

KIC 005769810

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})
005769810-01	OBS	4913.02	8.973756	139.741322	103.2	2.034	9.2	10.3	2.83	6537	3.39	1296.78
005769810-02	OBS	4913.01	6.787928	136.337464	76.8	2.687	8.1	9.3	2.83	6537	2.92	1881.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005769810-01	OBS	FP	0.30	1	0	0	0	MOD_NONUNIQ_ALT
005769810-02	OBS	PC	0.80	0	0	0	0	NO_COMMENT

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

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

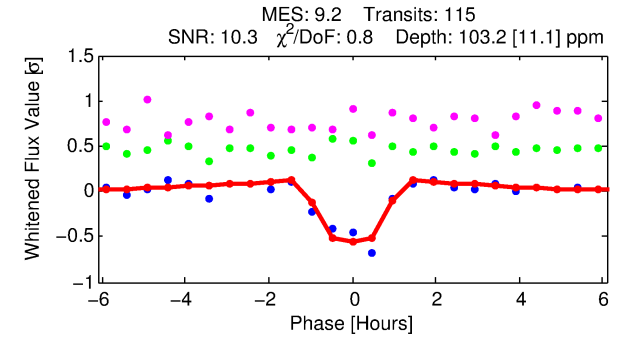
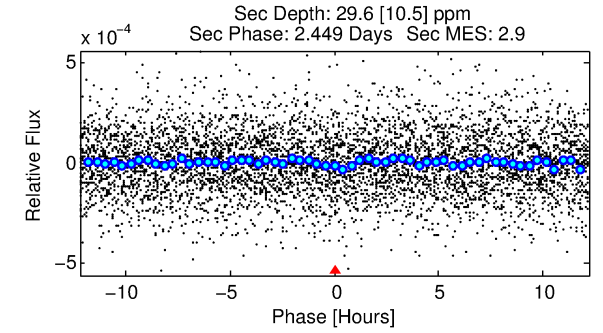
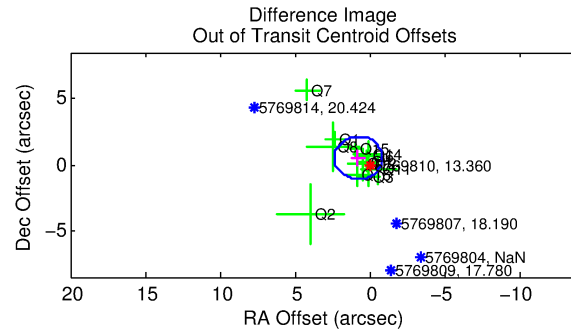
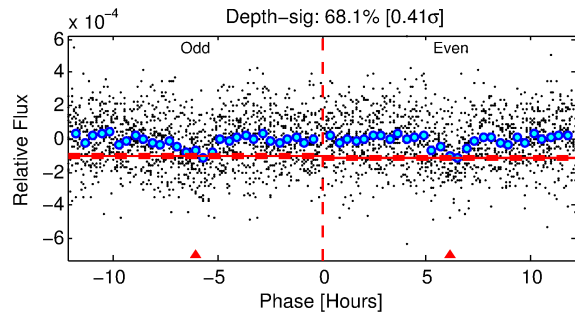
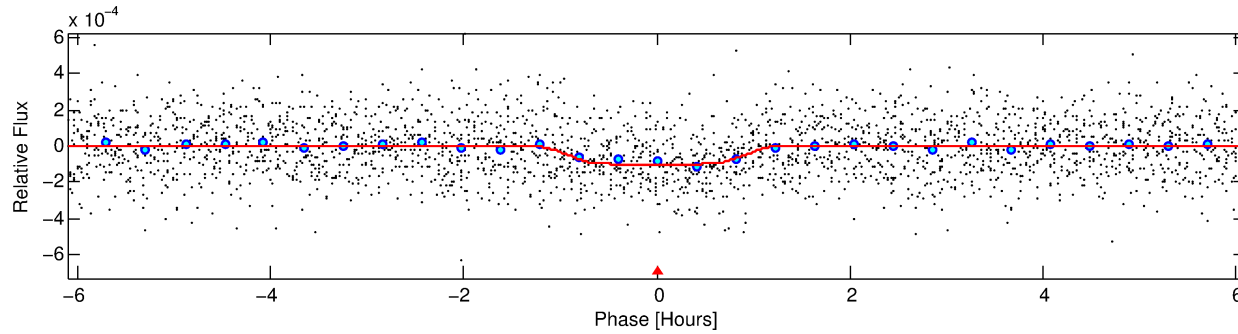
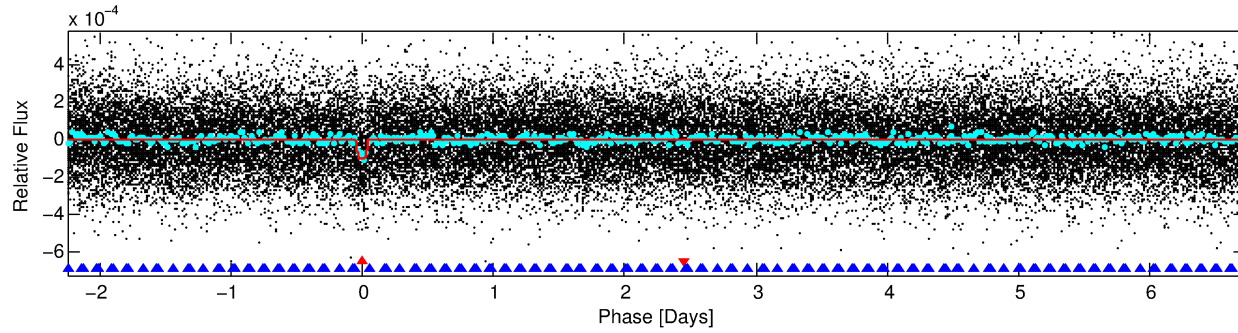
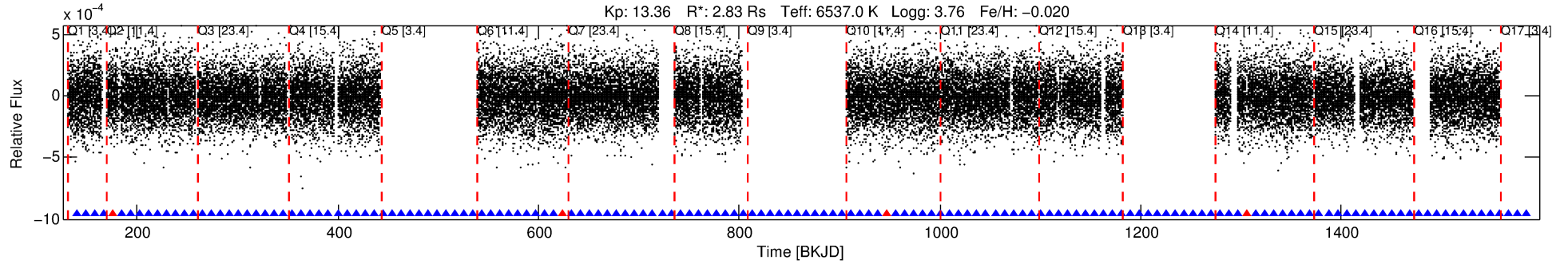
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005769810-01

No Significant Match Found

DV One-Page Summary

KIC: 5769810 Candidate: 1 of 2 Period: 8.974 d
KOI: K04913.02 Corr: 0.959



DV Fit Results:

Period = 8.97376 [0.00005] d
Epoch = 139.7413 [0.0039] BKJD
Rp/R* = 0.0110 [0.0058]
a/R* = 14.98 [45.25]
b = 0.91 [0.59]
Seff = 1296.77 [672.40]
Teq = 1530 [198] K
Rp = 3.39 [2.19] Re
a = 0.1005 [0.0335] AU
Ag = 14.35 [17.52] [0.76 σ]
Teffp = 4605 [1287] K [2.36 σ]

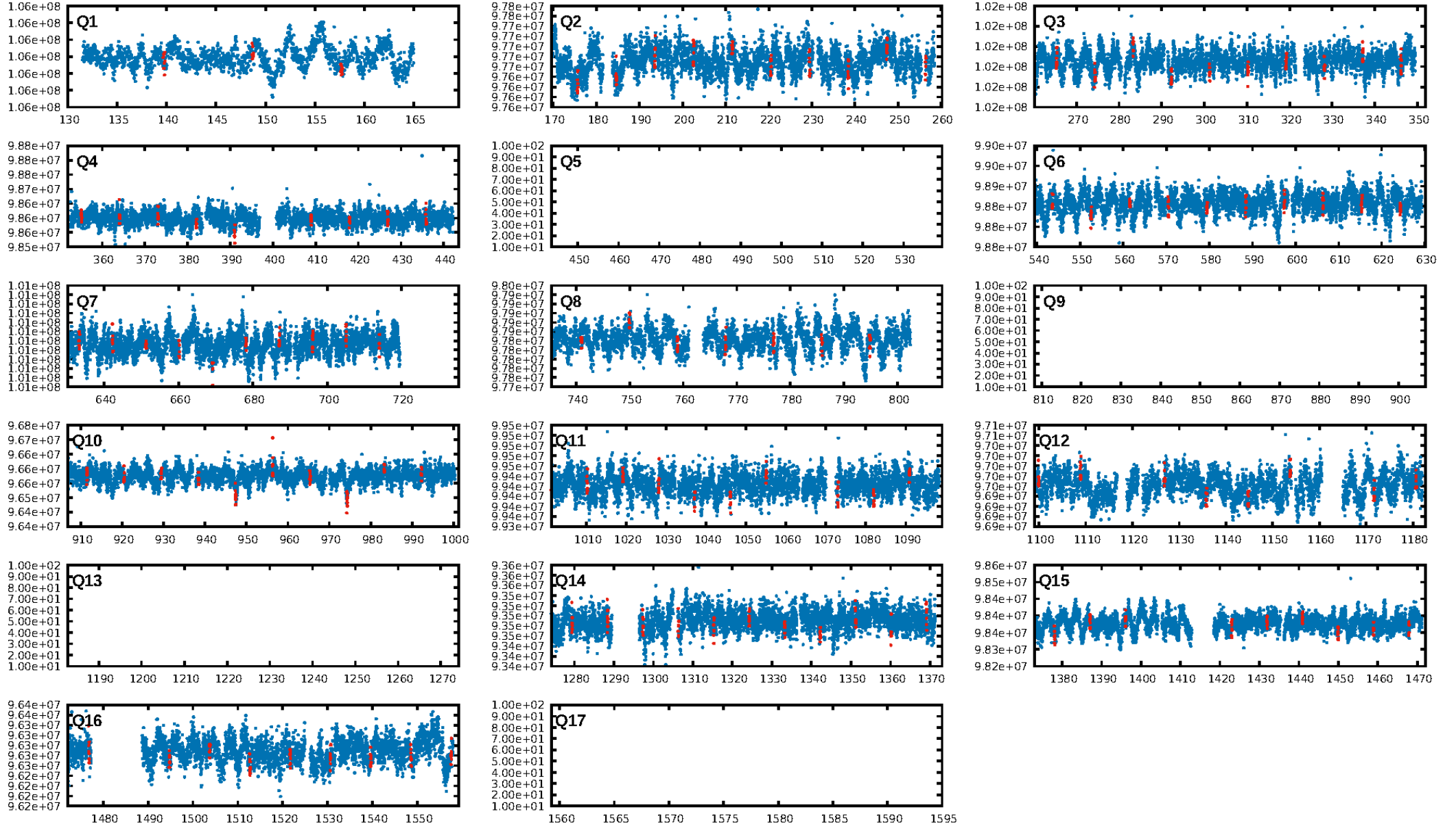
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.57 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.23e-20
RollingBand-fgt: 0.96 [108/112]
GhostDiagnostic-chr: 5.675
Centroid-sig: 5.1%
Centroid-so: 1.745 arcsec [1.50 σ]
OotOffset-rm: 0.925 arcsec [1.73 σ]
KicOffset-rm: 0.886 arcsec [1.69 σ]
OotOffset-st: 3/4/4/1 [12]
KicOffset-st: 3/4/4/1 [12]
DiffImageQuality-fgm: 0.75 [9/12]
DiffImageOverlap-fno: 1.00 [13/13]

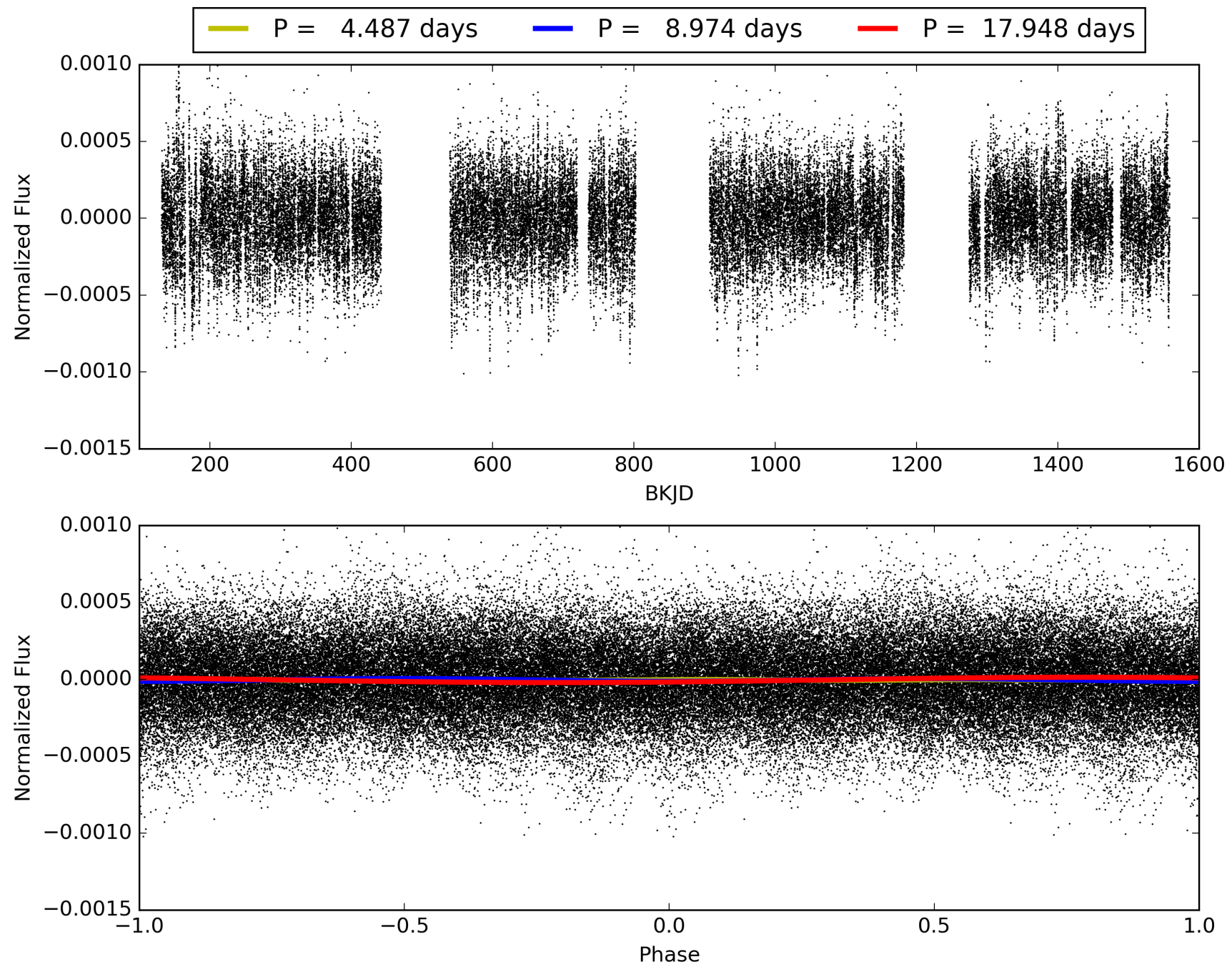
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:54:41 Z

