

KIC 006937758

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})
006937758-01	OBS	No	0.785510	131.568773	59.4	4.008	11.2	9.1	2.28	7700	1.81	40920.88
006937758-02	OBS	No	1.903289	131.691421	139.3	22.840	12.0	16.1	2.28	7700	3.33	12574.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006937758-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
006937758-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

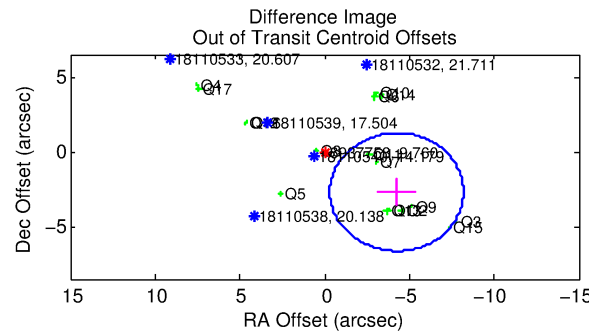
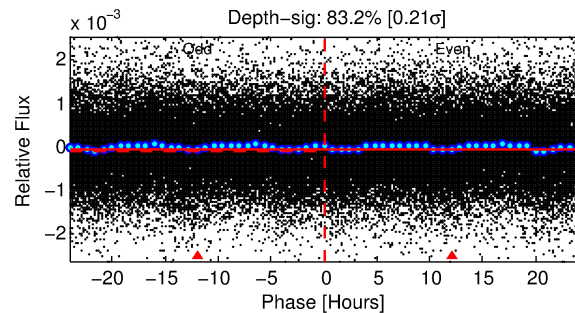
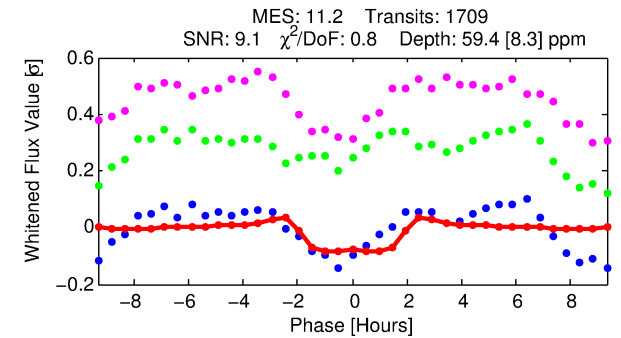
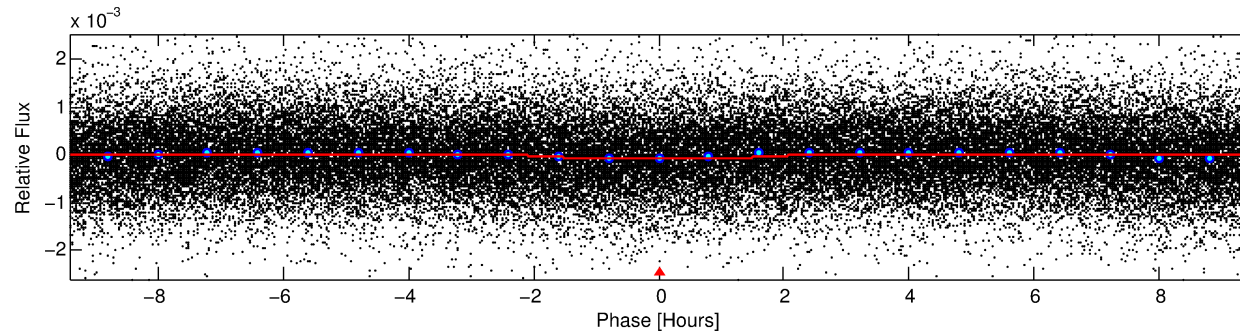
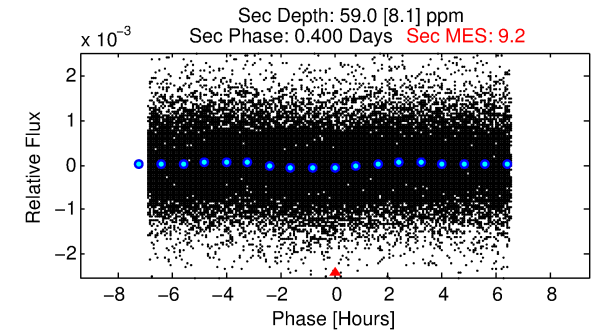
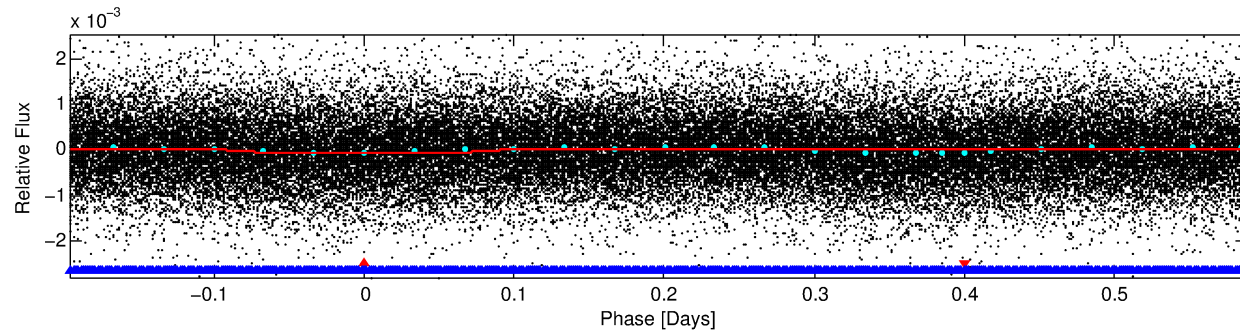
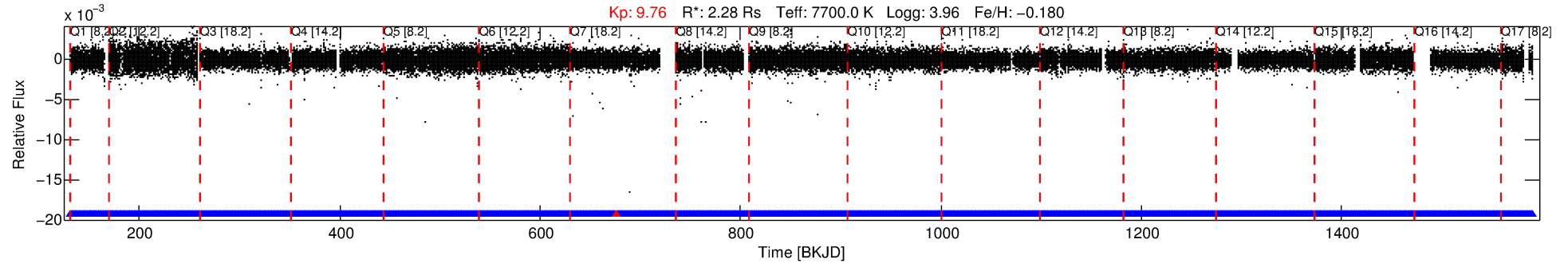
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006937758-01

No Significant Match Found

DV One-Page Summary

KIC: 6937758 Candidate: 1 of 2 Period: 0.786 d



DV Fit Results:

Period = 0.78551 [0.00001] d
Epoch = 131.5688 [0.0039] BKJD
Rp/R* = 0.0073 [0.0048]
a/R* = 1.50 [2.94]
b = 0.49 [5.48]
Seff = 40920.88 [11450.29]
Teq = 3627 [254] K
Rp = 1.81 [1.26] Re
a = 0.0200 [0.0037] AU
Ag = 3.95 [5.37] [0.55σ]
Teffp = 7906 [2633] K [1.62σ]

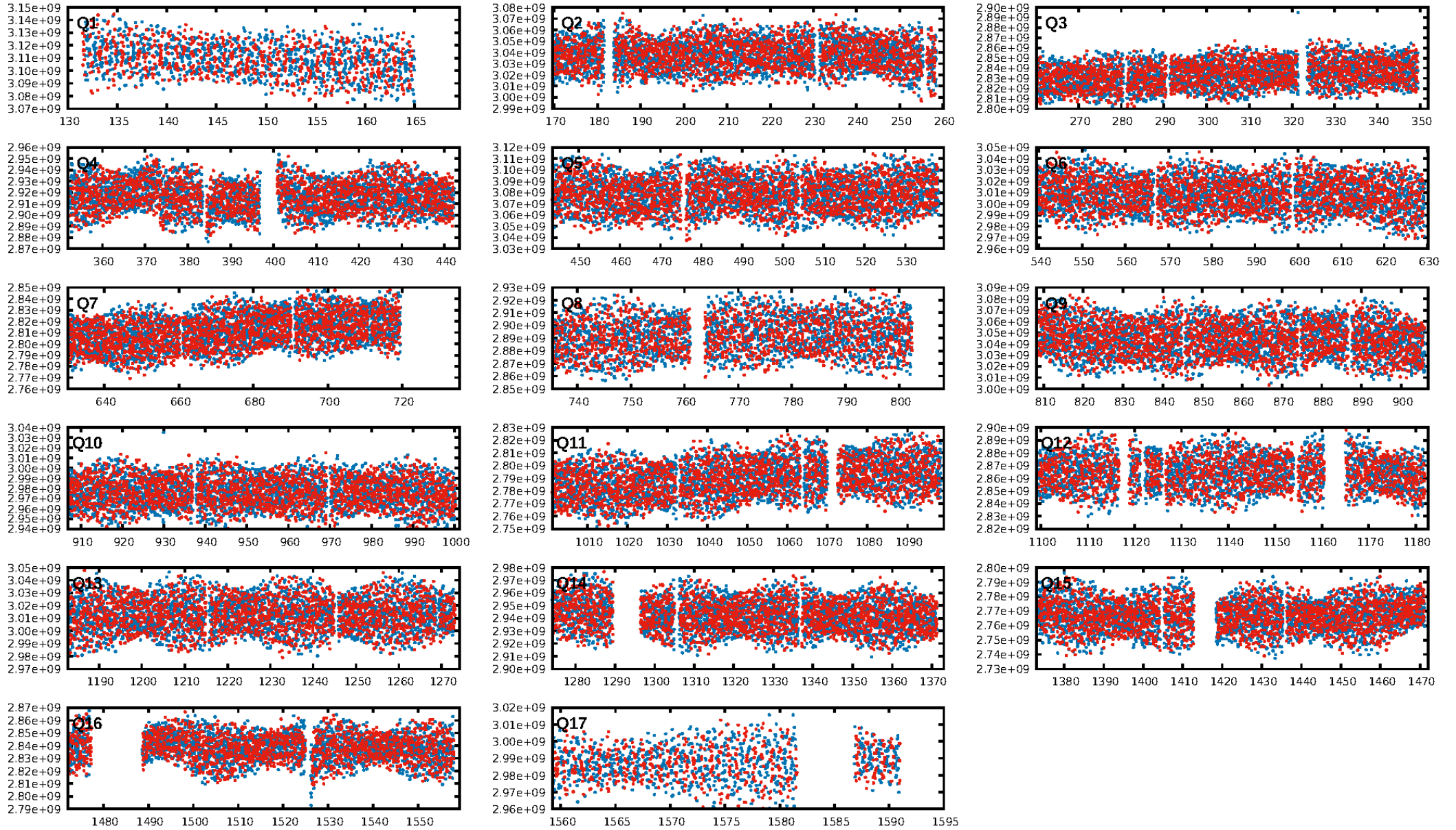
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 75.3% [1.16σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1630/1631]
GhostDiagnostic-chr: N/A
Centroid-sig: 25.8%
Centroid-so: 0.578 arcsec [2.03σ]
OotOffset-rm: 5.033 arcsec [3.83σ]
KicOffset-rm: 5.697 arcsec [4.15σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

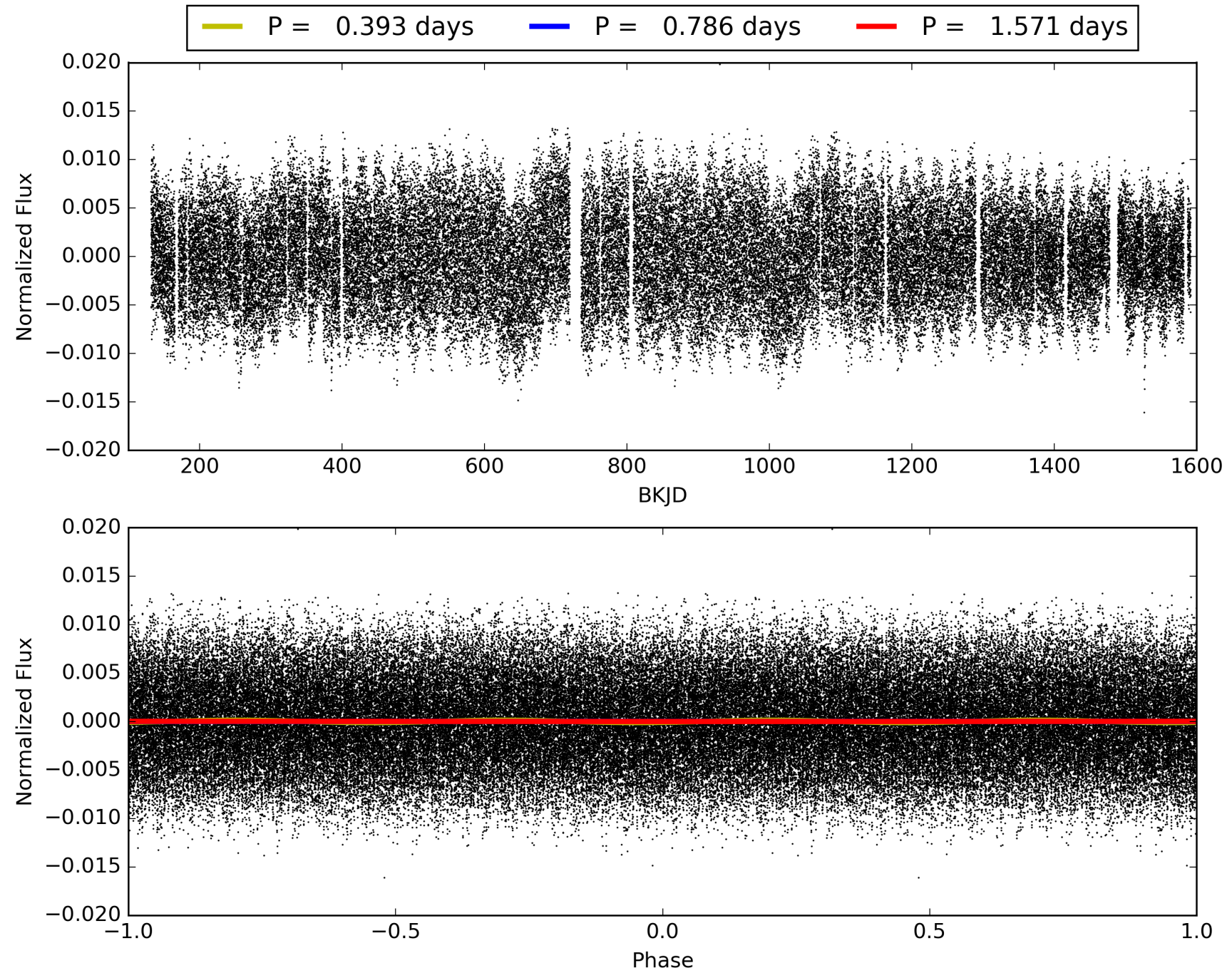
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:10:22 Z

