

KIC 009456595

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})
009456595-01	OBS	No	1.122893	132.509111	267.4	2.000	10.5	-1.0	3.55	7629	5.88	51925.07
009456595-02	OBS	No	0.561433	131.632140	17.5	1.873	8.6	9.4	3.55	7629	1.55	130847.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009456595-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
009456595-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—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.

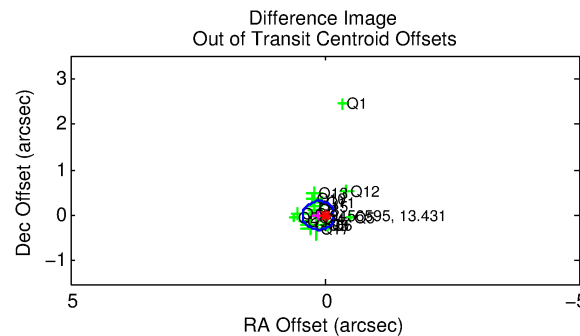
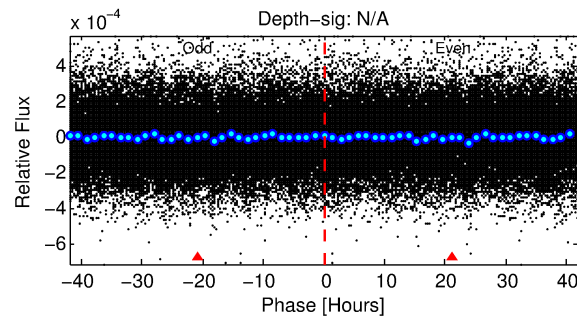
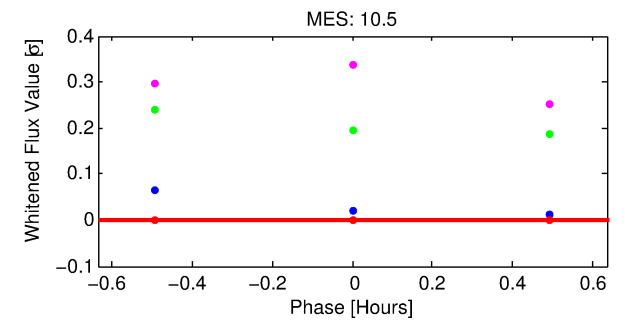
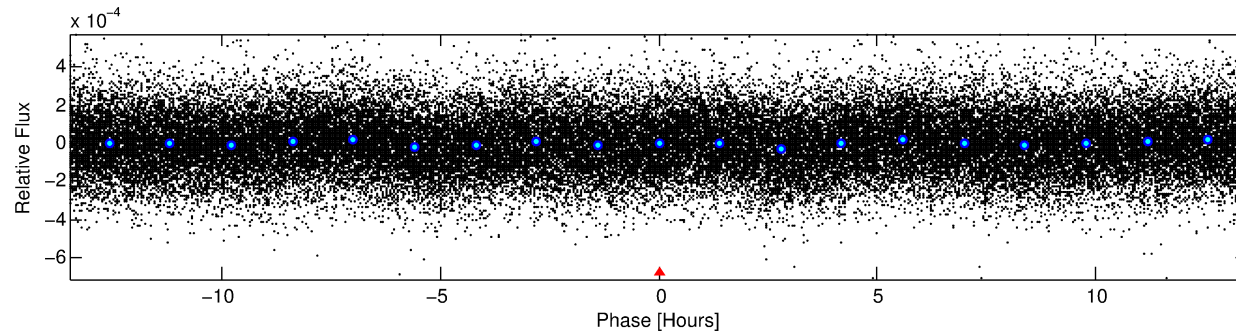
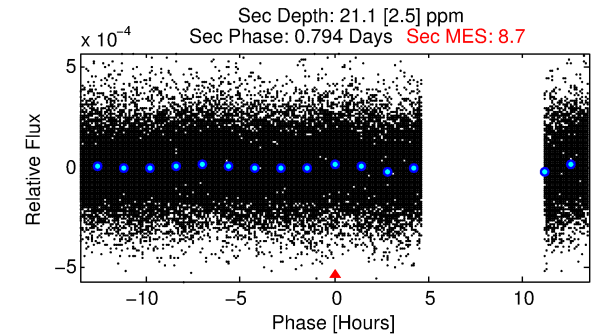
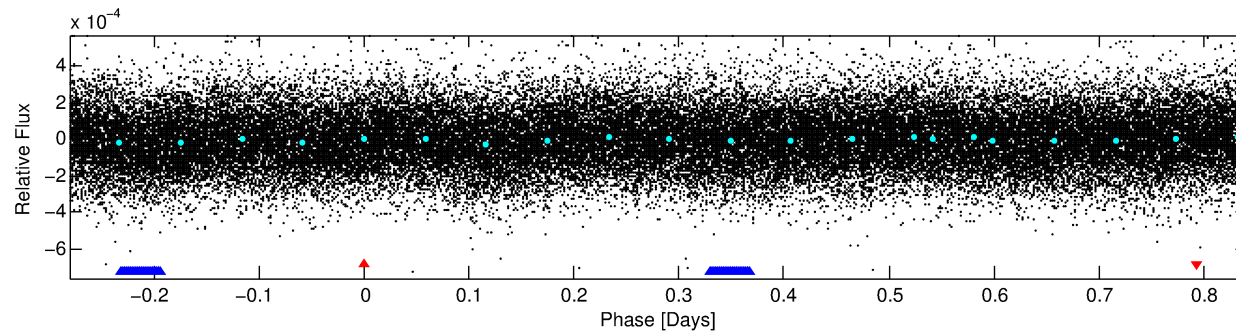
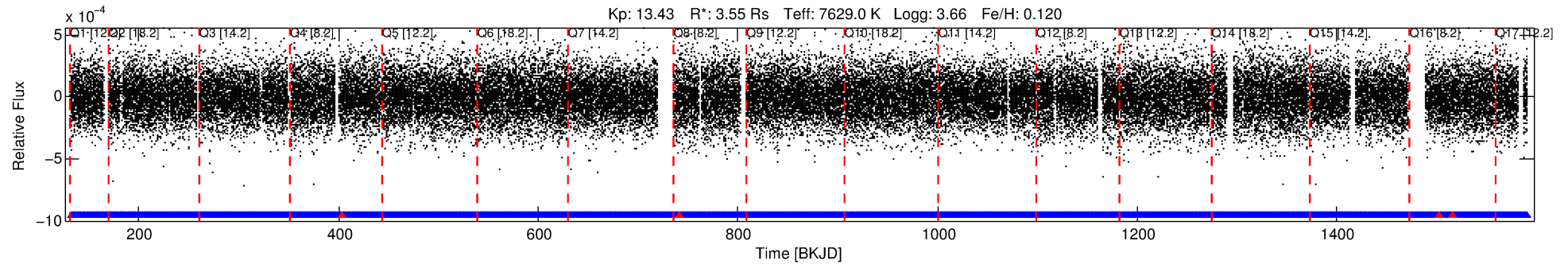
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009456595-01

No Significant Match Found

DV One-Page Summary

KIC: 9456595 Candidate: 1 of 2 Period: 1.123 d



TPS TCE Results:

Period = 1.12289 d
Epoch = 132.5091 BKJD

DV fit results are unavailable

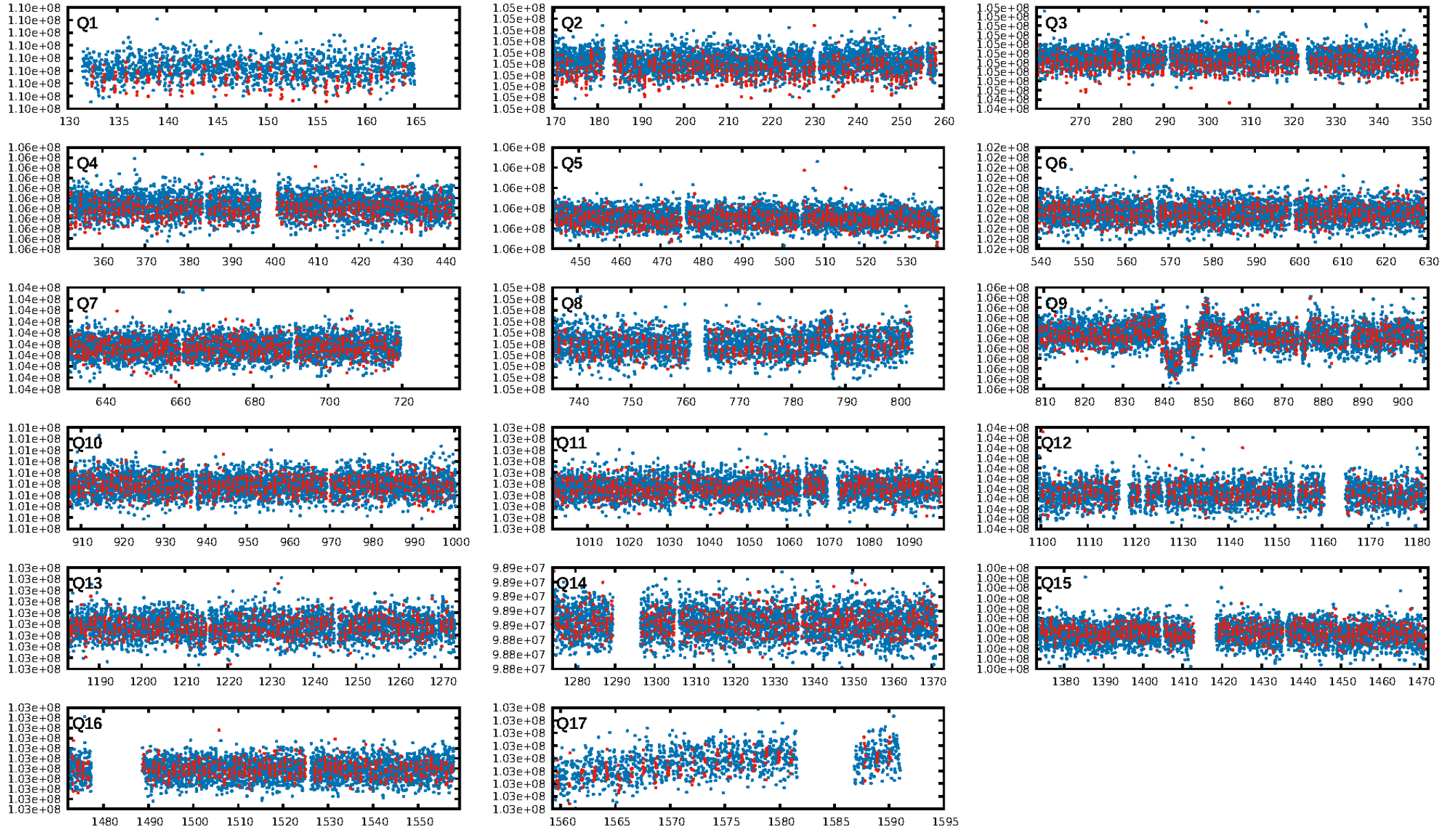
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.92σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.12e-22
RollingBand-fgt: 1.00 [1139/1143]
GhostDiagnostic-chr: 0.4166
Centroid-sig: N/A
Centroid-so: 0.291 arcsec [2.16σ]
OotOffset-rm: 0.124 arcsec [1.19σ]
KicOffset-rm: 0.179 arcsec [1.81σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

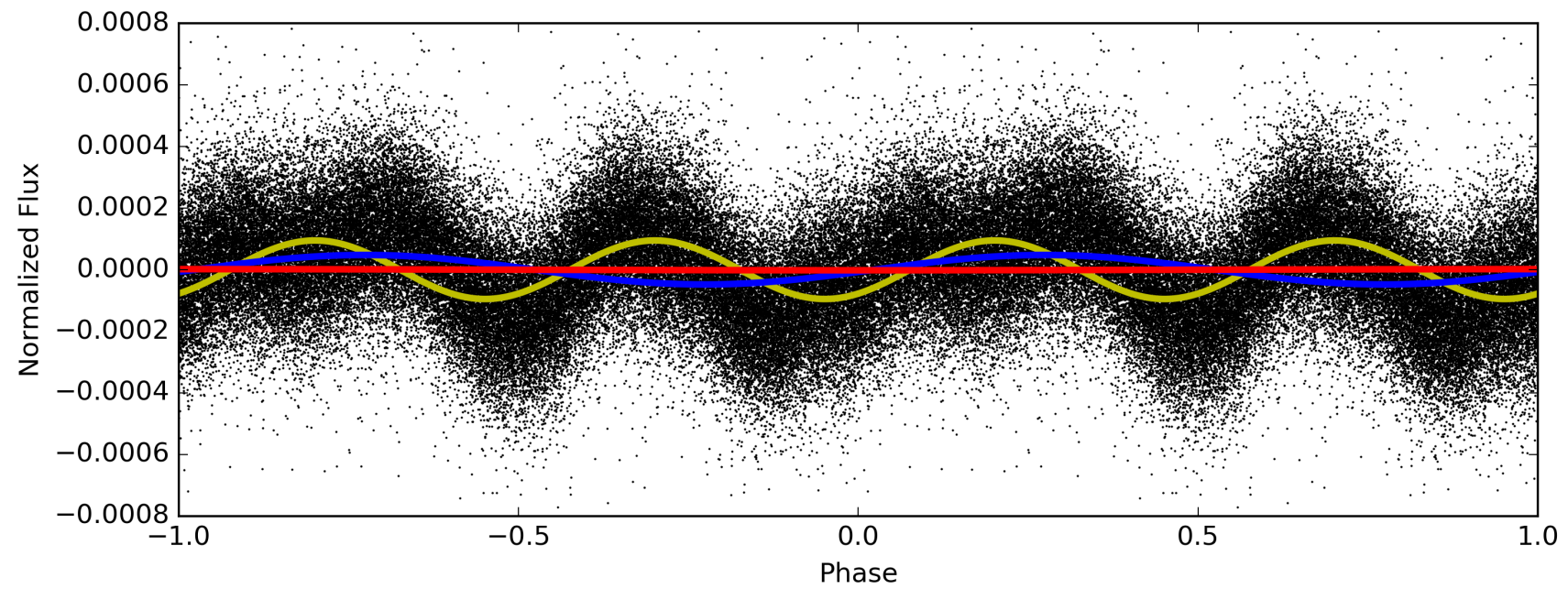
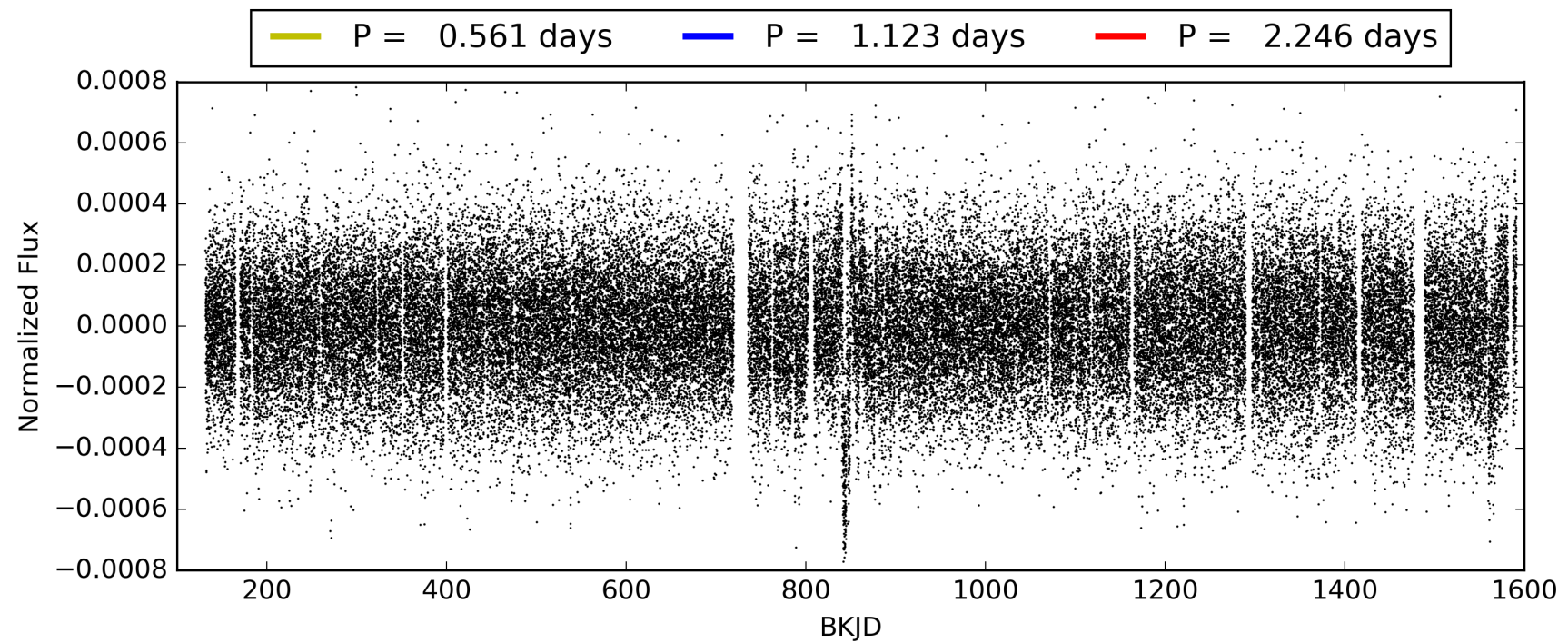
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009456595-01, PDC Light Curves

