

# KIC 008006773

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008006773-01	OBS	No	1.805323	132.717443	3.1	13.167	8.8	6.6	3.12	8818	0.56	34668.92
008006773-02	OBS	No	33.228664	136.854120	55.4	3.229	13.7	12.7	3.12	8818	2.64	713.39
008006773-03	OBS	No	40.901634	163.233616	46.7	2.402	9.6	8.5	3.12	8818	2.58	540.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008006773-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
008006773-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008006773-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

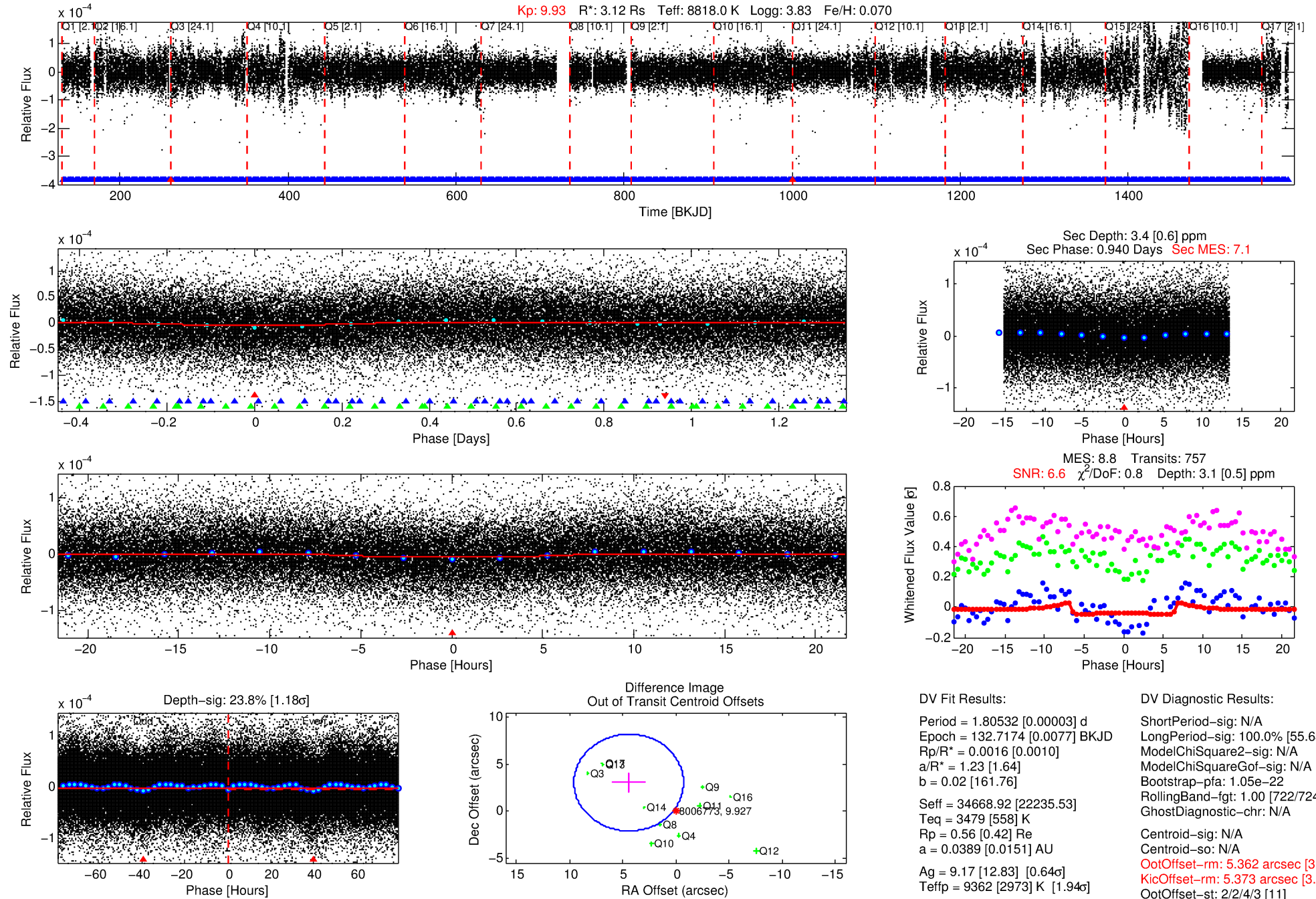
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 008006773-01

No Significant Match Found

# DV One-Page Summary

KIC: 8006773 Candidate: 1 of 3 Period: 1.805 d



## DV Fit Results:

Period = 1.80532 [0.00003] d  
Epoch = 132.7174 [0.0077] BKJD  
Rp/R\* = 0.0016 [0.0010]  
a/R\* = 1.23 [1.64]  
b = 0.02 [161.76]  
Seff = 34668.92 [22235.53]  
Teq = 3479 [558] K  
Rp = 0.56 [0.42] Re  
a = 0.0389 [0.0151] AU  
Ag = 9.17 [12.83] [0.64]  
Teffp = 9362 [2973] K [1.94]

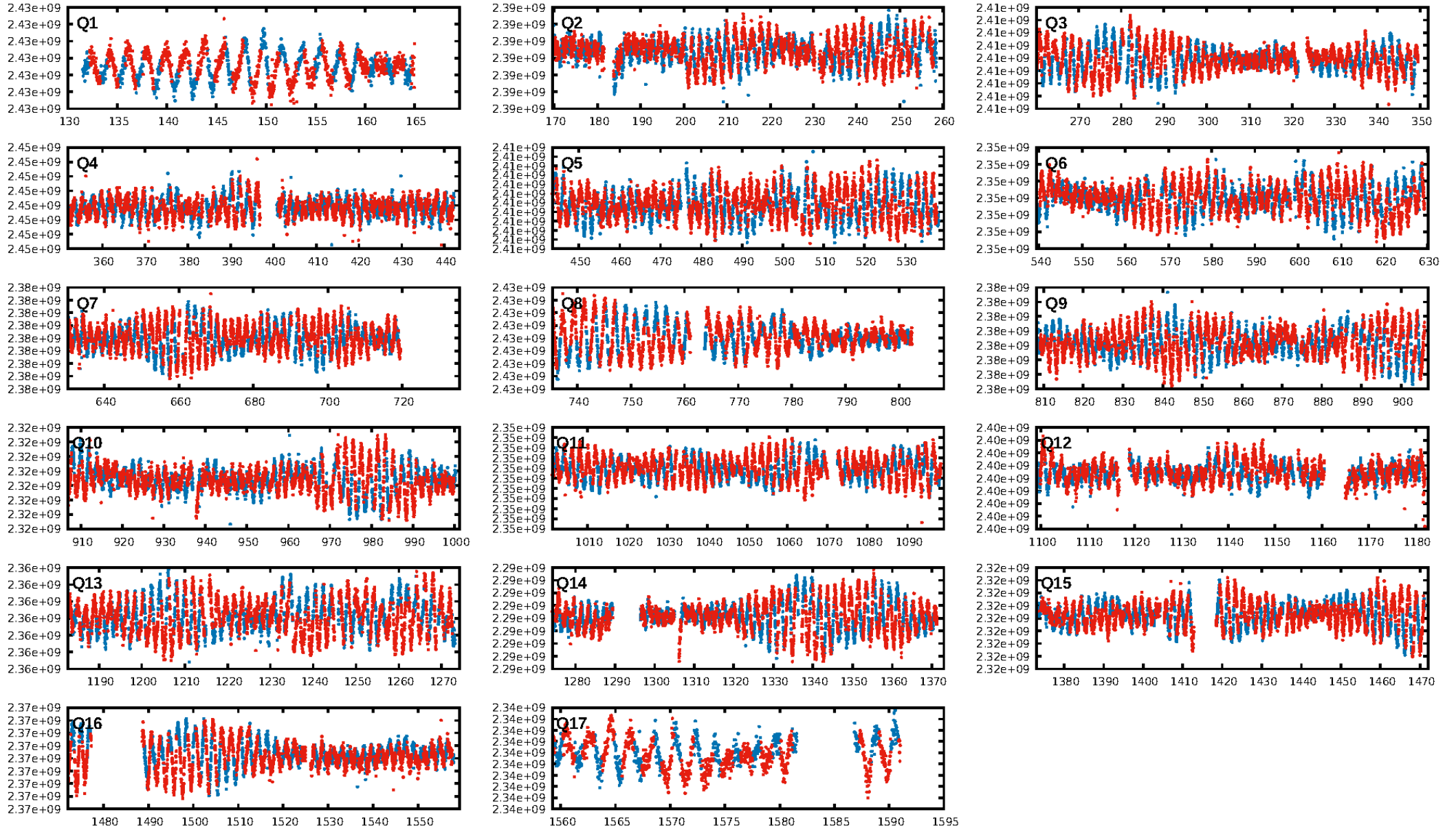
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [55.63]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.05e-22  
RollingBand-fgt: 1.00 [722/724]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 5.362 arcsec [3.12]  
KicOffset-rm: 5.373 arcsec [3.87]  
OotOffset-st: 2/2/4/3 [11]  
KicOffset-st: 2/2/4/3 [11]  
DiffImageQuality-fgm: 0.27 [3/11]  
DiffImageOverlap-fno: 1.00 [17/17]