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

TCE 006937758-01, PDC Light Curves

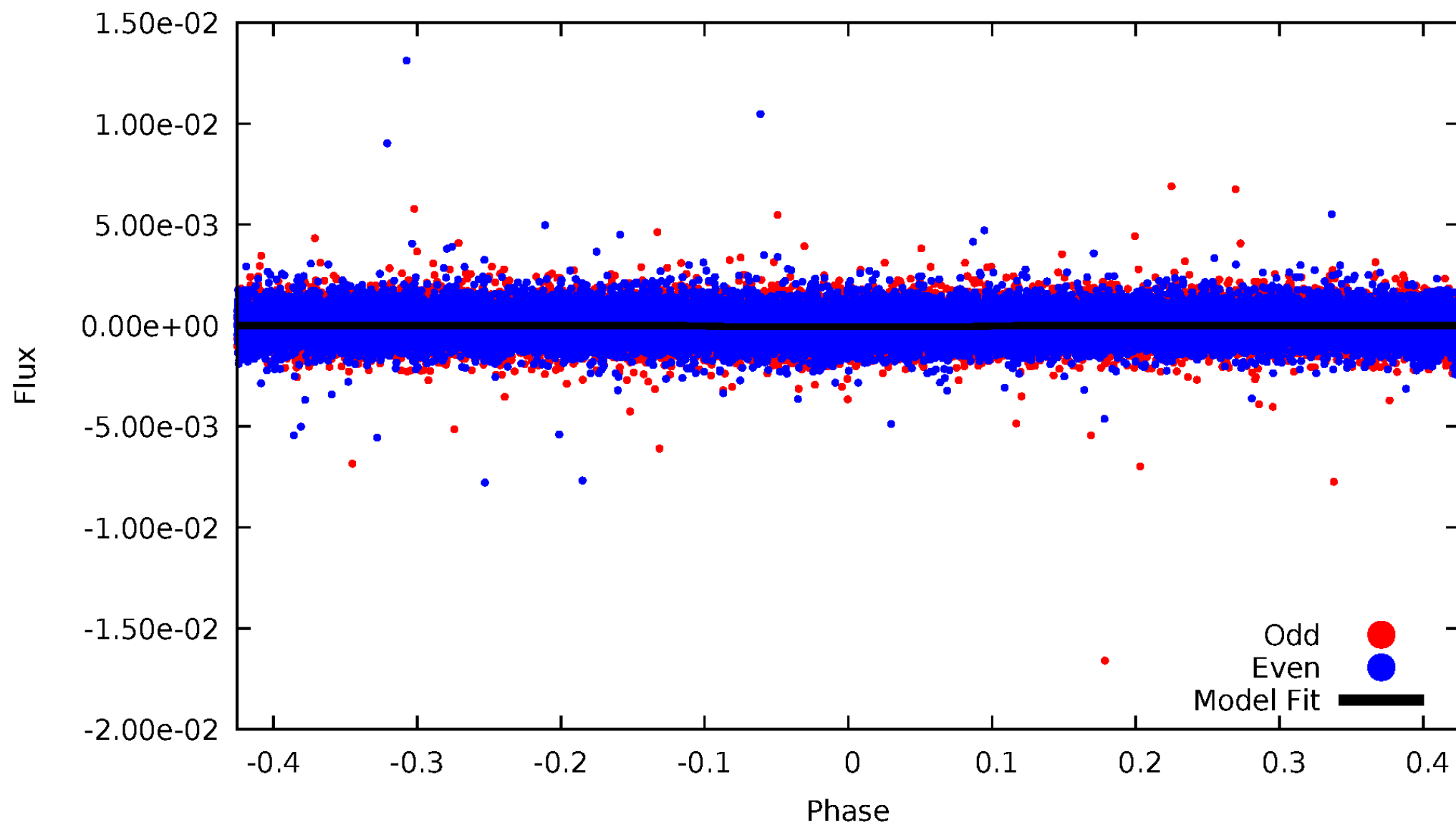


TCE 006937758-01



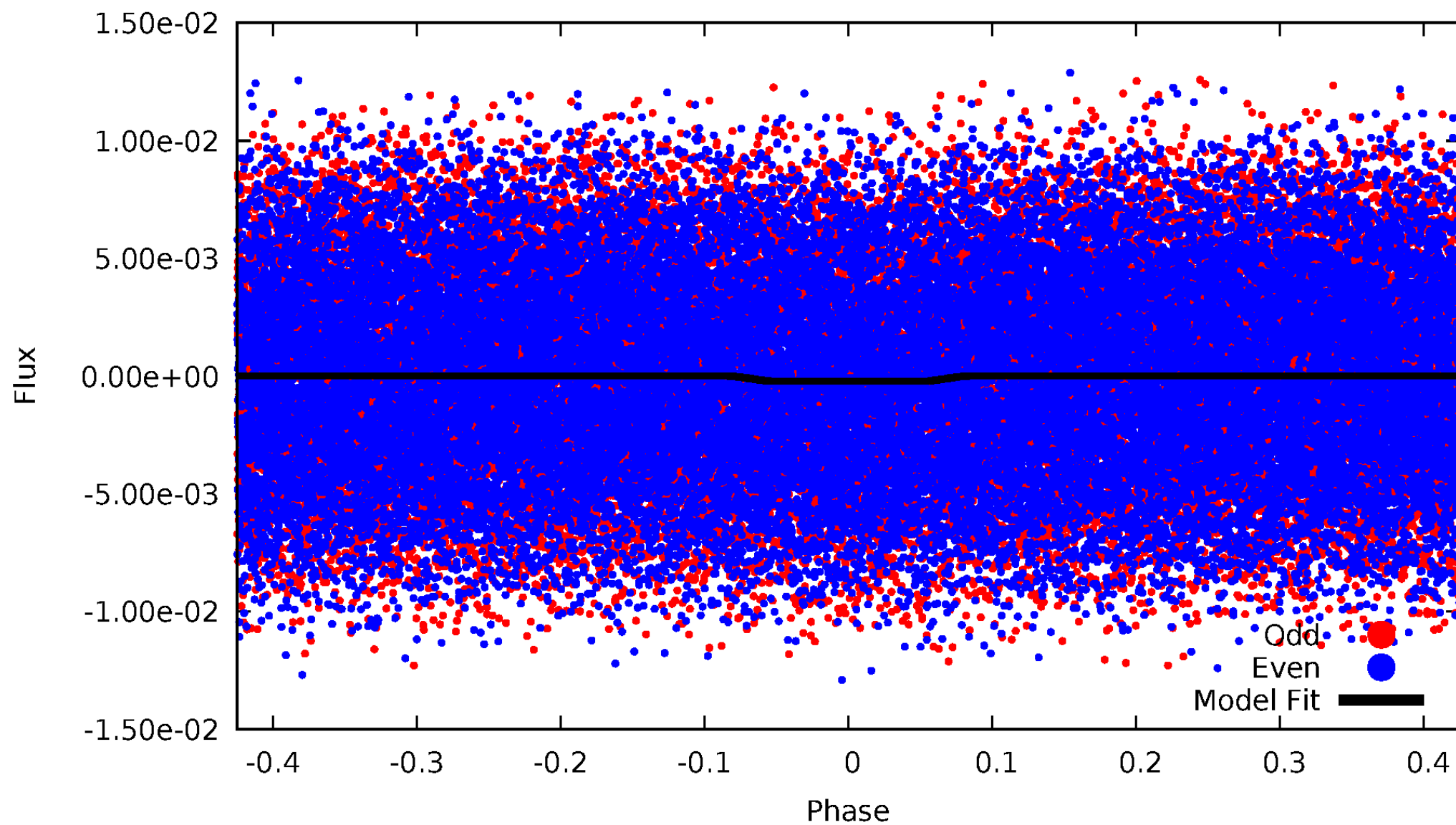
DV Odd/Even

TCE 006937758-01



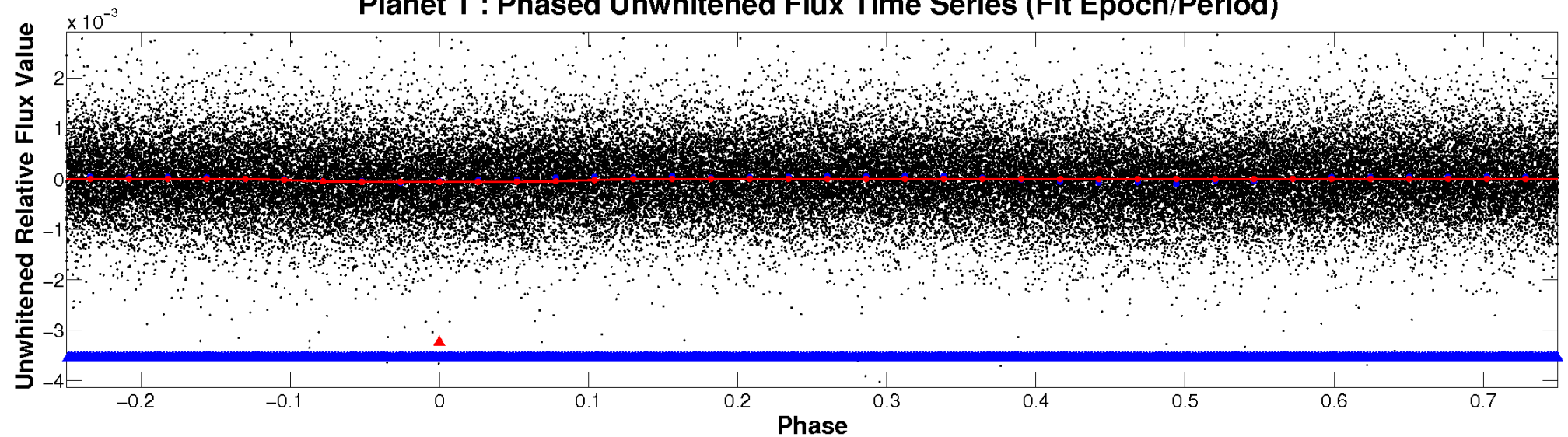
ALT Odd/Even

TCE 006937758-01

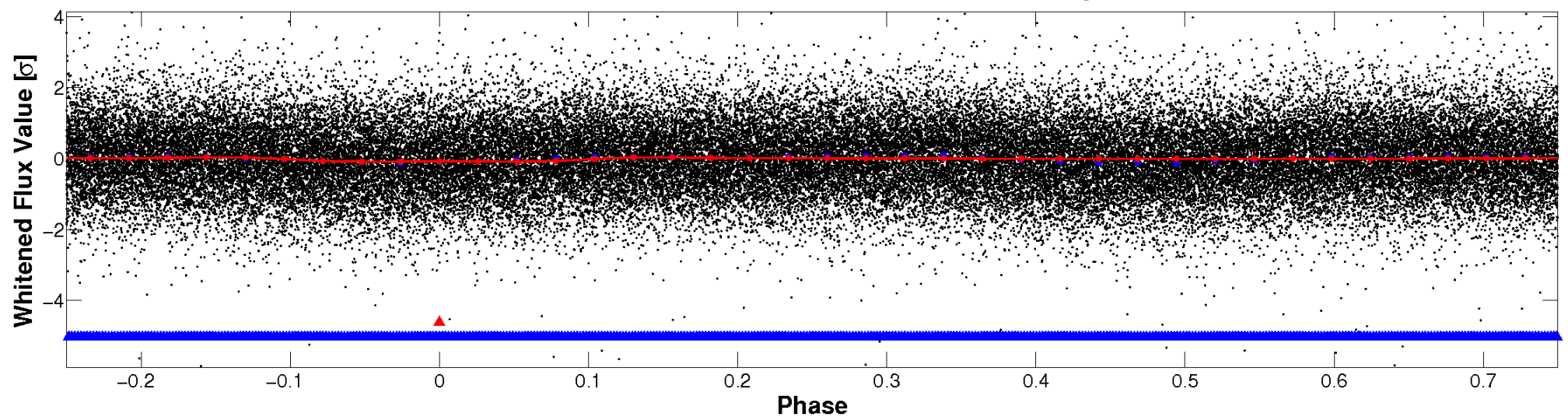


Non-Whitened Vs. Whitened Light Curve

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

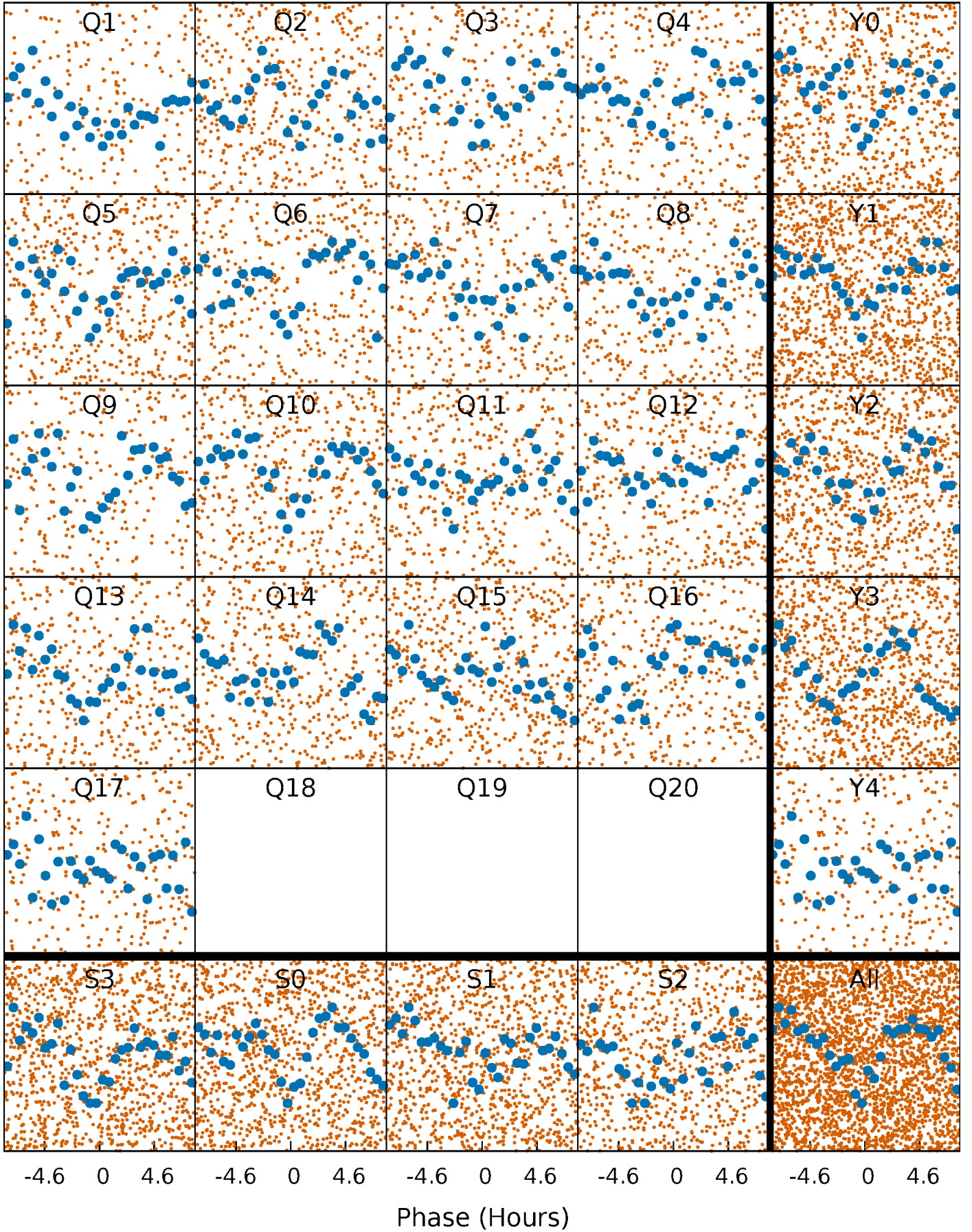


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



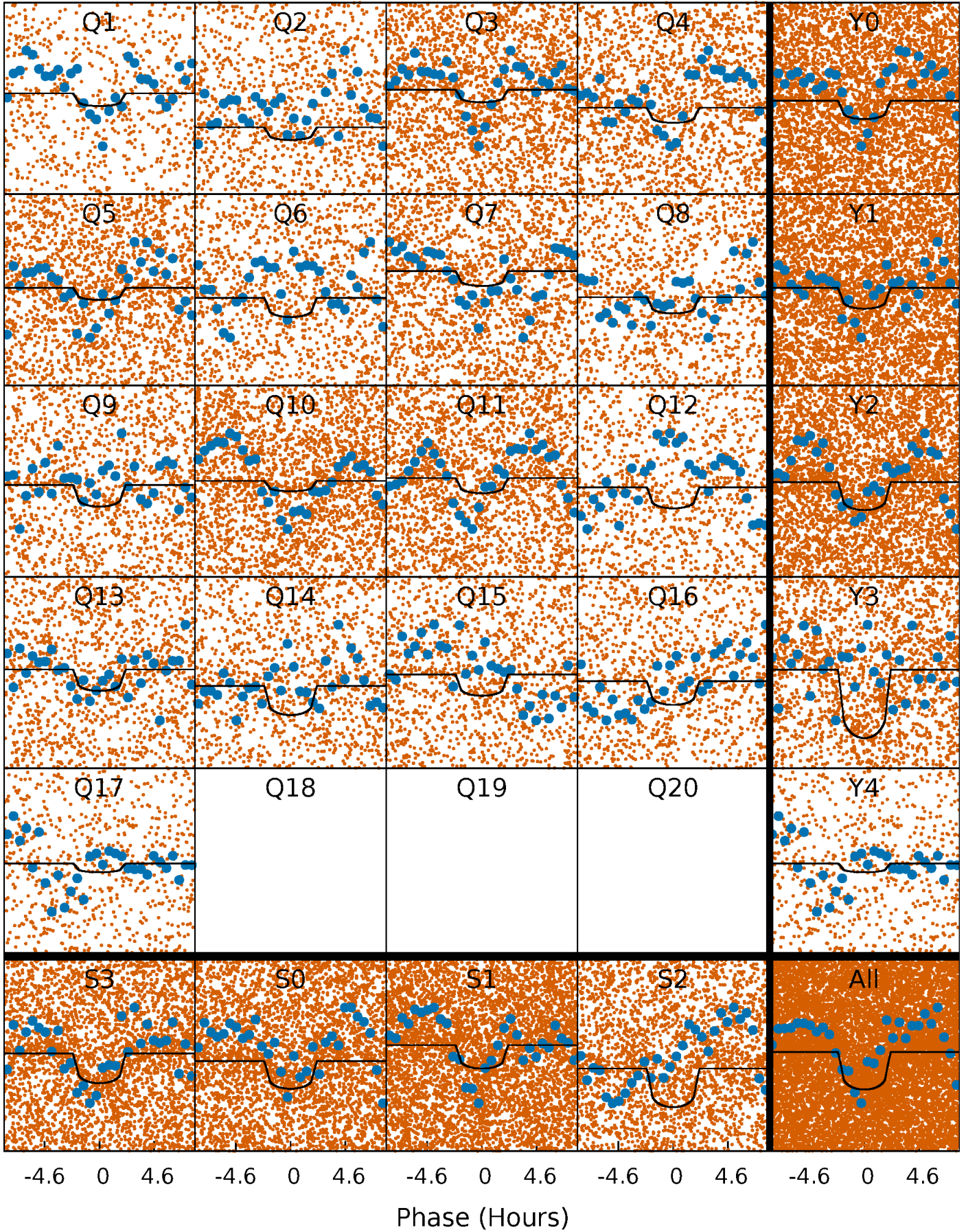
PDC Quarter-Phased Transit Curves

TCE 006937758-01 P= 0.785510 Days $T_0=131.568773$ (BKJD)



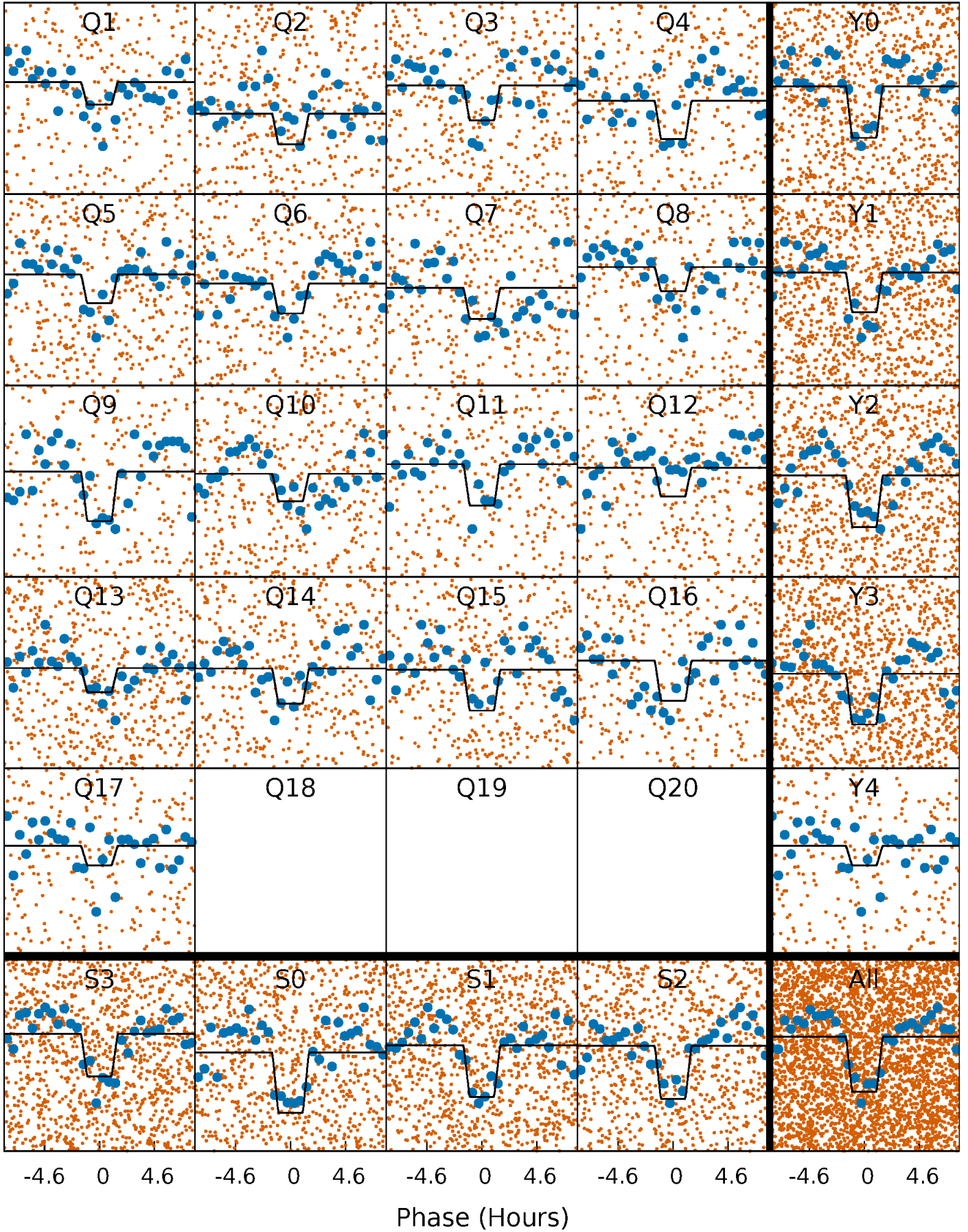
DV Quarter-Phased Transit Curves

TCE 006937758-01 P= 0.785510 Days $T_0=131.568773$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