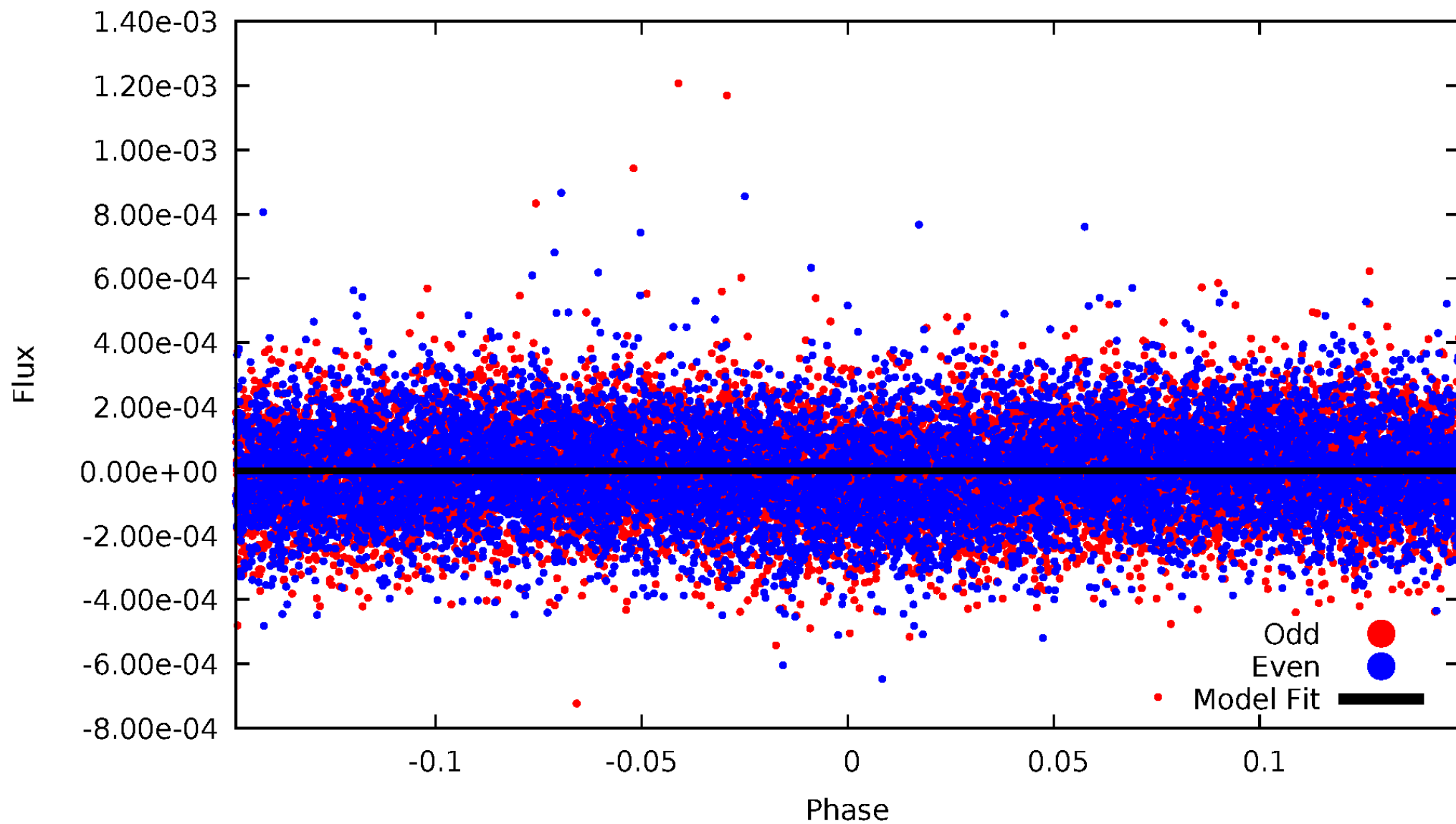


TCE 009456595-01



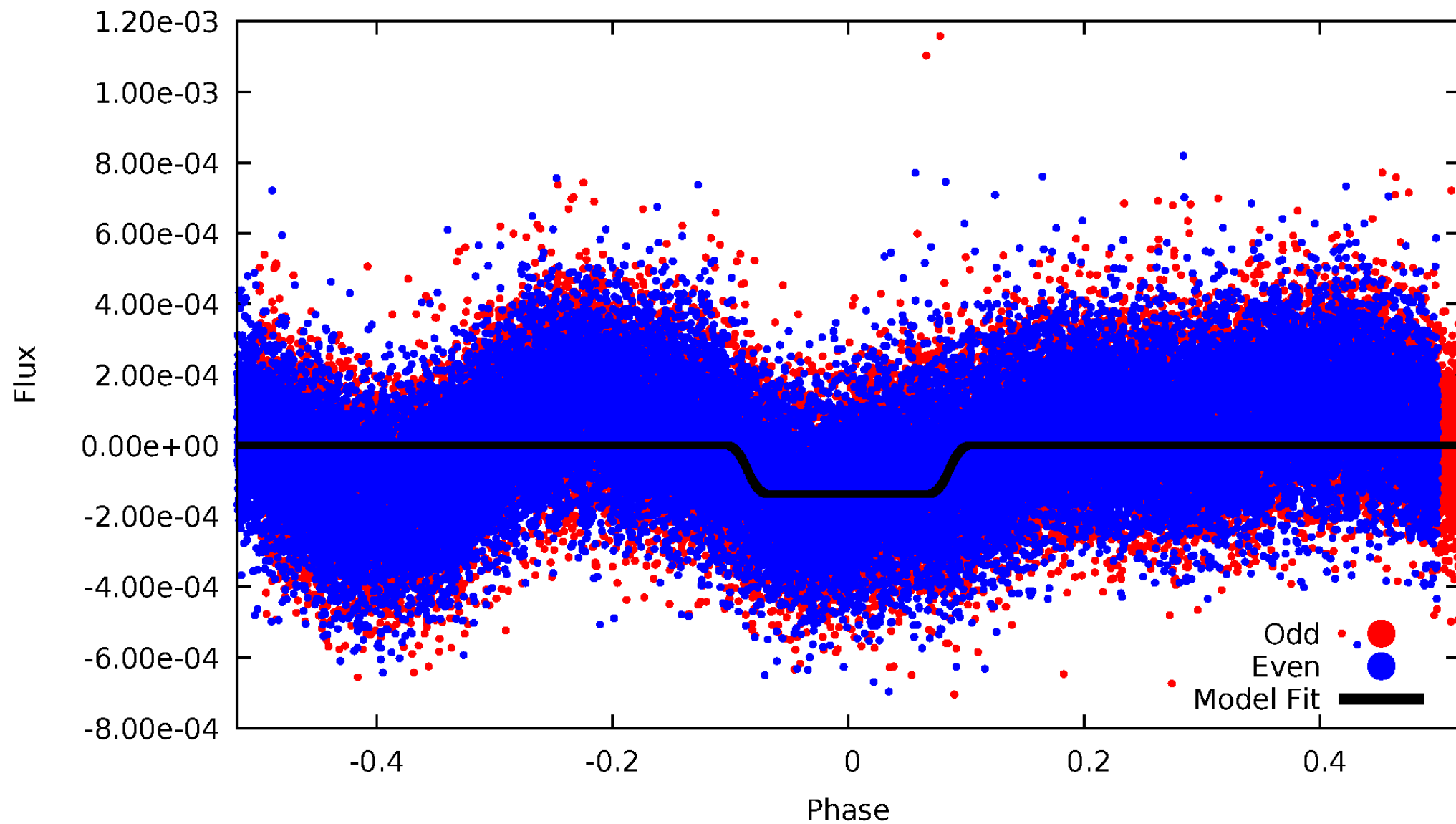
DV Odd/Even

TCE 009456595-01

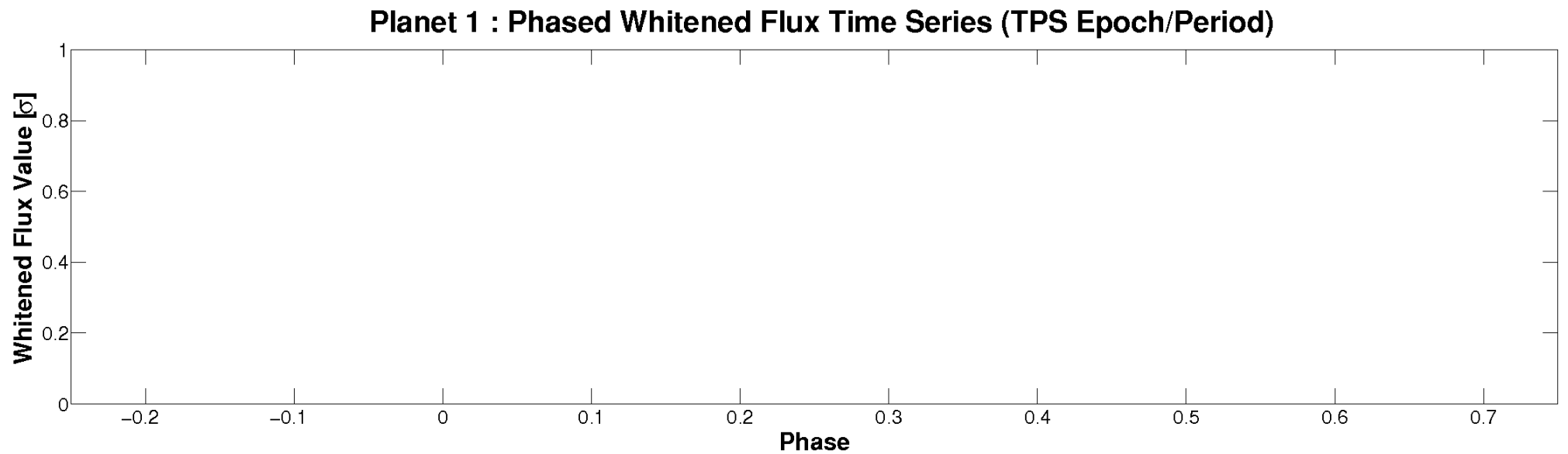
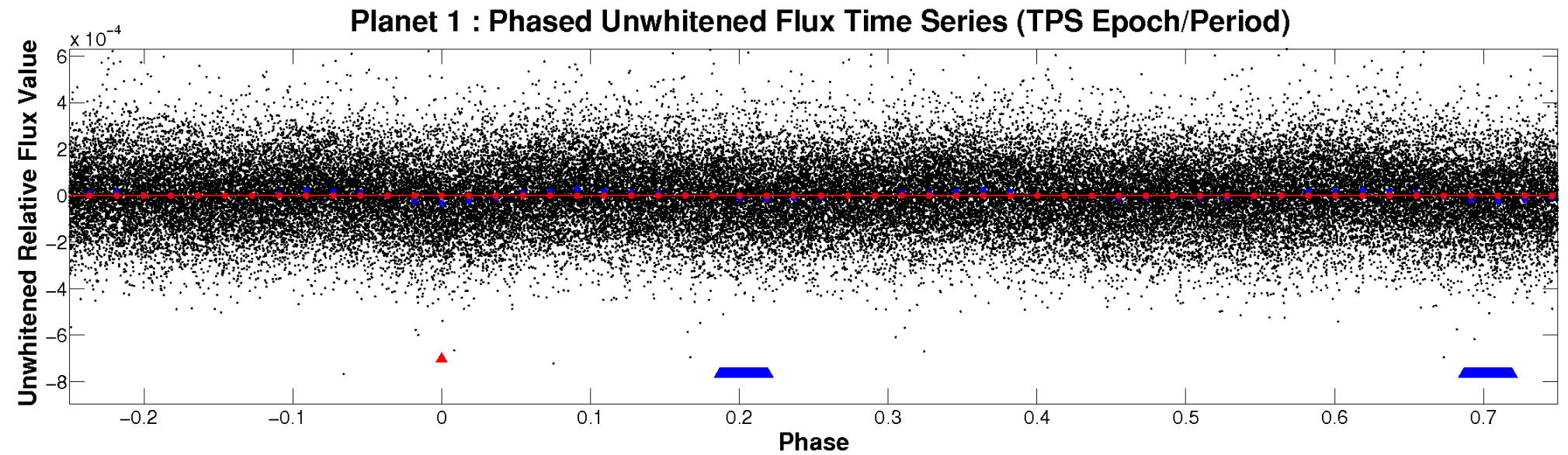


ALT Odd/Even

TCE 009456595-01

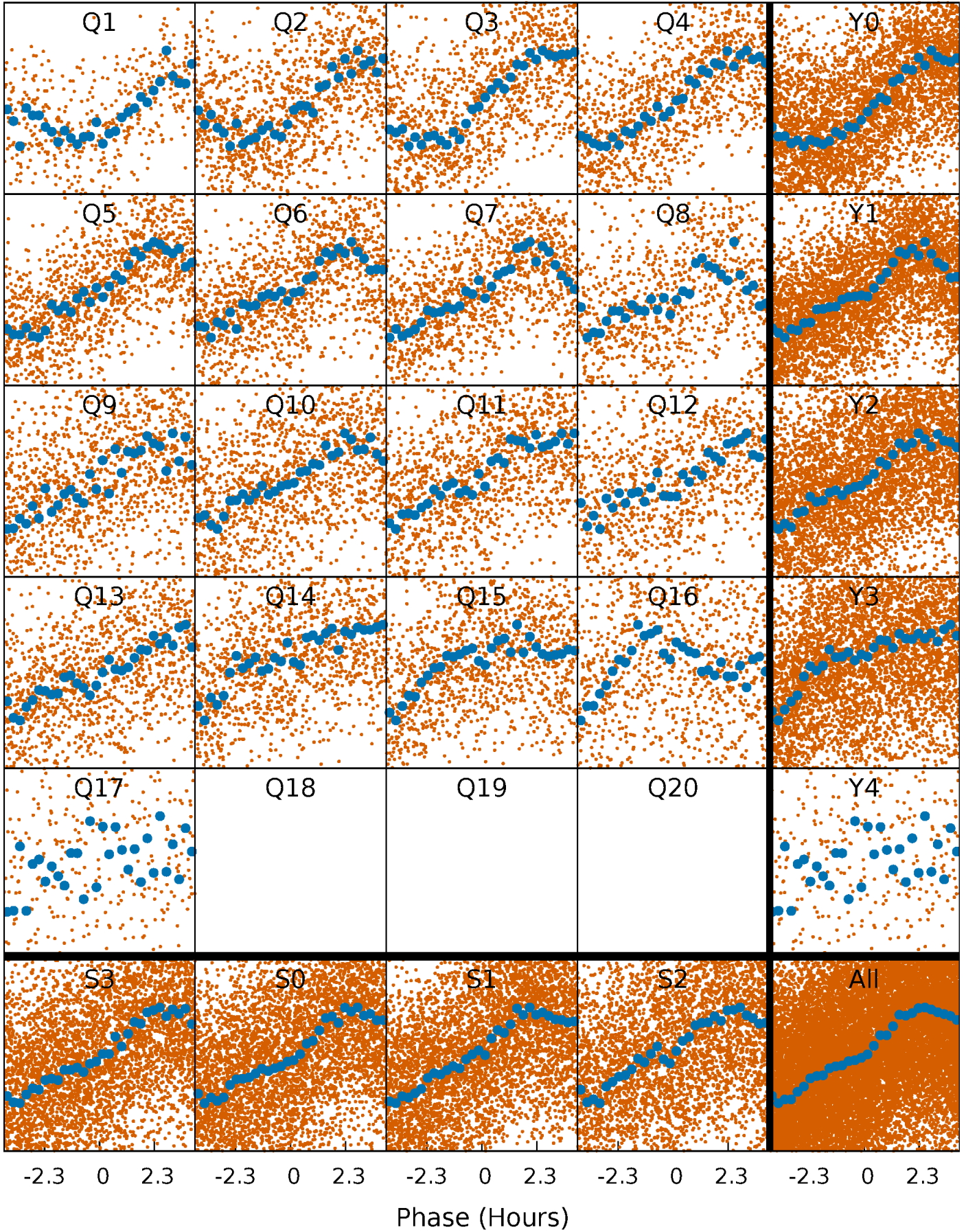


Non-Whitened Vs. Whitened Light Curve



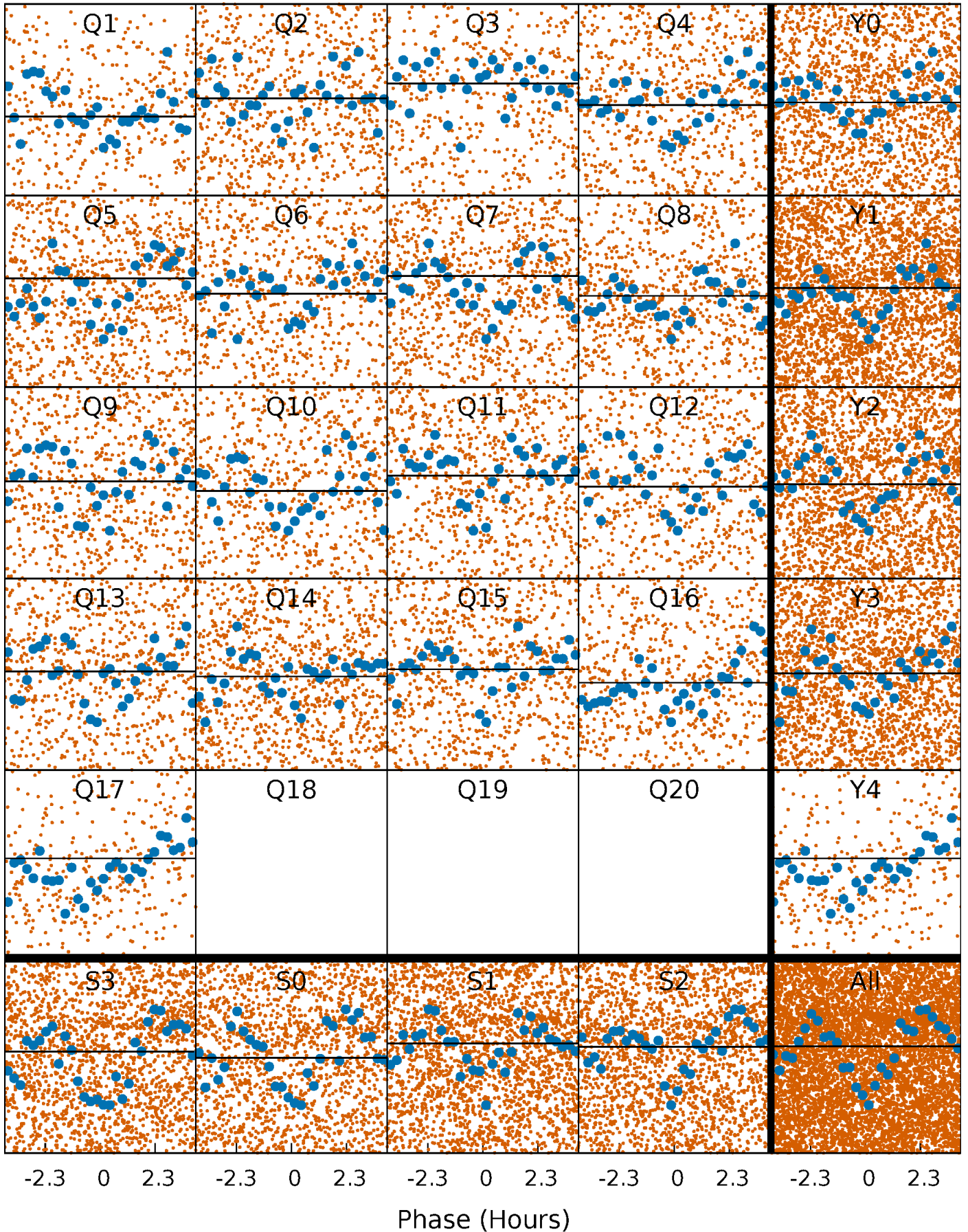
PDC Quarter-Phased Transit Curves

TCE 009456595-01 P= 1.122893 Days $T_0=132.509111$ (BKJD)



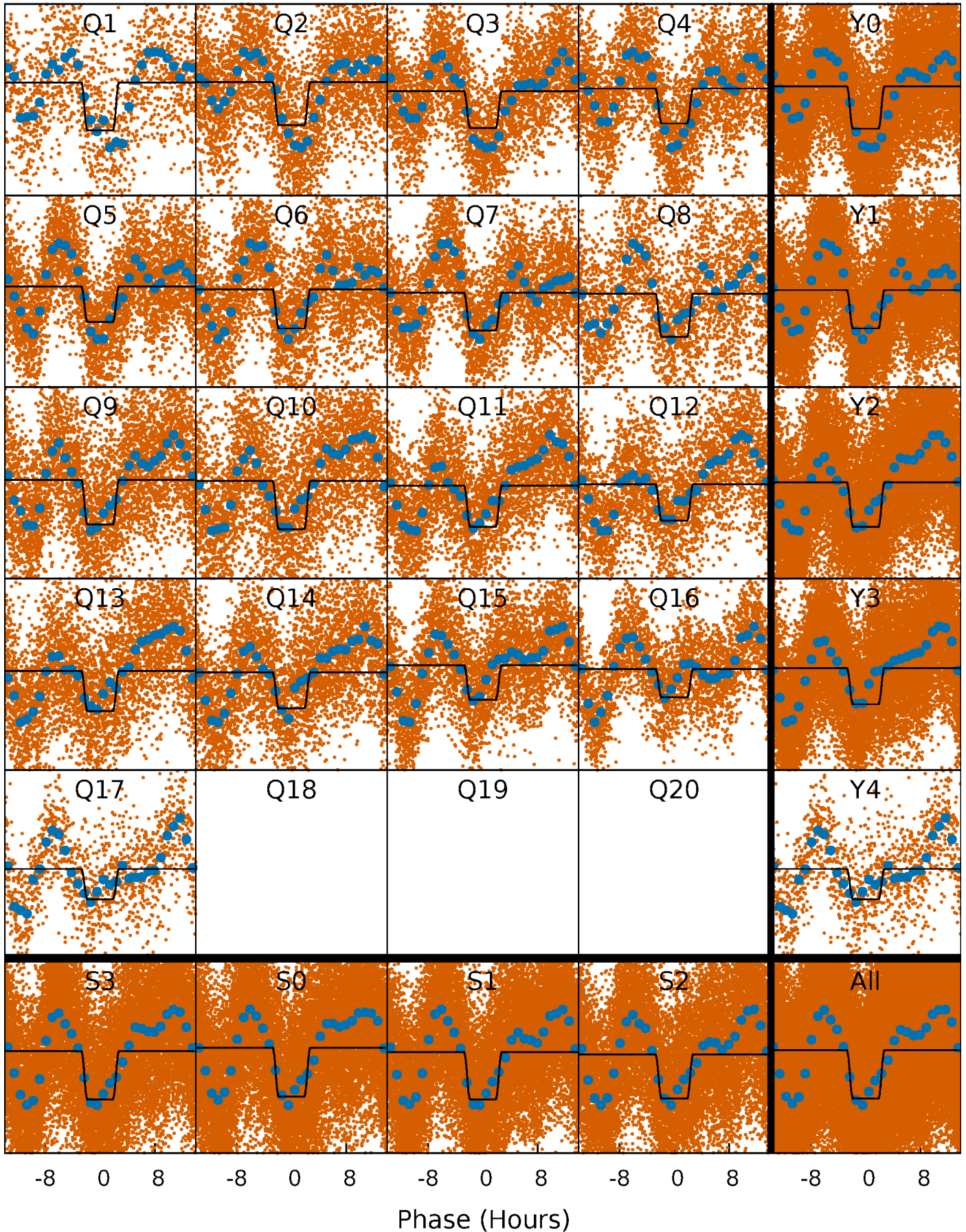
DV Quarter-Phased Transit Curves

TCE 009456595-01 P= 1.122893 Days $T_0=132.509111$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

