

KIC 002693097

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})
002693097-01	OBS	No	1.413483	132.169893	71.8	6.339	9.5	8.8	1.63	7020	1.42	7222.54
002693097-02	OBS	No	4.240672	132.815492	155.2	9.039	14.4	12.4	1.63	7020	2.37	1669.16
002693097-03	OBS	No	2.826944	132.842581	330.9	9.000	12.6	-1.0	1.63	7020	3.00	2866.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002693097-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
002693097-02	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—HALO_GHOST
002693097-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_NOFITS

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

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

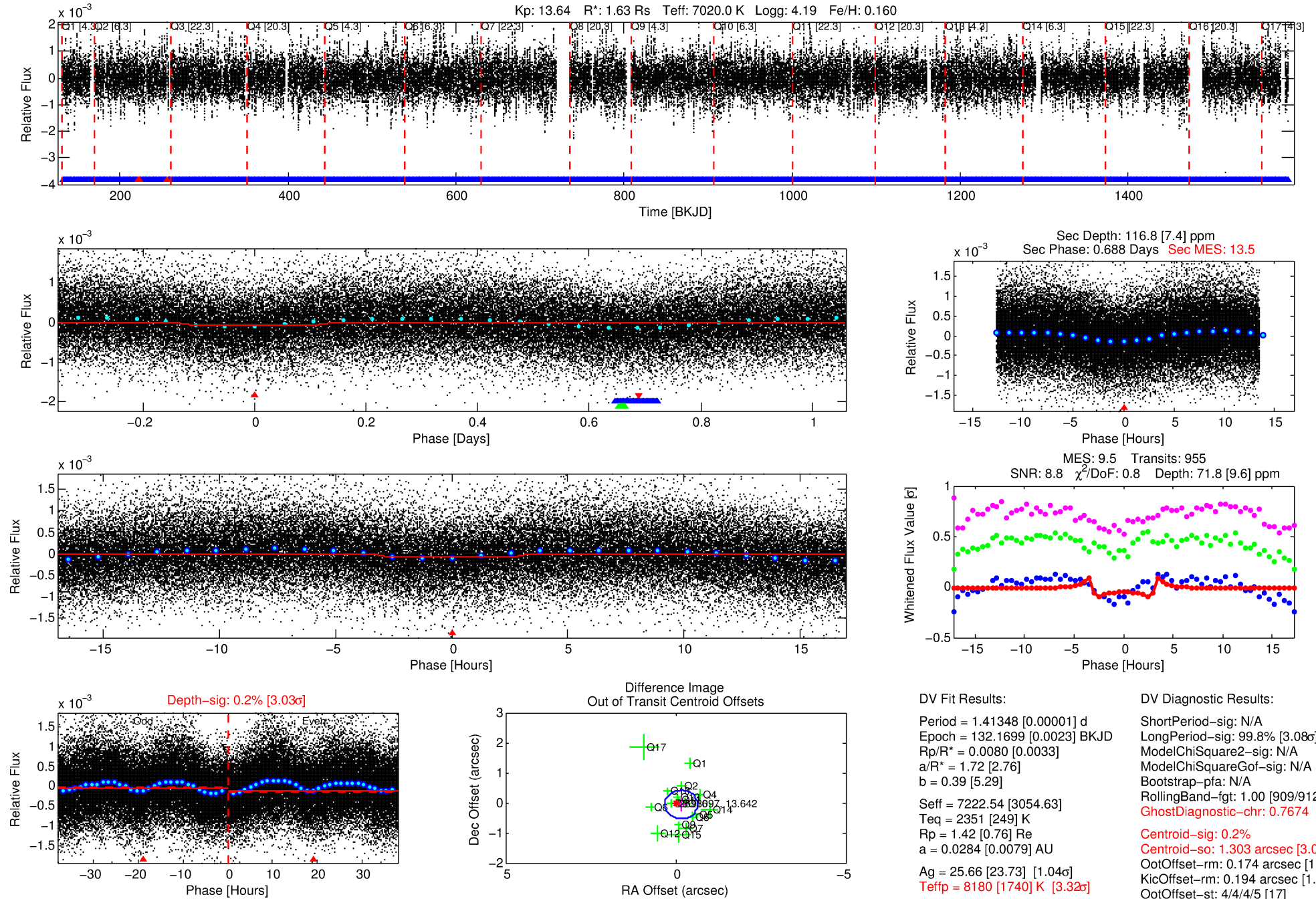
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002693097-01

No Significant Match Found

DV One-Page Summary

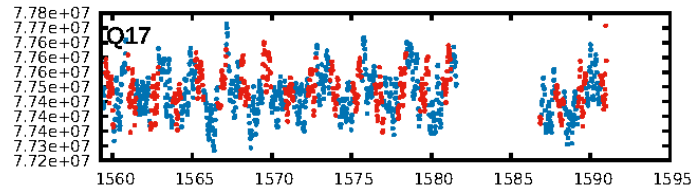
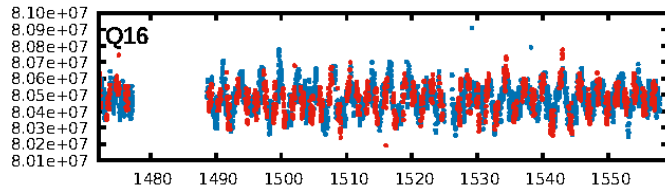
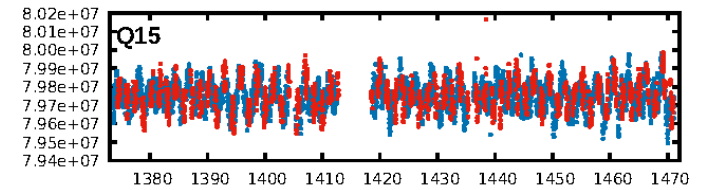
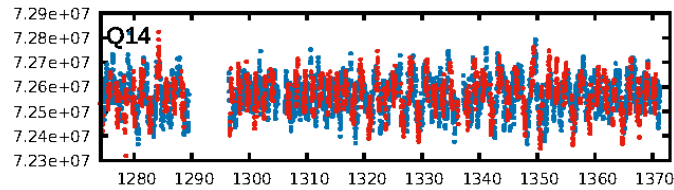
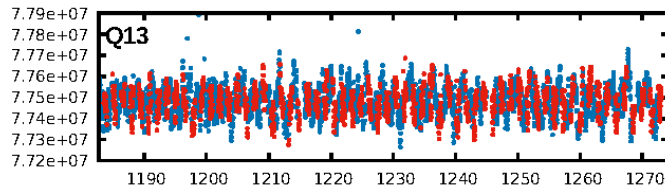
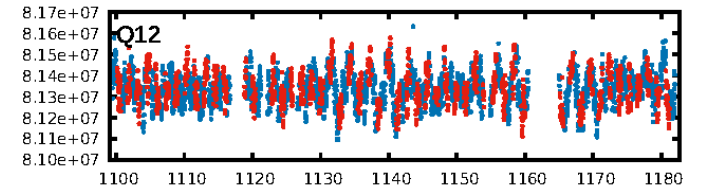
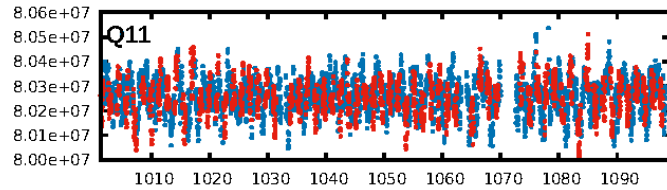
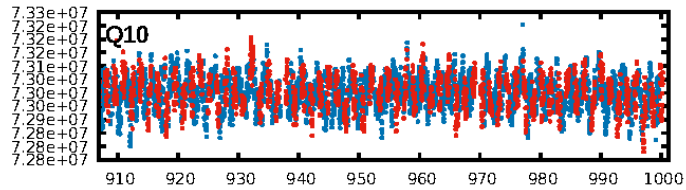
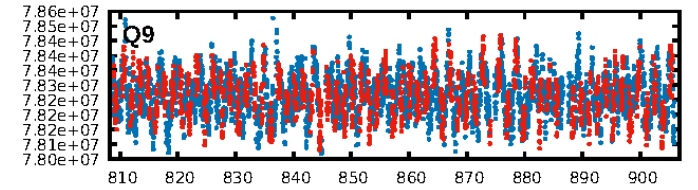
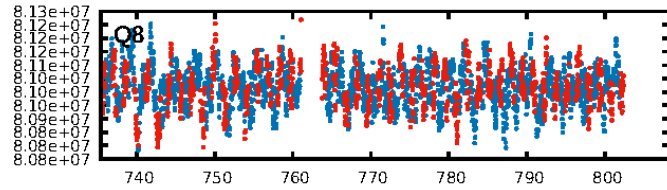
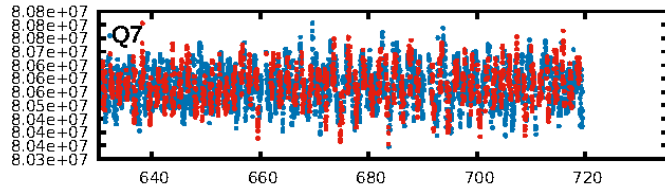
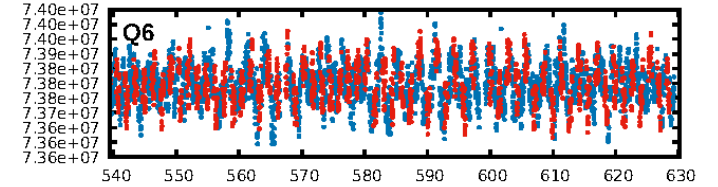
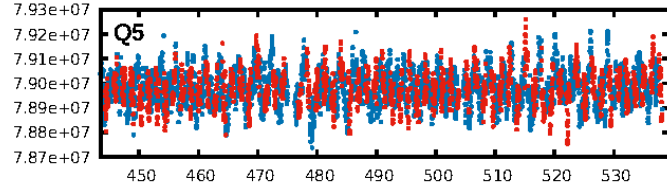
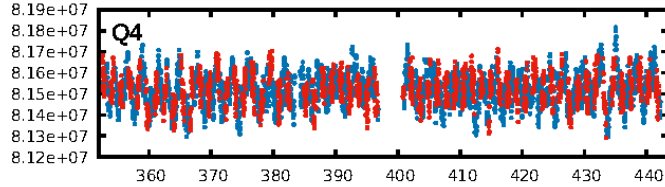
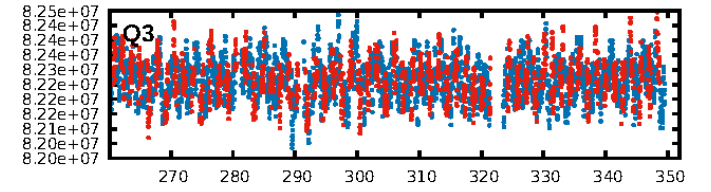
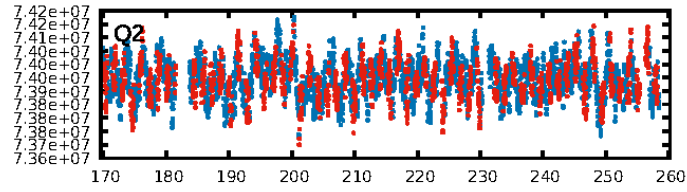
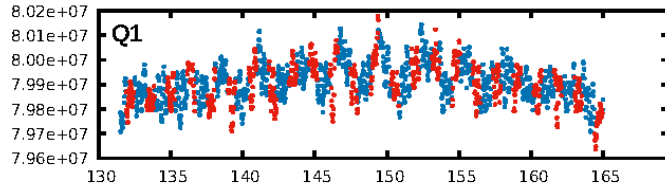
KIC: 2693097 Candidate: 1 of 3 Period: 1.413 d



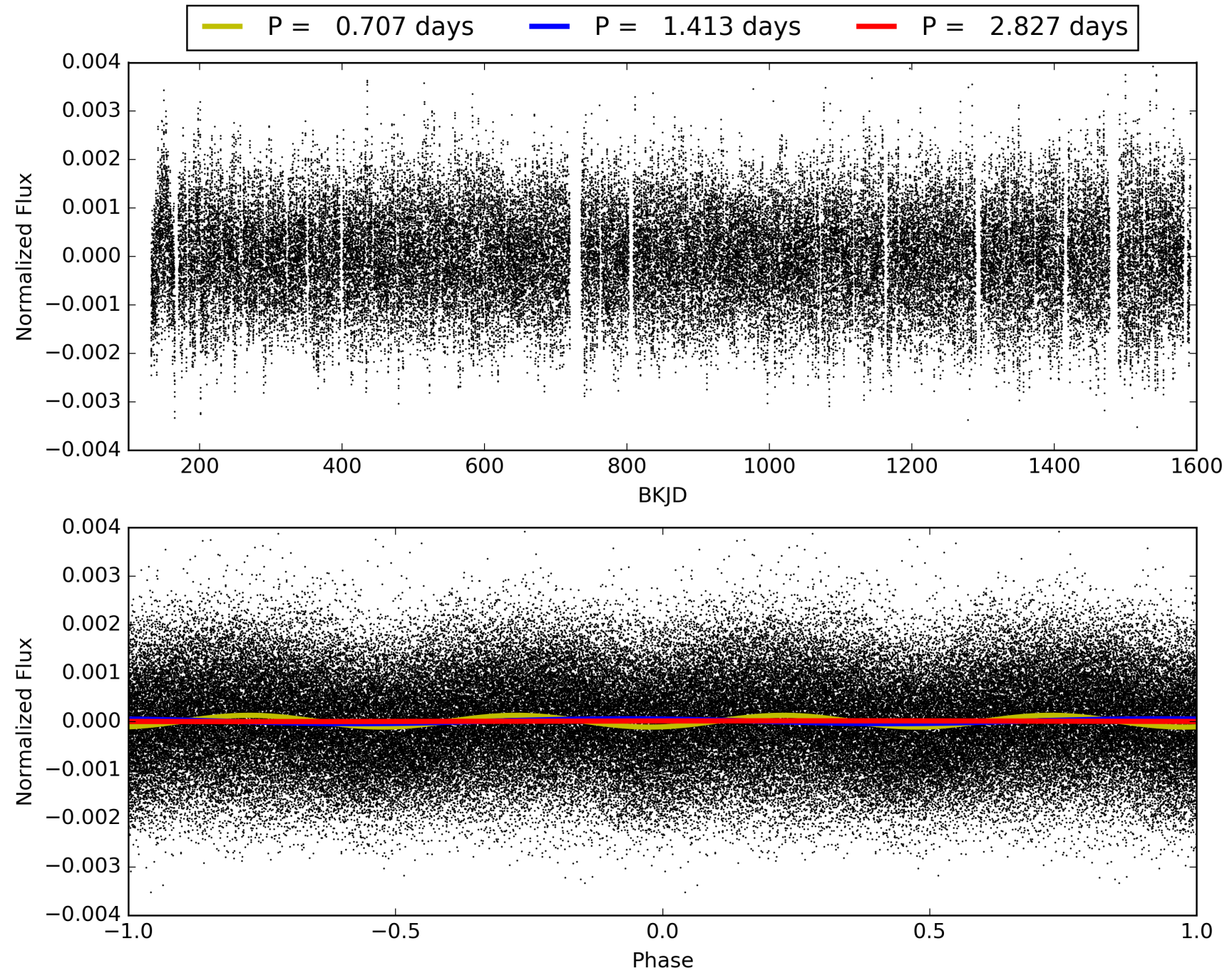
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 002693097-01, PDC Light Curves

