

KIC 005942808

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})
005942808-01	OBS	2250.01	2.935355	133.249476	1010.8	1.378	31.7	37.1	0.82	4922	2.54	258.73
005942808-02	OBS	2250.02	0.626282	131.904397	416.0	1.119	23.6	29.3	0.82	4922	1.66	2029.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005942808-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
005942808-02	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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.

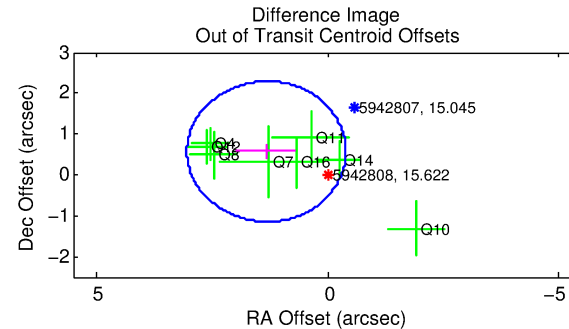
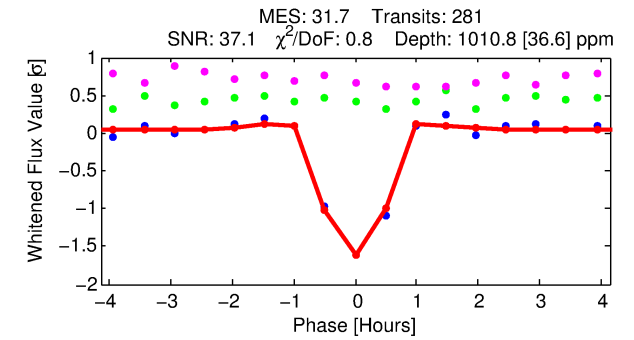
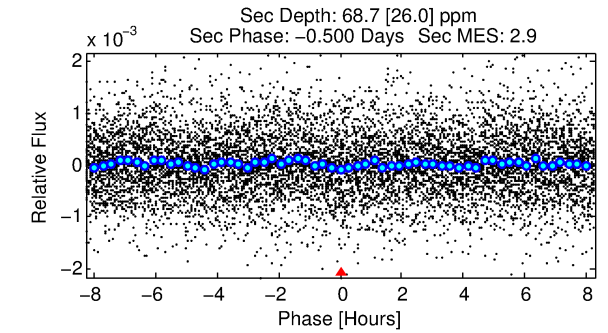
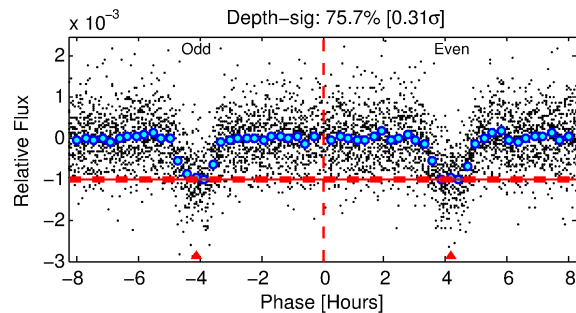
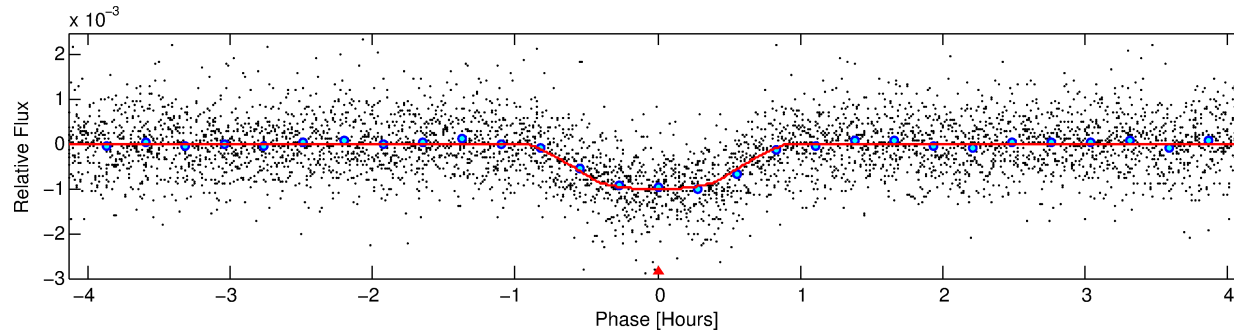
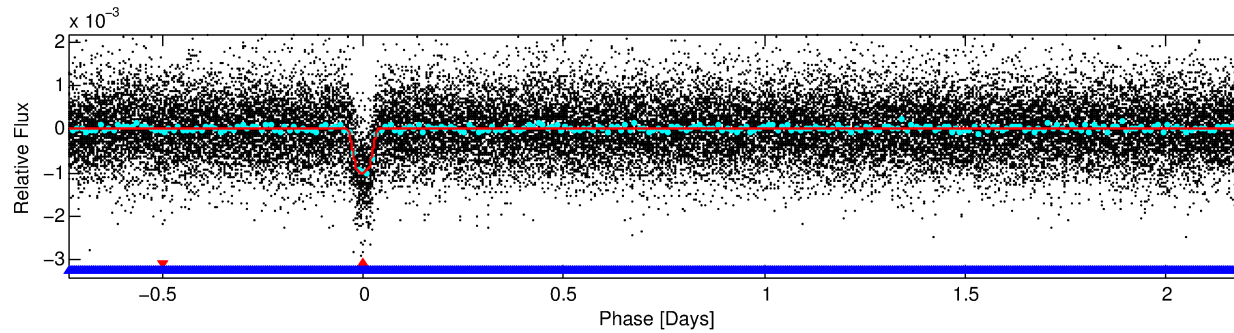
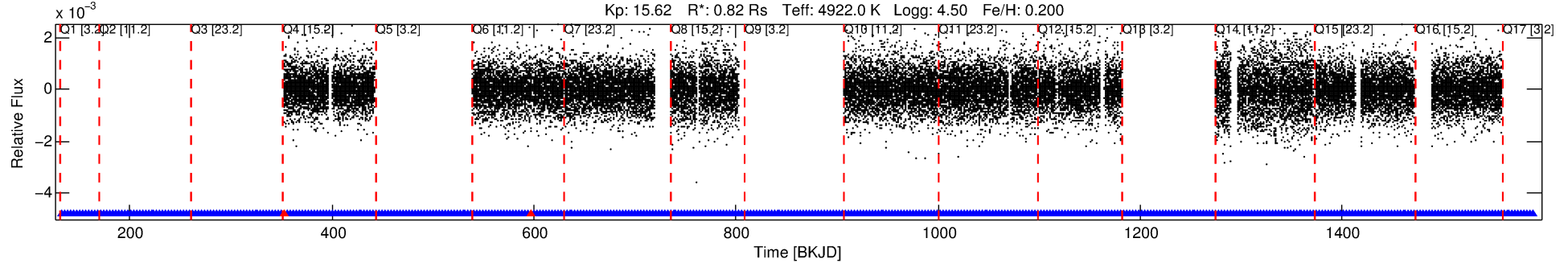
Ephemeris Match Information For 005942808-01

No Significant Match Found

DV One-Page Summary

KIC: 5942808 Candidate: 1 of 2 Period: 2.935 d
KOI: K02250.01 Corr: 0.982

Kp: 15.62 R*: 0.82 Rs Teff: 4922.0 K Logg: 4.50 Fe/H: 0.200



DV Fit Results:

Period = 2.93536 [0.00000] d
Epoch = 133.2495 [0.0007] BKJD
Rp/R* = 0.0283 [0.0116]
a/R* = 16.68 [21.69]
b = 0.09 [14.38]
Seff = 258.73 [51.89]
Teq = 1023 [51] K
Rp = 2.54 [1.07] Re
a = 0.0371 [0.0035] AU
Ag = 8.07 [7.40] [0.96σ]
Teffp = 2665 [609] K [2.69σ]

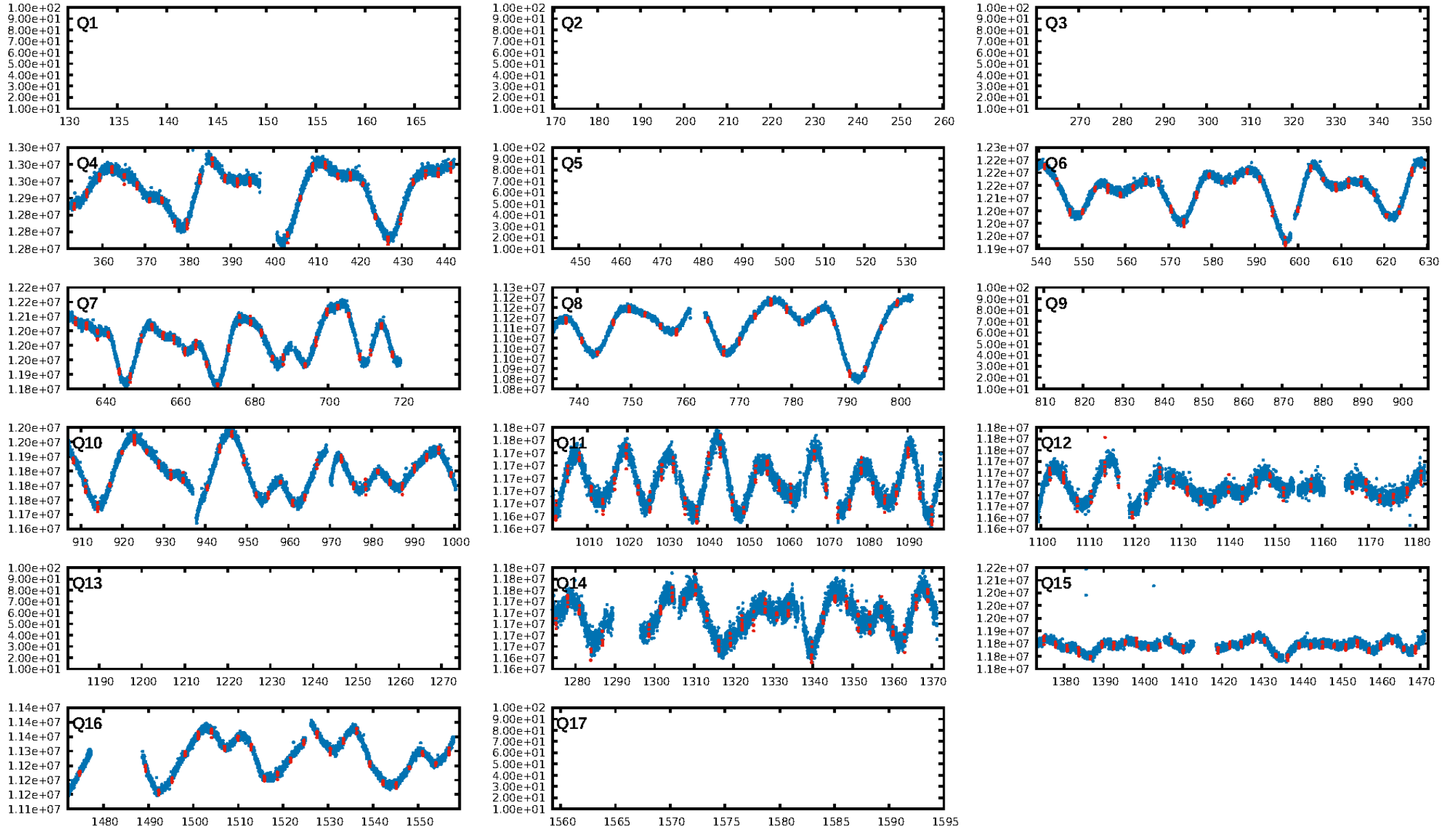
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [31.21σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.69e-200
RollingBand-fgt: 0.99 [279/281]
GhostDiagnostic-chr: 6.438
Centroid-sig: 0.0%
Centroid-so: 1.151 arcsec [4.25σ]
OotOffset-rm: 1.439 arcsec [2.51σ]
KicOffset-rm: 0.162 arcsec [0.39σ]
OotOffset-st: 2/2/4/0 [8]
KicOffset-st: 2/2/4/0 [8]
DiffImageQuality-fgm: 0.88 [7/8]
DiffImageOverlap-fno: 1.00 [10/10]

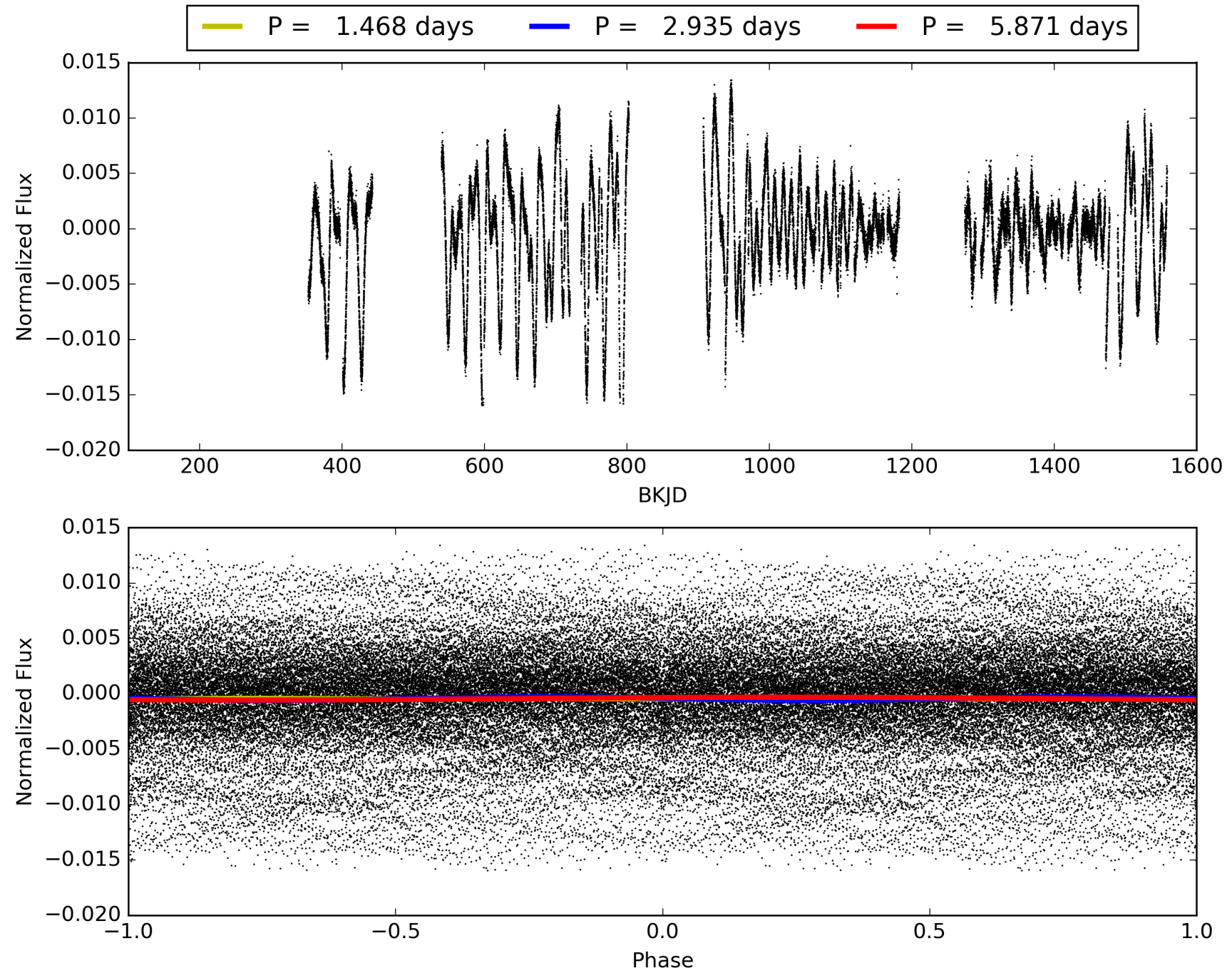
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 09:24:10 Z