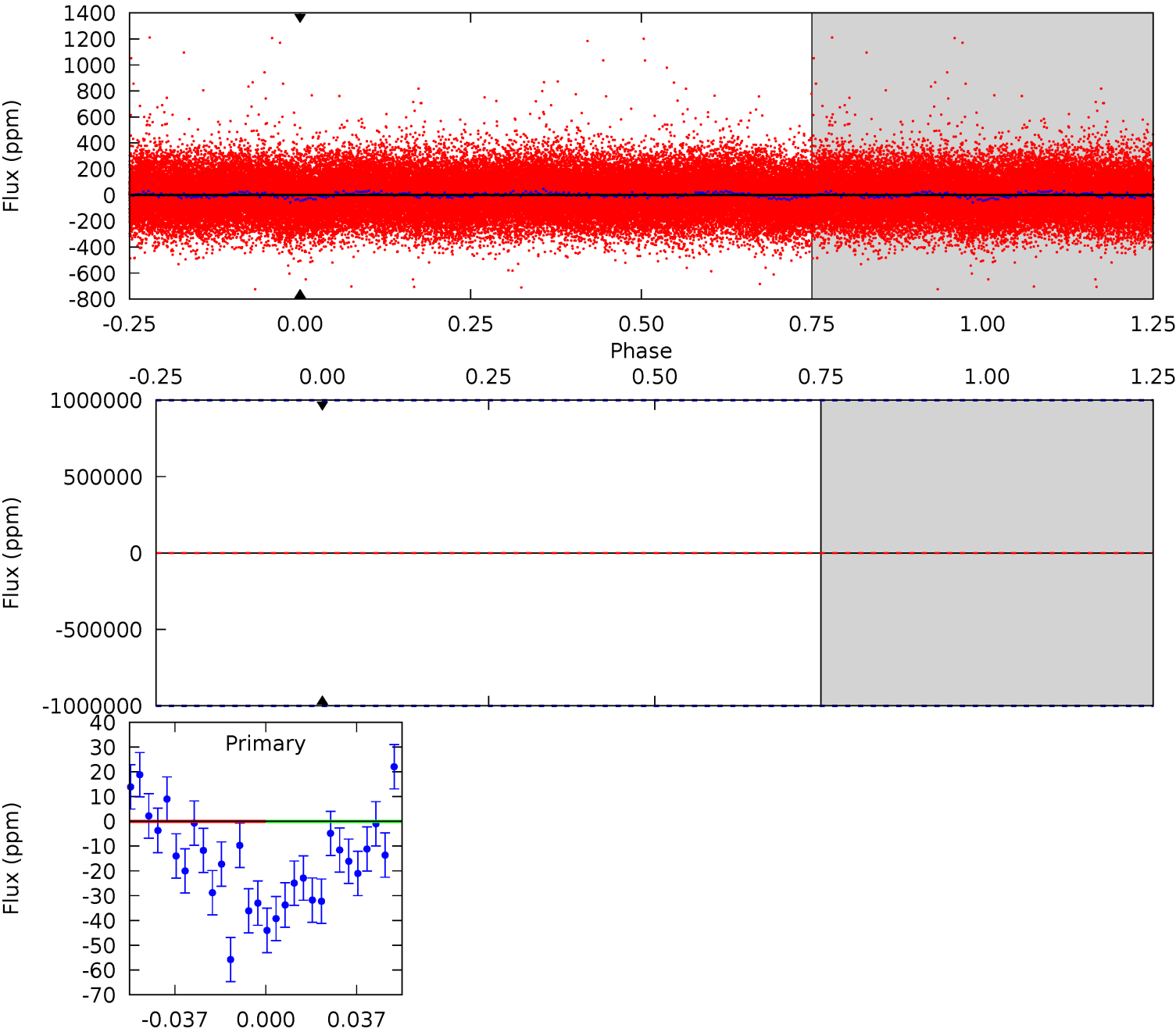
TCE 009456595-01 P= 1.122893 Days $T_0=132.388688$ (BKJD)



DV Model-Shift Uniqueness Test

009456595-01, P = 1.122893 Days, E = 131.386218 Days

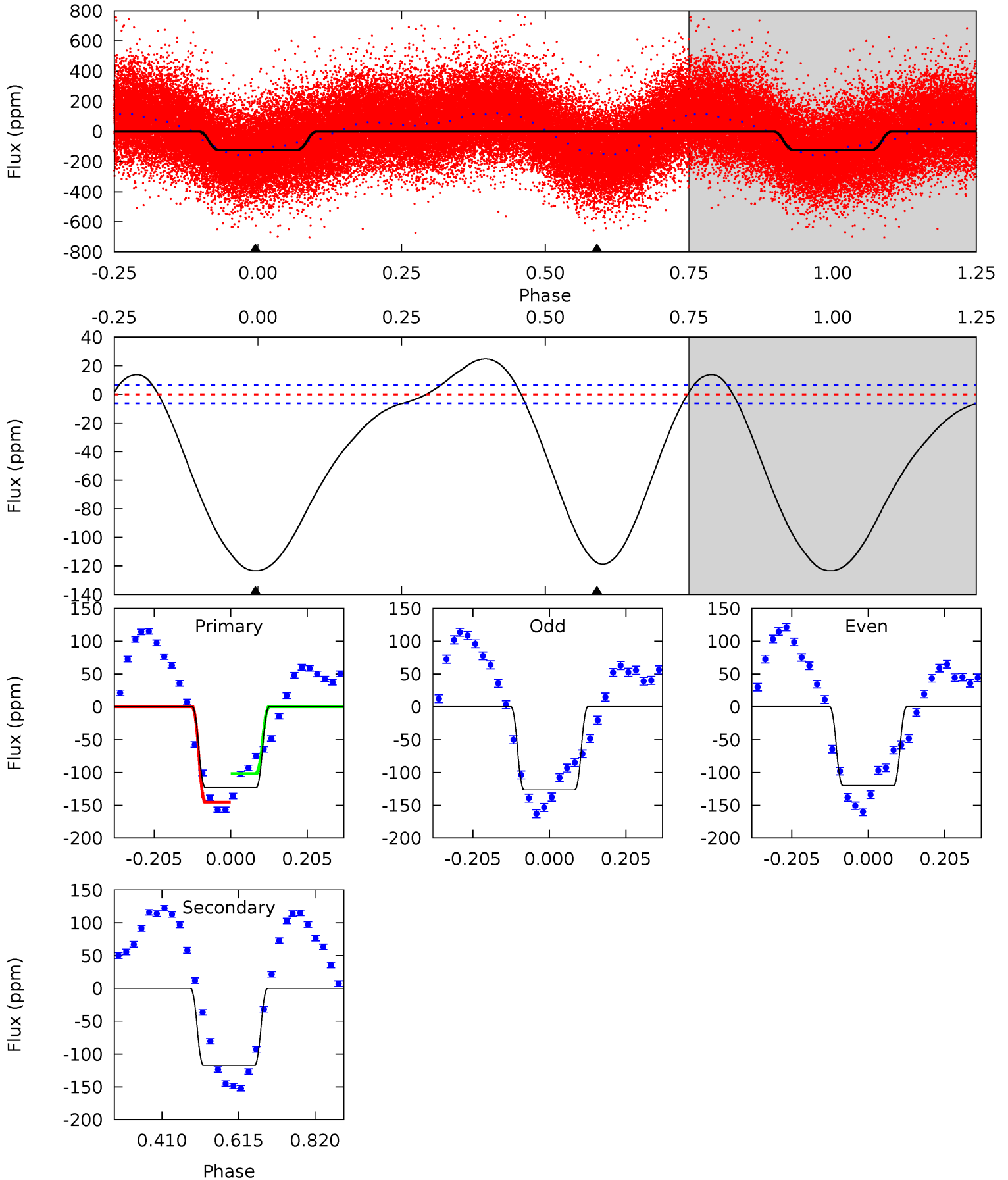
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009456595-01, P = 1.122893 Days, E = 131.265795 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
85.3	81.3	0	0	4.41	1.27	8.14	85.3	85.3	81.3	81.3	2.23	1.02	0.17	16.2



Stellar Parameters For KIC 009456595

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7629^{+213}_{-347}	$3.663^{+0.432}_{-0.081}$	$0.120^{+0.200}_{-0.350}$	$3.553^{+0.719}_{-1.798}$	$2.121^{+0.288}_{-0.534}$	$0.067^{+0.305}_{-0.022}$
	+3%/-5%	+12%/-2%	+167%/-292%	+20%/-51%	+14%/-25%	+458%/-33%
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 009456595-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$25.10^{+31.04}_{-17.64}$	5185^{+361}_{-721}	5678^{+40248}_{-42136}	$1.494^{+129.643}_{-103.821}$
Alt.	-118 ± 1	$24.38^{+30.41}_{-17.20}$	5150^{+388}_{-624}	-3937^{+8760}_{-512}	$0.082^{+0.813}_{-0.066}$

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

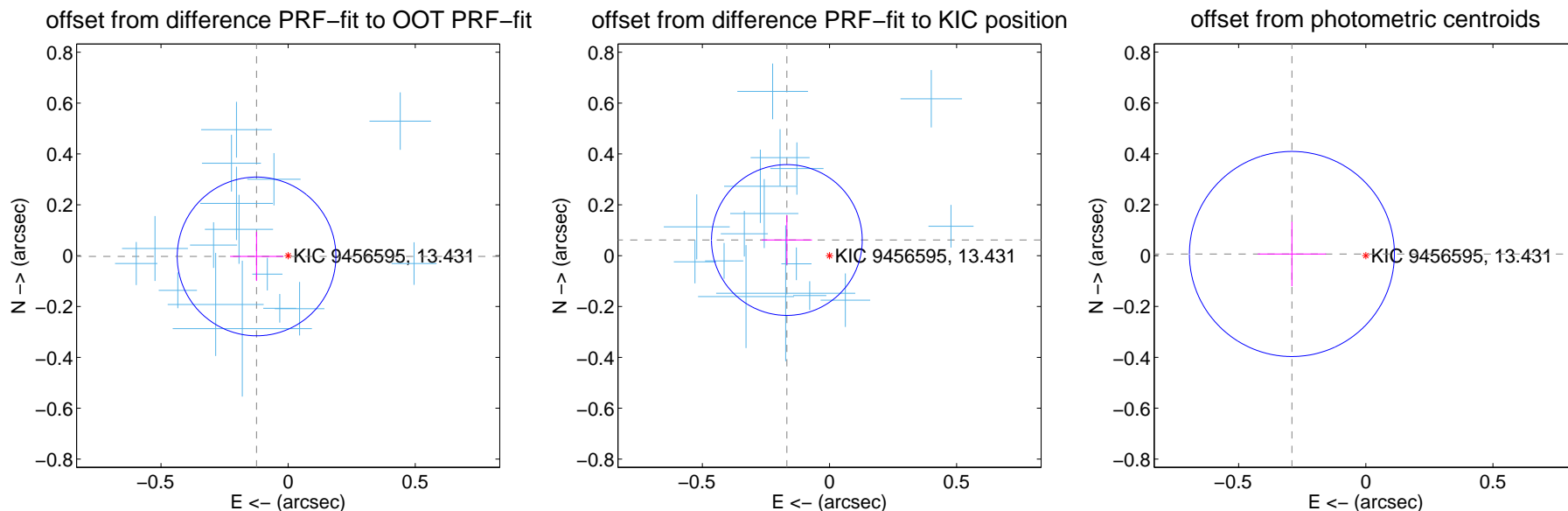
DV Centroid Data

Supplemental centroid analysis for 009456595-01. Kepler magnitude: 13.43. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

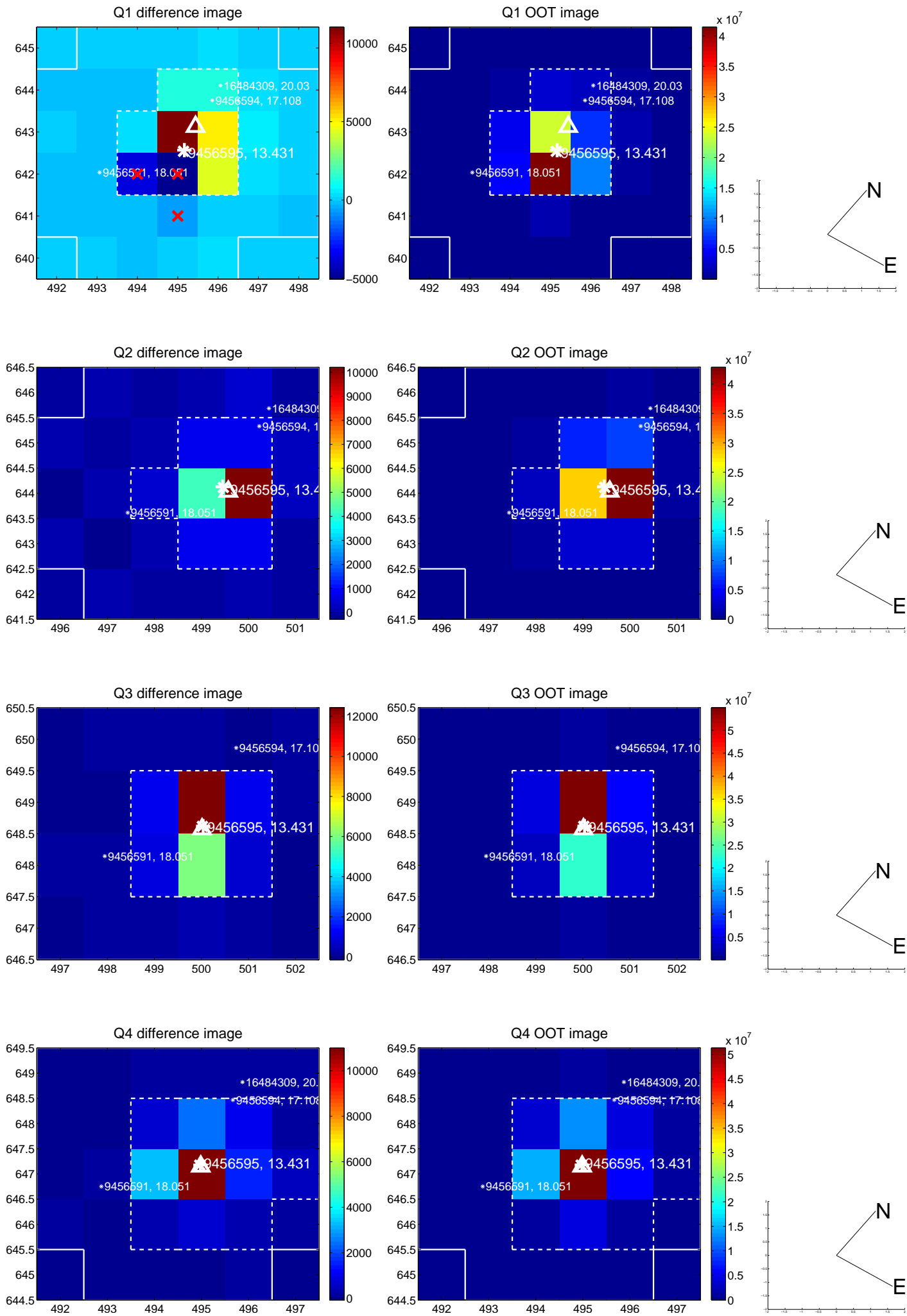
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.124 ± 0.104	1.19	0.124 ± 0.104	-0.003 ± 0.096
PRF-fit source offset from KIC position	0.179 ± 0.099	1.81	0.168 ± 0.099	0.061 ± 0.097
photometric centroid source offset	0.29 ± 0.13	2.16	0.29 ± 0.13	0.01 ± 0.13

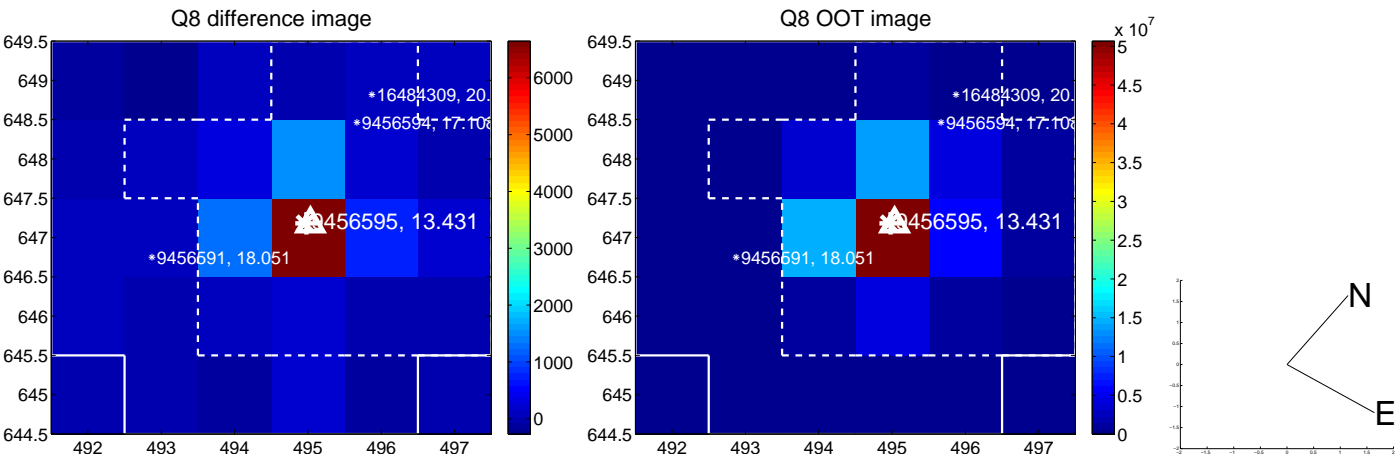
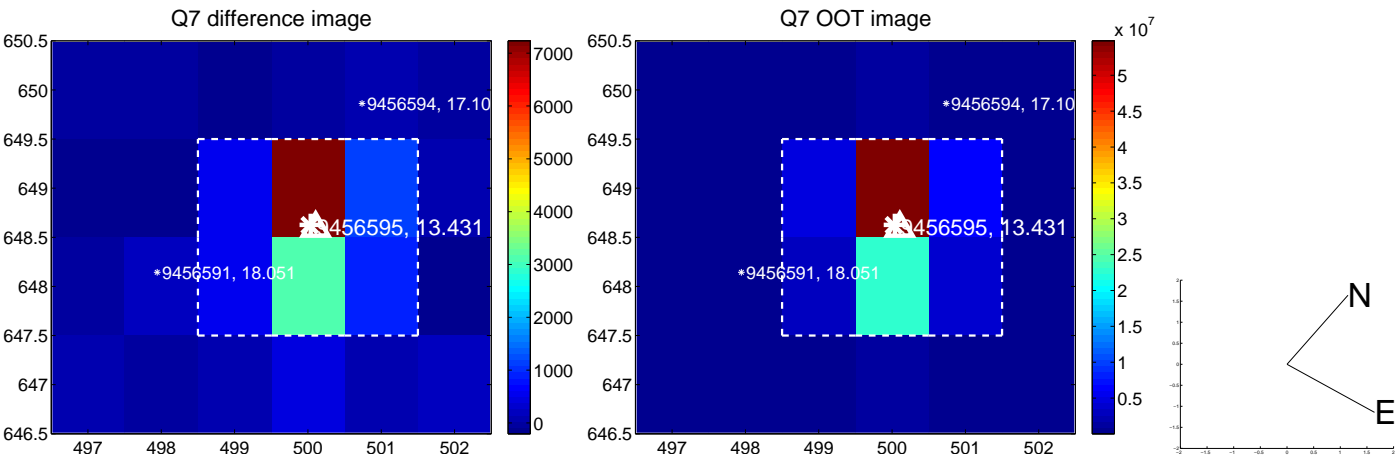
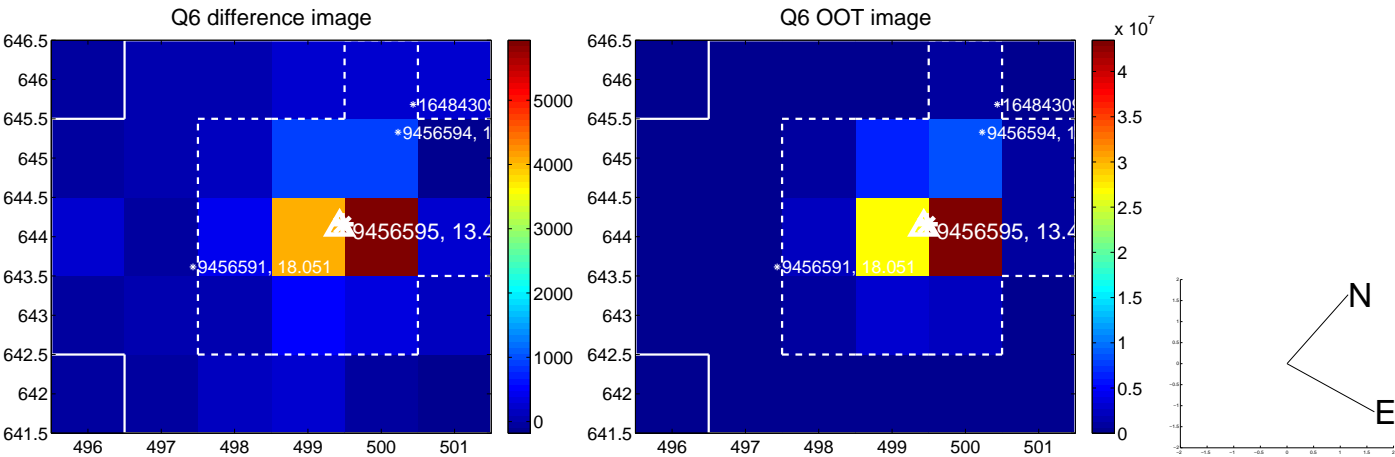
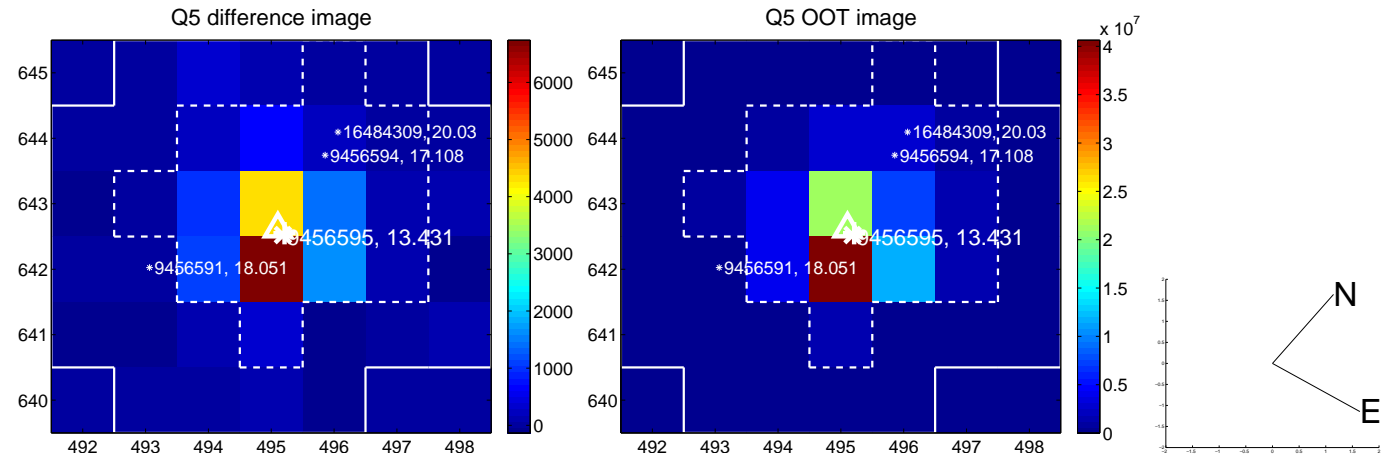


