

# KIC 006182849

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006182849-01	OBS	3512.01	6.399074	134.707028	375631.1	3.000	20957.1	-1.0	0.94	6133	51.02	267.49
006182849-02	OBS	No	6.399109	137.901177	121507.5	5.089	7292.6	4285.5	0.94	6133	34.75	267.49
006182849-03	OBS	No	4.266023	134.514727	19076.3	12.500	763.4	-1.0	0.94	6133	12.97	459.30

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006182849-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
006182849-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006182849-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

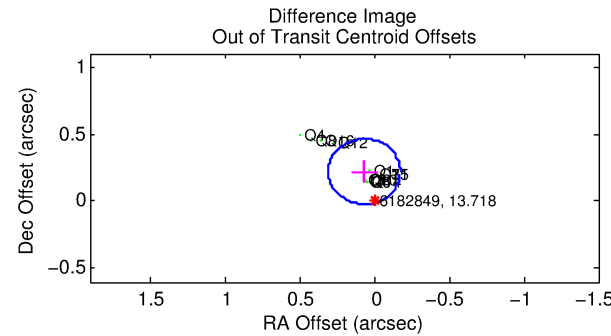
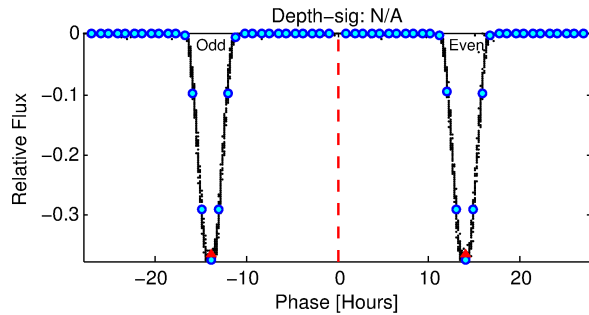
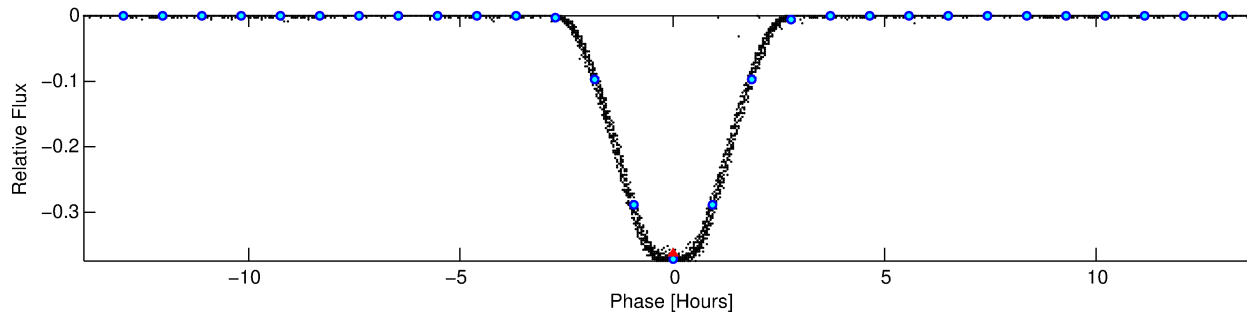
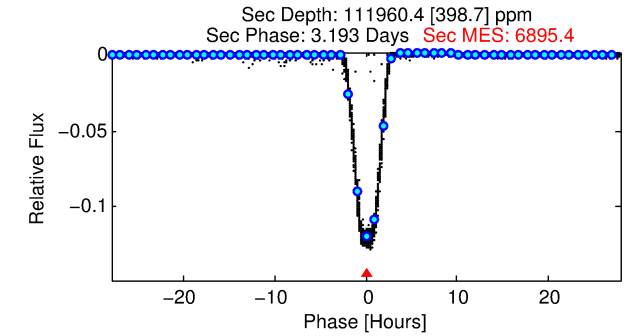
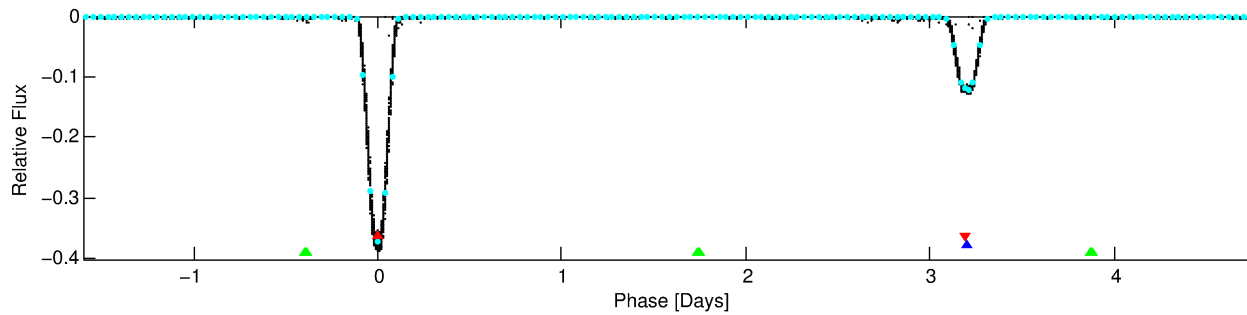
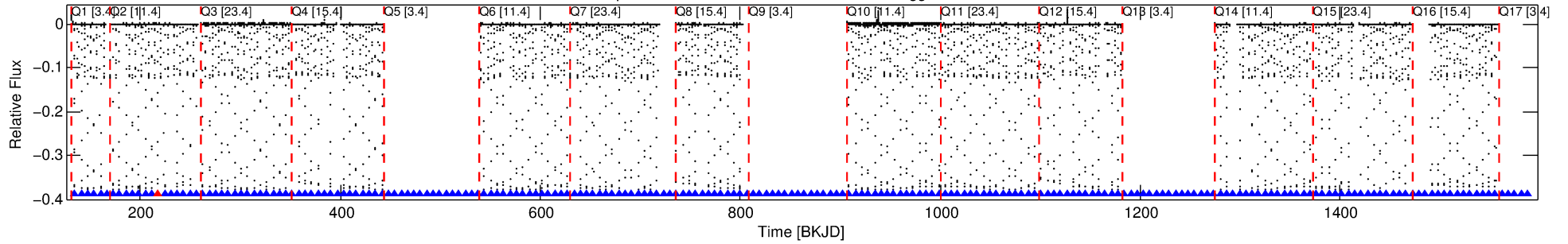
Ephemeris Match Information For 006182849-01

No Significant Match Found

# DV One-Page Summary

KIC: 6182849 Candidate: 1 of 3 Period: 6.399 d  
KOI: K03512.01 Corr: 0.758

Kp: 13.72 R\*: 0.94 Rs Teff: 6133.0 K Logg: 4.43 Fe/H: -0.640



## TPS TCE Results:

Period = 6.39907 d  
Epoch = 134.7070 BKJD

DV fit results are unavailable

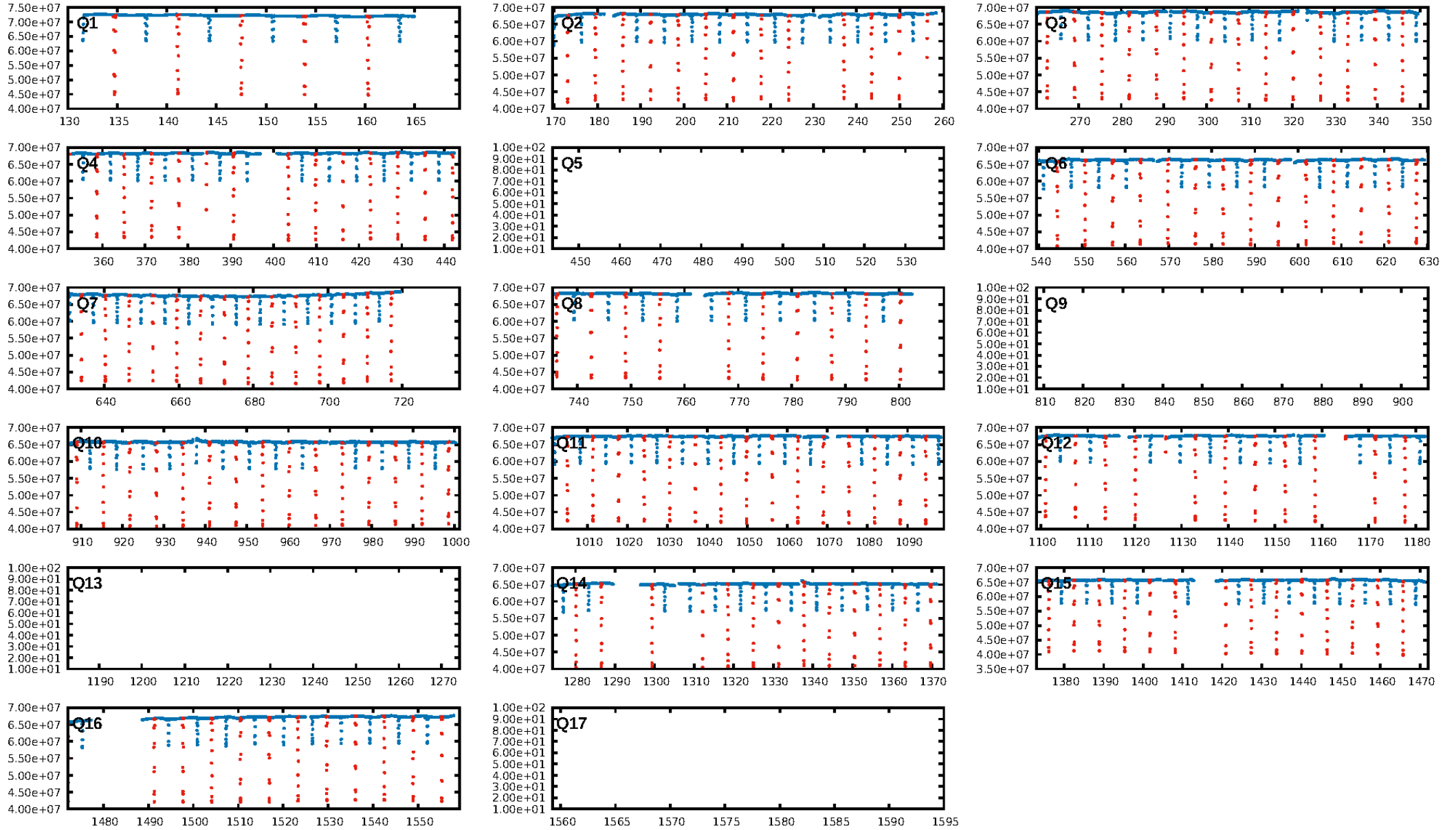
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.98 $\sigma$ ]  
LongPeriod-sig: 0.0% [0.00 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.99 [157/158]  
GhostDiagnostic-chr: 2.978  
Centroid-sig: N/A  
Centroid-so: 0.178 arcsec [318.43 $\sigma$ ]  
OotOffset-rm: 0.231 arcsec [2.86 $\sigma$ ]  
KicOffset-rm: 0.174 arcsec [2.56 $\sigma$ ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [13/13]

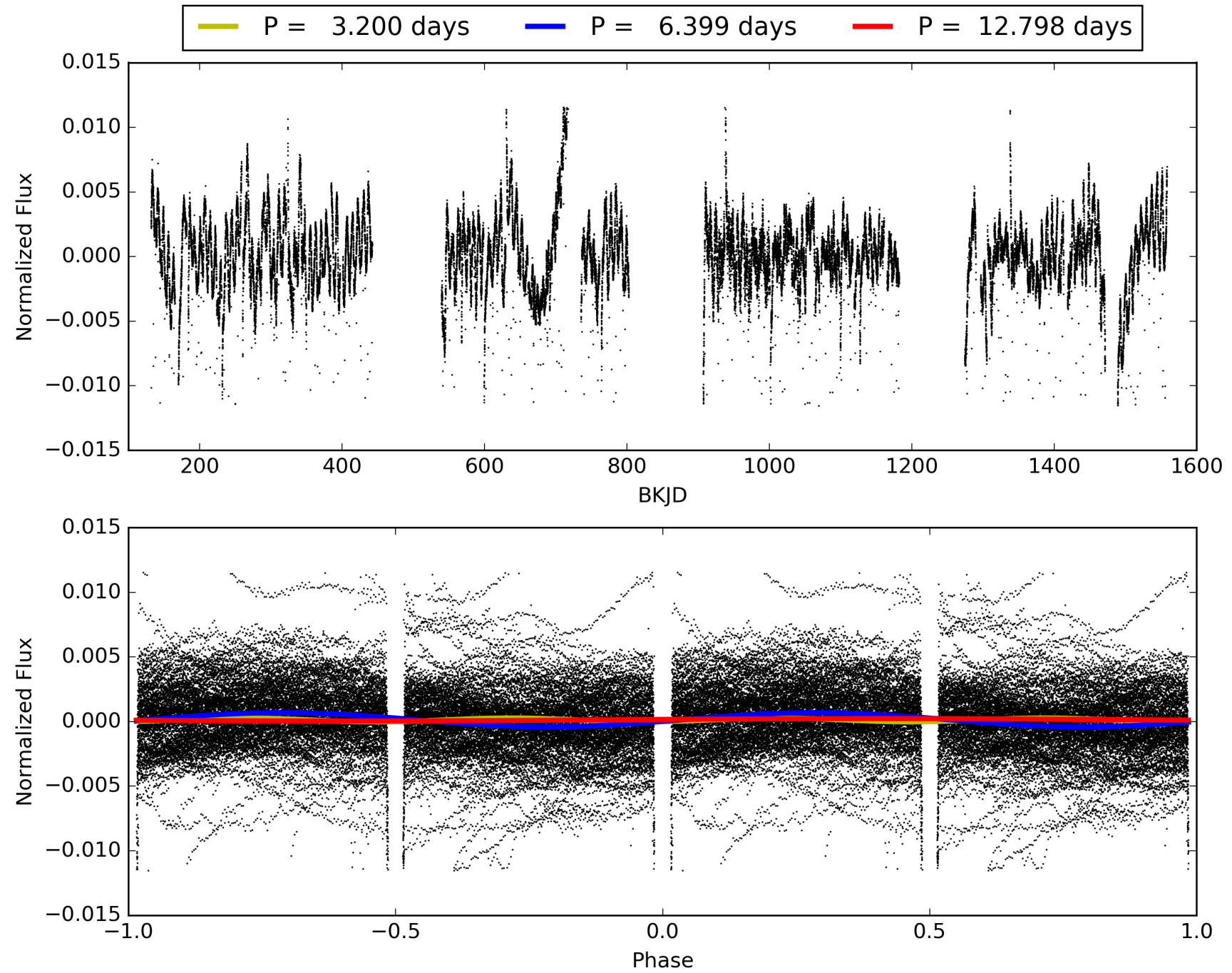
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 09:49:36 Z