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

TCE 005942808-01, PDC Light Curves

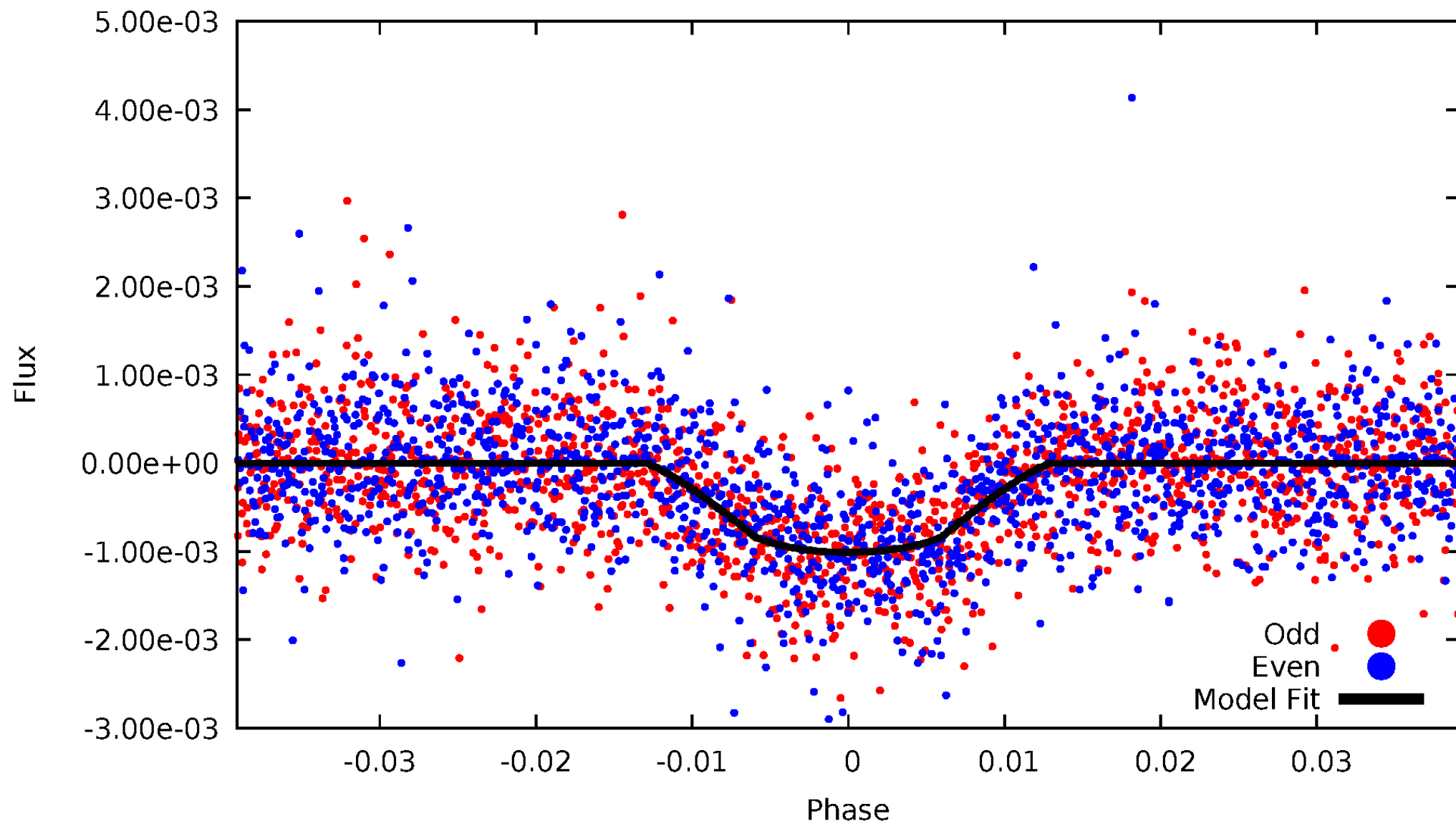


TCE 005942808-01



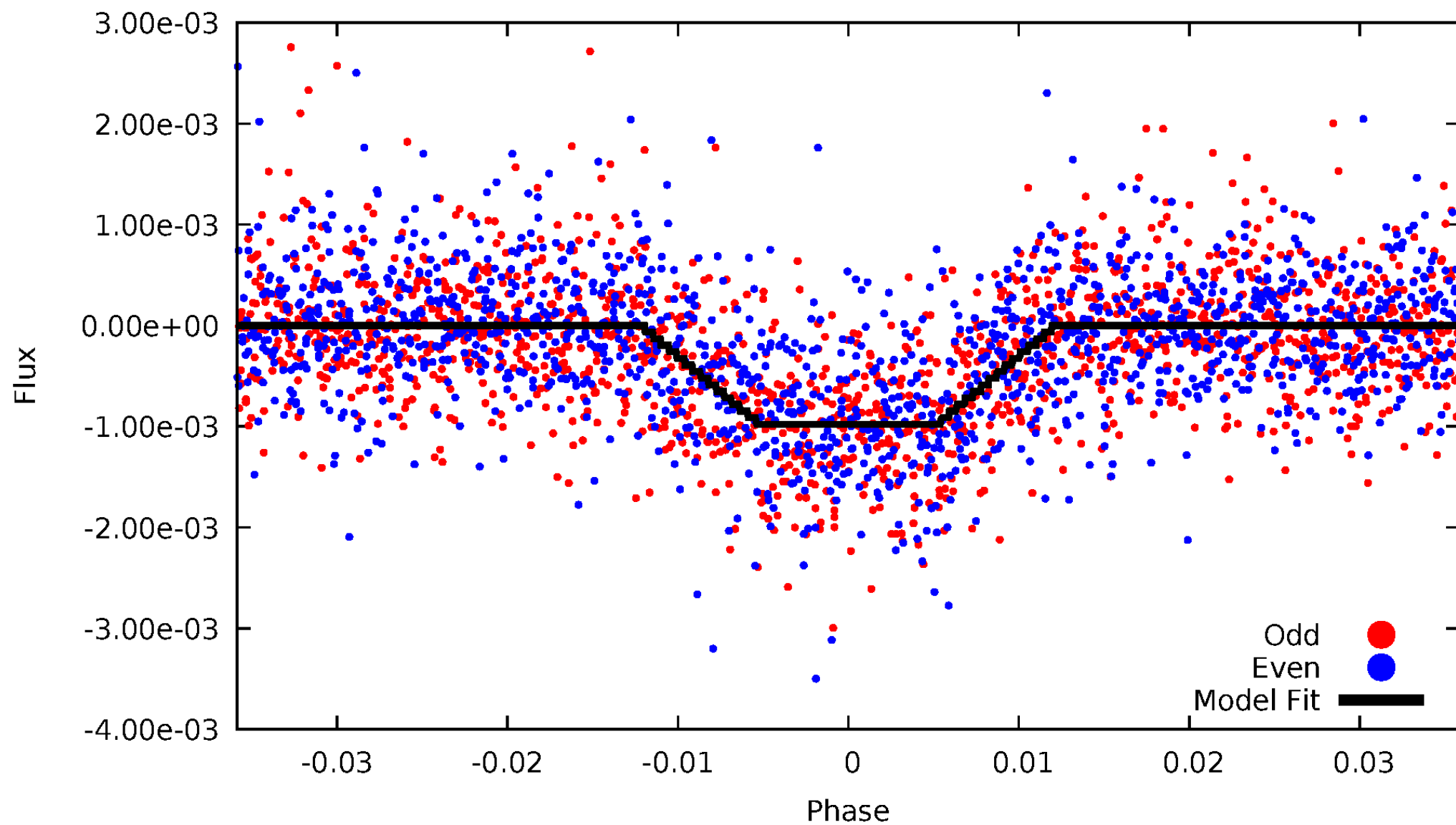
DV Odd/Even

TCE 005942808-01



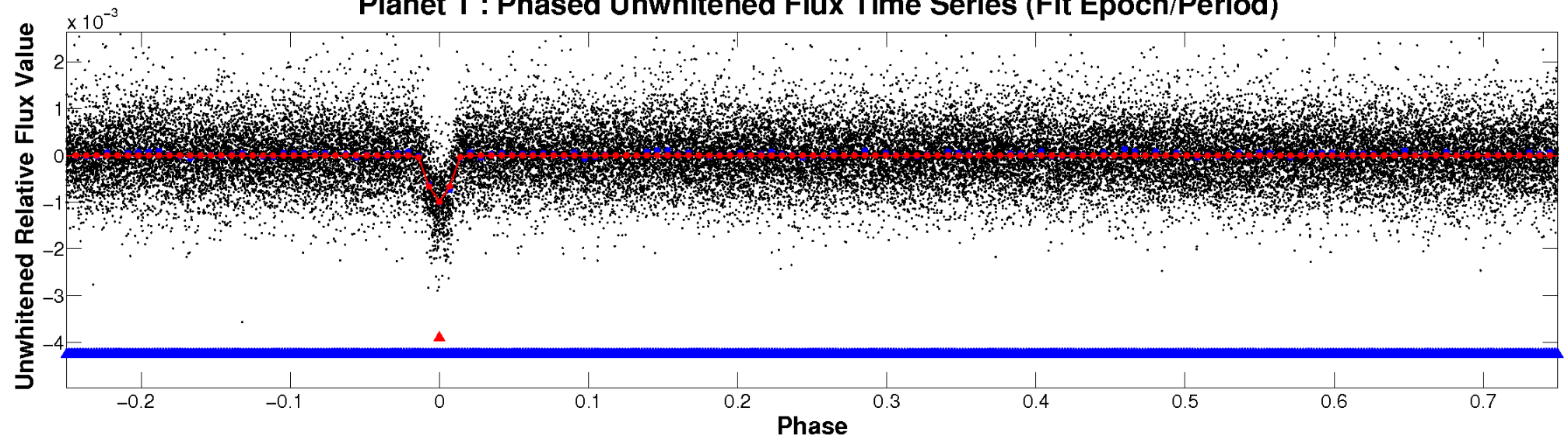
ALT Odd/Even

TCE 005942808-01

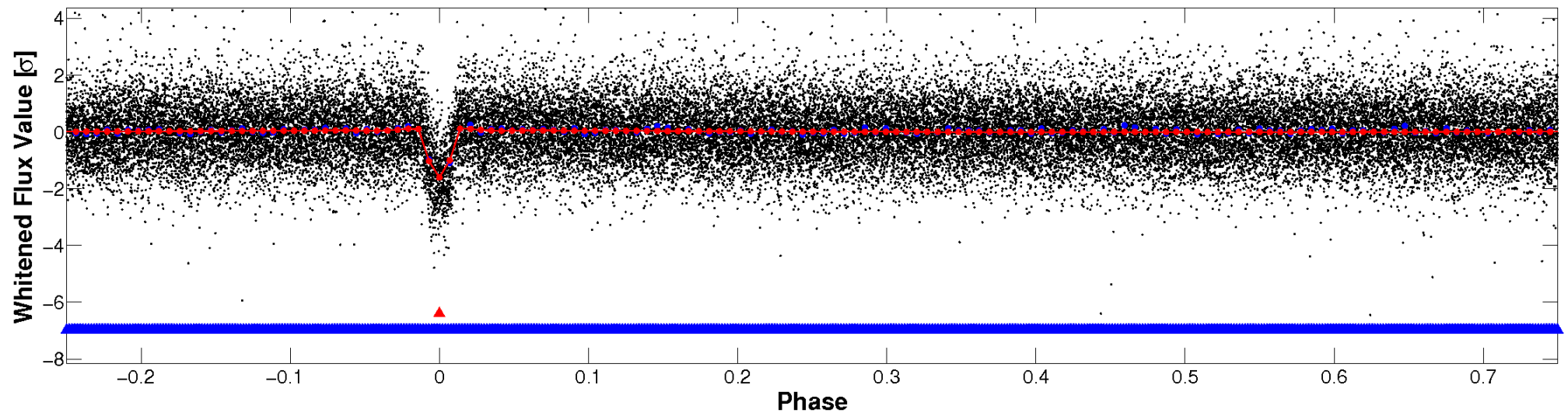


Non-Whitened Vs. Whitened Light Curve

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

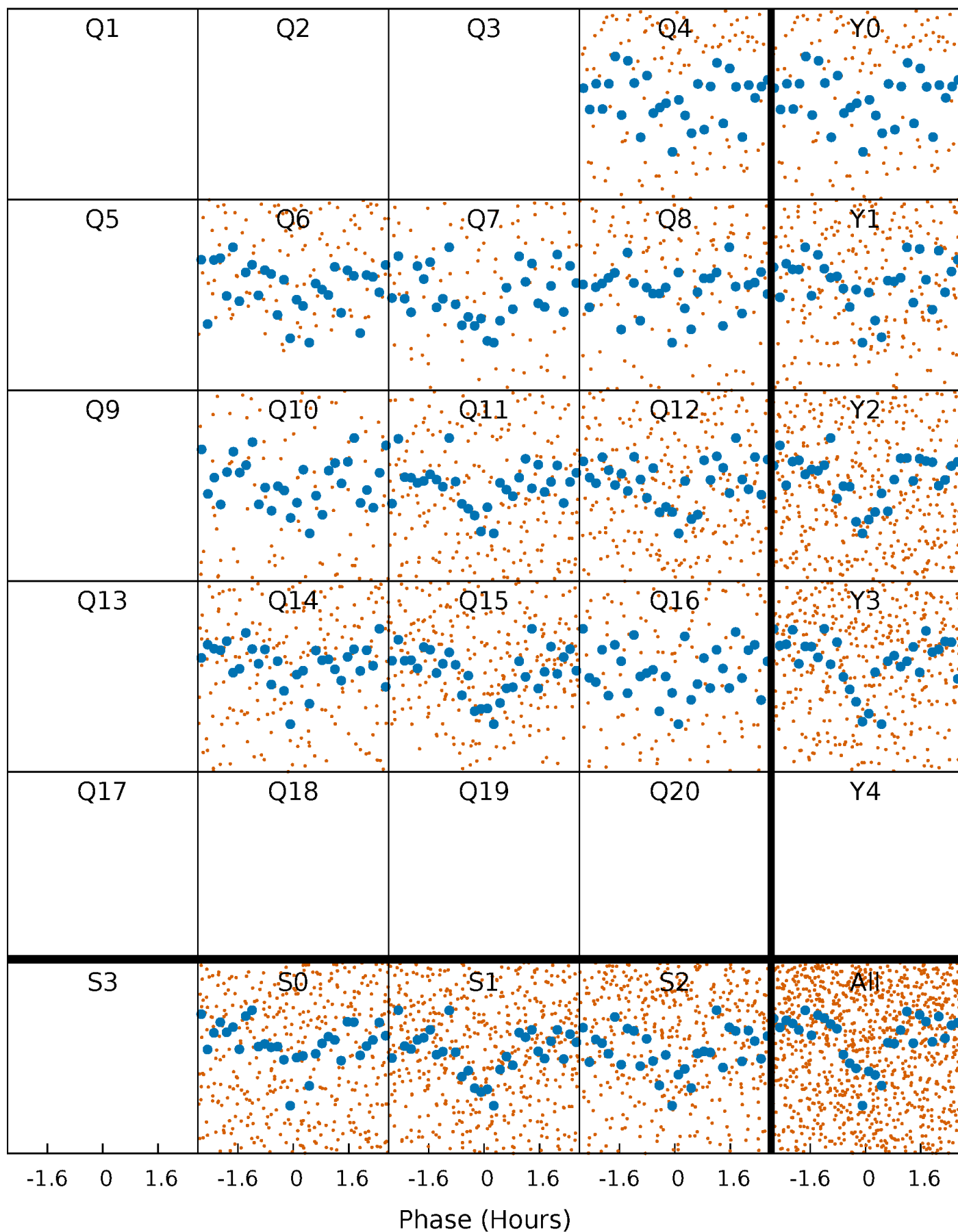


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



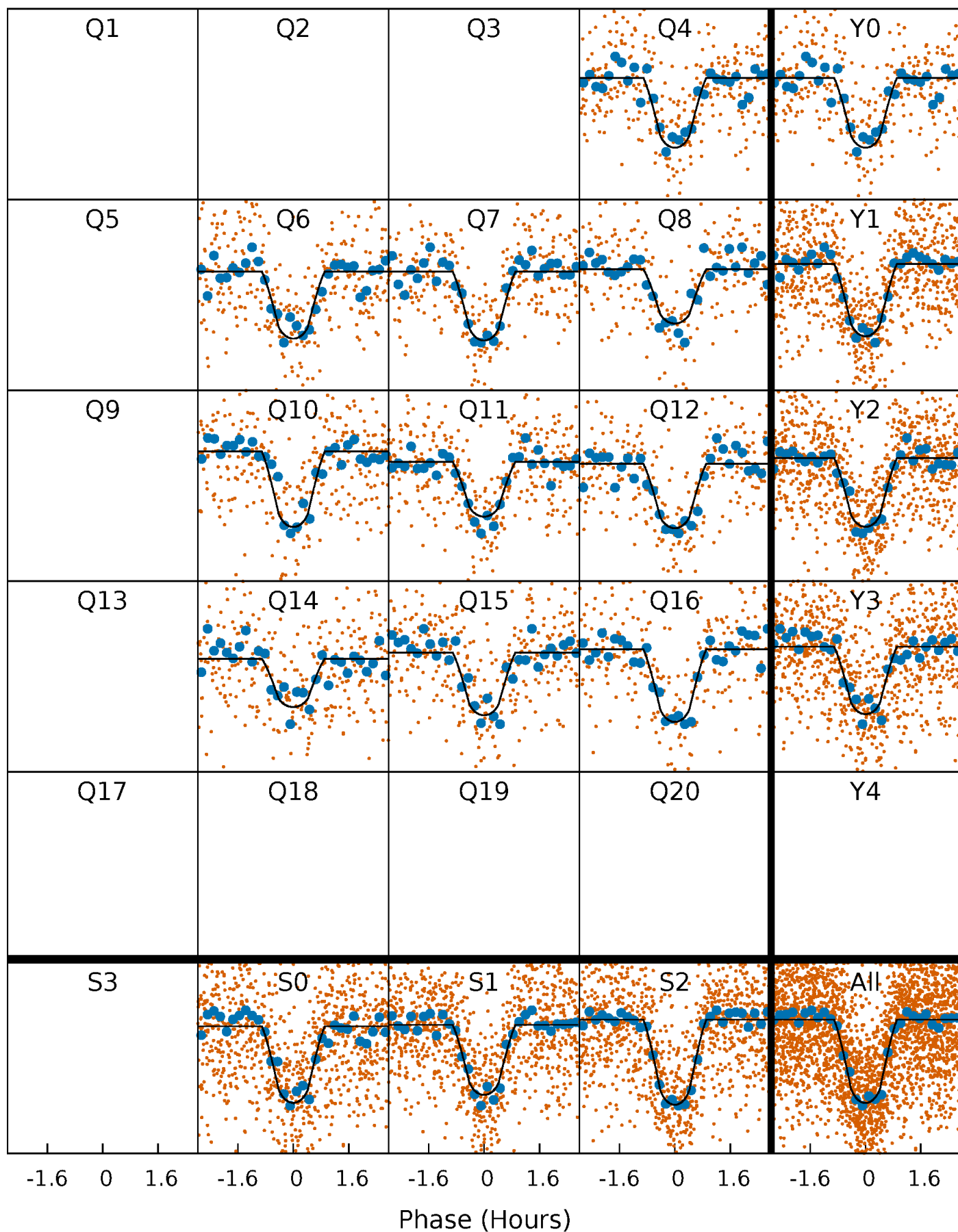
PDC Quarter-Phased Transit Curves

TCE 005942808-01 P= 2.935355 Days $T_0=133.249476$ (BKJD)



