

# KIC 003443127

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003443127-01	OBS	No	0.854399	131.596004	68.1	2.853	11.8	8.8	2.65	7758	2.53	47310.52
003443127-02	OBS	No	0.667668	131.991236	90.2	1.398	9.4	7.5	2.65	7758	2.93	65729.17
003443127-03	OBS	No	1.307172	132.289711	118.6	5.635	9.0	9.3	2.65	7758	3.17	26836.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003443127-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003443127-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003443127-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

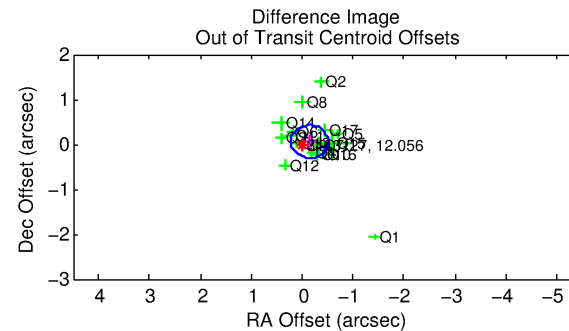
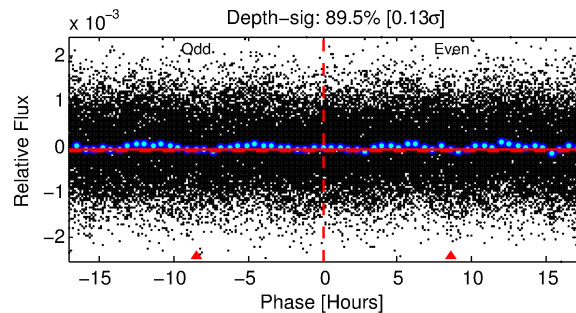
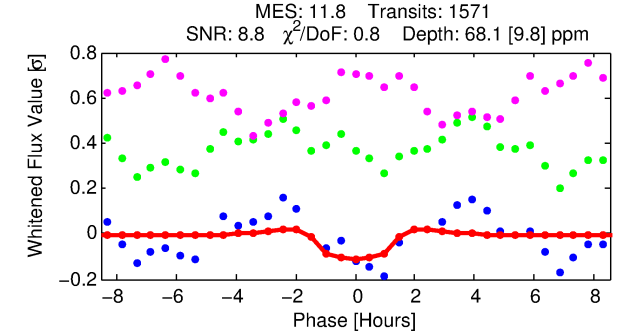
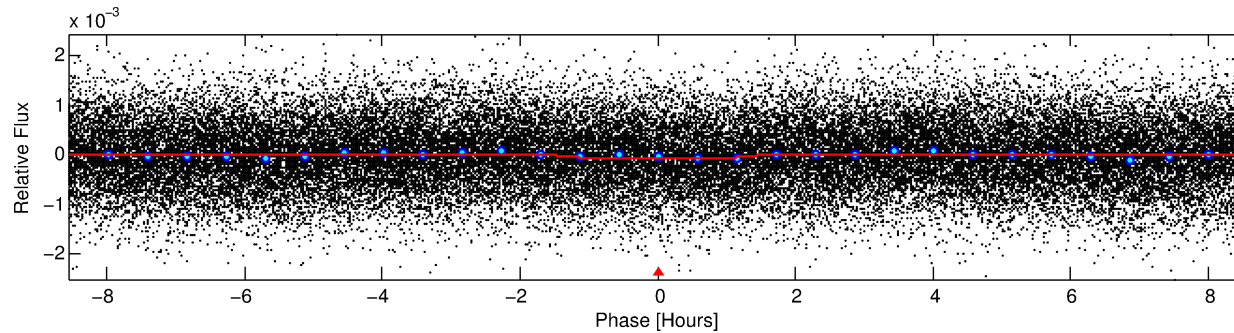
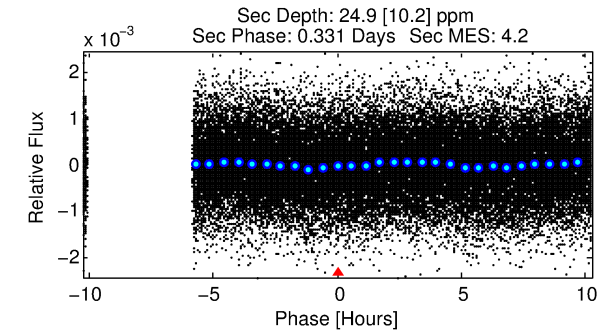
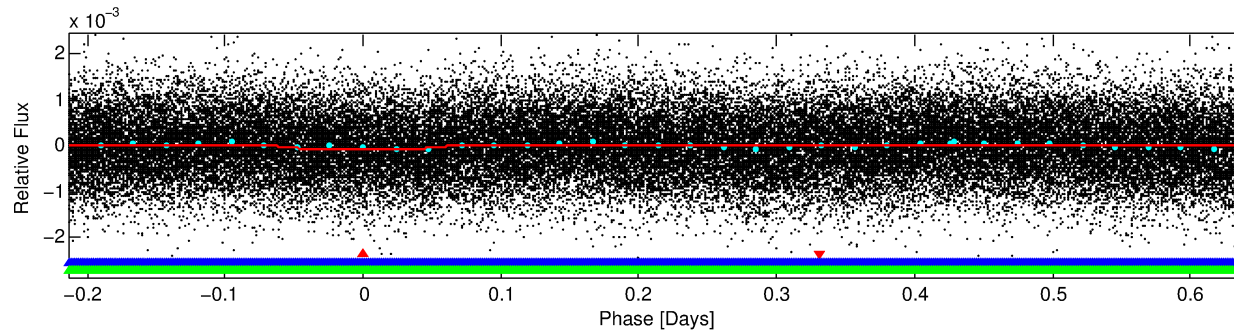
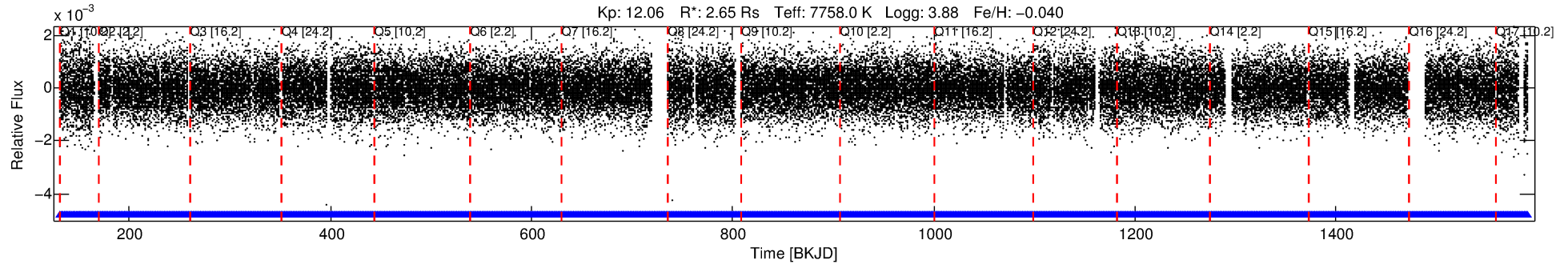
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 003443127-01

No Significant Match Found

# DV One-Page Summary

KIC: 3443127 Candidate: 1 of 3 Period: 0.854 d



## DV Fit Results:

Period = 0.85440 [0.00001] d  
Epoch = 131.5960 [0.0038] BKJD  
Rp/R\* = 0.0087 [0.0052]  
a/R\* = 1.42 [2.68]  
b = 0.89 [0.85]  
Seff = 47310.52 [25631.70]  
Teff = 3761 [509] K  
Rp = 2.53 [1.73] Re  
a = 0.0219 [0.0072] AU  
Ag = 1.03 [1.40] [0.02σ]  
Teffp = 5861 [1847] K [1.10σ]

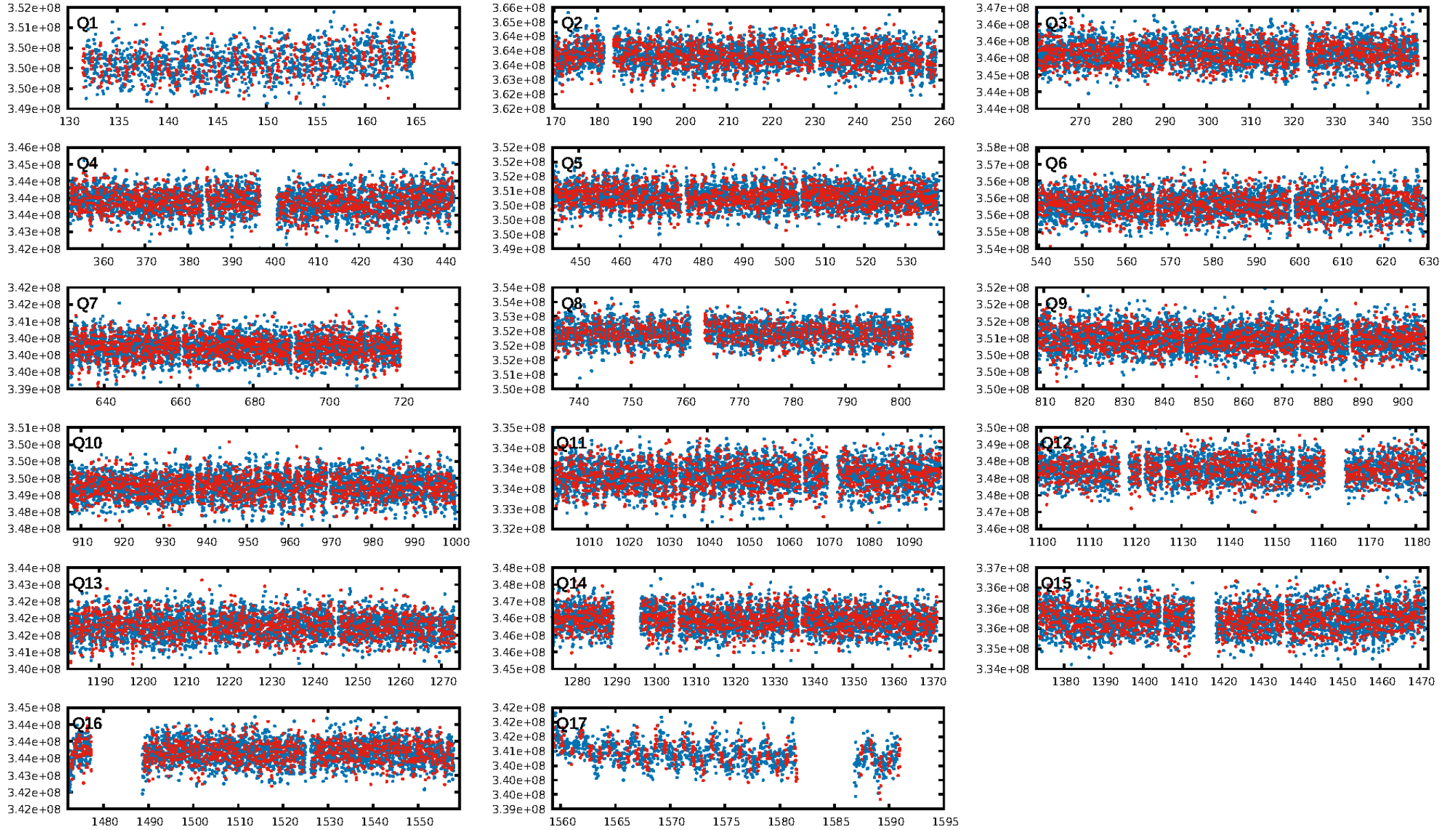
## DV Diagnostic Results:

ShortPeriod-sig: 84.2% [1.41σ]  
LongPeriod-sig: 91.5% [1.72σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.64e-18  
RollingBand-fgt: 1.00 [1499/1499]  
GhostDiagnostic-chr: 1.934  
Centroid-sig: 0.2%  
Centroid-so: 0.404 arcsec [2.06σ]  
OotOffset-rm: 0.157 arcsec [1.30σ]  
KicOffset-rm: 0.275 arcsec [2.26σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.94 [16/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:51:05 Z

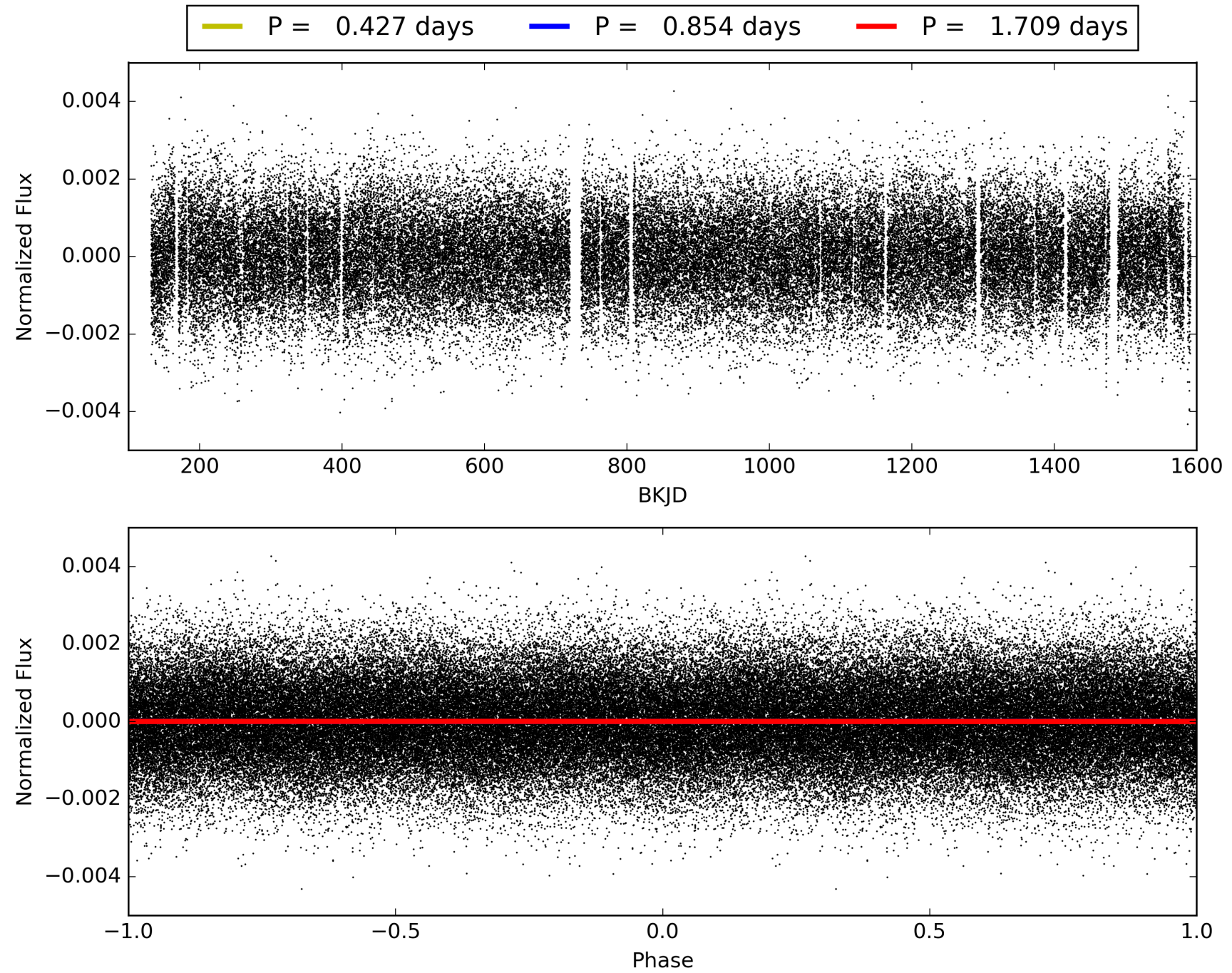
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 003443127-01, PDC Light Curves





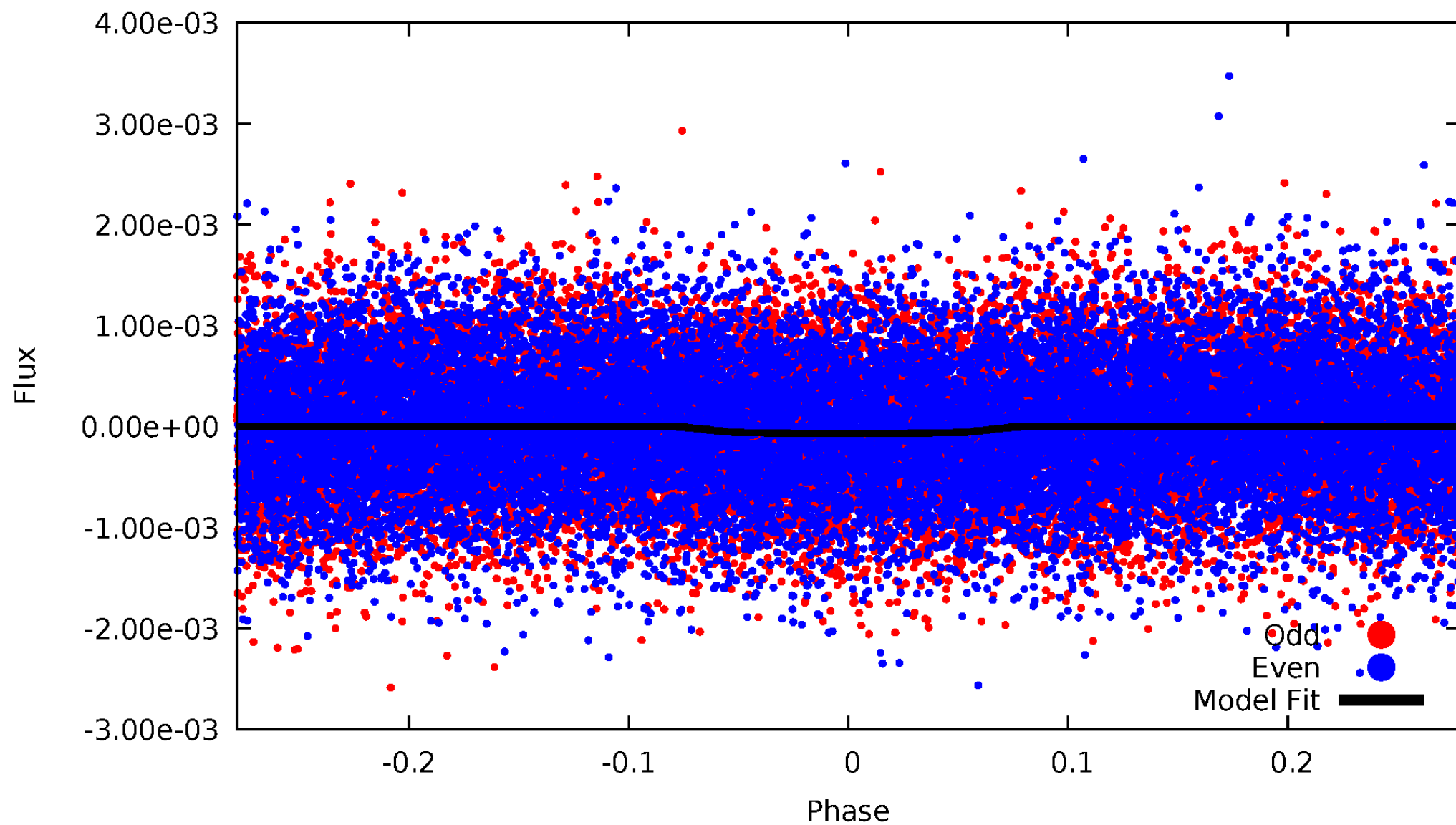
TCE 003443127-01





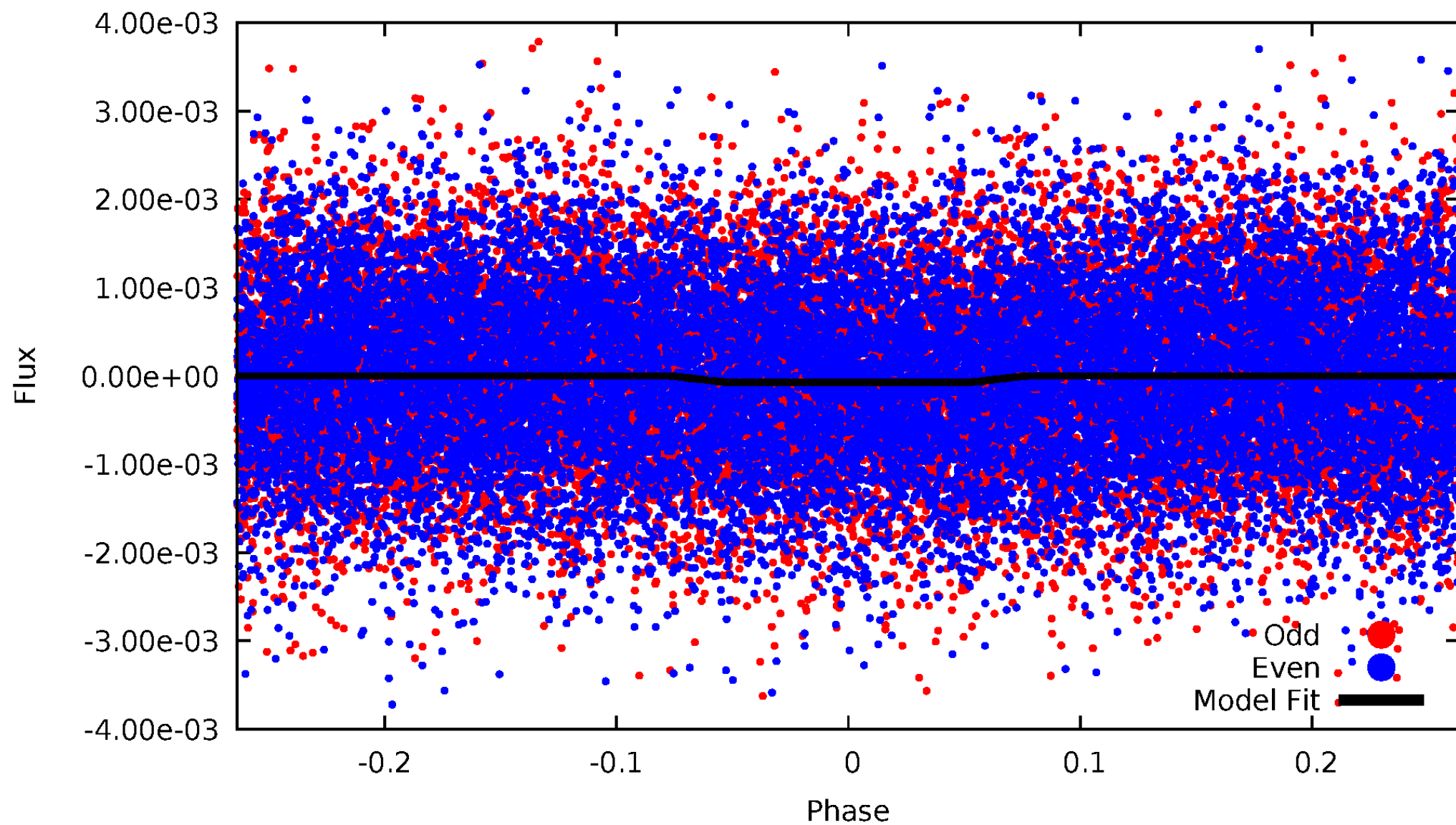
# DV Odd/Even

TCE 003443127-01

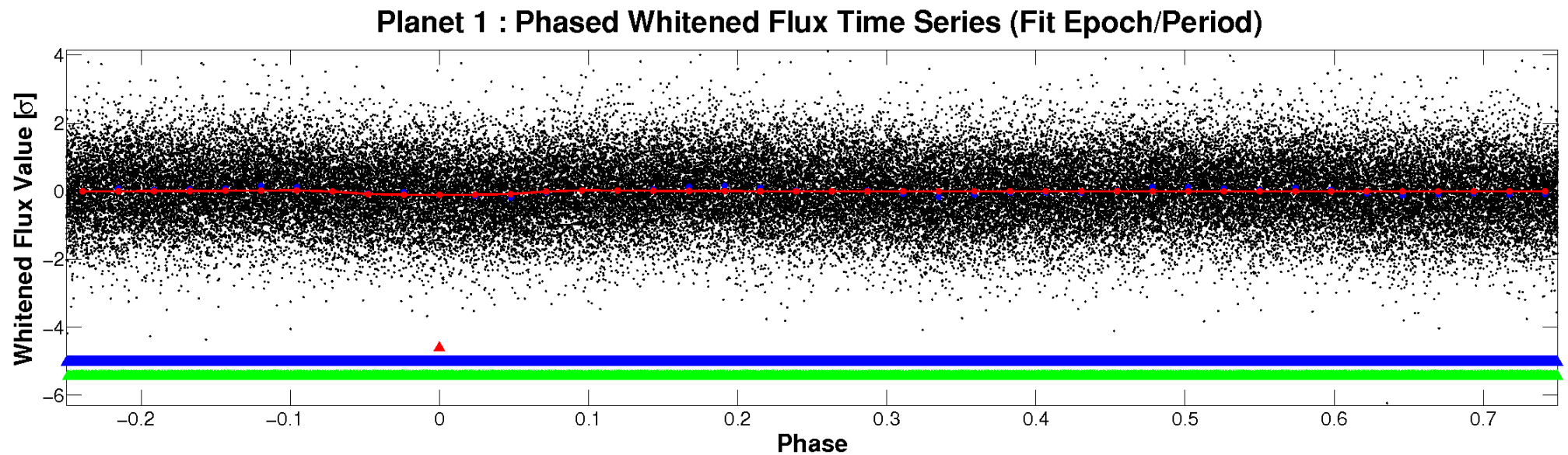
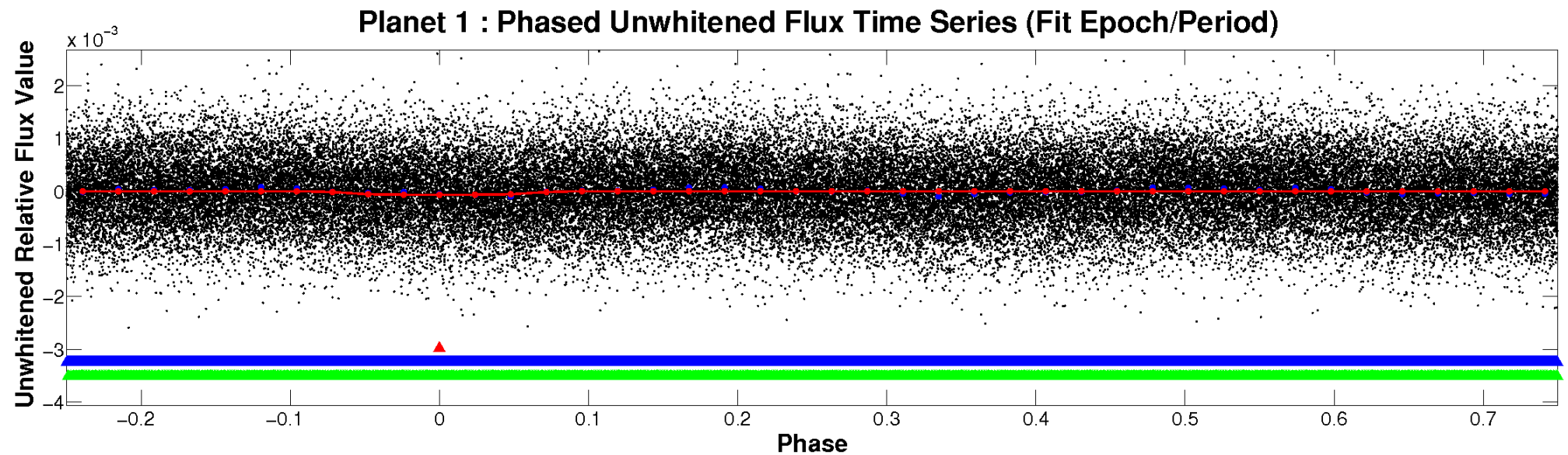


