

# KIC 007582691

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007582691-01	OBS	4419.01	0.519638	131.591717	227.5	0.526	10.7	17.1	0.53	3939	0.82	555.68
007582691-02	OBS	No	0.519647	131.843053	179.2	0.829	11.4	17.3	0.53	3939	0.71	555.67
007582691-03	OBS	No	48.699495	139.381686	1772.8	0.616	7.2	5.8	0.53	3939	2.42	1.30

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007582691-01	OBS	PC	1.00	0	0	0	0	MOD_SEC_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE—CENT_FEW_DIFFS
007582691-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_FEW_DIFFS
007582691-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_FEW_DIFFS

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

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

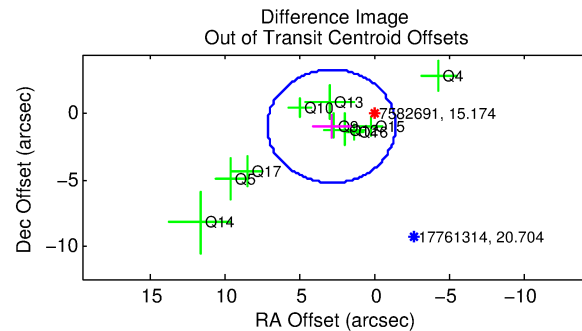
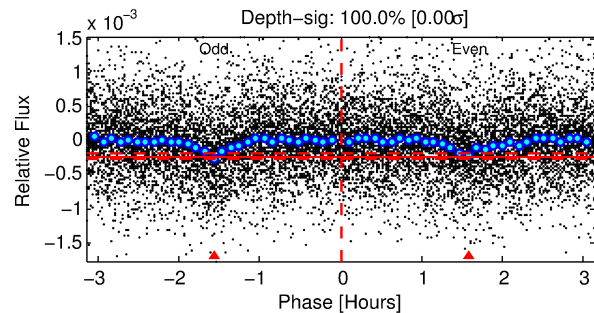
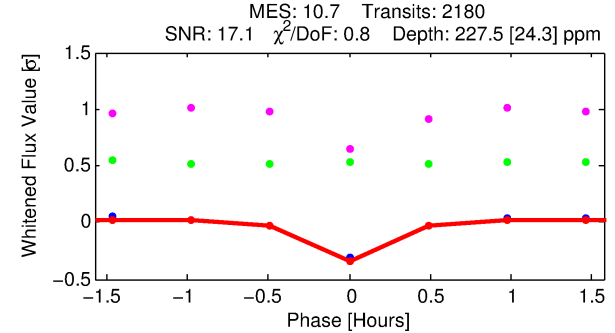
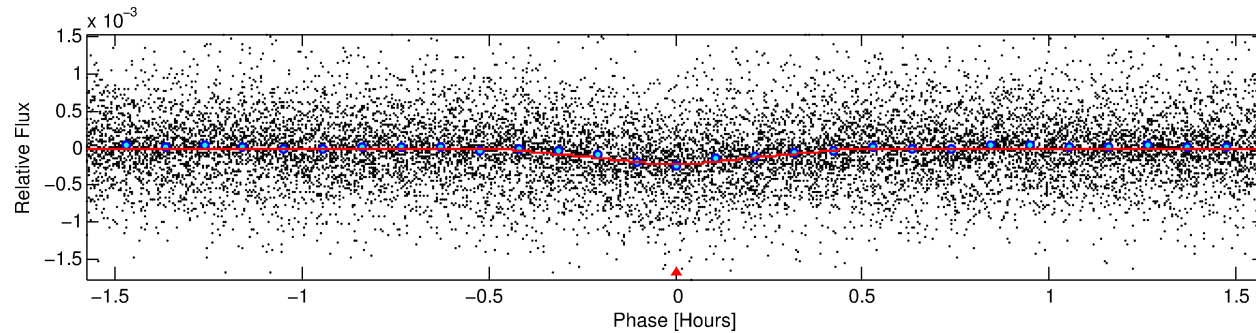
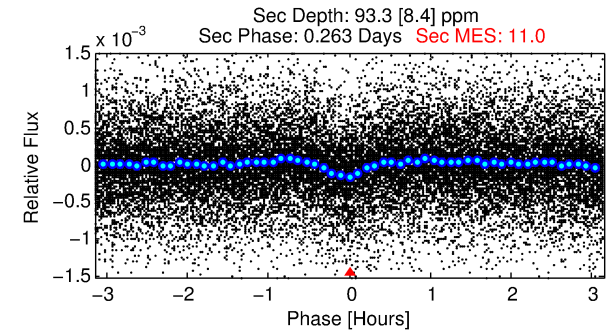
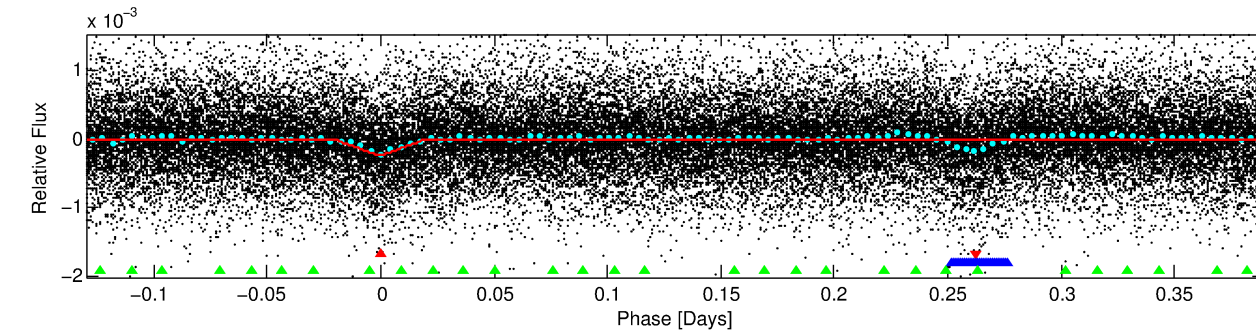
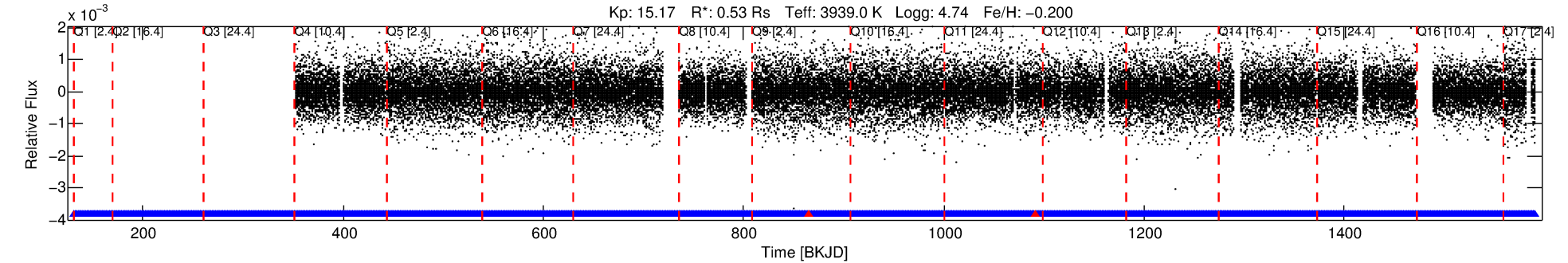
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007582691-01

No Significant Match Found

# DV One-Page Summary

KIC: 7582691 Candidate: 1 of 3 Period: 0.520 d  
KOI: K04419 Corr: No Ephemeris Match



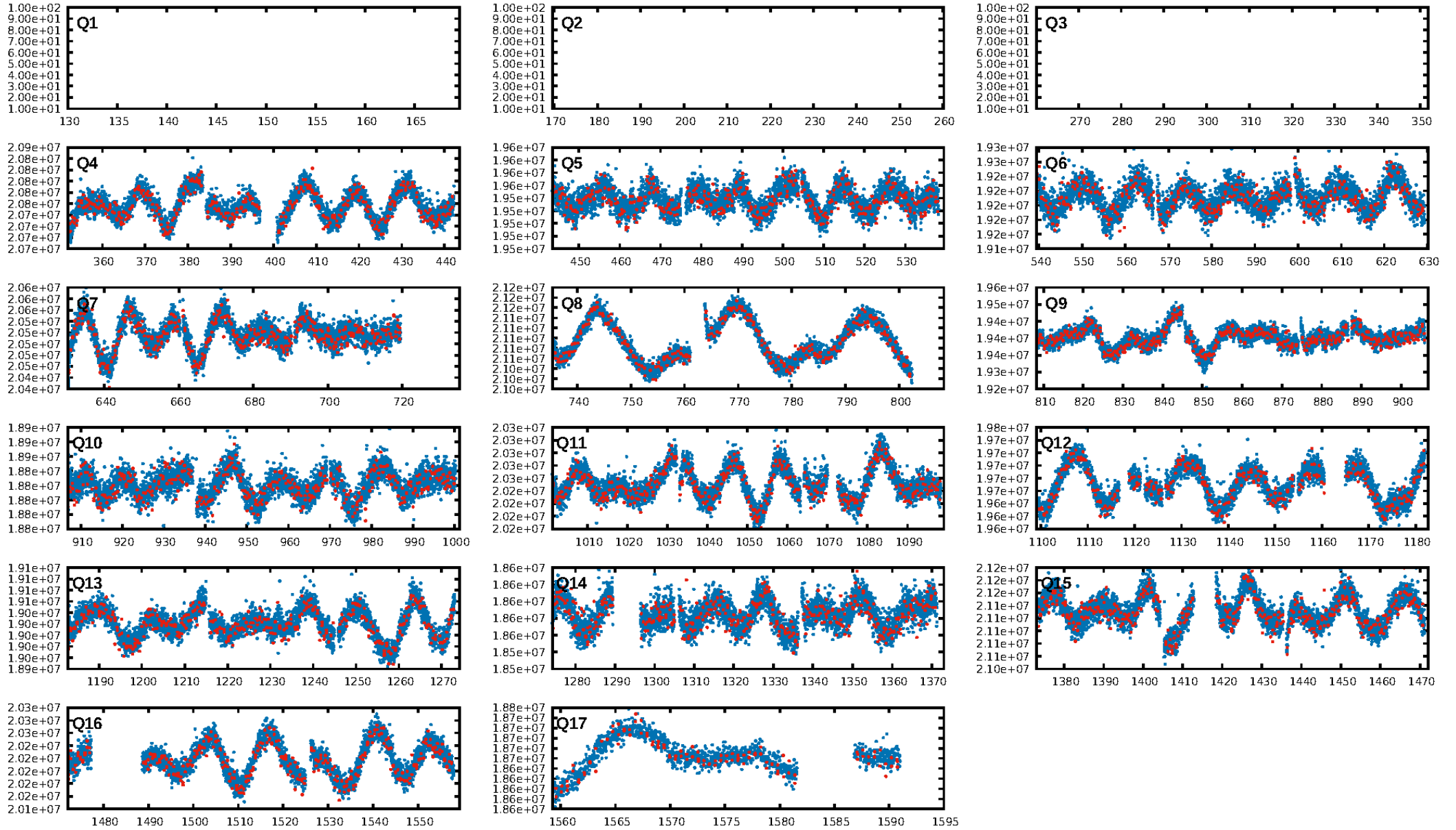
## DV Fit Results:

Period = 0.51964 [0.00001] d  
Epoch = 131.5917 [0.0006] BKJD  
Rp/R\* = 0.0143 [0.0136]  
a/R\* = 7.64 [30.01]  
b = 0.11 [36.49]  
Seff = 555.68 [52.18]  
Teq = 1238 [29] K  
Rp = 0.82 [0.78] Re  
a = 0.0104 [0.0005] AU  
Ag = 8.15 [15.48] [0.46σ]  
Teffp = 3234 [1536] K [1.30σ]

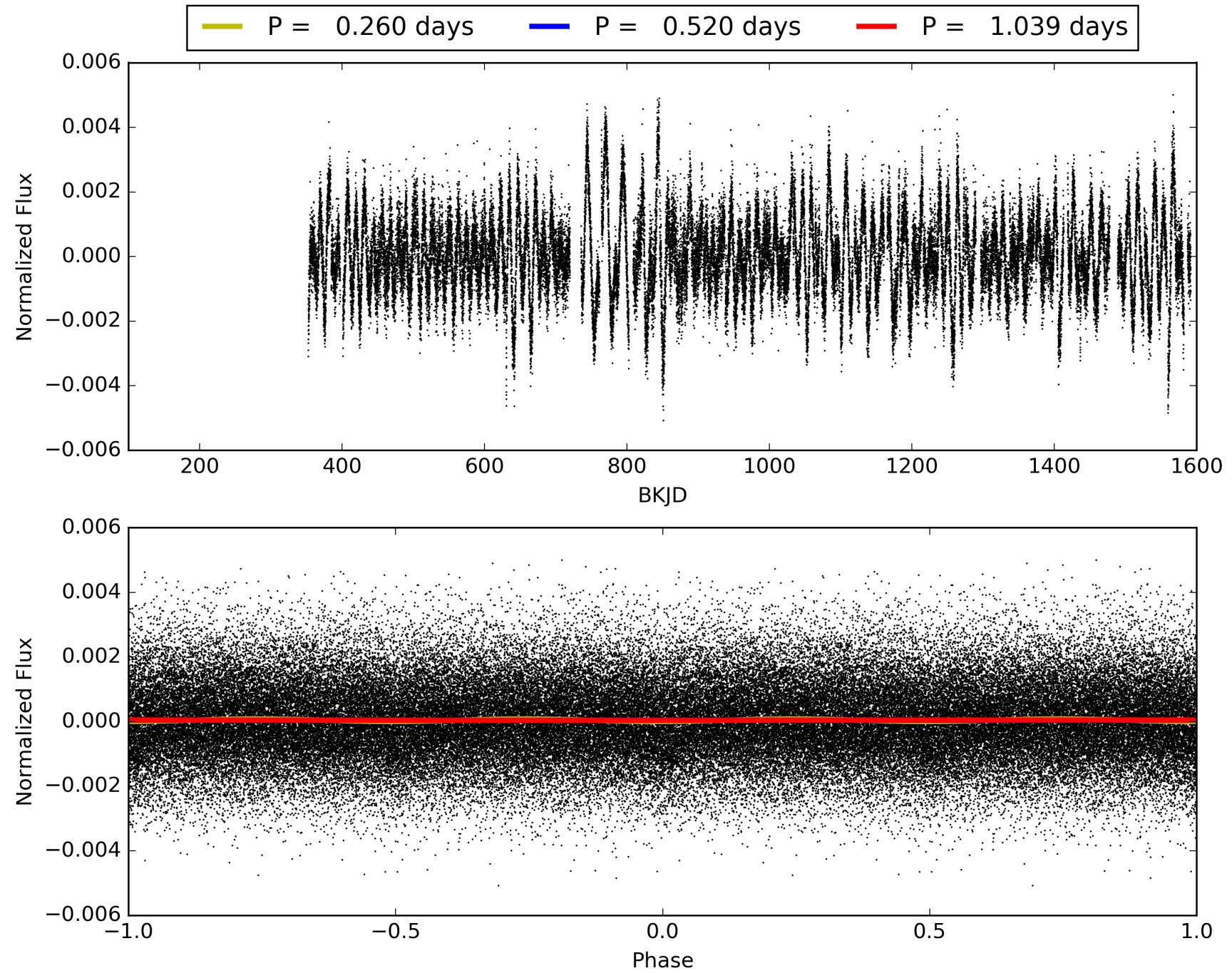
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 8.76e-32  
RollingBand-fgt: 1.00 [2127/2129]  
GhostDiagnostic-chr: 0.6868  
Centroid-sig: 0.7%  
Centroid-so: 2.484 arcsec [5.39σ]  
OotOffset-rm: 2.984 arcsec [2.09σ]  
KicOffset-rm: 1.193 arcsec [0.81σ]  
OotOffset-st: 2/1/3/4 [10]  
KicOffset-st: 2/1/3/4 [10]  
DiffImageQuality-fgm: 0.20 [2/10]  
DiffImageOverlap-fno: 0.77 [10/13]

