

KIC 007117293

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})
007117293-01	OBS	No	416.481677	483.544129	850.2	4.455	14.8	2.3	0.30	3377	0.95	0.02
007117293-02	OBS	No	350.745968	416.271436	2747.6	4.721	14.8	6.6	0.30	3377	1.55	0.03
007117293-03	OBS	No	458.710412	411.898025	2729.7	4.599	10.9	6.9	0.30	3377	1.54	0.02
007117293-05	OBS	No	367.013958	169.129918	3776.3	3.275	12.1	10.4	0.30	3377	1.95	0.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007117293-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
007117293-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007117293-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007117293-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_NOFITS

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

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

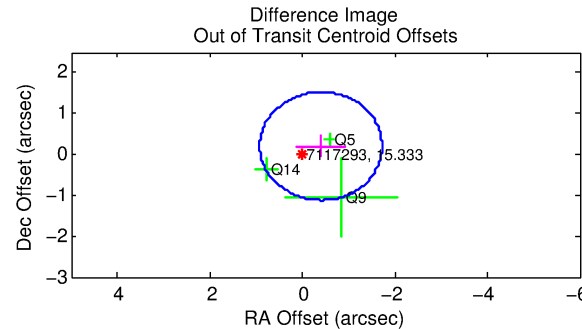
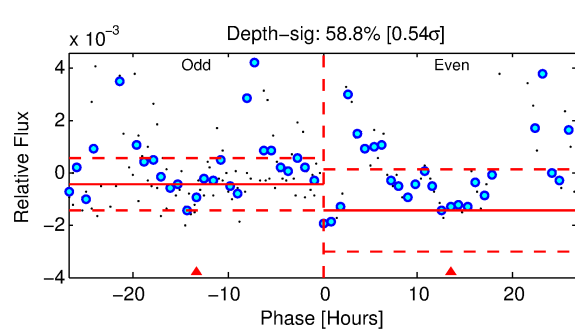
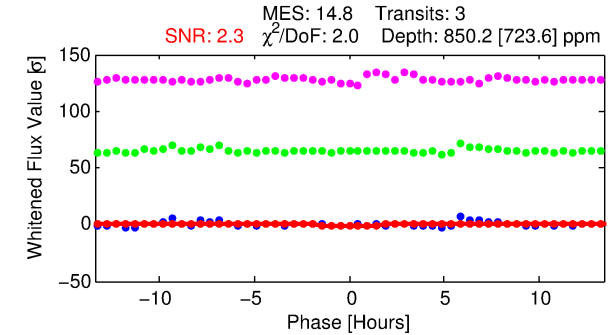
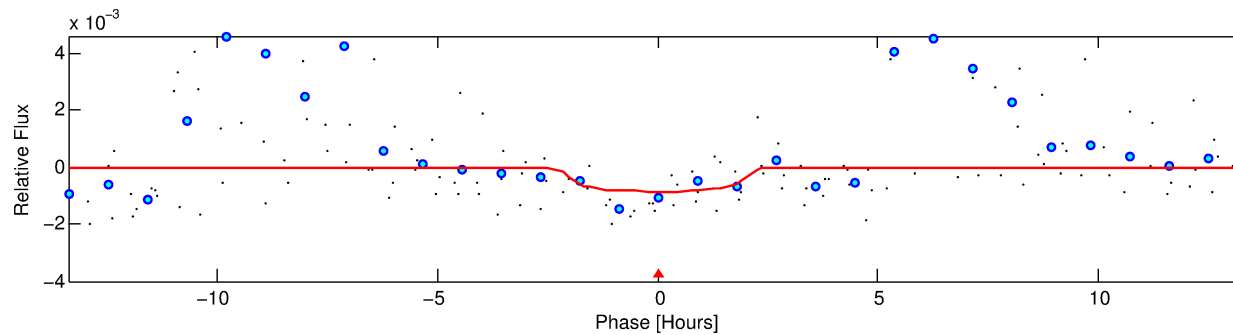
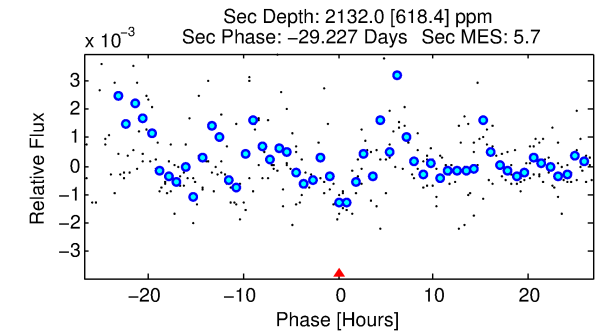
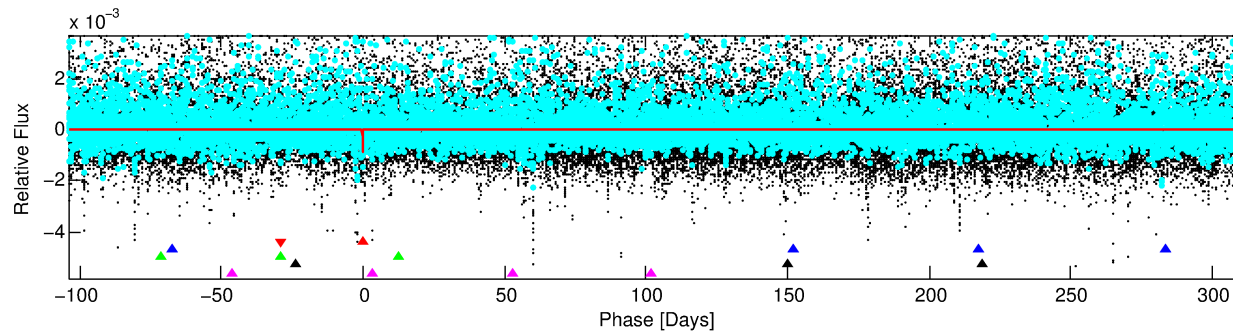
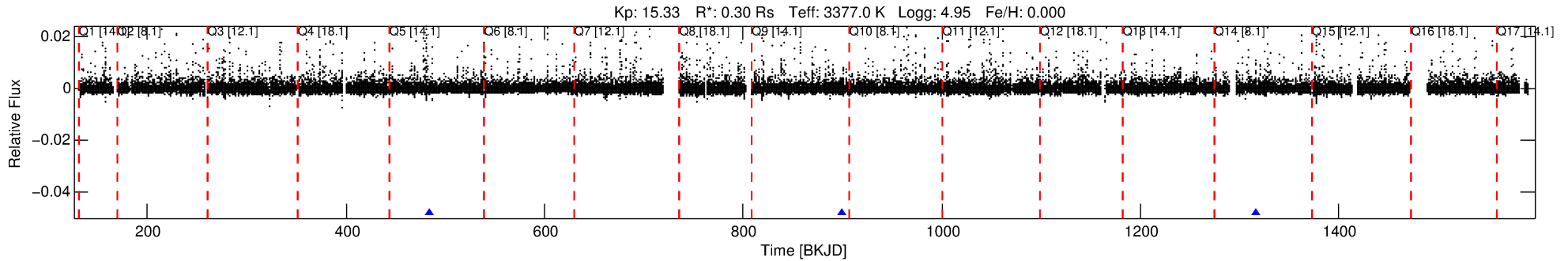
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007117293-01

No Significant Match Found

DV One-Page Summary

KIC: 7117293 Candidate: 1 of 5 Period: 416.482 d



DV Fit Results:

Period = 416.48168 [0.02621] d
Epoch = 483.5441 [0.0341] BKJD
Rp/R* = 0.0293 [0.0543]
a/R* = 484.15 [3530.01]
b = 0.77 [3.78]
Seff = 0.02 [0.00]
Teq = 96 [3] K
Rp = 0.96 [1.78] Re
a = 0.7226 [0.0787] AU
Ag = 671289.49 [2497440.94] [0.27σ]
Teffp = 4241 [3943] K [1.05σ]

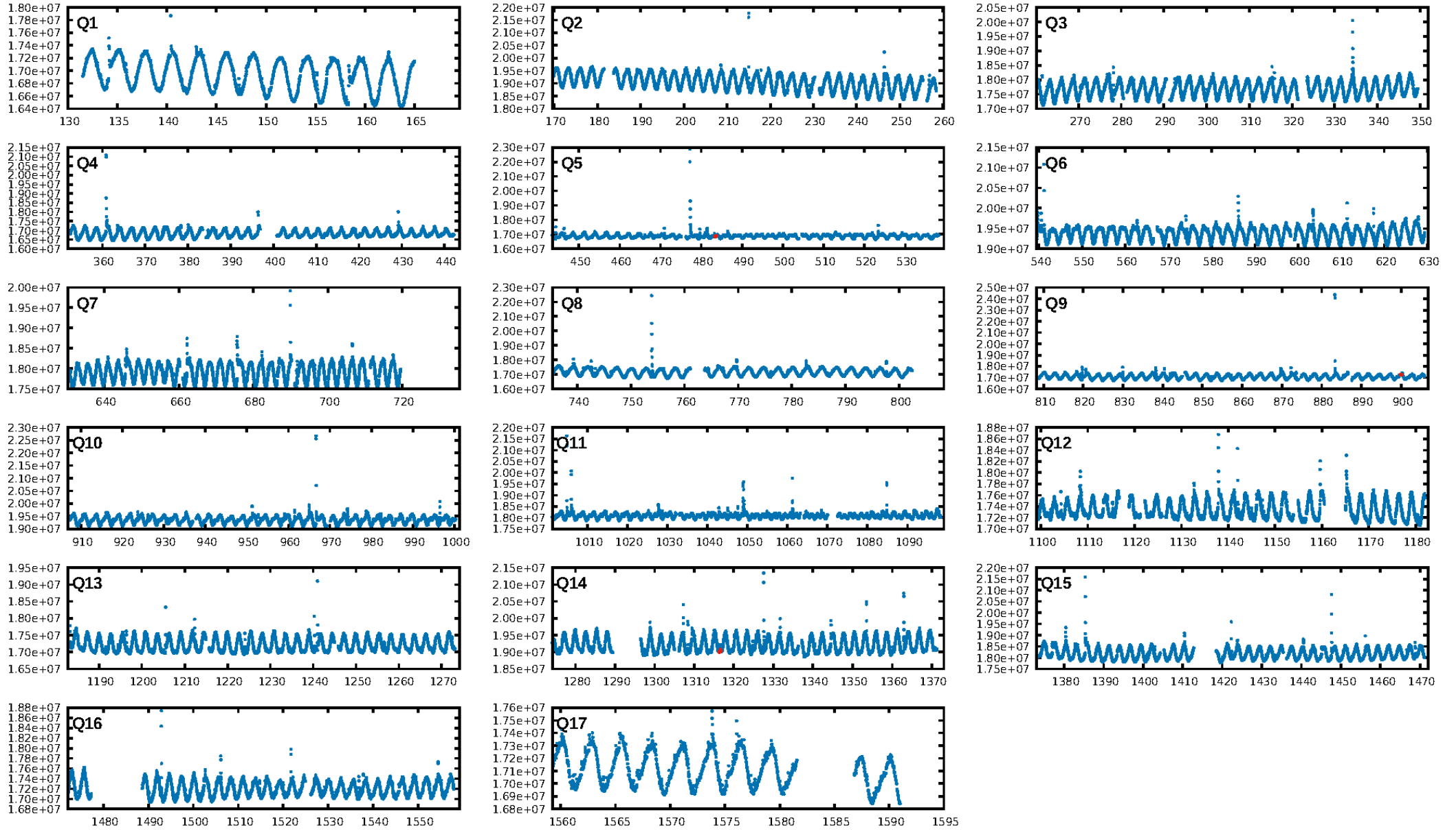
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [214.71σ]
LongPeriod-sig: 100.0% [158.28σ]
ModelChiSquare2-sig: 10.2%
ModelChiSquareGof-sig: 93.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.421
Centroid-sig: 49.7%
Centroid-so: 1.221 arcsec [0.89σ]
OotOffset-rm: 0.447 arcsec [1.01σ]
KicOffset-rm: 0.370 arcsec [0.89σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

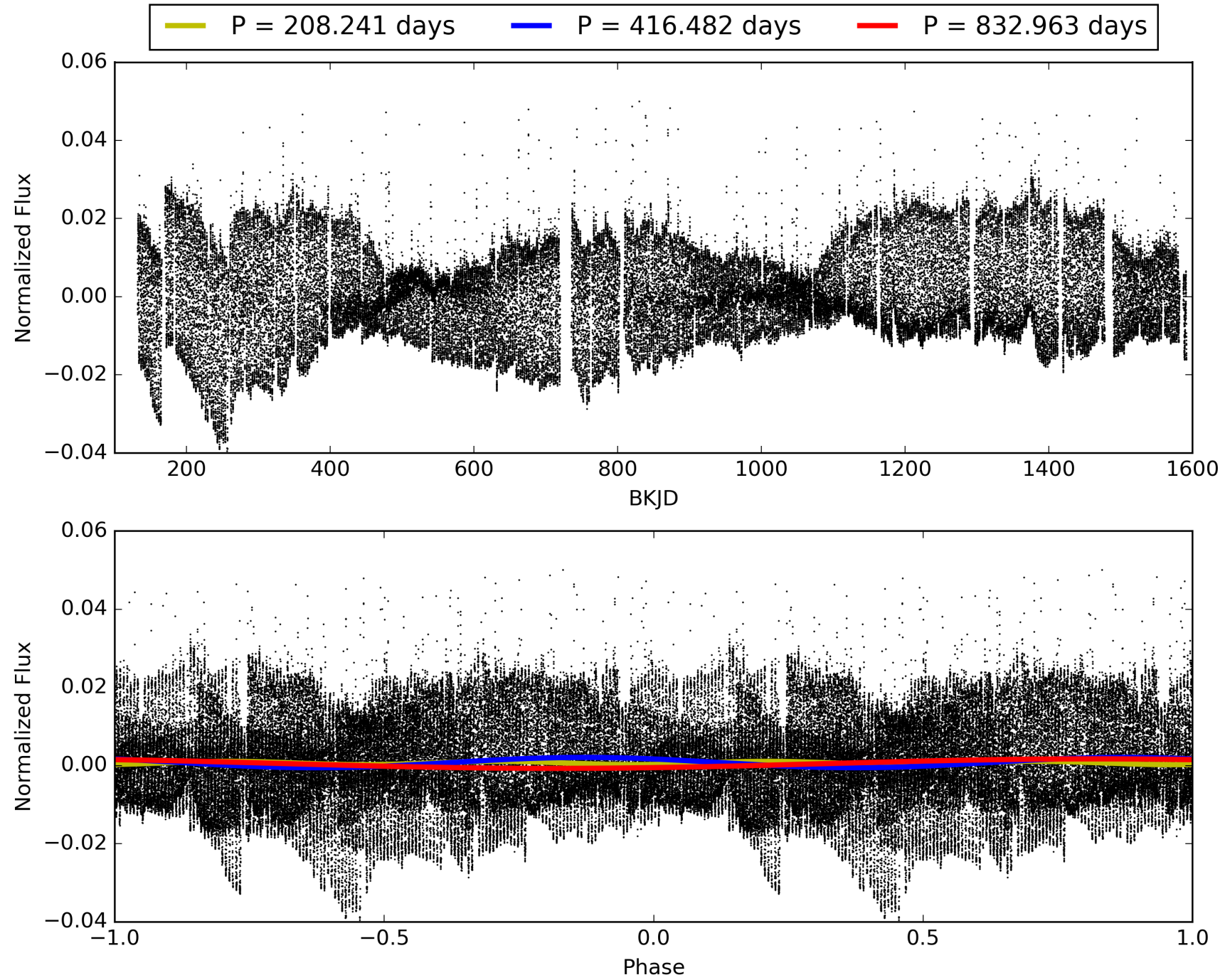
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:54:10 Z

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

TCE 007117293-01, PDC Light Curves

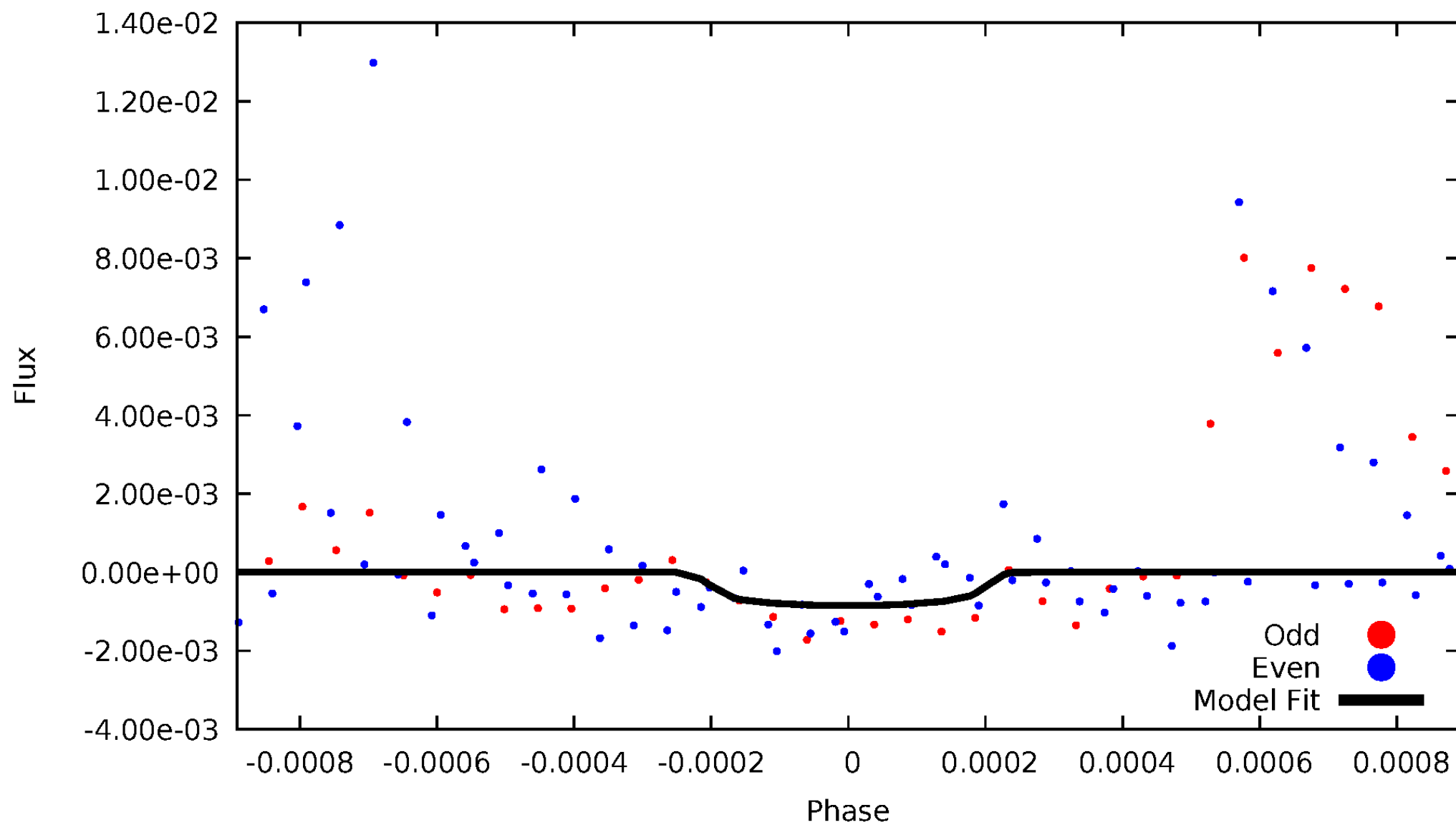


TCE 007117293-01



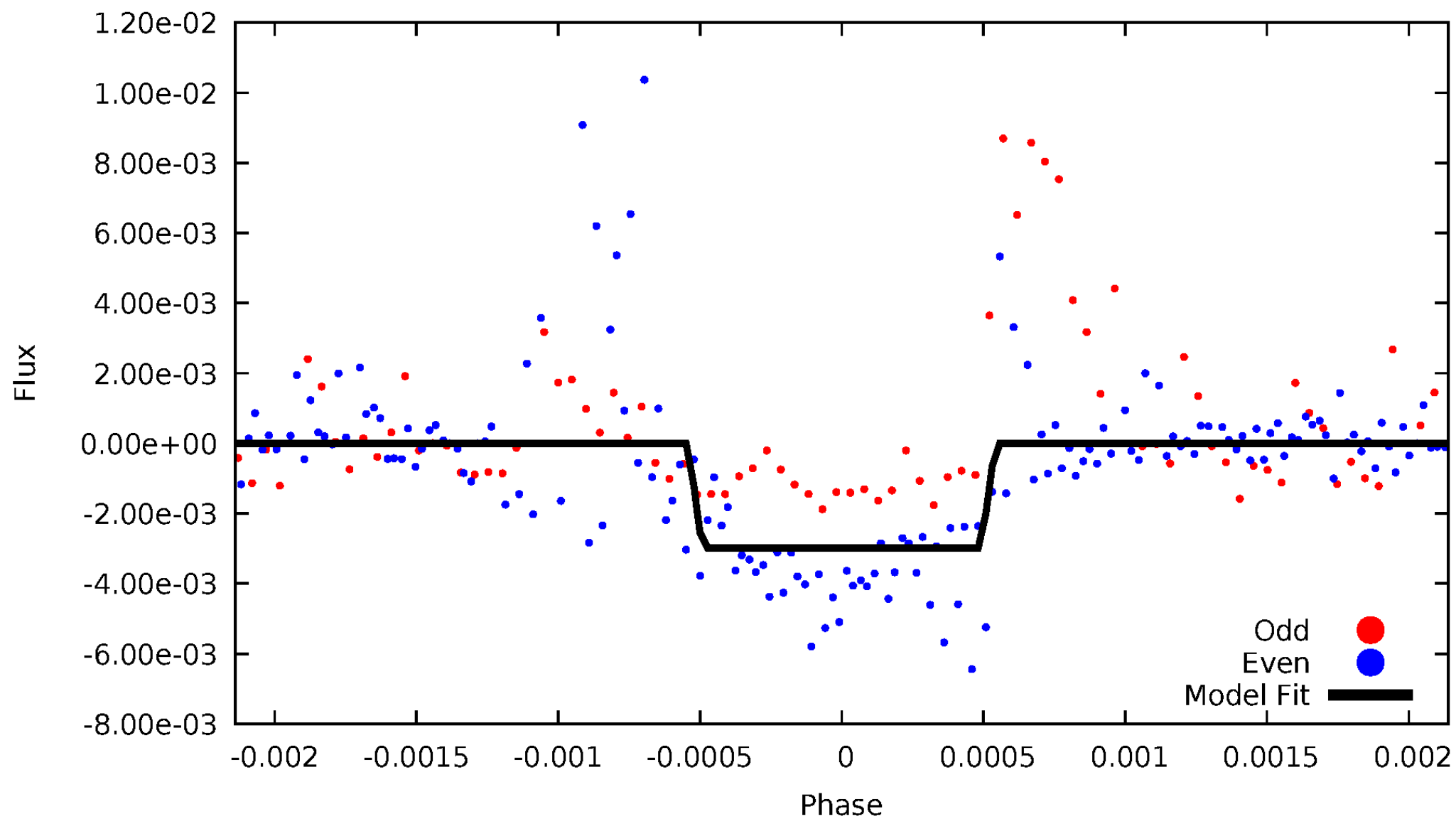
DV Odd/Even

TCE 007117293-01



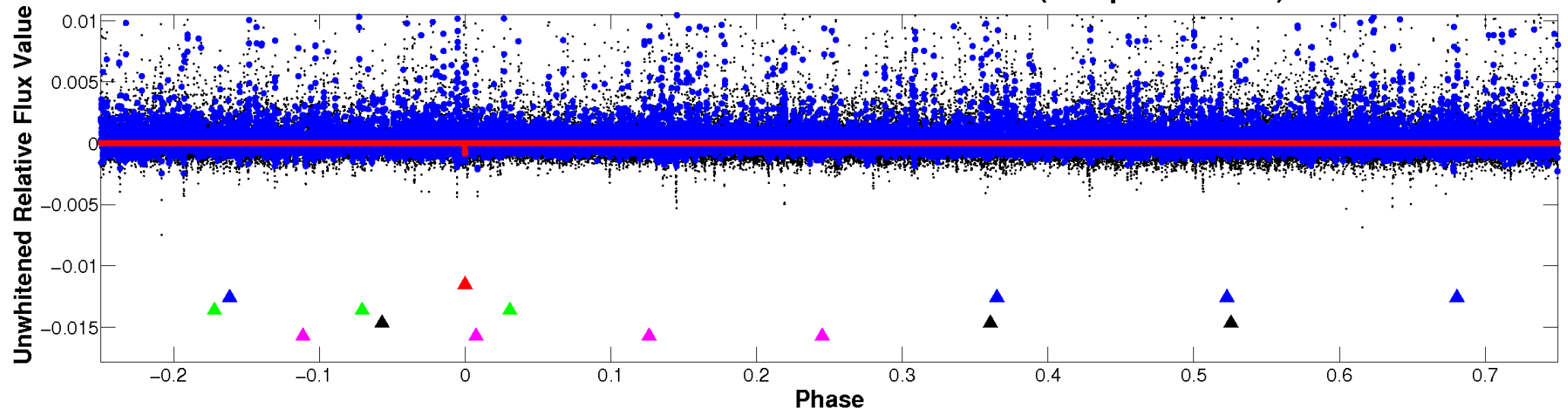
ALT Odd/Even

TCE 007117293-01

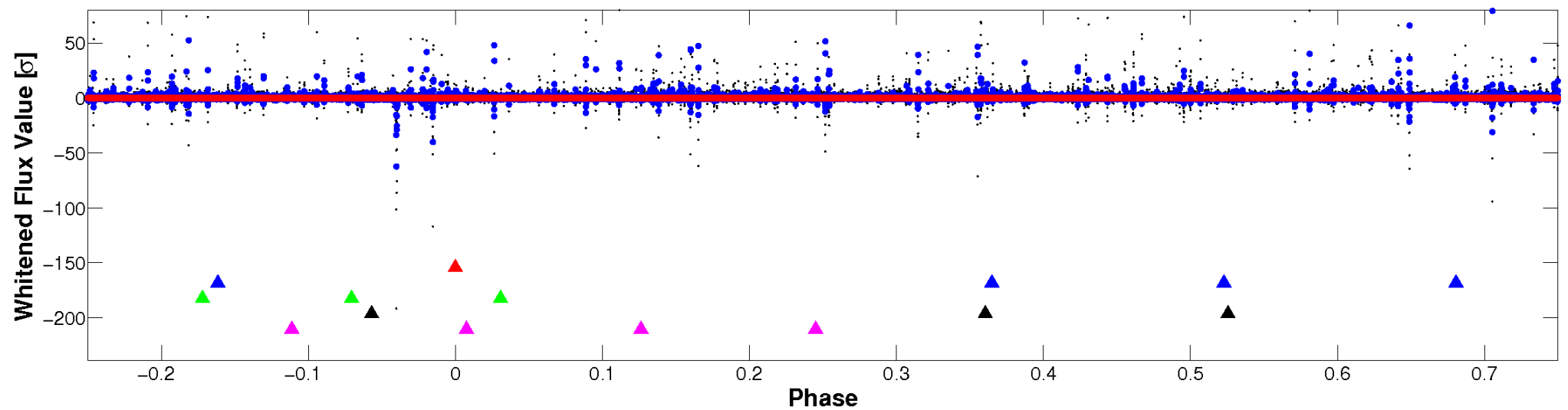


Non-Whitened Vs. Whitened Light Curve

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

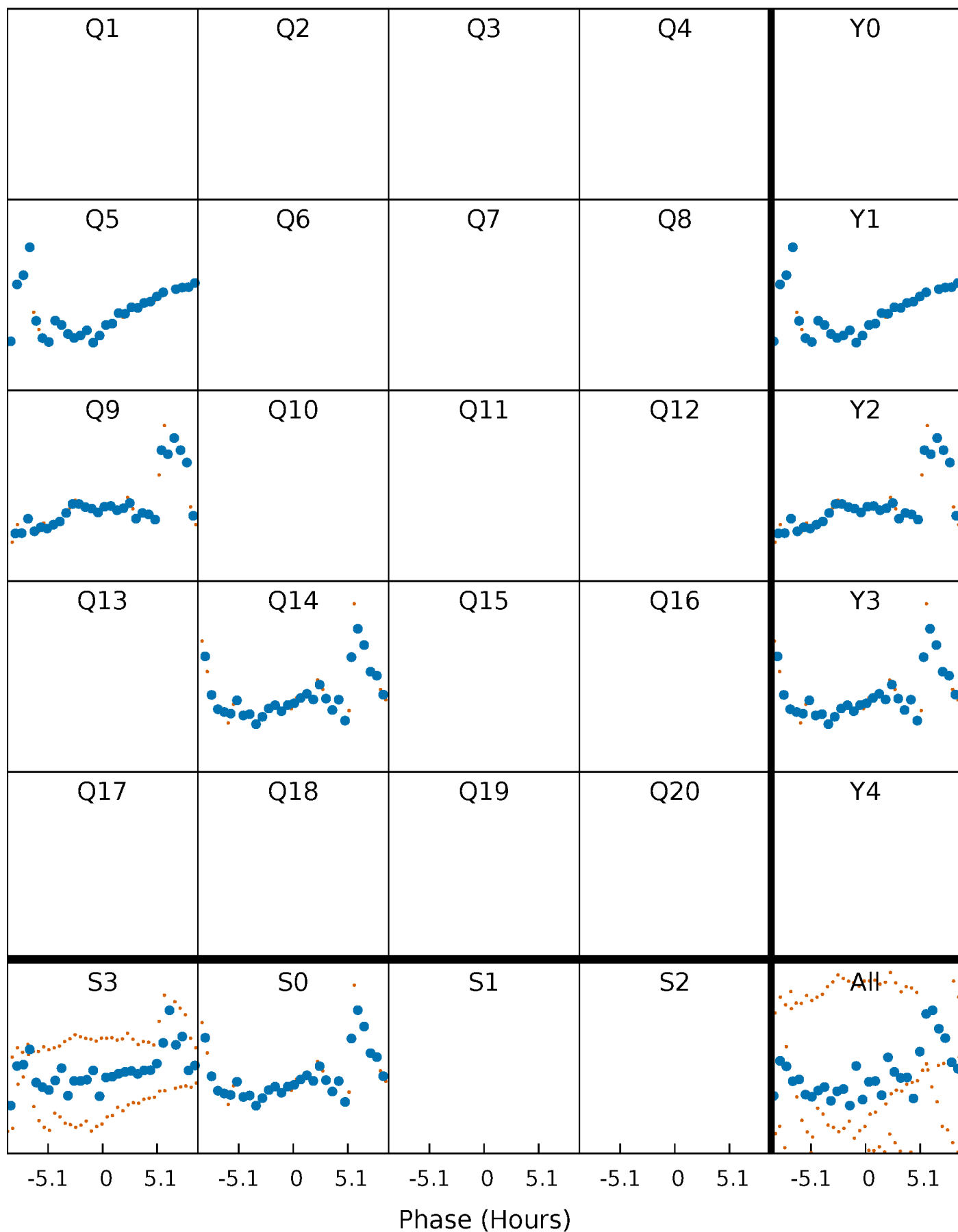


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



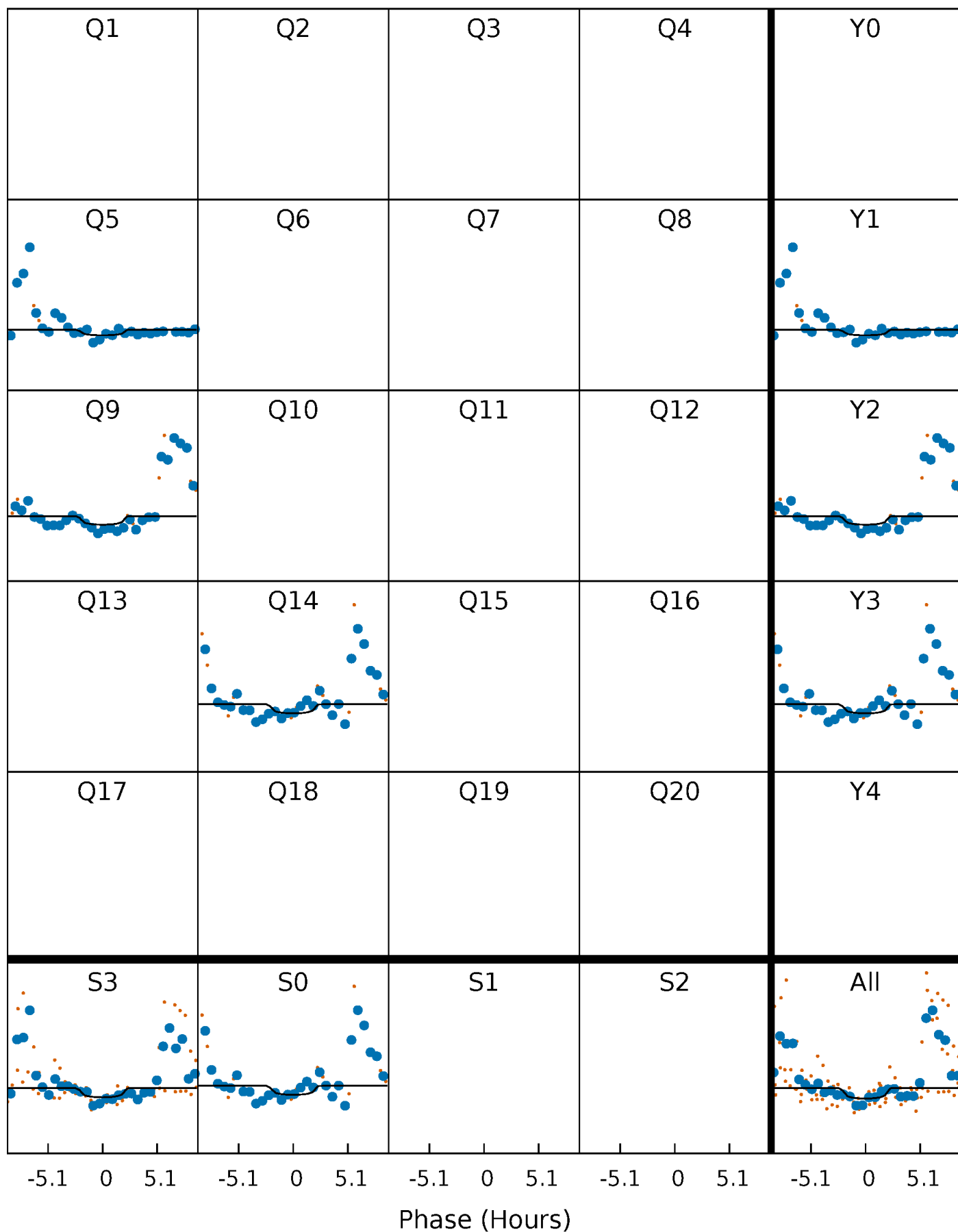
PDC Quarter-Phased Transit Curves

TCE 007117293-01 P=416.481677 Days $T_0=483.544129$ (BKJD)