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

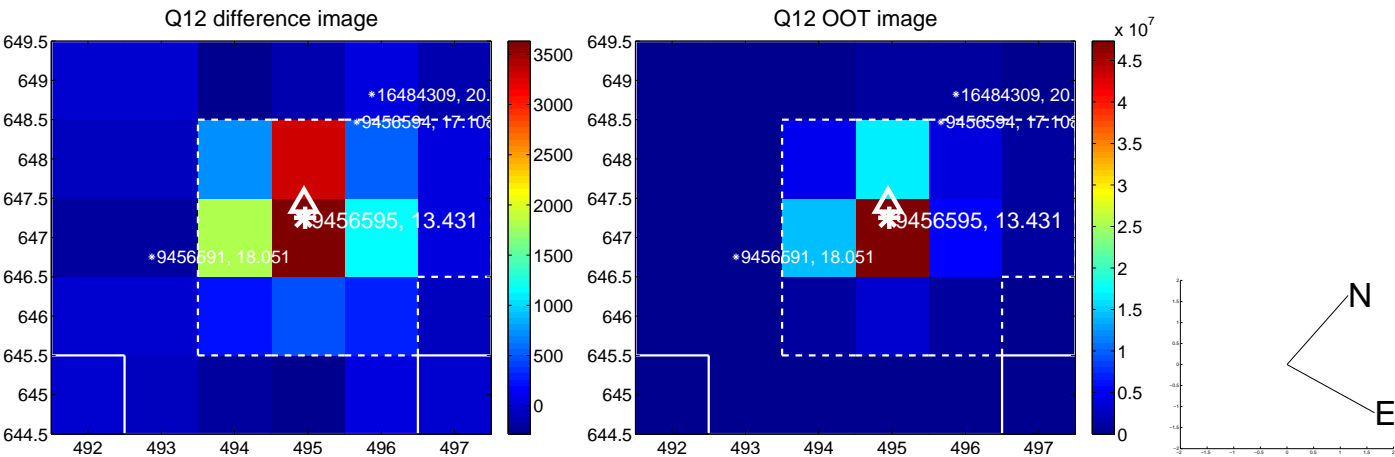
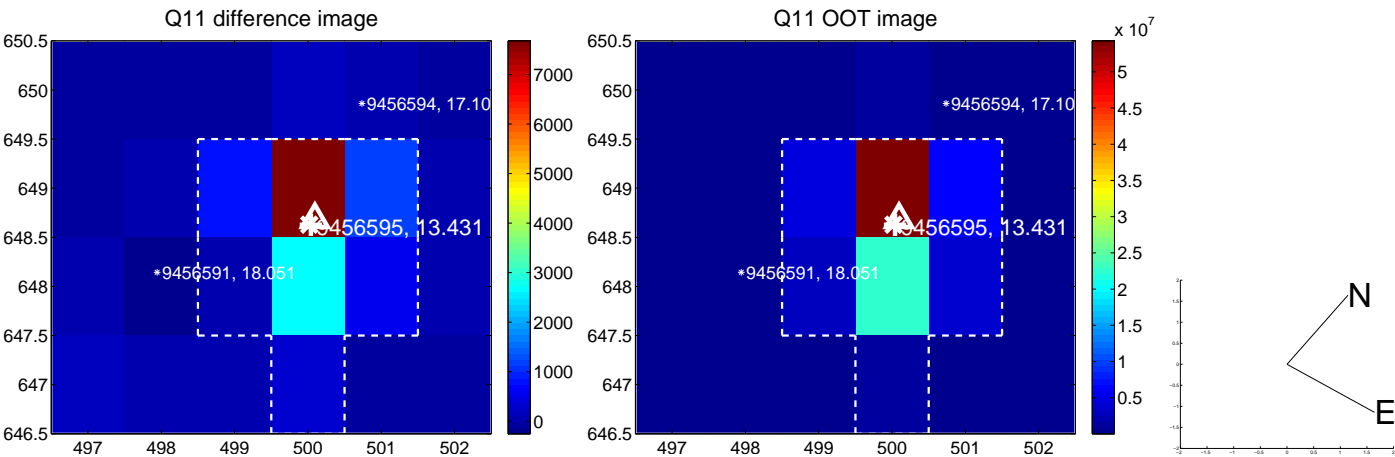
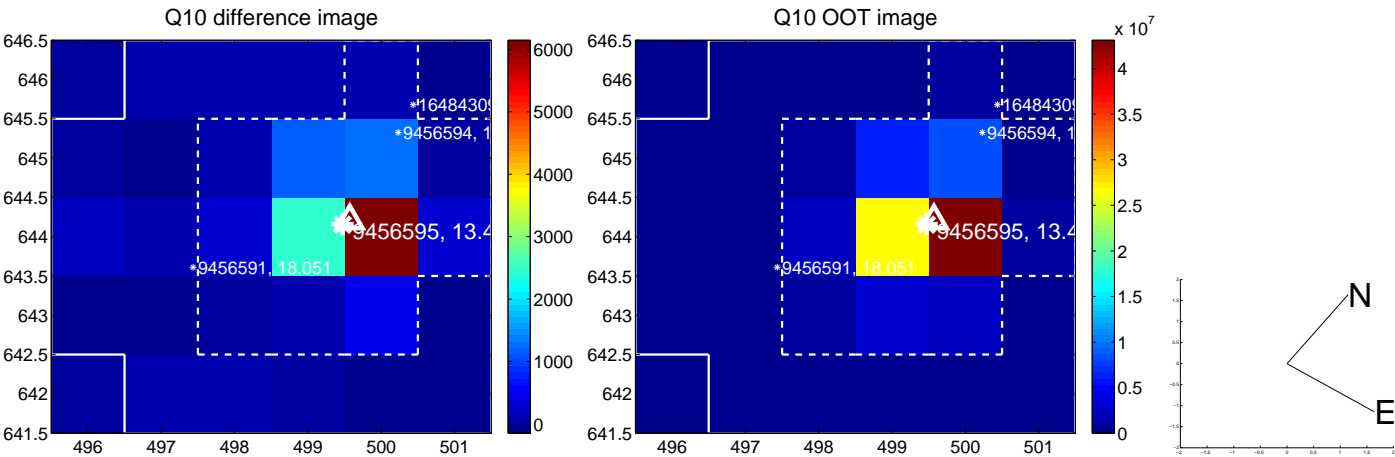
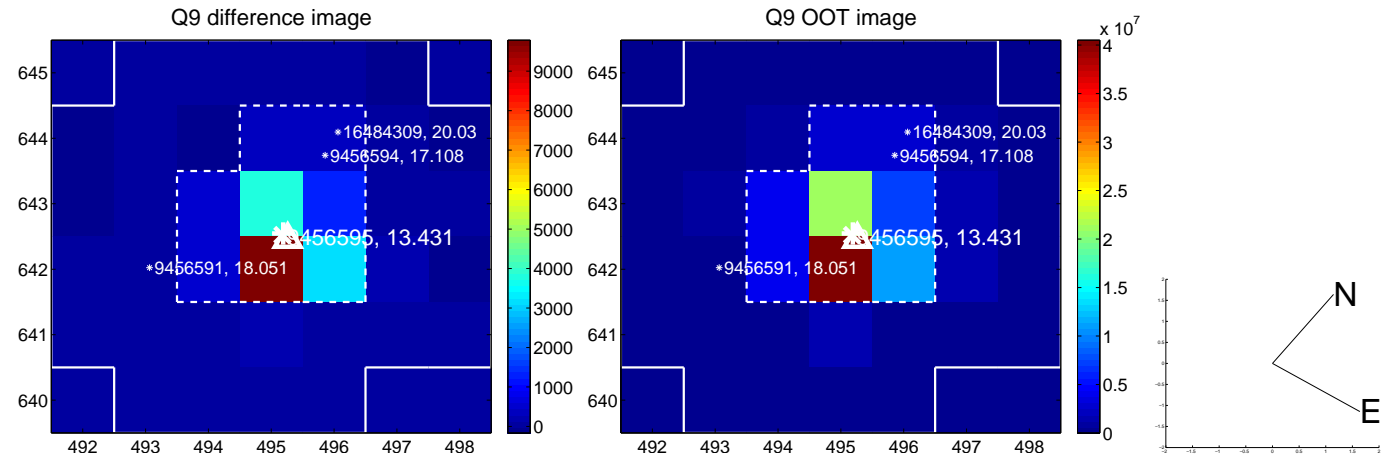
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



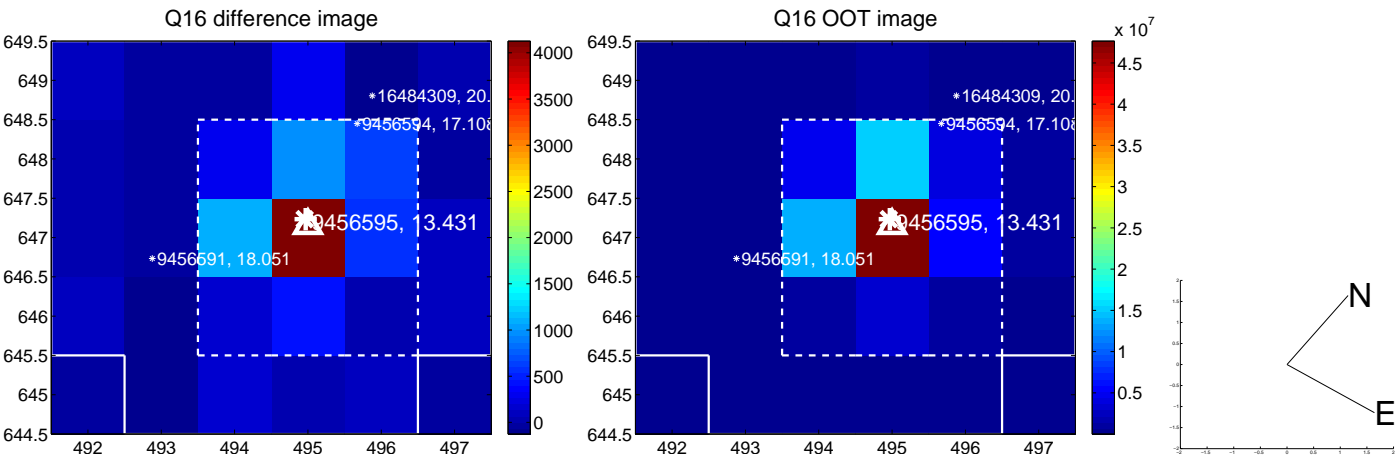
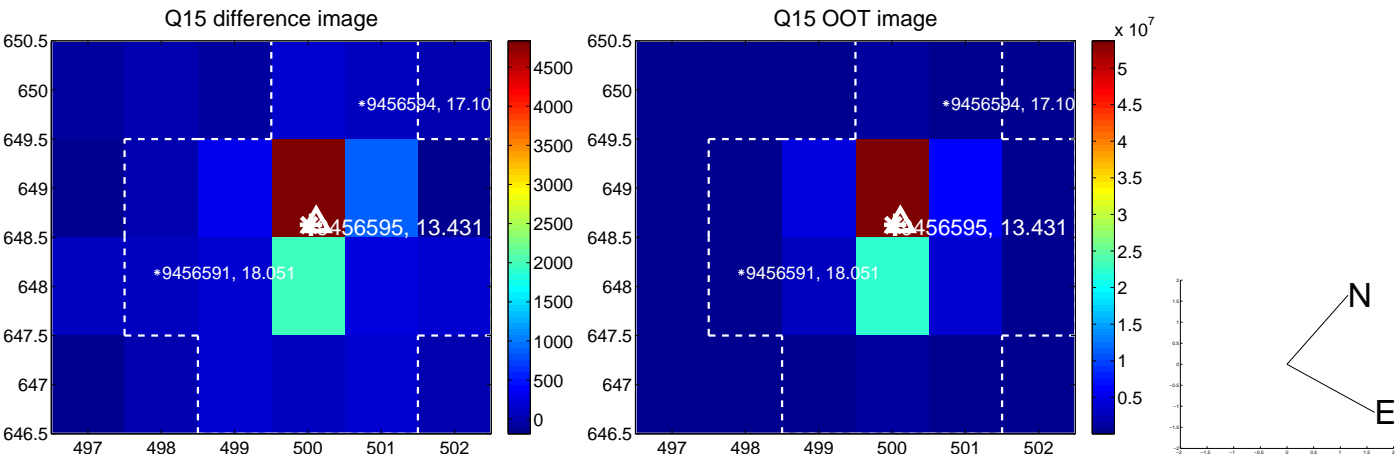
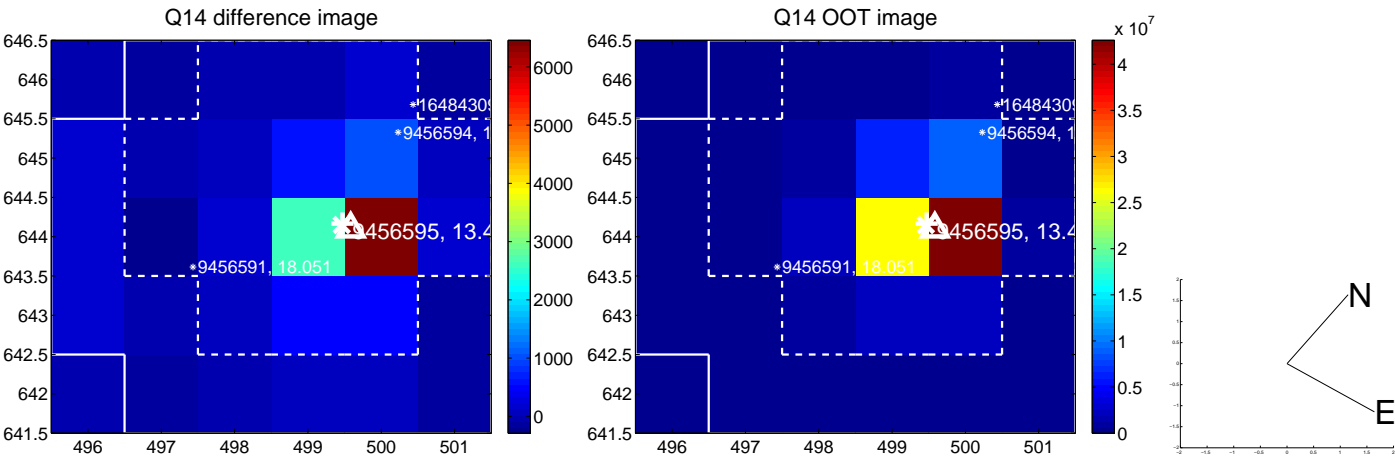
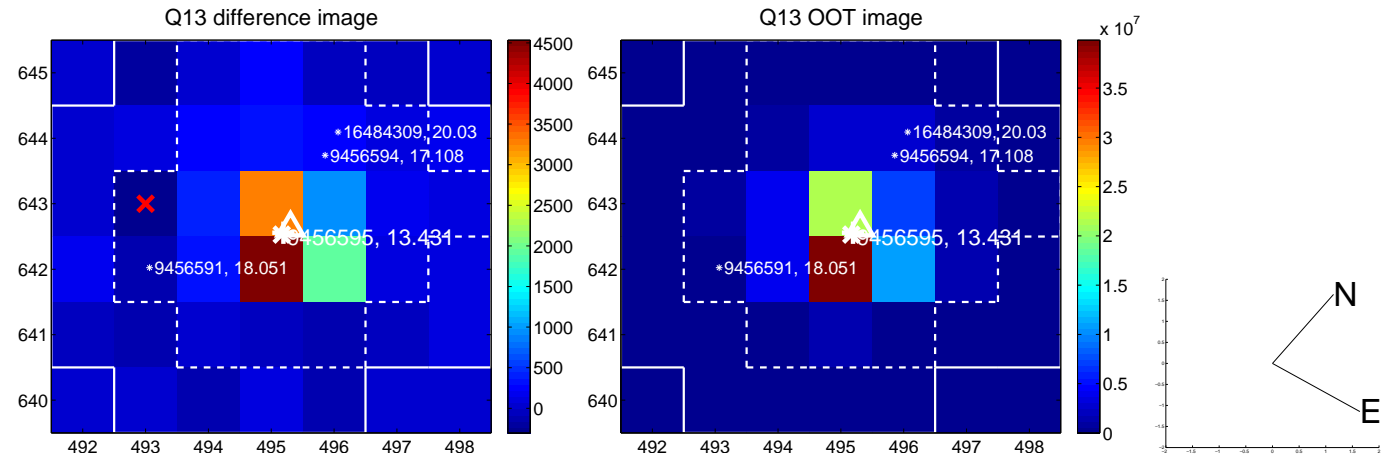
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



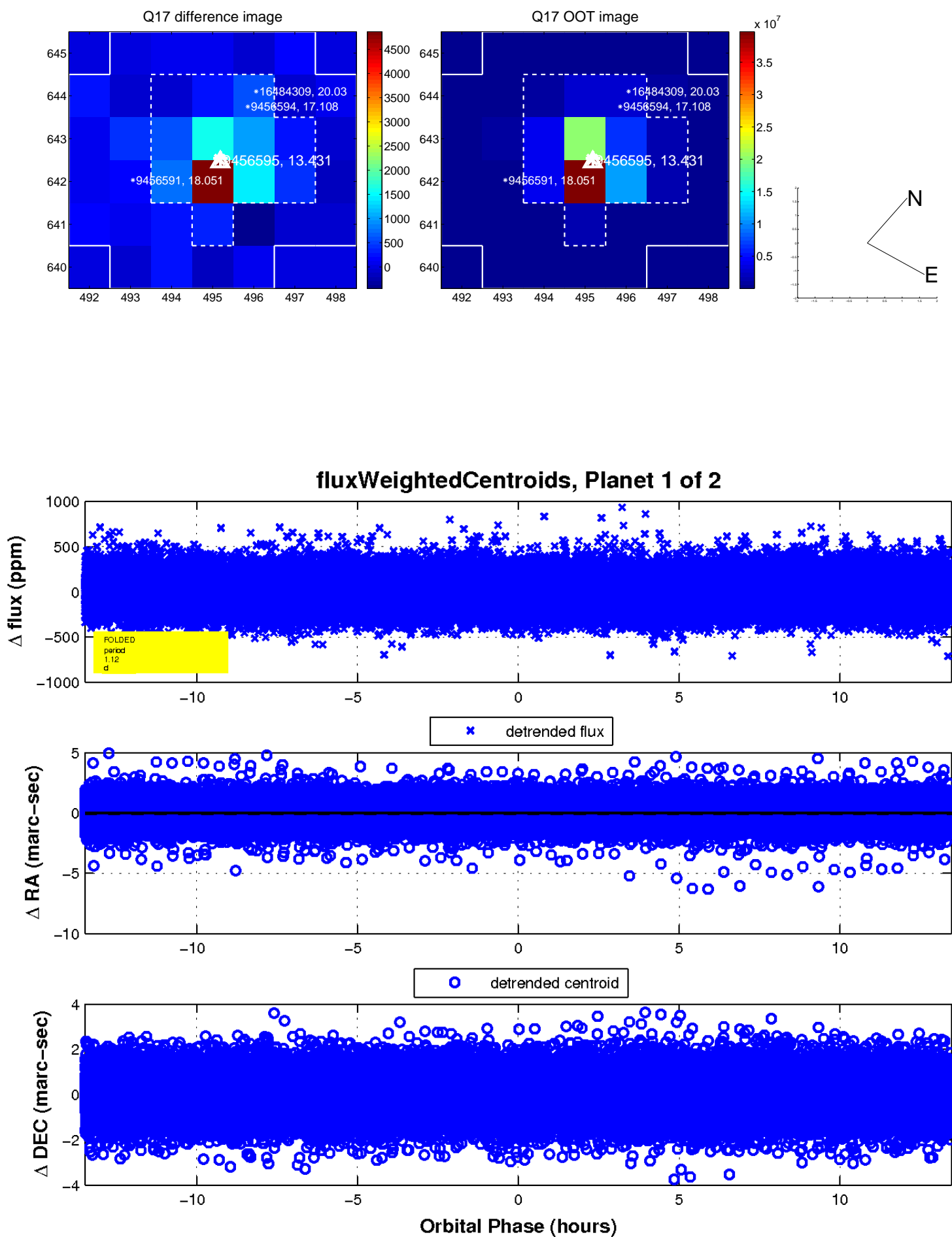
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