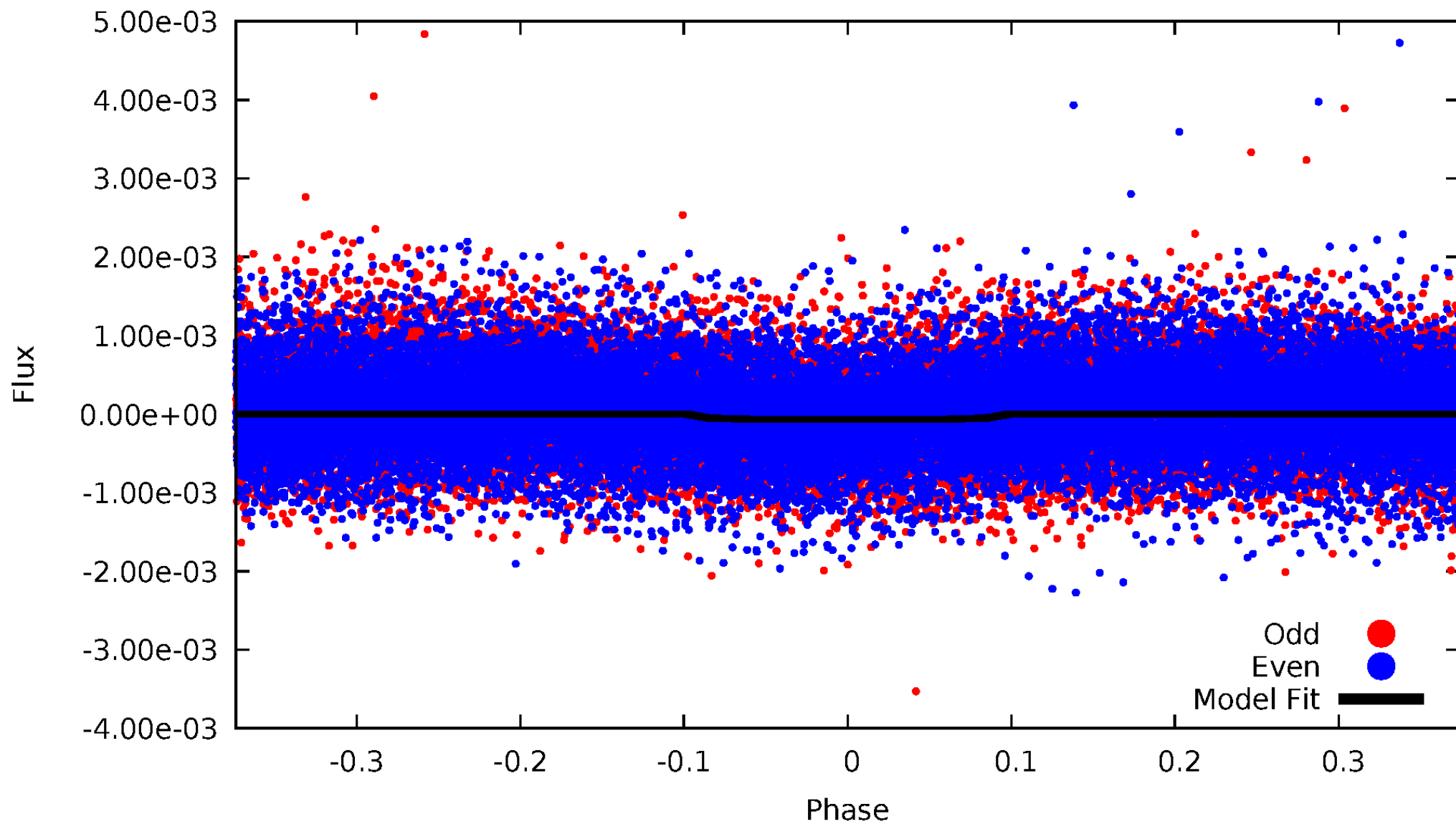


TCE 002693097-01



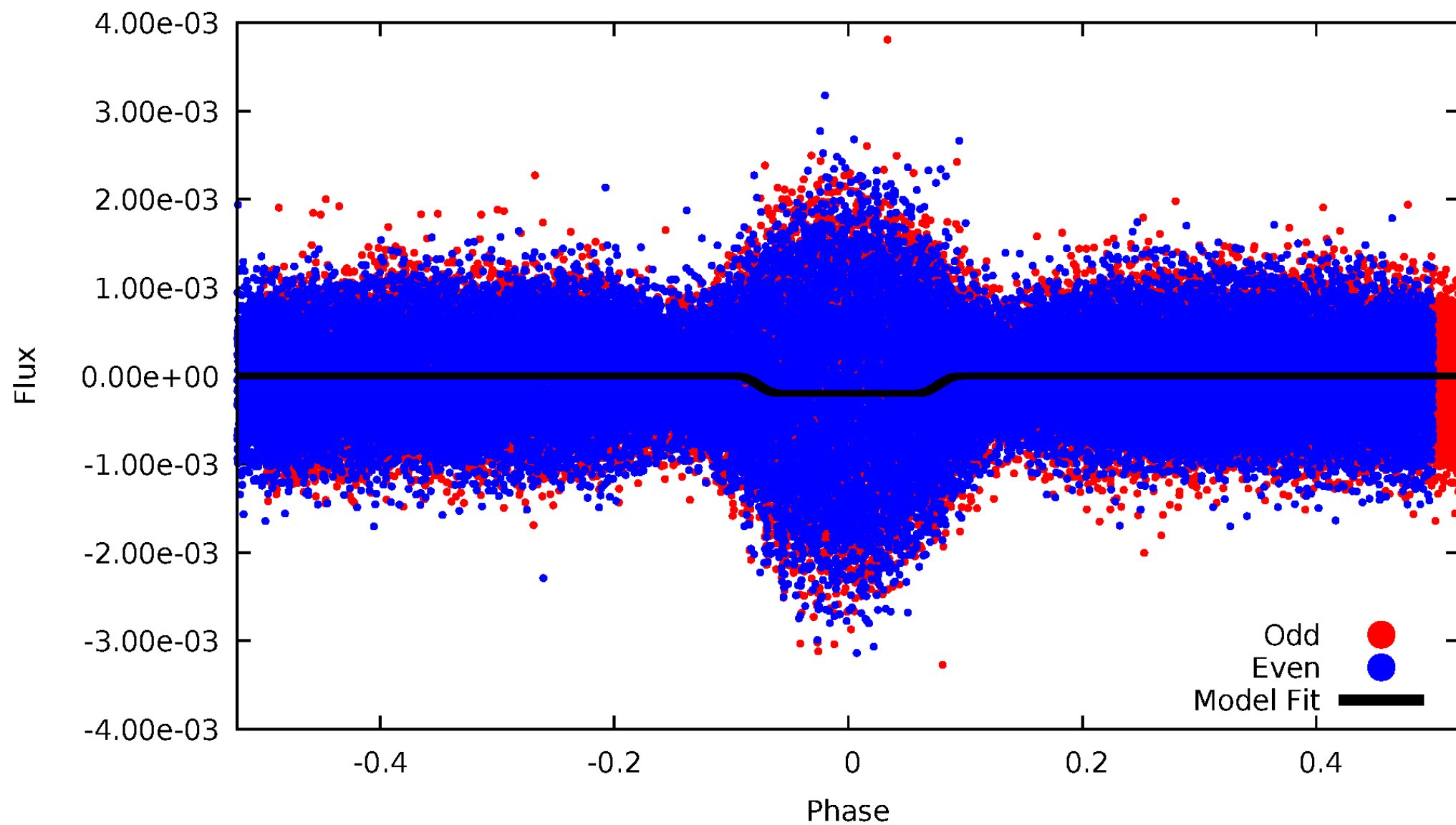
DV Odd/Even

TCE 002693097-01



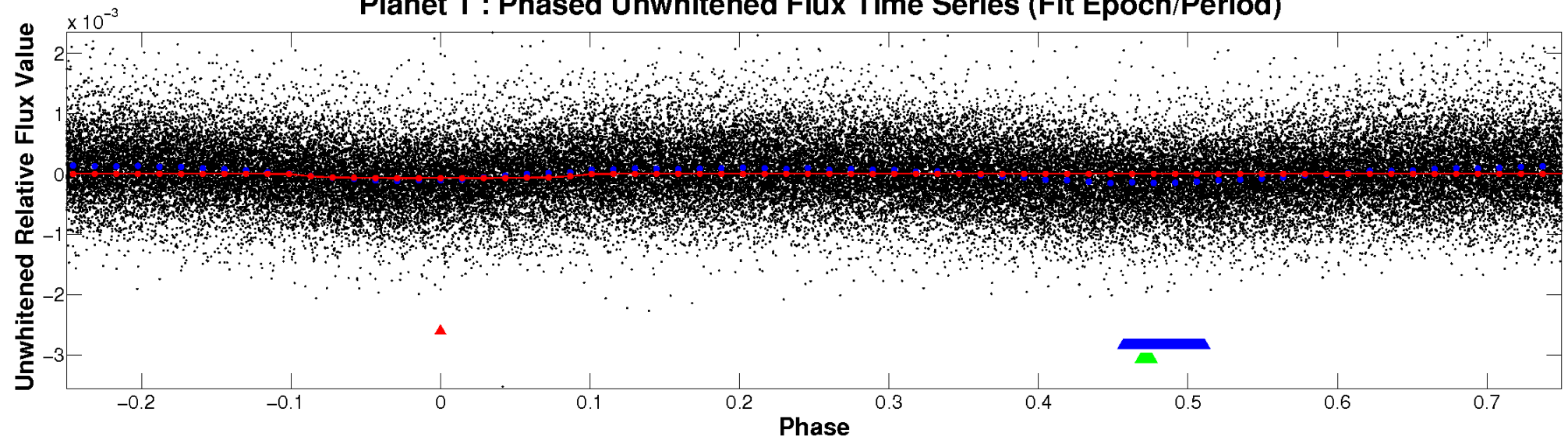
ALT Odd/Even

TCE 002693097-01

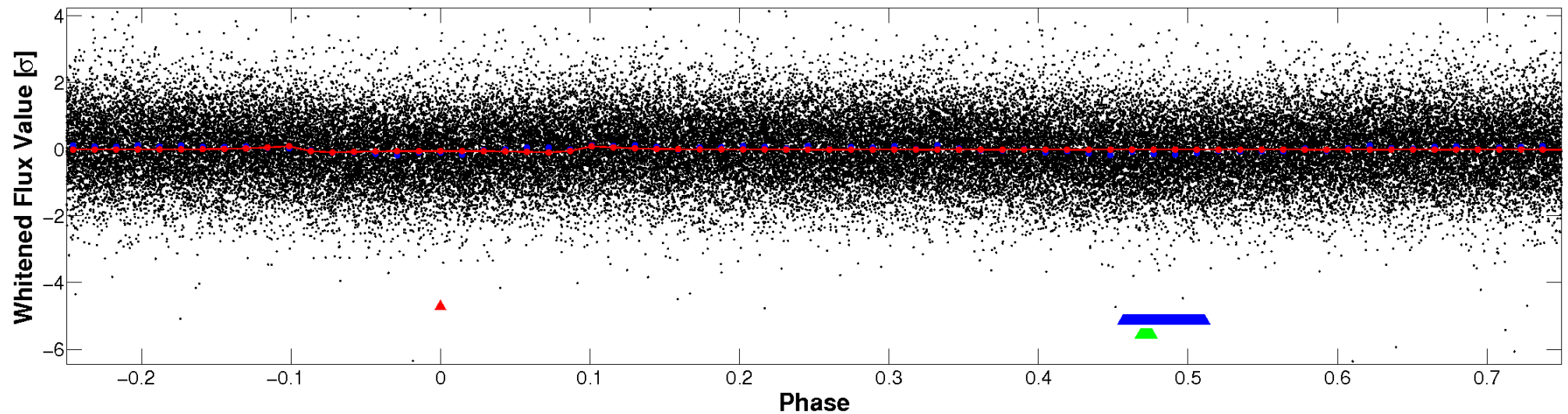


Non-Whitened Vs. Whitened Light Curve

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

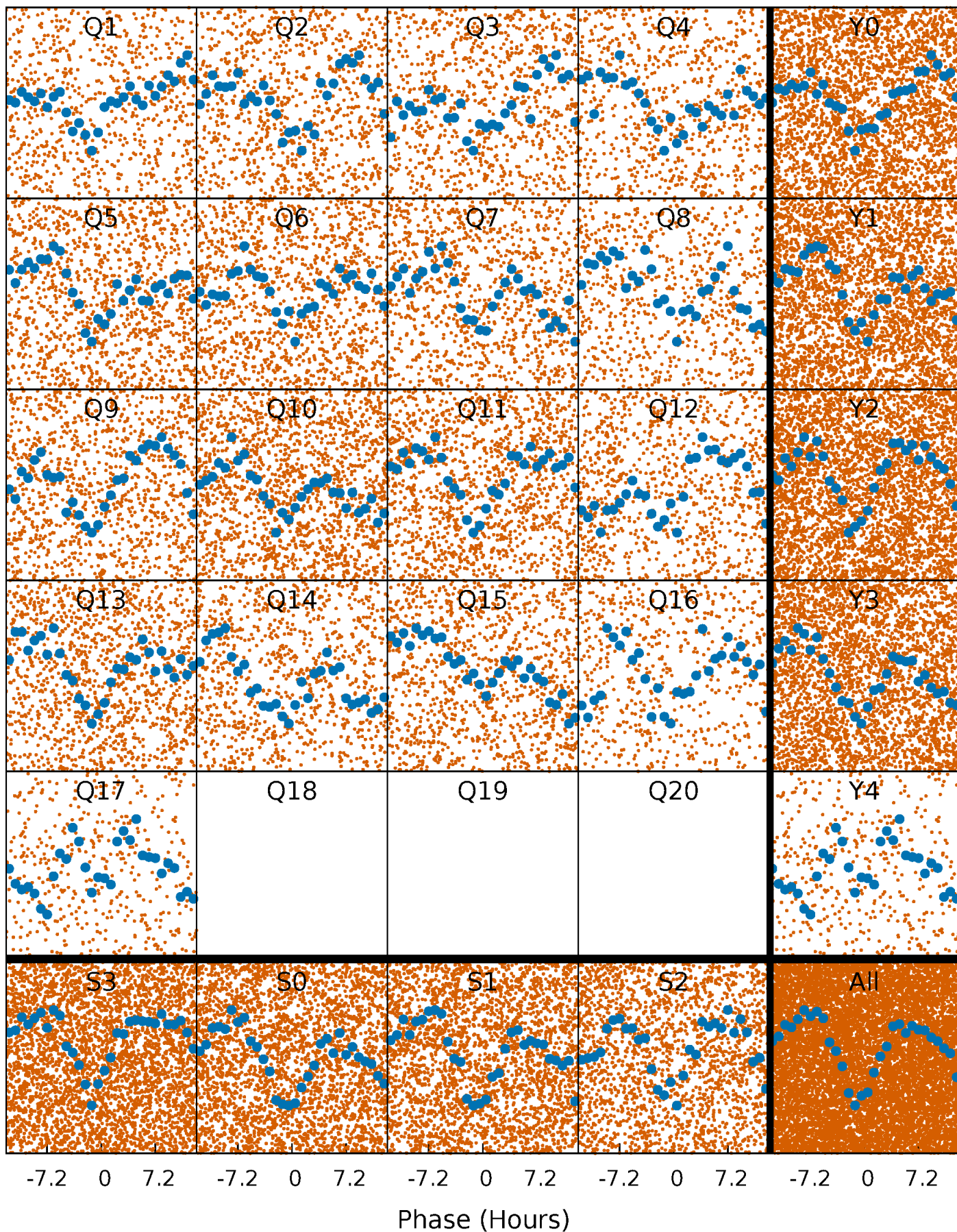


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



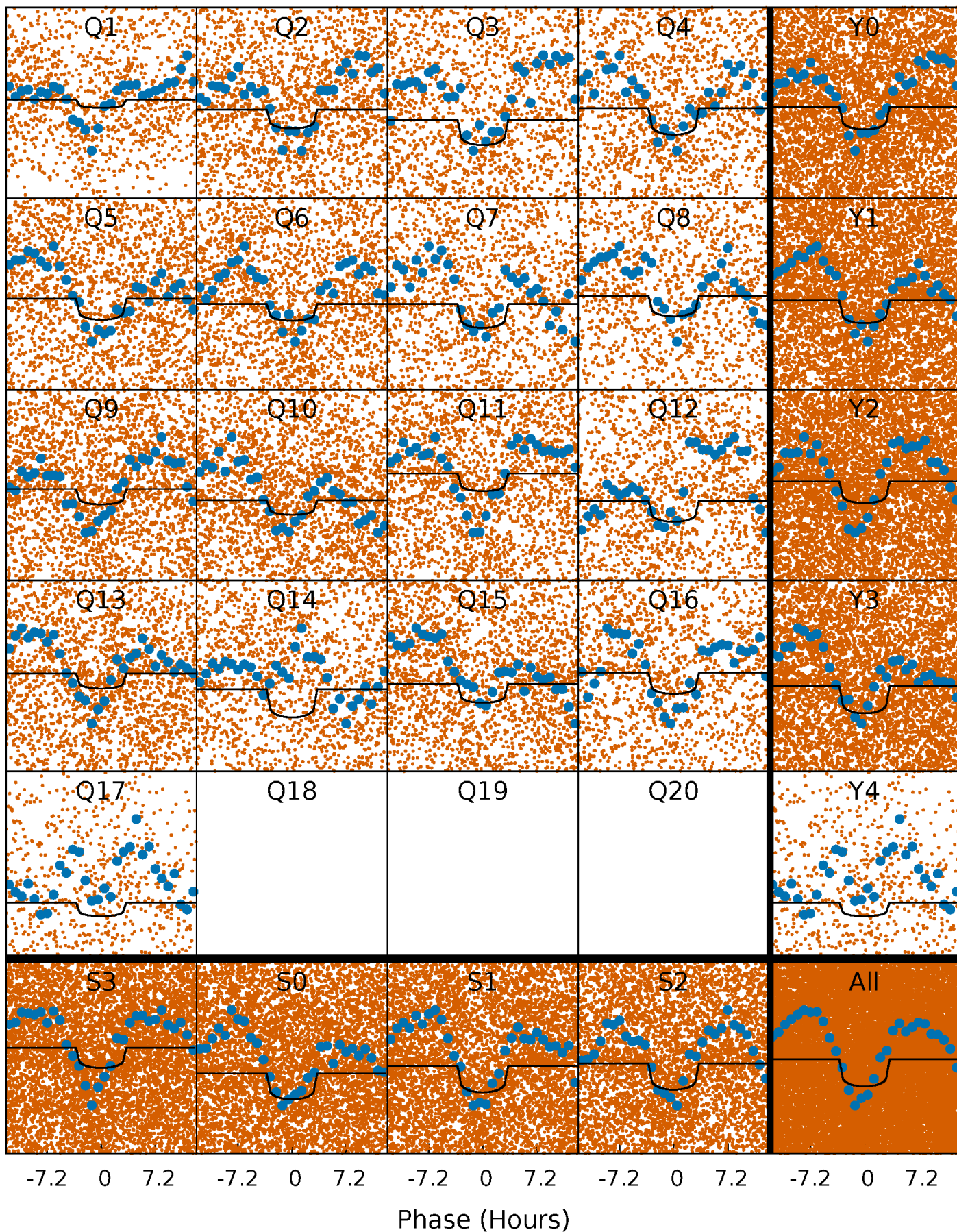
PDC Quarter-Phased Transit Curves

TCE 002693097-01 P= 1.413483 Days $T_0=132.169893$ (BKJD)



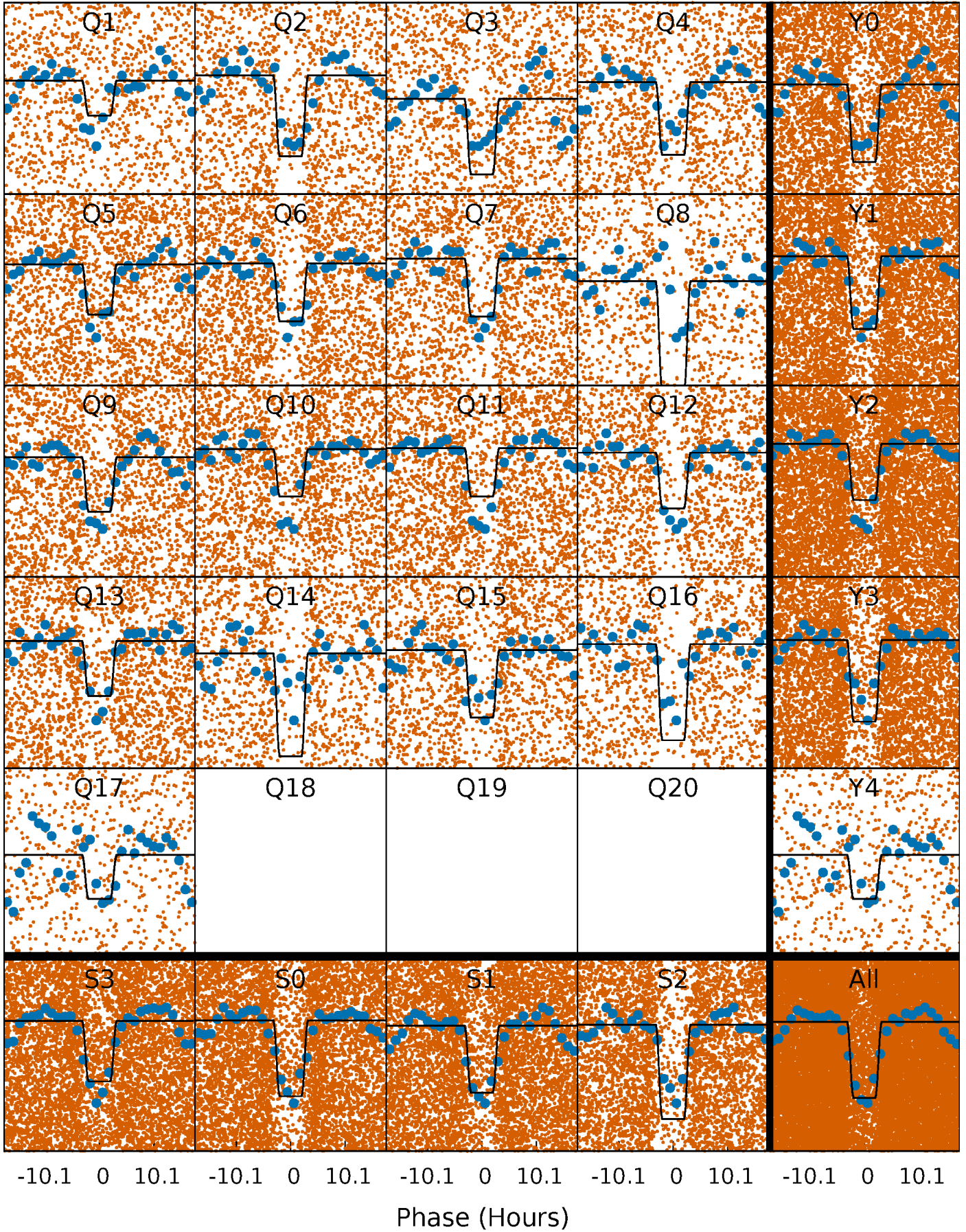
DV Quarter-Phased Transit Curves

TCE 002693097-01 P= 1.413483 Days $T_0=132.169893$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

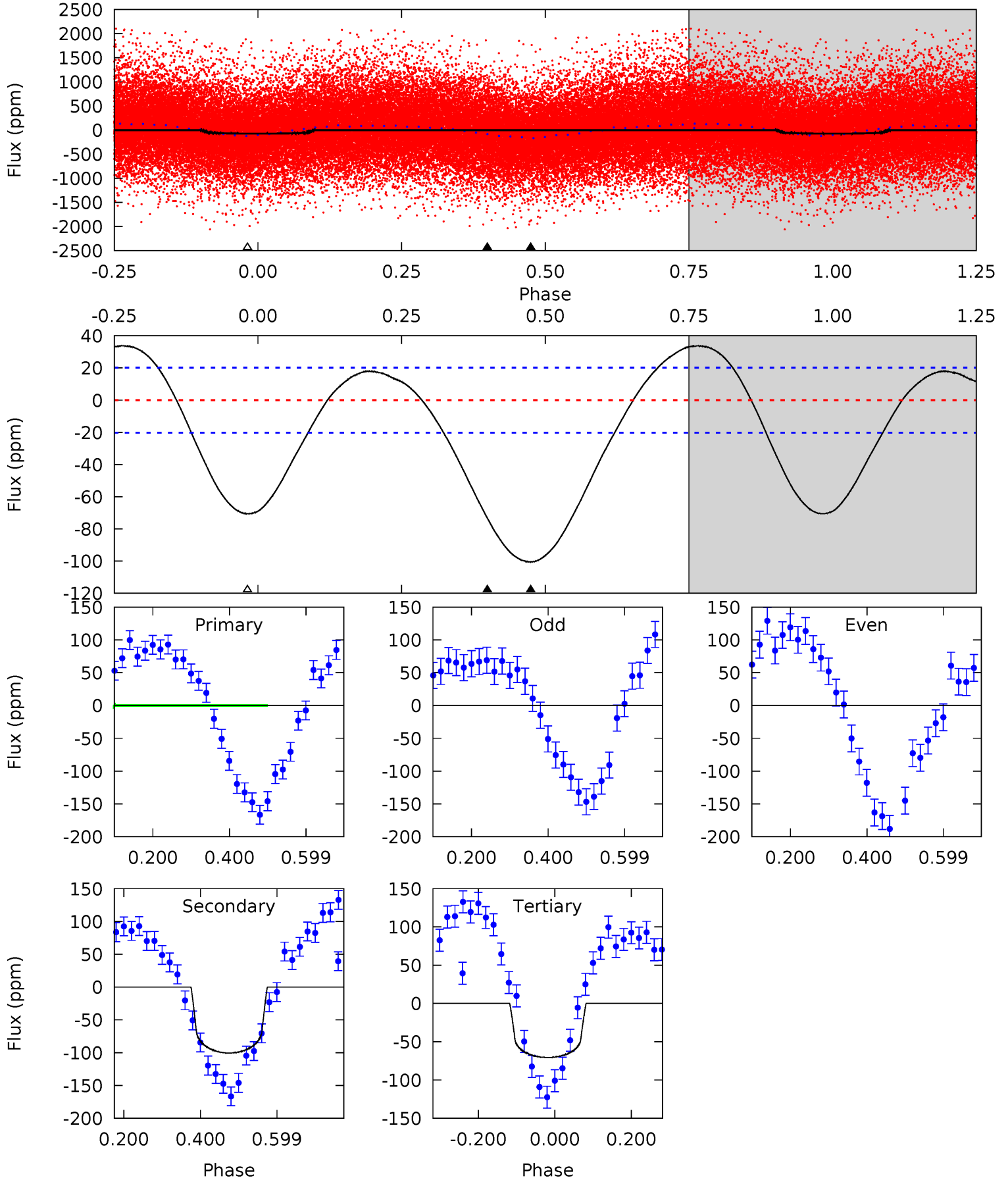
TCE 002693097-01 P= 1.413448 Days $T_0=132.149237$ (BKJD)



DV Model-Shift Uniqueness Test

002693097-01, P = 1.413483 Days, E = 130.756410 Days

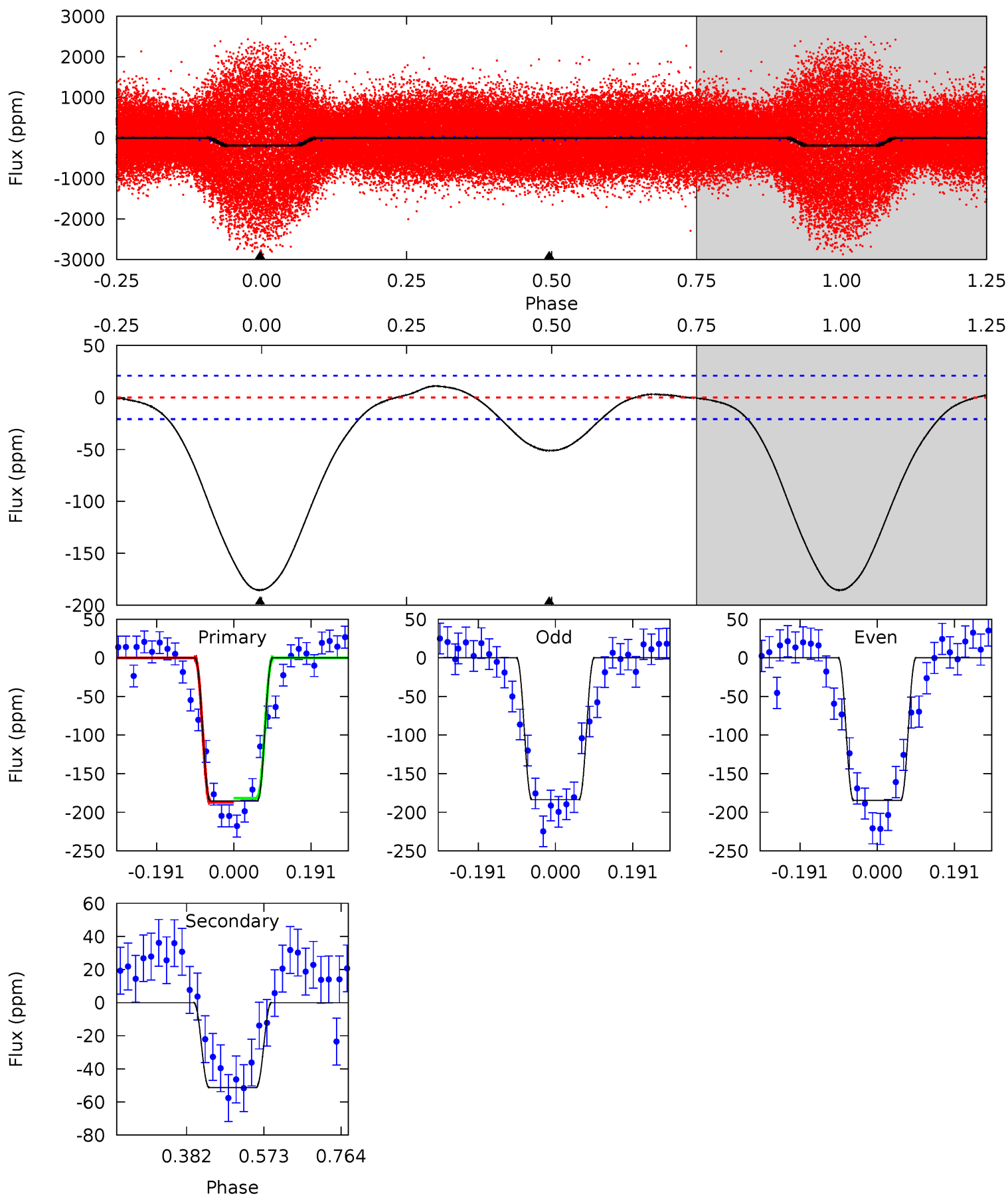
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	21.9	15.4	0	4.42	1.28	7.86	0.59	16.0	6.53	21.9	1.12	1.19	0.25	6.12



Alt Model-Shift Uniqueness Test

002693097-01, P = 1.413448 Days, E = 130.735789 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.4	10.9	0	0	4.43	1.31	1.06	39.4	39.4	10.9	10.9	0.10	0.93	0.06	0.59



Stellar Parameters For KIC 002693097

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7020^{+195}_{-269}	$4.194^{+0.090}_{-0.210}$	$0.160^{+0.200}_{-0.350}$	$1.634^{+0.556}_{-0.238}$	$1.521^{+0.214}_{-0.214}$	$0.491^{+0.198}_{-0.268}$
	+3%/-4%	+2%/-5%	+125%/-219%	+34%/-15%	+14%/-14%	+40%/-55%
Source	PHO1	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 002693097-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-101 ± 5	$1.47^{+0.66}_{-0.59}$	3323^{+251}_{-195}	7931^{+3584}_{-1430}	20^{+37}_{-11}
Alt.	-51 ± 5	$2.62^{+0.75}_{-0.61}$	3320^{+270}_{-183}	4879^{+673}_{-431}	$3.222^{+2.263}_{-1.247}$

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 $A_{obs} \gg 1.0$

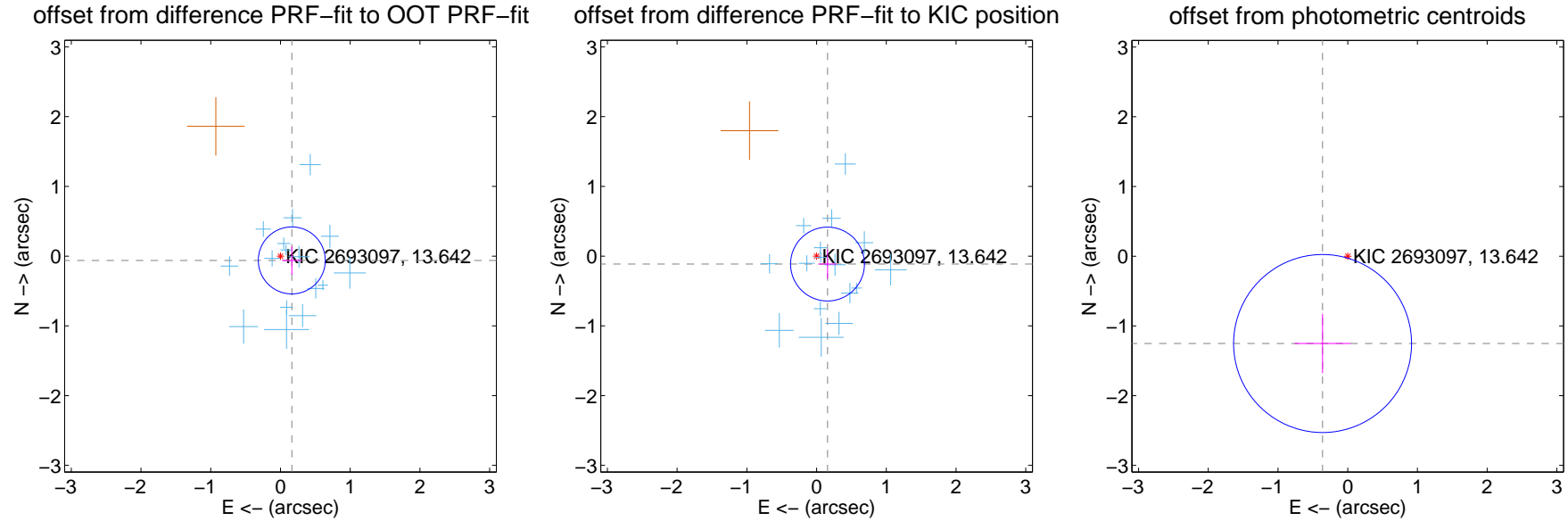
DV Centroid Data

Supplemental centroid analysis for 002693097-01. Kepler magnitude: 13.64. Transit SNR 8.75

There are 16 quarters with good PRF difference image offsets

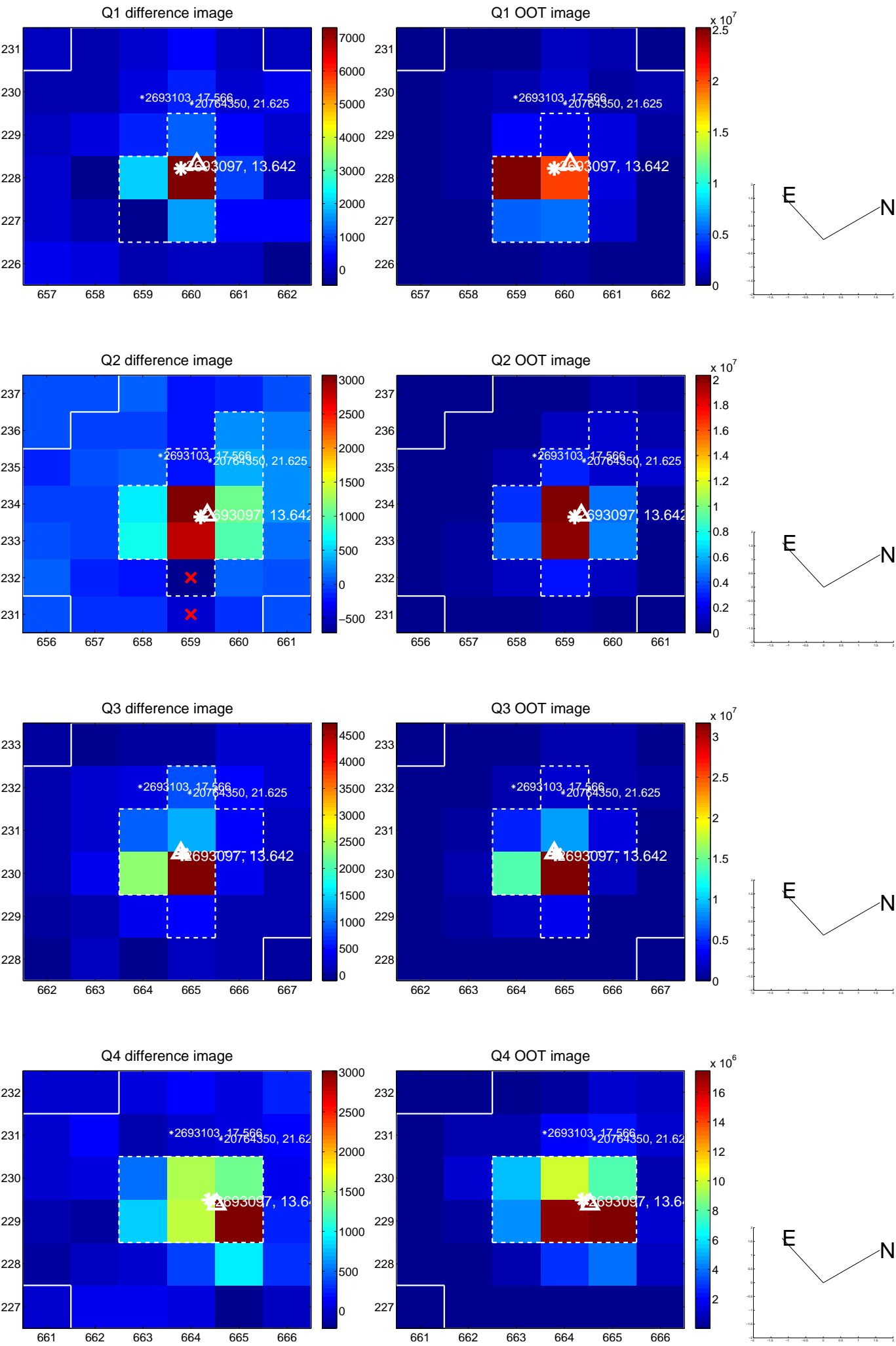
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.174 ± 0.160	1.09	-0.163 ± 0.138	-0.062 ± 0.203
PRF-fit source offset from KIC position	0.194 ± 0.177	1.10	-0.157 ± 0.133	-0.114 ± 0.210
photometric centroid source offset	1.30 ± 0.43	3.06	0.36 ± 0.40	-1.25 ± 0.43