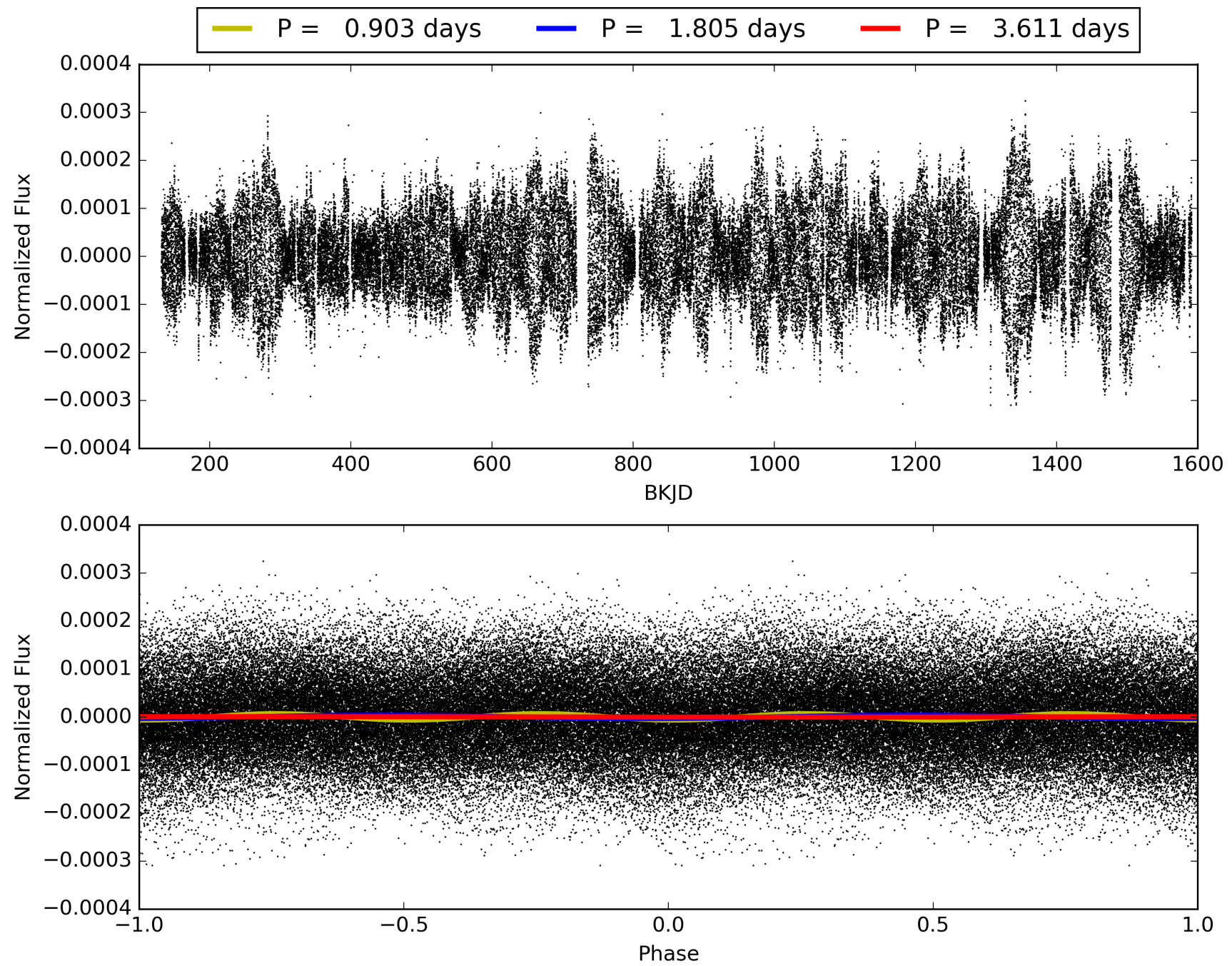
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:25:02 Z

