

# KIC 003442006

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003442006-01	OBS	No	2.935810	132.627624	112.7	8.032	16.1	8.0	1.64	6674	1.75	2493.64
003442006-02	OBS	No	2.935825	134.079391	281.2	10.378	13.8	17.1	1.64	6674	3.37	2493.63
003442006-03	OBS	No	2.939577	132.277810	79.0	21.632	10.8	2.9	1.64	6674	1.53	2489.38

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003442006-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
003442006-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003442006-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

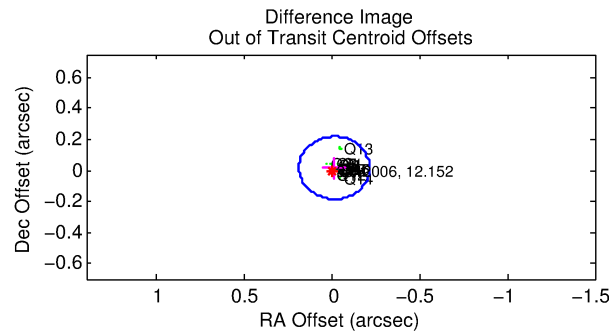
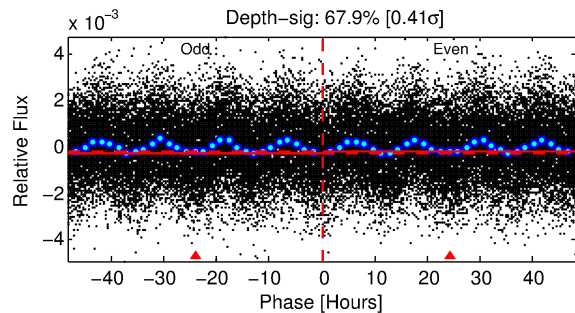
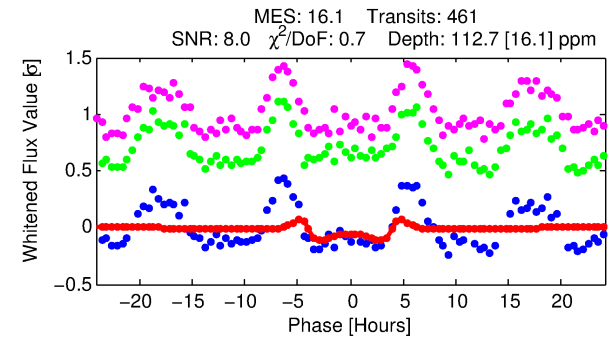
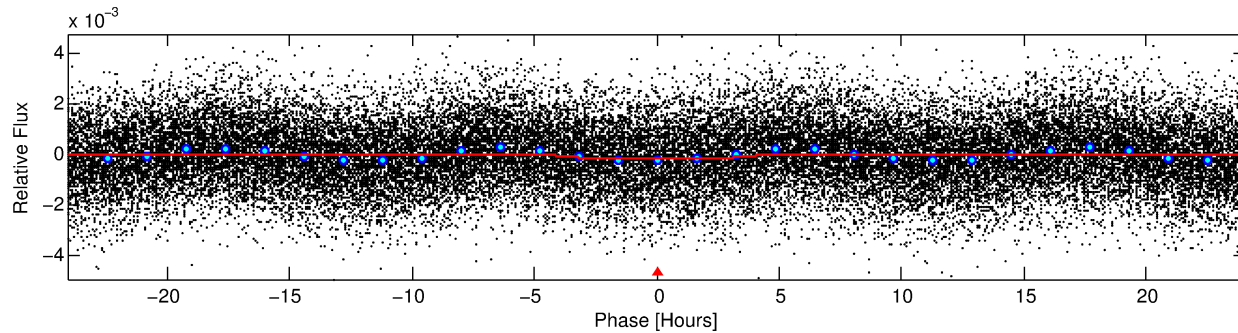
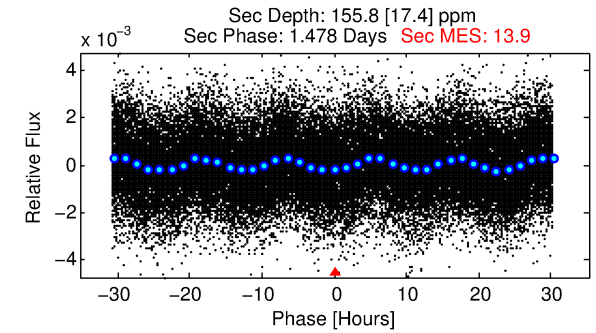
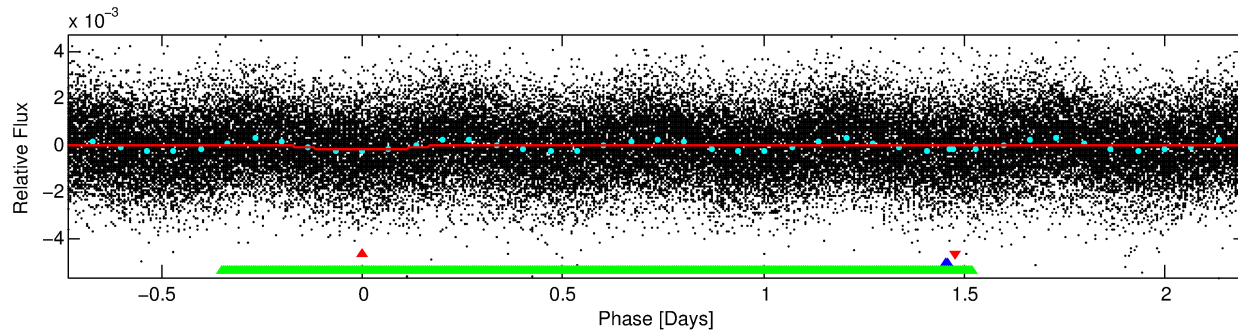
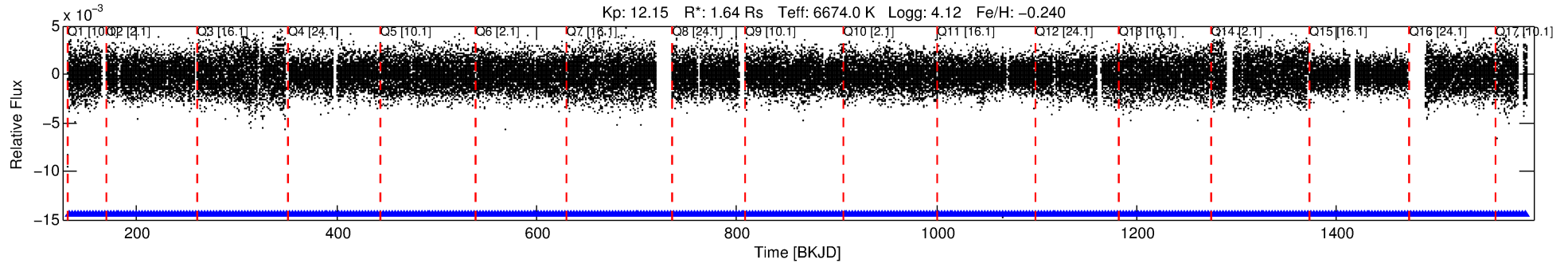
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 003442006-01

No Significant Match Found

# DV One-Page Summary

KIC: 3442006 Candidate: 1 of 3 Period: 2.936 d



## DV Fit Results:

Period = 2.93581 [0.00003] d  
Epoch = 132.6276 [0.0069] BKJD  
Rp/R\* = 0.0098 [0.0070]  
a/R\* = 2.88 [10.02]  
b = 0.01 [340.44]  
Seff = 2493.64 [1025.48]  
Teq = 1802 [185] K  
Rp = 1.75 [1.35] Re  
a = 0.0437 [0.0111] AU  
Ag = 53.47 [79.43] [0.66σ]  
Teffp = 7534 [2720] K [2.10σ]

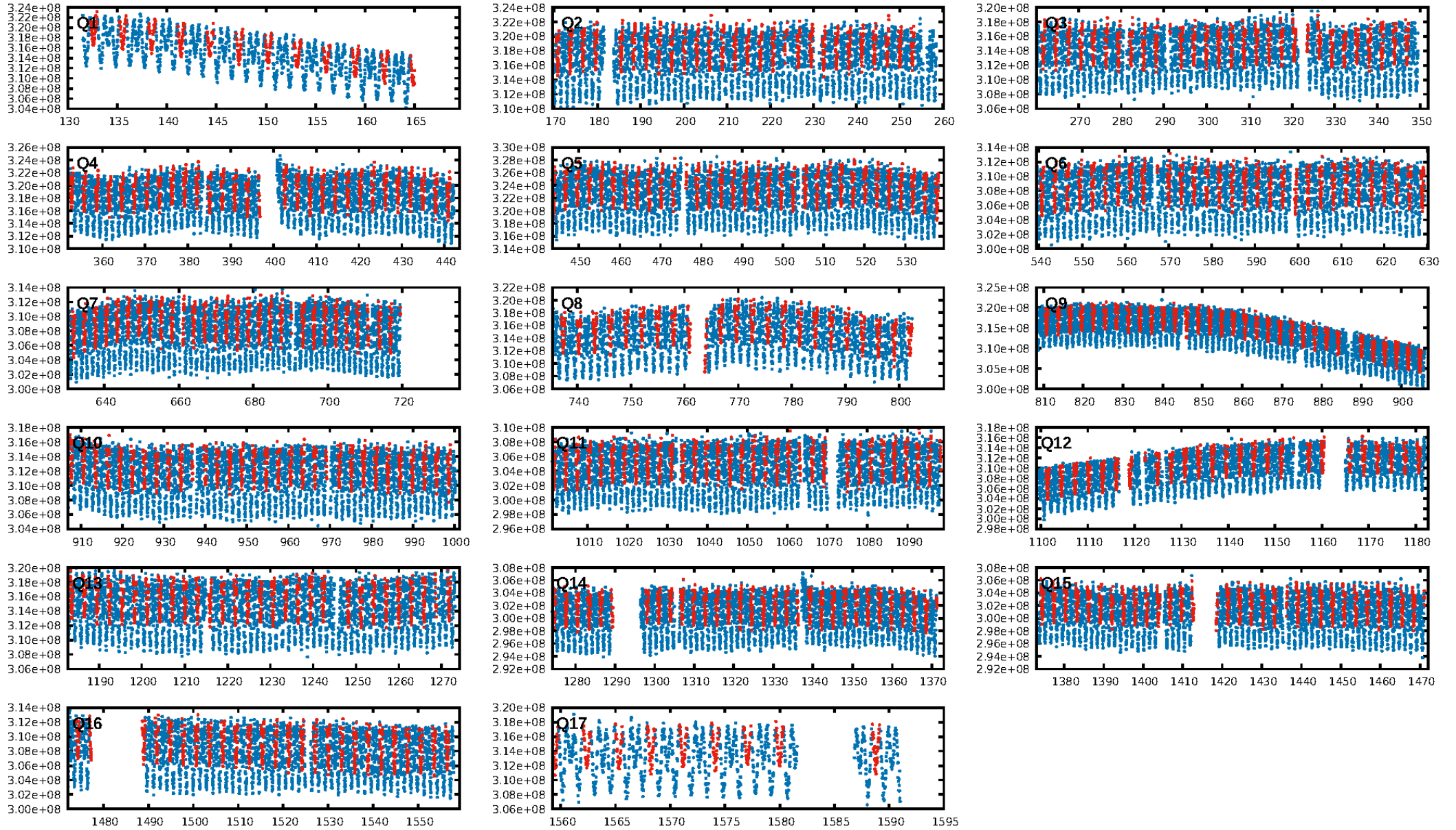
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [440/440]  
GhostDiagnostic-chr: 0.3616  
Centroid-sig: 0.0%  
Centroid-so: 0.680 arcsec [3.12σ]  
OotOffset-rm: 0.022 arcsec [0.33σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-rm: 0.010 arcsec [0.15σ]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 0.29 [5/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:06:39 Z

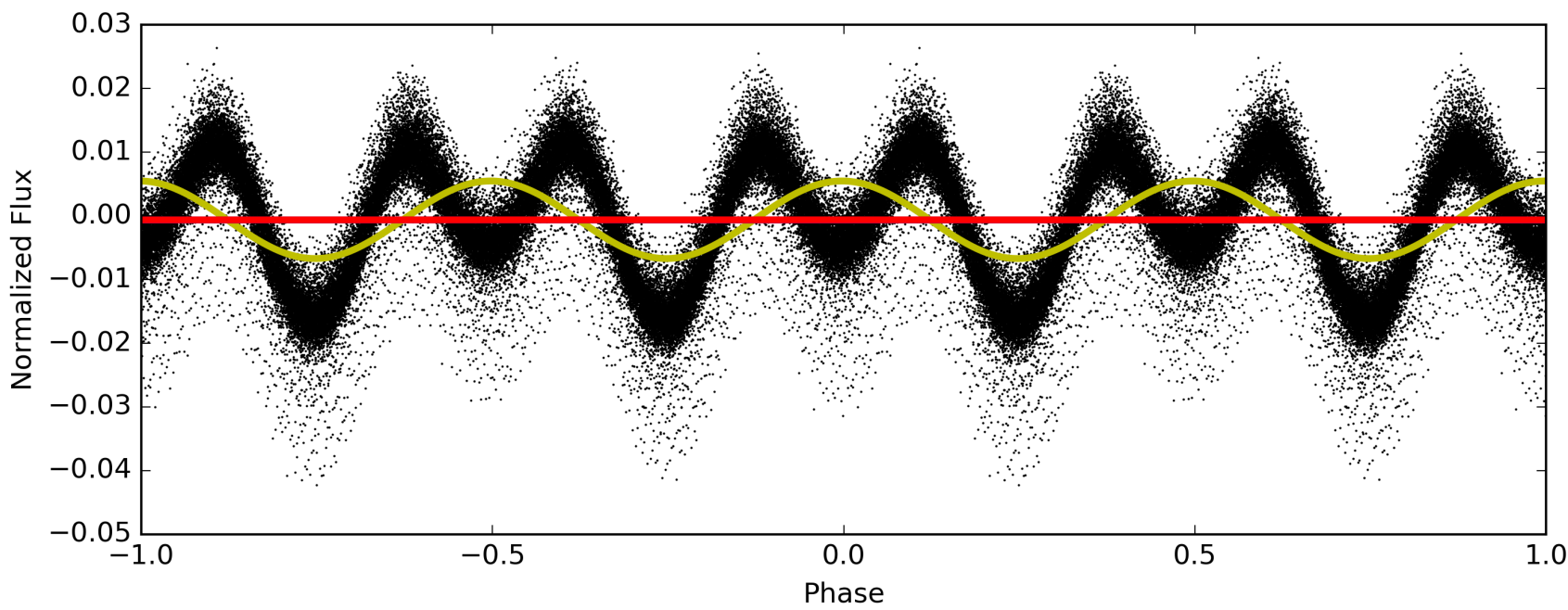
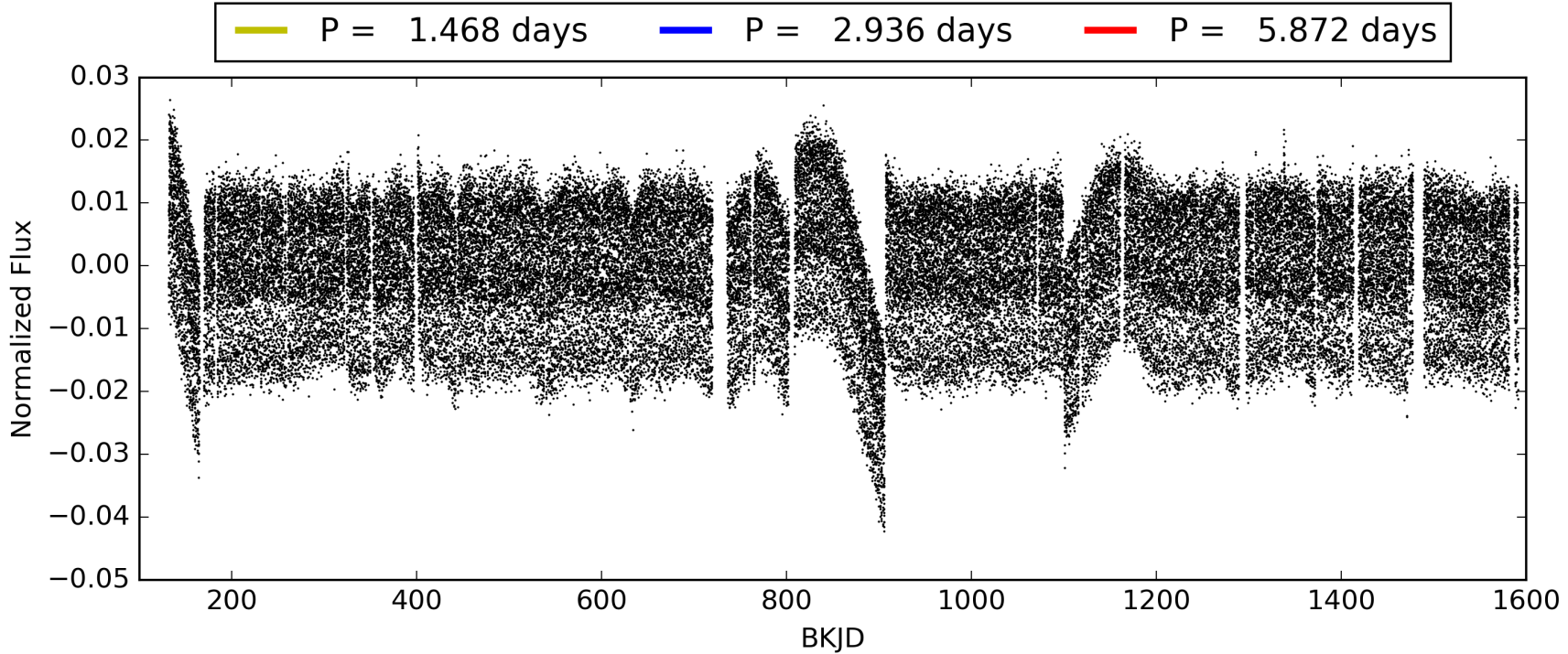
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 003442006-01, PDC Light Curves