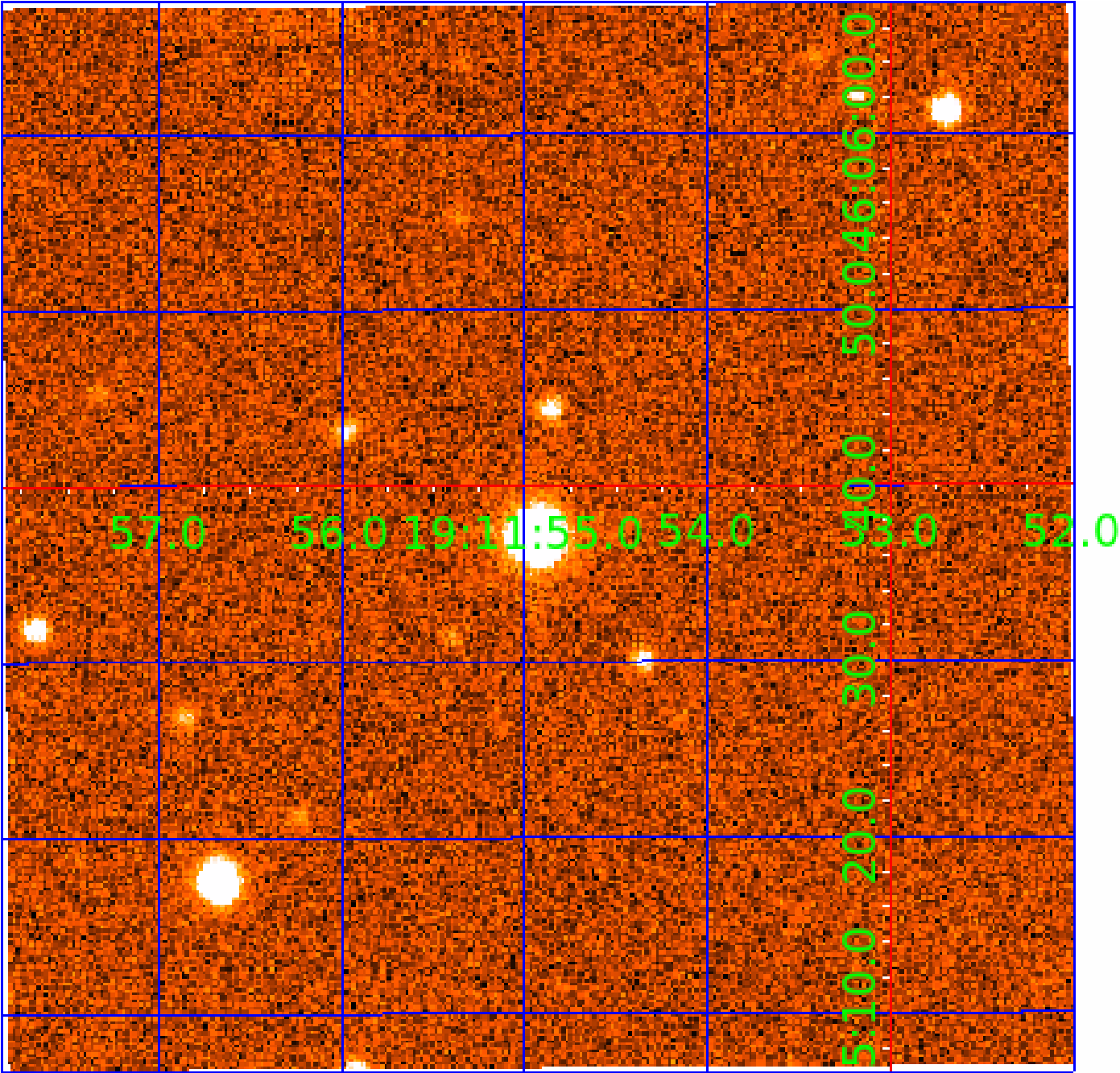


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009456595

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})
009456595-01	OBS	No	1.122893	132.509111	267.4	2.000	10.5	-1.0	3.55	7629	5.88	51925.07
009456595-02	OBS	No	0.561433	131.632140	17.5	1.873	8.6	9.4	3.55	7629	1.55	130847.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009456595-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
009456595-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—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.

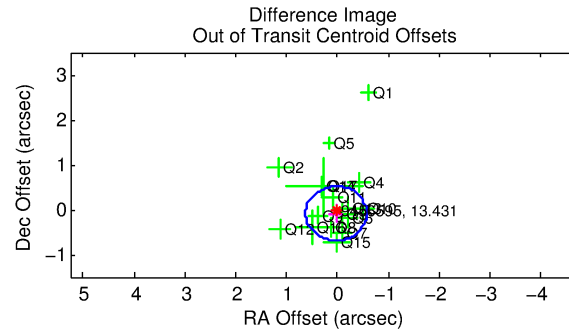
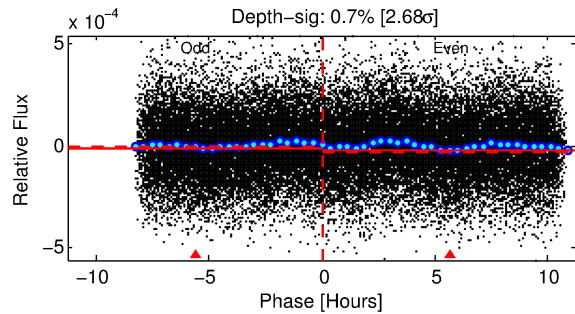
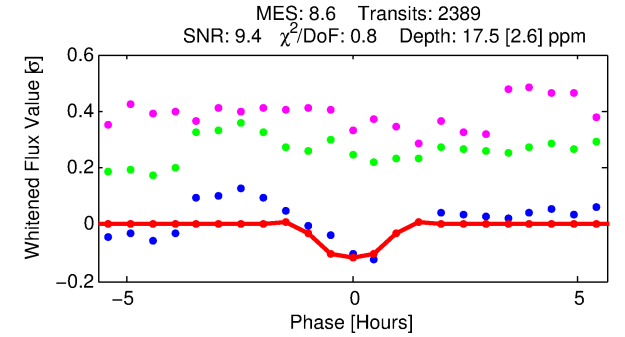
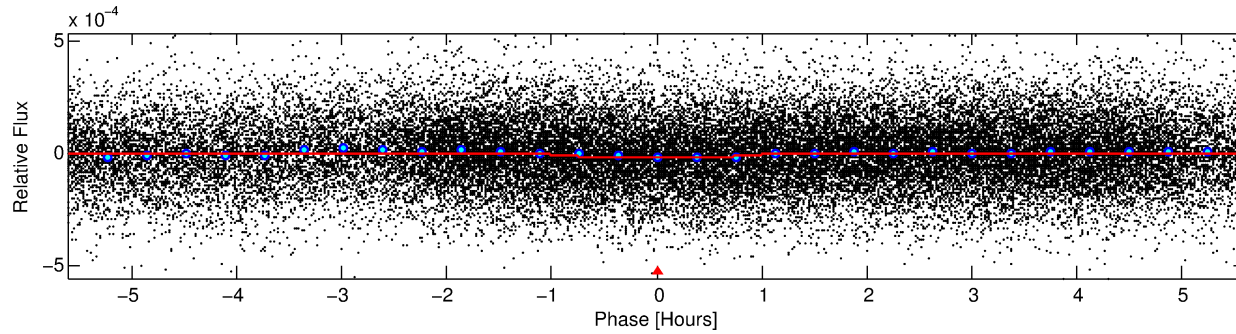
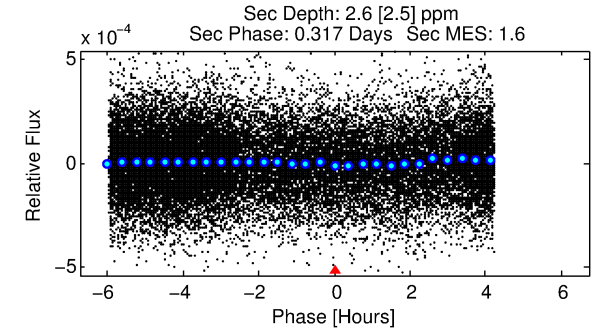
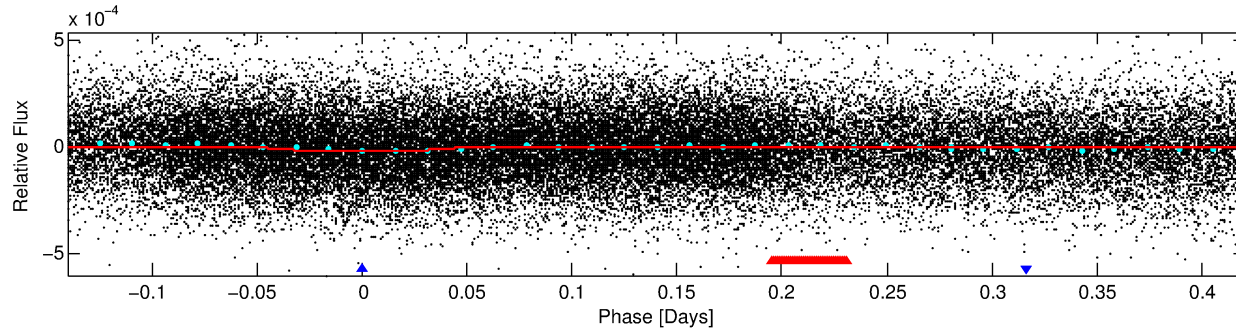
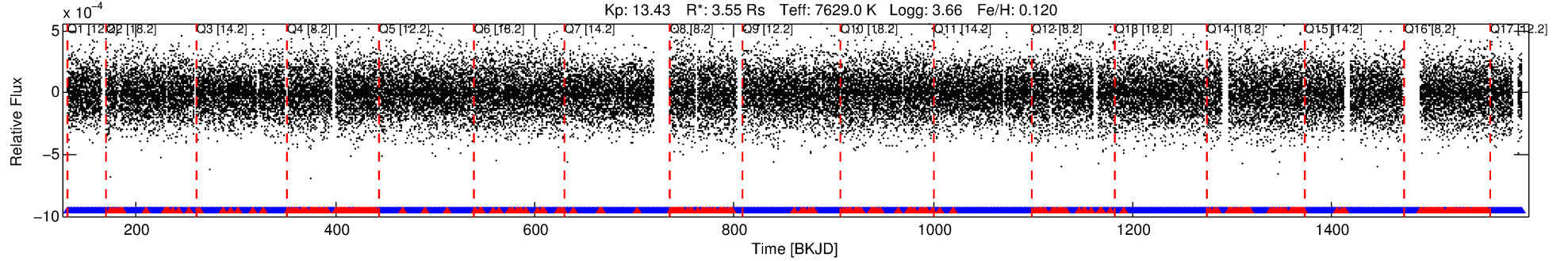
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009456595-02

No Significant Match Found

DV One-Page Summary

KIC: 9456595 Candidate: 2 of 2 Period: 0.561 d



DV Fit Results:

Period = 0.56143 [0.00001] d
Epoch = 131.6321 [0.0028] BKJD
Rp/R* = 0.0040 [0.0011]
a/R* = 2.11 [2.53]
b = 0.51 [2.26]
Seff = 130847.28 [100222.41]
Teq = 4850 [929] K
Rp = 1.55 [0.89] Re
a = 0.0171 [0.0081] AU
Ag = 0.17 [0.23] [-3.55σ]
Teffp = 4845 [1357] K [-0.00σ]

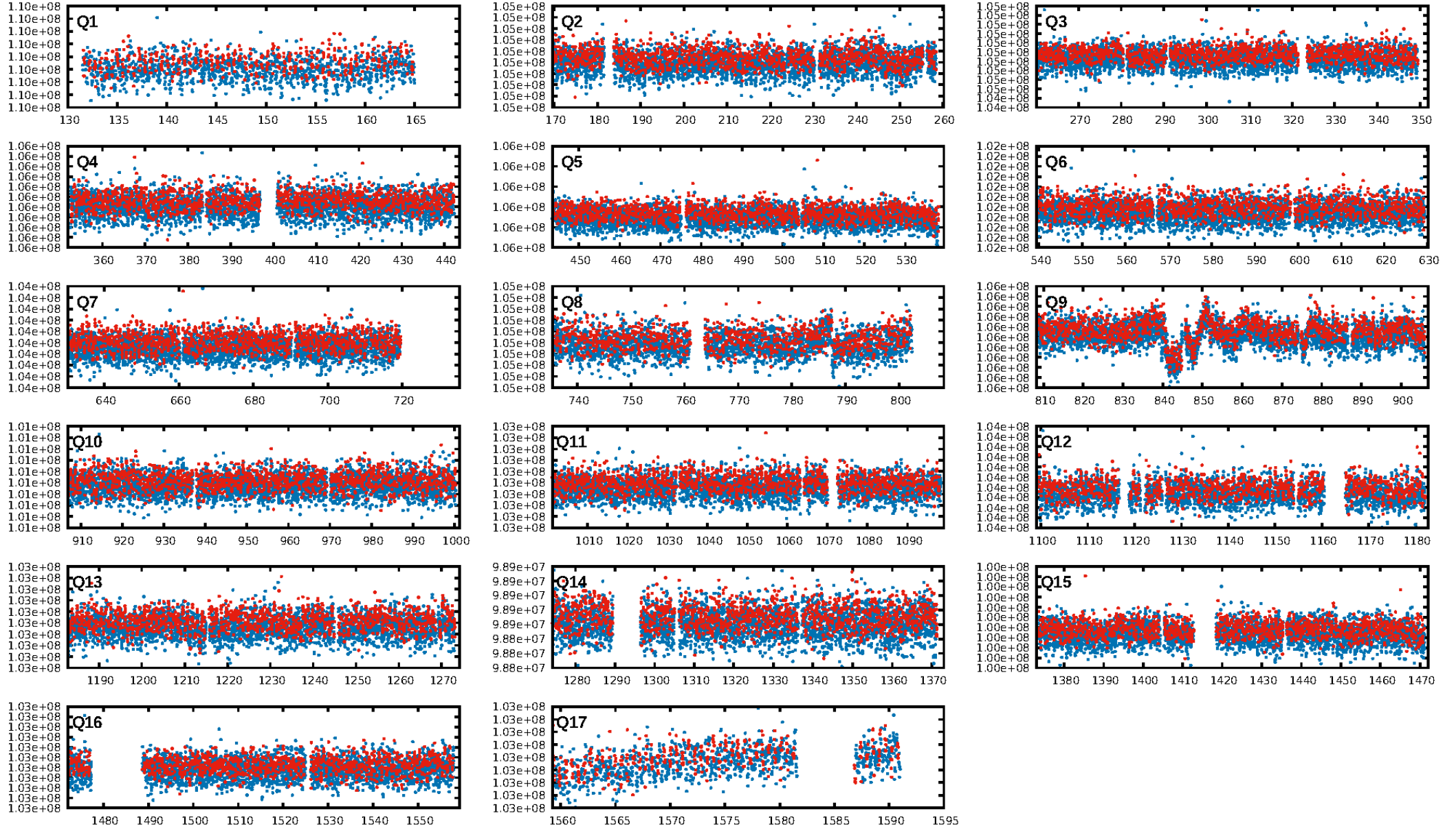
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [4.92σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.82e-16
RollingBand-fgt: 0.87 [1982/2281]
GhostDiagnostic-chr: 40.02
Centroid-sig: N/A
Centroid-so: 2.967 arcsec [2.44σ]
OotOffset-rm: 0.090 arcsec [0.45σ]
KicOffset-rm: 0.057 arcsec [0.35σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

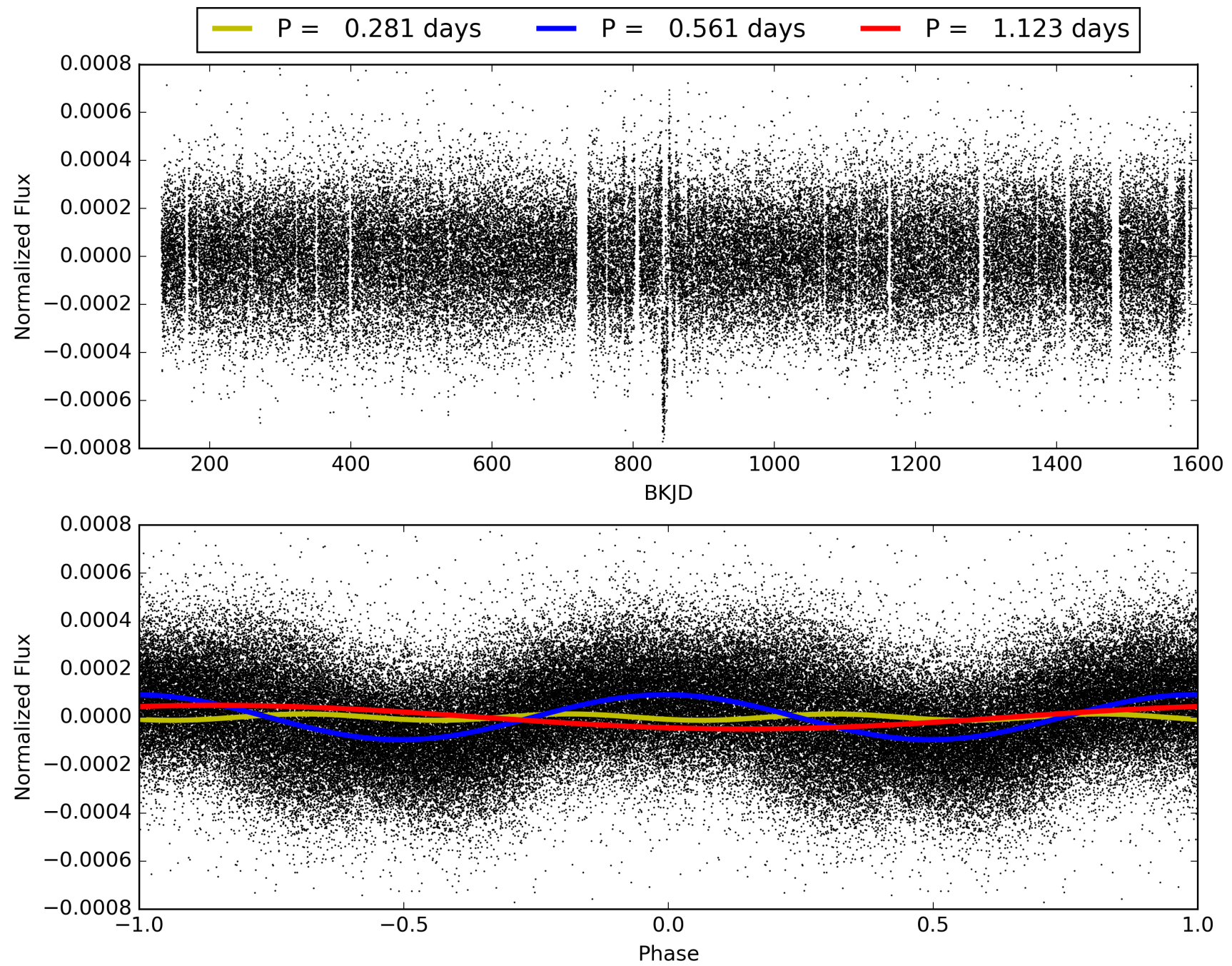
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:01:21 Z

