

# KIC 008494783

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008494783-01	OBS	No	5.538914	134.335088	52.2	12.265	11.2	12.2	2.22	7282	3.22	2371.61
008494783-02	OBS	No	5.538956	133.338276	37.3	6.275	10.8	11.8	2.22	7282	1.37	2371.59
008494783-03	OBS	No	5.538807	132.430504	47.6	15.000	12.2	-1.0	2.22	7282	1.54	2371.68

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008494783-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008494783-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008494783-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

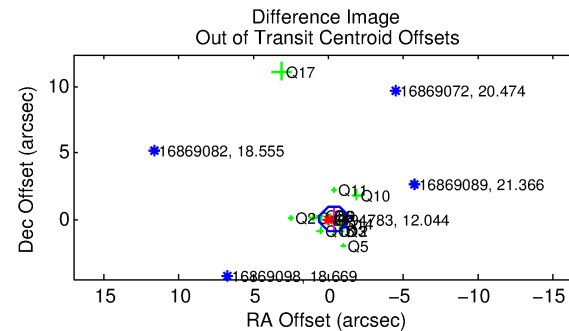
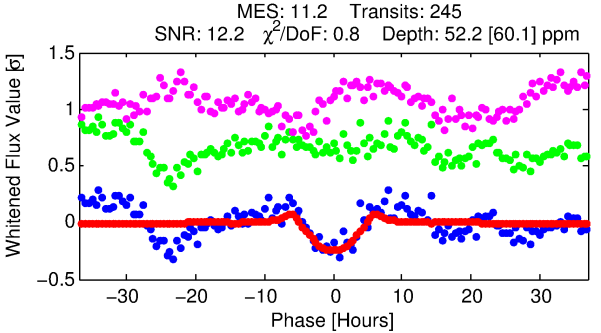
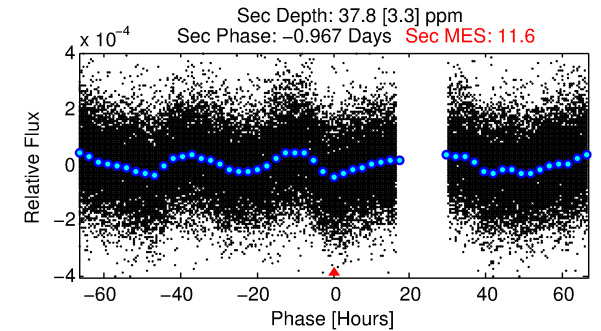
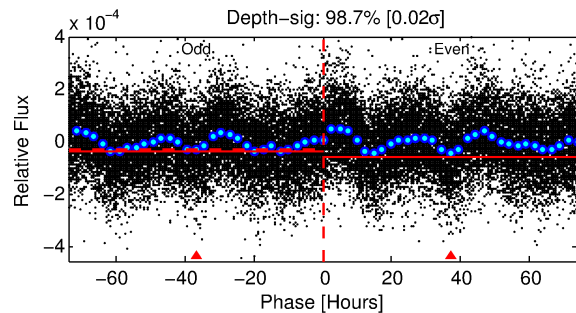
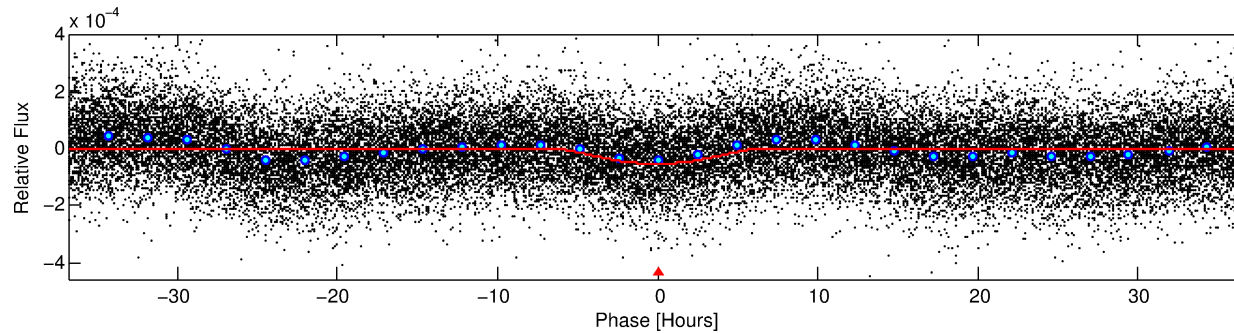
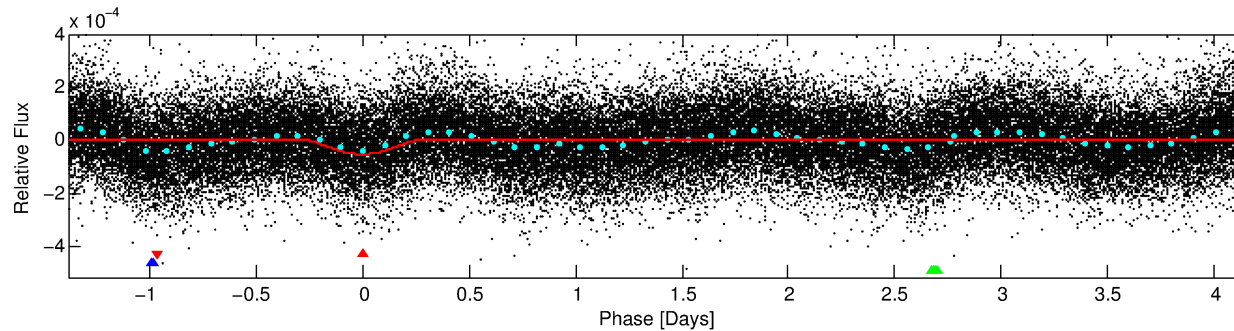
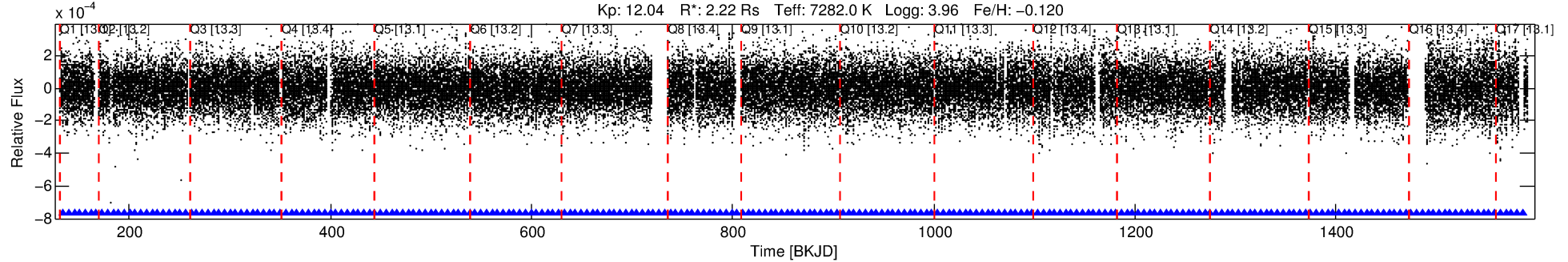
Ephemeris Match Information For 008494783-01

No Significant Match Found

# DV One-Page Summary

KIC: 8494783 Candidate: 1 of 3 Period: 5.539 d  
KOI: K06180 Corr: No Ephemeris Match

Kp: 12.04 R\*: 2.22 Rs Teff: 7282.0 K Logg: 3.96 Fe/H: -0.120



## DV Fit Results:

Period = 5.53891 [0.00012] d  
Epoch = 134.3351 [0.0172] BKJD  
Rp/R\* = 0.0133 [0.0183]  
a/R\* = 1.15 [0.09]  
b = 1.00 [0.02]  
Seff = 2371.61 [1142.40]  
Teq = 1779 [214] K  
Rp = 3.22 [4.55] Re  
a = 0.0722 [0.0210] AU  
Ag = 10.46 [29.15] [0.32σ]  
Teffp = 4947 [3409] K [0.93σ]

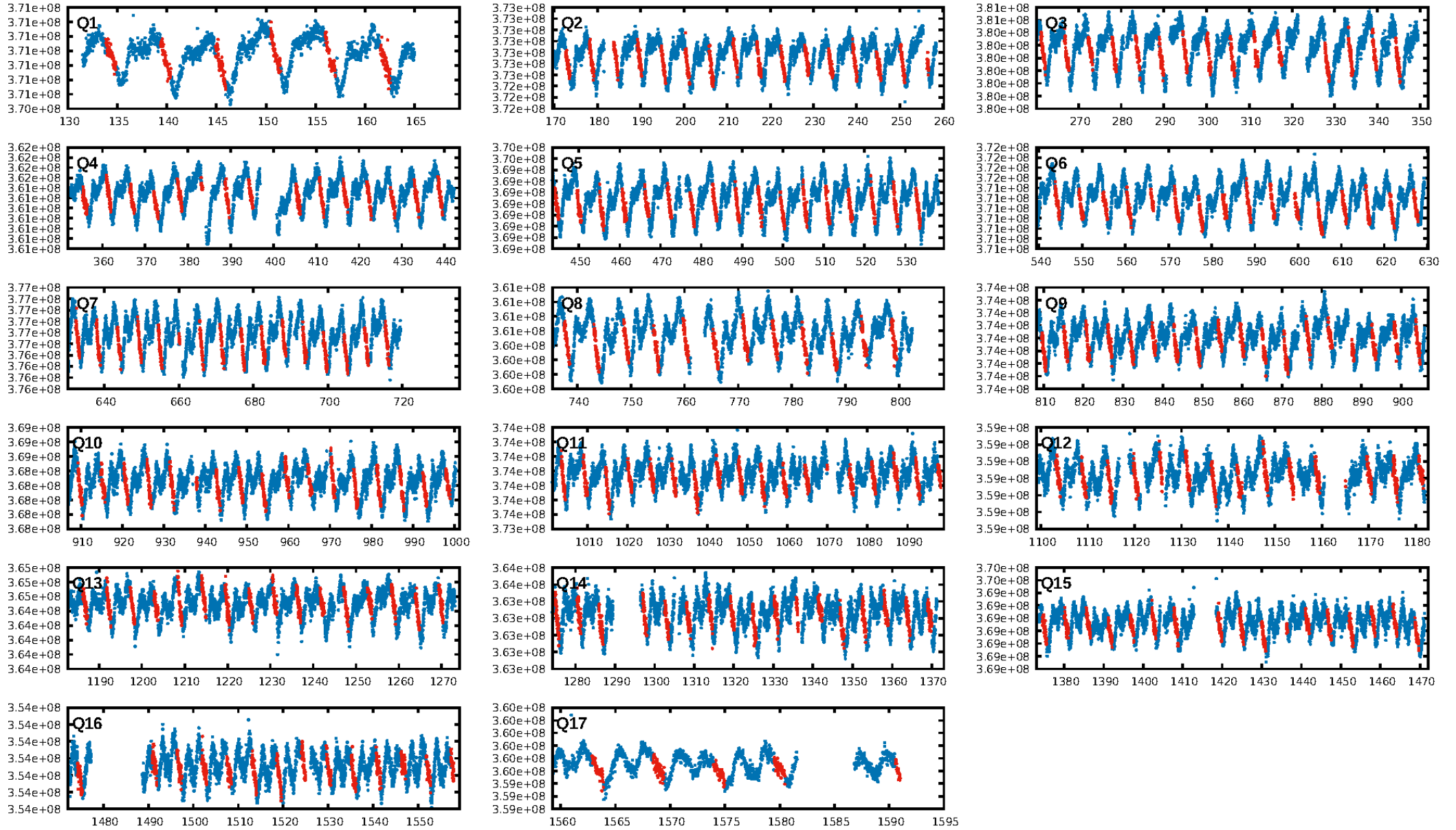
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.22e-15  
RollingBand-fgt: 1.00 [234/234]  
GhostDiagnostic-chr: 1.195  
Centroid-sig: 39.6%  
Centroid-so: 0.447 arcsec [1.06σ]  
OotOffset-rm: 0.381 arcsec [1.22σ]  
KicOffset-rm: 0.443 arcsec [1.45σ]  
OotOffset-st: 4/4/3/3 [14]  
KicOffset-st: 4/4/3/3 [14]  
DiffImageQuality-fgm: 0.86 [12/14]  
DiffImageOverlap-fno: 0.00 [0/17]

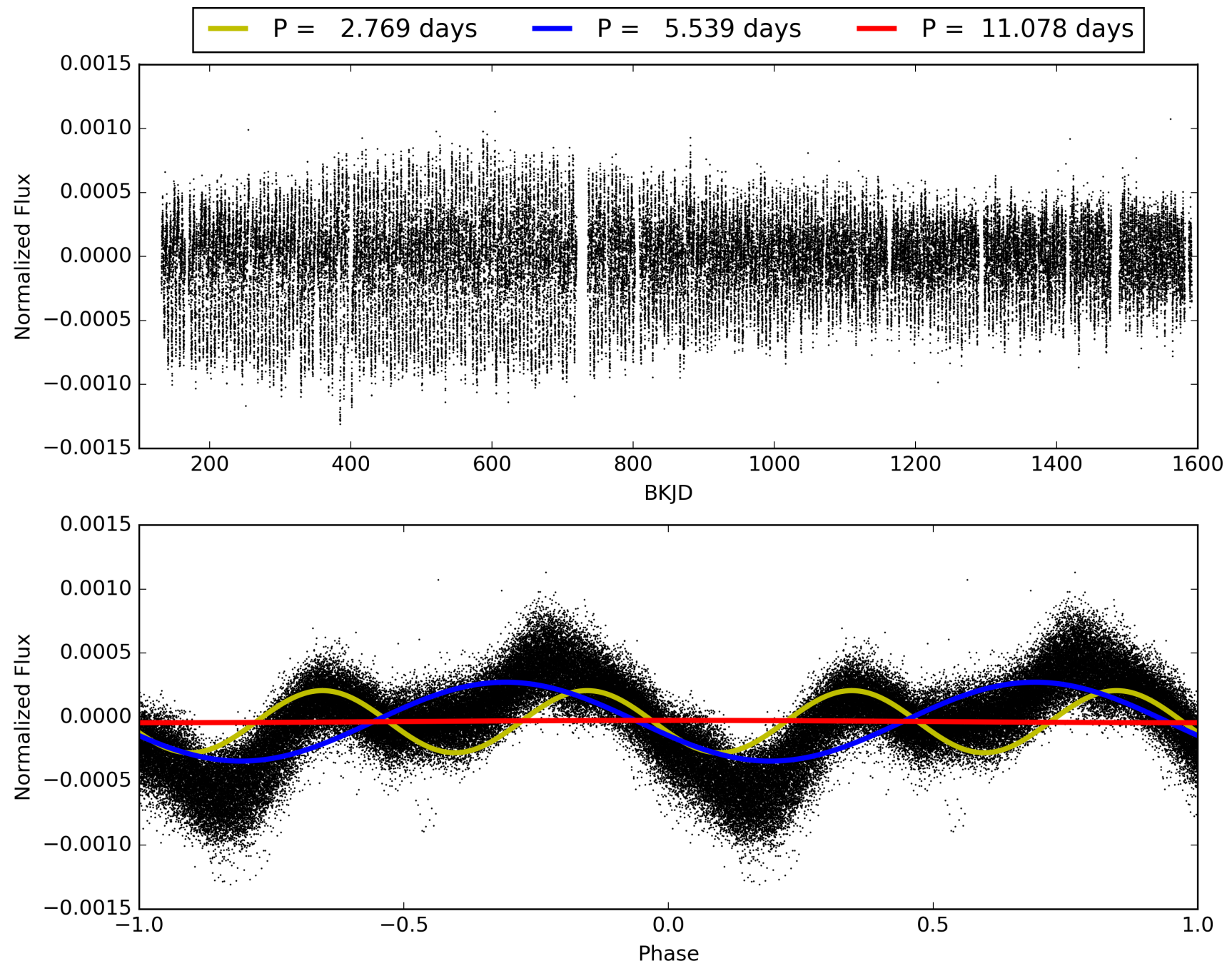
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:57:35 Z

