

# KIC 010293818

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010293818-01	OBS	No	0.509102	131.527117	251.1	1.280	15.5	17.5	2.54	7872	4.11	90701.08
010293818-02	OBS	No	0.509100	131.699637	196.7	1.653	12.4	14.8	2.54	7872	4.15	90701.49
010293818-03	OBS	No	0.509092	131.877993	155.1	1.458	9.1	11.0	2.54	7872	3.69	90703.42

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010293818-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010293818-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
010293818-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

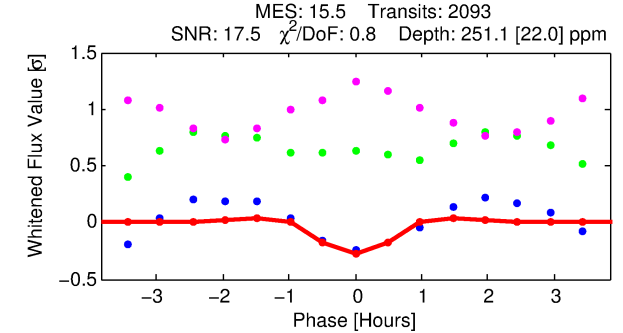
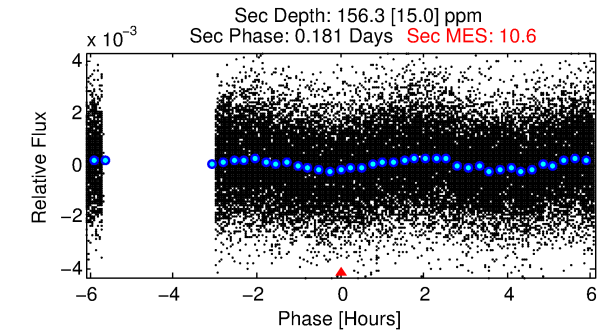
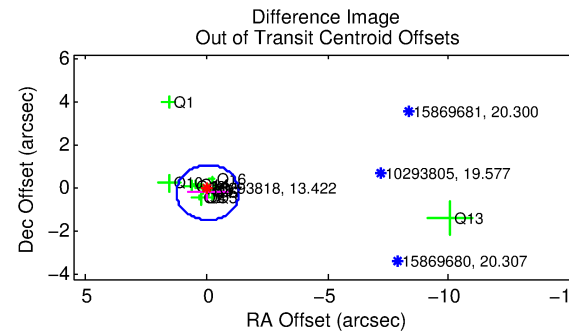
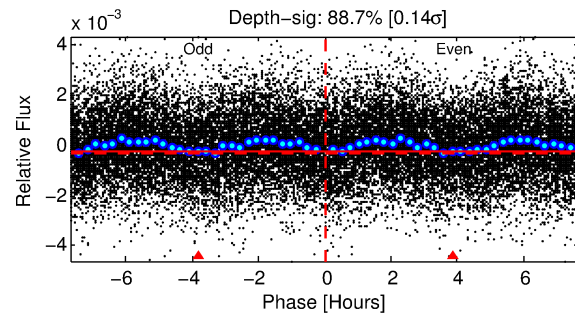
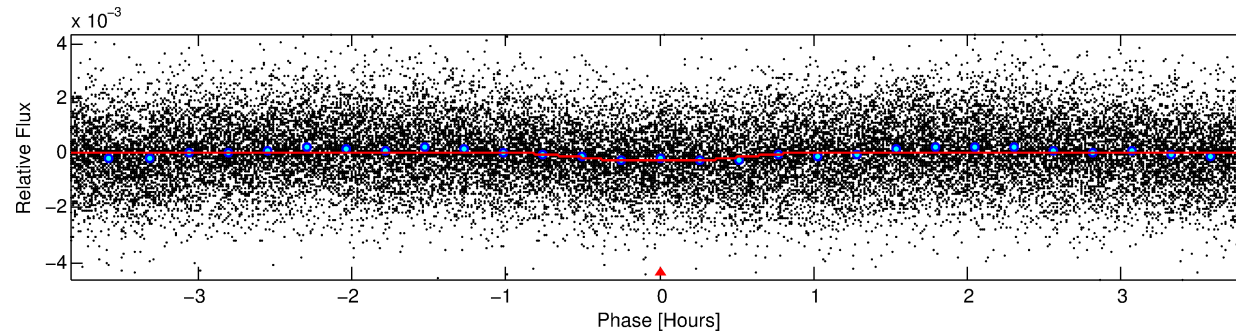
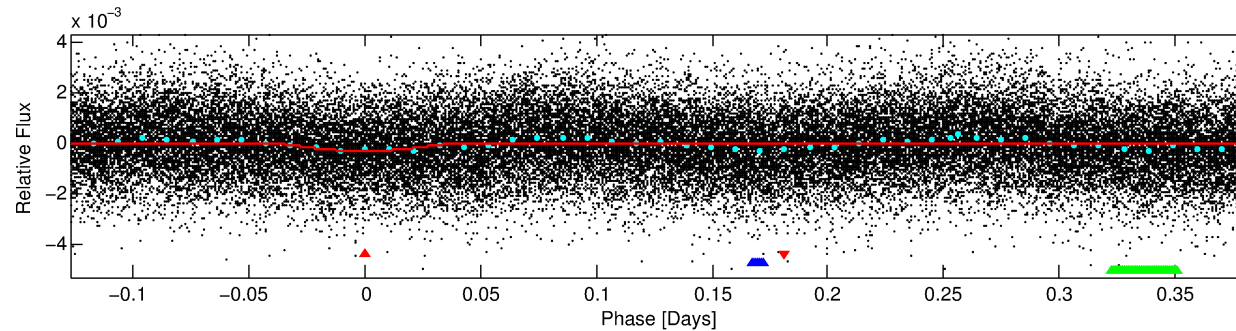
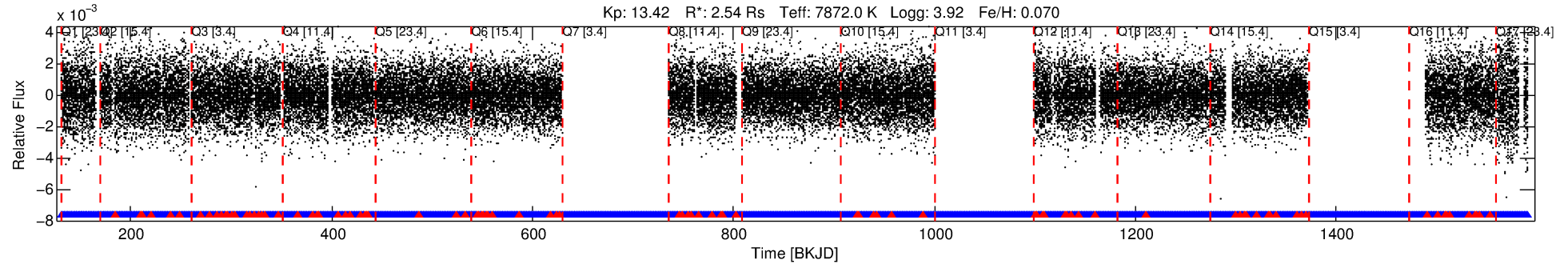
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 010293818-01

No Significant Match Found

# DV One-Page Summary

KIC: 10293818 Candidate: 1 of 3 Period: 0.509 d



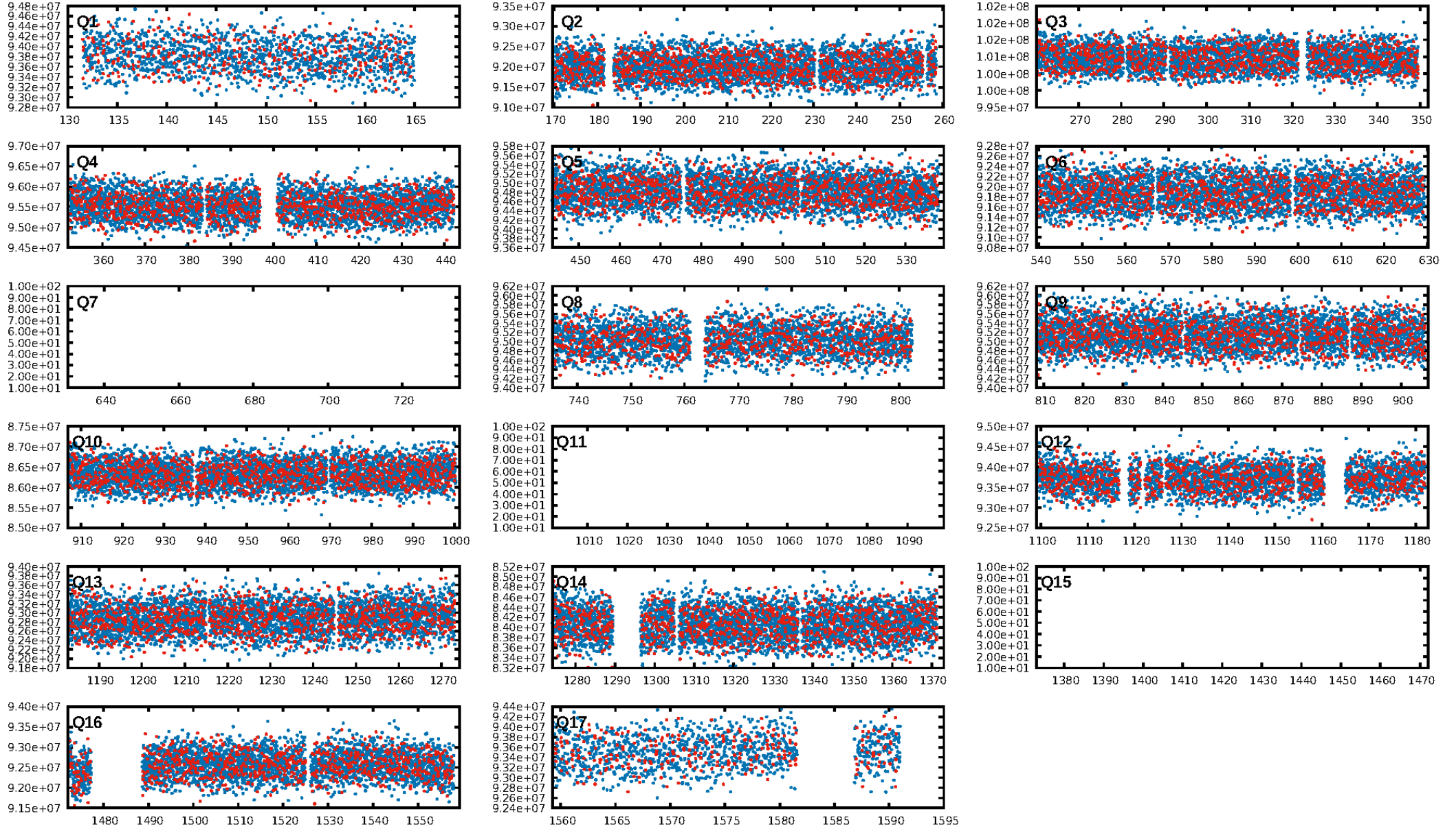
## DV Fit Results:

Period = 0.50910 [0.00001] d  
Epoch = 131.5271 [0.0012] BKJD  
Rp/R\* = 0.0148 [0.0089]  
a/R\* = 3.06 [9.55]  
b = 0.24 [13.66]  
Seff = 90701.08 [42783.52]  
Teq = 4425 [522] K  
Rp = 4.11 [2.81] Re  
a = 0.0157 [0.0045] AU  
Ag = 1.25 [1.60] [0.15 $\sigma$ ]  
Teffp = 7228 [2200] K [1.24 $\sigma$ ]

## DV Diagnostic Results:

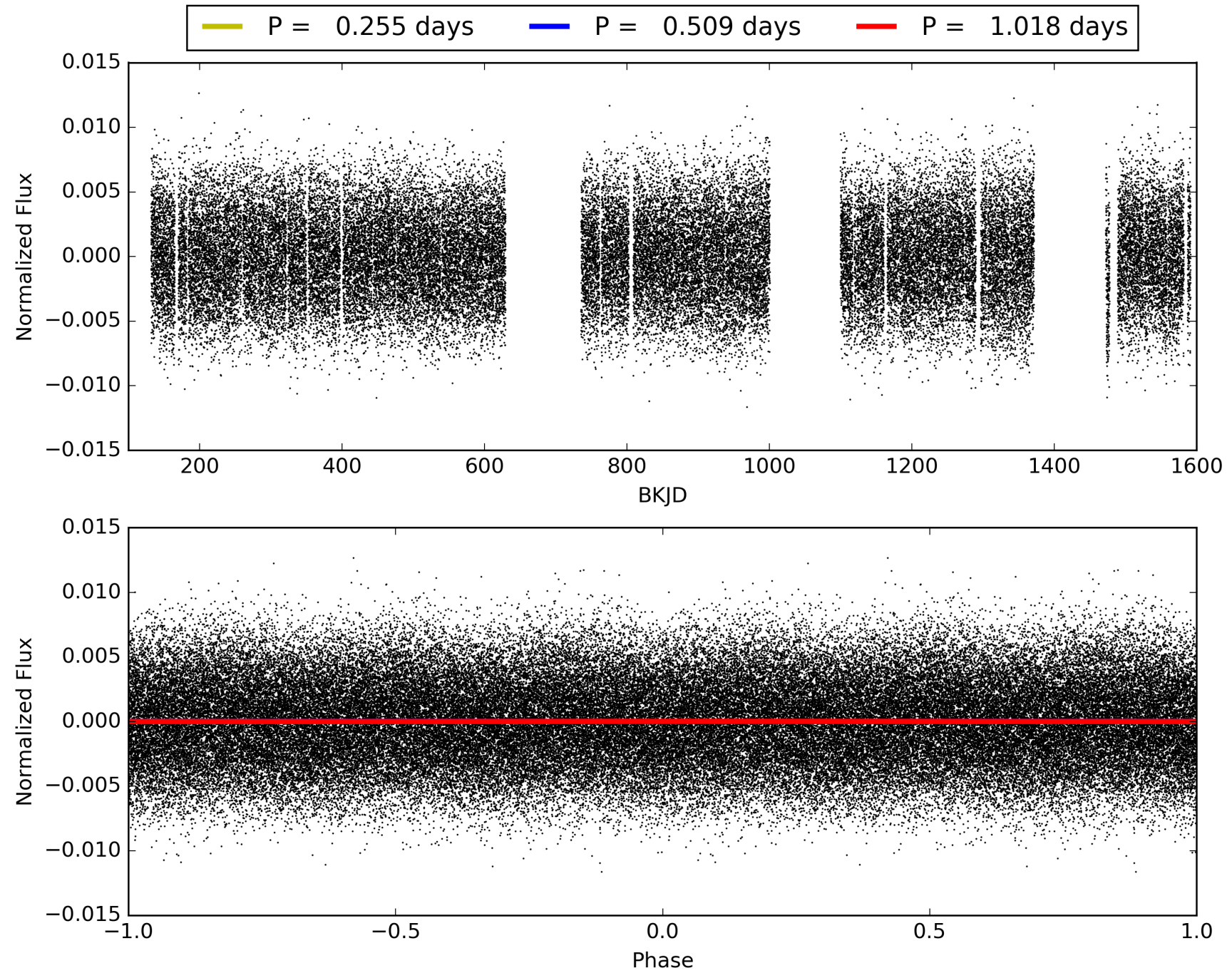
**ShortPeriod-sig: 0.0% [0.00 $\sigma$ ]**  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.95 [1876/1975]  
GhostDiagnostic-chr: 1.267  
Centroid-sig: 1.4%  
Centroid-so: 0.343 arcsec [2.40 $\sigma$ ]  
OotOffset-rm: 0.215 arcsec [0.50 $\sigma$ ]  
KicOffset-rm: 0.202 arcsec [0.34 $\sigma$ ]  
OotOffset-st: 4/1/4/5 [14]  
KicOffset-st: 4/1/4/5 [14]  
DiffImageQuality-fgm: 0.86 [12/14]  
DiffImageOverlap-fno: 0.00 [0/14]

# TCE 010293818-01, PDC Light Curves





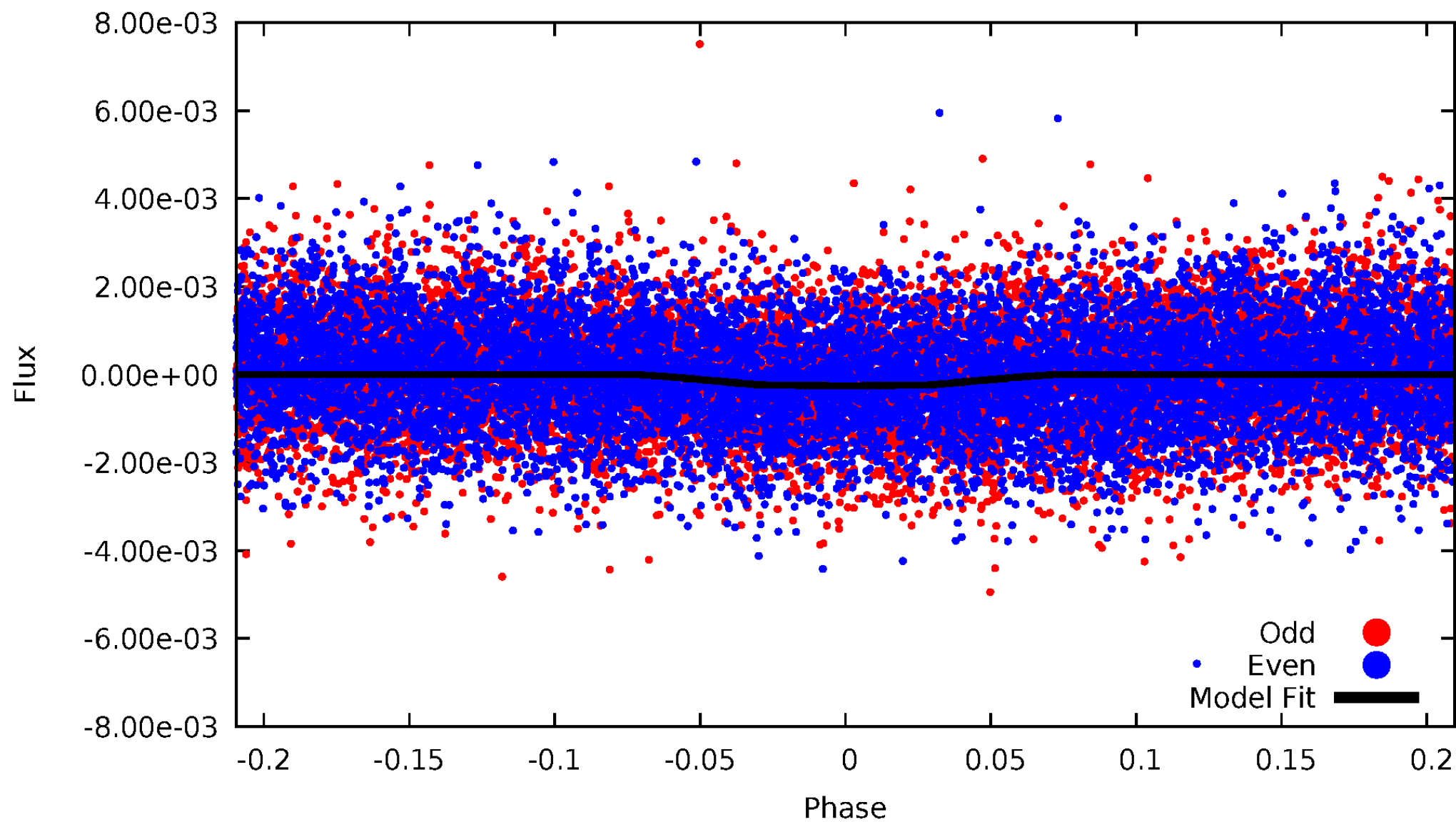
TCE 010293818-01





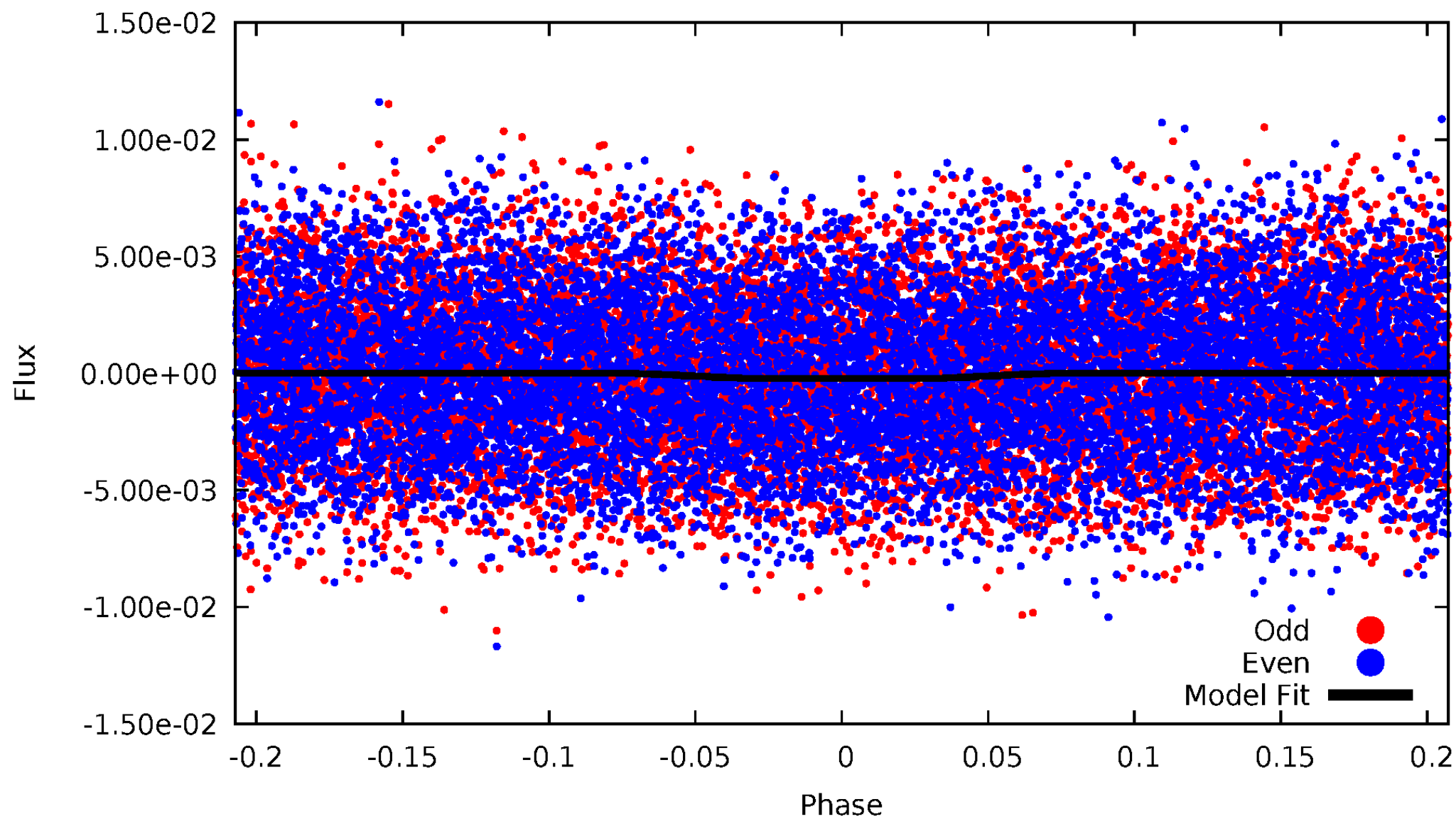
# DV Odd/Even

TCE 010293818-01



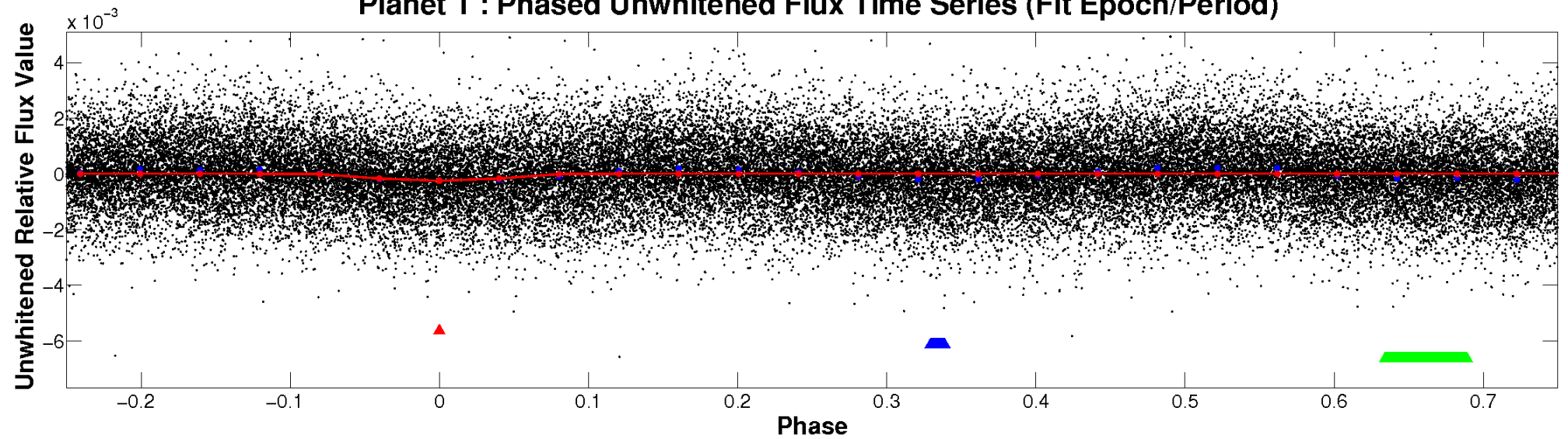
# ALT Odd/Even

TCE 010293818-01

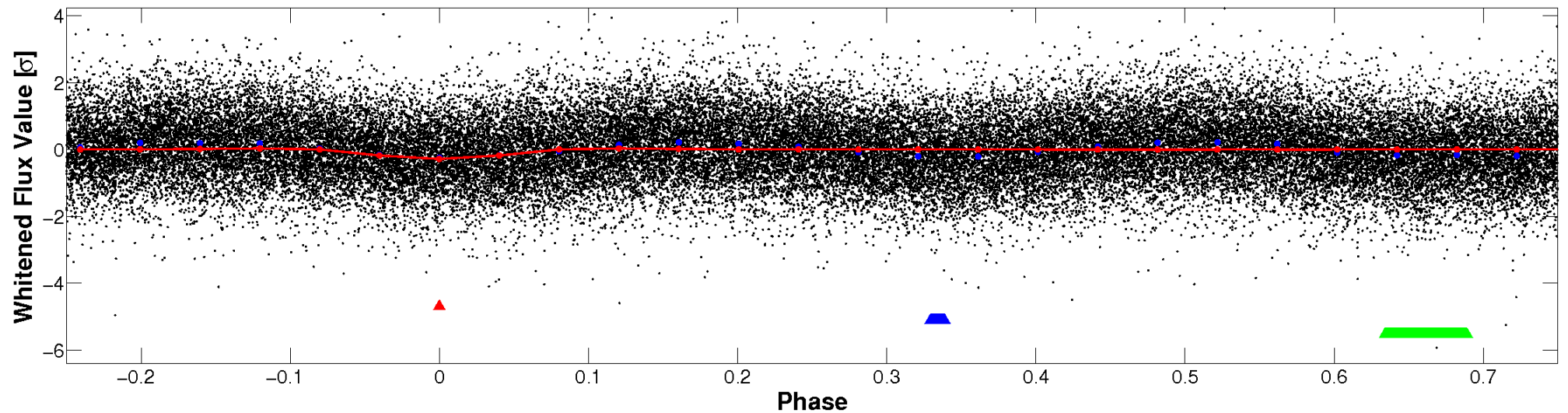


# Non-Whitened Vs. Whitened Light Curve

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



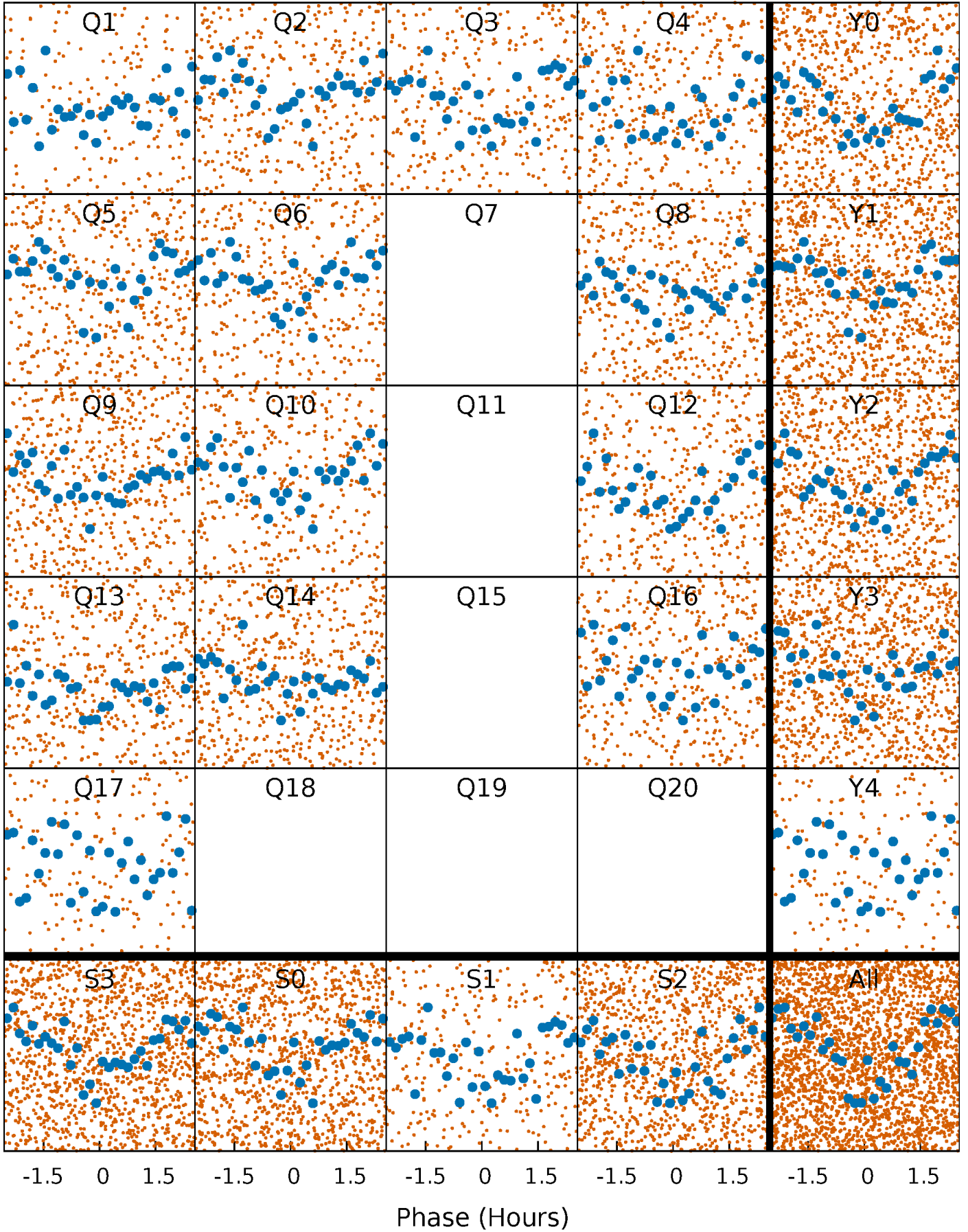
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