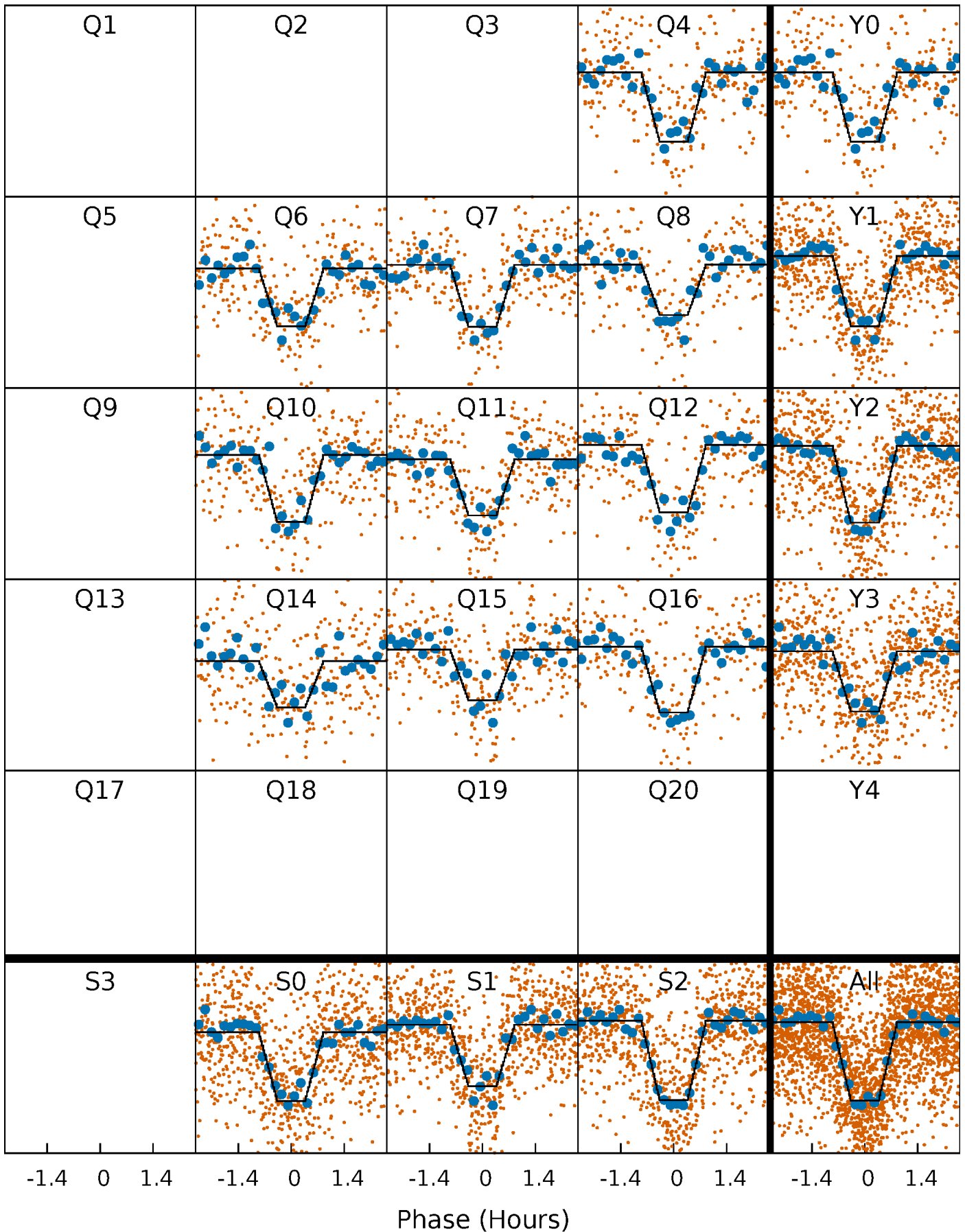
DV Quarter-Phased Transit Curves

TCE 005942808-01 P= 2.935355 Days $T_0=133.249476$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

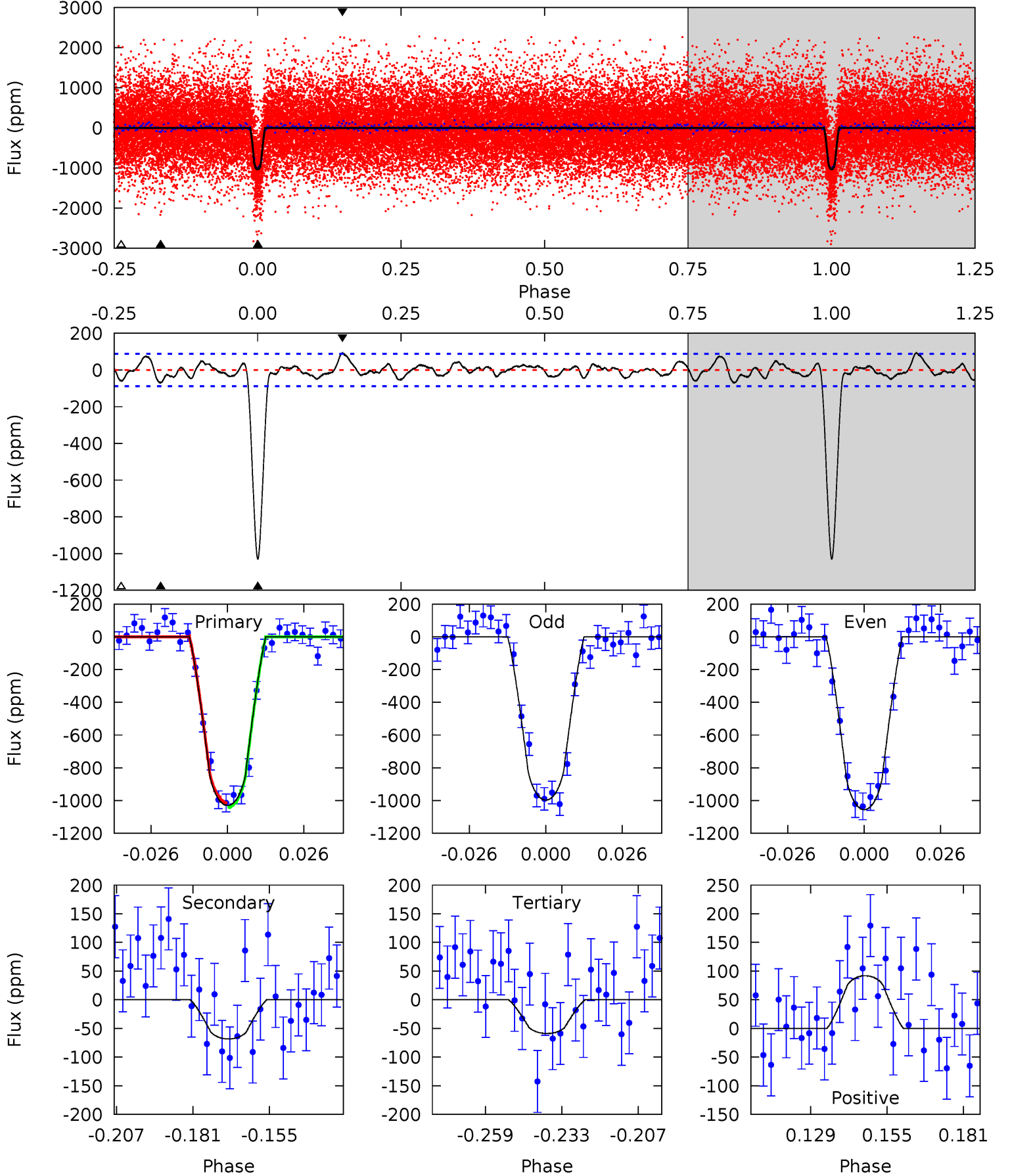
TCE 005942808-01 P= 2.935362 Days $T_0=133.248634$ (BKJD)



DV Model-Shift Uniqueness Test

005942808-01, P = 2.935355 Days, E = 133.249476 Days

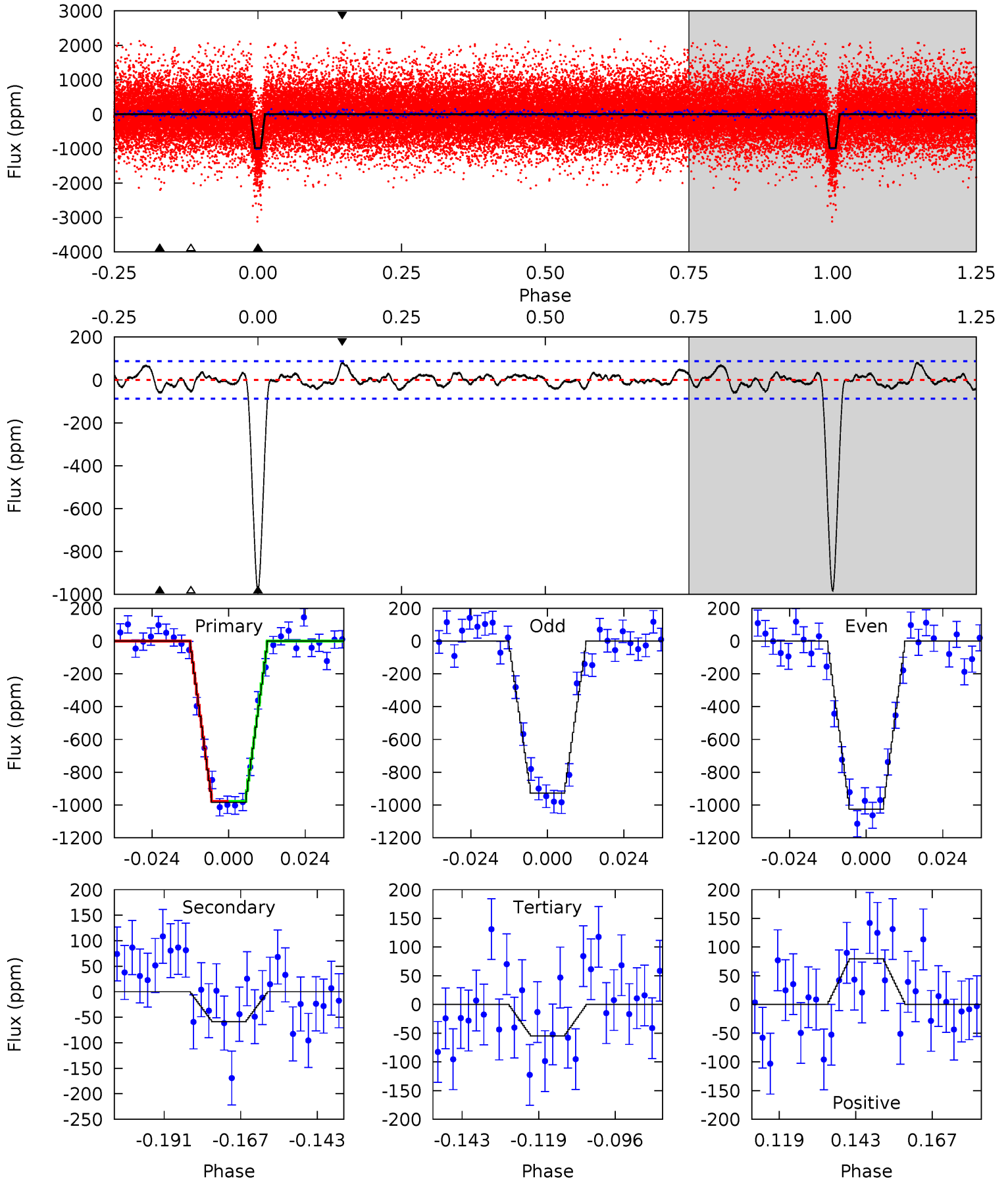
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.2	3.73	3.21	5.02	4.84	2.23	1.45	53.0	51.2	0.52	-1.29	1.59	0.99	0.08	0.71



Alt Model-Shift Uniqueness Test

005942808-01, P = 2.935362 Days, E = 133.248634 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
54.6	3.26	3.03	4.42	4.86	2.26	1.27	51.6	50.2	0.23	-1.17	2.70	0.99	0.07	0.01



Stellar Parameters For KIC 005942808

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4922^{+169}_{-169}	$4.505^{+0.084}_{-0.056}$	$0.200^{+0.200}_{-0.300}$	$0.823^{+0.062}_{-0.085}$	$0.790^{+0.073}_{-0.054}$	$1.996^{+0.701}_{-0.362}$
	+3%/-3%	+2%/-1%	+100%/-150%	+8%/-10%	+9%/-7%	+35%/-18%
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 005942808-01 / KOI 2250.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-68 ± 18	$2.58^{+1.05}_{-1.06}$	1425^{+58}_{-62}	3162^{+595}_{-336}	$7.733^{+15.028}_{-4.101}$
Alt.	-59 ± 18	$2.73^{+1.16}_{-0.95}$	1425^{+60}_{-63}	3012^{+499}_{-307}	$5.609^{+8.765}_{-2.969}$

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 $A_{obs} \gg 1.0$

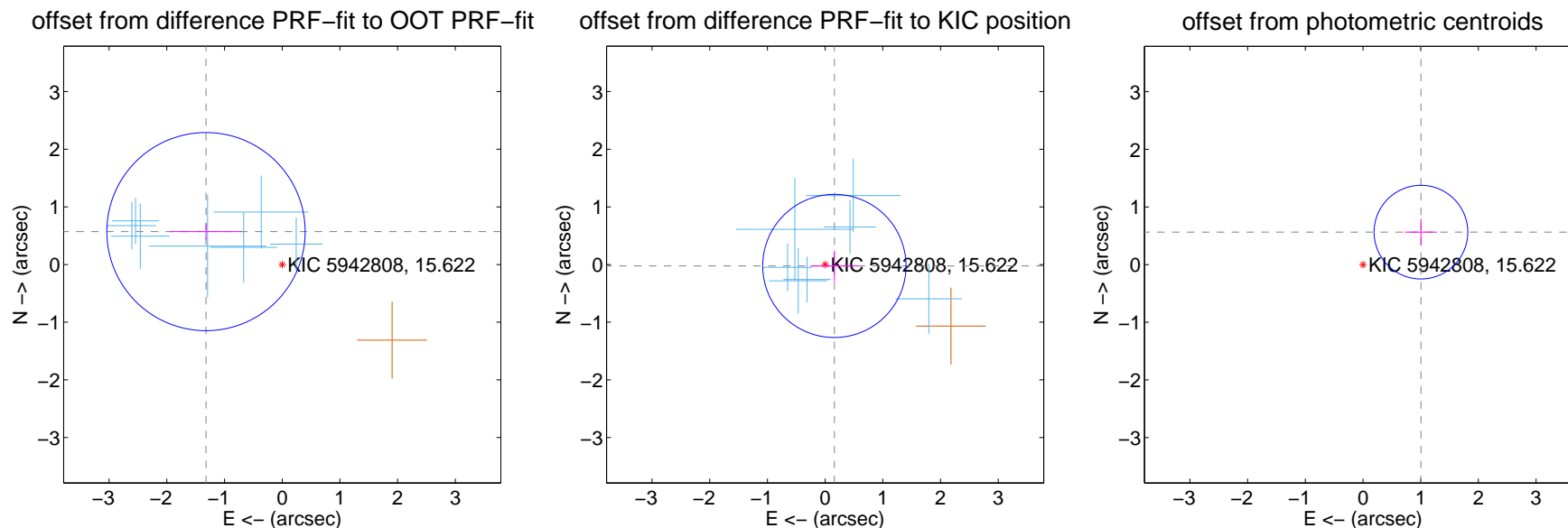
DV Centroid Data

Supplemental centroid analysis for 005942808-01. Kepler magnitude: 15.62. Transit SNR 37.10

There are 7 quarters with good PRF difference image offsets

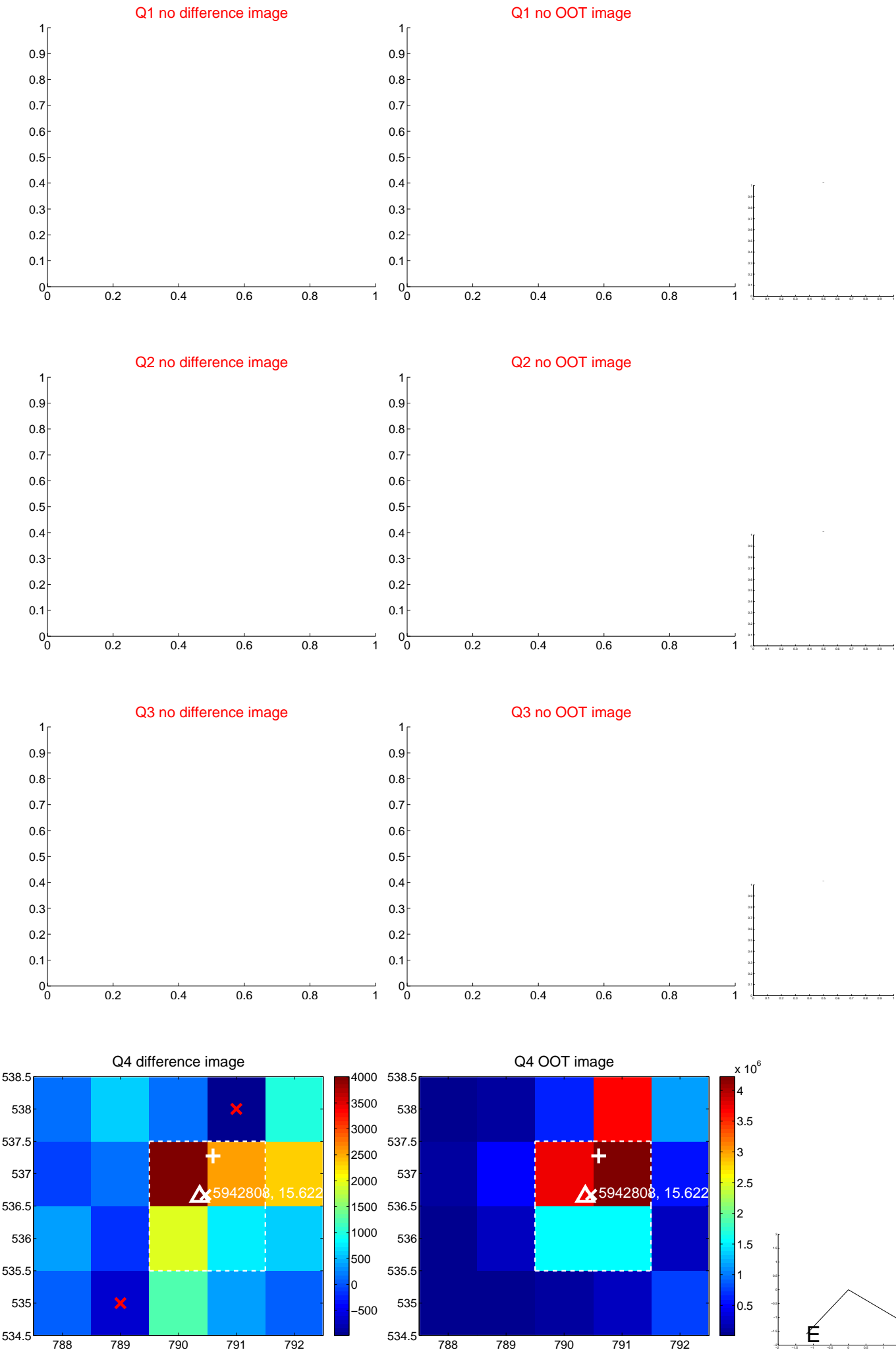
The OOT PRF centroid is offset from the target star catalog position by about 2.62 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.439 ± 0.573	2.51	1.320 ± 0.621	0.571 ± 0.139
PRF-fit source offset from KIC position	0.162 ± 0.414	0.39	-0.160 ± 0.416	-0.024 ± 0.267
photometric centroid source offset	1.15 ± 0.27	4.25	-1.00 ± 0.28	0.56 ± 0.23