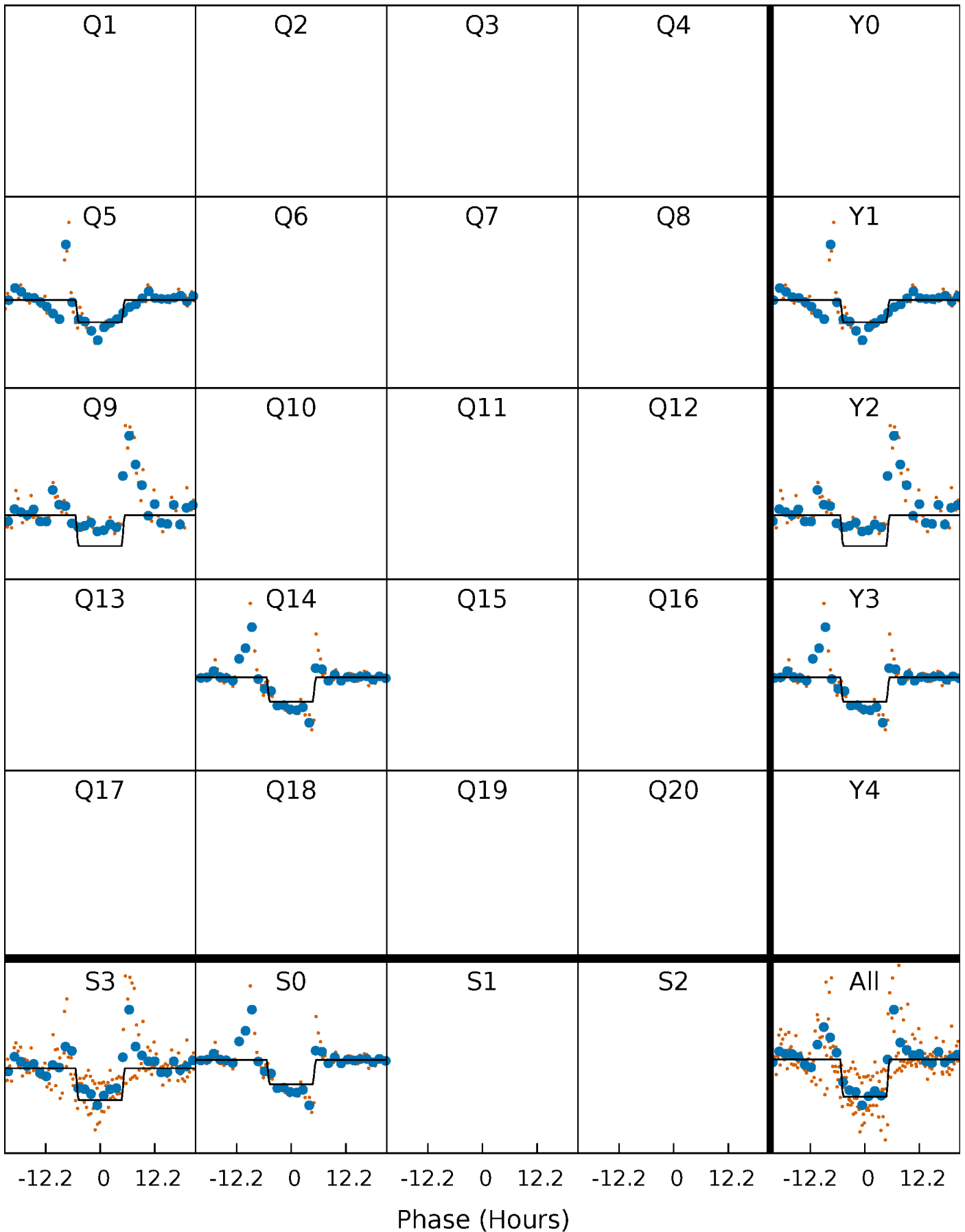
DV Quarter-Phased Transit Curves

TCE 007117293-01 P=416.481677 Days $T_0=483.544129$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

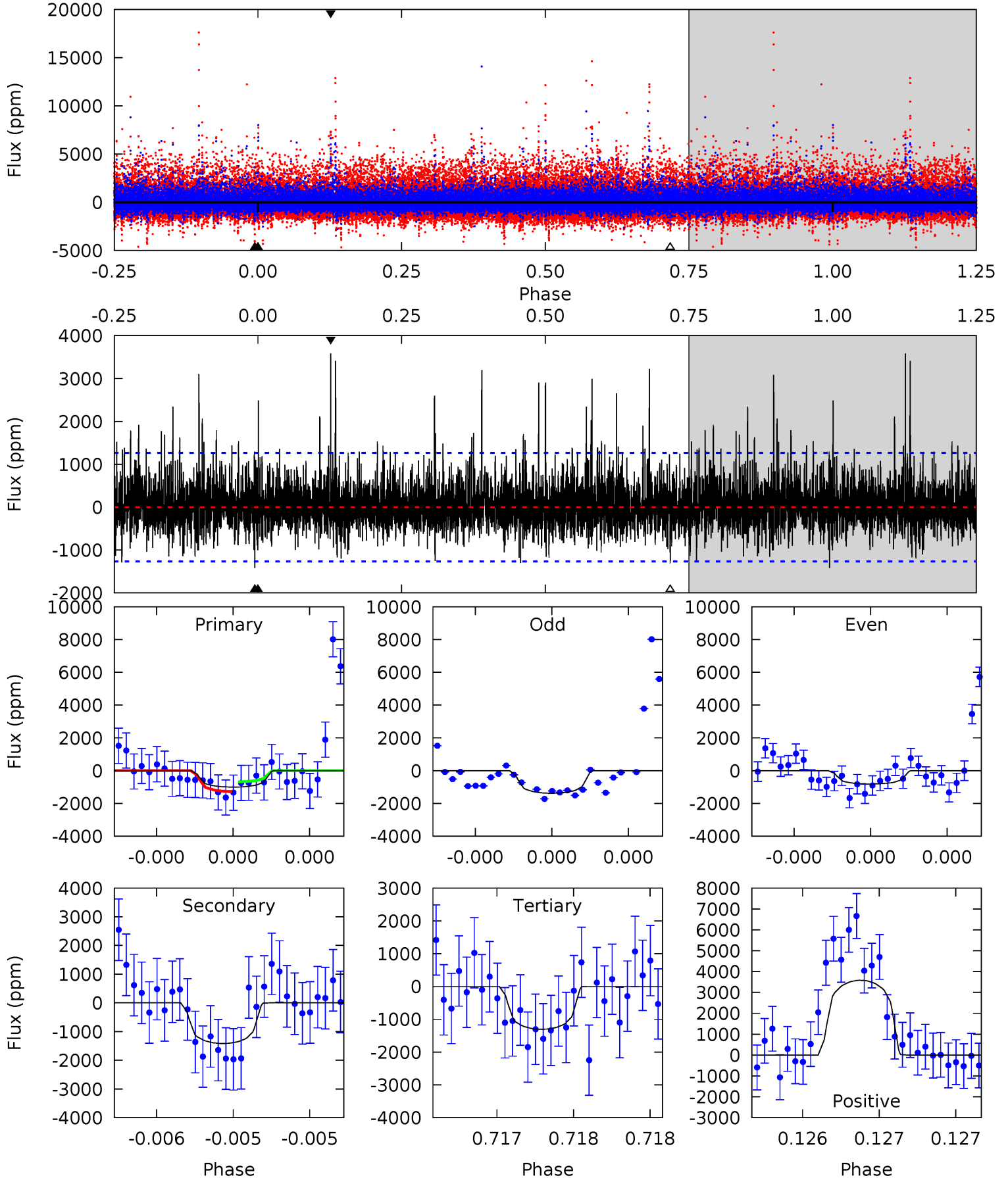
TCE 007117293-01 P=416.483631 Days $T_0=483.545359$ (BKJD)



DV Model-Shift Uniqueness Test

007117293-01, P = 416.481677 Days, E = 67.062452 Days

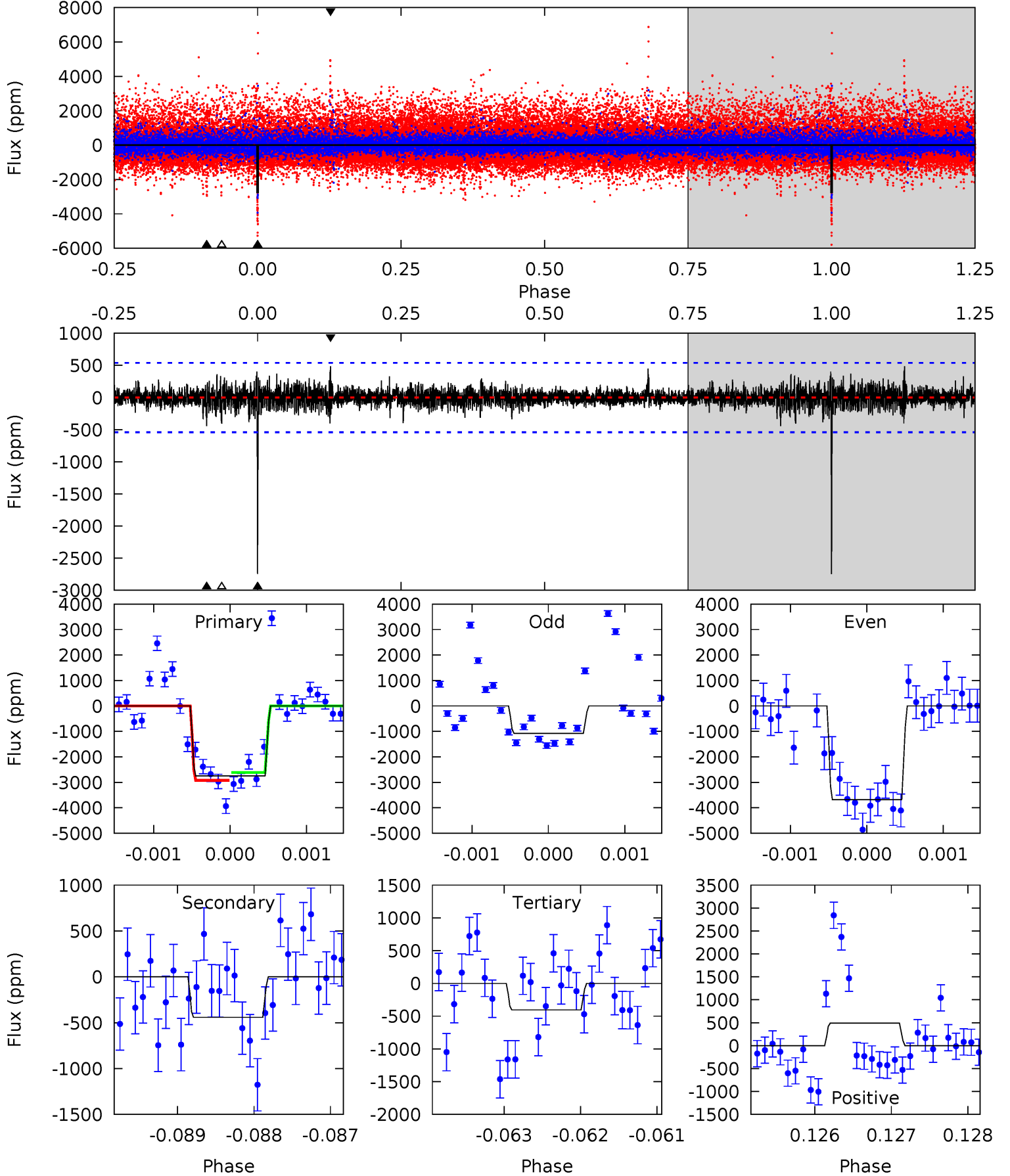
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.43	6.25	5.75	15.8	5.59	3.51	2.03	-1.33	-11.4	0.49	-9.55	0.54	0.99	0.72	1.33



Alt Model-Shift Uniqueness Test

007117293-01, P = 416.483631 Days, E = 67.061728 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.7	4.46	4.08	4.92	5.44	3.28	0.88	23.6	22.8	0.38	-0.46	11.9	0.81	0.15	1.57



Stellar Parameters For KIC 007117293

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3377^{+54}_{-47}	$4.949^{+0.055}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.299^{+0.045}_{-0.045}$	$0.289^{+0.059}_{-0.049}$	$15.290^{+5.200}_{-3.261}$
	+2%/-1%	+1%/-1%	+inf%/-inf%	+15%/-15%	+20%/-17%	+34%/-21%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 007117293-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1417 ± 227	$1.59^{+1.54}_{-1.07}$	134^{+4}_{-4}	3126^{+1436}_{-525}	$160867^{+1352929}_{-118948}$
Alt.	-442 ± 99	$2.16^{+1.65}_{-1.35}$	134^{+4}_{-4}	2466^{+745}_{-298}	$26073^{+167675}_{-17622}$

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

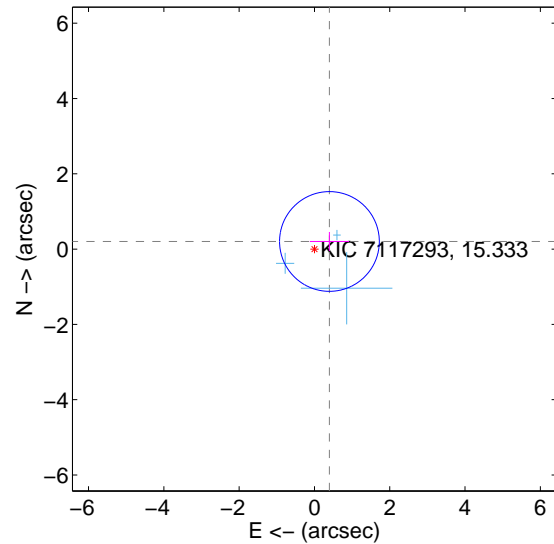
Supplemental centroid analysis for 007117293-01. Kepler magnitude: 15.33. Transit SNR 2.31

There are 3 quarters with good PRF difference image offsets

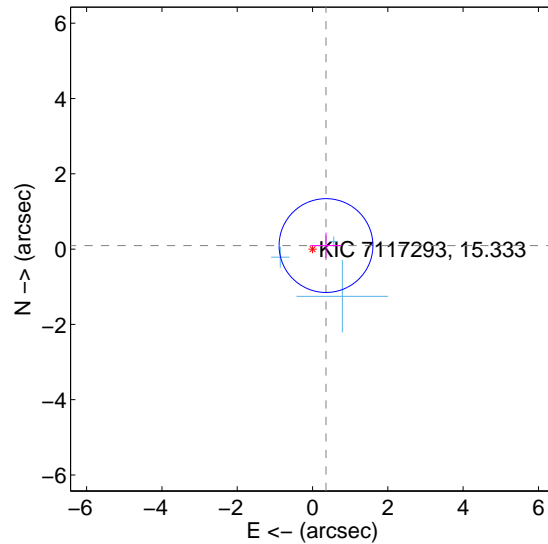
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.447 ± 0.442	1.01	-0.398 ± 0.522	0.203 ± 0.253
PRF-fit source offset from KIC position	0.370 ± 0.415	0.89	-0.358 ± 0.420	0.094 ± 0.343
photometric centroid source offset	1.22 ± 1.38	0.89	-1.17 ± 1.38	0.35 ± 1.34

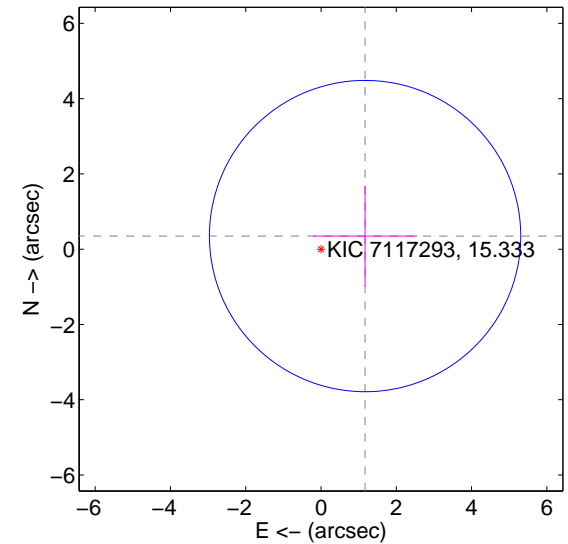
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

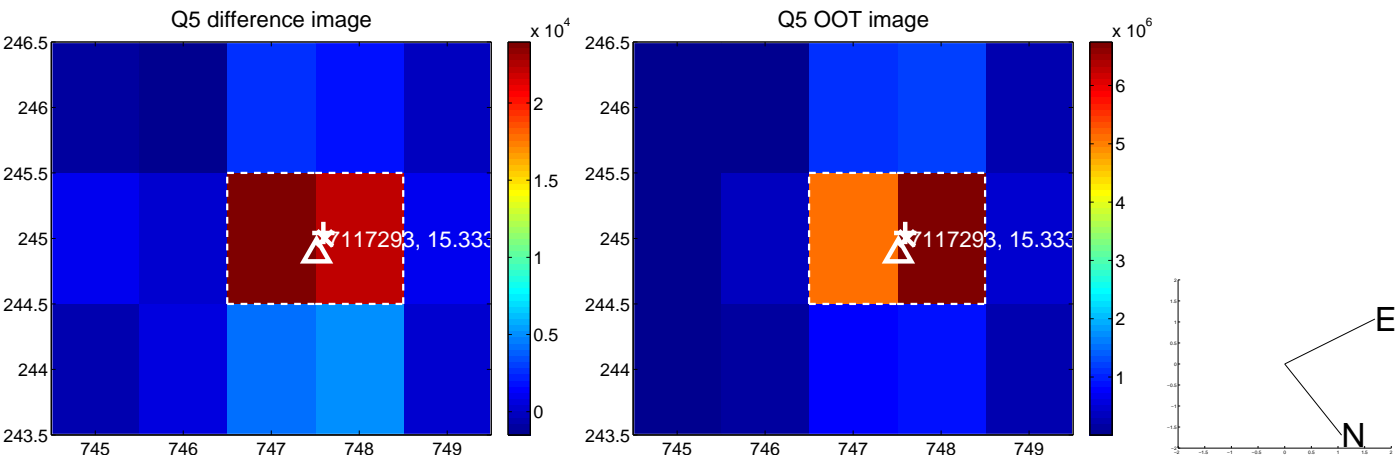


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

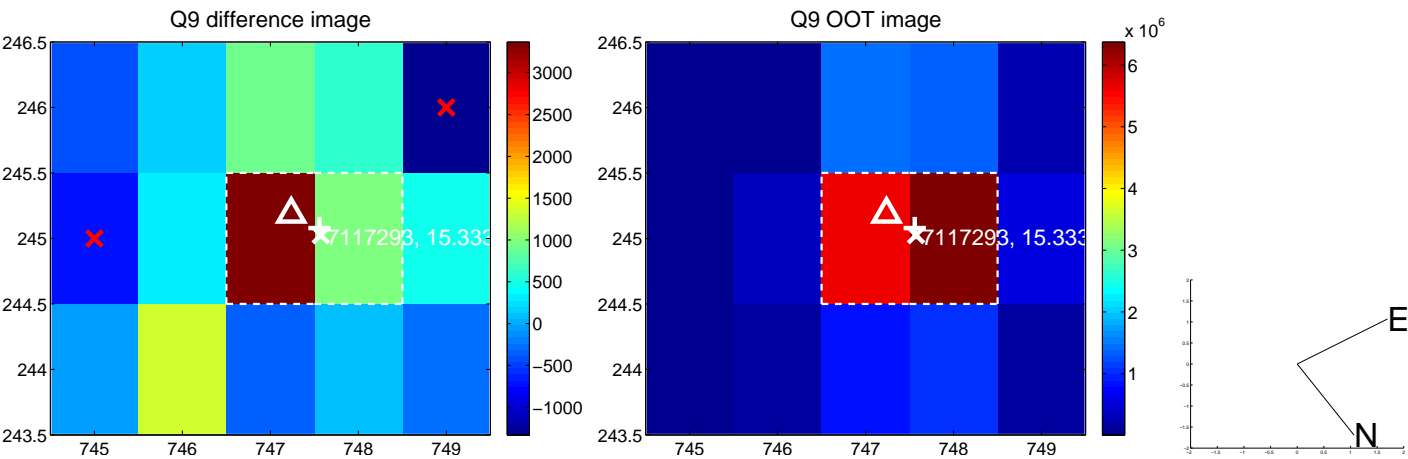
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



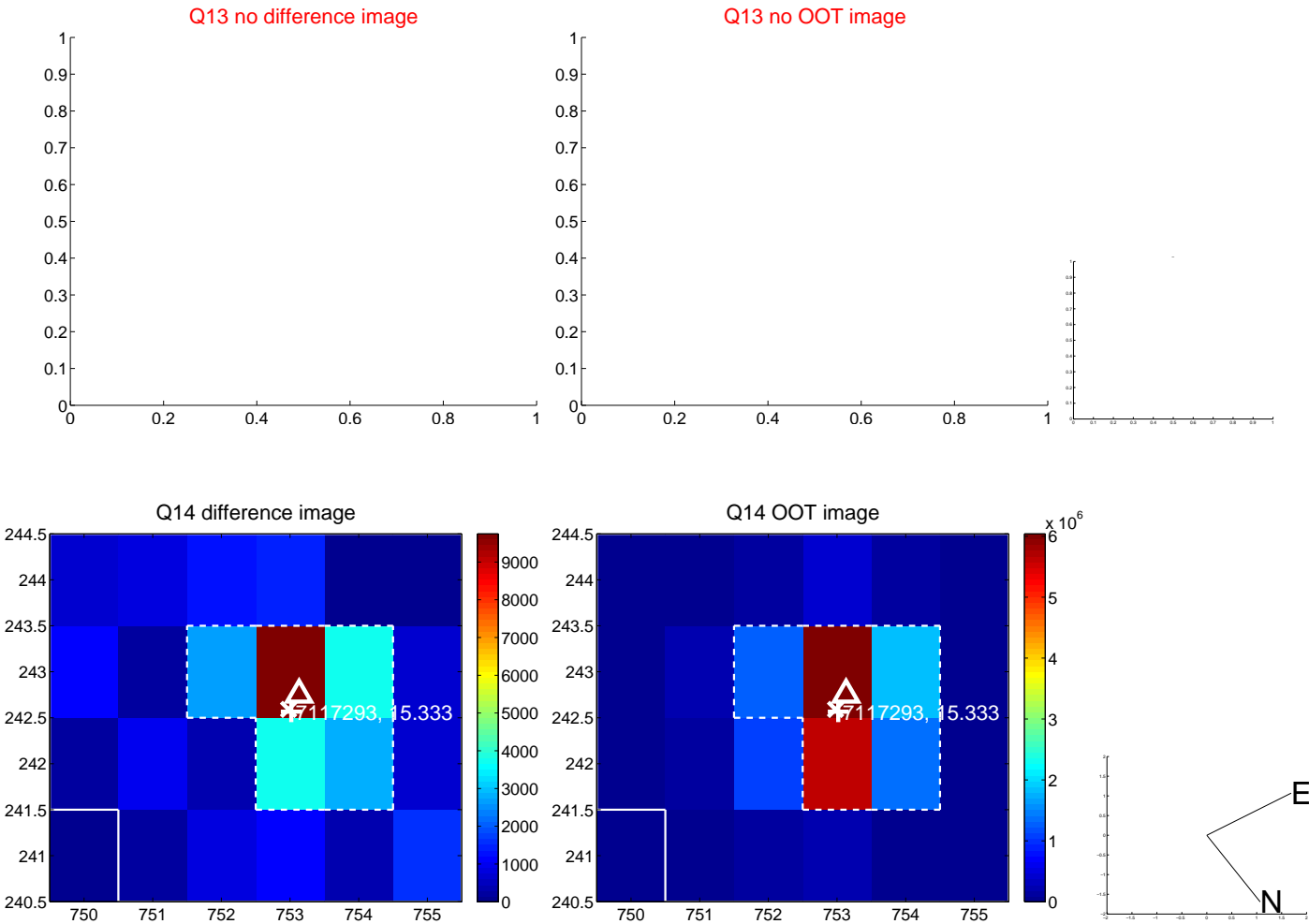
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



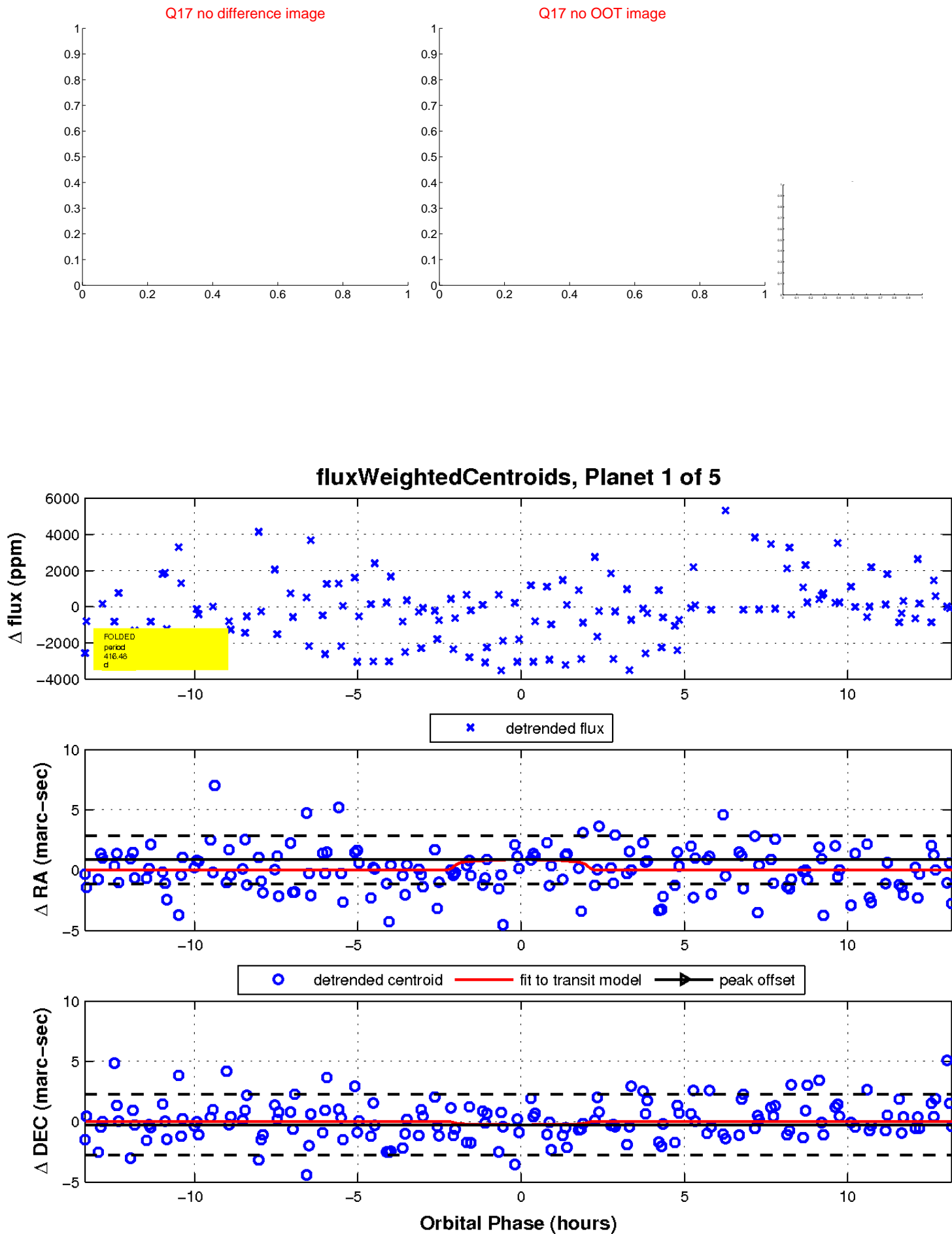
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

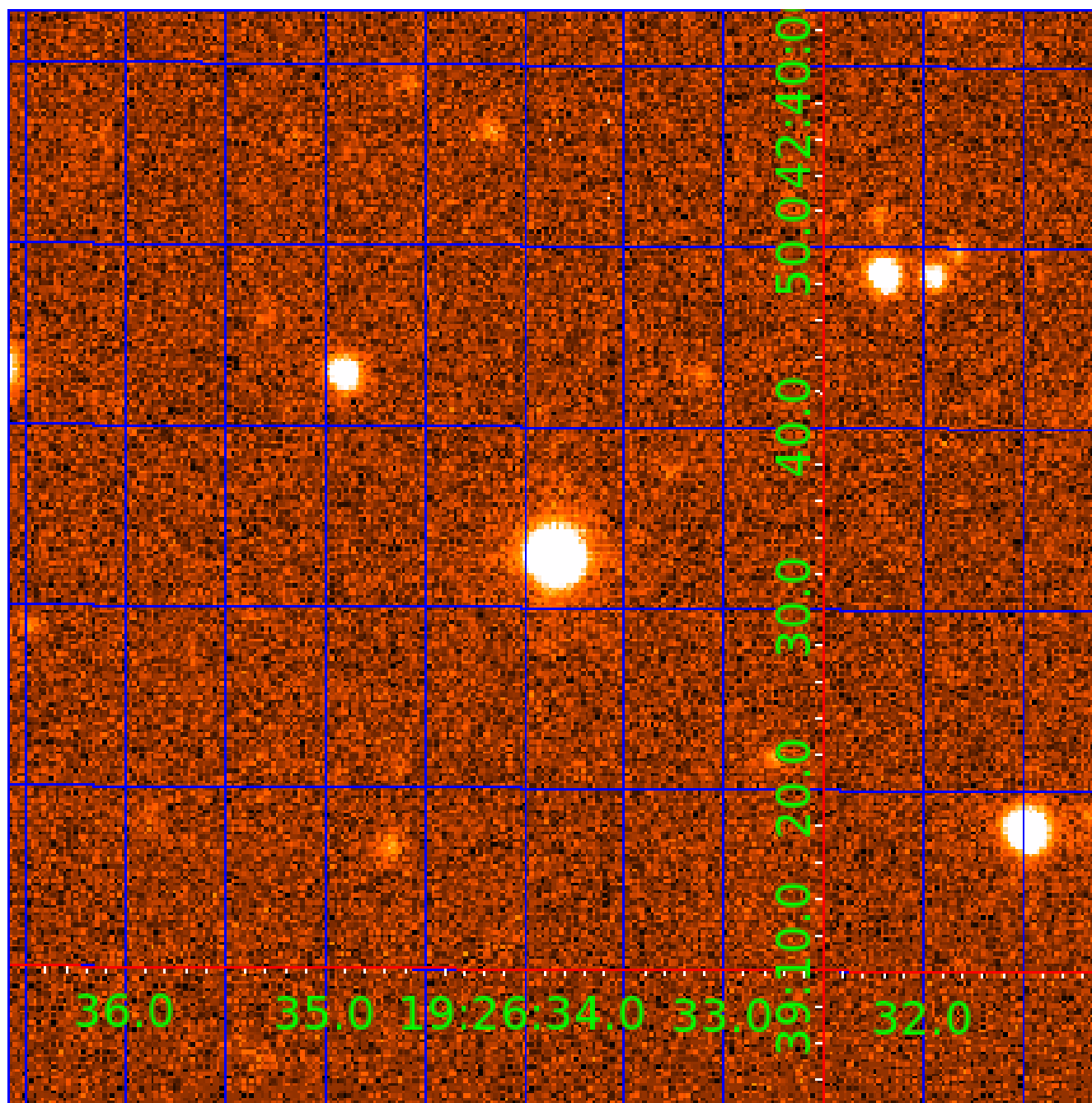


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007117293

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})
007117293-01	OBS	No	416.481677	483.544129	850.2	4.455	14.8	2.3	0.30	3377	0.95	0.02
007117293-02	OBS	No	350.745968	416.271436	2747.6	4.721	14.8	6.6	0.30	3377	1.55	0.03
007117293-03	OBS	No	458.710412	411.898025	2729.7	4.599	10.9	6.9	0.30	3377	1.54	0.02
007117293-05	OBS	No	367.013958	169.129918	3776.3	3.275	12.1	10.4	0.30	3377	1.95	0.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007117293-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
007117293-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007117293-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007117293-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_NOFITS