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

TCE 005769810-01, PDC Light Curves

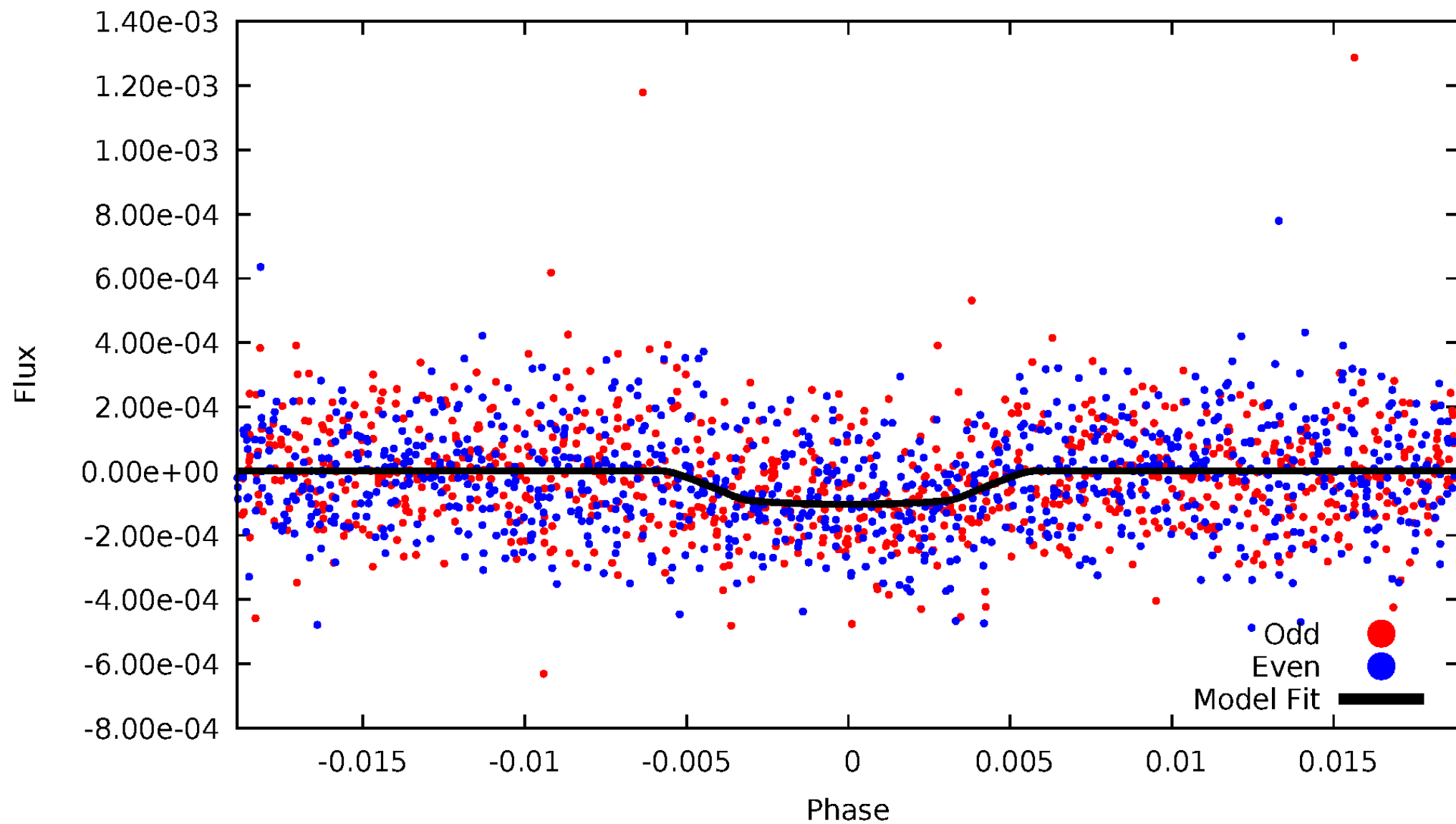


TCE 005769810-01



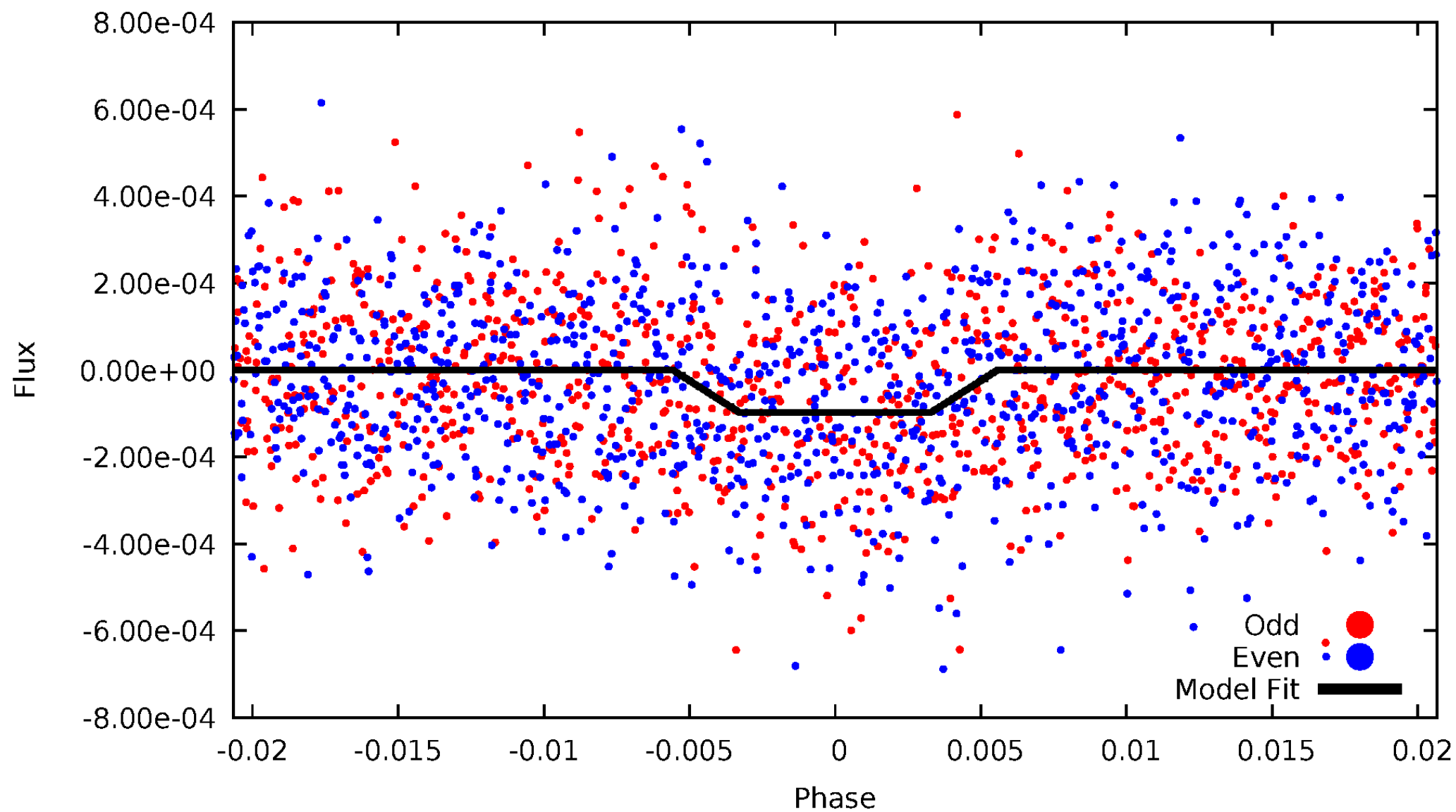
DV Odd/Even

TCE 005769810-01



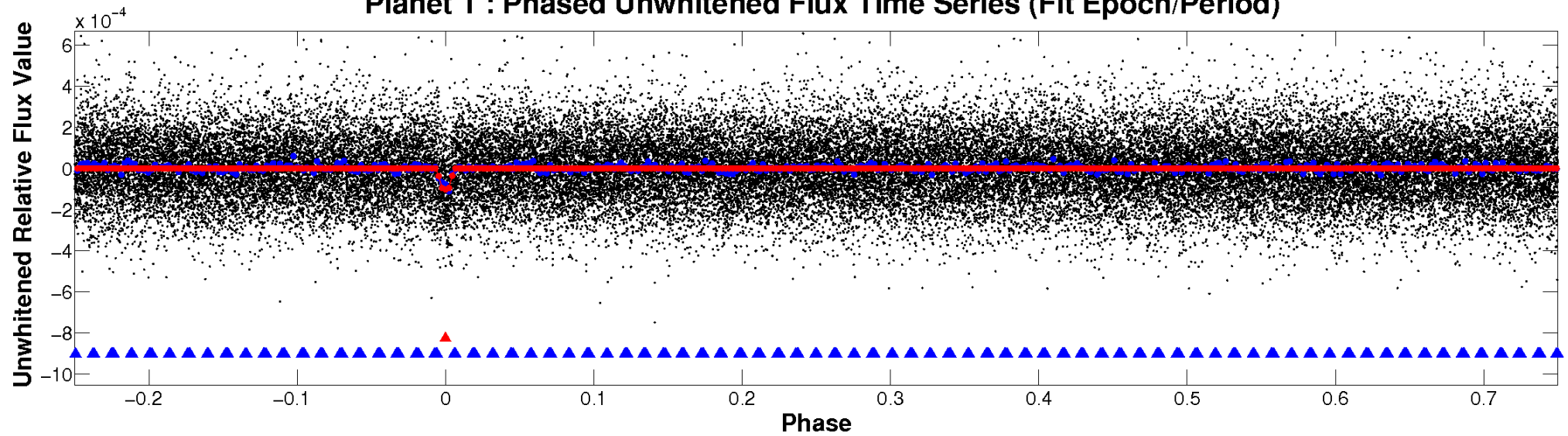
ALT Odd/Even

TCE 005769810-01

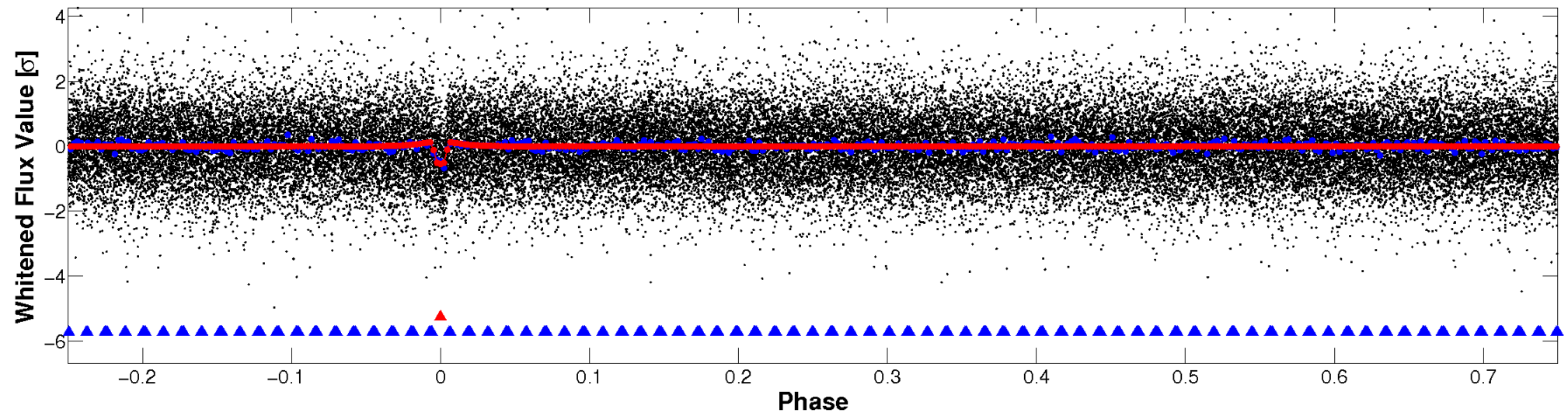


Non-Whitened Vs. Whitened Light Curve

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

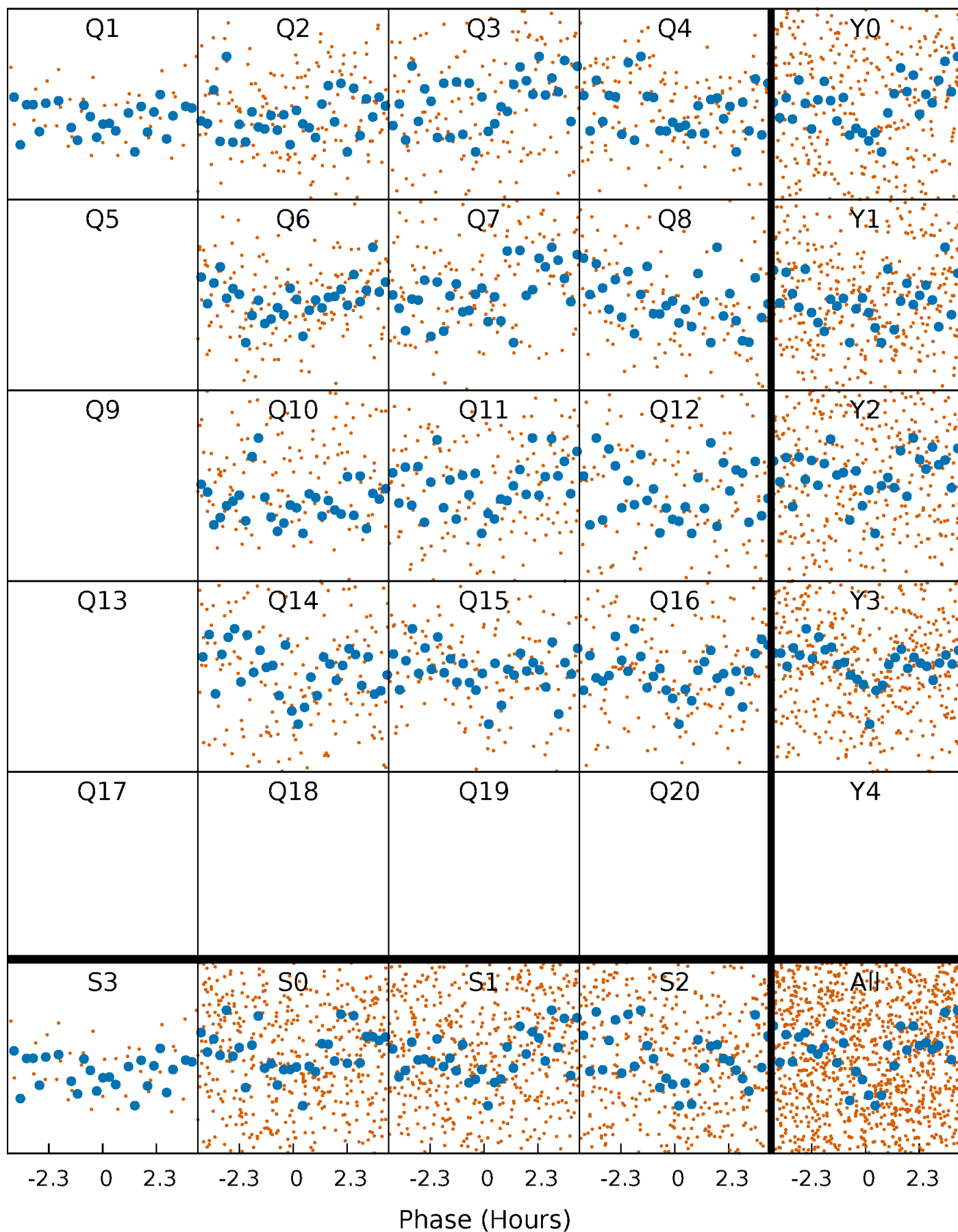


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



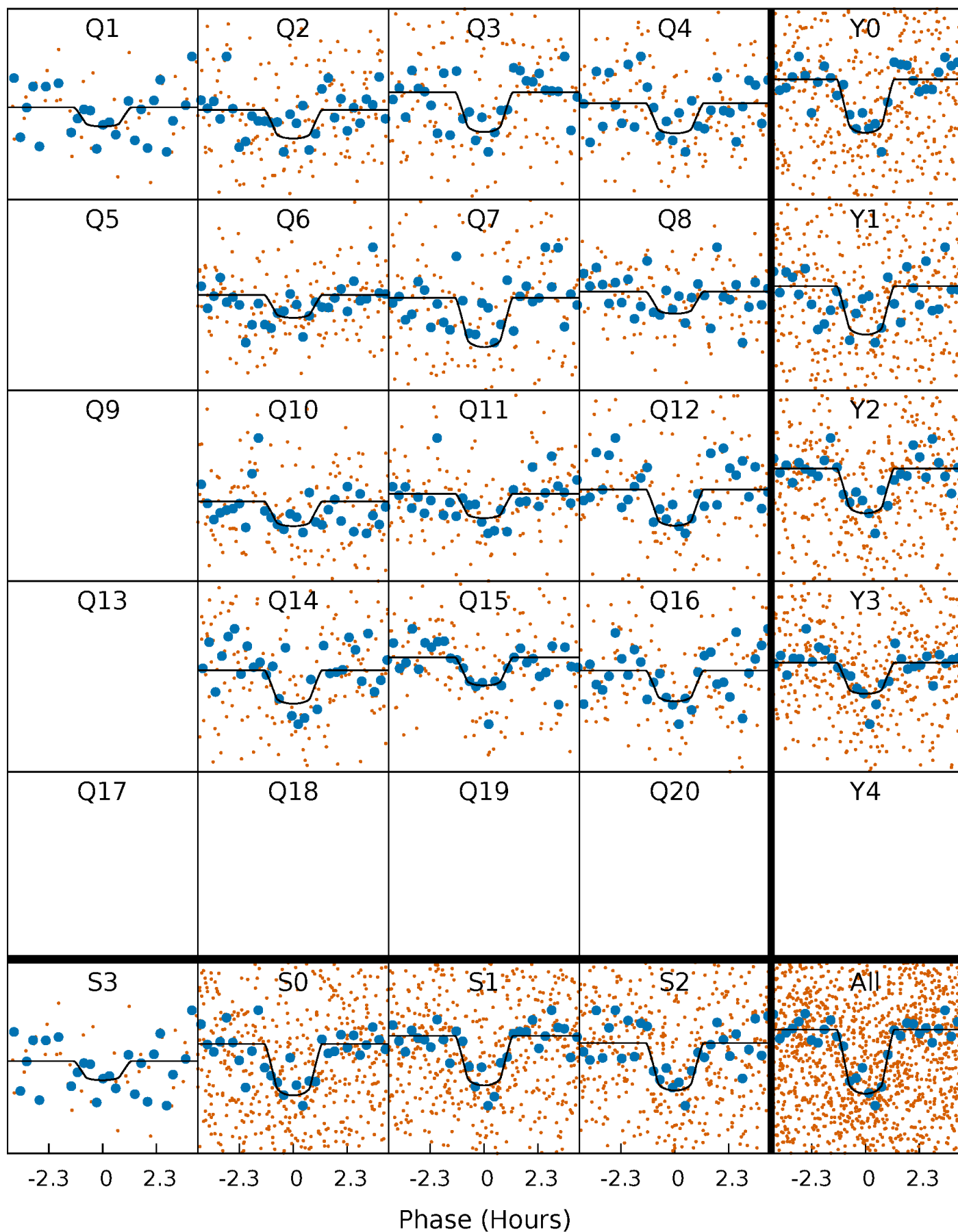
PDC Quarter-Phased Transit Curves

TCE 005769810-01 P= 8.973756 Days $T_0=139.741322$ (BKJD)



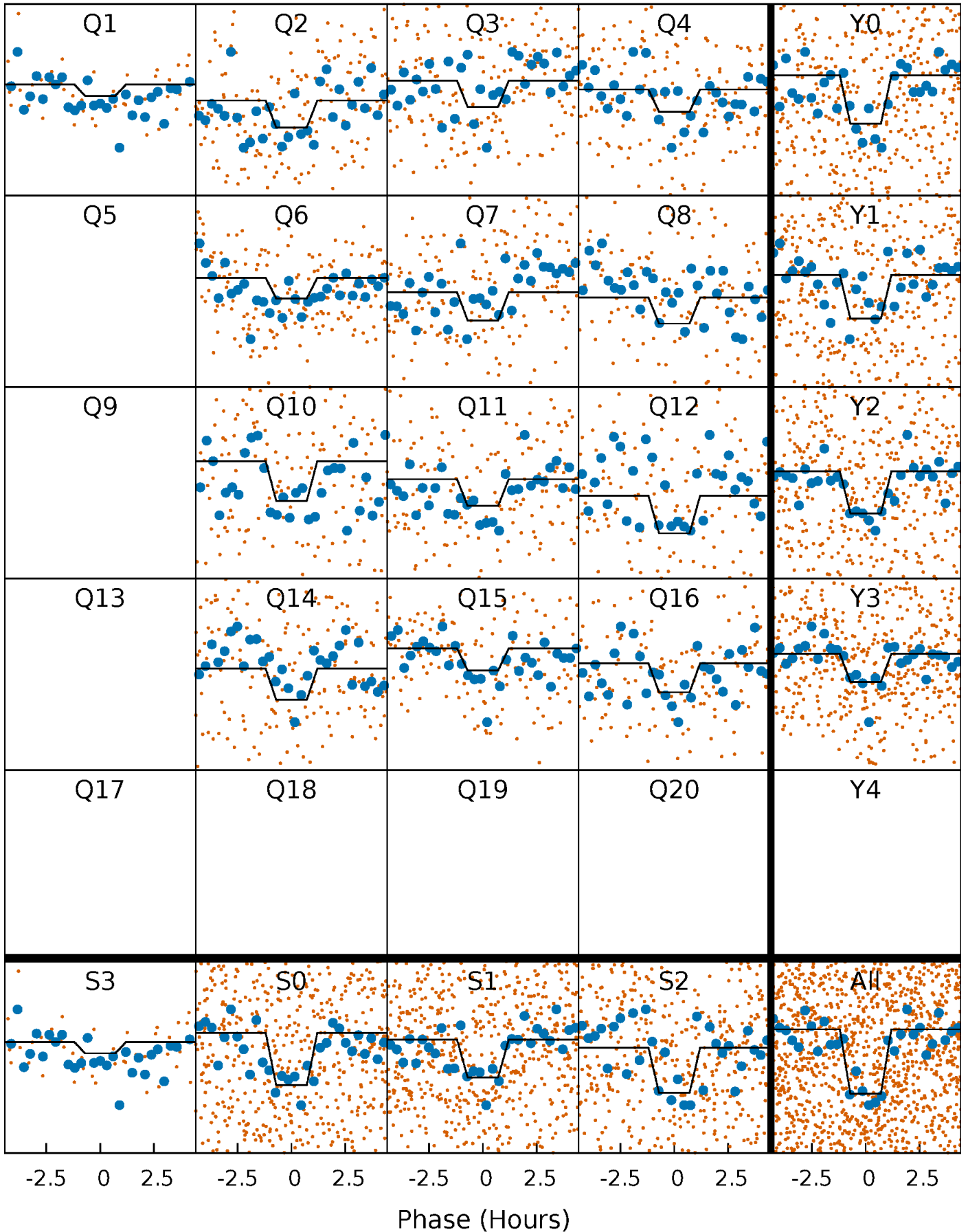
DV Quarter-Phased Transit Curves

TCE 005769810-01 P= 8.973756 Days $T_0=139.741322$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