# ALT Odd/Even

TCE 003443127-01



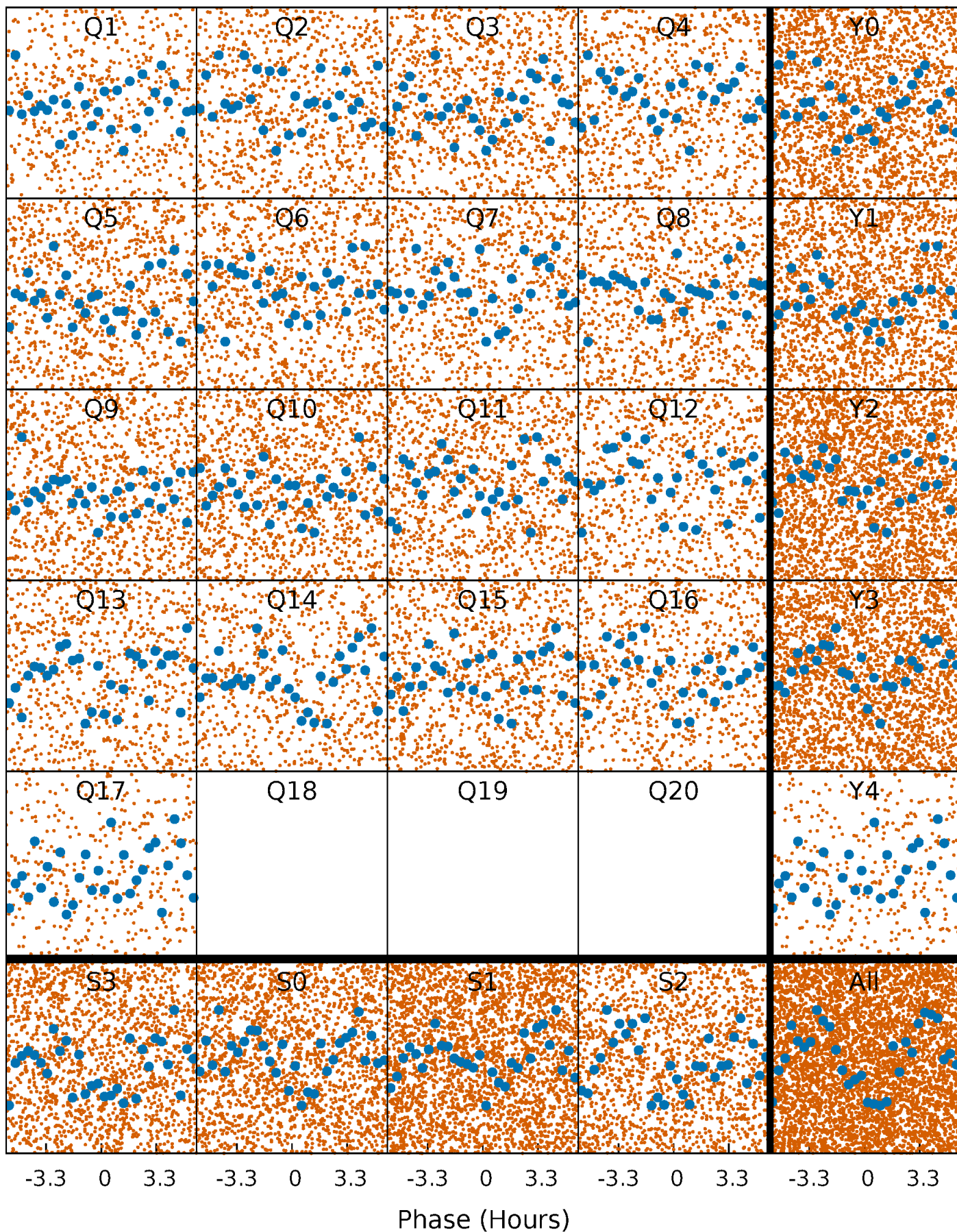
# Non-Whitened Vs. Whitened Light Curve





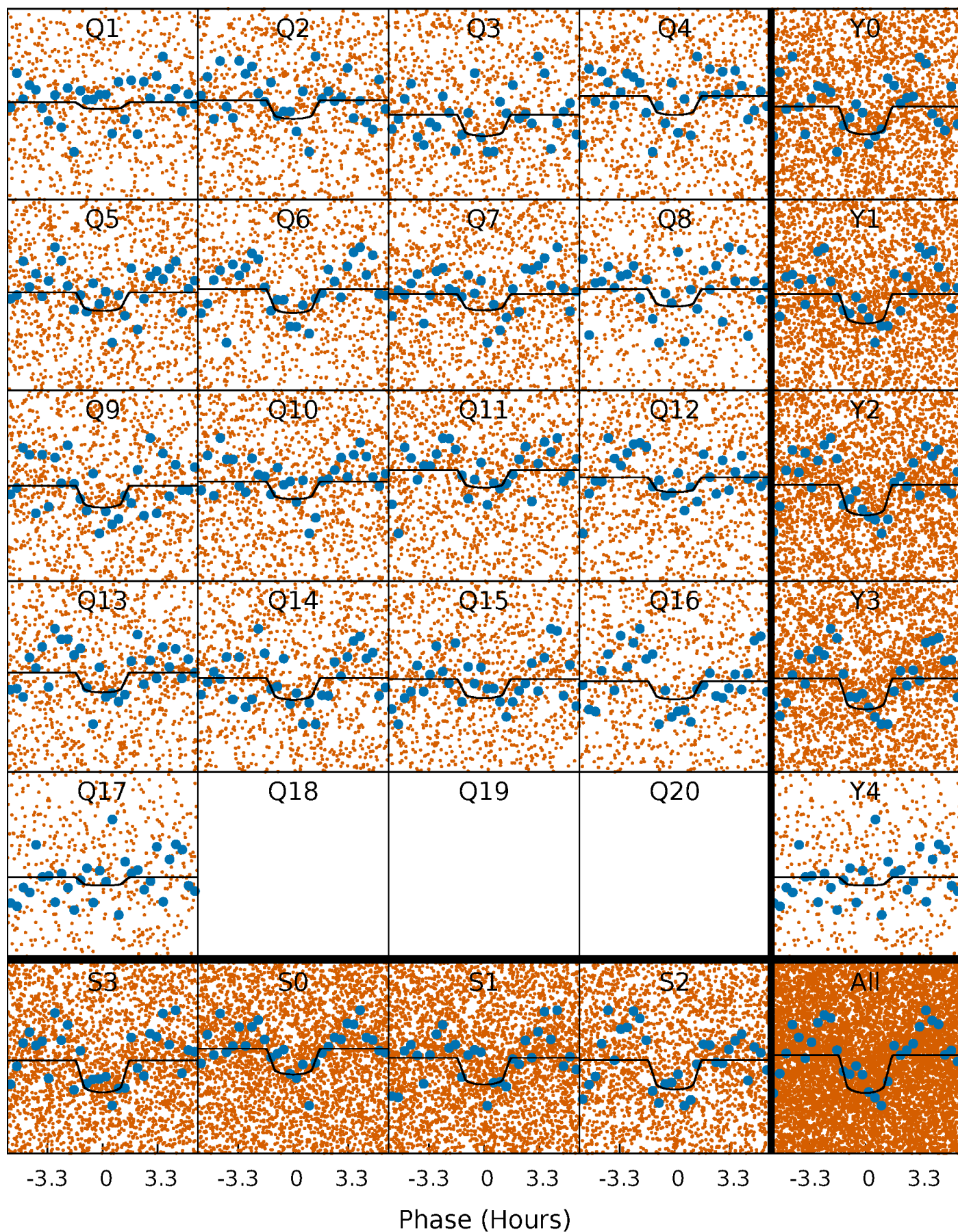
# PDC Quarter-Phased Transit Curves

TCE 003443127-01 P= 0.854399 Days  $T_0=131.596004$  (BKJD)



# DV Quarter-Phased Transit Curves

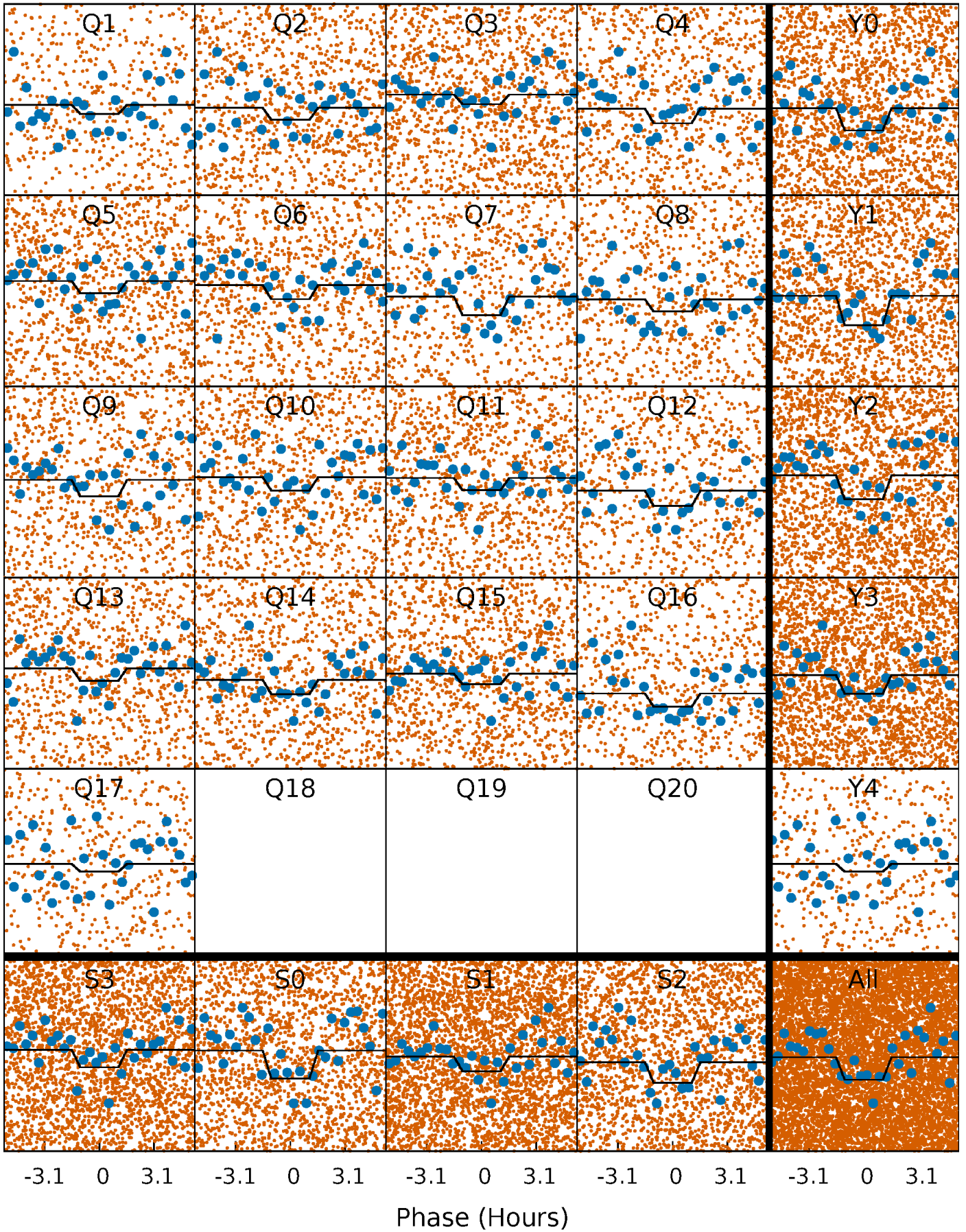
TCE 003443127-01 P= 0.854399 Days  $T_0=131.596004$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 003443127-01 P= 0.854418 Days  $T_0=131.588729$  (BKJD)

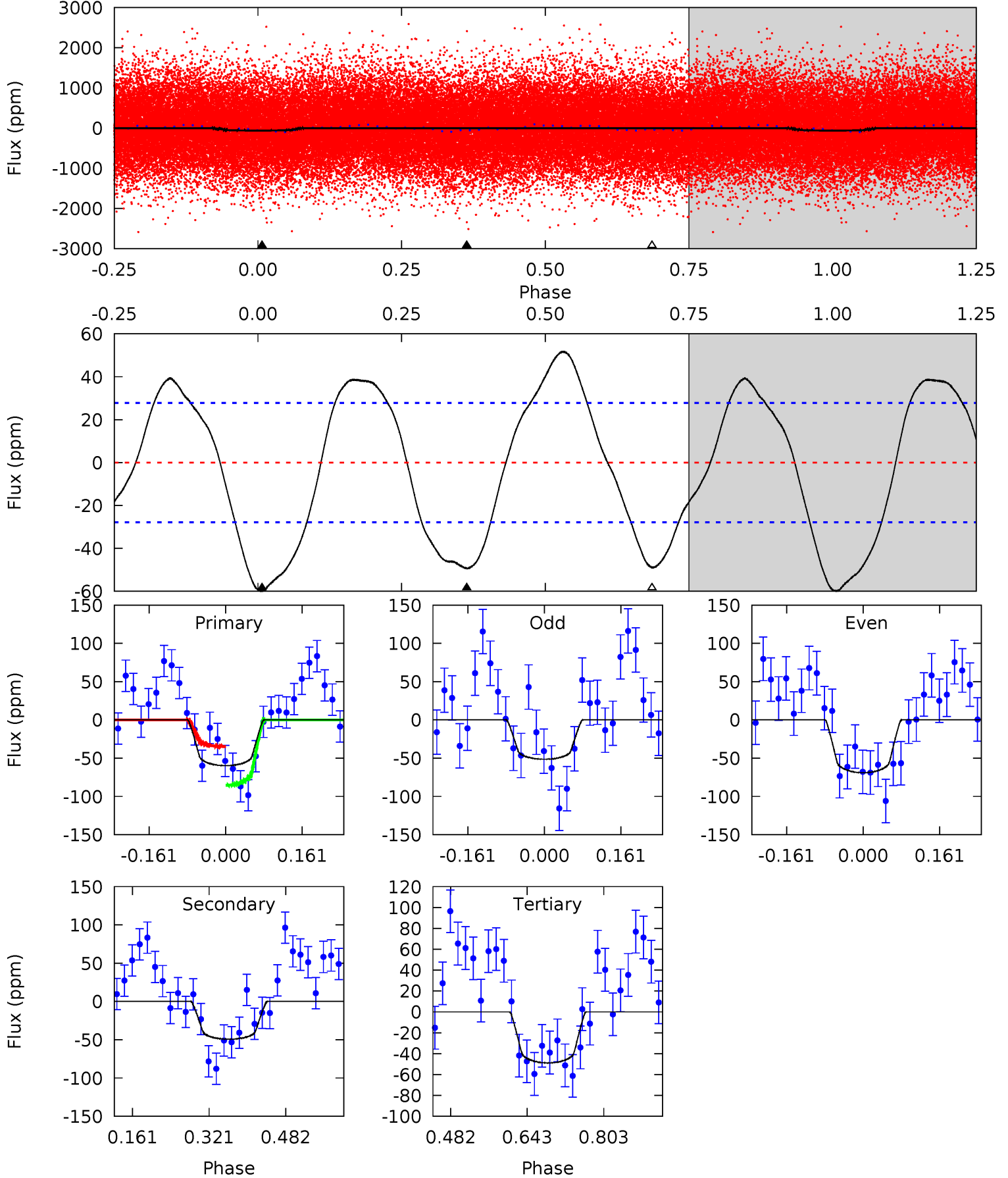




# DV Model-Shift Uniqueness Test

003443127-01, P = 0.854399 Days, E = 130.741605 Days

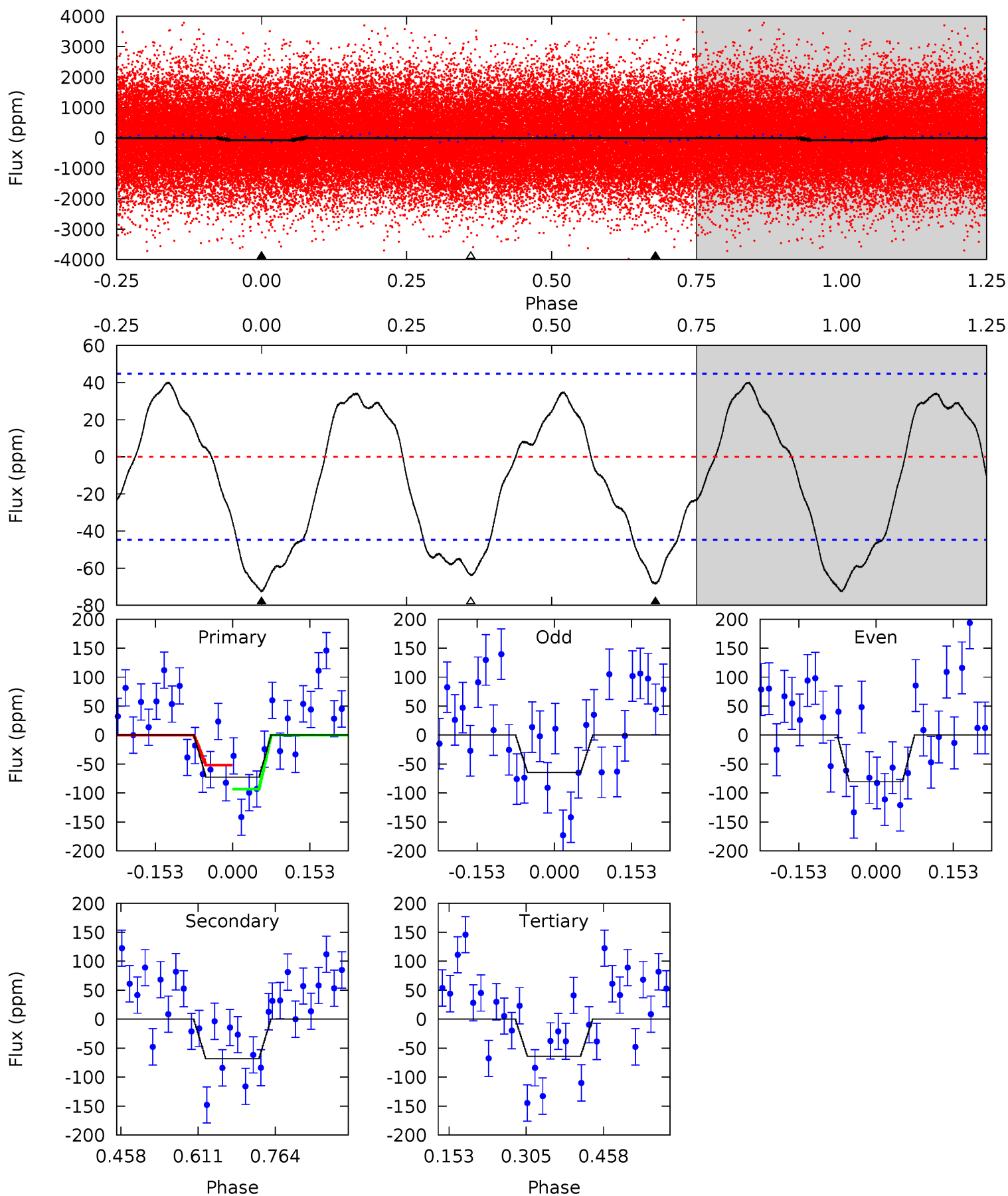
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.61	7.92	7.85	0	4.46	1.40	5.12	1.76	9.61	0.07	7.92	1.43	1.14	0.46	4.10



# Alt Model-Shift Uniqueness Test

003443127-01, P = 0.854418 Days, E = 130.734311 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.27	6.85	6.41	0	4.48	1.43	3.56	0.85	7.27	0.43	6.85	0.79	1.17	0.36	2.07



### Stellar Parameters For KIC 003443127

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7758^{+214}_{-322}$	$3.877^{+0.300}_{-0.120}$	$-0.040^{+0.200}_{-0.350}$	$2.648^{+0.426}_{-0.922}$	$1.927^{+0.103}_{-0.414}$	$0.146^{+0.279}_{-0.054}$
	+3%/-4%	+8%/-3%	+500%/-875%	+16%/-35%	+5%/-21%	+191%/-37%
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 003443127-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-49 \pm 6$	$2.45^{+1.50}_{-1.22}$	$5158^{+329}_{-447}$	$6405^{+3539}_{-1548}$	$2.127^{+6.237}_{-1.296}$
Alt.	$-68 \pm 10$	$2.37^{+1.46}_{-1.28}$	$5191^{+301}_{-497}$	$7222^{+5084}_{-1742}$	$3.117^{+11.620}_{-1.935}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )  
 $A_{\text{obs}}$  = 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  $A_{\text{obs}} \gg 1.0$



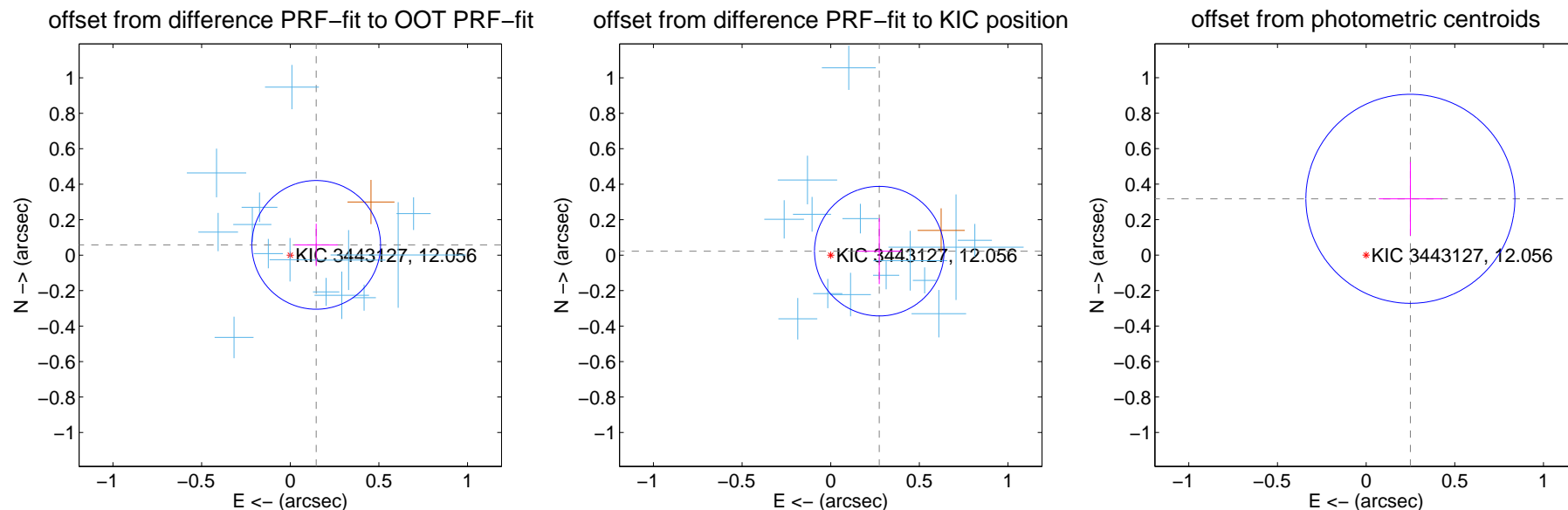
## DV Centroid Data

Supplemental centroid analysis for 003443127-01. Kepler magnitude: 12.06. Transit SNR 8.83

There are 16 quarters with good PRF difference image offsets

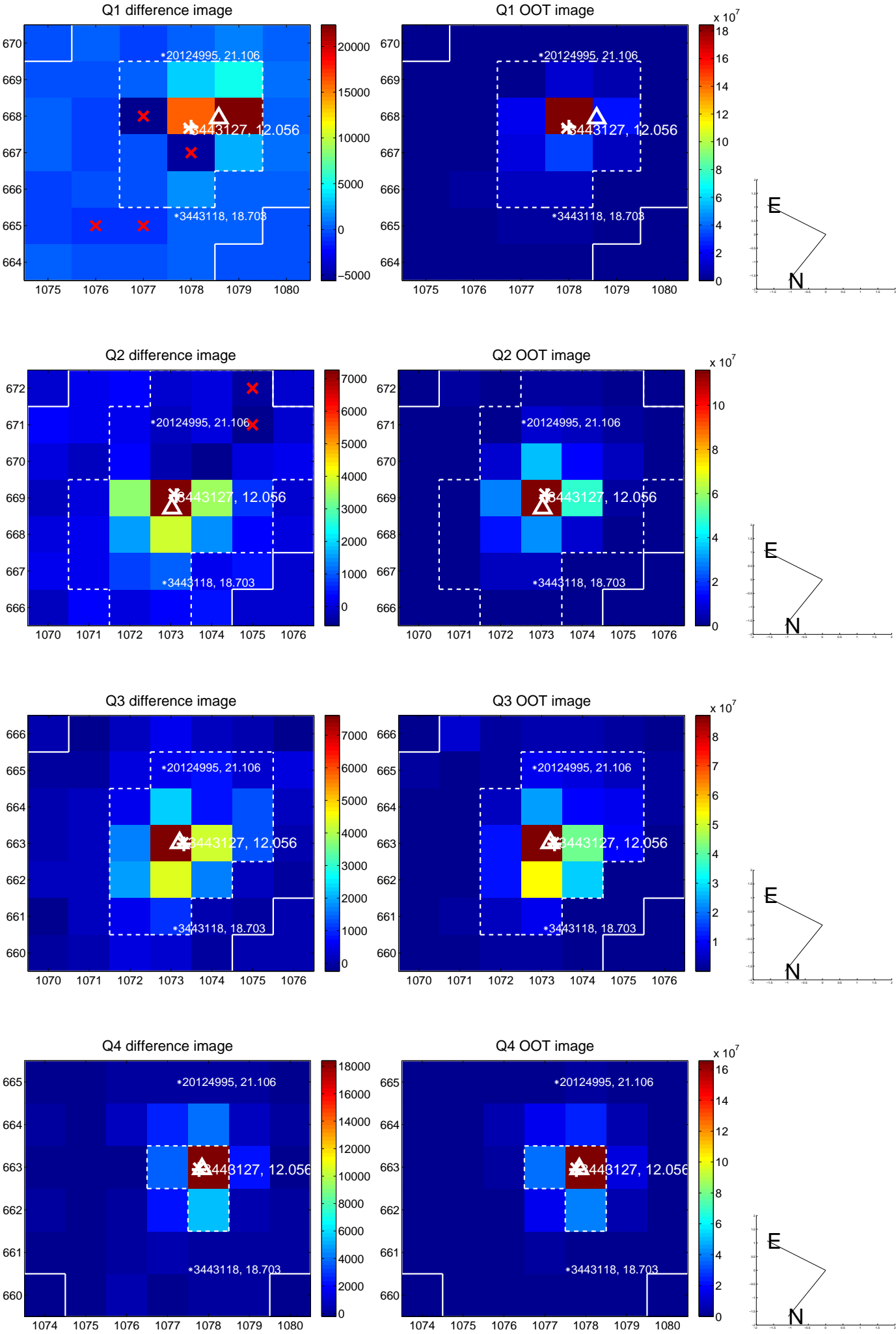
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.157 \pm 0.121$	1.30	$-0.146 \pm 0.121$	$0.058 \pm 0.120$
PRF-fit source offset from KIC position	$0.275 \pm 0.122$	2.26	$-0.274 \pm 0.127$	$0.023 \pm 0.186$
photometric centroid source offset	$0.40 \pm 0.20$	2.06	$-0.25 \pm 0.18$	$0.32 \pm 0.21$

