

KIC 010340779

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})
010340779-01	OBS	No	247.729965	249.797597	292.5	21.293	11.8	9.7	0.79	5448	1.48	1.04
010340779-02	OBS	No	470.704484	439.531083	396.6	20.321	10.8	10.5	0.79	5448	1.65	0.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010340779-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010340779-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

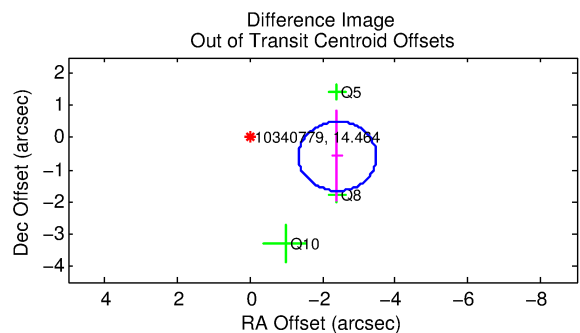
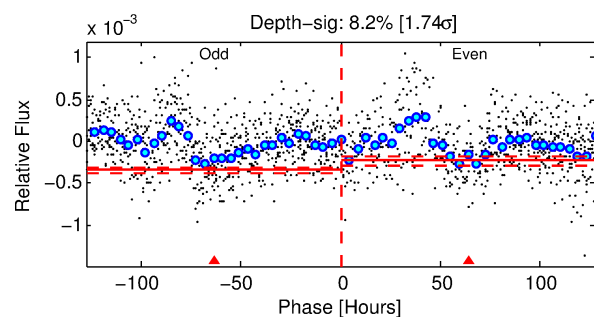
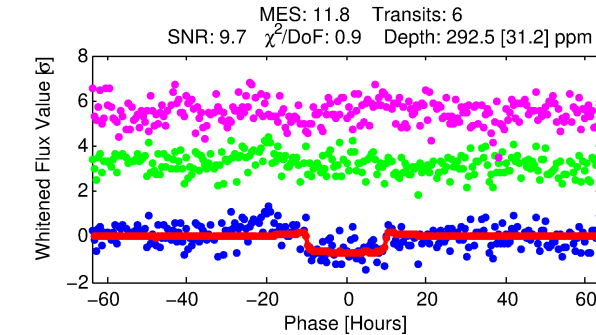
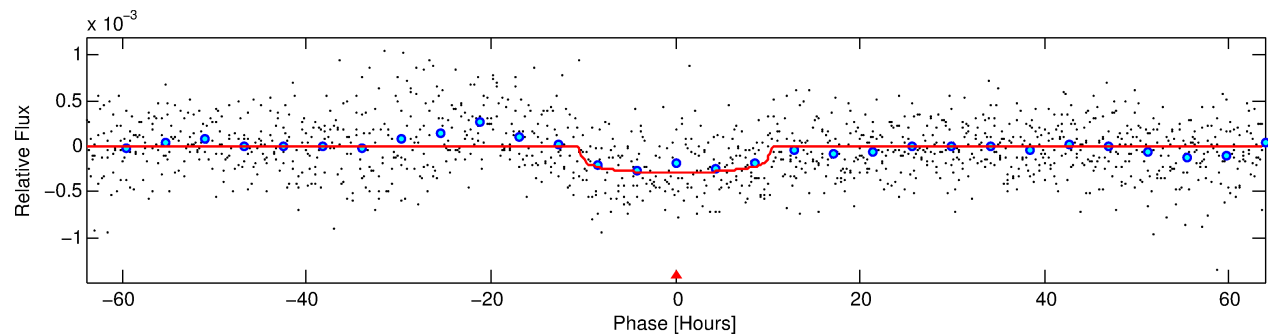
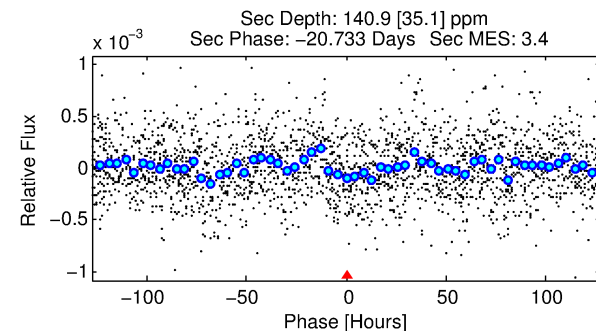
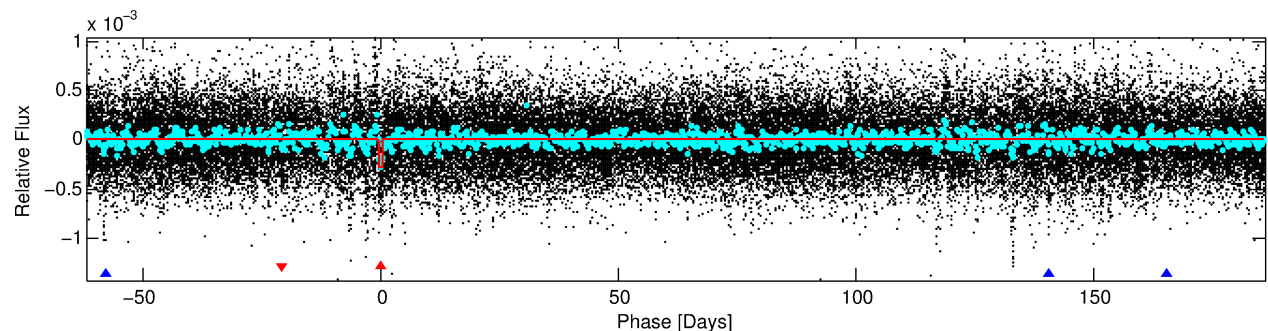
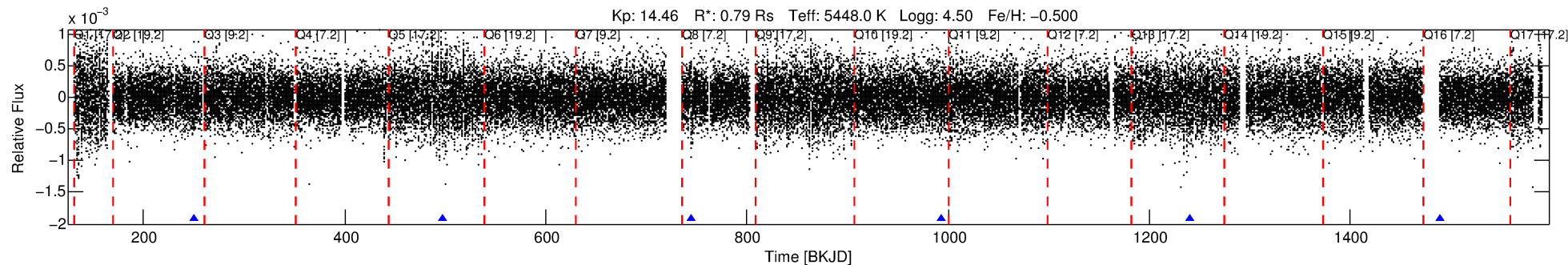
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010340779-01

No Significant Match Found

DV One-Page Summary

KIC: 10340779 Candidate: 1 of 2 Period: 247.730 d



DV Fit Results:

Period = 247.72996 [0.00833] d
Epoch = 249.7976 [0.0235] BKJD
Rp/R* = 0.0171 [0.0036]
a/R* = 59.53 [53.10]
b = 0.77 [0.49]
Seff = 1.04 [0.27]
Teff = 257 [17] K
Rp = 1.48 [0.40] Re
a = 0.6927 [0.1020] AU
Ag = 16892.09 [9064.05] [1.86σ]
Teffp = 4536 [573] K [7.46σ]

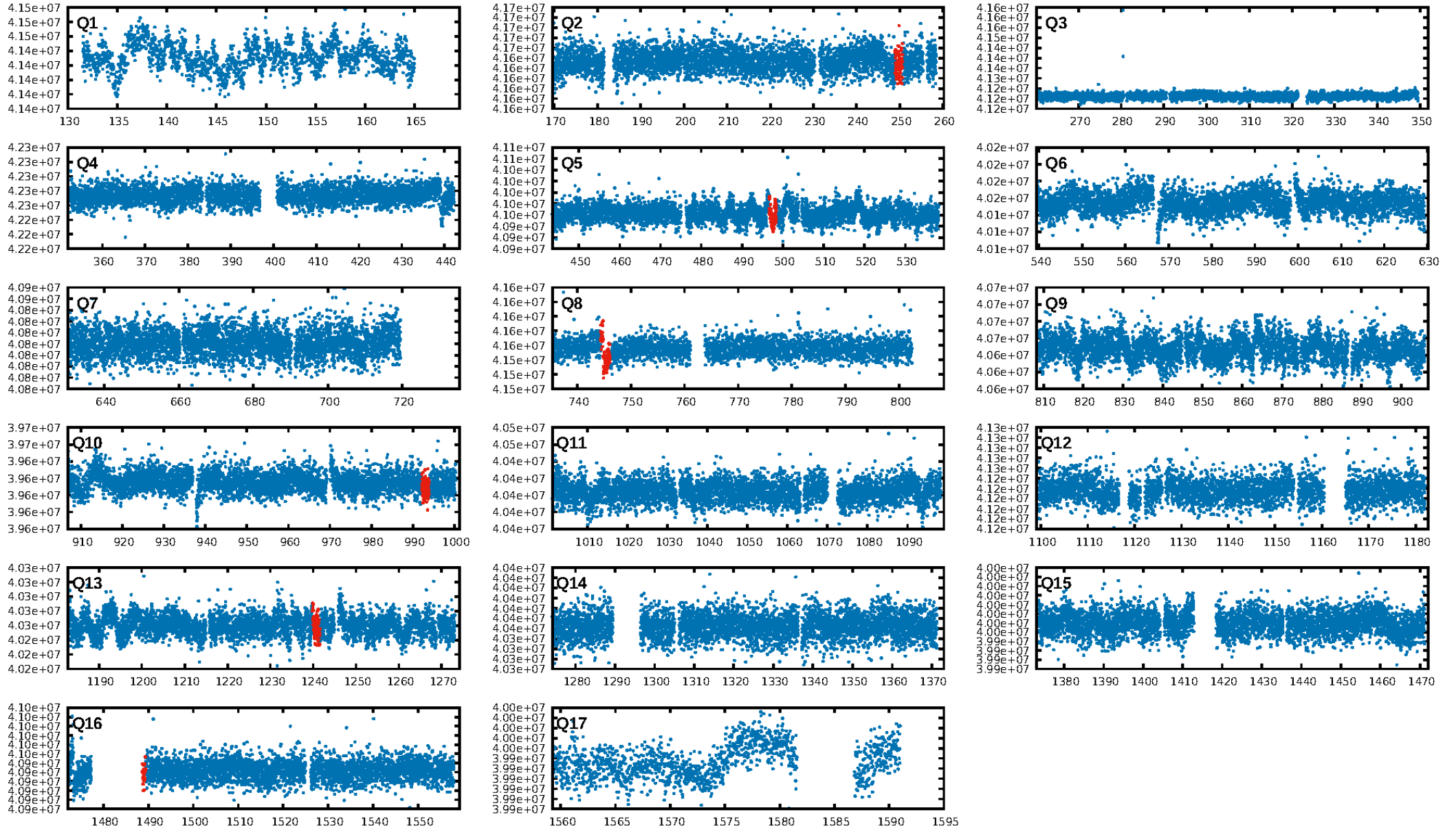
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [181.81σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.03e-21
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -3.903
Centroid-sig: 94.3%
Centroid-so: 0.189 arcsec [0.15σ]
OotOffset-rm: 2.478 arcsec [6.91σ]
KicOffset-rm: 2.526 arcsec [6.38σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [4/4]

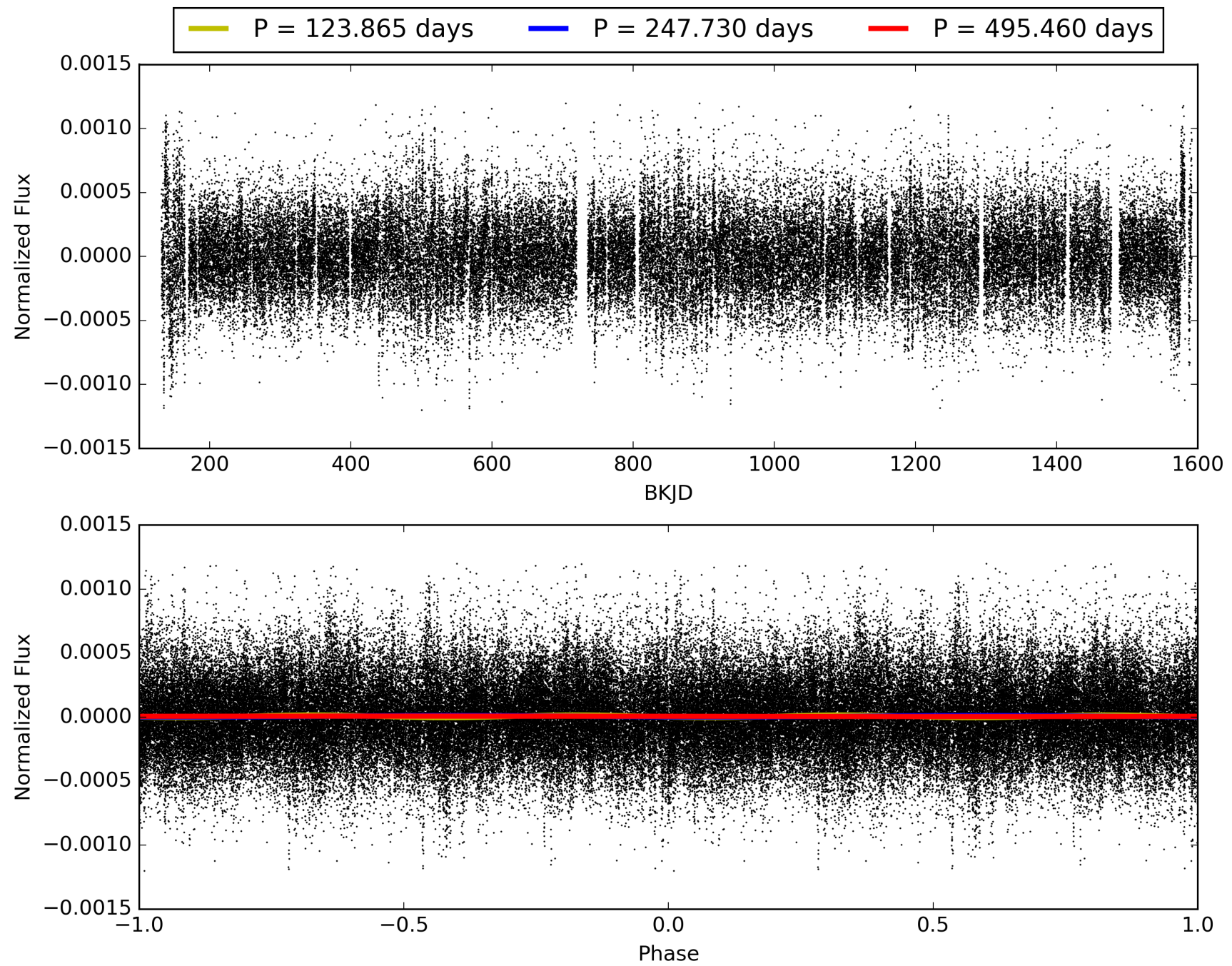
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:51:24 Z