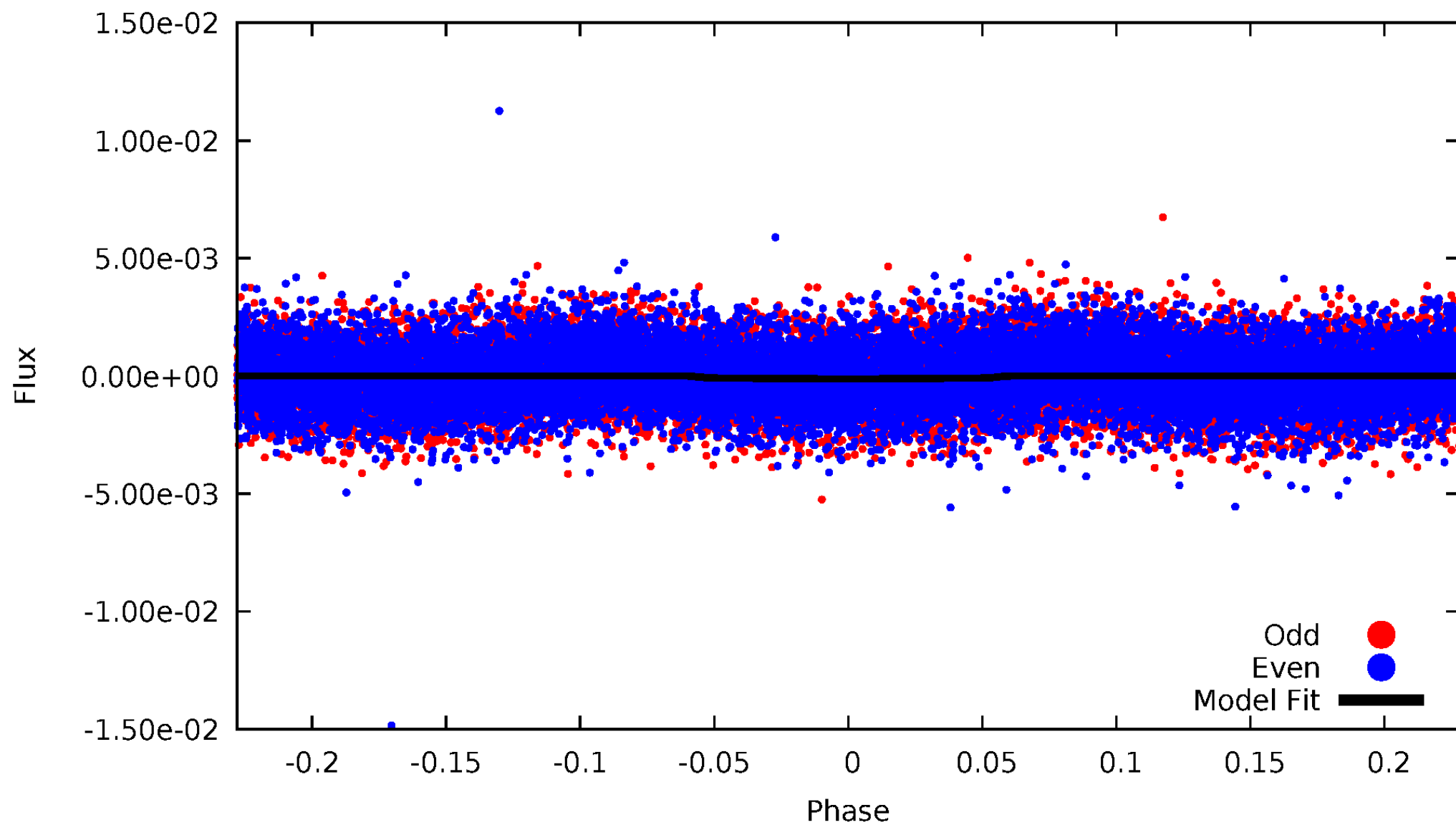
TCE 003442006-01





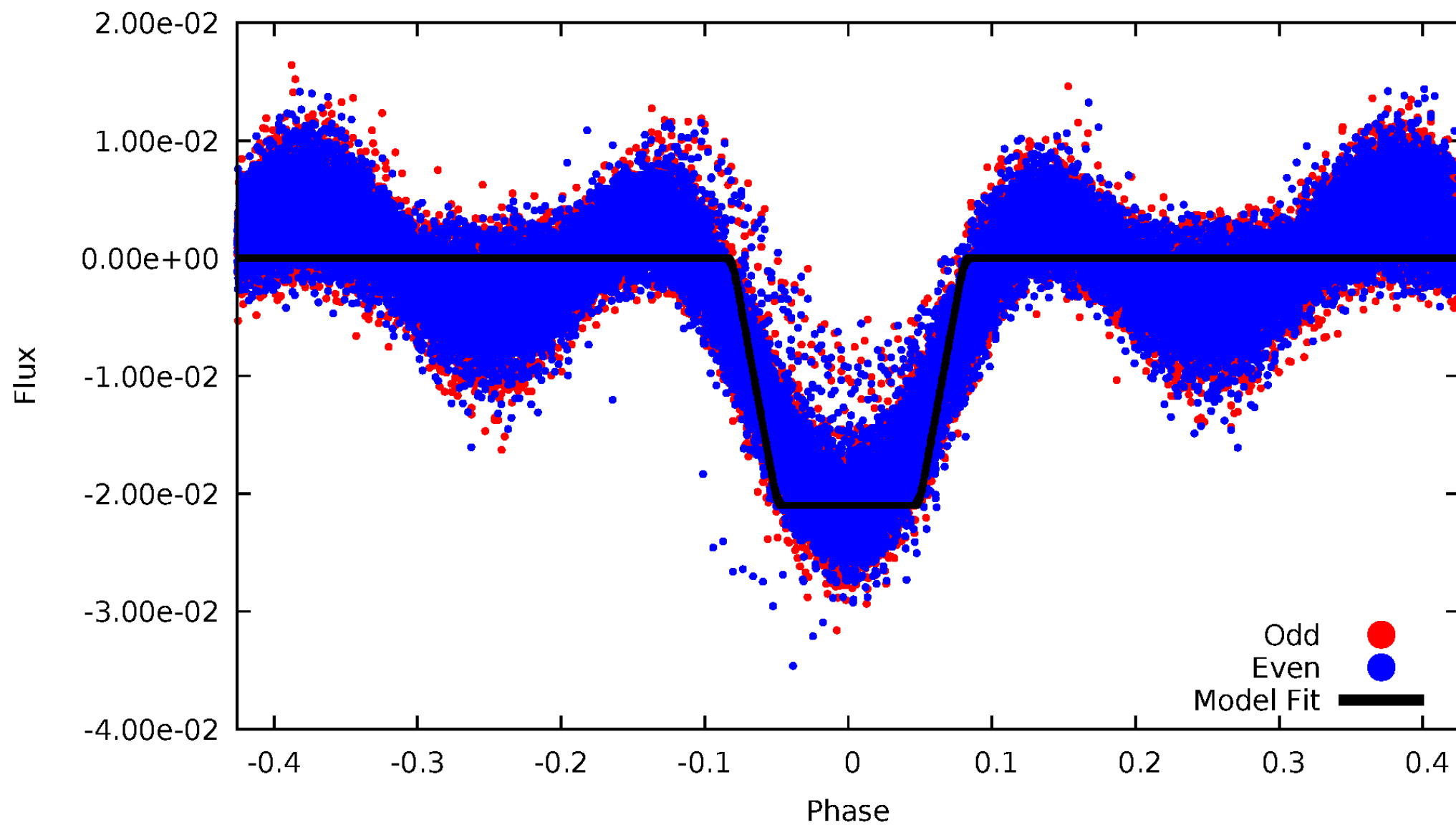
# DV Odd/Even

TCE 003442006-01



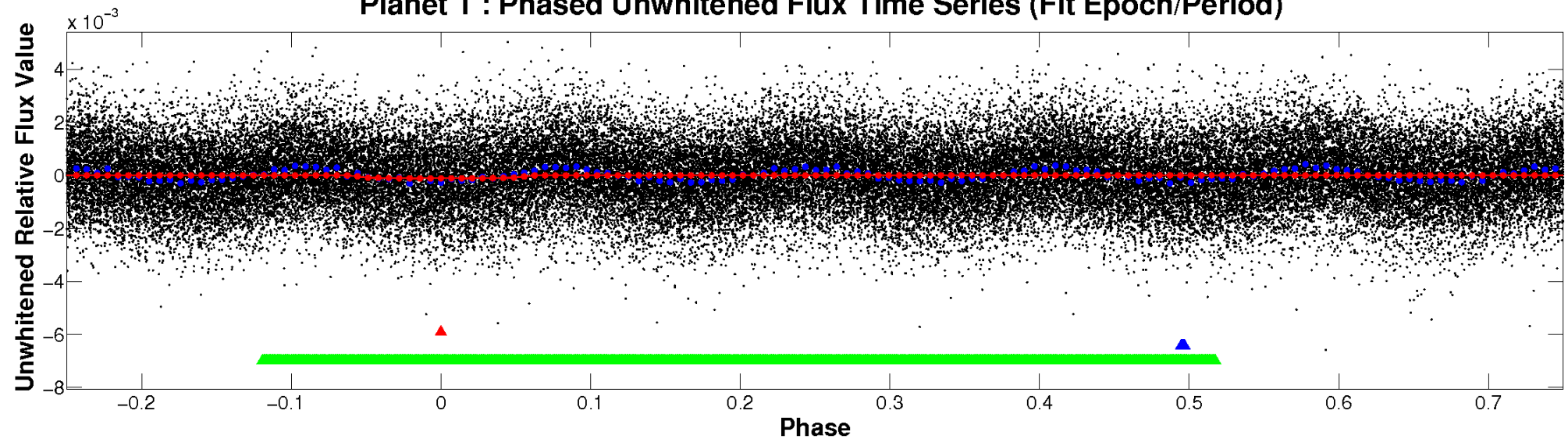
# ALT Odd/Even

TCE 003442006-01

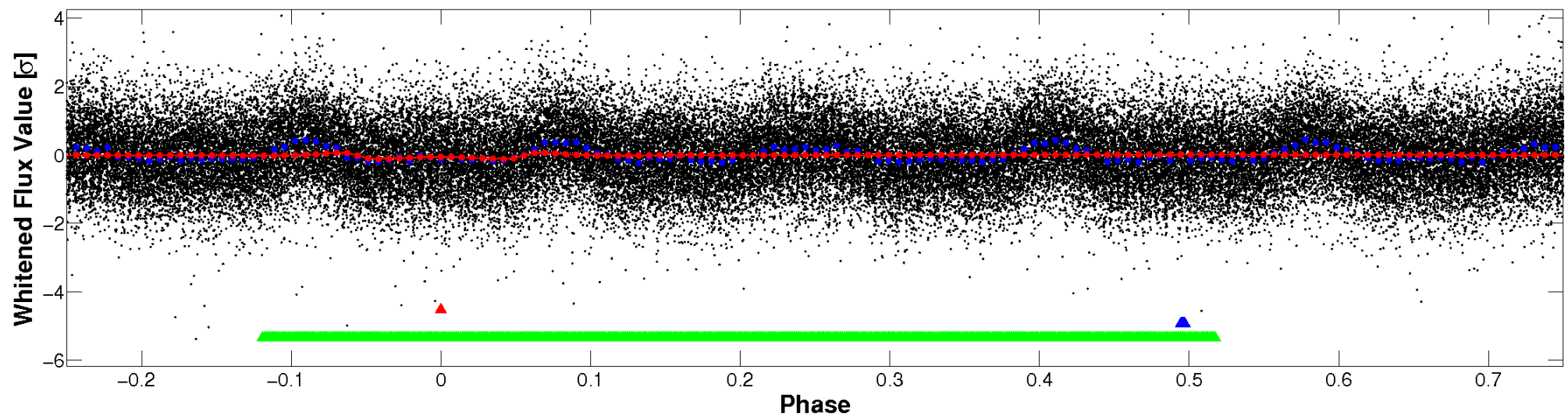


# Non-Whitened Vs. Whitened Light Curve

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



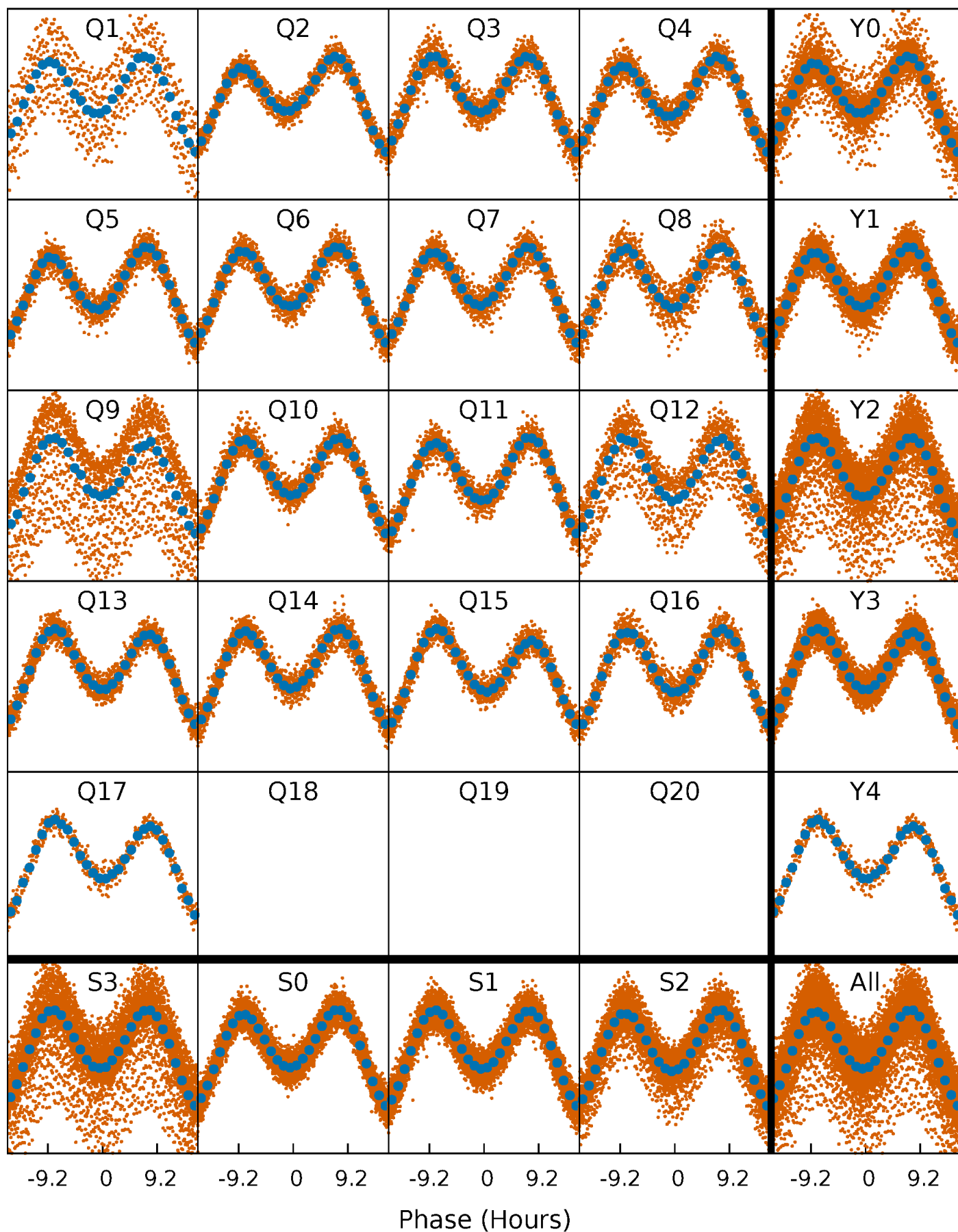
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





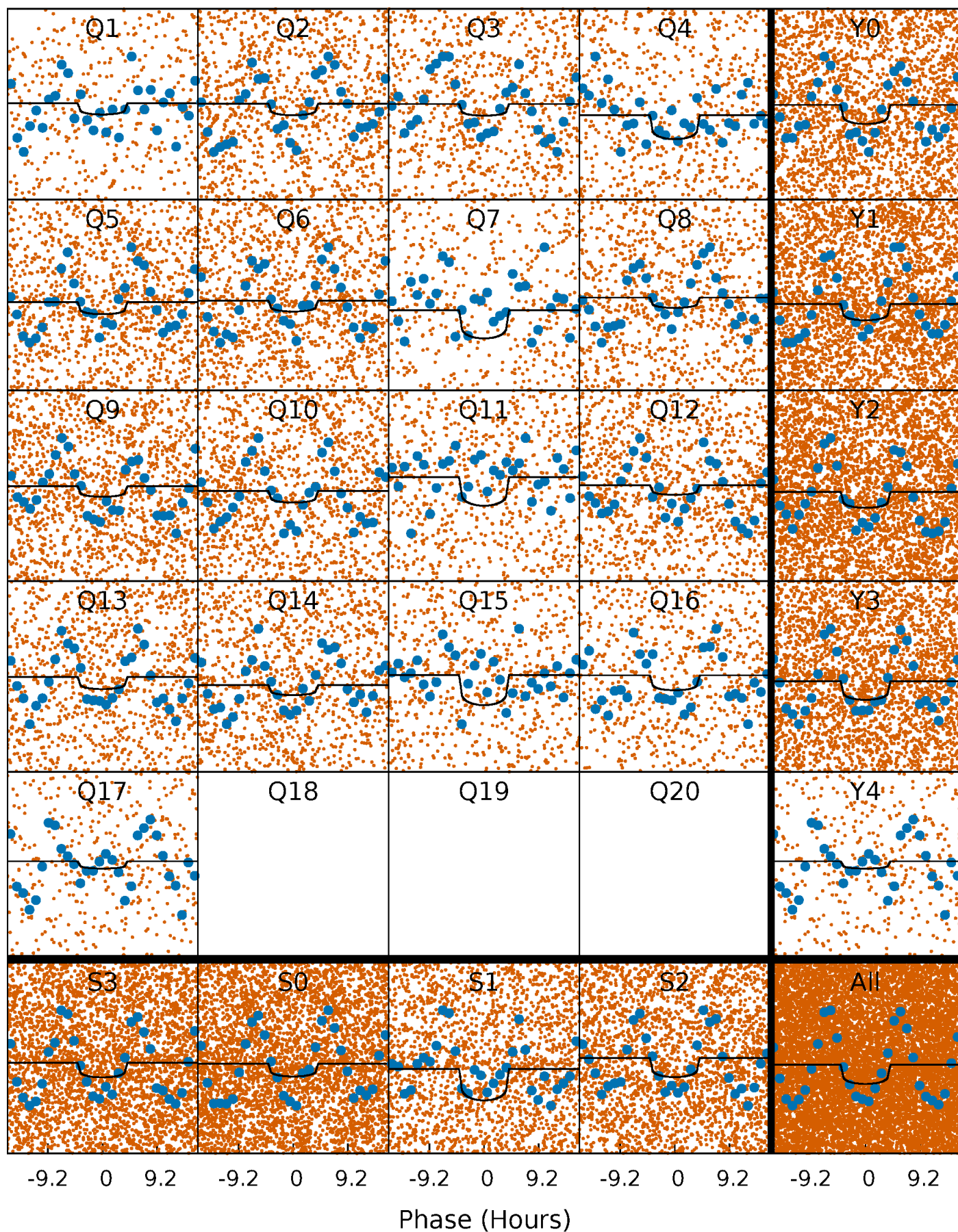
# PDC Quarter-Phased Transit Curves

TCE 003442006-01 P= 2.935810 Days  $T_0=132.627624$  (BKJD)



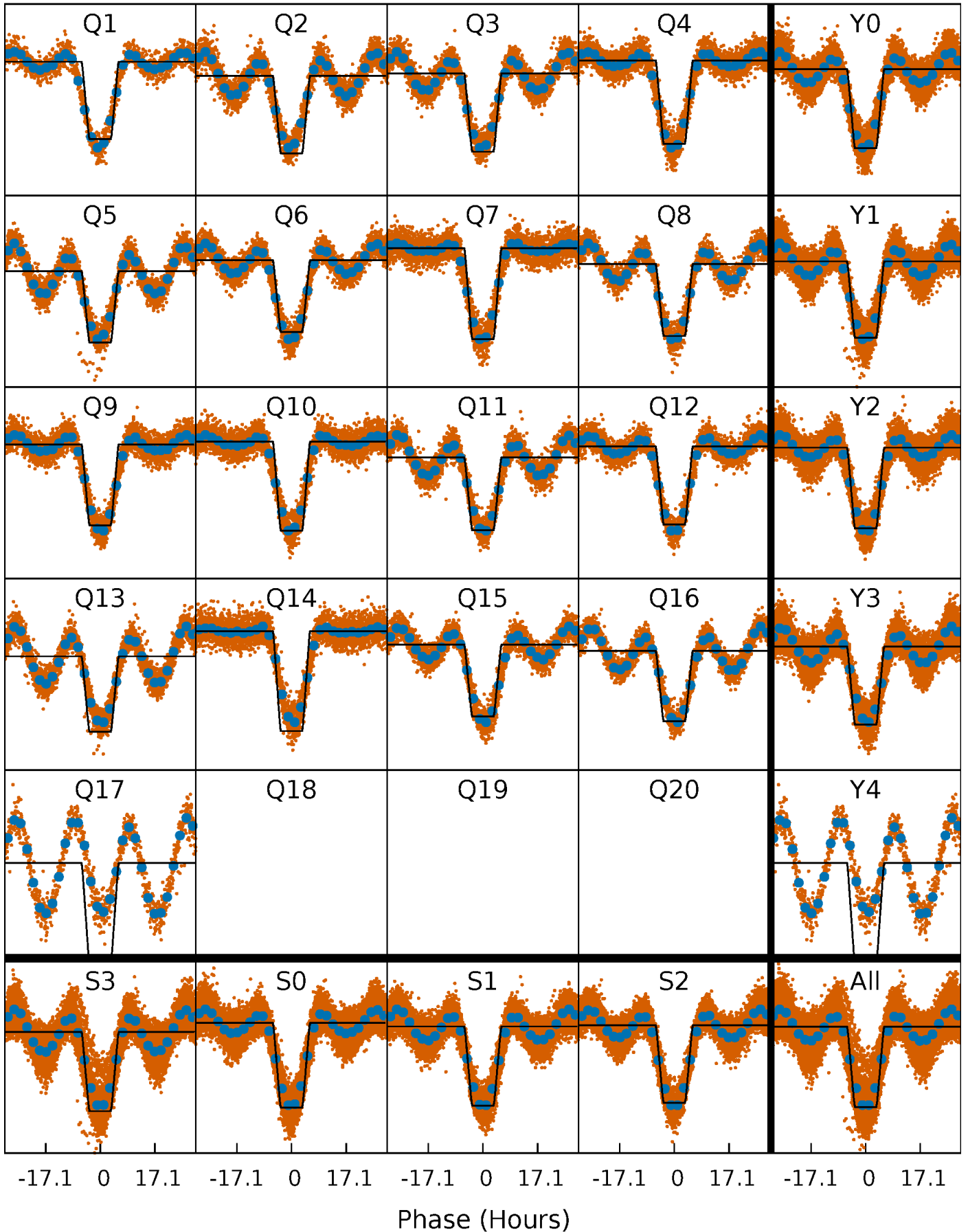
# DV Quarter-Phased Transit Curves

TCE 003442006-01 P= 2.935810 Days  $T_0=132.627624$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 003442006-01     $P = 2.935797$  Days     $T_0 = 132.613034$  (BKJD)

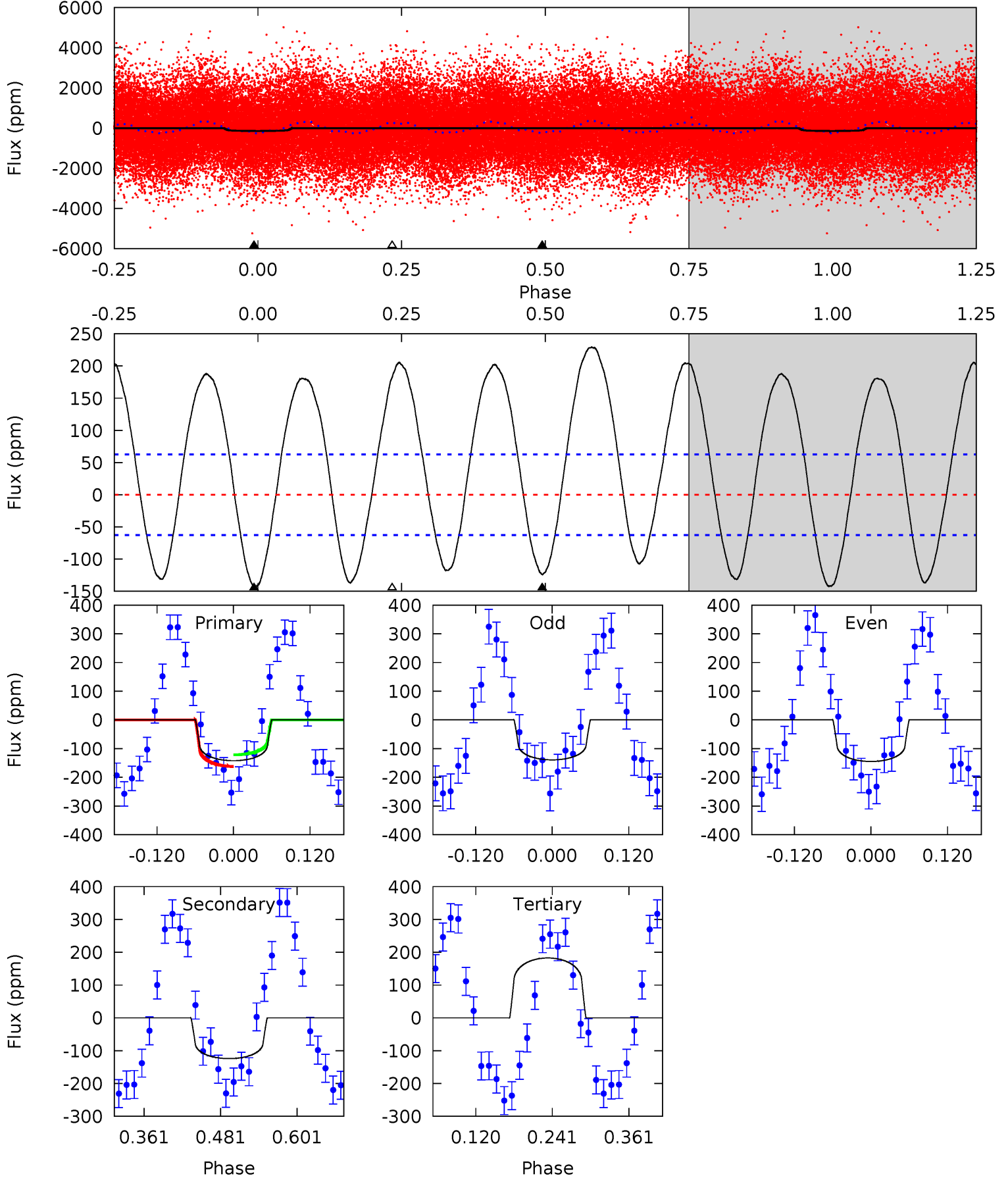




# DV Model-Shift Uniqueness Test

003442006-01, P = 2.935810 Days, E = 129.691814 Days

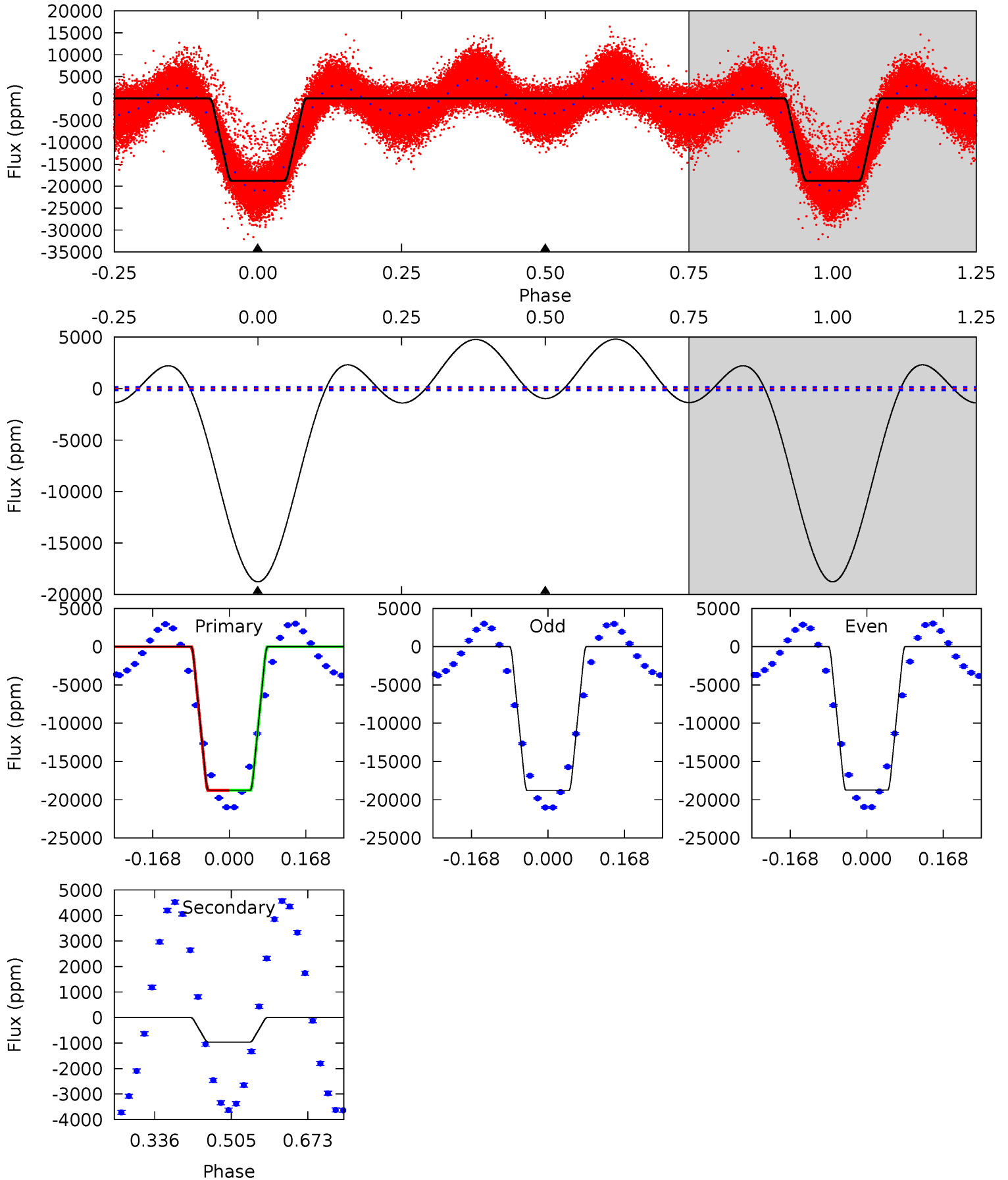
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	8.95	-13.2	0	4.53	1.55	7.84	23.4	10.3	22.1	8.95	0.20	0.76	0.62	1.47



# Alt Model-Shift Uniqueness Test

003442006-01, P = 2.935797 Days, E = 129.677237 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
532.0	27.3	0	0	4.45	1.38	35.8	532.0	532.0	27.3	27.3	0.69	0.99	0.20	0.27



### Stellar Parameters For KIC 003442006

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6674^{+188}_{-259}$	$4.121^{+0.214}_{-0.175}$	$-0.240^{+0.250}_{-0.300}$	$1.637^{+0.473}_{-0.473}$	$1.299^{+0.183}_{-0.244}$	$0.417^{+0.528}_{-0.205}$
	+3%/-4%	+5%/-4%	+104%/-125%	+29%/-29%	+14%/-19%	+126%/-49%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 003442006-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	-124±14	$1.84^{+1.23}_{-1.06}$	$2514^{+191}_{-200}$	$6951^{+5045}_{-1605}$	$38^{+176}_{-24}$
Alt.	-962±35	$25.69^{+4.19}_{-4.02}$	$2497^{+191}_{-199}$	$3415^{+108}_{-109}$	$1.541^{+0.553}_{-0.392}$

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



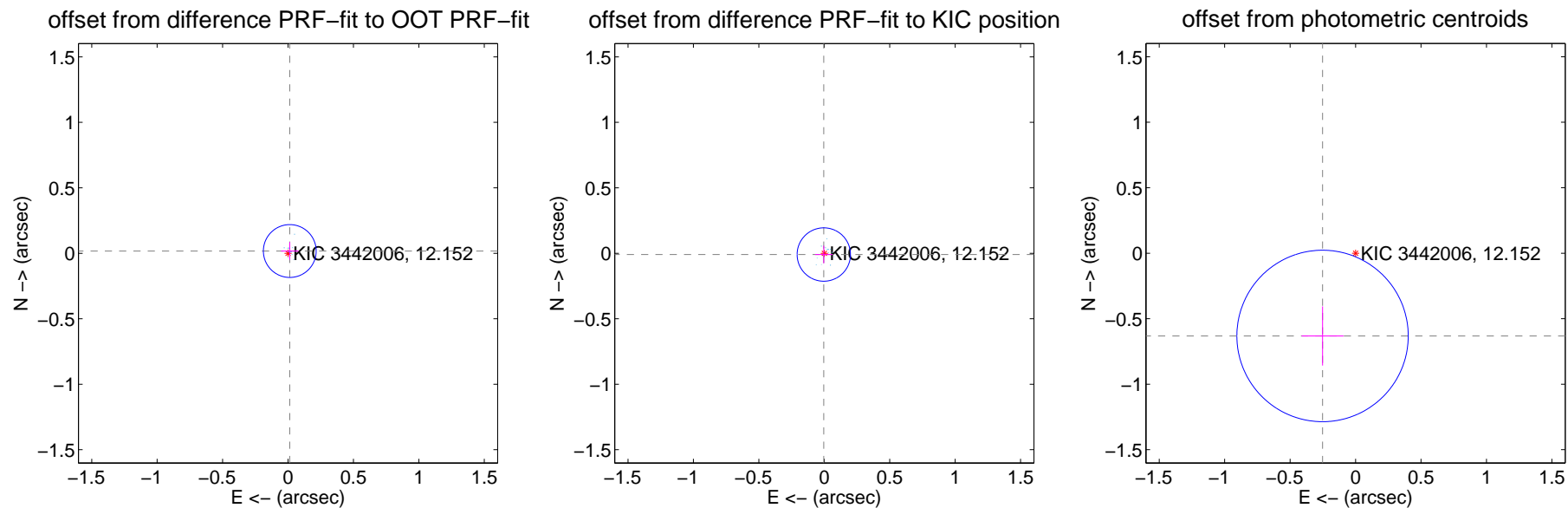
## DV Centroid Data

Supplemental centroid analysis for 003442006-01. Kepler magnitude: 12.15. Transit SNR 7.97

There are 17 quarters with good PRF difference image offsets

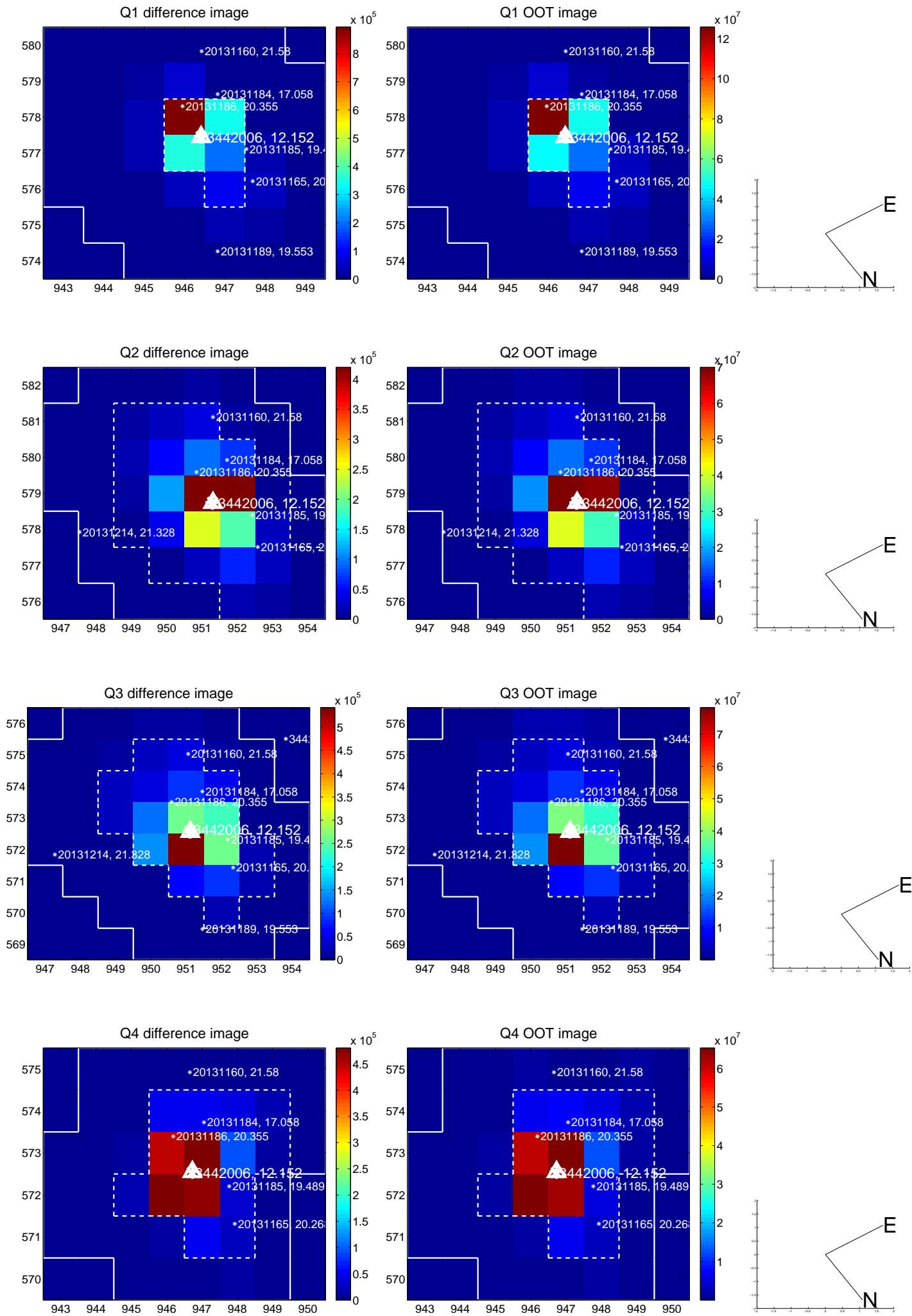
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.022 \pm 0.067$	0.33	$-0.013 \pm 0.067$	$0.017 \pm 0.067$
PRF-fit source offset from KIC position	$0.010 \pm 0.068$	0.15	$0.004 \pm 0.067$	$-0.009 \pm 0.068$
photometric centroid source offset	$0.68 \pm 0.22$	3.12	$0.25 \pm 0.16$	$-0.63 \pm 0.23$