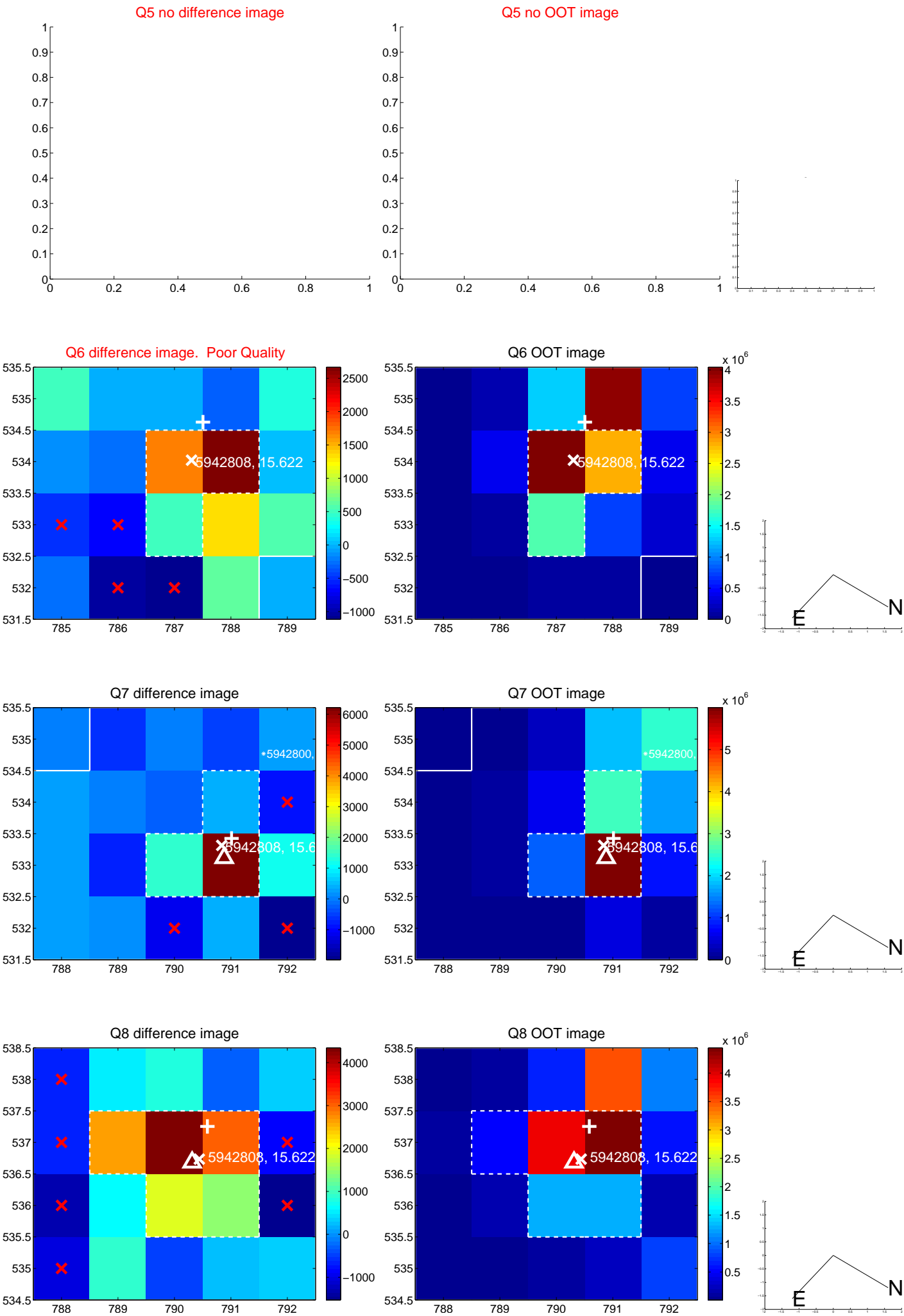


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

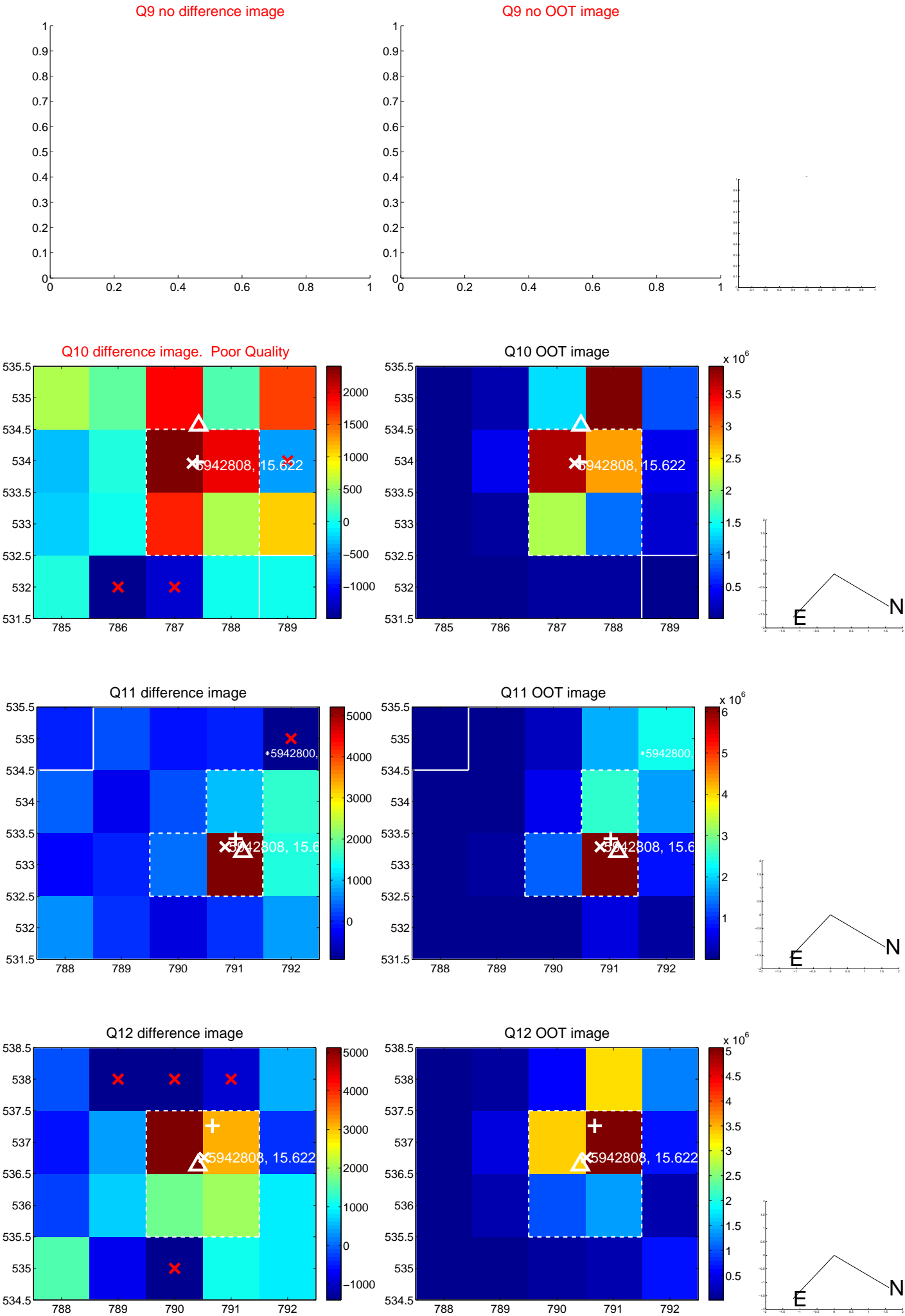
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



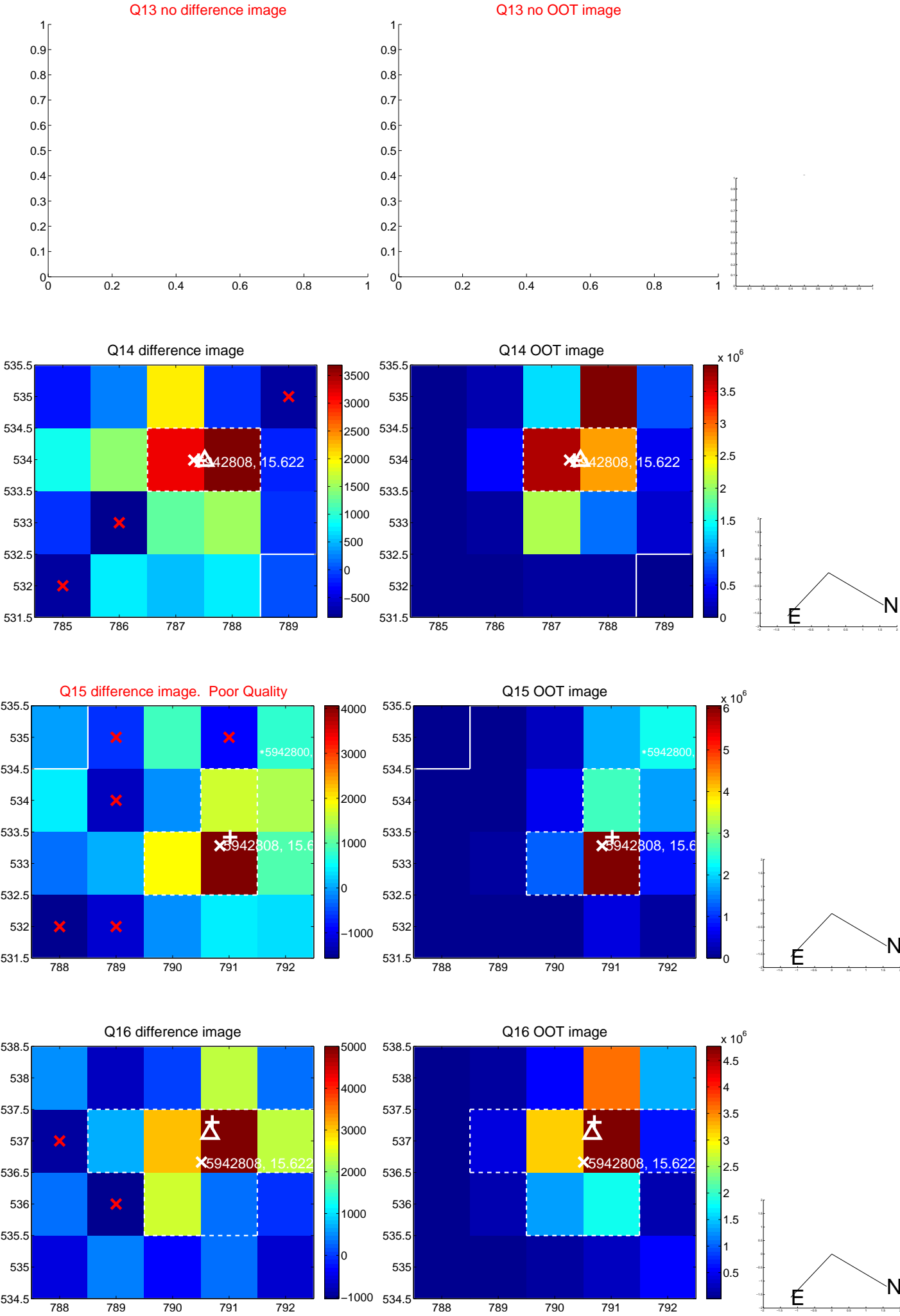
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



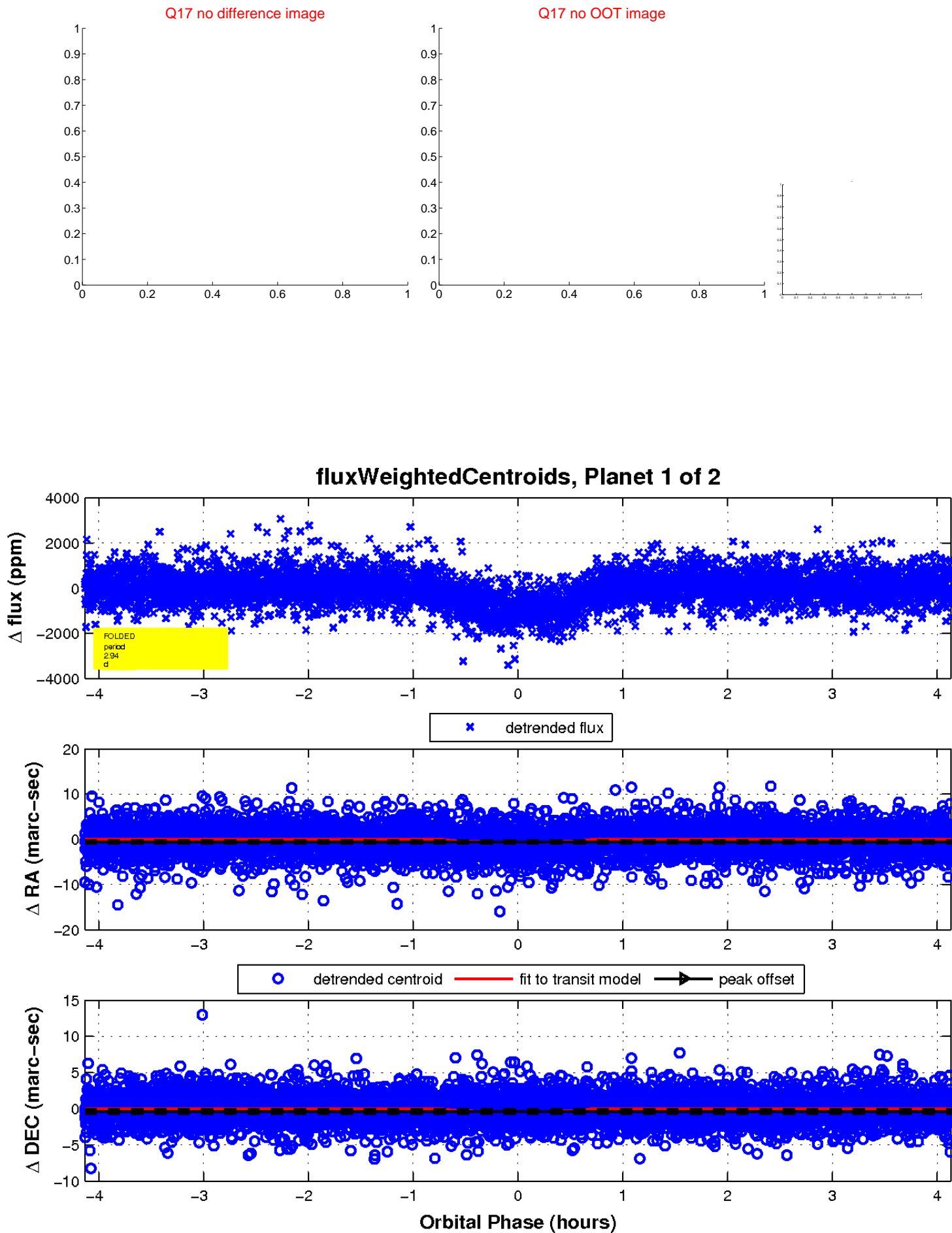
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