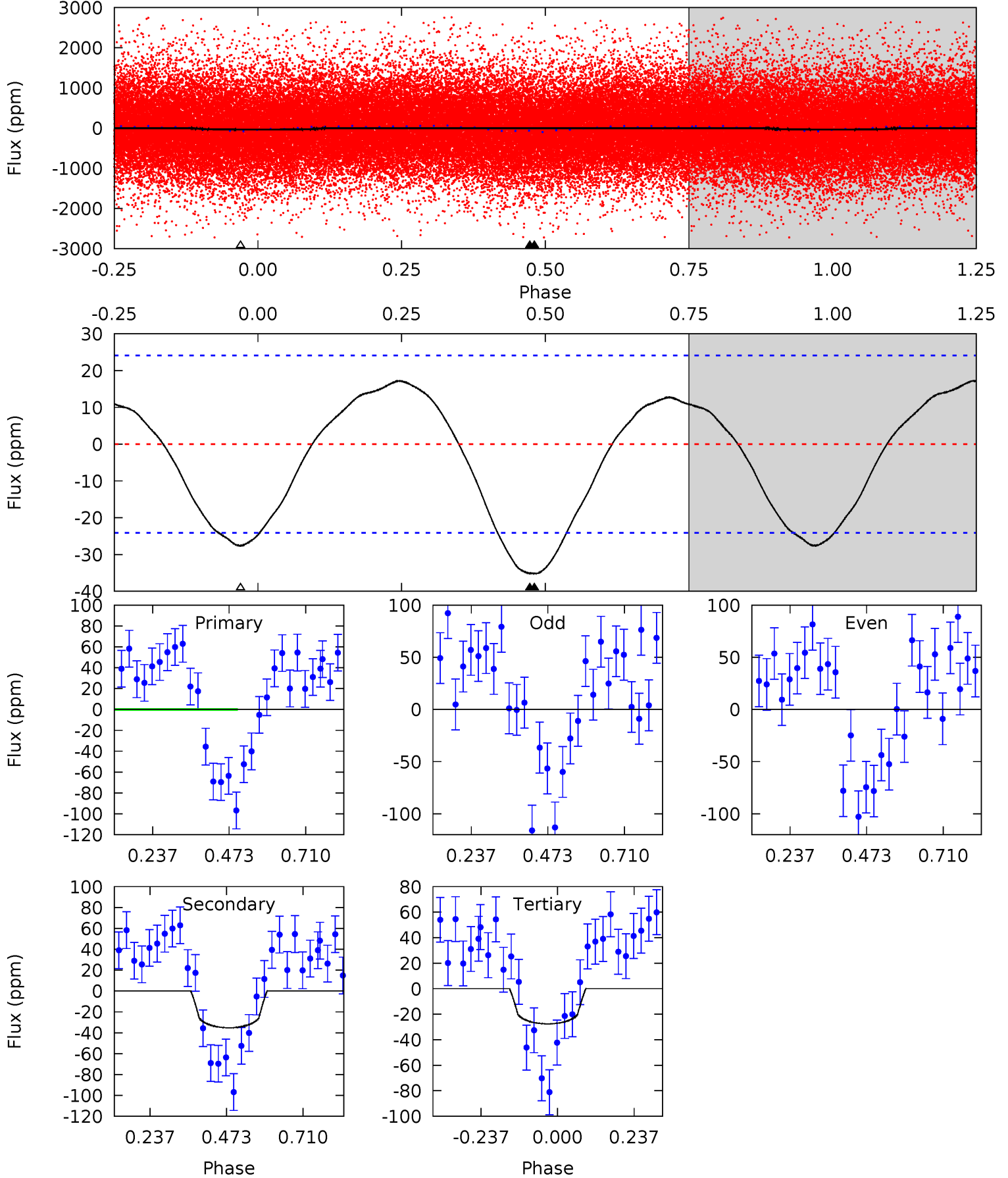
TCE 006937758-01 P= 0.785435 Days $T_0=131.590195$ (BKJD)



DV Model-Shift Uniqueness Test

006937758-01, P = 0.785510 Days, E = 130.783263 Days

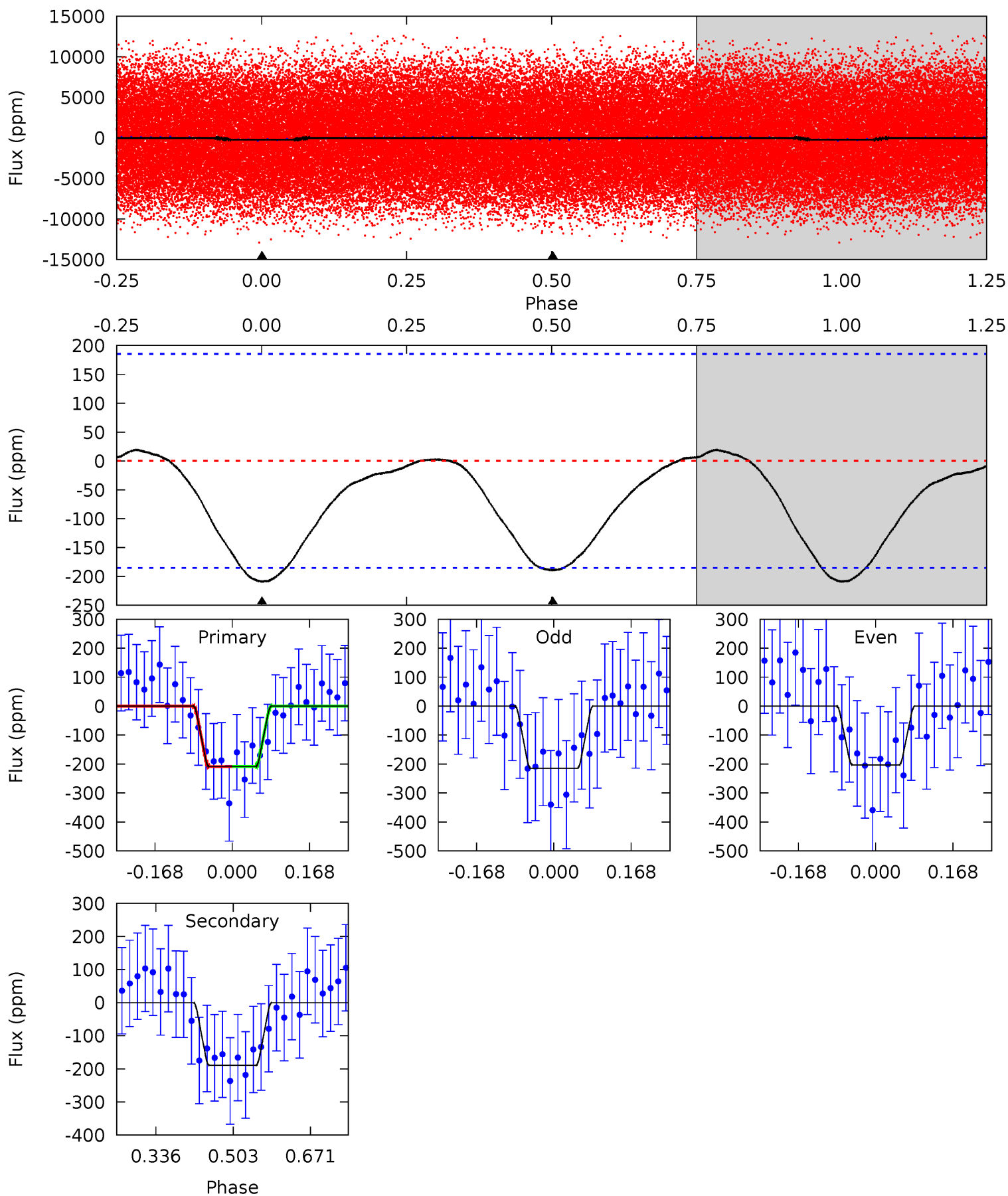
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.38	6.40	5.01	0	4.38	1.18	2.67	1.37	6.38	1.39	6.40	0.35	1.00	0.33	5.51



Alt Model-Shift Uniqueness Test

006937758-01, P = 0.785435 Days, E = 130.804760 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.02	4.56	0	0	4.45	1.38	0.33	5.02	5.02	4.56	4.56	0.14	1.01	0.09	0.01



Stellar Parameters For KIC 006937758

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7700^{+69}_{-84}	$3.960^{+0.156}_{-0.104}$	$-0.180^{+0.150}_{-0.150}$	$2.280^{+0.430}_{-0.472}$	$1.728^{+0.190}_{-0.171}$	$0.205^{+0.167}_{-0.074}$
	+1%/-1%	+4%/-3%	+83%/-83%	+19%/-21%	+11%/-10%	+82%/-36%
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 006937758-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-35 ± 6	$1.92^{+1.12}_{-1.03}$	5027^{+248}_{-241}	6259^{+4254}_{-1465}	$2.133^{+7.591}_{-1.309}$
Alt.	-190 ± 42	$3.66^{+1.34}_{-1.14}$	5032^{+232}_{-258}	7109^{+2101}_{-1203}	$3.079^{+3.985}_{-1.468}$

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

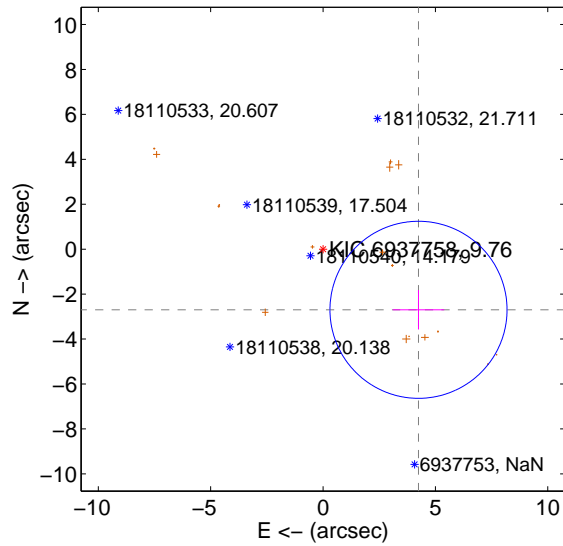
Supplemental centroid analysis for 006937758-01. **Kepler magnitude: 9.76.** Transit SNR 9.11

There are 0 quarters with good PRF difference image offsets

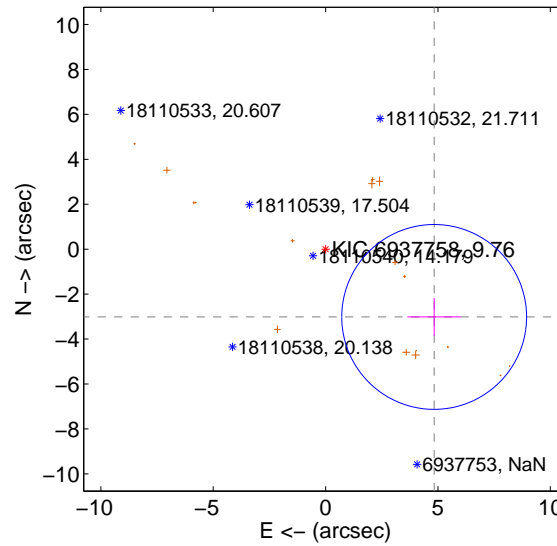
The direct PRF centroid is offset from the target star catalog position by about 0.79 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.033 ± 1.313	3.83	-4.249 ± 1.144	-2.699 ± 0.875
PRF-fit source offset from KIC position	5.697 ± 1.371	4.15	-4.833 ± 1.189	-3.016 ± 0.840
photometric centroid source offset	0.58 ± 0.28	2.03	0.57 ± 0.29	0.11 ± 0.21

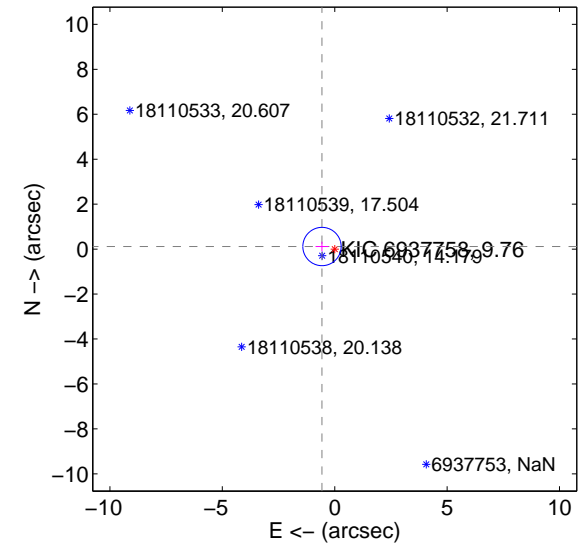
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