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

TCE 009456595-02, PDC Light Curves

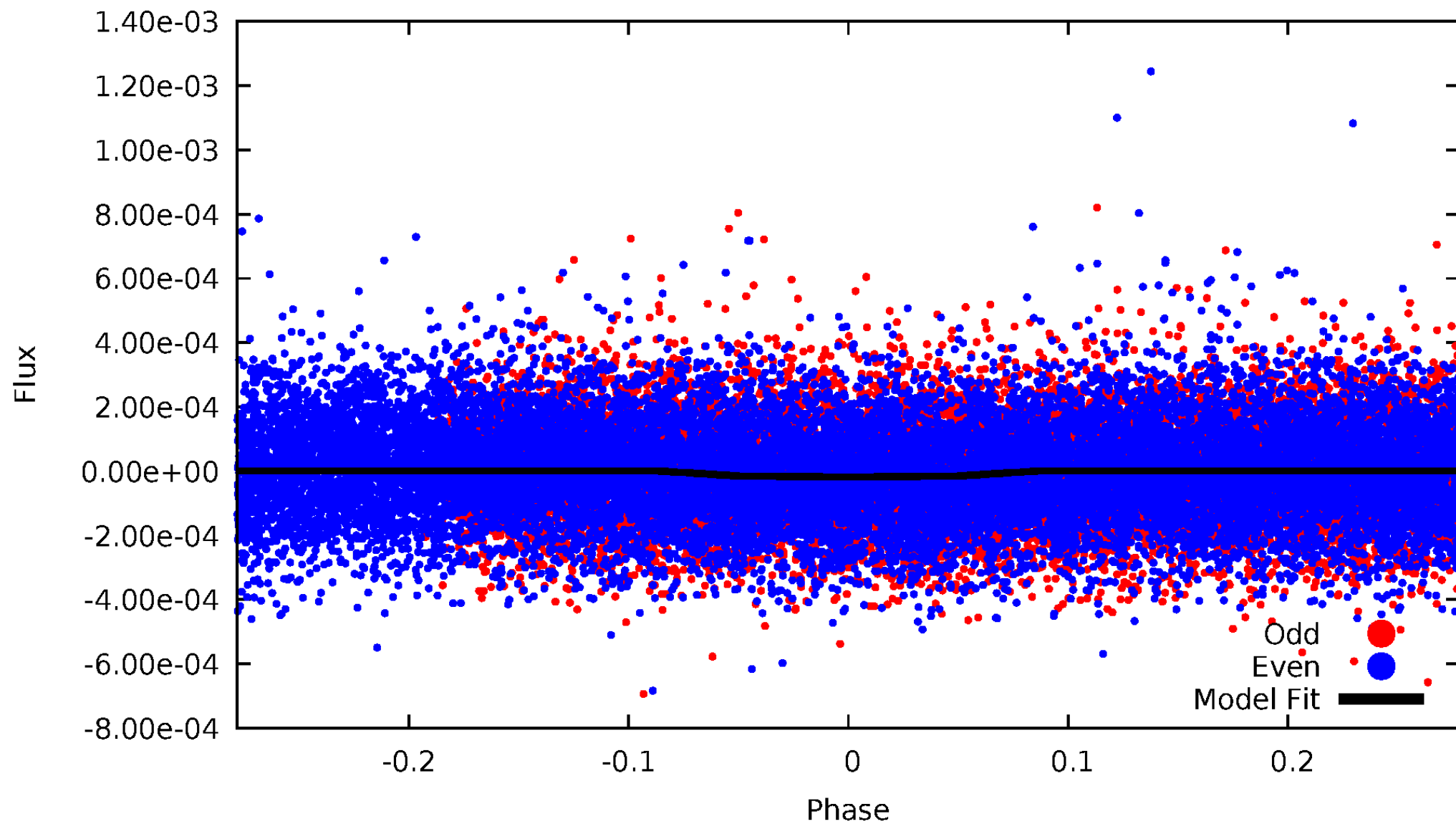


TCE 009456595-02



DV Odd/Even

TCE 009456595-02

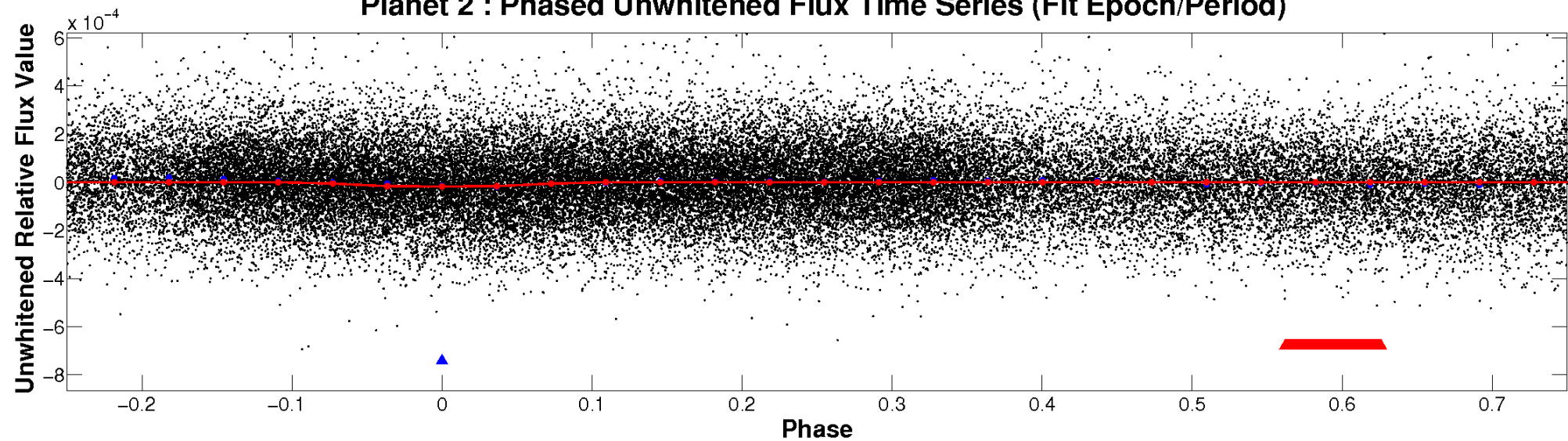


ALT Odd/Even

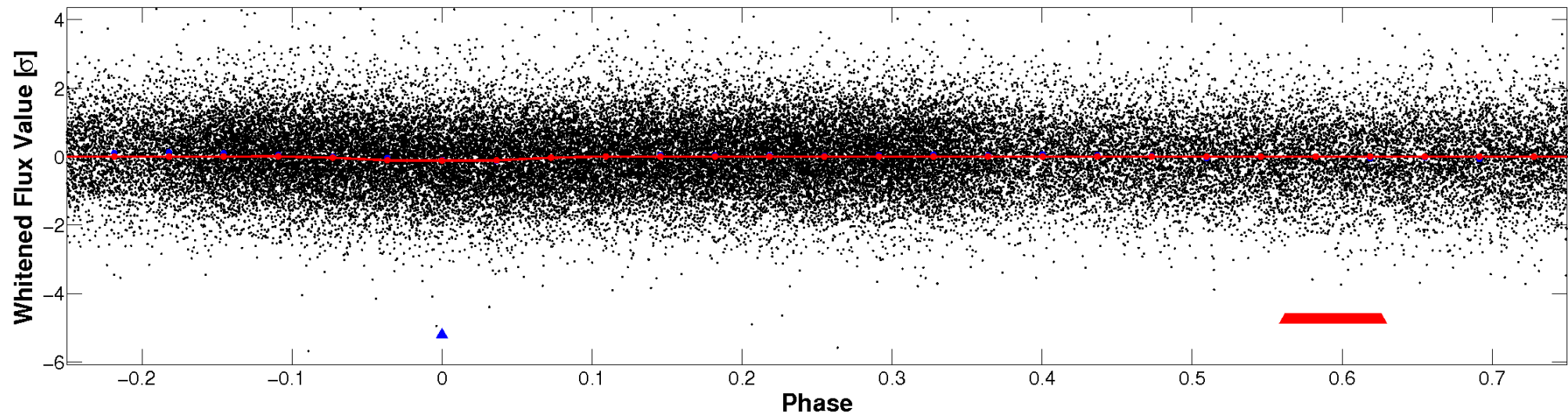
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

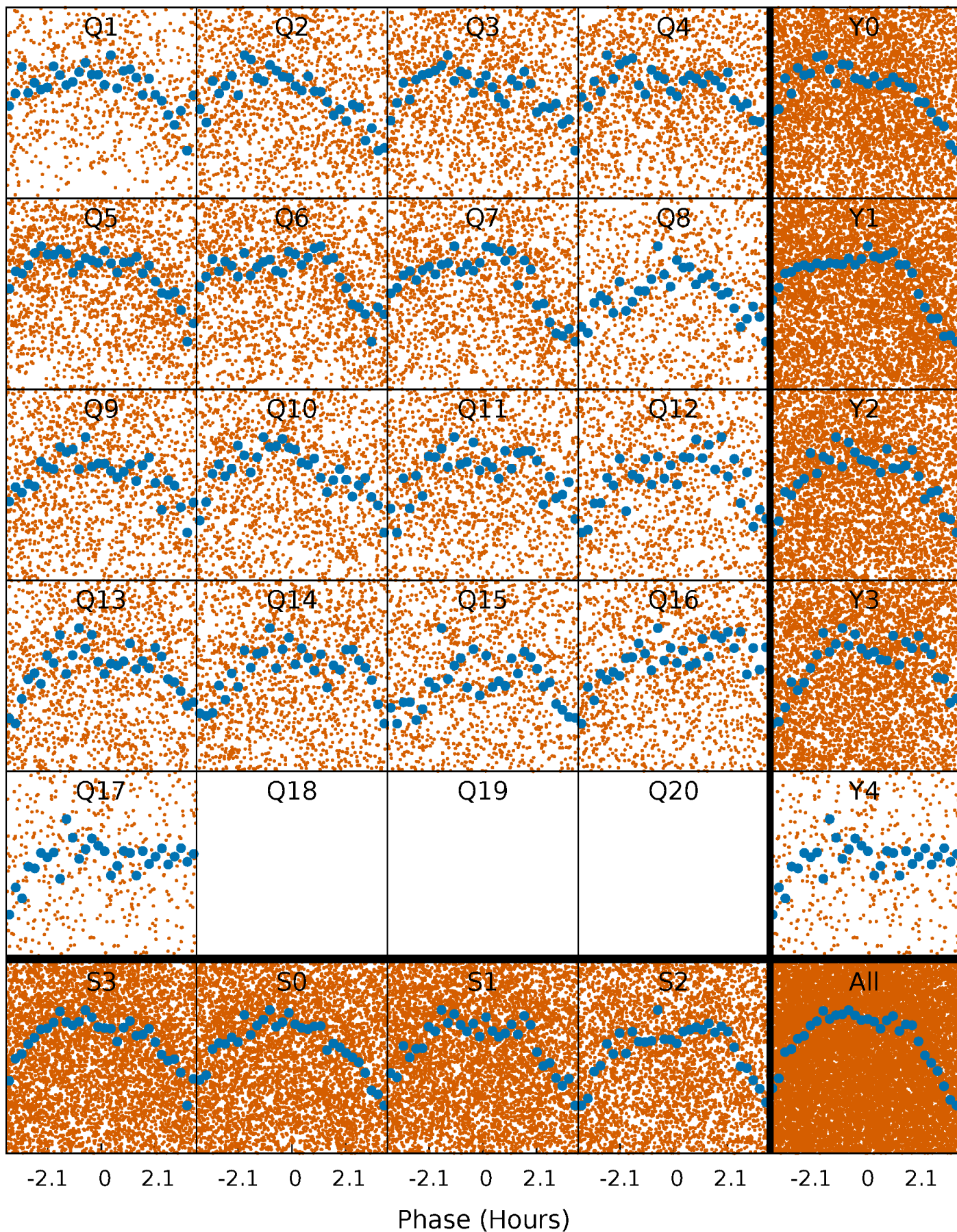


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



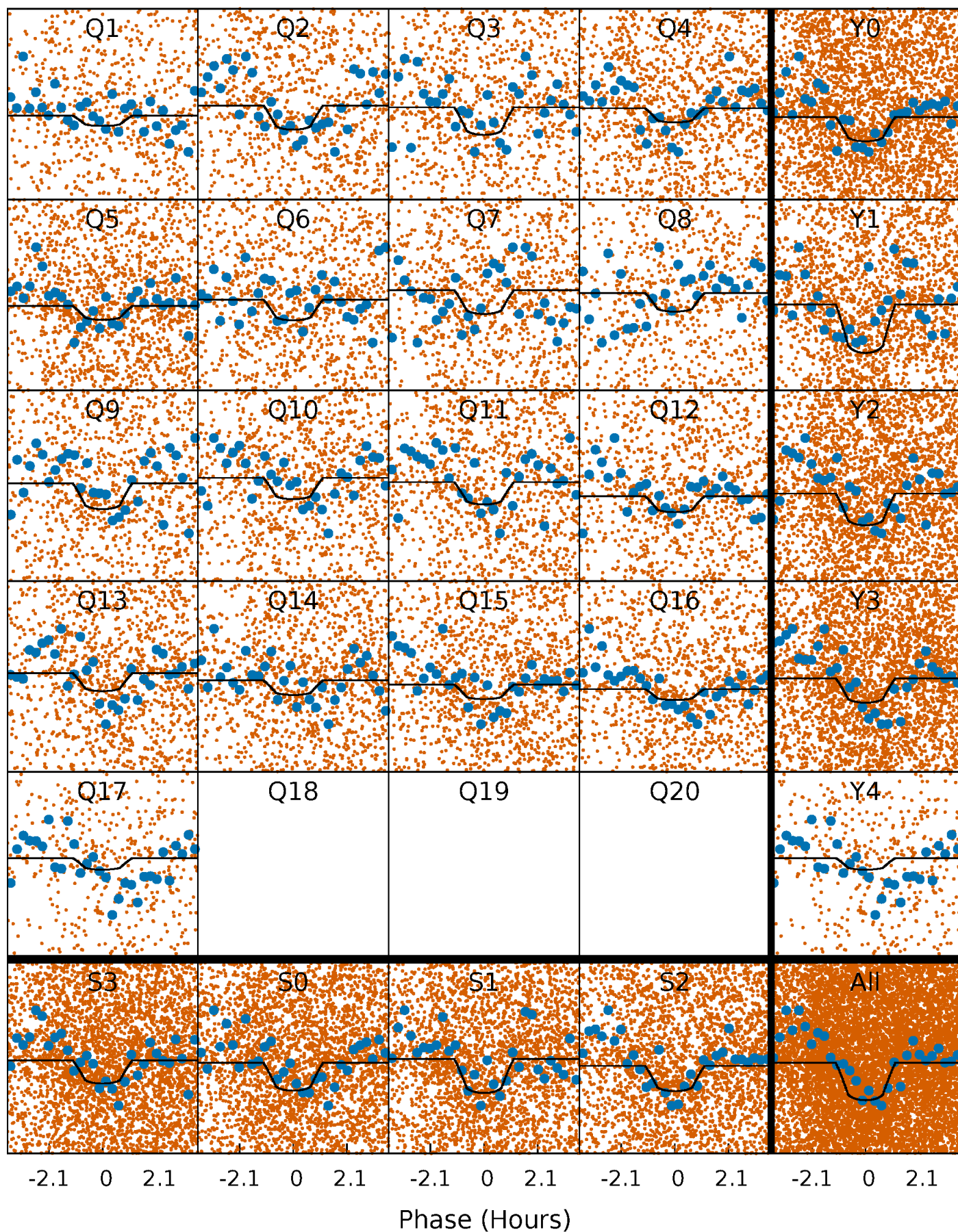
PDC Quarter-Phased Transit Curves

TCE 009456595-02 P= 0.561433 Days $T_0=131.632140$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009456595-02 P= 0.561433 Days $T_0=131.632140$ (BKJD)

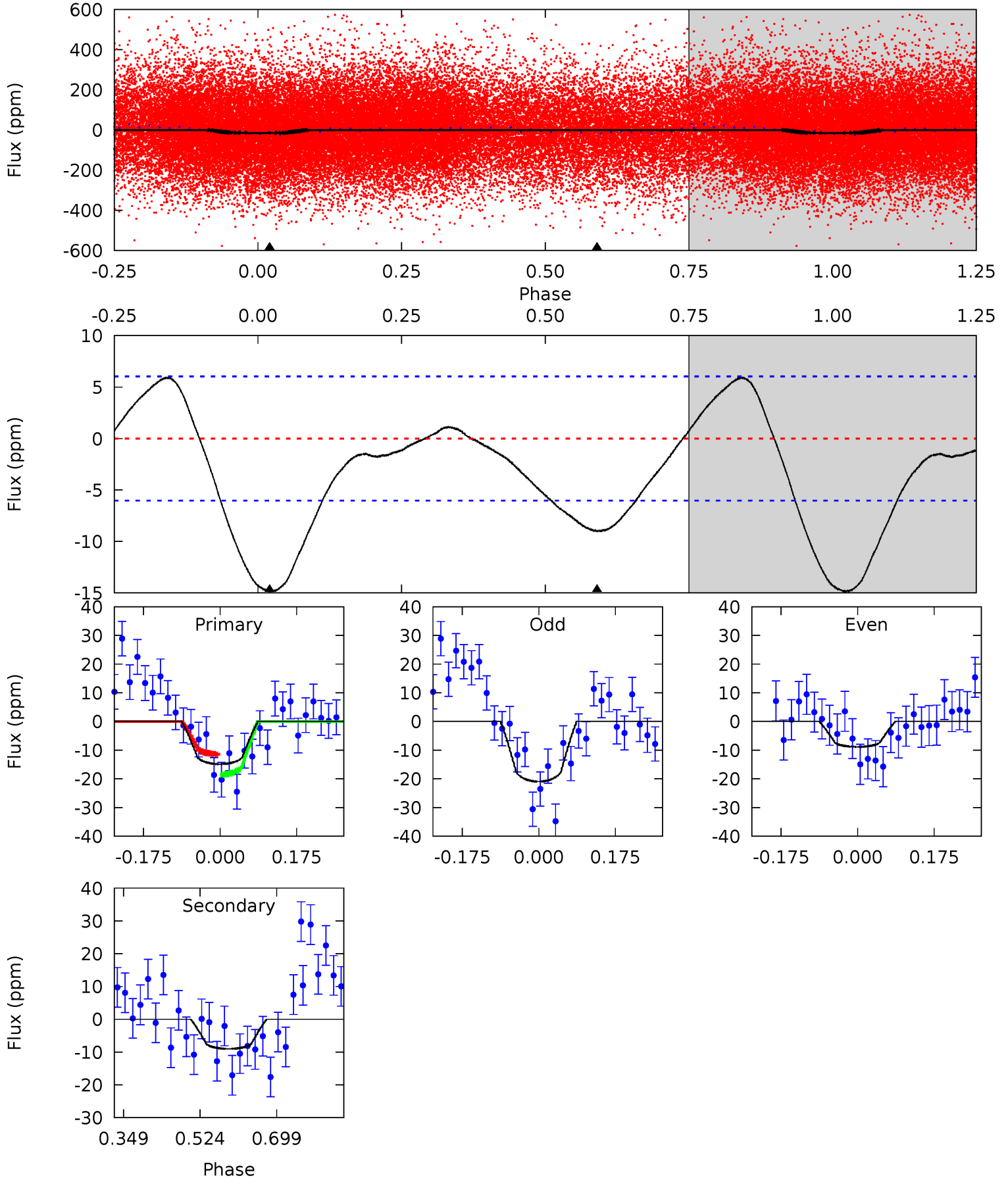


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009456595-02, P = 0.561433 Days, E = 131.070707 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	6.65	0	0	4.45	1.36	1.64	11.0	11.0	6.65	6.65	4.49	1.01	0.28	2.64



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 009456595

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7629^{+213}_{-347}	$3.663^{+0.432}_{-0.081}$	$0.120^{+0.200}_{-0.350}$	$3.553^{+0.719}_{-1.798}$	$2.121^{+0.288}_{-0.534}$	$0.067^{+0.305}_{-0.022}$
	+3%/-5%	+12%/-2%	+167%/-292%	+20%/-51%	+14%/-25%	+458%/-33%
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 009456595-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 1	$1.38^{+0.54}_{-0.46}$	6520^{+473}_{-740}	5717^{+1647}_{-1477}	$0.779^{+0.939}_{-0.382}$
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

