

# KIC 008845206

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008845206-01	OBS	No	7.828794	132.962980	50.4	19.073	7.1	6.0	1.65	5552	1.39	442.68
008845206-02	OBS	No	263.115420	195.606212	454.8	8.036	10.2	5.9	1.65	5552	4.09	4.08
008845206-03	OBS	No	271.599460	279.504145	248.1	20.312	7.3	5.6	1.65	5552	2.72	3.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008845206-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET
008845206-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
008845206-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_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.

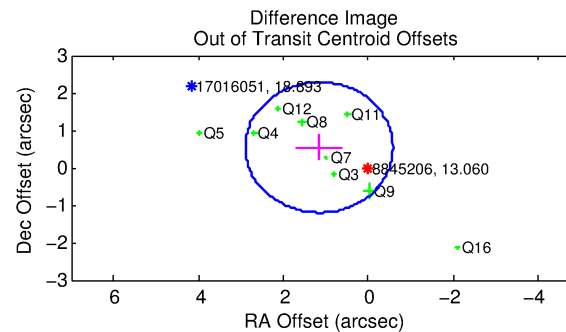
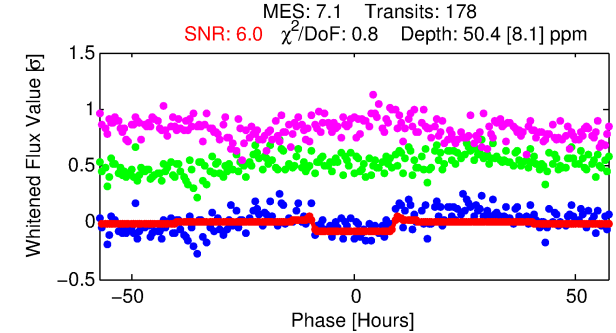
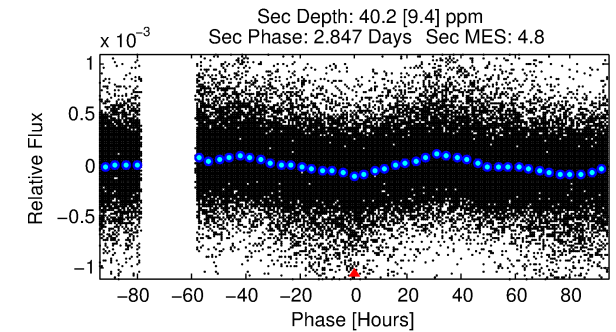
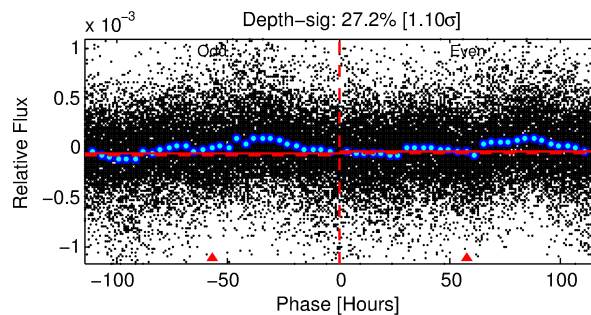
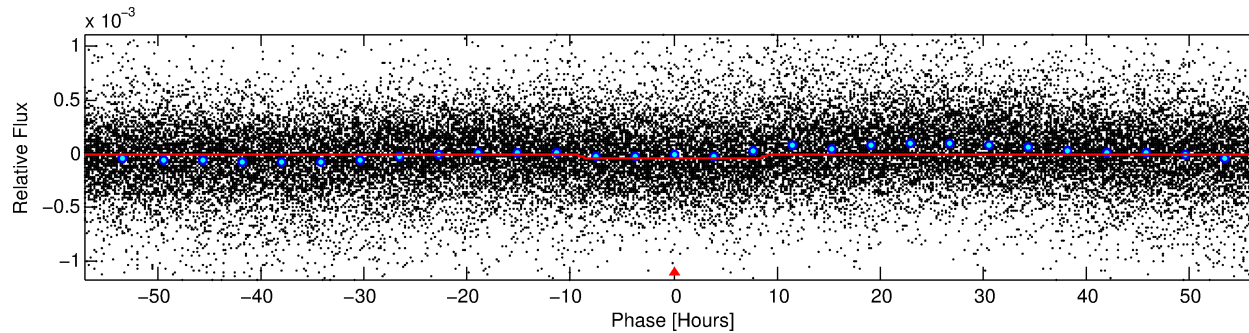
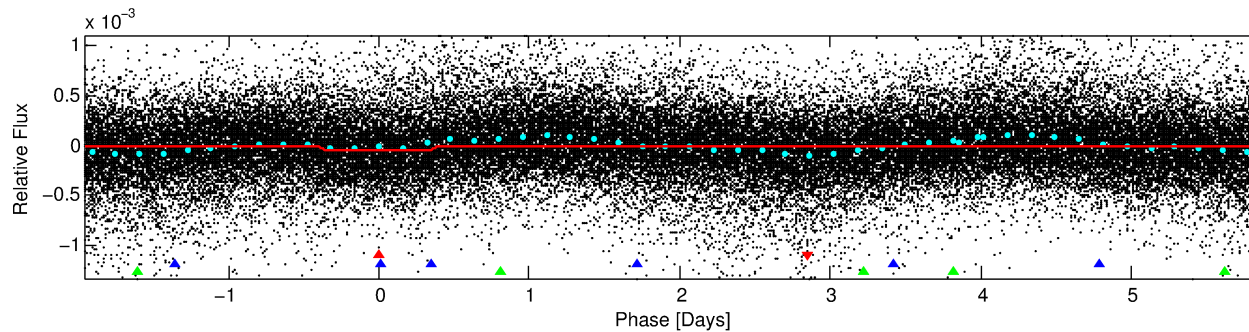
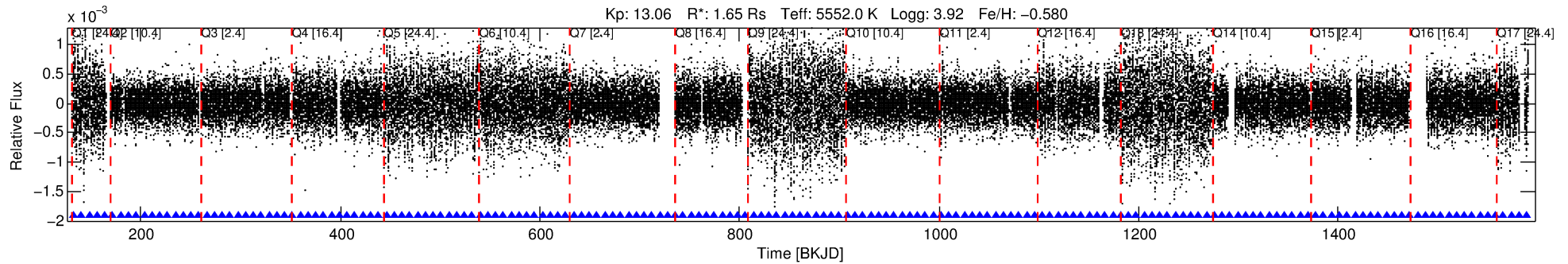
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008845206-01

No Significant Match Found

# DV One-Page Summary

KIC: 8845206 Candidate: 1 of 3 Period: 7.829 d



## DV Fit Results:

Period = 7.82879 [0.00020] d  
Epoch = 132.9630 [0.0197] BKJD  
Rp/R\* = 0.0077 [0.0011]  
a/R\* = 1.71 [0.65]  
b = 0.90 [0.13]  
Seff = 442.68 [472.63]  
Teq = 1170 [312] K  
Rp = 1.39 [0.76] Re  
a = 0.0724 [0.0442] AU  
Ag = 60.29 [67.71] [0.88 $\sigma$ ]  
Teffp = 5039 [498] K [6.58 $\sigma$ ]

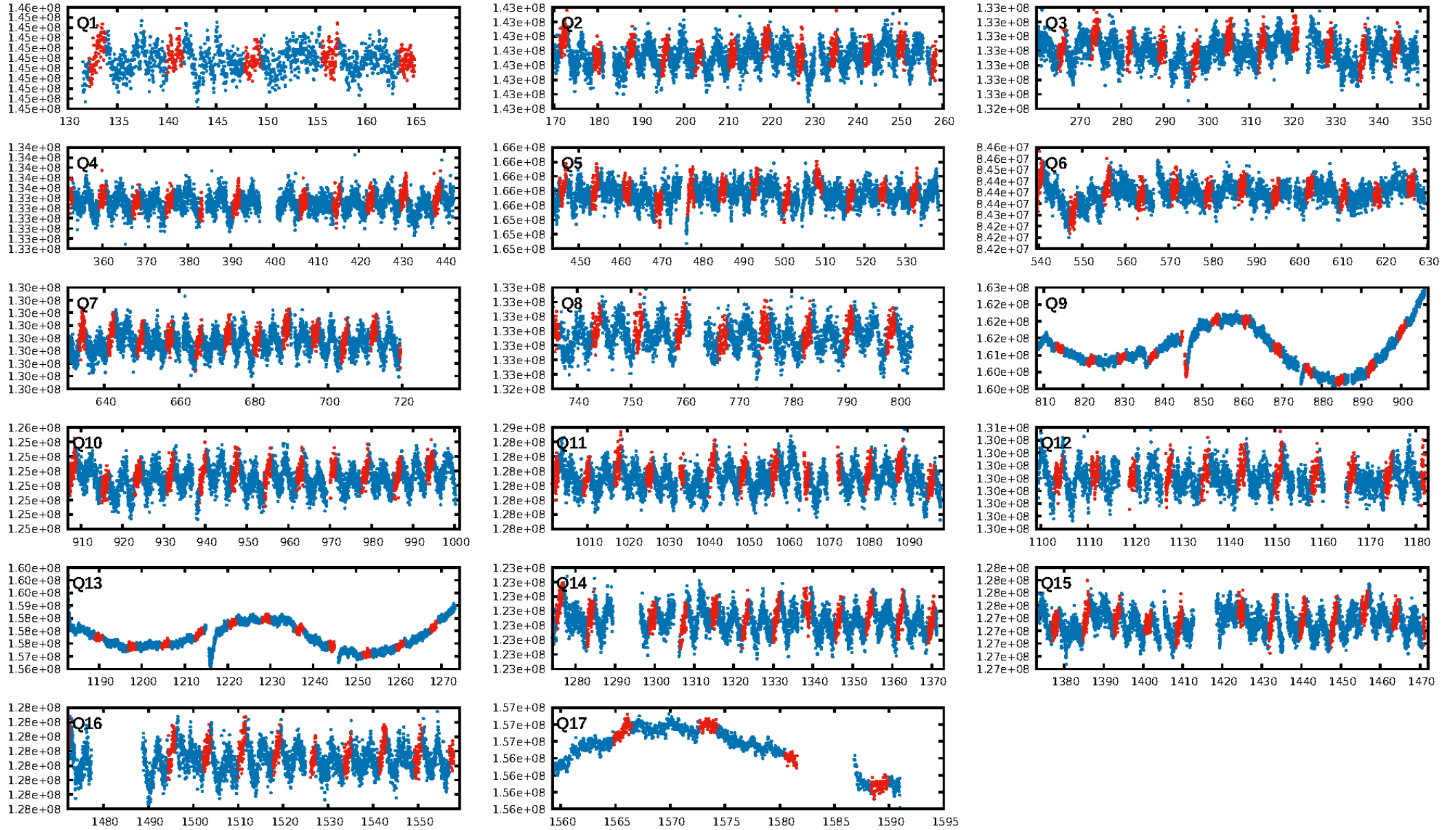
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [296.03 $\sigma$ ]  
ModelChiSquare2-sig: 100.0%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 5.28e-08**  
RollingBand-fgt: 1.00 [169/169]  
**GhostDiagnostic-chr: -1.253**  
Centroid-sig: 62.0%  
Centroid-so: 5.219 arcsec [2.80 $\sigma$ ]  
OotOffset-rm: 1.273 arcsec [2.19 $\sigma$ ]  
OotOffset-st: 0/3/4/2 [9]  
KicOffset-rm: 8.927 arcsec [20.33 $\sigma$ ]  
KicOffset-st: 2/3/4/2 [11]  
DiffImageQuality-fgm: 0.64 [7/11]  
DiffImageOverlap-fno: 1.00 [17/17]

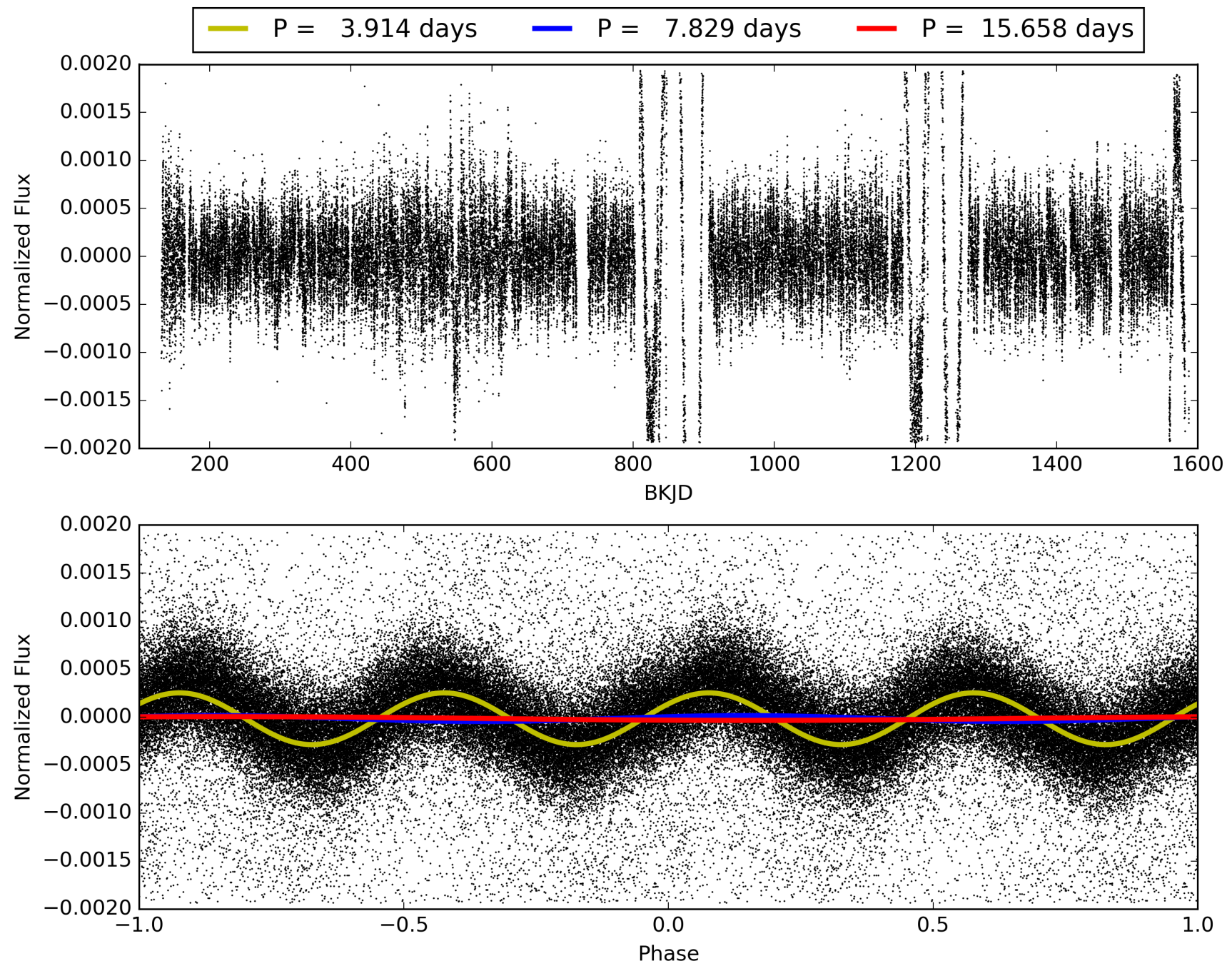
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:54:01 Z

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

# TCE 008845206-01, PDC Light Curves



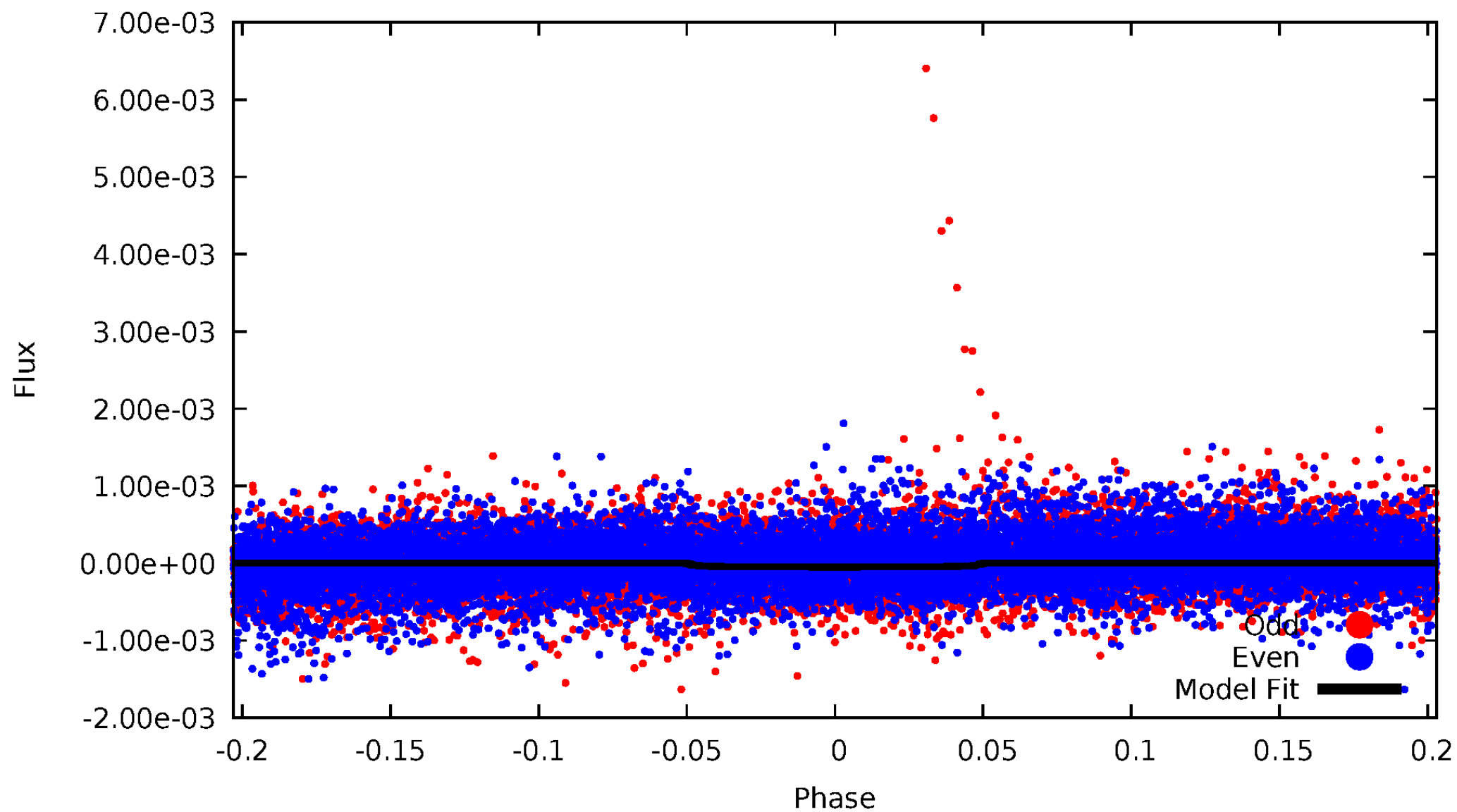
TCE 008845206-01





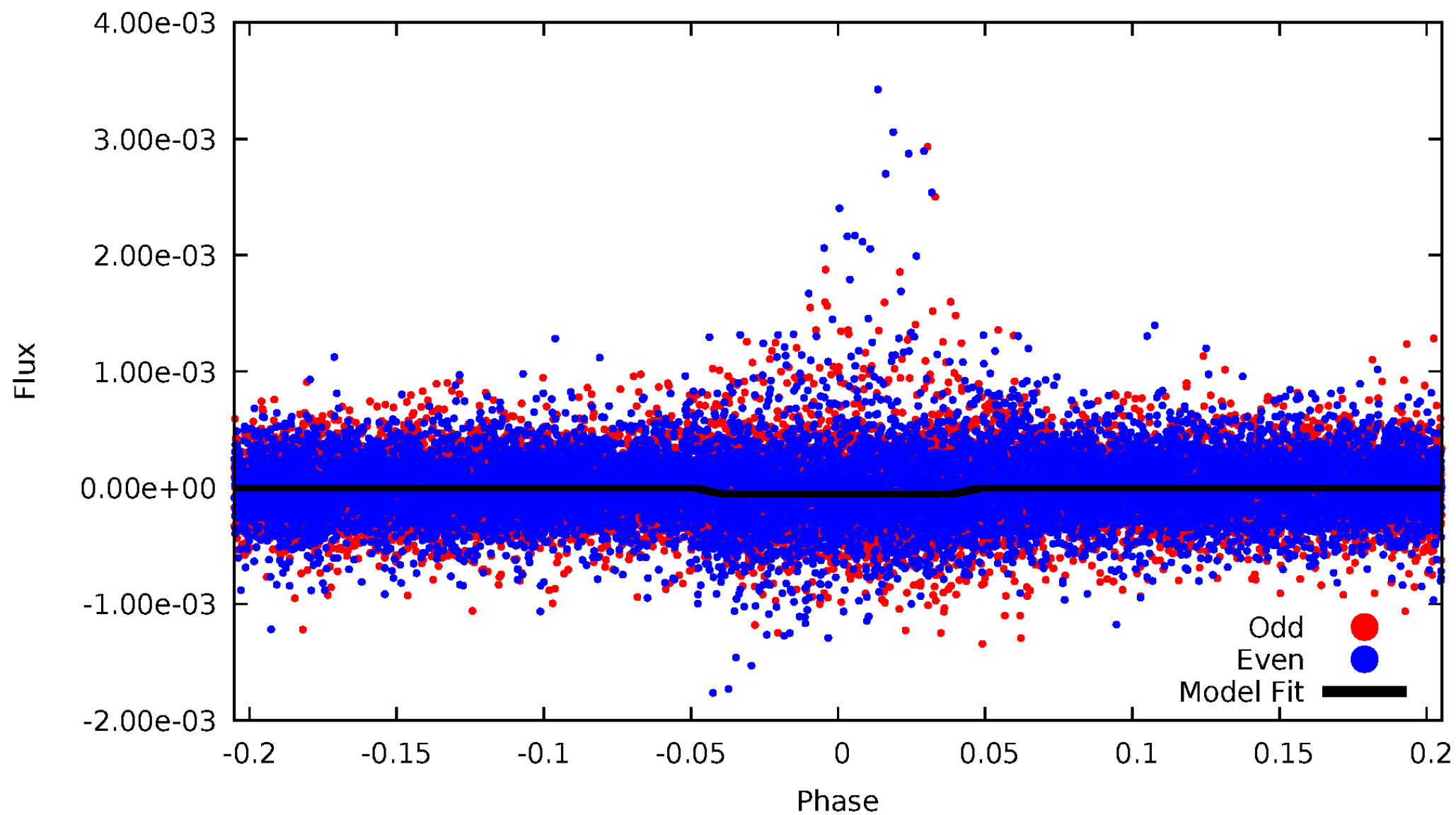
# DV Odd/Even

TCE 008845206-01

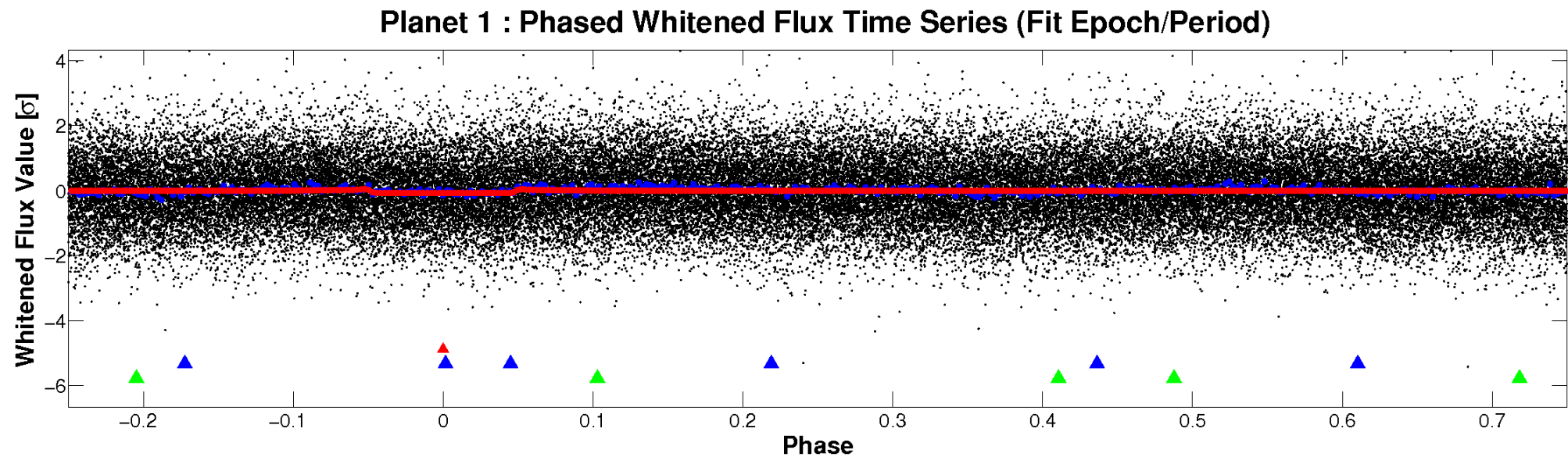
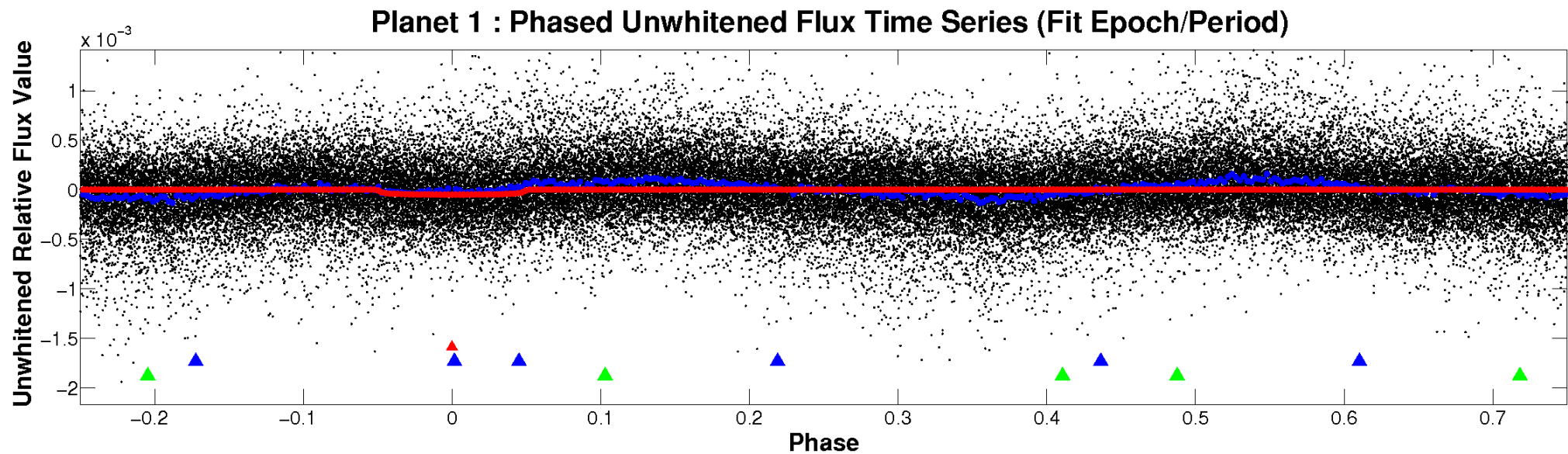