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

TCE 010340779-01, PDC Light Curves

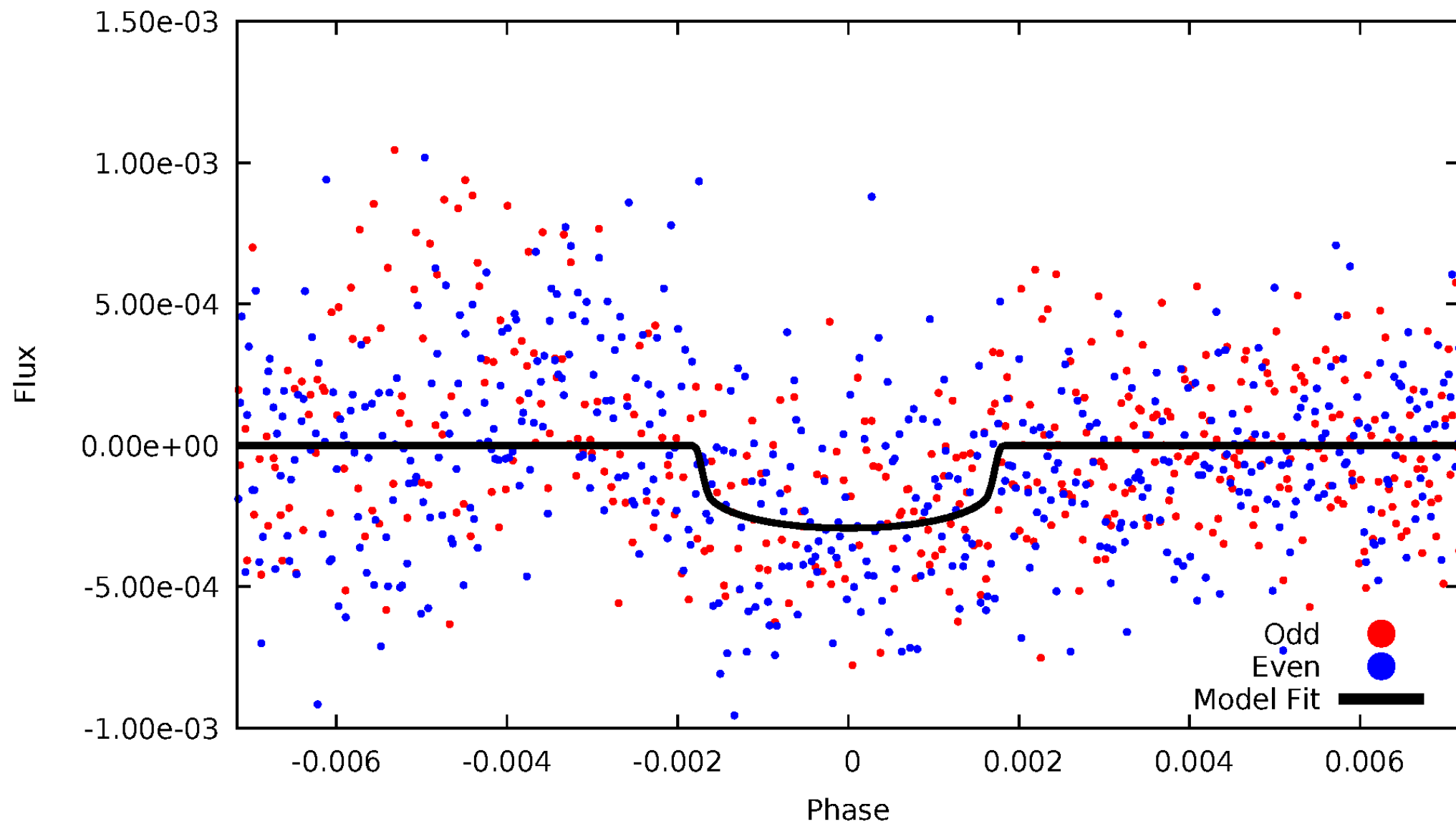


TCE 010340779-01



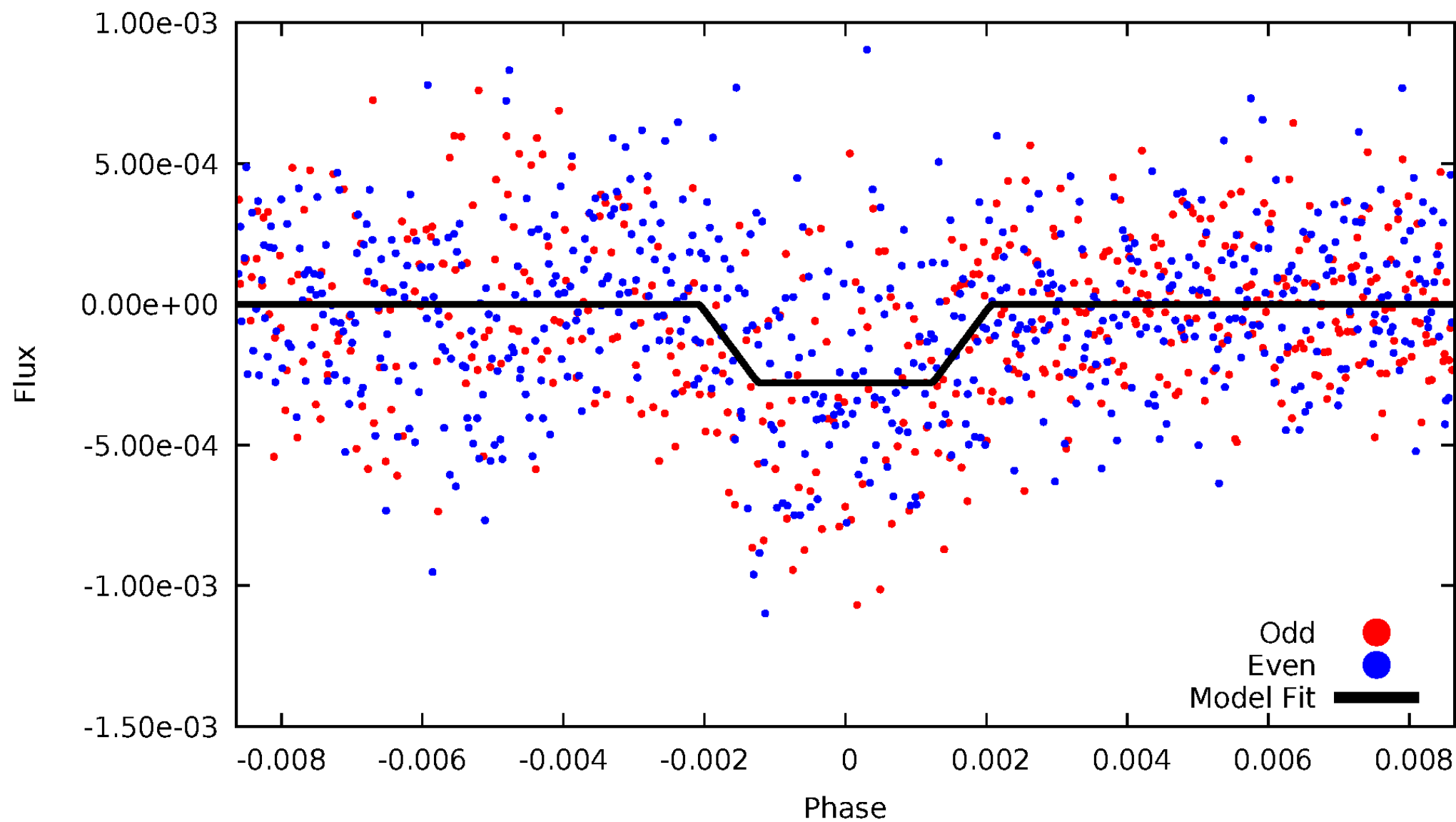
DV Odd/Even

TCE 010340779-01



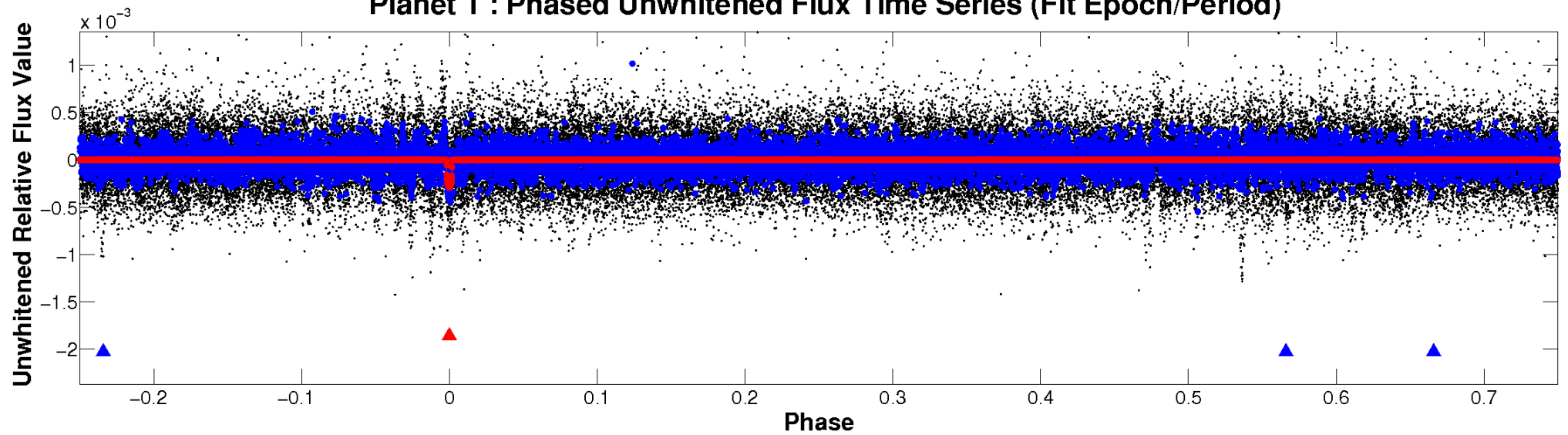
ALT Odd/Even

TCE 010340779-01

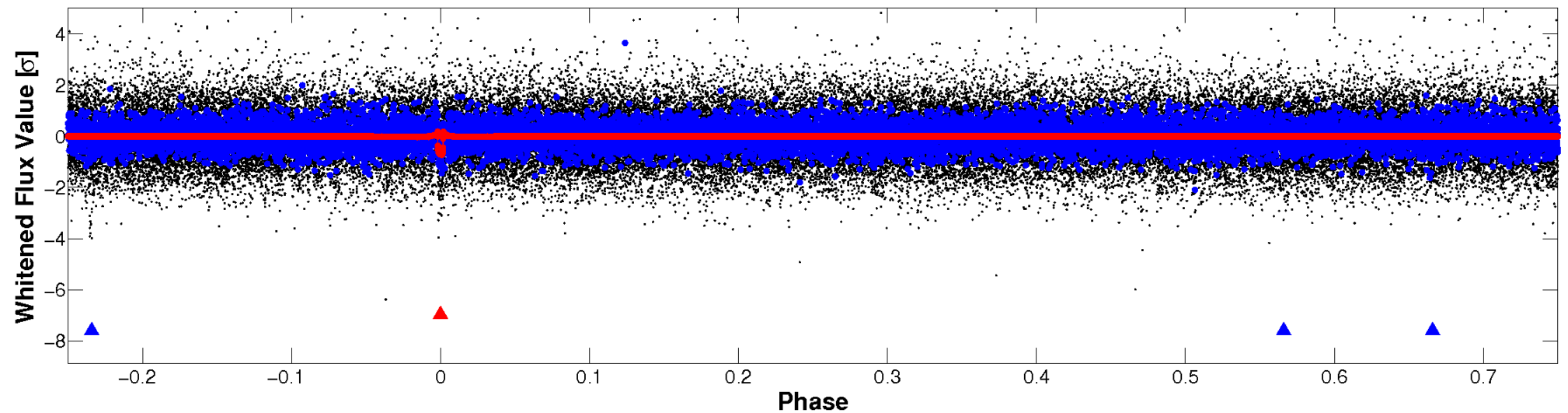


Non-Whitened Vs. Whitened Light Curve

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

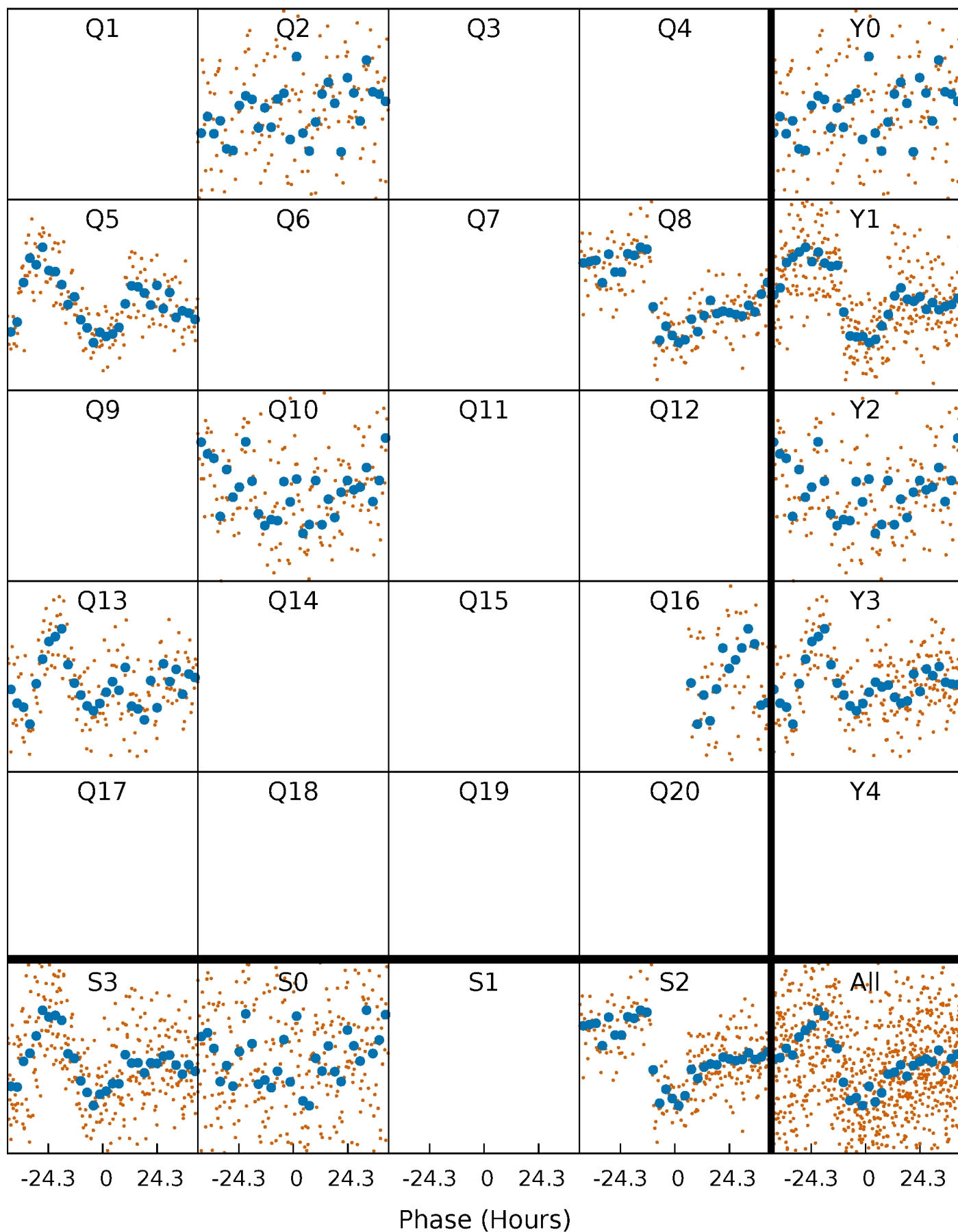


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



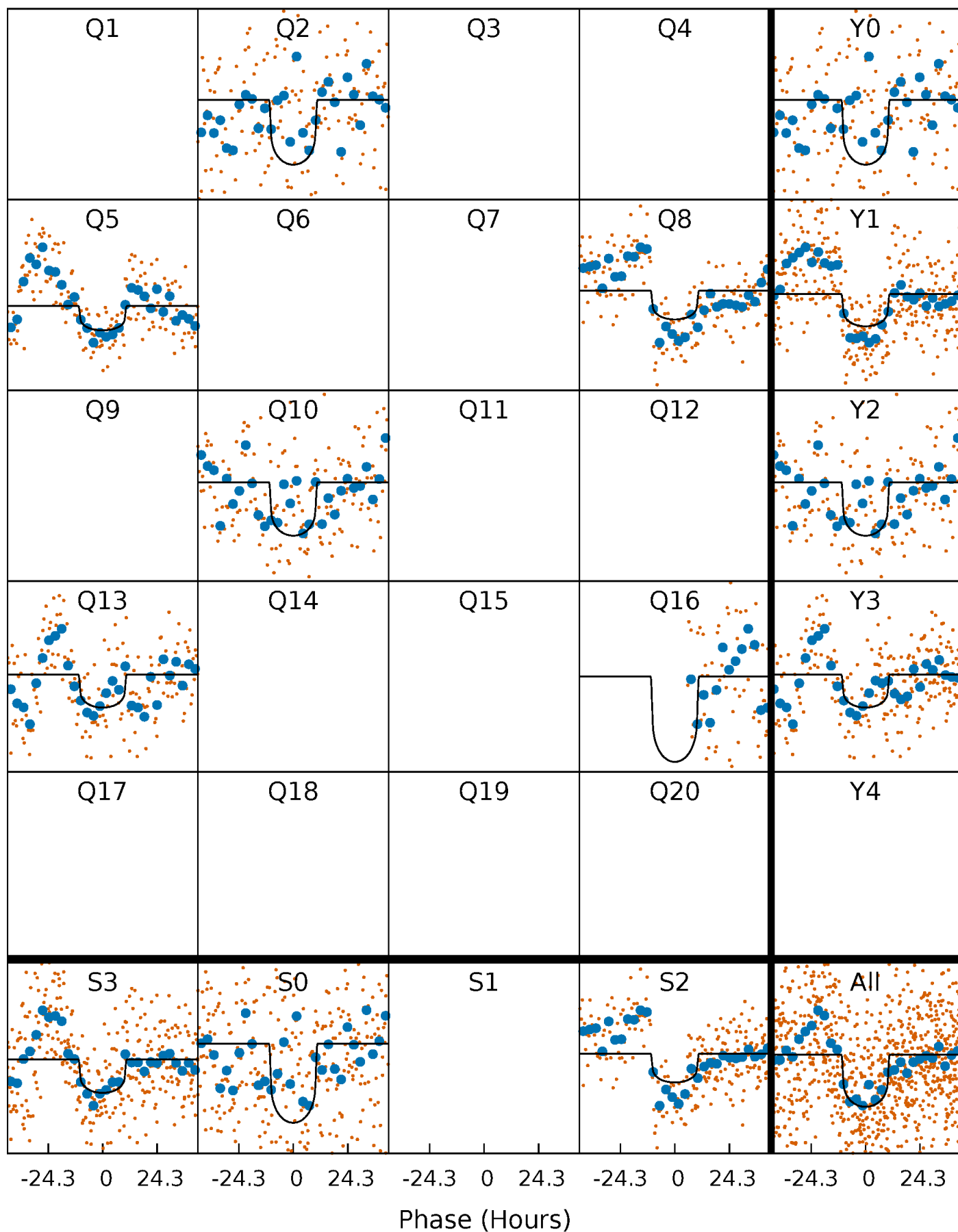
PDC Quarter-Phased Transit Curves

TCE 010340779-01 P=247.729965 Days $T_0=249.797597$ (BKJD)



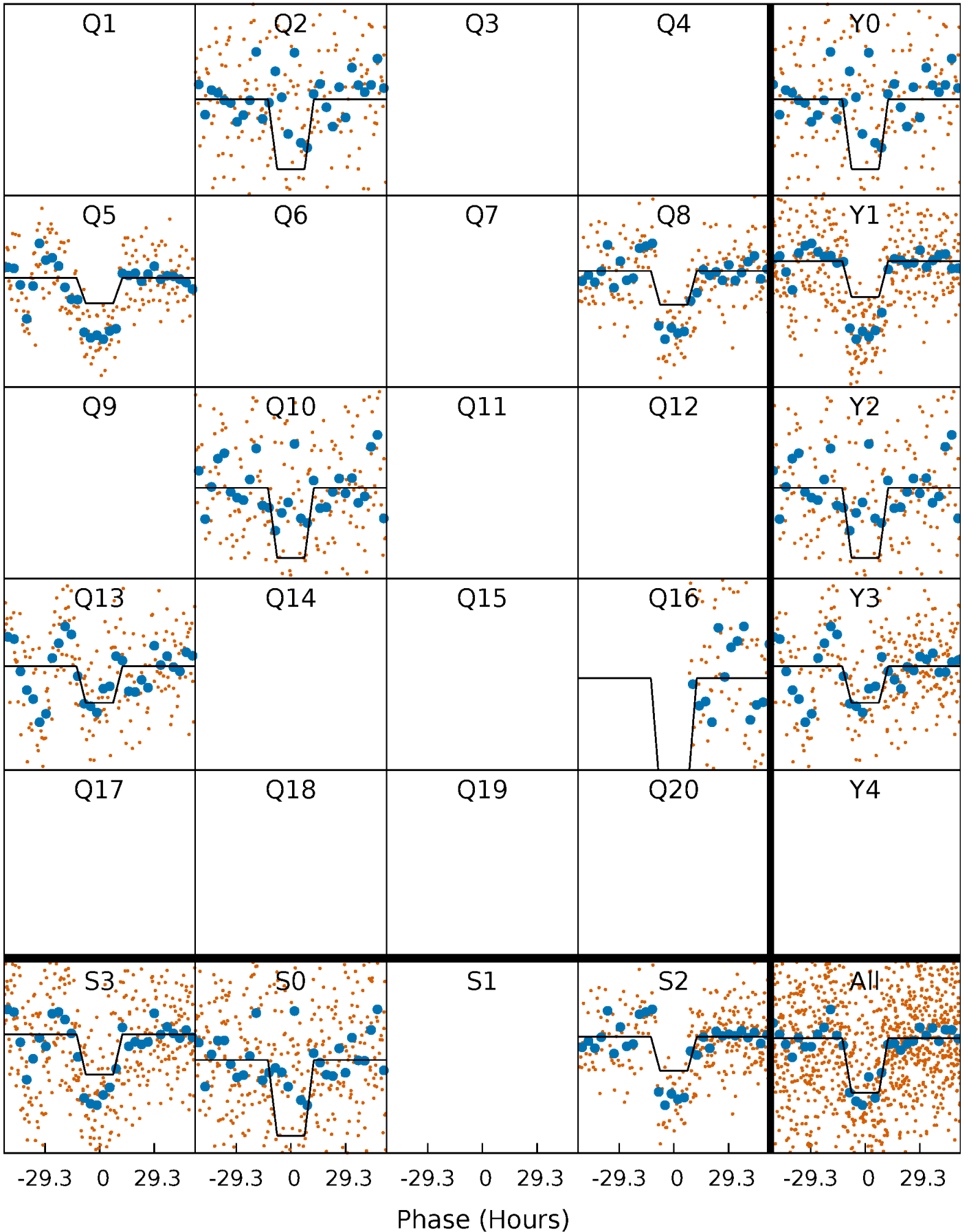
DV Quarter-Phased Transit Curves

TCE 010340779-01 P=247.729965 Days $T_0=249.797597$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