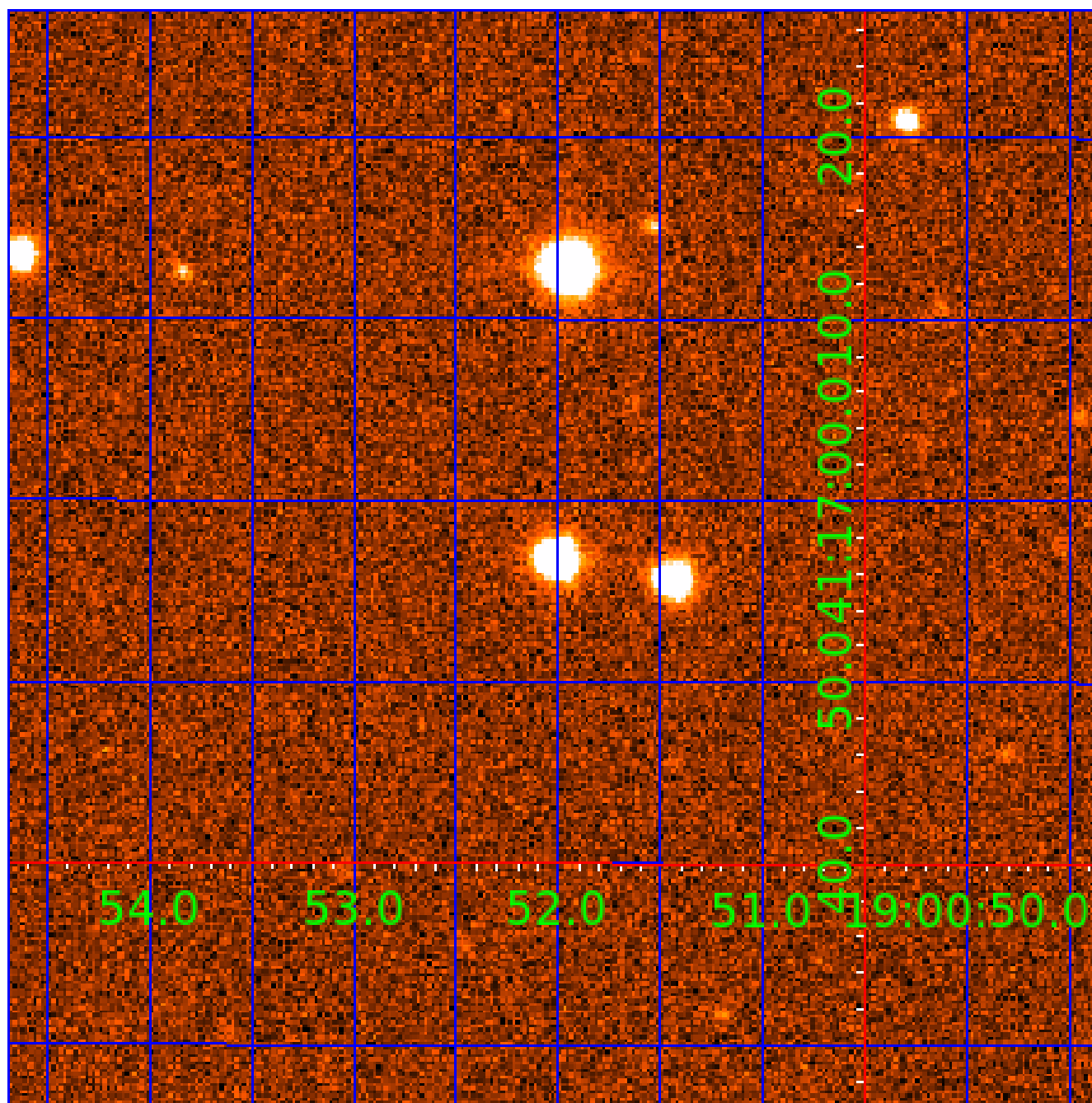


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005942808

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})
005942808-01	OBS	2250.01	2.935355	133.249476	1010.8	1.378	31.7	37.1	0.82	4922	2.54	258.73
005942808-02	OBS	2250.02	0.626282	131.904397	416.0	1.119	23.6	29.3	0.82	4922	1.66	2029.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005942808-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
005942808-02	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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

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

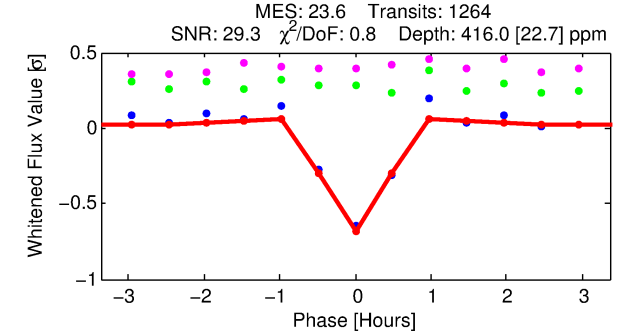
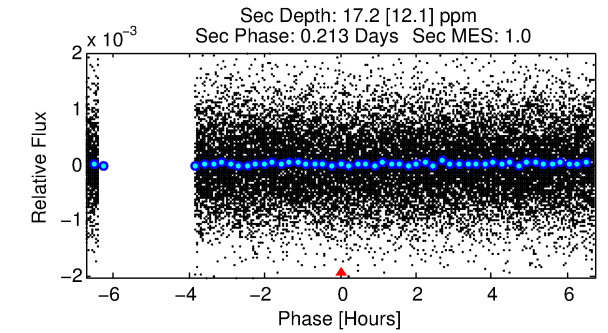
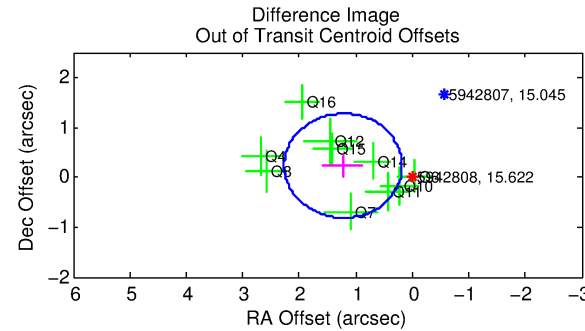
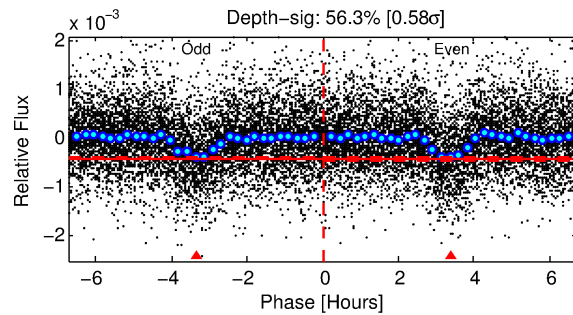
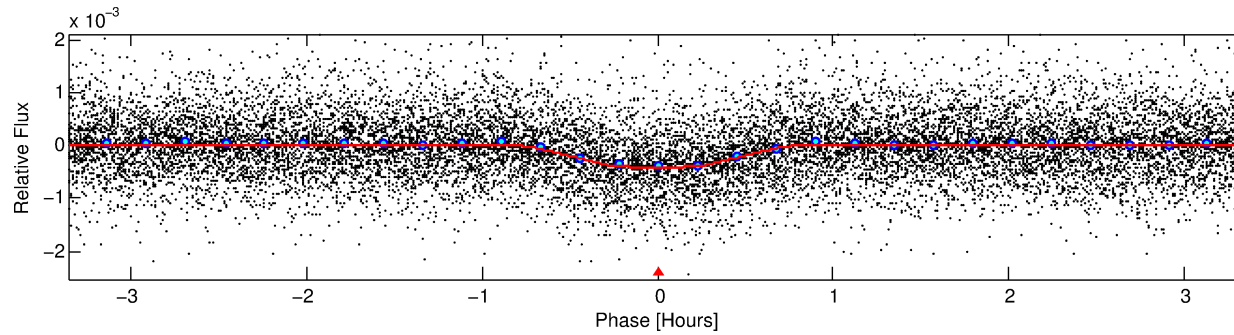
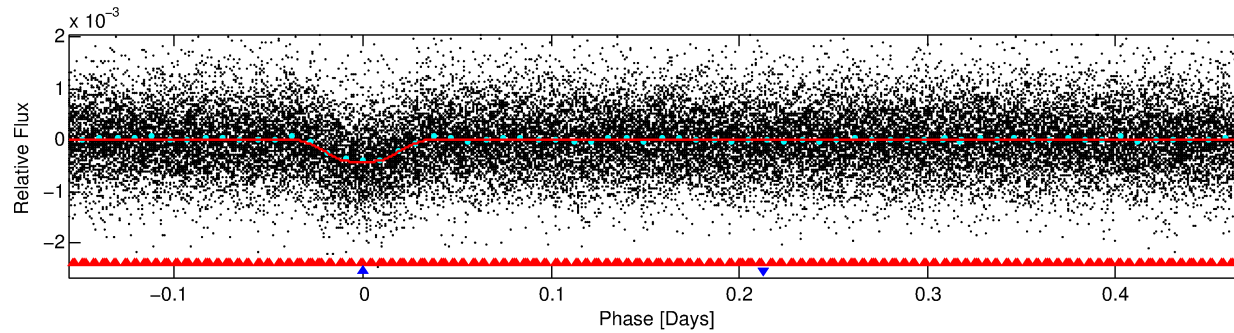
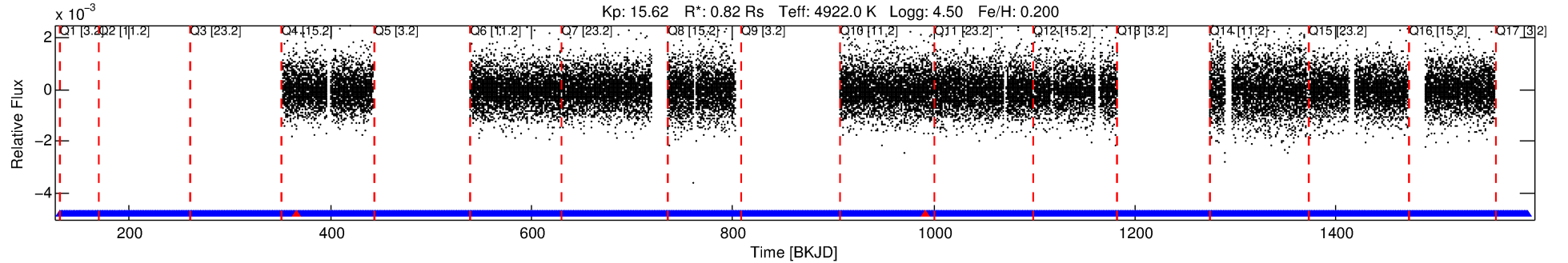
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005942808-02

No Significant Match Found

DV One-Page Summary

KIC: 5942808 Candidate: 2 of 2 Period: 0.626 d
KOI: K02250.02 Corr: 0.979



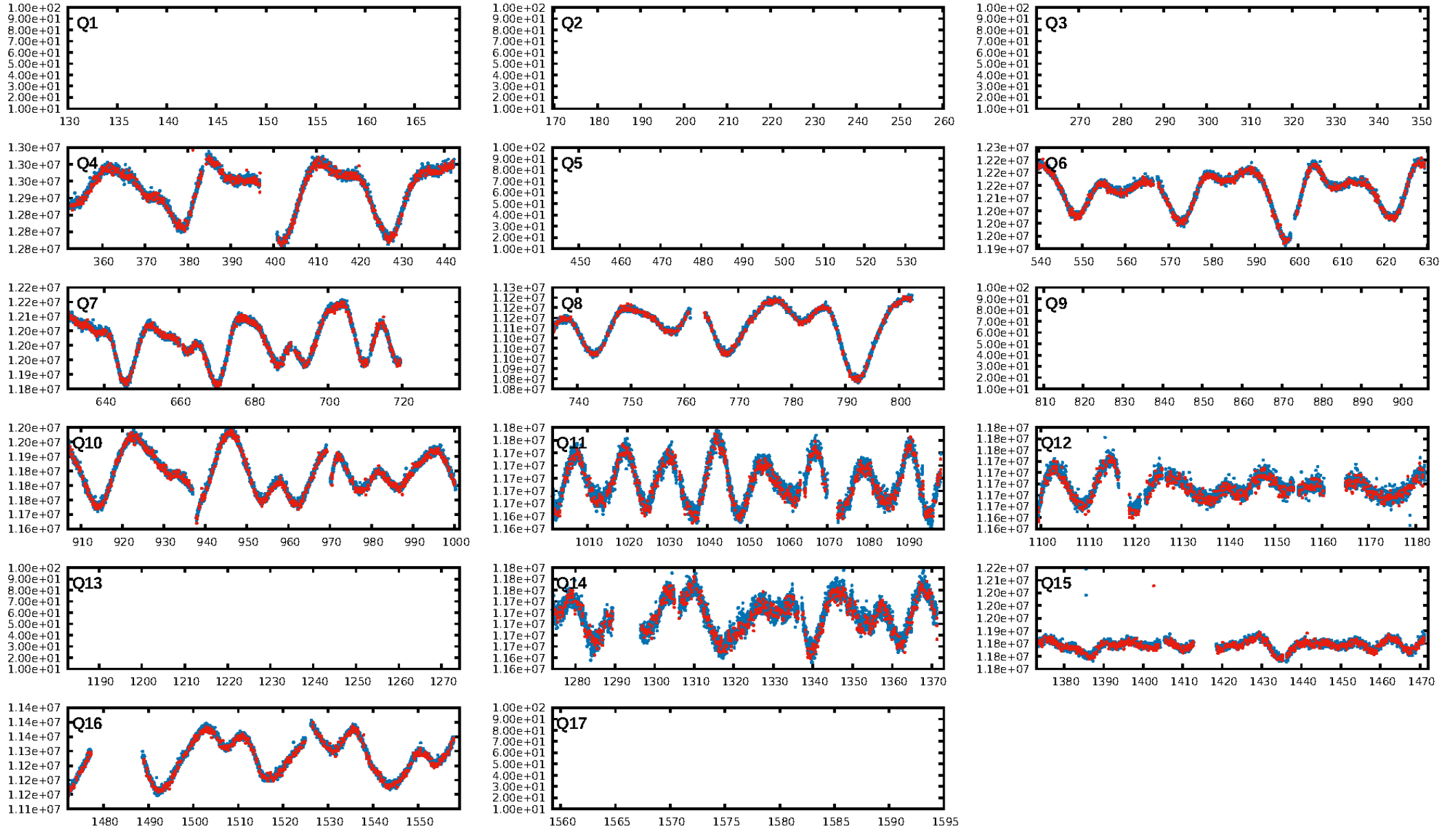
DV Fit Results:

Period = 0.62628 [0.00000] d
Epoch = 131.9044 [0.0006] BKJD
Rp/R* = 0.0184 [0.0094]
a/R* = 4.22 [6.47]
b = 0.29 [5.17]
Seff = 2029.40 [407.05]
Teq = 1711 [86] K
Rp = 1.66 [0.86] Re
a = 0.0132 [0.0012] AU
Ag = 0.61 [0.75] [-0.52 σ]
Teffp = 2335 [725] K [0.85 σ]

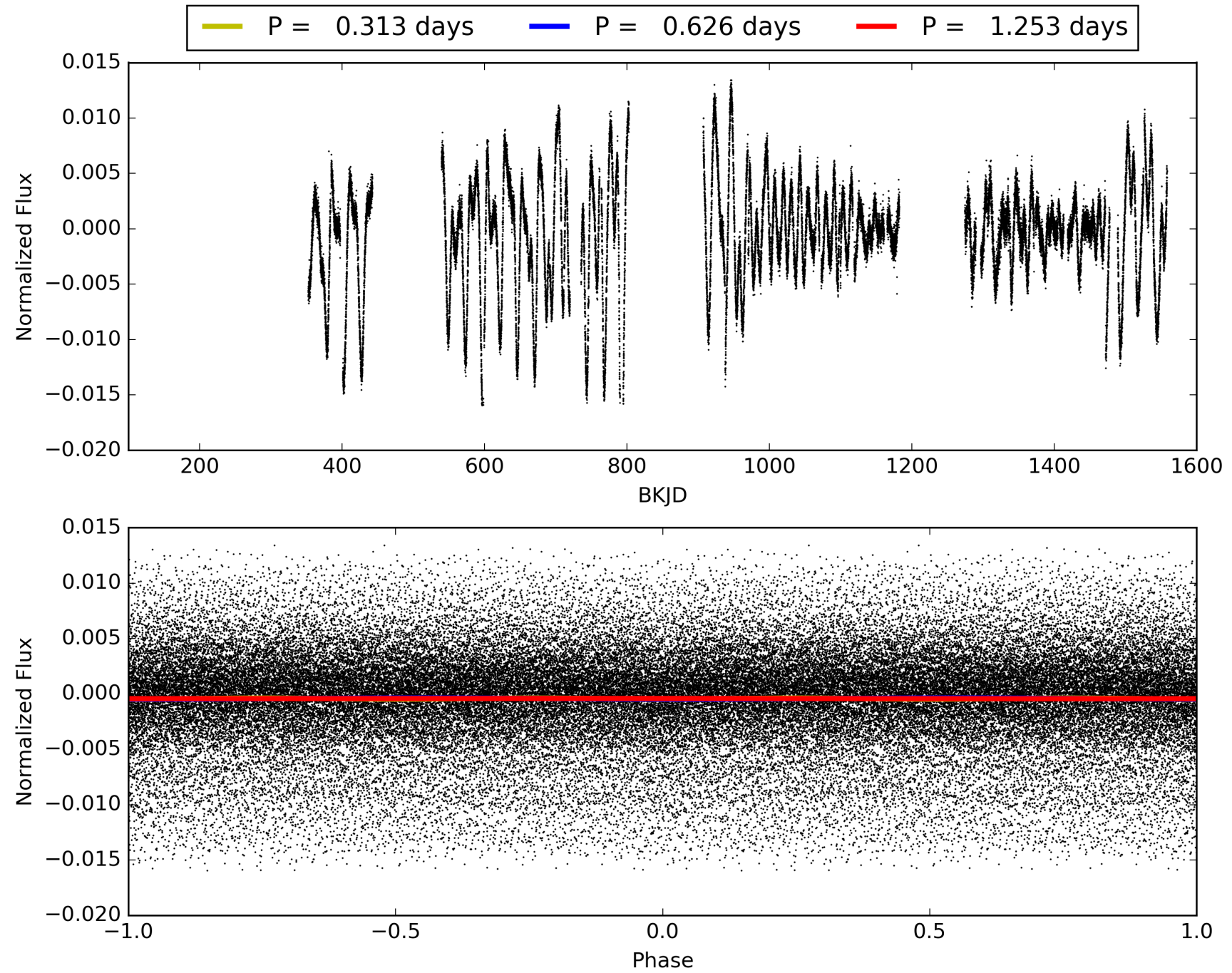
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [31.21 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.18e-112
RollingBand-fgt: 1.00 [1262/1264]
GhostDiagnostic-chr: 1.519
Centroid-sig: 0.0%
Centroid-so: 0.533 arcsec [1.57 σ]
OotOffset-rm: 1.245 arcsec [3.58 σ]
KicOffset-rm: 0.152 arcsec [0.79 σ]
OotOffset-st: 3/3/4/0 [10]
KicOffset-st: 3/3/4/0 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [10/10]