# ALT Odd/Even

TCE 008845206-01

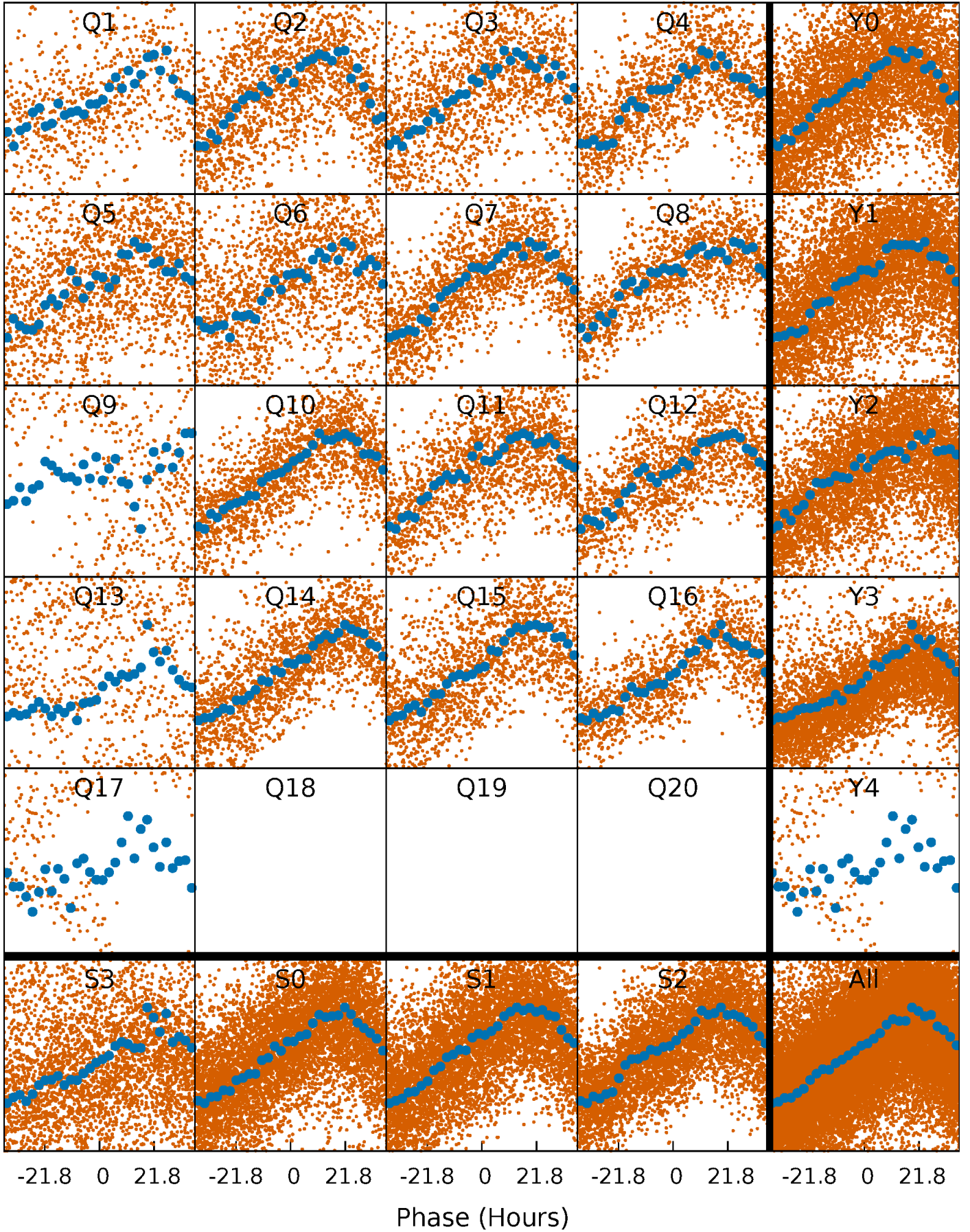


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

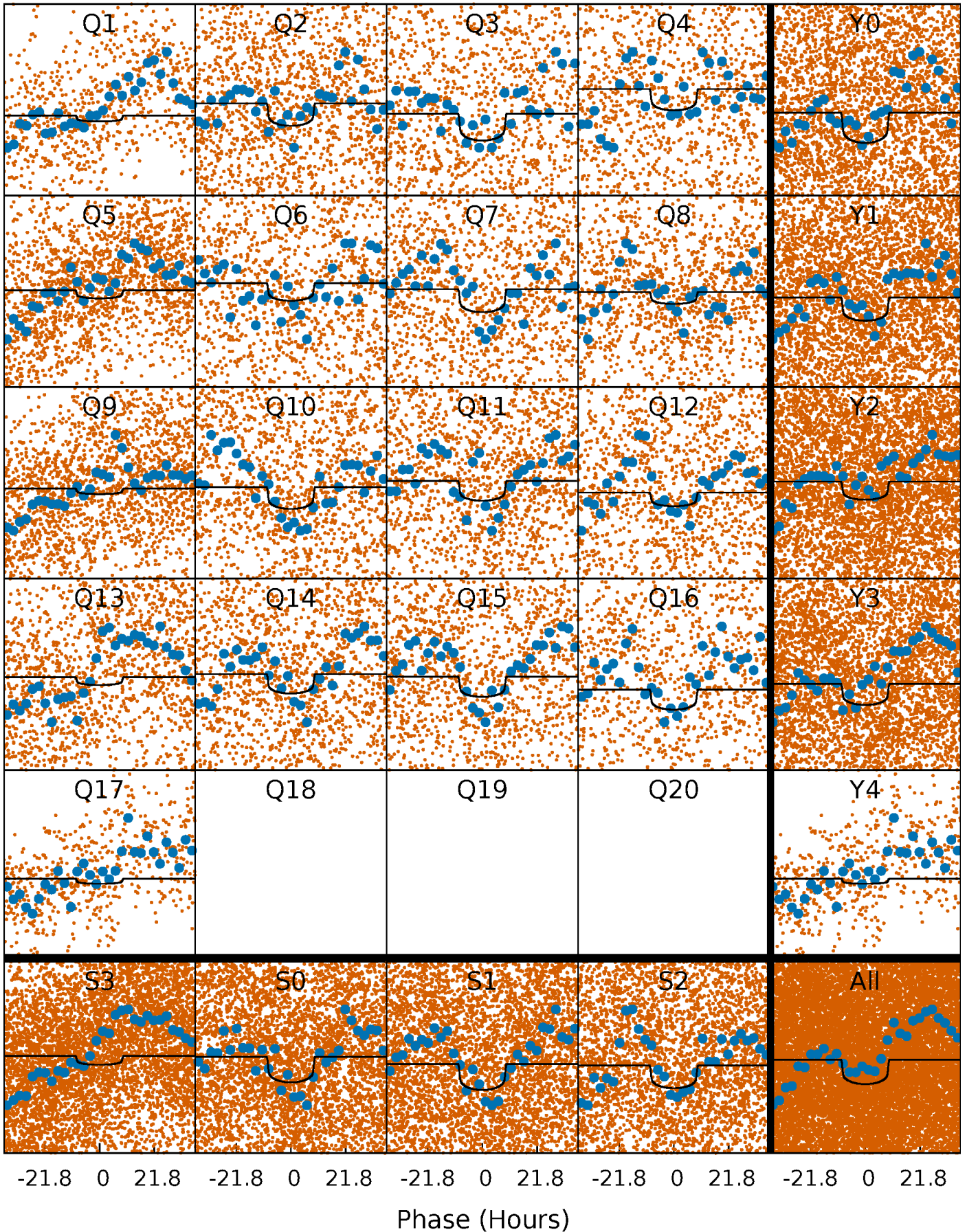
TCE 008845206-01   P= 7.828794 Days    $T_0=132.962980$  (BKJD)





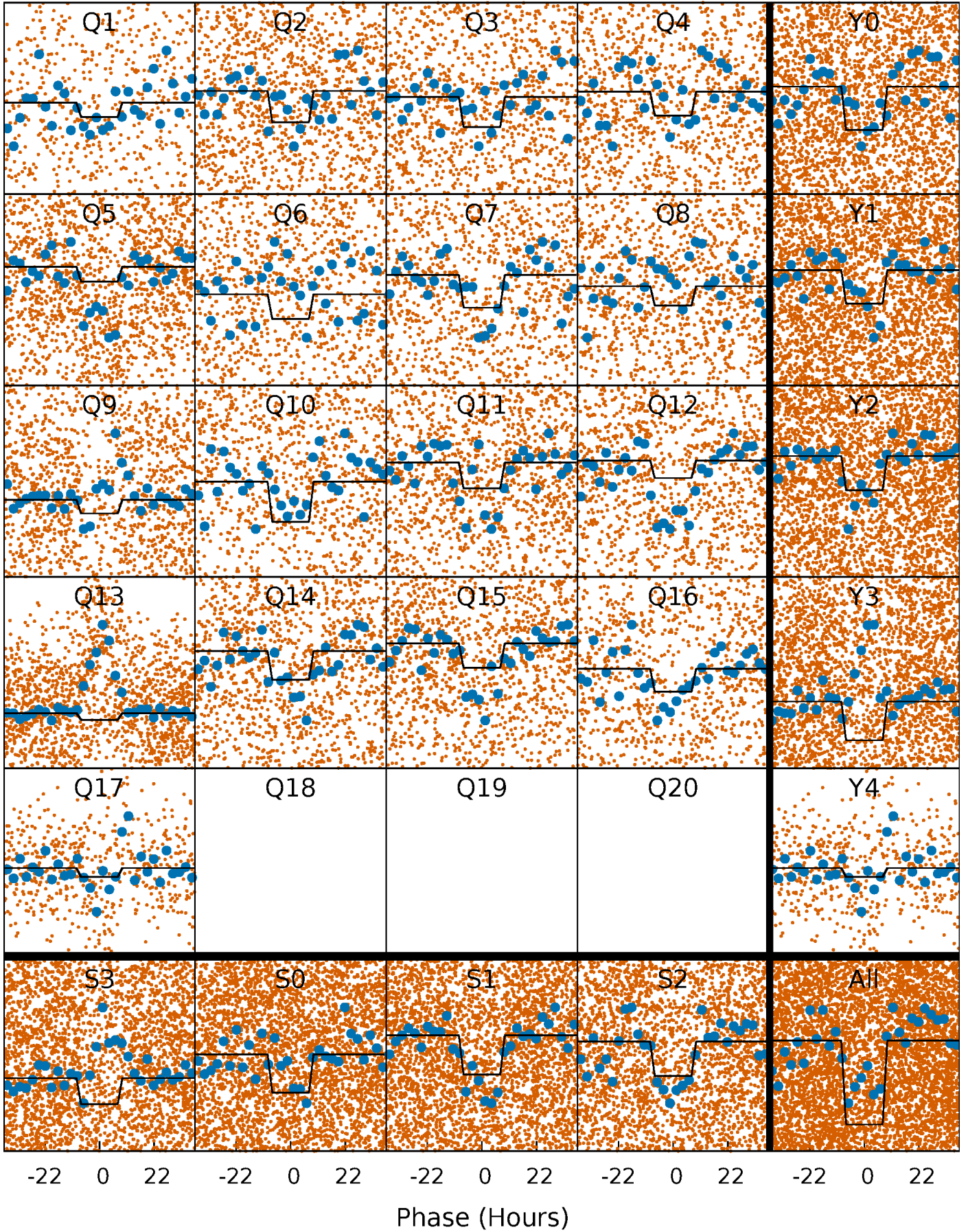
# DV Quarter-Phased Transit Curves

TCE 008845206-01   P= 7.828794 Days    $T_0=132.962980$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 008845206-01 P= 7.829079 Days  $T_0=132.939661$  (BKJD)

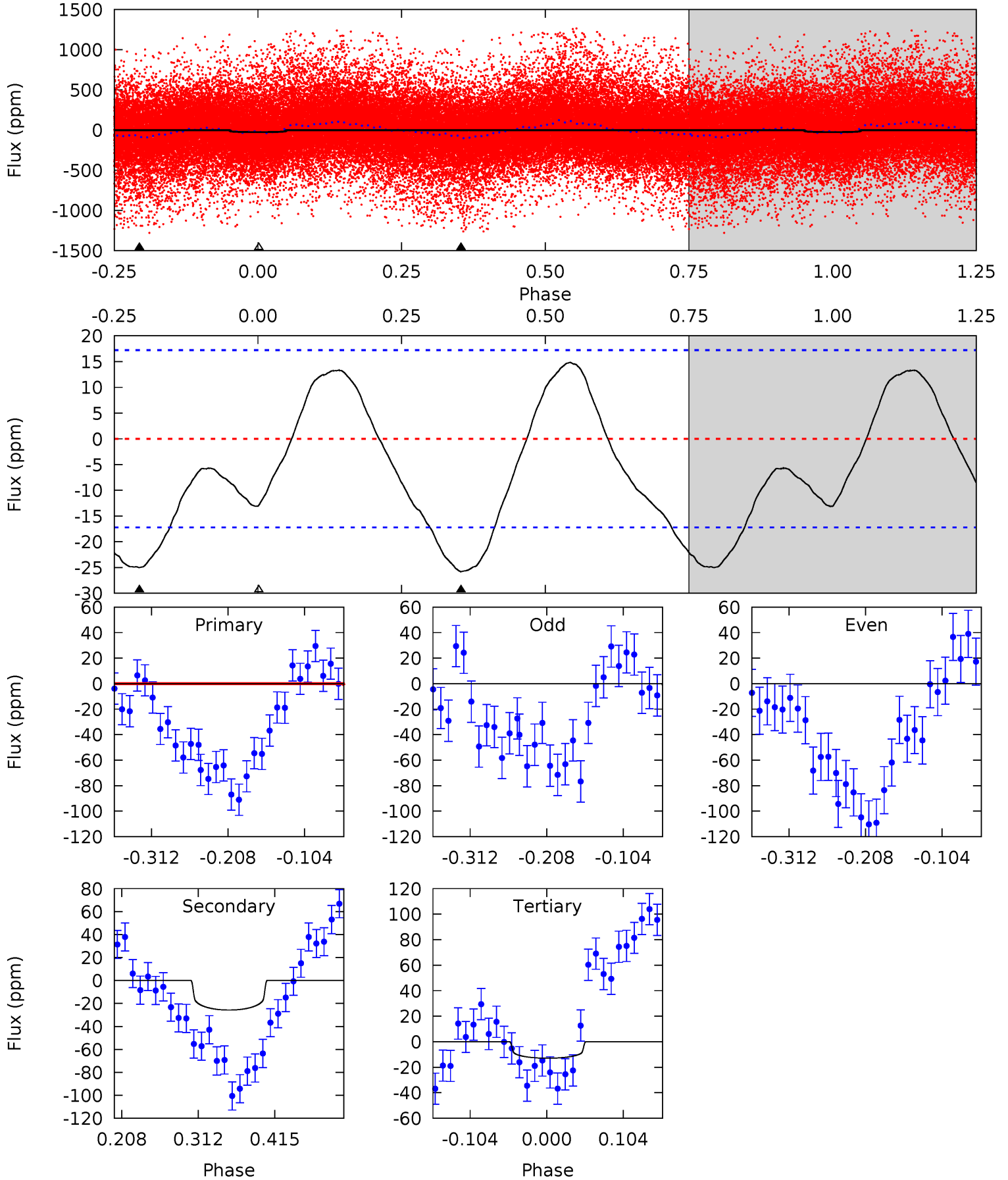




# DV Model-Shift Uniqueness Test

008845206-01, P = 7.828794 Days, E = 125.134186 Days

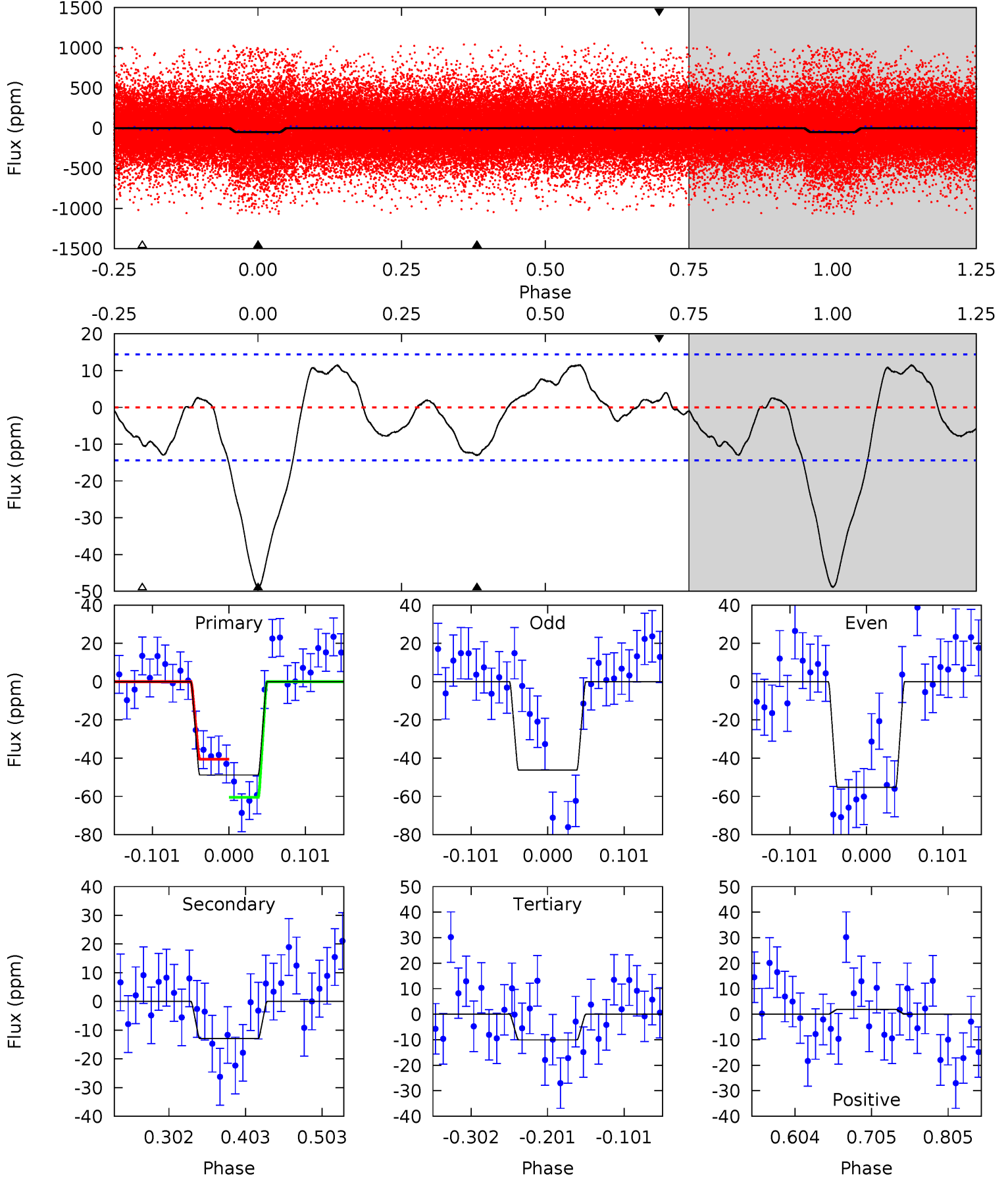
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.62	6.82	3.42	0	4.56	1.63	2.40	3.20	6.62	3.40	6.82	3.88	-0.33	0.37	0.55



# Alt Model-Shift Uniqueness Test

008845206-01, P = 7.829079 Days, E = 125.110582 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
15.5	4.11	3.19	0.60	4.56	1.64	2.12	12.3	14.9	0.92	3.51	1.44	0.44	0.19	3.15





### Stellar Parameters For KIC 008845206

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5552^{+183}_{-150}$	$3.919^{+0.651}_{-0.279}$	$-0.580^{+0.350}_{-0.250}$	$1.650^{+0.871}_{-0.871}$	$0.824^{+0.112}_{-0.091}$	$0.259^{+2.102}_{-0.189}$
	+3%/-3%	+17%/-7%	+60%/-43%	+53%/-53%	+14%/-11%	+813%/-73%
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 008845206-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-26 \pm 4$	$1.31^{+0.46}_{-0.40}$	$1603^{+222}_{-253}$	$4658^{+374}_{-295}$	$43^{+47}_{-20}$
Alt.	$-13 \pm 3$	$1.27^{+0.42}_{-0.42}$	$1627^{+219}_{-285}$	$4157^{+361}_{-313}$	$24^{+28}_{-12}$

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

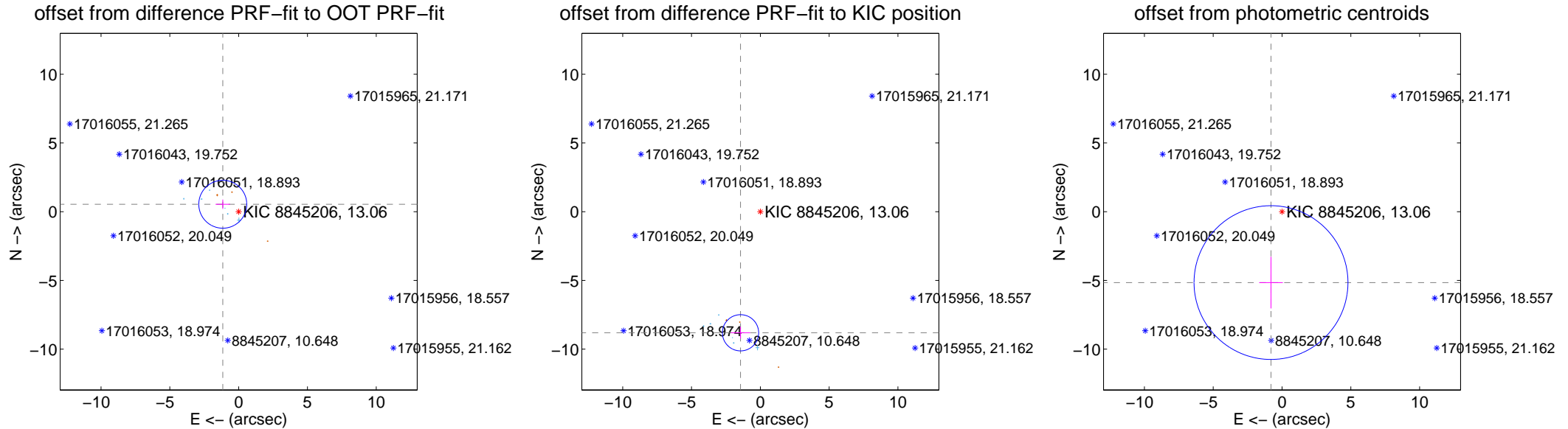
## DV Centroid Data

Supplemental centroid analysis for 008845206-01. Kepler magnitude: 13.06. Transit SNR 6.05

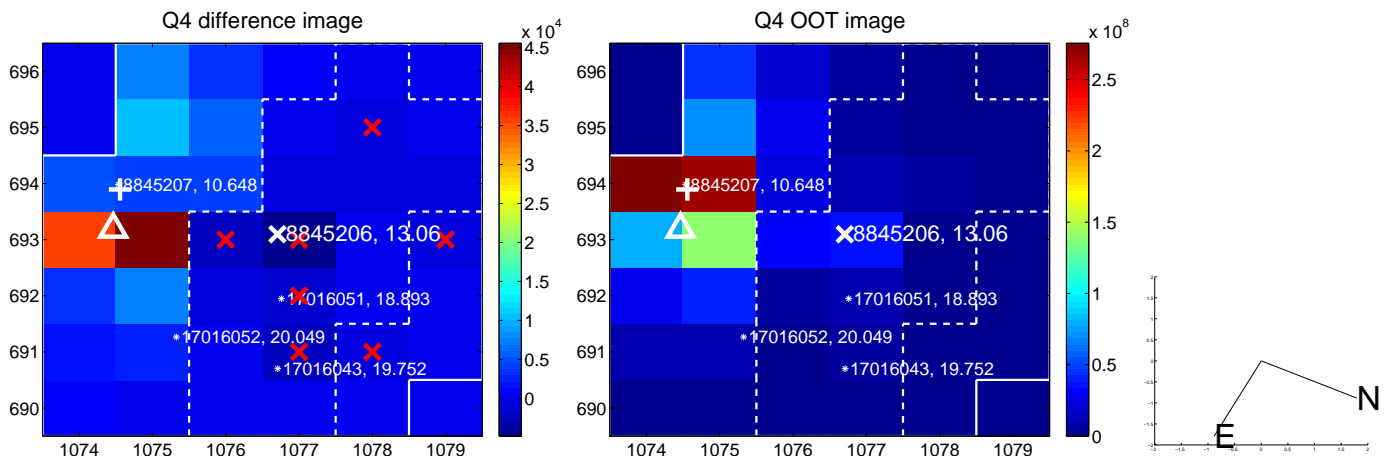
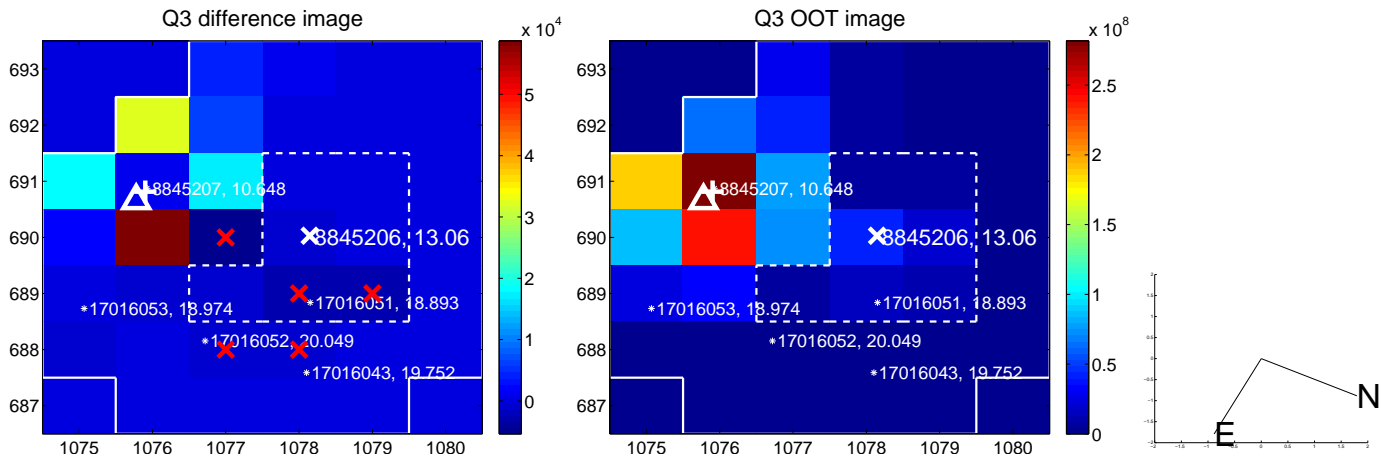
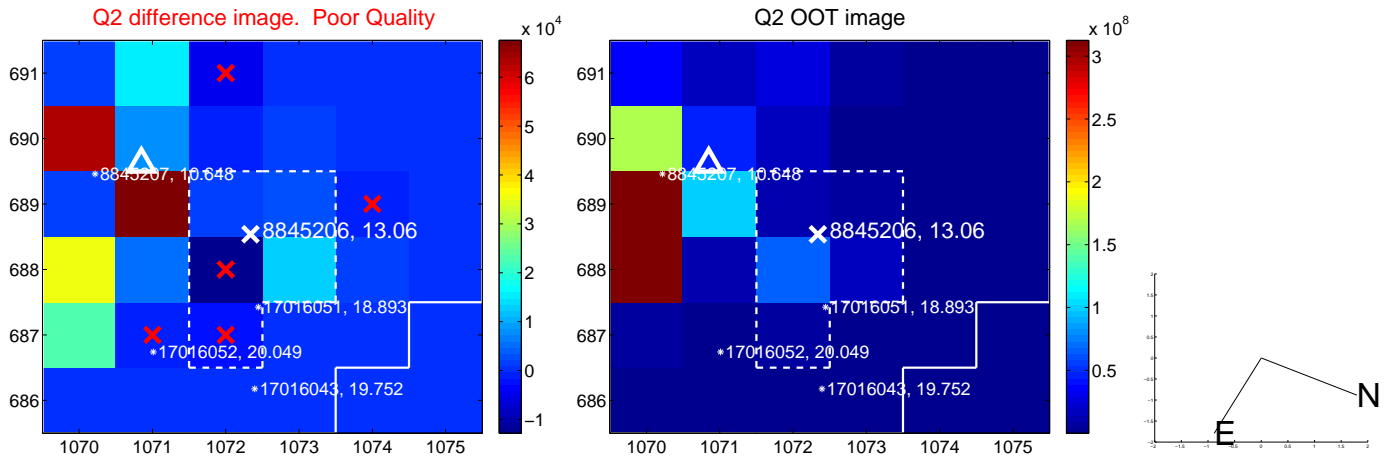
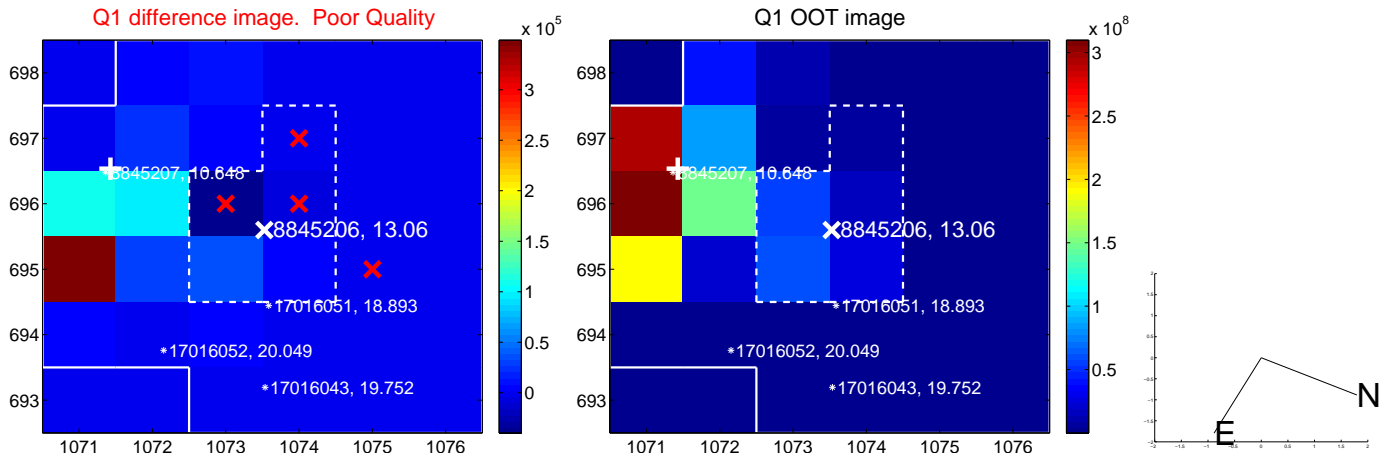
There are 7 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 9.20 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