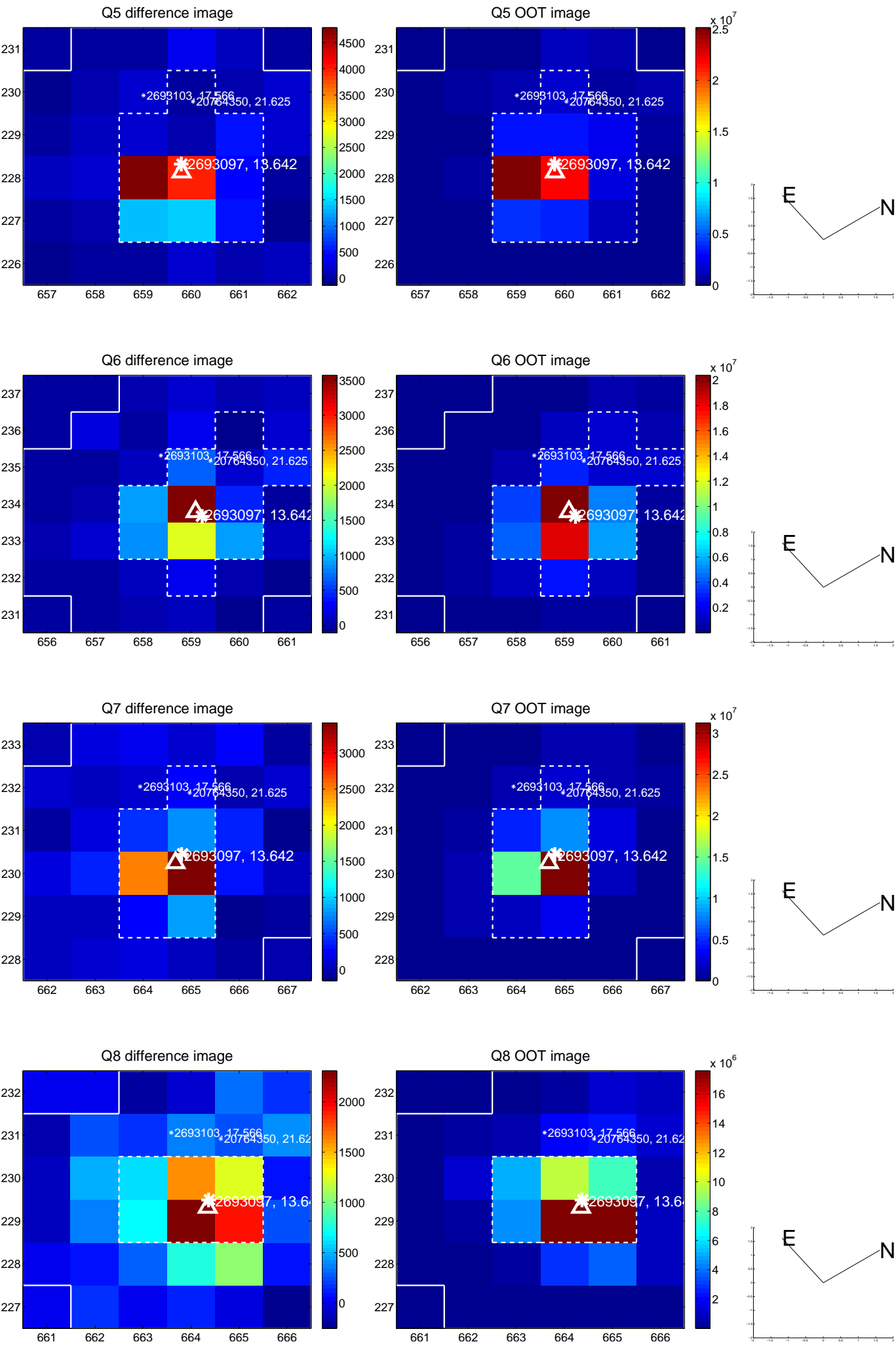


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

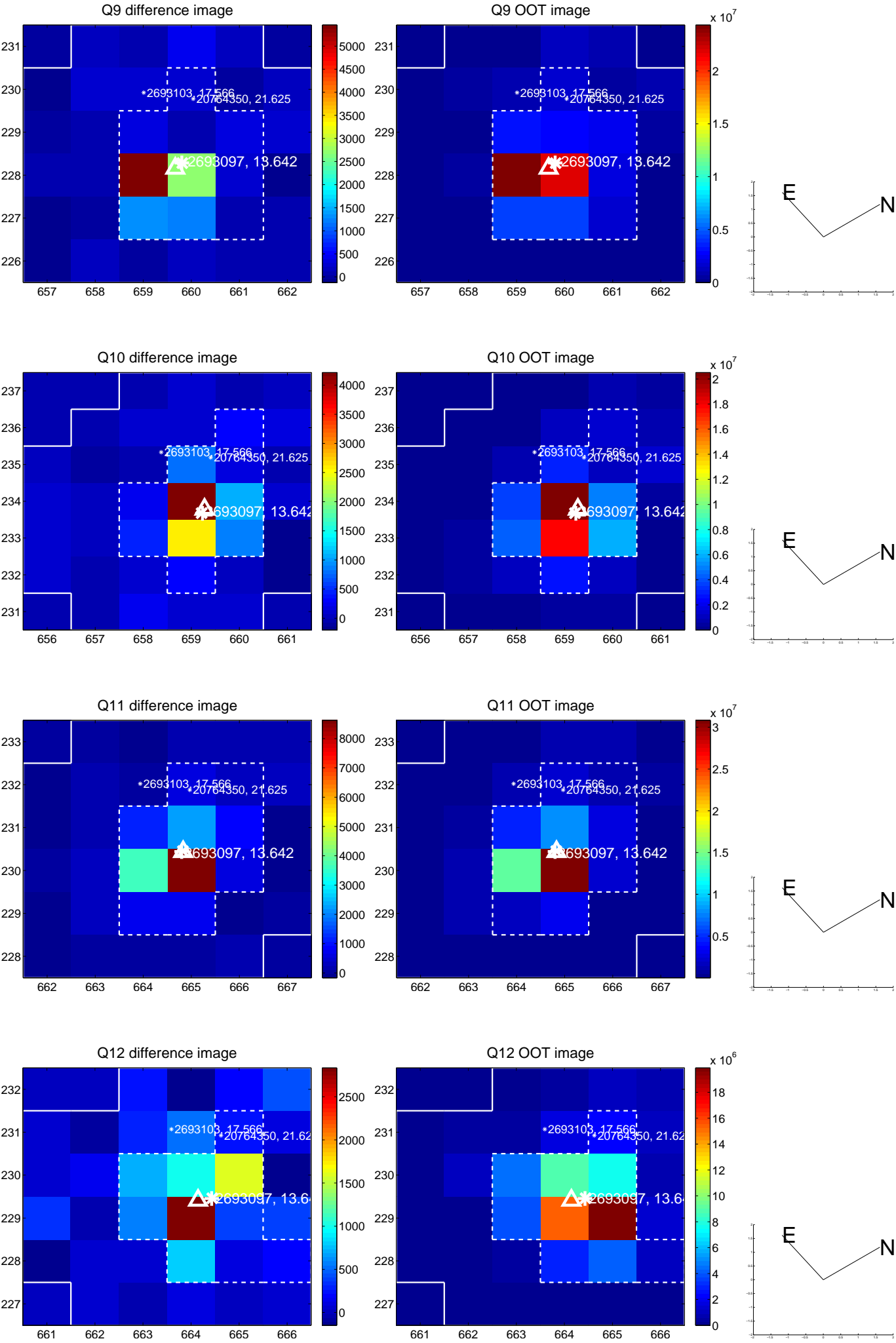
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



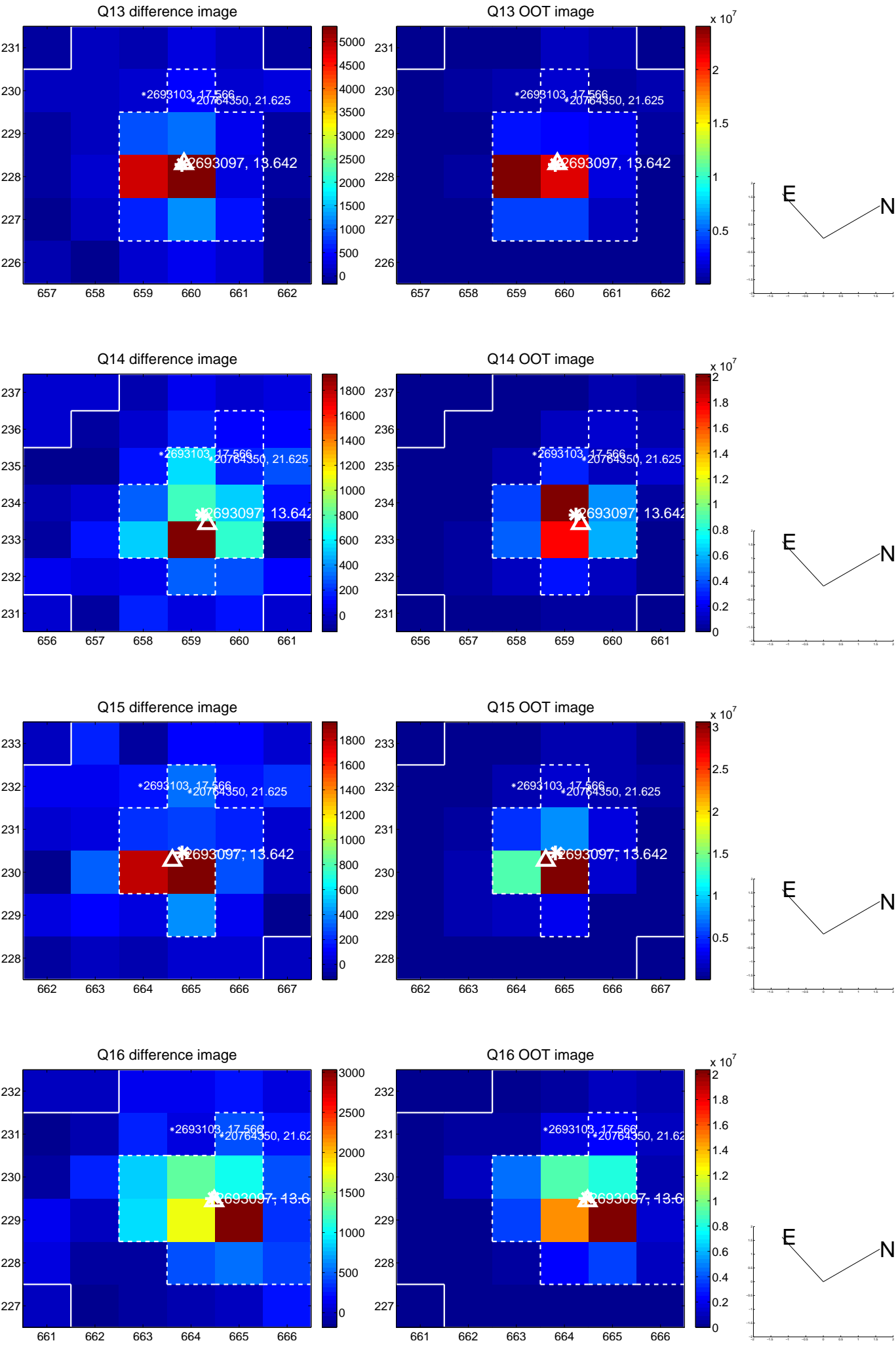
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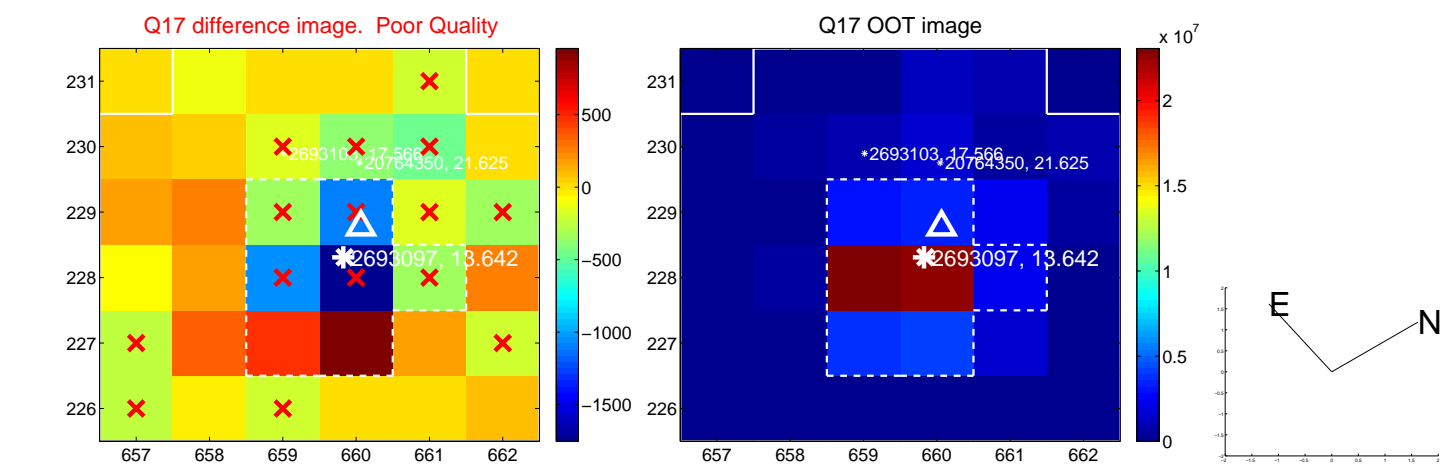
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



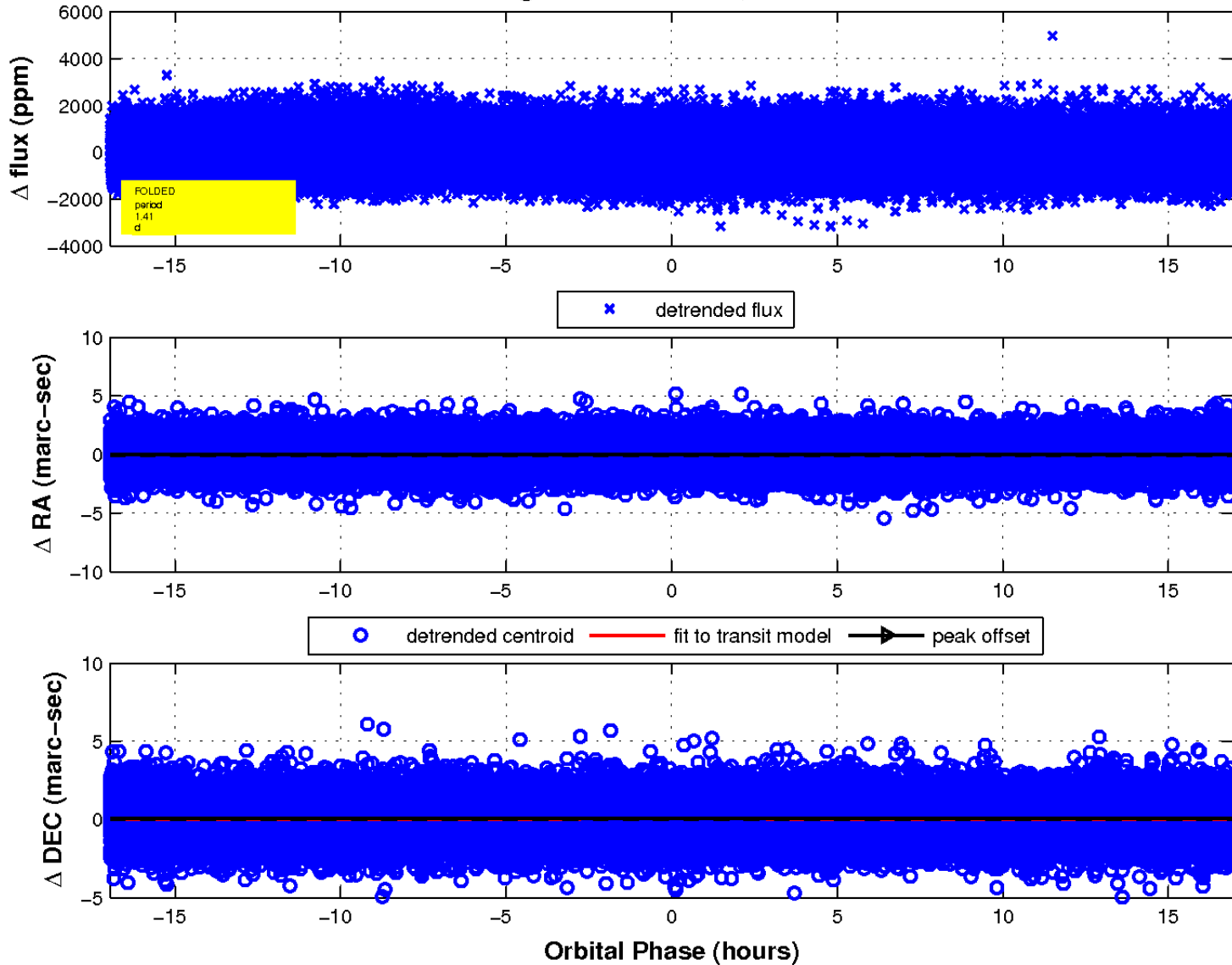
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



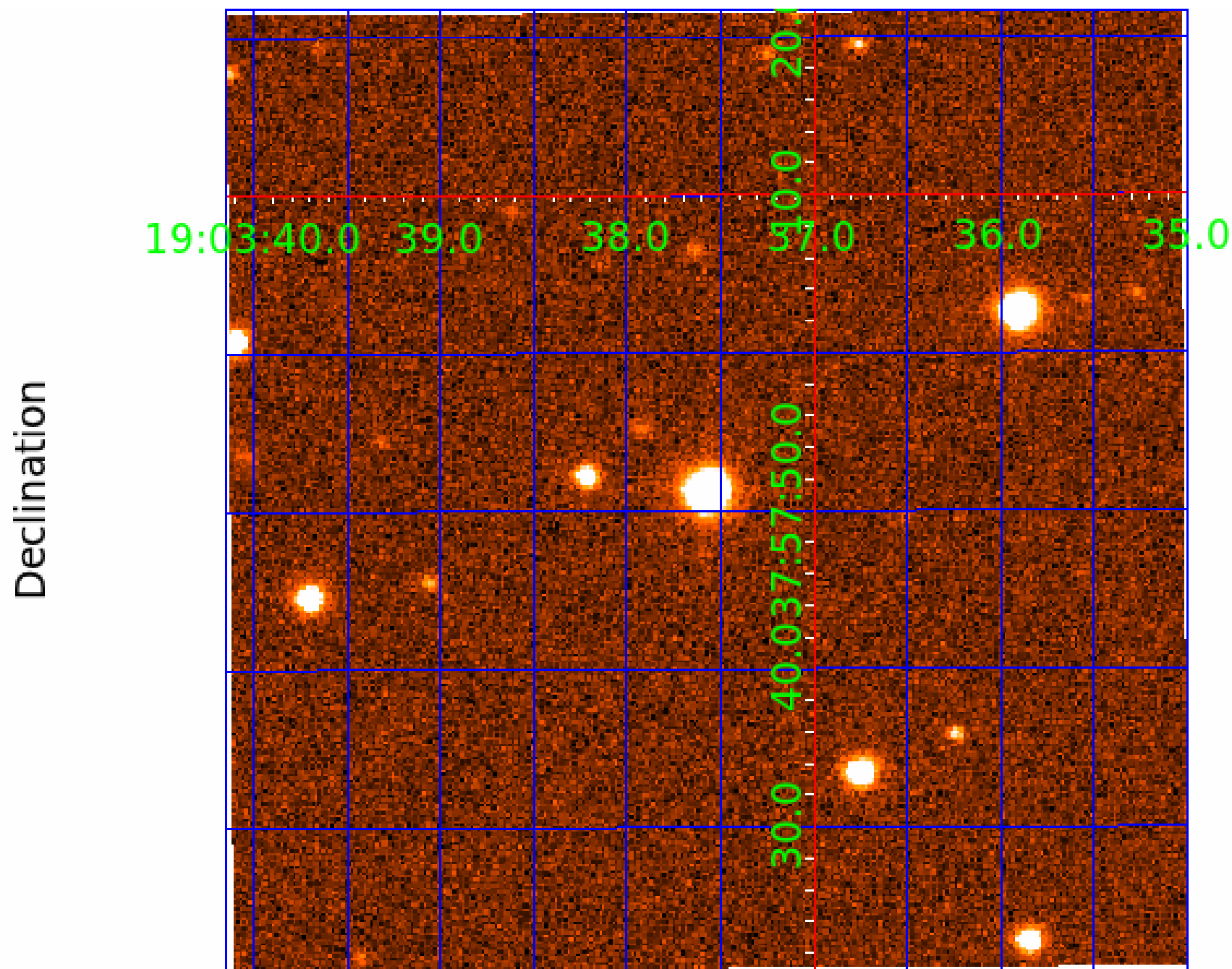
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 3



UKIRT Image



KIC 002693097

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})
002693097-01	OBS	No	1.413483	132.169893	71.8	6.339	9.5	8.8	1.63	7020	1.42	7222.54
002693097-02	OBS	No	4.240672	132.815492	155.2	9.039	14.4	12.4	1.63	7020	2.37	1669.16
002693097-03	OBS	No	2.826944	132.842581	330.9	9.000	12.6	-1.0	1.63	7020	3.00	2866.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002693097-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
002693097-02	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—HALO_GHOST
002693097-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_NOFITS

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

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

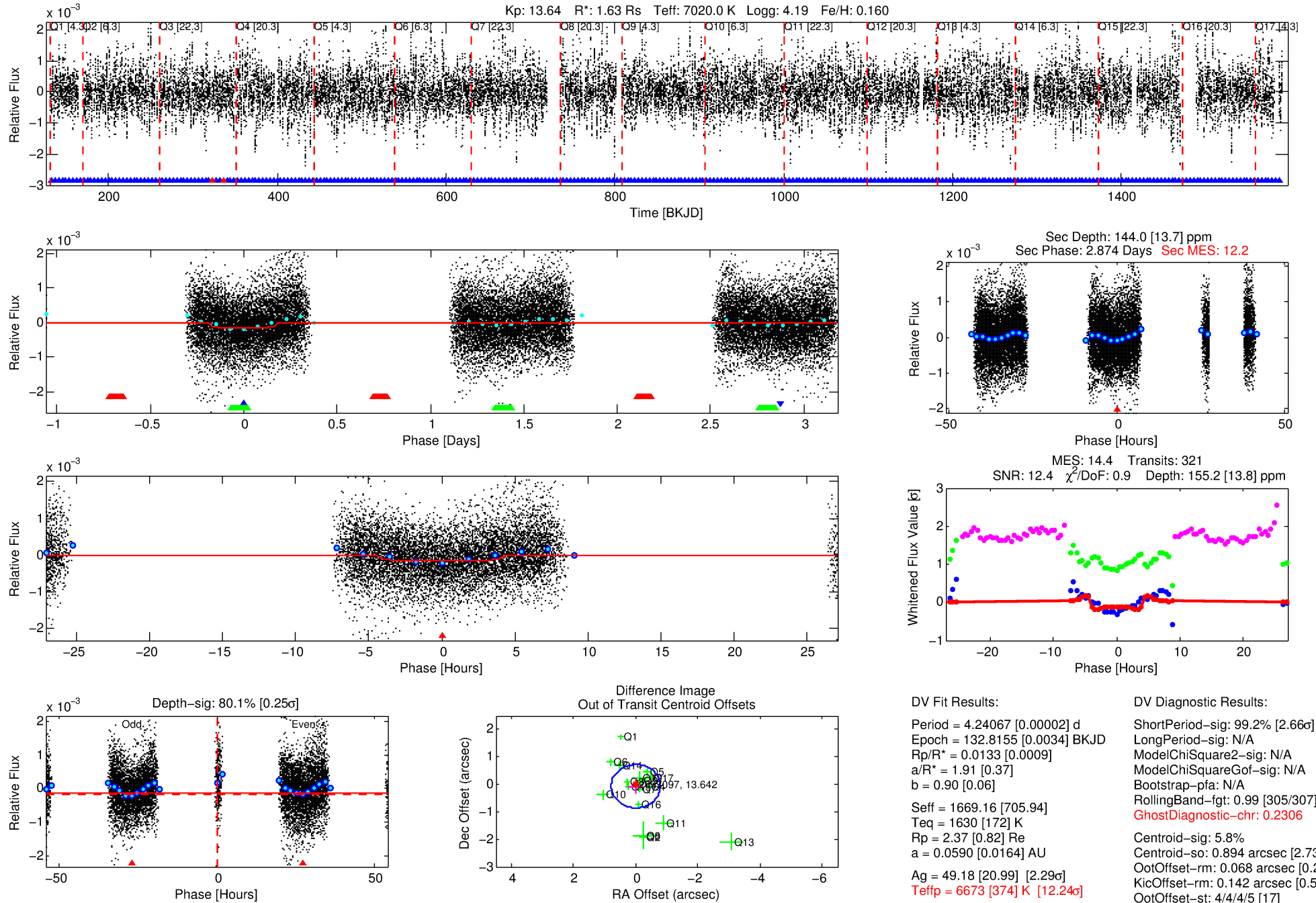
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002693097-02

No Significant Match Found

DV One-Page Summary

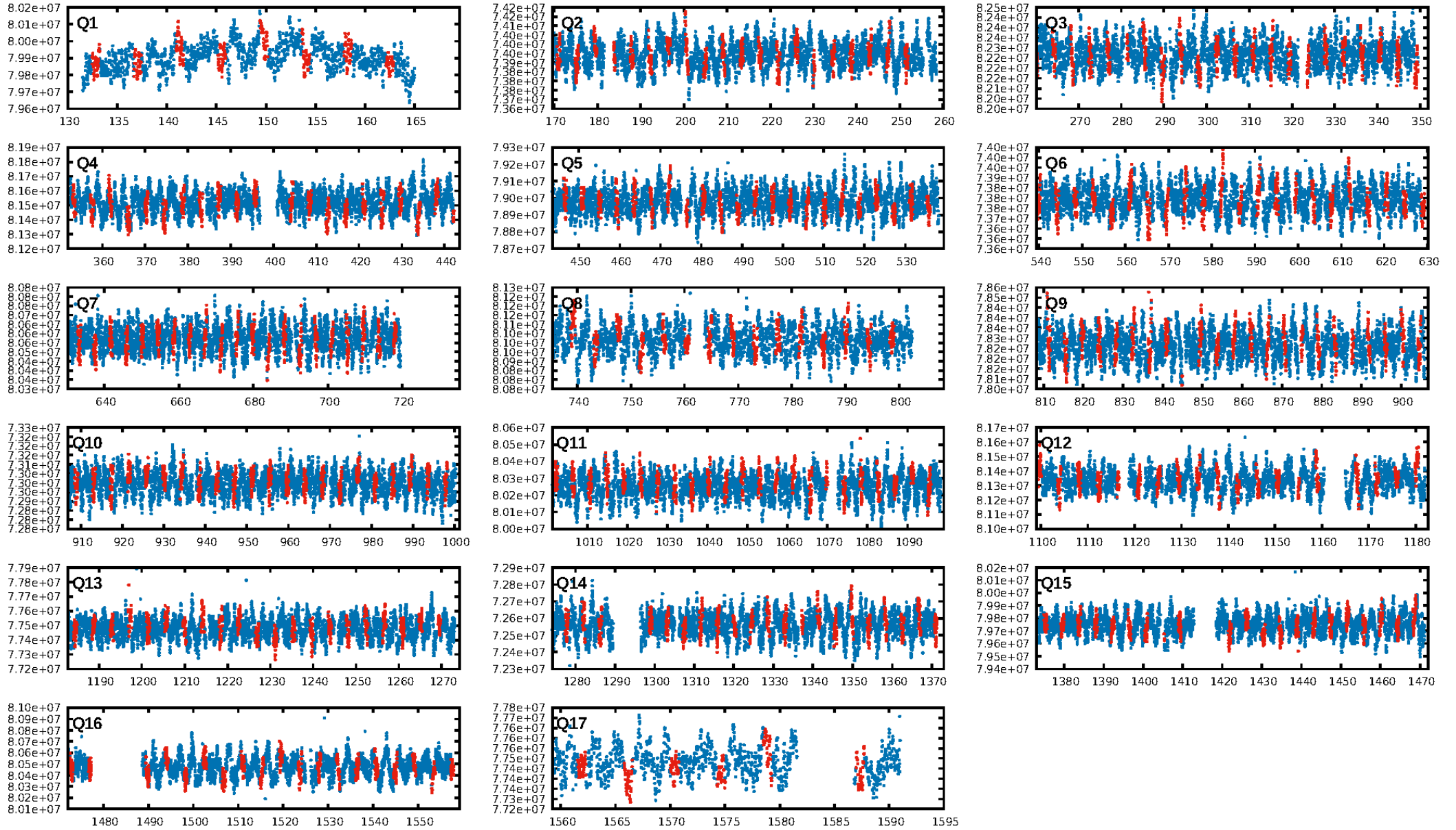
KIC: 2693097 Candidate: 2 of 3 Period: 4.241 d



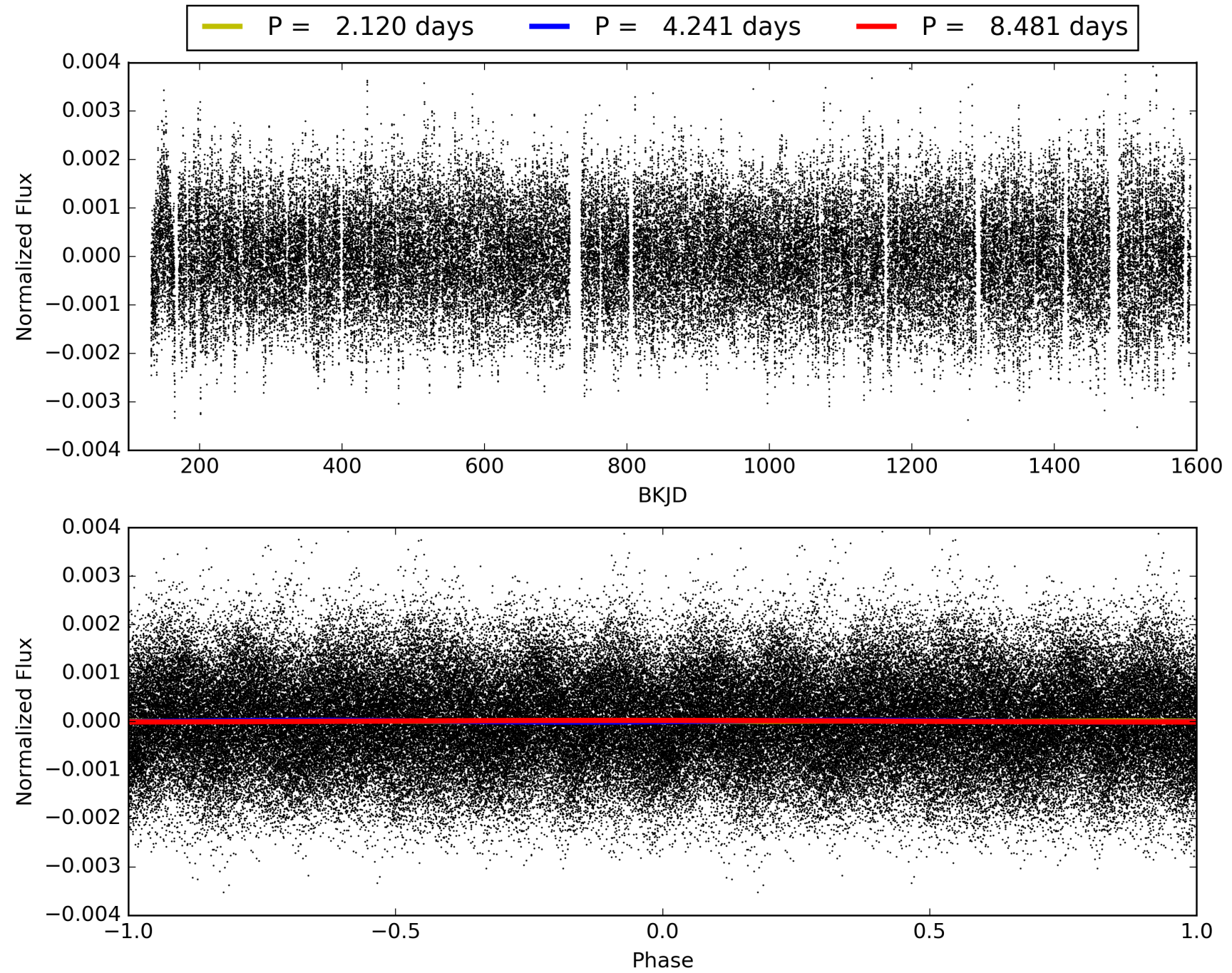
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 002693097-02, PDC Light Curves