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

# TCE 008006773-01, PDC Light Curves



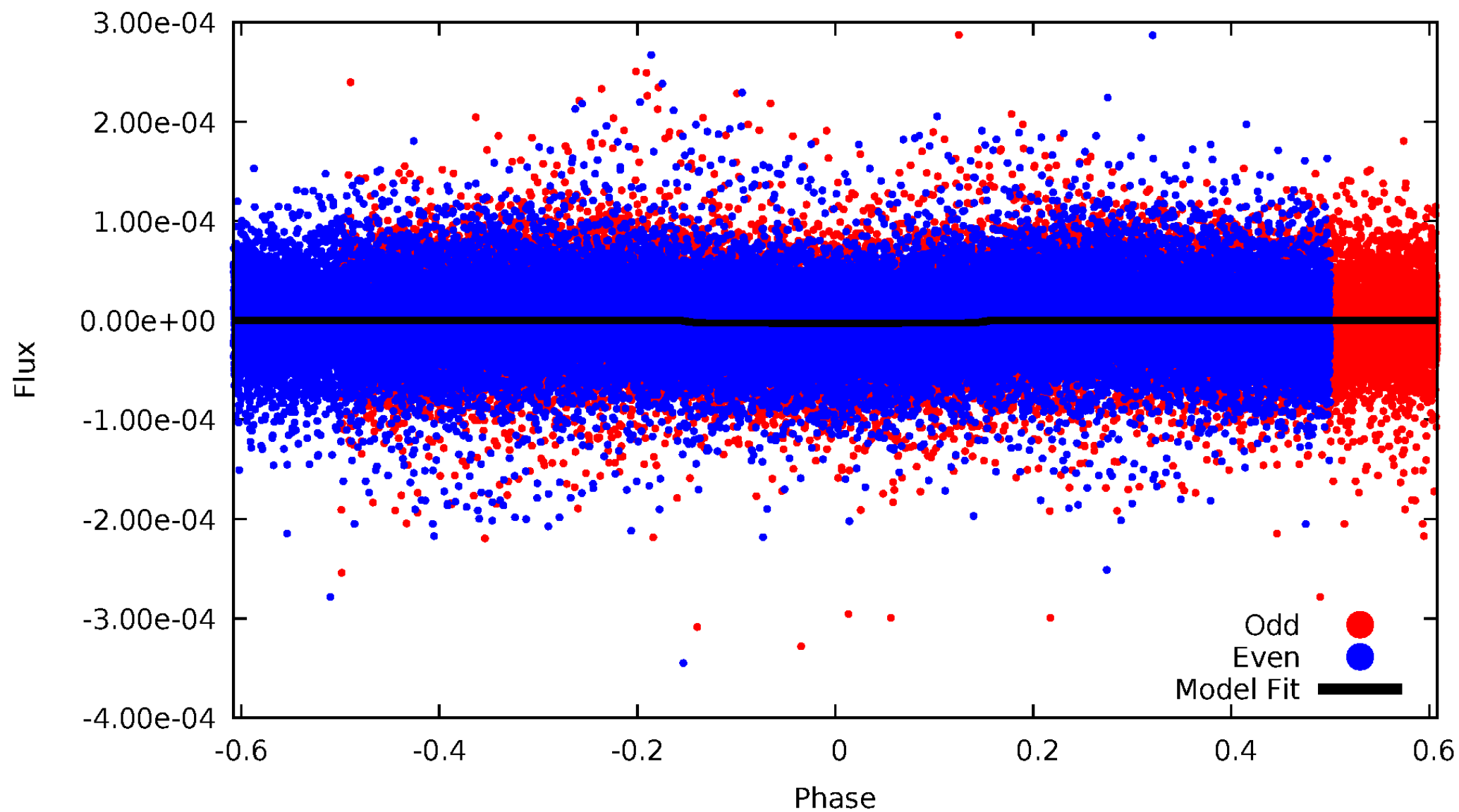
TCE 008006773-01





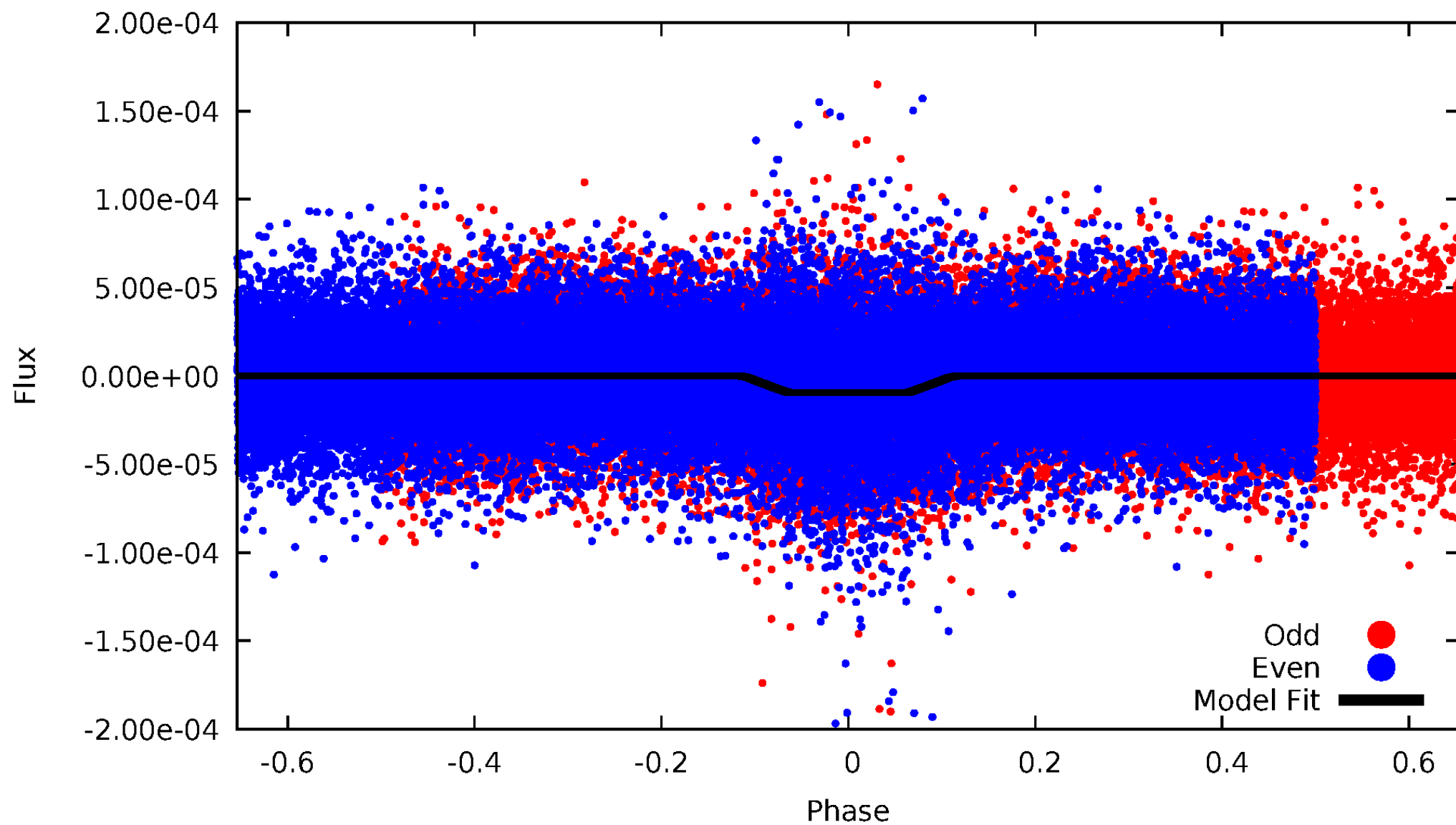
# DV Odd/Even

TCE 008006773-01



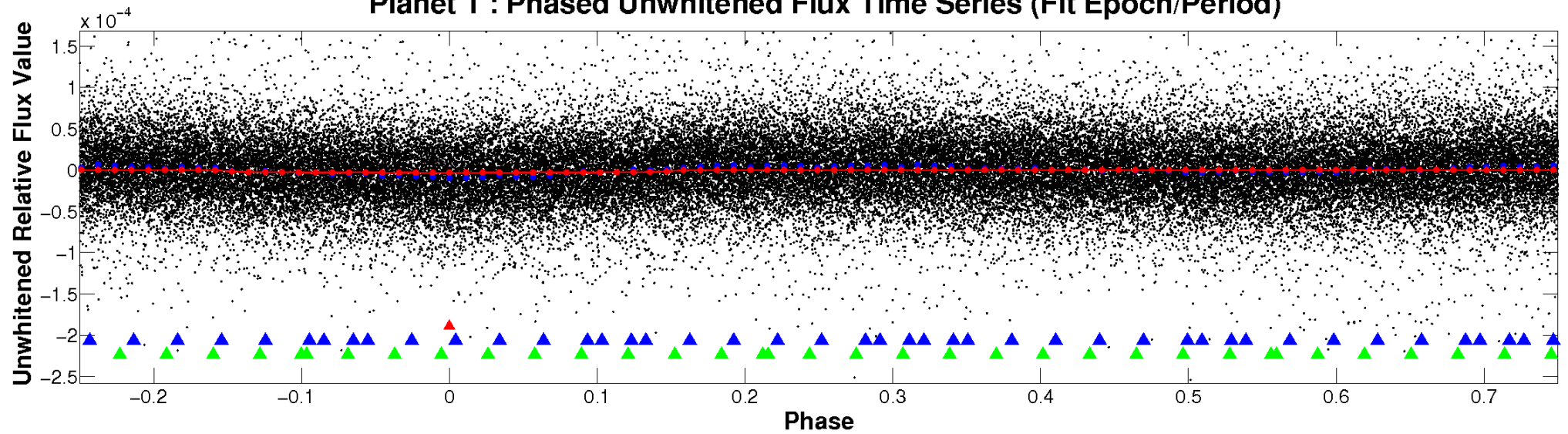
# ALT Odd/Even

TCE 008006773-01

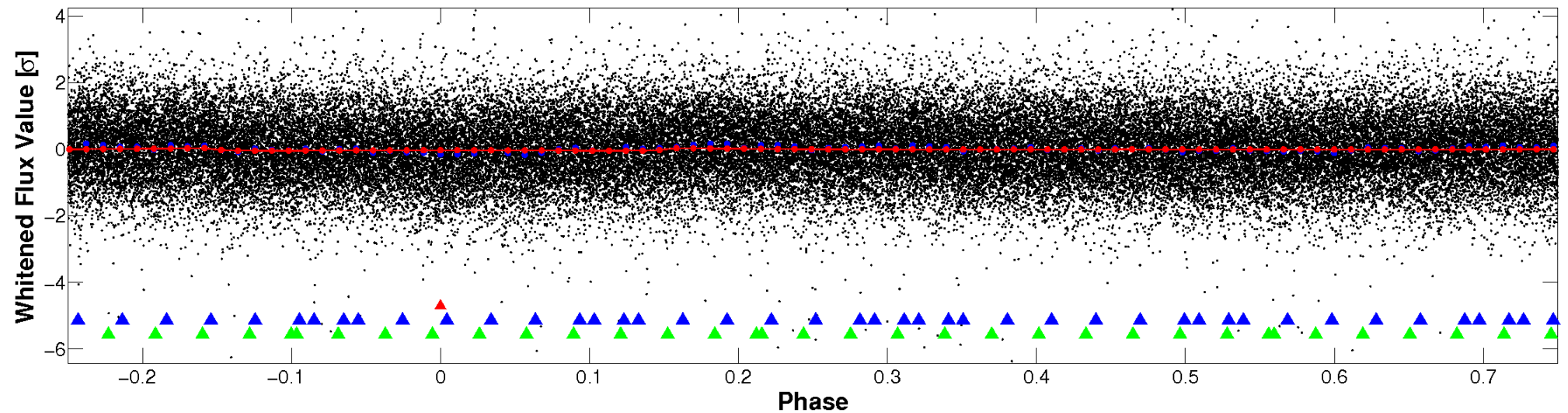


# Non-Whitened Vs. Whitened Light Curve

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