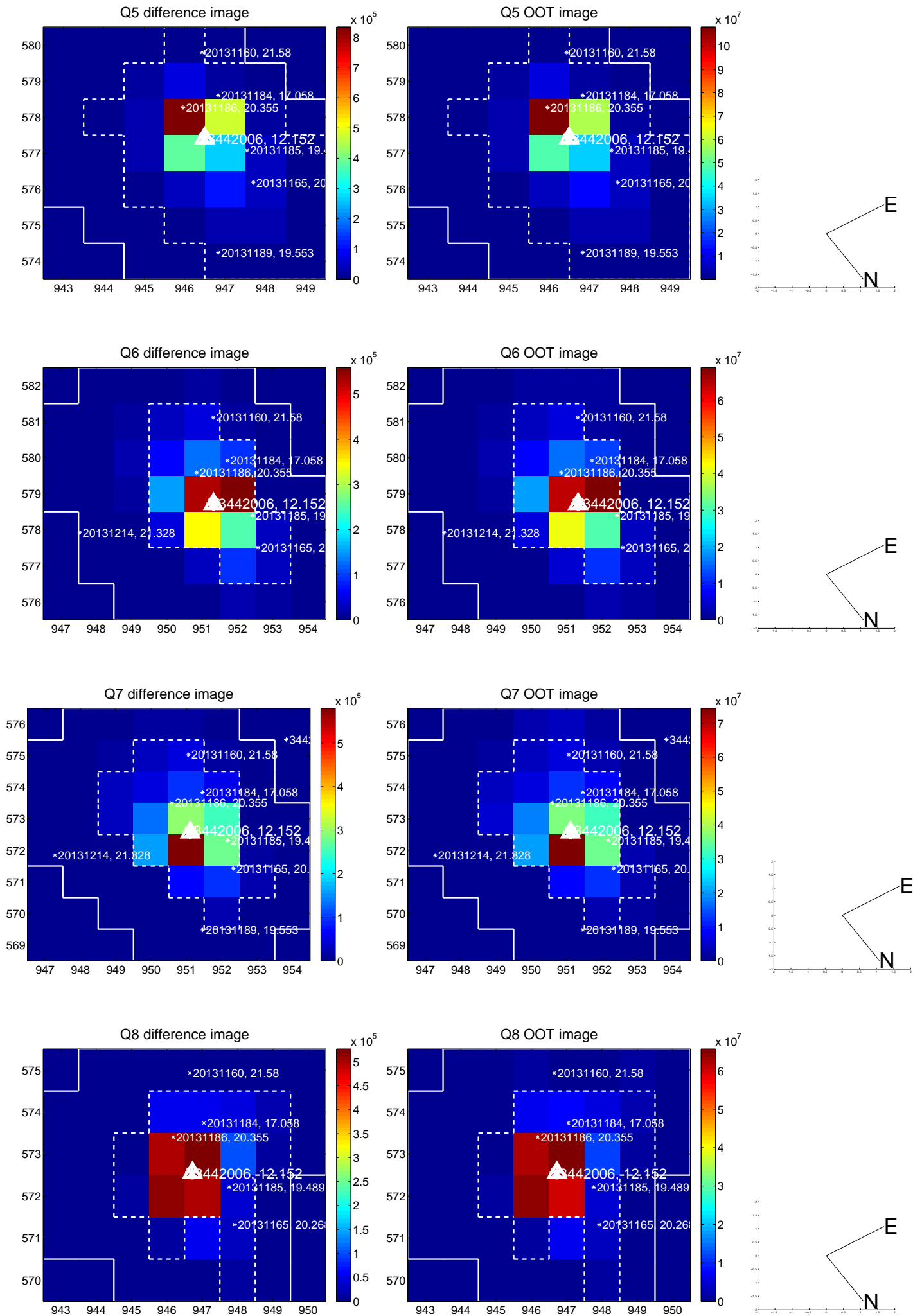


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

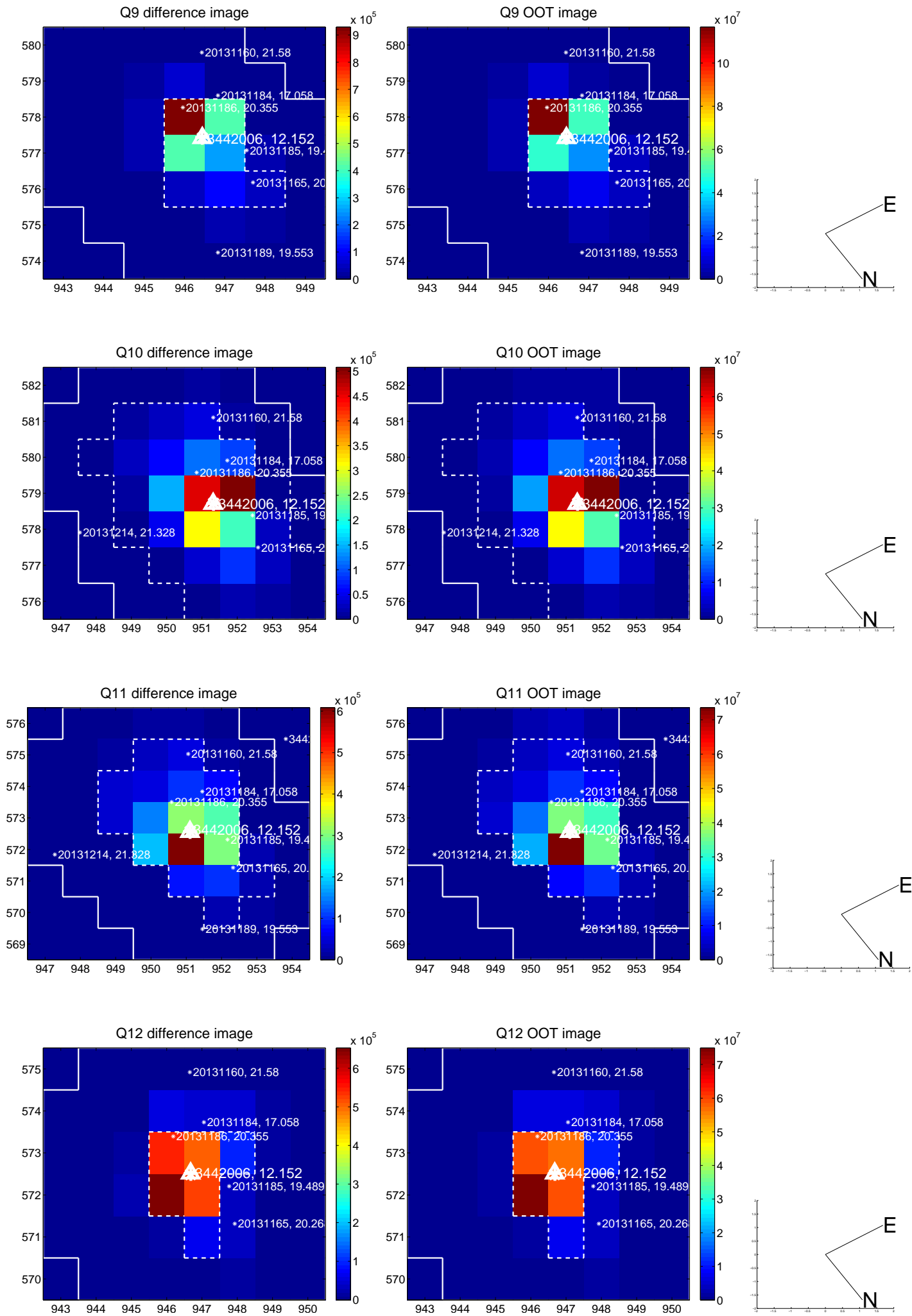


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

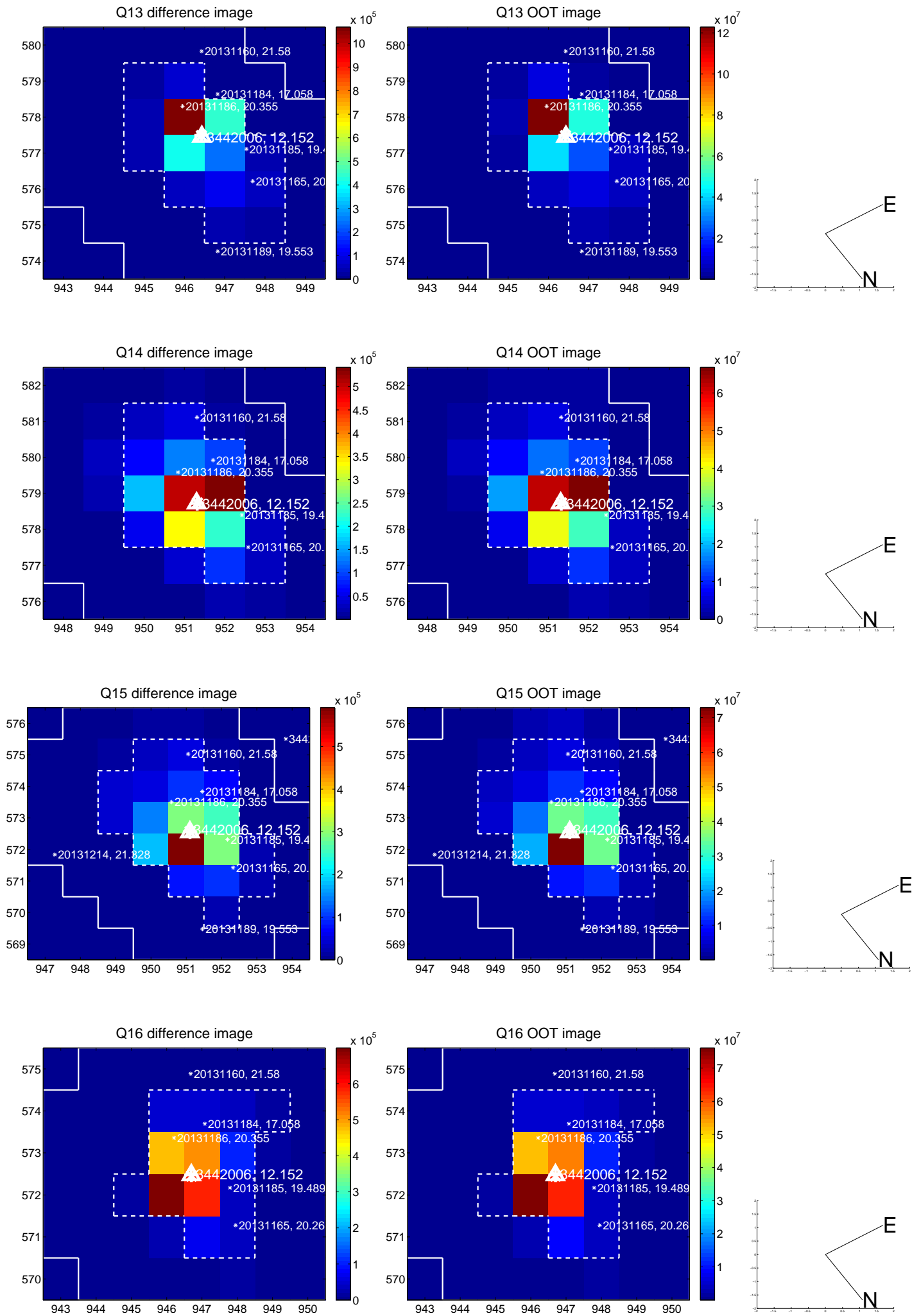




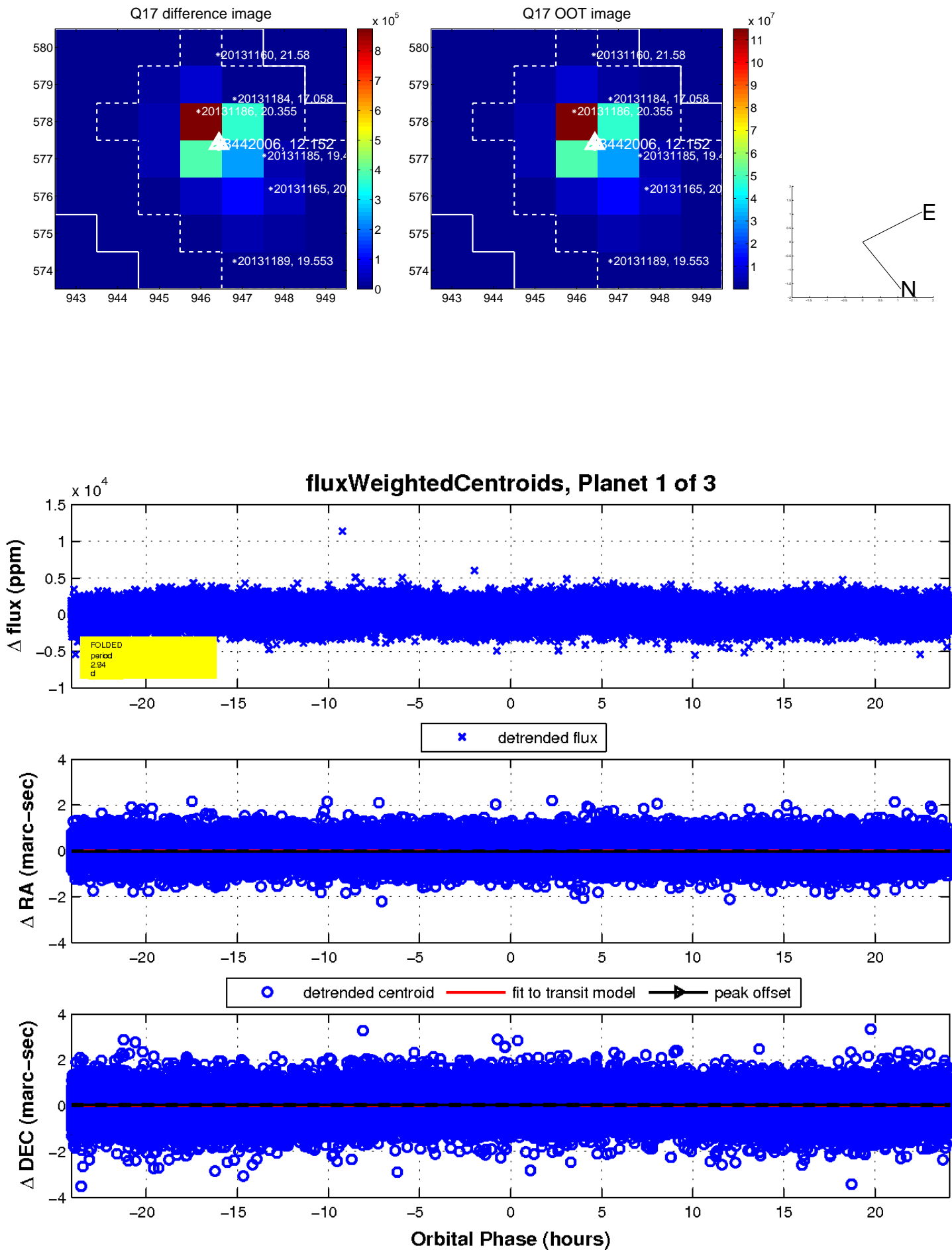
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

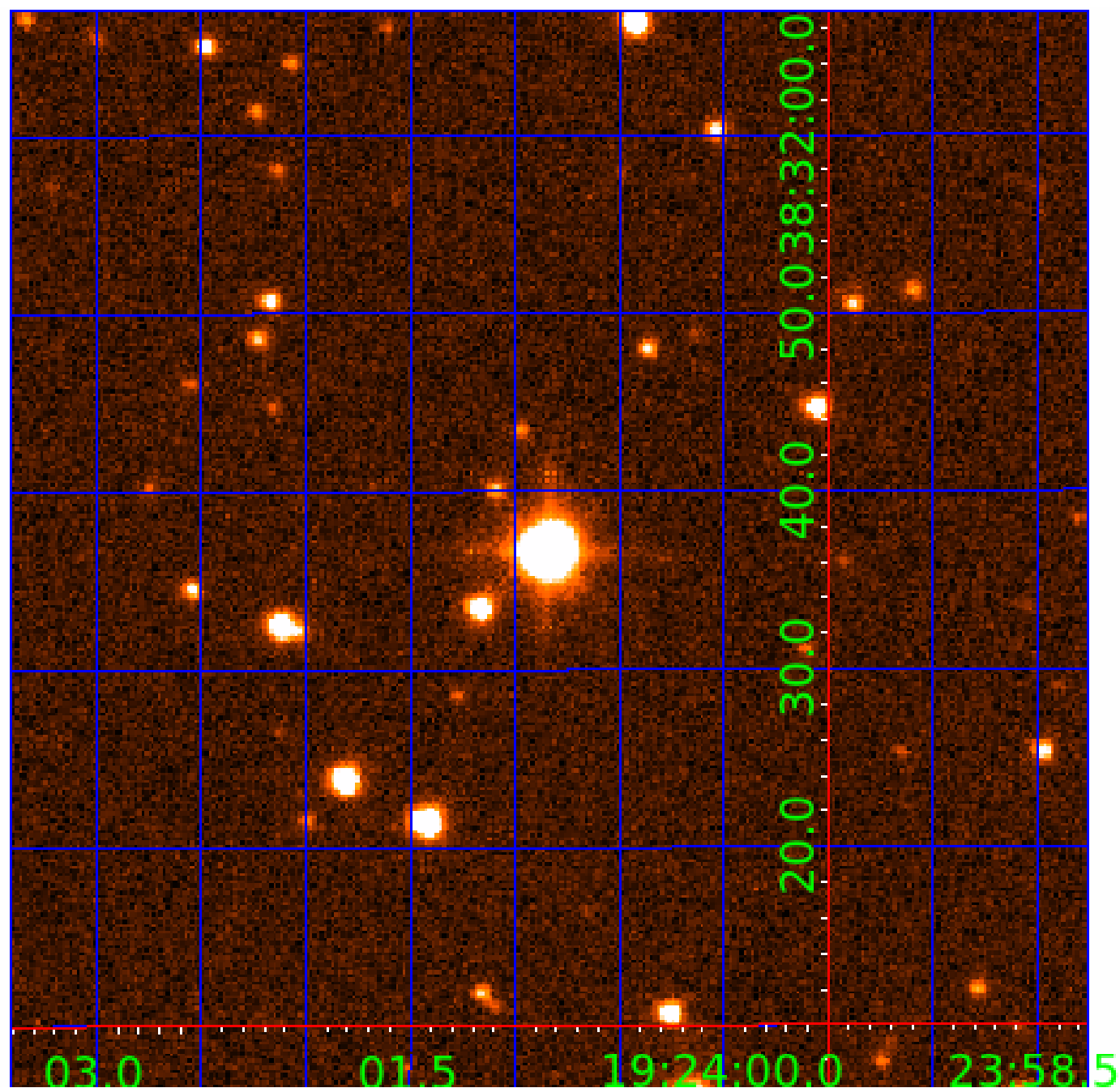


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 003442006

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003442006-01	OBS	No	2.935810	132.627624	112.7	8.032	16.1	8.0	1.64	6674	1.75	2493.64
003442006-02	OBS	No	2.935825	134.079391	281.2	10.378	13.8	17.1	1.64	6674	3.37	2493.63
003442006-03	OBS	No	2.939577	132.277810	79.0	21.632	10.8	2.9	1.64	6674	1.53	2489.38

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003442006-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
003442006-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003442006-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

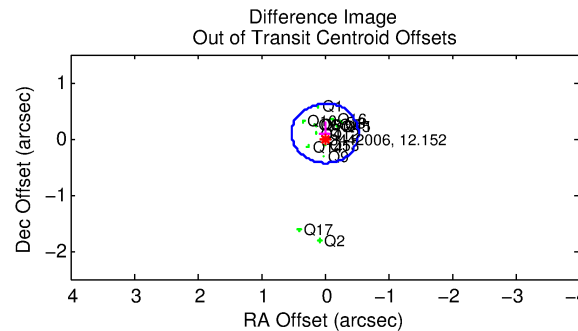
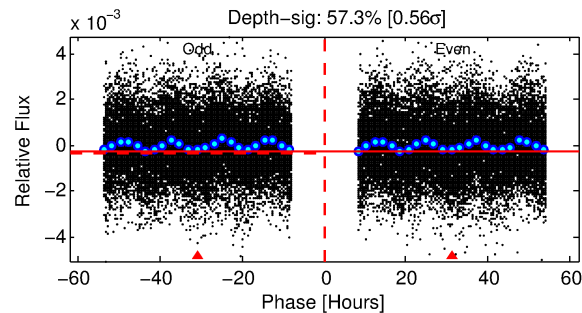
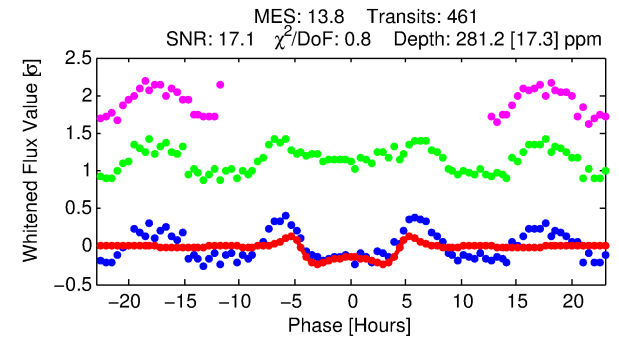
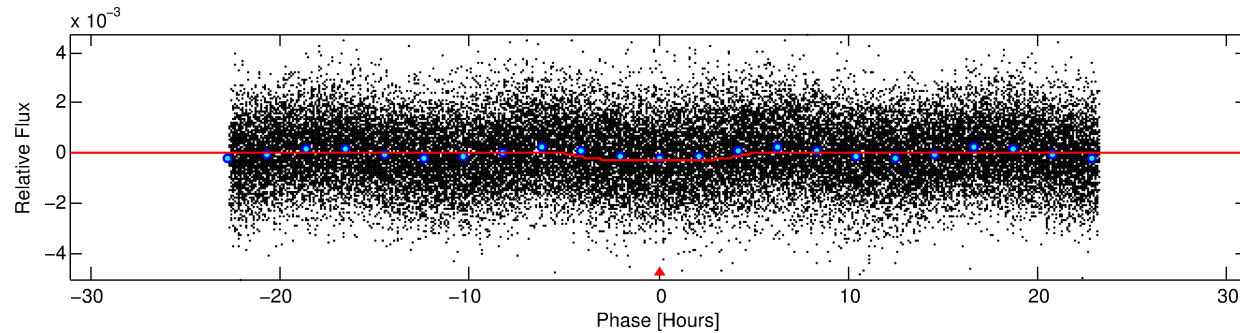
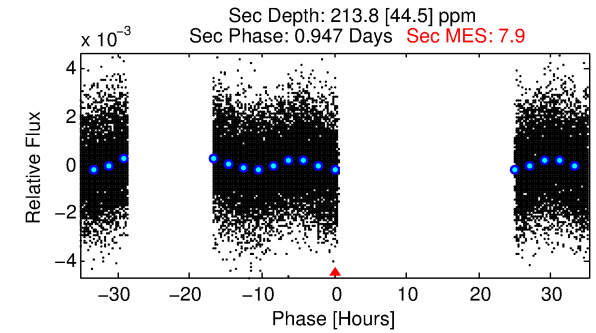
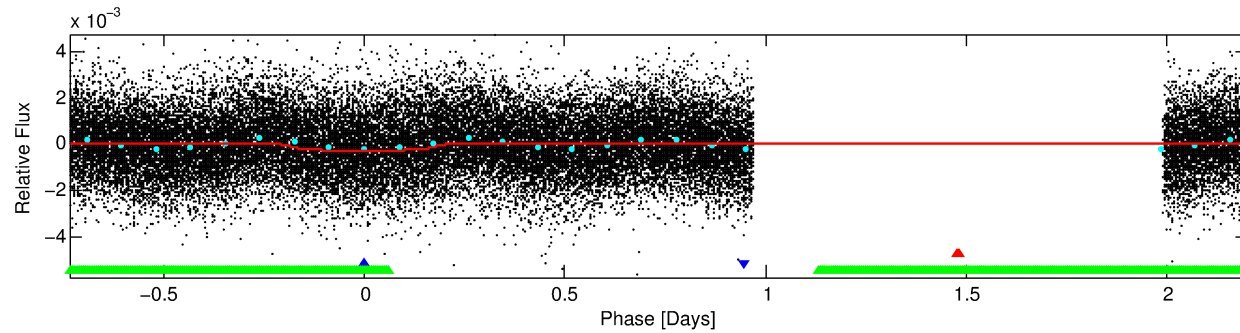
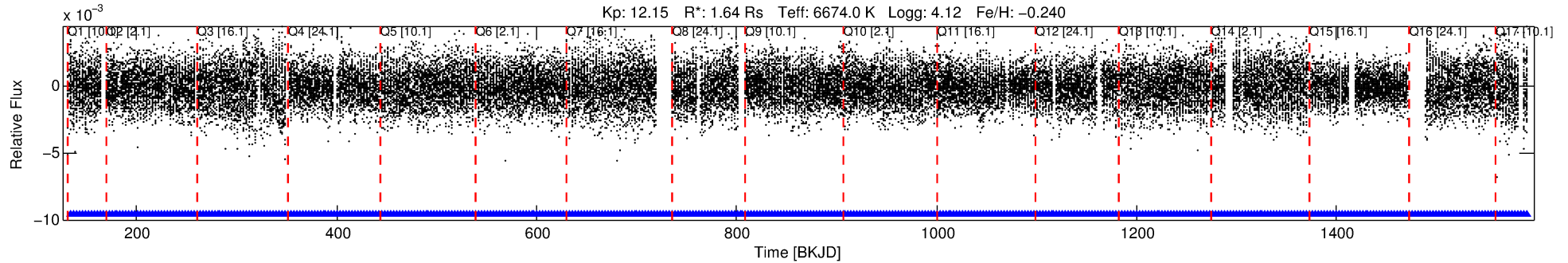
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003442006-02

No Significant Match Found

# DV One-Page Summary

KIC: 3442006 Candidate: 2 of 3 Period: 2.936 d



## DV Fit Results:

Period = 2.93583 [0.00002] d  
Epoch = 134.0794 [0.0054] BKJD  
Rp/R\* = 0.0189 [0.0008]  
a/R\* = 1.26 [0.06]  
b = 0.95 [0.01]  
Seff = 2493.63 [1025.47]  
Teff = 1802 [185] K  
Rp = 3.37 [0.98] Re  
a = 0.0437 [0.0111] AU  
Ag = 19.82 [8.75] [2.15σ]  
Teffp = 5878 [400] K [9.25σ]