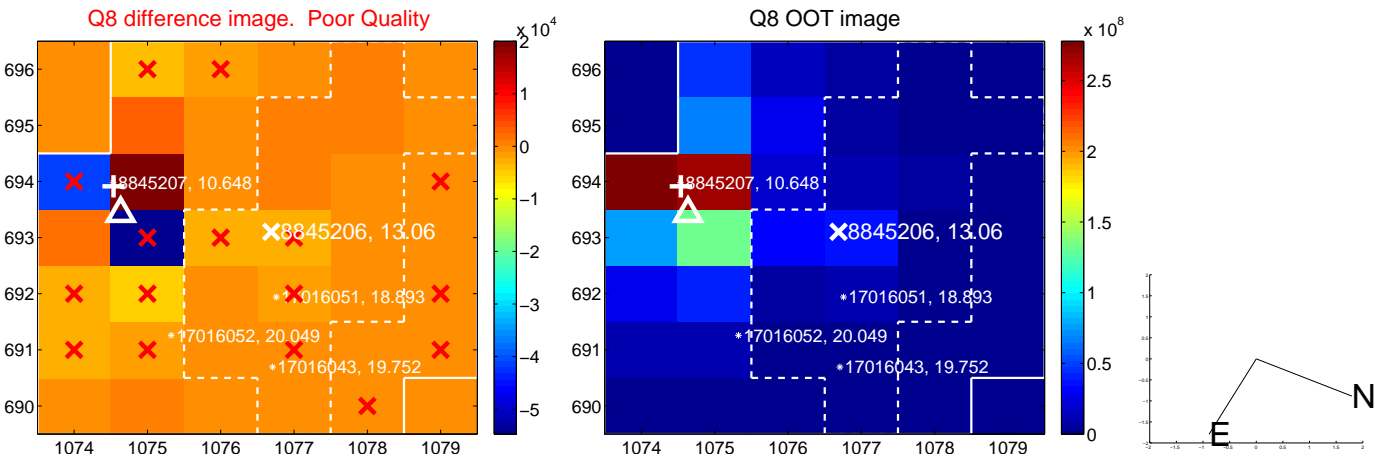
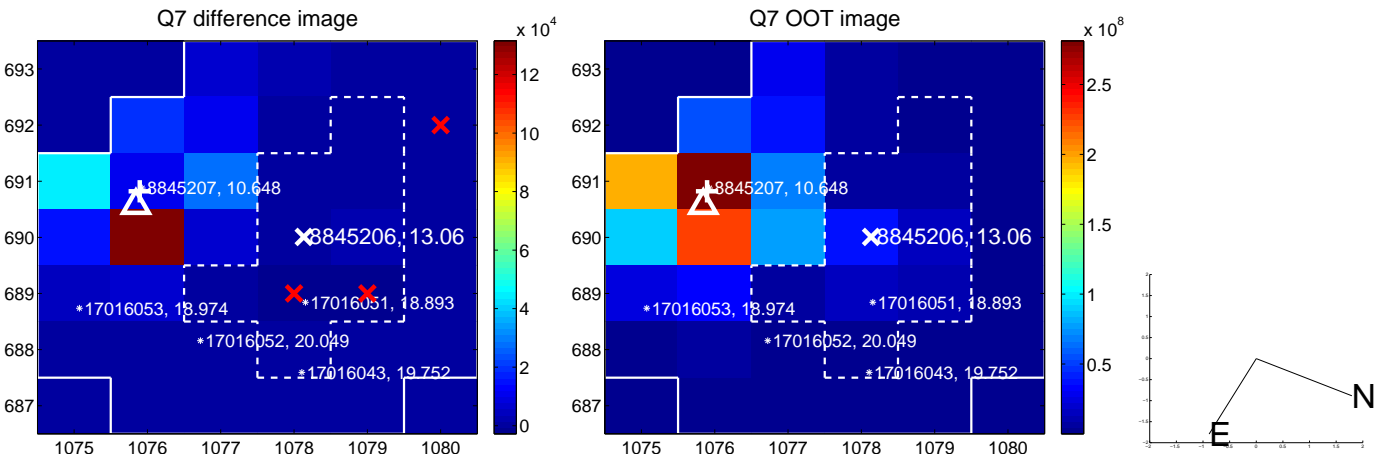
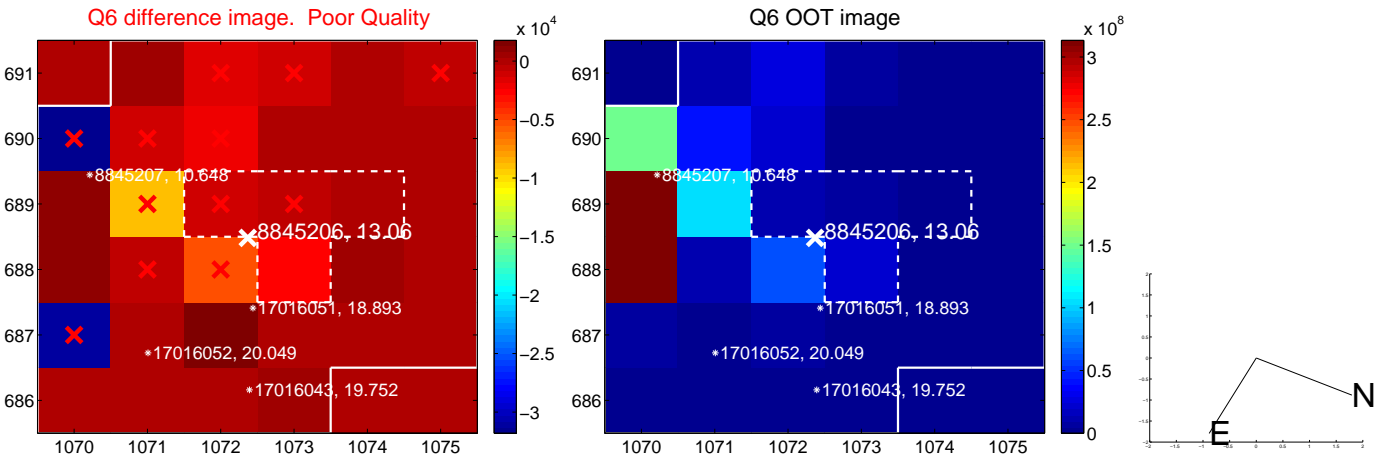
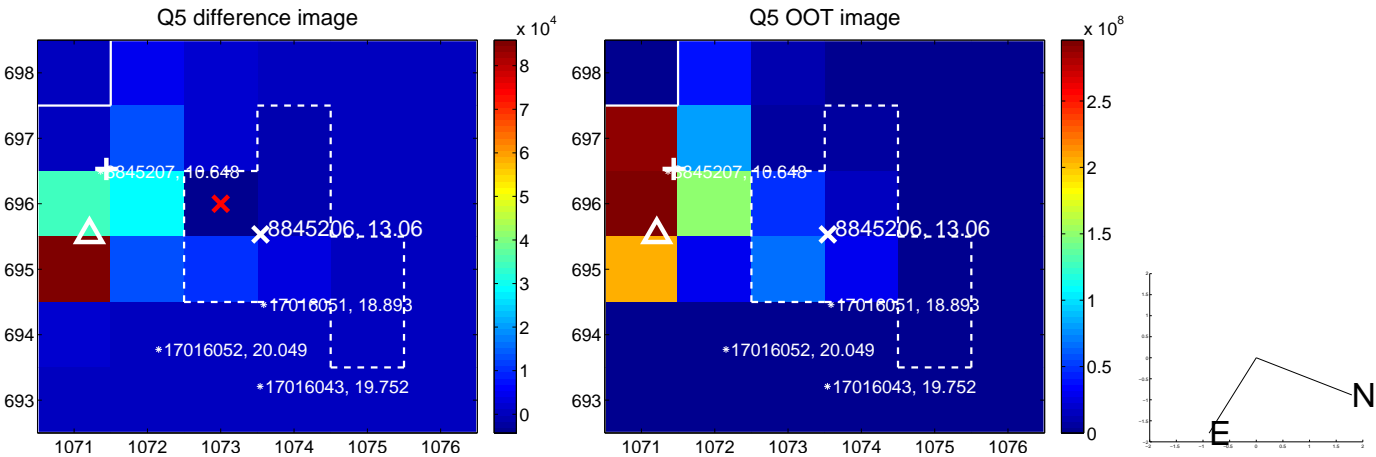
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.273 \pm 0.581$	2.19	$1.153 \pm 0.523$	$0.540 \pm 0.338$
PRF-fit source offset from KIC position	$8.927 \pm 0.439$	20.33	$1.439 \pm 0.704$	$-8.810 \pm 0.430$
photometric centroid source offset	$5.22 \pm 1.86$	2.80	$0.80 \pm 0.86$	$-5.16 \pm 1.88$



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

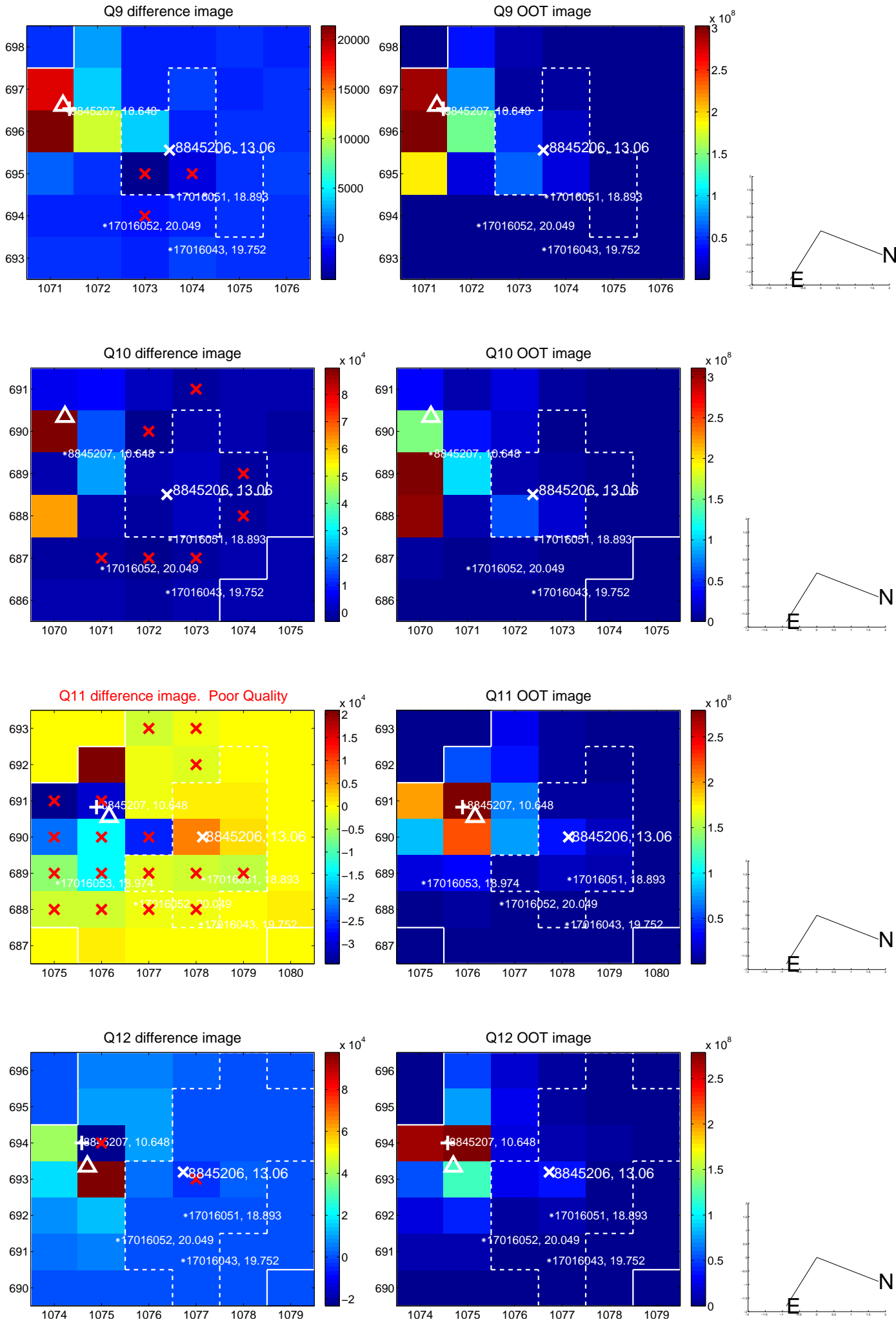


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

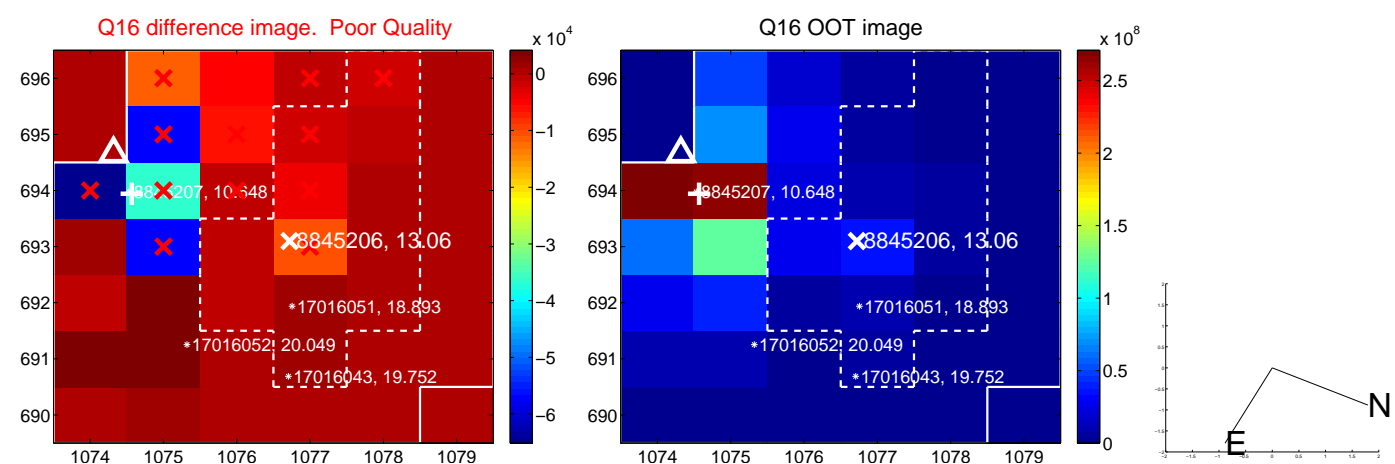
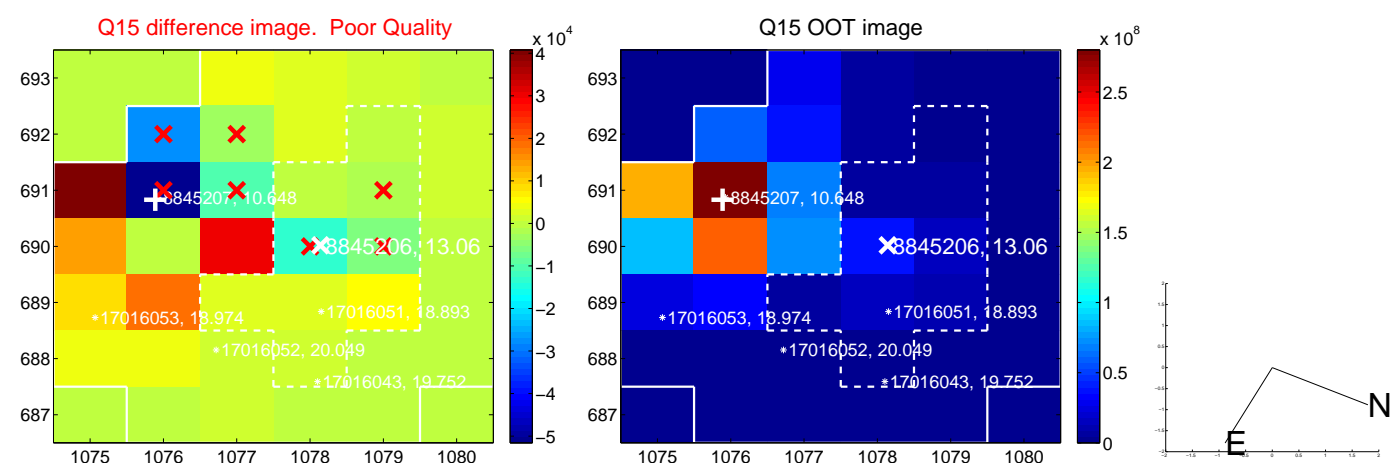
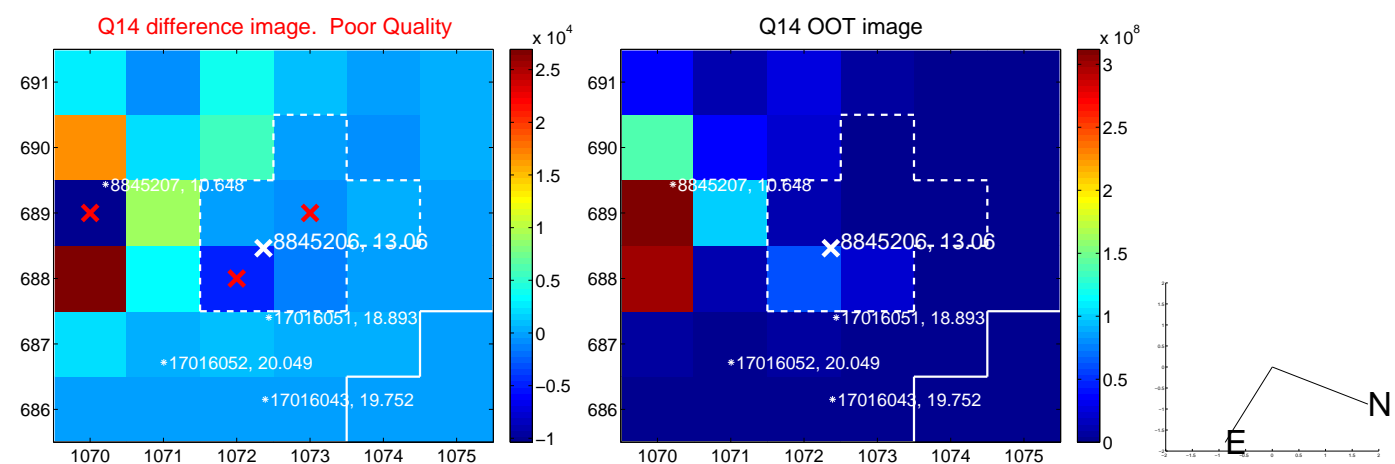
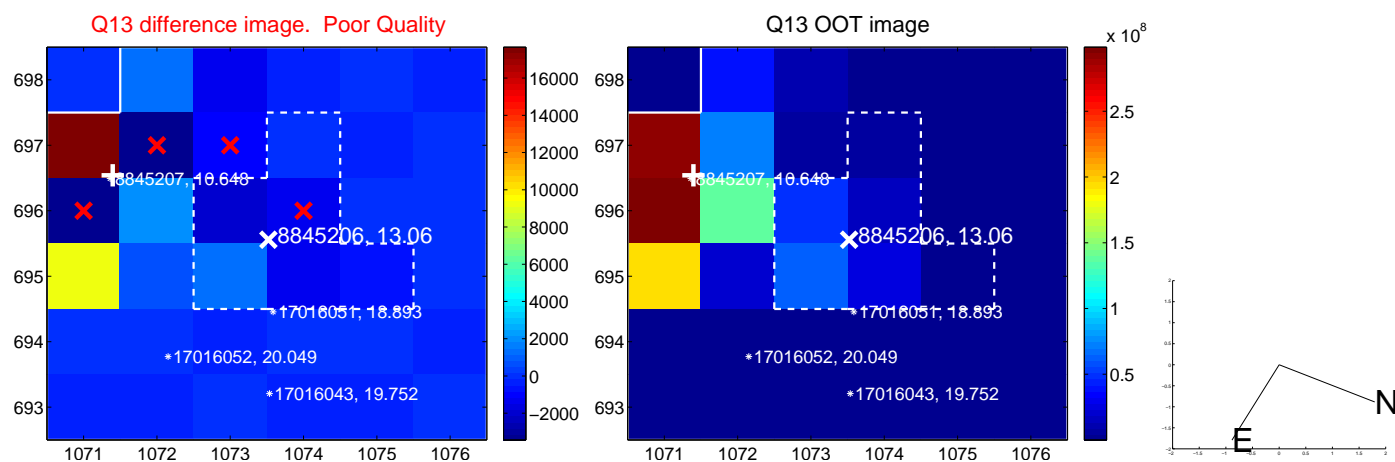




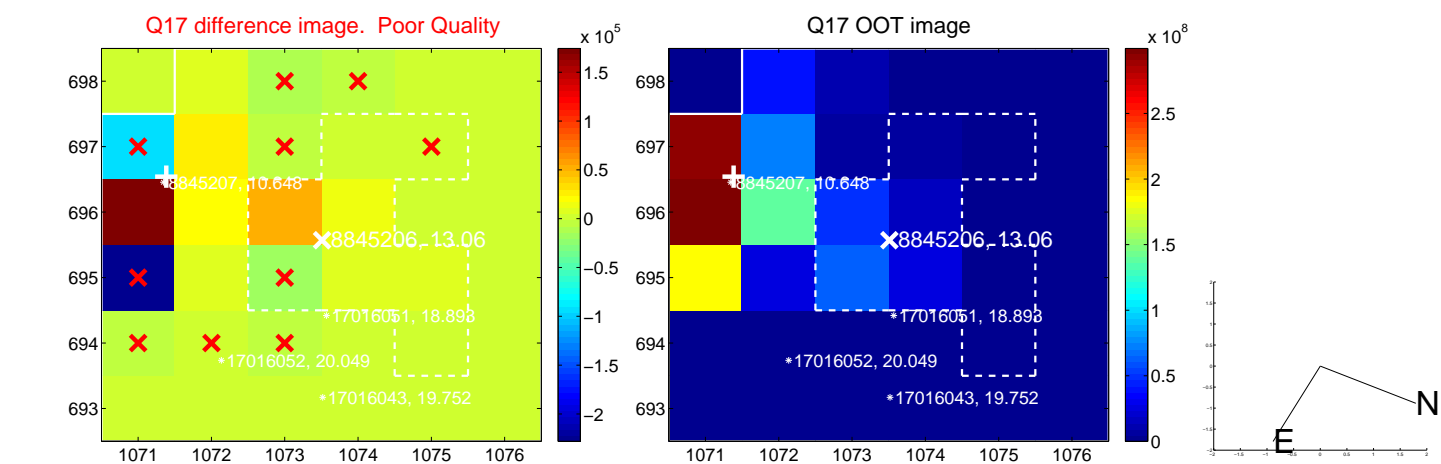
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



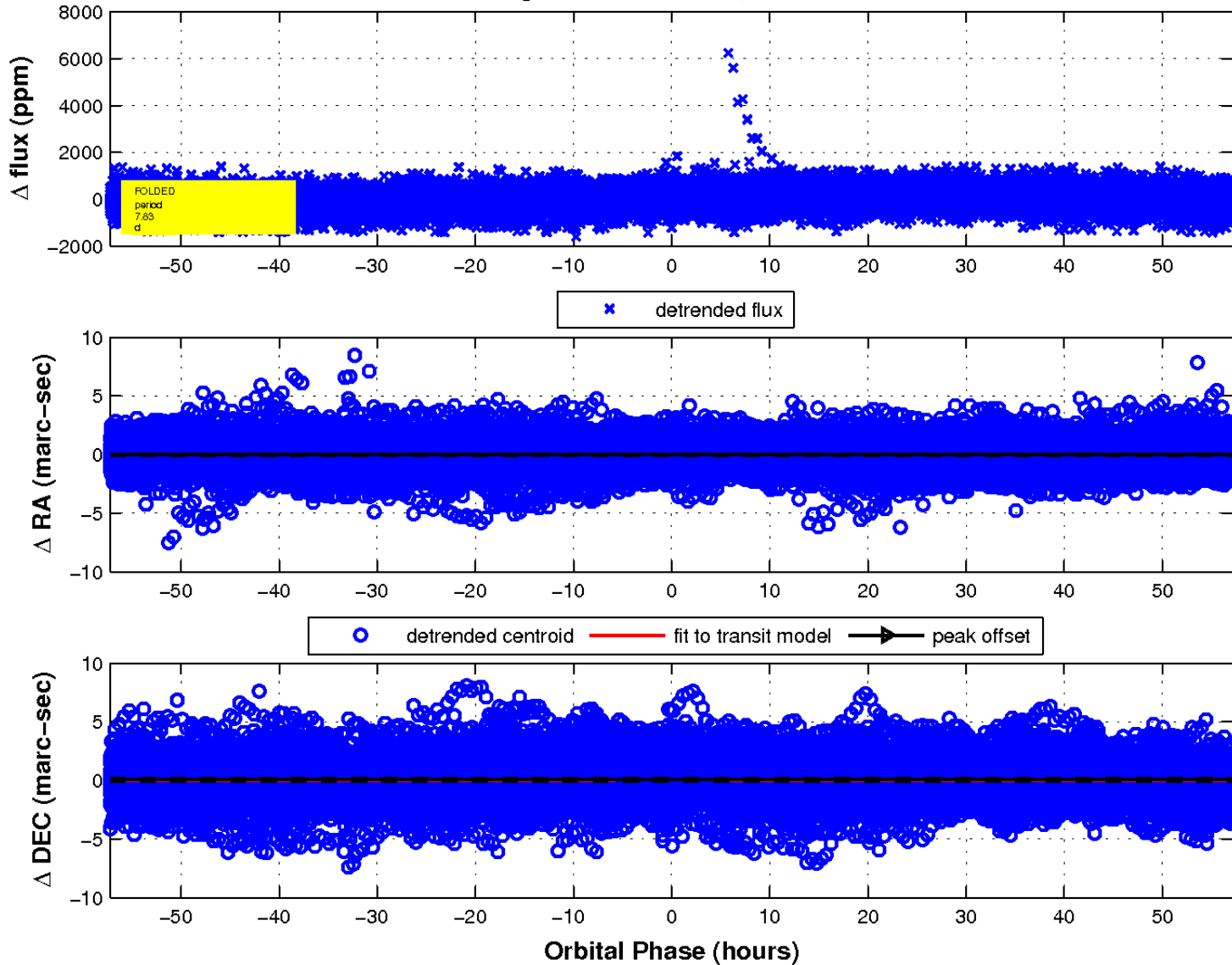
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



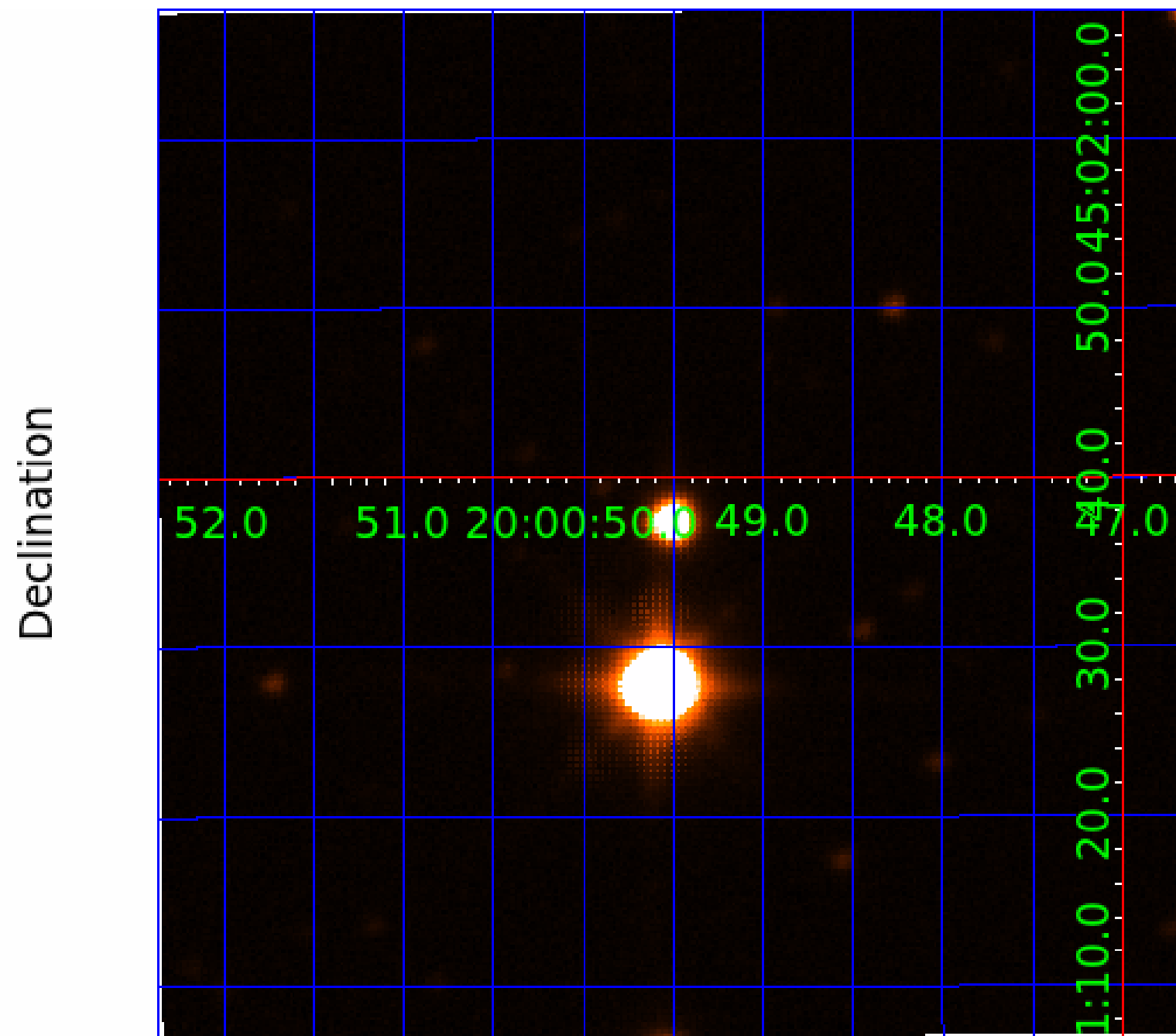
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 3



UKIRT Image





# KIC 008845206

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008845206-01	OBS	No	7.828794	132.962980	50.4	19.073	7.1	6.0	1.65	5552	1.39	442.68
008845206-02	OBS	No	263.115420	195.606212	454.8	8.036	10.2	5.9	1.65	5552	4.09	4.08
008845206-03	OBS	No	271.599460	279.504145	248.1	20.312	7.3	5.6	1.65	5552	2.72	3.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008845206-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET
008845206-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
008845206-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_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.