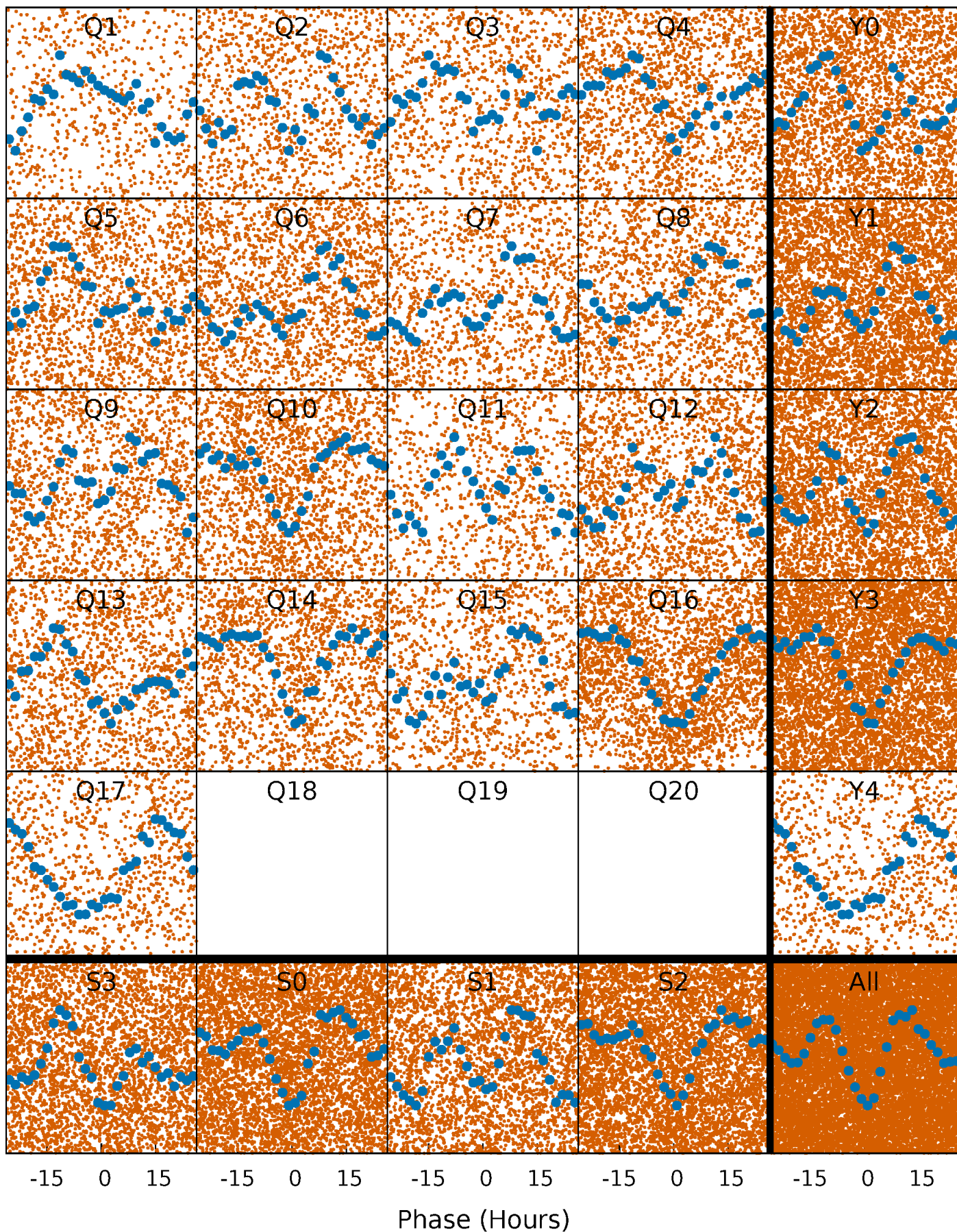


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

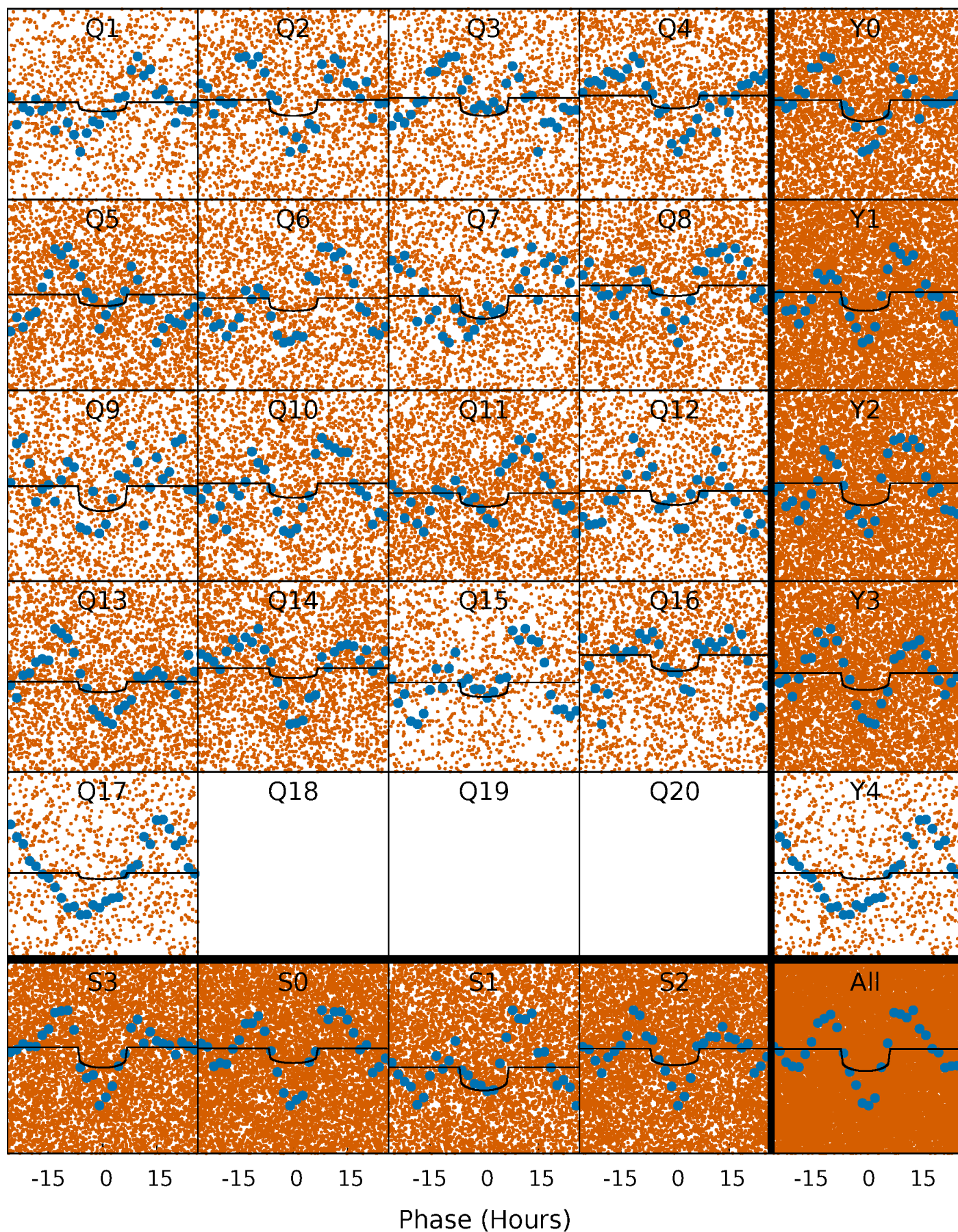
TCE 008006773-01 P= 1.805323 Days  $T_0=132.717443$  (BKJD)





# DV Quarter-Phased Transit Curves

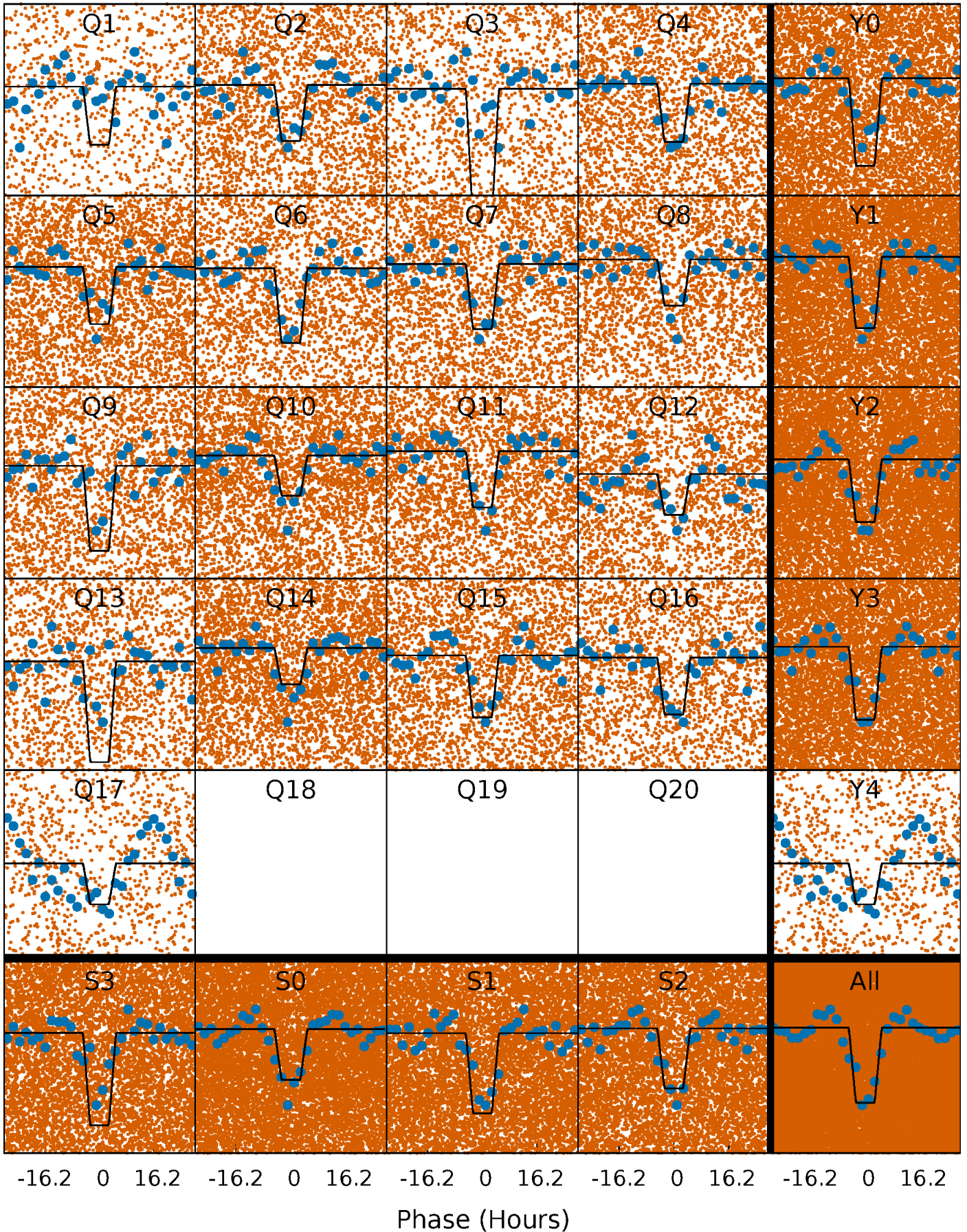
TCE 008006773-01 P= 1.805323 Days  $T_0=132.717443$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