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

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

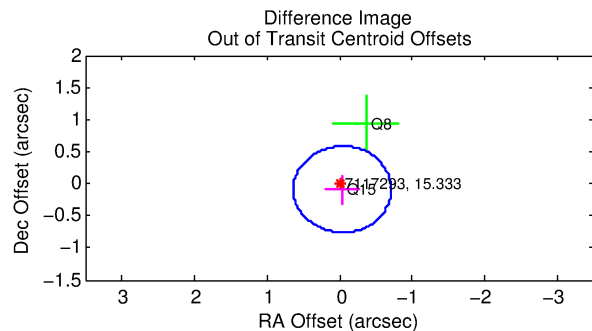
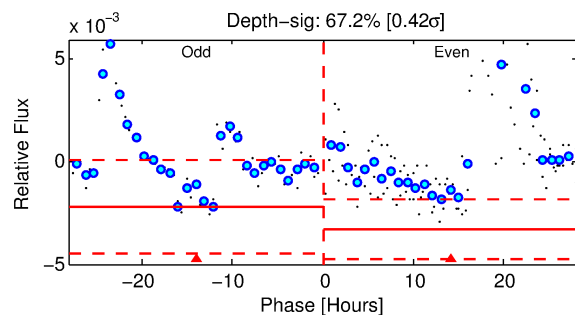
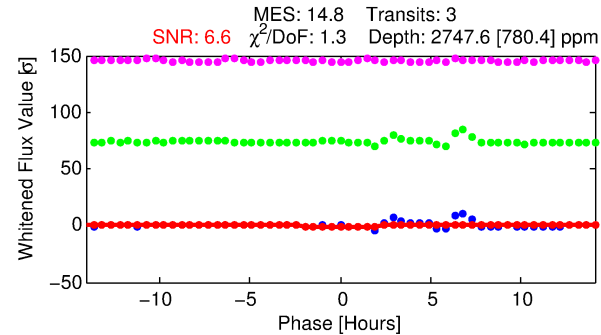
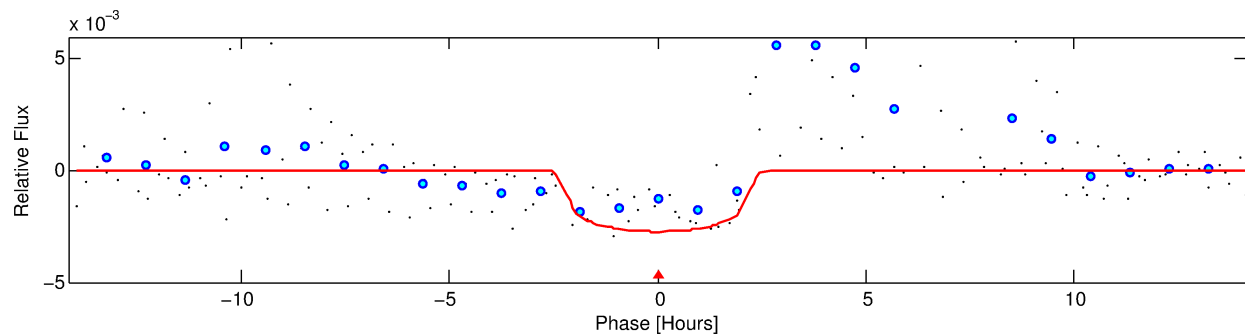
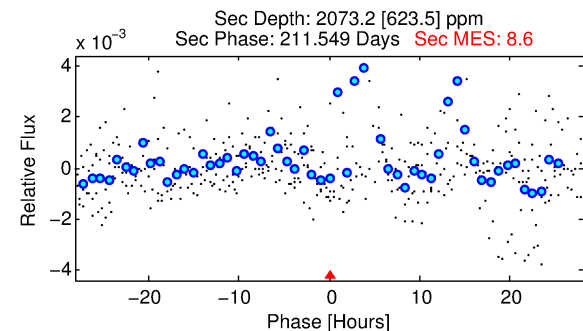
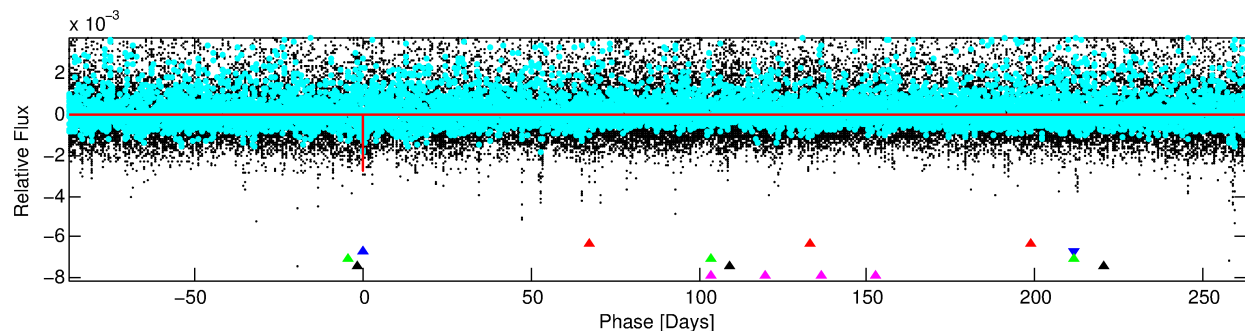
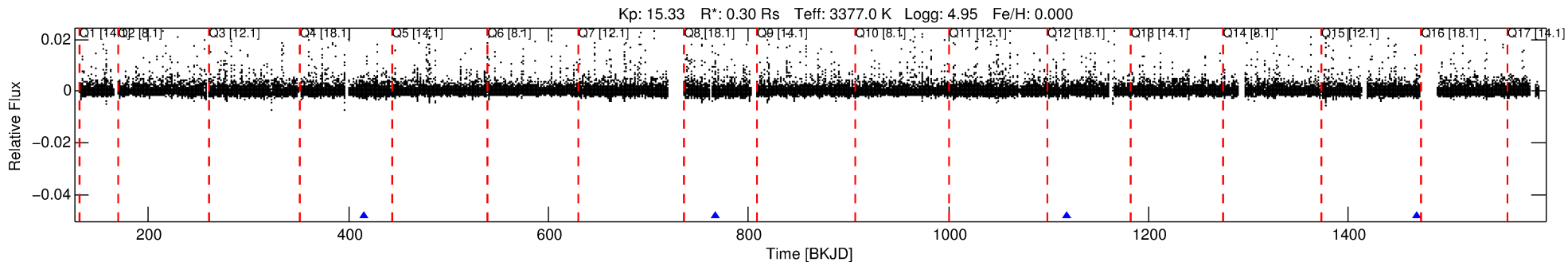
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007117293-02

No Significant Match Found

DV One-Page Summary

KIC: 7117293 Candidate: 2 of 5 Period: 350.746 d



DV Fit Results:

Period = 350.74597 [0.00574] d
Epoch = 416.2714 [0.0122] BKJD
Rp/R* = 0.0475 [0.0478]
a/R* = 588.25 [2439.04]
b = 0.15 [26.56]
Seff = 0.03 [0.00]
Teq = 101 [4] K
Rp = 1.55 [1.58] Re
a = 0.6444 [0.0701] AU
Ag = 197312.81 [402128.75] [0.49σ]
Teffp = 3307 [1682] K [1.91σ]

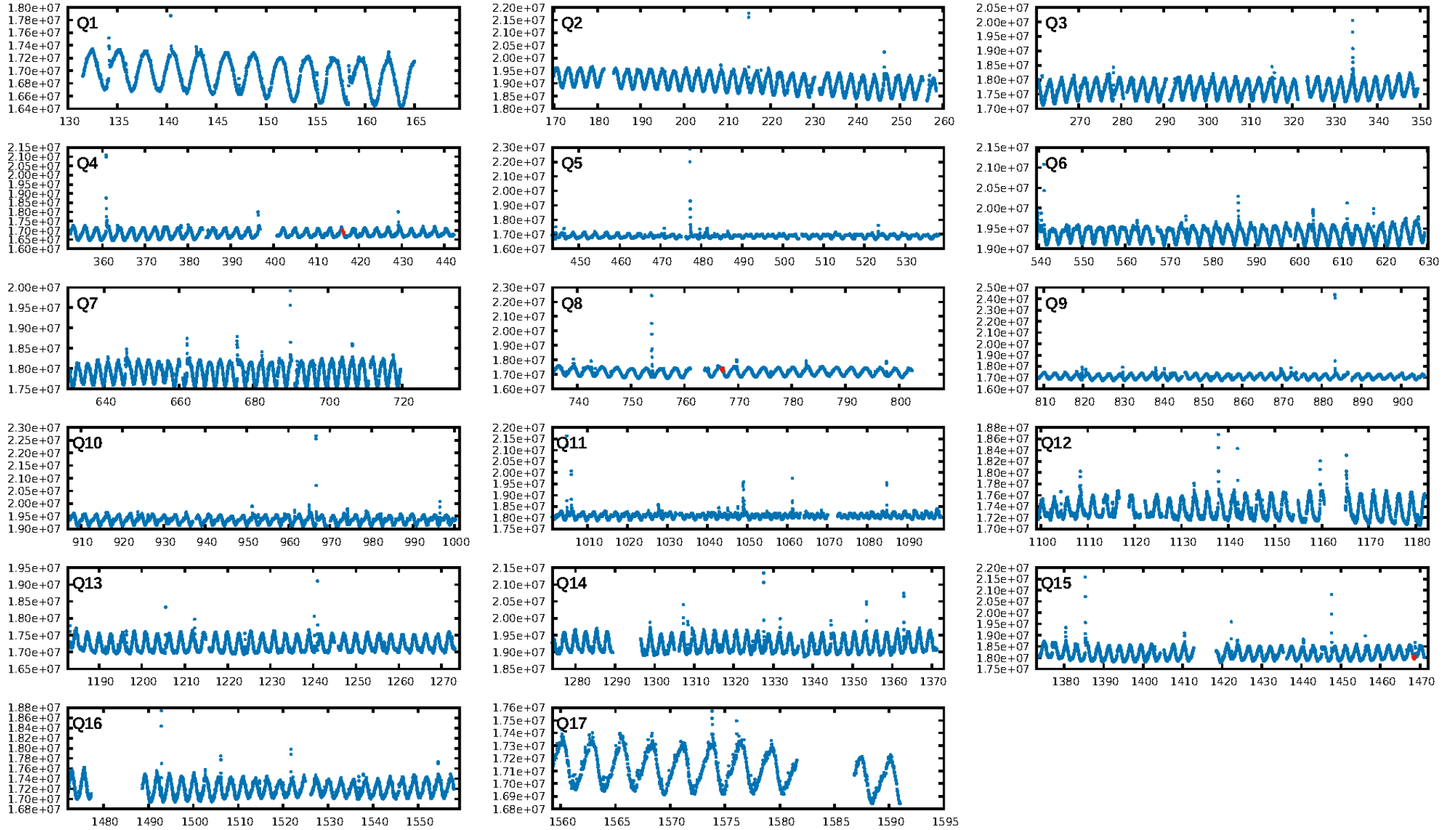
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [67.96σ]
ModelChiSquare2-sig: 85.2%
ModelChiSquareGof-sig: 69.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.9329
Centroid-sig: 27.1%
Centroid-so: 0.438 arcsec [0.82σ]
OotOffset-rm: 0.095 arcsec [0.43σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 0.055 arcsec [0.23σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

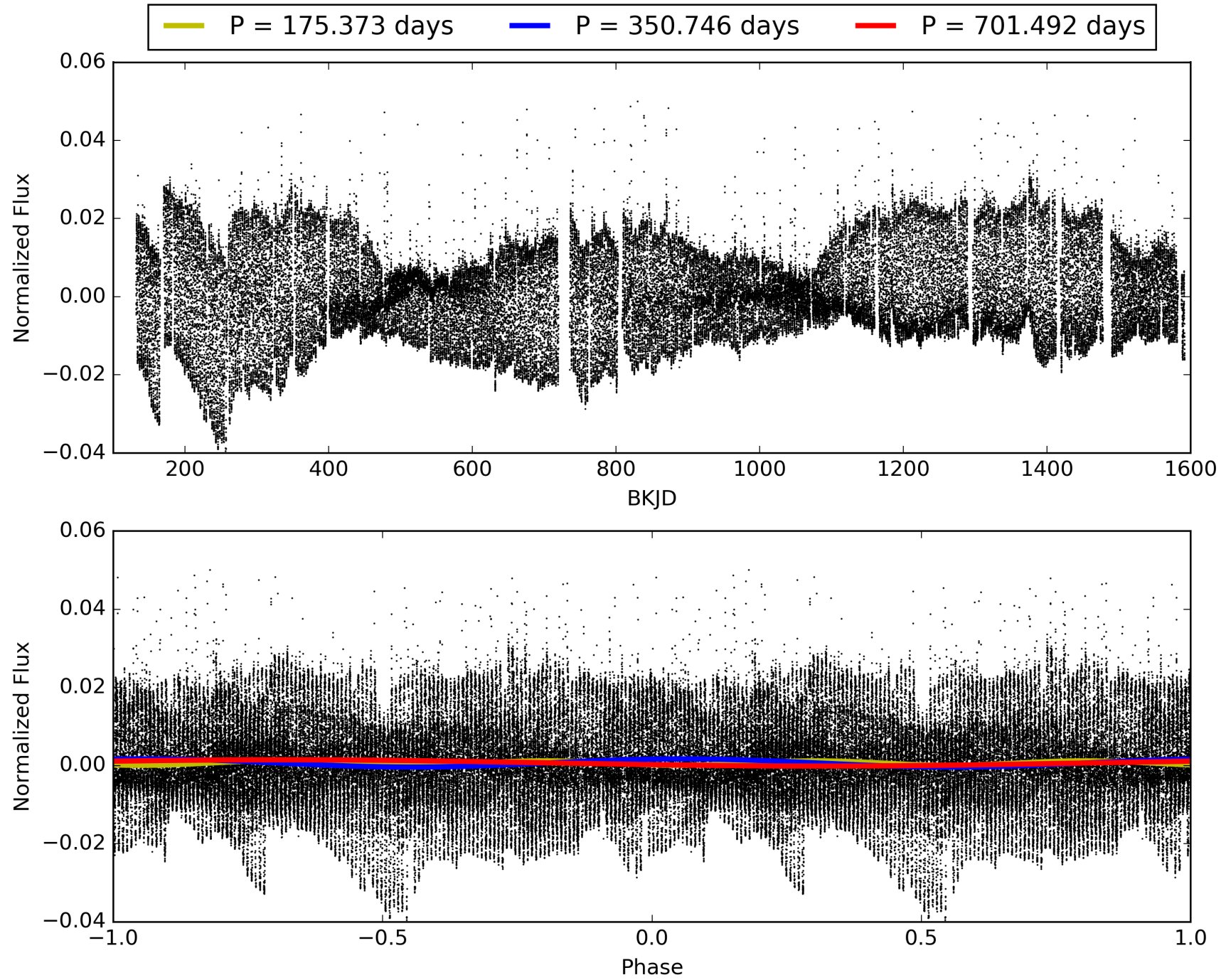
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:54:23 Z

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

TCE 007117293-02, PDC Light Curves

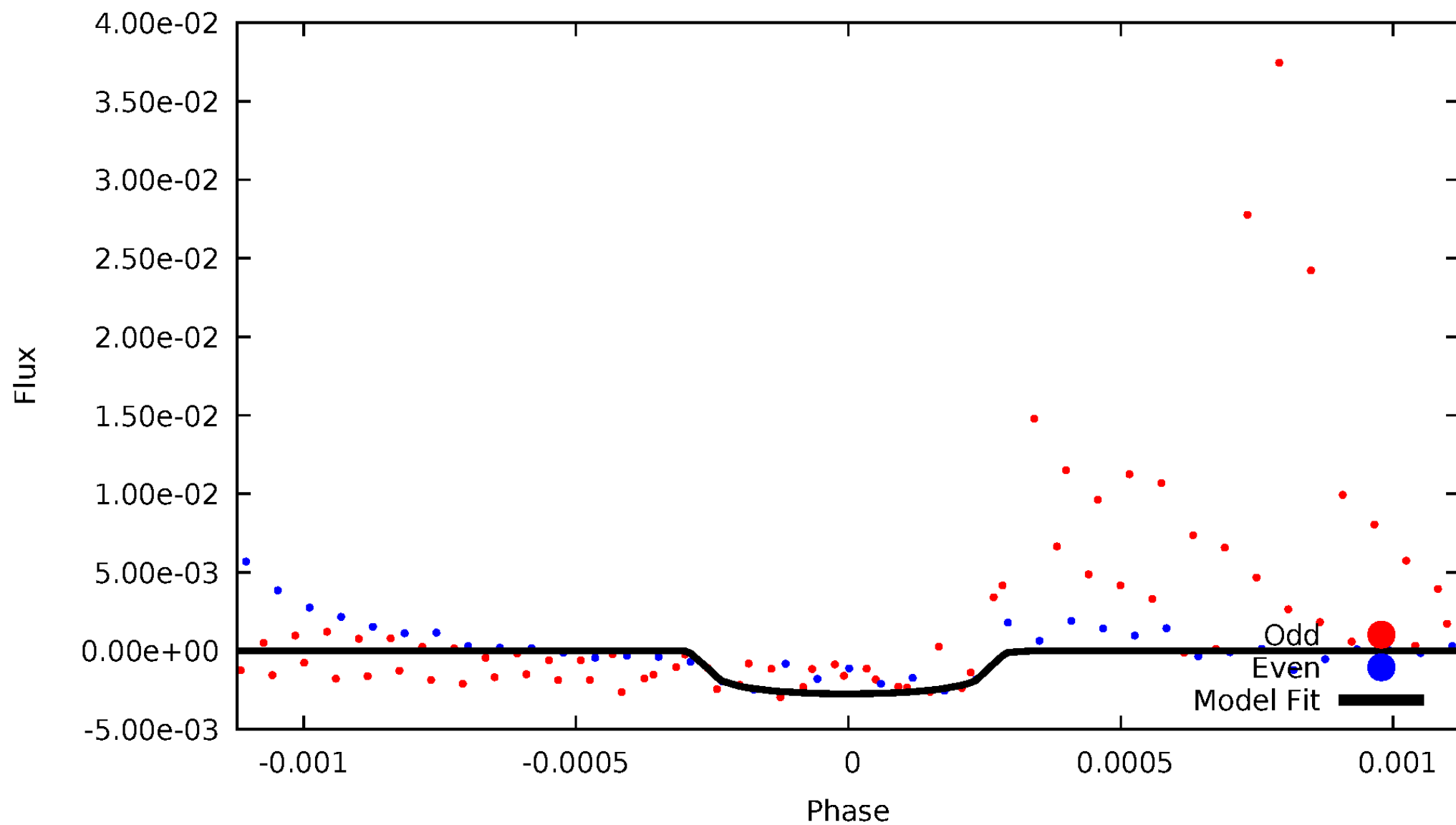


TCE 007117293-02



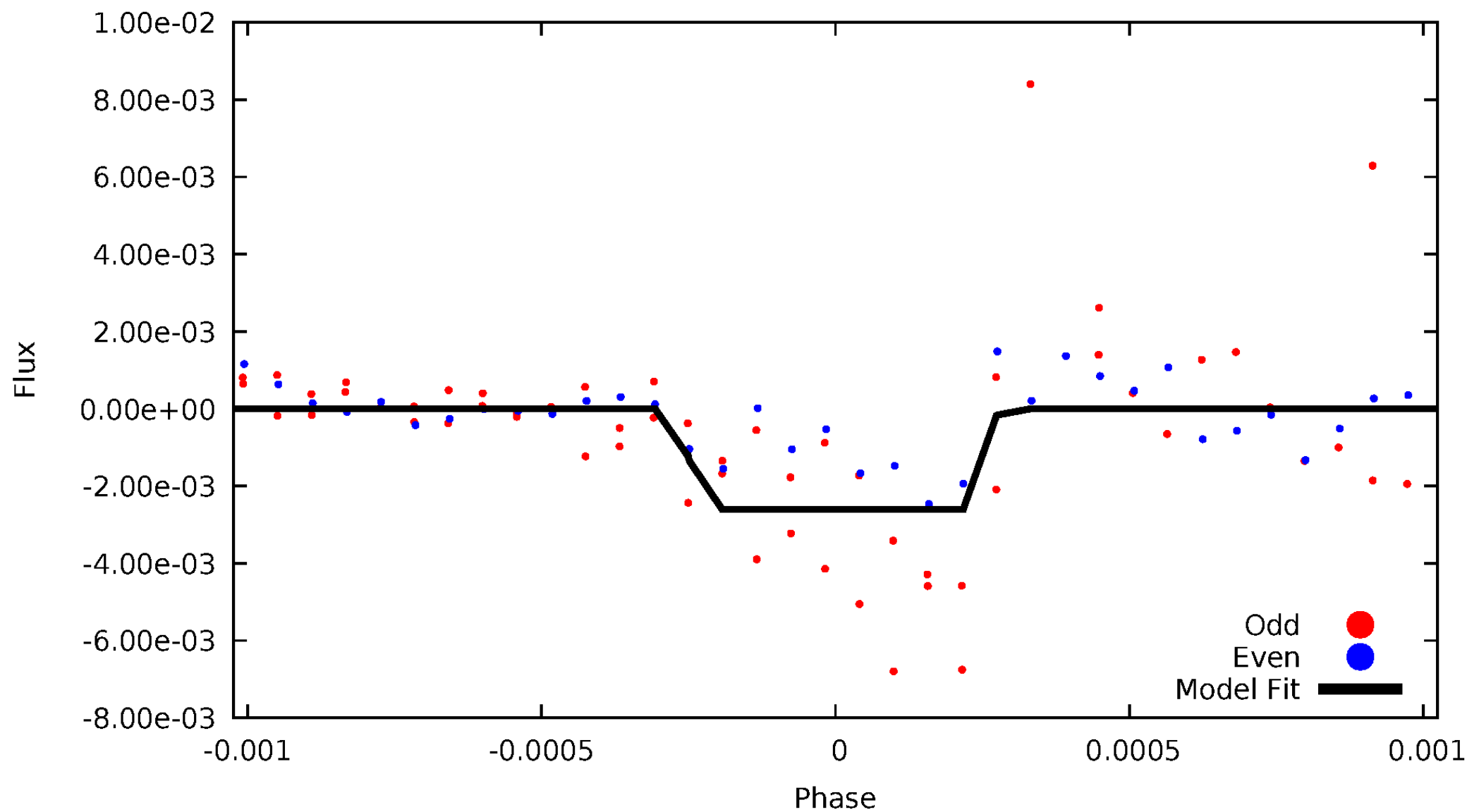
DV Odd/Even

TCE 007117293-02



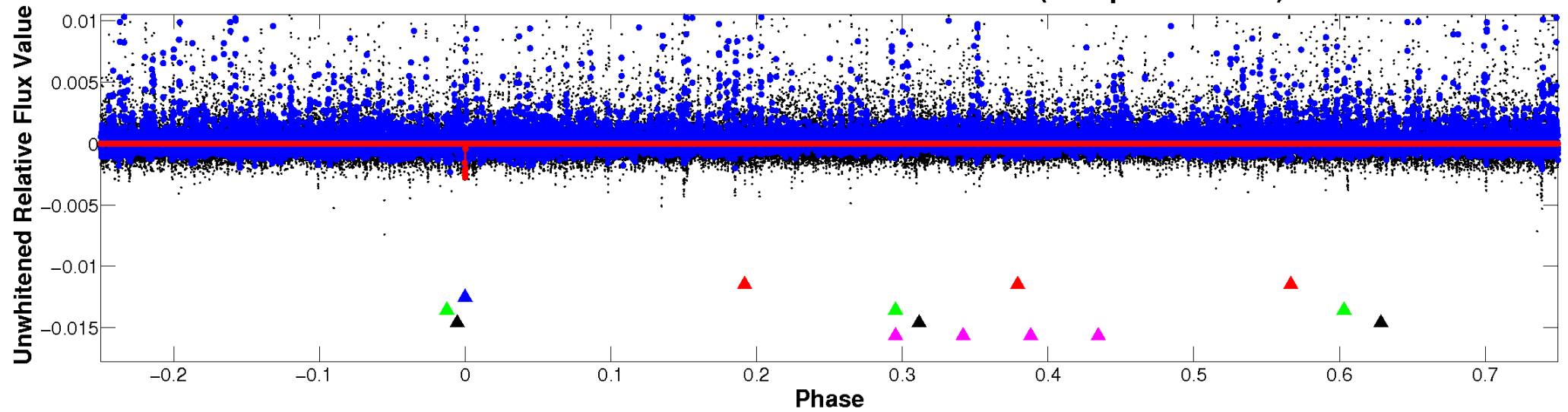
ALT Odd/Even

TCE 007117293-02

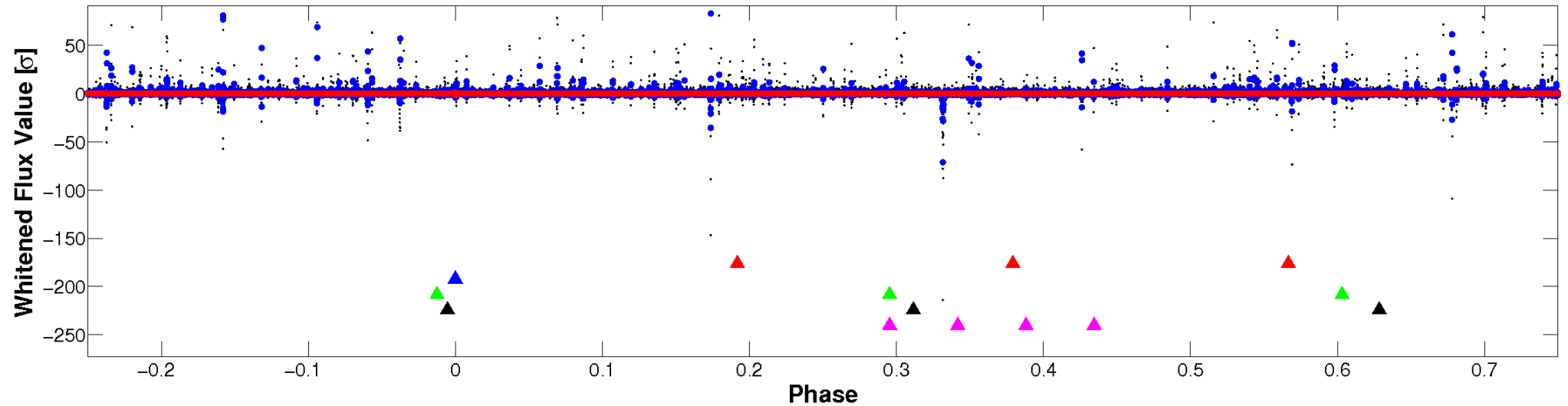


Non-Whitened Vs. Whitened Light Curve

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

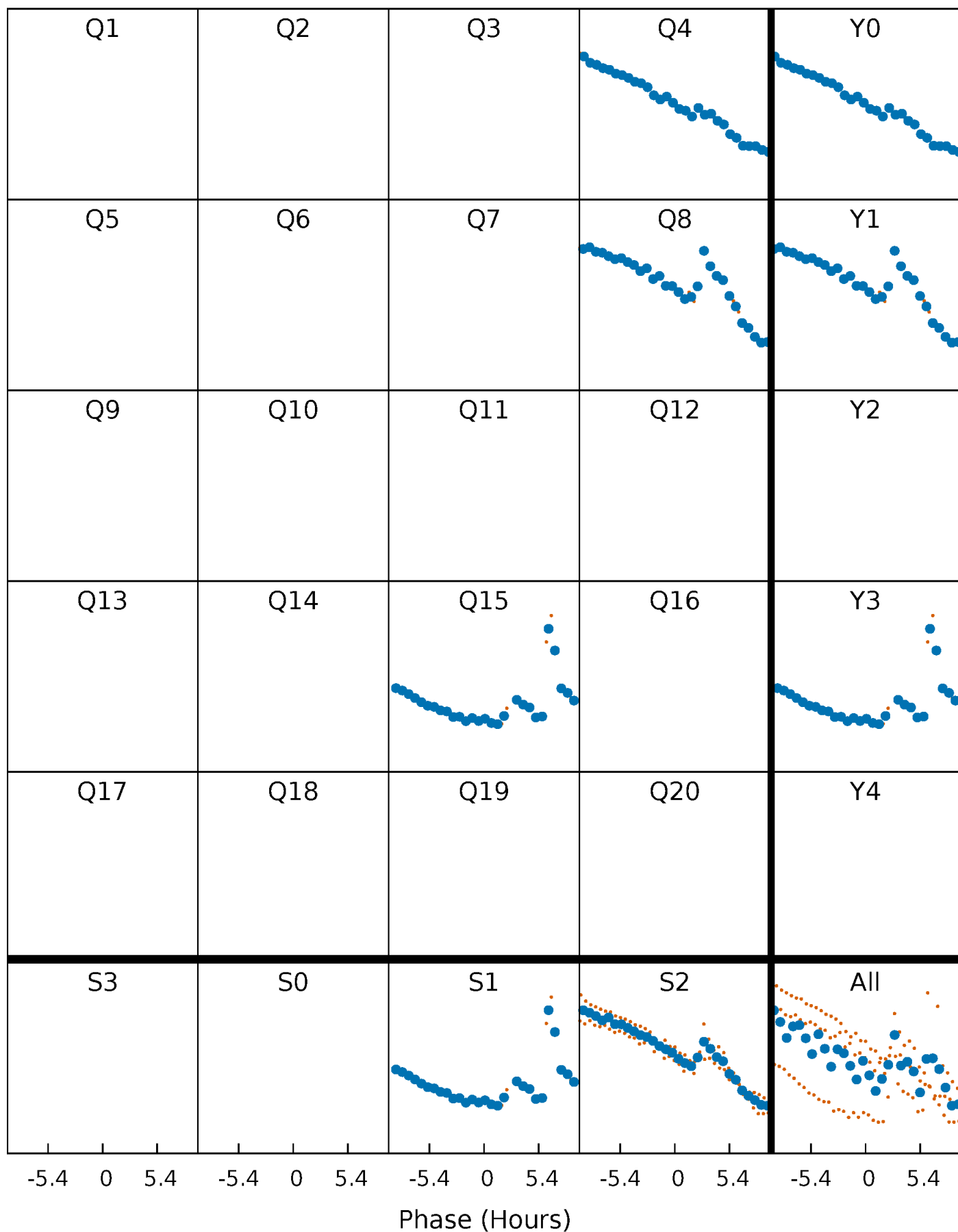


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



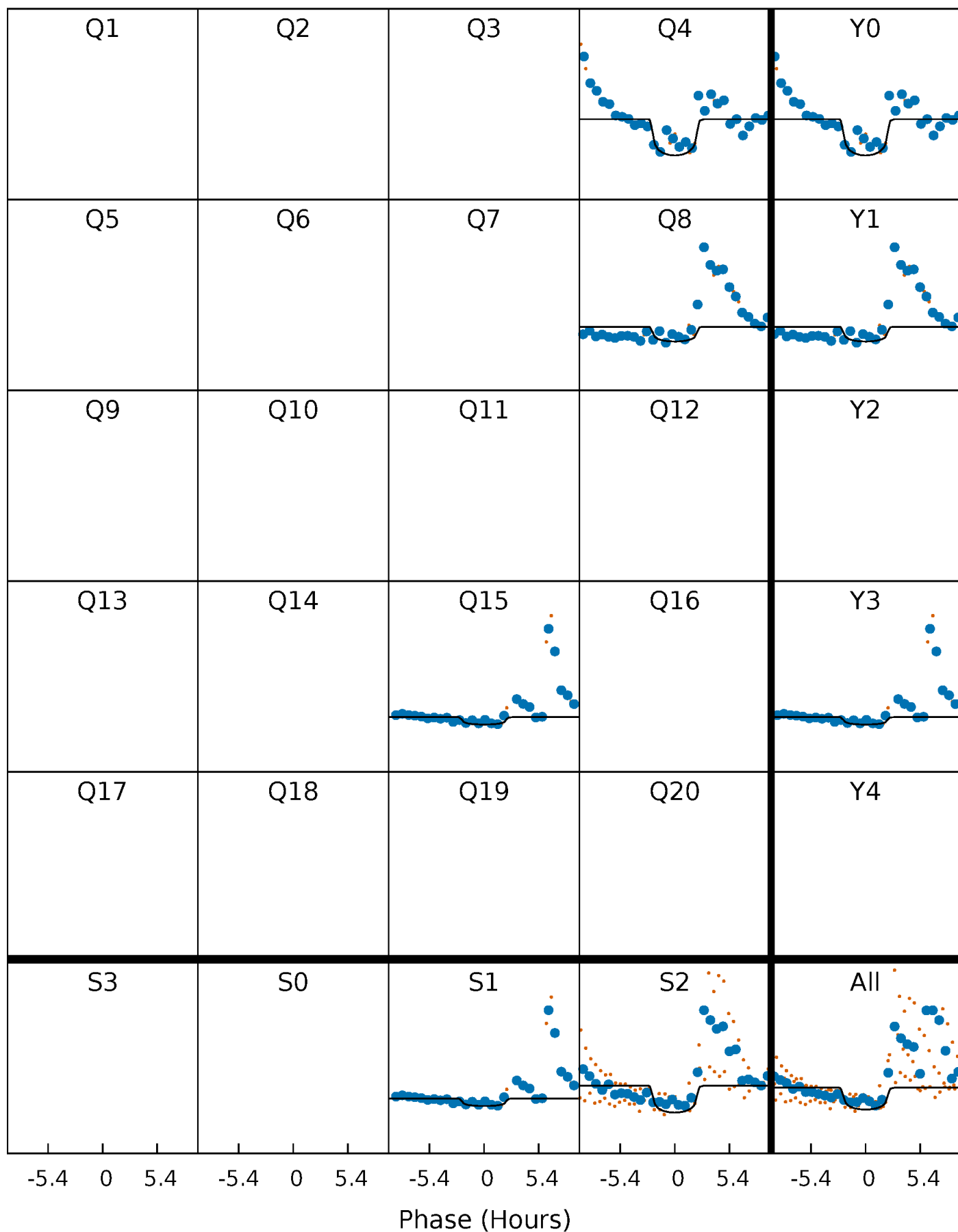
PDC Quarter-Phased Transit Curves

TCE 007117293-02 $P=350.745968$ Days $T_0=416.271436$ (BKJD)



