

KIC 005783203

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})
005783203-01	OBS	No	1.350730	131.625952	198.4	3.746	15.1	15.7	2.84	7748	4.64	28335.99
005783203-02	OBS	No	0.675312	131.994431	90.6	4.553	9.2	8.9	2.84	7748	2.92	71409.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005783203-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
005783203-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

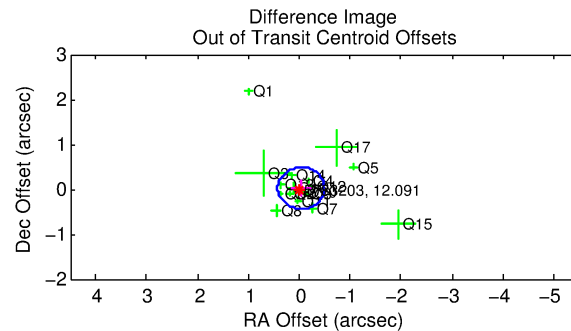
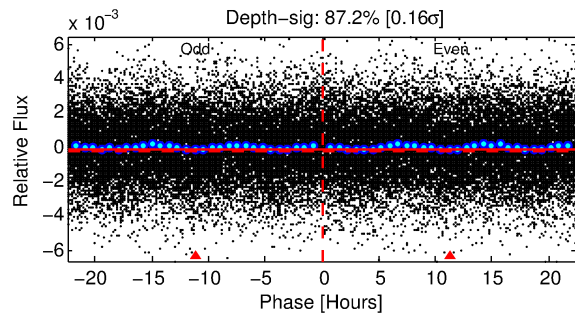
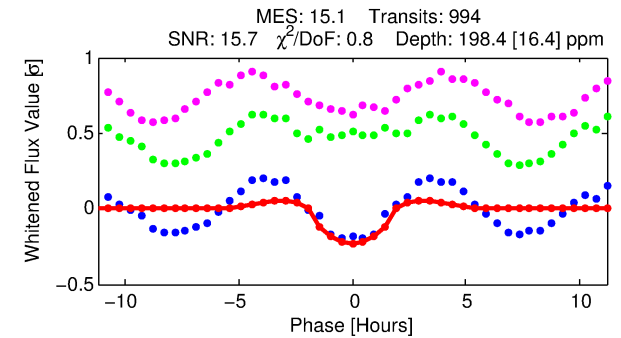
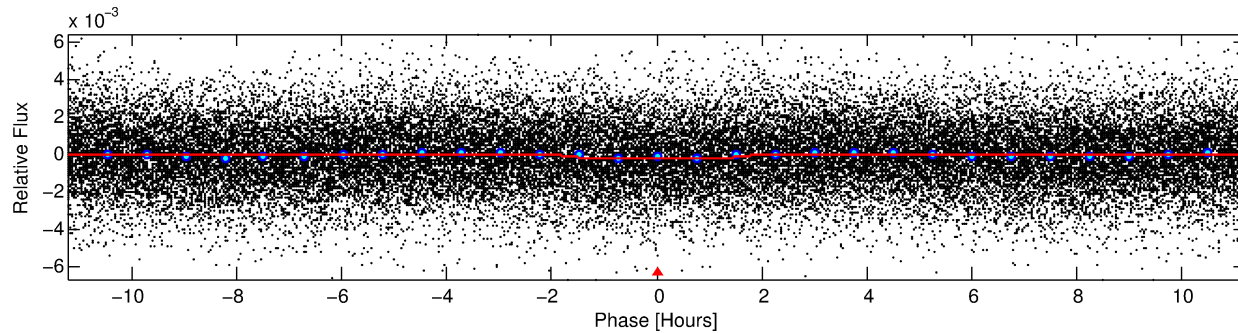
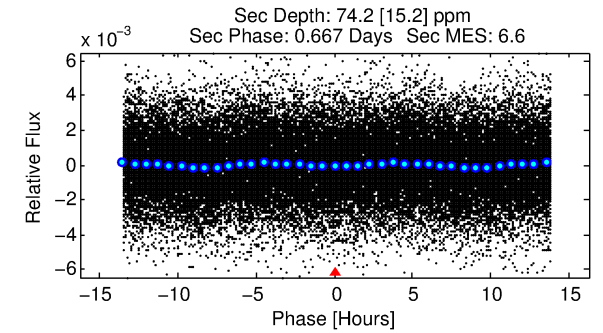
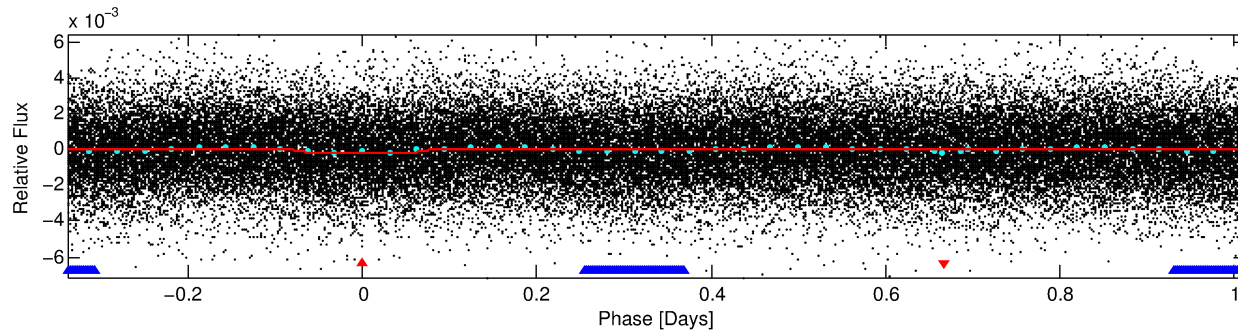
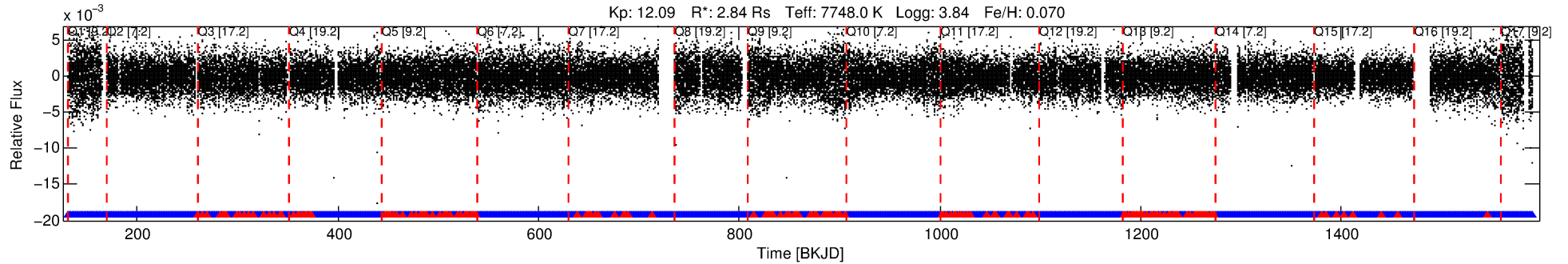
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005783203-01

No Significant Match Found

DV One-Page Summary

KIC: 5783203 Candidate: 1 of 2 Period: 1.351 d



DV Fit Results:

Period = 1.35073 [0.00001] d
Epoch = 131.6260 [0.0036] BKJD
Rp/R* = 0.0150 [0.0057]
a/R* = 1.60 [2.29]
b = 0.90 [0.50]
Seff = 28335.99 [9278.94]
Teq = 3308 [271] K
Rp = 4.64 [2.11] Re
a = 0.0303 [0.0066] AU
Ag = 1.74 [1.48] [0.50σ]
Teffp = 5873 [1161] K [2.15σ]

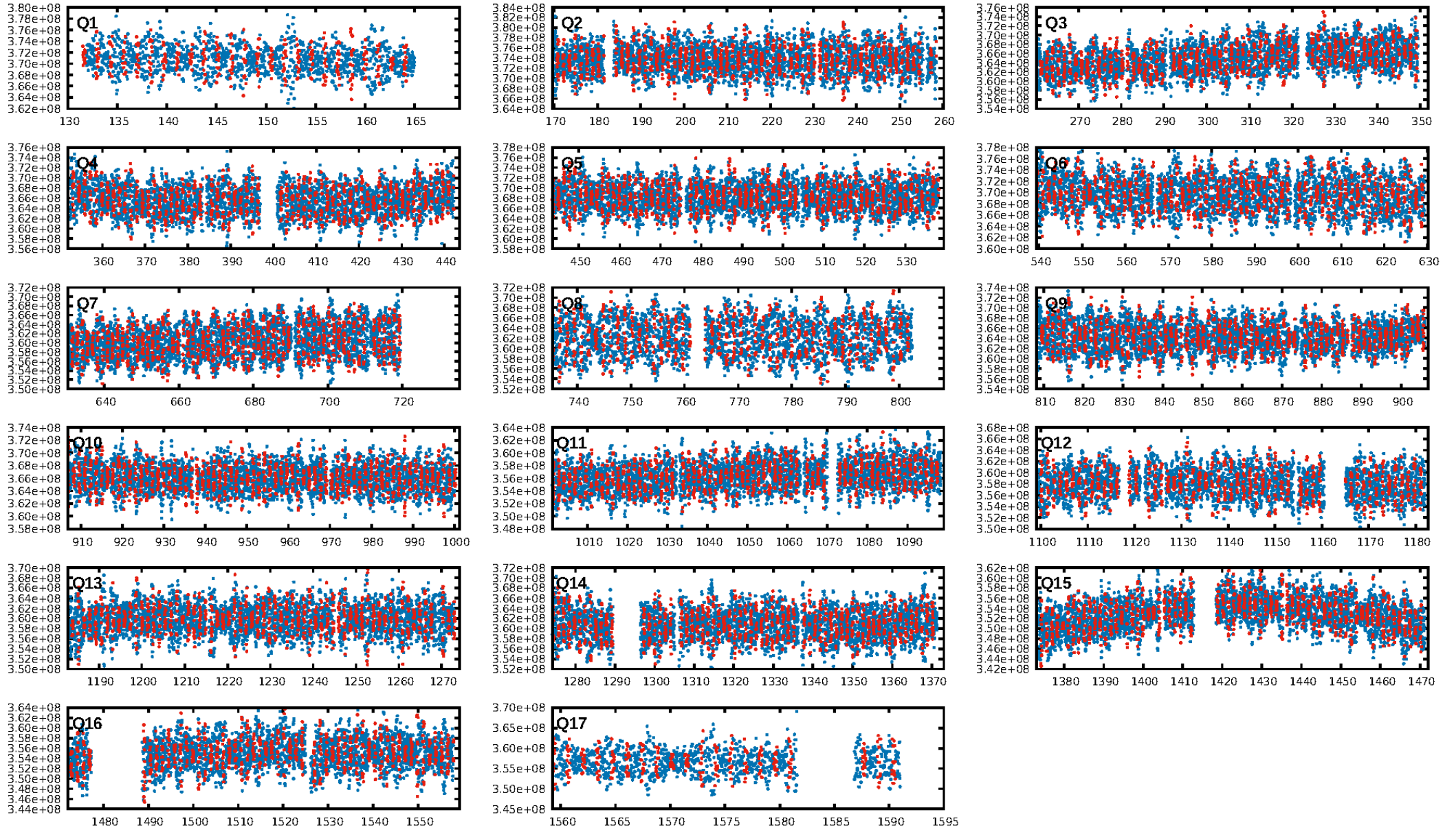
DV Diagnostic Results:

ShortPeriod-sig: 99.4% [2.75σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.90e-106
RollingBand-fgt: 0.82 [781/949]
GhostDiagnostic-chr: 2.019
Centroid-sig: 83.2%
Centroid-so: 0.037 arcsec [0.68σ]
OotOffset-rm: 0.043 arcsec [0.28σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.059 arcsec [0.41σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 0.00 [0/17]

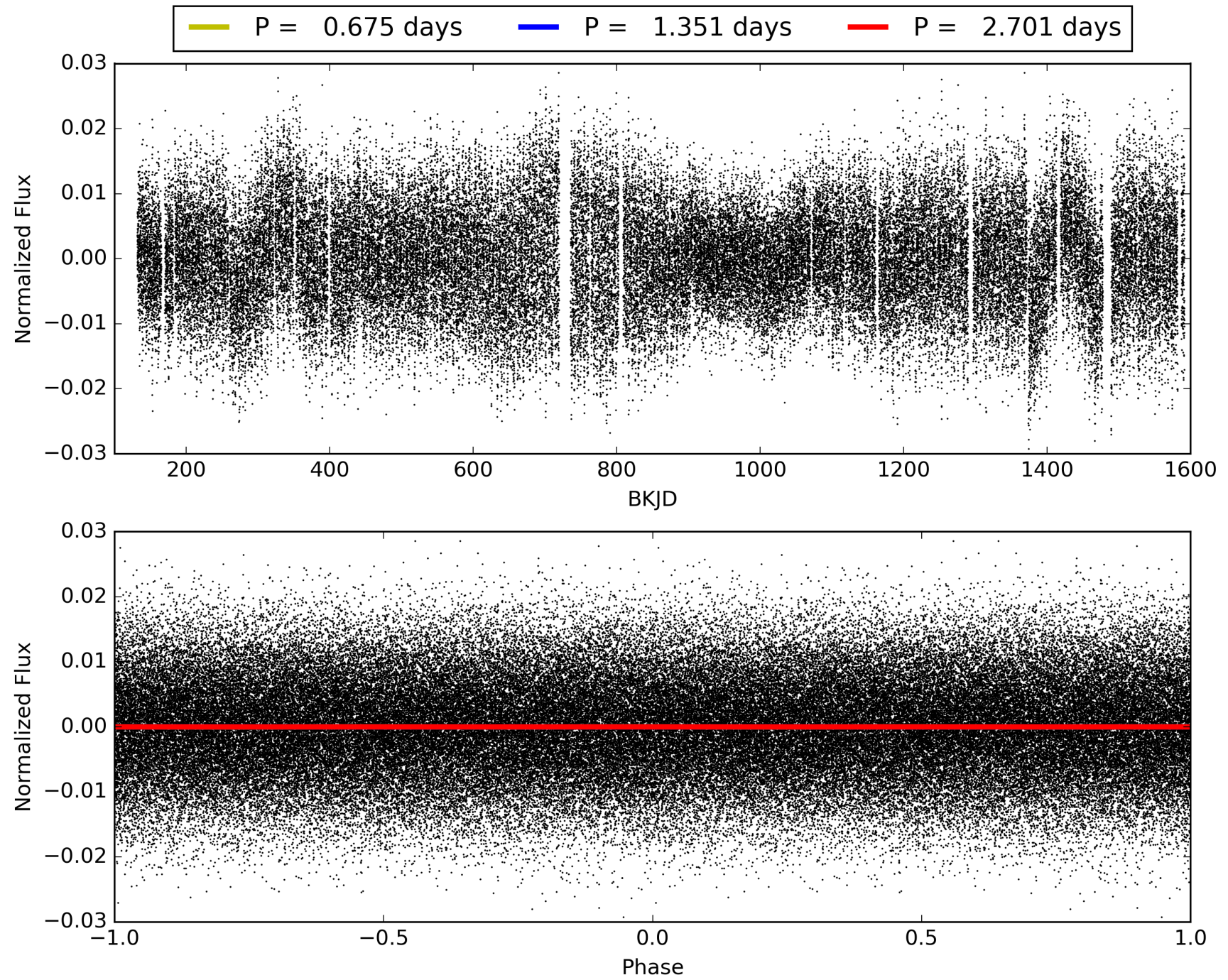
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:03:50 Z