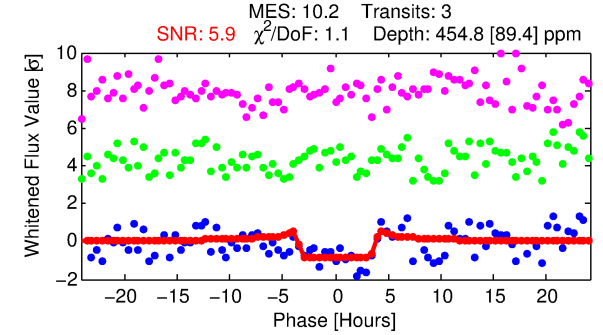
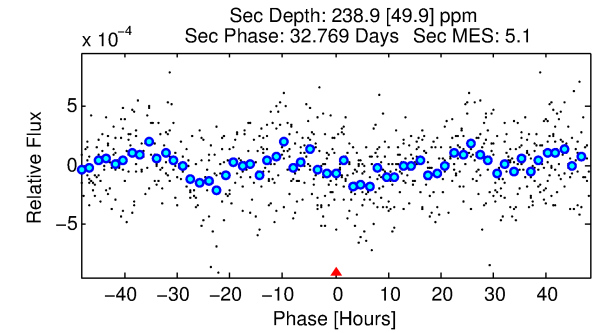
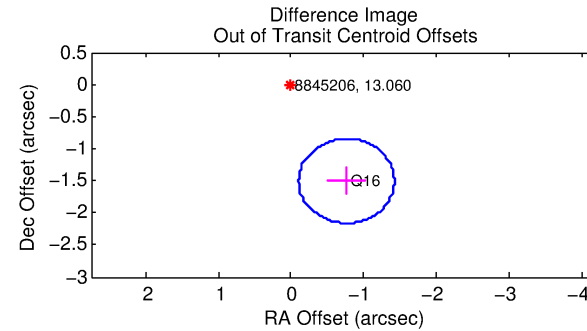
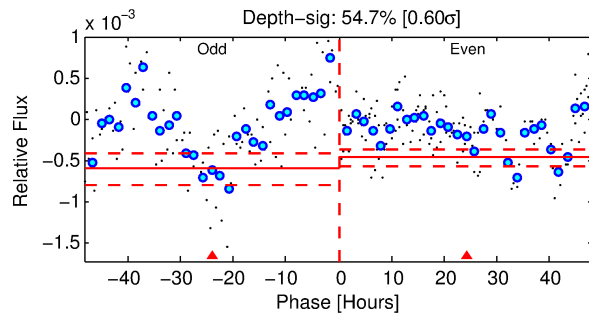
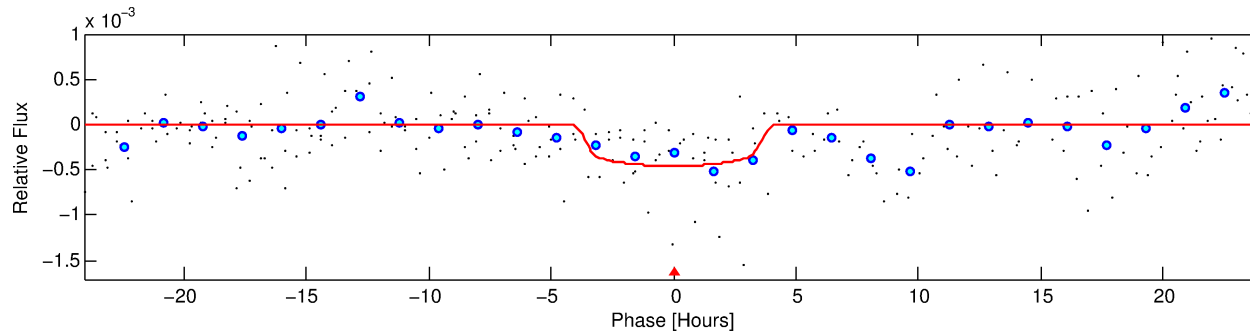
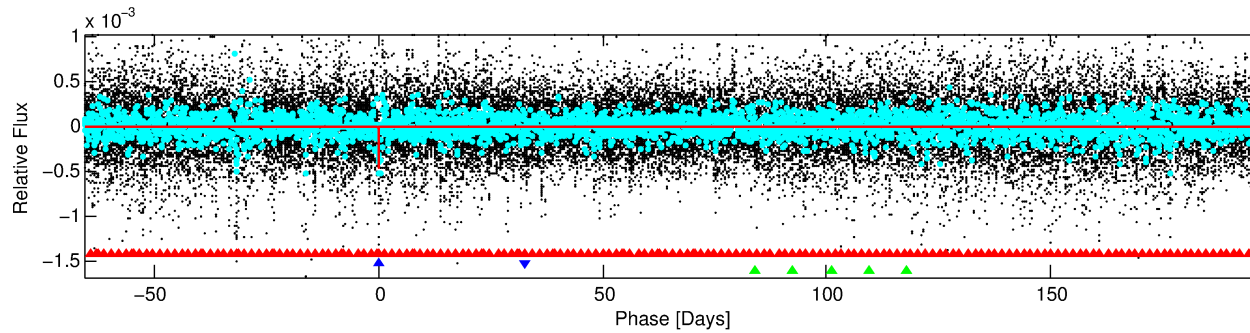
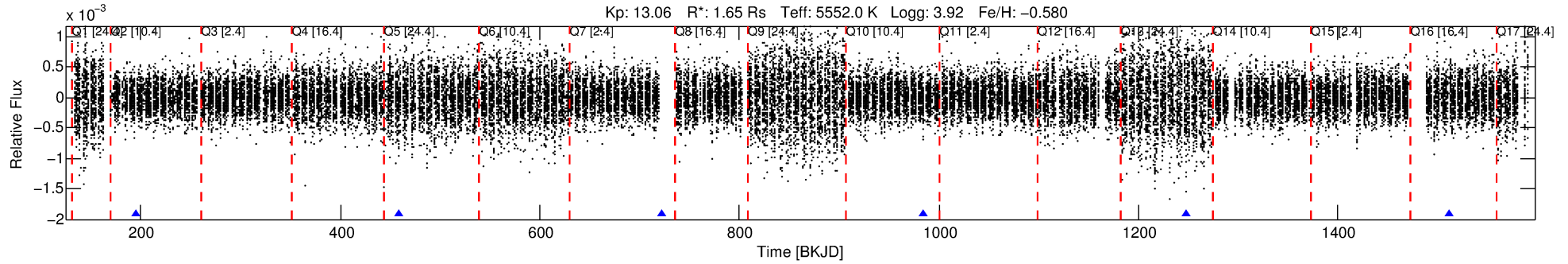
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008845206-02

No Significant Match Found

# DV One-Page Summary

KIC: 8845206 Candidate: 2 of 3 Period: 263.115 d



## DV Fit Results:

Period = 263.11542 [0.00839] d  
Epoch = 195.6062 [0.0229] BKJD  
Rp/R\* = 0.0227 [0.0069]  
a/R\* = 131.01 [167.97]  
b = 0.88 [0.34]  
Seff = 4.08 [4.36]  
Teq = 362 [97] K  
Rp = 4.09 [2.49] Re  
a = 0.7536 [0.4605] AU  
Ag = 4452.95 [5514.01] [0.81 $\sigma$ ]  
Teffp = 4578 [749] K [5.58 $\sigma$ ]

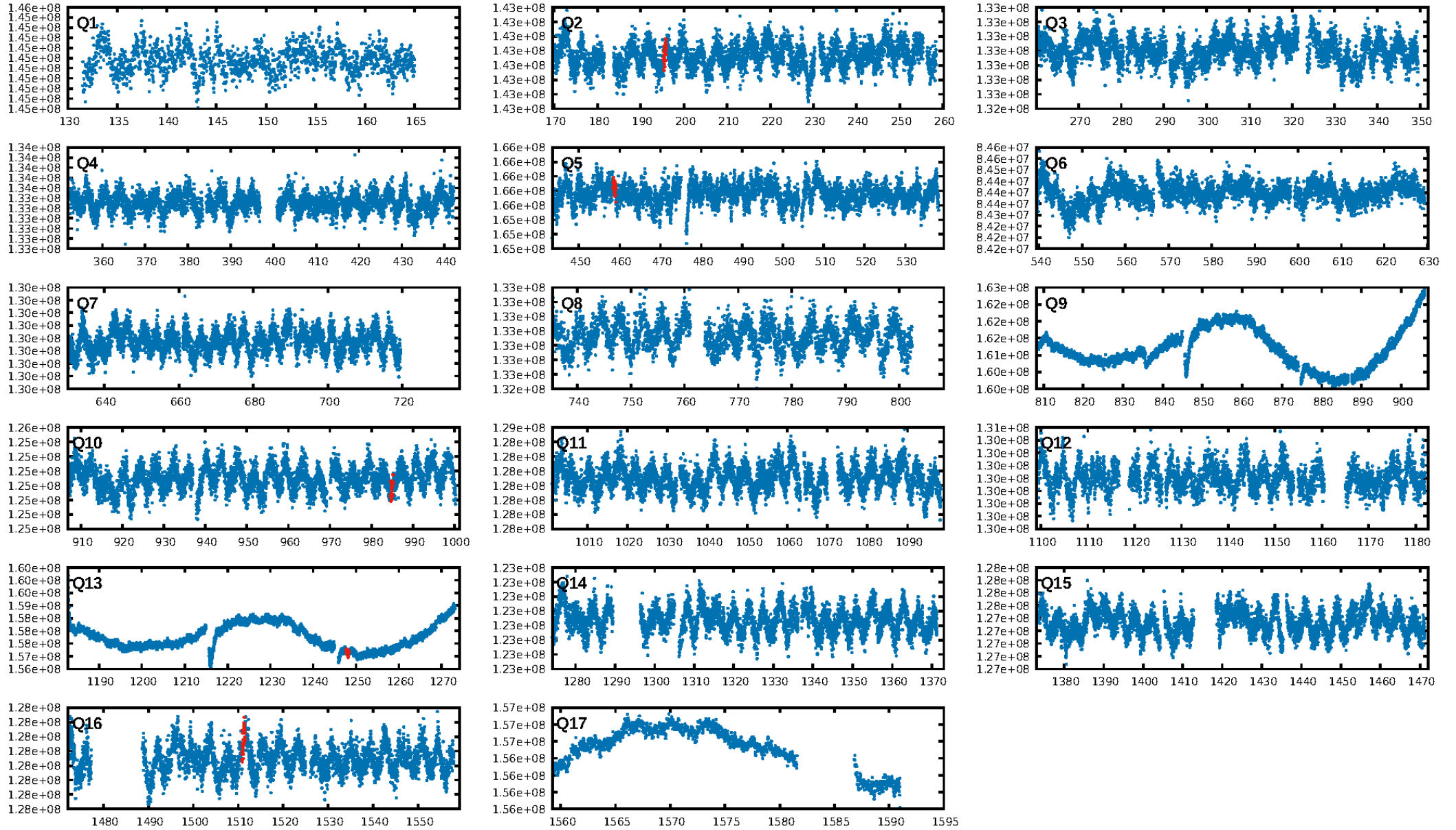
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [296.03 $\sigma$ ]  
LongPeriod-sig: 100.0% [9.32 $\sigma$ ]  
ModelChiSquare2-sig: 4.9%  
ModelChiSquareGof-sig: 97.6%  
Bootstrap-pfa: 2.29e-14  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -1.303  
Centroid-sig: 48.9%  
Centroid-so: 4.931 arcsec [3.30 $\sigma$ ]  
OotOffset-rm: 1.687 arcsec [7.69 $\sigma$ ]  
KicOffset-rm: 10.732 arcsec [52.36 $\sigma$ ]  
OotOffset-st: 0/0/1/0 [1]  
KicOffset-st: 0/0/1/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 0.60 [3/5]

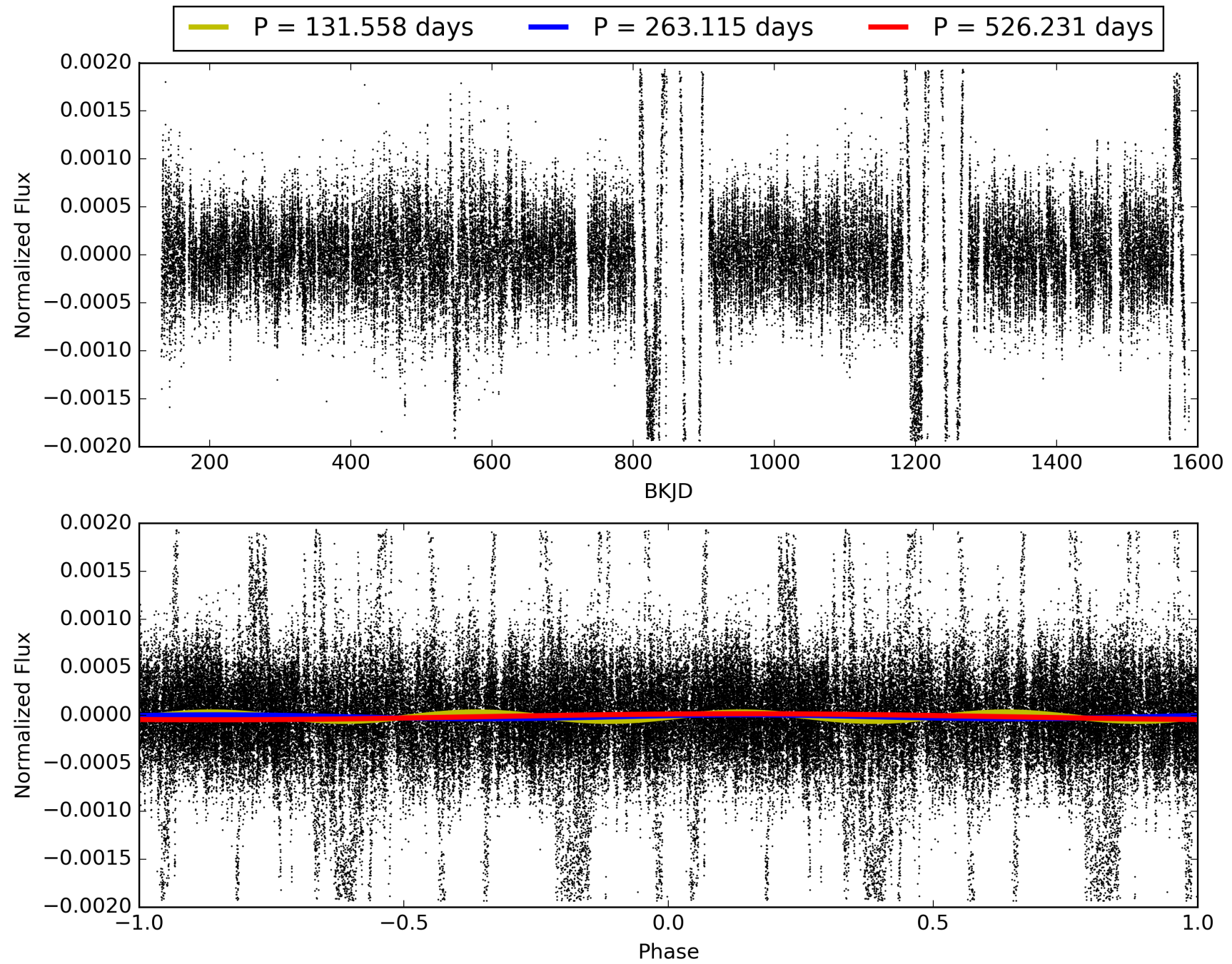
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:54:12 Z

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

# TCE 008845206-02, PDC Light Curves

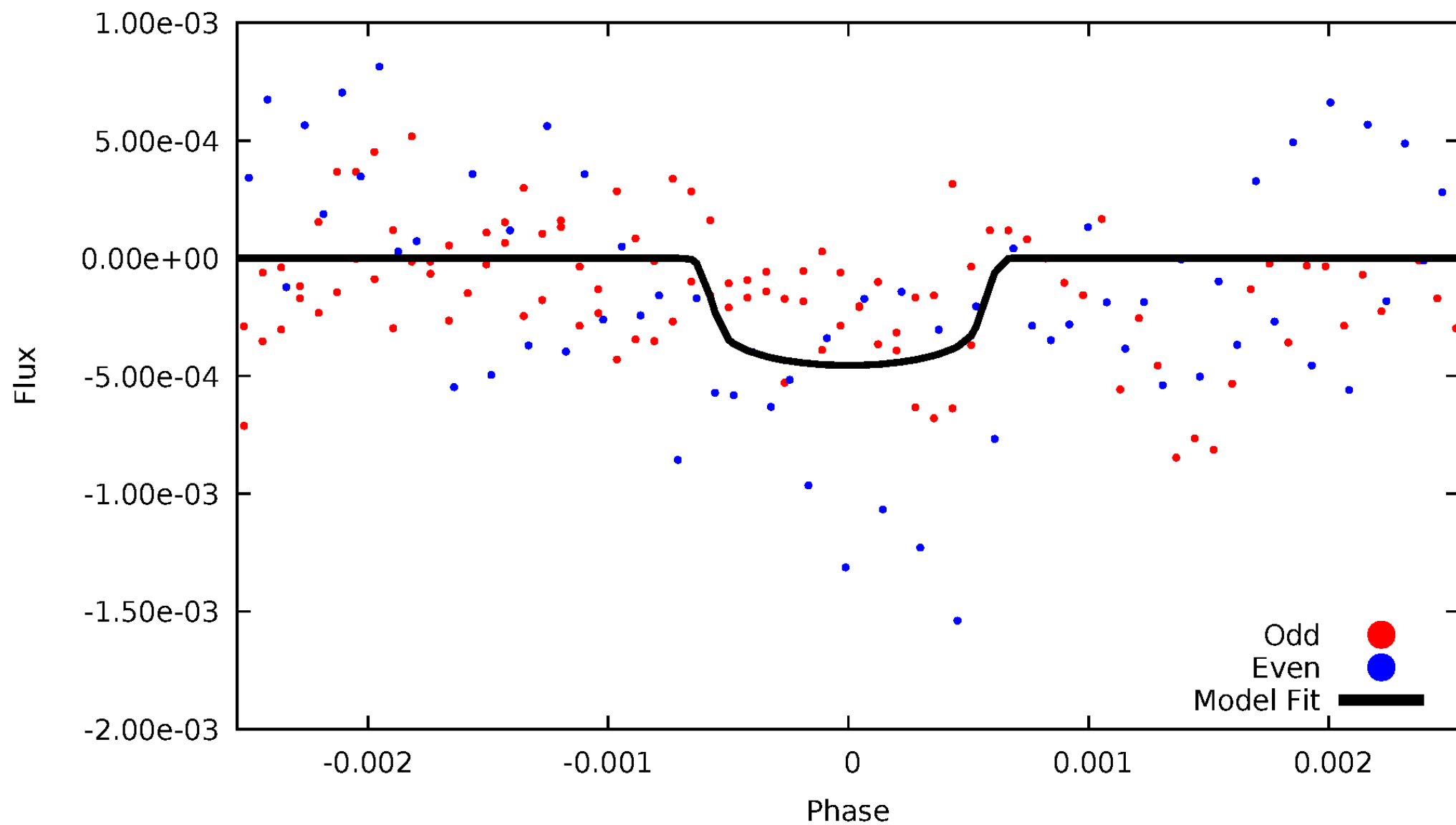


TCE 008845206-02



# DV Odd/Even

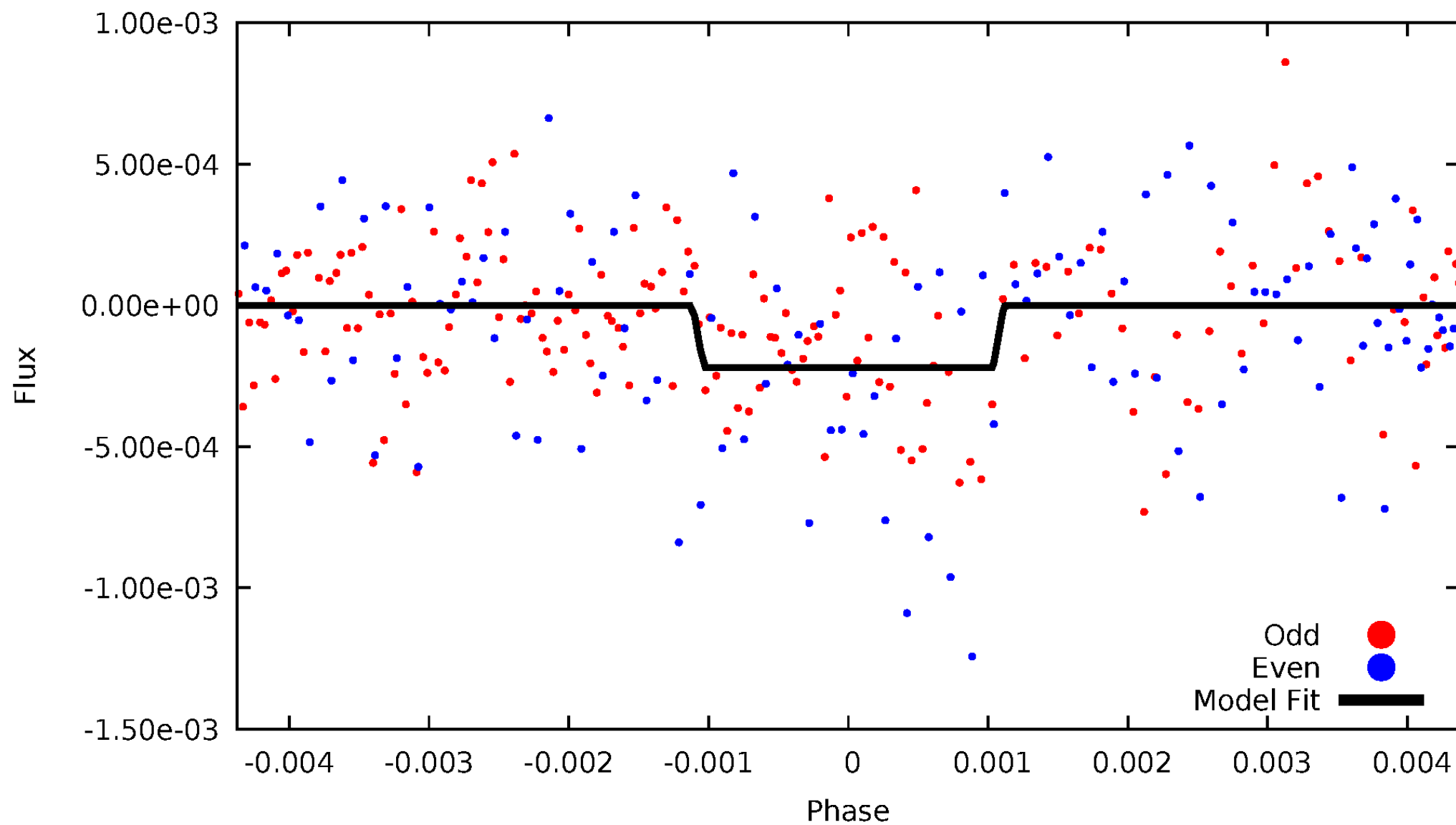
TCE 008845206-02





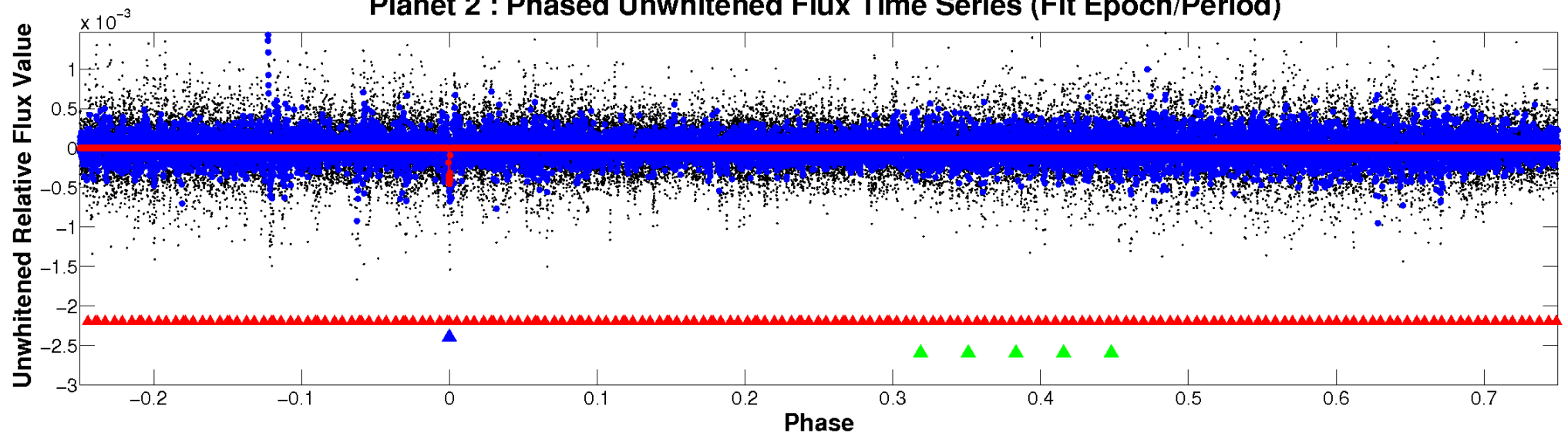
# ALT Odd/Even

TCE 008845206-02

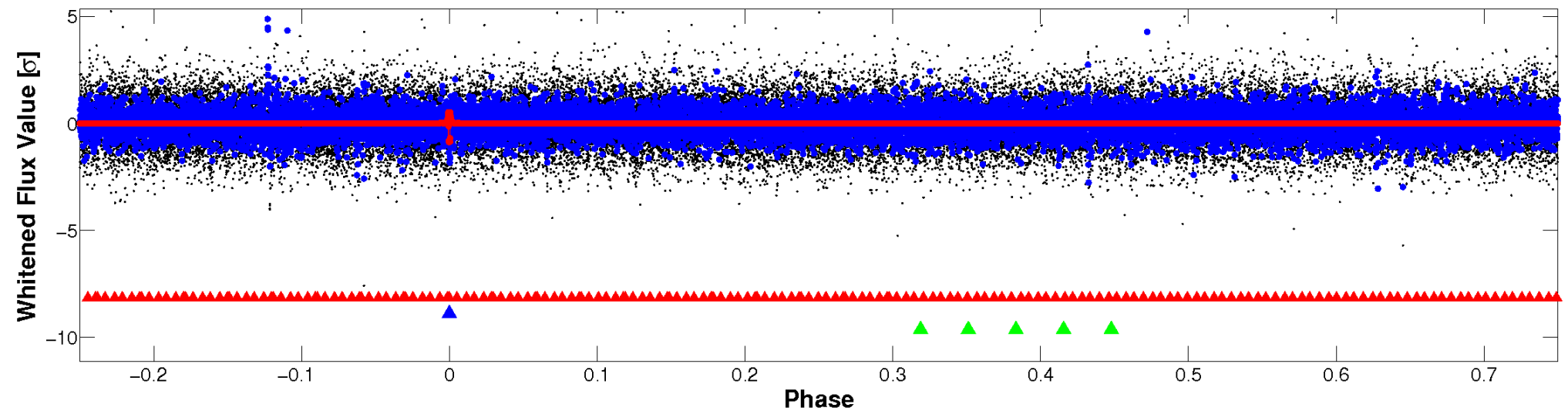


# Non-Whitened Vs. Whitened Light Curve

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

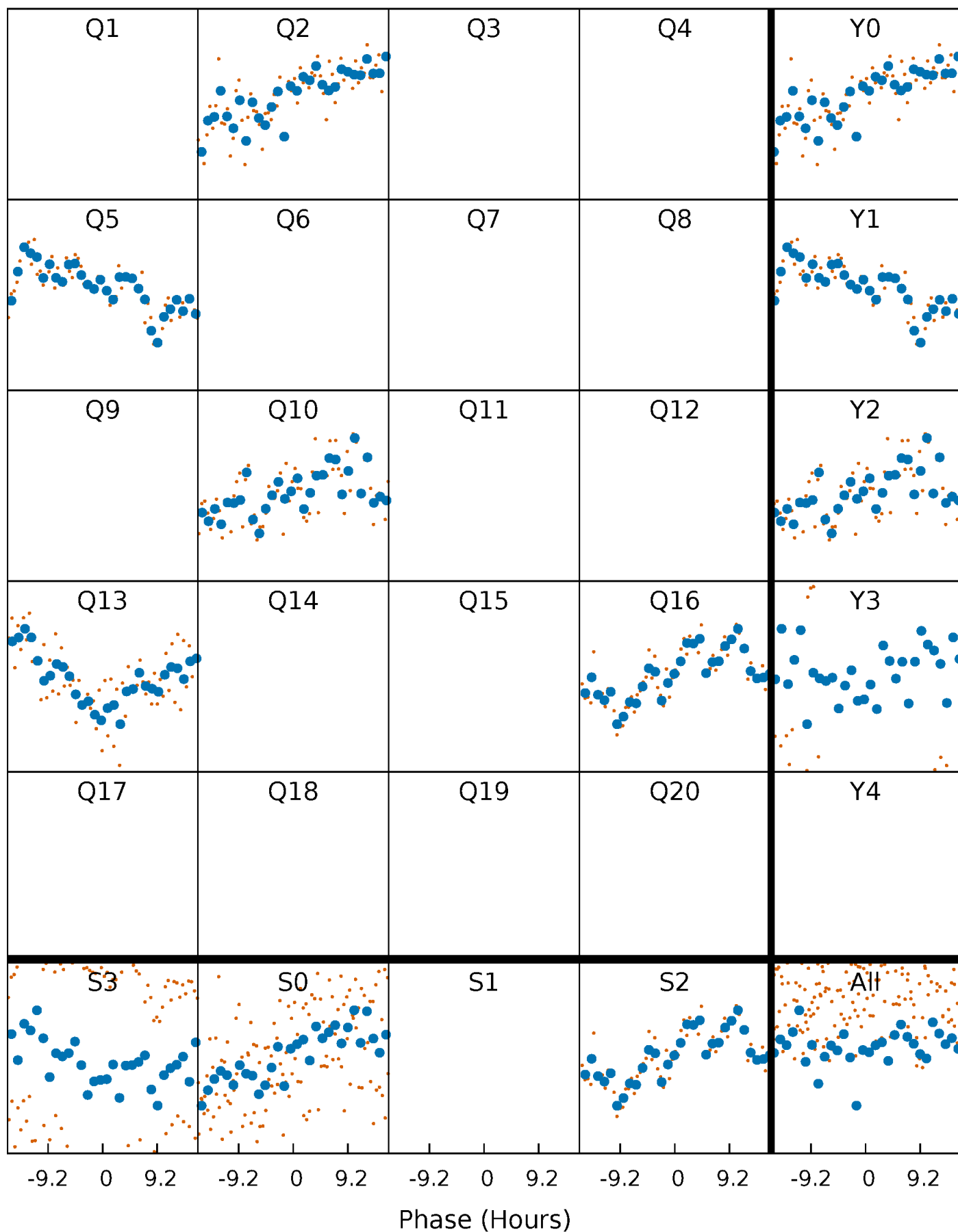


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



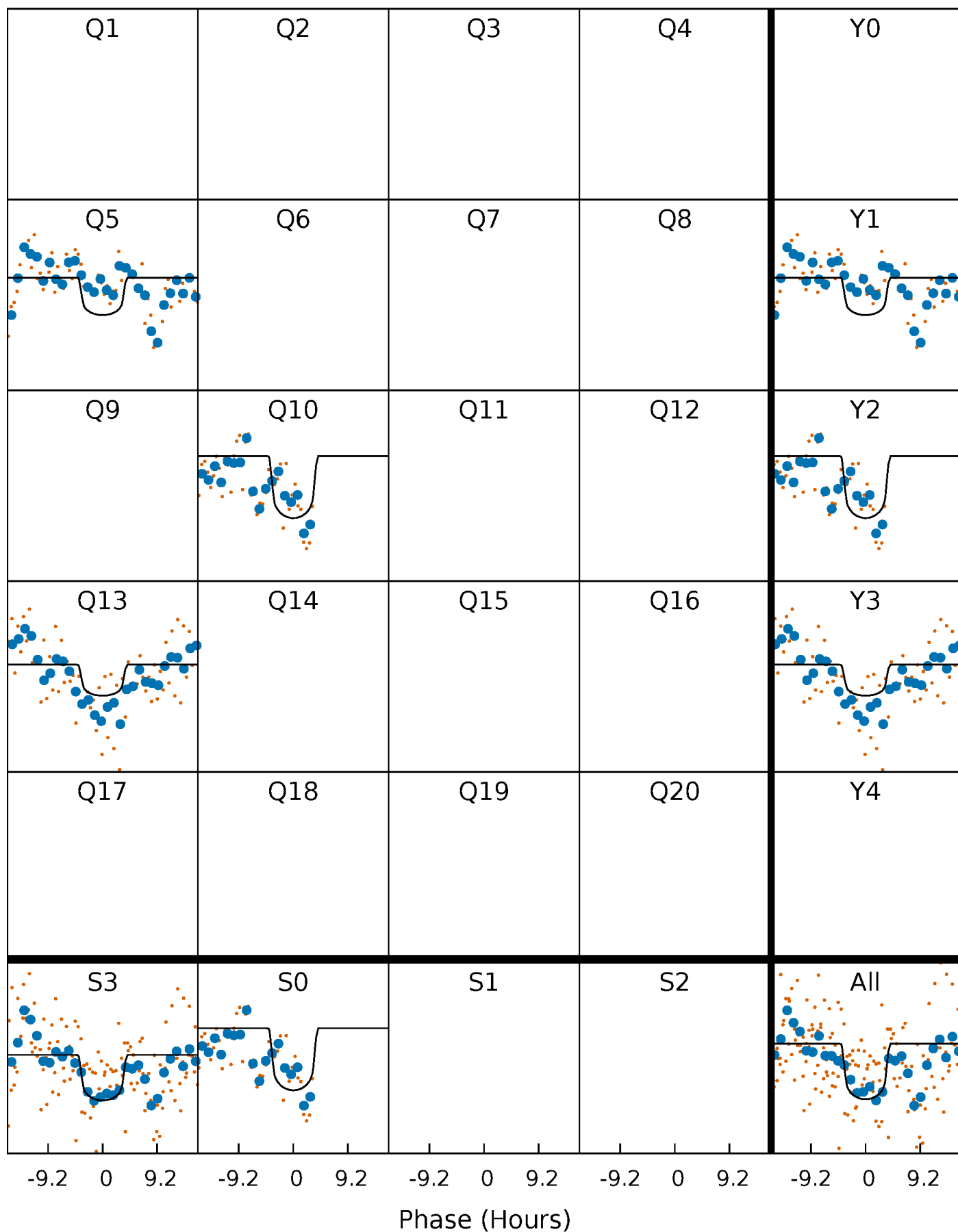
# PDC Quarter-Phased Transit Curves

TCE 008845206-02 P=263.115420 Days  $T_0=195.606212$  (BKJD)