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

# TCE 006182849-01, PDC Light Curves

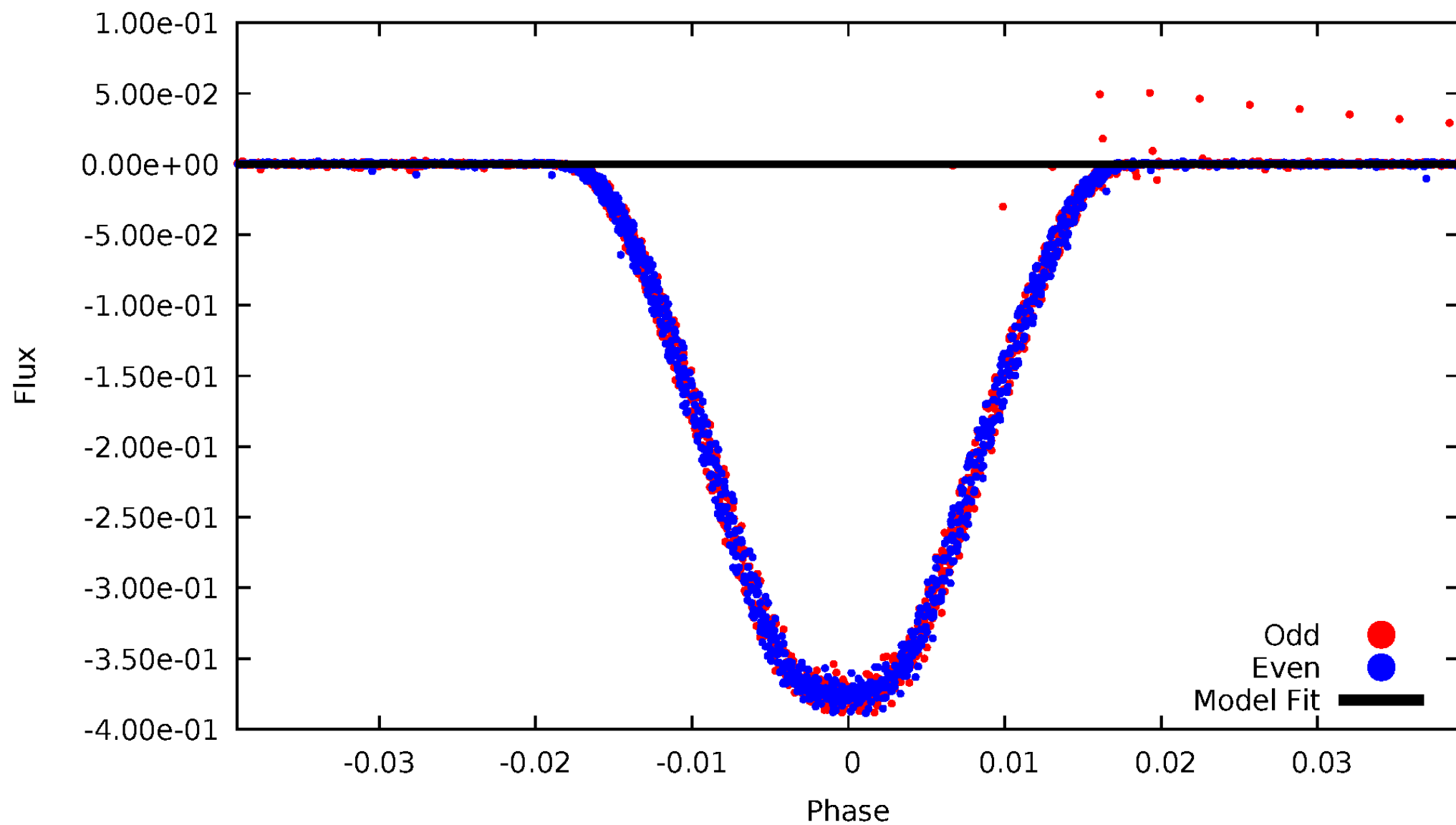


TCE 006182849-01



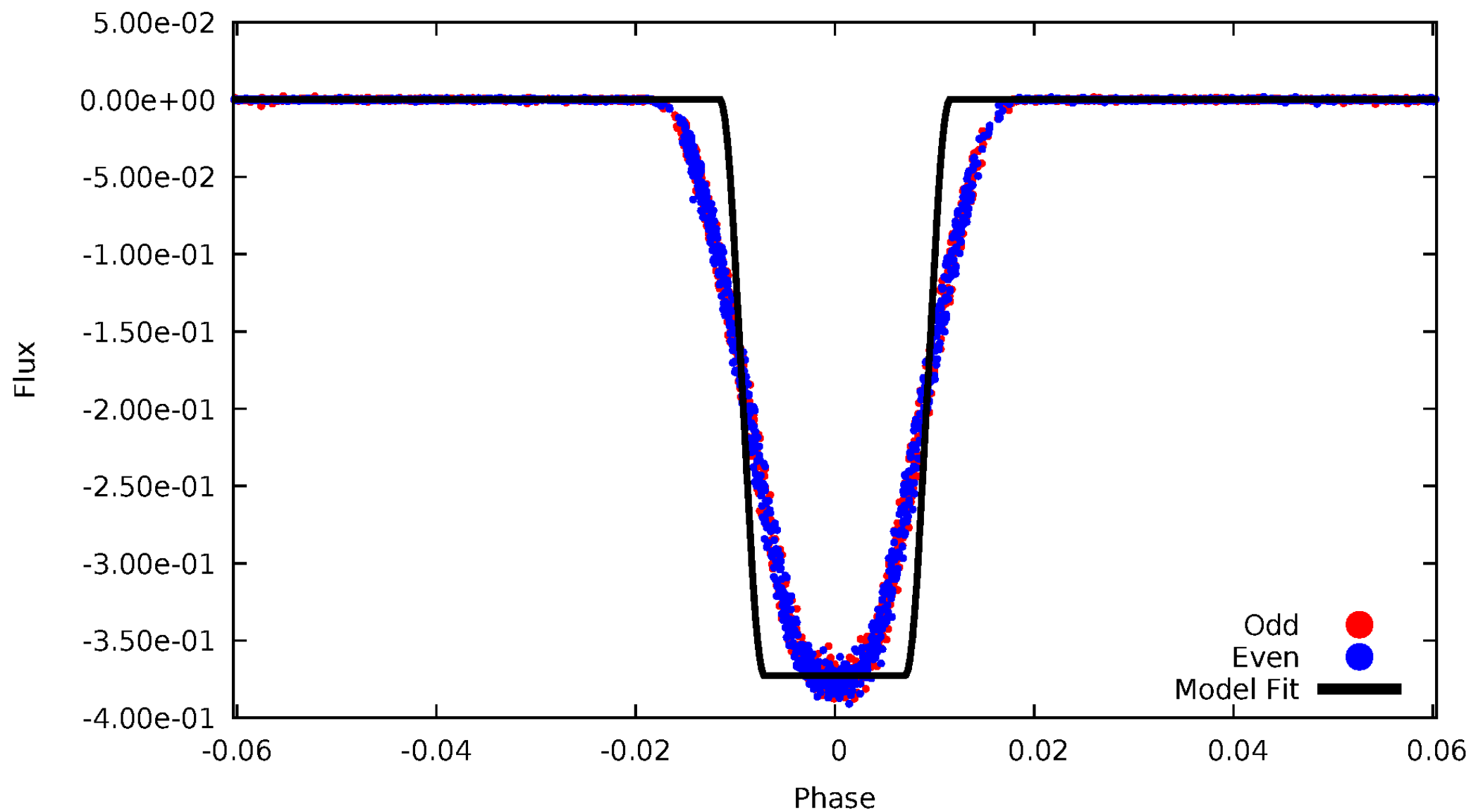
# DV Odd/Even

TCE 006182849-01



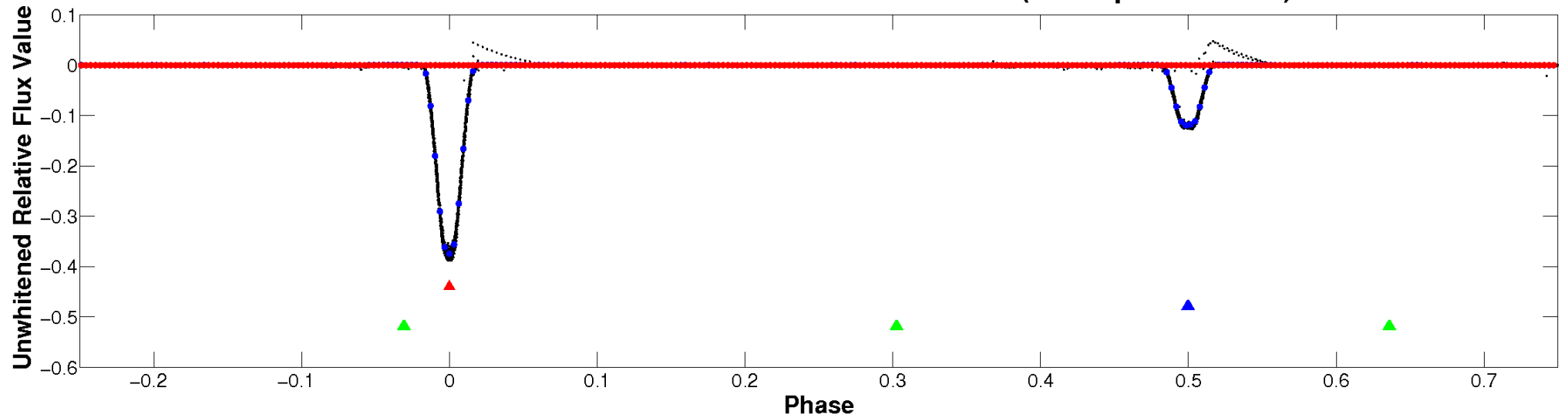
# ALT Odd/Even

TCE 006182849-01

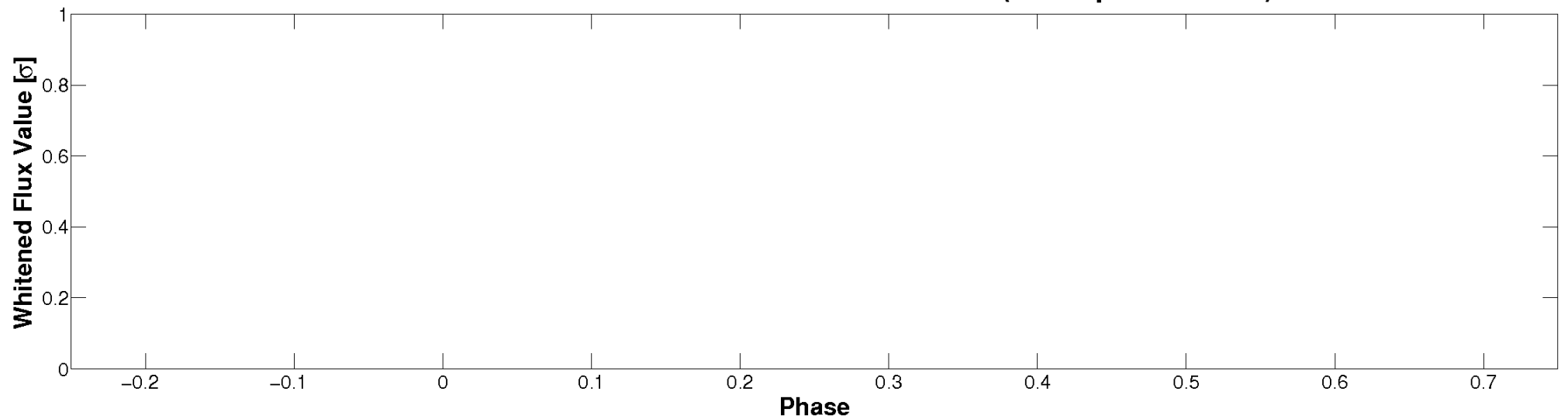


# Non-Whitened Vs. Whitened Light Curve

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

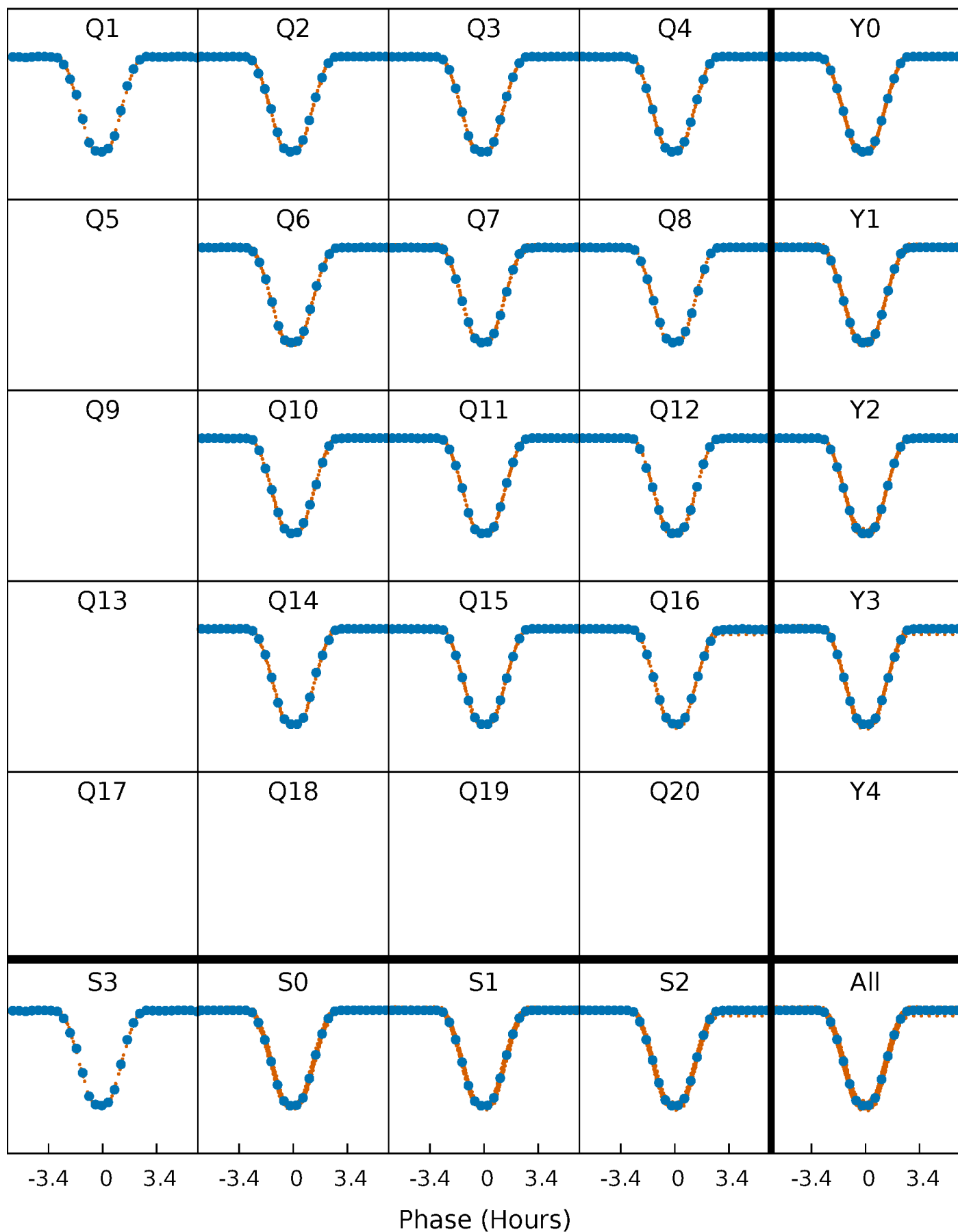


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



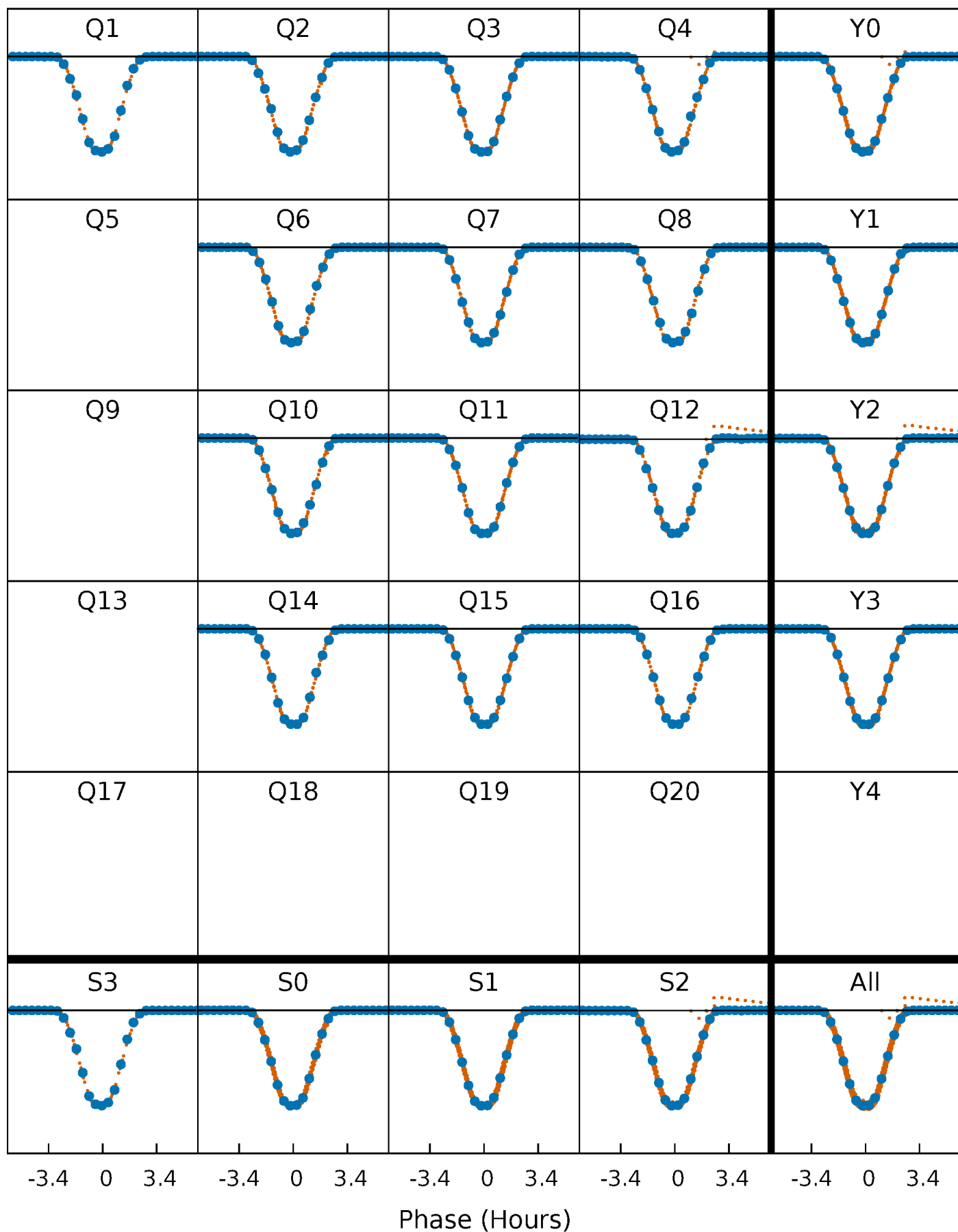
# PDC Quarter-Phased Transit Curves

TCE 006182849-01 P= 6.399074 Days  $T_0=134.707028$  (BKJD)



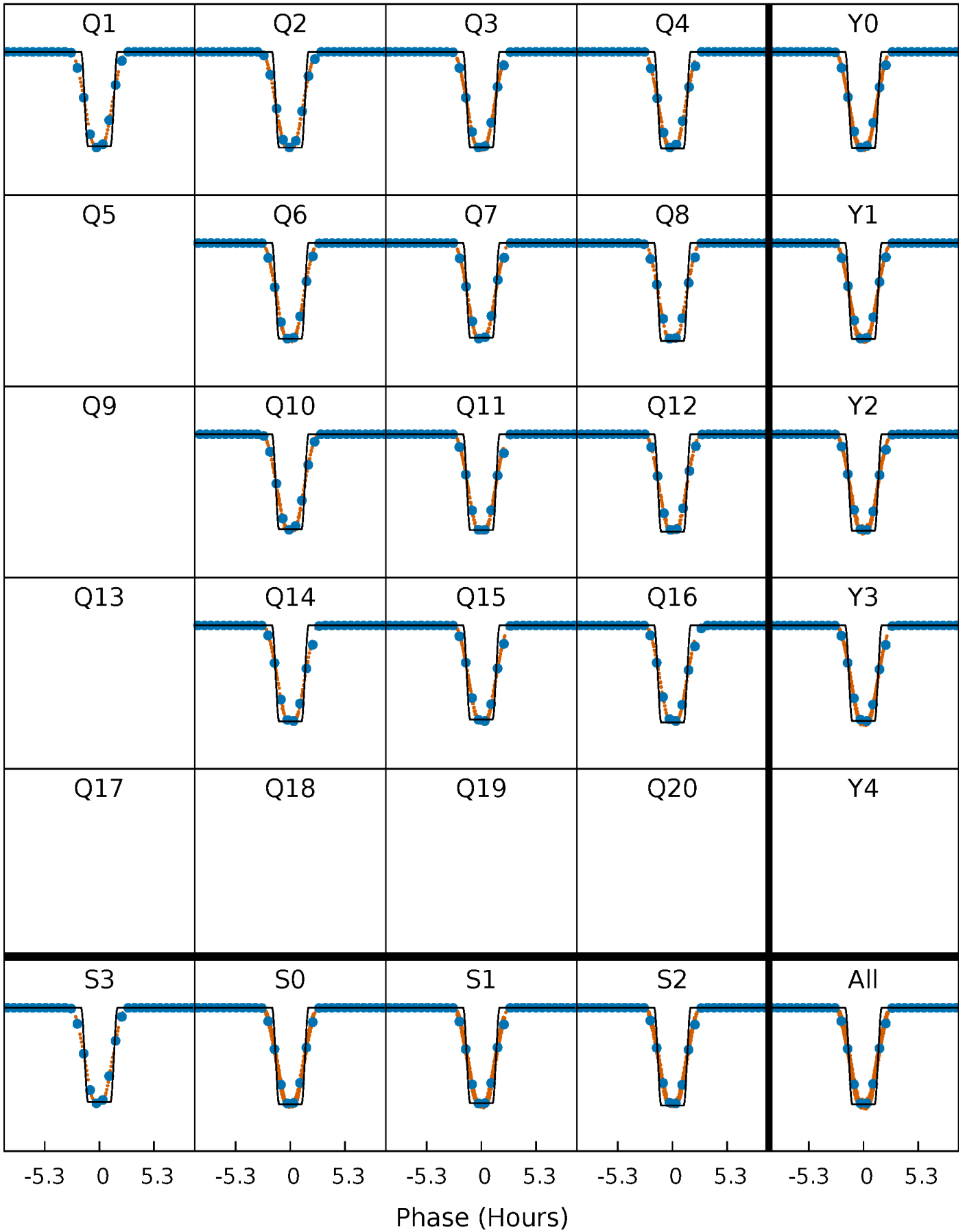
# DV Quarter-Phased Transit Curves

TCE 006182849-01 P= 6.399074 Days  $T_0=134.707028$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

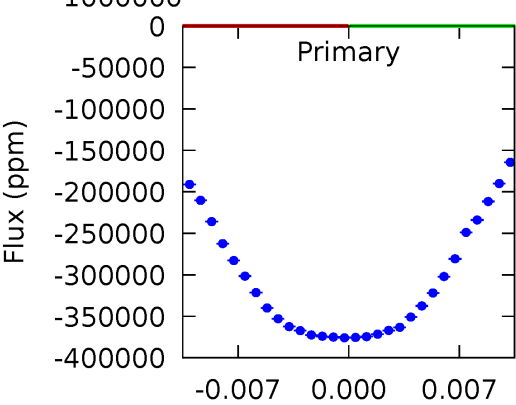
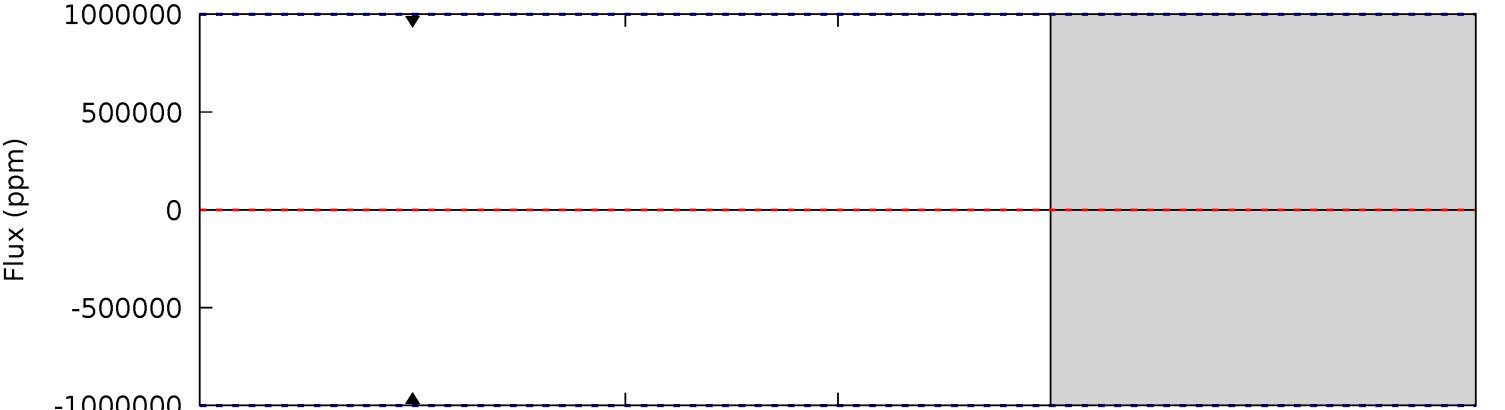
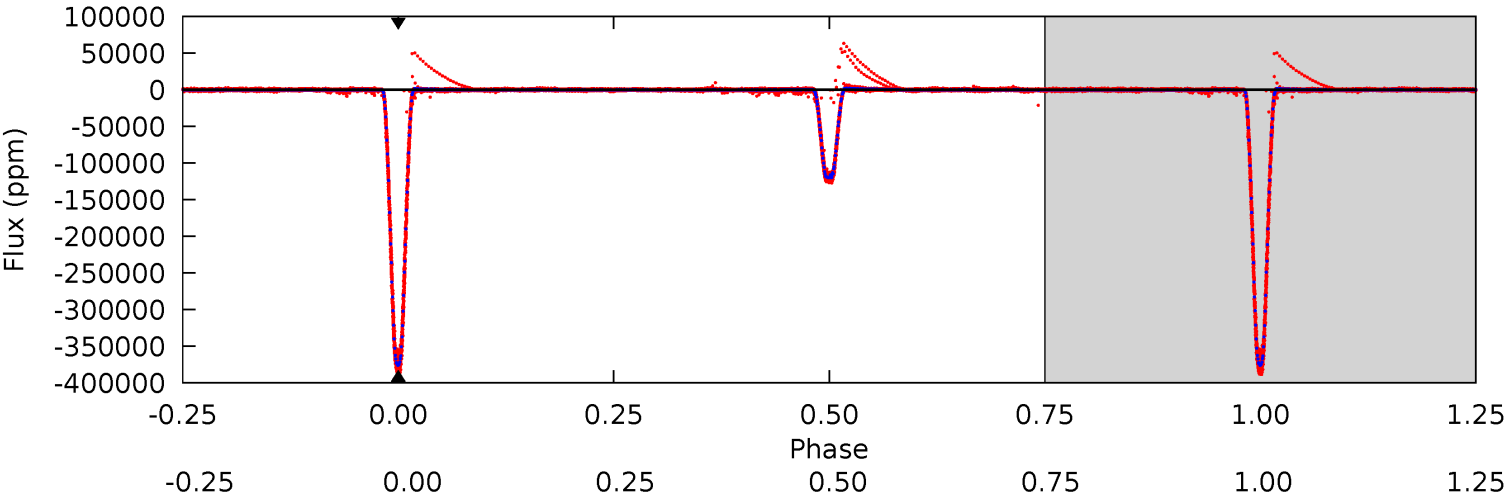
TCE 006182849-01   P= 6.399074 Days    $T_0=134.704989$  (BKJD)



# DV Model-Shift Uniqueness Test

006182849-01, P = 6.399074 Days, E = 128.307954 Days

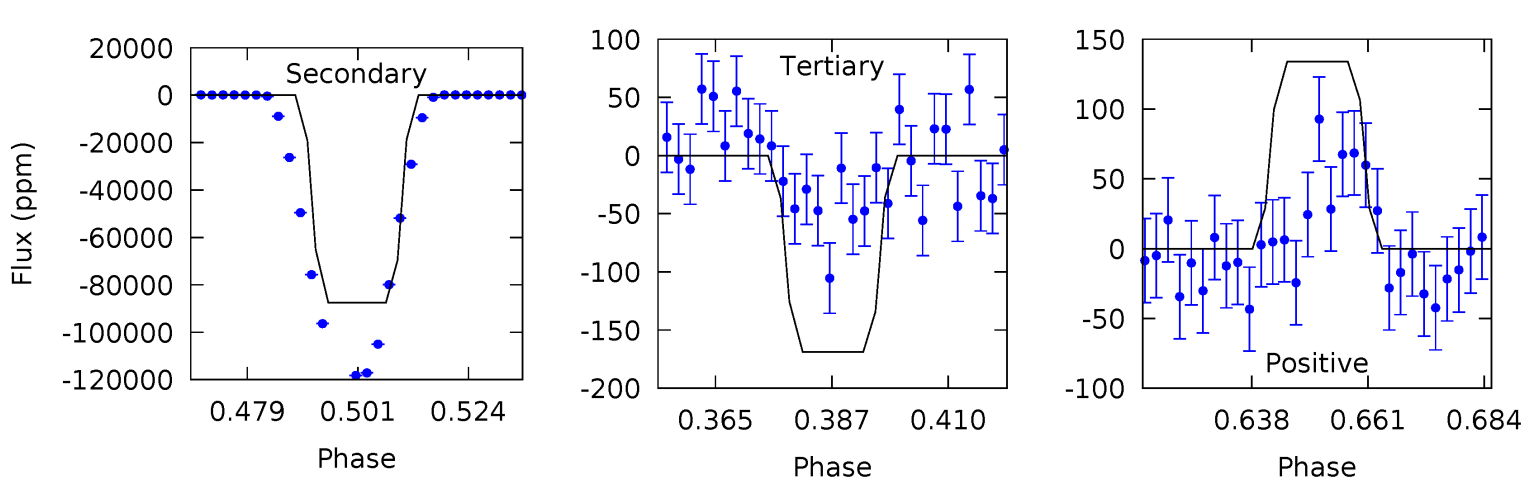
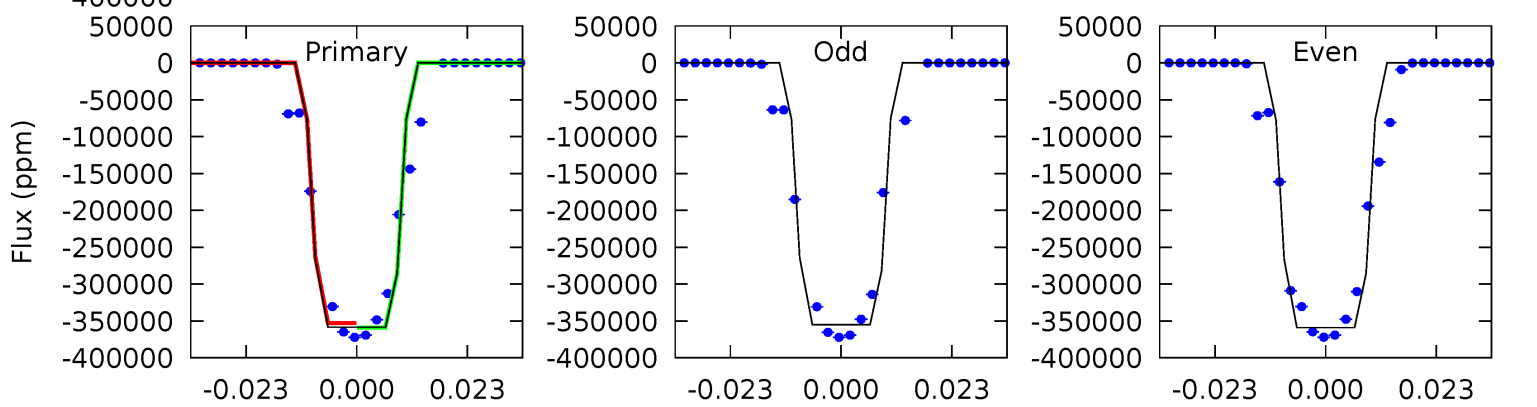
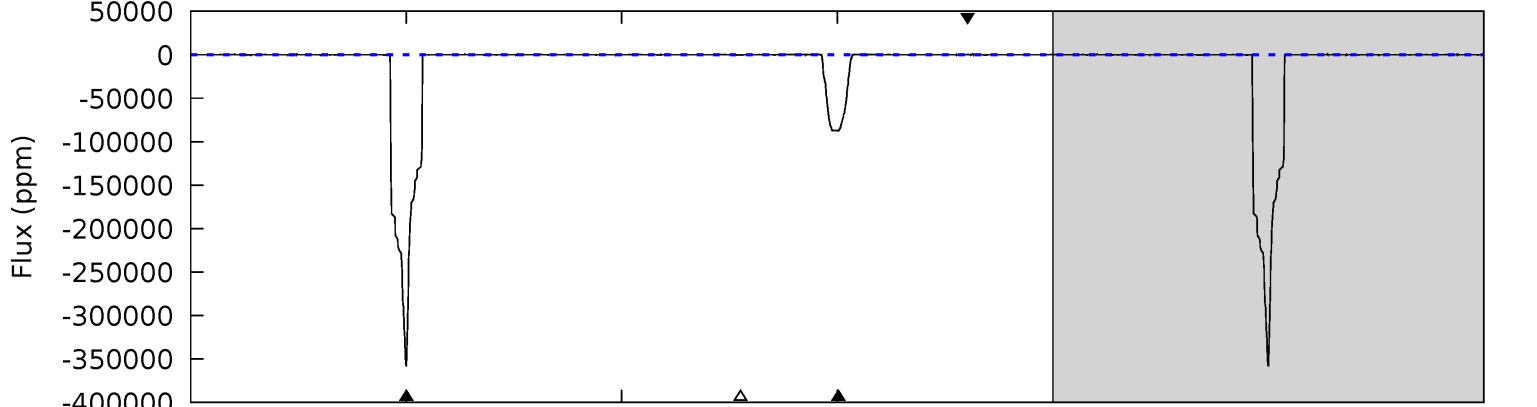
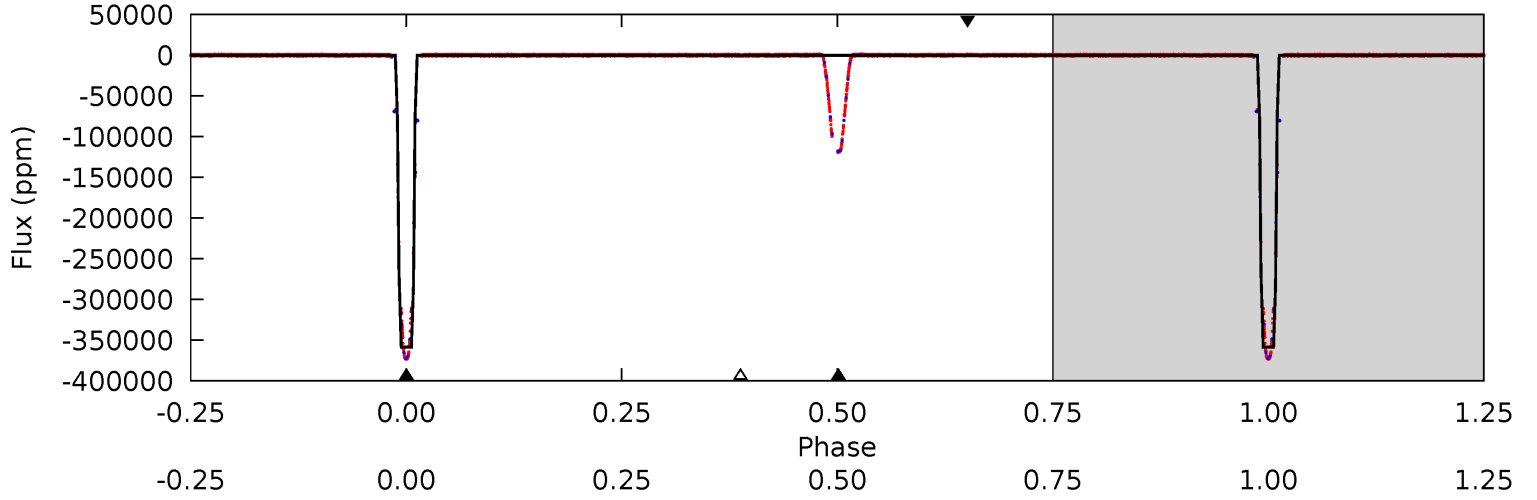
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

006182849-01, P = 6.399074 Days, E = 128.305915 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
10674	2608	5.03	3.99	4.87	2.28	1.28	10669	10670	2603	2604	61.1	1.00	0.00	0



### Stellar Parameters For KIC 006182849

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6133^{+164}_{-182}$	$4.435^{+0.116}_{-0.174}$	$-0.640^{+0.300}_{-0.300}$	$0.935^{+0.244}_{-0.122}$	$0.868^{+0.099}_{-0.072}$	$1.494^{+0.670}_{-0.709}$
	+3%/-3%	+3%/-4%	+47%/-47%	+26%/-13%	+11%/-8%	+45%/-47%
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 006182849-01 / KOI 3512.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$52.22^{+11.68}_{-11.63}$	$1445^{+107}_{-75}$	$2280^{+2870}_{-7210}$	$0.856^{+101.872}_{-84.796}$
Alt.	$-87564 \pm 34$	$63.04^{+13.02}_{-11.41}$	$1445^{+90}_{-75}$	$4532^{+353}_{-251}$	$55^{+27}_{-17}$

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

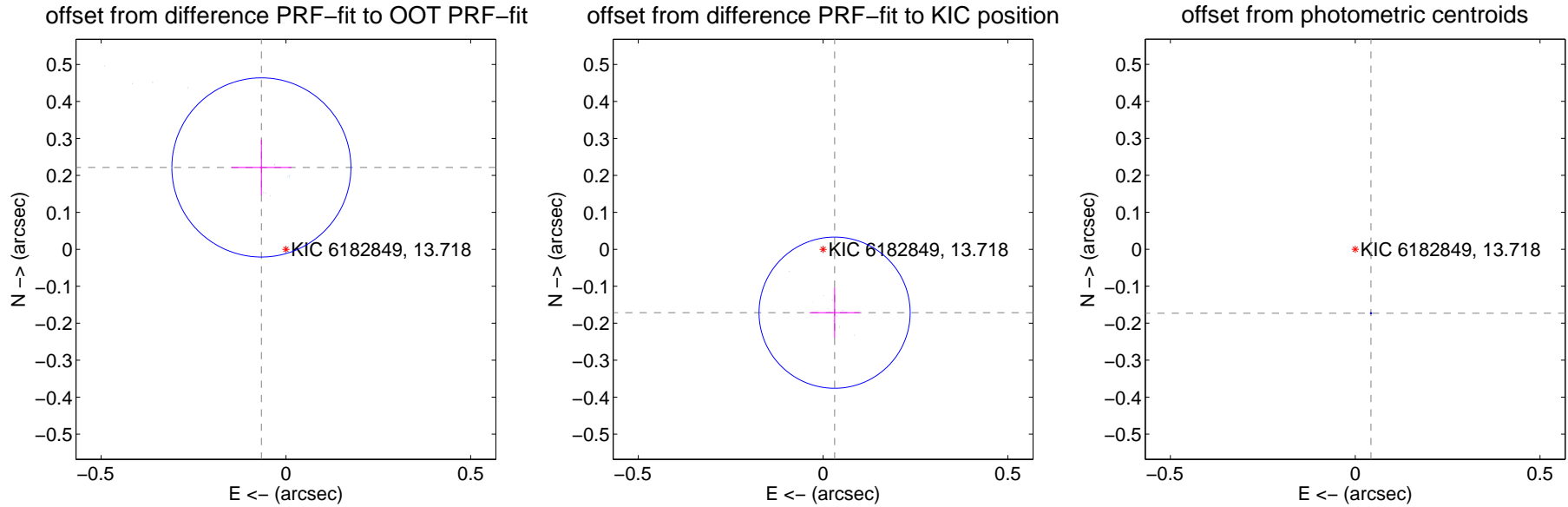
## DV Centroid Data

Supplemental centroid analysis for 006182849-01. Kepler magnitude: 13.72. Transit SNR -1.00