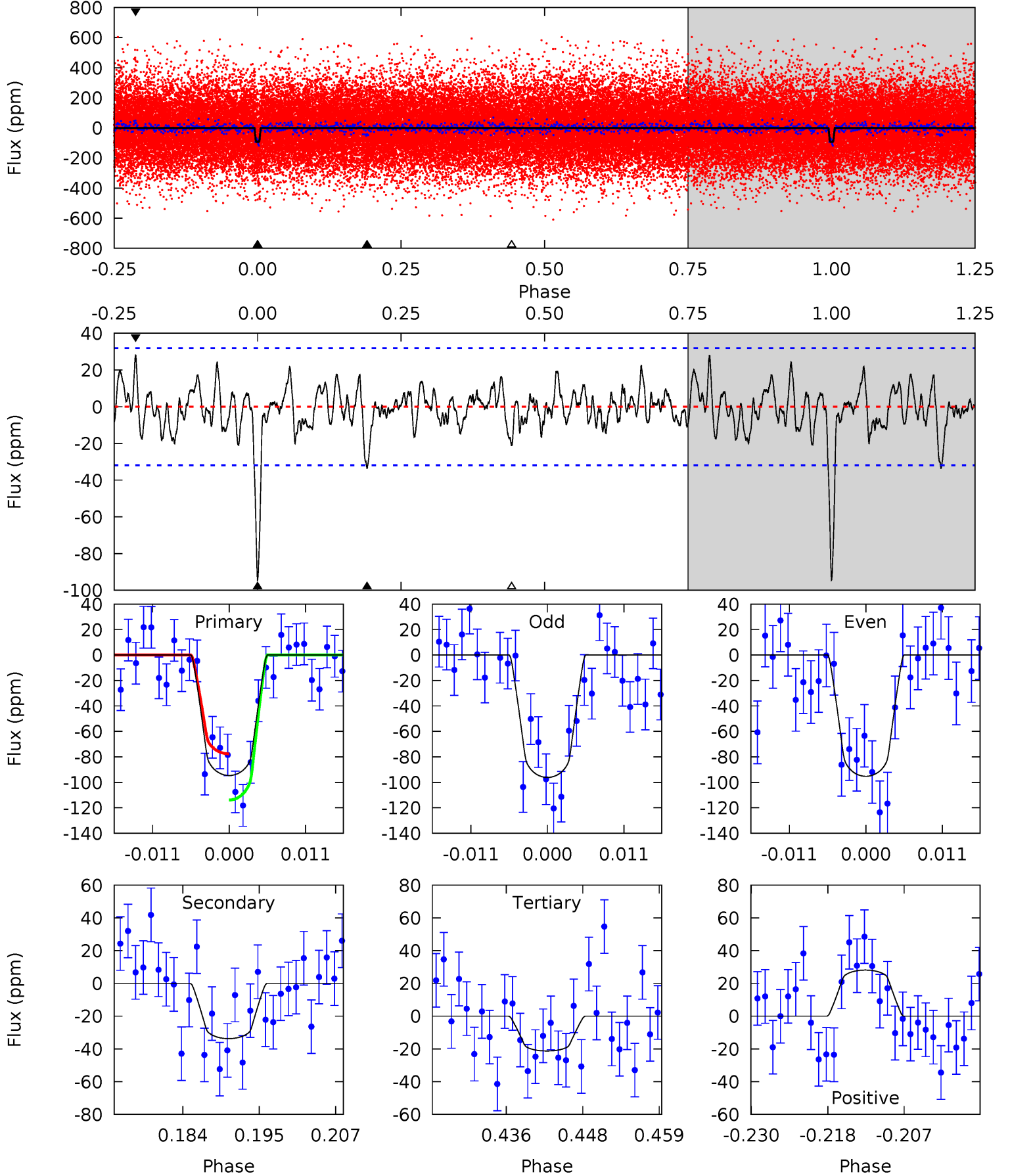
TCE 005769810-01 P= 8.973806 Days $T_0=139.736451$ (BKJD)



DV Model-Shift Uniqueness Test

005769810-01, P = 8.973756 Days, E = 130.767566 Days

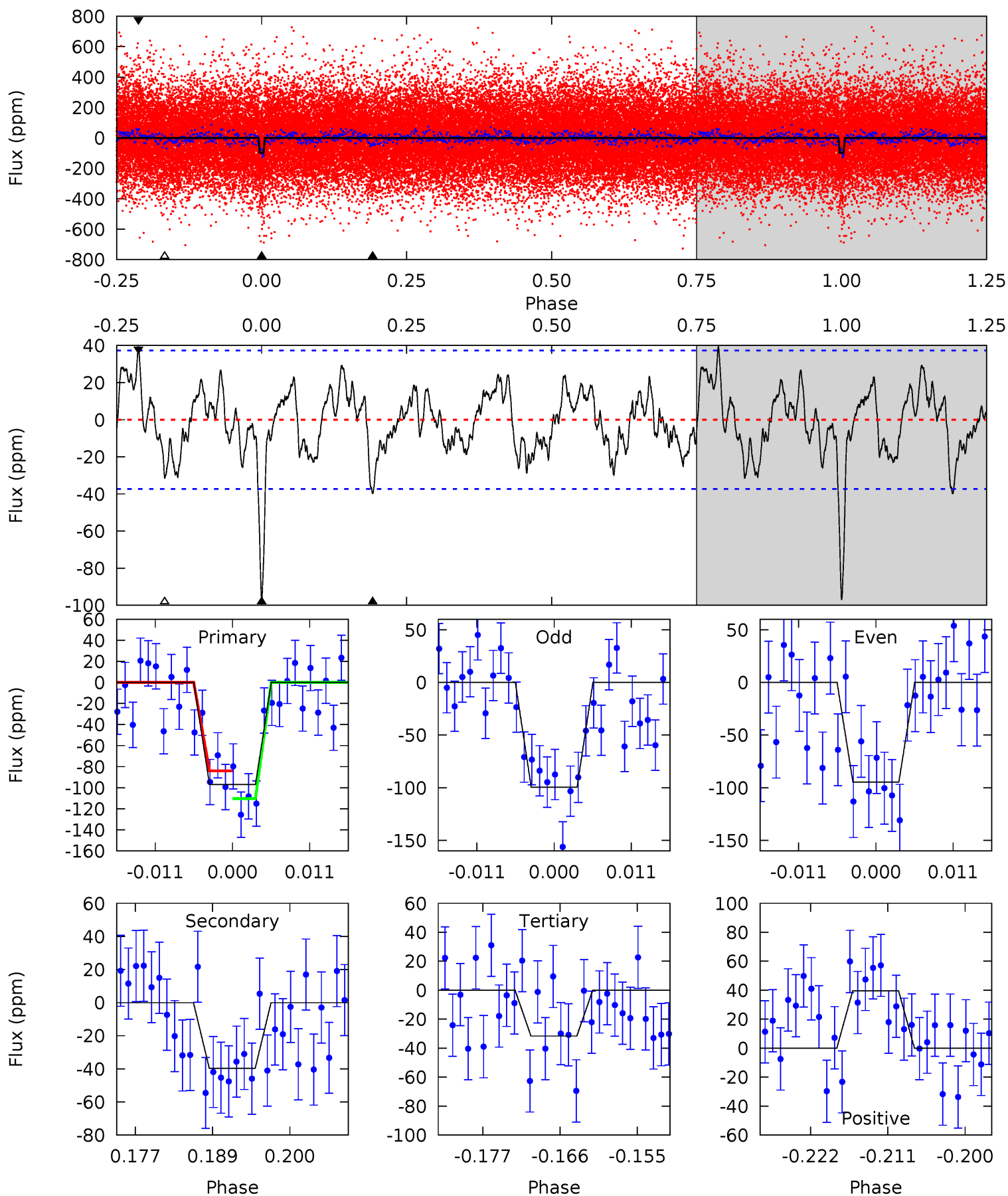
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	5.28	3.33	4.40	5.00	2.53	1.33	11.5	10.4	1.95	0.88	0.07	1.00	0.23	2.84



Alt Model-Shift Uniqueness Test

005769810-01, P = 8.973806 Days, E = 130.762645 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	5.33	4.25	5.31	5.01	2.54	1.88	8.78	7.72	1.08	0.02	0.31	1.20	0.29	1.77



Stellar Parameters For KIC 005769810

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6537^{+176}_{-195}	$3.760^{+0.285}_{-0.095}$	$-0.020^{+0.250}_{-0.250}$	$2.829^{+0.457}_{-1.067}$	$1.677^{+0.192}_{-0.357}$	$0.104^{+0.213}_{-0.032}$
	+3%/-3%	+8%/-3%	+1250%/-1250%	+16%/-38%	+11%/-21%	+204%/-31%
Source	PHO1	FLK73	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 005769810-01 / KOI 4913.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-34 ± 6	$3.23^{+1.84}_{-1.63}$	2099^{+121}_{-176}	4806^{+1685}_{-755}	18^{+53}_{-10}
Alt.	-40 ± 7	$2.93^{+1.89}_{-1.63}$	2101^{+125}_{-177}	5156^{+2613}_{-864}	25^{+98}_{-16}

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

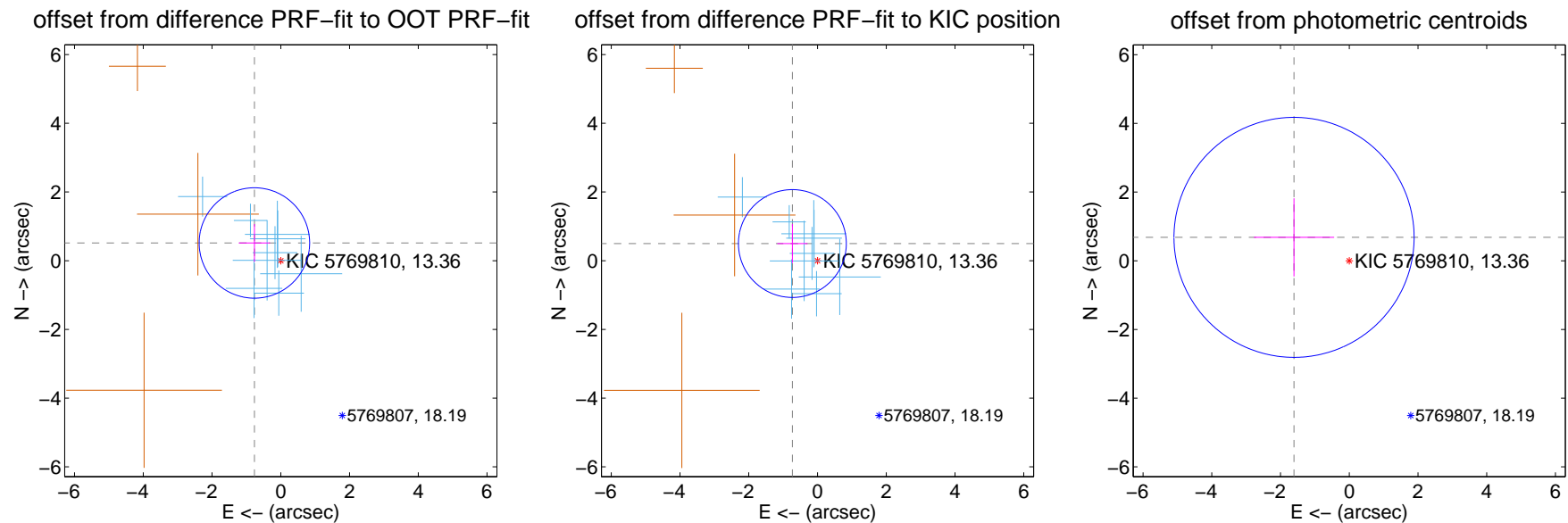
DV Centroid Data

Supplemental centroid analysis for 005769810-01. Kepler magnitude: 13.36. Transit SNR 10.31

There are 9 quarters with good PRF difference image offsets

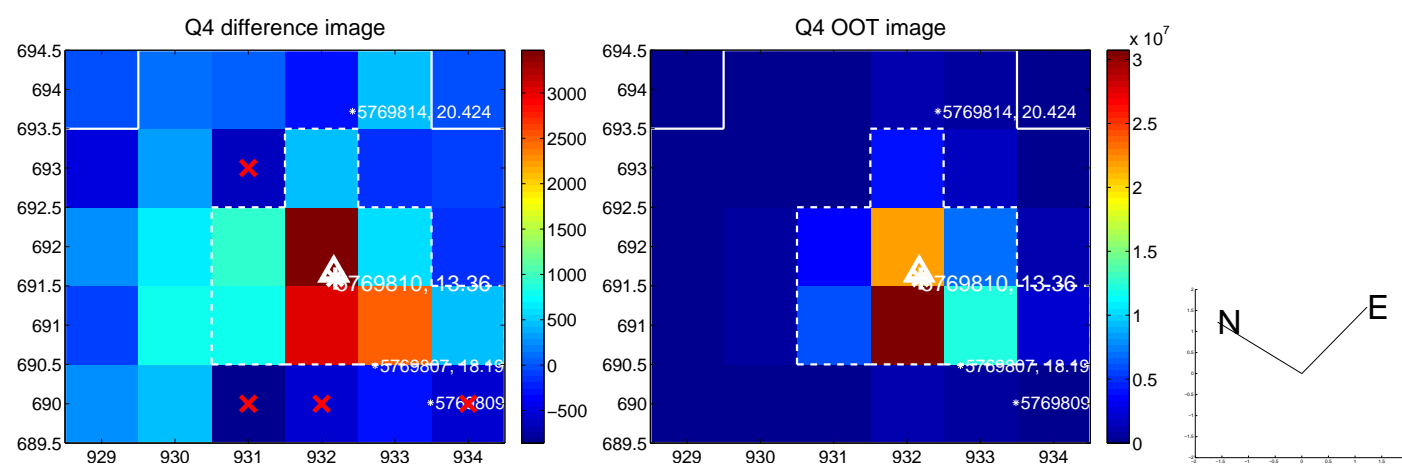
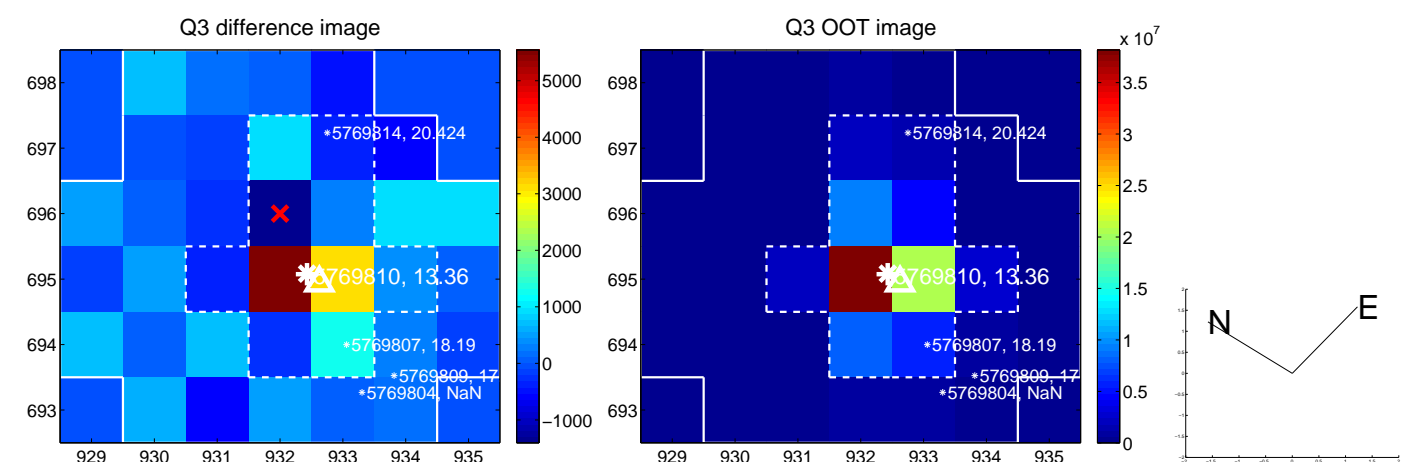
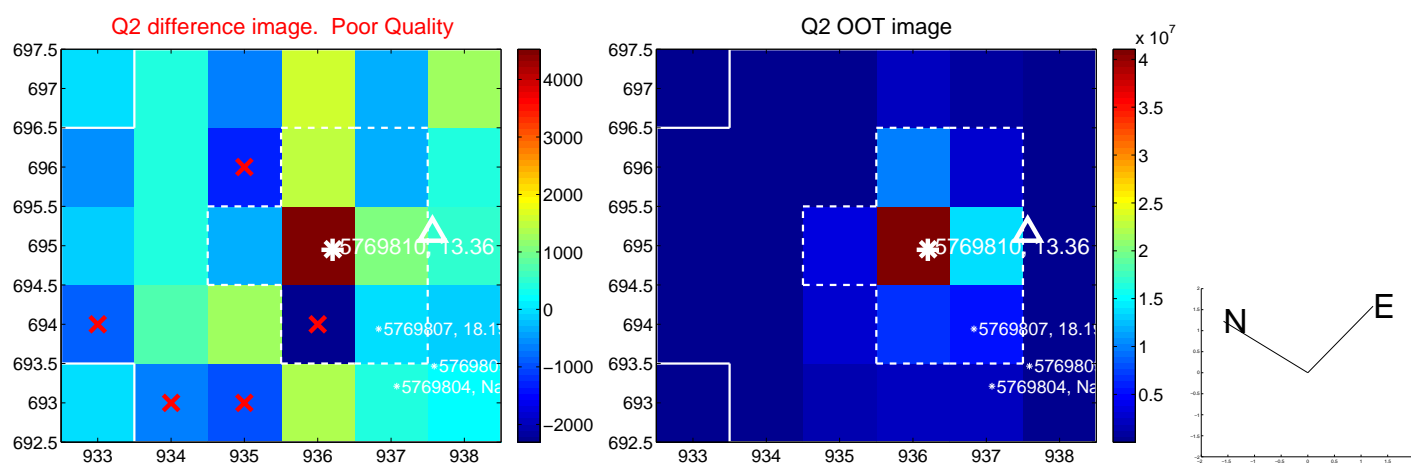
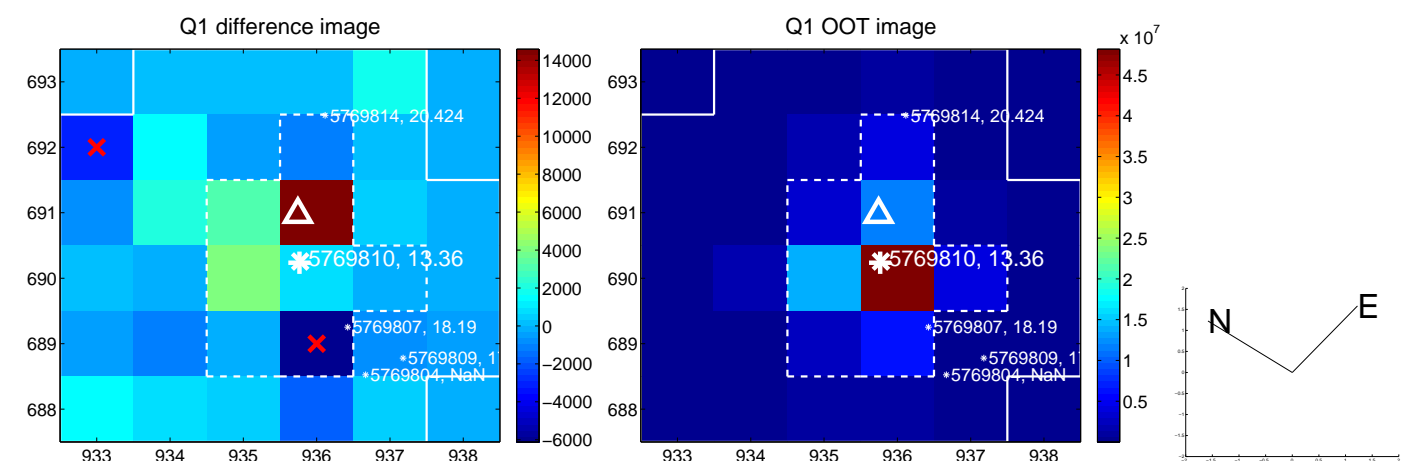
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.925 ± 0.536	1.73	0.767 ± 0.453	0.516 ± 0.550
PRF-fit source offset from KIC position	0.886 ± 0.523	1.69	0.731 ± 0.440	0.500 ± 0.567
photometric centroid source offset	1.75 ± 1.16	1.50	1.61 ± 1.17	0.68 ± 1.14