TCE 005942808-02, PDC Light Curves

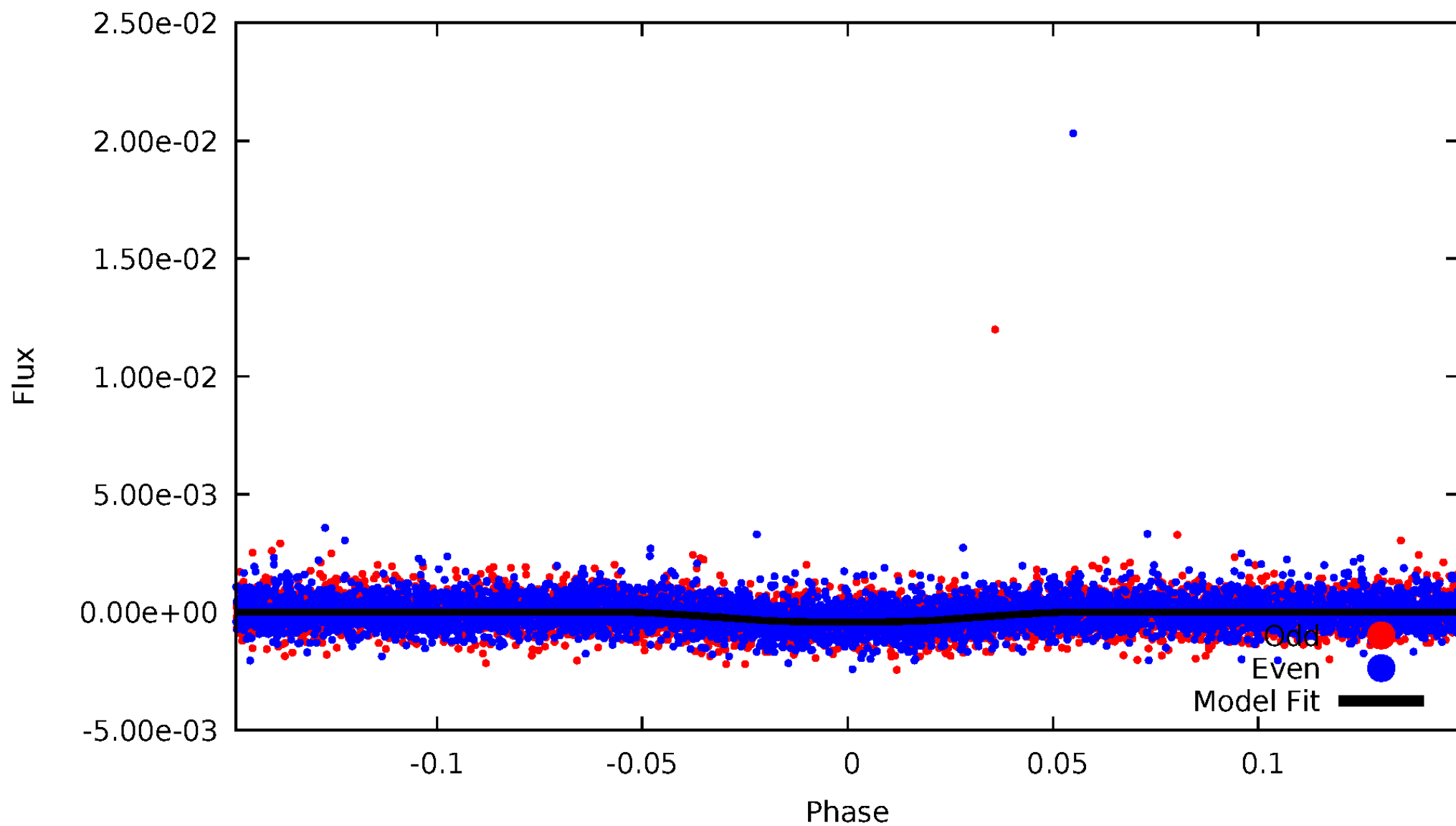


TCE 005942808-02



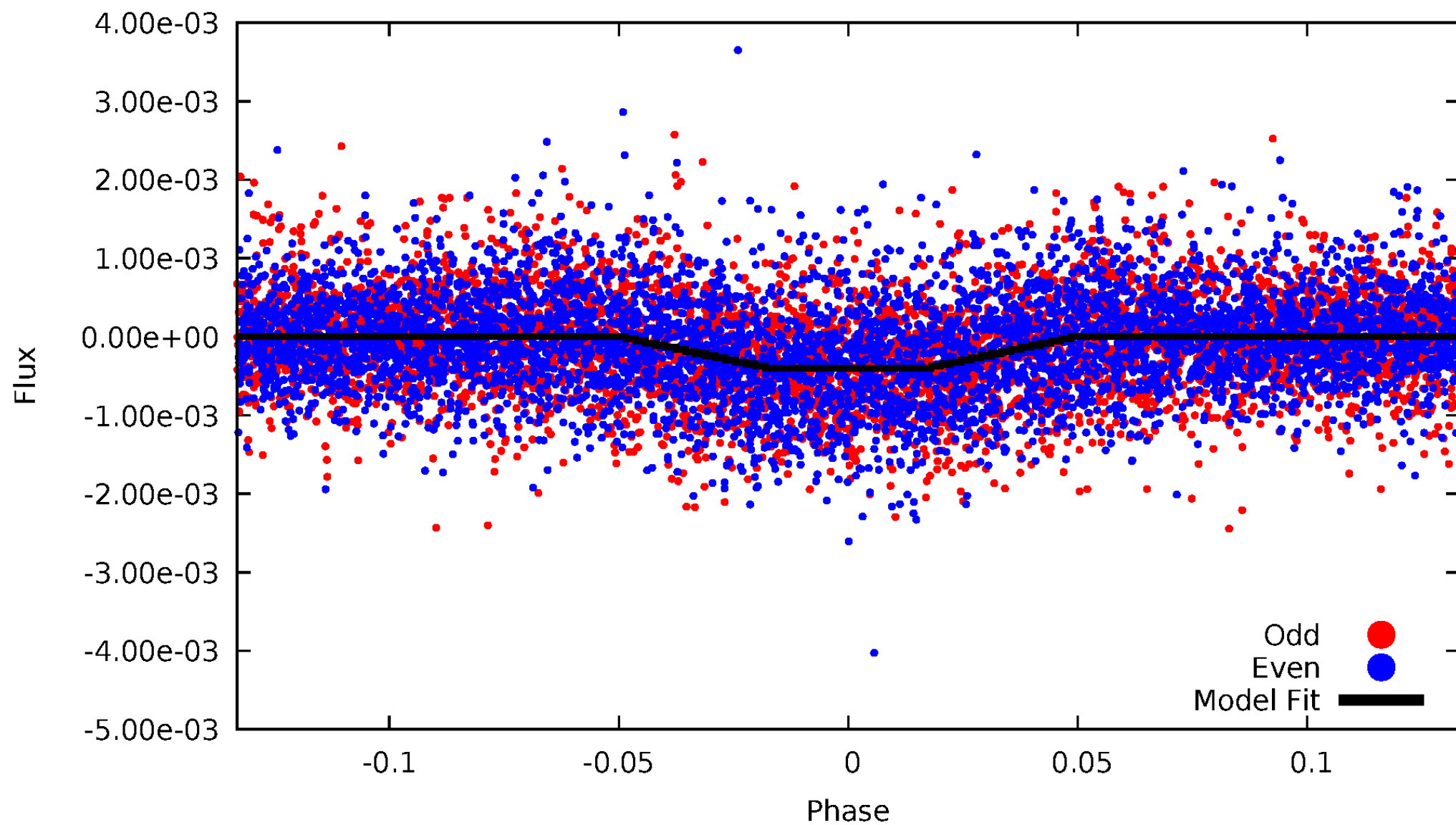
DV Odd/Even

TCE 005942808-02



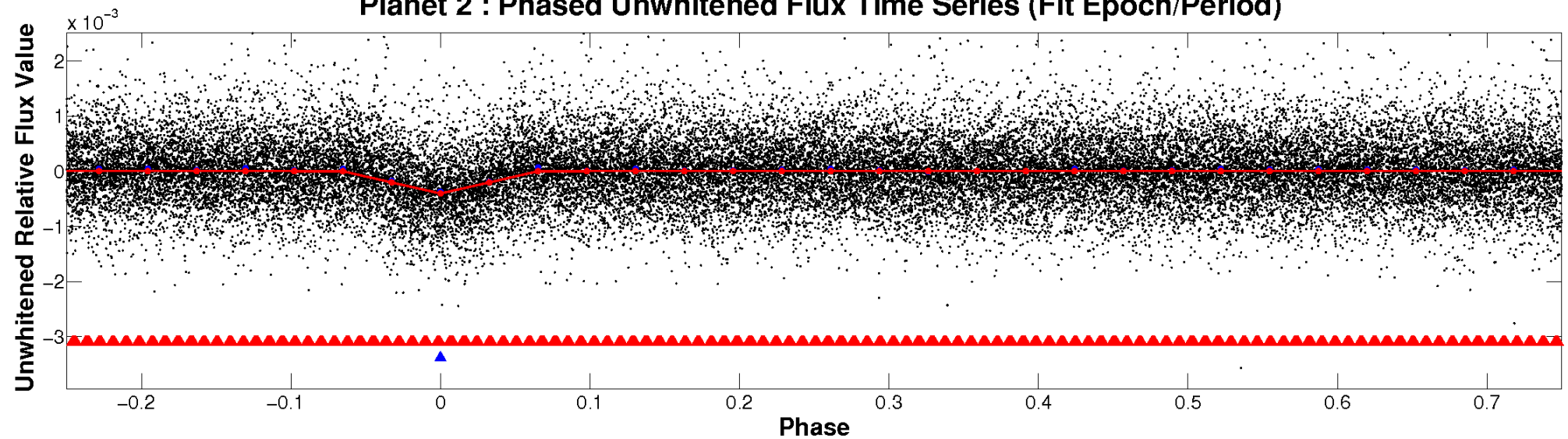
ALT Odd/Even

TCE 005942808-02

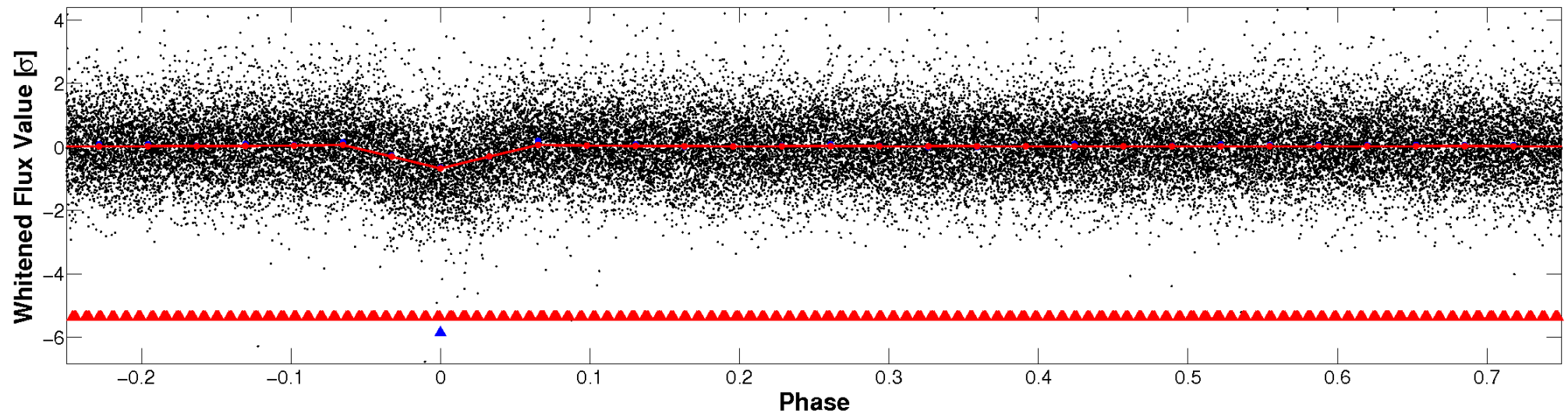


Non-Whitened Vs. Whitened Light Curve

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

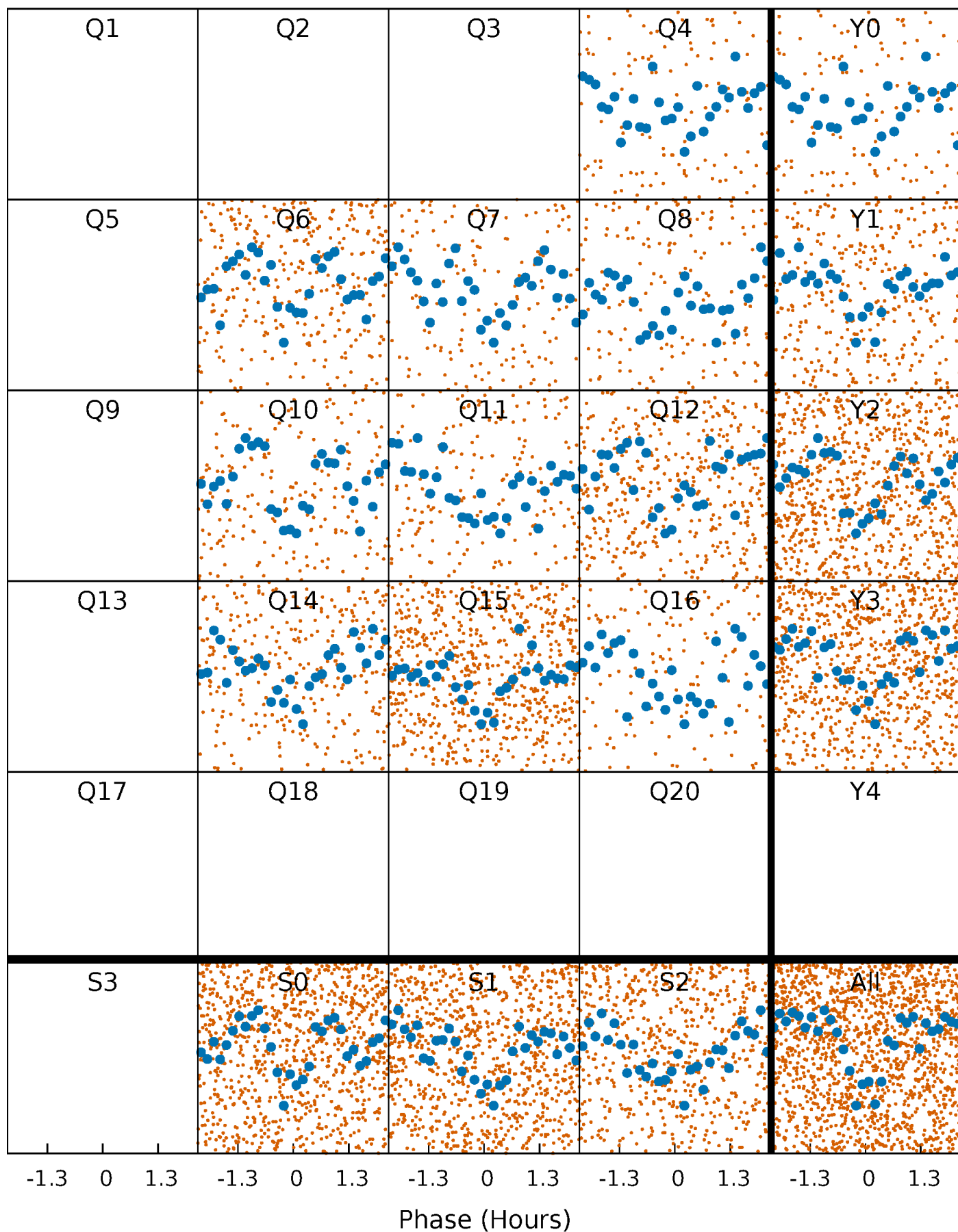


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



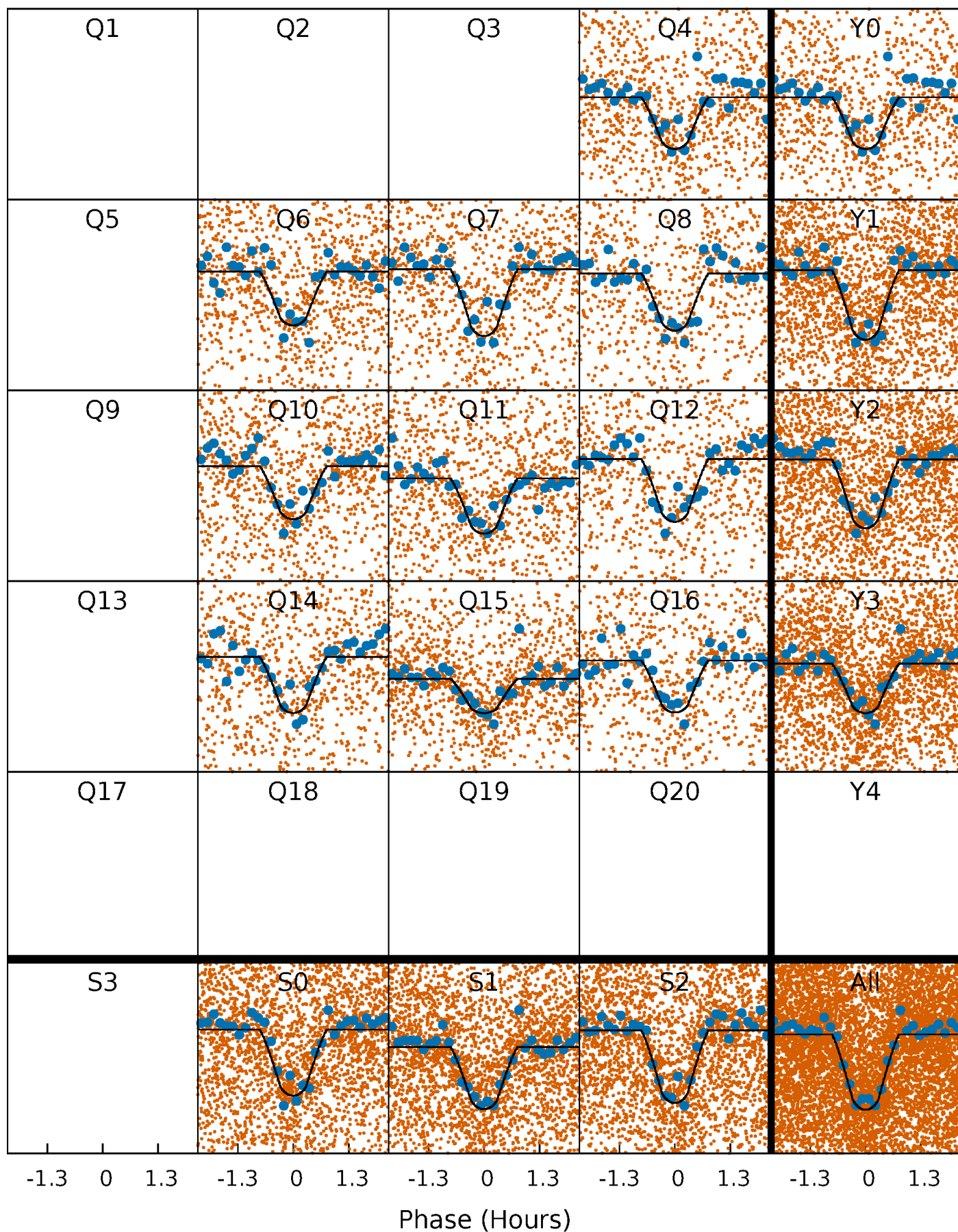
PDC Quarter-Phased Transit Curves

TCE 005942808-02 P= 0.626282 Days $T_0=131.904397$ (BKJD)