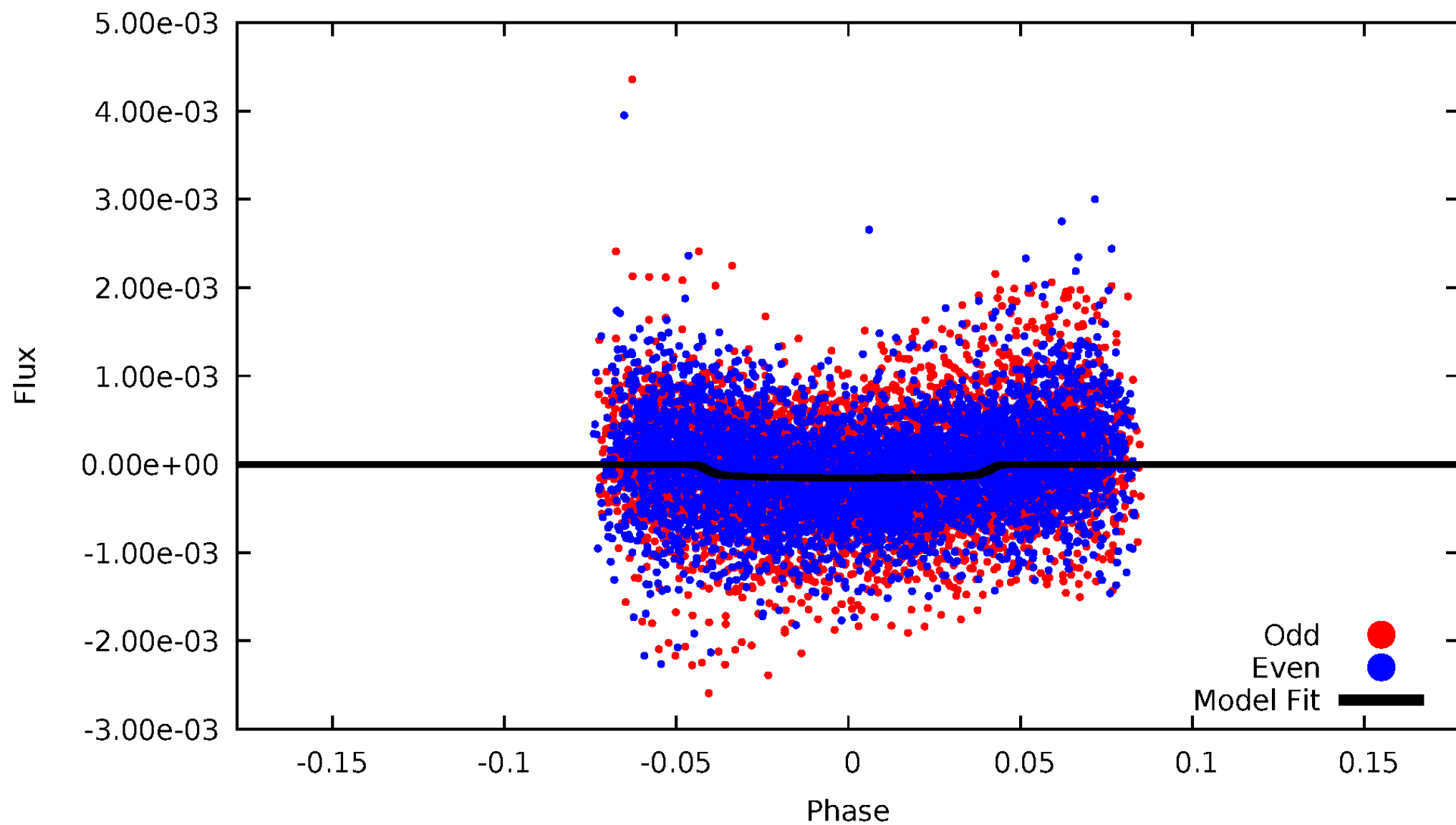


TCE 002693097-02



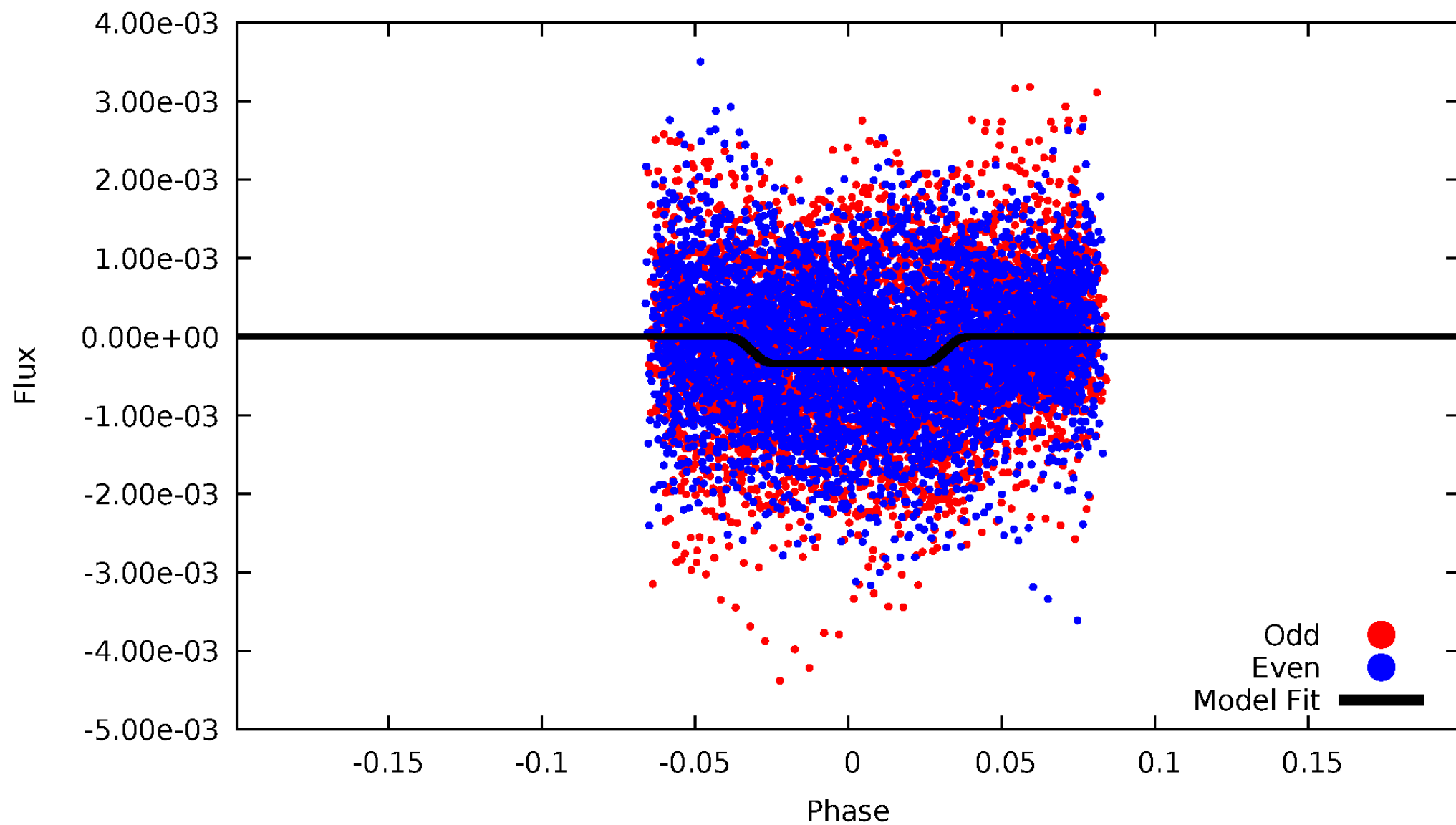
DV Odd/Even

TCE 002693097-02



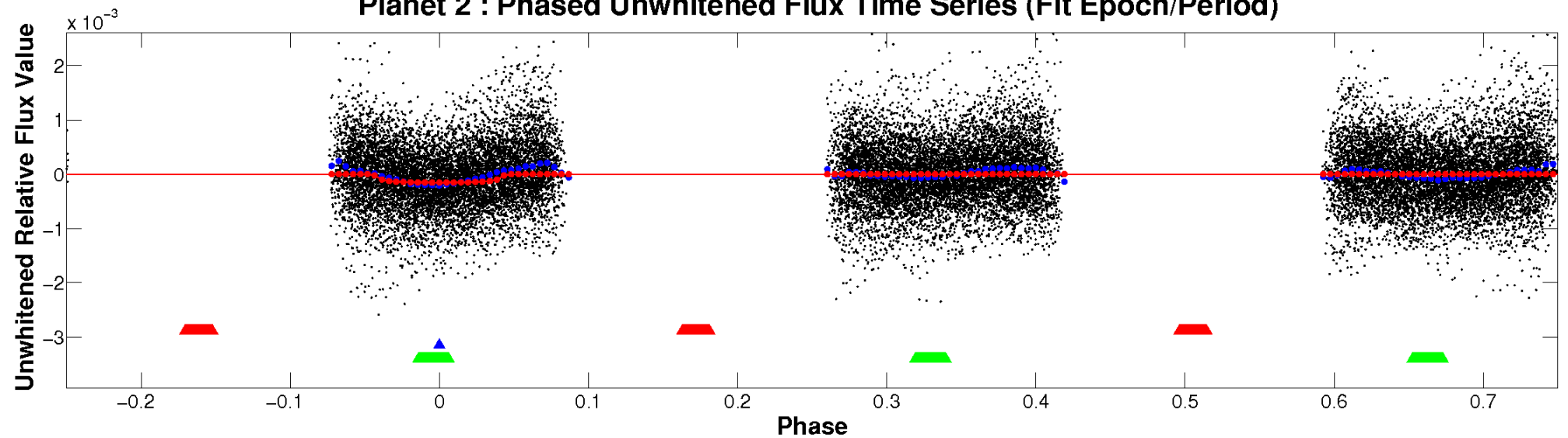
ALT Odd/Even

TCE 002693097-02

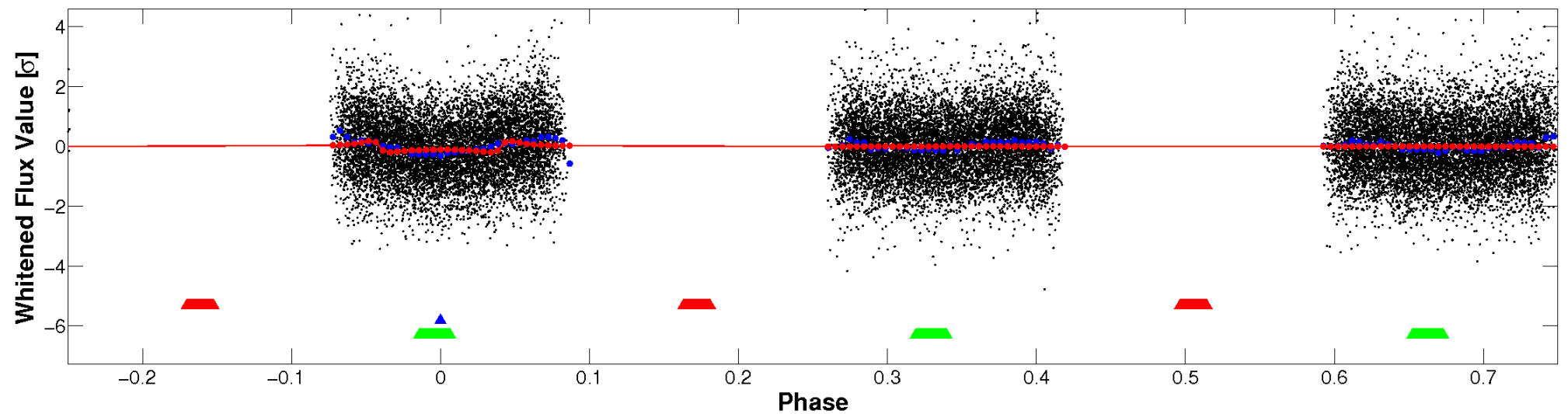


Non-Whitened Vs. Whitened Light Curve

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

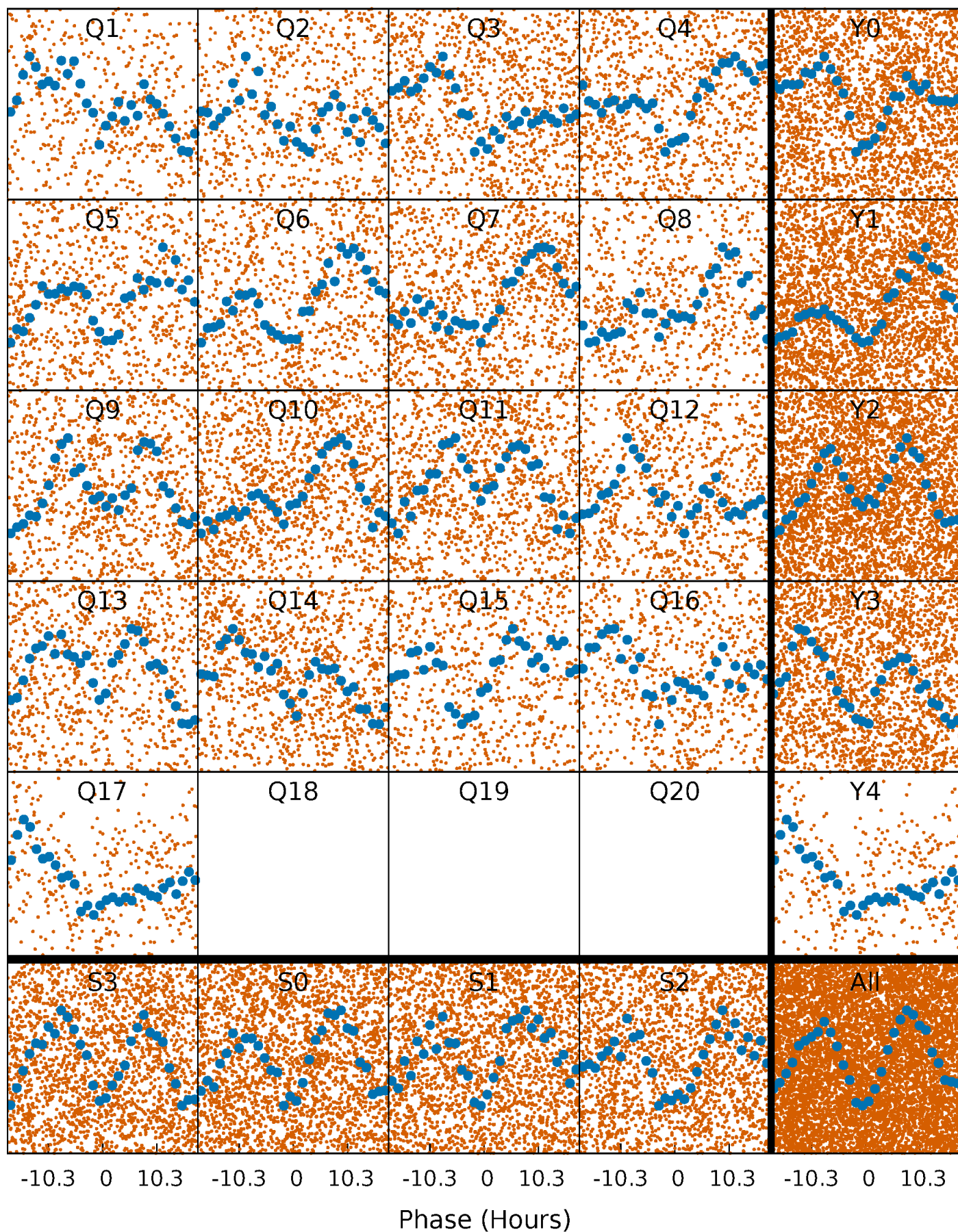


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



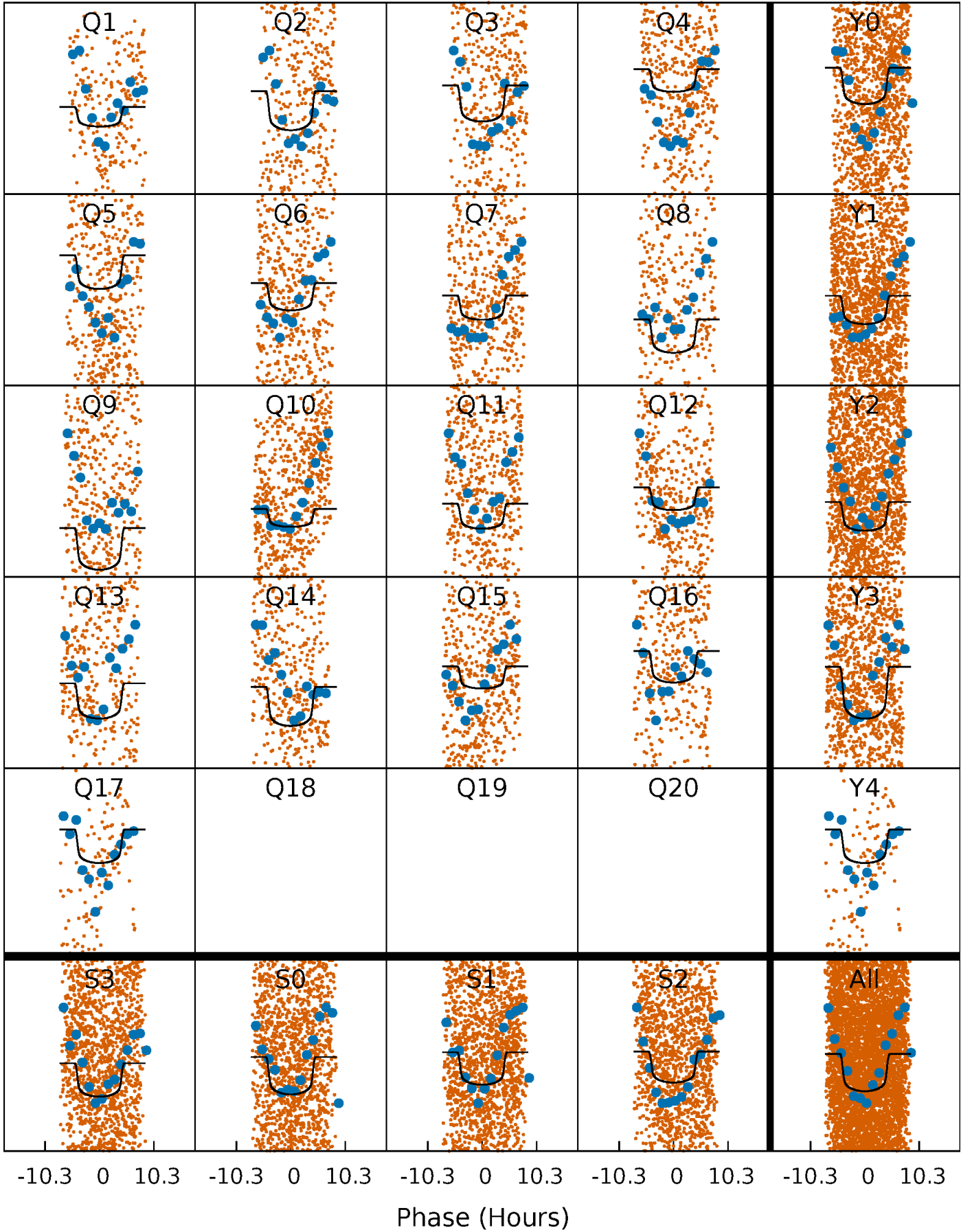
PDC Quarter-Phased Transit Curves

TCE 002693097-02 P= 4.240672 Days $T_0=132.815493$ (BKJD)



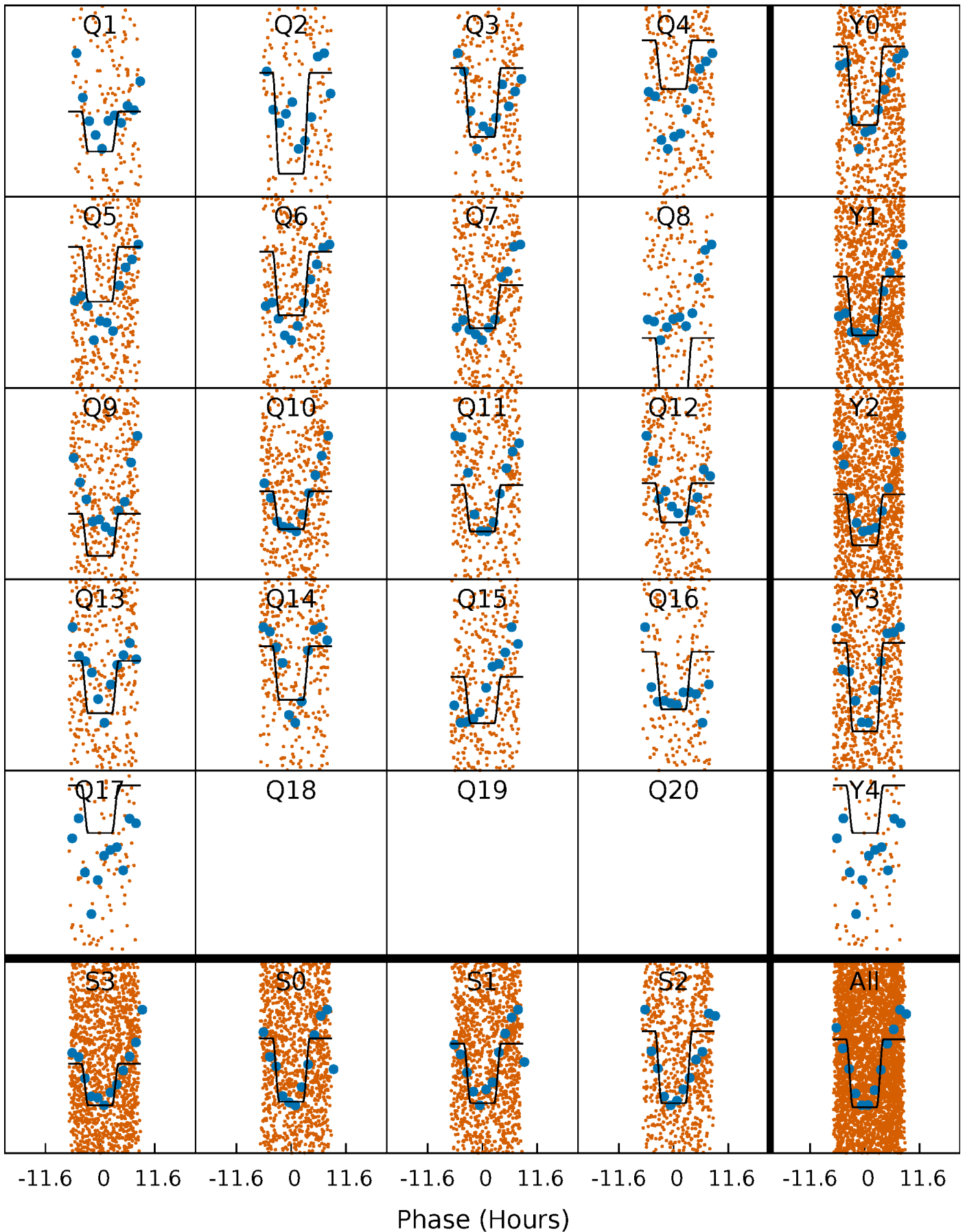
DV Quarter-Phased Transit Curves

TCE 002693097-02 $P = 4.240672$ Days $T_0 = 132.815493$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

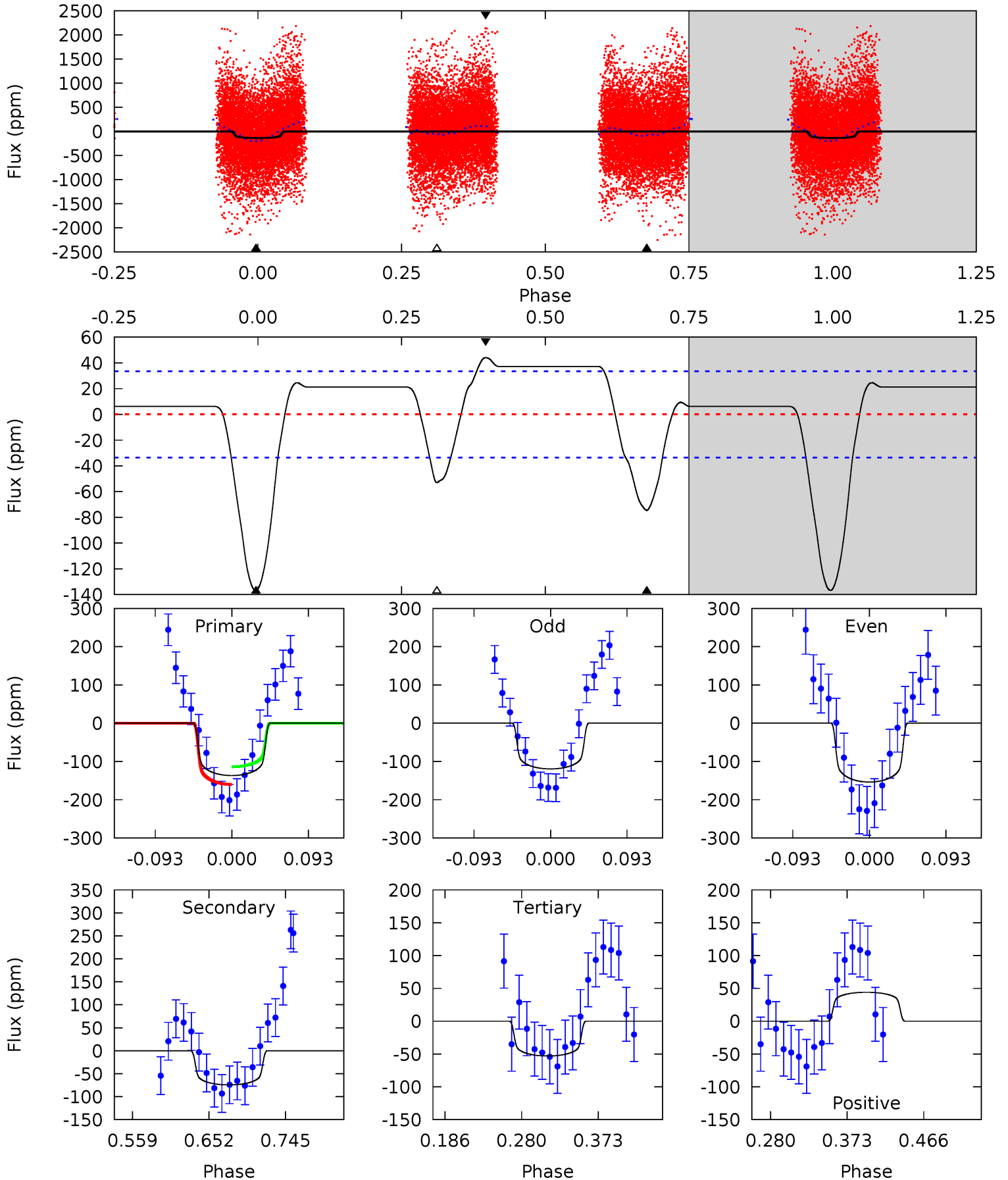
TCE 002693097-02 P= 4.240561 Days $T_0=132.819438$ (BKJD)