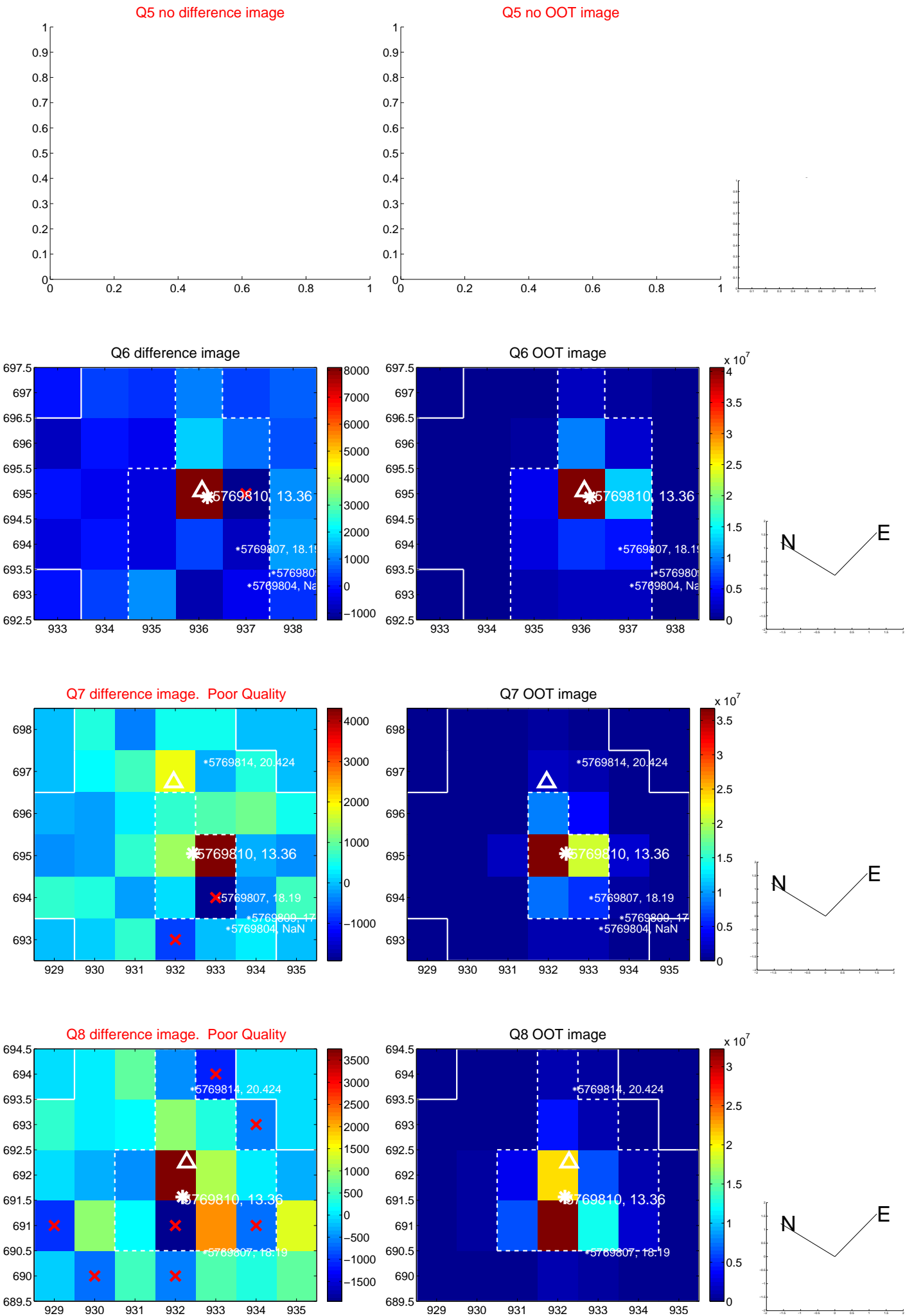


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

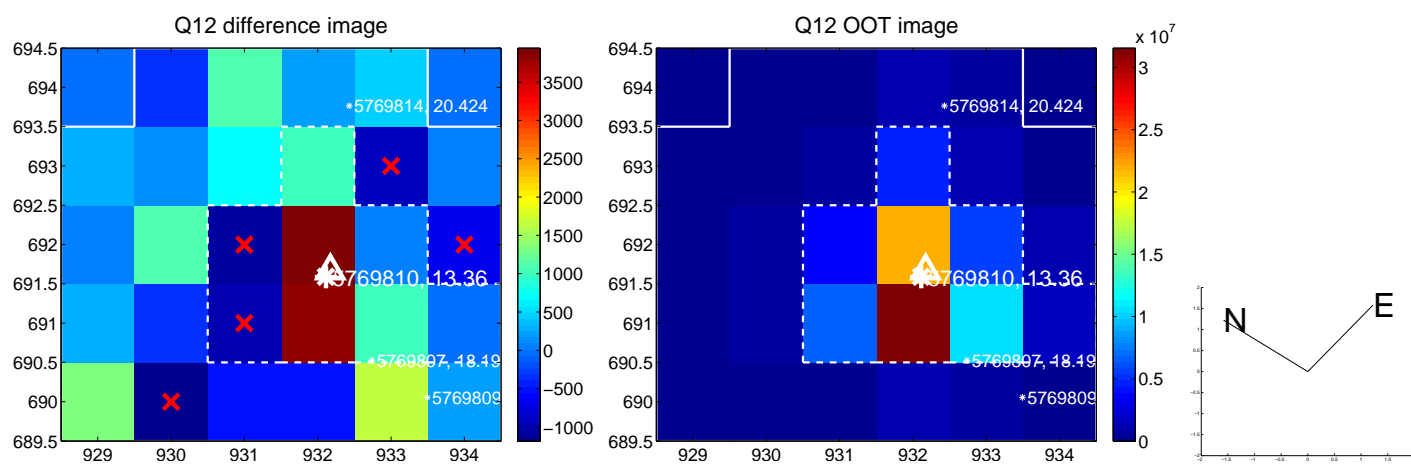
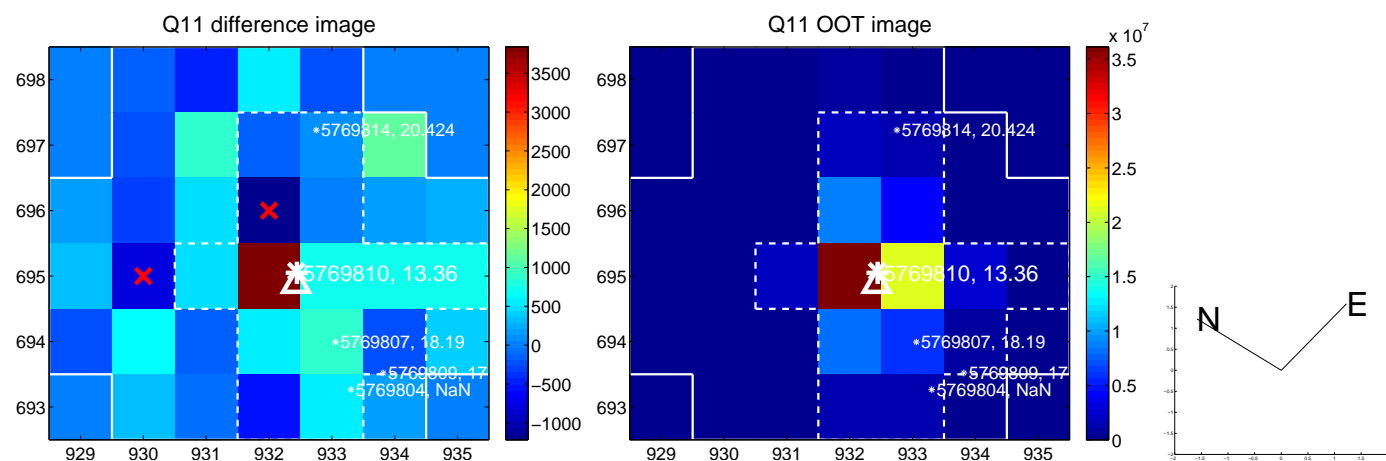
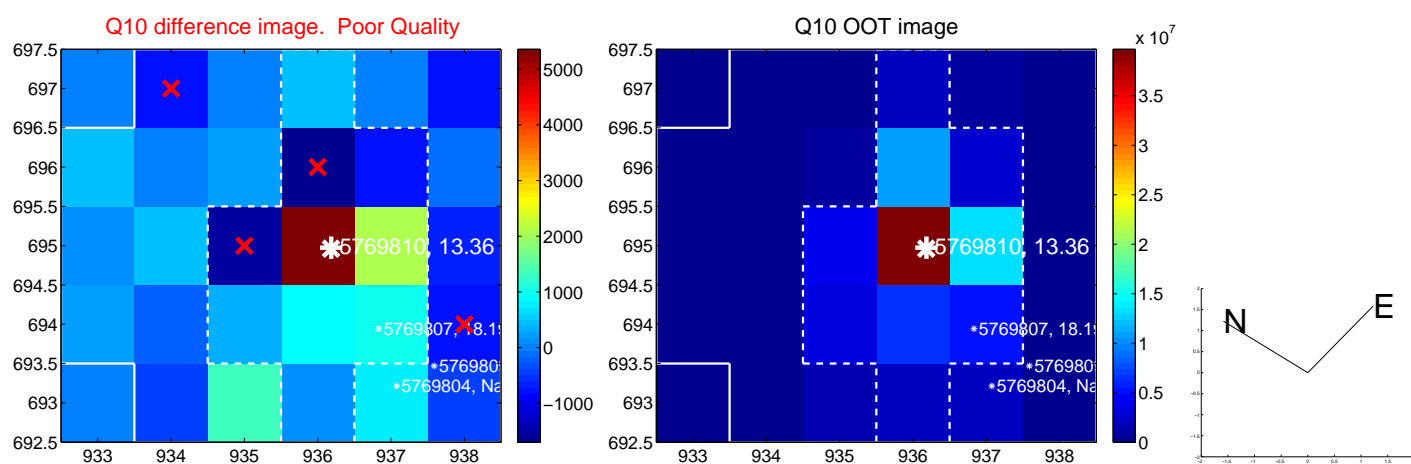
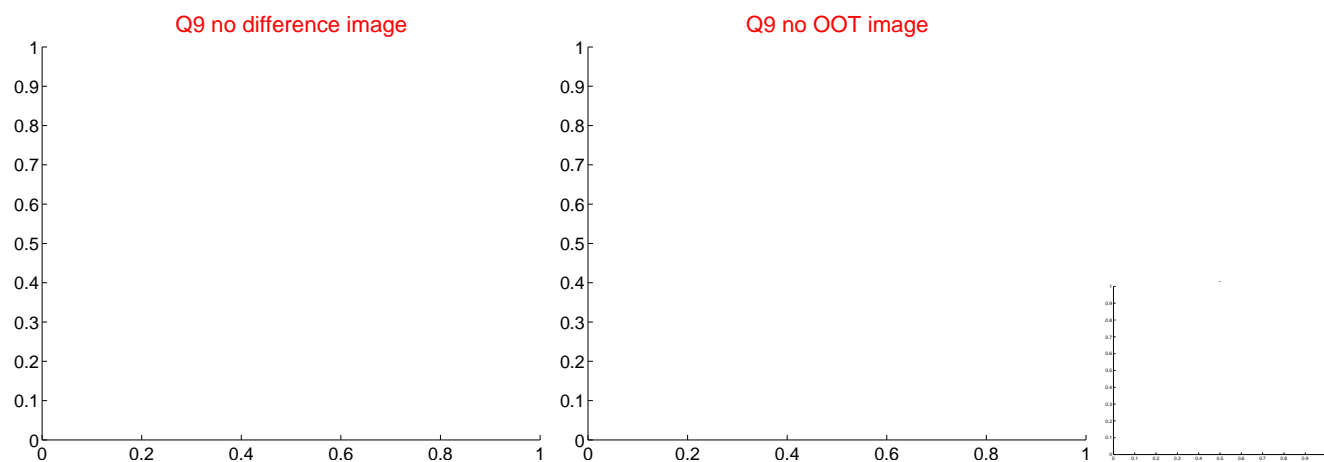
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



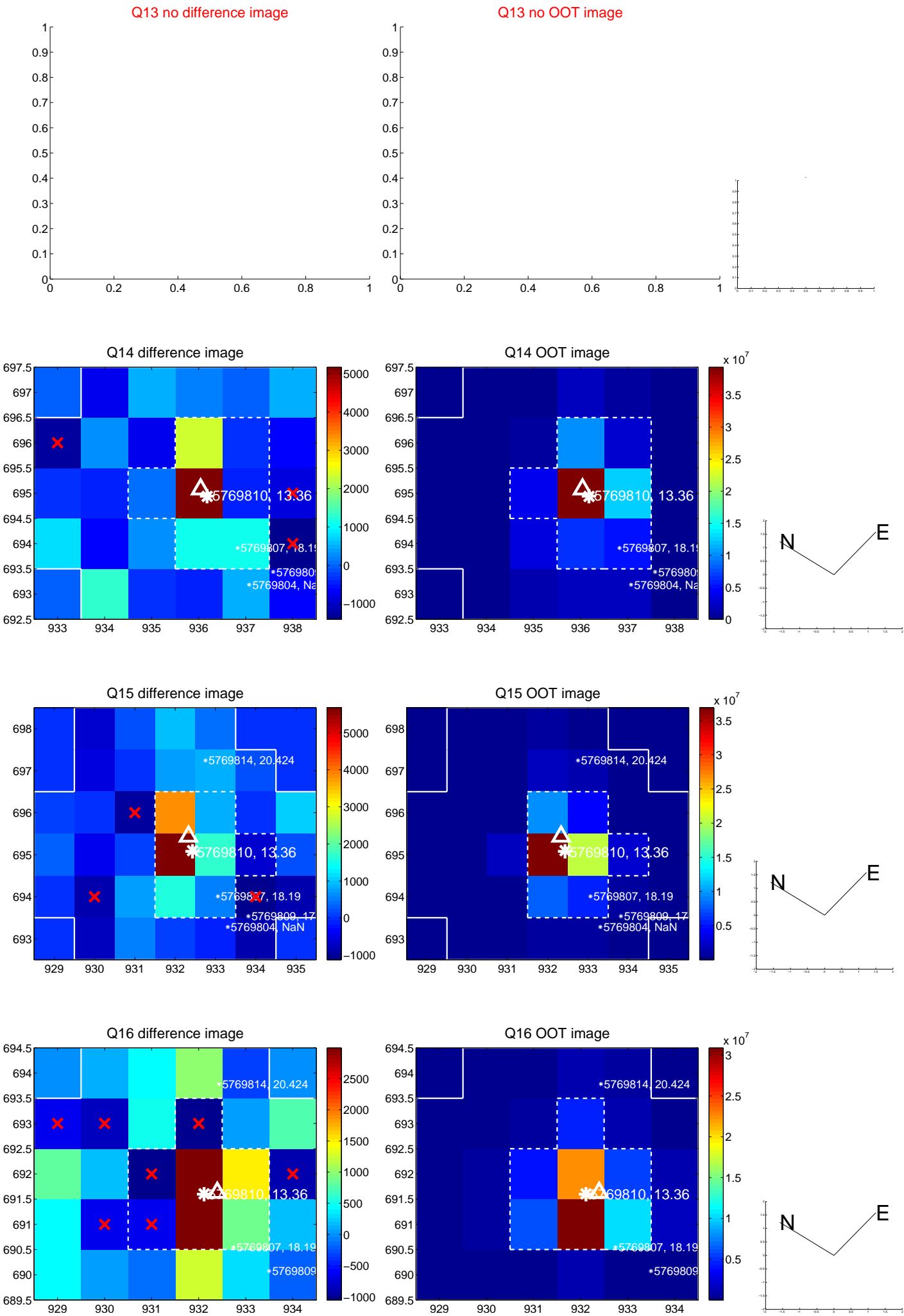
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



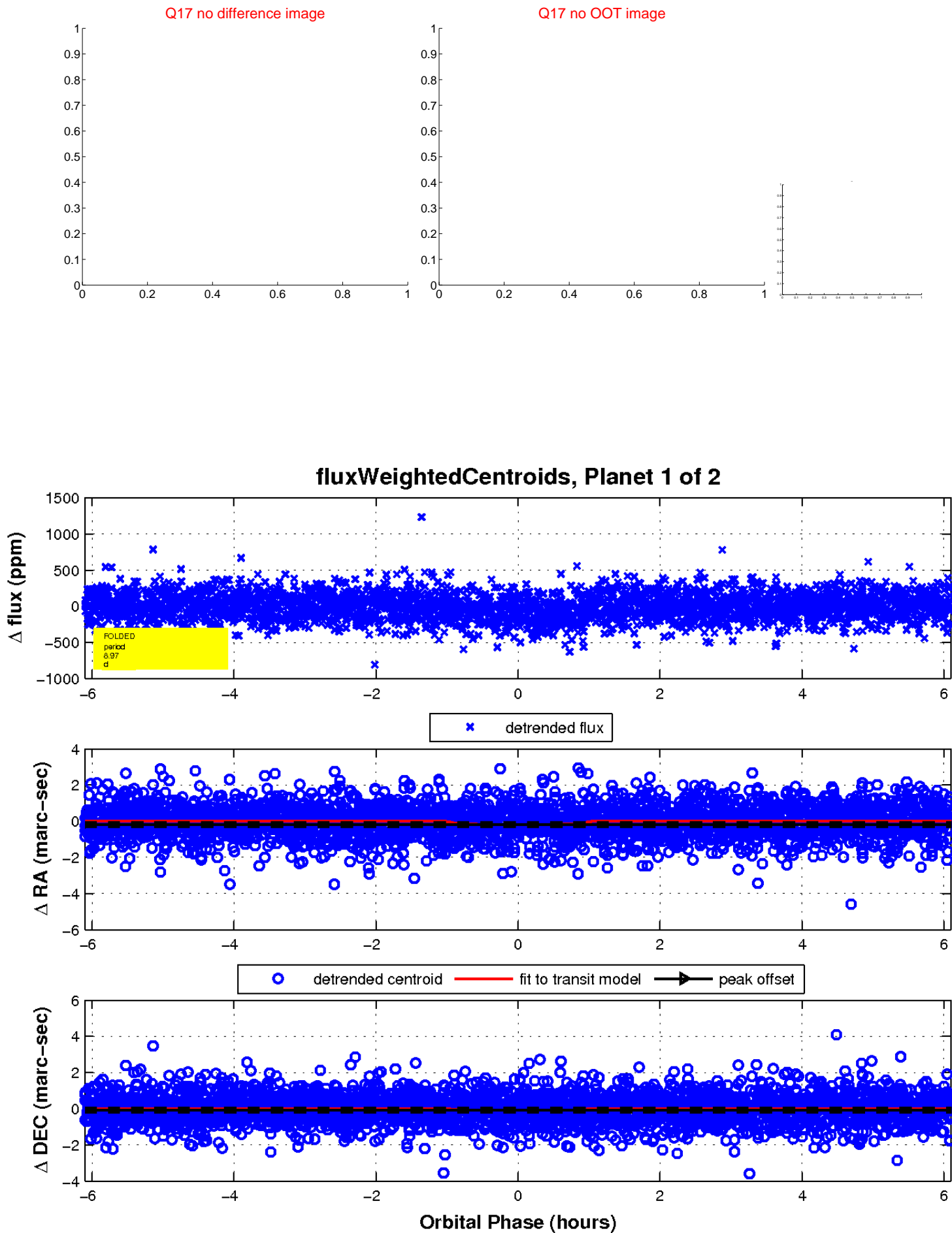
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