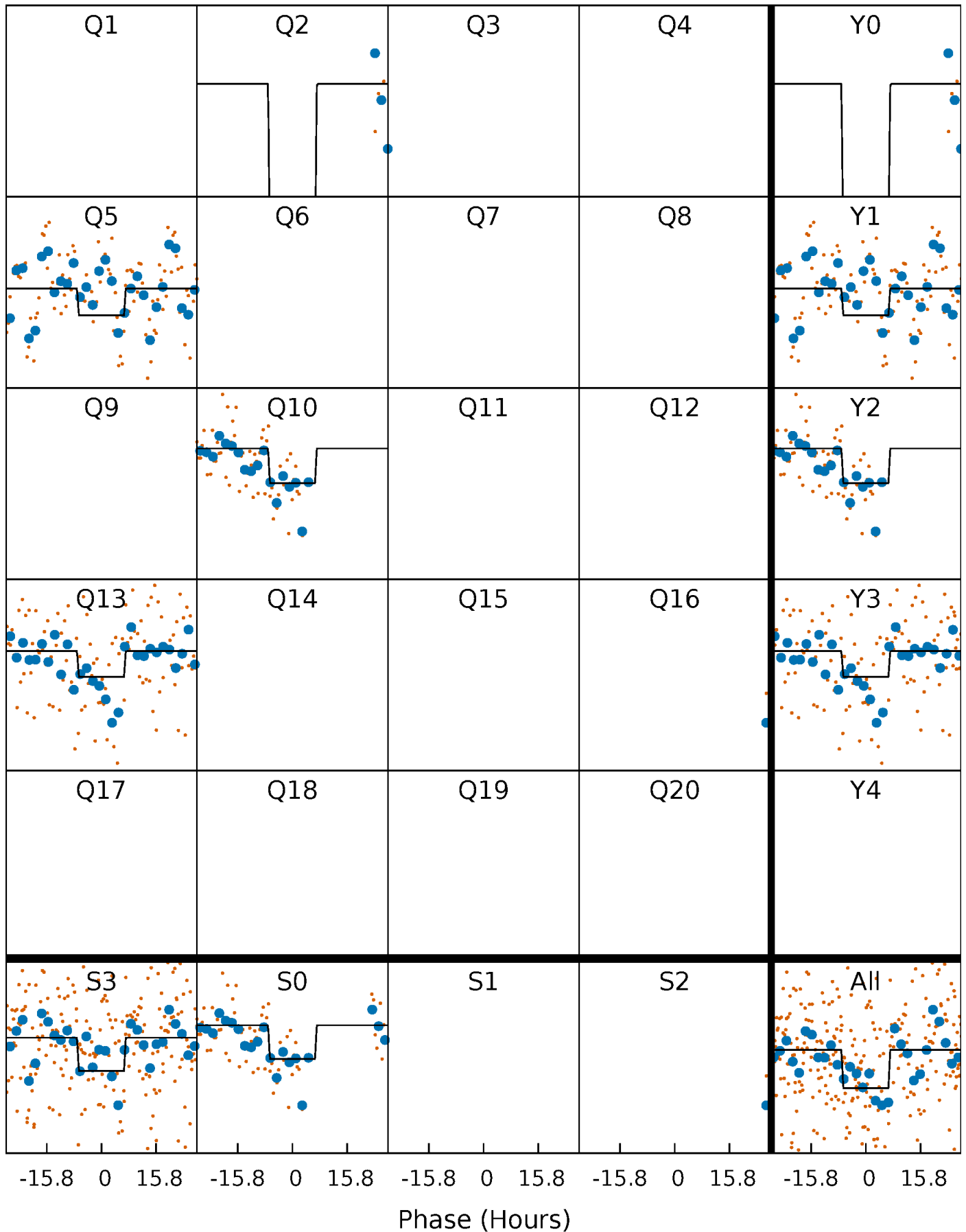
# DV Quarter-Phased Transit Curves

TCE 008845206-02     $P=263.115420$  Days     $T_0=195.606212$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 008845206-02     $P=263.027596$  Days     $T_0=195.844141$  (BKJD)

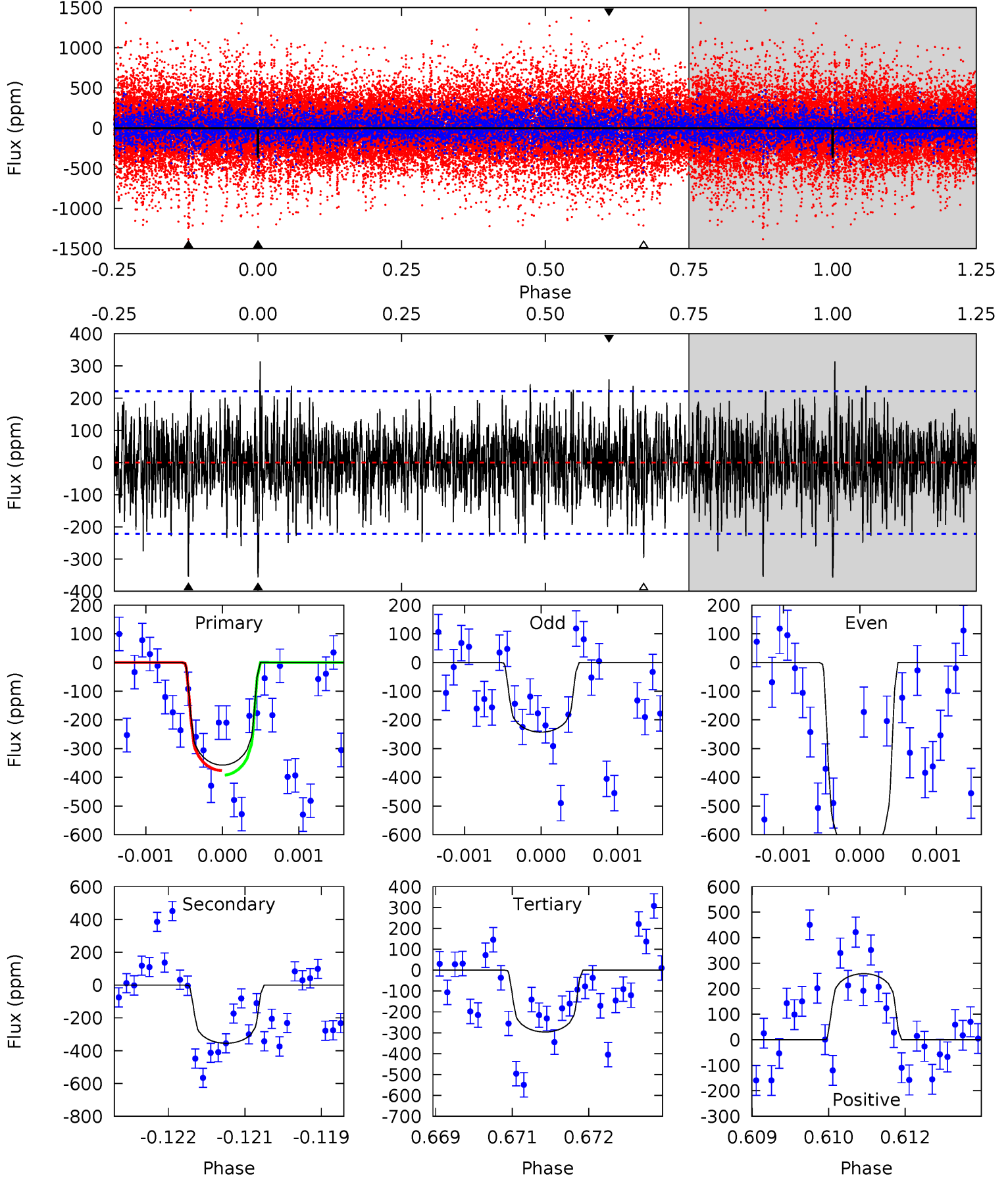




# DV Model-Shift Uniqueness Test

008845206-02, P = 263.115420 Days, E = 195.606212 Days

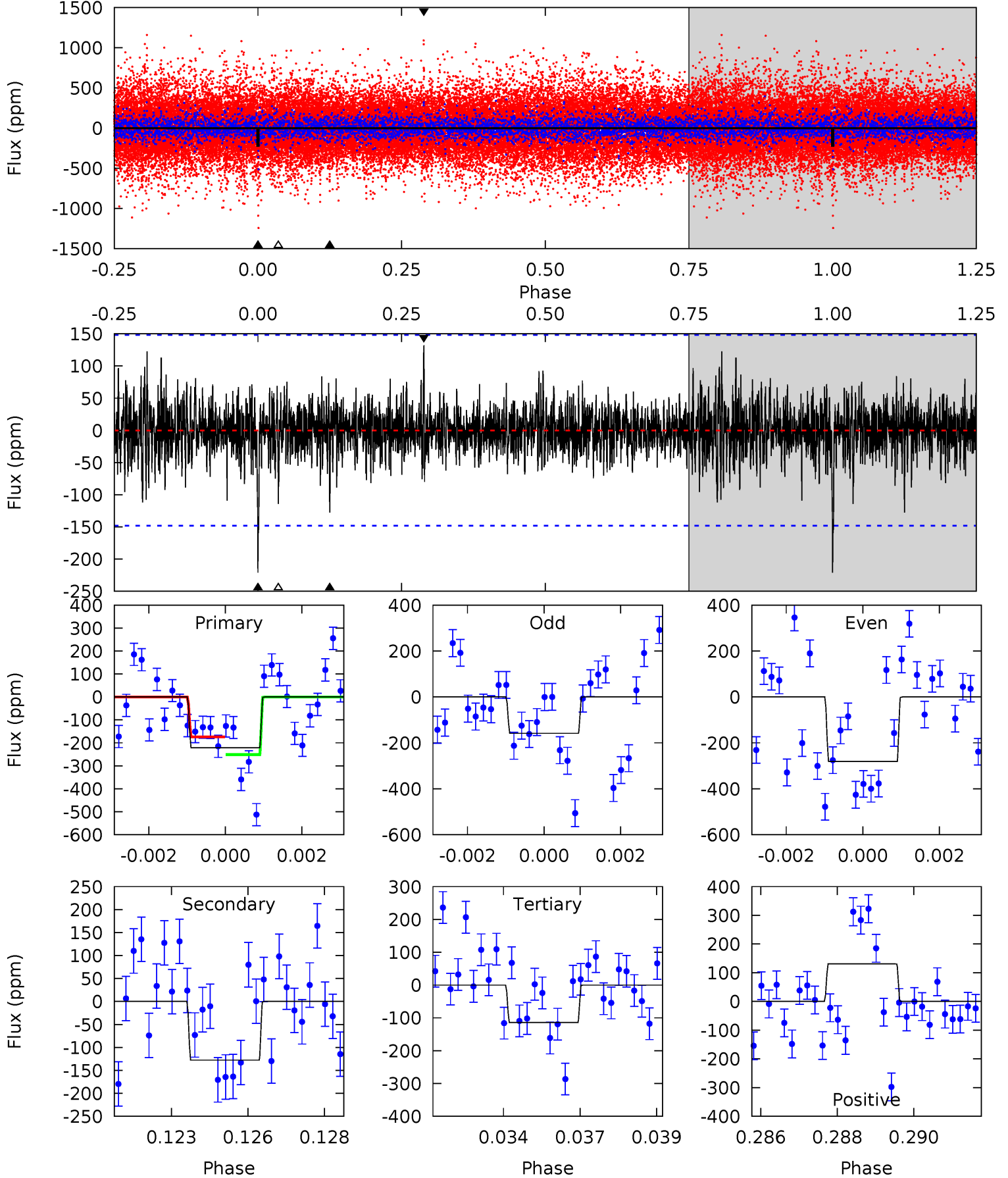
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.71	8.64	7.22	6.31	5.40	3.21	1.93	1.49	2.40	1.42	2.33	5.01	1.08	0.47	0.20



# Alt Model-Shift Uniqueness Test

008845206-02, P = 263.027596 Days, E = 195.844141 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.91	4.57	4.08	4.68	5.30	3.05	1.04	3.83	3.23	0.49	-0.10	1.99	0.79	0.37	1.37



### Stellar Parameters For KIC 008845206

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5552^{+183}_{-150}$	$3.919^{+0.651}_{-0.279}$	$-0.580^{+0.350}_{-0.250}$	$1.650^{+0.871}_{-0.871}$	$0.824^{+0.112}_{-0.091}$	$0.259^{+2.102}_{-0.189}$
	+3%/-3%	+17%/-7%	+60%/-43%	+53%/-53%	+14%/-11%	+813%/-73%
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 008845206-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-354 \pm 41$	$3.80^{+1.74}_{-1.48}$	$497^{+68}_{-81}$	$5104^{+912}_{-538}$	$7605^{+13179}_{-4021}$
Alt.	$-128 \pm 28$	$2.32^{+1.57}_{-1.08}$	$496^{+66}_{-77}$	$5046^{+1521}_{-810}$	$7380^{+19638}_{-4772}$

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

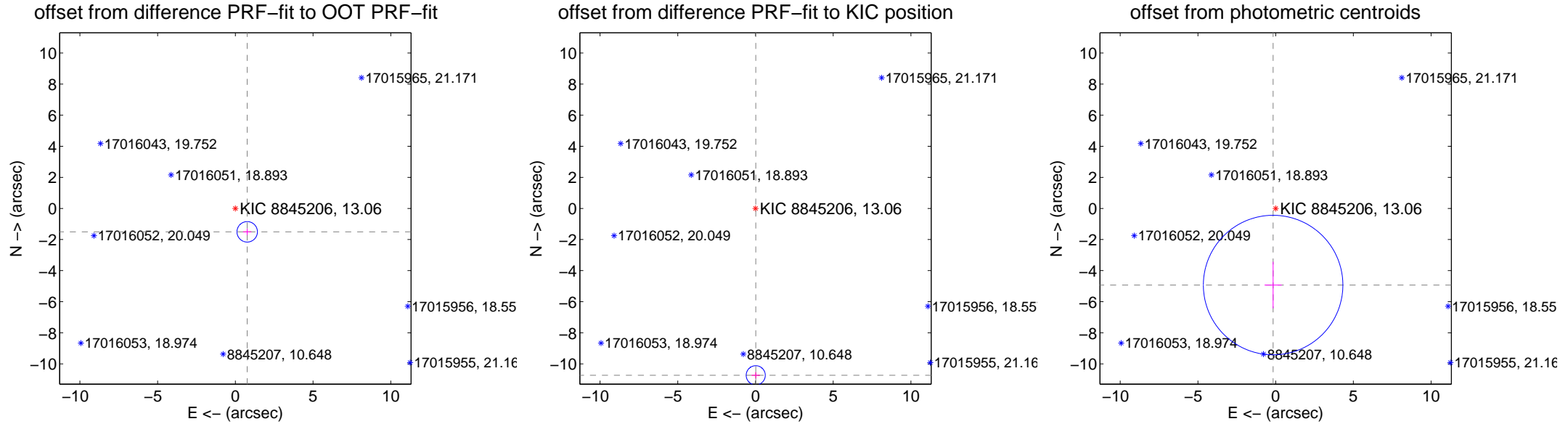
## DV Centroid Data

Supplemental centroid analysis for 008845206-02. Kepler magnitude: 13.06. Transit SNR 5.85

There are 0 quarters with good PRF difference image offsets

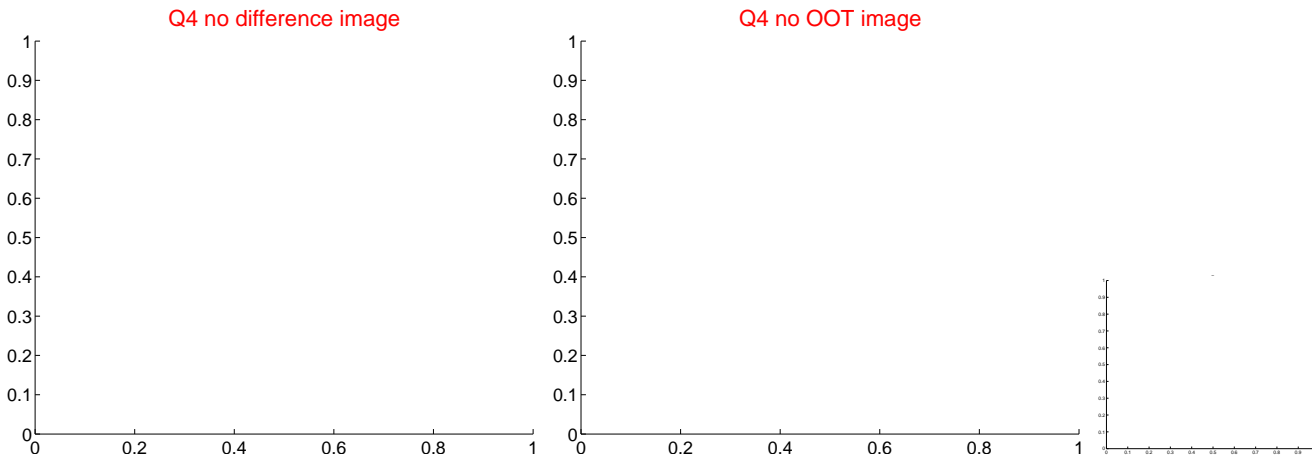
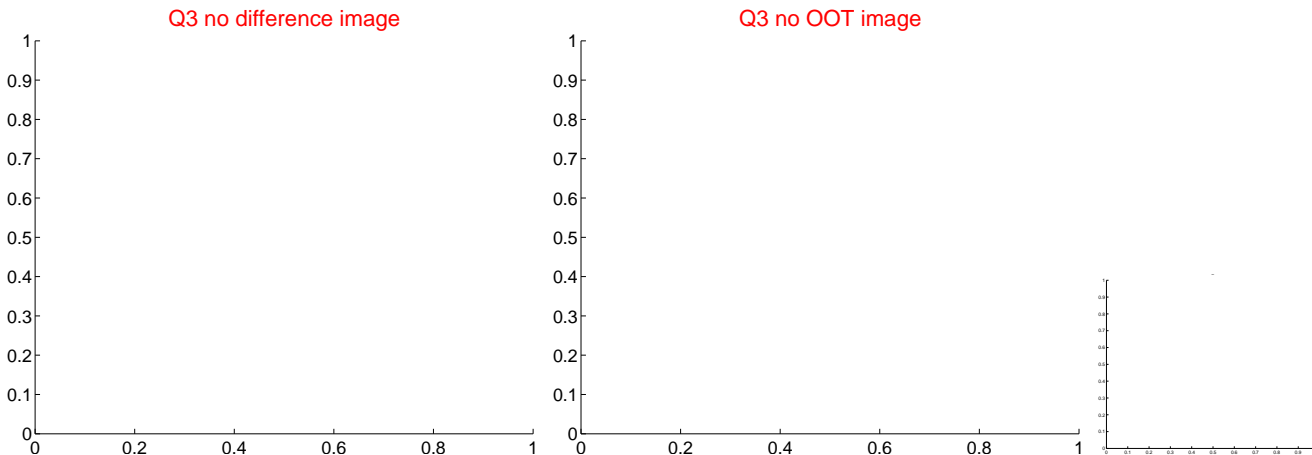
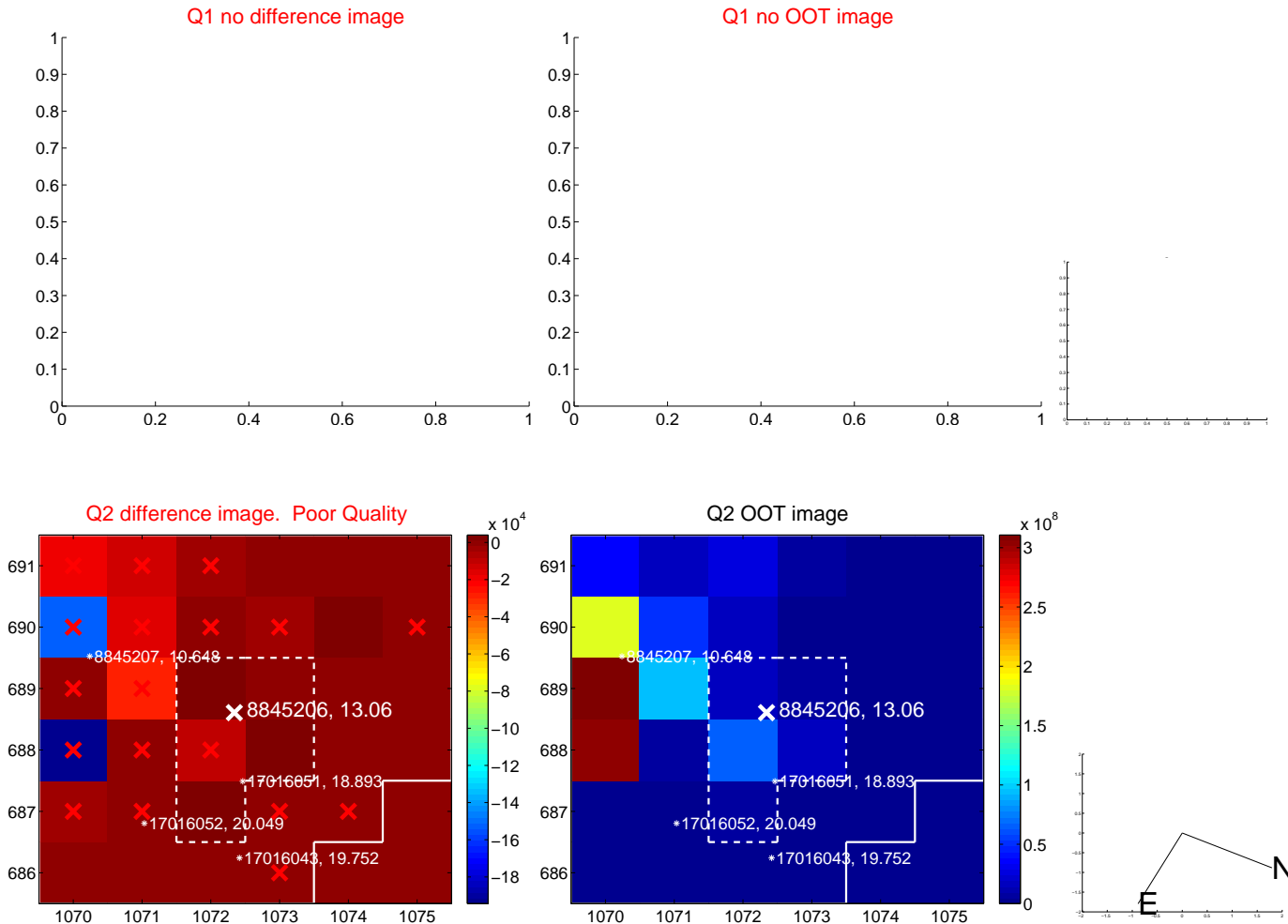
The OOT PRF centroid is offset from the target star catalog position by about 9.26 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.687 \pm 0.219$	7.69	$-0.763 \pm 0.268$	$-1.504 \pm 0.205$
PRF-fit source offset from KIC position	$10.732 \pm 0.205$	52.36	$-0.016 \pm 0.268$	$-10.732 \pm 0.205$
photometric centroid source offset	$4.93 \pm 1.50$	3.30	$0.16 \pm 0.55$	$-4.93 \pm 1.50$



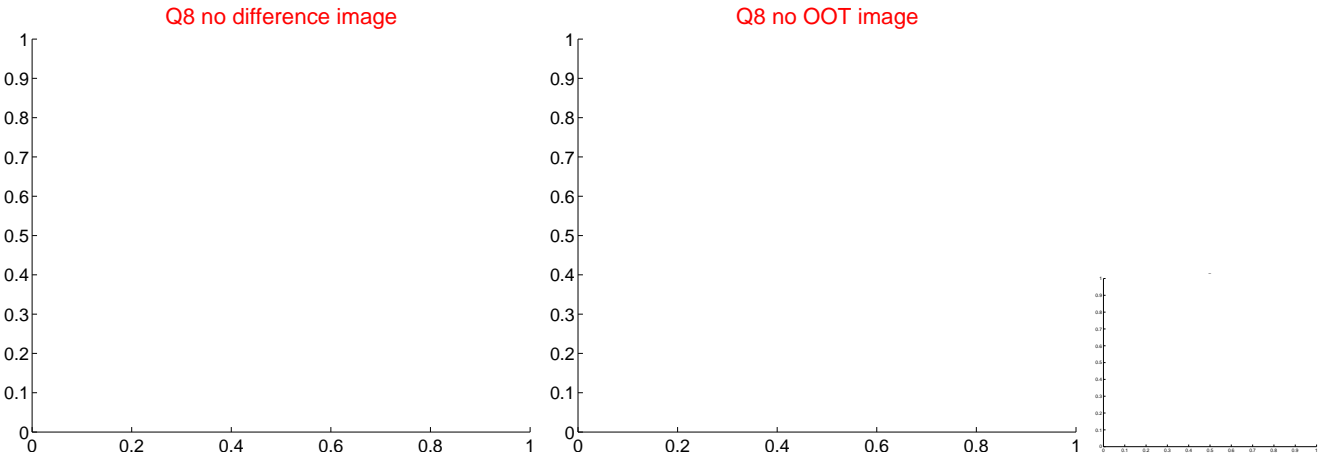
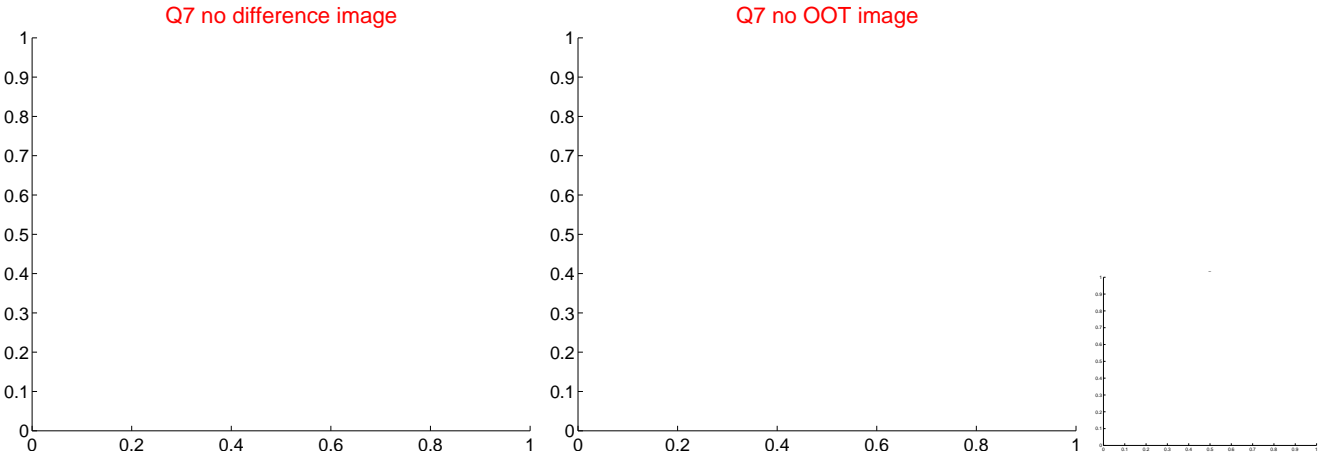
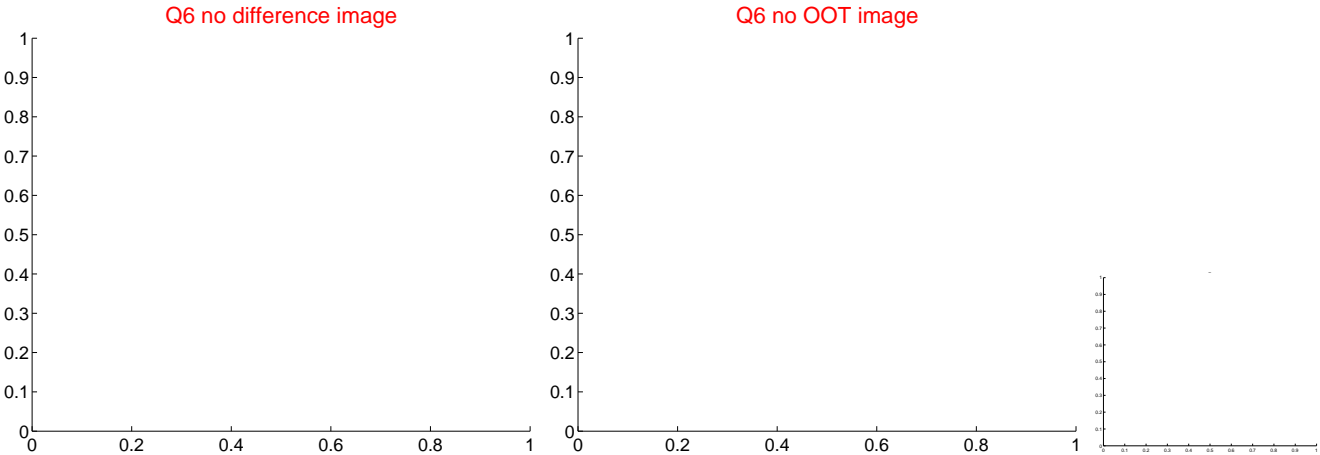
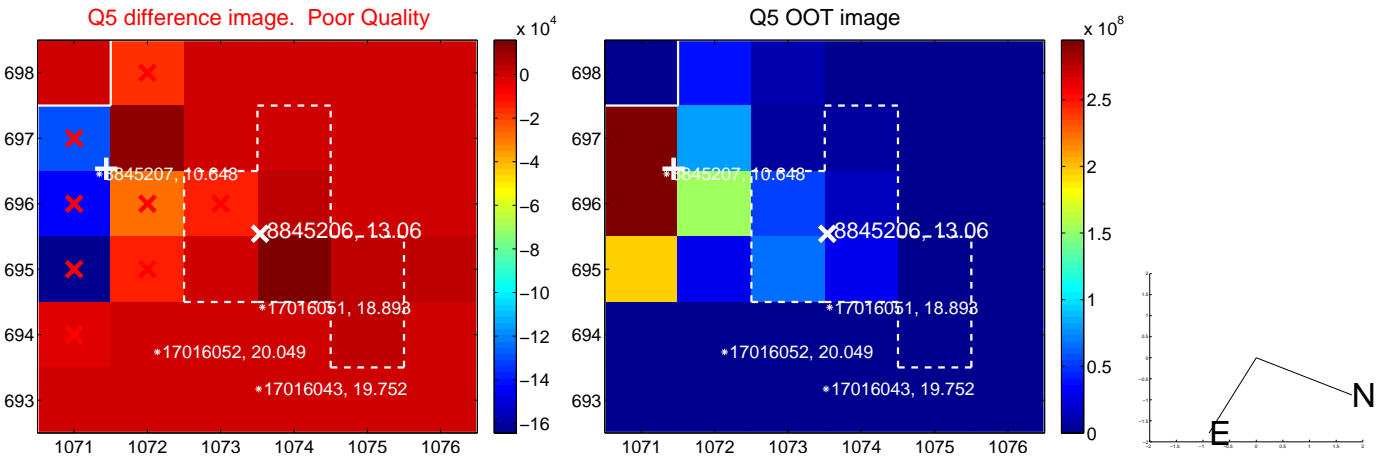
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

