

KIC 006793409

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})
006793409-01	OBS	No	3.969253	134.877372	89.4	8.320	11.0	15.4	1.63	7264	2.68	2152.34
006793409-02	OBS	No	3.969473	134.814482	73.6	38.268	11.8	15.9	1.63	7264	1.56	2152.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006793409-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006793409-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—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.

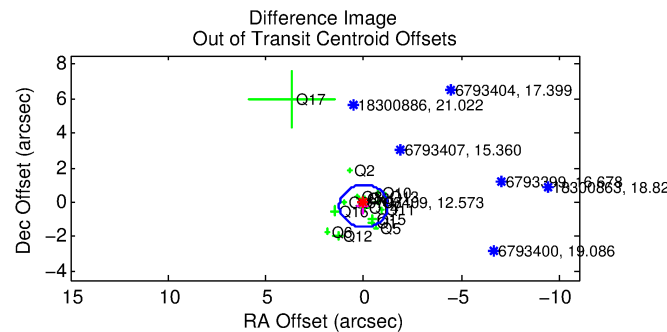
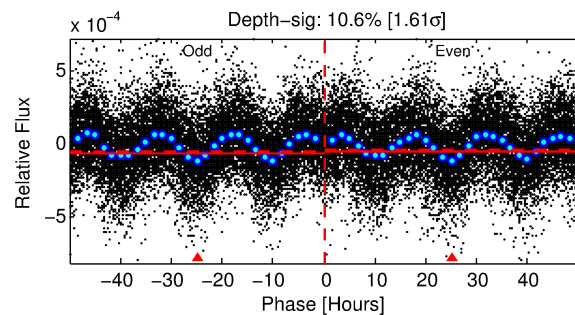
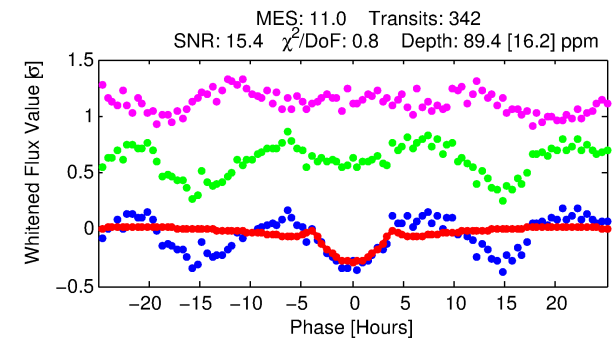
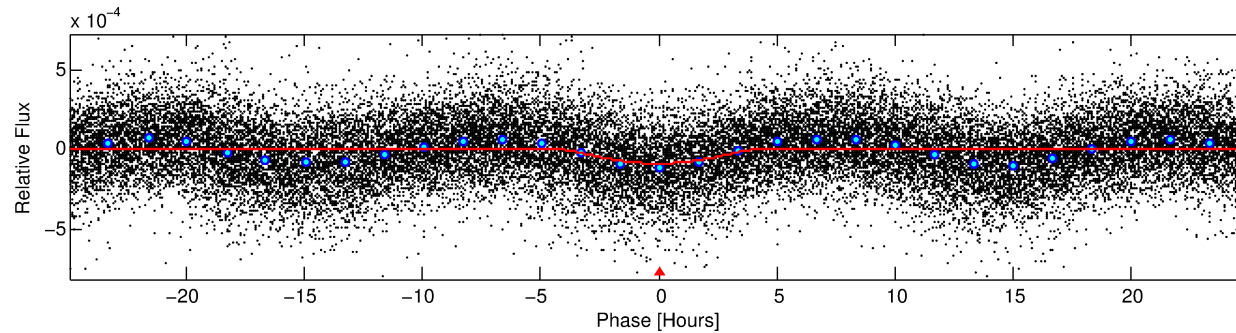
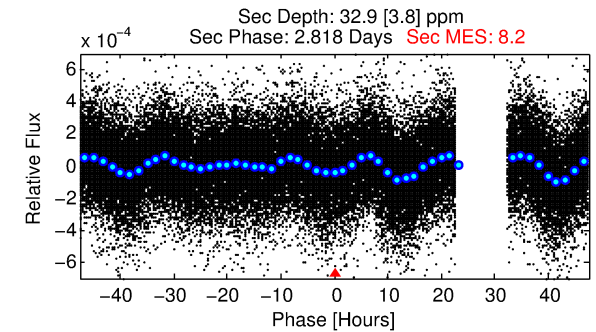
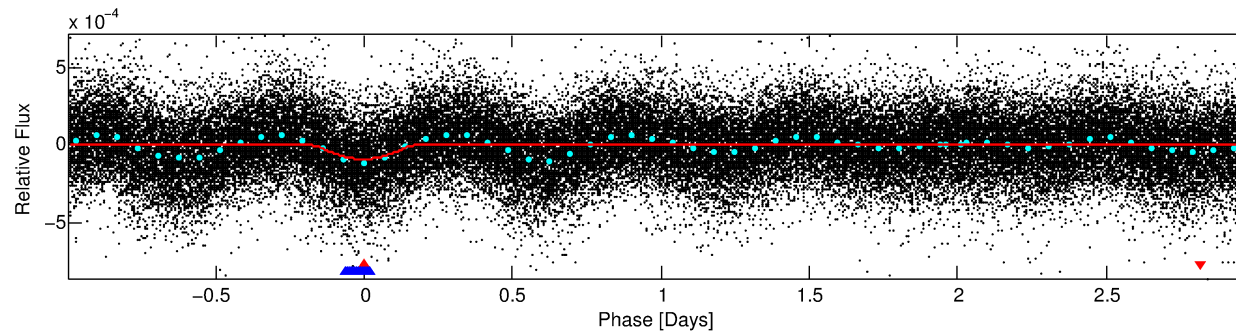
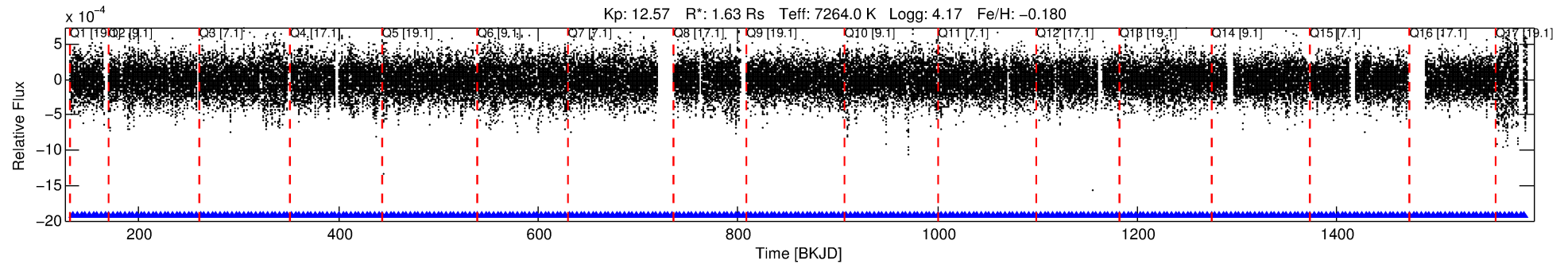
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006793409-01

No Significant Match Found

DV One-Page Summary

KIC: 6793409 Candidate: 1 of 2 Period: 3.969 d



DV Fit Results:

Period = 3.96925 [0.00006] d
Epoch = 134.8774 [0.0122] BKJD
Rp/R* = 0.0151 [0.0117]
a/R* = 1.22 [0.09]
b = 1.00 [0.02]
Seff = 2152.34 [871.37]
Teff = 1737 [176] K
Rp = 2.68 [2.25] Re
a = 0.0554 [0.0142] AU
Ag = 7.72 [12.34] [0.54σ]
Teffp = 4476 [1754] K [1.55σ]

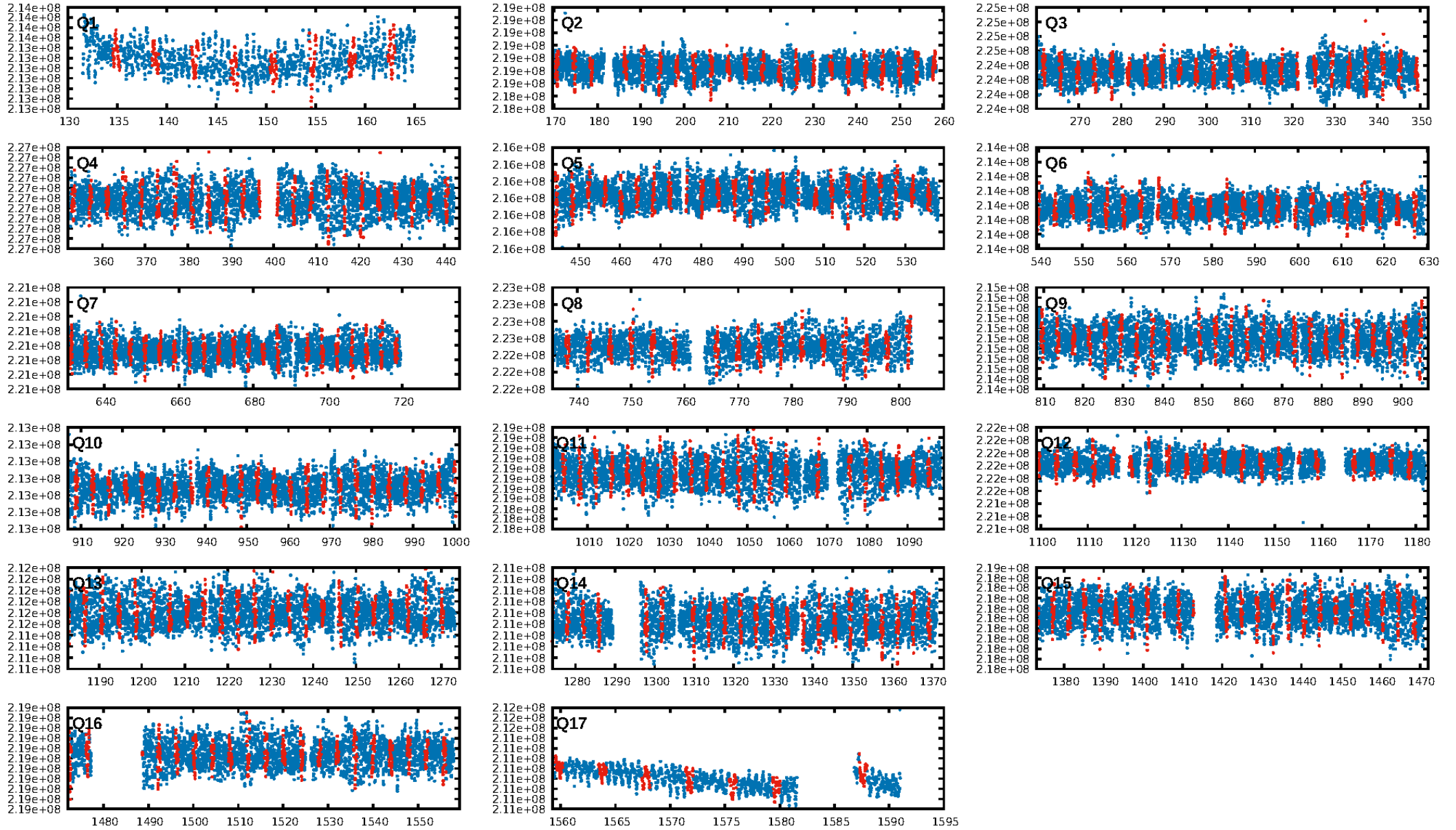
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [327/327]
GhostDiagnostic-chr: 15.14
Centroid-sig: N/A
Centroid-so: 0.234 arcsec [0.86σ]
OotOffset-rm: 0.220 arcsec [0.54σ]
KicOffset-rm: 0.257 arcsec [0.62σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.00 [0/17]

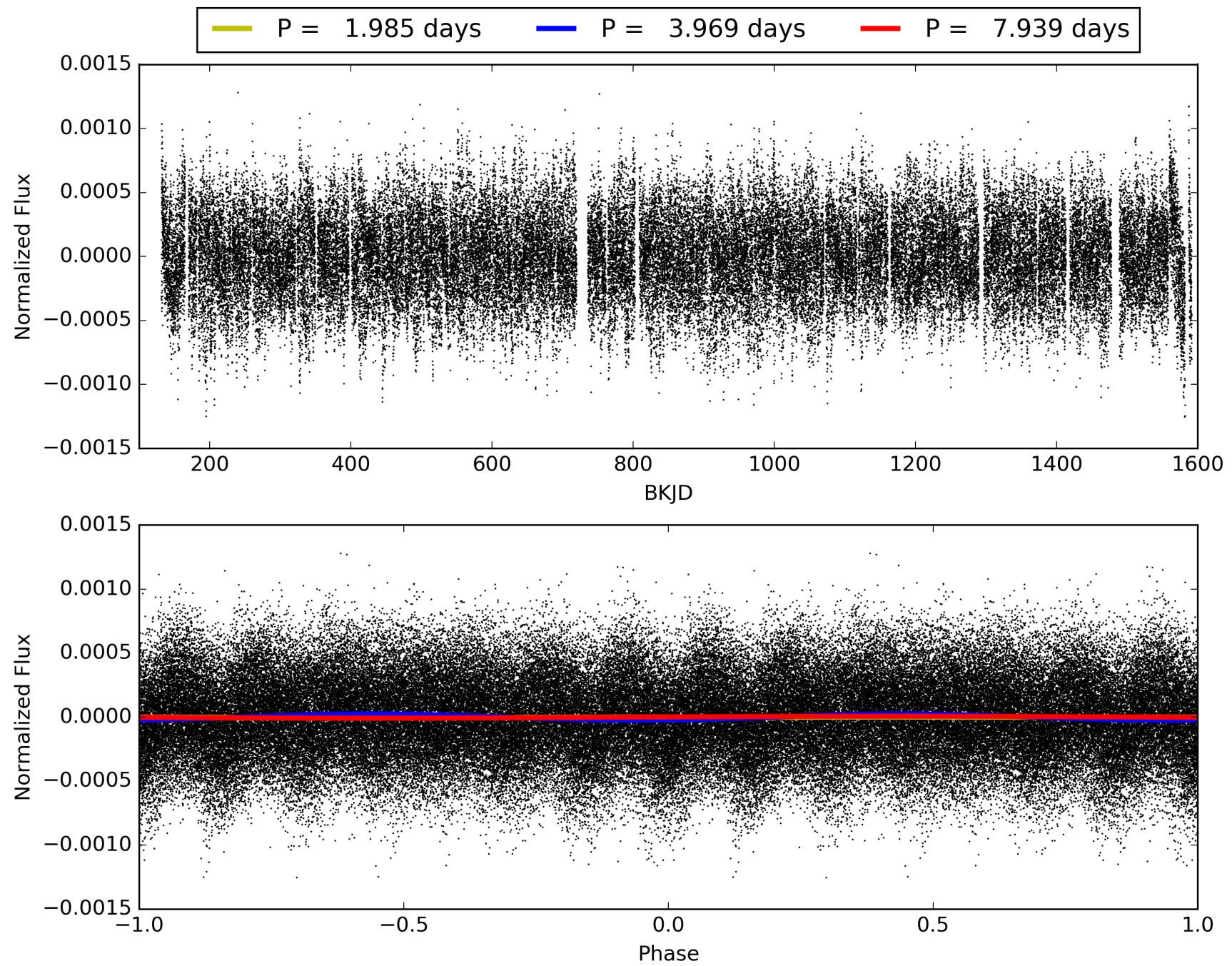
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:46:36 Z