# TCE 007582691-01, PDC Light Curves



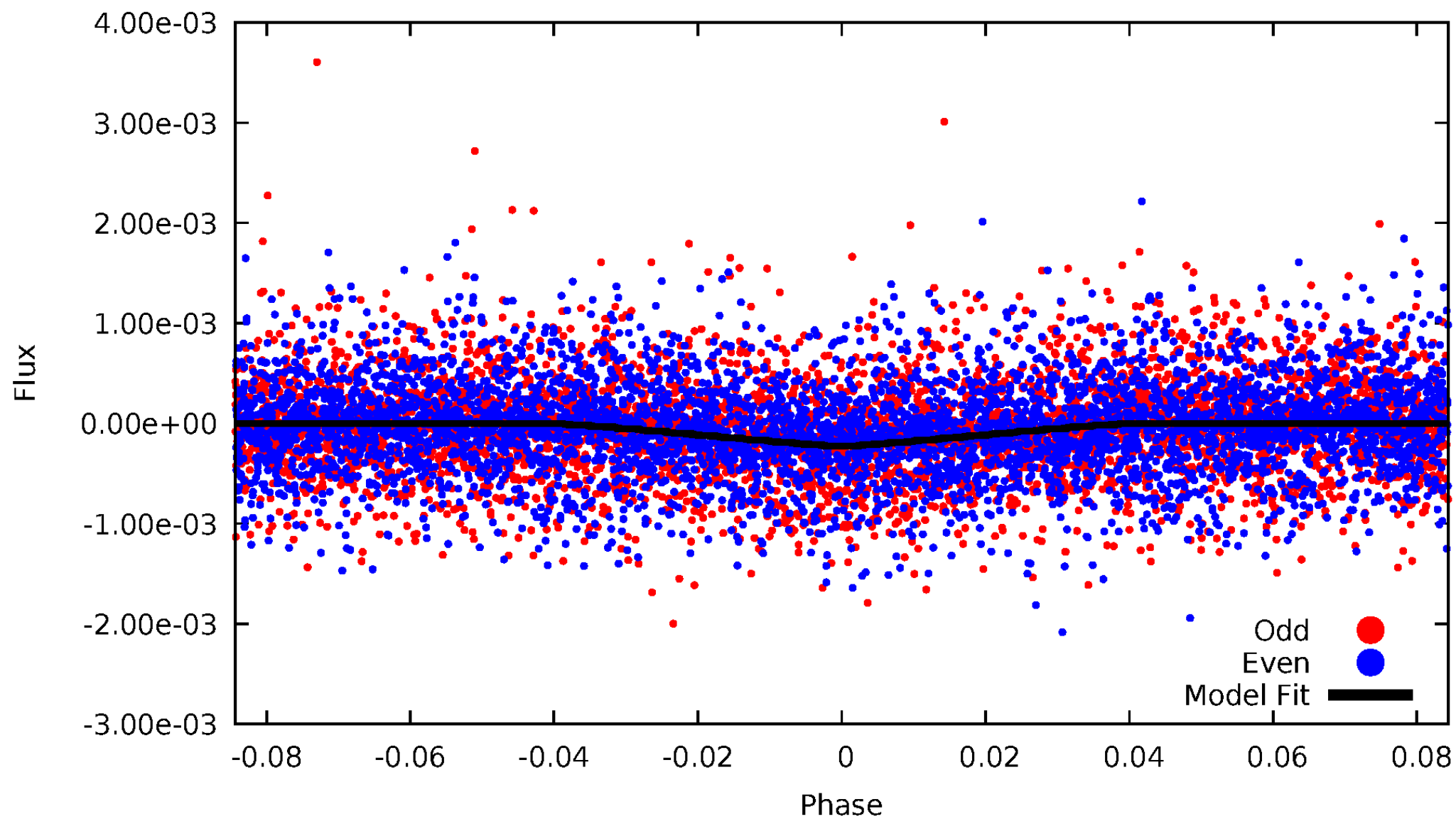
TCE 007582691-01





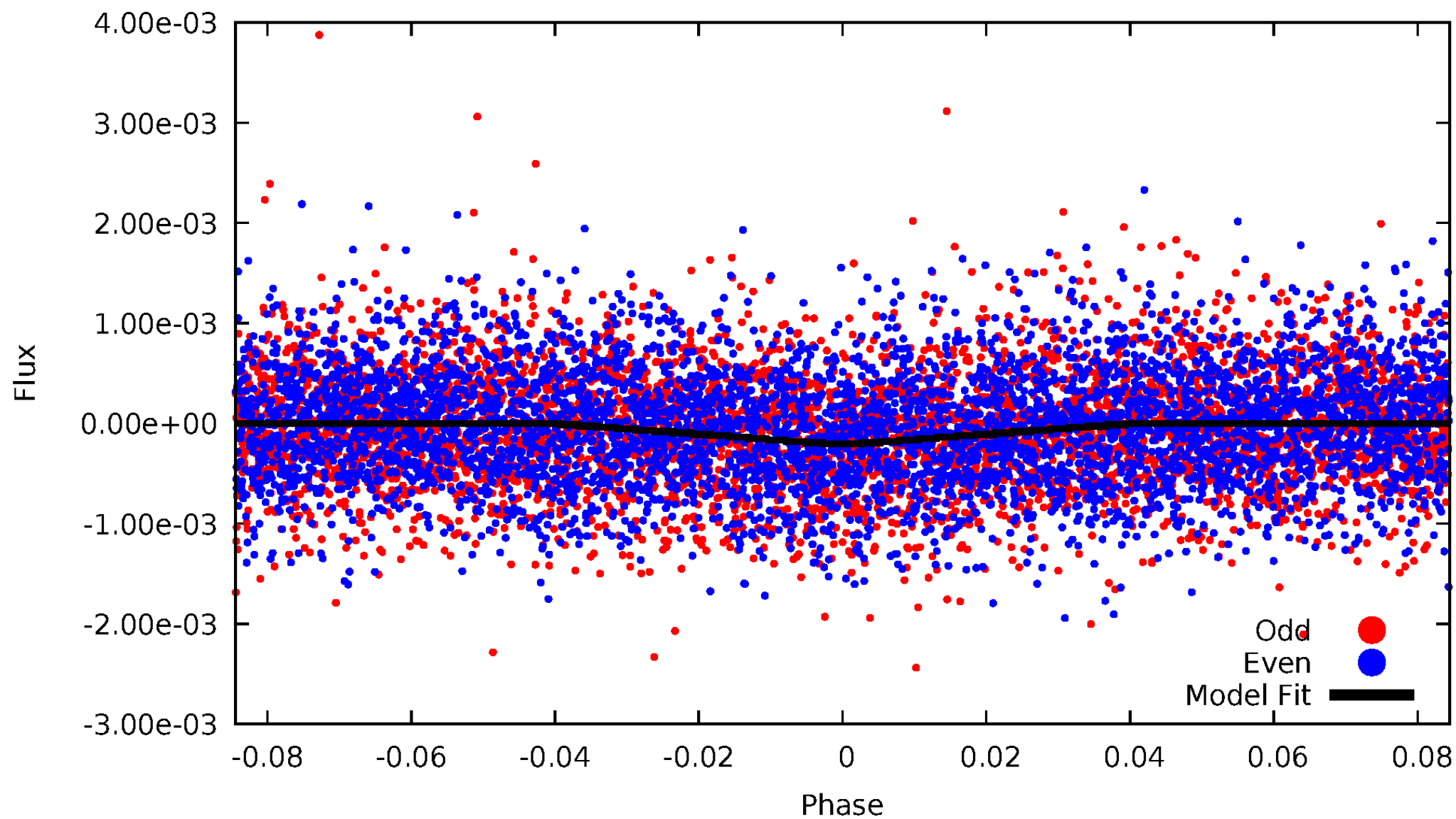
# DV Odd/Even

TCE 007582691-01



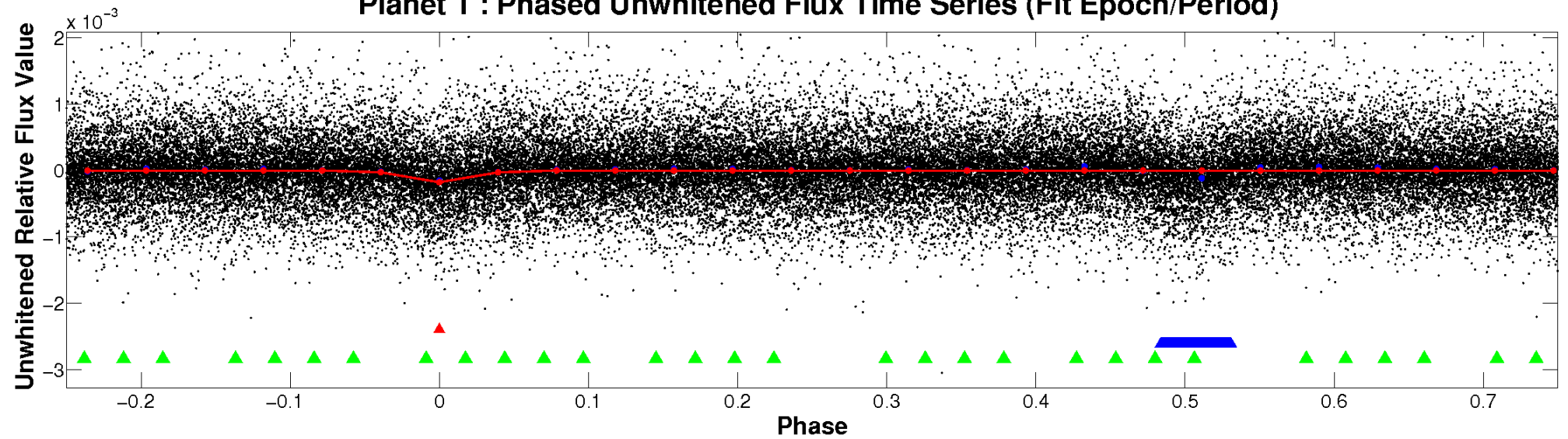
# ALT Odd/Even

TCE 007582691-01

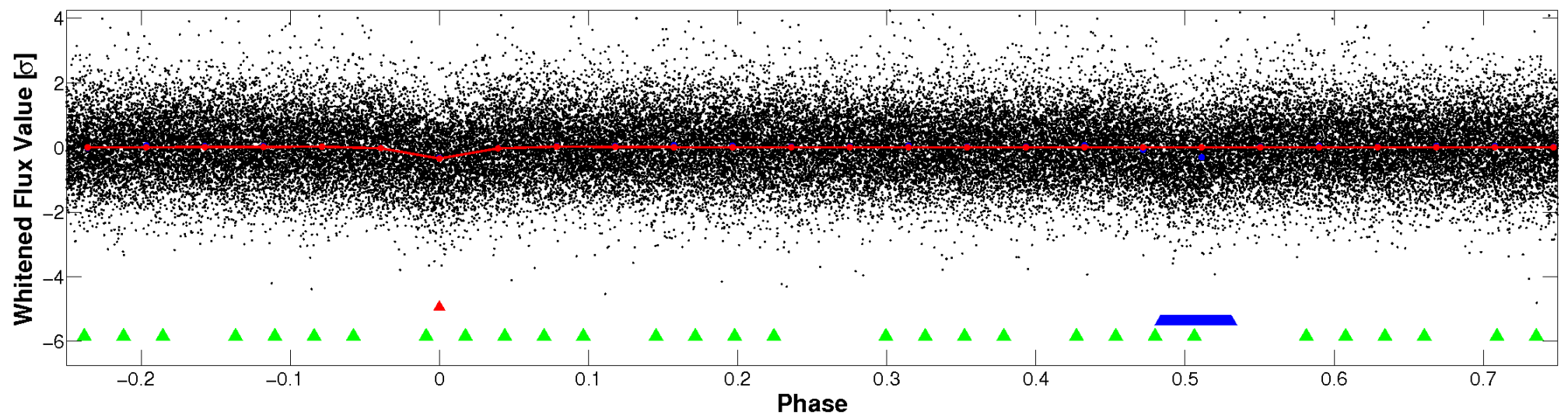


# Non-Whitened Vs. Whitened Light Curve

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

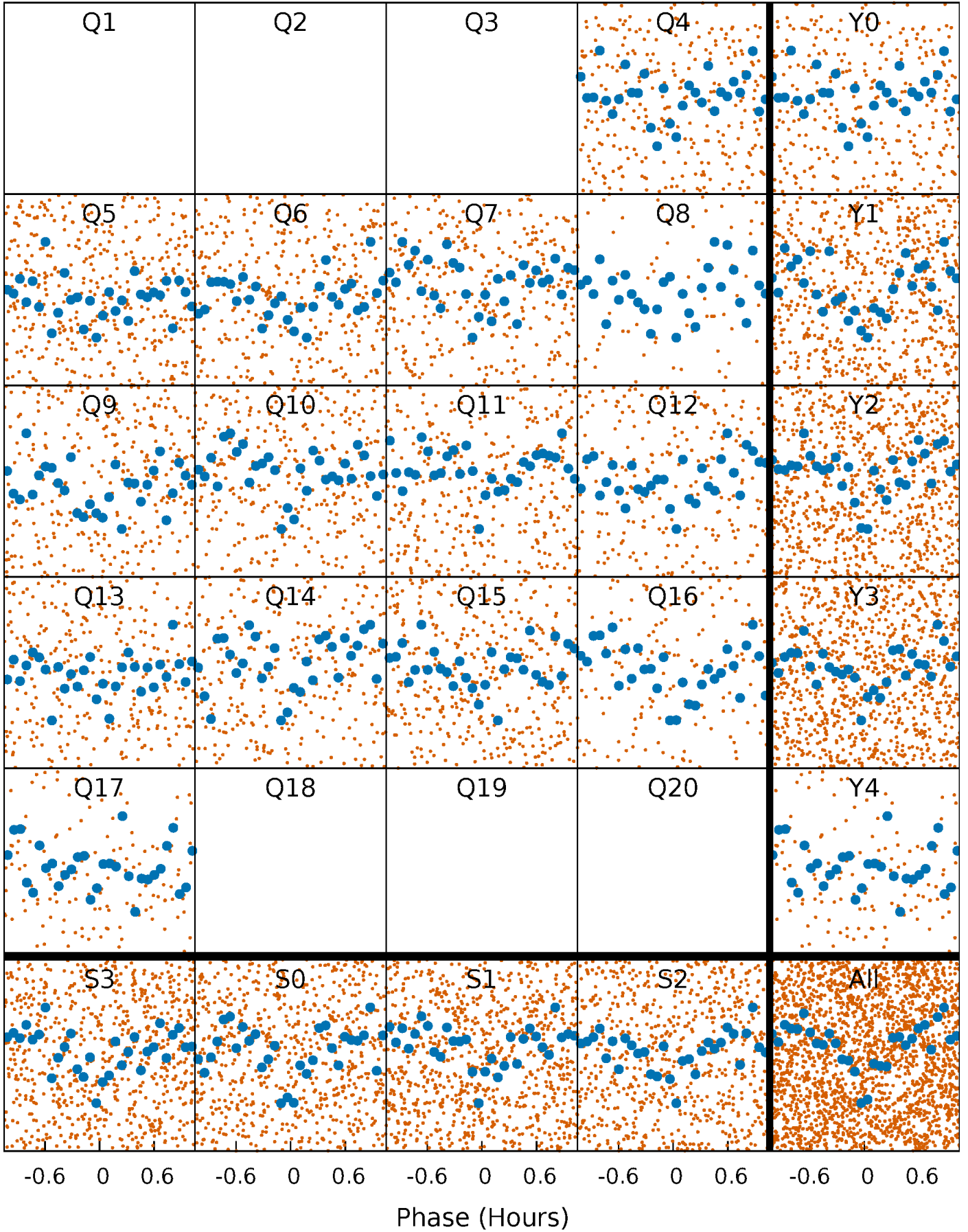


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

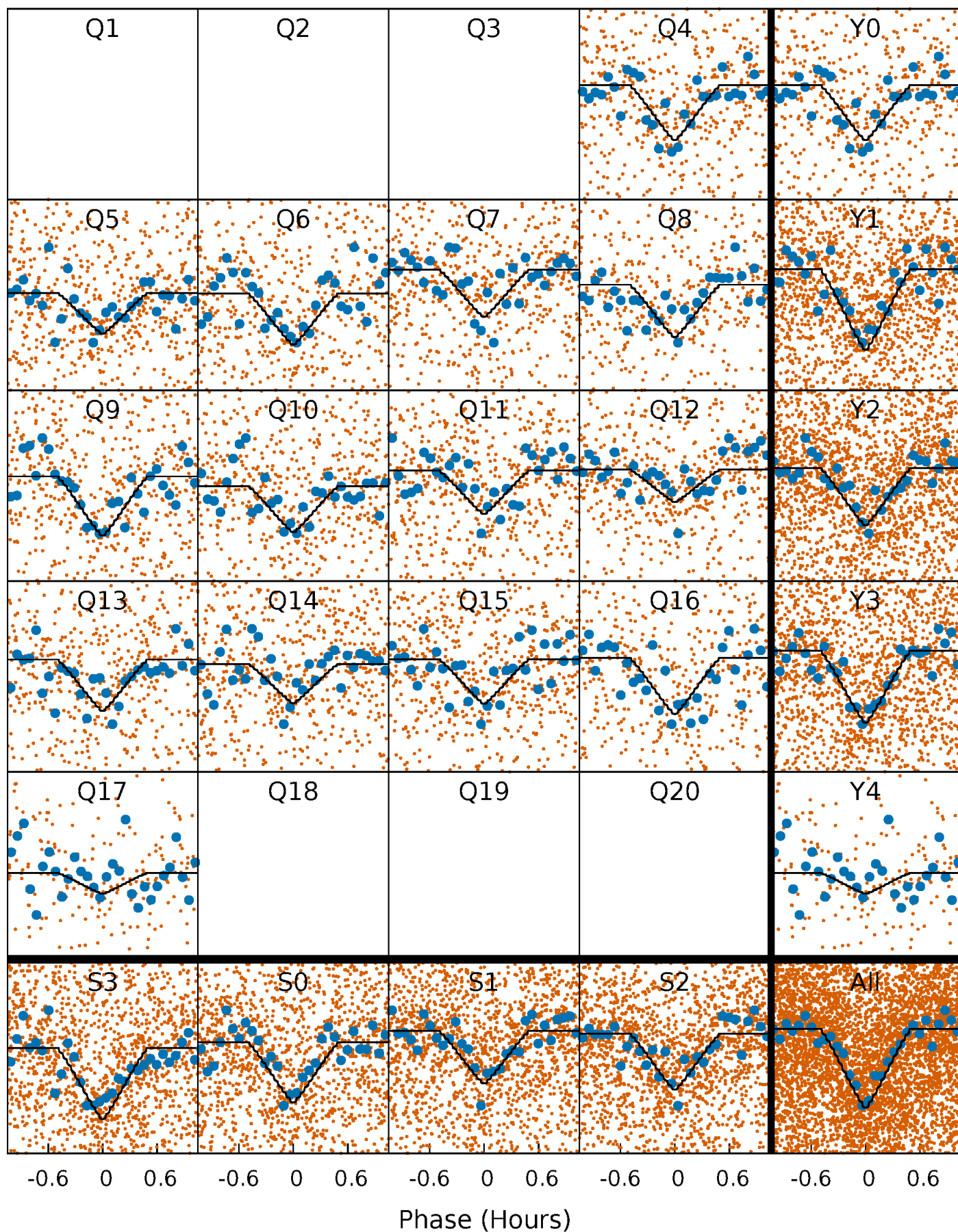
TCE 007582691-01 P= 0.519638 Days  $T_0=131.591717$  (BKJD)





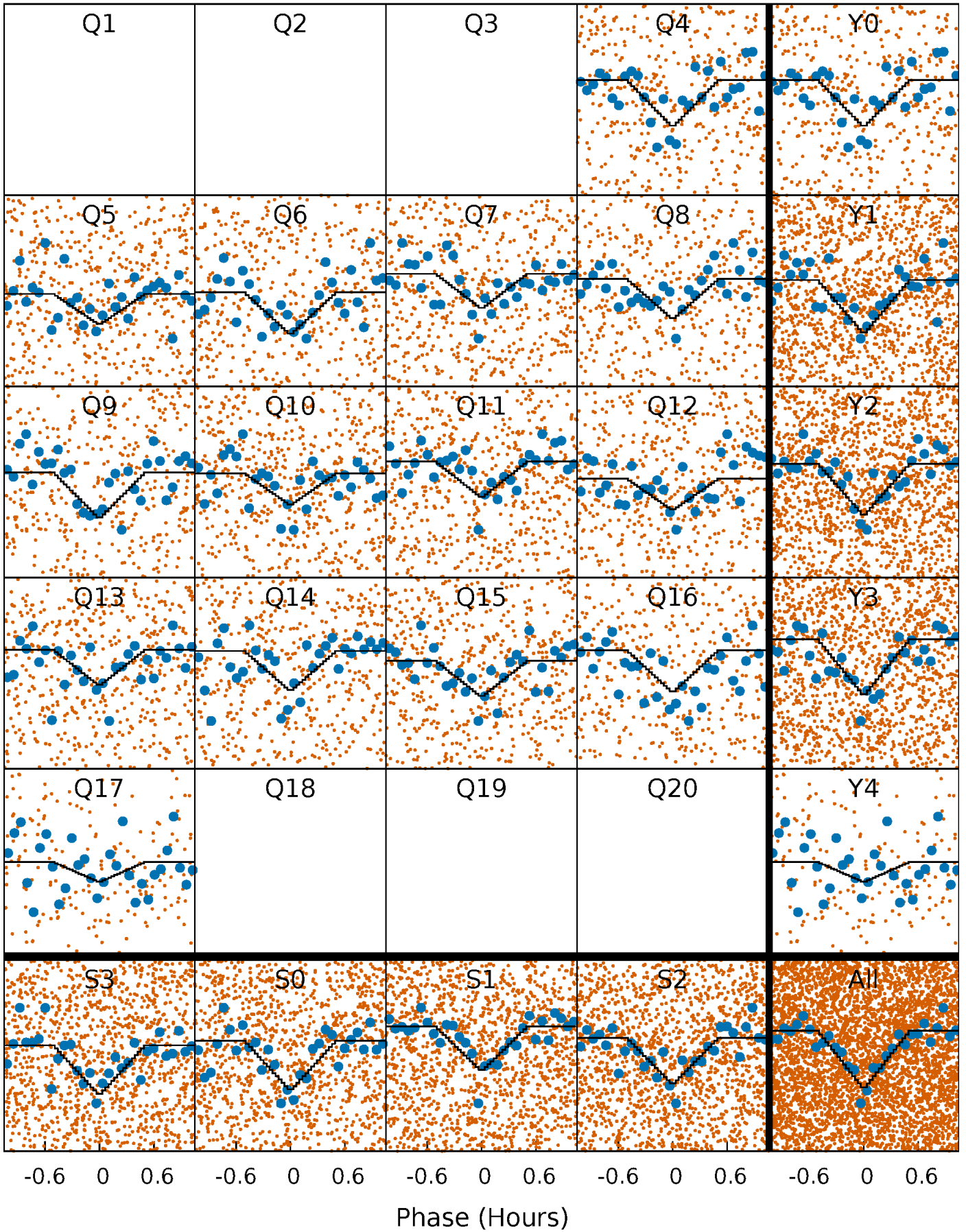
# DV Quarter-Phased Transit Curves

TCE 007582691-01 P= 0.519638 Days  $T_0=131.591717$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

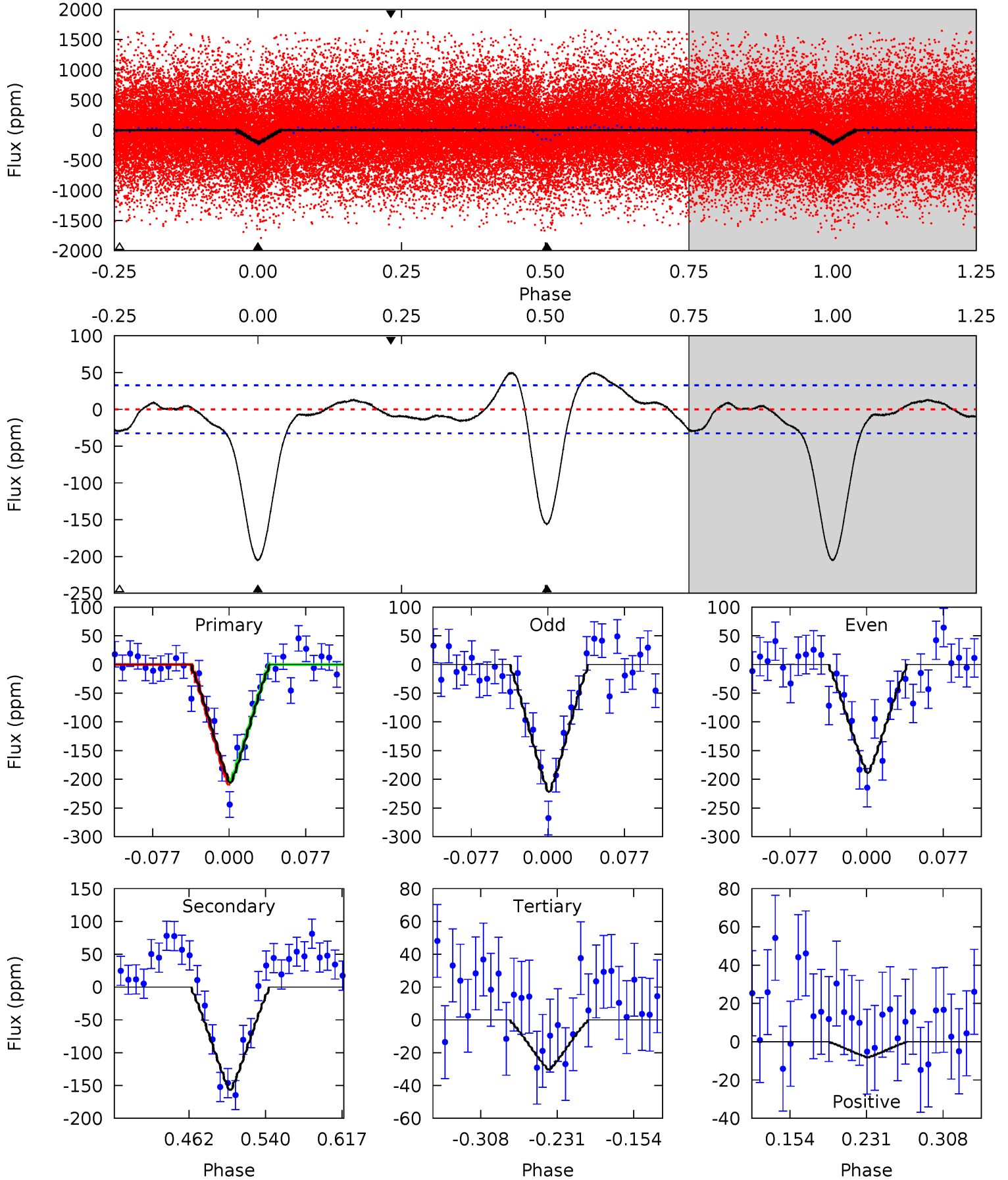
TCE 007582691-01 P= 0.519638 Days  $T_0=131.591690$  (BKJD)



# DV Model-Shift Uniqueness Test

007582691-01, P = 0.519638 Days, E = 131.591717 Days

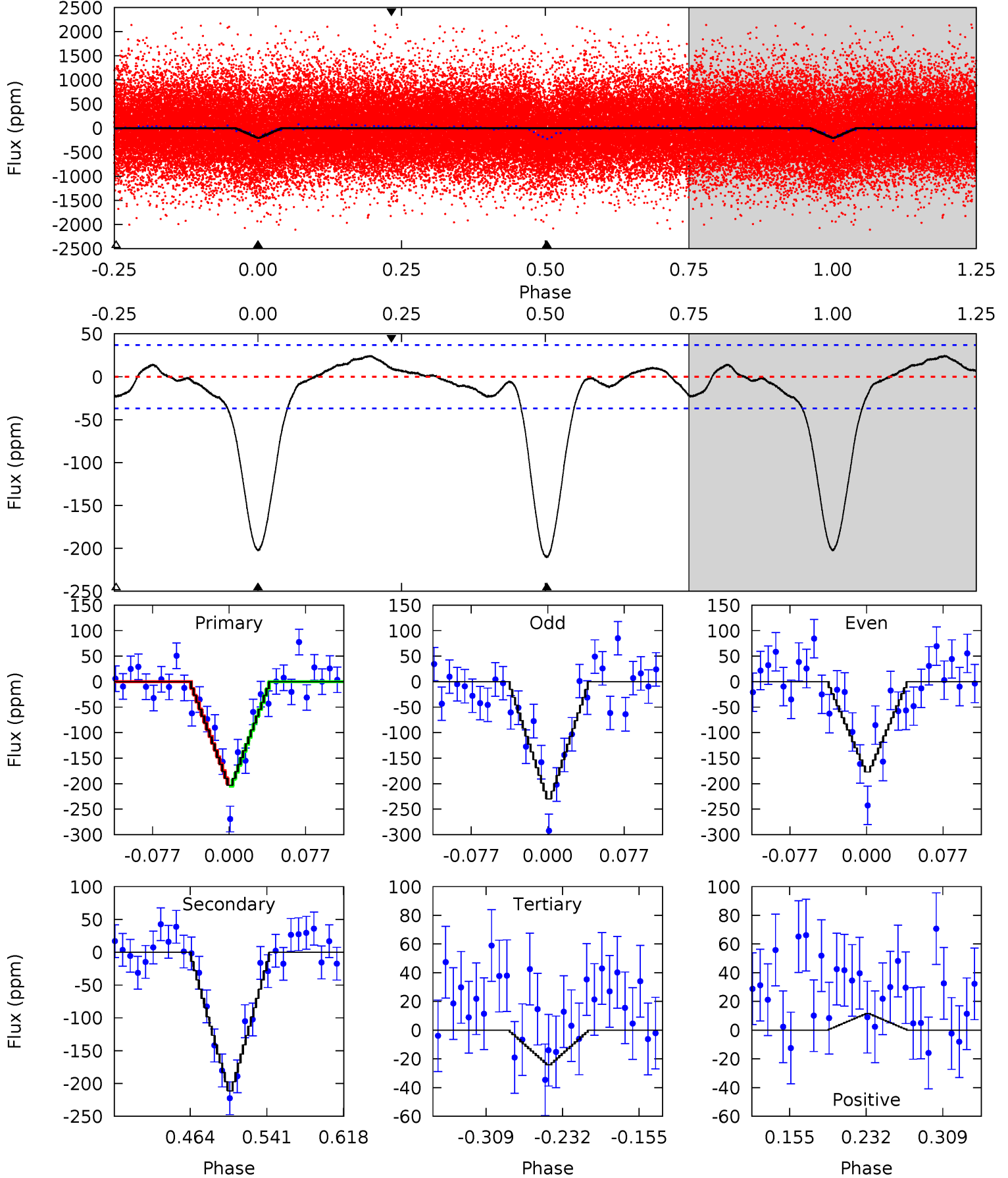
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.1	22.1	4.27	-1.15	4.62	1.77	2.30	24.8	30.2	17.9	23.3	2.34	0.94	0.20	0.58



# Alt Model-Shift Uniqueness Test

007582691-01, P = 0.519638 Days, E = 131.591690 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
25.3	26.4	3.01	1.44	4.62	1.77	1.48	22.3	23.9	23.3	24.9	3.28	0.96	0.11	0.23



### Stellar Parameters For KIC 007582691

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3939^{+55}_{-62}$	$4.736^{+0.028}_{-0.035}$	$-0.200^{+0.200}_{-0.200}$	$0.526^{+0.035}_{-0.035}$	$0.550^{+0.031}_{-0.039}$	$5.308^{+0.704}_{-0.686}$
	+1%/-2%	+1%/-1%	+100%/-100%	+7%/-7%	+6%/-7%	+13%/-13%
Source	PHO2	PHO2	PHO2	DSEP		

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

### Secondary Eclipse Parameters for KIC 007582691-01 / KOI 4419.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-156 \pm 7$	$0.99^{+0.70}_{-0.62}$	$1732^{+33}_{-32}$	$3519^{+1584}_{-543}$	$9.431^{+61.035}_{-6.174}$
Alt.	$-211 \pm 8$	$0.99^{+0.73}_{-0.61}$	$1731^{+34}_{-32}$	$3693^{+1646}_{-587}$	$13^{+71}_{-8}$

$T_{max}$  = 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

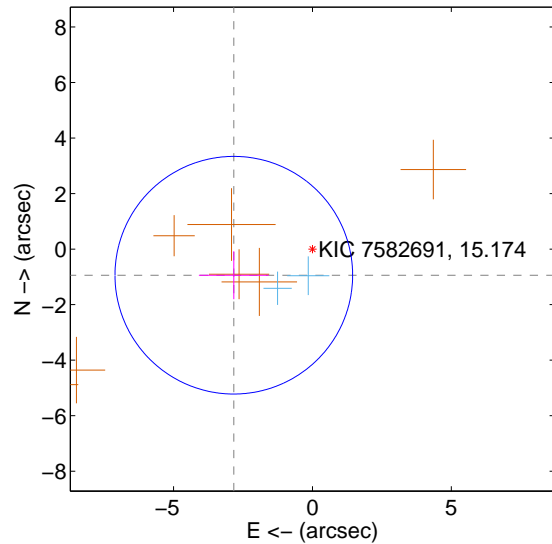
Supplemental centroid analysis for 007582691-01. Kepler magnitude: 15.17. Transit SNR 17.06

There are 2 quarters with good PRF difference image offsets

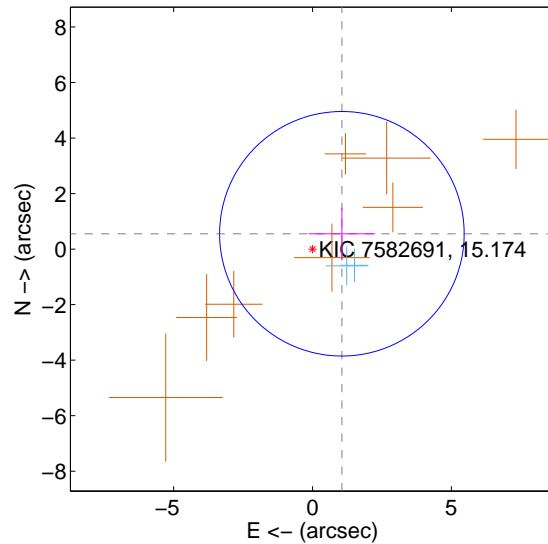
The OOT PRF centroid is offset from the target star catalog position by about 6.14 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.984 \pm 1.426$	2.09	$2.832 \pm 1.256$	$-0.941 \pm 0.865$
PRF-fit source offset from KIC position	$1.193 \pm 1.468$	0.81	$-1.058 \pm 1.203$	$0.552 \pm 0.937$
photometric centroid source offset	$2.48 \pm 0.46$	5.39	$-2.47 \pm 0.46$	$-0.28 \pm 0.43$

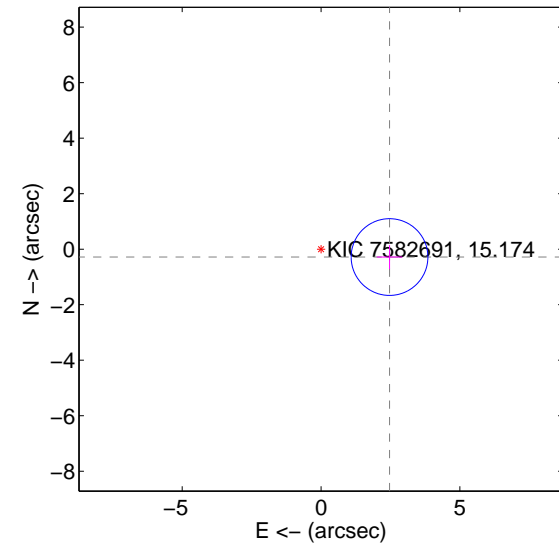
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

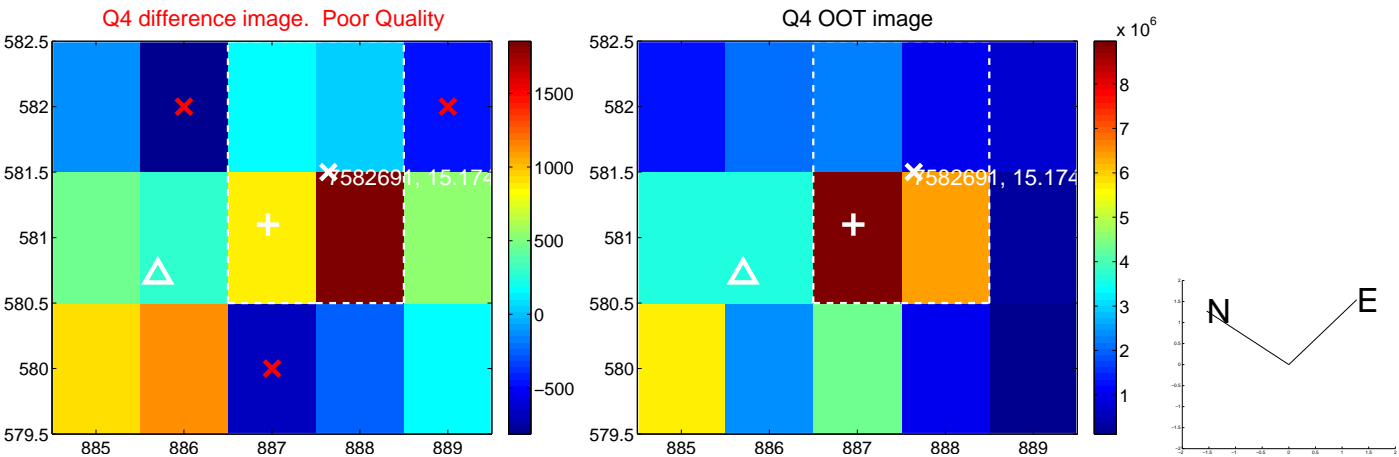


offset from photometric centroids

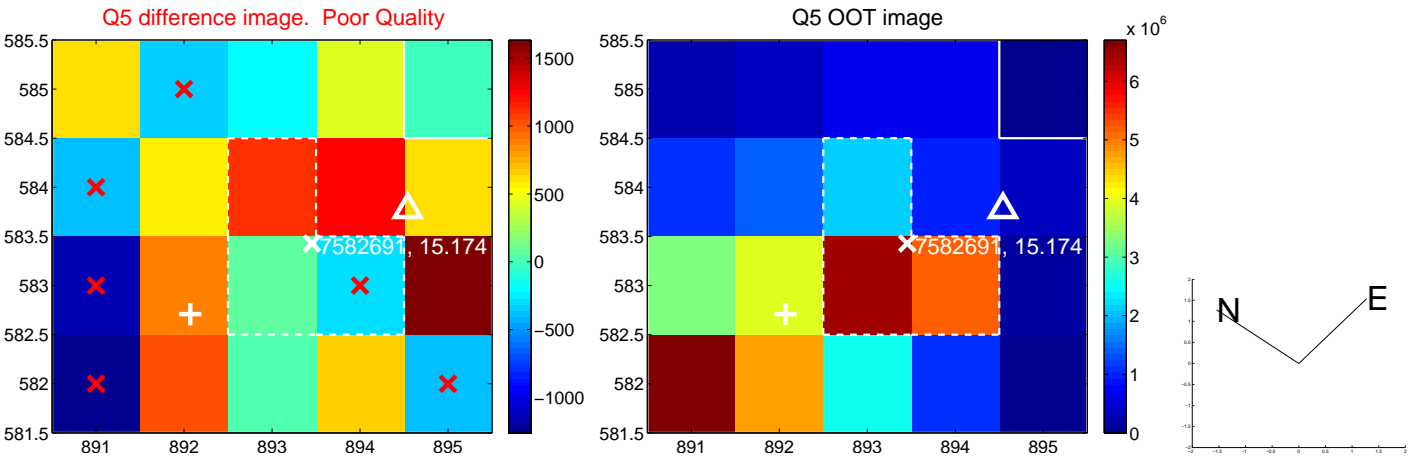


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

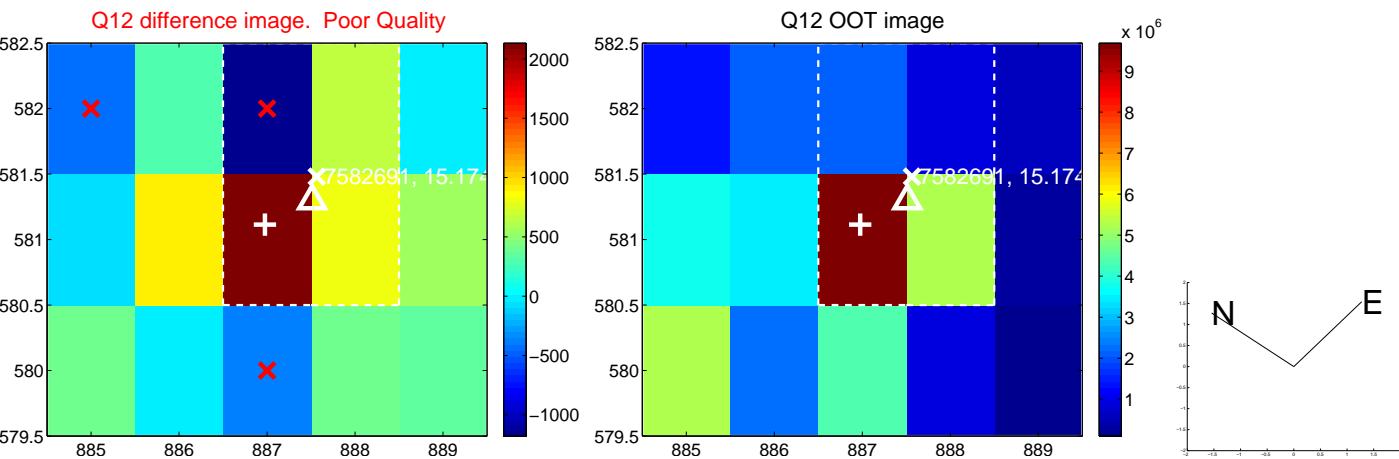
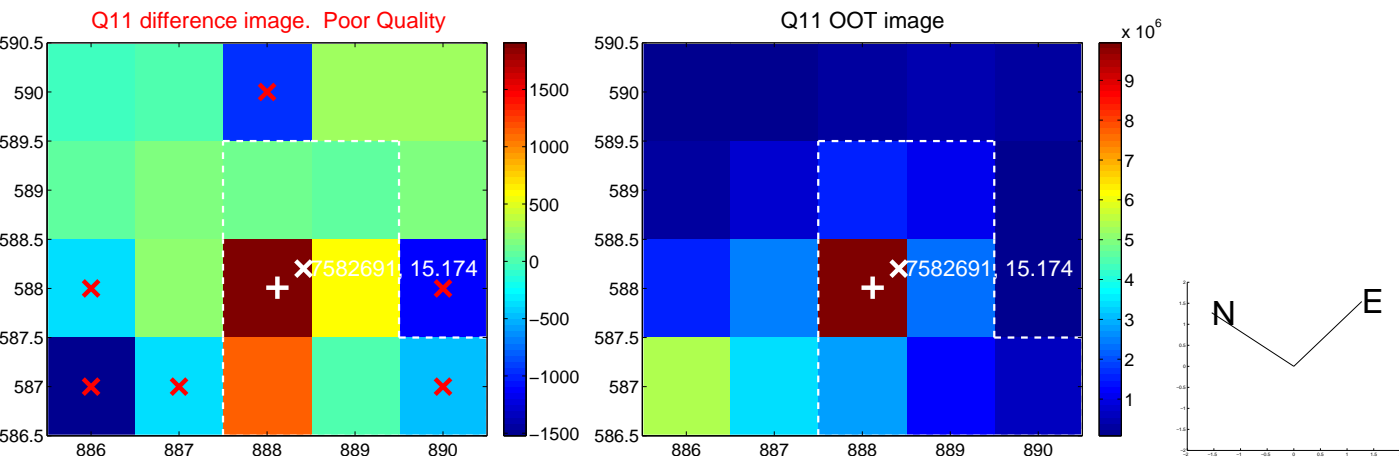
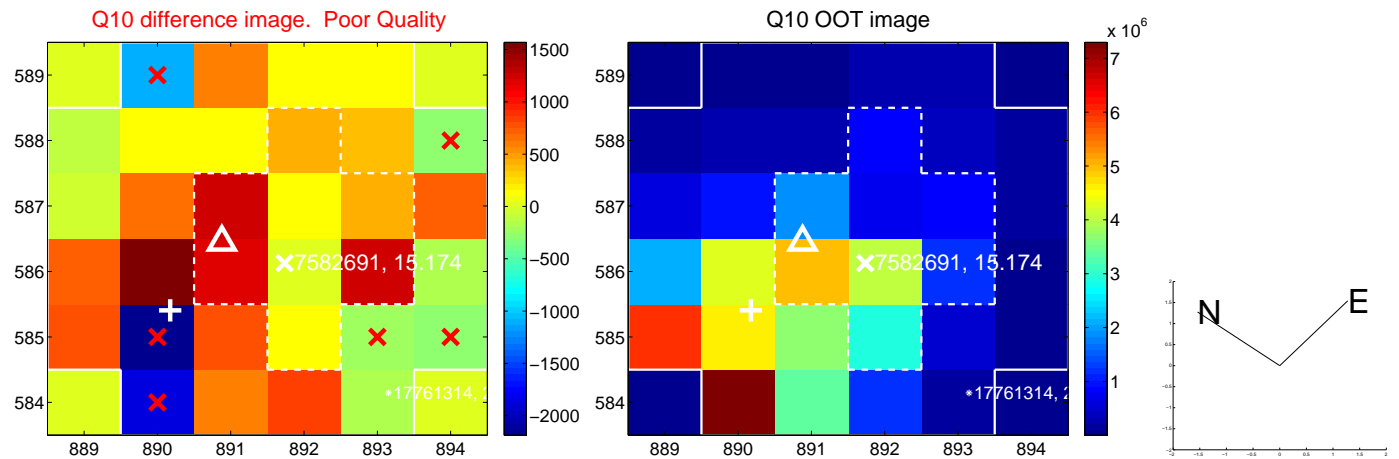
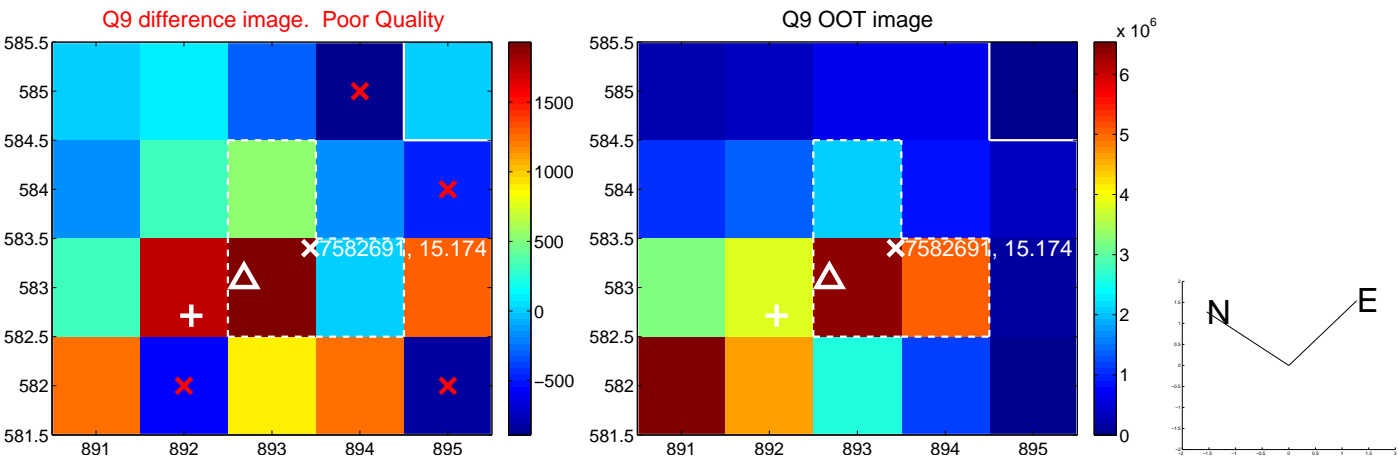
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