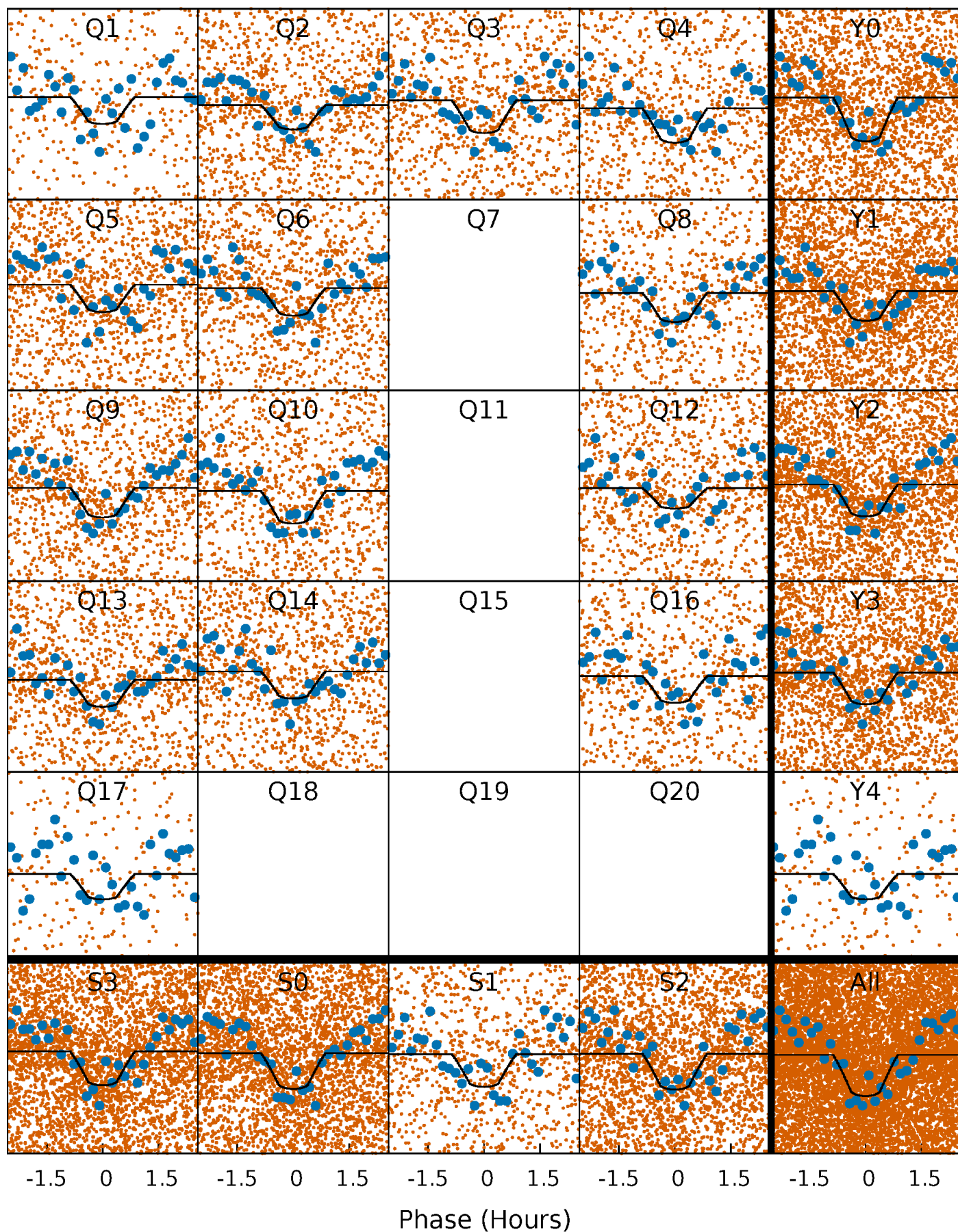
# PDC Quarter-Phased Transit Curves

TCE 010293818-01   P= 0.509102 Days    $T_0=131.527117$  (BKJD)



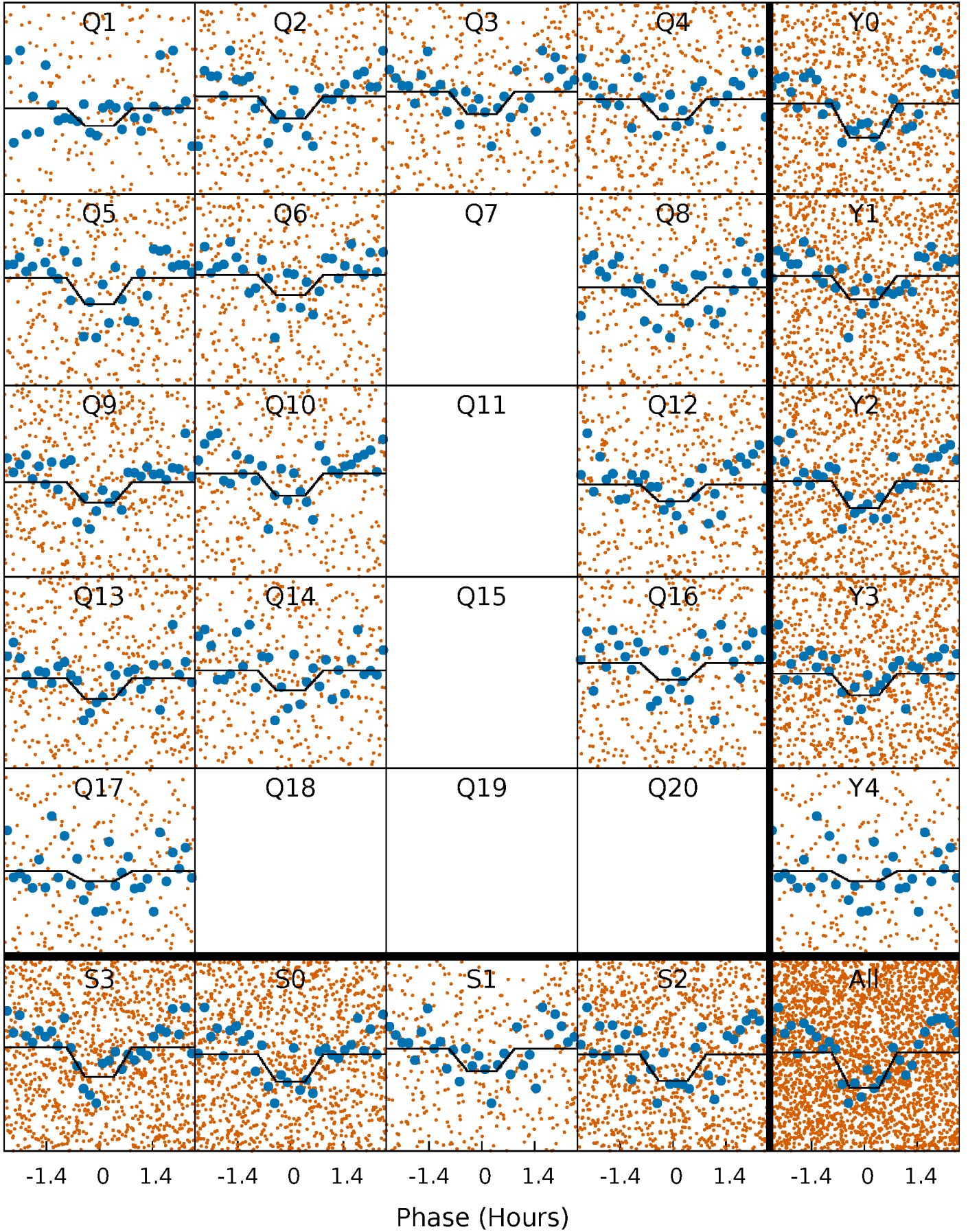
# DV Quarter-Phased Transit Curves

TCE 010293818-01 P= 0.509102 Days  $T_0=131.527117$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 010293818-01 P= 0.509103 Days  $T_0=131.526390$  (BKJD)

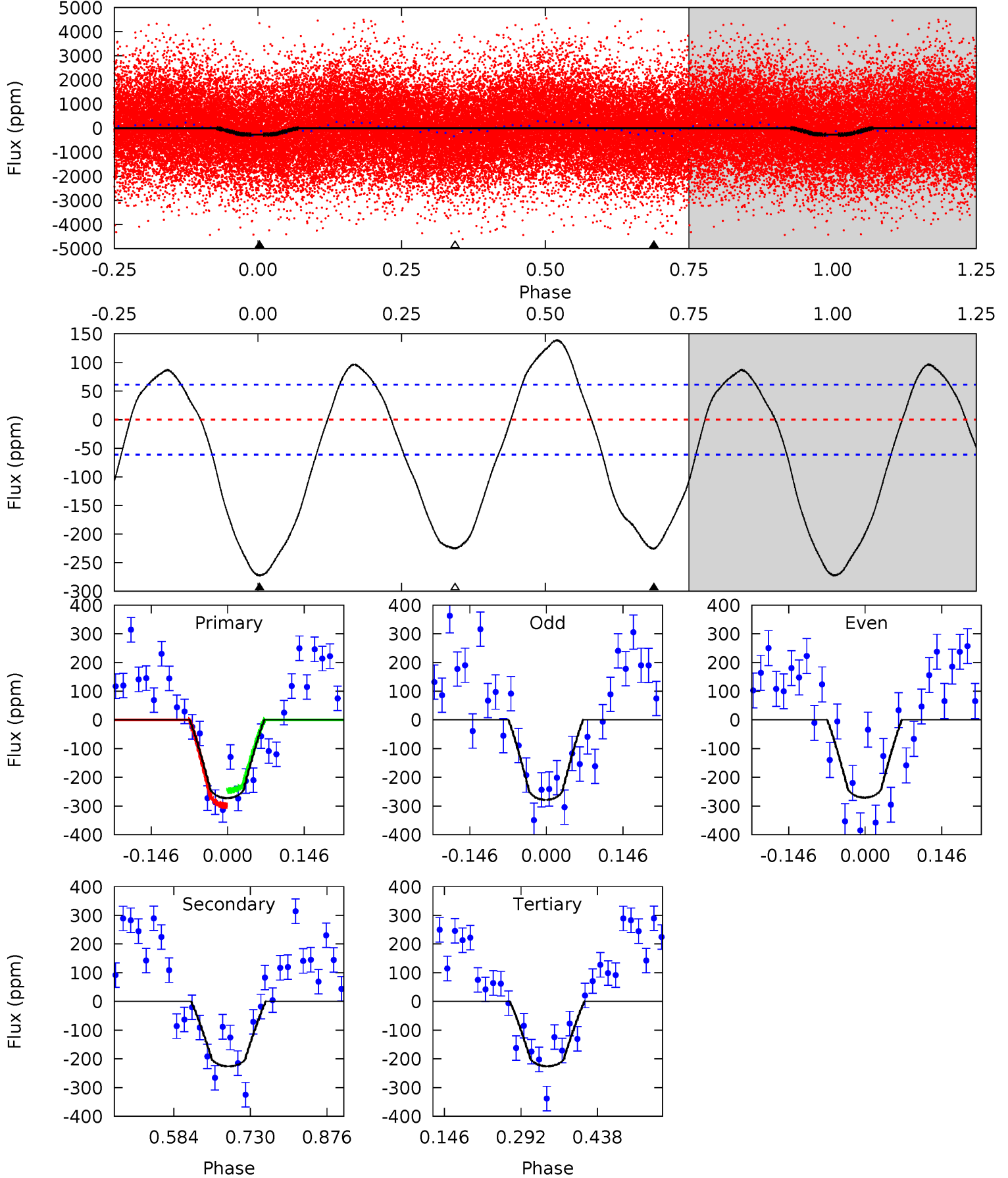




# DV Model-Shift Uniqueness Test

010293818-01, P = 0.509102 Days, E = 131.018015 Days

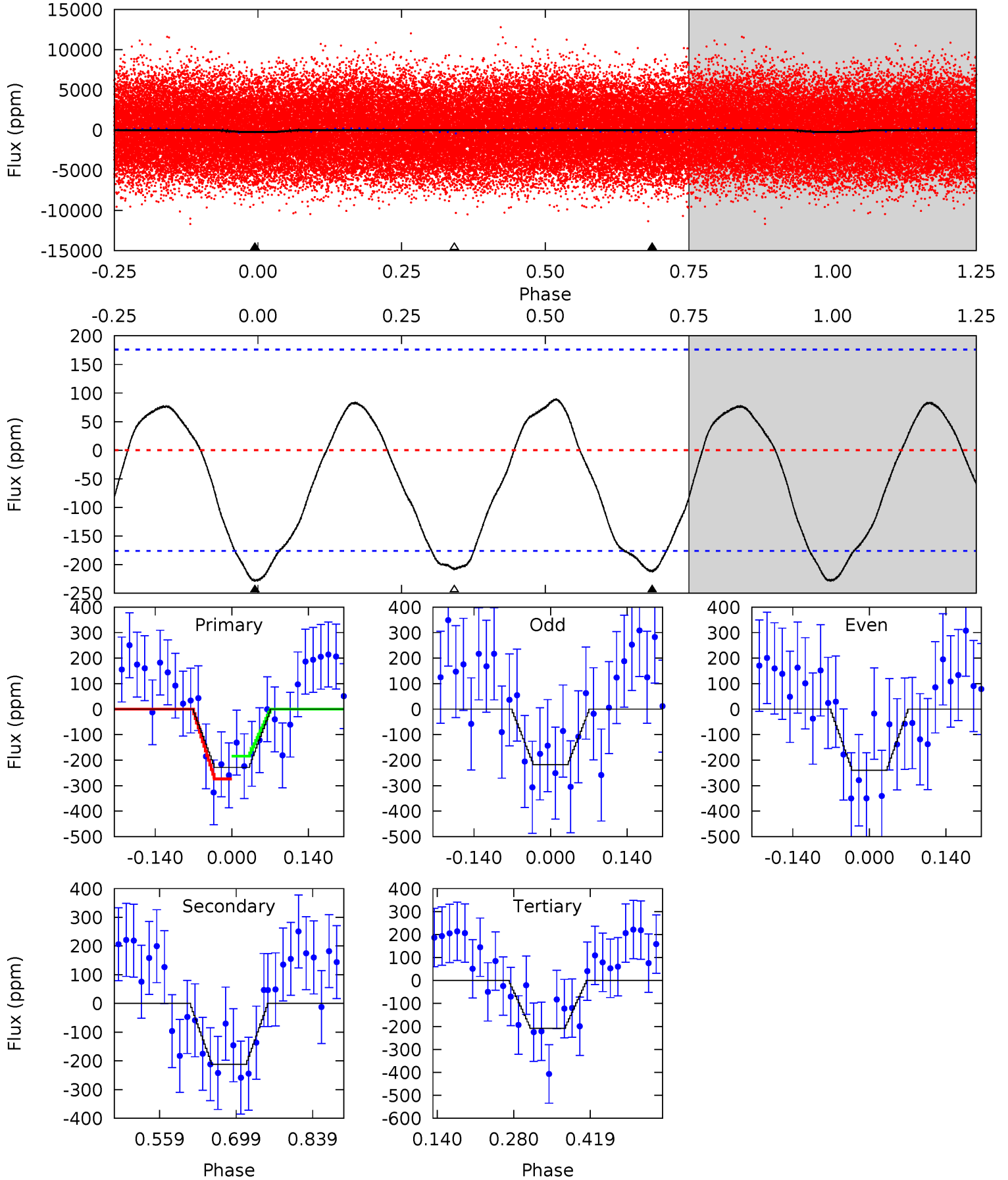
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.9	16.5	16.5	0	4.48	1.45	9.03	3.45	19.9	0.03	16.5	0.29	1.01	0.34	1.91



# Alt Model-Shift Uniqueness Test

010293818-01, P = 0.509103 Days, E = 131.017287 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
5.84	5.43	5.33	0	4.49	1.48	2.69	0.52	5.84	0.10	5.43	0.29	0.98	0.28	1.13



### Stellar Parameters For KIC 010293818

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7872^{+216}_{-351}$	$3.923^{+0.247}_{-0.133}$	$0.070^{+0.250}_{-0.400}$	$2.542^{+0.508}_{-0.826}$	$1.973^{+0.249}_{-0.404}$	$0.169^{+0.255}_{-0.066}$
	+3%/-4%	+6%/-3%	+357%/-571%	+20%/-32%	+13%/-20%	+151%/-39%
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 010293818-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-226 \pm 14$	$4.13^{+2.63}_{-2.31}$	$6114^{+400}_{-453}$	$7299^{+6267}_{-2078}$	$1.797^{+7.494}_{-1.129}$
Alt.	$-212 \pm 39$	$4.11^{+2.52}_{-2.21}$	$6095^{+459}_{-525}$	$7060^{+5763}_{-2074}$	$1.614^{+6.123}_{-0.996}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$



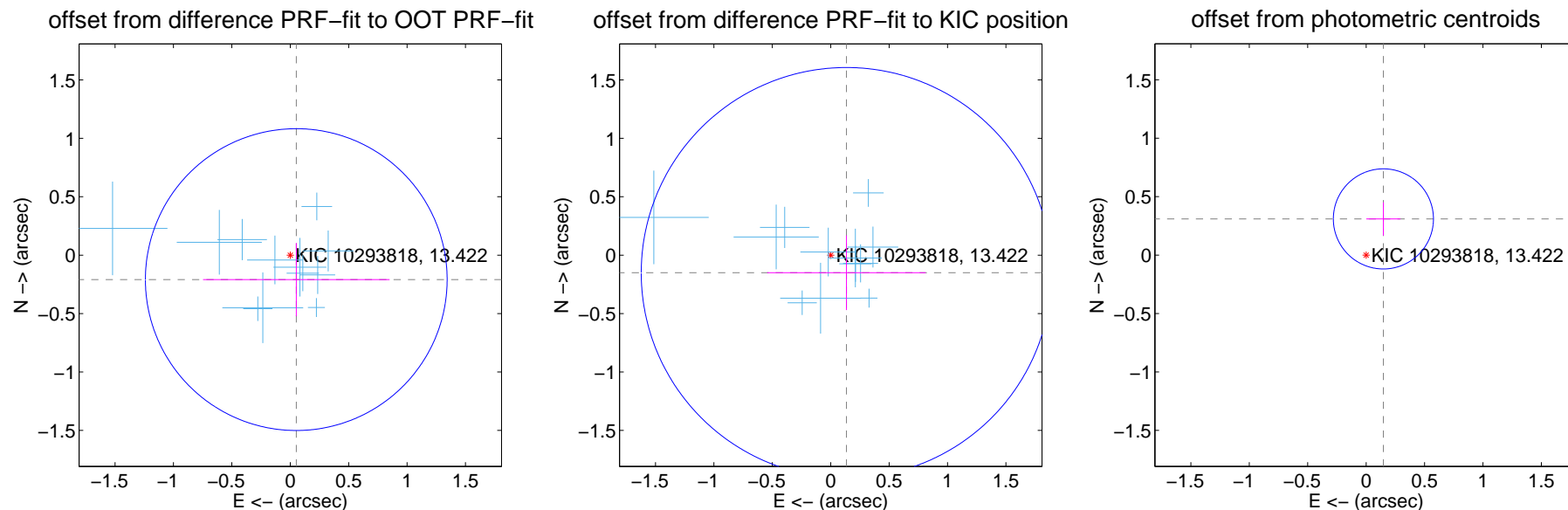
## DV Centroid Data

Supplemental centroid analysis for 010293818-01. Kepler magnitude: 13.42. Transit SNR 17.53

There are 12 quarters with good PRF difference image offsets

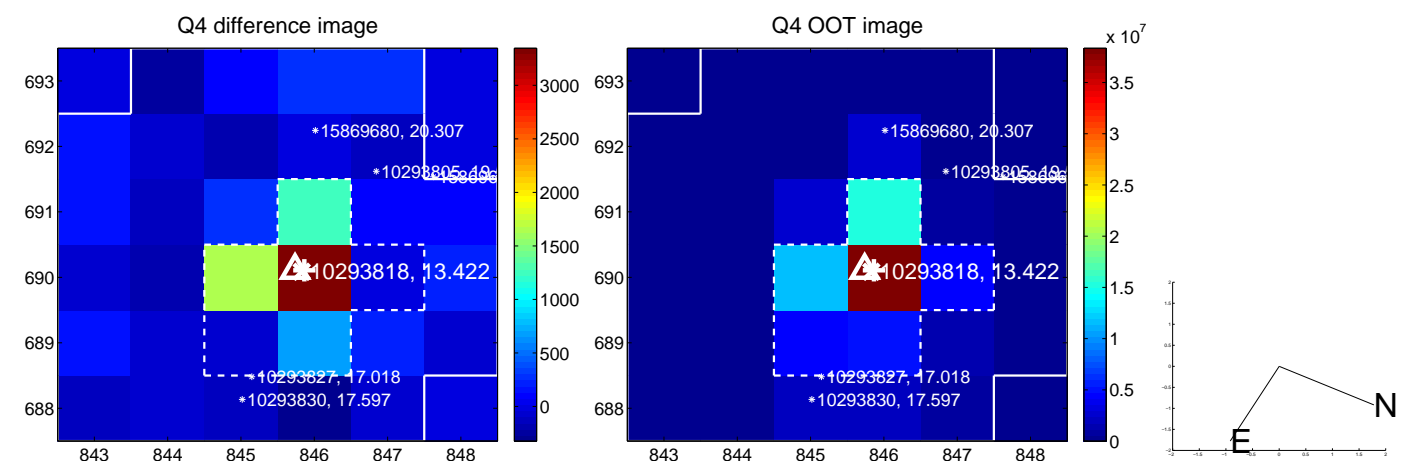
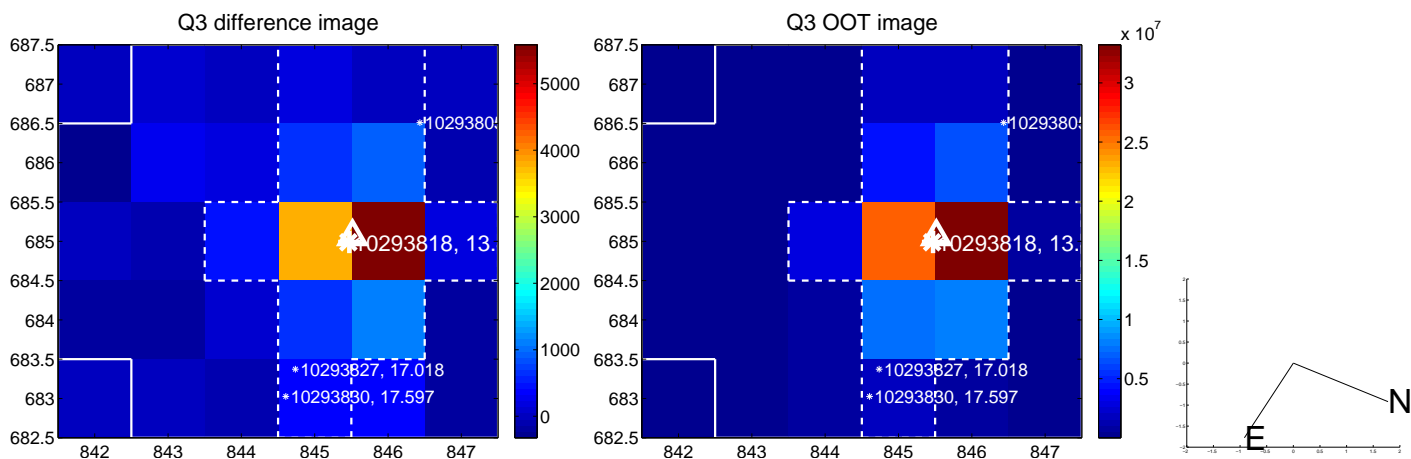
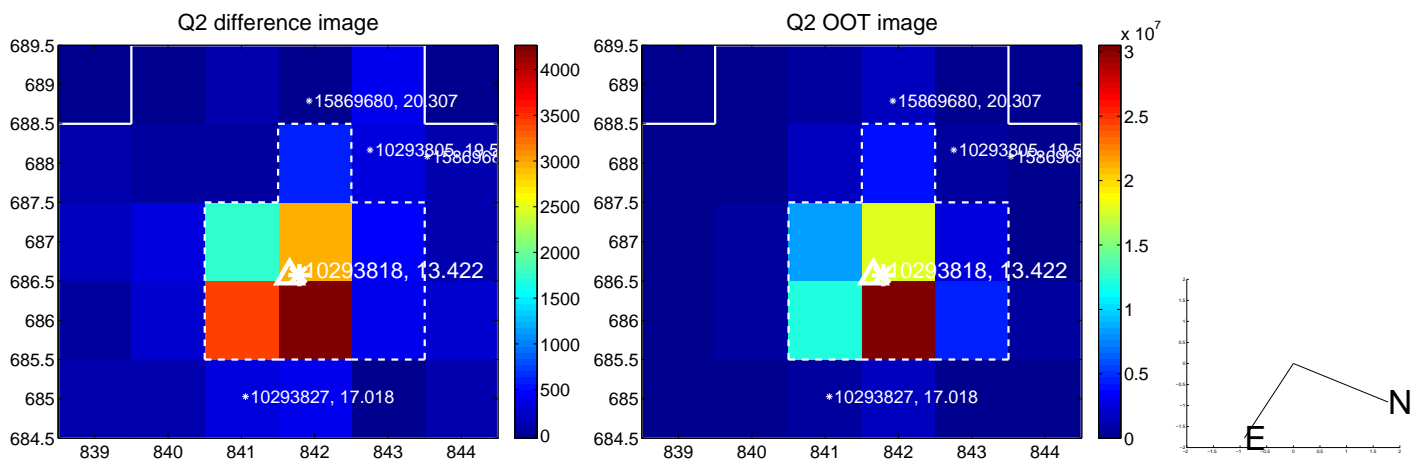
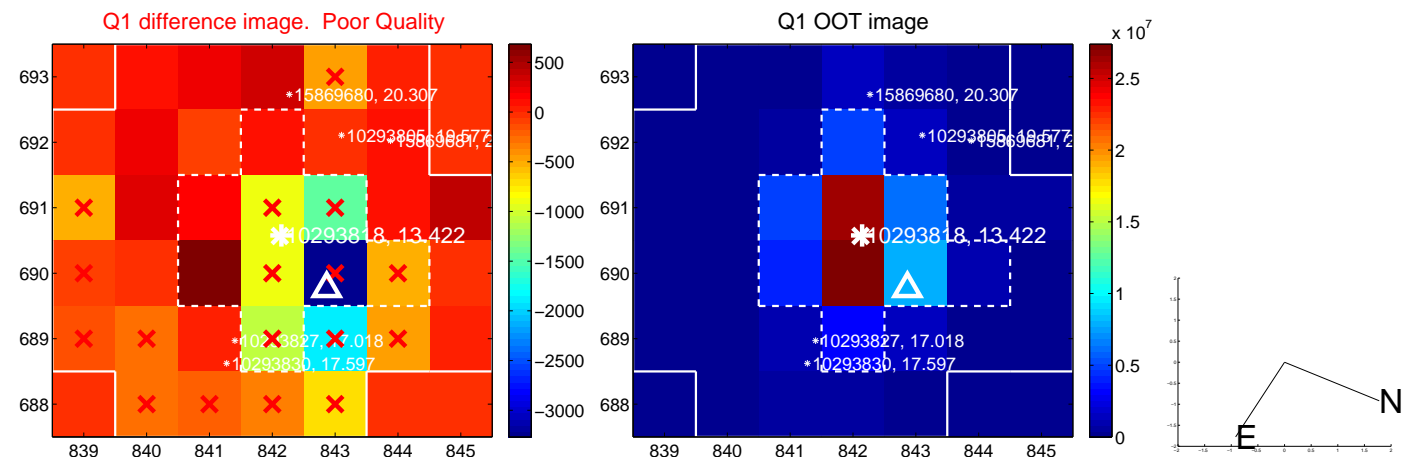
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.215 \pm 0.431$	0.50	$-0.051 \pm 0.799$	$-0.209 \pm 0.313$
PRF-fit source offset from KIC position	$0.202 \pm 0.586$	0.34	$-0.135 \pm 0.679$	$-0.151 \pm 0.320$
photometric centroid source offset	$0.34 \pm 0.14$	2.40	$-0.15 \pm 0.15$	$0.31 \pm 0.14$