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

TCE 006793409-01, PDC Light Curves

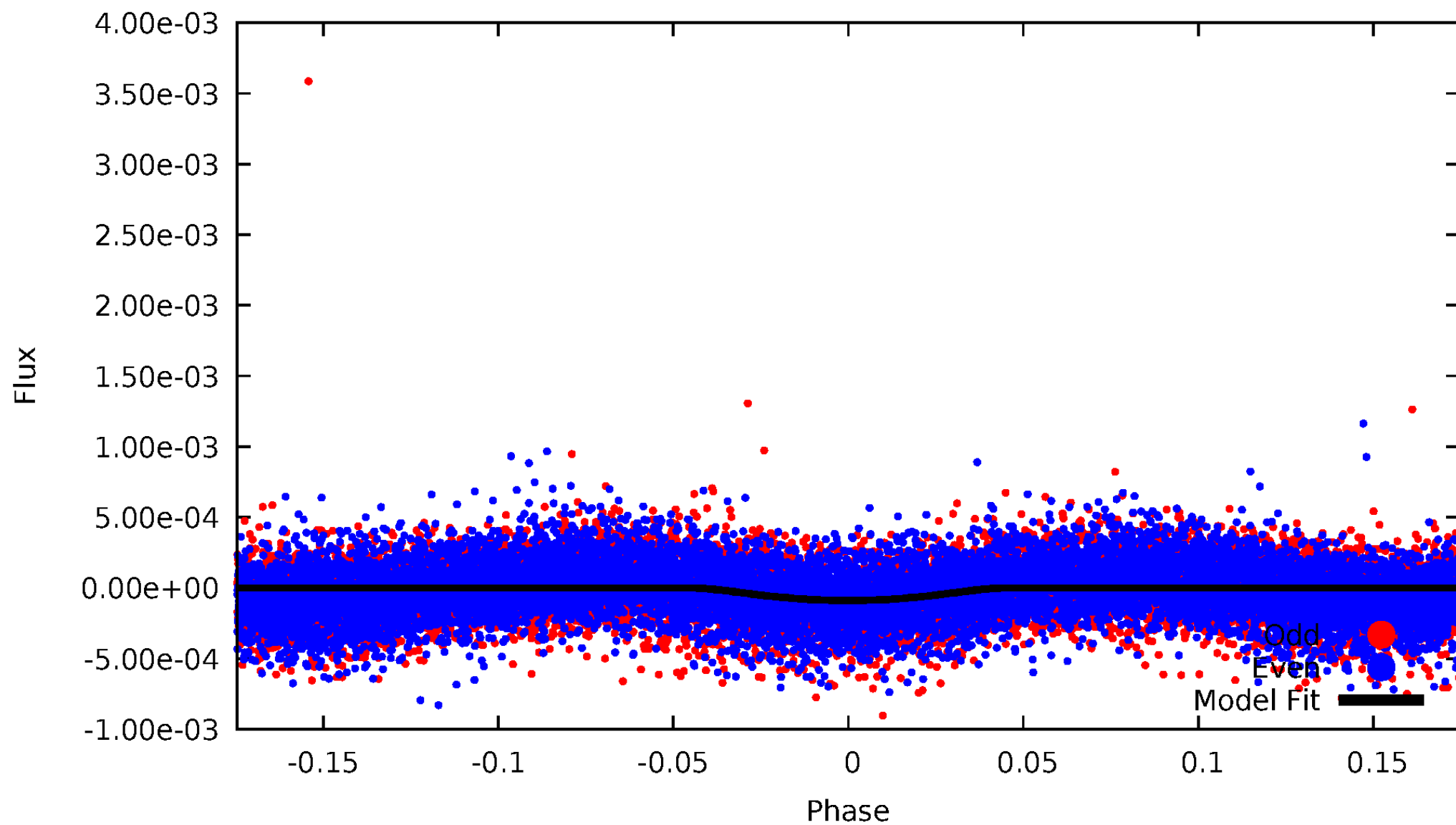


TCE 006793409-01



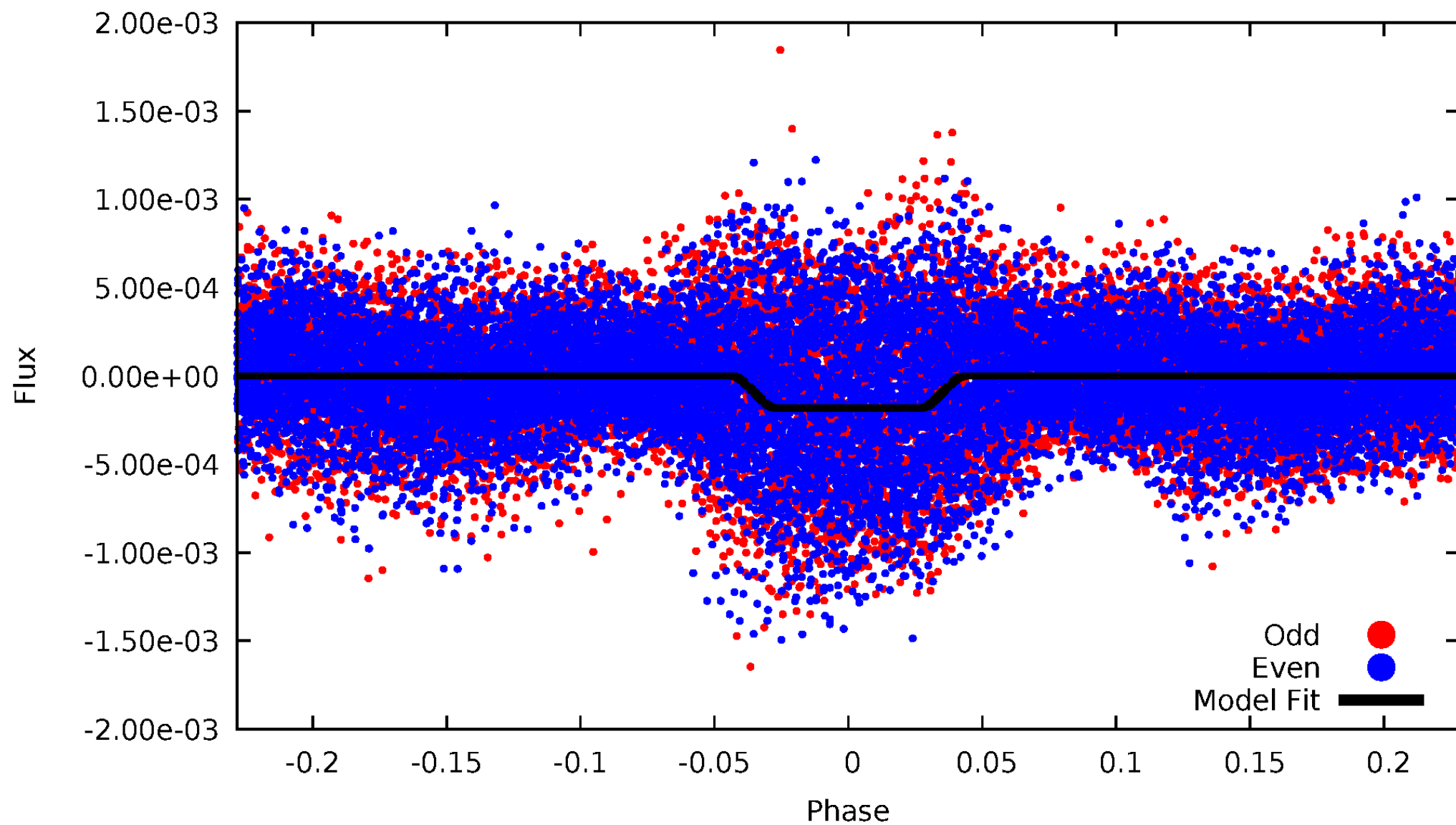
DV Odd/Even

TCE 006793409-01



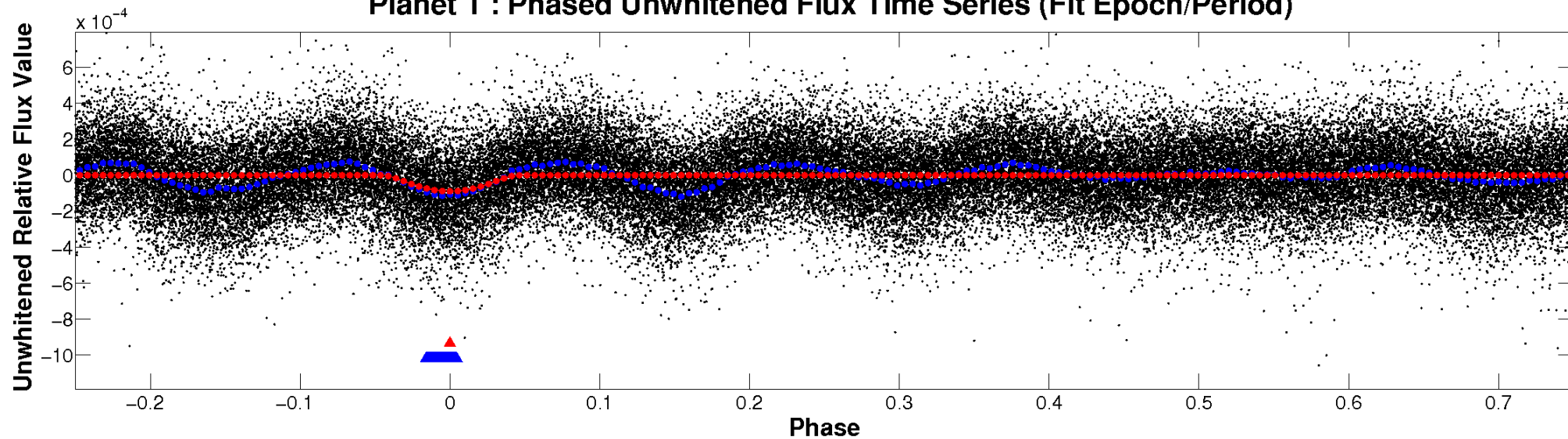
ALT Odd/Even

TCE 006793409-01

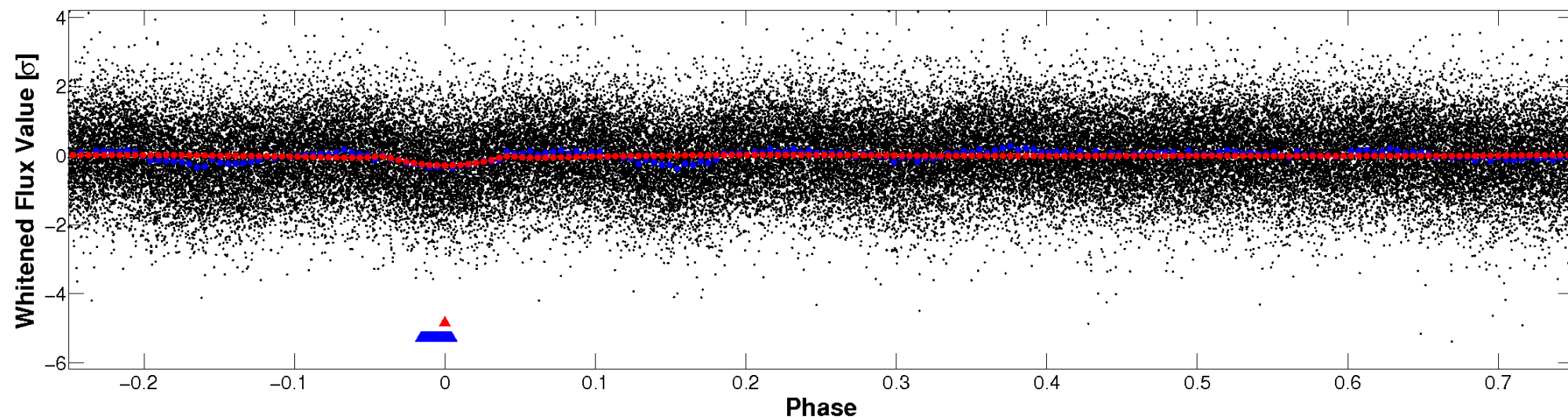


Non-Whitened Vs. Whitened Light Curve

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

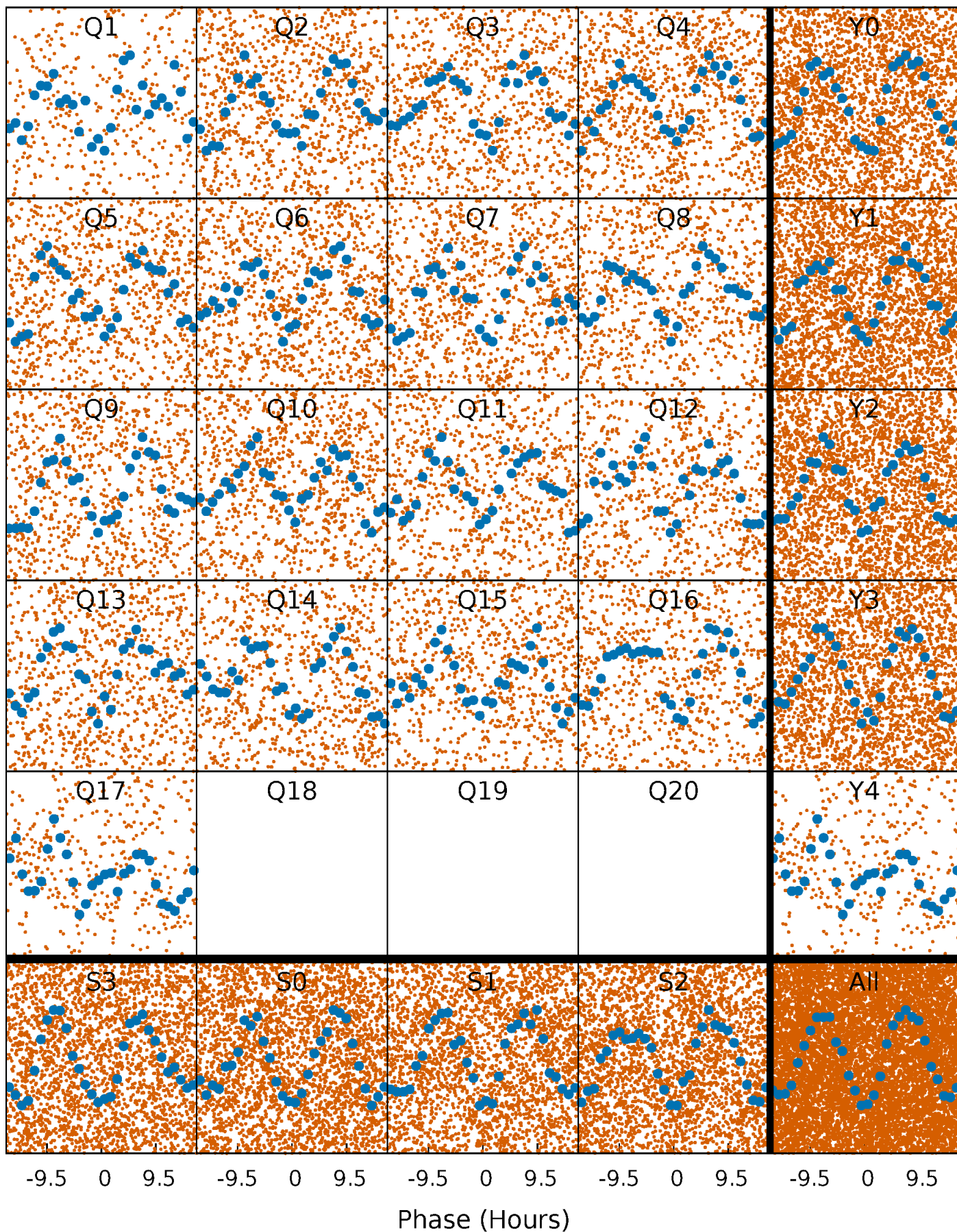


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



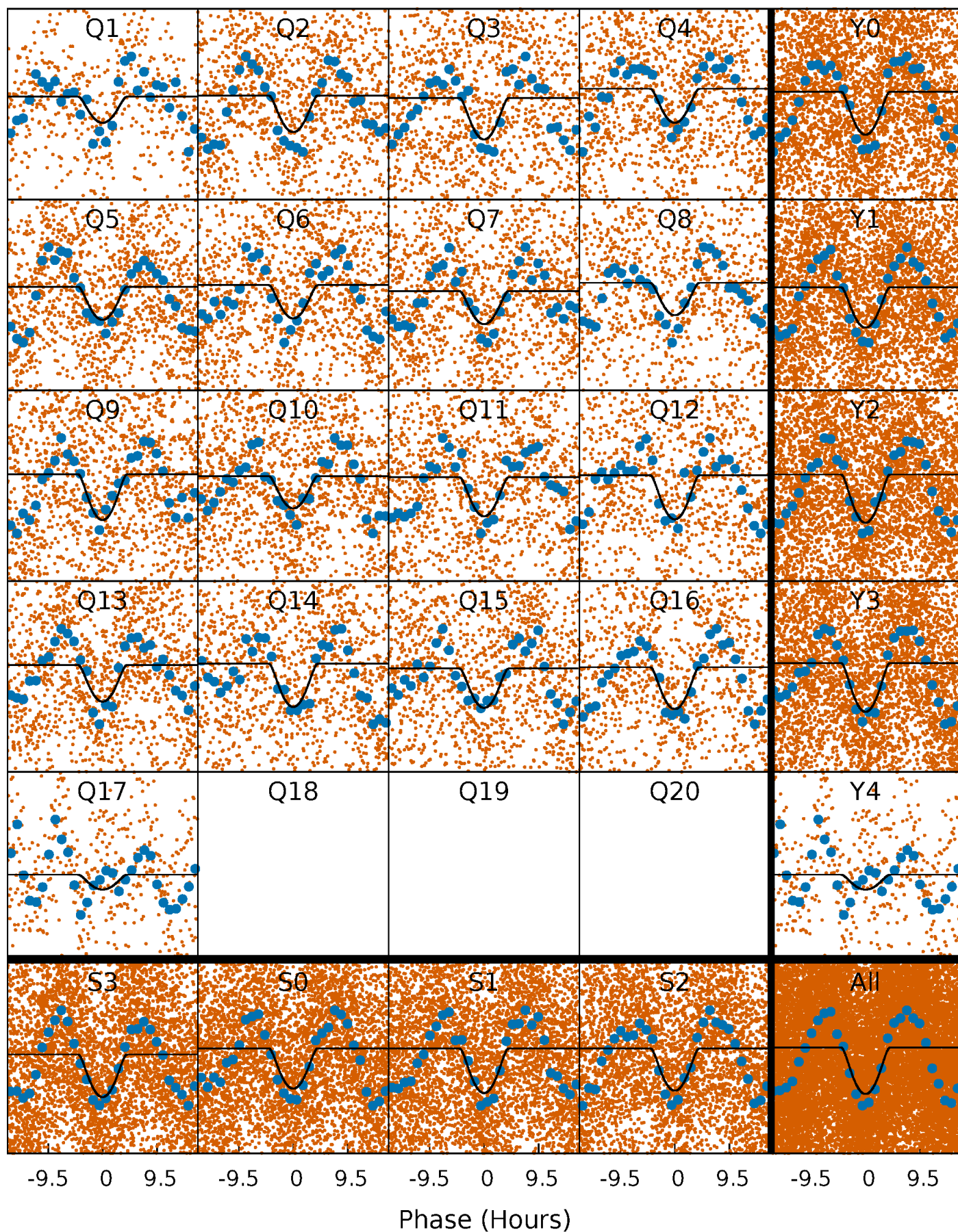
PDC Quarter-Phased Transit Curves

TCE 006793409-01 P= 3.969253 Days $T_0=134.877372$ (BKJD)



