

KIC 006963815

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})
006963815-01	OBS	No	461.355082	326.487204	230.1	3.632	10.7	6.4	0.53	4567	0.86	0.12
006963815-02	OBS	No	409.685965	342.298486	444.0	7.756	13.4	9.8	0.53	4567	1.17	0.14
006963815-03	OBS	No	516.252907	224.518209	318.5	8.072	11.5	7.6	0.53	4567	1.03	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006963815-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006963815-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006963815-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—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.

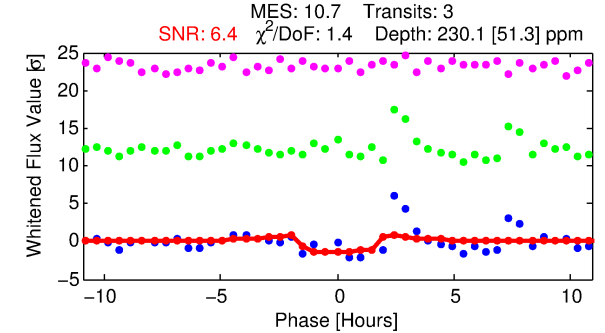
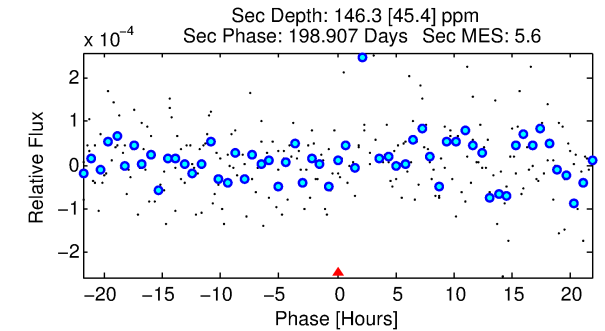
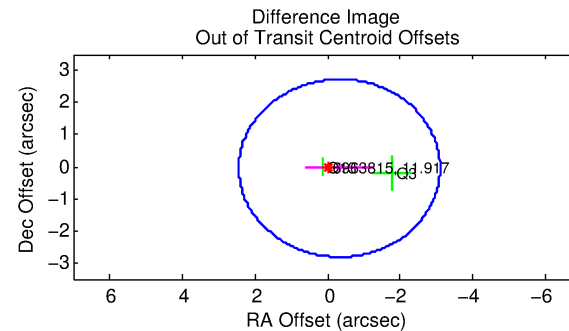
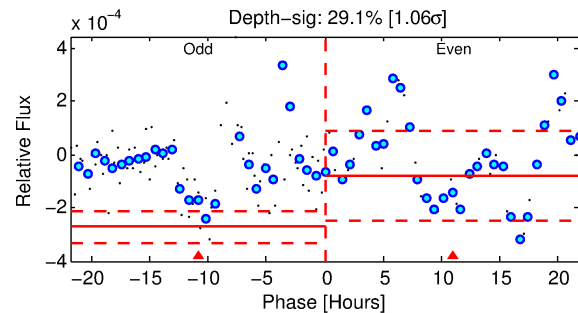
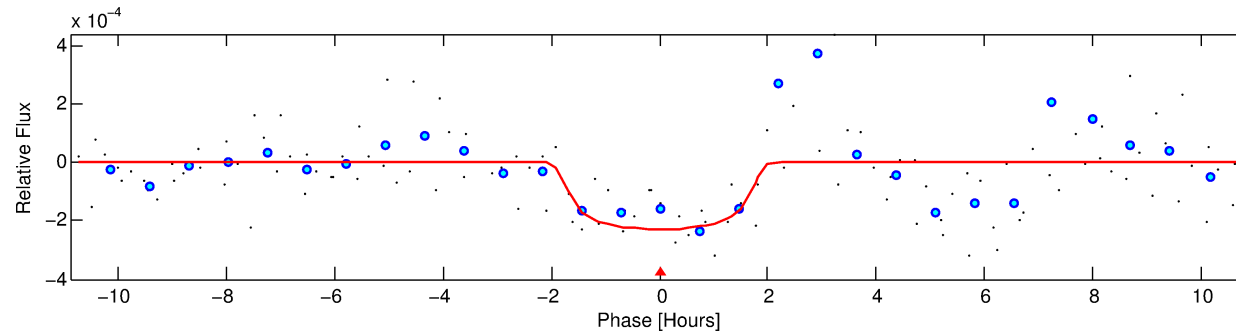
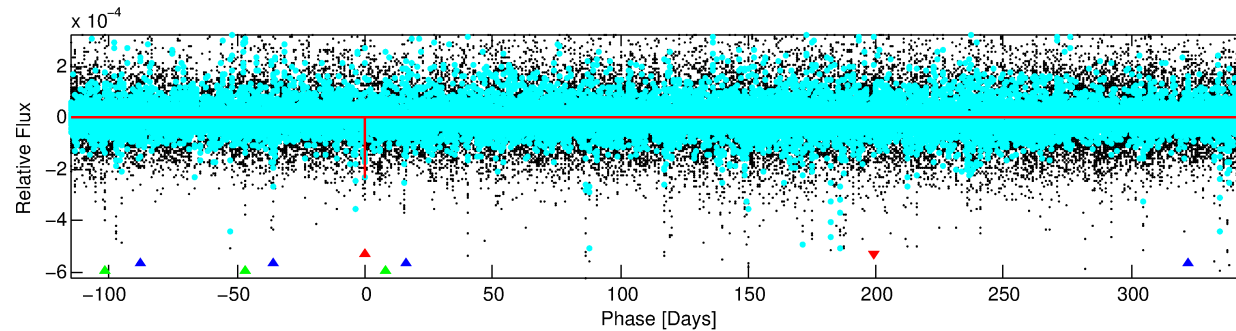
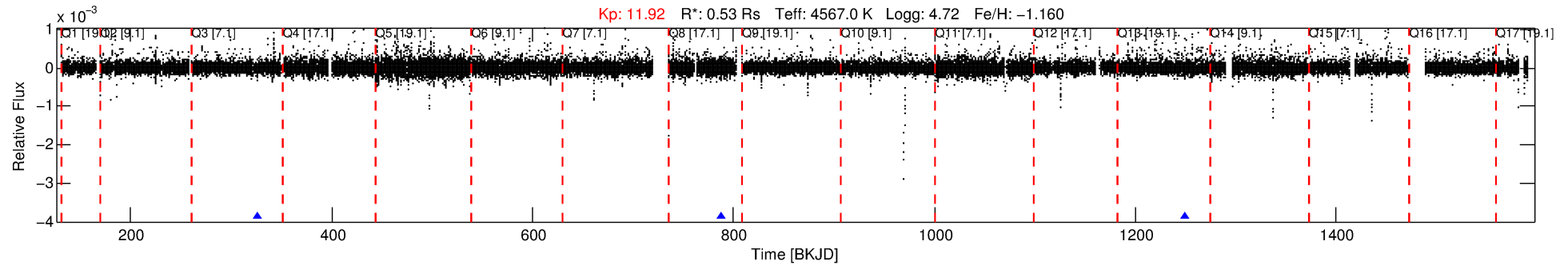
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006963815-01

No Significant Match Found

DV One-Page Summary

KIC: 6963815 Candidate: 1 of 3 Period: 461.355 d



DV Fit Results:

Period = 461.35508 [0.00724] d
Epoch = 326.4872 [0.0099] BKJD
Rp/R* = 0.0149 [0.0150]
a/R* = 694.63 [2665.53]
b = 0.72 [2.61]
Seff = 0.12 [0.02]
Teq = 151 [6] K
Rp = 0.86 [0.87] Re
a = 0.9458 [0.0609] AU
Ag = 97269.77 [197733.77] [0.49σ]
Teff = 4110 [2090] K [1.89σ]

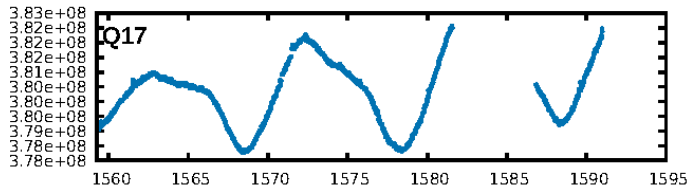
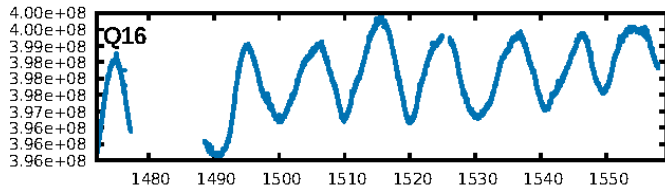
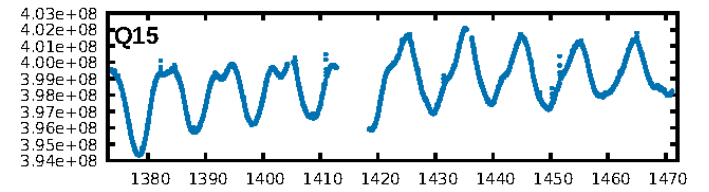
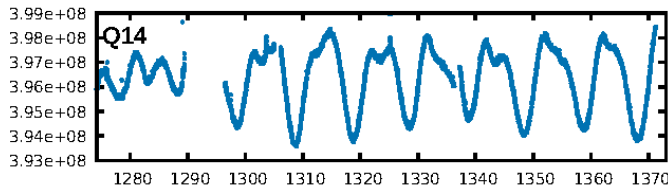
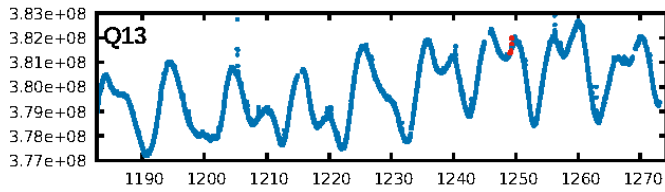
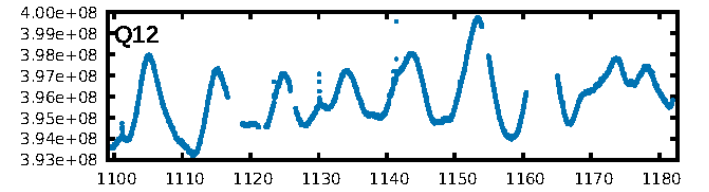
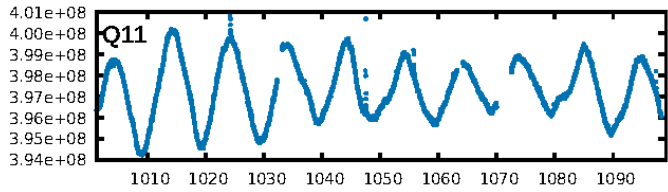
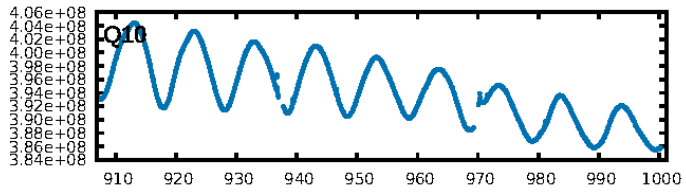
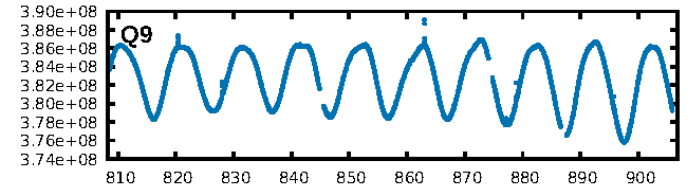
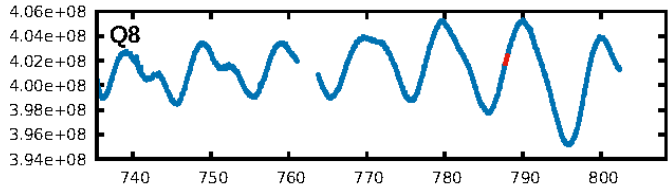
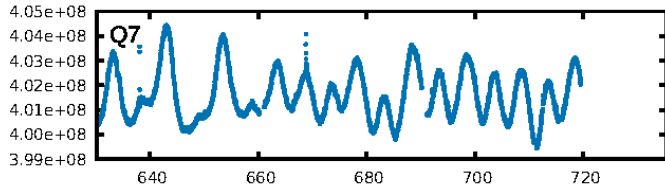
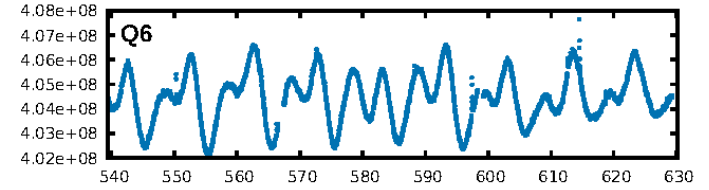
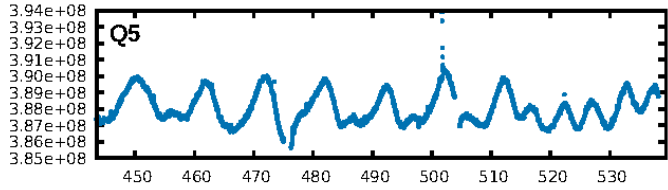
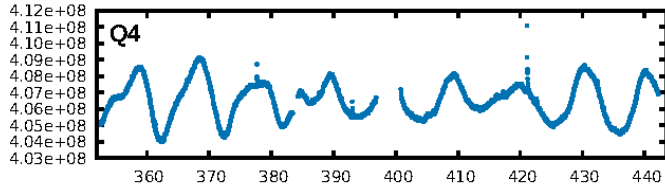
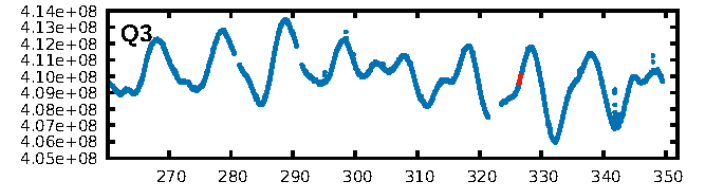
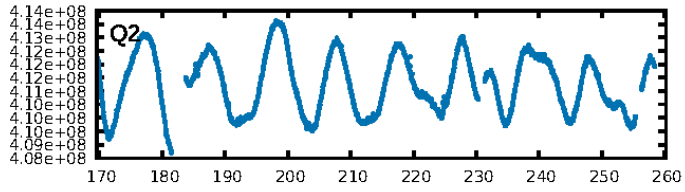
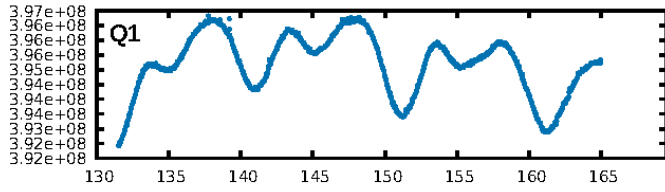
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [144.79σ]
LongPeriod-sig: 100.0% [148.85σ]
ModelChiSquare2-sig: 6.8%
ModelChiSquareGof-sig: 49.7%
Bootstrap-pfa: 2.71e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -9.512
Centroid-sig: 11.3%
Centroid-so: 0.766 arcsec [0.97σ]
OotOffset-rm: 0.332 arcsec [0.36σ]
KicOffset-rm: 0.261 arcsec [0.36σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

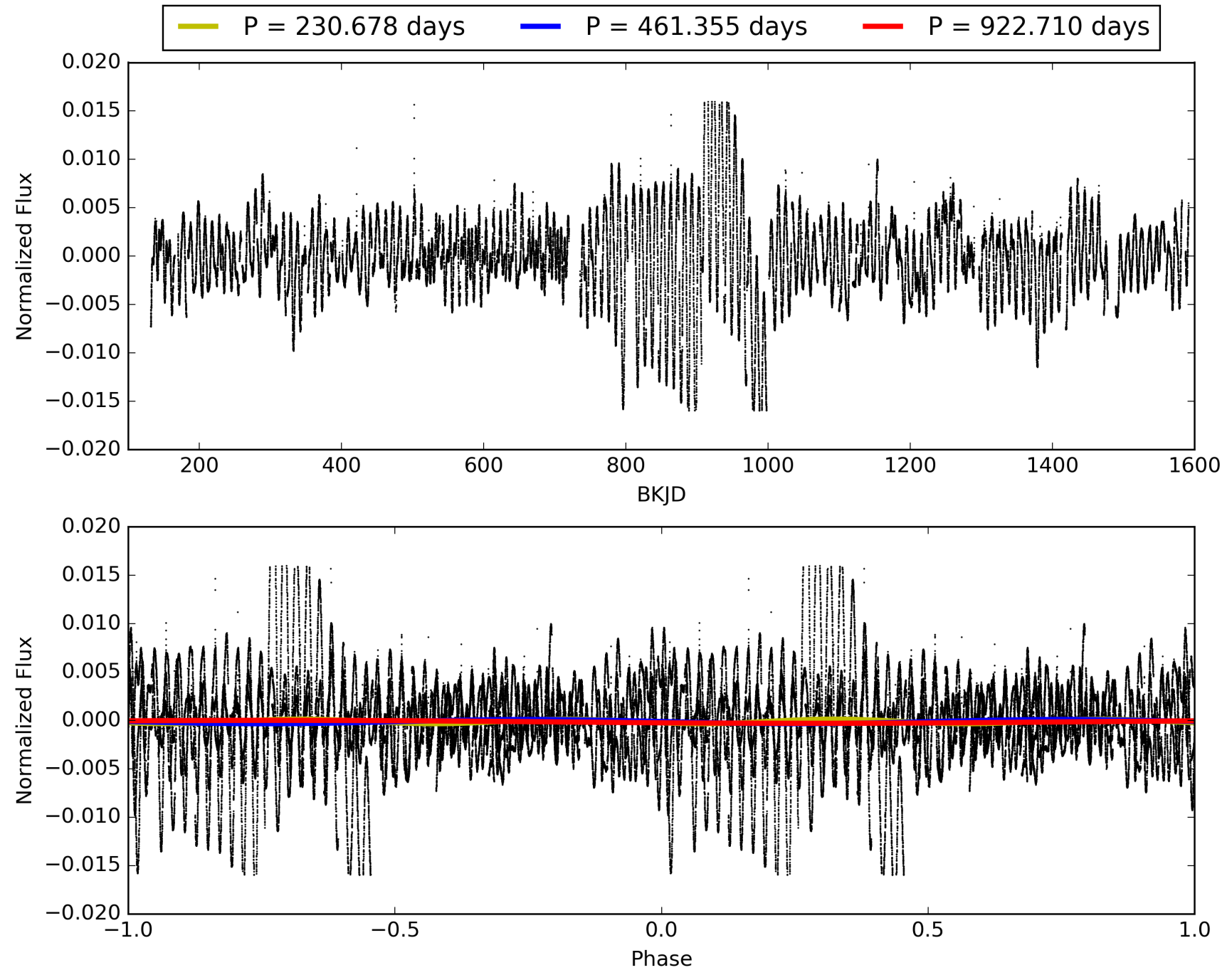
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:22:05 Z