## DV Diagnostic Results:

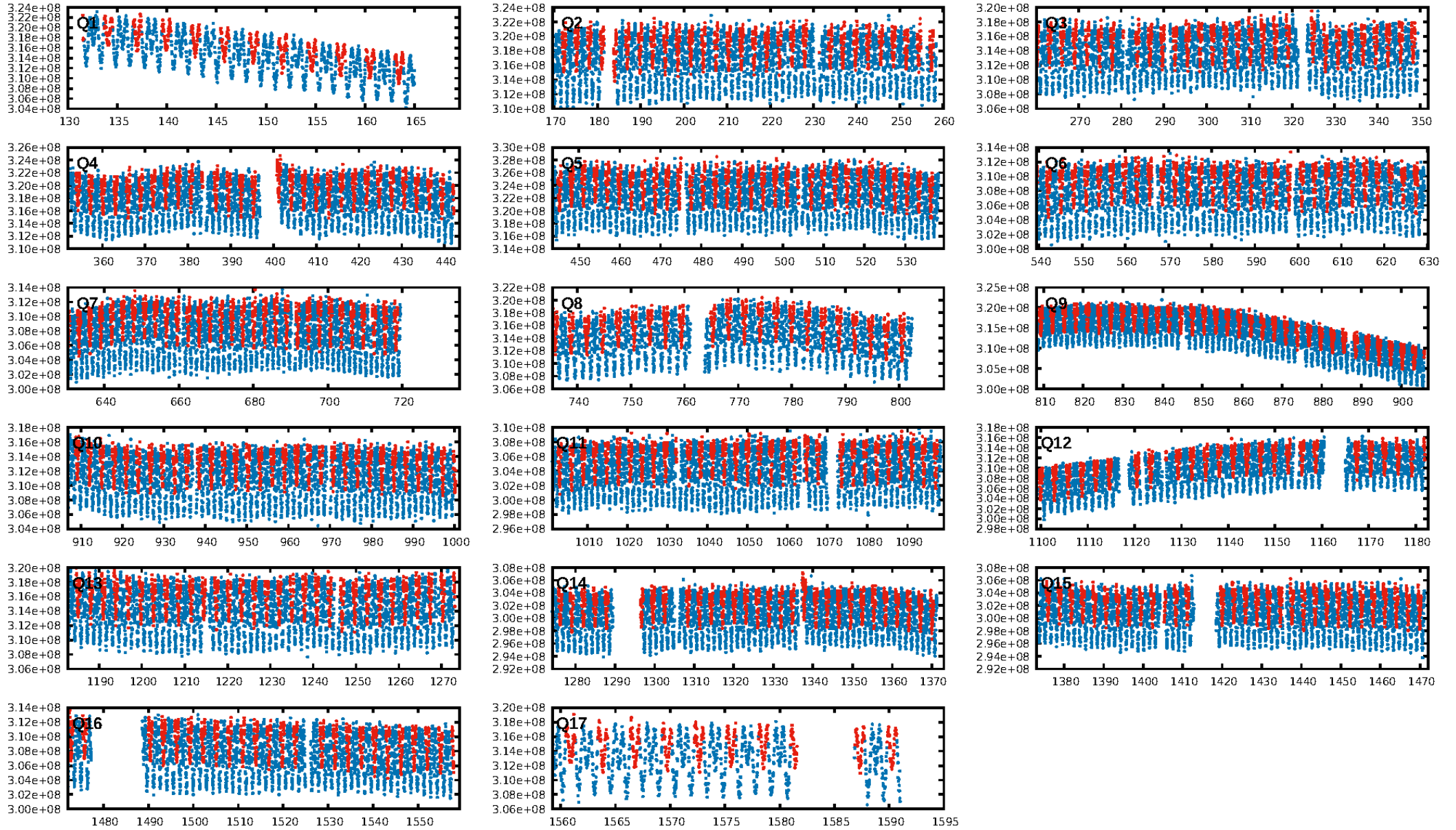
ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: 0.3% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [440/440]  
GhostDiagnostic-chr: -0.7998  
Centroid-sig: 10.8%  
Centroid-so: 0.192 arcsec [2.24σ]  
OotOffset-rm: 0.092 arcsec [0.52σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-rm: 0.066 arcsec [0.41σ]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.94 [16/17]  
DiffImageOverlap-fno: 0.29 [5/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:06:51 Z

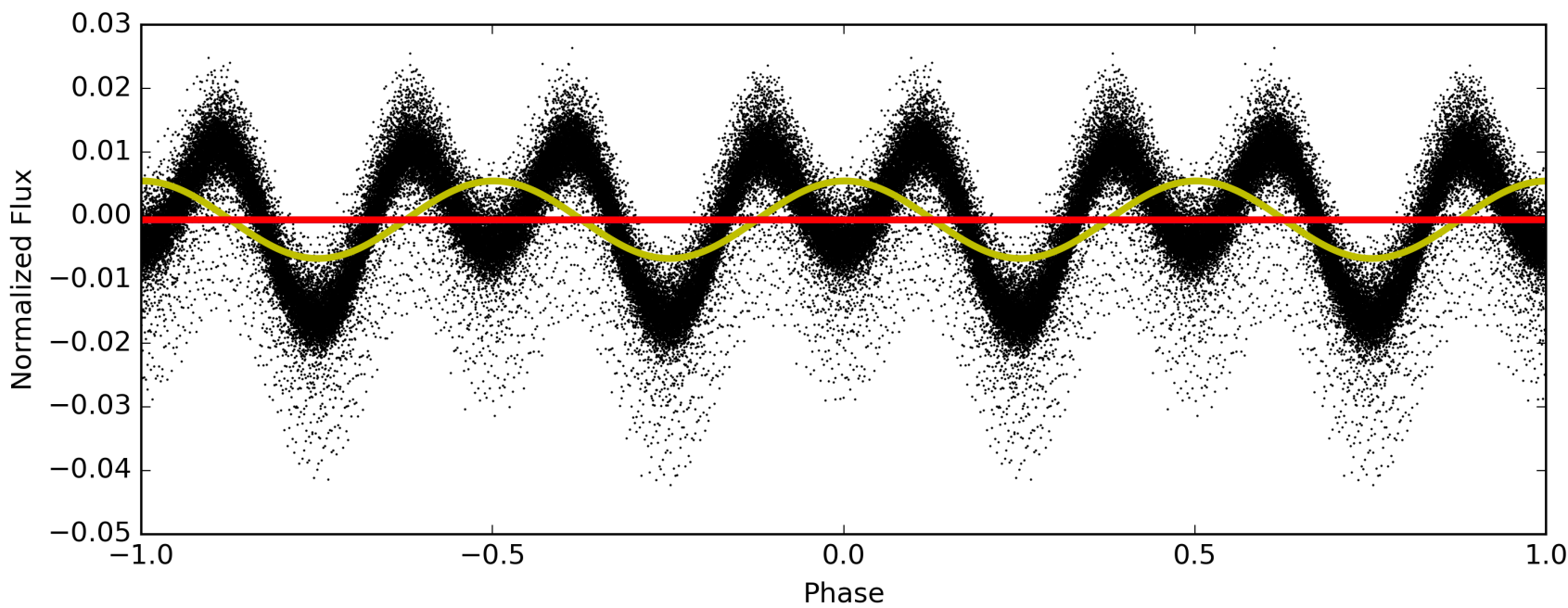
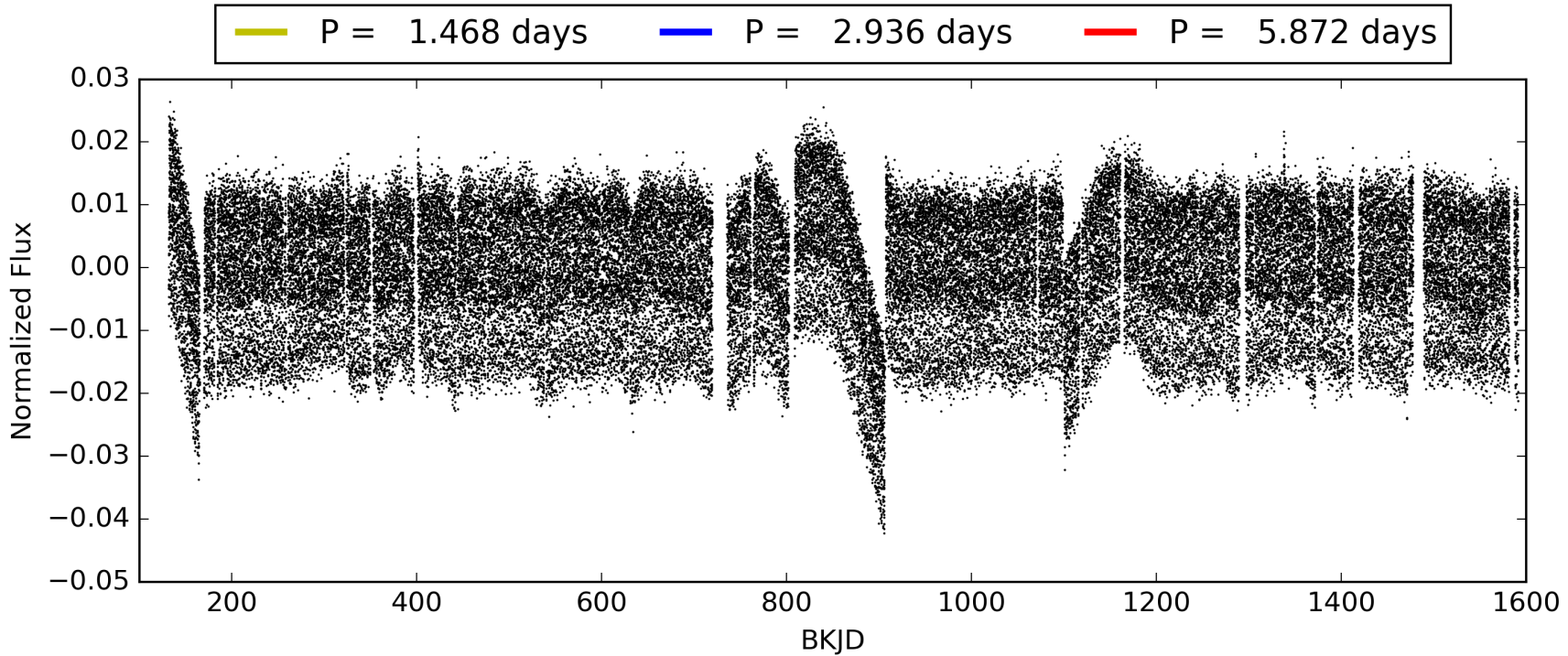
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 003442006-02, PDC Light Curves

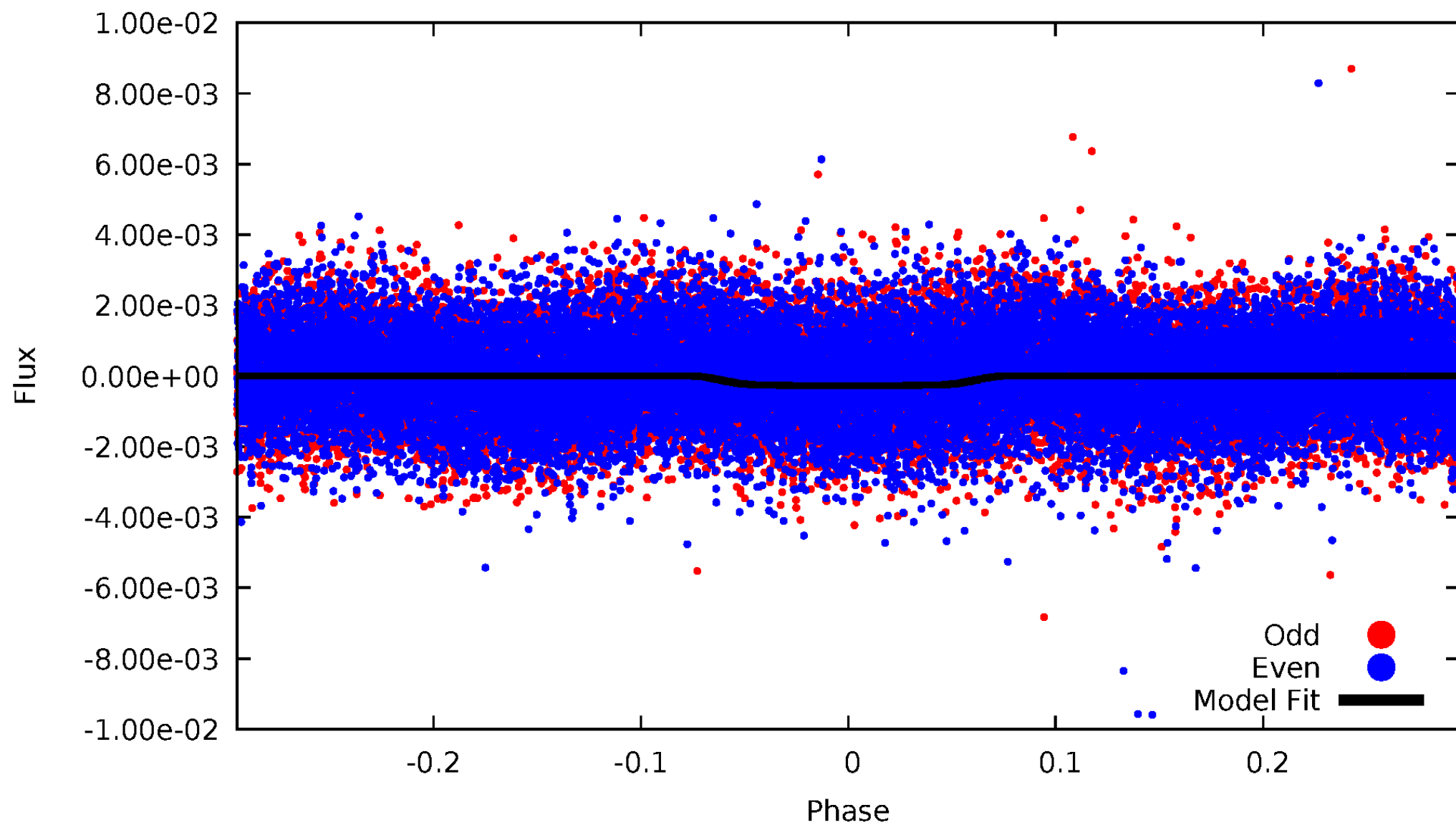


TCE 003442006-02



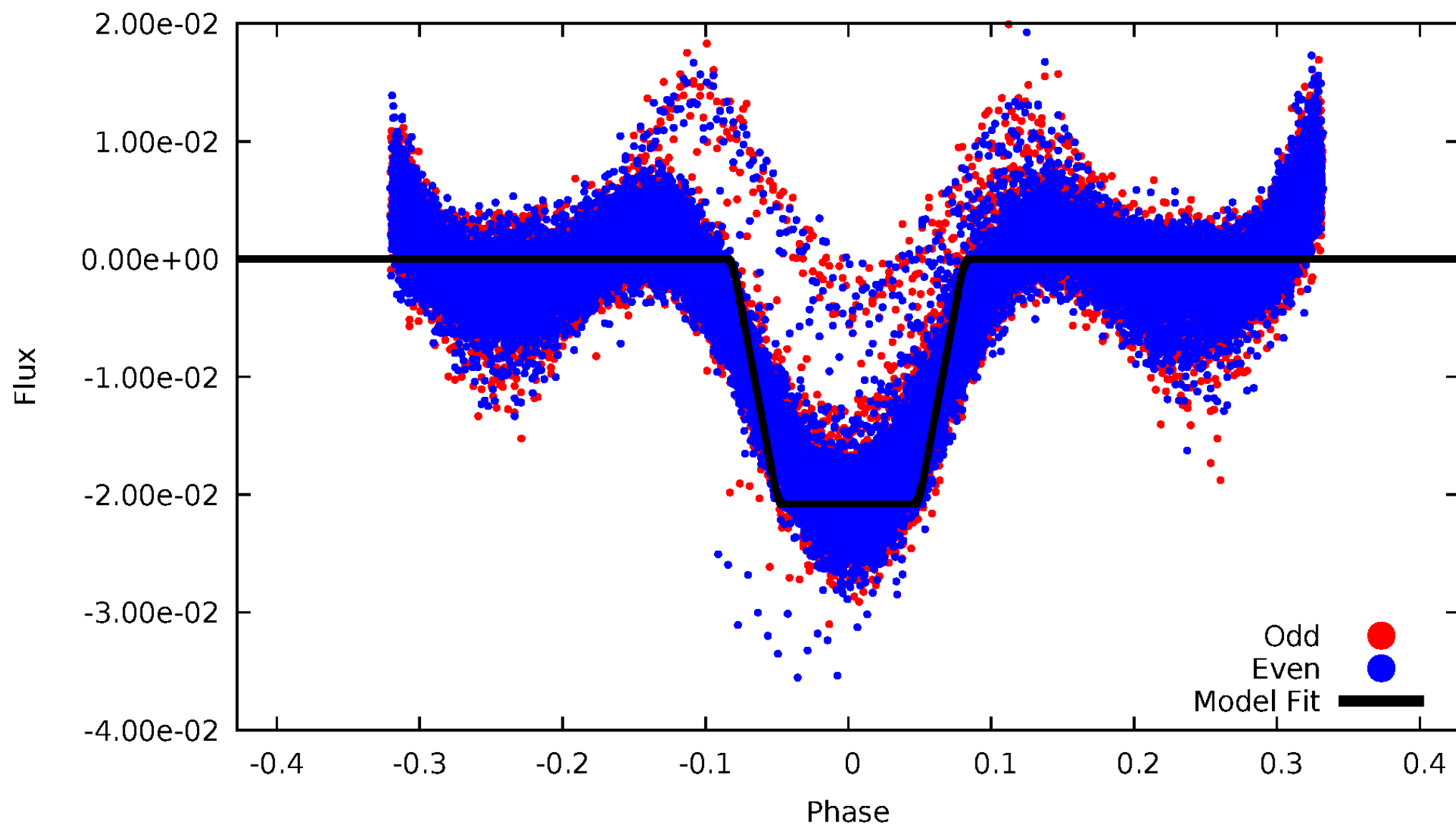
# DV Odd/Even

TCE 003442006-02



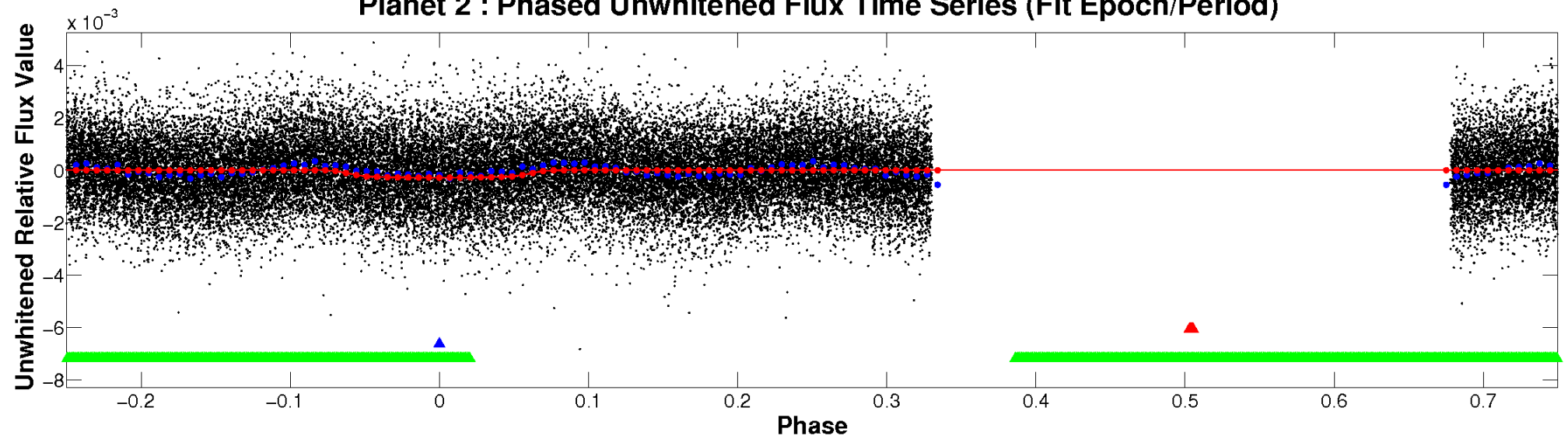
# ALT Odd/Even

TCE 003442006-02

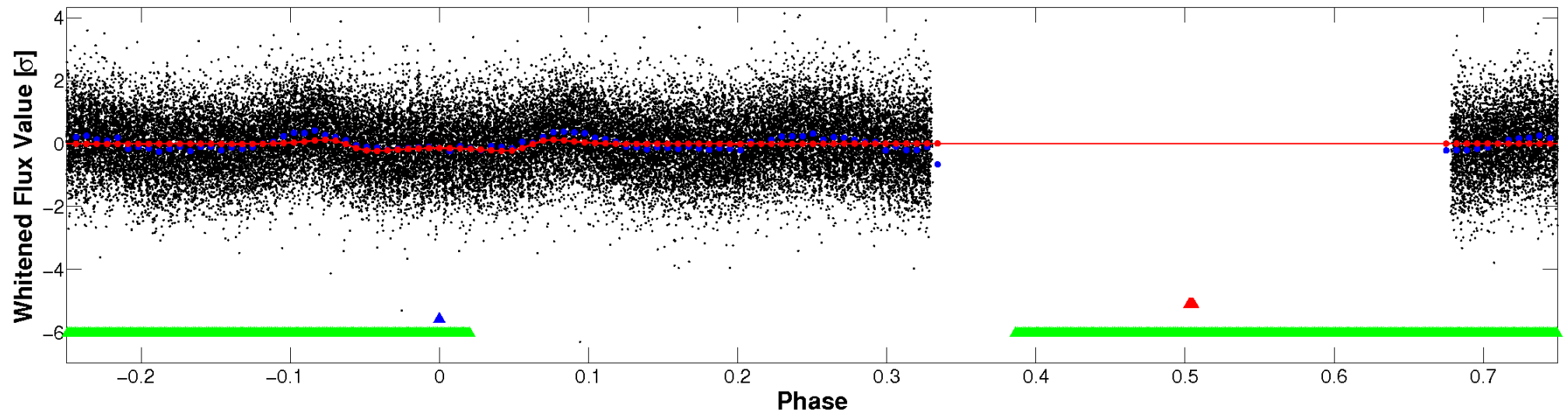


# Non-Whitened Vs. Whitened Light Curve

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



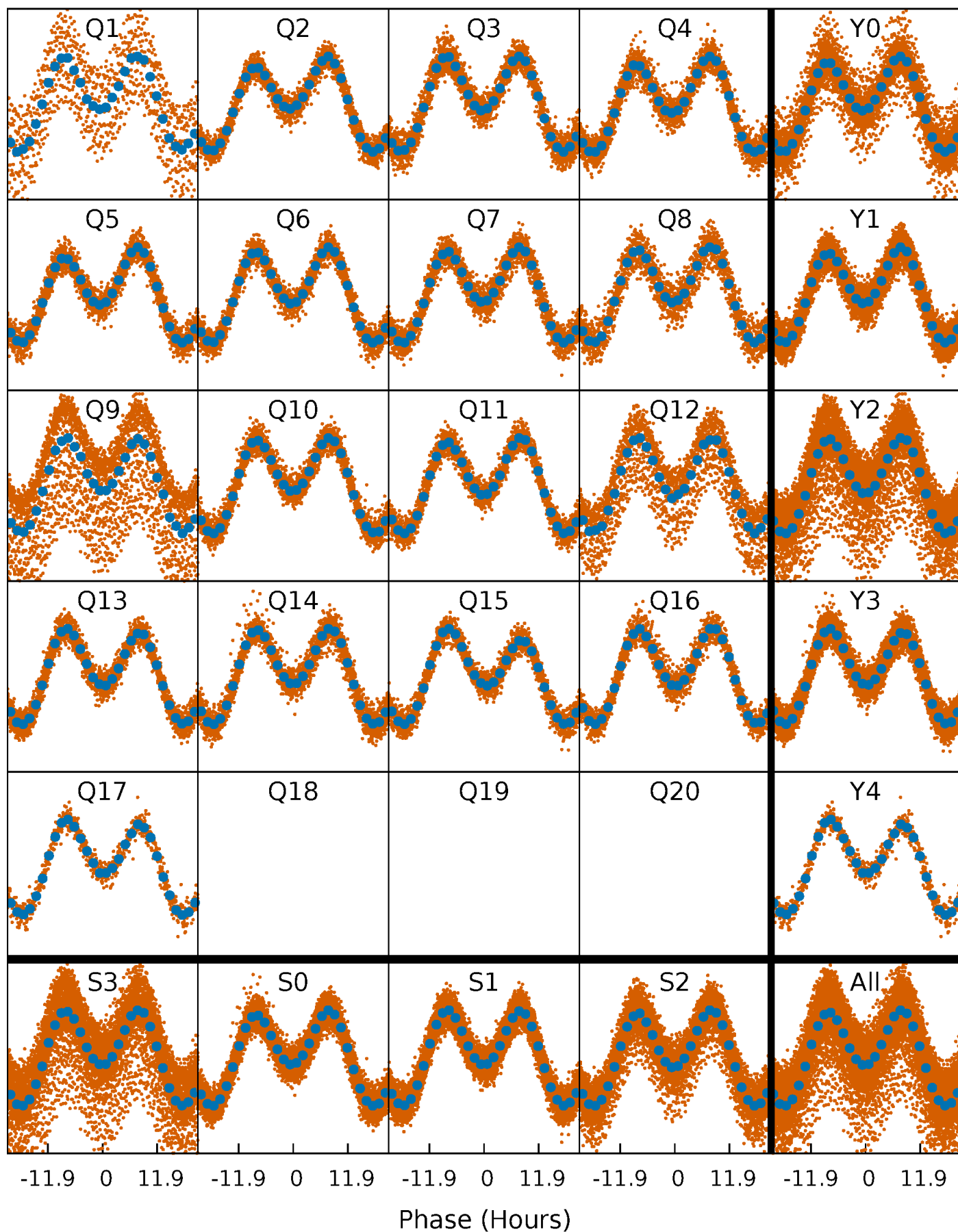
## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)





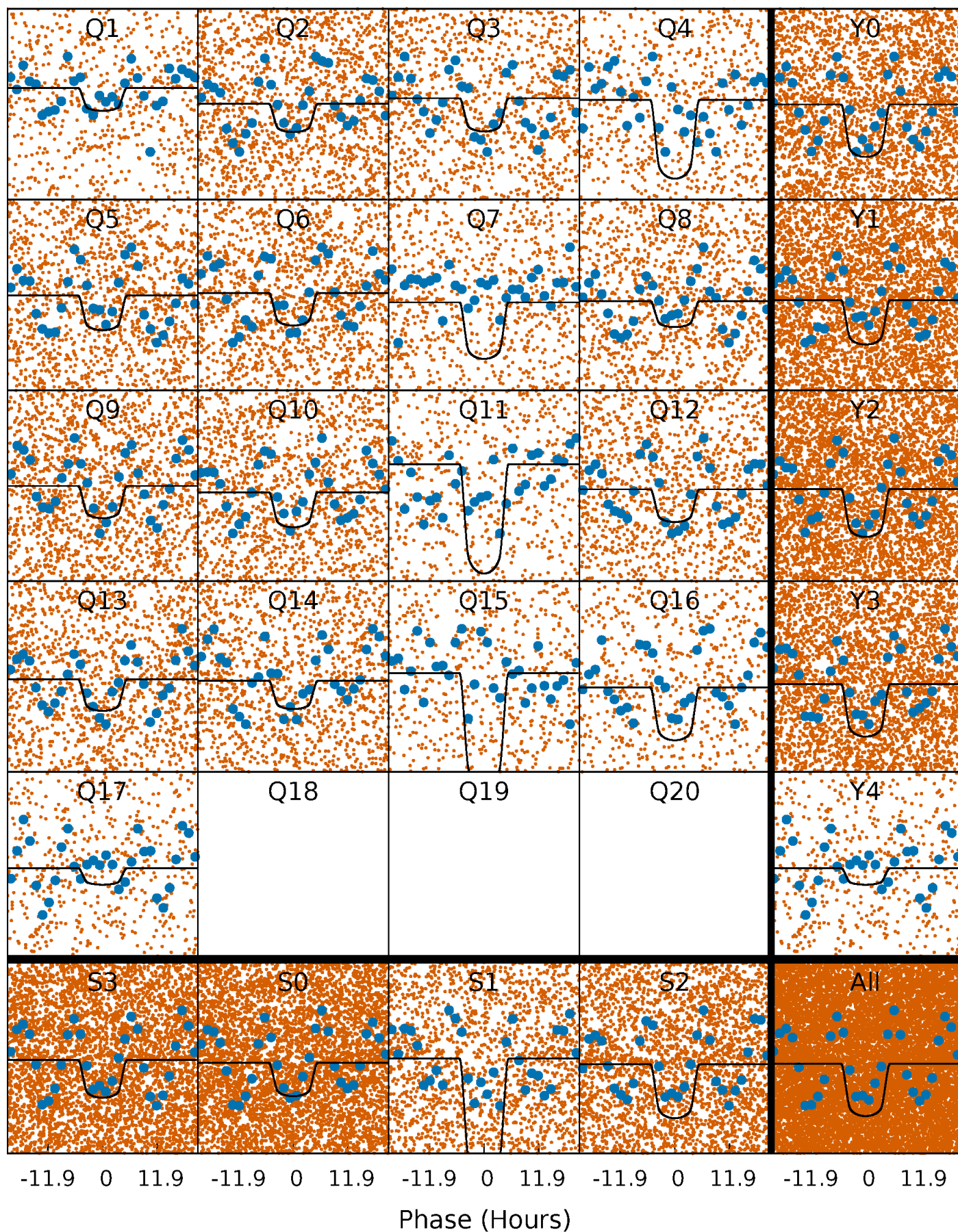
# PDC Quarter-Phased Transit Curves

TCE 003442006-02   P= 2.935825 Days    $T_0=134.079391$  (BKJD)