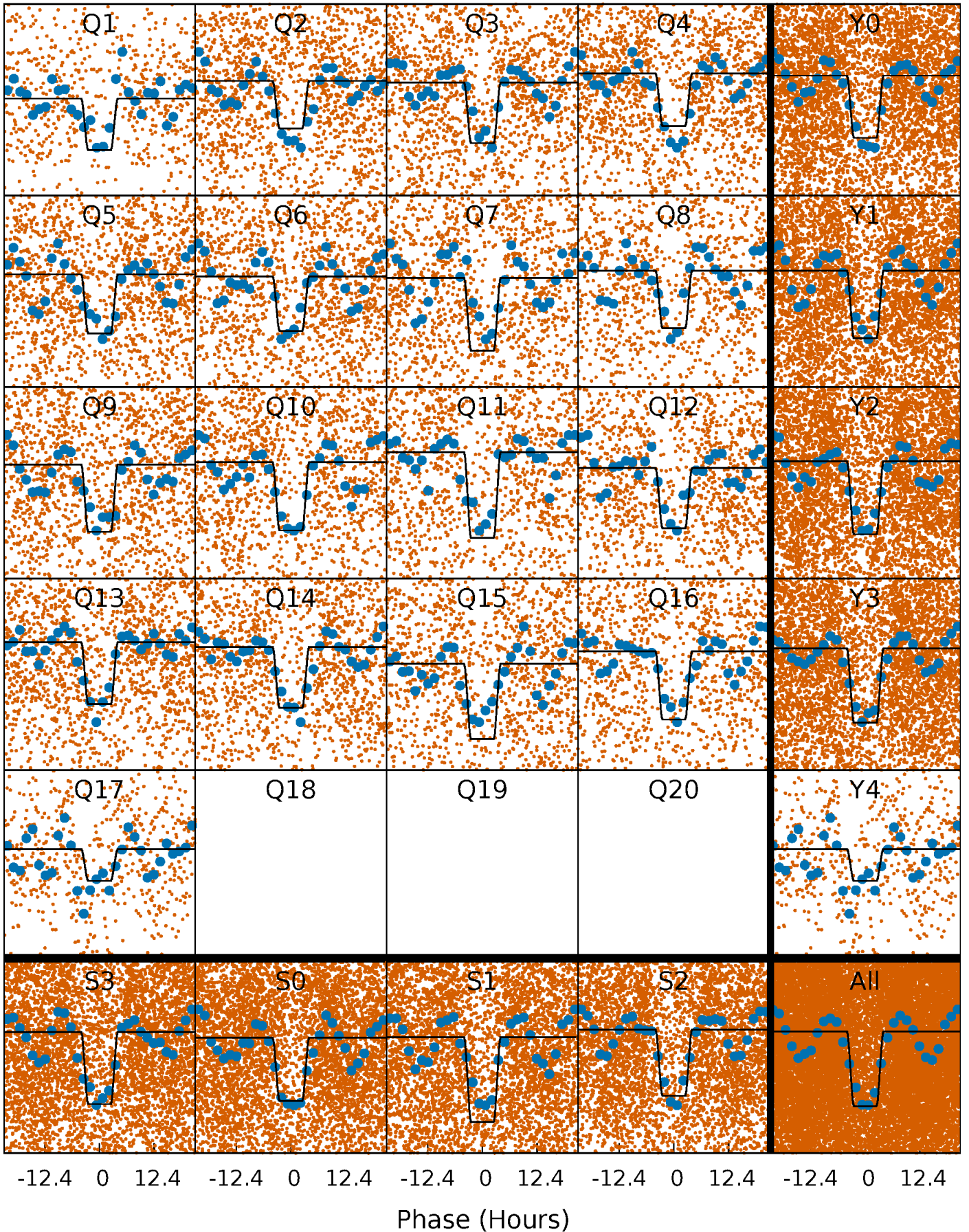
DV Quarter-Phased Transit Curves

TCE 006793409-01 P= 3.969253 Days $T_0=134.877372$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

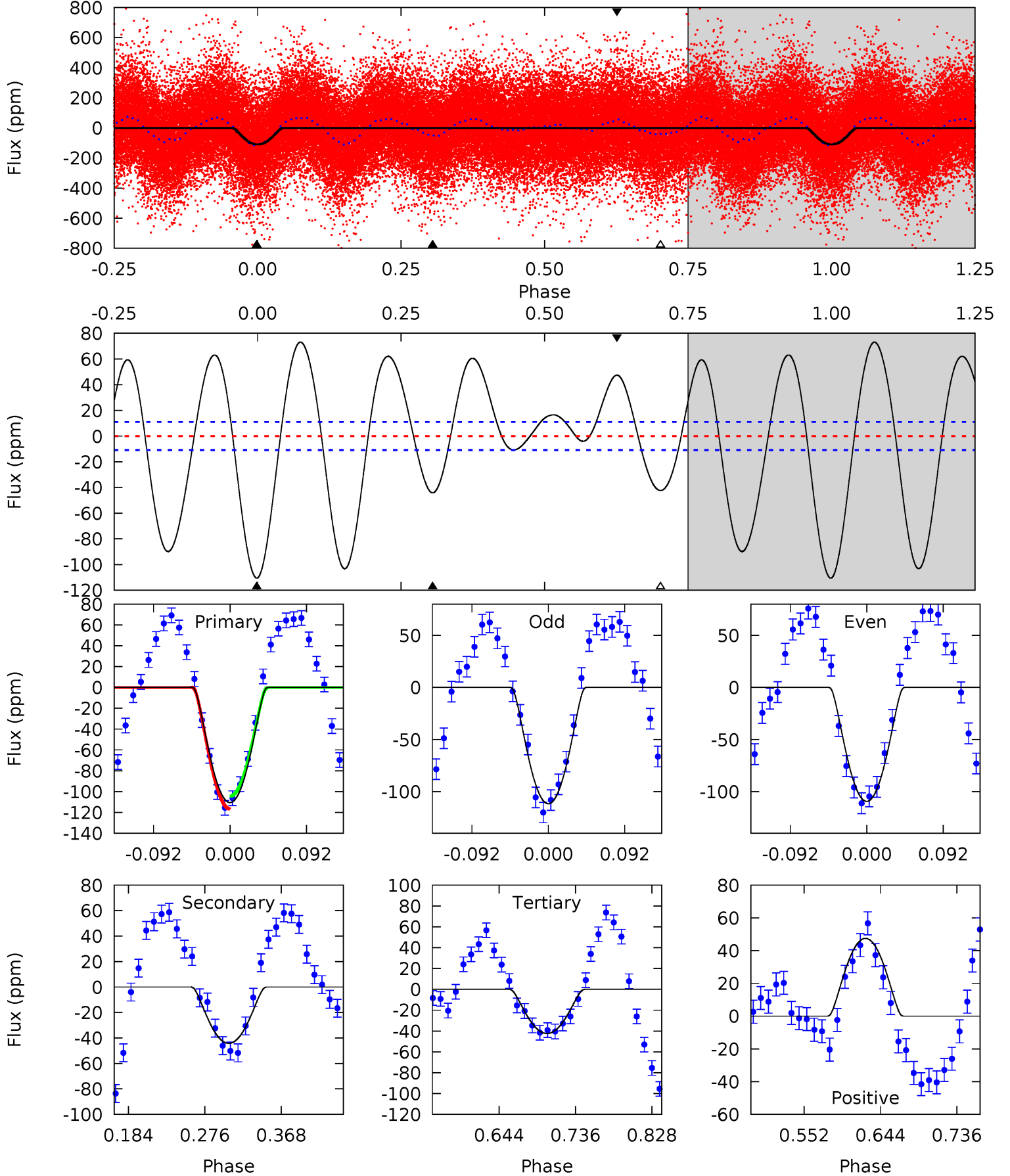
TCE 006793409-01 P= 3.969327 Days $T_0=134.860525$ (BKJD)



DV Model-Shift Uniqueness Test

006793409-01, P = 3.969253 Days, E = 130.908119 Days

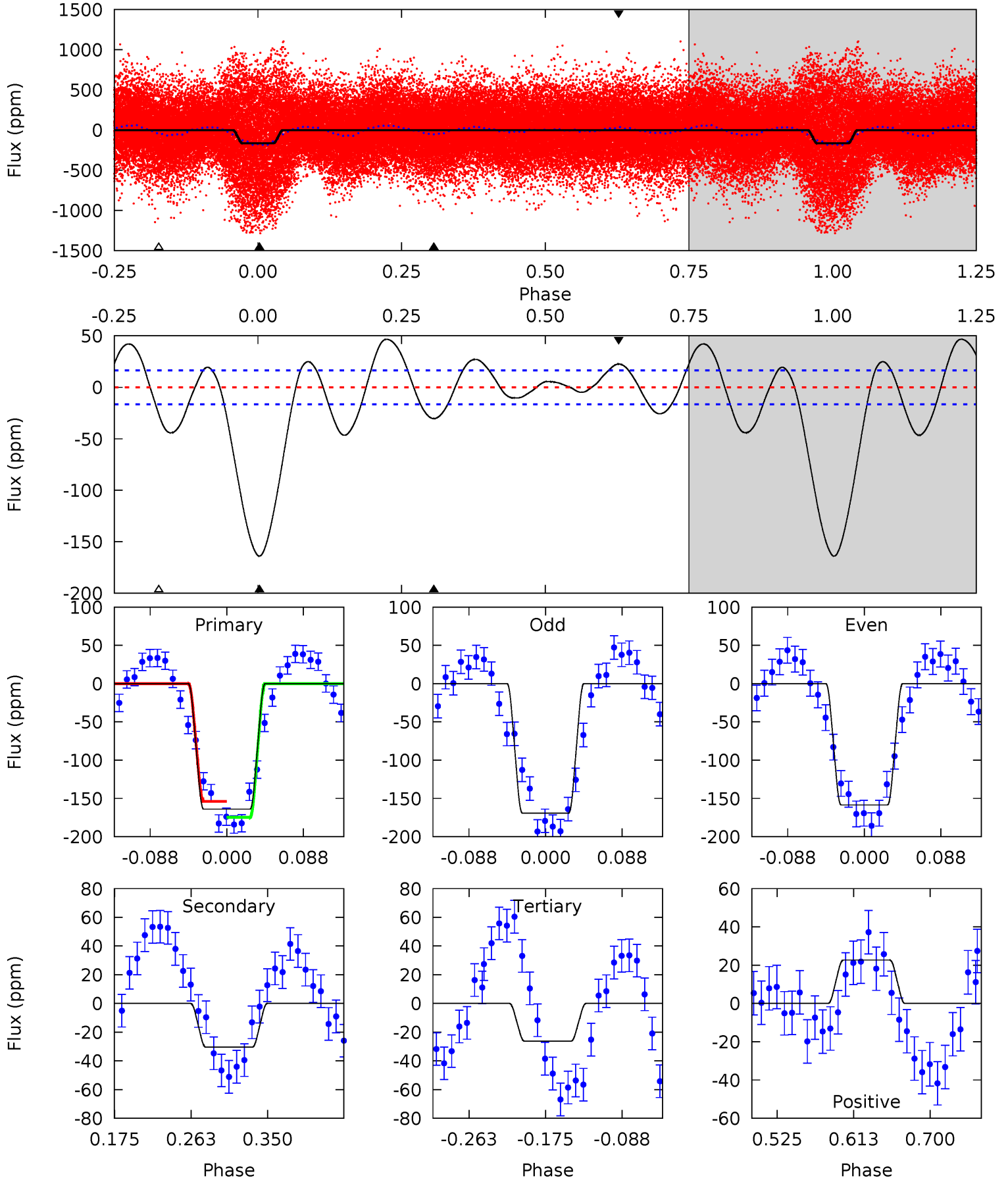
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.3	18.5	17.8	19.9	4.58	1.68	17.3	28.6	26.4	0.77	-1.37	0.48	1.05	0.40	2.57



Alt Model-Shift Uniqueness Test

006793409-01, P = 3.969327 Days, E = 130.891198 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.8	8.50	7.34	6.33	4.59	1.71	6.12	38.5	39.5	1.16	2.17	1.48	1.07	0.22	2.90



Stellar Parameters For KIC 006793409

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7264^{+228}_{-330}	$4.173^{+0.128}_{-0.192}$	$-0.180^{+0.250}_{-0.350}$	$1.627^{+0.512}_{-0.341}$	$1.439^{+0.211}_{-0.234}$	$0.470^{+0.304}_{-0.251}$
	+3%/-5%	+3%/-5%	+139%/-194%	+31%/-21%	+15%/-16%	+65%/-53%
Source	KIC0	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 006793409-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-44 ± 2	$3.03^{+2.06}_{-1.72}$	2443^{+194}_{-179}	4611^{+2337}_{-837}	$8.100^{+34.696}_{-5.279}$
Alt.	-30 ± 4	$2.79^{+2.02}_{-1.64}$	2440^{+206}_{-158}	4411^{+2340}_{-805}	$6.522^{+33.345}_{-4.328}$

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 $A_{obs} \gg 1.0$

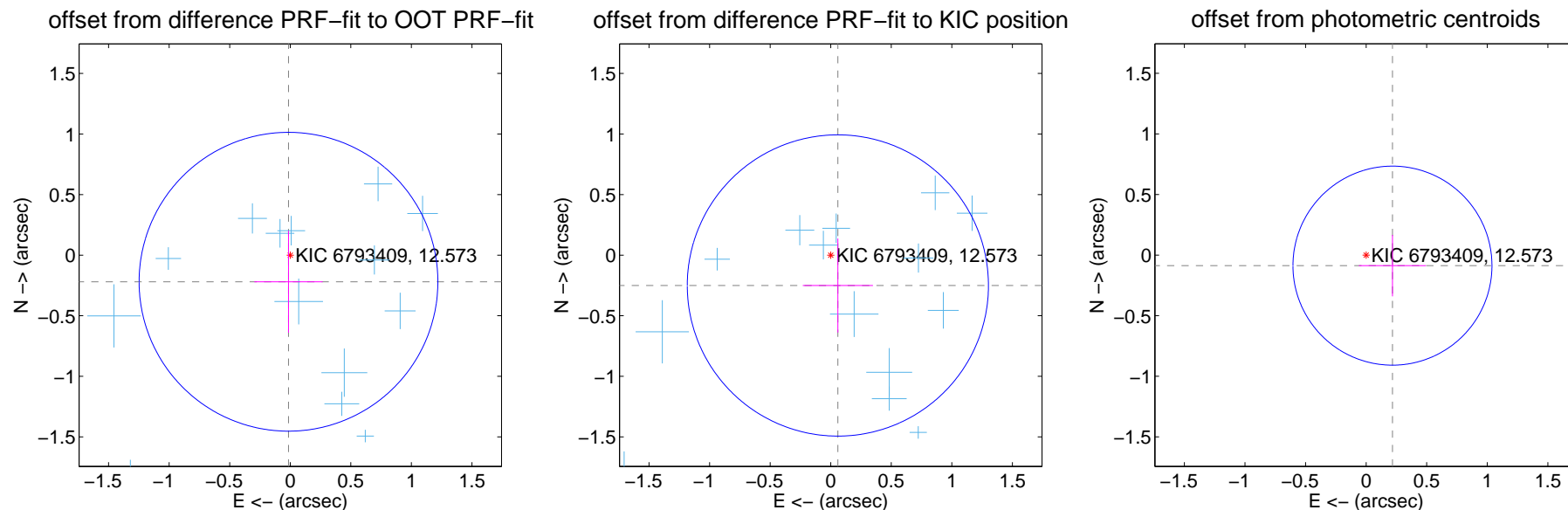
DV Centroid Data

Supplemental centroid analysis for 006793409-01. Kepler magnitude: 12.57. Transit SNR 15.38

There are 16 quarters with good PRF difference image offsets

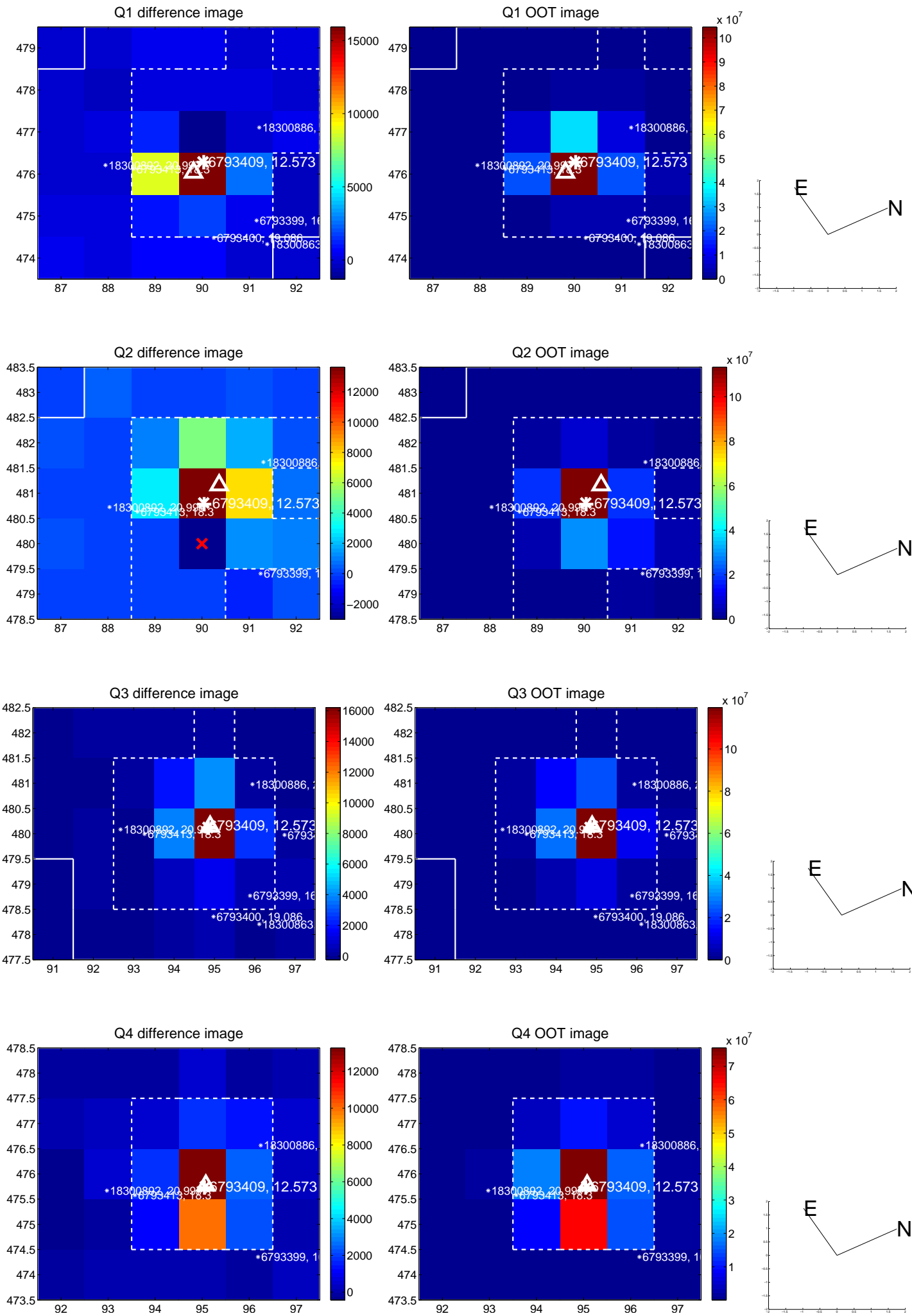
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.220 ± 0.411	0.54	0.015 ± 0.282	-0.220 ± 0.420
PRF-fit source offset from KIC position	0.257 ± 0.414	0.62	-0.059 ± 0.290	-0.250 ± 0.388
photometric centroid source offset	0.23 ± 0.27	0.86	-0.22 ± 0.28	-0.09 ± 0.25