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

TCE 005783203-01, PDC Light Curves

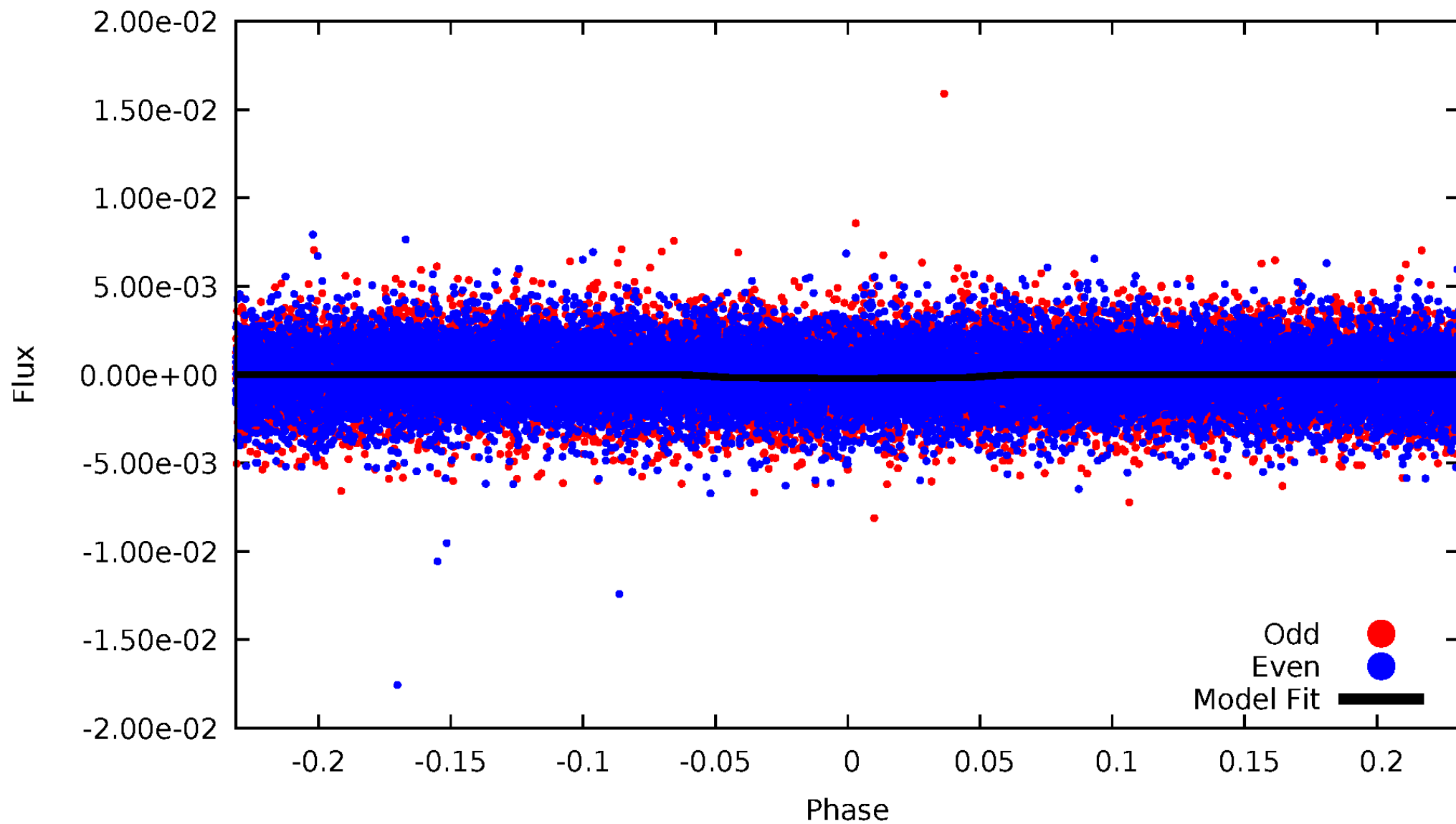


TCE 005783203-01



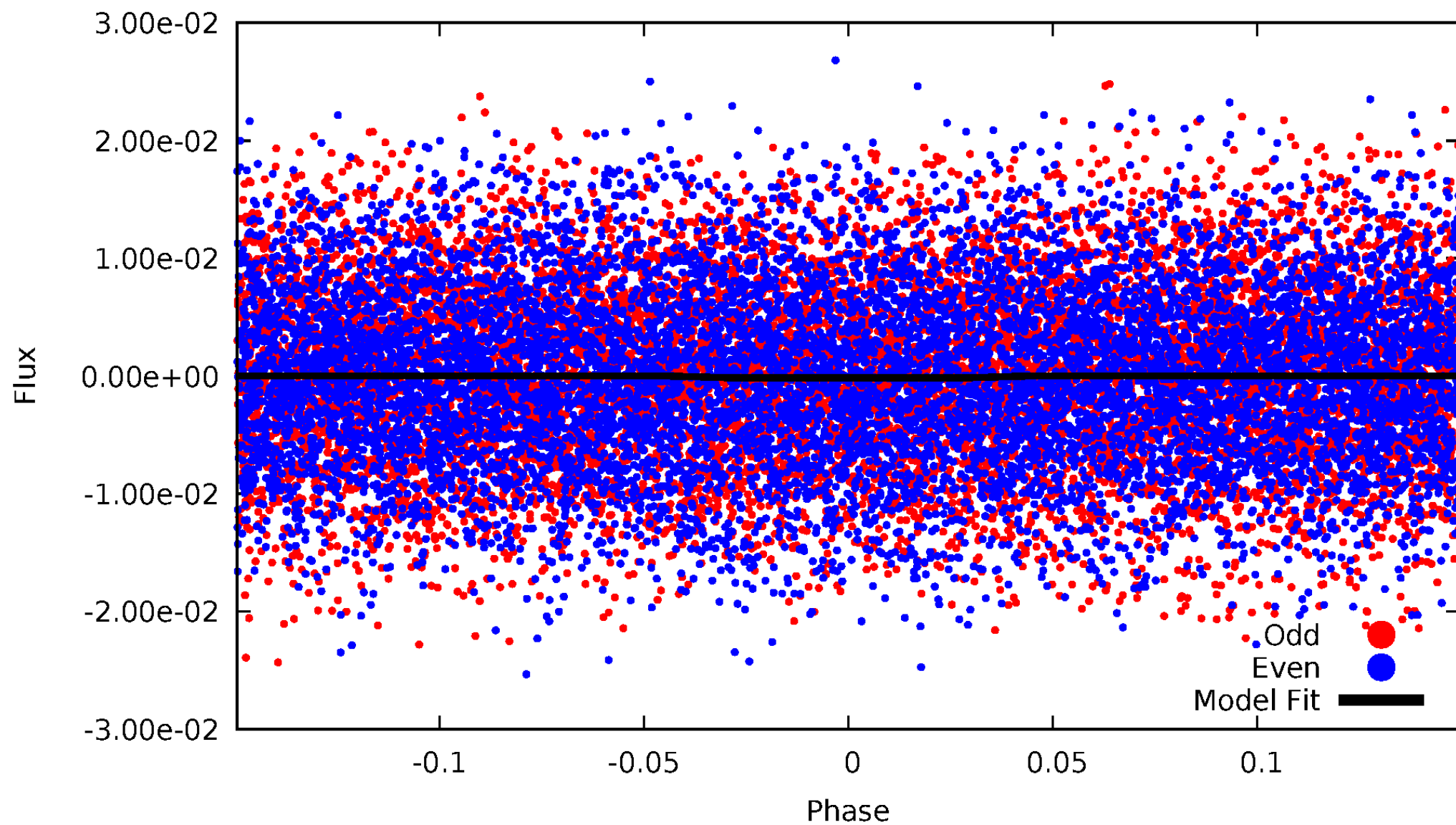
DV Odd/Even

TCE 005783203-01

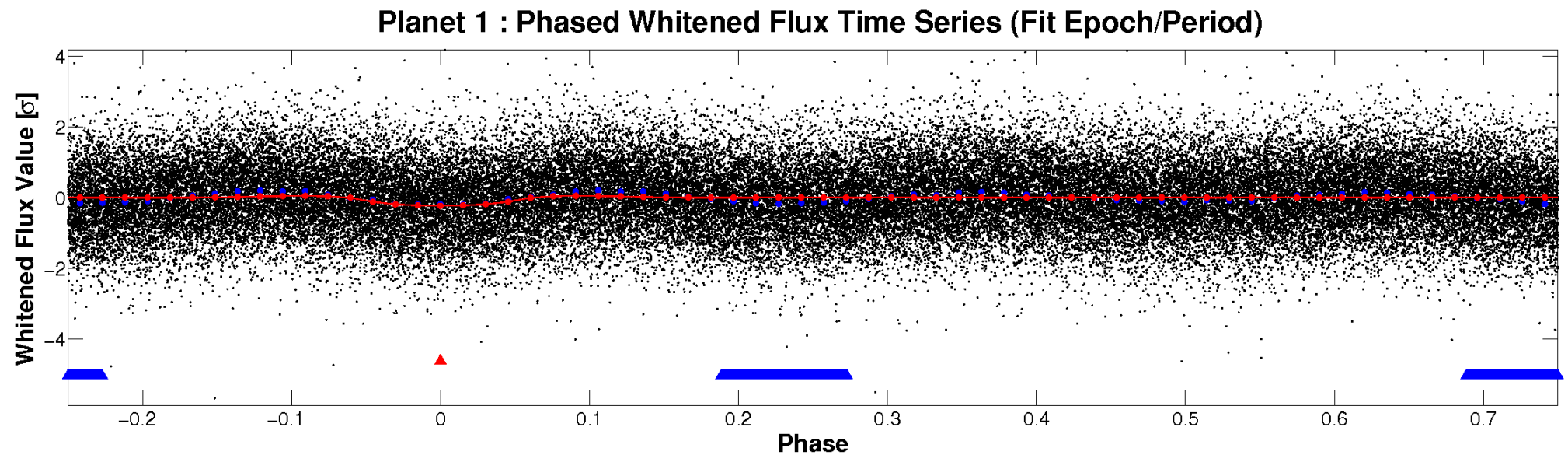
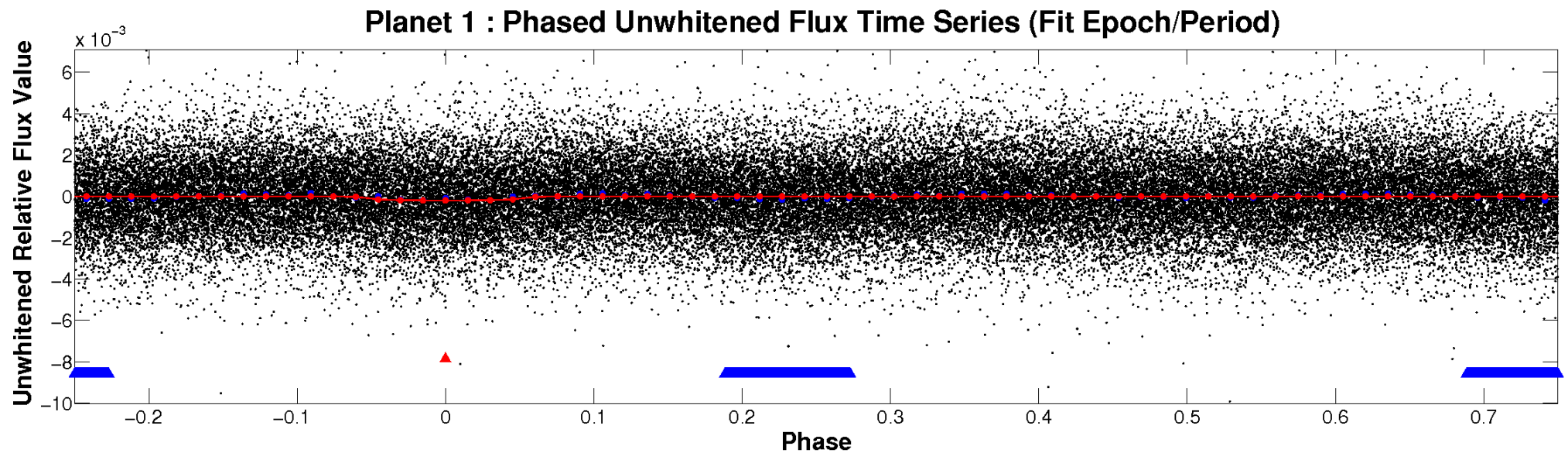


ALT Odd/Even

TCE 005783203-01

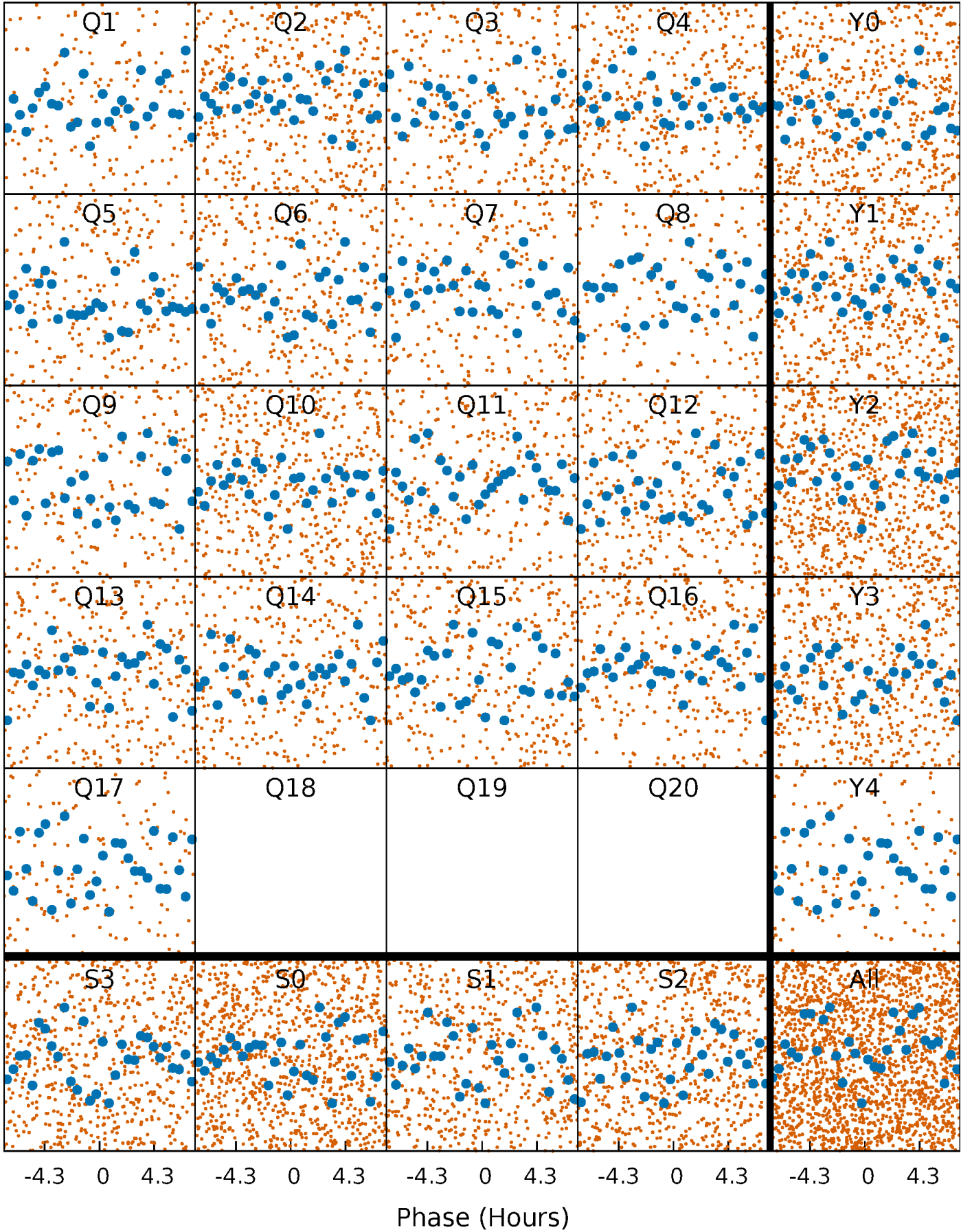


Non-Whitened Vs. Whitened Light Curve



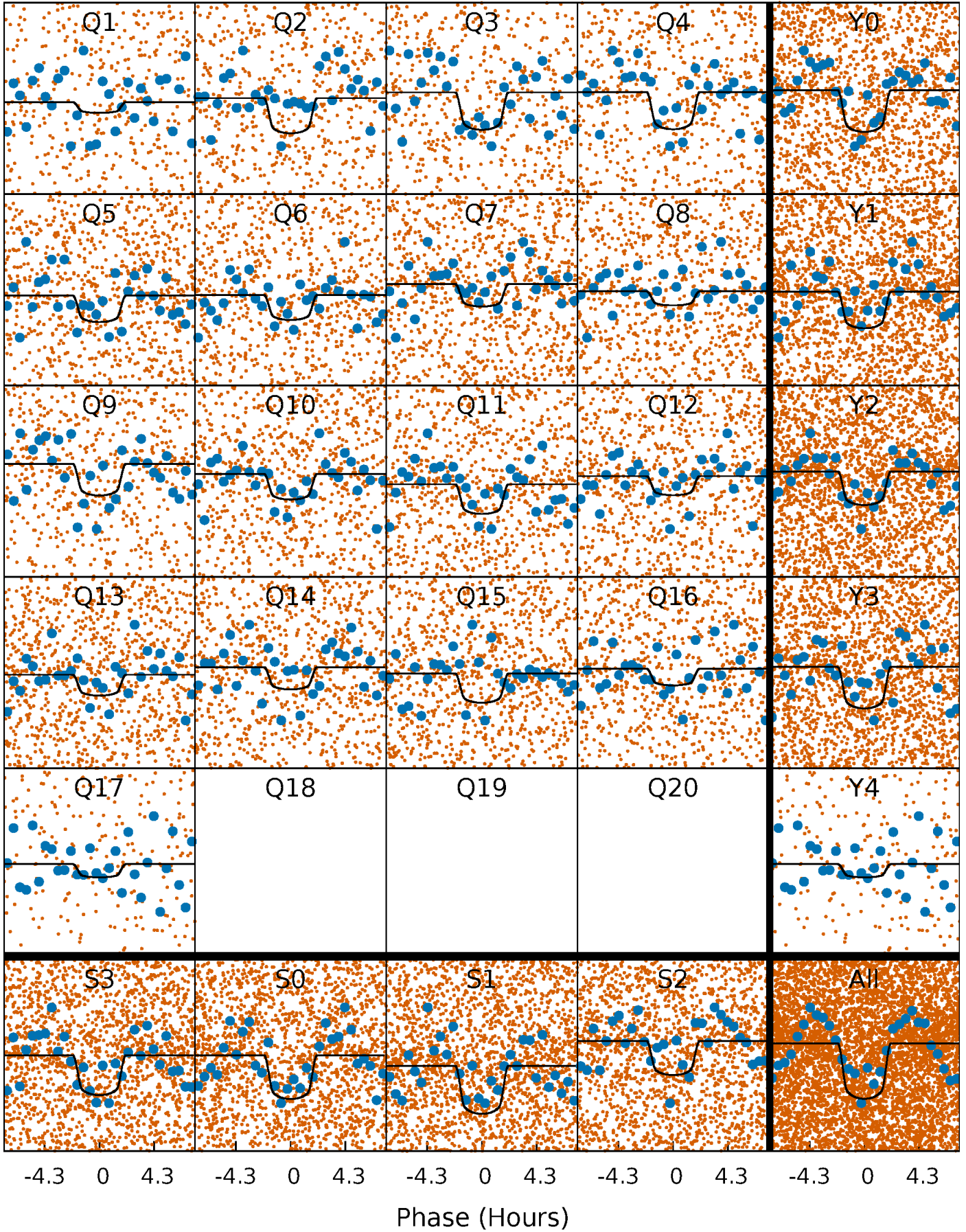
PDC Quarter-Phased Transit Curves

TCE 005783203-01 P= 1.350730 Days $T_0=131.625952$ (BKJD)