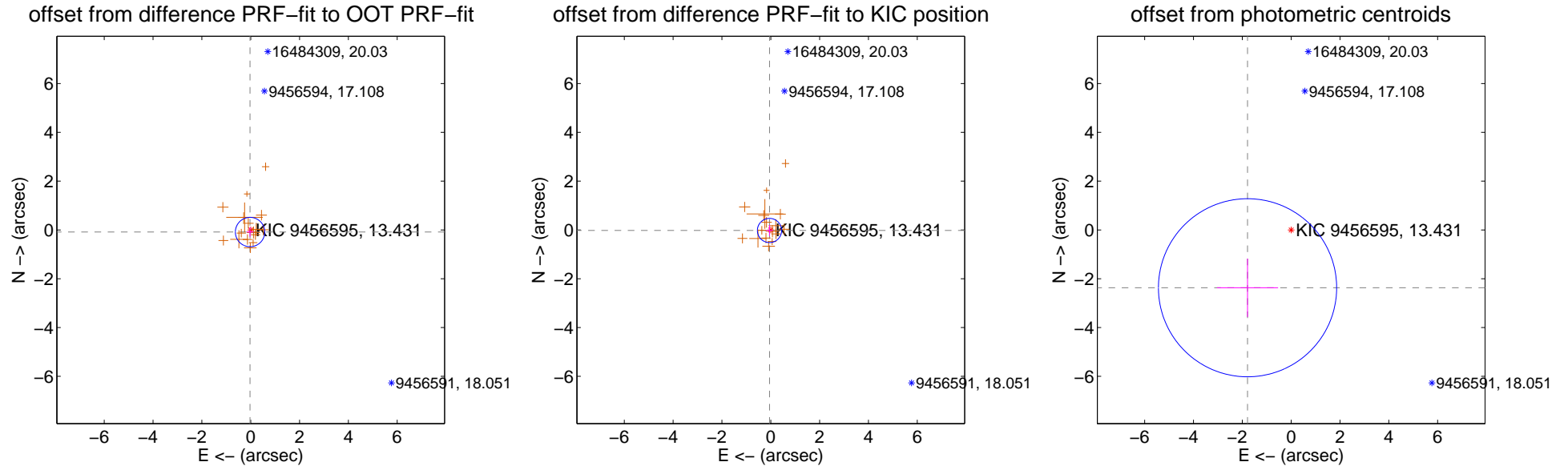
DV Centroid Data

Supplemental centroid analysis for 009456595-02. Kepler magnitude: 13.43. Transit SNR 9.39

There are 0 quarters with good PRF difference image offsets

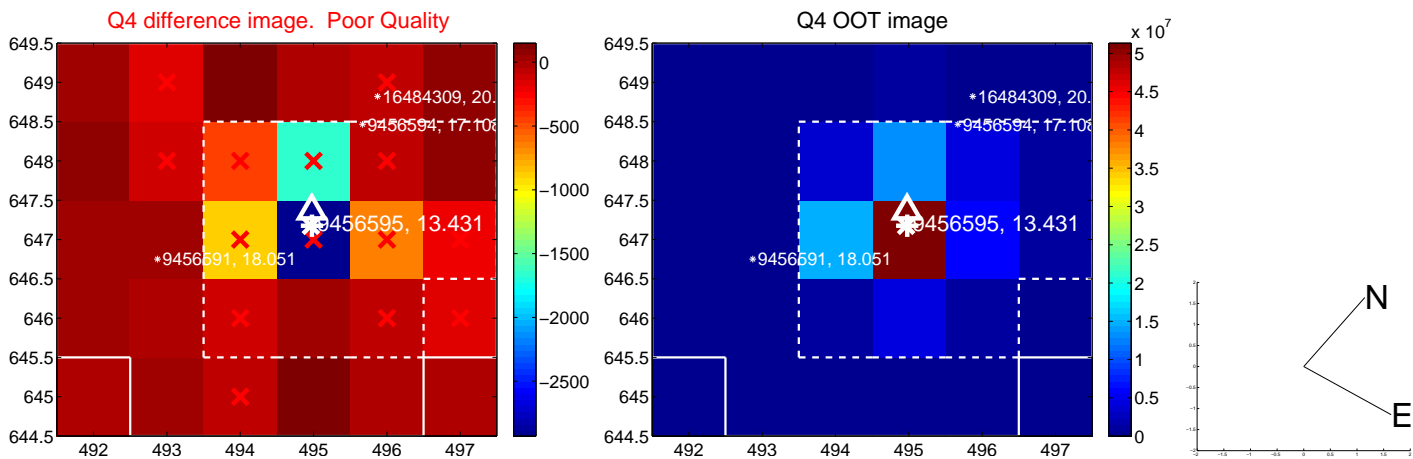
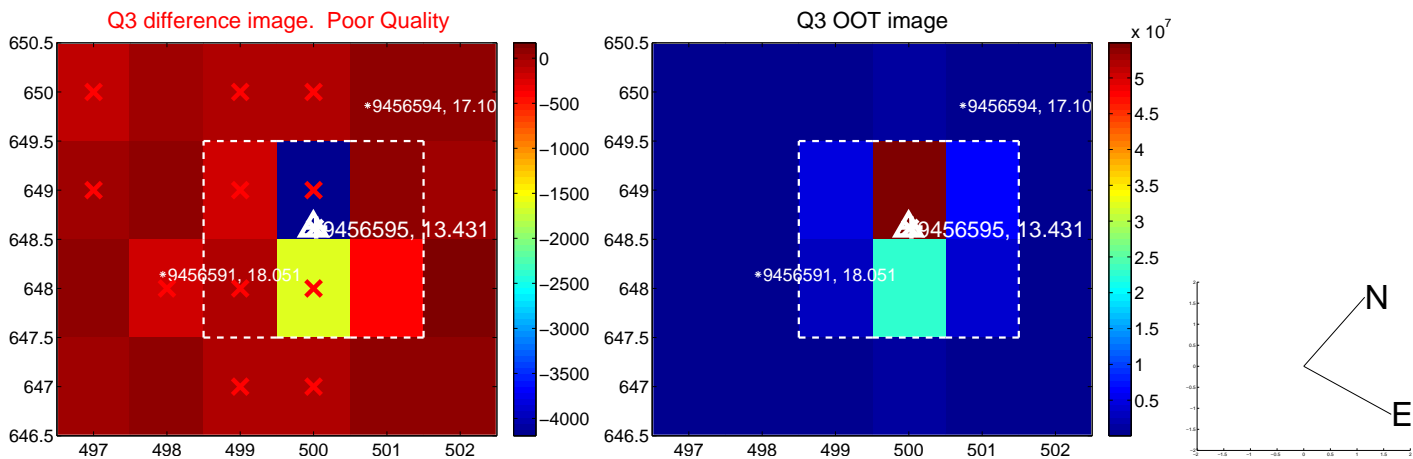
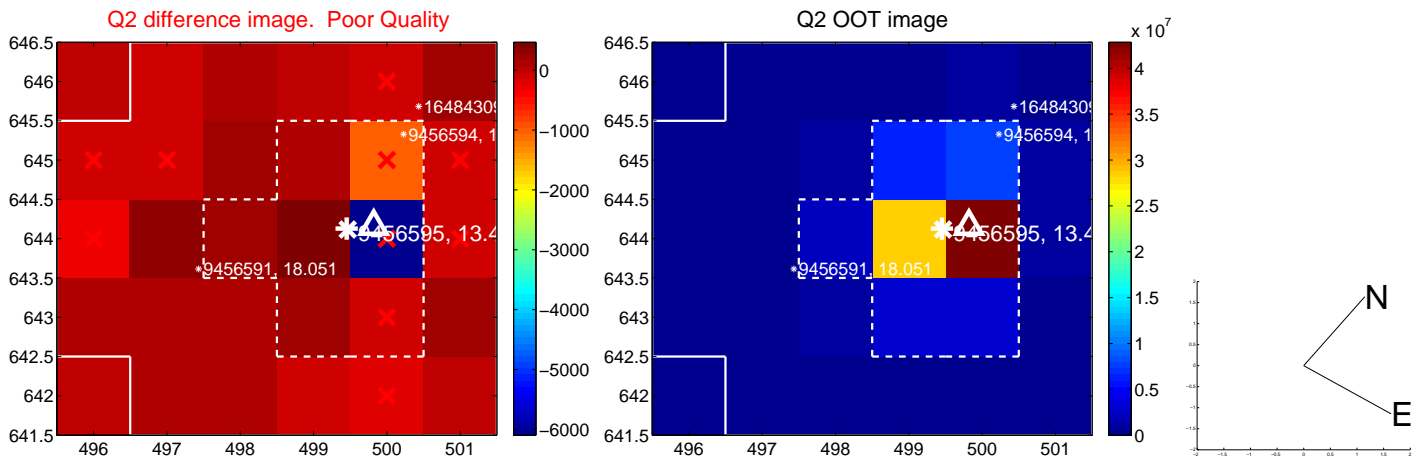
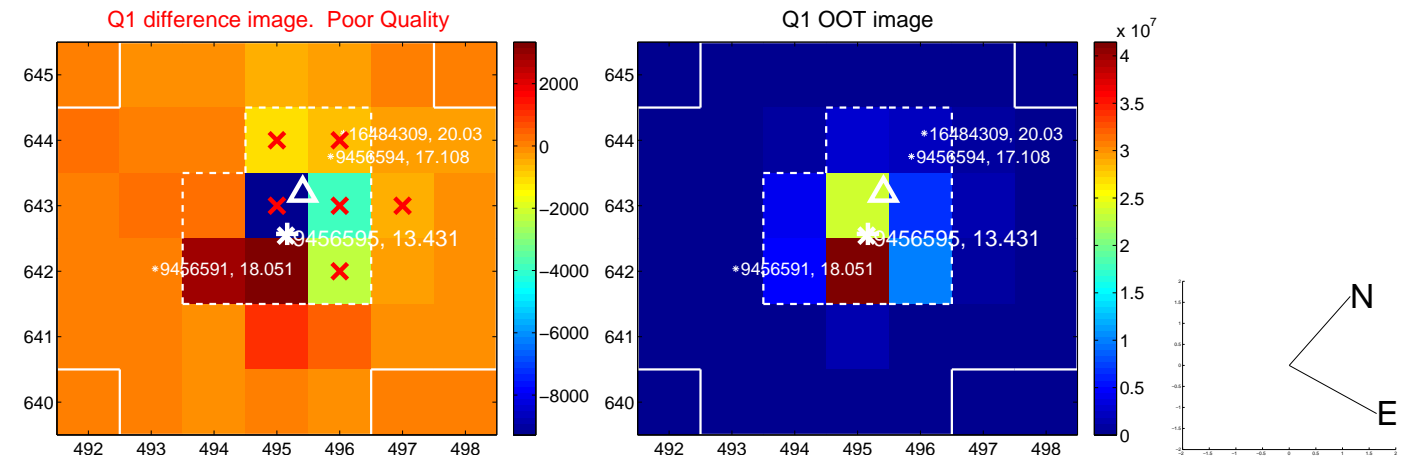
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.090 ± 0.201	0.45	0.027 ± 0.133	-0.086 ± 0.199
PRF-fit source offset from KIC position	0.057 ± 0.165	0.35	0.053 ± 0.136	-0.022 ± 0.219
photometric centroid source offset	2.97 ± 1.22	2.44	1.79 ± 1.25	-2.37 ± 1.20

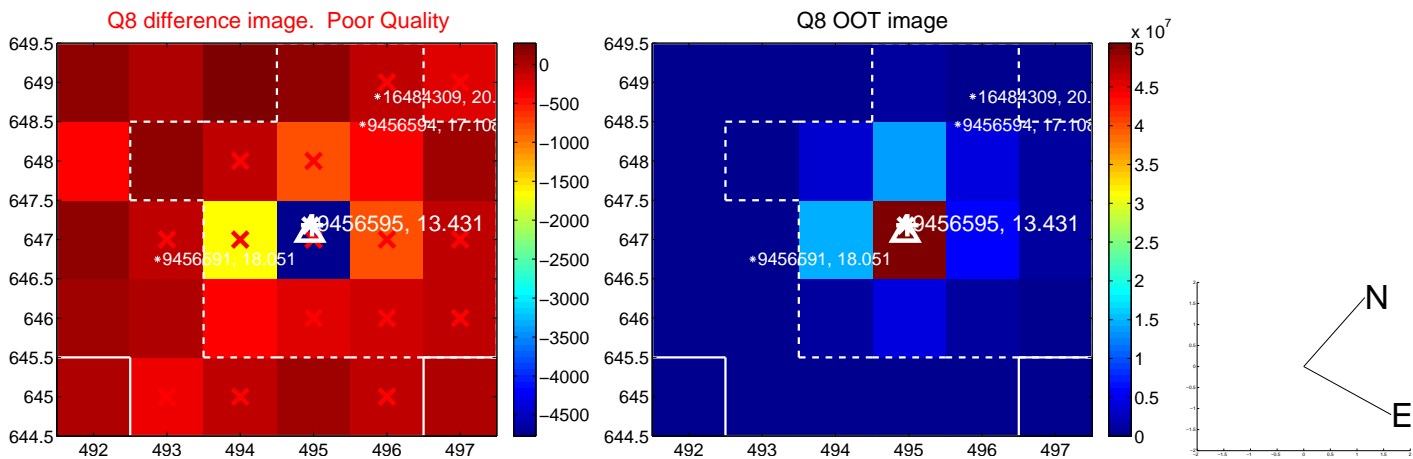
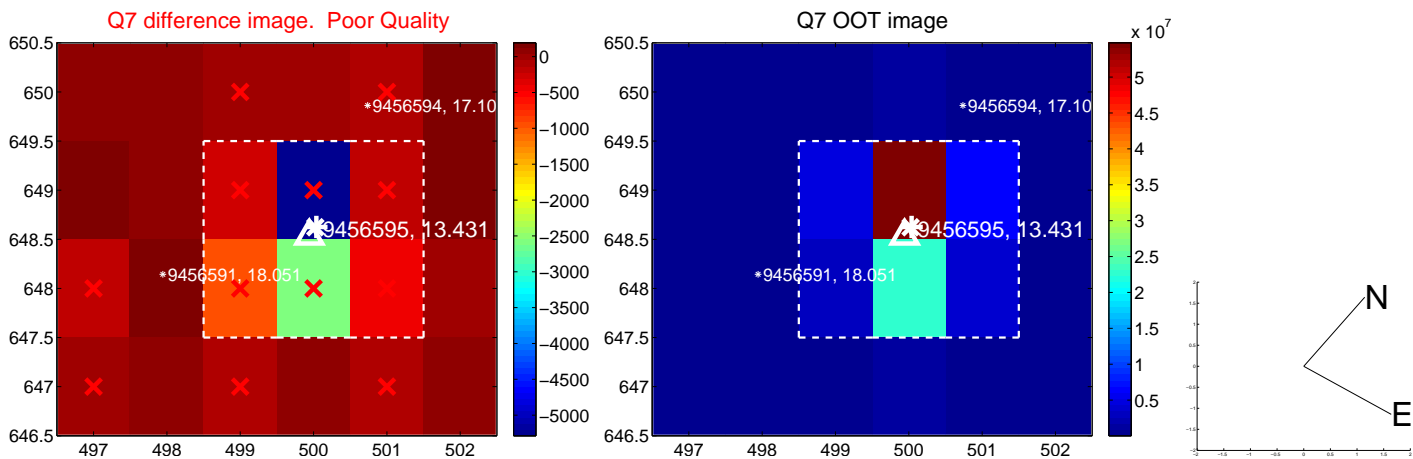
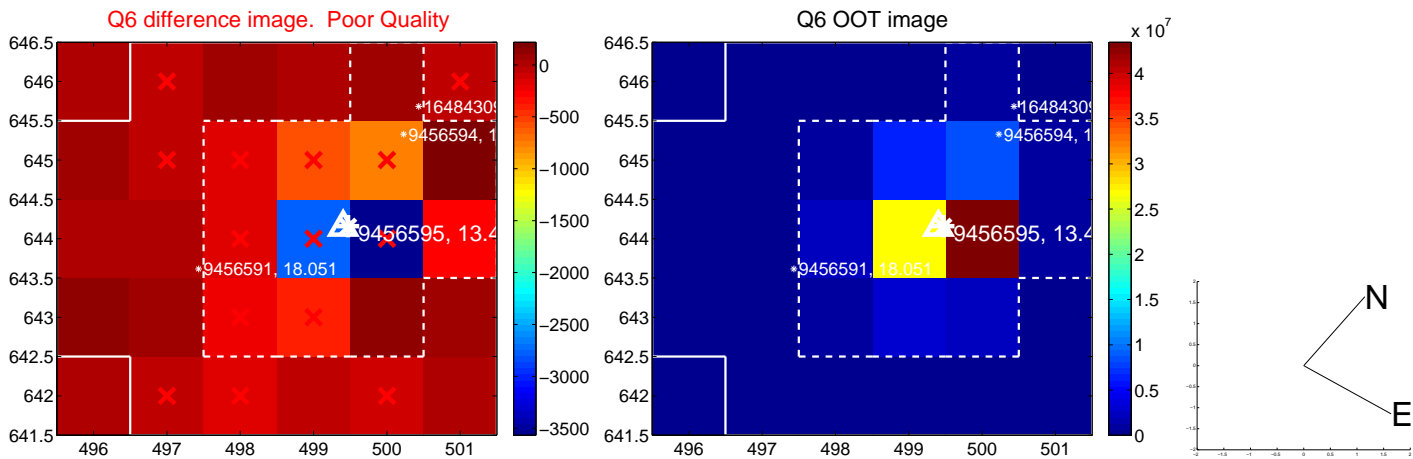
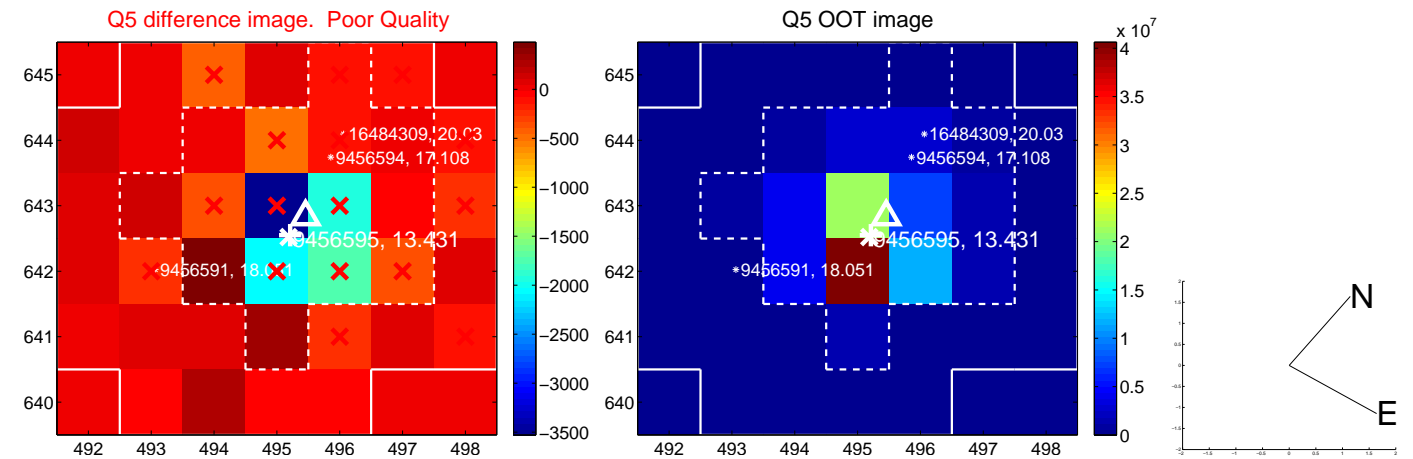