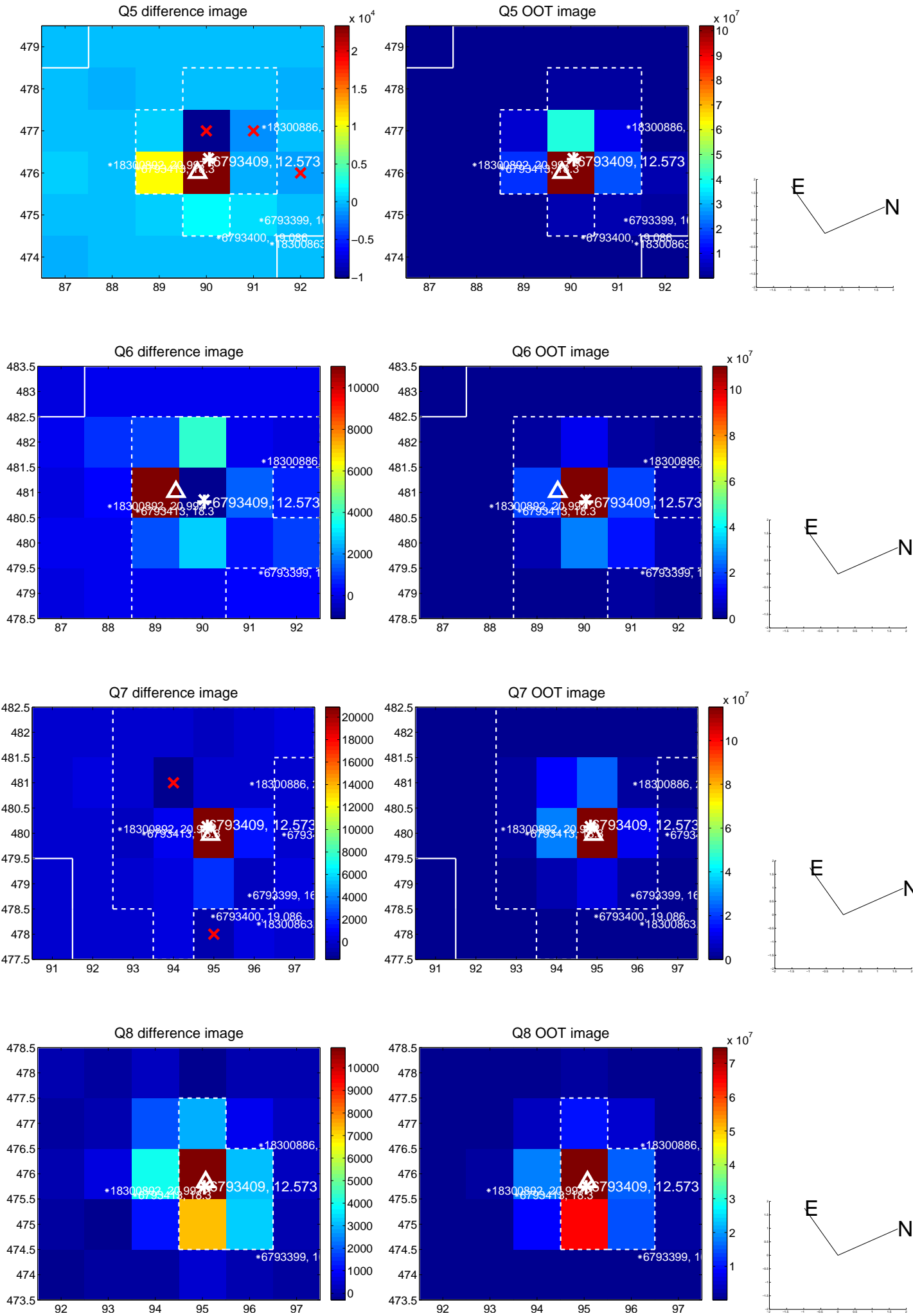


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

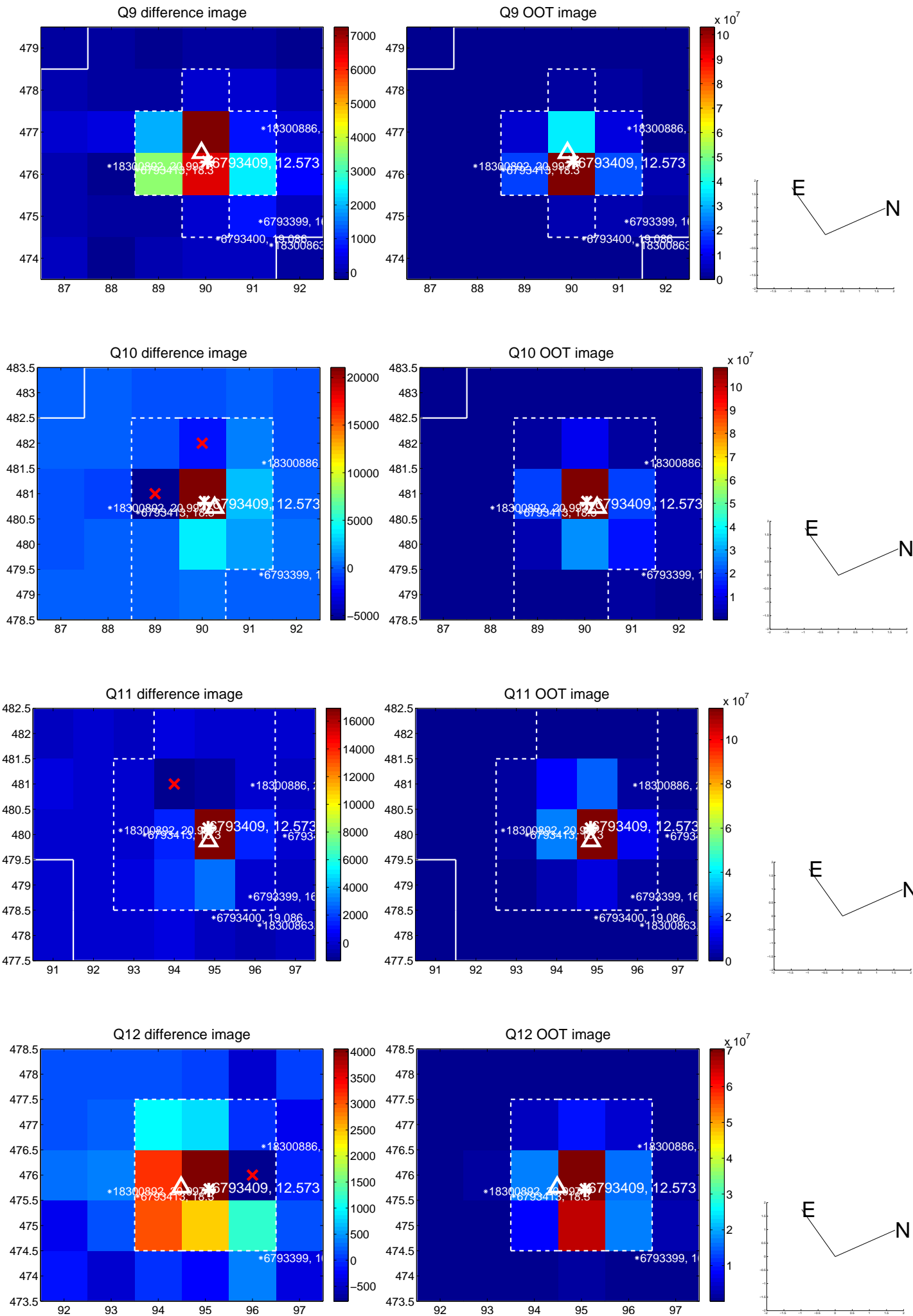
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



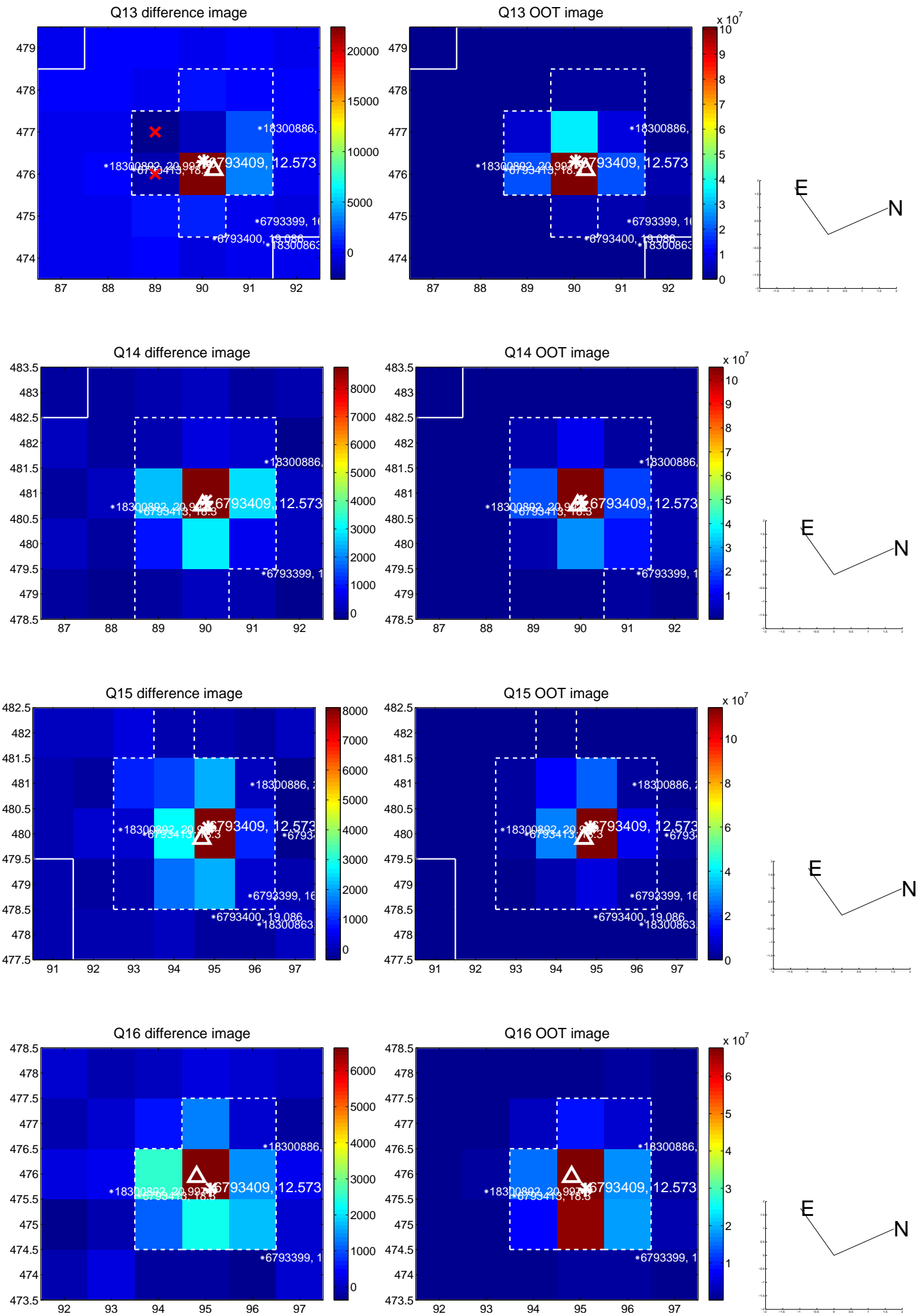
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



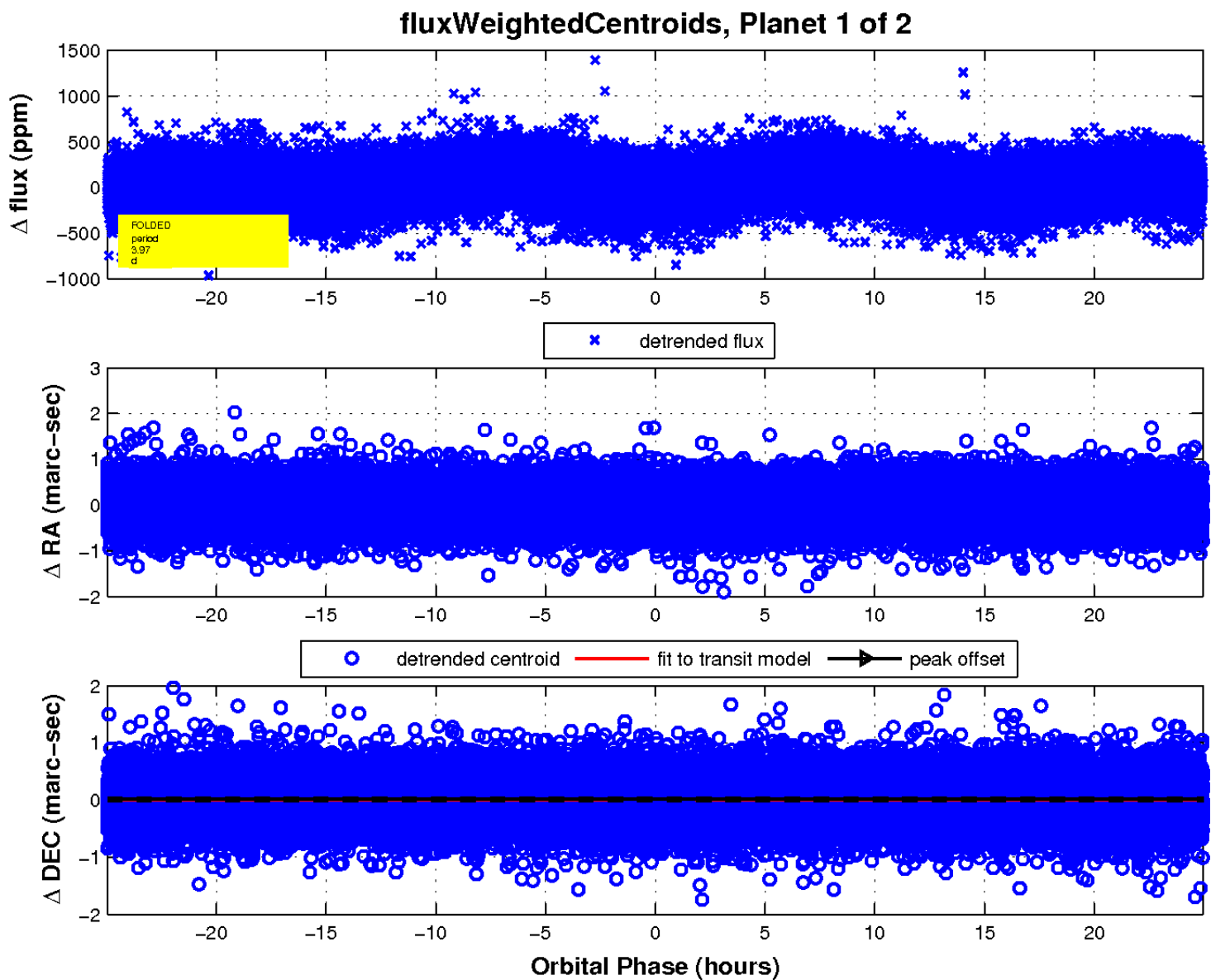
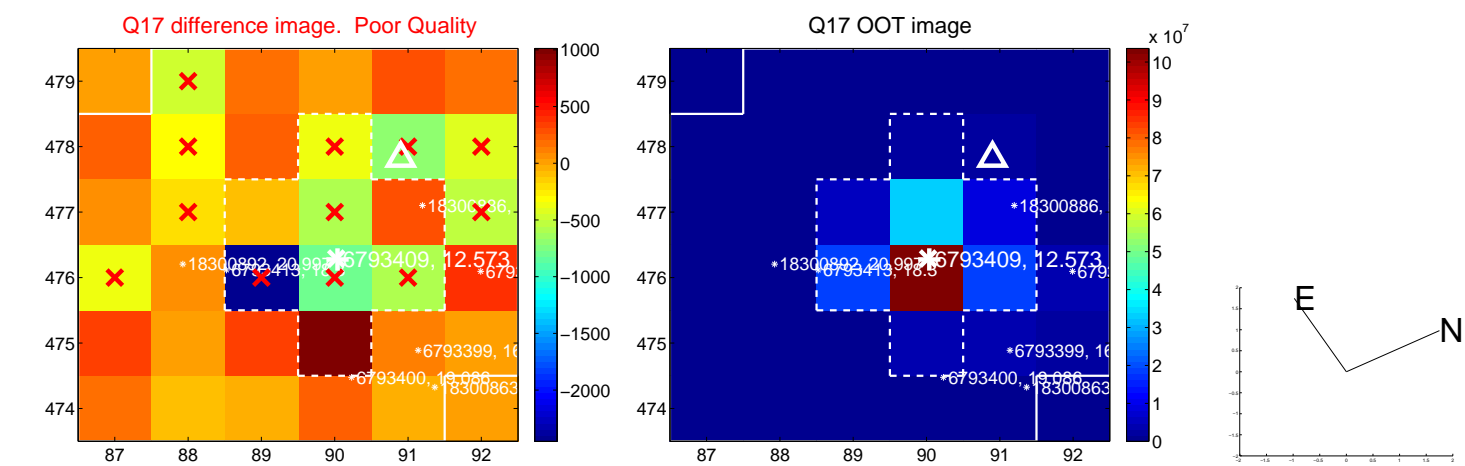
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