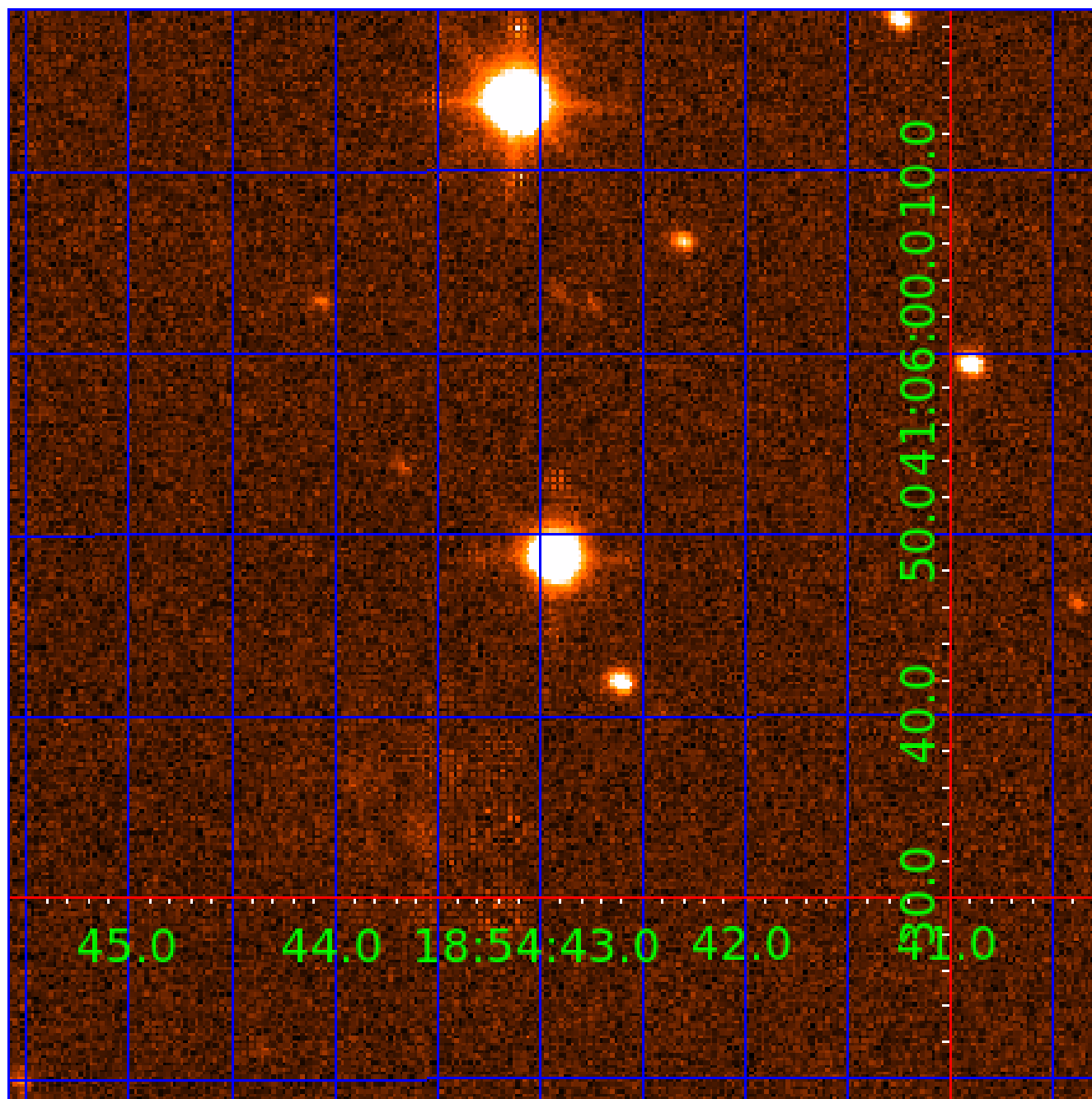


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005769810

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})
005769810-01	OBS	4913.02	8.973756	139.741322	103.2	2.034	9.2	10.3	2.83	6537	3.39	1296.78
005769810-02	OBS	4913.01	6.787928	136.337464	76.8	2.687	8.1	9.3	2.83	6537	2.92	1881.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005769810-01	OBS	FP	0.30	1	0	0	0	MOD_NONUNIQ_ALT
005769810-02	OBS	PC	0.80	0	0	0	0	NO_COMMENT

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

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

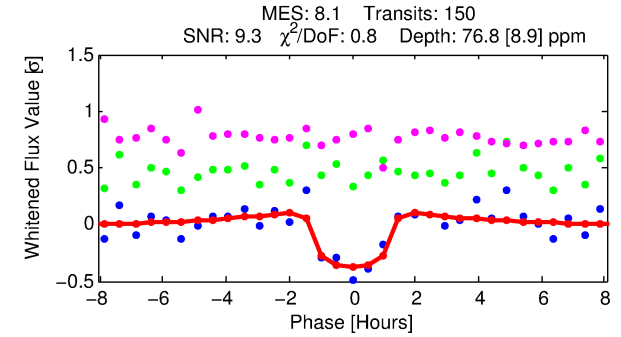
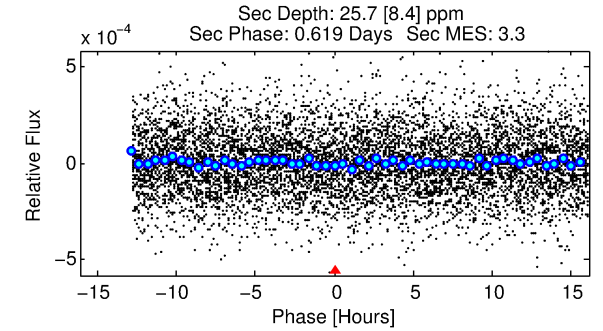
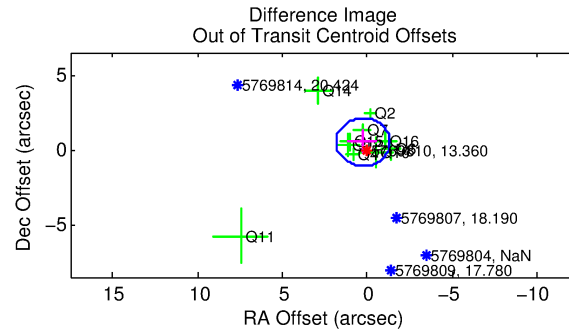
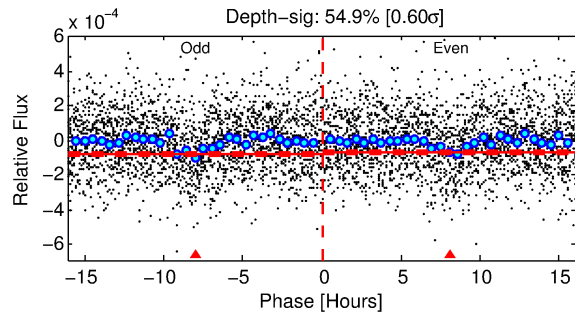
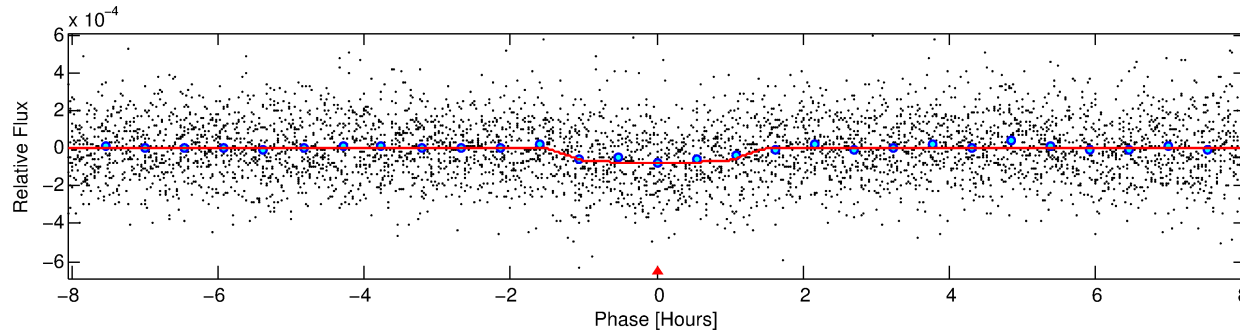
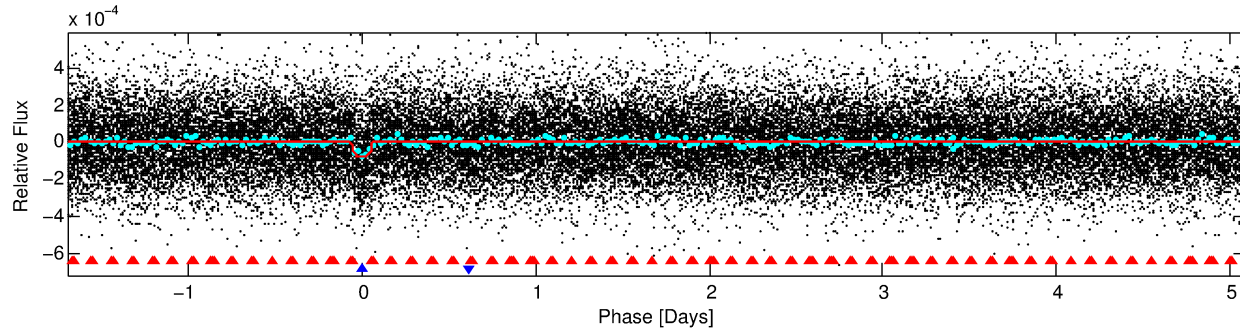
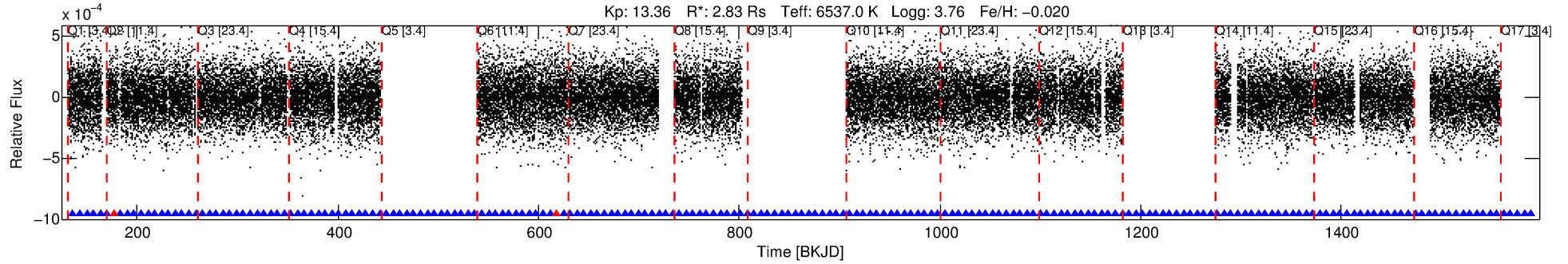
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005769810-02

No Significant Match Found

DV One-Page Summary

KIC: 5769810 Candidate: 2 of 2 Period: 6.788 d
KOI: K04913.01 Corr: 0.908



DV Fit Results:

Period = 6.78793 [0.00004] d
Epoch = 136.3375 [0.0046] BKJD
Rp/R* = 0.0095 [0.0044]
a/R* = 8.44 [22.38]
b = 0.91 [0.51]
Seff = 1881.54 [975.61]
Teff = 1679 [218] K
Rp = 2.92 [1.75] Re
a = 0.0834 [0.0278] AU
Ag = 11.49 [12.75] [0.82 σ]
Teffp = 4780 [1190] K [2.56 σ]

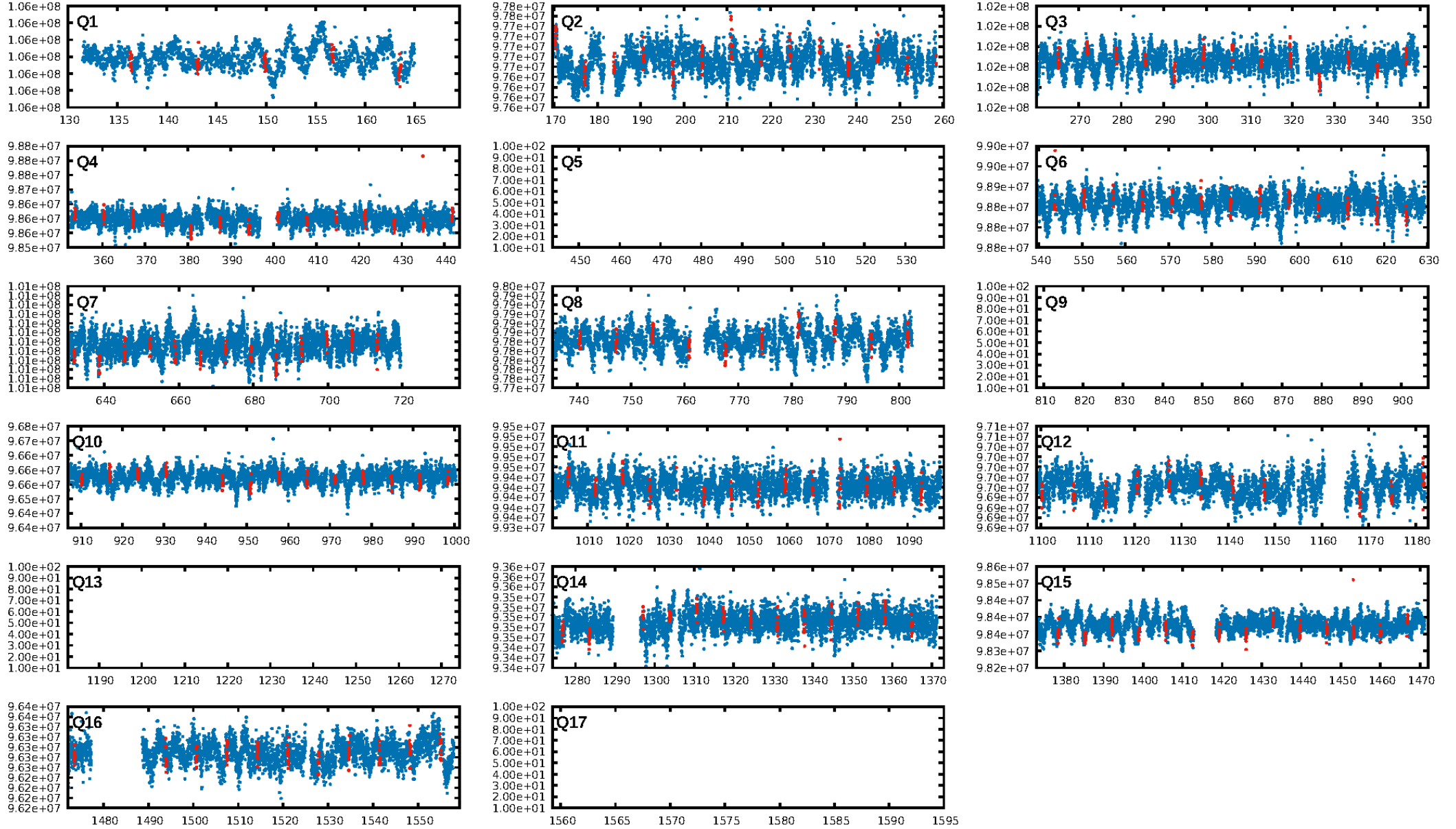
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [15.57 σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.33e-16
RollingBand-fgt: 0.99 [143/145]
GhostDiagnostic-chr: 2.423
Centroid-sig: 0.2%
Centroid-so: 2.123 arcsec [1.87 σ]
OotOffset-rm: 0.567 arcsec [1.07 σ]
KicOffset-rm: 0.500 arcsec [0.88 σ]
OotOffset-st: 4/3/3/0 [10]
KicOffset-st: 4/3/3/0 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 1.00 [13/13]

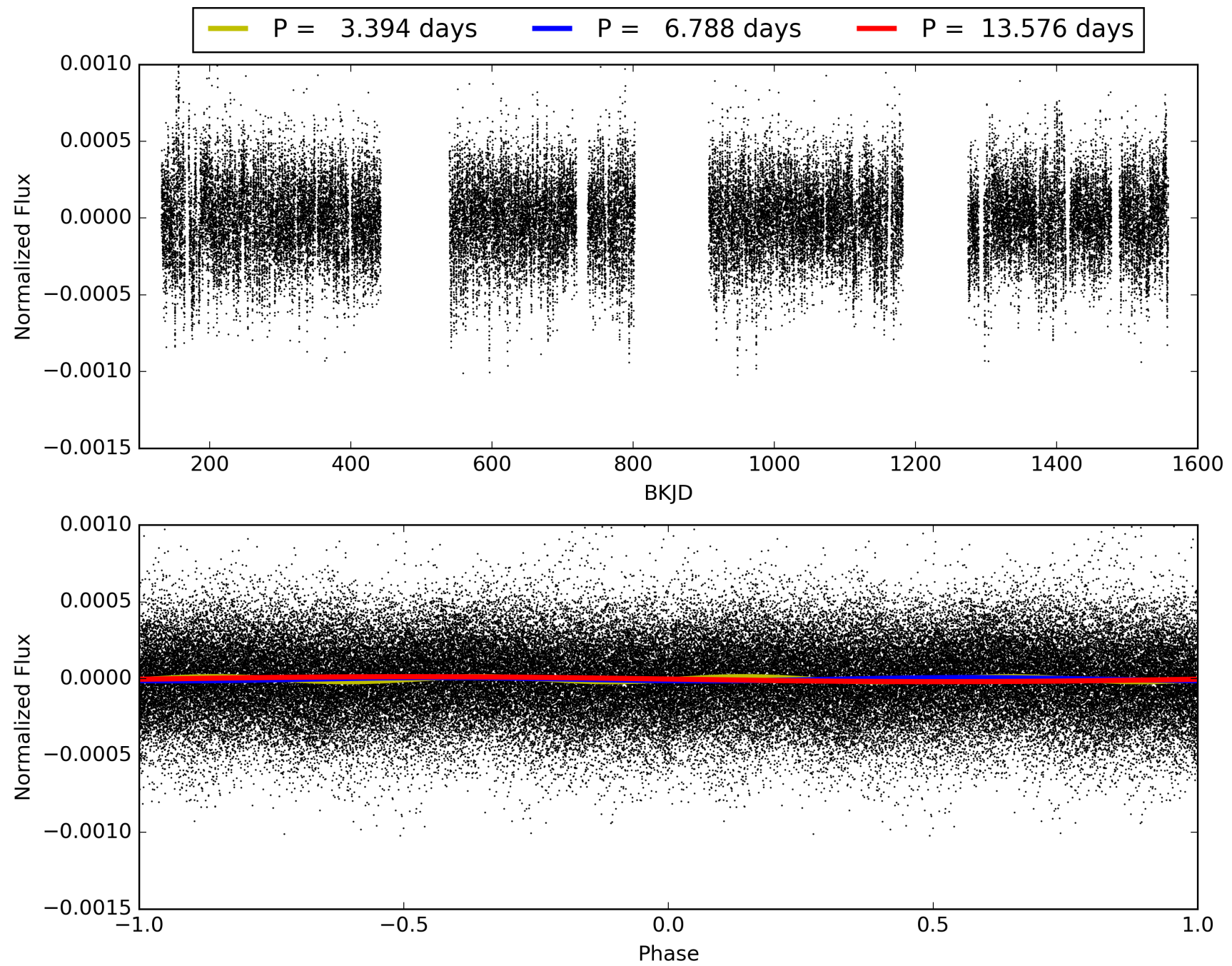
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:54:47 Z