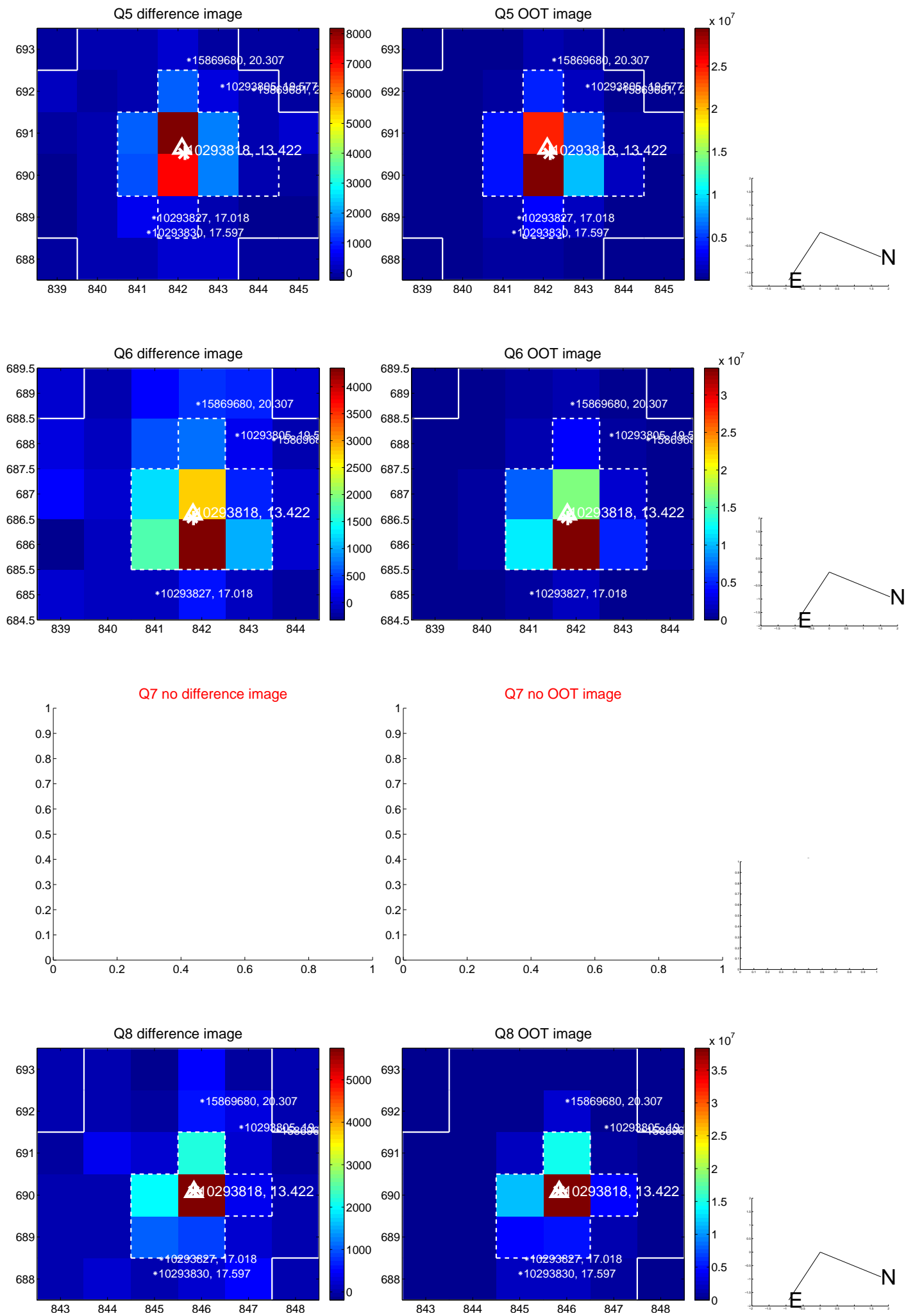


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

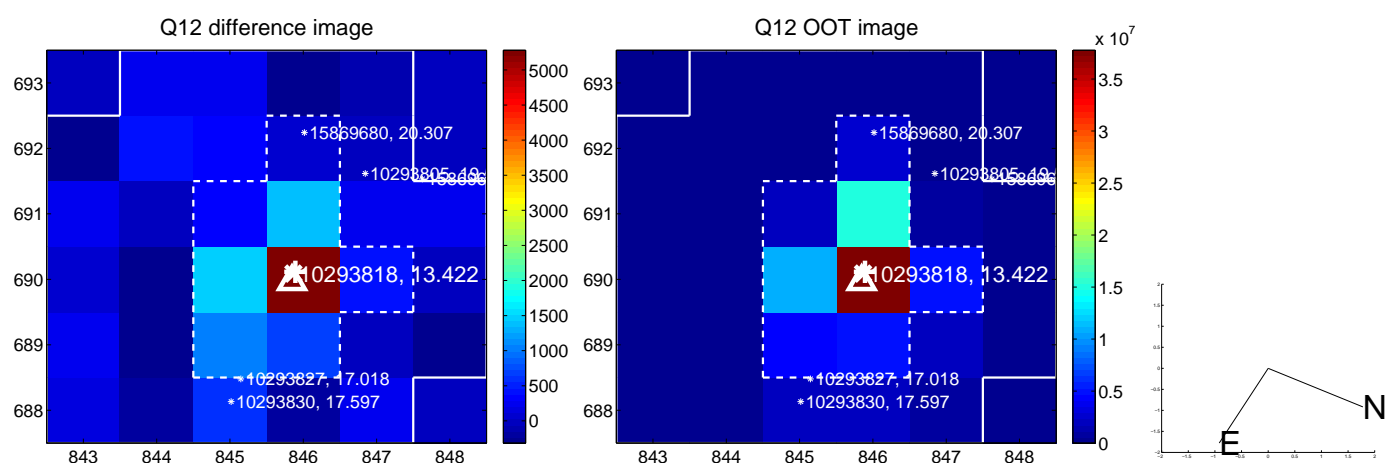
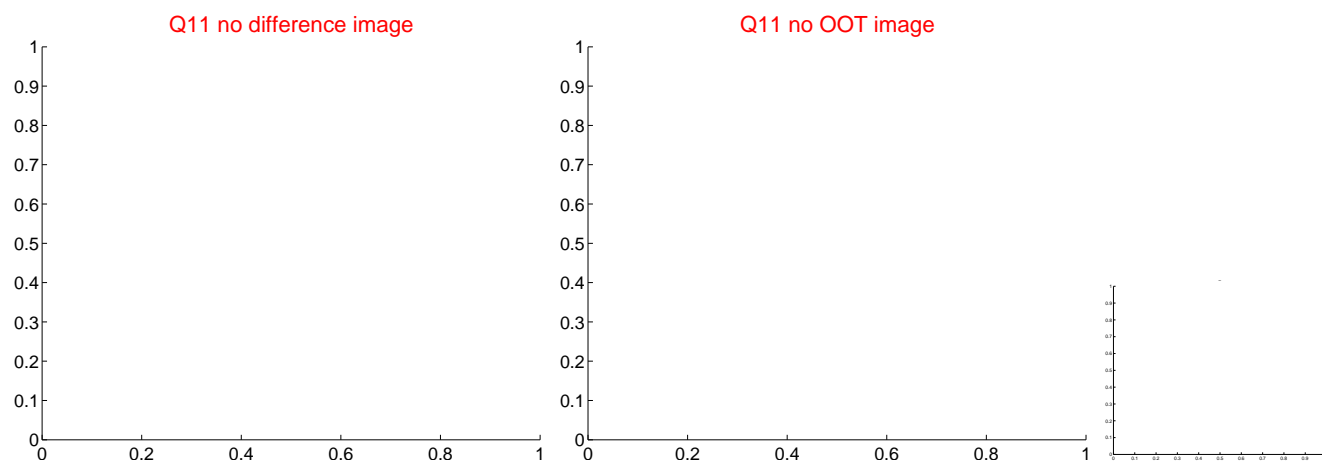
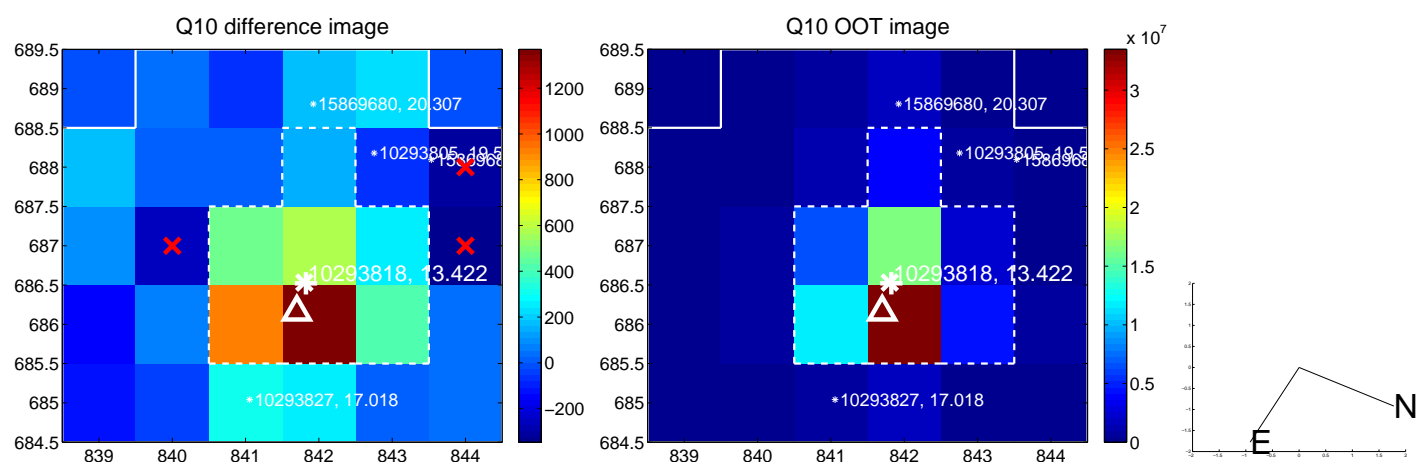
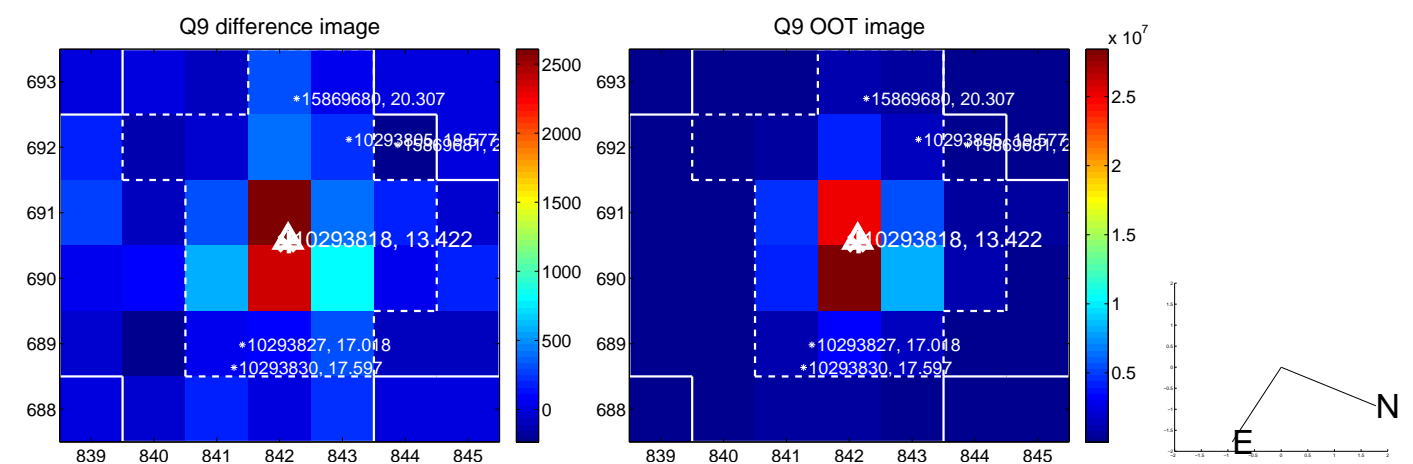


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

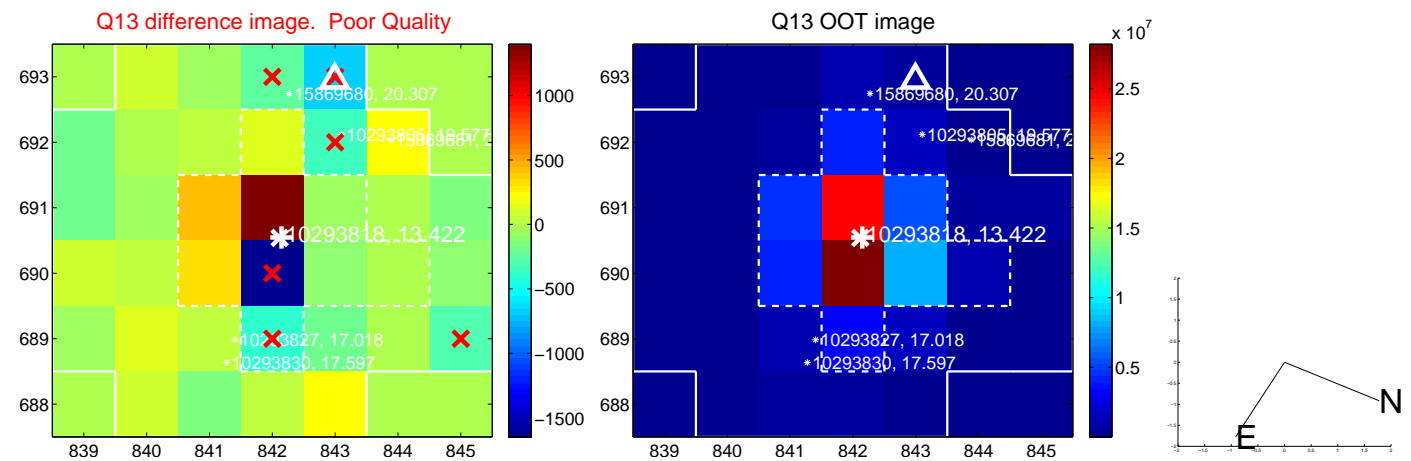




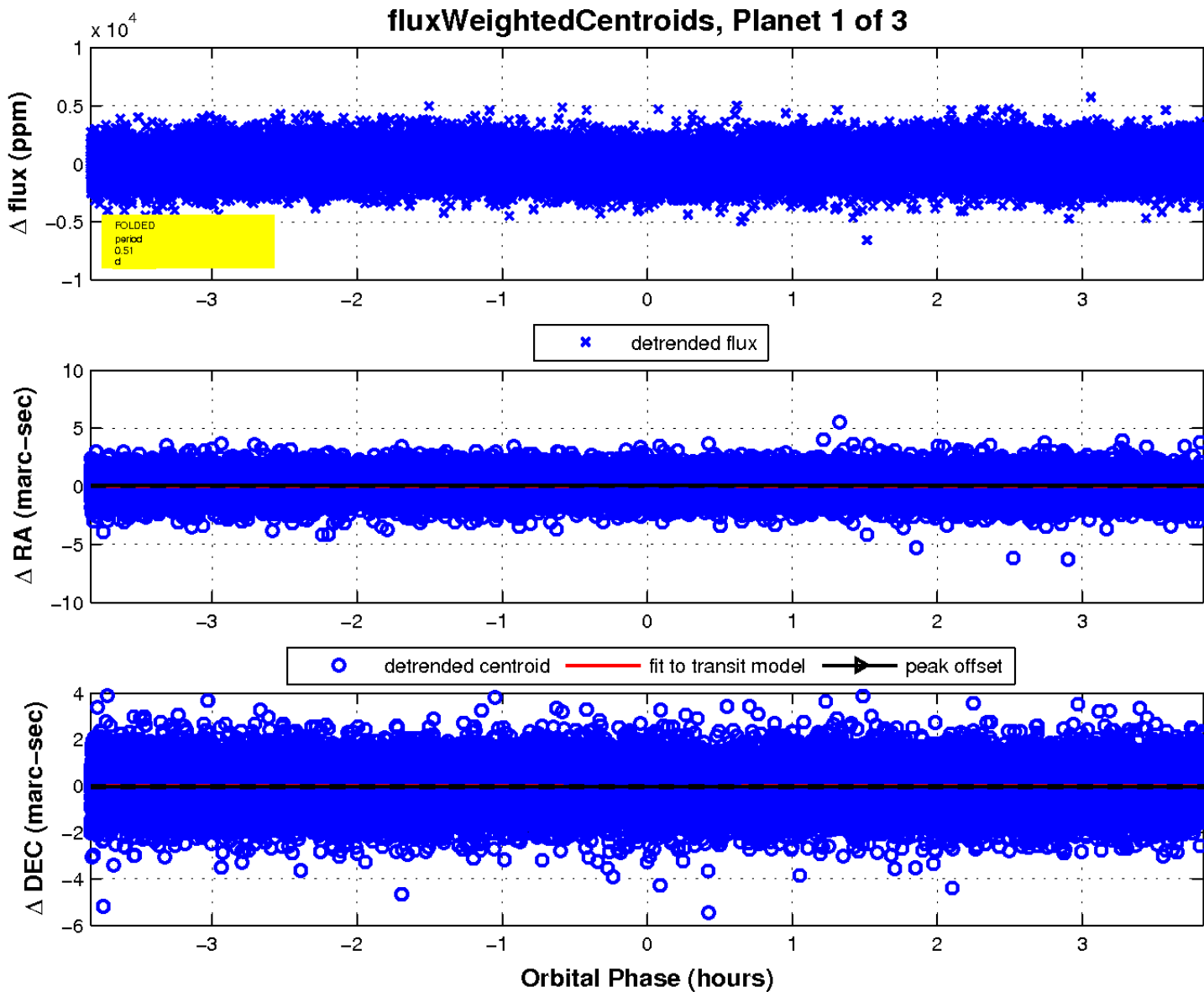
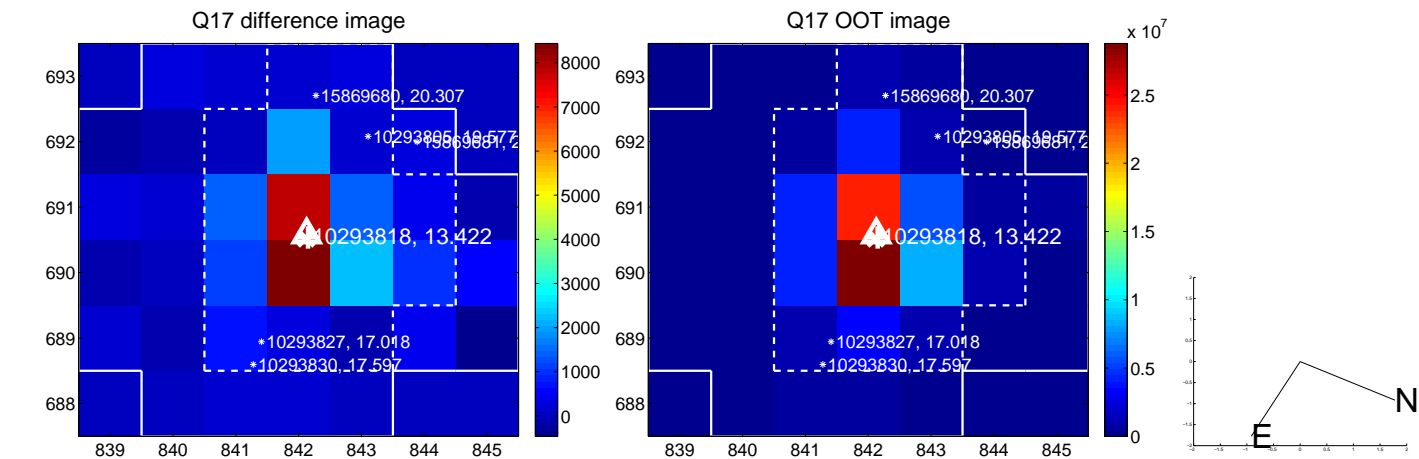
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



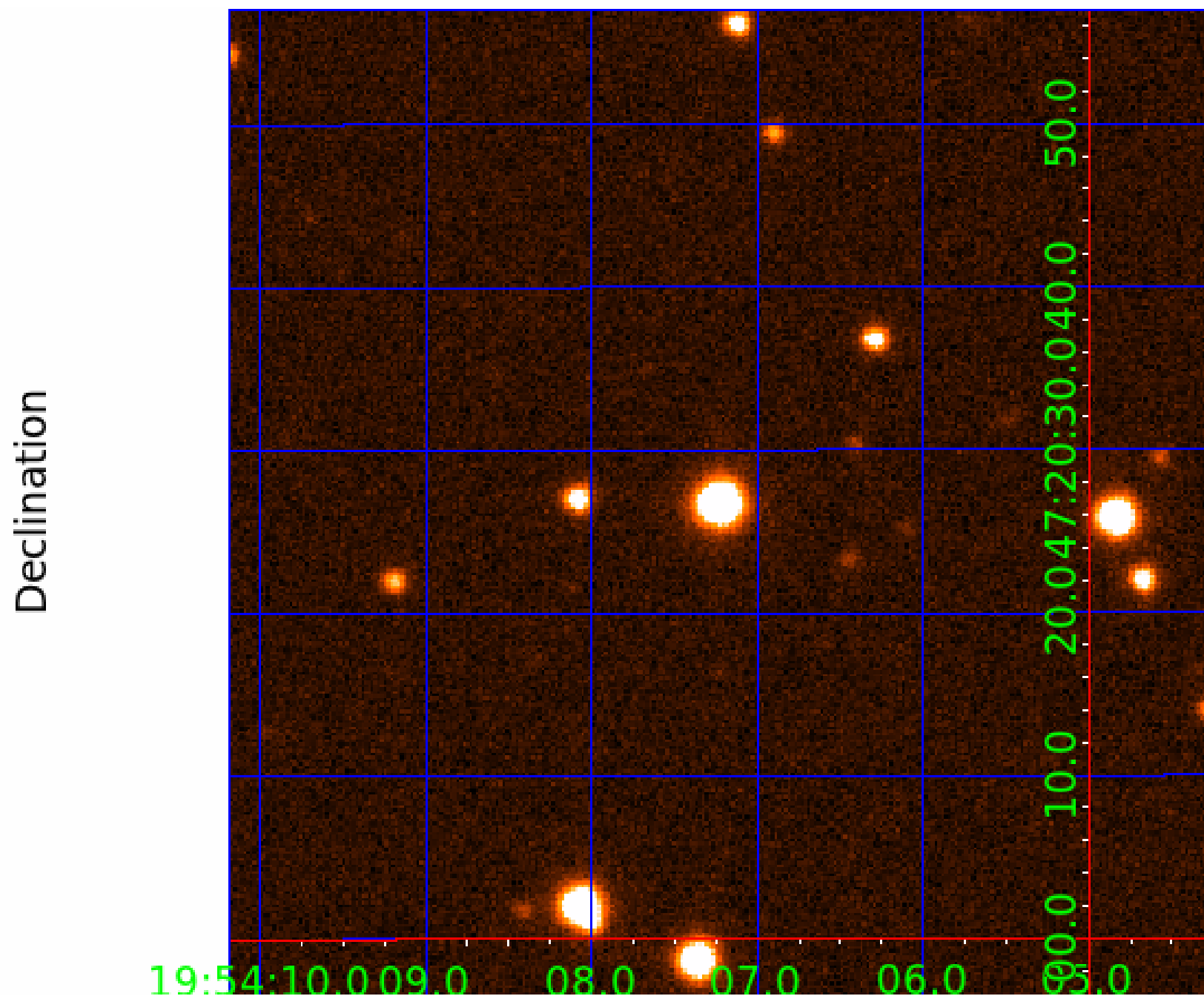
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 010293818

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010293818-01	OBS	No	0.509102	131.527117	251.1	1.280	15.5	17.5	2.54	7872	4.11	90701.08
010293818-02	OBS	No	0.509100	131.699637	196.7	1.653	12.4	14.8	2.54	7872	4.15	90701.49
010293818-03	OBS	No	0.509092	131.877993	155.1	1.458	9.1	11.0	2.54	7872	3.69	90703.42

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010293818-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010293818-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
010293818-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

**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.

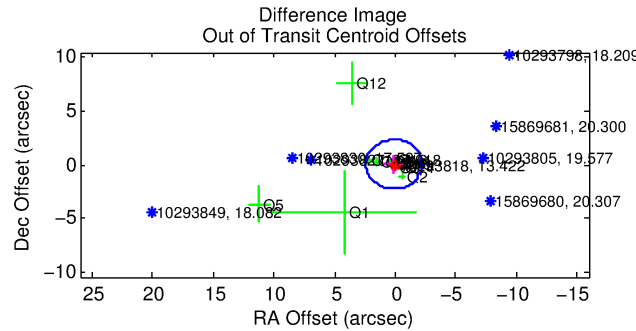
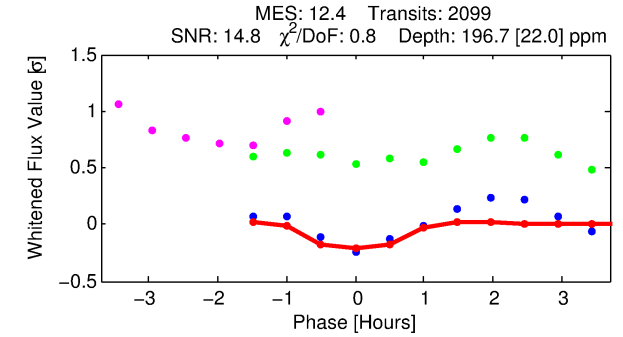
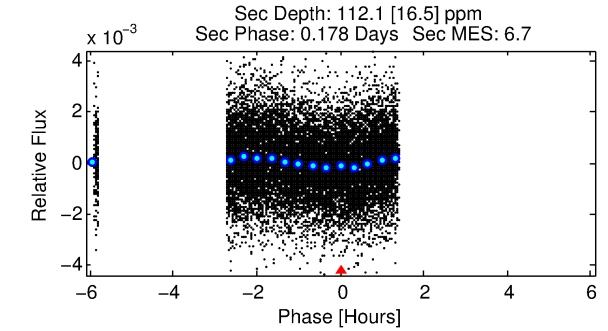
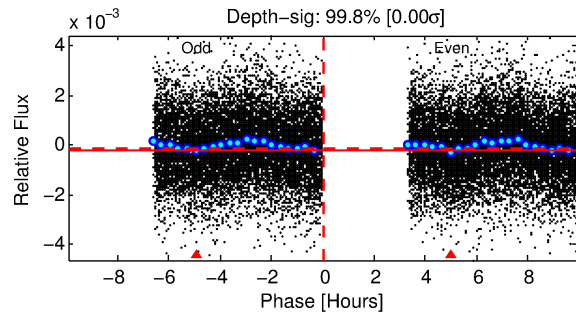
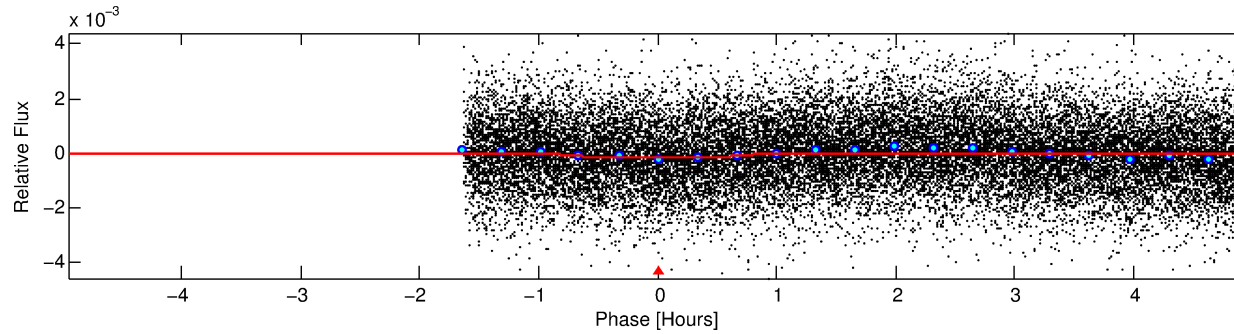
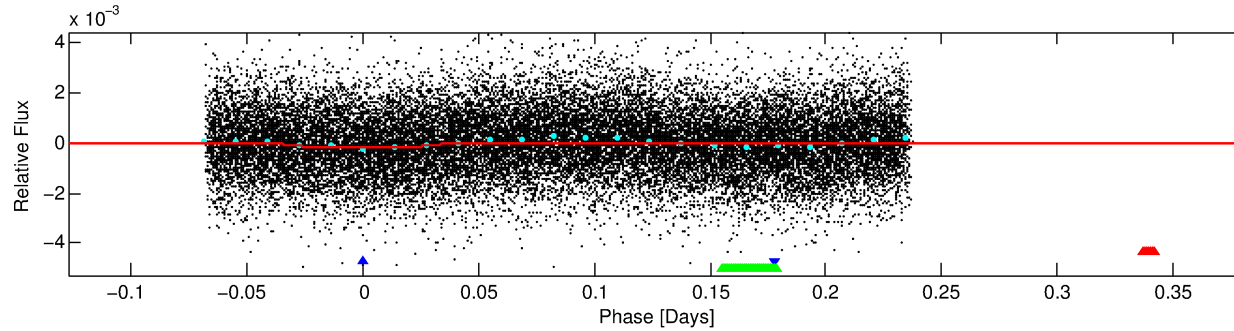
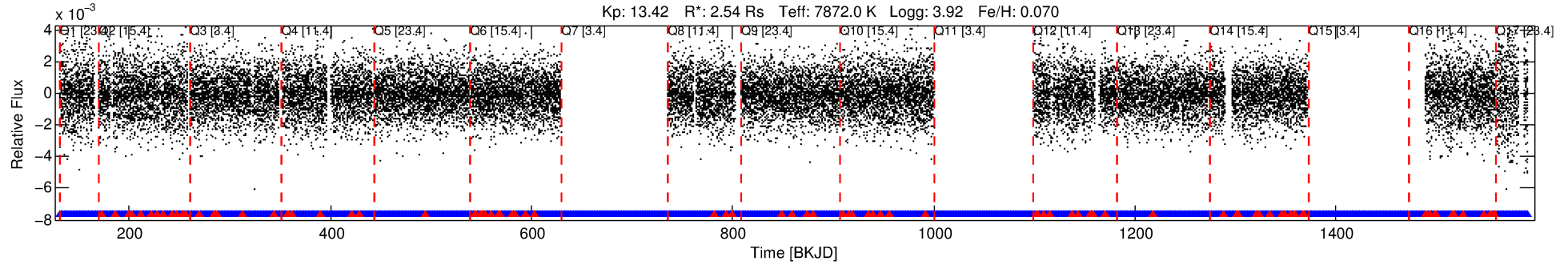
## Ephemeris Match Information For 010293818-02