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

# TCE 008494783-01, PDC Light Curves

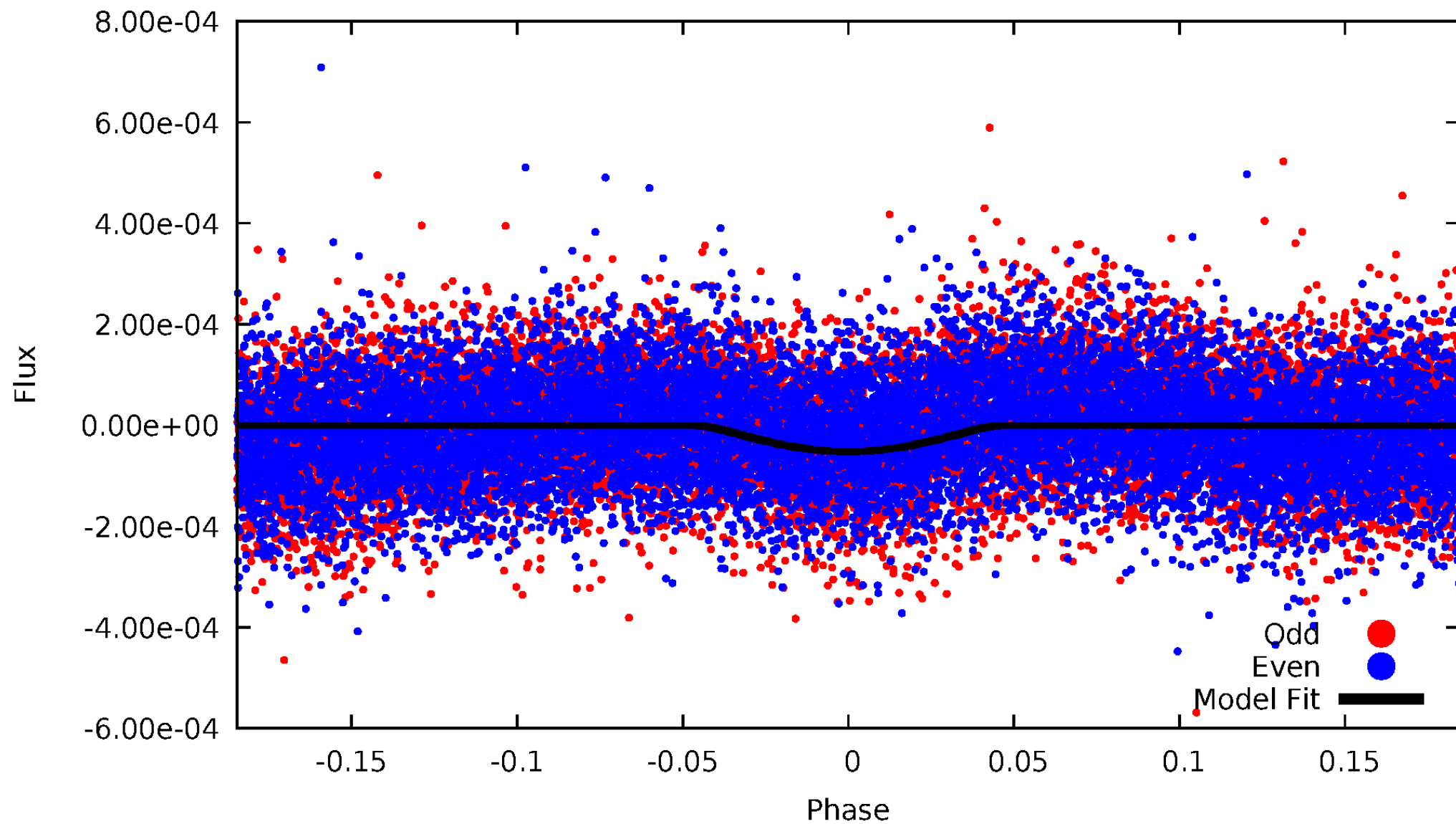


TCE 008494783-01



# DV Odd/Even

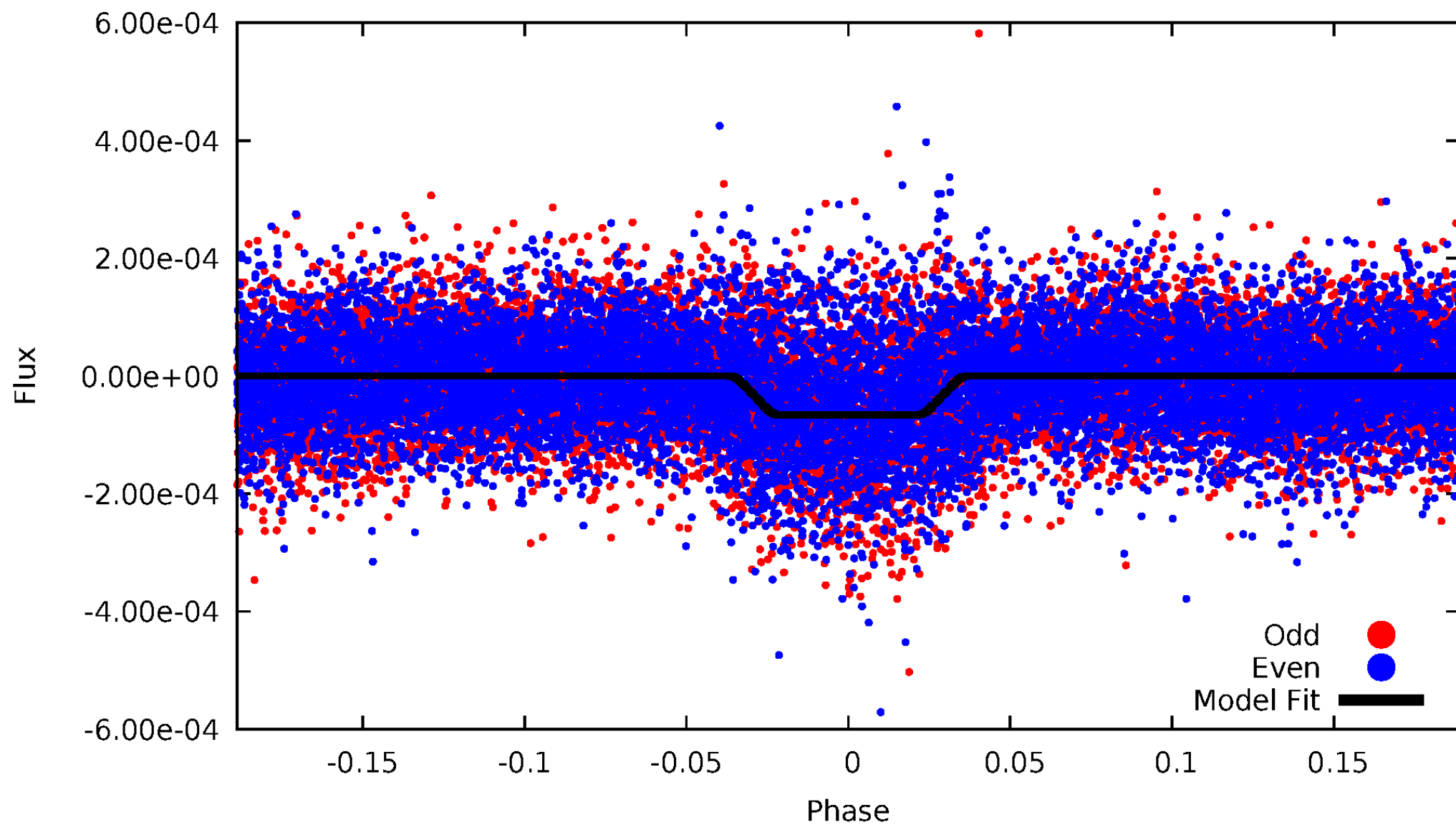
TCE 008494783-01





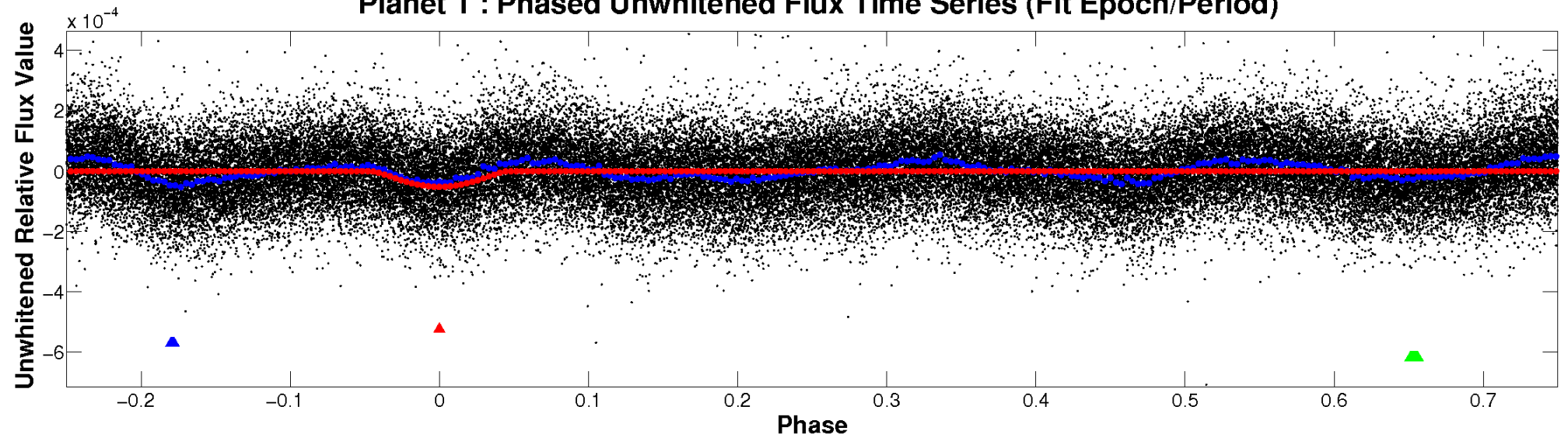
# ALT Odd/Even

TCE 008494783-01

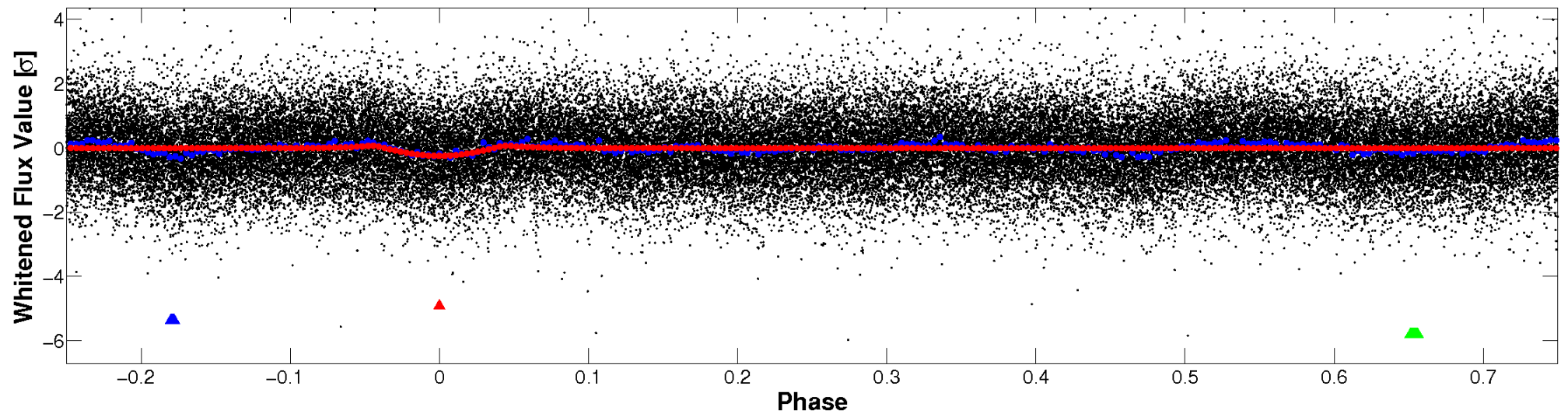


# Non-Whitened Vs. Whitened Light Curve

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

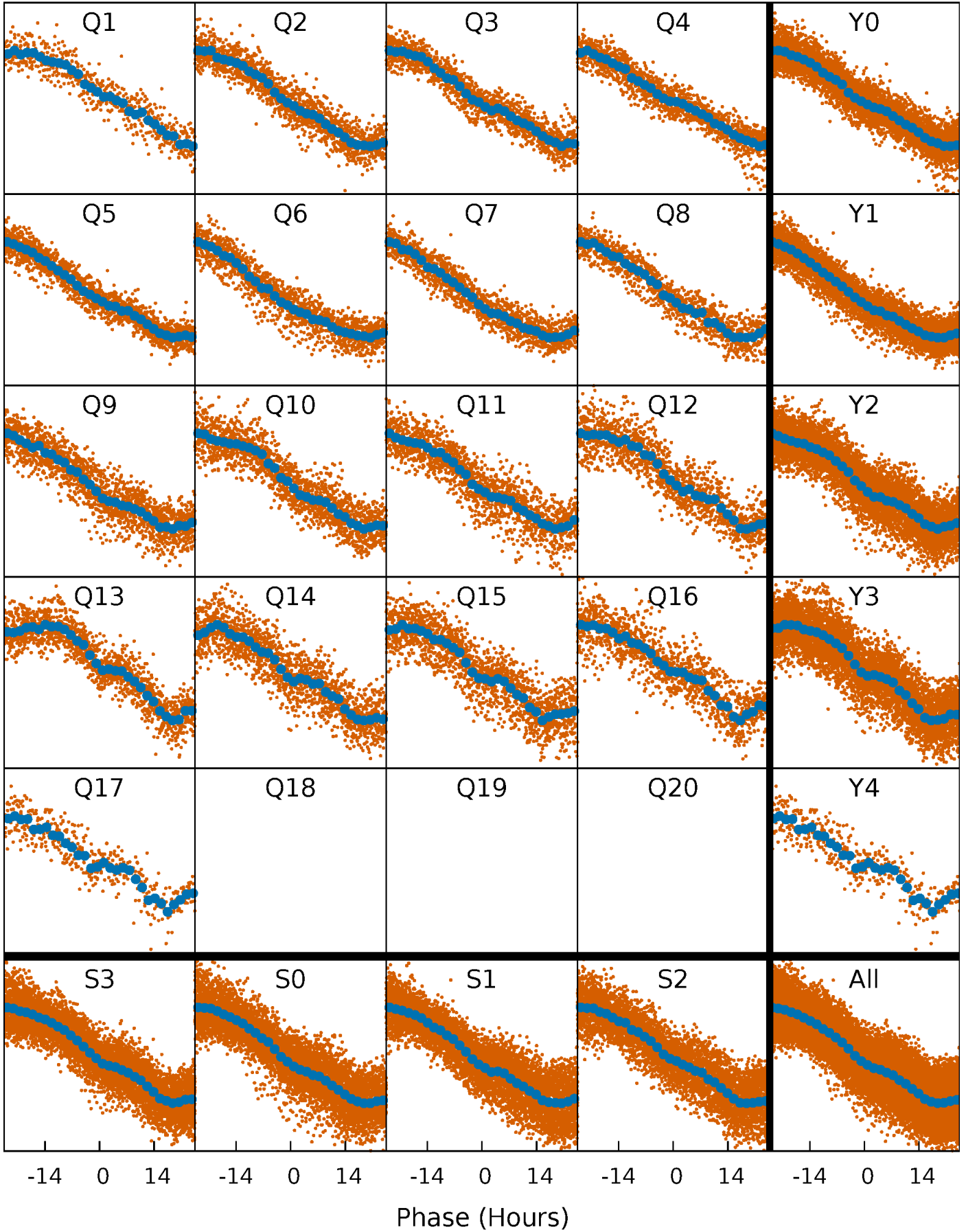


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

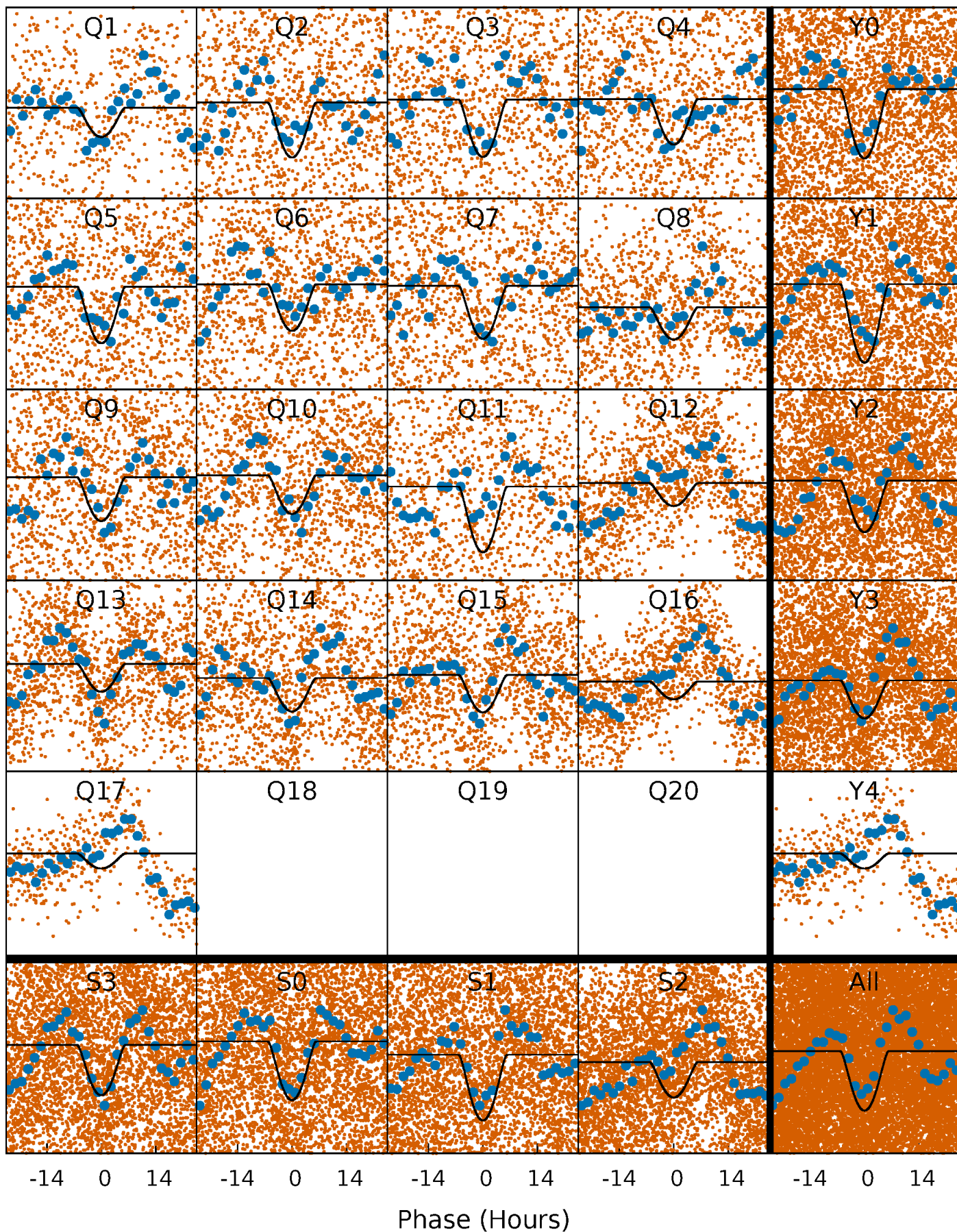
TCE 008494783-01 P= 5.538914 Days  $T_0=134.335088$  (BKJD)





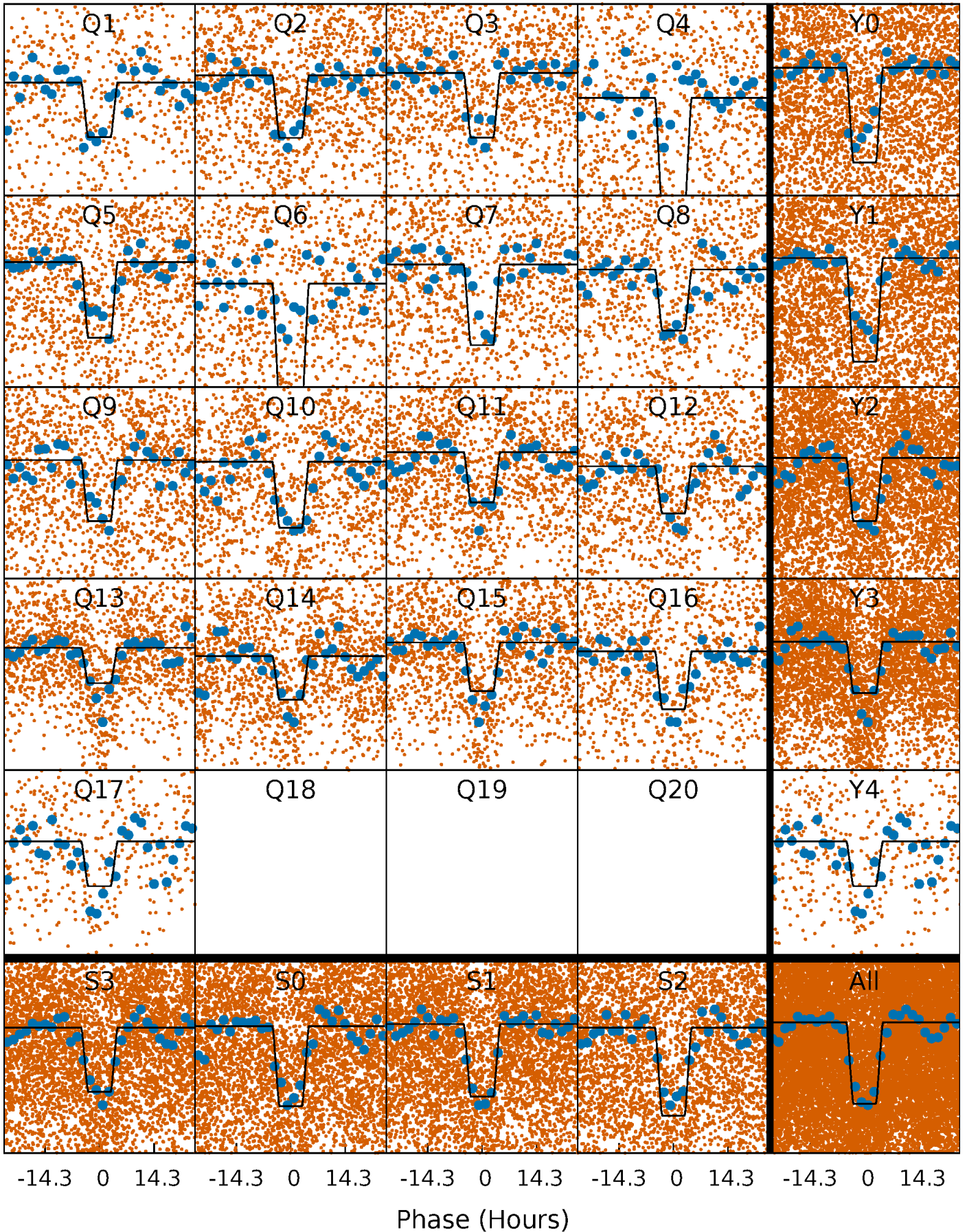
# DV Quarter-Phased Transit Curves

TCE 008494783-01 P= 5.538914 Days  $T_0=134.335088$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 008494783-01 P= 5.538755 Days  $T_0=134.348790$  (BKJD)

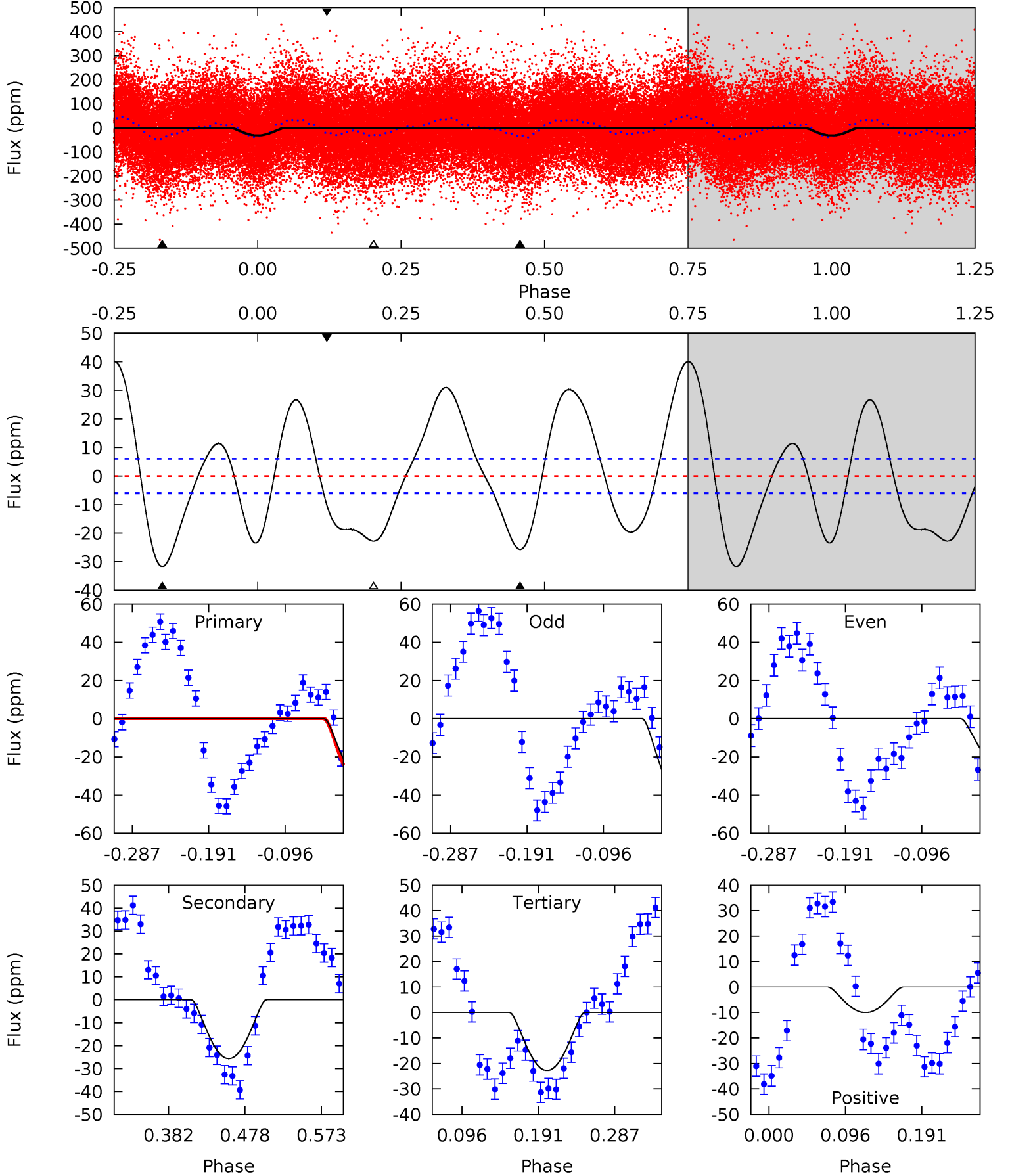




# DV Model-Shift Uniqueness Test

008494783-01, P = 5.538914 Days, E = 128.796174 Days

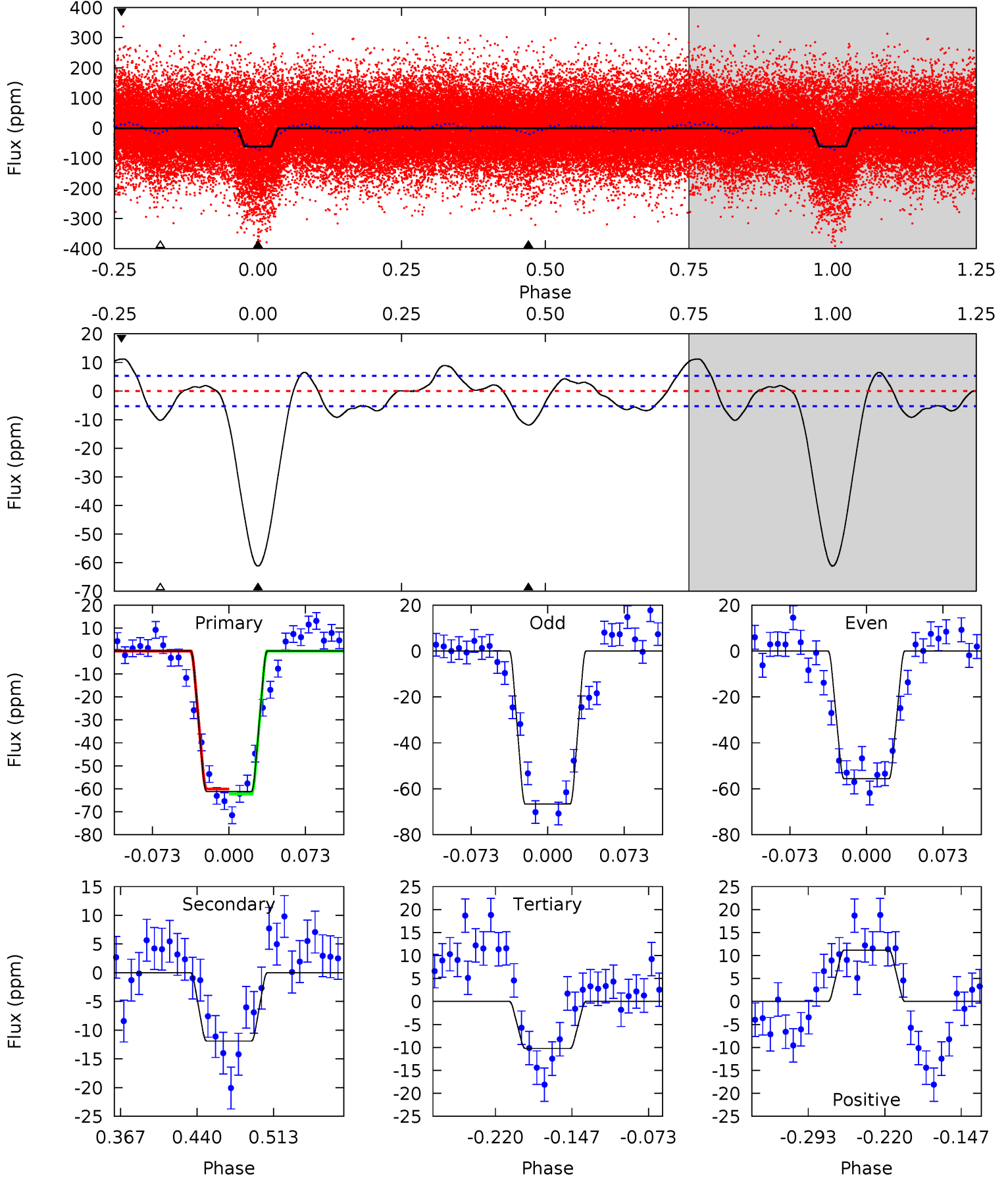
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.2	19.6	17.4	-7.65	4.57	1.67	13.7	6.80	31.8	2.22	27.2	6.37	0.97	0.56	3.71



# Alt Model-Shift Uniqueness Test

008494783-01, P = 5.538755 Days, E = 128.810035 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
53.6	10.4	8.96	9.77	4.63	1.79	4.72	44.6	43.8	1.45	0.64	4.81	0.96	0.15	0.95



### Stellar Parameters For KIC 008494783

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7282^{+228}_{-304}$	$3.961^{+0.260}_{-0.160}$	$-0.120^{+0.250}_{-0.350}$	$2.216^{+0.576}_{-0.704}$	$1.636^{+0.184}_{-0.316}$	$0.212^{+0.353}_{-0.085}$
	+3%/-4%	+7%/-4%	+208%/-292%	+26%/-32%	+11%/-19%	+167%/-40%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 008494783-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-26 \pm 1$	$4.18^{+3.81}_{-2.82}$	$2470^{+184}_{-222}$	$4054^{+2487}_{-858}$	$4.091^{+33.319}_{-2.964}$
Alt.	$-12 \pm 1$	$3.90^{+3.56}_{-2.55}$	$2445^{+214}_{-204}$	$3588^{+1988}_{-796}$	$2.217^{+16.390}_{-1.603}$

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



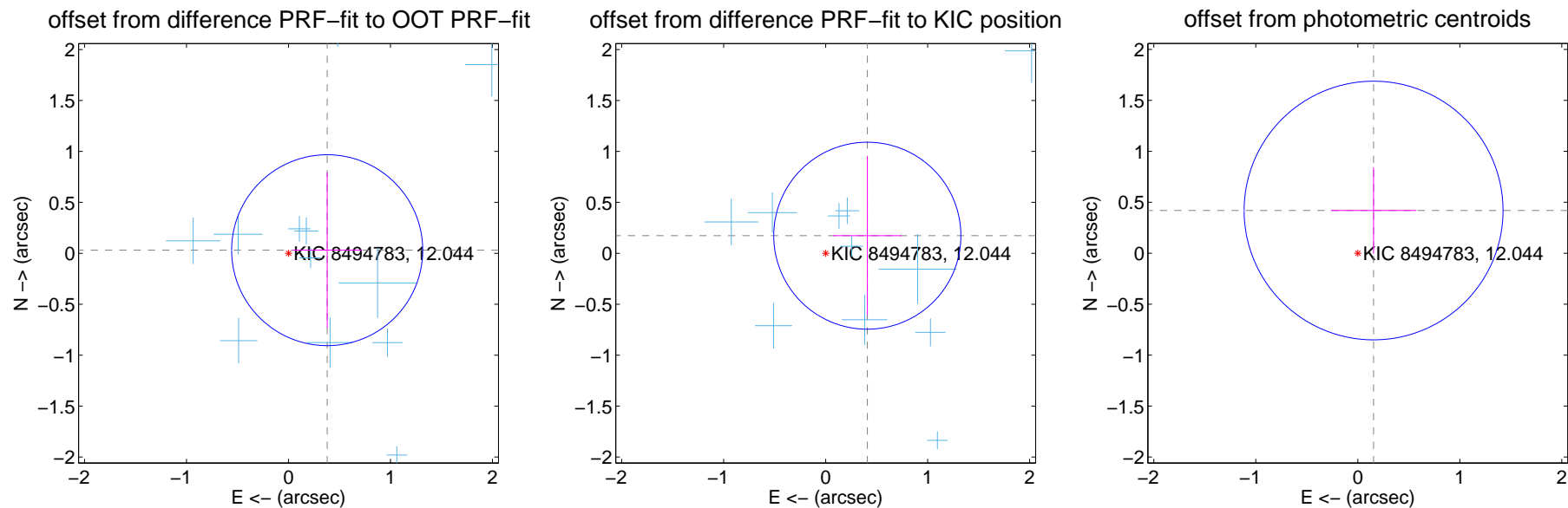
## DV Centroid Data

Supplemental centroid analysis for 008494783-01. Kepler magnitude: 12.04. Transit SNR 12.23