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TCE 005769810-02, PDC Light Curves

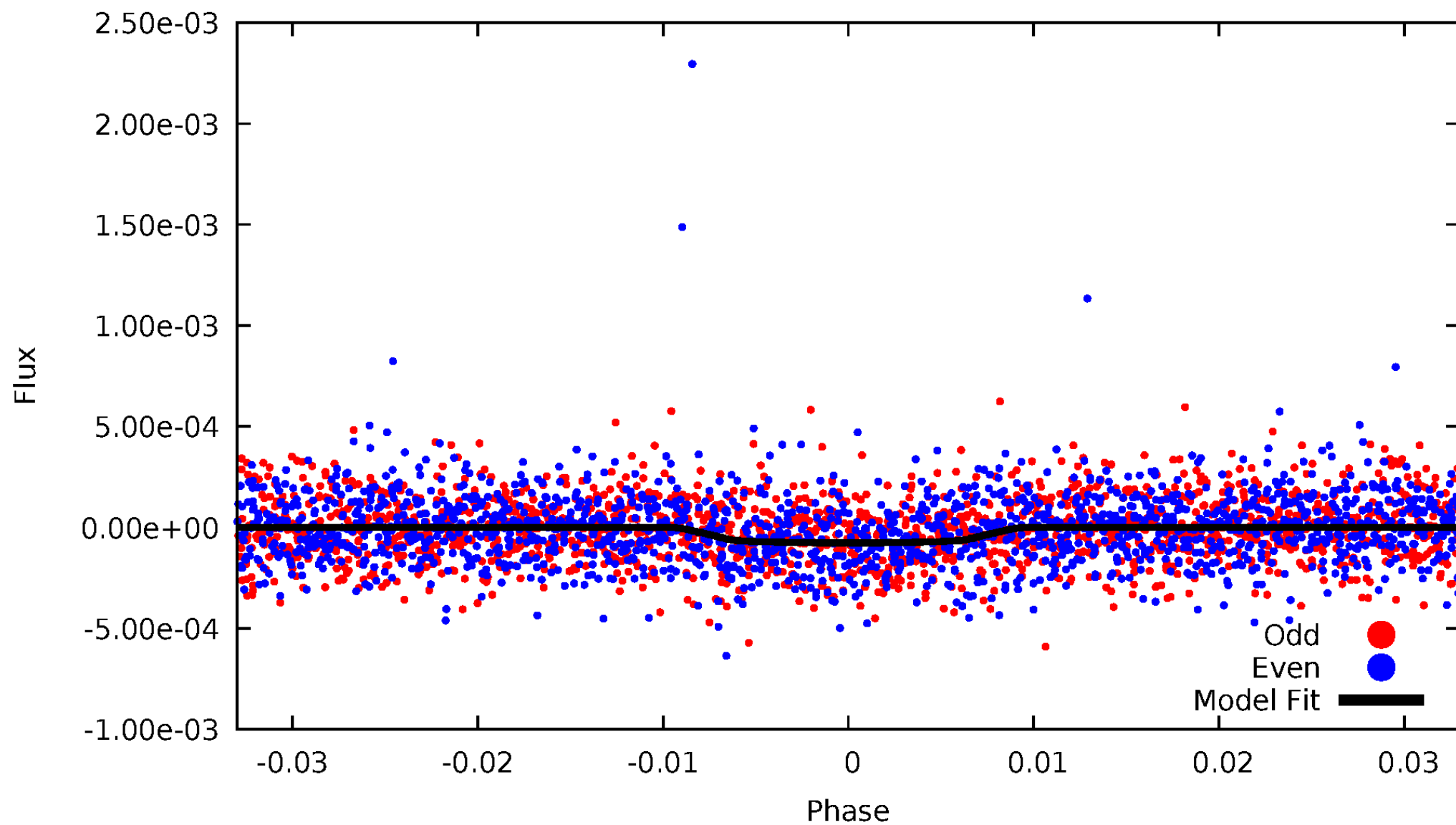


TCE 005769810-02



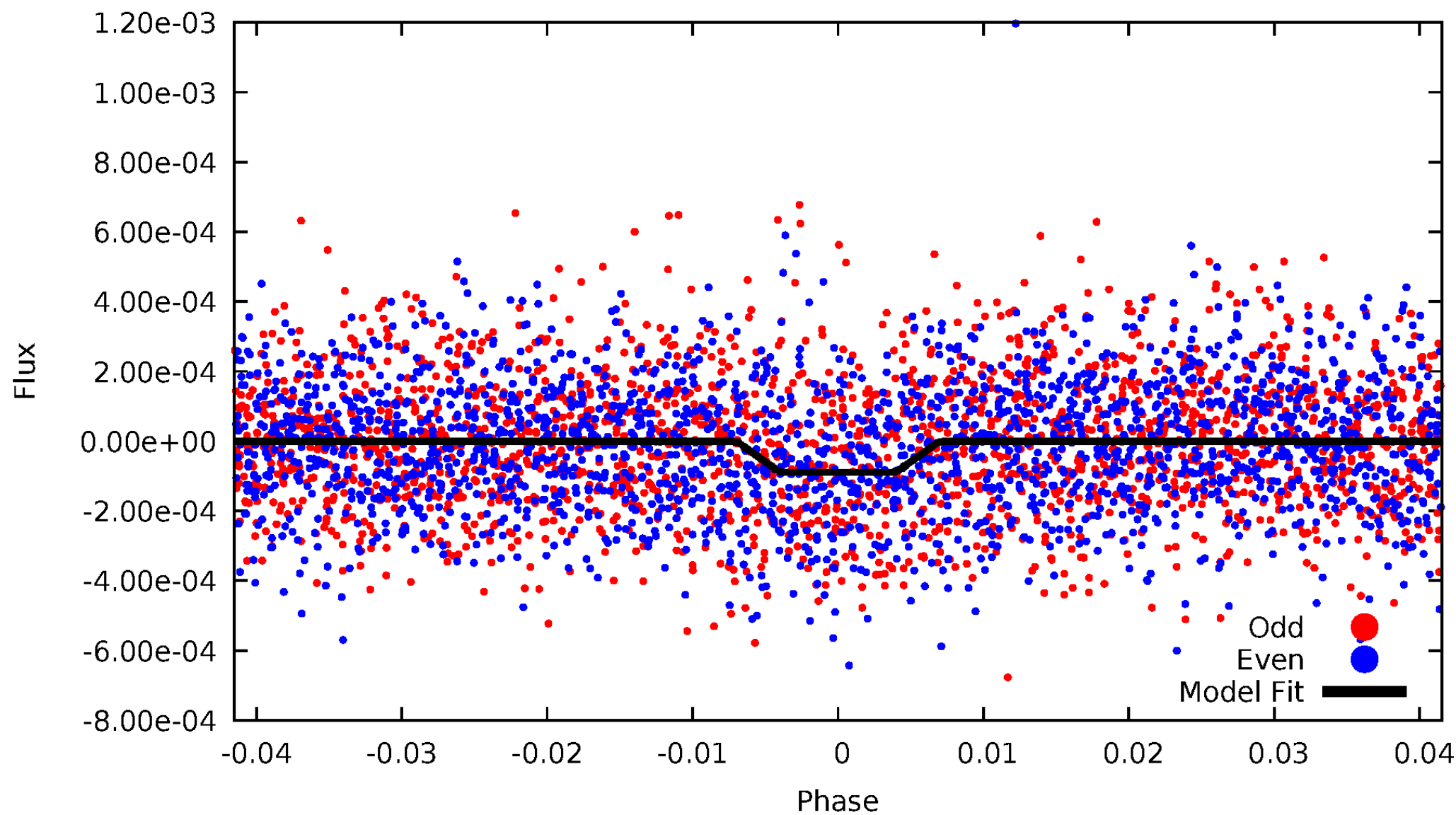
DV Odd/Even

TCE 005769810-02



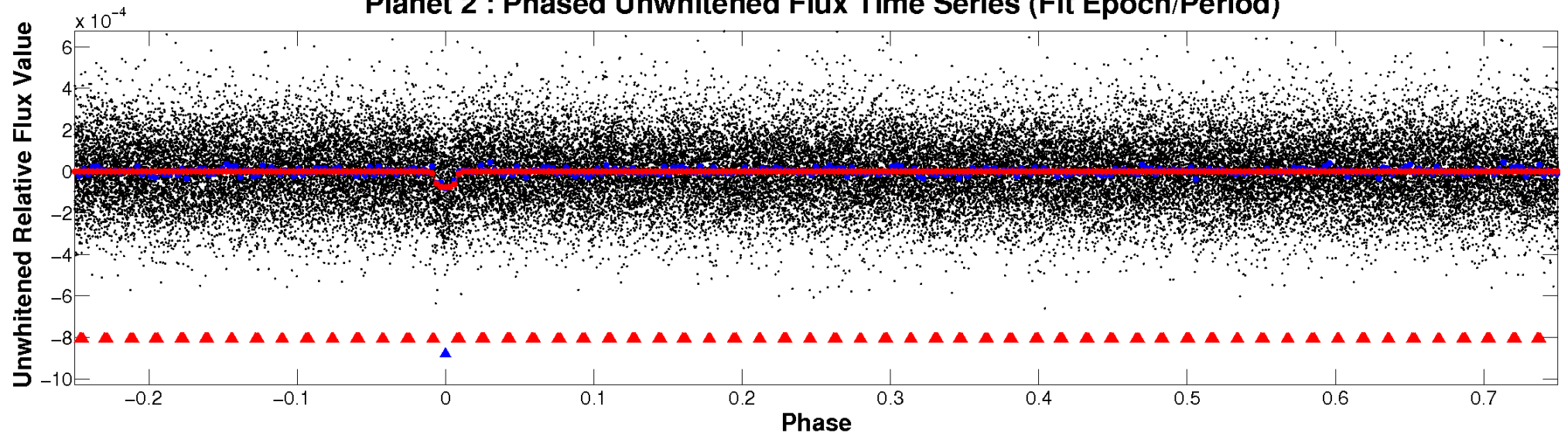
ALT Odd/Even

TCE 005769810-02

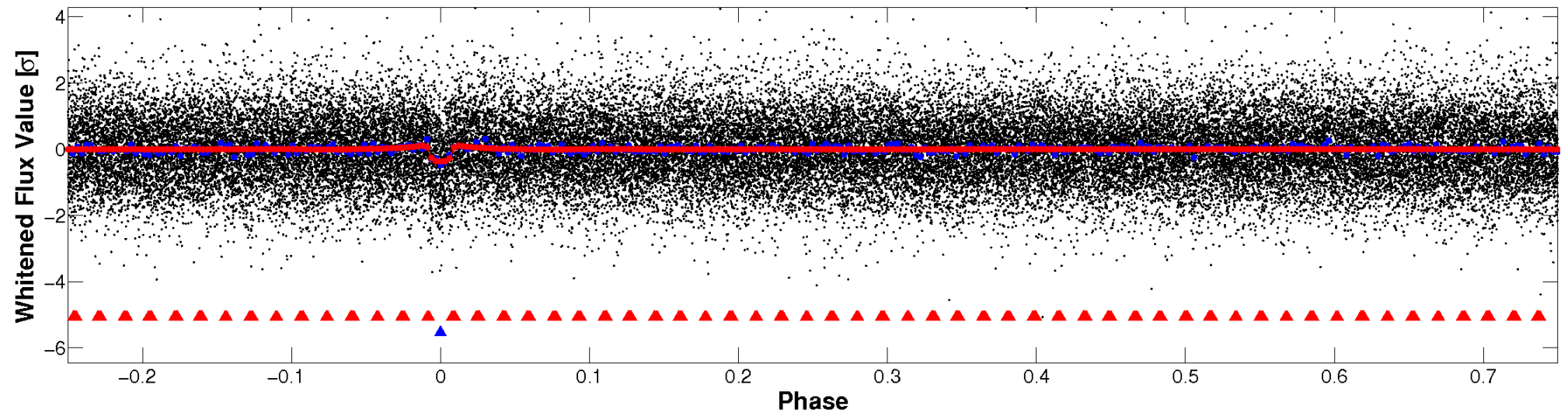


Non-Whitened Vs. Whitened Light Curve

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

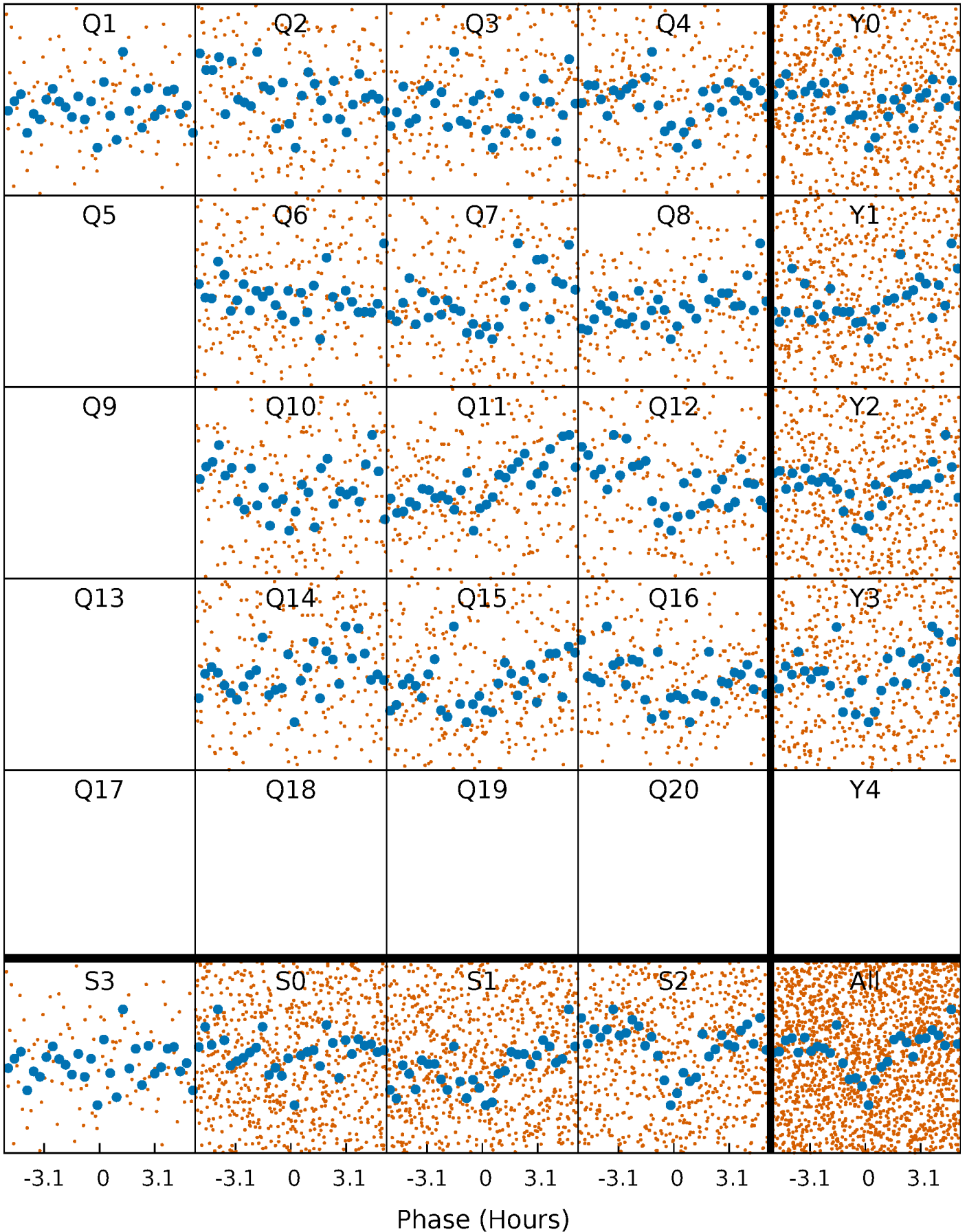


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



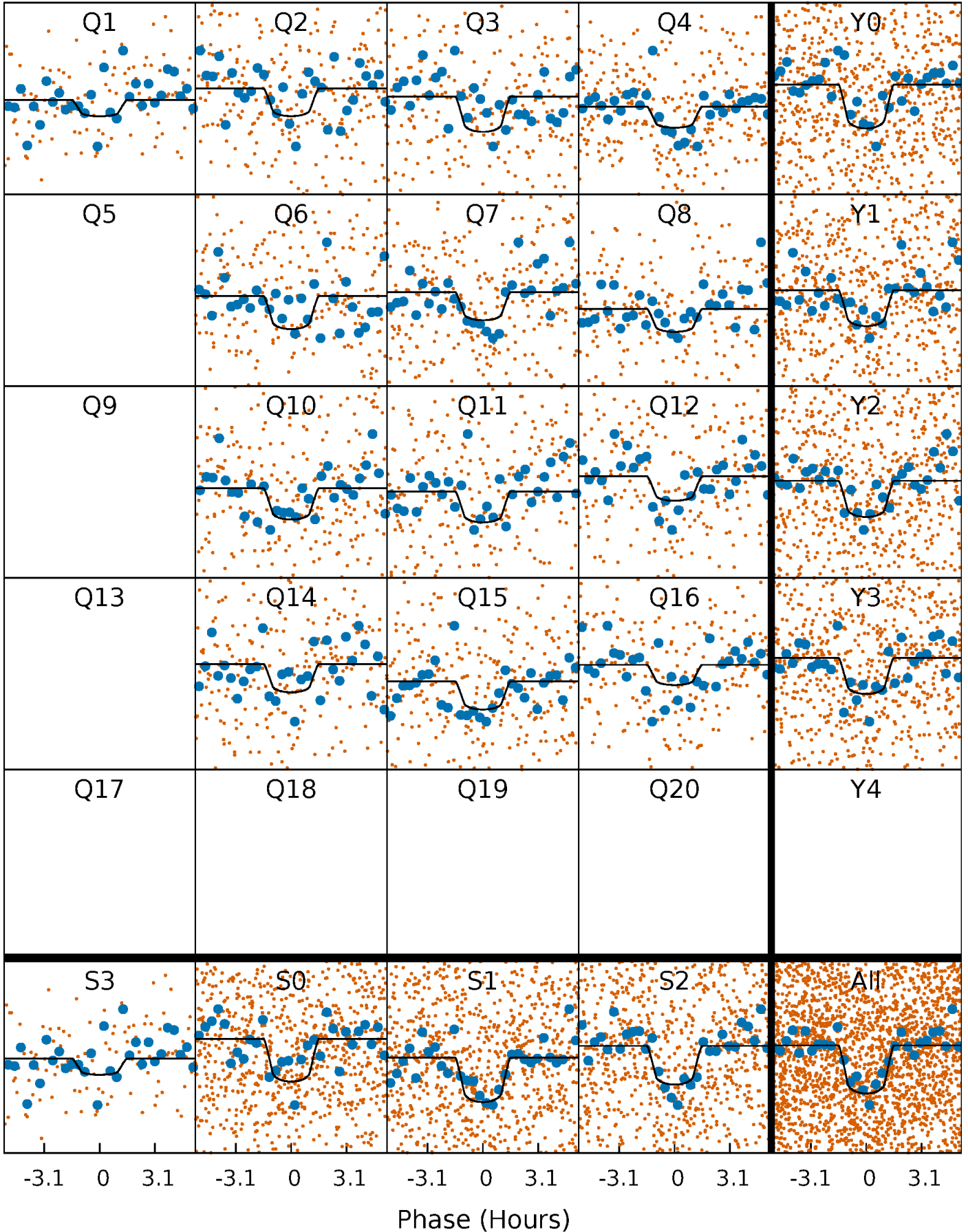
PDC Quarter-Phased Transit Curves

TCE 005769810-02 P= 6.787928 Days $T_0=136.337464$ (BKJD)