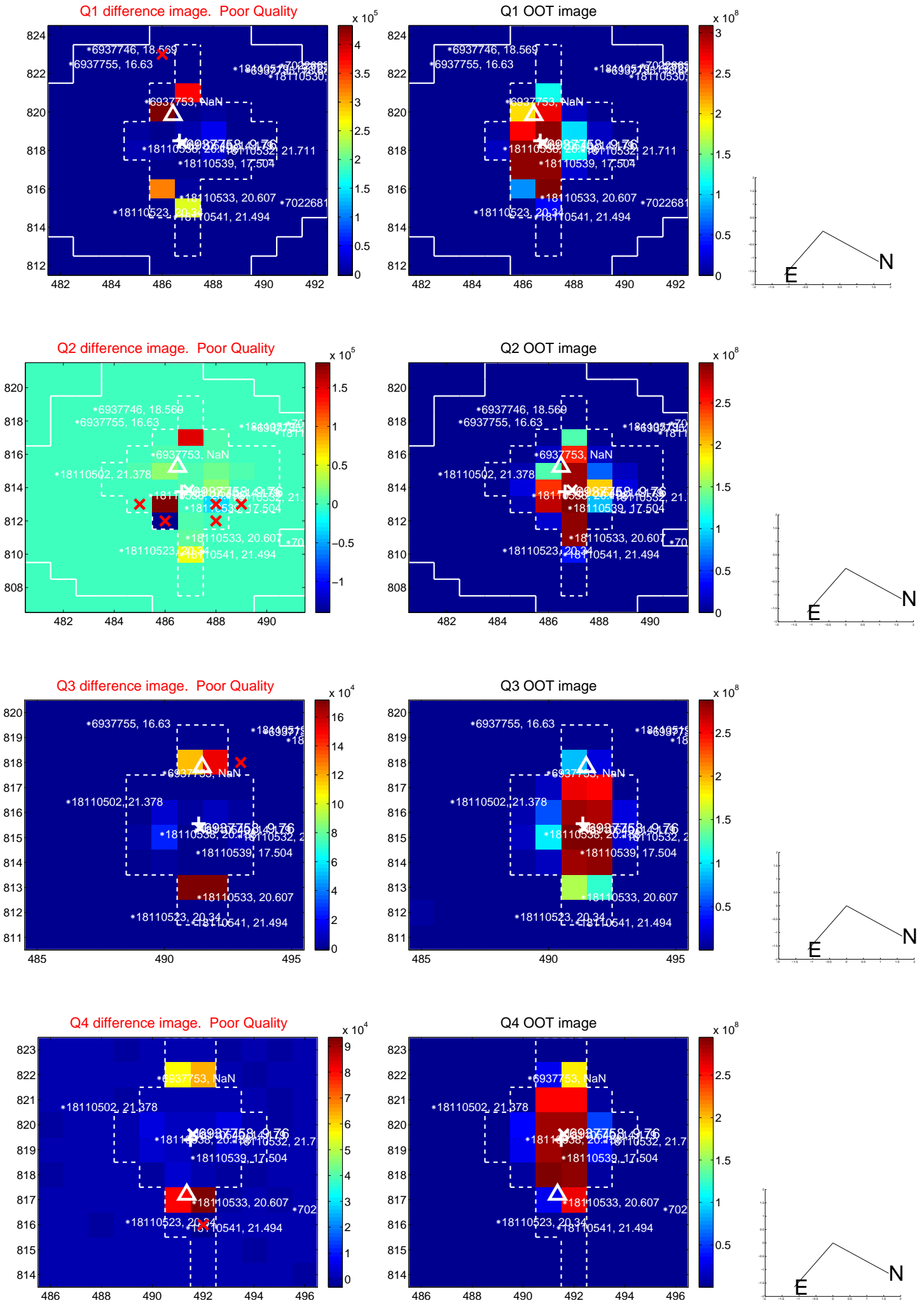


offset from photometric centroids

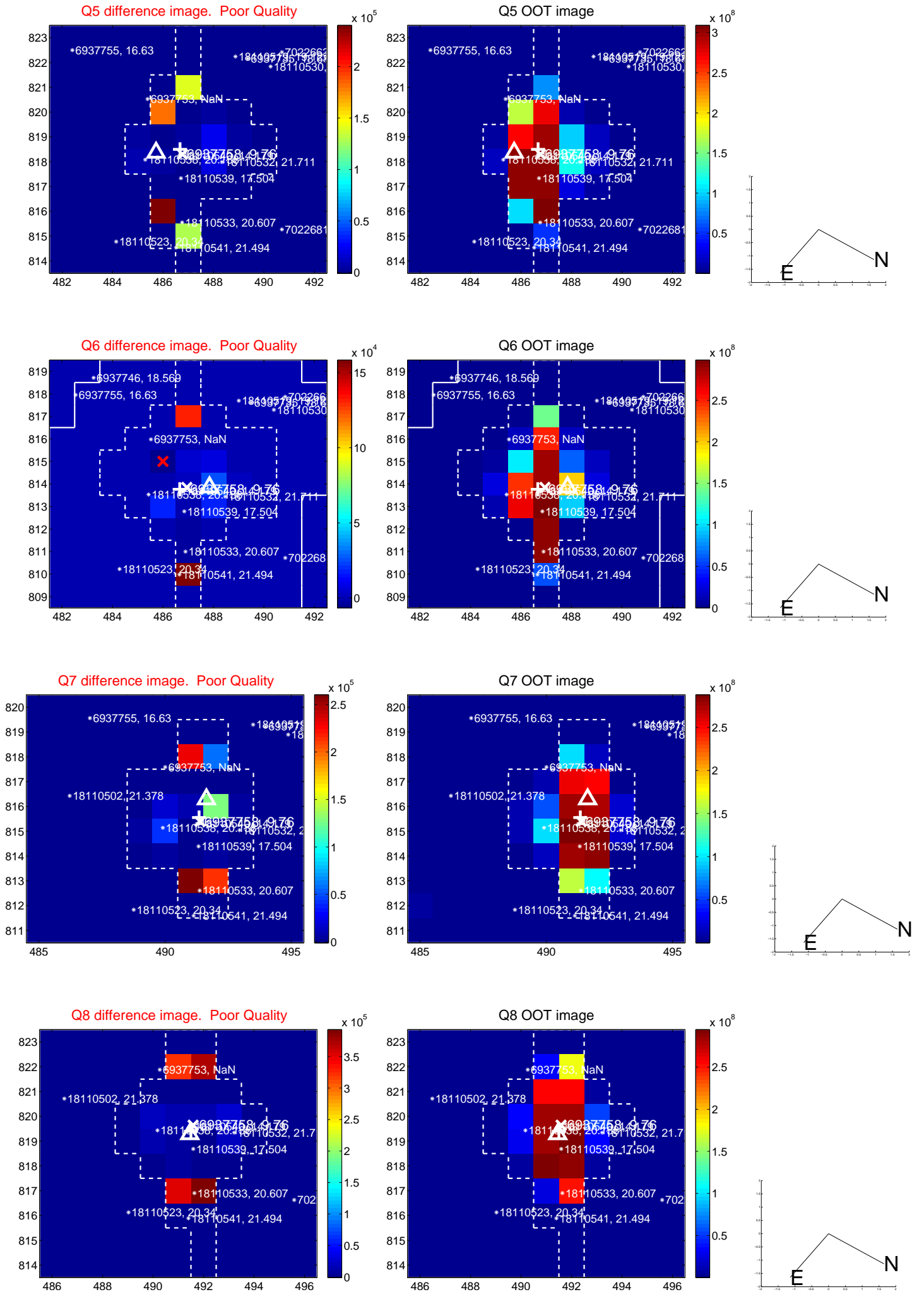


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

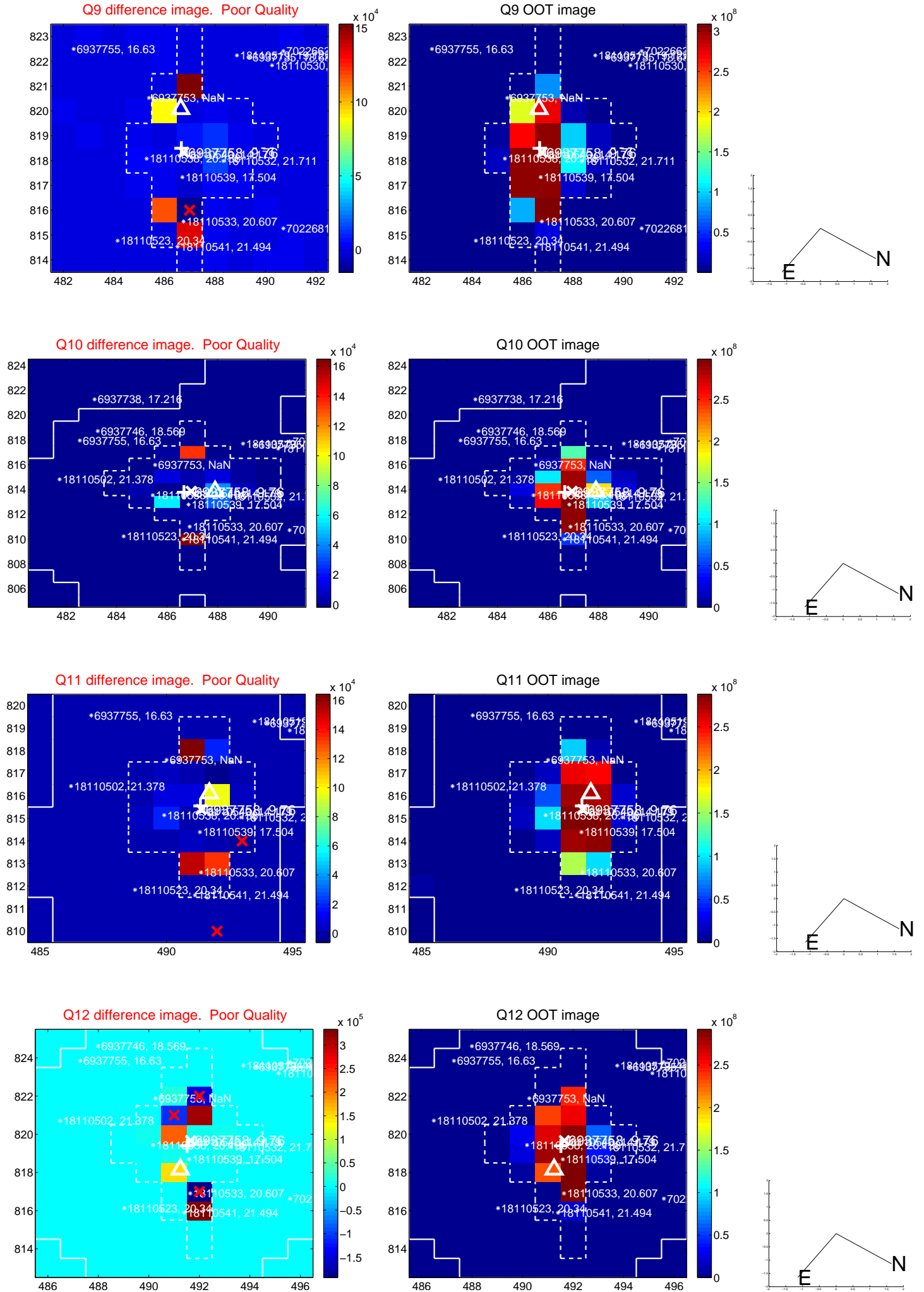
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



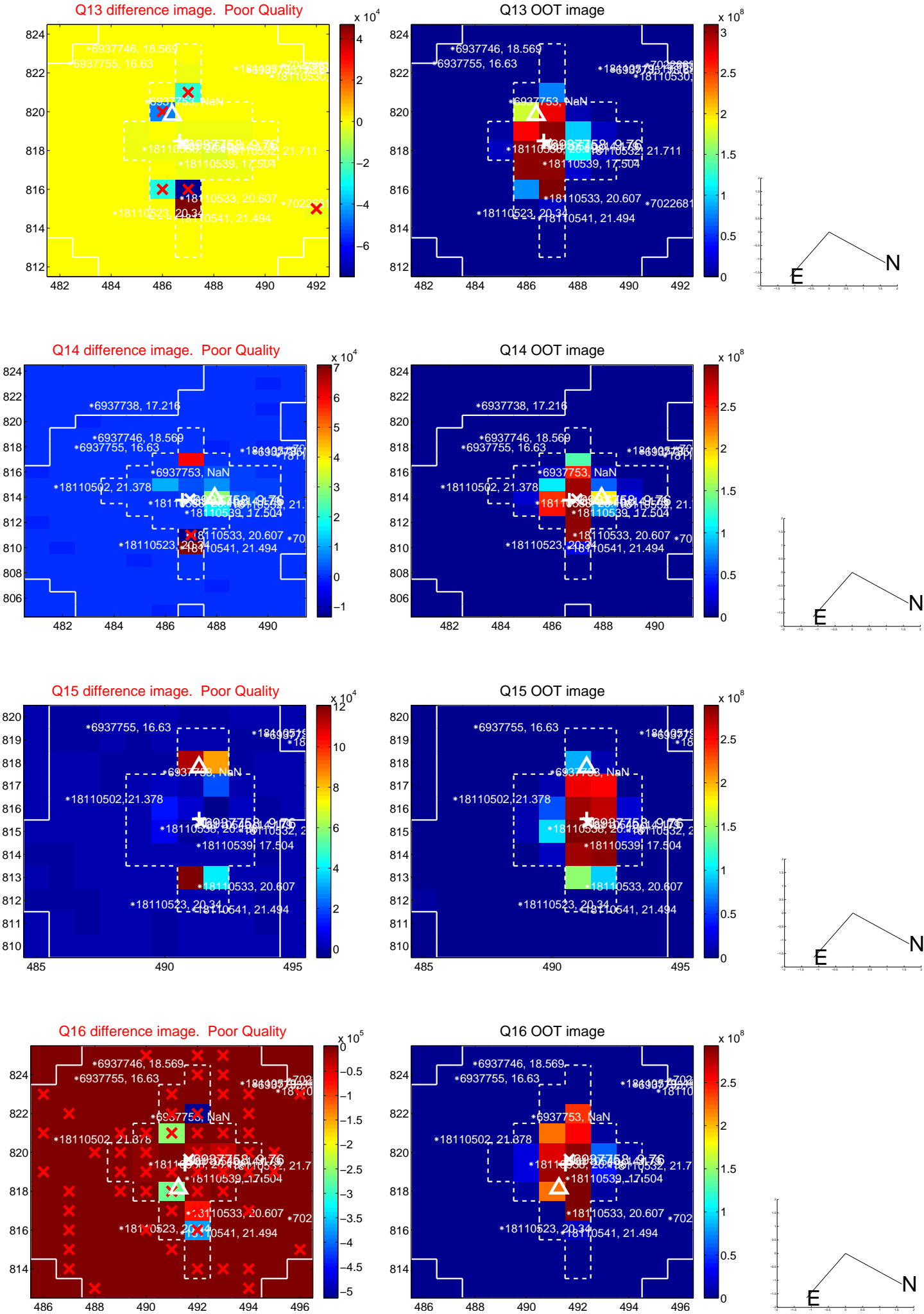
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



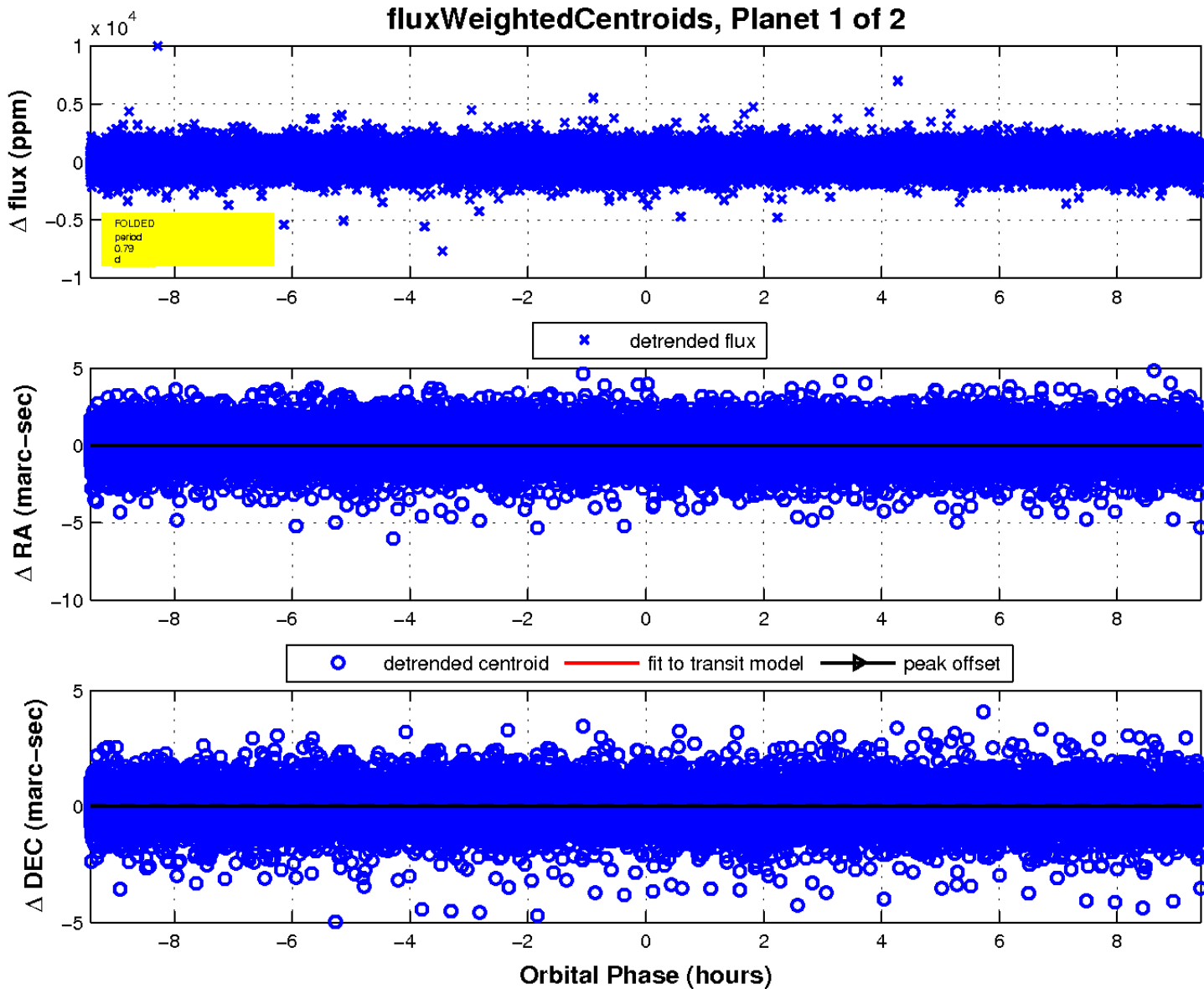
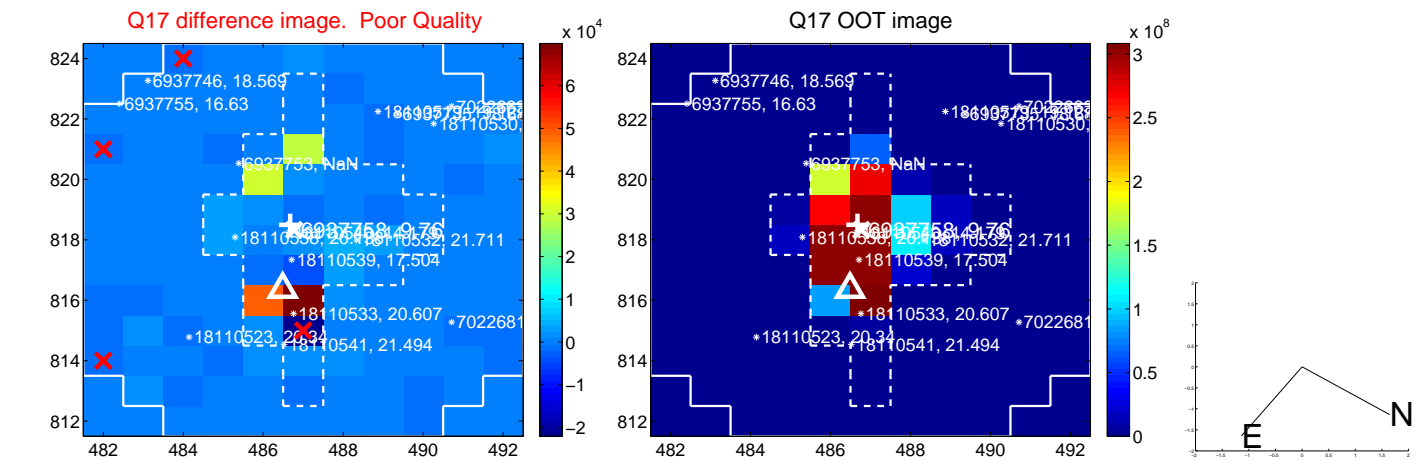
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

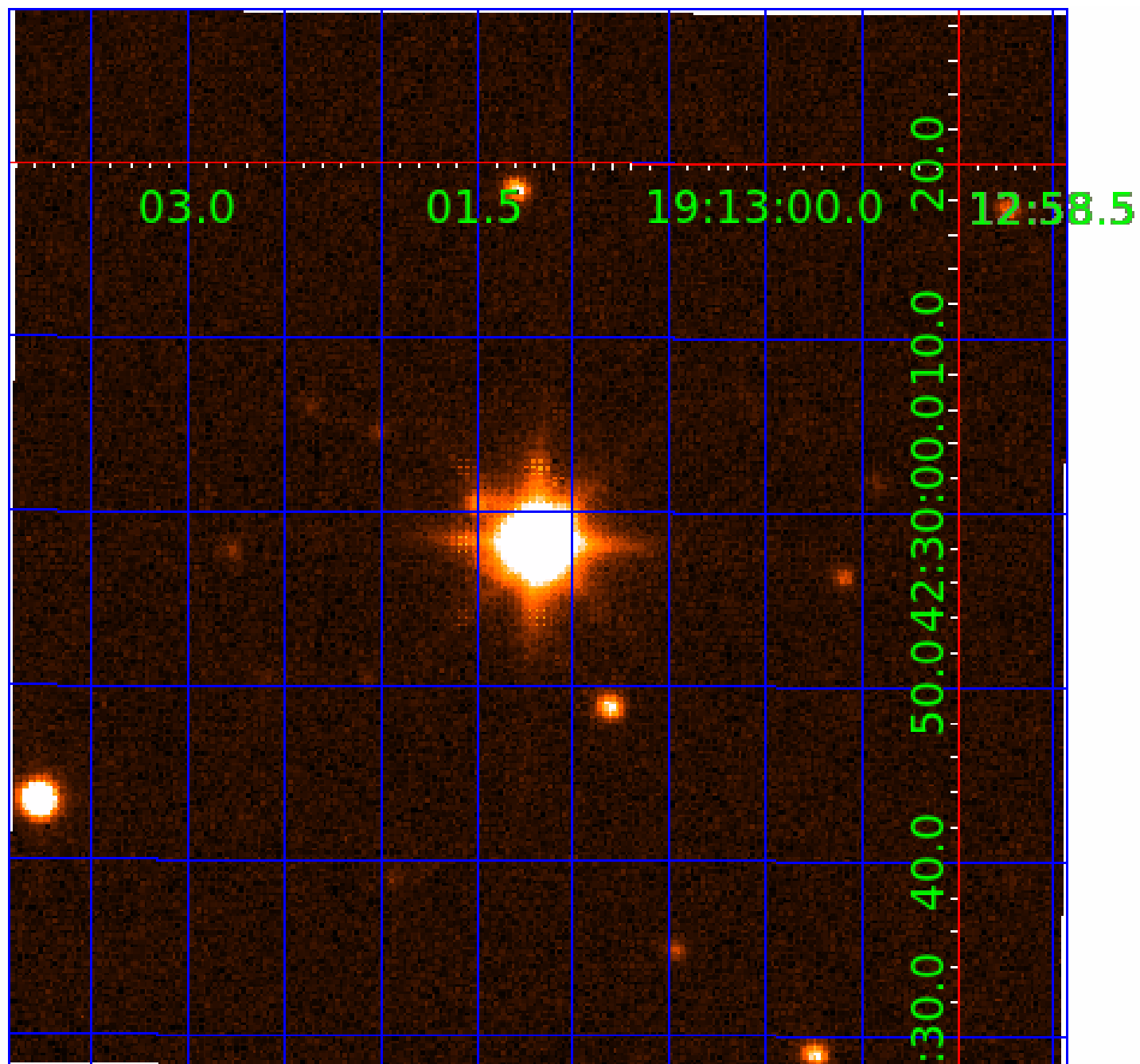


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006937758

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})
006937758-01	OBS	No	0.785510	131.568773	59.4	4.008	11.2	9.1	2.28	7700	1.81	40920.88
006937758-02	OBS	No	1.903289	131.691421	139.3	22.840	12.0	16.1	2.28	7700	3.33	12574.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006937758-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
006937758-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