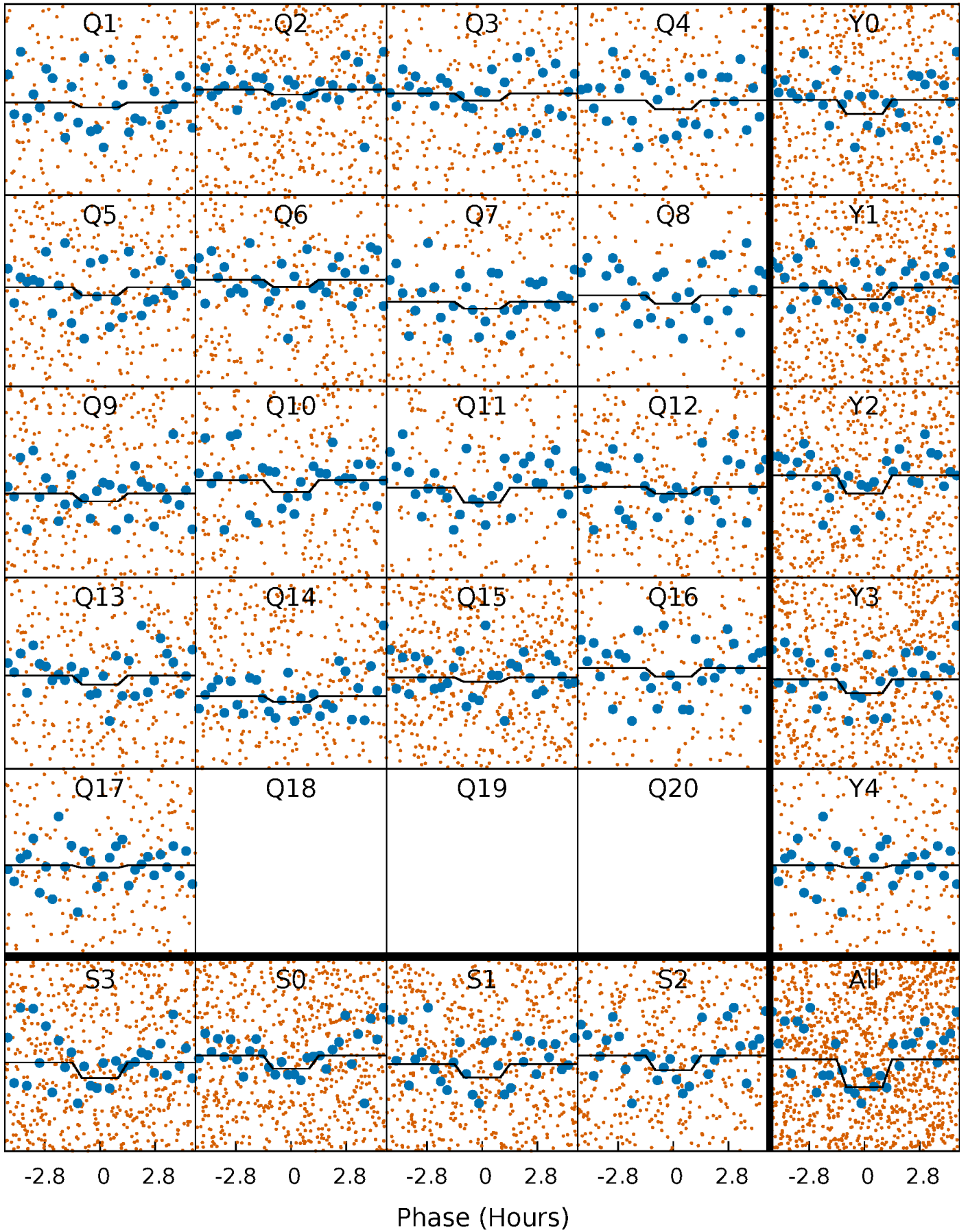
DV Quarter-Phased Transit Curves

TCE 005783203-01 P= 1.350730 Days $T_0=131.625952$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

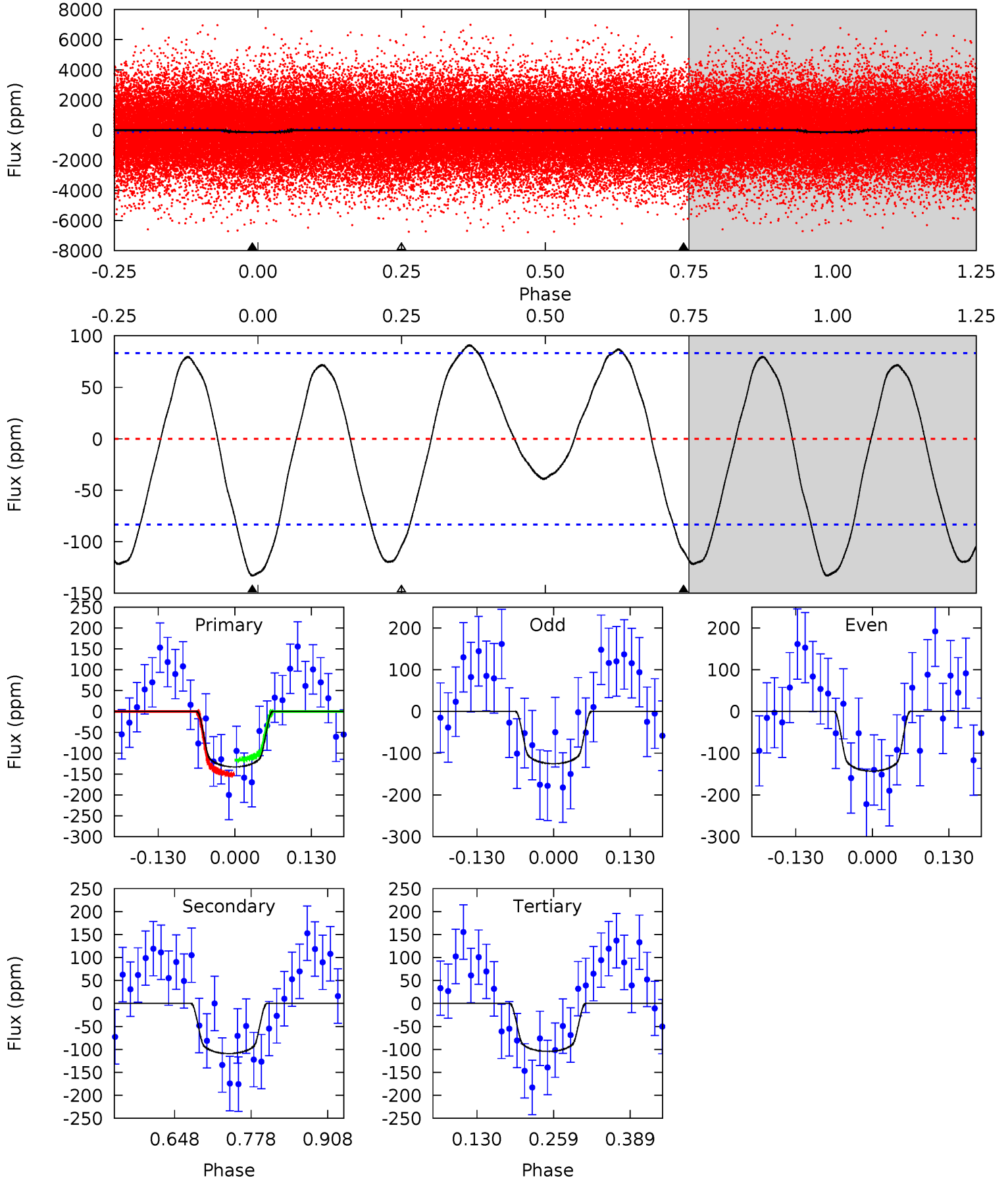
TCE 005783203-01 P= 1.350776 Days $T_0=131.605431$ (BKJD)



DV Model-Shift Uniqueness Test

005783203-01, P = 1.350730 Days, E = 130.275222 Days

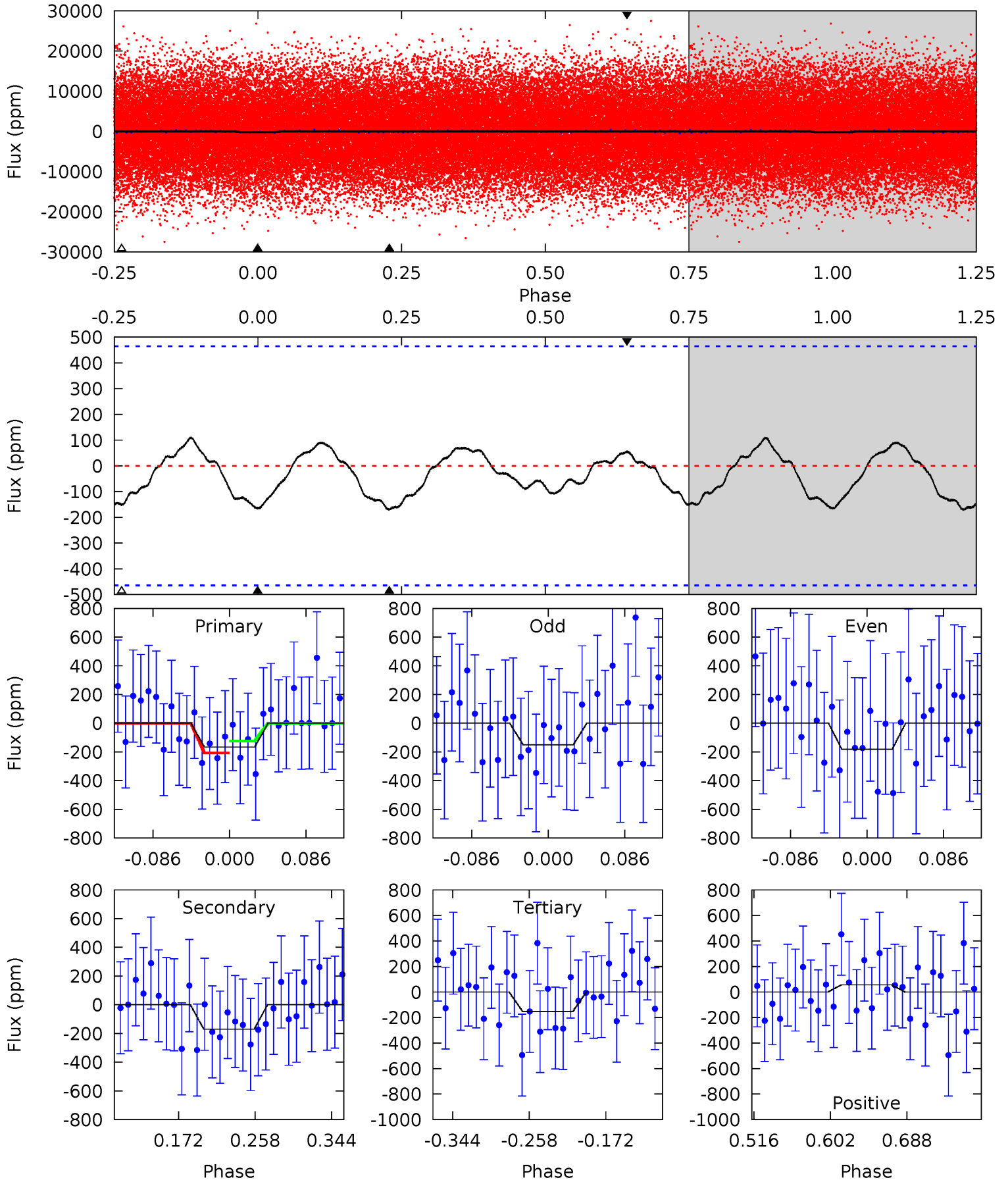
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.20	5.91	5.66	0	4.51	1.52	3.31	1.54	7.20	0.25	5.91	0.49	0.86	0.41	0.93



Alt Model-Shift Uniqueness Test

005783203-01, P = 1.350776 Days, E = 130.254655 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.64	1.69	1.51	0.55	4.60	1.72	0.67	0.14	1.09	0.18	1.14	0.16	1.42	0.39	0.41



Stellar Parameters For KIC 005783203

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7748^{+69}_{-85}	$3.840^{+0.182}_{-0.065}$	$0.070^{+0.150}_{-0.150}$	$2.839^{+0.301}_{-0.703}$	$2.034^{+0.168}_{-0.251}$	$0.125^{+0.126}_{-0.026}$
	+1%/-1%	+5%/-2%	+214%/-214%	+11%/-25%	+8%/-12%	+100%/-21%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005783203-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-109±18	$4.34^{+1.80}_{-1.66}$	4570^{+165}_{-280}	6239^{+2061}_{-1104}	$2.889^{+4.488}_{-1.477}$
Alt.	-171±101	$3.85^{+1.81}_{-1.66}$	4579^{+155}_{-290}	7568^{+3831}_{-2234}	$5.581^{+12.455}_{-3.973}$

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

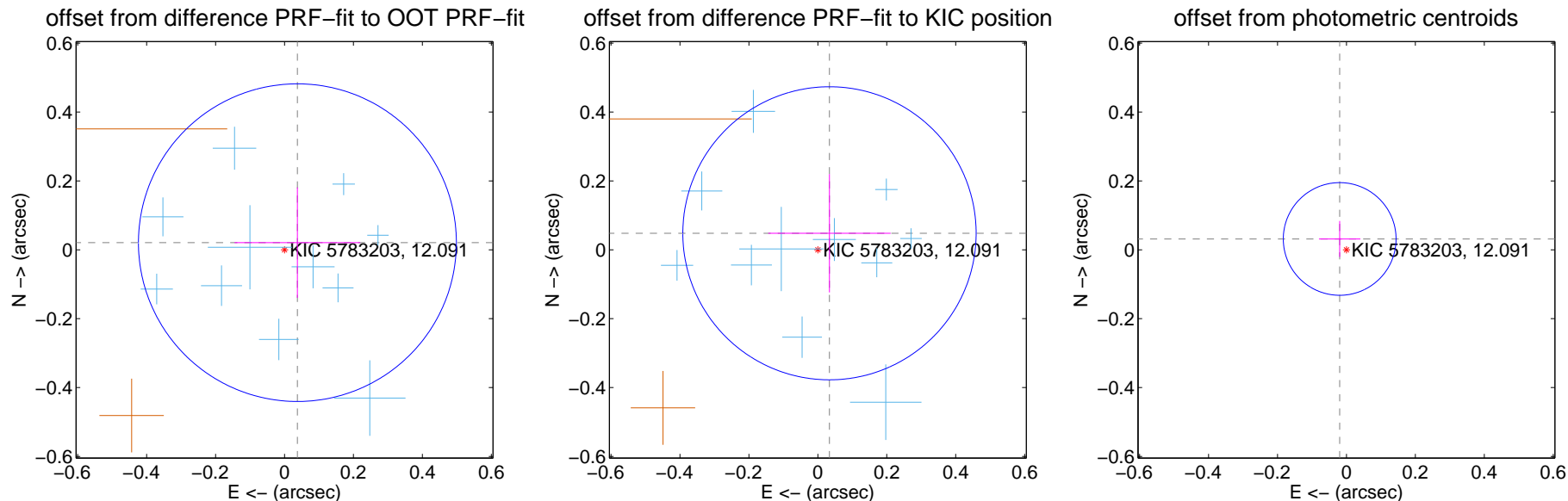
DV Centroid Data

Supplemental centroid analysis for 005783203-01. Kepler magnitude: 12.09. Transit SNR 15.65

There are 15 quarters with good PRF difference image offsets

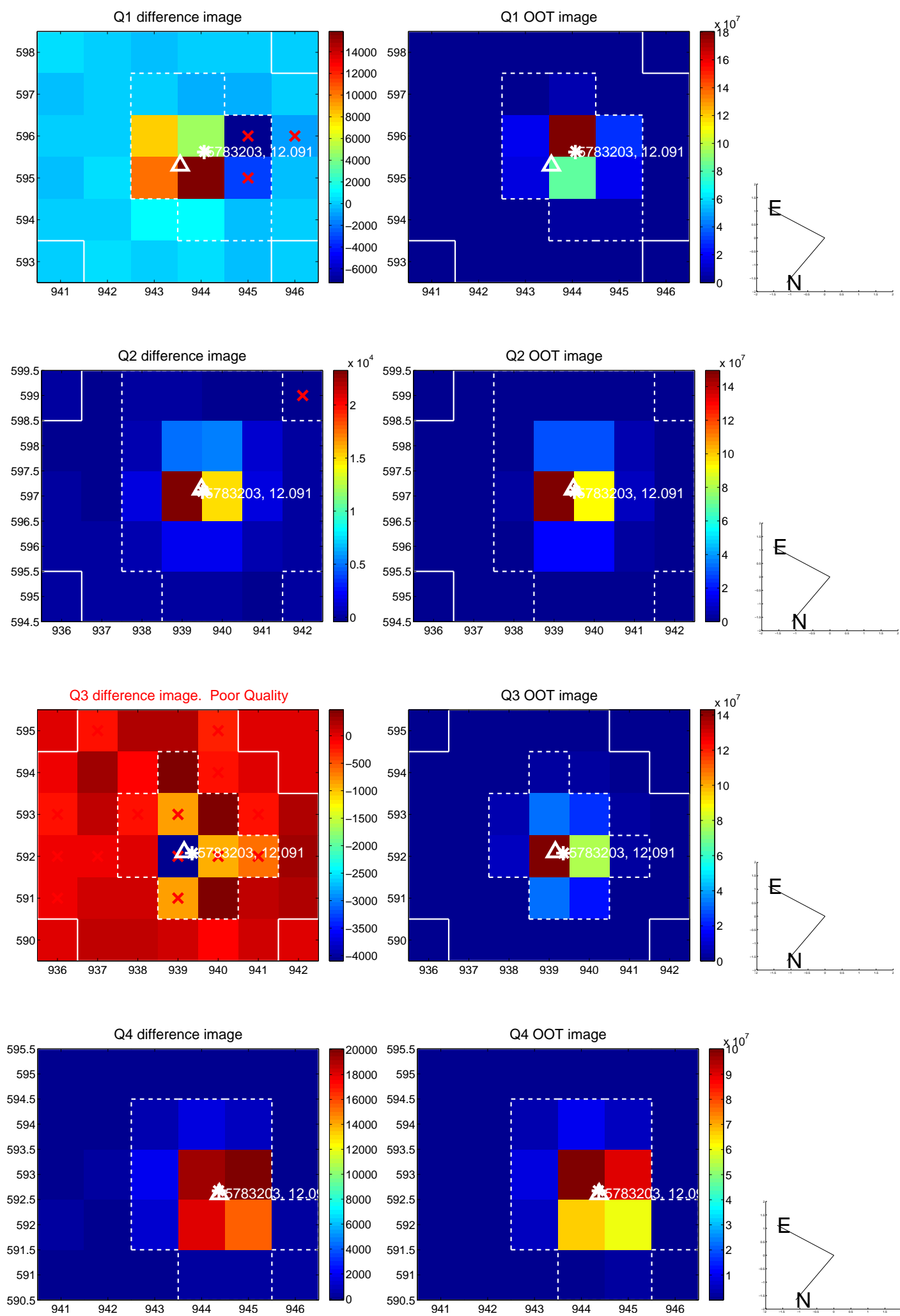
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.043 ± 0.154	0.28	-0.037 ± 0.182	0.021 ± 0.160
PRF-fit source offset from KIC position	0.059 ± 0.142	0.41	-0.034 ± 0.177	0.048 ± 0.172
photometric centroid source offset	0.04 ± 0.05	0.68	0.02 ± 0.06	0.03 ± 0.05