No Significant Match Found



# DV One-Page Summary

KIC: 10293818 Candidate: 2 of 3 Period: 0.509 d



## DV Fit Results:

Period = 0.50910 [0.00001] d  
Epoch = 131.6996 [0.0017] BKJD  
Rp/R\* = 0.0150 [0.0071]  
a/R\* = 1.45 [2.24]  
b = 0.90 [0.63]  
Seff = 90701.49 [42783.71]  
Teff = 4425 [522] K  
Rp = 4.15 [2.40] Re  
a = 0.0157 [0.0045] AU  
Ag = 0.88 [0.93] [-0.13σ]  
Teffp = 6620 [1624] K [1.29σ]

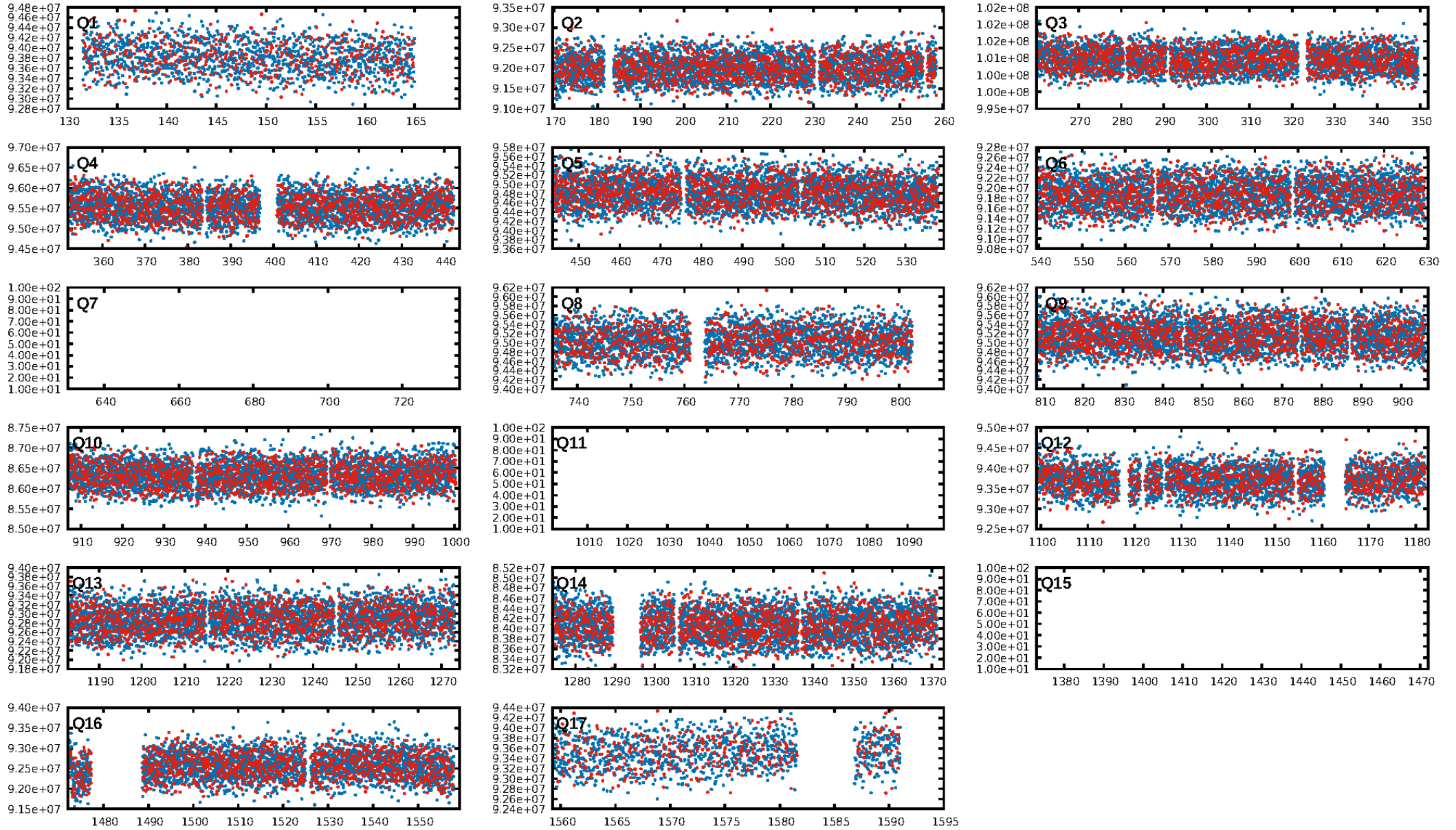
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.95 [1890/1980]  
GhostDiagnostic-chr: 1.013  
Centroid-sig: 0.0%  
Centroid-so: 1.119 arcsec [6.85σ]  
OotOffset-rm: 0.111 arcsec [0.14σ]  
KicOffset-rm: 0.123 arcsec [0.21σ]  
OotOffset-st: 4/1/4/5 [14]  
KicOffset-st: 4/1/4/5 [14]  
DiffImageQuality-fgm: 0.79 [11/14]  
DiffImageOverlap-fno: 0.00 [0/14]

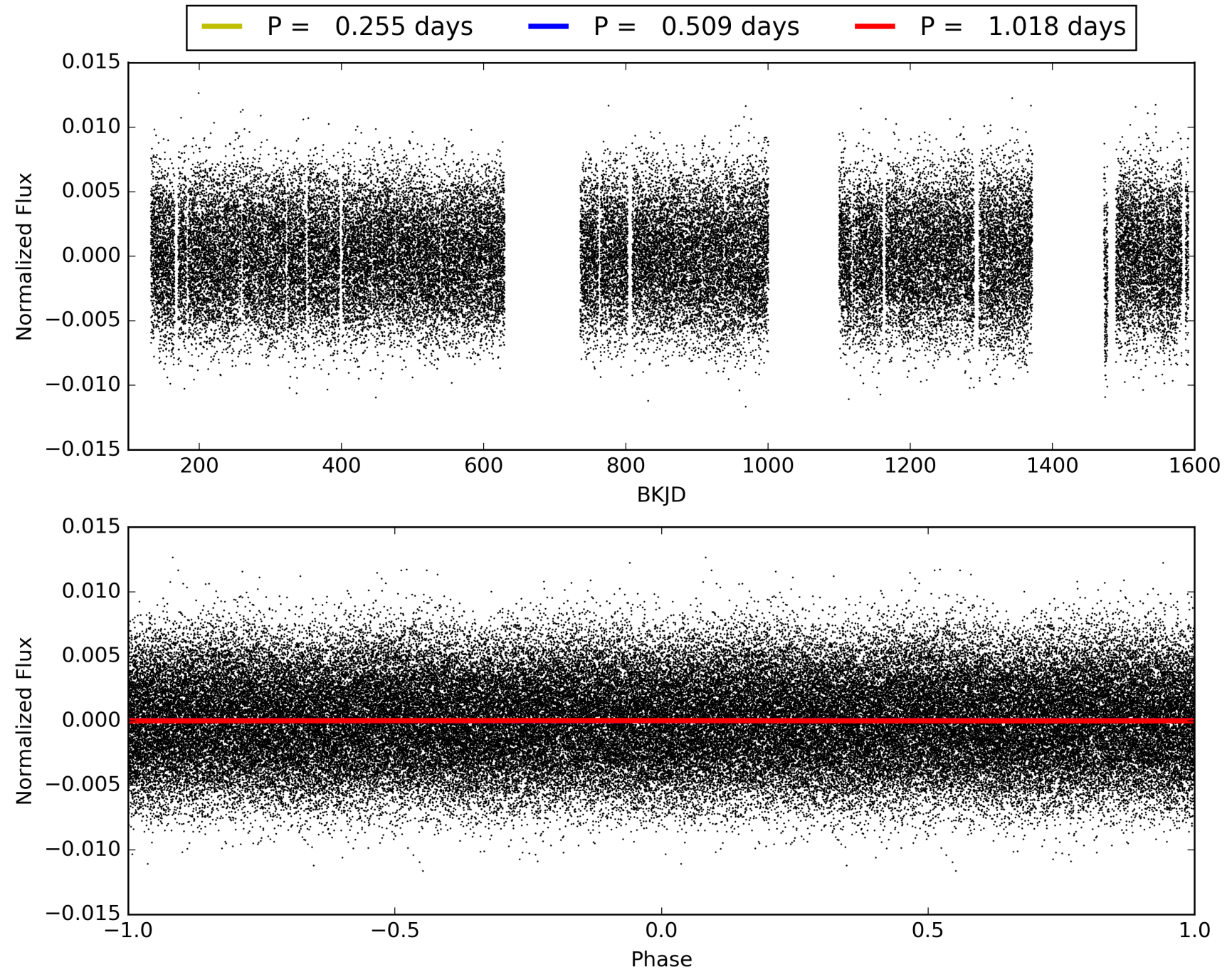
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:47:10 Z

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

# TCE 010293818-02, PDC Light Curves



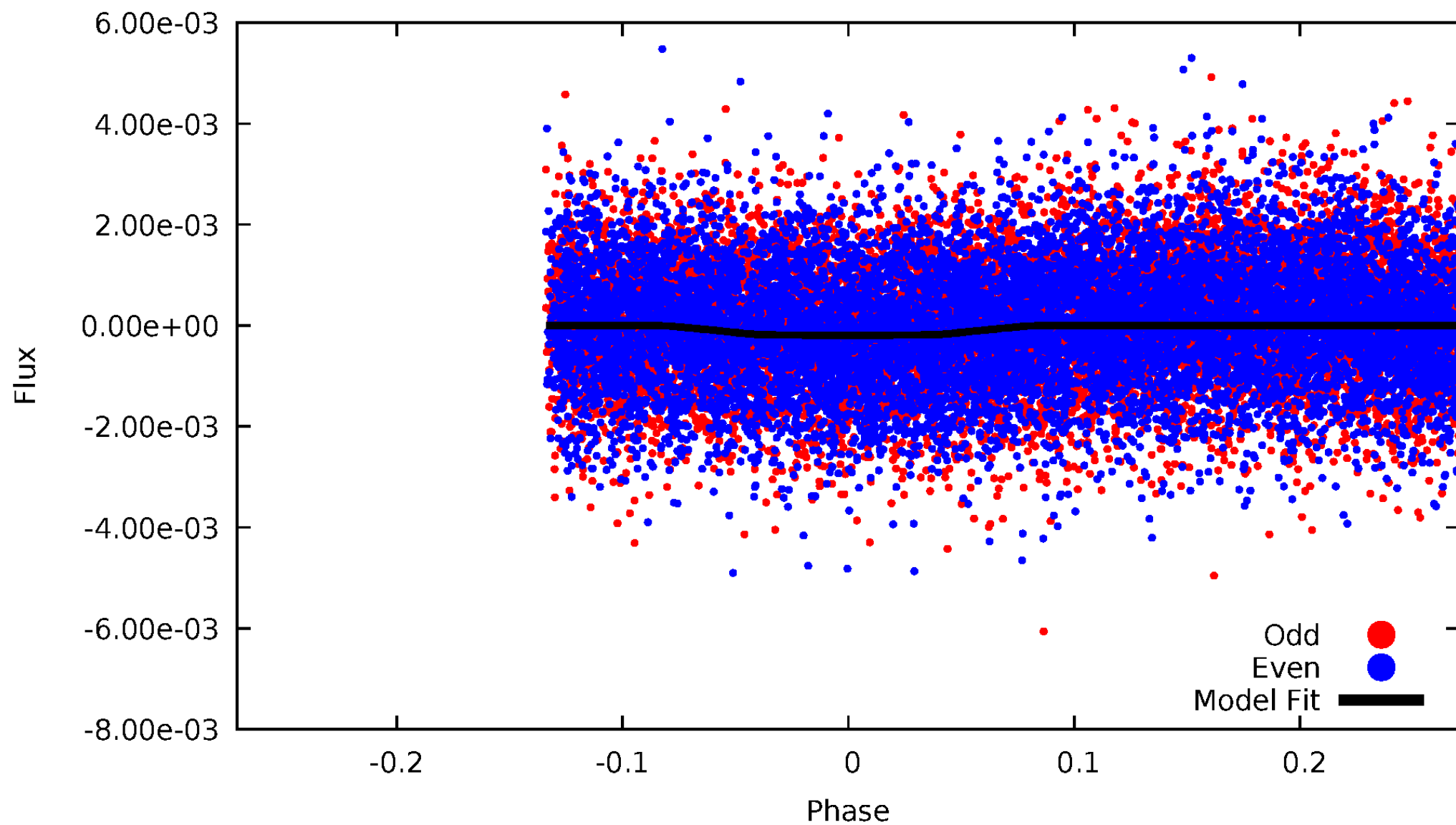
# TCE 010293818-02





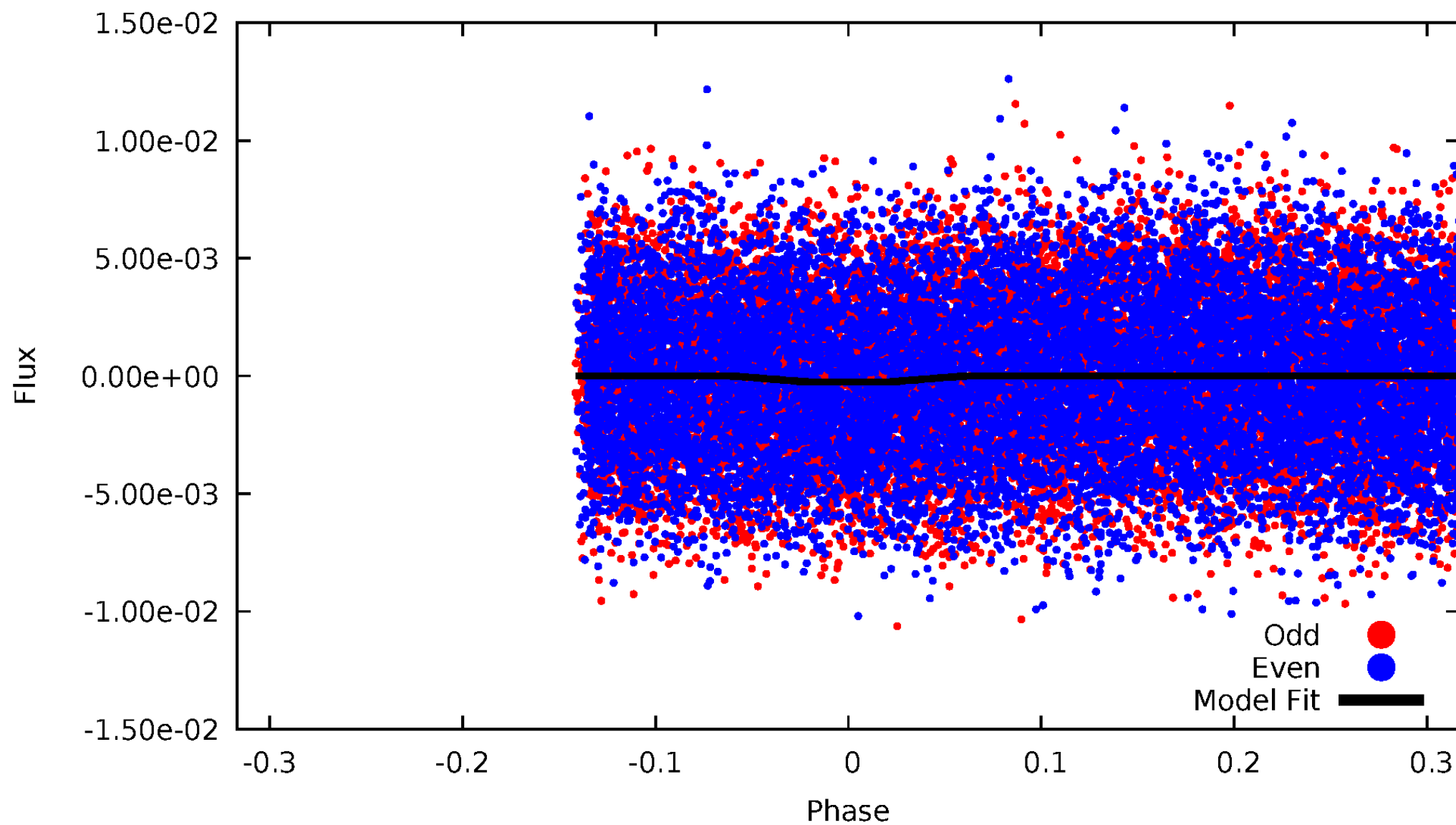
DV Odd/Even

TCE 010293818-02



# ALT Odd/Even

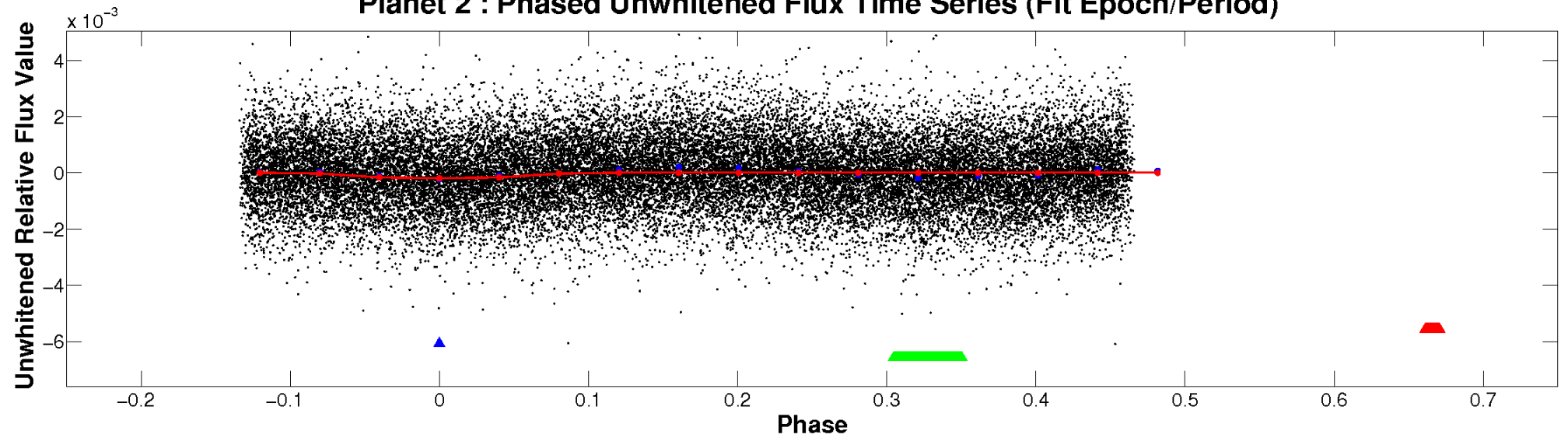
TCE 010293818-02



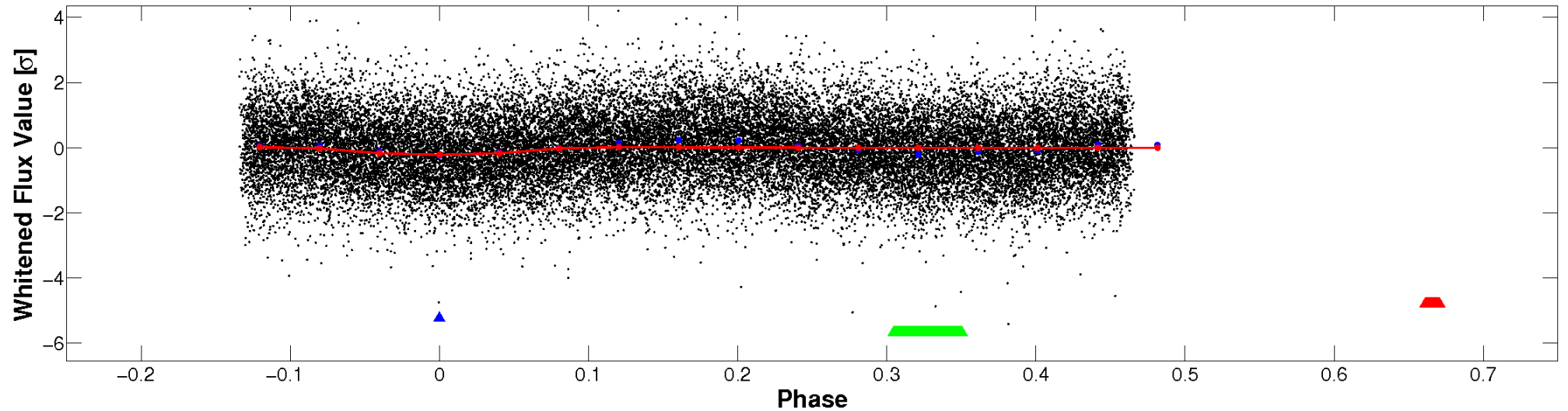


# Non-Whitened Vs. Whitened Light Curve

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

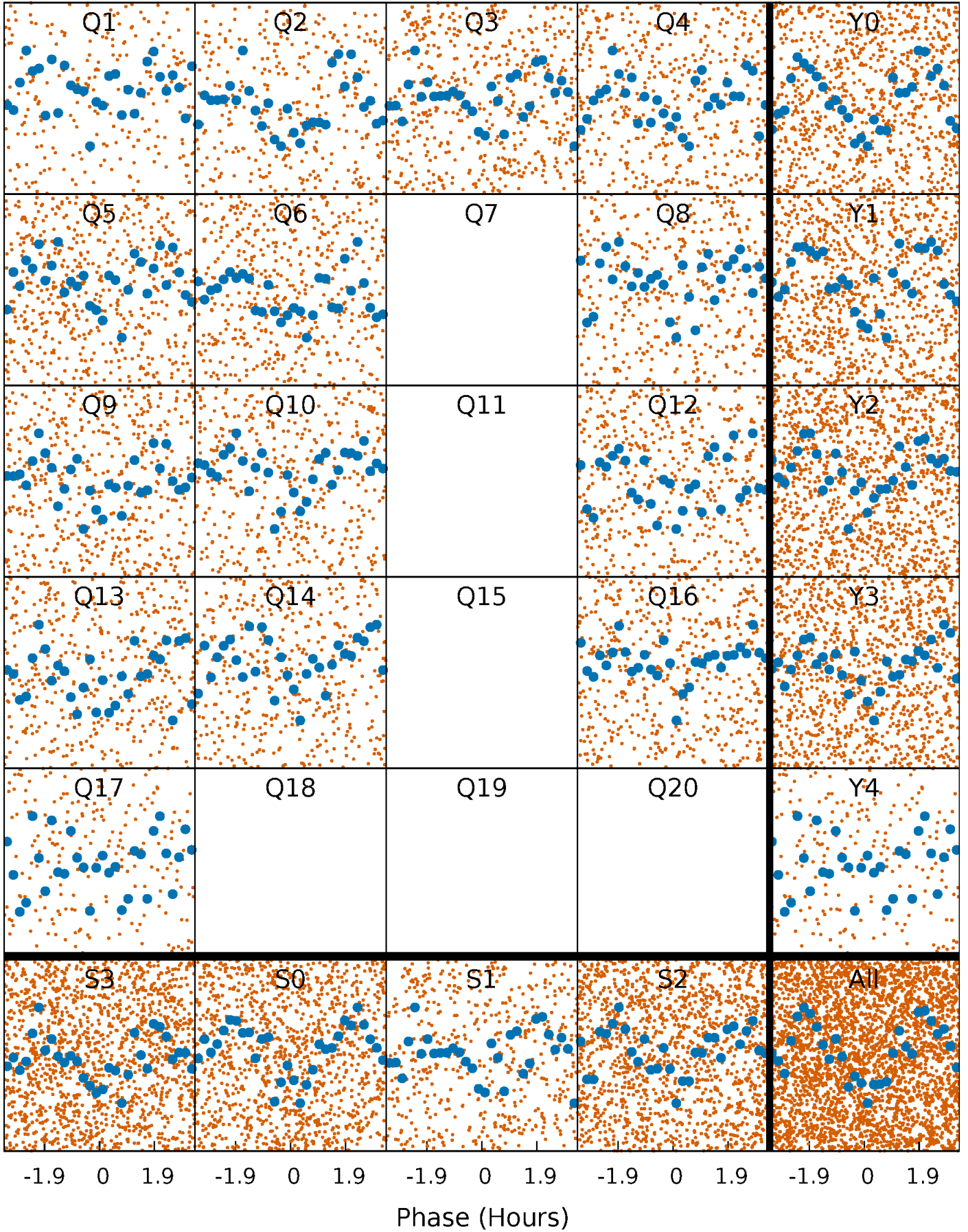


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



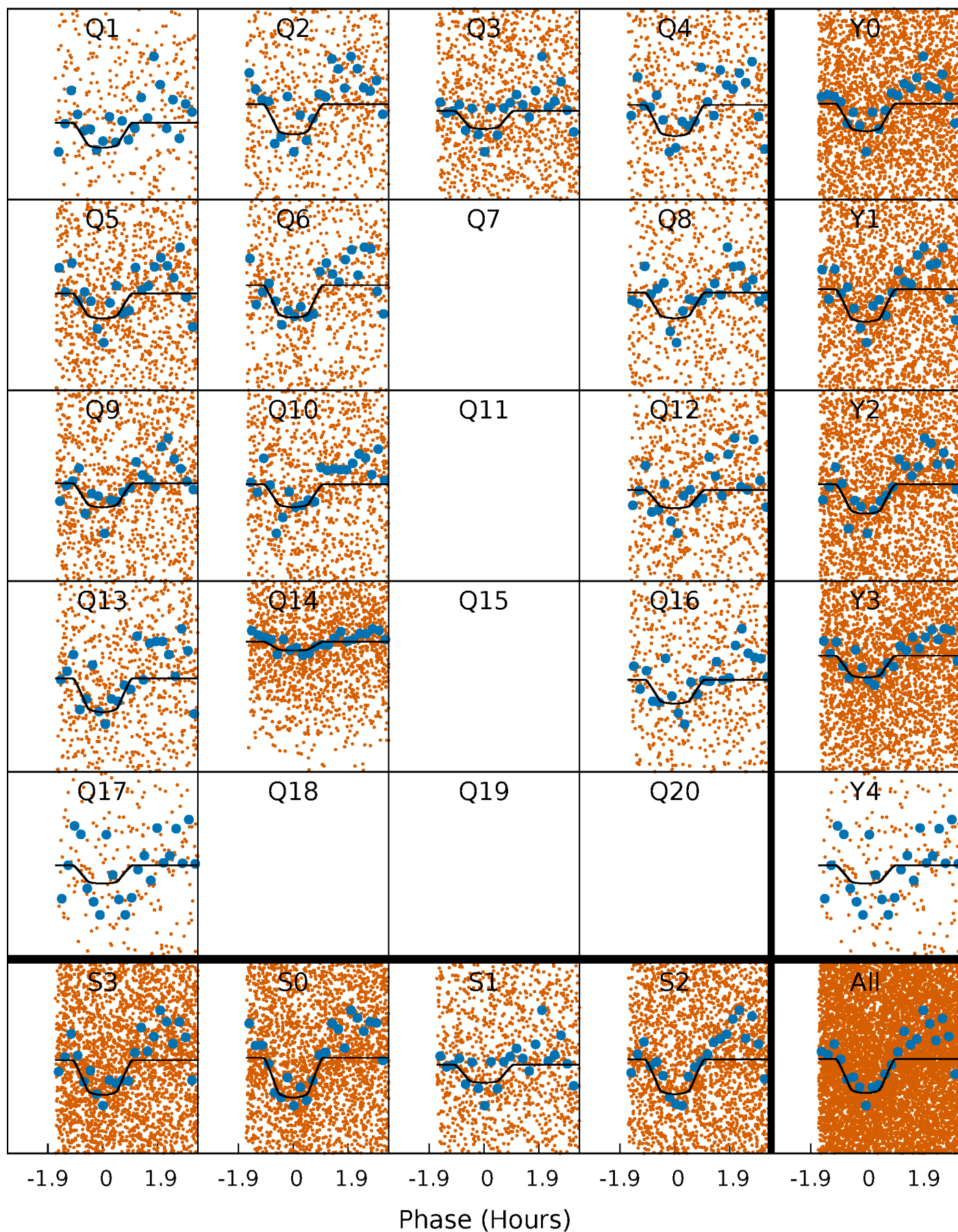
# PDC Quarter-Phased Transit Curves

TCE 010293818-02   P= 0.509100 Days    $T_0=131.699637$  (BKJD)