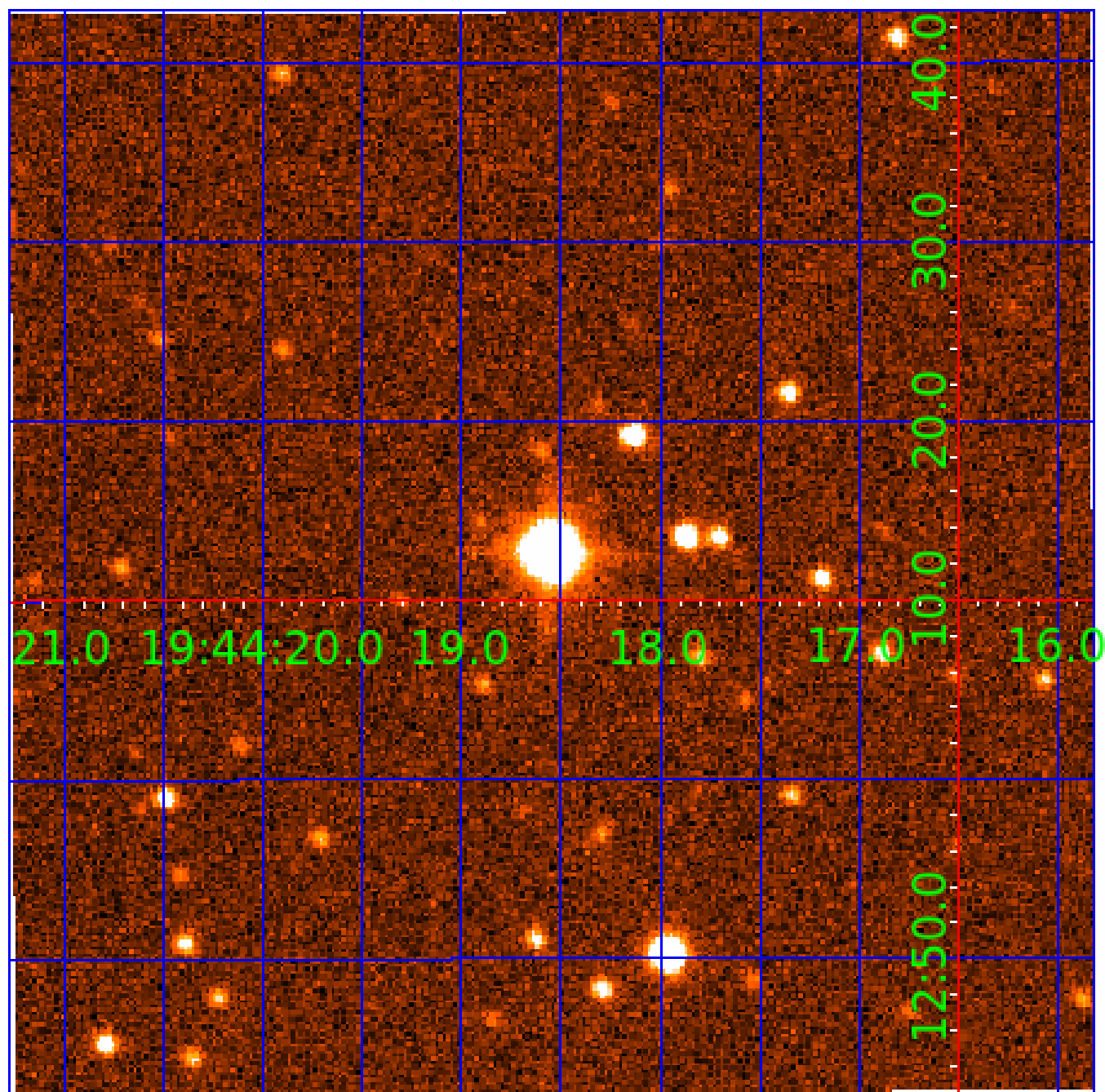


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006793409

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})
006793409-01	OBS	No	3.969253	134.877372	89.4	8.320	11.0	15.4	1.63	7264	2.68	2152.34
006793409-02	OBS	No	3.969473	134.814482	73.6	38.268	11.8	15.9	1.63	7264	1.56	2152.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006793409-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006793409-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—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.

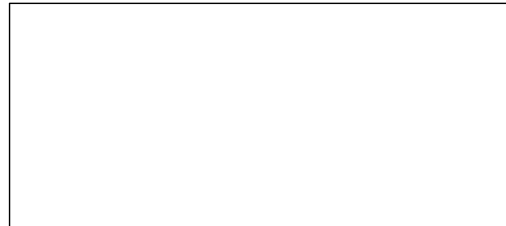
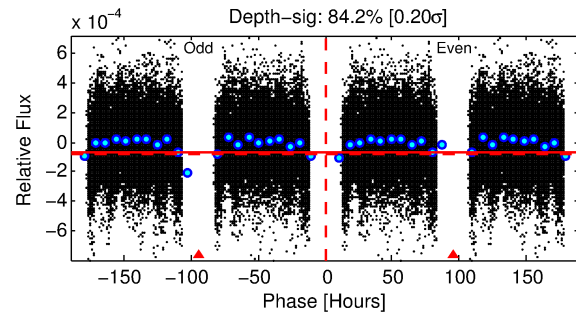
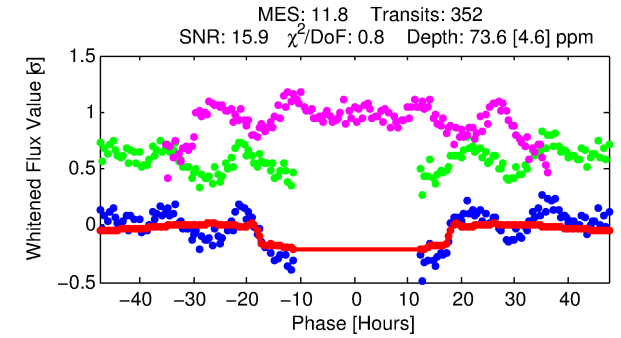
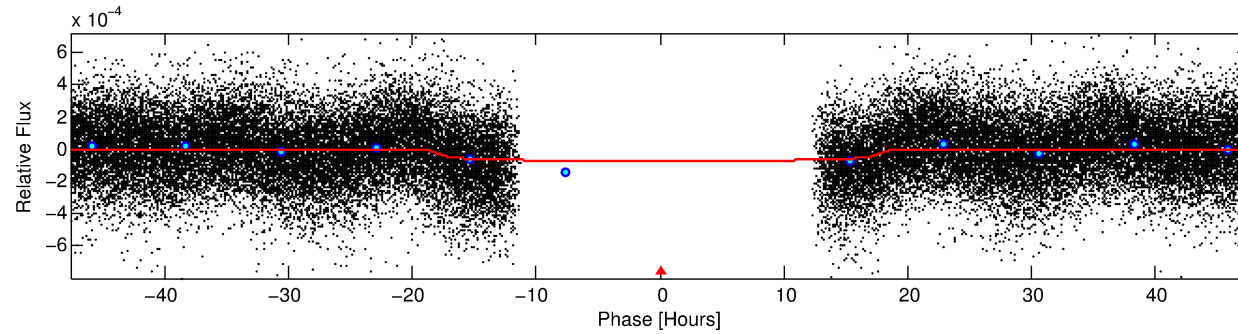
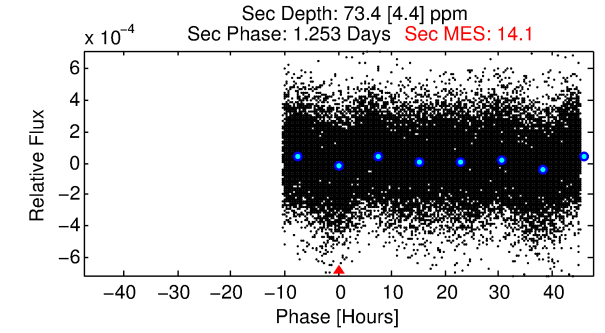
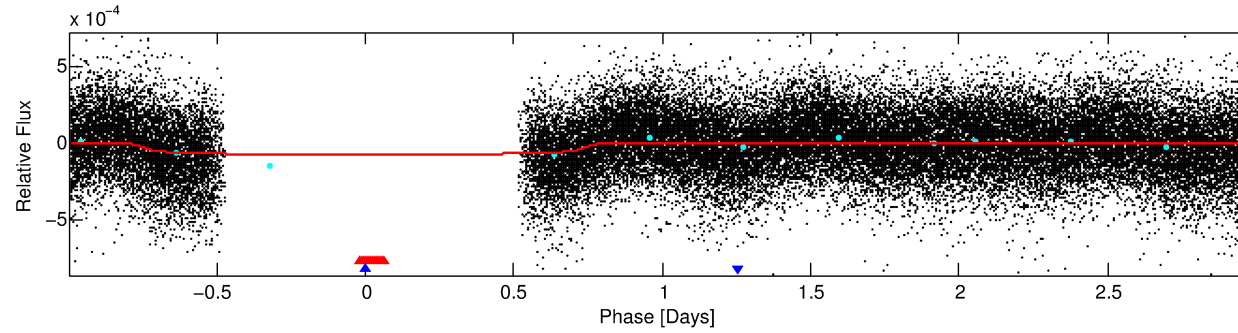
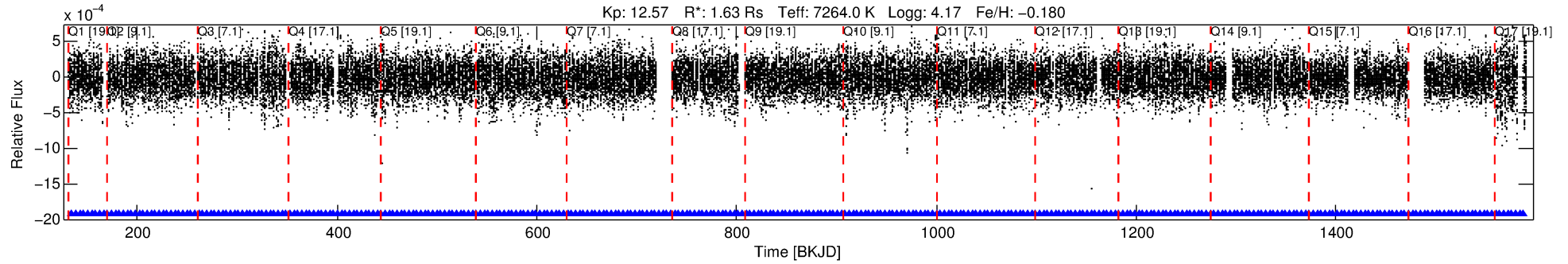
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006793409-02

No Significant Match Found

DV One-Page Summary

KIC: 6793409 Candidate: 2 of 2 Period: 3.969 d



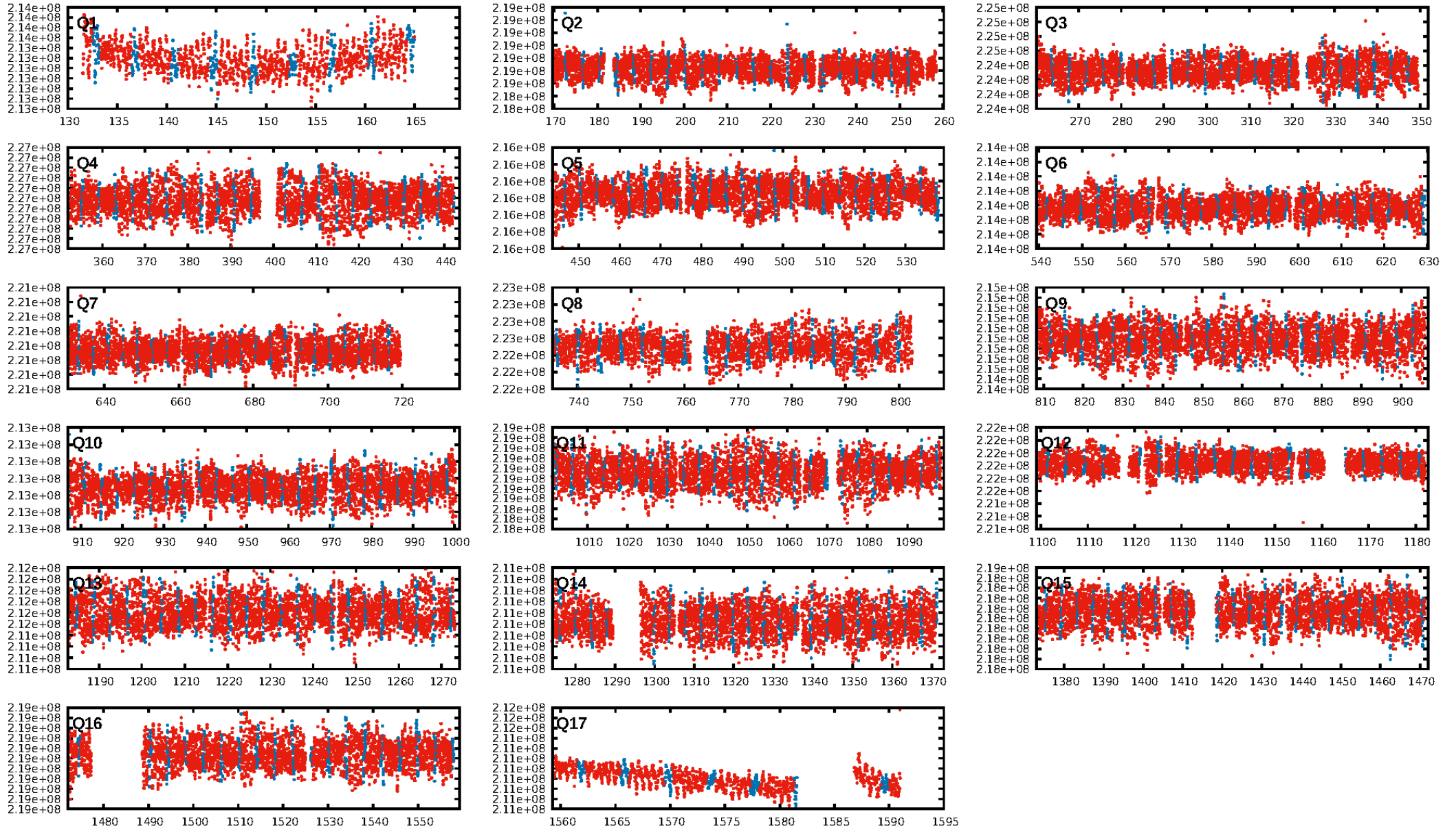
DV Fit Results:

Period = 3.96947 [0.00007] d
Epoch = 134.8145 [0.0129] BKJD
Rp/R* = 0.0088 [0.0003]
a/R* = 1.02 [0.01]
b = 0.84 [0.05]
Seff = 2152.18 [871.30]
Teff = 1737 [176] K
Rp = 1.56 [0.50] Re
a = 0.0554 [0.0142] AU
Ag = 50.67 [18.99] [2.62 σ]
Teffp = 7164 [369] K [13.27 σ]

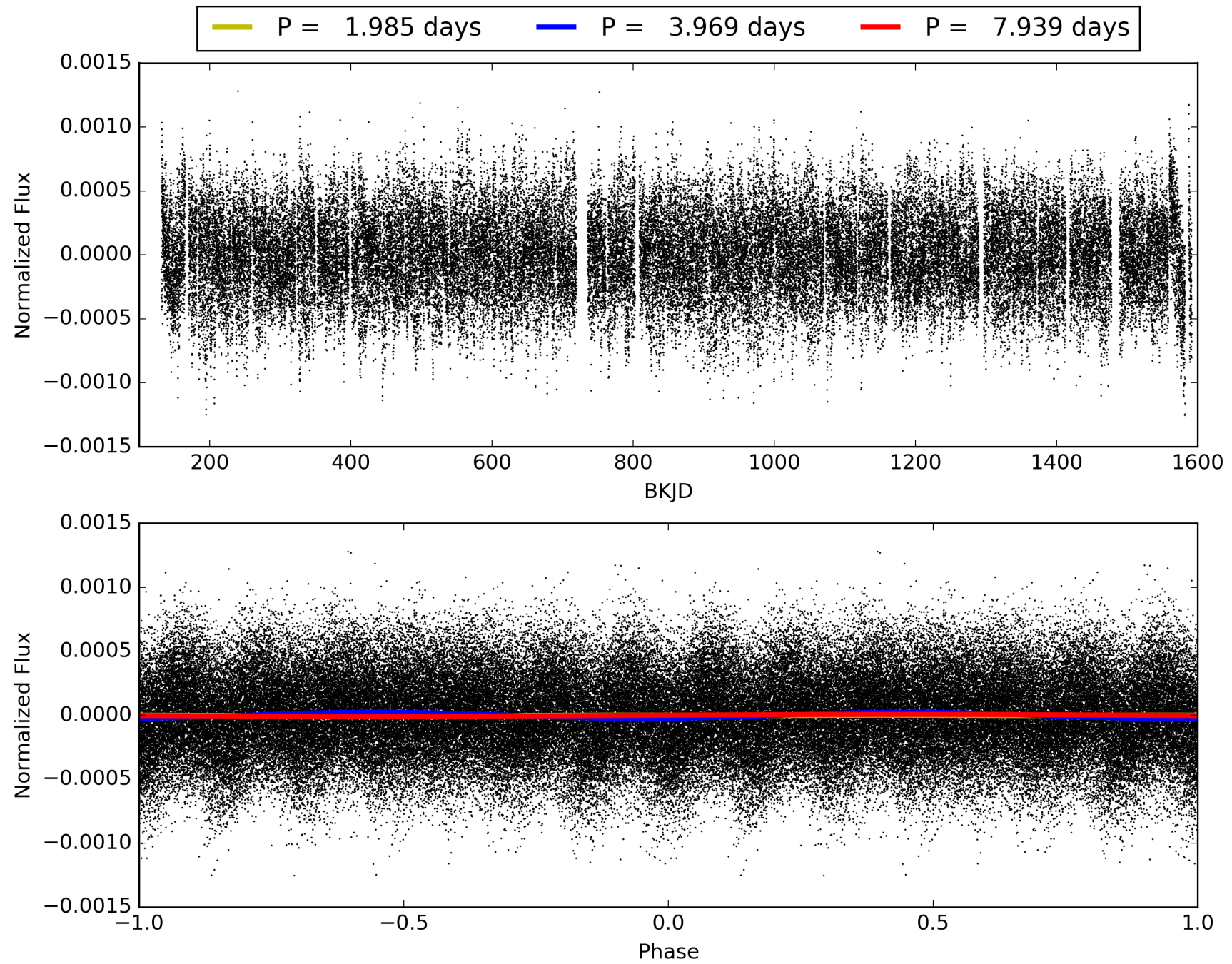
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [335/335]
GhostDiagnostic-chr: 1.398
Centroid-sig: N/A
Centroid-so: 0.170 arcsec [1.20 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/17]