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

TCE 006963815-01, PDC Light Curves

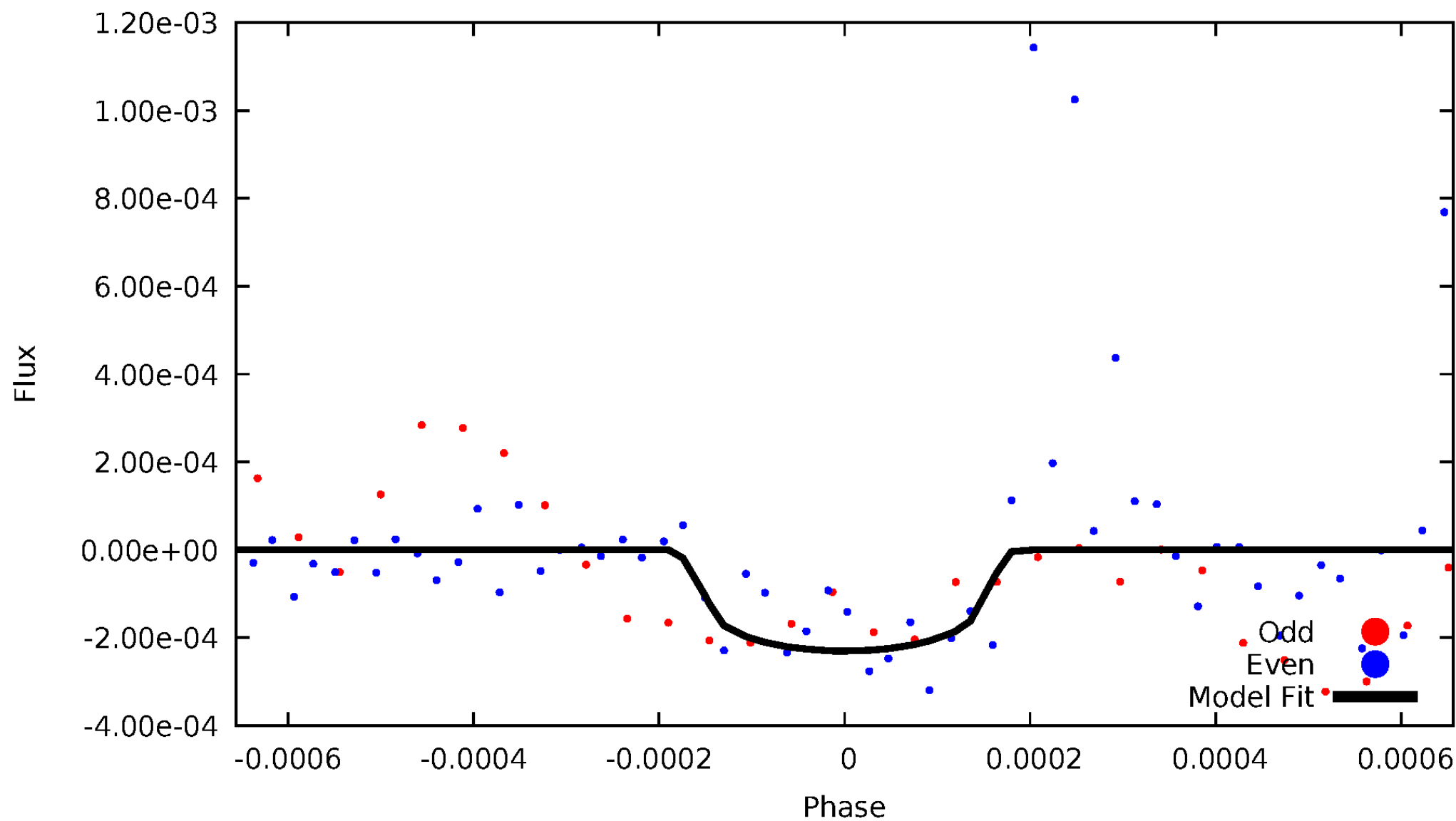


TCE 006963815-01



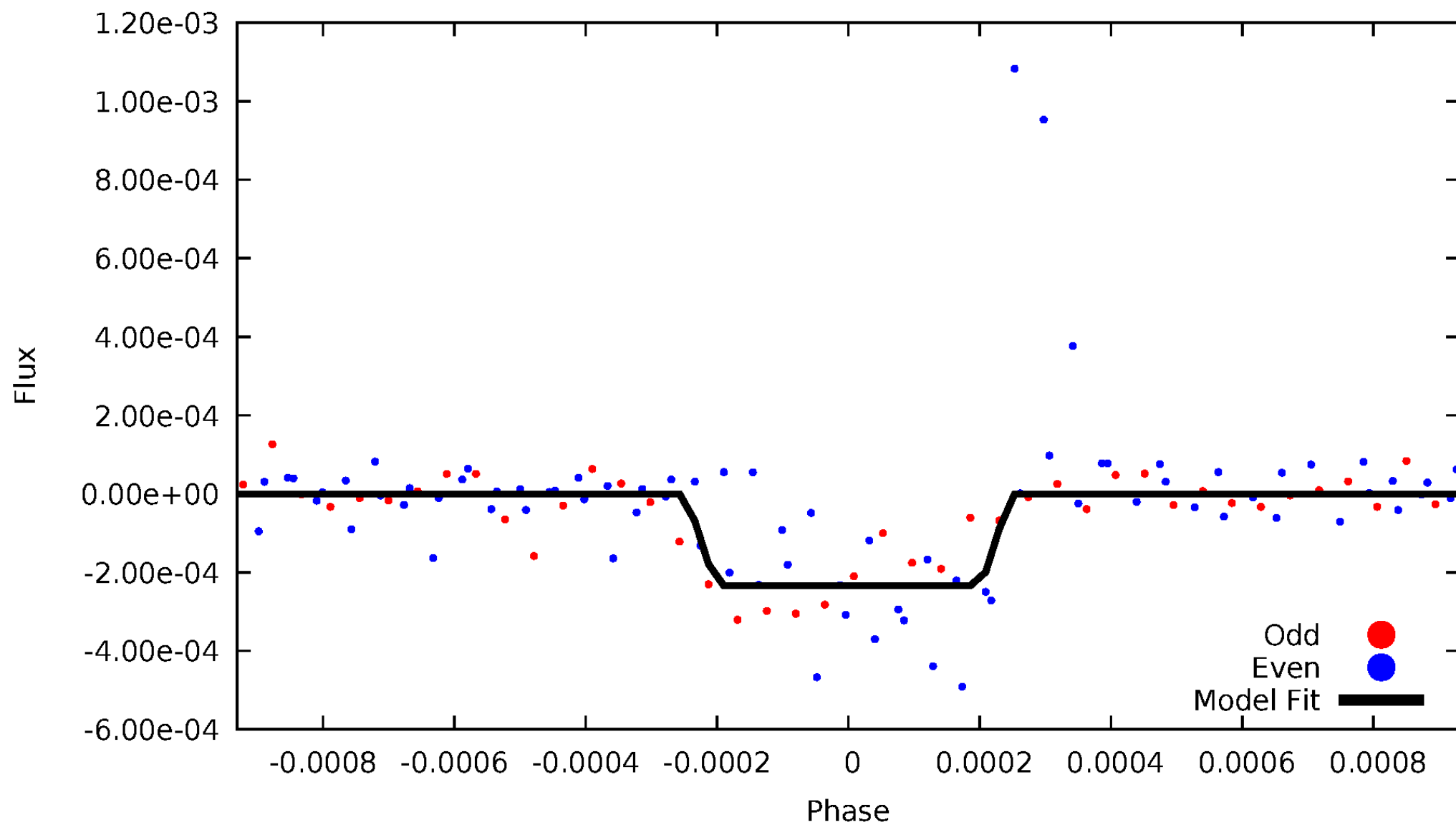
DV Odd/Even

TCE 006963815-01



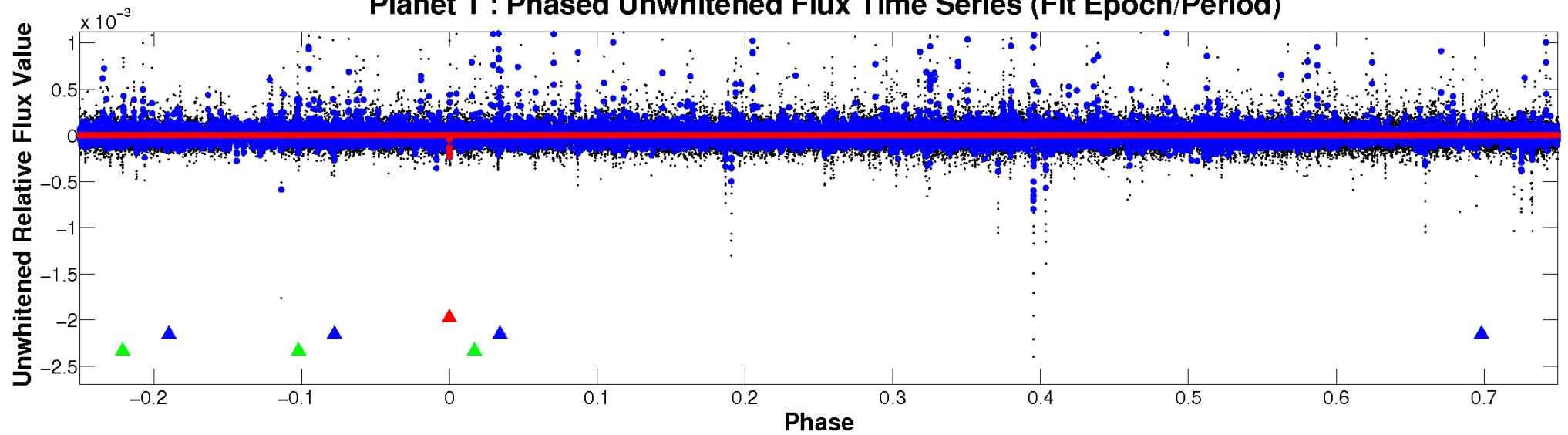
ALT Odd/Even

TCE 006963815-01

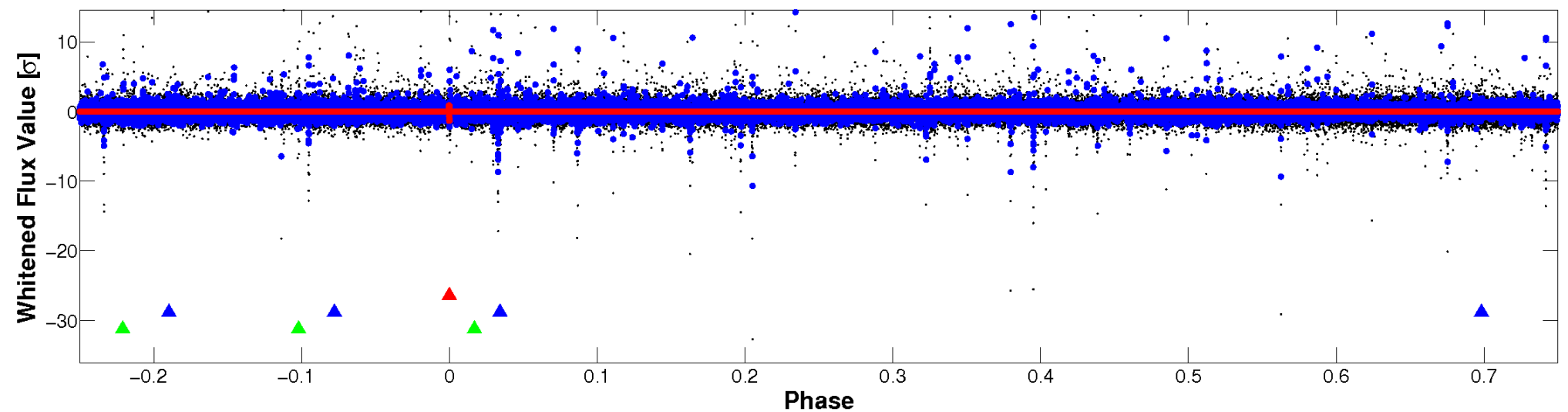


Non-Whitened Vs. Whitened Light Curve

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

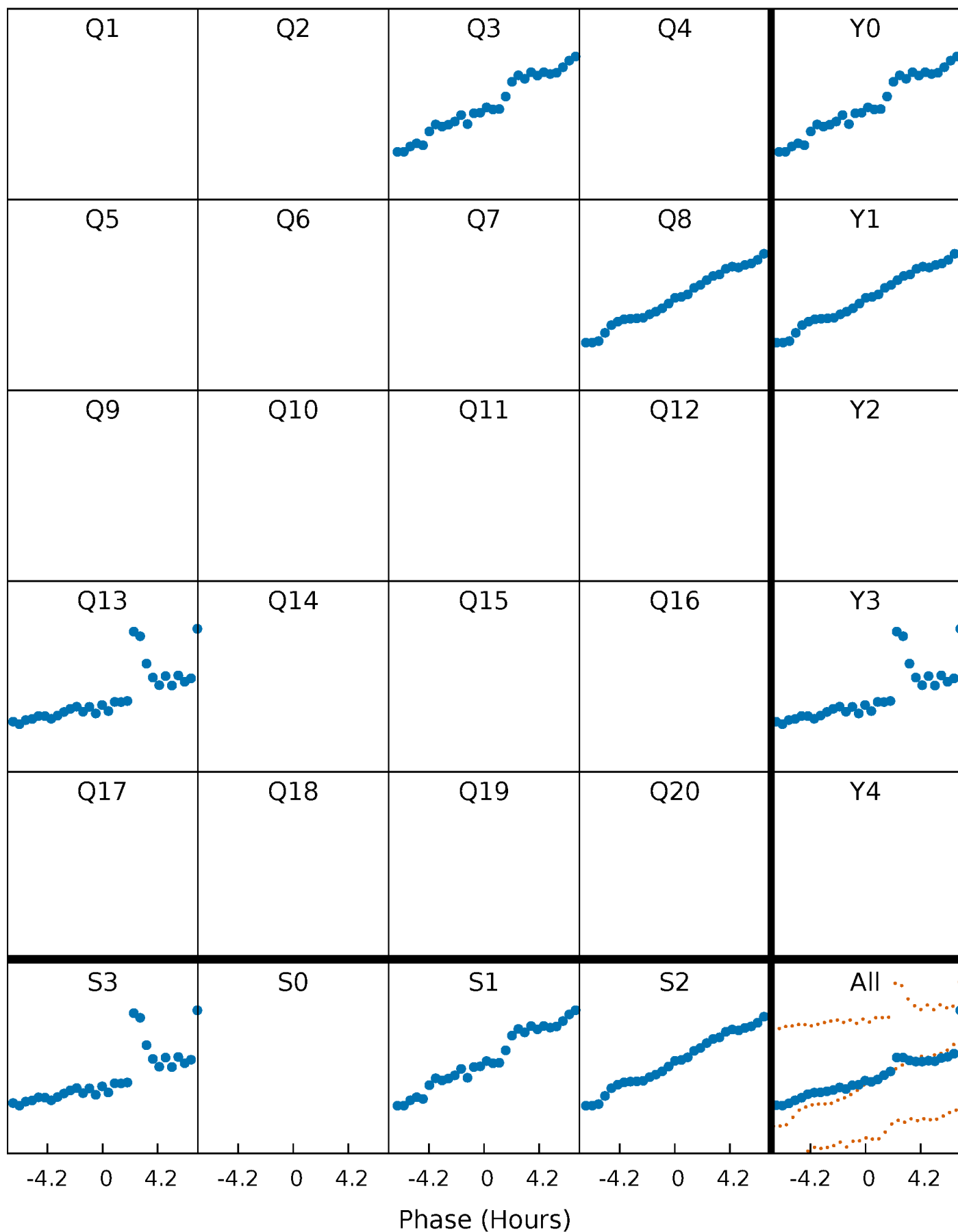


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



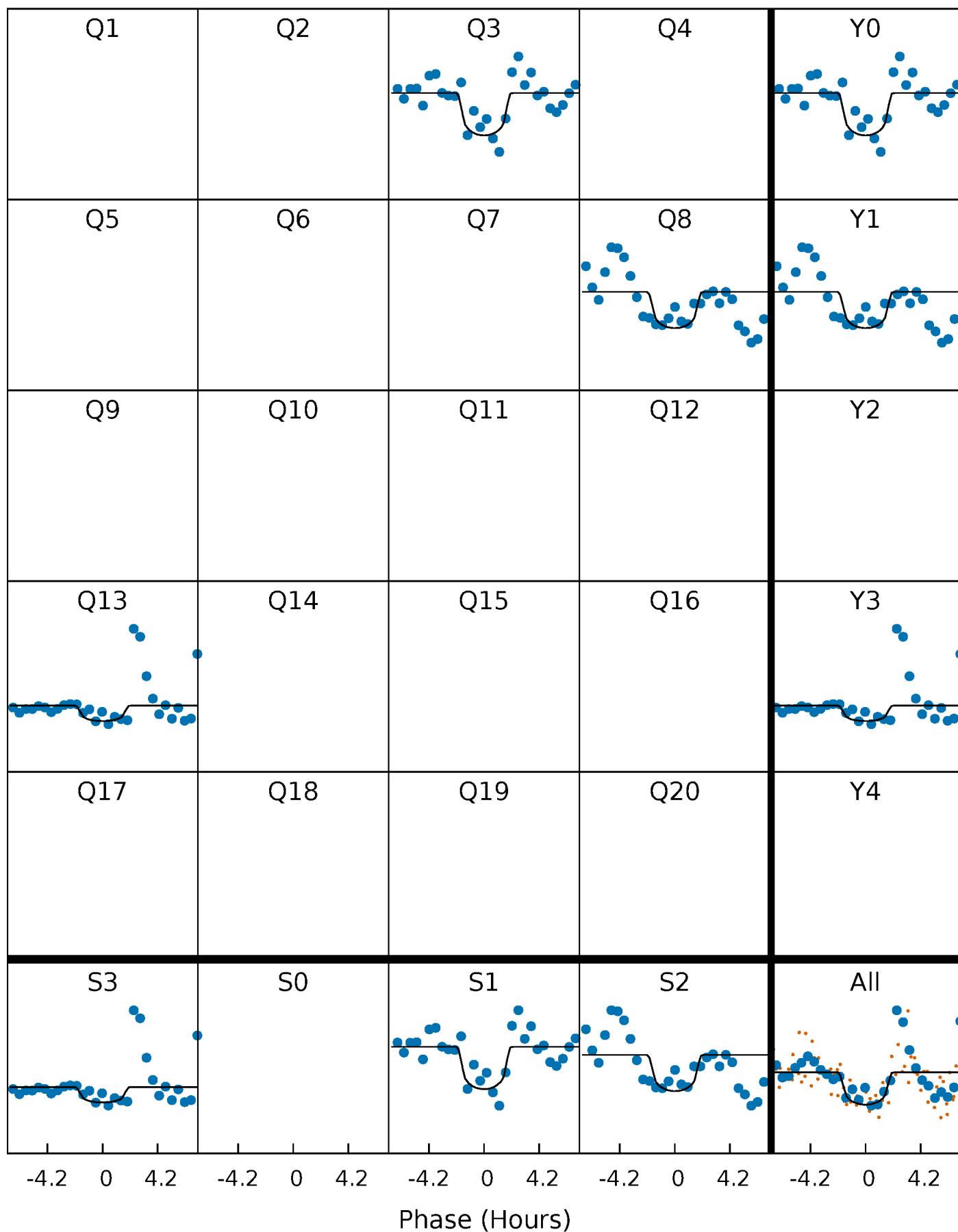
PDC Quarter-Phased Transit Curves

TCE 006963815-01 P=461.355082 Days $T_0=326.487204$ (BKJD)



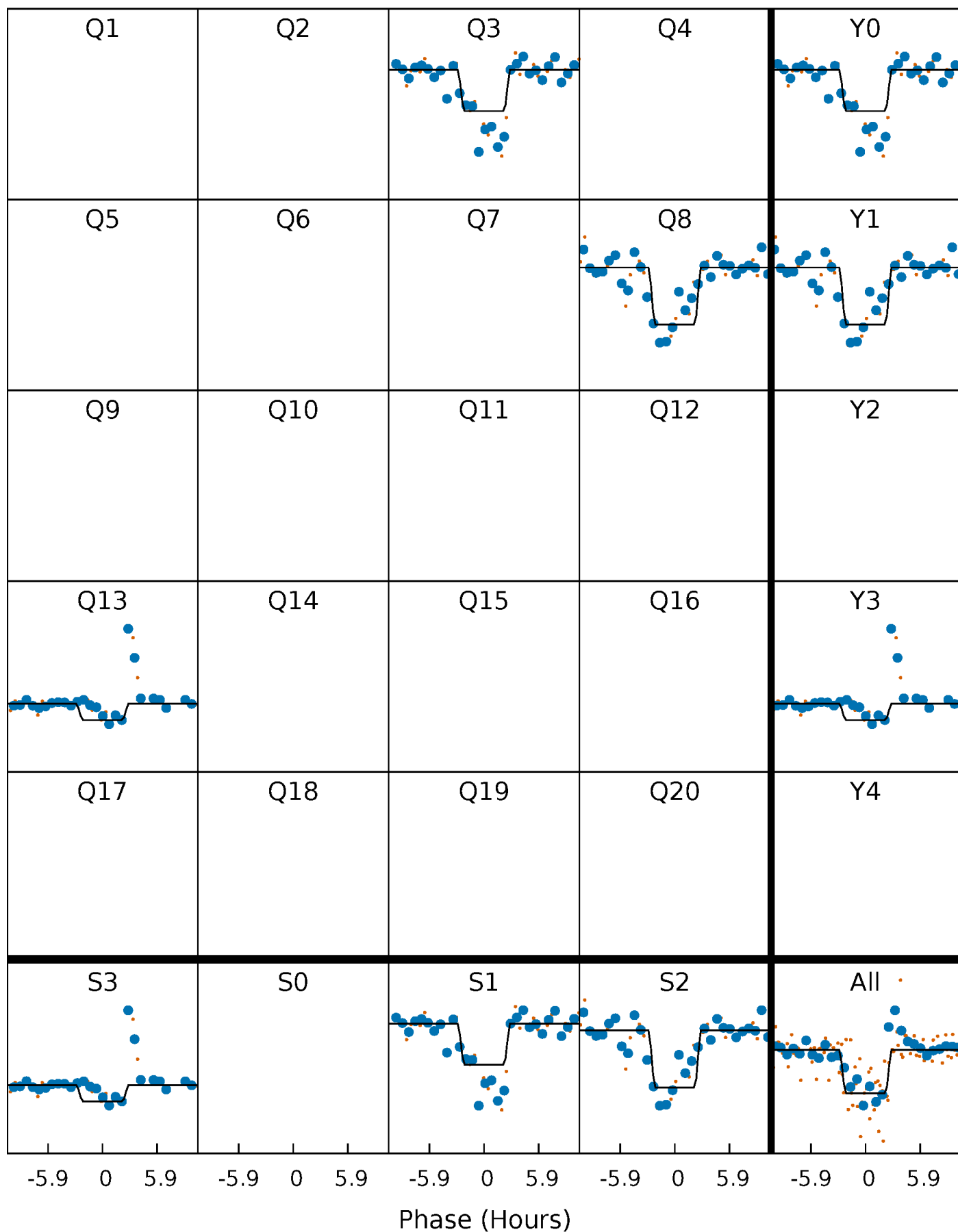
DV Quarter-Phased Transit Curves

TCE 006963815-01 P=461.355082 Days $T_0=326.487204$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

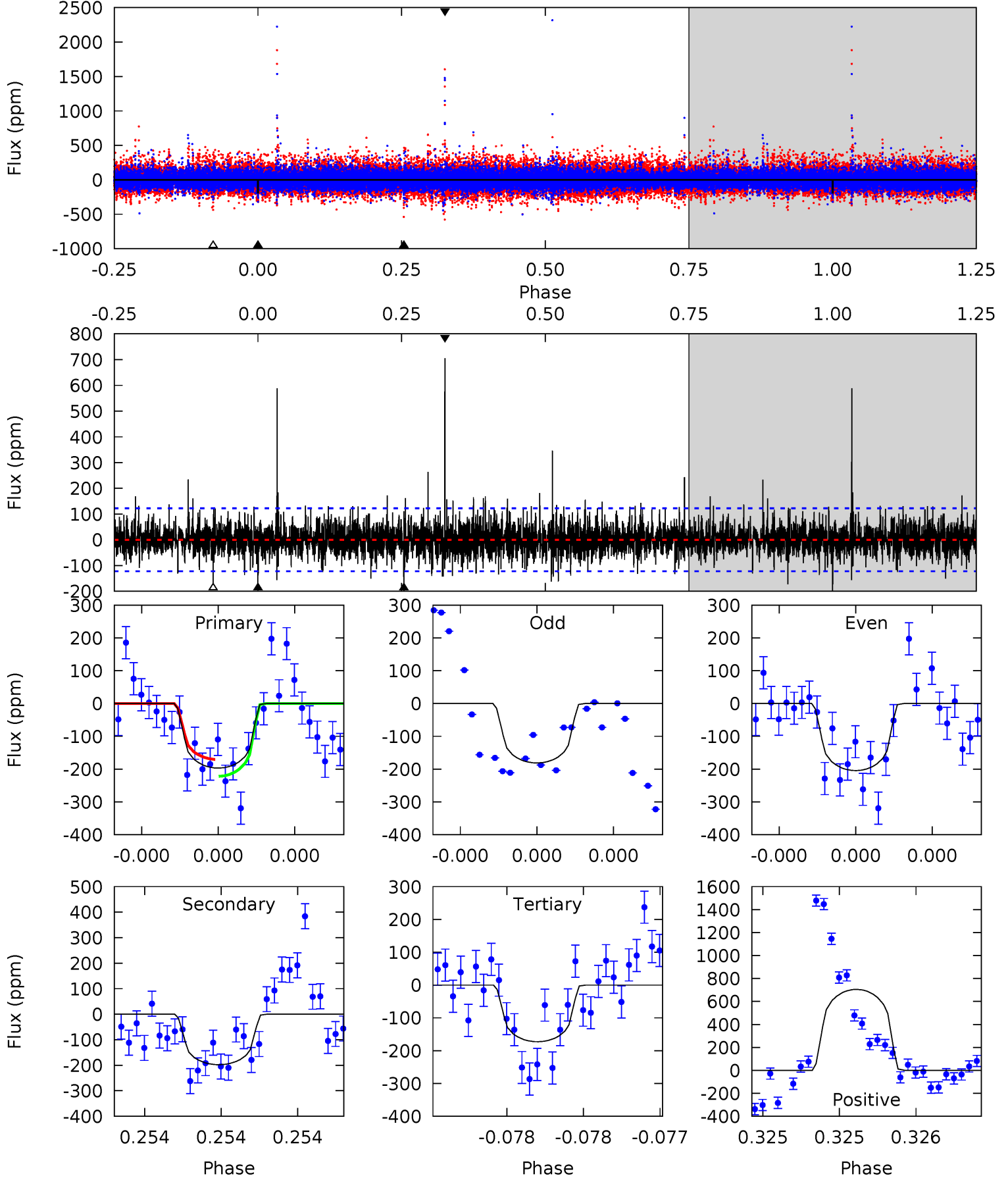
TCE 006963815-01 P=461.362540 Days $T_0=326.449414$ (BKJD)



DV Model-Shift Uniqueness Test

006963815-01, P = 461.355082 Days, E = 326.487204 Days

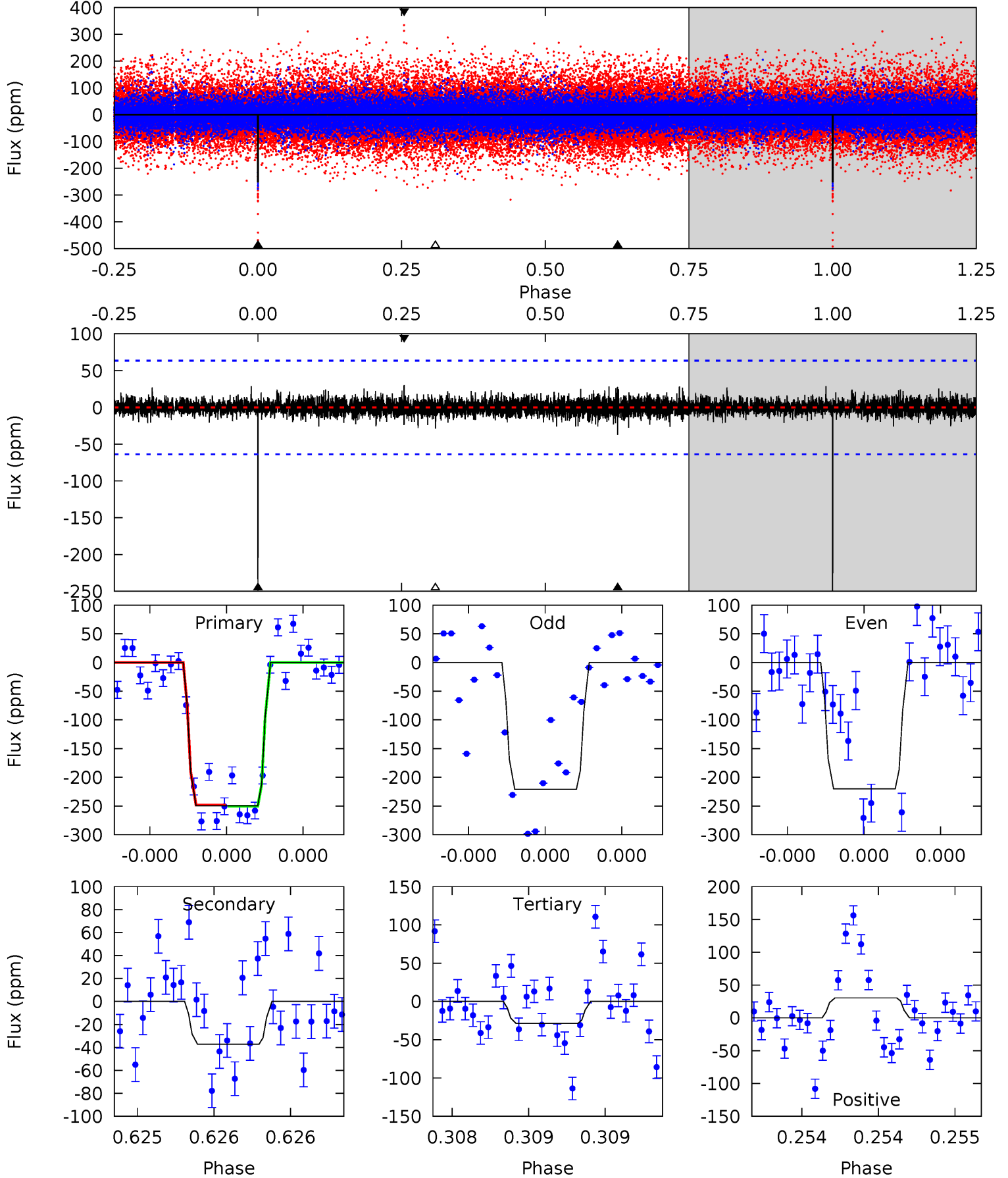
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.09	9.13	7.98	32.6	5.64	3.59	1.96	1.11	-23.5	1.15	-23.4	0.42	1.01	0.78	1.19



Alt Model-Shift Uniqueness Test

006963815-01, P = 461.362540 Days, E = 326.449414 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.9	3.26	2.52	2.67	5.59	3.51	0.56	19.4	19.2	0.74	0.59	0.05	1.04	0.11	0.10



Stellar Parameters For KIC 006963815

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4567^{+139}_{-139}	$4.717^{+0.052}_{-0.028}$	$-1.160^{+0.300}_{-0.300}$	$0.528^{+0.033}_{-0.040}$	$0.529^{+0.036}_{-0.027}$	$5.076^{+1.075}_{-0.610}$
	+3%/-3%	+1%/-1%	+26%/-26%	+6%/-8%	+7%/-5%	+21%/-12%
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 006963815-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-198 ± 22	$1.05^{+0.69}_{-0.63}$	209^{+7}_{-7}	4142^{+1872}_{-663}	$89337^{+435246}_{-56703}$
Alt.	-37 ± 11	$1.05^{+0.79}_{-0.69}$	210^{+7}_{-8}	3162^{+1314}_{-503}	$16645^{+121161}_{-11804}$