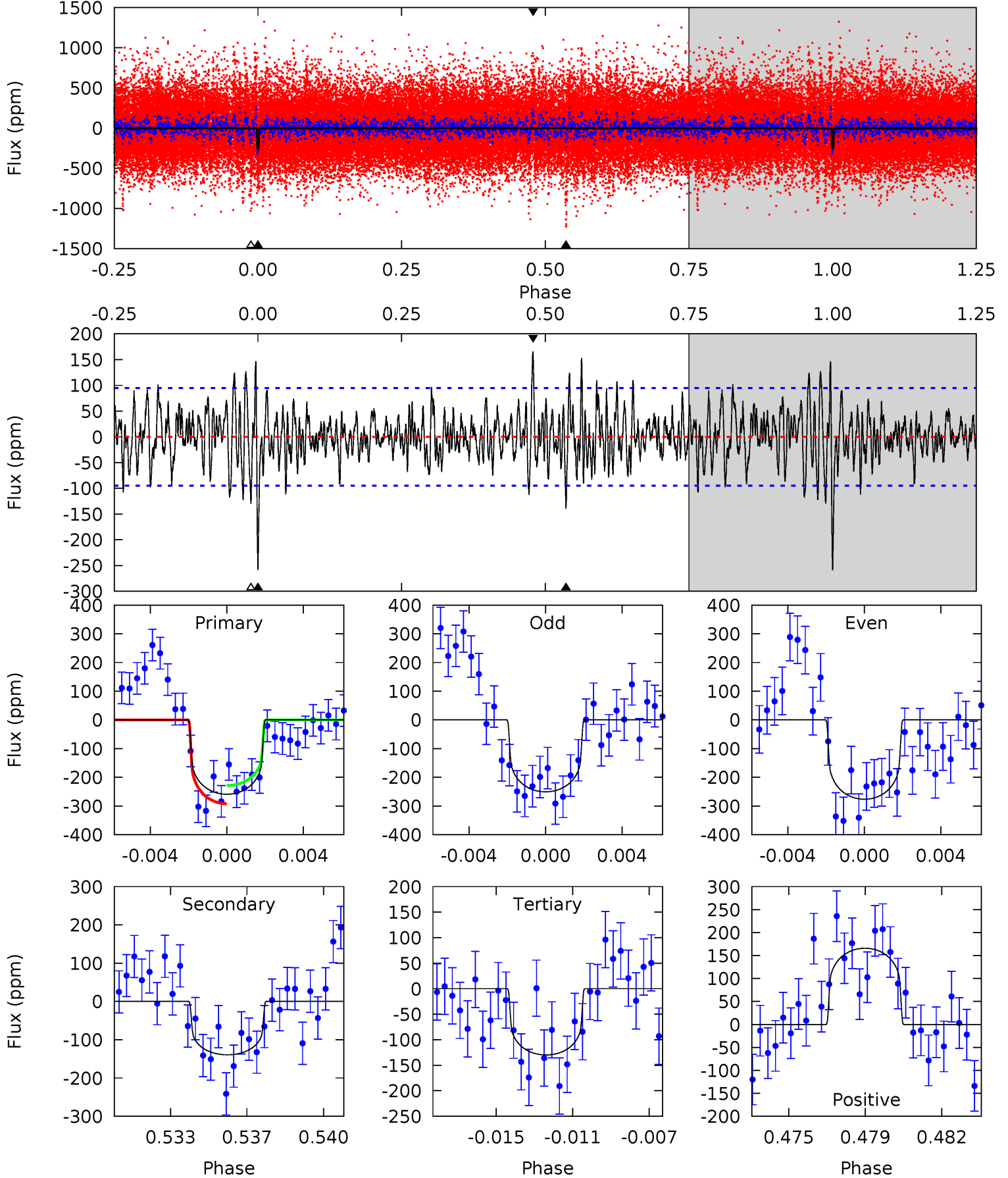
TCE 010340779-01 P=247.709237 Days $T_0=249.789540$ (BKJD)



DV Model-Shift Uniqueness Test

010340779-01, P = 247.729965 Days, E = 2.067632 Days

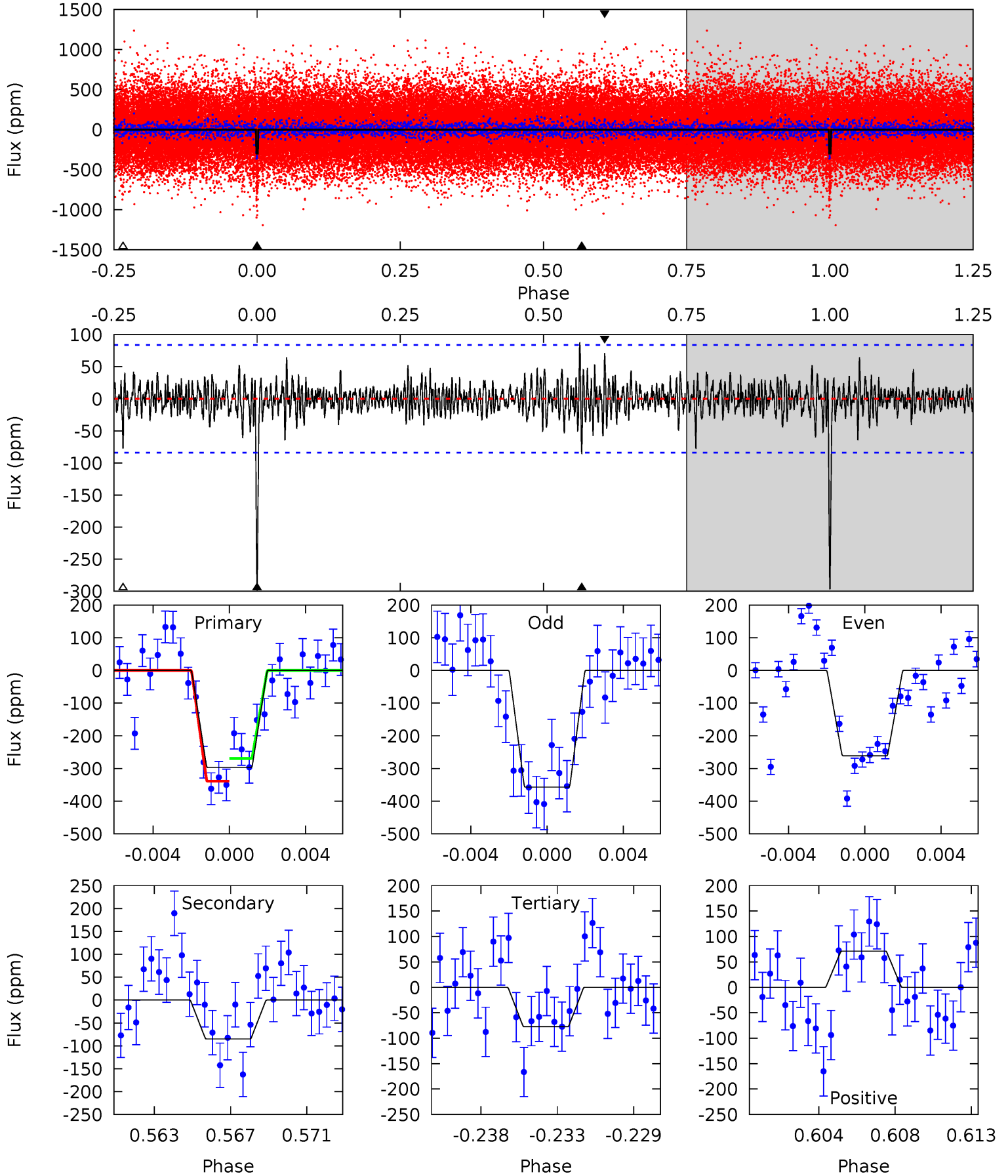
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	7.67	7.14	9.12	5.22	2.91	2.23	7.10	5.12	0.53	-1.45	0.71	1.20	0.39	1.75



Alt Model-Shift Uniqueness Test

010340779-01, P = 247.709237 Days, E = 2.080303 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	5.25	4.78	4.40	5.19	2.87	1.13	13.6	14.0	0.47	0.85	2.92	1.66	0.23	2.15



Stellar Parameters For KIC 010340779

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5448^{+178}_{-162}	$4.497^{+0.113}_{-0.125}$	$-0.500^{+0.300}_{-0.300}$	$0.794^{+0.133}_{-0.109}$	$0.721^{+0.112}_{-0.037}$	$2.032^{+1.022}_{-0.729}$
	+3%/-3%	+3%/-3%	+60%/-60%	+17%/-14%	+16%/-5%	+50%/-36%
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 010340779-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-139±18	$1.50^{+0.33}_{-0.35}$	361^{+21}_{-19}	4659^{+517}_{-358}	16646^{+11260}_{-5675}
Alt.	-85±16	$1.47^{+0.36}_{-0.33}$	361^{+20}_{-18}	4260^{+424}_{-342}	10519^{+7275}_{-4026}

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

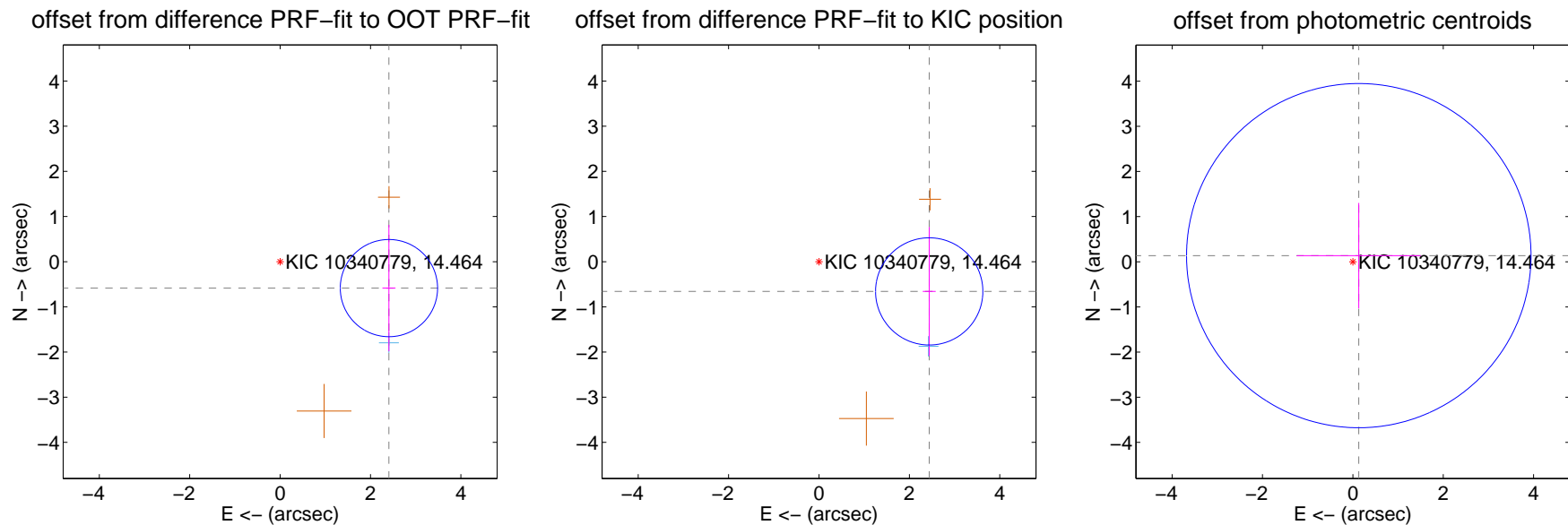
DV Centroid Data

Supplemental centroid analysis for 010340779-01. Kepler magnitude: 14.46. Transit SNR 9.74

There are 1 quarters with good PRF difference image offsets

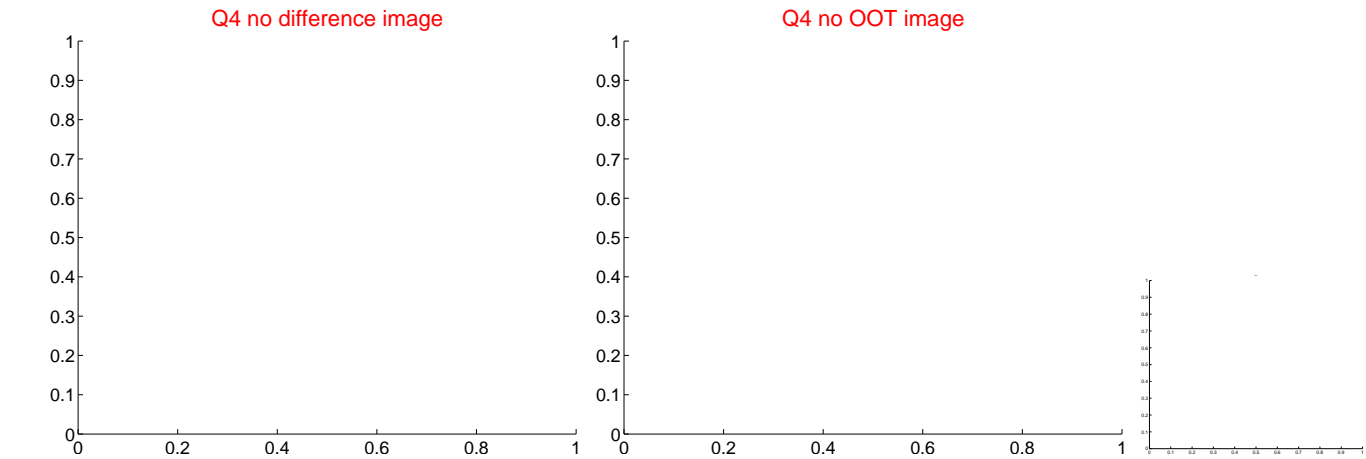
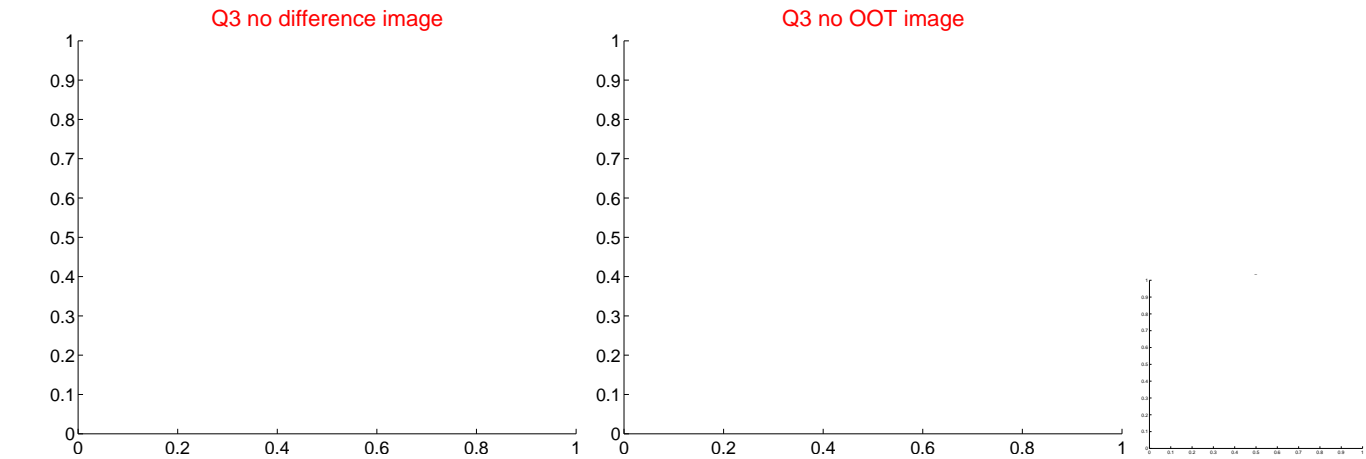
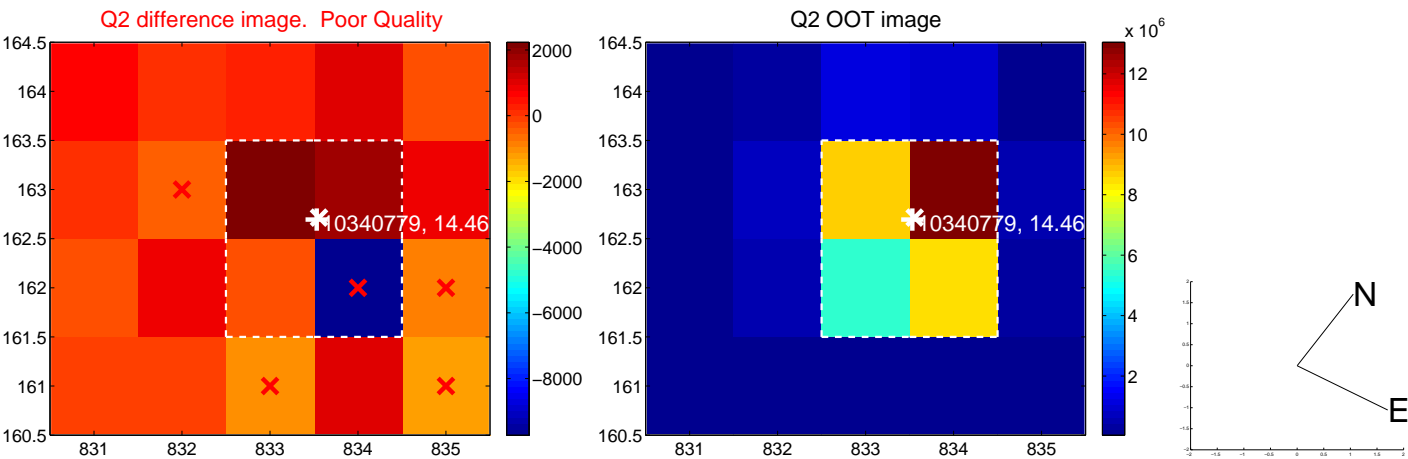
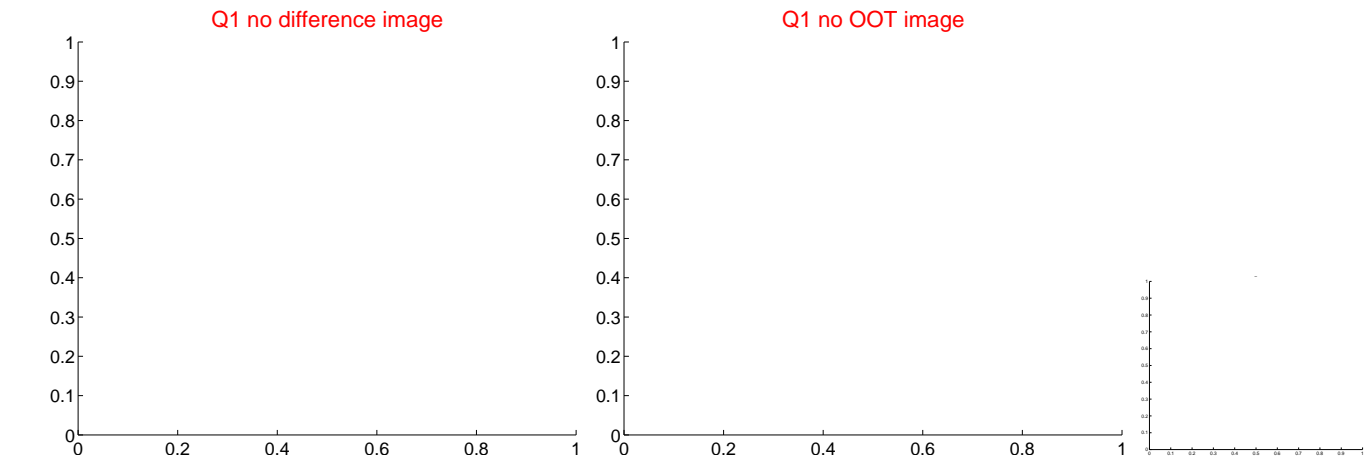
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.478 ± 0.359	6.91	-2.408 ± 0.144	-0.585 ± 1.400
PRF-fit source offset from KIC position	2.526 ± 0.396	6.38	-2.439 ± 0.142	-0.658 ± 1.425
photometric centroid source offset	0.19 ± 1.27	0.15	-0.13 ± 1.37	0.14 ± 1.17