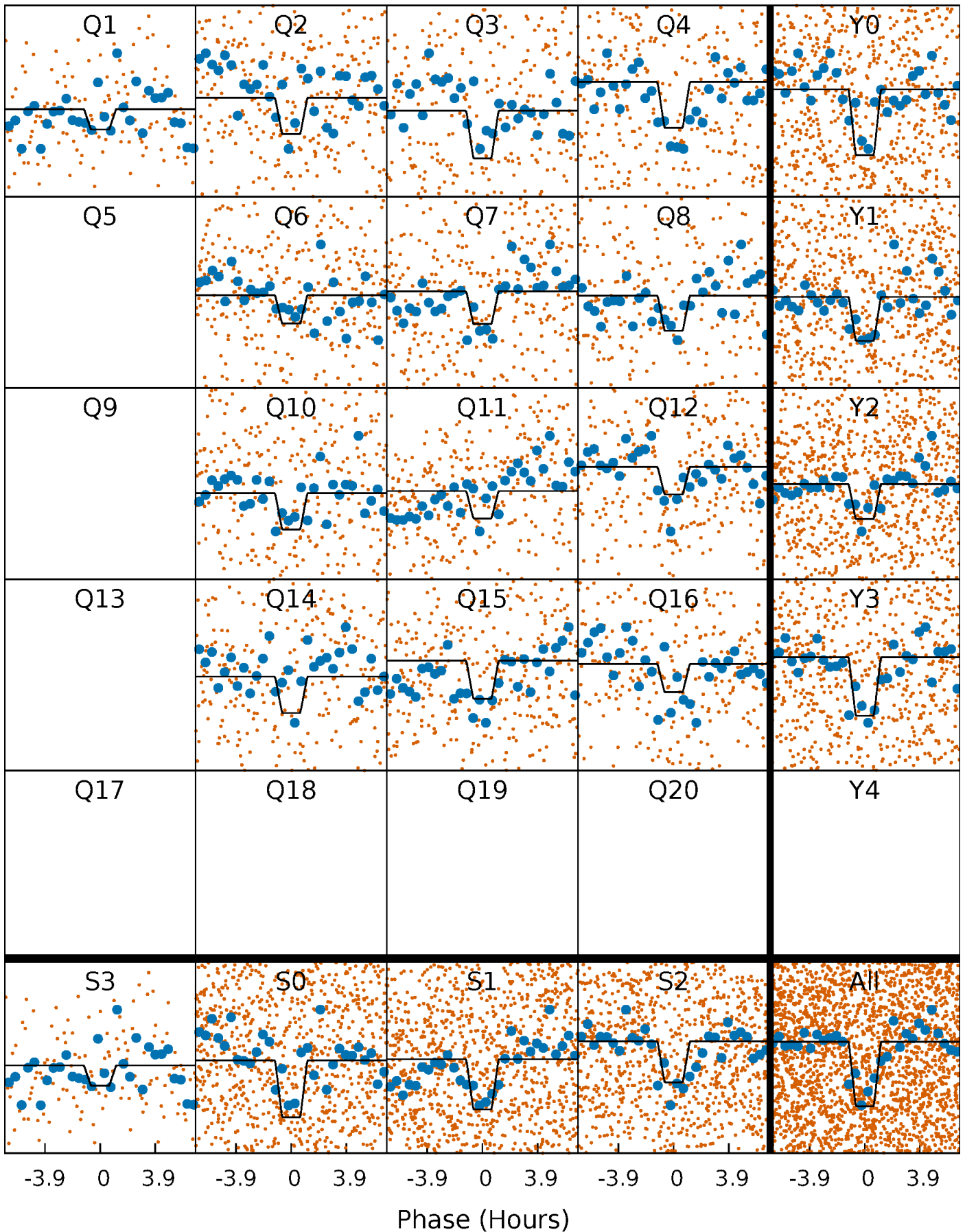
DV Quarter-Phased Transit Curves

TCE 005769810-02 P= 6.787928 Days $T_0=136.337464$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

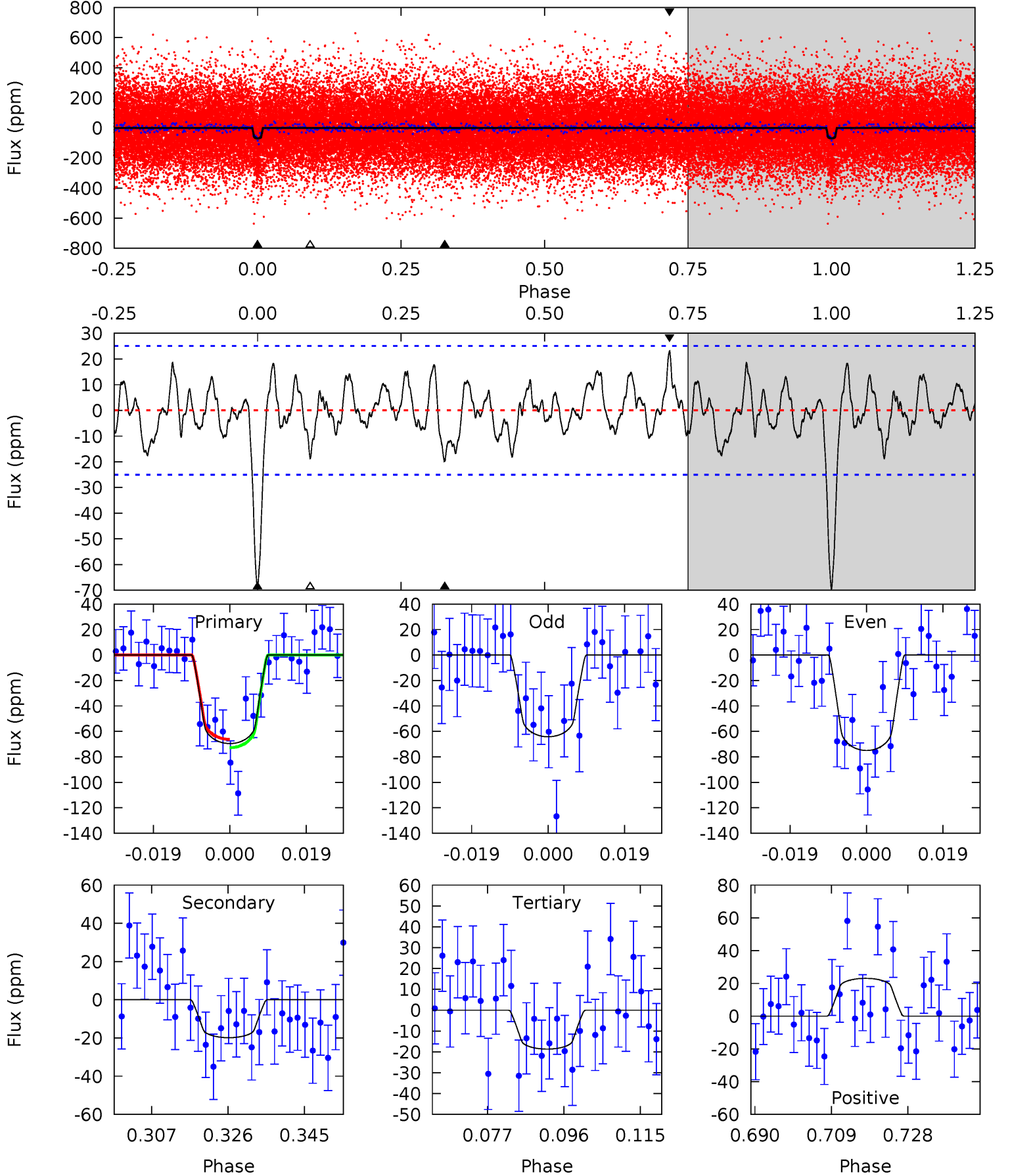
TCE 005769810-02 P= 6.787829 Days $T_0=136.348158$ (BKJD)



DV Model-Shift Uniqueness Test

005769810-02, P = 6.787928 Days, E = 129.549536 Days

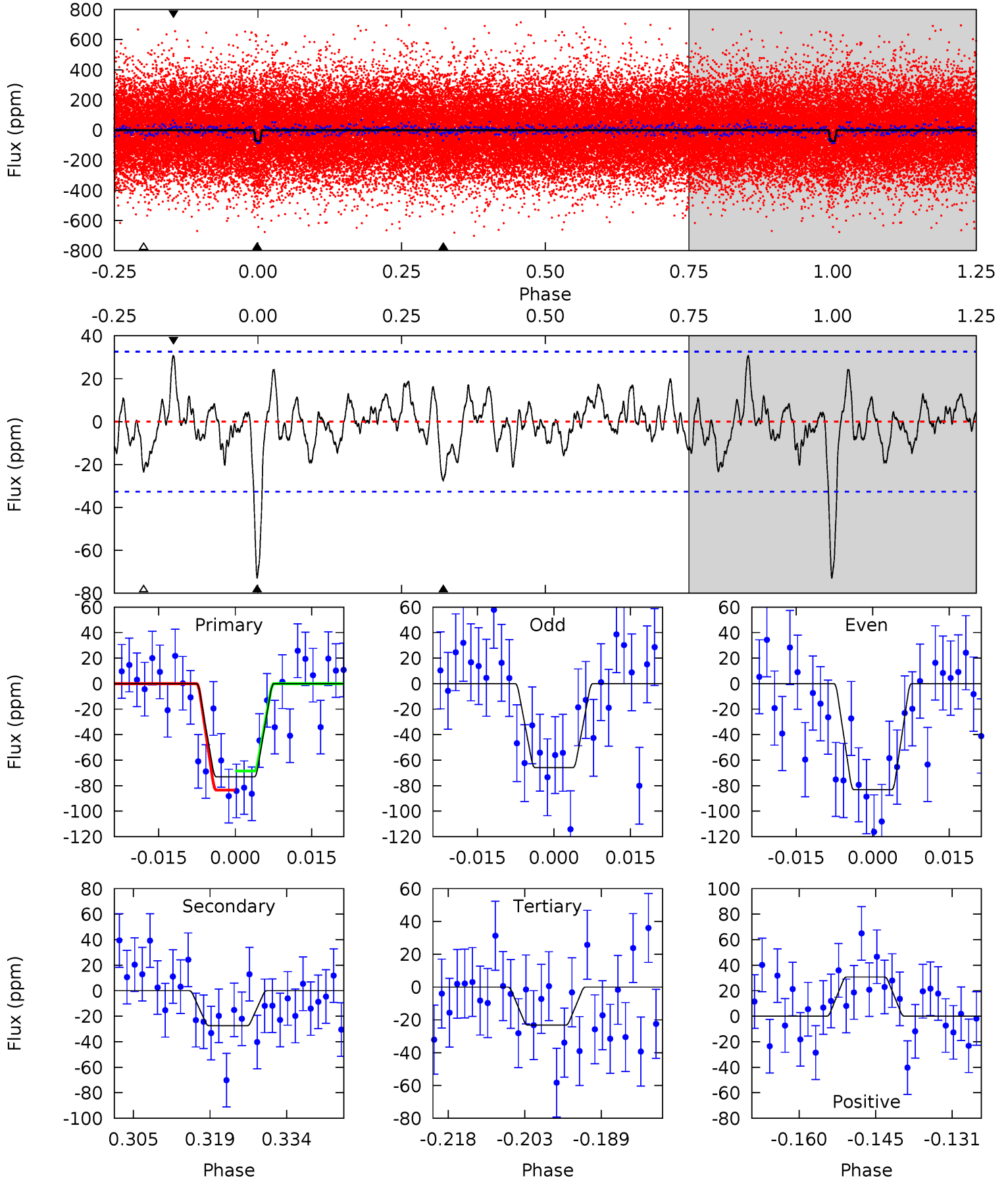
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	3.88	3.65	4.51	4.90	2.34	1.49	9.95	9.09	0.23	-0.63	1.05	1.03	0.25	0.64



Alt Model-Shift Uniqueness Test

005769810-02, P = 6.787829 Days, E = 129.560329 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	4.17	3.53	4.66	4.95	2.44	1.35	7.57	6.43	0.65	-0.49	1.31	0.90	0.30	1.13



Stellar Parameters For KIC 005769810

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6537^{+176}_{-195}	$3.760^{+0.285}_{-0.095}$	$-0.020^{+0.250}_{-0.250}$	$2.829^{+0.457}_{-1.067}$	$1.677^{+0.192}_{-0.357}$	$0.104^{+0.213}_{-0.032}$
	+3%/-3%	+8%/-3%	+1250%/-1250%	+16%/-38%	+11%/-21%	+204%/-31%
Source	PHO1	FLK73	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 005769810-02 / KOI 4913.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-20 ± 5	$2.68^{+1.48}_{-1.35}$	2311^{+130}_{-214}	4615^{+1585}_{-700}	10^{+31}_{-6}
Alt.	-27 ± 7	$2.73^{+1.42}_{-1.22}$	2301^{+147}_{-183}	4938^{+1524}_{-752}	14^{+33}_{-8}

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

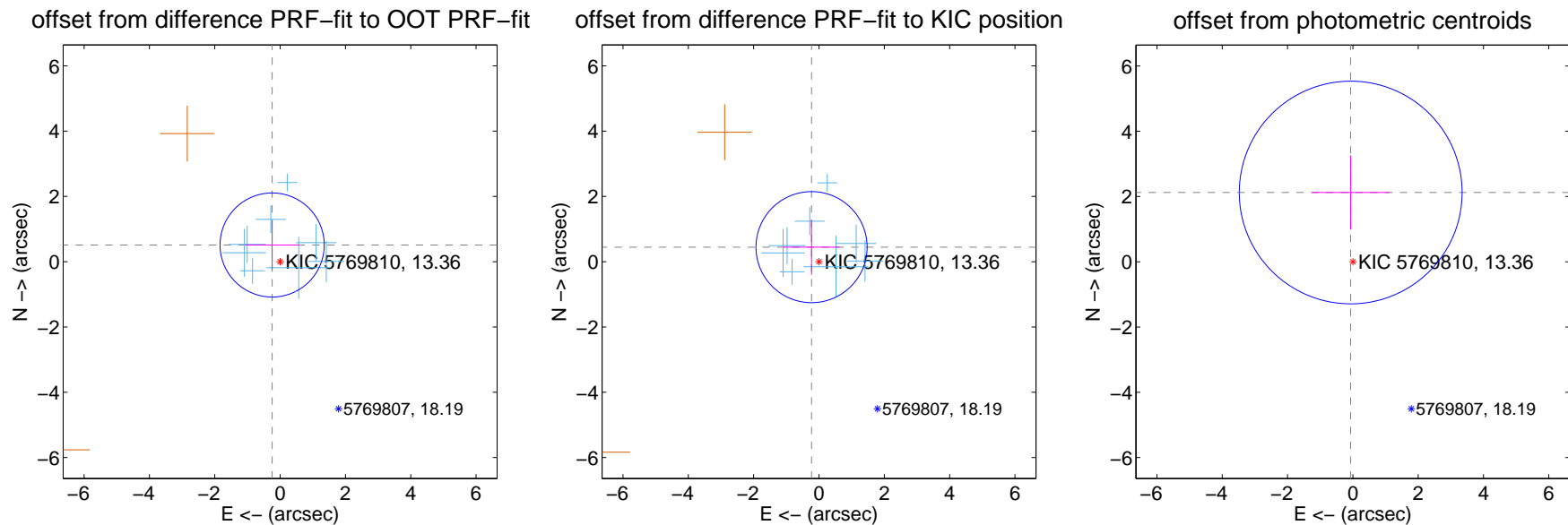
DV Centroid Data

Supplemental centroid analysis for 005769810-02. Kepler magnitude: 13.36. Transit SNR 9.33