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 $A_{obs} \gg 1.0$

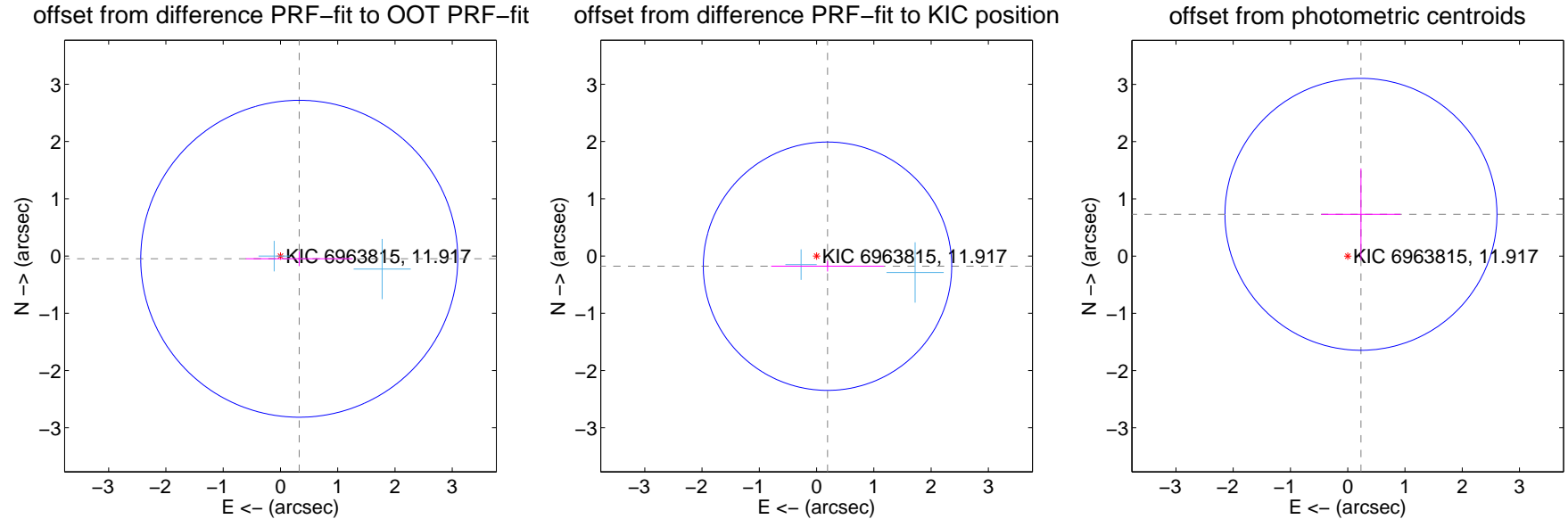
DV Centroid Data

Supplemental centroid analysis for 006963815-01. **Kepler magnitude: 11.92.** Transit SNR 6.36

There are 2 quarters with good PRF difference image offsets

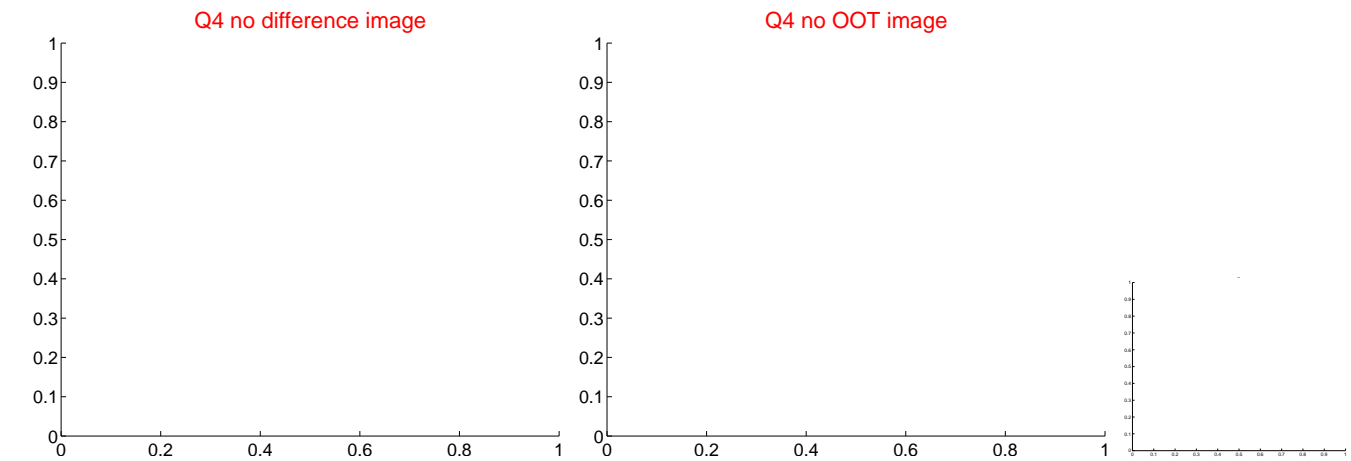
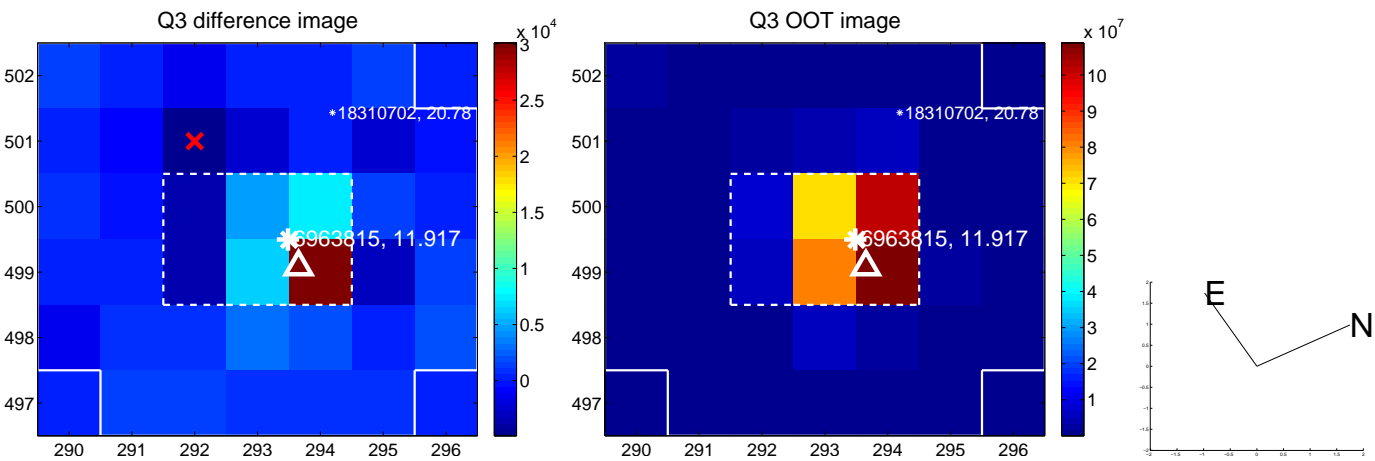
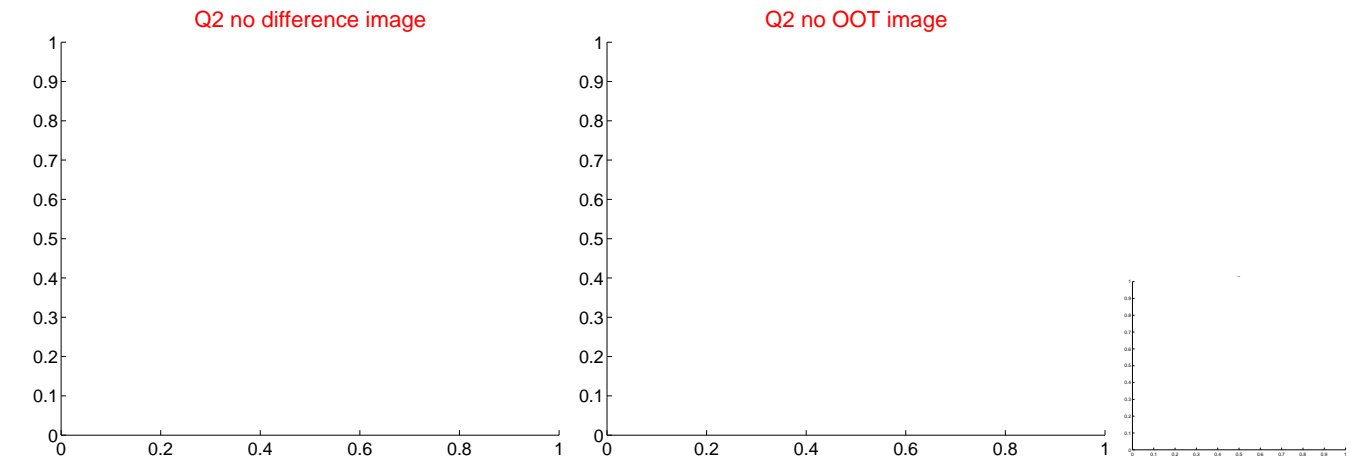
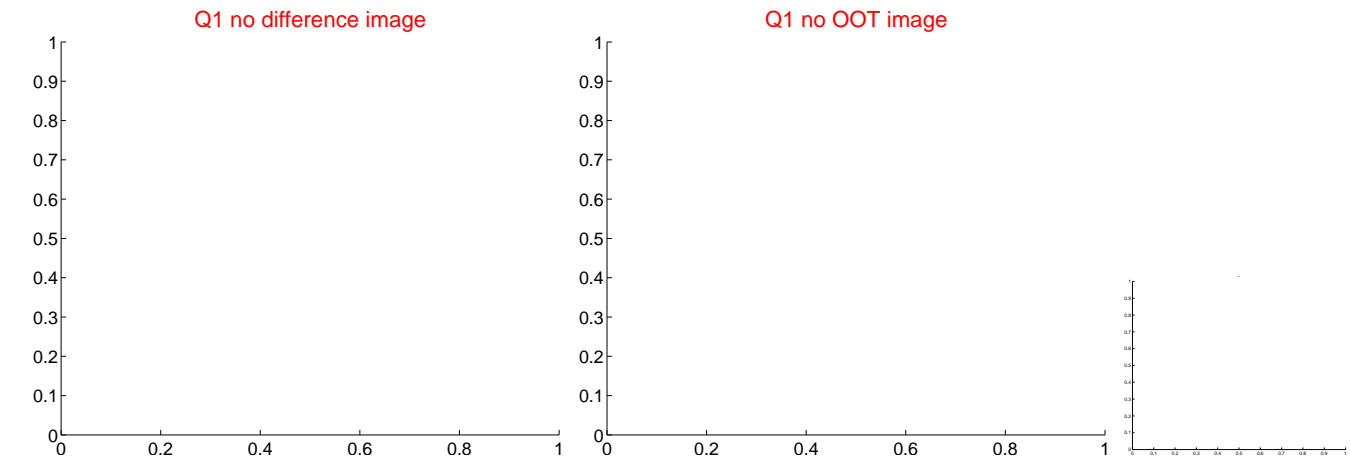
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.332 ± 0.923	0.36	-0.328 ± 0.932	-0.048 ± 0.126
PRF-fit source offset from KIC position	0.261 ± 0.723	0.36	-0.191 ± 0.984	-0.178 ± 0.093
photometric centroid source offset	0.77 ± 0.79	0.97	-0.23 ± 0.69	0.73 ± 0.80

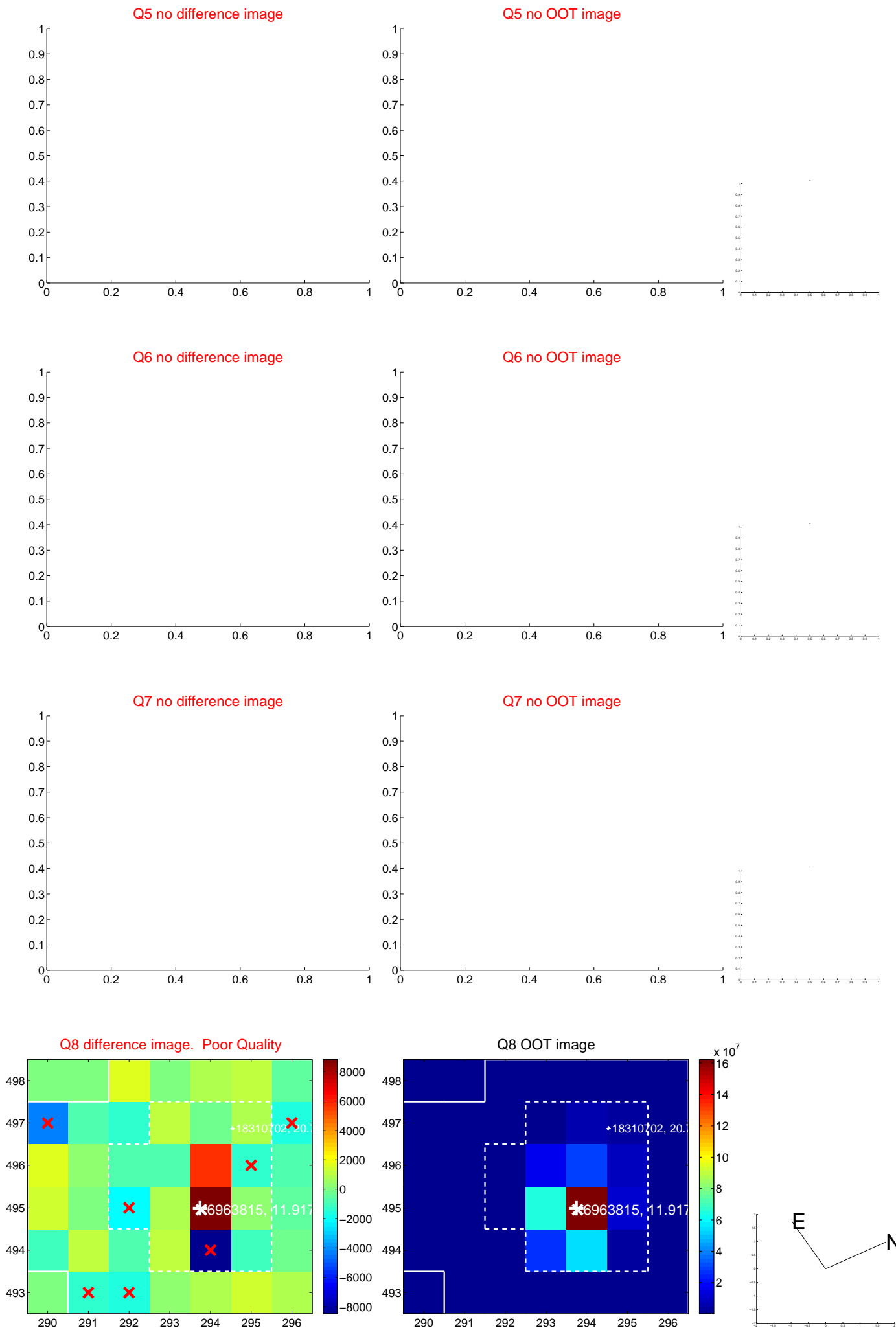


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



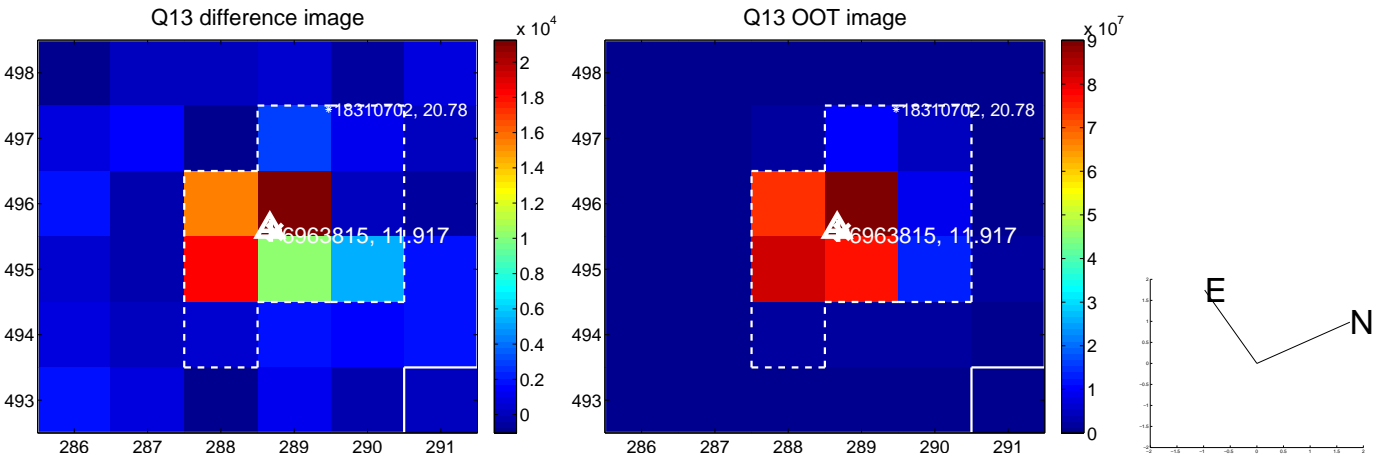
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



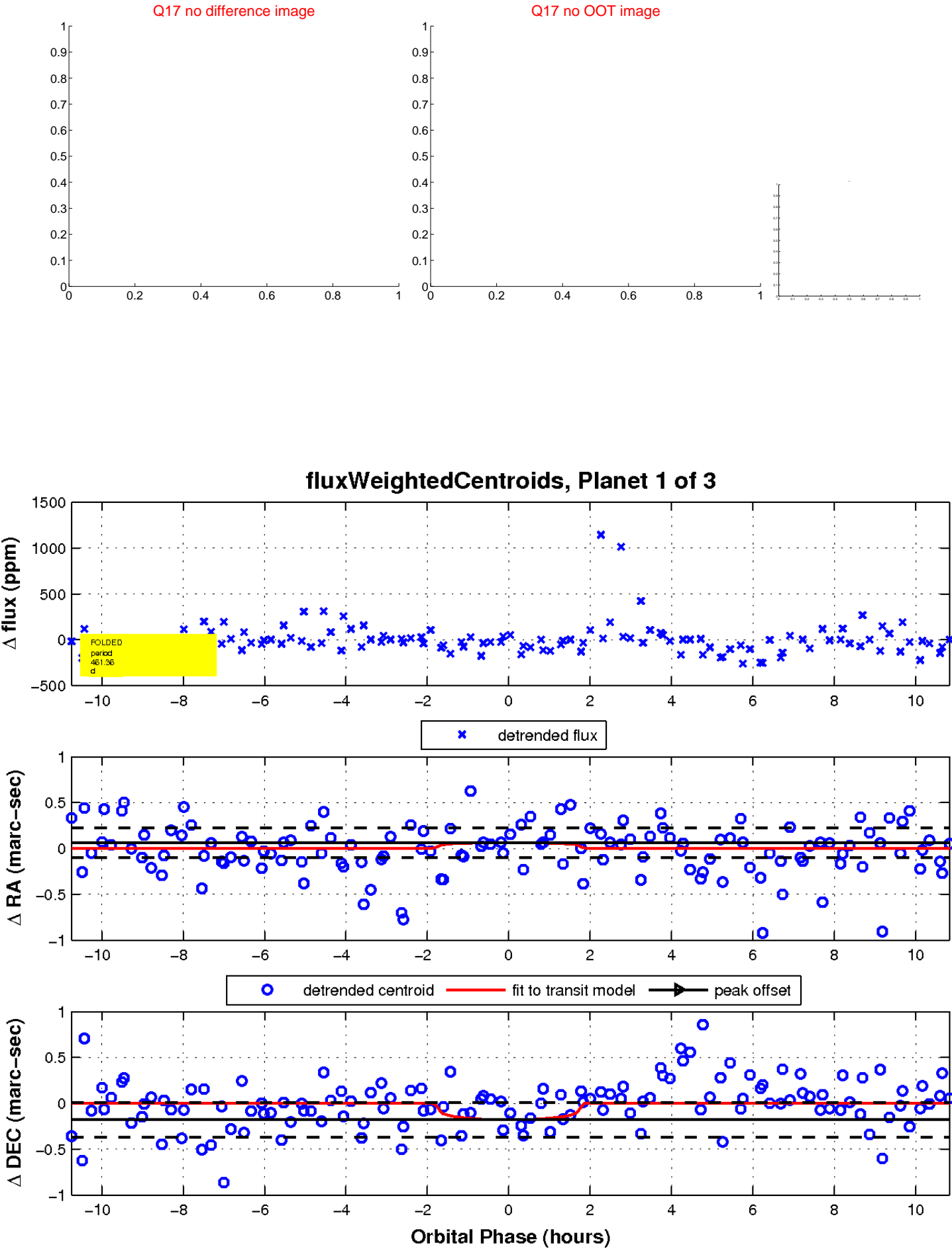
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

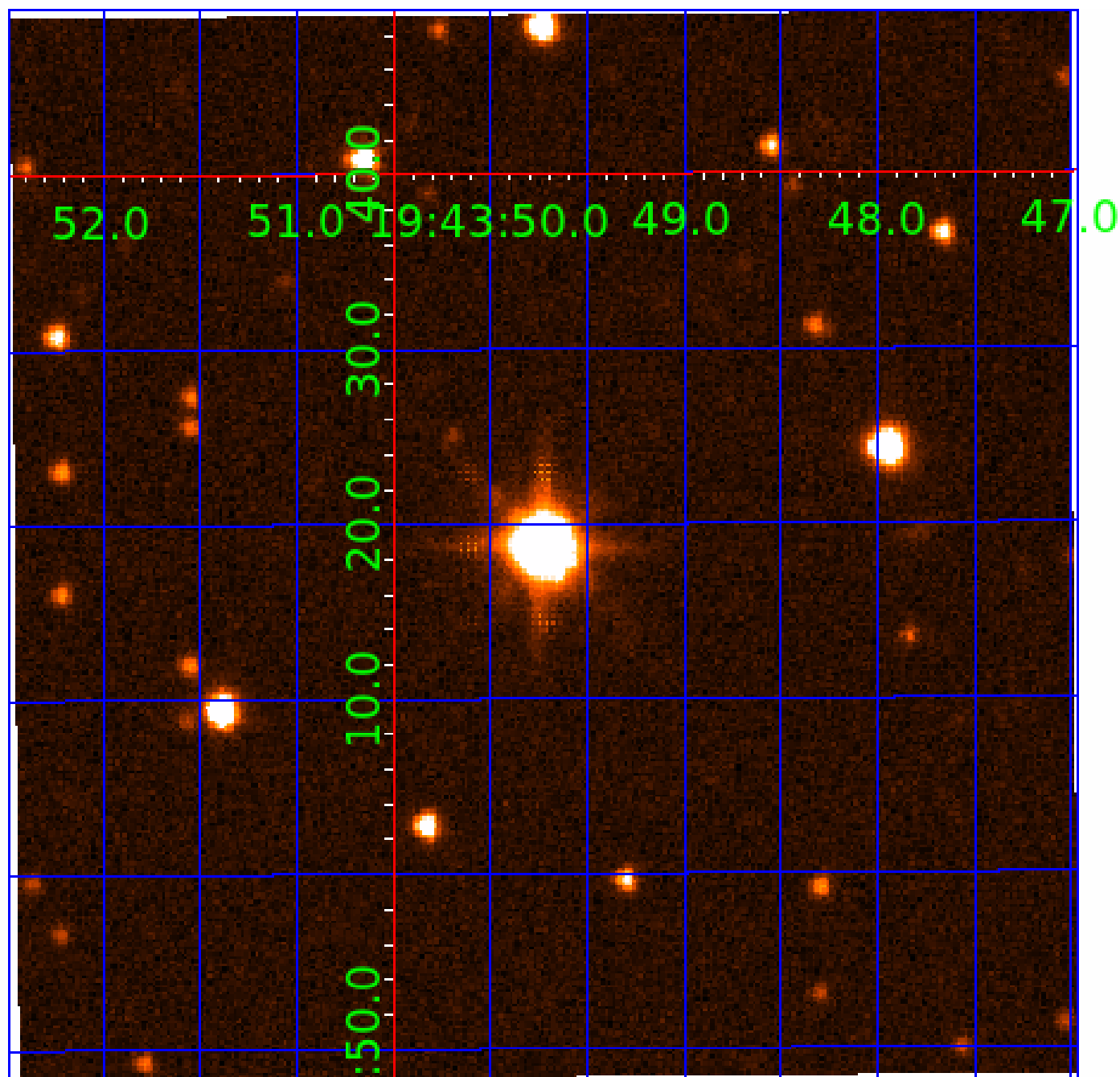


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006963815

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})
006963815-01	OBS	No	461.355082	326.487204	230.1	3.632	10.7	6.4	0.53	4567	0.86	0.12
006963815-02	OBS	No	409.685965	342.298486	444.0	7.756	13.4	9.8	0.53	4567	1.17	0.14
006963815-03	OBS	No	516.252907	224.518209	318.5	8.072	11.5	7.6	0.53	4567	1.03	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006963815-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006963815-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006963815-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—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.