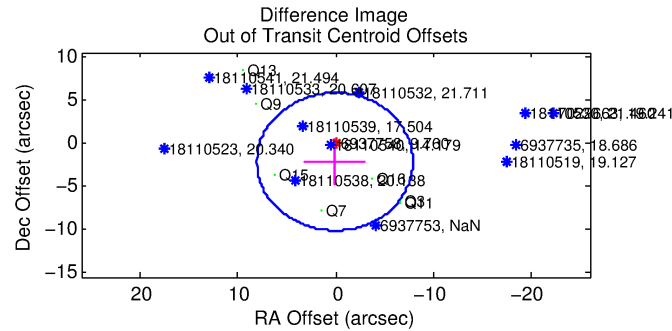
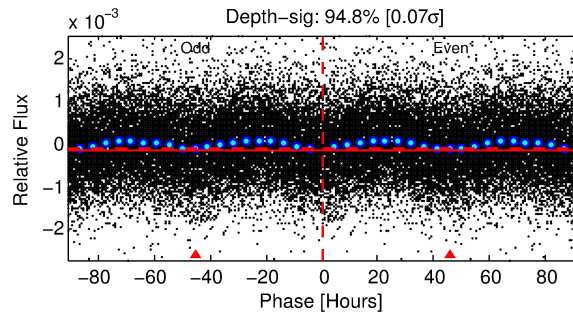
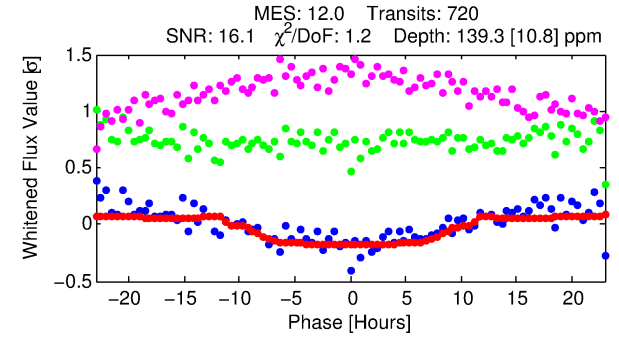
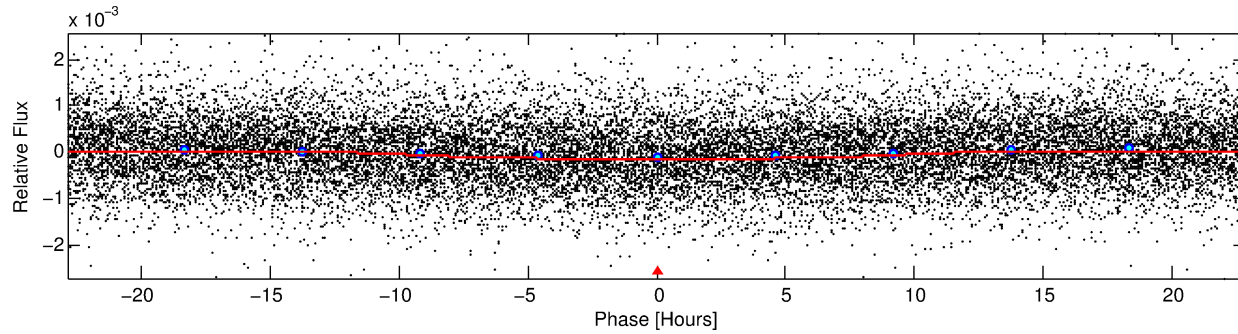
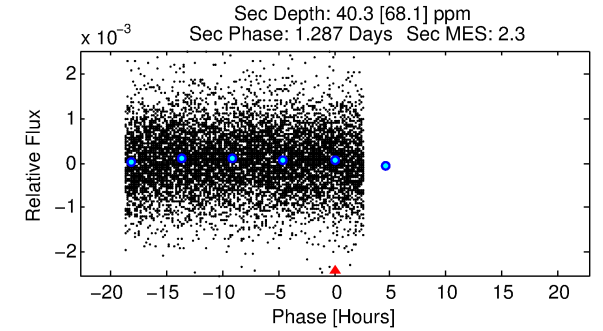
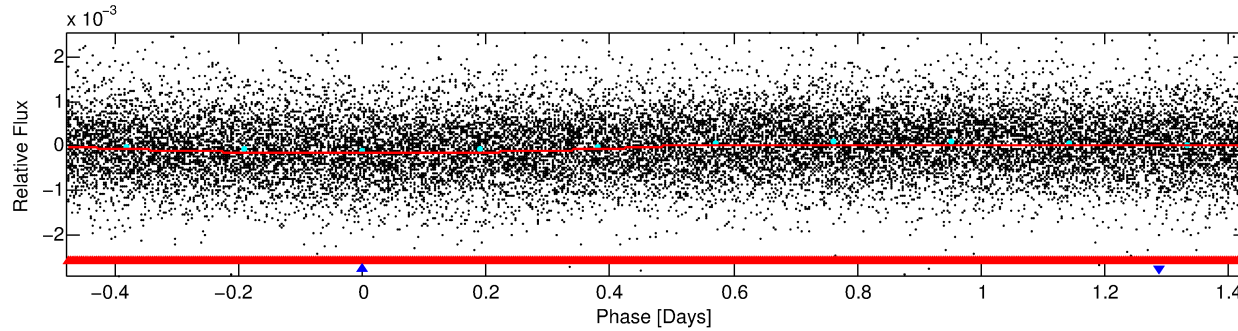
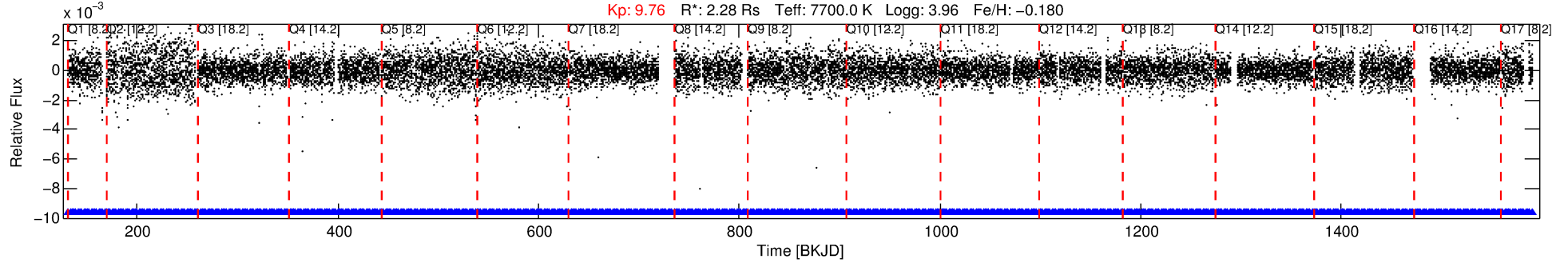
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006937758-02

No Significant Match Found

DV One-Page Summary

KIC: 6937758 Candidate: 2 of 2 Period: 1.903 d



DV Fit Results:

Period = 1.90329 [0.00005] d
Epoch = 131.6914 [0.0164] BKJD
Rp/R* = 0.0134 [0.0007]
a/R* = 1.00 [0.00]
b = 0.95 [0.02]
Seff = 12574.02 [3518.41]
Teq = 2700 [189] K
Rp = 3.33 [0.71] Re
a = 0.0361 [0.0066] AU
Ag = 2.60 [4.46] [0.36σ]
Teffp = 5303 [2244] K [1.16σ]

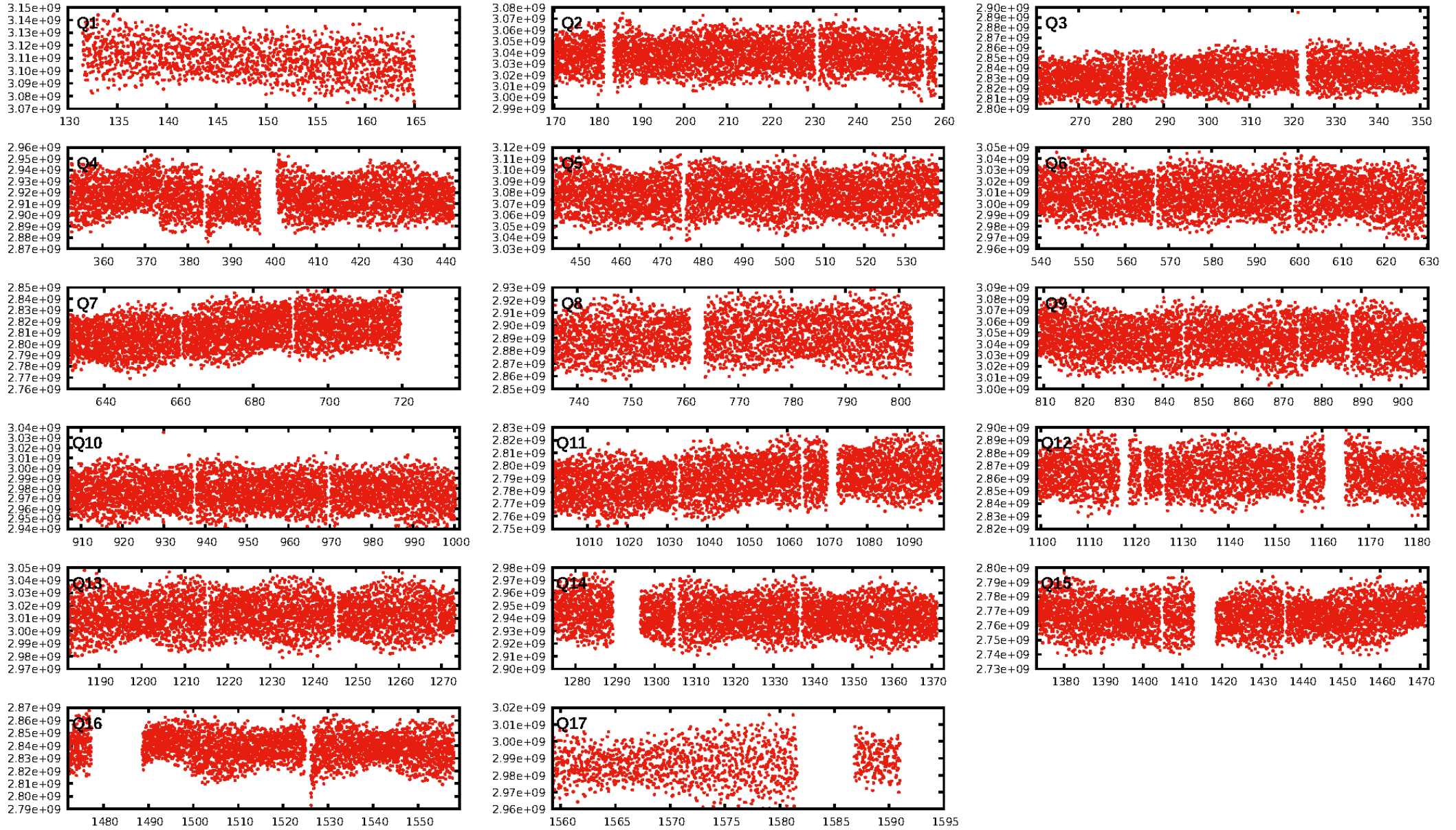
DV Diagnostic Results:

ShortPeriod-sig: 75.3% [1.16σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [688/688]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 1.167 arcsec [12.06σ]
OotOffset-rm: 2.161 arcsec [0.81σ]
OotOffset-st: 0/4/1/2 [7]
KicOffset-rm: 2.638 arcsec [1.02σ]
KicOffset-st: 0/4/1/2 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 0.00 [0/17]

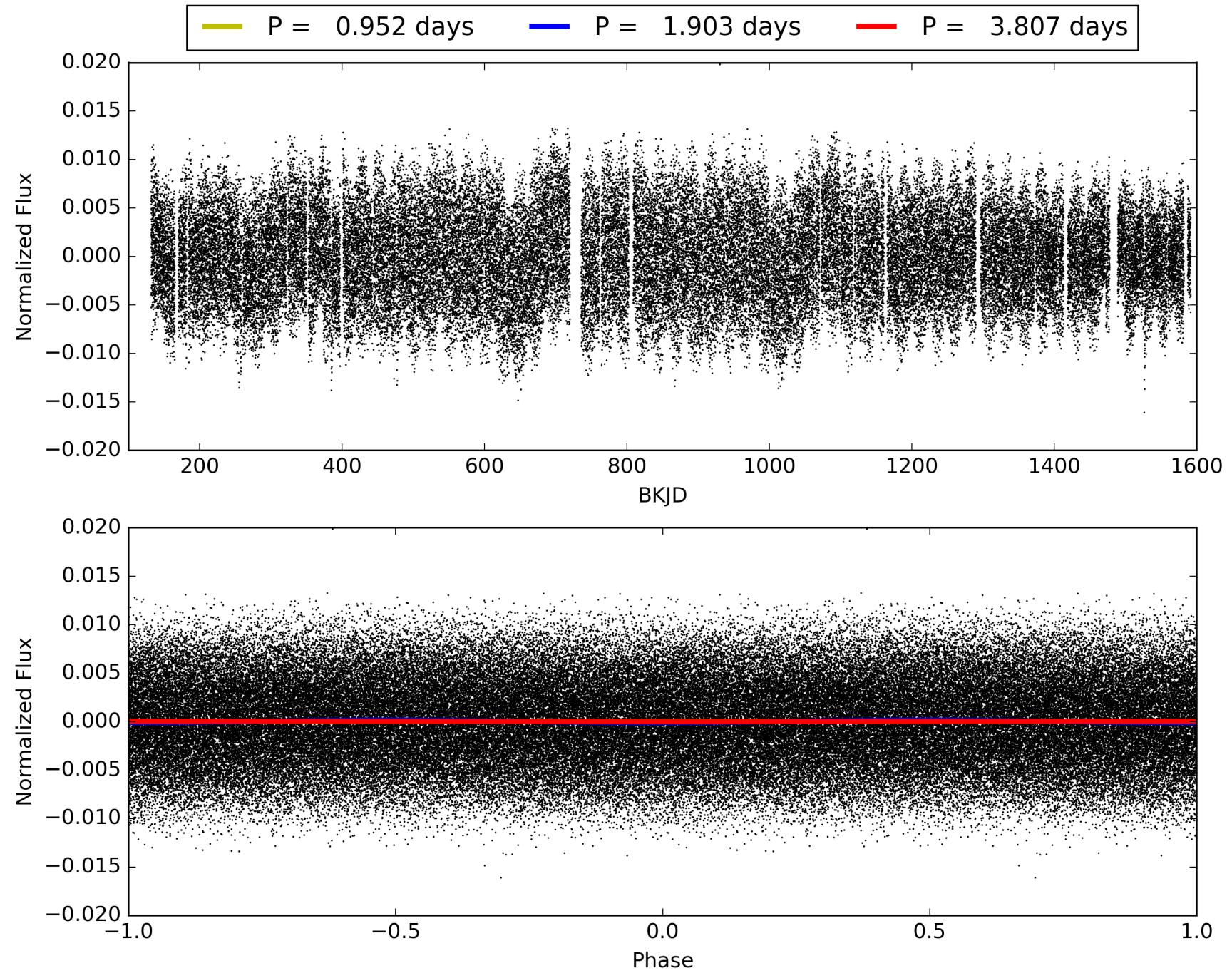
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:10:39 Z