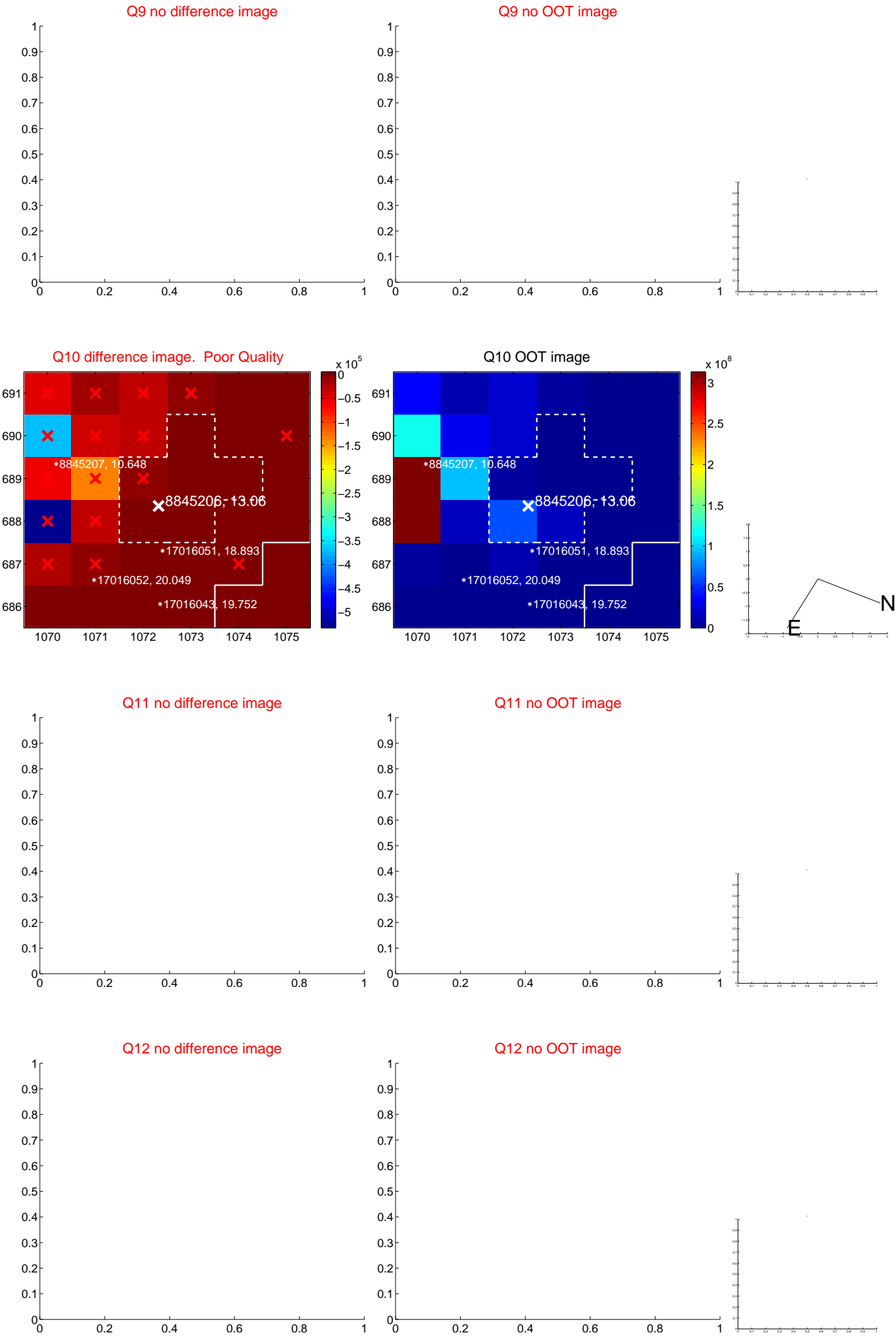




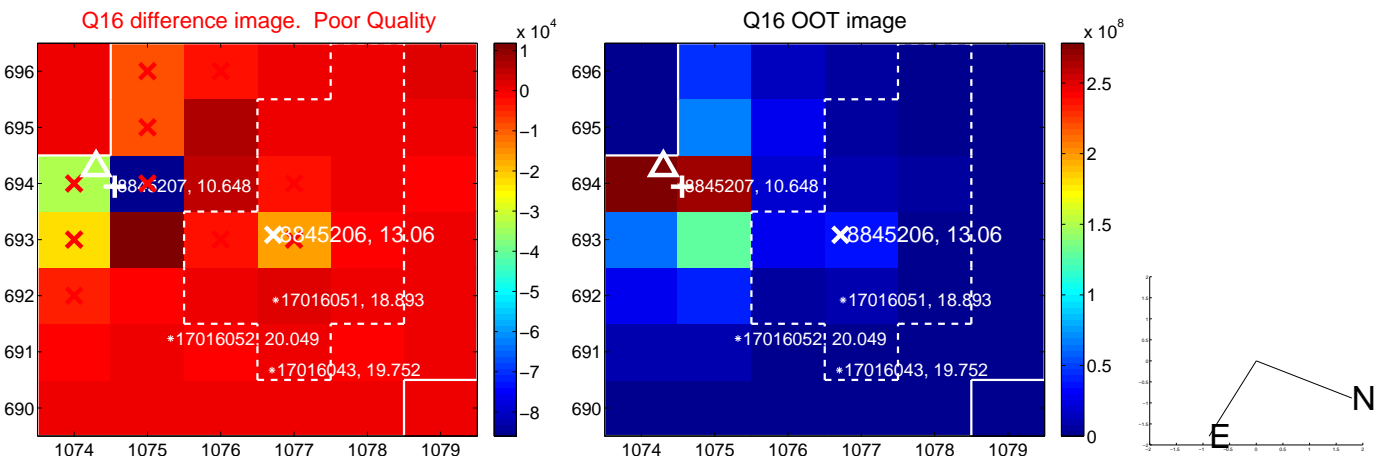
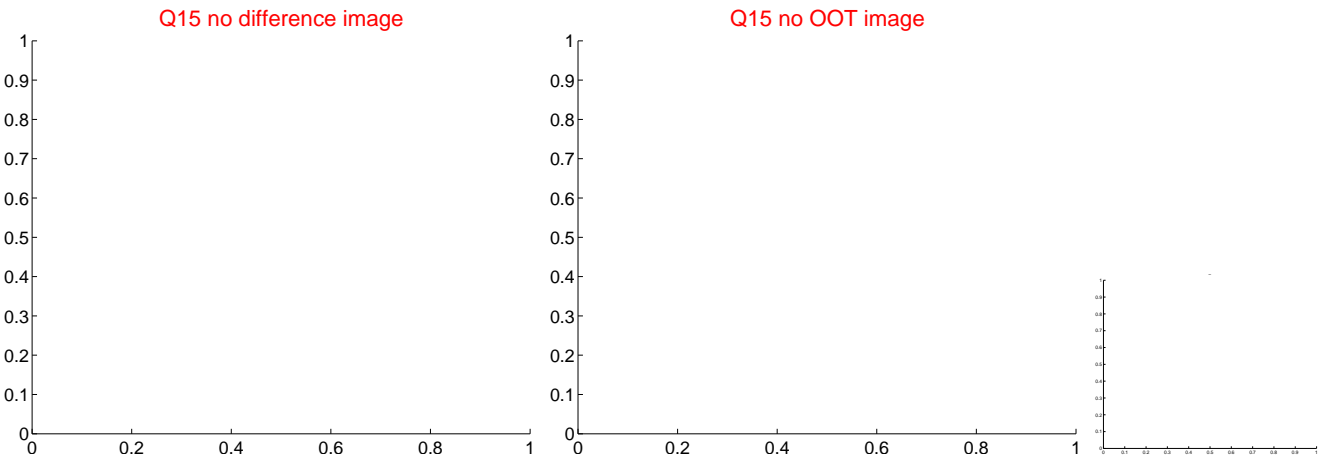
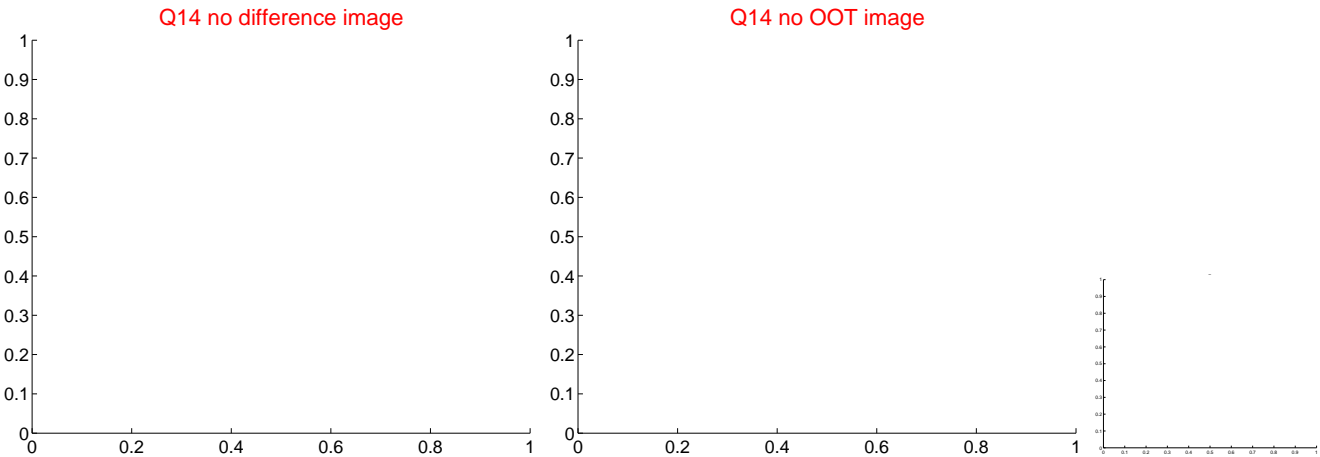
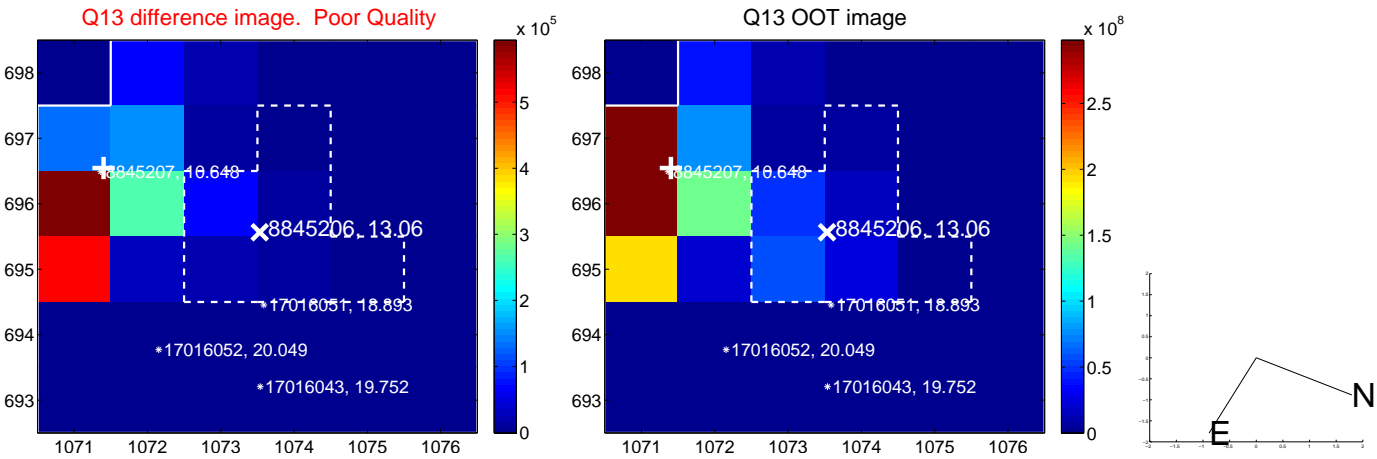
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



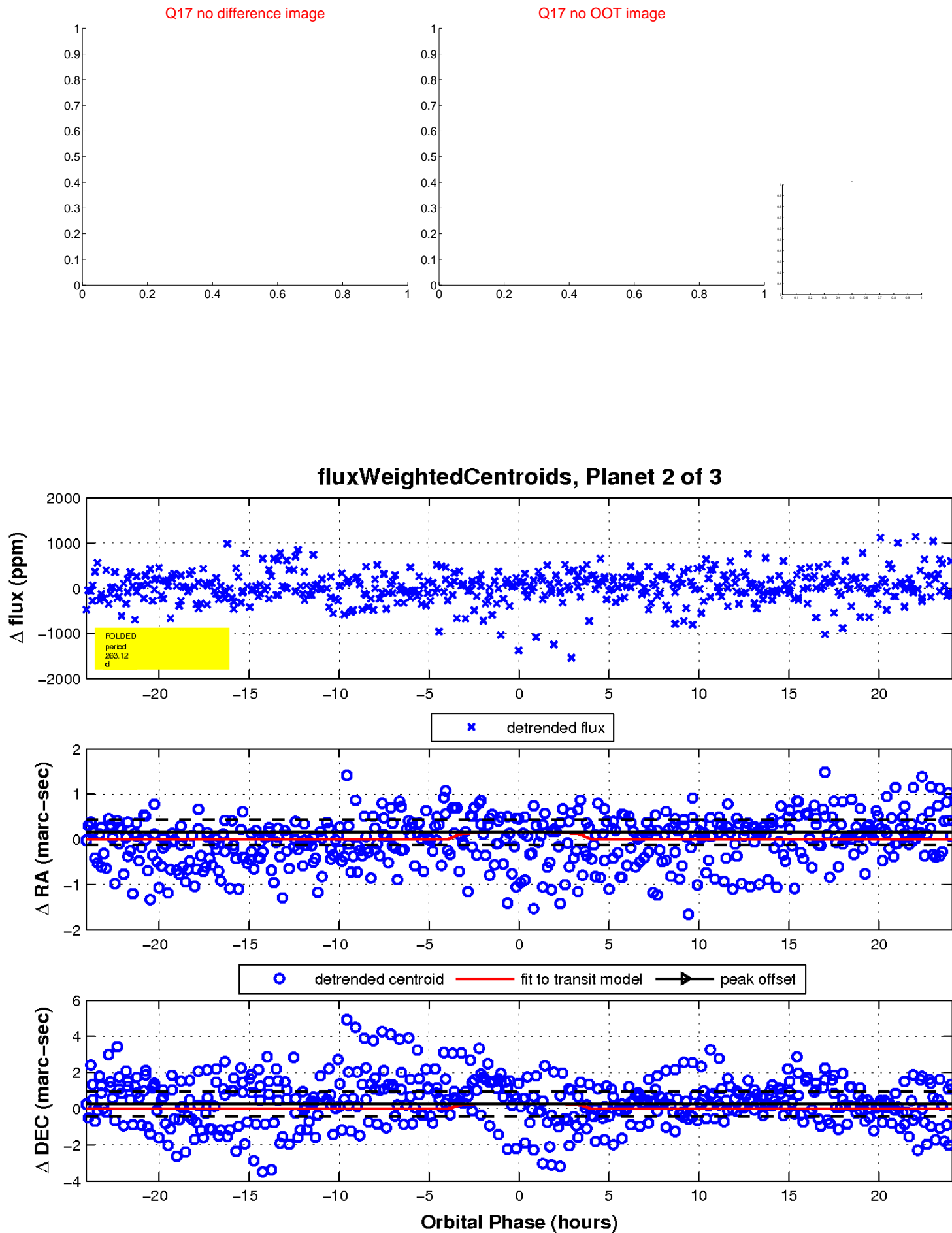
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



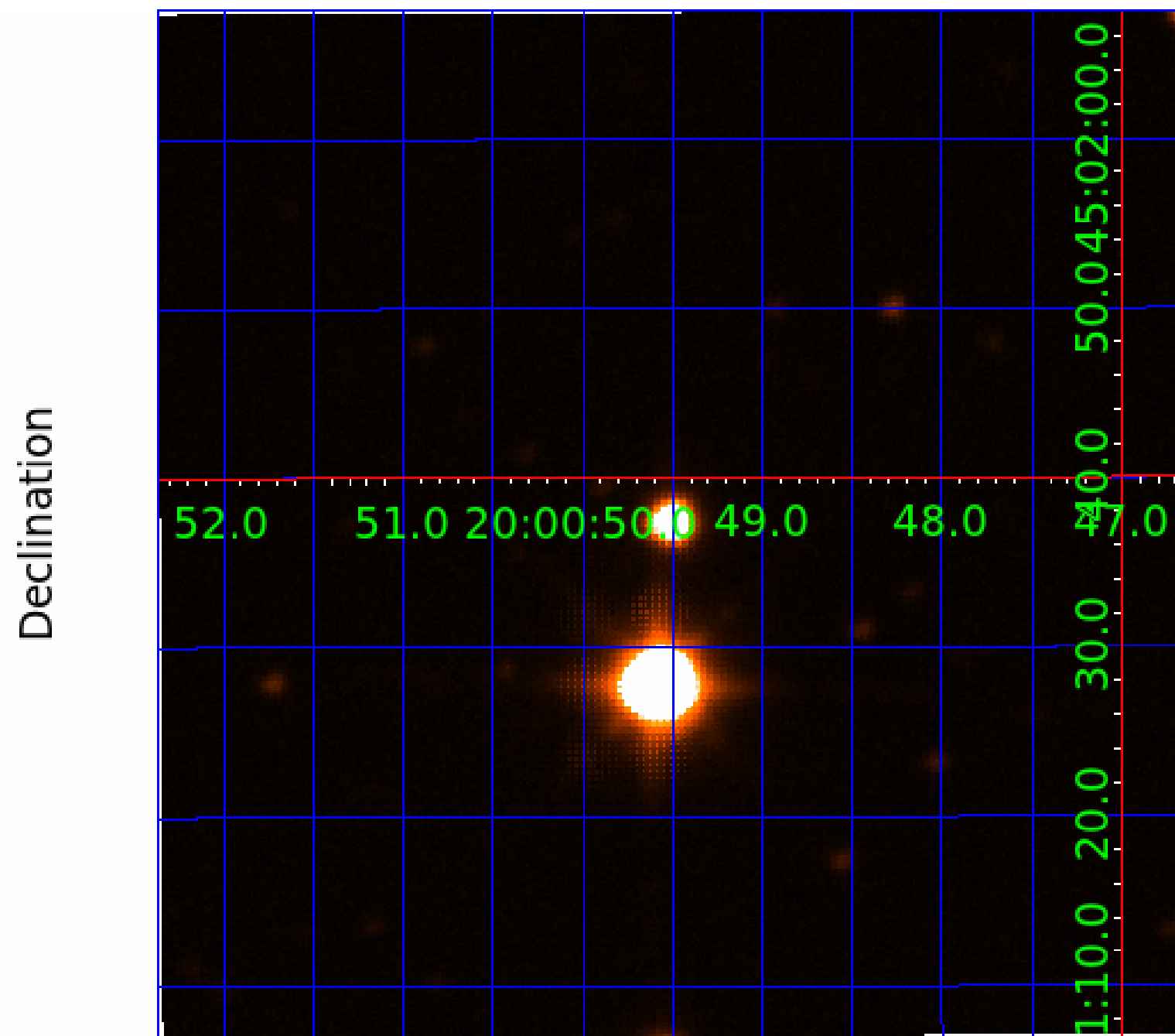
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image





# KIC 008845206

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008845206-01	OBS	No	7.828794	132.962980	50.4	19.073	7.1	6.0	1.65	5552	1.39	442.68
008845206-02	OBS	No	263.115420	195.606212	454.8	8.036	10.2	5.9	1.65	5552	4.09	4.08
008845206-03	OBS	No	271.599460	279.504145	248.1	20.312	7.3	5.6	1.65	5552	2.72	3.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008845206-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—CENT_RESOLVED_OFFSET
008845206-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008845206-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_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.

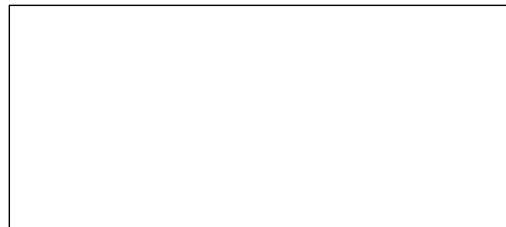
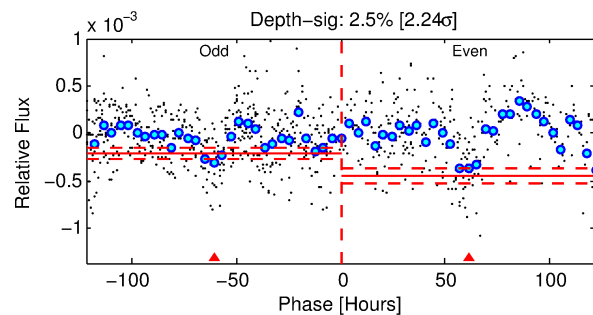
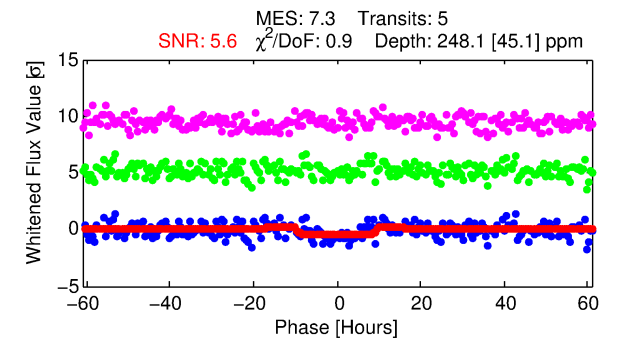
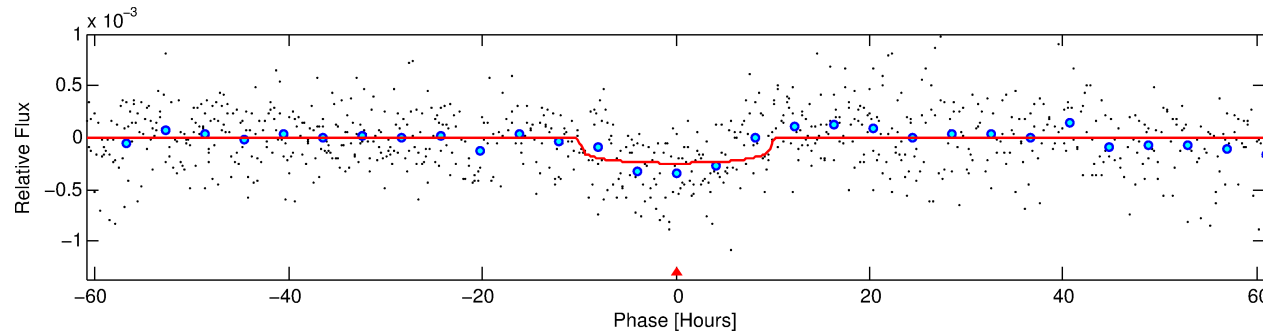
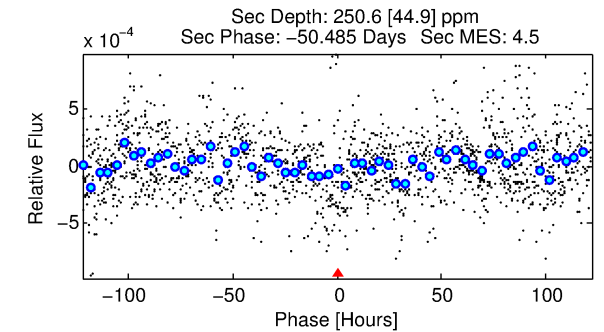
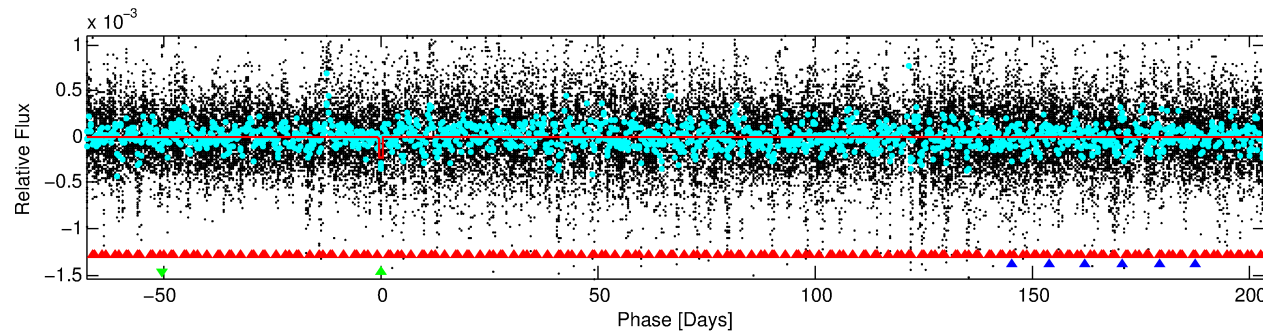
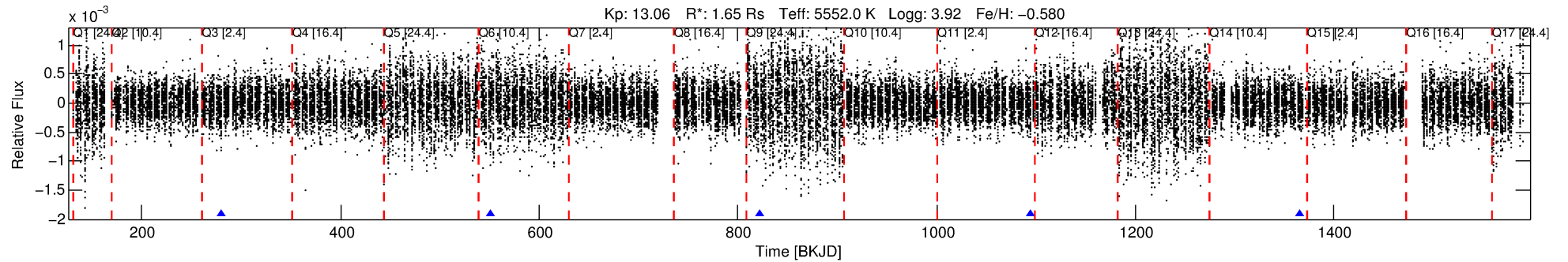
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008845206-03