There are 8 quarters with good PRF difference image offsets

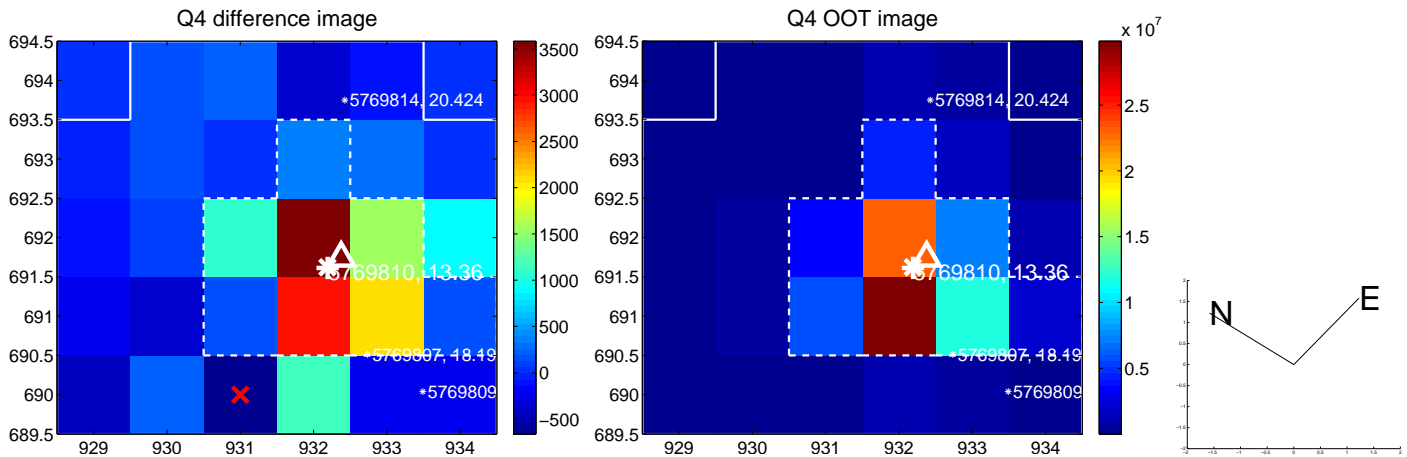
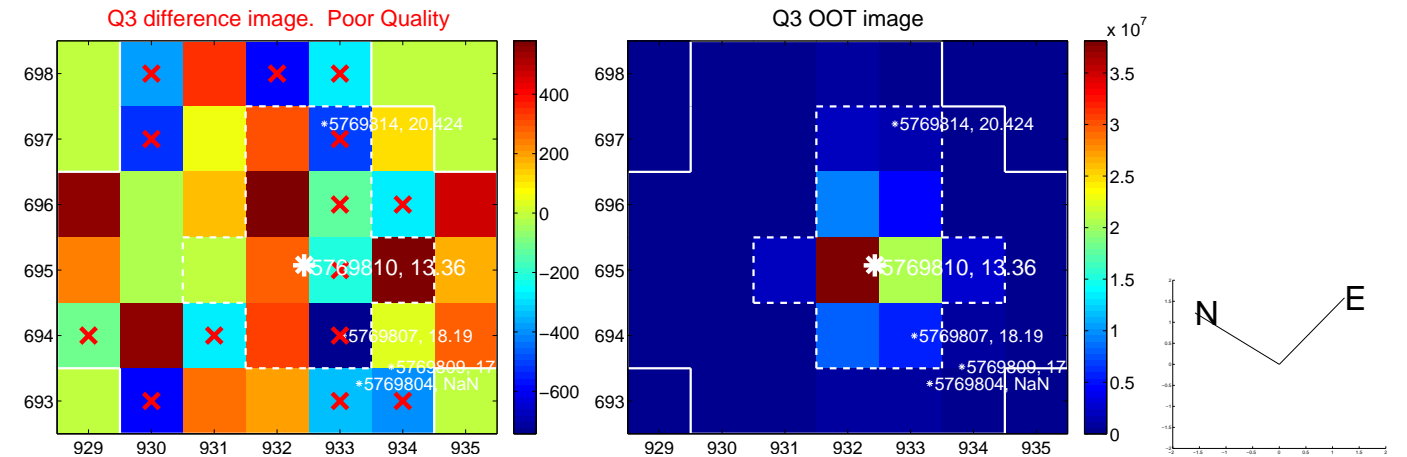
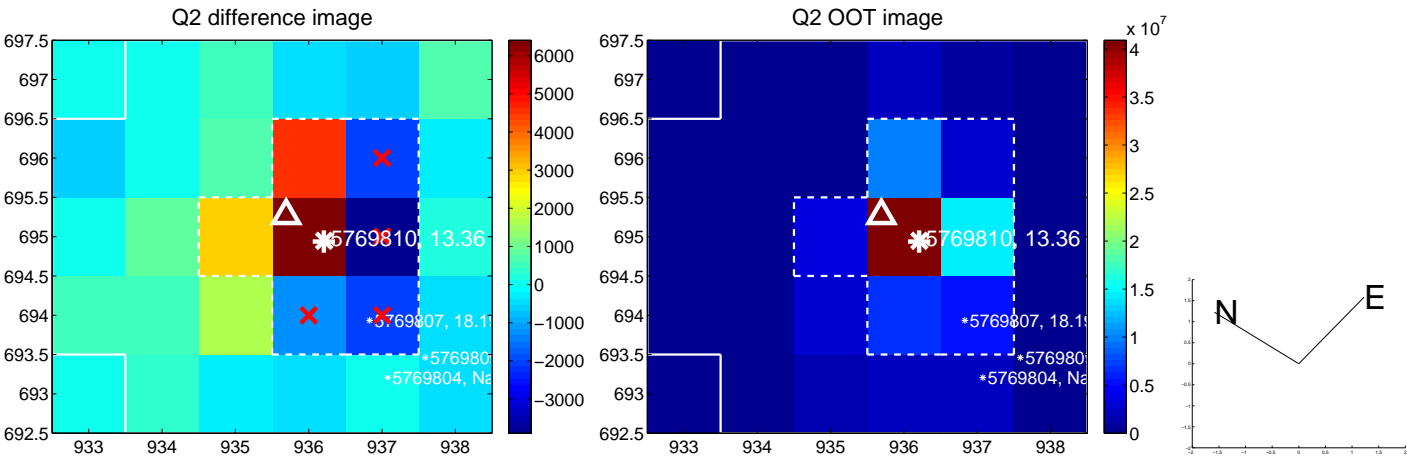
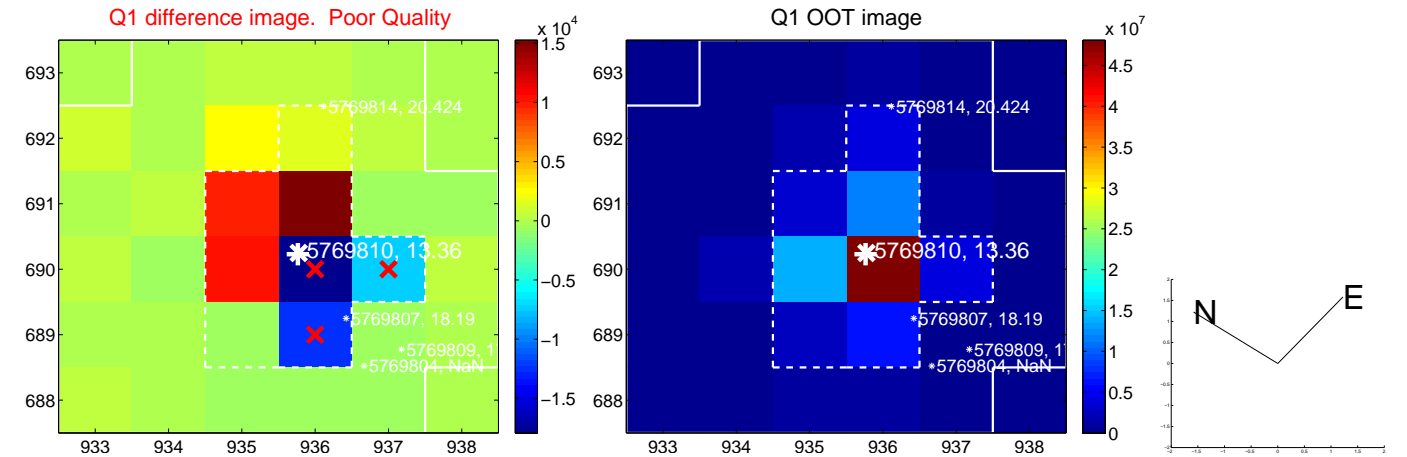
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.567 ± 0.531	1.07	0.244 ± 0.827	0.512 ± 0.760
PRF-fit source offset from KIC position	0.500 ± 0.567	0.88	0.228 ± 0.859	0.445 ± 0.849
photometric centroid source offset	2.12 ± 1.14	1.87	0.07 ± 1.19	2.12 ± 1.14

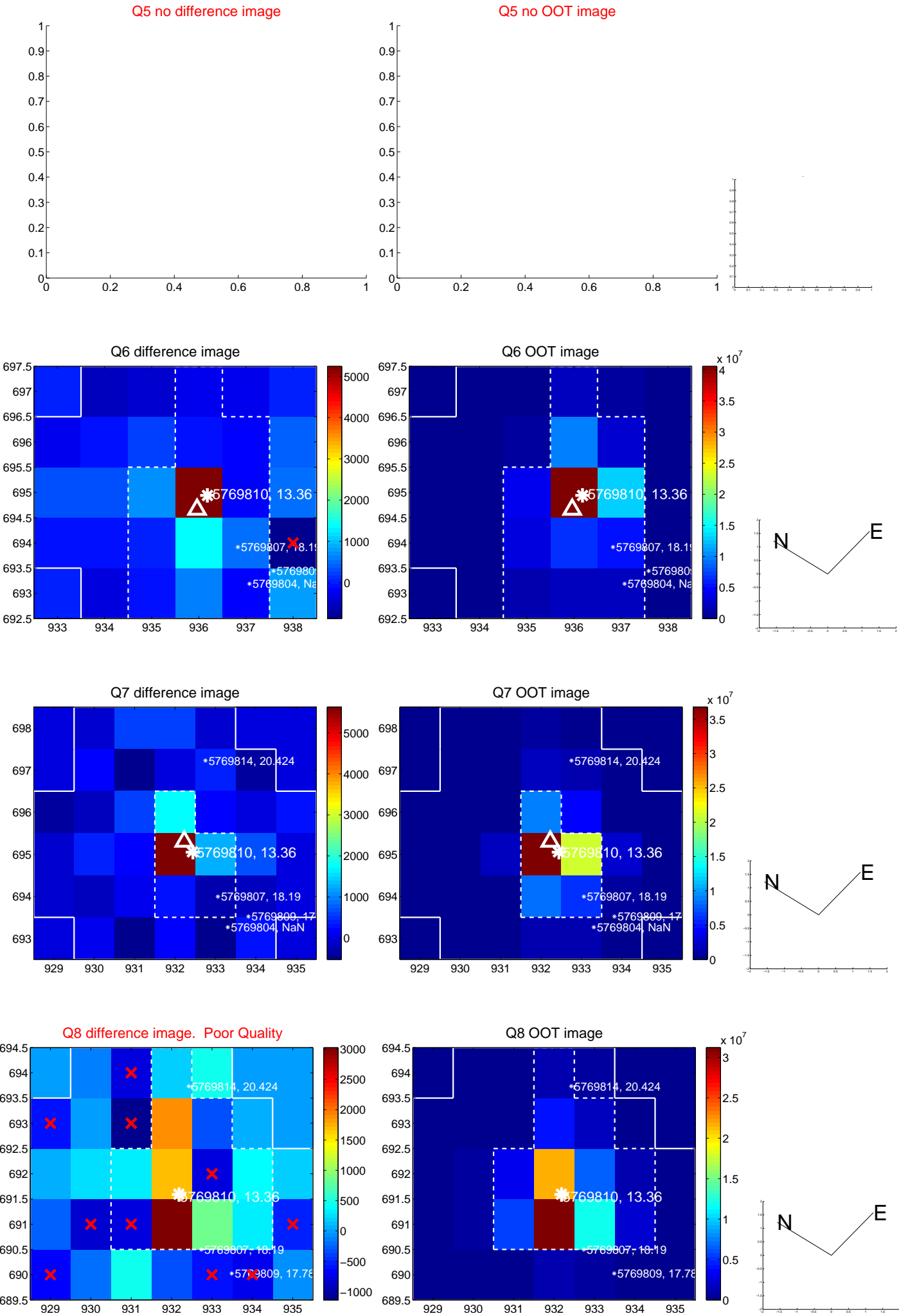


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

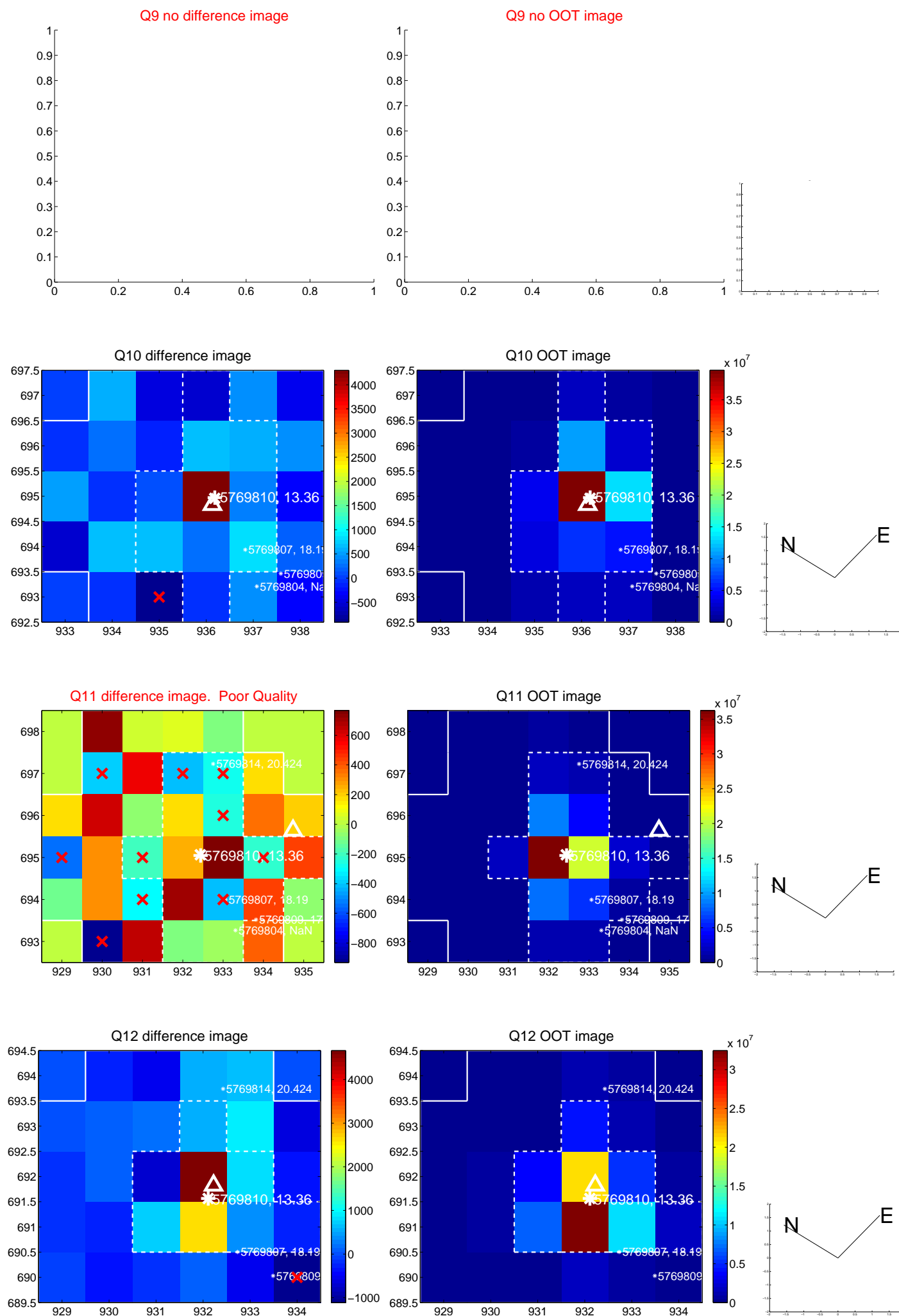
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



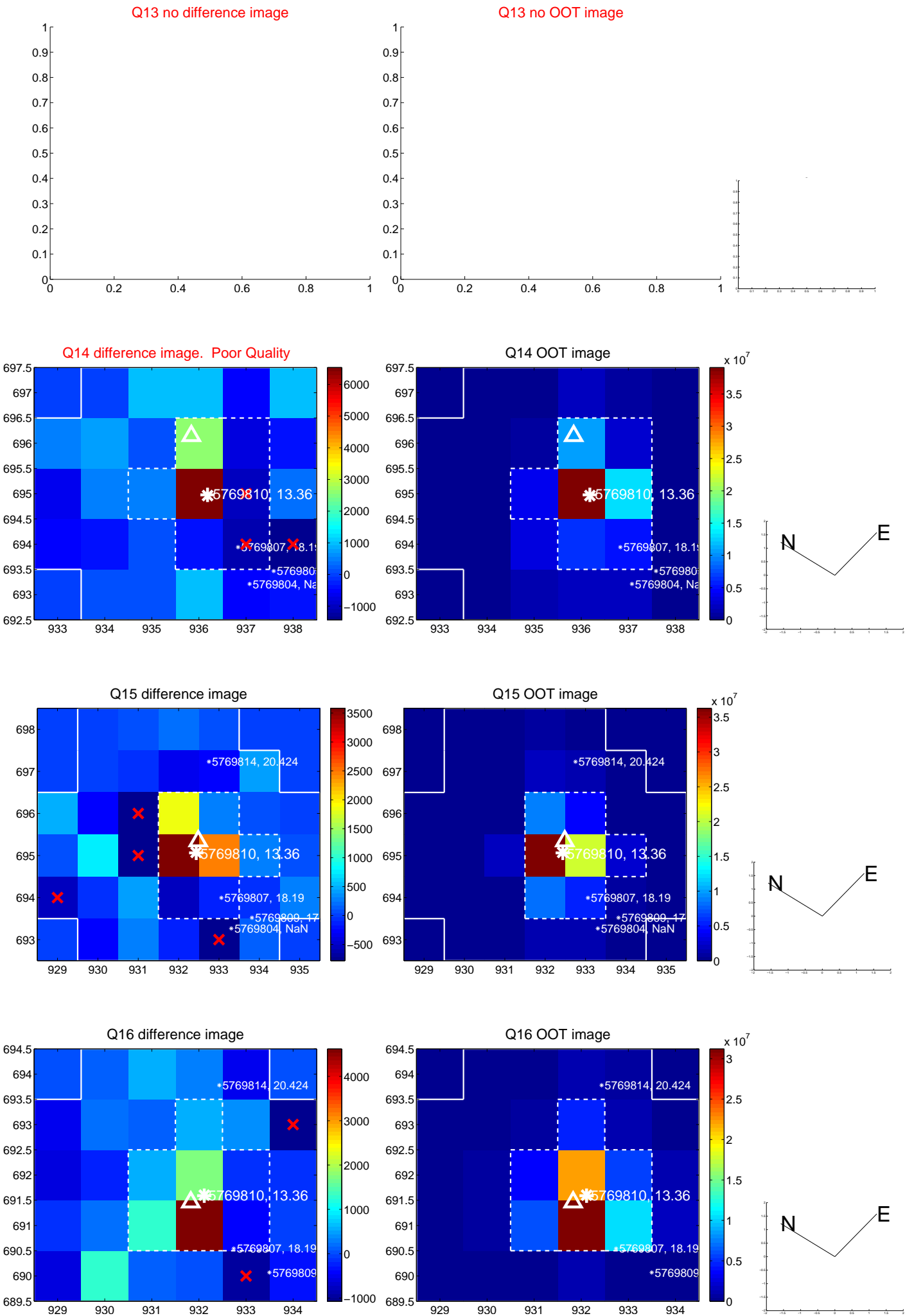
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



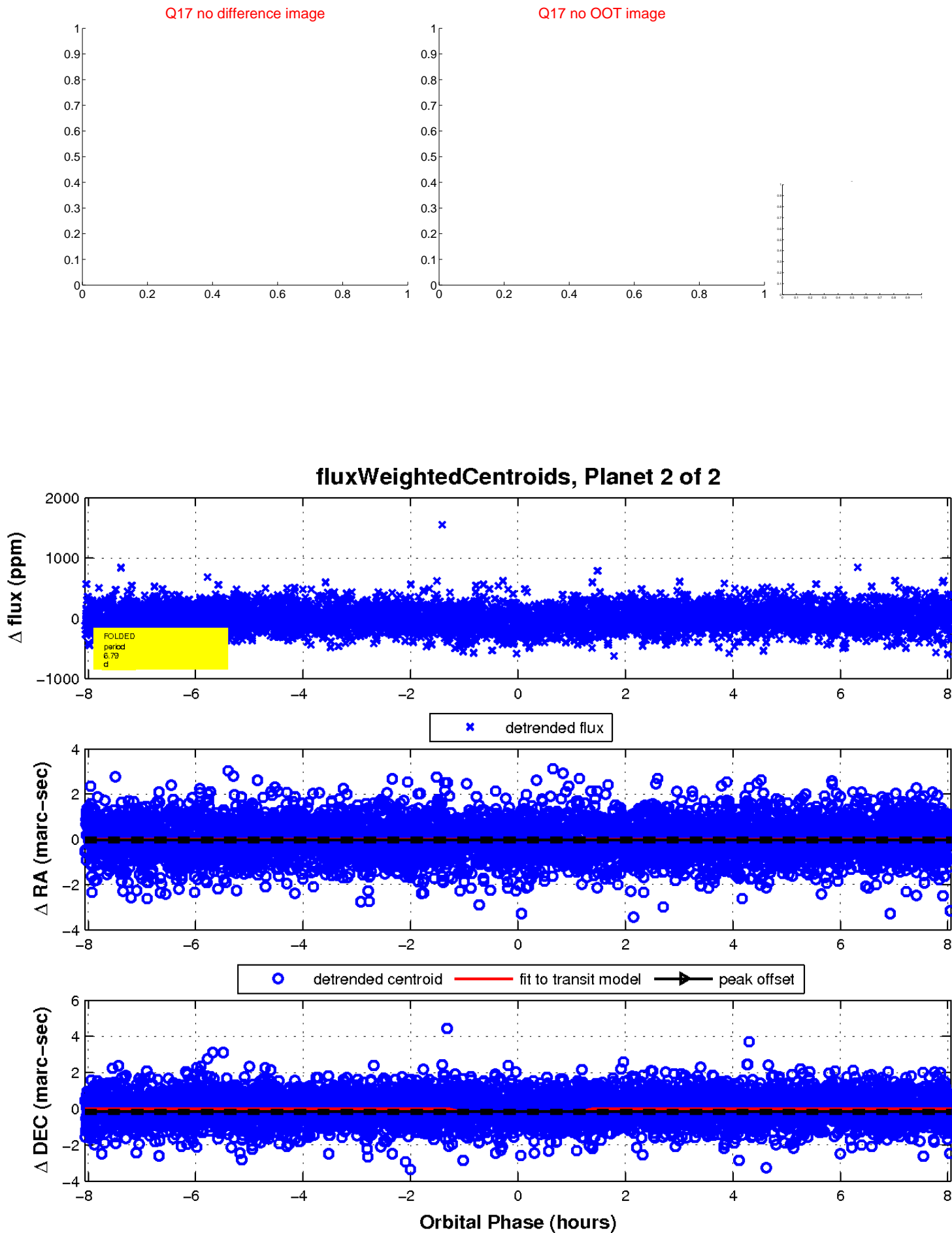
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