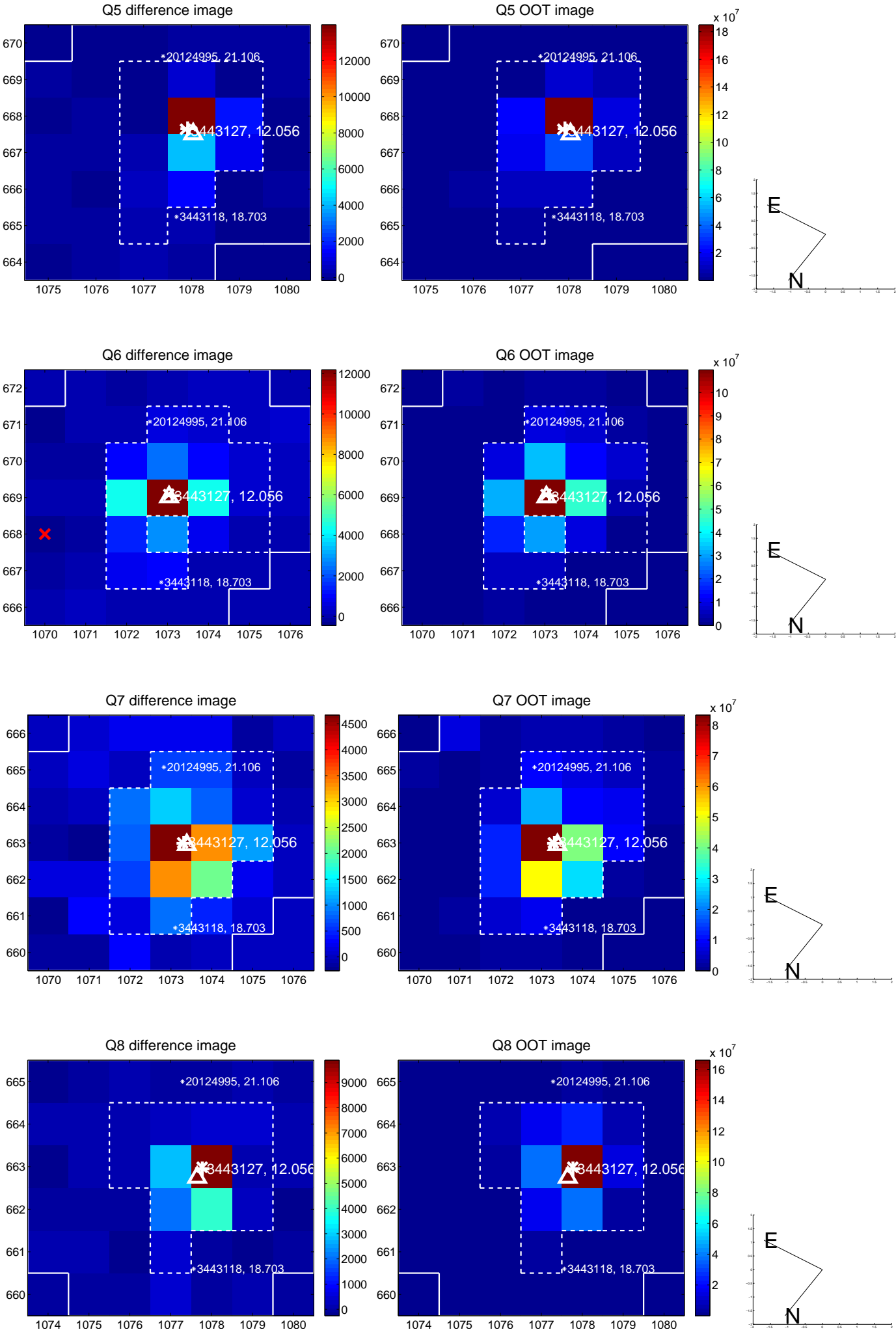


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

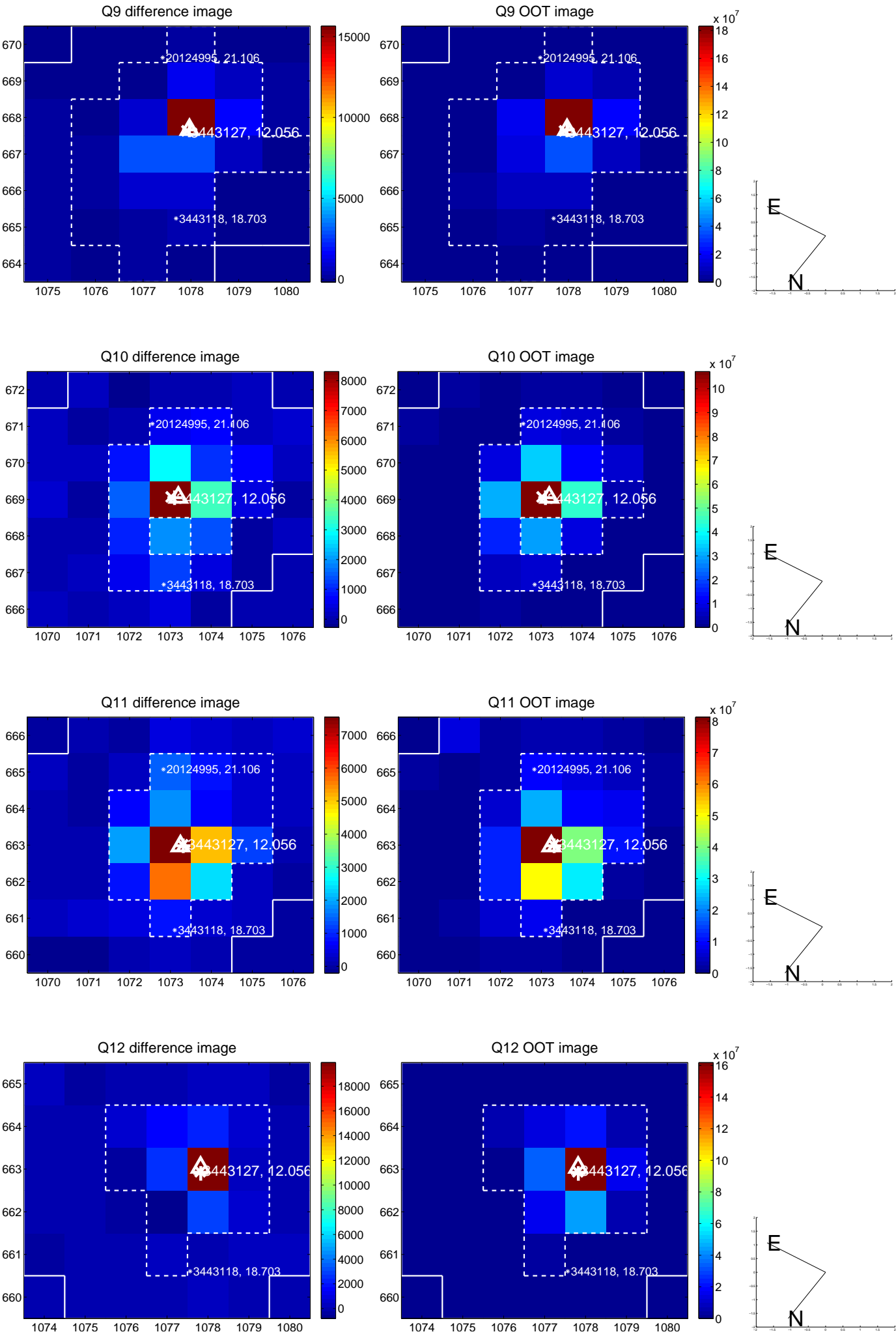


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

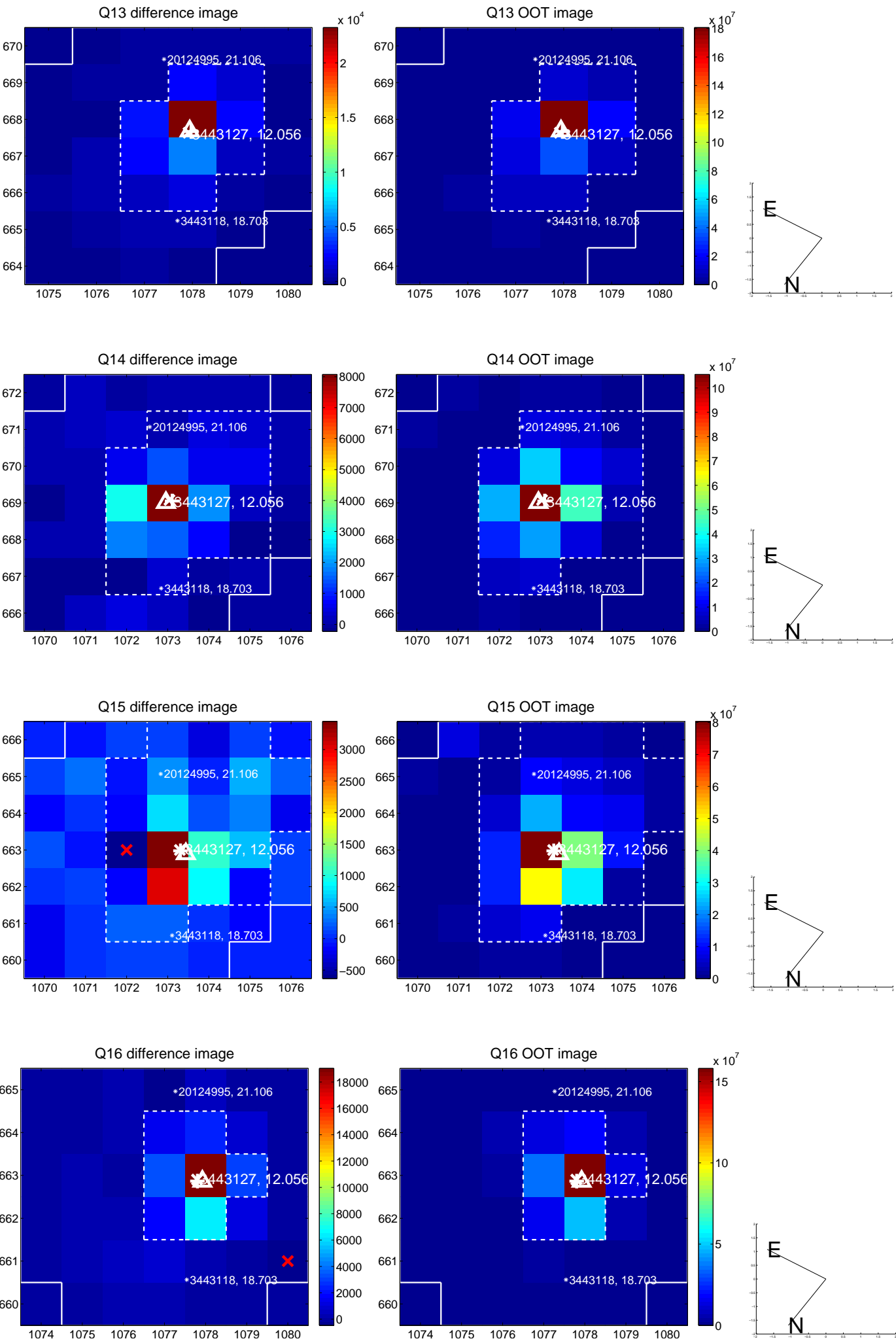




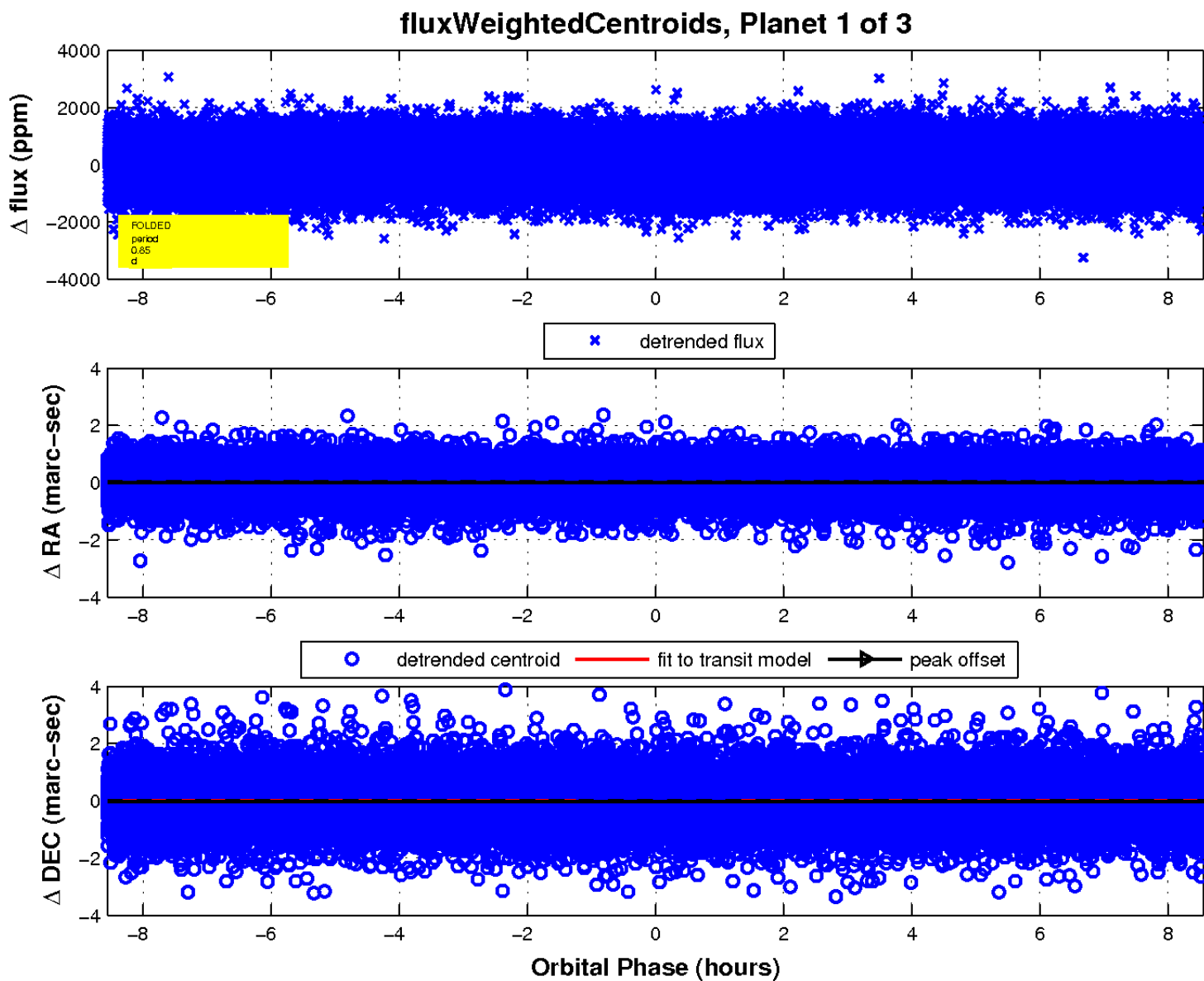
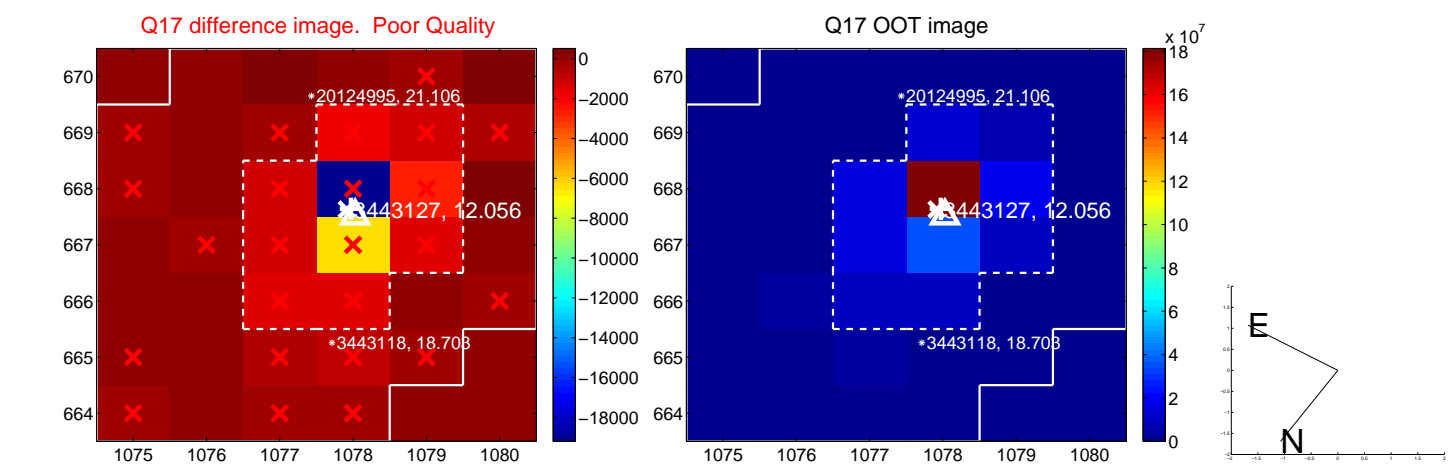
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

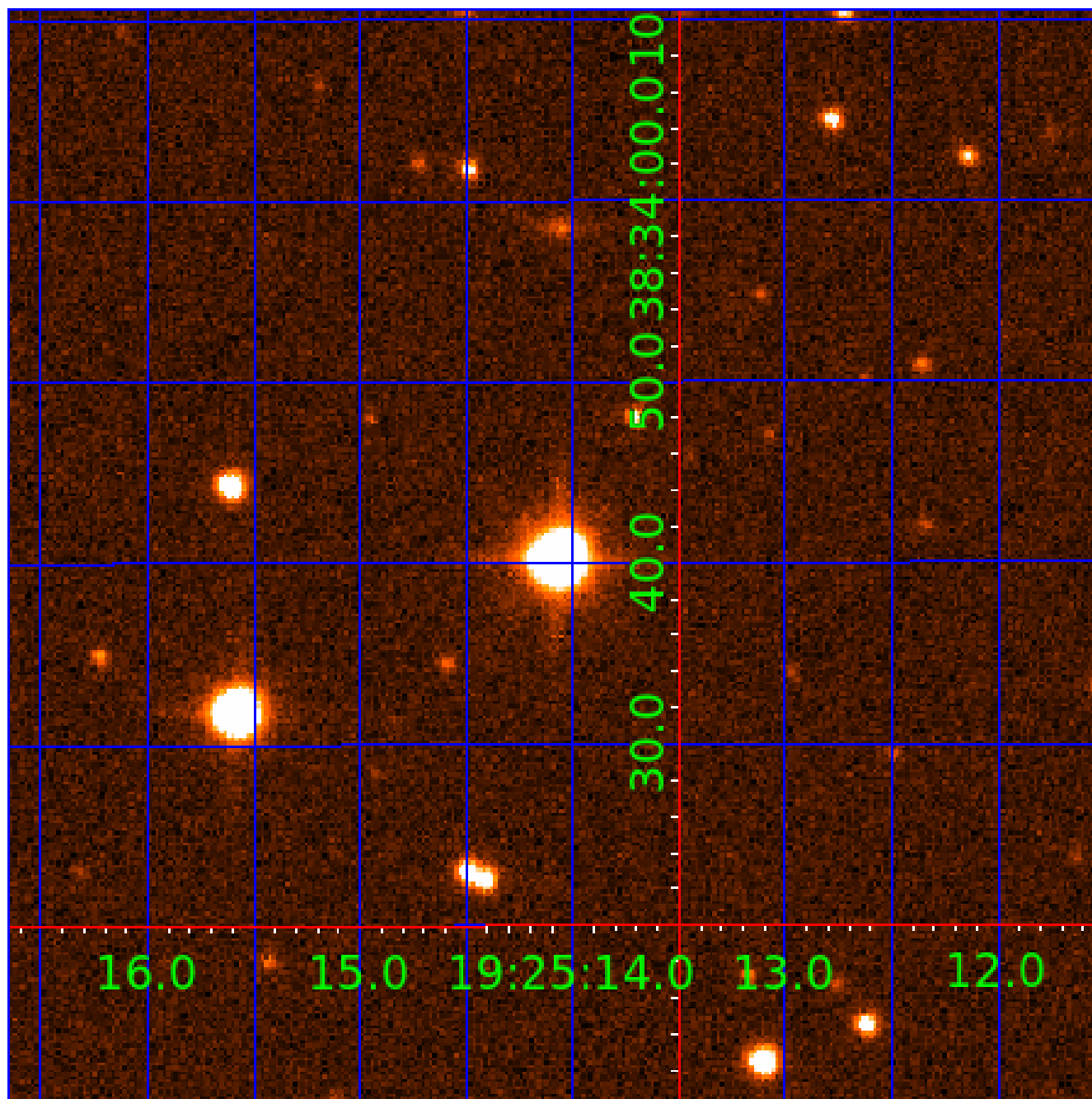


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 003443127

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003443127-01	OBS	No	0.854399	131.596004	68.1	2.853	11.8	8.8	2.65	7758	2.53	47310.52
003443127-02	OBS	No	0.667668	131.991236	90.2	1.398	9.4	7.5	2.65	7758	2.93	65729.17
003443127-03	OBS	No	1.307172	132.289711	118.6	5.635	9.0	9.3	2.65	7758	3.17	26836.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003443127-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003443127-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003443127-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

**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](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

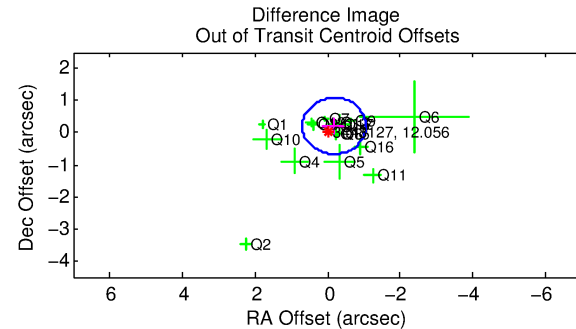
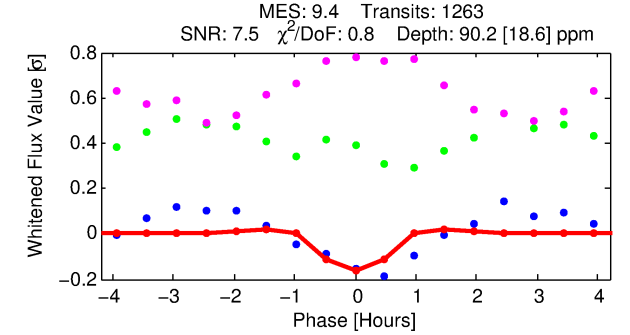
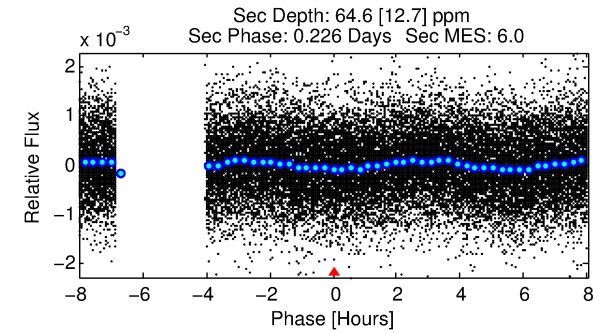
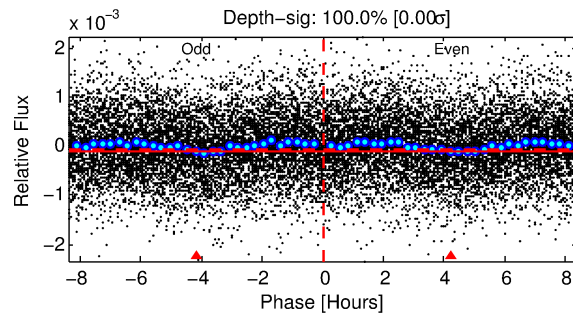
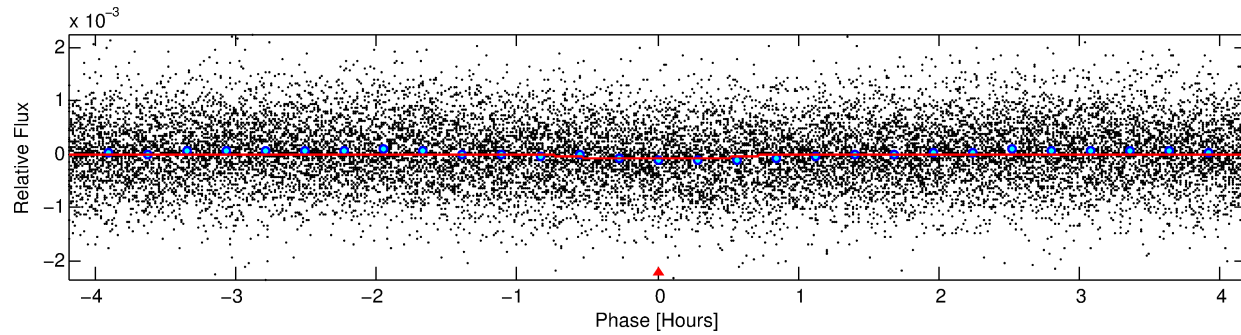
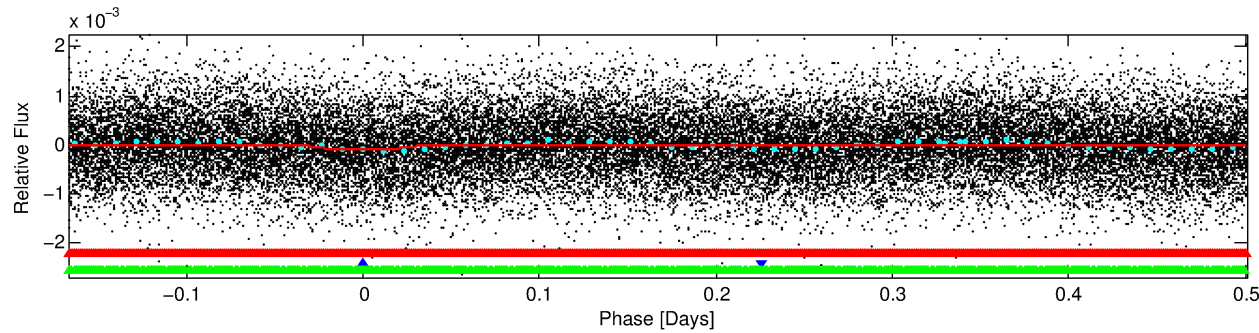
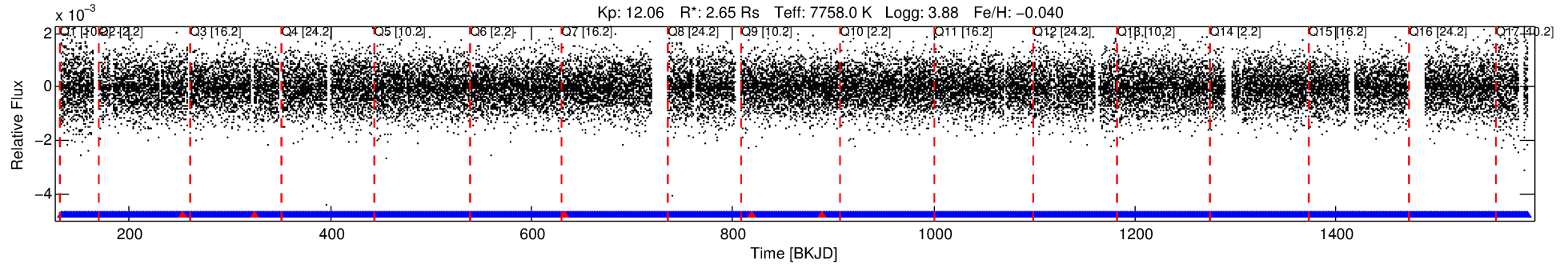
Ephemeris Match Information For 003443127-02

No Significant Match Found



# DV One-Page Summary

KIC: 3443127 Candidate: 2 of 3 Period: 0.668 d



## DV Fit Results:

Period = 0.66767 [0.00001] d  
Epoch = 131.9912 [0.0030] BKJD  
Rp/R\* = 0.0101 [0.0084]  
a/R\* = 1.92 [7.36]  
b = 0.90 [1.13]  
Seff = 65729.17 [35610.49]  
Teq = 4083 [553] K  
Rp = 2.93 [2.62] Re  
a = 0.0186 [0.0061] AU  
Ag = 1.44 [2.50] [0.17σ]  
Teffp = 6911 [2883] K [0.96σ]

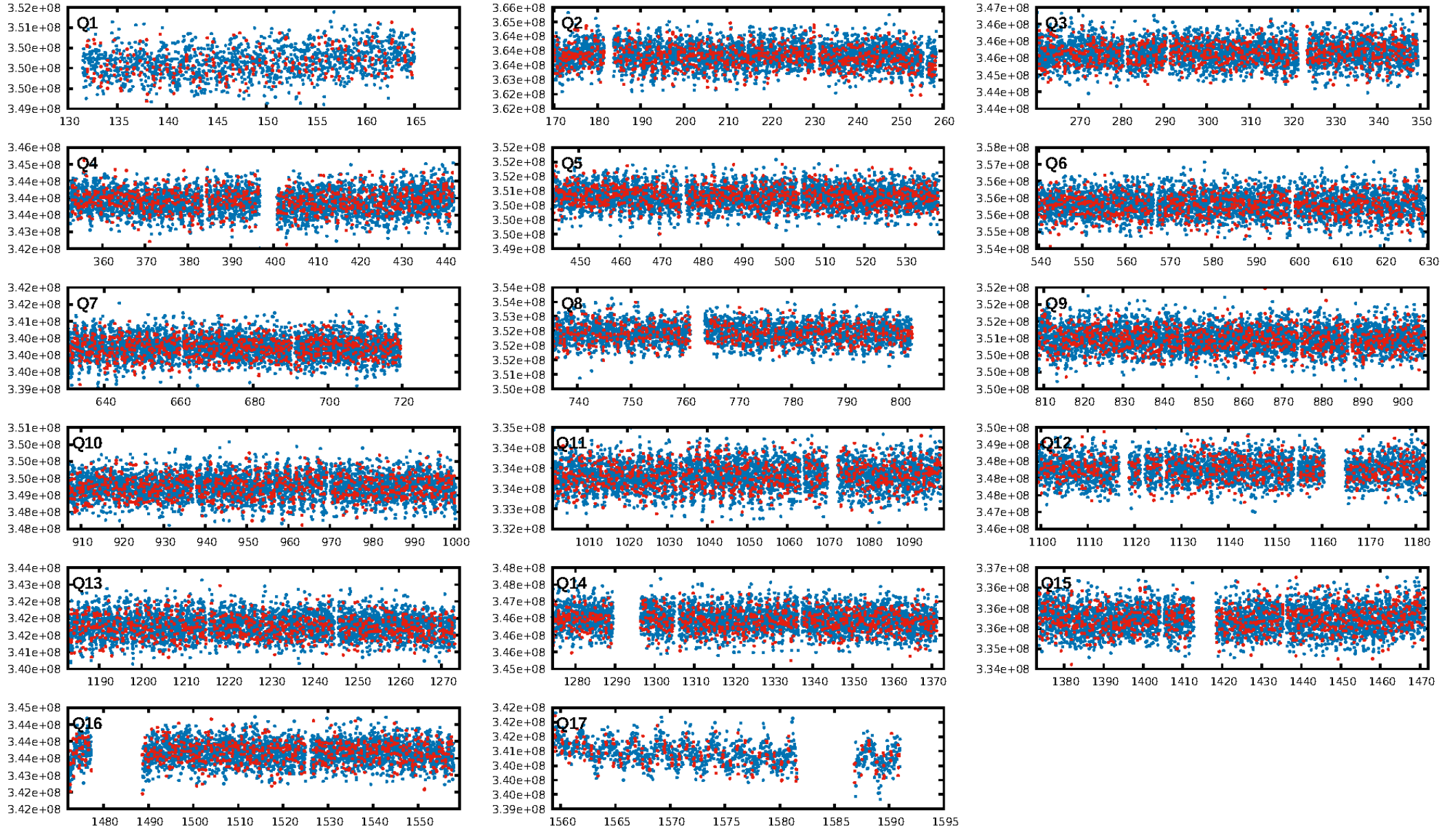
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 84.2% [1.41σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.52e-13  
RollingBand-fgt: 1.00 [1201/1206]  
GhostDiagnostic-chr: 1.337  
Centroid-sig: 0.8%  
Centroid-so: 0.370 arcsec [2.08σ]  
OotOffset-rm: 0.271 arcsec [0.93σ]  
KicOffset-rm: 0.333 arcsec [1.09σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.76 [13/17]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:51:16 Z