# DV Quarter-Phased Transit Curves

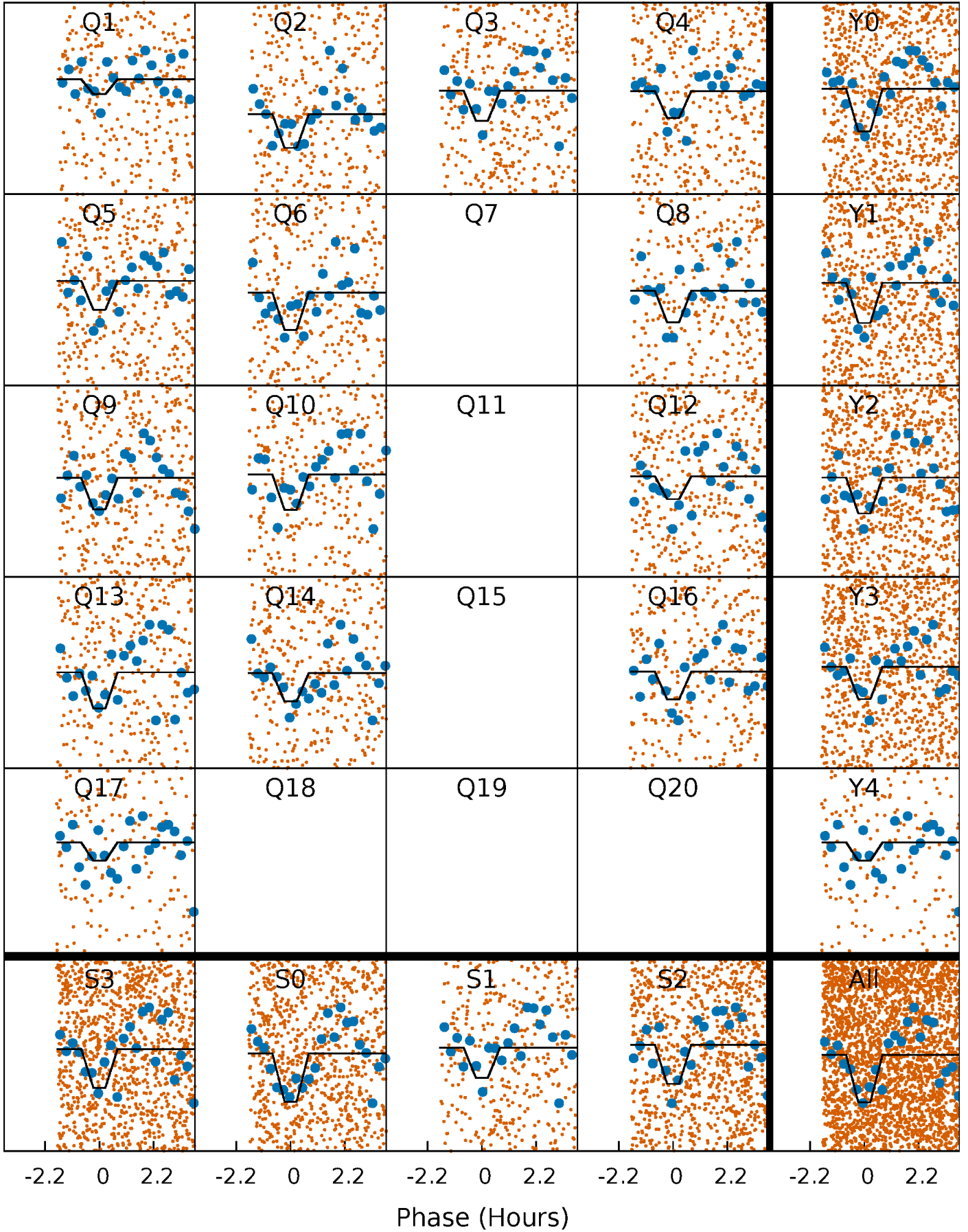
TCE 010293818-02   P= 0.509100 Days    $T_0=131.699637$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

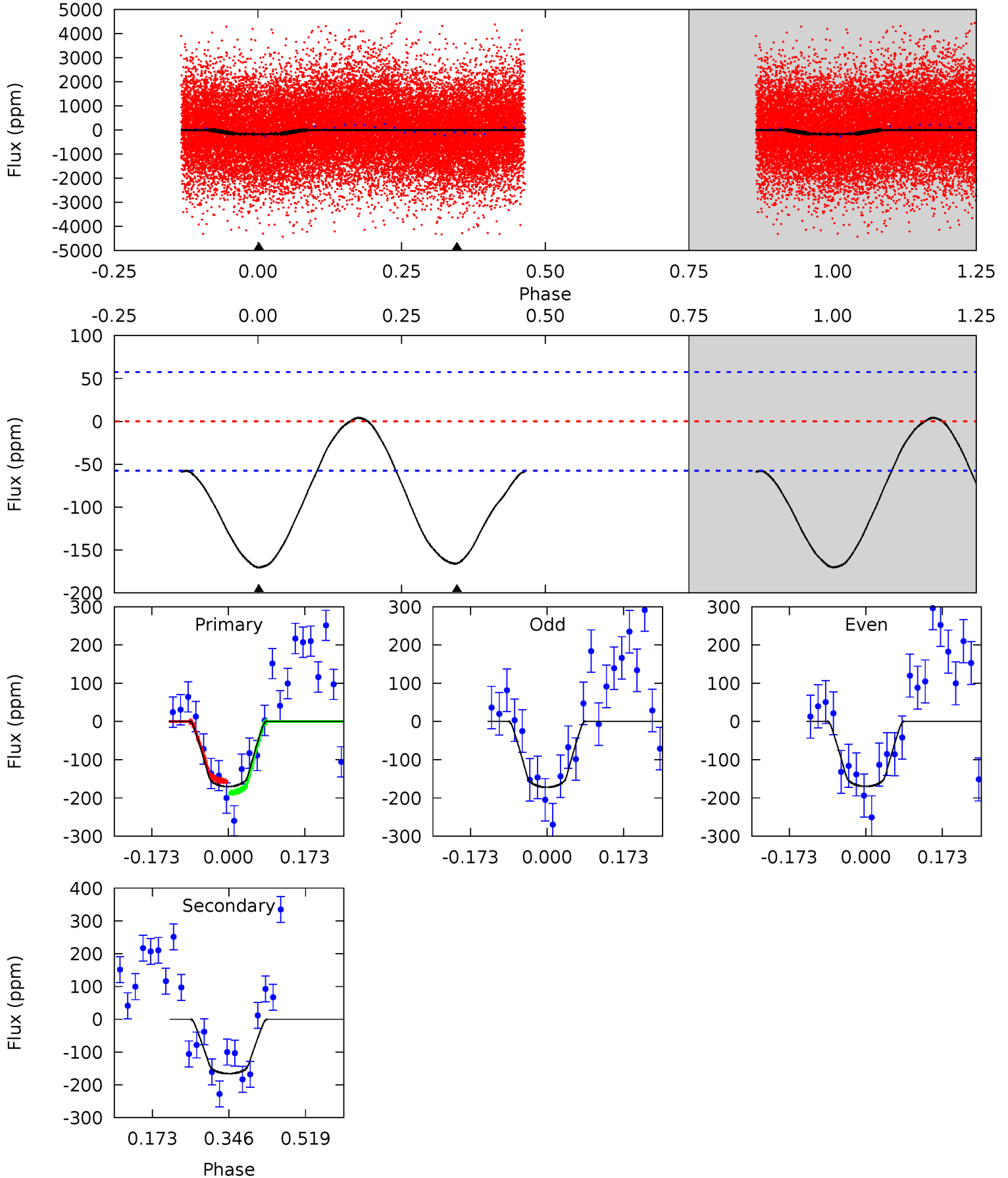
TCE 010293818-02   P= 0.509103 Days    $T_0=131.699120$  (BKJD)



# DV Model-Shift Uniqueness Test

010293818-02, P = 0.509100 Days, E = 131.190537 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
13.2	12.8	0	0	4.45	1.36	0.31	13.2	13.2	12.8	12.8	0.09	1.02	0.02	1.22

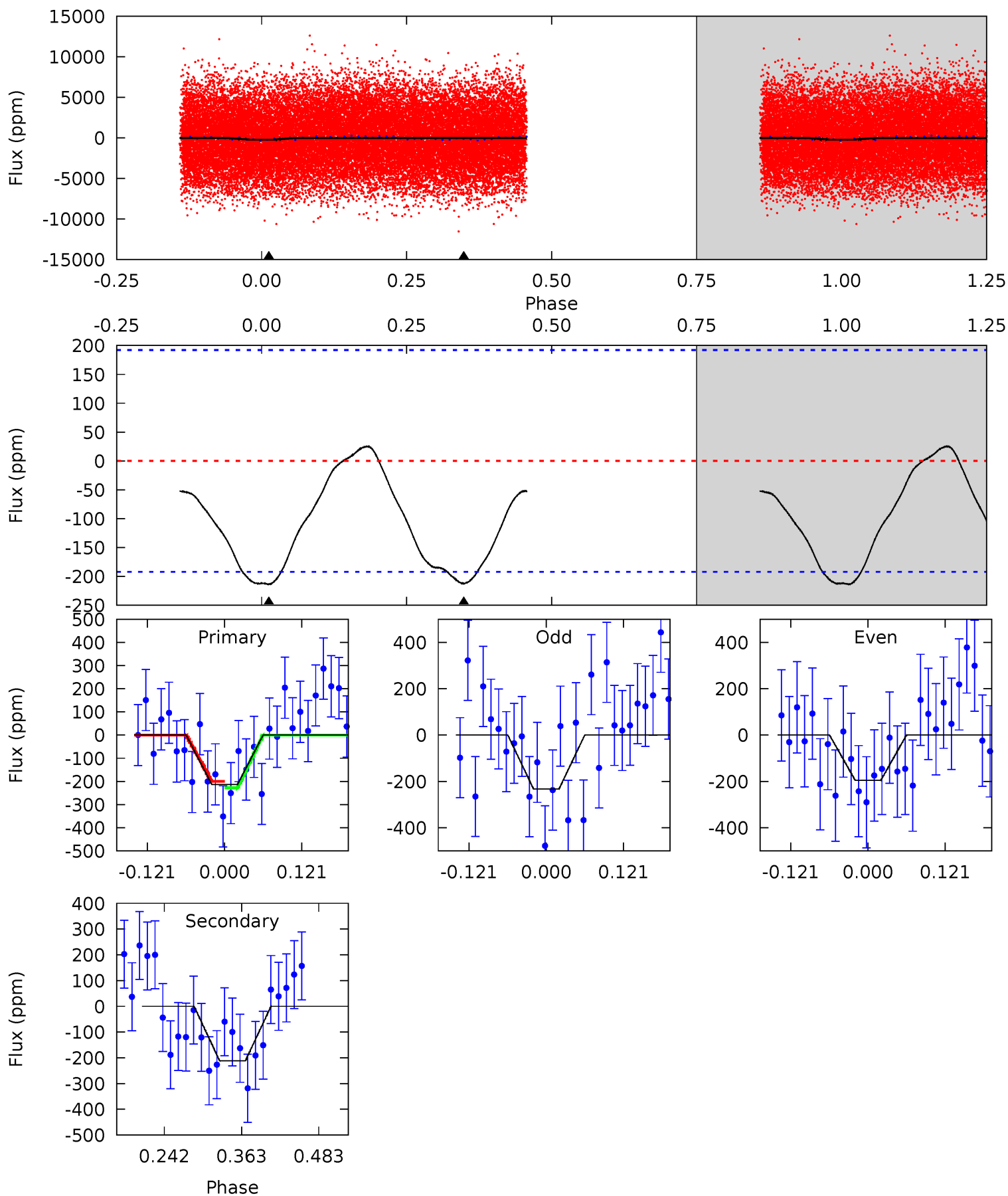




# Alt Model-Shift Uniqueness Test

010293818-02, P = 0.509103 Days, E = 131.190017 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
5.04	5.00	0	0	4.52	1.55	0.75	5.04	5.04	5.00	5.00	0.44	0.97	0.11	0.33



### Stellar Parameters For KIC 010293818

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7872^{+216}_{-351}$	$3.923^{+0.247}_{-0.133}$	$0.070^{+0.250}_{-0.400}$	$2.542^{+0.508}_{-0.826}$	$1.973^{+0.249}_{-0.404}$	$0.169^{+0.255}_{-0.066}$
	+3%/-4%	+6%/-3%	+357%/-571%	+20%/-32%	+13%/-20%	+151%/-39%
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 010293818-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-166 \pm 13$	$4.07^{+2.01}_{-1.92}$	$6103^{+401}_{-549}$	$6604^{+3727}_{-1691}$	$1.365^{+3.258}_{-0.785}$
Alt.	$-212 \pm 42$	$4.32^{+2.01}_{-1.94}$	$6132^{+387}_{-487}$	$6883^{+3903}_{-1640}$	$1.485^{+3.617}_{-0.803}$

$T_{\text{max}}$  = 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

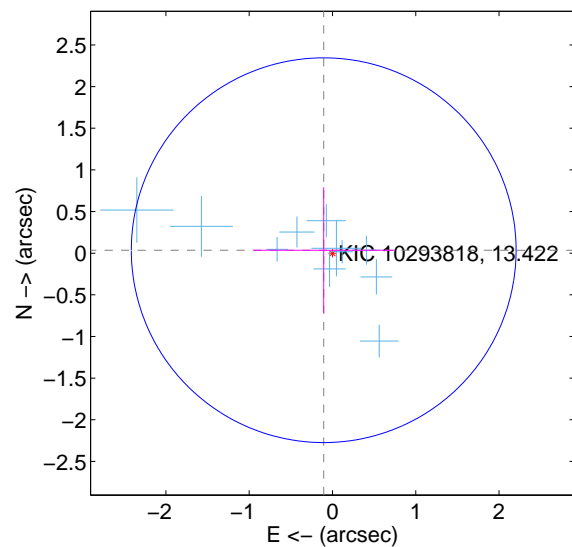
Supplemental centroid analysis for 010293818-02. Kepler magnitude: 13.42. Transit SNR 14.76

There are 11 quarters with good PRF difference image offsets

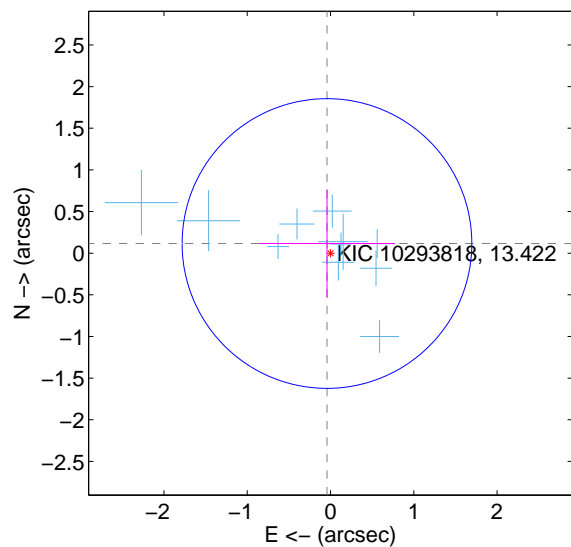
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.111 \pm 0.770$	0.14	$0.105 \pm 0.845$	$0.036 \pm 0.755$
PRF-fit source offset from KIC position	$0.123 \pm 0.580$	0.21	$0.043 \pm 0.815$	$0.116 \pm 0.651$
photometric centroid source offset	$1.12 \pm 0.16$	<b>6.85</b>	$-0.45 \pm 0.17$	$1.02 \pm 0.16$

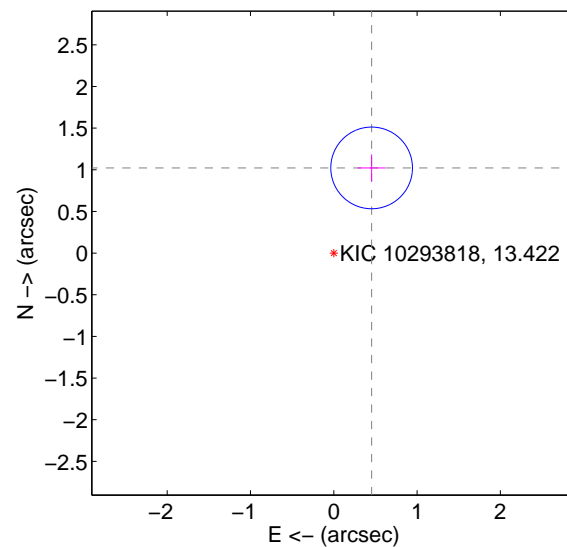
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

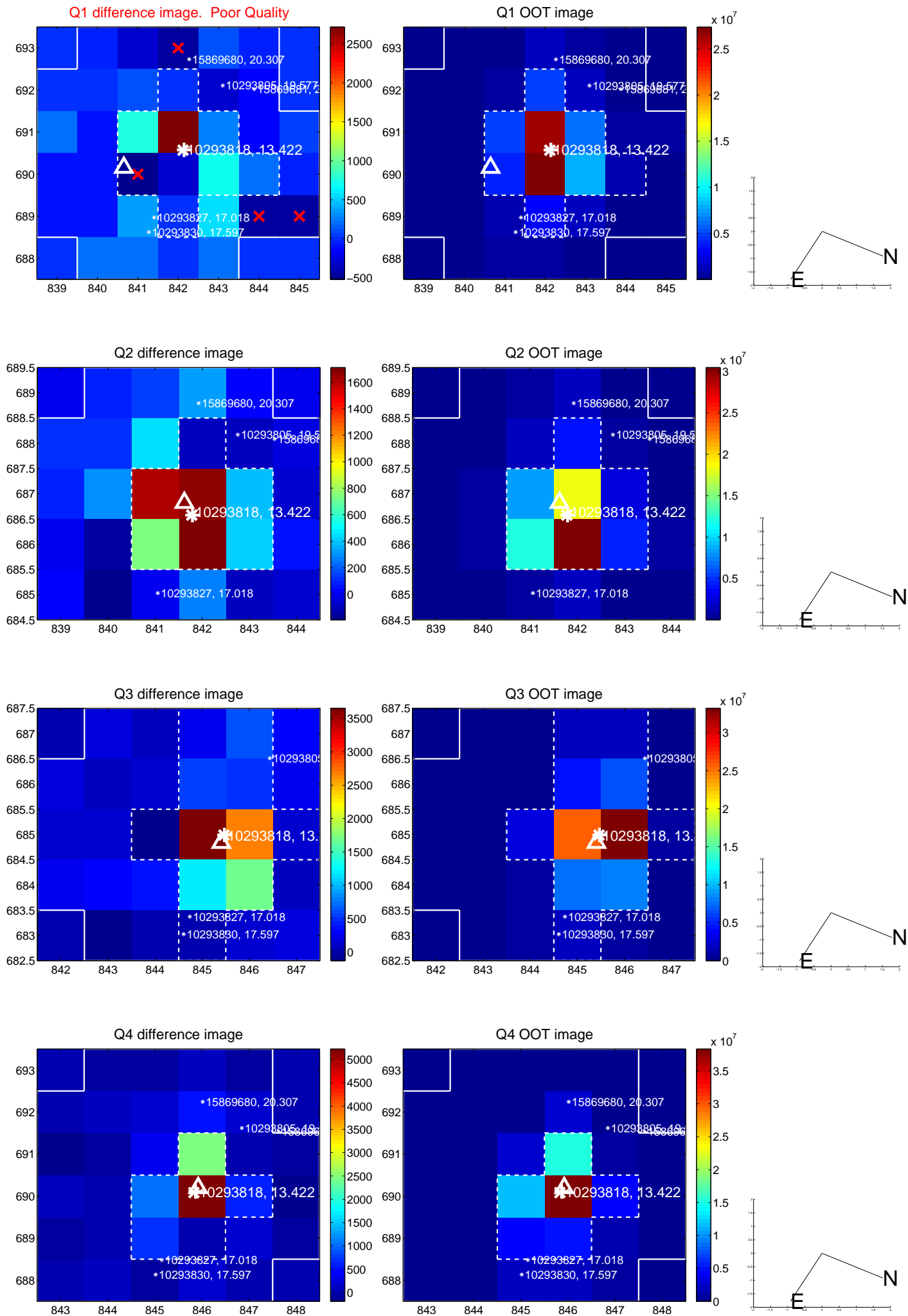


offset from photometric centroids

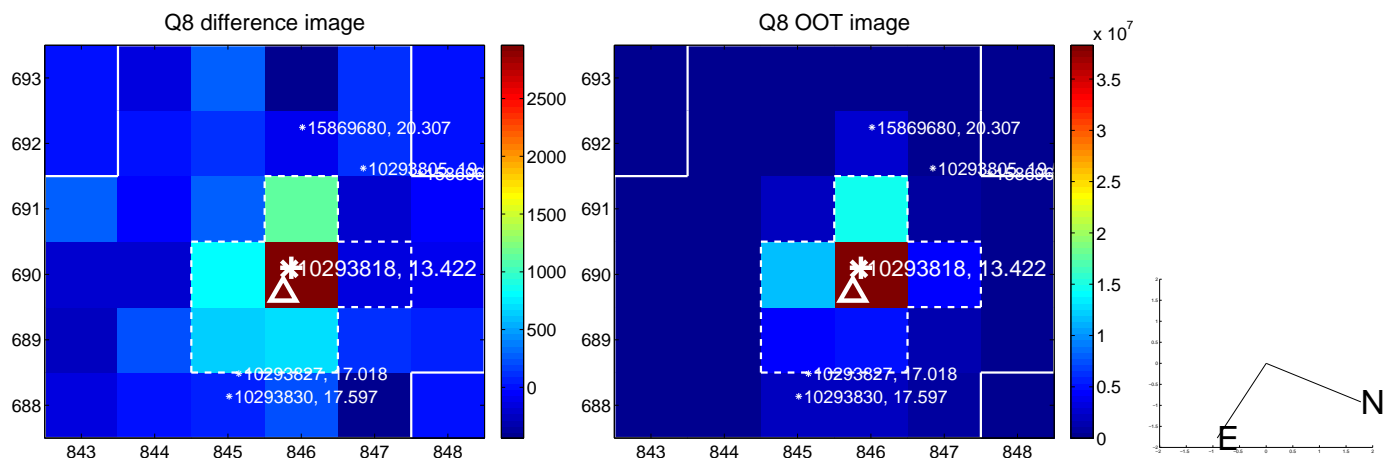
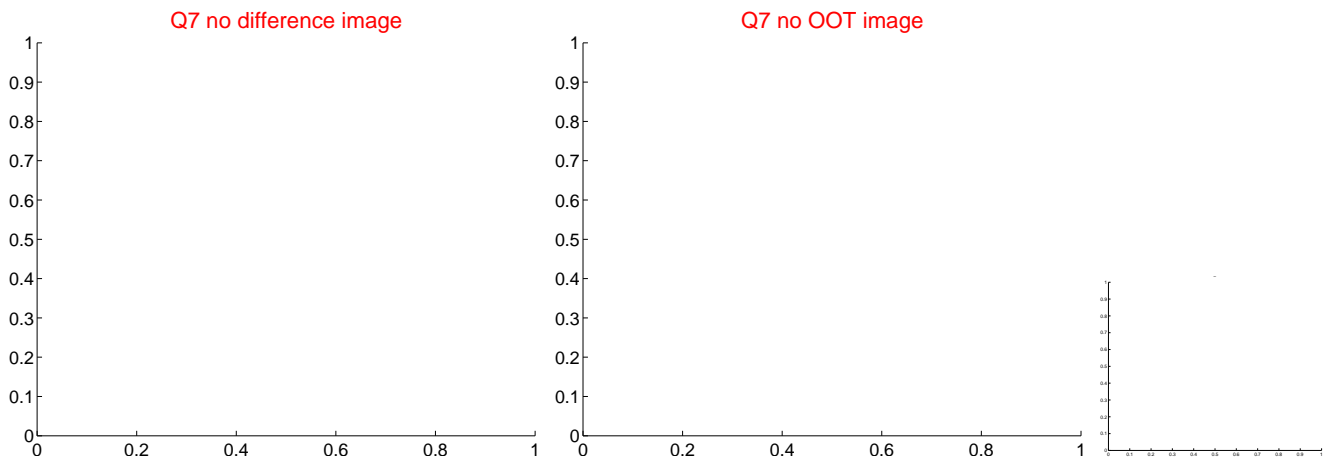
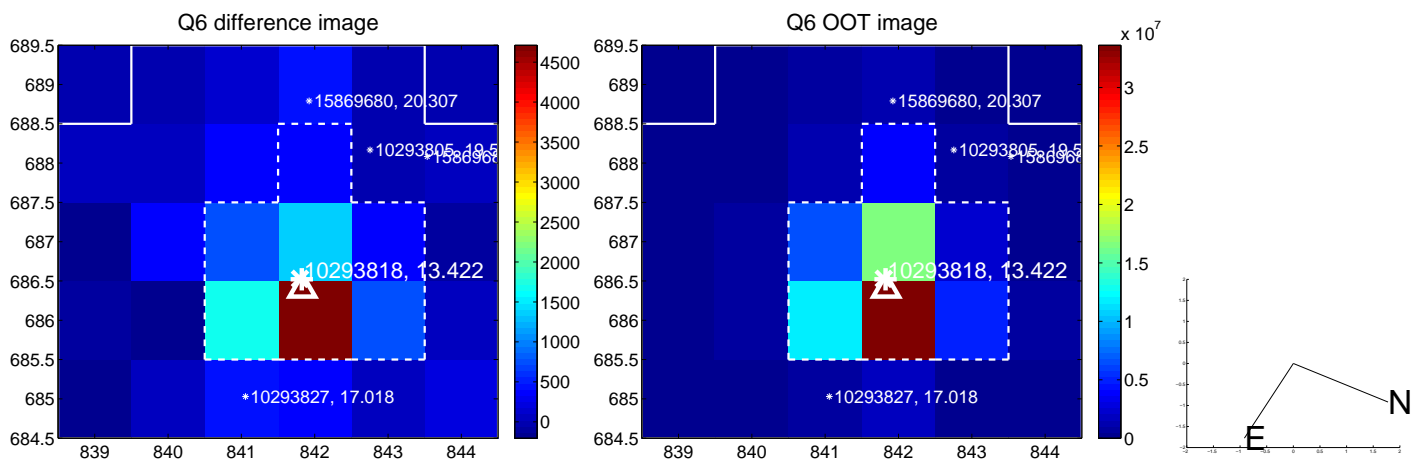
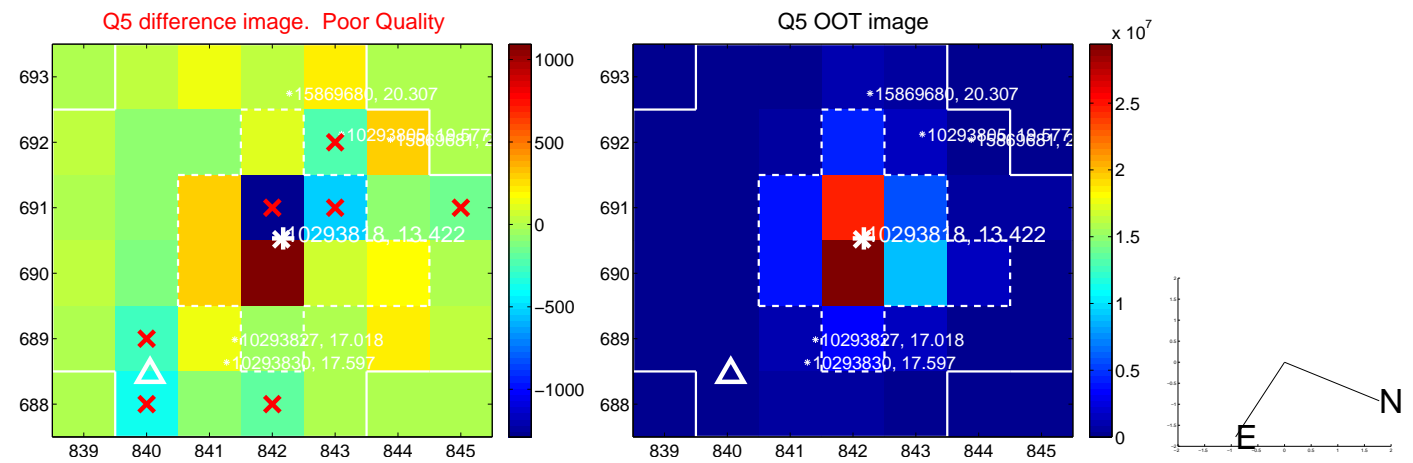