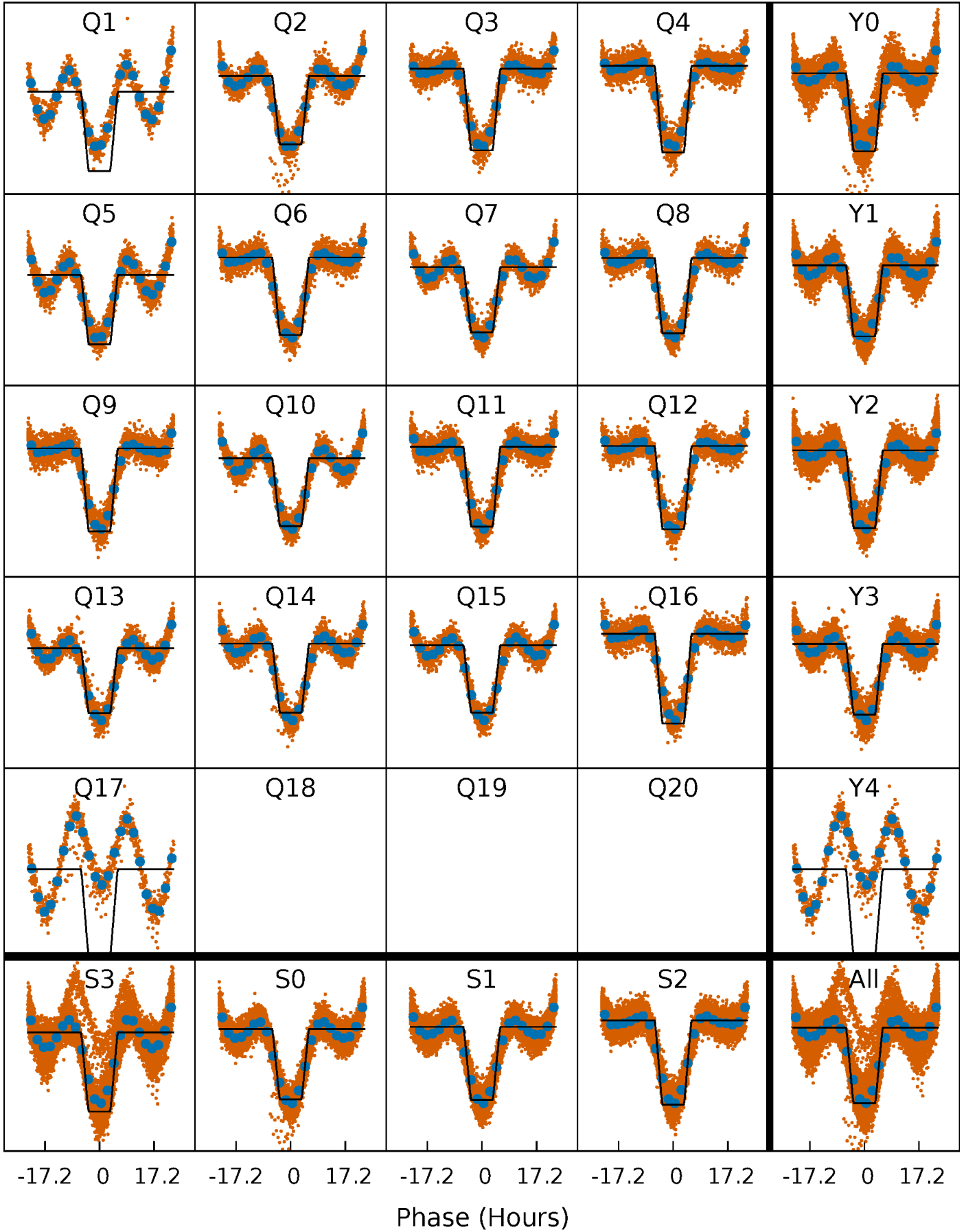
# DV Quarter-Phased Transit Curves

TCE 003442006-02 P= 2.935825 Days  $T_0=134.079391$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

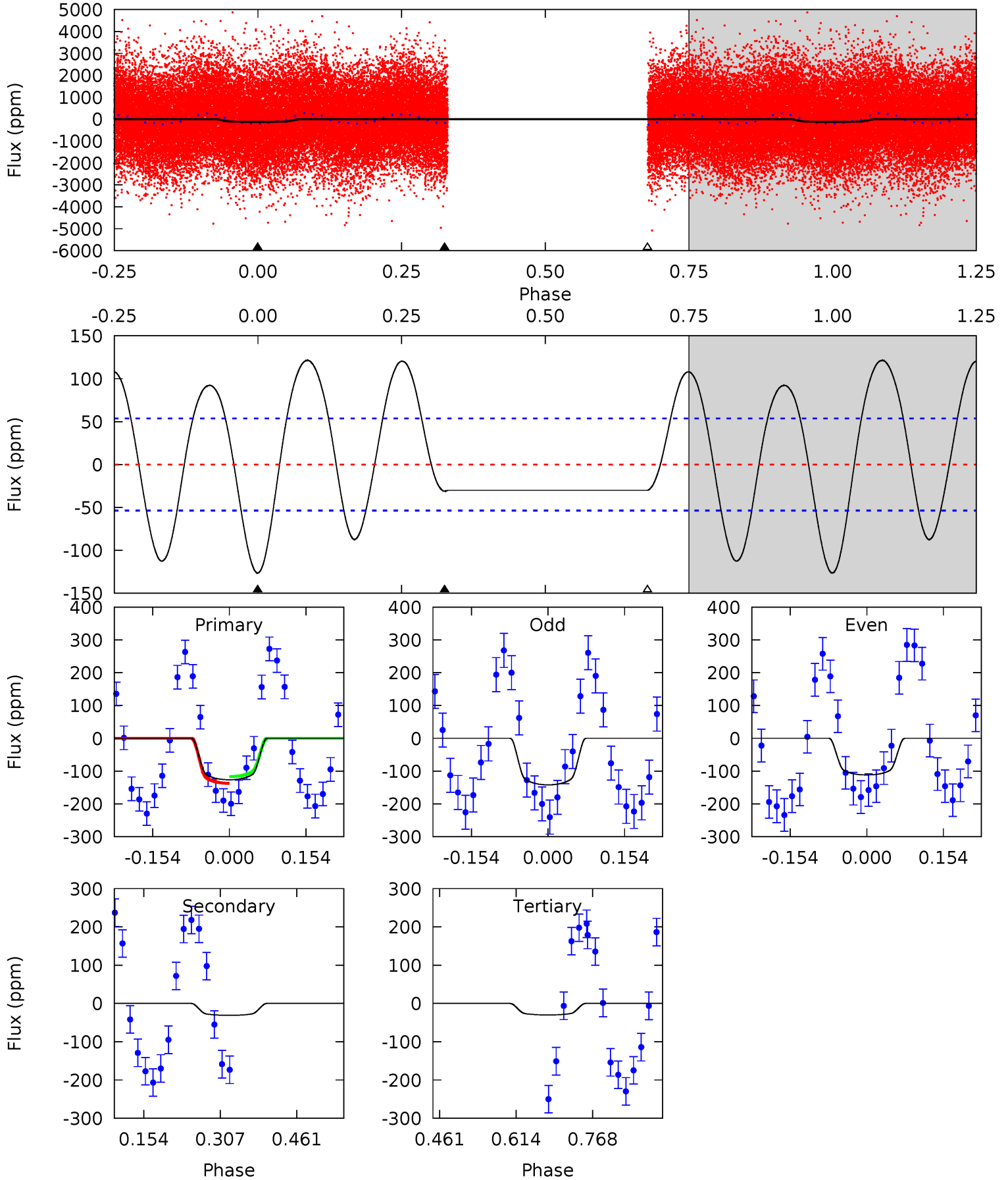
TCE 003442006-02     $P = 2.935797$  Days     $T_0 = 134.081377$  (BKJD)



# DV Model-Shift Uniqueness Test

003442006-02, P = 2.935825 Days, E = 131.143566 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
10.5	2.59	2.50	0	4.47	1.43	6.31	8.03	10.5	0.09	2.59	1.23	1.07	0.49	0.82

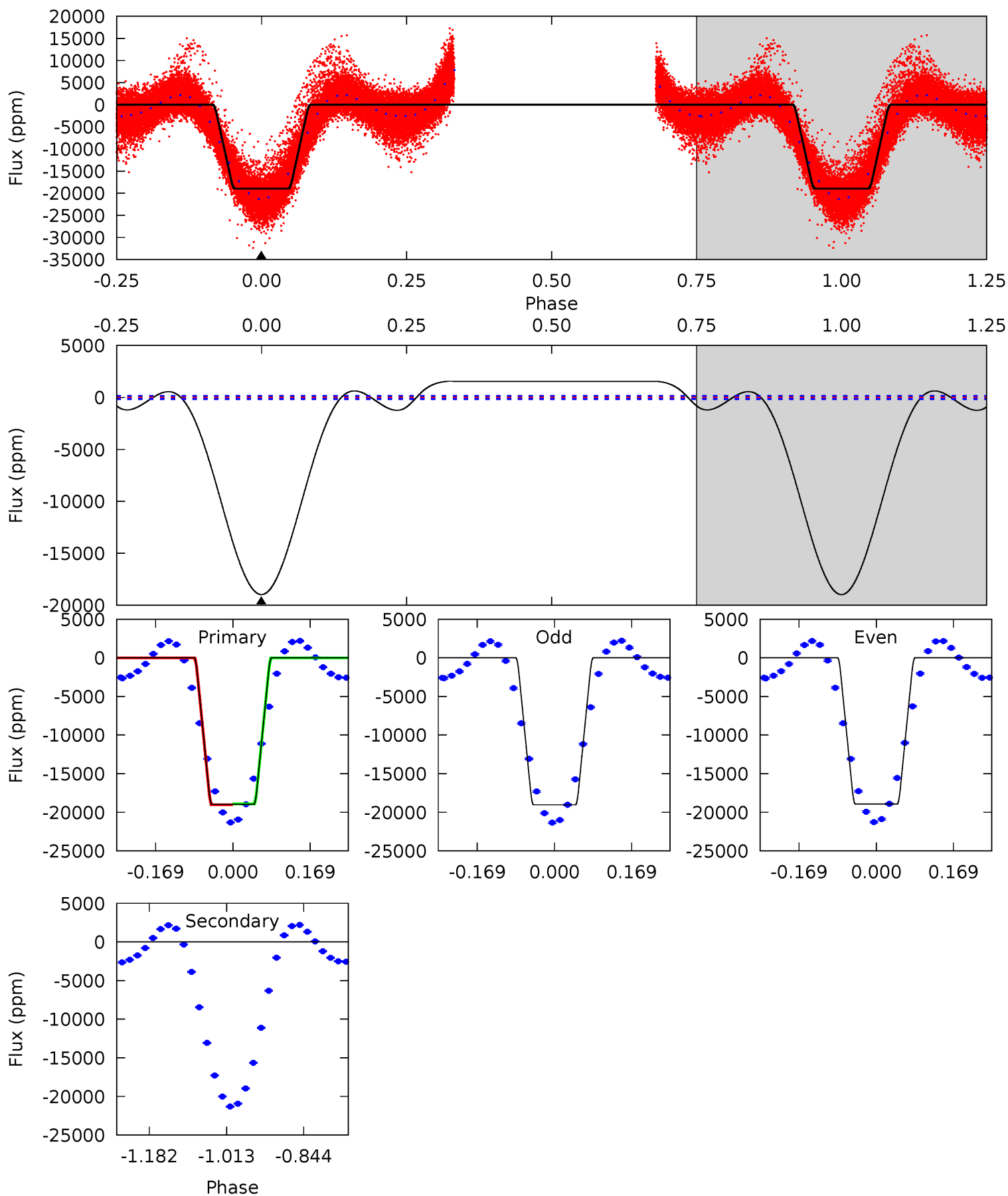




# Alt Model-Shift Uniqueness Test

003442006-02, P = 2.935797 Days, E = 131.145580 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
551.9	0	0	0	4.45	1.38	27.6	551.9	551.9	0	0	1.68	0.97	0.08	1.65





### Stellar Parameters For KIC 003442006

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6674^{+188}_{-259}$	$4.121^{+0.214}_{-0.175}$	$-0.240^{+0.250}_{-0.300}$	$1.637^{+0.473}_{-0.473}$	$1.299^{+0.183}_{-0.244}$	$0.417^{+0.528}_{-0.205}$
	+3%/-4%	+5%/-4%	+104%/-125%	+29%/-29%	+14%/-19%	+126%/-49%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 003442006-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-31 \pm 12$	$3.35^{+0.56}_{-0.52}$	$2492^{+207}_{-194}$	$3862^{+282}_{-356}$	$2.855^{+1.705}_{-1.229}$
Alt.	$0 \pm 34$	$26.06^{+3.86}_{-4.10}$	$2515^{+193}_{-184}$	$-2800^{+140}_{-123}$	$0.002^{+0.052}_{-0.050}$

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

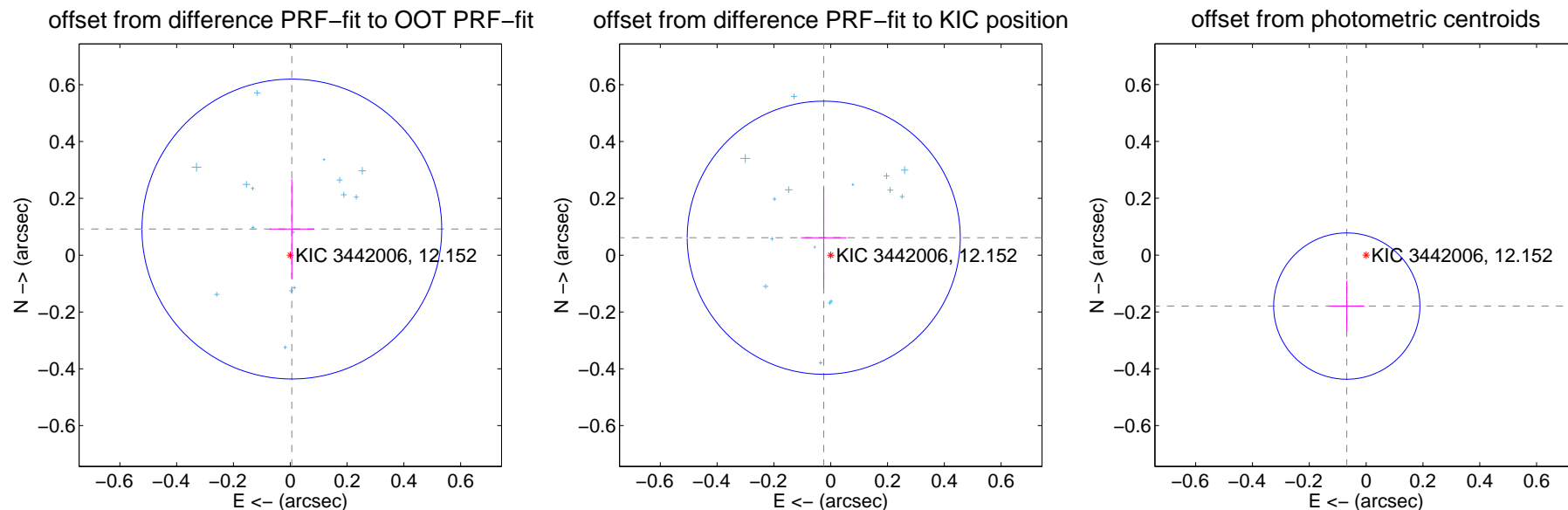
## DV Centroid Data

Supplemental centroid analysis for 003442006-02. Kepler magnitude: 12.15. Transit SNR 17.07

There are 16 quarters with good PRF difference image offsets

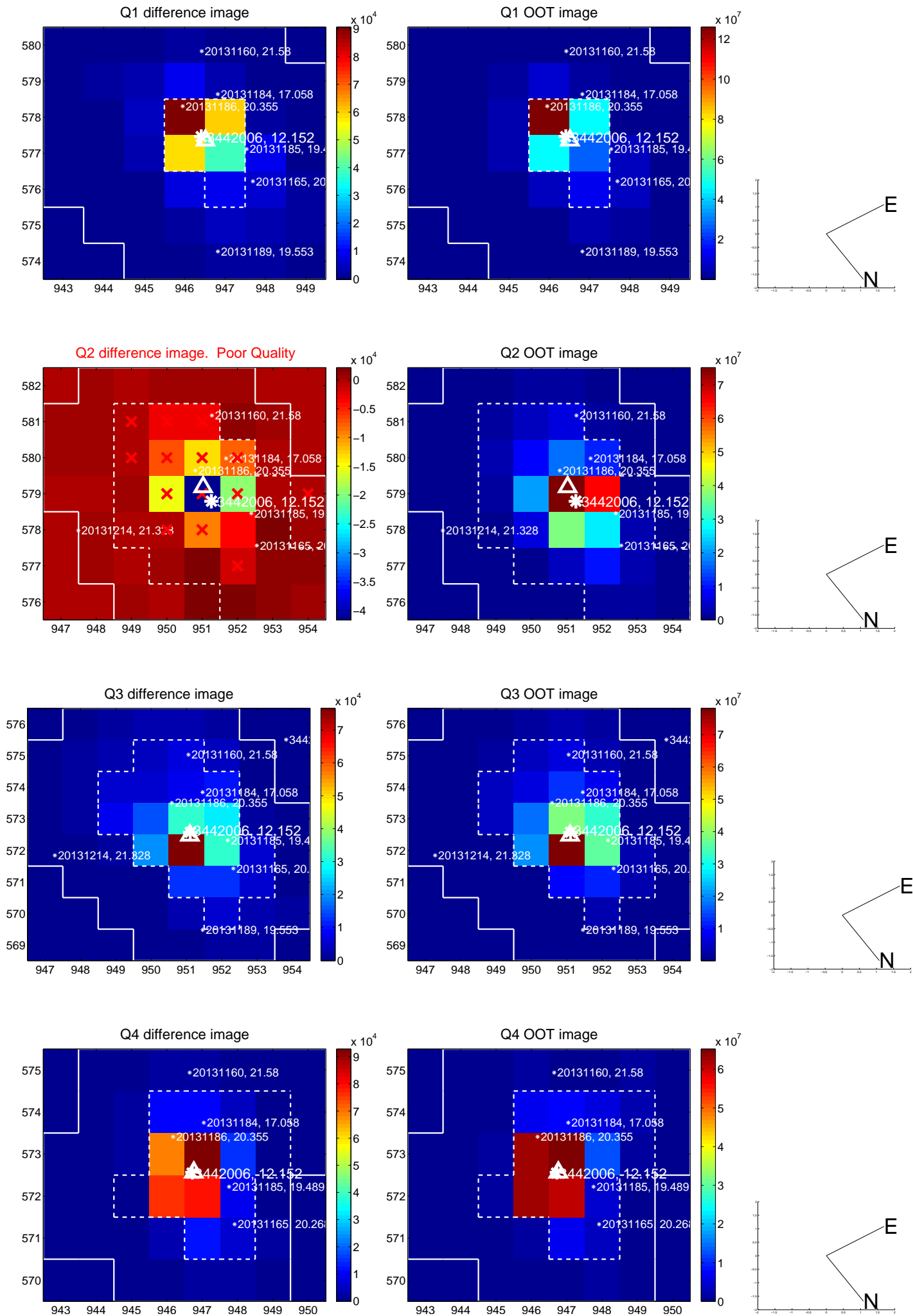
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.092 \pm 0.176$	0.52	$-0.006 \pm 0.079$	$0.092 \pm 0.175$
PRF-fit source offset from KIC position	$0.066 \pm 0.160$	0.41	$0.025 \pm 0.080$	$0.061 \pm 0.177$
photometric centroid source offset	$0.19 \pm 0.09$	2.24	$0.07 \pm 0.06$	$-0.18 \pm 0.09$

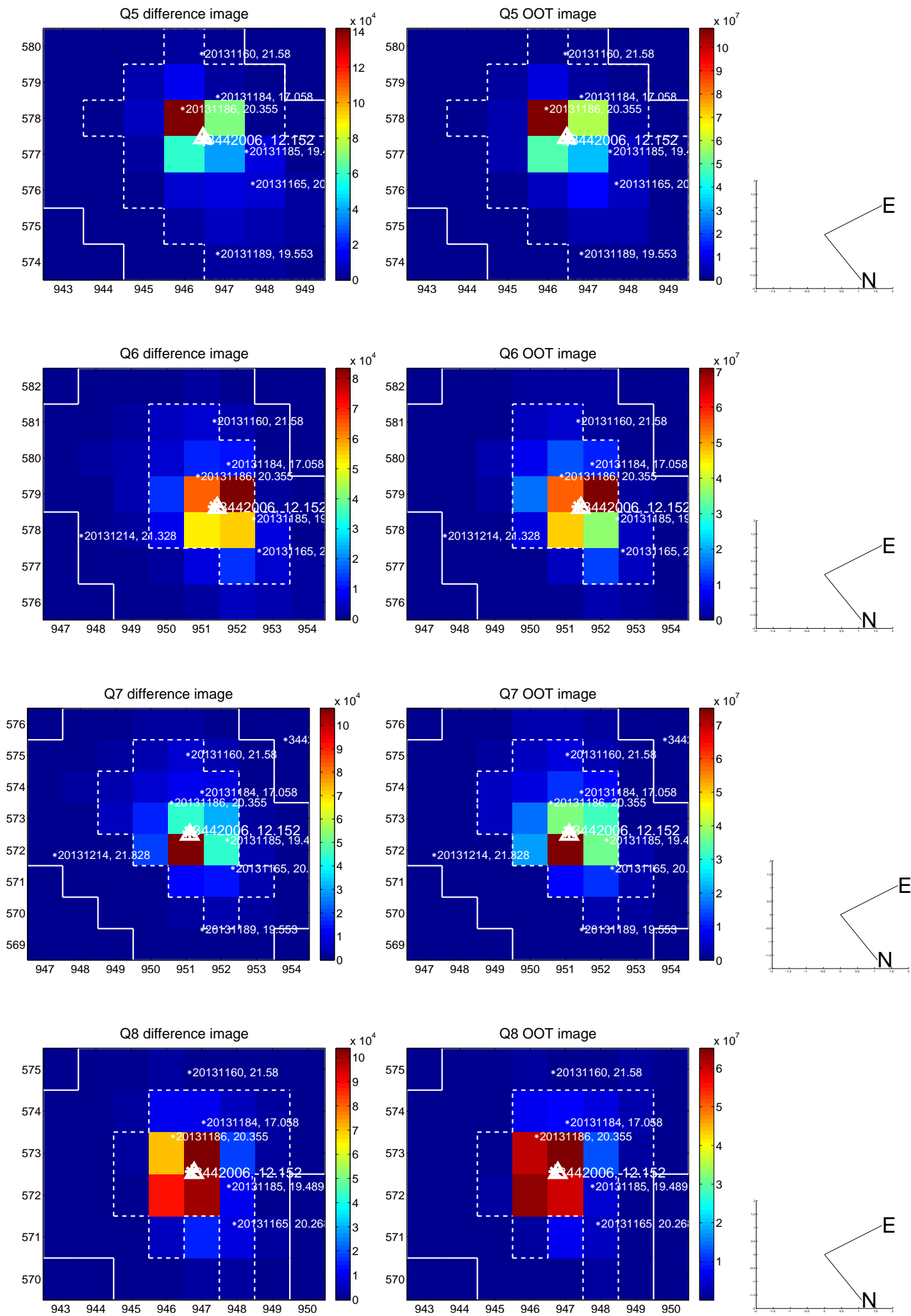


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

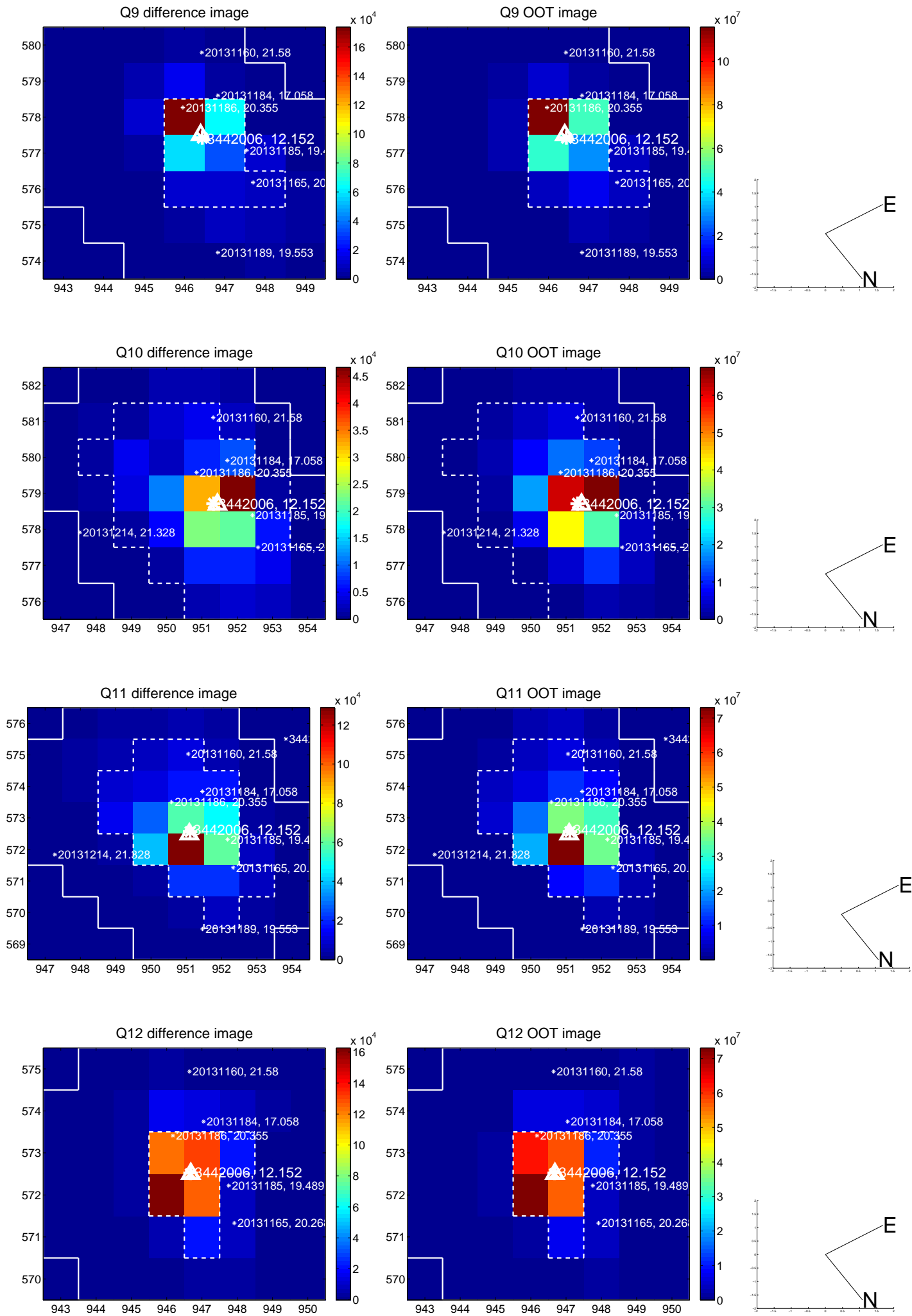
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