There are 13 quarters with good PRF difference image offsets

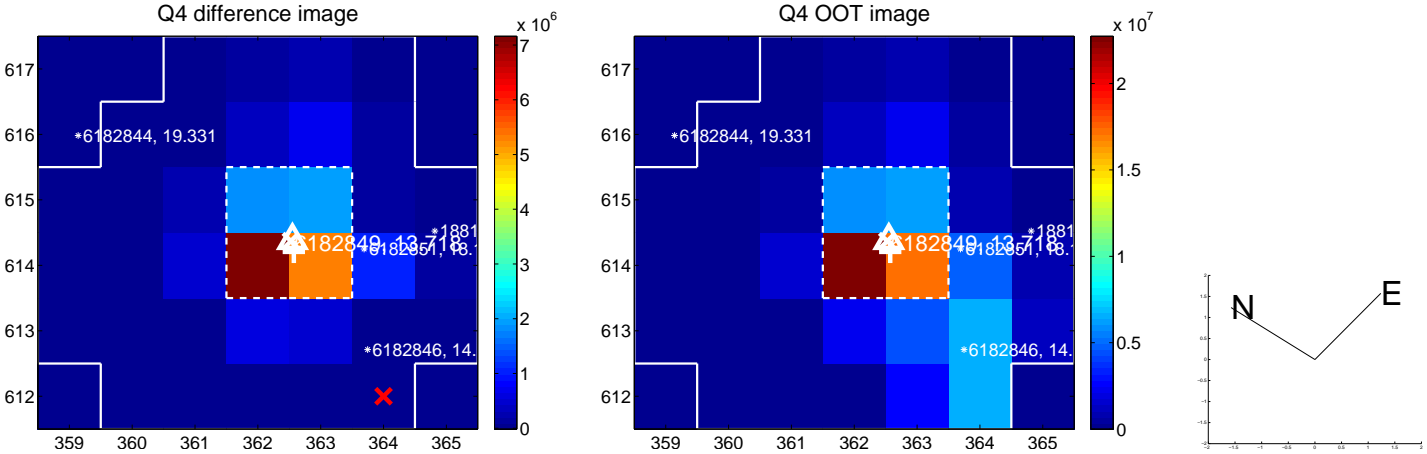
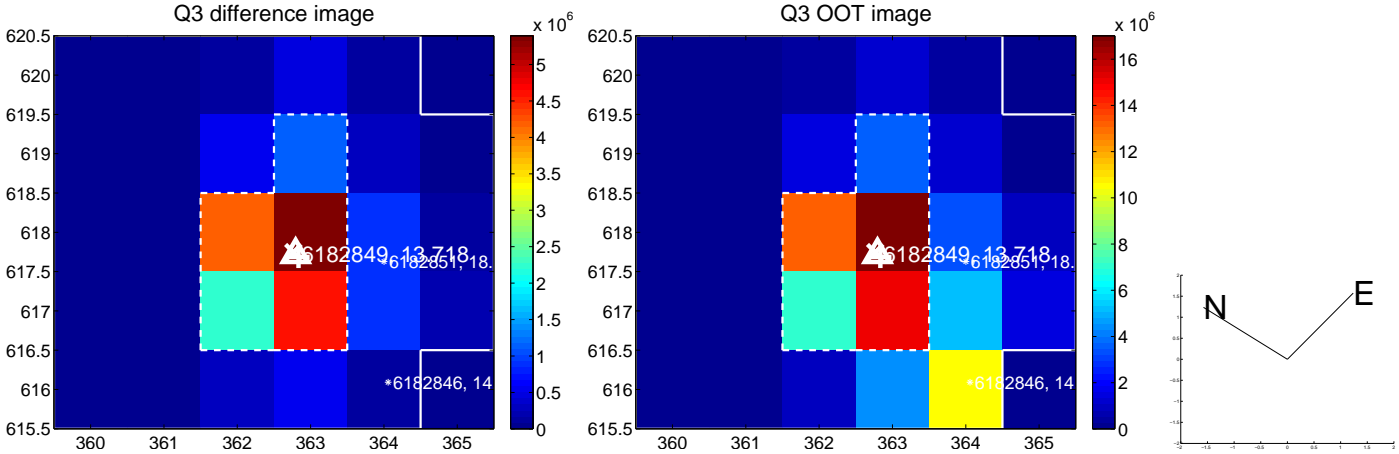
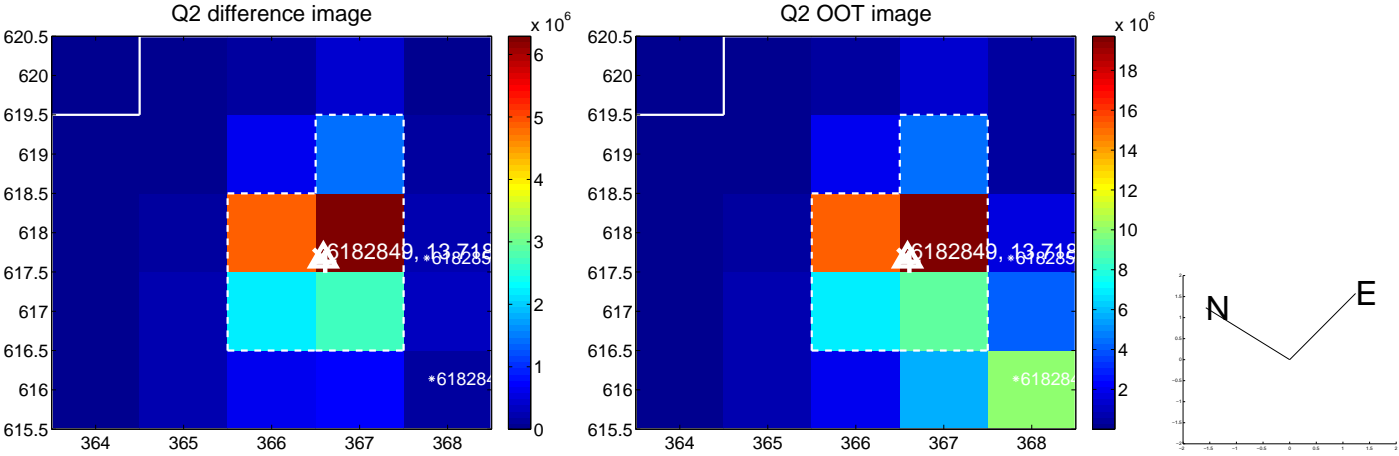
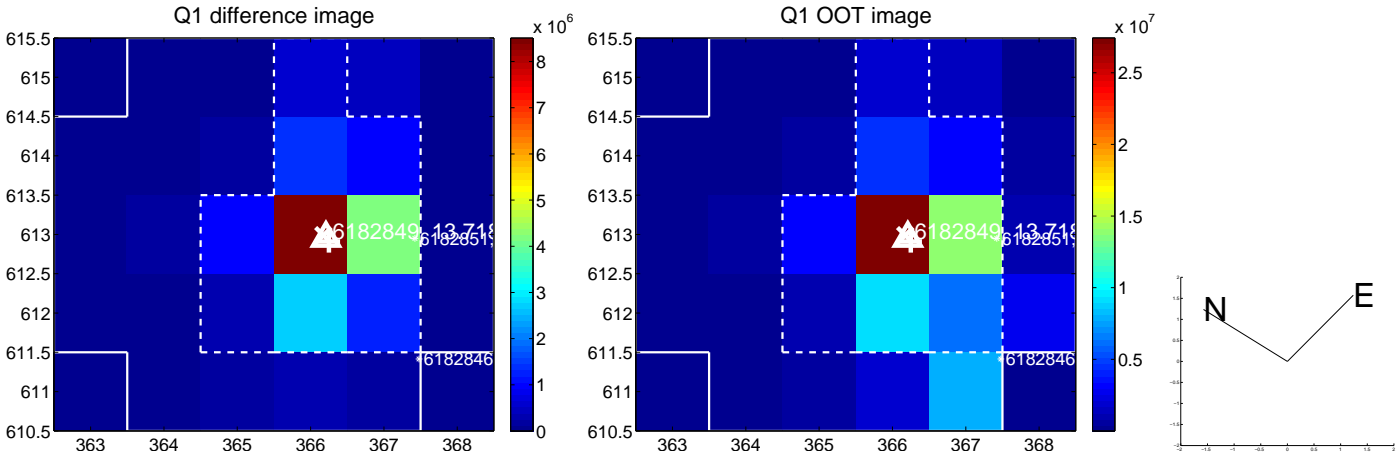
The direct PRF centroid is offset from the target star catalog position by about 0.74 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.231 \pm 0.081$	2.86	$0.066 \pm 0.081$	$0.221 \pm 0.075$
PRF-fit source offset from KIC position	$0.174 \pm 0.068$	2.56	$-0.031 \pm 0.068$	$-0.171 \pm 0.068$
photometric centroid source offset	$0.18 \pm 0.00$	318.43	$-0.04 \pm 0.00$	$-0.17 \pm 0.00$

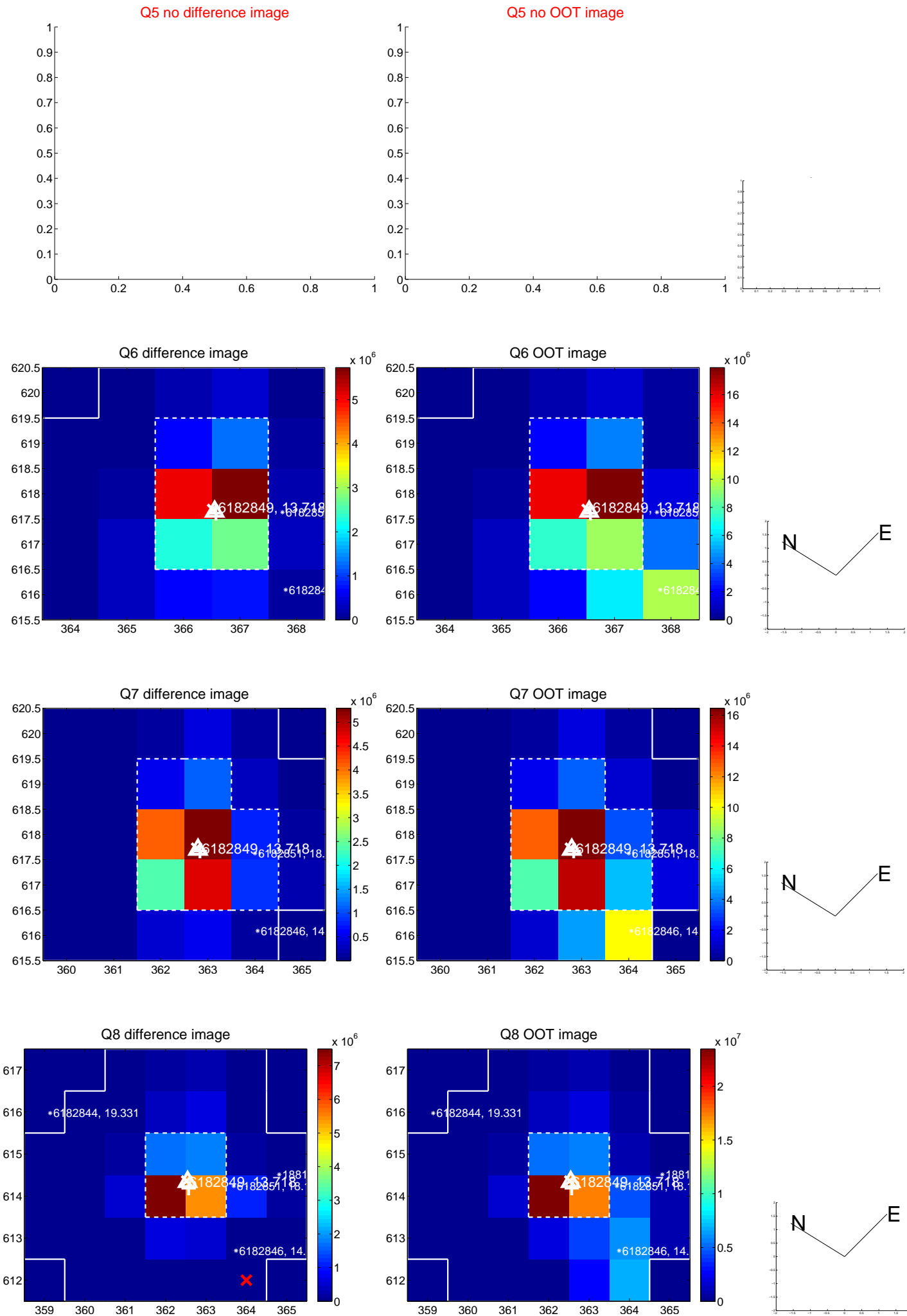


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

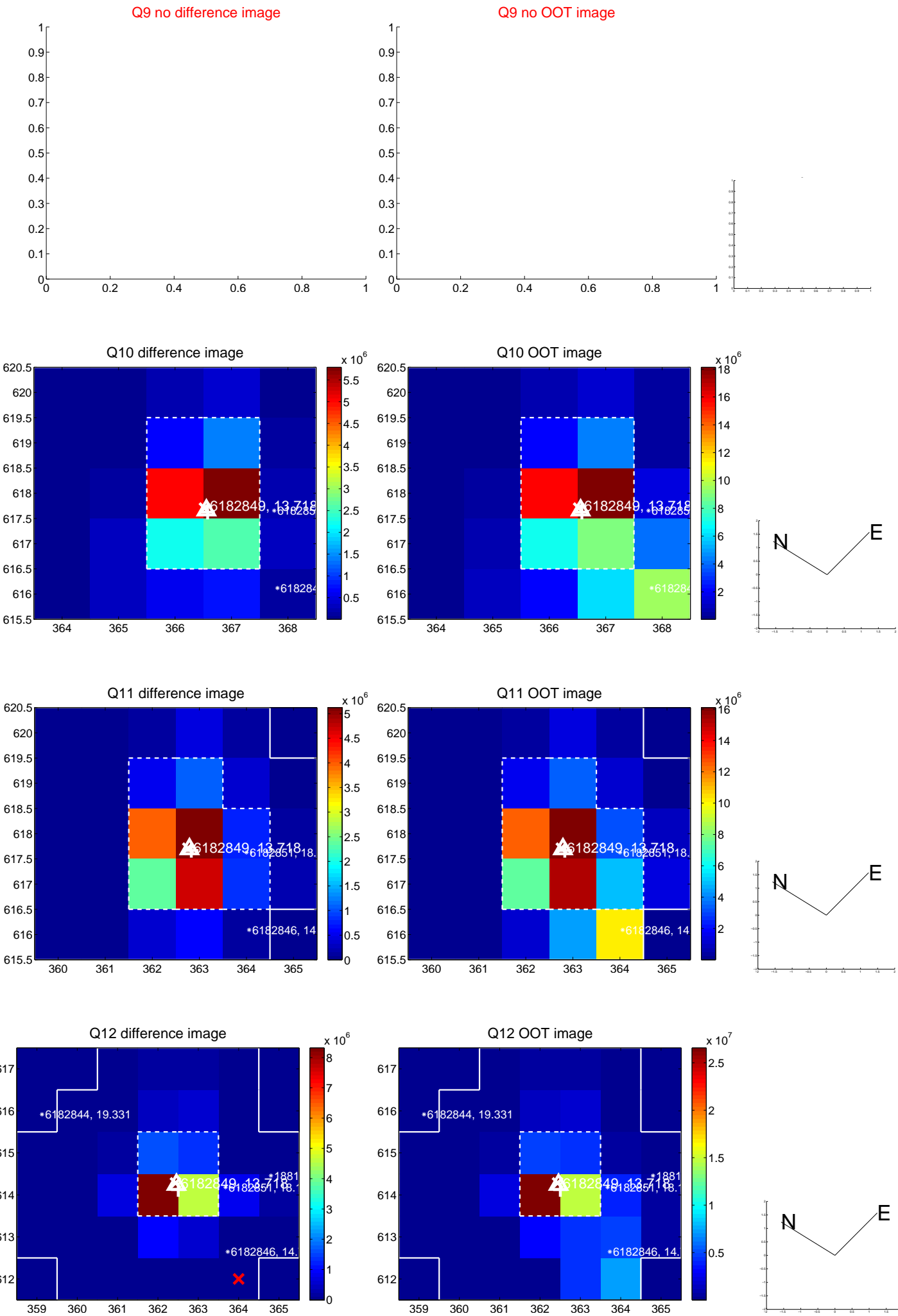
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



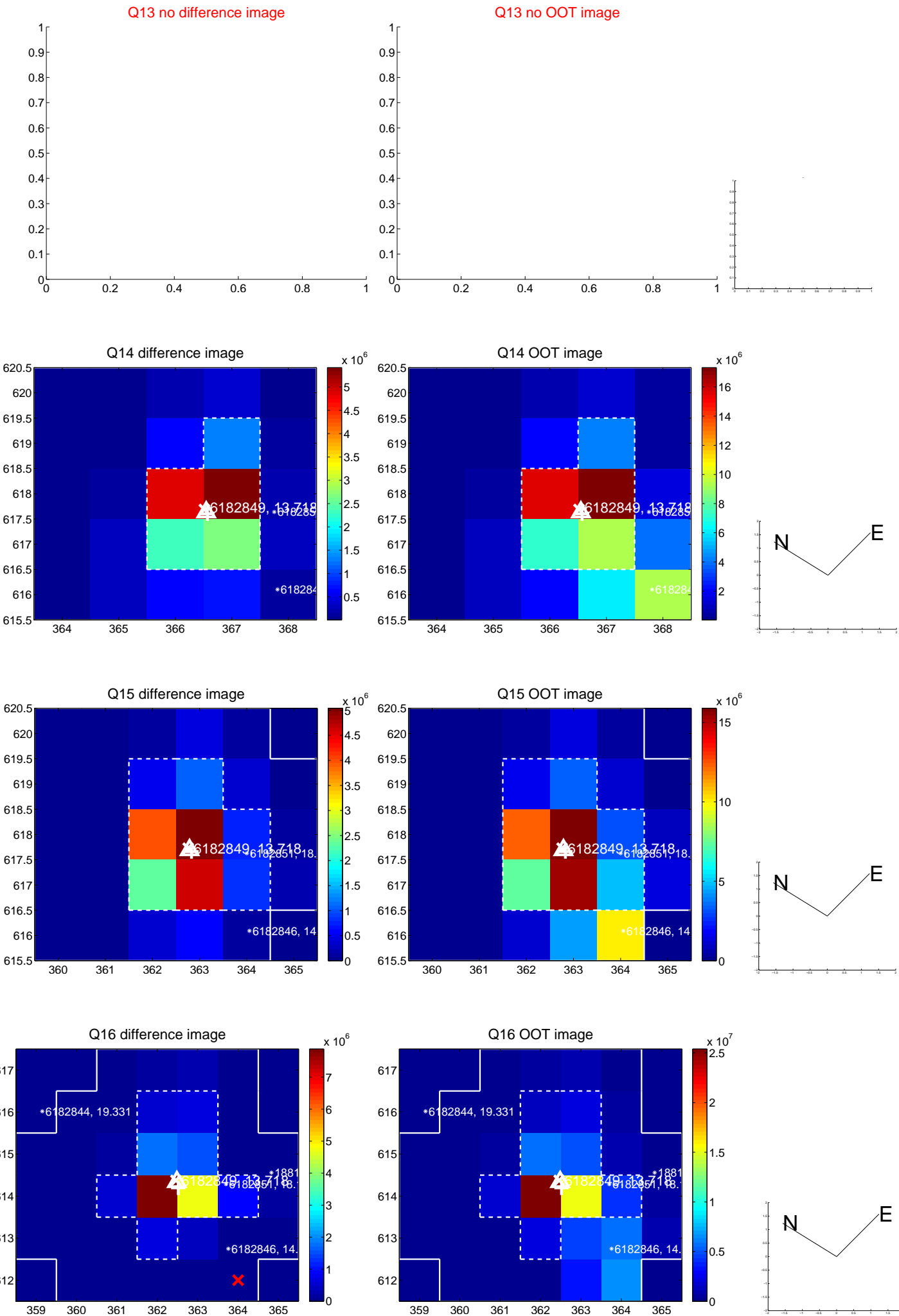
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



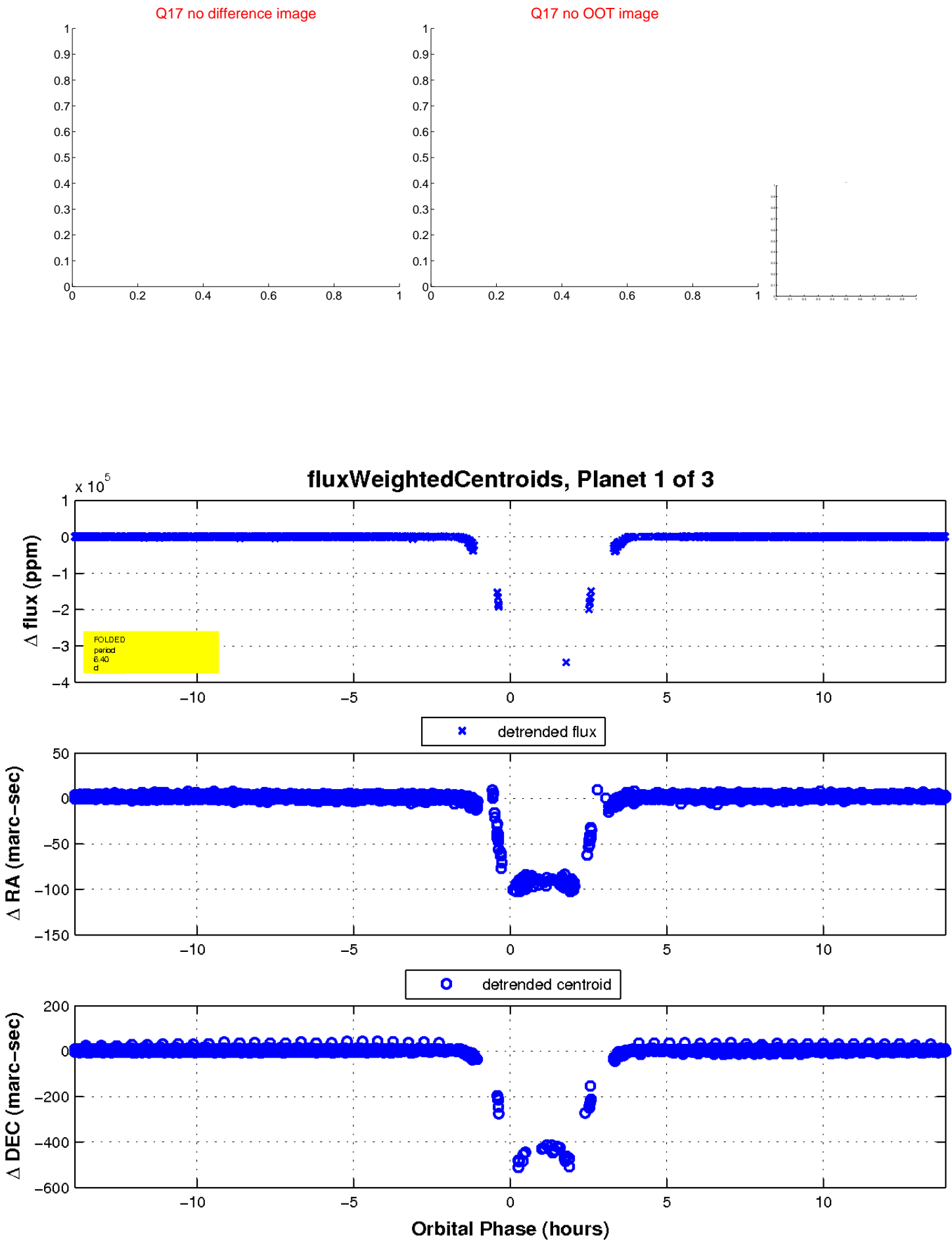
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

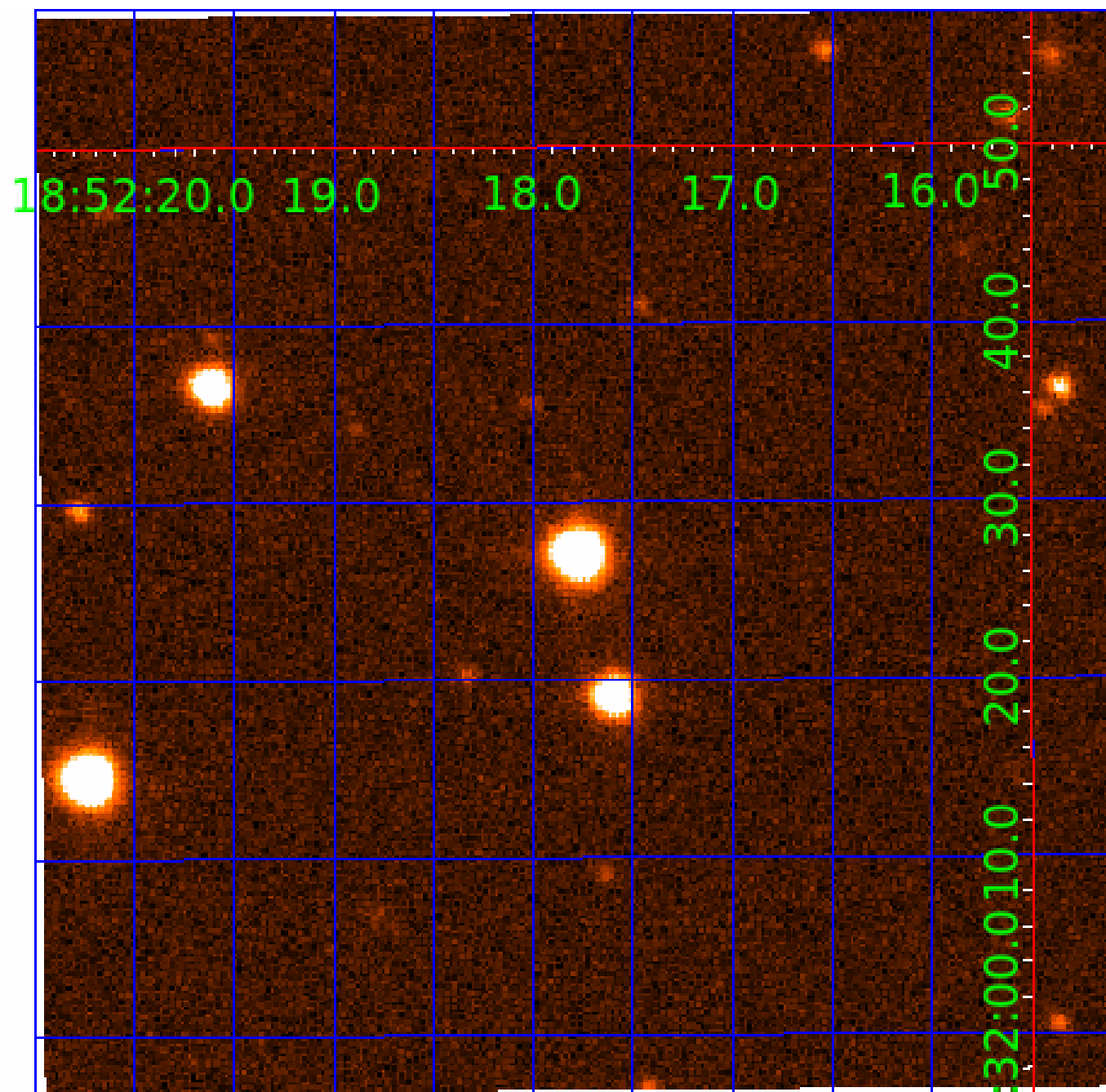


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 006182849

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006182849-01	OBS	3512.01	6.399074	134.707028	375631.1	3.000	20957.1	-1.0	0.94	6133	51.02	267.49
006182849-02	OBS	No	6.399109	137.901177	121507.5	5.089	7292.6	4285.5	0.94	6133	34.75	267.49
006182849-03	OBS	No	4.266023	134.514727	19076.3	12.500	763.4	-1.0	0.94	6133	12.97	459.30

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006182849-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
006182849-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006182849-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

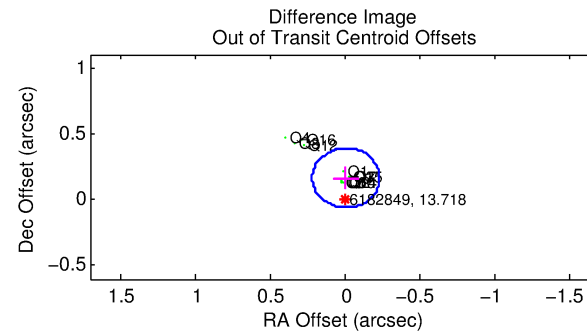
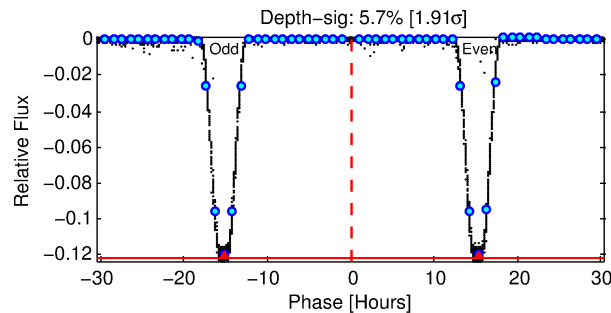
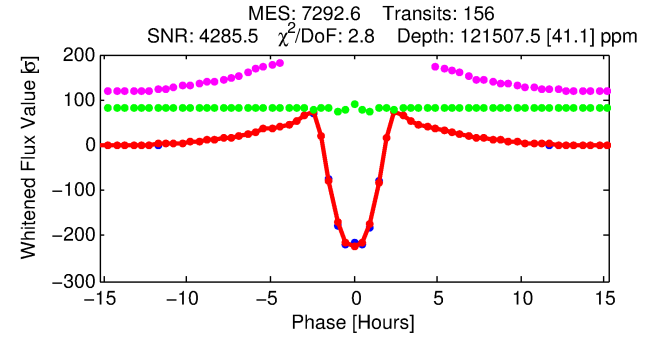
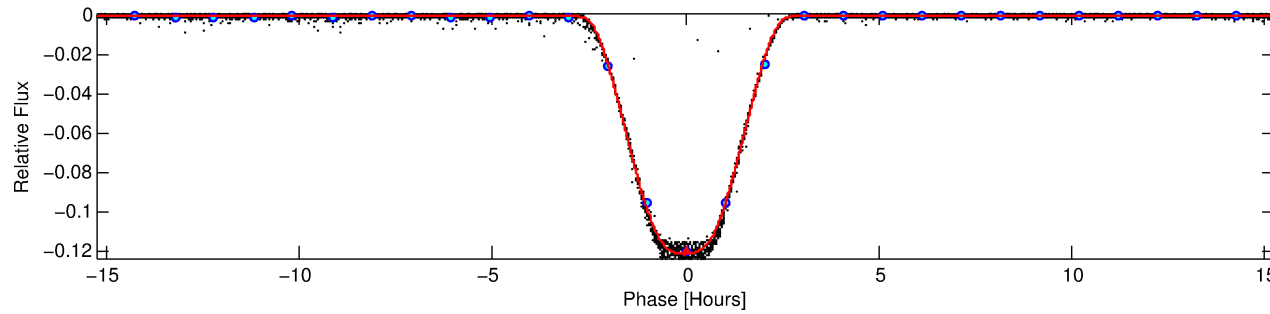
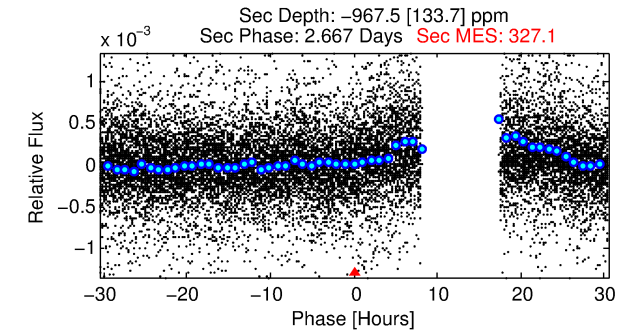
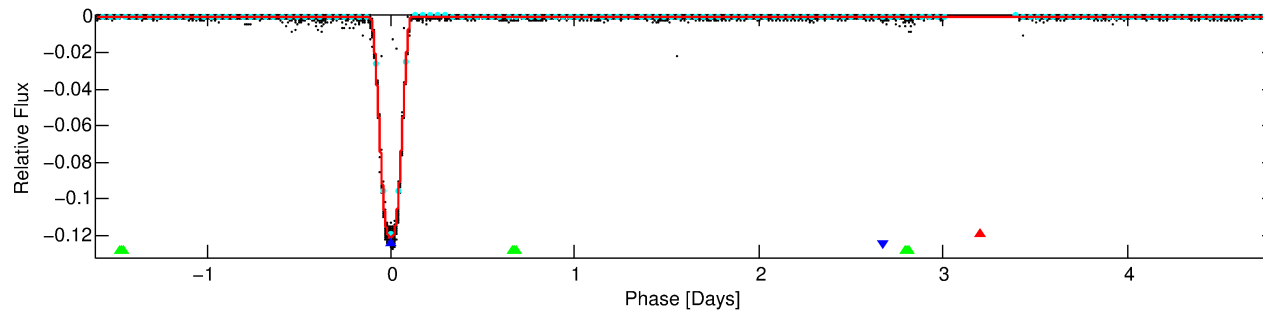
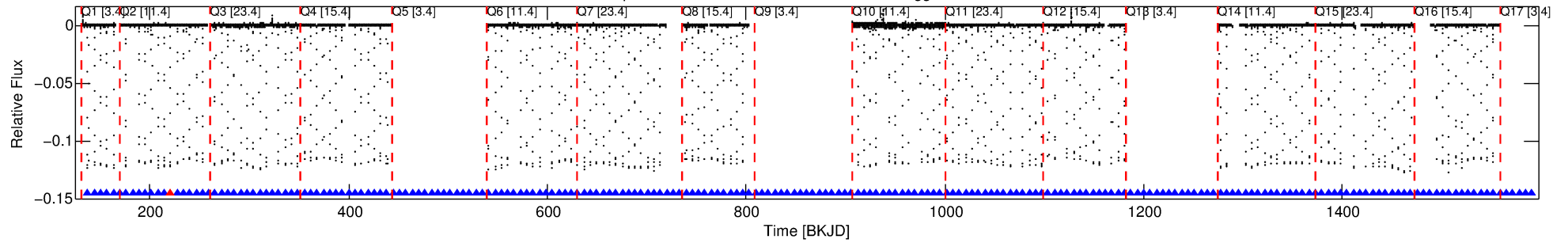
## Ephemeris Match Information For 006182849-02