There are 12 quarters with good PRF difference image offsets

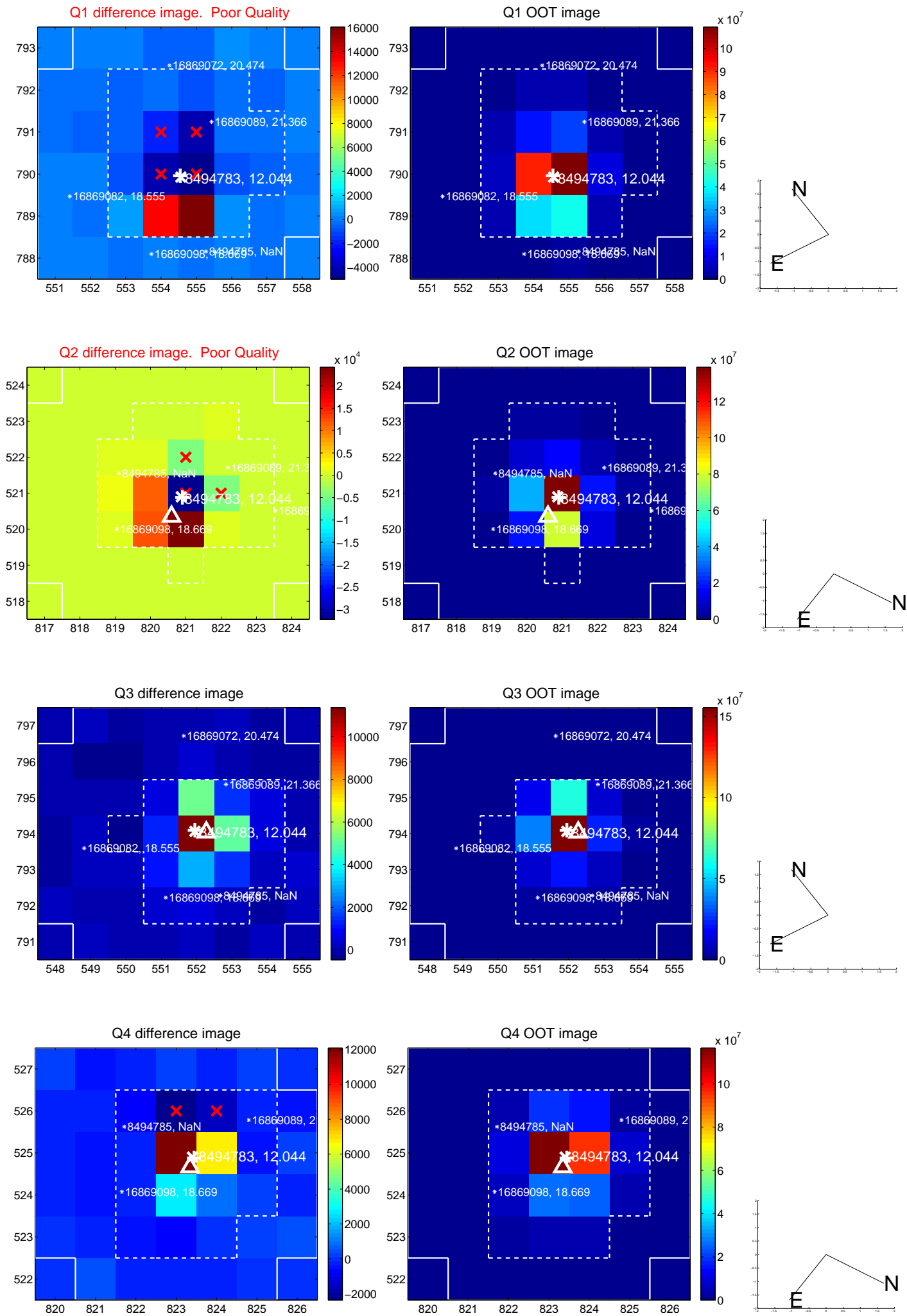
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.381 \pm 0.312$	1.22	$-0.379 \pm 0.340$	$0.030 \pm 0.763$
PRF-fit source offset from KIC position	$0.443 \pm 0.306$	1.45	$-0.408 \pm 0.335$	$0.173 \pm 0.778$
photometric centroid source offset	$0.45 \pm 0.42$	1.06	$-0.15 \pm 0.42$	$0.42 \pm 0.42$

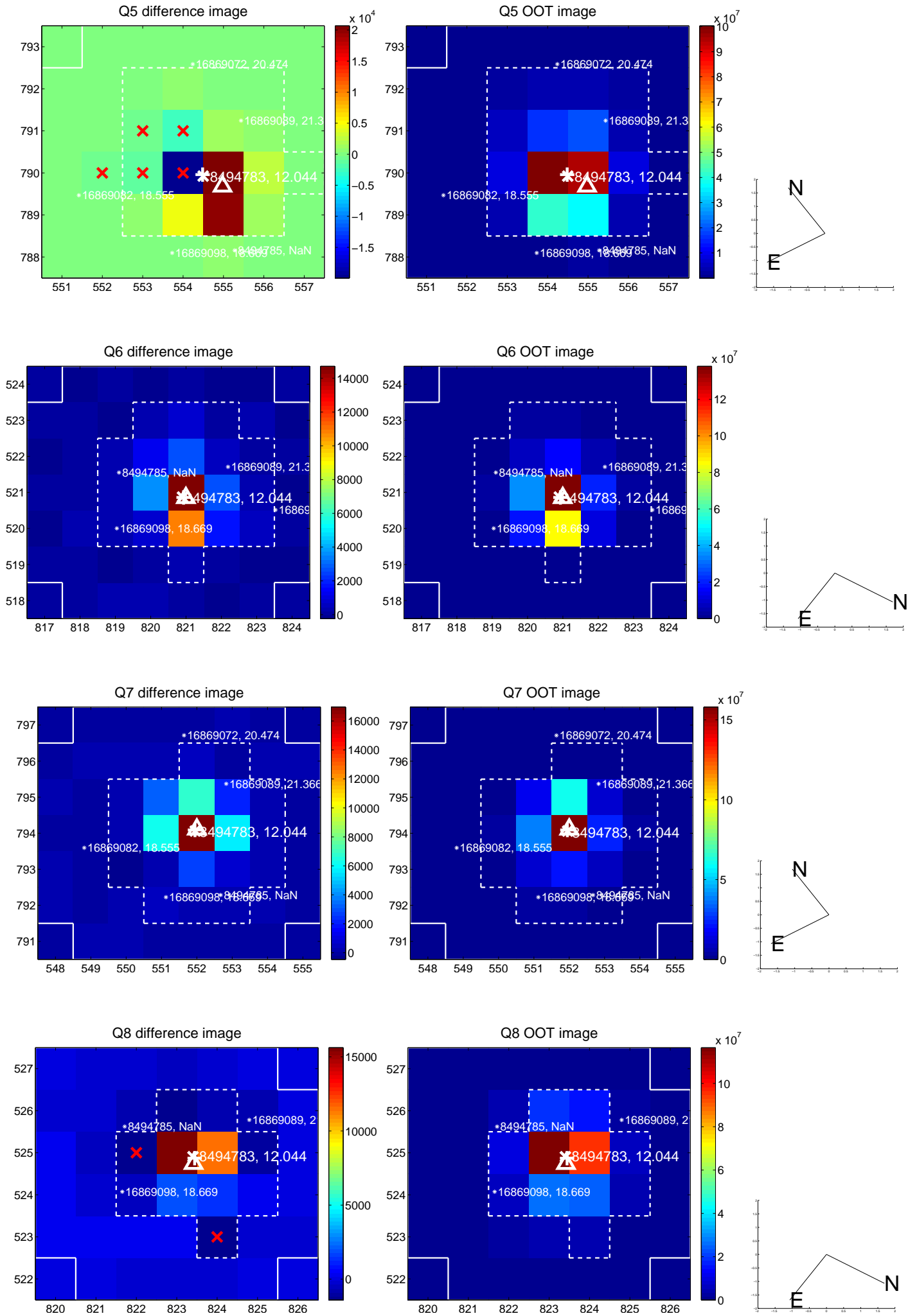


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

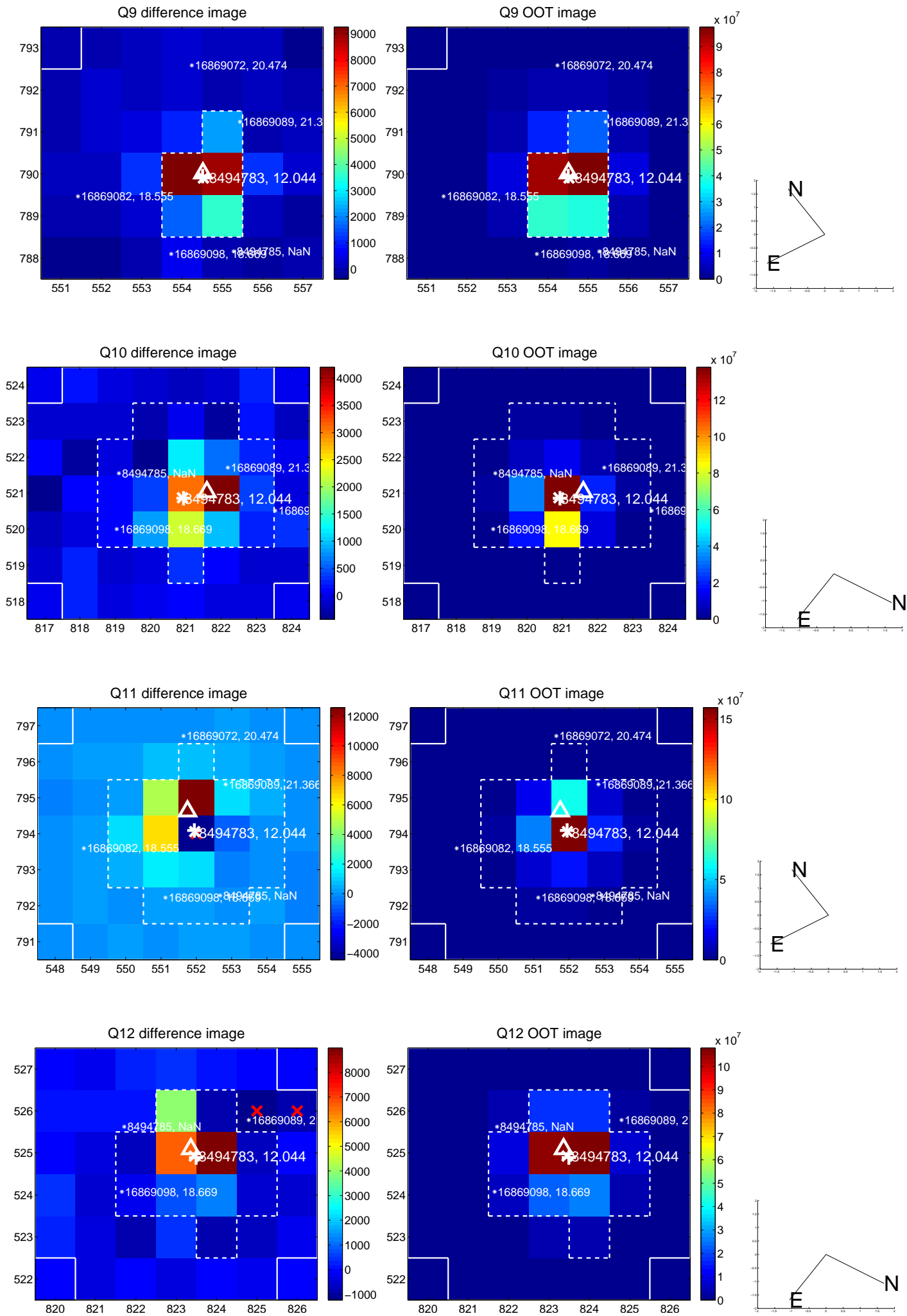
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



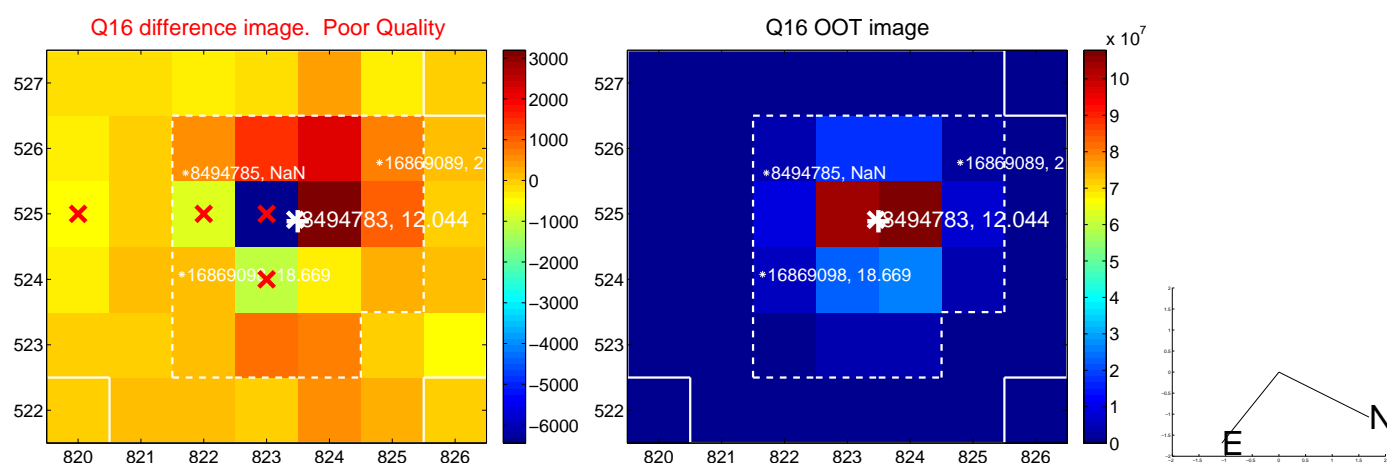
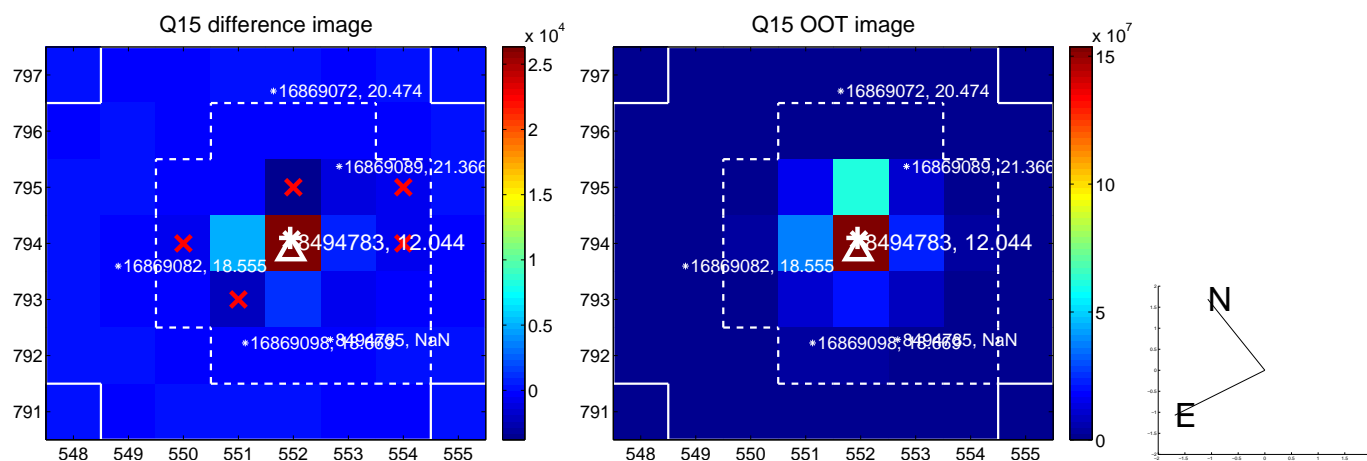
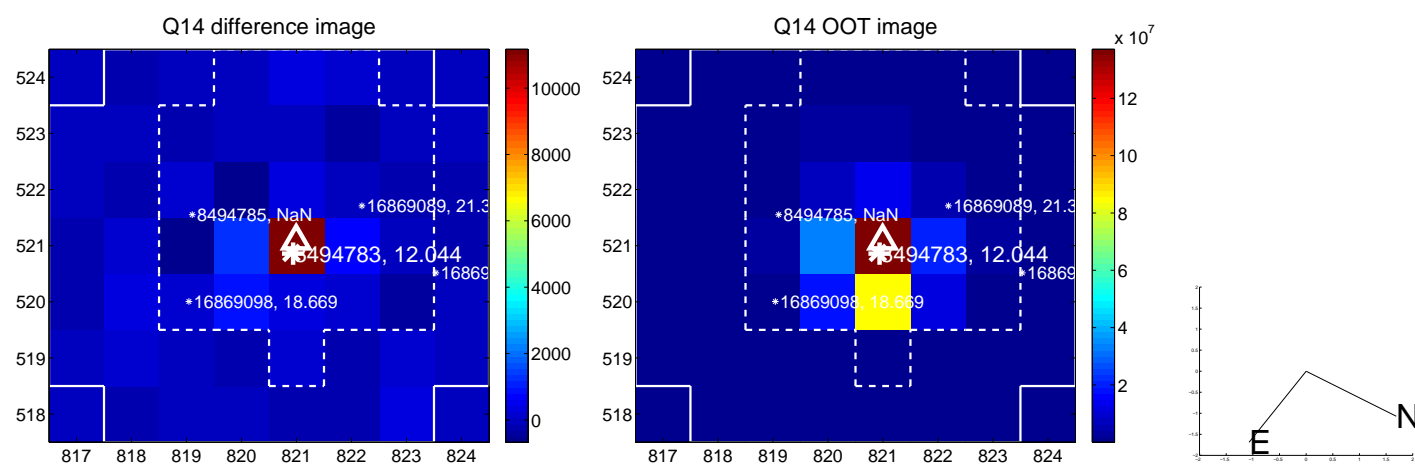
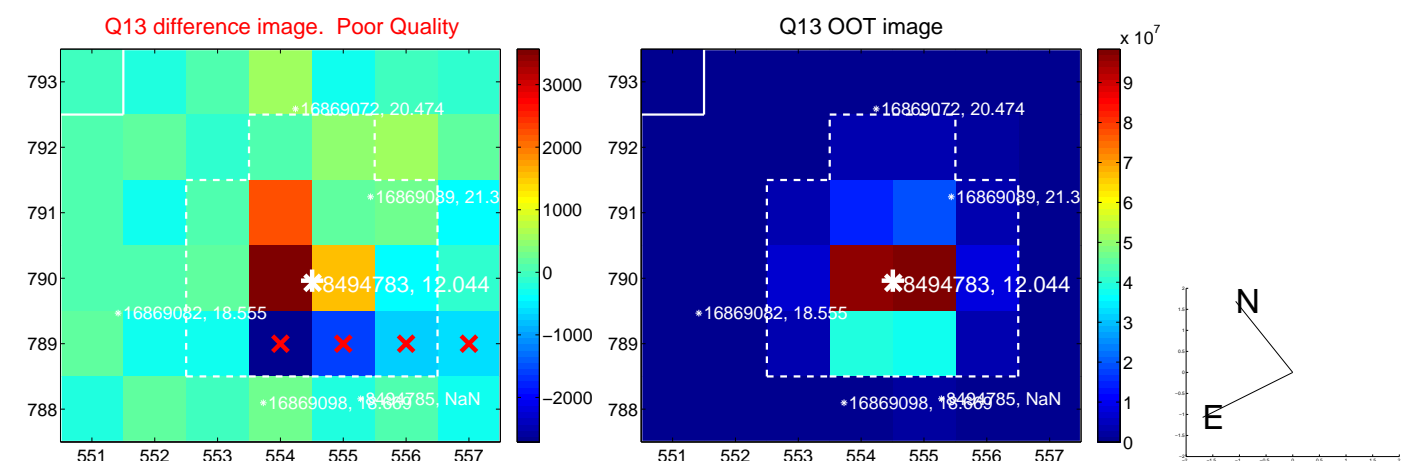
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

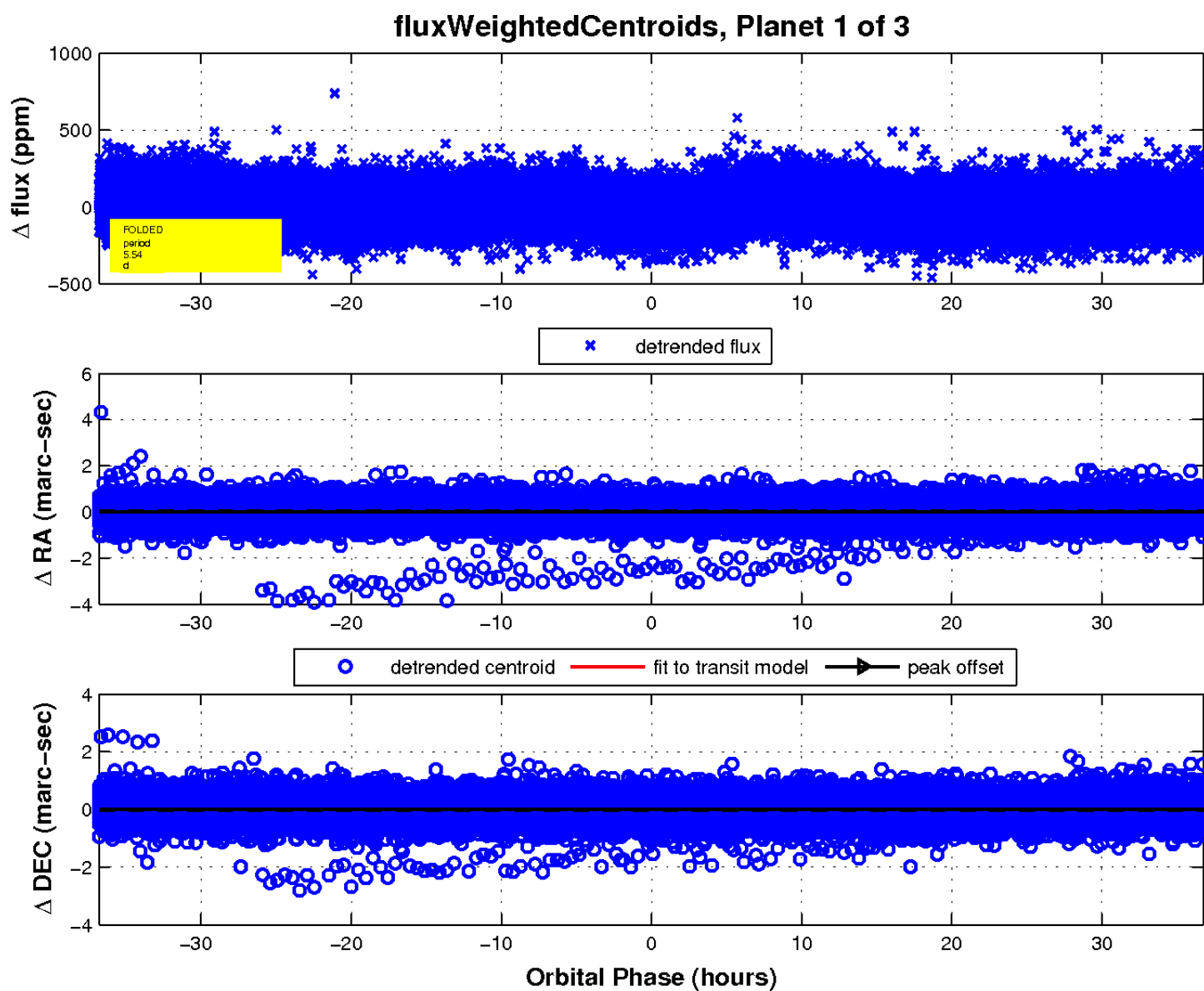
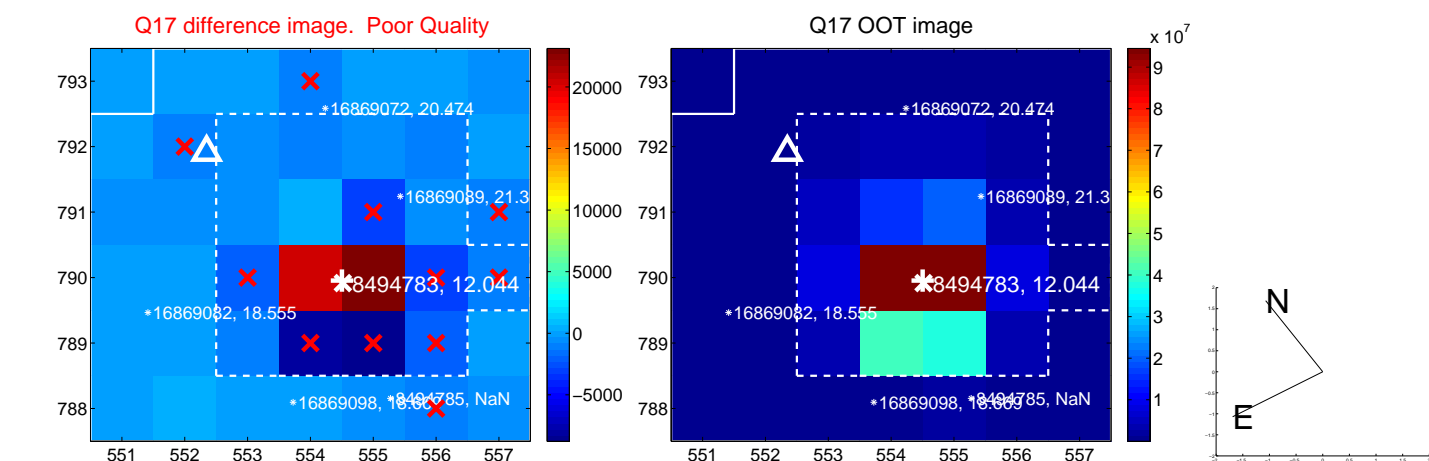


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



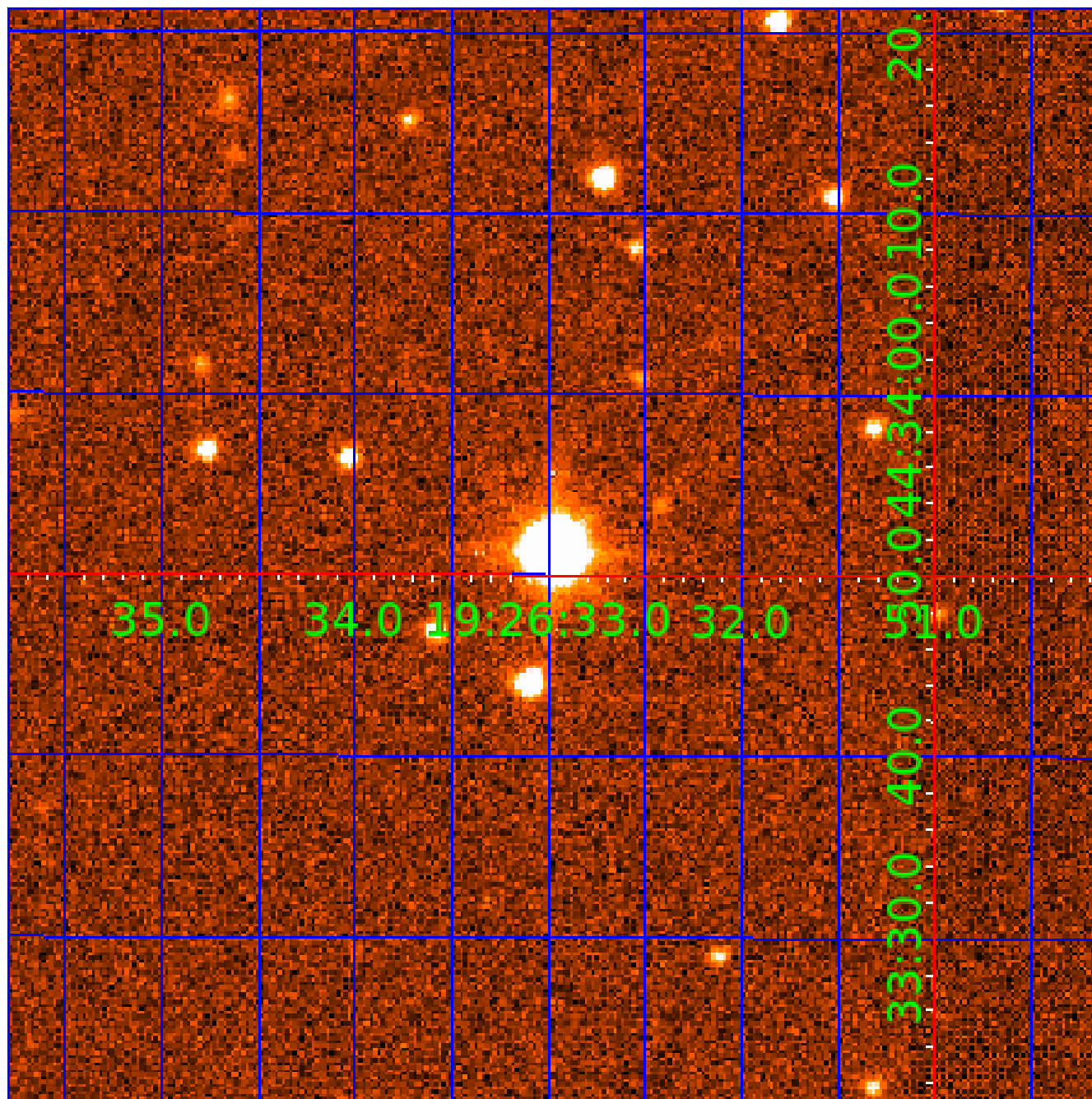


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 008494783

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008494783-01	OBS	No	5.538914	134.335088	52.2	12.265	11.2	12.2	2.22	7282	3.22	2371.61
008494783-02	OBS	No	5.538956	133.338276	37.3	6.275	10.8	11.8	2.22	7282	1.37	2371.59
008494783-03	OBS	No	5.538807	132.430504	47.6	15.000	12.2	-1.0	2.22	7282	1.54	2371.68