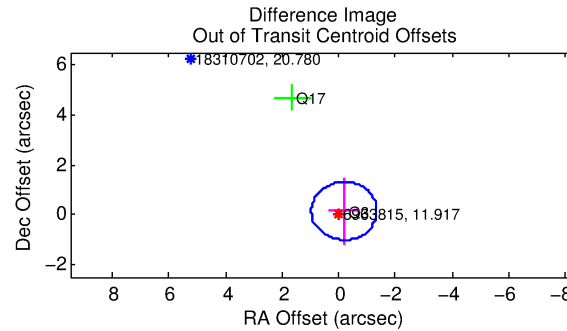
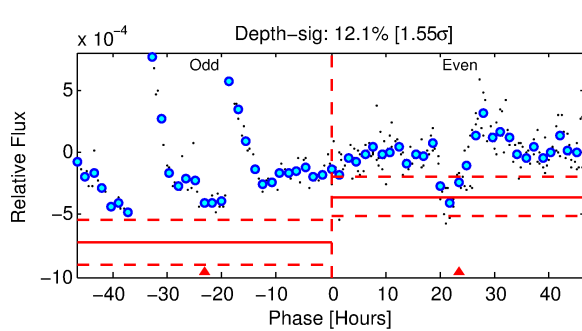
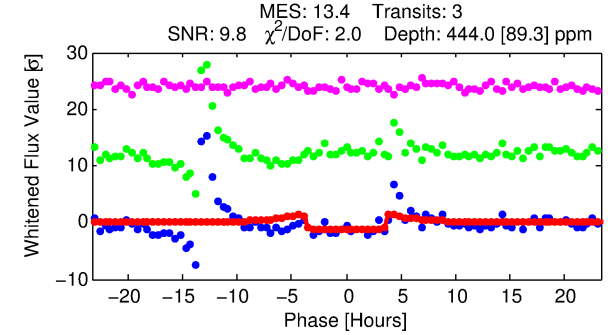
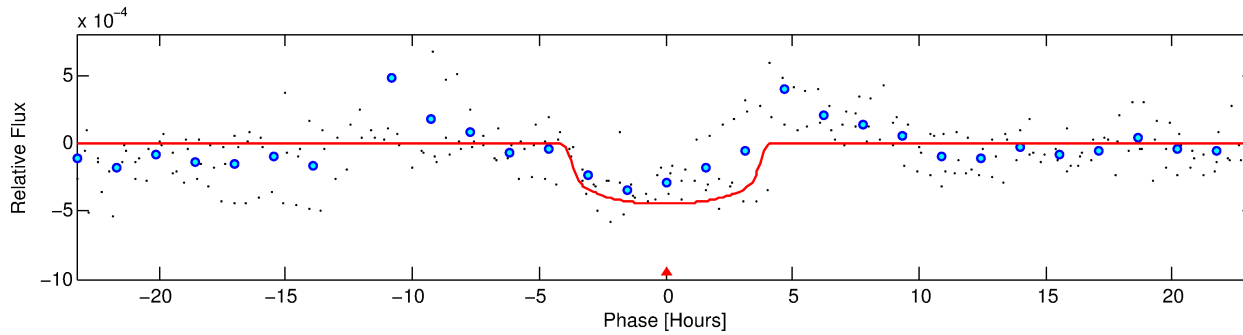
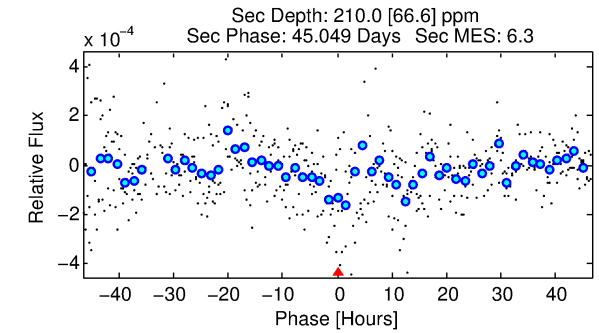
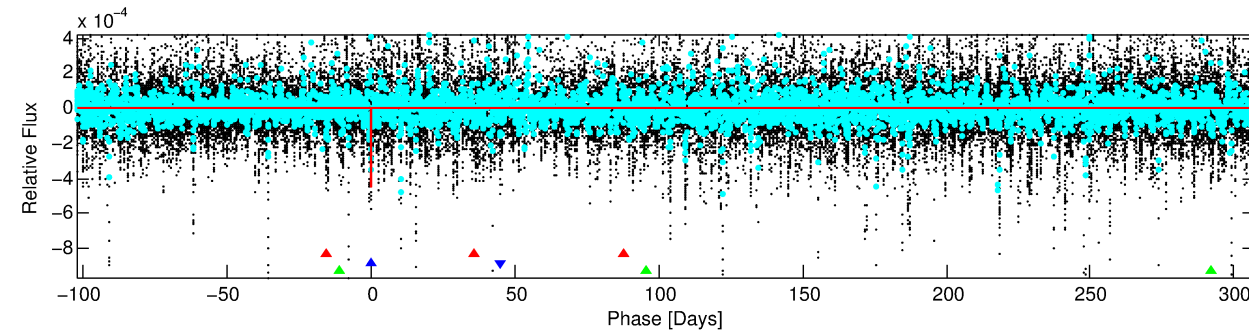
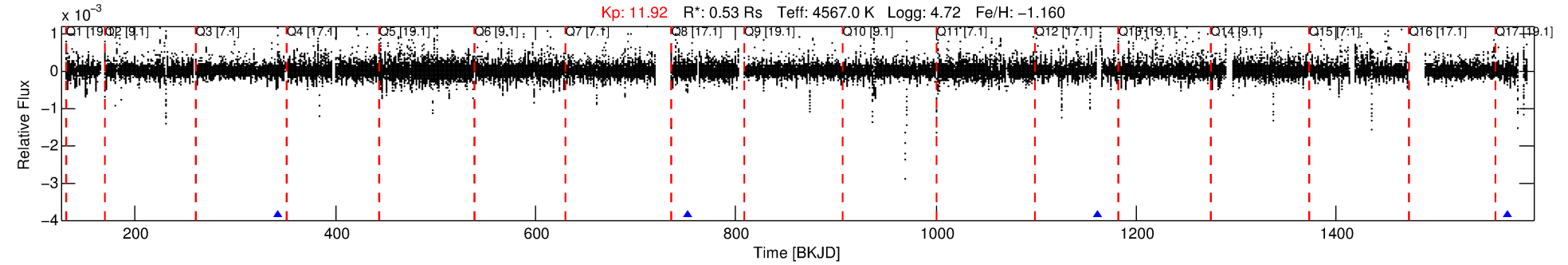
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006963815-02

No Significant Match Found

DV One-Page Summary

KIC: 6963815 Candidate: 2 of 3 Period: 409.686 d



DV Fit Results:

Period = 409.68597 [0.00624] d
Epoch = 342.2985 [0.0100] BKJD
Rp/R* = 0.0202 [0.0185]
a/R* = 318.84 [1111.84]
b = 0.65 [3.17]
Seff = 0.14 [0.02]
Teq = 157 [6] K
Rp = 1.16 [1.07] Re
a = 0.8738 [0.0562] AU
Ag = 65020.49 [120933.67] [0.54 σ]
Teffp = 3867 [1799] K [2.06 σ]

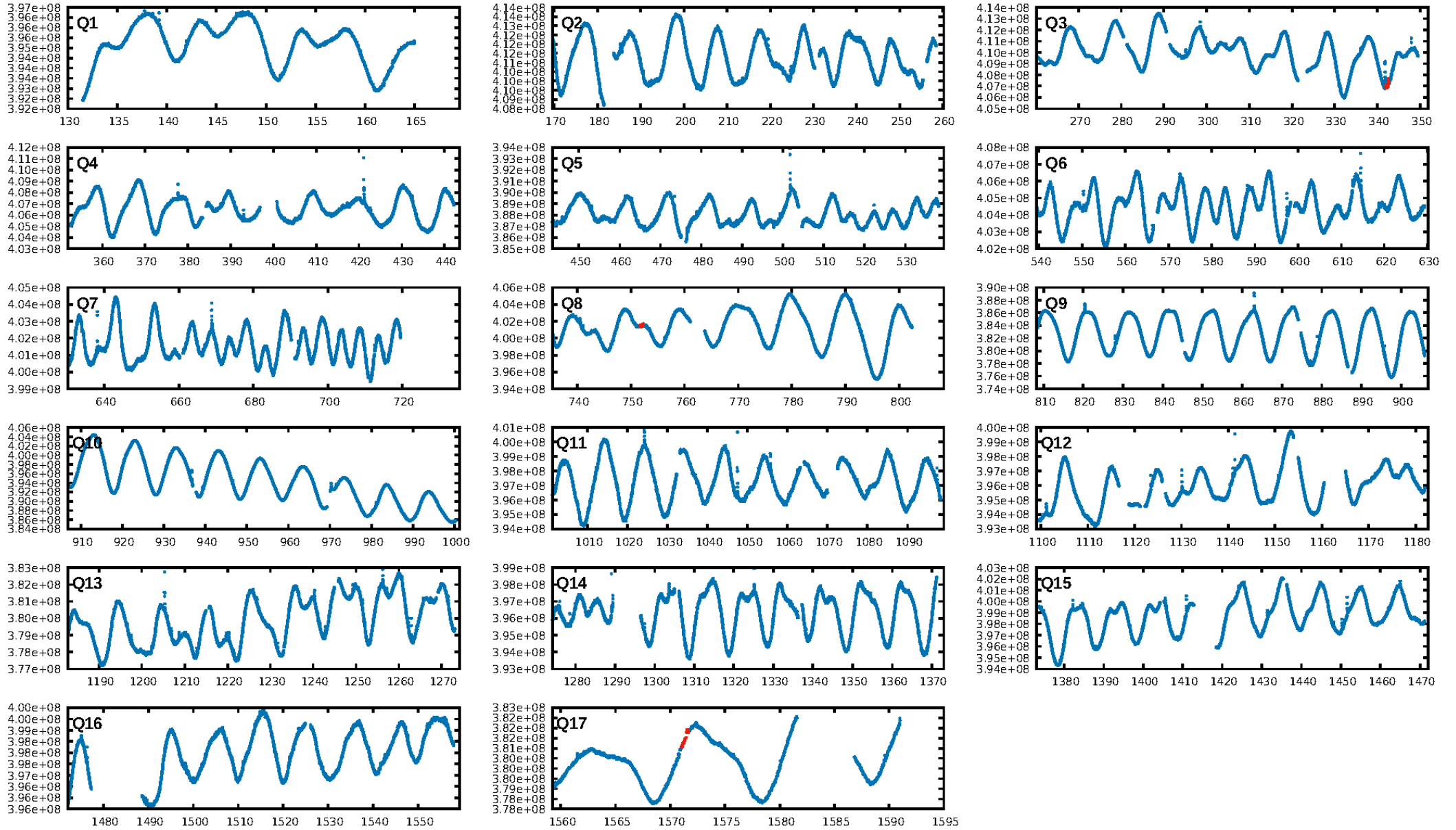
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [144.79 σ]
ModelChiSquare2-sig: 1.1%
ModelChiSquareGof-sig: 11.9%
Bootstrap-pfa: 6.97e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.9182
Centroid-sig: 6.5%
Centroid-so: 0.462 arcsec [1.46 σ]
OotOffset-rm: 0.240 arcsec [0.62 σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-rm: 0.150 arcsec [0.34 σ]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

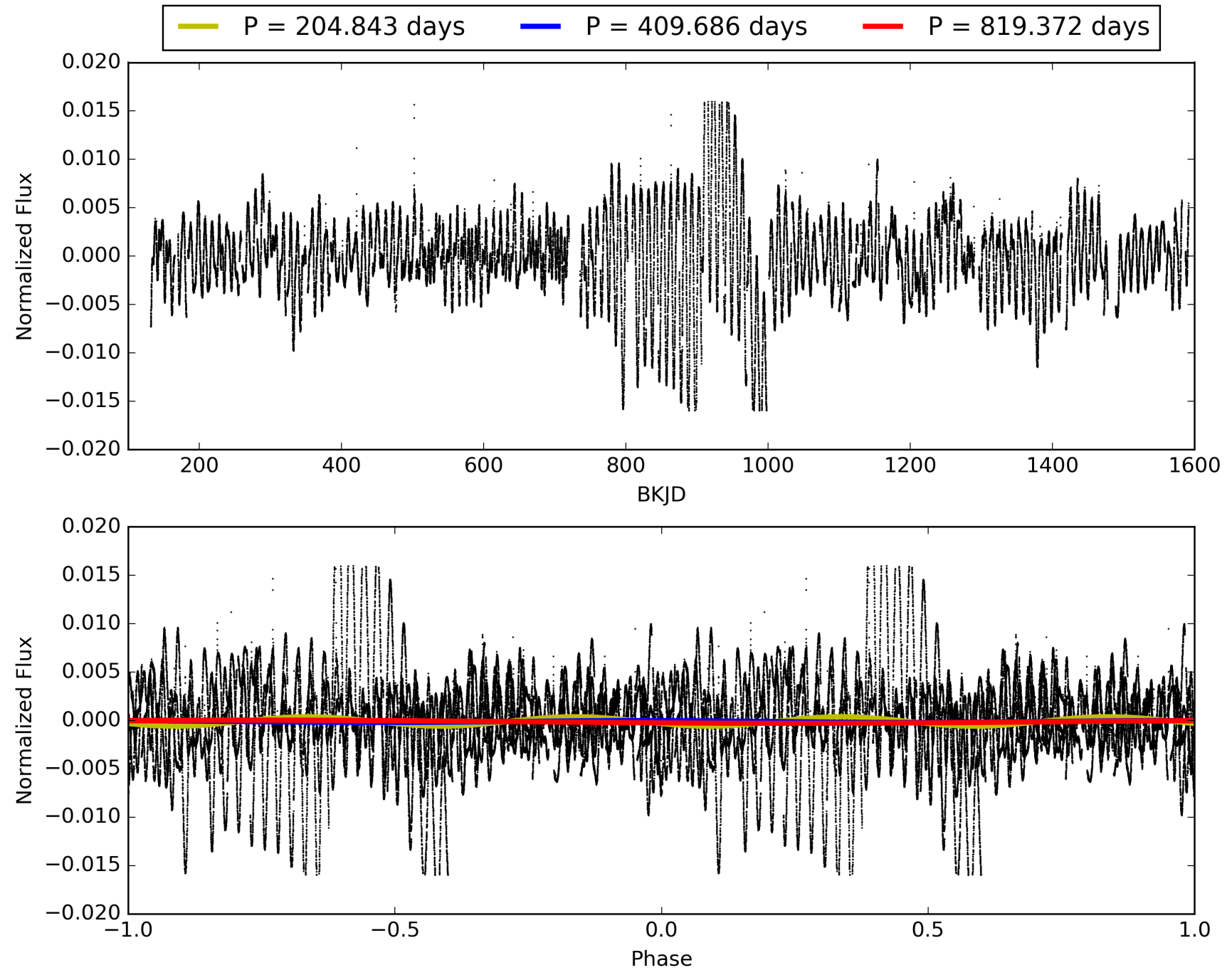
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:22:16 Z