DV Model-Shift Uniqueness Test

002693097-02, P = 4.240672 Days, E = 128.574821 Days

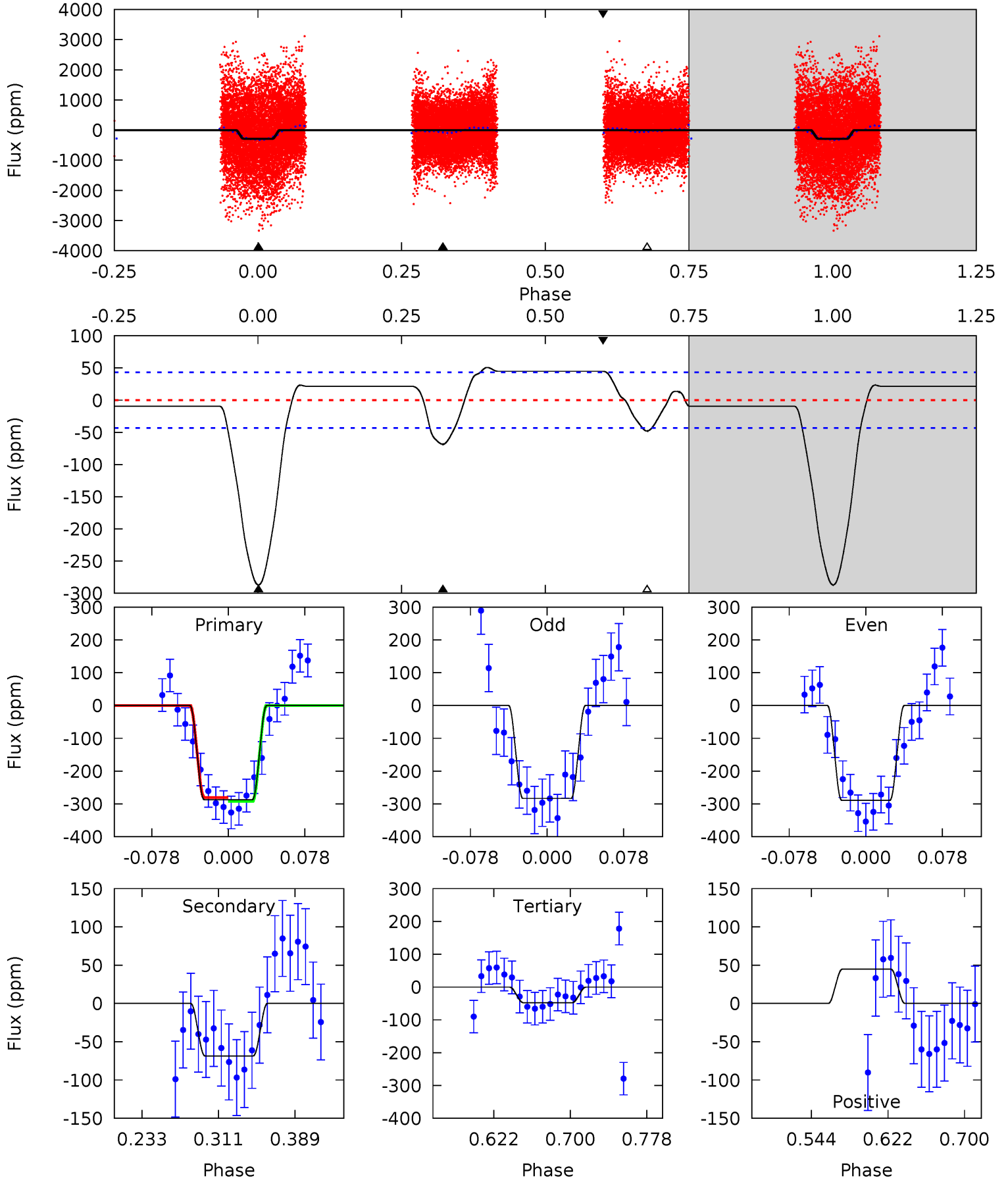
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	10.2	7.25	6.03	4.58	1.68	4.55	11.5	12.7	2.93	4.16	2.35	0.95	0.24	3.04



Alt Model-Shift Uniqueness Test

002693097-02, P = 4.240561 Days, E = 128.578877 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.7	7.32	5.12	4.79	4.62	1.76	3.12	25.5	25.9	2.20	2.53	0.30	0.95	0.15	0.63



Stellar Parameters For KIC 002693097

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7020^{+195}_{-269}	$4.194^{+0.090}_{-0.210}$	$0.160^{+0.200}_{-0.350}$	$1.634^{+0.556}_{-0.238}$	$1.521^{+0.214}_{-0.214}$	$0.491^{+0.198}_{-0.268}$
	+3%/-4%	+2%/-5%	+125%/-219%	+34%/-15%	+14%/-14%	+40%/-55%
Source	PHO1	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 002693097-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-74 ± 7	$2.42^{+0.41}_{-0.29}$	2305^{+190}_{-138}	5611^{+266}_{-260}	24^{+6}_{-6}
Alt.	-69 ± 9	$3.34^{+0.61}_{-0.33}$	2304^{+181}_{-127}	4756^{+203}_{-197}	11^{+3}_{-3}

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 $A_{obs} \gg 1.0$

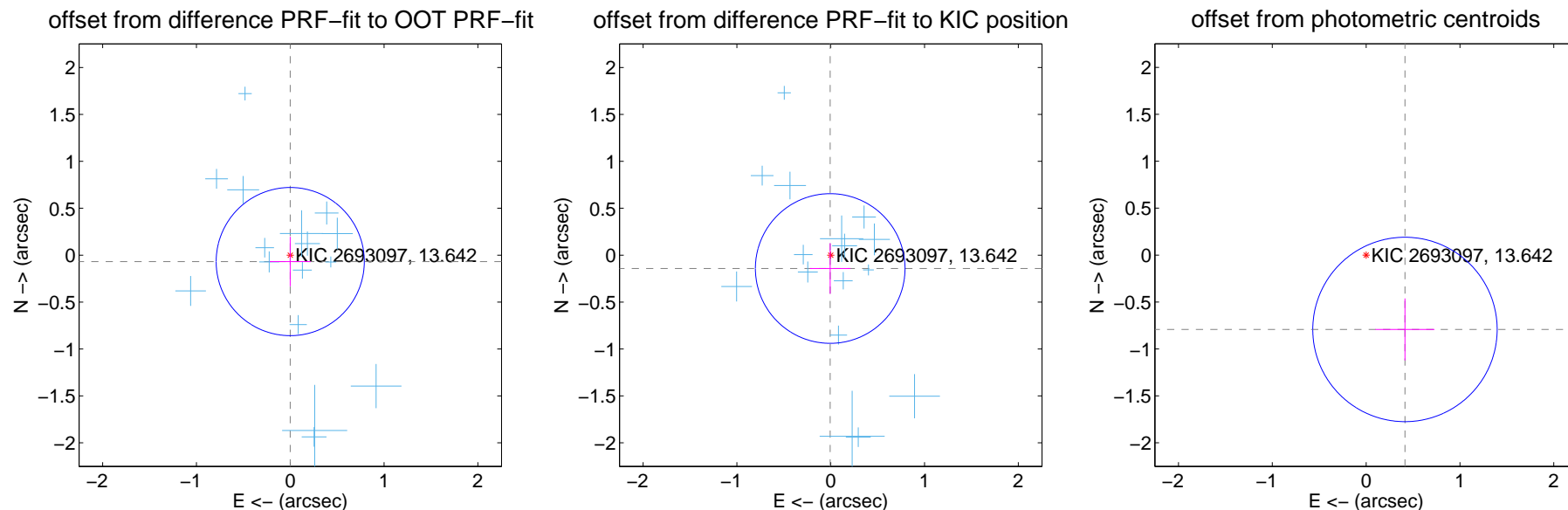
DV Centroid Data

Supplemental centroid analysis for 002693097-02. Kepler magnitude: 13.64. Transit SNR 12.37

There are 16 quarters with good PRF difference image offsets

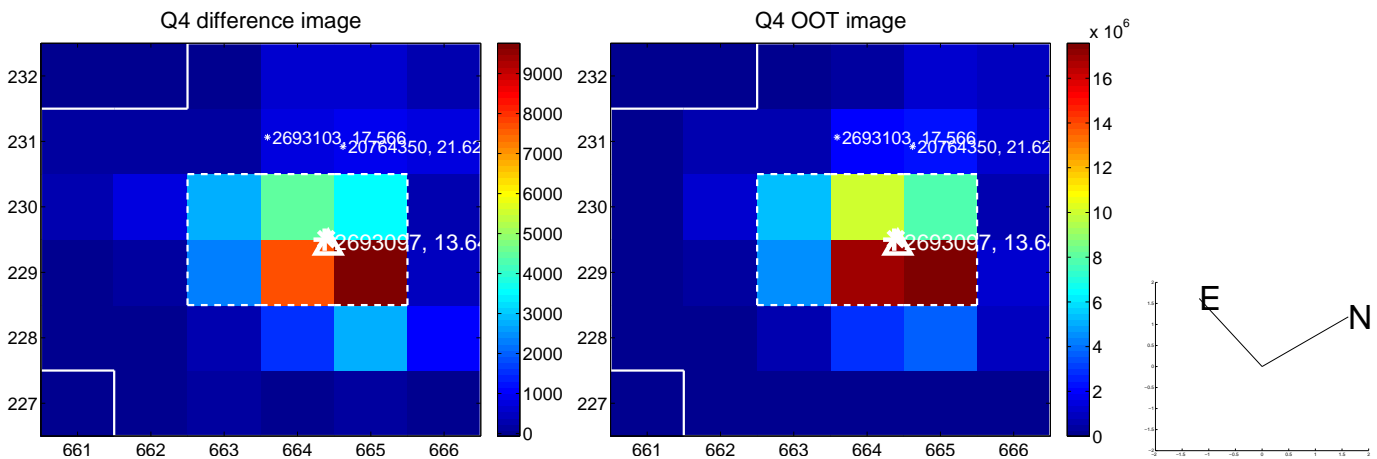
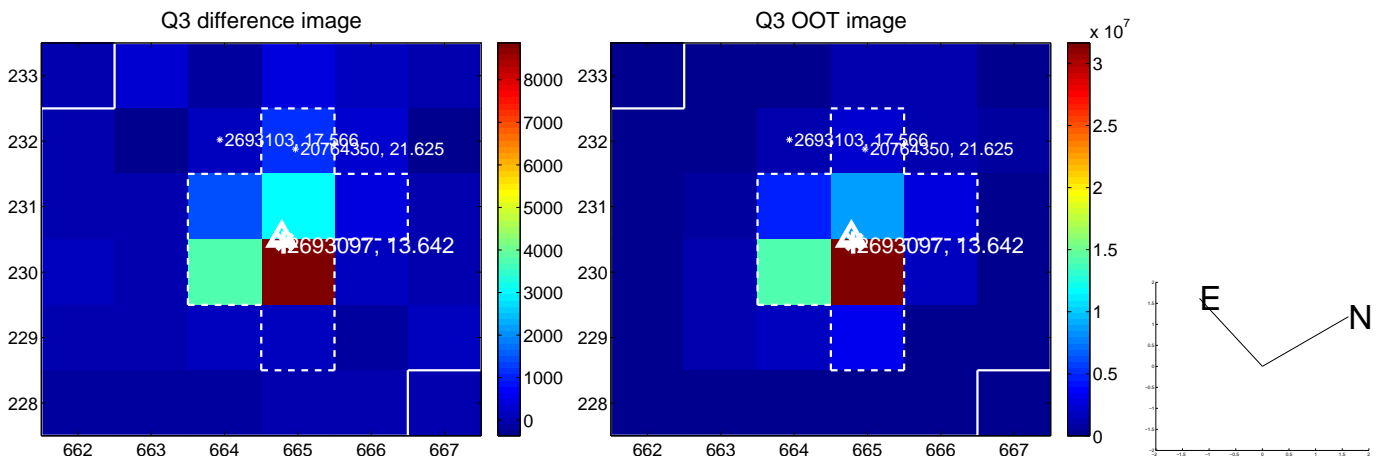
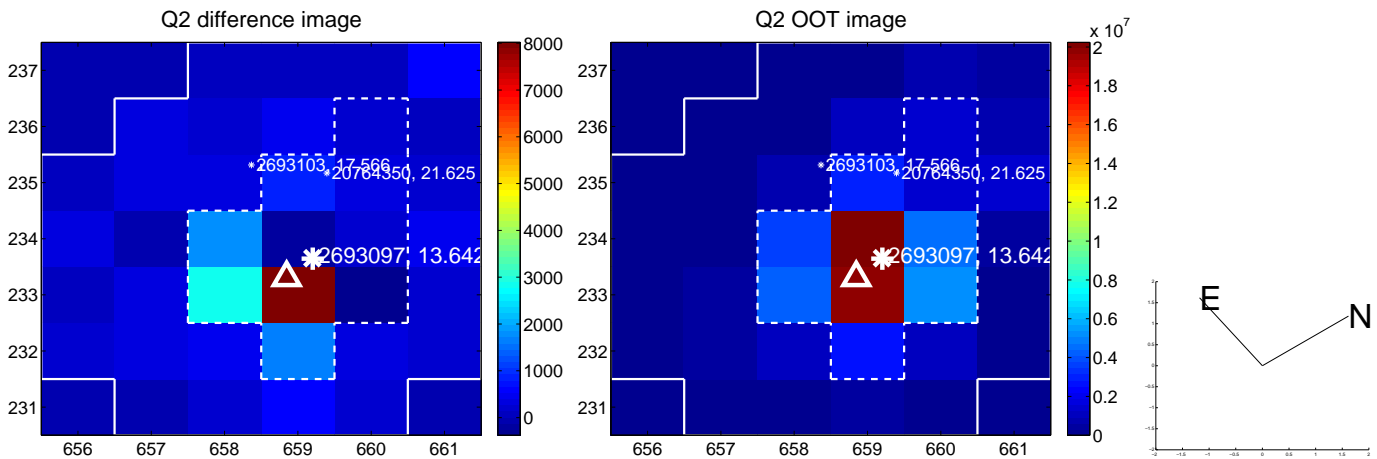
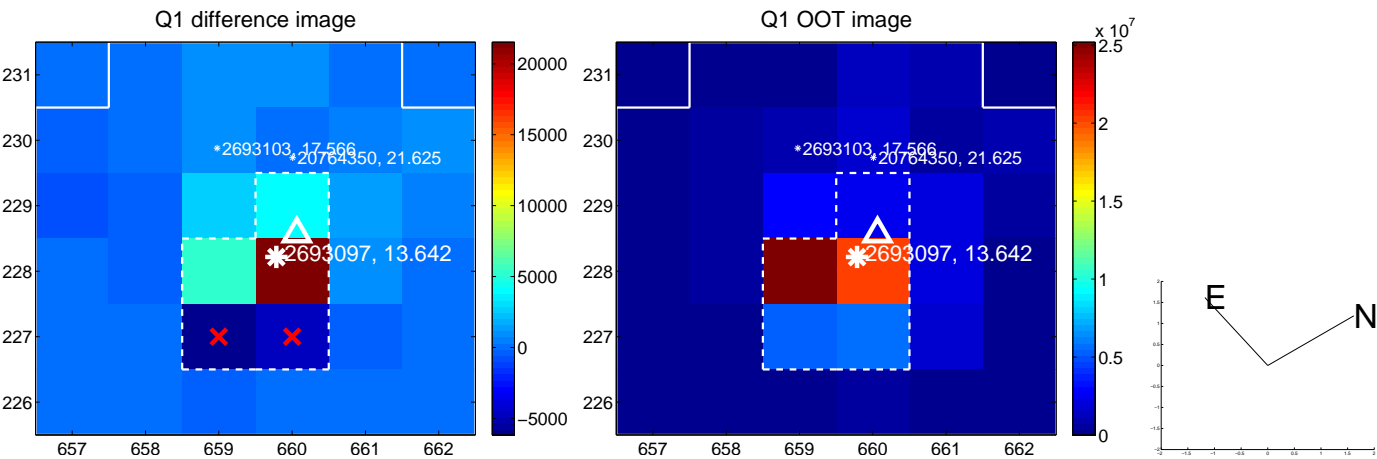
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.068 ± 0.263	0.26	0.000 ± 0.218	-0.068 ± 0.264
PRF-fit source offset from KIC position	0.142 ± 0.266	0.54	0.005 ± 0.216	-0.142 ± 0.270
photometric centroid source offset	0.89 ± 0.33	2.73	-0.41 ± 0.31	-0.79 ± 0.33

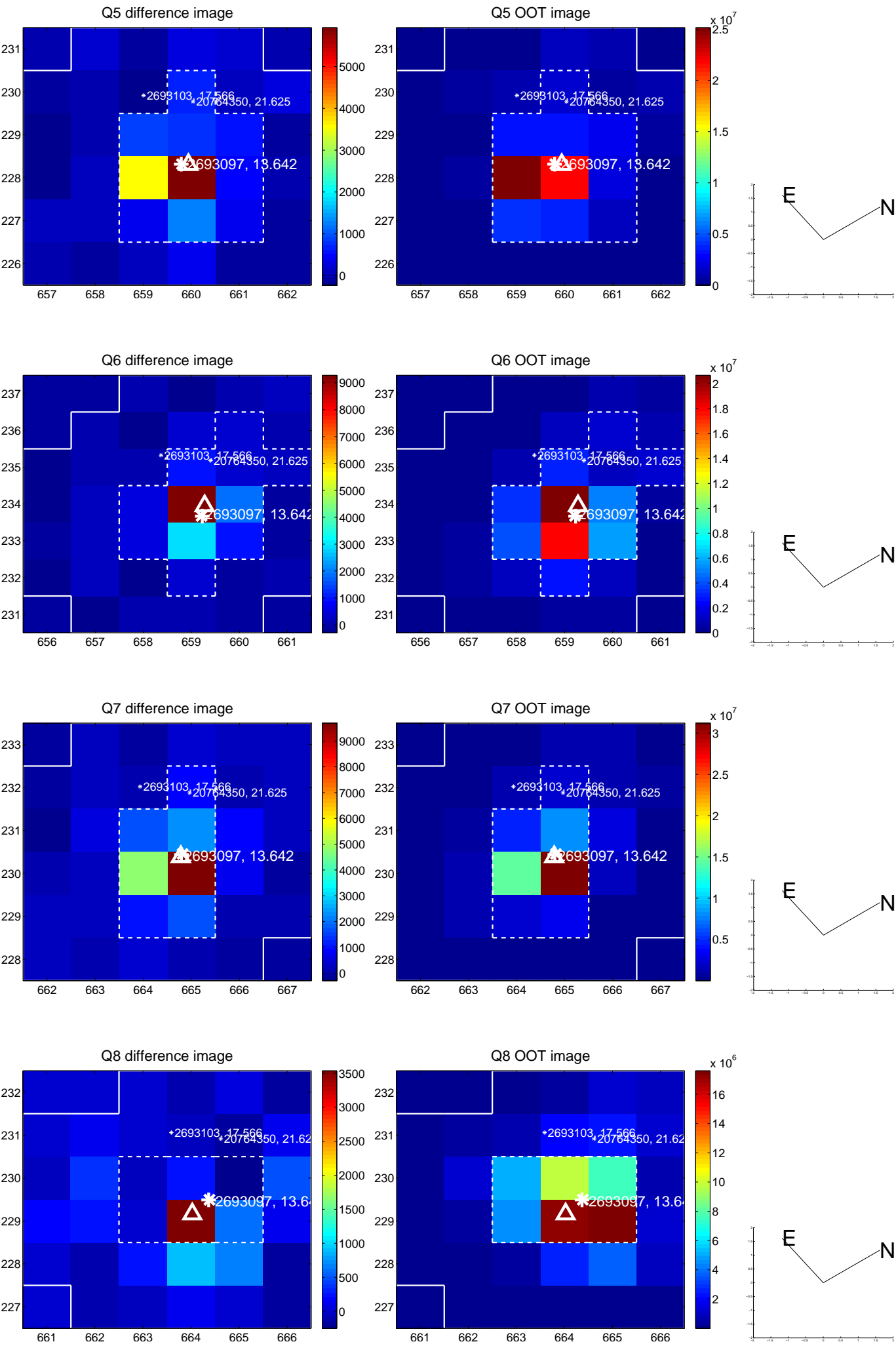


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

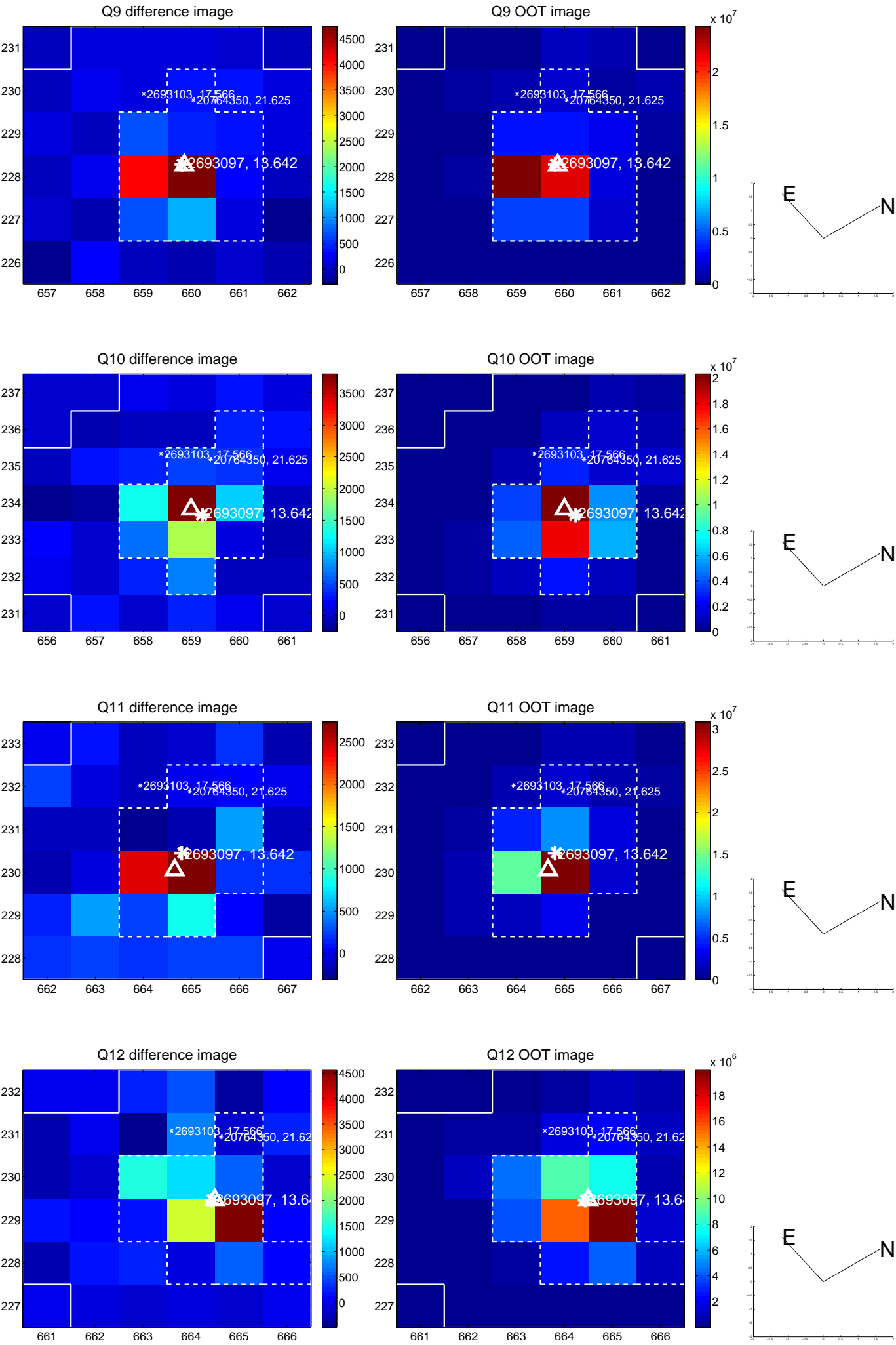
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



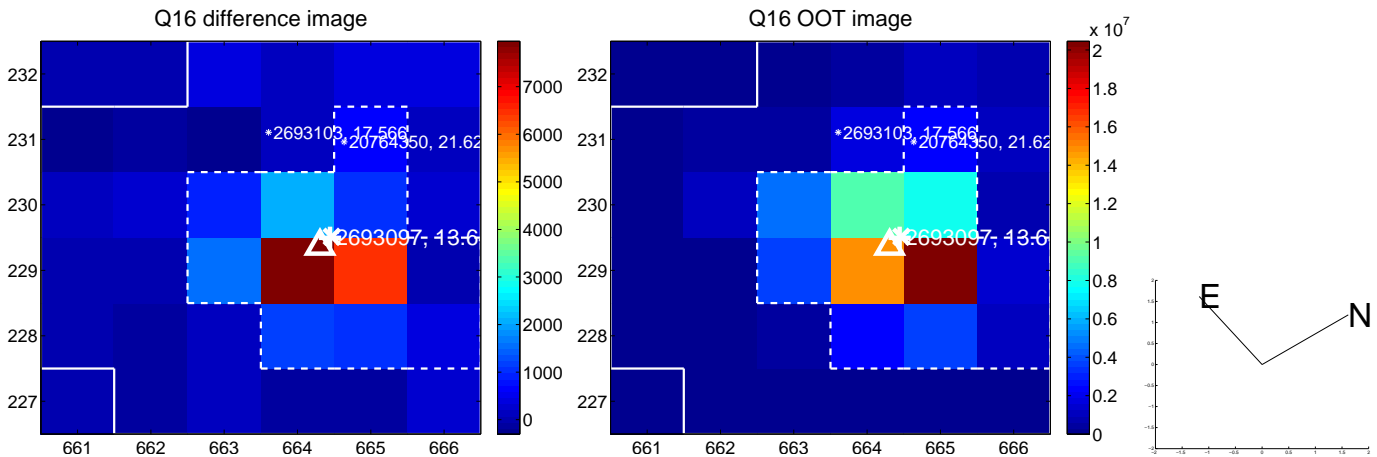
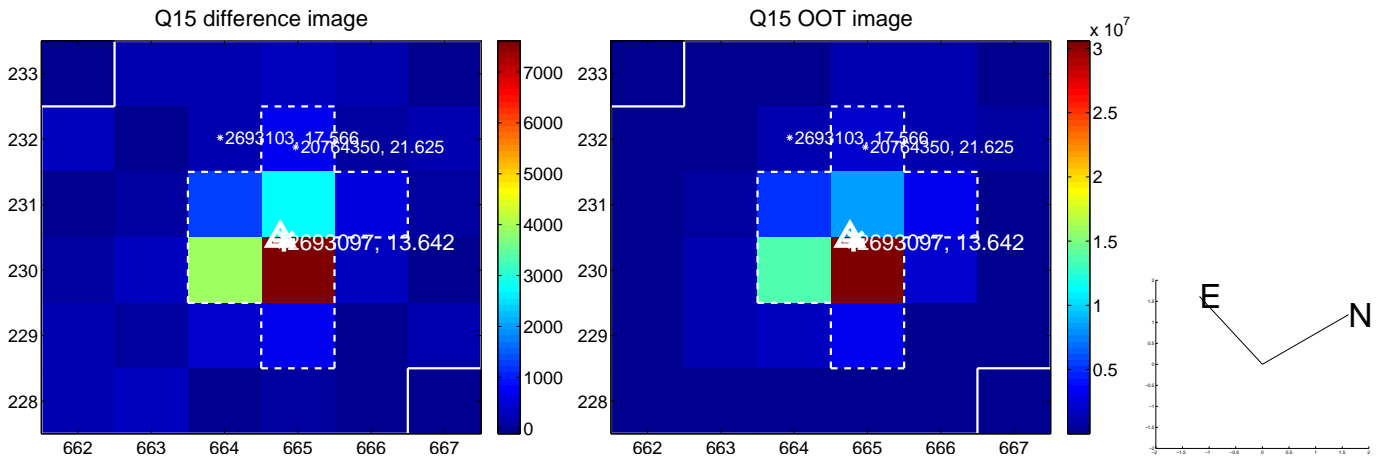
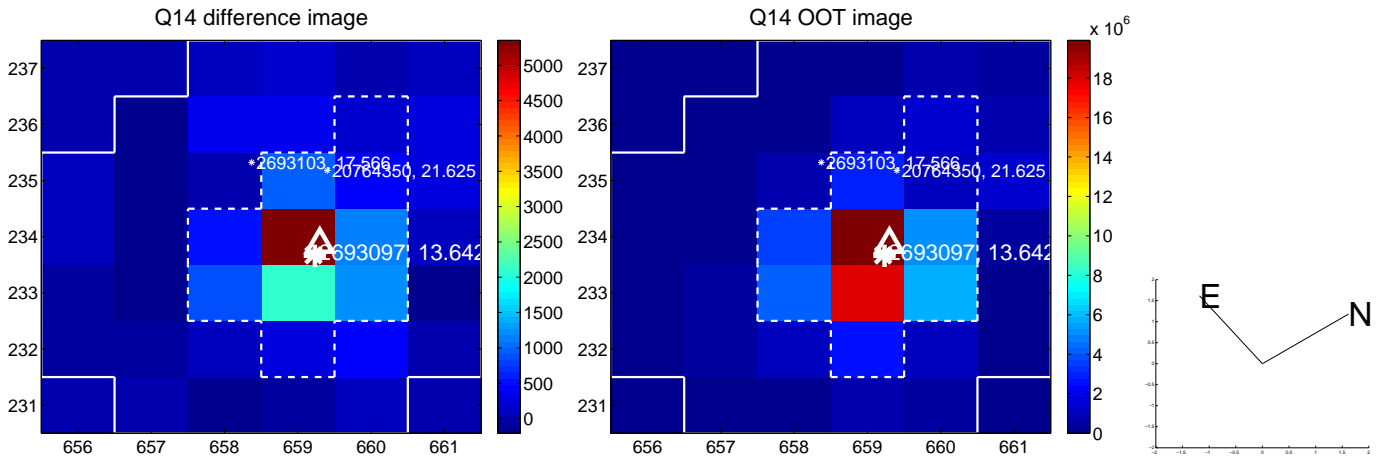
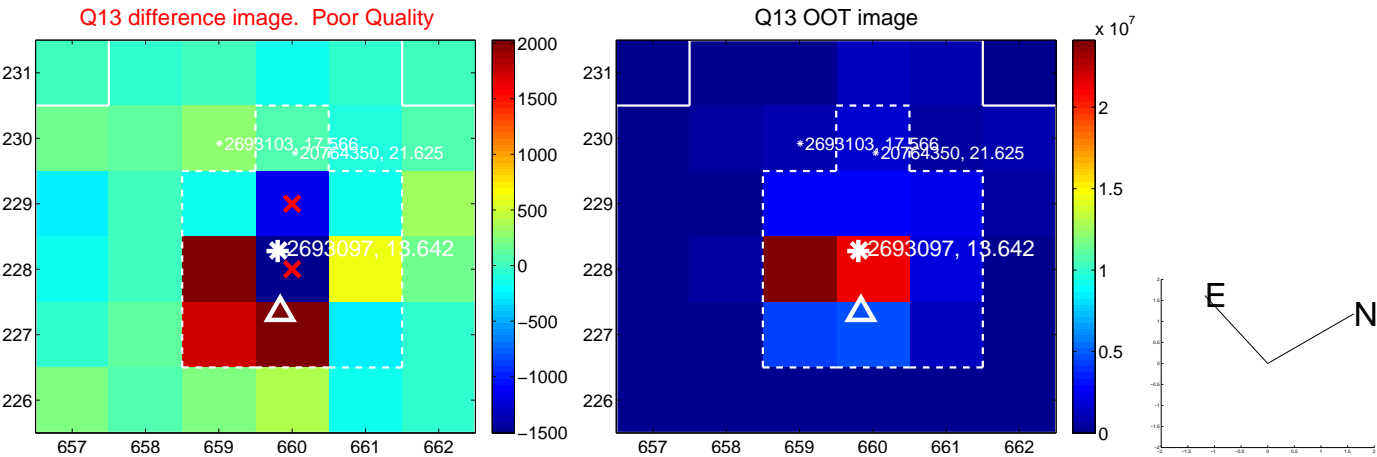
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