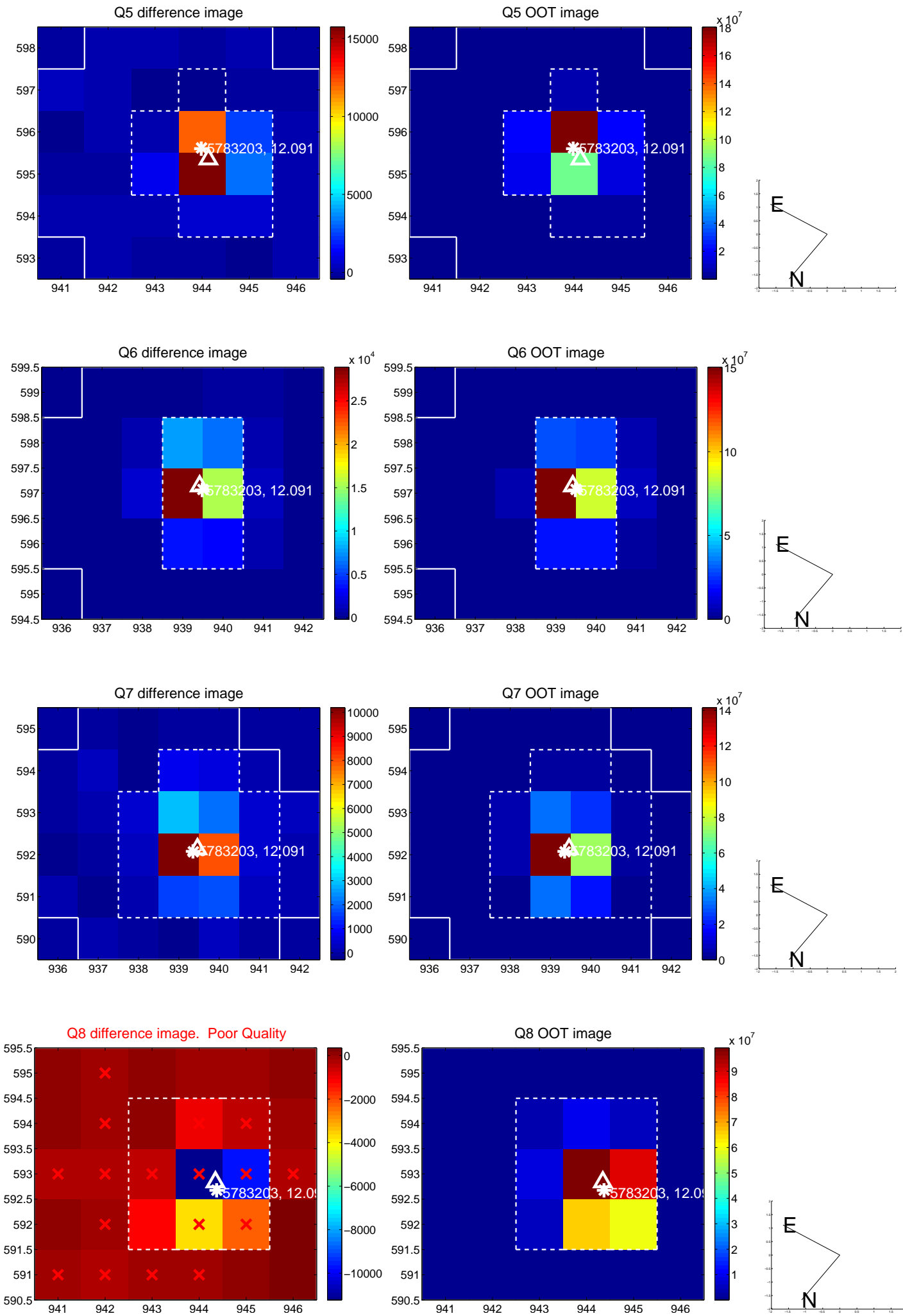


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

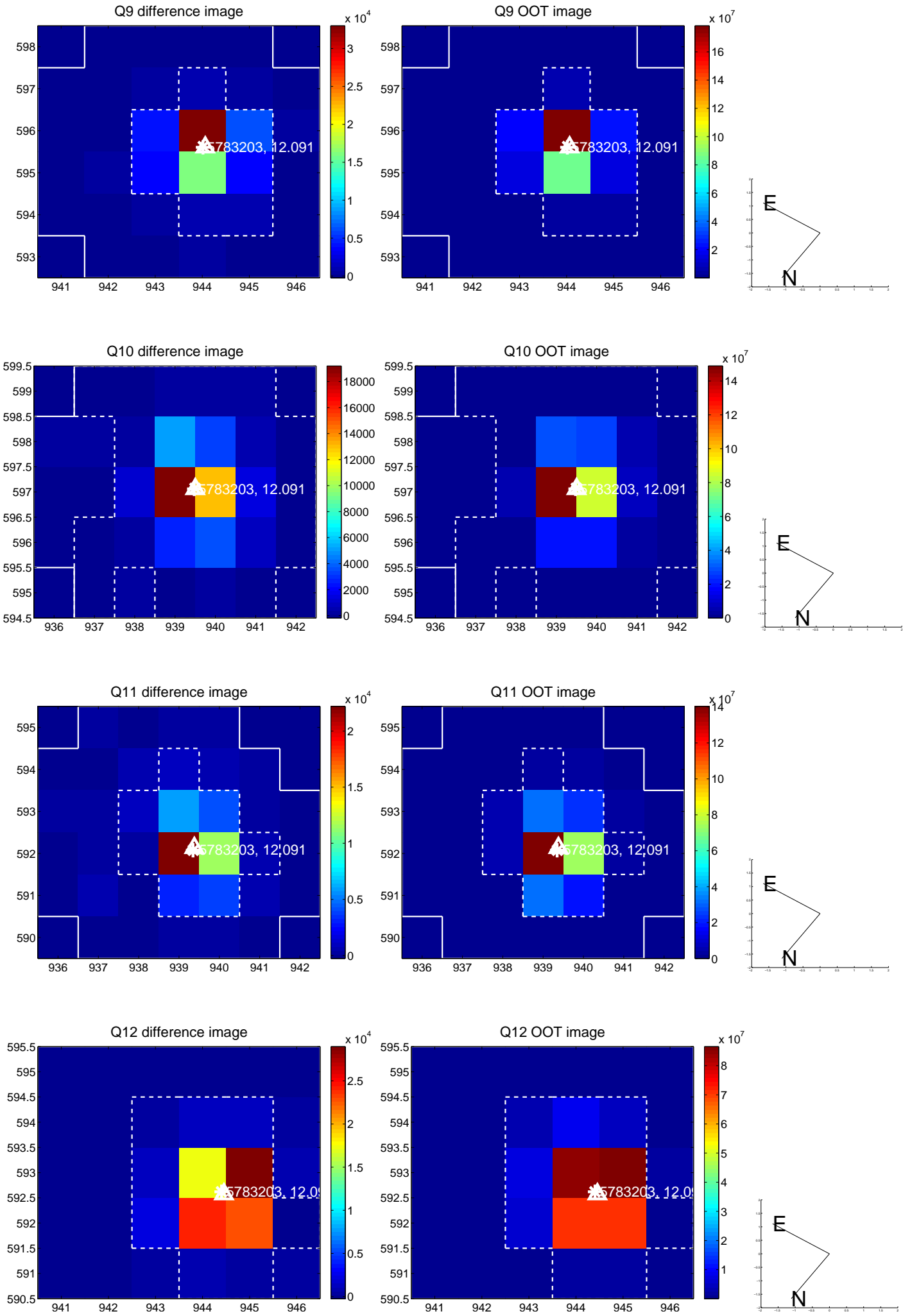
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



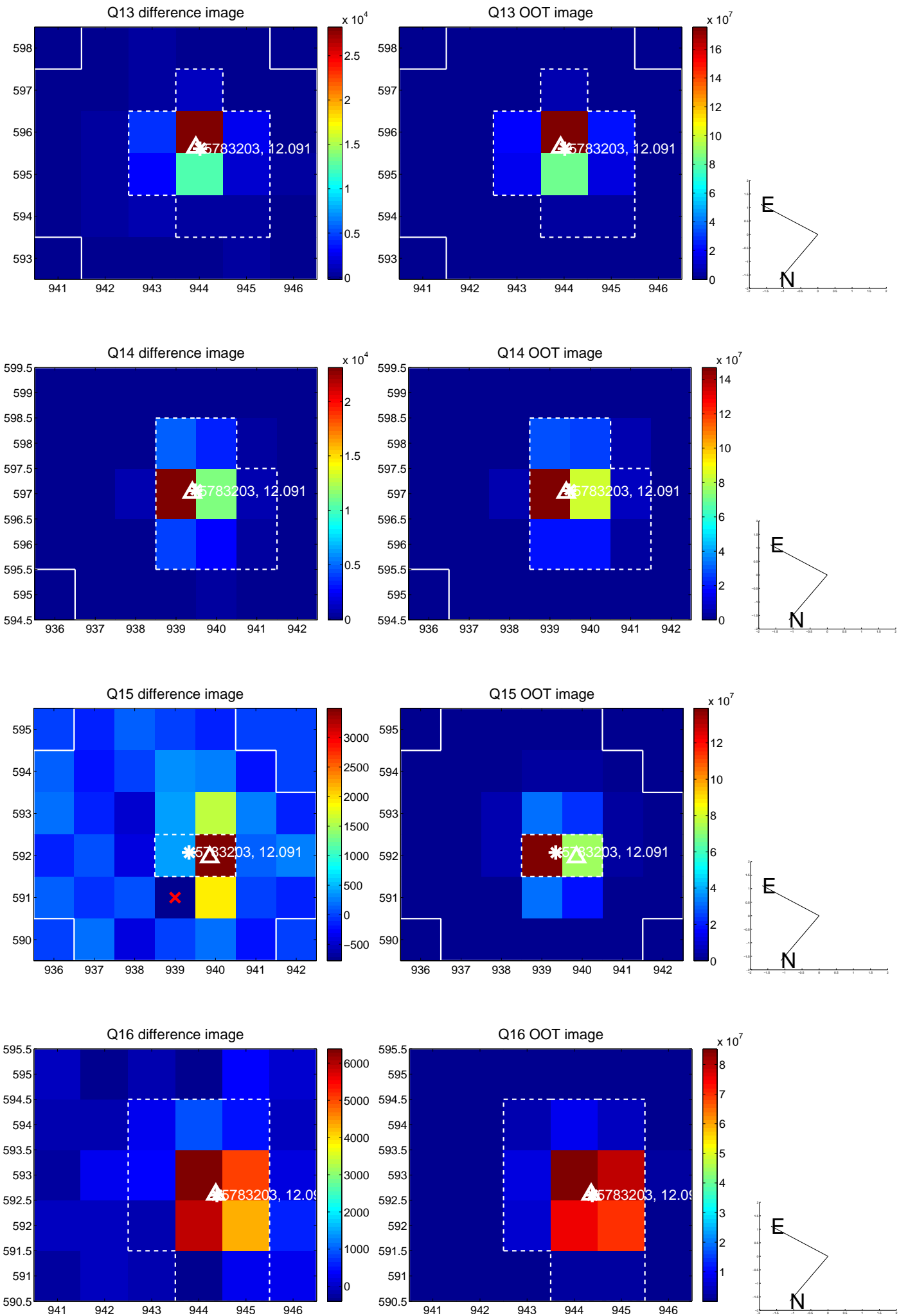
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



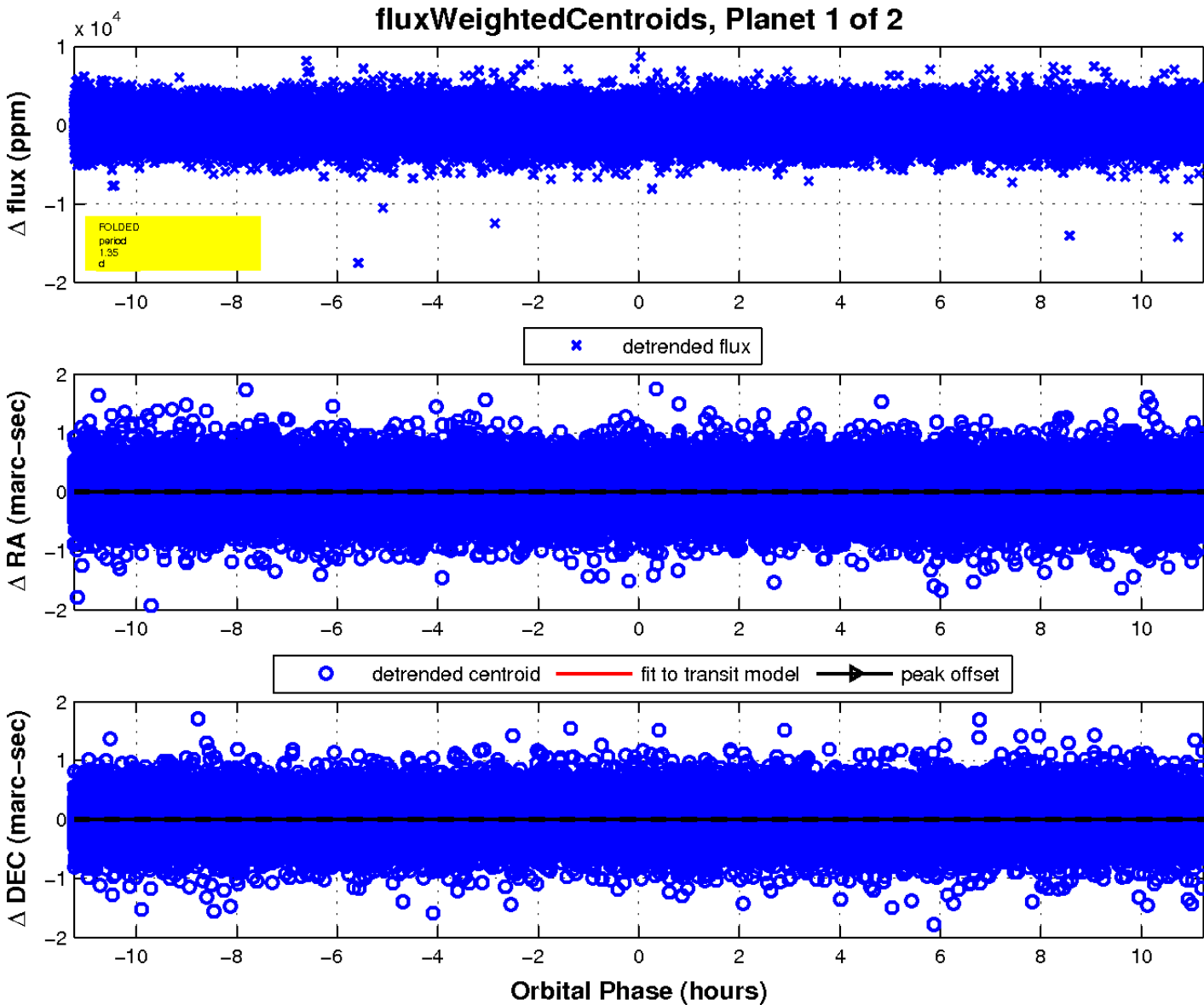
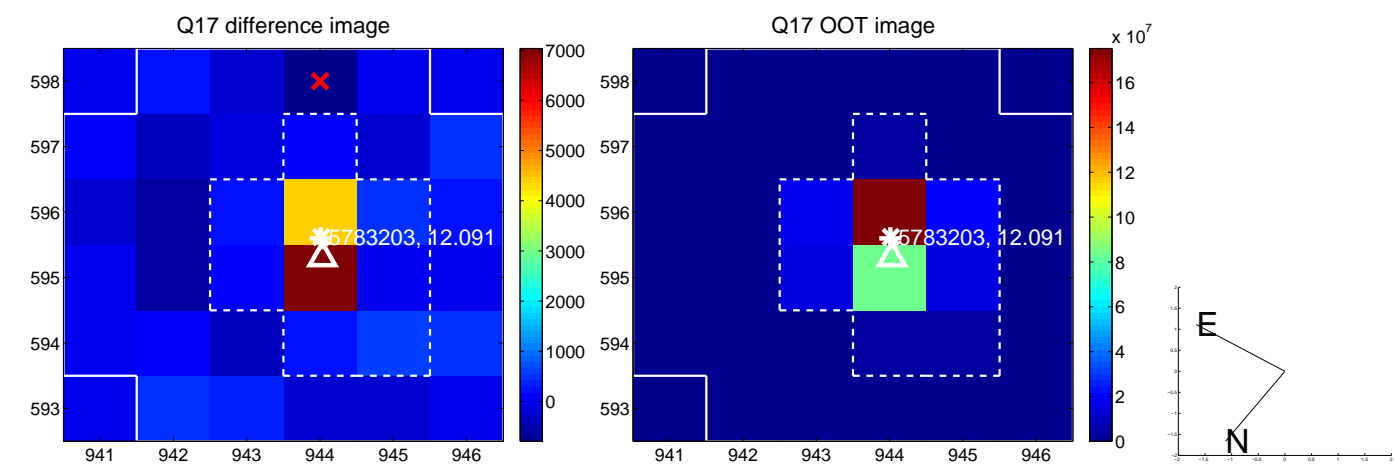
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

