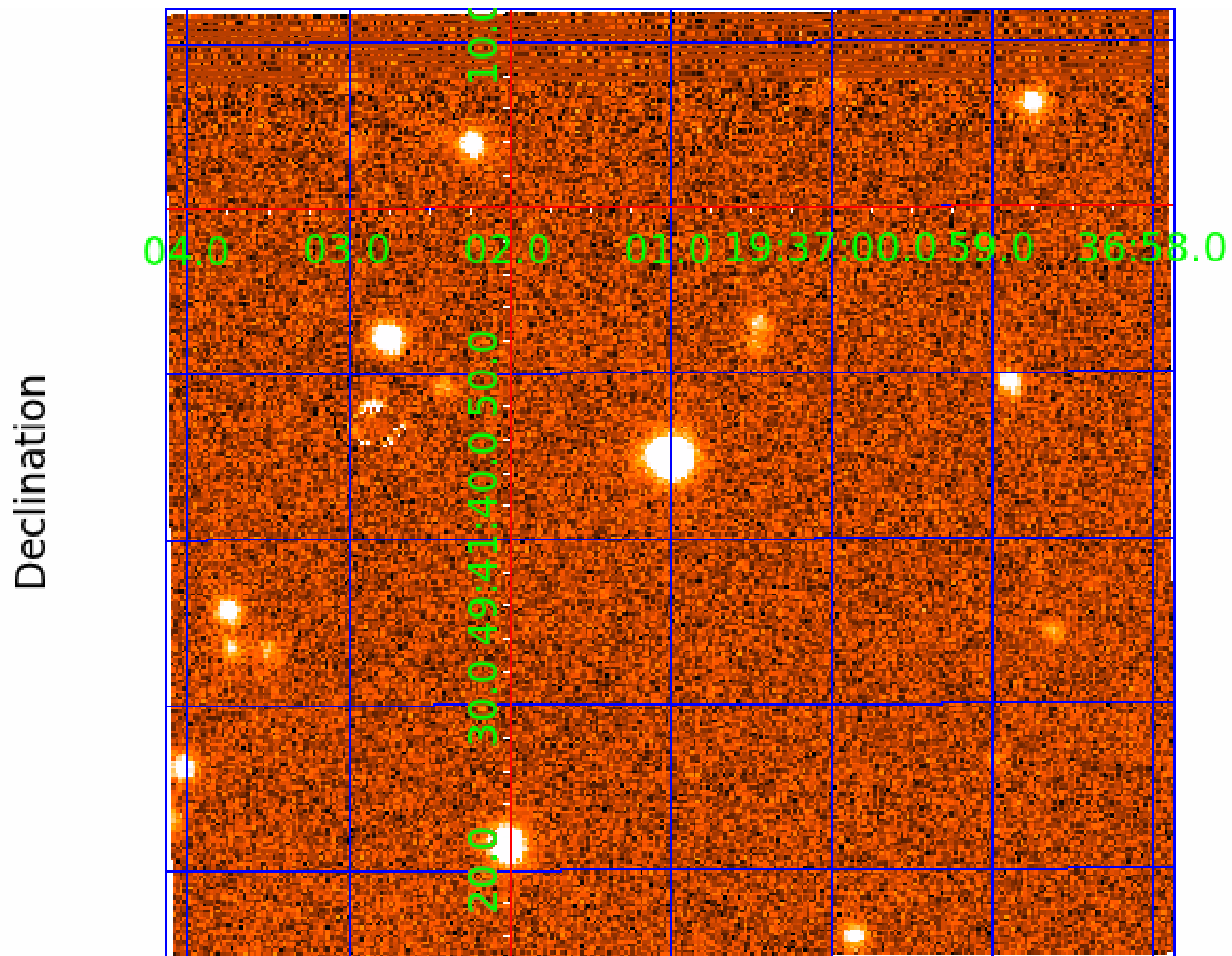
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011615481

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})
011615481-01	OBS	7461.01	65.431764	144.171237	153046.2	12.263	1227.2	1060.4	1.04	6201	60.34	13.61
011615481-02	OBS	No	59.974816	165.752884	3294.4	0.670	26.6	0.4	1.04	6201	6.88	15.28
011615481-03	OBS	No	42.767932	157.592767	578.7	15.955	25.1	4.6	1.04	6201	4.85	23.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011615481-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—CENT_FEW_DIFFS
011615481-02	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
011615481-03	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

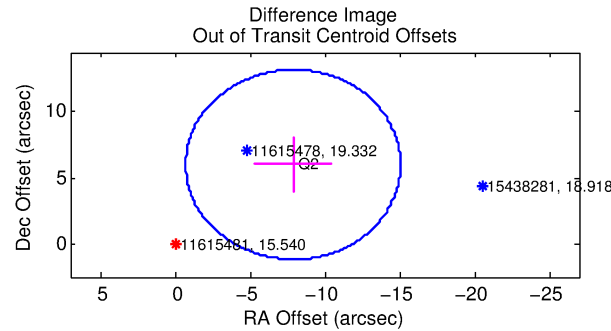
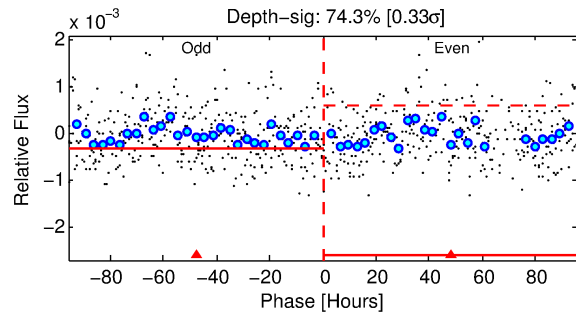
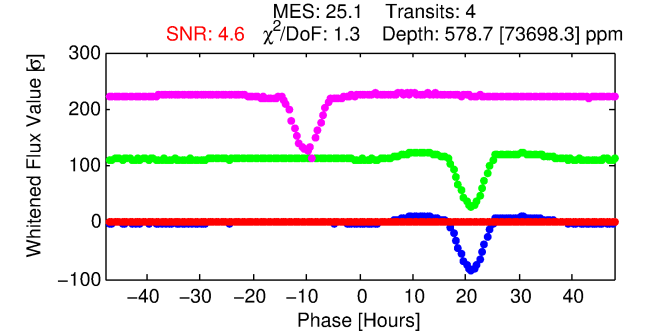
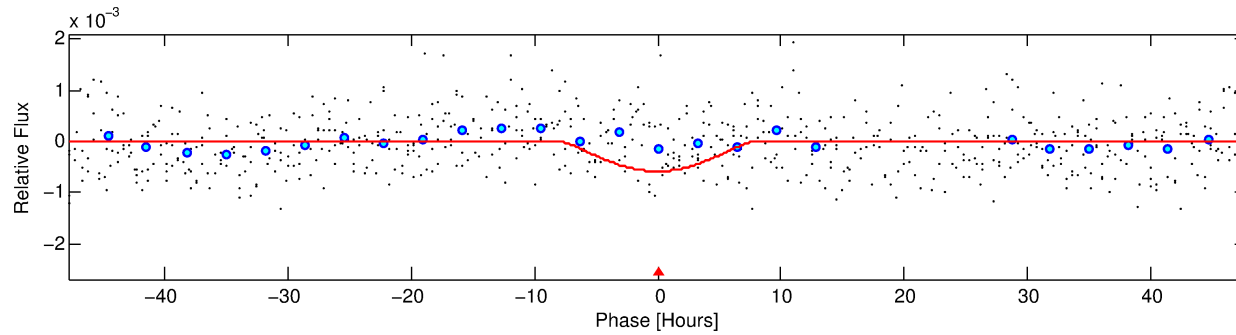
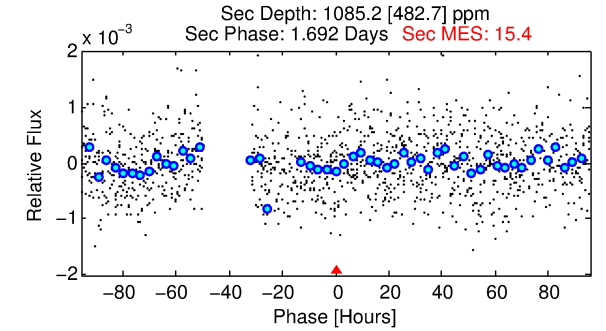
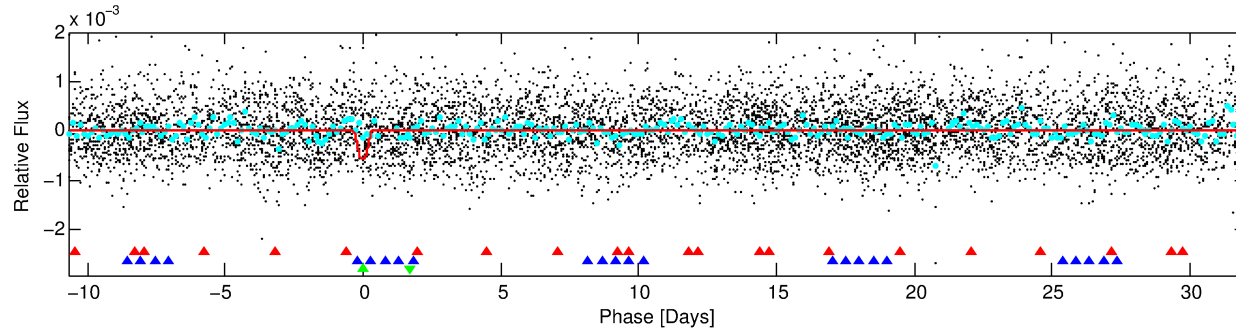
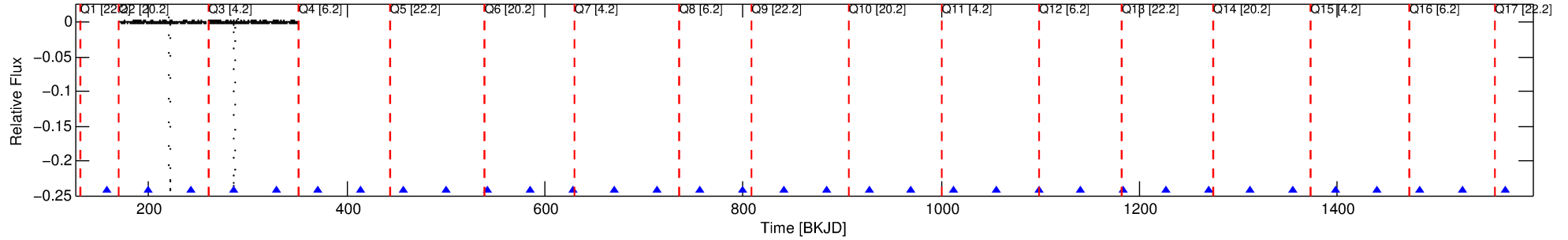
Ephemeris Match Information For 011615481-03