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

TCE 006937758-02, PDC Light Curves

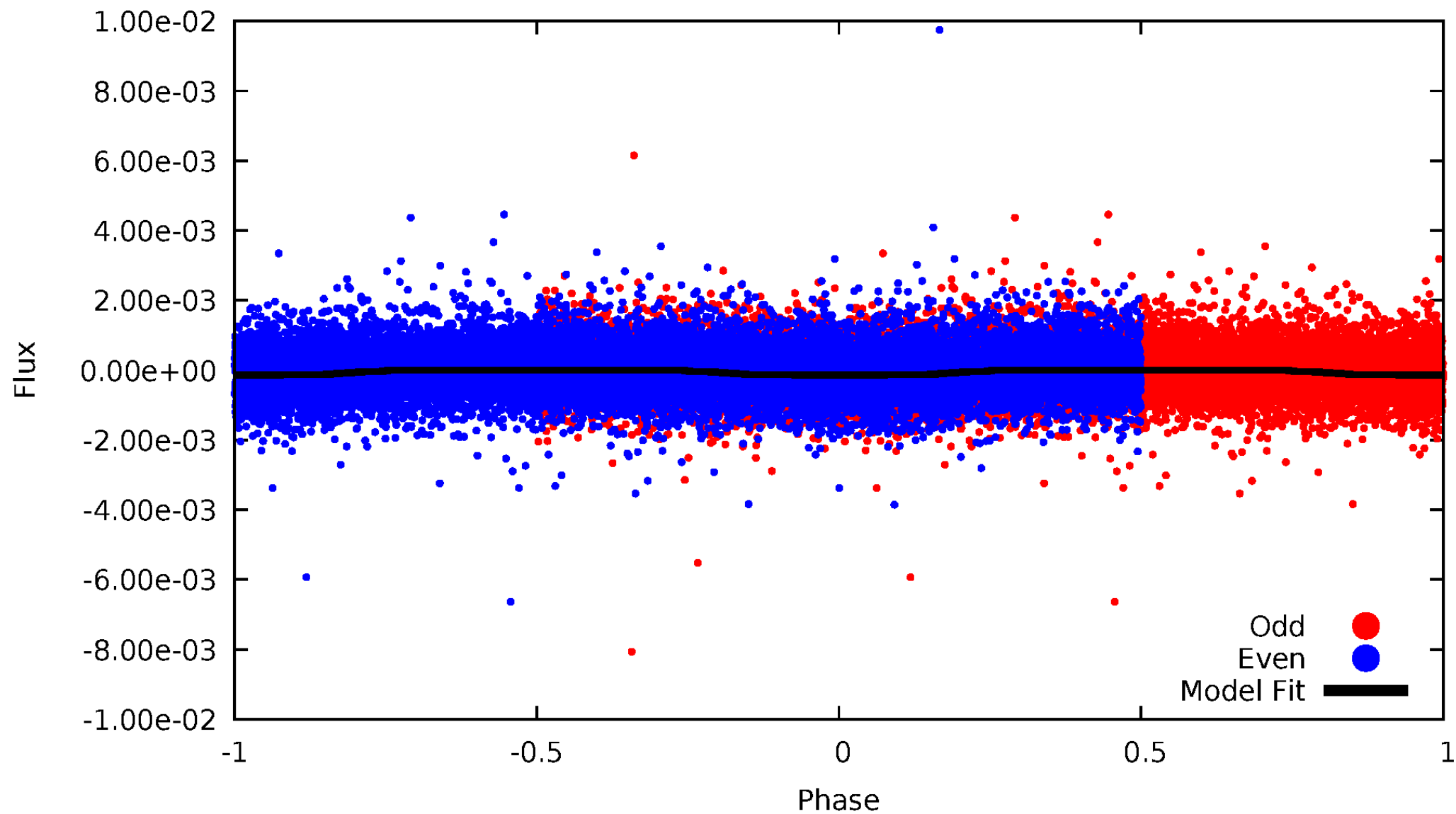


TCE 006937758-02



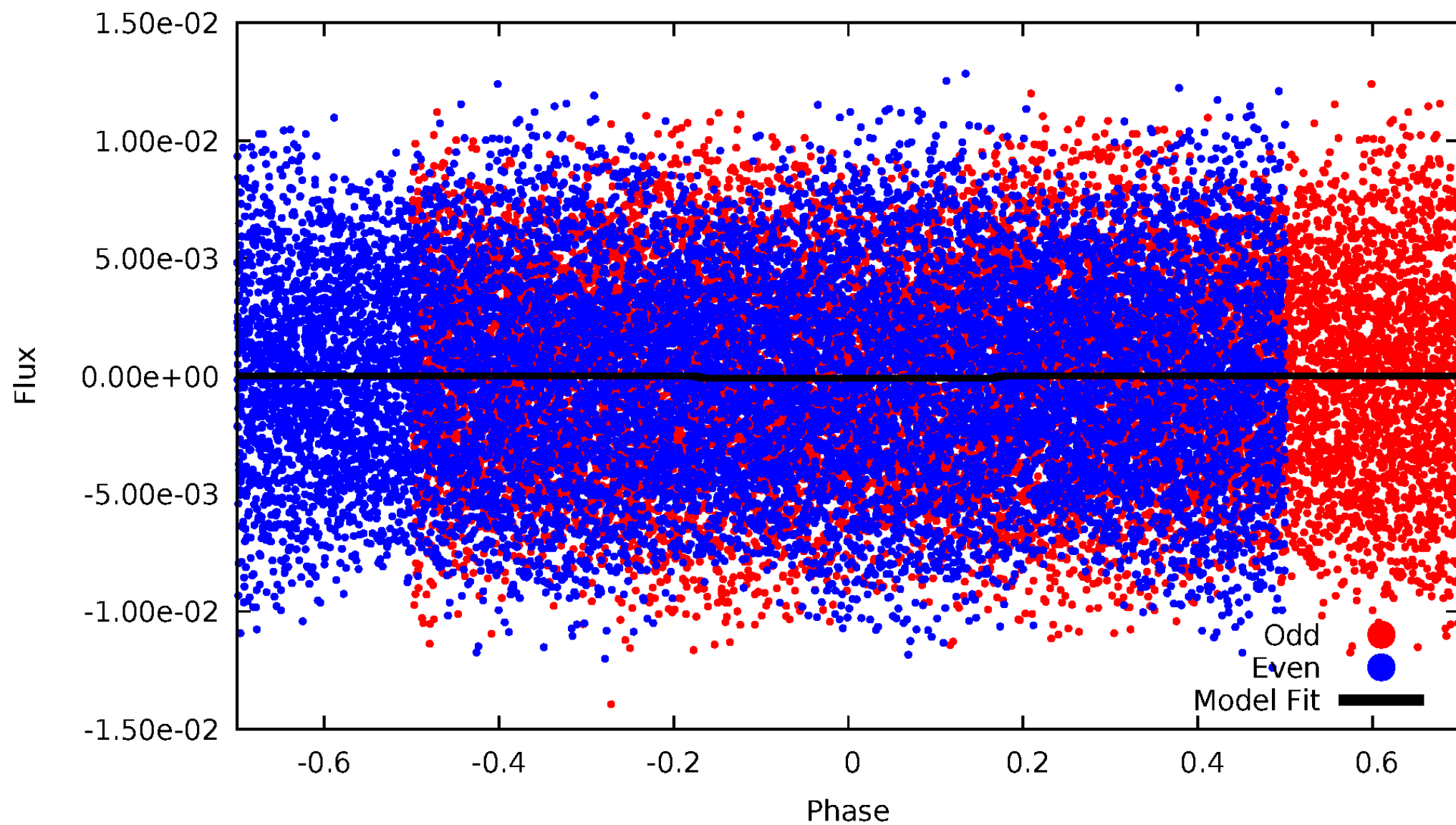
DV Odd/Even

TCE 006937758-02



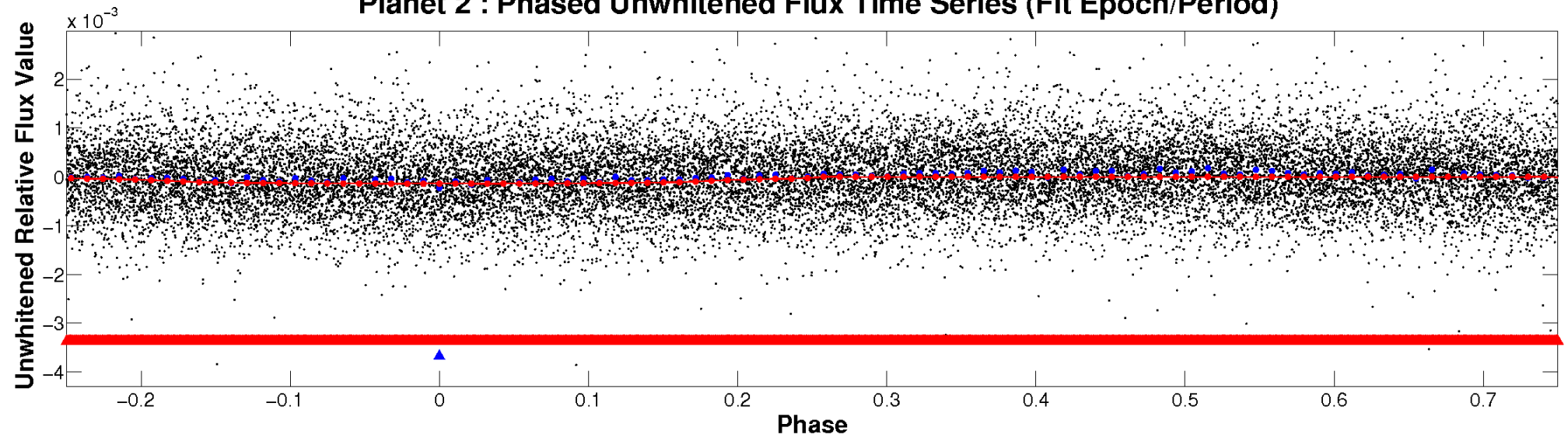
ALT Odd/Even

TCE 006937758-02

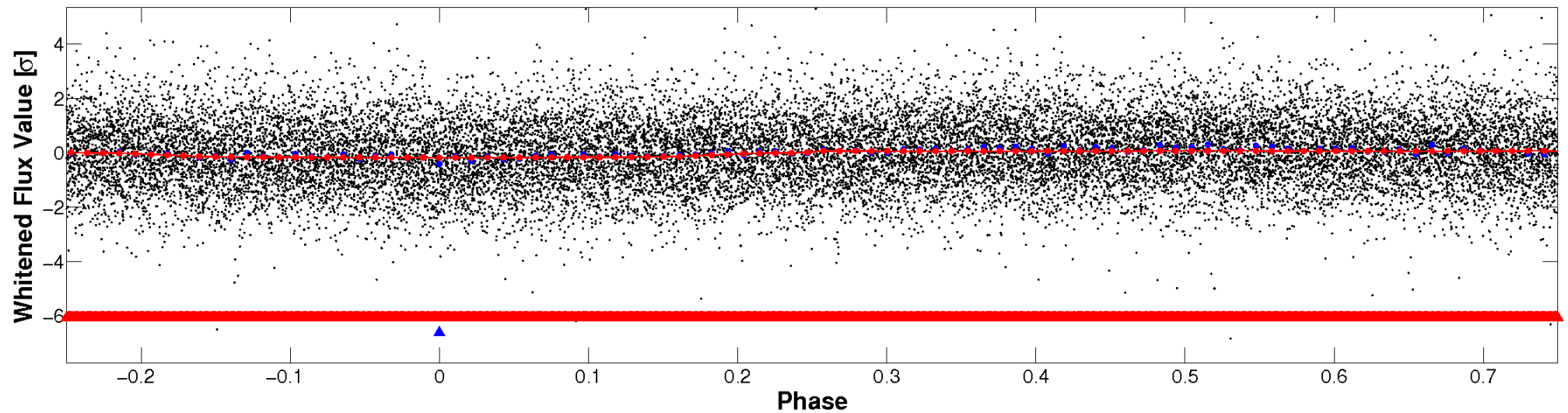


Non-Whitened Vs. Whitened Light Curve

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

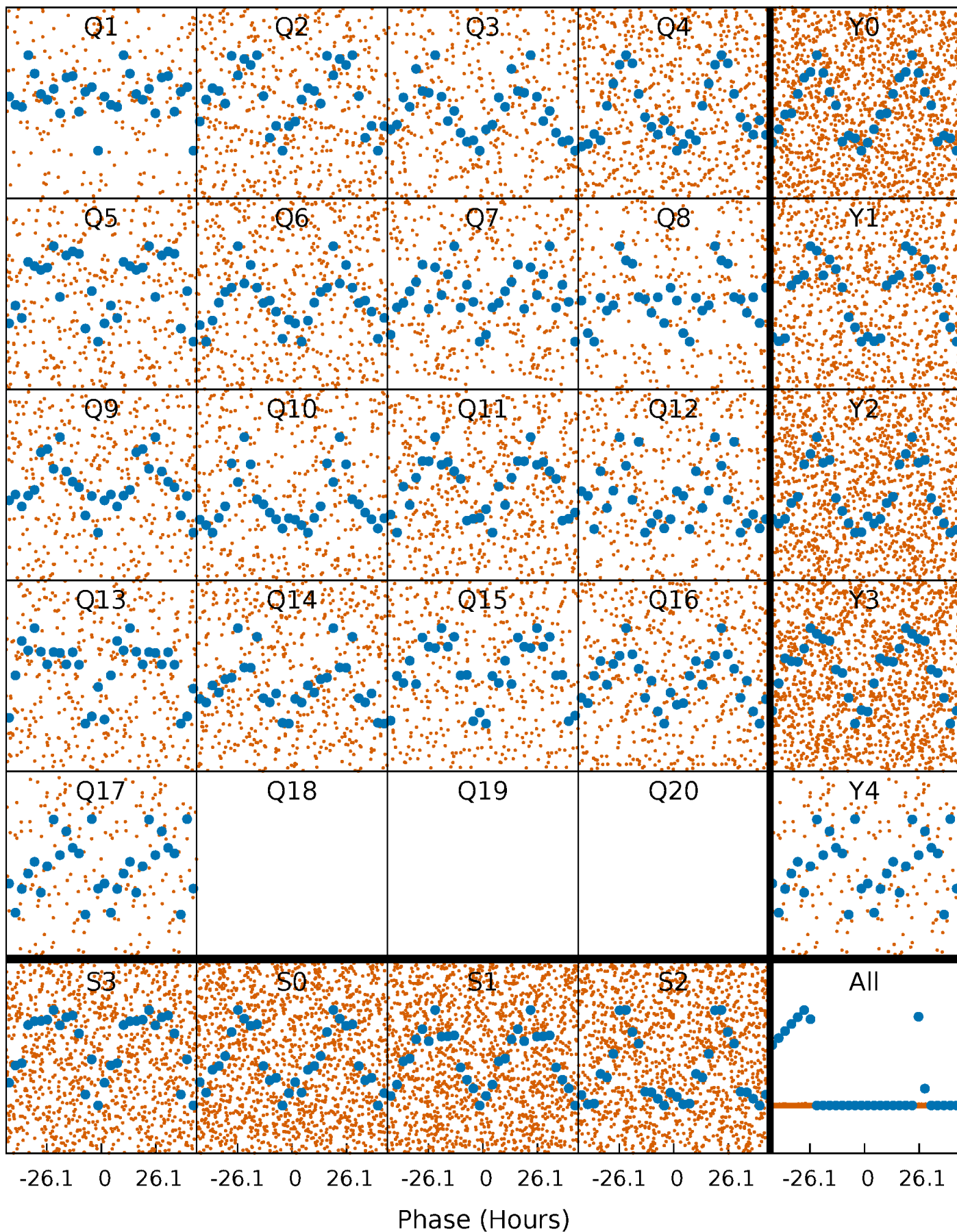


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



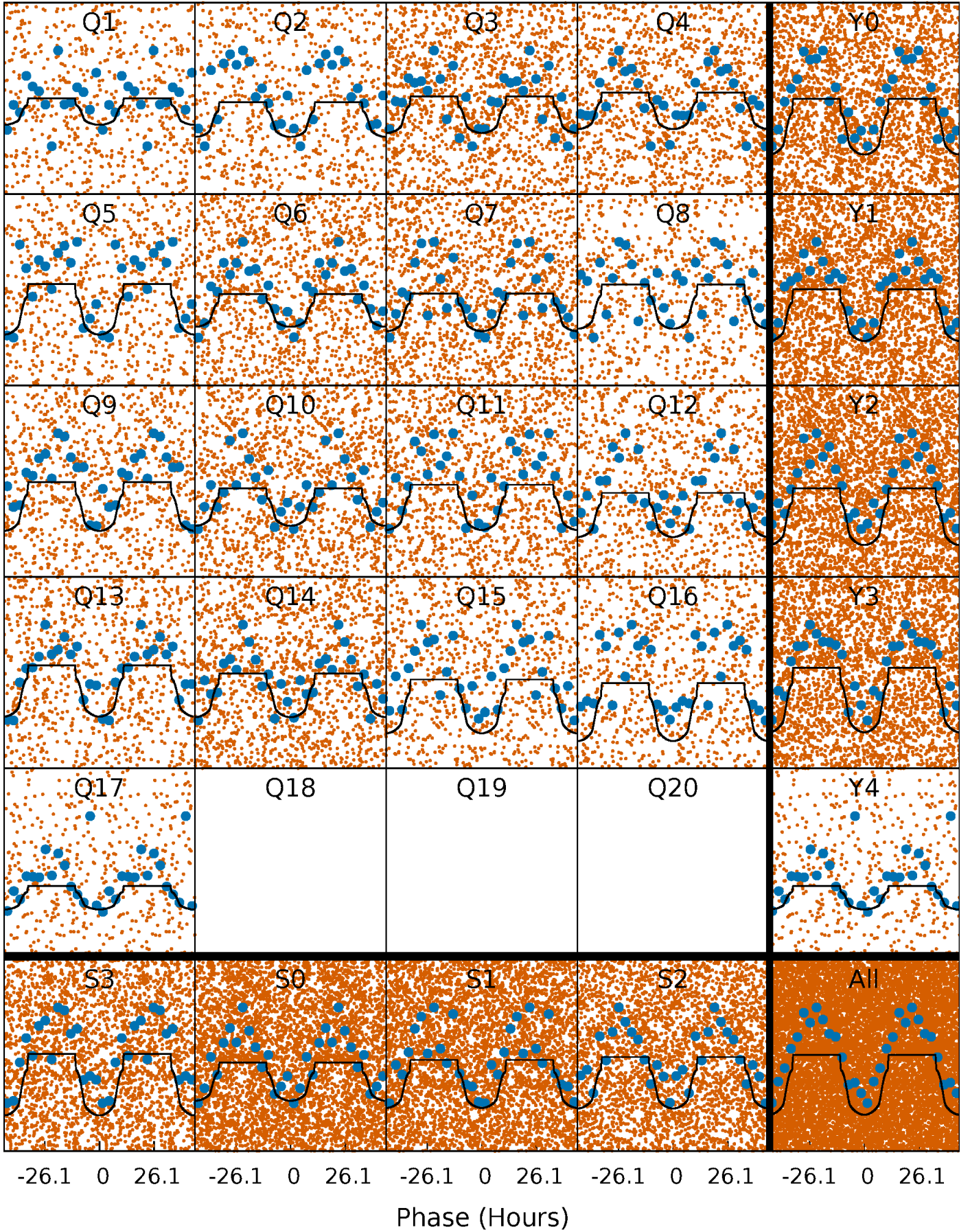
PDC Quarter-Phased Transit Curves

TCE 006937758-02 P= 1.903289 Days $T_0=131.691421$ (BKJD)



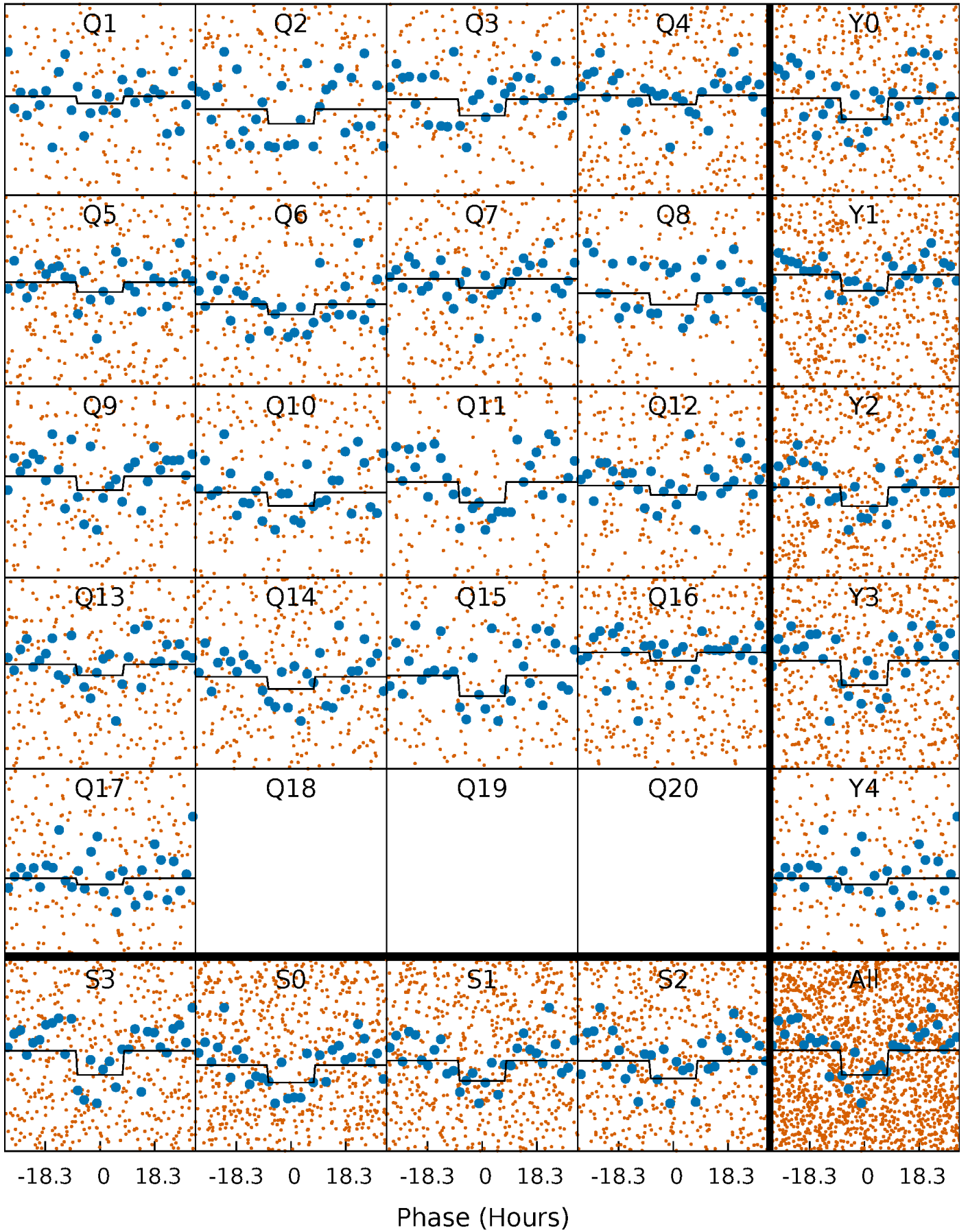
DV Quarter-Phased Transit Curves

TCE 006937758-02 P= 1.903289 Days $T_0=131.691421$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