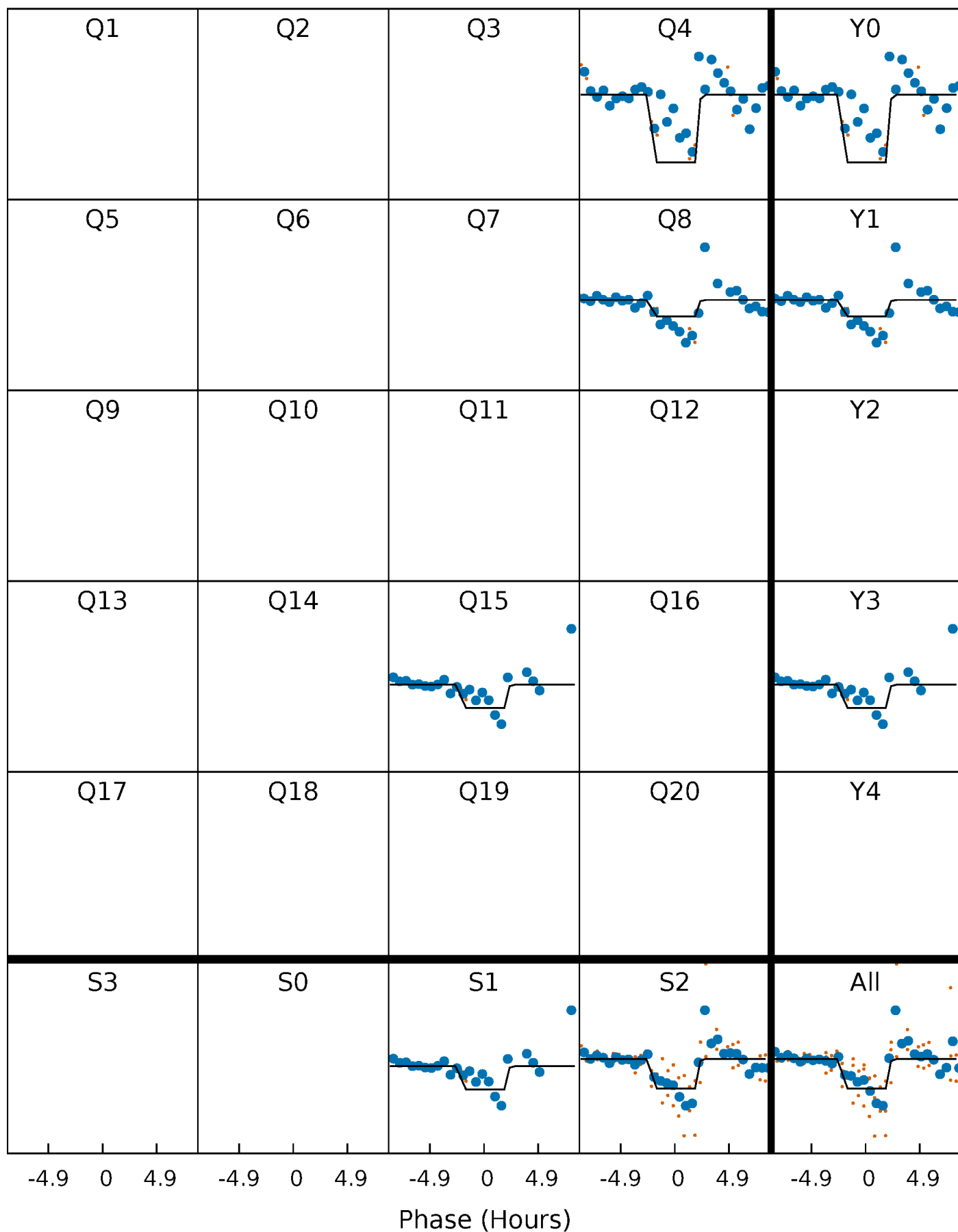
DV Quarter-Phased Transit Curves

TCE 007117293-02 $P=350.745968$ Days $T_0=416.271436$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

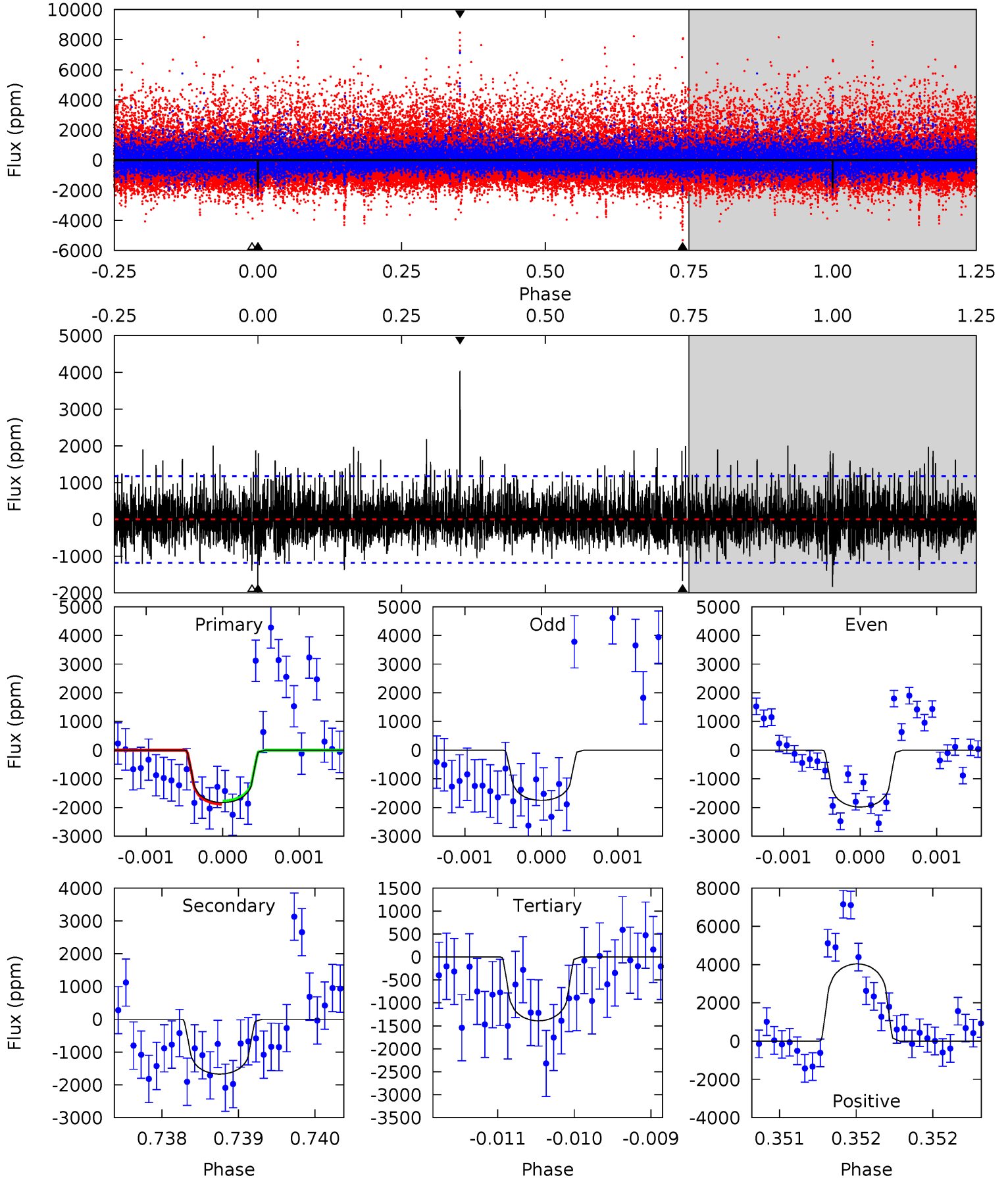
TCE 007117293-02 P=350.743183 Days $T_0=416.277466$ (BKJD)



DV Model-Shift Uniqueness Test

007117293-02, $P = 350.745968$ Days, $E = 65.525468$ Days

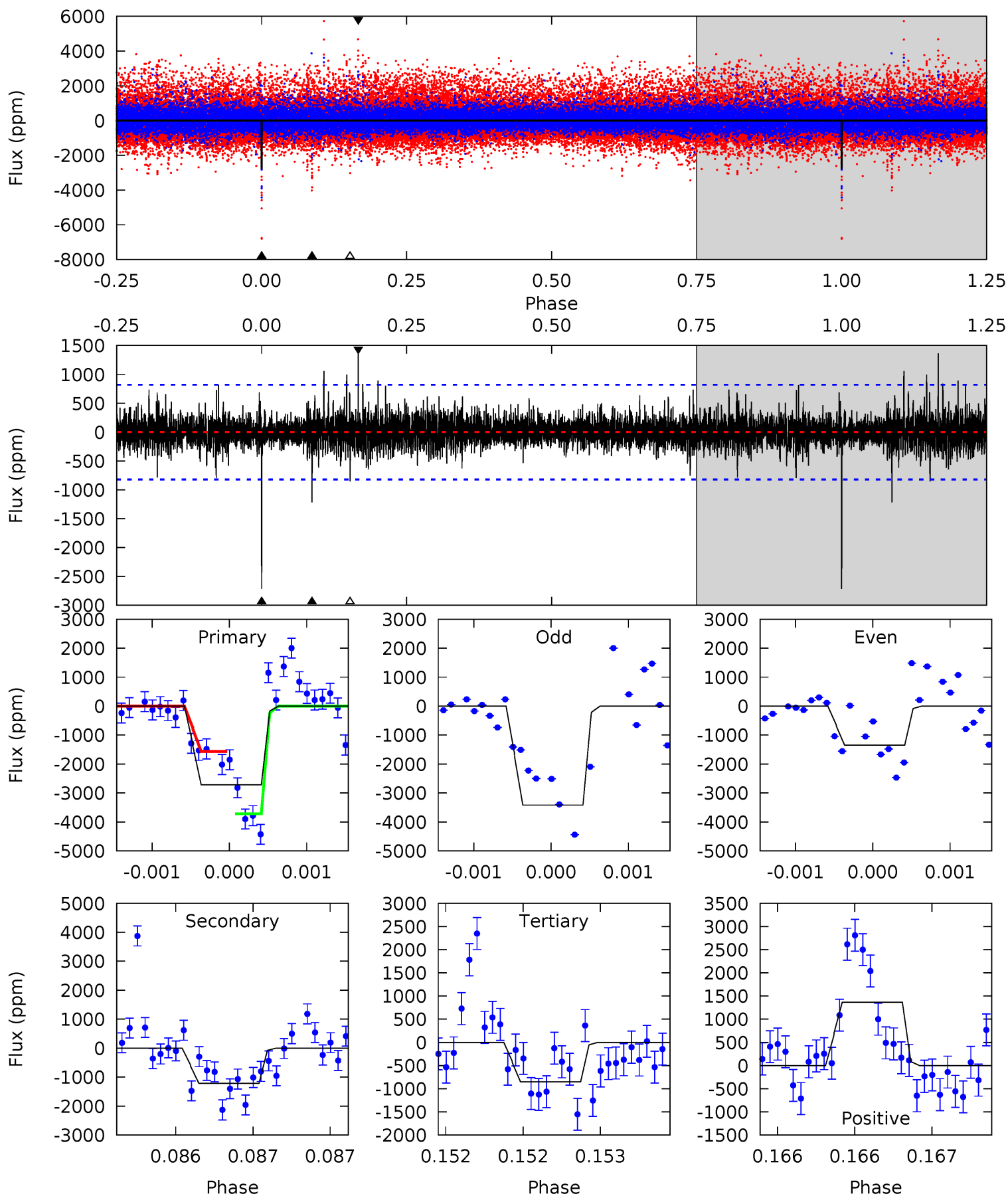
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.56	7.82	6.51	18.9	5.53	3.42	2.06	2.05	-10.3	1.31	-11.1	0.27	1.00	0.69	0.26



Alt Model-Shift Uniqueness Test

007117293-02, P = 350.743183 Days, E = 65.534283 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	8.24	5.76	9.25	5.56	3.47	1.19	12.7	9.16	2.48	-1.01	6.06	1.18	0.33	7.19



Stellar Parameters For KIC 007117293

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3377^{+54}_{-47}	$4.949^{+0.055}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.299^{+0.045}_{-0.045}$	$0.289^{+0.059}_{-0.049}$	$15.290^{+5.200}_{-3.261}$
	+2%/-1%	+1%/-1%	+inf%/-inf%	+15%/-15%	+20%/-17%	+34%/-21%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 007117293-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1671 ± 214	$1.88^{+1.33}_{-1.20}$	142^{+4}_{-4}	3054^{+1205}_{-425}	$107624^{+711858}_{-71146}$
Alt.	-1215 ± 147	$2.01^{+1.40}_{-1.15}$	142^{+4}_{-4}	2856^{+823}_{-362}	$67772^{+302808}_{-43839}$

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

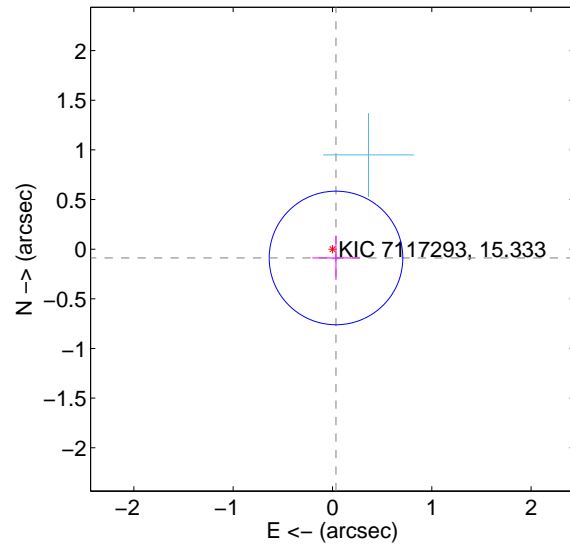
Supplemental centroid analysis for 007117293-02. Kepler magnitude: 15.33. Transit SNR 6.59

There are 2 quarters with good PRF difference image offsets

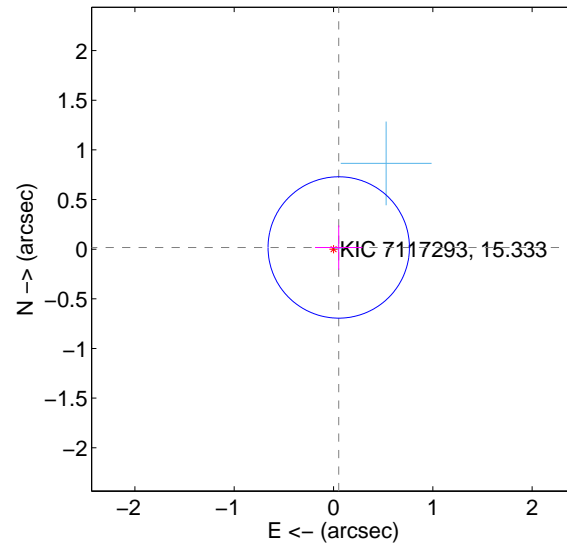
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.095 ± 0.224	0.43	-0.036 ± 0.239	-0.089 ± 0.222
PRF-fit source offset from KIC position	0.055 ± 0.237	0.23	-0.053 ± 0.239	0.017 ± 0.222
photometric centroid source offset	0.44 ± 0.53	0.82	0.36 ± 0.52	0.25 ± 0.56

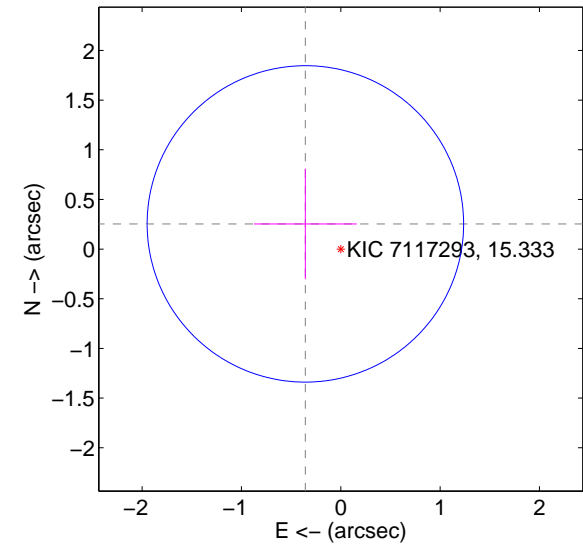
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

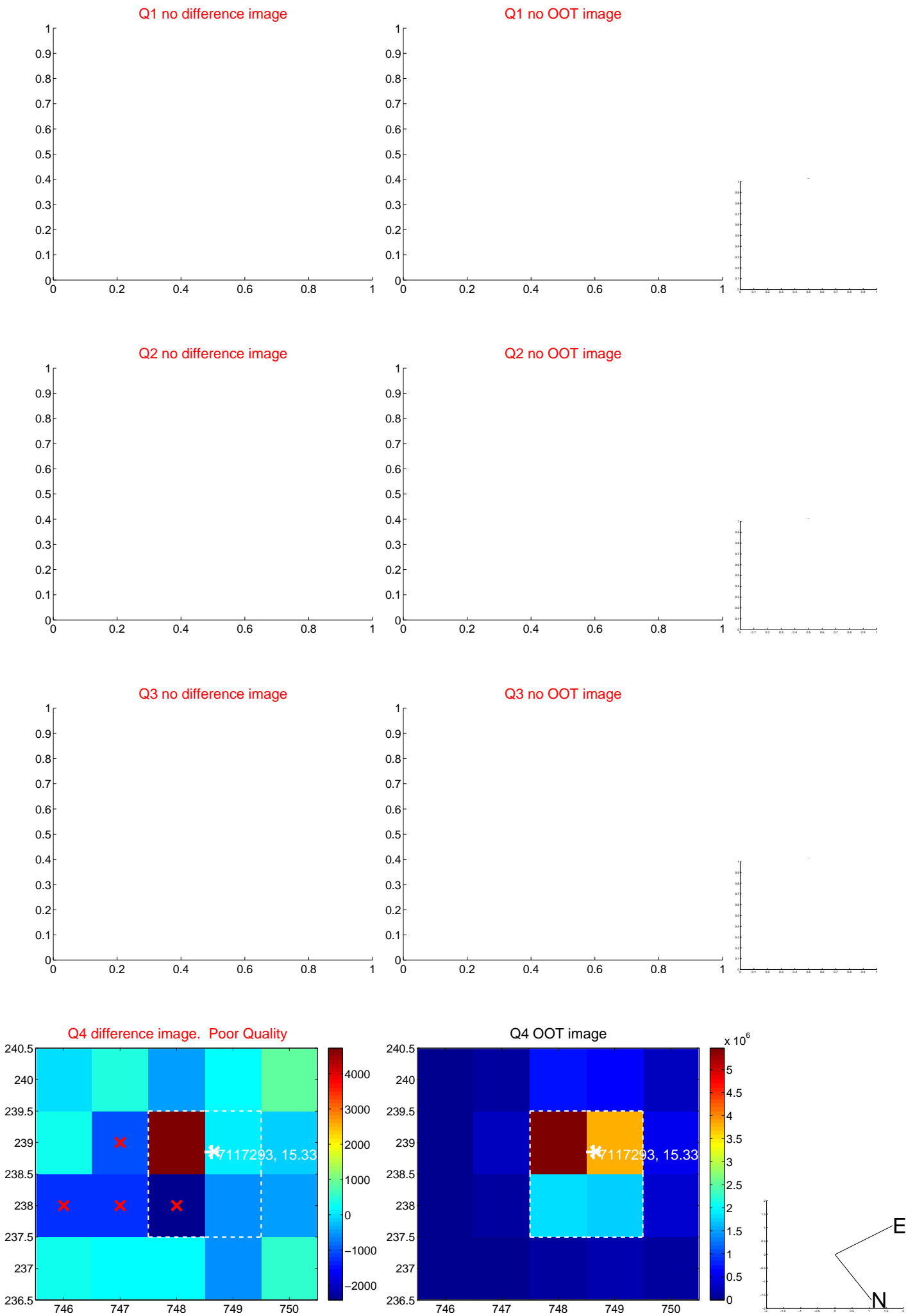


offset from photometric centroids

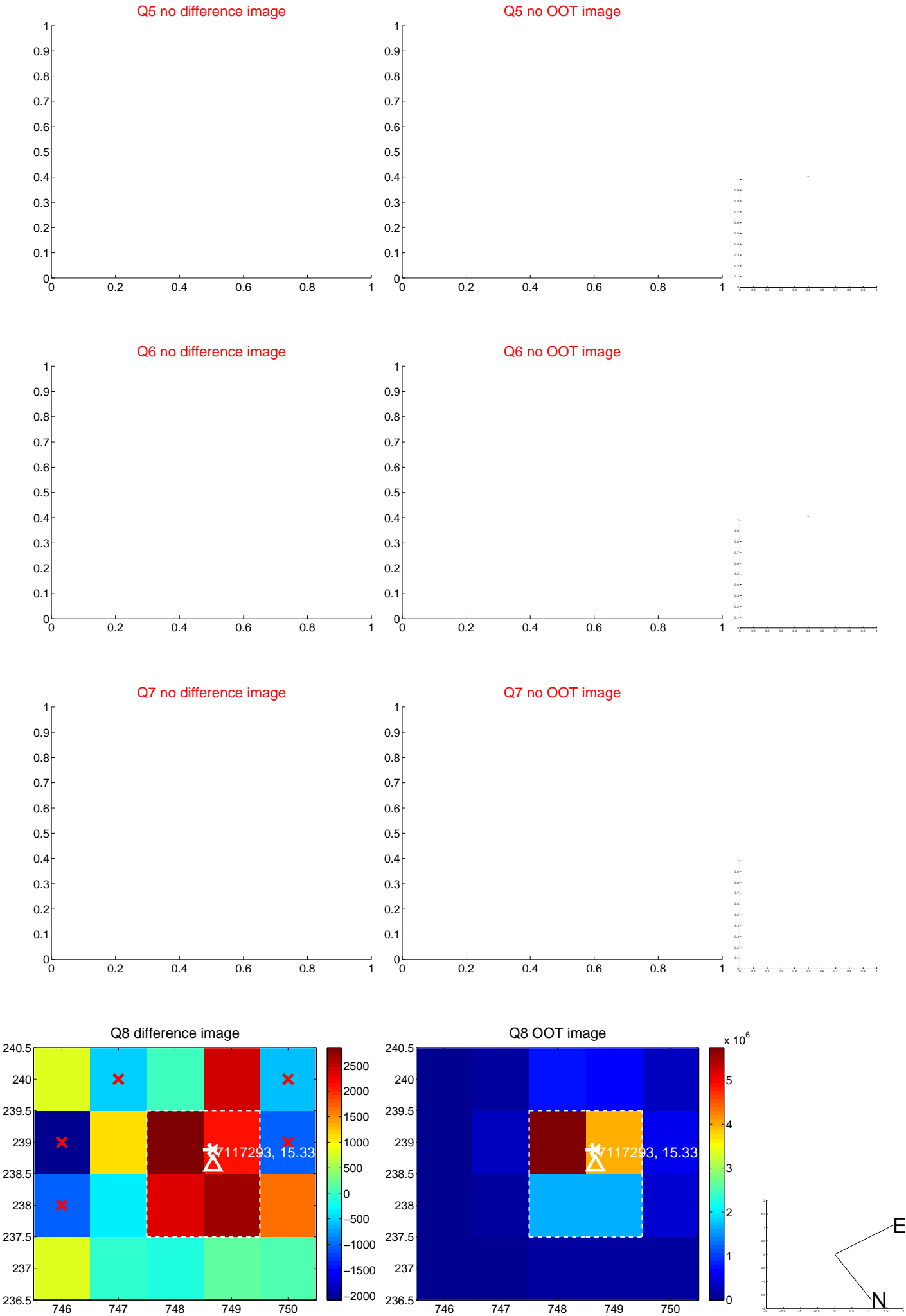


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

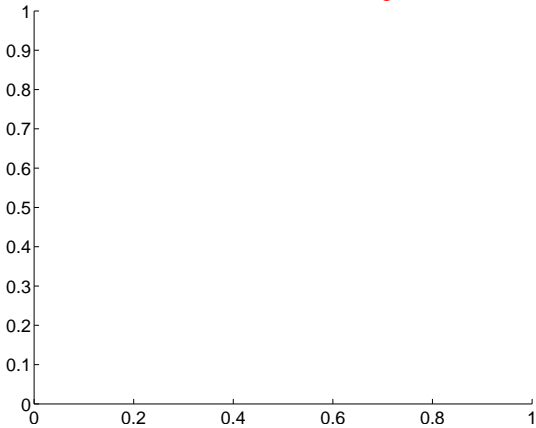


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

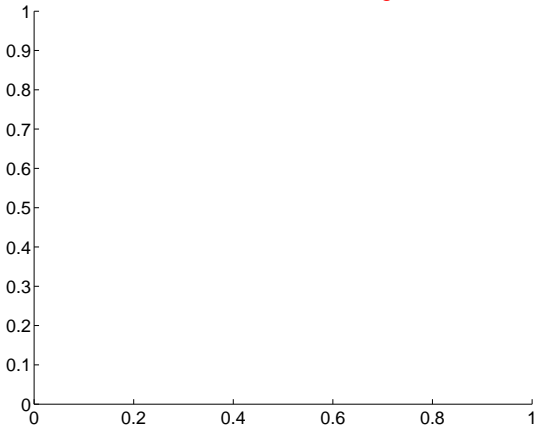
Q13 no difference image



Q13 no OOT image



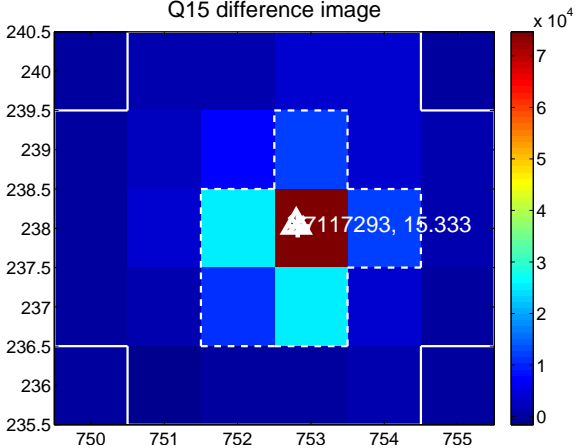
Q14 no difference image



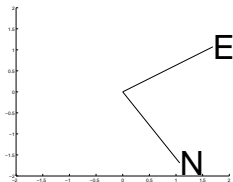
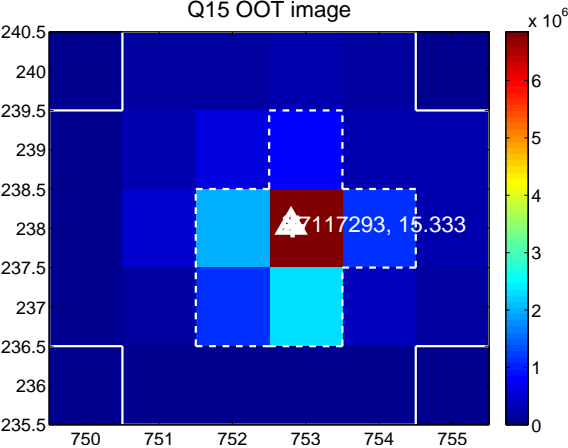
Q14 no OOT image