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008494783-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008494783-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008494783-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

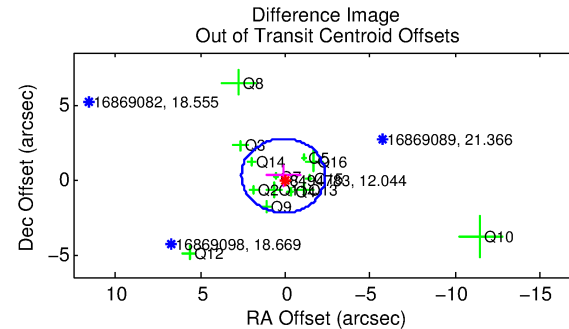
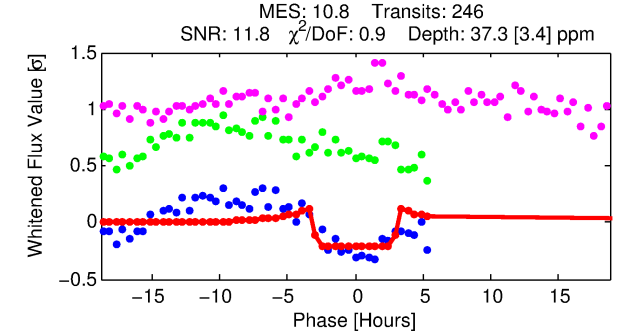
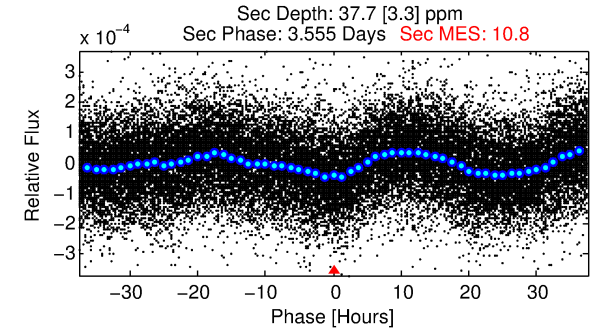
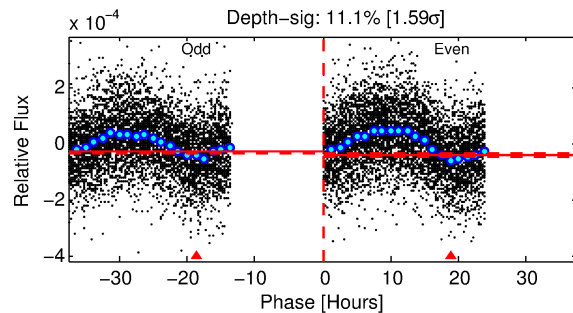
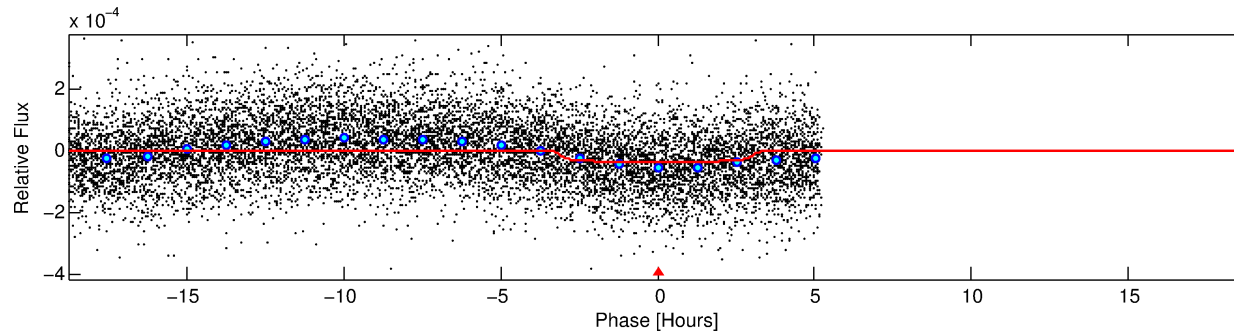
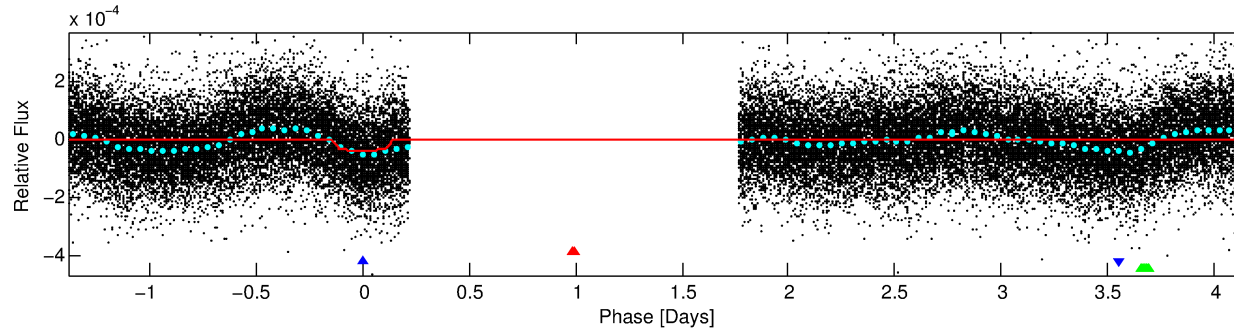
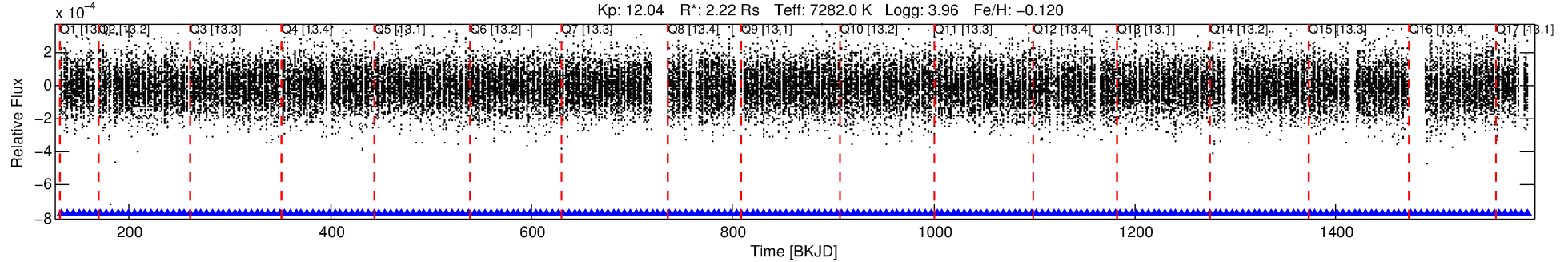
## Ephemeris Match Information For 008494783-02

No Significant Match Found

# DV One-Page Summary

KIC: 8494783 Candidate: 2 of 3 Period: 5.539 d  
KOI: K06180 Corr: No Ephemeris Match

Kp: 12.04 R\*: 2.22 Rs Teff: 7282.0 K Logg: 3.96 Fe/H: -0.120



## DV Fit Results:

Period = 5.53896 [0.00003] d  
Epoch = 133.3383 [0.0044] BKJD  
Rp/R\* = 0.0057 [0.0041]  
a/R\* = 6.77 [27.44]  
b = 0.10 [41.16]  
Seff = 2371.59 [1142.39]  
Teq = 1779 [214] K  
Rp = 1.37 [1.08] Re  
a = 0.0722 [0.0210] AU  
Ag = 57.80 [87.98] [0.65σ]  
Teffp = 7586 [2775] K [2.09σ]

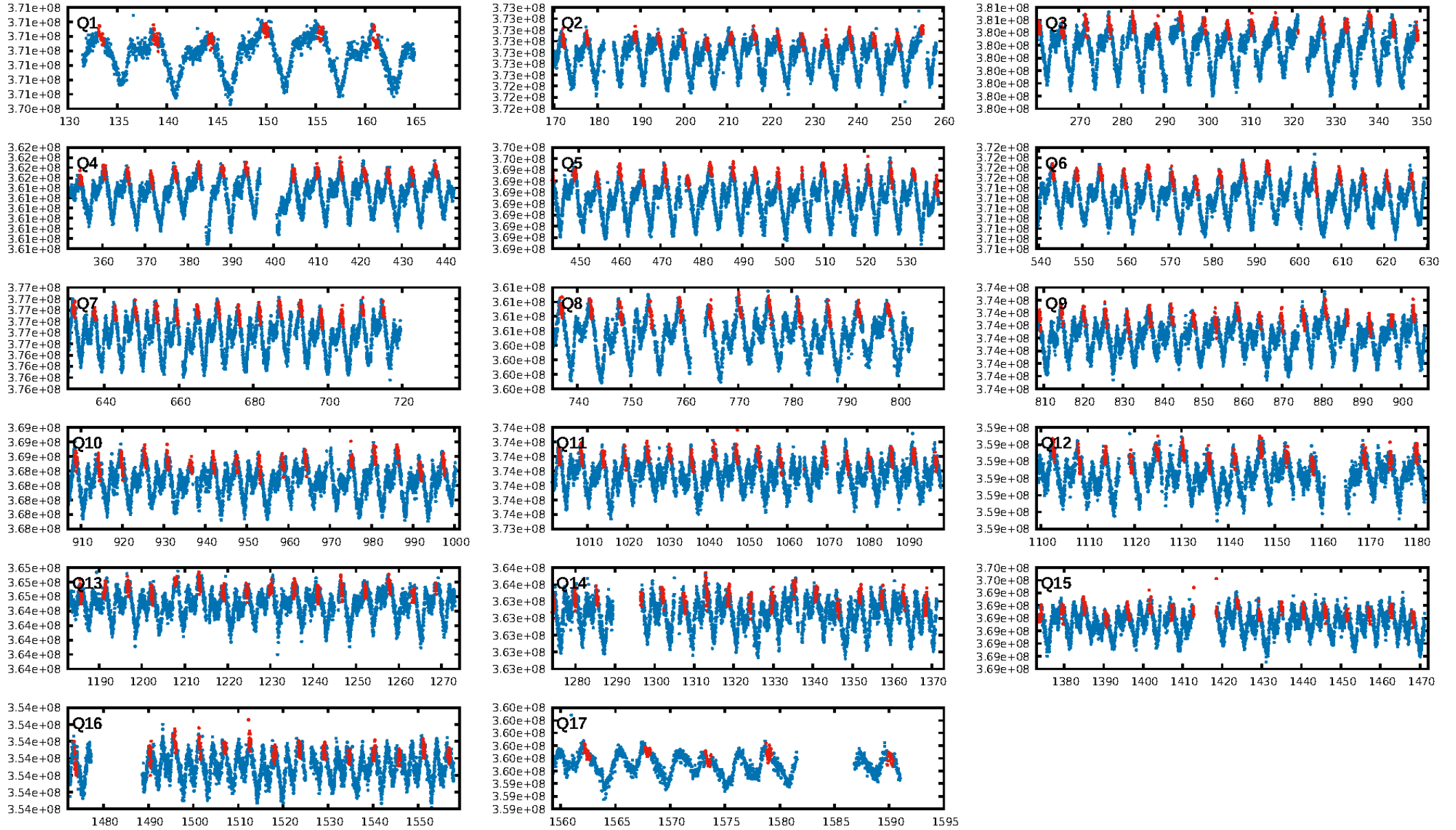
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.28e-14  
RollingBand-fgt: 1.00 [235/235]  
GhostDiagnostic-chr: -2.28  
Centroid-sig: 17.1%  
Centroid-so: 0.507 arcsec [0.88σ]  
OotOffset-rm: 0.276 arcsec [0.33σ]  
KicOffset-rm: 0.402 arcsec [0.56σ]  
OotOffset-st: 3/4/4/3 [14]  
KicOffset-st: 3/4/4/3 [14]  
DiffImageQuality-fgm: 0.21 [3/14]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:57:44 Z

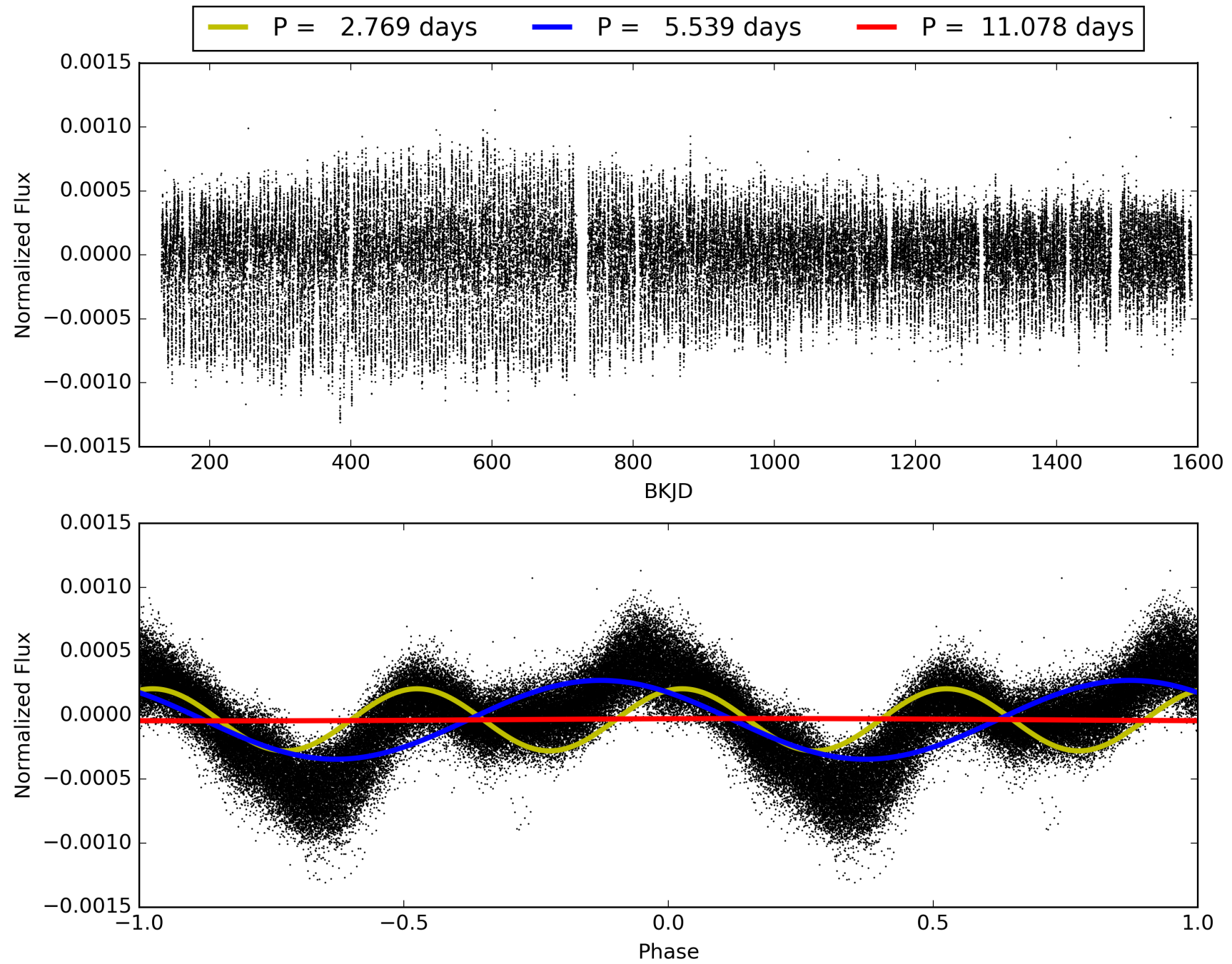
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008494783-02, PDC Light Curves



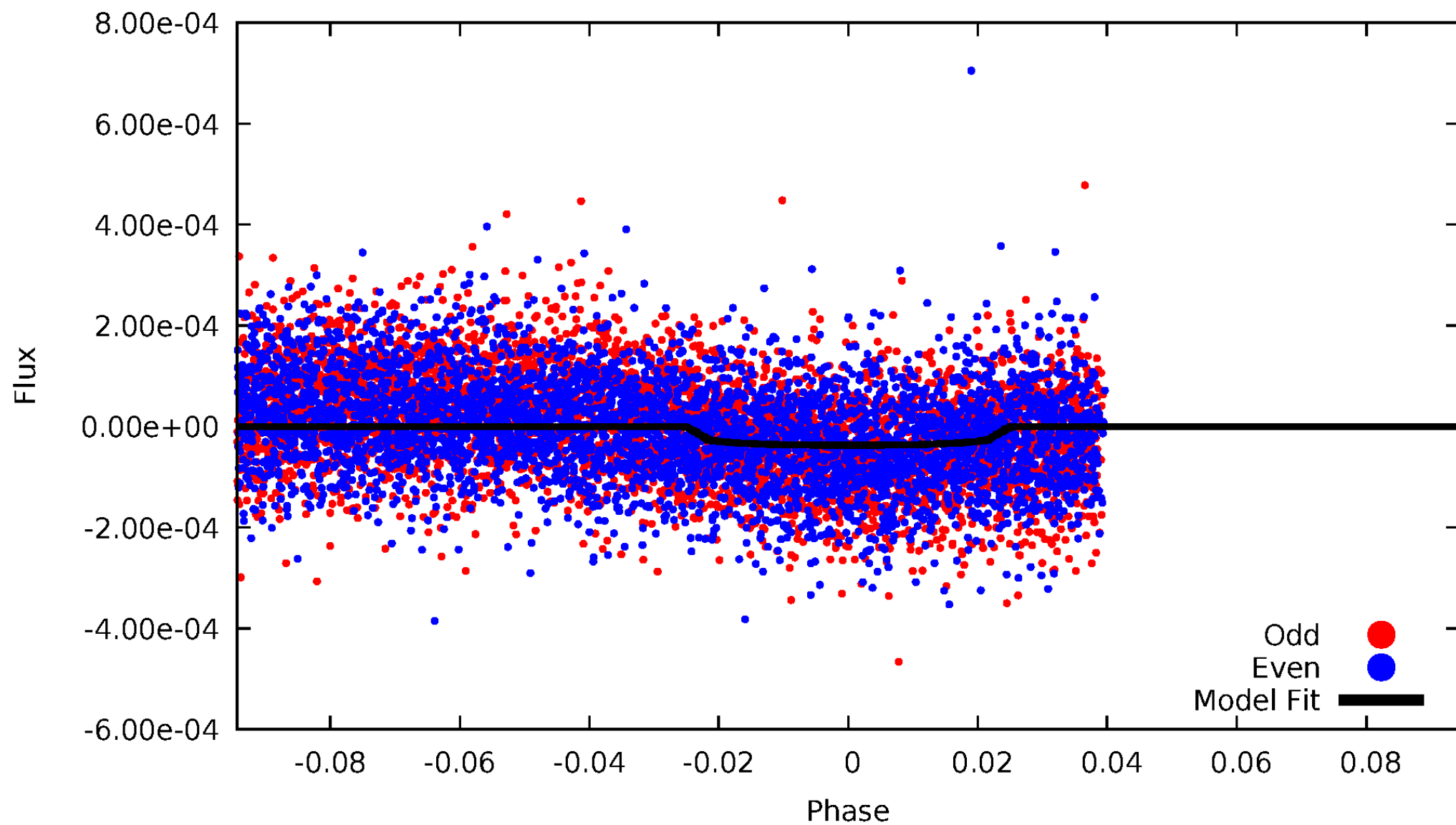


TCE 008494783-02



# DV Odd/Even

TCE 008494783-02



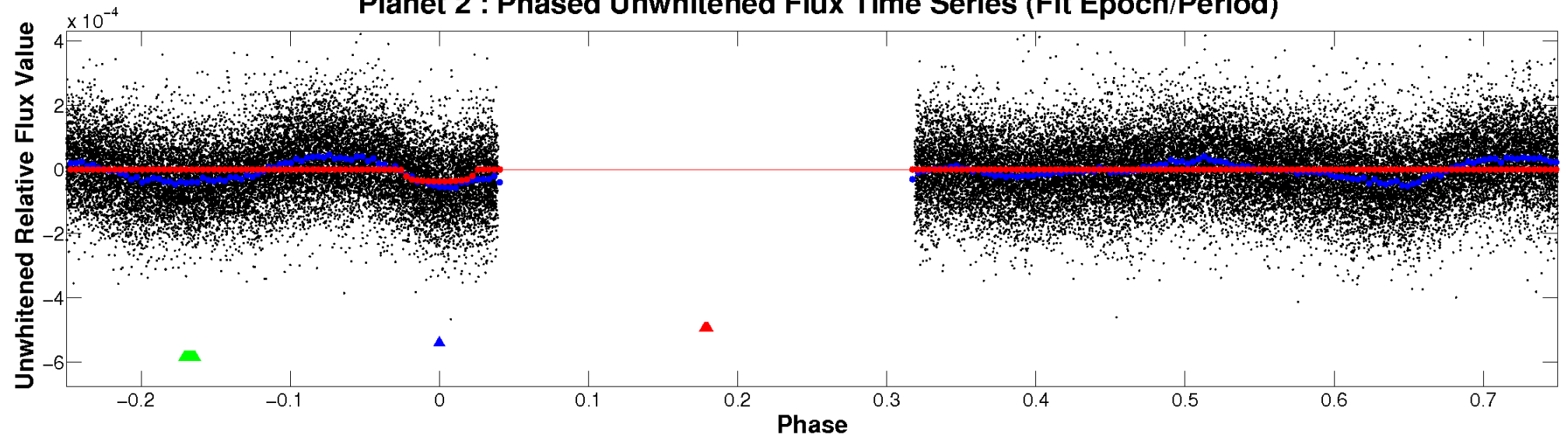


ALT Odd/Even

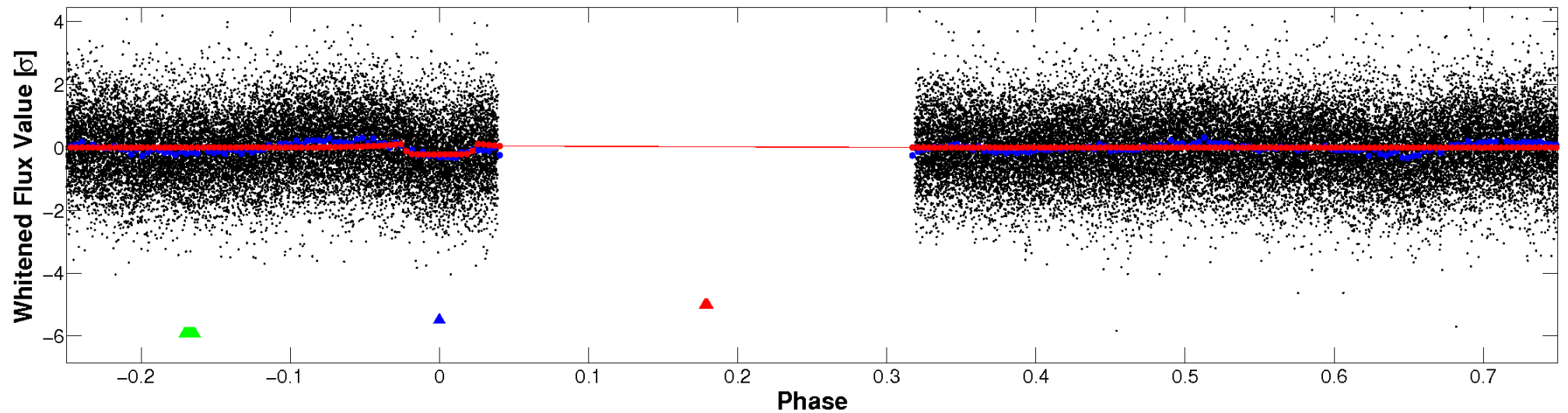
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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