No Significant Match Found

DV One-Page Summary

KIC: 11615481 Candidate: 3 of 3 Period: 42.768 d
KOI: K07461 Corr: No Ephemeris Match

Kp: 15.54 R*: 1.04 Rs Teff: 6201.0 K Logg: 4.43 Fe/H: -0.120



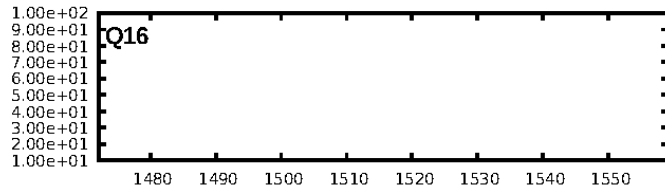
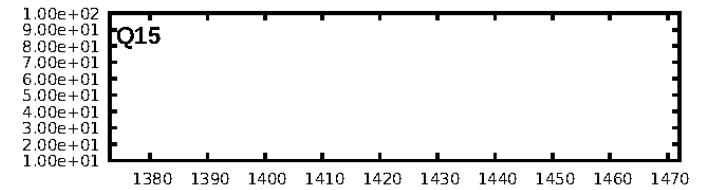
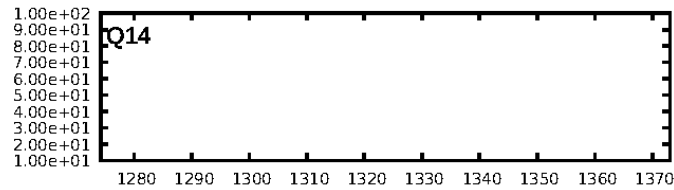
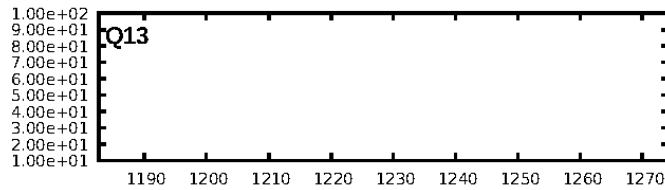
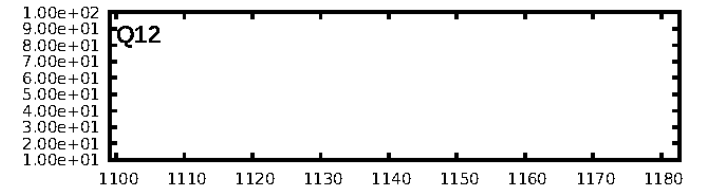
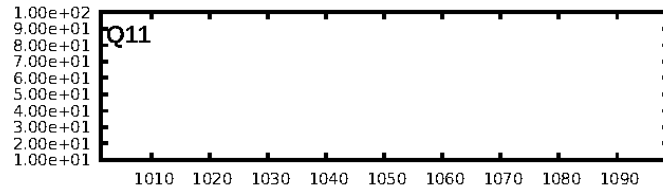
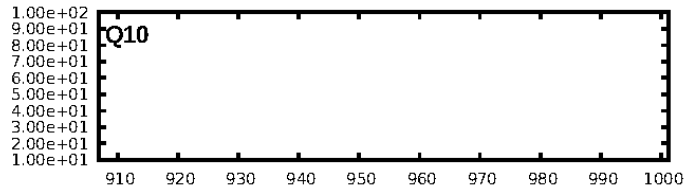
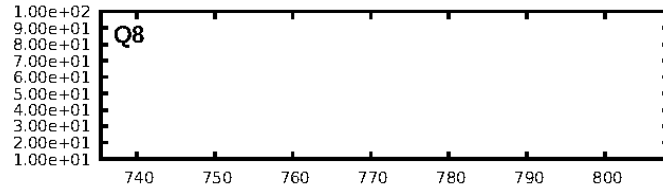
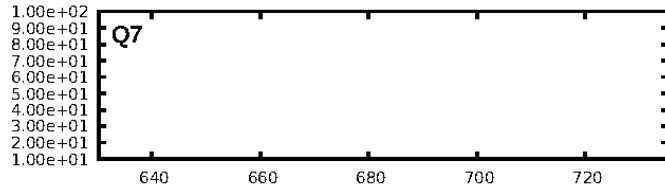
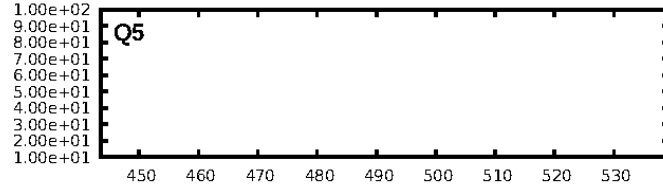
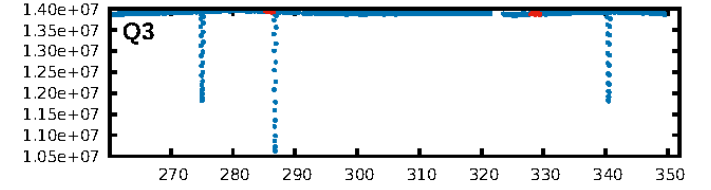
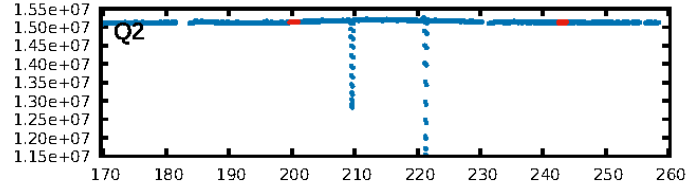
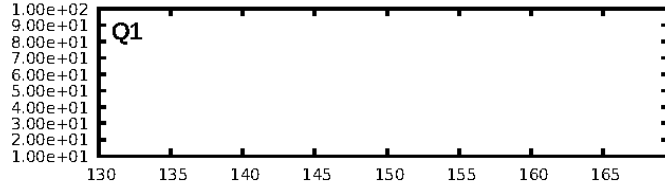
DV Fit Results:

Period = 42.76793 [0.17330] d
Epoch = 157.5928 [0.4455] BKJD
Rp/R* = 0.0428 [1.5499]
a/R* = 6.14 [53.66]
b = 1.00 [5.95]
Seff = 23.98 [10.24]
Teq = 564 [60] K
Rp = 4.85 [175.90] Re
a = 0.2444 [0.0673] AU
Ag = 1514.57 [109801.53] [0.01σ]
Teffp = 5443 [98646] K [0.05σ]

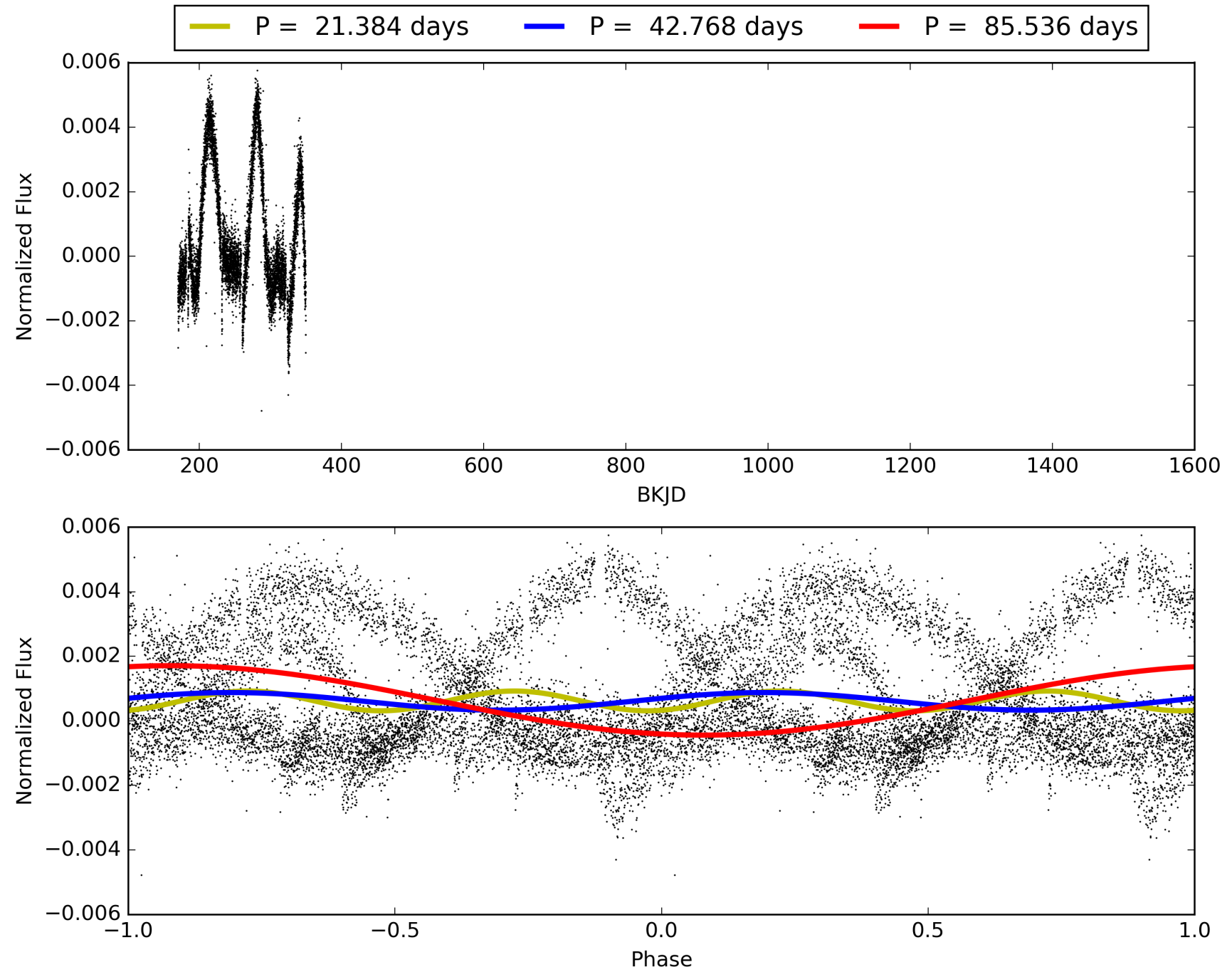
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [25.86σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.16e-122
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.2422
Centroid-sig: N/A
Centroid-so: 3.015 arcsec [1.41σ]
OotOffset-rm: 9.912 arcsec [4.14σ]
KicOffset-rm: 10.026 arcsec [4.19σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 011615481-03, PDC Light Curves