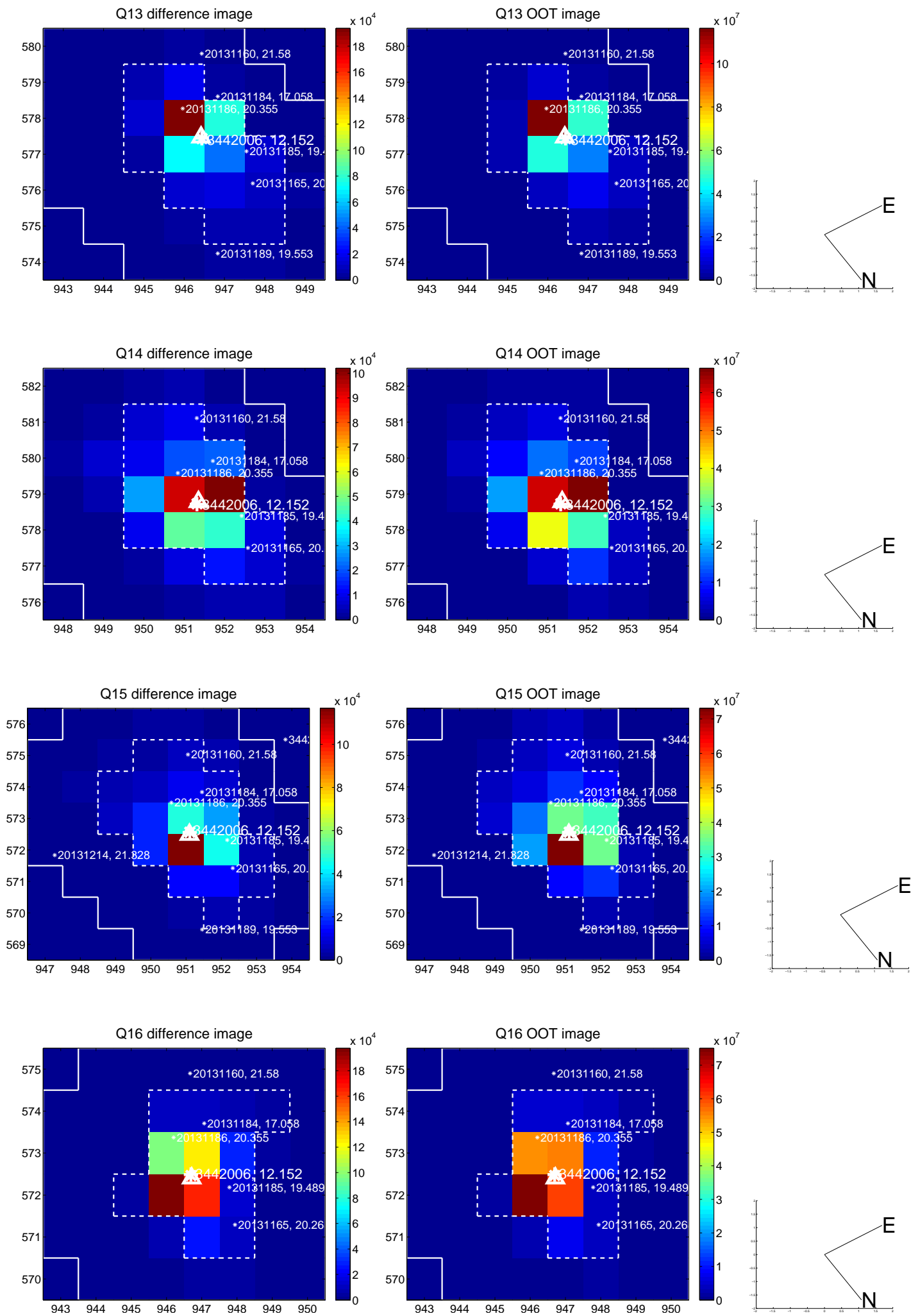


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

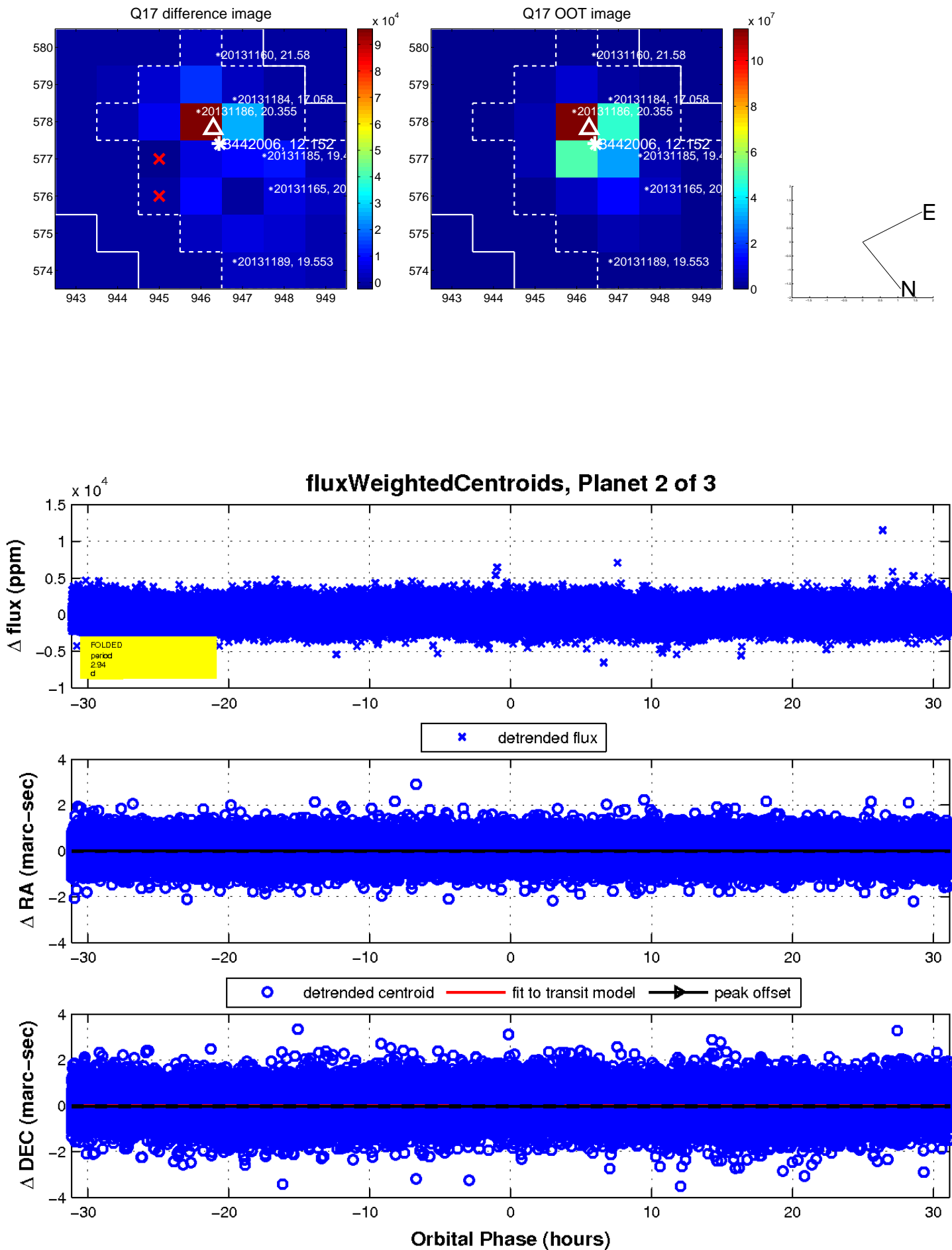




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

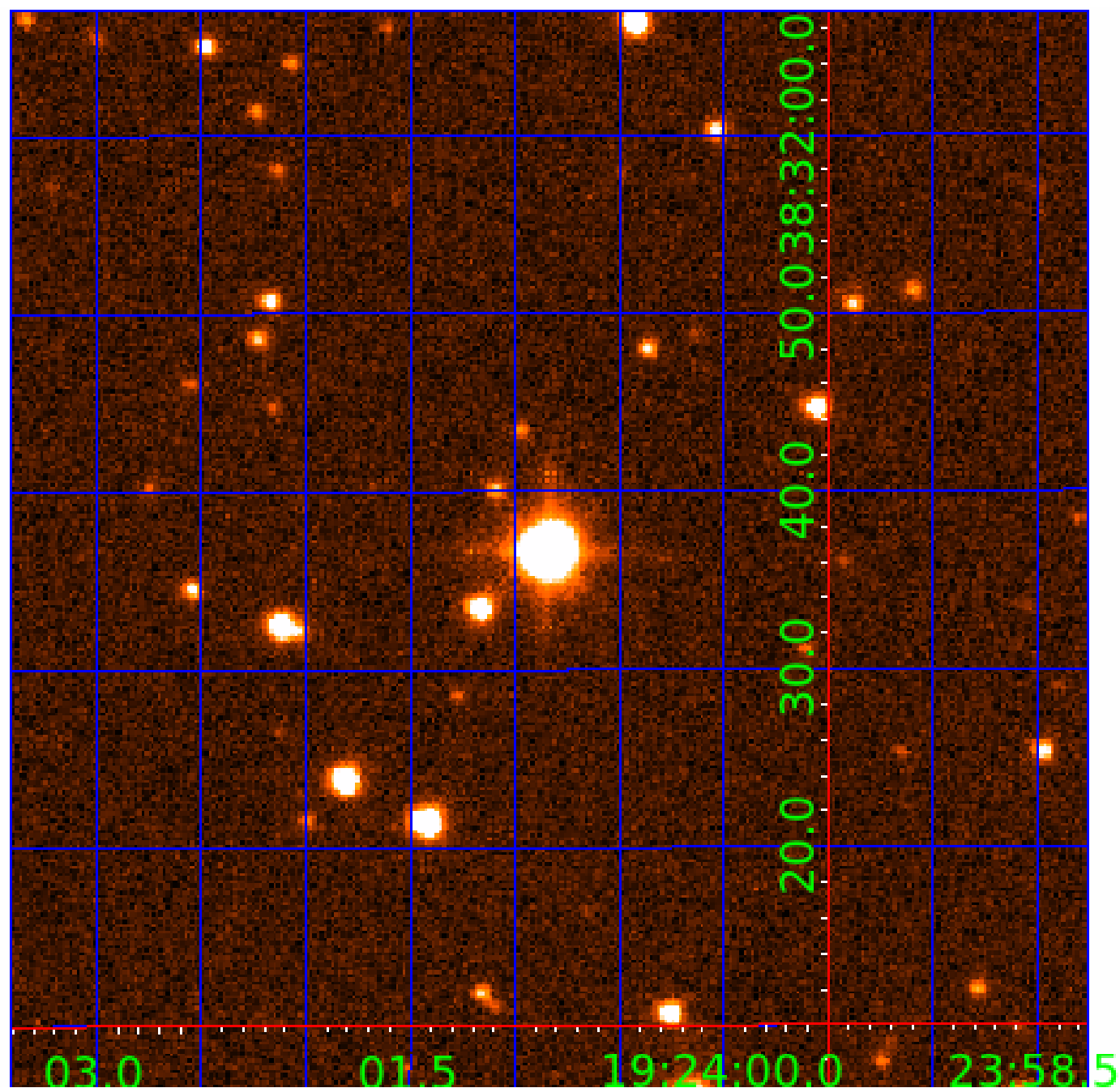


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\Delta$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 003442006

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003442006-01	OBS	No	2.935810	132.627624	112.7	8.032	16.1	8.0	1.64	6674	1.75	2493.64
003442006-02	OBS	No	2.935825	134.079391	281.2	10.378	13.8	17.1	1.64	6674	3.37	2493.63
003442006-03	OBS	No	2.939577	132.277810	79.0	21.632	10.8	2.9	1.64	6674	1.53	2489.38

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003442006-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
003442006-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003442006-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

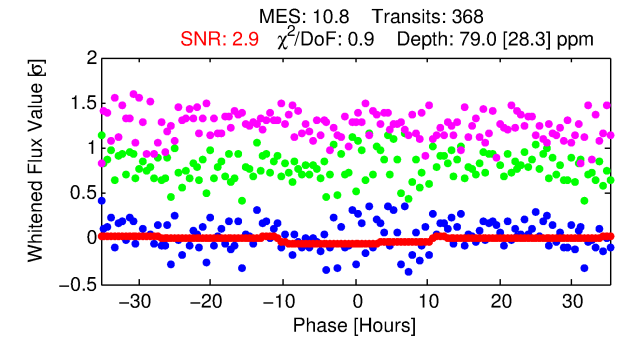
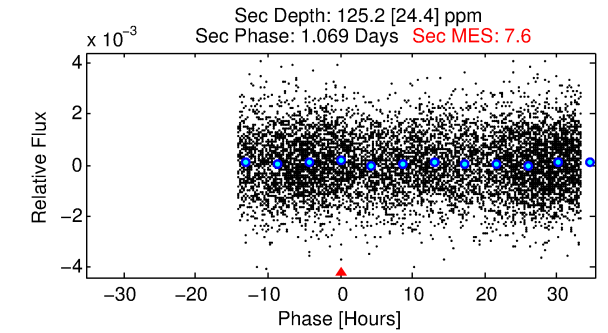
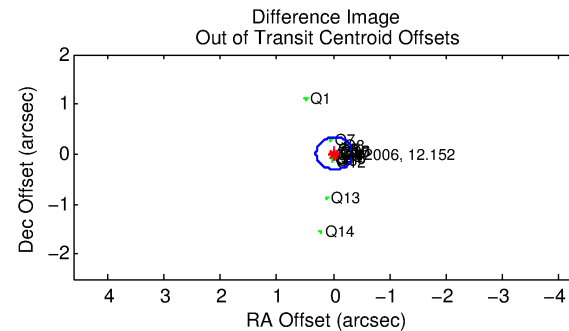
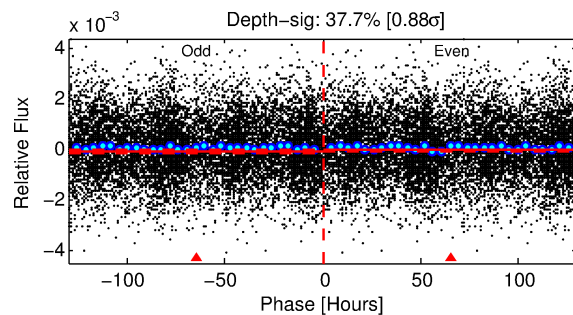
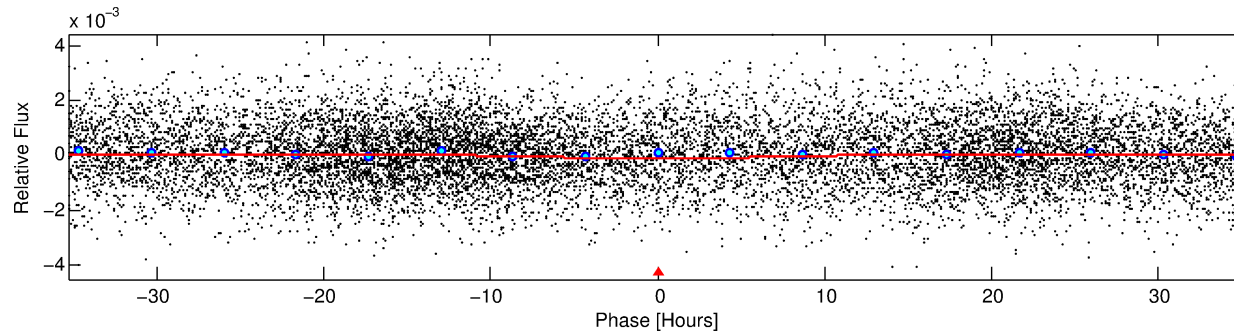
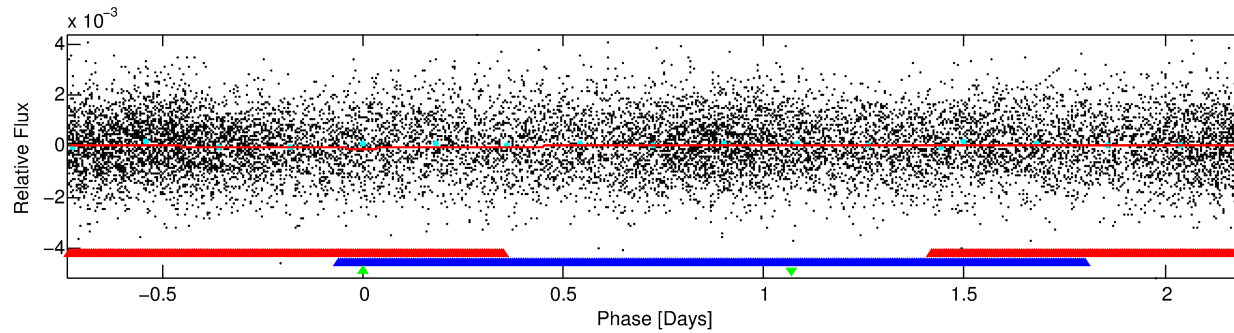
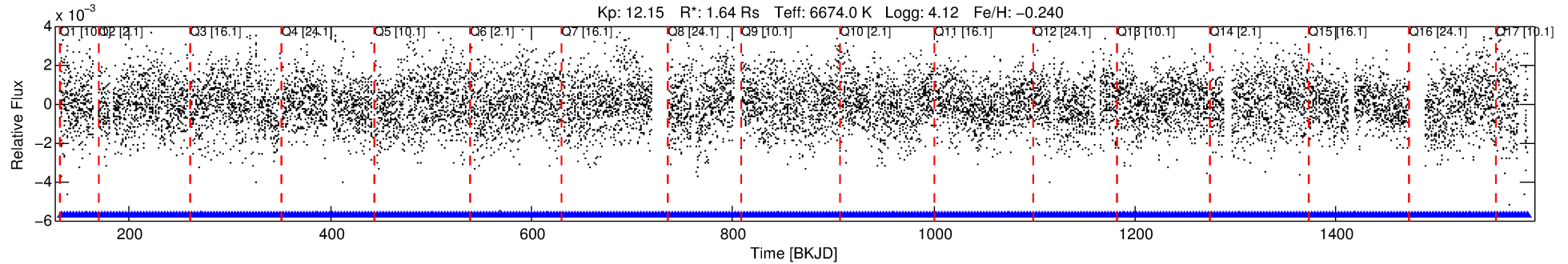
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 003442006-03

No Significant Match Found

# DV One-Page Summary

KIC: 3442006 Candidate: 3 of 3 Period: 2.940 d



## DV Fit Results:

Period = 2.93958 [0.00020] d  
Epoch = 132.2778 [0.0407] BKJD  
Rp/R\* = 0.0086 [0.0128]  
a/R\* = 1.15 [2.43]  
b = 0.61 [8.90]  
Seff = 2489.38 [1023.73]  
Teq = 1801 [185] K  
Rp = 1.53 [2.33] Re  
a = 0.0437 [0.0111] AU  
Ag = 56.42 [170.86] [0.32 $\sigma$ ]  
Teffp = 7632 [5740] K [1.02 $\sigma$ ]

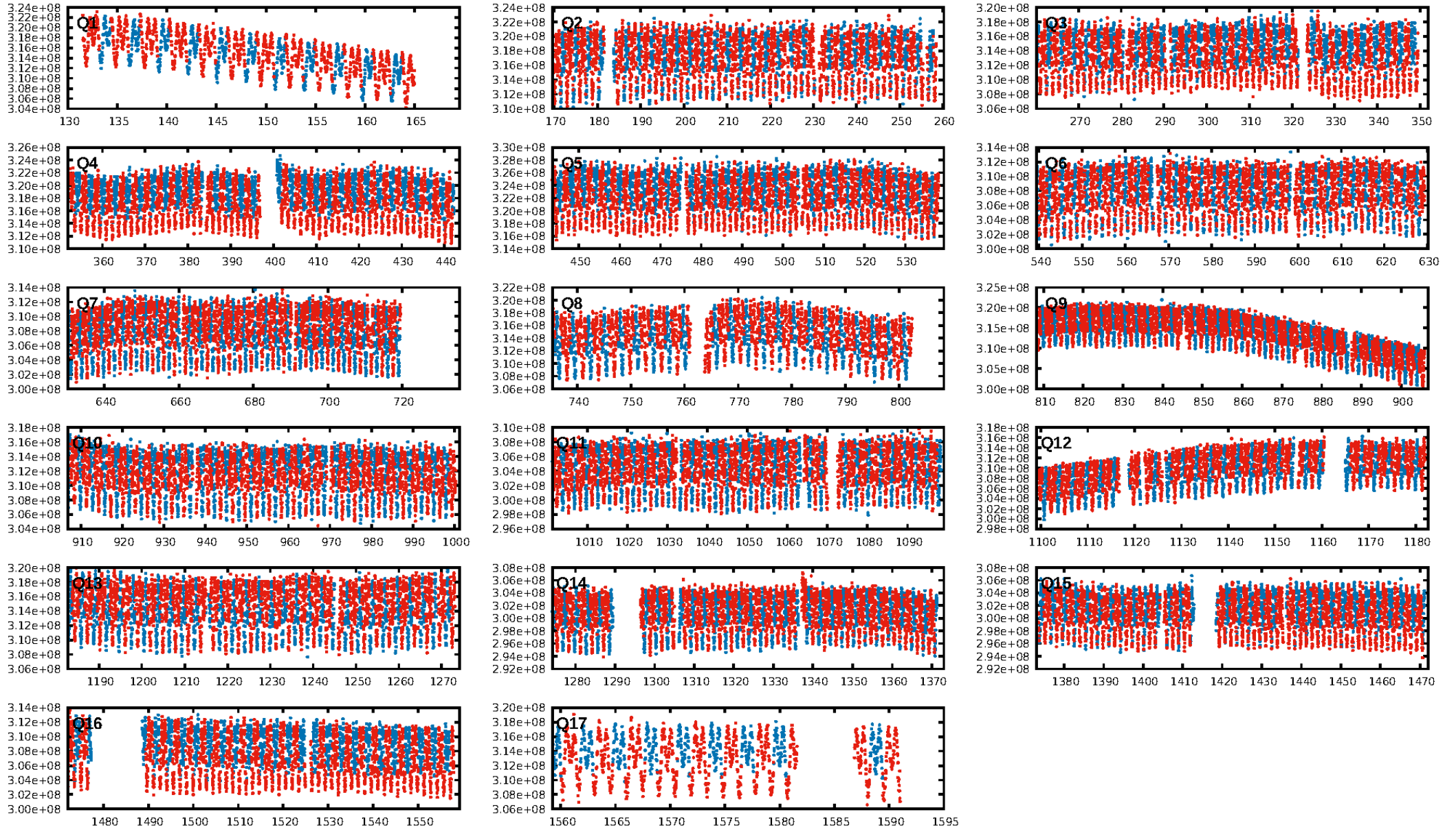
## DV Diagnostic Results:

ShortPeriod-sig: 0.3% [0.00 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [356/356]  
GhostDiagnostic-chr: 4.701  
Centroid-sig: 1.5%  
Centroid-so: 0.544 arcsec [2.47 $\sigma$ ]  
OotOffset-rm: 0.021 arcsec [0.20 $\sigma$ ]  
KicOffset-rm: 0.026 arcsec [0.19 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.41 [7/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:07:03 Z

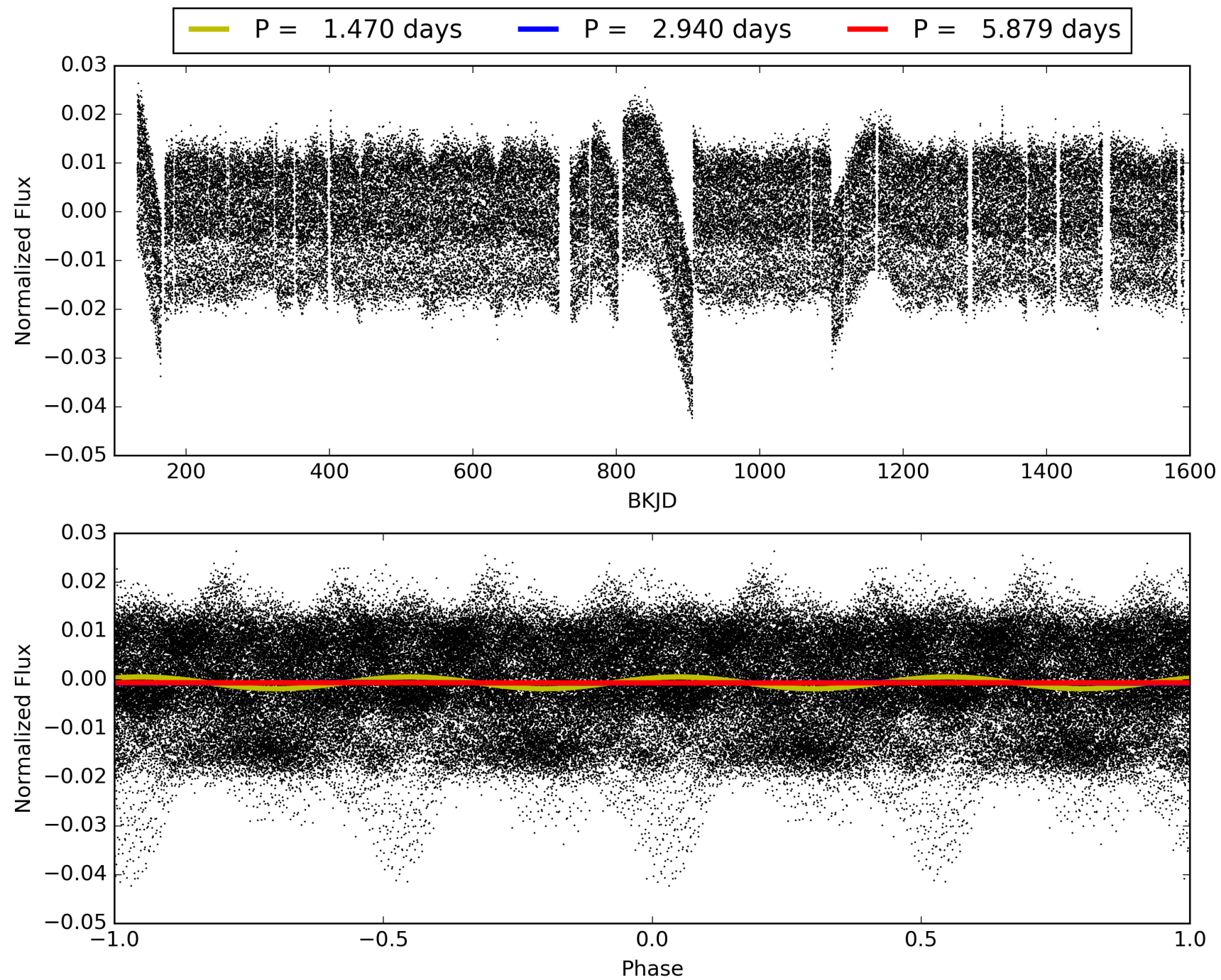
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 003442006-03, PDC Light Curves