No Significant Match Found

# DV One-Page Summary

KIC: 8845206 Candidate: 3 of 3 Period: 271.599 d



## DV Fit Results:

Period = 271.59946 [0.00910] d  
Epoch = 279.5041 [0.0257] BKJD  
Rp/R\* = 0.0151 [0.0059]  
a/R\* = 81.75 [137.83]  
b = 0.62 [1.66]  
Seff = 3.91 [4.18]  
Teq = 359 [96] K  
Rp = 2.72 [1.78] Re  
a = 0.7697 [0.4704] AU  
Ag = 11036.42 [14618.16] [0.75 $\sigma$ ]  
Teffp = 5683 [1145] K [4.63 $\sigma$ ]

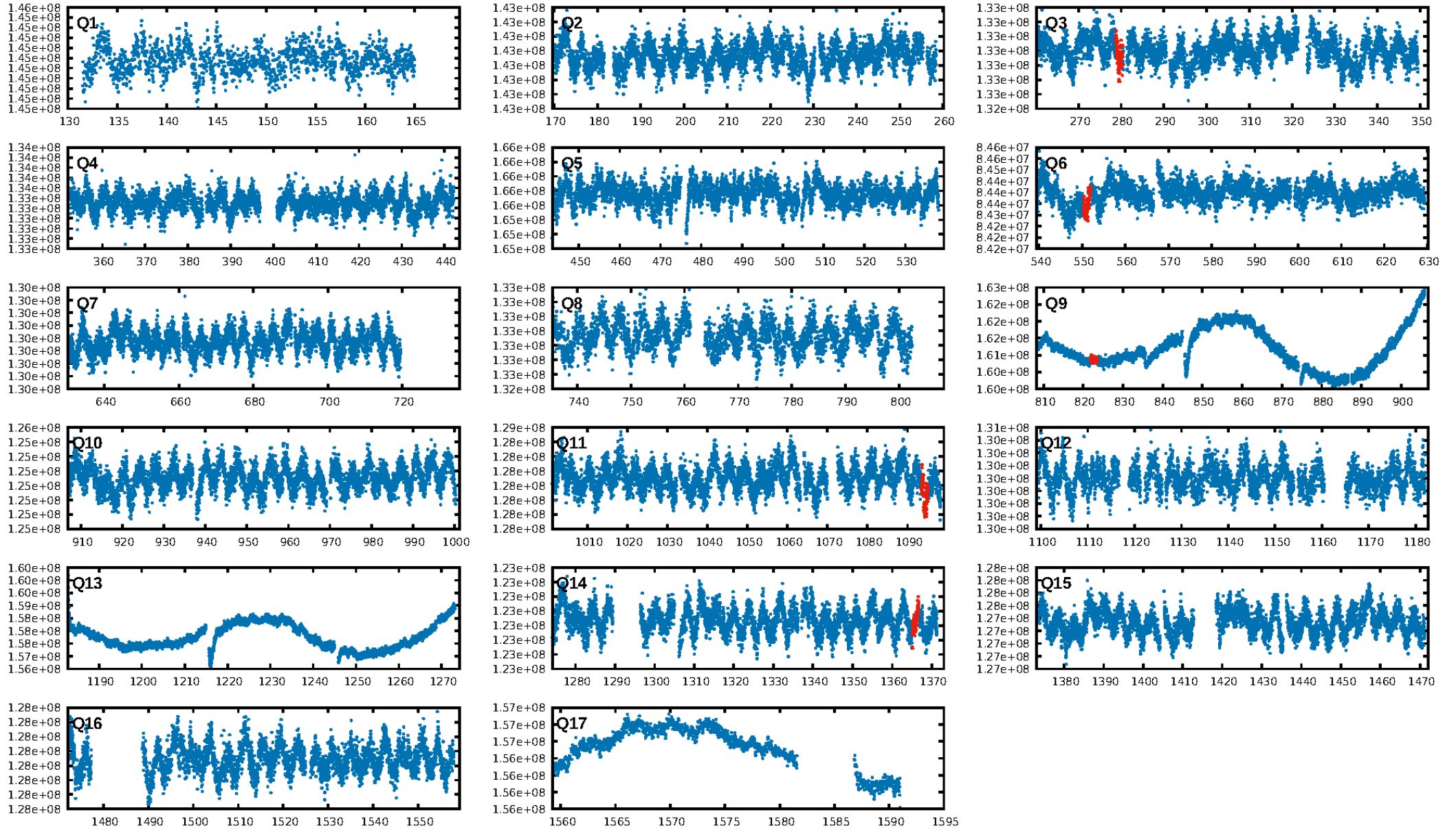
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.32 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 58.7%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 2.38e-08**  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 2.682  
Centroid-sig: 9.8%  
Centroid-so: 5.638 arcsec [2.06 $\sigma$ ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-figm: N/A  
DiffImageOverlap-fno: 0.67 [2/3]

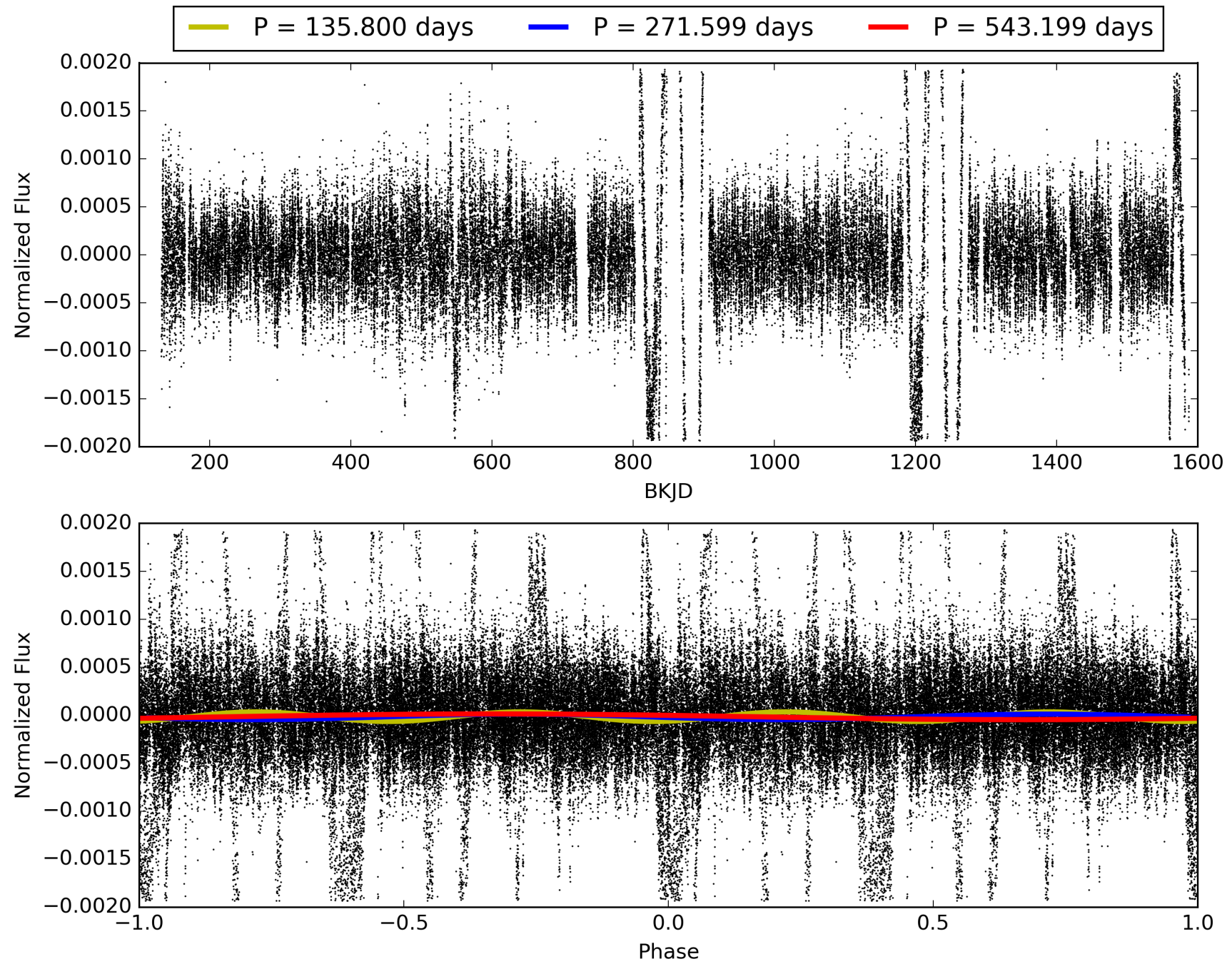
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:54:19 Z

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

# TCE 008845206-03, PDC Light Curves

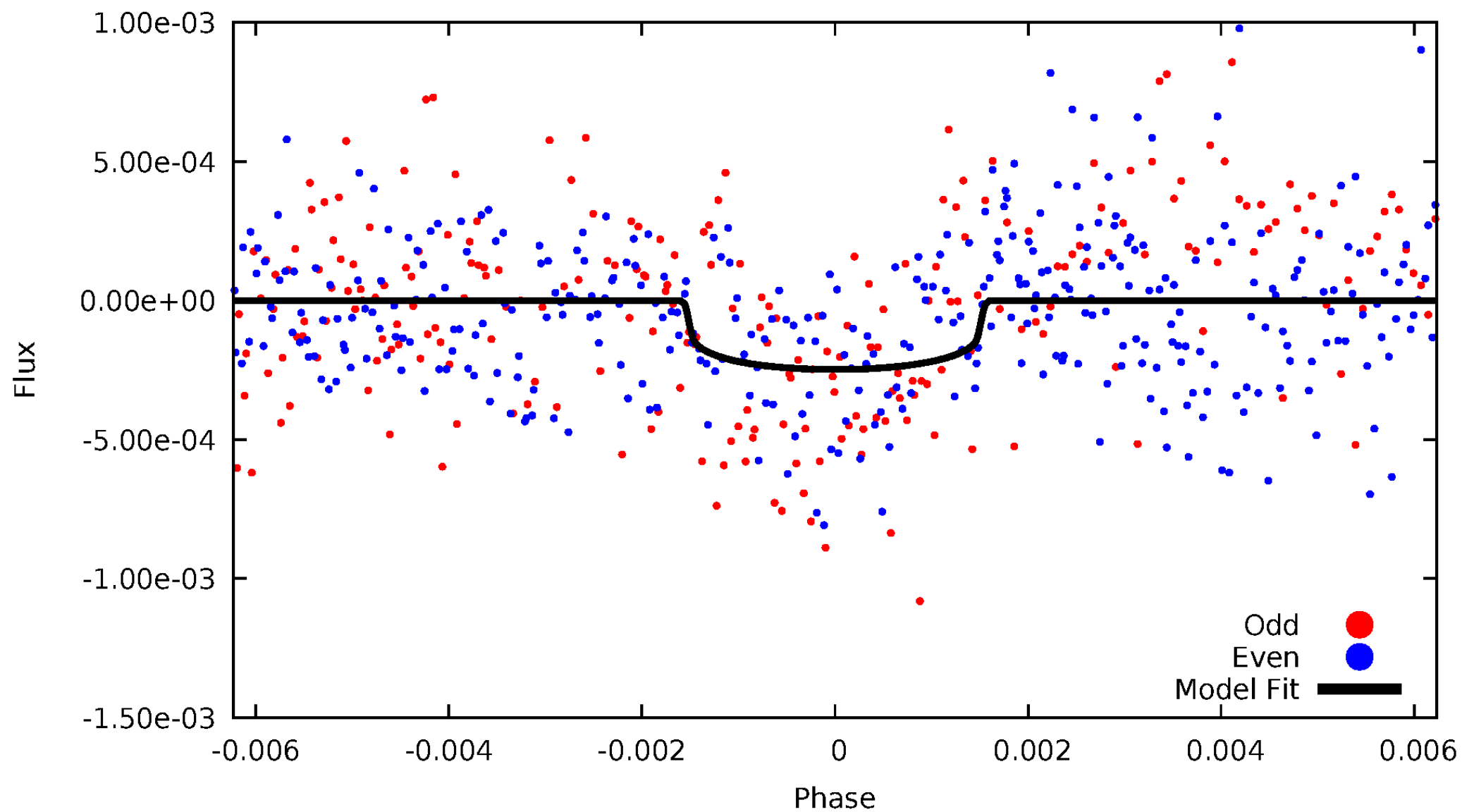


TCE 008845206-03



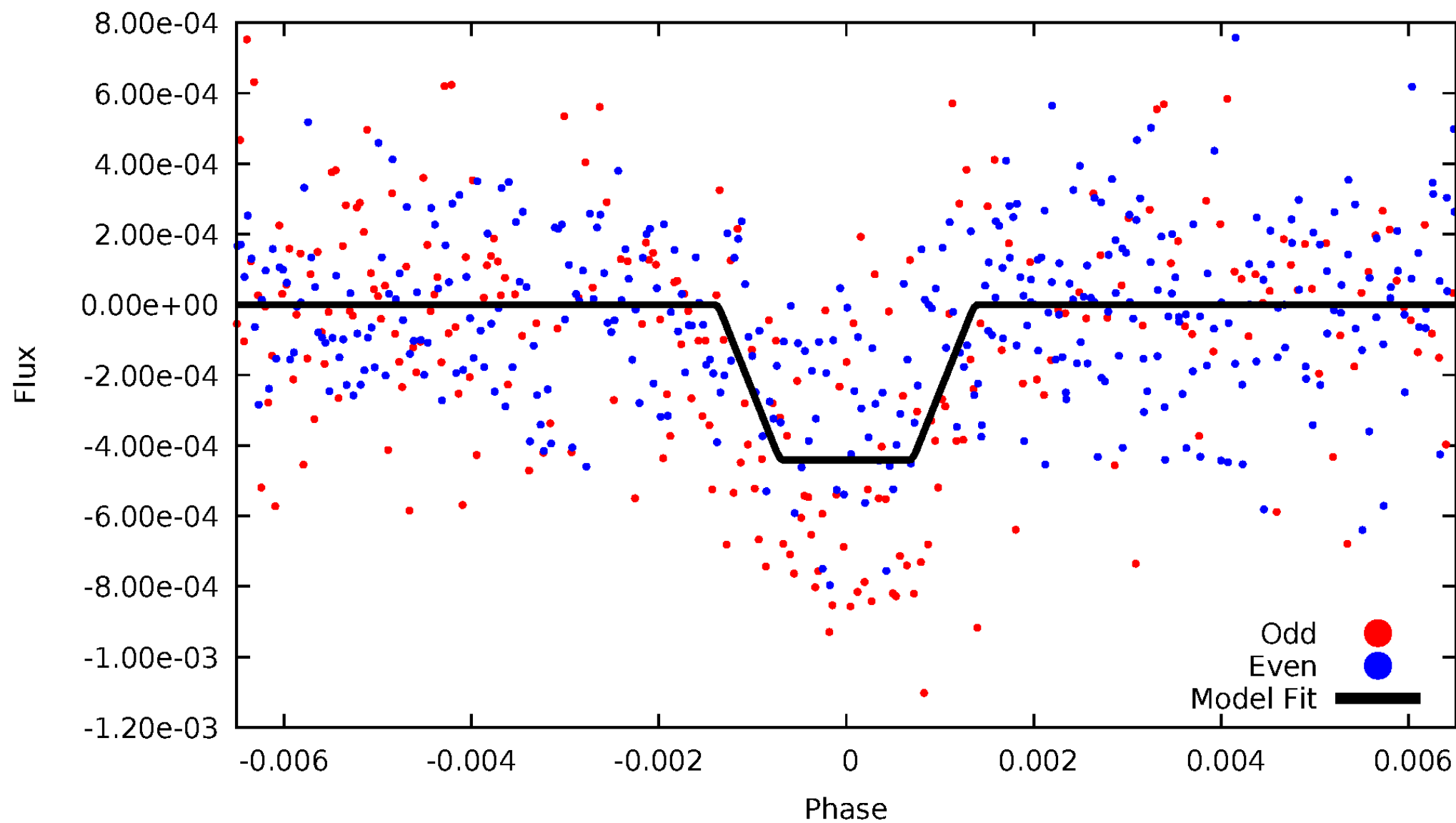
# DV Odd/Even

TCE 008845206-03



# ALT Odd/Even

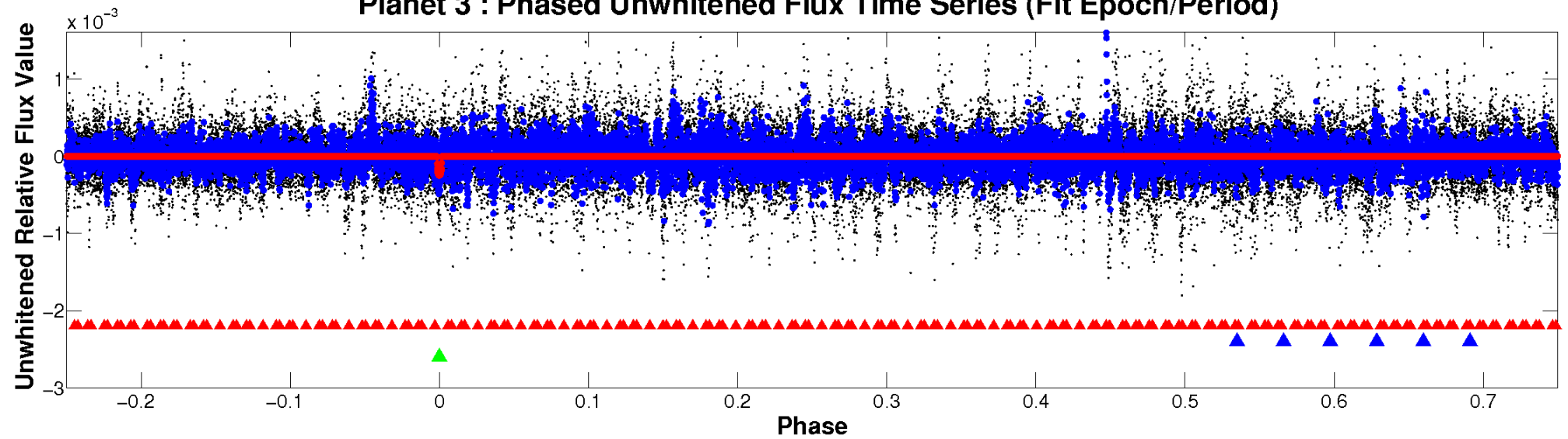
TCE 008845206-03



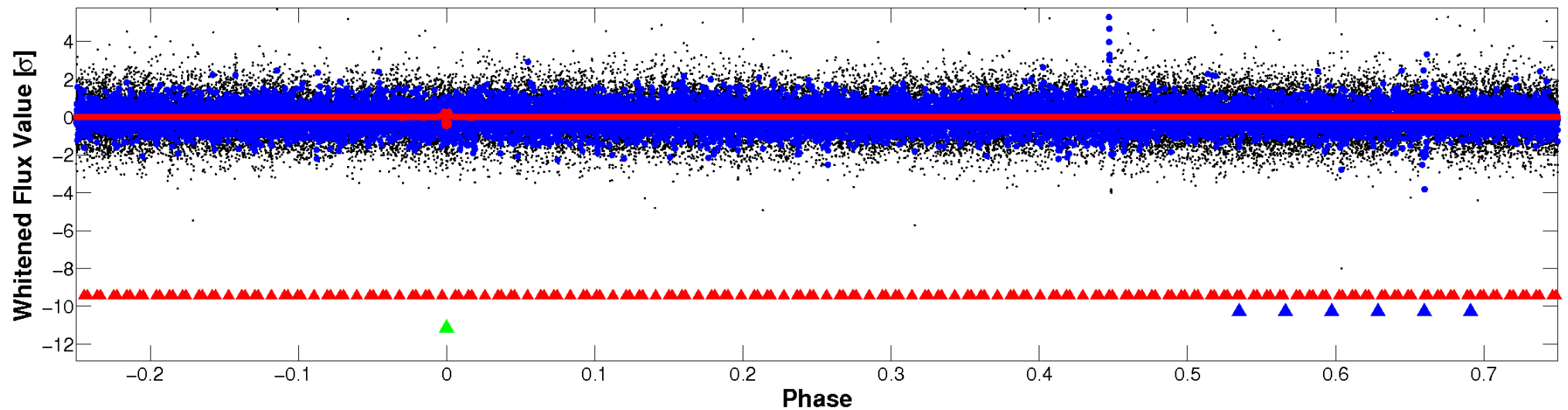


# Non-Whitened Vs. Whitened Light Curve

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

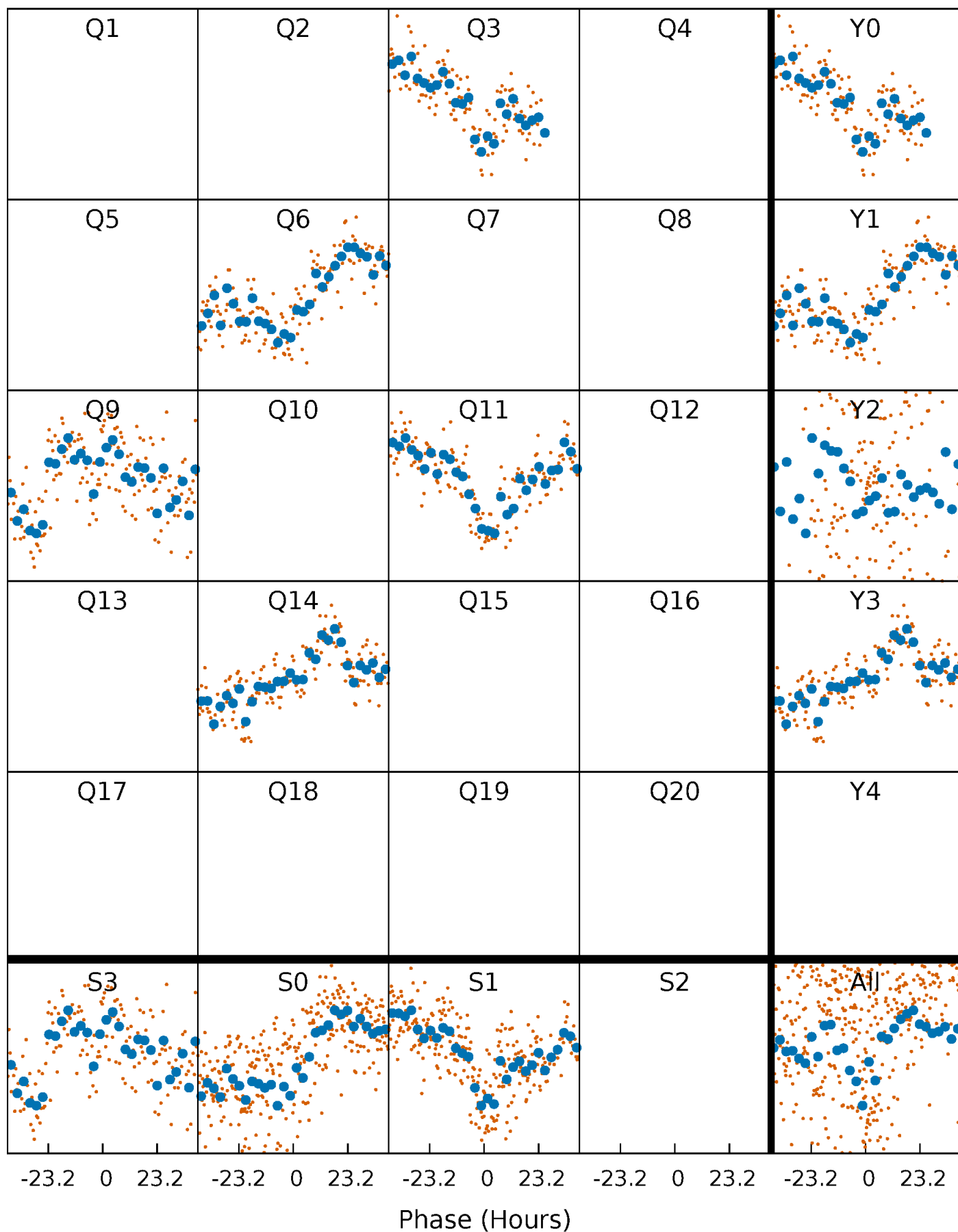


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



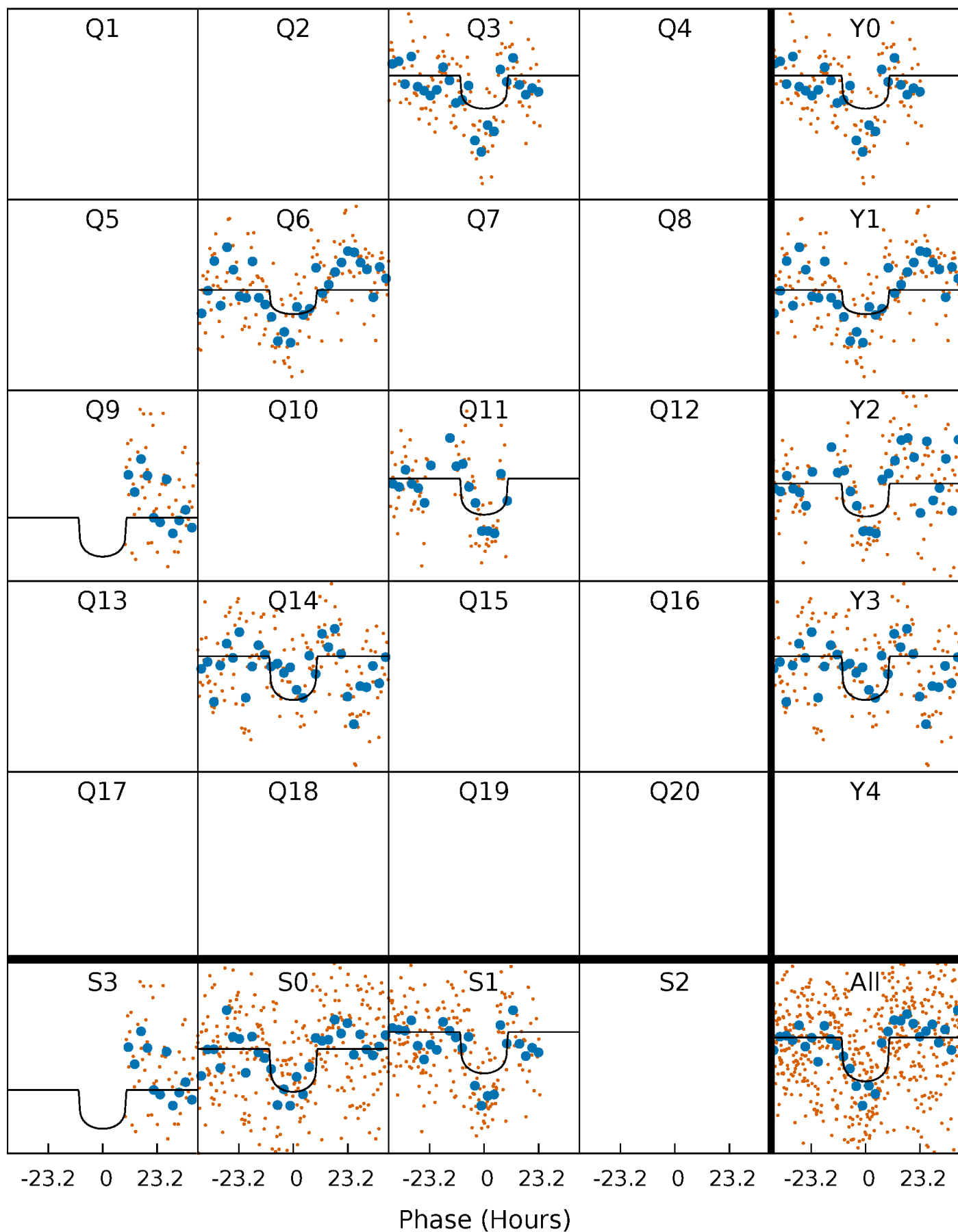
# PDC Quarter-Phased Transit Curves

TCE 008845206-03     $P=271.599460$  Days     $T_0=279.504145$  (BKJD)



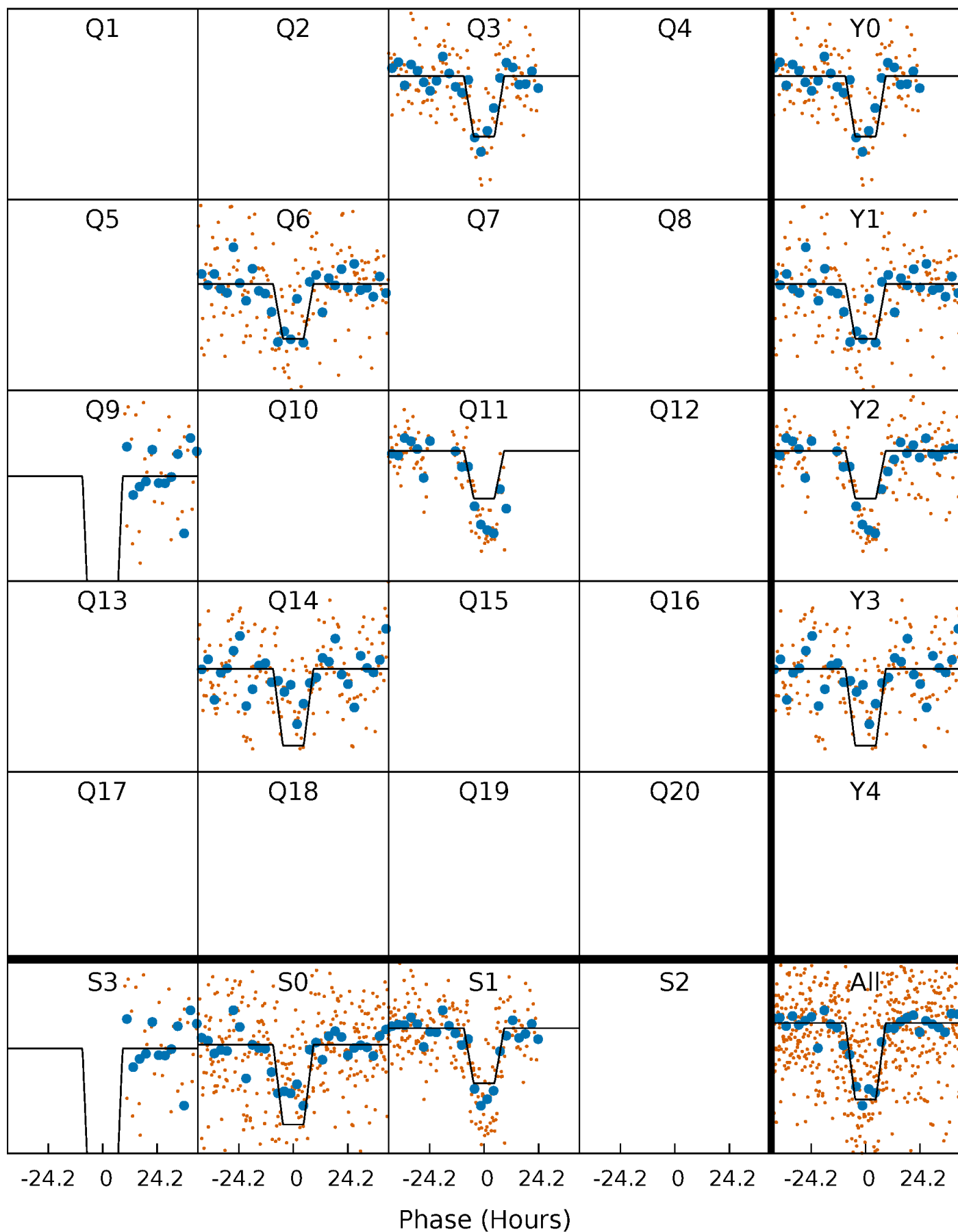
# DV Quarter-Phased Transit Curves

TCE 008845206-03     $P=271.599460$  Days     $T_0=279.504145$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