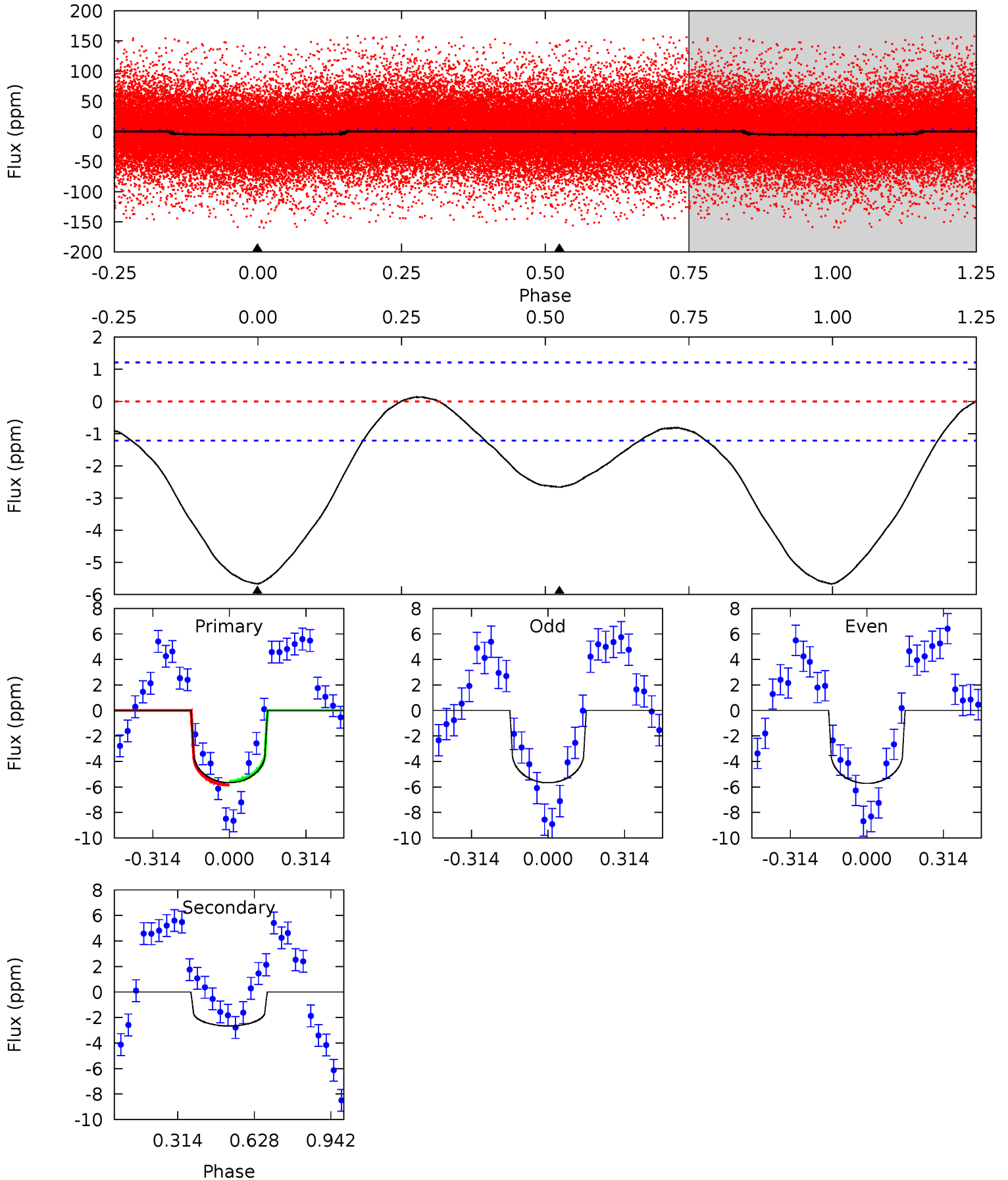
TCE 008006773-01 P= 1.805379 Days  $T_0=132.730143$  (BKJD)



# DV Model-Shift Uniqueness Test

008006773-01, P = 1.805323 Days, E = 130.912120 Days

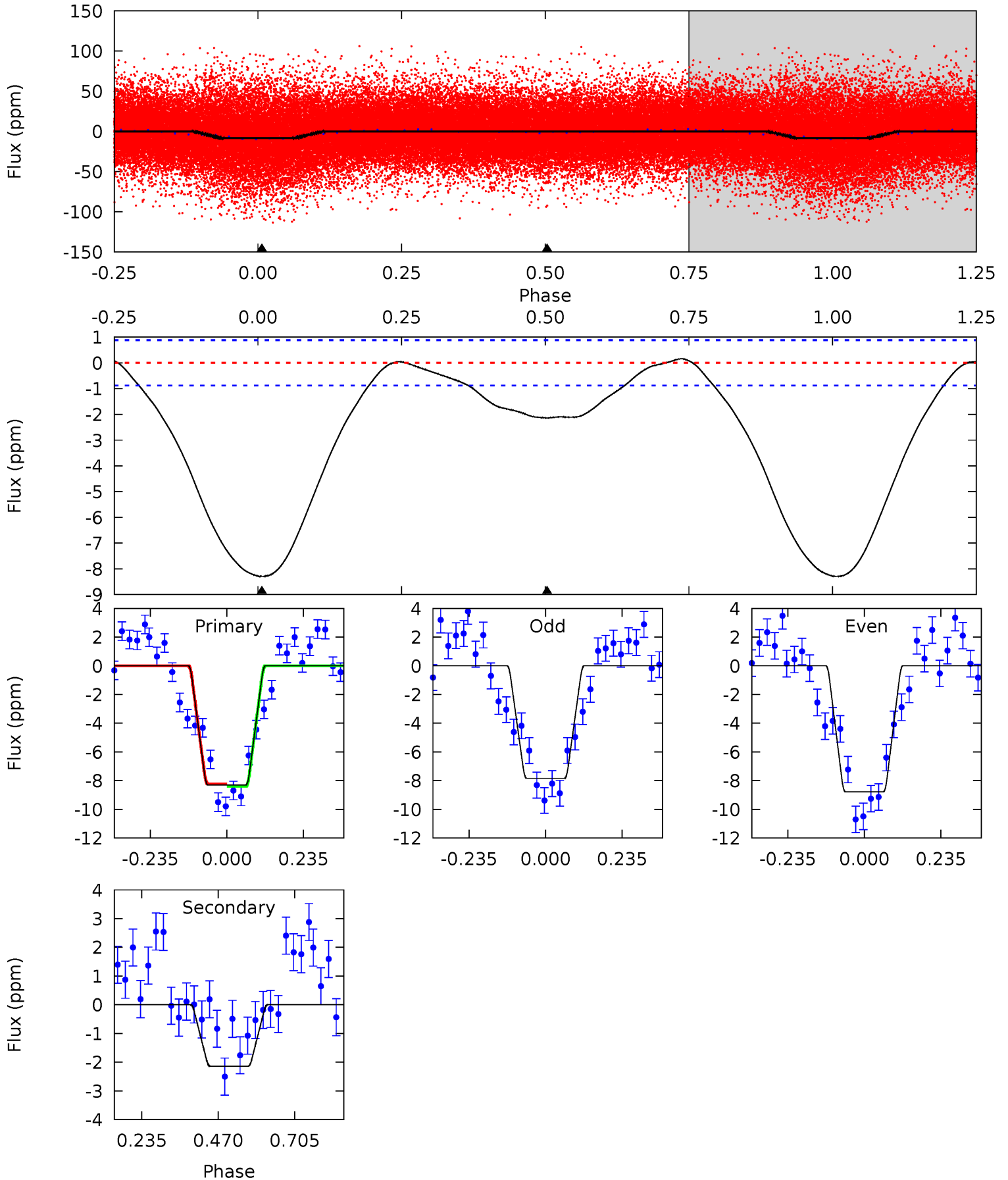
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	9.44	0	0	4.32	1.01	1.62	20.1	20.1	9.44	9.44	0.09	1.13	0.02	0.55