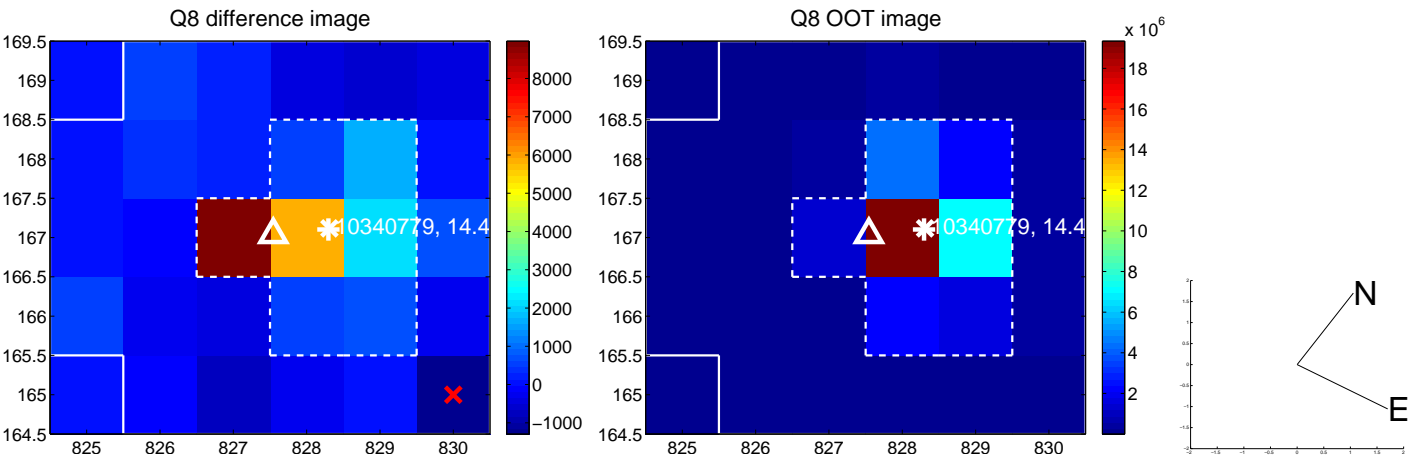
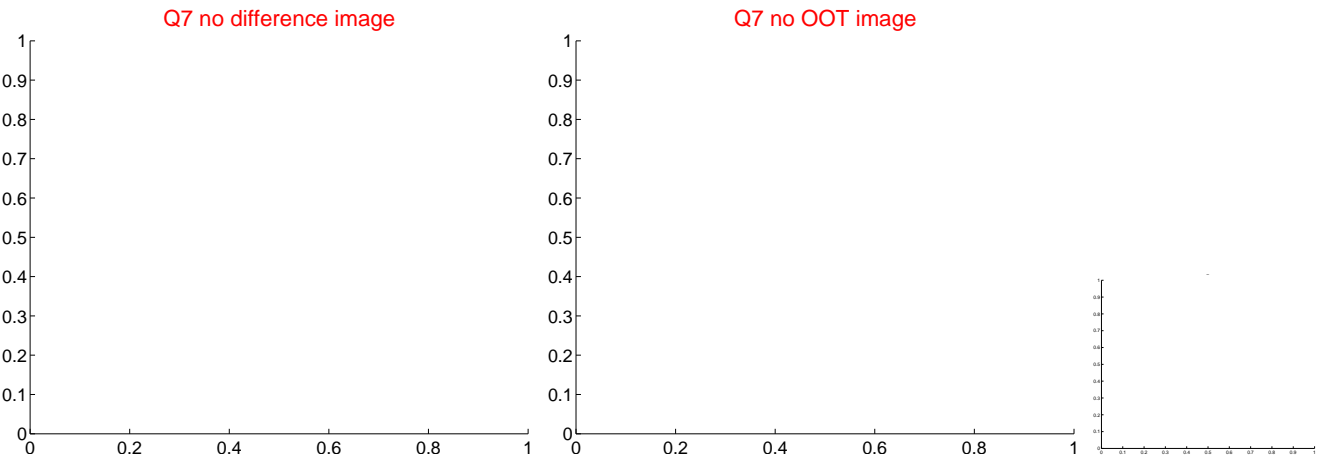
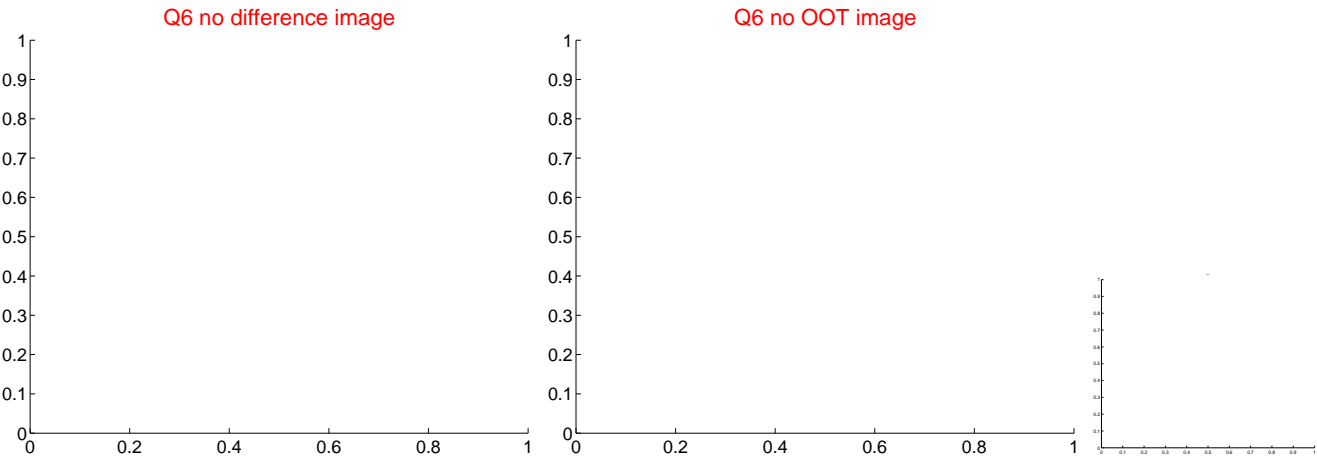
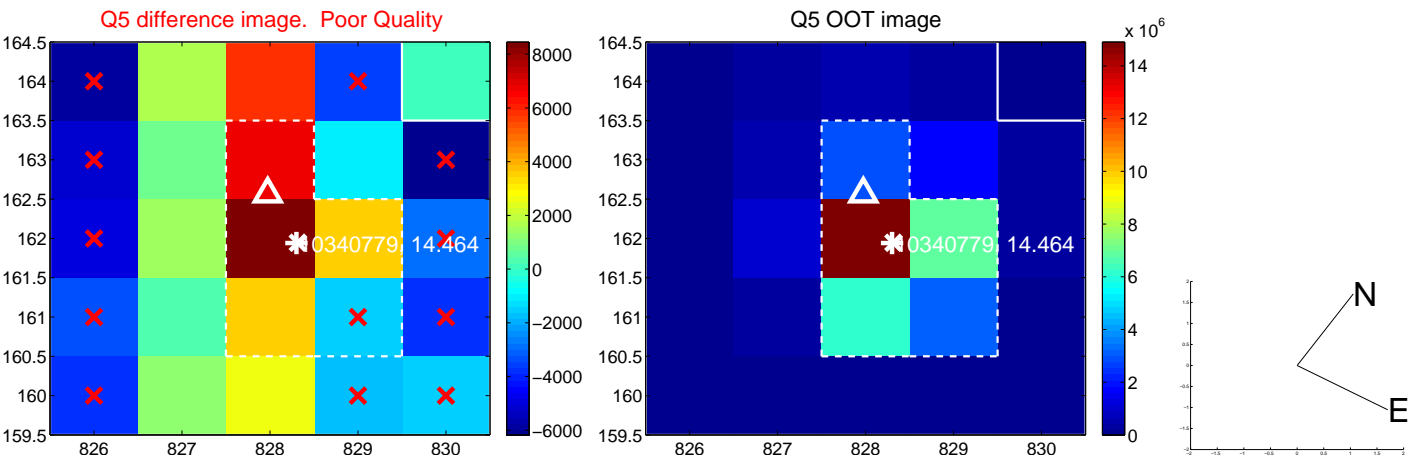


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

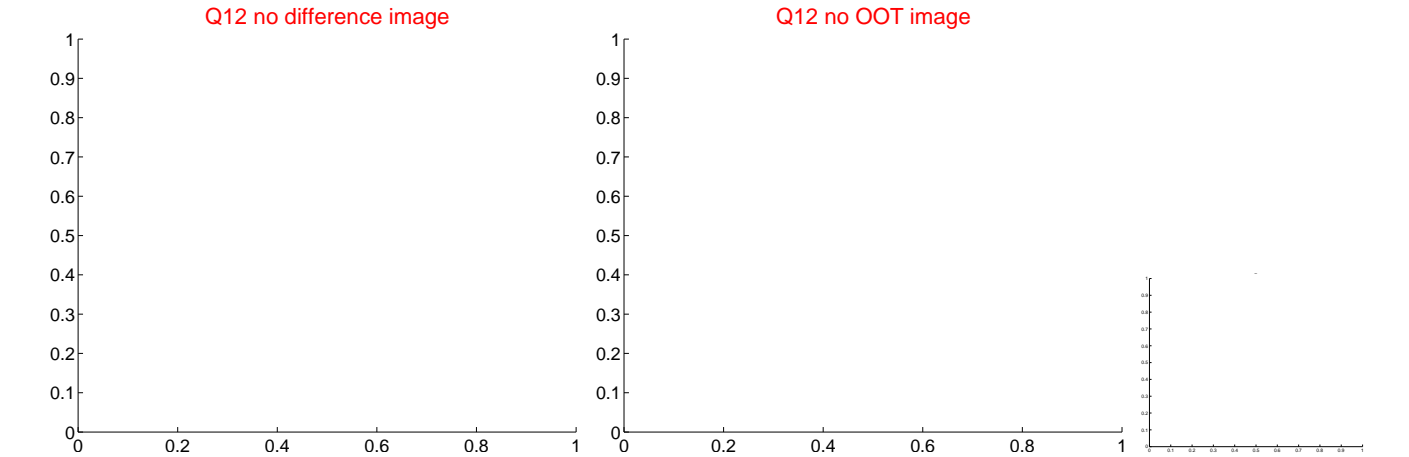
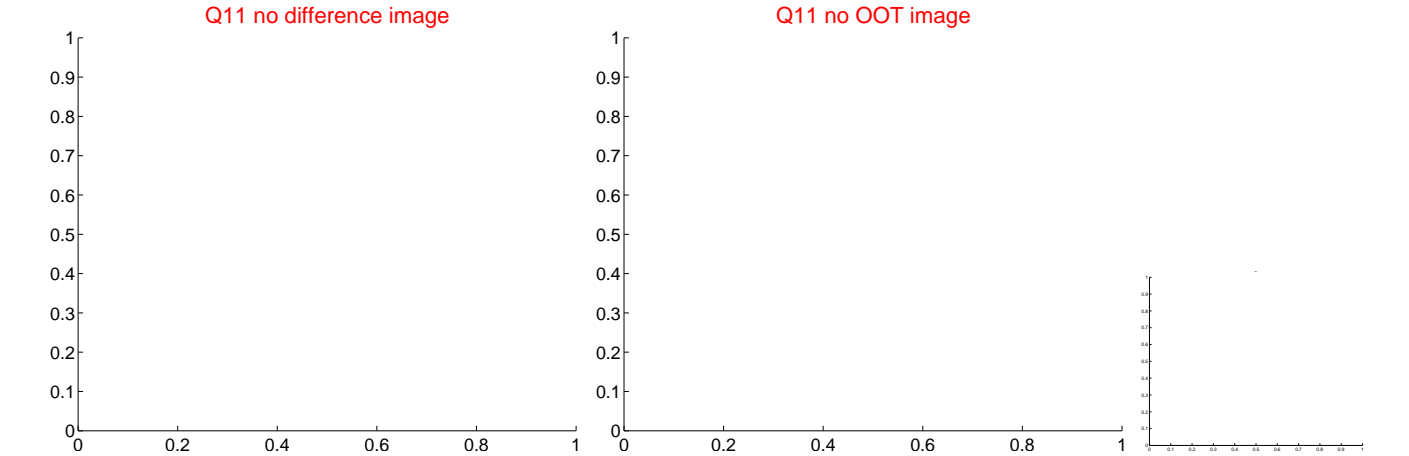
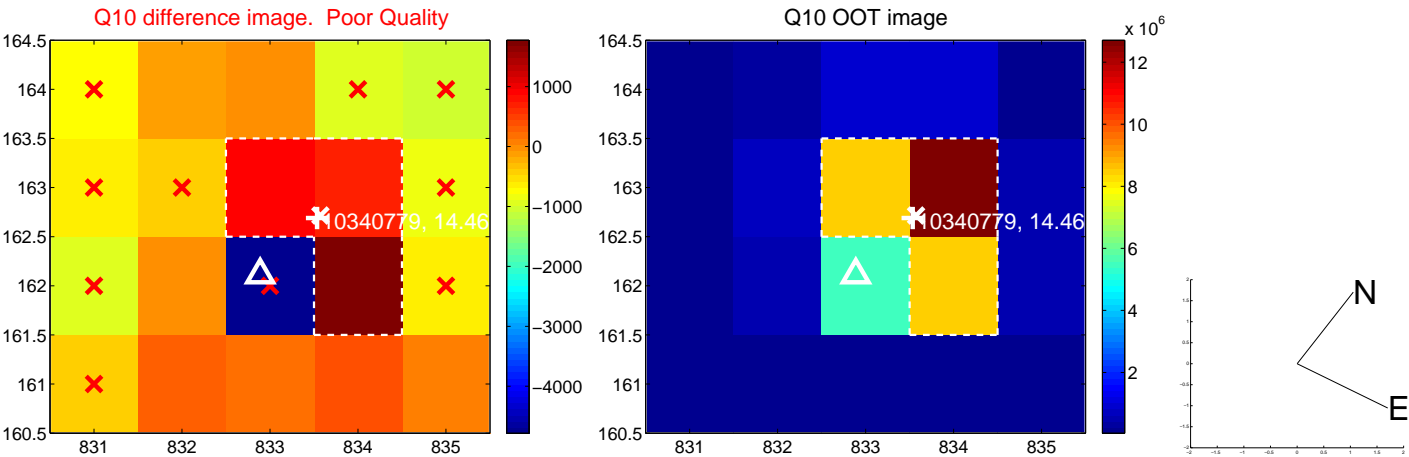
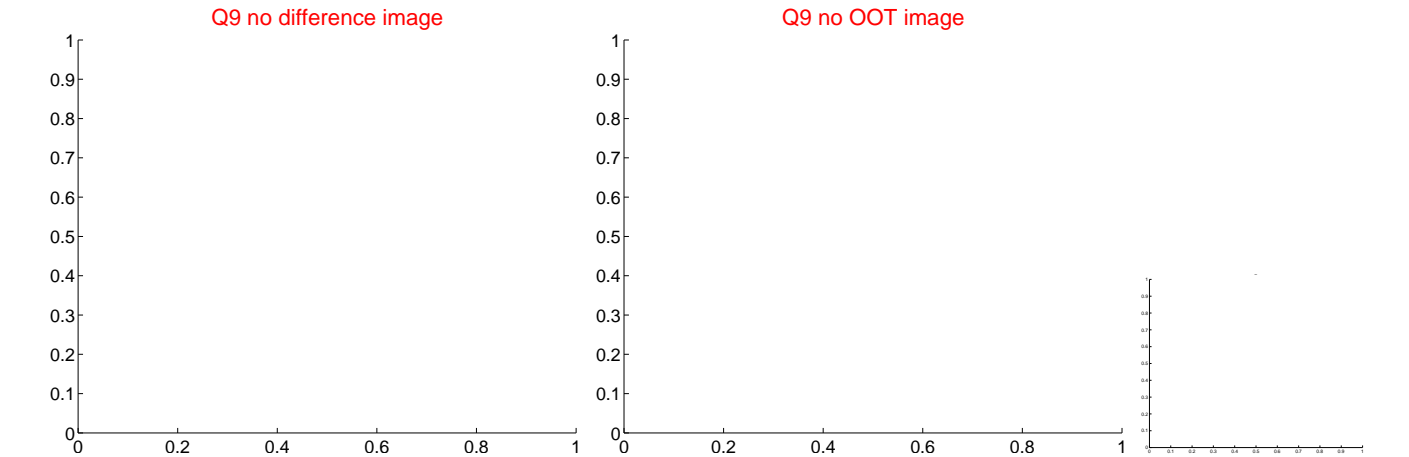
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