No Significant Match Found

# DV One-Page Summary

KIC: 6182849 Candidate: 2 of 3 Period: 6.399 d  
KOI: K03512 Corr: No Ephemeris Match

Kp: 13.72 R\*: 0.94 Rs Teff: 6133.0 K Logg: 4.43 Fe/H: -0.640



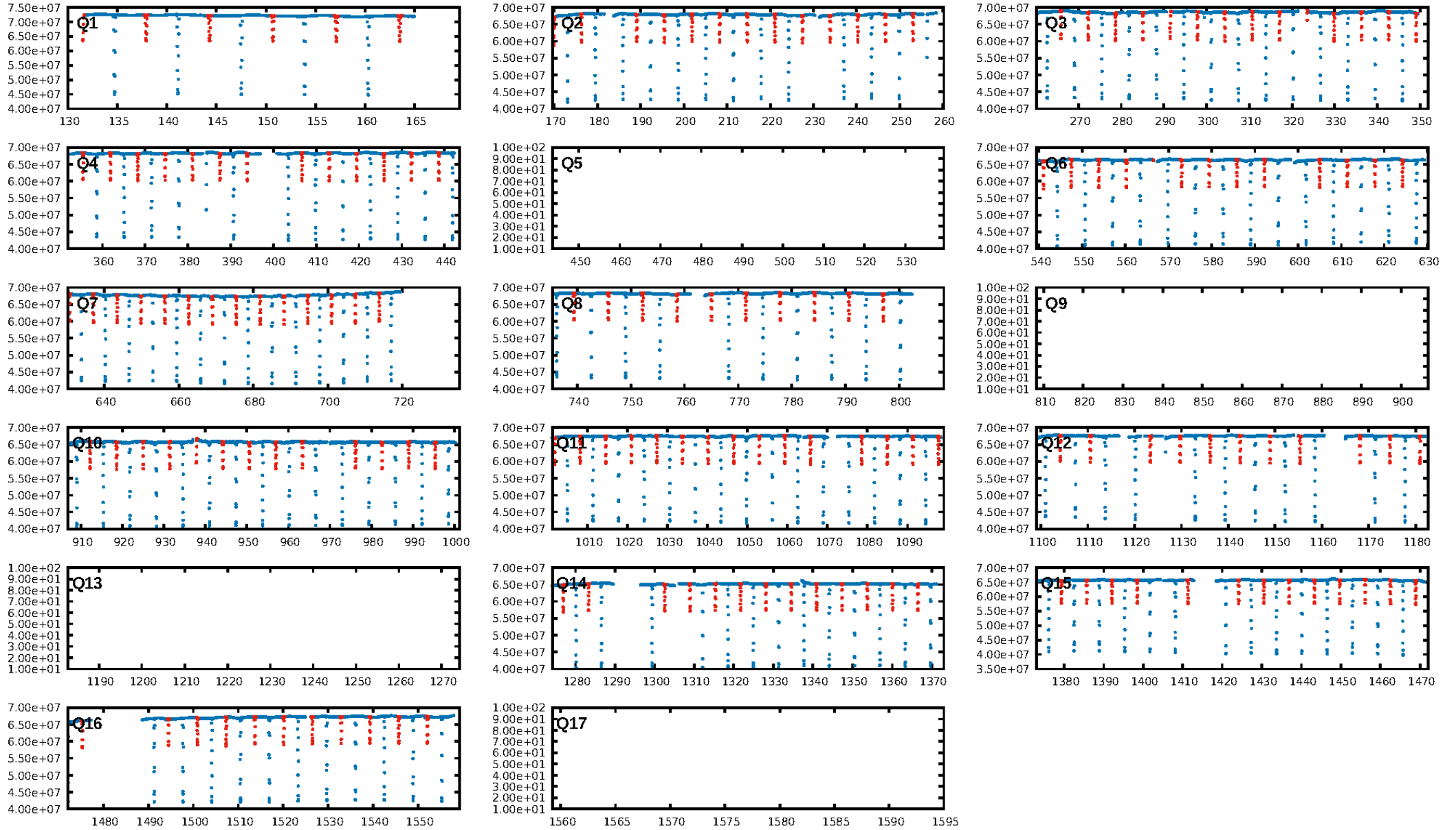
## DV Fit Results:

Period = 6.39911 [0.00000] d  
Epoch = 137.9012 [0.0000] BKJD  
Rp/R\* = 0.3406 [0.0001]  
a/R\* = 11.50 [0.00]  
b = 0.61 [0.00]  
Seff = 267.49 [90.98]  
Teff = 1031 [88] K  
Rp = 34.75 [9.07] Re  
a = 0.0644 [0.0141] AU  
Ag = N/A  
Teffp = N/A

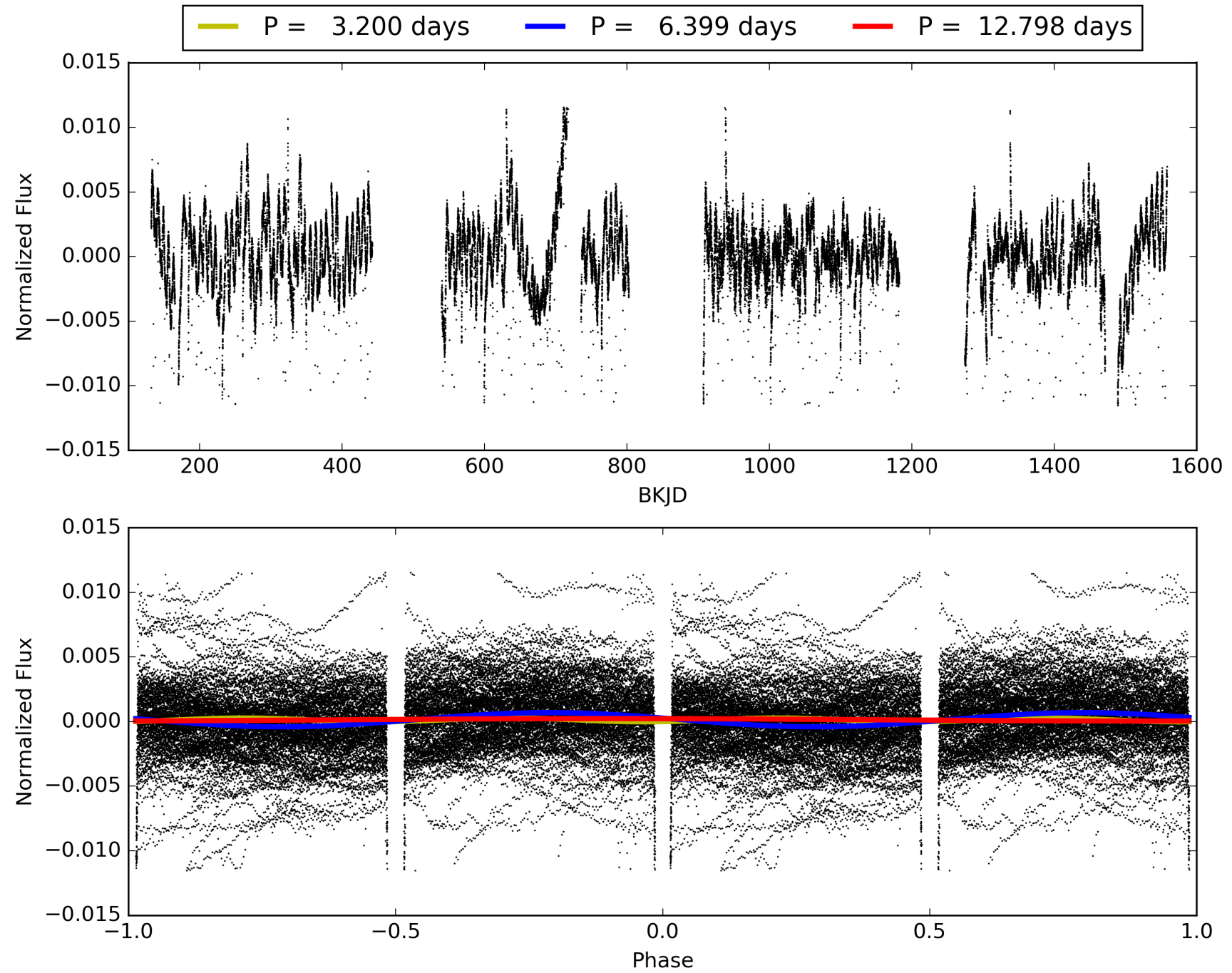
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.99 [150/151]  
GhostDiagnostic-chr: 3.516  
Centroid-sig: N/A  
Centroid-so: 0.267 arcsec [157.29σ]  
OotOffset-rm: 0.165 arcsec [2.19σ]  
KicOffset-rm: 0.201 arcsec [2.94σ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [13/13]

# TCE 006182849-02, PDC Light Curves

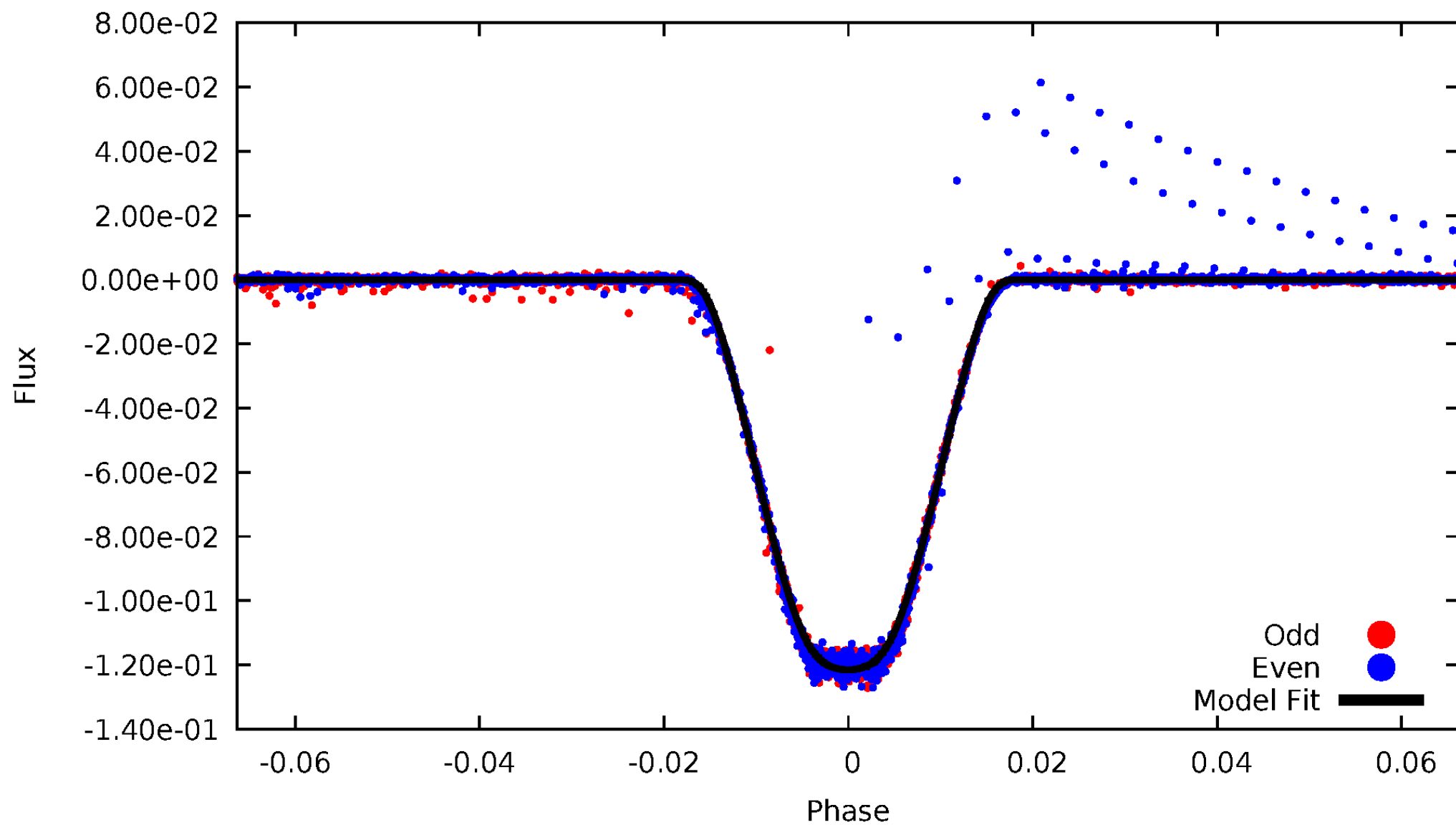


TCE 006182849-02



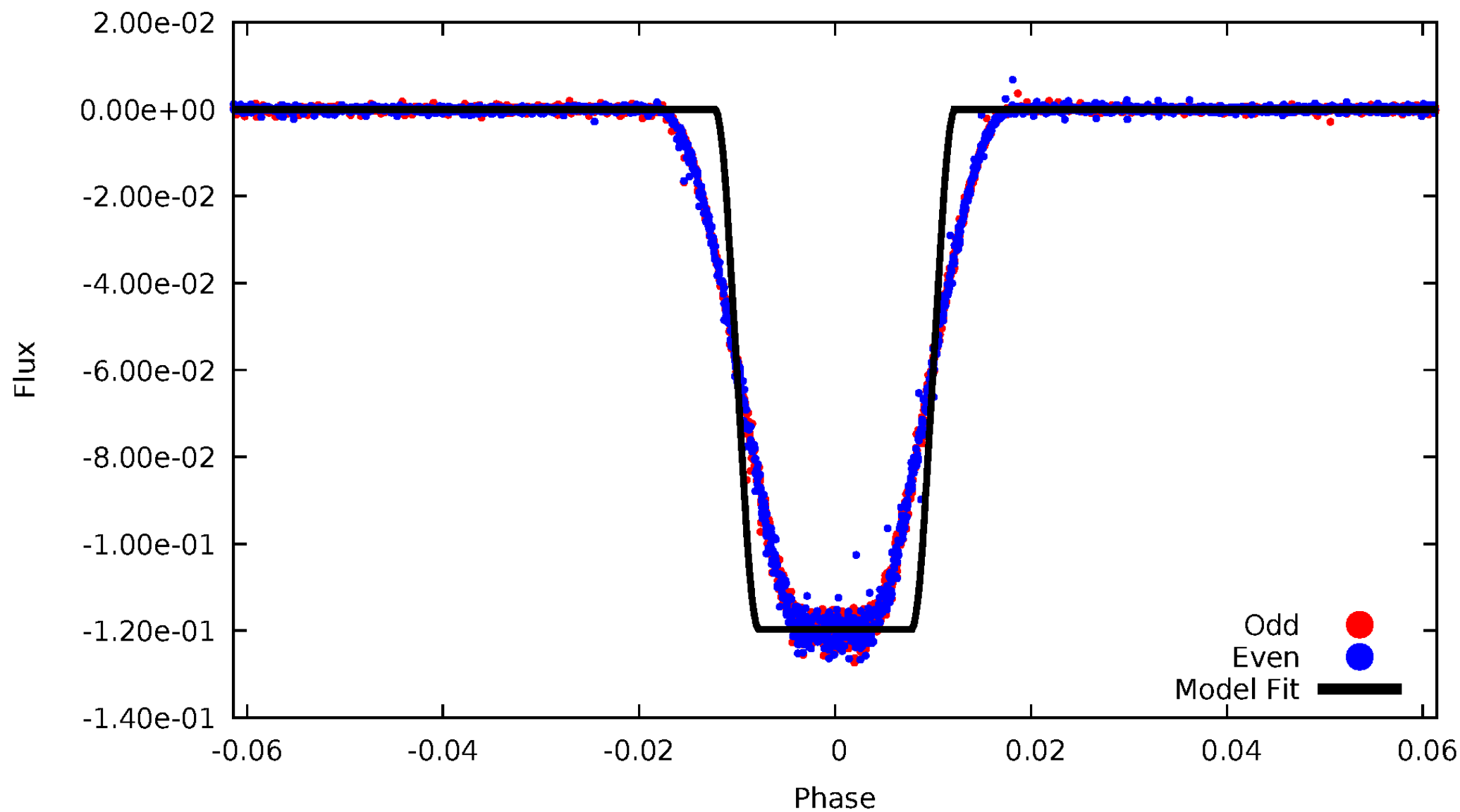
# DV Odd/Even

TCE 006182849-02



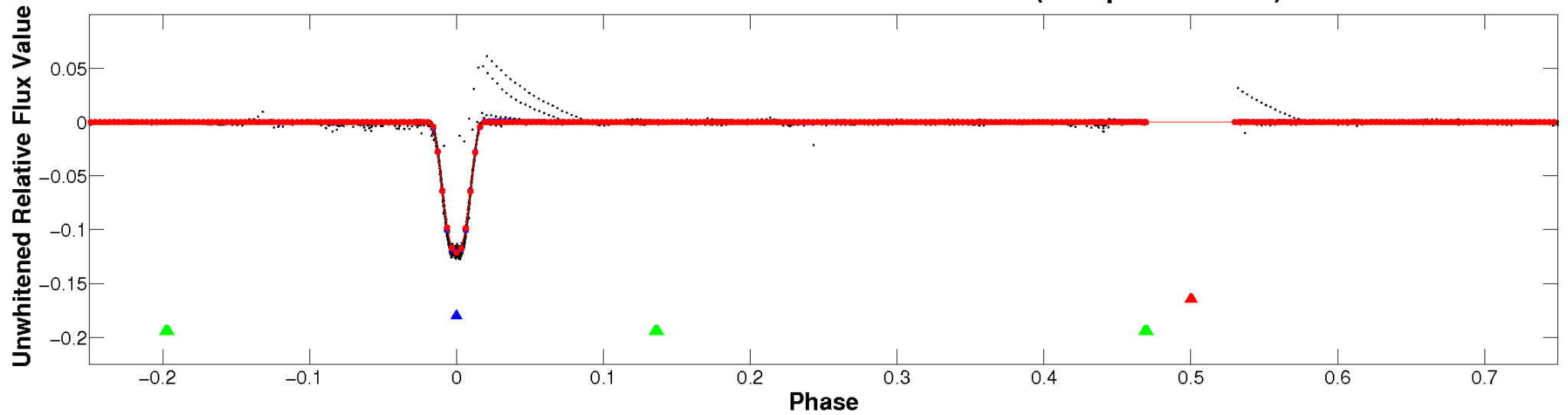
# ALT Odd/Even

TCE 006182849-02

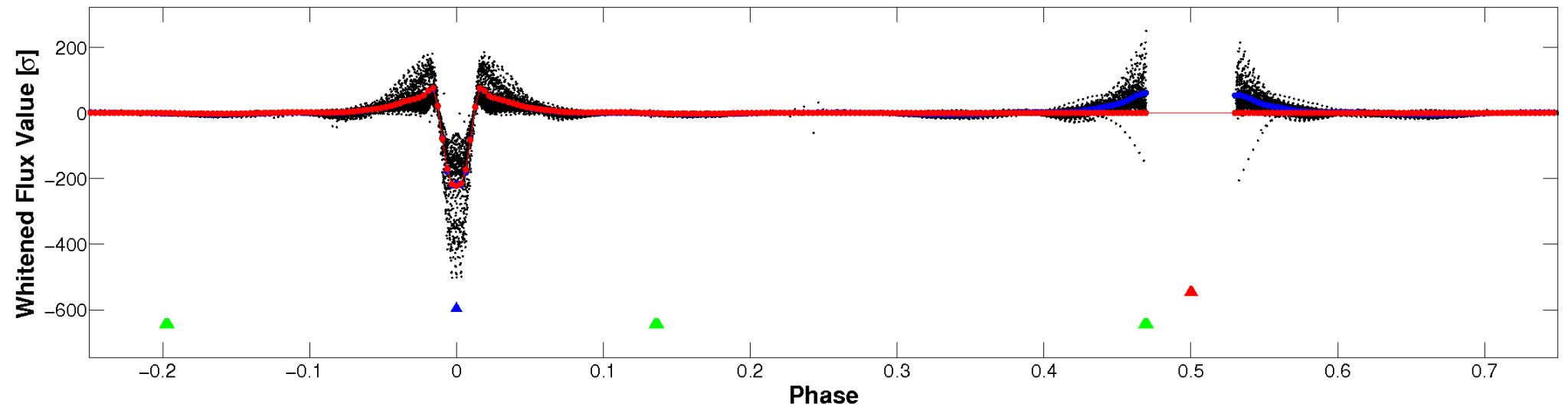


# Non-Whitened Vs. Whitened Light Curve

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

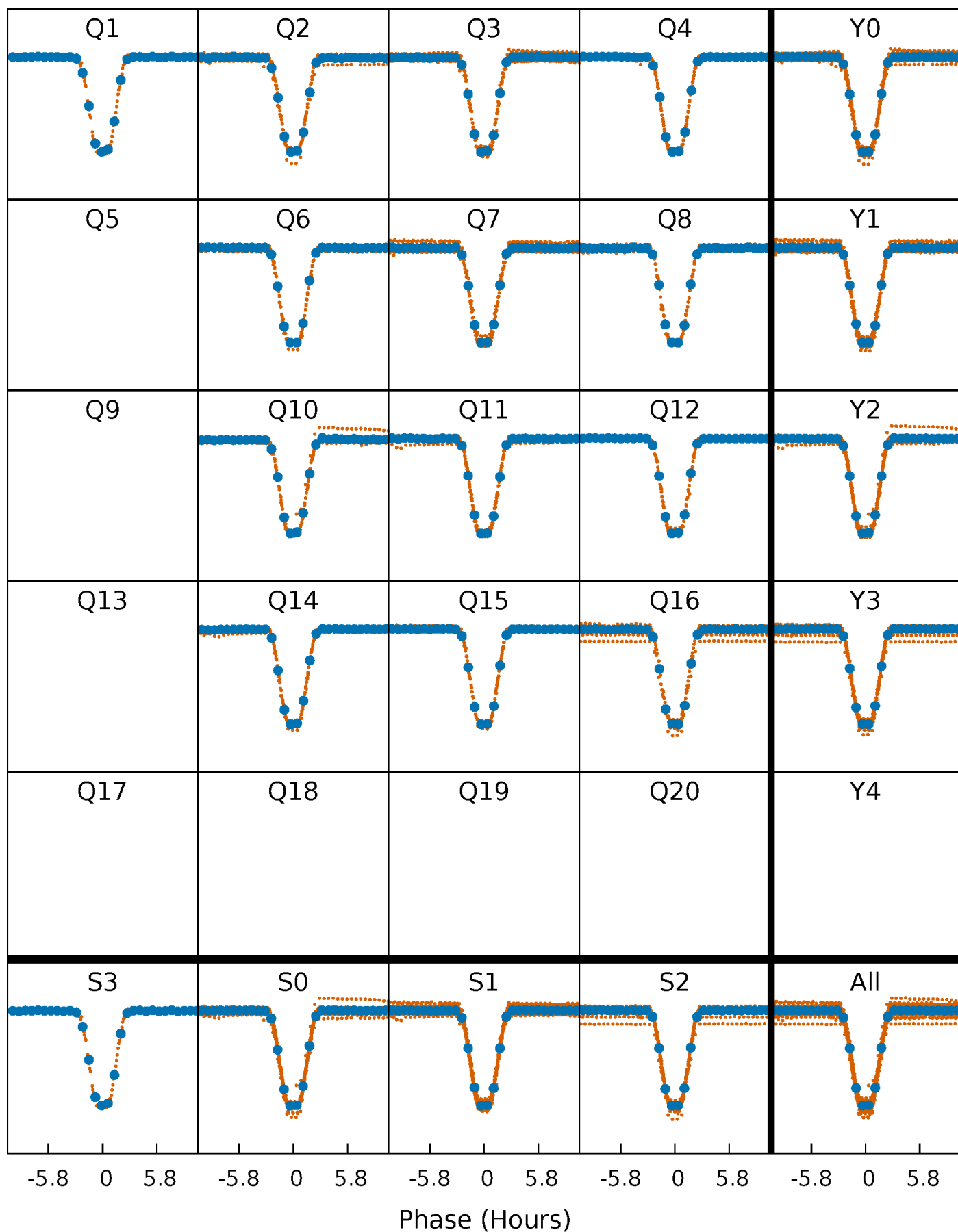


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



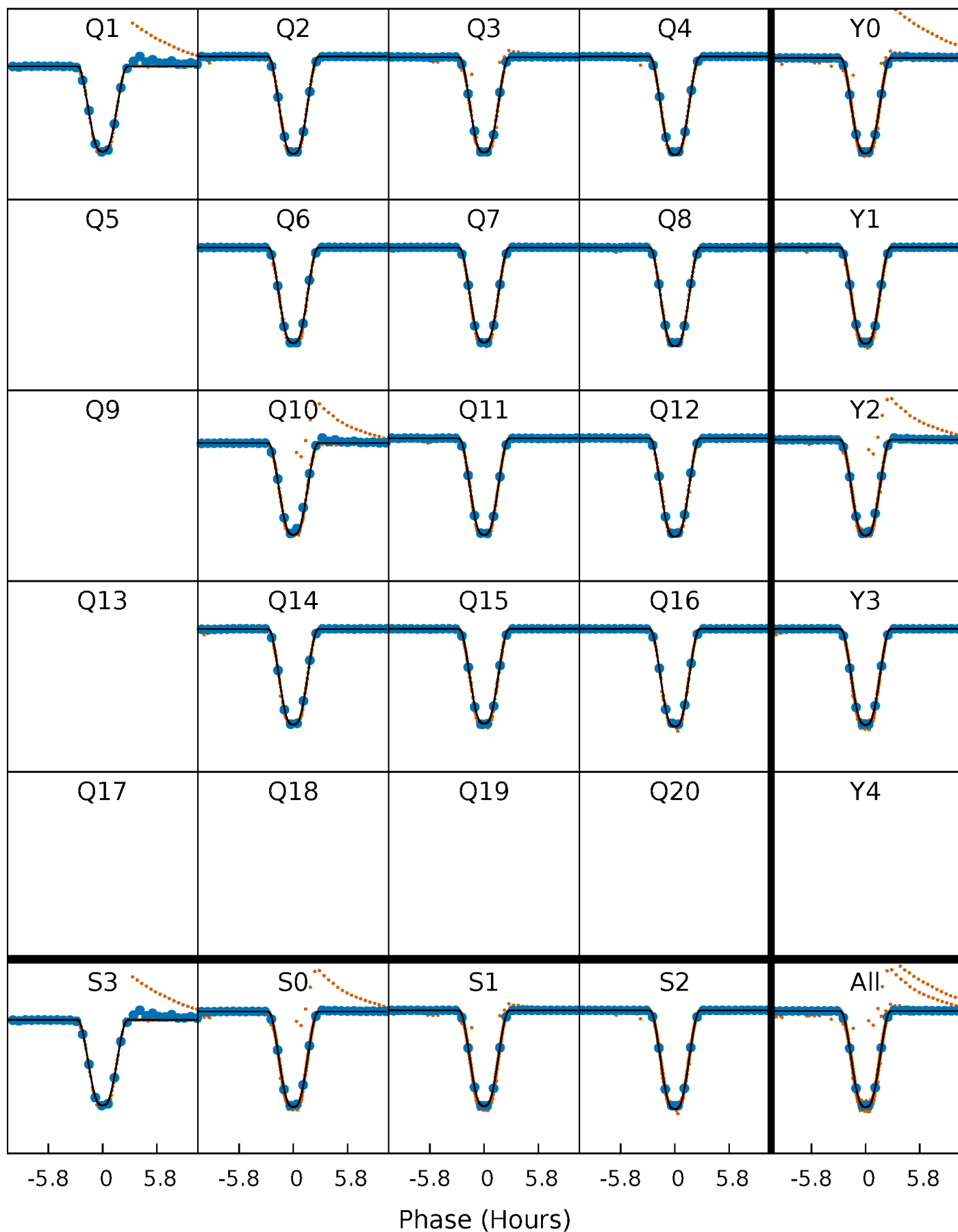
# PDC Quarter-Phased Transit Curves

TCE 006182849-02 P= 6.399109 Days  $T_0=137.901177$  (BKJD)