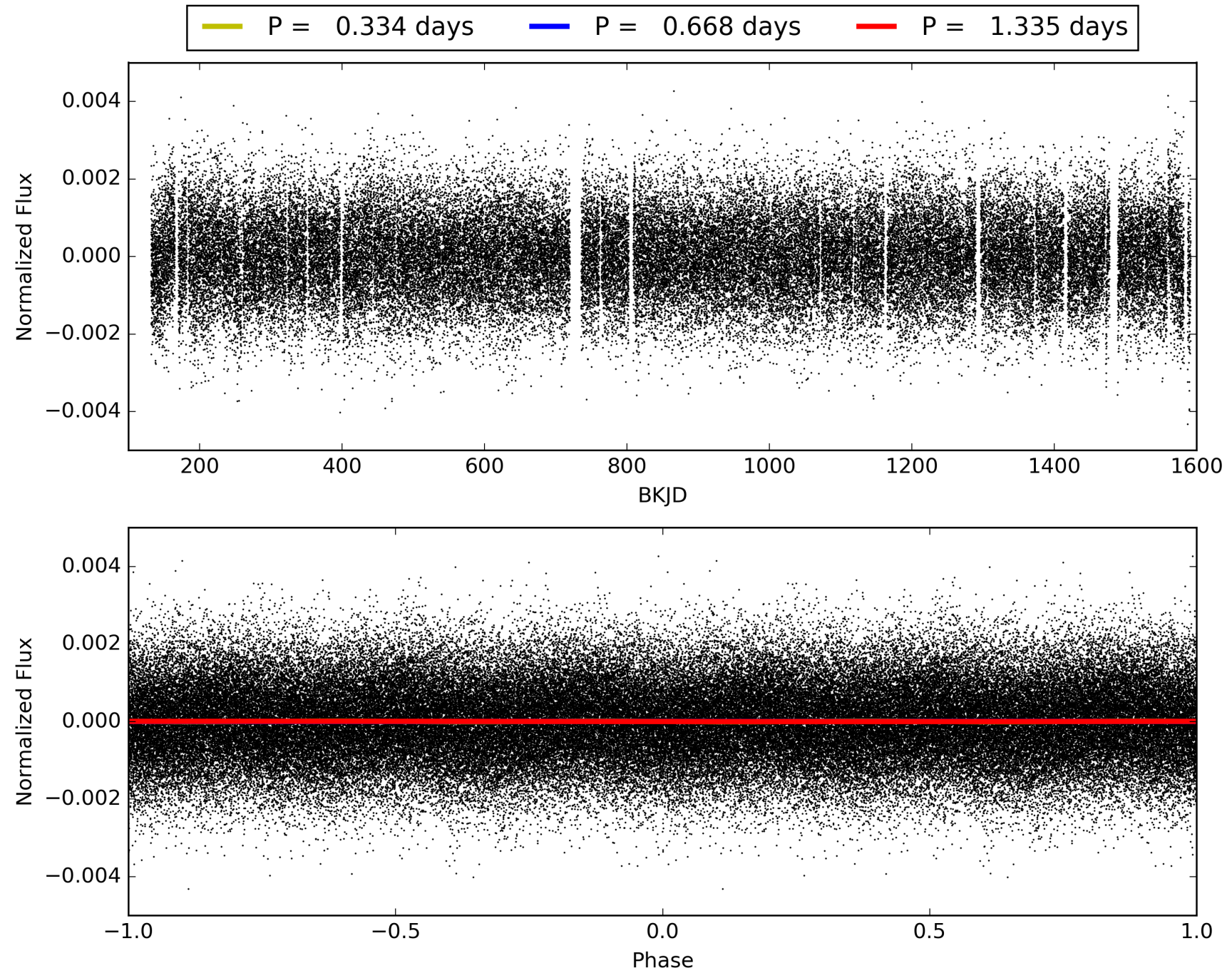
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 003443127-02, PDC Light Curves



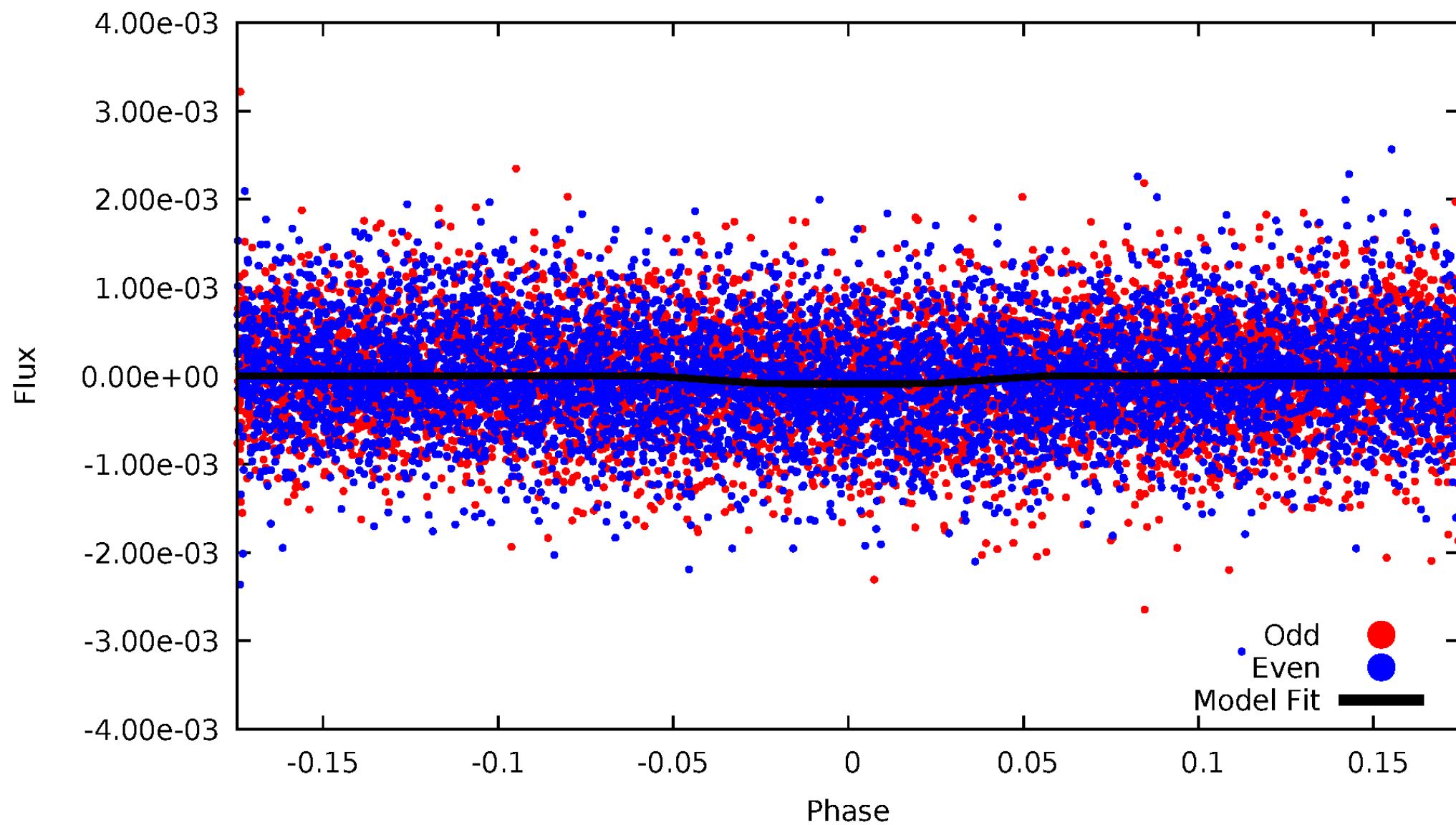


TCE 003443127-02



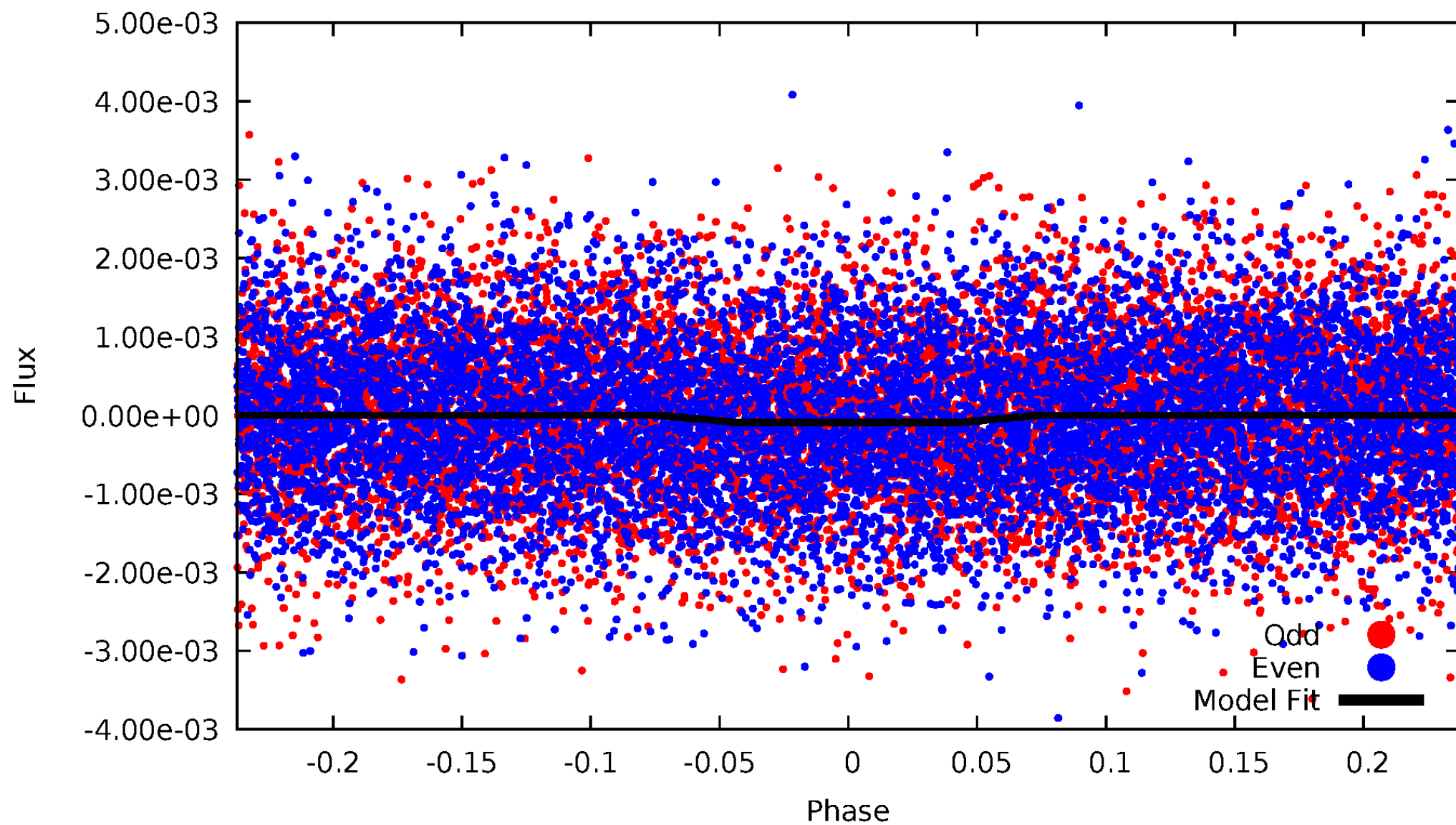
# DV Odd/Even

TCE 003443127-02



# ALT Odd/Even

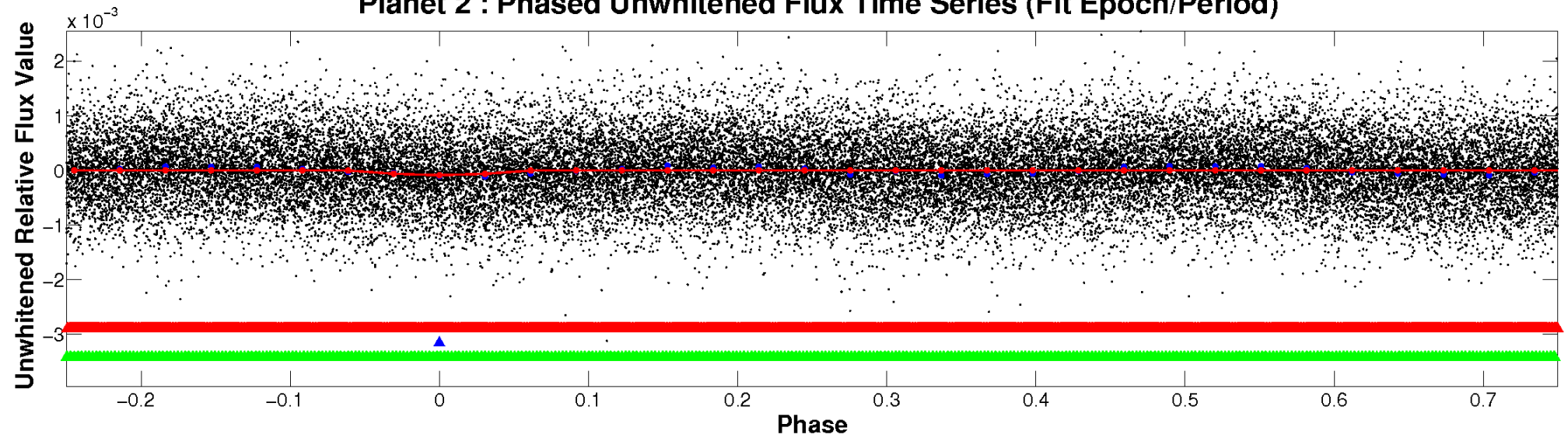
TCE 003443127-02



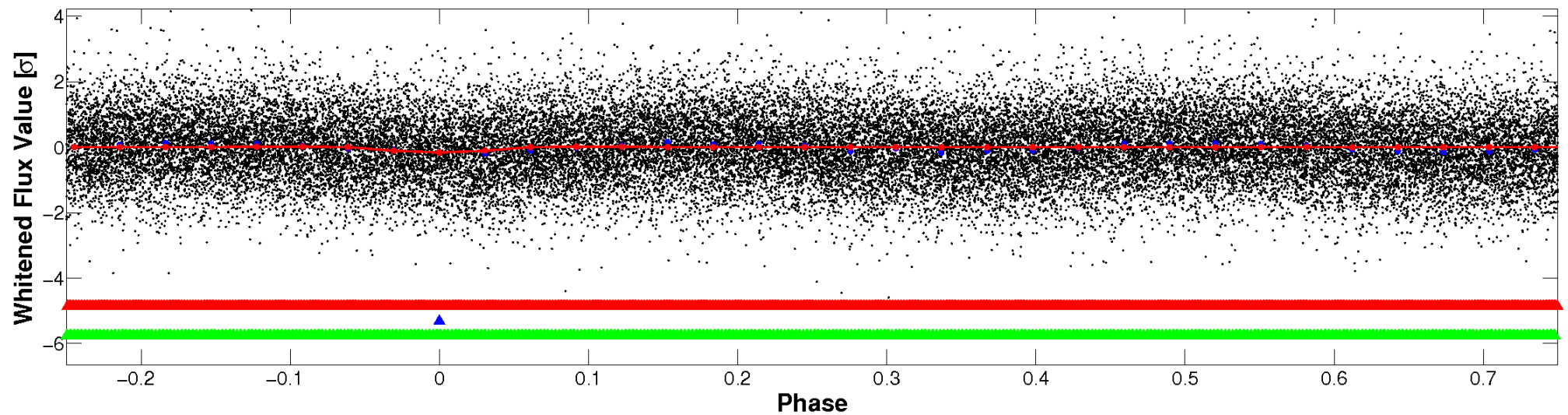


# Non-Whitened Vs. Whitened Light Curve

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

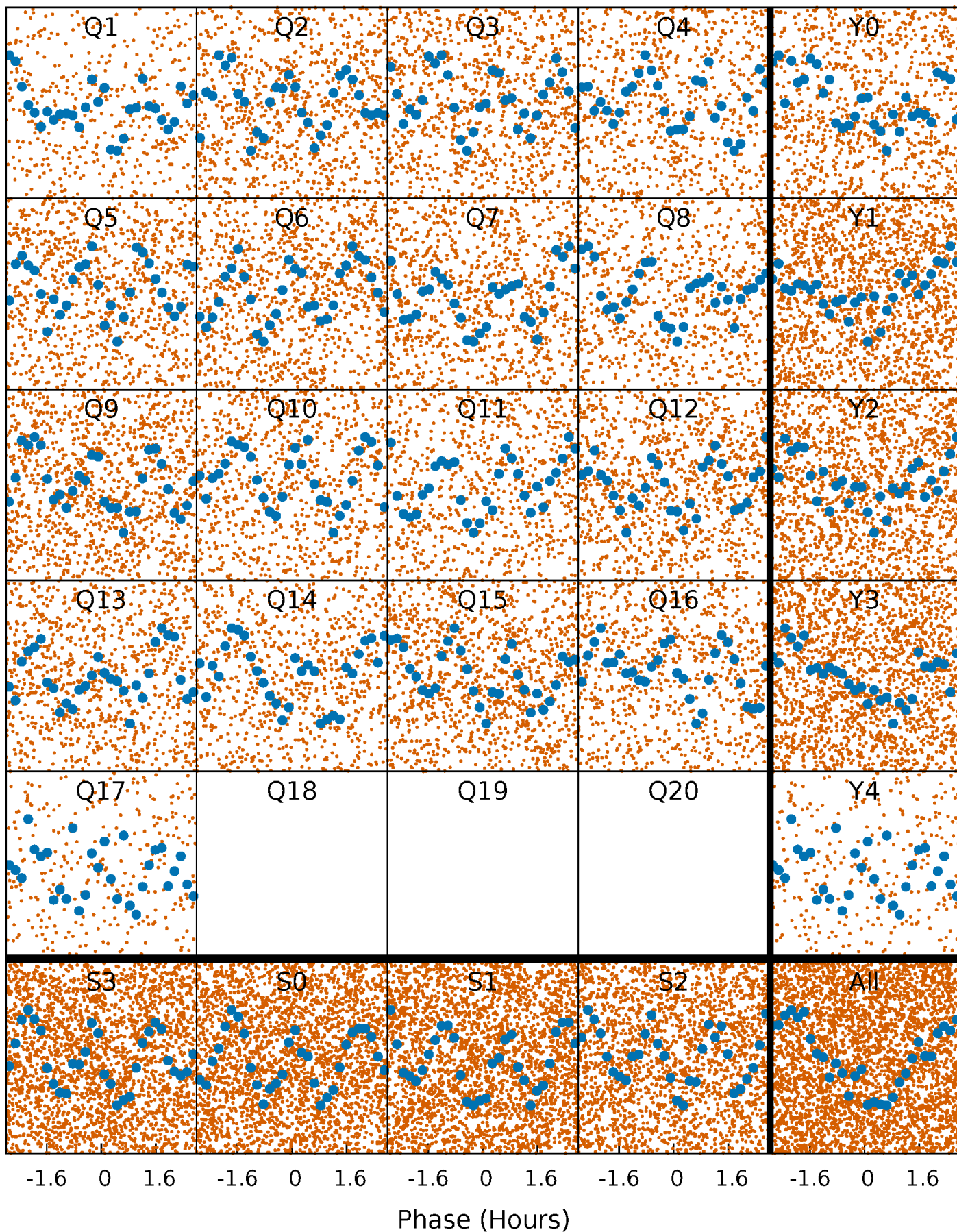


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

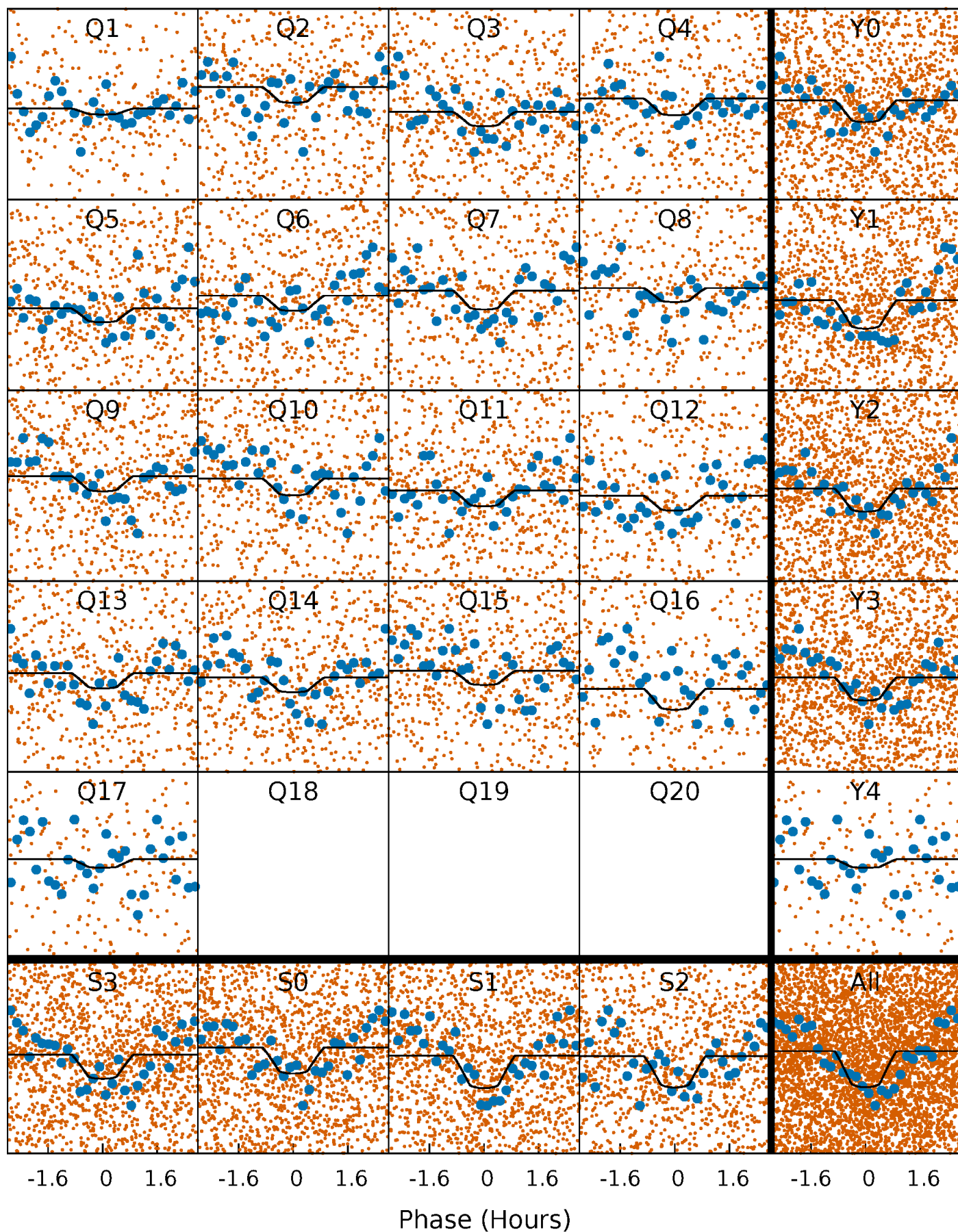
TCE 003443127-02   P= 0.667668 Days    $T_0=131.991236$  (BKJD)





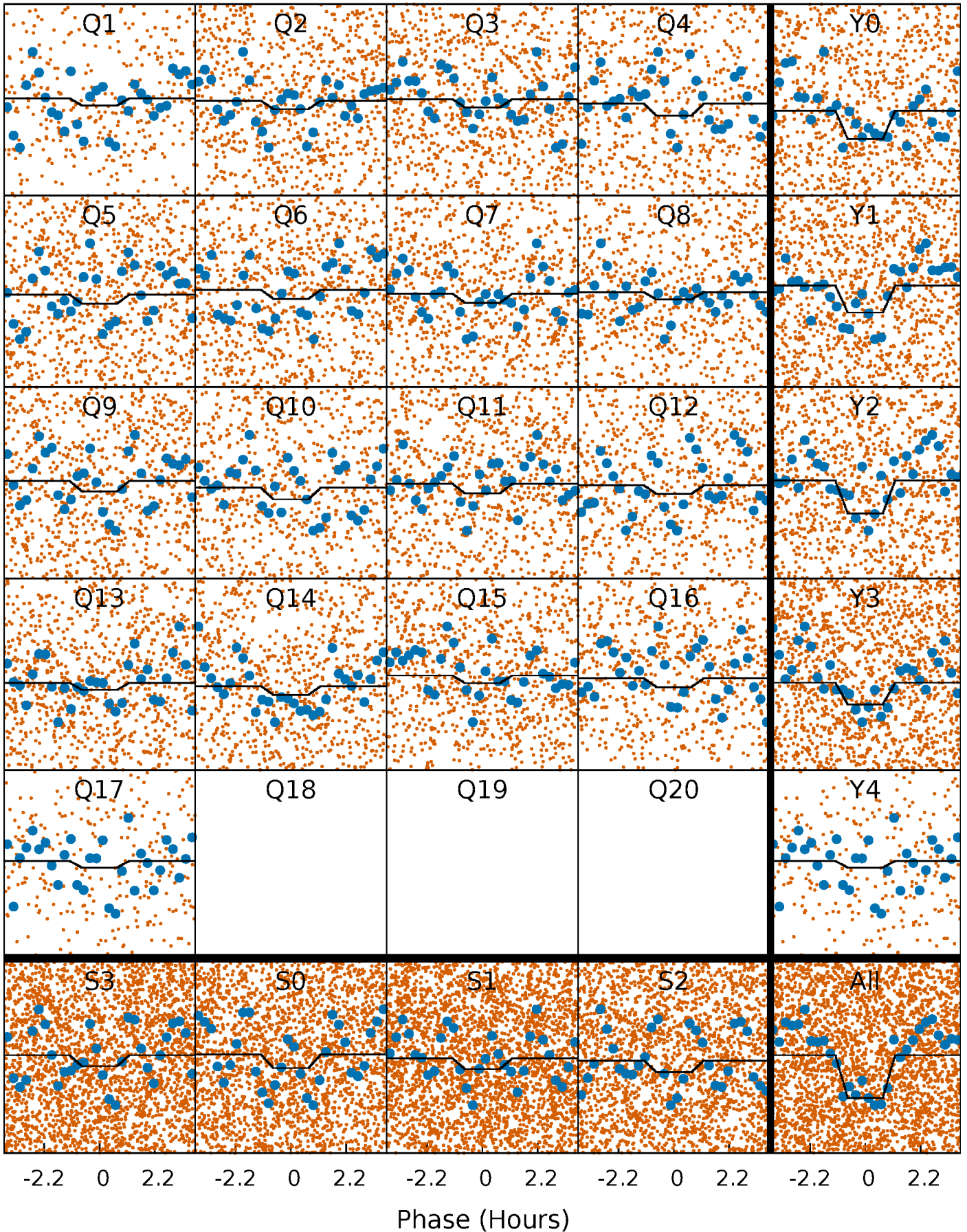
# DV Quarter-Phased Transit Curves

TCE 003443127-02   P= 0.667668 Days    $T_0=131.991236$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 003443127-02   P= 0.667679 Days    $T_0=131.988438$  (BKJD)