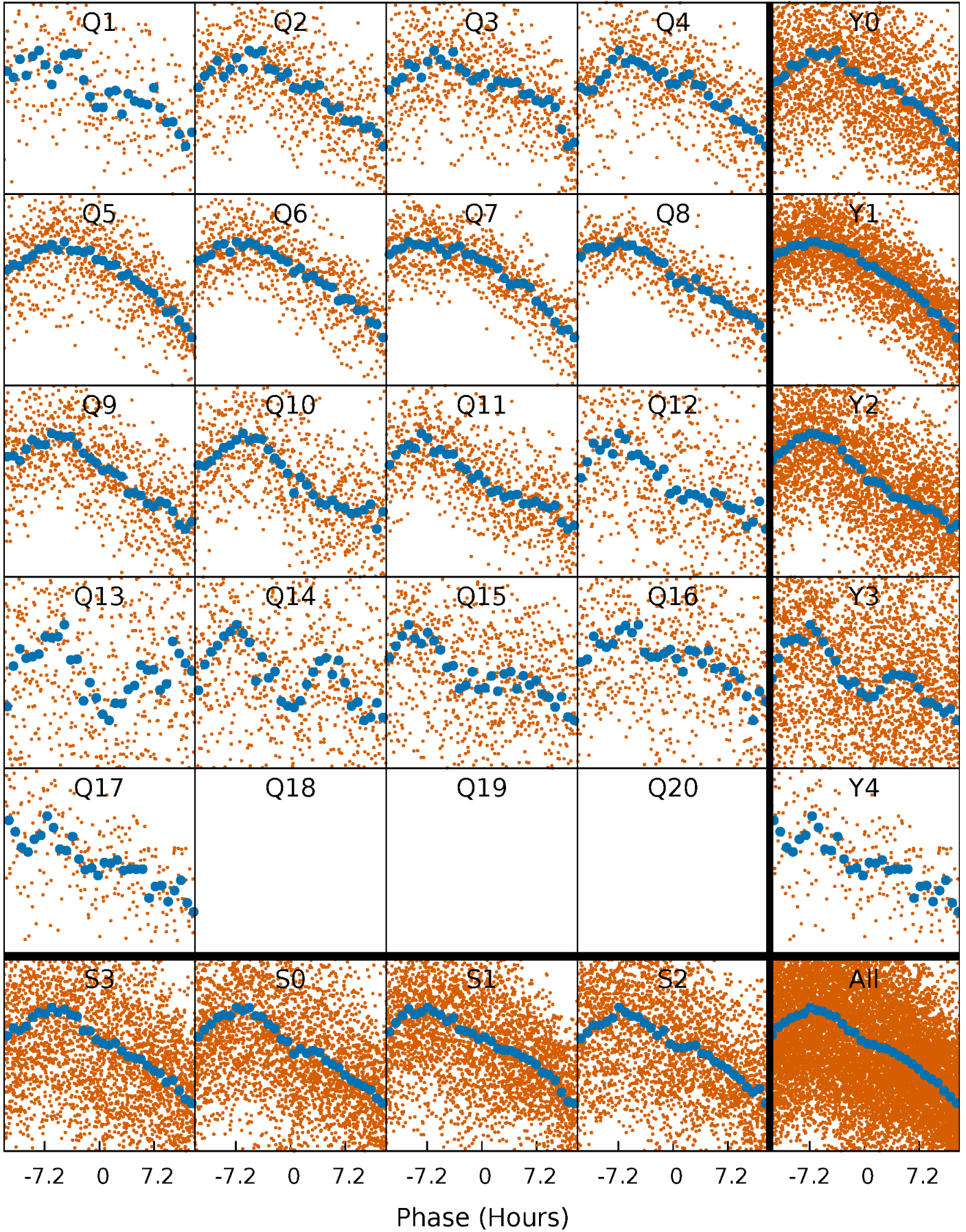
Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)





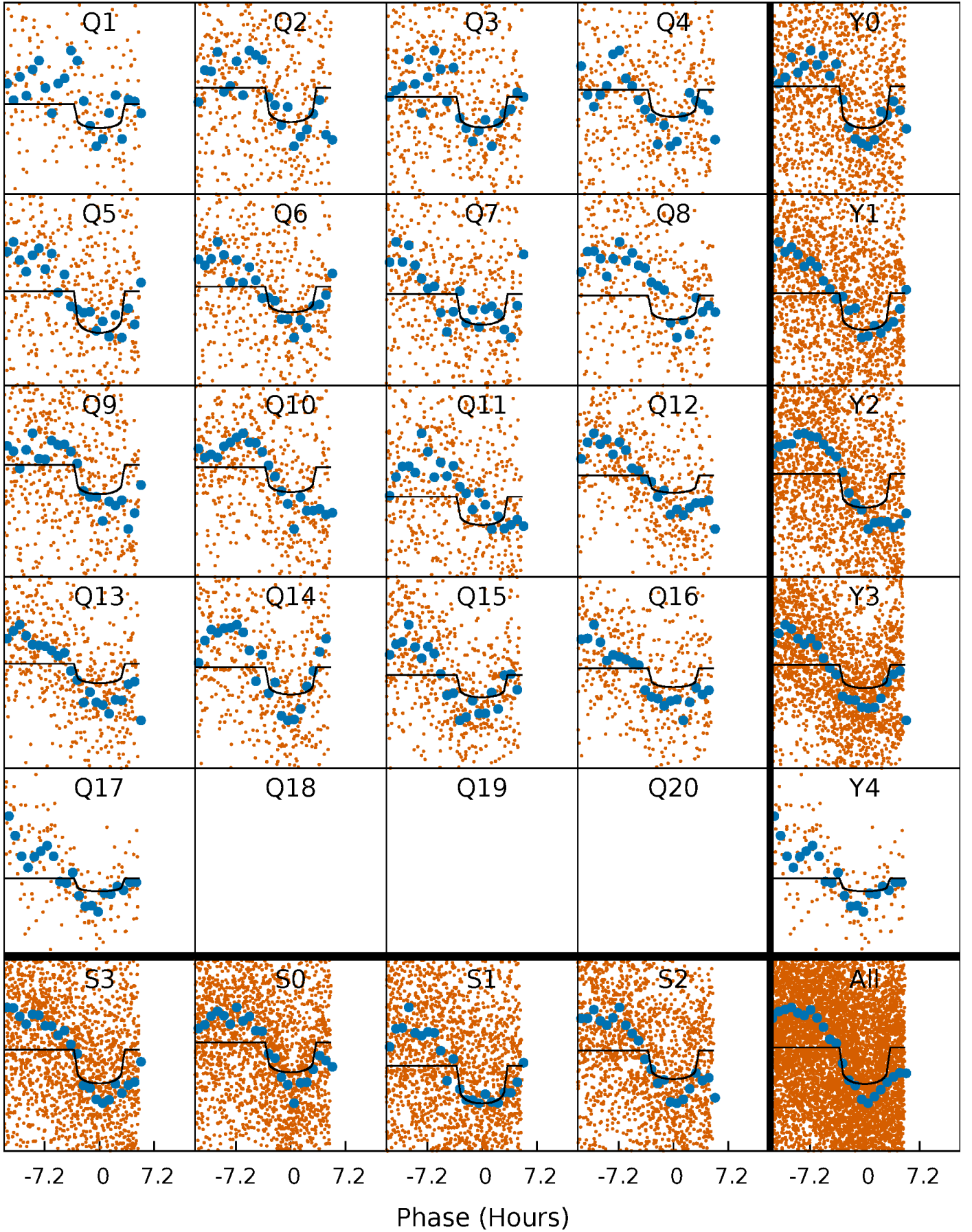
# PDC Quarter-Phased Transit Curves

TCE 008494783-02   P= 5.538956 Days    $T_0=133.338276$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 008494783-02   P= 5.538956 Days    $T_0=133.338276$  (BKJD)

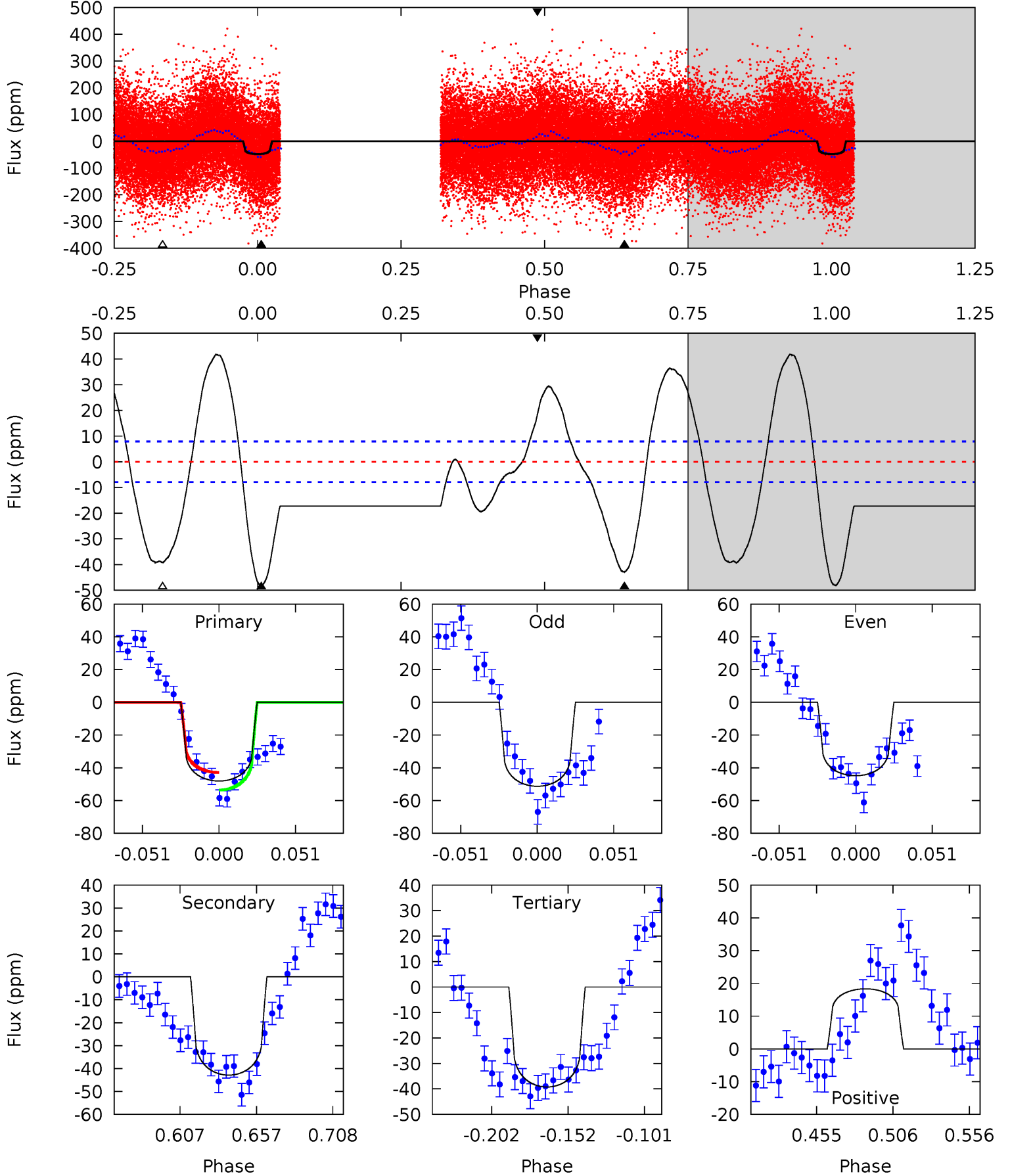


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

008494783-02, P = 5.538956 Days, E = 127.799320 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
28.7	25.6	23.4	10.9	4.71	1.96	13.7	5.27	17.7	2.16	14.6	1.93	1.01	0.46	3.23



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 008494783

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7282^{+228}_{-304}$	$3.961^{+0.260}_{-0.160}$	$-0.120^{+0.250}_{-0.350}$	$2.216^{+0.576}_{-0.704}$	$1.636^{+0.184}_{-0.316}$	$0.212^{+0.353}_{-0.085}$
	+3%/-4%	+7%/-4%	+208%/-292%	+26%/-32%	+11%/-19%	+167%/-40%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 008494783-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-43 \pm 2$	$1.42^{+0.96}_{-0.81}$	$2459^{+198}_{-211}$	$7555^{+6547}_{-1741}$	$63^{+279}_{-41}$
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  $A_{\text{obs}} \gg 1.0$



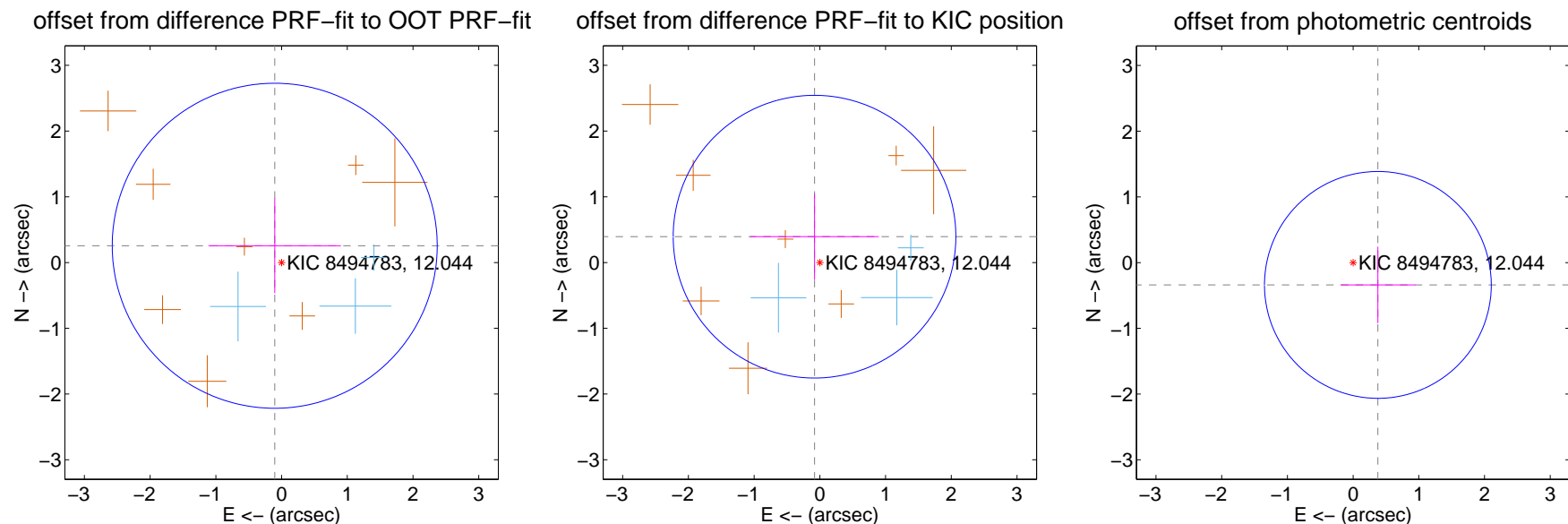
## DV Centroid Data

Supplemental centroid analysis for 008494783-02. Kepler magnitude: 12.04. Transit SNR 11.79

There are 3 quarters with good PRF difference image offsets

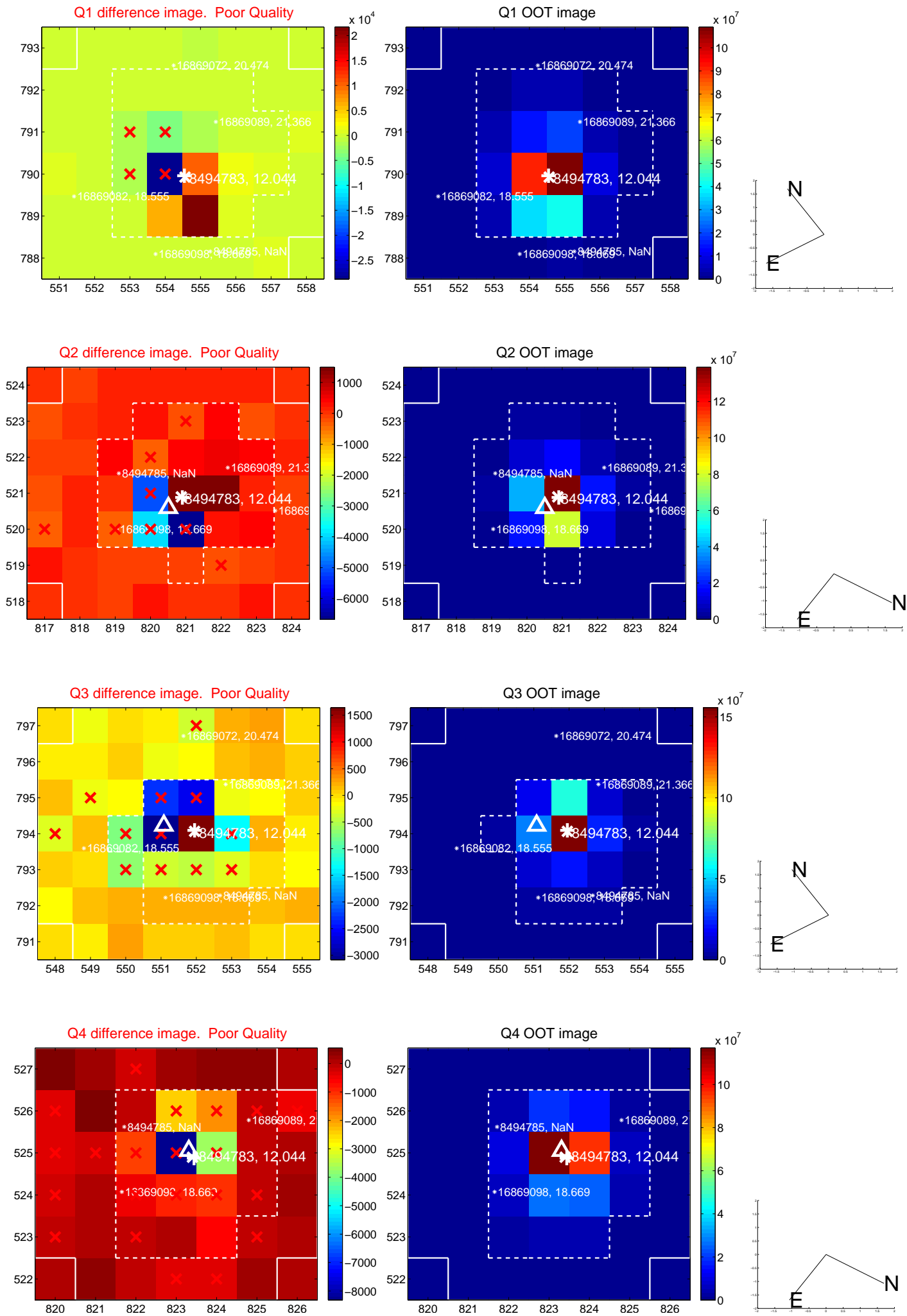
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.276 \pm 0.824$	0.33	$0.104 \pm 1.007$	$0.255 \pm 0.723$
PRF-fit source offset from KIC position	$0.402 \pm 0.717$	0.56	$0.081 \pm 0.978$	$0.393 \pm 0.653$
photometric centroid source offset	$0.51 \pm 0.58$	0.88	$-0.38 \pm 0.57$	$-0.34 \pm 0.58$

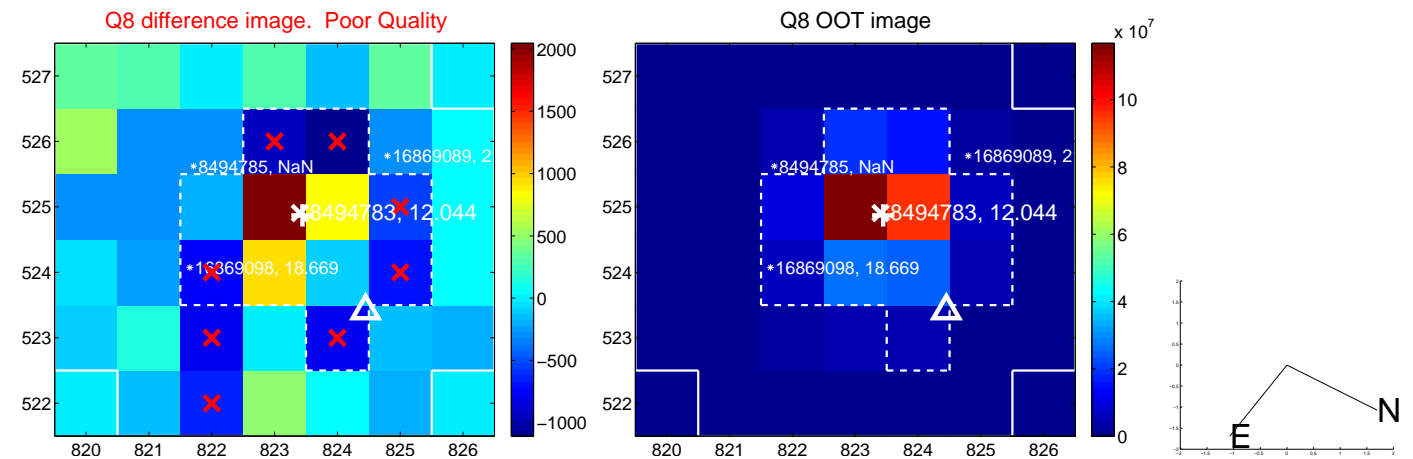
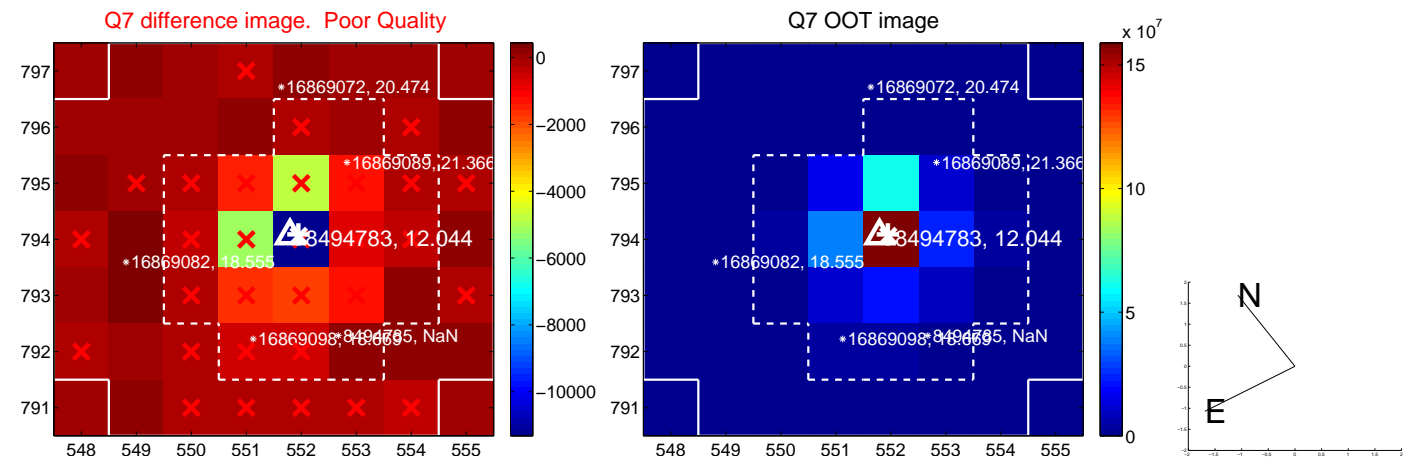
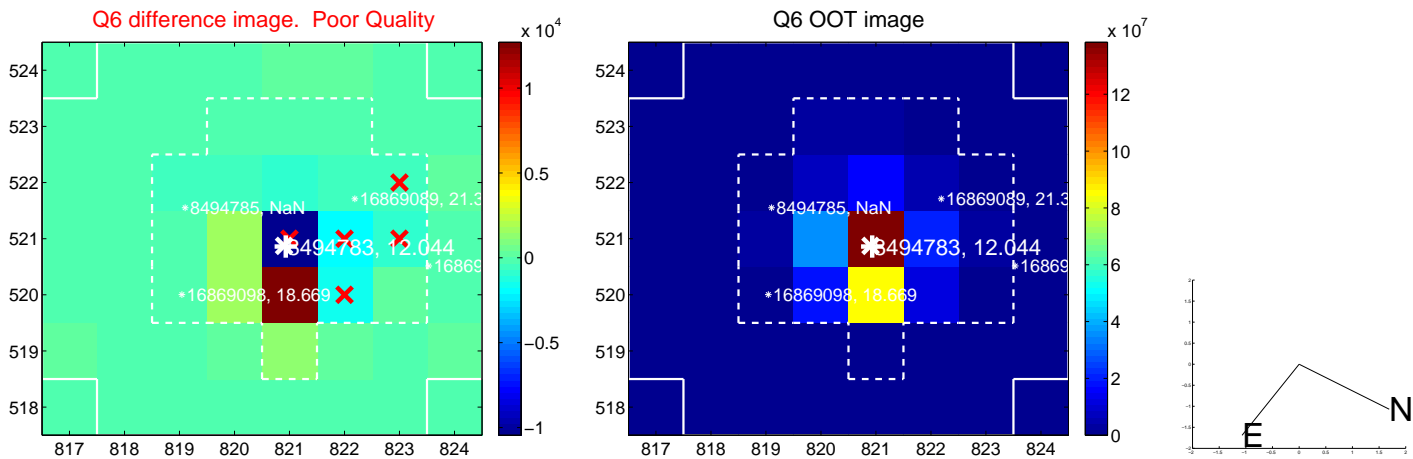
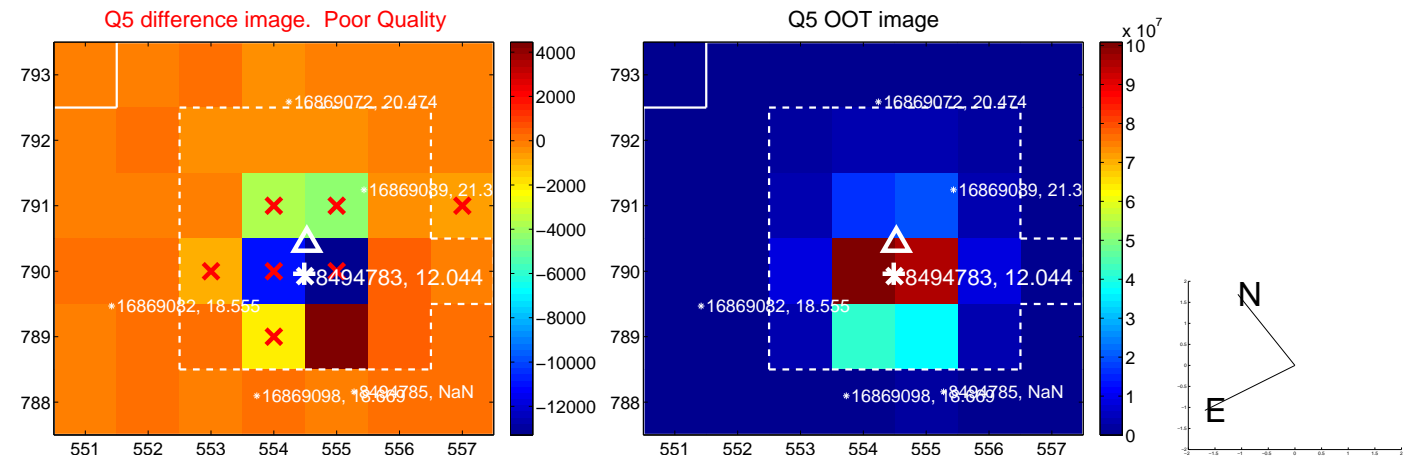