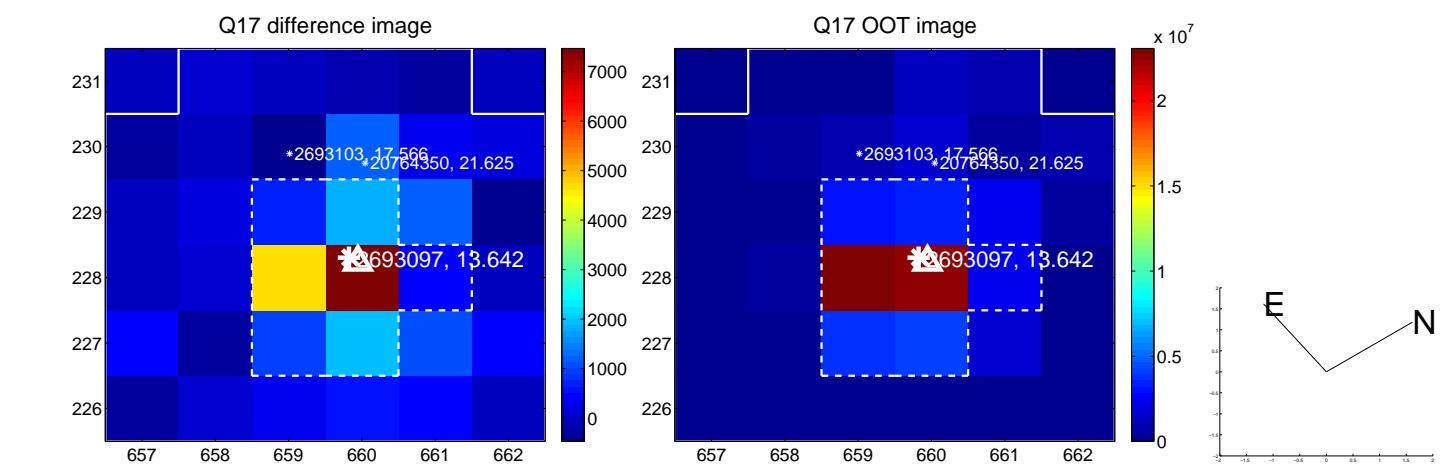
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



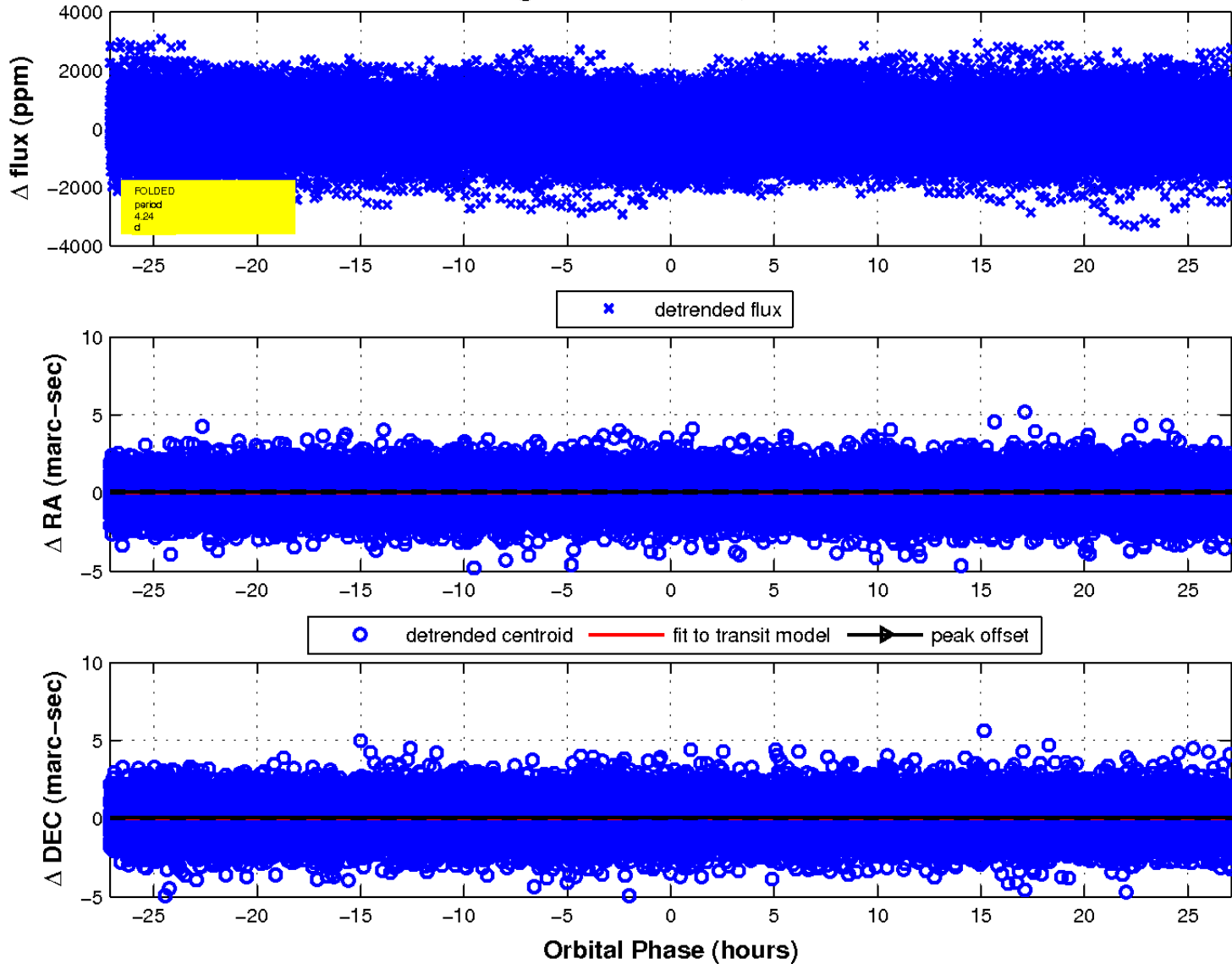
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



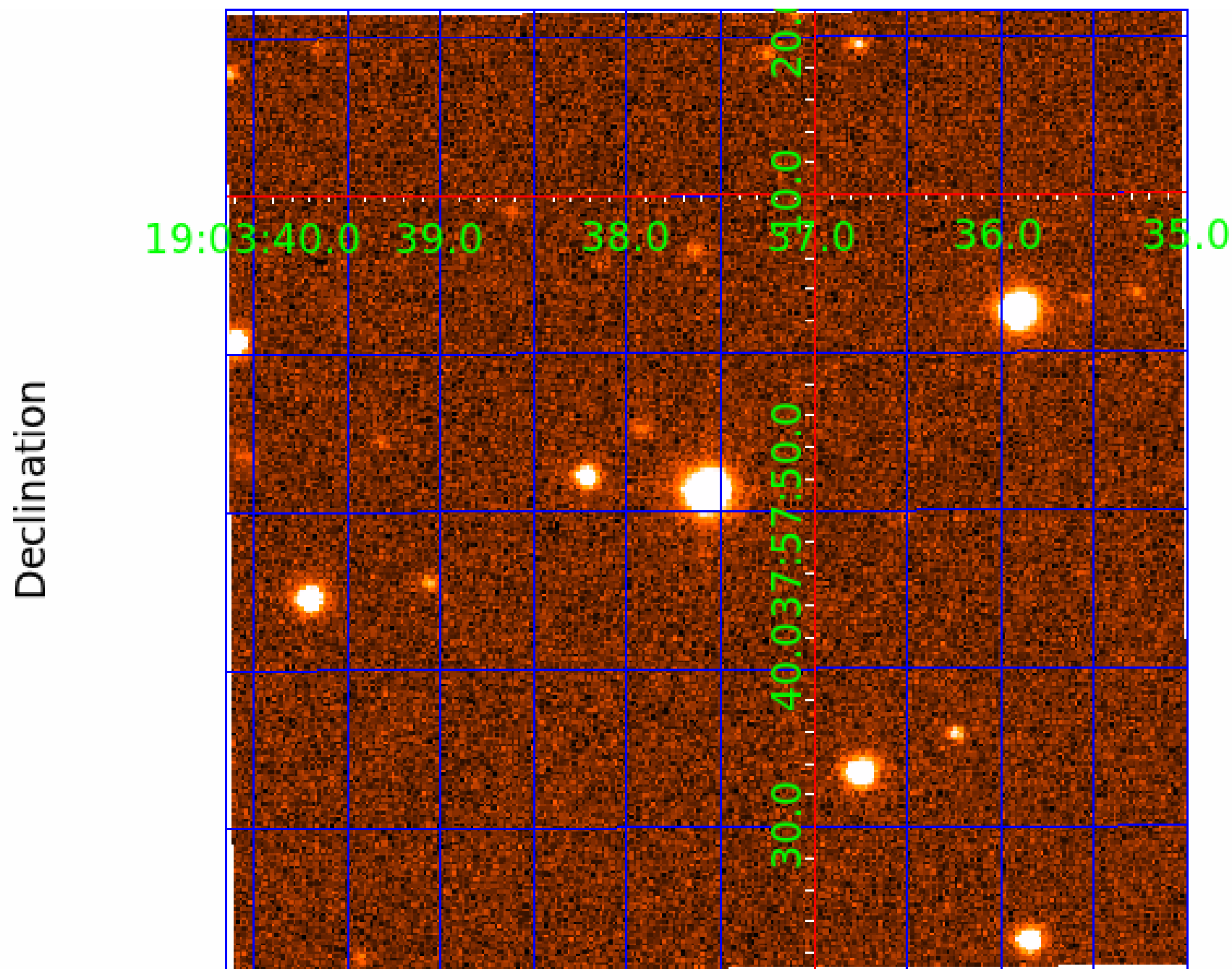
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 3



UKIRT Image



KIC 002693097

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})
002693097-01	OBS	No	1.413483	132.169893	71.8	6.339	9.5	8.8	1.63	7020	1.42	7222.54
002693097-02	OBS	No	4.240672	132.815492	155.2	9.039	14.4	12.4	1.63	7020	2.37	1669.16
002693097-03	OBS	No	2.826944	132.842581	330.9	9.000	12.6	-1.0	1.63	7020	3.00	2866.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002693097-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
002693097-02	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—HALO_GHOST
002693097-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD—CENT_NOFITS

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

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

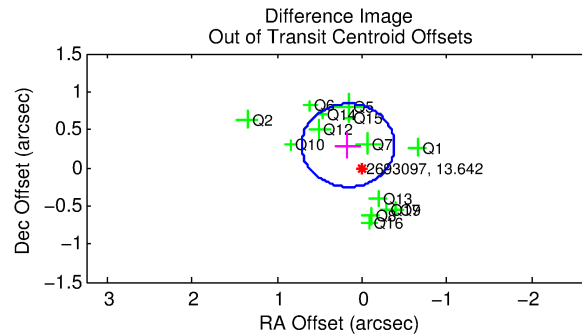
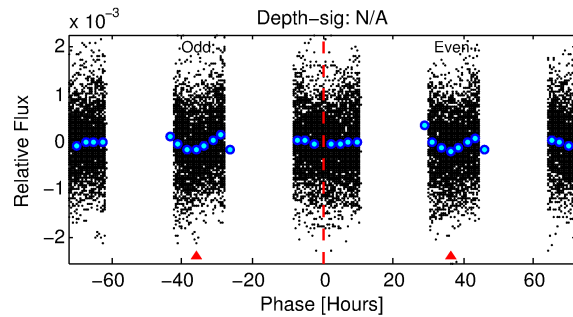
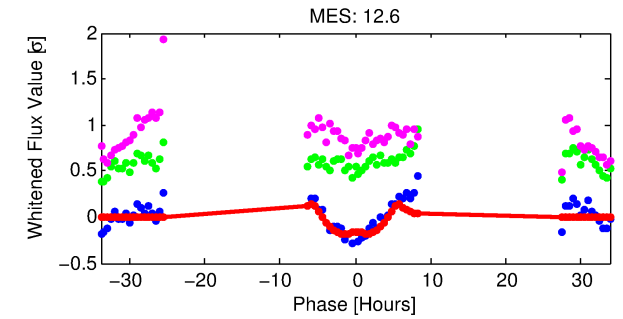
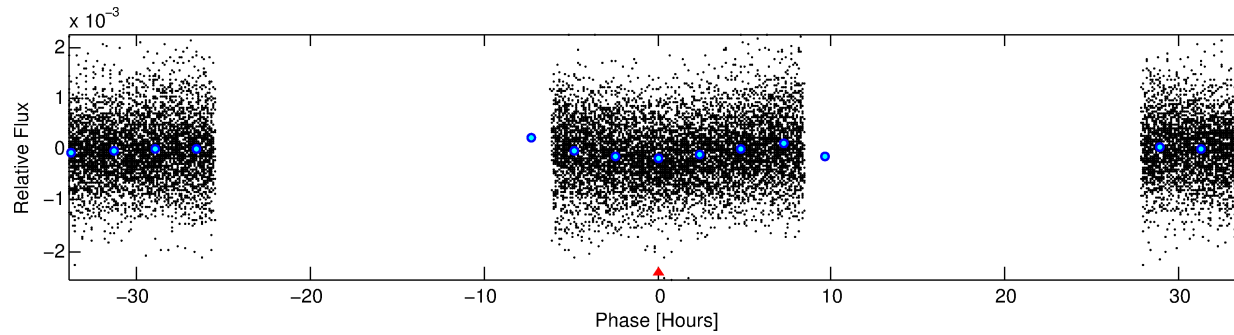
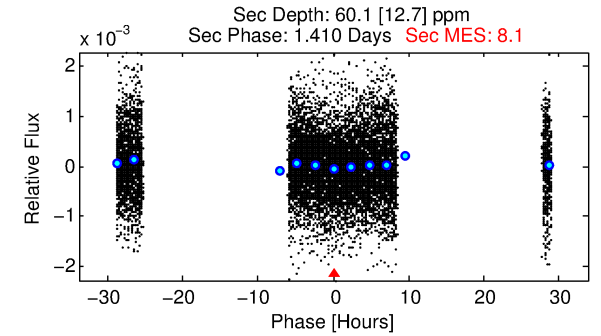
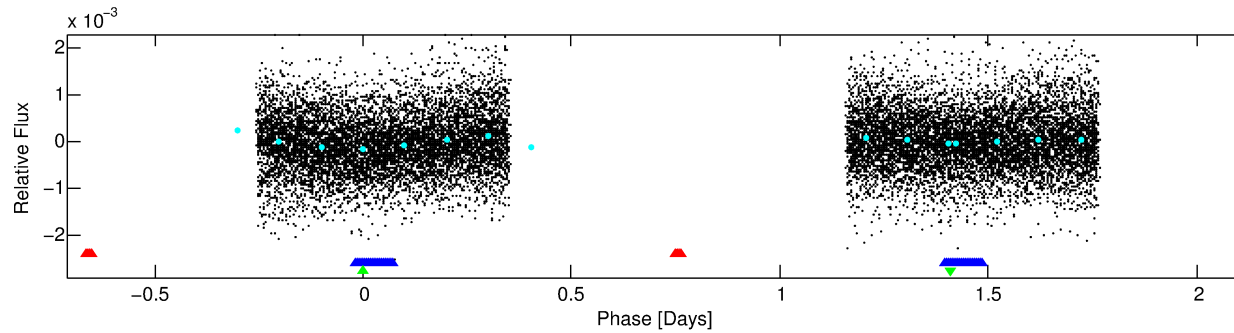
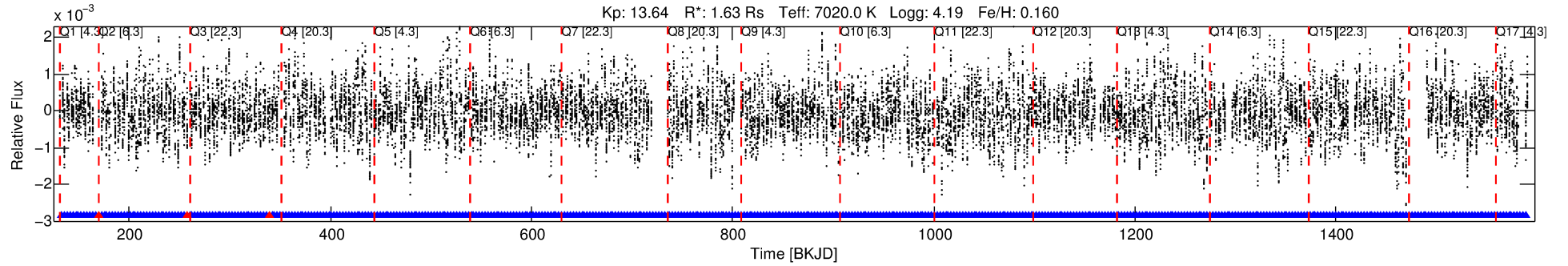
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002693097-03

No Significant Match Found

DV One-Page Summary

KIC: 2693097 Candidate: 3 of 3 Period: 2.827 d



TPS TCE Results:

Period = 2.82694 d
Epoch = 132.8426 BKJD

DV fit results are unavailable

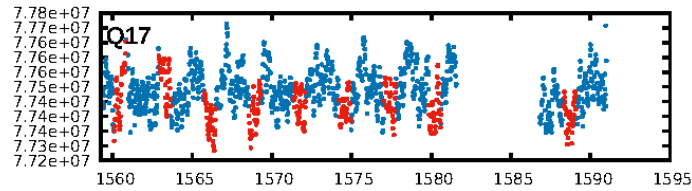
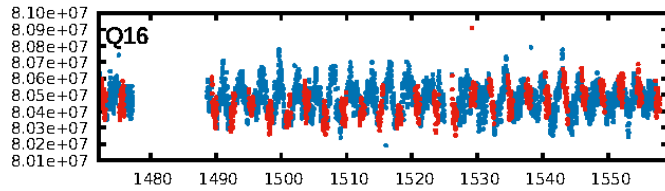
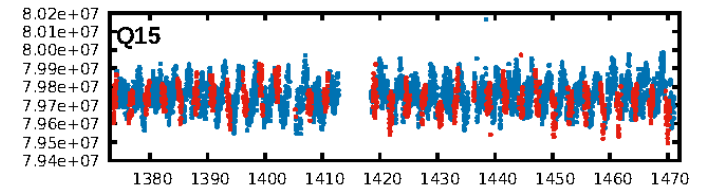
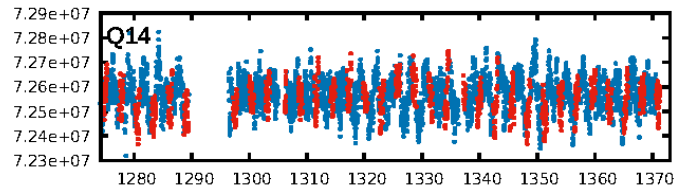
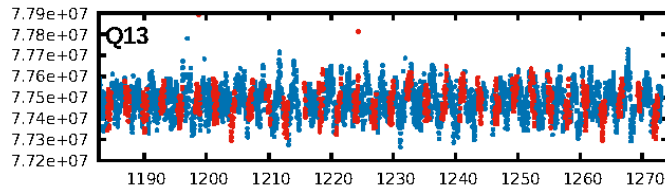
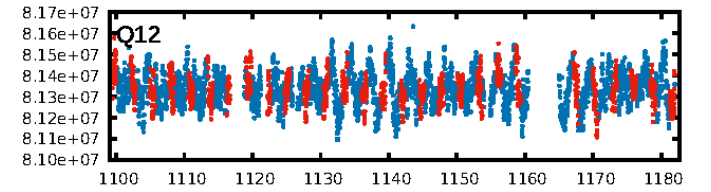
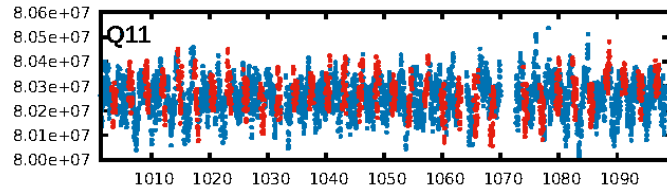
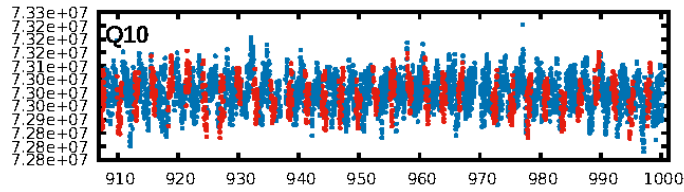
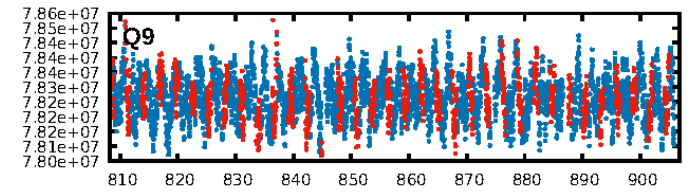
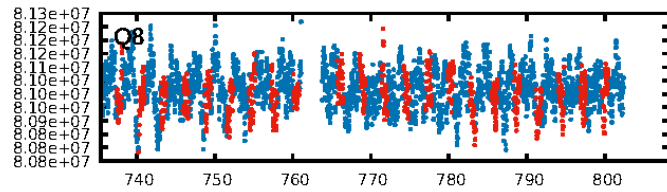
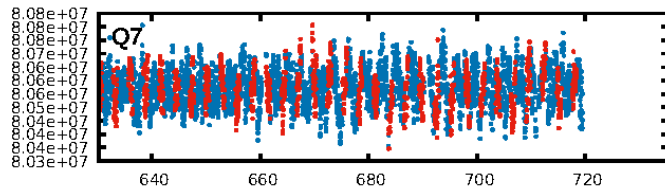
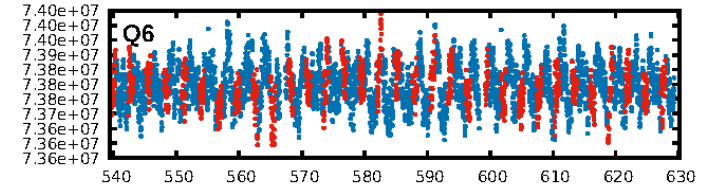
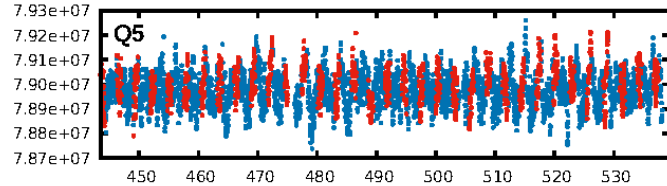
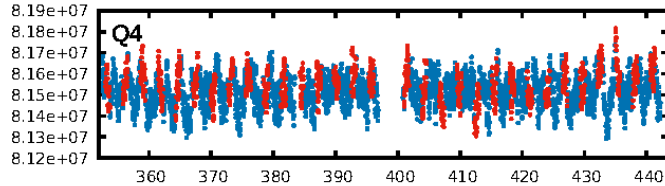
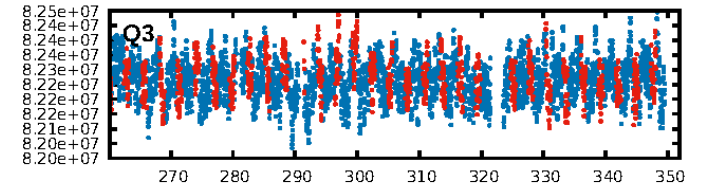
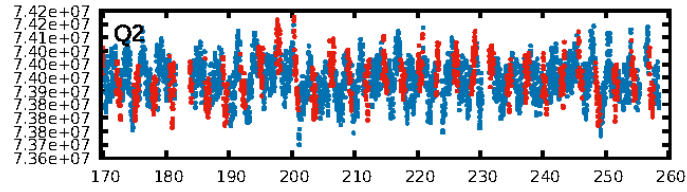
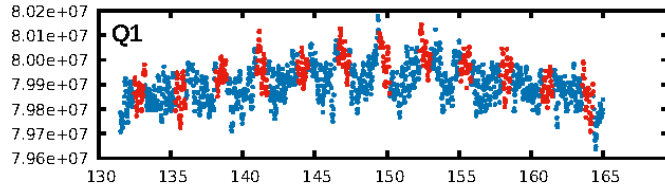
DV Diagnostic Results:

ShortPeriod-sig: 99.8% [3.08σ]
LongPeriod-sig: 99.2% [2.66σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [304/307]
GhostDiagnostic-chr: 1.492
Centroid-sig: 1.2%
Centroid-so: 0.371 arcsec [2.33σ]
OotOffset-rm: 0.336 arcsec [1.85σ]
KicOffset-rm: 0.313 arcsec [1.68σ]
OotOffset-st: 4/2/3/5 [14]
KicOffset-st: 4/2/3/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 0.00 [0/17]

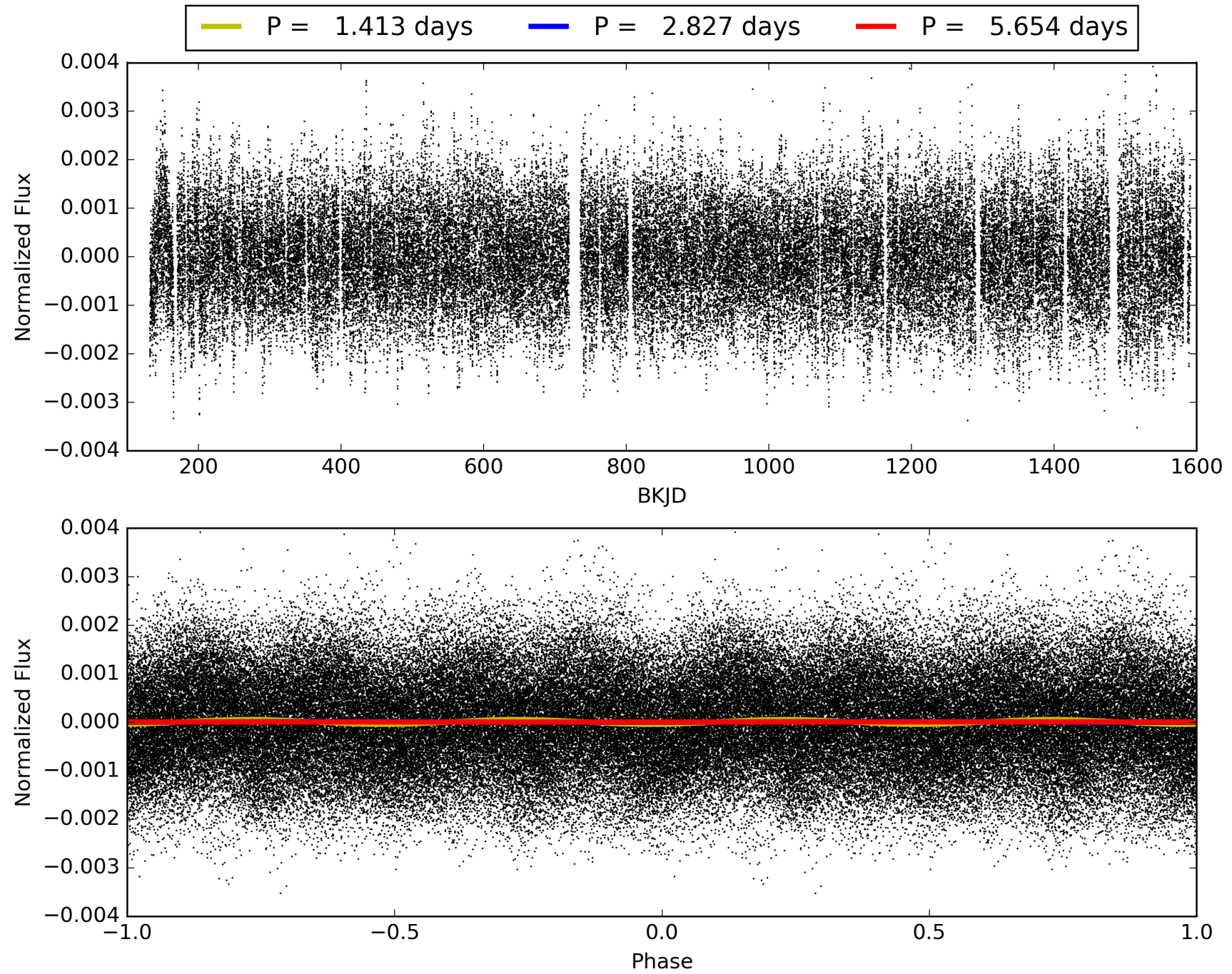
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:58:02 Z