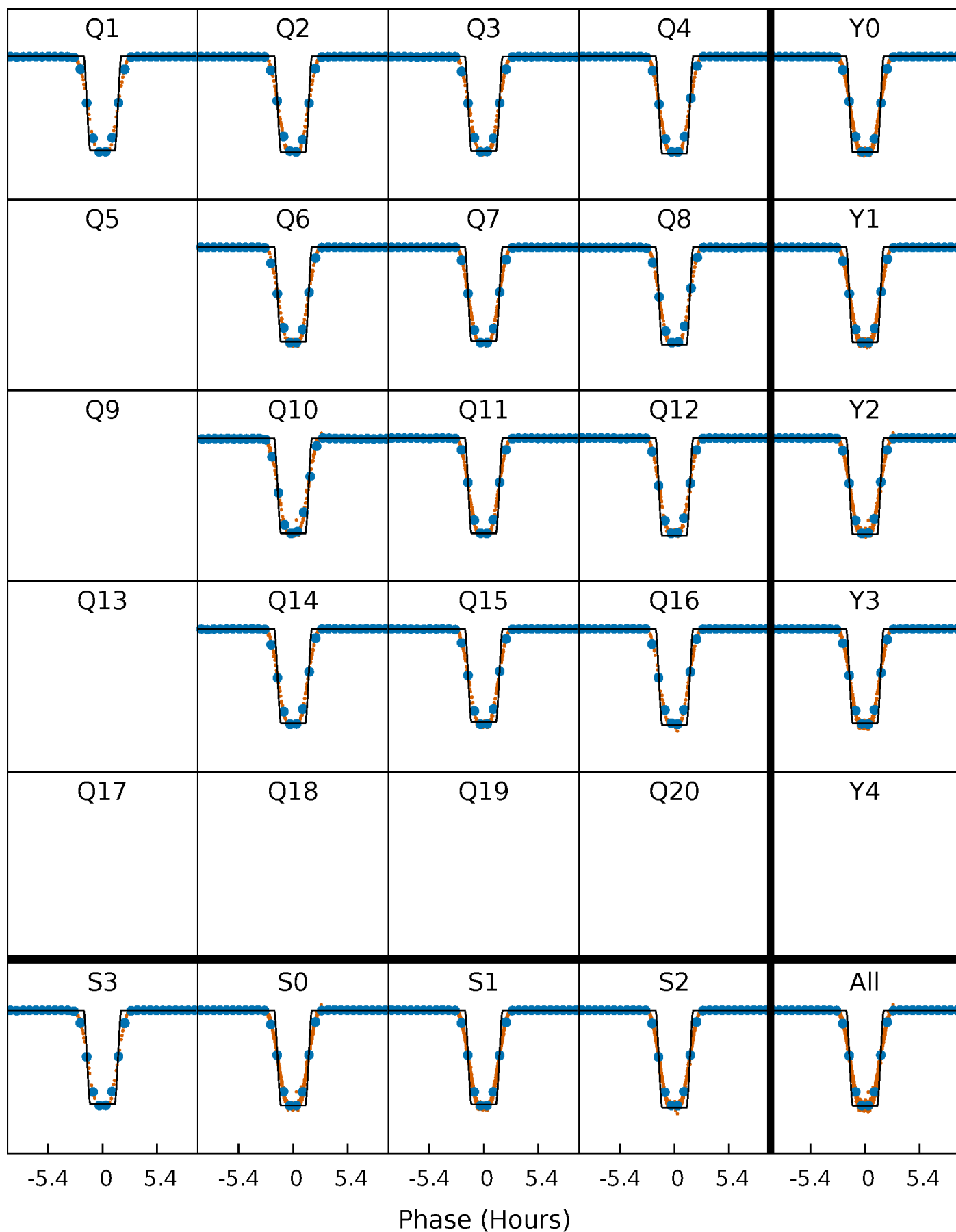
# DV Quarter-Phased Transit Curves

TCE 006182849-02 P= 6.399109 Days  $T_0=137.901177$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

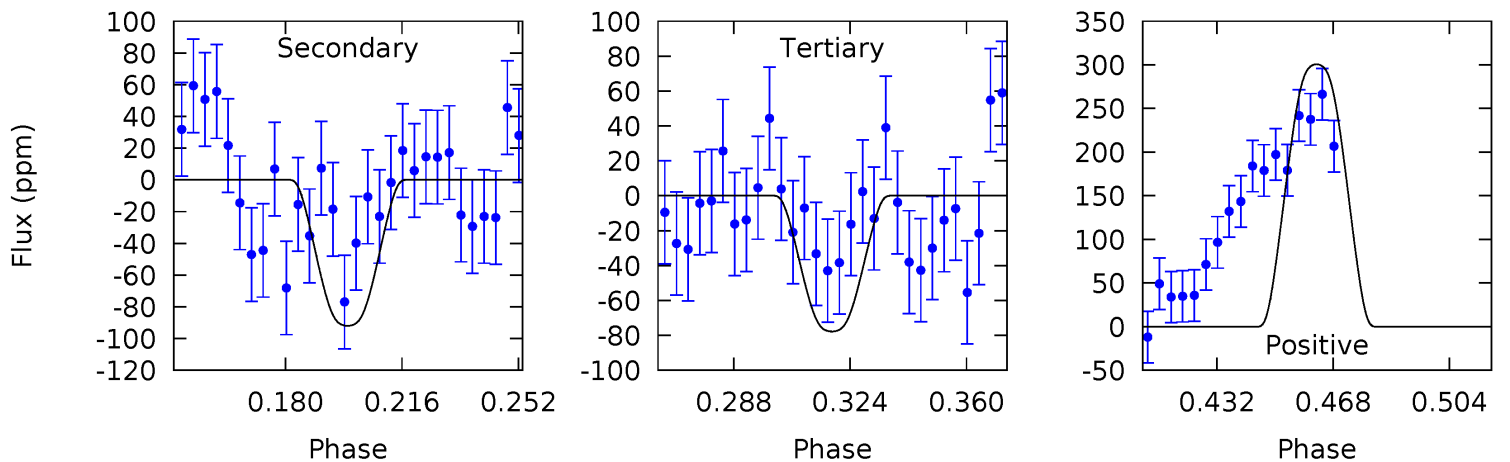
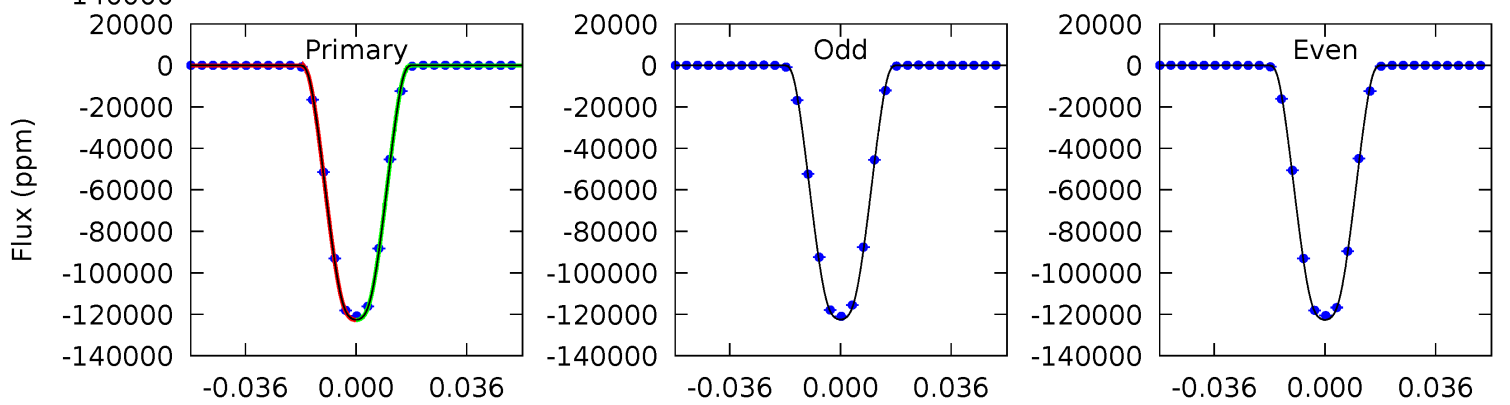
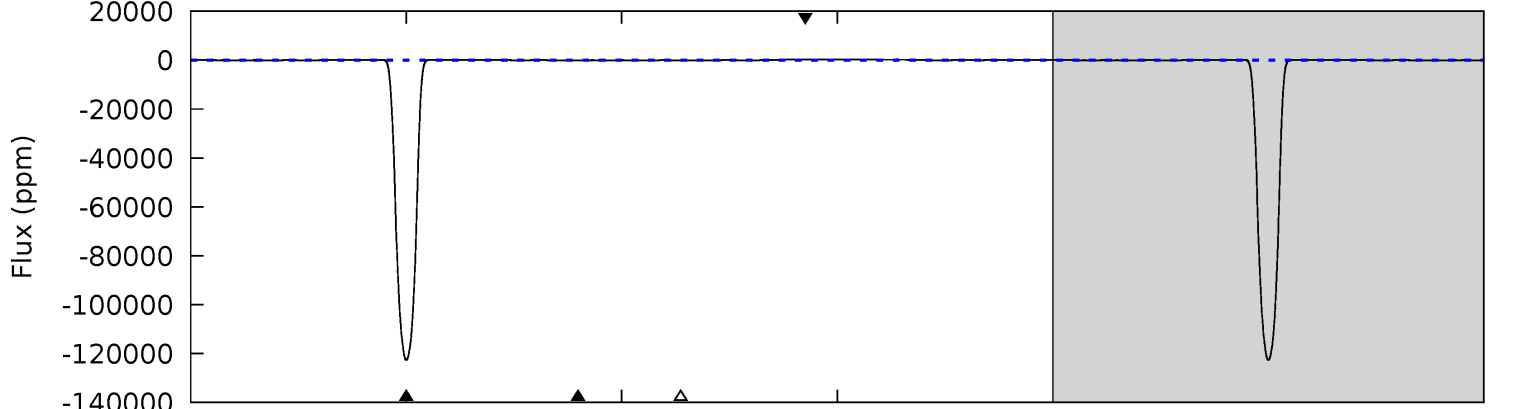
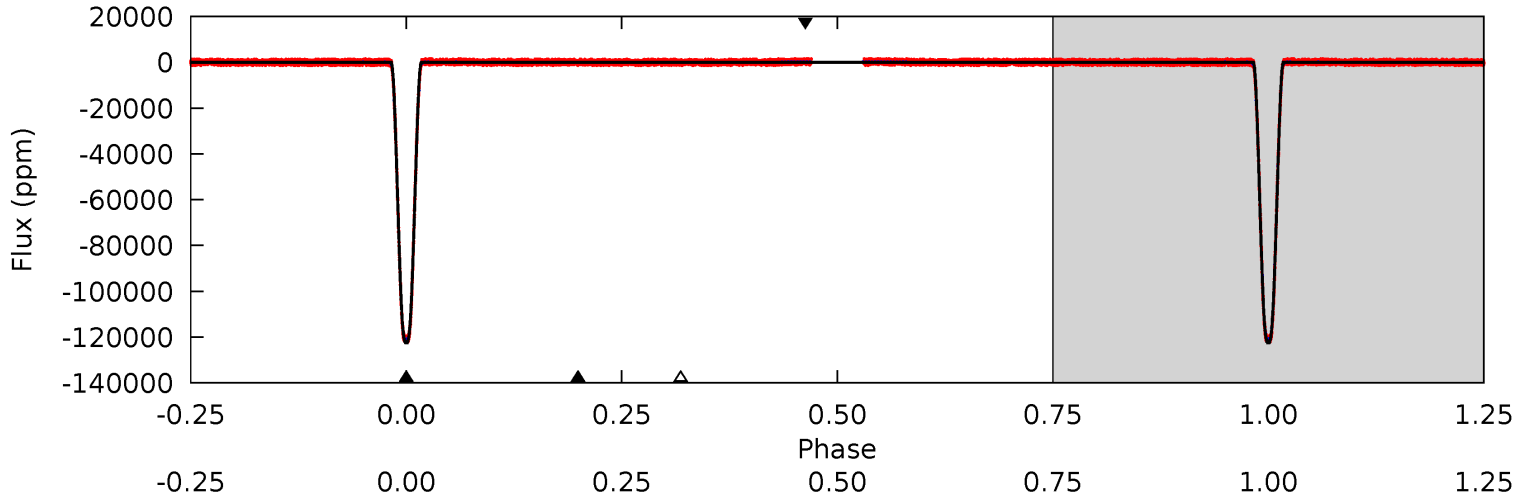
TCE 006182849-02 P= 6.399115 Days  $T_0=137.900518$  (BKJD)



# DV Model-Shift Uniqueness Test

006182849-02, P = 6.399109 Days, E = 131.502068 Days

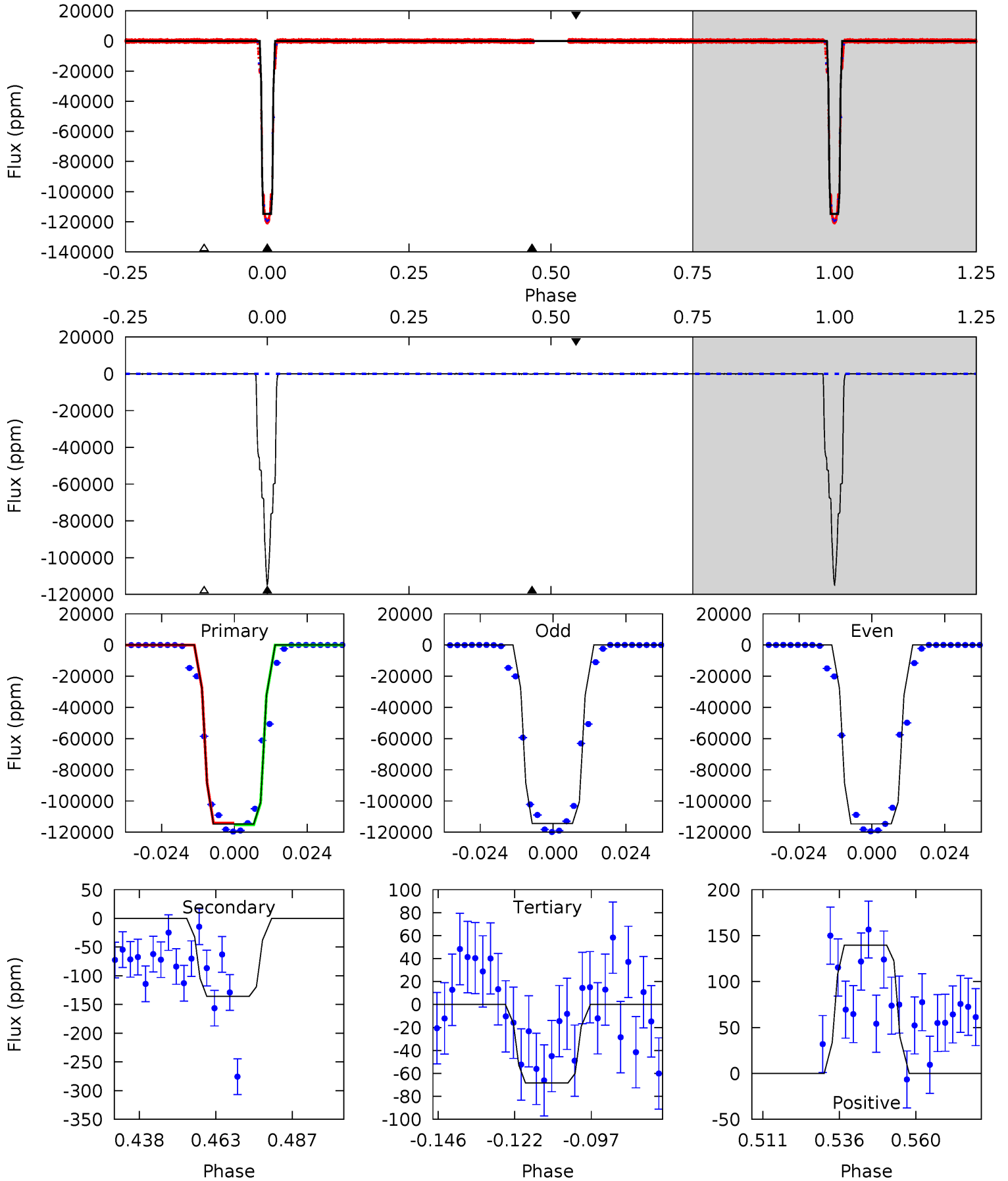
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10001	7.50	6.35	24.5	4.77	2.10	6.43	9994	9976	1.16	-17.0	5.49	0.99	0.00	0



# Alt Model-Shift Uniqueness Test

006182849-02, P = 6.399115 Days, E = 131.501403 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
5581	6.60	3.33	6.78	4.85	2.25	1.66	5578	5574	3.27	-0.18	6.04	1.00	0.00	0



### Stellar Parameters For KIC 006182849

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6133^{+164}_{-182}$	$4.435^{+0.116}_{-0.174}$	$-0.640^{+0.300}_{-0.300}$	$0.935^{+0.244}_{-0.122}$	$0.868^{+0.099}_{-0.072}$	$1.494^{+0.670}_{-0.709}$
	+3%/-3%	+3%/-4%	+47%/-47%	+26%/-13%	+11%/-8%	+45%/-47%
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 006182849-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-92 \pm 12$	$34.54^{+4.87}_{-2.55}$	$1444^{+93}_{-77}$	$-1968^{+107}_{-105}$	$0.171^{+0.042}_{-0.042}$
Alt.	$-136 \pm 21$	$35.48^{+5.02}_{-2.99}$	$1443^{+96}_{-73}$	$-1823^{+3265}_{-165}$	$0.240^{+0.064}_{-0.057}$

$T_{max}$  = 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

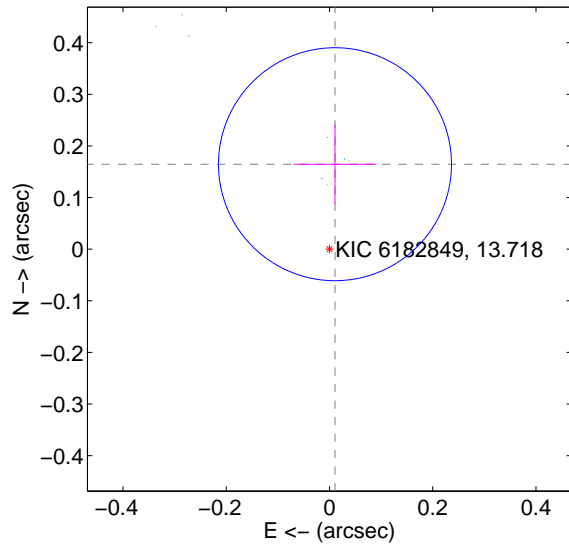
Supplemental centroid analysis for 006182849-02. Kepler magnitude: 13.72. Transit SNR 4285.47

There are 13 quarters with good PRF difference image offsets

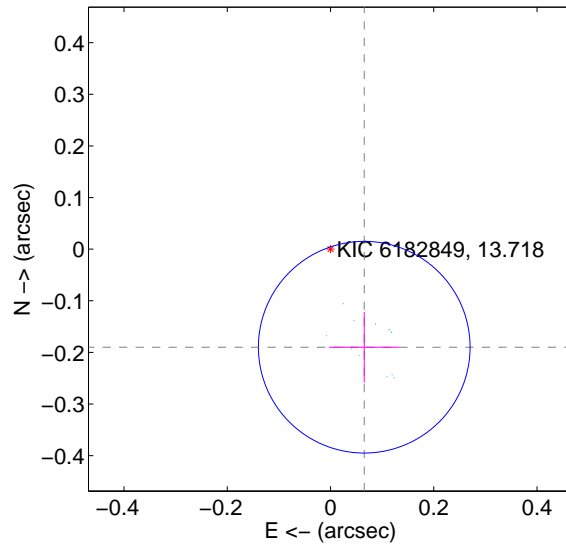
The direct PRF centroid is offset from the target star catalog position by about 0.73 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.165 \pm 0.075$	2.19	$-0.011 \pm 0.080$	$0.165 \pm 0.077$
PRF-fit source offset from KIC position	$0.201 \pm 0.068$	2.94	$-0.065 \pm 0.068$	$-0.190 \pm 0.068$
photometric centroid source offset	$0.27 \pm 0.00$	157.29	$-0.11 \pm 0.00$	$-0.24 \pm 0.00$

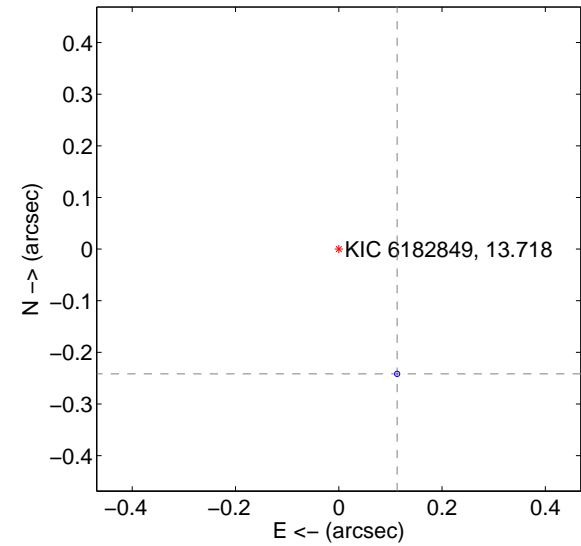
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

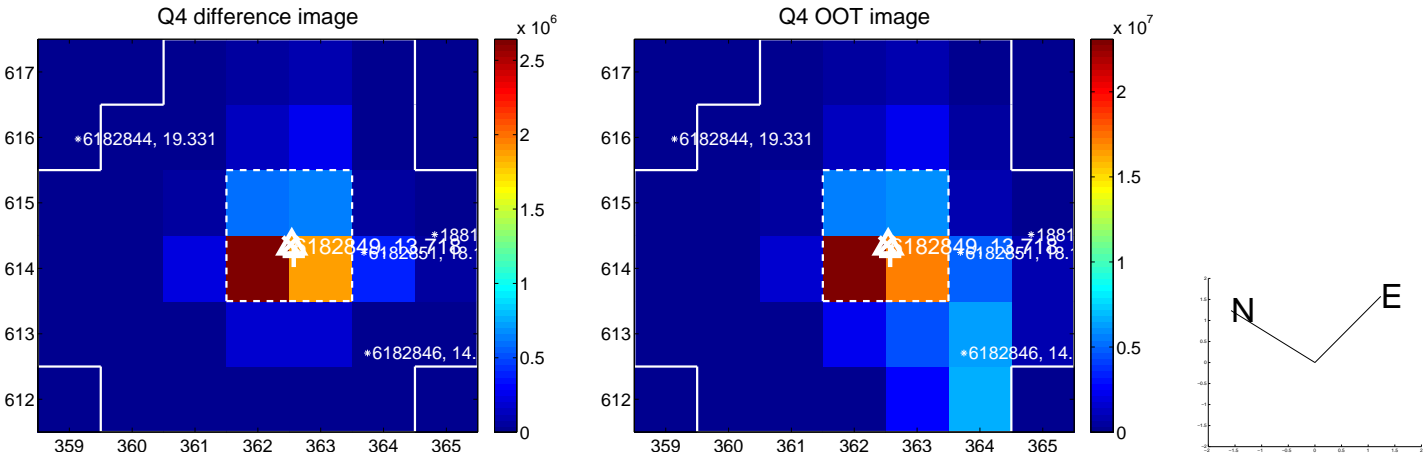
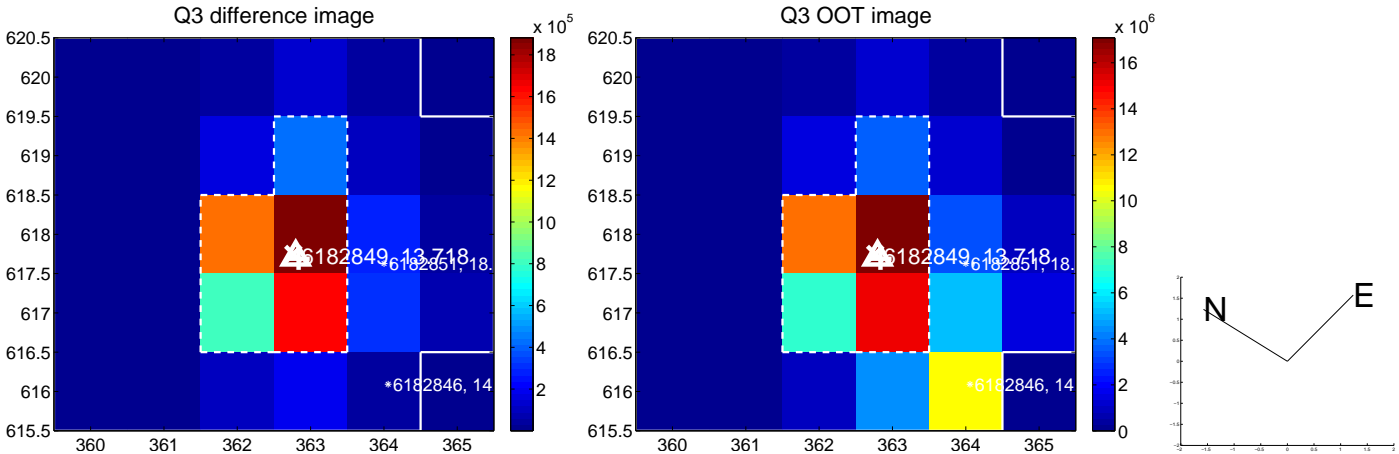
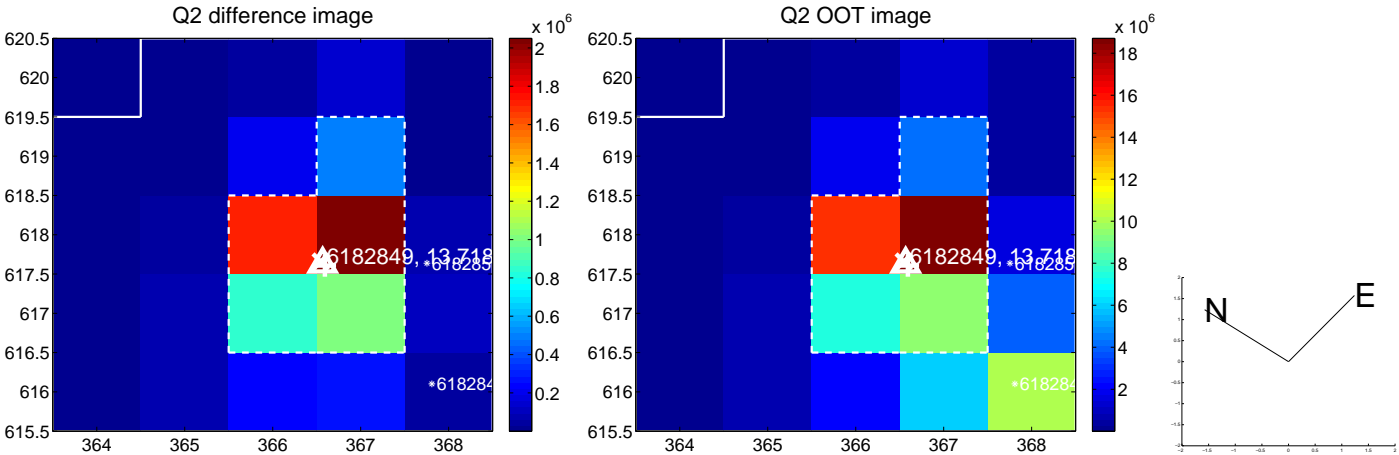
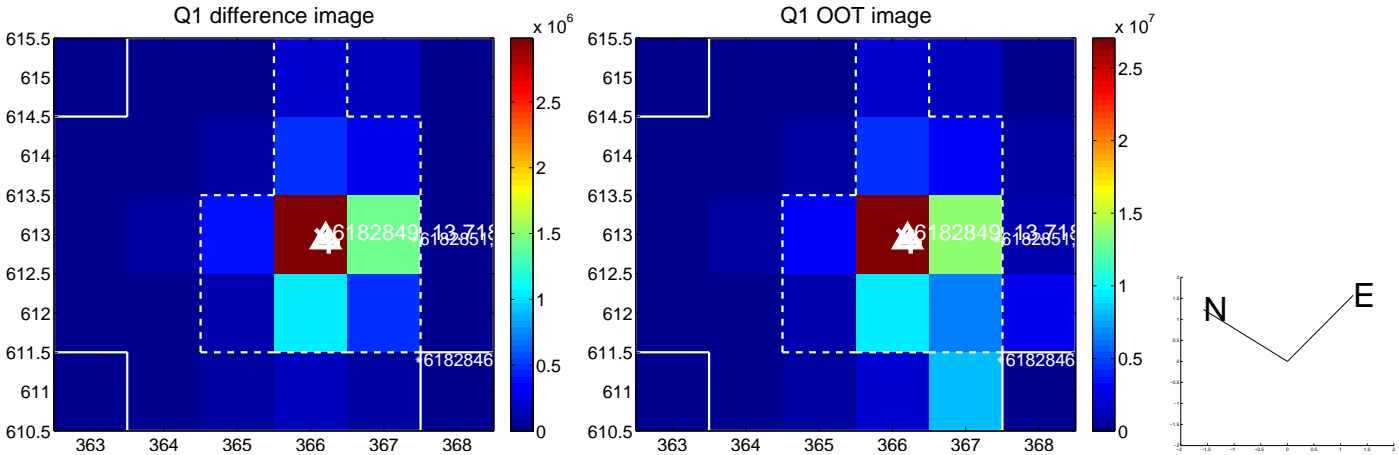