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

TCE 006963815-02, PDC Light Curves

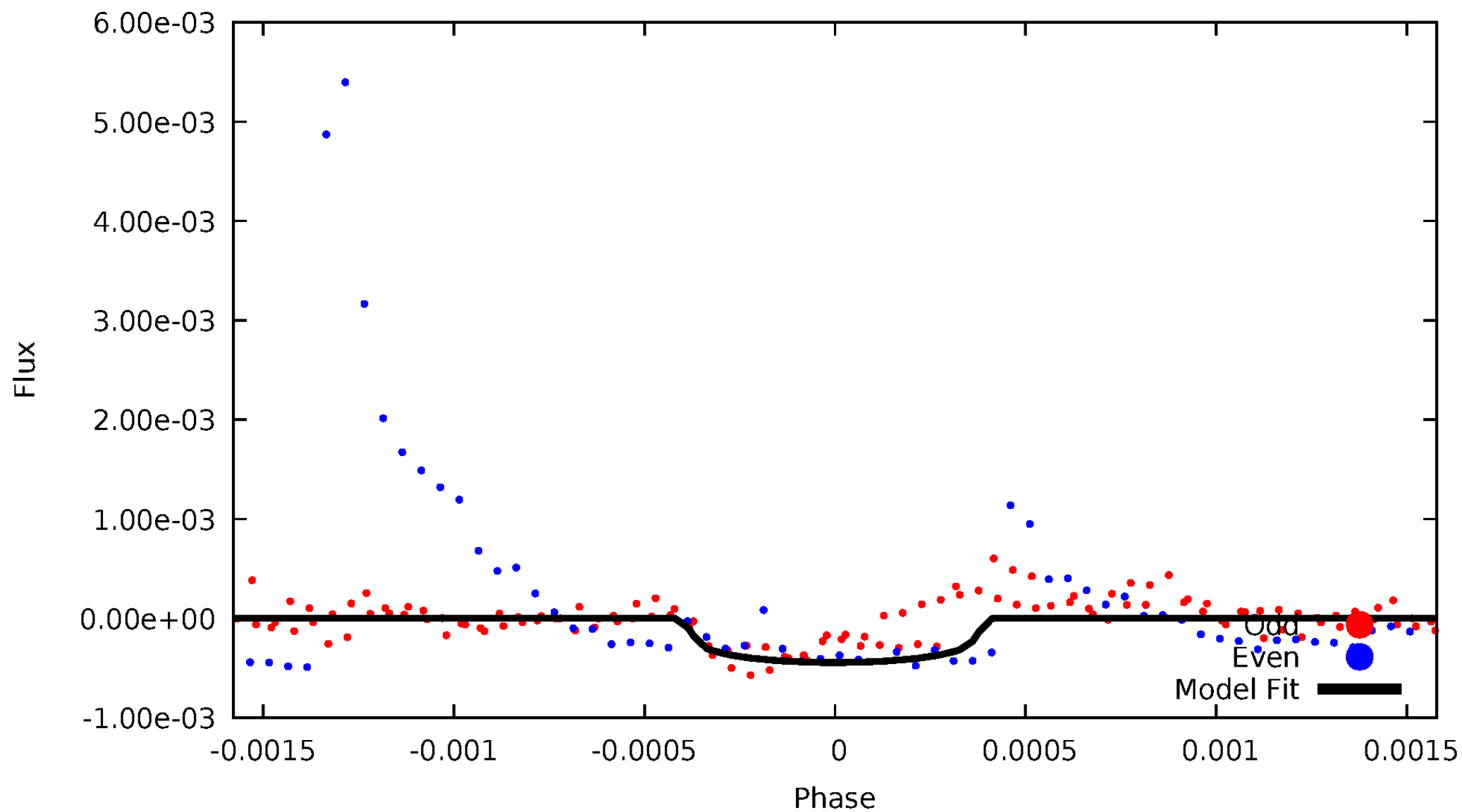


TCE 006963815-02



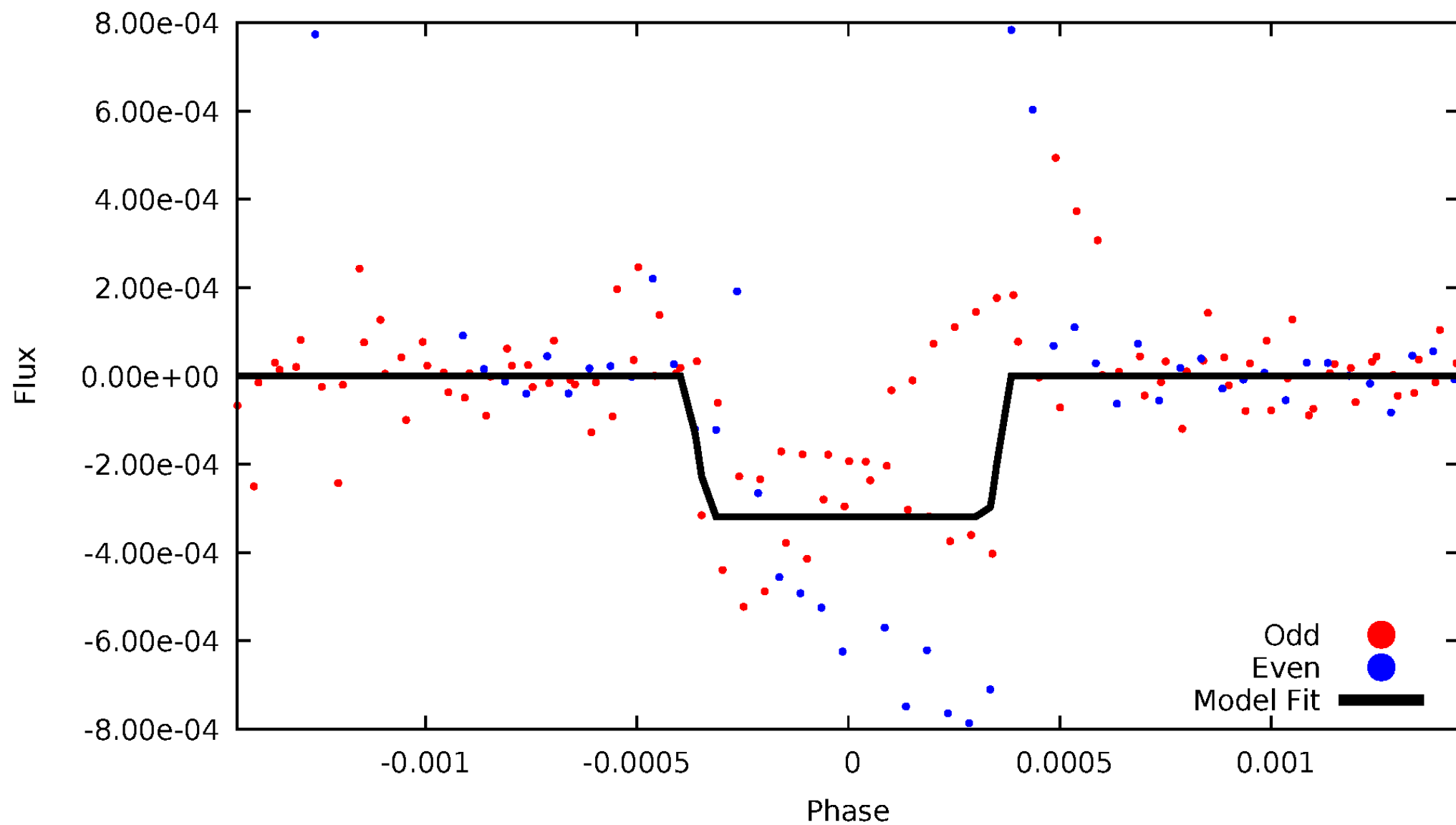
DV Odd/Even

TCE 006963815-02



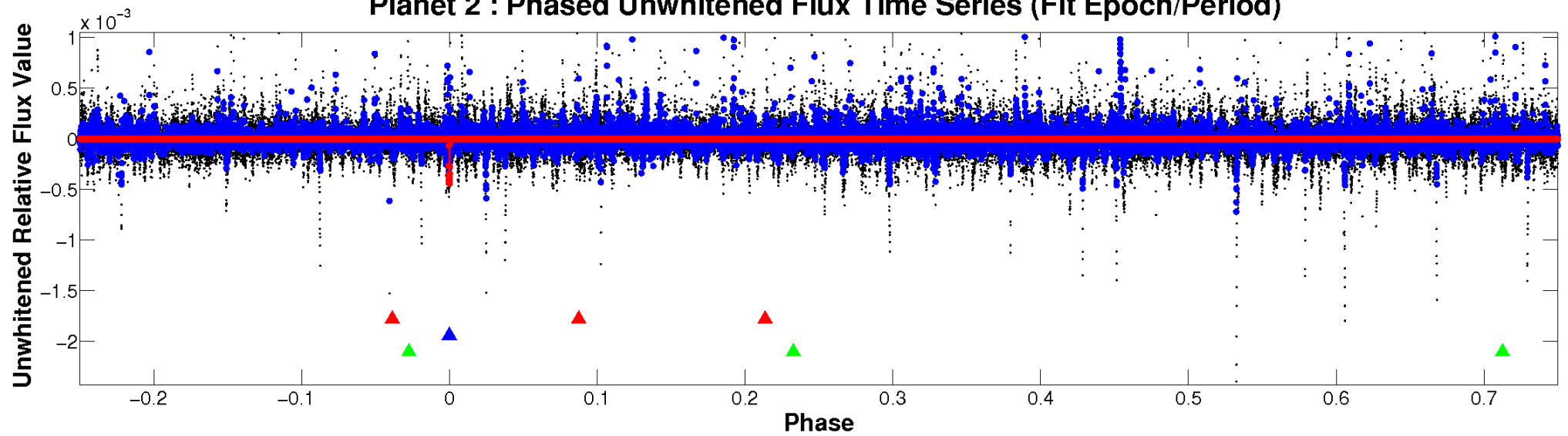
ALT Odd/Even

TCE 006963815-02

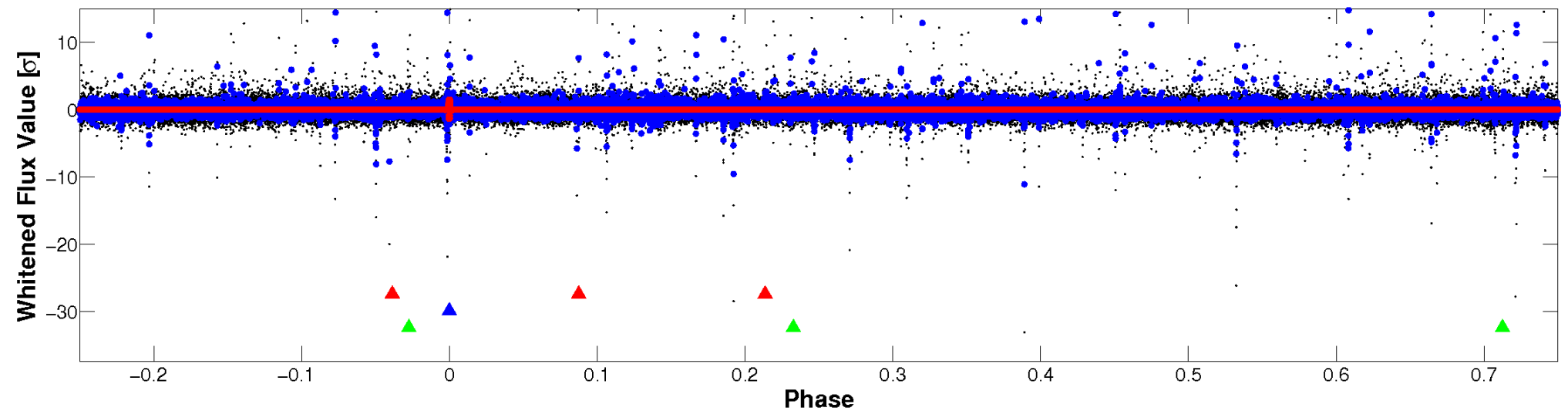


Non-Whitened Vs. Whitened Light Curve

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

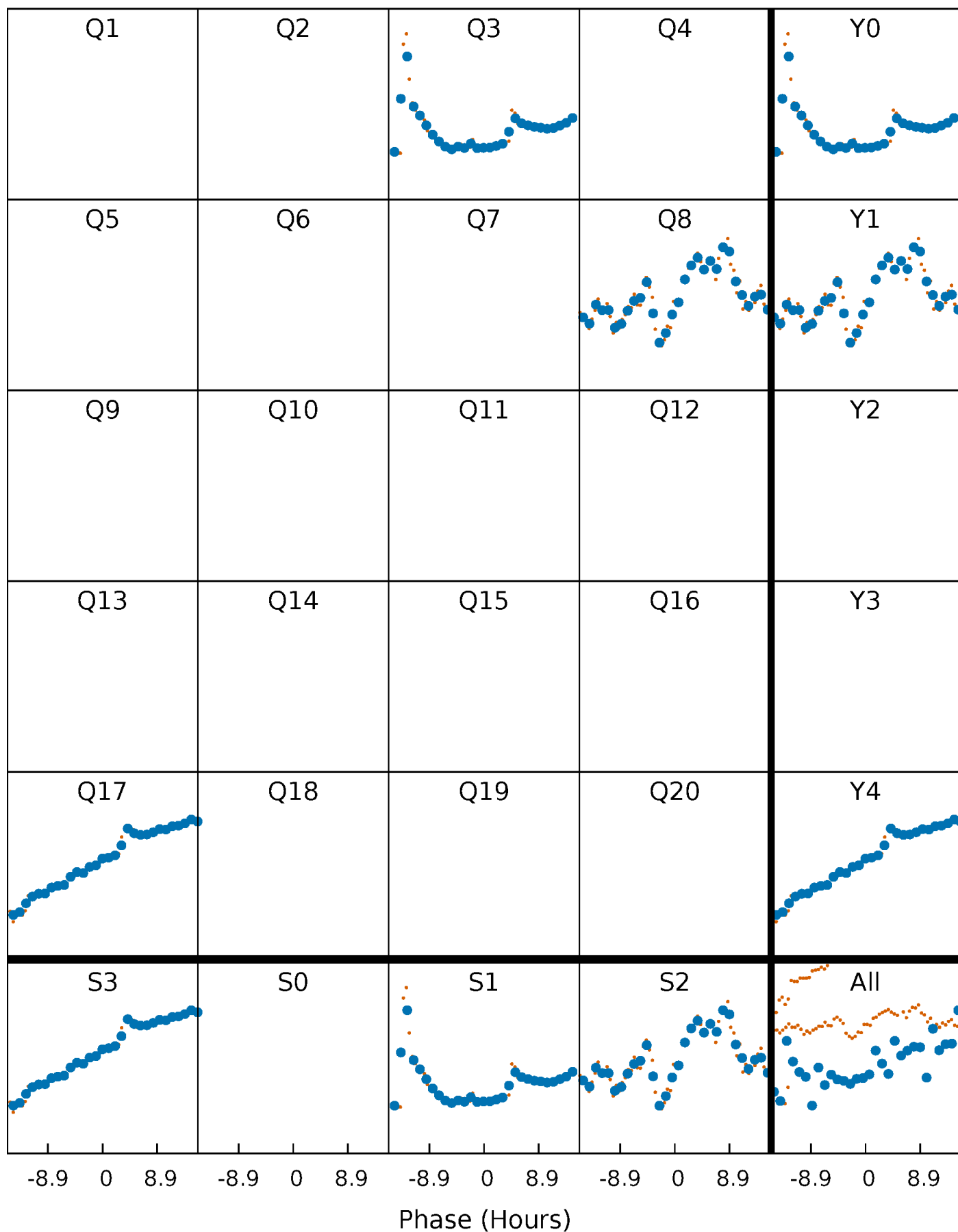


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



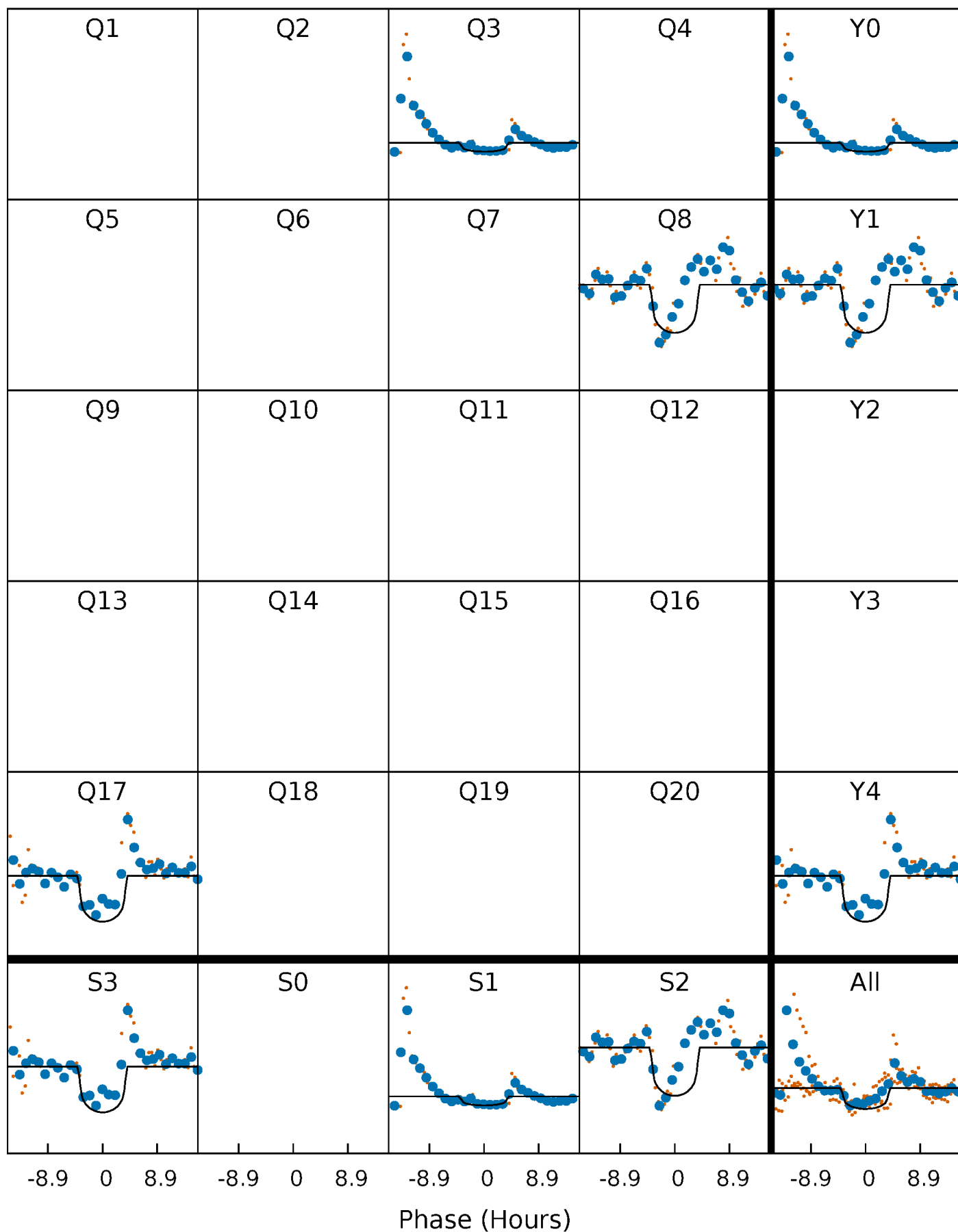
PDC Quarter-Phased Transit Curves

TCE 006963815-02 $P=409.685965$ Days $T_0=342.298486$ (BKJD)



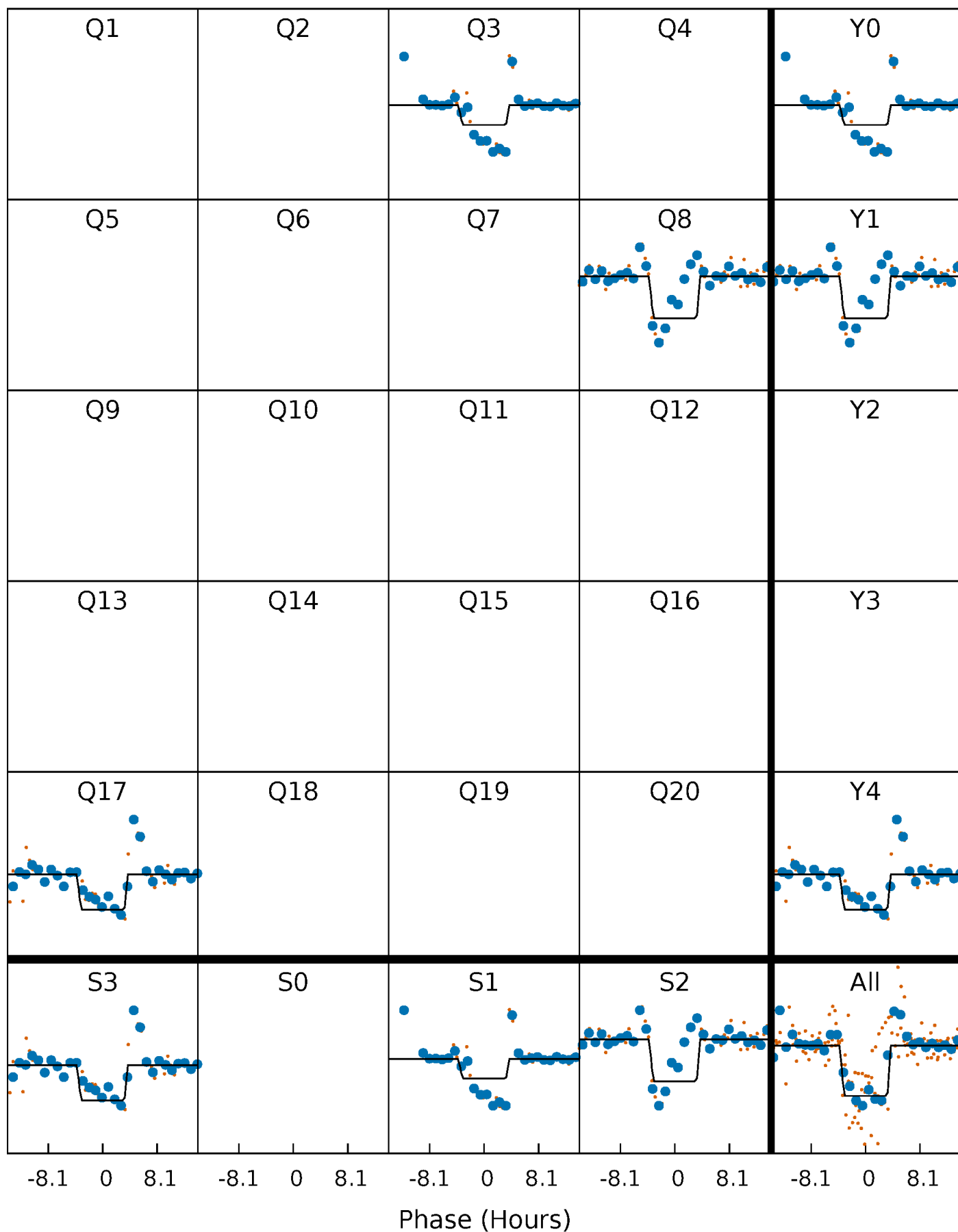
DV Quarter-Phased Transit Curves

TCE 006963815-02 $P=409.685965$ Days $T_0=342.298486$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

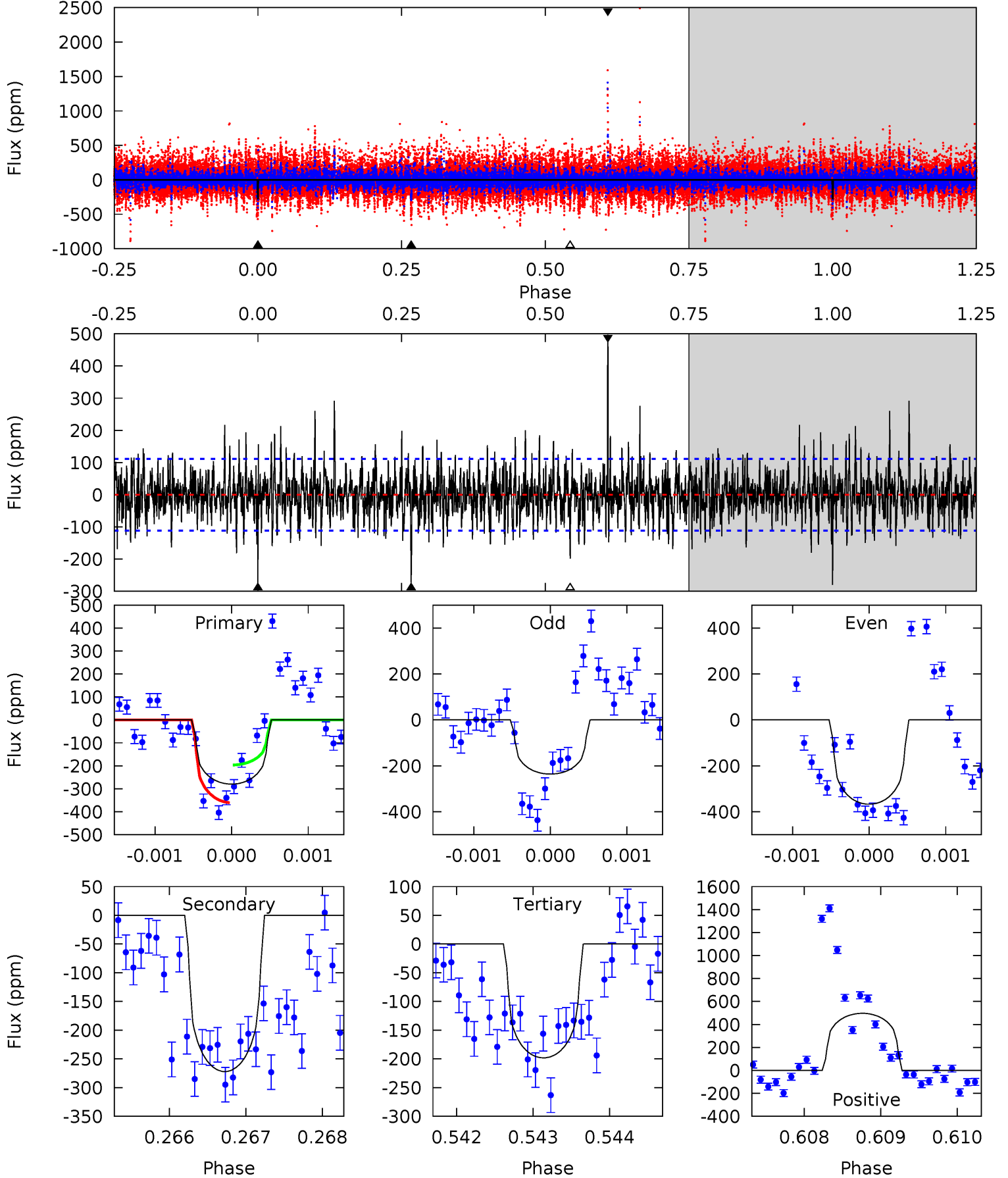
TCE 006963815-02 P=409.665633 Days $T_0=342.329407$ (BKJD)



DV Model-Shift Uniqueness Test

006963815-02, P = 409.685965 Days, E = 342.298486 Days

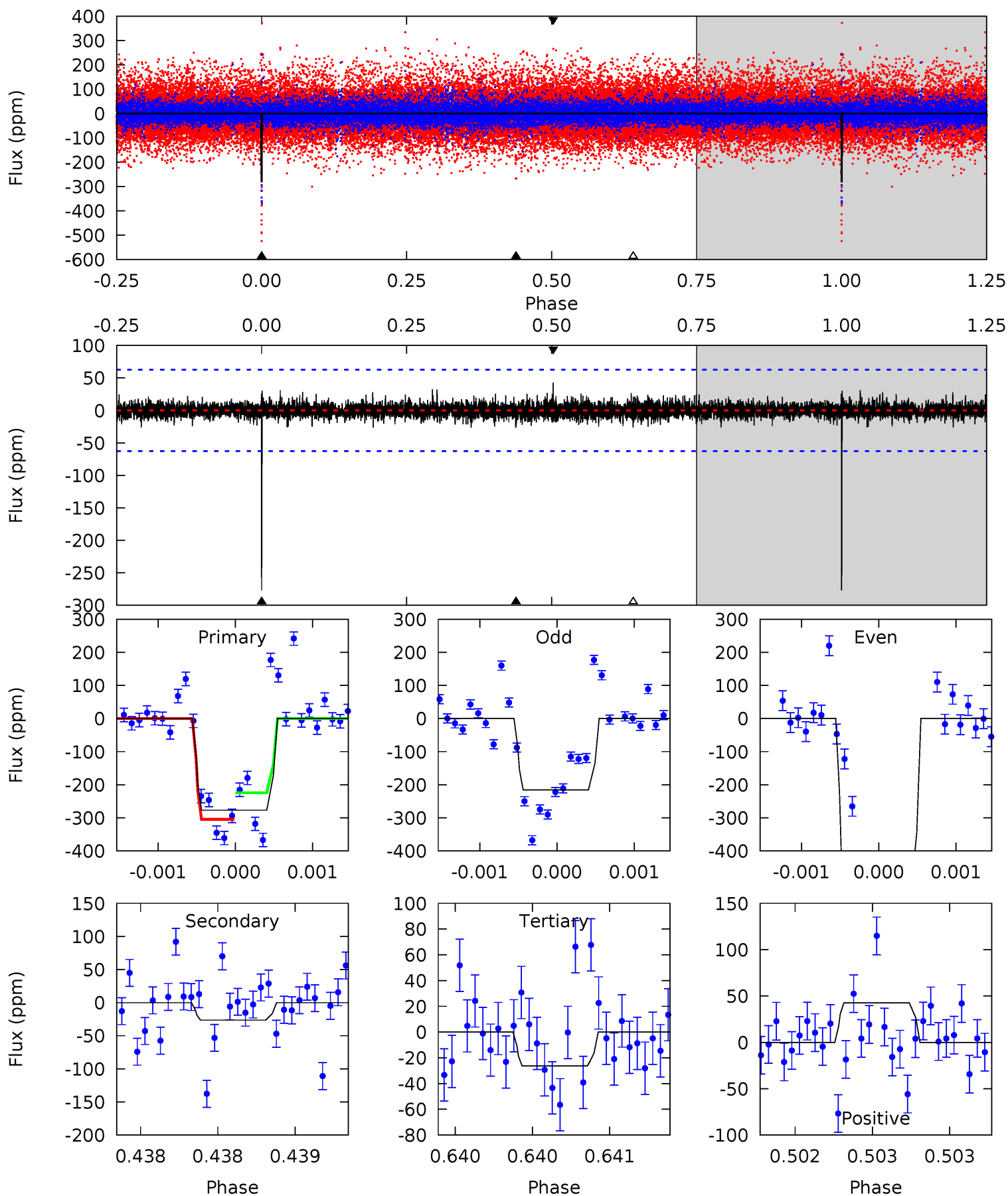
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	13.4	9.77	24.5	5.49	3.35	2.80	4.01	-10.7	3.64	-11.1	2.53	1.02	0.64	4.04



Alt Model-Shift Uniqueness Test

006963815-02, P = 409.665633 Days, E = 342.329407 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	2.32	2.32	3.76	5.51	3.38	0.58	22.1	20.6	0.00	-1.44	16.0	1.25	0.13	3.27



Stellar Parameters For KIC 006963815

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4567^{+139}_{-139}	$4.717^{+0.052}_{-0.028}$	$-1.160^{+0.300}_{-0.300}$	$0.528^{+0.033}_{-0.040}$	$0.529^{+0.036}_{-0.027}$	$5.076^{+1.075}_{-0.610}$
	+3%/-3%	+1%/-1%	+26%/-26%	+6%/-8%	+7%/-5%	+21%/-12%
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 006963815-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-272 ± 20	$1.30^{+1.02}_{-0.79}$	218^{+8}_{-8}	4050^{+1836}_{-736}	$67272^{+344461}_{-46573}$
Alt.	-26 ± 11	$1.23^{+0.98}_{-0.78}$	218^{+7}_{-8}	2839^{+999}_{-478}	6676^{+44014}_{-5001}

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 $A_{obs} \gg 1.0$

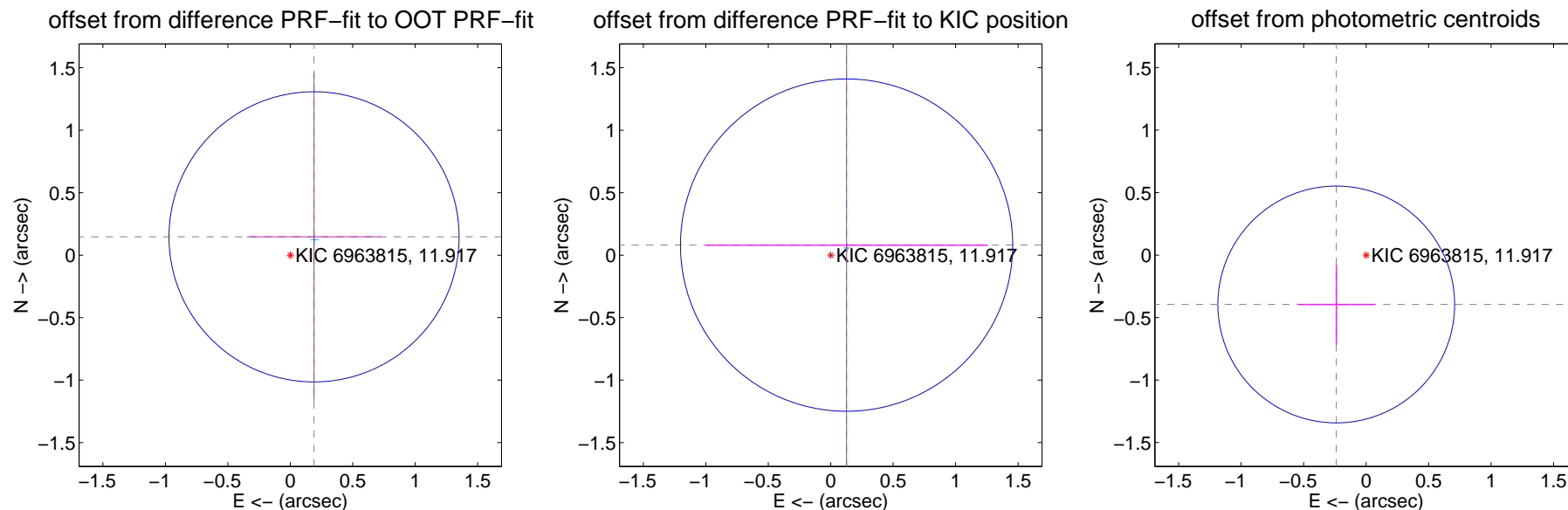
DV Centroid Data

Supplemental centroid analysis for 006963815-02. **Kepler magnitude: 11.92.** Transit SNR 9.84