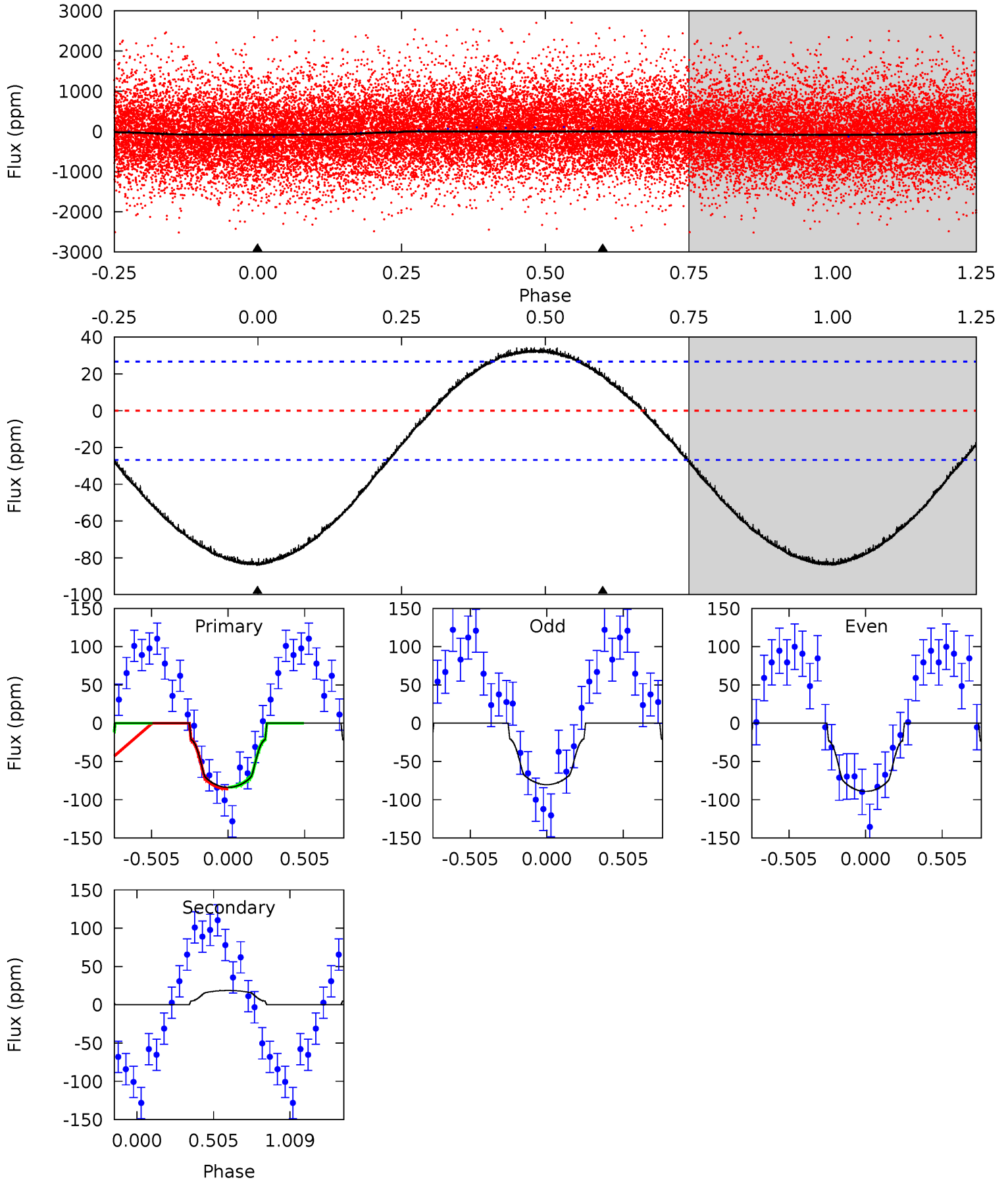
TCE 006937758-02 P= 1.903053 Days $T_0=131.803439$ (BKJD)



DV Model-Shift Uniqueness Test

006937758-02, P = 1.903289 Days, E = 131.691421 Days

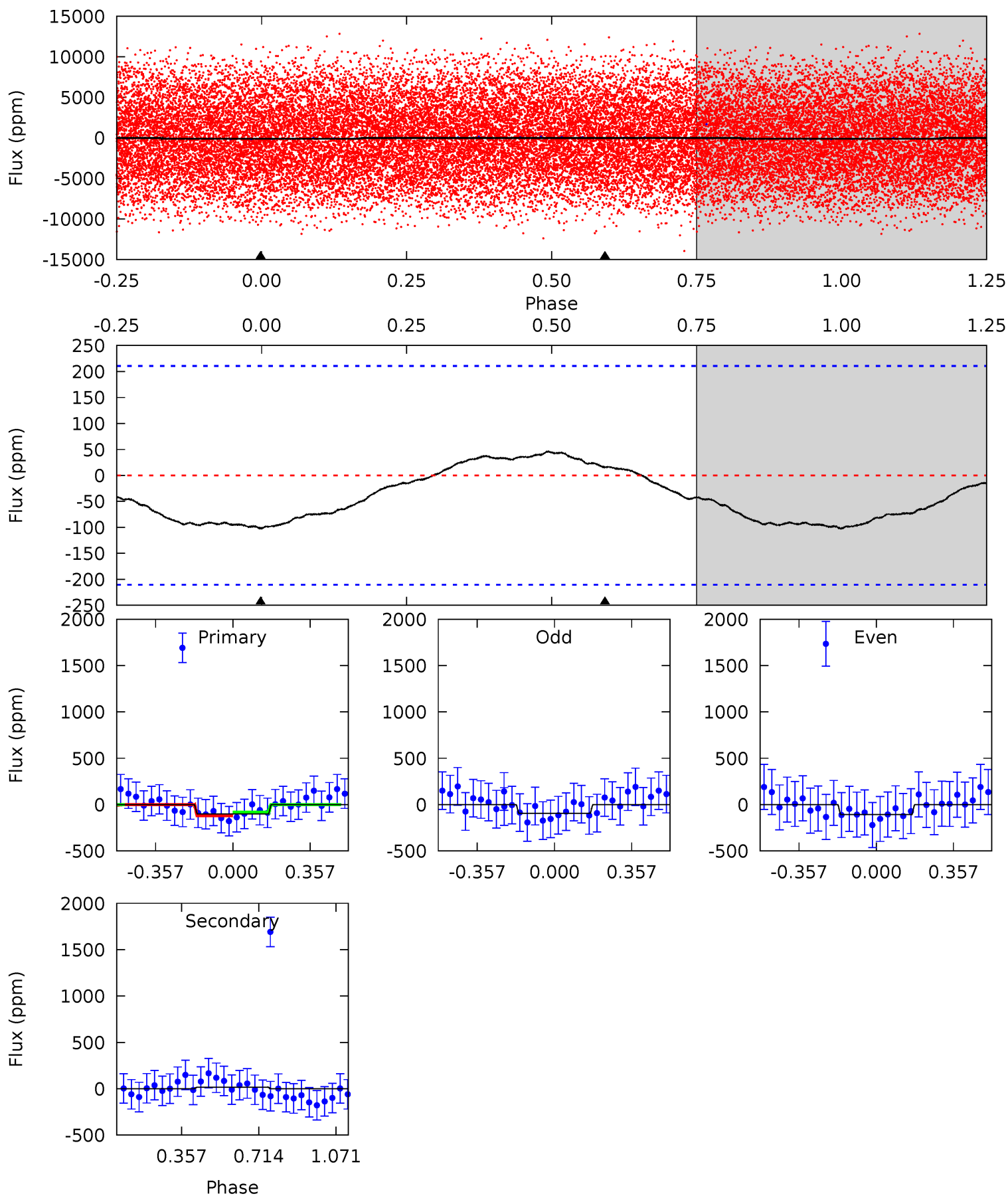
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	-2.94	0	0	4.21	0.67	1.52	13.2	13.2	-2.94	-2.94	0.69	1.07	0.29	0.16



Alt Model-Shift Uniqueness Test

006937758-02, P = 1.903053 Days, E = 131.803439 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.07	-0.32	0	0	4.29	0.92	0.26	2.07	2.07	-0.32	-0.32	0.13	0.87	0.31	0.42



Stellar Parameters For KIC 006937758

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7700^{+69}_{-84}	$3.960^{+0.156}_{-0.104}$	$-0.180^{+0.150}_{-0.150}$	$2.280^{+0.430}_{-0.472}$	$1.728^{+0.190}_{-0.171}$	$0.205^{+0.167}_{-0.074}$
	+1%/-1%	+4%/-3%	+83%/-83%	+19%/-21%	+11%/-10%	+82%/-36%
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 006937758-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	19 ± 6	$3.29^{+0.40}_{-0.39}$	3743^{+170}_{-191}	-4681^{+274}_{-248}	$-1.250^{+0.455}_{-0.525}$
Alt.	16 ± 49	$2.42^{+0.32}_{-0.32}$	3750^{+165}_{-195}	-5025^{+10696}_{-1808}	$-1.949^{+5.898}_{-5.491}$

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

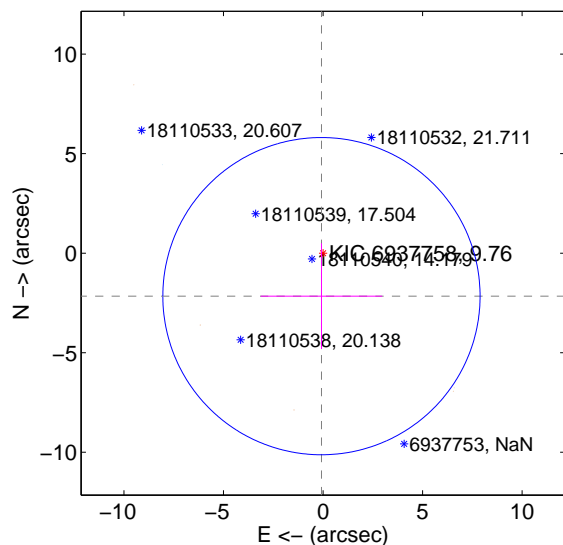
Supplemental centroid analysis for 006937758-02. **Kepler magnitude: 9.76.** Transit SNR 16.07

There are 2 quarters with good PRF difference image offsets

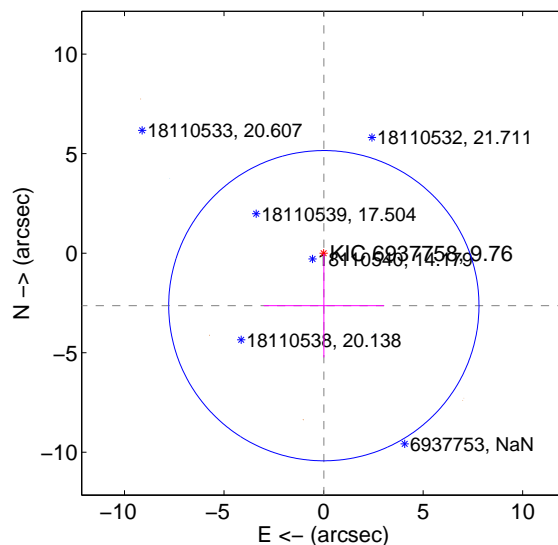
The direct PRF centroid is offset from the target star catalog position by about 1.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.161 ± 2.656	0.81	0.080 ± 3.051	-2.159 ± 2.655
PRF-fit source offset from KIC position	2.638 ± 2.598	1.02	-0.013 ± 3.020	-2.638 ± 2.598
photometric centroid source offset	1.17 ± 0.10	12.06	1.04 ± 0.10	0.53 ± 0.08

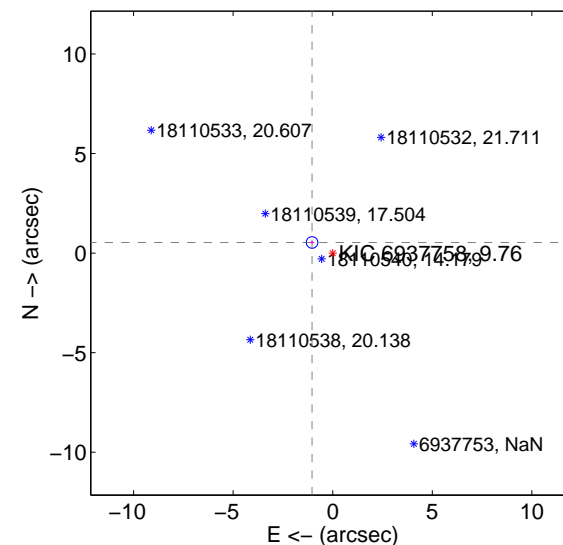
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