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

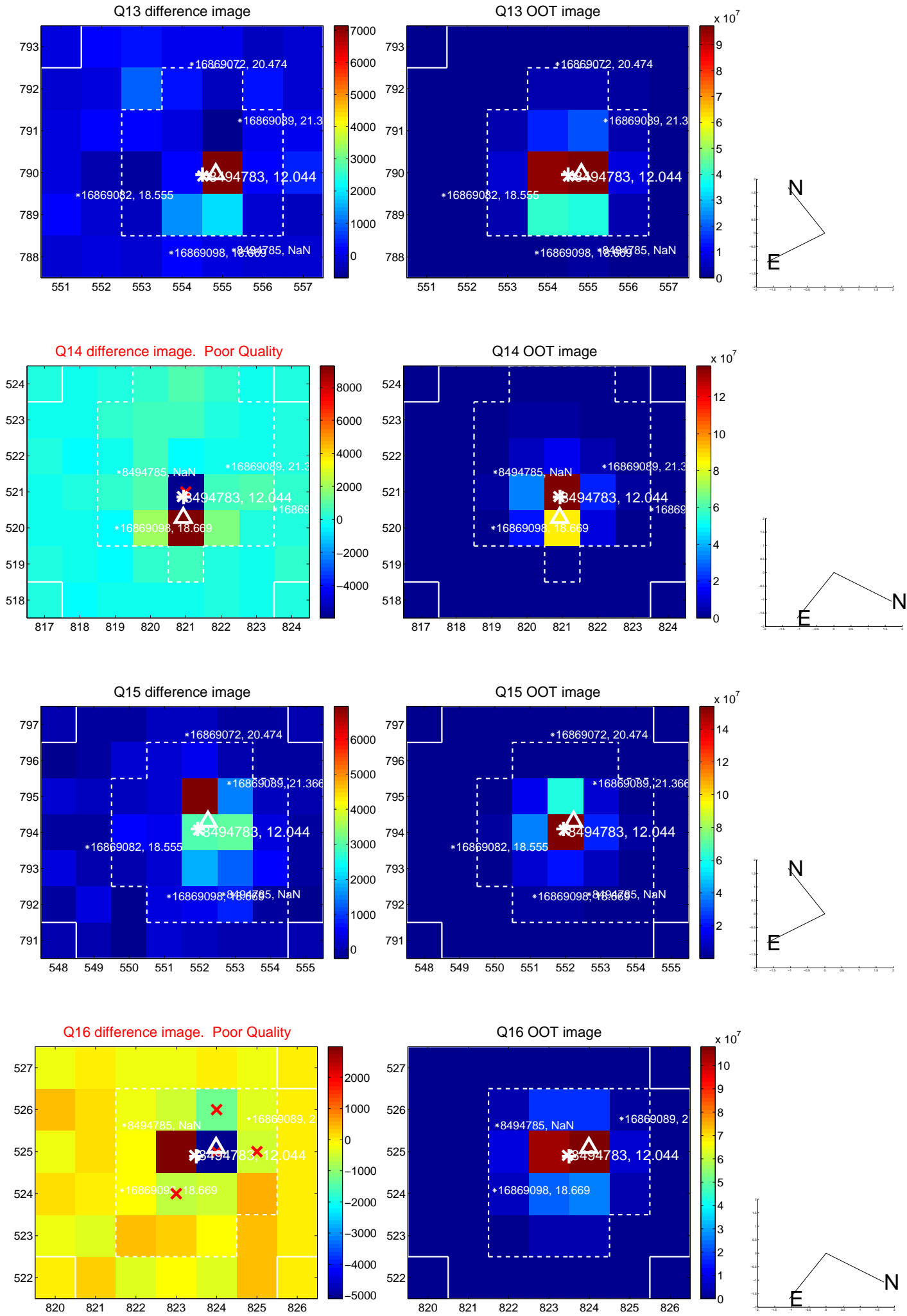


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

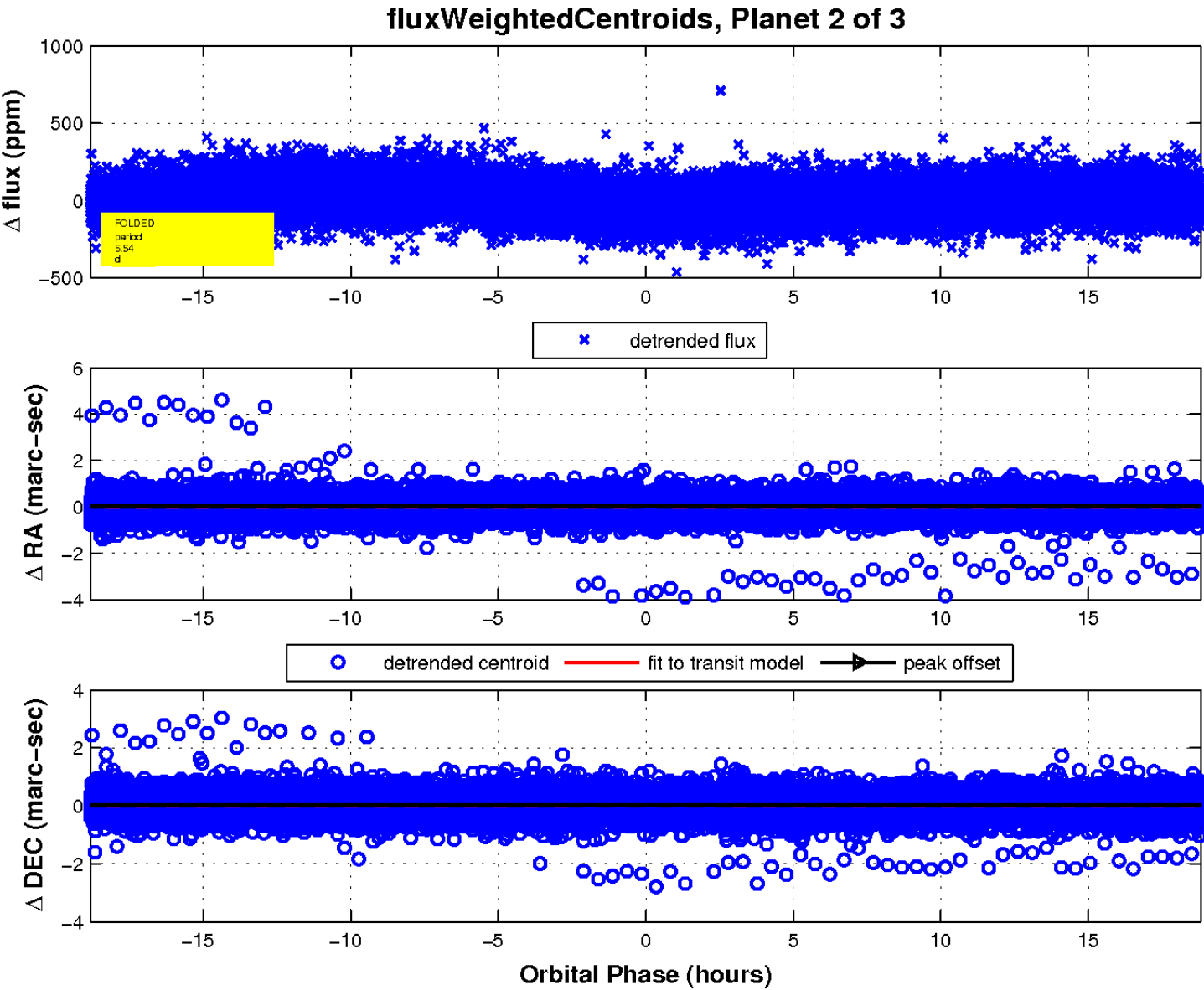
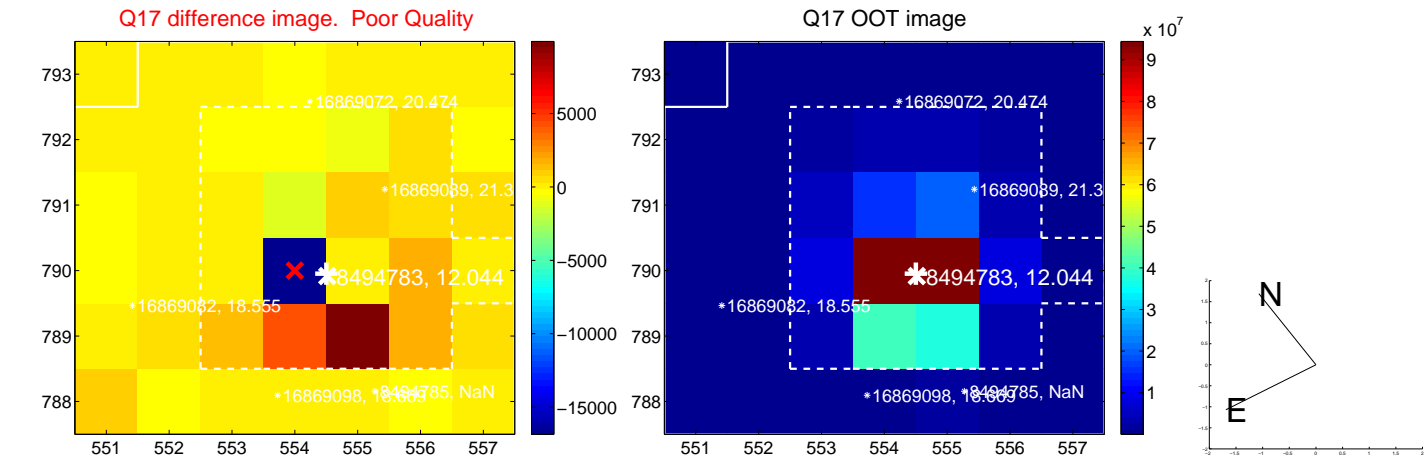




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



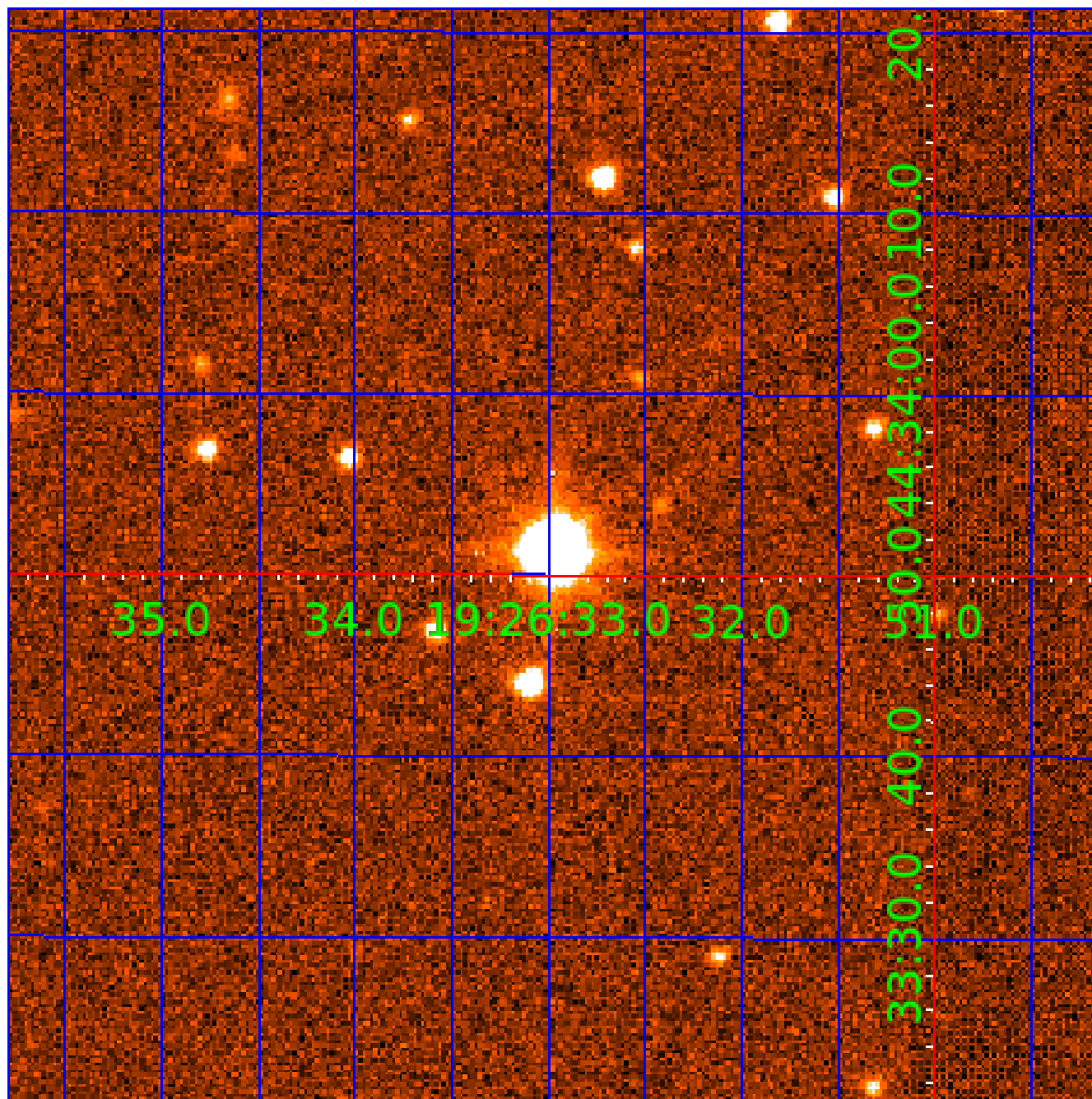
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 008494783

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008494783-01	OBS	No	5.538914	134.335088	52.2	12.265	11.2	12.2	2.22	7282	3.22	2371.61
008494783-02	OBS	No	5.538956	133.338276	37.3	6.275	10.8	11.8	2.22	7282	1.37	2371.59
008494783-03	OBS	No	5.538807	132.430504	47.6	15.000	12.2	-1.0	2.22	7282	1.54	2371.68

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008494783-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
008494783-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
008494783-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

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

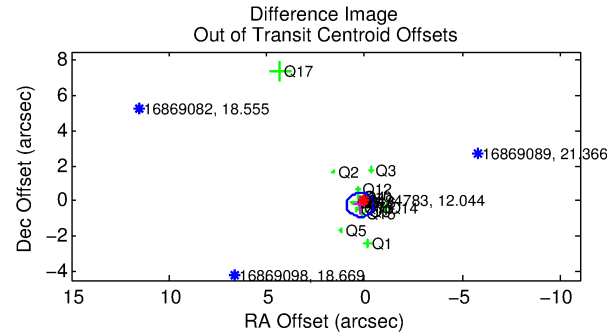
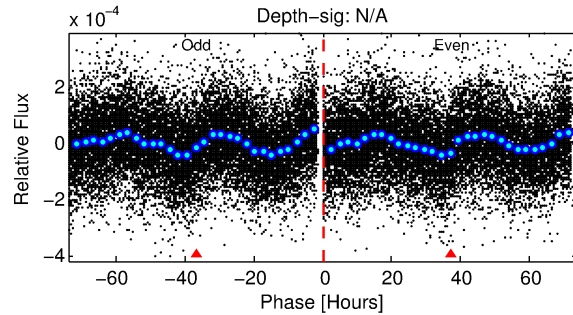
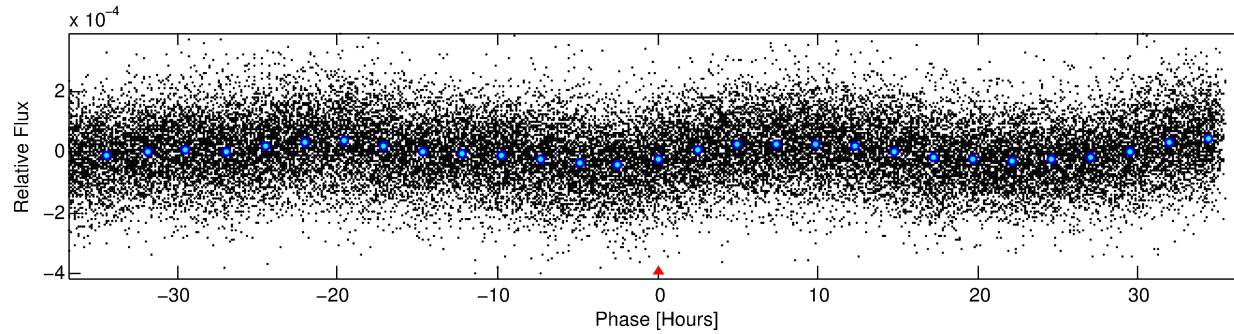
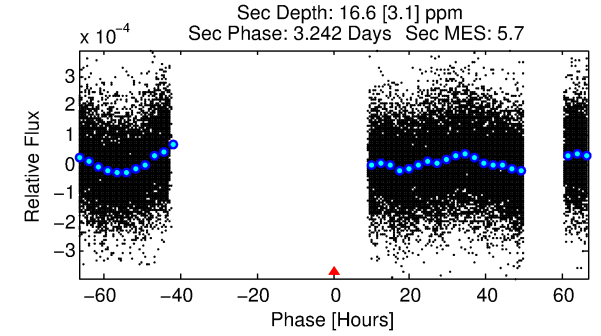
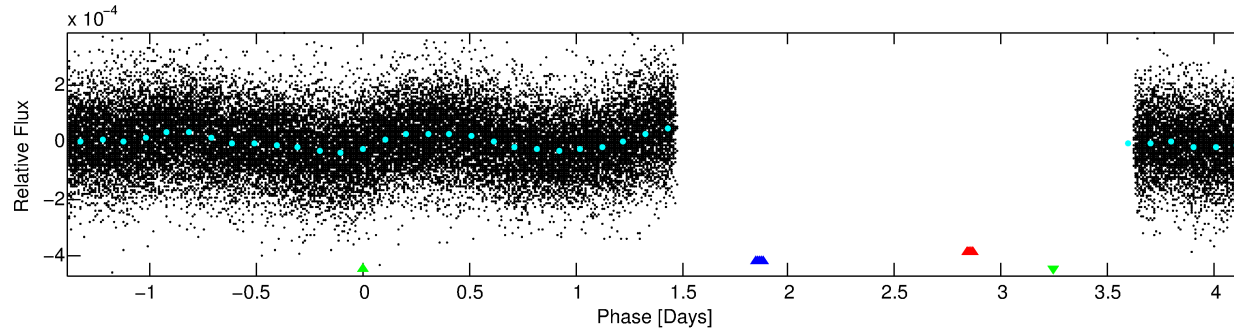
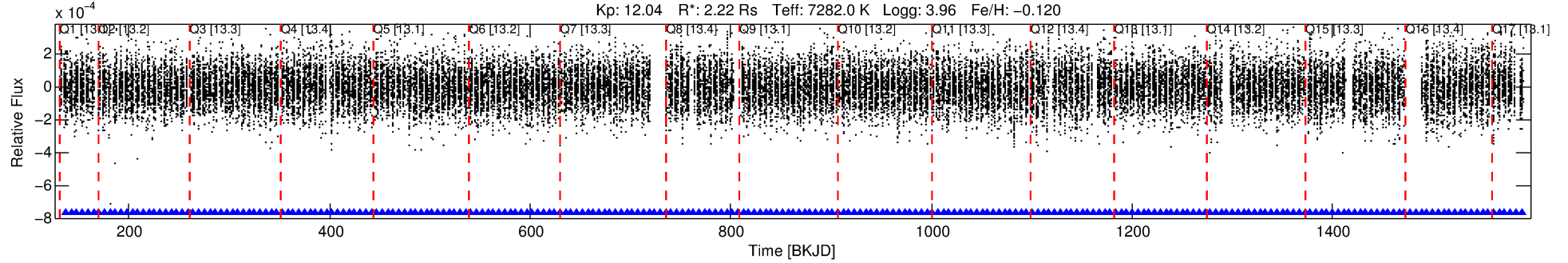
## Ephemeris Match Information For 008494783-03

No Significant Match Found

# DV One-Page Summary

KIC: 8494783 Candidate: 3 of 3 Period: 5.539 d  
KOI: K06180 Corr: No Ephemeris Match

Kp: 12.04 R\*: 2.22 Rs Teff: 7282.0 K Logg: 3.96 Fe/H: -0.120



## TPS TCE Results:

Period = 5.53881 d  
Epoch = 132.4305 BKJD

DV fit results are unavailable

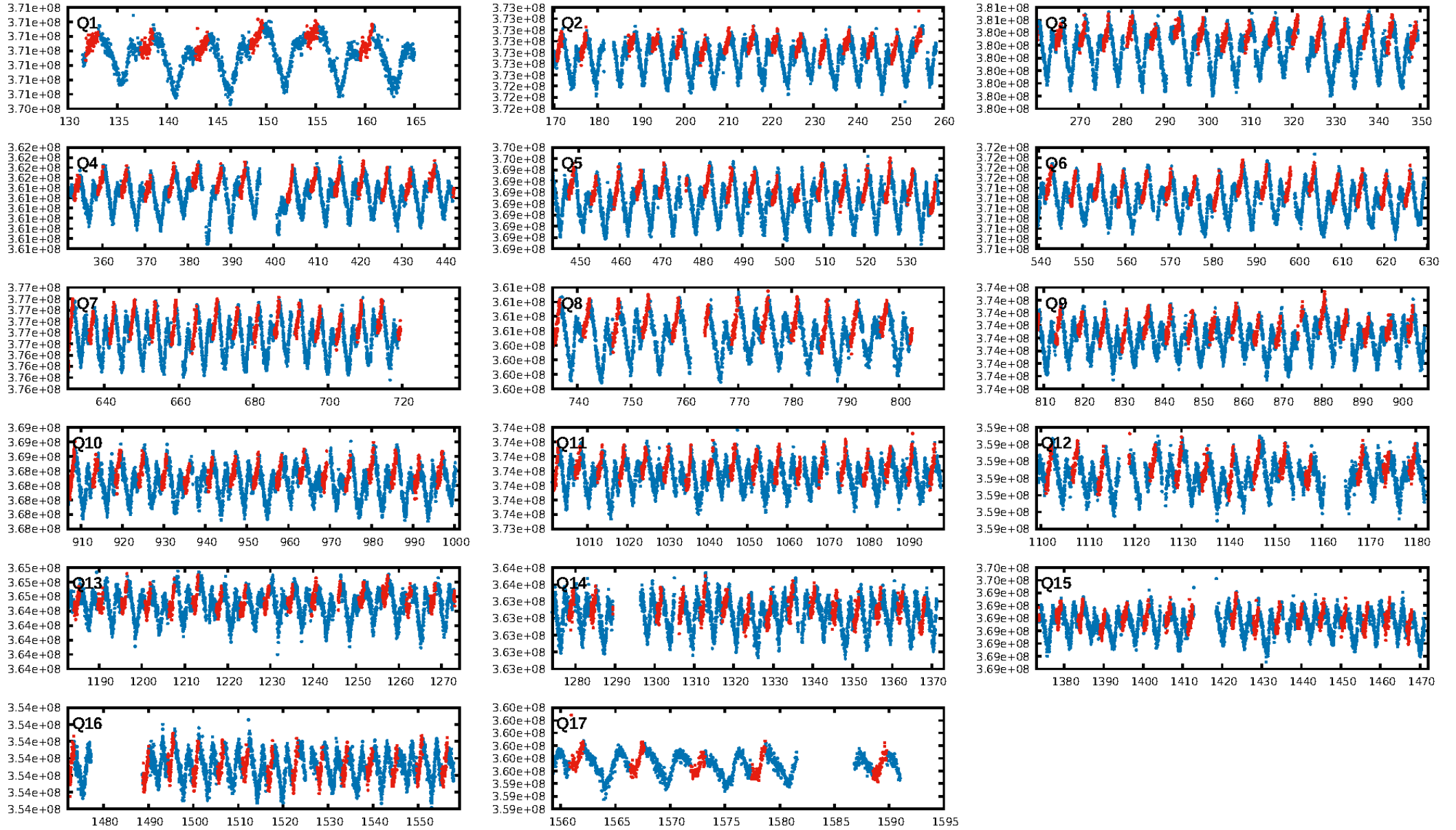
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 6.96e-20  
RollingBand-fgt: 1.00 [235/235]  
GhostDiagnostic-chr: 0.6643  
Centroid-sig: 61.3%  
Centroid-so: 0.724 arcsec [0.76σ]  
OotOffset-rm: 0.331 arcsec [1.45σ]  
KicOffset-rm: 0.230 arcsec [1.36σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.94 [16/17]  
DiffImageOverlap-fno: 1.00 [17/17]