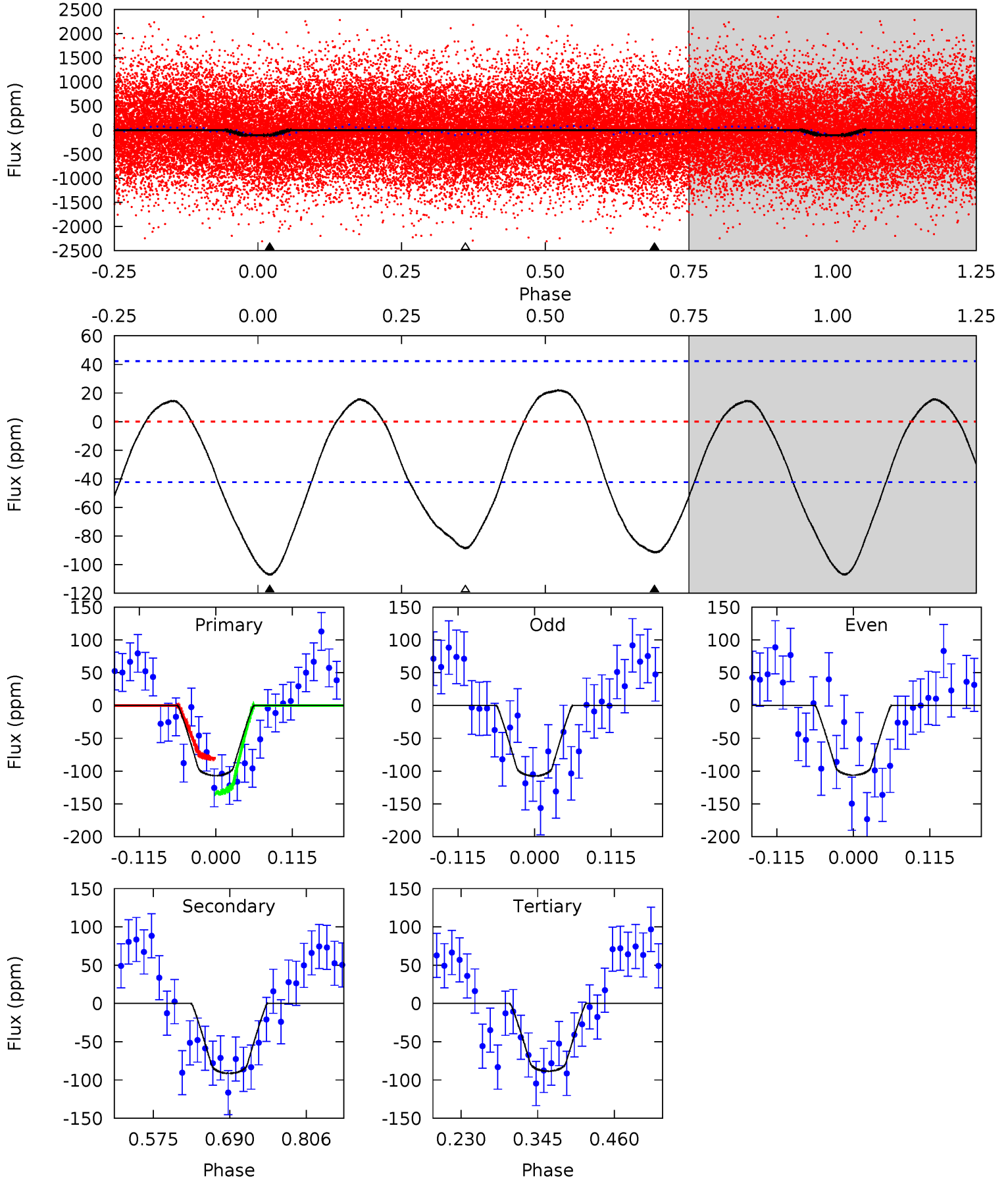




# DV Model-Shift Uniqueness Test

003443127-02, P = 0.667668 Days, E = 131.323568 Days

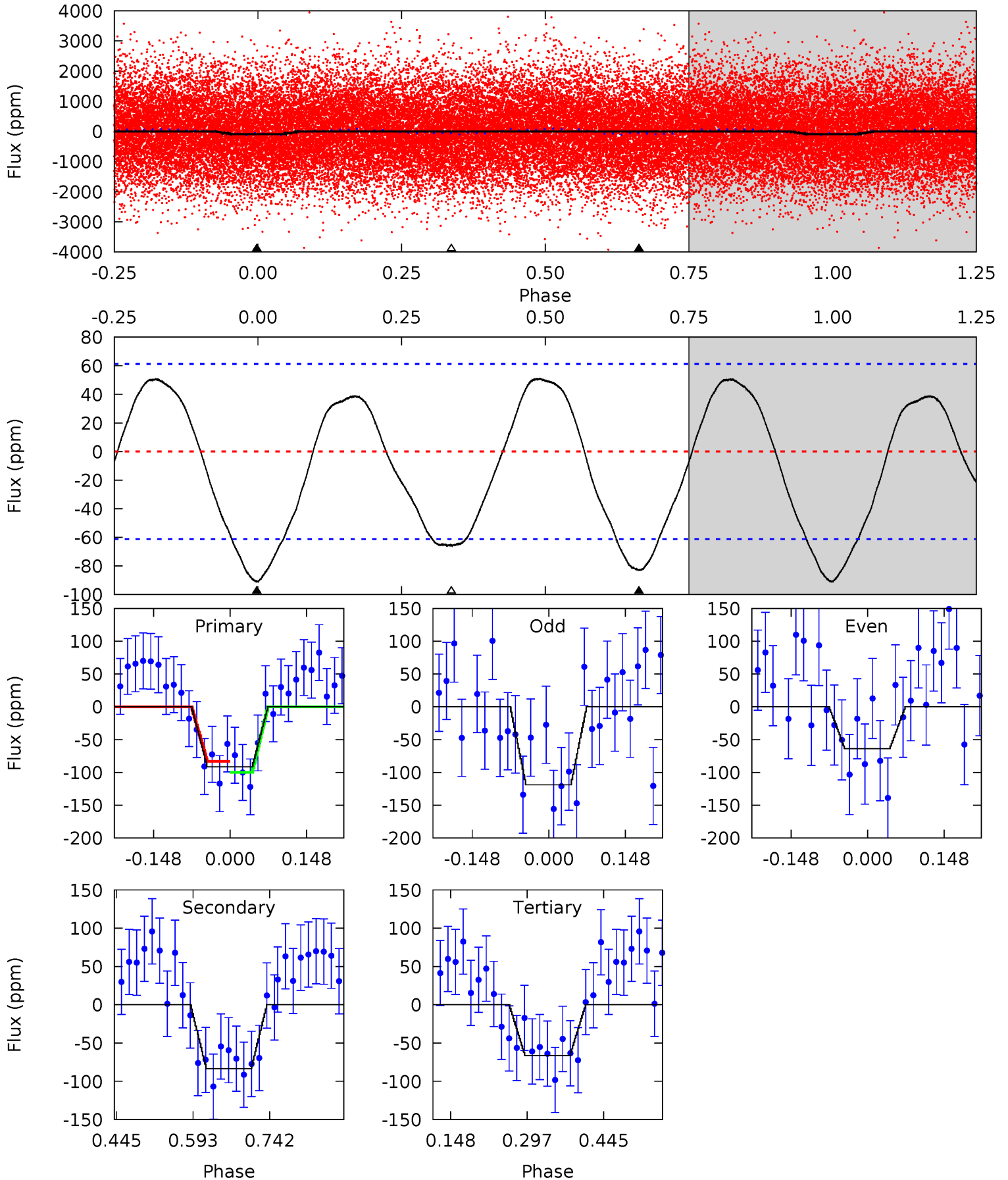
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	9.79	9.48	0	4.54	1.58	3.95	1.97	11.5	0.31	9.79	0.07	0.97	0.17	2.85



# Alt Model-Shift Uniqueness Test

003443127-02, P = 0.667679 Days, E = 131.320759 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.69	6.10	4.86	0	4.48	1.45	3.12	1.83	6.69	1.24	6.10	2.02	0.85	0.36	0.61



### Stellar Parameters For KIC 003443127

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7758^{+214}_{-322}$	$3.877^{+0.300}_{-0.120}$	$-0.040^{+0.200}_{-0.350}$	$2.648^{+0.426}_{-0.922}$	$1.927^{+0.103}_{-0.414}$	$0.146^{+0.279}_{-0.054}$
	+3%/-4%	+8%/-3%	+500%/-875%	+16%/-35%	+5%/-21%	+191%/-37%
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 003443127-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-91 \pm 9$	$3.12^{+2.28}_{-1.76}$	$5590^{+376}_{-462}$	$6515^{+5454}_{-1892}$	$1.725^{+7.642}_{-1.148}$
Alt.	$-83 \pm 14$	$2.93^{+2.28}_{-1.84}$	$5578^{+406}_{-495}$	$6537^{+7346}_{-2063}$	$1.761^{+10.909}_{-1.205}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )  
 $A_{\text{obs}}$  = 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  $A_{\text{obs}} \gg 1.0$

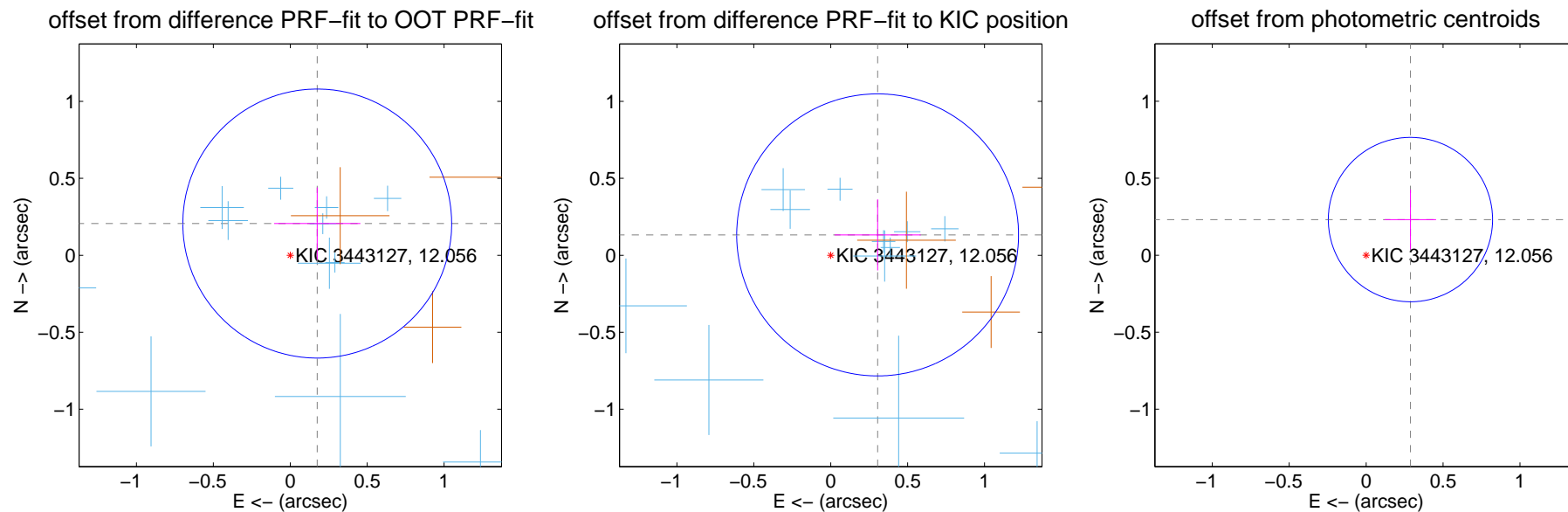
## DV Centroid Data

Supplemental centroid analysis for 003443127-02. Kepler magnitude: 12.06. Transit SNR 7.53

There are 13 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

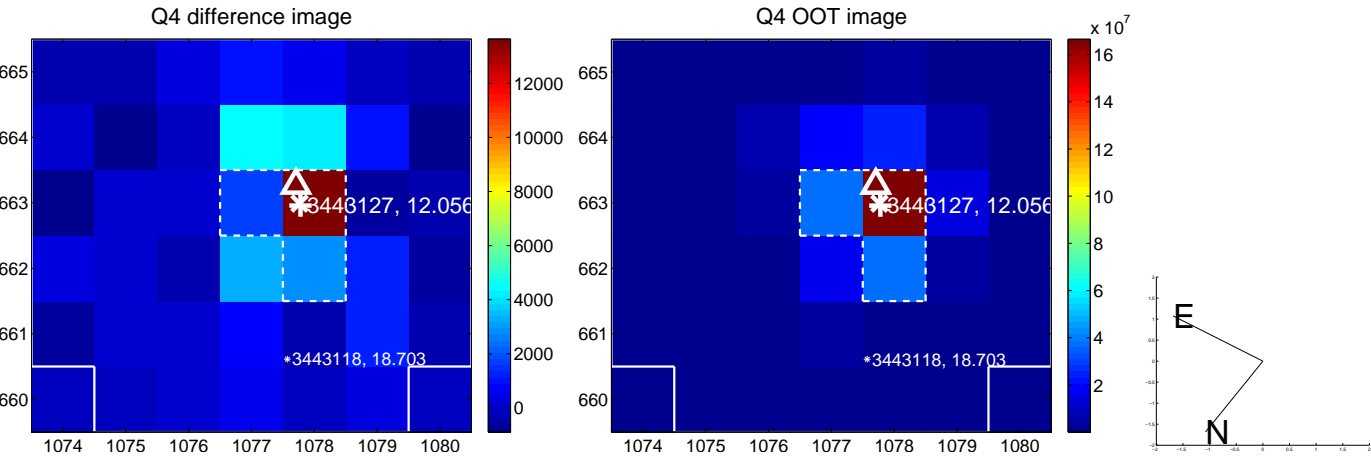
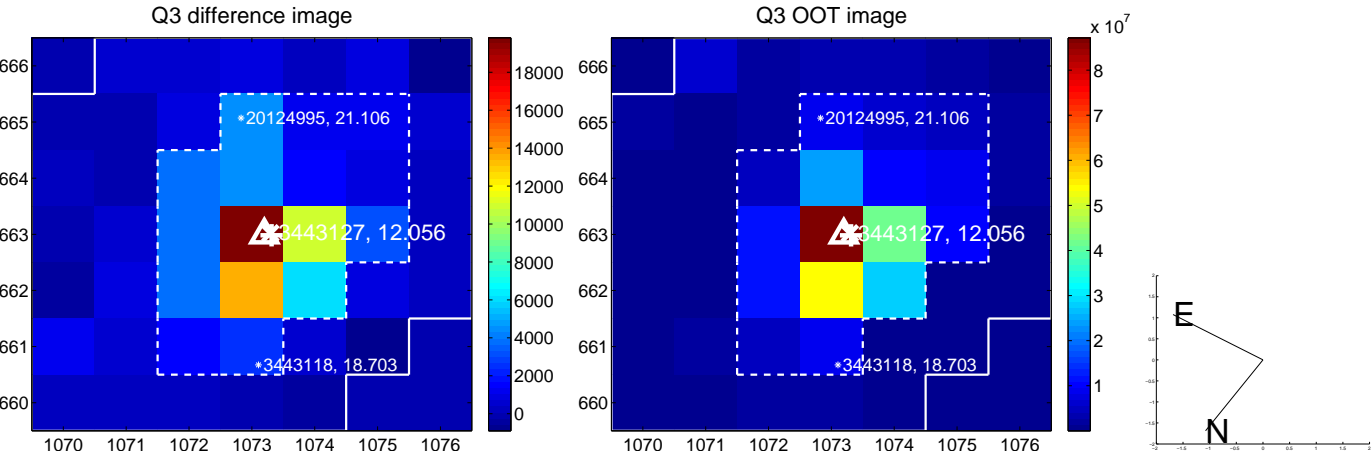
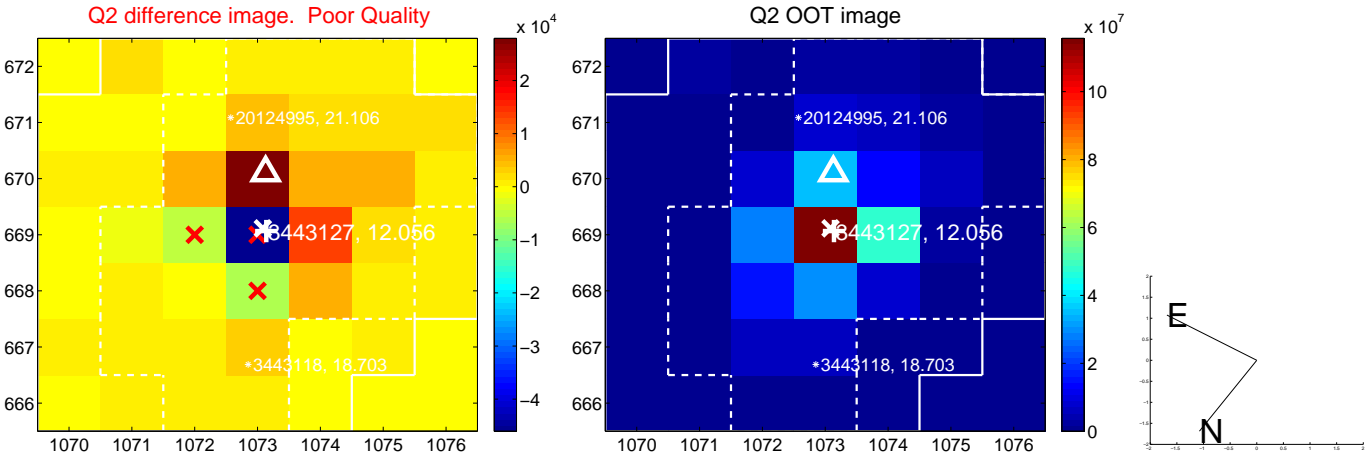
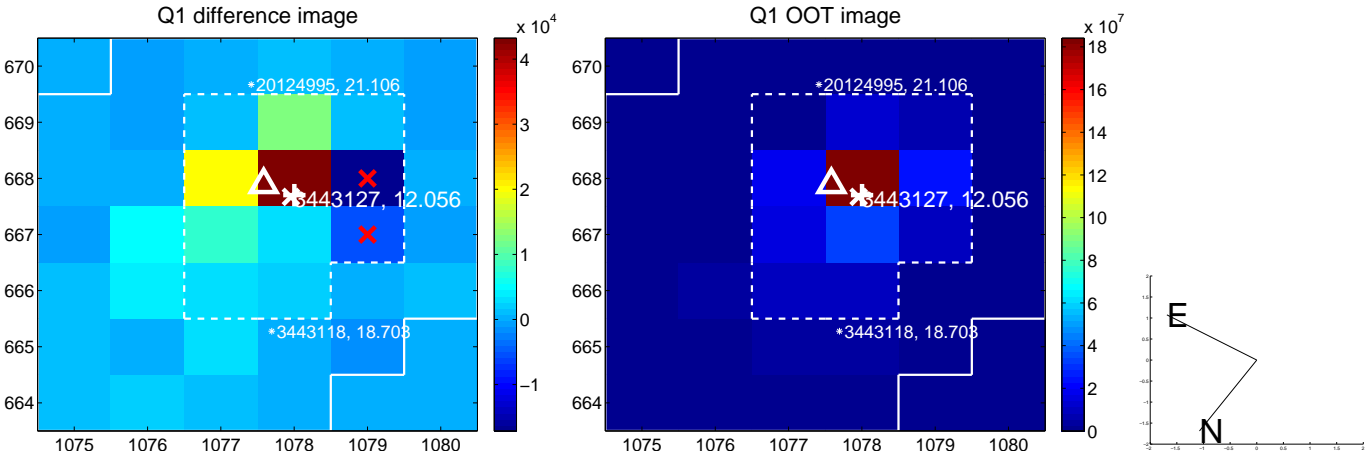
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.271 \pm 0.291$	0.93	$-0.175 \pm 0.280$	$0.206 \pm 0.234$
PRF-fit source offset from KIC position	$0.333 \pm 0.305$	1.09	$-0.305 \pm 0.280$	$0.132 \pm 0.231$
photometric centroid source offset	$0.37 \pm 0.18$	2.08	$-0.29 \pm 0.17$	$0.23 \pm 0.19$



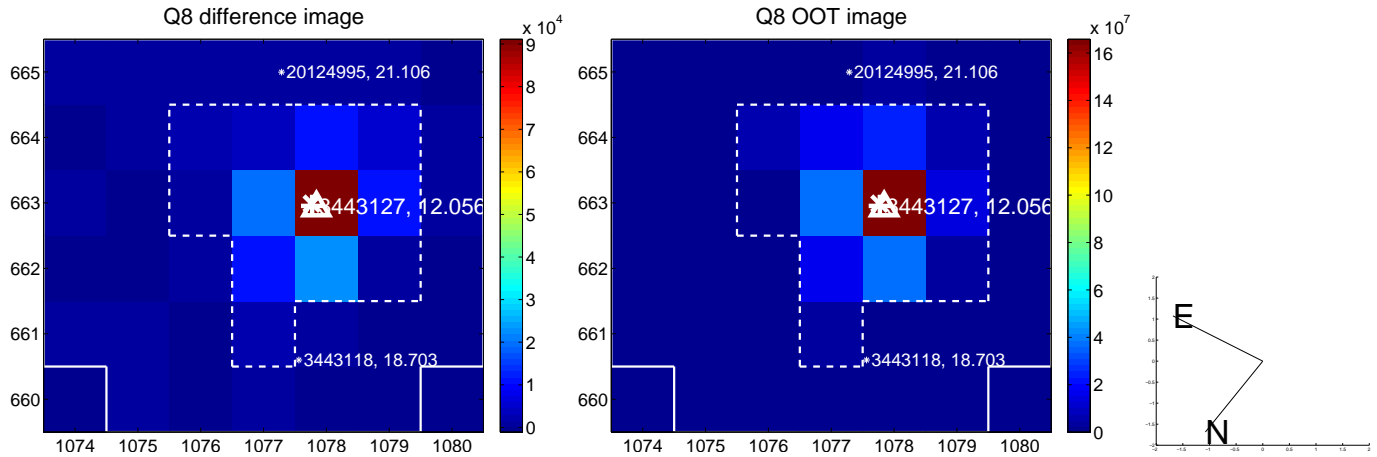
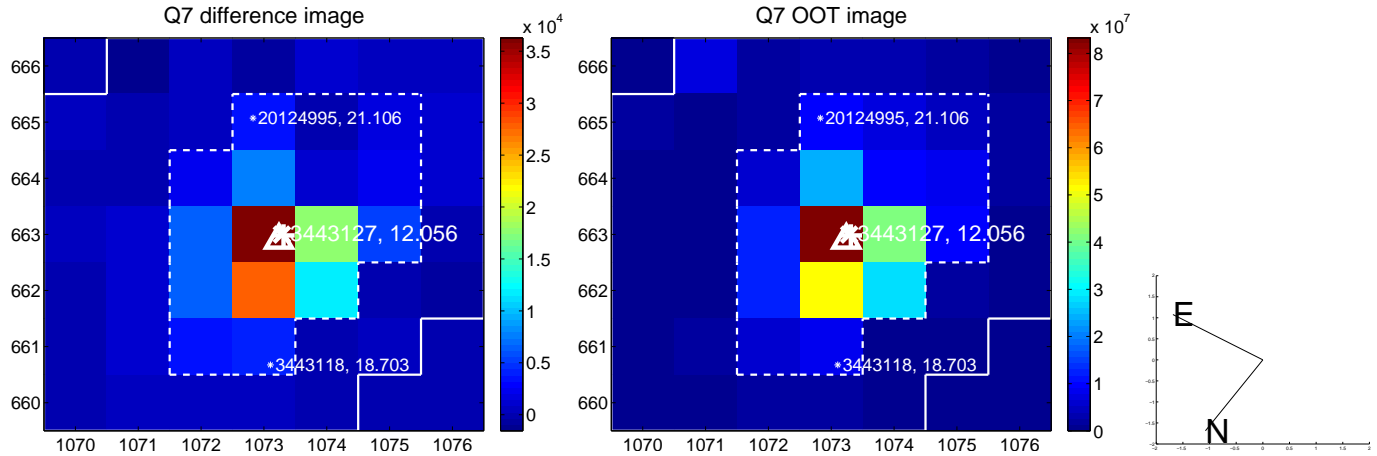
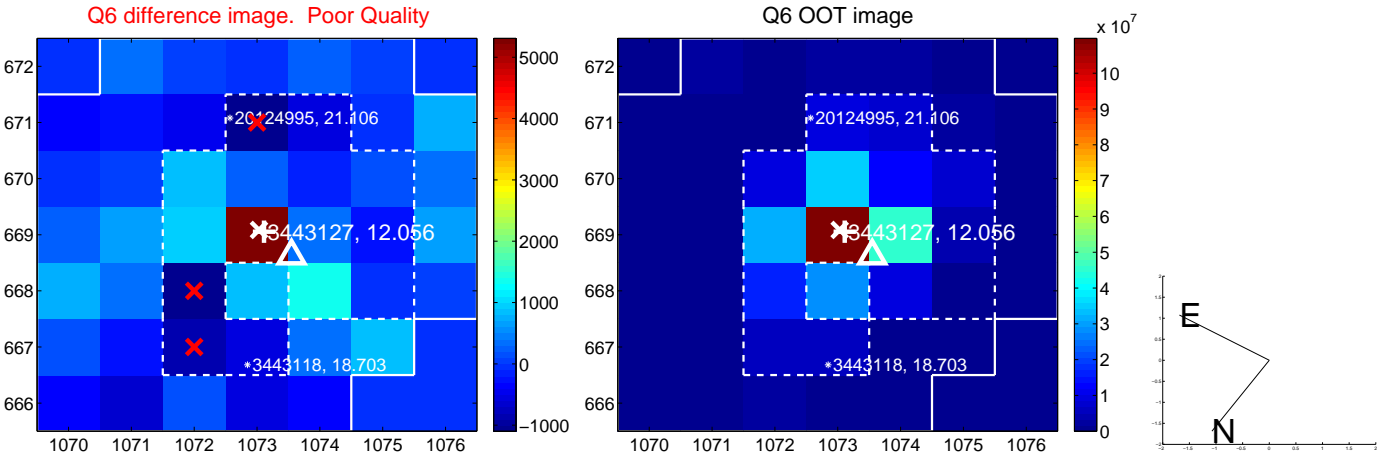
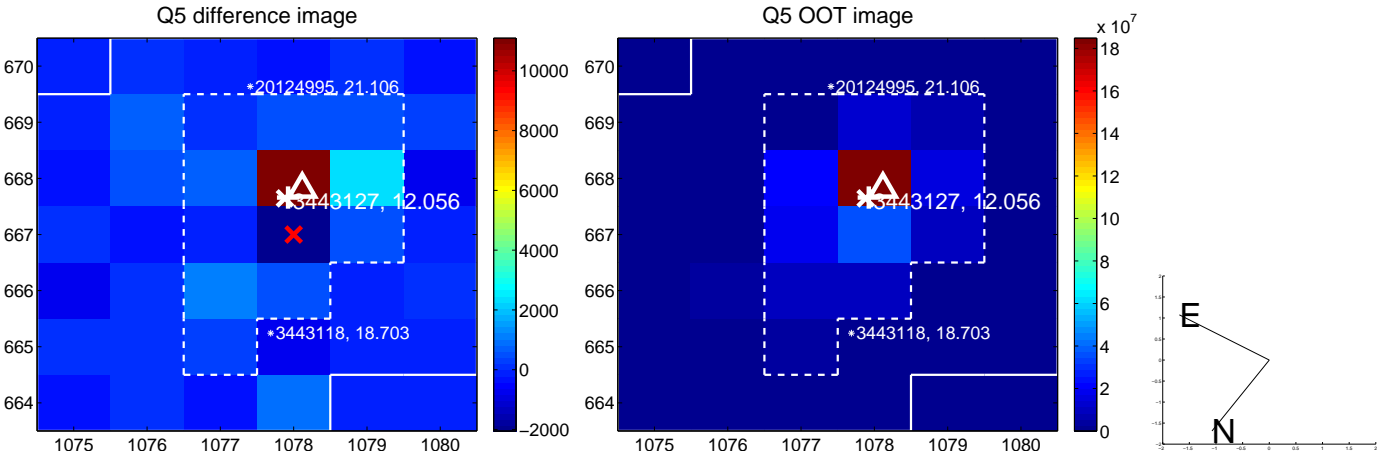
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



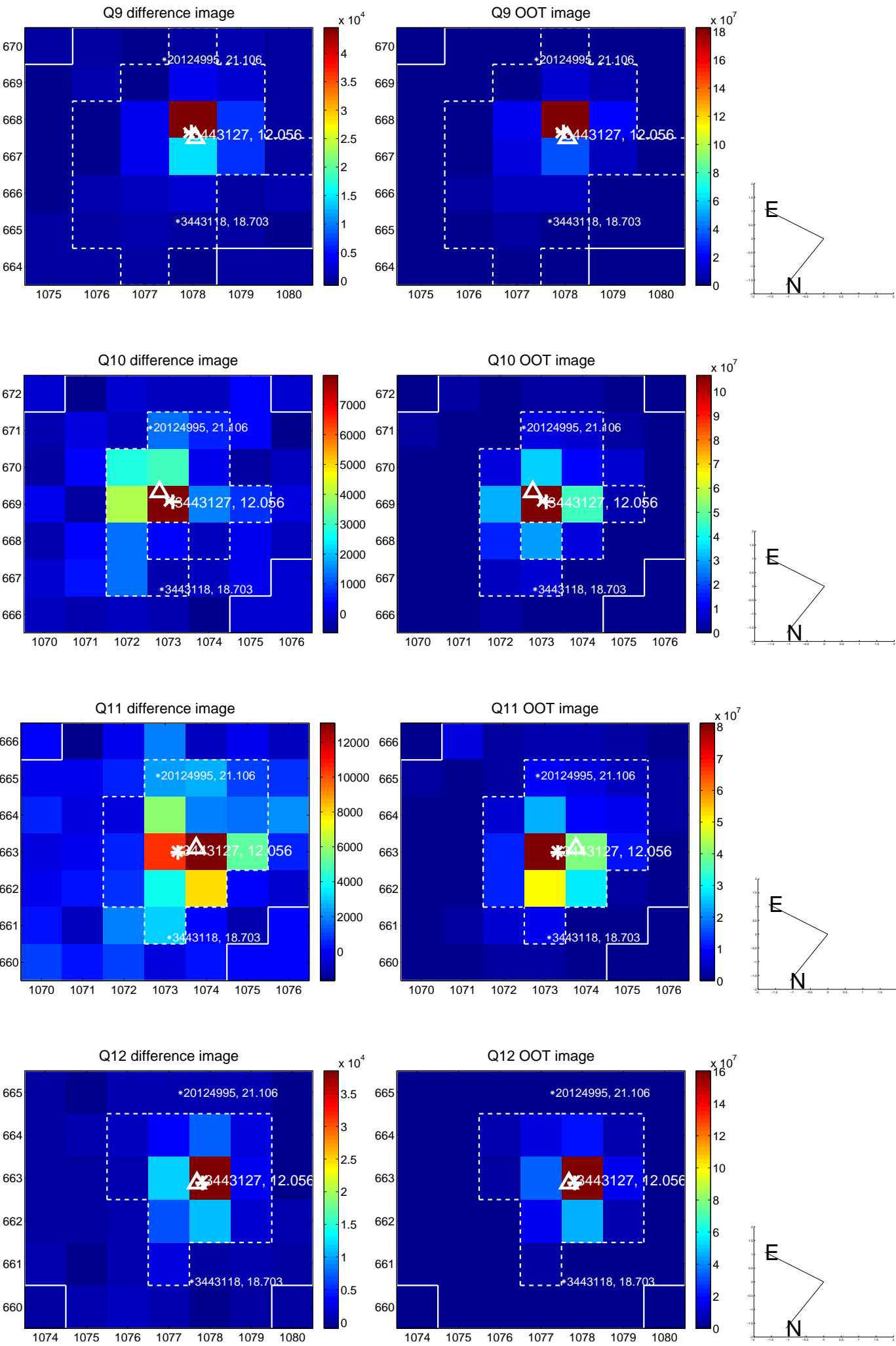
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