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

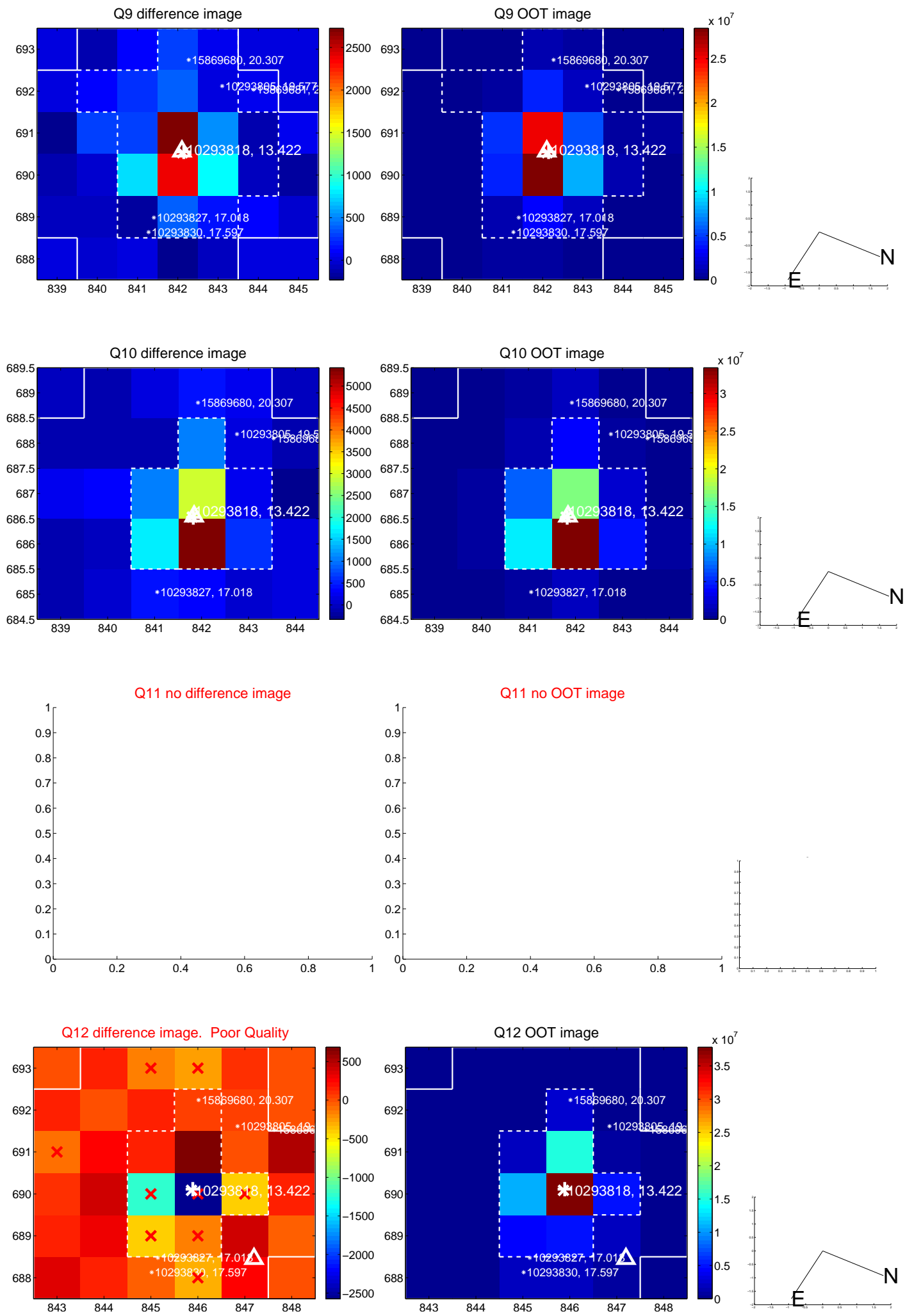


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

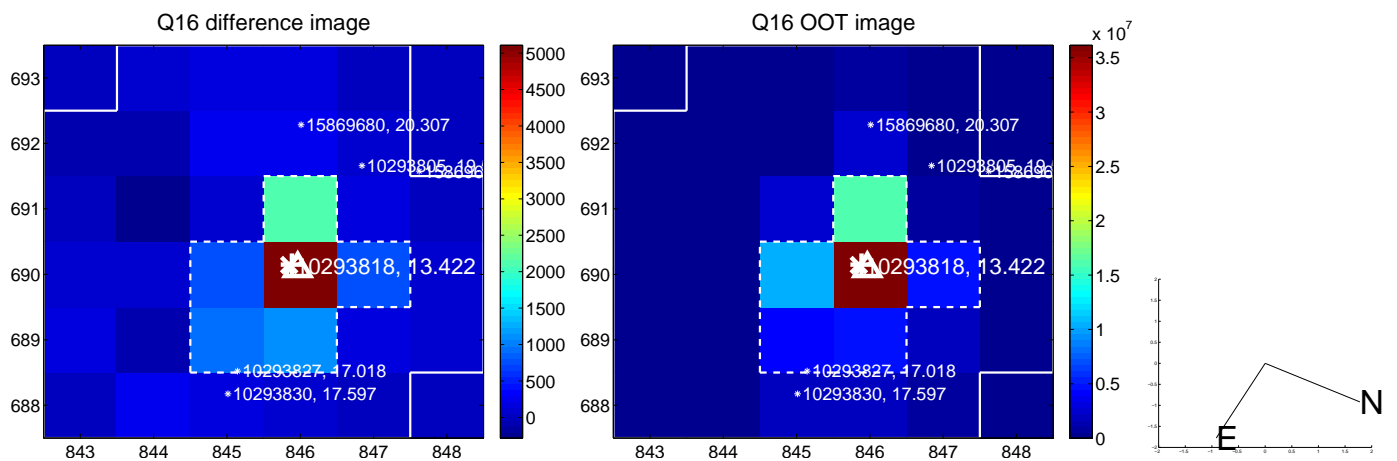
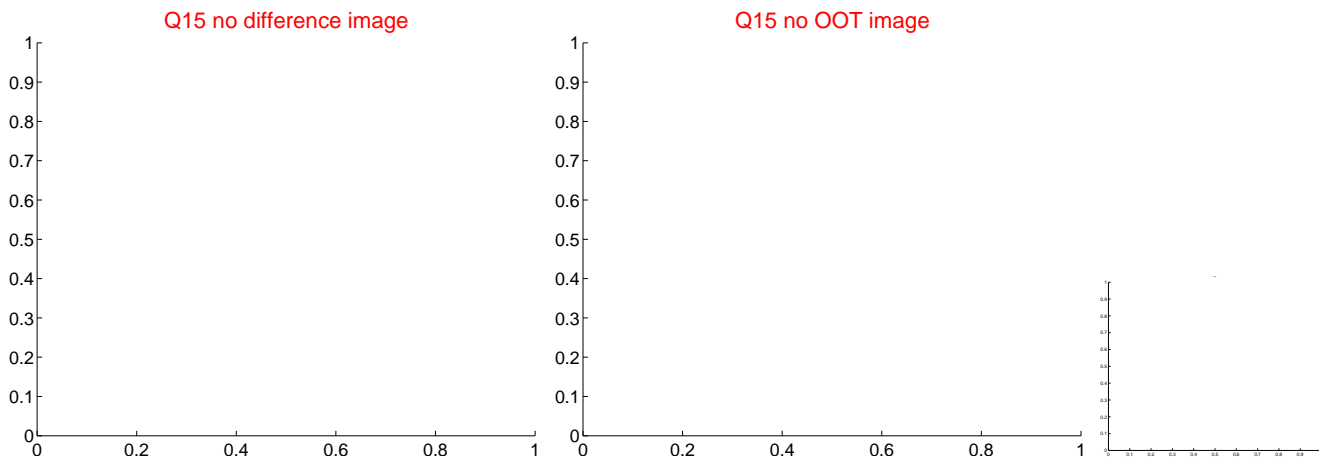
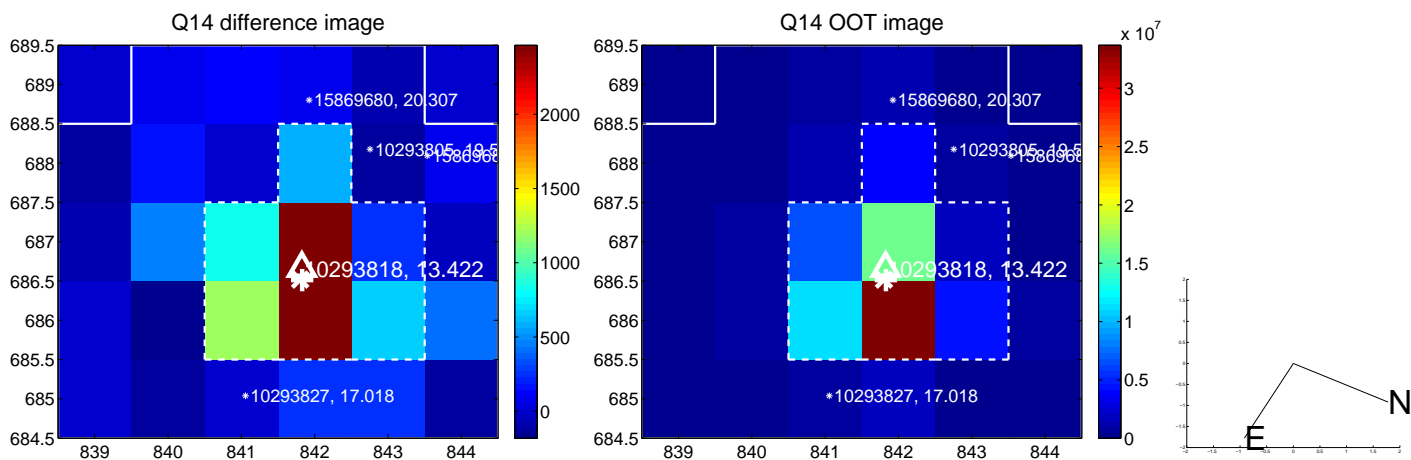
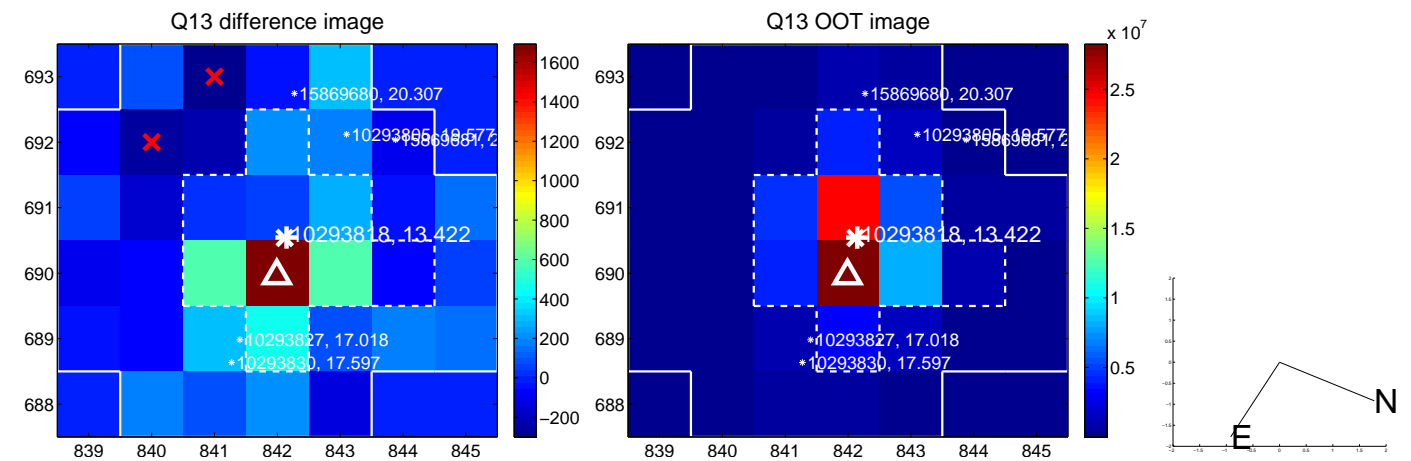




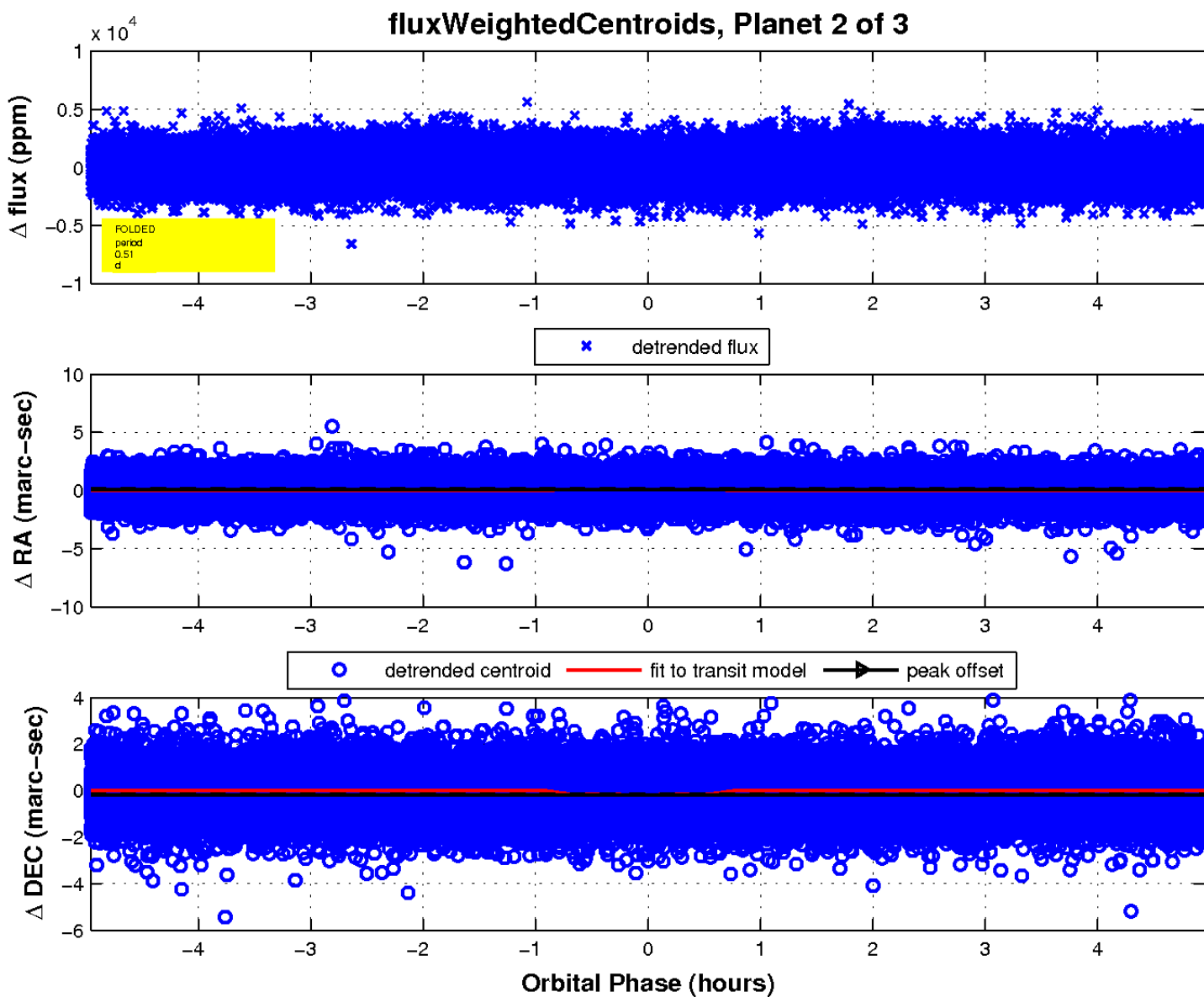
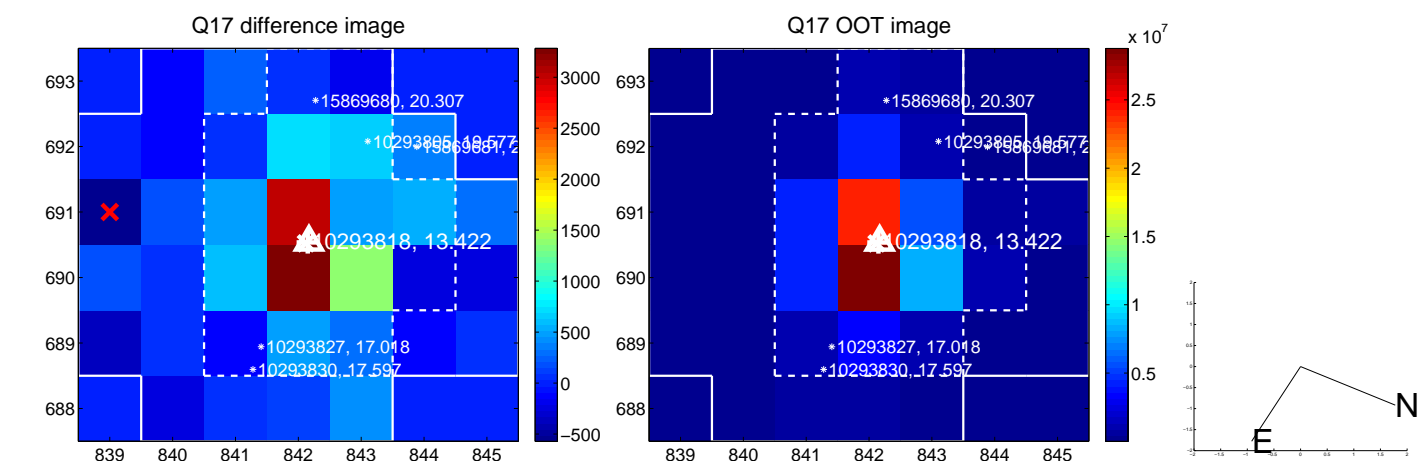
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



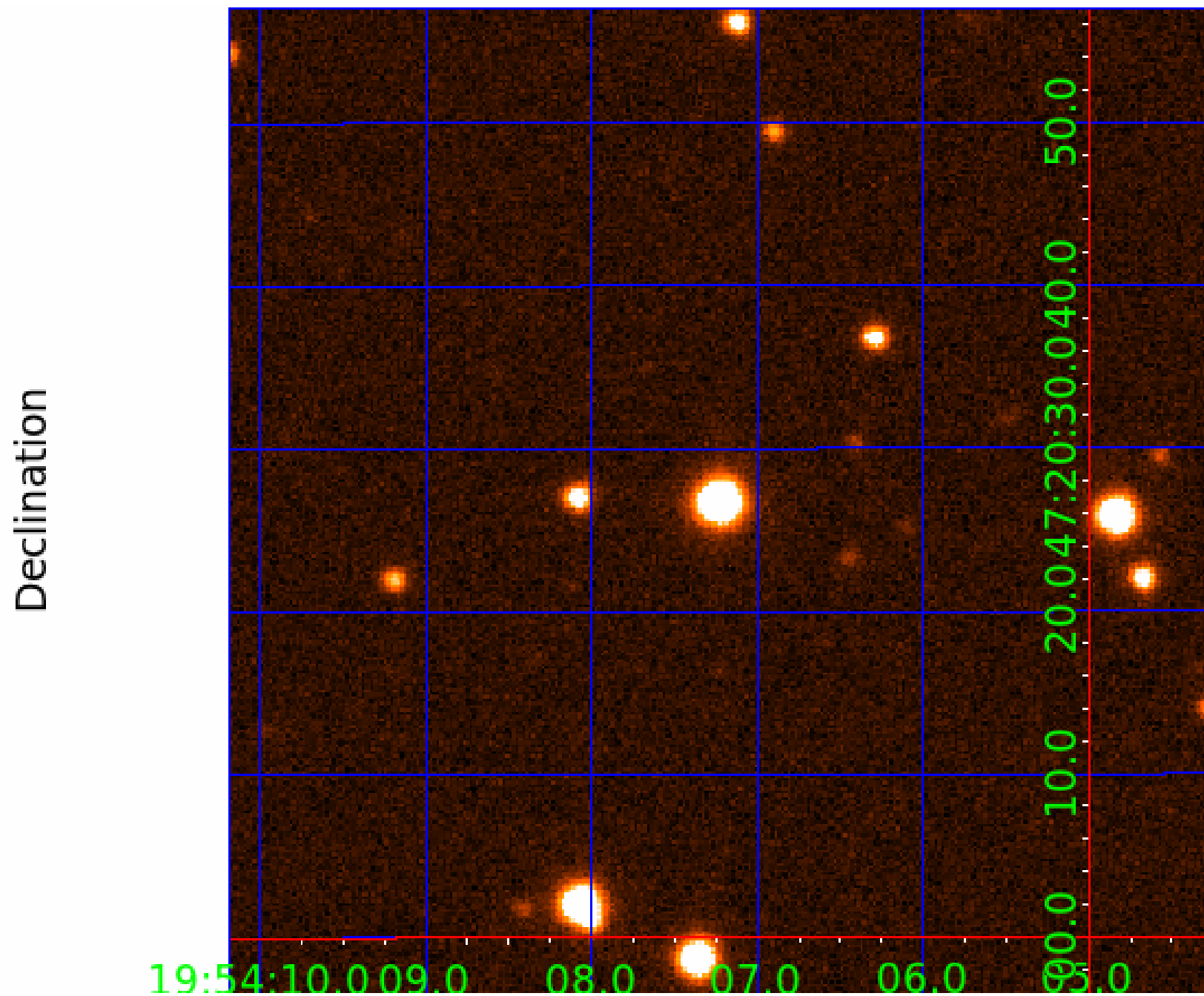
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 010293818

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010293818-01	OBS	No	0.509102	131.527117	251.1	1.280	15.5	17.5	2.54	7872	4.11	90701.08
010293818-02	OBS	No	0.509100	131.699637	196.7	1.653	12.4	14.8	2.54	7872	4.15	90701.49
010293818-03	OBS	No	0.509092	131.877993	155.1	1.458	9.1	11.0	2.54	7872	3.69	90703.42

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010293818-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010293818-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
010293818-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

**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.

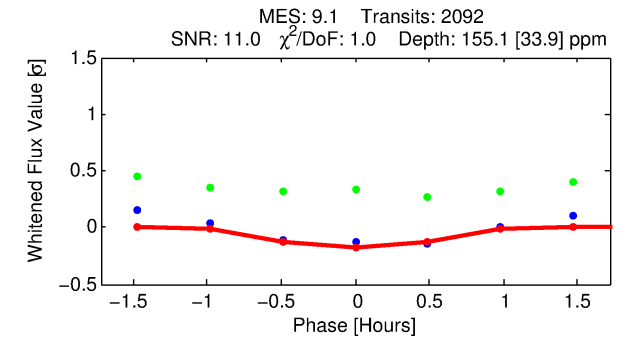
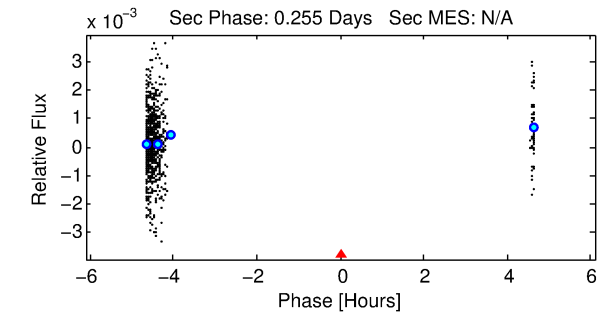
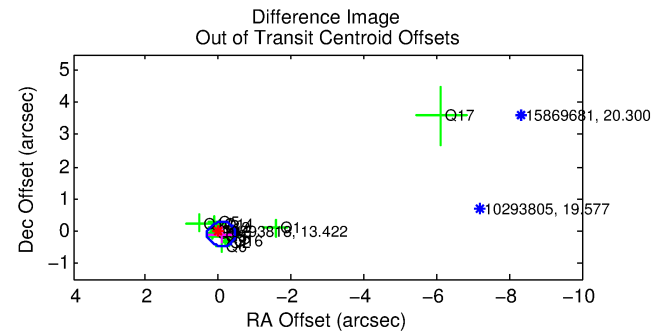
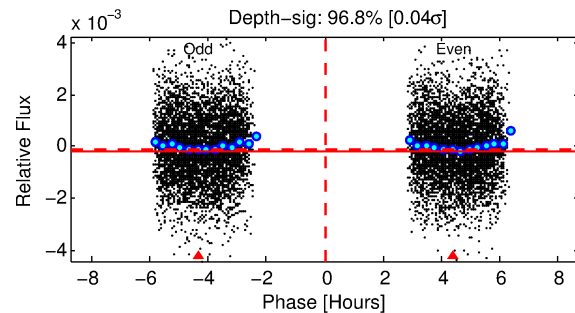
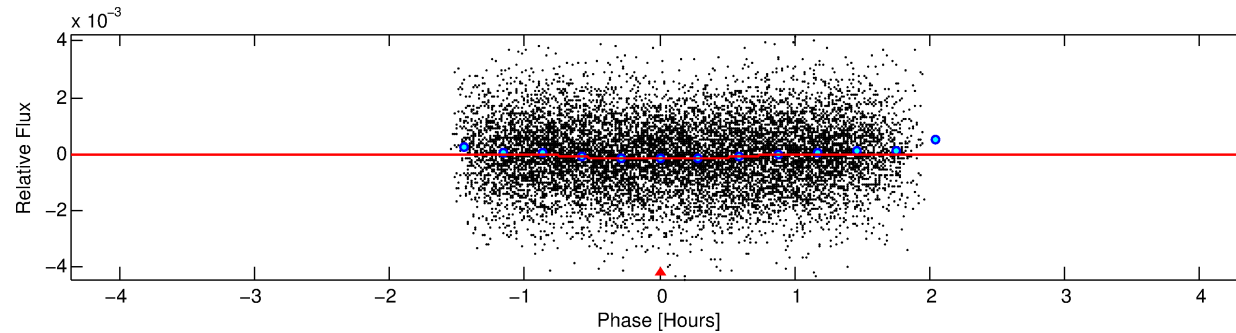
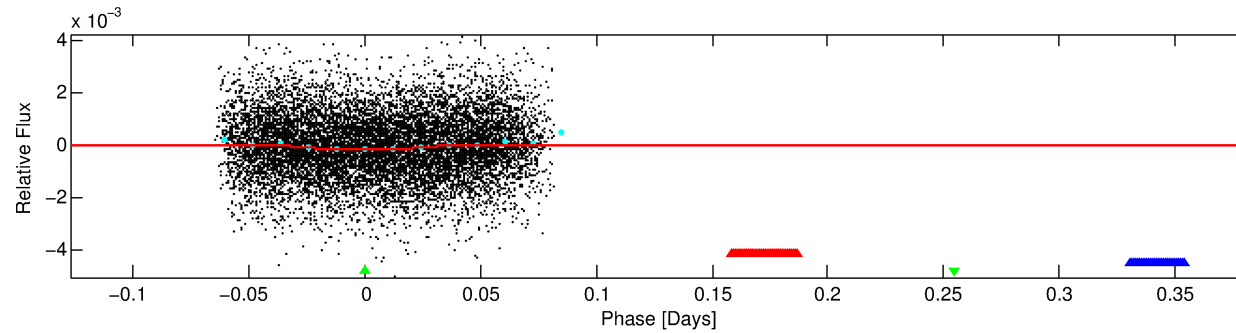
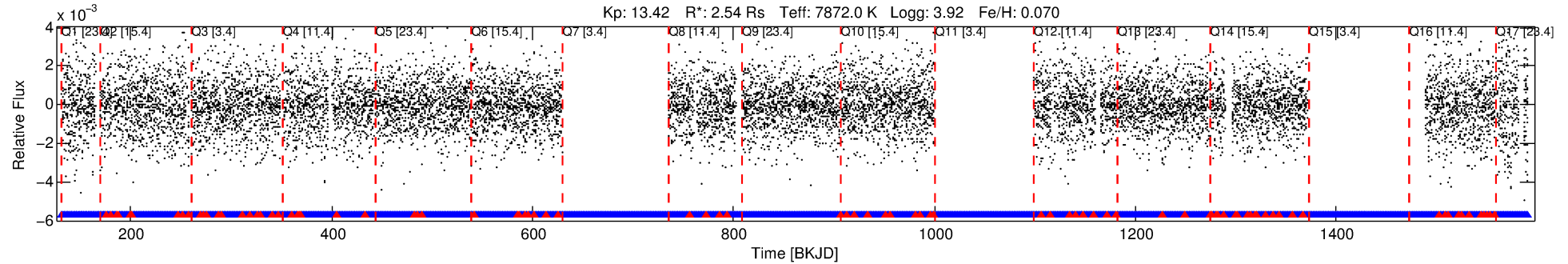
## Ephemeris Match Information For 010293818-03

No Significant Match Found



# DV One-Page Summary

KIC: 10293818 Candidate: 3 of 3 Period: 0.509 d



## DV Fit Results:

Period = 0.50909 [0.00002] d  
Epoch = 131.8780 [0.0024] BKJD  
Rp/R\* = 0.0133 [0.0092]  
a/R\* = 1.55 [3.90]  
b = 0.90 [0.91]  
Seff = 90703.42 [42784.62]  
Teq = 4425 [522] K  
Rp = 3.69 [2.82] Re  
a = 0.0157 [0.0045] AU

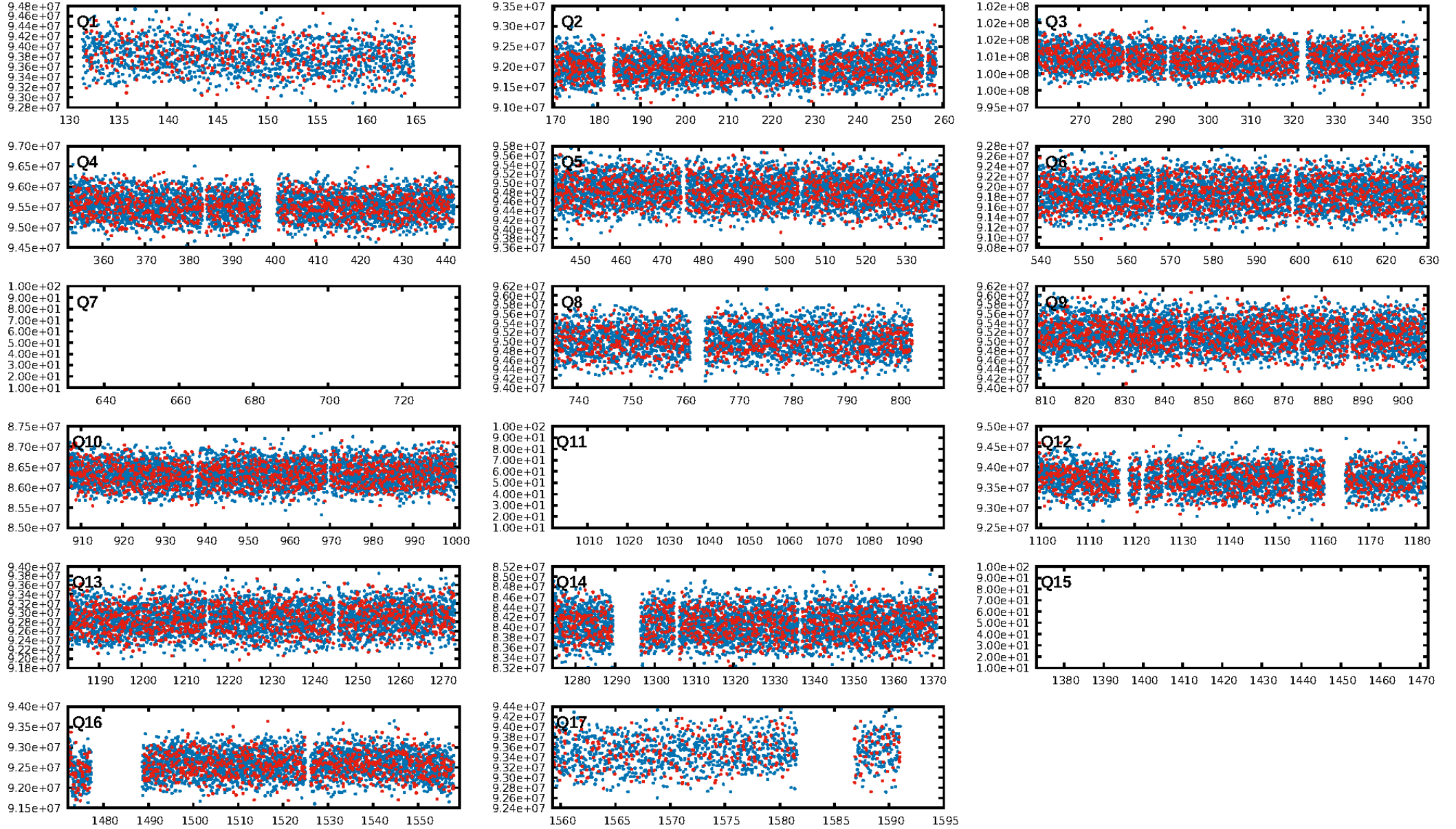
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.95 [1879/1974]  
GhostDiagnostic-chr: 0.9723  
Centroid-sig: 0.0%  
Centroid-so: 1.511 arcsec [6.80σ]  
OotOffset-rm: 0.129 arcsec [1.01σ]  
KicOffset-rm: 0.117 arcsec [0.30σ]  
OotOffset-st: 4/1/4/5 [14]  
KicOffset-st: 4/1/4/5 [14]  
DiffImageQuality-fgm: 0.93 [13/14]  
DiffImageOverlap-fno: 0.00 [0/14]