There are 1 quarters with good PRF difference image offsets

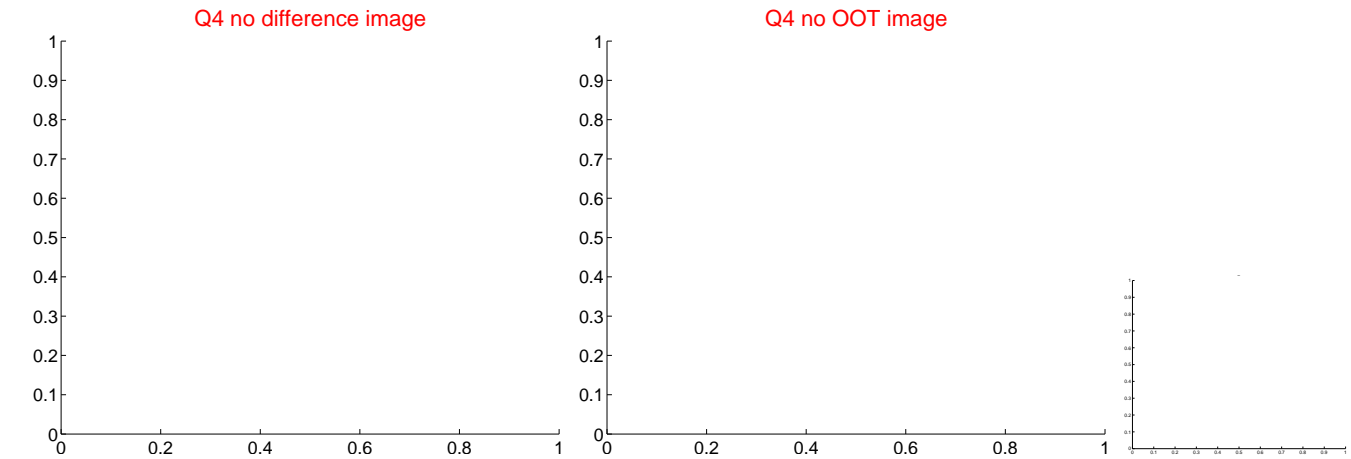
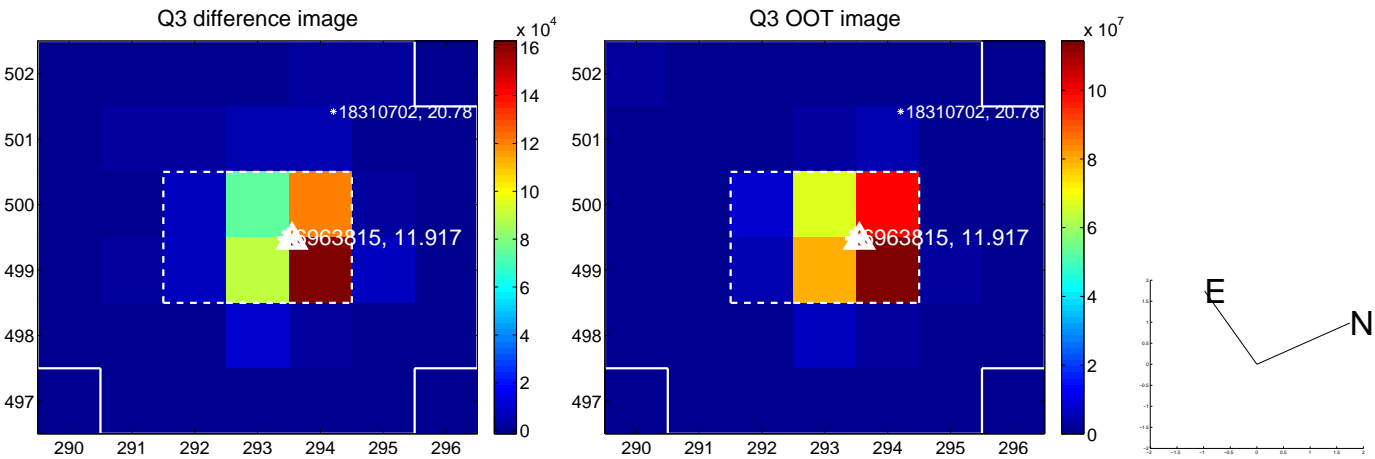
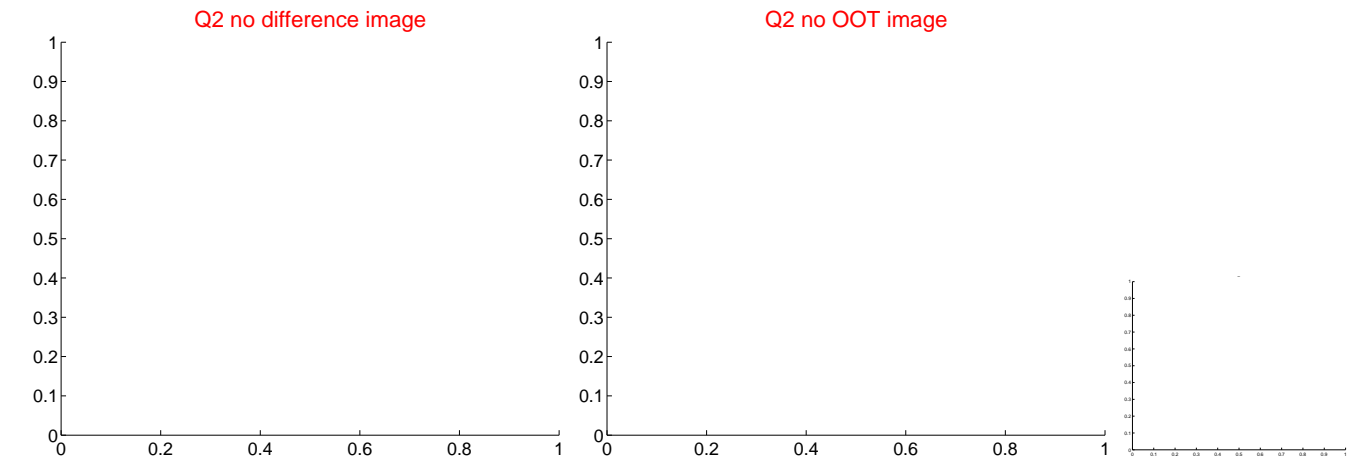
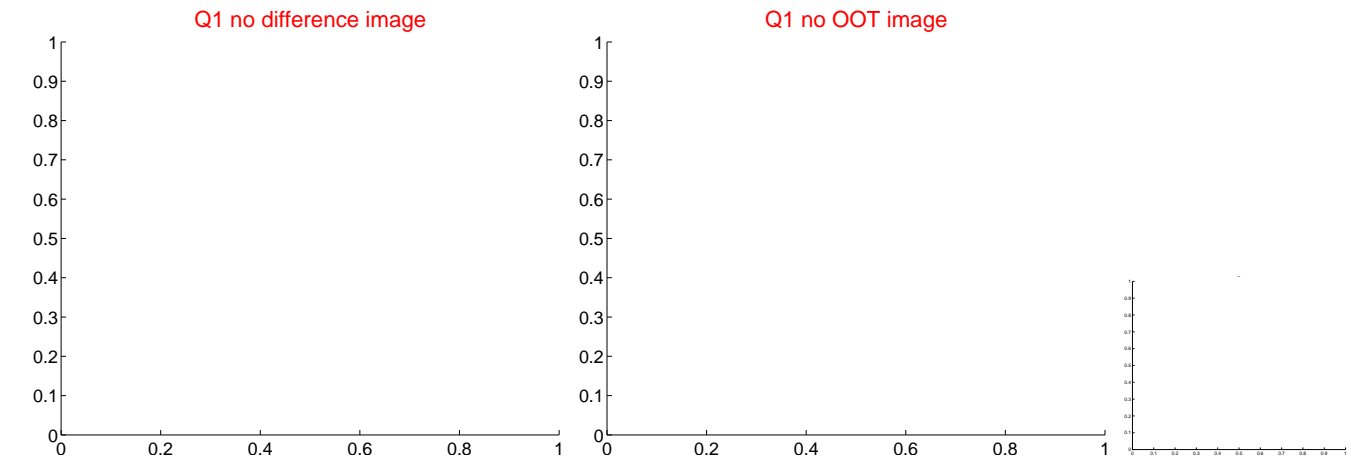
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.240 ± 0.387	0.62	-0.190 ± 0.536	0.147 ± 1.317
PRF-fit source offset from KIC position	0.150 ± 0.443	0.34	-0.127 ± 1.127	0.080 ± 2.597
photometric centroid source offset	0.46 ± 0.32	1.46	0.24 ± 0.31	-0.39 ± 0.32

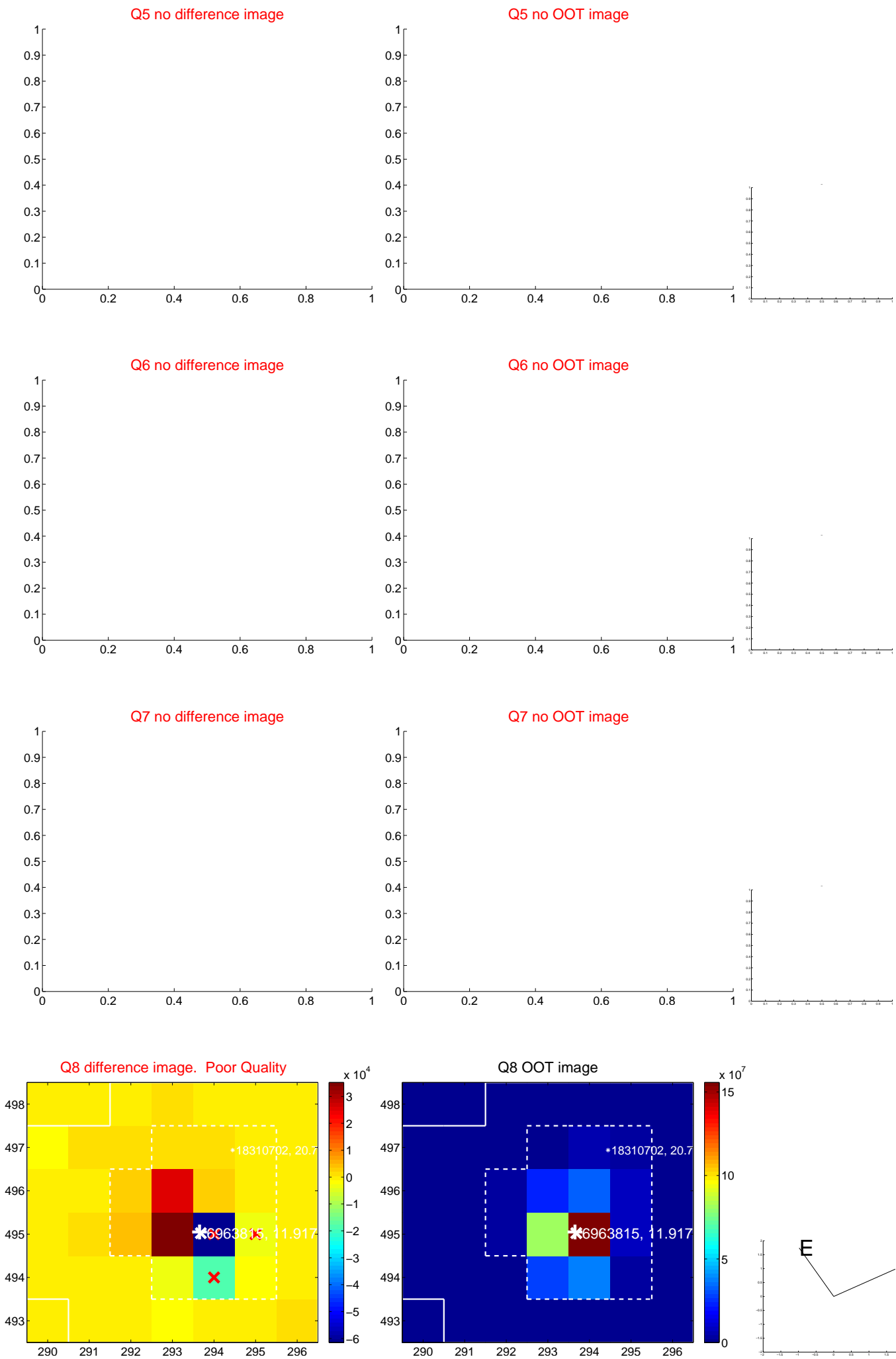


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



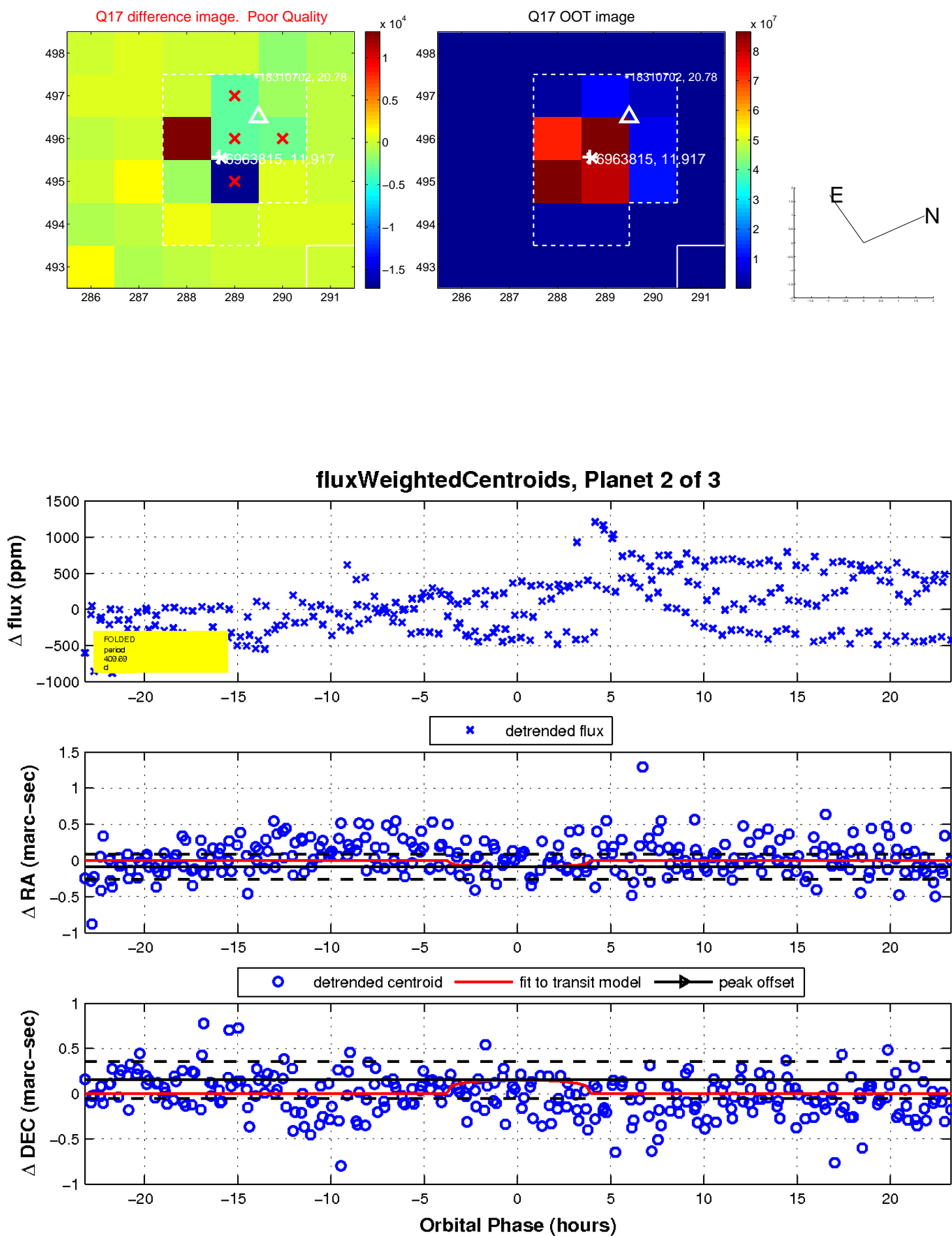
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

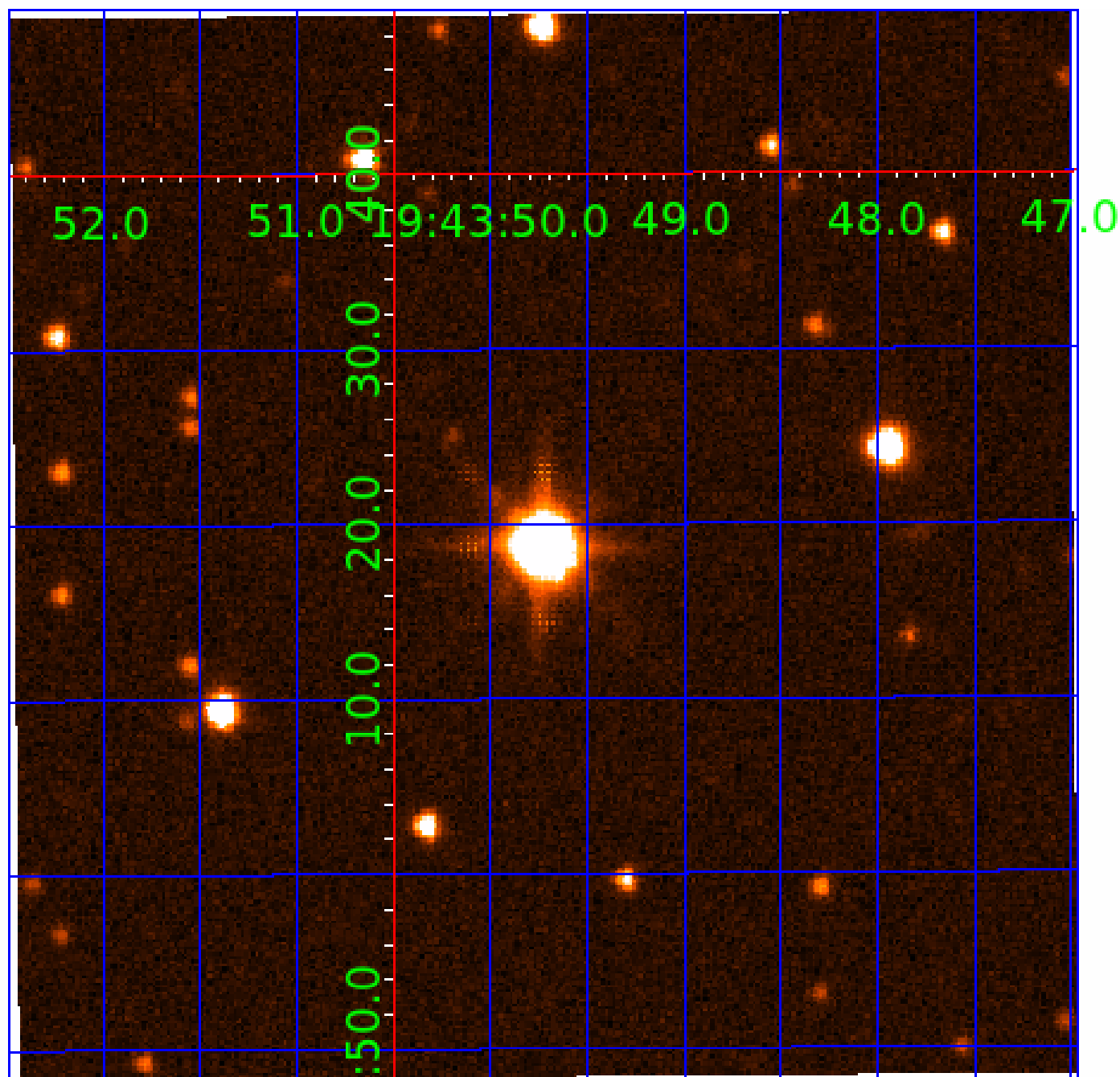


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006963815

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})
006963815-01	OBS	No	461.355082	326.487204	230.1	3.632	10.7	6.4	0.53	4567	0.86	0.12
006963815-02	OBS	No	409.685965	342.298486	444.0	7.756	13.4	9.8	0.53	4567	1.17	0.14
006963815-03	OBS	No	516.252907	224.518209	318.5	8.072	11.5	7.6	0.53	4567	1.03	0.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006963815-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006963815-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006963815-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—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.

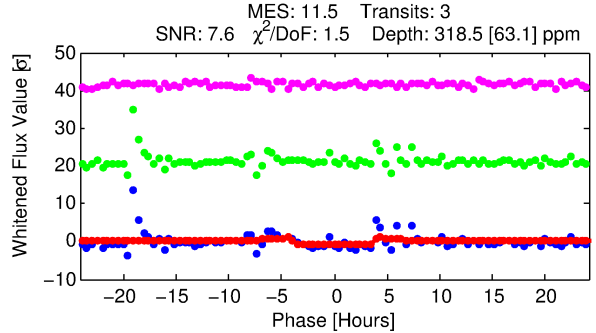
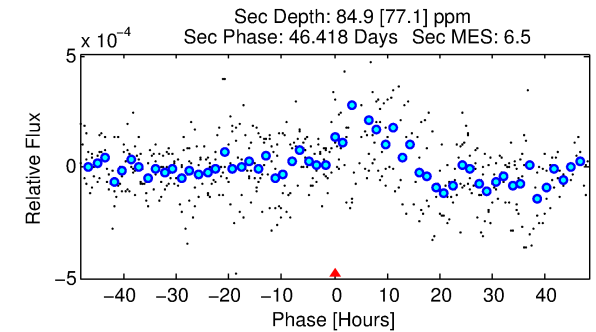
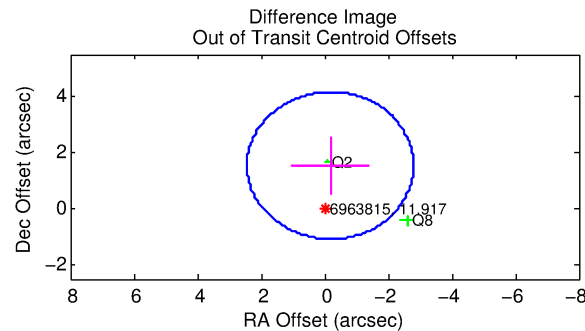
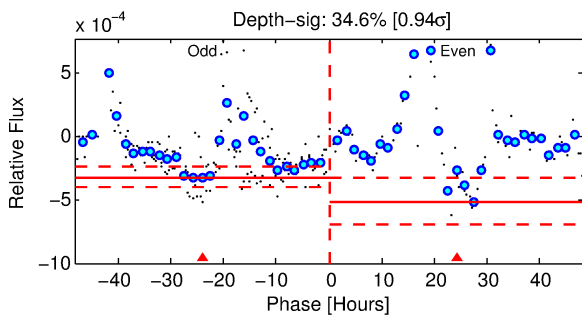
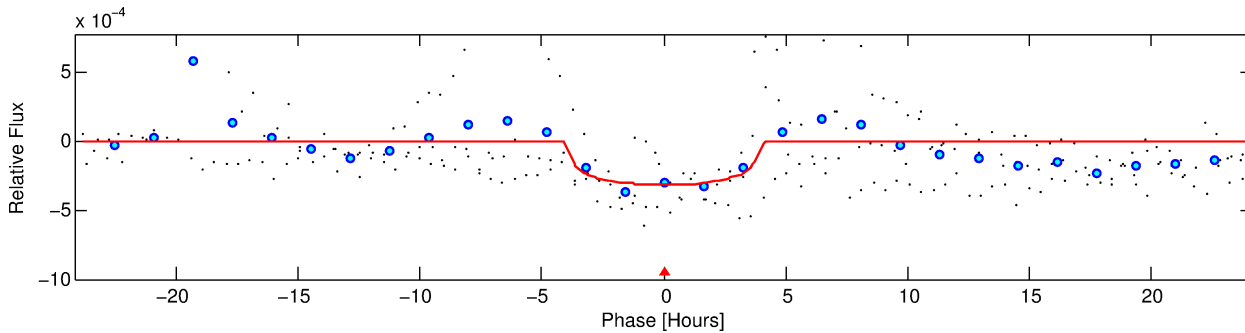
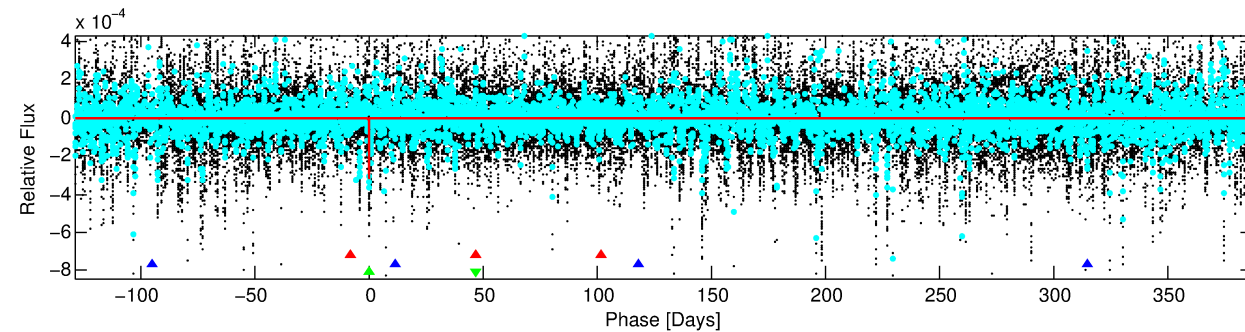
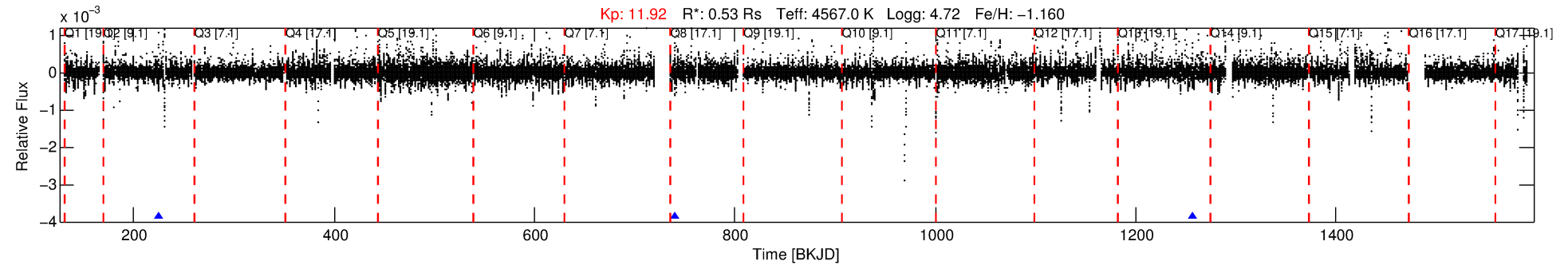
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006963815-03

No Significant Match Found

DV One-Page Summary

KIC: 6963815 Candidate: 3 of 3 Period: 516.253 d



DV Fit Results:

Period = 516.25291 [0.00808] d
Epoch = 224.5182 [0.0112] BKJD
Rp/R* = 0.0179 [0.0077]
a/R* = 327.89 [514.77]
b = 0.77 [0.85]
Seff = 0.10 [0.02]
Teq = 145 [6] K
Rp = 1.03 [0.45] Re
a = 1.0194 [0.0656] AU
Ag = 45573.88 [57279.16] [0.80 σ]
Teffp = 3276 [1031] K [3.04 σ]

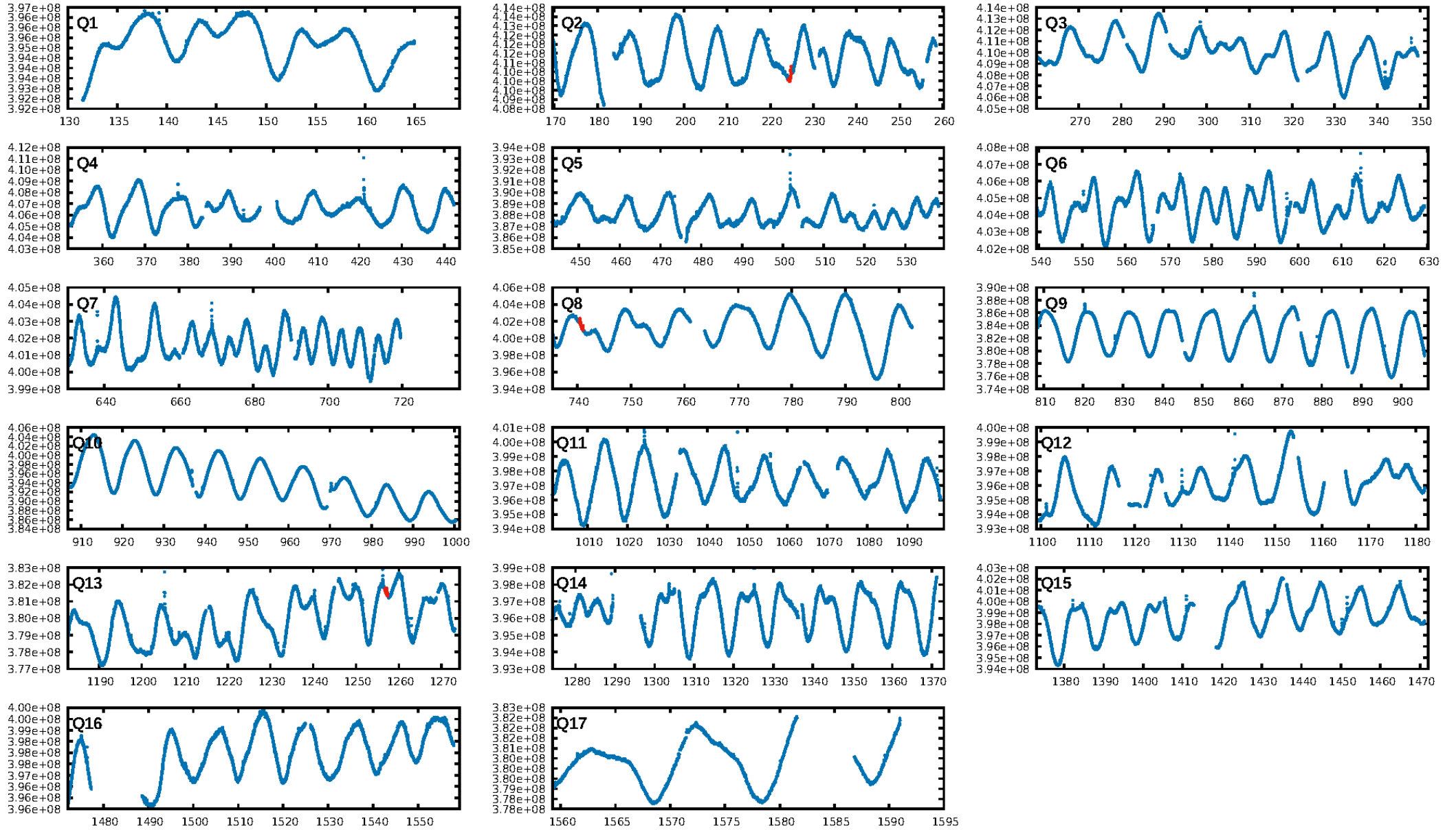
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [148.85 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 52.7%
ModelChiSquareGof-sig: 85.6%
Bootstrap-pfa: 4.67e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.3188
Centroid-sig: 5.0%
Centroid-so: 0.887 arcsec [1.42 σ]
OotOffset-rm: 1.553 arcsec [1.78 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-rm: 1.404 arcsec [1.82 σ]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