TCE 006793409-02, PDC Light Curves

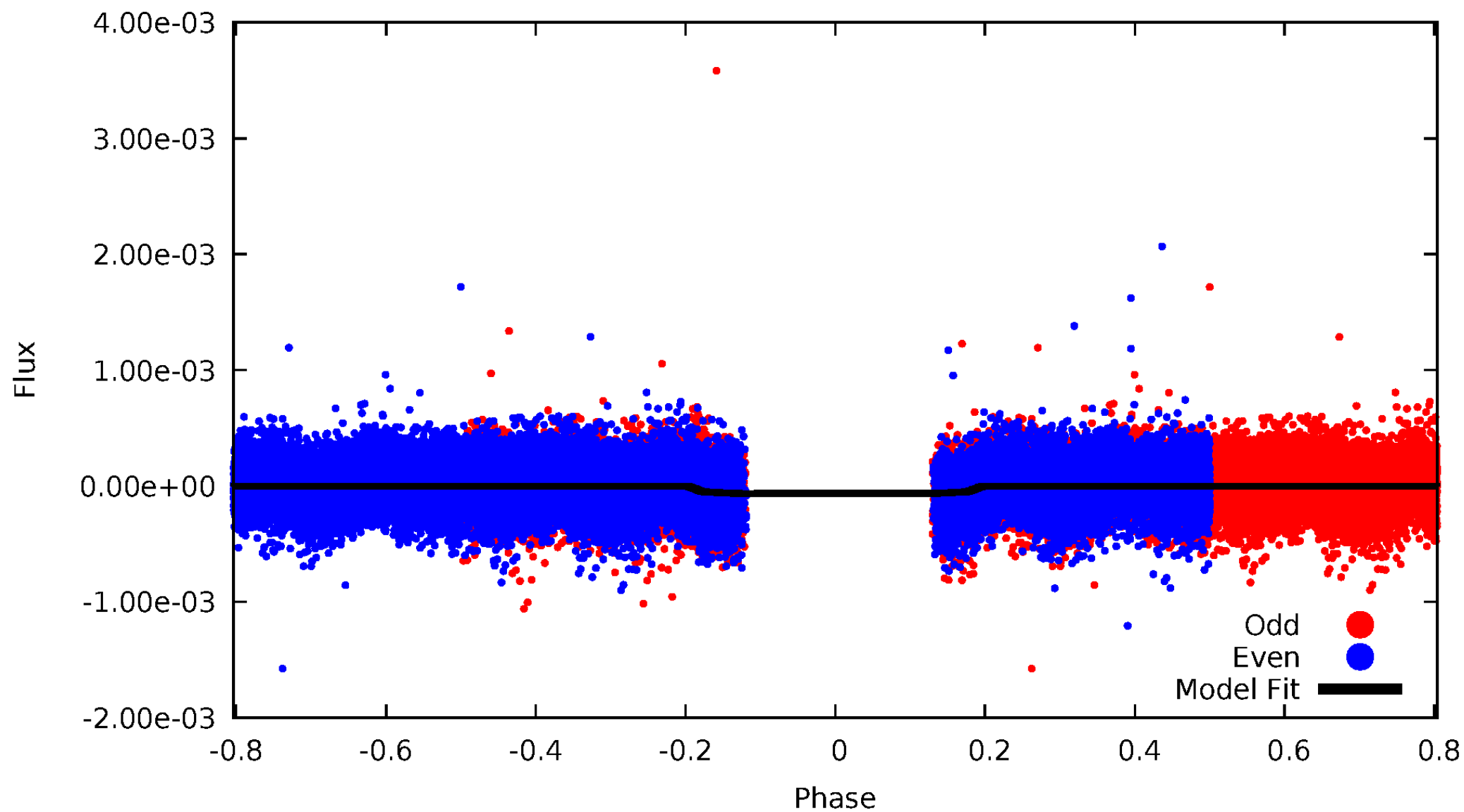


TCE 006793409-02



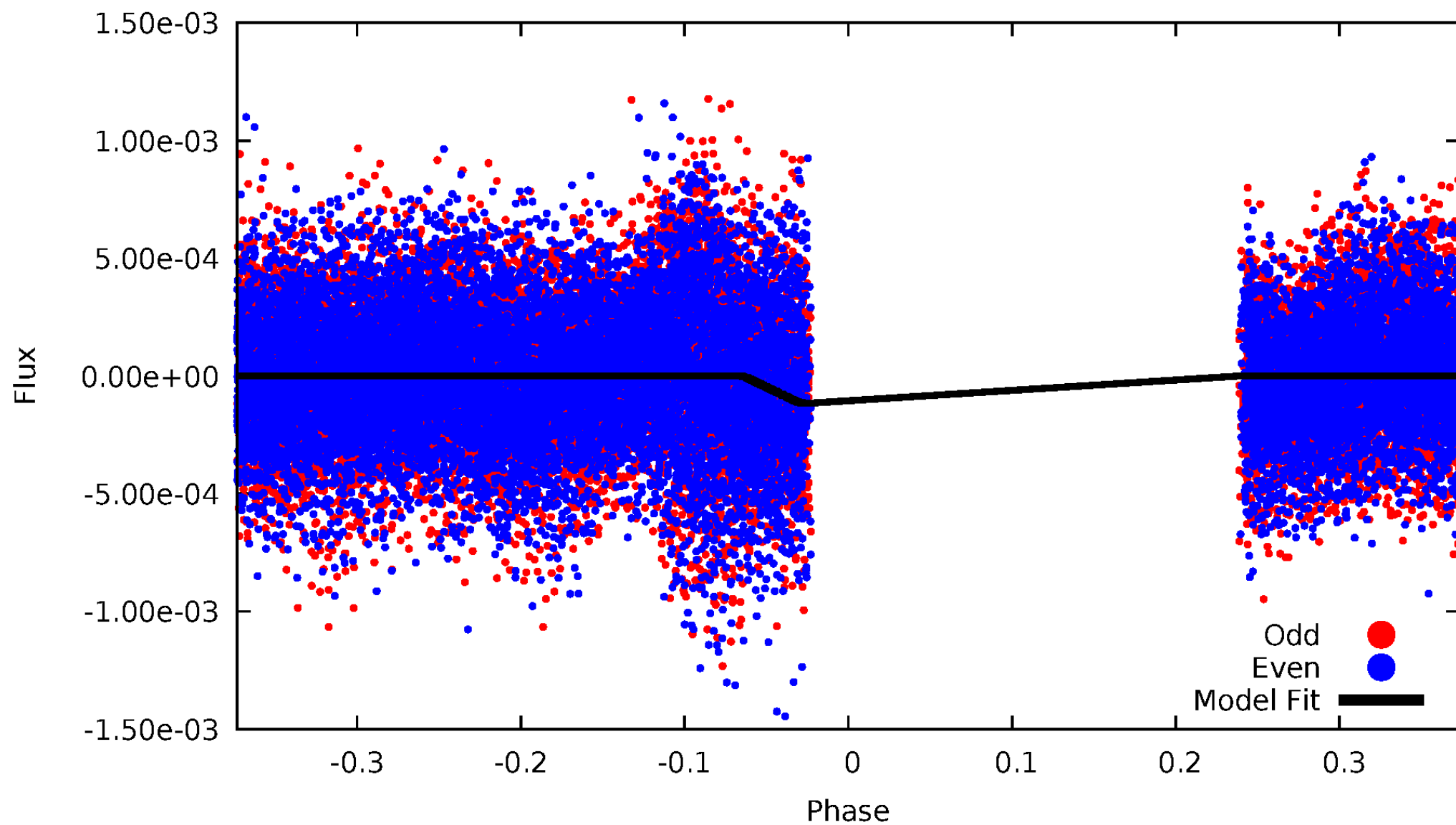
DV Odd/Even

TCE 006793409-02



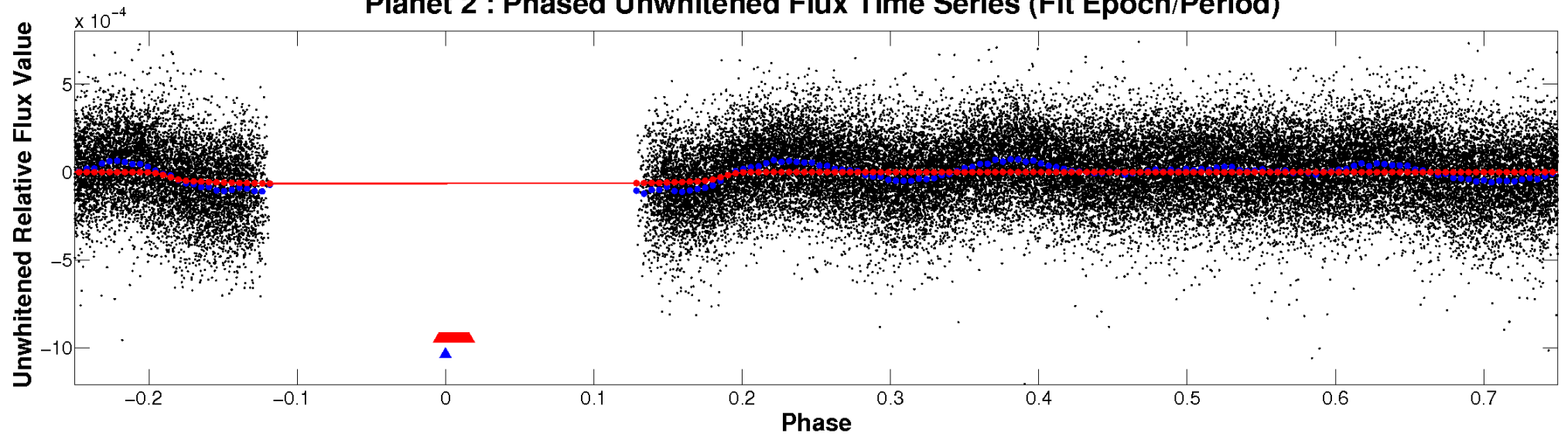
ALT Odd/Even

TCE 006793409-02

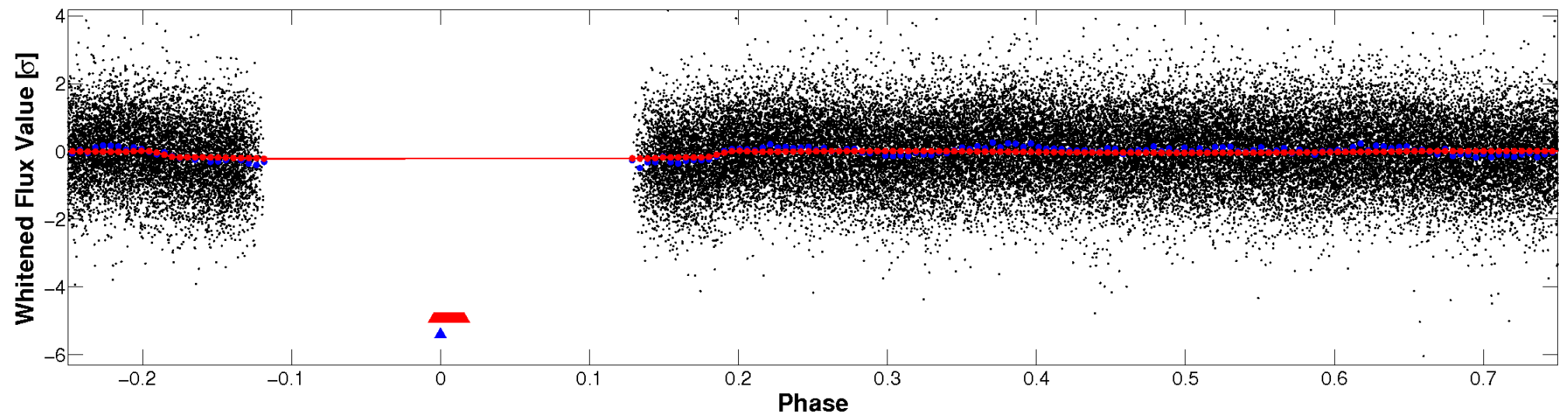


Non-Whitened Vs. Whitened Light Curve

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

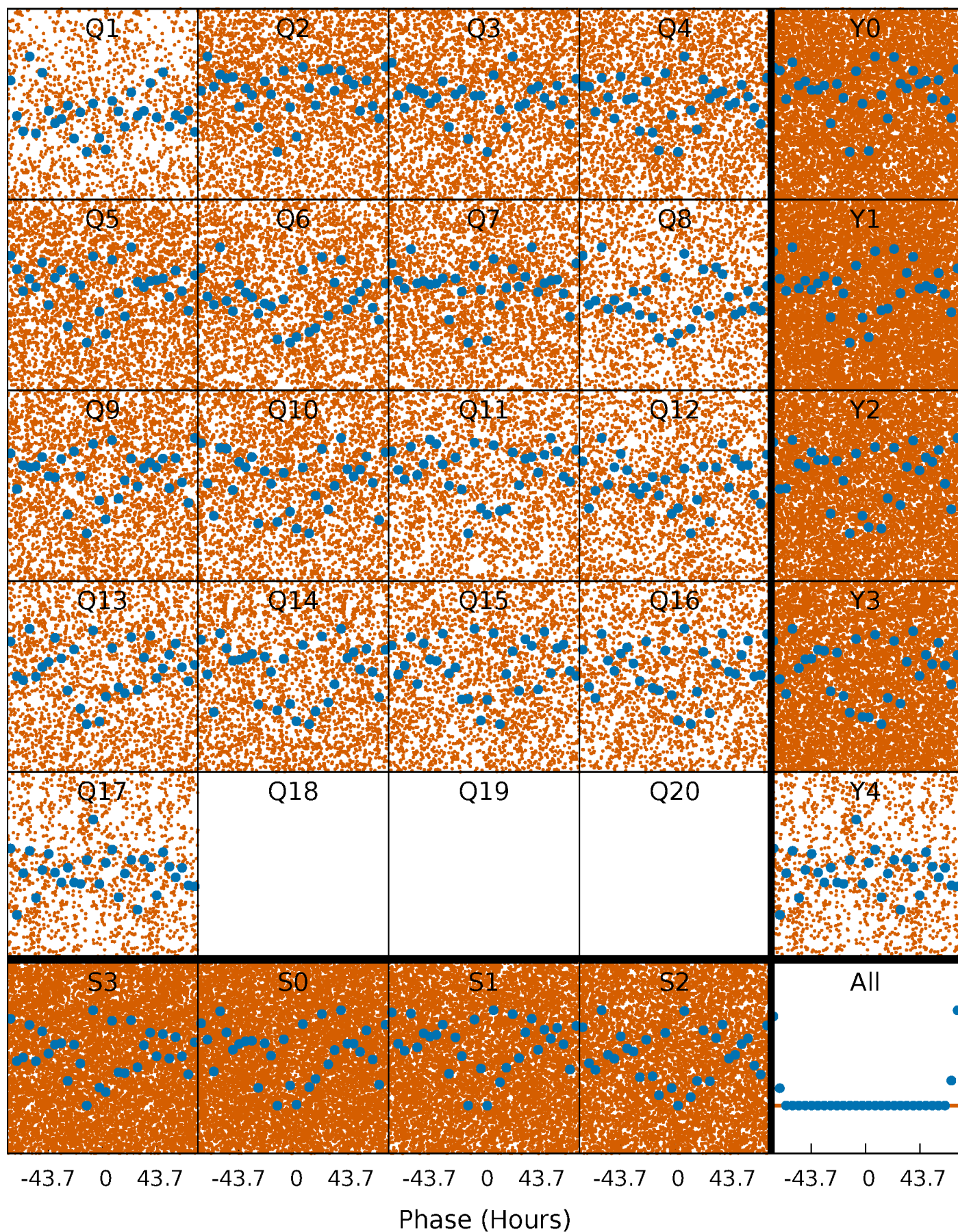


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



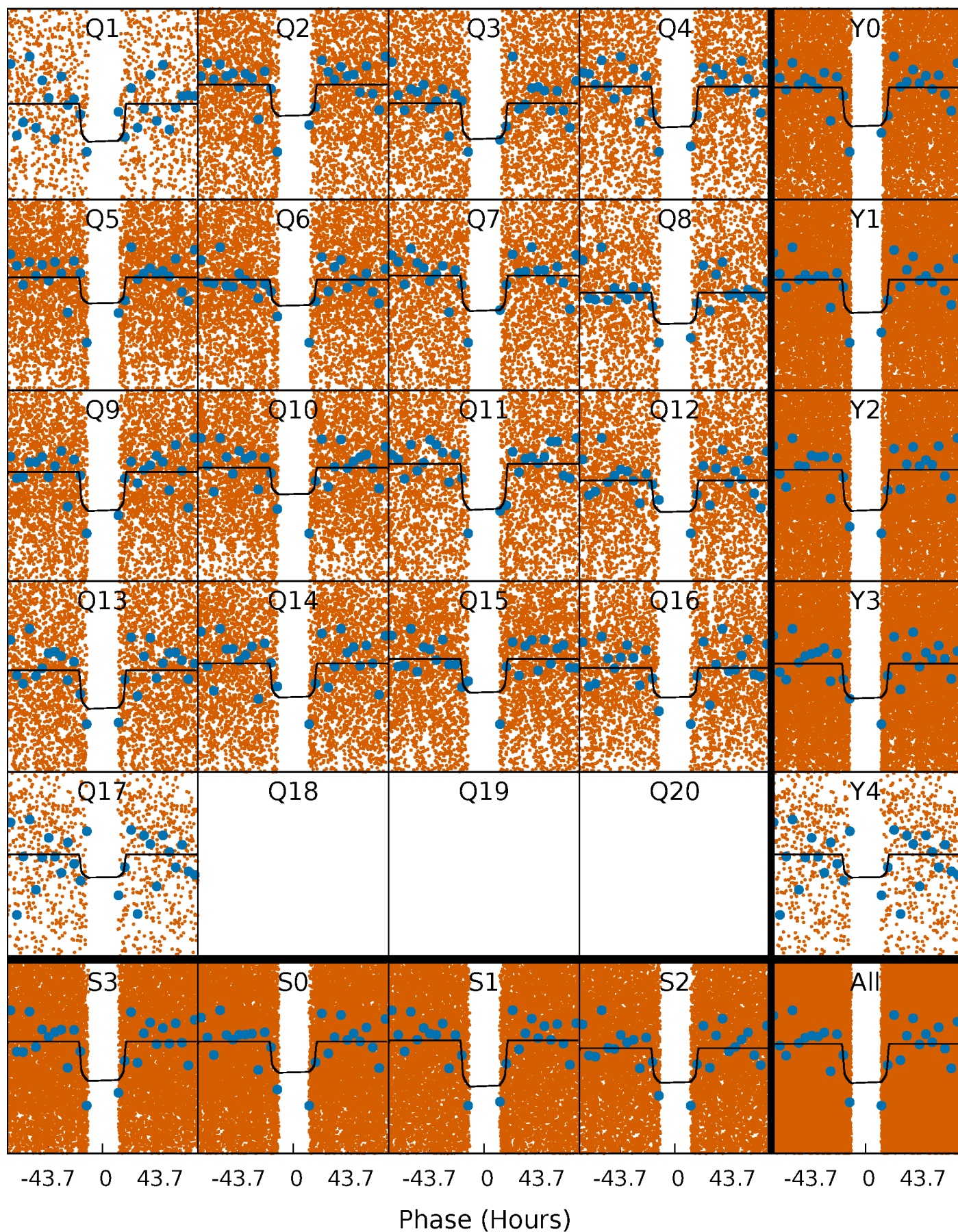
PDC Quarter-Phased Transit Curves

TCE 006793409-02 P= 3.969473 Days $T_0=134.814482$ (BKJD)