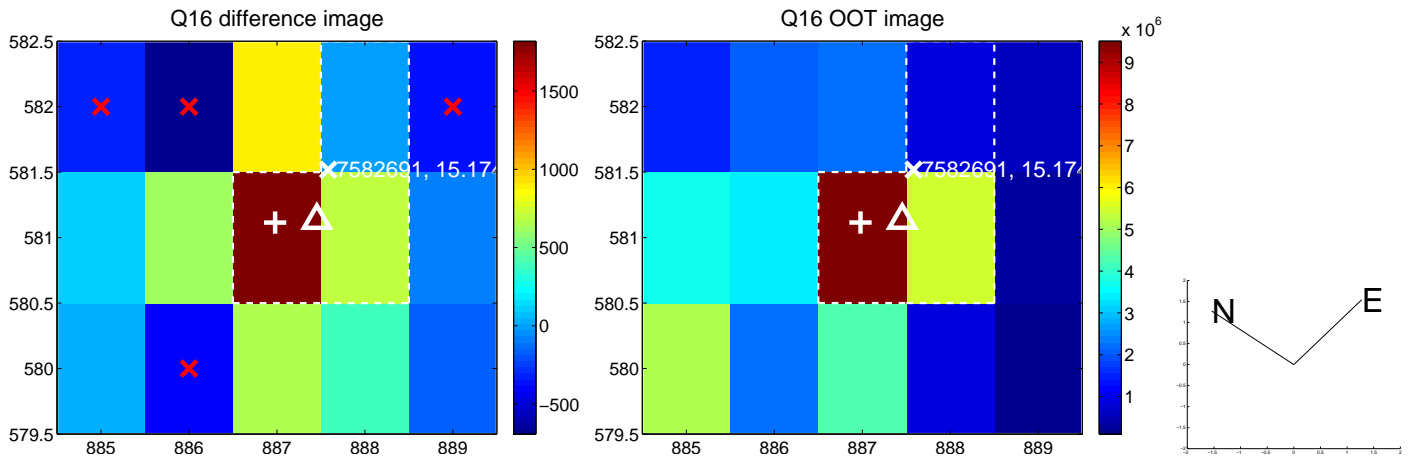
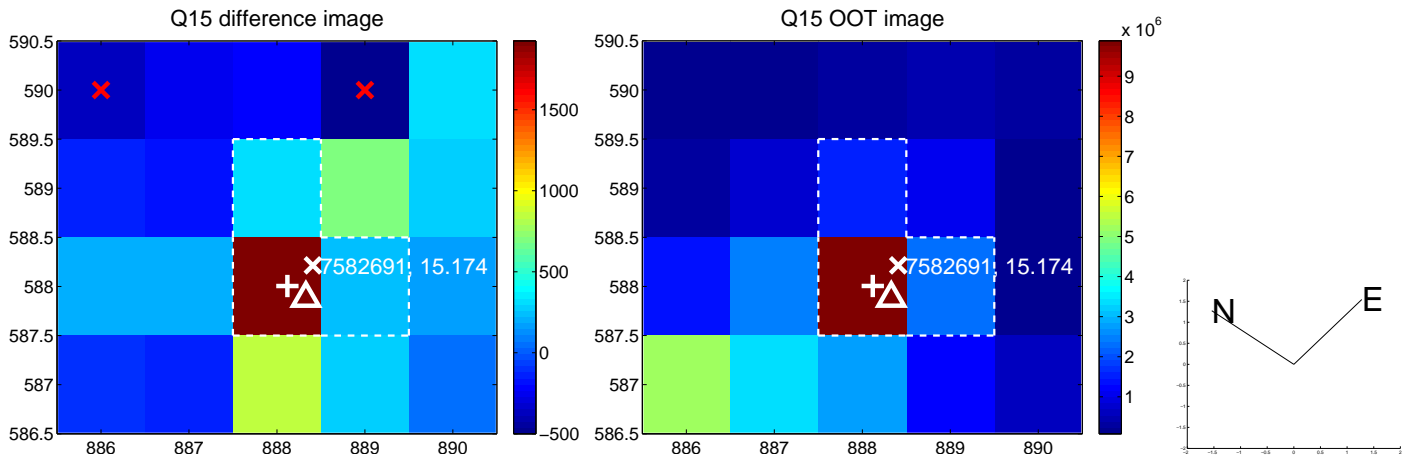
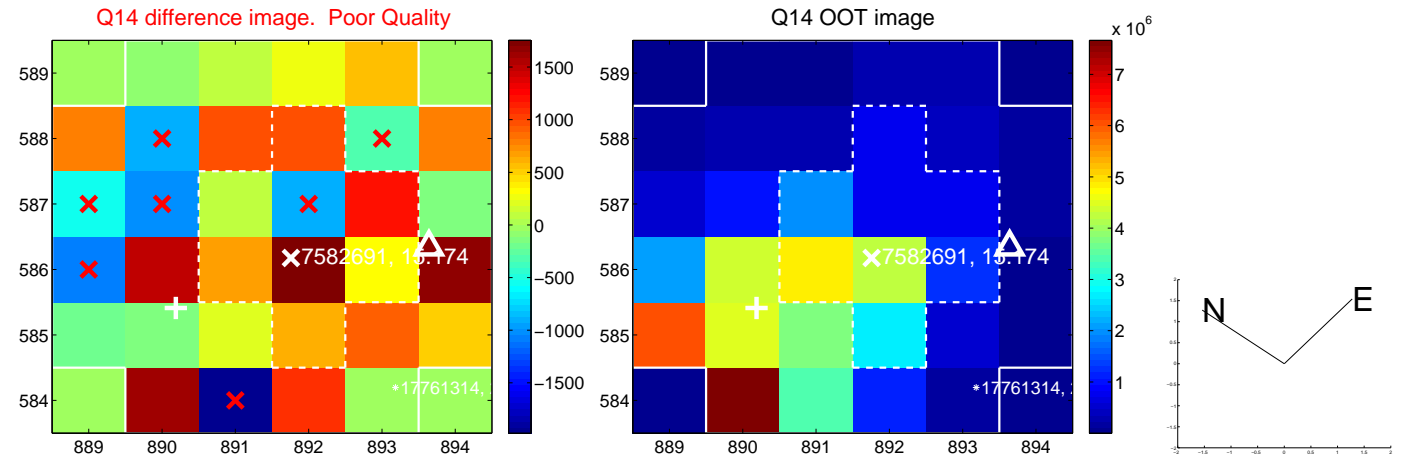
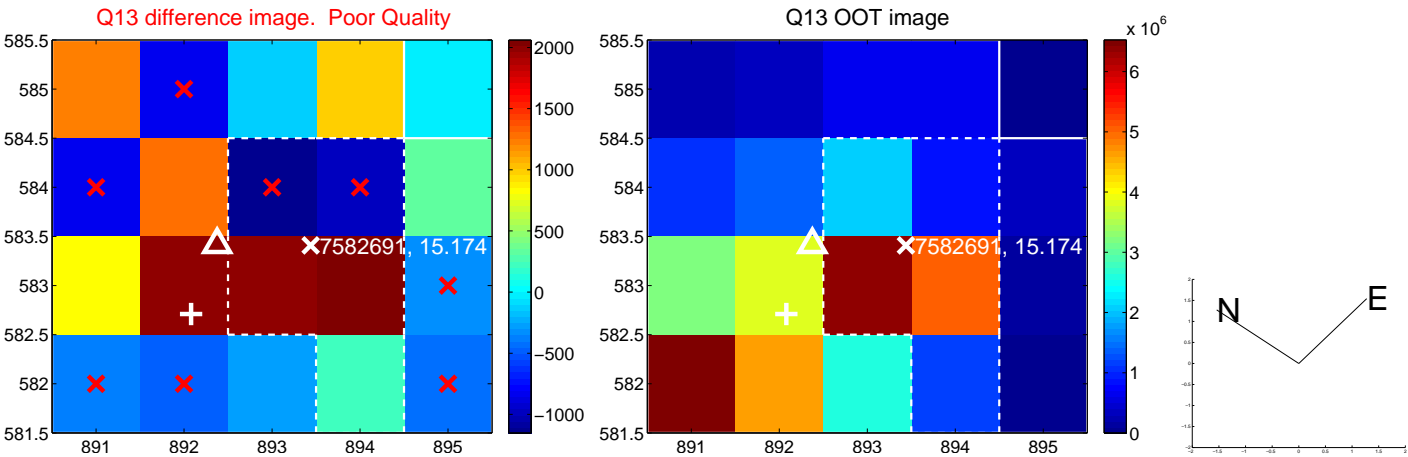
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

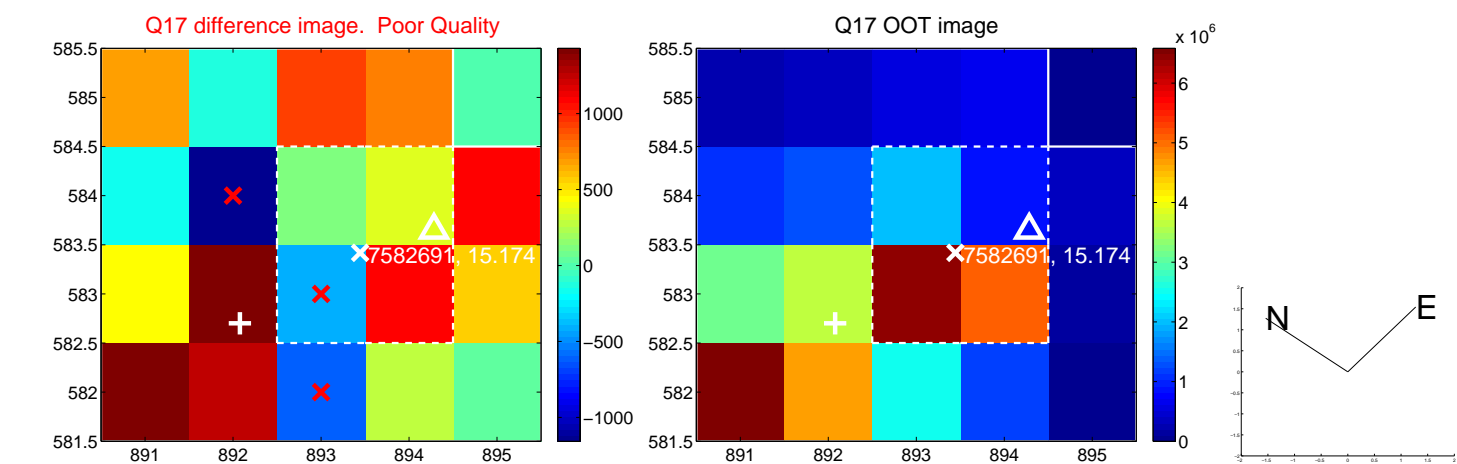


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

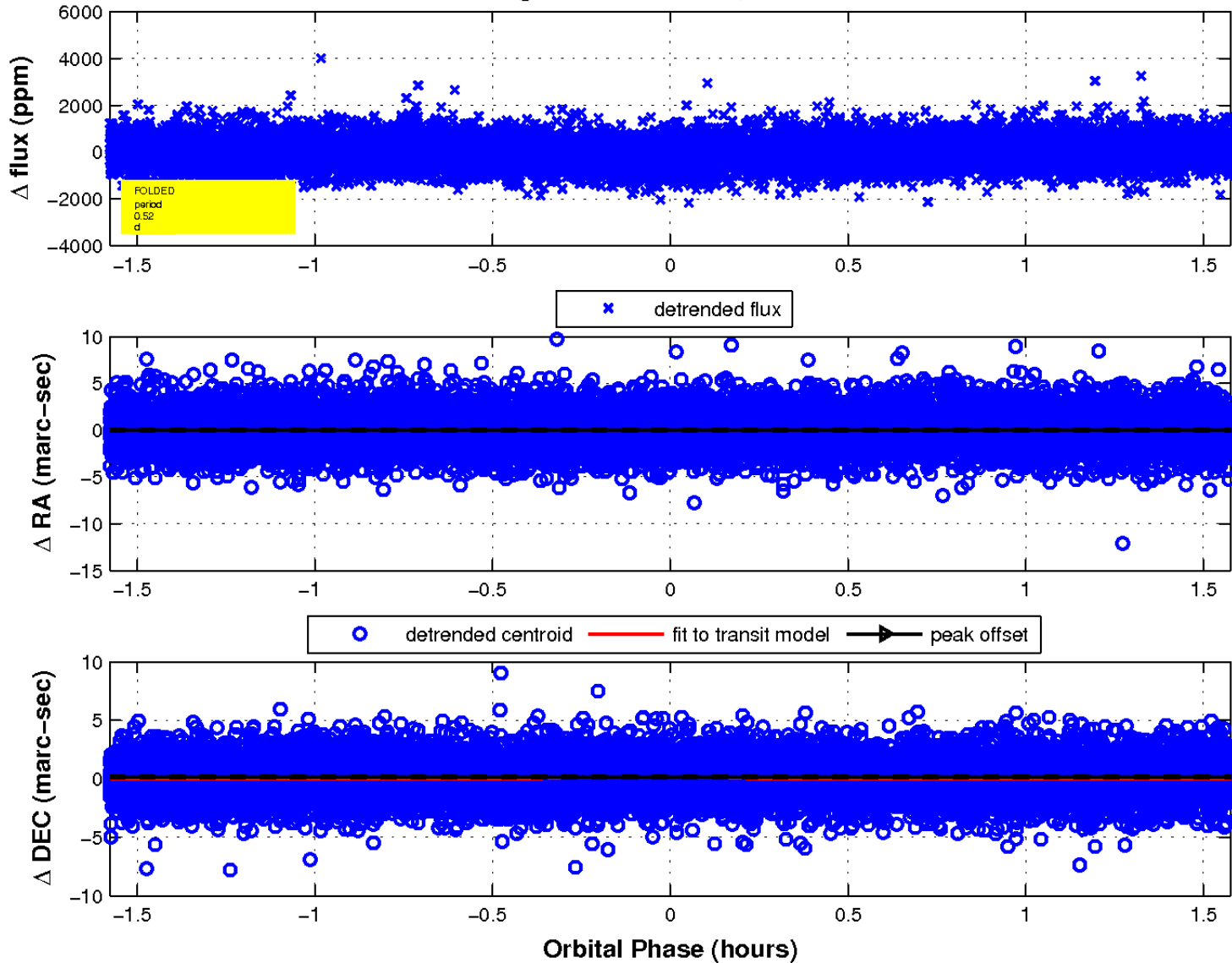




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

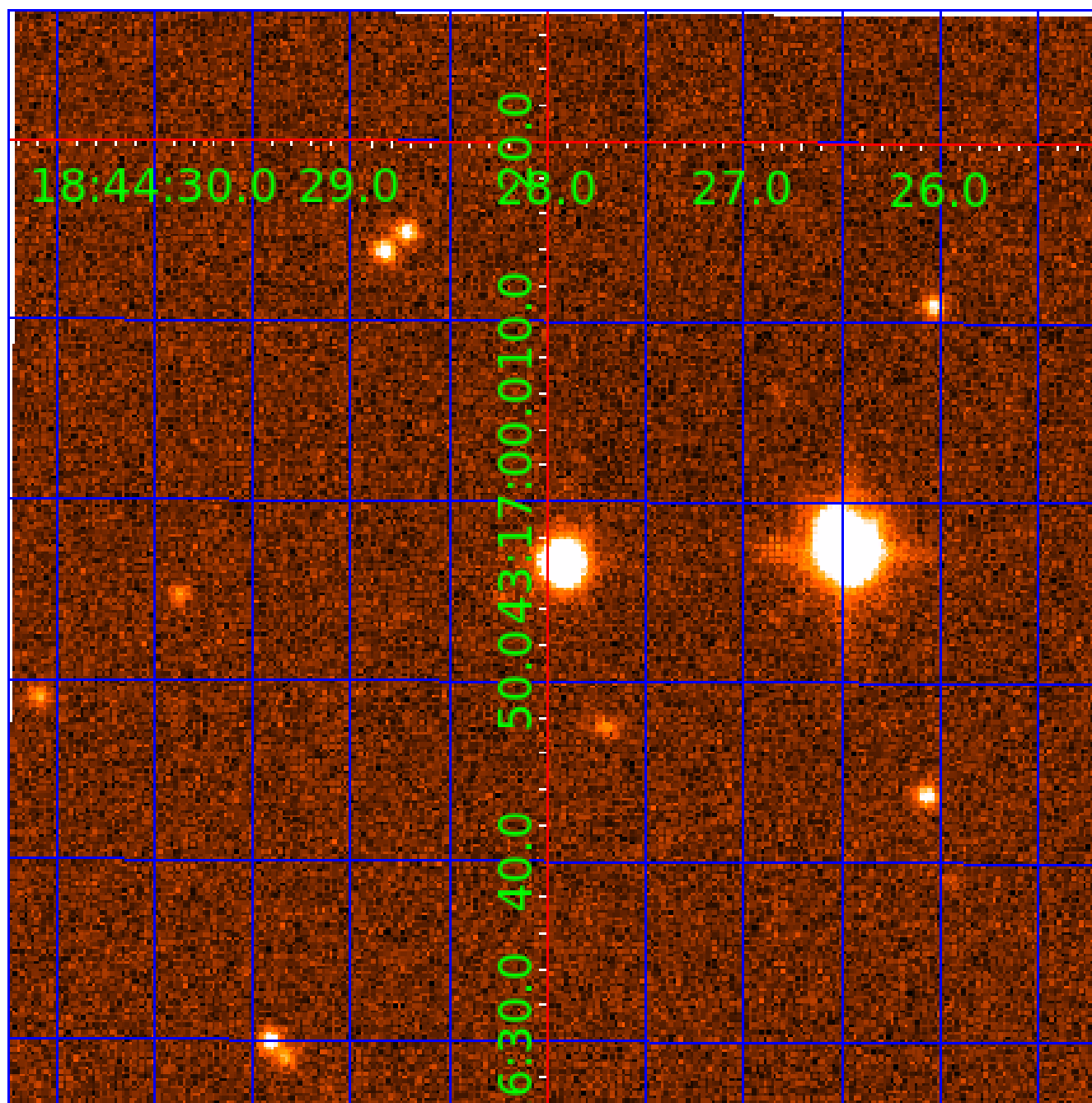


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



# KIC 007582691

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007582691-01	OBS	4419.01	0.519638	131.591717	227.5	0.526	10.7	17.1	0.53	3939	0.82	555.68
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007582691-03	OBS	No	48.699495	139.381686	1772.8	0.616	7.2	5.8	0.53	3939	2.42	1.30

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007582691-01	OBS	PC	1.00	0	0	0	0	MOD_SEC_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE—CENT_FEW_DIFFS
007582691-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_FEW_DIFFS
007582691-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_FEW_DIFFS

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

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

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

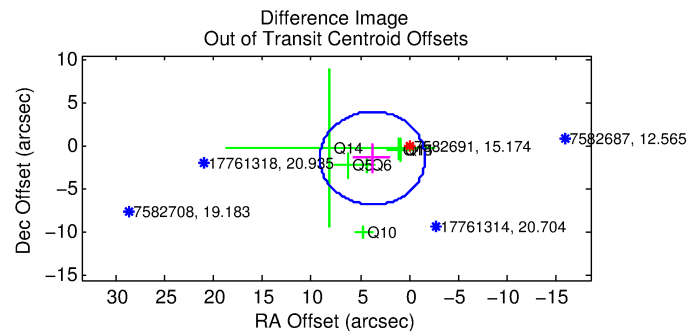
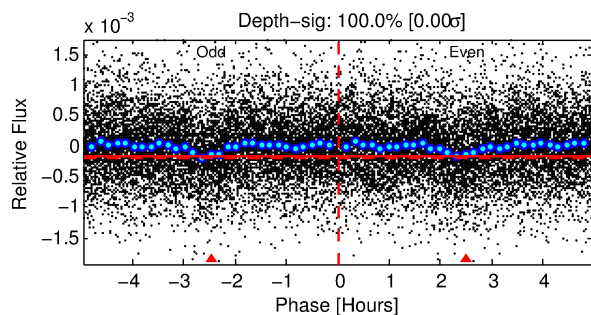
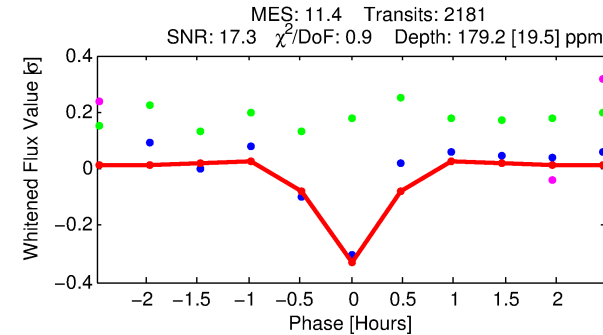
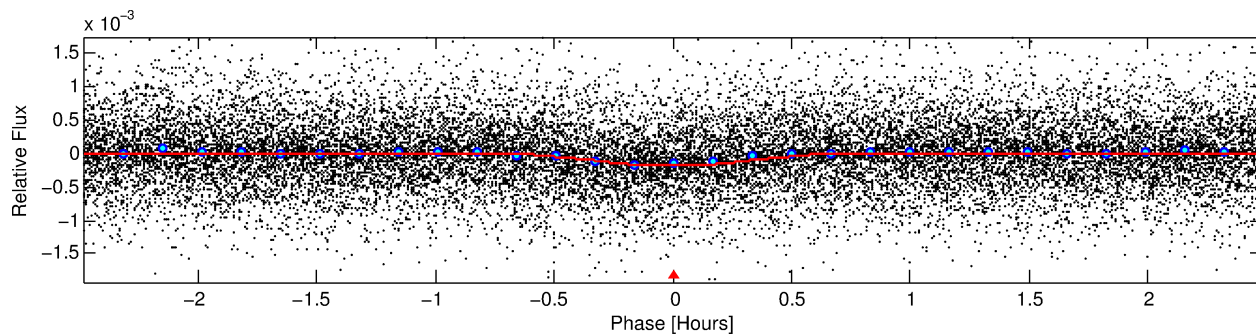
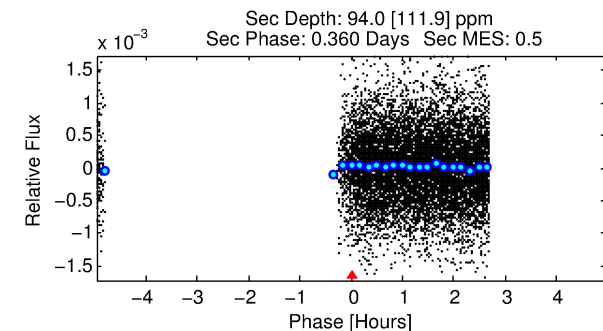
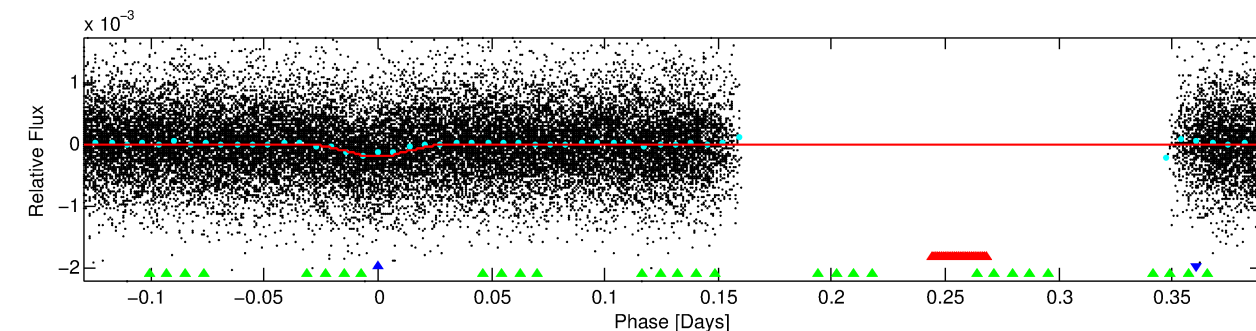
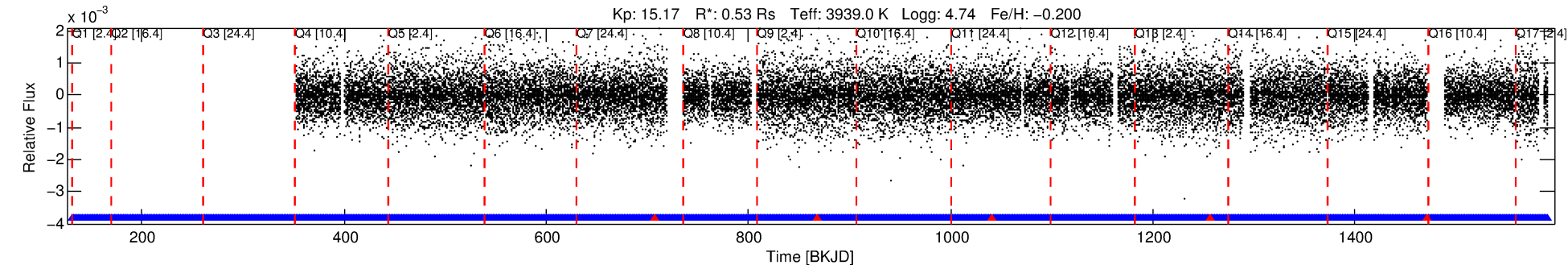
## Ephemeris Match Information For 007582691-02