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

TCE 002693097-03, PDC Light Curves

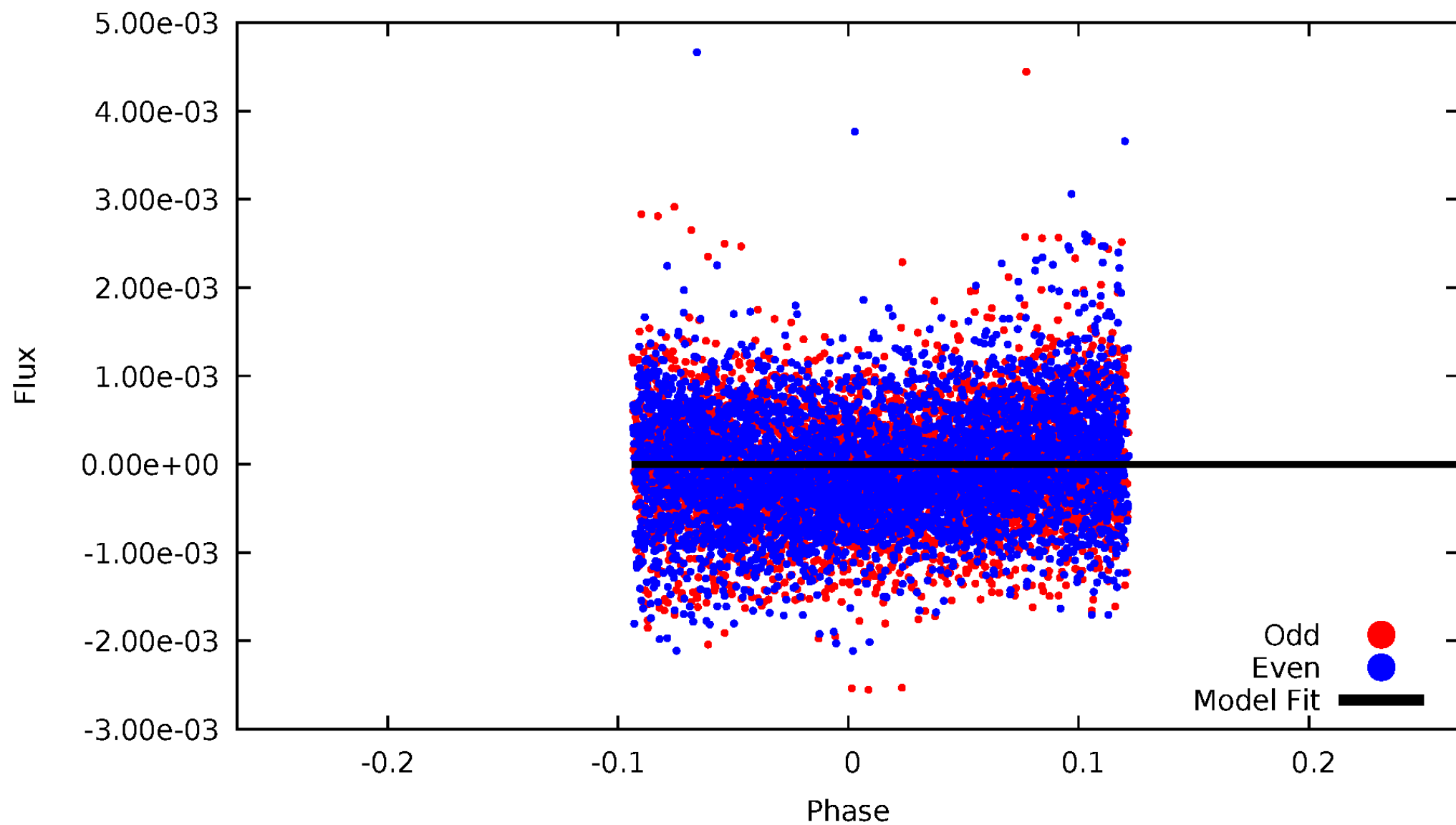


TCE 002693097-03



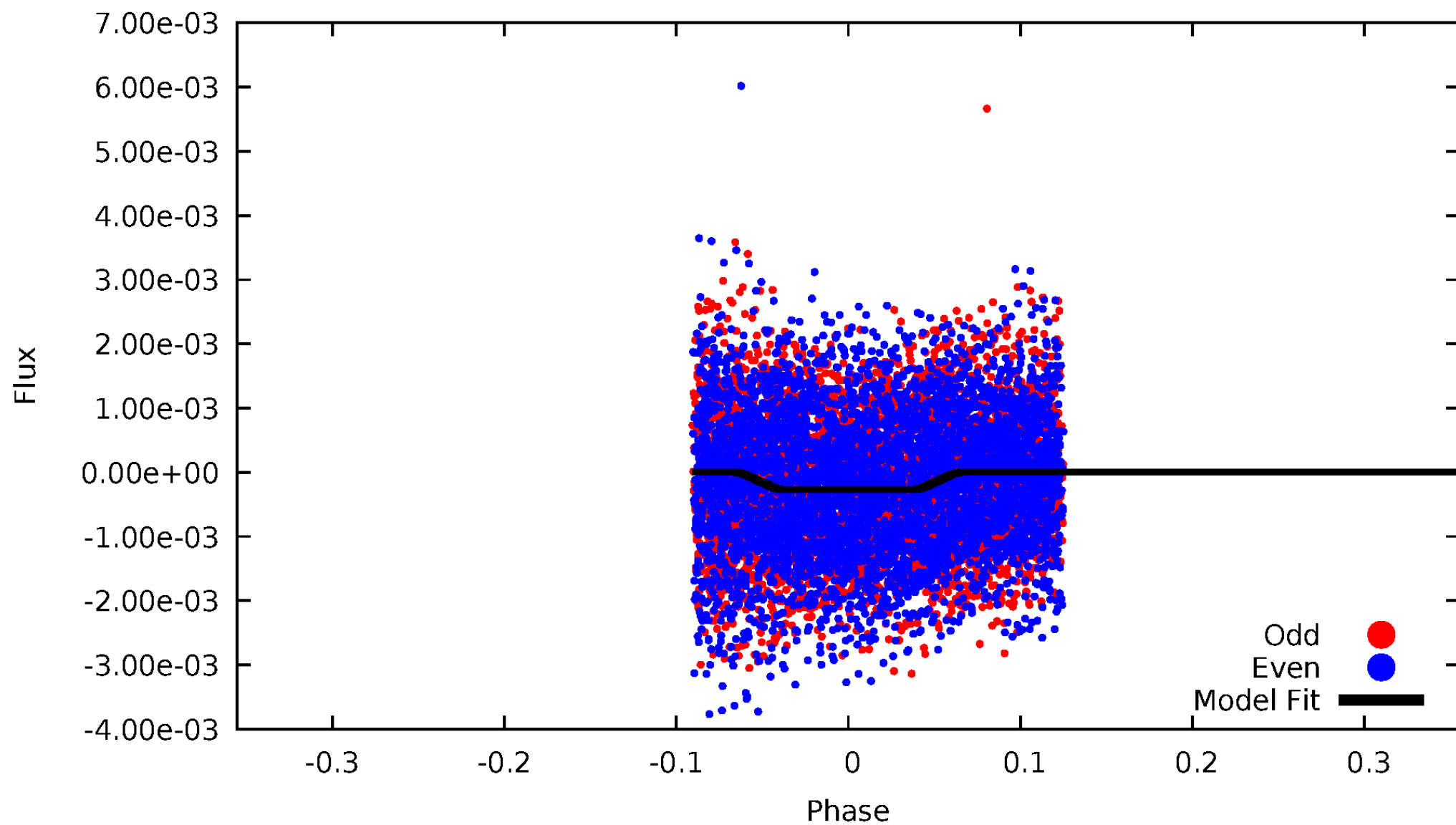
DV Odd/Even

TCE 002693097-03



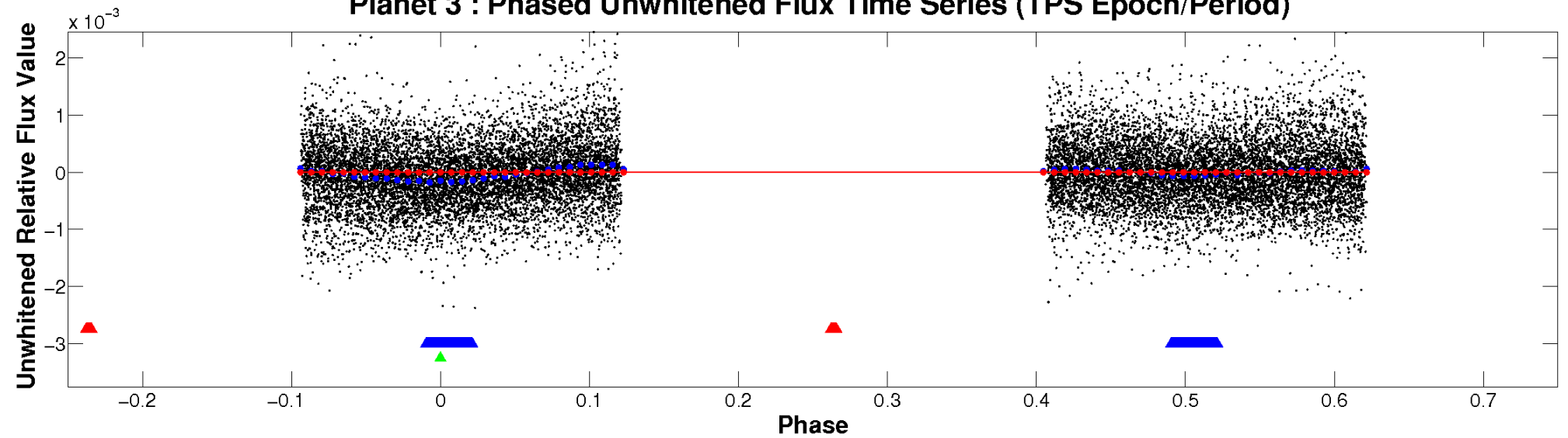
ALT Odd/Even

TCE 002693097-03

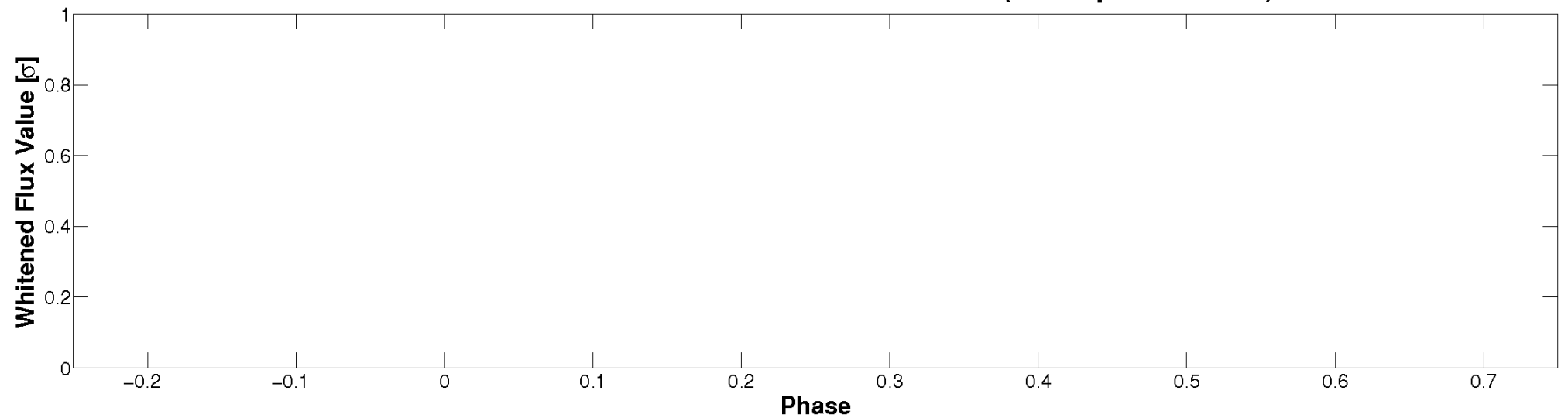


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

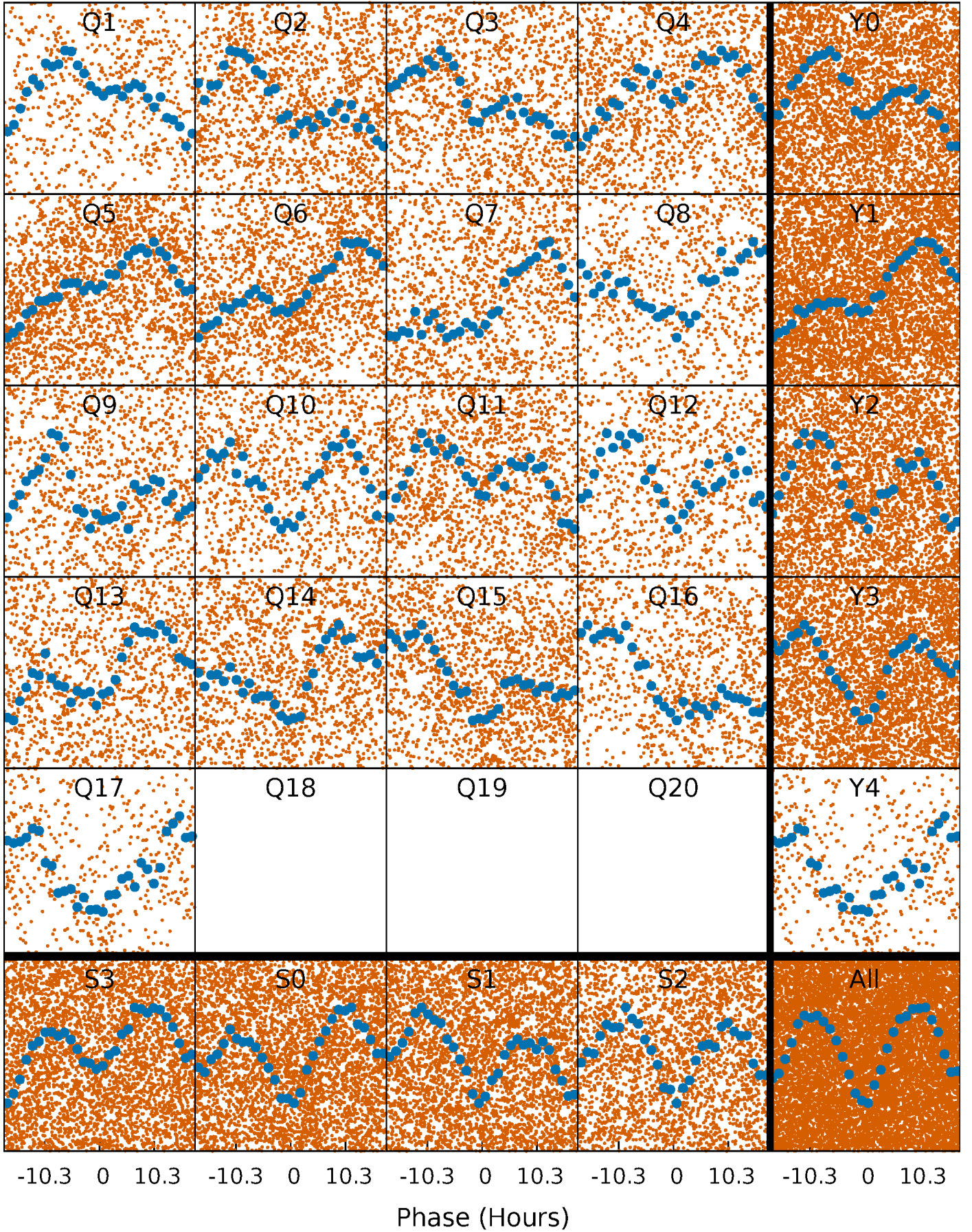


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



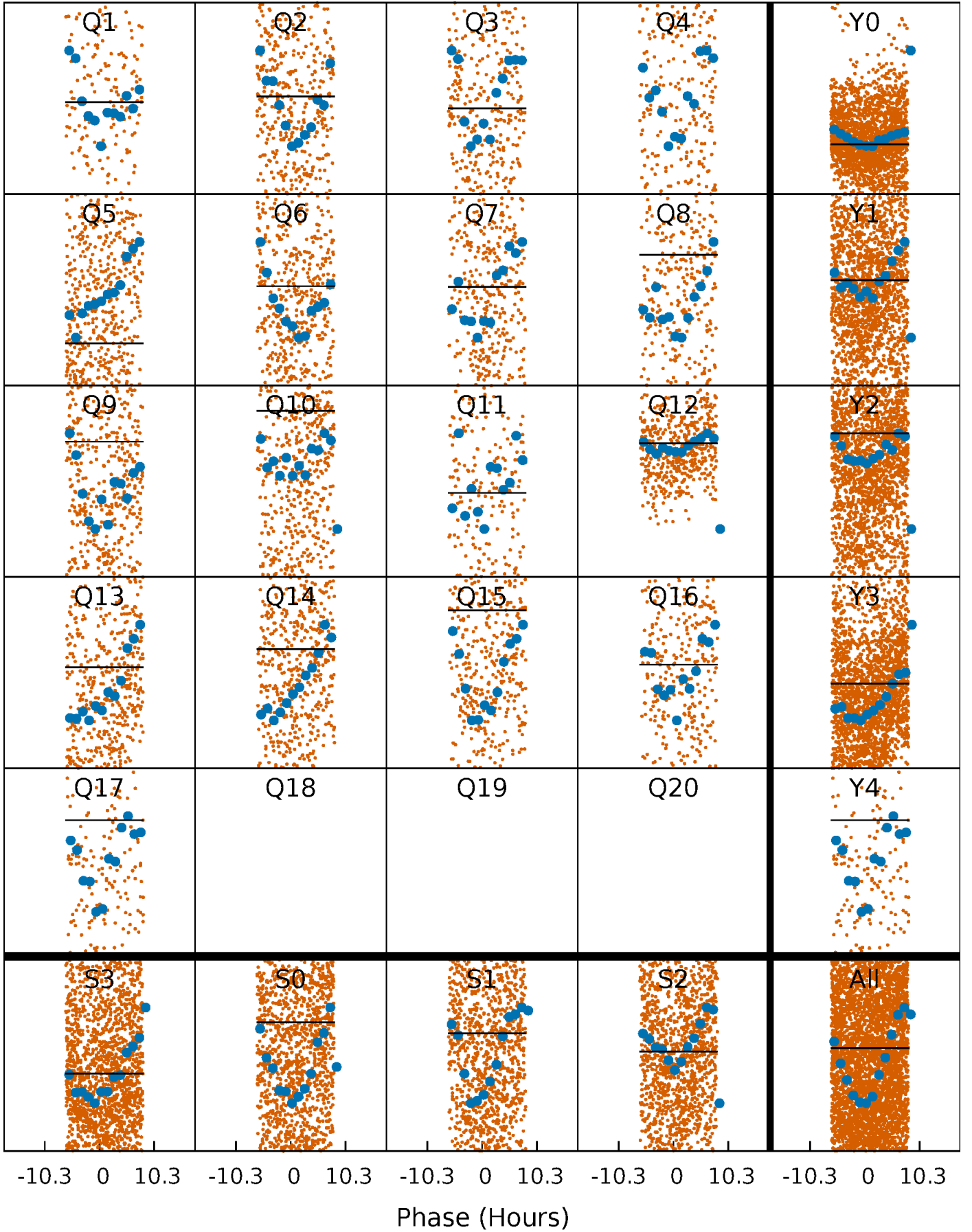
PDC Quarter-Phased Transit Curves

TCE 002693097-03 P= 2.826944 Days $T_0=132.842581$ (BKJD)



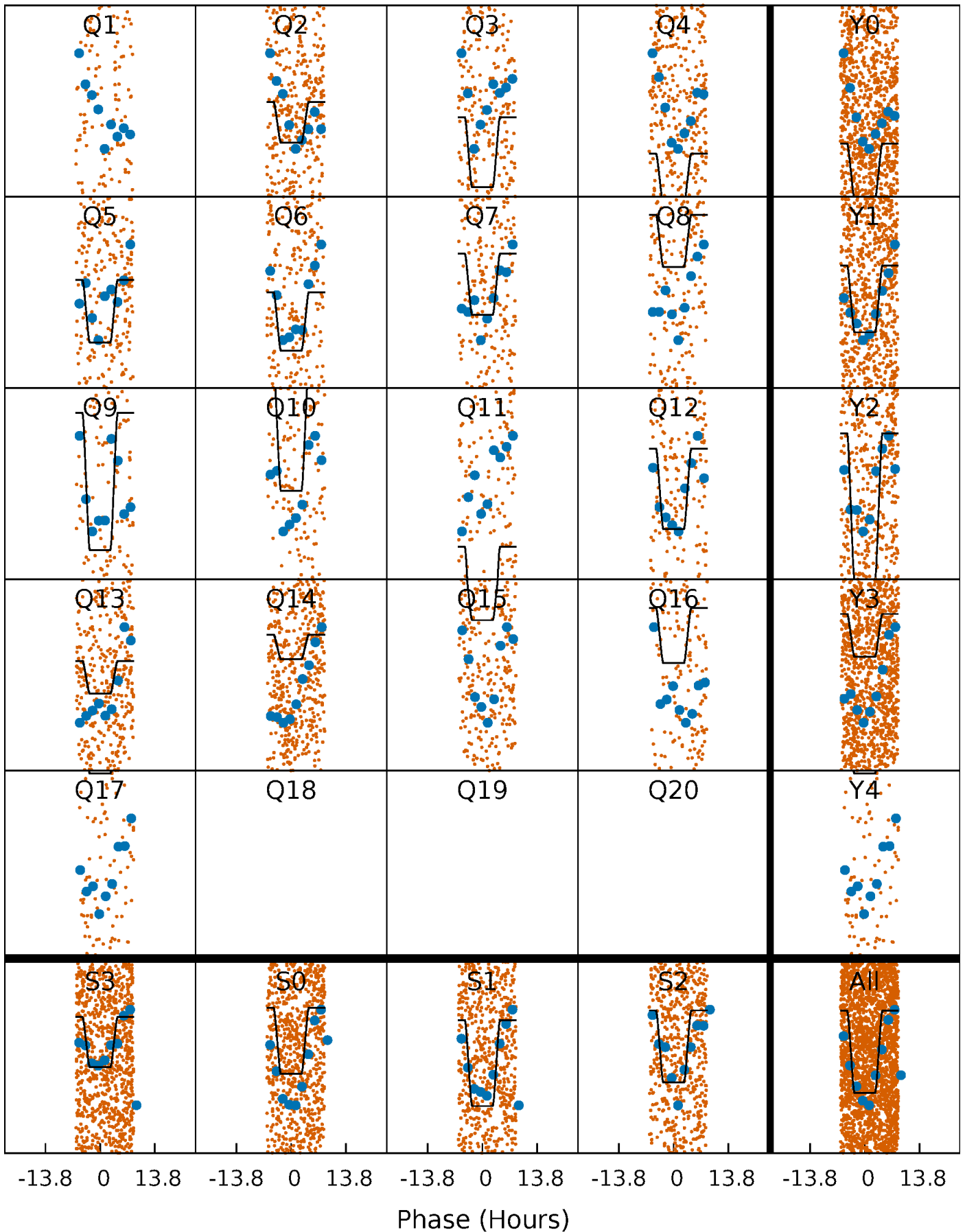
DV Quarter-Phased Transit Curves

TCE 002693097-03 $P = 2.826944$ Days $T_0 = 132.842581$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

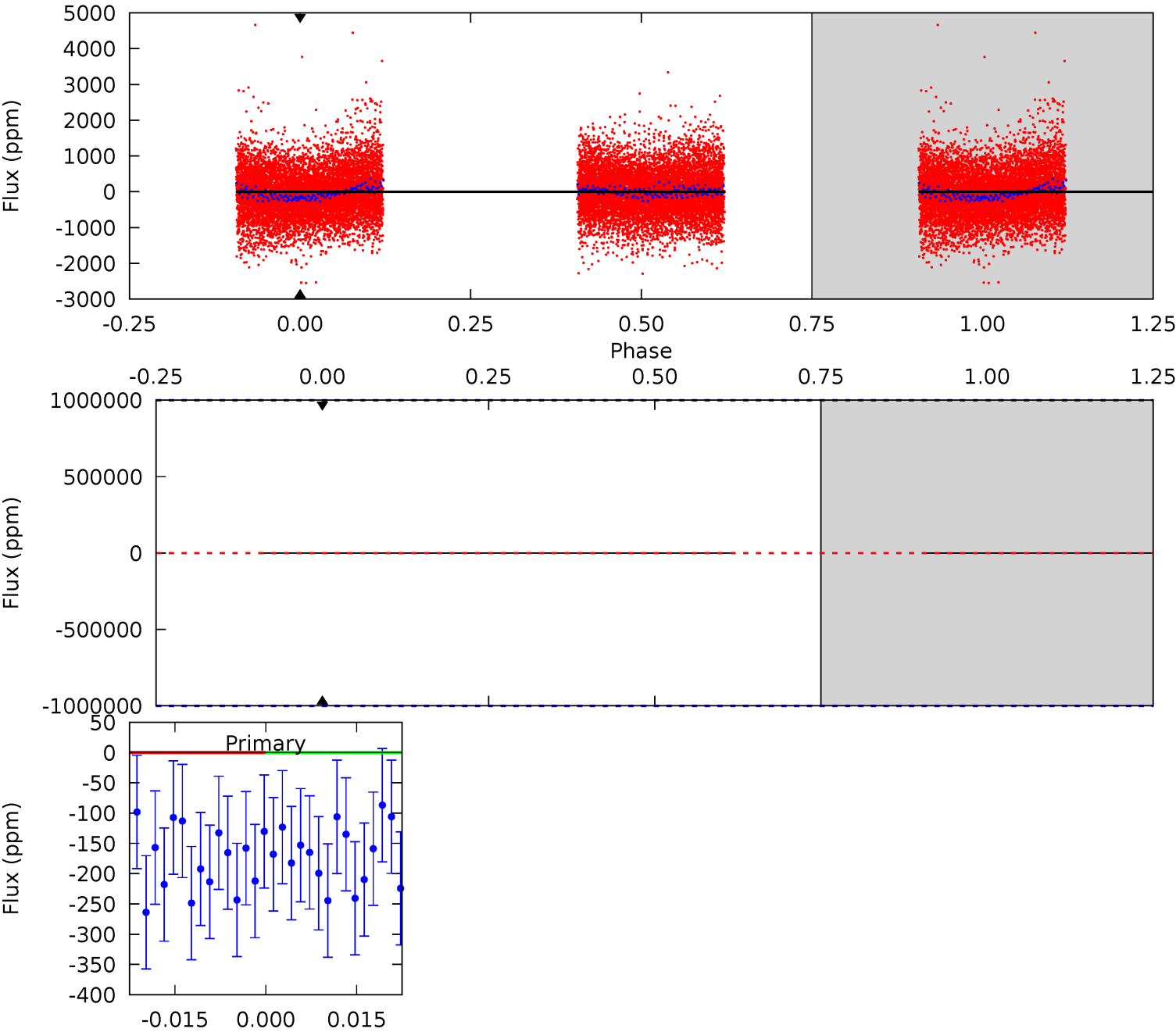
TCE 002693097-03 $P = 2.826944$ Days $T_0 = 132.833177$ (BKJD)