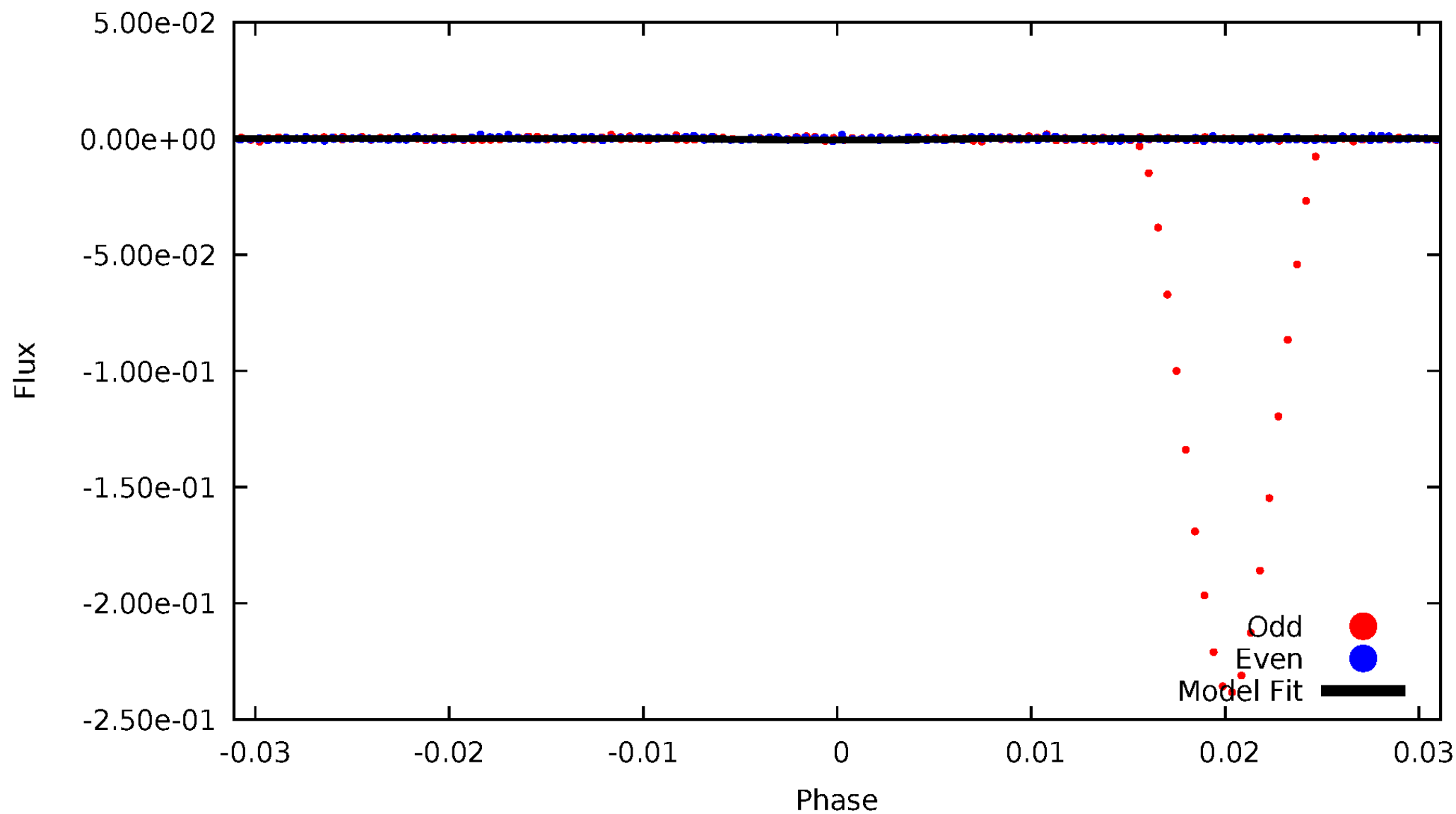


TCE 011615481-03



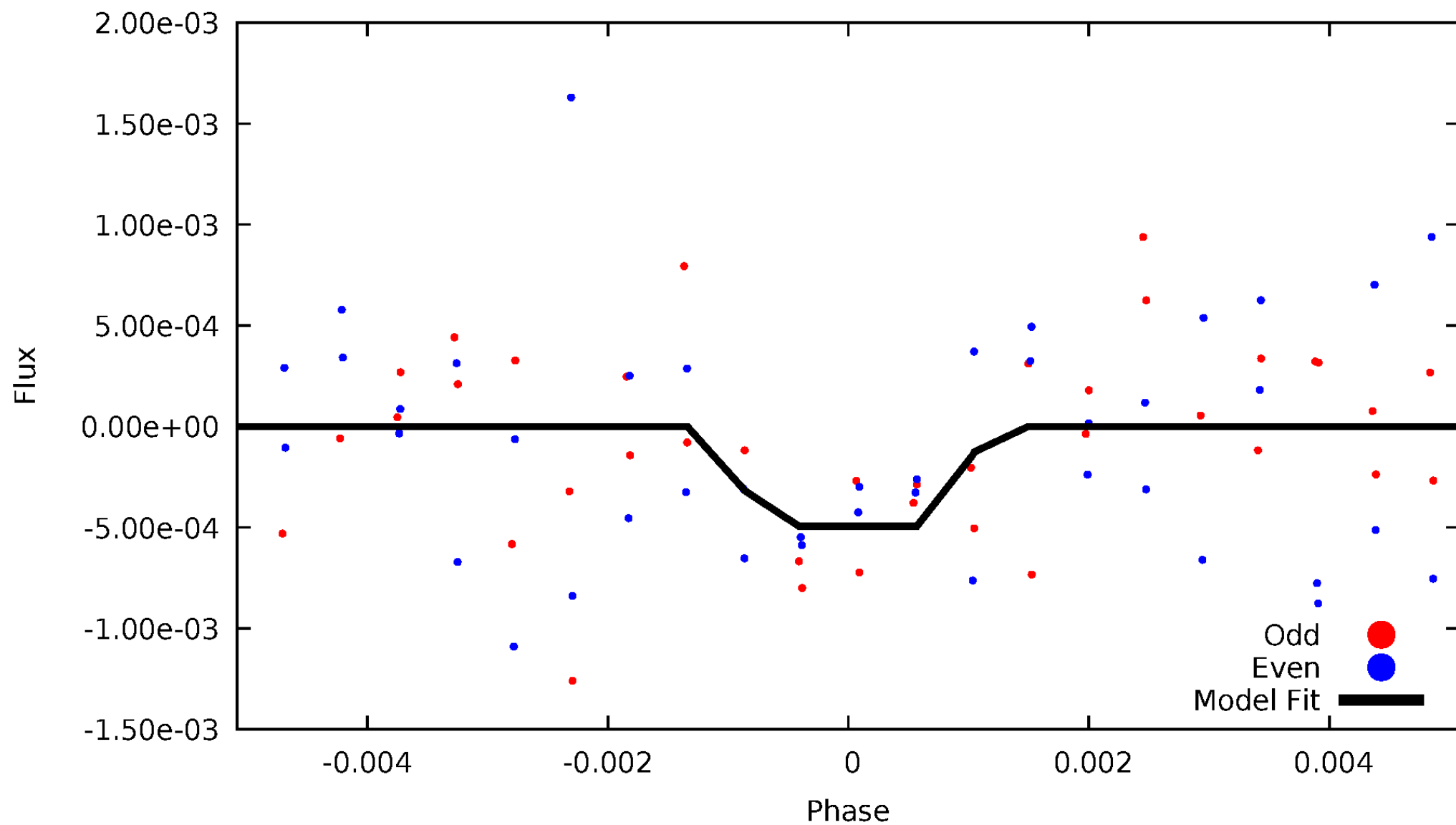
DV Odd/Even

TCE 011615481-03



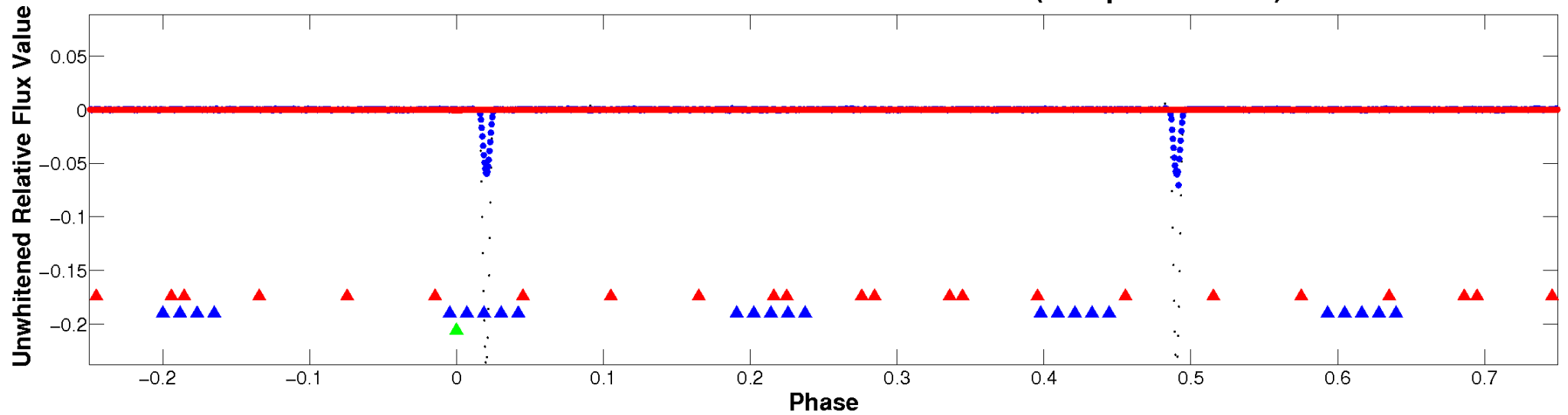
ALT Odd/Even

TCE 011615481-03

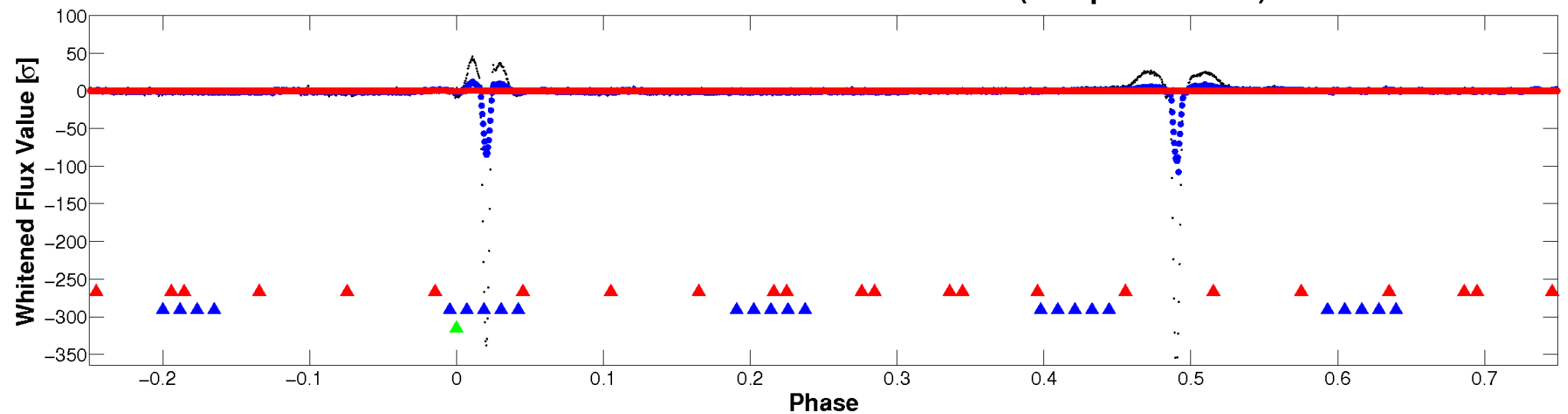


Non-Whitened Vs. Whitened Light Curve