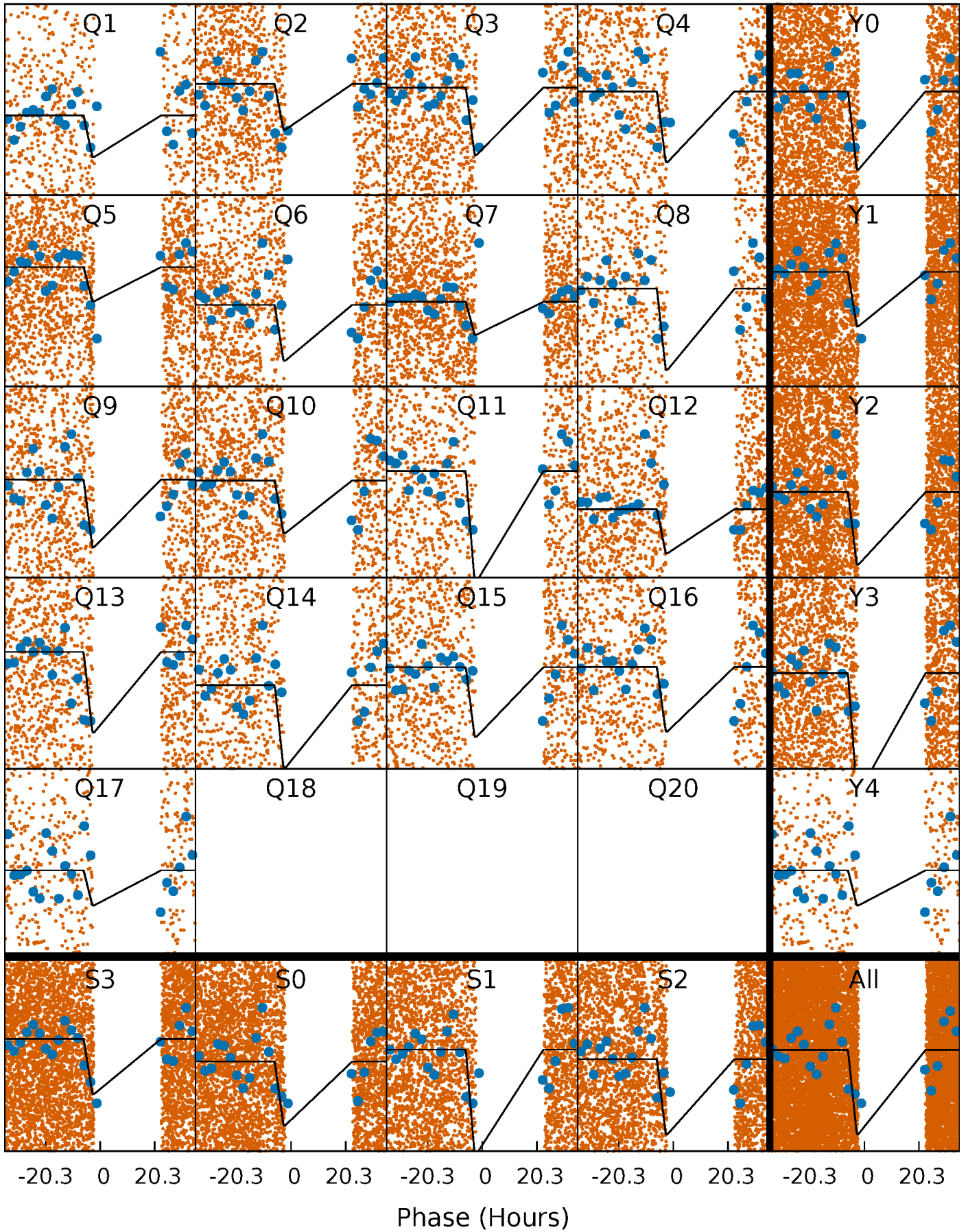
DV Quarter-Phased Transit Curves

TCE 006793409-02 P= 3.969473 Days $T_0=134.814482$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

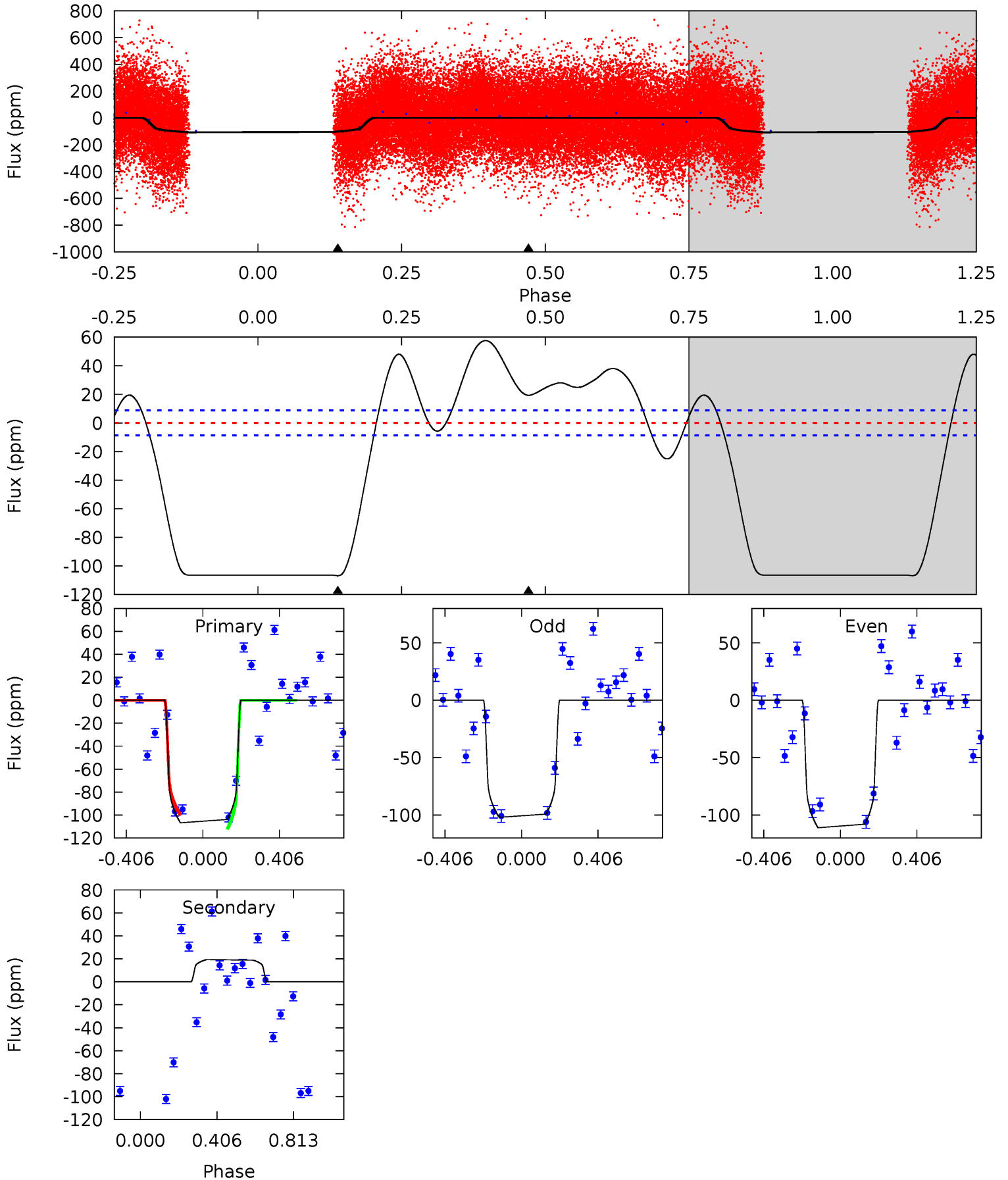
TCE 006793409-02 P= 3.969327 Days $T_0=134.434277$ (BKJD)



DV Model-Shift Uniqueness Test

006793409-02, P = 3.969473 Days, E = 130.845009 Days

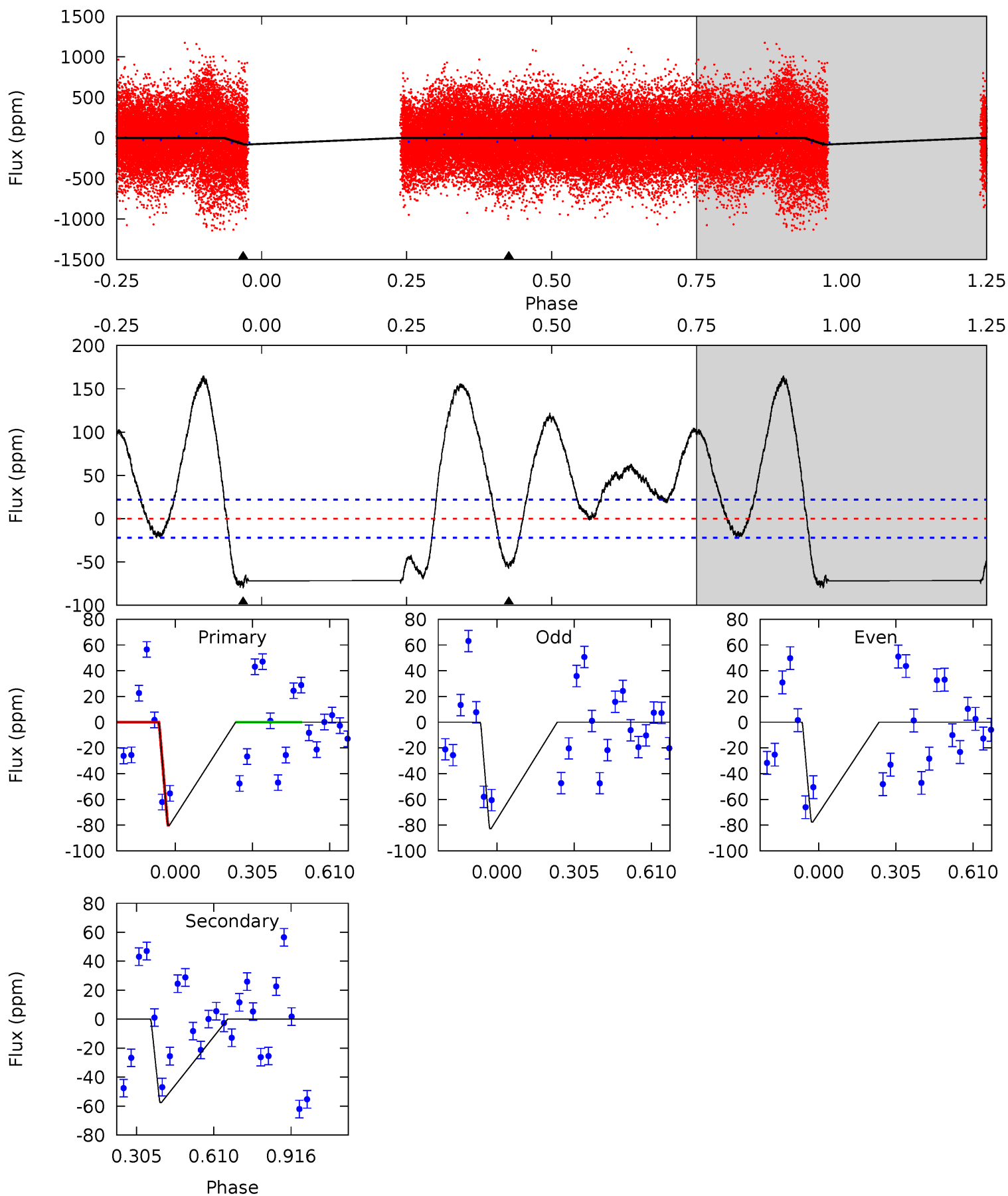
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.2	-9.46	0	0	4.26	0.83	12.8	52.2	52.2	-9.46	-9.46	2.22	1.11	0.35	3.10



Alt Model-Shift Uniqueness Test

006793409-02, P = 3.969327 Days, E = 130.464950 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	11.3	0	0	4.32	1.03	5.28	15.7	15.7	11.3	11.3	0.42	0	0.67	0



Stellar Parameters For KIC 006793409

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7264^{+228}_{-330}	$4.173^{+0.128}_{-0.192}$	$-0.180^{+0.250}_{-0.350}$	$1.627^{+0.512}_{-0.341}$	$1.439^{+0.211}_{-0.234}$	$0.470^{+0.304}_{-0.251}$
	+3%/-5%	+3%/-5%	+139%/-194%	+31%/-21%	+15%/-16%	+65%/-53%
Source	KIC0	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 006793409-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	19 ± 2	$1.60^{+0.25}_{-0.19}$	2453^{+183}_{-182}	-5147^{+222}_{-195}	$-12.464^{+3.038}_{-3.808}$
Alt.	-58 ± 5	$1.94^{+0.32}_{-0.24}$	2454^{+169}_{-169}	6003^{+266}_{-276}	26^{+7}_{-7}

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

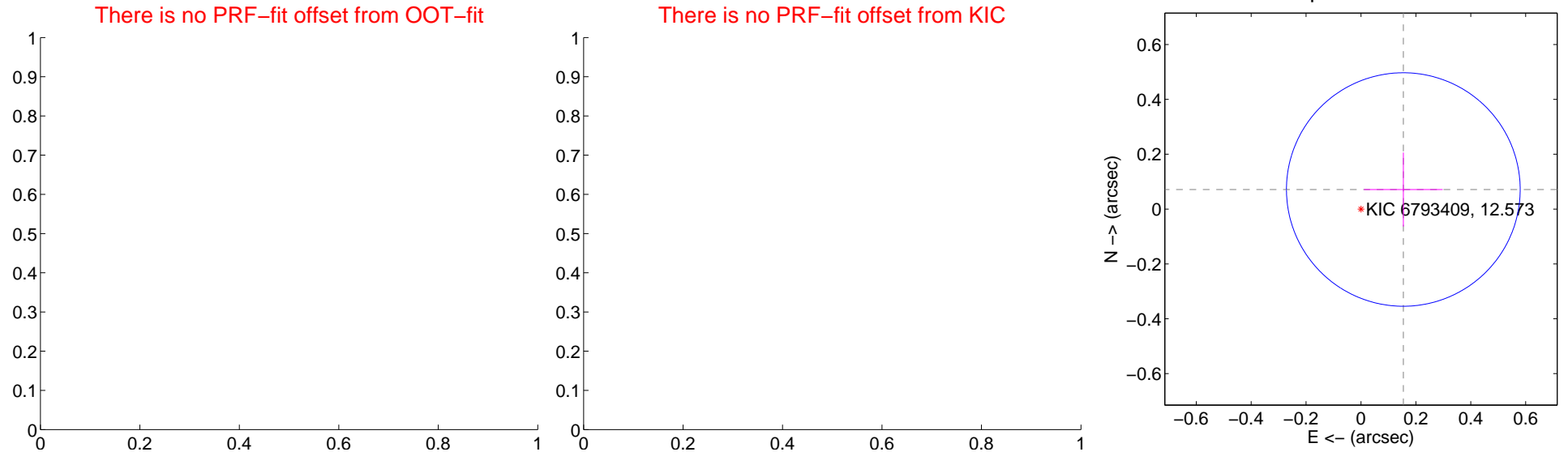
DV Centroid Data

Supplemental centroid analysis for 006793409-02. Kepler magnitude: 12.57. Transit SNR 15.89

There are 0 quarters with good PRF difference image offsets

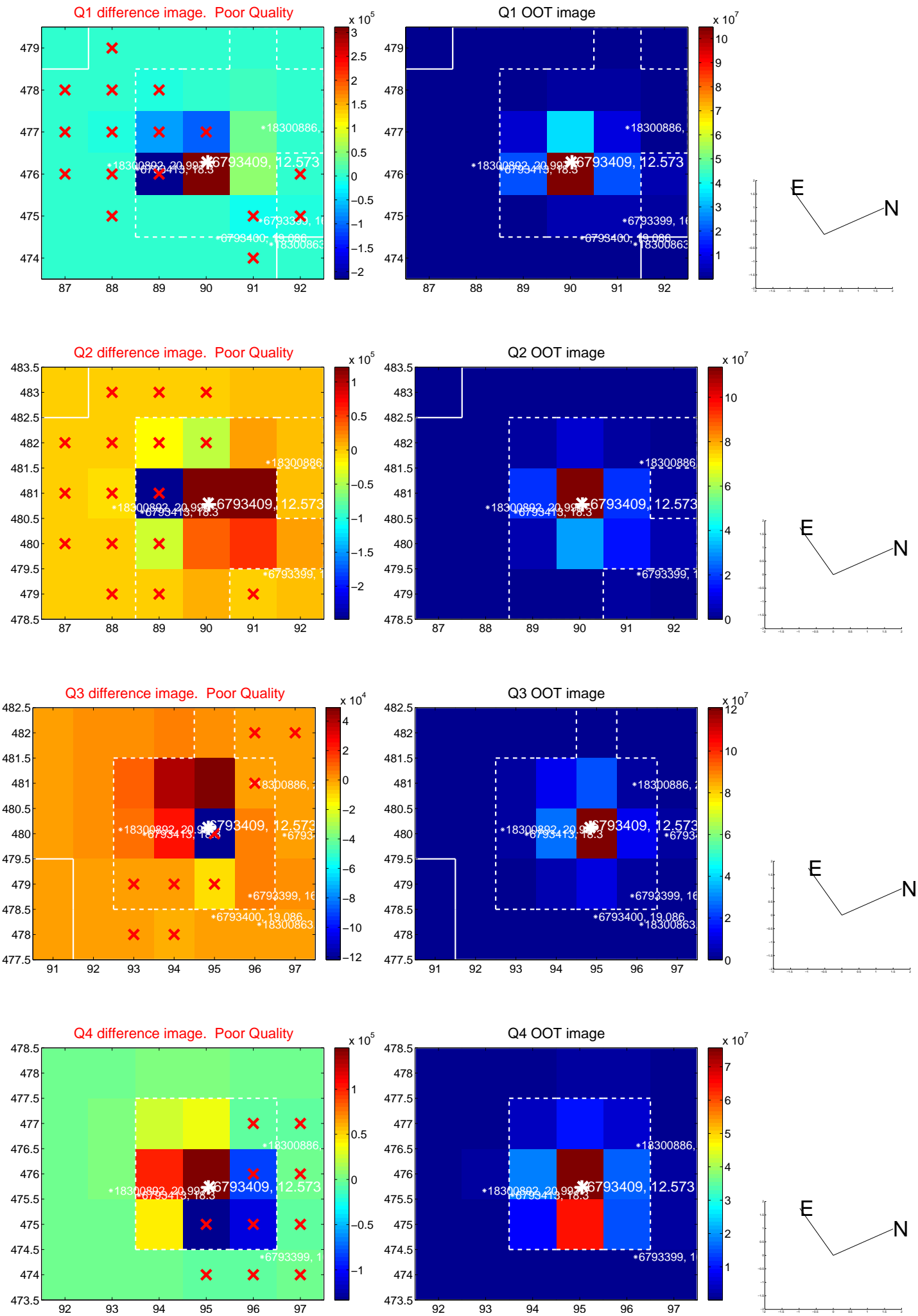
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.17 ± 0.14	1.20	-0.15 ± 0.14	0.07 ± 0.13