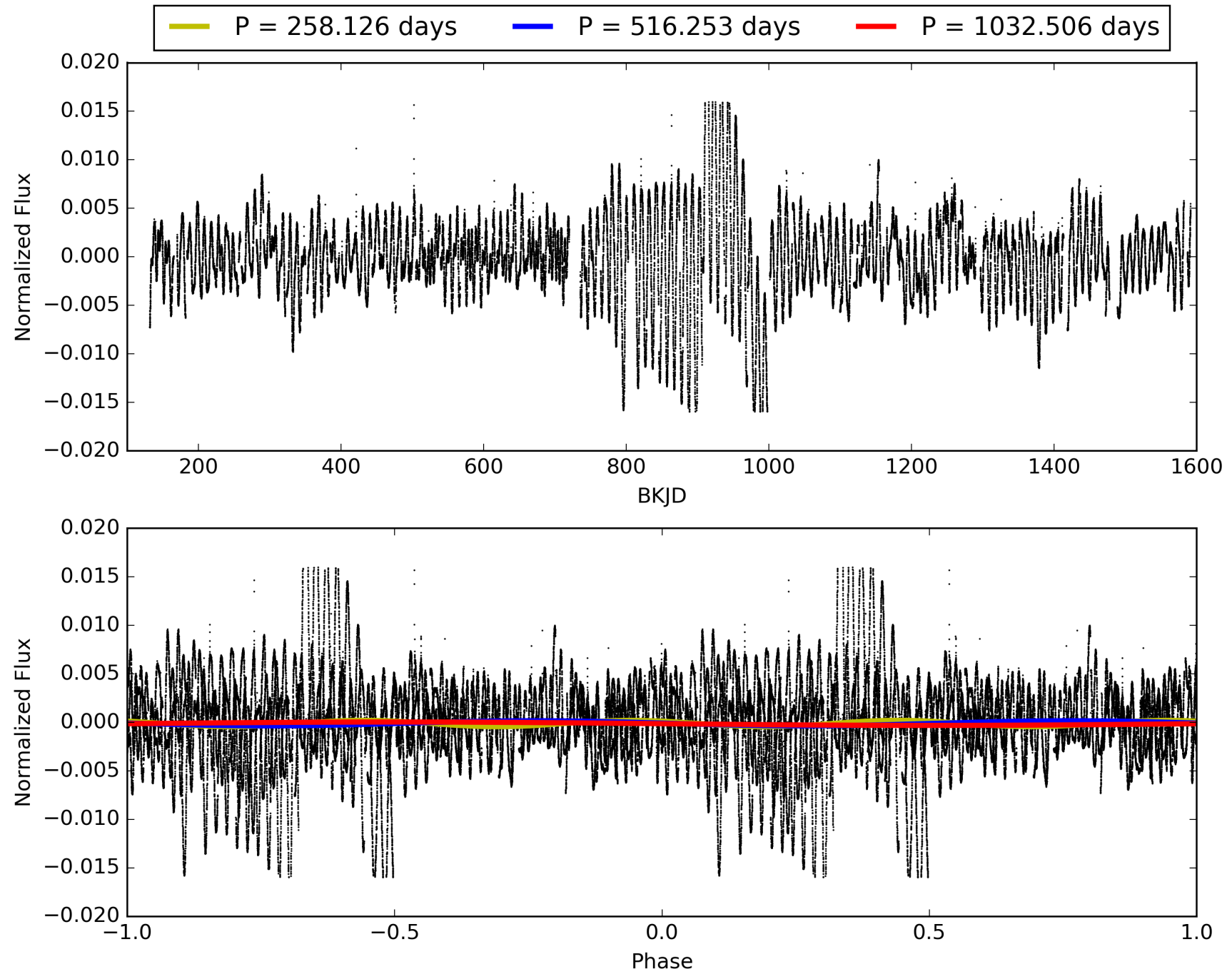
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:22:29 Z

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

TCE 006963815-03, PDC Light Curves

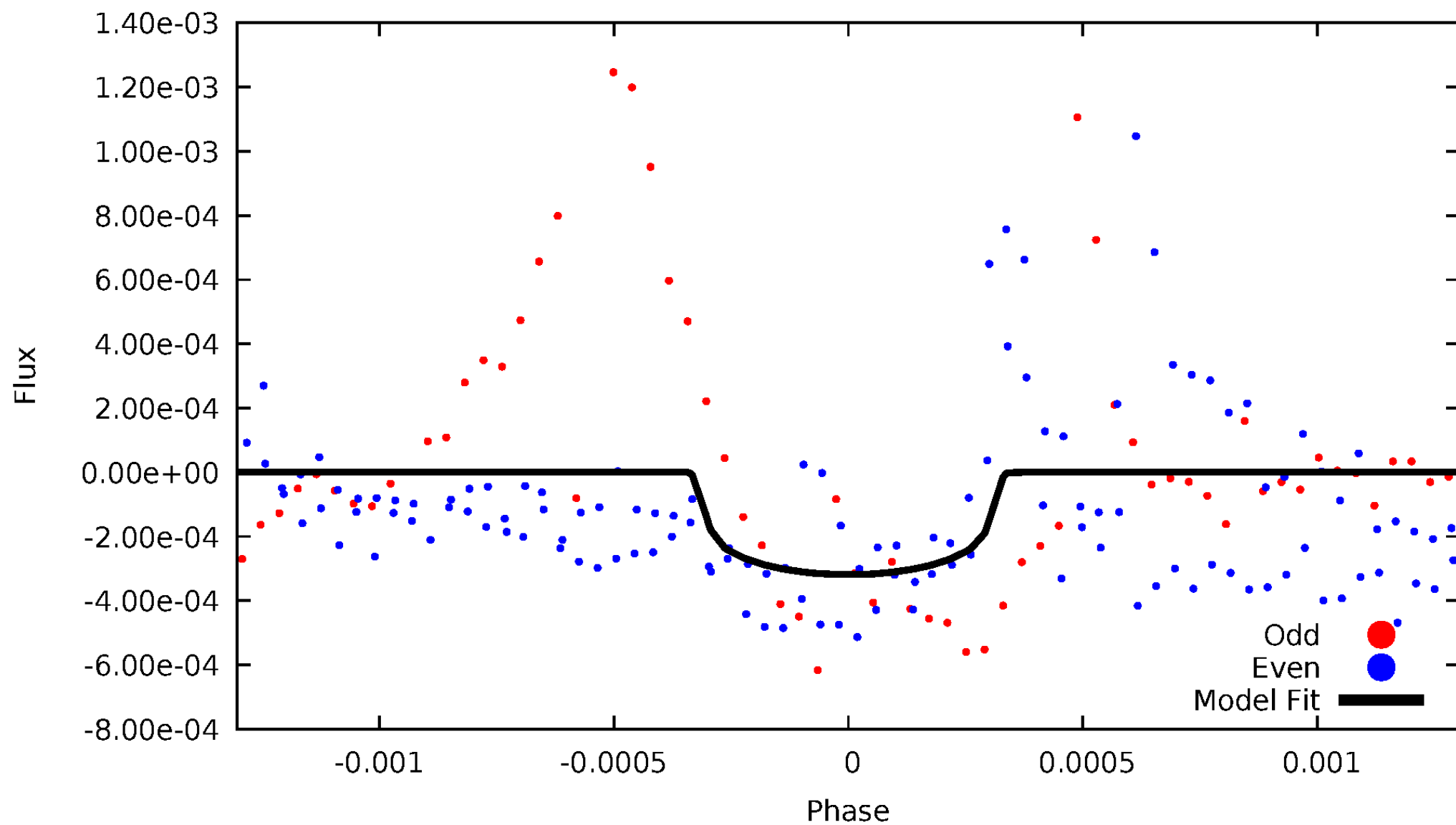


TCE 006963815-03



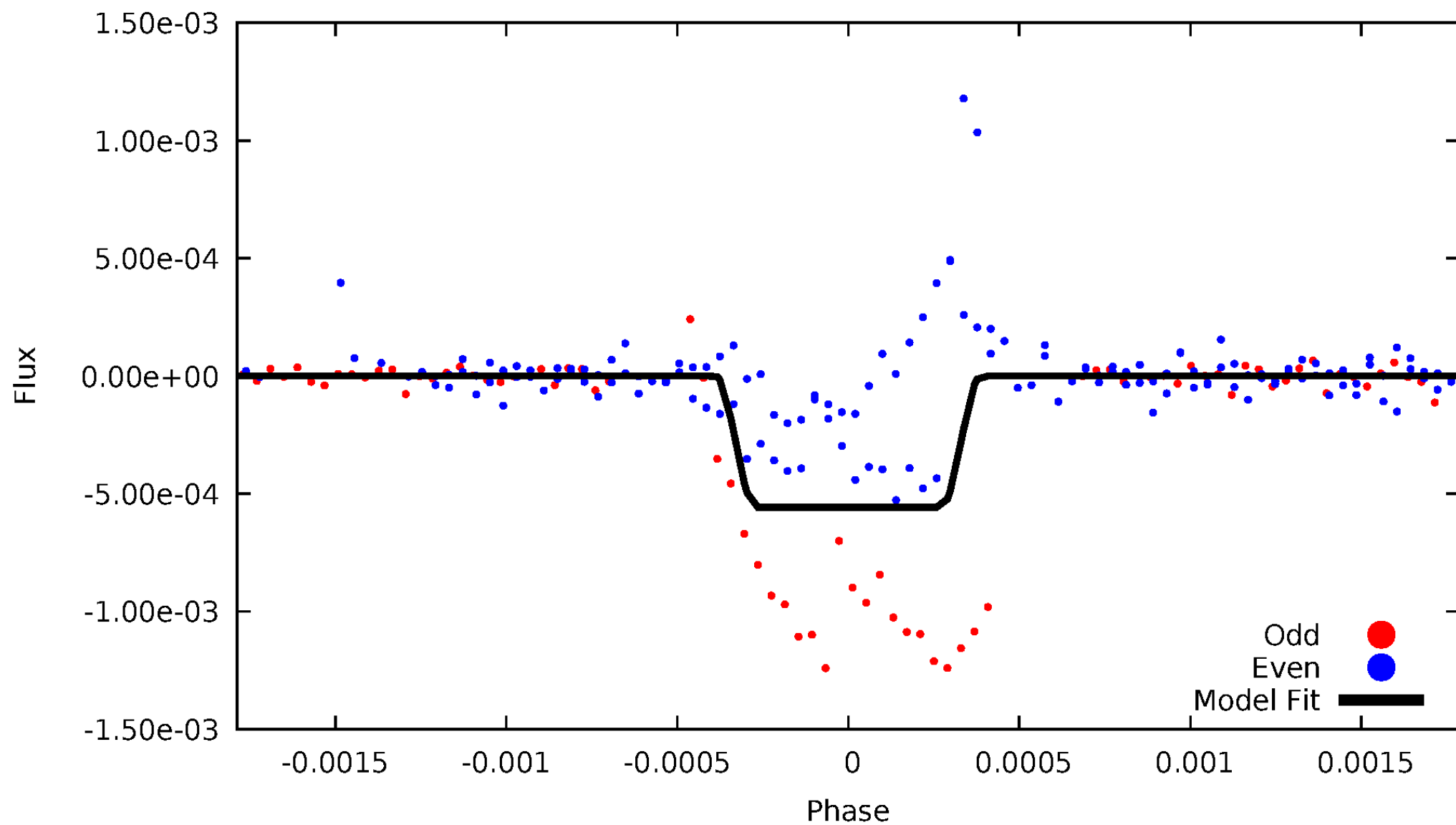
DV Odd/Even

TCE 006963815-03



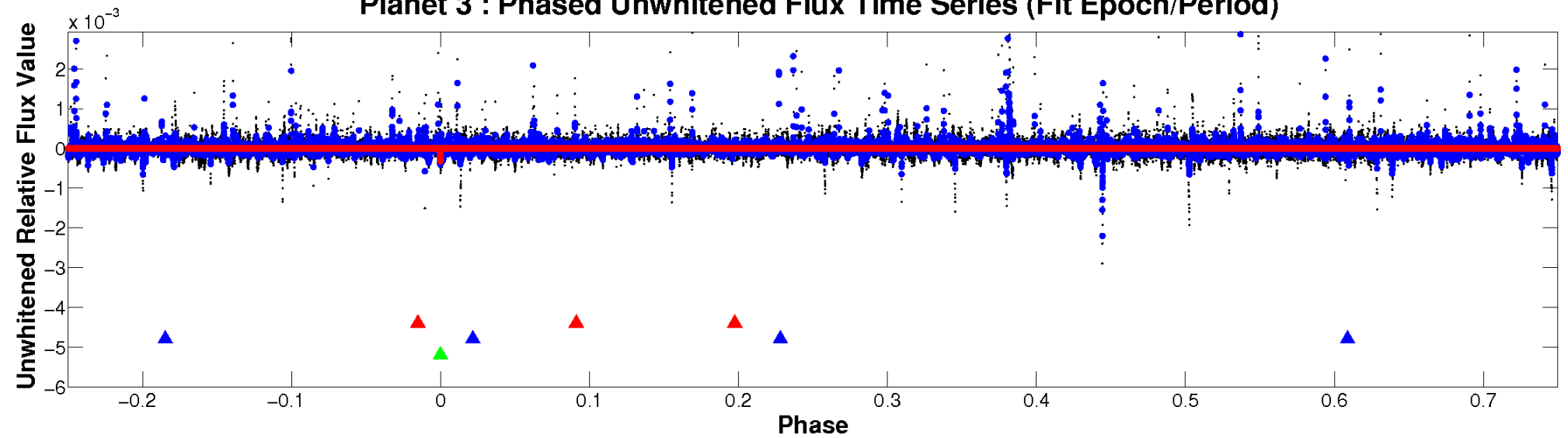
ALT Odd/Even

TCE 006963815-03

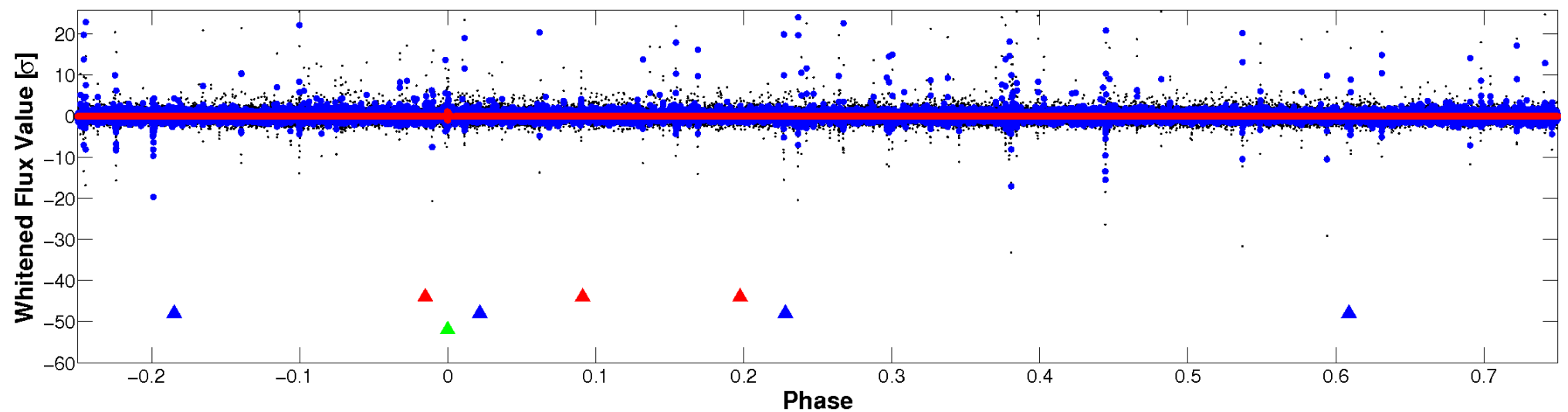


Non-Whitened Vs. Whitened Light Curve

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

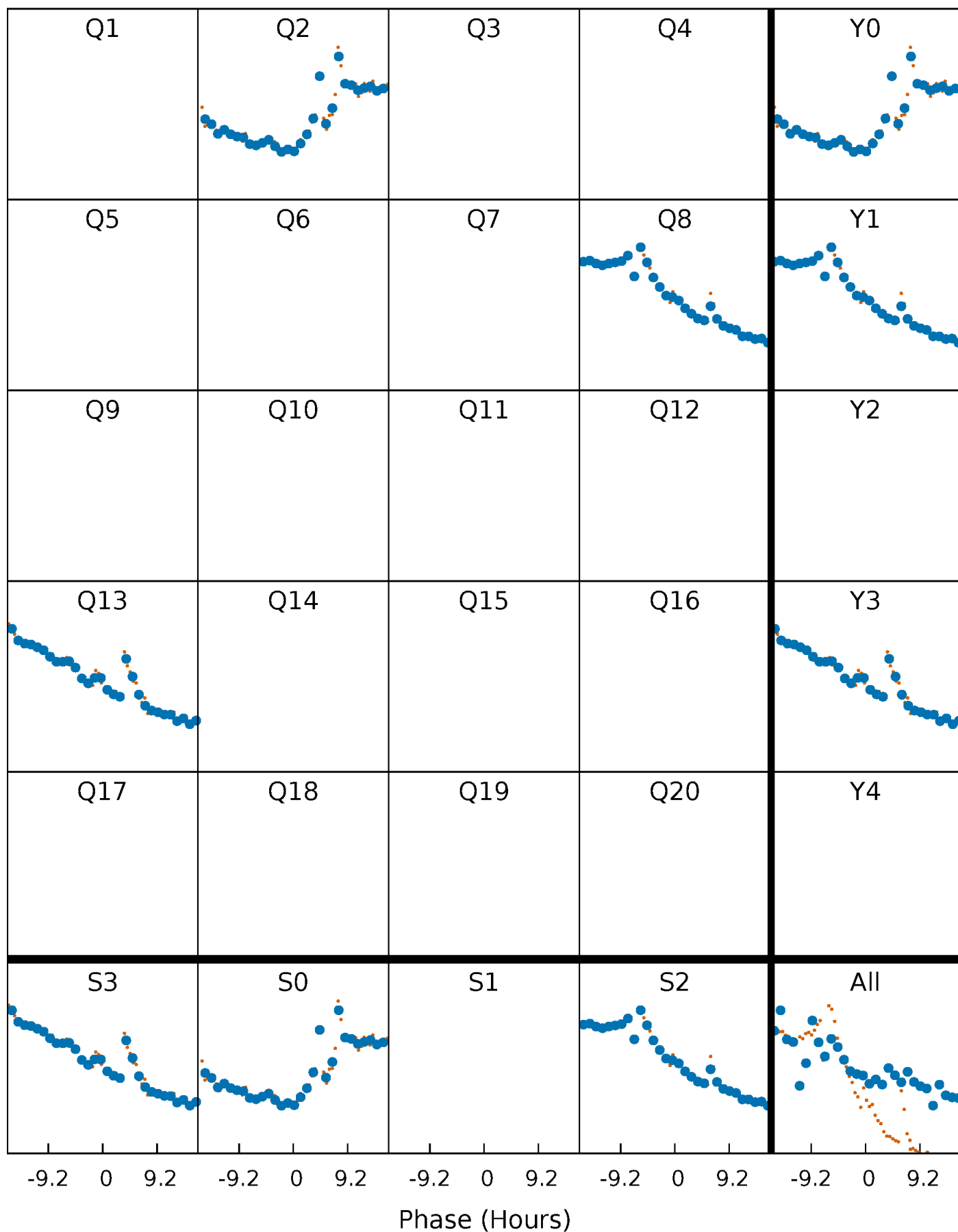


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



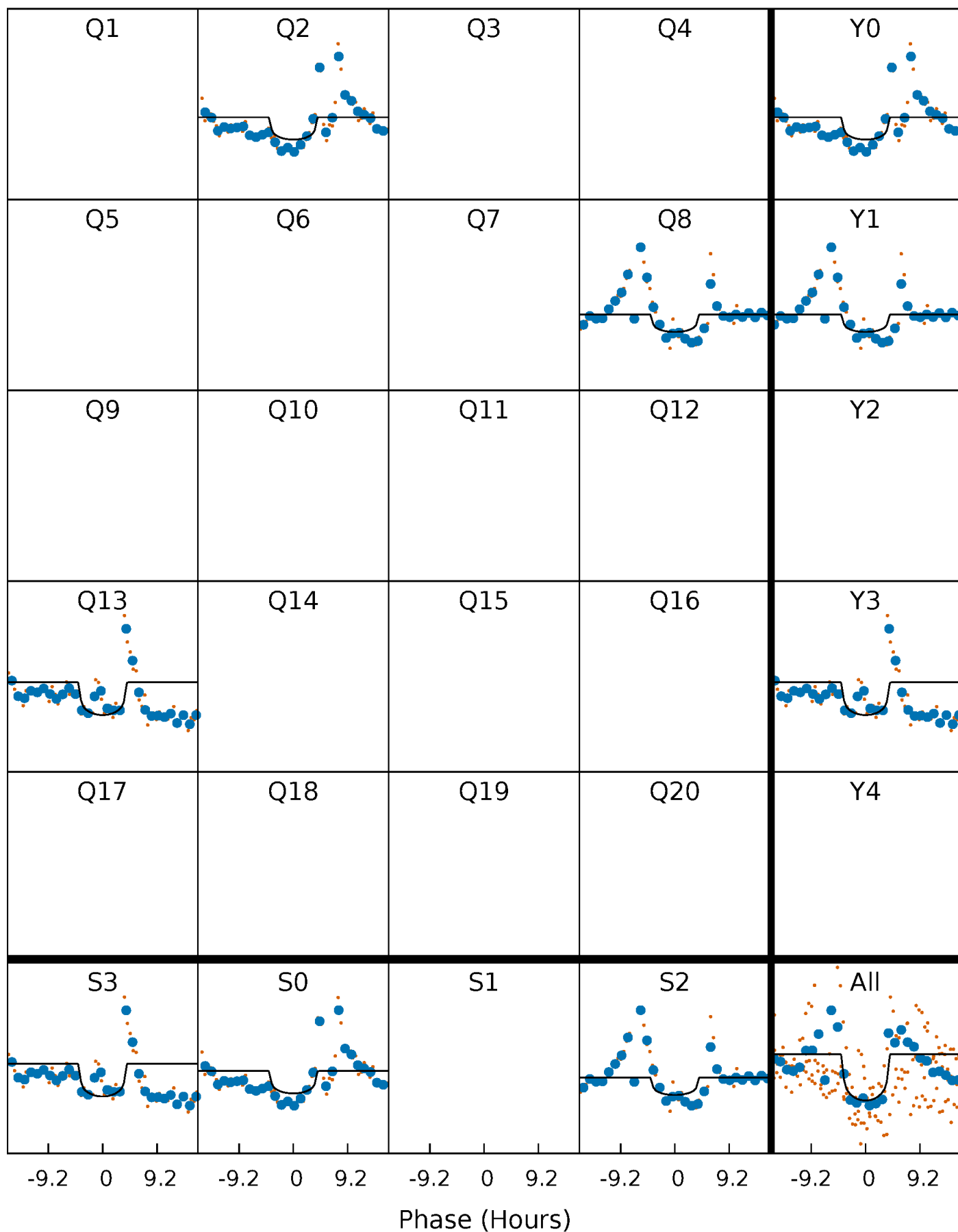
PDC Quarter-Phased Transit Curves

TCE 006963815-03 P=516.252907 Days $T_0=224.518209$ (BKJD)