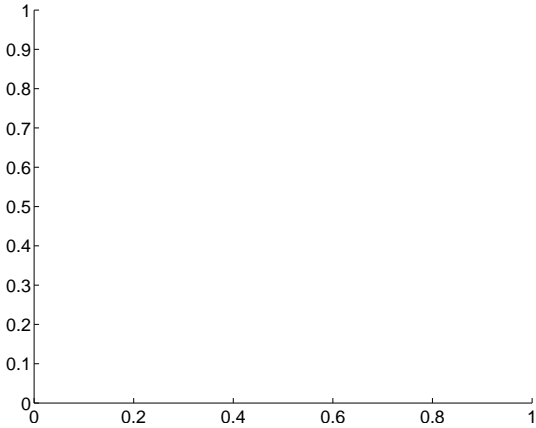
Q15 difference image



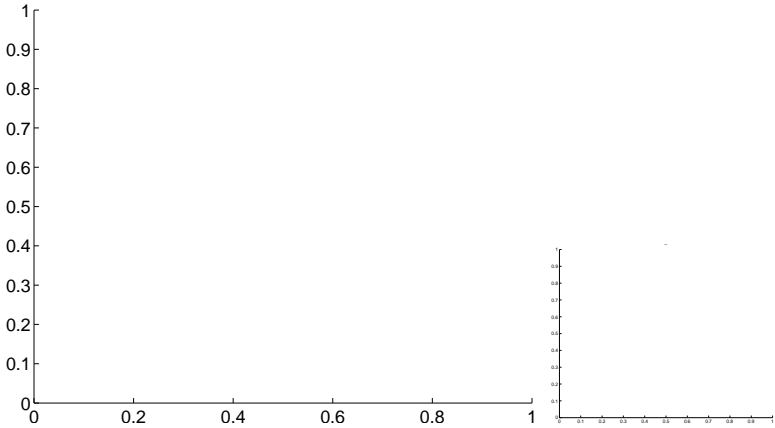
Q15 OOT image



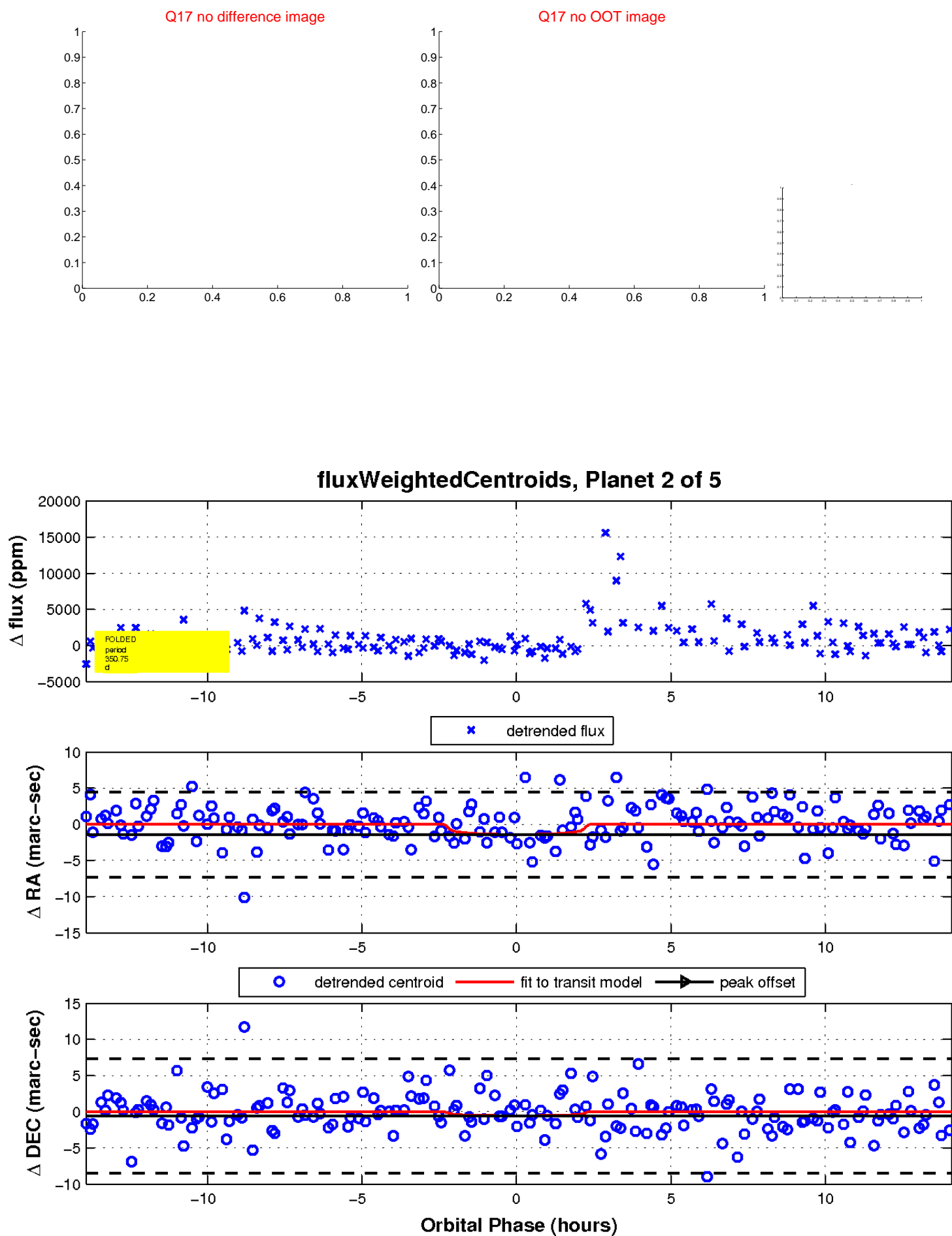
Q16 no difference image



Q16 no OOT image

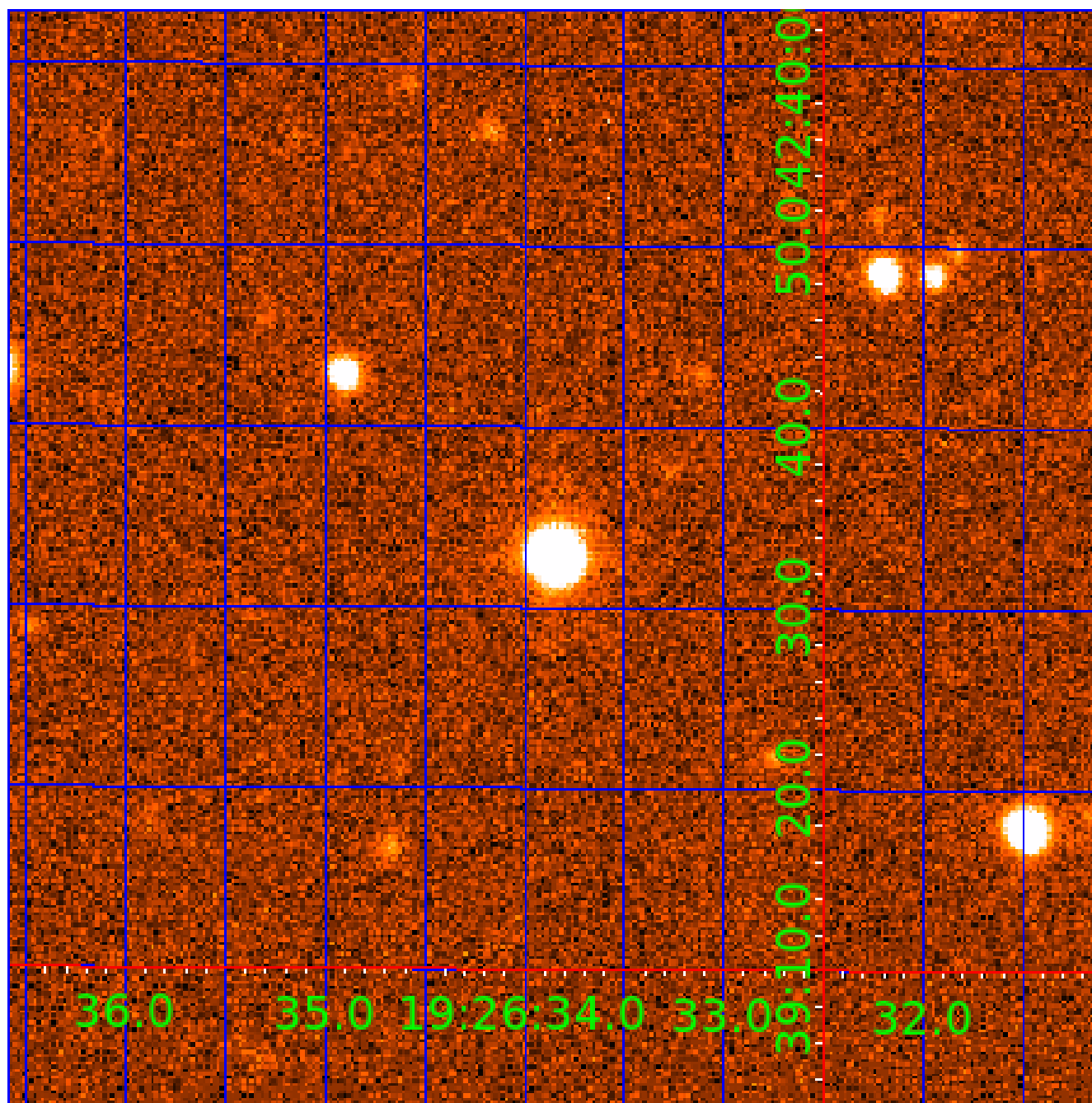


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007117293

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})
007117293-01	OBS	No	416.481677	483.544129	850.2	4.455	14.8	2.3	0.30	3377	0.95	0.02
007117293-02	OBS	No	350.745968	416.271436	2747.6	4.721	14.8	6.6	0.30	3377	1.55	0.03
007117293-03	OBS	No	458.710412	411.898025	2729.7	4.599	10.9	6.9	0.30	3377	1.54	0.02
007117293-05	OBS	No	367.013958	169.129918	3776.3	3.275	12.1	10.4	0.30	3377	1.95	0.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007117293-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
007117293-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007117293-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007117293-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_NOFITS

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

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

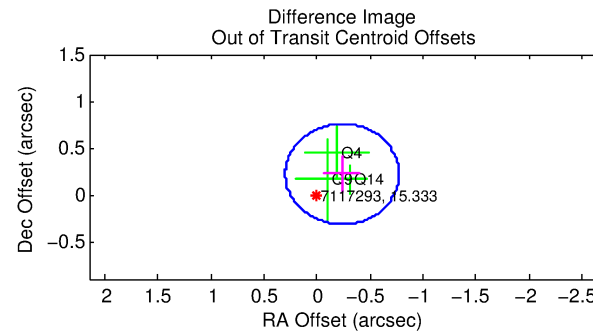
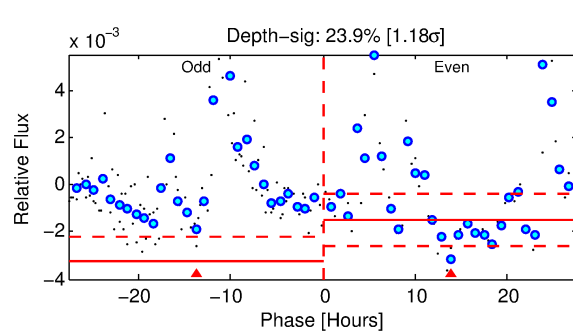
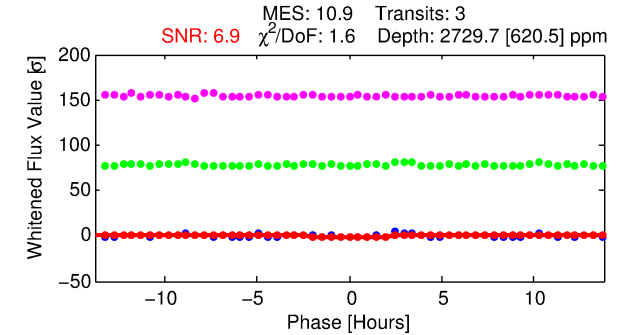
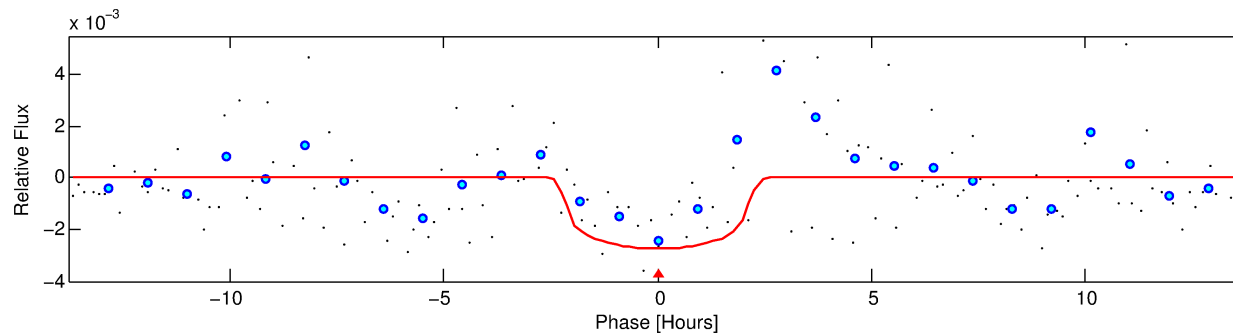
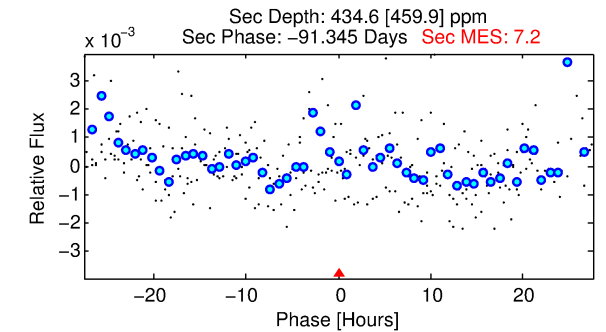
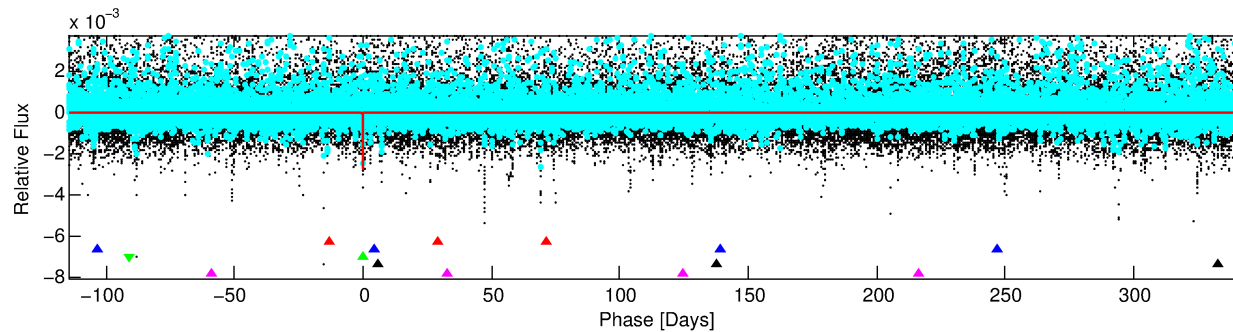
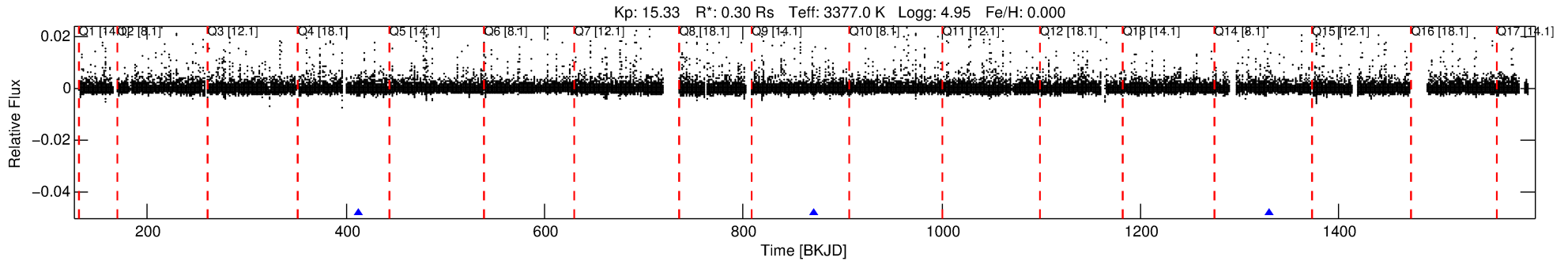
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007117293-03

No Significant Match Found

DV One-Page Summary

KIC: 7117293 Candidate: 3 of 5 Period: 458.710 d



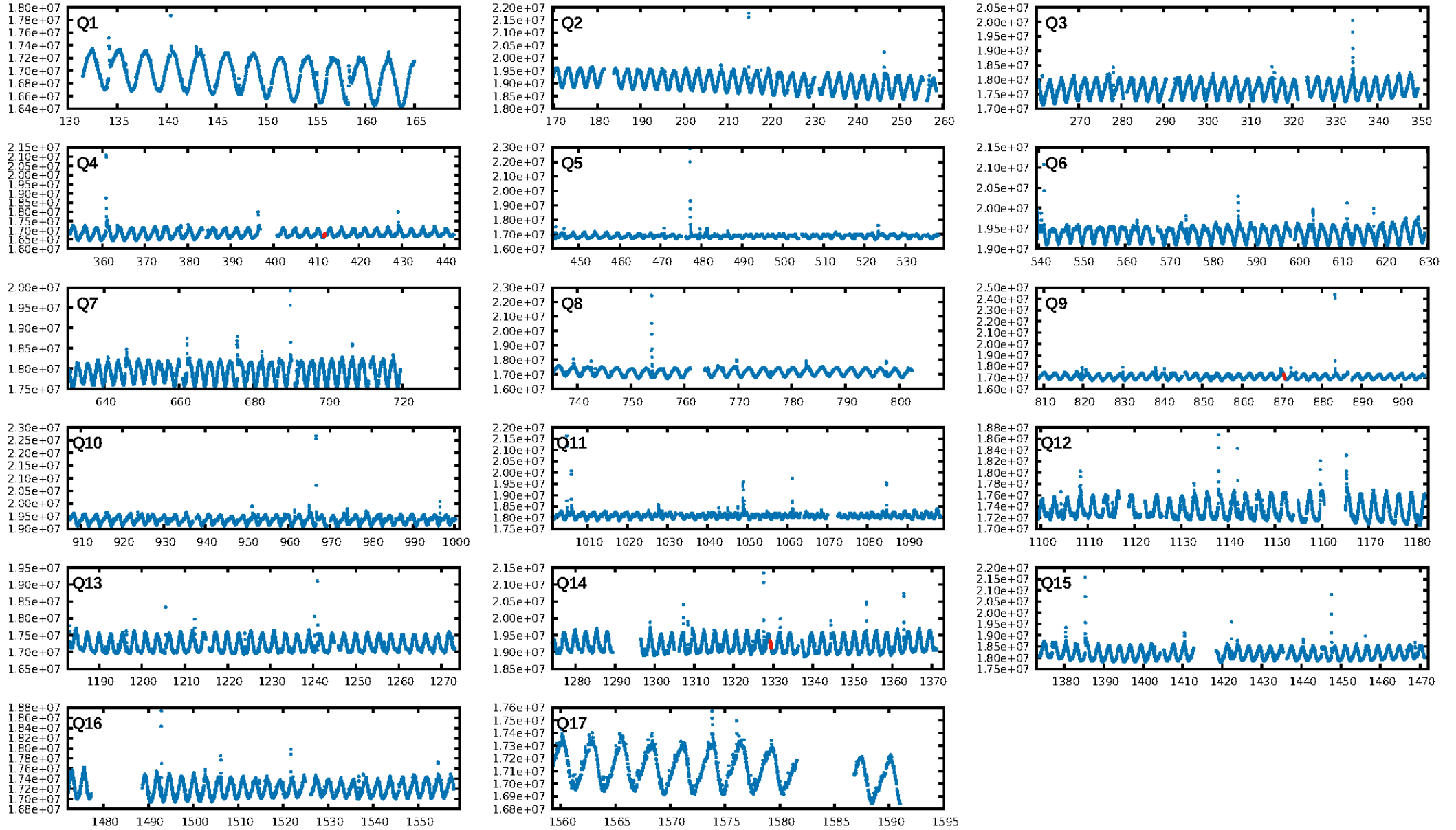
DV Fit Results:

Period = 458.71041 [0.00866] d
Epoch = 411.8980 [0.0138] BKJD
Rp/R* = 0.0472 [0.0660]
a/R* = 795.94 [4719.28]
b = 0.08 [78.46]
Seff = 0.02 [0.00]
Teq = 93 [3] K
Rp = 1.54 [2.17] Re
a = 0.7706 [0.0839] AU
Ag = 59786.64 [178904.36] [0.33σ]
Teffp = 2244 [1677] K [1.28σ]

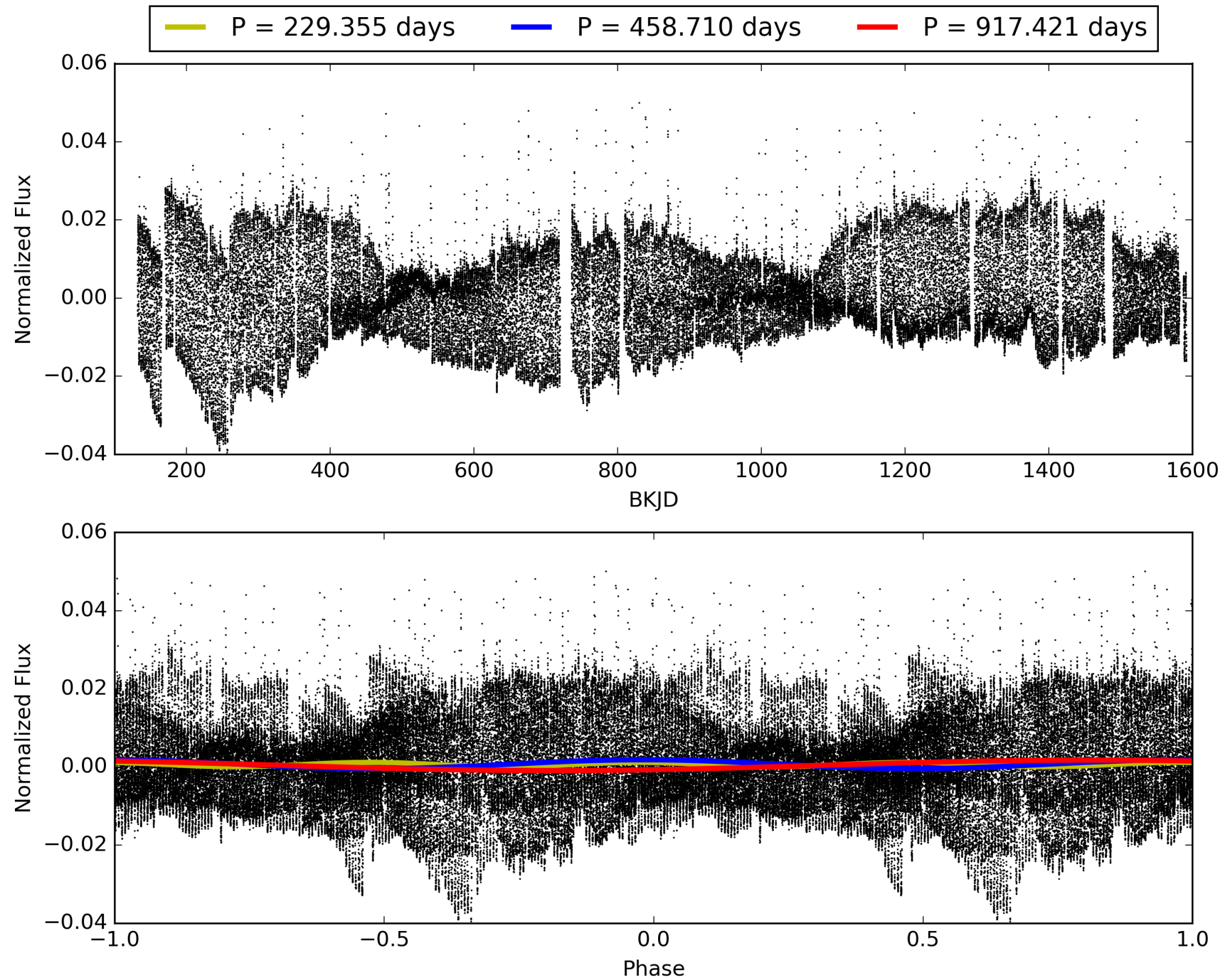
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [158.28σ]
LongPeriod-sig: 100.0% [451.31σ]
ModelChiSquare2-sig: 12.6%
ModelChiSquareGof-sig: 65.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -5.582
Centroid-sig: 46.7%
Centroid-so: 0.459 arcsec [1.01σ]
OotOffset-rm: 0.324 arcsec [1.81σ]
KicOffset-rm: 0.398 arcsec [2.16σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 007117293-03, PDC Light Curves