offset from photometric centroids

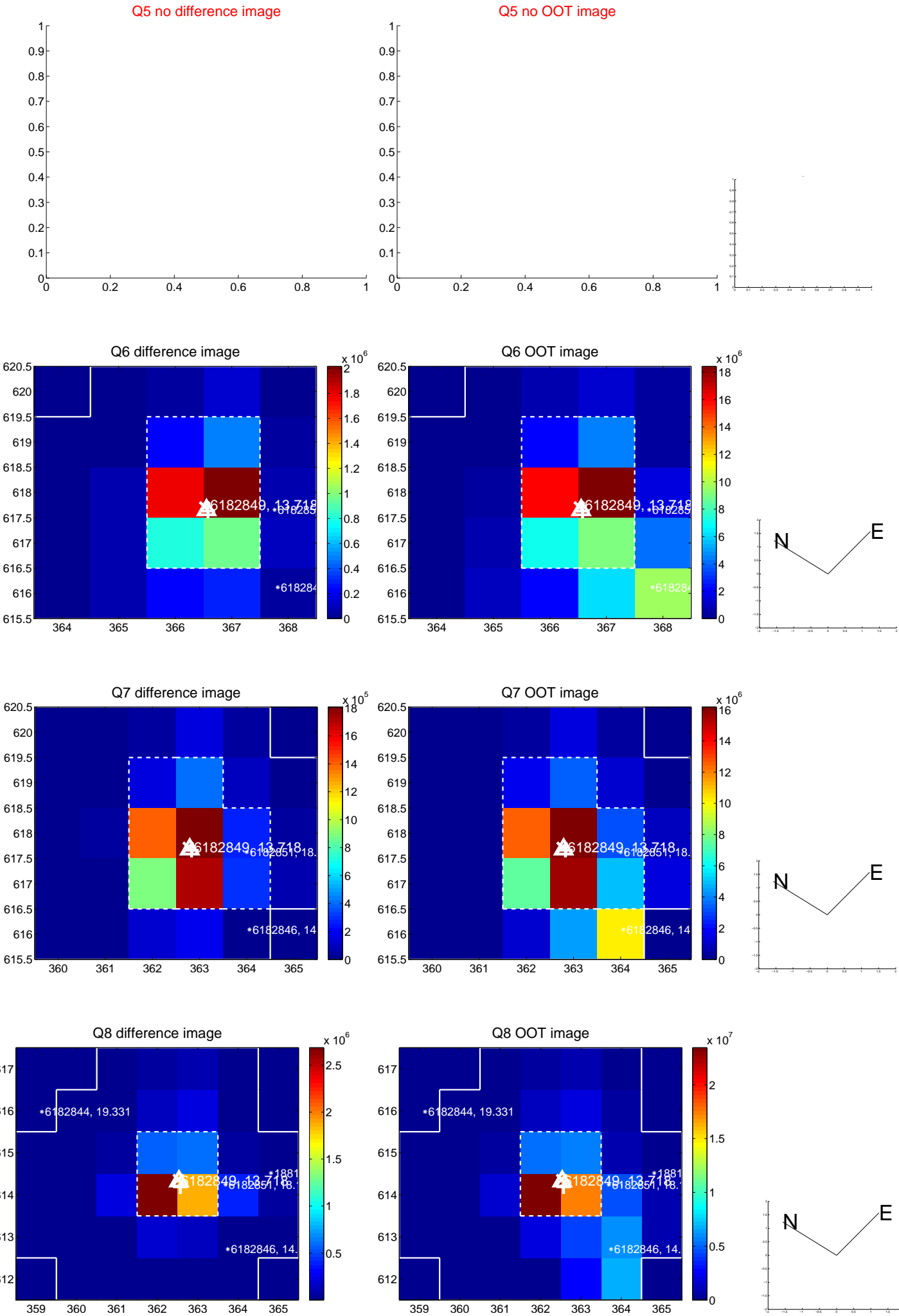


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

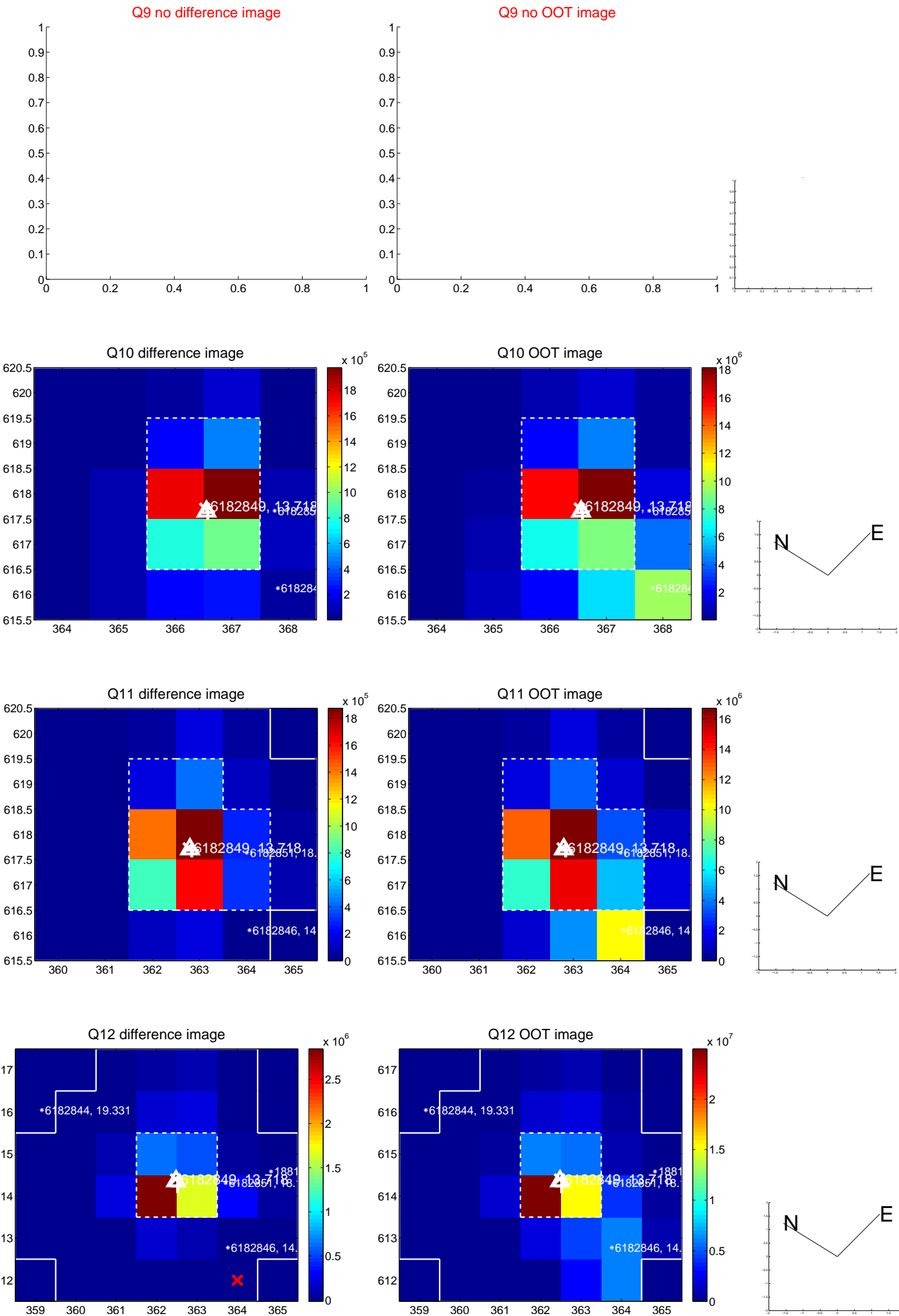
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



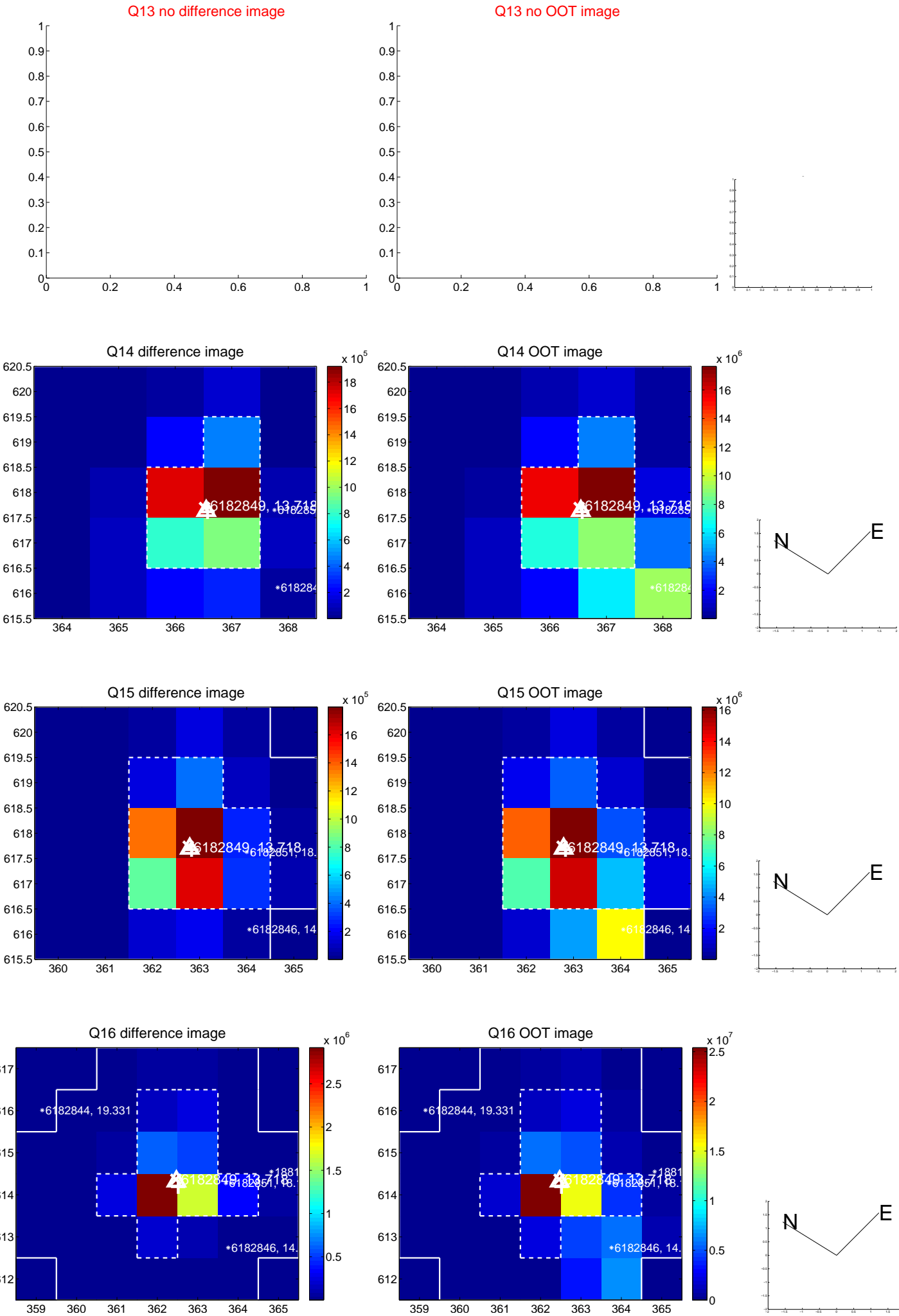
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



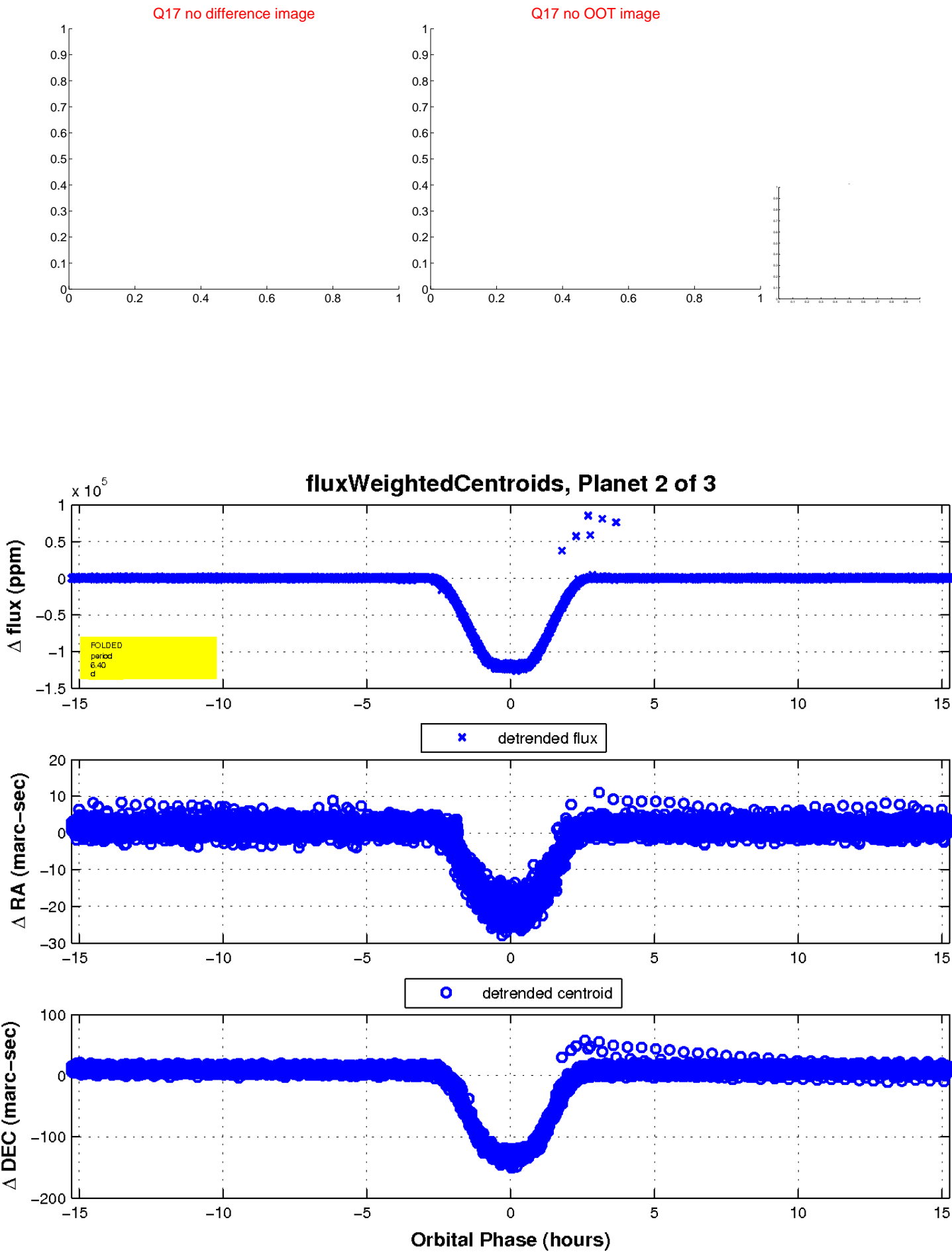
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

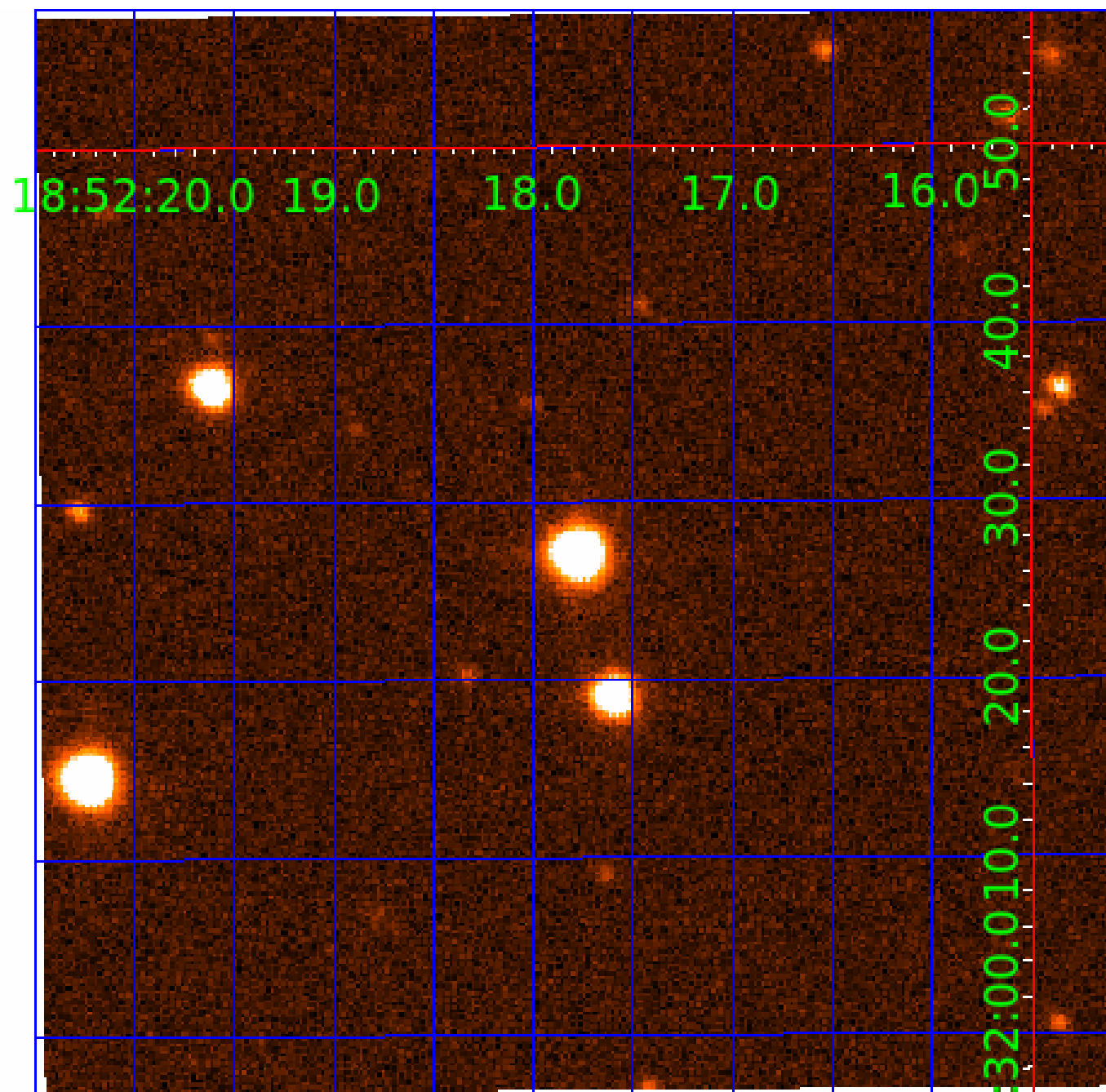


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 006182849

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006182849-01	OBS	3512.01	6.399074	134.707028	375631.1	3.000	20957.1	-1.0	0.94	6133	51.02	267.49
006182849-02	OBS	No	6.399109	137.901177	121507.5	5.089	7292.6	4285.5	0.94	6133	34.75	267.49
006182849-03	OBS	No	4.266023	134.514727	19076.3	12.500	763.4	-1.0	0.94	6133	12.97	459.30

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006182849-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_NOFITS
006182849-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
006182849-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

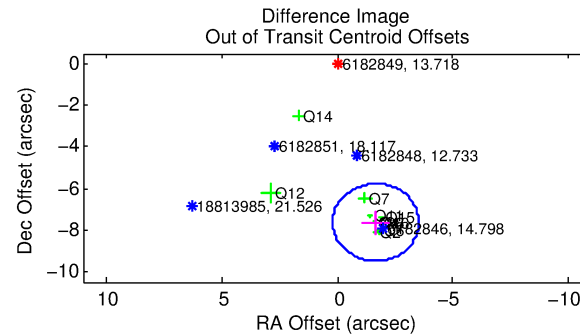
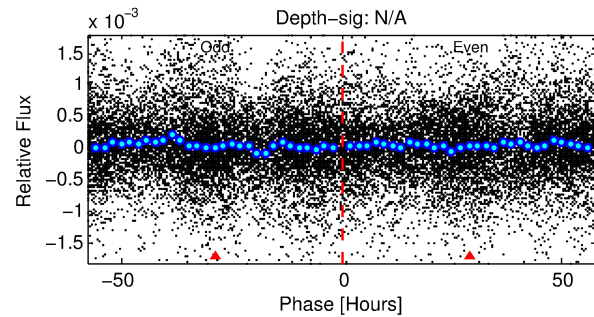
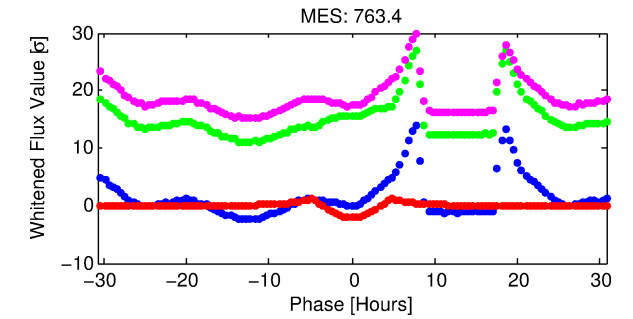
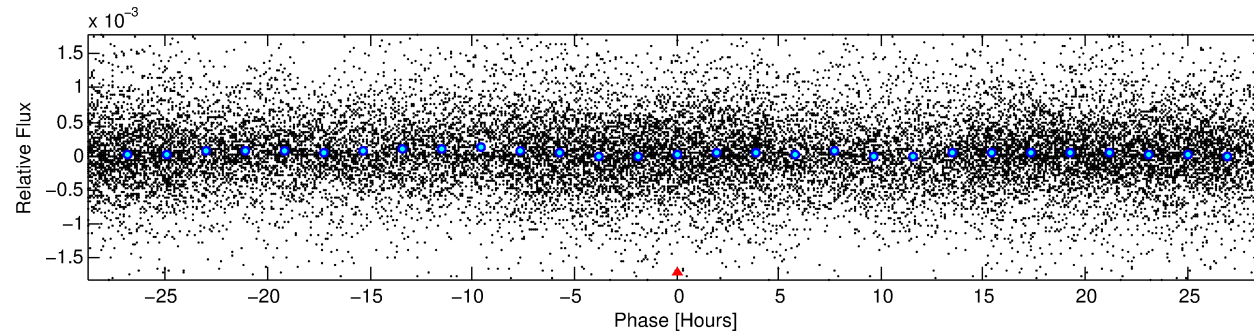
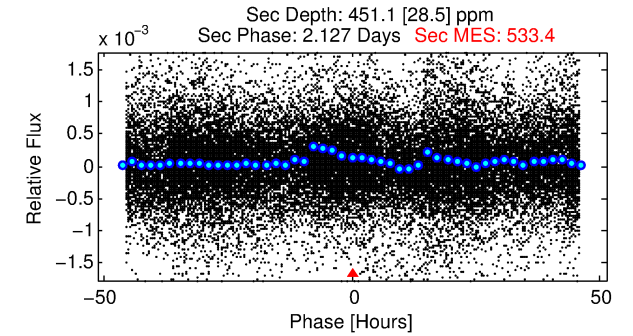
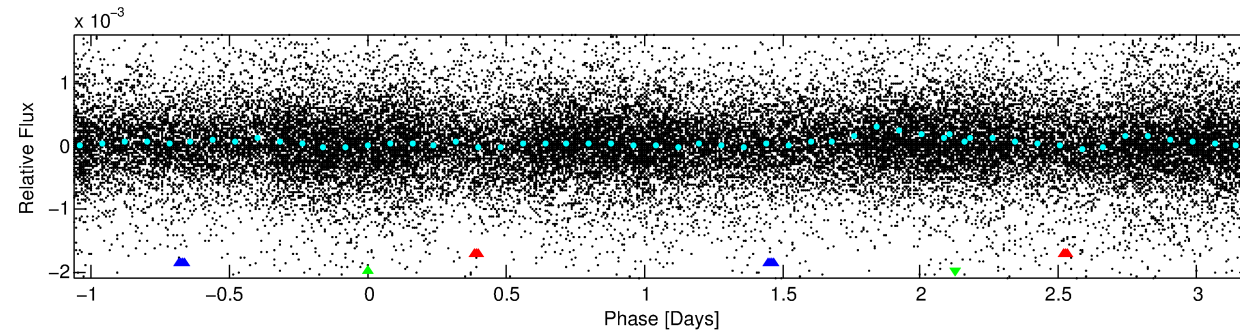
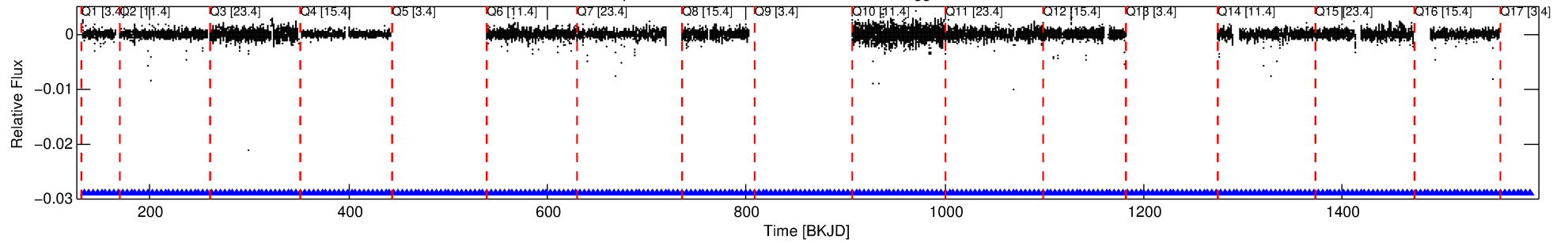
## Ephemeris Match Information For 006182849-03

No Significant Match Found

# DV One-Page Summary

KIC: 6182849 Candidate: 3 of 3 Period: 4.266 d  
KOI: K03512 Corr: No Ephemeris Match

Kp: 13.72 R\*: 0.94 Rs Teff: 6133.0 K Logg: 4.43 Fe/H: -0.640



## TPS TCE Results:

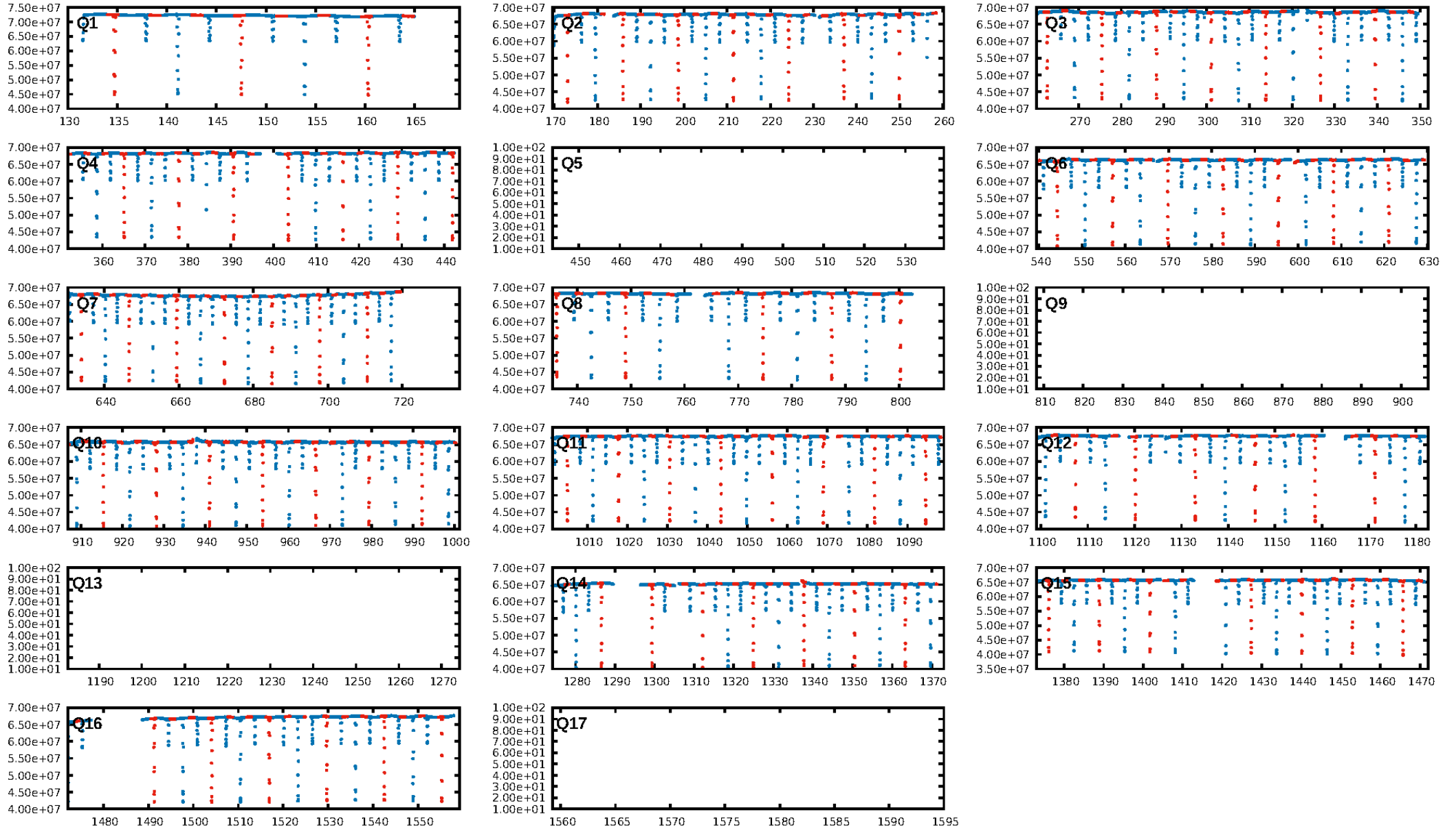
Period = 4.26602 d  
Epoch = 134.5147 BKJD