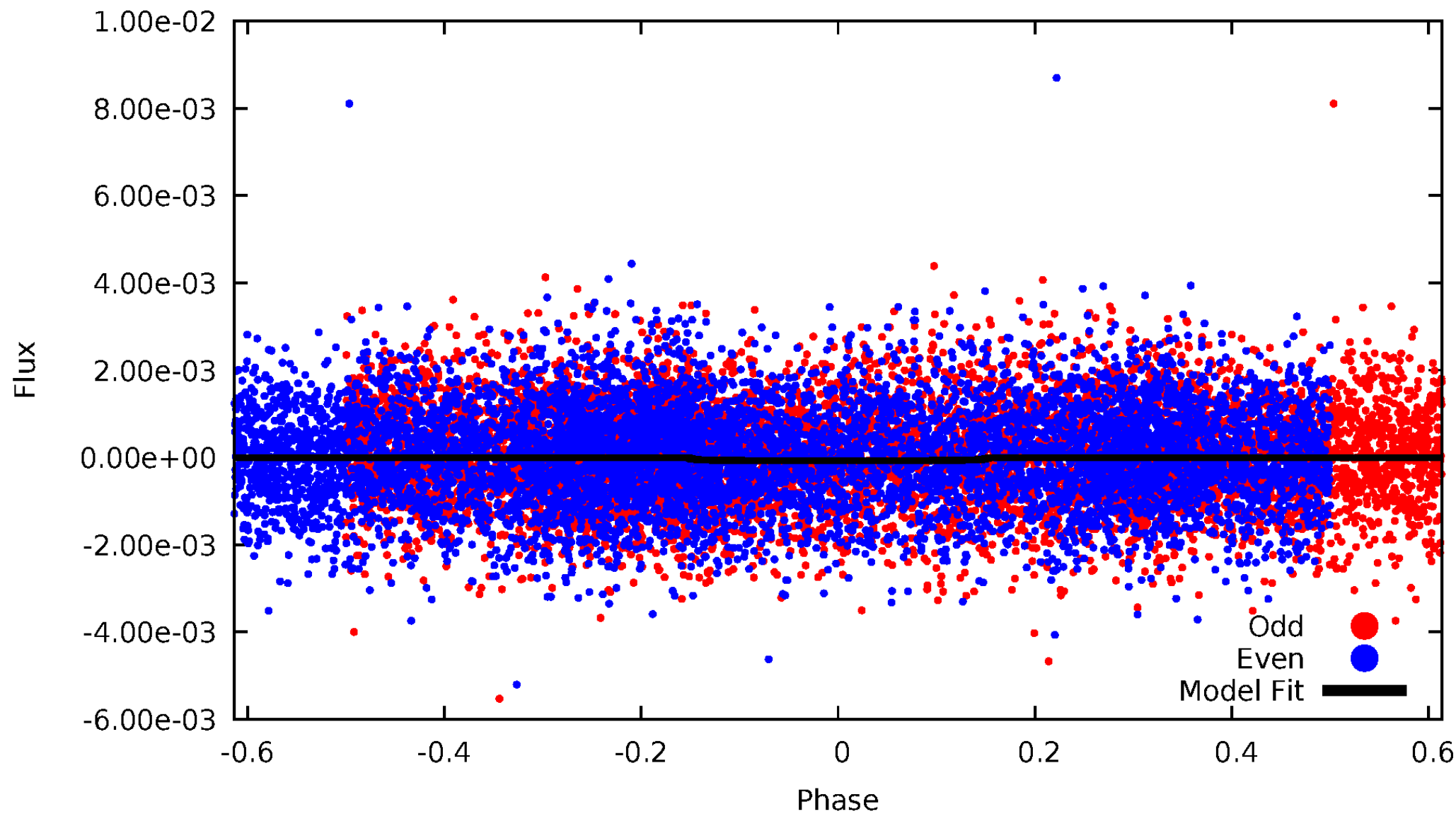


TCE 003442006-03



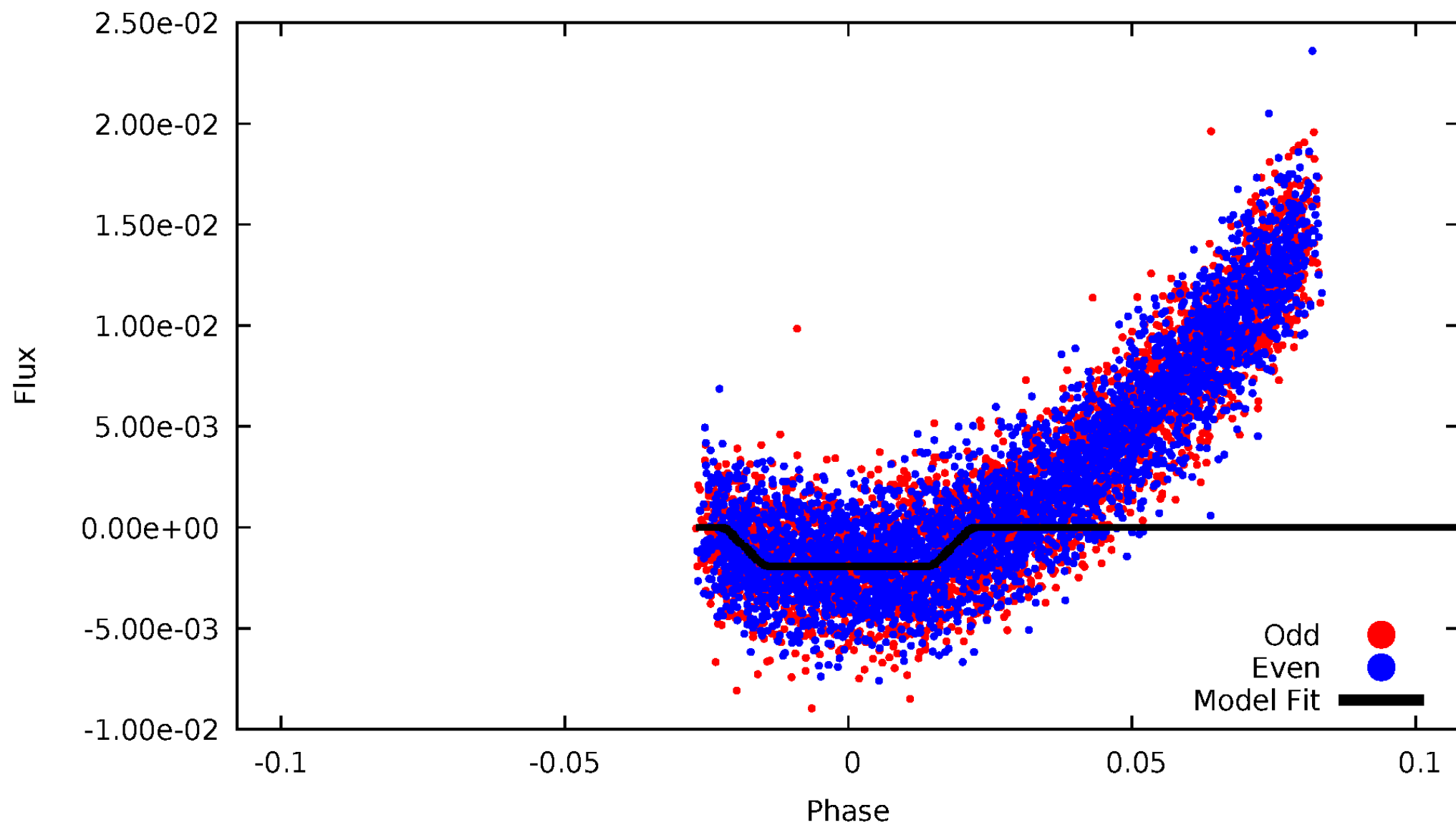
# DV Odd/Even

TCE 003442006-03



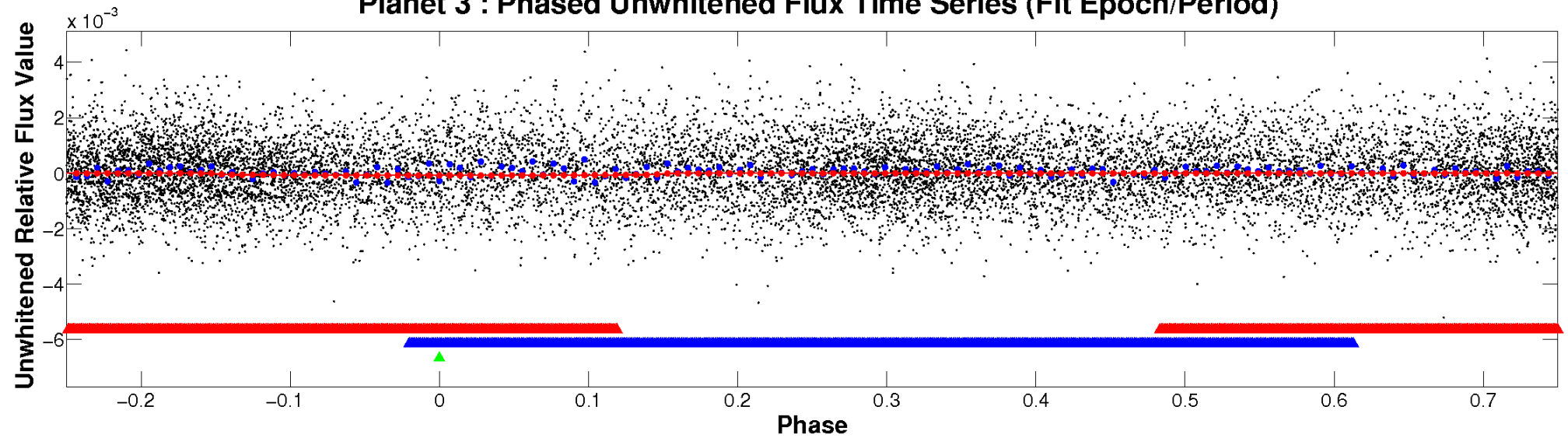
# ALT Odd/Even

TCE 003442006-03

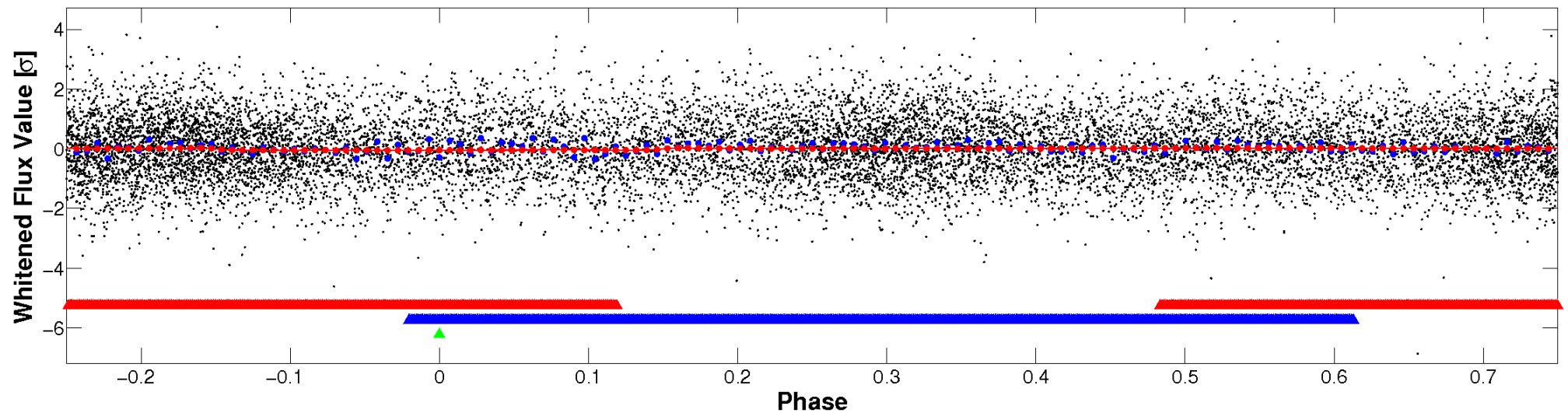


# Non-Whitened Vs. Whitened Light Curve

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

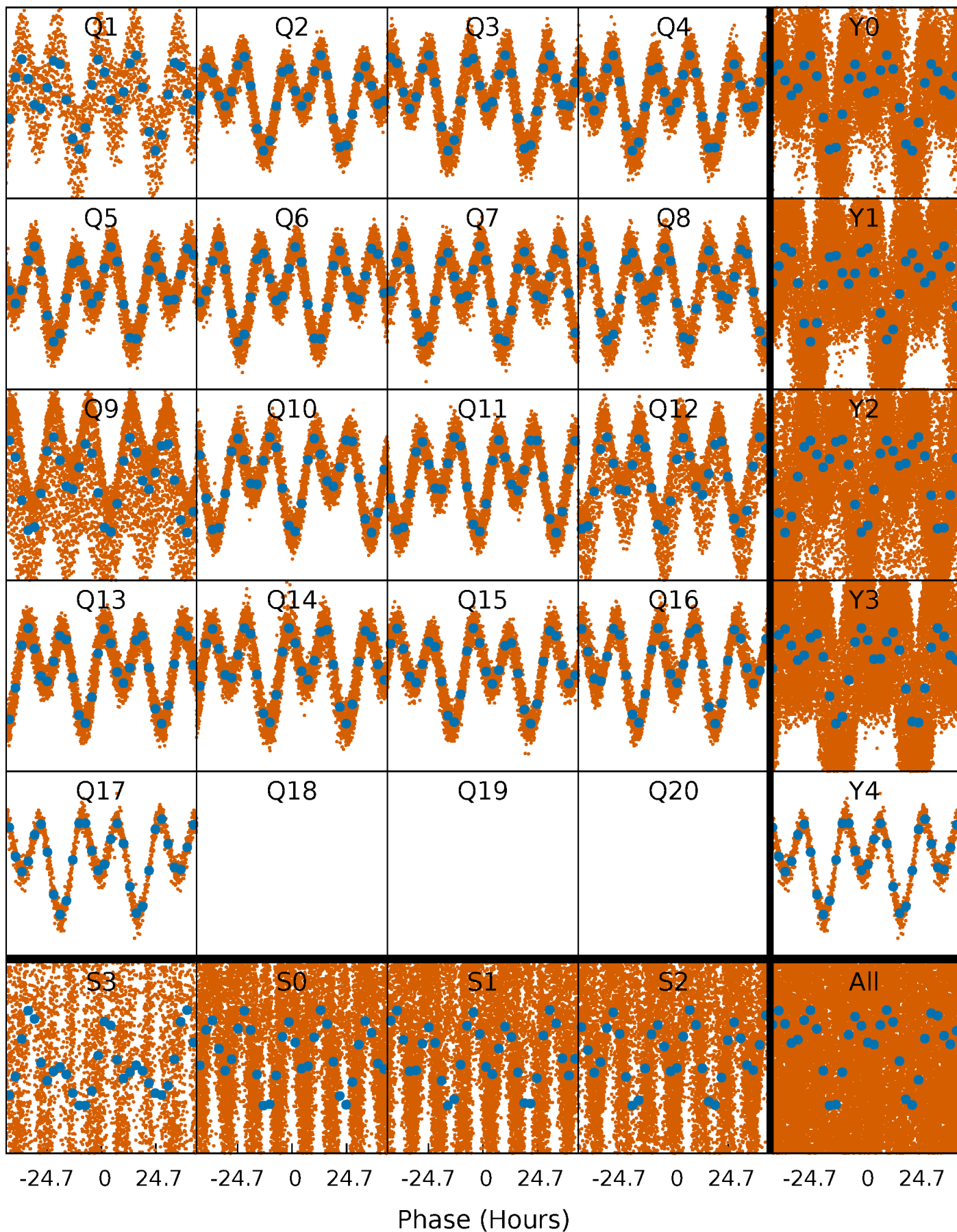


**Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

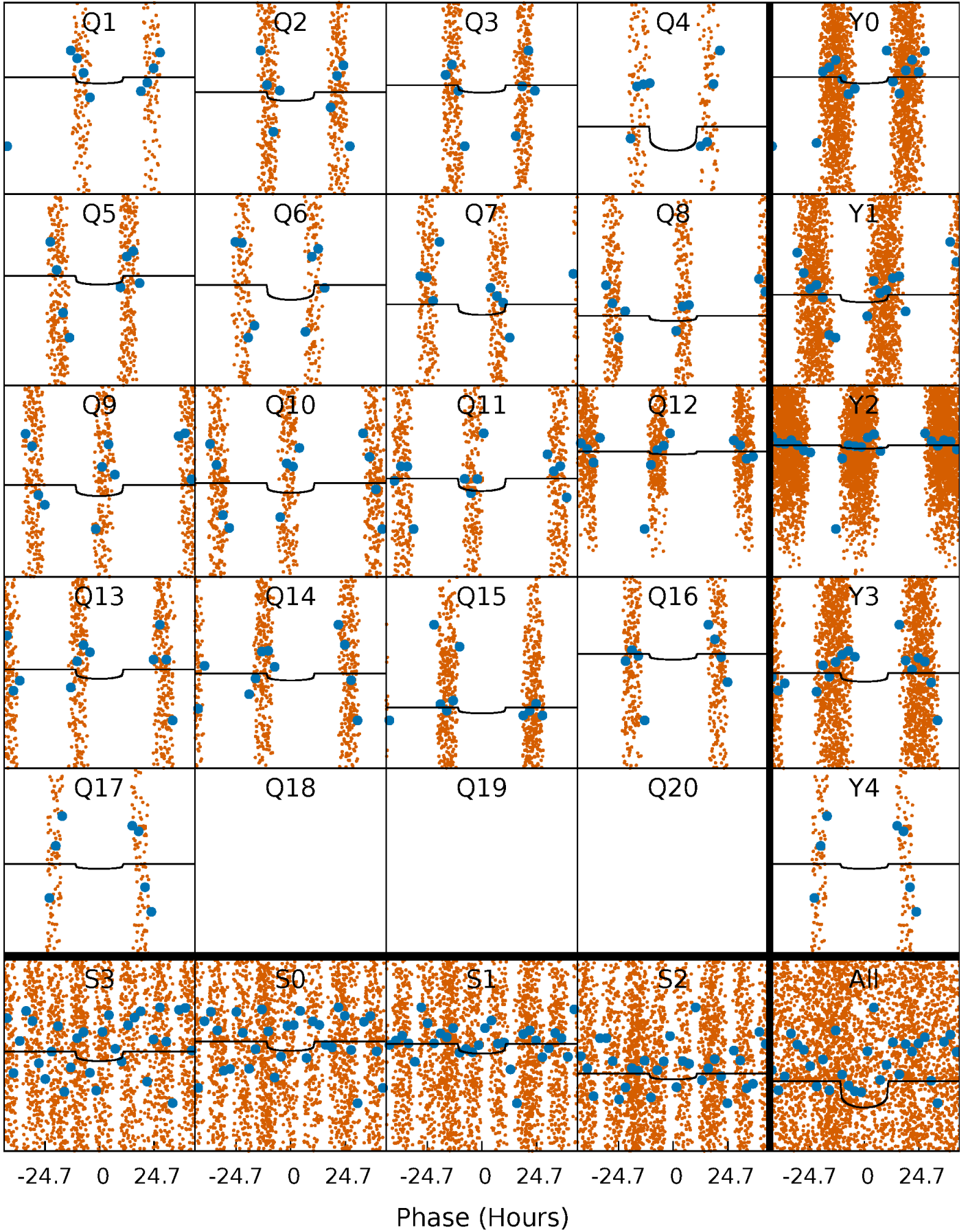
TCE 003442006-03   P= 2.939577 Days    $T_0=132.277810$  (BKJD)





# DV Quarter-Phased Transit Curves

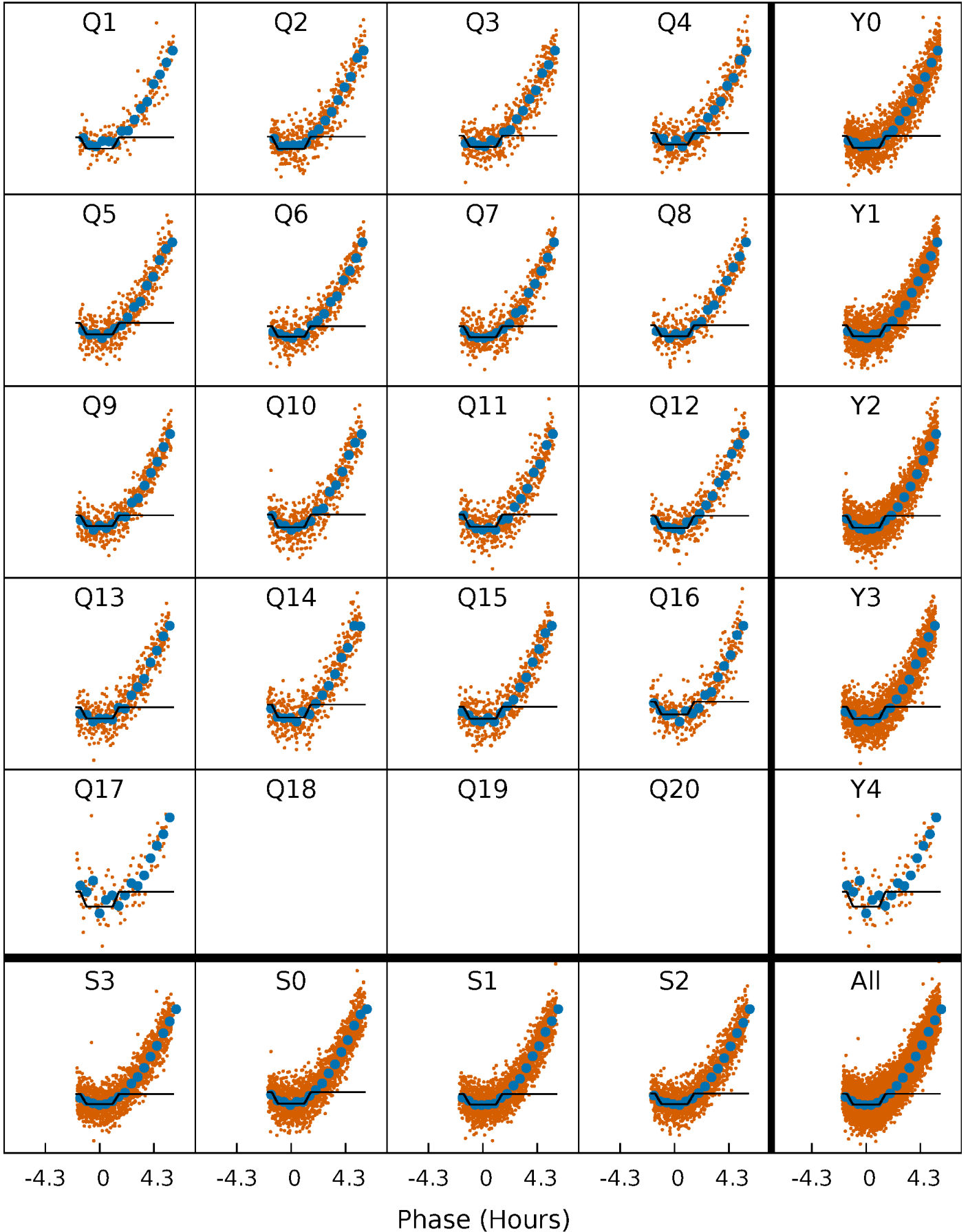
TCE 003442006-03 P= 2.939577 Days  $T_0=132.277810$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

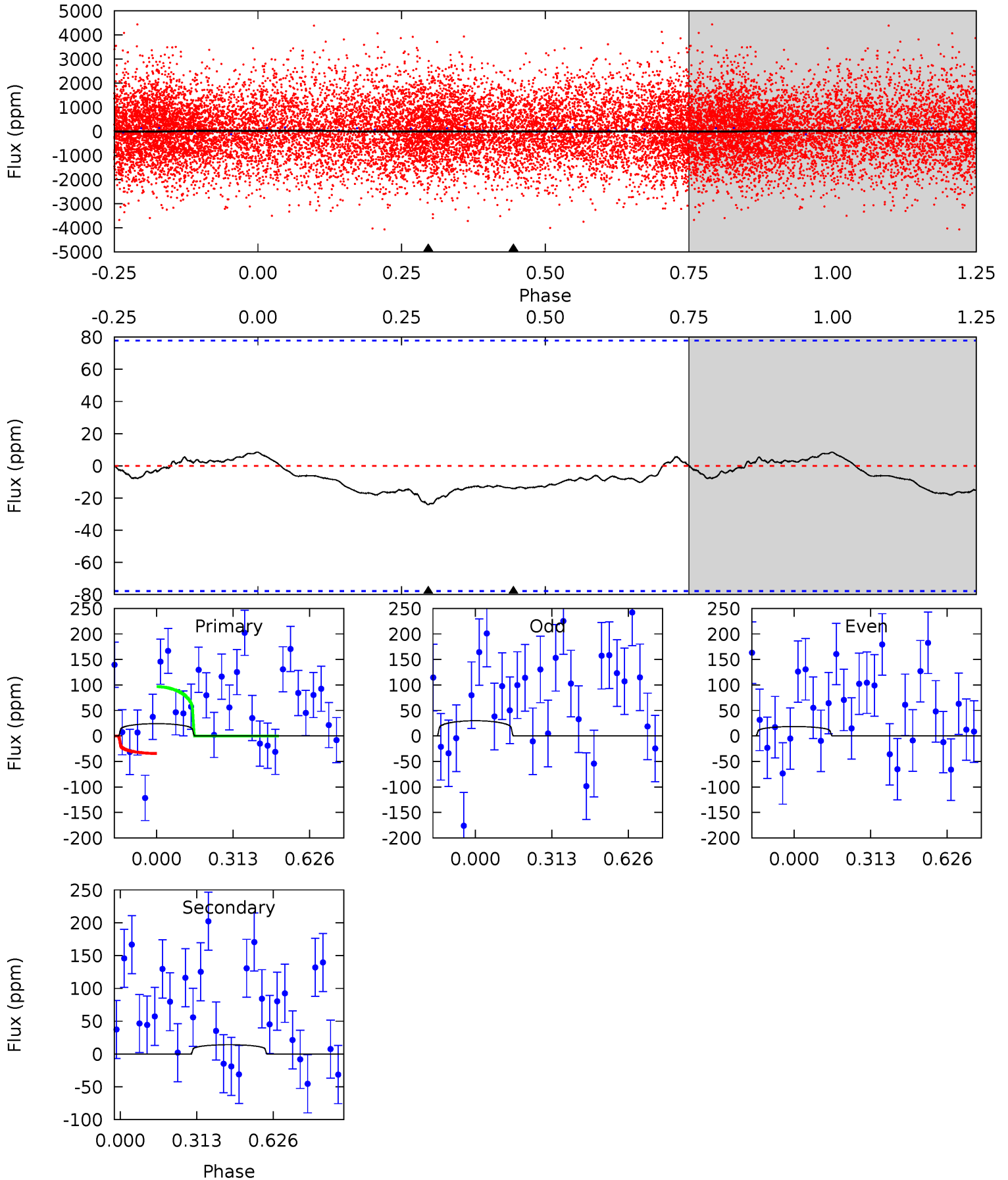
TCE 003442006-03   P= 2.935852 Days    $T_0=131.868667$  (BKJD)