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

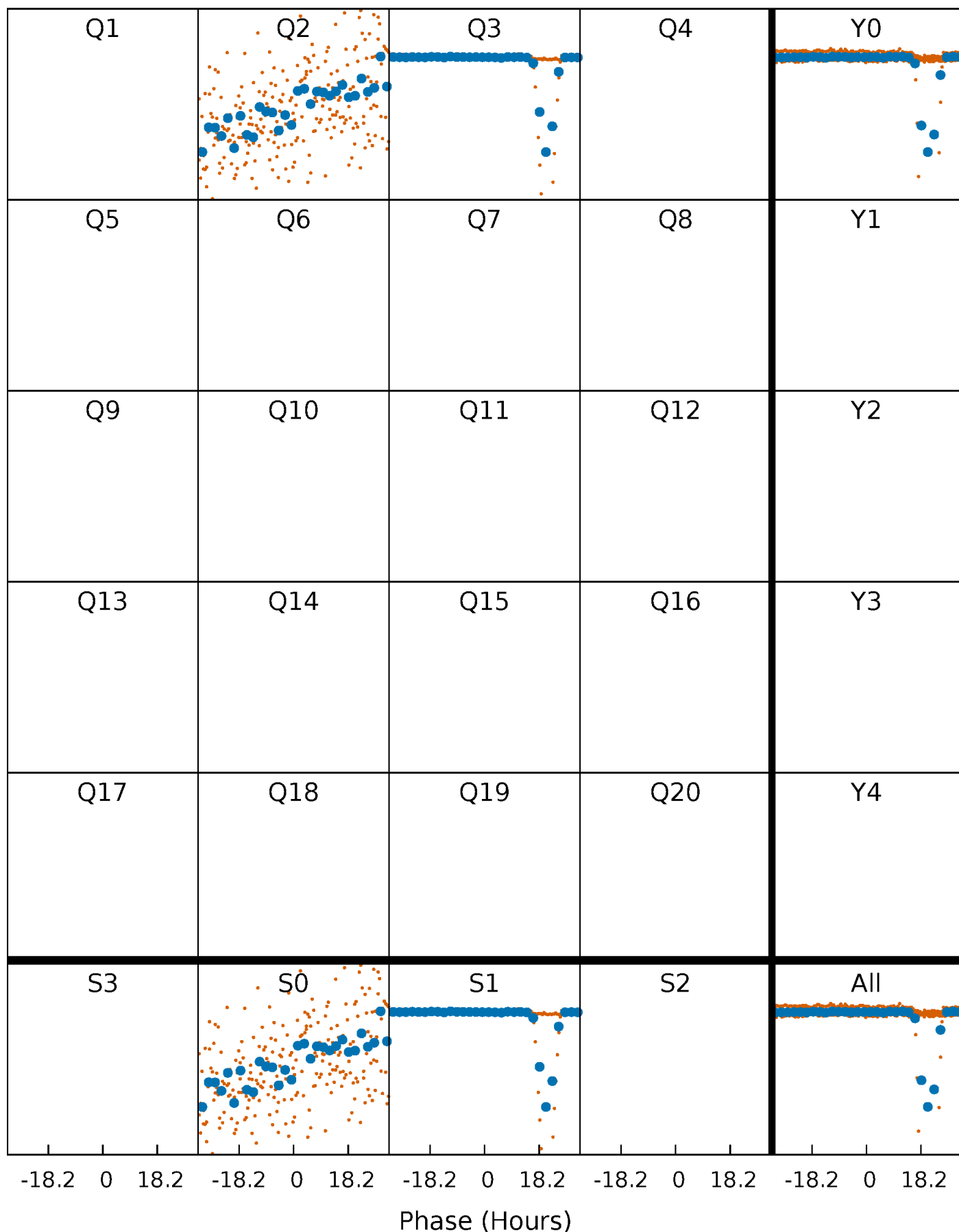


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



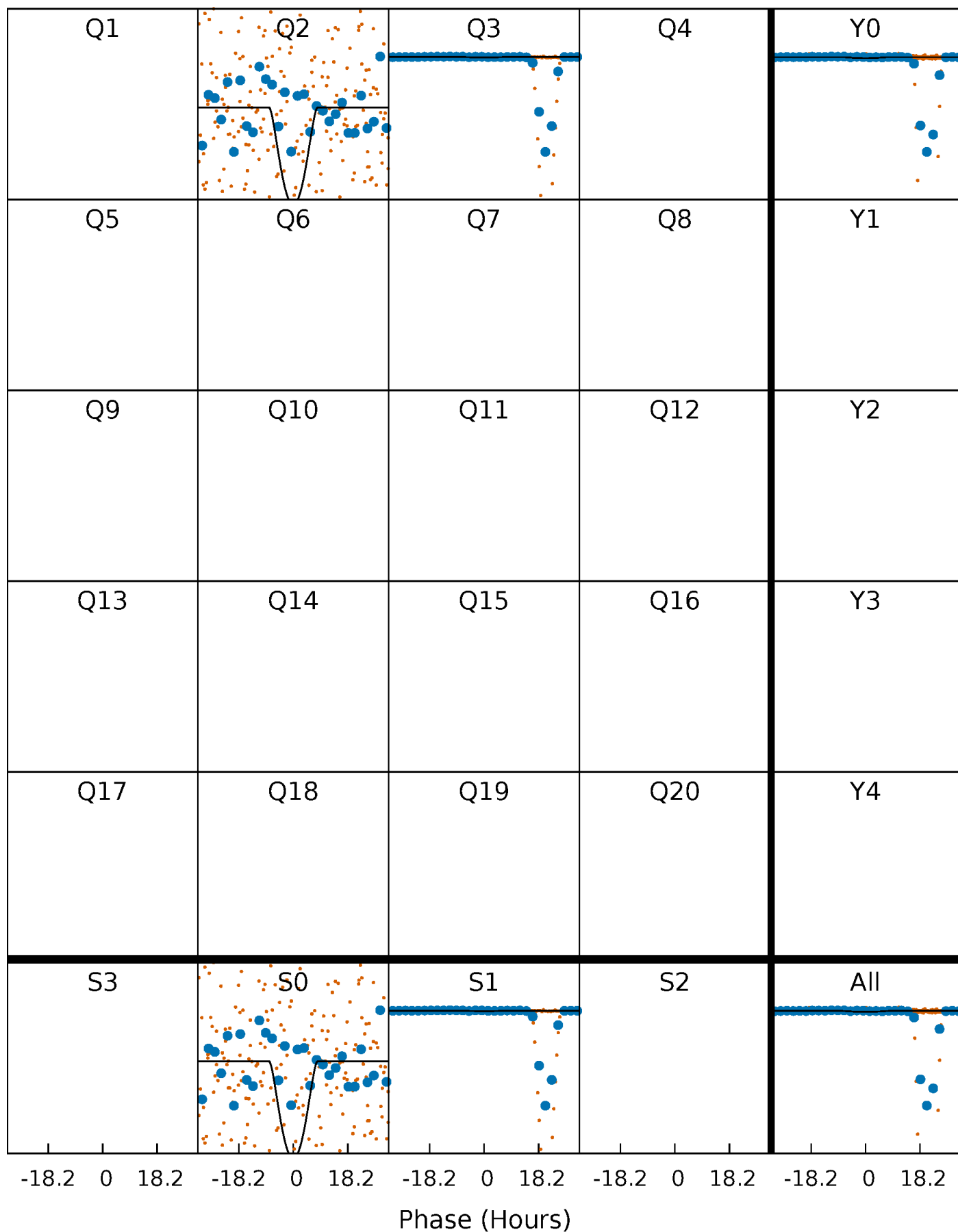
PDC Quarter-Phased Transit Curves

TCE 011615481-03 $P = 42.767932$ Days $T_0 = 157.592767$ (BKJD)