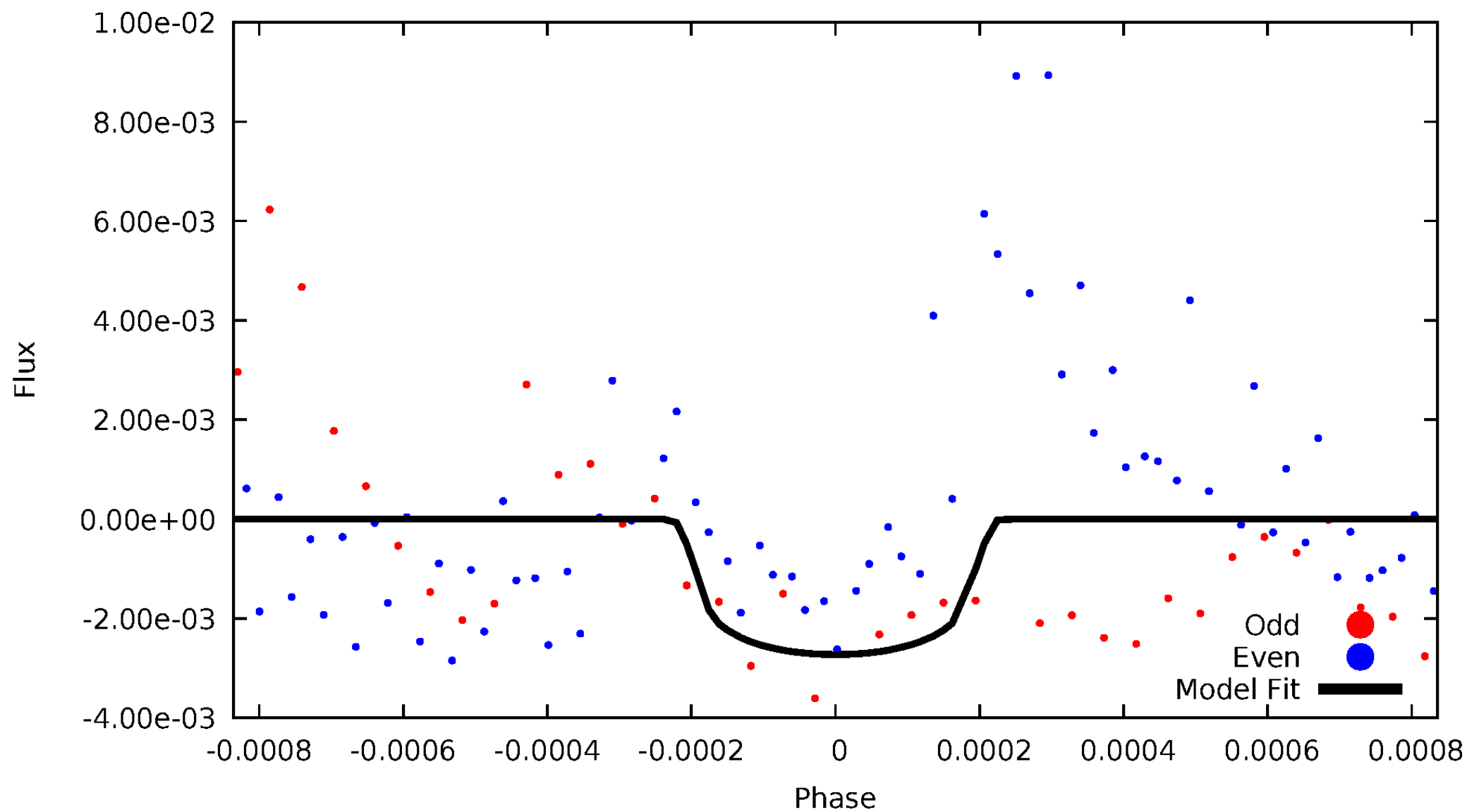


TCE 007117293-03



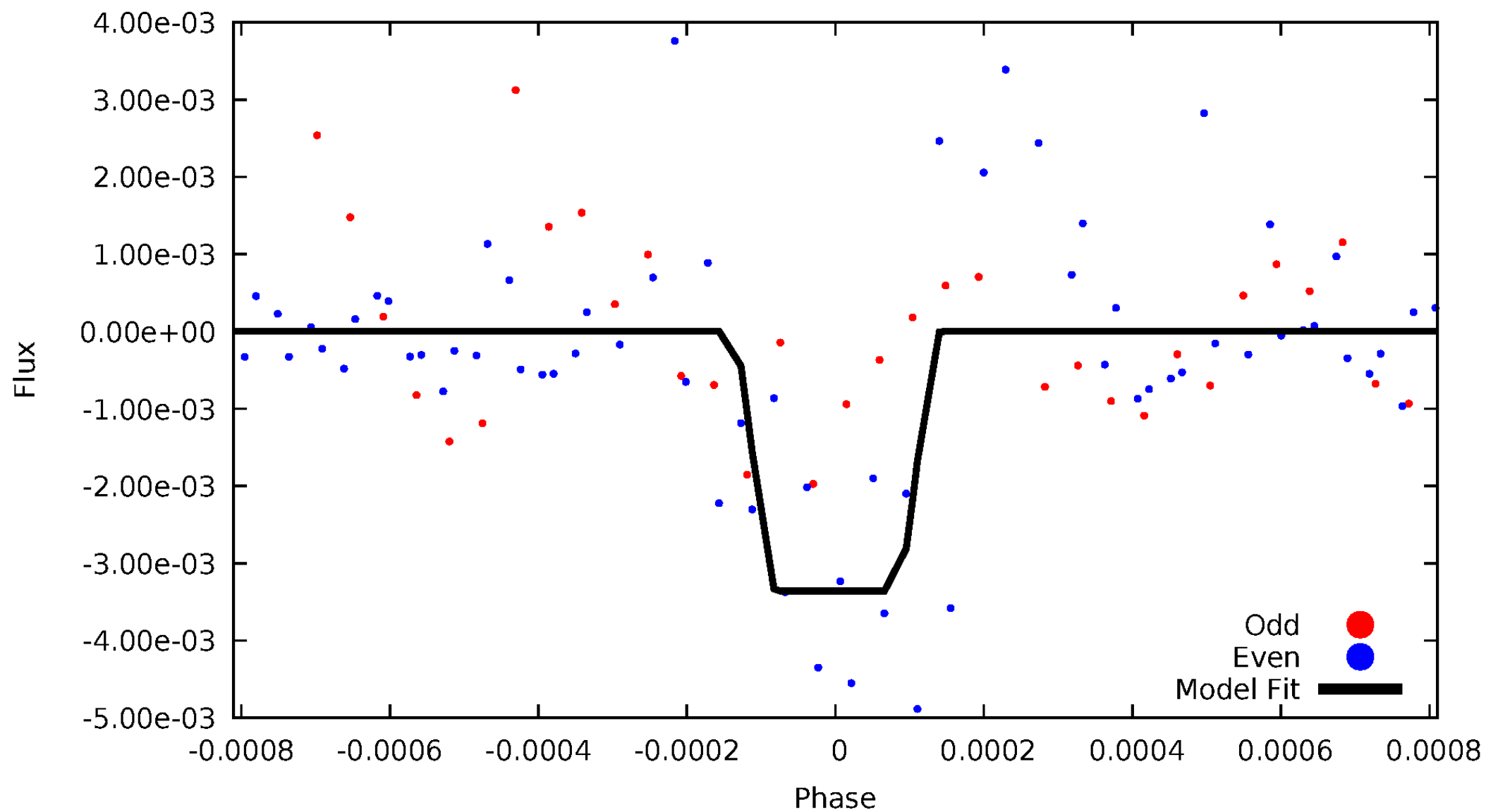
DV Odd/Even

TCE 007117293-03



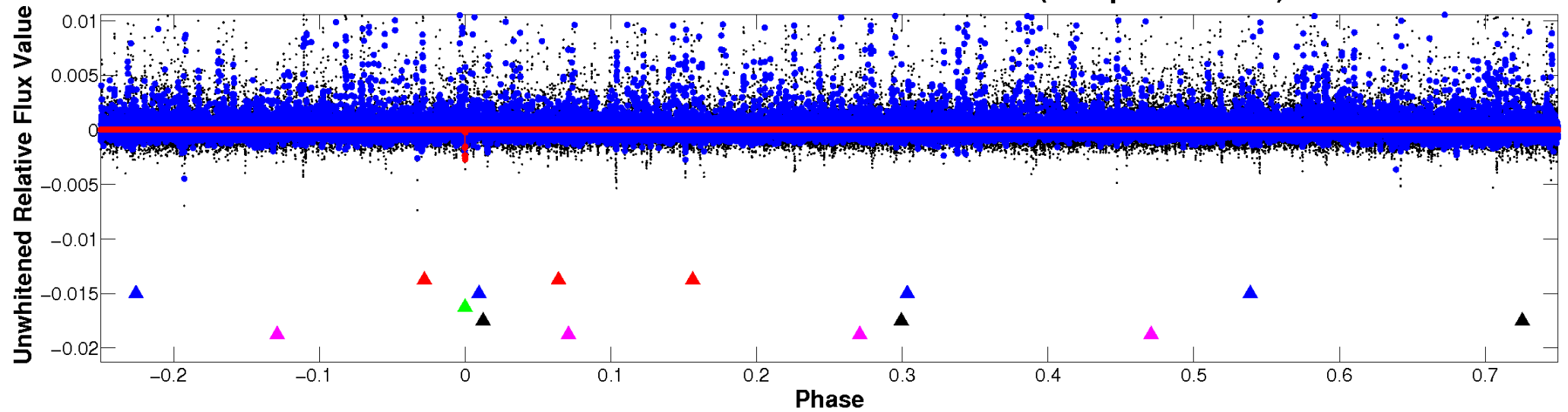
ALT Odd/Even

TCE 007117293-03

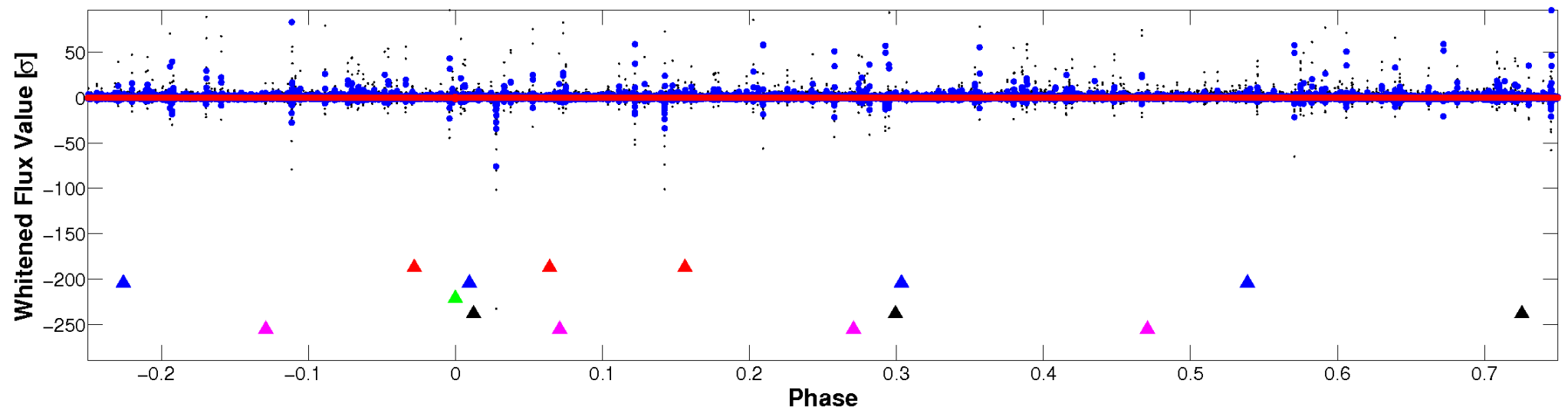


Non-Whitened Vs. Whitened Light Curve

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

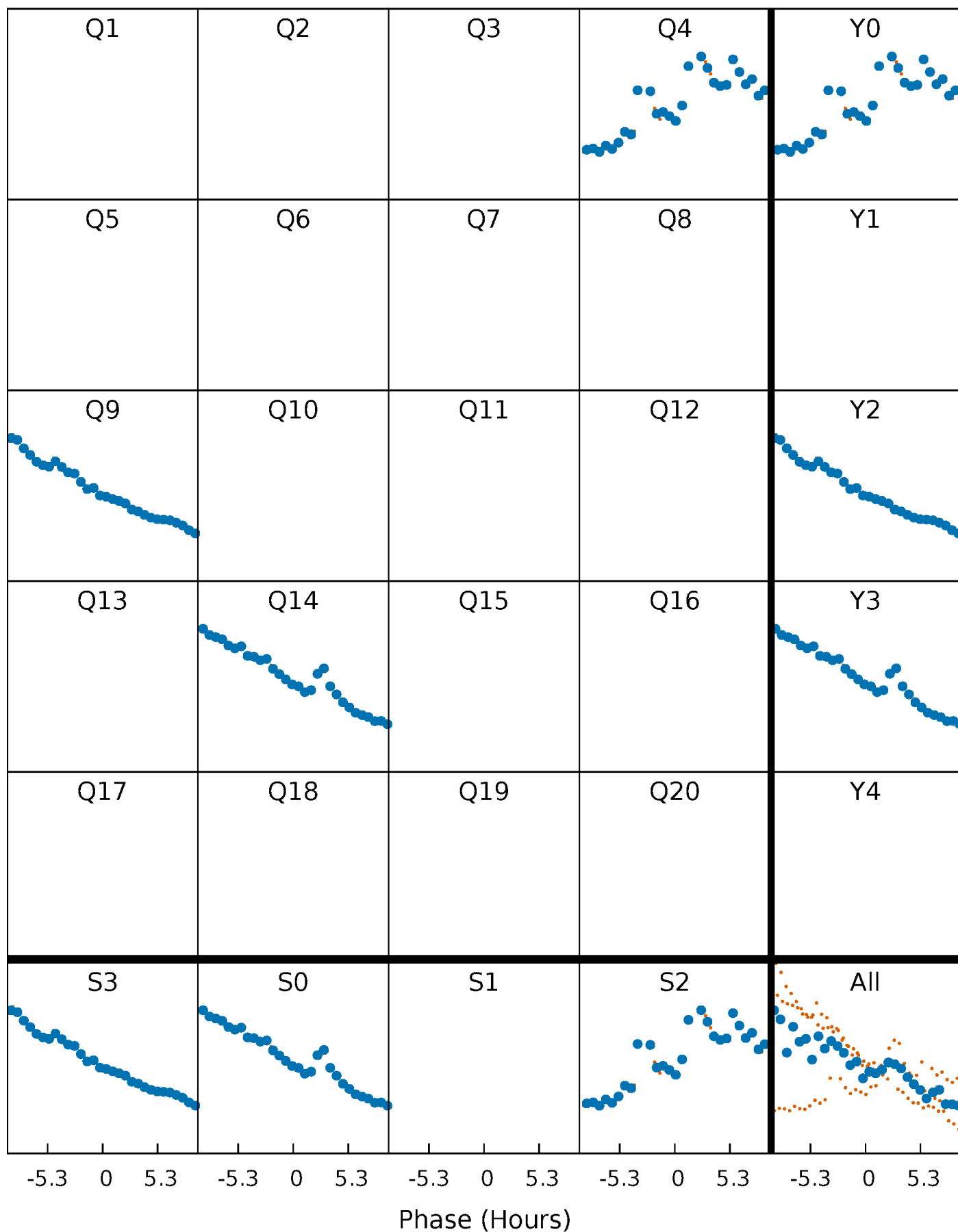


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



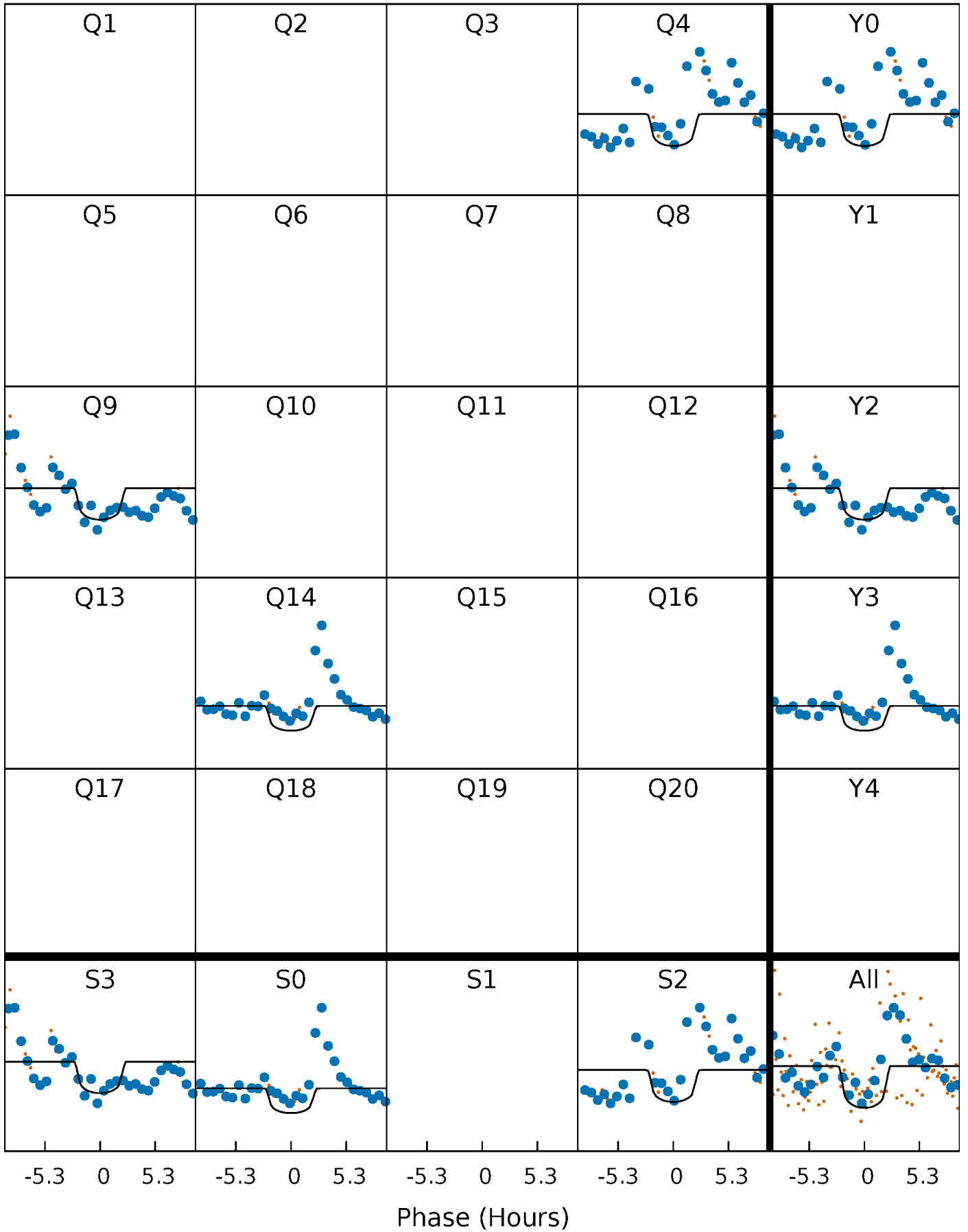
PDC Quarter-Phased Transit Curves

TCE 007117293-03 P=458.710412 Days $T_0=411.898025$ (BKJD)



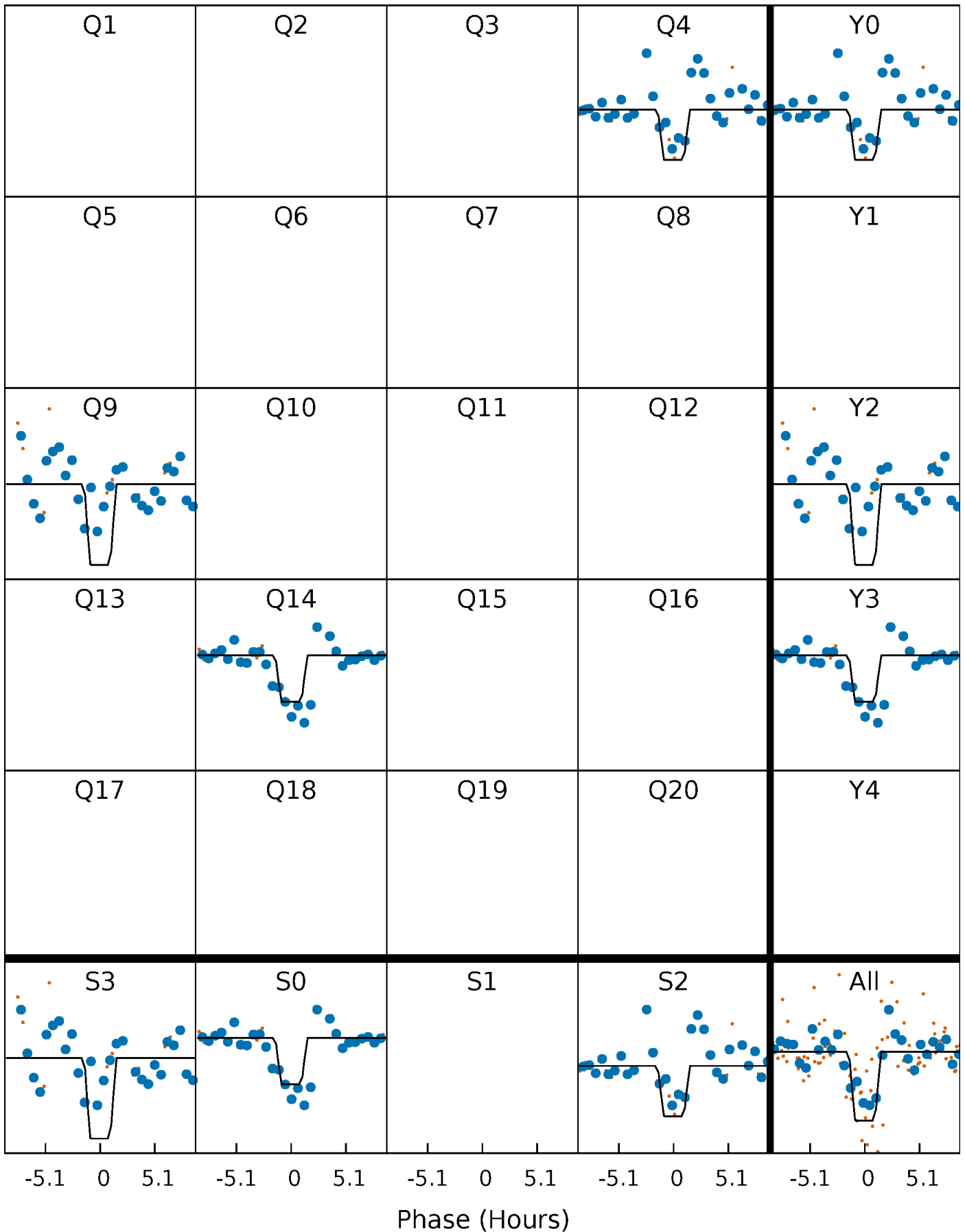
DV Quarter-Phased Transit Curves

TCE 007117293-03 $P=458.710412$ Days $T_0=411.898025$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

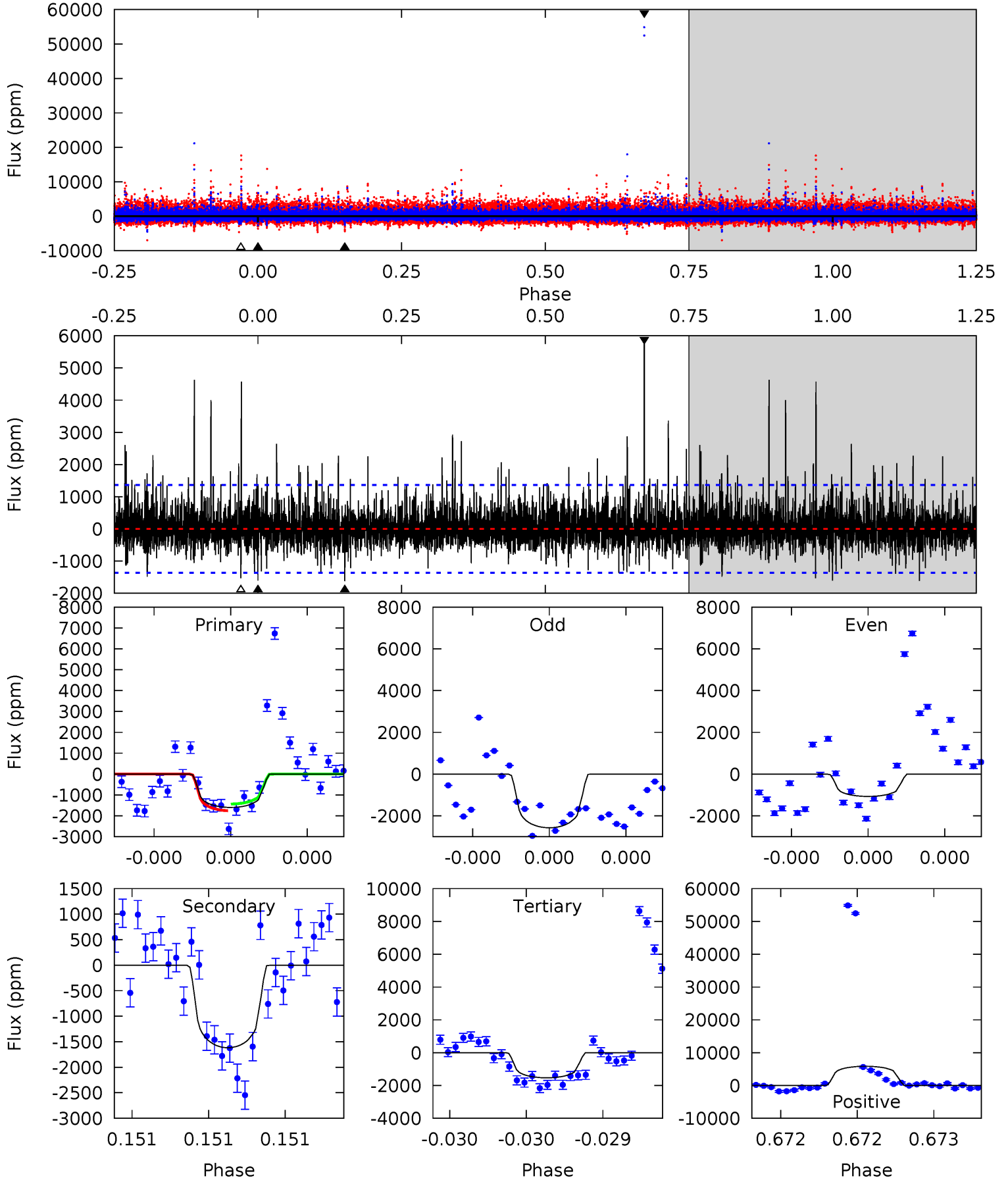
TCE 007117293-03 P=458.712988 Days $T_0=411.896168$ (BKJD)



DV Model-Shift Uniqueness Test

007117293-03, P = 458.710412 Days, E = 411.898025 Days

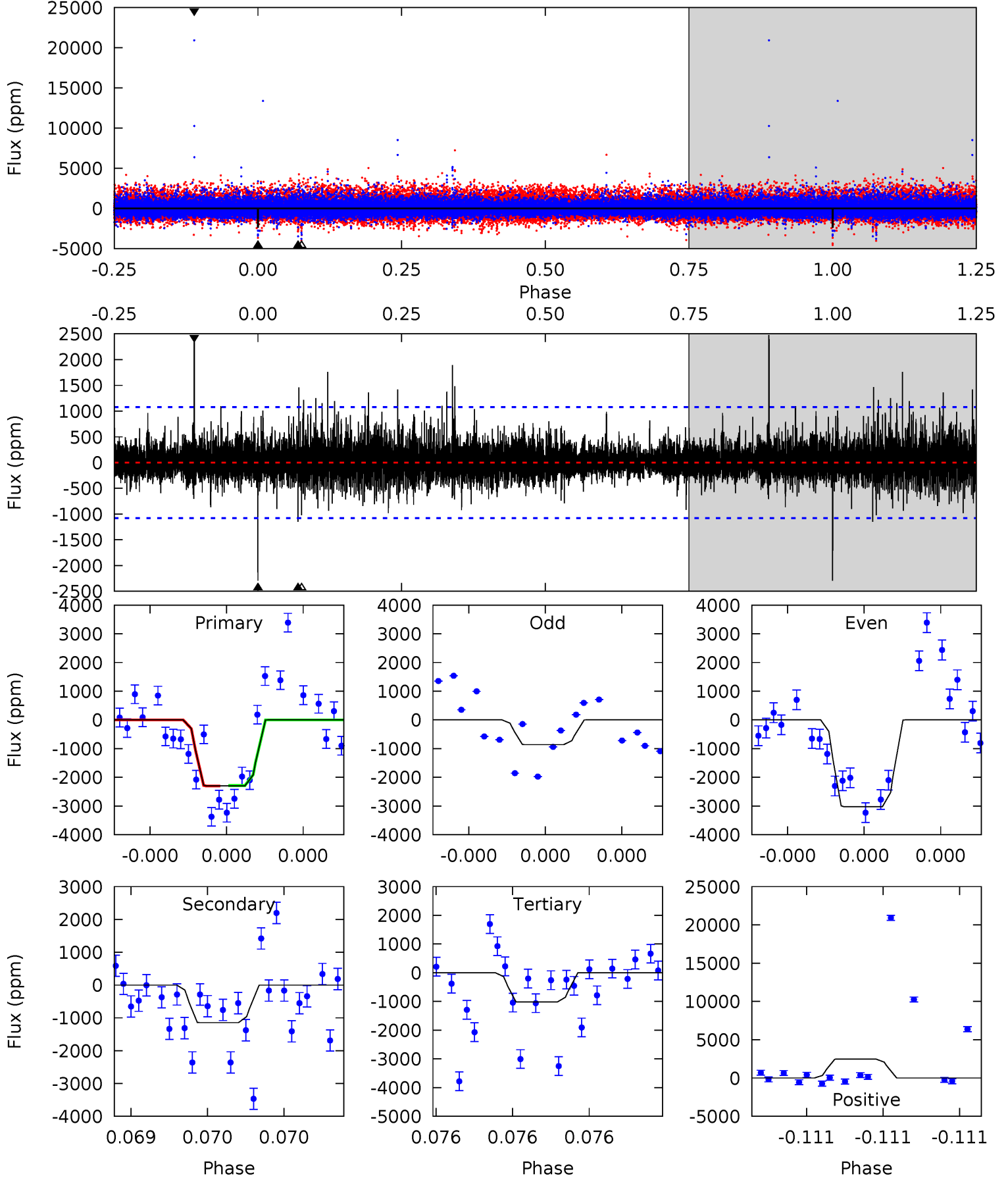
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.55	6.62	6.27	24.0	5.59	3.51	2.01	0.28	-17.4	0.35	-17.3	1.02	1.72	0.78	0.67



Alt Model-Shift Uniqueness Test

007117293-03, P = 458.712988 Days, E = 411.896168 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	6.03	5.38	13.0	5.68	3.64	1.26	6.70	-0.96	0.65	-7.00	4.01	1.16	0.52	0.04



Stellar Parameters For KIC 007117293

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3377^{+54}_{-47}	$4.949^{+0.055}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.299^{+0.045}_{-0.045}$	$0.289^{+0.059}_{-0.049}$	$15.290^{+5.200}_{-3.261}$
	+2%/-1%	+1%/-1%	+inf%/-inf%	+15%/-15%	+20%/-17%	+34%/-21%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 007117293-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1617 ± 244	$2.09^{+1.91}_{-1.40}$	129^{+4}_{-3}	2944^{+1241}_{-461}	$120099^{+982840}_{-87781}$
Alt.	-1146 ± 190	$2.38^{+2.06}_{-1.51}$	129^{+4}_{-4}	2722^{+916}_{-395}	$67462^{+421988}_{-48263}$

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

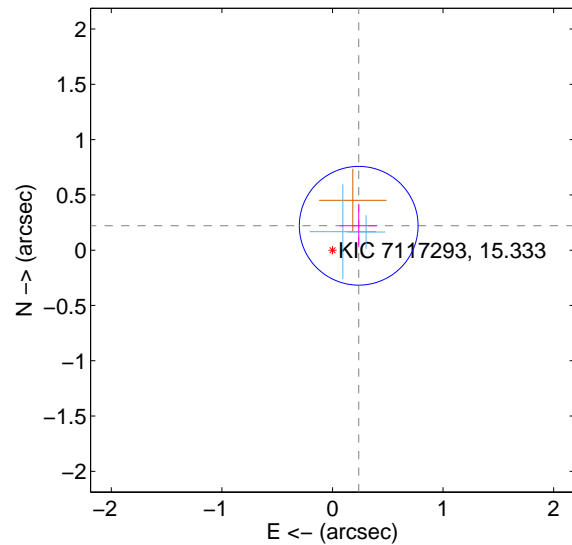
Supplemental centroid analysis for 007117293-03. Kepler magnitude: 15.33. Transit SNR 6.91

There are 2 quarters with good PRF difference image offsets

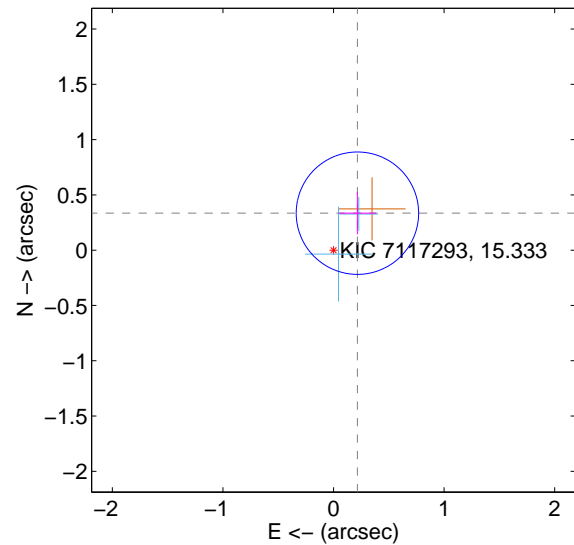
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.324 ± 0.179	1.81	-0.237 ± 0.168	0.221 ± 0.191
PRF-fit source offset from KIC position	0.398 ± 0.184	2.16	-0.216 ± 0.168	0.335 ± 0.191
photometric centroid source offset	0.46 ± 0.45	1.01	-0.34 ± 0.42	0.30 ± 0.49

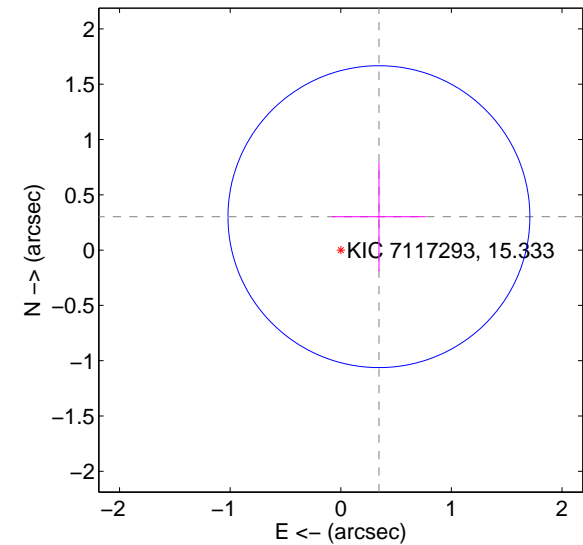
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

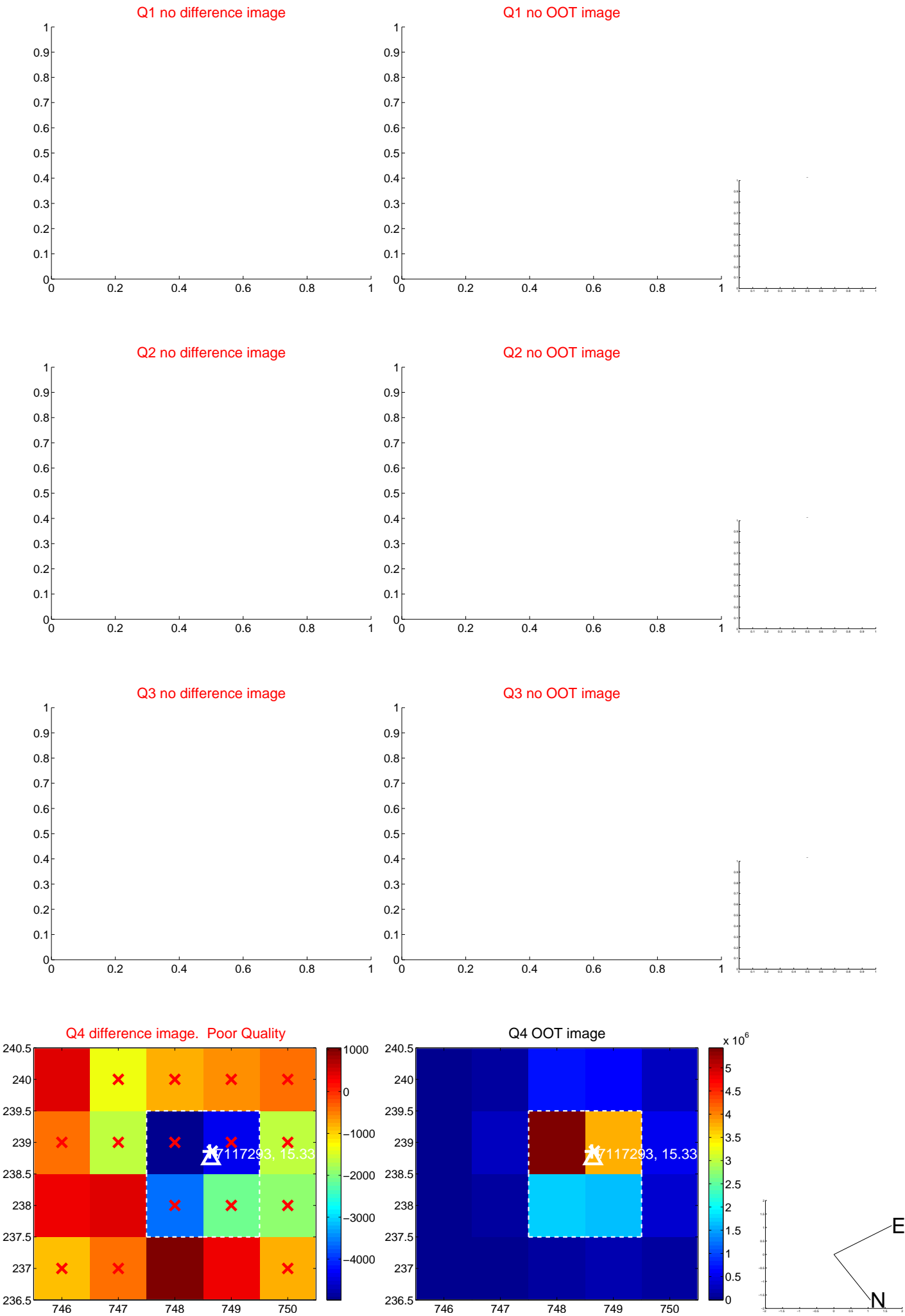


offset from photometric centroids



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

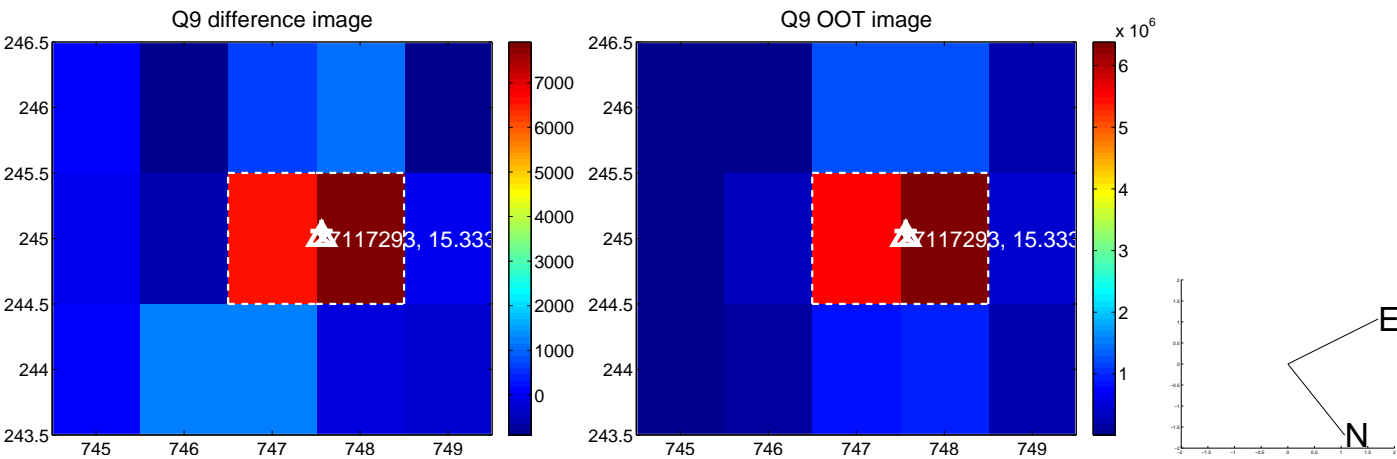
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



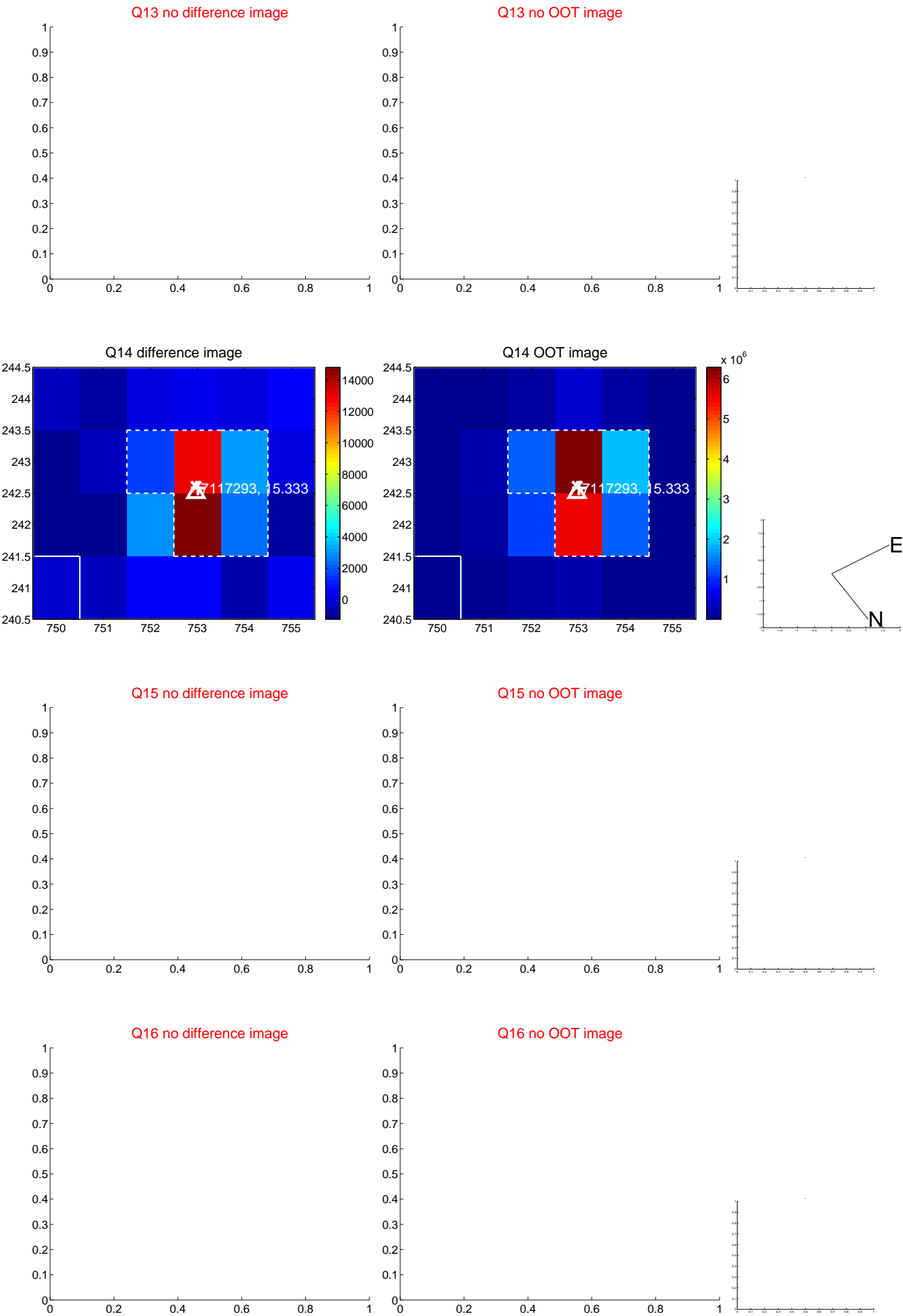
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