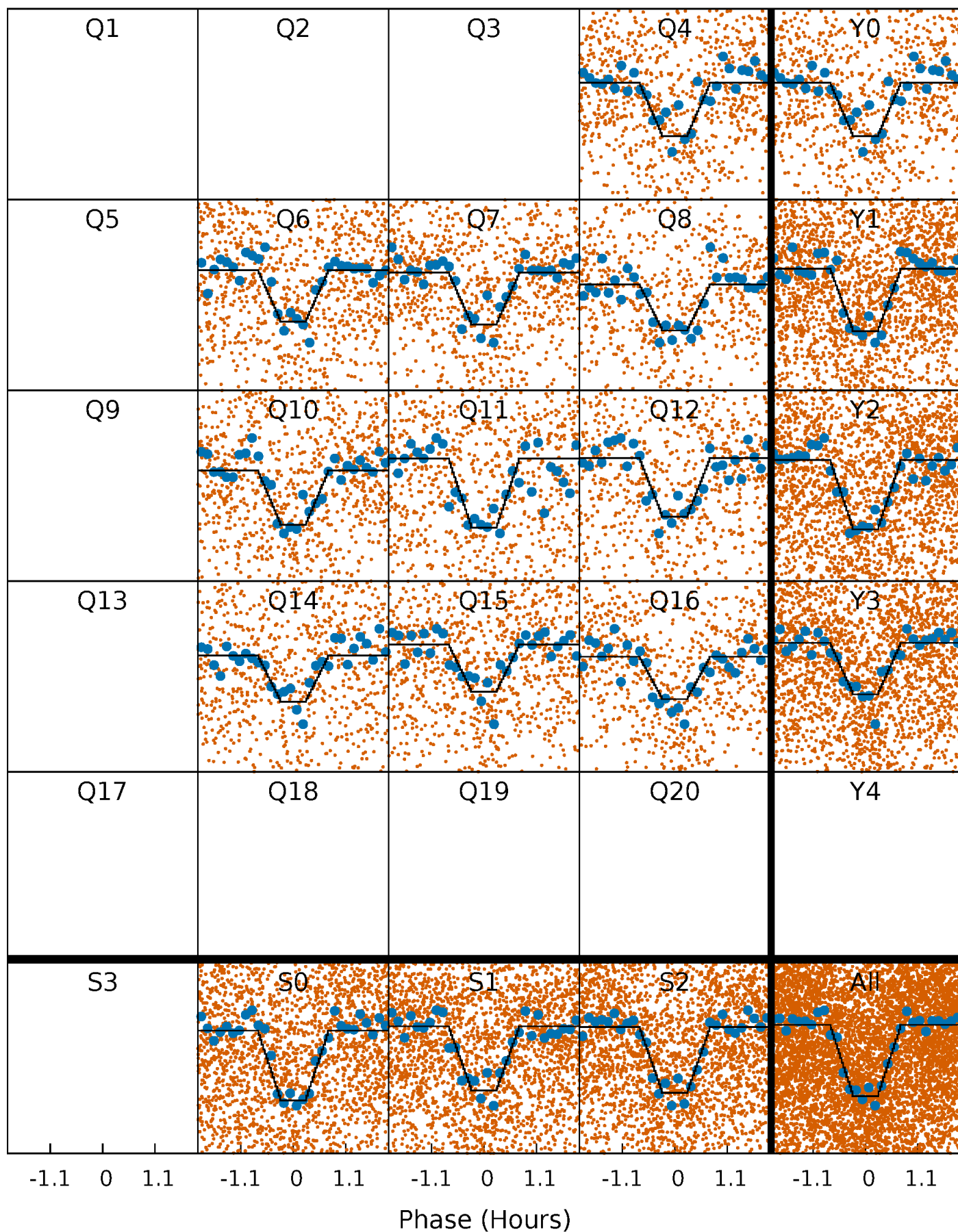
DV Quarter-Phased Transit Curves

TCE 005942808-02 $P = 0.626282$ Days $T_0 = 131.904397$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

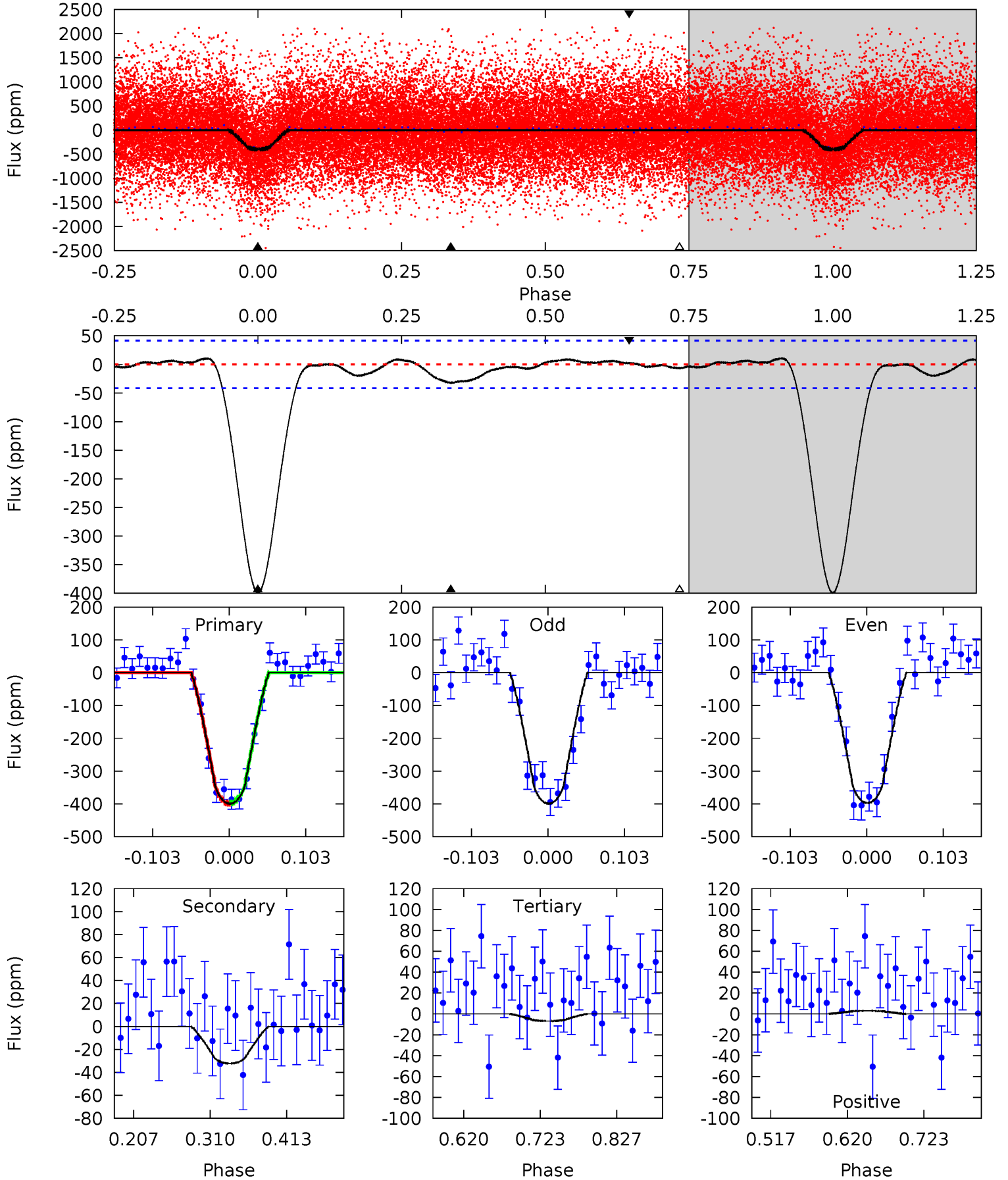
TCE 005942808-02 P= 0.626283 Days $T_0=131.904227$ (BKJD)



DV Model-Shift Uniqueness Test

005942808-02, P = 0.626282 Days, E = 131.904397 Days

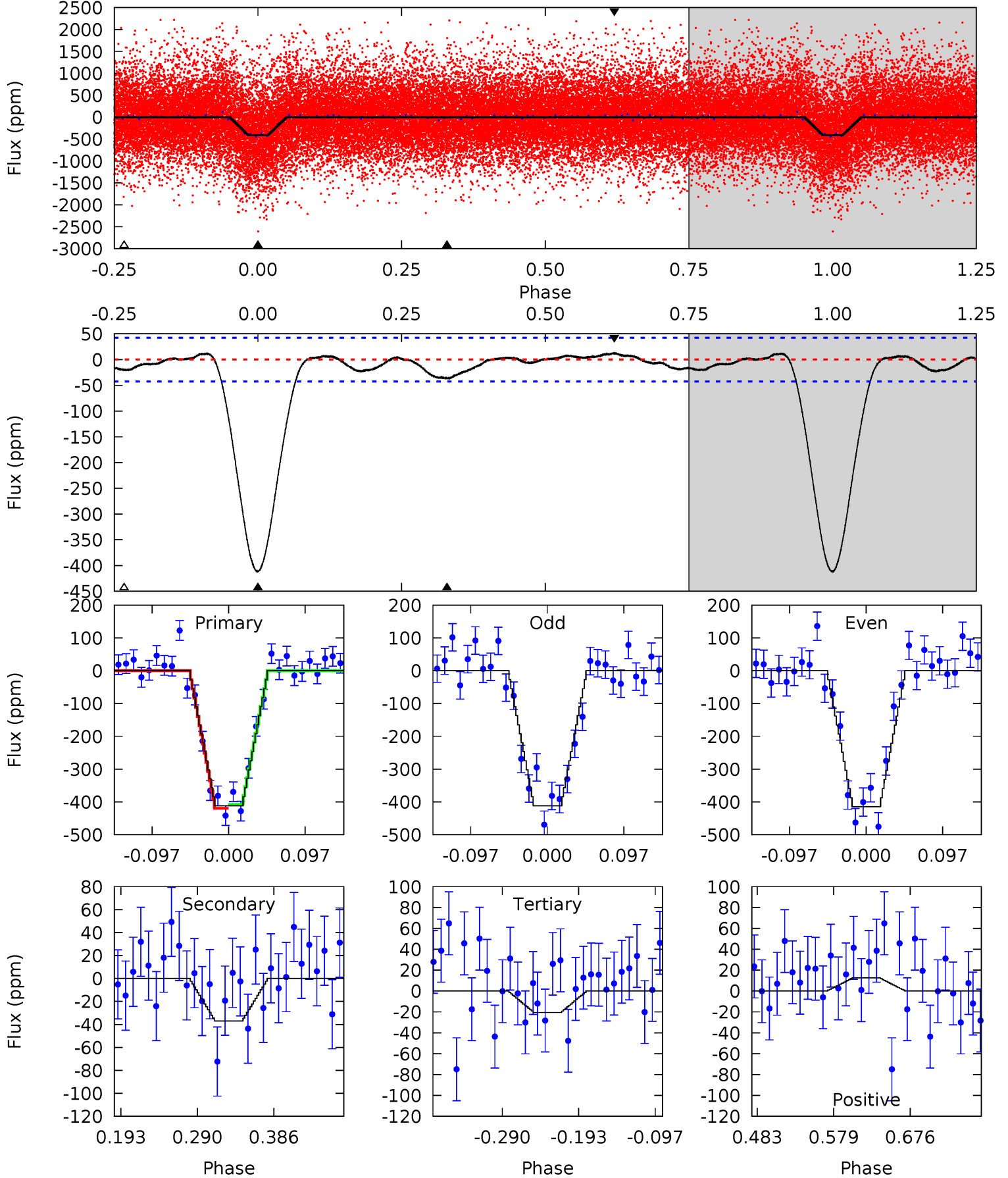
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.9	3.55	0.76	0.32	4.56	1.63	0.72	43.2	43.6	2.80	3.23	0.09	1.04	0.03	0.12



Alt Model-Shift Uniqueness Test

005942808-02, P = 0.626283 Days, E = 131.904227 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.4	3.98	2.22	1.36	4.57	1.66	1.03	42.2	43.0	1.76	2.63	0.16	1.03	0.03	0.66



Stellar Parameters For KIC 005942808

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4922^{+169}_{-169}	$4.505^{+0.084}_{-0.056}$	$0.200^{+0.200}_{-0.300}$	$0.823^{+0.062}_{-0.085}$	$0.790^{+0.073}_{-0.054}$	$1.996^{+0.701}_{-0.362}$
	+3%/-3%	+2%/-1%	+100%/-150%	+8%/-10%	+9%/-7%	+35%/-18%
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 005942808-02 / KOI 2250.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-32 ± 9	$1.65^{+0.79}_{-0.81}$	2377^{+110}_{-103}	3094^{+890}_{-530}	$1.140^{+3.086}_{-0.627}$
Alt.	-37 ± 9	$1.80^{+0.80}_{-0.72}$	2379^{+103}_{-95}	3062^{+754}_{-515}	$1.077^{+2.182}_{-0.574}$

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 $A_{obs} \gg 1.0$

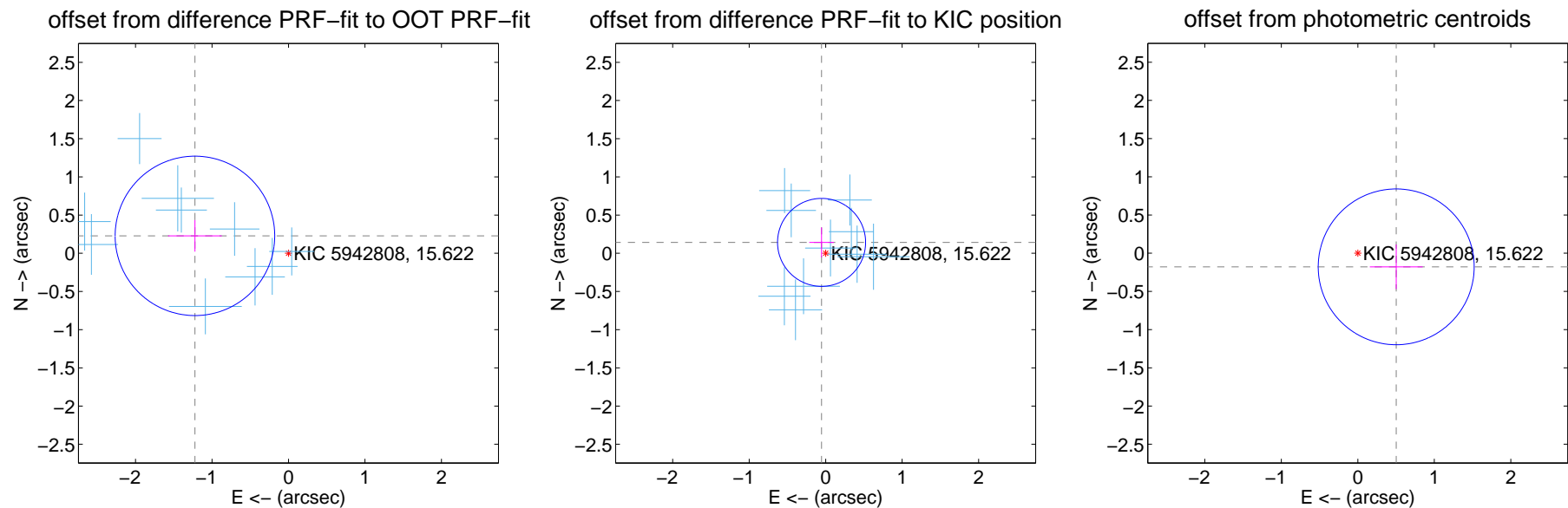
DV Centroid Data

Supplemental centroid analysis for 005942808-02. Kepler magnitude: 15.62. Transit SNR 29.34