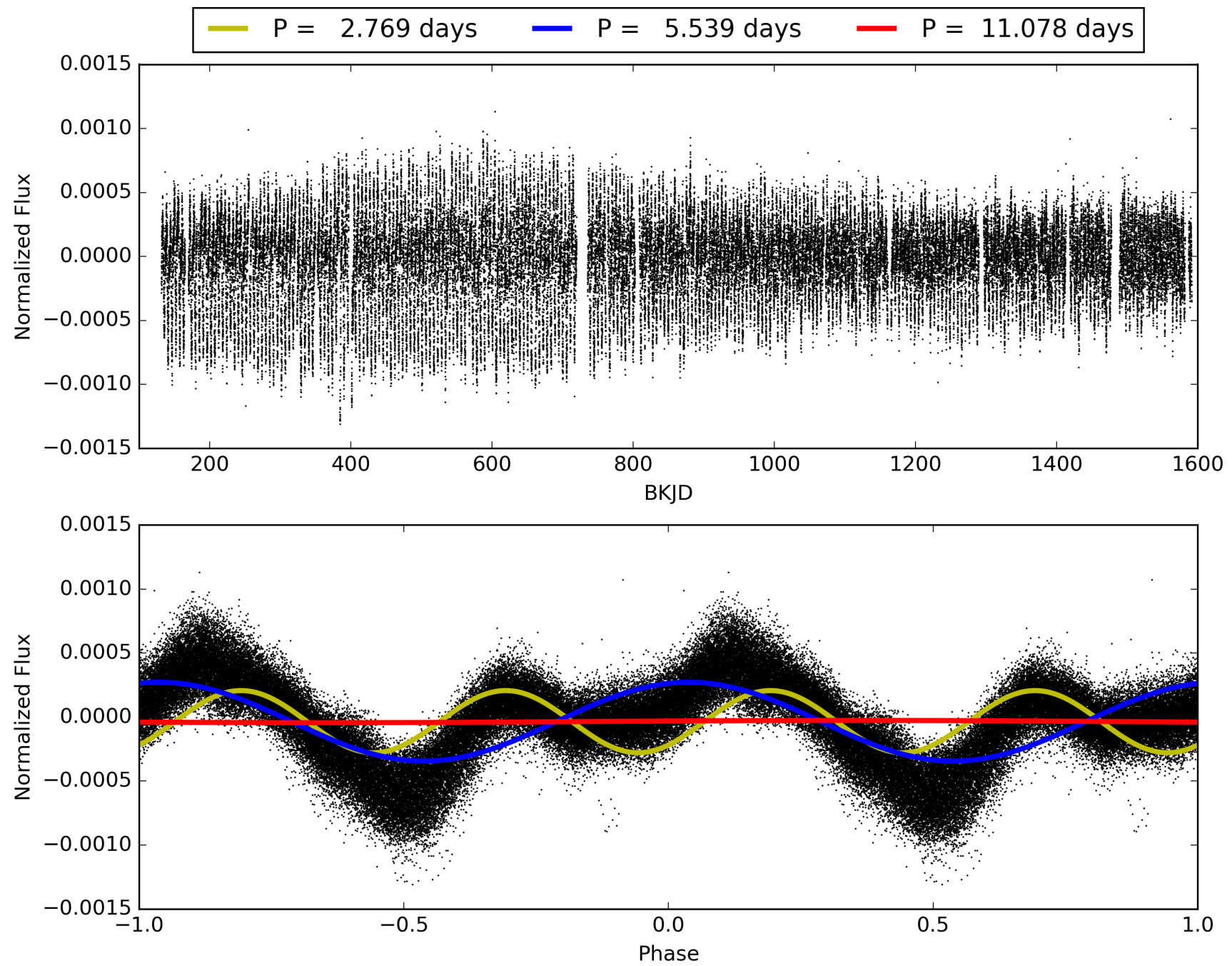
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:57:52 Z

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

# TCE 008494783-03, PDC Light Curves

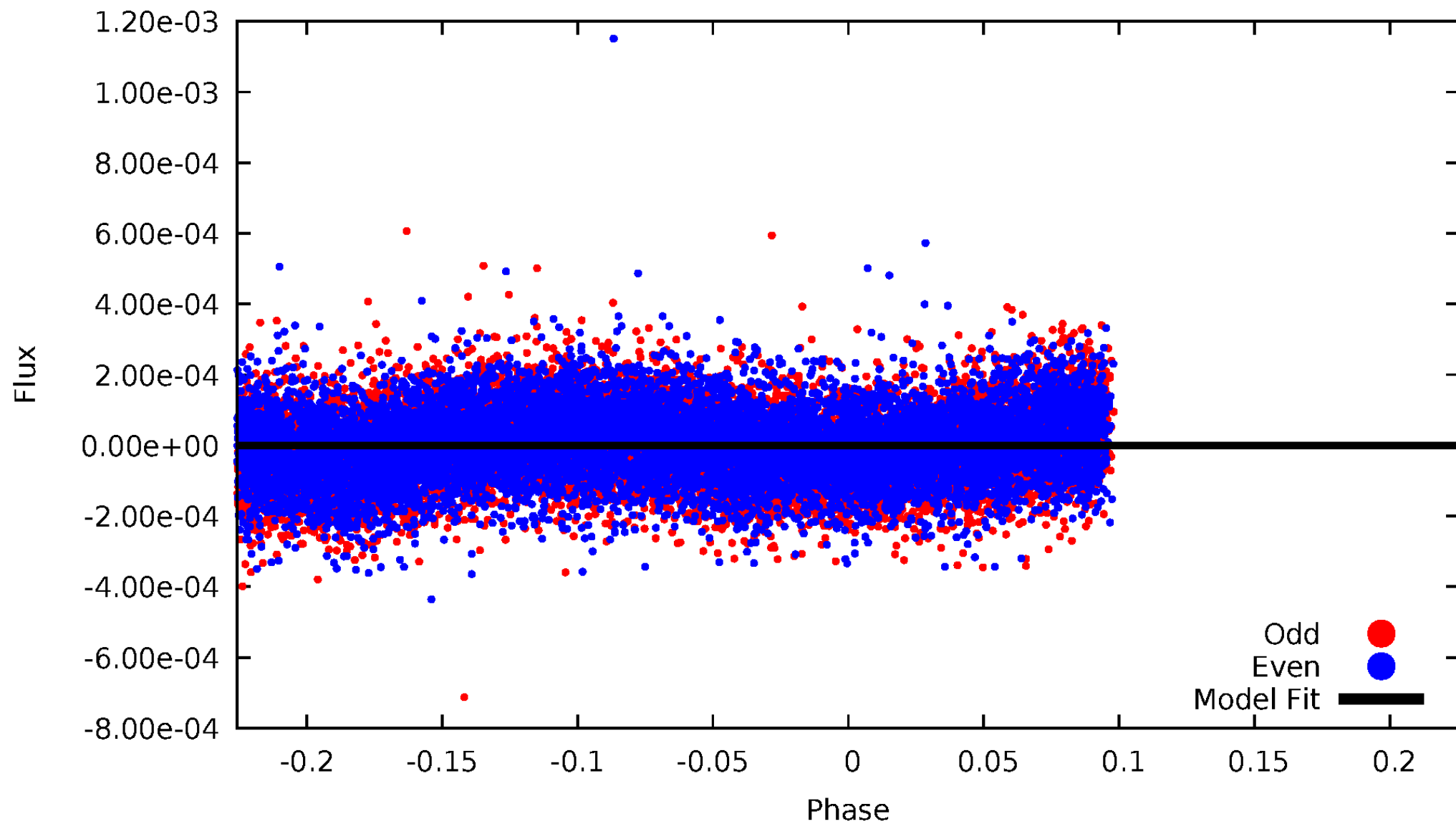


TCE 008494783-03



# DV Odd/Even

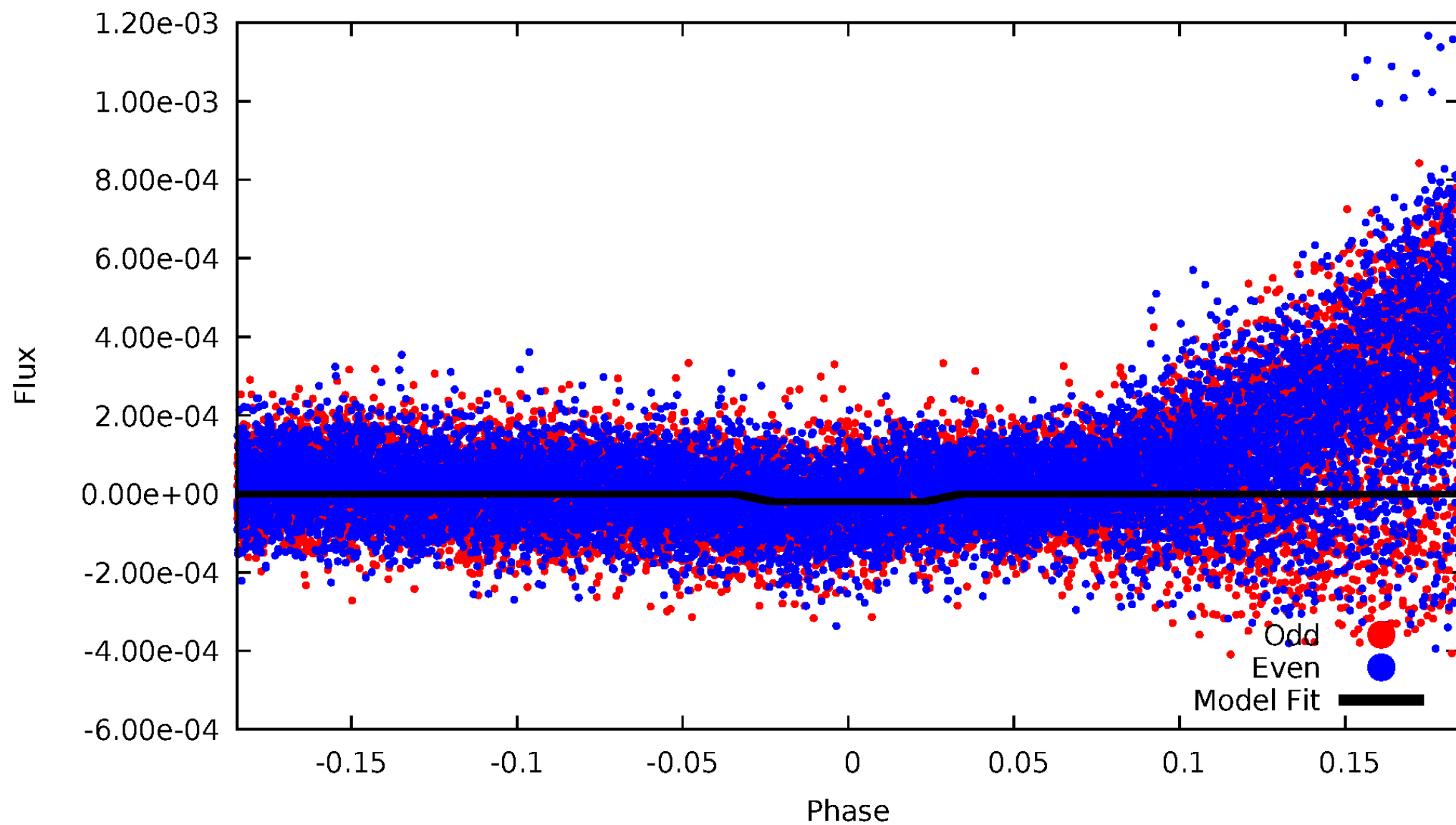
TCE 008494783-03





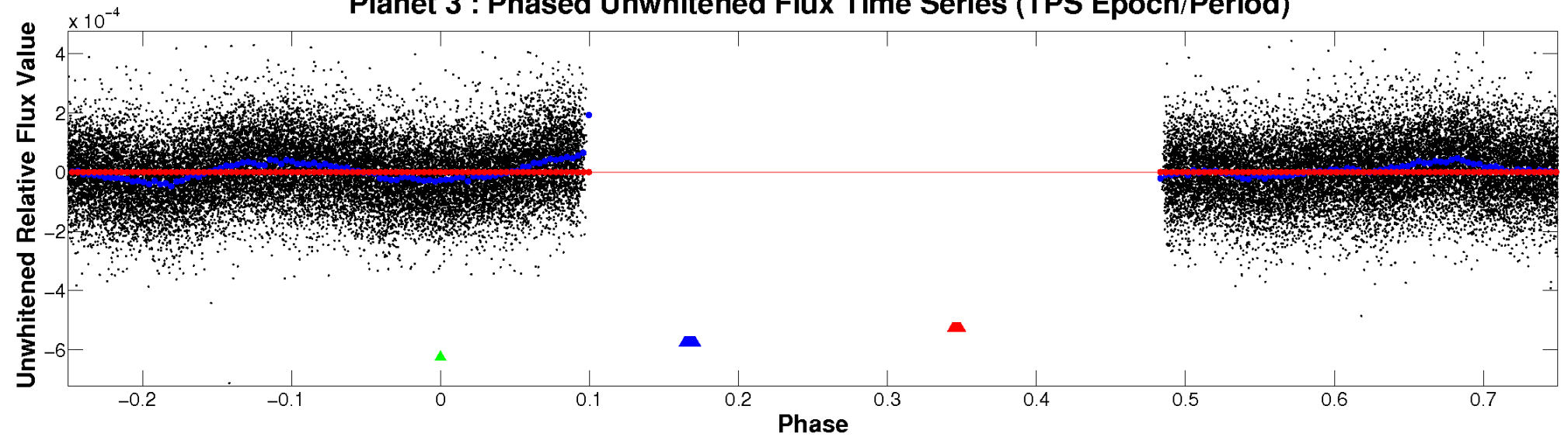
# ALT Odd/Even

TCE 008494783-03

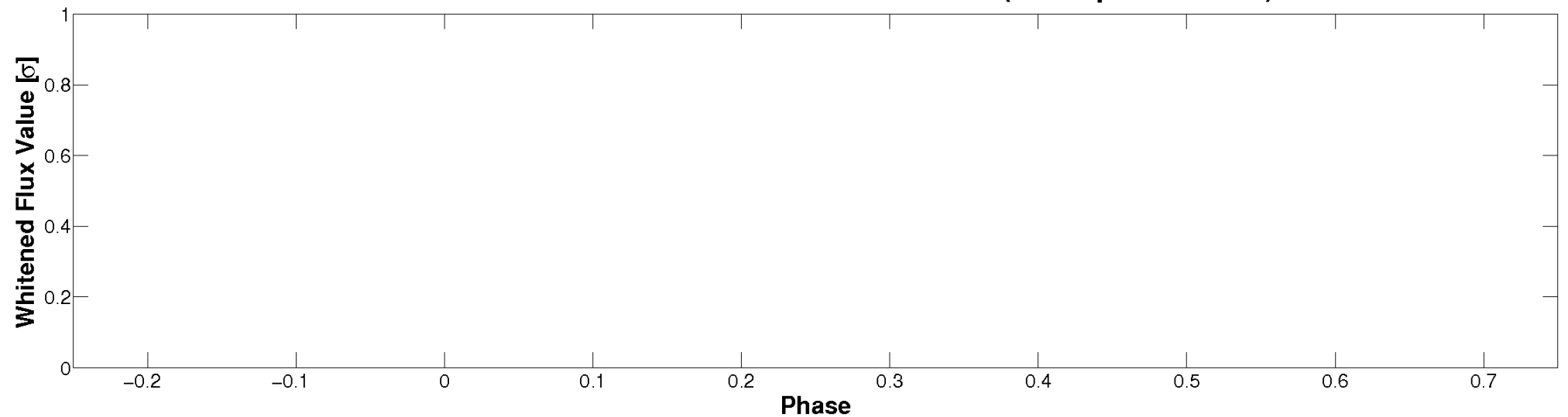


# Non-Whitened Vs. Whitened Light Curve

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

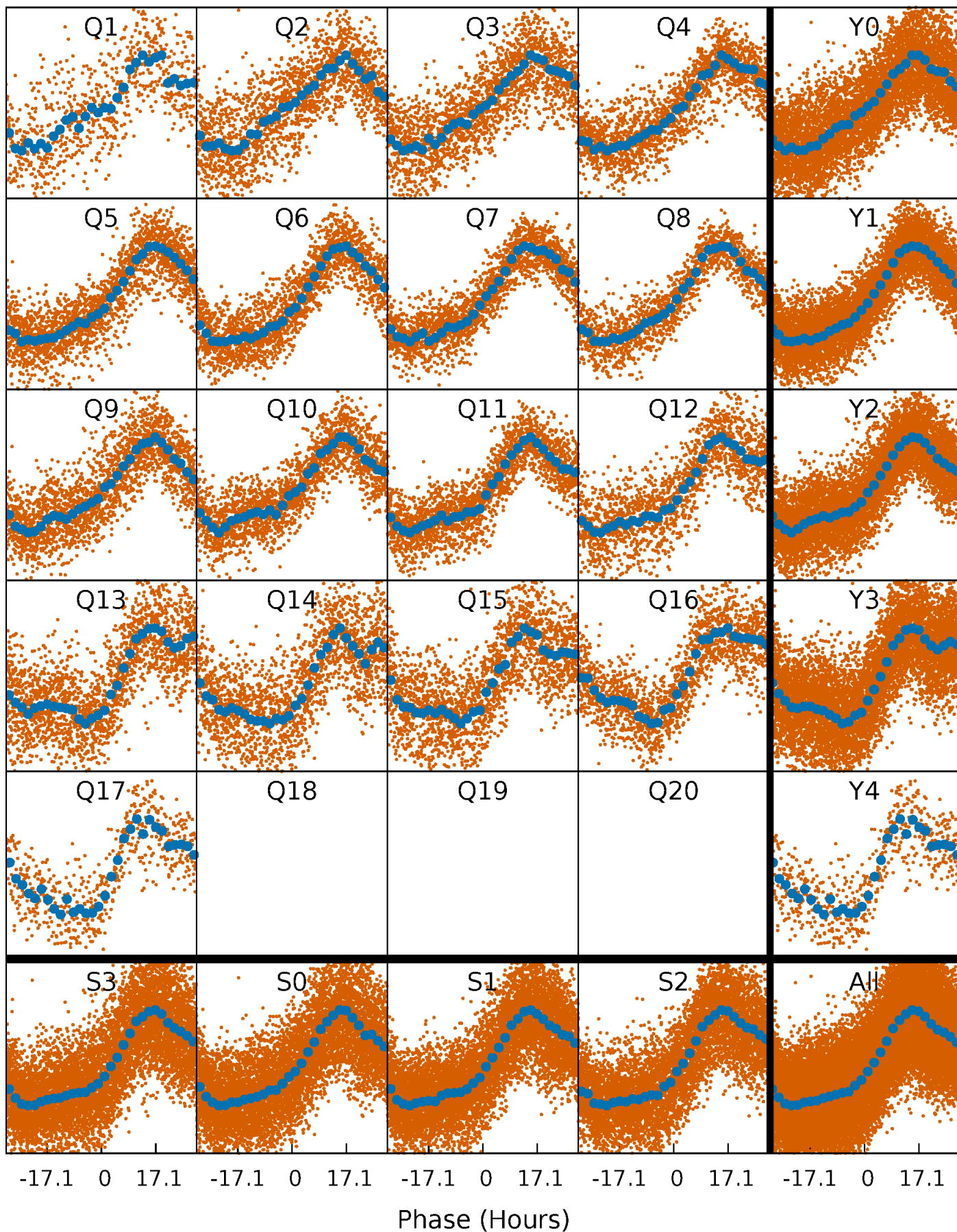


**Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



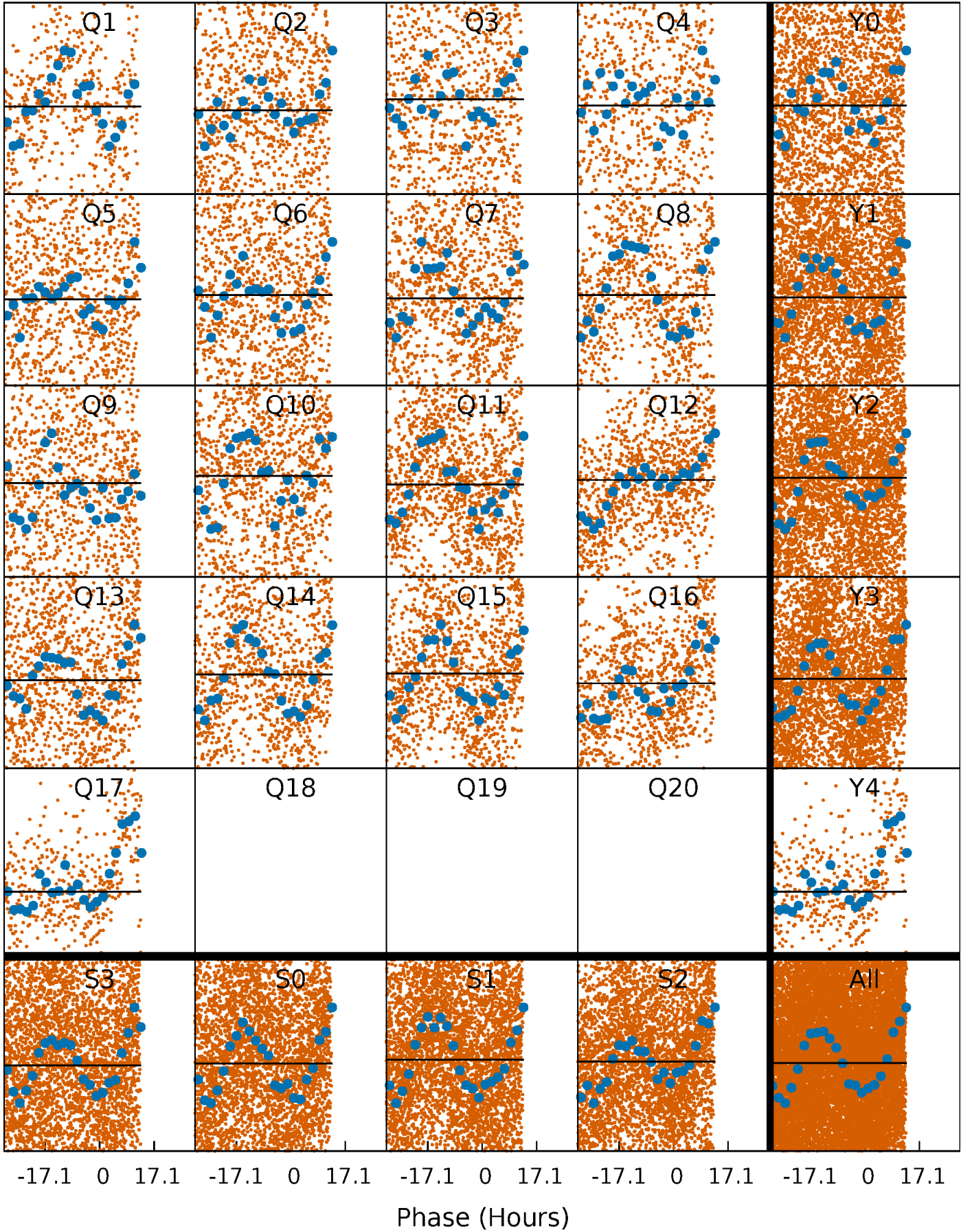
# PDC Quarter-Phased Transit Curves

TCE 008494783-03   P= 5.538807 Days    $T_0=132.430504$  (BKJD)



# DV Quarter-Phased Transit Curves

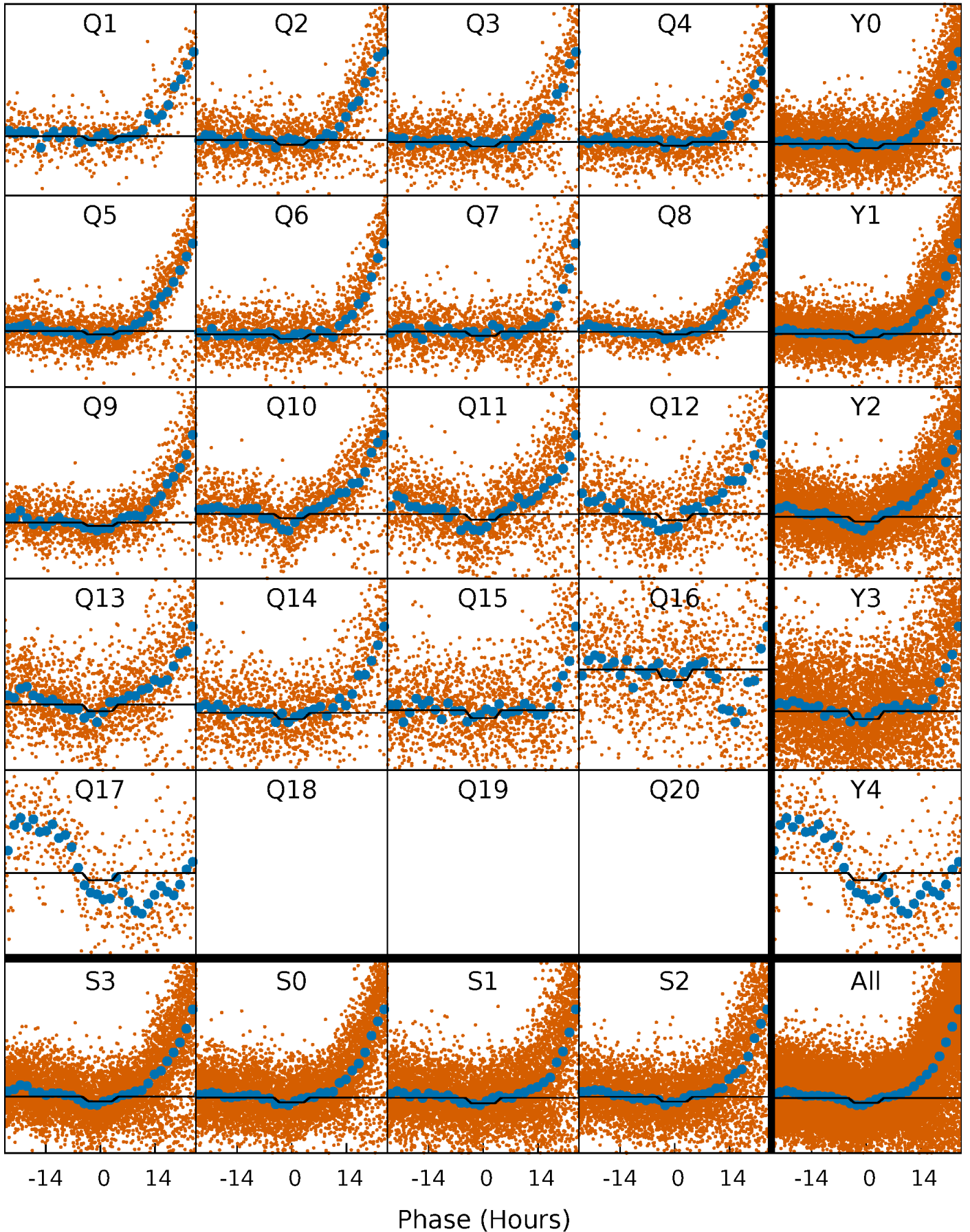
TCE 008494783-03   P= 5.538807 Days    $T_0=132.430504$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