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

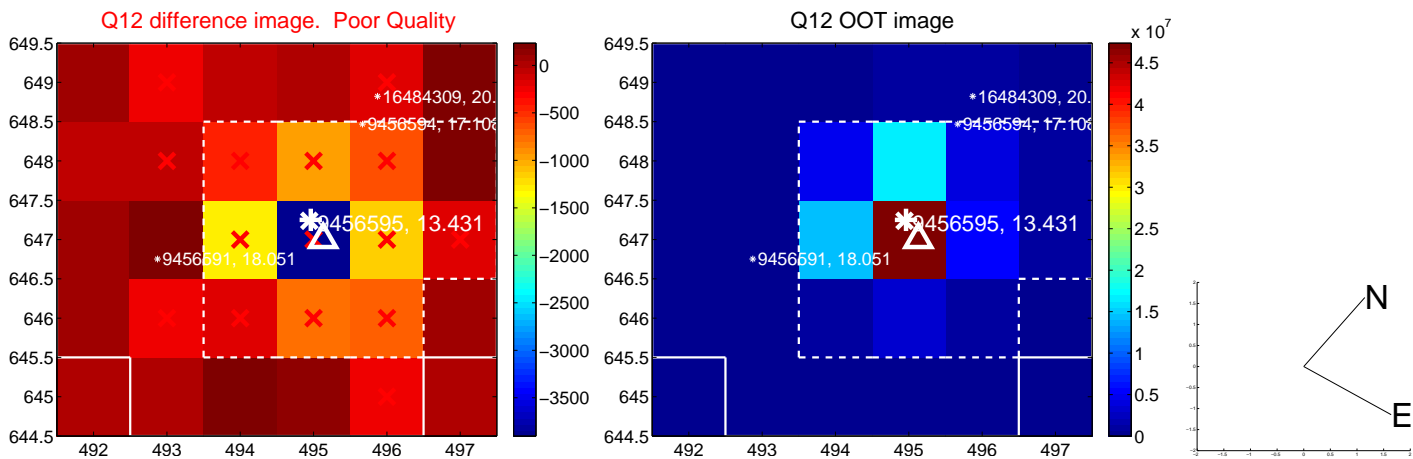
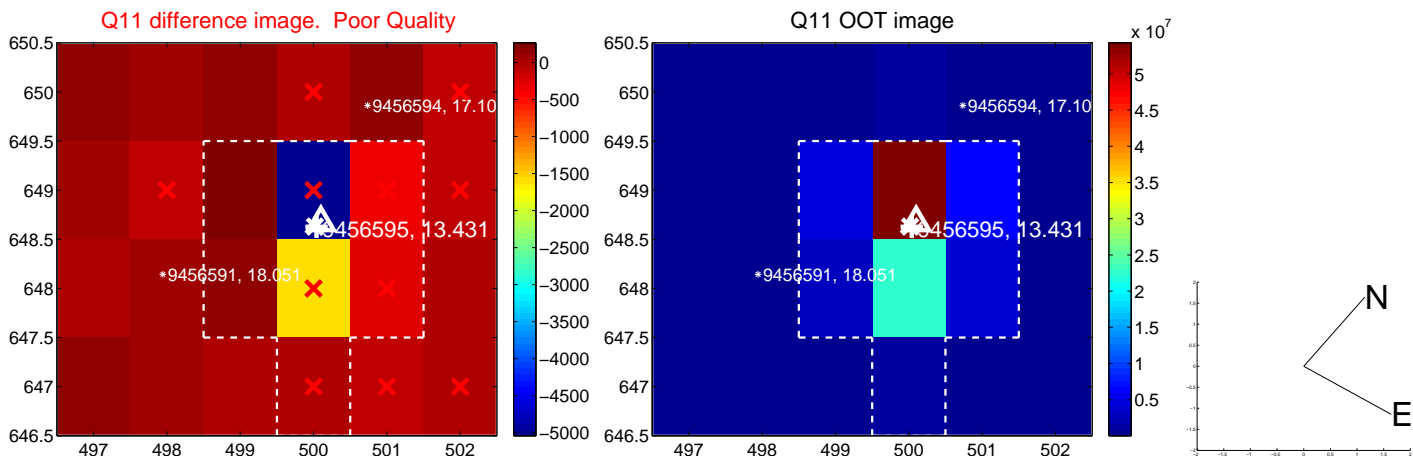
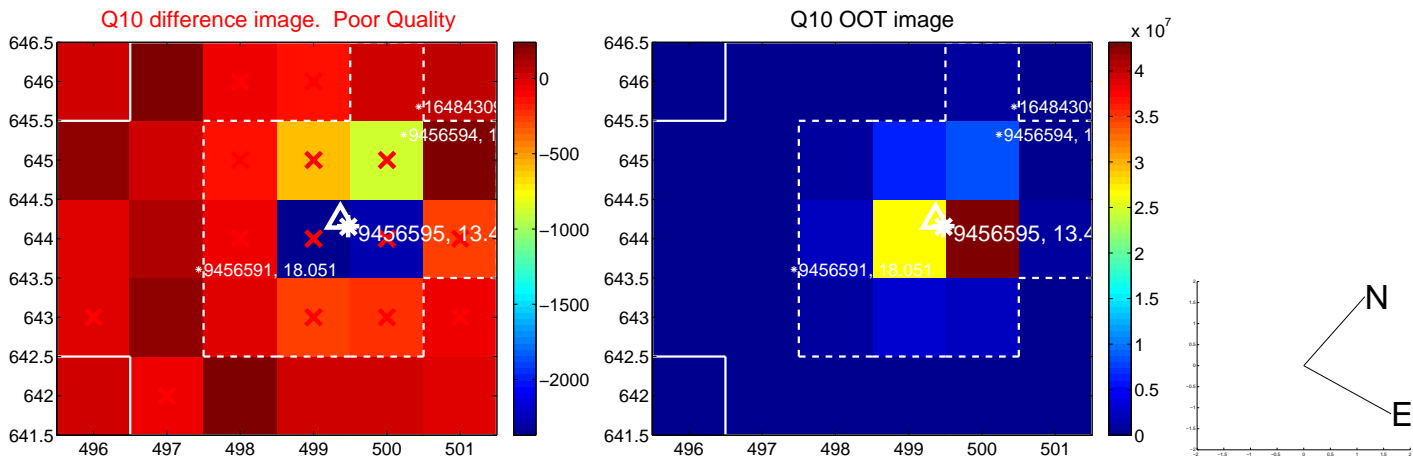
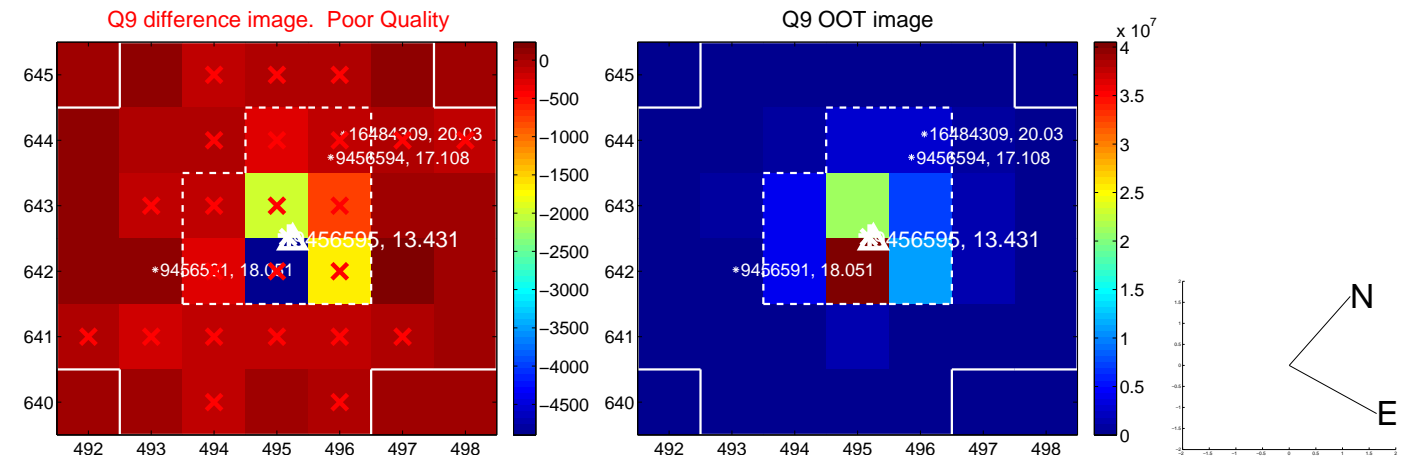
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



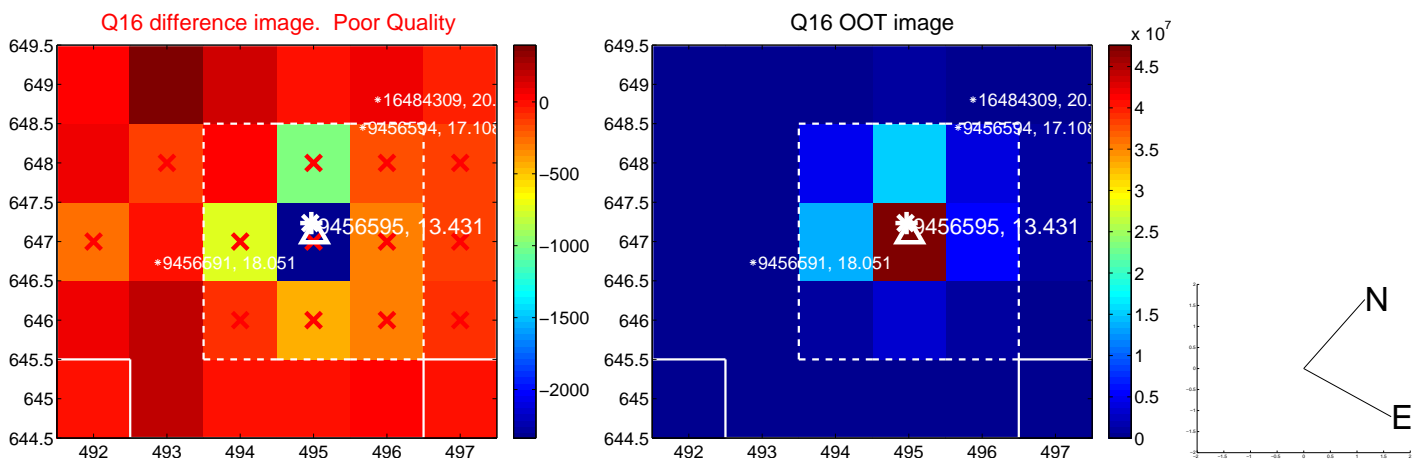
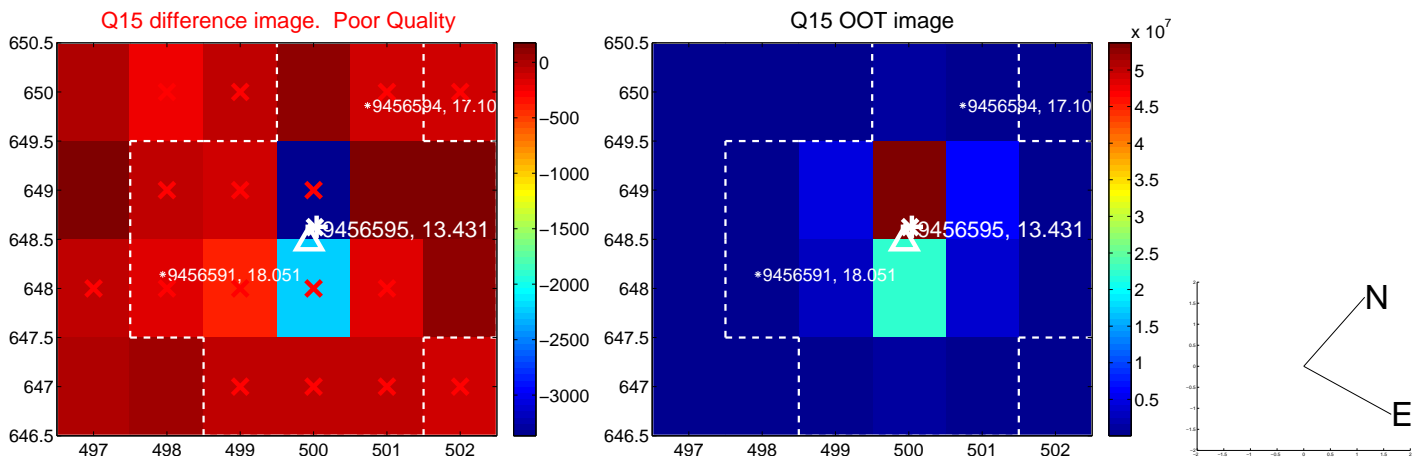
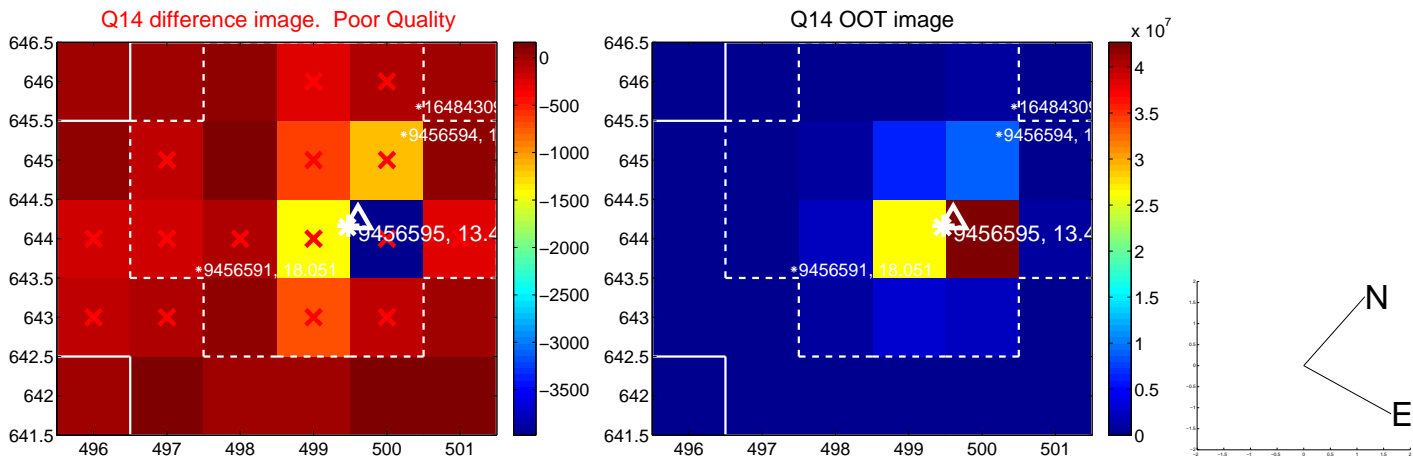
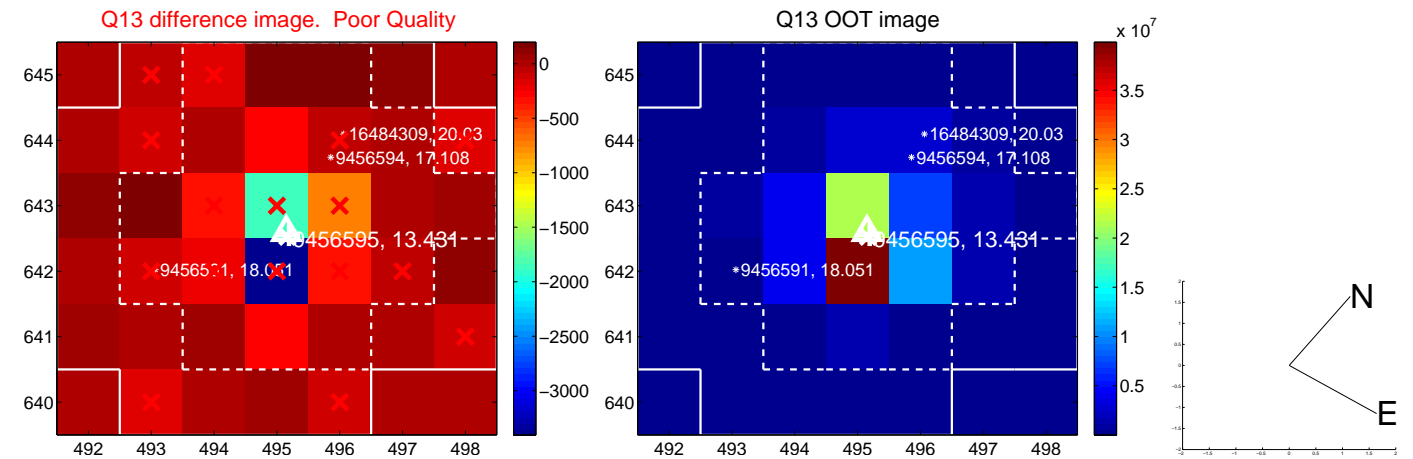
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



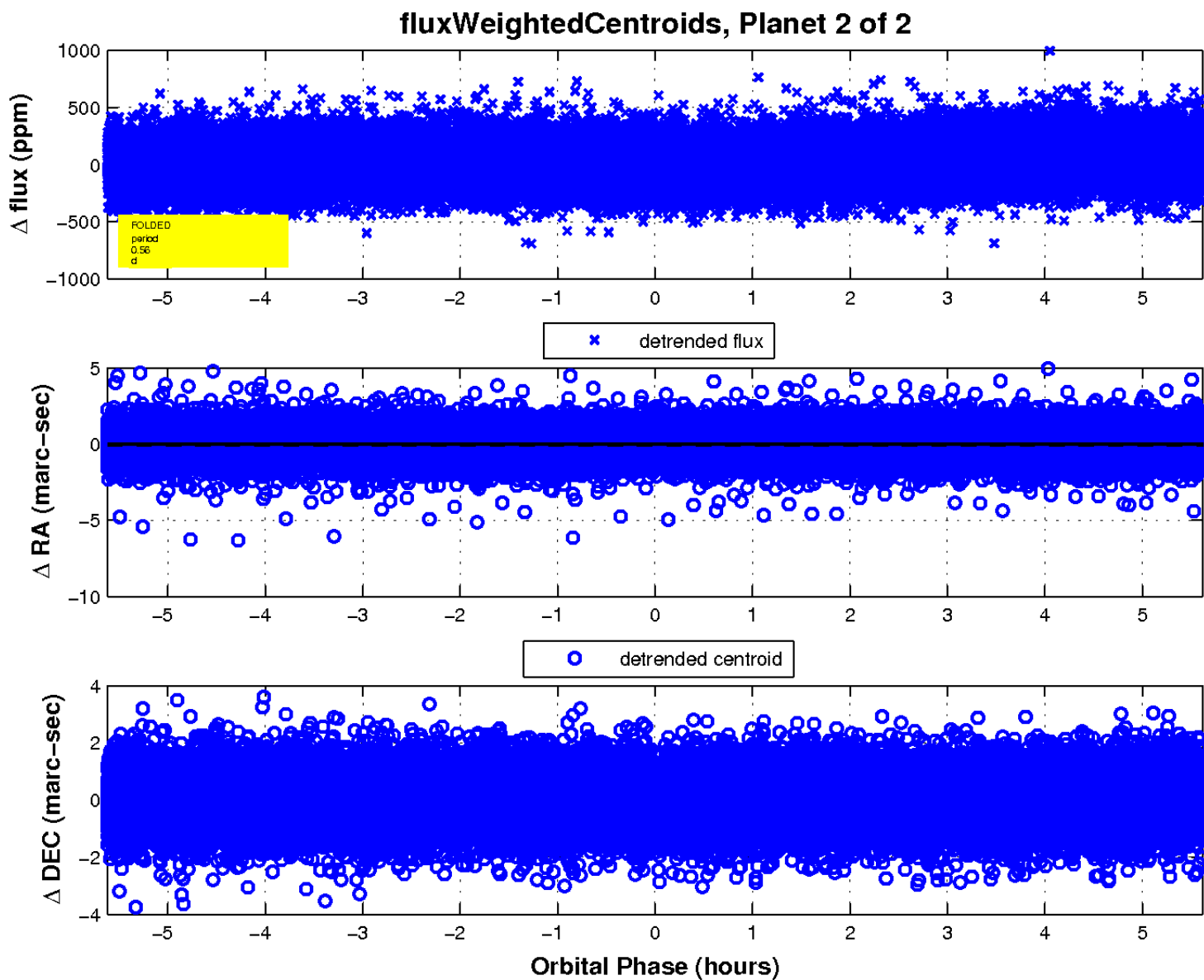
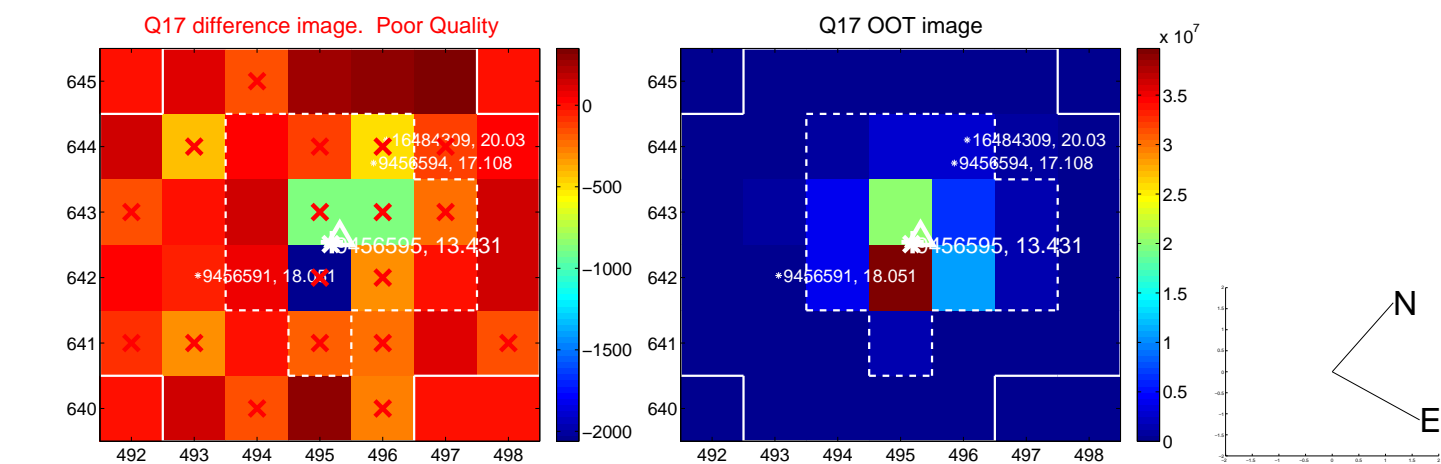
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