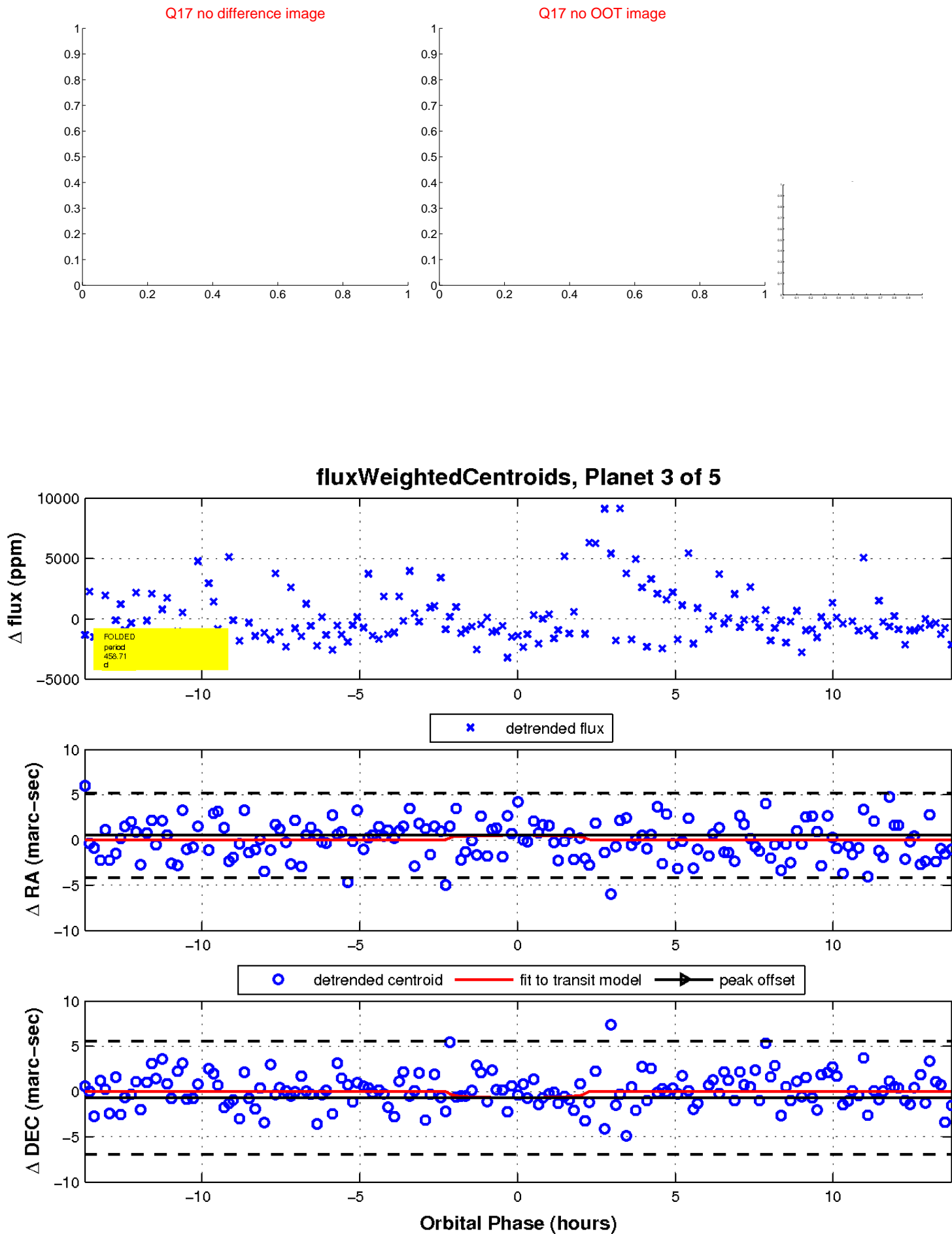
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

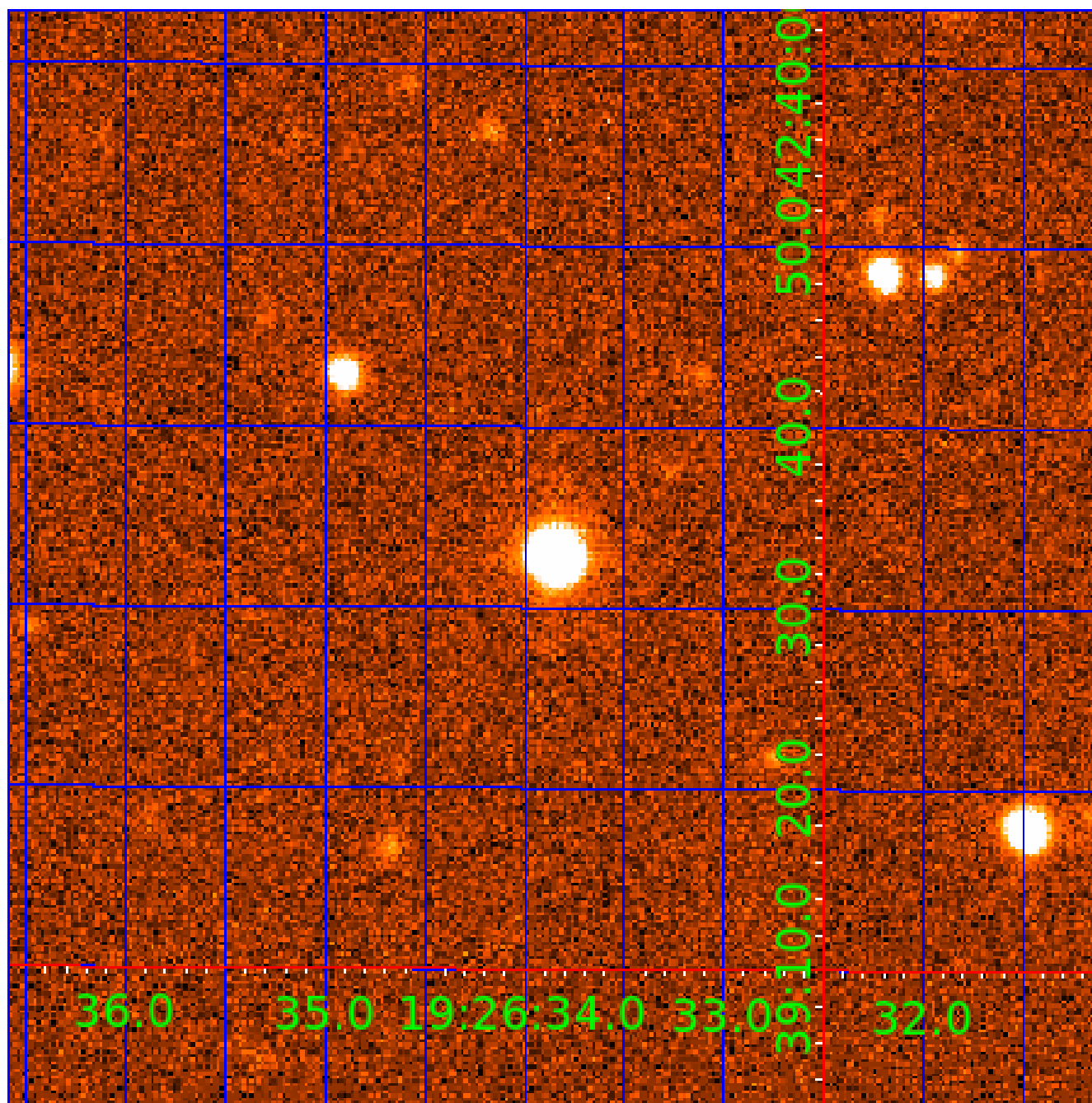


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007117293

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})
007117293-01	OBS	No	416.481677	483.544129	850.2	4.455	14.8	2.3	0.30	3377	0.95	0.02
007117293-02	OBS	No	350.745968	416.271436	2747.6	4.721	14.8	6.6	0.30	3377	1.55	0.03
007117293-03	OBS	No	458.710412	411.898025	2729.7	4.599	10.9	6.9	0.30	3377	1.54	0.02
007117293-05	OBS	No	367.013958	169.129918	3776.3	3.275	12.1	10.4	0.30	3377	1.95	0.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007117293-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
007117293-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007117293-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007117293-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—CENT_NOFITS

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

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

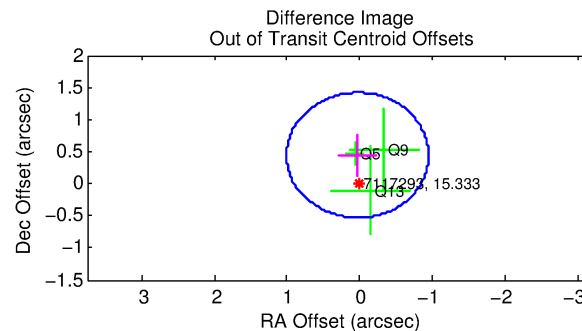
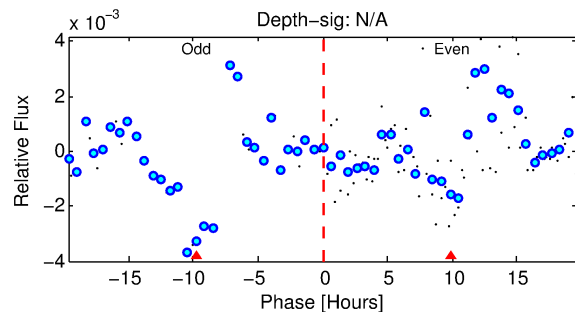
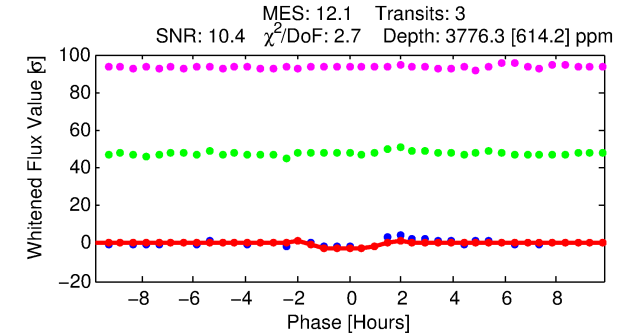
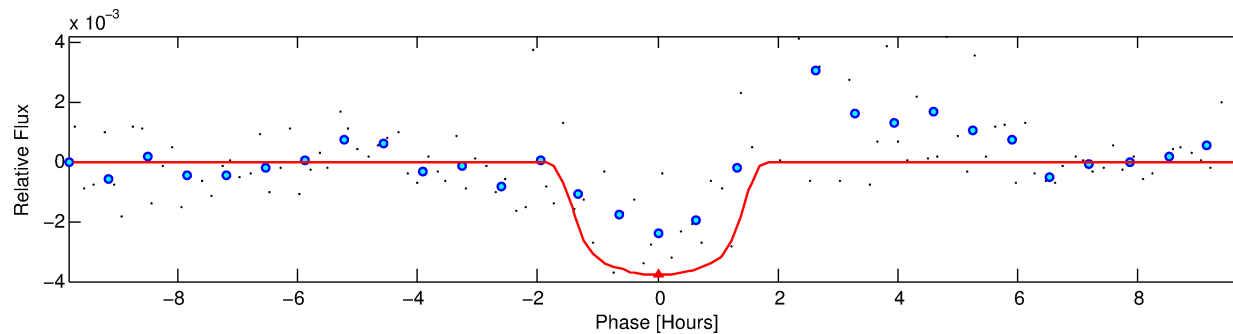
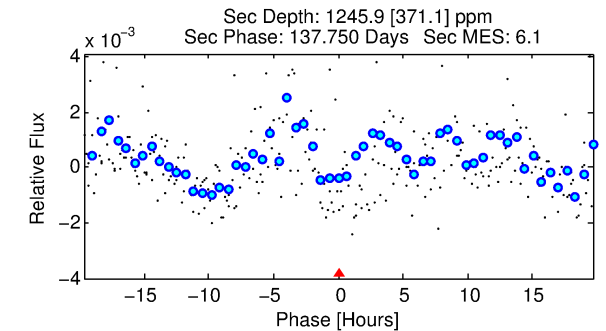
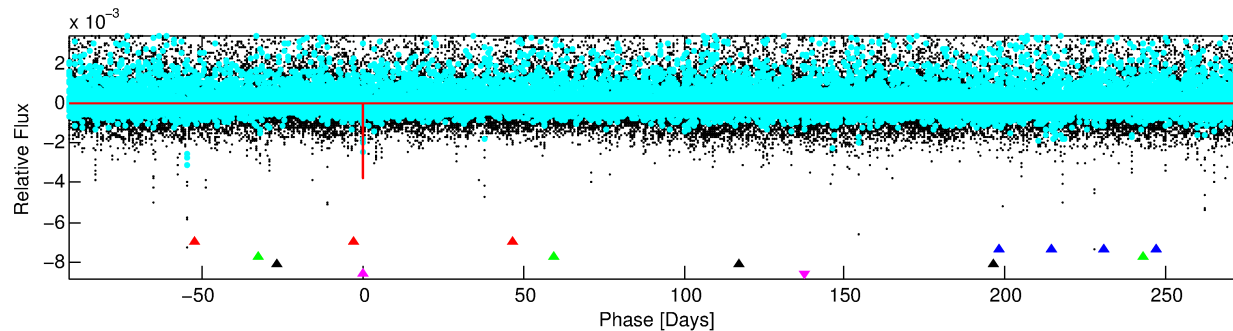
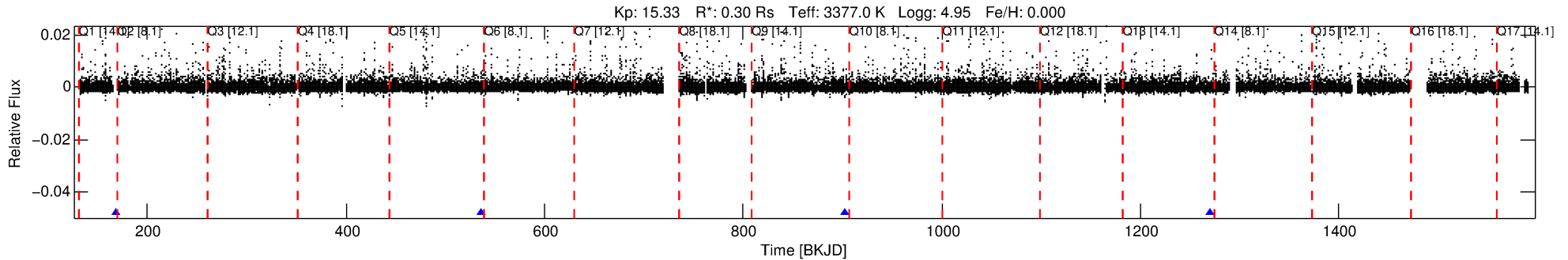
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007117293-05

No Significant Match Found

DV One-Page Summary

KIC: 7117293 Candidate: 5 of 5 Period: 367.014 d



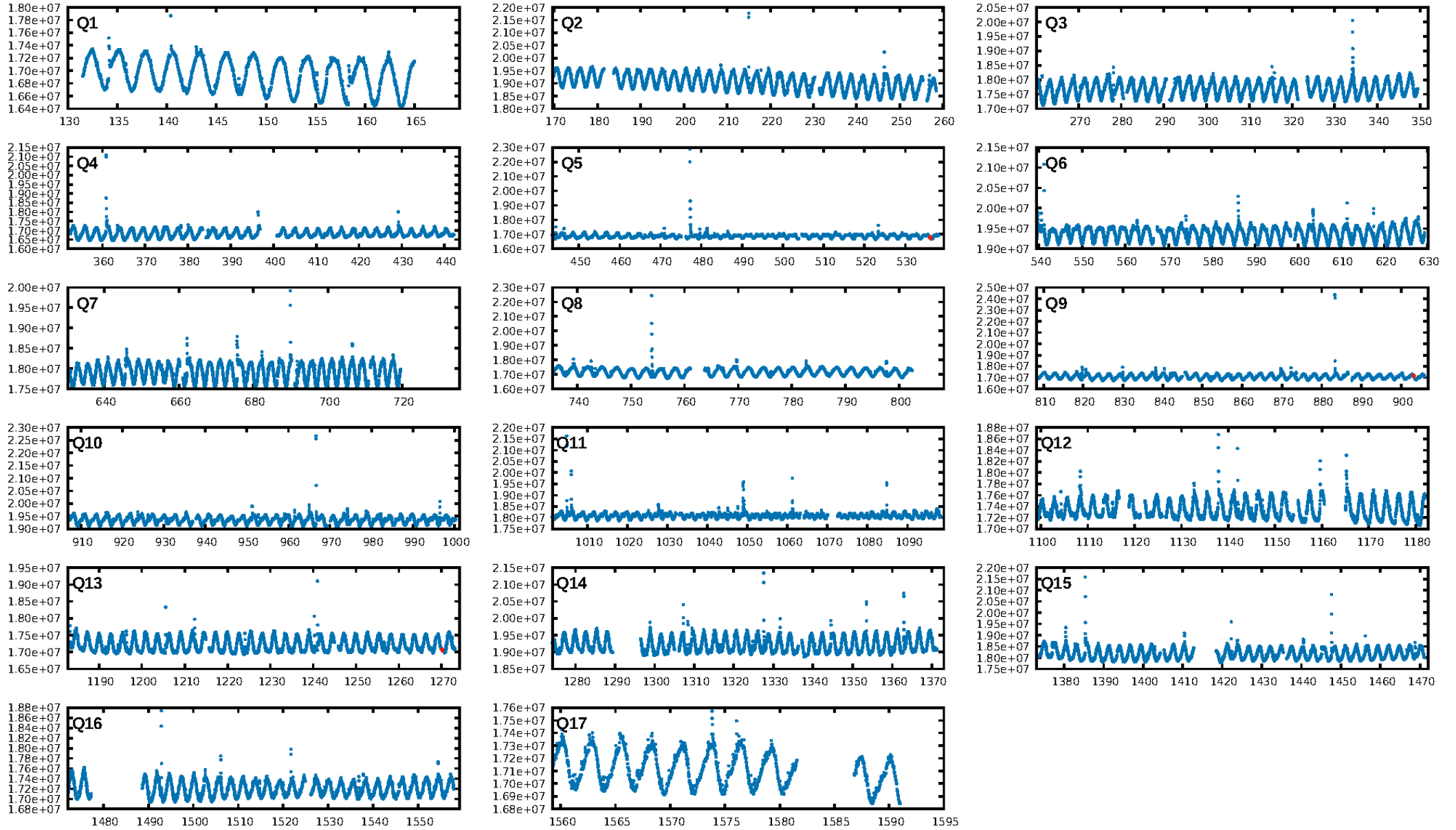
DV Fit Results:

Period = 367.01396 [0.00506] d
Epoch = 169.1299 [0.0113] BKJD
Rp/R* = 0.0597 [0.0284]
a/R* = 695.73 [1377.43]
b = 0.68 [1.55]
Seff = 0.02 [0.00]
Teq = 100 [4] K
Rp = 1.95 [0.97] Re
a = 0.6642 [0.0723] AU
Ag = 79710.62 [80127.76] [0.99σ]
Teffp = 2597 [648] K [3.85σ]

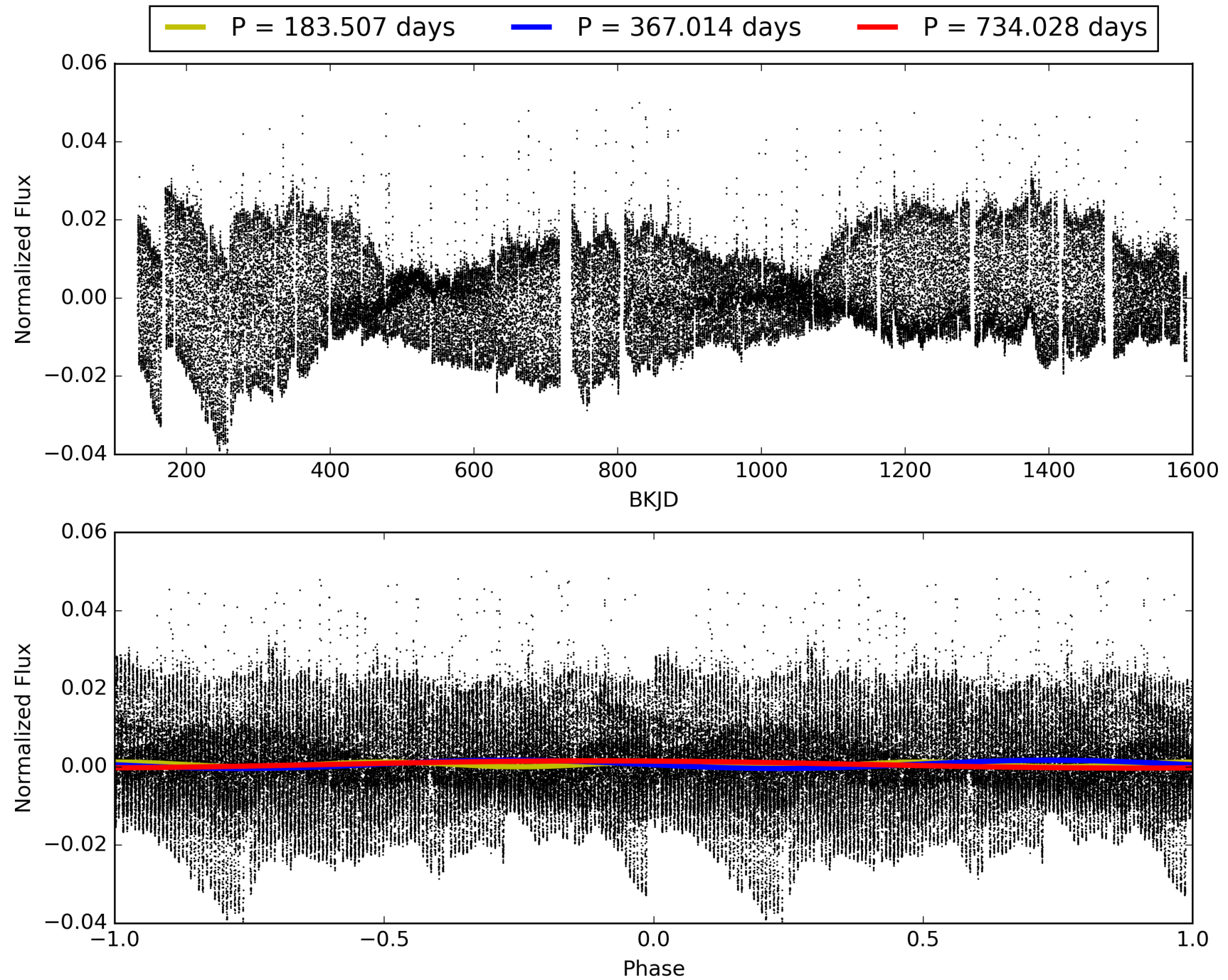
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [67.96σ]
LongPeriod-sig: 100.0% [214.71σ]
ModelChiSquare2-sig: 0.9%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.408
Centroid-sig: 78.4%
Centroid-so: 0.145 arcsec [0.46σ]
OotOffset-rm: 0.445 arcsec [1.37σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-rm: 0.257 arcsec [0.81σ]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 007117293-05, PDC Light Curves