# DV Model-Shift Uniqueness Test

003442006-03, P = 2.939577 Days, E = 129.338233 Days

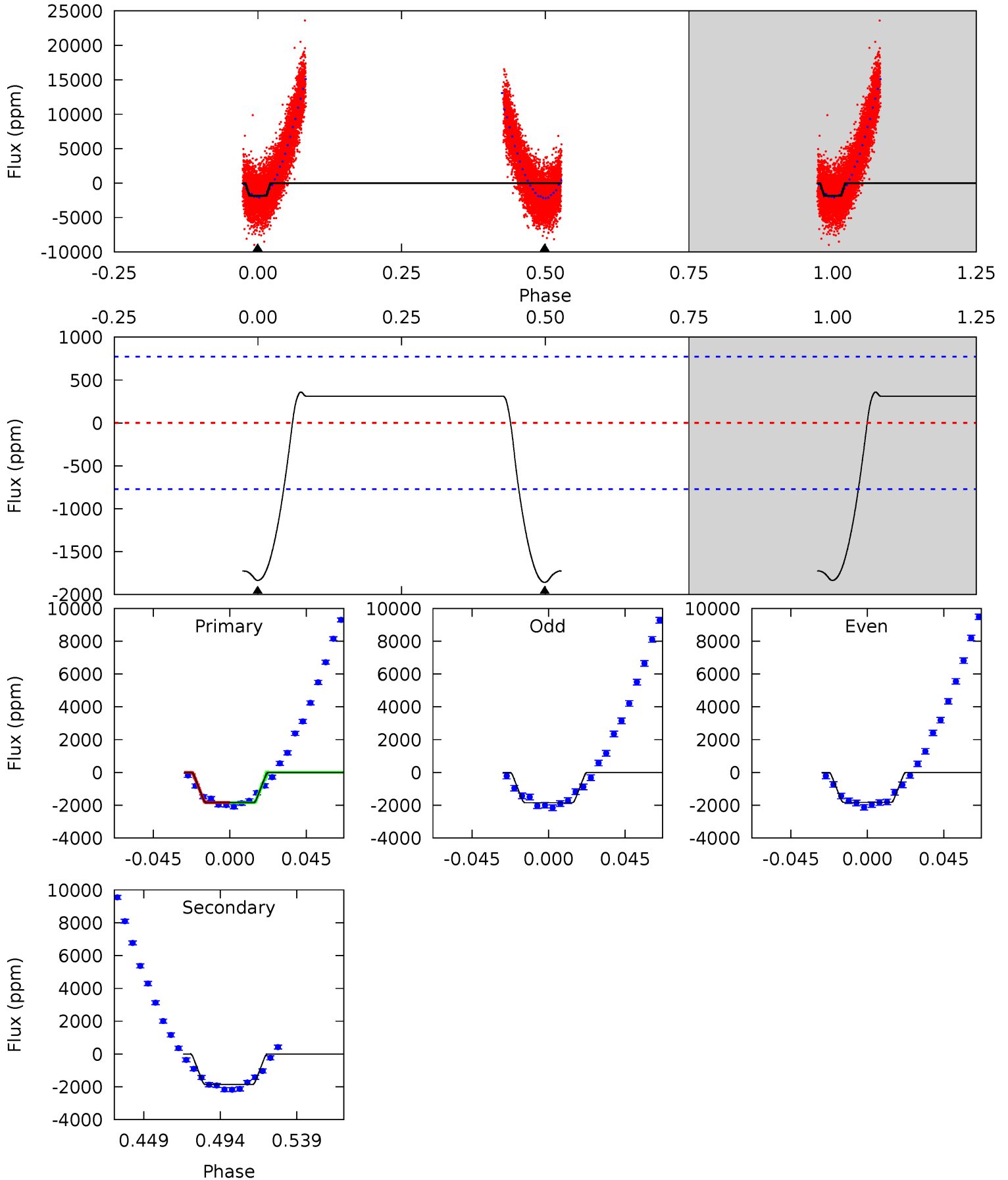
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.34	0.78	0	0	4.32	1.01	0.23	1.34	1.34	0.78	0.78	0.32	-0.88	0.26	1.58



# Alt Model-Shift Uniqueness Test

003442006-03, P = 2.935852 Days, E = 128.932815 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	11.4	0	0	4.73	2.01	2.27	11.3	11.3	11.4	11.4	0.06	0.98	0.16	0.03



### Stellar Parameters For KIC 003442006

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6674^{+188}_{-259}$	$4.121^{+0.214}_{-0.175}$	$-0.240^{+0.250}_{-0.300}$	$1.637^{+0.473}_{-0.473}$	$1.299^{+0.183}_{-0.244}$	$0.417^{+0.528}_{-0.205}$
	+3%/-4%	+5%/-4%	+104%/-125%	+29%/-29%	+14%/-19%	+126%/-49%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 003442006-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-14 \pm 18$	$2.27^{+2.22}_{-1.42}$	$2516^{+206}_{-199}$	$3525^{+2127}_{-6822}$	$1.821^{+17.409}_{-2.418}$
Alt.	$-1857 \pm 163$	$7.81^{+2.70}_{-2.46}$	$2515^{+189}_{-197}$	$6459^{+1576}_{-737}$	$32^{+35}_{-14}$

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

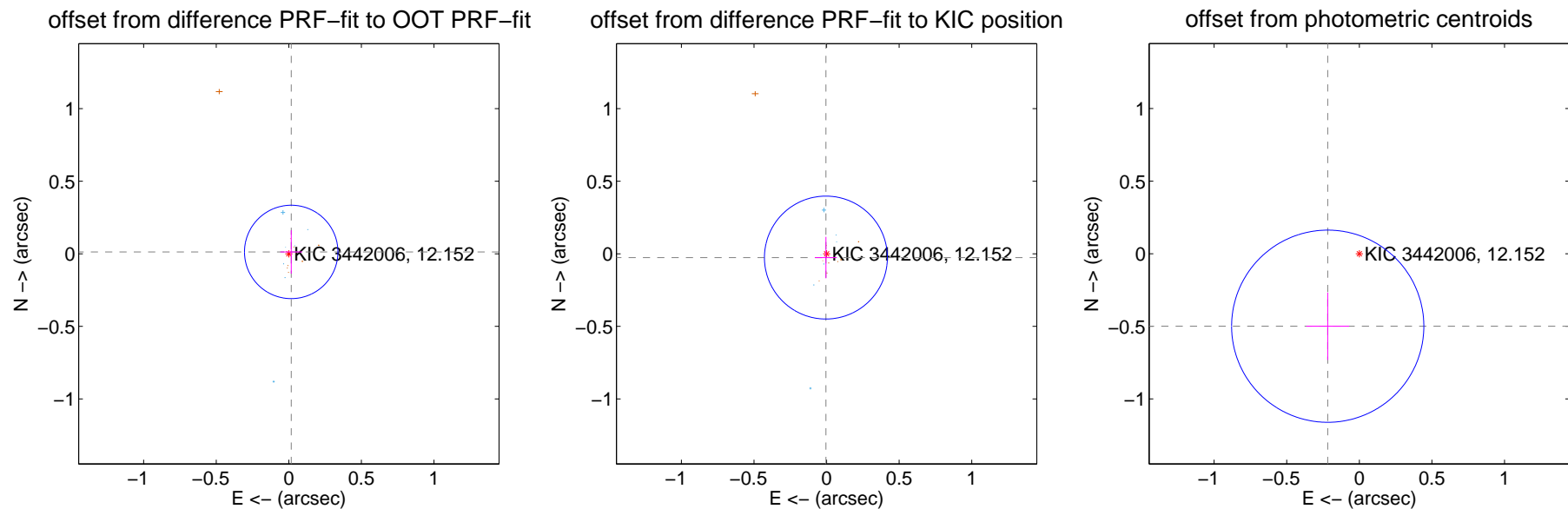
## DV Centroid Data

Supplemental centroid analysis for 003442006-03. Kepler magnitude: 12.15. Transit SNR 2.90

There are 7 quarters with good PRF difference image offsets

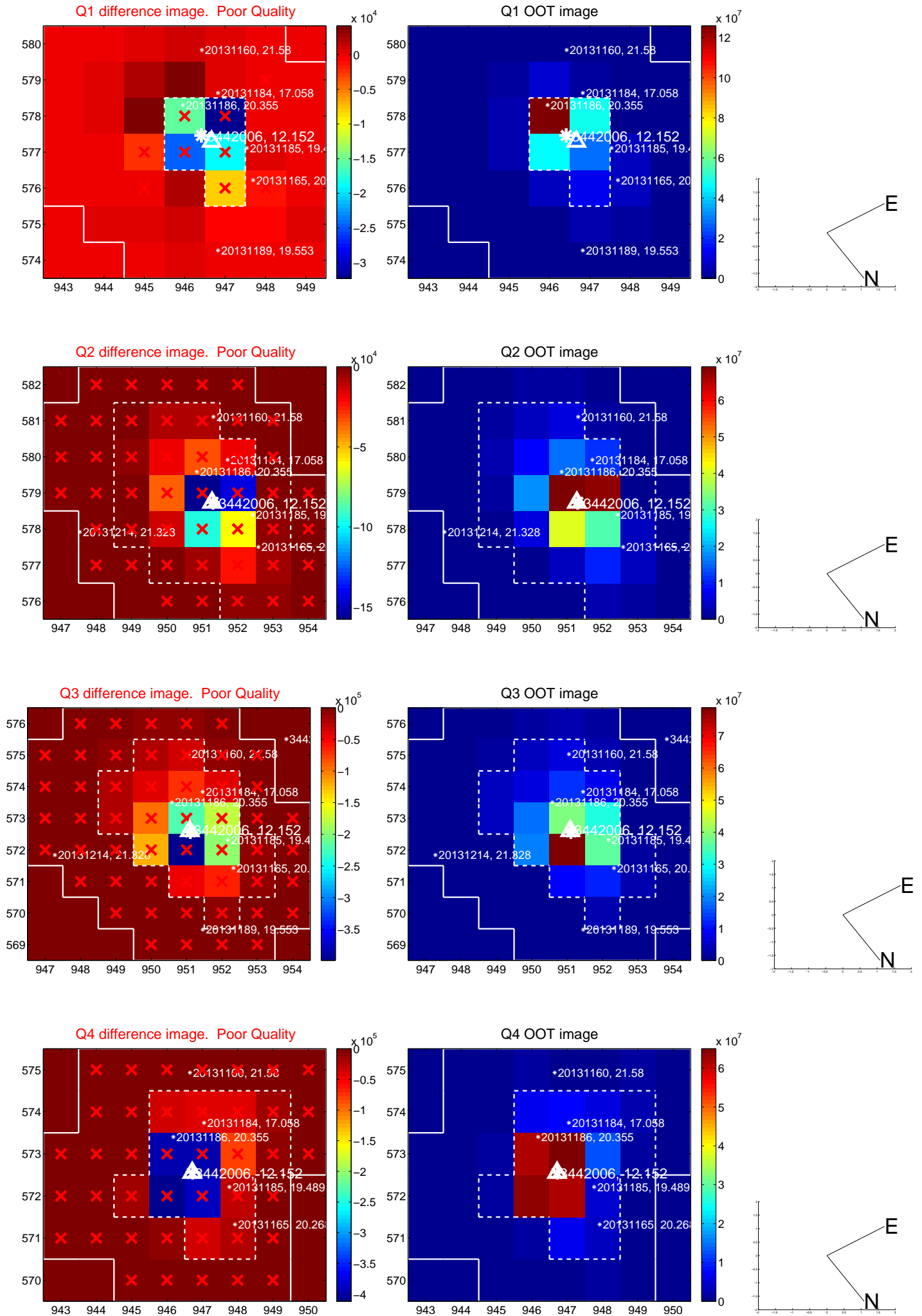
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.021 \pm 0.107$	0.20	$-0.017 \pm 0.075$	$0.013 \pm 0.149$
PRF-fit source offset from KIC position	$0.026 \pm 0.141$	0.19	$0.005 \pm 0.075$	$-0.026 \pm 0.143$
photometric centroid source offset	$0.54 \pm 0.22$	2.47	$0.22 \pm 0.15$	$-0.50 \pm 0.23$



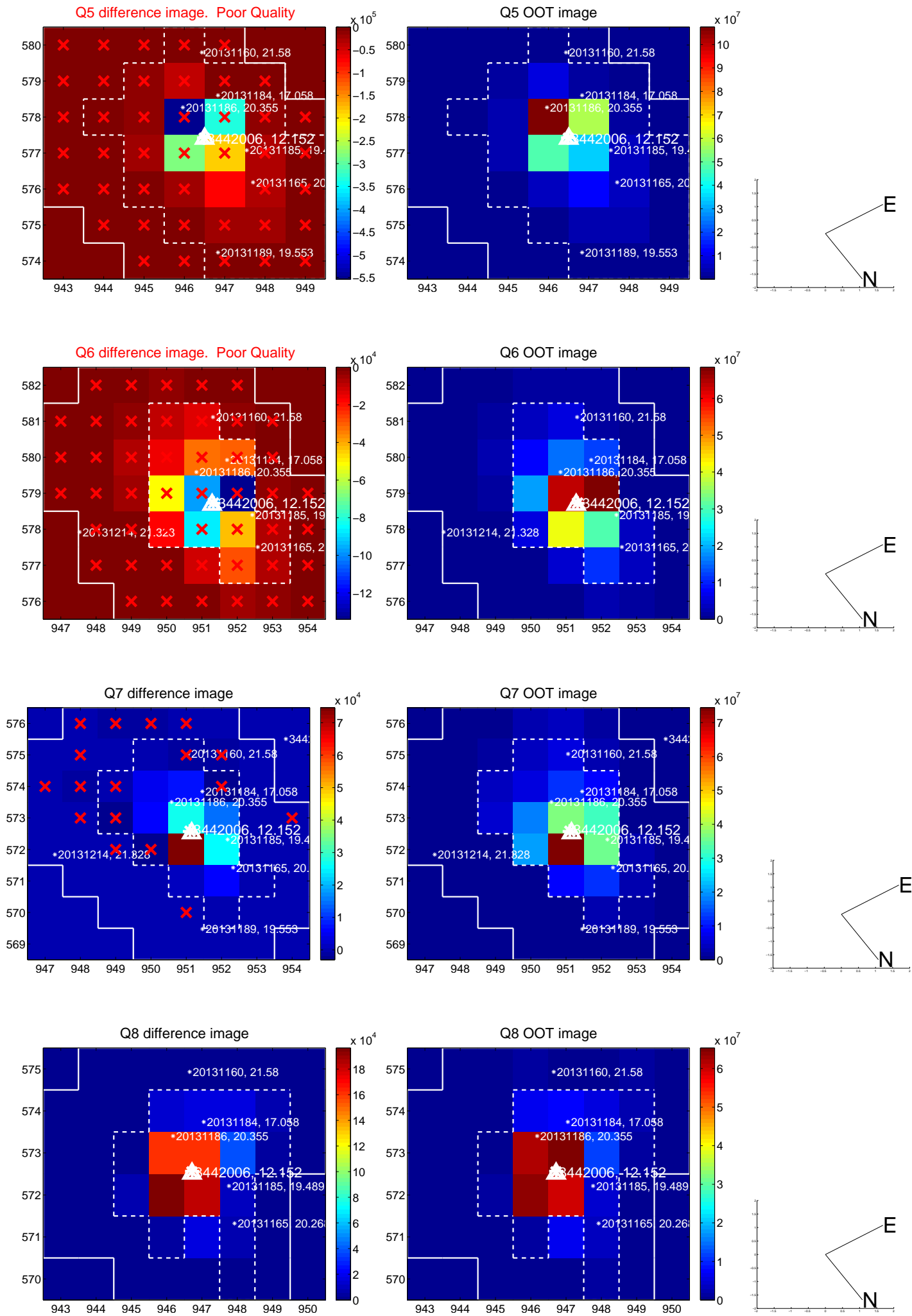
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

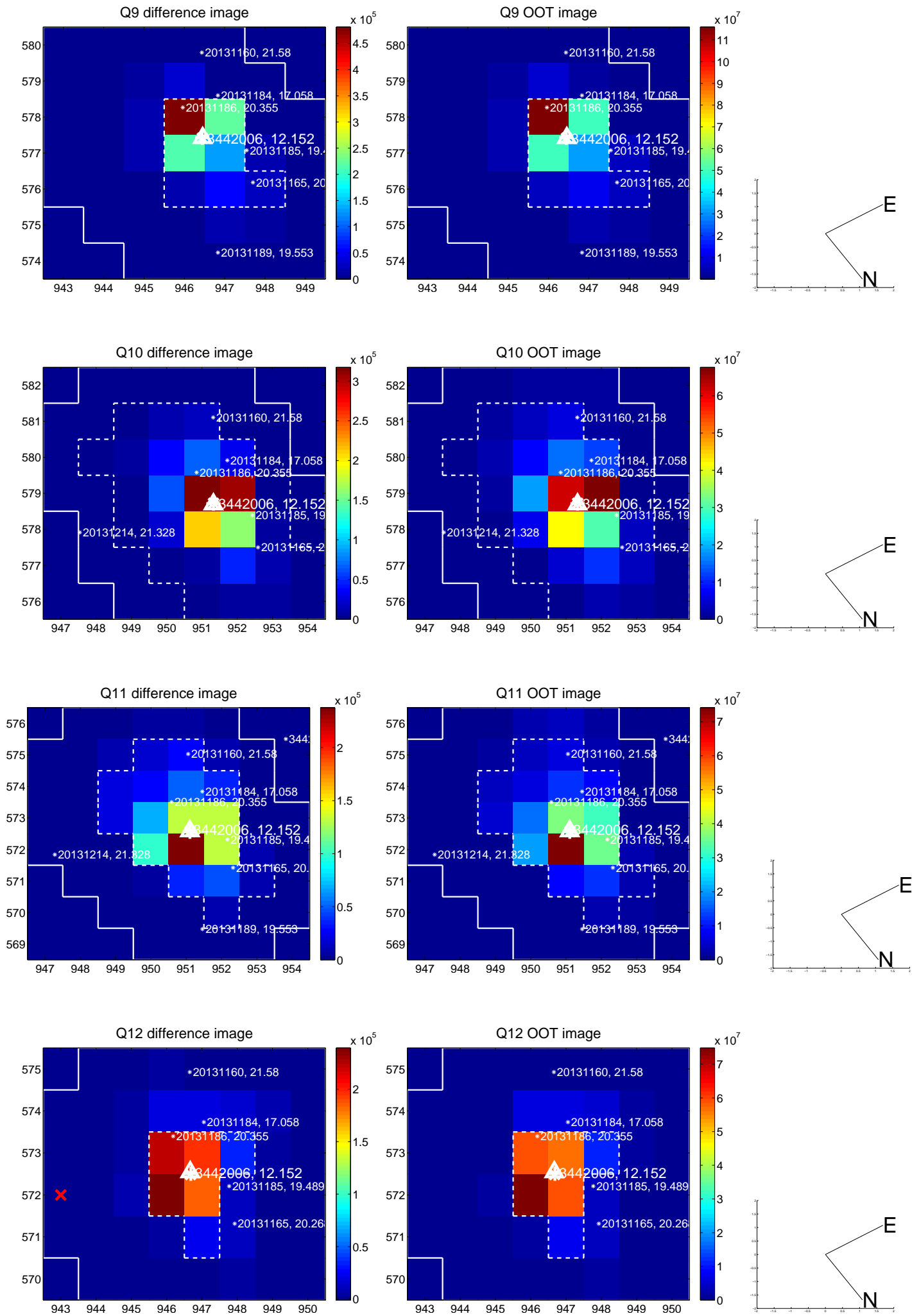




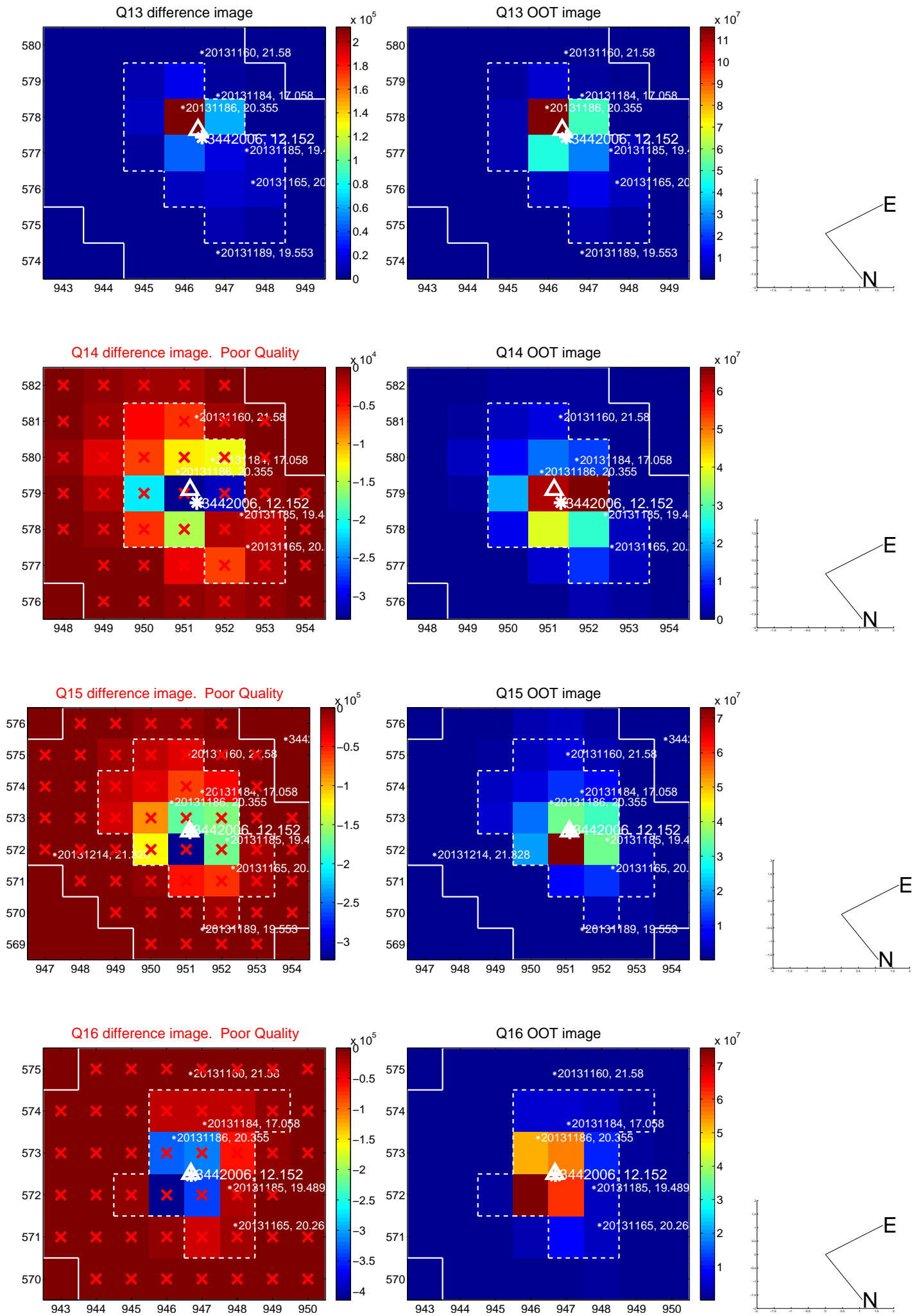
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



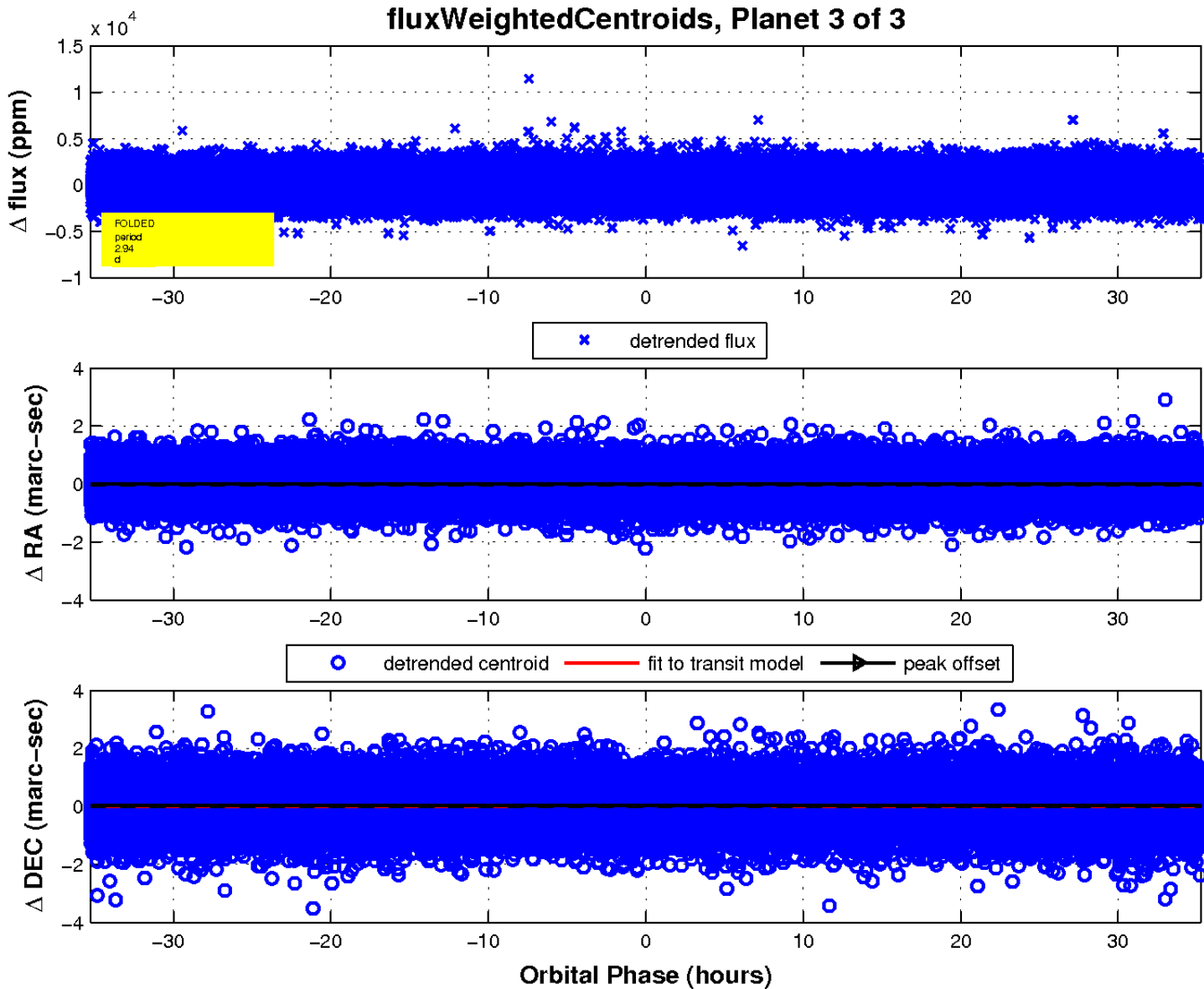
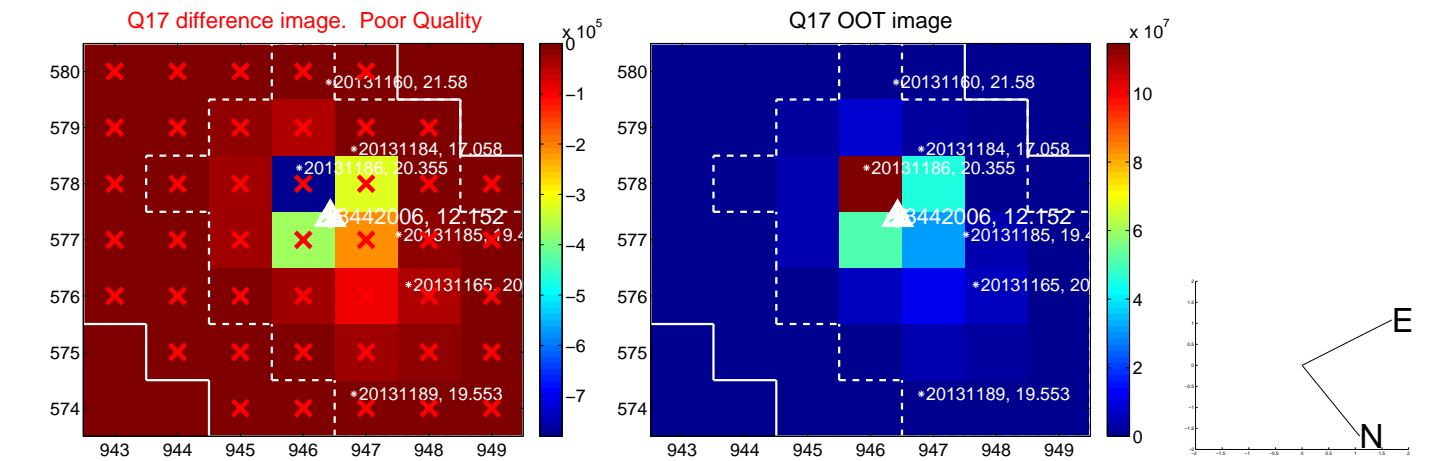
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