No Significant Match Found

# DV One-Page Summary

KIC: 7582691 Candidate: 2 of 3 Period: 0.520 d  
KOI: K04419.01 Corr: 0.778

Kp: 15.17 R\*: 0.53 Rs Teff: 3939.0 K Logg: 4.74 Fe/H: -0.200



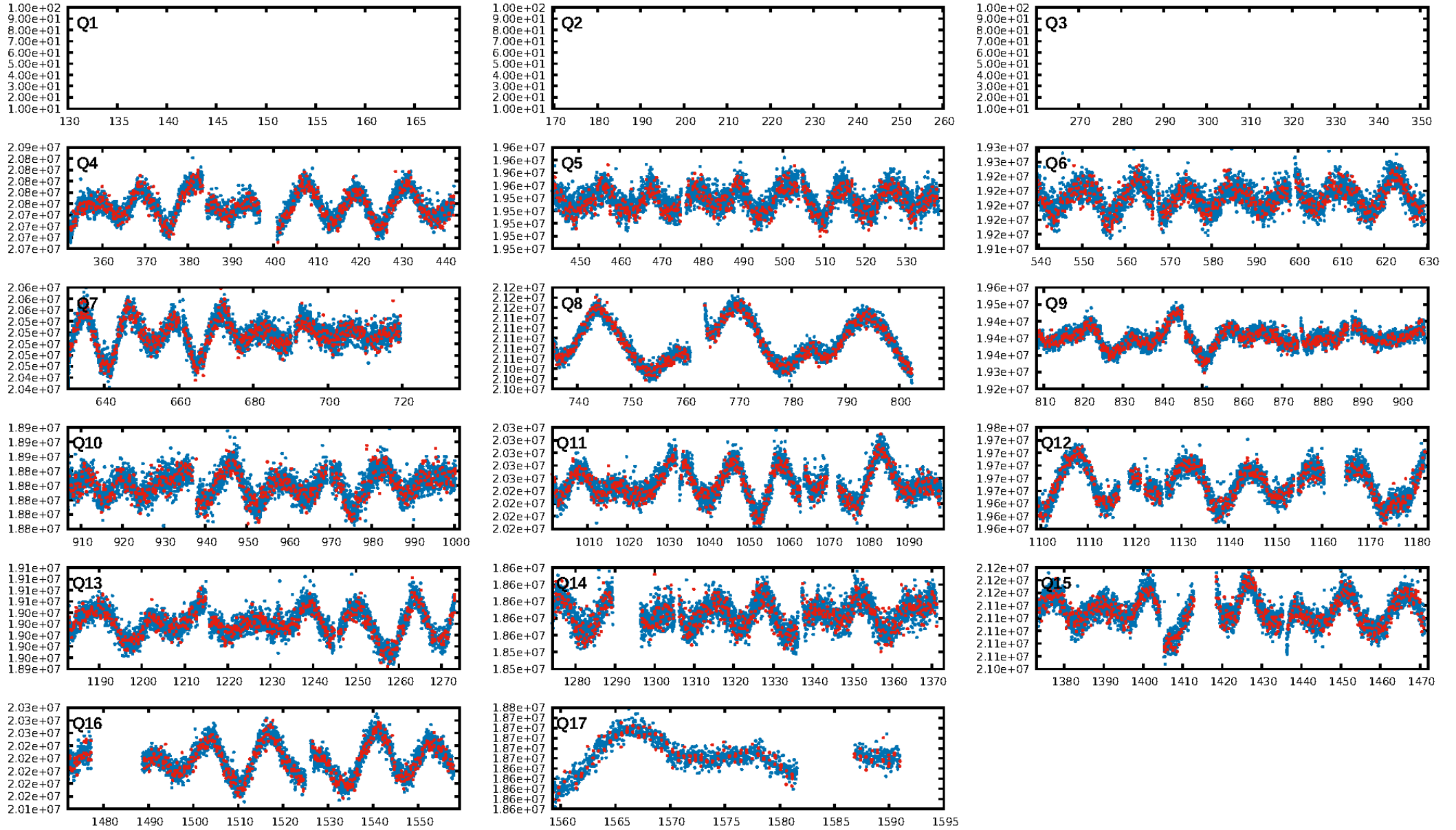
## DV Fit Results:

Period = 0.51965 [0.00001] d  
Epoch = 131.8431 [0.0009] BKJD  
Rp/R\* = 0.0124 [0.0095]  
a/R\* = 4.68 [14.39]  
b = 0.30 [9.84]  
Seff = 555.67 [52.18]  
Teq = 1238 [29] K  
Rp = 0.71 [0.55] Re  
a = 0.0104 [0.0005] AU  
Ag = 10.93 [21.25] [0.47σ]  
Teffp = 3480 [1692] K [1.33σ]

## DV Diagnostic Results:

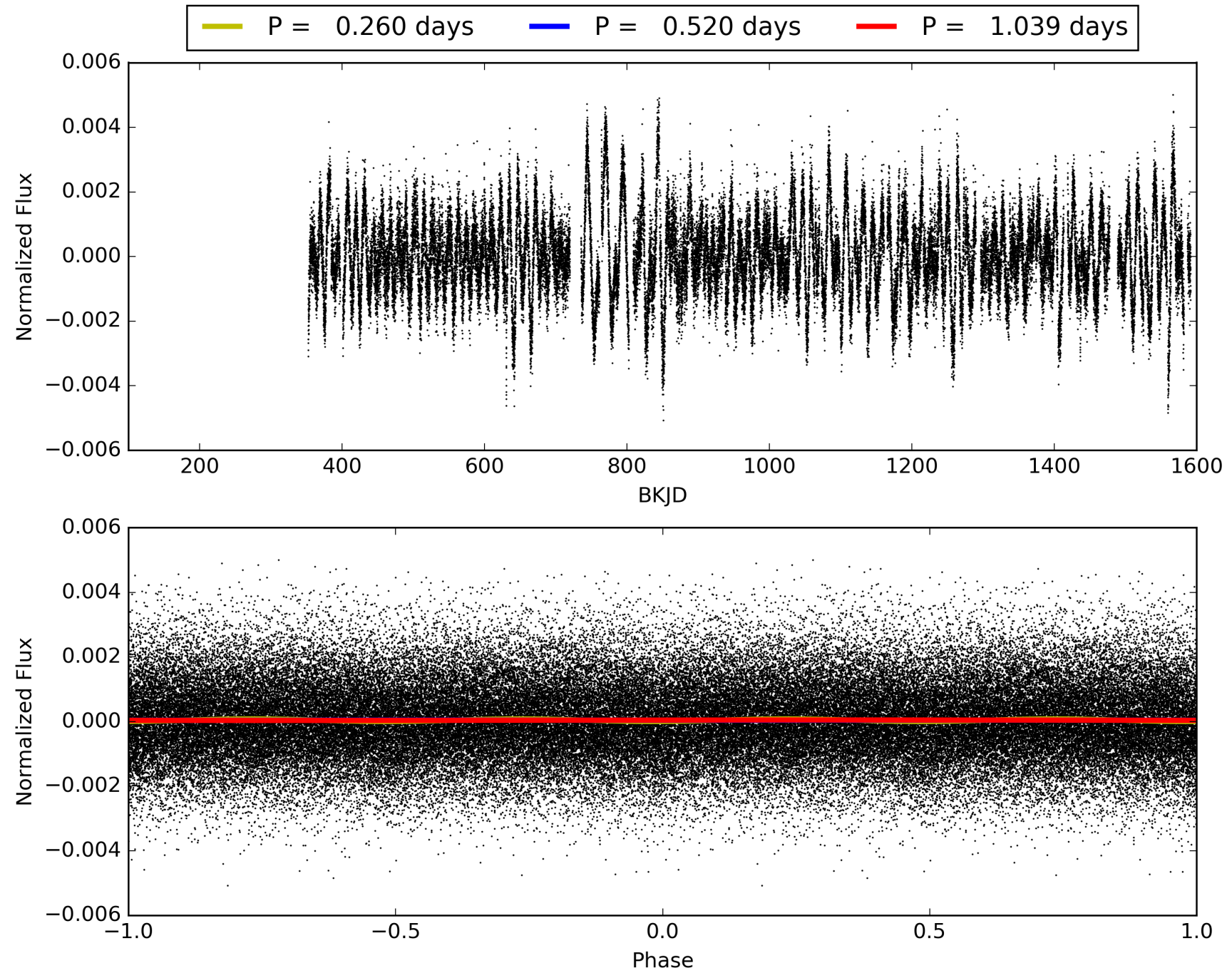
ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: 100.0% [1120.05σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.11e-35  
RollingBand-fgt: 1.00 [2124/2129]  
GhostDiagnostic-chr: 32.57  
Centroid-sig: 6.7%  
Centroid-so: 1.954 arcsec [4.21σ]  
OotOffset-rm: 4.047 arcsec [2.25σ]  
KicOffset-rm: 0.991 arcsec [0.55σ]  
OotOffset-st: 3/2/0/1 [6]  
KicOffset-st: 3/2/0/1 [6]  
DiffImageQuality-fgm: 0.17 [1/6]  
DiffImageOverlap-fno: 0.79 [11/14]

# TCE 007582691-02, PDC Light Curves



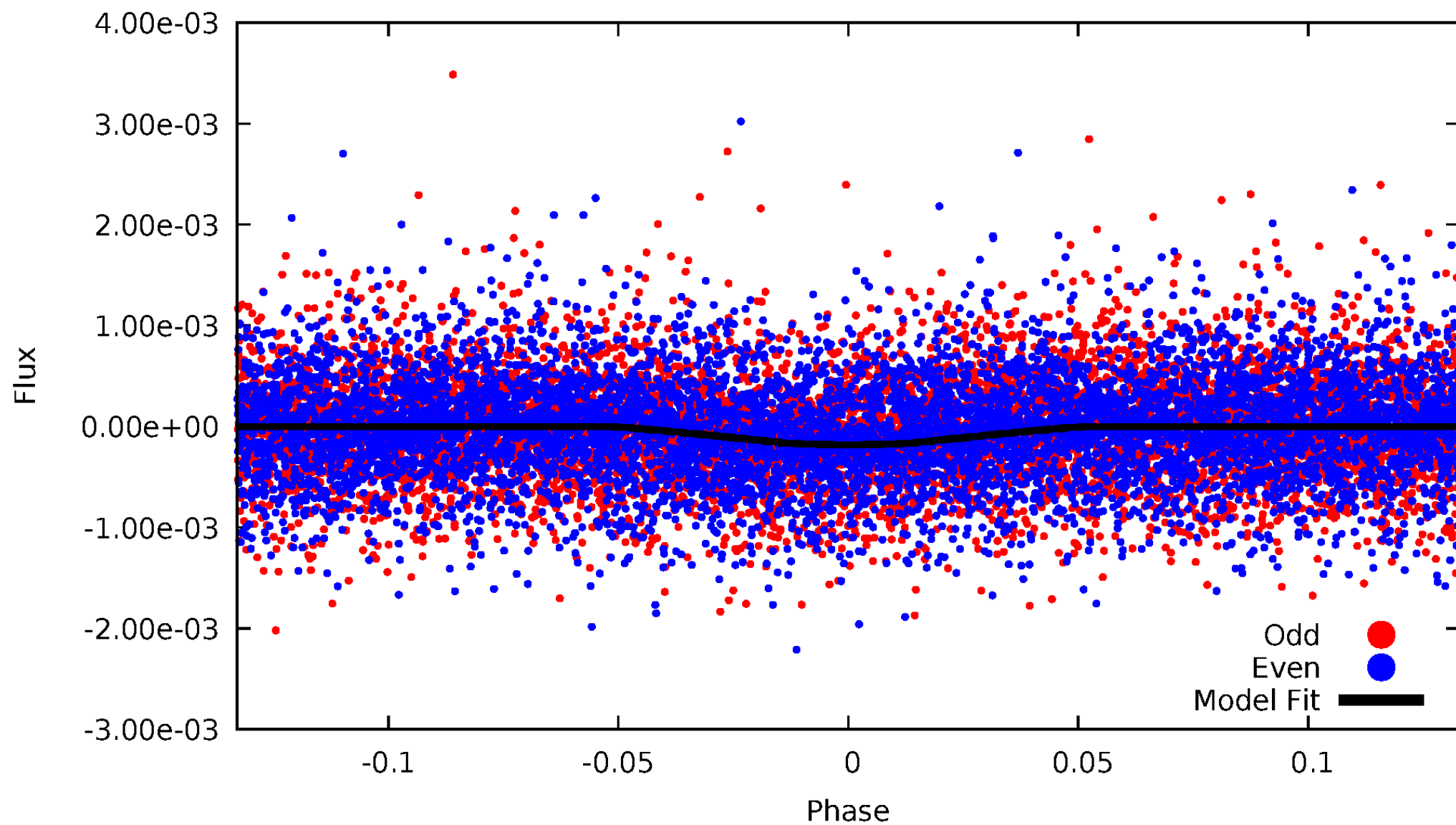


# TCE 007582691-02



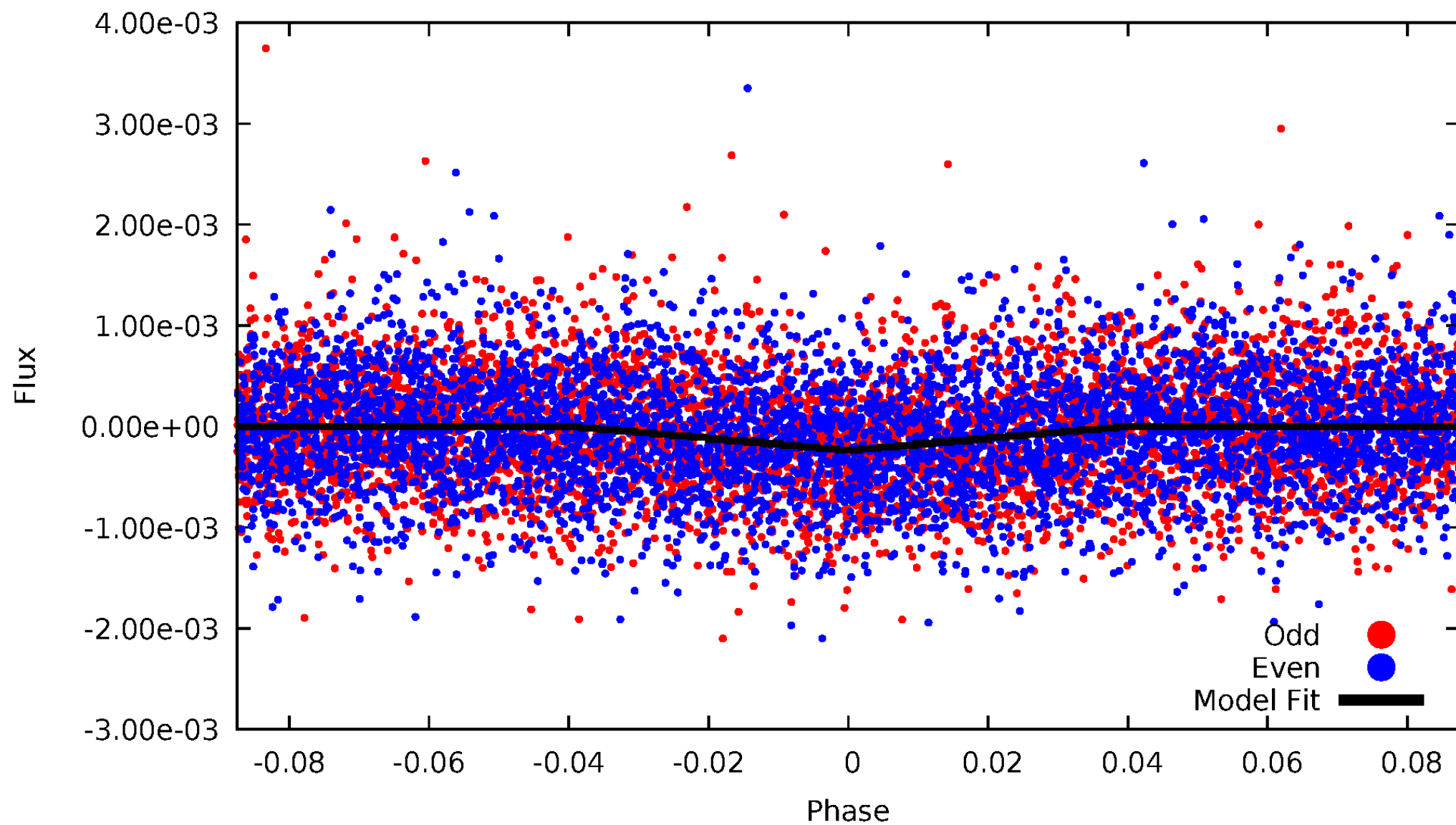
# DV Odd/Even

TCE 007582691-02



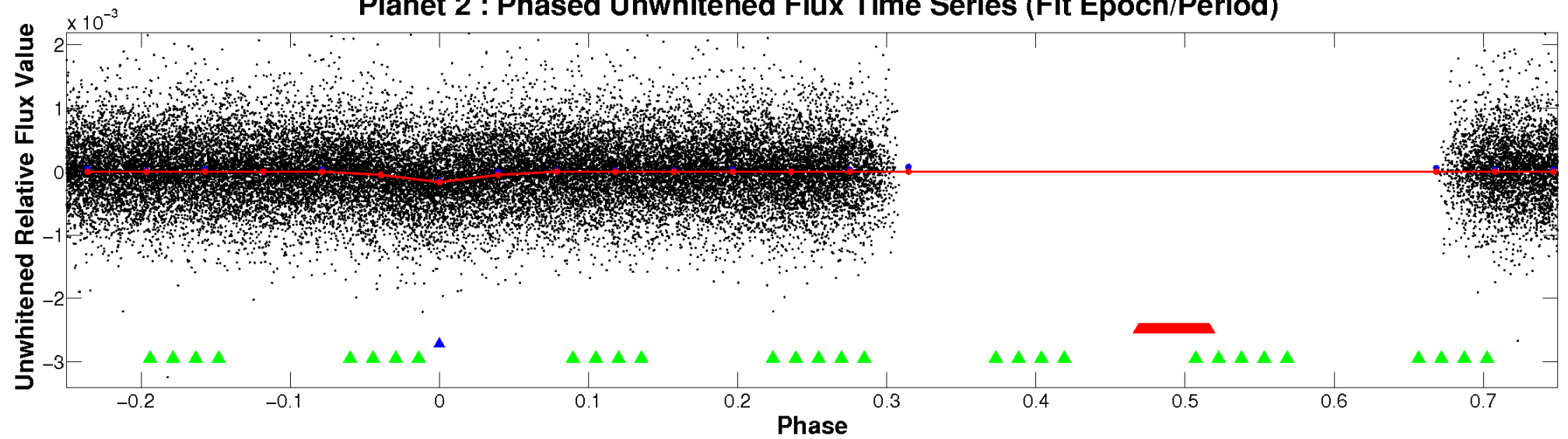
# ALT Odd/Even

TCE 007582691-02

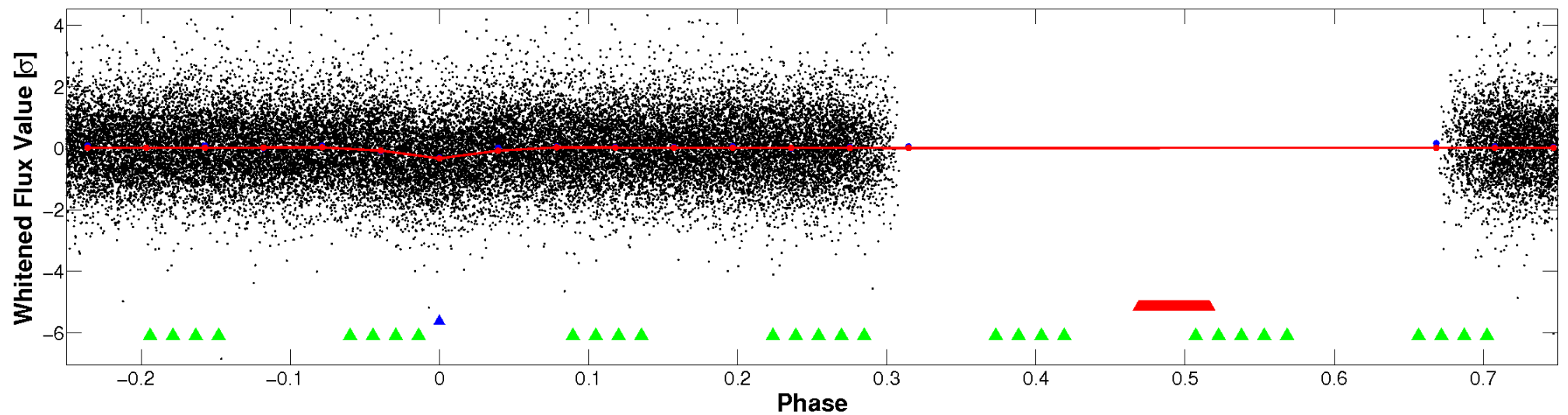


# Non-Whitened Vs. Whitened Light Curve

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

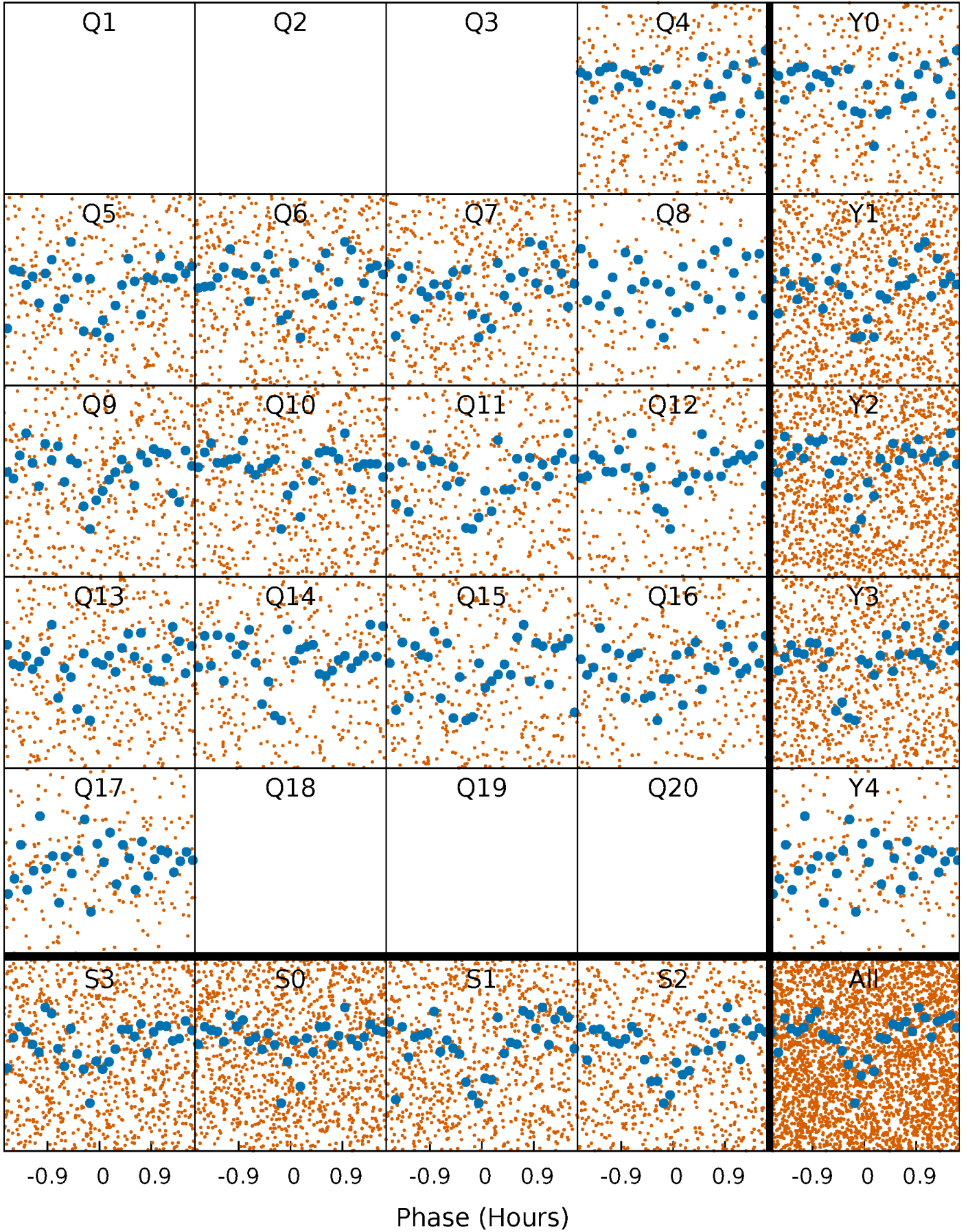


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

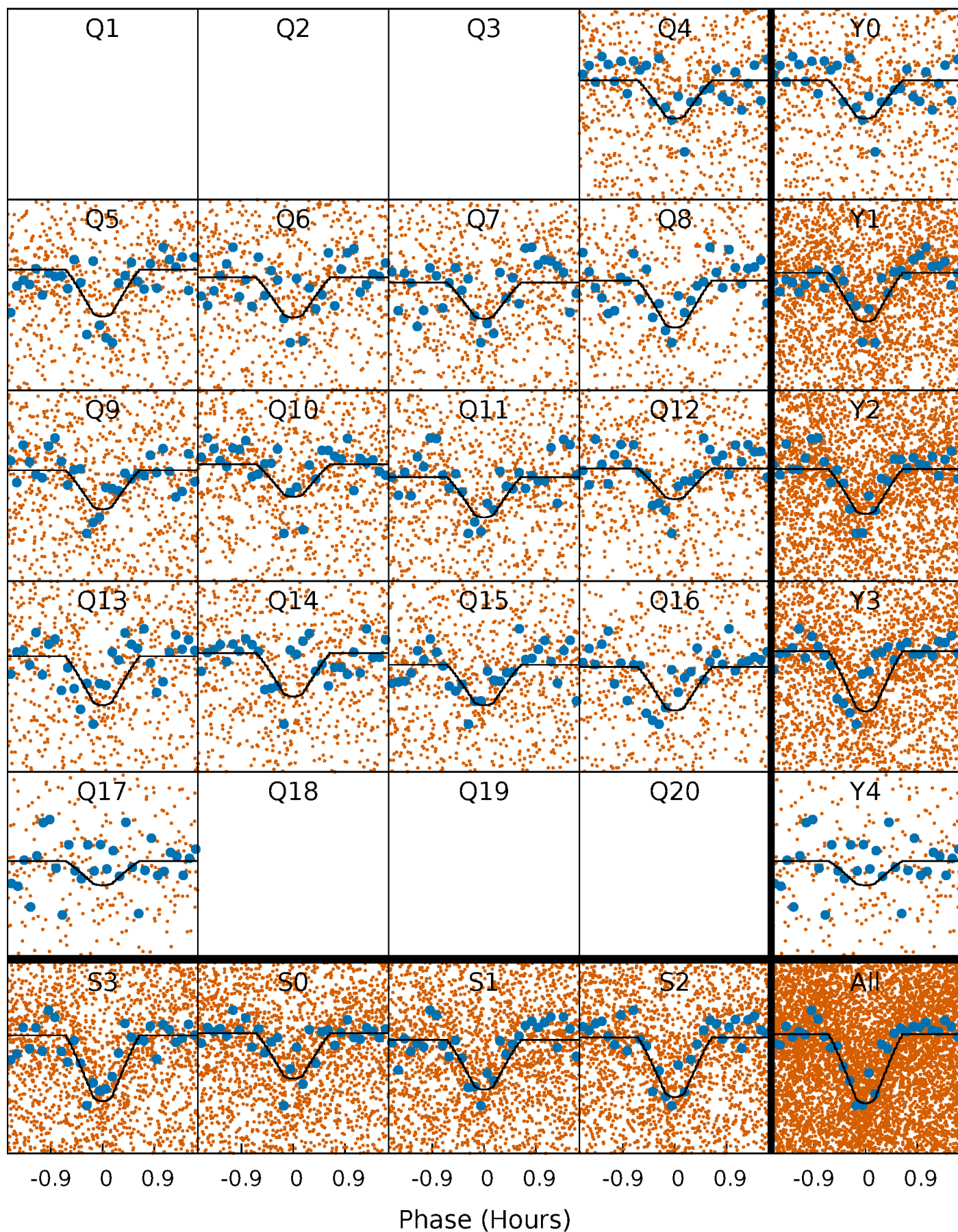
TCE 007582691-02   P= 0.519647 Days    $T_0=131.843053$  (BKJD)





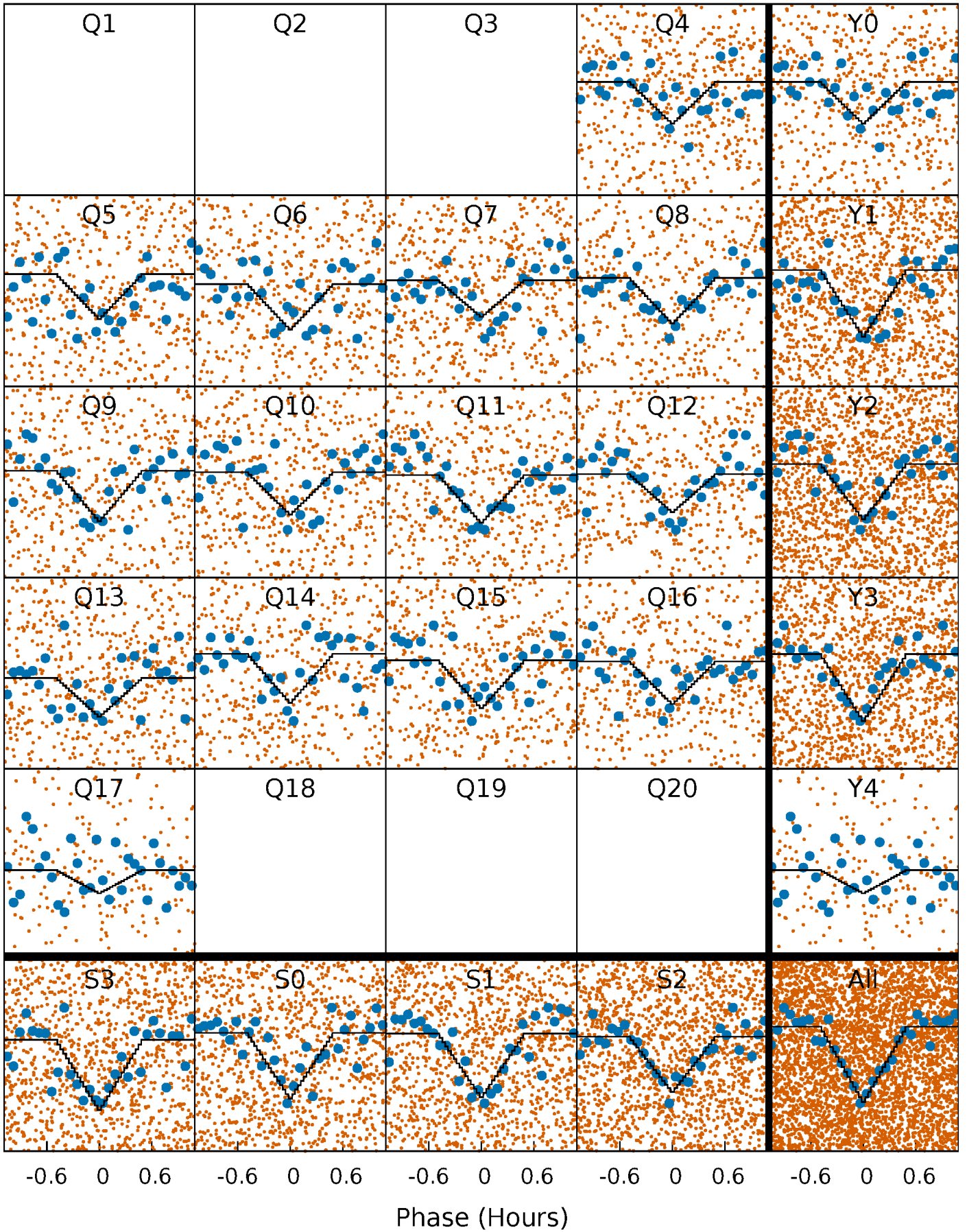
# DV Quarter-Phased Transit Curves

TCE 007582691-02   P= 0.519647 Days    $T_0=131.843053$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