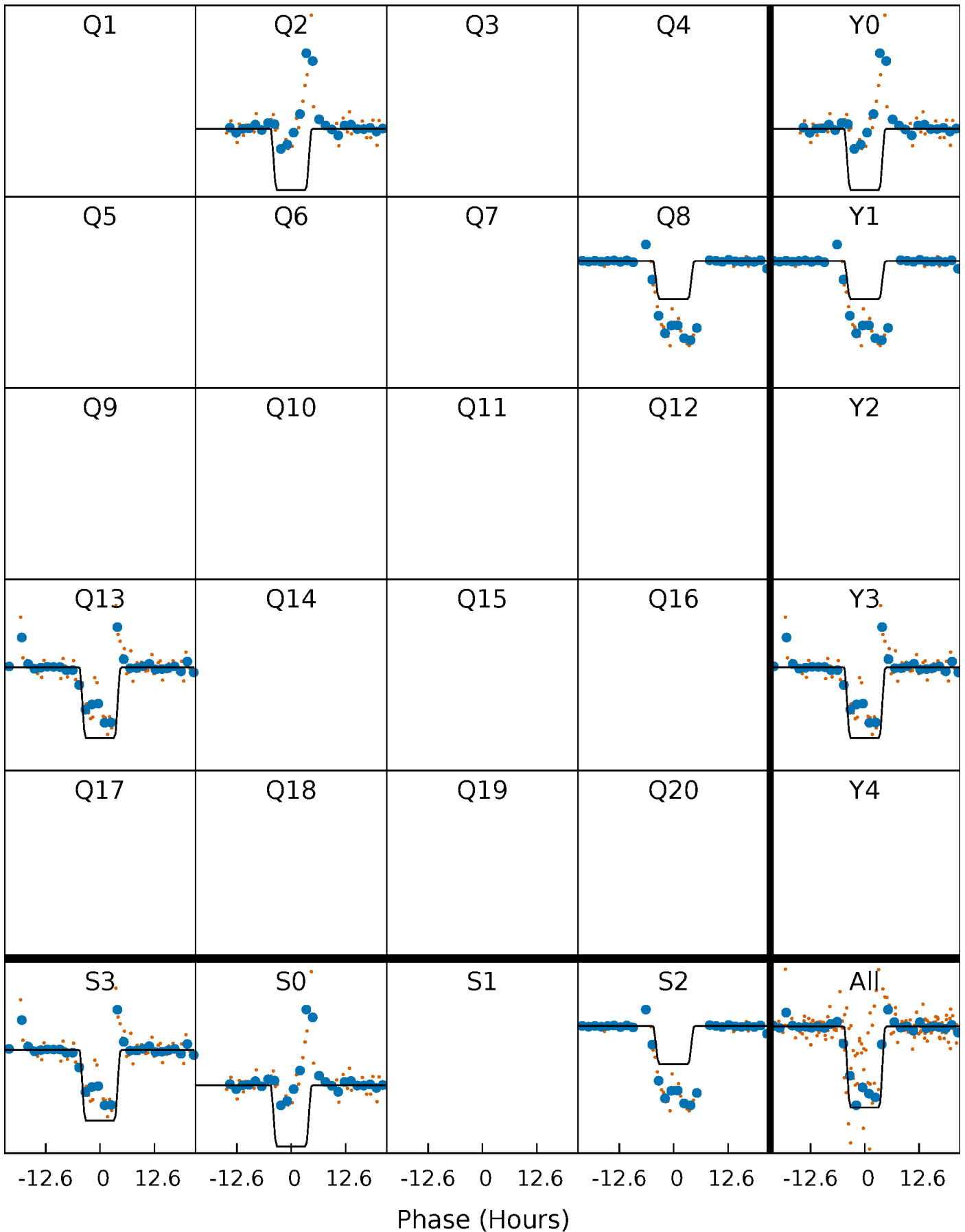
DV Quarter-Phased Transit Curves

TCE 006963815-03 P=516.252907 Days $T_0=224.518209$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

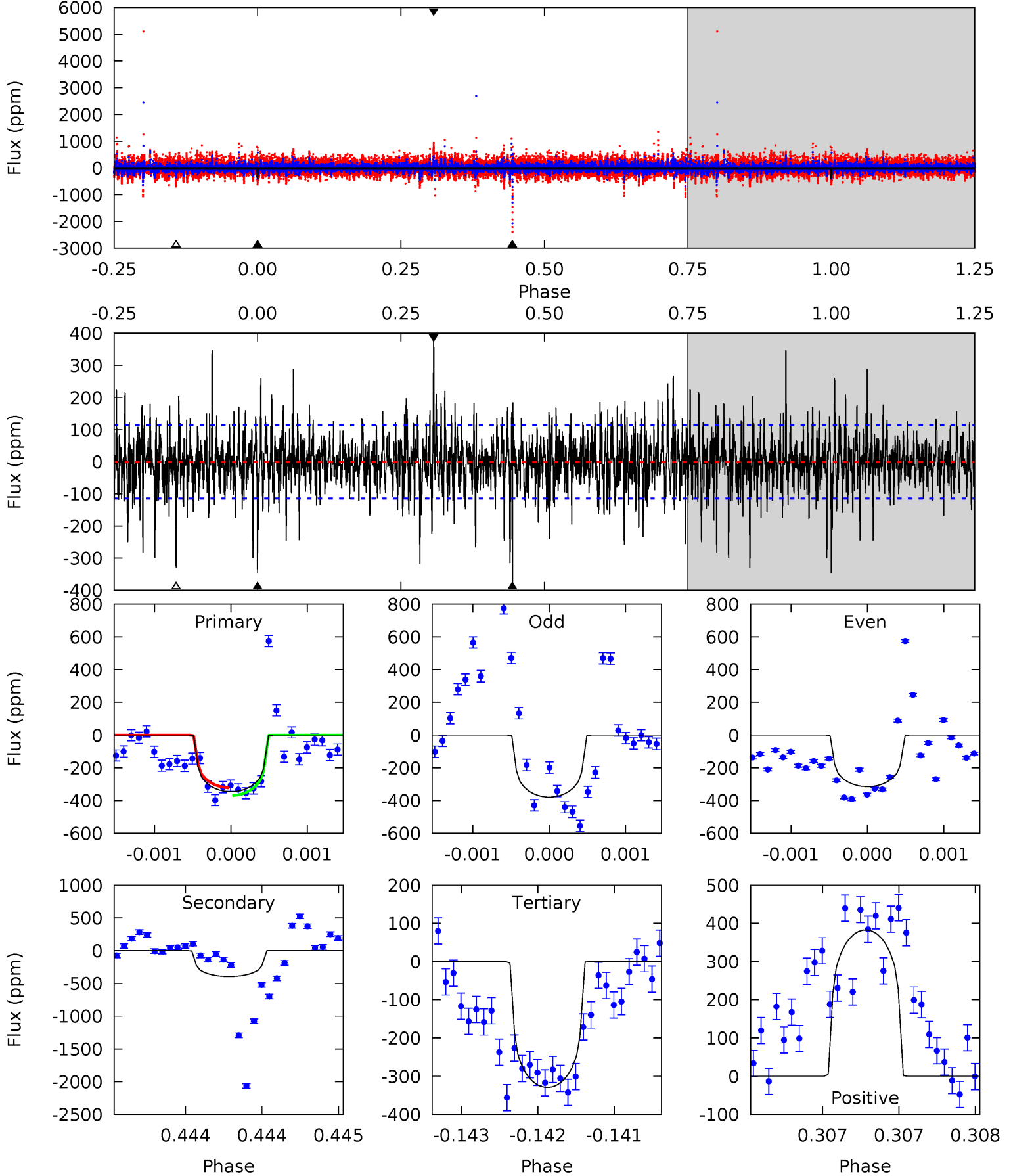
TCE 006963815-03 P=516.253893 Days $T_0=224.517696$ (BKJD)



DV Model-Shift Uniqueness Test

006963815-03, P = 516.252907 Days, E = 224.518209 Days

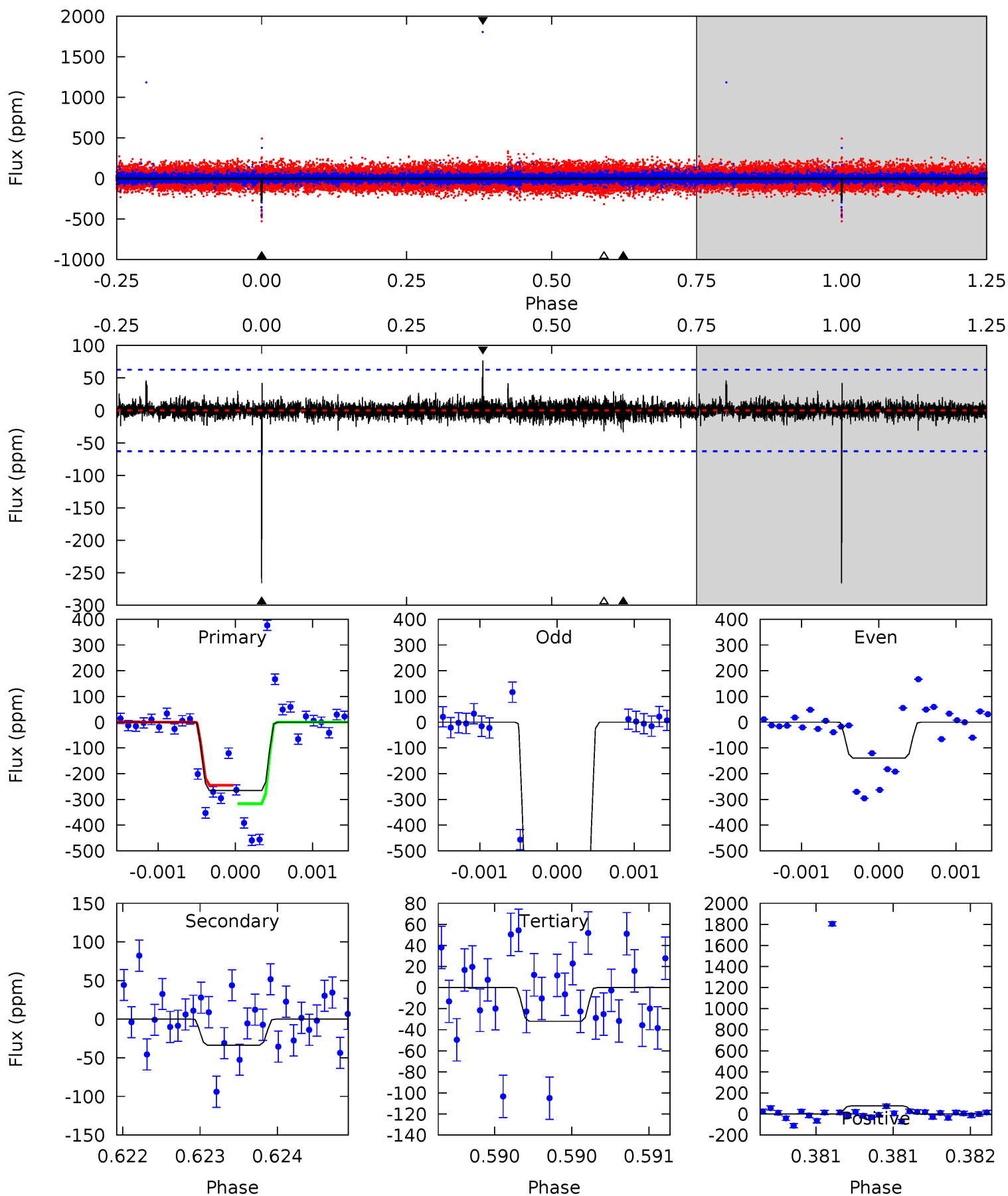
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	19.1	15.9	18.5	5.52	3.40	3.42	0.80	-1.77	3.18	0.62	1.21	0.89	0.49	1.15



Alt Model-Shift Uniqueness Test

006963815-03, P = 516.253893 Days, E = 224.517696 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.3	2.94	2.81	6.71	5.50	3.37	0.56	20.5	16.6	0.14	-3.77	51.2	1.43	0.22	2.97



Stellar Parameters For KIC 006963815

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4567^{+139}_{-139}	$4.717^{+0.052}_{-0.028}$	$-1.160^{+0.300}_{-0.300}$	$0.528^{+0.033}_{-0.040}$	$0.529^{+0.036}_{-0.027}$	$5.076^{+1.075}_{-0.610}$
	+3%/-3%	+1%/-1%	+26%/-26%	+6%/-8%	+7%/-5%	+21%/-12%
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 006963815-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-395 ± 21	$1.02^{+0.48}_{-0.44}$	201^{+7}_{-7}	4776^{+1336}_{-674}	$218324^{+439289}_{-114969}$
Alt.	-34 ± 11	$1.34^{+0.48}_{-0.47}$	202^{+7}_{-7}	2890^{+417}_{-288}	10360^{+15901}_{-5433}

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

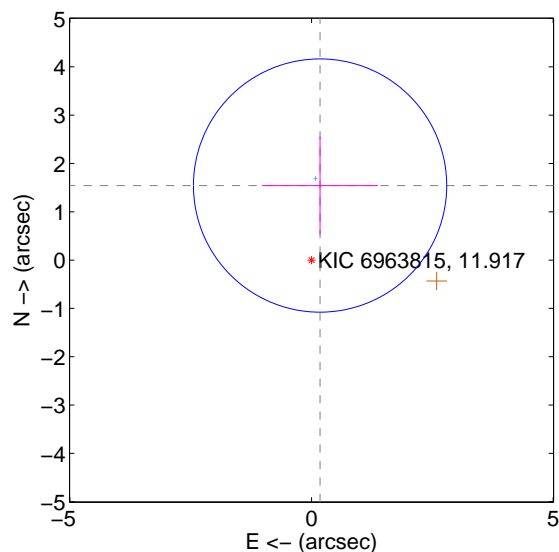
Supplemental centroid analysis for 006963815-03. **Kepler magnitude: 11.92.** Transit SNR 7.59

There are 1 quarters with good PRF difference image offsets

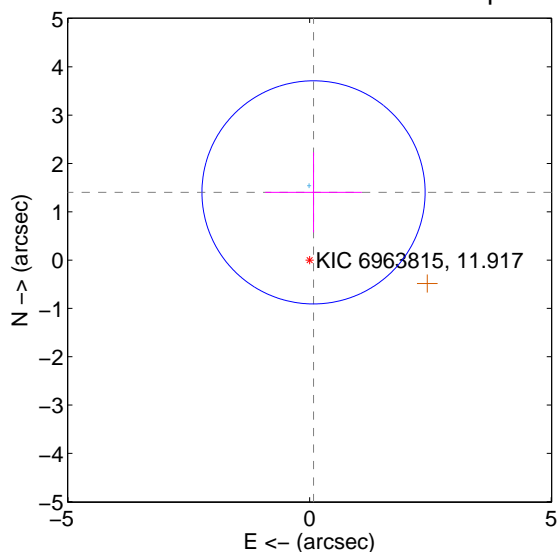
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.553 ± 0.873	1.78	-0.177 ± 1.201	1.543 ± 1.017
PRF-fit source offset from KIC position	1.404 ± 0.770	1.82	-0.081 ± 1.000	1.401 ± 0.829
photometric centroid source offset	0.89 ± 0.62	1.42	0.02 ± 0.46	-0.89 ± 0.62

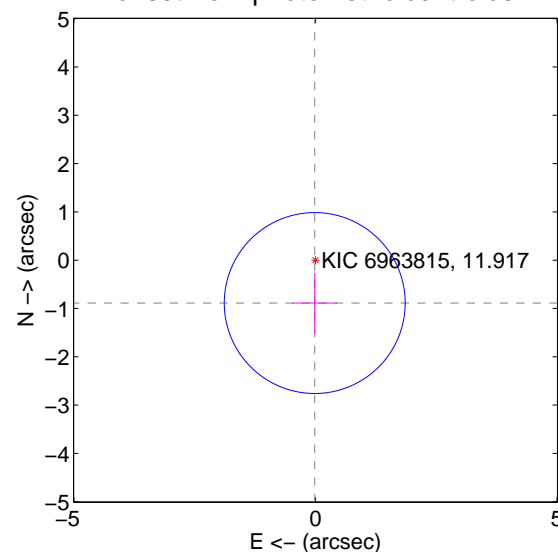
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

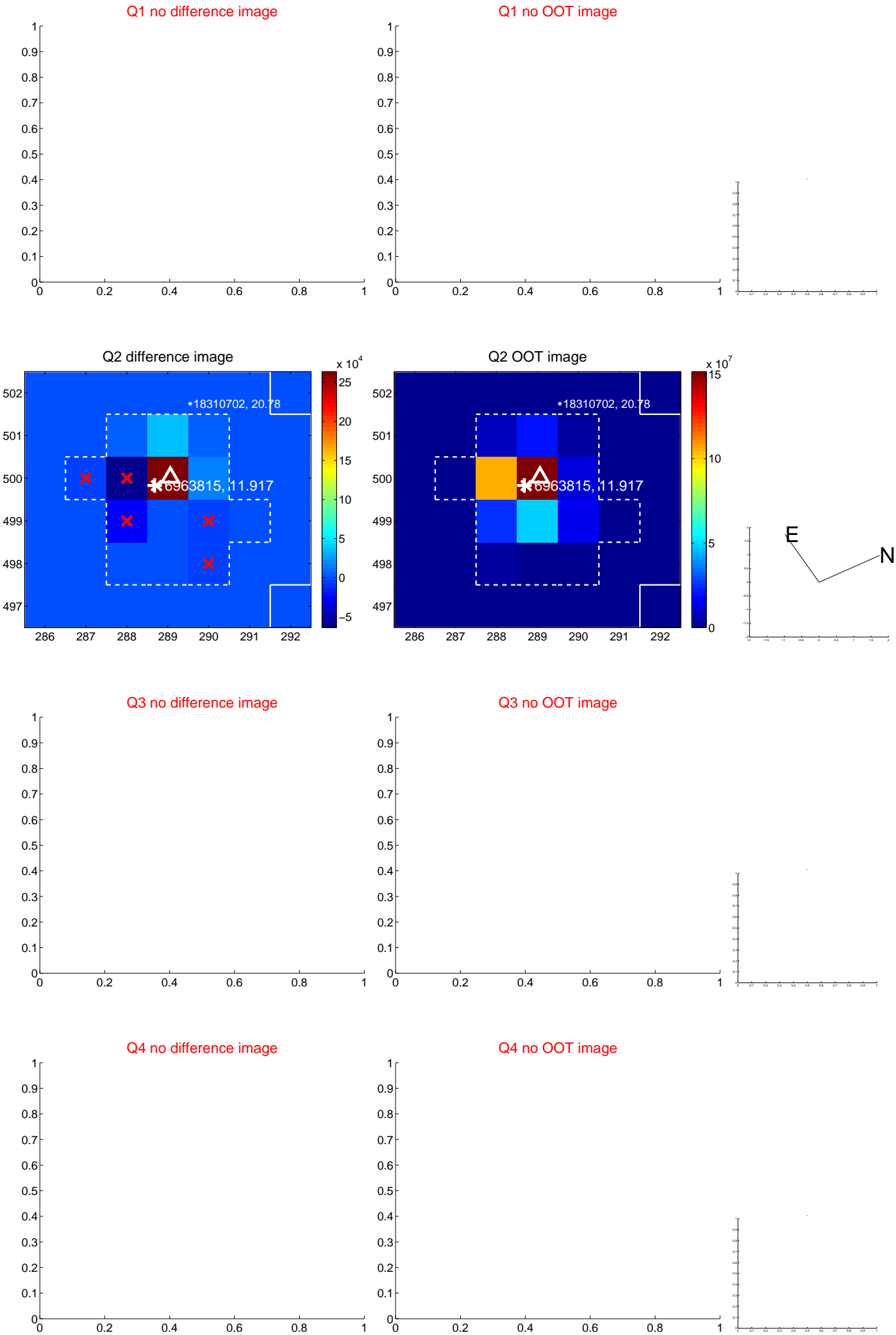


offset from photometric centroids

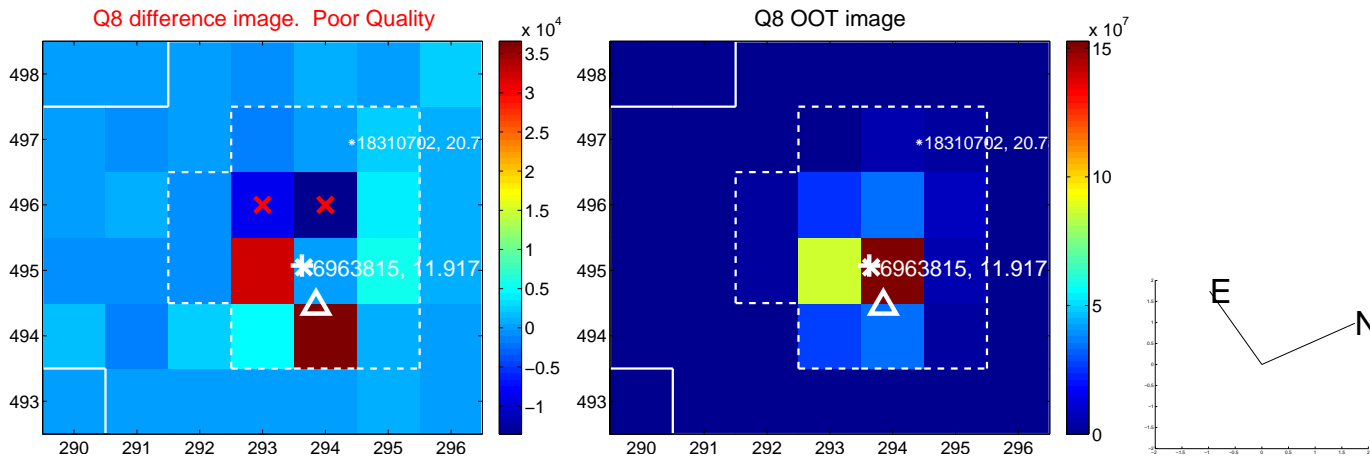


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



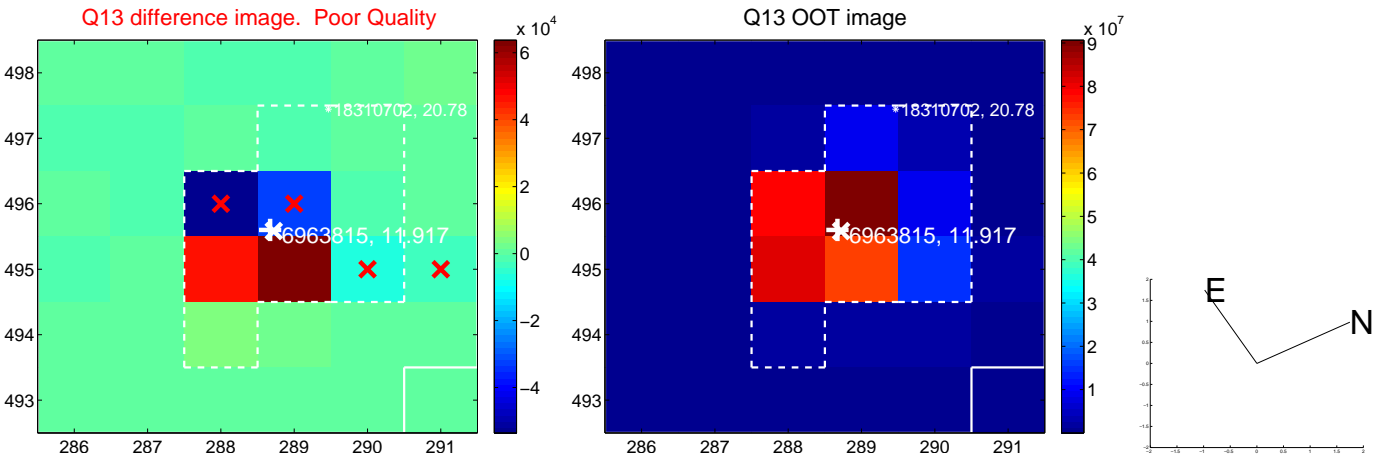
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



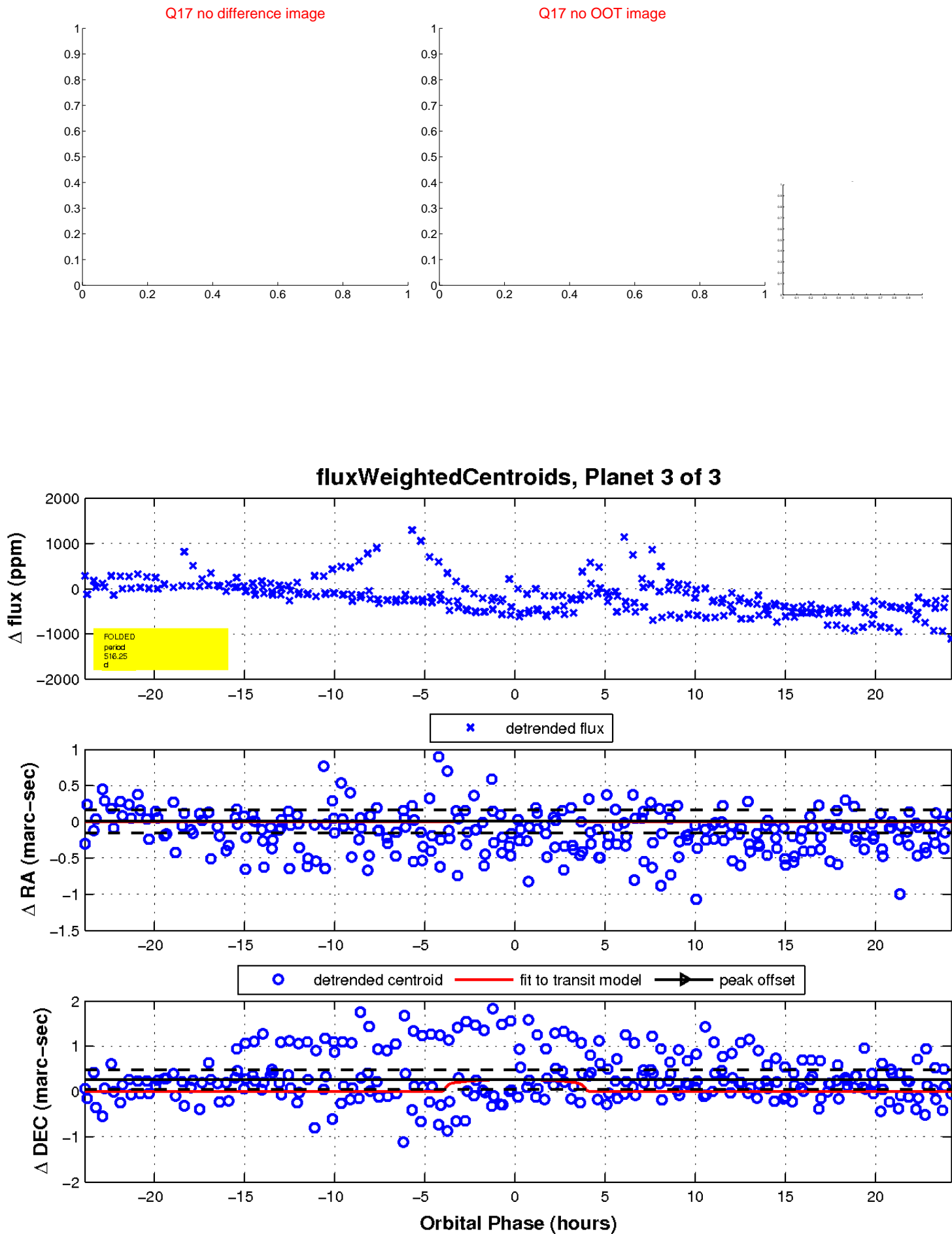
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