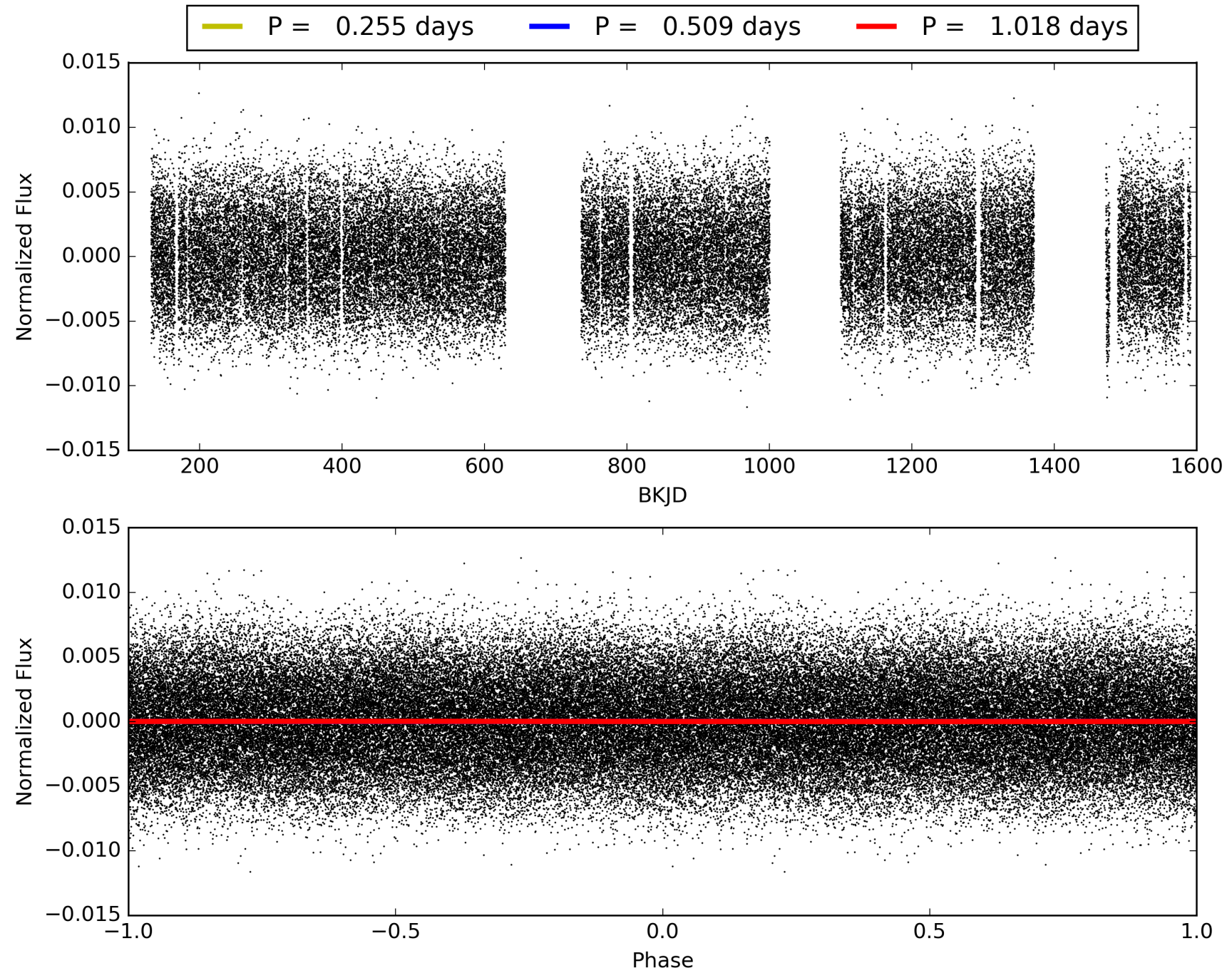
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:47:18 Z

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

# TCE 010293818-03, PDC Light Curves

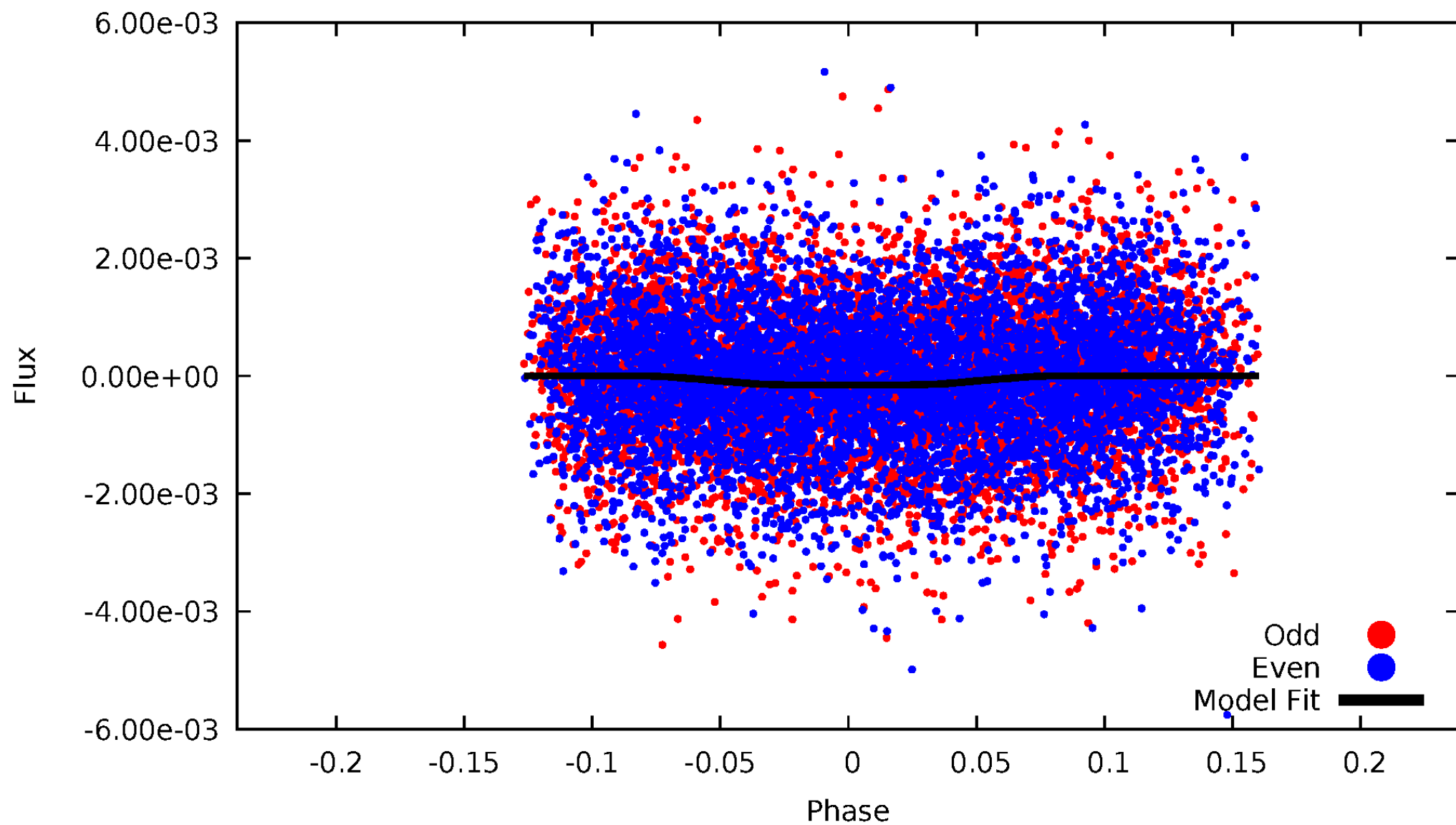


# TCE 010293818-03



DV Odd/Even

TCE 010293818-03





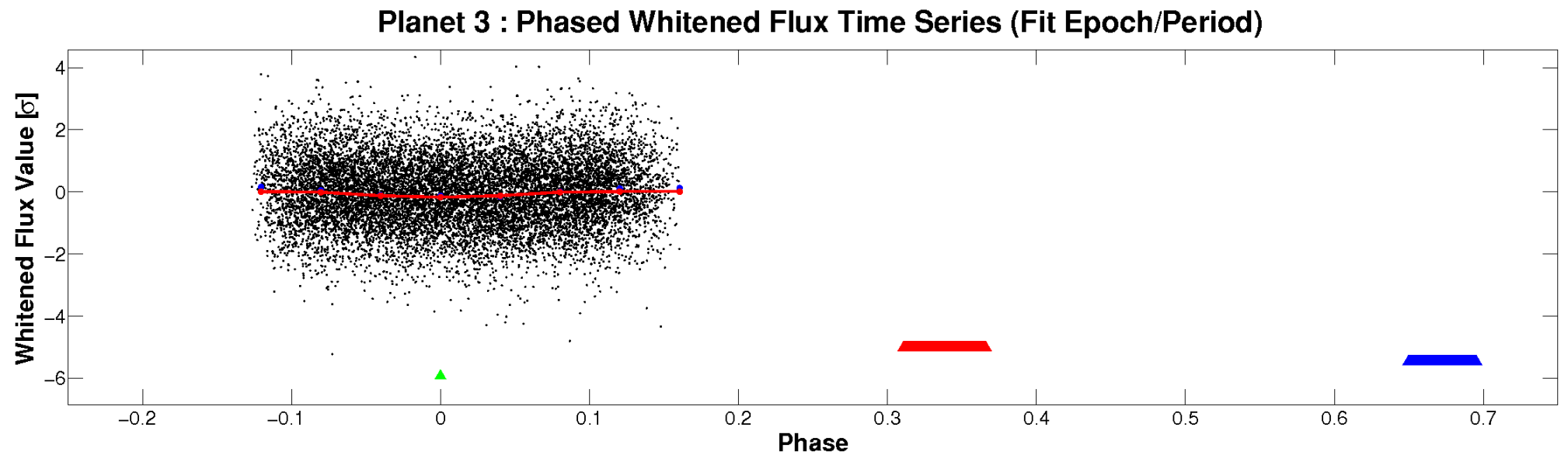
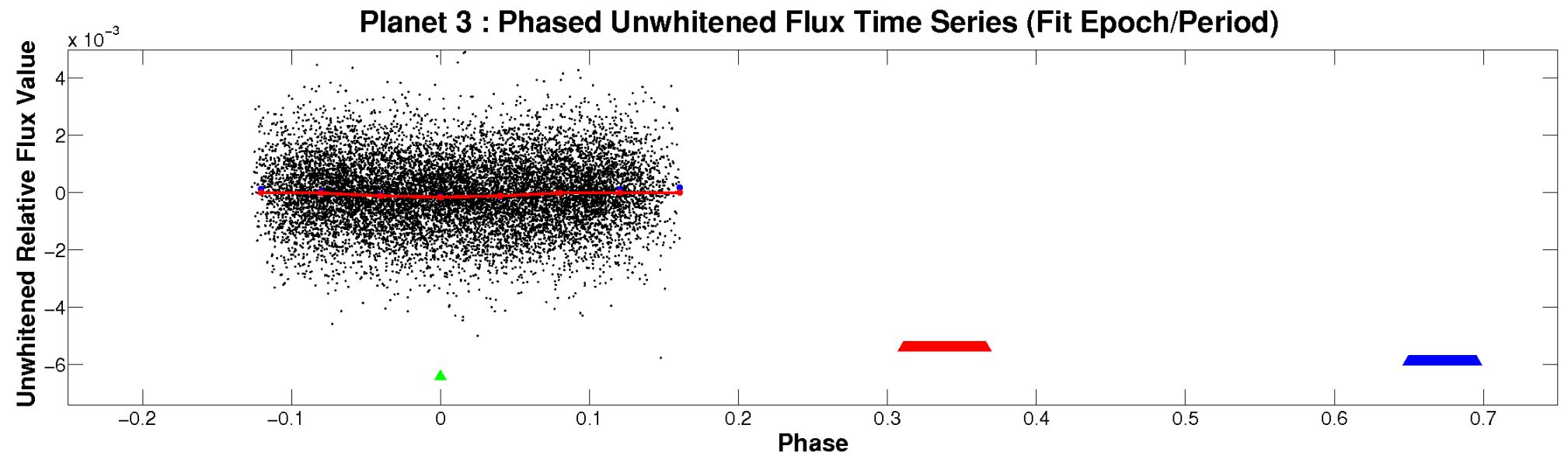


ALT Odd/Even

This plot does not exist for this TCE.

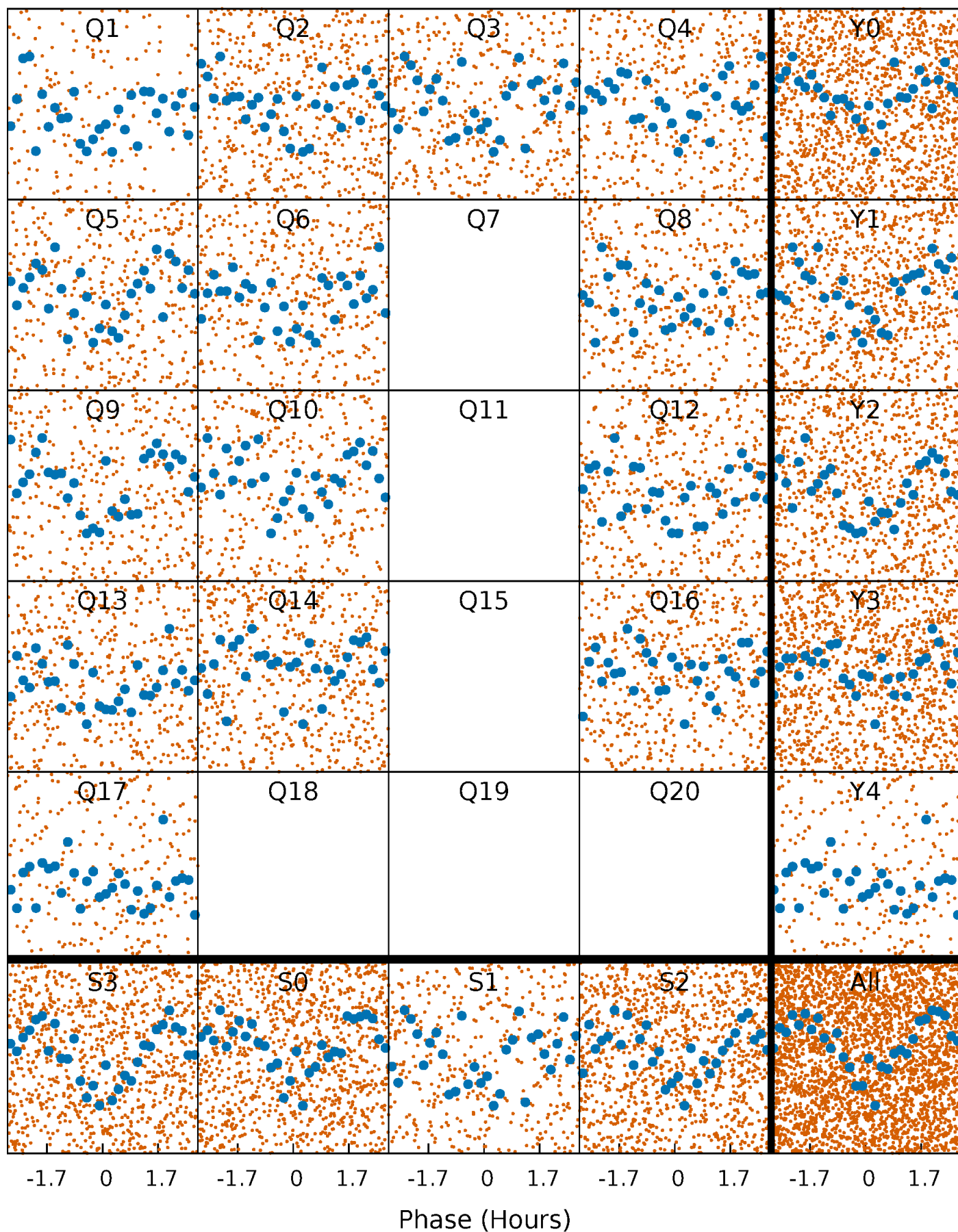


# Non-Whitened Vs. Whitened Light Curve



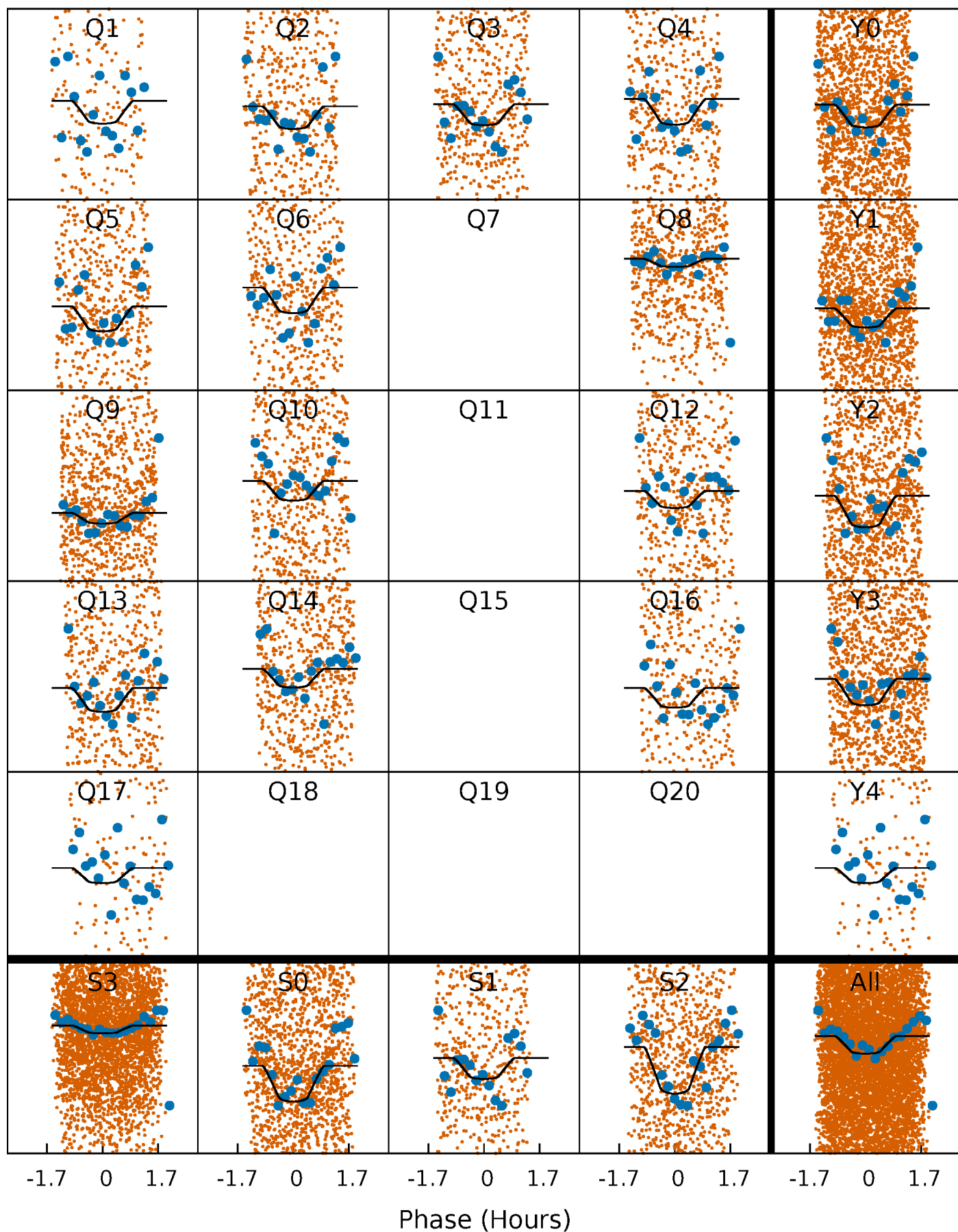
# PDC Quarter-Phased Transit Curves

TCE 010293818-03 P= 0.509092 Days  $T_0=131.877993$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 010293818-03     $P = 0.509092$  Days     $T_0 = 131.877993$  (BKJD)

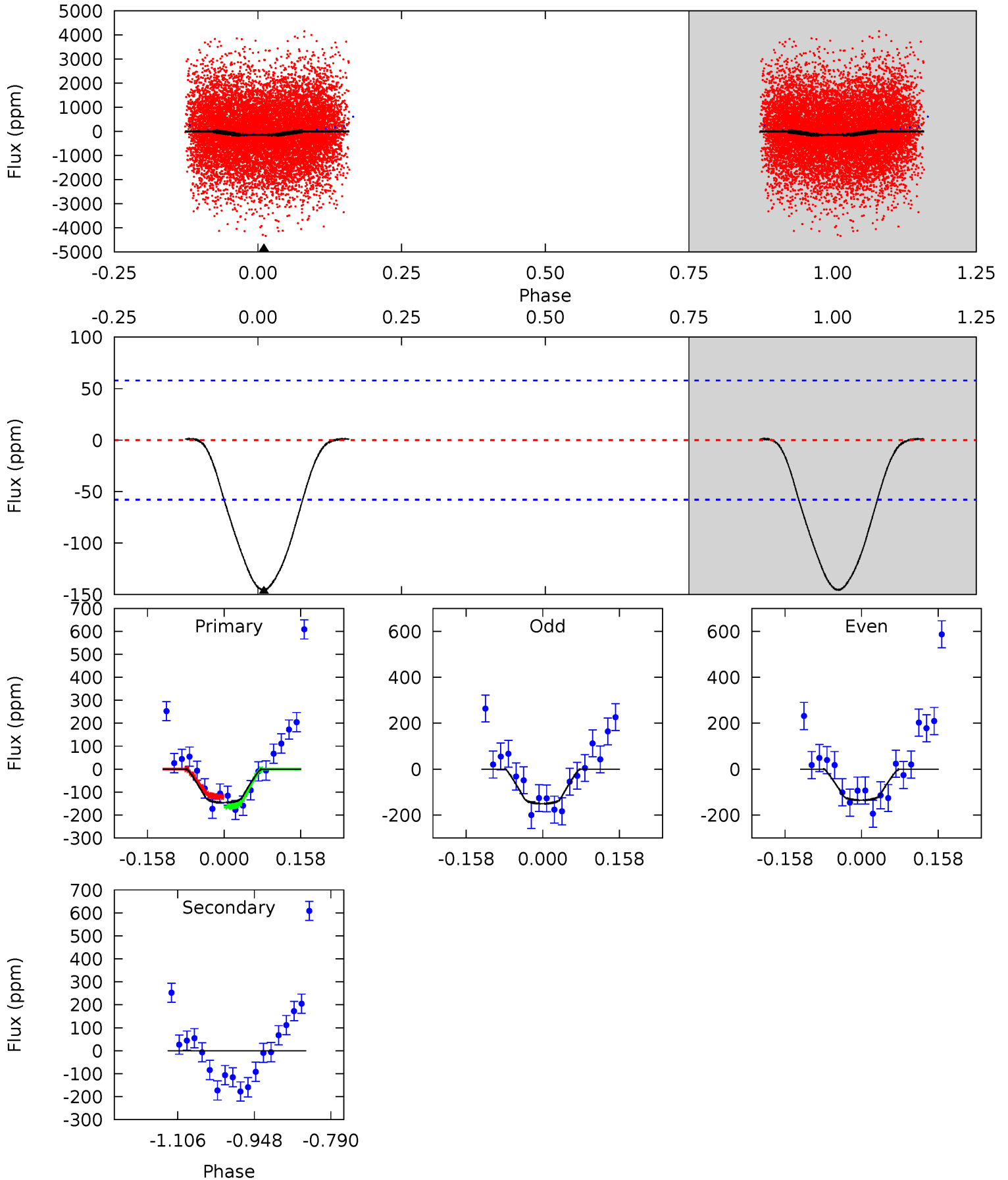


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

010293818-03, P = 0.509092 Days, E = 131.368901 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	0	0	0	4.47	1.41	0.10	11.2	11.2	0	0	0.58	0.94	0.01	1.72





## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 010293818

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7872^{+216}_{-351}$	$3.923^{+0.247}_{-0.133}$	$0.070^{+0.250}_{-0.400}$	$2.542^{+0.508}_{-0.826}$	$1.973^{+0.249}_{-0.404}$	$0.169^{+0.255}_{-0.066}$
	+3%/-4%	+6%/-3%	+357%/-571%	+20%/-32%	+13%/-20%	+151%/-39%
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 010293818-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 13$	$3.79^{+2.59}_{-2.22}$	$6088^{+427}_{-503}$	$-4989^{+827}_{-680}$	$-0.004^{+0.150}_{-0.192}$
Alt.	N/A	N/A	N/A	N/A	N/A

$T_{\text{max}}$  = 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  $A_{\text{obs}} \gg 1.0$

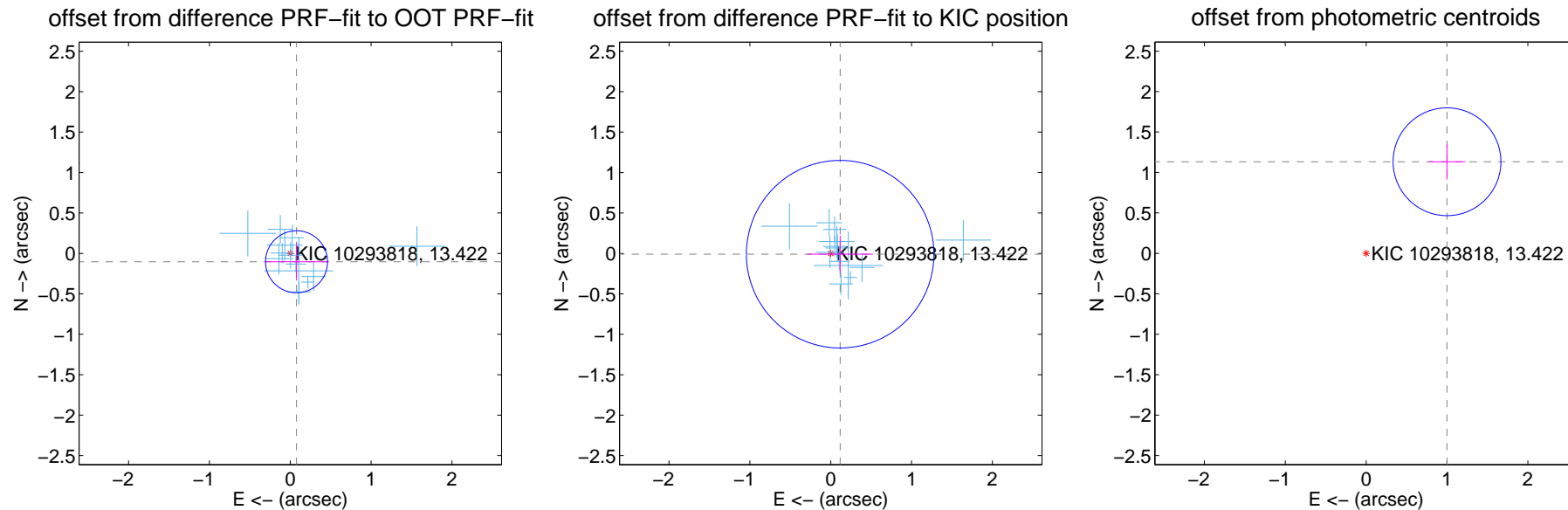
## DV Centroid Data

Supplemental centroid analysis for 010293818-03. Kepler magnitude: 13.42. Transit SNR 11.03