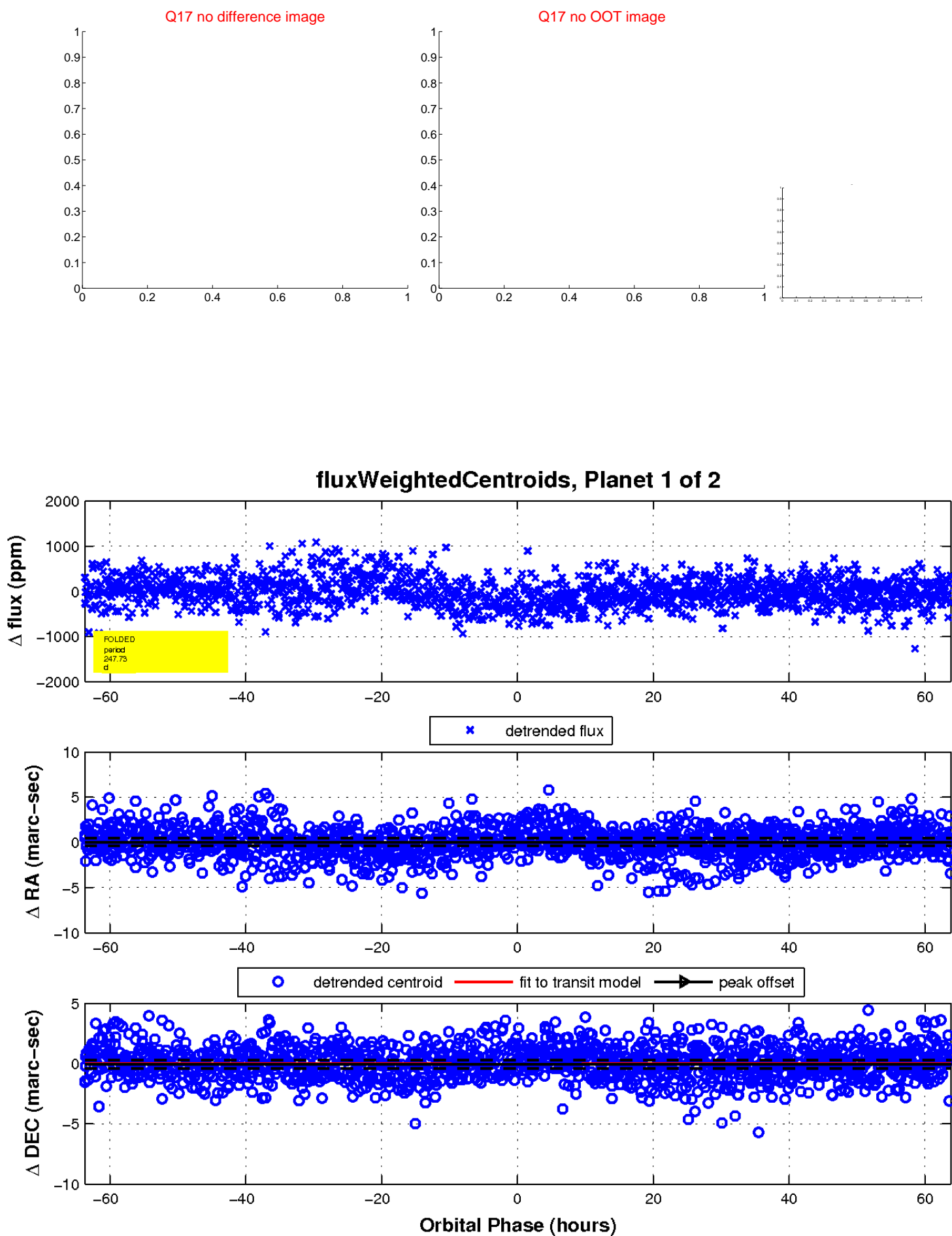
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

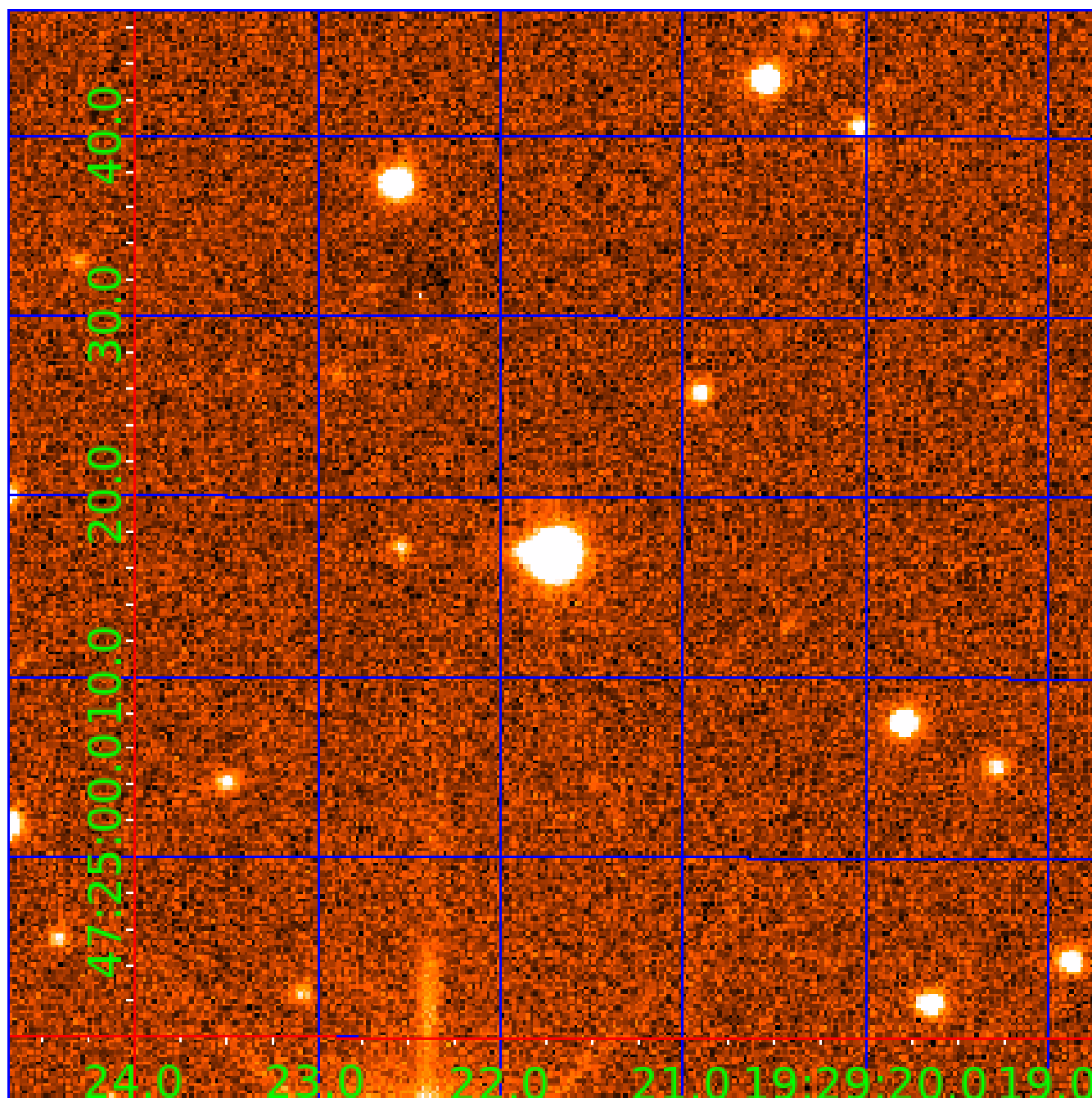


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010340779

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})
010340779-01	OBS	No	247.729965	249.797597	292.5	21.293	11.8	9.7	0.79	5448	1.48	1.04
010340779-02	OBS	No	470.704484	439.531083	396.6	20.321	10.8	10.5	0.79	5448	1.65	0.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010340779-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010340779-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

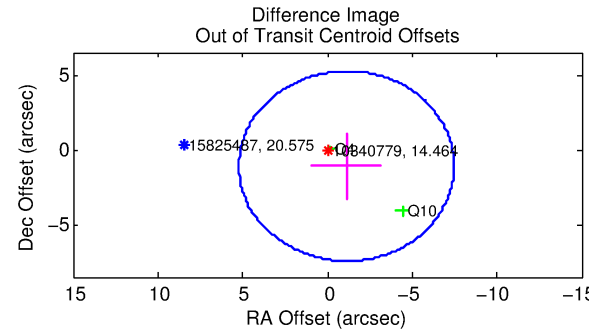
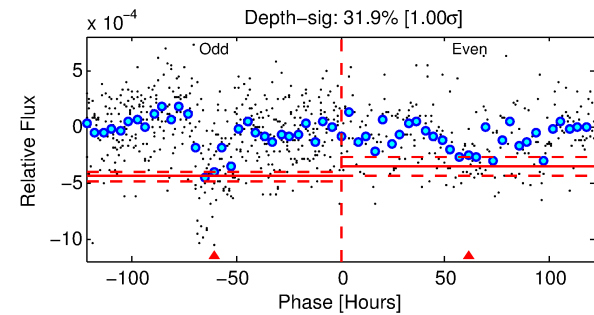
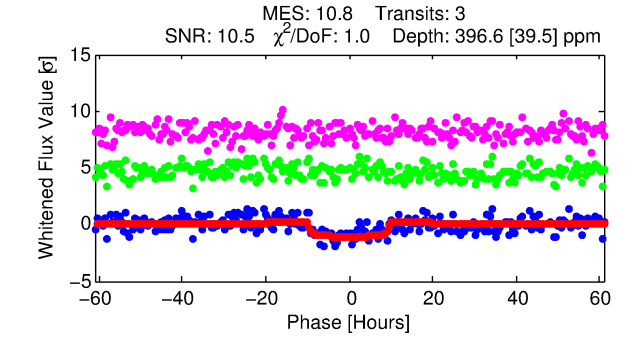
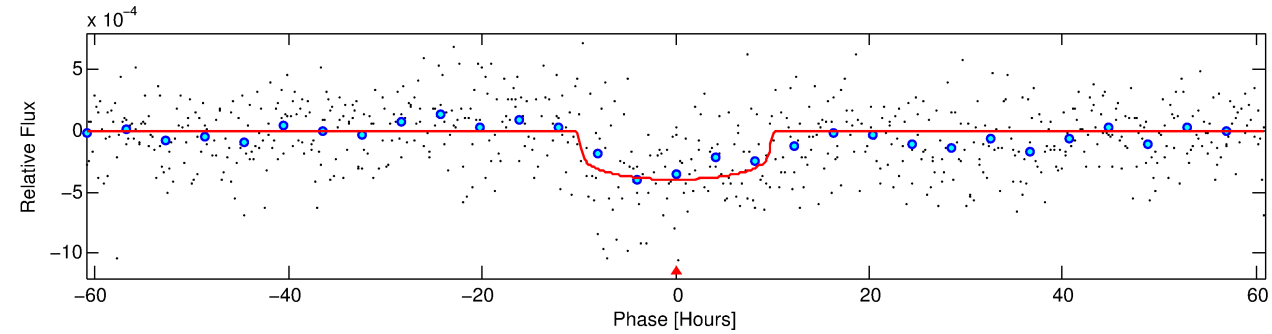
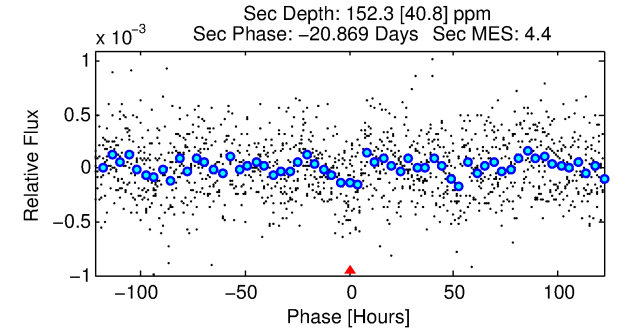
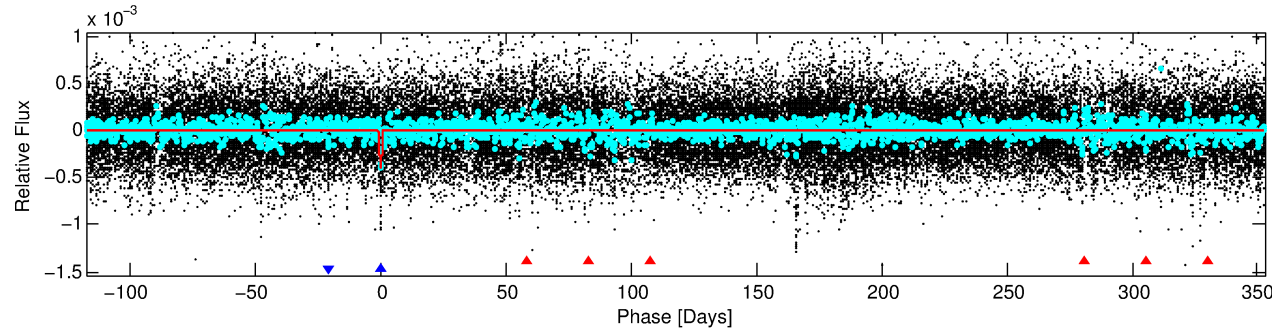
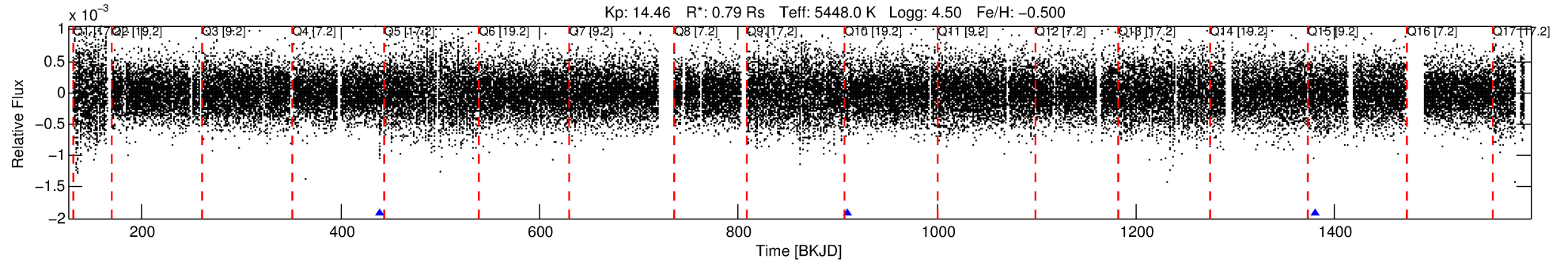
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010340779-02

No Significant Match Found

DV One-Page Summary

KIC: 10340779 Candidate: 2 of 2 Period: 470.704 d



DV Fit Results:

Period = 470.70448 [0.01684] d
Epoch = 439.5311 [0.0201] BKJD
Rp/R* = 0.0190 [0.0072]
a/R* = 144.77 [234.18]
b = 0.61 [1.69]
Seff = 0.44 [0.11]
Teff = 208 [13] K
Rp = 1.65 [0.68] Re
a = 1.0627 [0.1565] AU
Ag = 34928.13 [29108.65] [1.20 σ]
Teffp = 4391 [893] K [4.68 σ]

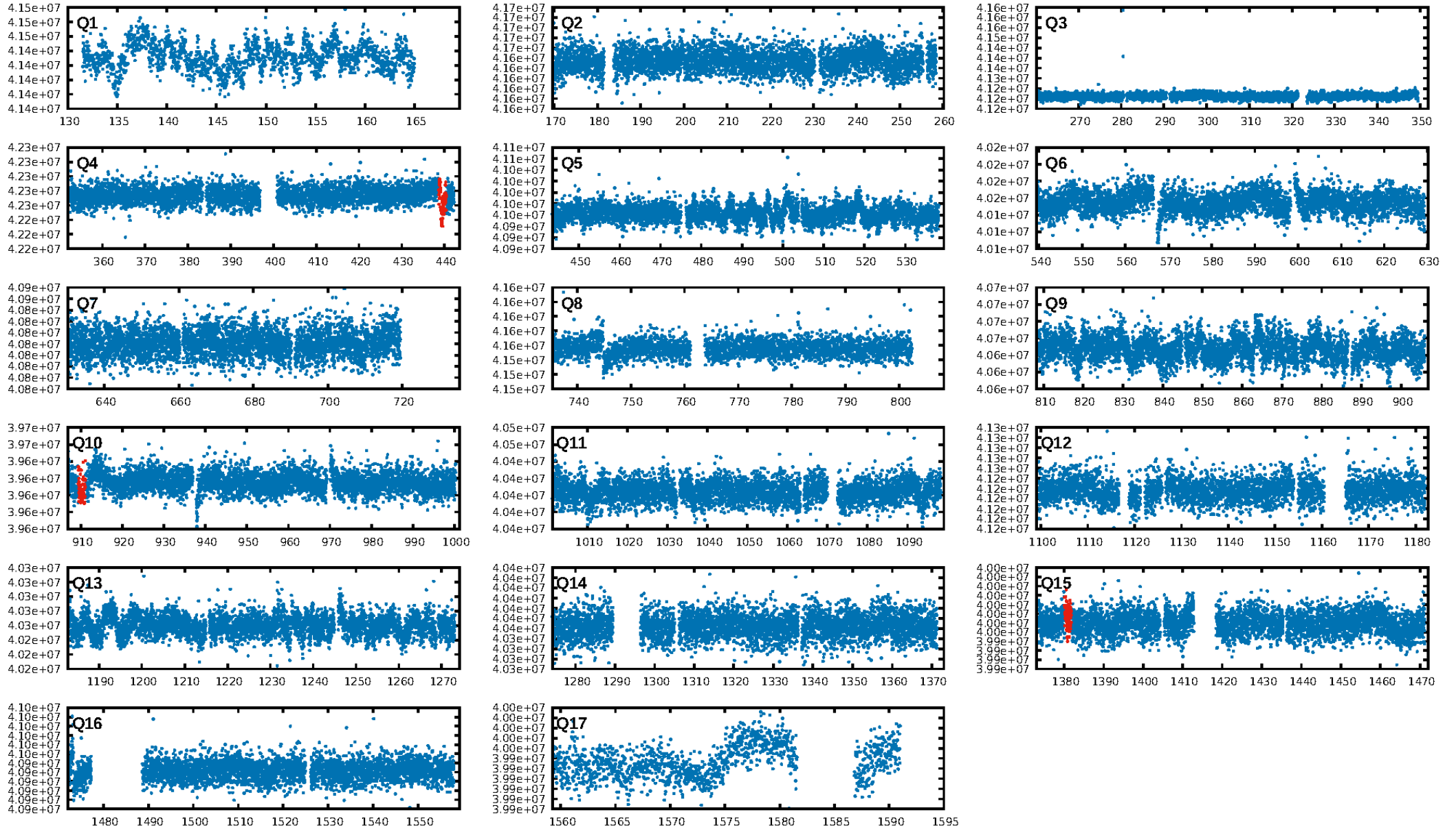
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [181.81 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: 3.63e-17
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.91
Centroid-sig: 4.6%
Centroid-so: 1.751 arcsec [1.75 σ]
OotOffset-rm: 1.572 arcsec [0.74 σ]
KicOffset-rm: 1.644 arcsec [0.78 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