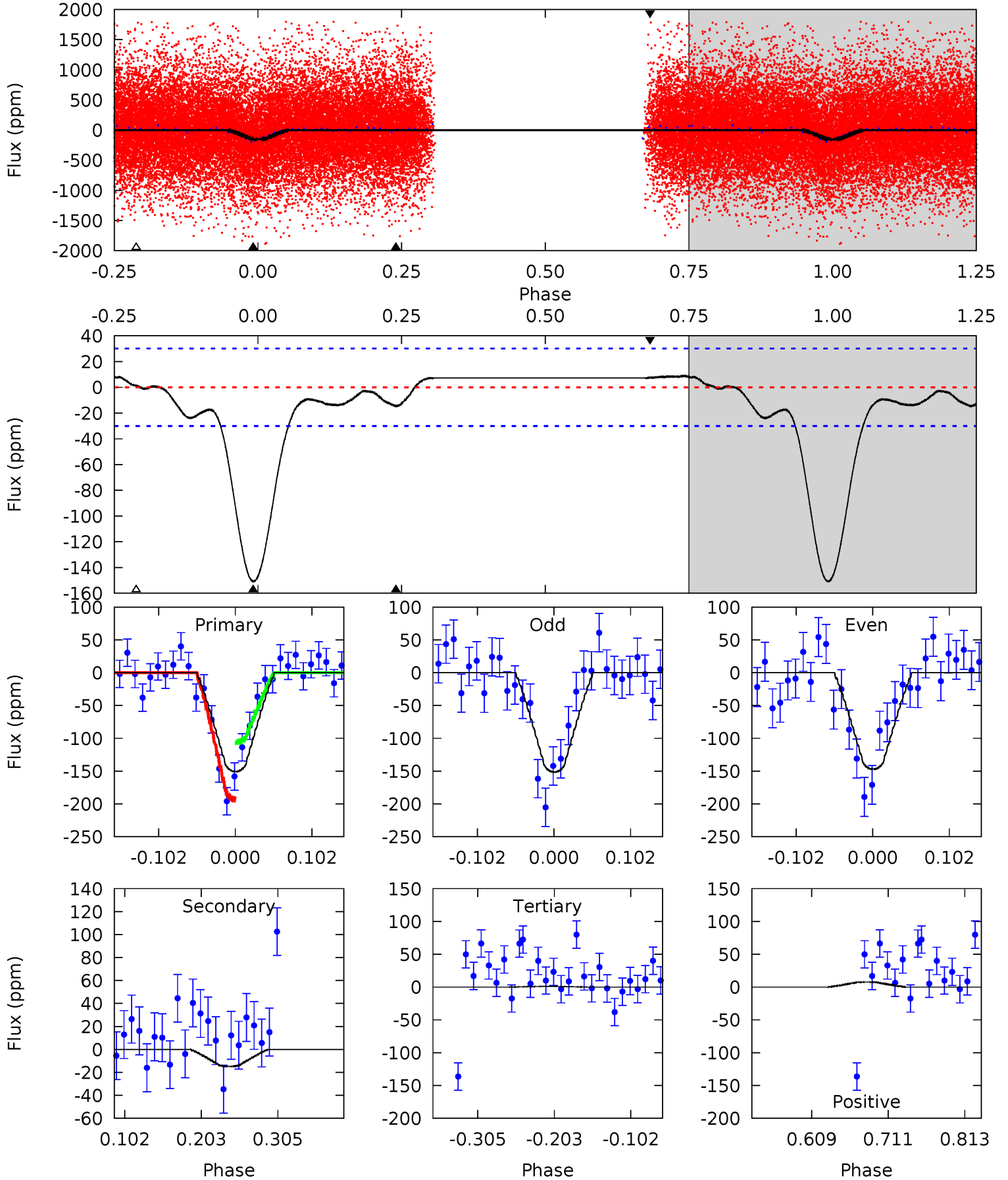
TCE 007582691-02   P= 0.519643 Days    $T_0=131.845139$  (BKJD)



# DV Model-Shift Uniqueness Test

007582691-02, P = 0.519647 Days, E = 131.843053 Days

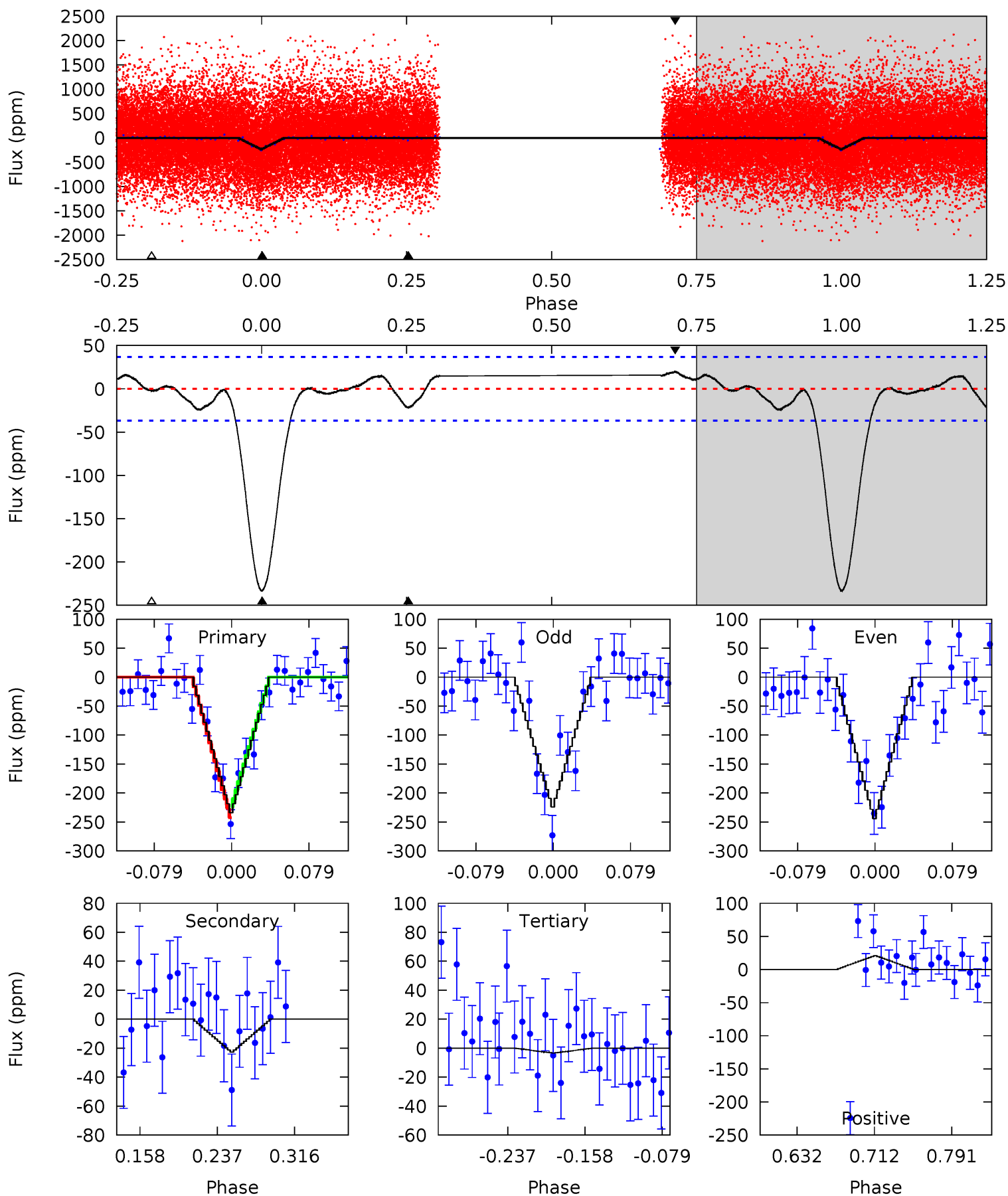
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	2.25	-0.14	1.15	4.56	1.64	1.54	23.0	21.7	2.39	1.10	0.33	0.94	0.06	6.67



# Alt Model-Shift Uniqueness Test

007582691-02, P = 0.519643 Days, E = 131.845139 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
29.3	2.85	0.43	2.62	4.61	1.76	1.40	28.9	26.7	2.42	0.23	1.27	0.95	0.08	1.14





### Stellar Parameters For KIC 007582691

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3939^{+55}_{-62}$	$4.736^{+0.028}_{-0.035}$	$-0.200^{+0.200}_{-0.200}$	$0.526^{+0.035}_{-0.035}$	$0.550^{+0.031}_{-0.039}$	$5.308^{+0.704}_{-0.686}$
	+1%/-2%	+1%/-1%	+100%/-100%	+7%/-7%	+6%/-7%	+13%/-13%
Source	PHO2	PHO2	PHO2	DSEP		

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

### Secondary Eclipse Parameters for KIC 007582691-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-15 \pm 7$	$0.78^{+0.56}_{-0.47}$	$1730^{+36}_{-34}$	$2613^{+809}_{-677}$	$1.393^{+7.518}_{-1.018}$
Alt.	$-23 \pm 8$	$0.92^{+0.53}_{-0.49}$	$1731^{+33}_{-38}$	$2661^{+640}_{-454}$	$1.550^{+4.971}_{-0.990}$

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

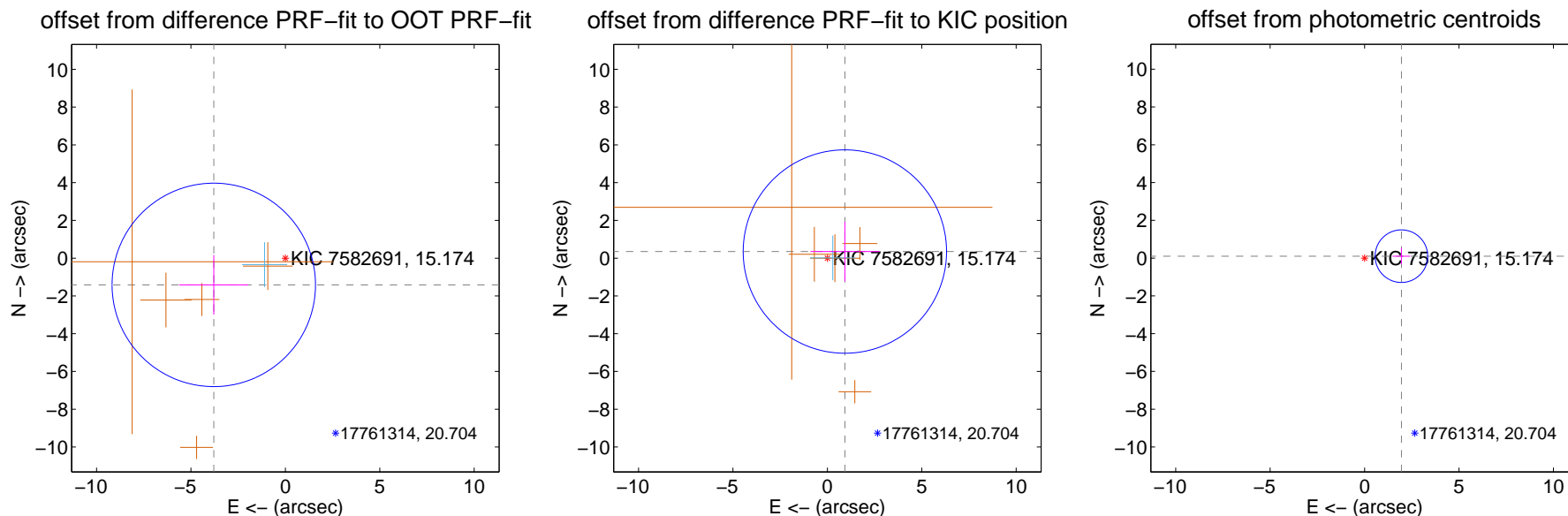
## DV Centroid Data

Supplemental centroid analysis for 007582691-02. Kepler magnitude: 15.17. Transit SNR 17.26

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.43 arcsec

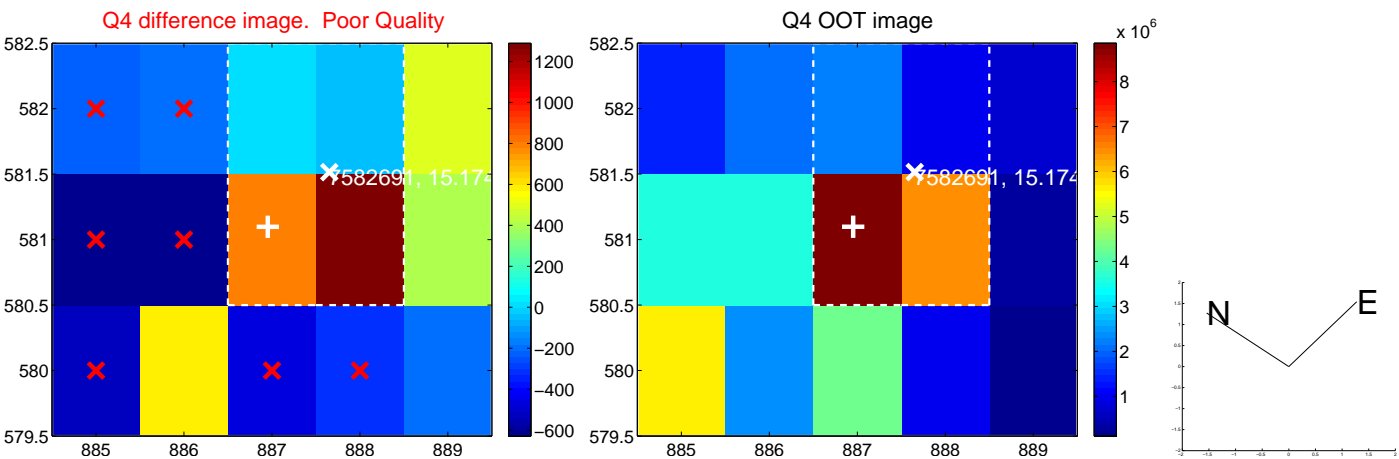
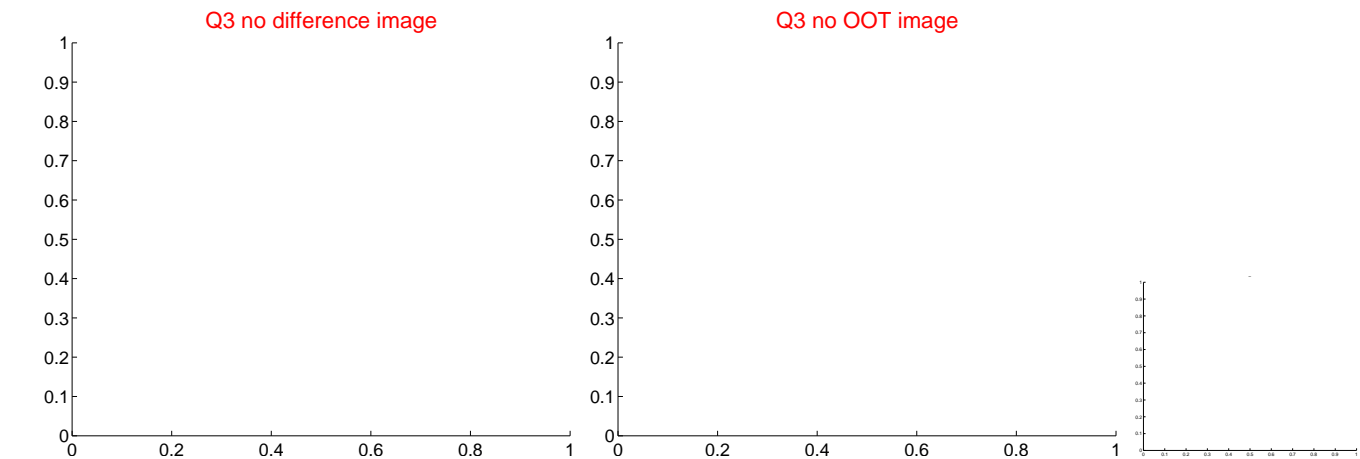
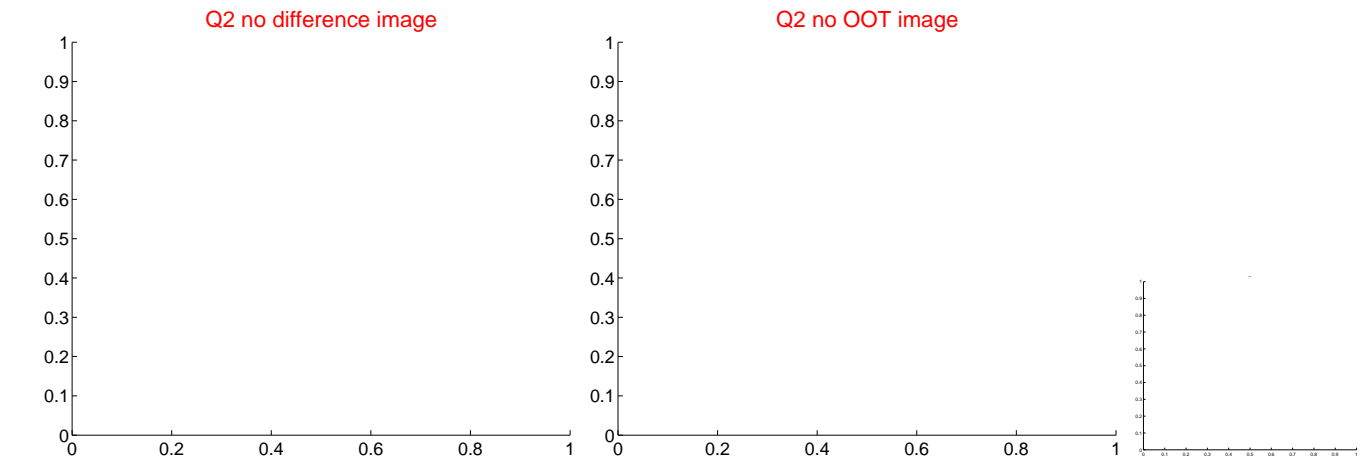
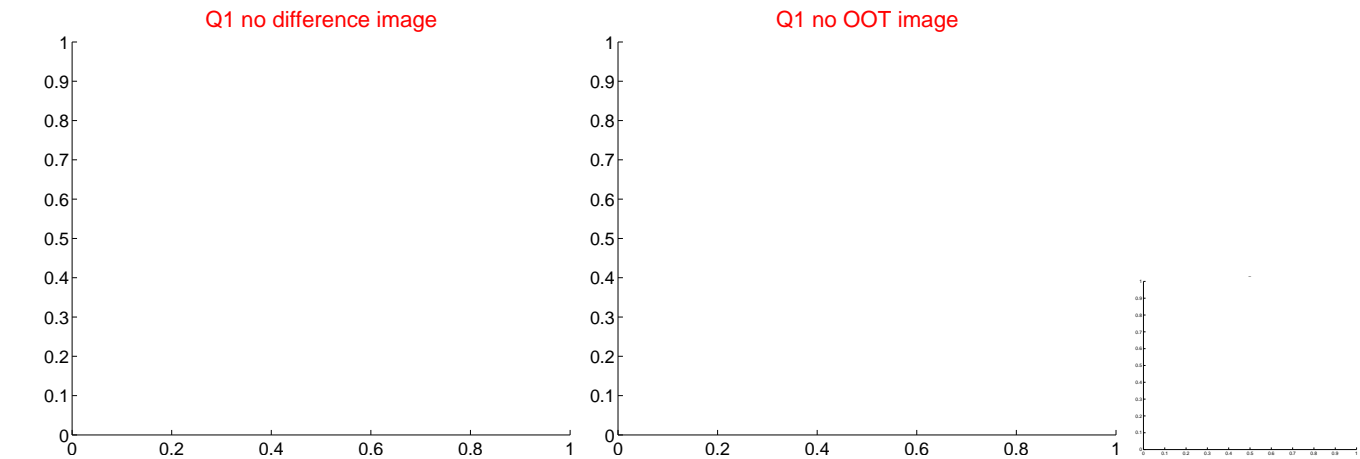
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.047 \pm 1.796$	2.25	$3.792 \pm 1.824$	$-1.416 \pm 1.579$
PRF-fit source offset from KIC position	$0.991 \pm 1.795$	0.55	$-0.927 \pm 1.824$	$0.350 \pm 1.579$
photometric centroid source offset	$1.95 \pm 0.46$	4.21	$-1.95 \pm 0.46$	$0.10 \pm 0.44$



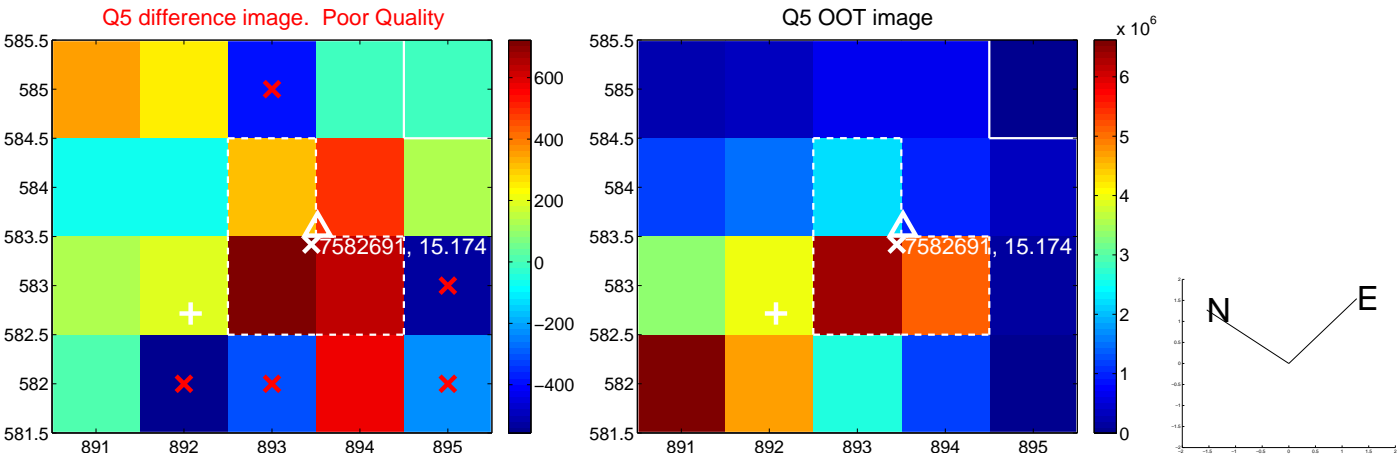
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



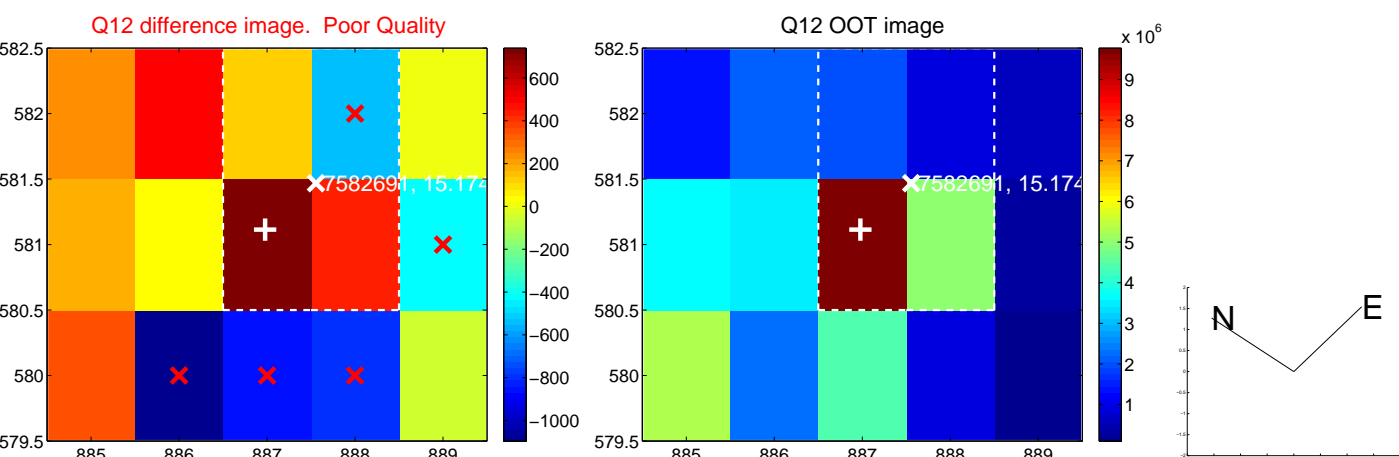
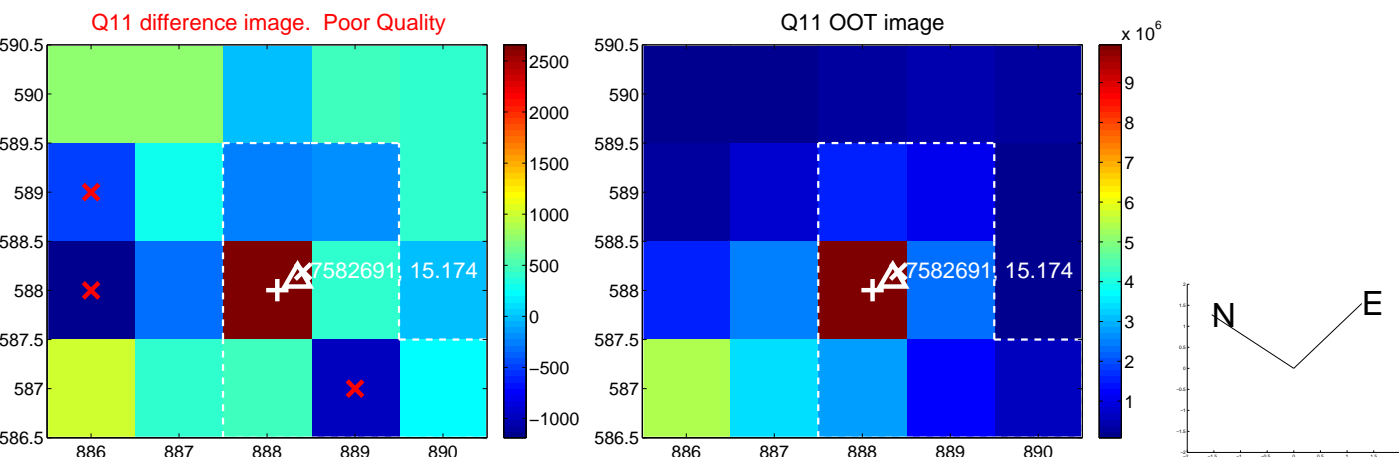
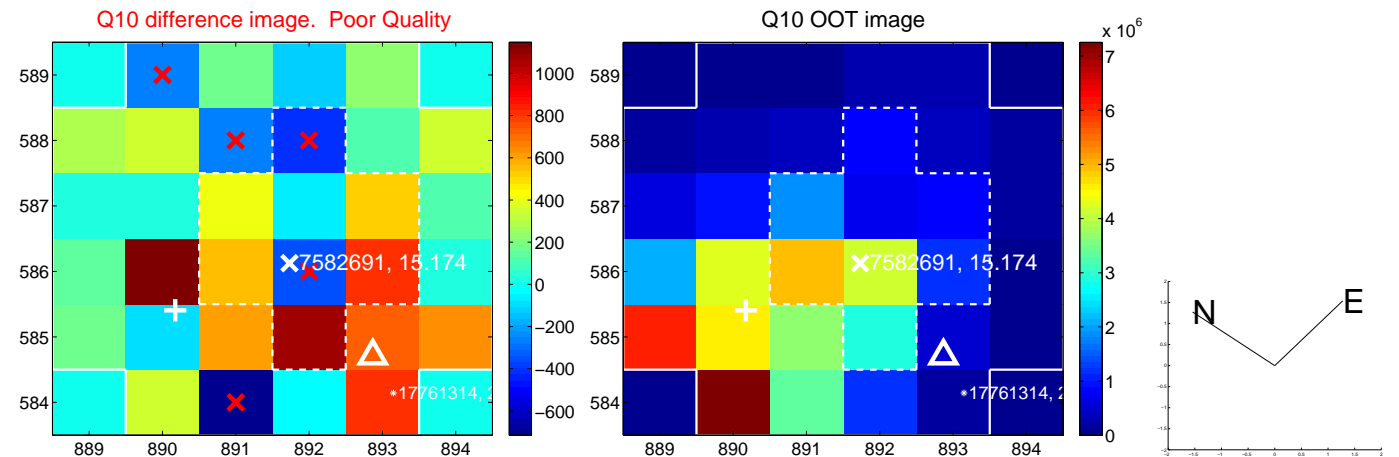
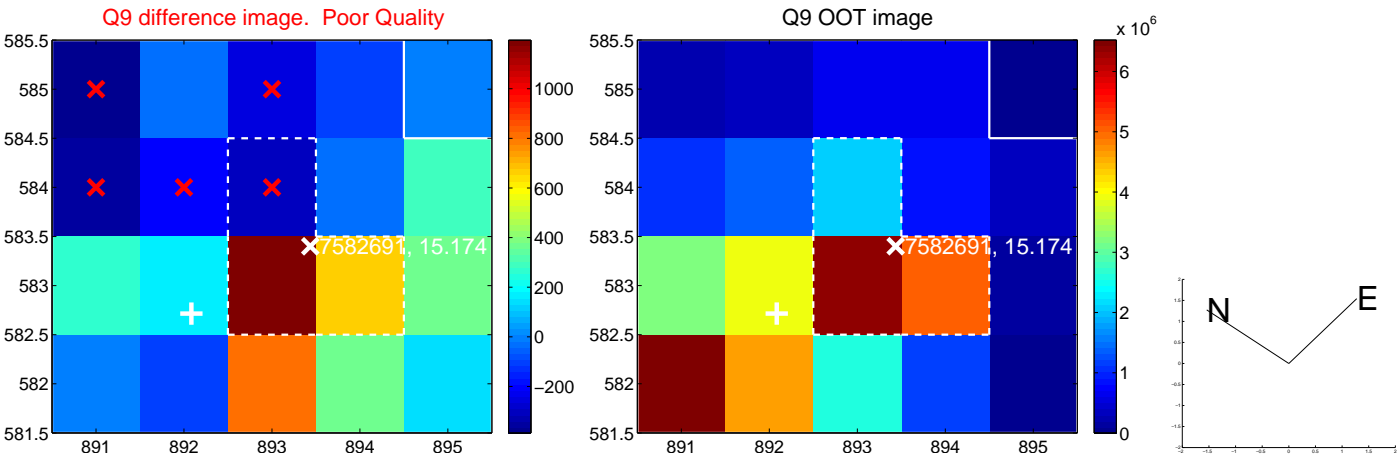
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