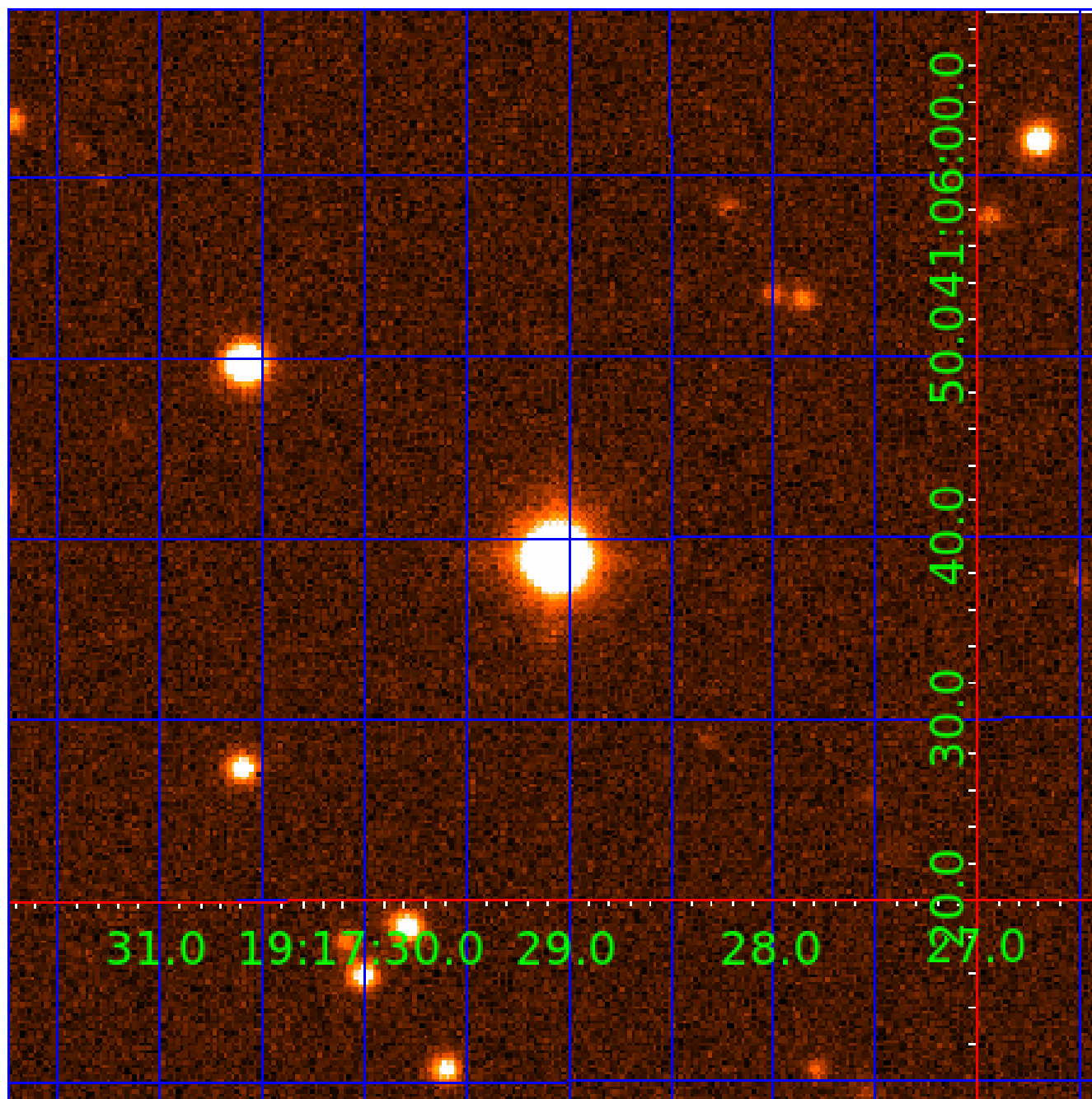


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005783203

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})
005783203-01	OBS	No	1.350730	131.625952	198.4	3.746	15.1	15.7	2.84	7748	4.64	28335.99
005783203-02	OBS	No	0.675312	131.994431	90.6	4.553	9.2	8.9	2.84	7748	2.92	71409.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005783203-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
005783203-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

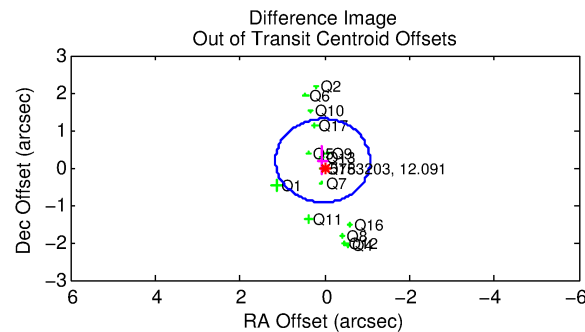
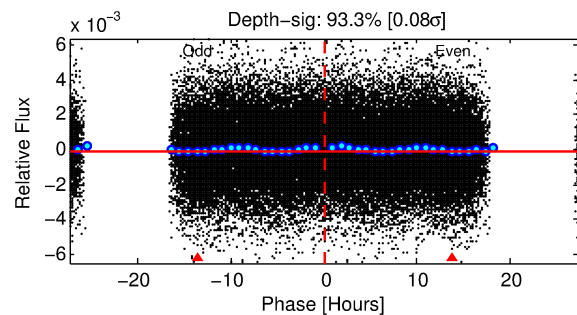
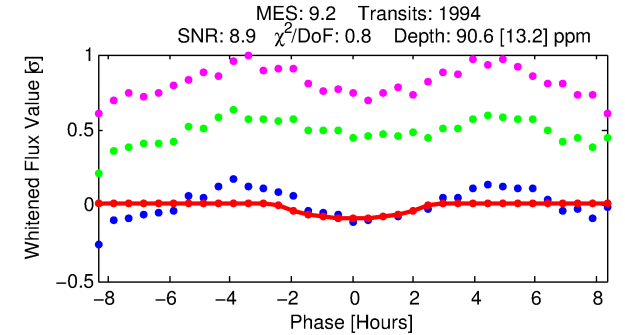
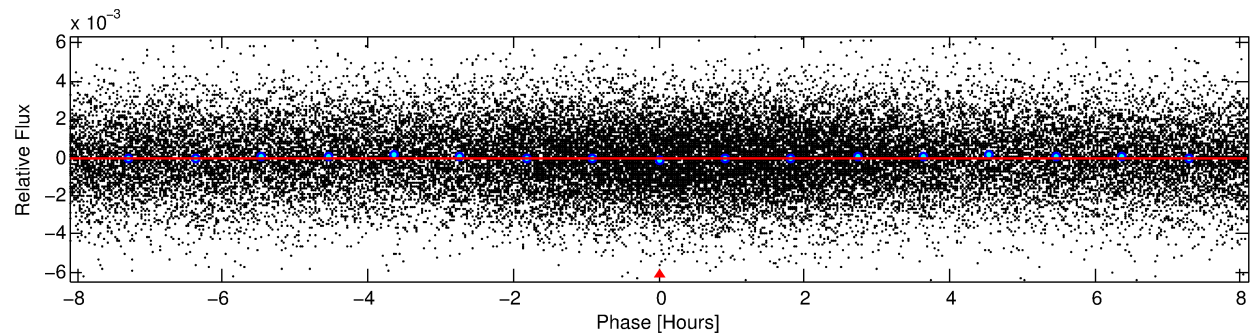
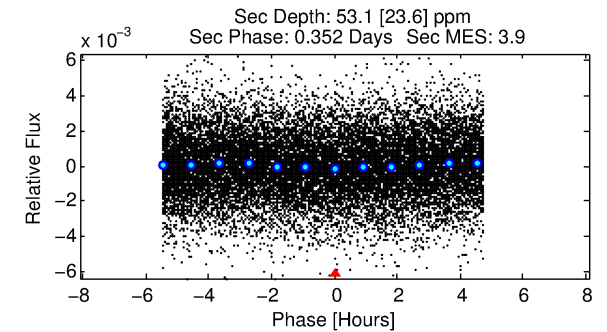
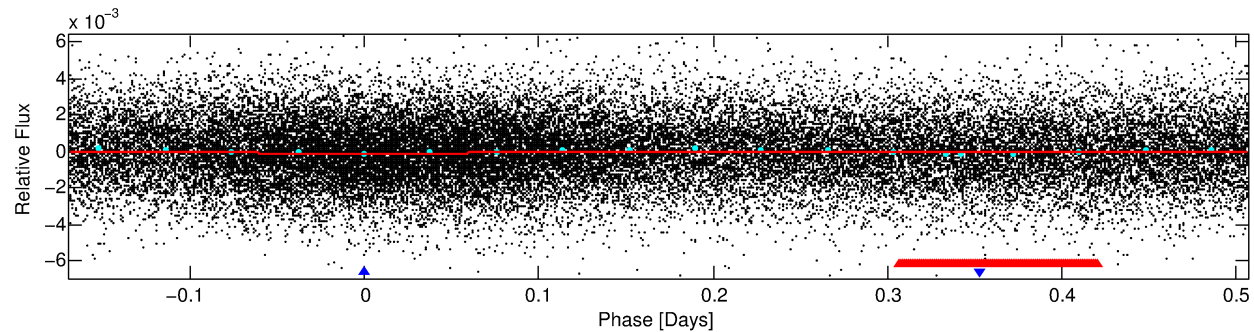
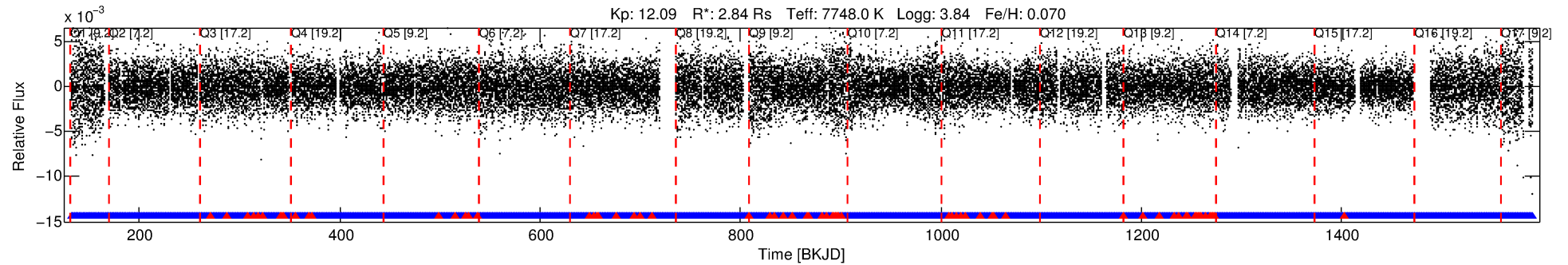
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005783203-02

No Significant Match Found

DV One-Page Summary

KIC: 5783203 Candidate: 2 of 2 Period: 0.675 d



DV Fit Results:

Period = 0.67531 [0.00001] d
Epoch = 131.9944 [0.0067] BKJD
Rp/R* = 0.0094 [0.0163]
a/R* = 1.16 [3.09]
b = 0.73 [6.75]
Seff = 71409.66 [23383.90]
Teff = 4168 [341] K
Rp = 2.92 [5.09] Re
a = 0.0191 [0.0041] AU
Ag = 1.25 [4.39] [0.06σ]
Teffp = 6819 [5944] K [0.45σ]

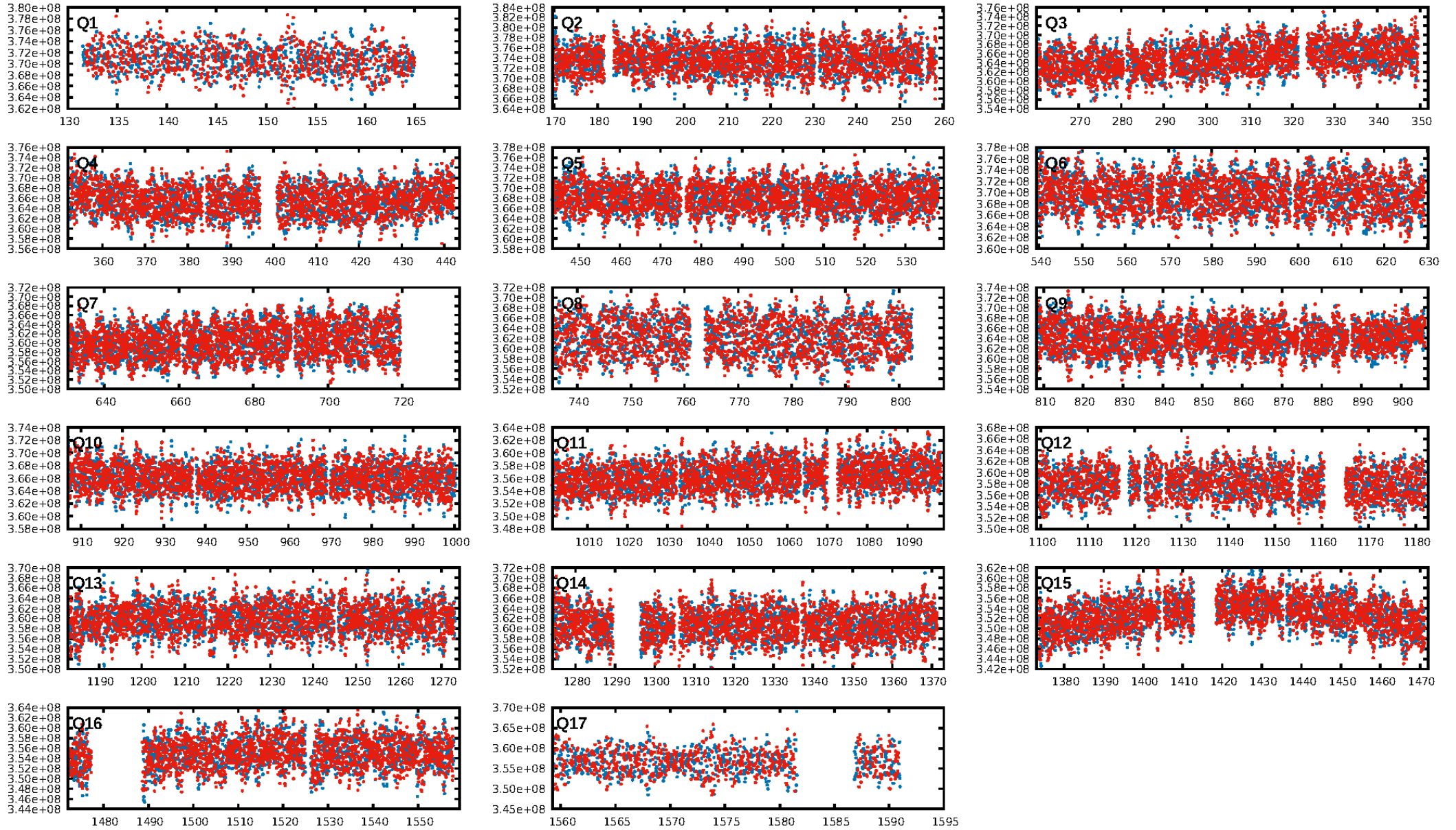
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.4% [2.75σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.67e-10
RollingBand-fgt: 0.96 [1826/1905]
GhostDiagnostic-chr: 1.988
Centroid-sig: 6.3%
Centroid-so: 0.101 arcsec [1.21σ]
OotOffset-rm: 0.194 arcsec [0.52σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-rm: 0.247 arcsec [0.65σ]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 0.00 [0/17]

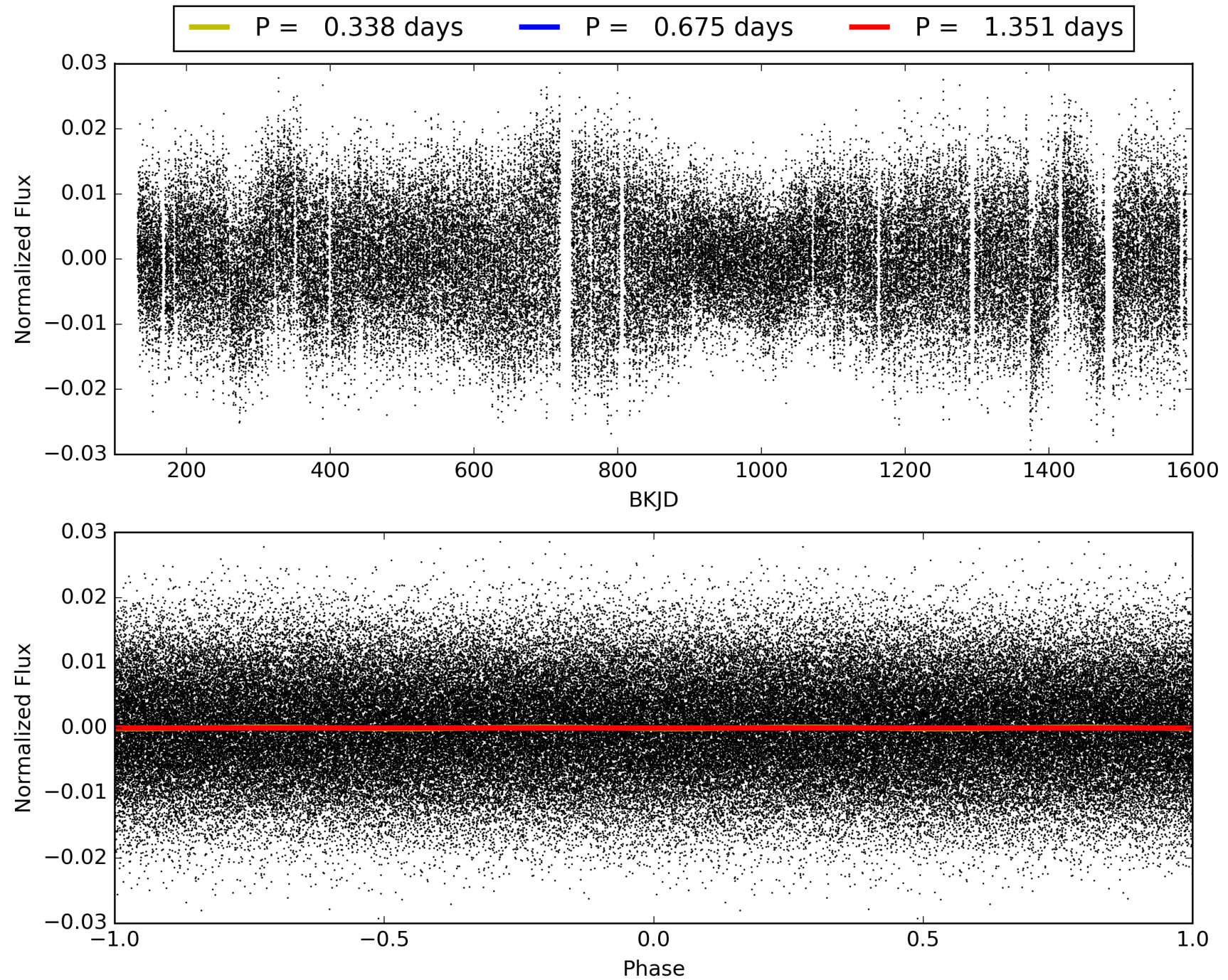
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:04:03 Z