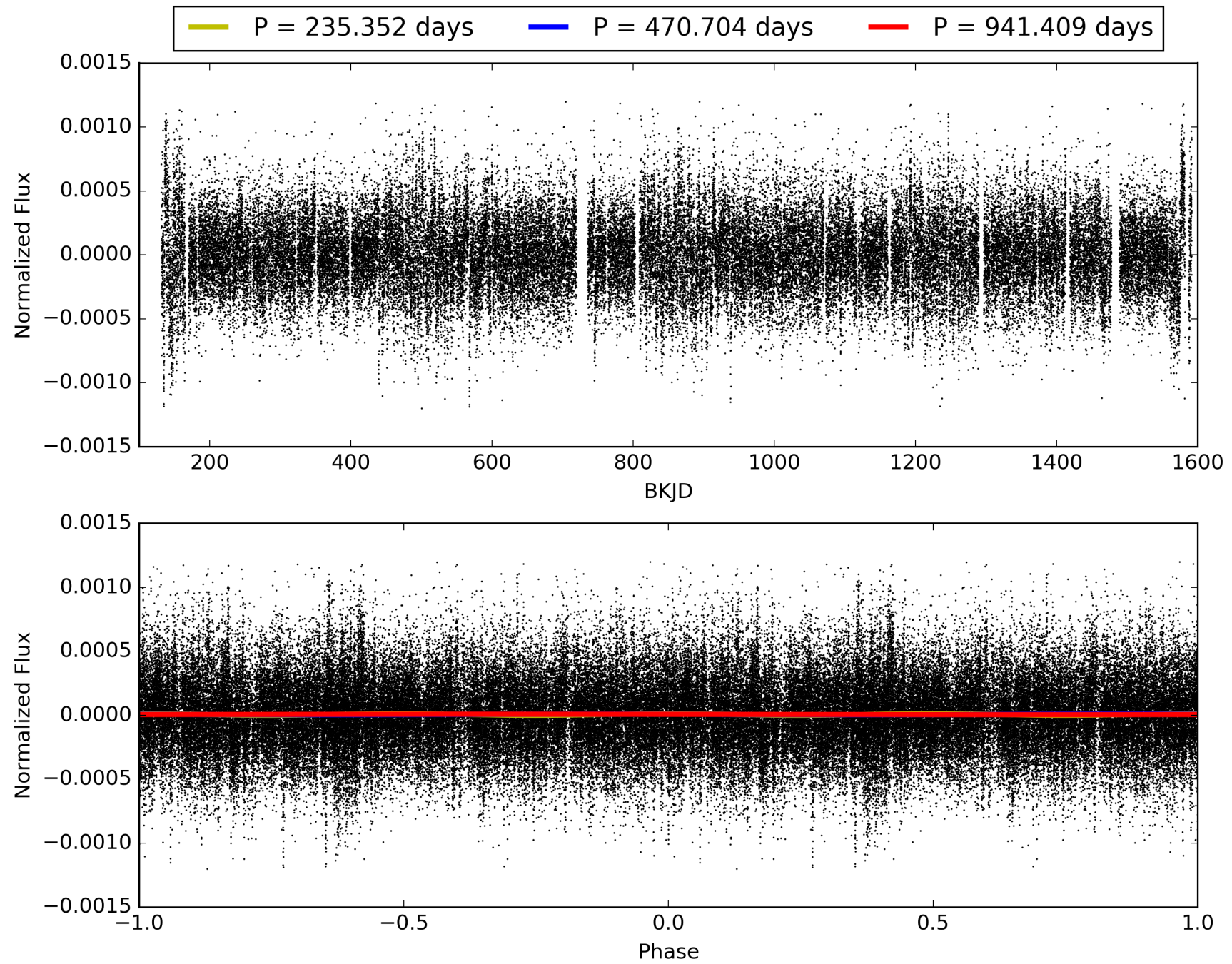
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:51:32 Z