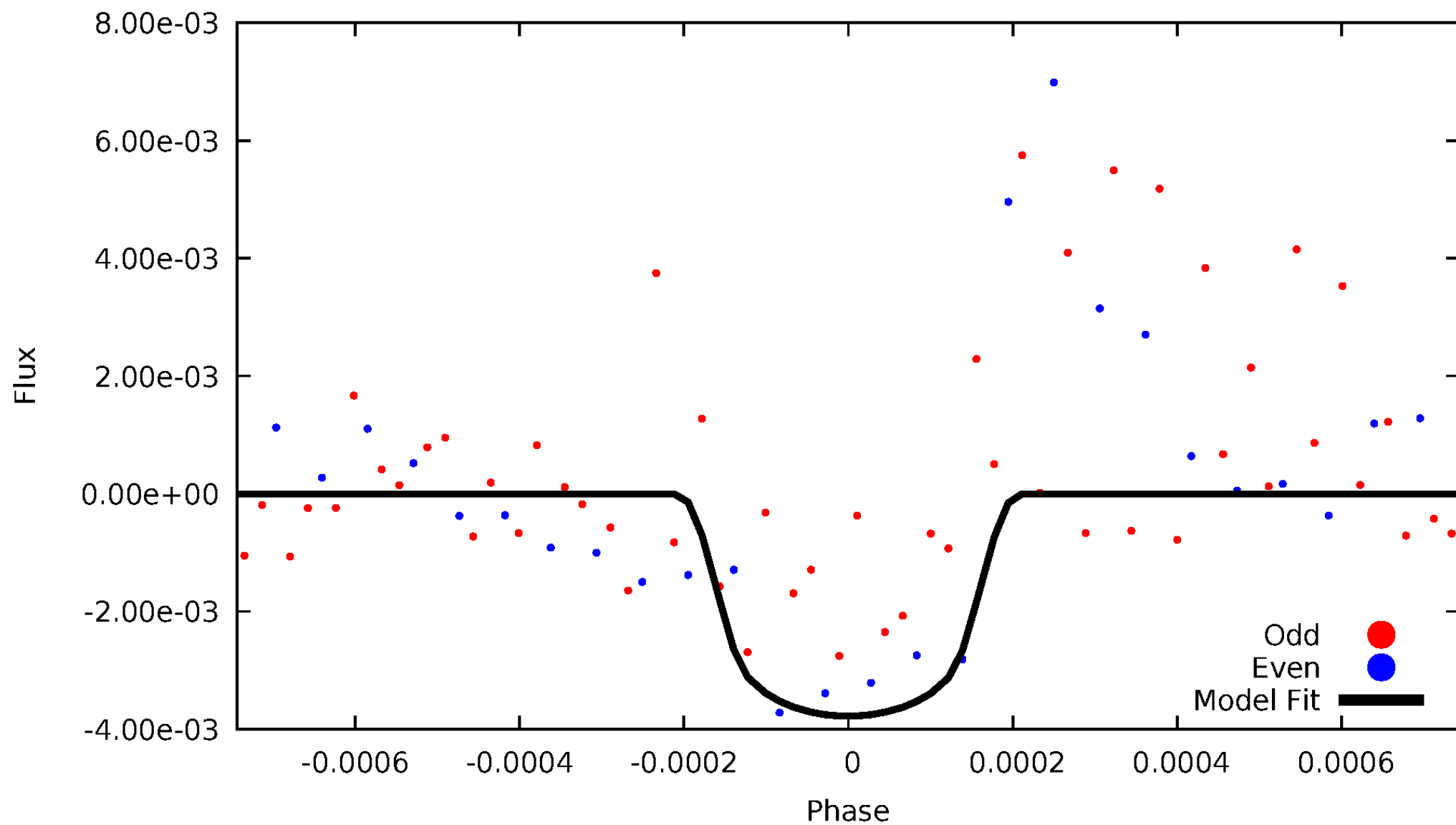


TCE 007117293-05



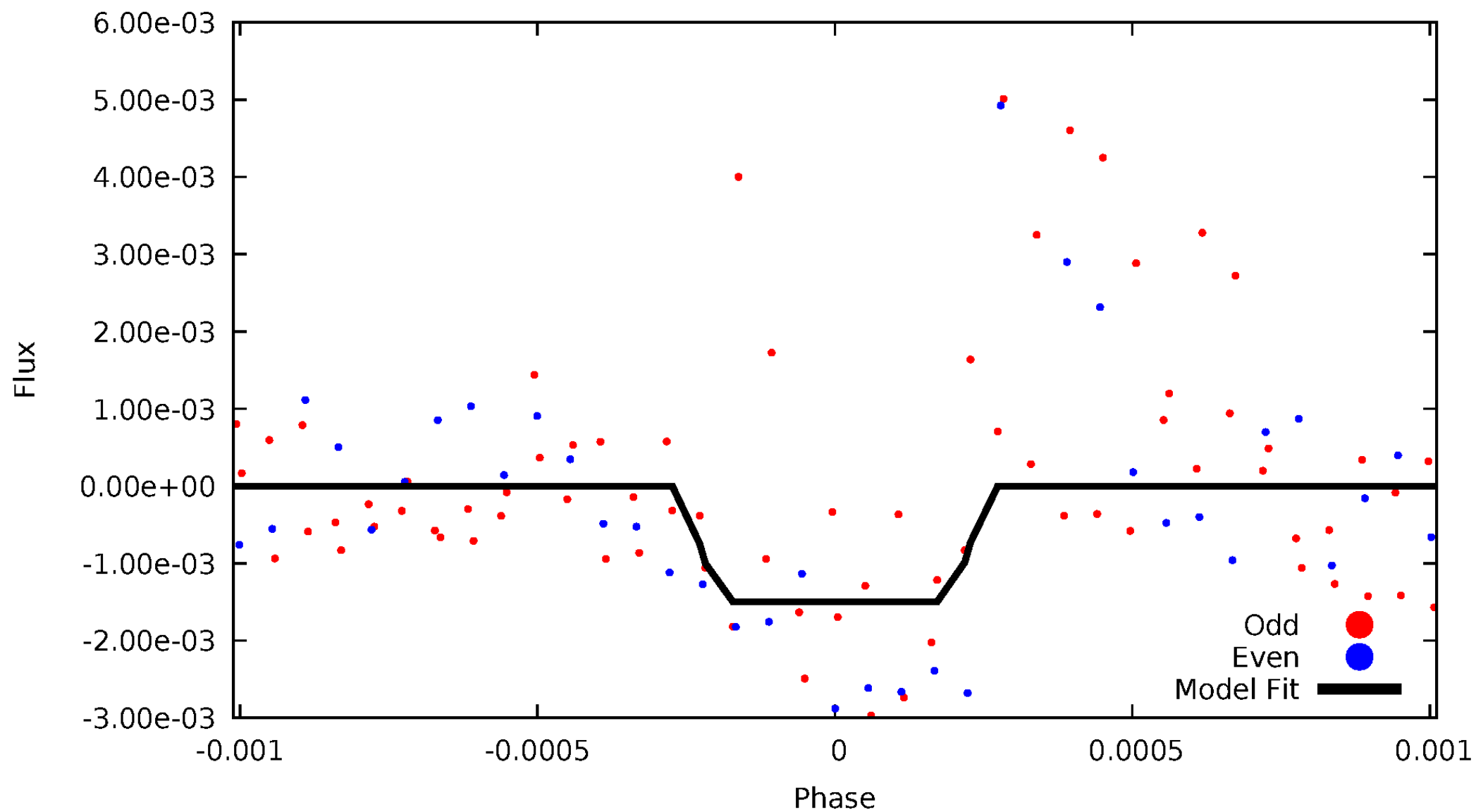
DV Odd/Even

TCE 007117293-05



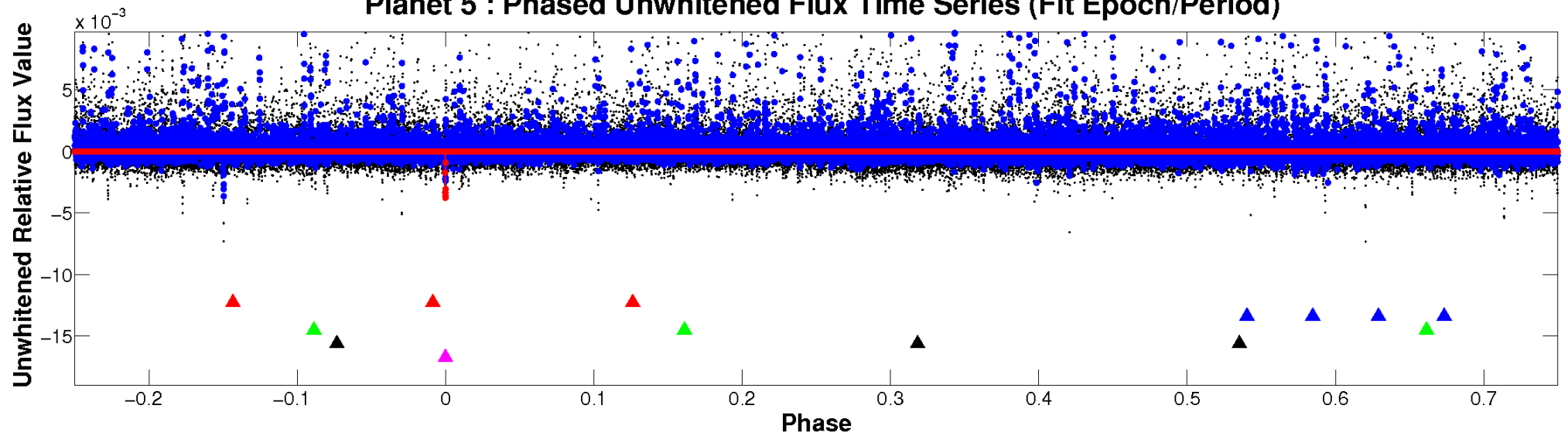
ALT Odd/Even

TCE 007117293-05

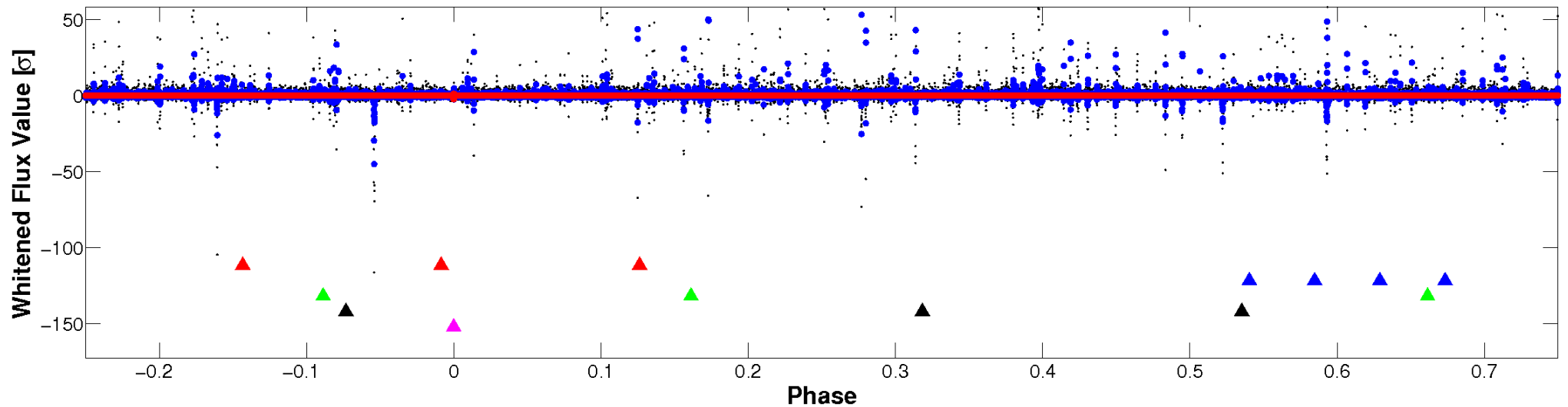


Non-Whitened Vs. Whitened Light Curve

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

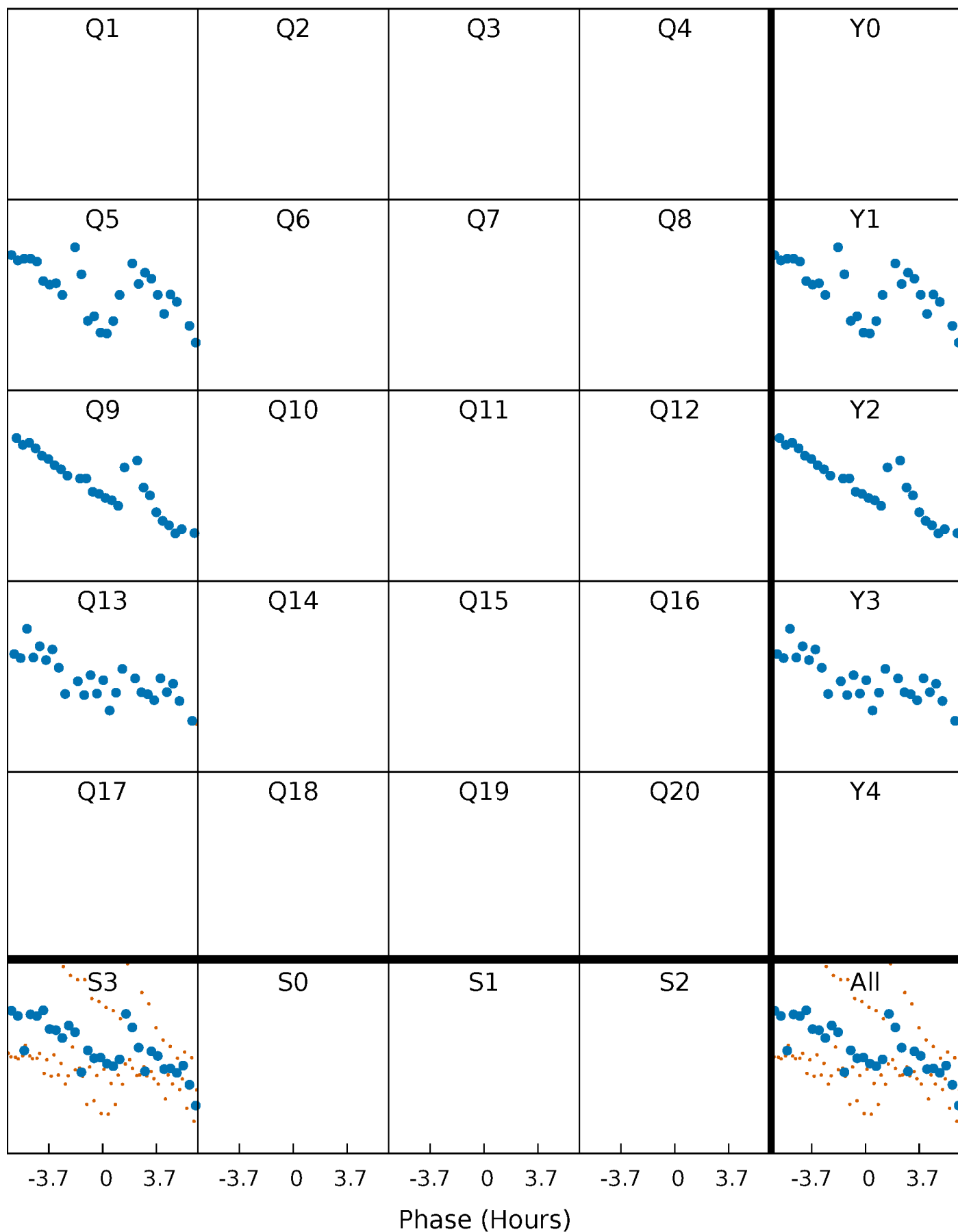


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



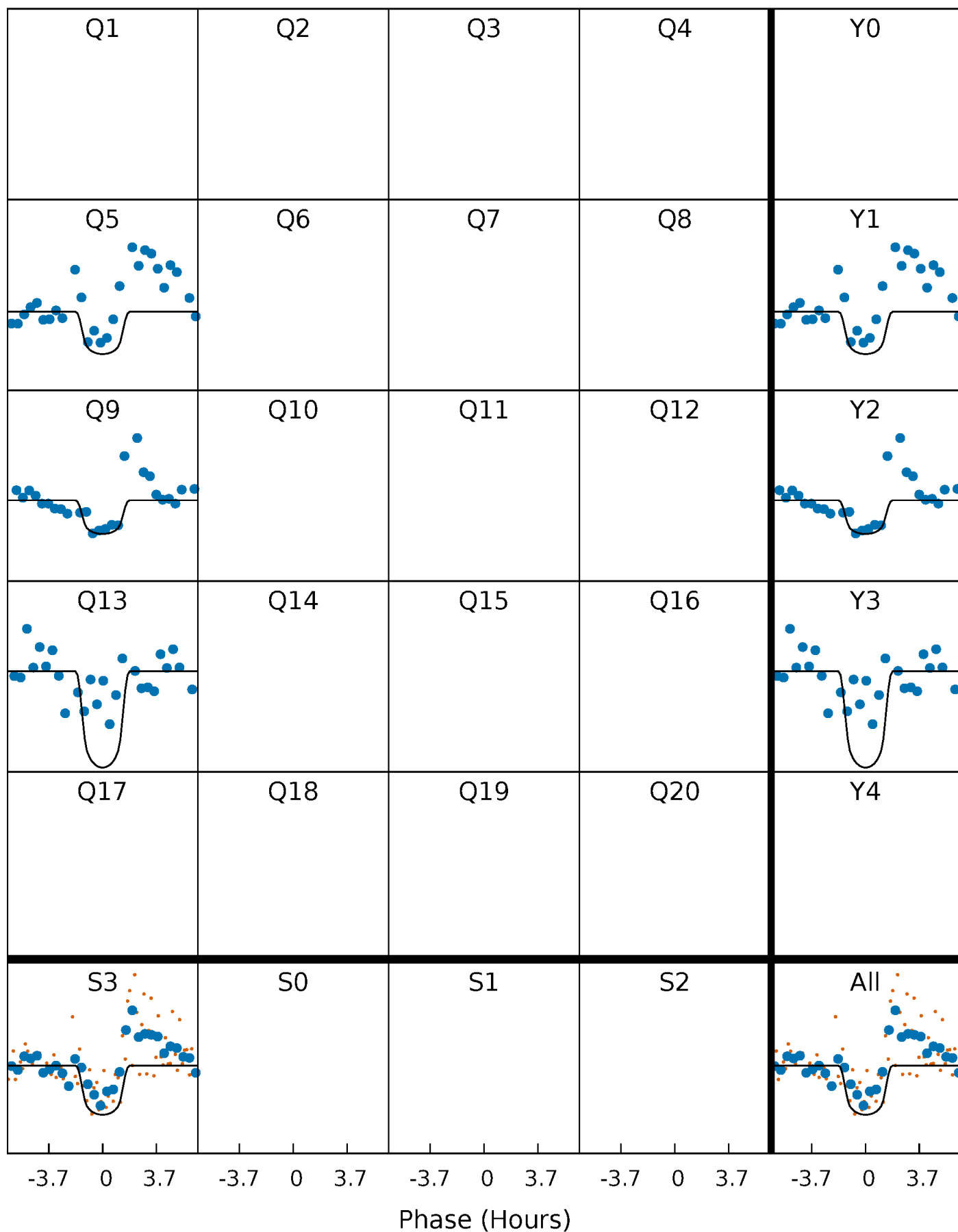
PDC Quarter-Phased Transit Curves

TCE 007117293-05 $P=367.013958$ Days $T_0=169.129918$ (BKJD)



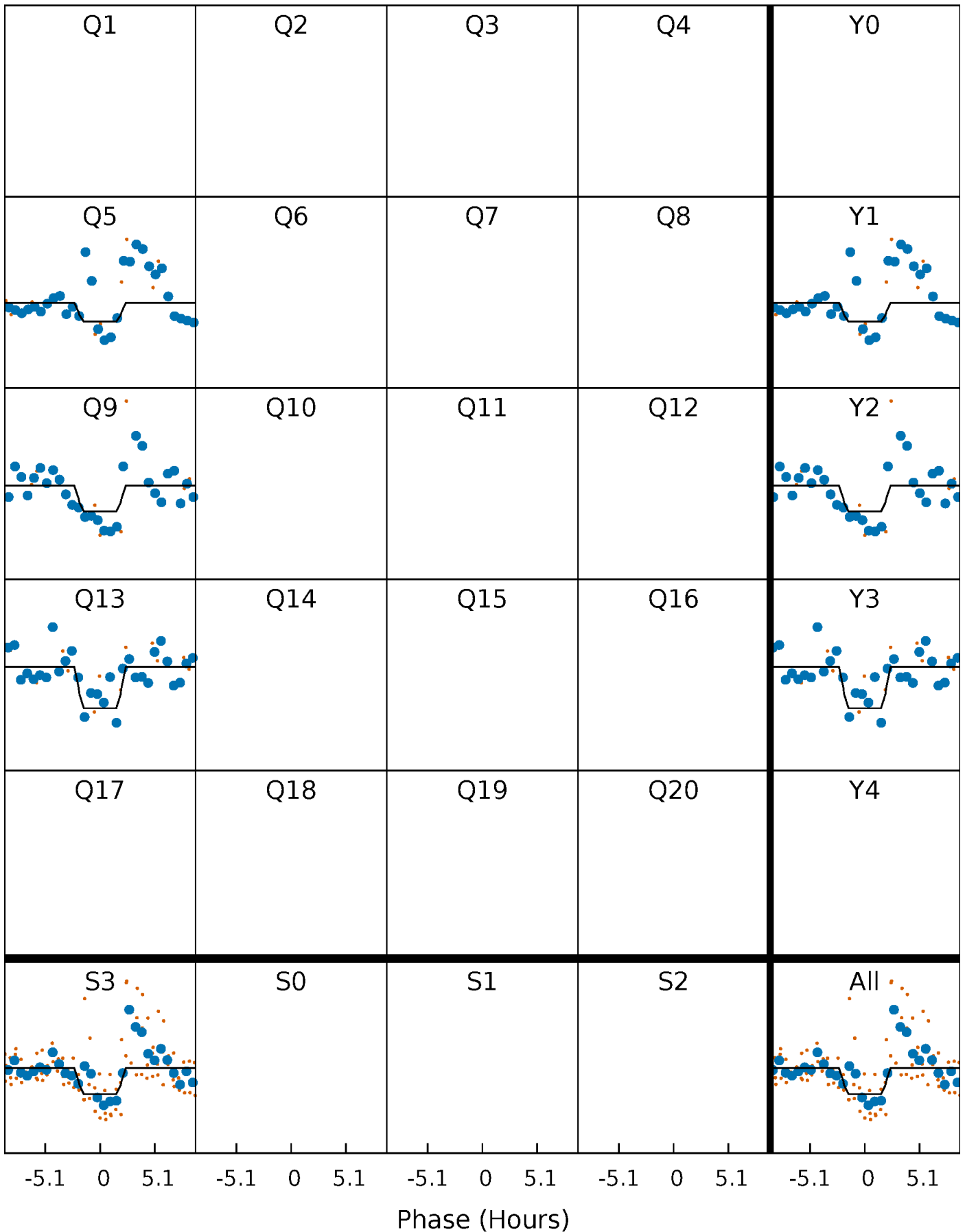
DV Quarter-Phased Transit Curves

TCE 007117293-05 $P=367.013958$ Days $T_0=169.129918$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

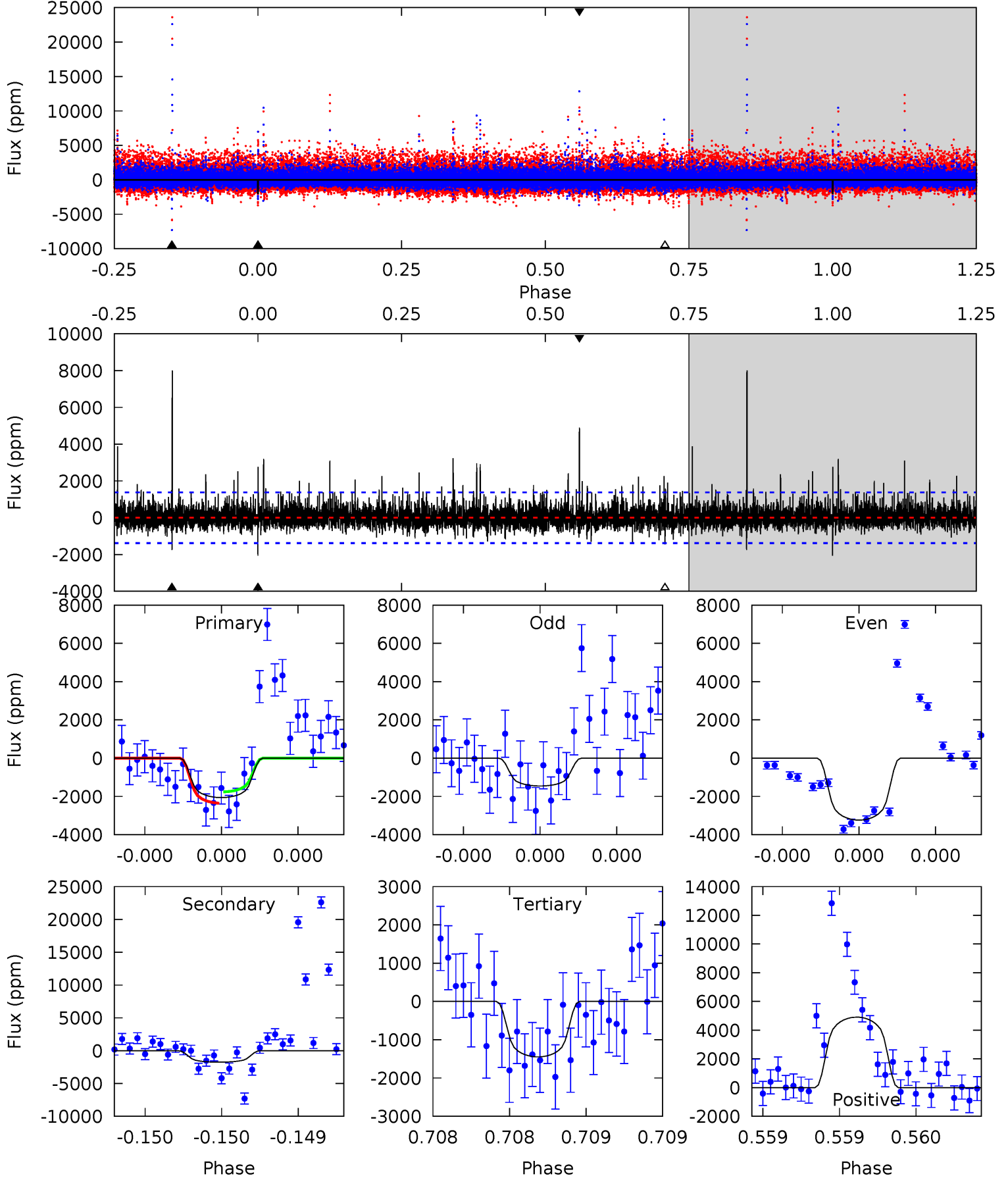
TCE 007117293-05 $P=367.009437$ Days $T_0=169.108078$ (BKJD)



DV Model-Shift Uniqueness Test

007117293-05, P = 367.013958 Days, E = 169.129918 Days

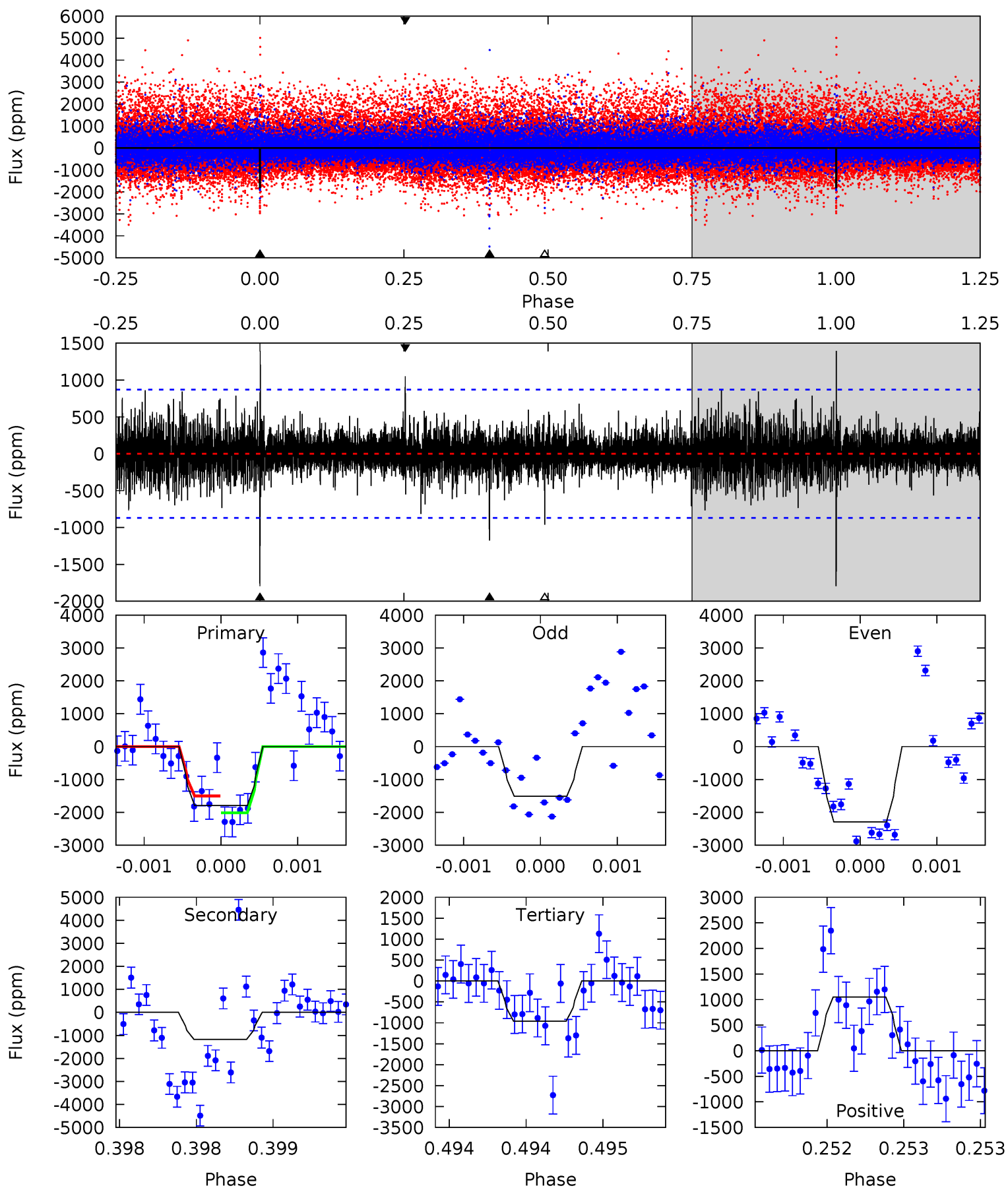
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.38	7.14	5.89	20.0	5.62	3.55	1.86	2.49	-11.6	1.25	-12.8	2.23	1.17	0.80	1.23



Alt Model-Shift Uniqueness Test

007117293-05, P = 367.009437 Days, E = 169.108078 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	7.52	6.16	6.72	5.57	3.48	1.17	5.33	4.76	1.36	0.80	2.24	1.17	0.44	1.61



Stellar Parameters For KIC 007117293

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3377^{+54}_{-47}	$4.949^{+0.055}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.299^{+0.045}_{-0.045}$	$0.289^{+0.059}_{-0.049}$	$15.290^{+5.200}_{-3.261}$
	+2%/-1%	+1%/-1%	+inf%/-inf%	+15%/-15%	+20%/-17%	+34%/-21%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 007117293-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1753 ± 246	$1.96^{+0.98}_{-0.86}$	139^{+4}_{-4}	3029^{+570}_{-306}	$108897^{+239468}_{-58107}$
Alt.	-1175 ± 156	$1.35^{+0.92}_{-0.78}$	139^{+4}_{-4}	3185^{+1128}_{-428}	$157535^{+741215}_{-101451}$

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

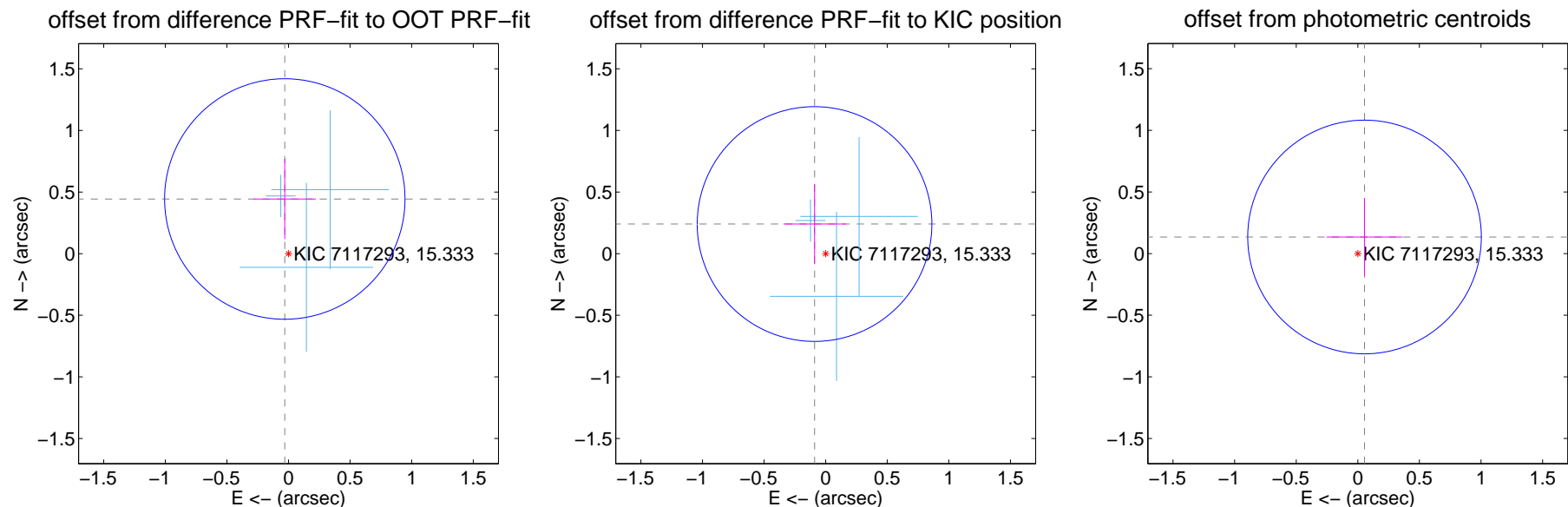
DV Centroid Data

Supplemental centroid analysis for 007117293-05. Kepler magnitude: 15.33. Transit SNR 10.39

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.445 ± 0.325	1.37	0.030 ± 0.253	0.444 ± 0.326
PRF-fit source offset from KIC position	0.257 ± 0.318	0.81	0.090 ± 0.253	0.240 ± 0.326
photometric centroid source offset	0.15 ± 0.32	0.46	-0.05 ± 0.31	0.13 ± 0.32

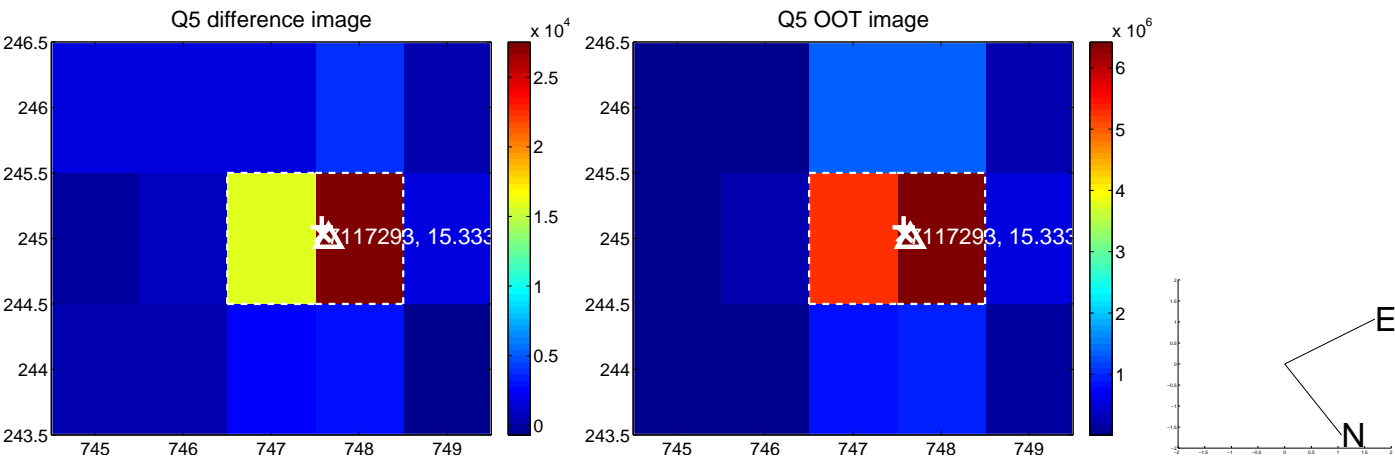


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

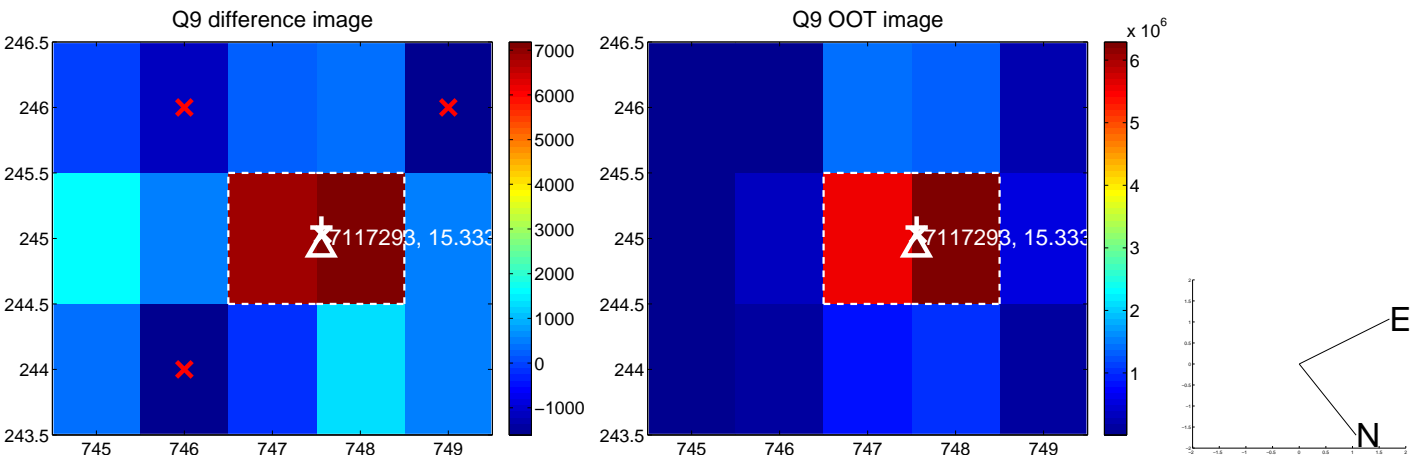
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



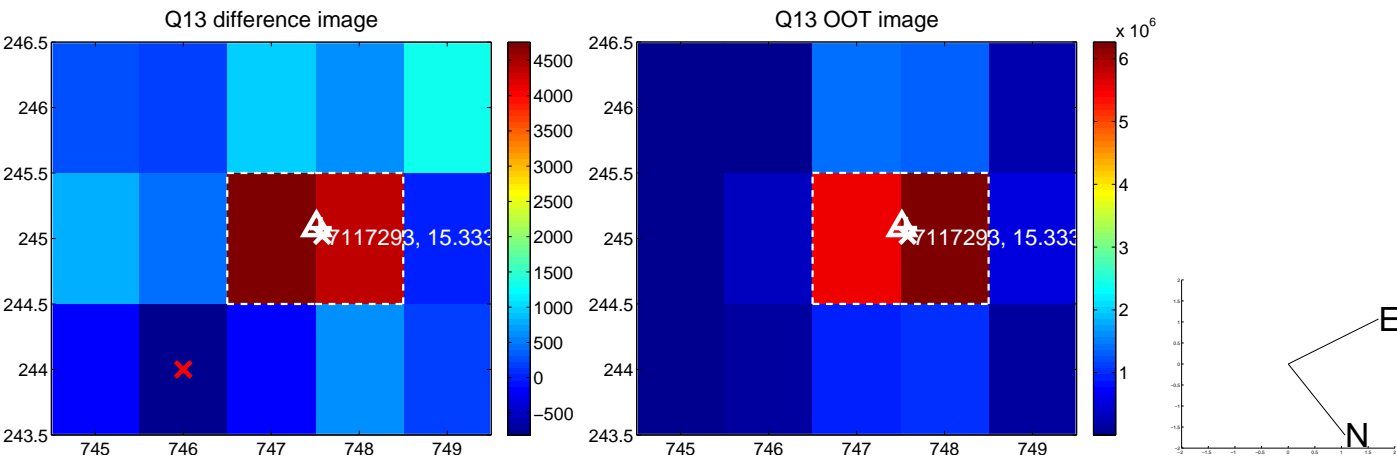
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



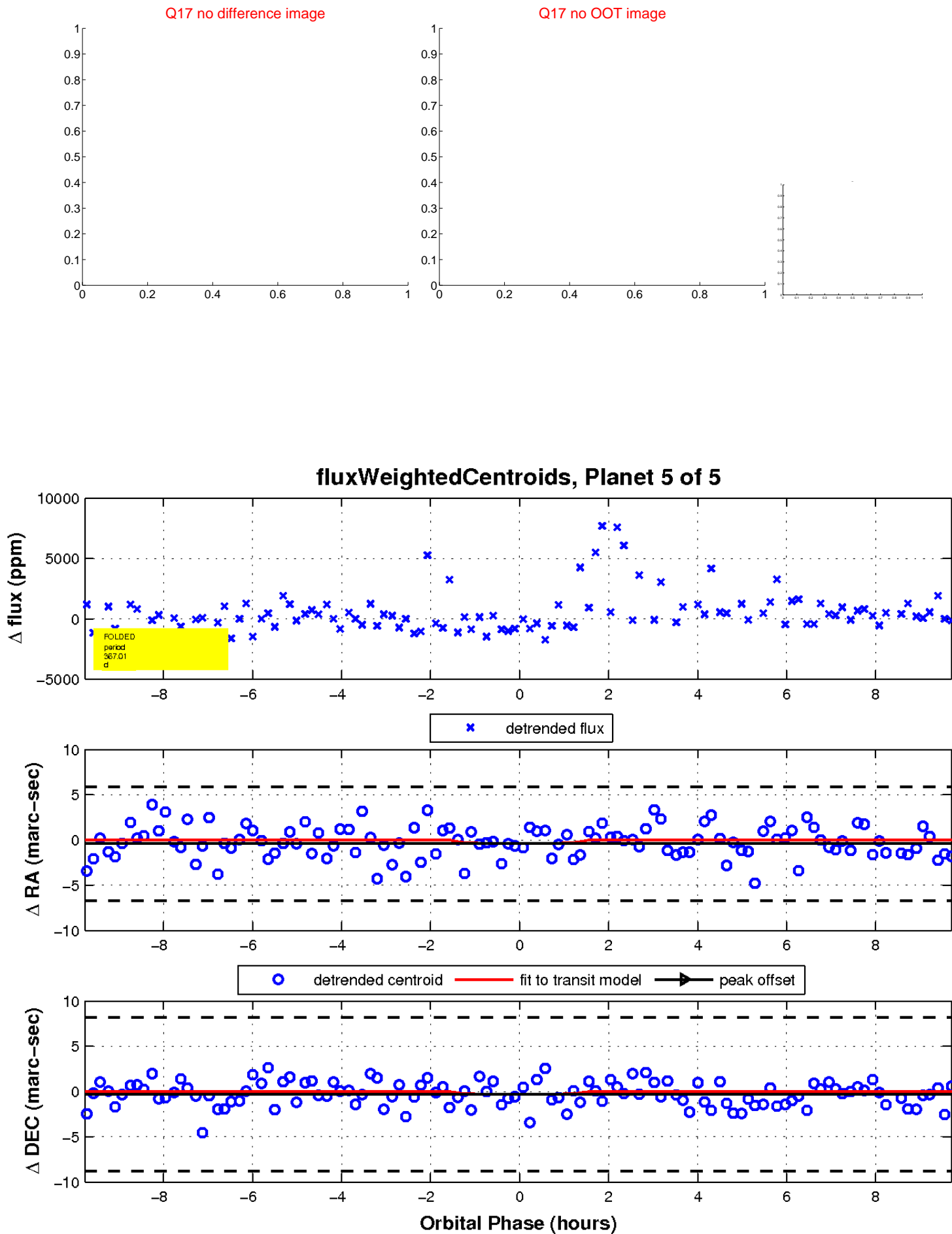
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