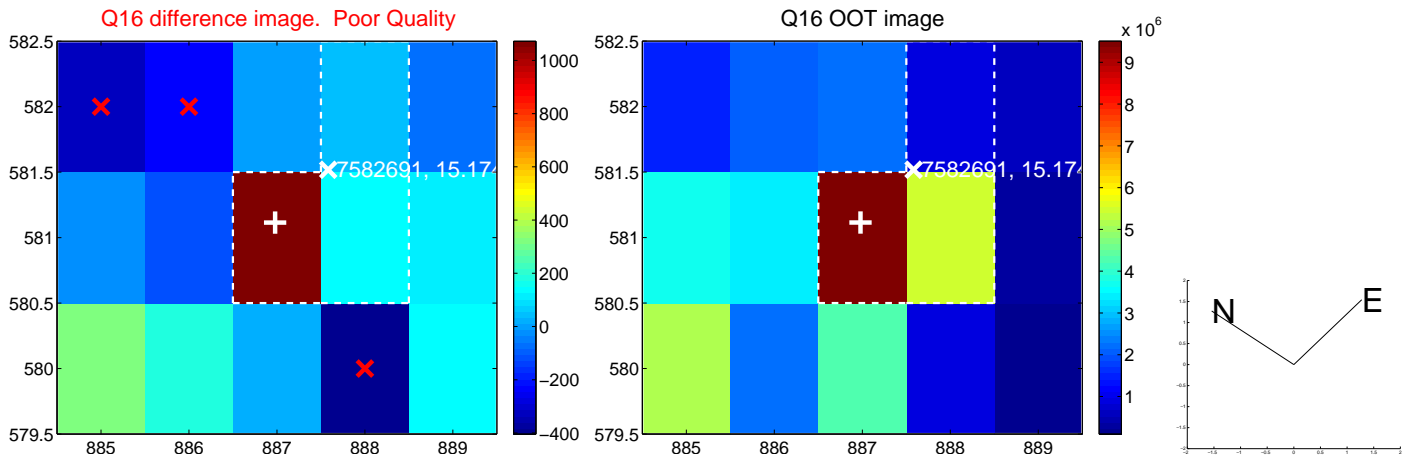
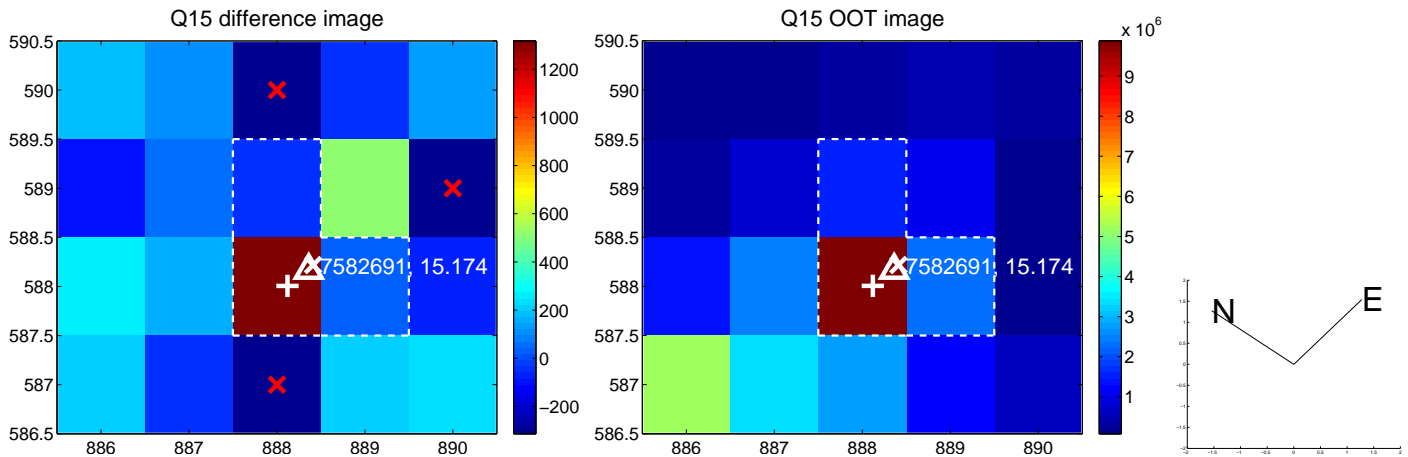
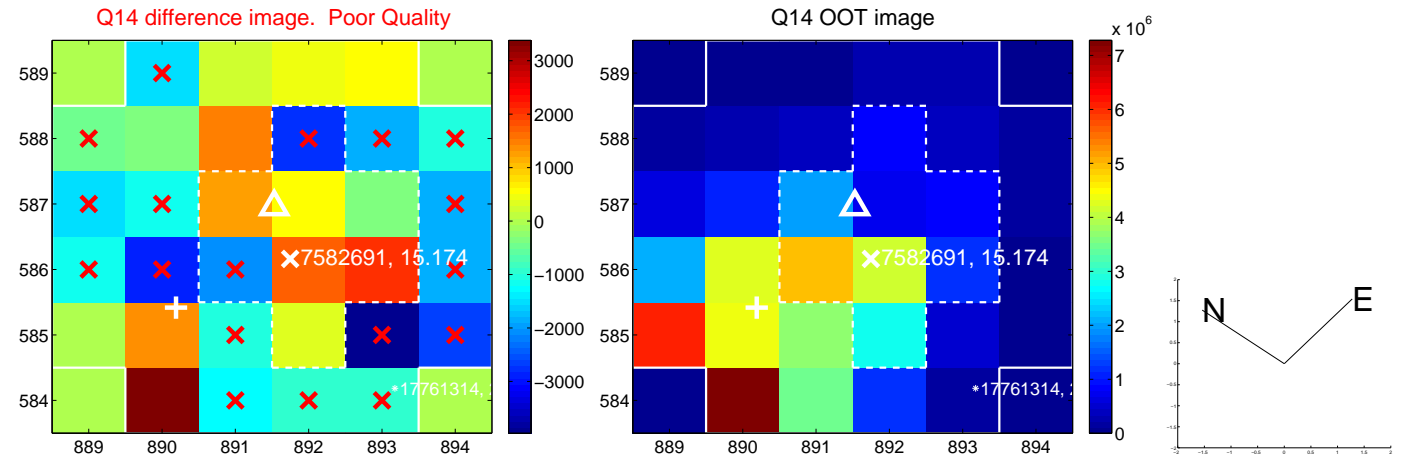
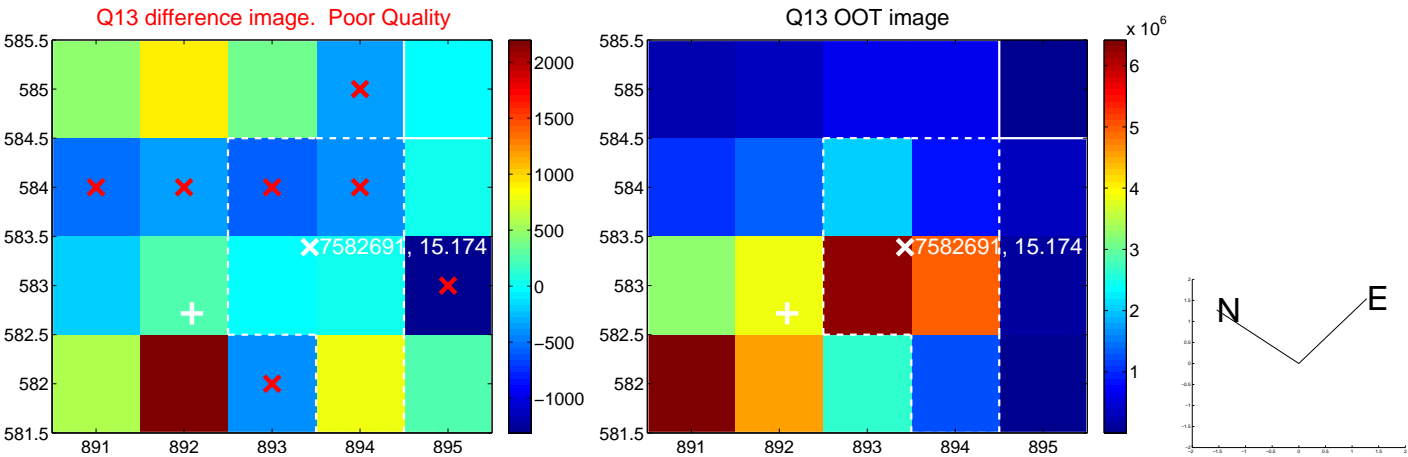
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



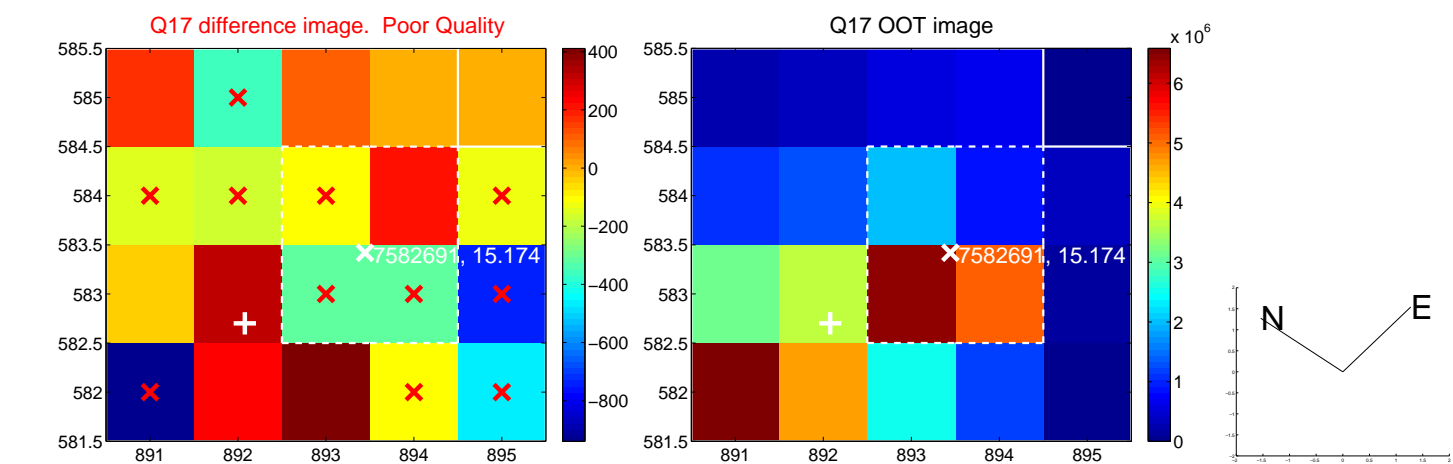
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



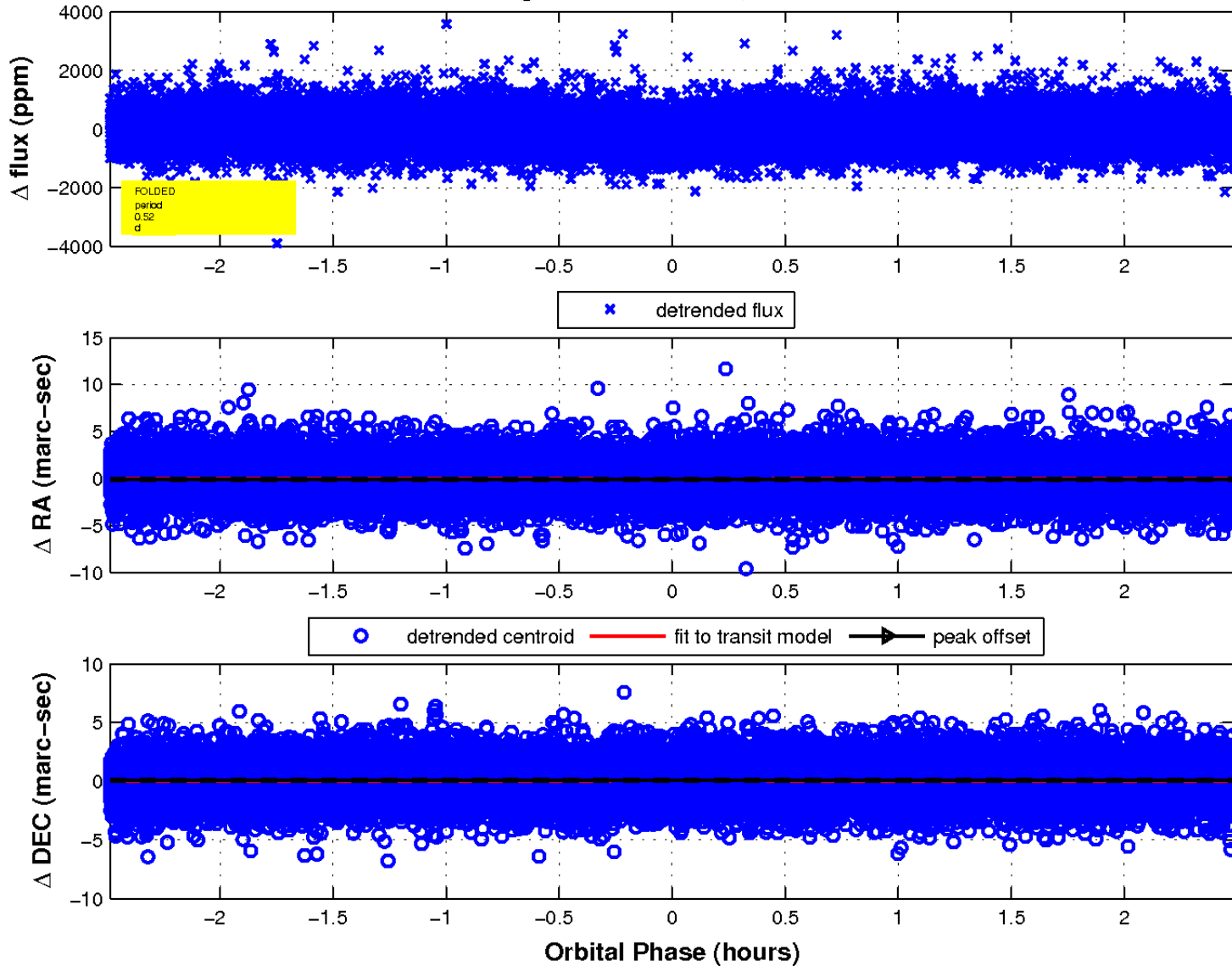
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

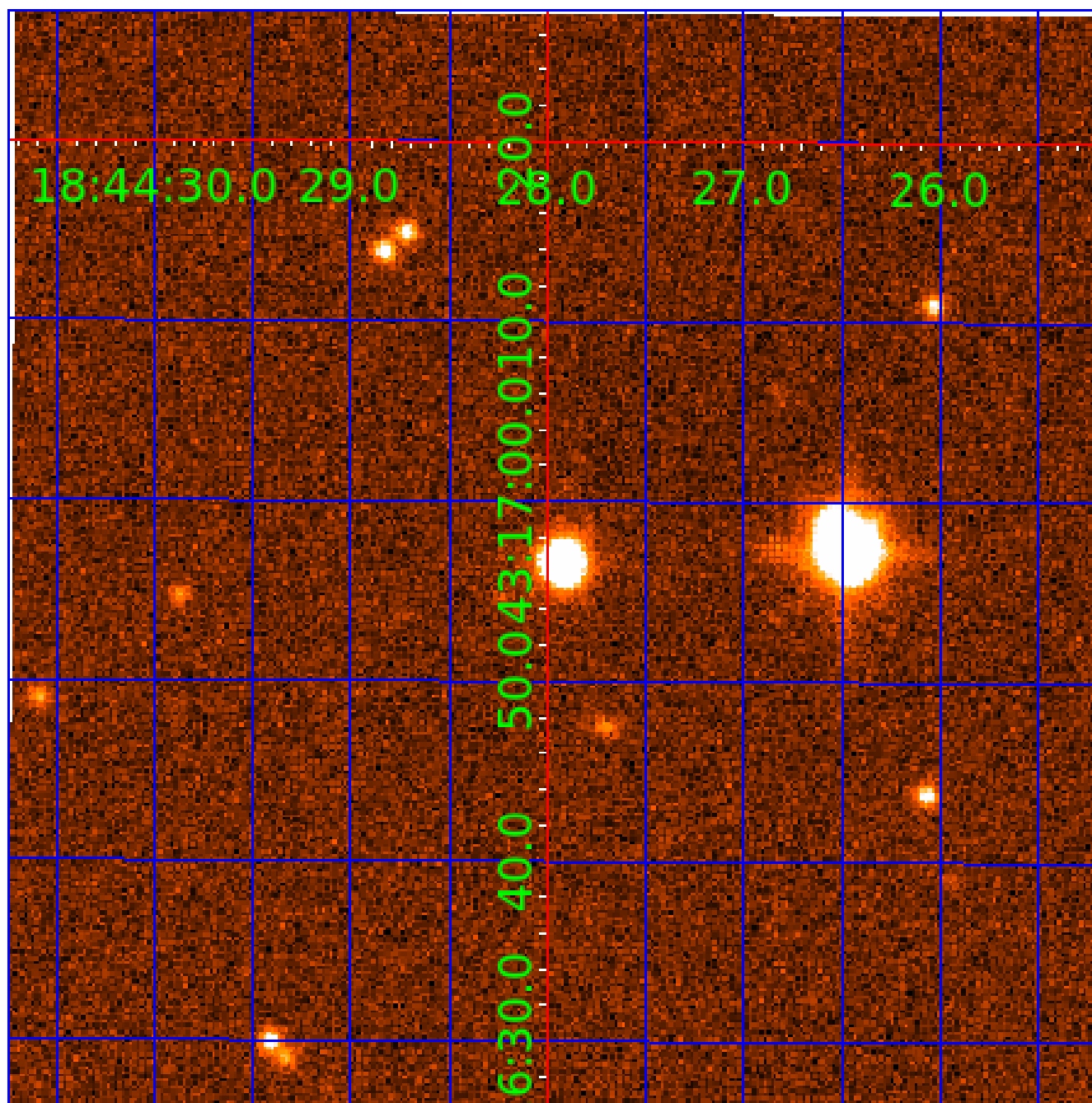


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination





# KIC 007582691

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007582691-01	OBS	4419.01	0.519638	131.591717	227.5	0.526	10.7	17.1	0.53	3939	0.82	555.68
007582691-02	OBS	No	0.519647	131.843053	179.2	0.829	11.4	17.3	0.53	3939	0.71	555.67
007582691-03	OBS	No	48.699495	139.381686	1772.8	0.616	7.2	5.8	0.53	3939	2.42	1.30

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007582691-01	OBS	PC	1.00	0	0	0	0	MOD_SEC_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE—CENT_FEW_DIFFS
007582691-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_FEW_DIFFS
007582691-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_FEW_DIFFS

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

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

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

## Ephemeris Match Information For 007582691-03

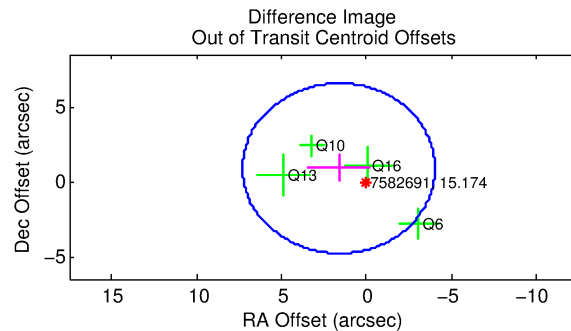
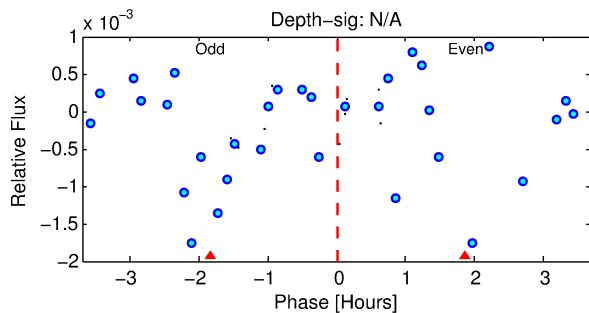
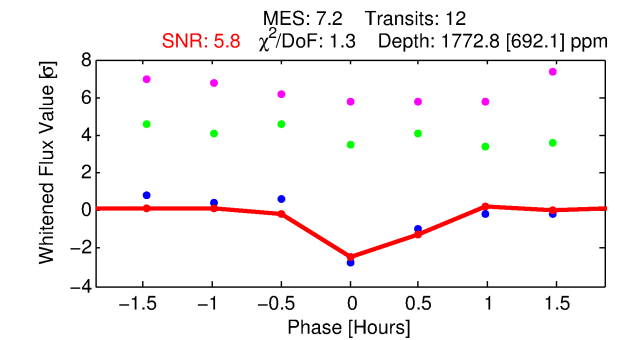
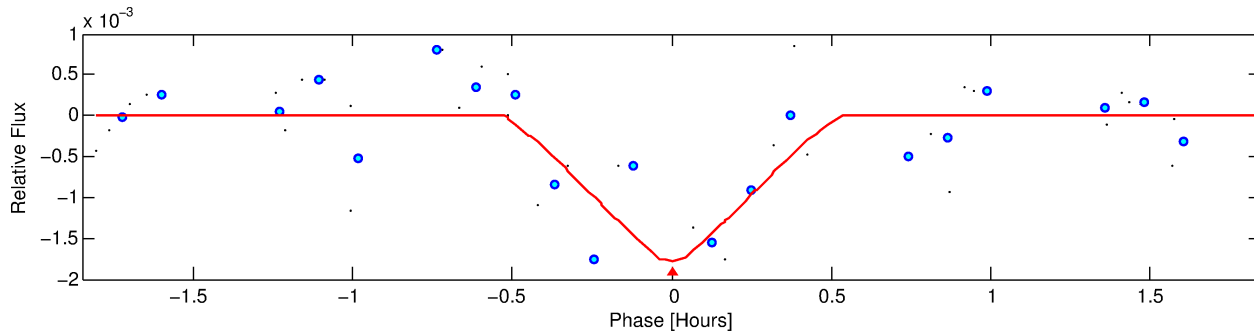
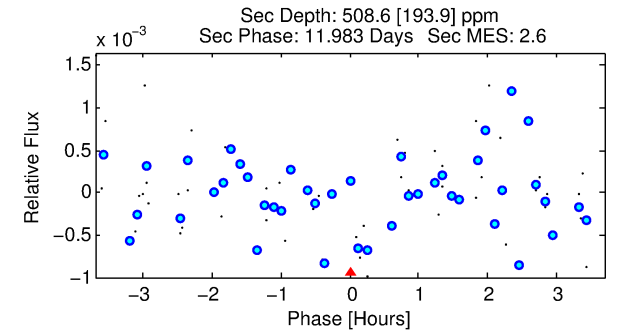
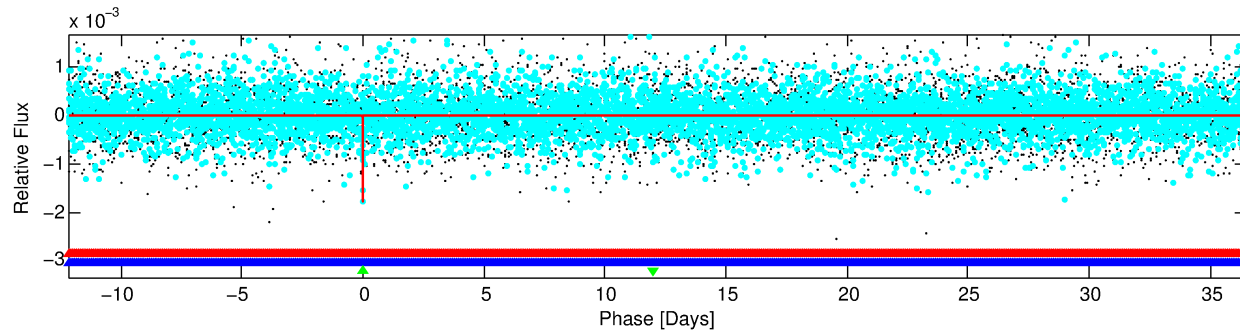
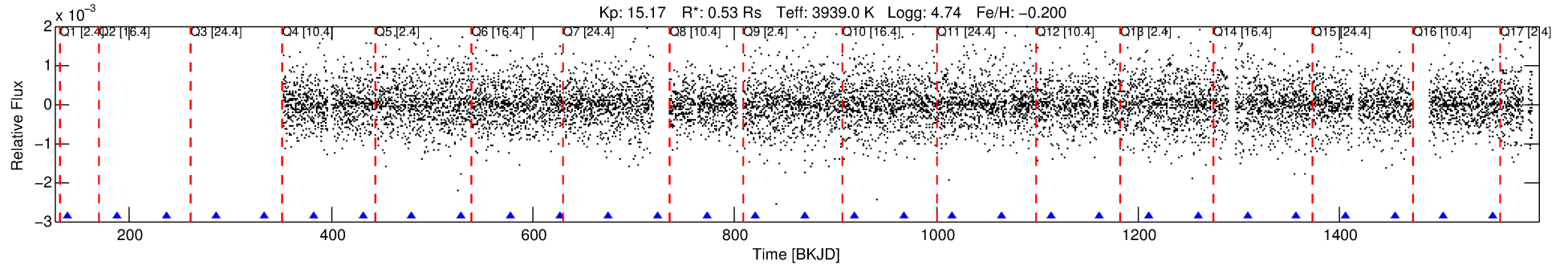
No Significant Match Found

# DV One-Page Summary

KIC: 7582691 Candidate: 3 of 3 Period: 48.699 d

KOI: K04419 Corr: No Ephemeris Match

Kp: 15.17 R\*: 0.53 Rs Teff: 3939.0 K Logg: 4.74 Fe/H: -0.200



## DV Fit Results:

Period = 48.69950 [0.00052] d  
Epoch = 139.3817 [0.0092] BKJD  
Rp/R\* = 0.0422 [0.0816]  
a/R\* = 484.32 [4093.90]  
b = 0.67 [7.25]  
Seff = 1.31 [0.12]  
Teq = 273 [6] K  
Rp = 2.42 [4.69] Re  
a = 0.2138 [0.0111] AU  
Ag = 2176.98 [8457.16] [0.26σ]  
Teffp = 2878 [2796] K [0.93σ]

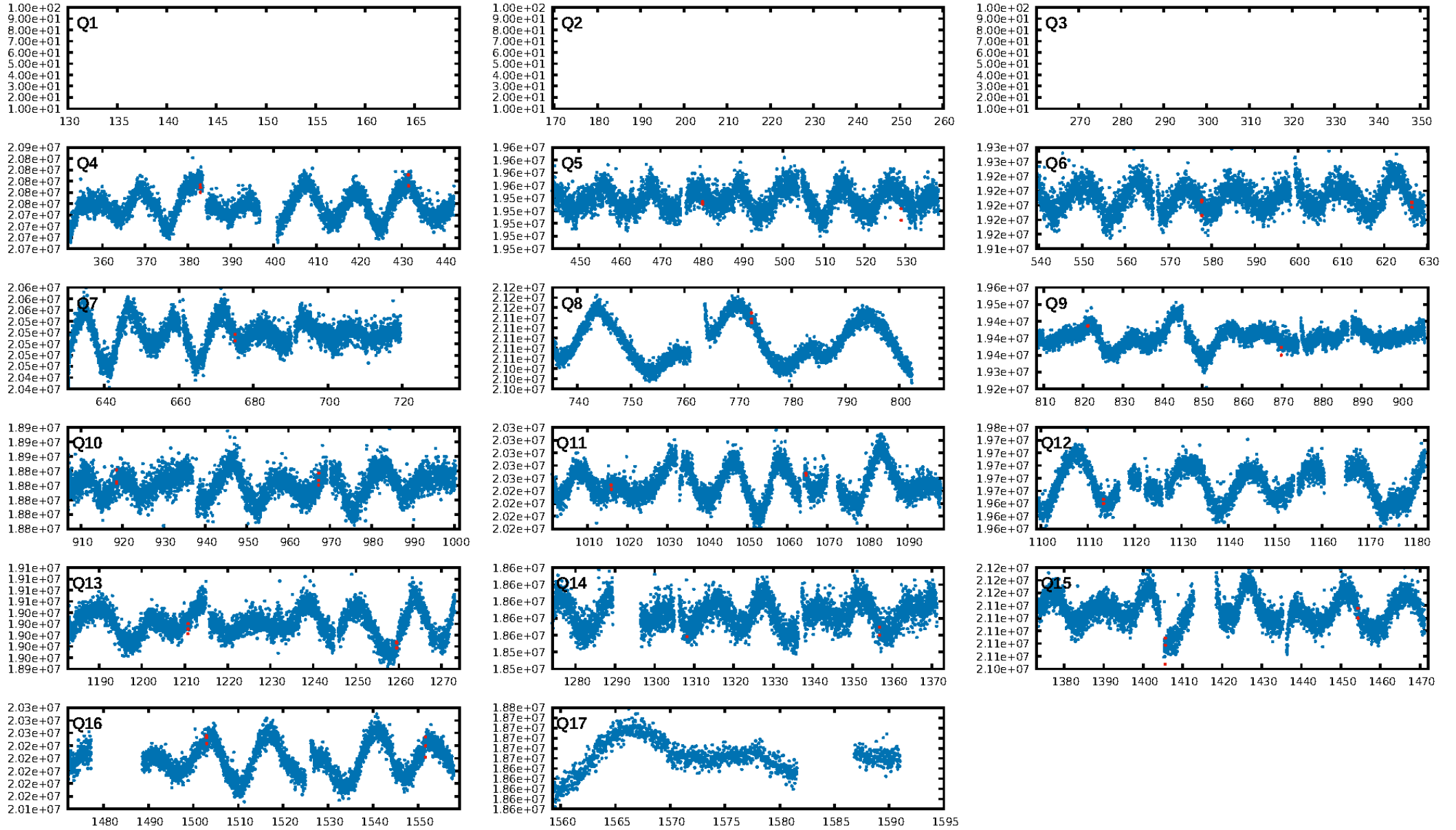
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1120.05σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 9.1%  
ModelChiSquareGof-sig: 78.3%  
**Bootstrap-pfa: 1.30e-11**  
RollingBand-fgt: 1.00 [12/12]  
GhostDiagnostic-chr: 10.03  
Centroid-sig: 41.5%  
**Centroid-so: 2.536 arcsec [4.69σ]**  
OotOffset-rm: 1.842 arcsec [0.97σ]  
**KicOffset-rm: 4.370 arcsec [3.22σ]**  
OotOffset-st: 2/0/1/1 [4]  
KicOffset-st: 2/0/1/1 [4]  
DiffImageQuality-fgm: 0.25 [1/4]  
DiffImageOverlap-fno: 0.00 [0/7]