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

TCE 005783203-02, PDC Light Curves

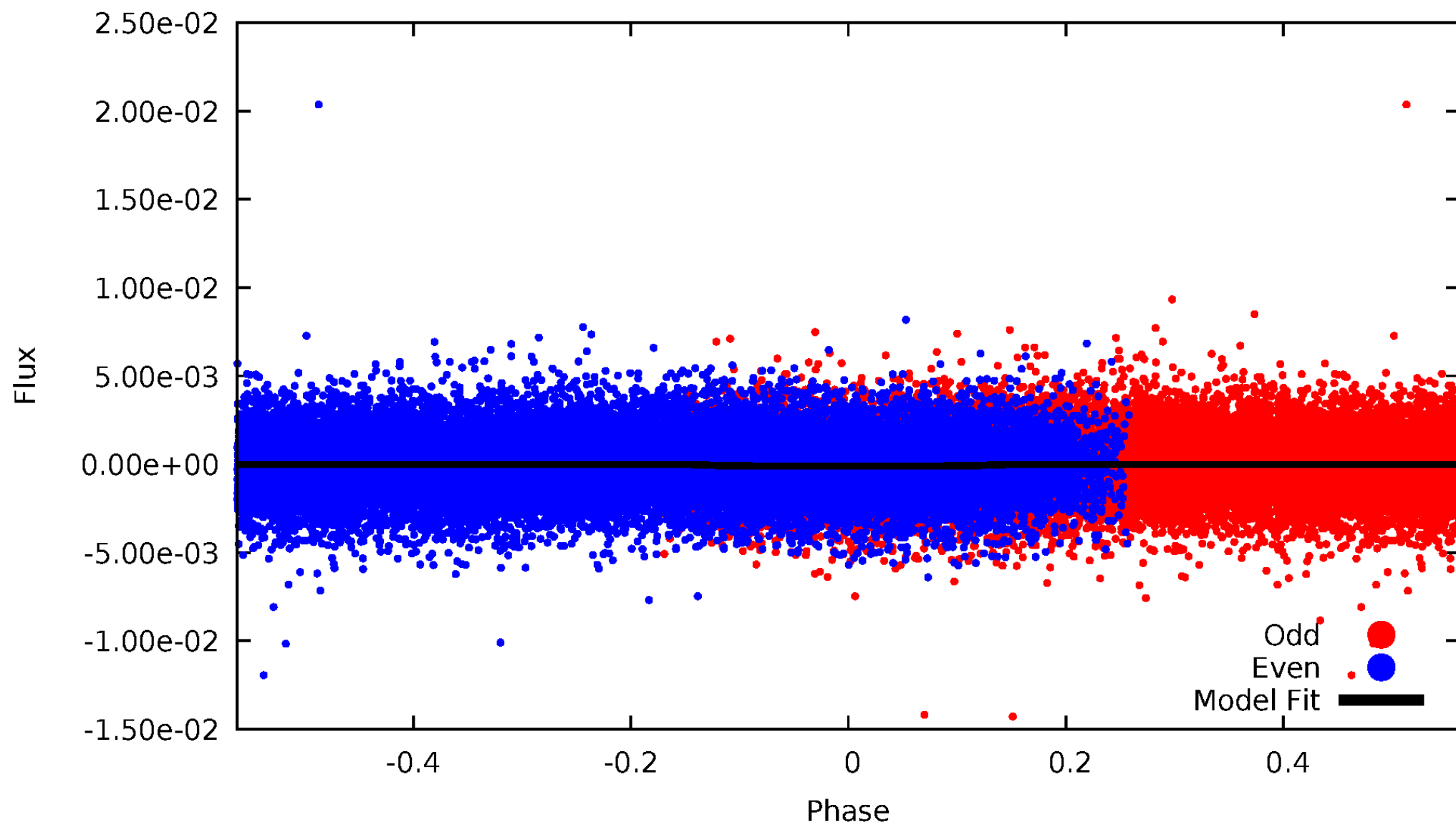


TCE 005783203-02



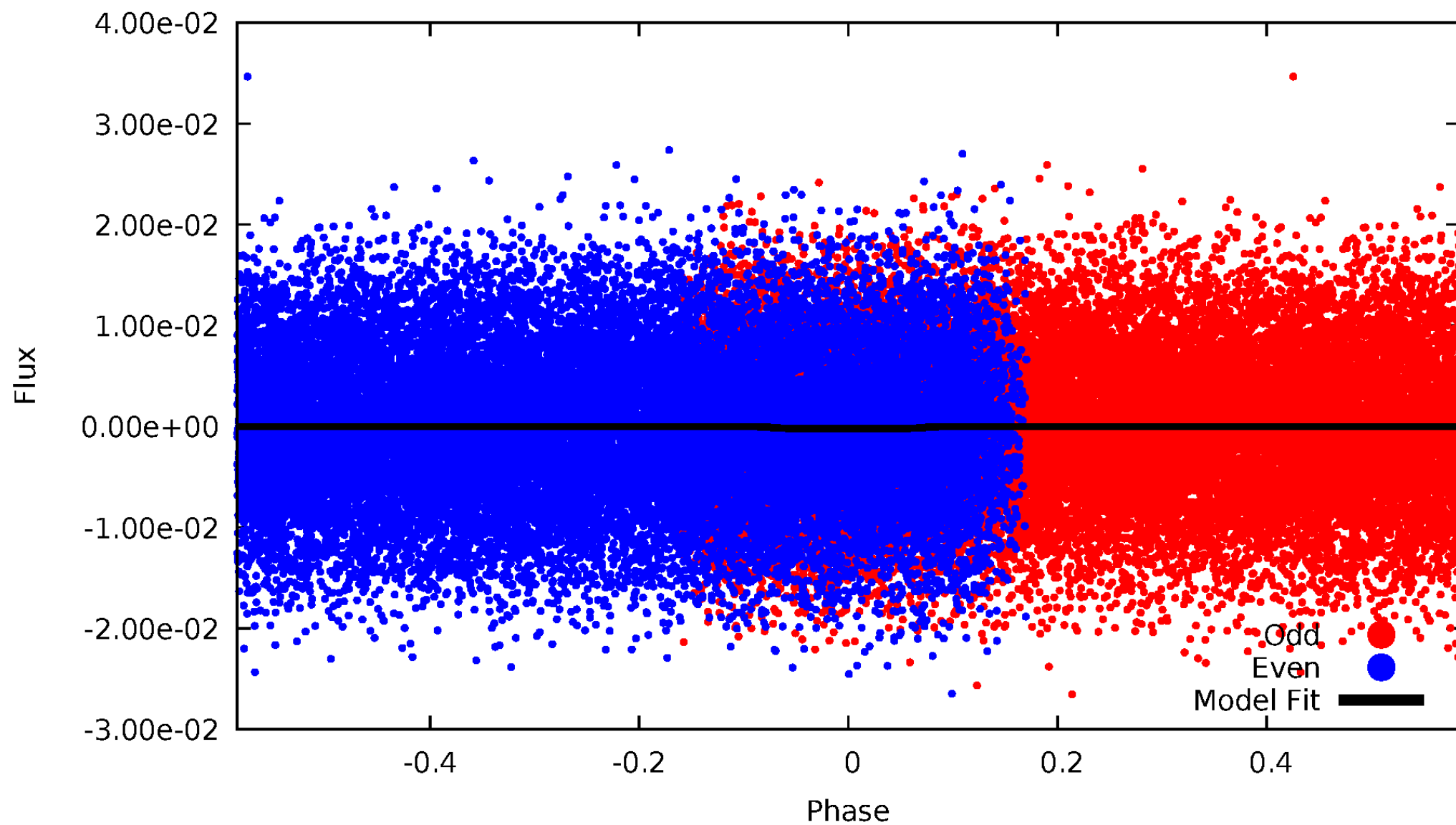
DV Odd/Even

TCE 005783203-02



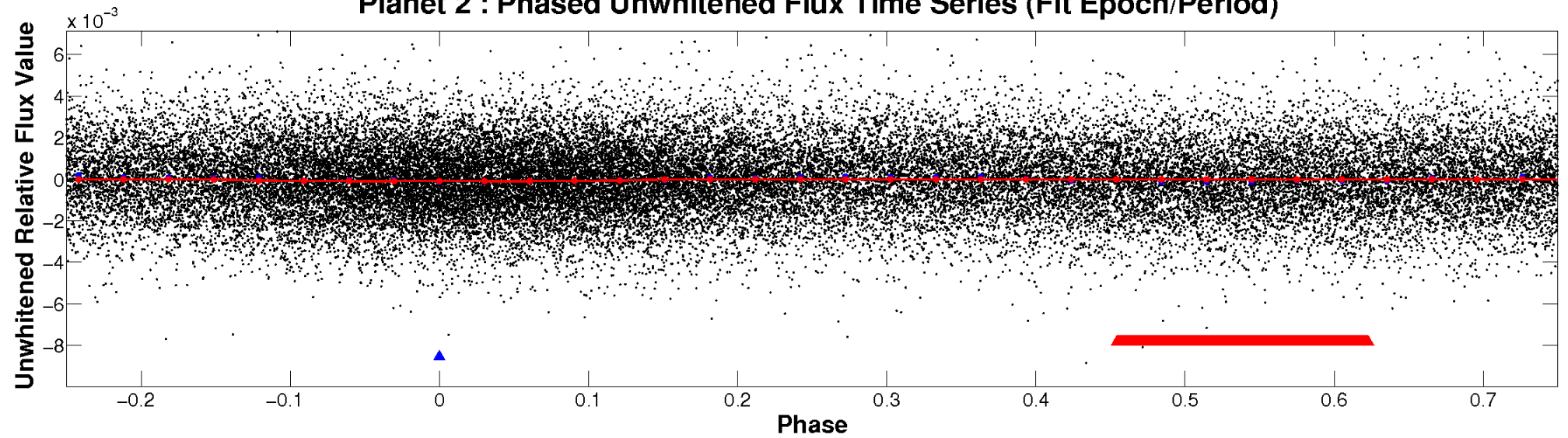
ALT Odd/Even

TCE 005783203-02

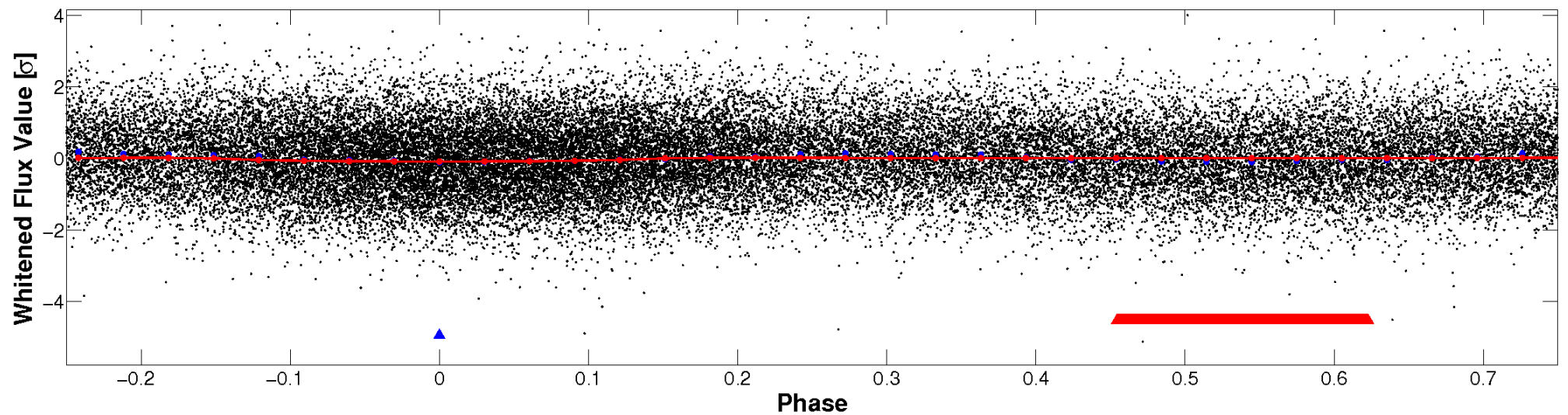


Non-Whitened Vs. Whitened Light Curve

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

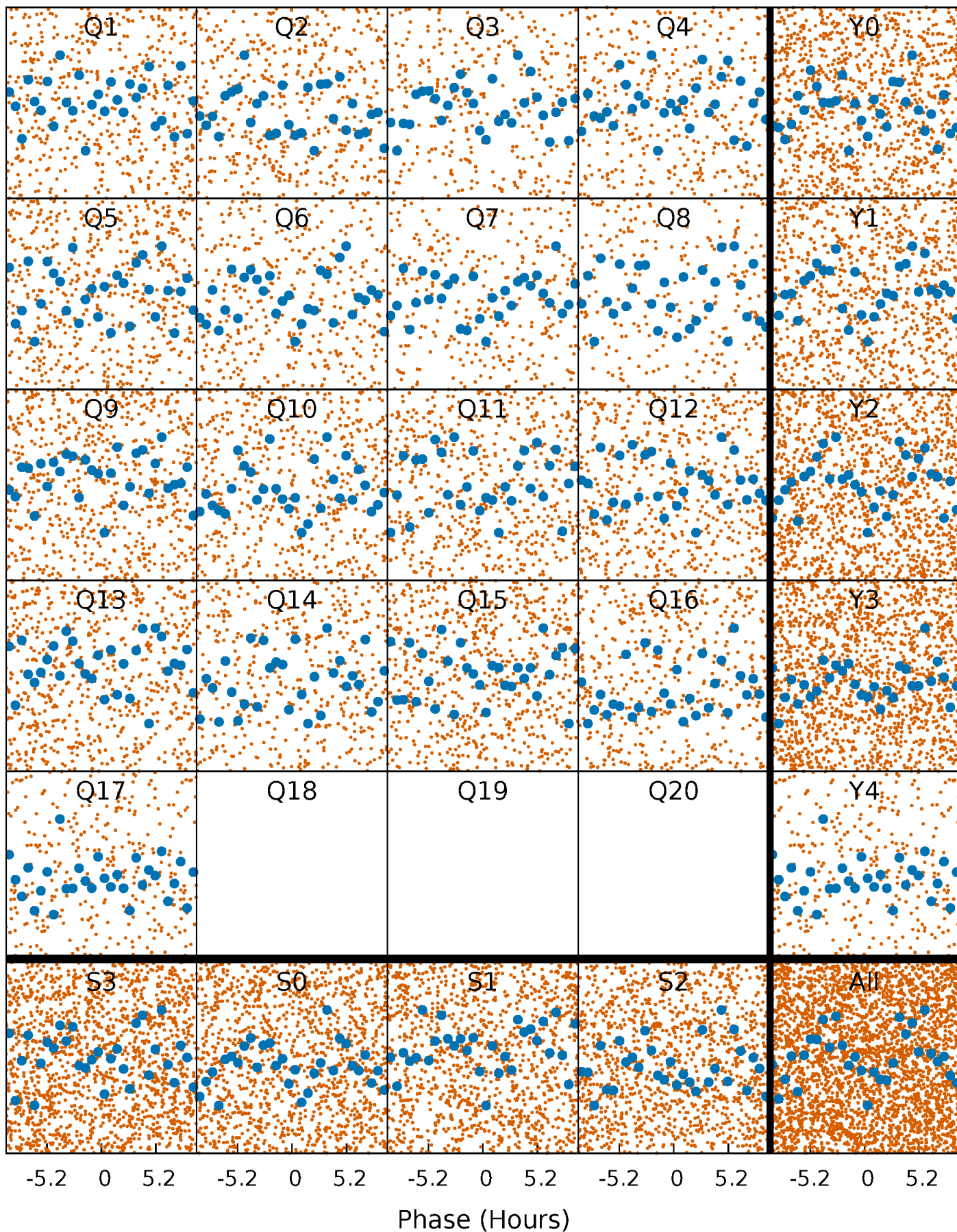


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



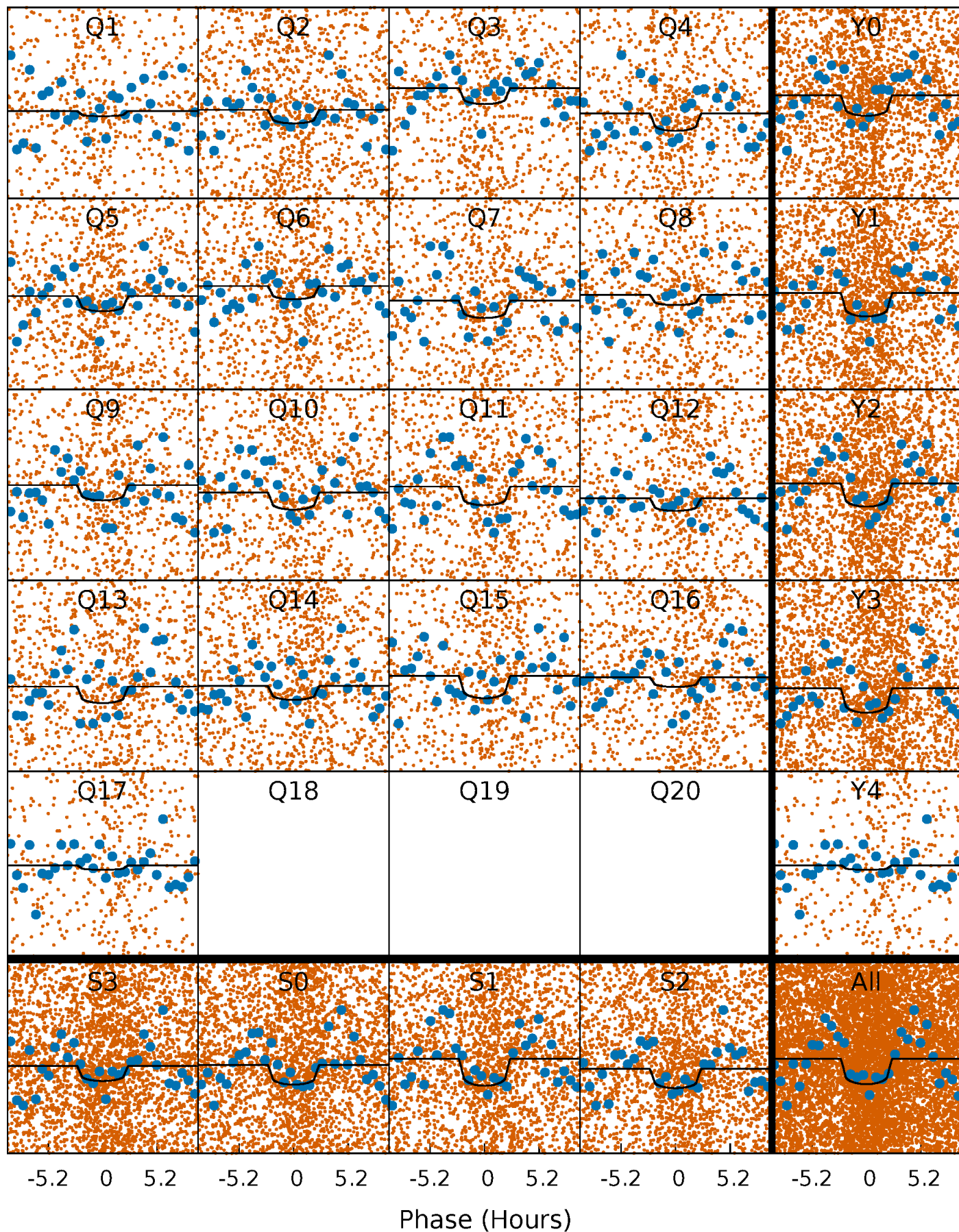
PDC Quarter-Phased Transit Curves

TCE 005783203-02 P= 0.675312 Days $T_0=131.994431$ (BKJD)