DV fit results are unavailable

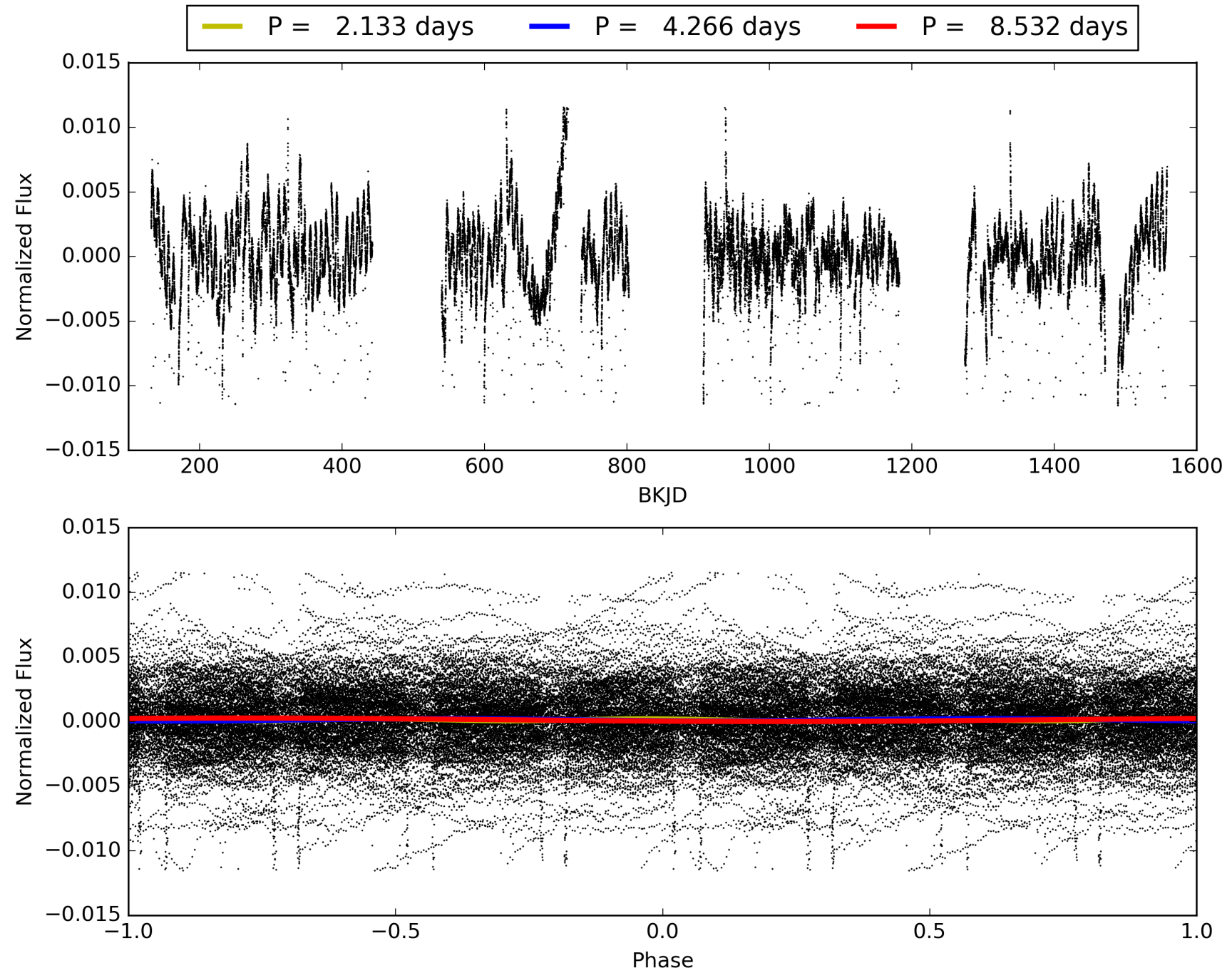
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [3.98σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [241/241]  
GhostDiagnostic-chr: -12.64  
Centroid-sig: N/A  
Centroid-so: 8.993 arcsec [2.72σ]  
OotOffset-rm: 7.811 arcsec [12.59σ]  
KicOffset-rm: 8.404 arcsec [14.56σ]  
OotOffset-st: 3/3/4/0 [10]  
KicOffset-st: 3/3/4/0 [10]  
DiffImageQuality-fgm: 0.40 [4/10]  
DiffImageOverlap-fno: 1.00 [13/13]

# TCE 006182849-03, PDC Light Curves

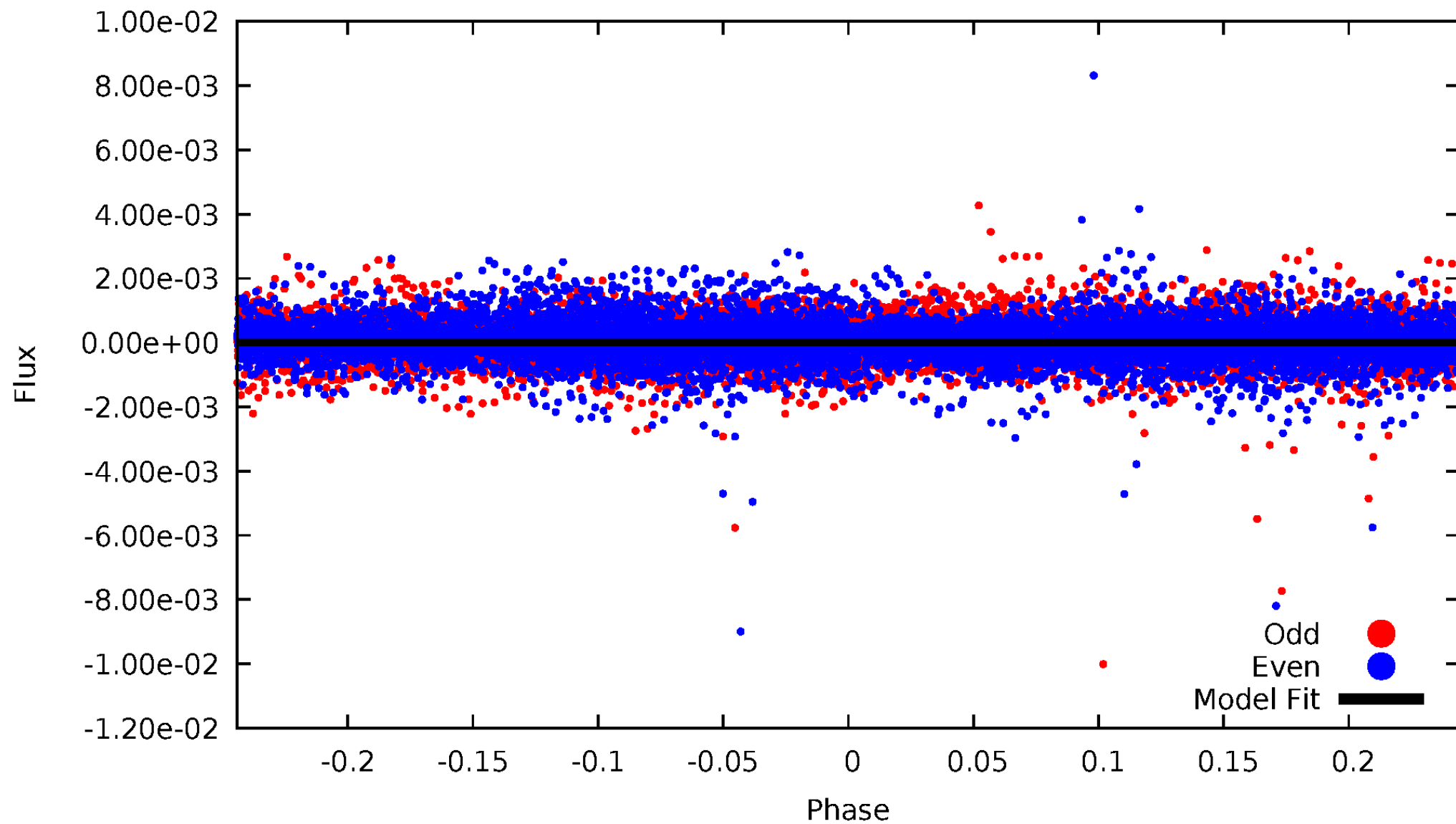


TCE 006182849-03



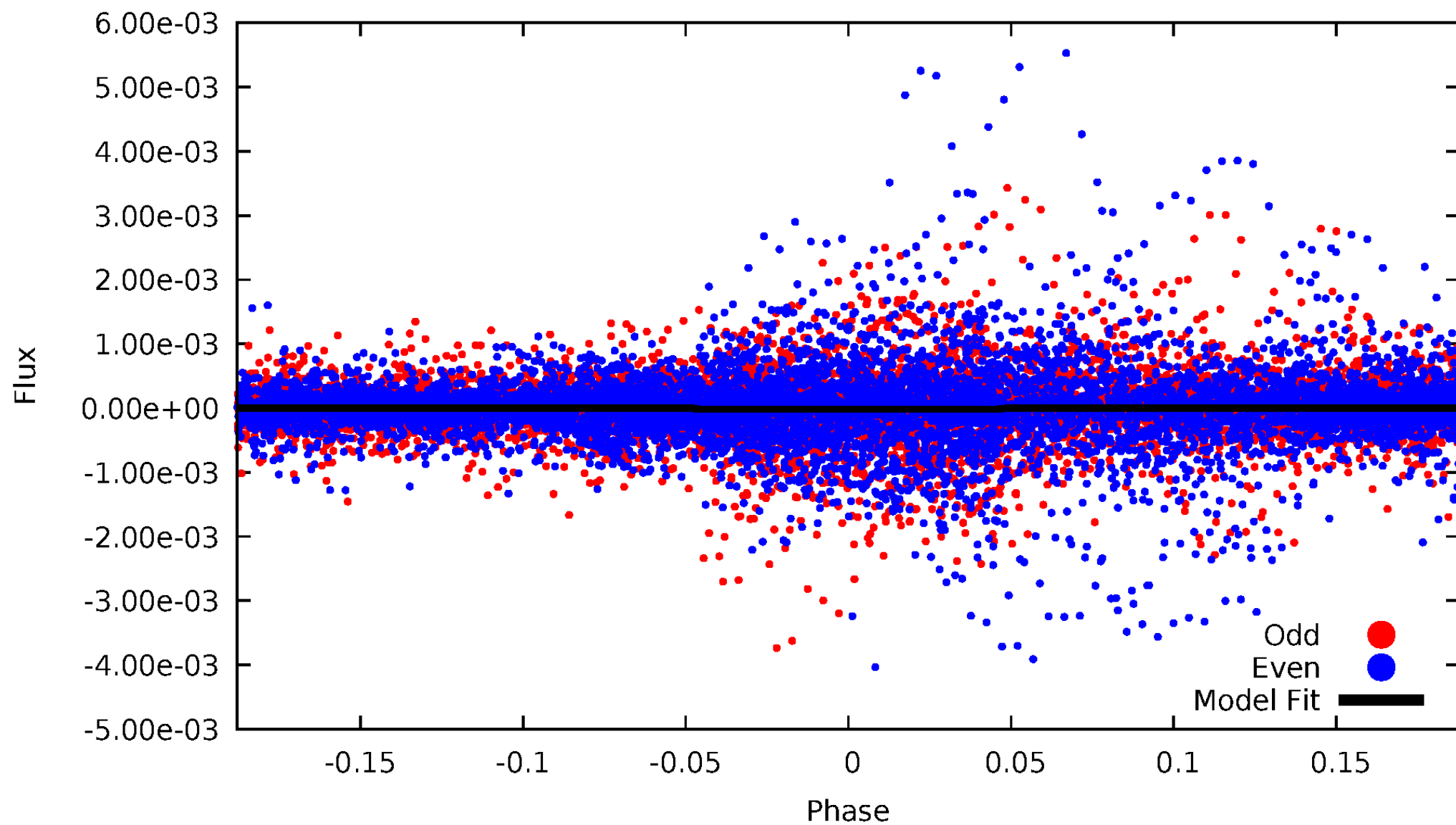
# DV Odd/Even

TCE 006182849-03



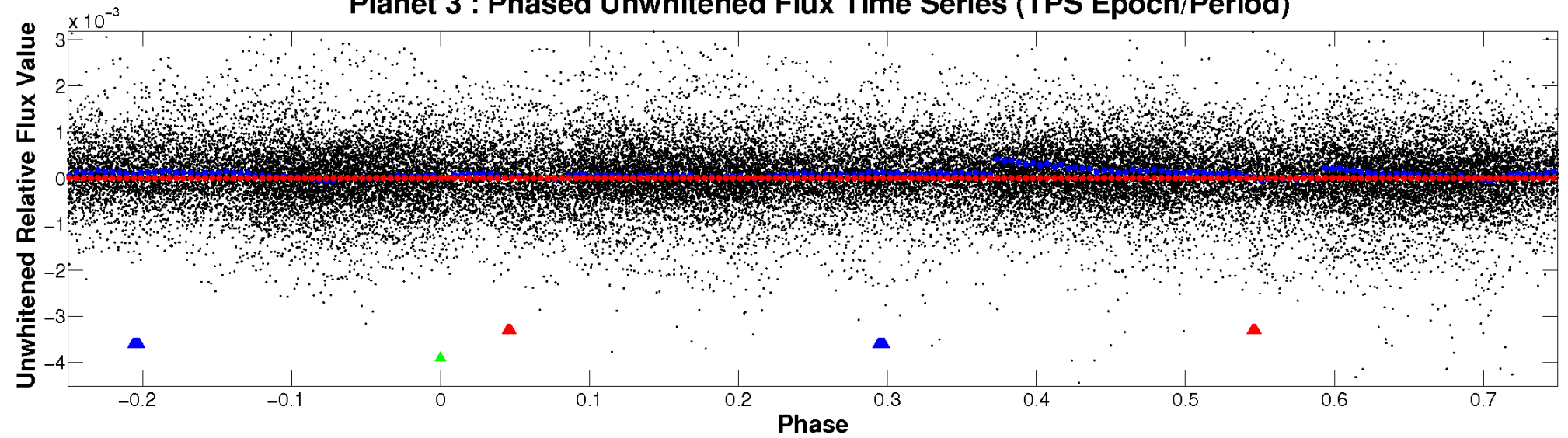
# ALT Odd/Even

TCE 006182849-03

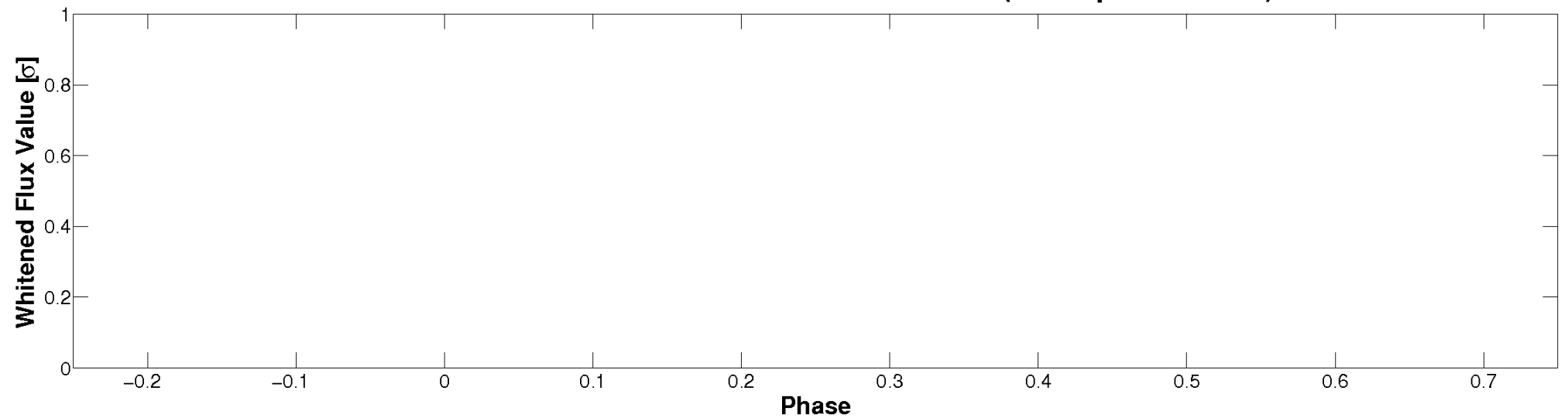


# Non-Whitened Vs. Whitened Light Curve

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

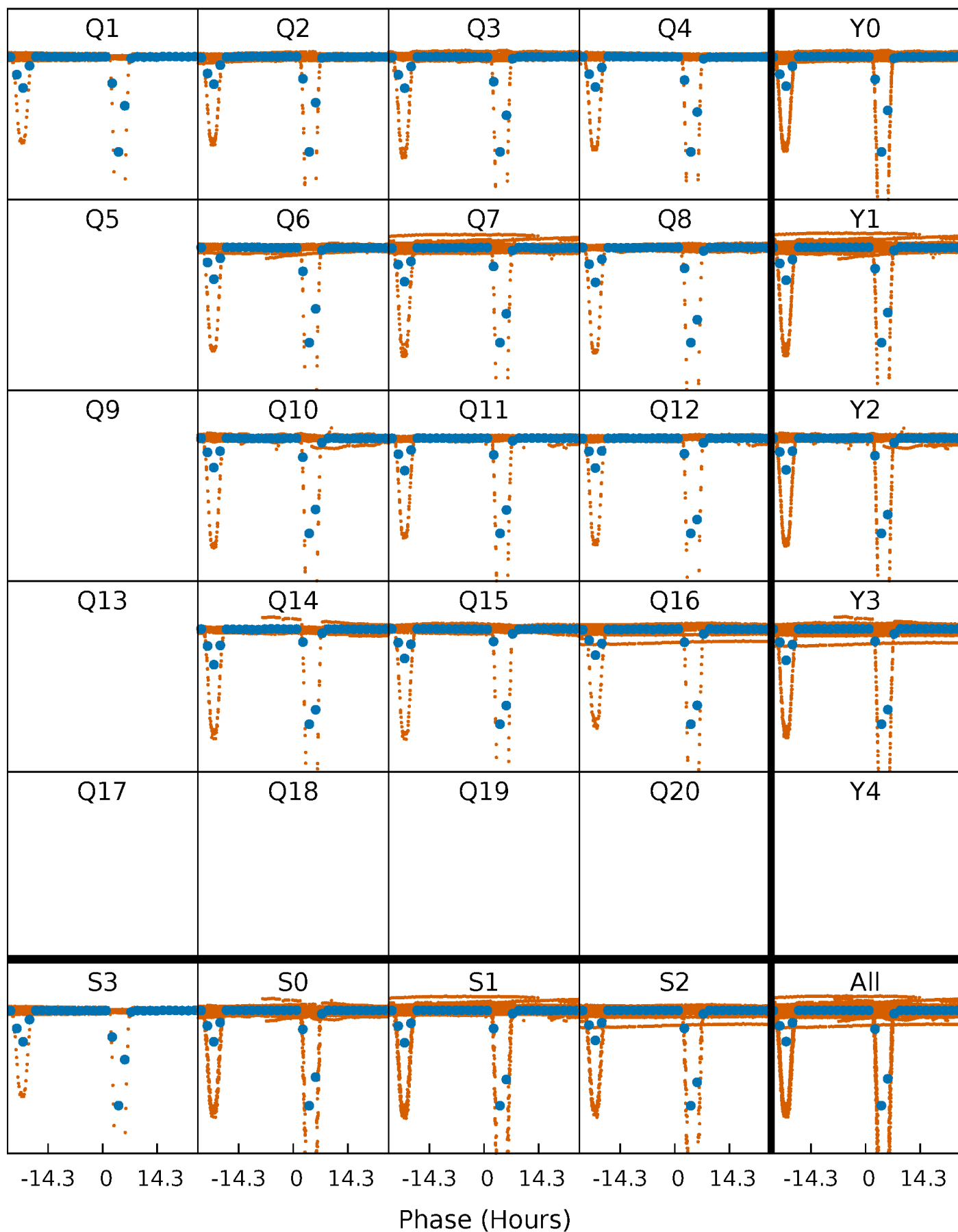


**Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



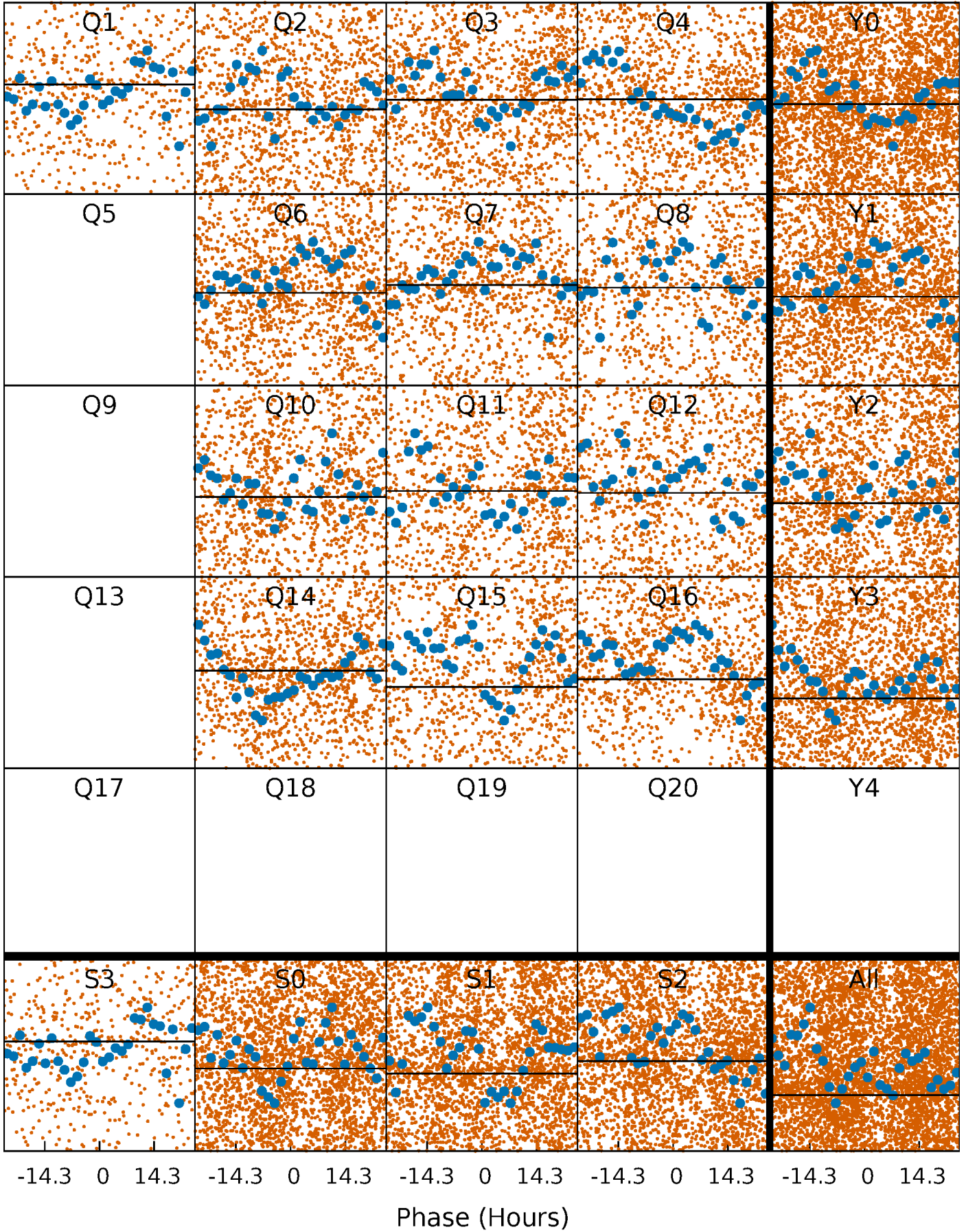
# PDC Quarter-Phased Transit Curves

TCE 006182849-03   P= 4.266023 Days    $T_0=134.514727$  (BKJD)



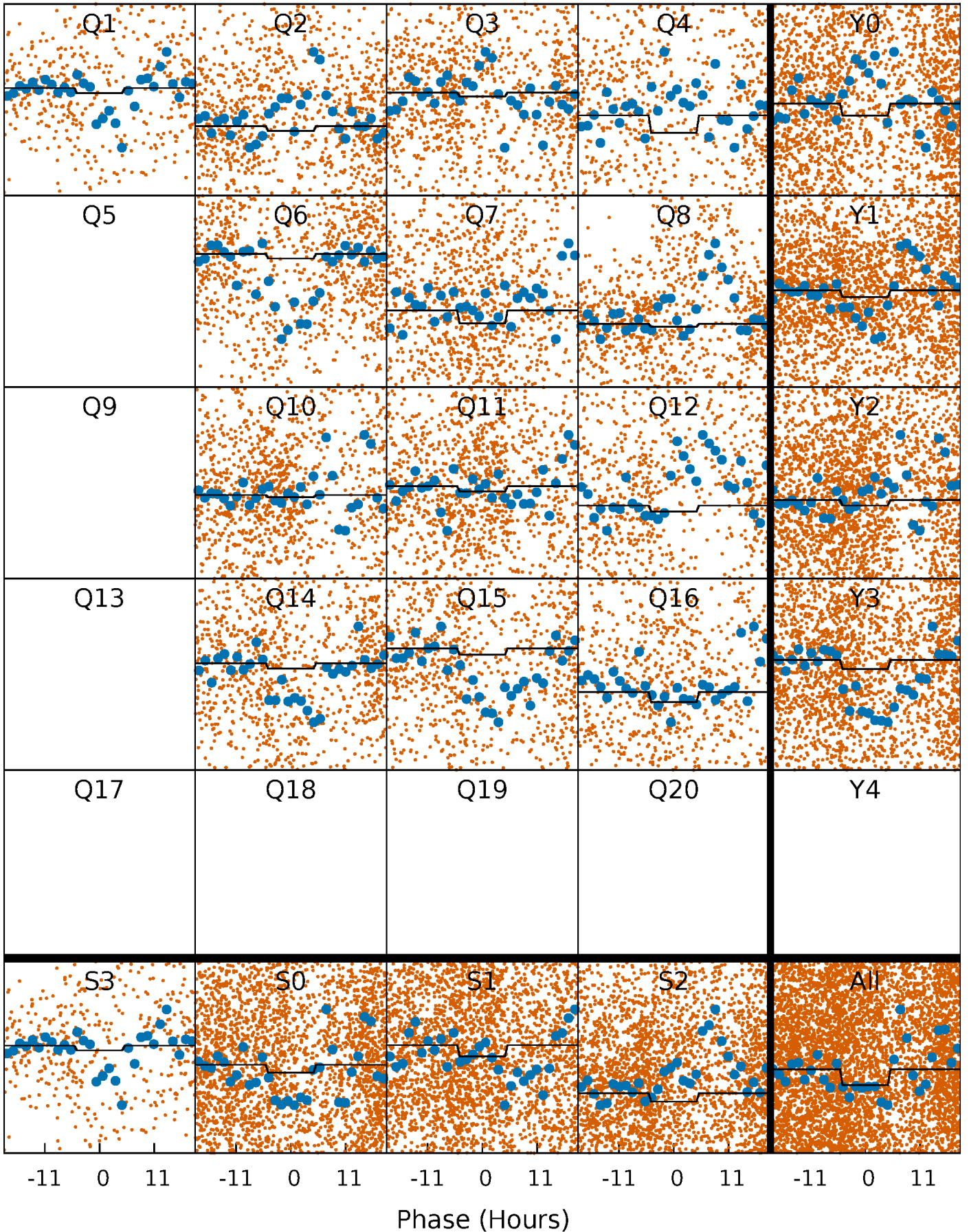
# DV Quarter-Phased Transit Curves

TCE 006182849-03   P= 4.266023 Days    $T_0=134.514727$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