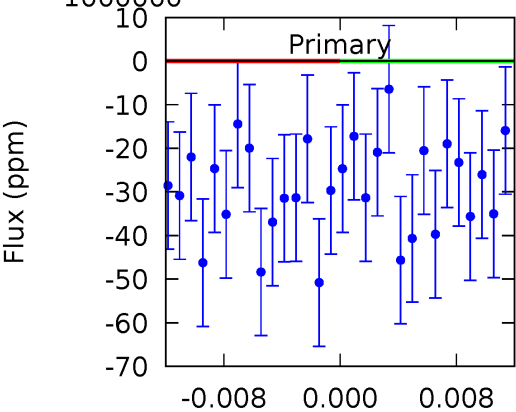
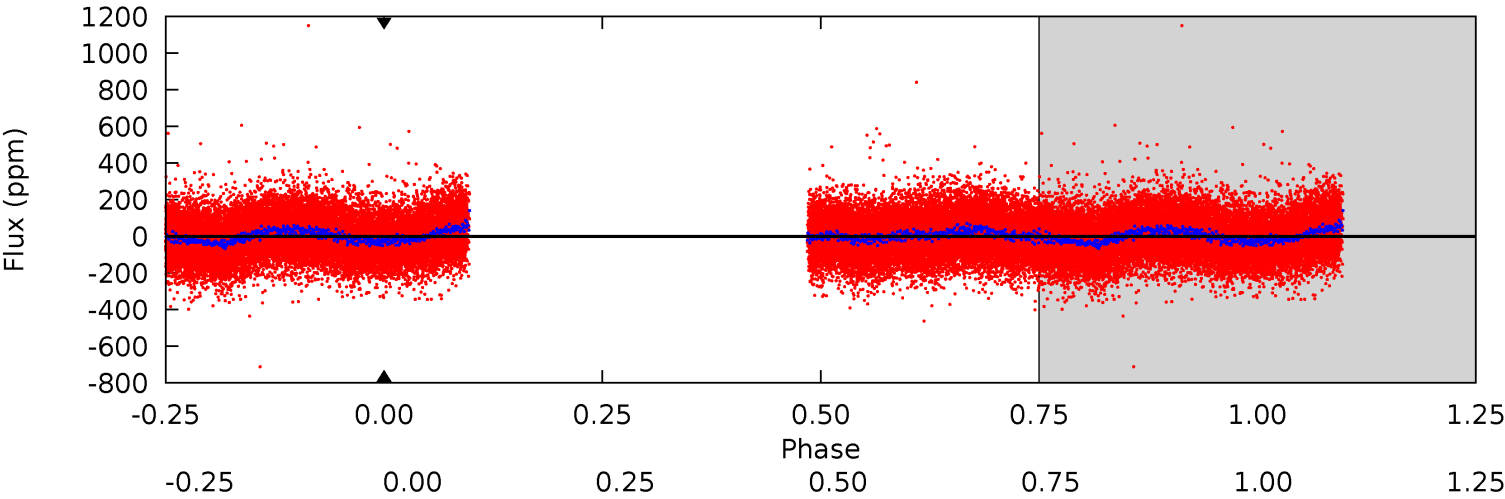
TCE 008494783-03 P= 5.538807 Days  $T_0=137.033134$  (BKJD)



# DV Model-Shift Uniqueness Test

008494783-03, P = 5.538807 Days, E = 126.891697 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
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0

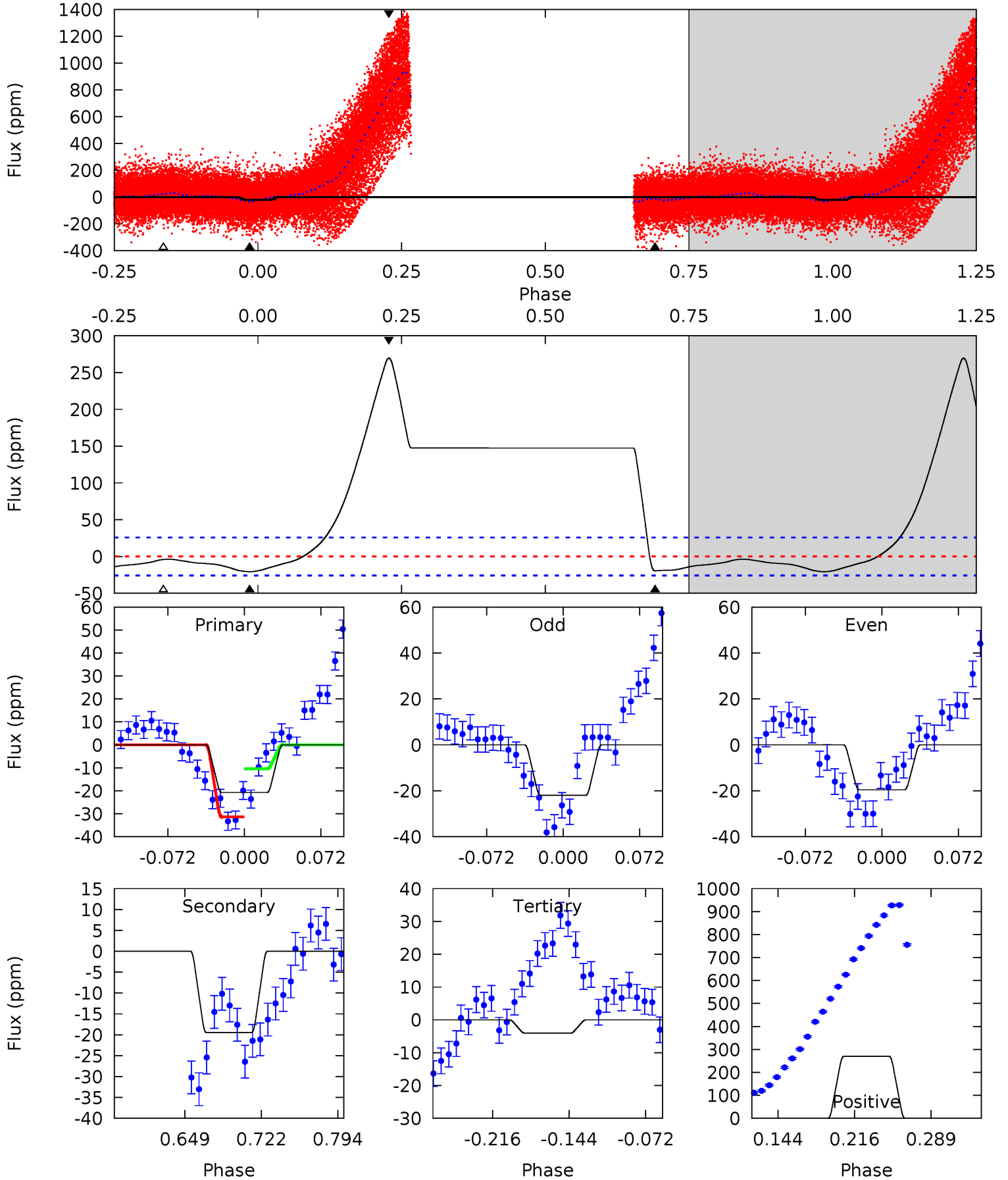




# Alt Model-Shift Uniqueness Test

008494783-03, P = 5.538807 Days, E = 131.494327 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
3.72	3.50	0.73	48.4	4.63	1.80	16.2	2.99	-44.7	2.77	-44.9	0.21	1.30	0.93	3.33



### Stellar Parameters For KIC 008494783

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7282^{+228}_{-304}$	$3.961^{+0.260}_{-0.160}$	$-0.120^{+0.250}_{-0.350}$	$2.216^{+0.576}_{-0.704}$	$1.636^{+0.184}_{-0.316}$	$0.212^{+0.353}_{-0.085}$
	+3%/-4%	+7%/-4%	+208%/-292%	+26%/-32%	+11%/-19%	+167%/-40%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 008494783-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$15.47^{+17.46}_{-10.94}$	$2467^{+209}_{-211}$	$-3881^{+52421}_{-31740}$	$-2.199^{+2414.506}_{-1736.289}$
Alt.	$-19 \pm 6$	$16.15^{+18.12}_{-11.09}$	$2472^{+179}_{-223}$	$-2369^{+5953}_{-366}$	$0.208^{+2.090}_{-0.162}$

$T_{\text{max}}$  = 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

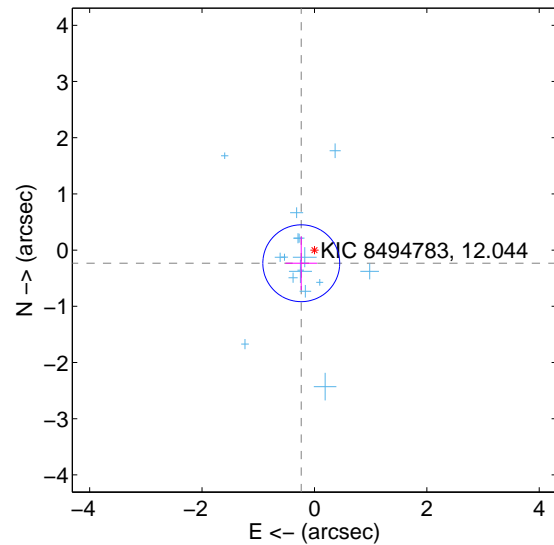
Supplemental centroid analysis for 008494783-03. Kepler magnitude: 12.04. Transit SNR -1.00

There are 16 quarters with good PRF difference image offsets

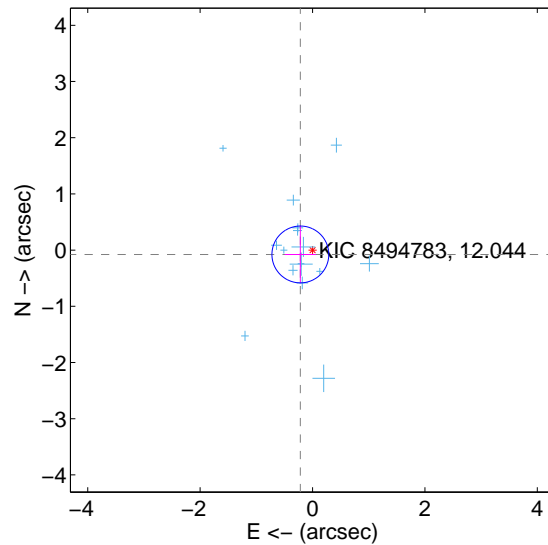
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.331 \pm 0.228$	1.45	$0.234 \pm 0.283$	$-0.234 \pm 0.477$
PRF-fit source offset from KIC position	$0.230 \pm 0.169$	1.36	$0.216 \pm 0.278$	$-0.078 \pm 0.512$
photometric centroid source offset	$0.72 \pm 0.95$	0.76	$0.48 \pm 0.95$	$0.54 \pm 0.96$

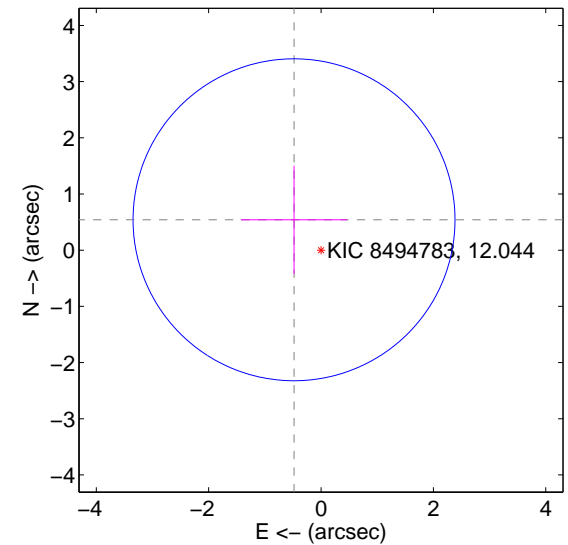
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

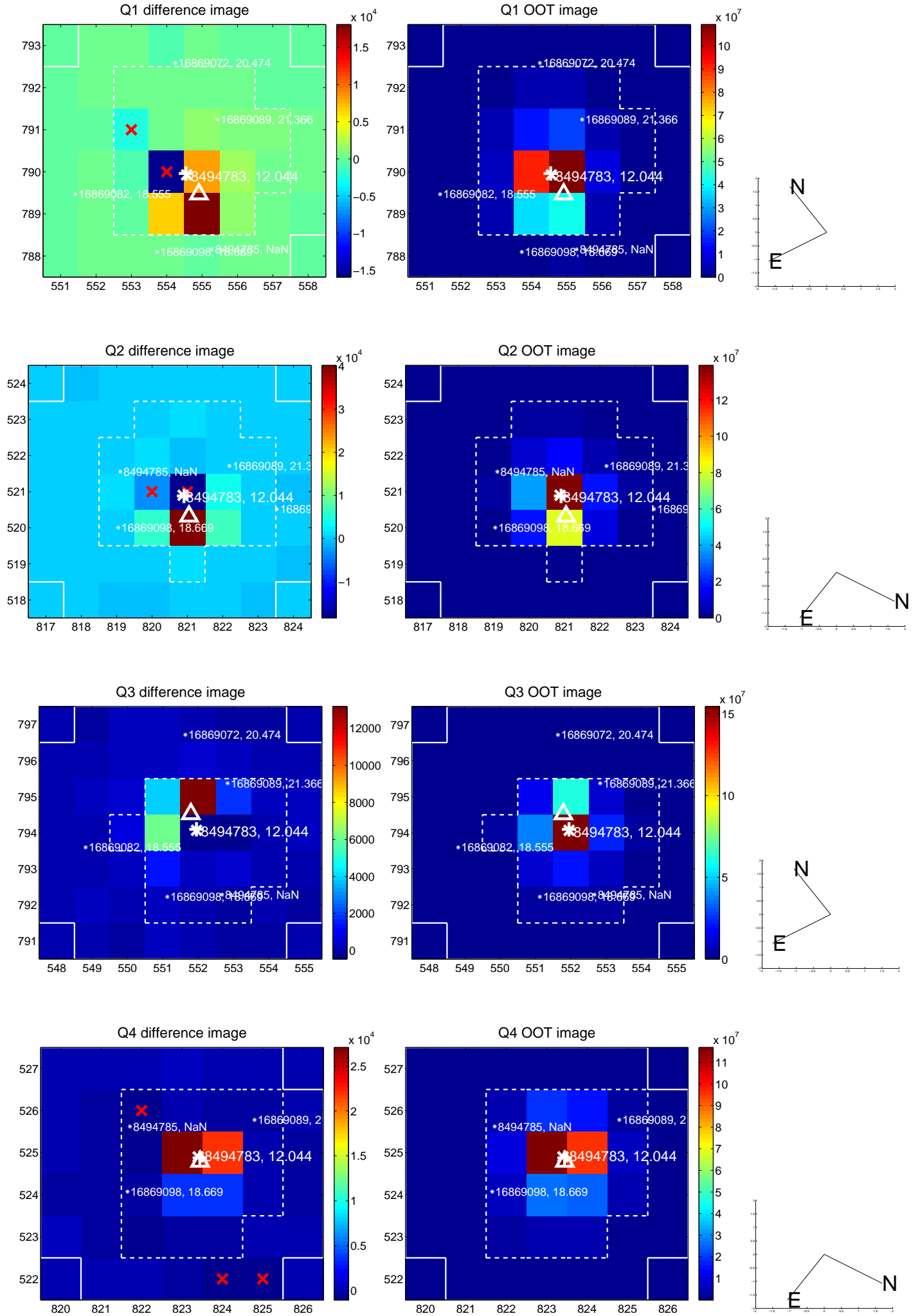


offset from photometric centroids

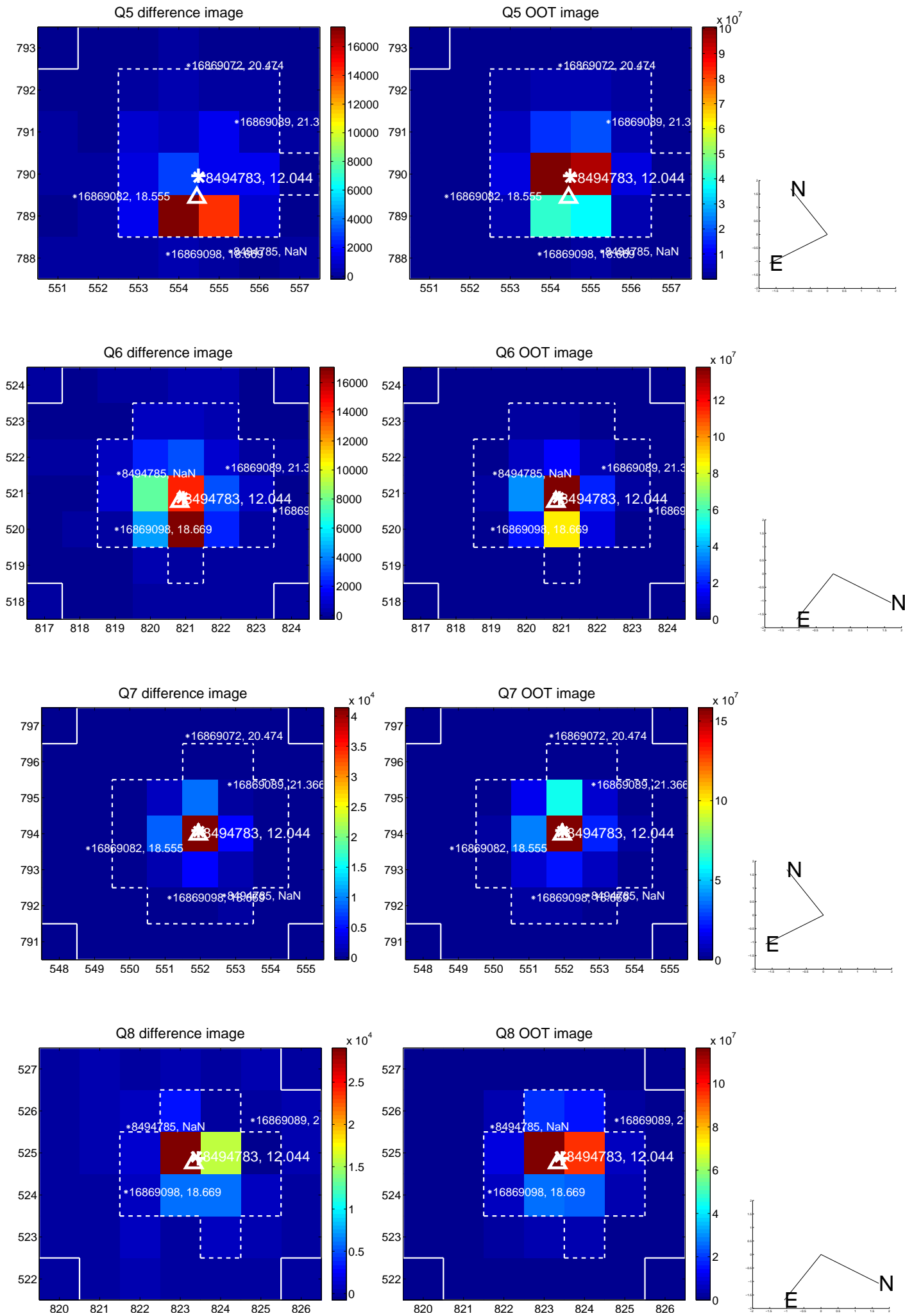


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

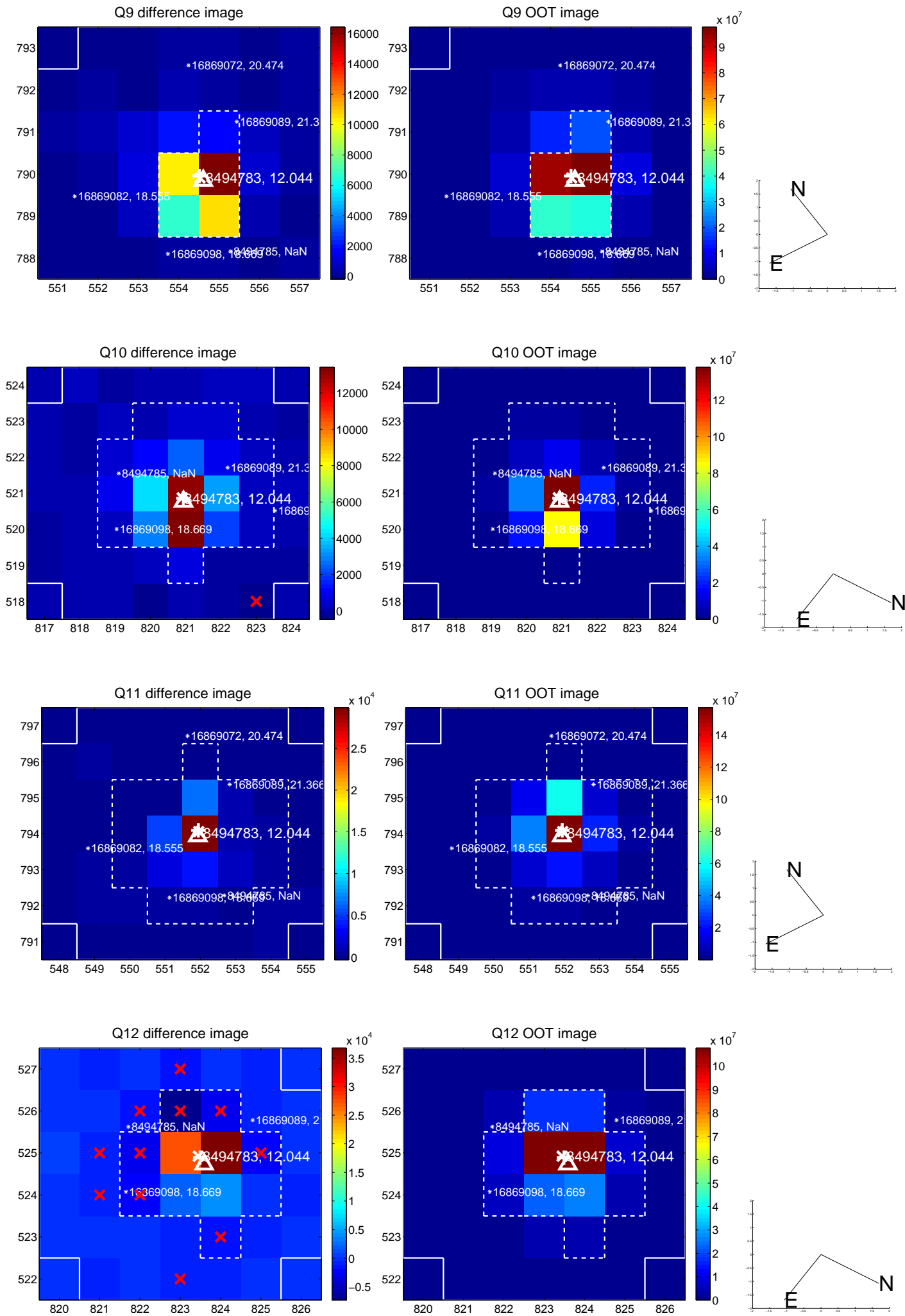
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

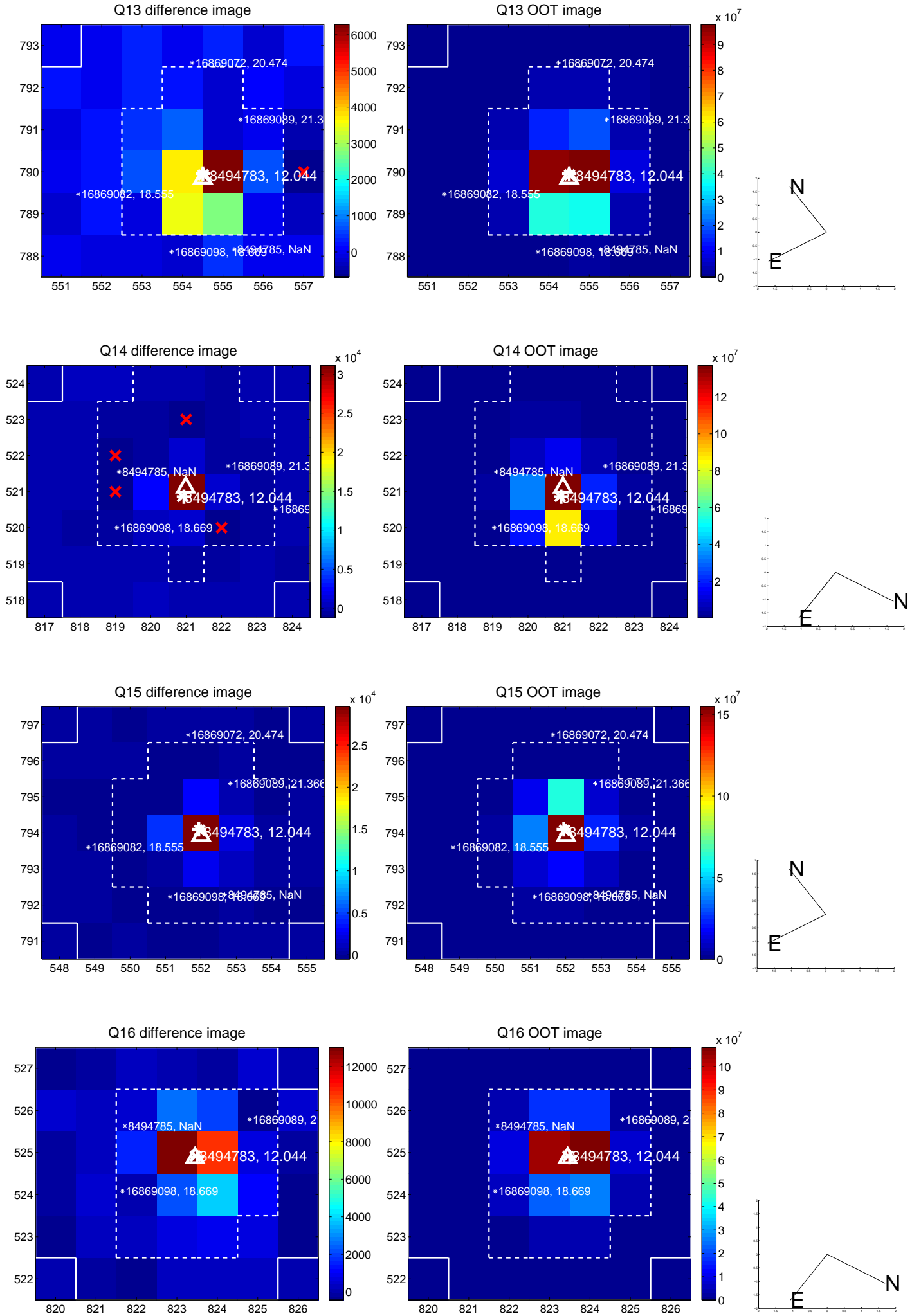


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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





UKIRT Image

Declination