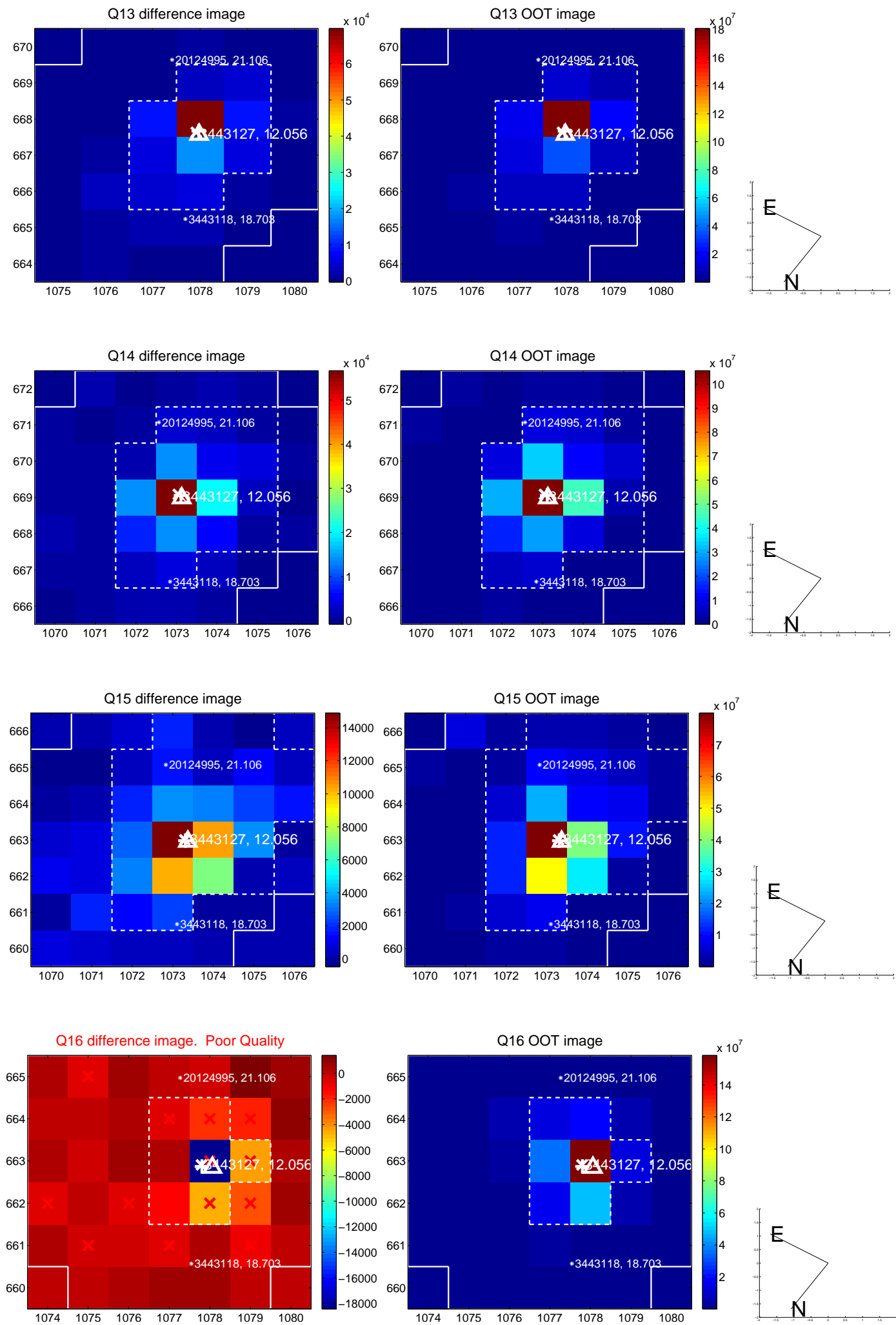
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



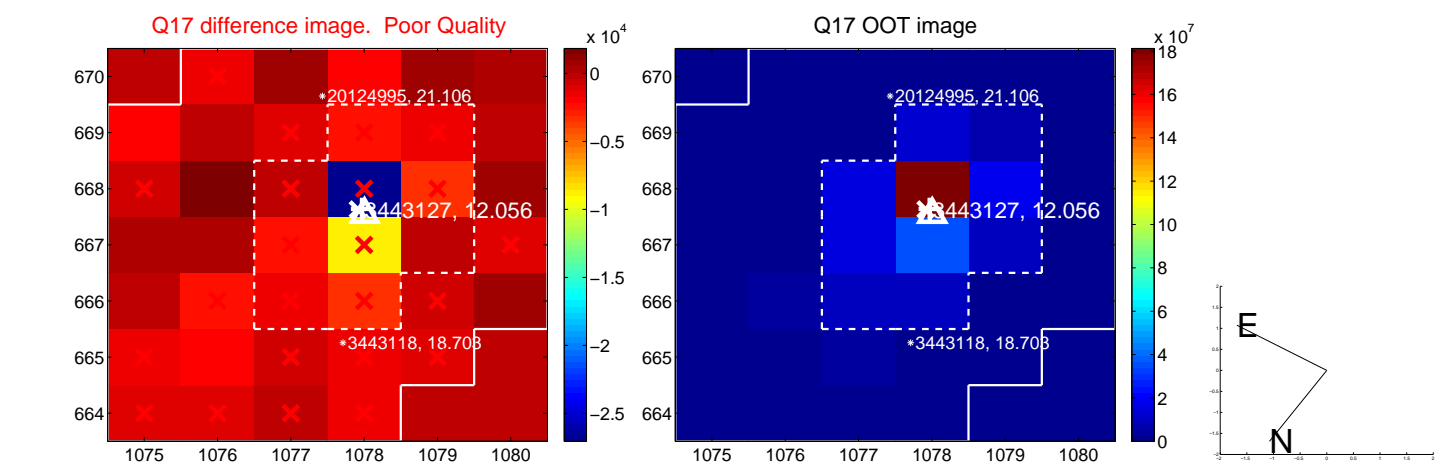
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



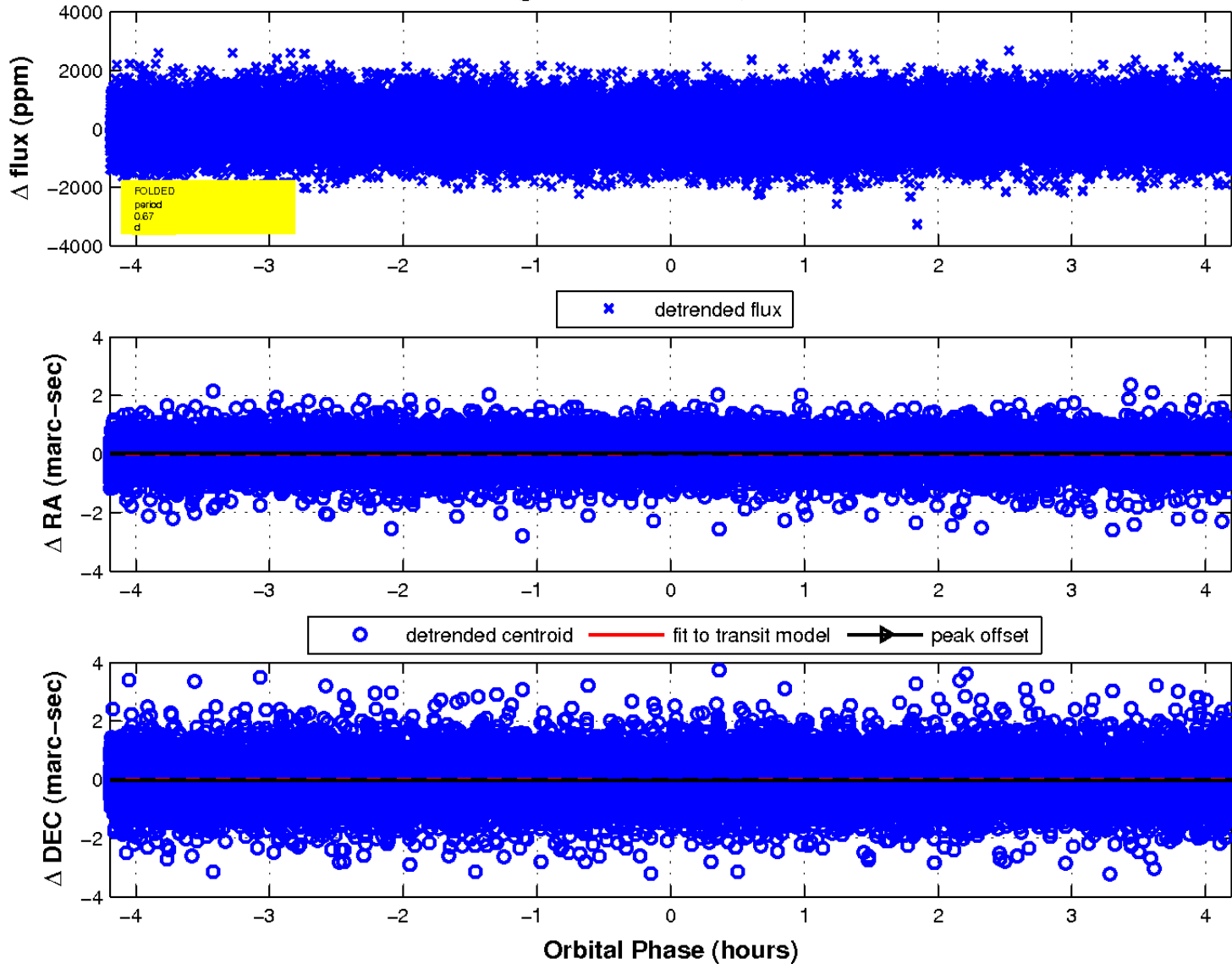
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



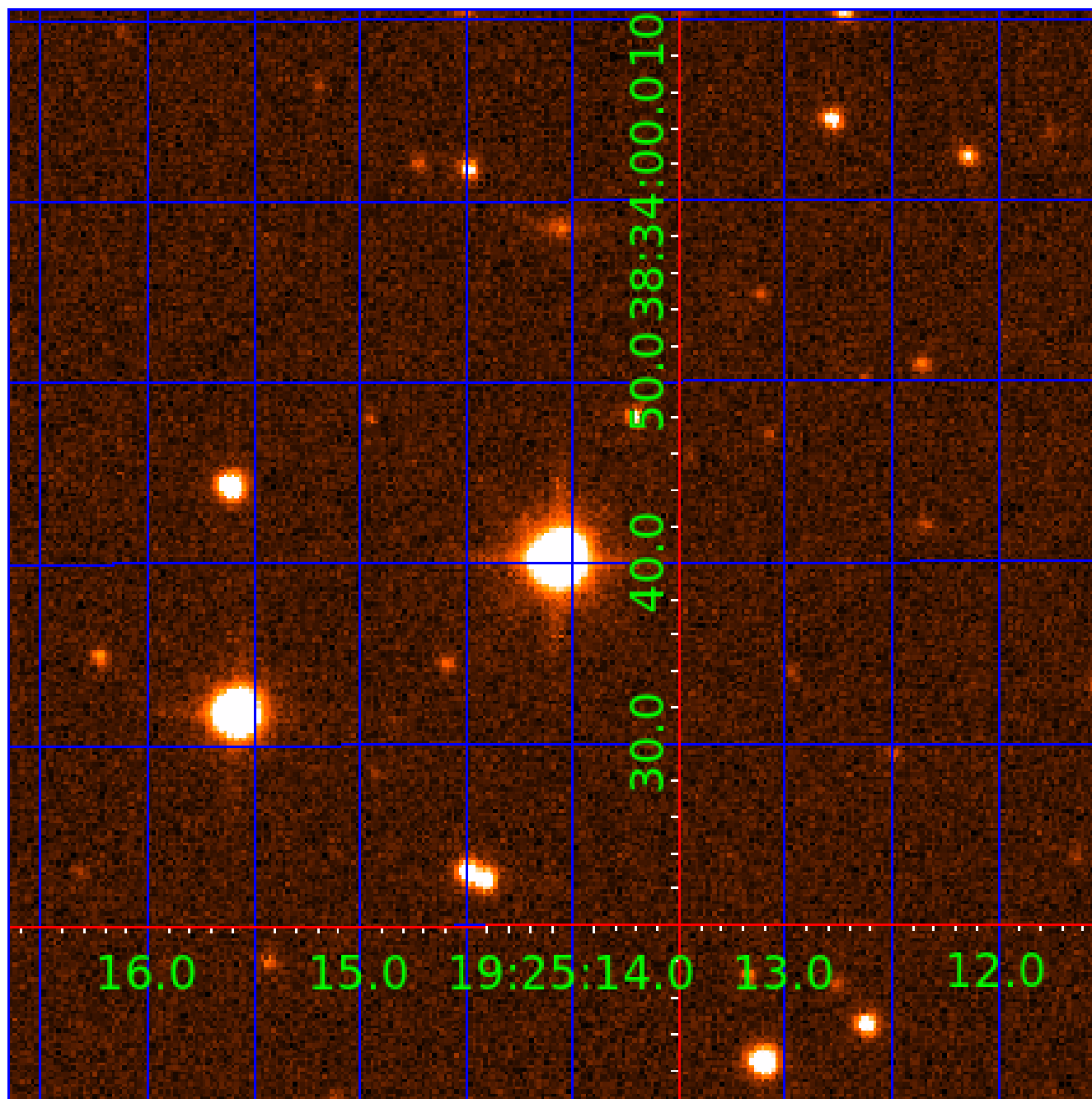
fluxWeightedCentroids, Planet 2 of 3





UKIRT Image

Declination



# KIC 003443127

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003443127-01	OBS	No	0.854399	131.596004	68.1	2.853	11.8	8.8	2.65	7758	2.53	47310.52
003443127-02	OBS	No	0.667668	131.991236	90.2	1.398	9.4	7.5	2.65	7758	2.93	65729.17
003443127-03	OBS	No	1.307172	132.289711	118.6	5.635	9.0	9.3	2.65	7758	3.17	26836.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003443127-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003443127-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003443127-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

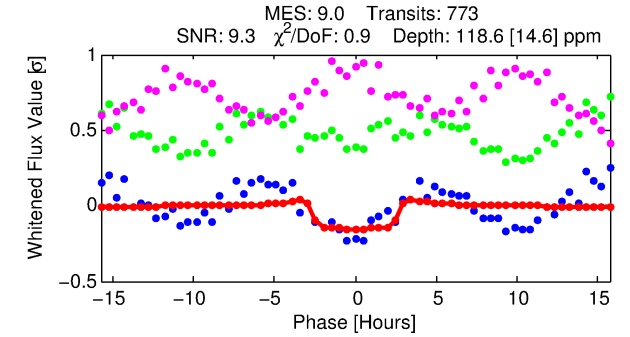
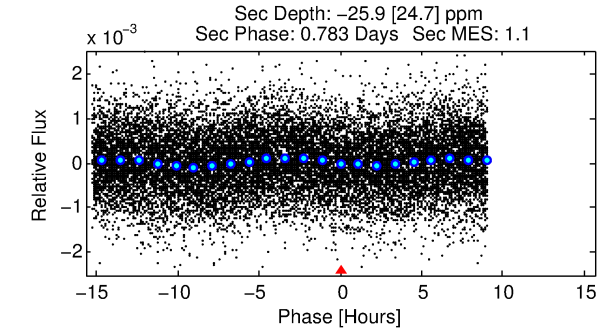
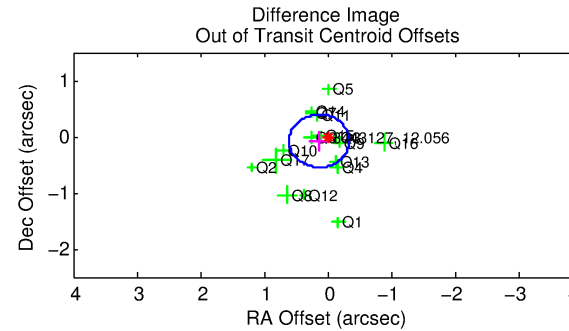
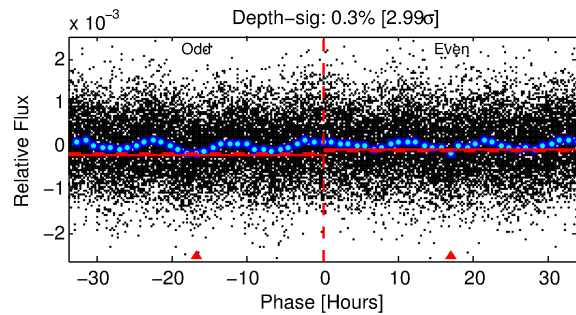
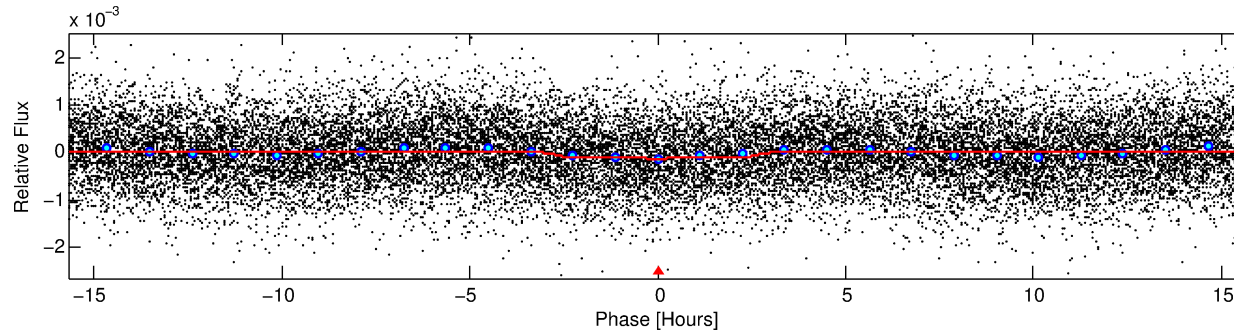
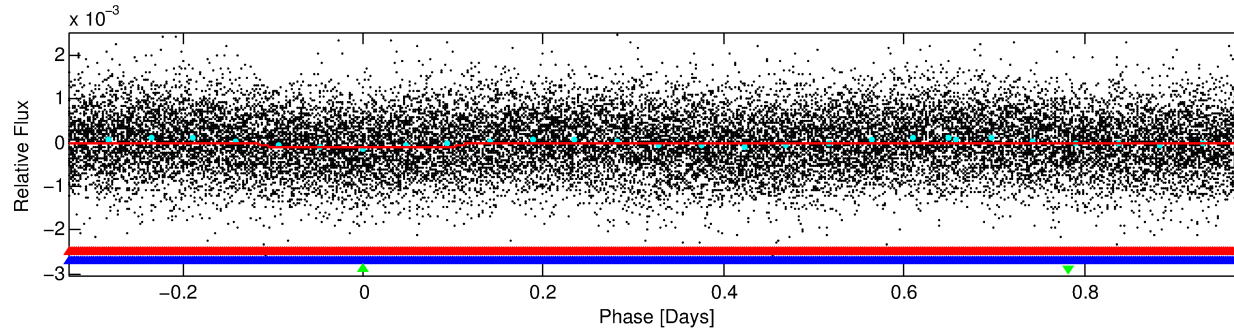
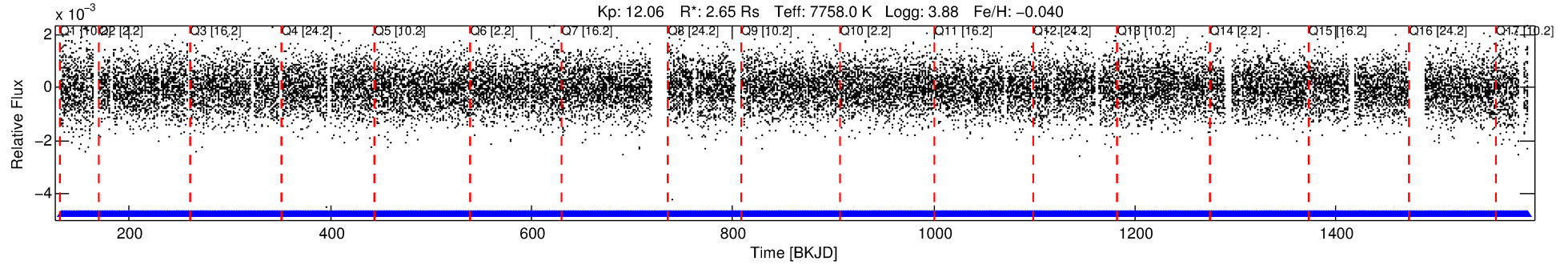
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003443127-03

No Significant Match Found

# DV One-Page Summary

KIC: 3443127 Candidate: 3 of 3 Period: 1.307 d



## DV Fit Results:

Period = 1.30717 [0.00002] d  
Epoch = 132.2897 [0.0059] BKJD  
Rp/R\* = 0.0110 [0.0068]  
a/R\* = 1.41 [2.70]  
b = 0.79 [1.80]  
Seff = 26836.67 [14539.46]  
Teq = 3264 [442] K  
Rp = 3.17 [2.26] Re  
a = 0.0291 [0.0095] AU  
Ag = N/A  
Teffp = N/A

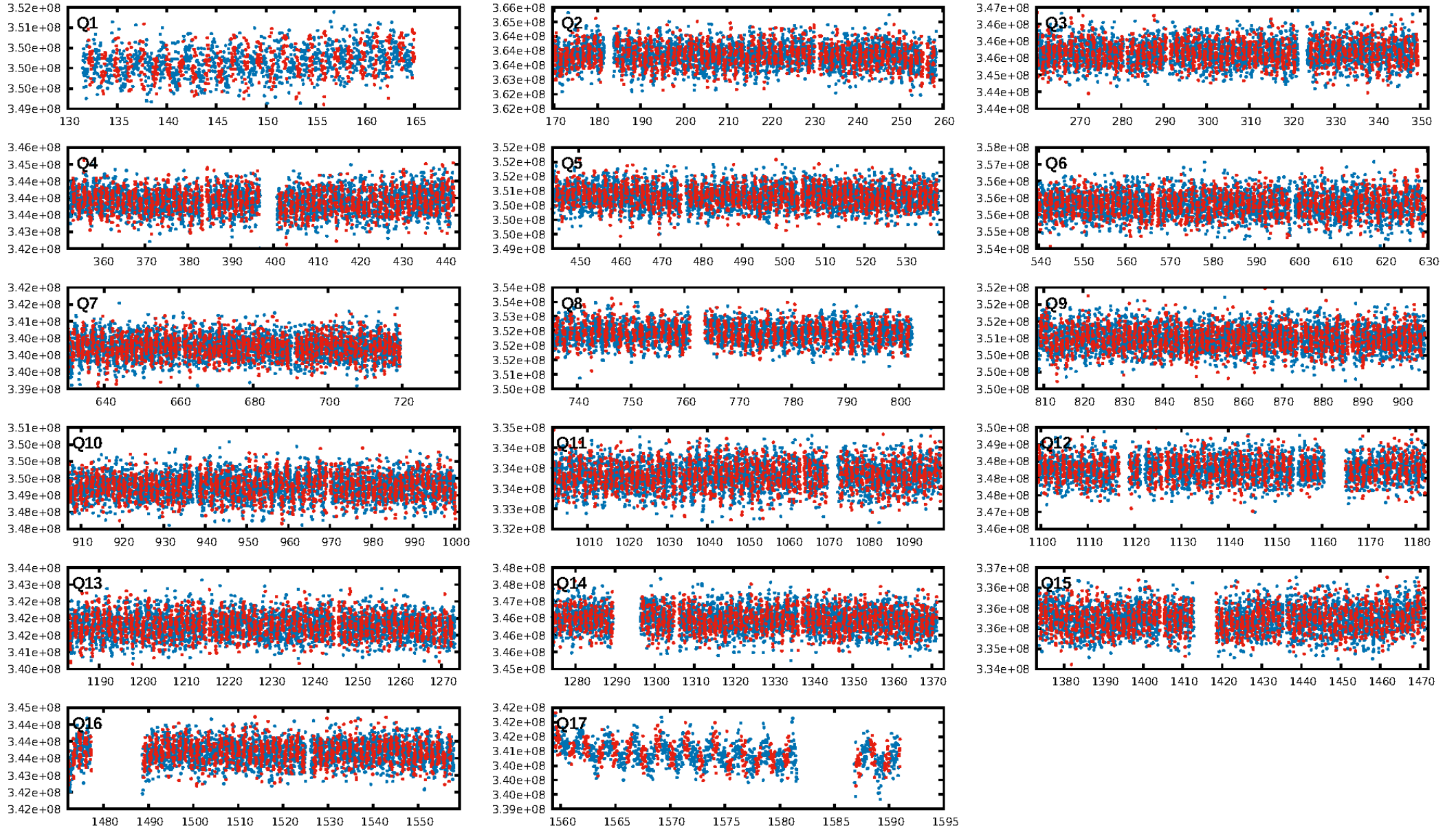
## DV Diagnostic Results:

ShortPeriod-sig: 91.5% [1.72 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
**Bootstrap-pfa: 3.19e-10**  
RollingBand-fgt: 1.00 [738/738]  
GhostDiagnostic-chr: 2.294  
**Centroid-sig: 0.0%**  
Centroid-so: 0.299 arcsec [2.84 $\sigma$ ]  
OotOffset-rm: 0.155 arcsec [0.99 $\sigma$ ]  
KicOffset-rm: 0.147 arcsec [0.90 $\sigma$ ]  
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]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:51:26 Z

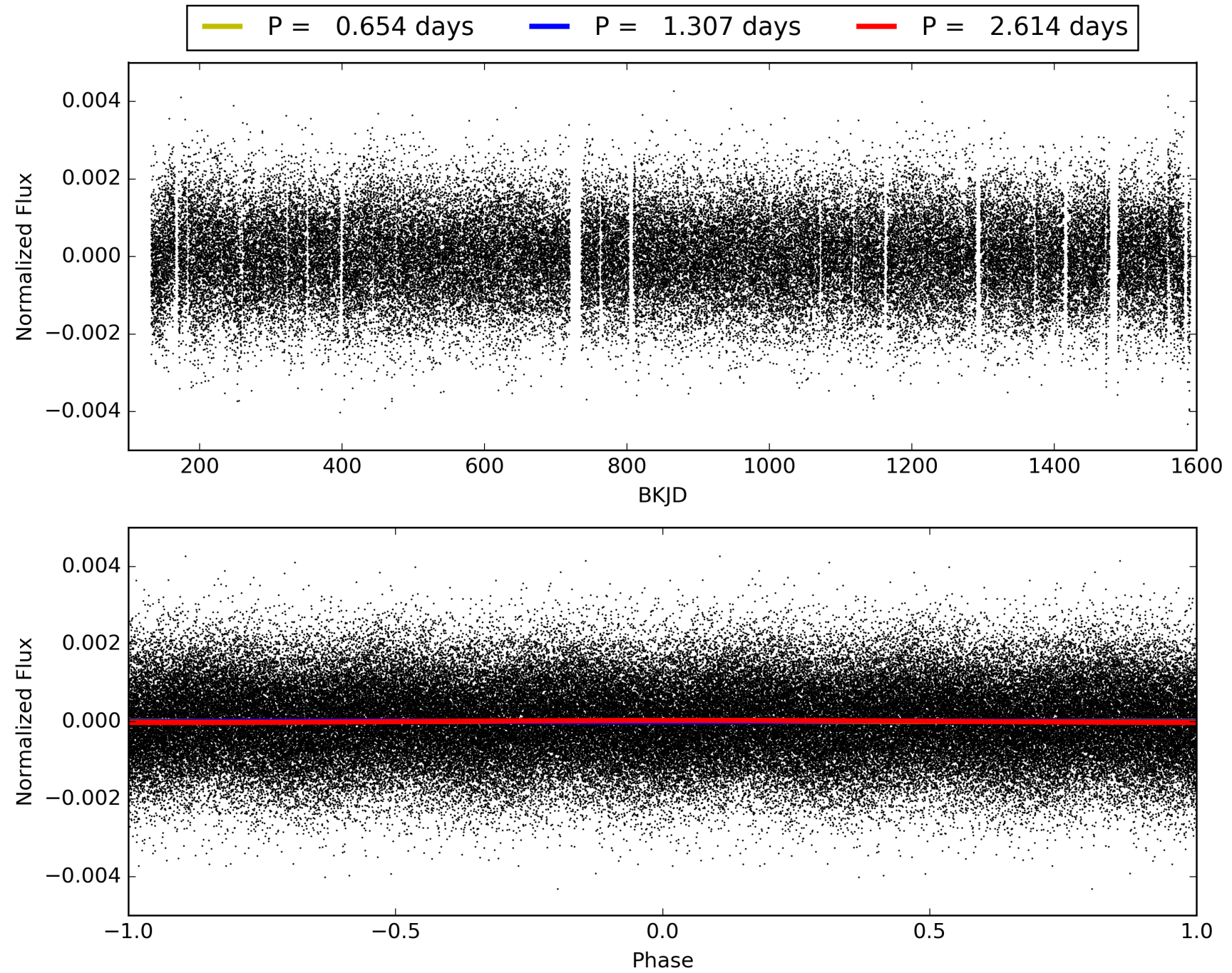
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 003443127-03, PDC Light Curves