# Alt Model-Shift Uniqueness Test

008006773-01, P = 1.805379 Days, E = 130.924764 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
41.2	10.6	0	0	4.38	1.19	0.88	41.2	41.2	10.6	10.6	2.33	1.03	0.02	0.39





### Stellar Parameters For KIC 008006773

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8818^{+240}_{-412}$	$3.834^{+0.357}_{-0.153}$	$0.070^{+0.150}_{-0.600}$	$3.115^{+0.937}_{-1.289}$	$2.412^{+0.326}_{-0.816}$	$0.112^{+0.345}_{-0.050}$
	+3%/-5%	+9%/-4%	+214%/-857%	+30%/-41%	+14%/-34%	+307%/-44%
Source	KIC0	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 008006773-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-3 \pm 0$	$0.54^{+0.37}_{-0.31}$	$4716^{+423}_{-527}$	$8204^{+7533}_{-2050}$	$7.114^{+32.523}_{-4.480}$
Alt.	$-2 \pm 0$	$0.97^{+0.39}_{-0.38}$	$4730^{+397}_{-519}$	$5485^{+1406}_{-799}$	$1.854^{+2.802}_{-0.903}$

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

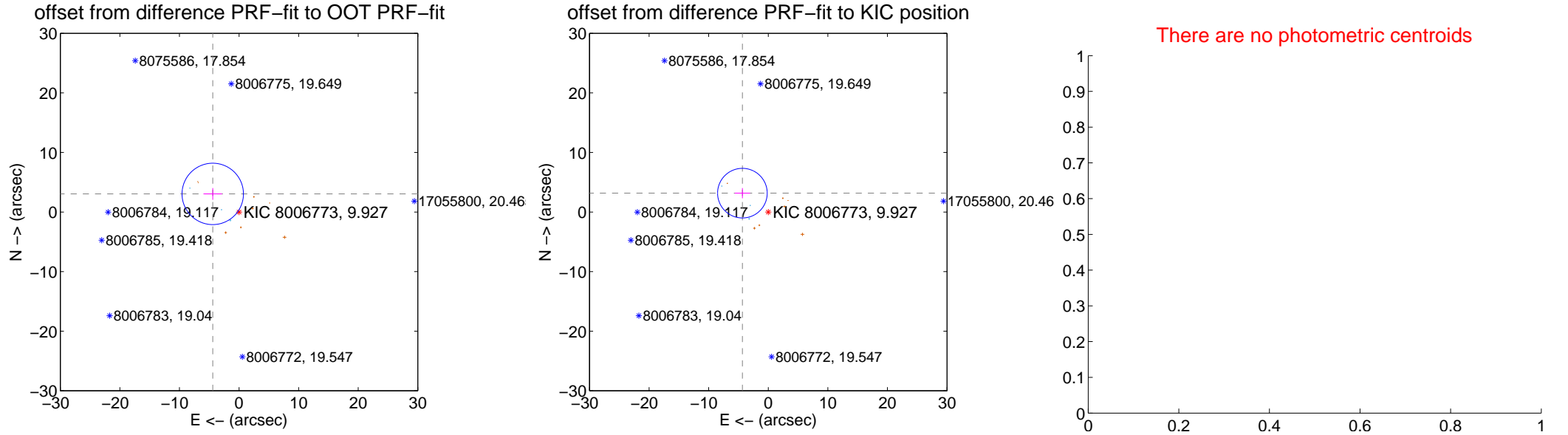
## DV Centroid Data

Supplemental centroid analysis for 008006773-01. **Kepler magnitude: 9.93.** Transit SNR 6.55

**There are 3 quarters with good PRF difference image offsets**

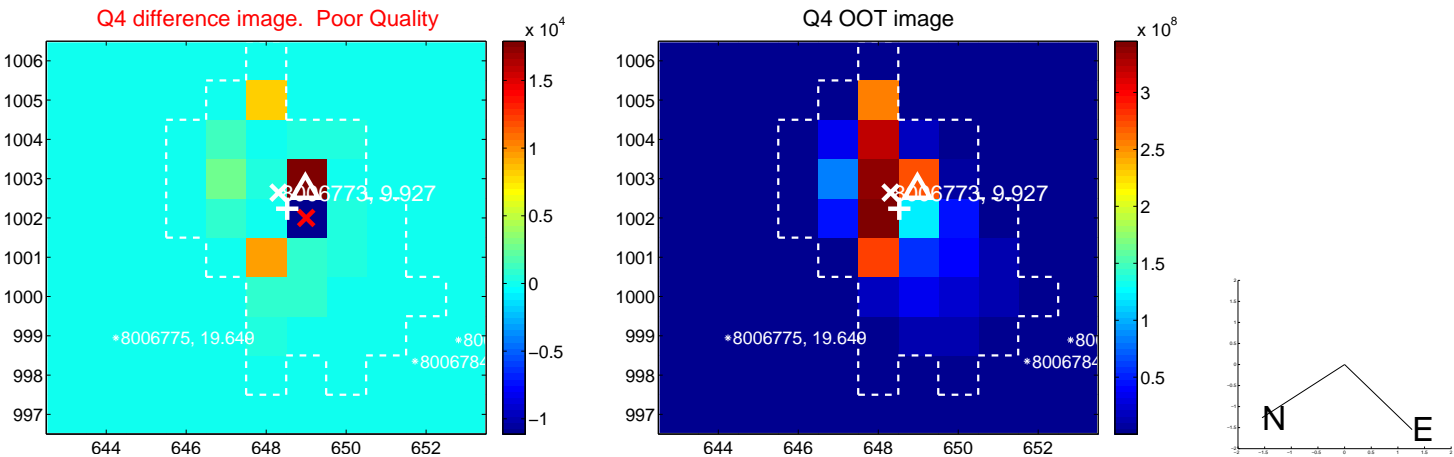
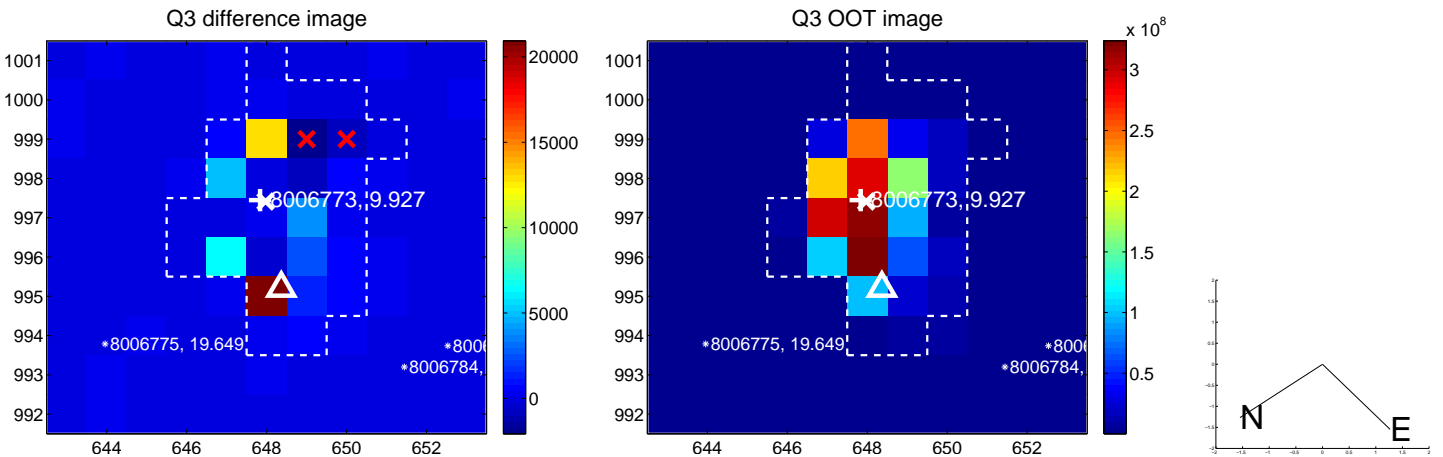
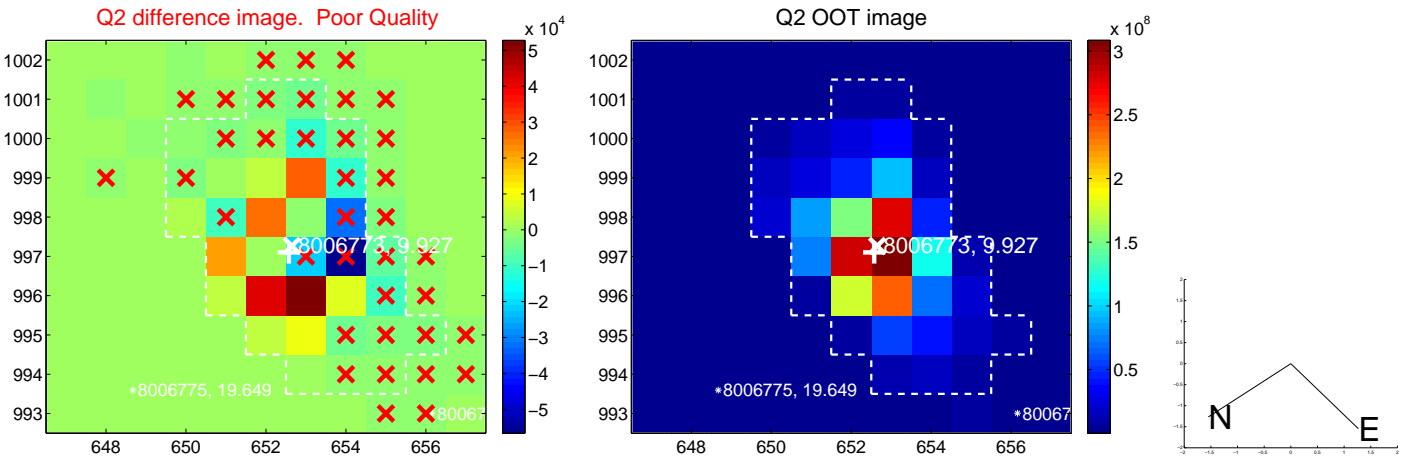
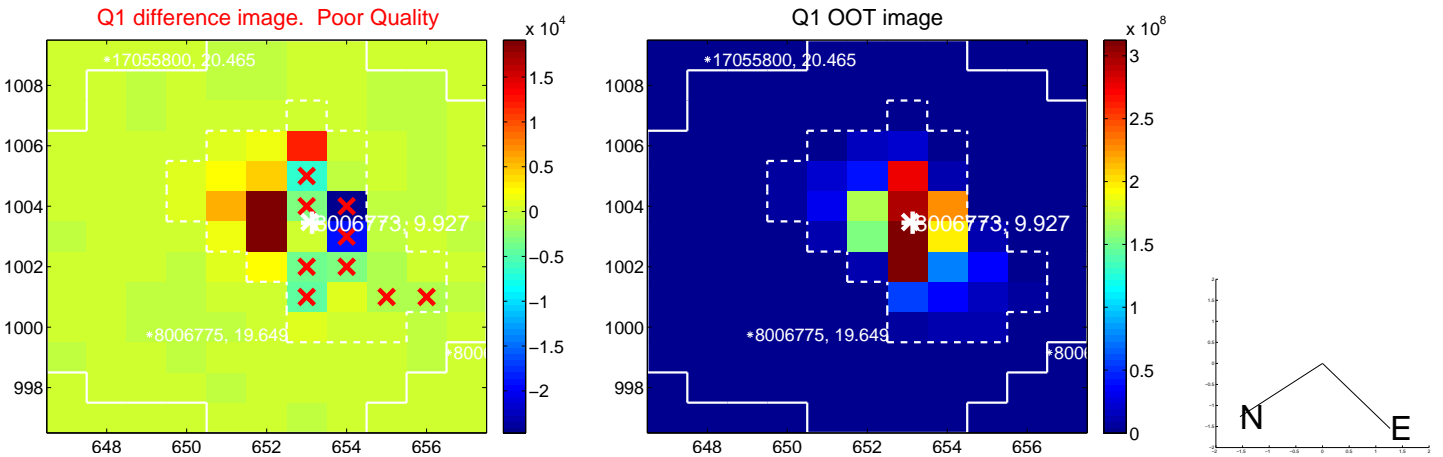
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>5.362 <math>\pm</math> 1.718</b>	<b>3.12</b>	4.414 $\pm$ 1.555	3.044 $\pm$ 0.988
PRF-fit source offset from KIC position	<b>5.373 <math>\pm</math> 1.388</b>	<b>3.87</b>	4.339 $\pm$ 1.286	3.169 $\pm$ 0.862
photometric centroid source offset	—	—	—	—