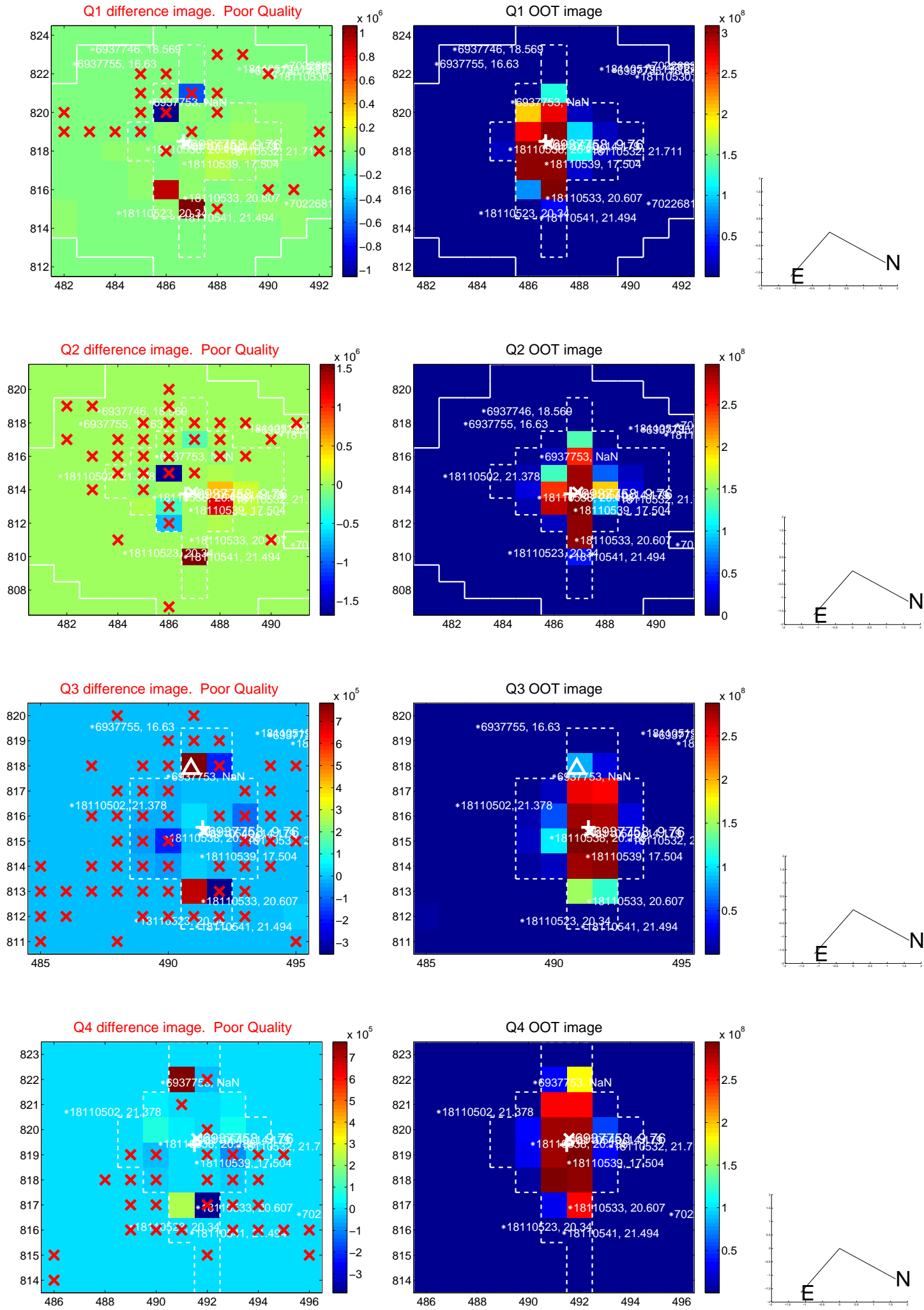


offset from photometric centroids

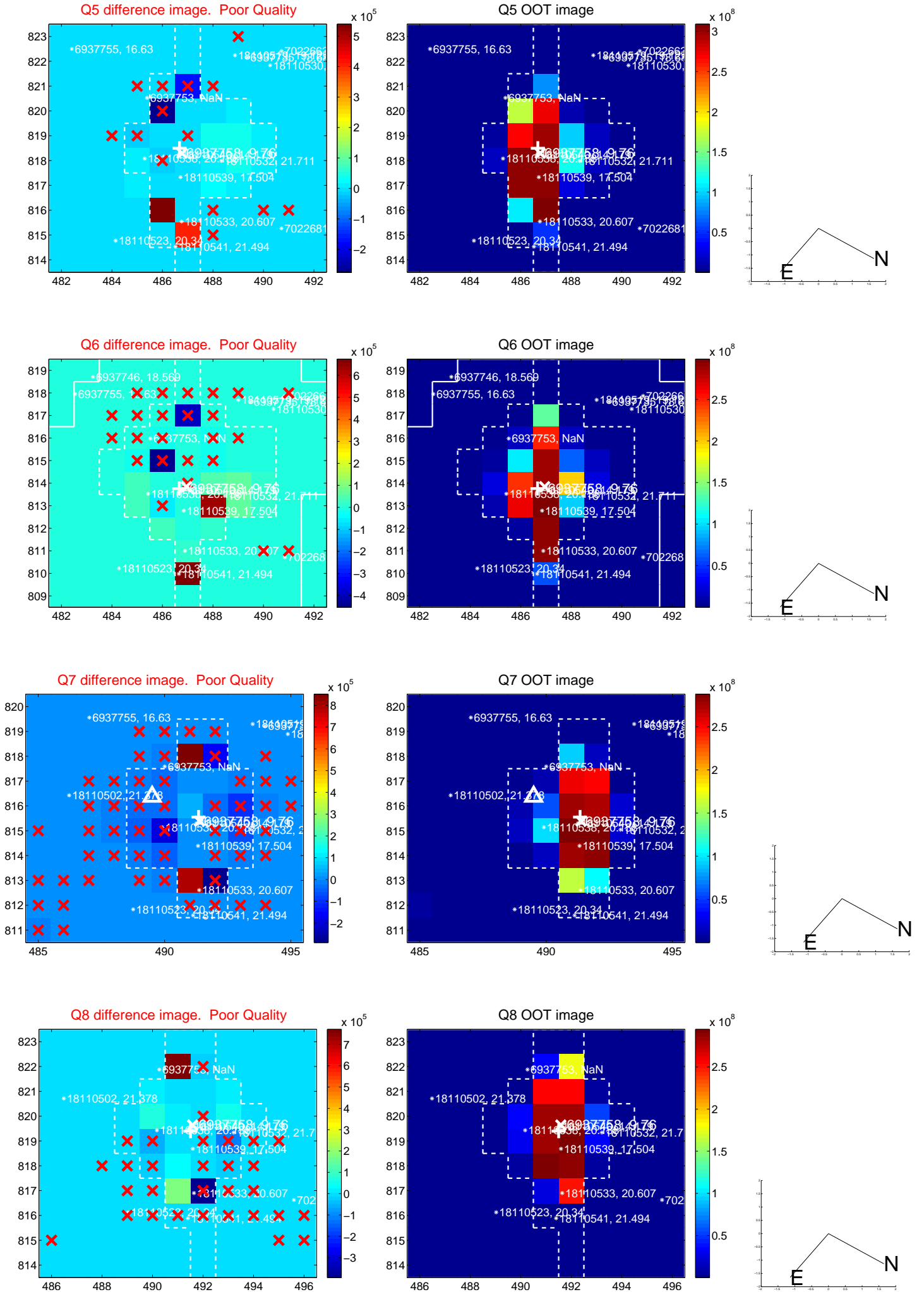


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

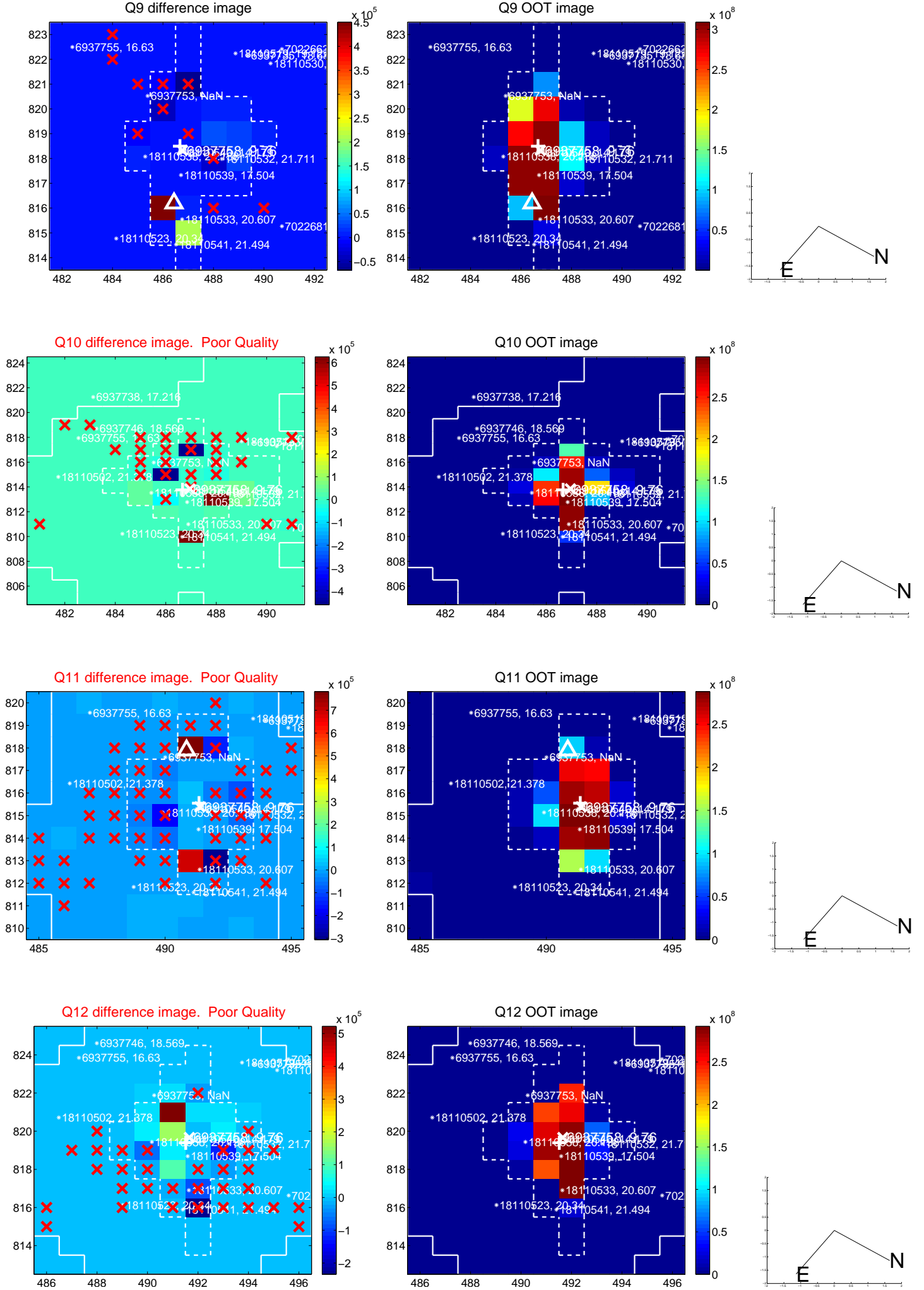
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



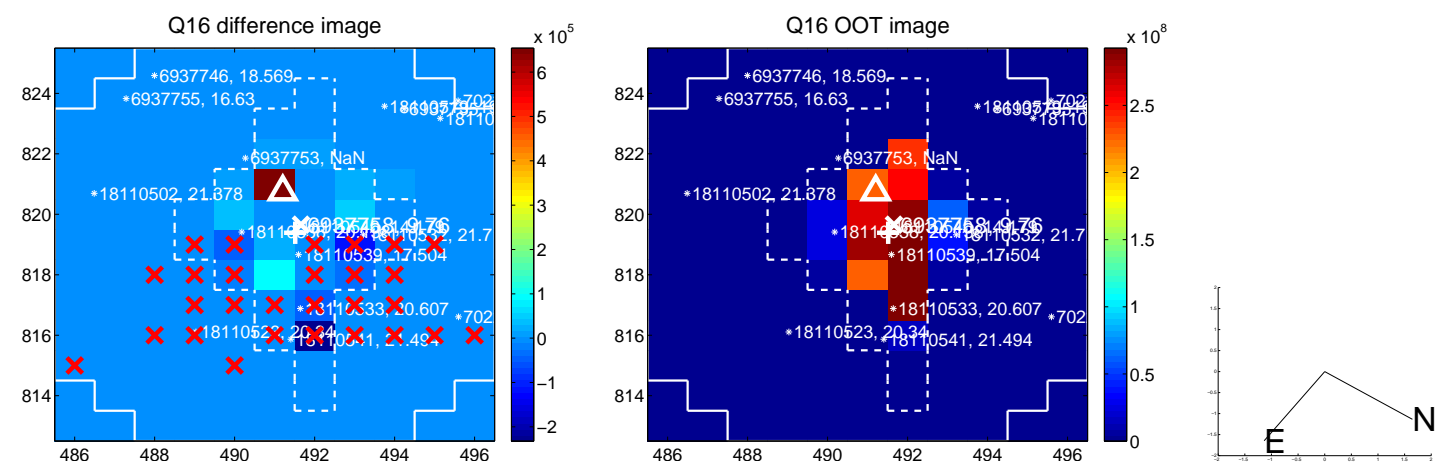
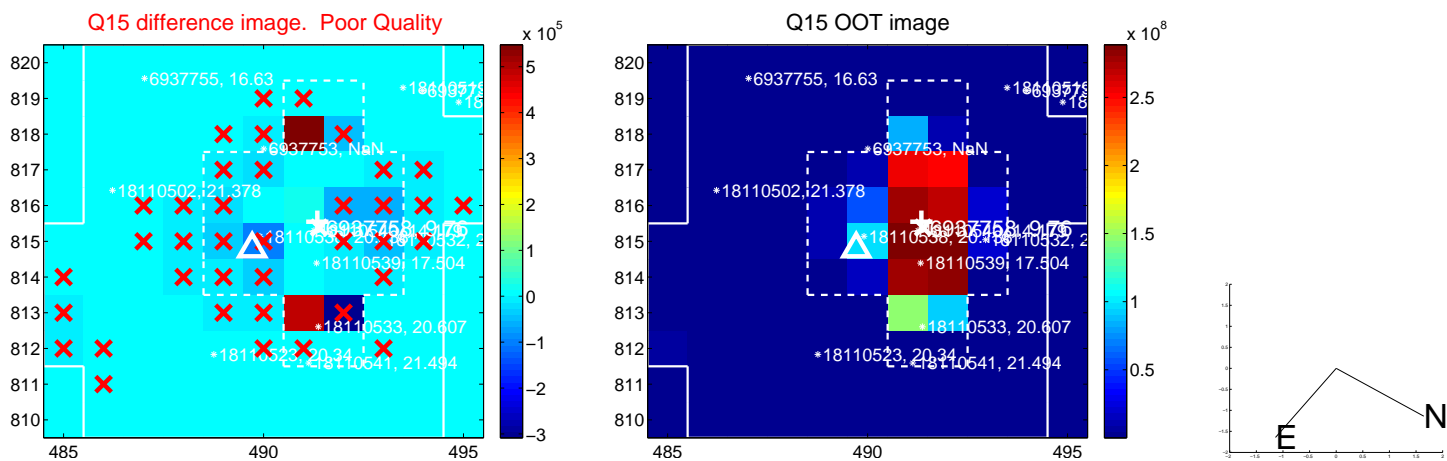
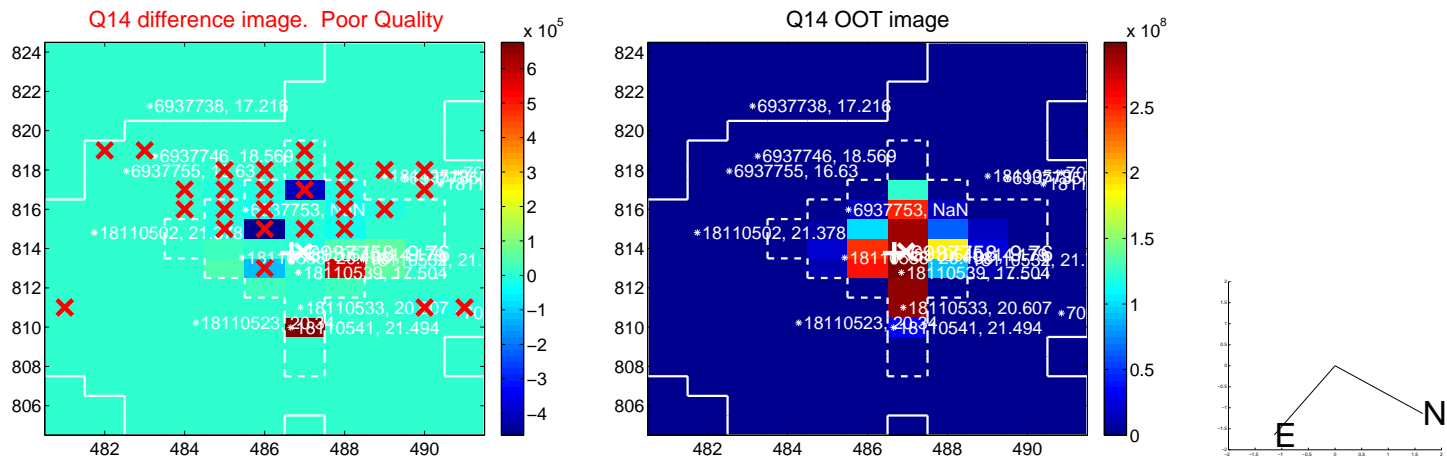
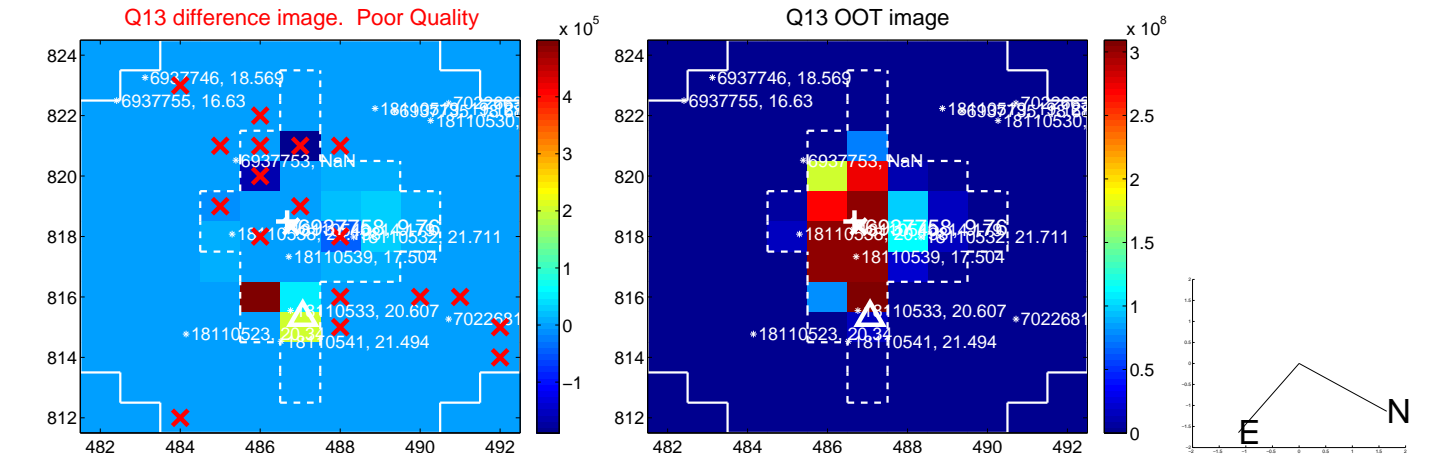
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



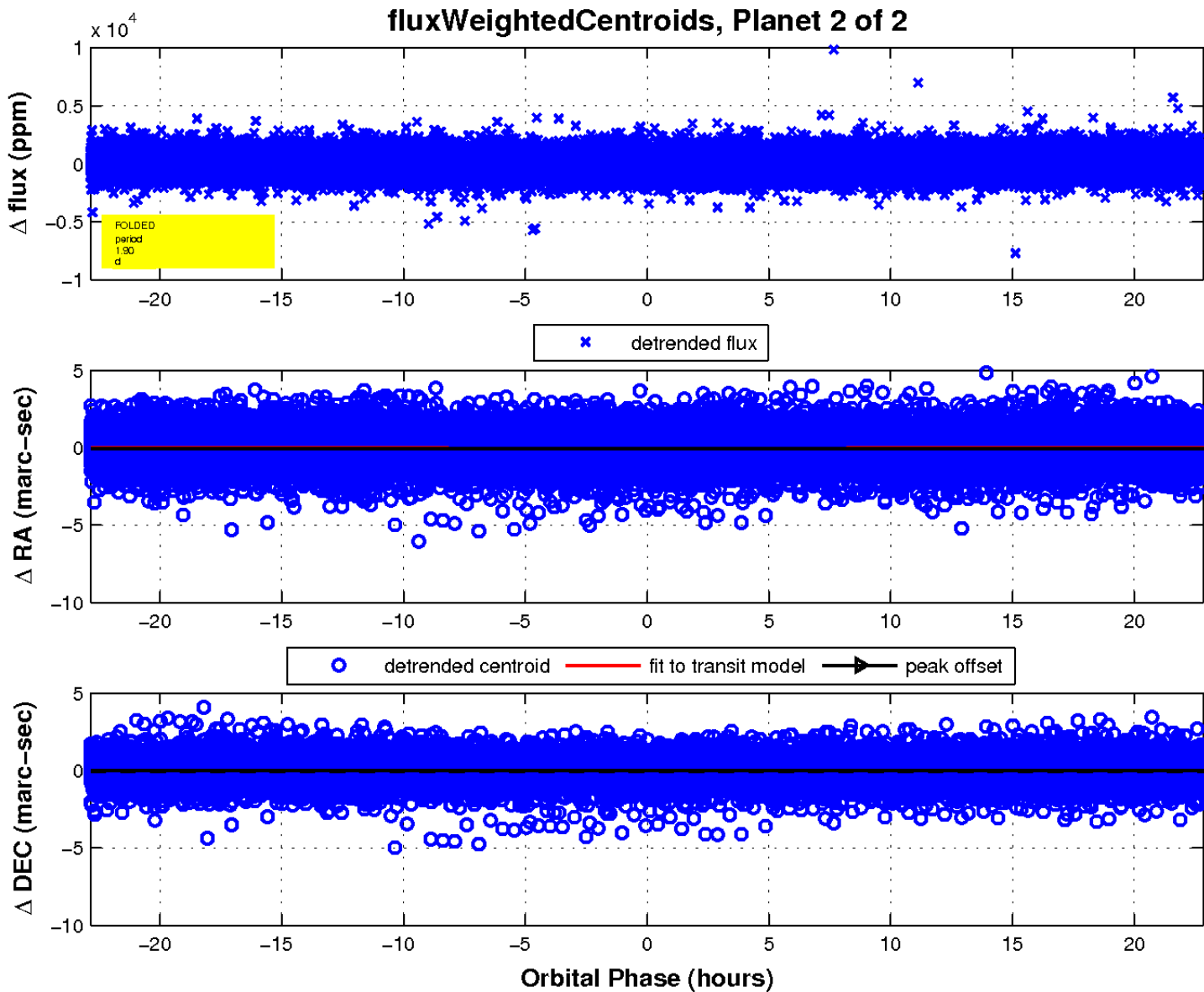
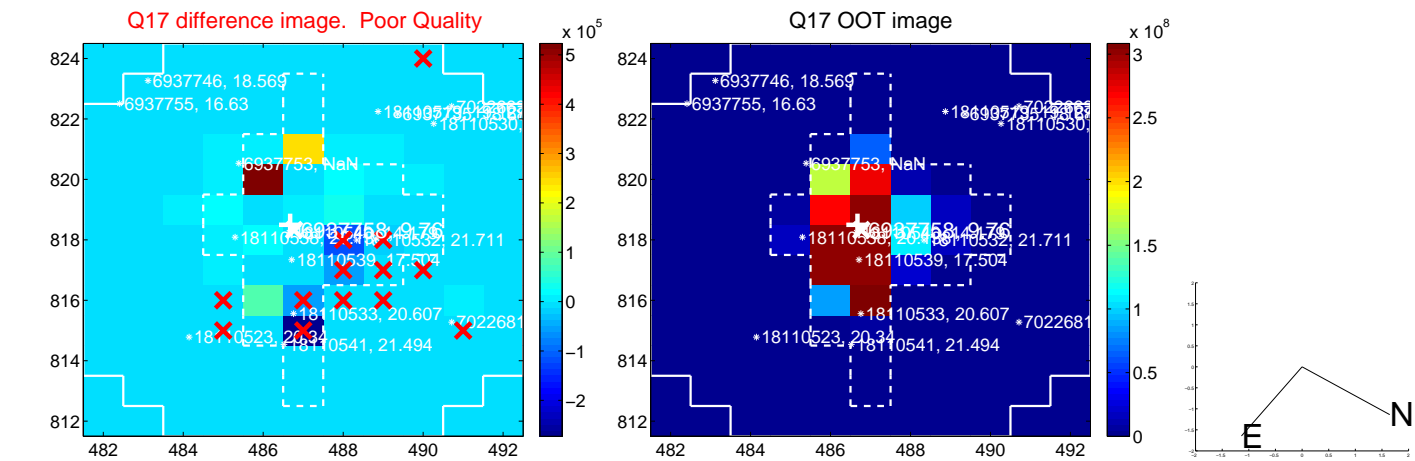
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