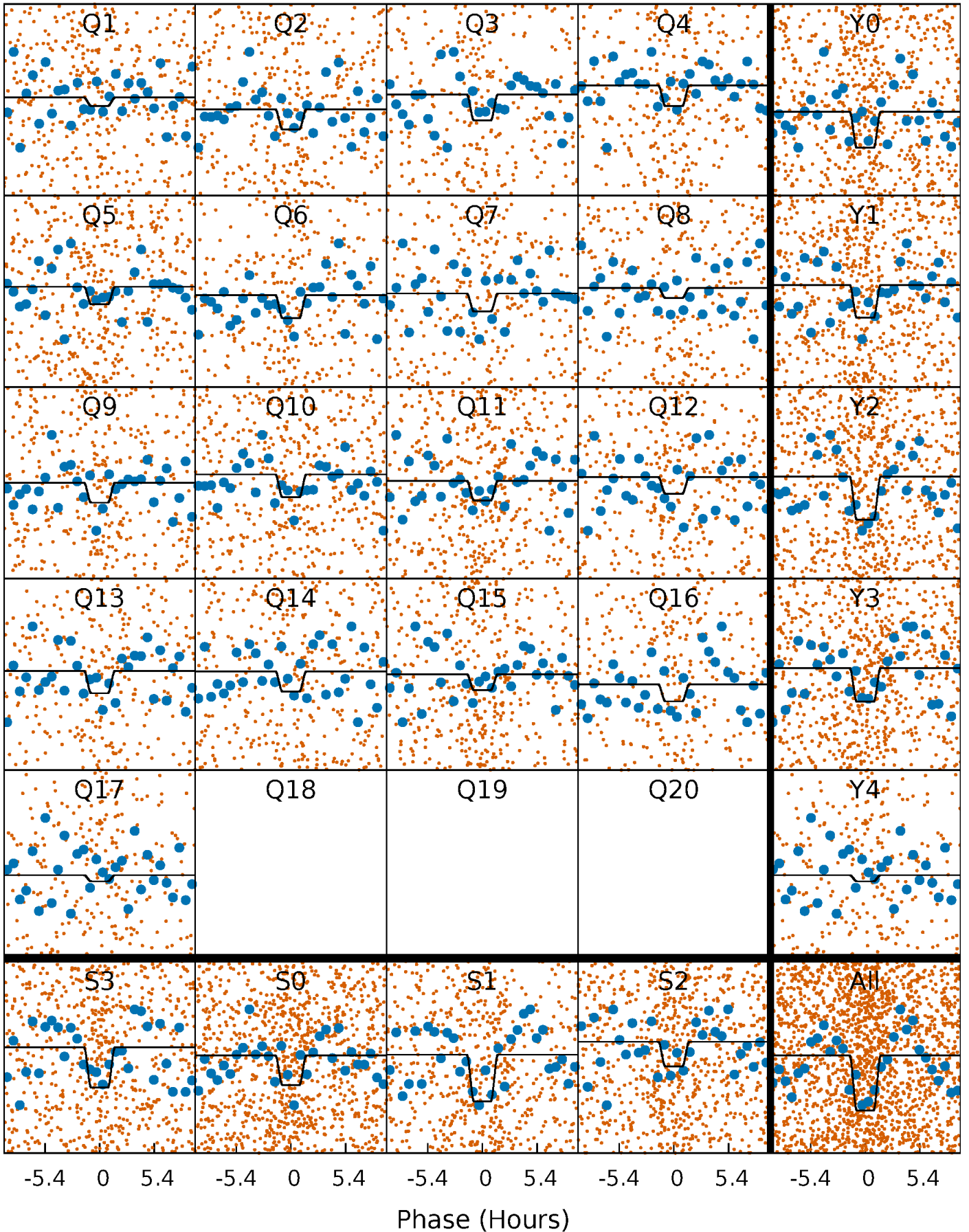
DV Quarter-Phased Transit Curves

TCE 005783203-02 P= 0.675312 Days $T_0=131.994431$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

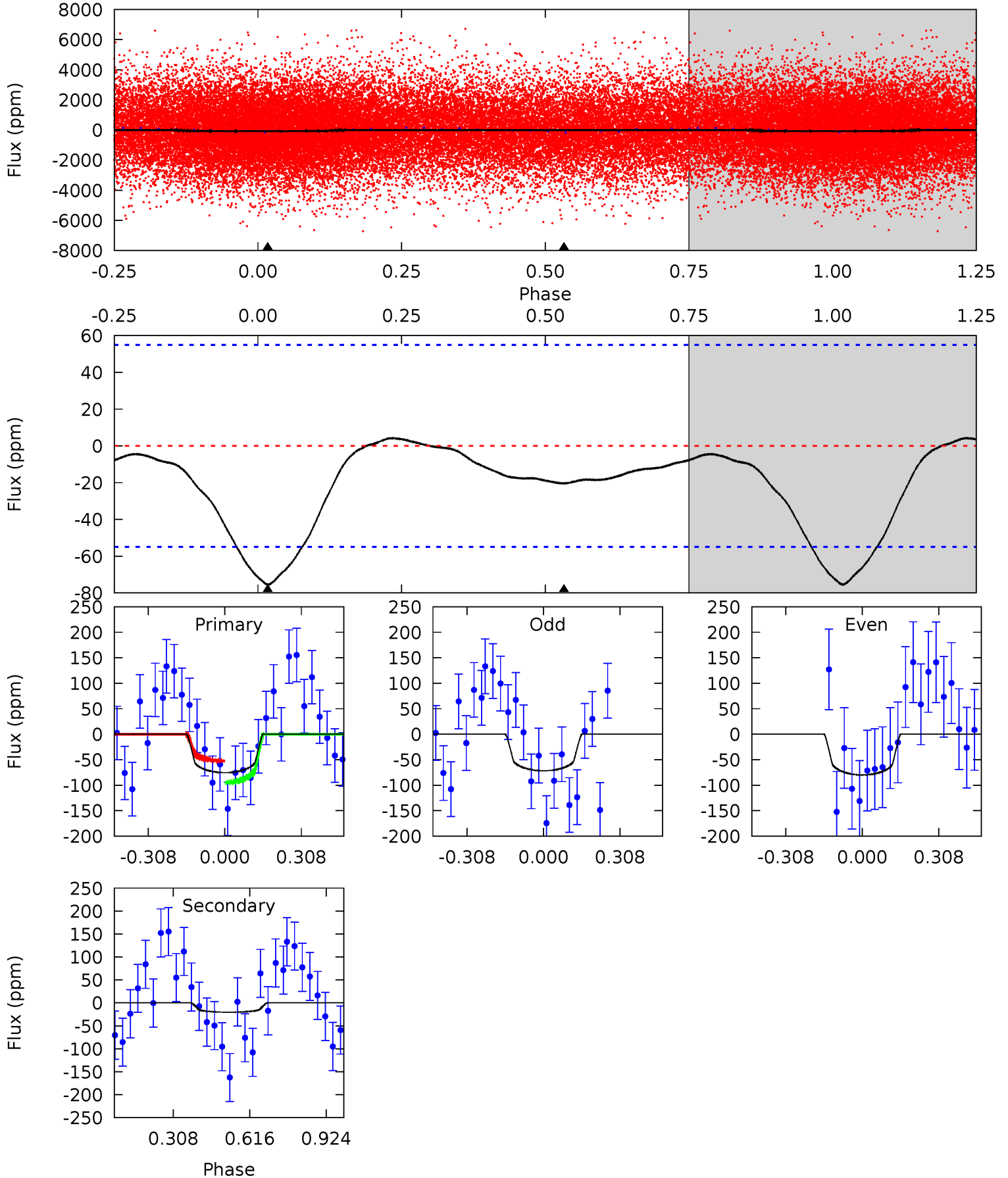
TCE 005783203-02 P= 0.675343 Days $T_0=131.986585$ (BKJD)



DV Model-Shift Uniqueness Test

005783203-02, P = 0.675312 Days, E = 131.319119 Days

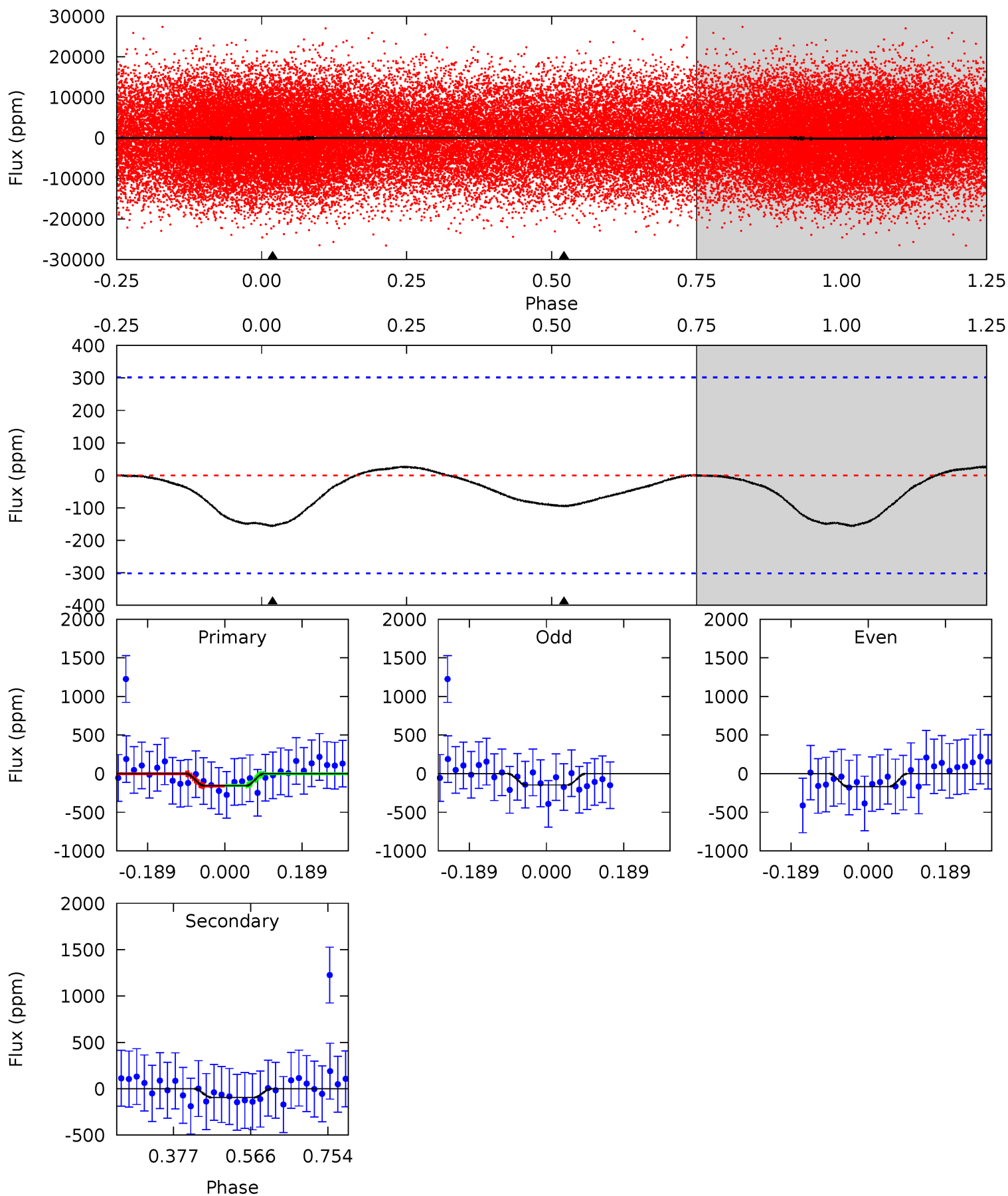
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.93	1.60	0	0	4.32	1.02	0.30	5.93	5.93	1.60	1.60	0.32	1.08	0.05	1.67



Alt Model-Shift Uniqueness Test

005783203-02, P = 0.675343 Days, E = 131.311242 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.29	1.39	0	0	4.43	1.31	0.18	2.29	2.29	1.39	1.39	0.16	1.05	0.15	0.05



Stellar Parameters For KIC 005783203

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7748^{+69}_{-85}	$3.840^{+0.182}_{-0.065}$	$0.070^{+0.150}_{-0.150}$	$2.839^{+0.301}_{-0.703}$	$2.034^{+0.168}_{-0.251}$	$0.125^{+0.126}_{-0.026}$
	+1%/-1%	+5%/-2%	+214%/-214%	+11%/-25%	+8%/-12%	+100%/-21%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005783203-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-20 ± 13	$4.37^{+4.09}_{-2.88}$	5783^{+181}_{-320}	-3993^{+10634}_{-666}	$0.176^{+1.464}_{-0.139}$
Alt.	-95 ± 68	$5.58^{+4.82}_{-3.53}$	5782^{+192}_{-313}	4517^{+4837}_{-8959}	$0.531^{+3.934}_{-0.442}$

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 $A_{obs} \gg 1.0$

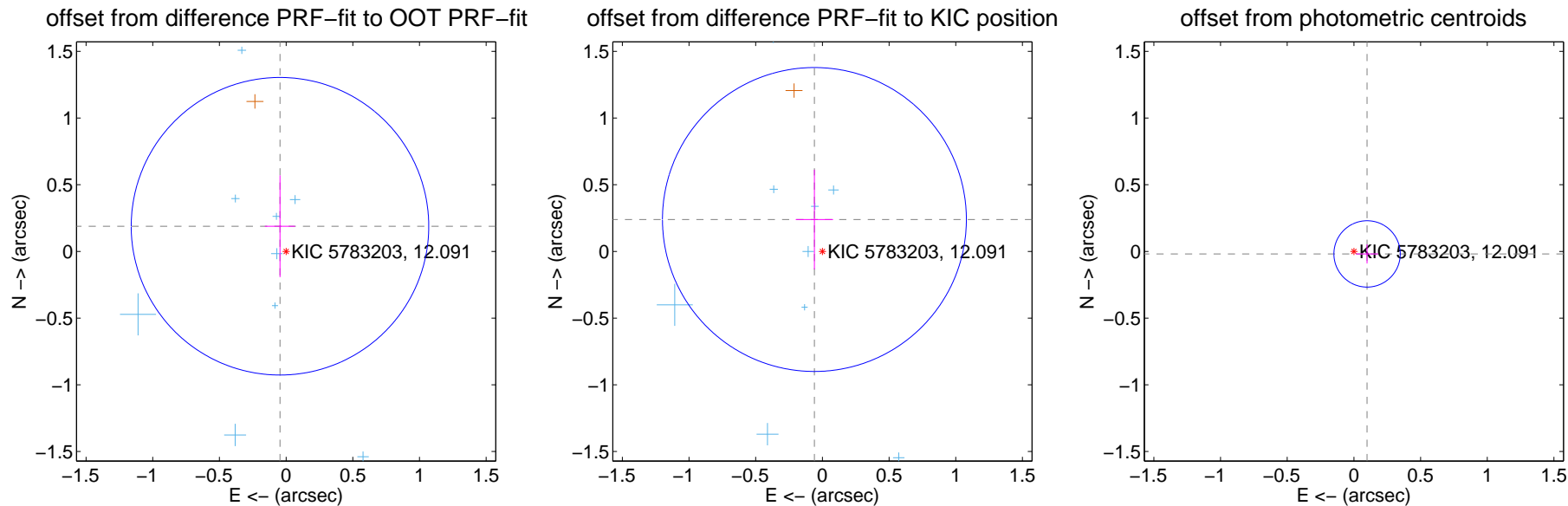
DV Centroid Data

Supplemental centroid analysis for 005783203-02. Kepler magnitude: 12.09. Transit SNR 8.89

There are 14 quarters with good PRF difference image offsets

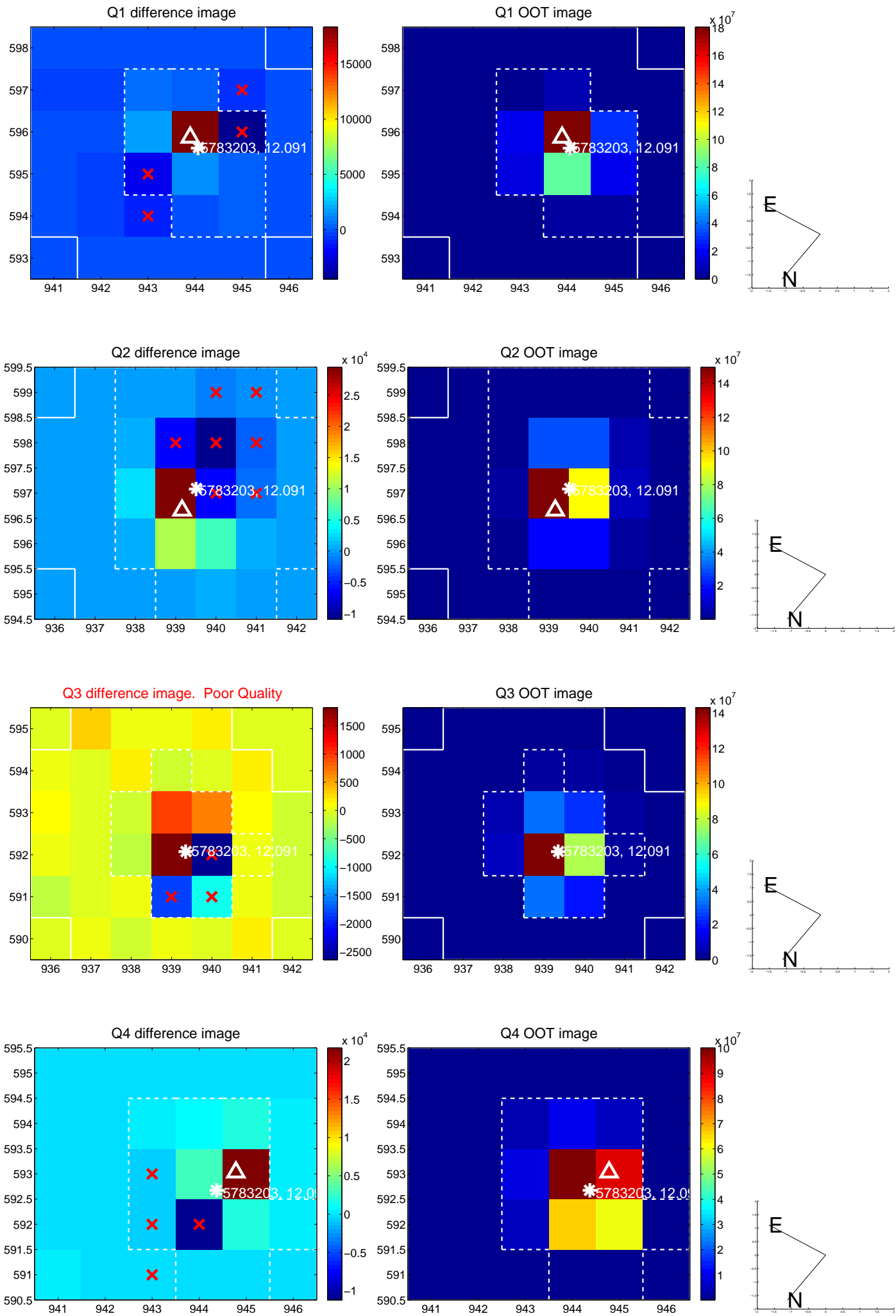
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.194 ± 0.372	0.52	0.046 ± 0.113	0.189 ± 0.382
PRF-fit source offset from KIC position	0.247 ± 0.380	0.65	0.060 ± 0.140	0.239 ± 0.374
photometric centroid source offset	0.10 ± 0.08	1.21	-0.10 ± 0.08	-0.02 ± 0.07