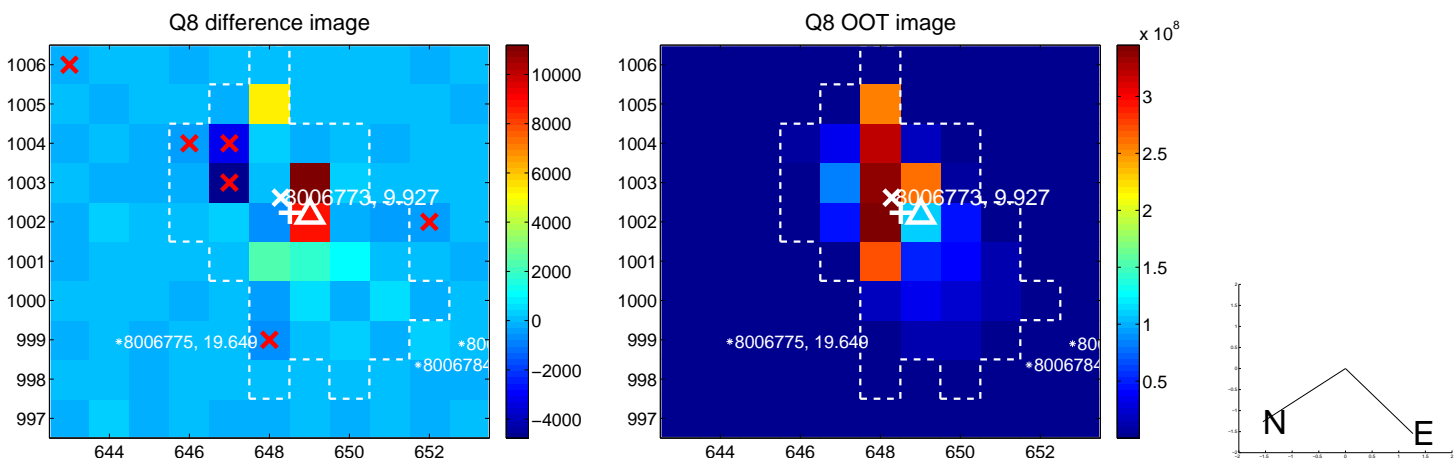
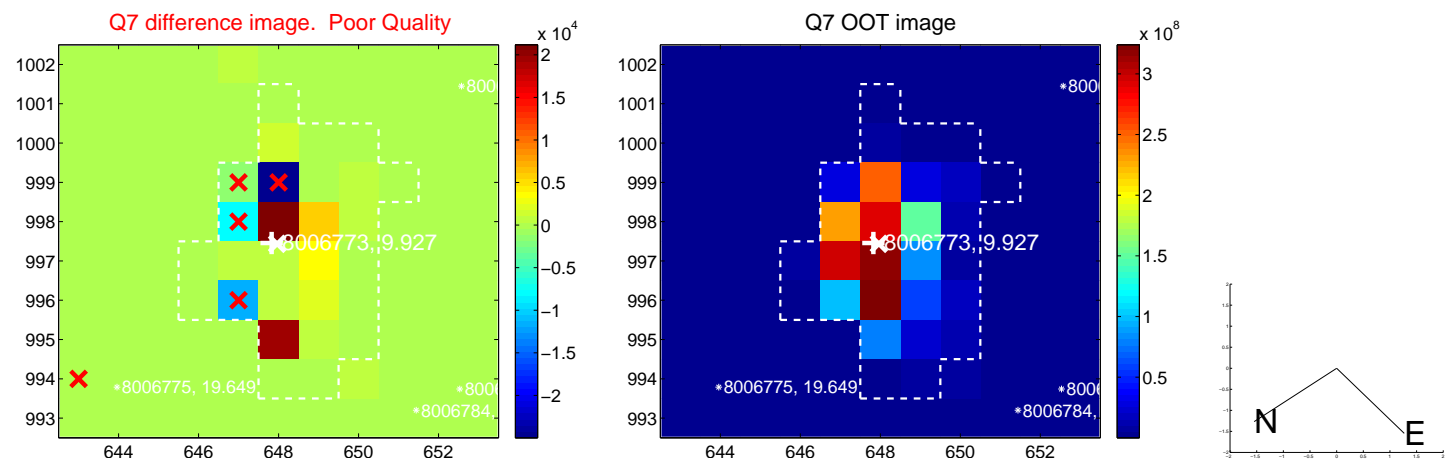
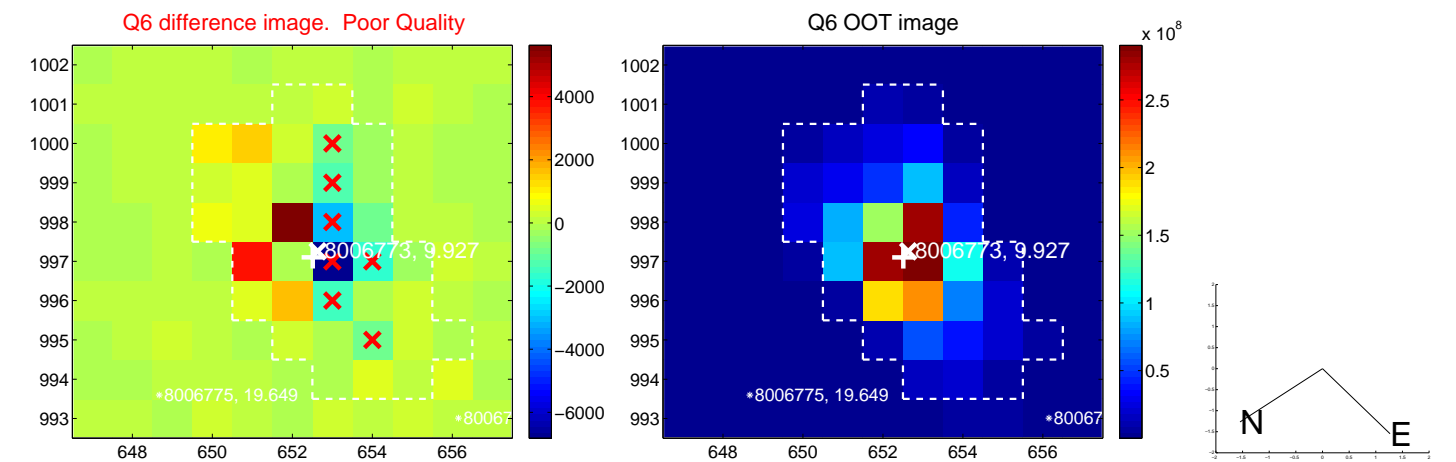
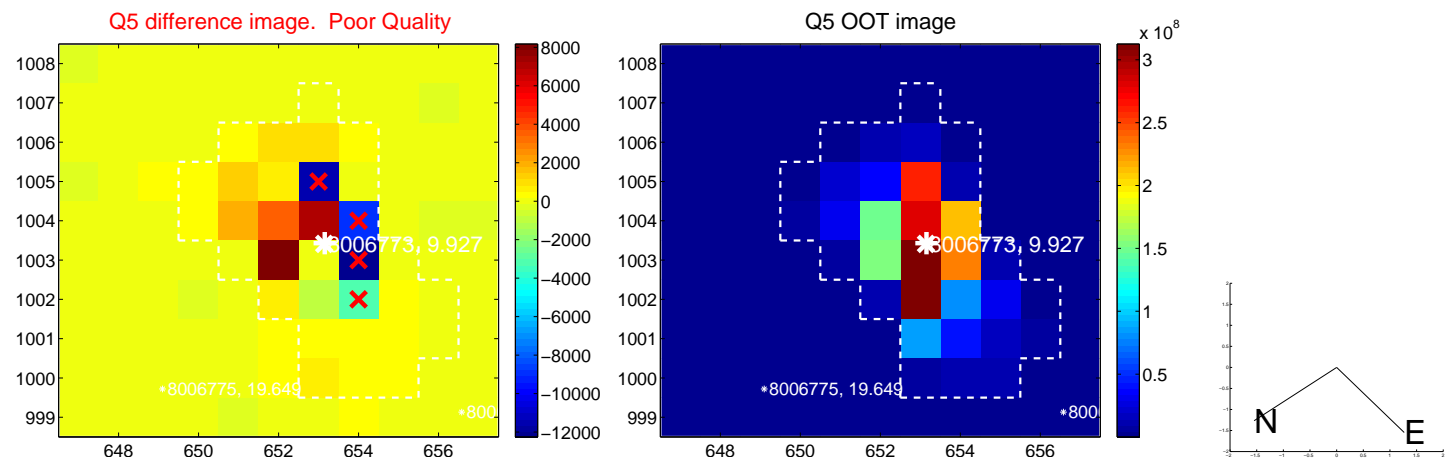