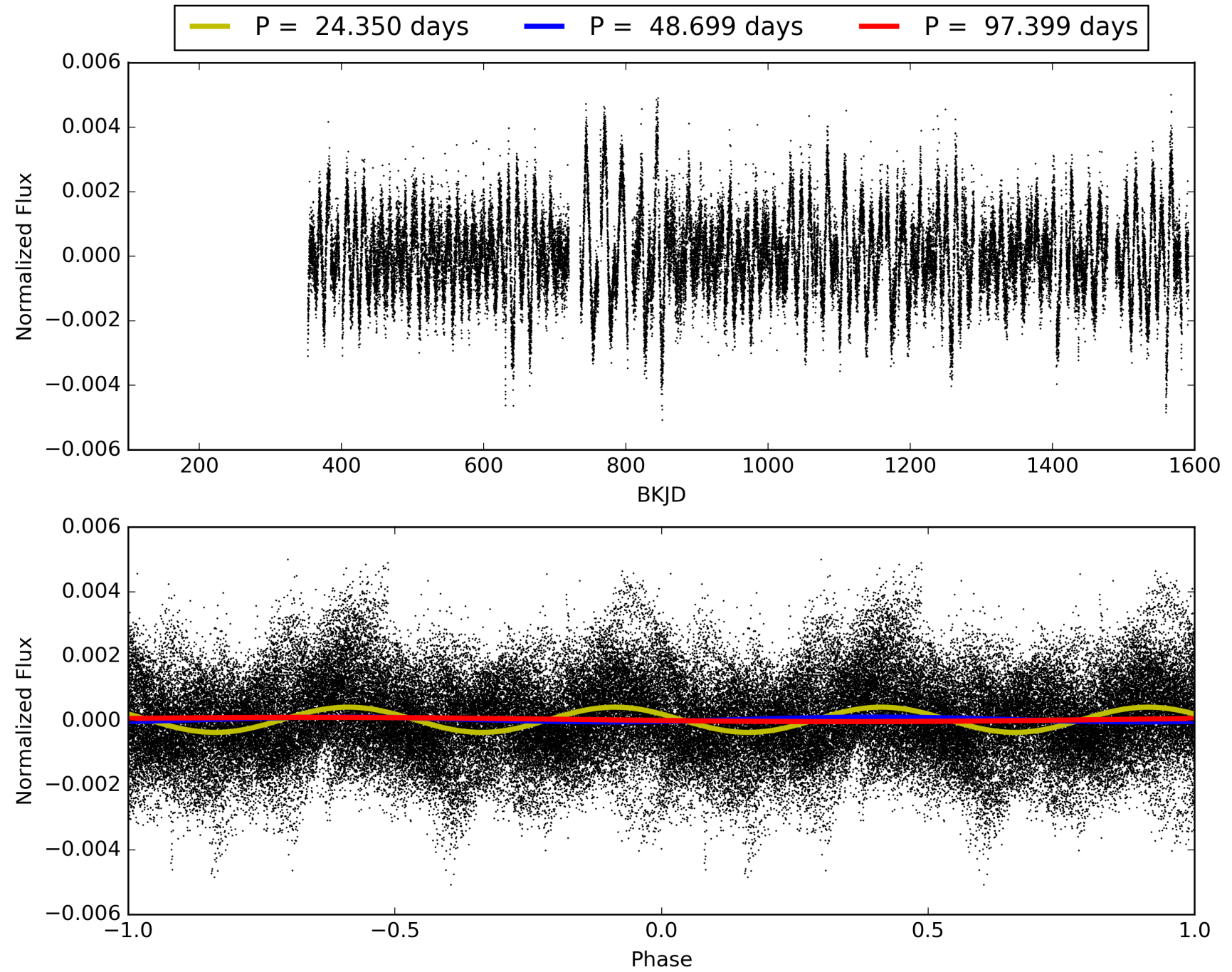
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:14:41 Z

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

# TCE 007582691-03, PDC Light Curves

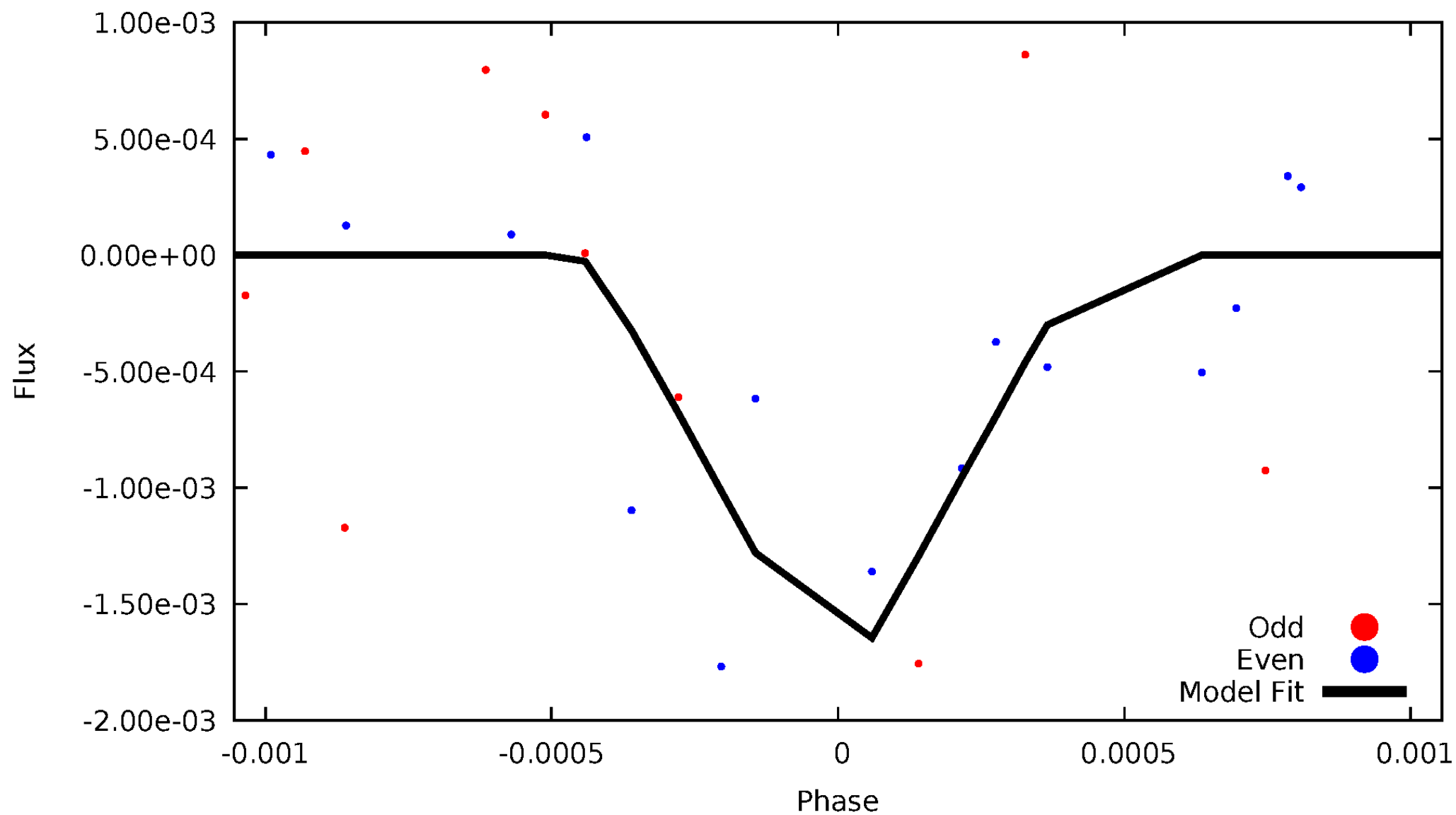


# TCE 007582691-03



# DV Odd/Even

TCE 007582691-03





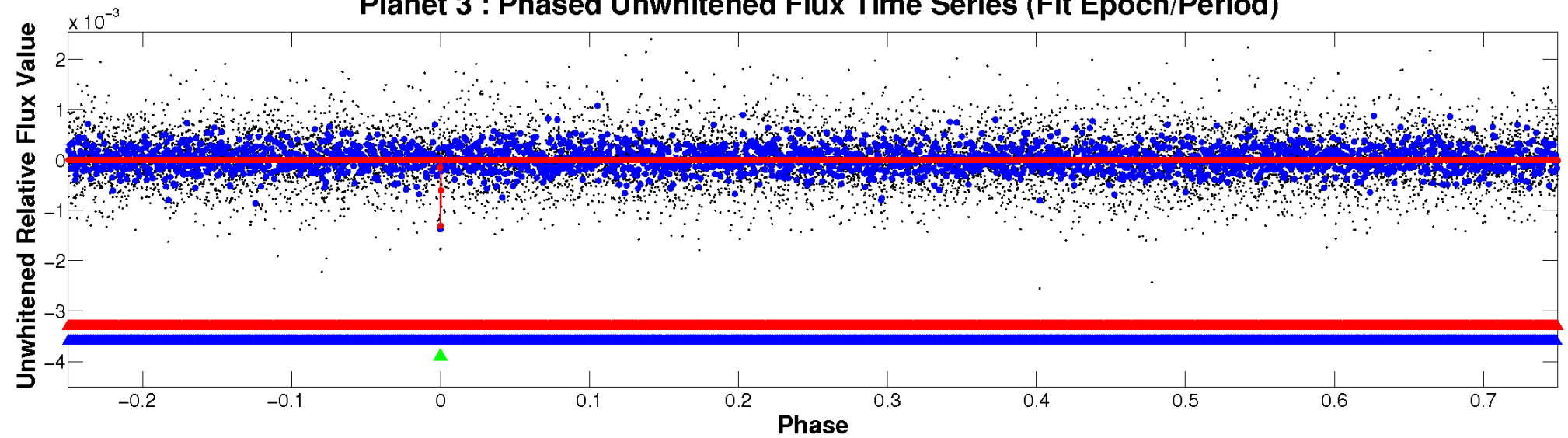


ALT Odd/Even

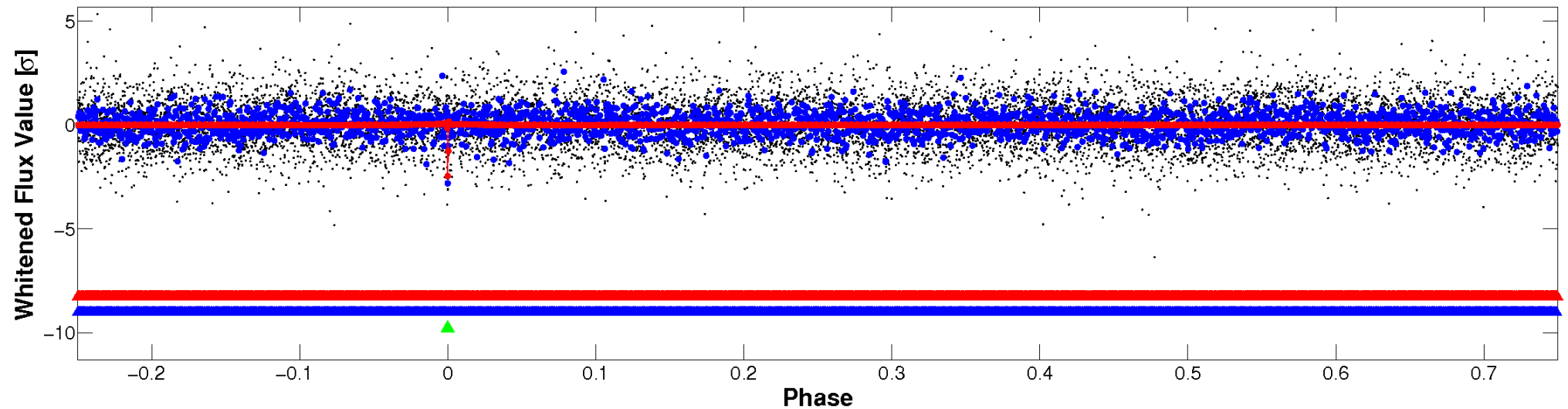
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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

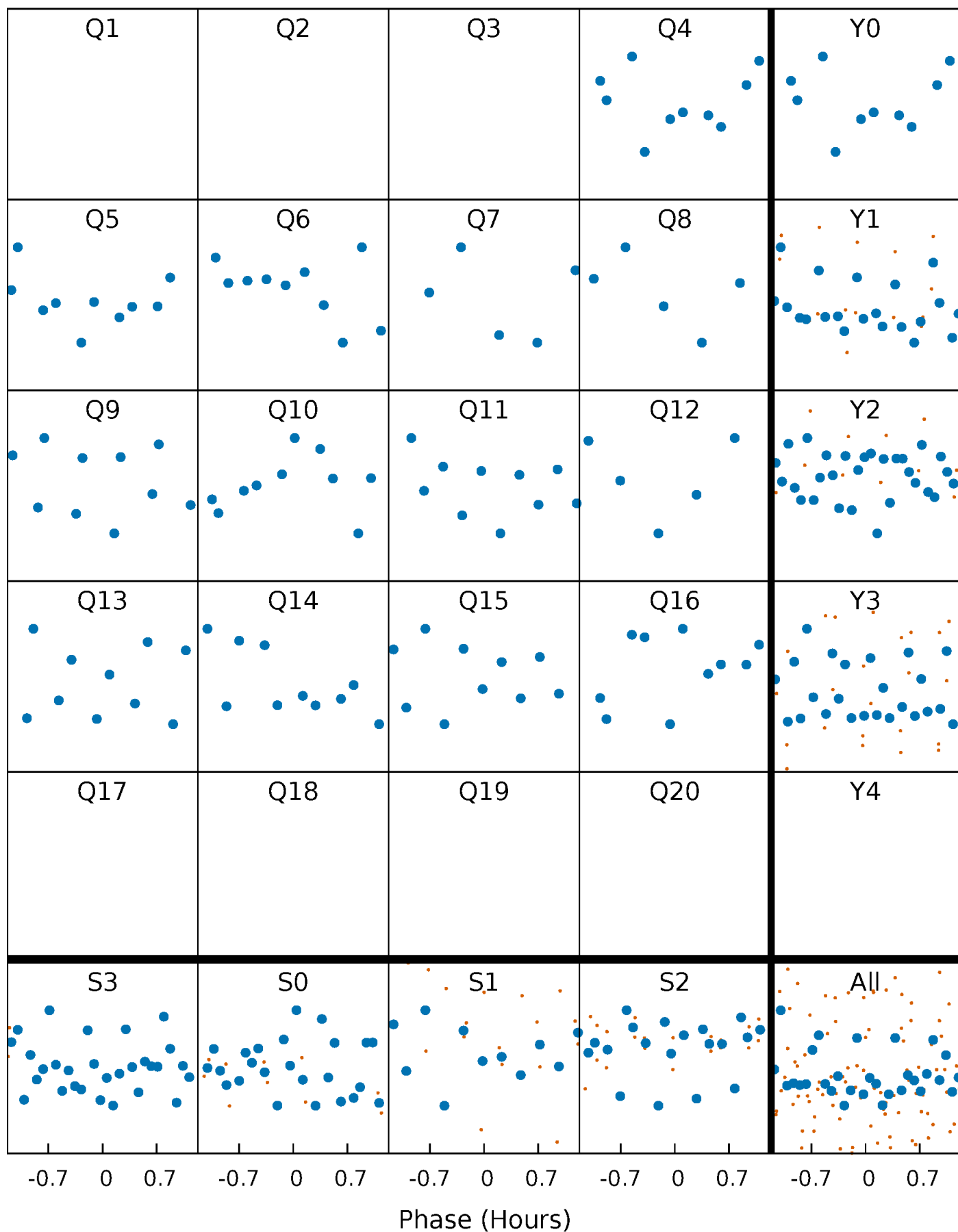


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



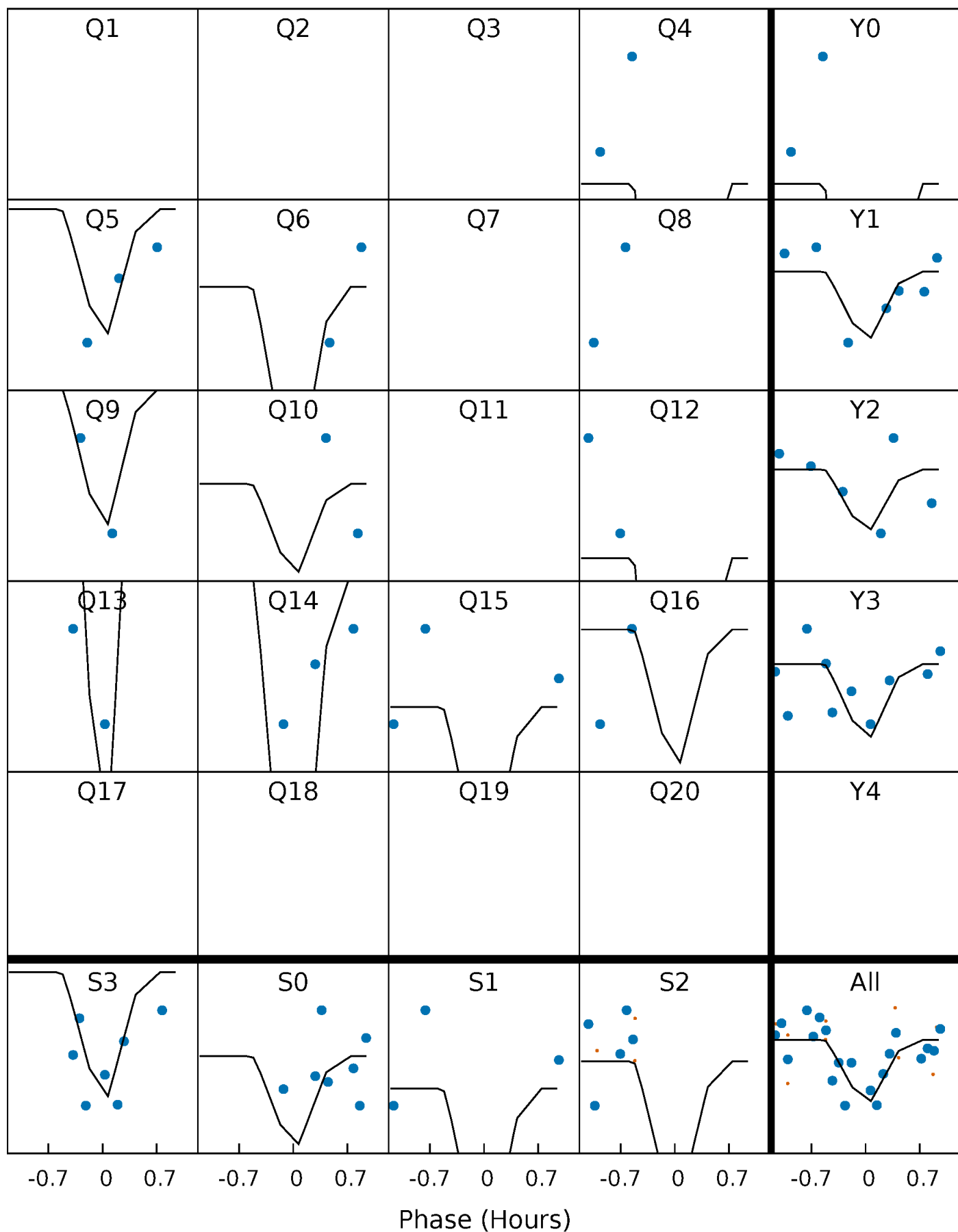
# PDC Quarter-Phased Transit Curves

TCE 007582691-03   P= 48.699495 Days    $T_0=139.381686$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 007582691-03 P= 48.699495 Days  $T_0=139.381686$  (BKJD)

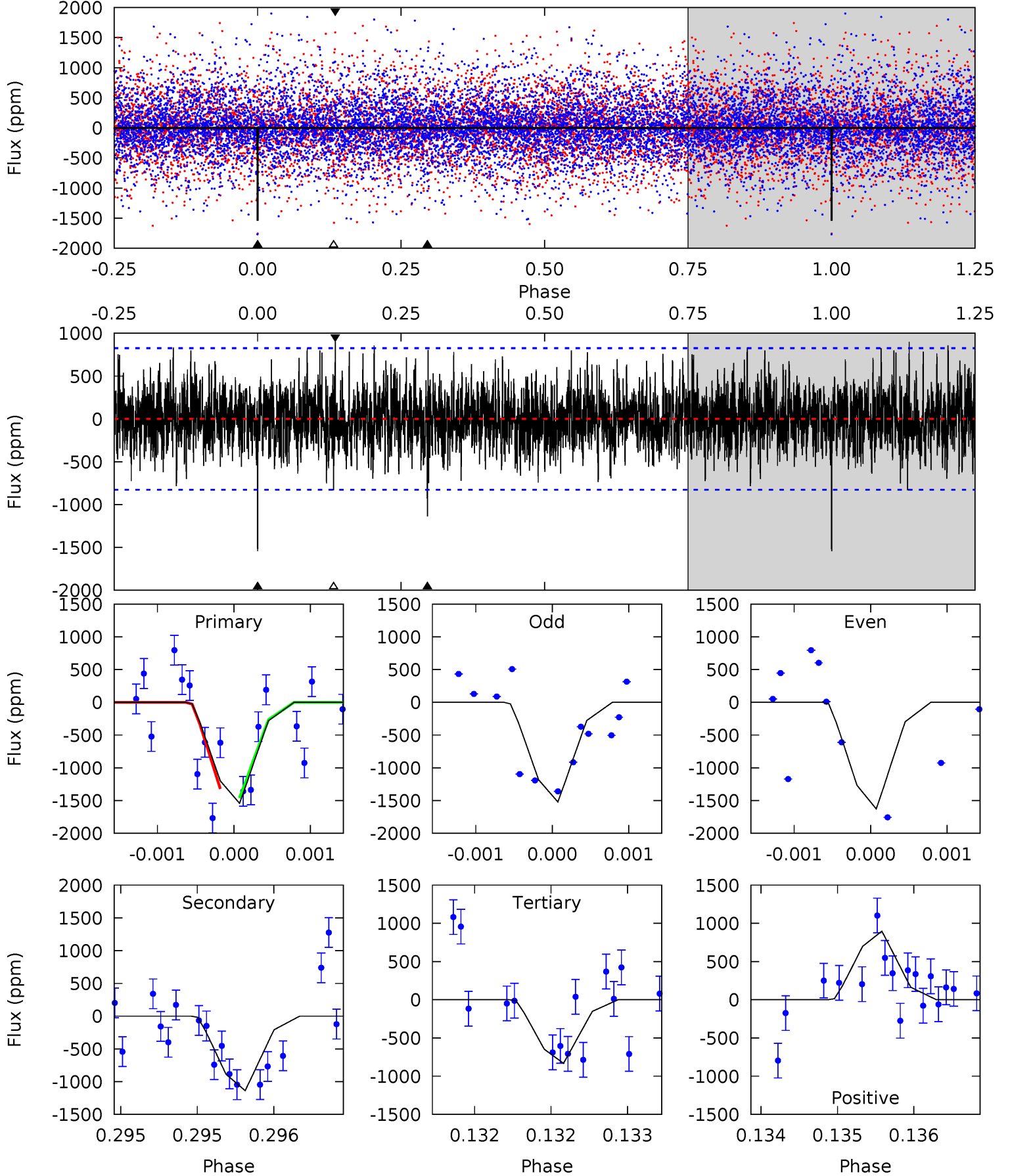


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

007582691-03, P = 48.699495 Days, E = 139.381686 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
10.2	7.56	5.52	5.96	5.49	3.35	1.65	4.72	4.28	2.04	1.59	0.29	0.93	0.37	0.47





## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 007582691

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3939^{+55}_{-62}$	$4.736^{+0.028}_{-0.035}$	$-0.200^{+0.200}_{-0.200}$	$0.526^{+0.035}_{-0.035}$	$0.550^{+0.031}_{-0.039}$	$5.308^{+0.704}_{-0.686}$
	+1%/-2%	+1%/-1%	+100%/-100%	+7%/-7%	+6%/-7%	+13%/-13%
Source	PHO2	PHO2	PHO2	DSEP		

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

### Secondary Eclipse Parameters for KIC 007582691-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1138 \pm 151$	$4.17^{+3.56}_{-2.68}$	$382^{+7}_{-8}$	$3094^{+1224}_{-481}$	$1674^{+10760}_{-1200}$
Alt.	N/A	N/A	N/A	N/A	N/A

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

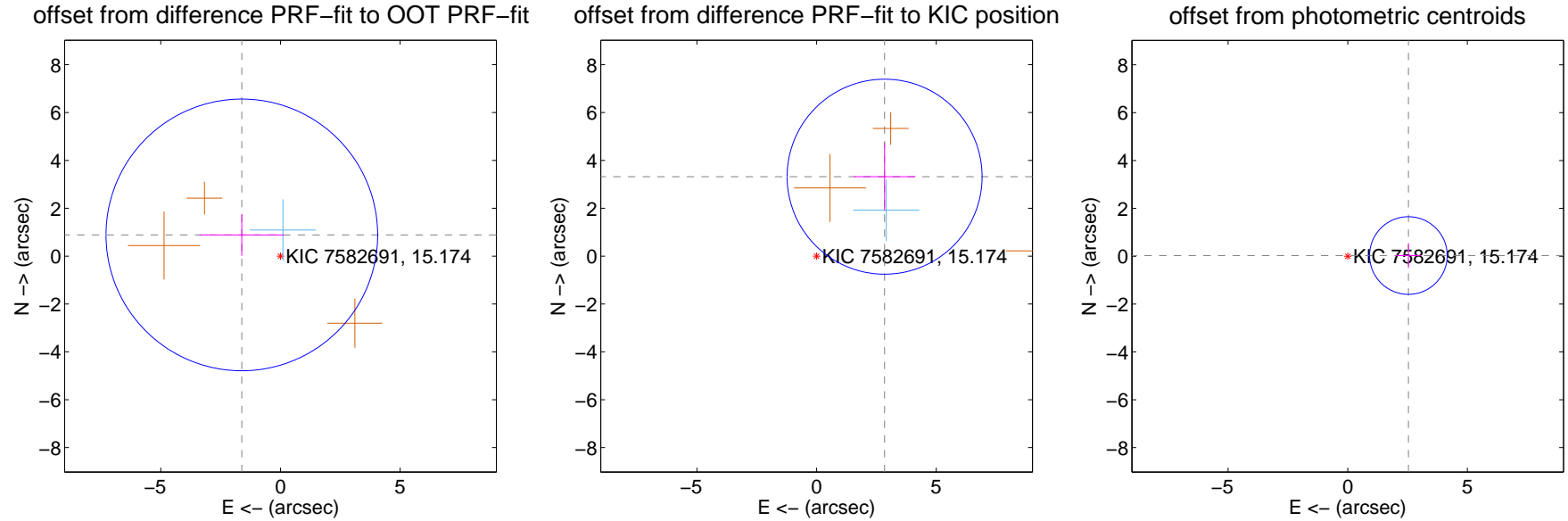
## DV Centroid Data

Supplemental centroid analysis for 007582691-03. Kepler magnitude: 15.17. Transit SNR 5.77