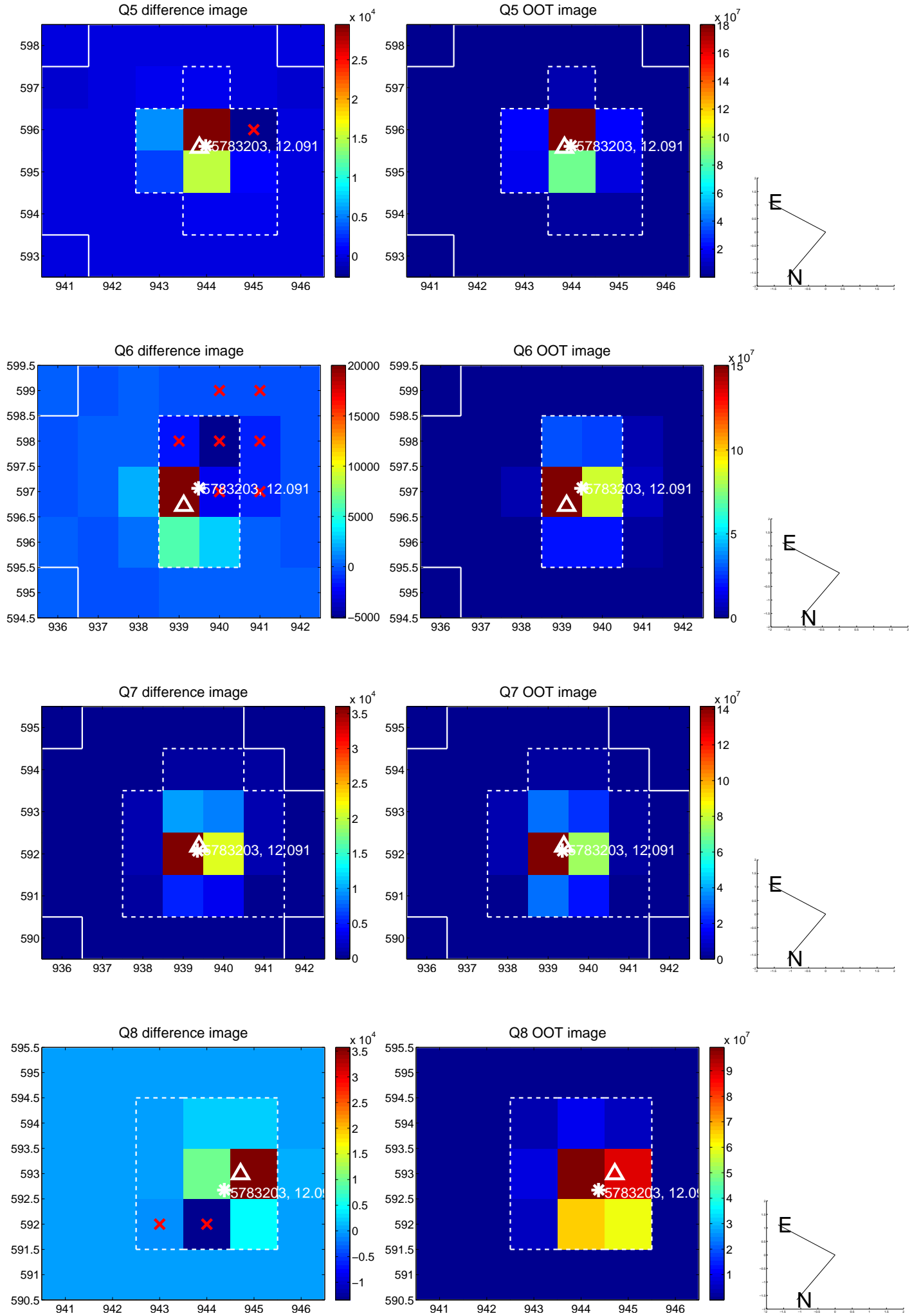


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

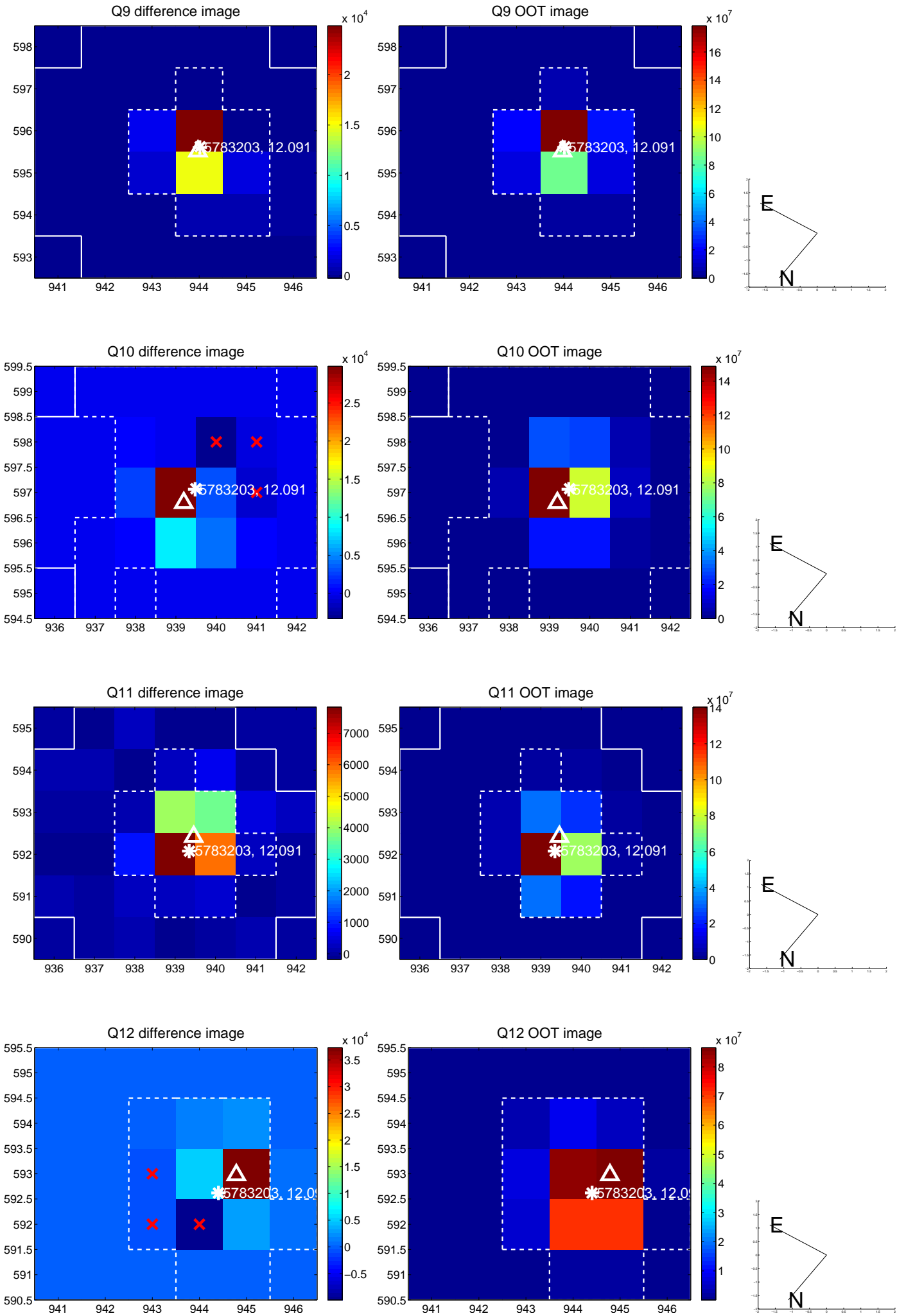
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



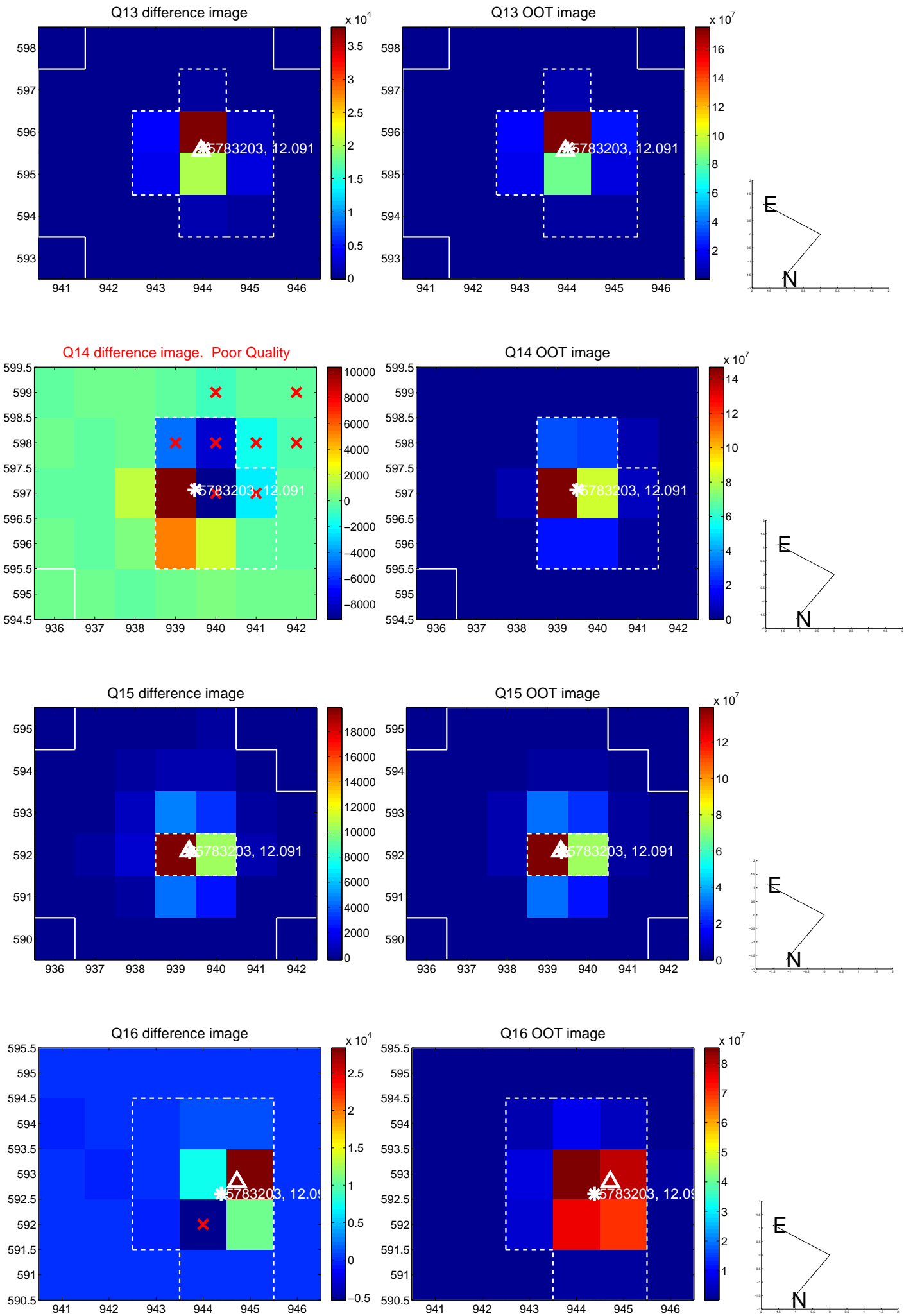
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



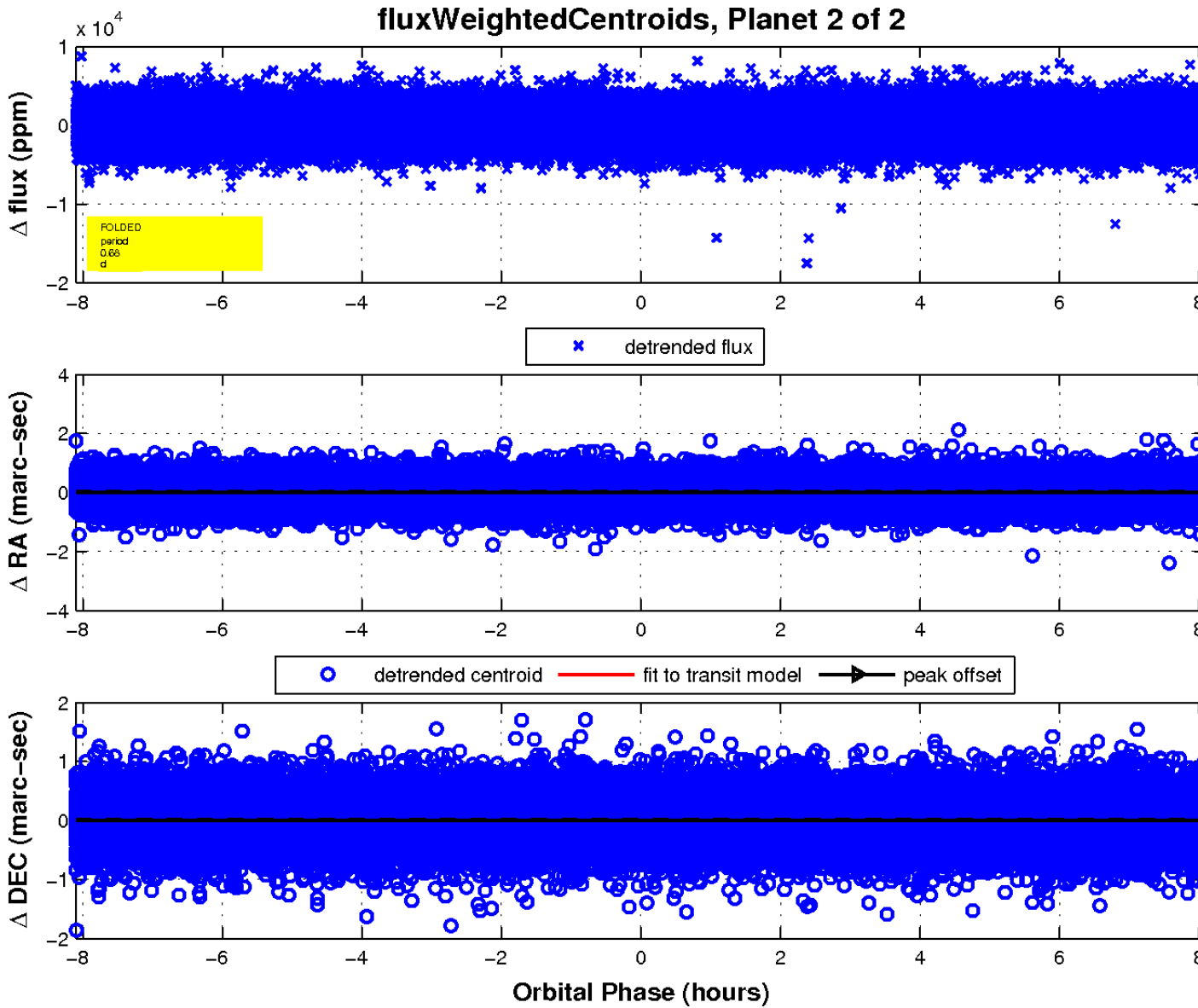
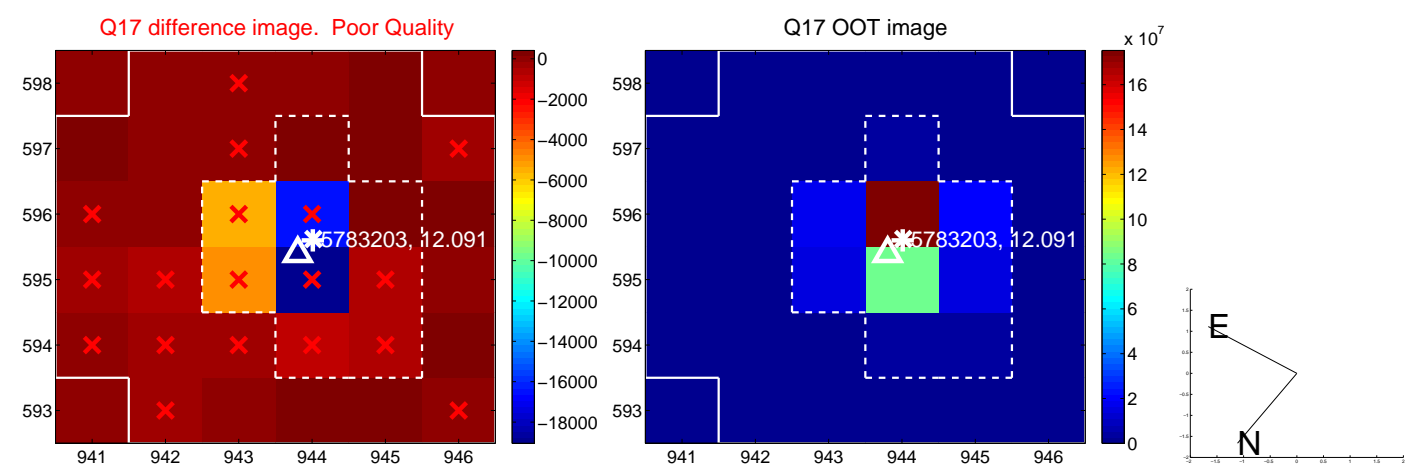
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