DV Model-Shift Uniqueness Test

002693097-03, P = 2.826944 Days, E = 130.015637 Days

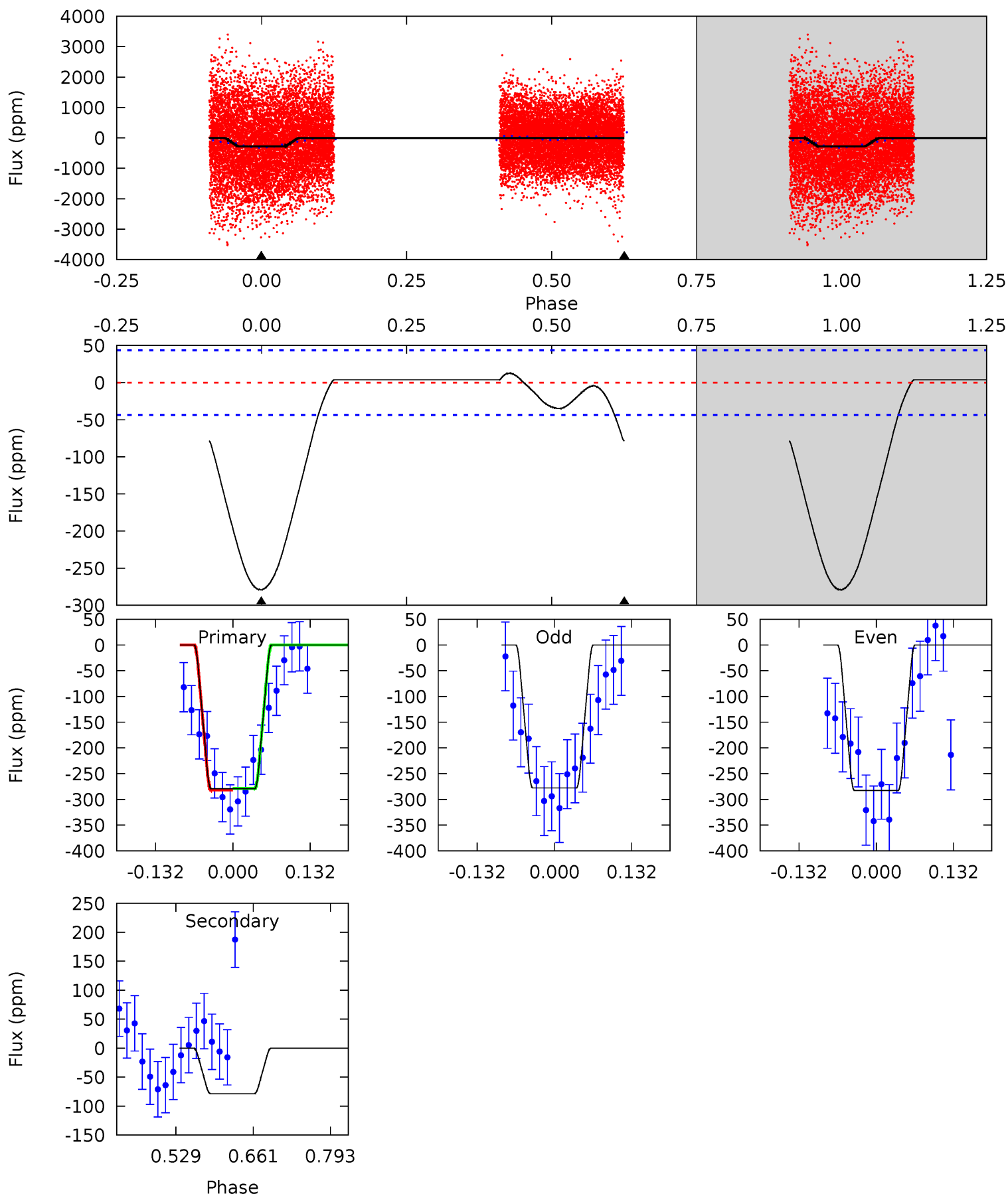
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

002693097-03, P = 2.826944 Days, E = 130.006233 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.9	8.14	0	0	4.51	1.51	1.44	28.9	28.9	8.14	8.14	0.26	0.86	0.04	0.13



Stellar Parameters For KIC 002693097

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7020^{+195}_{-269}	$4.194^{+0.090}_{-0.210}$	$0.160^{+0.200}_{-0.350}$	$1.634^{+0.556}_{-0.238}$	$1.521^{+0.214}_{-0.214}$	$0.491^{+0.198}_{-0.268}$
	+3%/-4%	+2%/-5%	+125%/-219%	+34%/-15%	+14%/-14%	+40%/-55%
Source	PHO1	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 002693097-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$13.85^{+14.12}_{-9.37}$	2640^{+193}_{-156}	5980^{+33346}_{-32738}	17^{+1323}_{-749}
Alt.	-79 ± 10	$13.29^{+14.51}_{-9.02}$	2642^{+203}_{-143}	2656^{+1796}_{-5357}	$0.471^{+4.249}_{-0.358}$

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 $A_{obs} \gg 1.0$

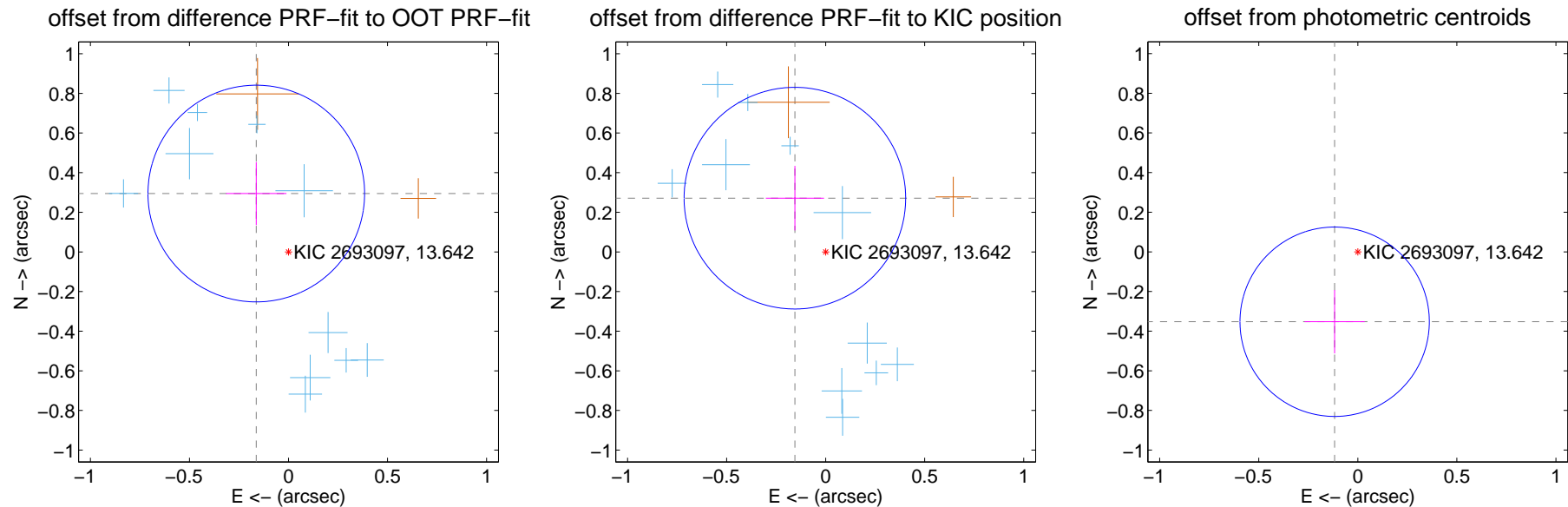
DV Centroid Data

Supplemental centroid analysis for 002693097-03. Kepler magnitude: 13.64. Transit SNR -1.00

There are 12 quarters with good PRF difference image offsets

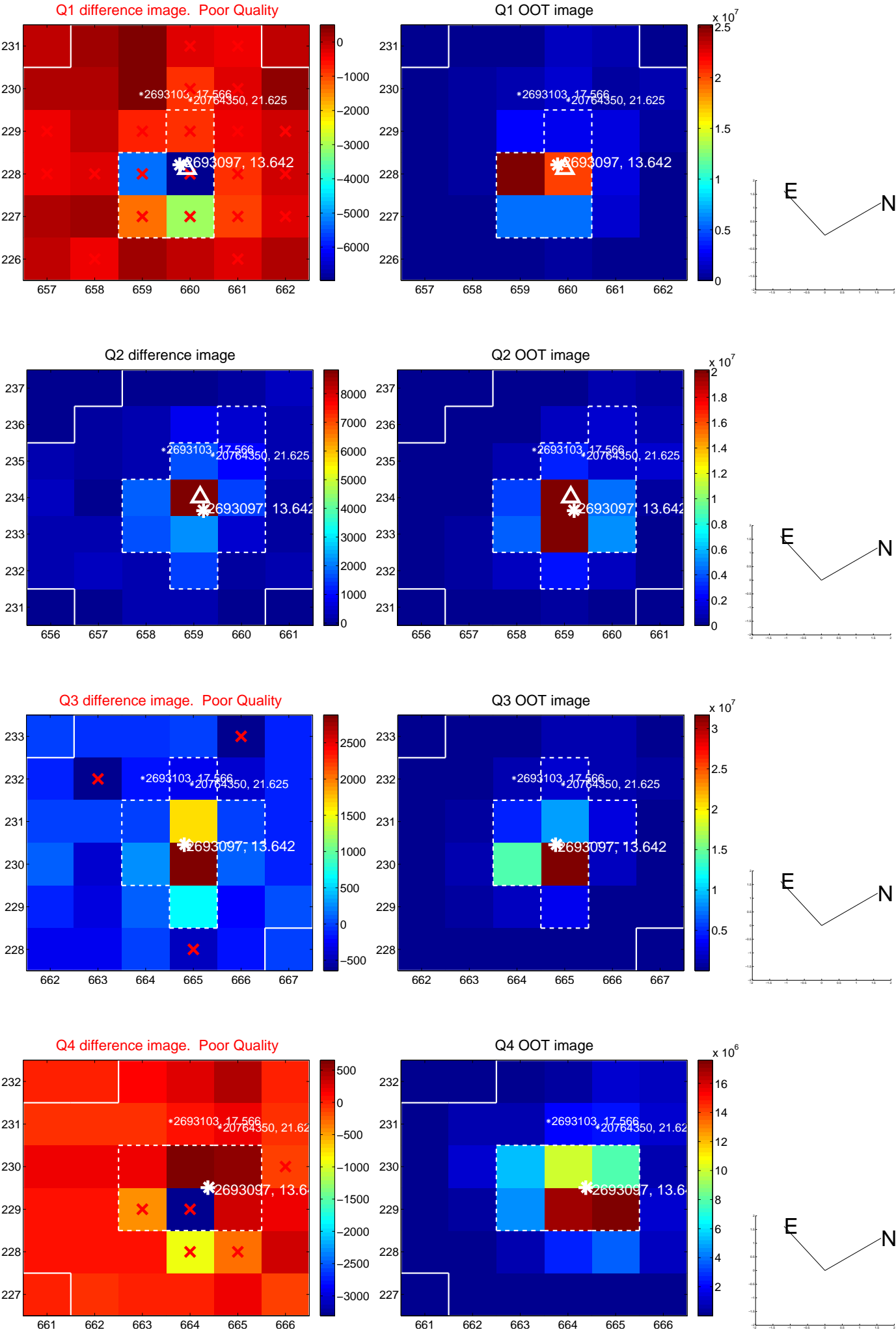
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.336 ± 0.182	1.85	0.163 ± 0.152	0.295 ± 0.159
PRF-fit source offset from KIC position	0.313 ± 0.186	1.68	0.155 ± 0.147	0.271 ± 0.163
photometric centroid source offset	0.37 ± 0.16	2.33	0.12 ± 0.15	-0.35 ± 0.16

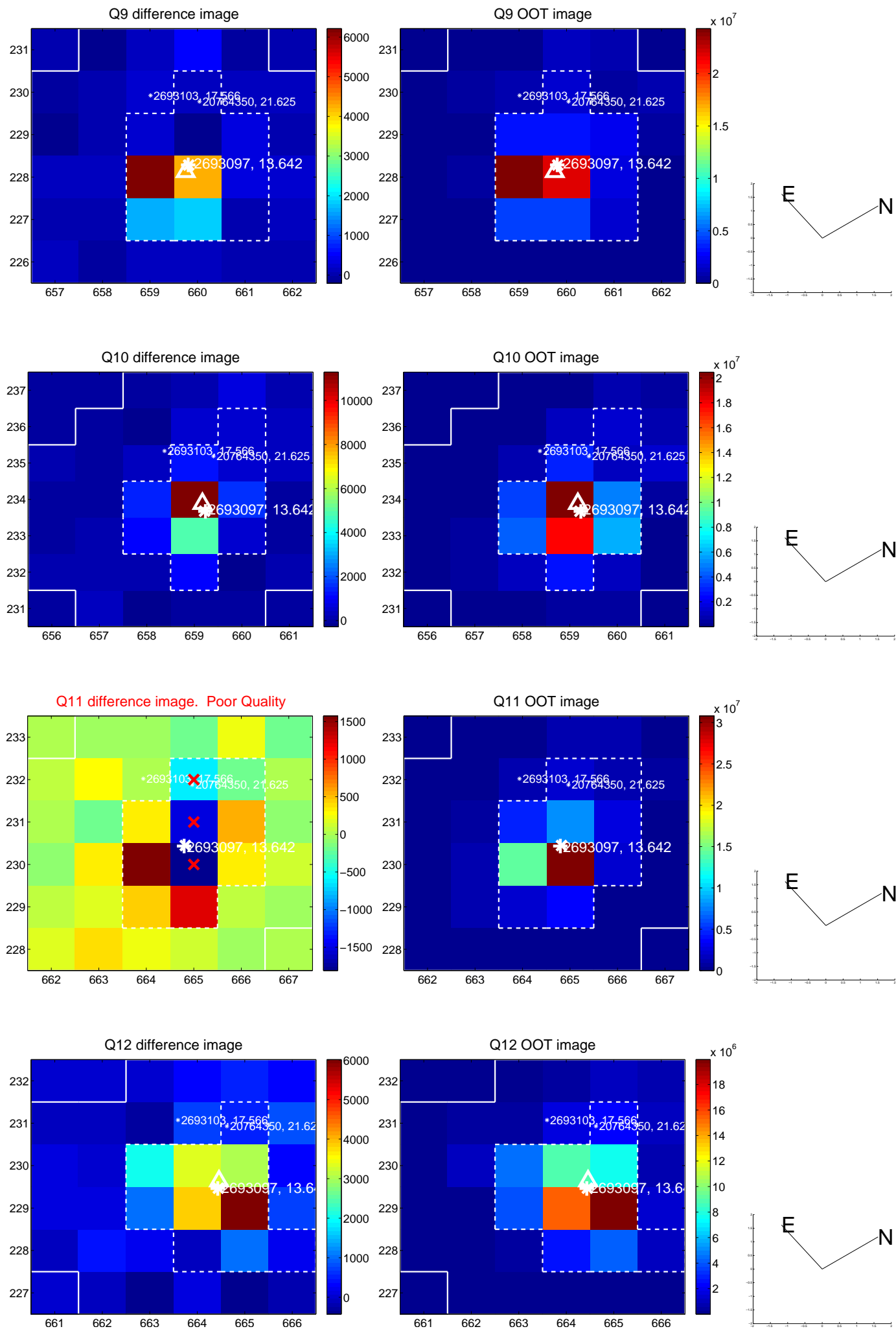


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

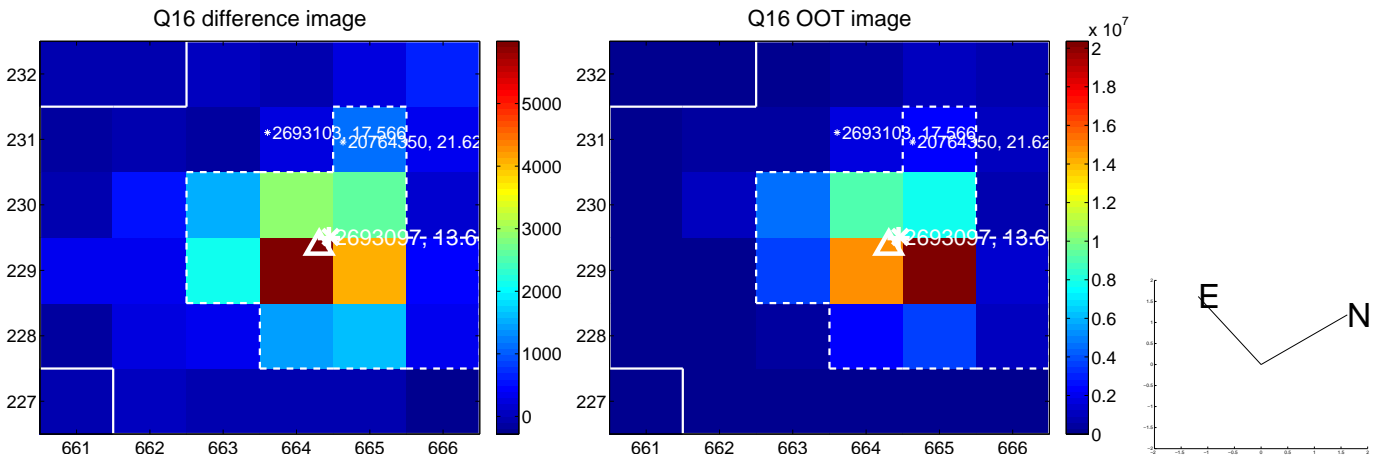
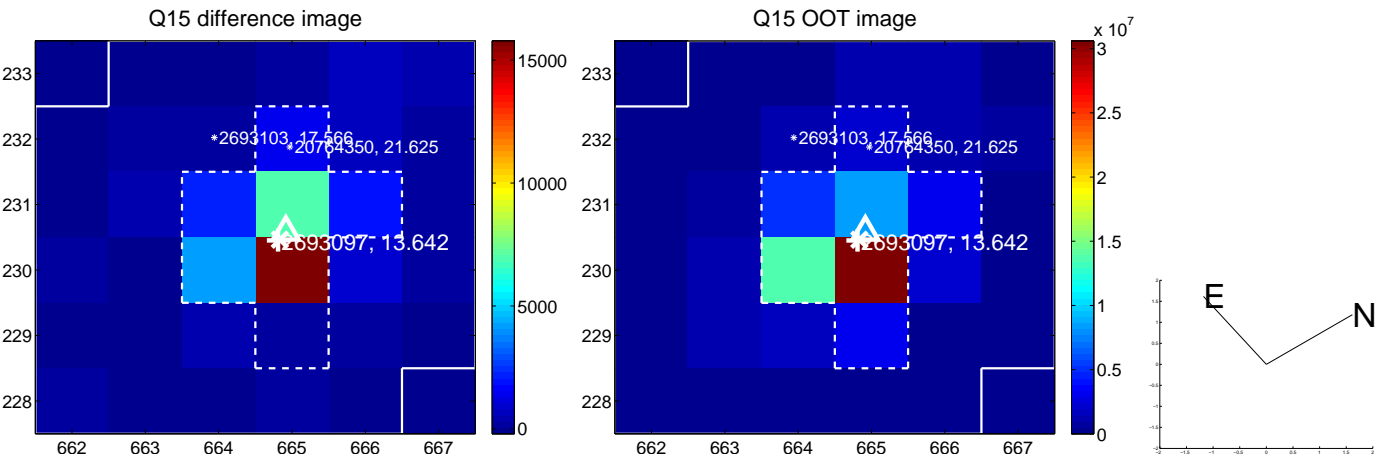
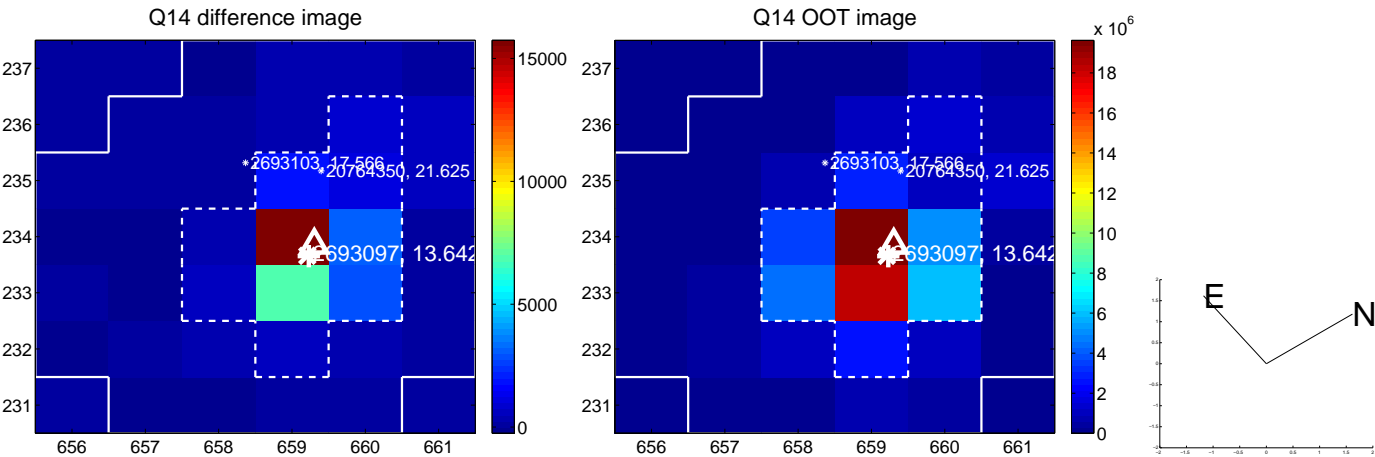
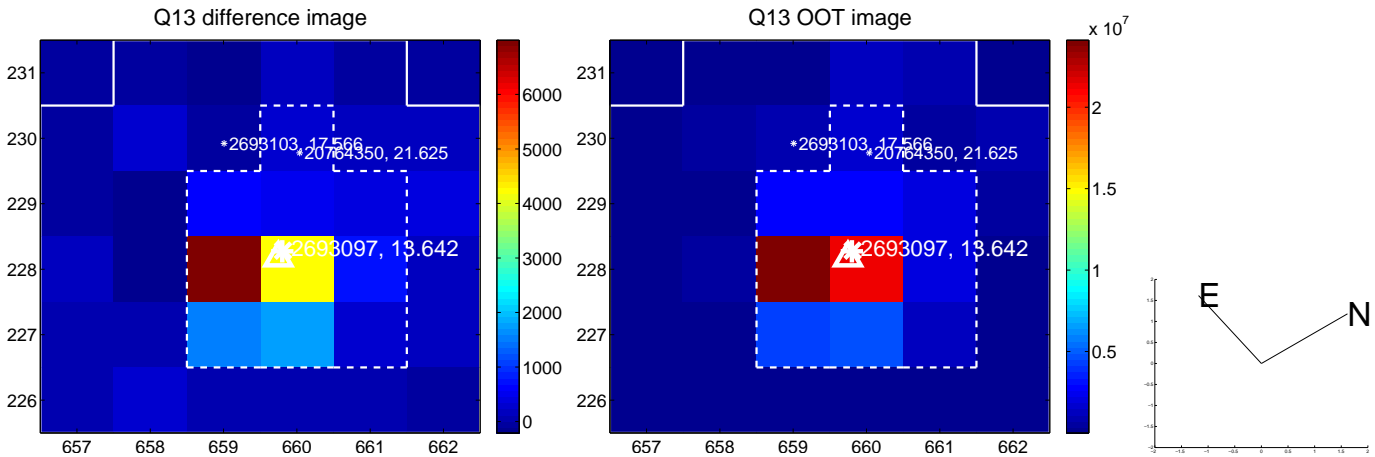
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



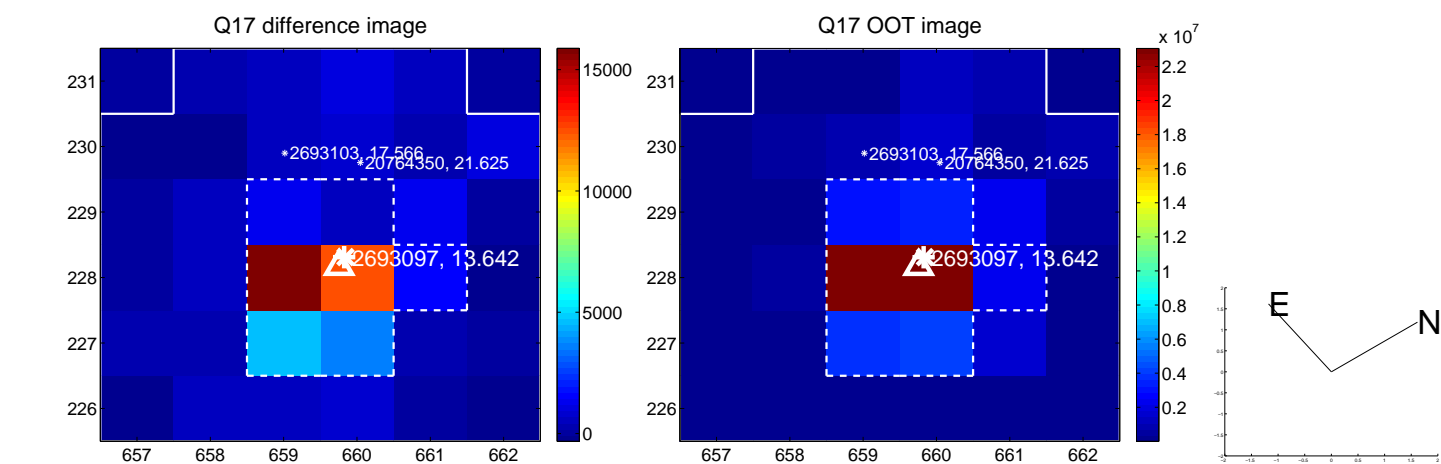
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



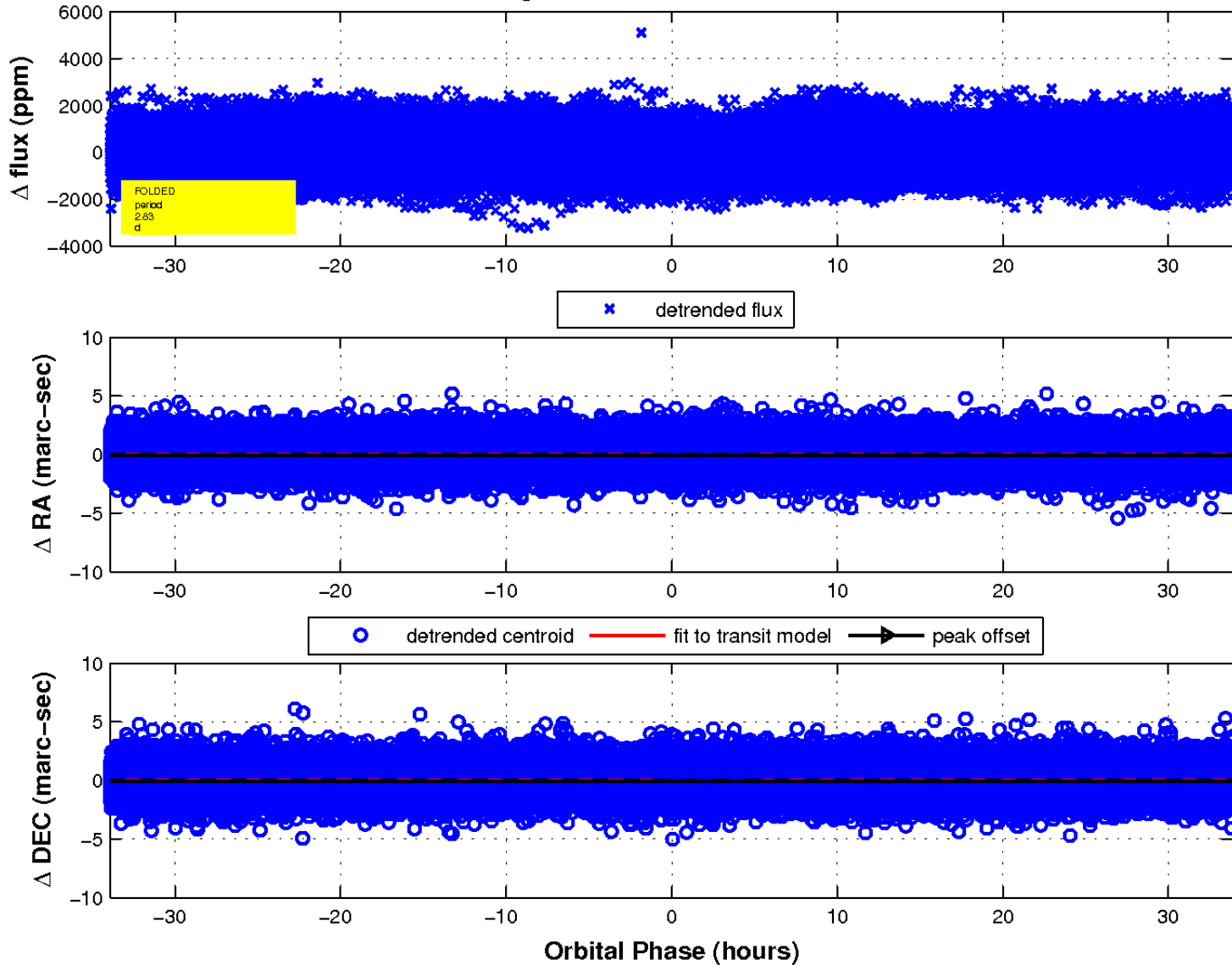
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