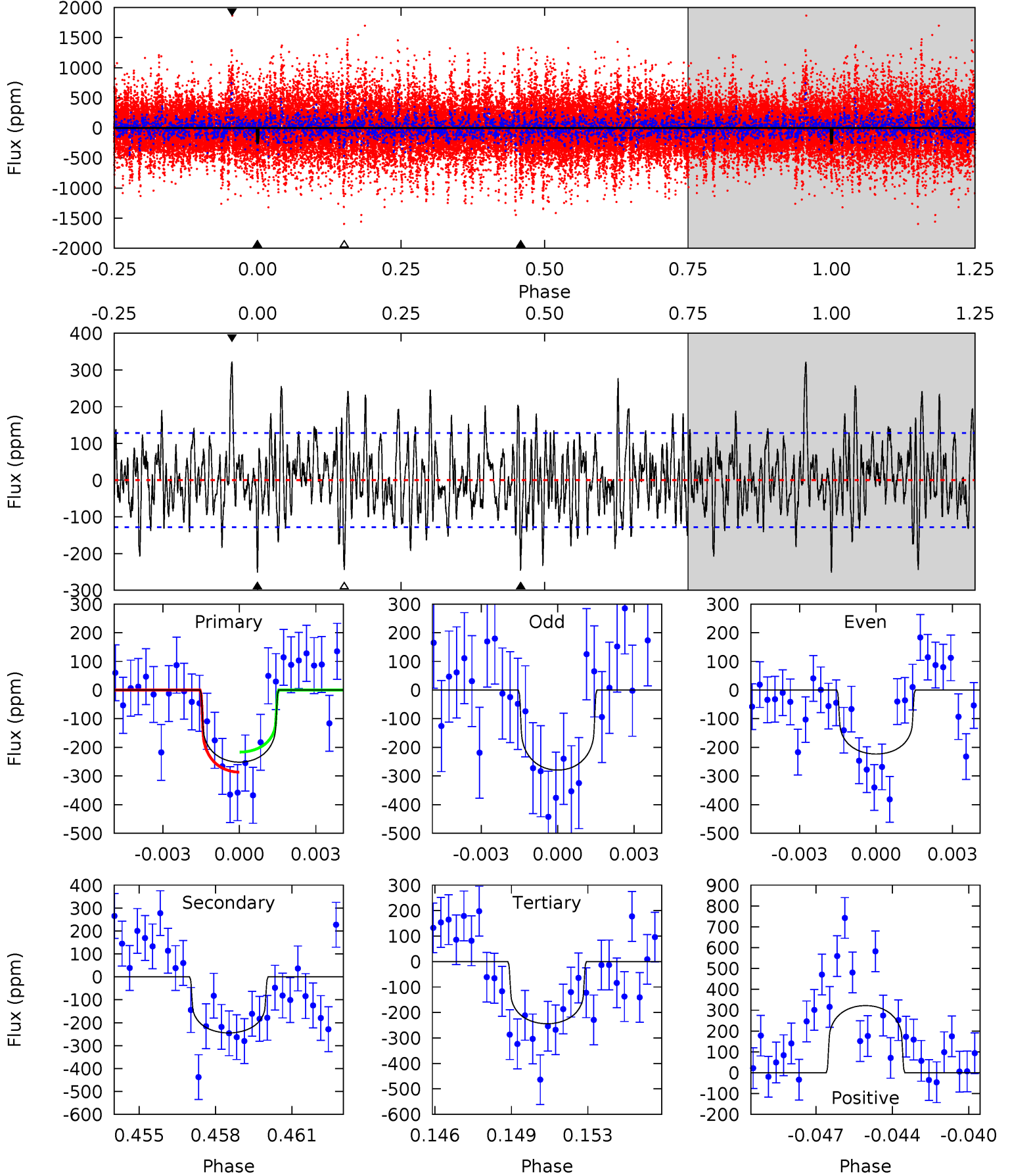
TCE 008845206-03 P=271.596068 Days  $T_0=279.520676$  (BKJD)



# DV Model-Shift Uniqueness Test

008845206-03, P = 271.599460 Days, E = 7.904685 Days

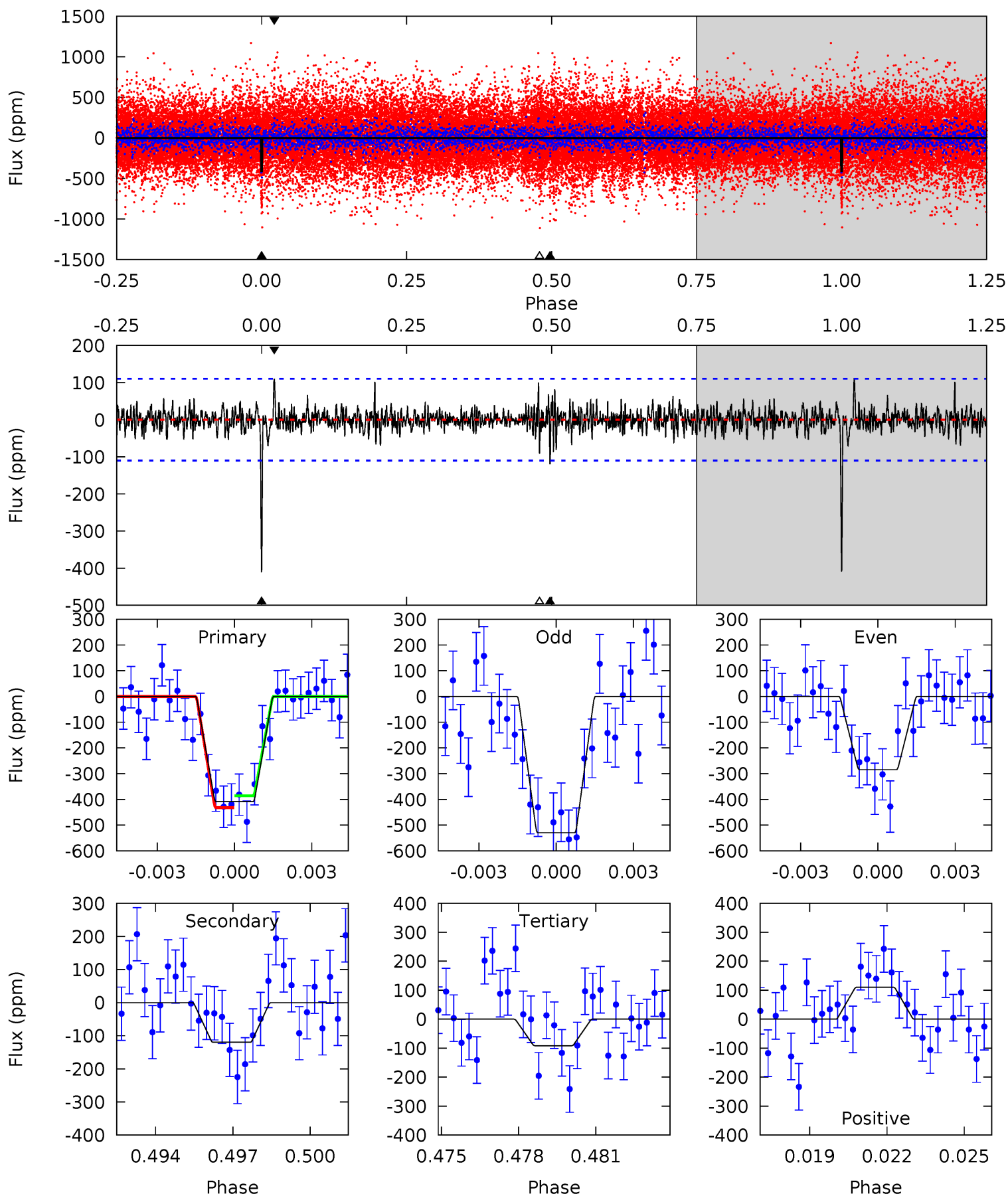
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	10.00	9.98	13.2	5.25	2.96	3.23	0.31	-2.88	0.02	-3.17	1.12	0.97	0.56	1.43



# Alt Model-Shift Uniqueness Test

008845206-03, P = 271.596068 Days, E = 7.924608 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
19.5	5.72	4.37	5.25	5.27	2.99	1.05	15.1	14.3	1.36	0.47	5.88	1.07	0.21	1.10





### Stellar Parameters For KIC 008845206

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5552^{+183}_{-150}$	$3.919^{+0.651}_{-0.279}$	$-0.580^{+0.350}_{-0.250}$	$1.650^{+0.871}_{-0.871}$	$0.824^{+0.112}_{-0.091}$	$0.259^{+2.102}_{-0.189}$
	+3%/-3%	+17%/-7%	+60%/-43%	+53%/-53%	+14%/-11%	+813%/-73%
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 008845206-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-245 \pm 24$	$2.46^{+1.37}_{-1.06}$	$489^{+69}_{-76}$	$5694^{+1453}_{-831}$	$13322^{+27169}_{-7880}$
Alt.	$-120 \pm 21$	$3.58^{+1.52}_{-1.42}$	$494^{+66}_{-80}$	$4243^{+636}_{-416}$	$3010^{+5398}_{-1599}$

$T_{max}$  = 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 008845206-03. Kepler magnitude: 13.06. Transit SNR 5.63

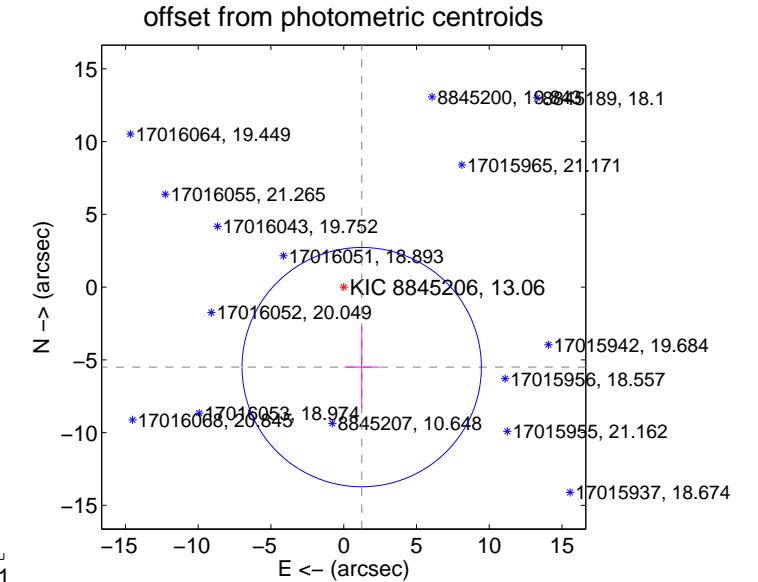
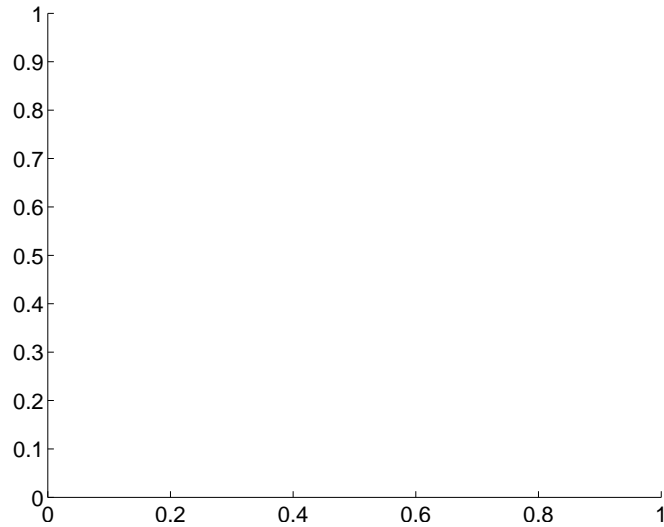
There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$5.64 \pm 2.74$	2.06	$-1.24 \pm 1.18$	$-5.50 \pm 2.80$

There is no PRF-fit offset from OOT-fit

There is no PRF-fit offset from KIC

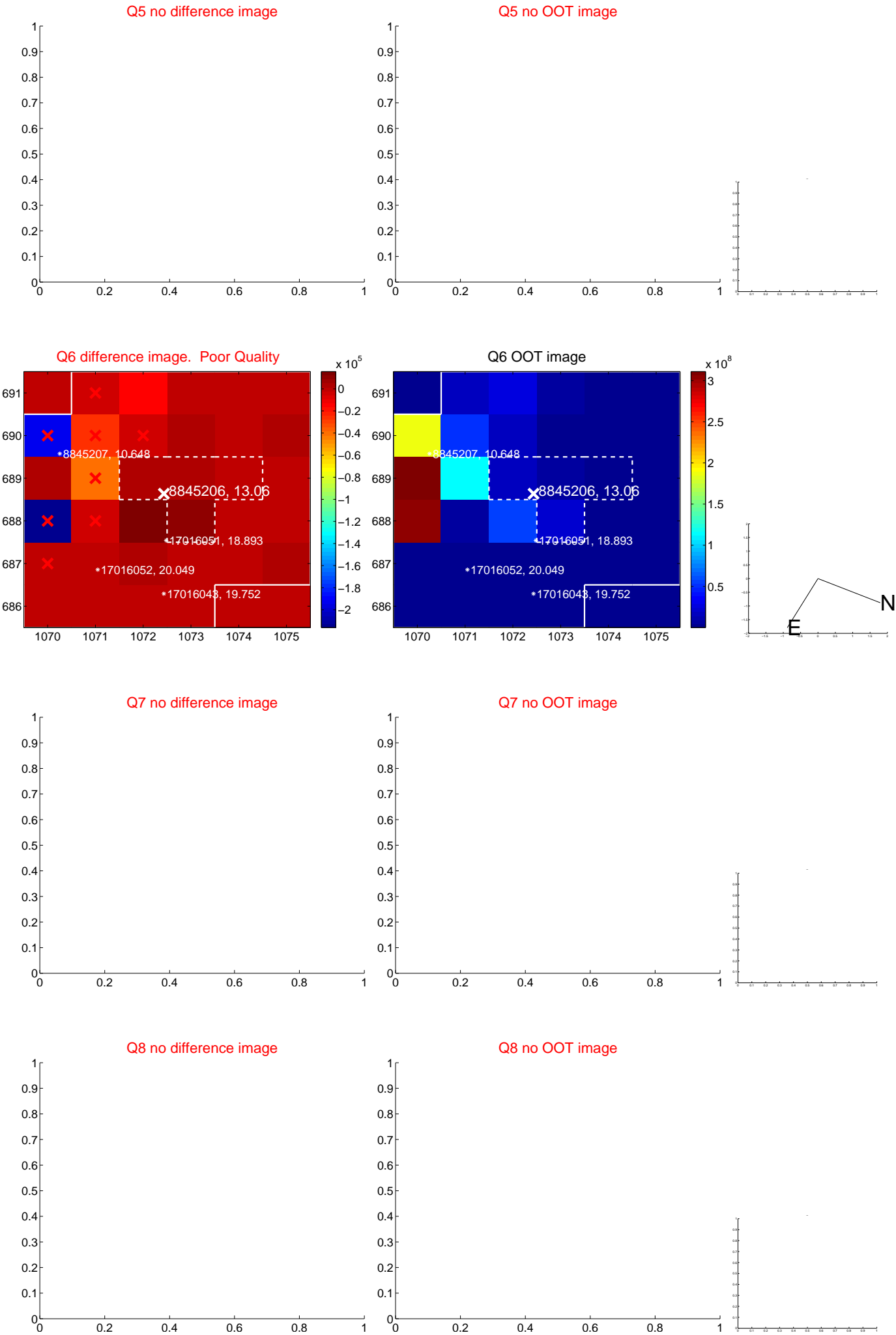


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

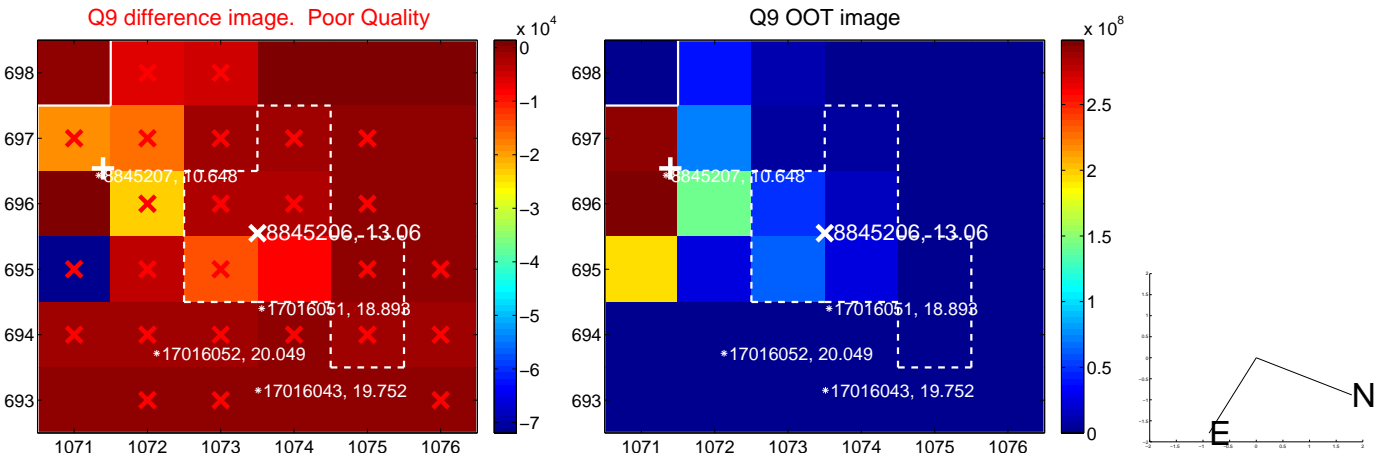
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



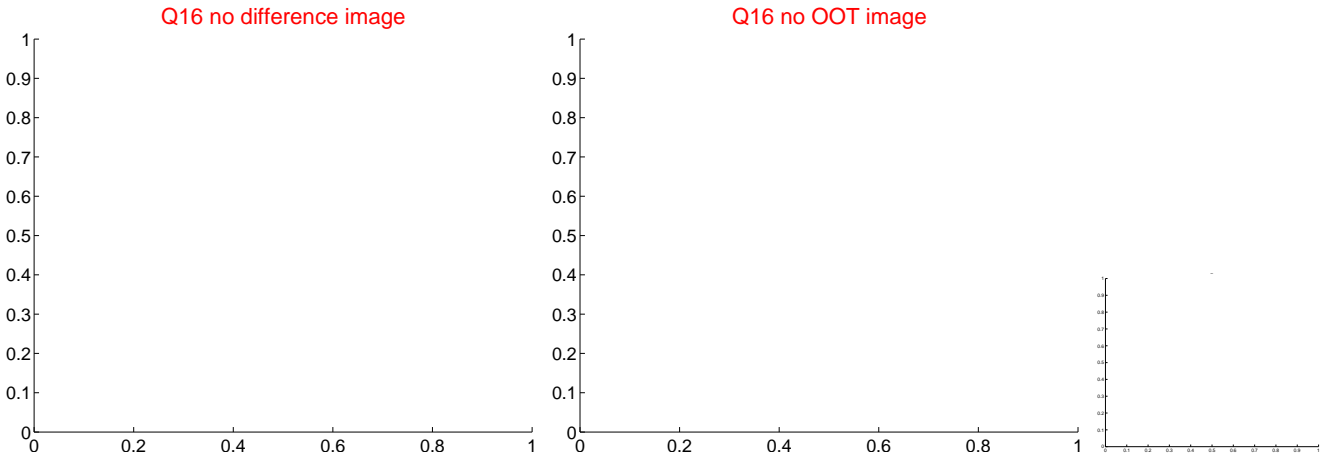
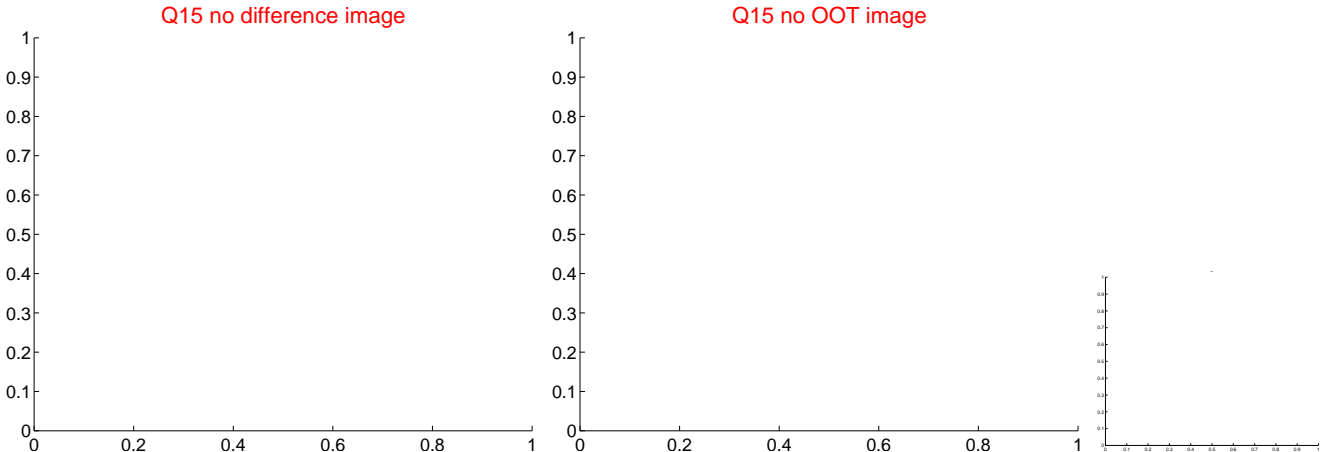
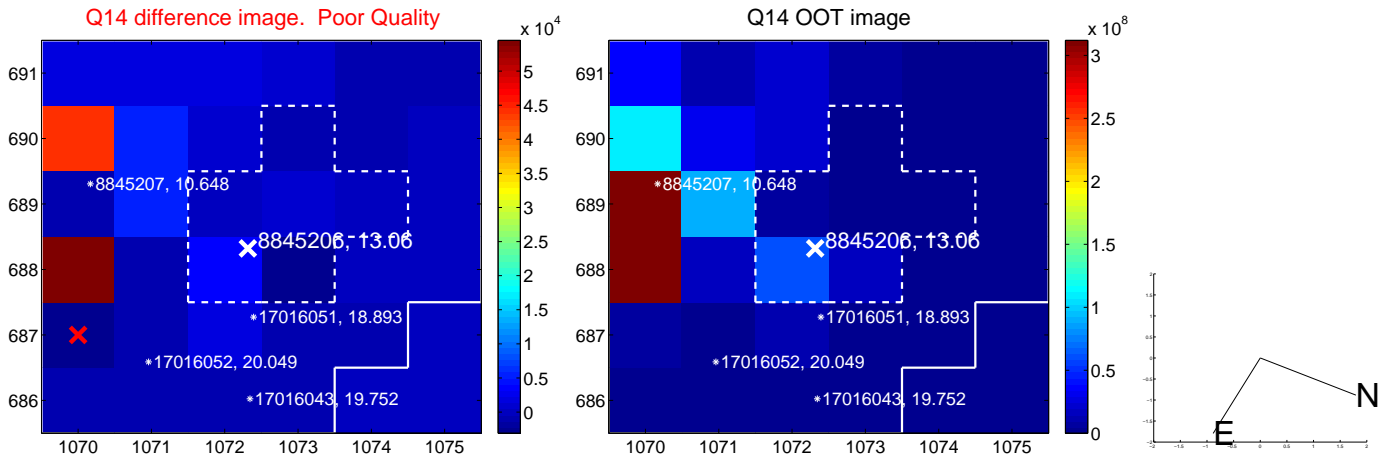
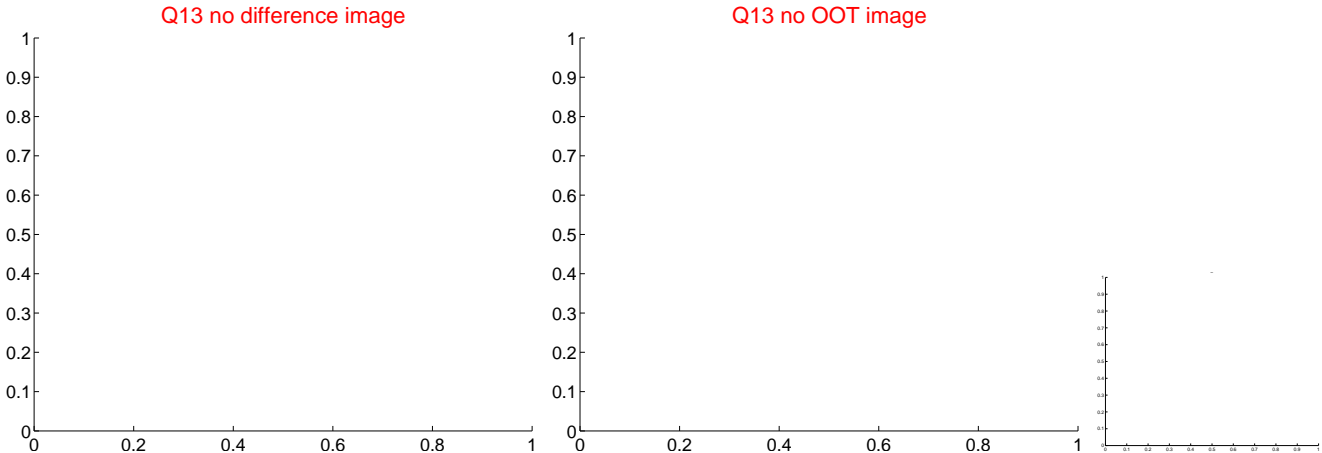
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

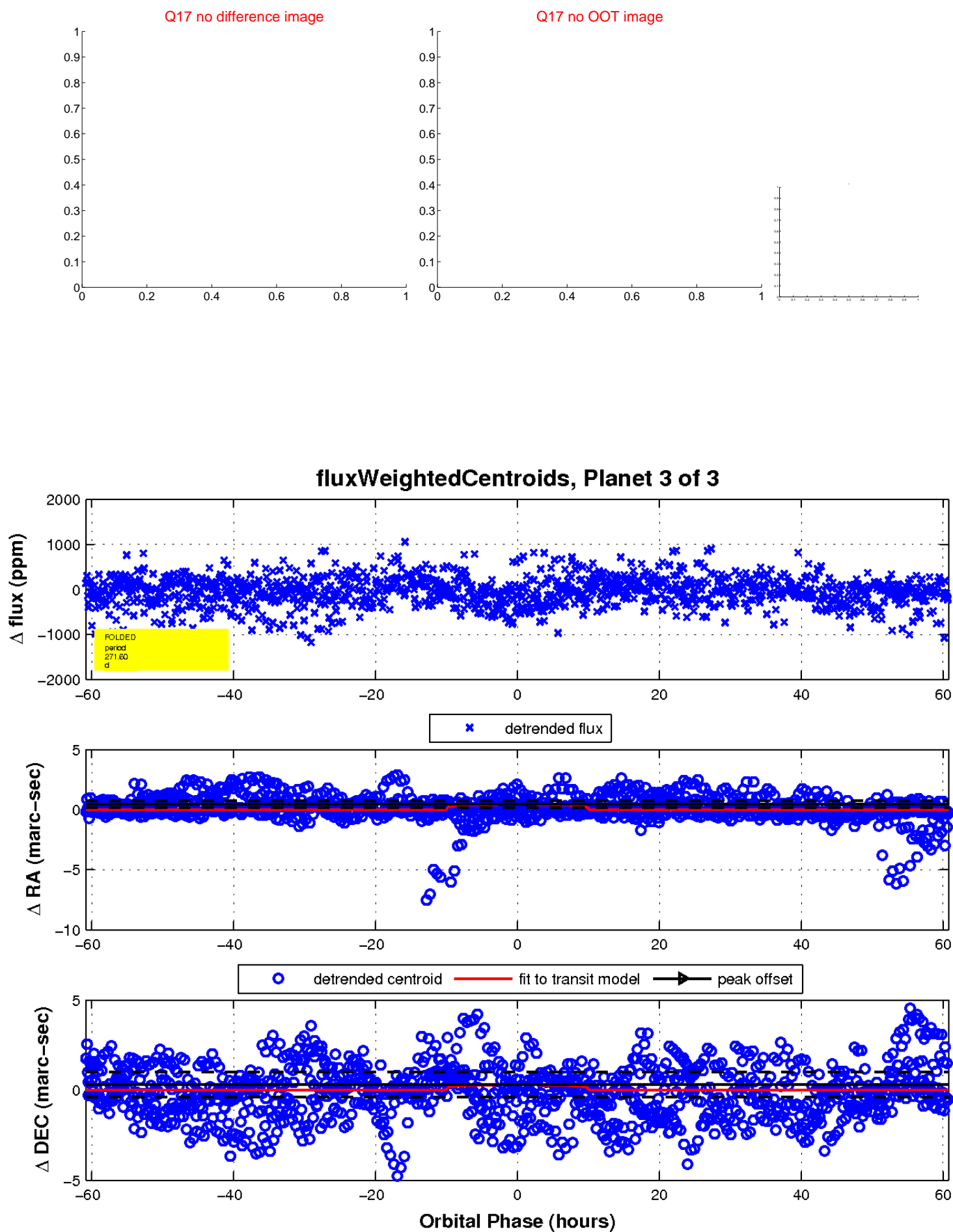


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