There are 1 quarters with good PRF difference image offsets

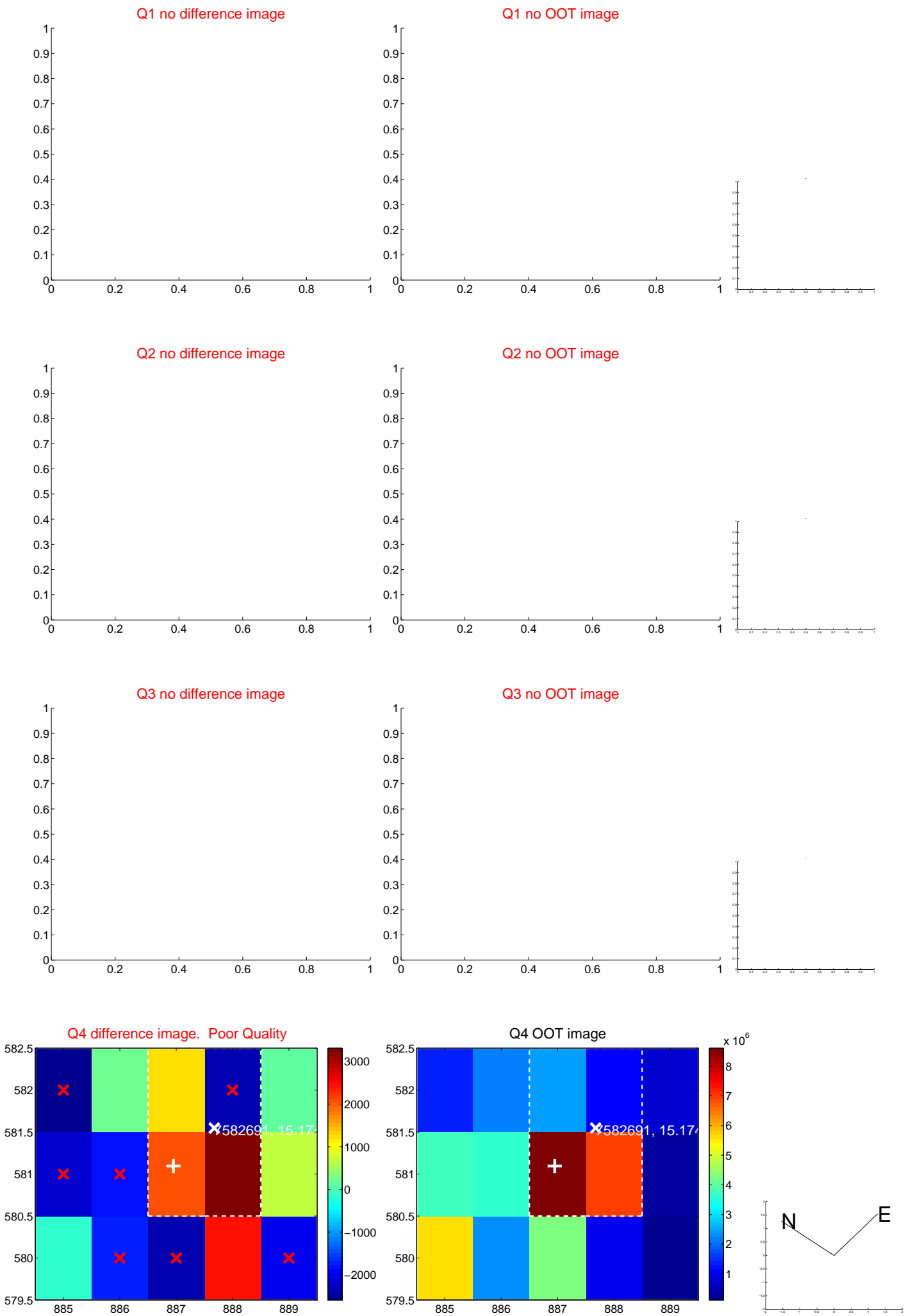
The OOT PRF centroid is offset from the target star catalog position by about 2.93 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.842 \pm 1.892$	0.97	$1.614 \pm 1.770$	$0.887 \pm 0.871$
PRF-fit source offset from KIC position	$4.370 \pm 1.358$	3.22	$-2.843 \pm 1.288$	$3.319 \pm 1.407$
photometric centroid source offset	$2.54 \pm 0.54$	4.69	$-2.54 \pm 0.54$	$0.03 \pm 0.51$

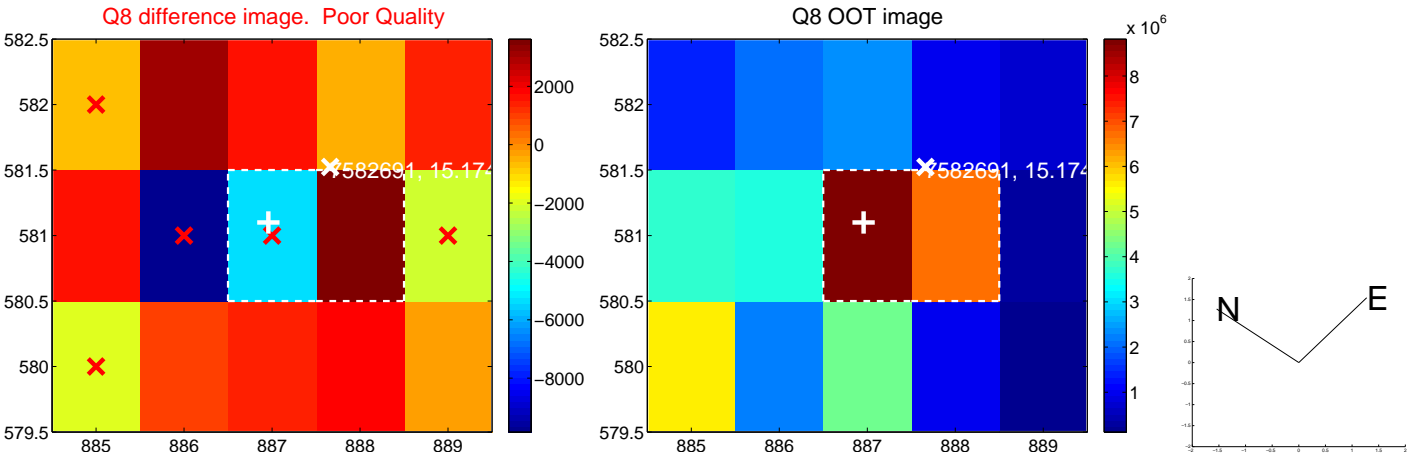
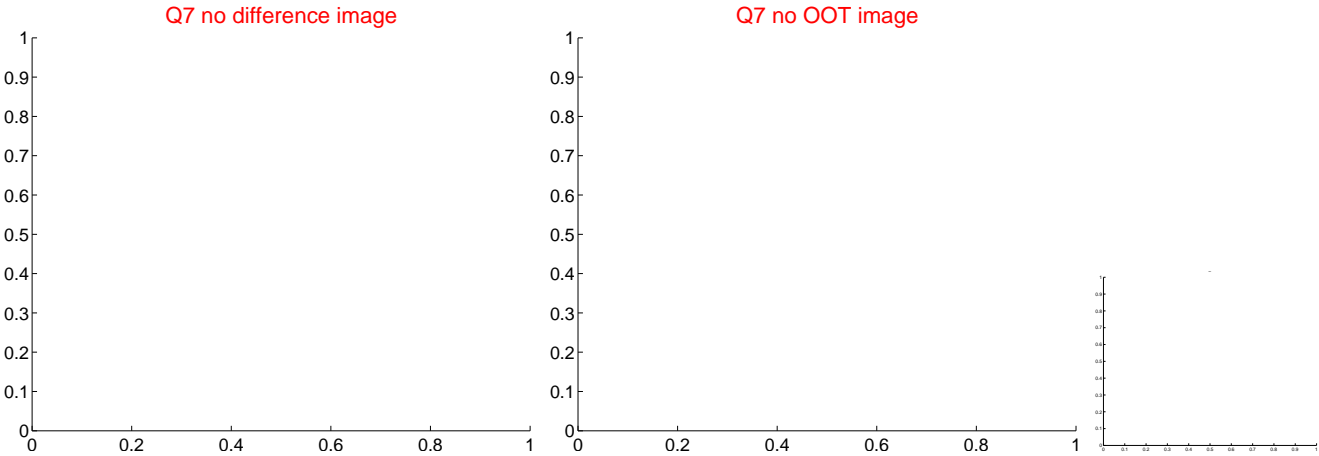
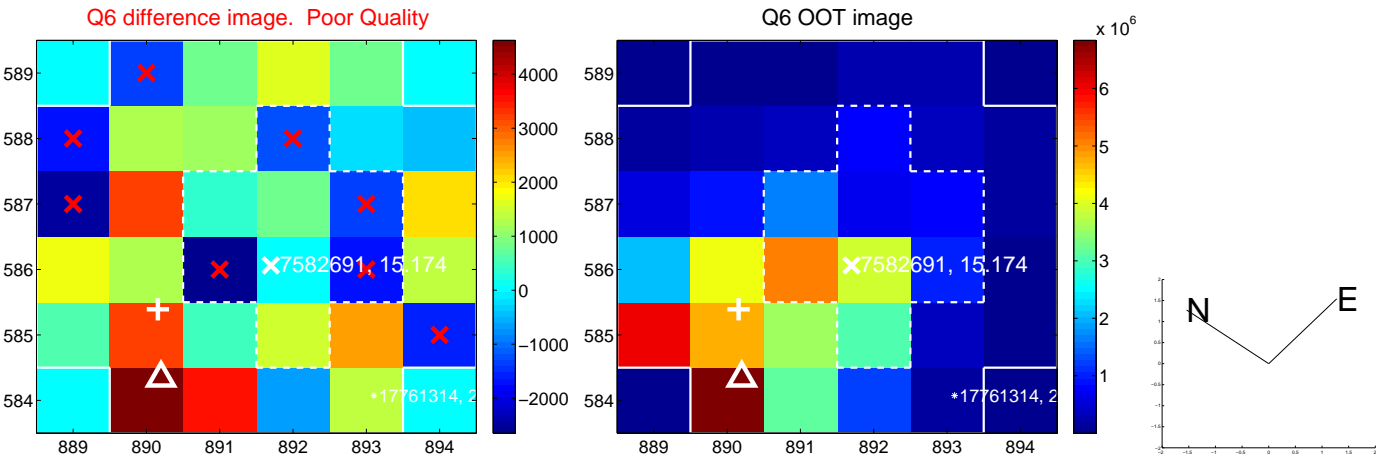
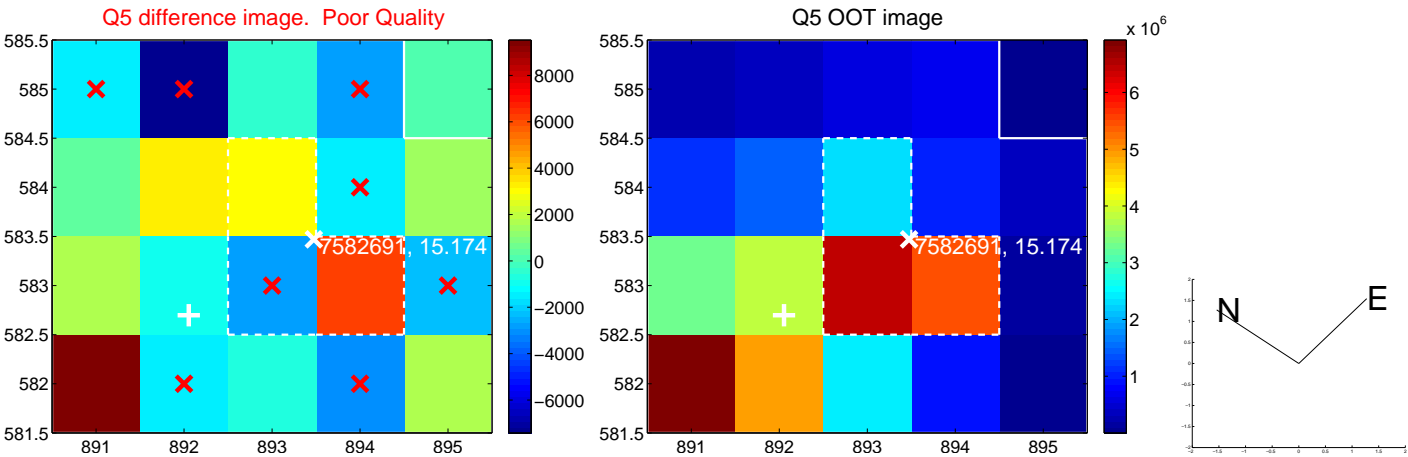


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

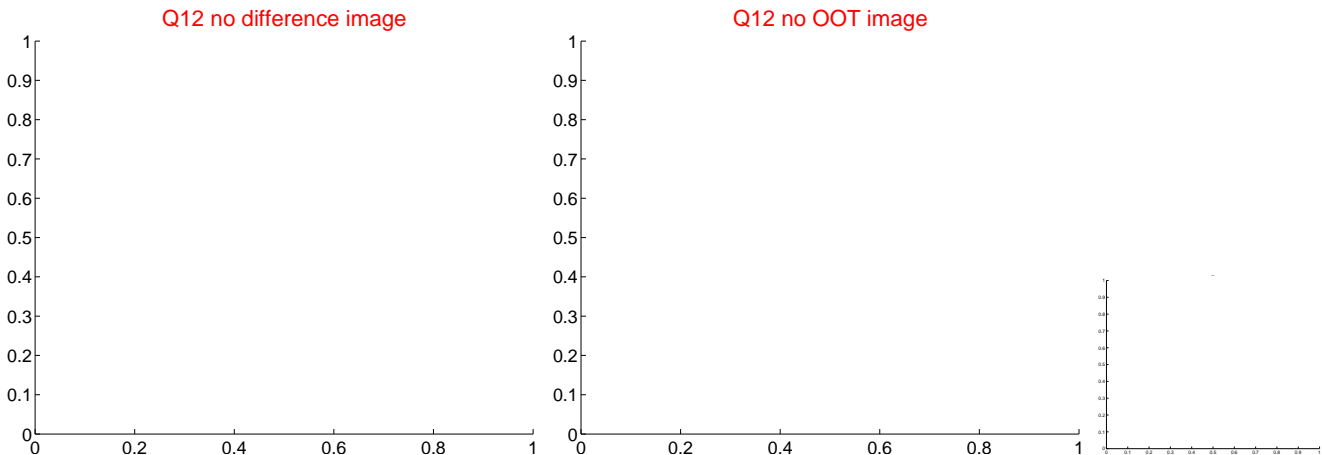
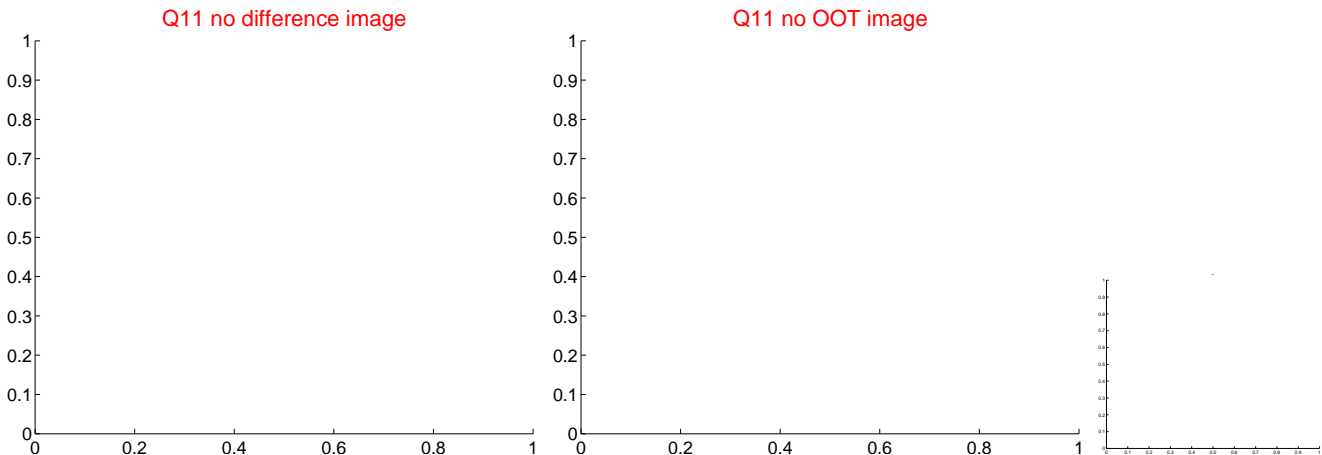
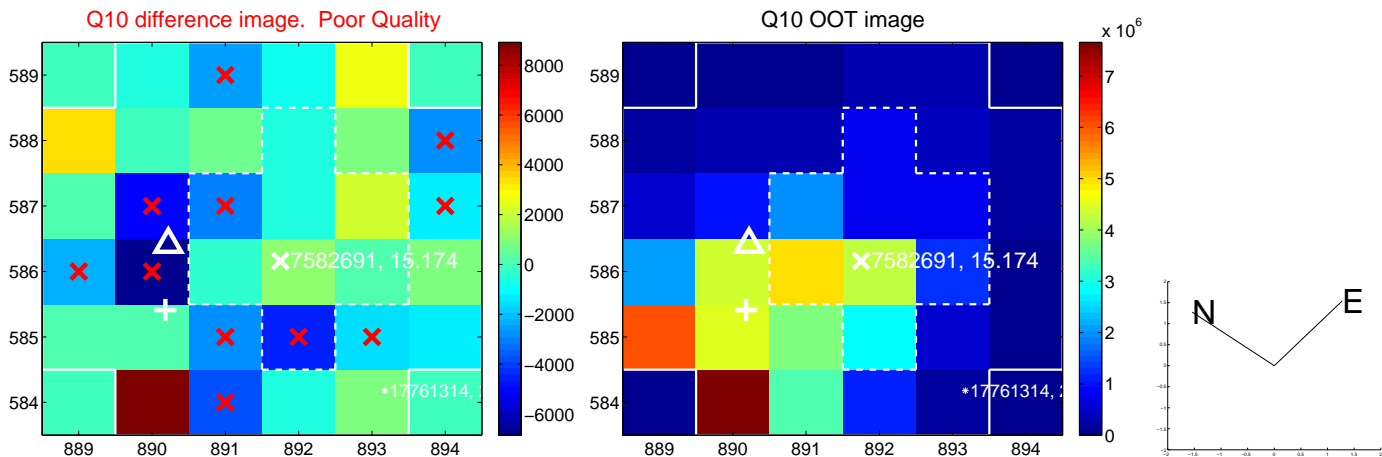
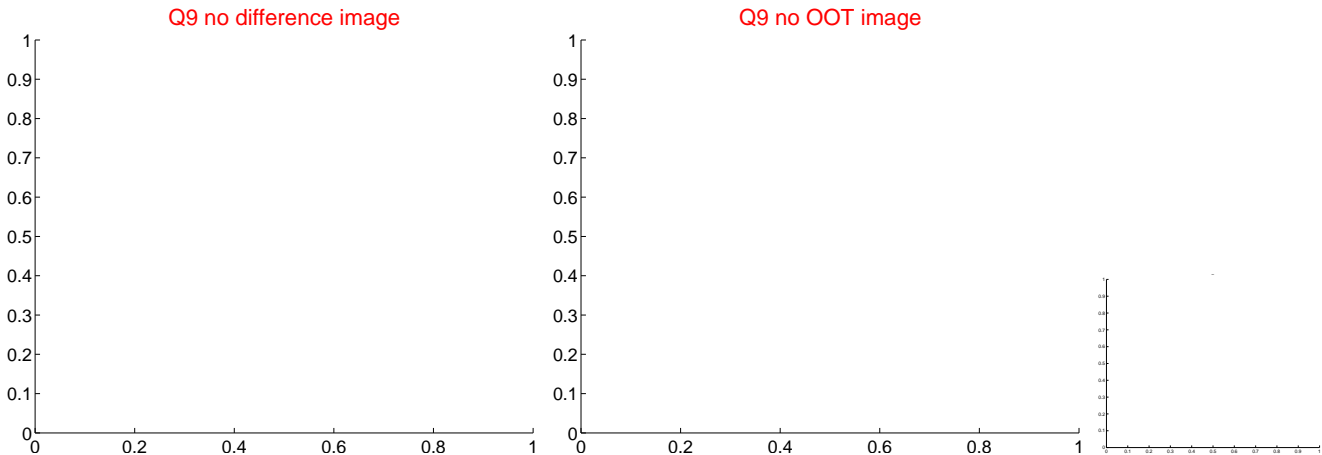
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

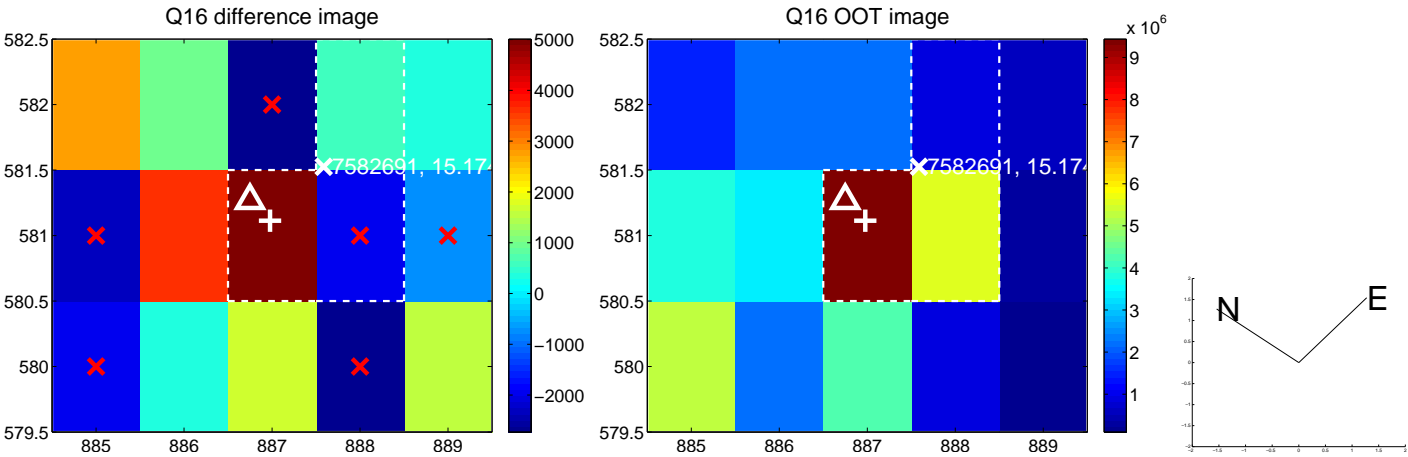
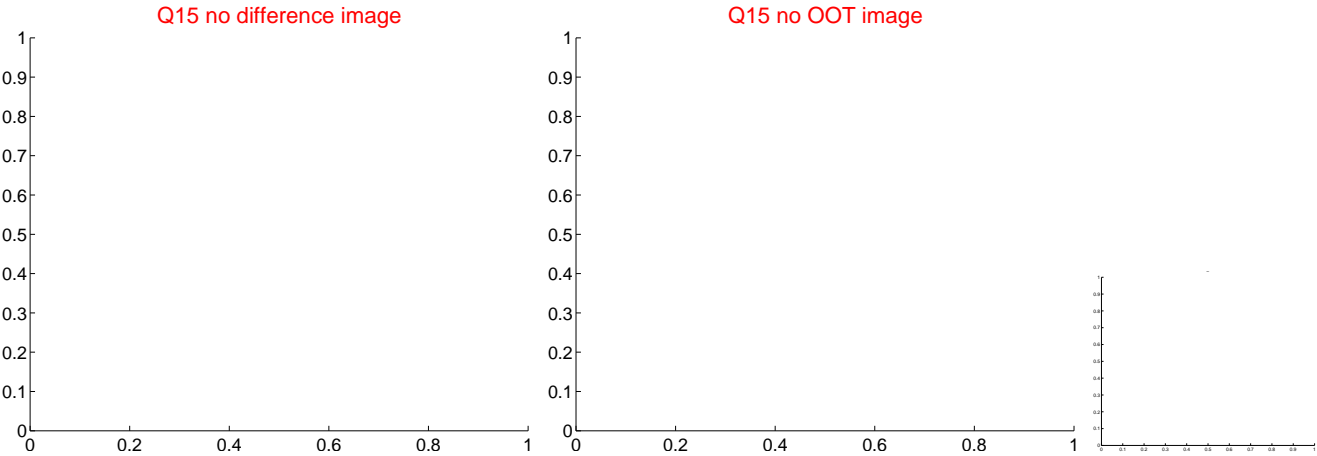
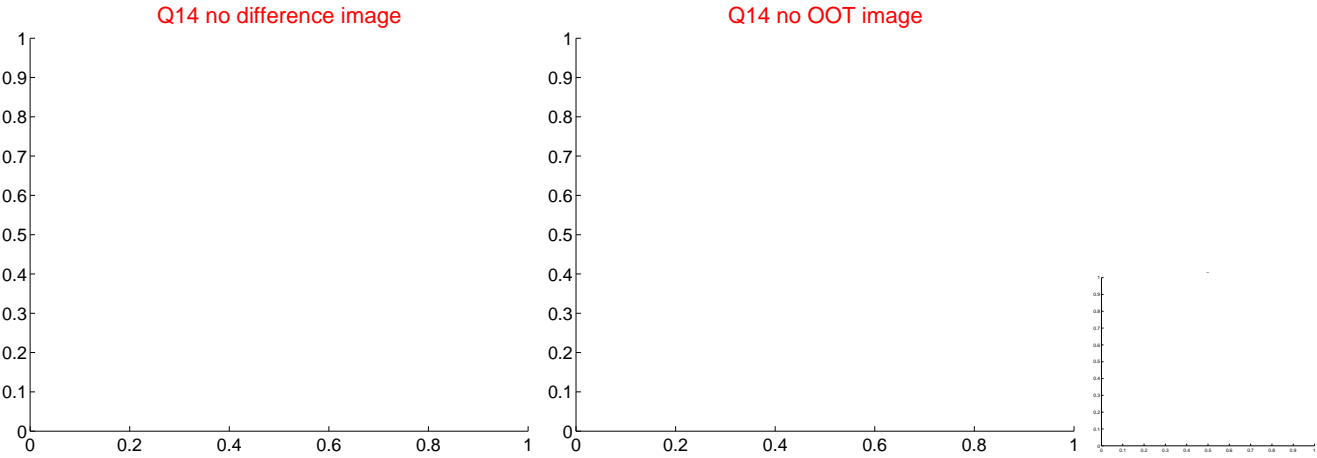
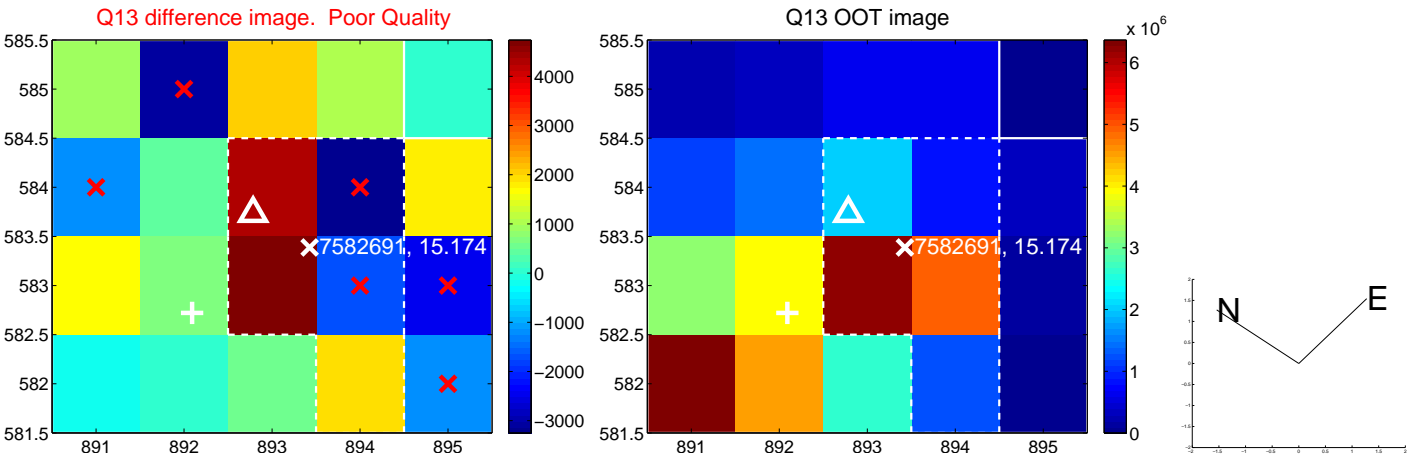


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value

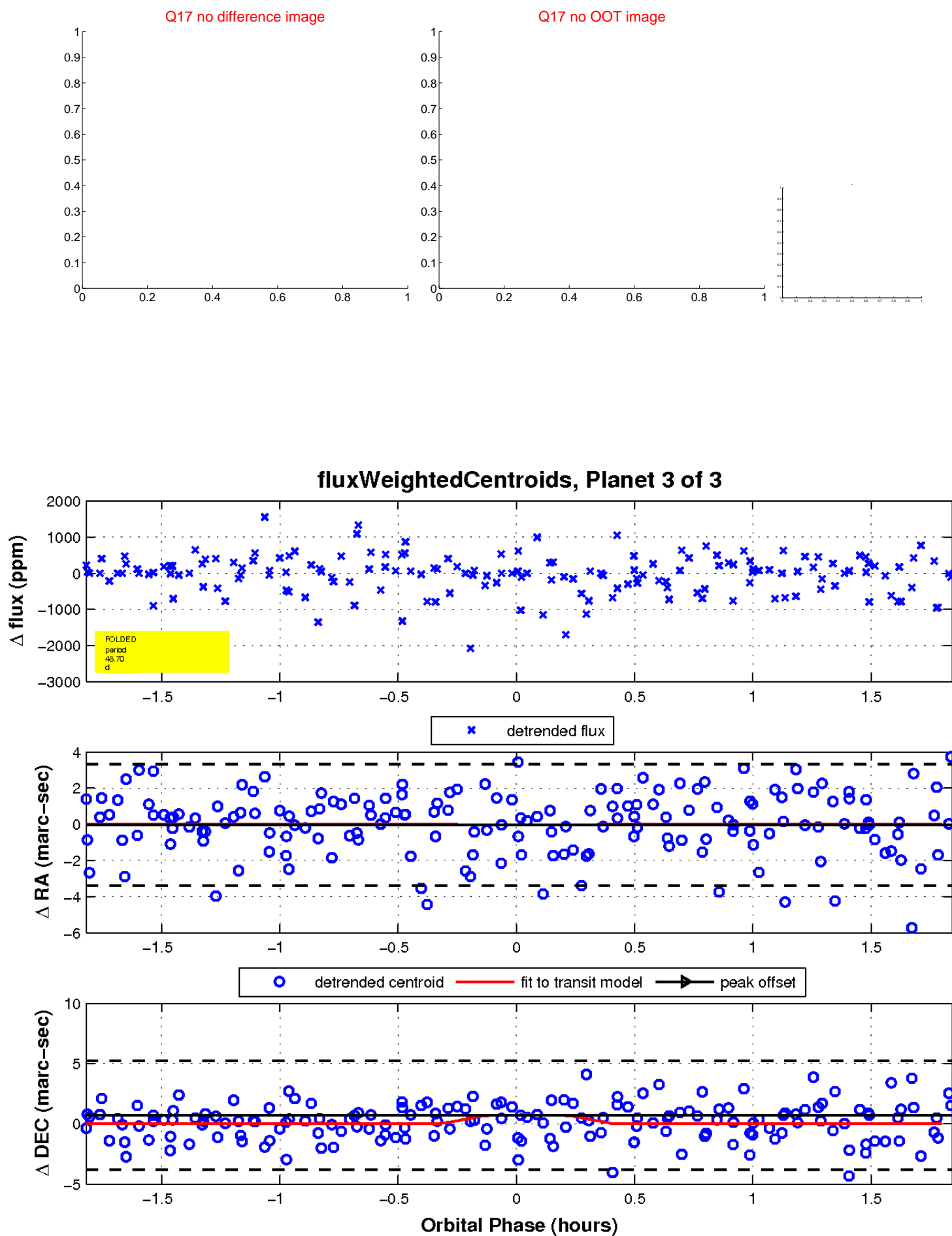




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\Delta$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