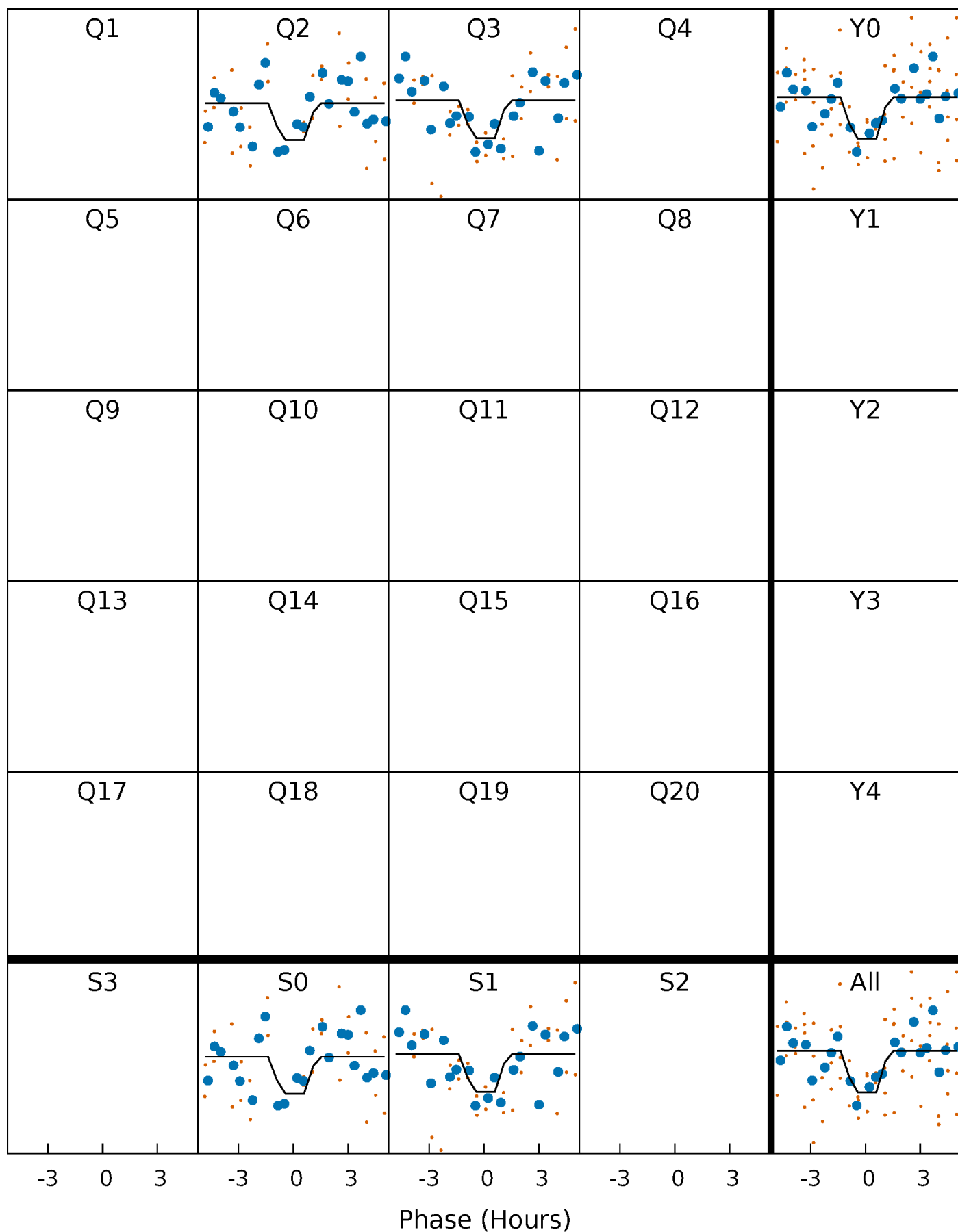
DV Quarter-Phased Transit Curves

TCE 011615481-03 $P = 42.767932$ Days $T_0 = 157.592767$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

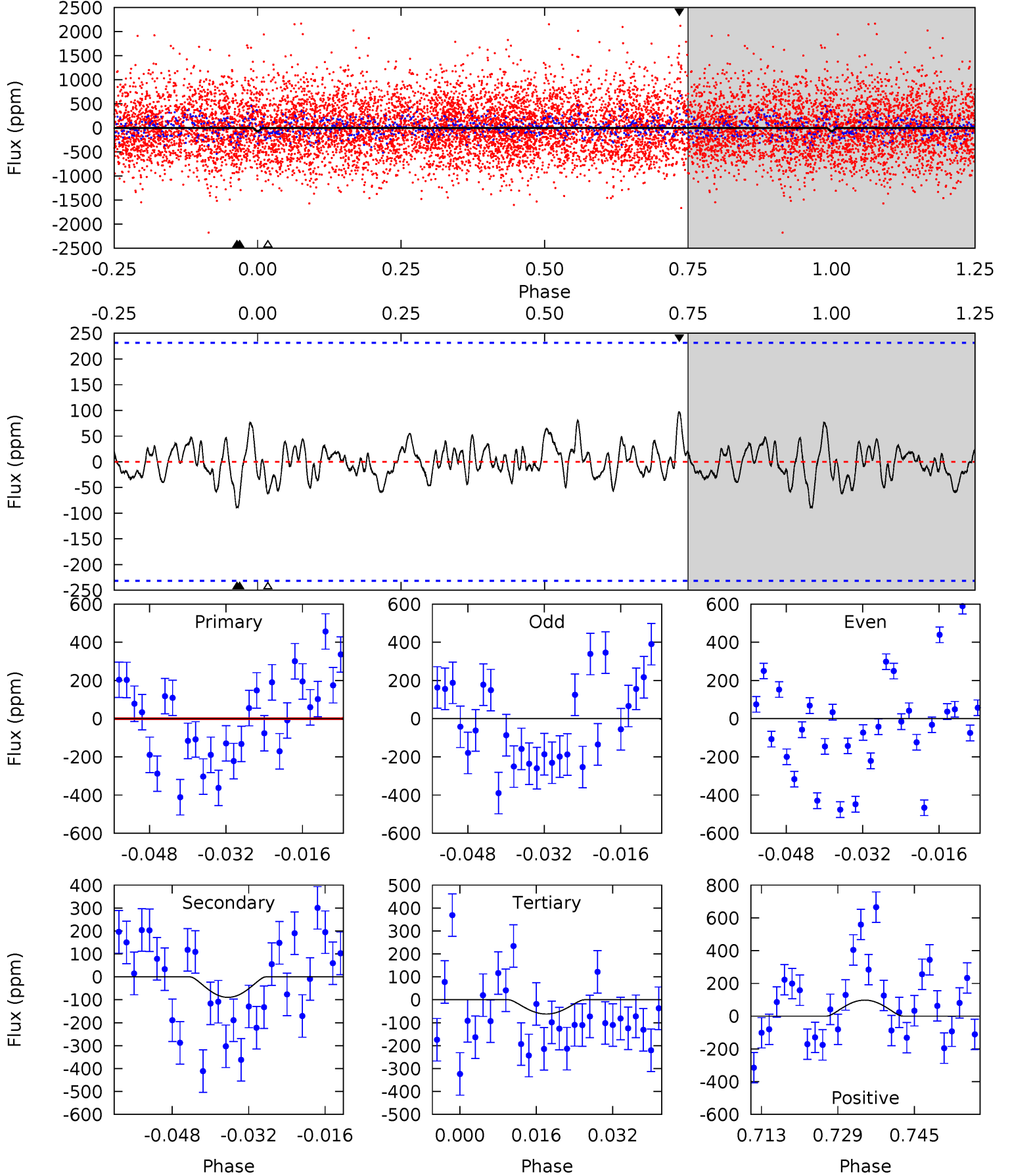
TCE 011615481-03 P= 42.807379 Days $T_0=157.544288$ (BKJD)