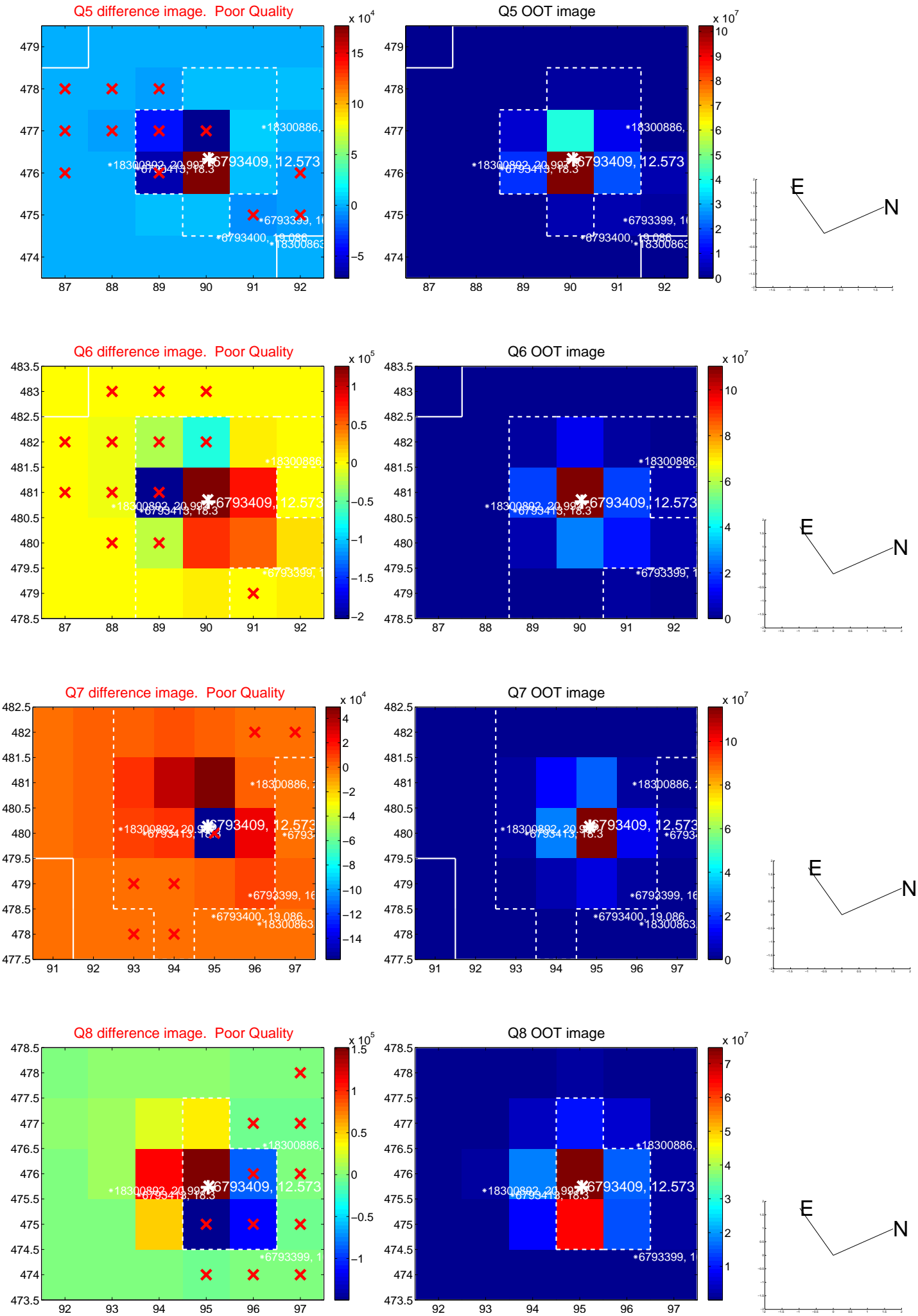


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

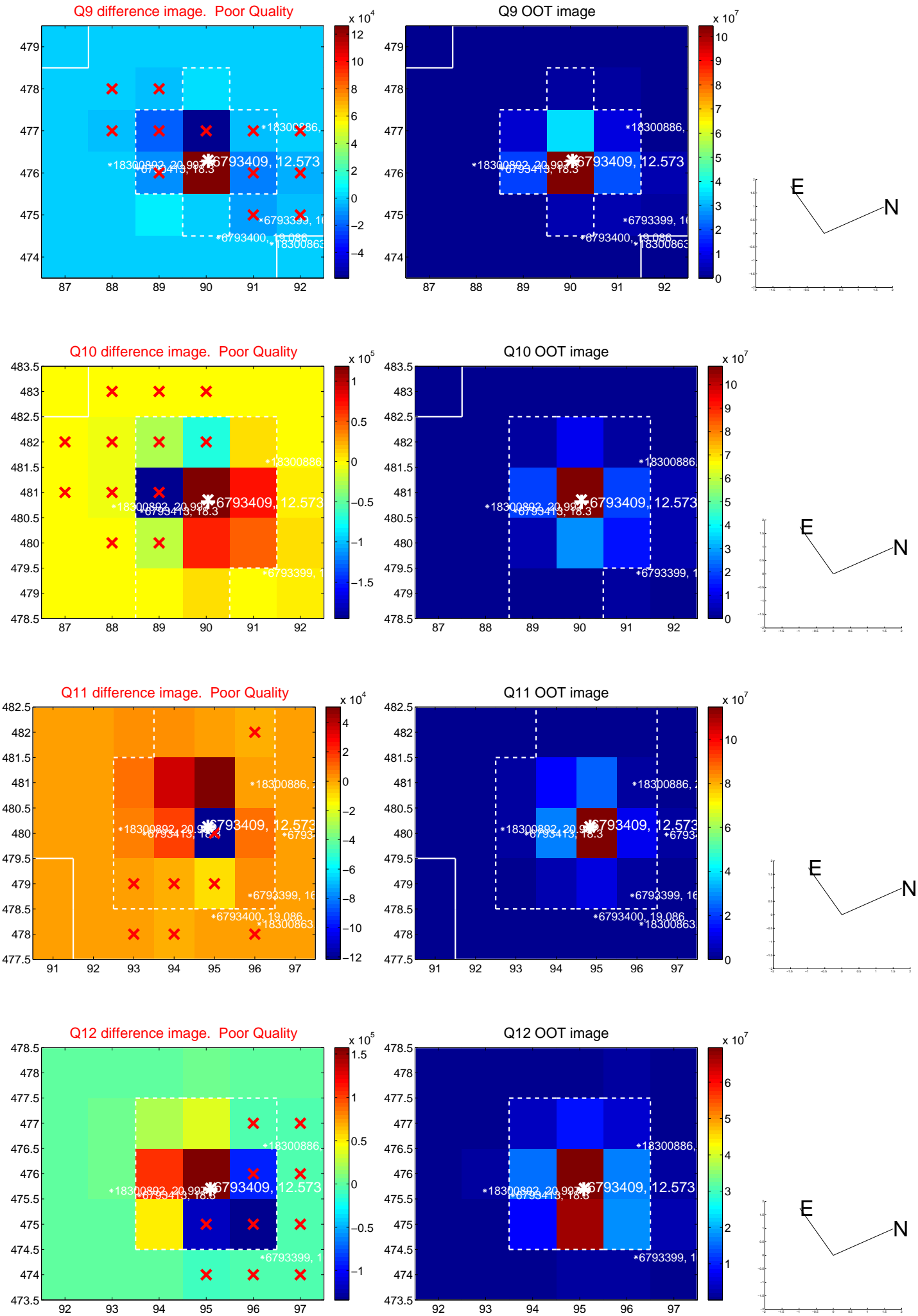
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



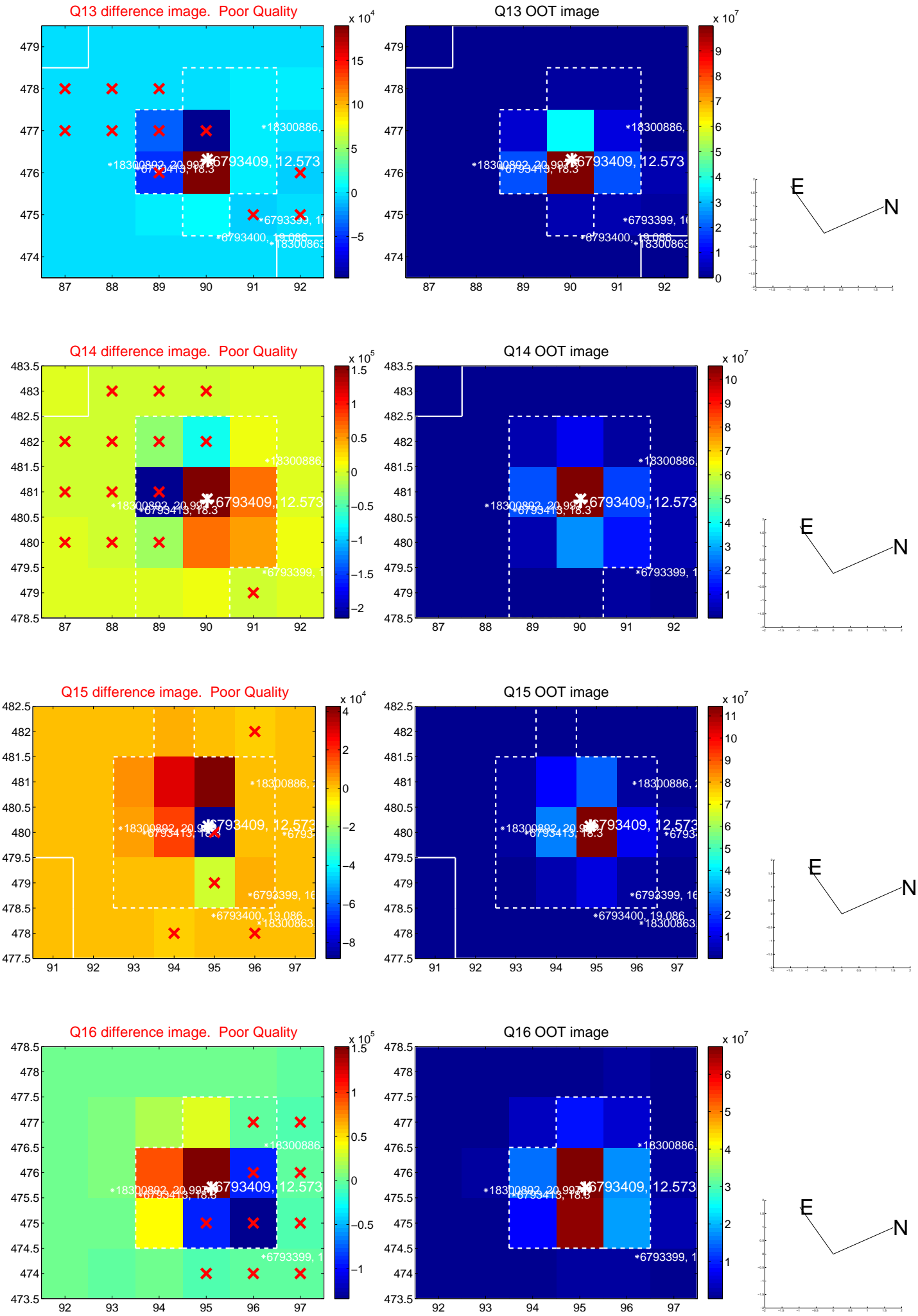
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



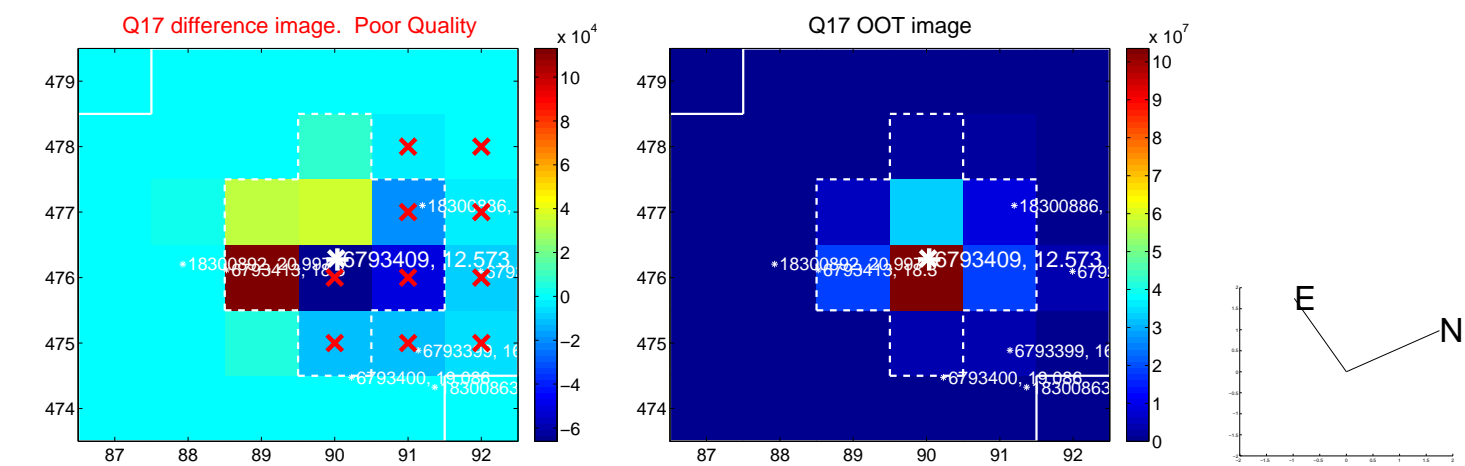
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



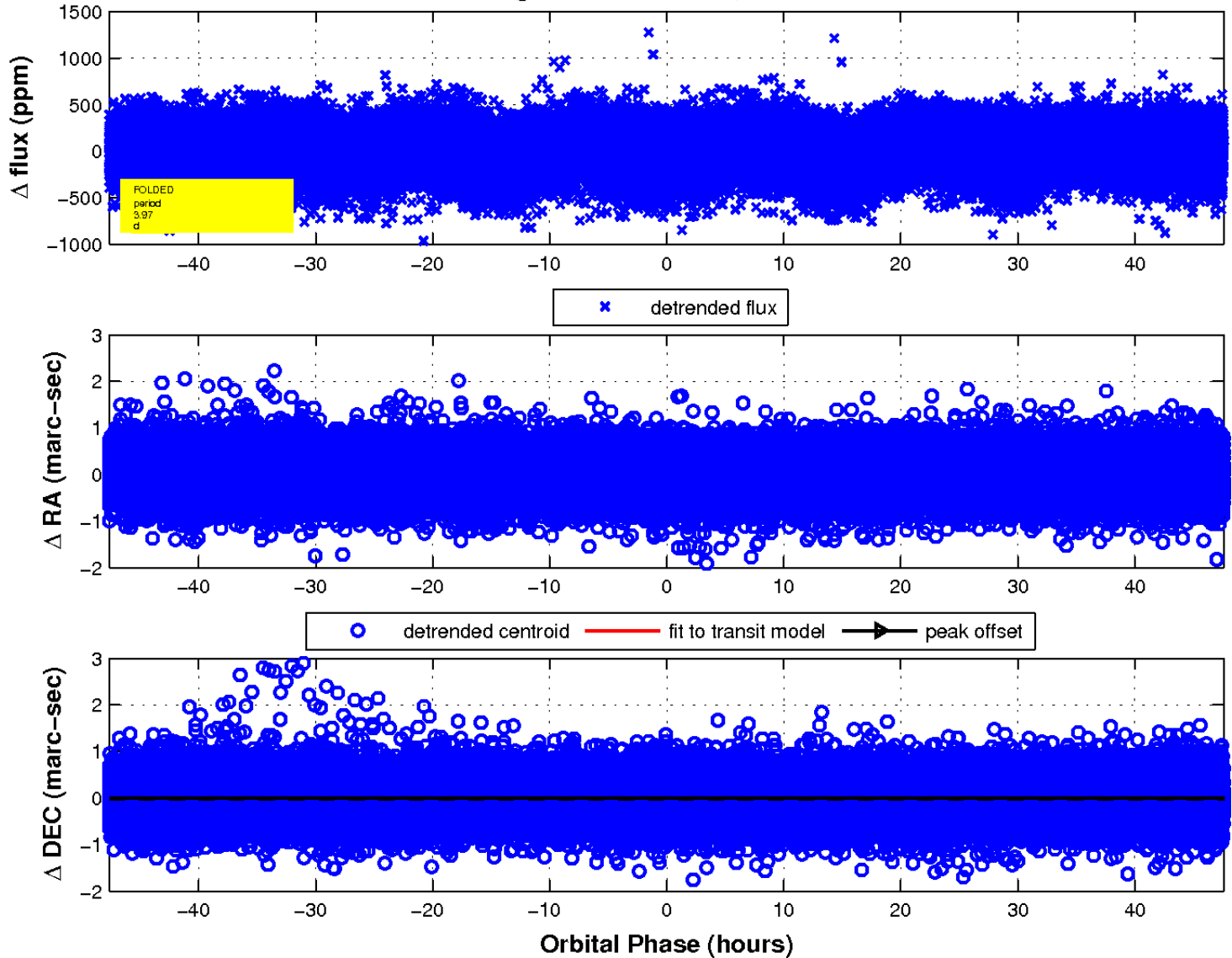
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