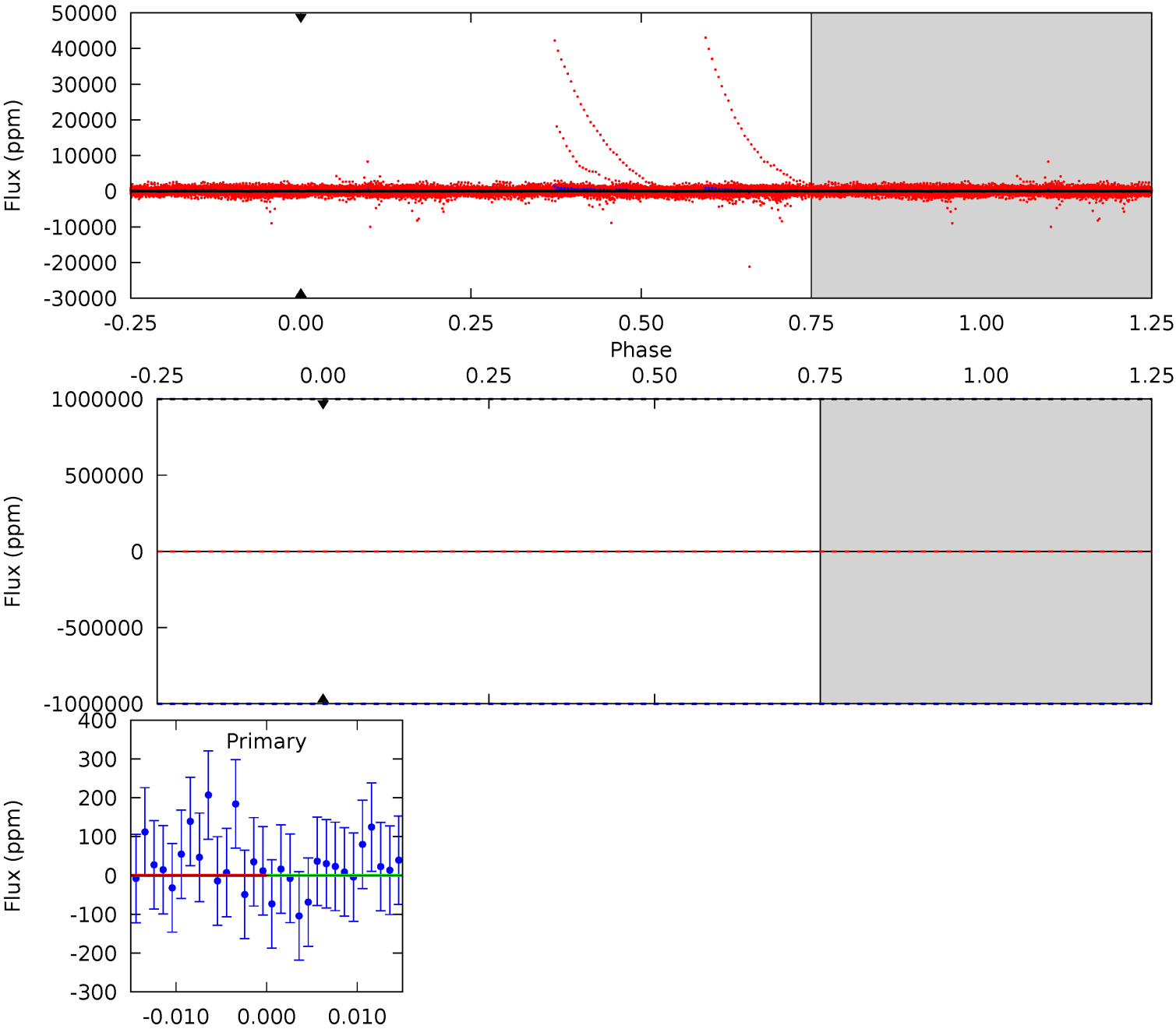
TCE 006182849-03 P= 4.266023 Days  $T_0=134.316208$  (BKJD)



DV Model-Shift Uniqueness Test

006182849-03, P = 4.266023 Days, E = 130.248704 Days

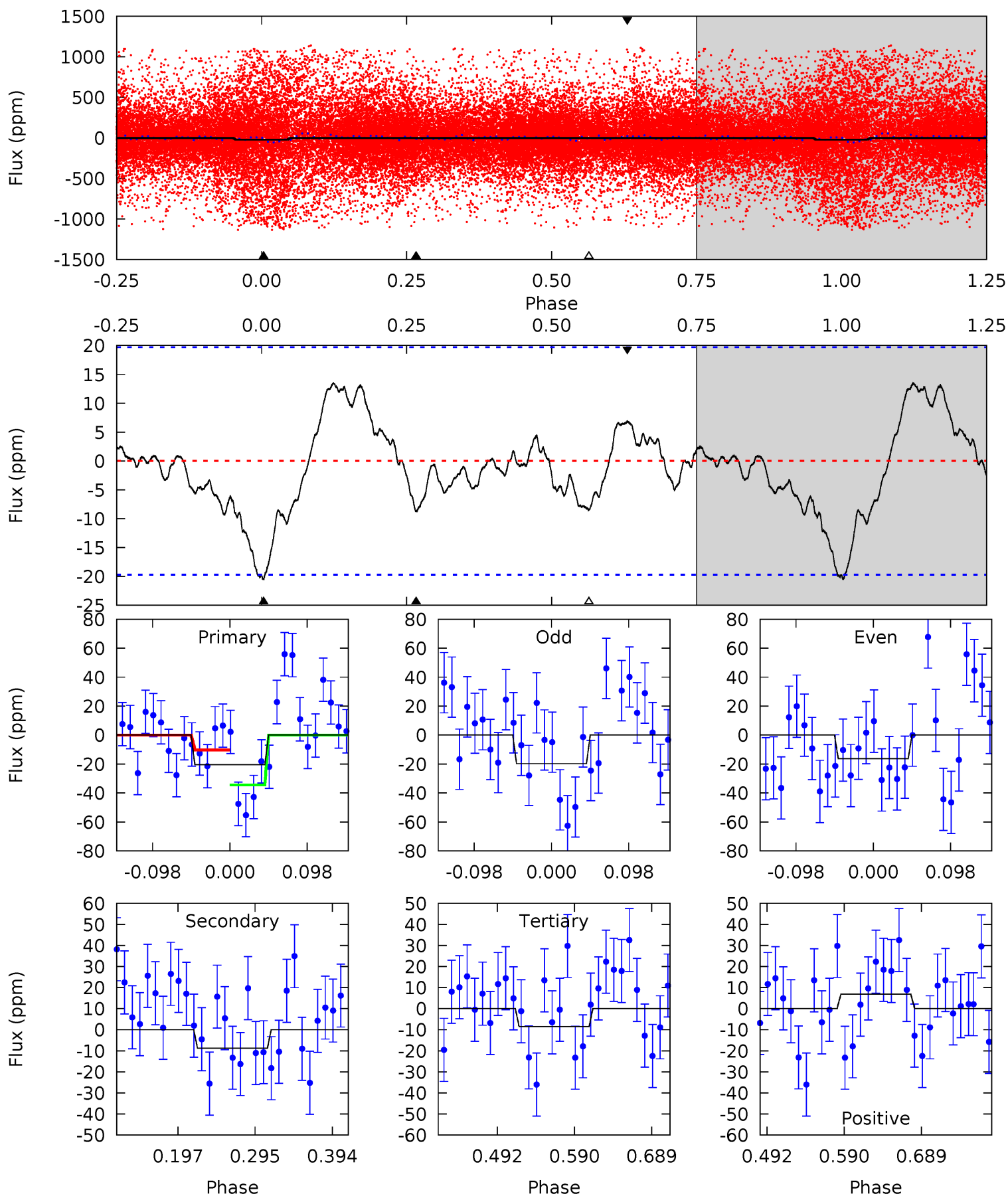
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

006182849-03, P = 4.266023 Days, E = 130.050185 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
4.75	2.03	1.99	1.59	4.57	1.65	1.14	2.77	3.16	0.04	0.44	0.38	3.77	0.40	2.72



### Stellar Parameters For KIC 006182849

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6133^{+164}_{-182}$	$4.435^{+0.116}_{-0.174}$	$-0.640^{+0.300}_{-0.300}$	$0.935^{+0.244}_{-0.122}$	$0.868^{+0.099}_{-0.072}$	$1.494^{+0.670}_{-0.709}$
	+3%/-3%	+3%/-4%	+47%/-47%	+26%/-13%	+11%/-8%	+45%/-47%
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 006182849-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$14.06^{+10.59}_{-7.82}$	$1657^{+114}_{-85}$	$3846^{+7988}_{-15431}$	$10^{+1043}_{-912}$
Alt.	$-9 \pm 4$	$7.32^{+8.17}_{-5.11}$	$1655^{+119}_{-83}$	$-2043^{+4961}_{-216}$	$0.191^{+2.333}_{-0.155}$

$T_{\text{max}}$  = 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

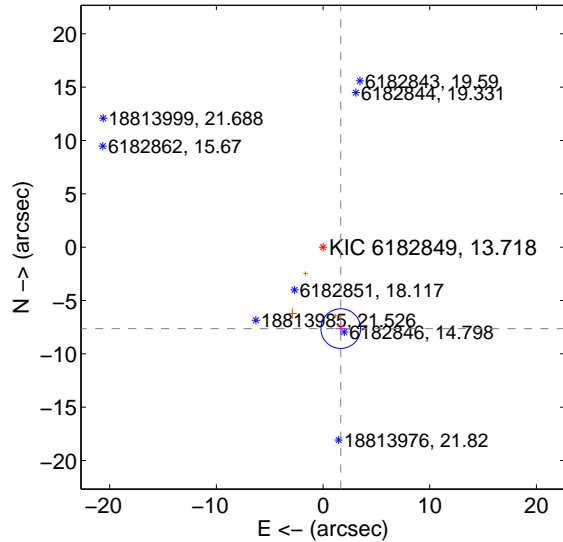
Supplemental centroid analysis for 006182849-03. Kepler magnitude: 13.72. Transit SNR -1.00

There are 4 quarters with good PRF difference image offsets

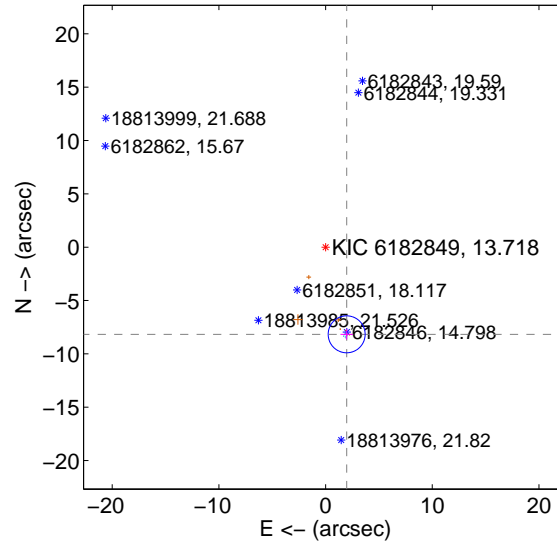
The direct PRF centroid is offset from the target star catalog position by about 0.69 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$7.811 \pm 0.620$	12.59	$-1.658 \pm 0.526$	$-7.633 \pm 0.546$
PRF-fit source offset from KIC position	$8.404 \pm 0.577$	14.56	$-1.975 \pm 0.583$	$-8.168 \pm 0.491$
photometric centroid source offset	$8.99 \pm 3.30$	2.72	$-8.93 \pm 3.21$	$1.04 \pm 7.33$

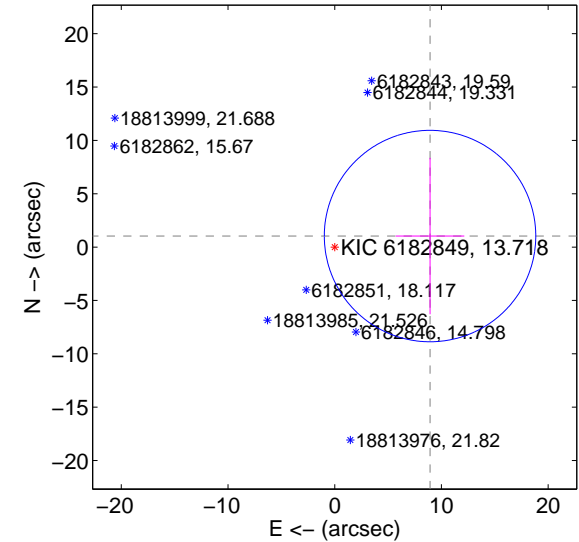
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

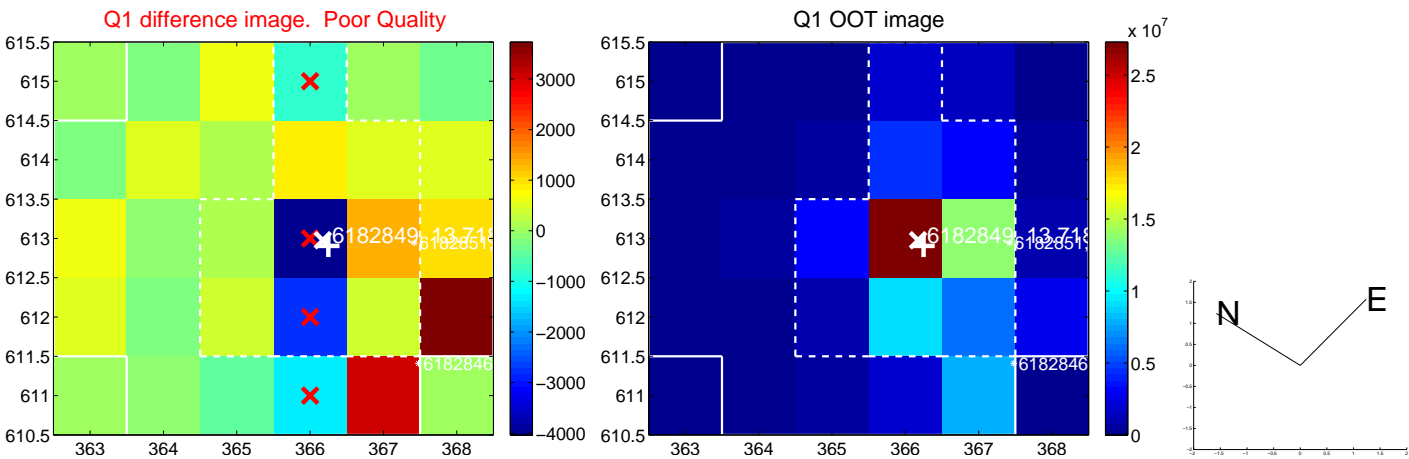


offset from photometric centroids

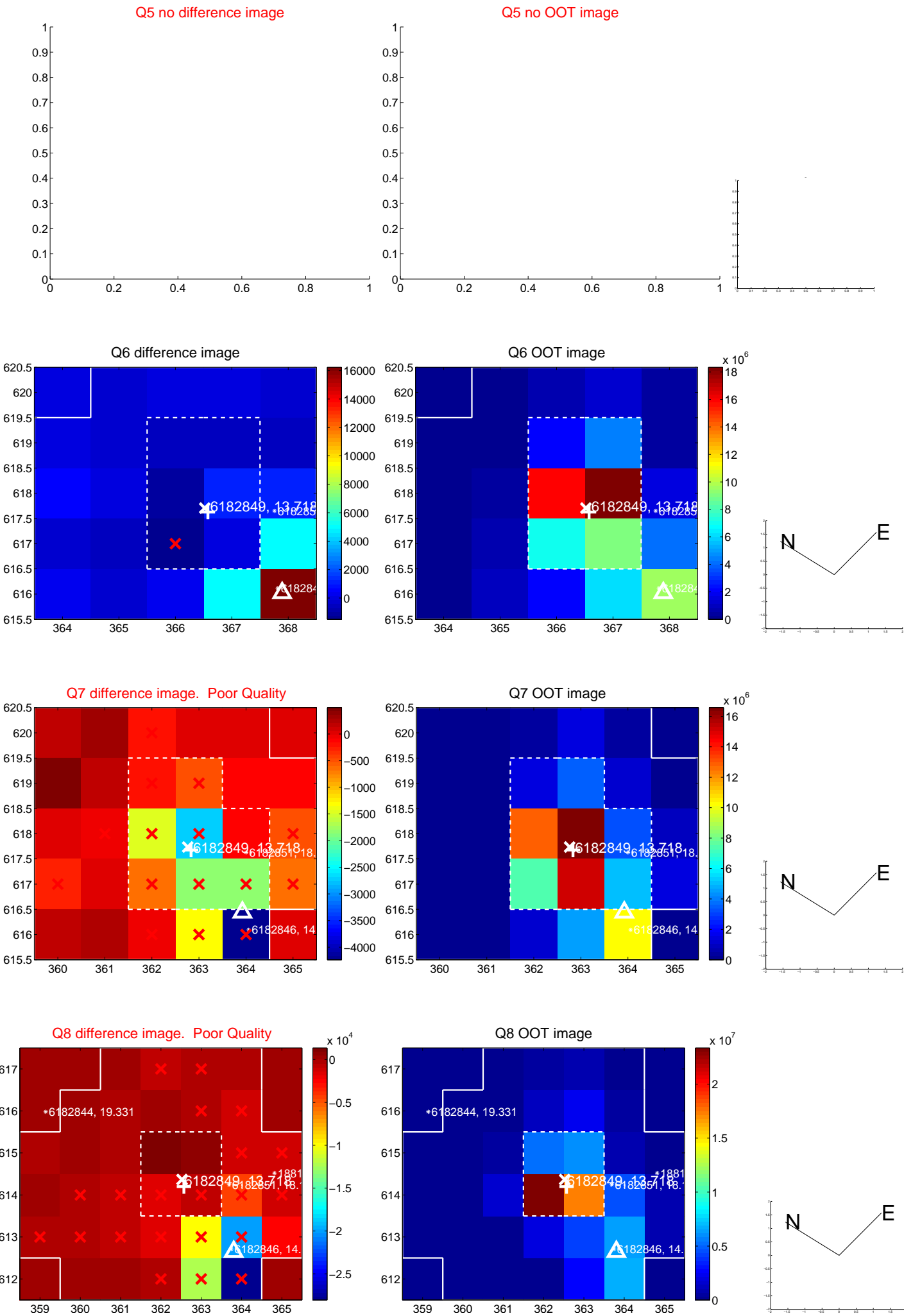


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

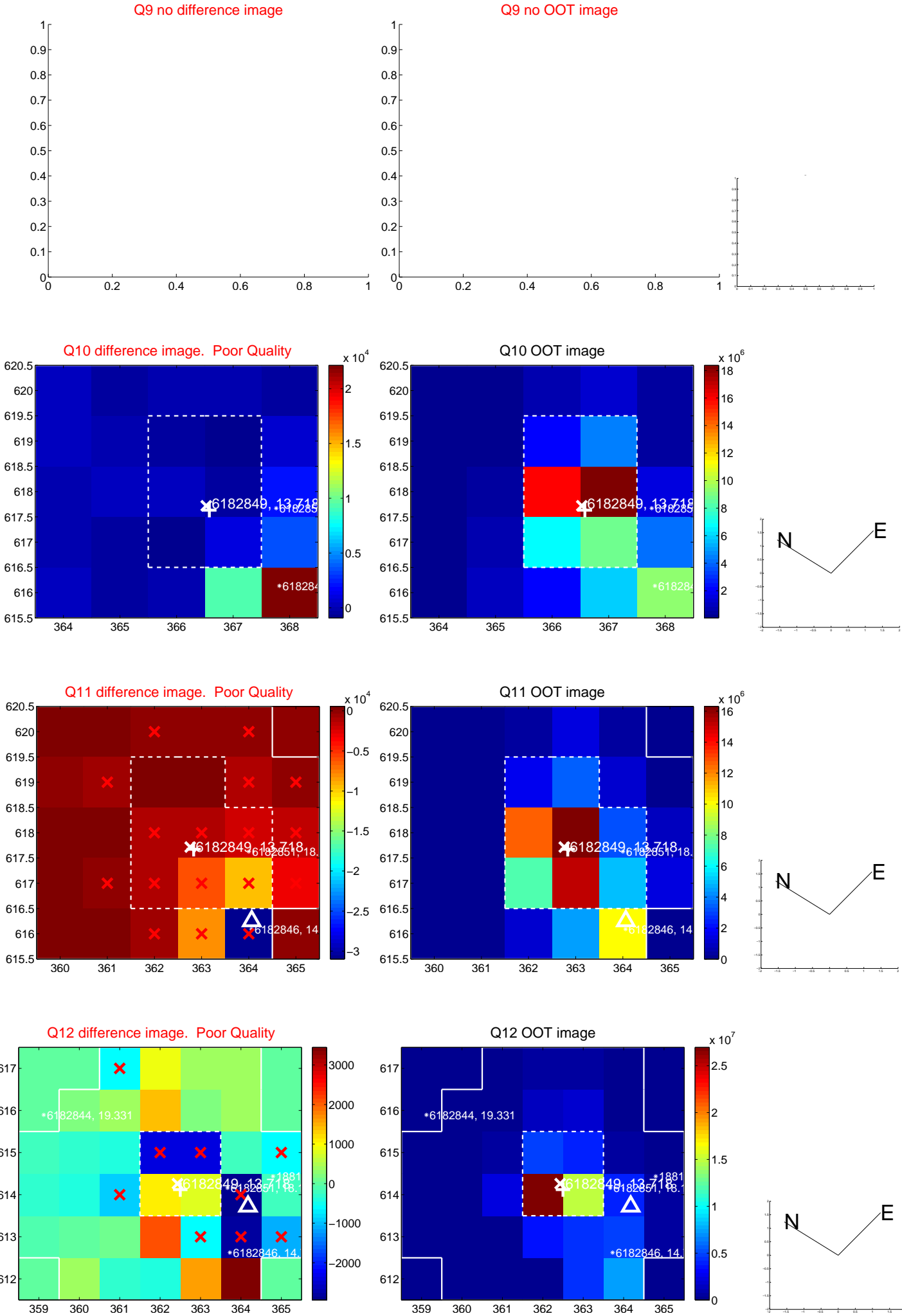
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



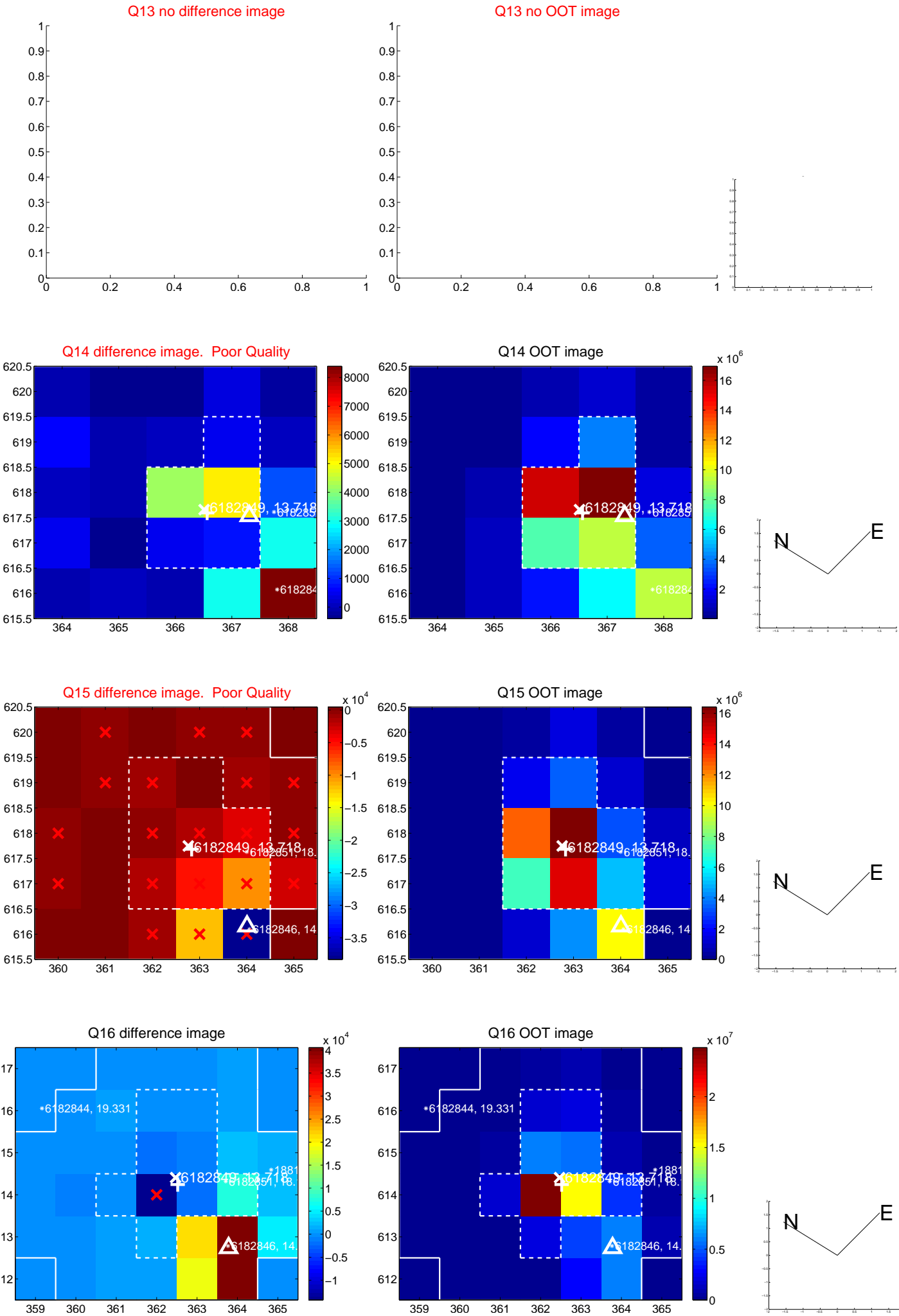
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



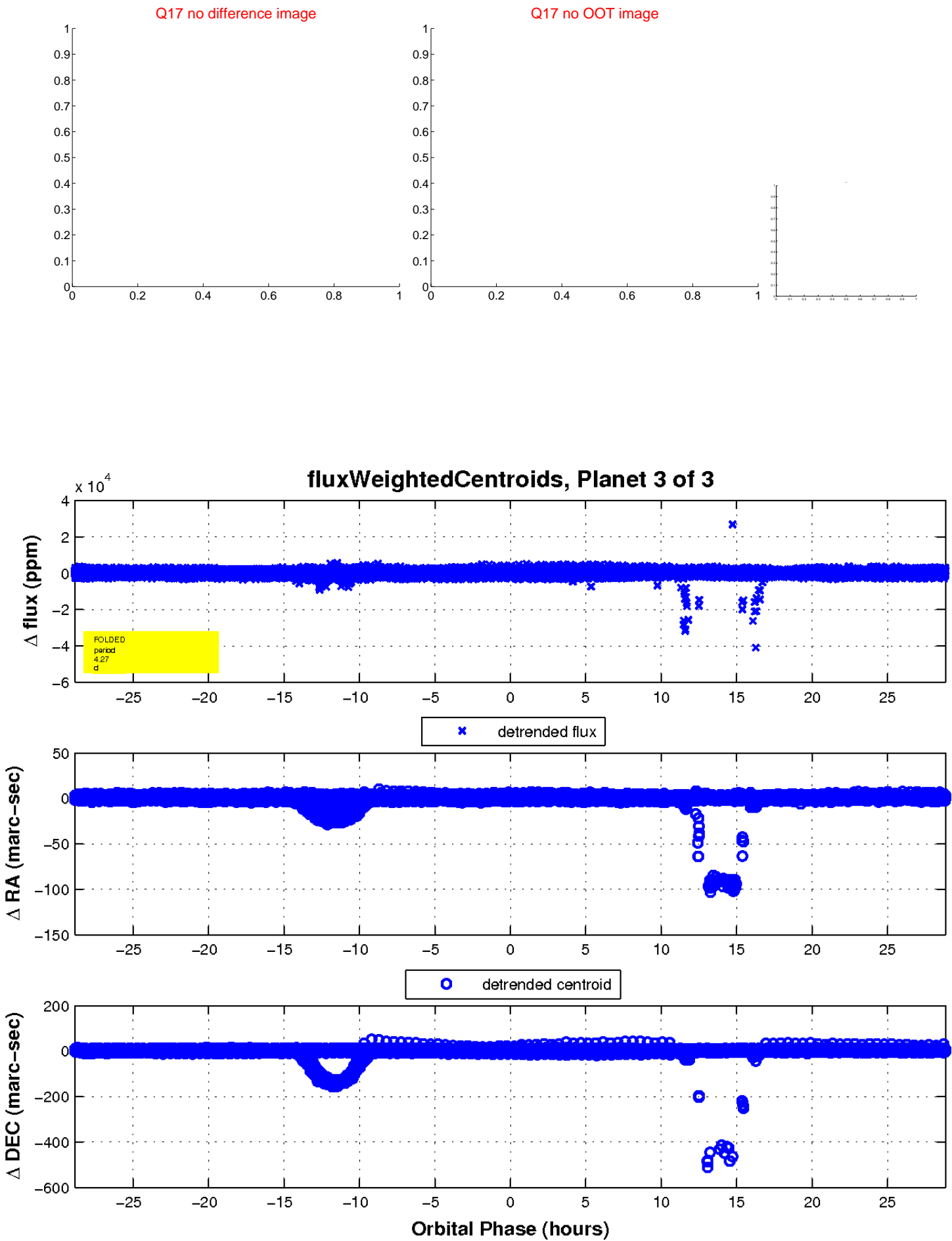
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



This astronomical image shows a field of stars against a dark background. A blue grid is overlaid on the image, with green text labels indicating coordinates. The horizontal axis (Right Ascension) is labeled at the top with values 8:52:20.0, 19.0, 18.0, 17.0, and 16.0. The vertical axis (Declination) is labeled on the right with values 50.0, 40.0, 30.0, 20.0, 10.0, and 0.0. Several bright stars are visible, including a prominent one near the center-right and another near the bottom-left.

Declination