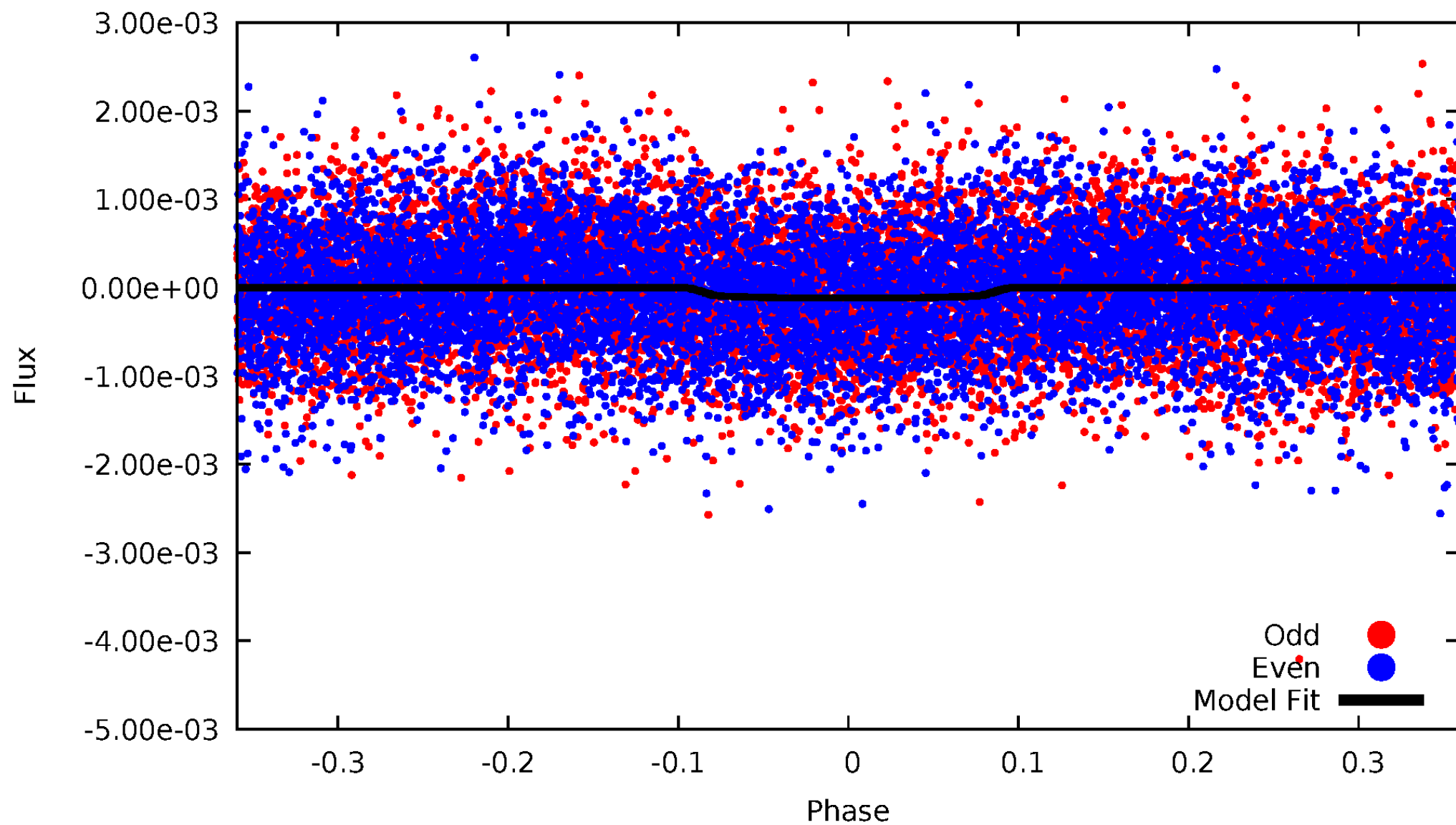
TCE 003443127-03





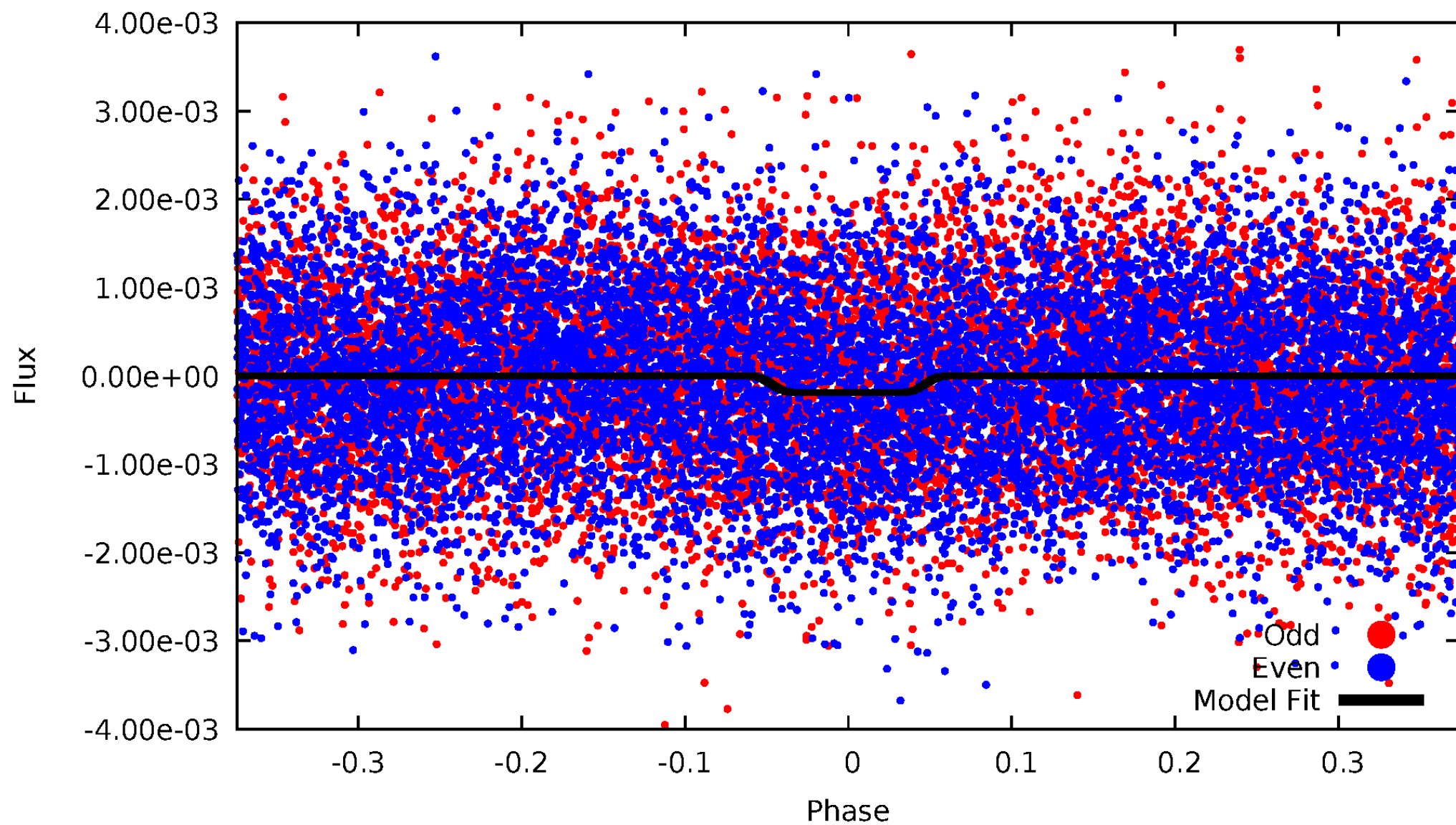
# DV Odd/Even

TCE 003443127-03



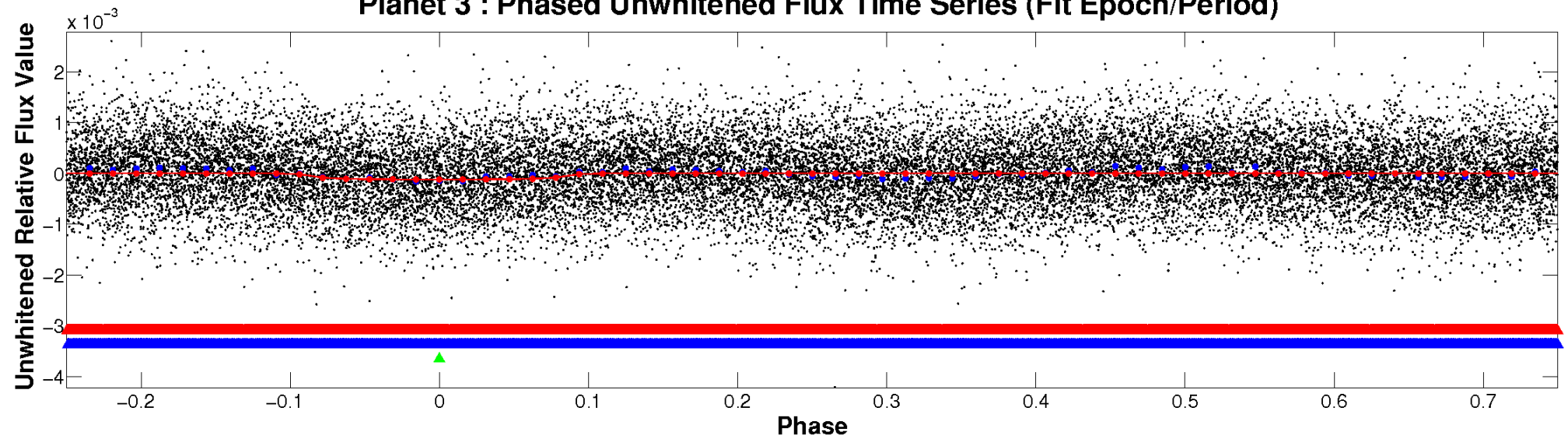
# ALT Odd/Even

TCE 003443127-03

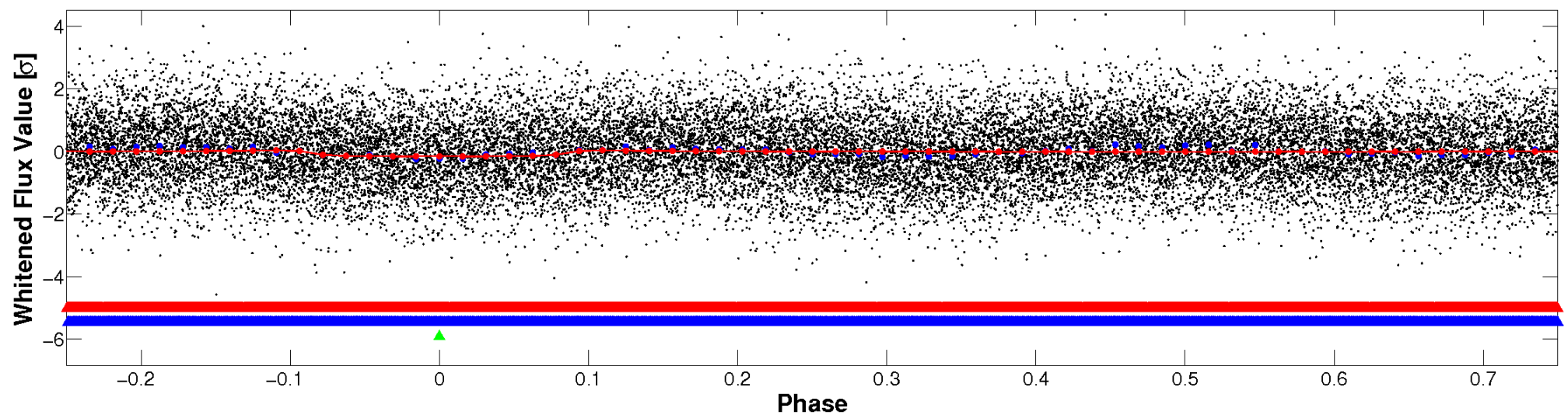


# Non-Whitened Vs. Whitened Light Curve

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

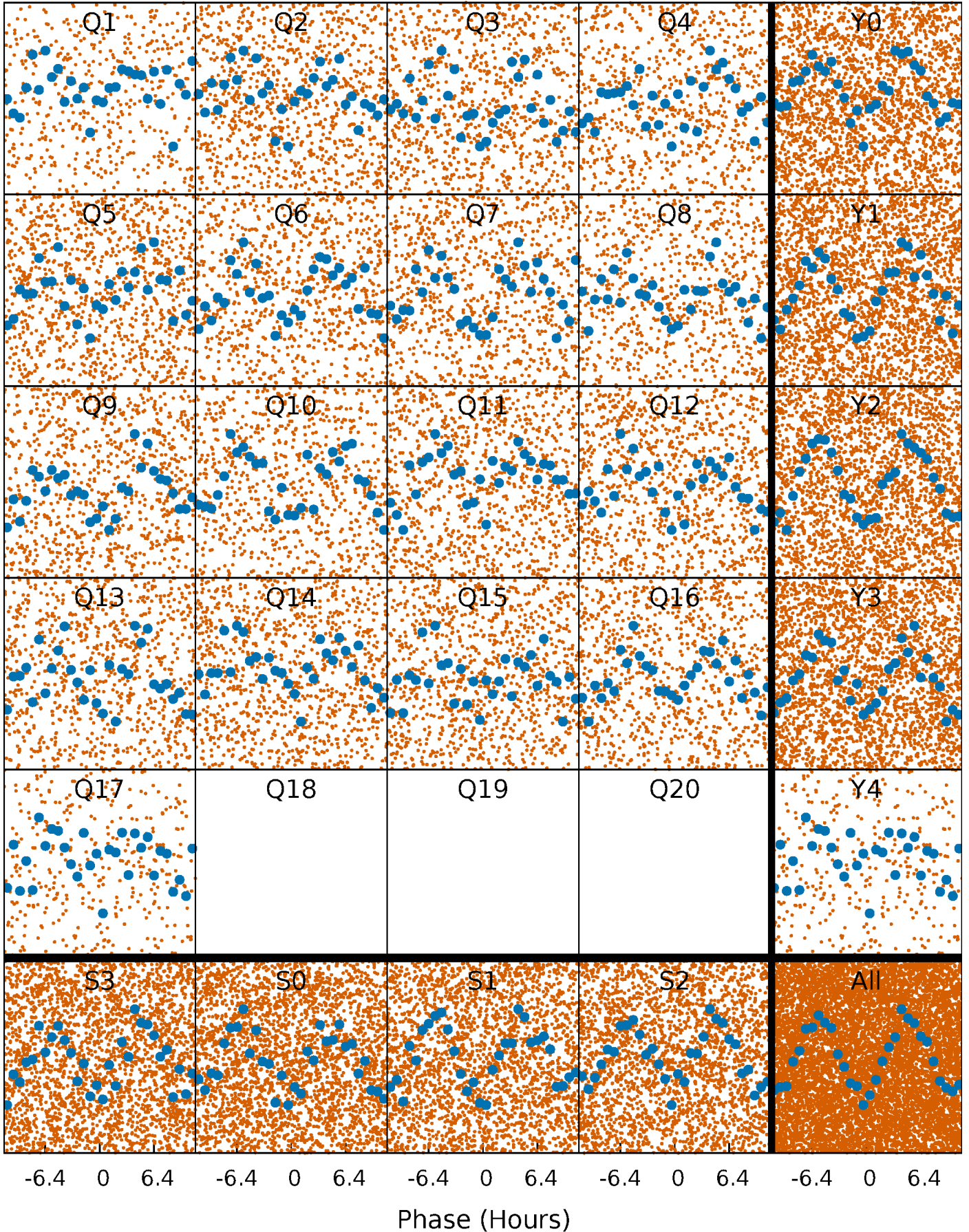


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

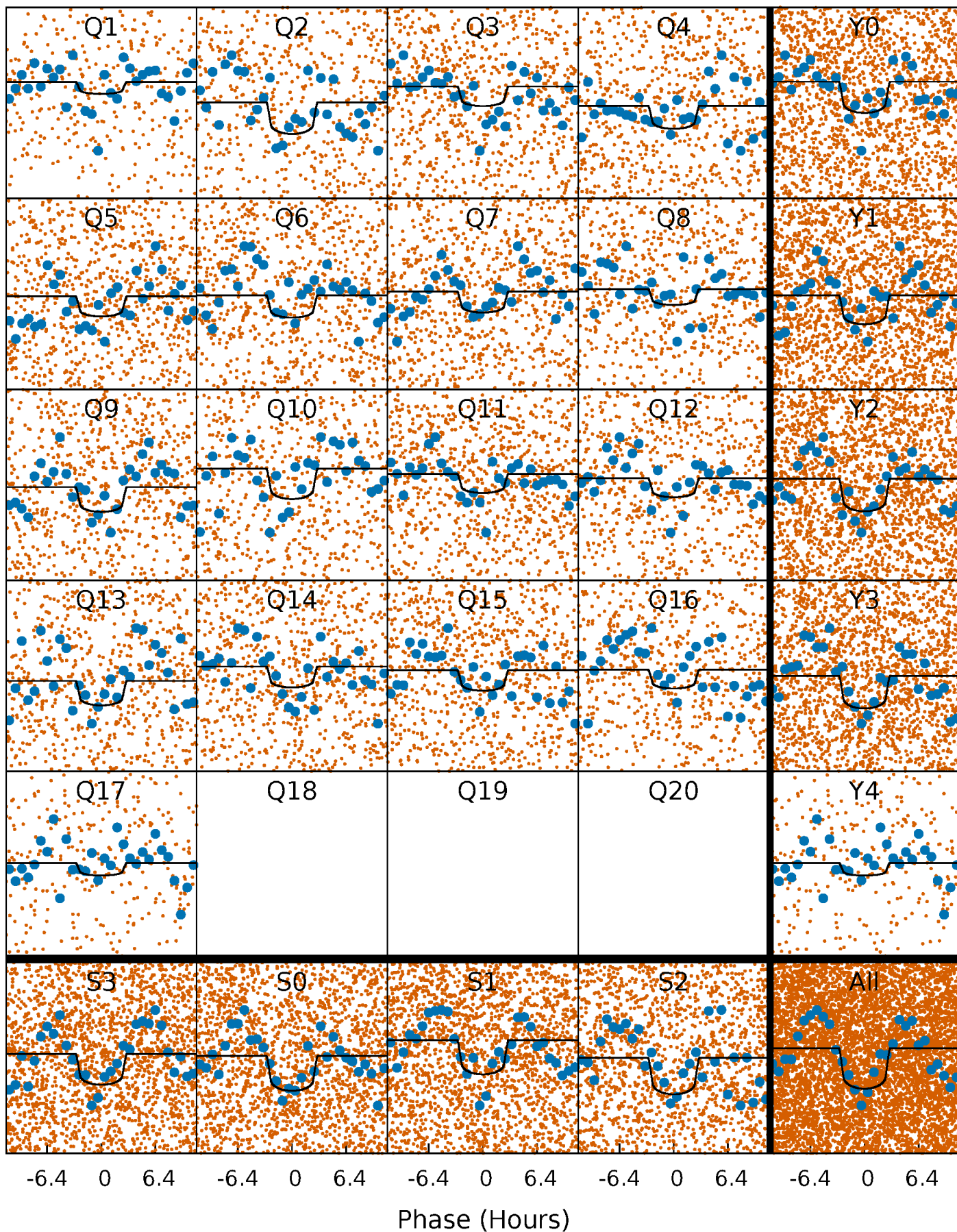
TCE 003443127-03 P= 1.307172 Days  $T_0=132.289711$  (BKJD)





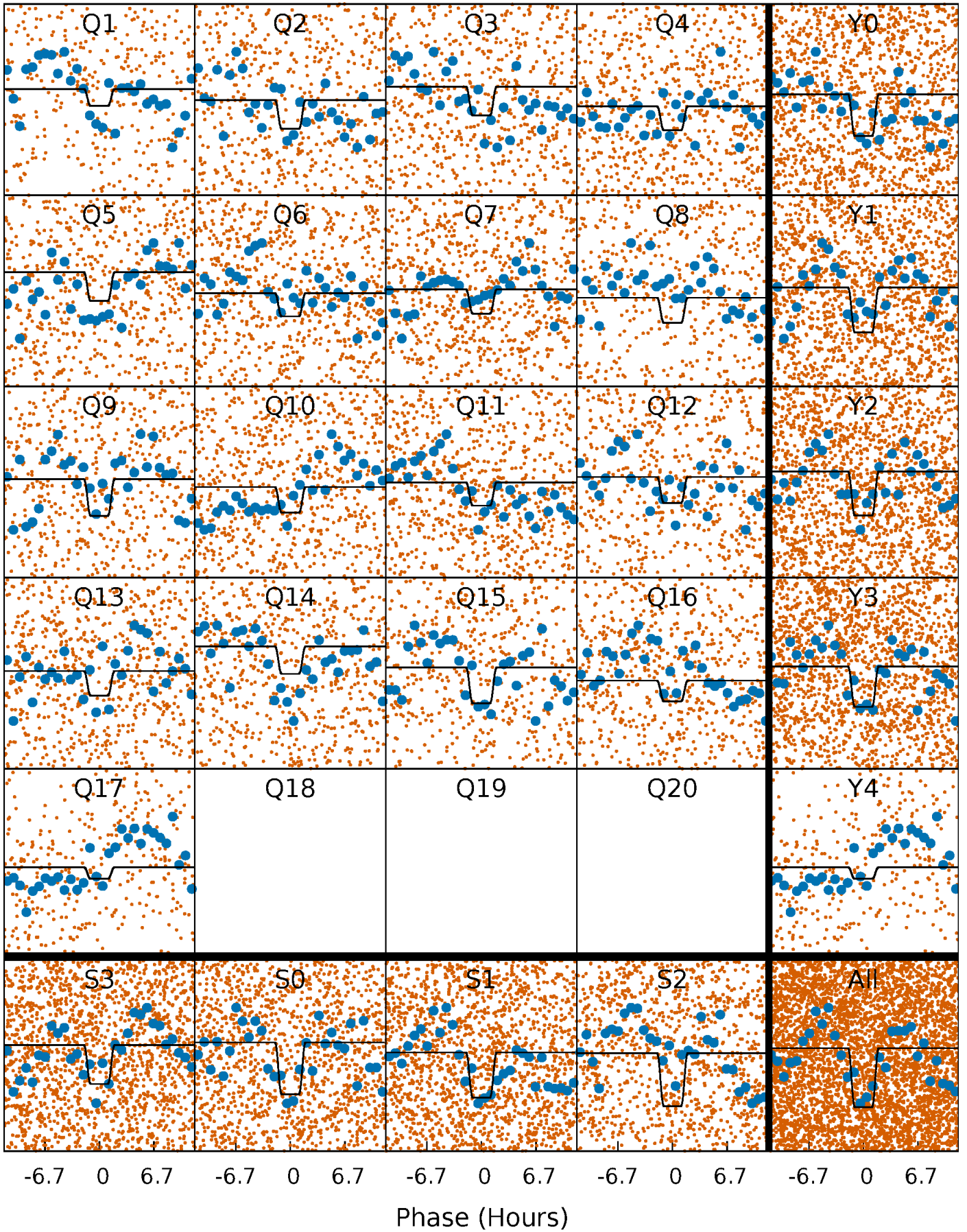
# DV Quarter-Phased Transit Curves

TCE 003443127-03 P= 1.307172 Days  $T_0=132.289711$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

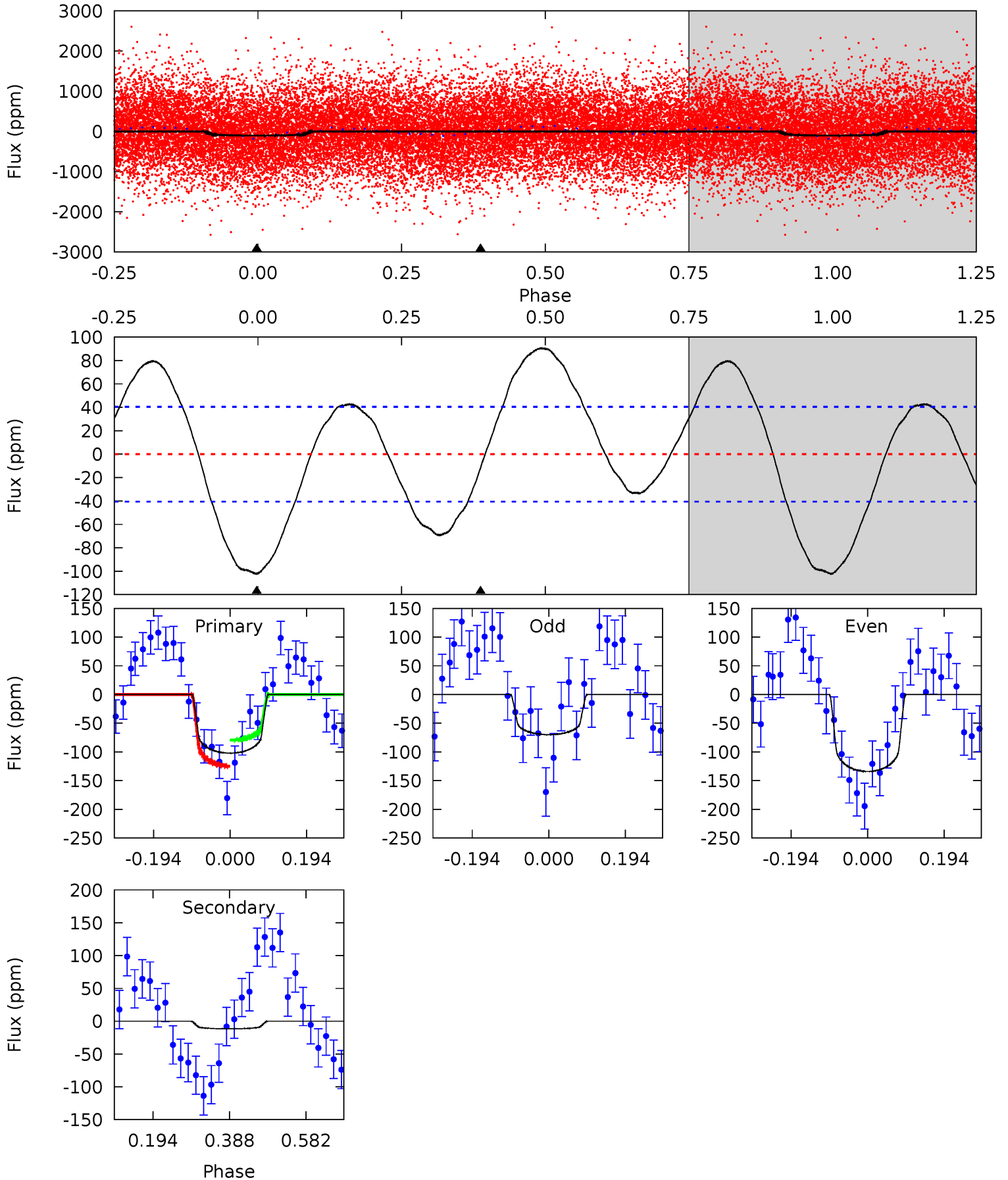
TCE 003443127-03 P= 1.307184 Days  $T_0=132.269443$  (BKJD)



# DV Model-Shift Uniqueness Test

003443127-03, P = 1.307172 Days, E = 130.982539 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	1.27	0	0	4.42	1.30	3.73	11.2	11.2	1.27	1.27	3.44	0.69	0.47	2.47