There are 10 quarters with good PRF difference image offsets

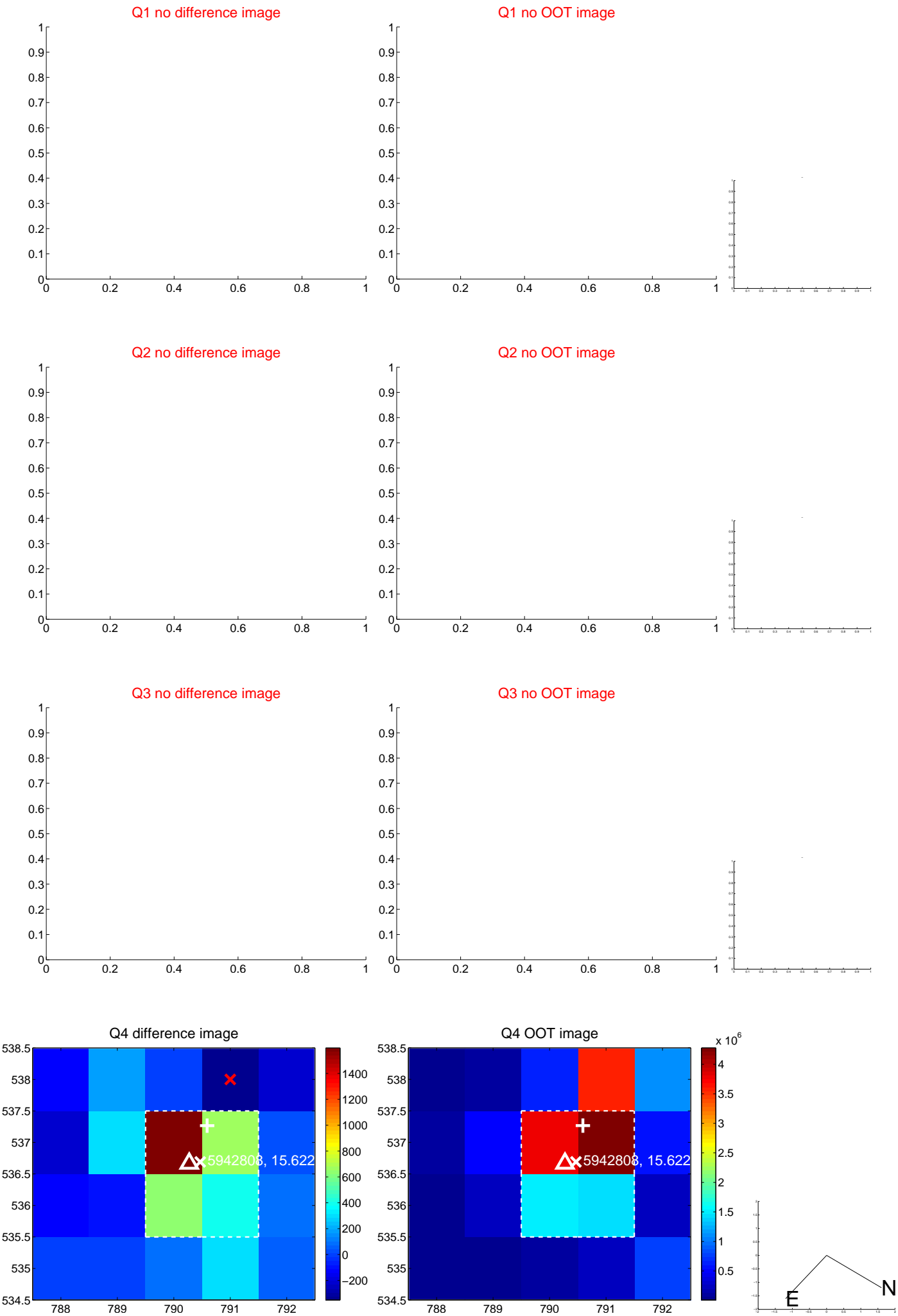
The OOT PRF centroid is offset from the target star catalog position by about 2.40 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.245 ± 0.348	3.58	1.224 ± 0.352	0.228 ± 0.207
PRF-fit source offset from KIC position	0.152 ± 0.192	0.79	0.054 ± 0.161	0.143 ± 0.196
photometric centroid source offset	0.53 ± 0.34	1.57	-0.50 ± 0.35	-0.18 ± 0.29

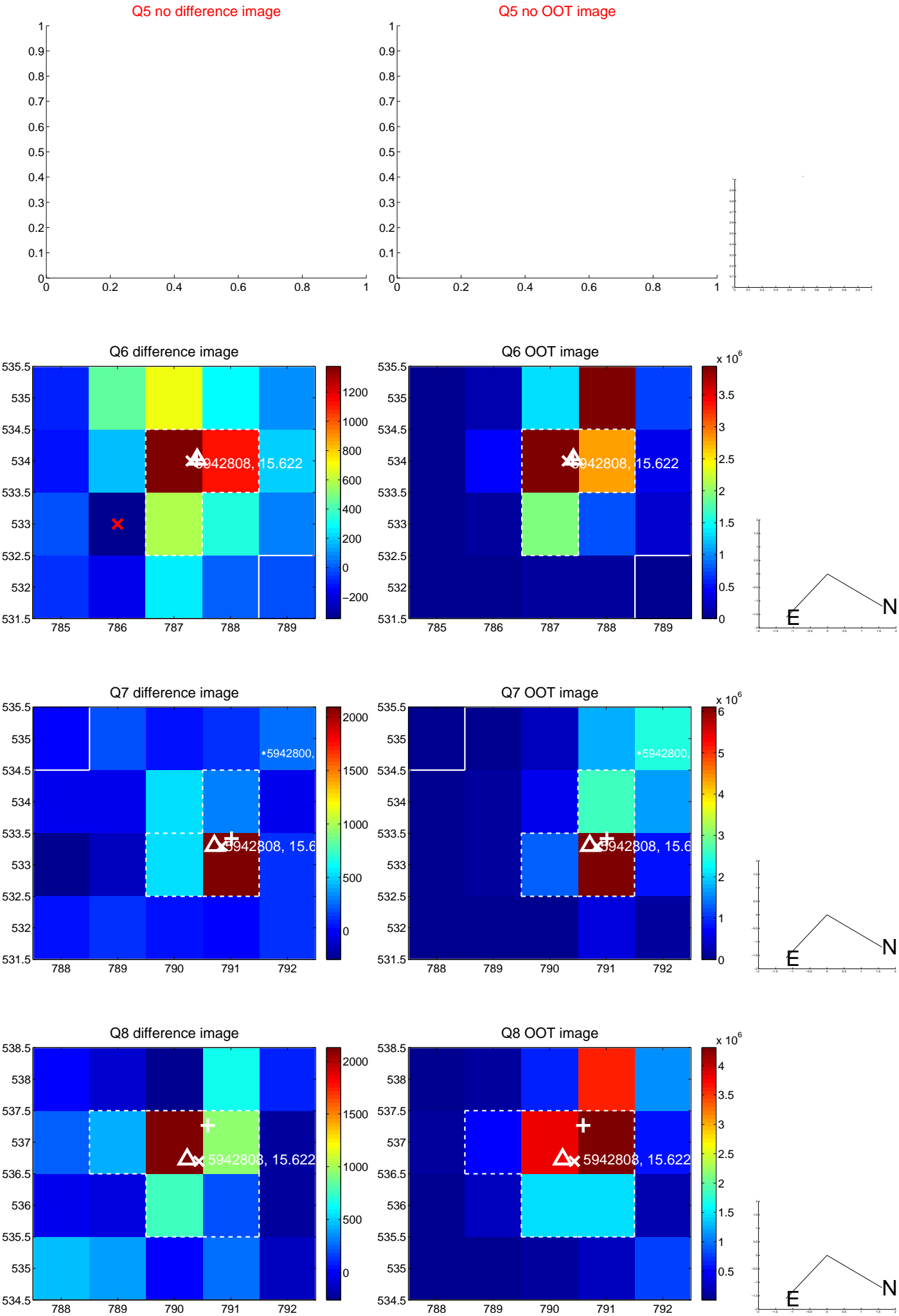


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

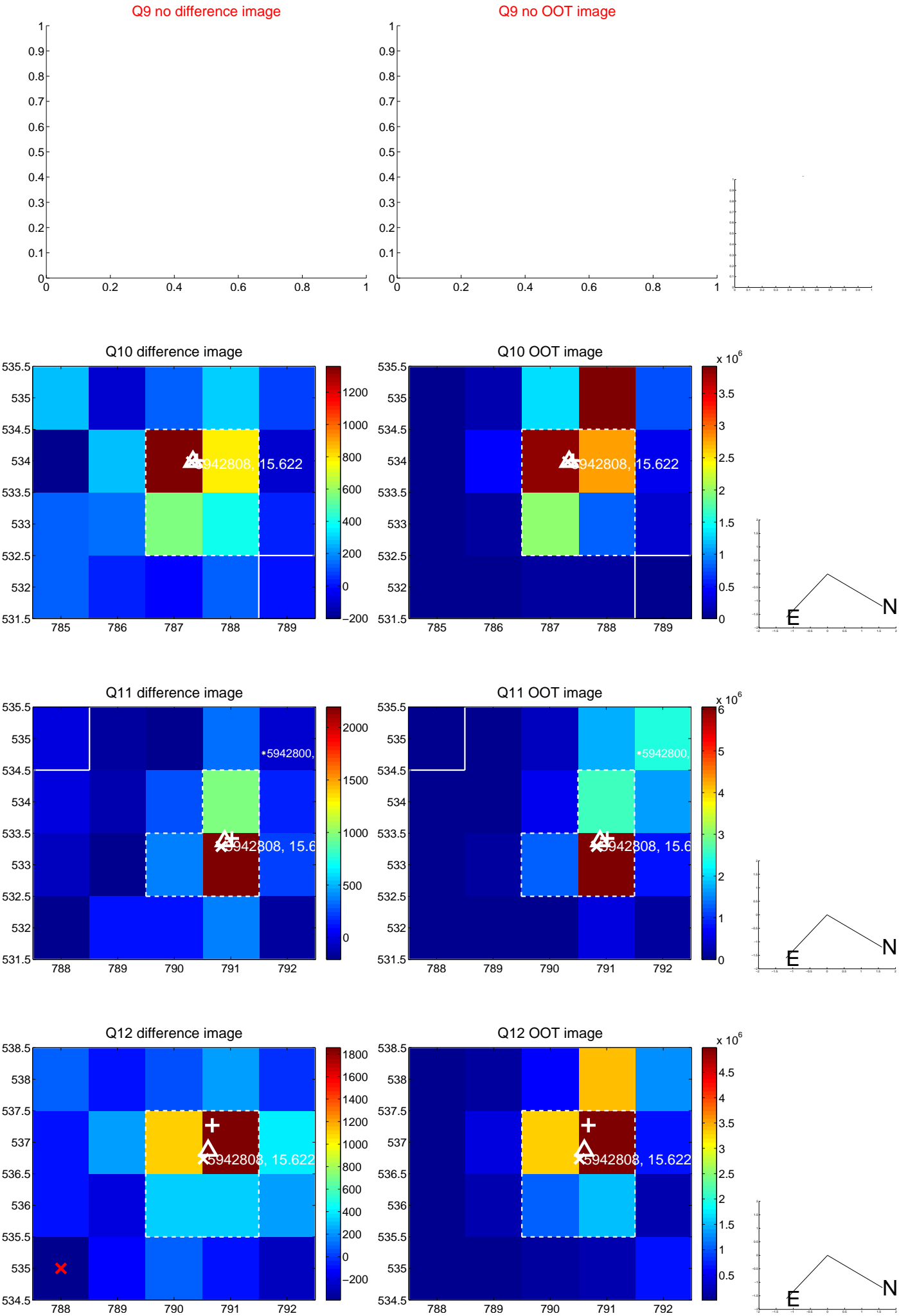
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



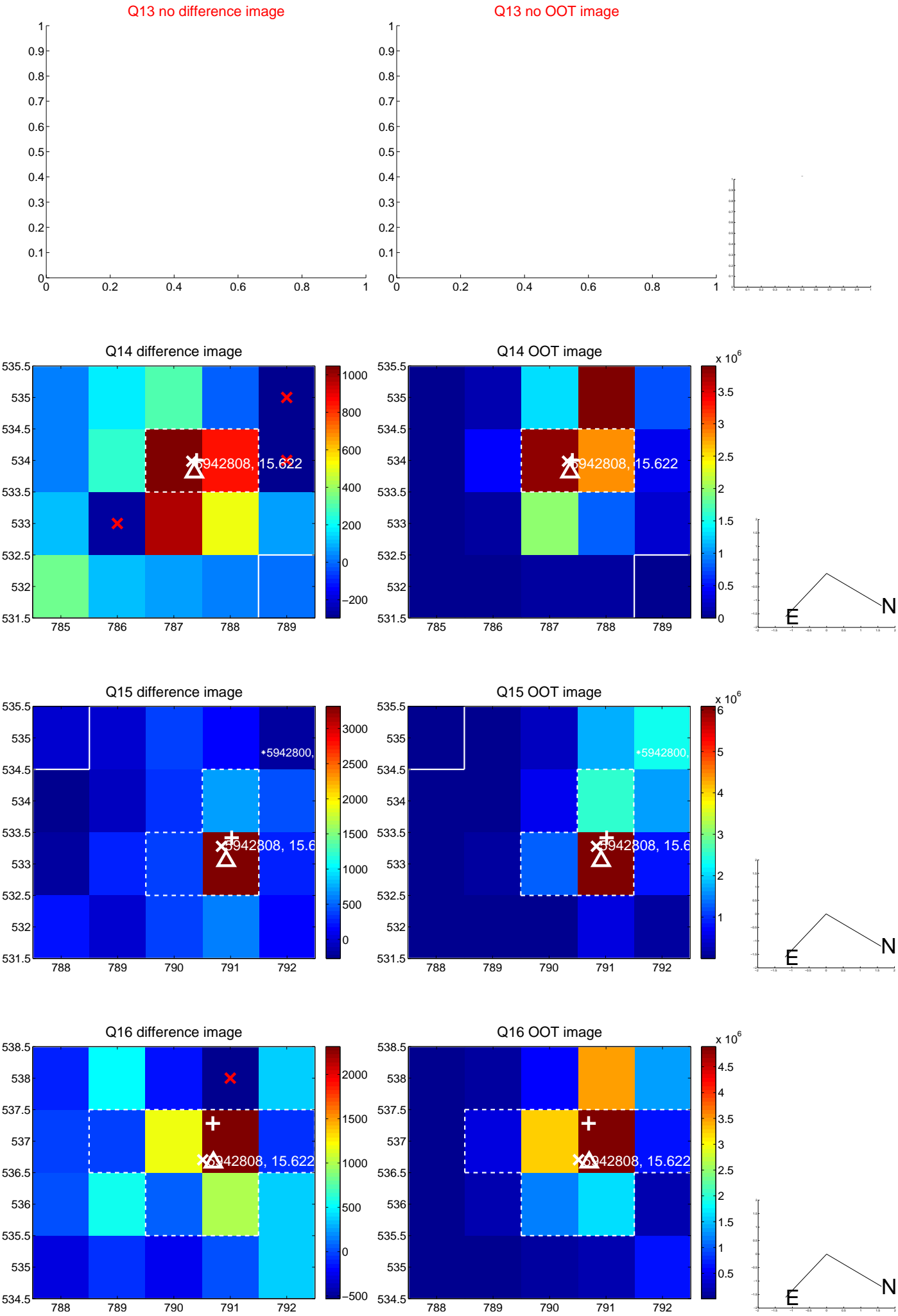
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



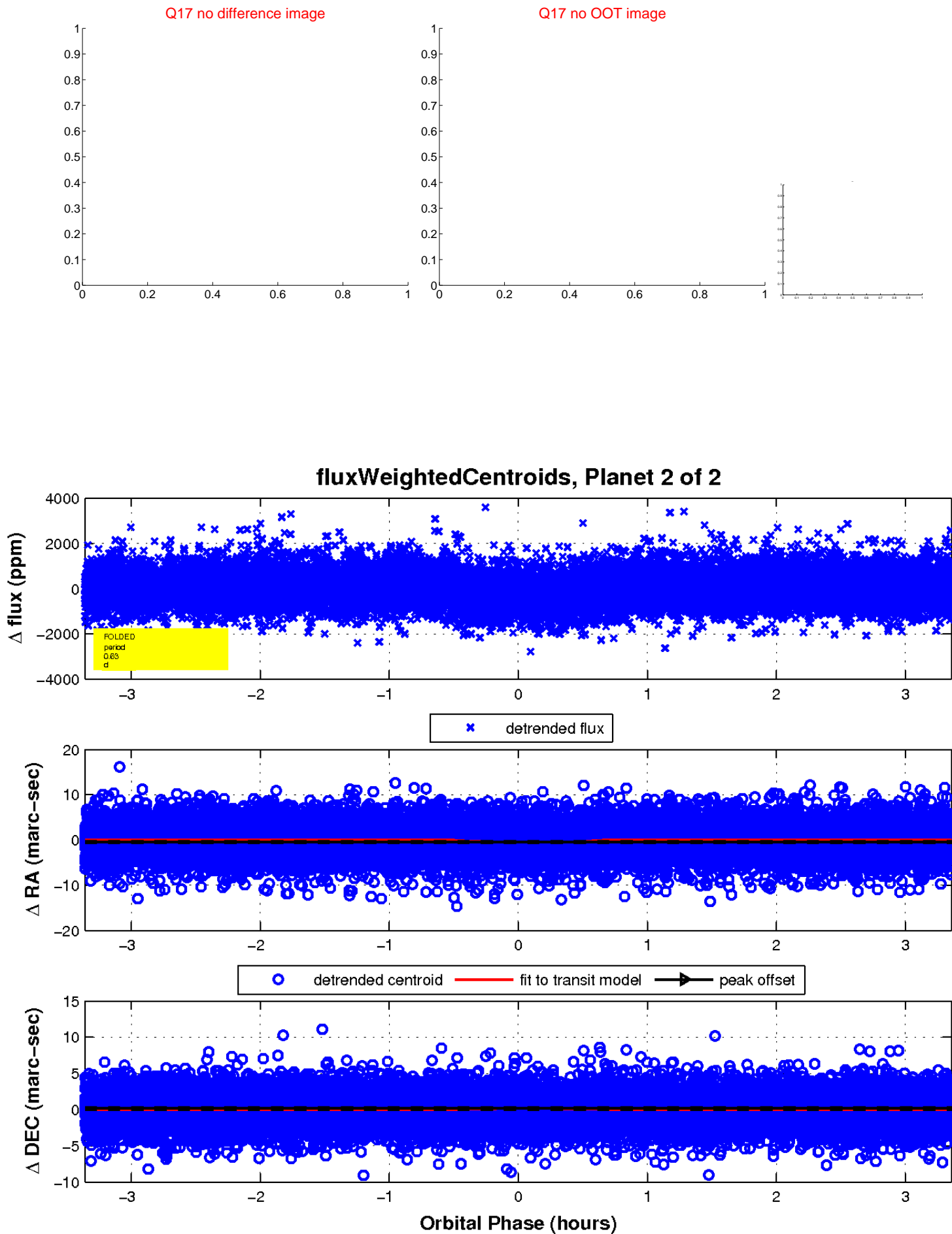
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