There are 13 quarters with good PRF difference image offsets

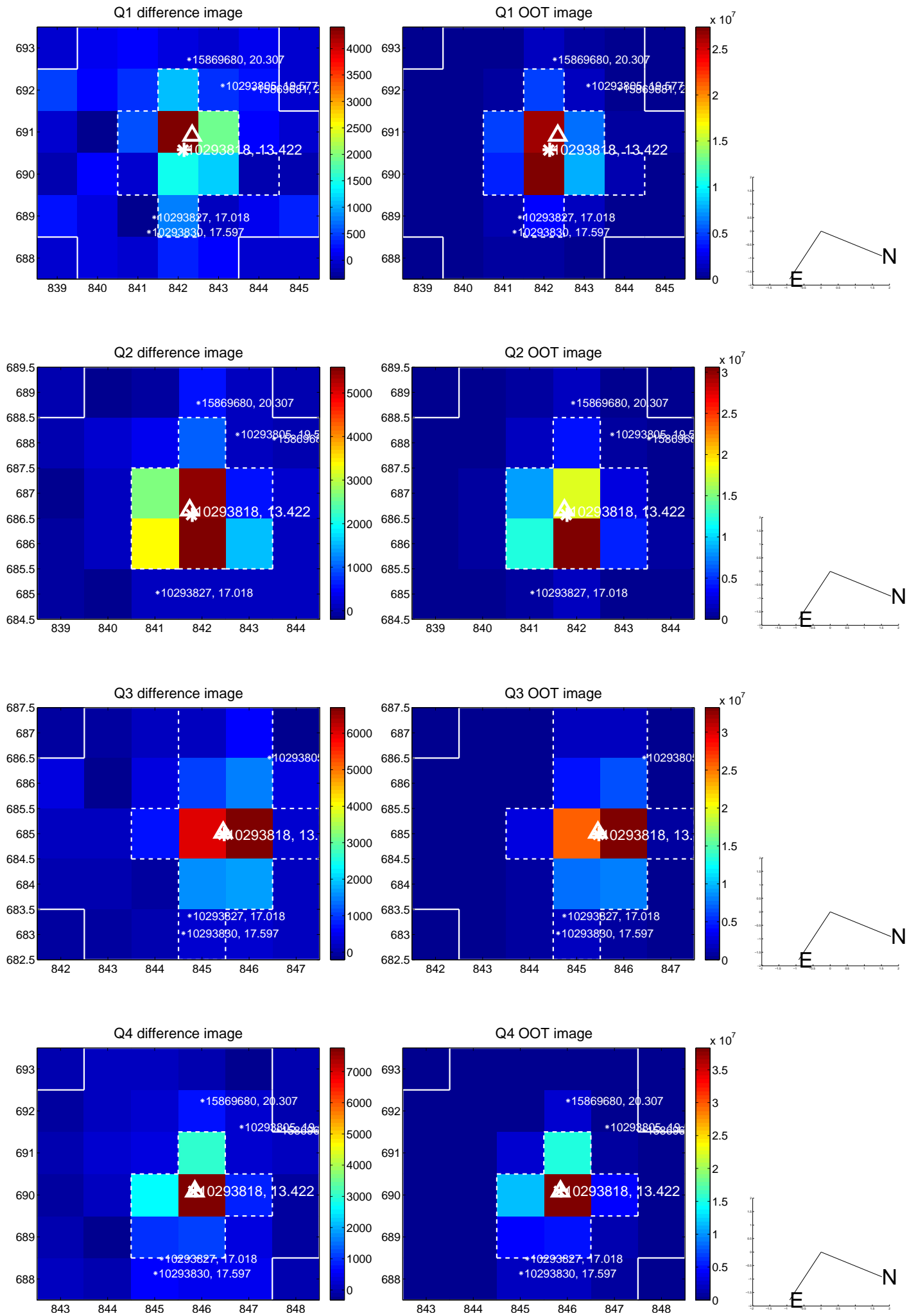
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.129 \pm 0.128$	1.01	$-0.078 \pm 0.395$	$-0.103 \pm 0.232$
PRF-fit source offset from KIC position	$0.117 \pm 0.387$	0.30	$-0.117 \pm 0.404$	$-0.010 \pm 0.229$
photometric centroid source offset	$1.51 \pm 0.22$	6.80	$-1.00 \pm 0.23$	$1.13 \pm 0.22$

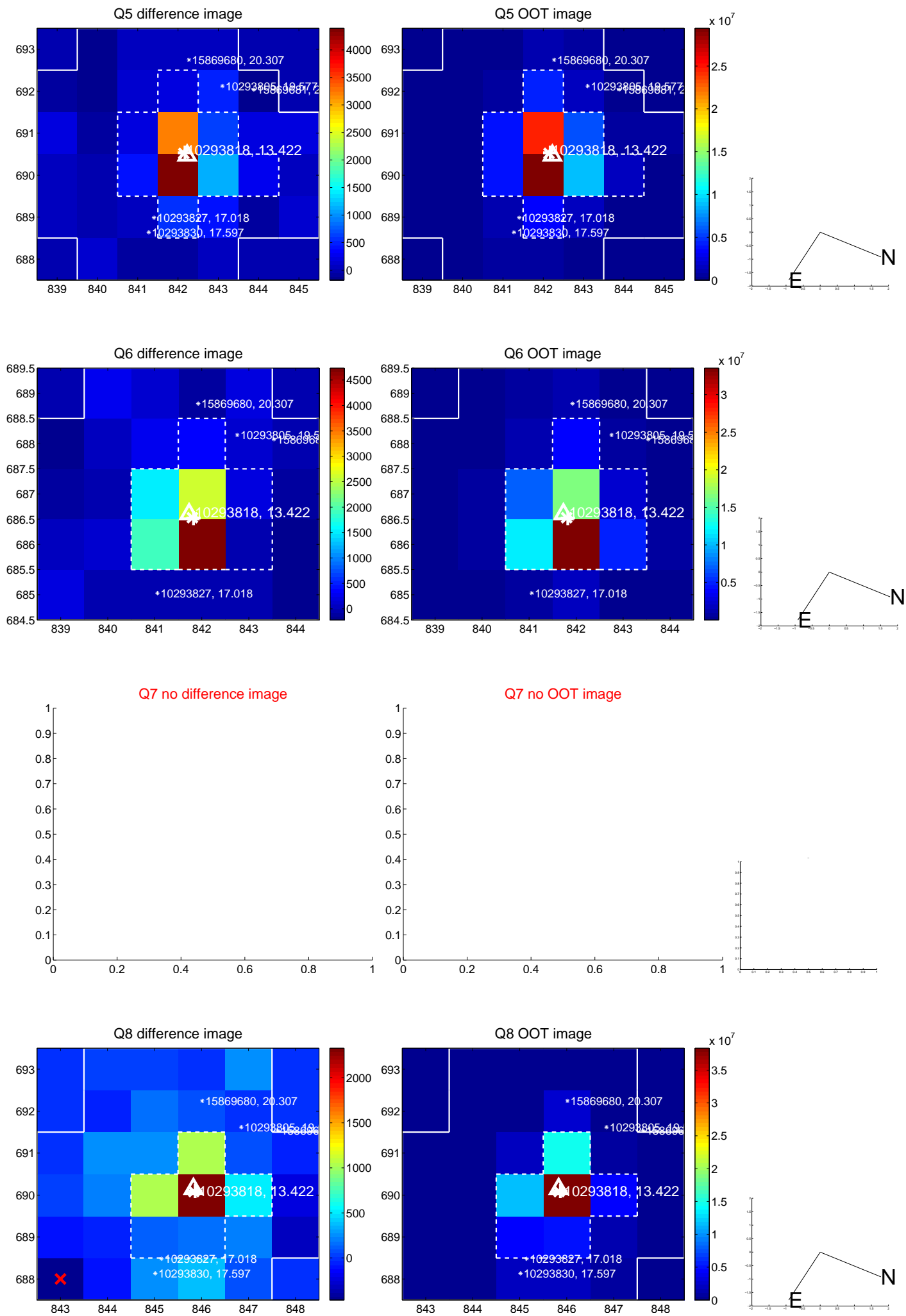


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

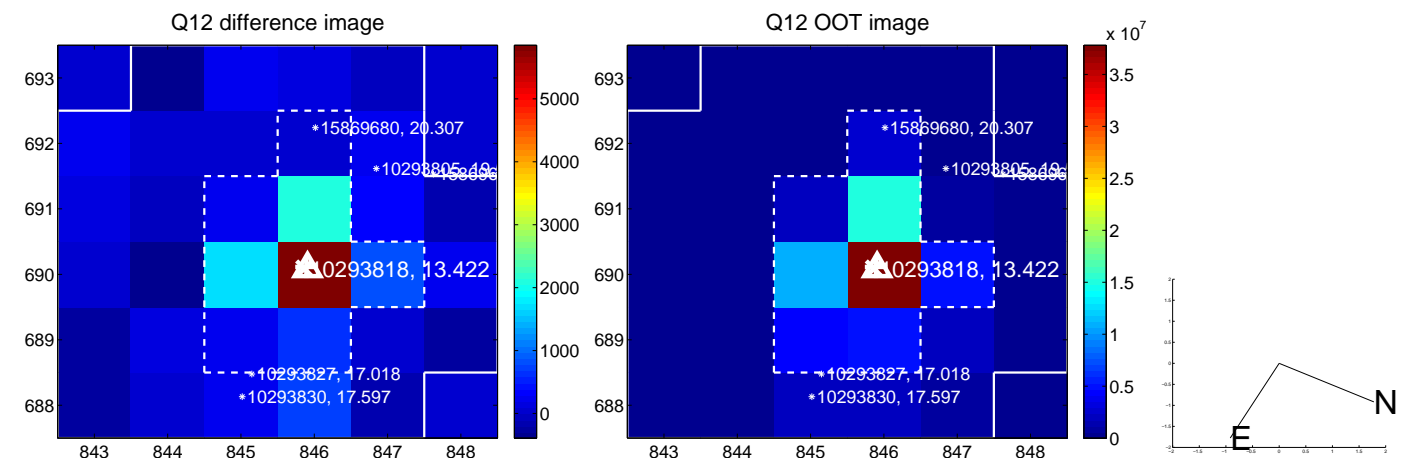
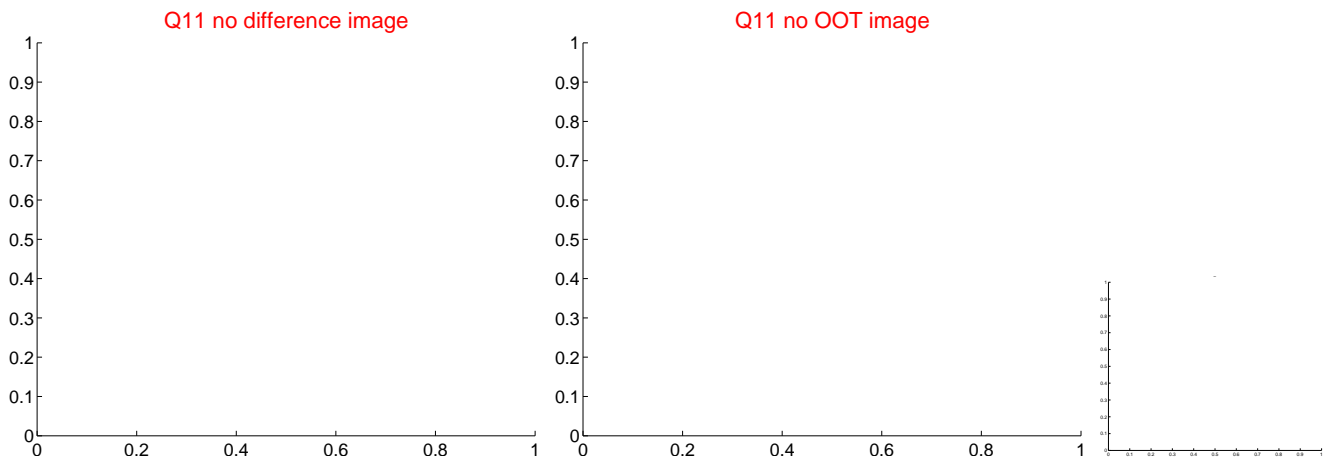
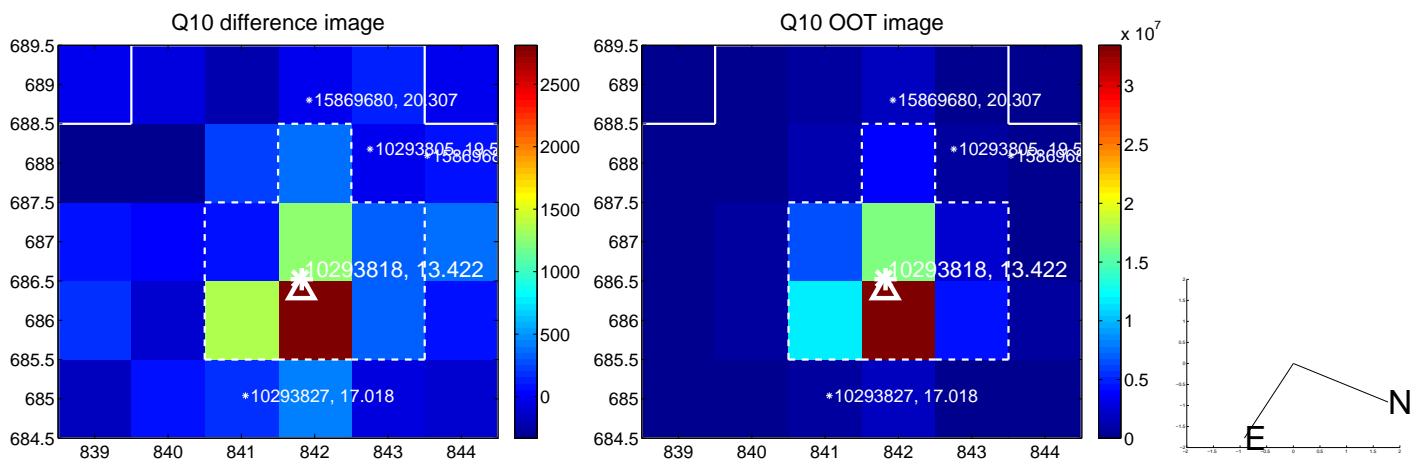
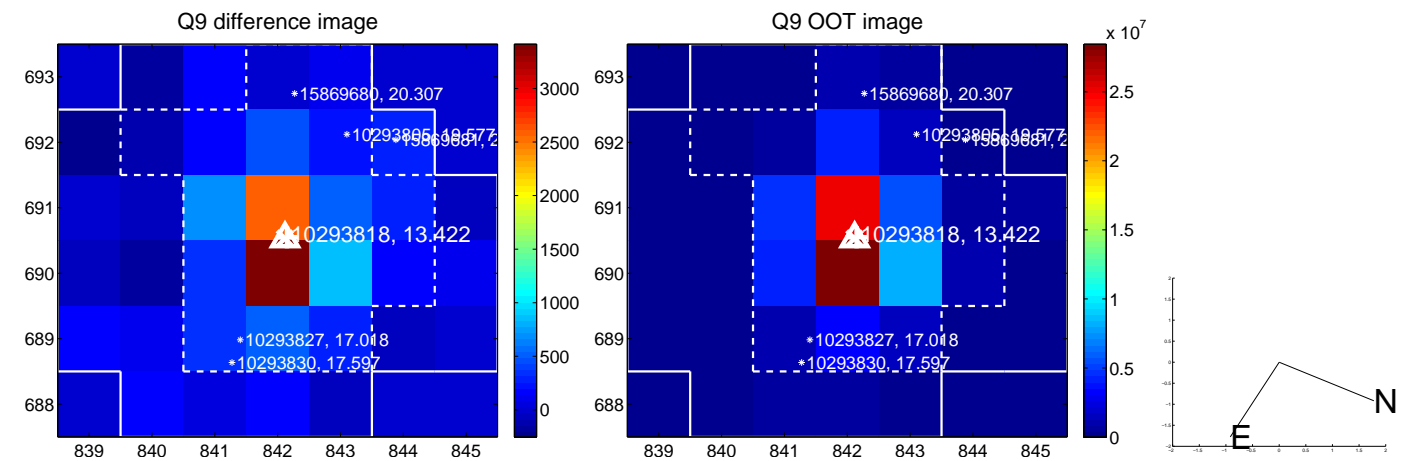


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

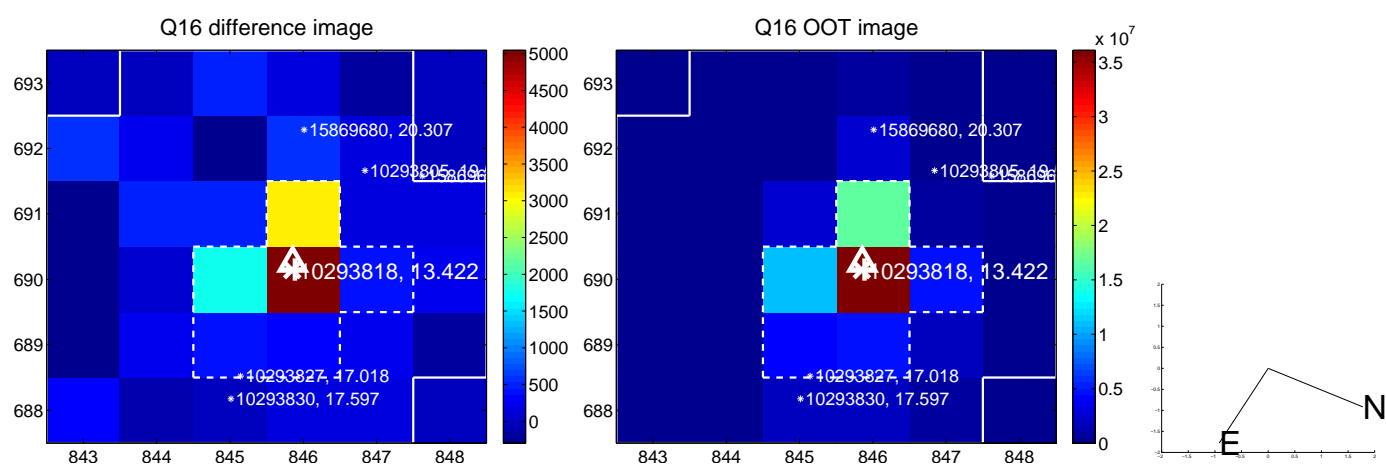
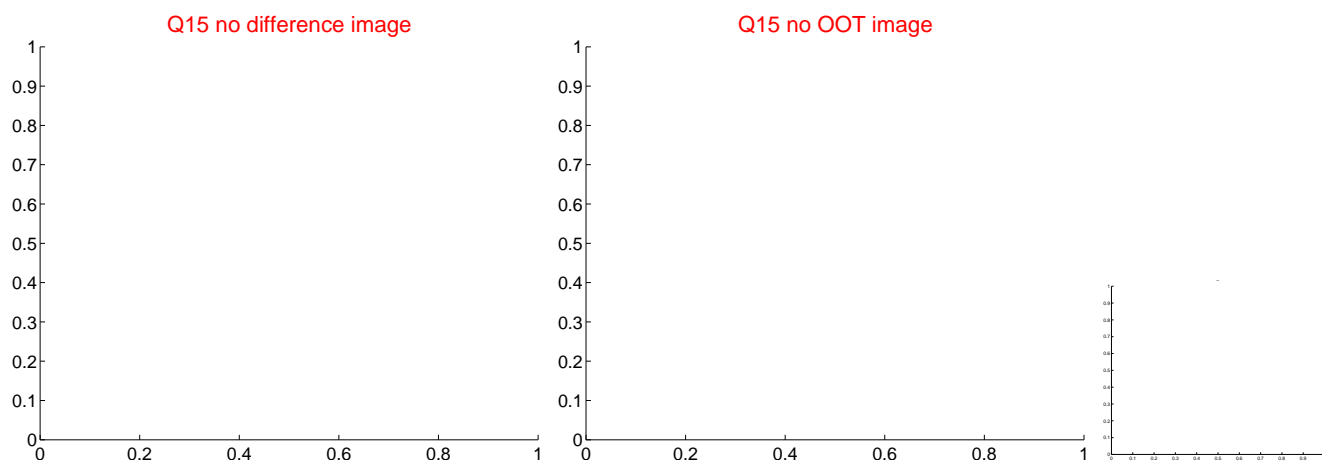
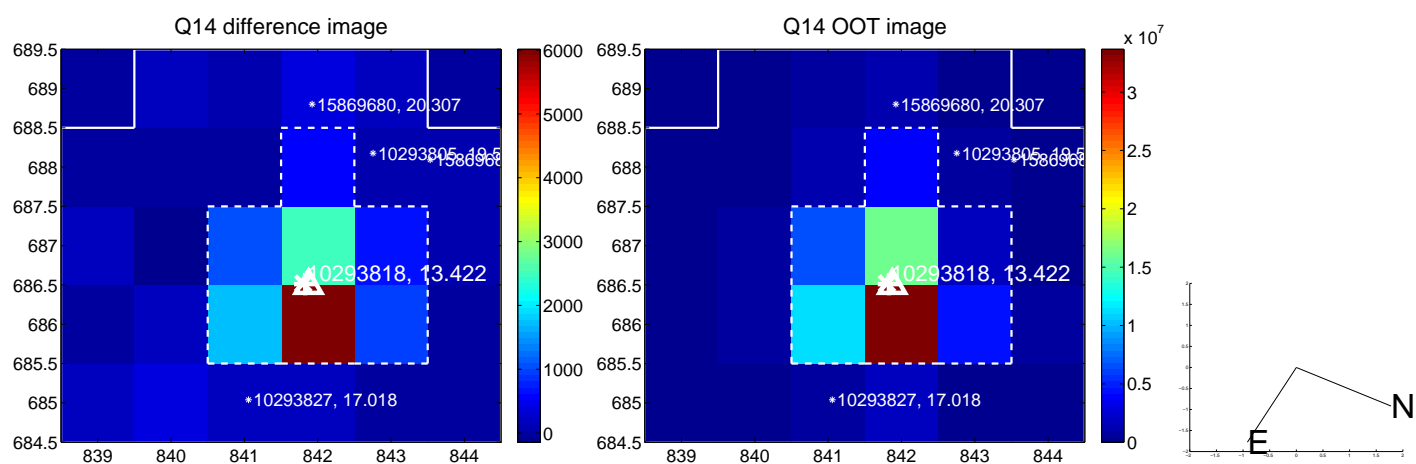
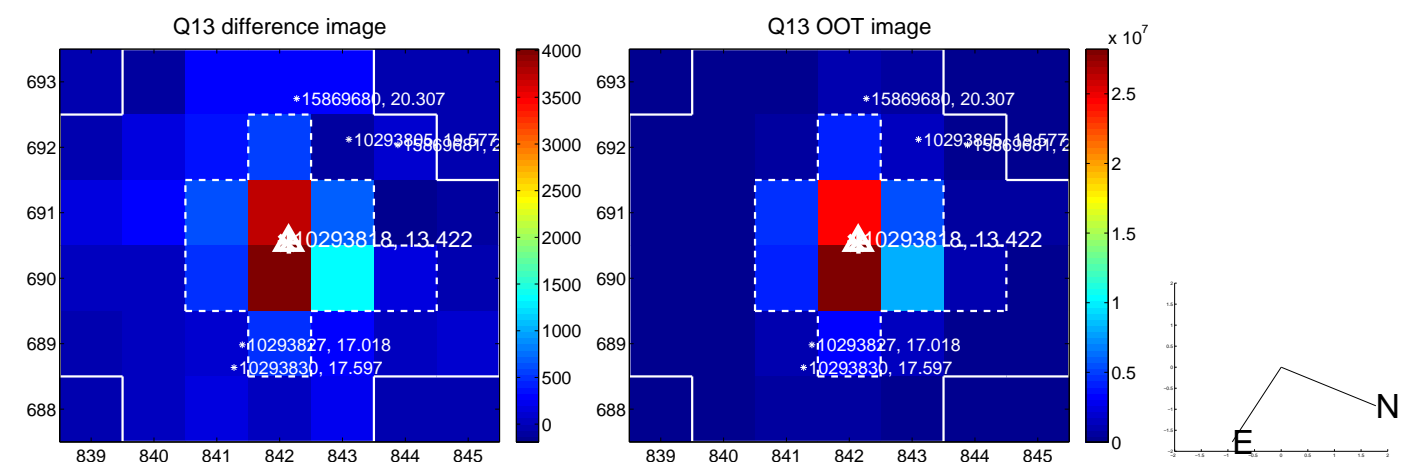




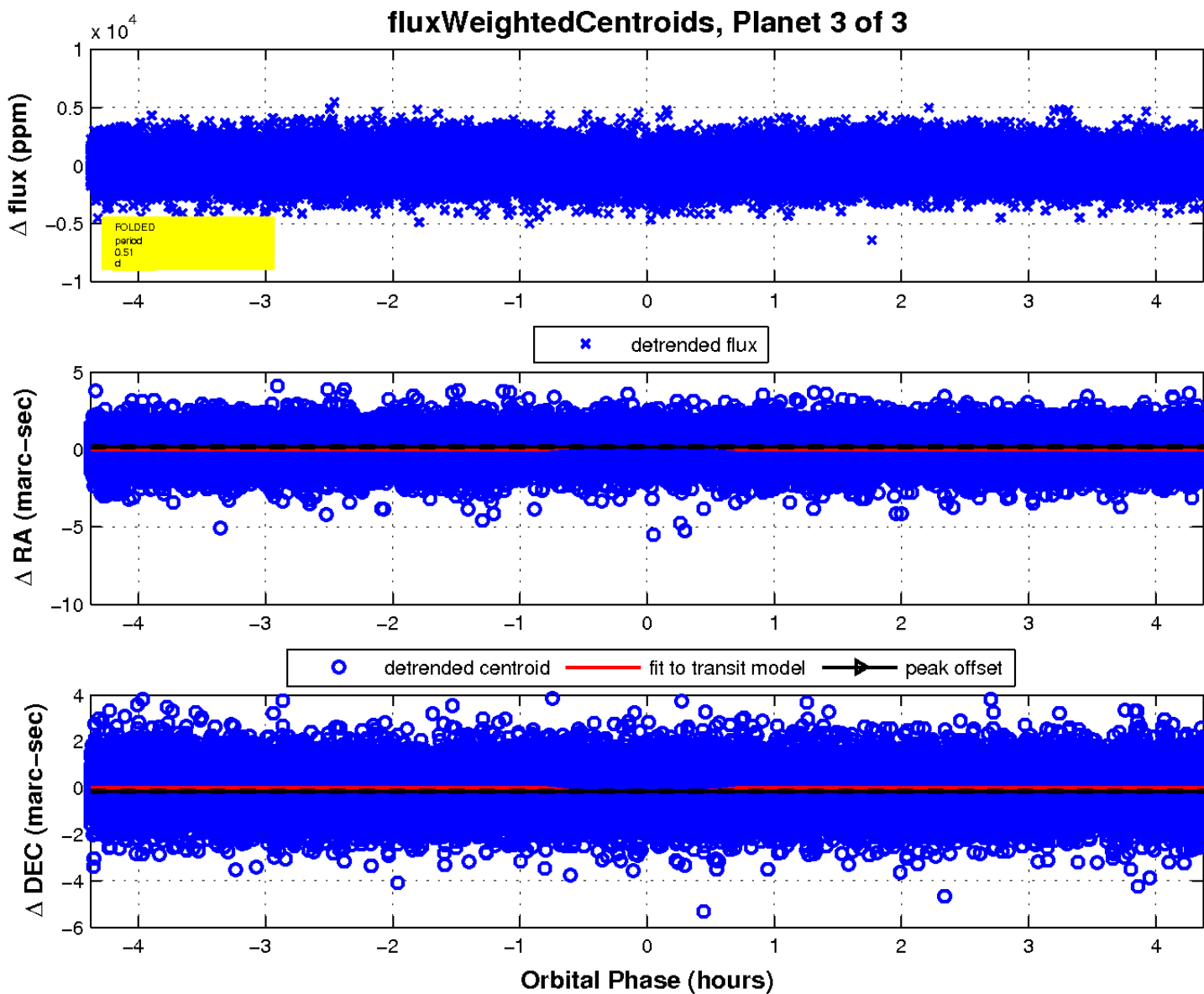
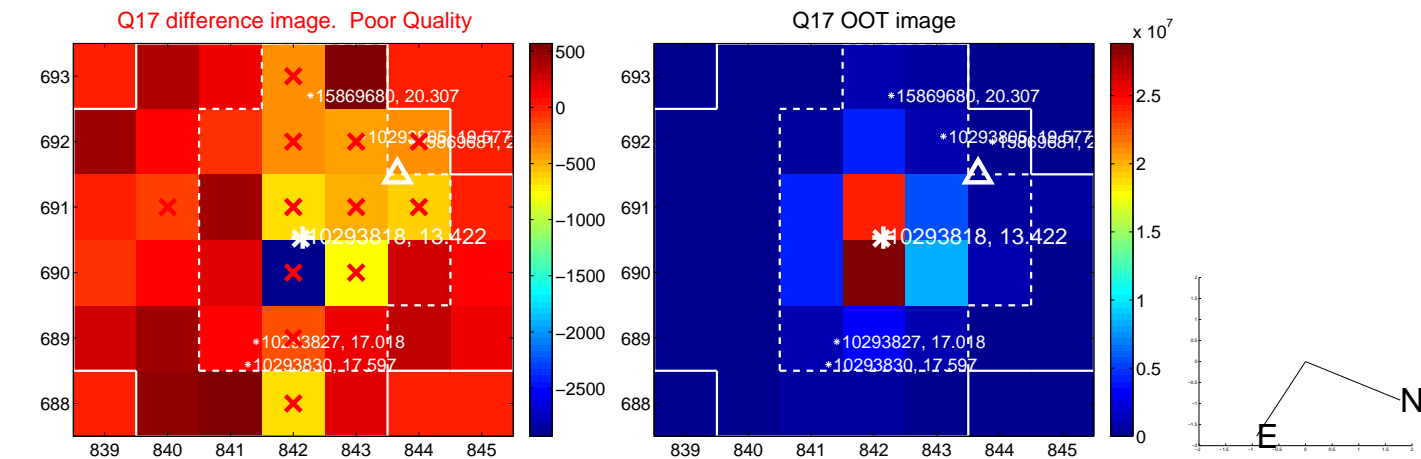
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