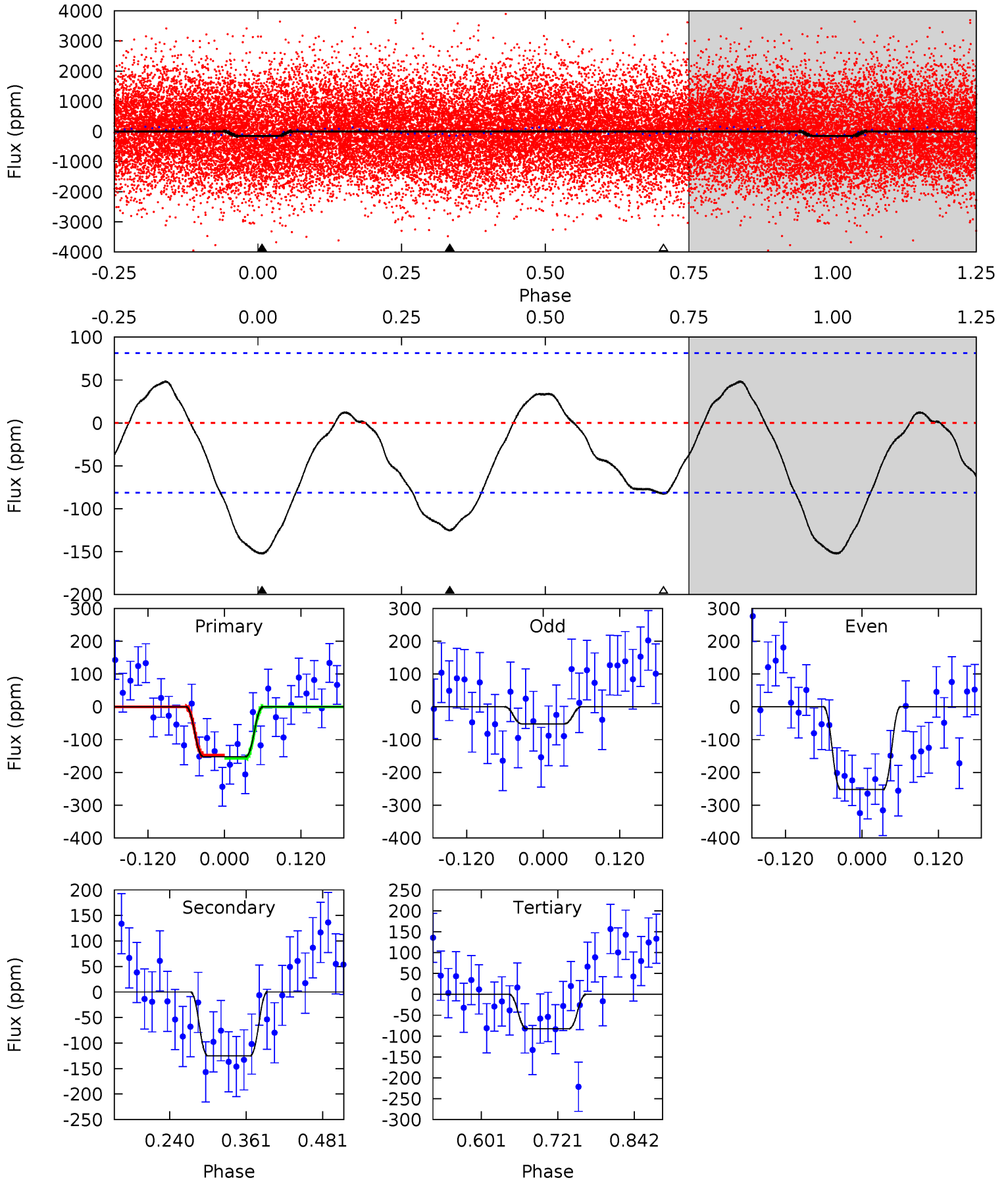




# Alt Model-Shift Uniqueness Test

003443127-03, P = 1.307184 Days, E = 130.962259 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.46	6.96	4.58	0	4.53	1.55	2.25	3.88	8.46	2.38	6.96	5.57	1.12	0.24	0.27





### Stellar Parameters For KIC 003443127

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7758^{+214}_{-322}$	$3.877^{+0.300}_{-0.120}$	$-0.040^{+0.200}_{-0.350}$	$2.648^{+0.426}_{-0.922}$	$1.927^{+0.103}_{-0.414}$	$0.146^{+0.279}_{-0.054}$
	+3%/-4%	+8%/-3%	+500%/-875%	+16%/-35%	+5%/-21%	+191%/-37%
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 003443127-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-12 \pm 9$	$3.01^{+2.01}_{-1.61}$	$4485^{+299}_{-442}$	$3476^{+2400}_{-7263}$	$0.446^{+2.101}_{-0.391}$
Alt.	$-125 \pm 18$	$3.67^{+2.06}_{-1.82}$	$4473^{+319}_{-421}$	$6775^{+3604}_{-1417}$	$4.299^{+11.863}_{-2.572}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )  
 $A_{\text{obs}}$  = 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

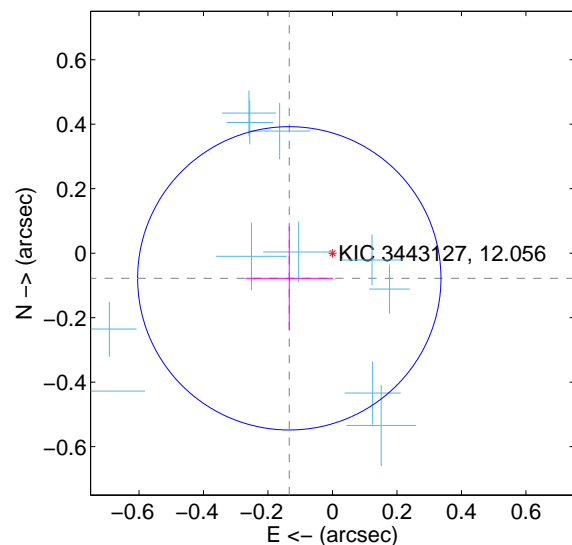
Supplemental centroid analysis for 003443127-03. Kepler magnitude: 12.06. Transit SNR 9.26

There are 17 quarters with good PRF difference image offsets

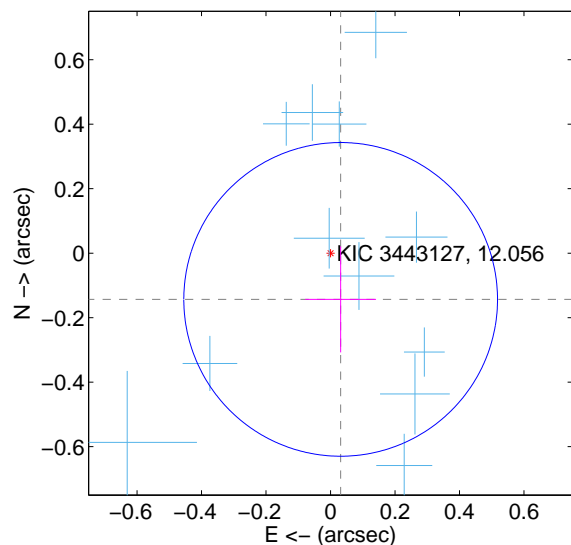
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.155 \pm 0.157$	0.99	$0.134 \pm 0.136$	$-0.078 \pm 0.161$
PRF-fit source offset from KIC position	$0.147 \pm 0.162$	0.90	$-0.031 \pm 0.110$	$-0.143 \pm 0.164$
photometric centroid source offset	$0.30 \pm 0.11$	2.84	$-0.23 \pm 0.10$	$0.19 \pm 0.11$

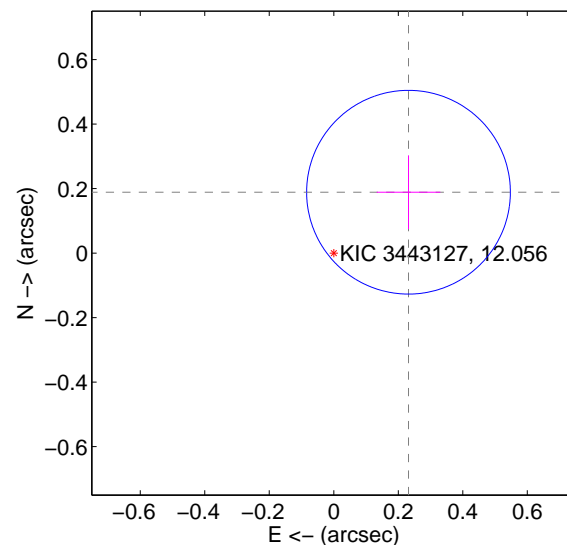
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

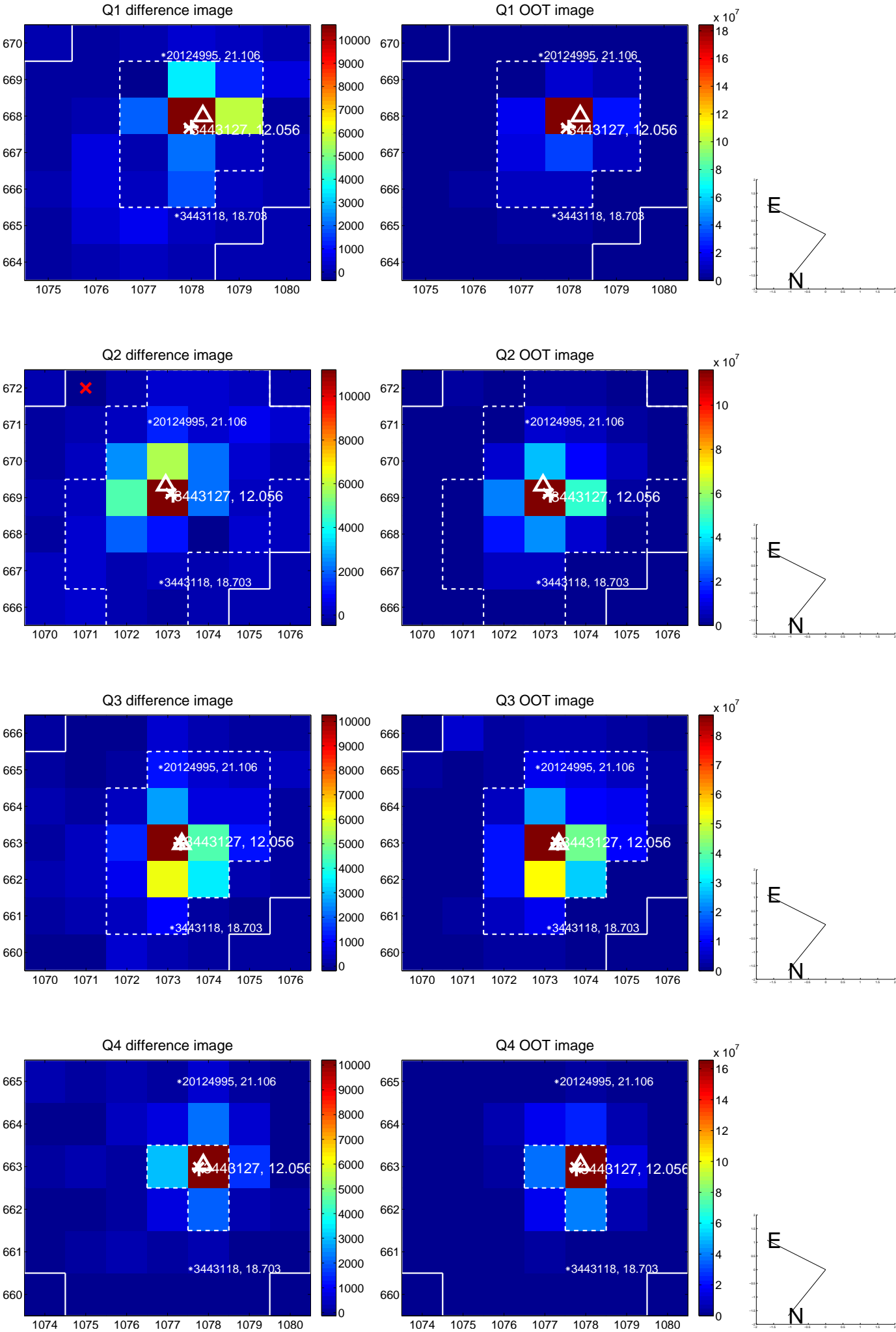


offset from photometric centroids

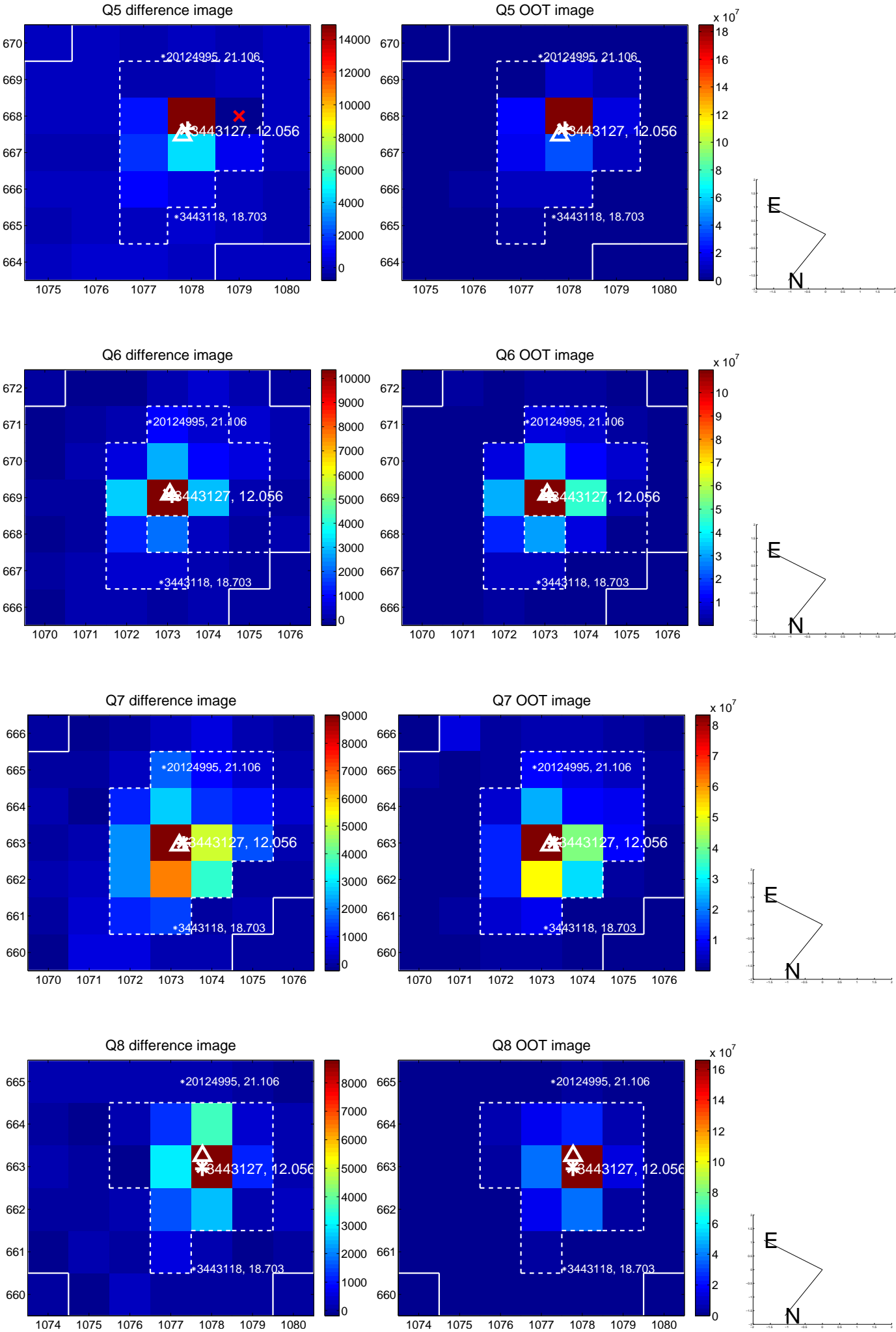


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

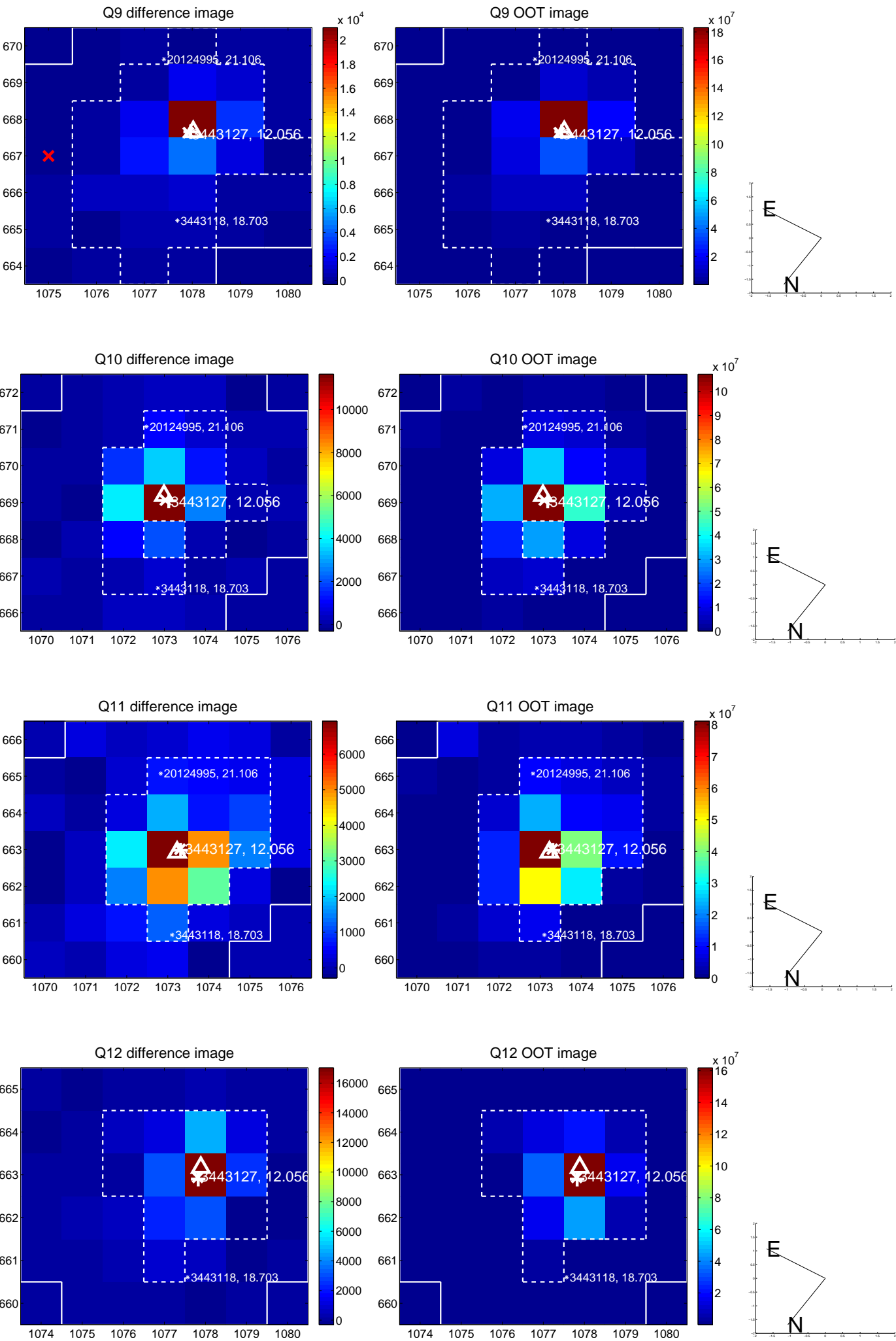
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

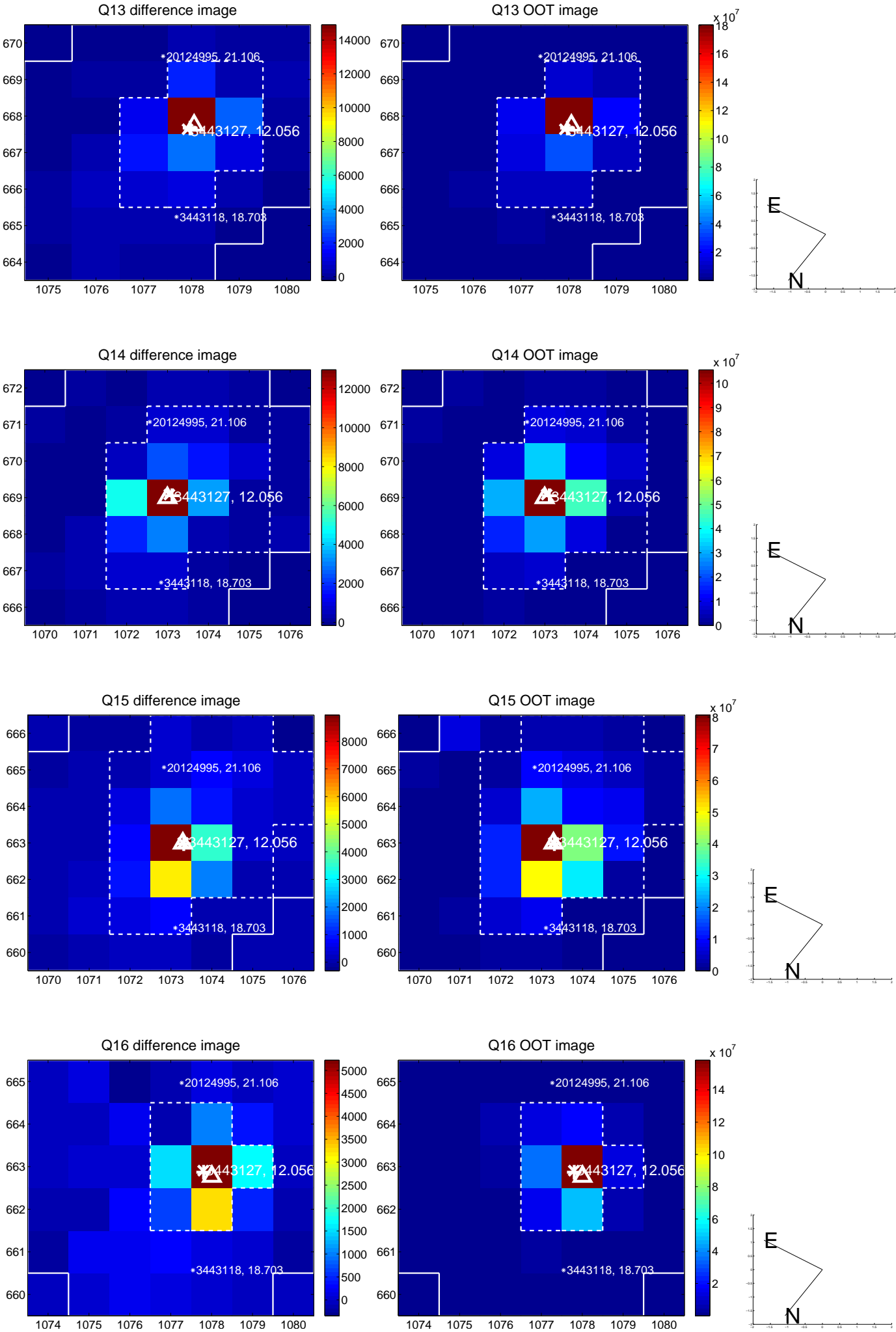


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

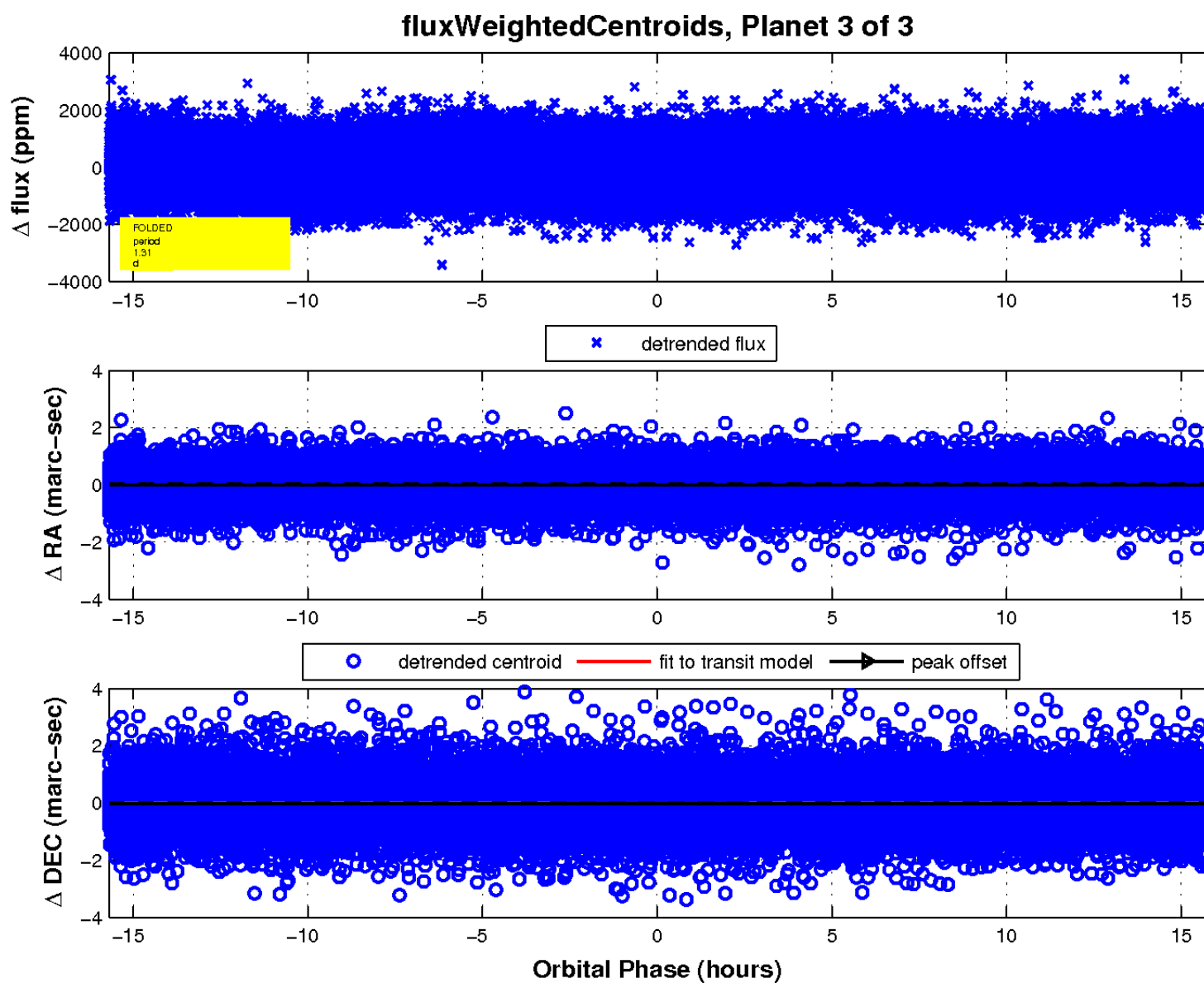
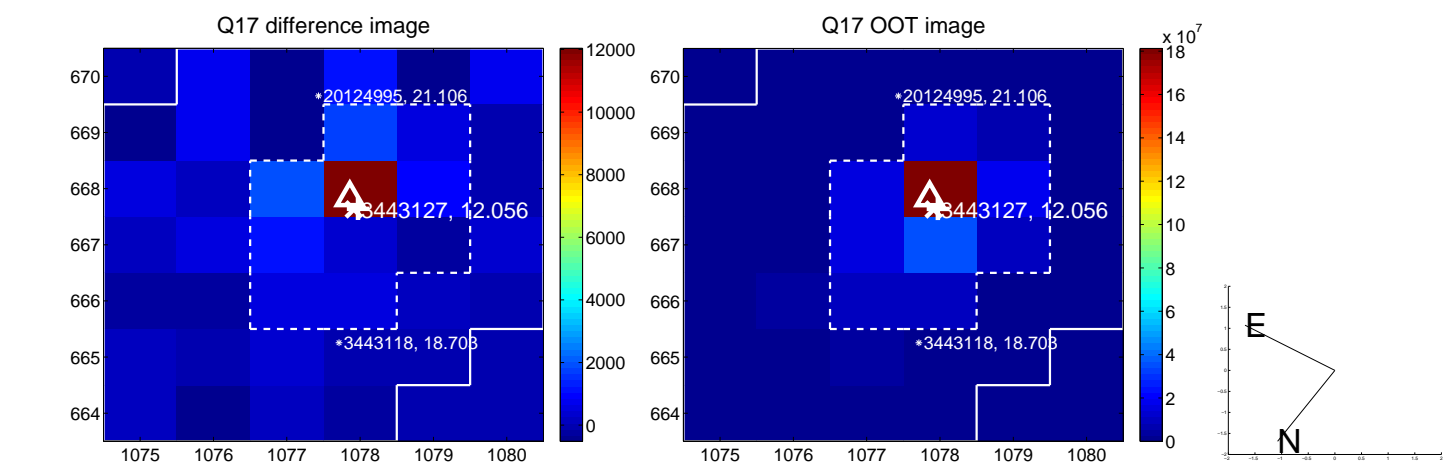




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