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

TCE 010340779-02, PDC Light Curves

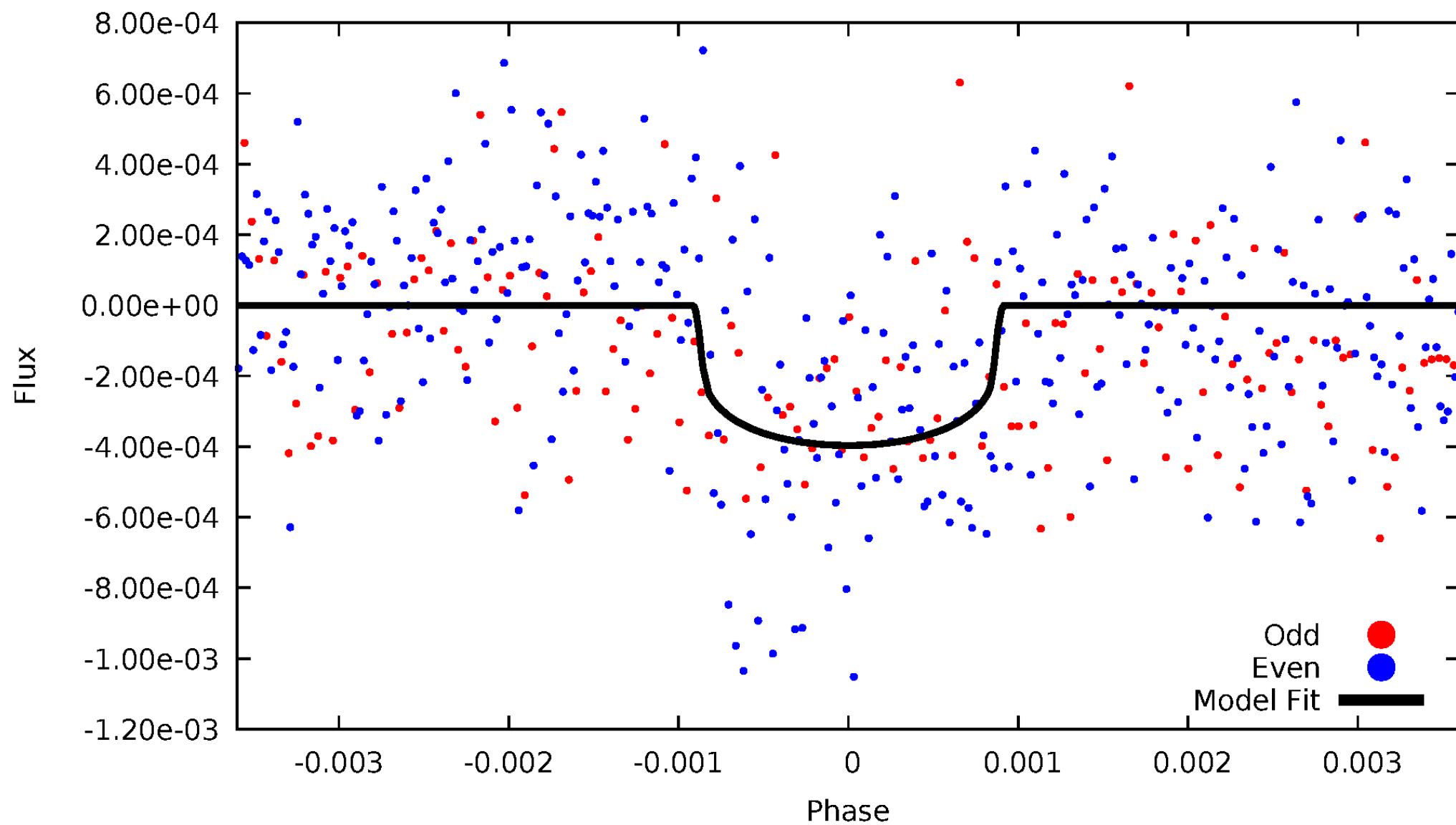


TCE 010340779-02



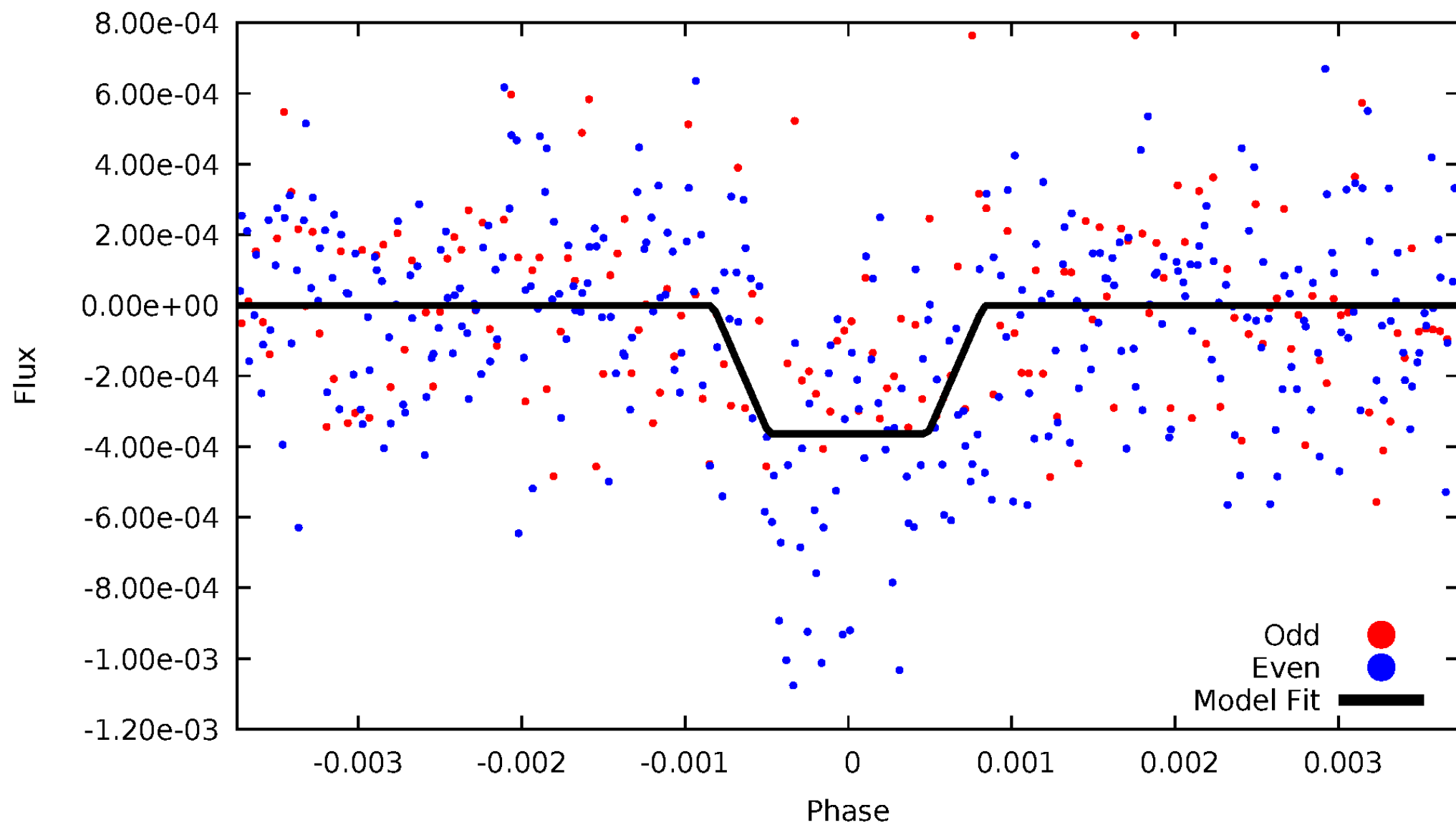
DV Odd/Even

TCE 010340779-02



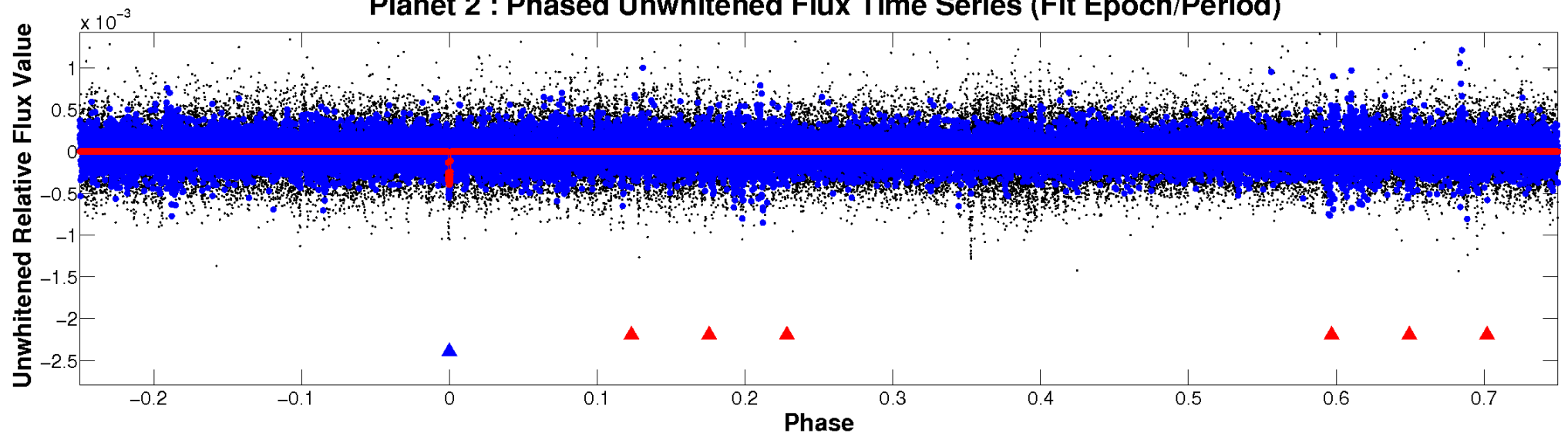
ALT Odd/Even

TCE 010340779-02

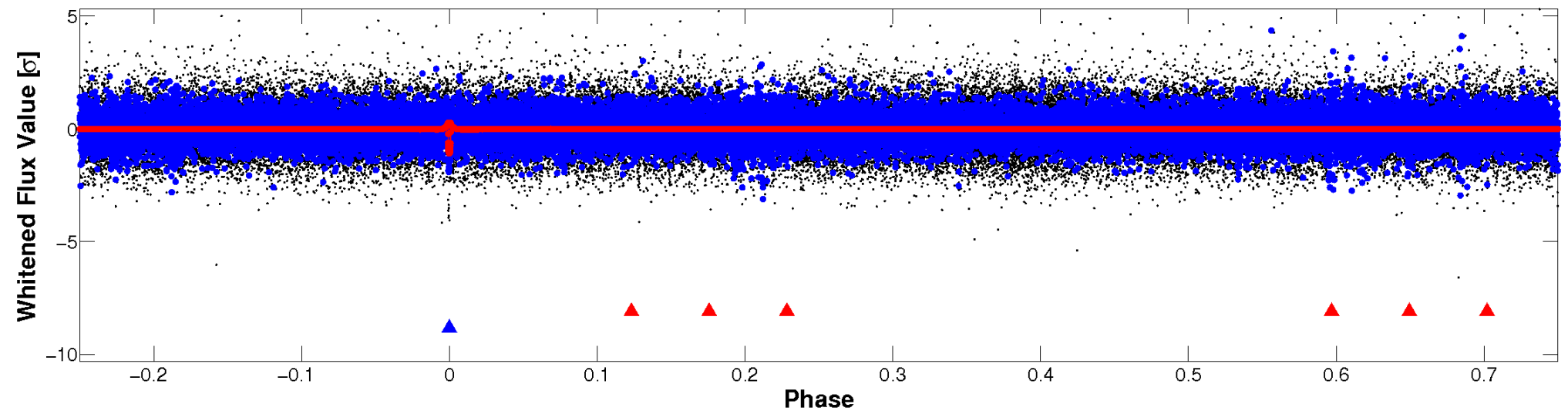


Non-Whitened Vs. Whitened Light Curve

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

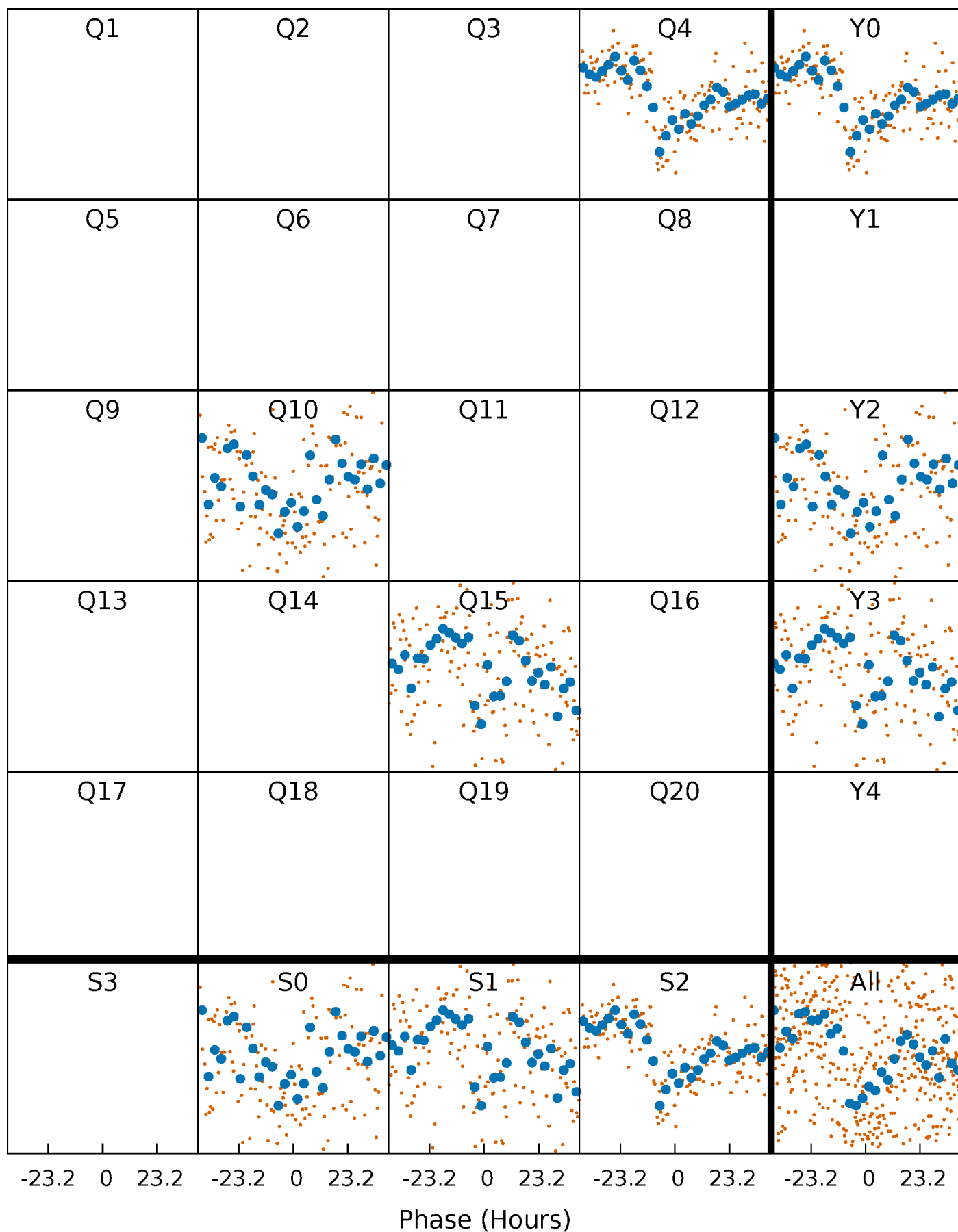


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



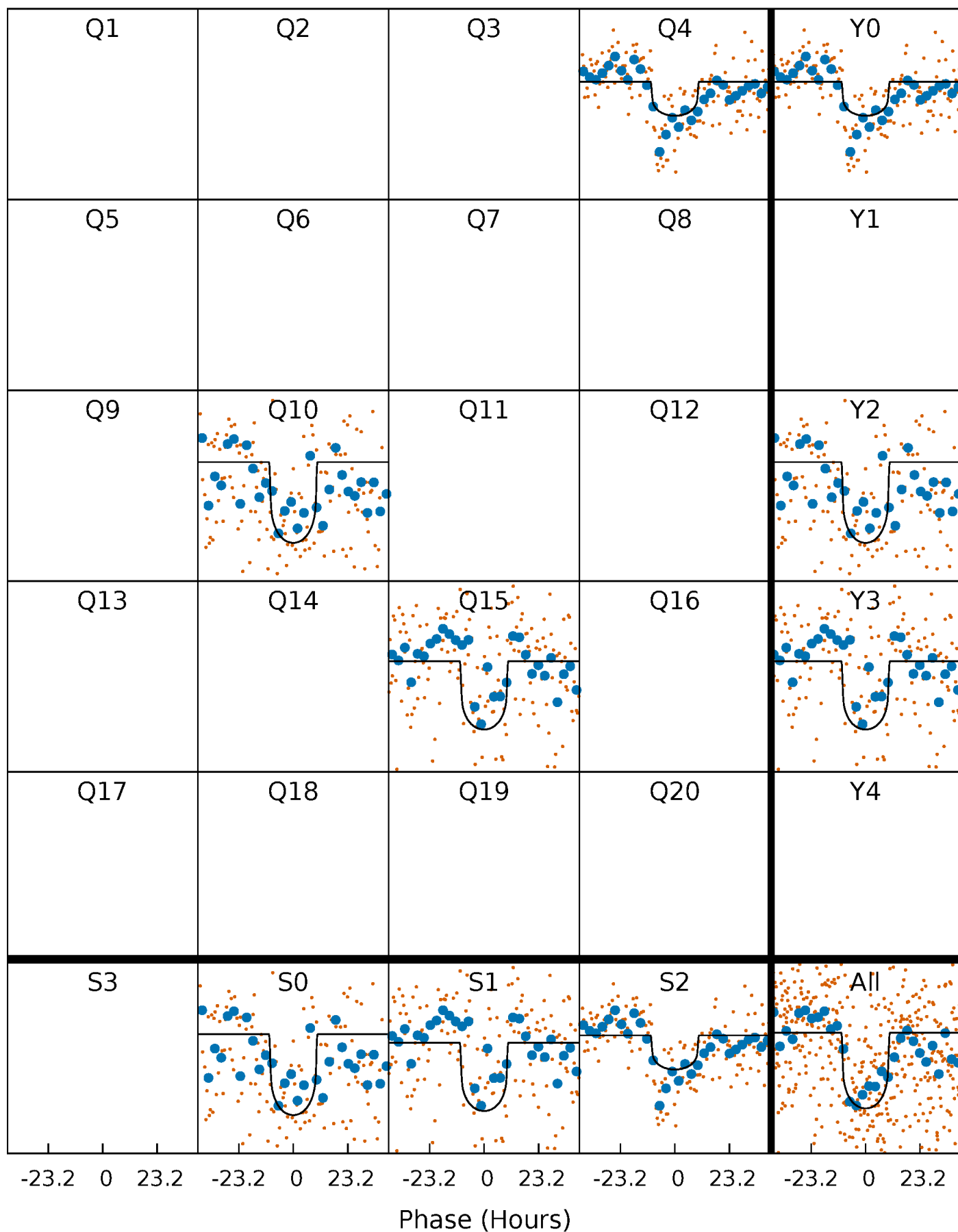
PDC Quarter-Phased Transit Curves

TCE 010340779-02 $P=470.704484$ Days $T_0=439.531083$ (BKJD)



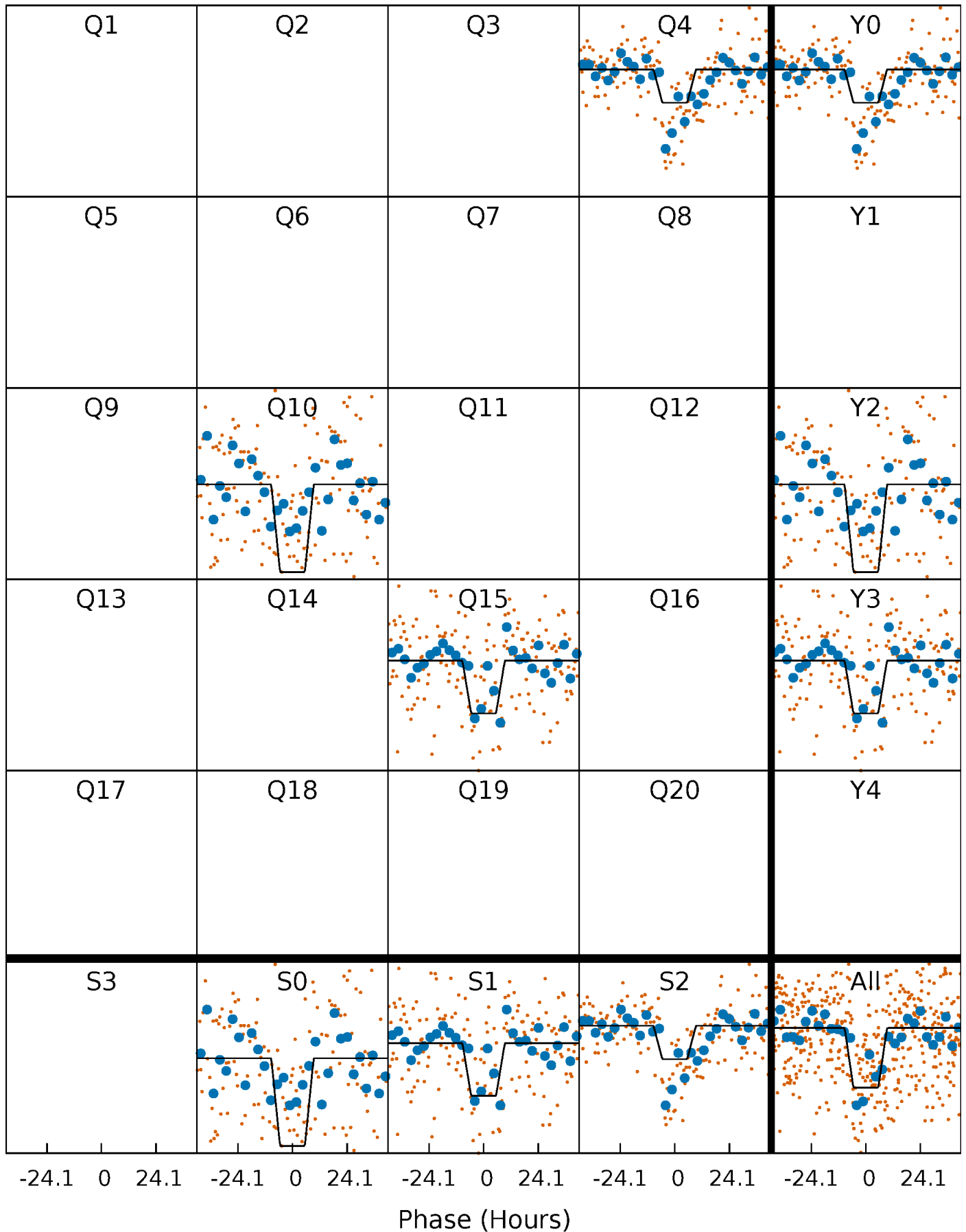
DV Quarter-Phased Transit Curves

TCE 010340779-02 $P=470.704484$ Days $T_0=439.531083$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

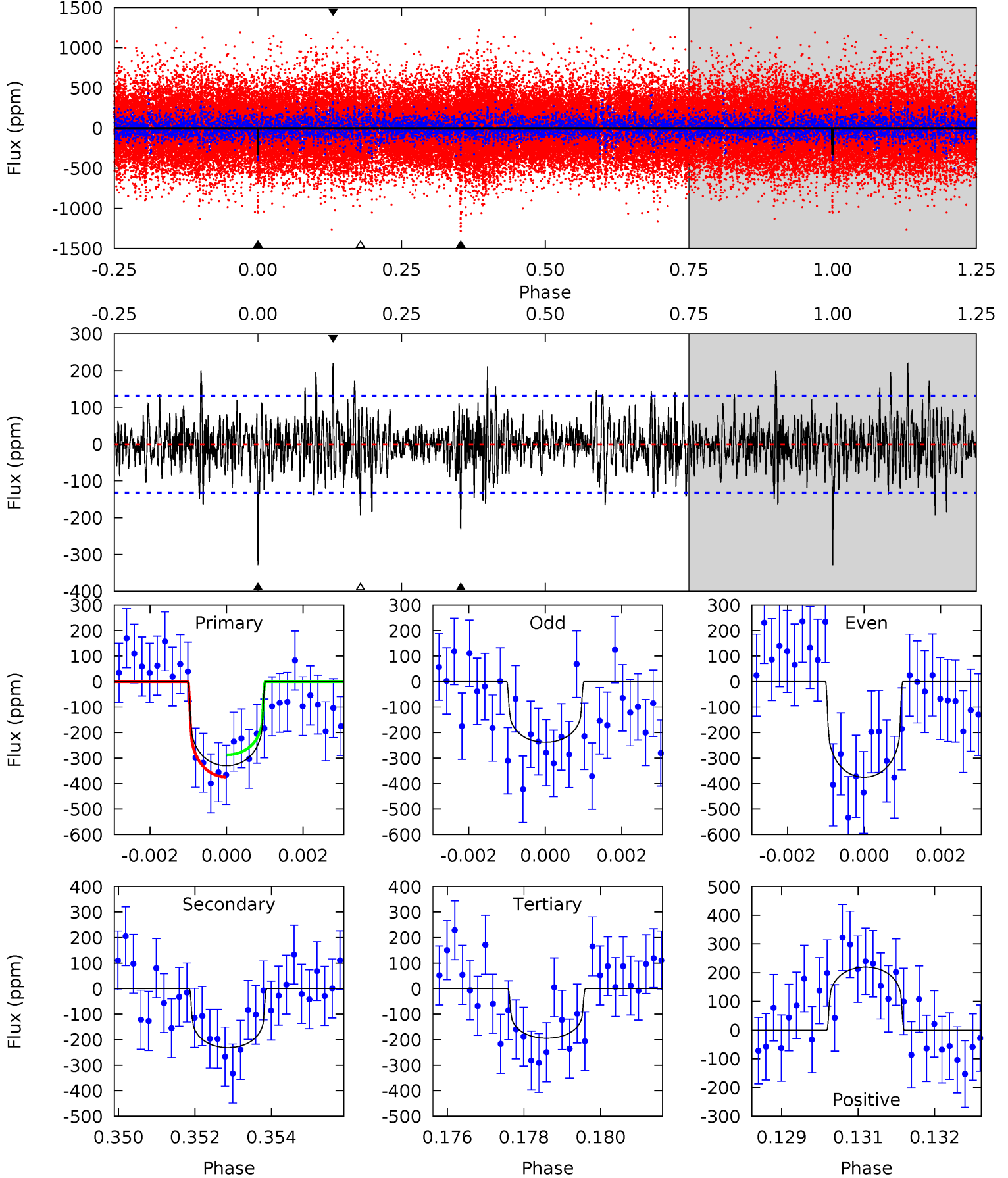
TCE 010340779-02 P=470.789222 Days $T_0=439.398570$ (BKJD)



DV Model-Shift Uniqueness Test

010340779-02, P = 470.704484 Days, E = 439.531083 Days

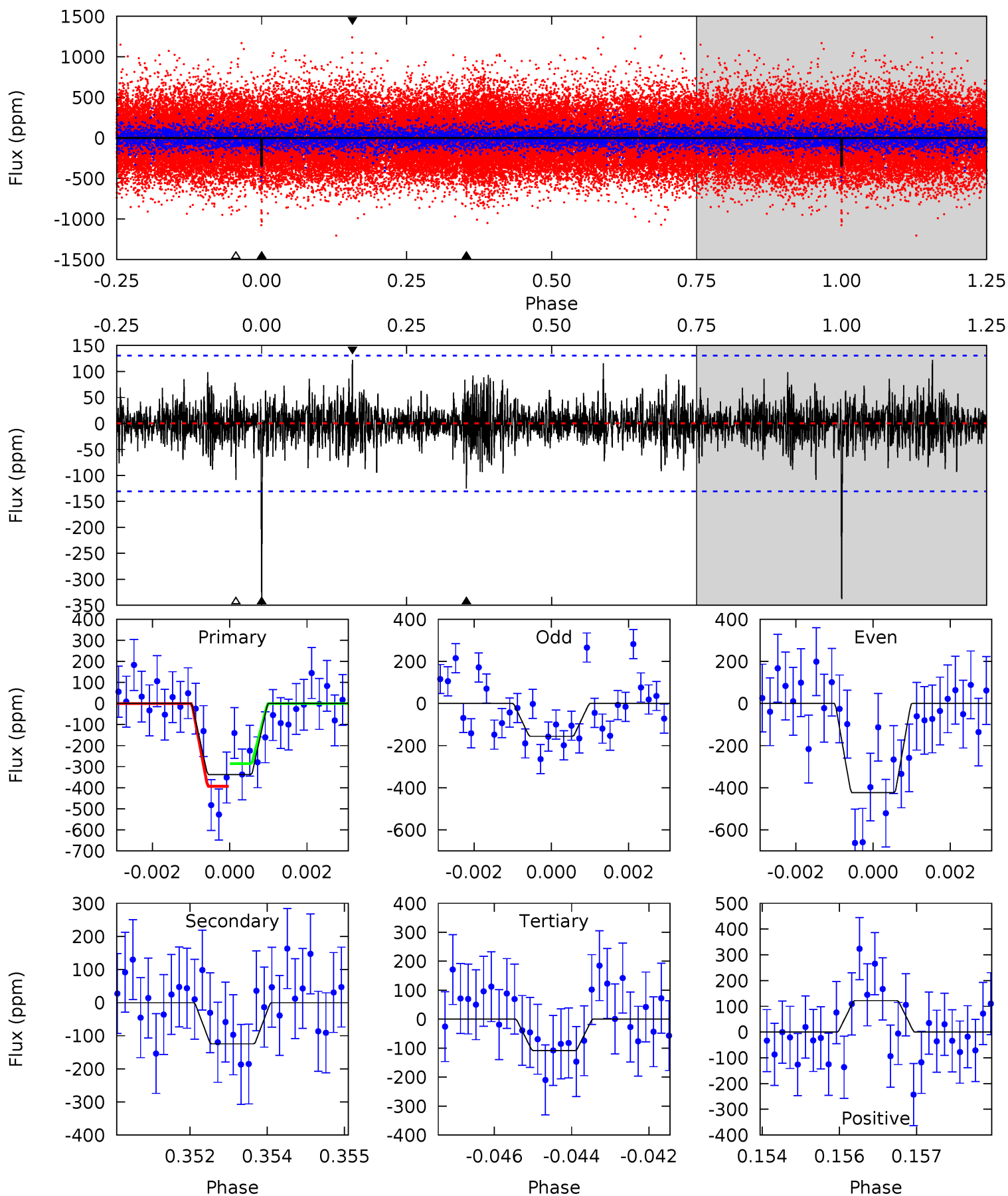
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	9.37	7.87	8.91	5.34	3.12	2.08	5.51	4.47	1.50	0.46	2.59	1.39	0.40	1.76



Alt Model-Shift Uniqueness Test

010340779-02, P = 470.789222 Days, E = 439.398570 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	5.11	4.45	5.01	5.36	3.14	1.15	9.41	8.84	0.66	0.10	5.18	1.24	0.27	2.22



Stellar Parameters For KIC 010340779

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5448^{+178}_{-162}	$4.497^{+0.113}_{-0.125}$	$-0.500^{+0.300}_{-0.300}$	$0.794^{+0.133}_{-0.109}$	$0.721^{+0.112}_{-0.037}$	$2.032^{+1.022}_{-0.729}$
	+3%/-3%	+3%/-3%	+60%/-60%	+17%/-14%	+16%/-5%	+50%/-36%
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 010340779-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-231 ± 25	$1.66^{+0.64}_{-0.56}$	292^{+16}_{-15}	4941^{+1117}_{-560}	53378^{+75461}_{-26145}
Alt.	-125 ± 24	$1.65^{+0.67}_{-0.59}$	290^{+16}_{-14}	4395^{+884}_{-537}	28966^{+41601}_{-14732}

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 $A_{obs} \gg 1.0$

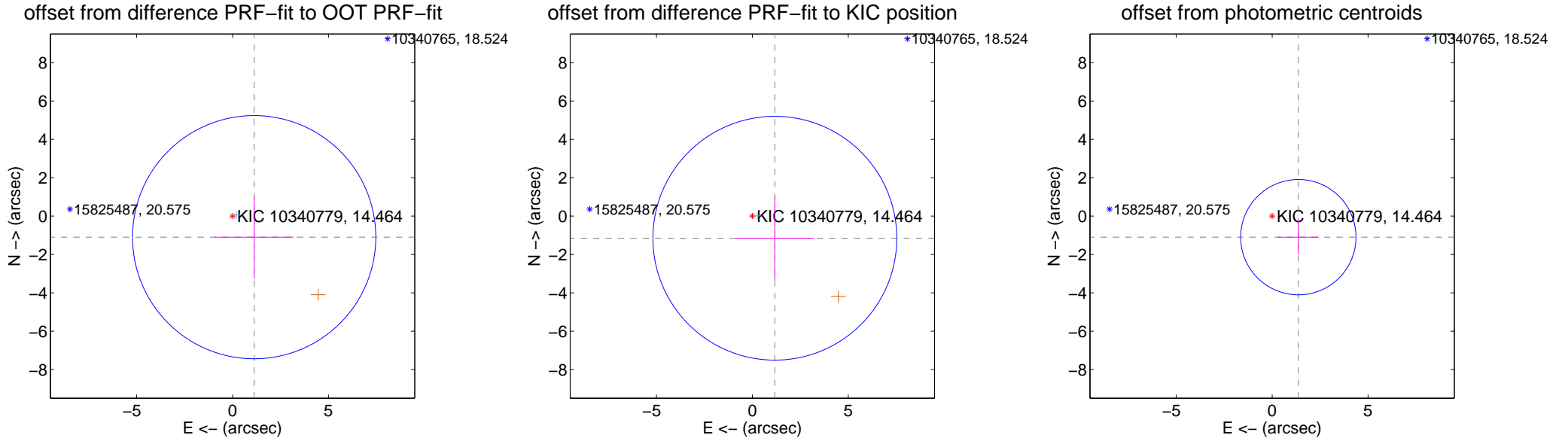
DV Centroid Data

Supplemental centroid analysis for 010340779-02. Kepler magnitude: 14.46. Transit SNR 10.50