DV Model-Shift Uniqueness Test

011615481-03, P = 42.767932 Days, E = 157.592767 Days

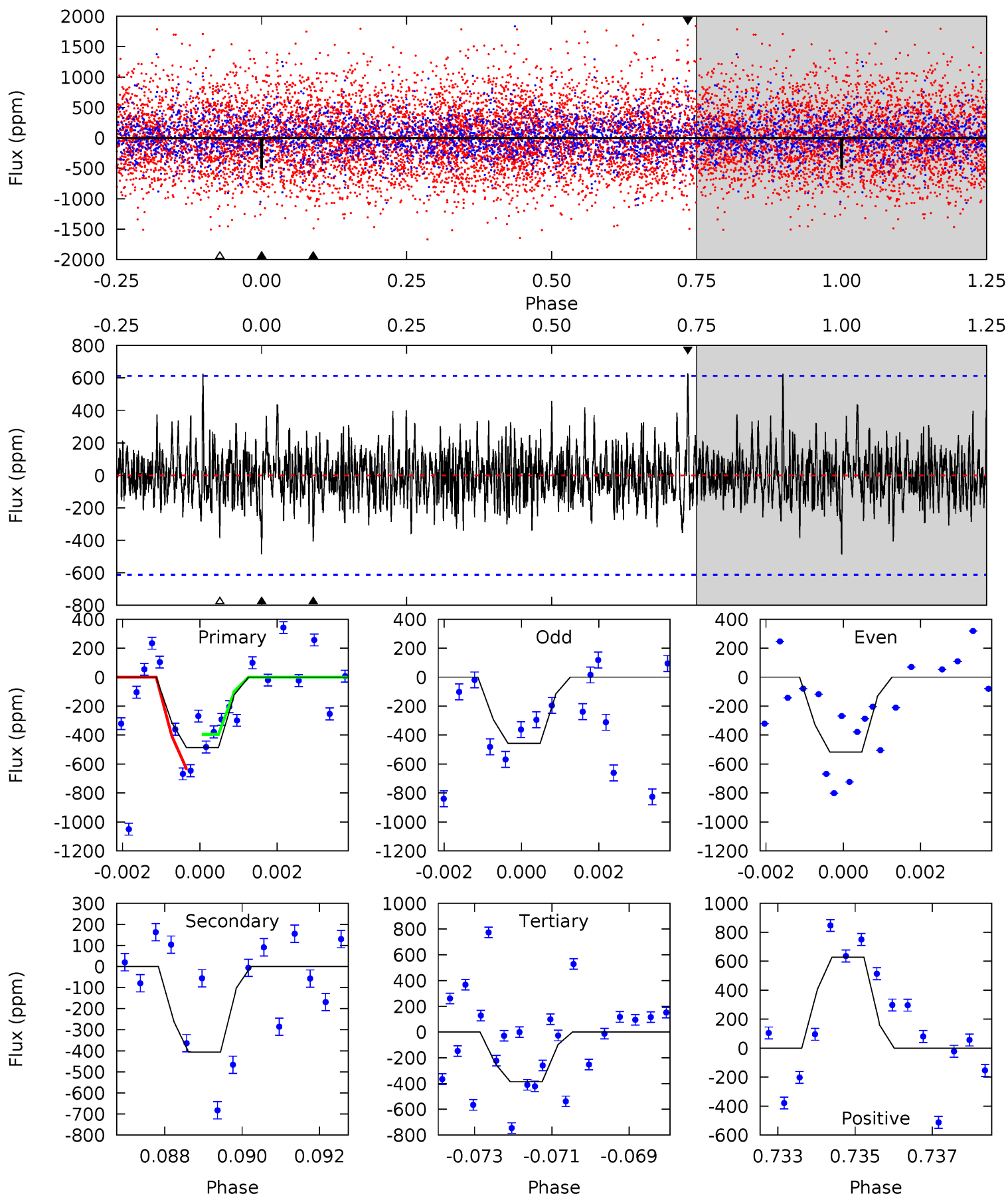
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.48	1.91	1.33	2.08	4.94	2.41	0.59	0.15	-0.60	0.58	-0.18	1.39	0.44	0.52	1.44



Alt Model-Shift Uniqueness Test

011615481-03, $P = 42.807379$ Days, $E = 157.544288$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.21	3.51	3.33	5.43	5.30	3.04	1.13	0.87	-1.23	0.18	-1.92	0.26	1.03	0.56	0.97



Stellar Parameters For KIC 011615481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6201^{+172}_{-237}	$4.431^{+0.072}_{-0.217}$	$-0.120^{+0.250}_{-0.350}$	$1.040^{+0.342}_{-0.122}$	$1.059^{+0.168}_{-0.137}$	$1.326^{+0.409}_{-0.740}$
	+3%/-4%	+2%/-5%	+208%/-292%	+33%/-12%	+16%/-13%	+31%/-56%
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 011615481-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-90 ± 47	$116.80^{+150.15}_{-80.10}$	801^{+62}_{-43}	-1579^{+3605}_{-123}	$0.170^{+1.899}_{-0.143}$
Alt.	-406 ± 116	$125.94^{+142.18}_{-85.80}$	801^{+62}_{-43}	1790^{+607}_{-3375}	$0.818^{+7.479}_{-0.642}$

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 $A_{obs} \gg 1.0$

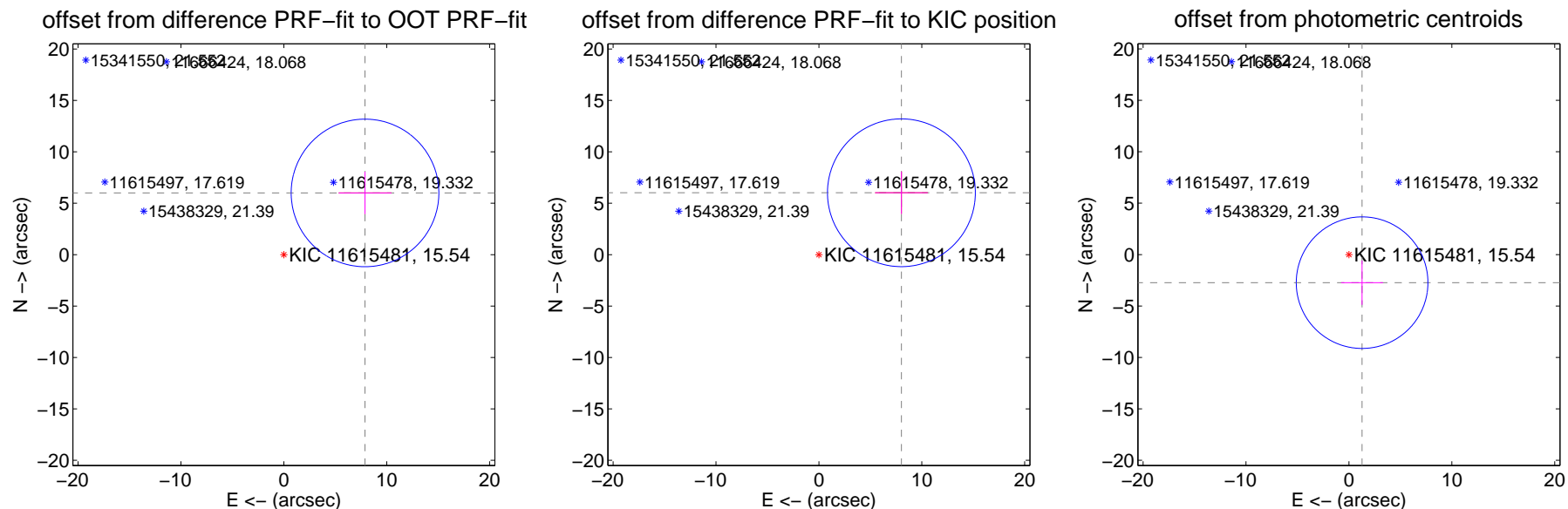
DV Centroid Data

Supplemental centroid analysis for 011615481-03. Kepler magnitude: 15.54. Transit SNR 4.59