There are 1 quarters with good PRF difference image offsets

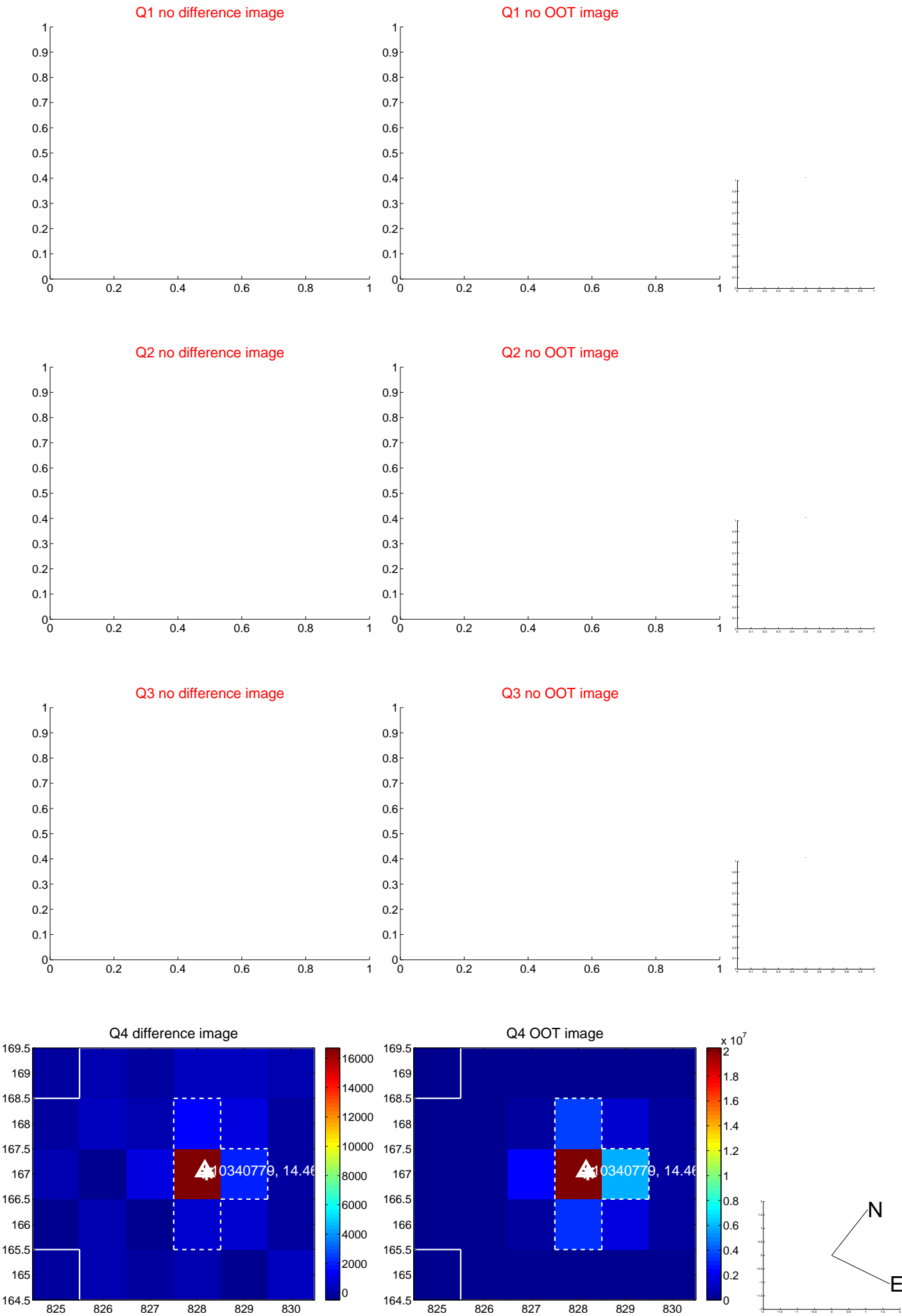
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.572 ± 2.114	0.74	-1.125 ± 2.053	-1.098 ± 2.175
PRF-fit source offset from KIC position	1.644 ± 2.119	0.78	-1.172 ± 2.041	-1.153 ± 2.197
photometric centroid source offset	1.75 ± 1.00	1.75	-1.36 ± 1.06	-1.10 ± 0.90



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.

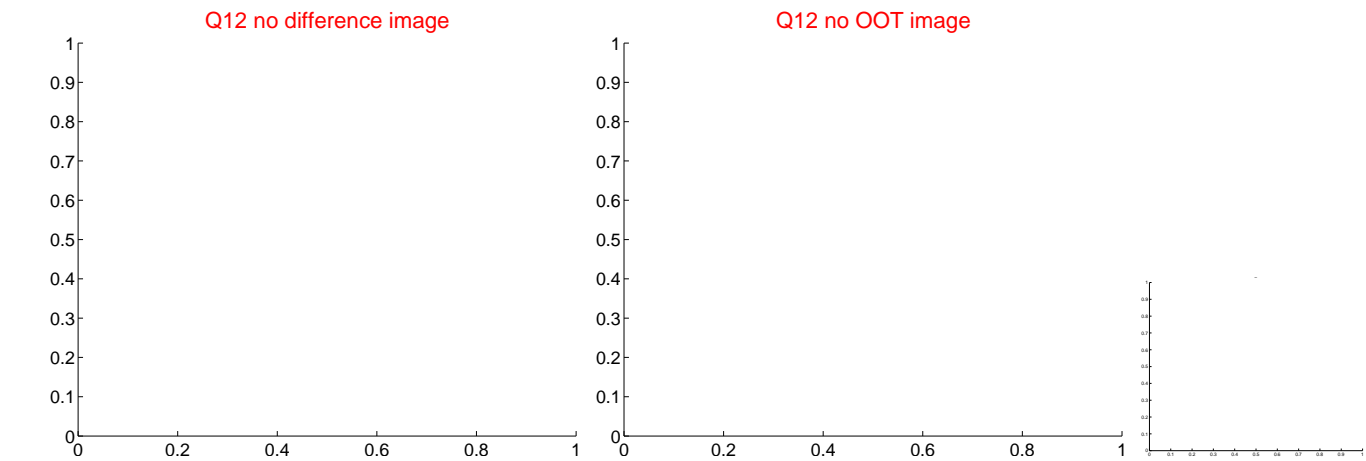
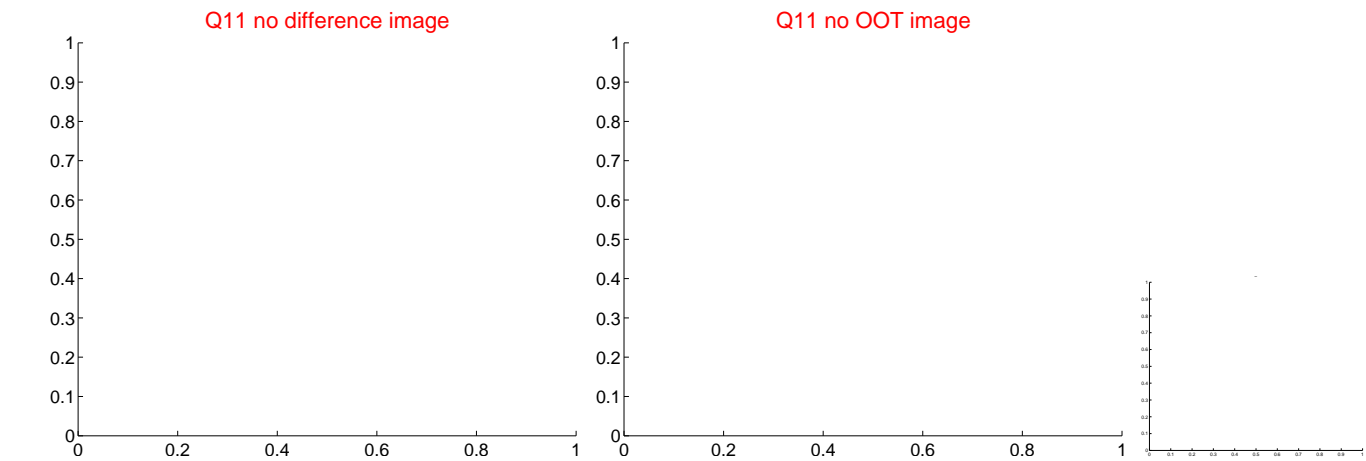
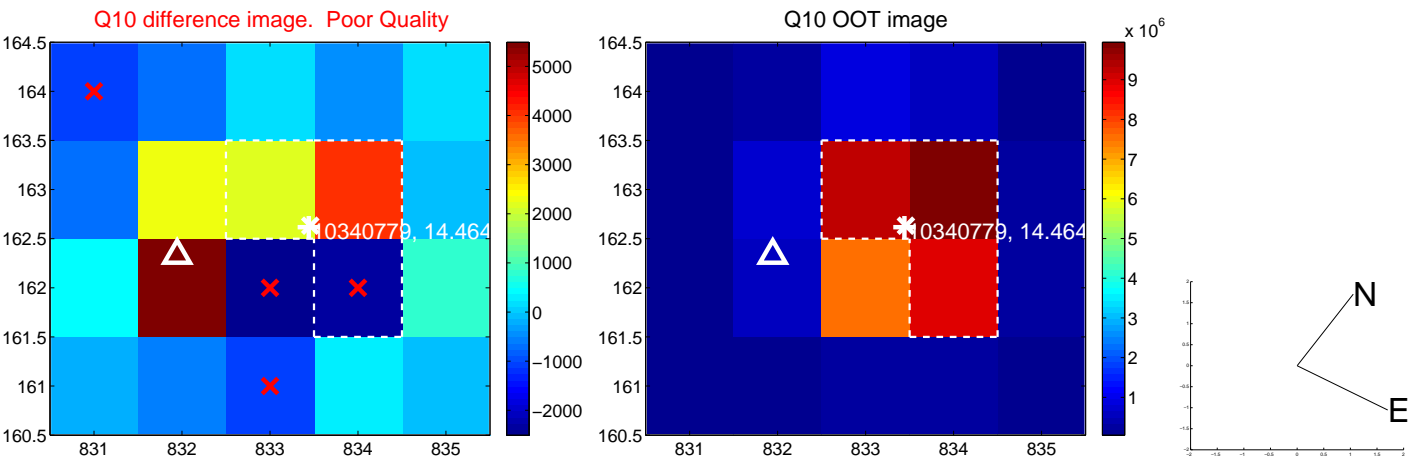
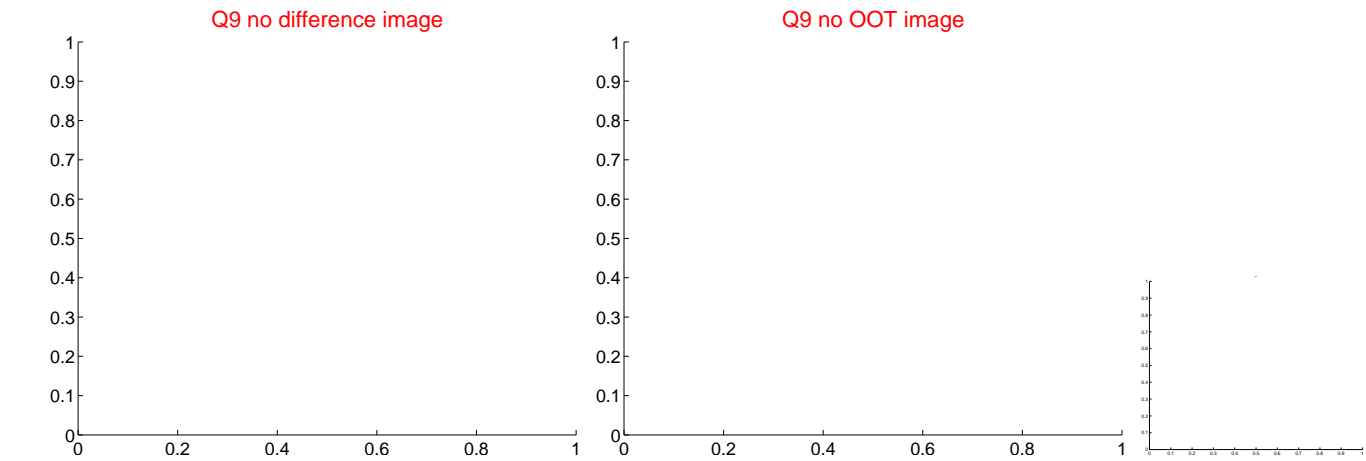
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



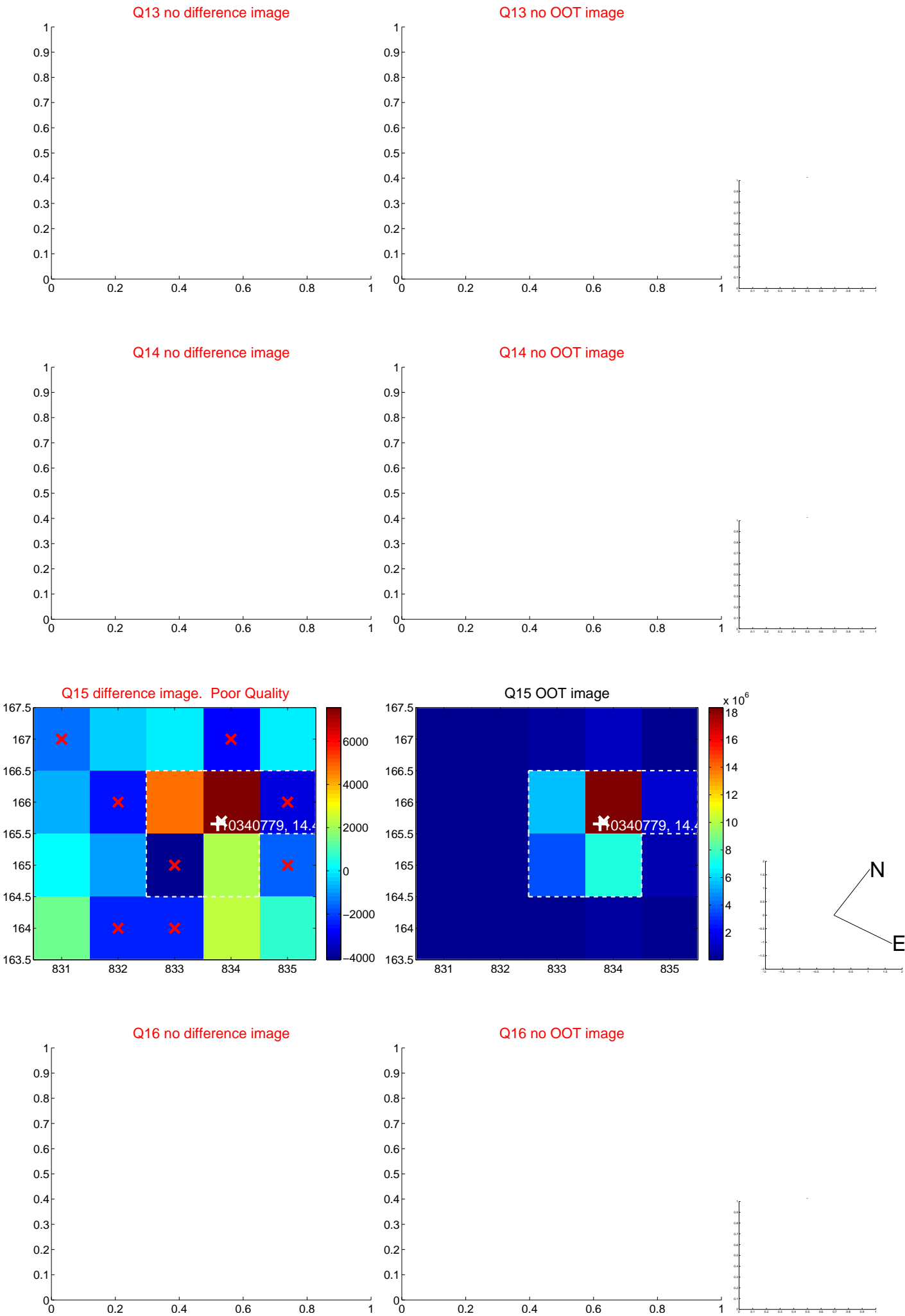
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



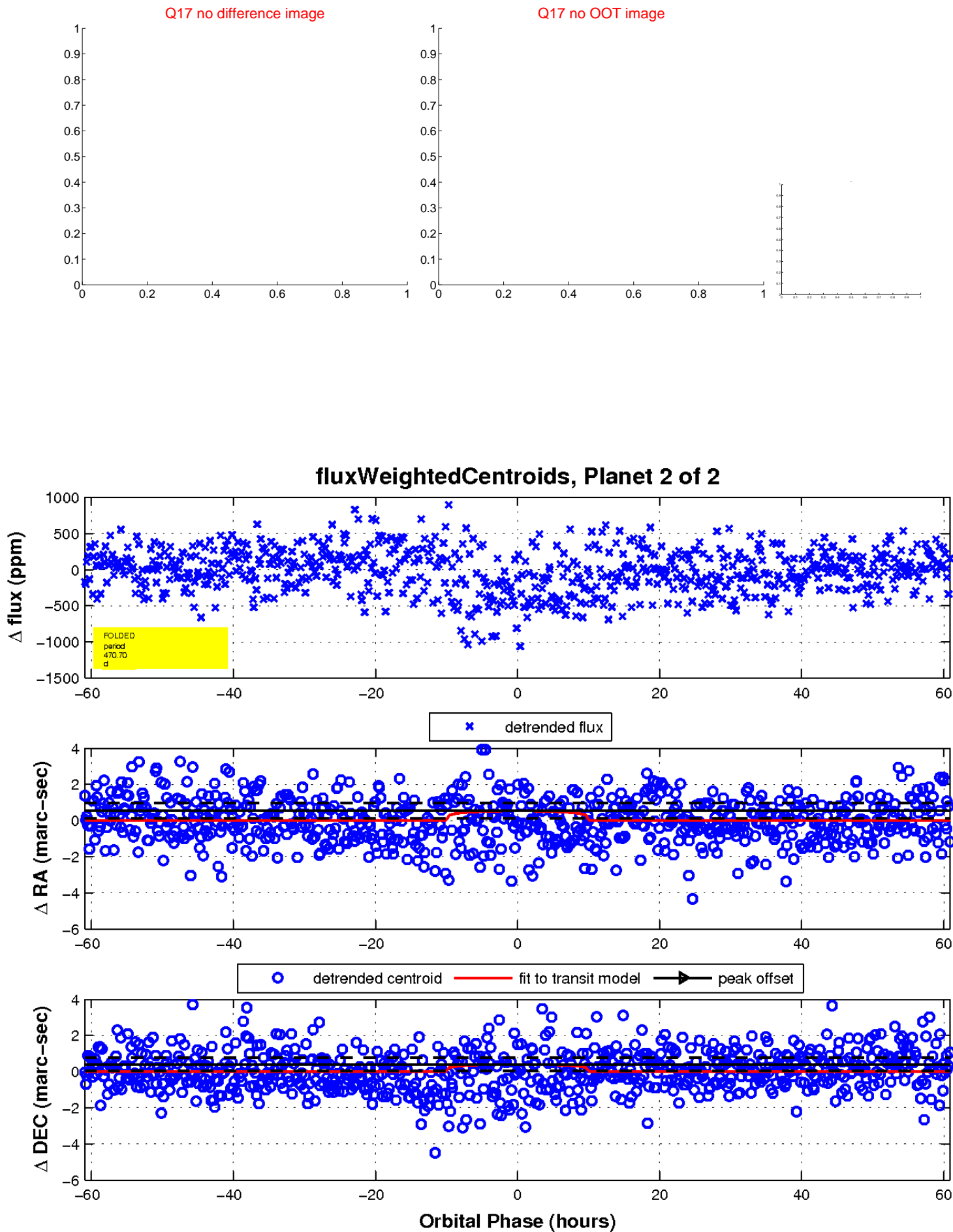
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