There are 0 quarters with good PRF difference image offsets

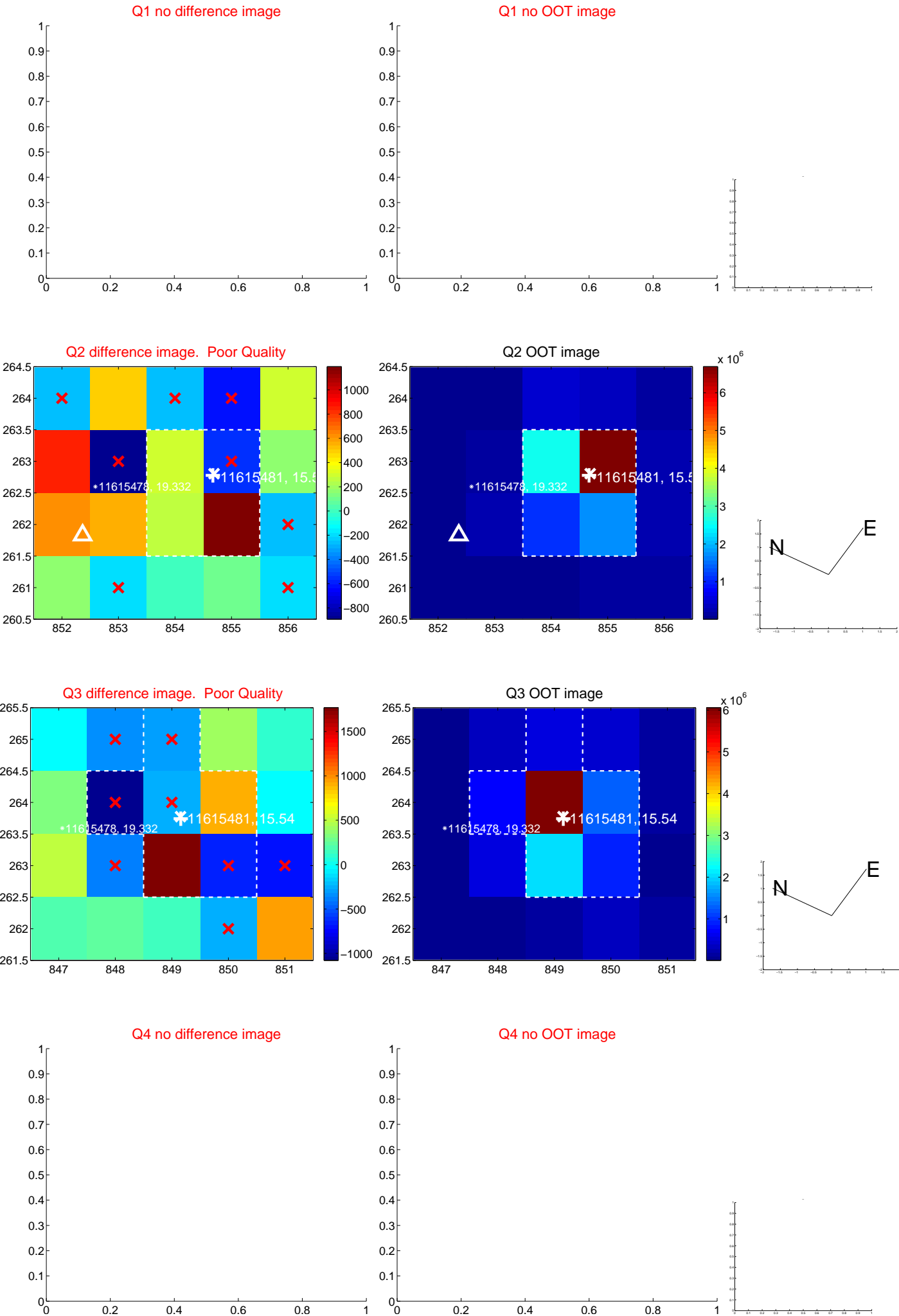
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.912 ± 2.392	4.14	-7.889 ± 2.565	6.002 ± 2.059
PRF-fit source offset from KIC position	10.026 ± 2.395	4.19	-8.019 ± 2.565	6.018 ± 2.059
photometric centroid source offset	3.01 ± 2.13	1.41	-1.28 ± 2.03	-2.73 ± 2.15



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.



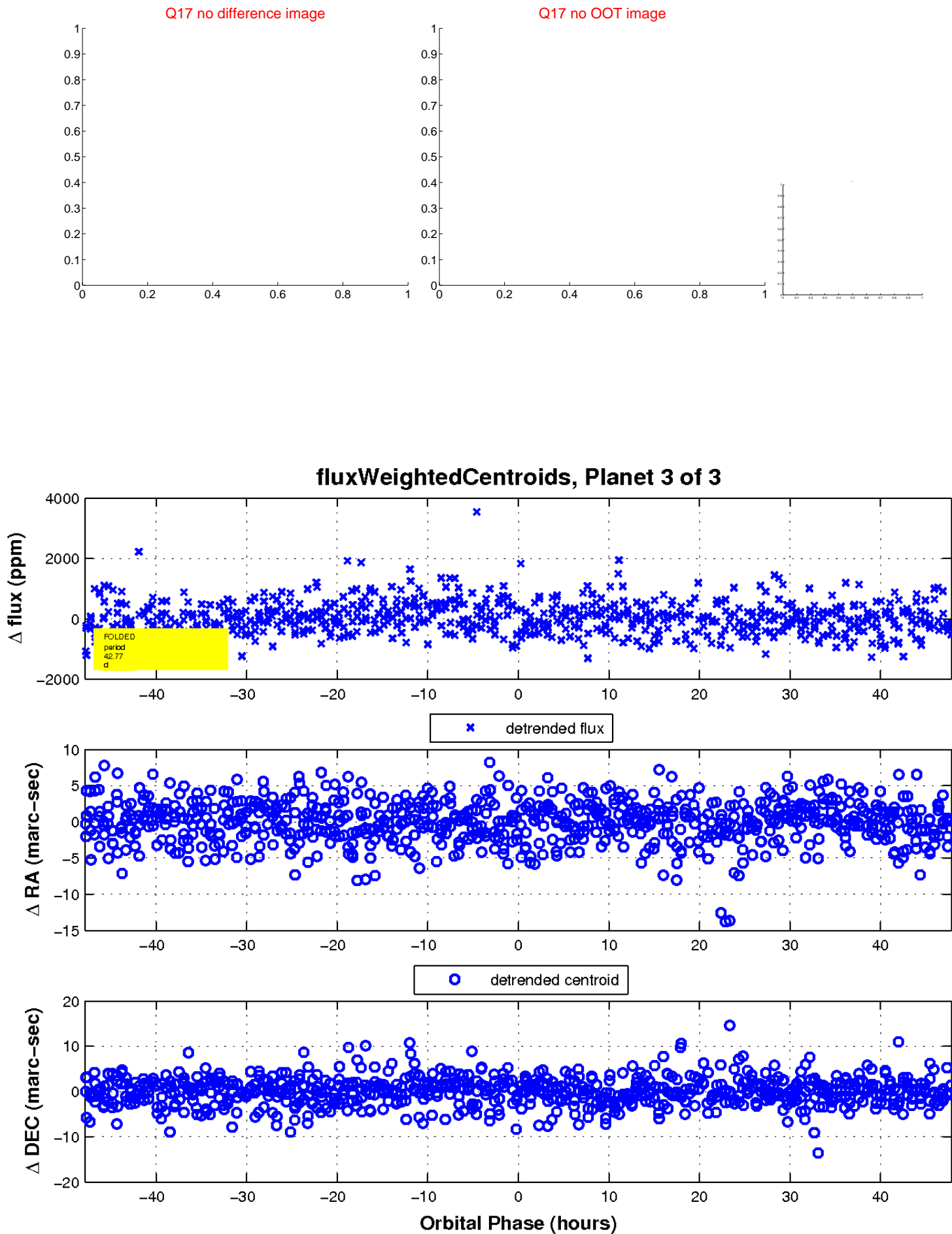
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