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

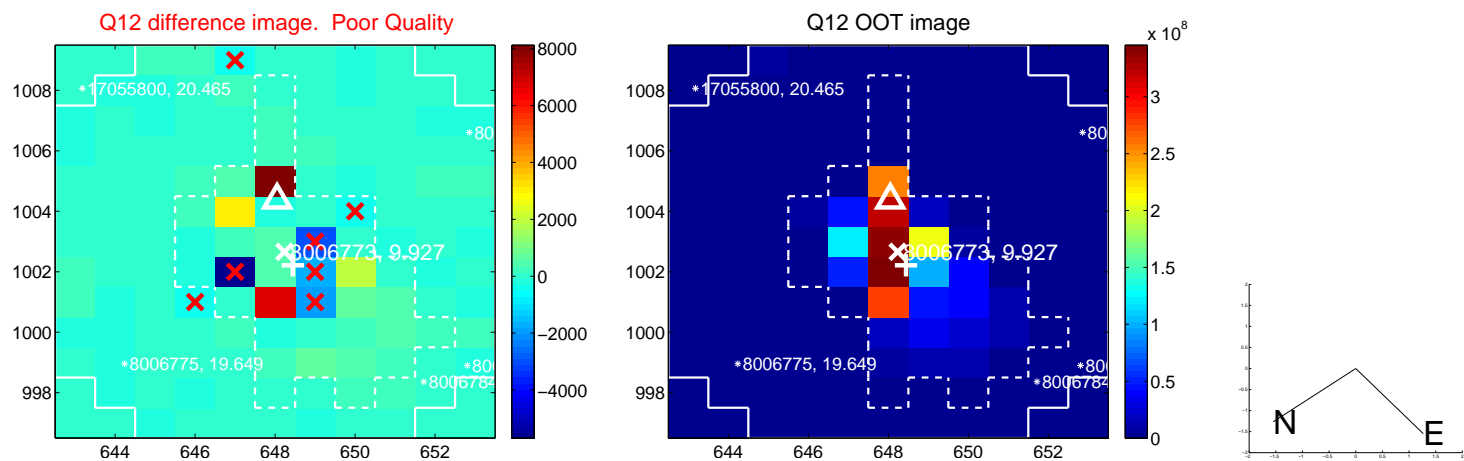
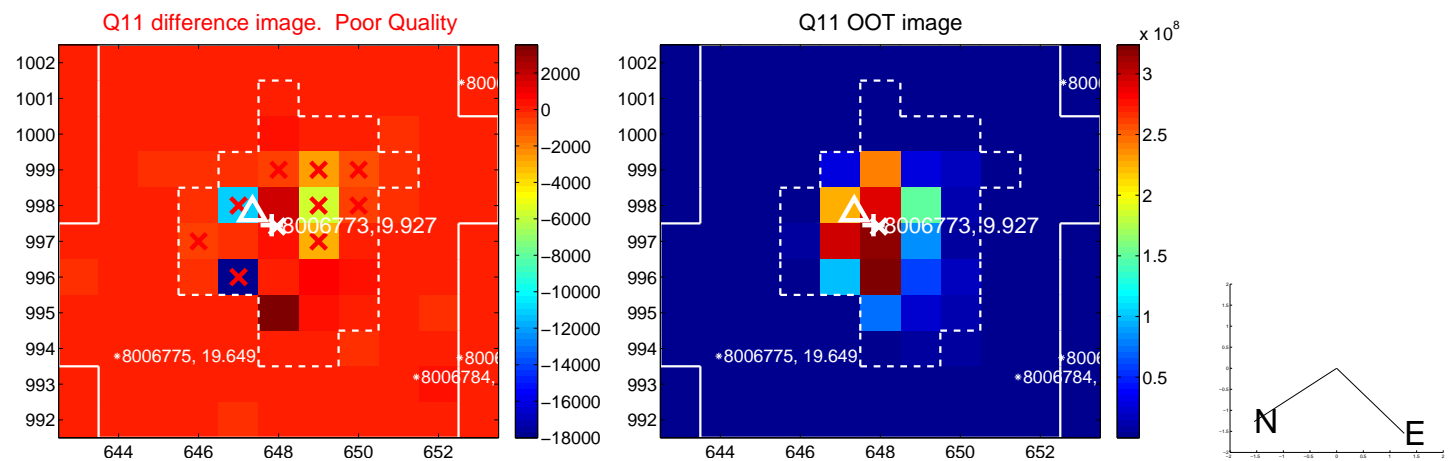
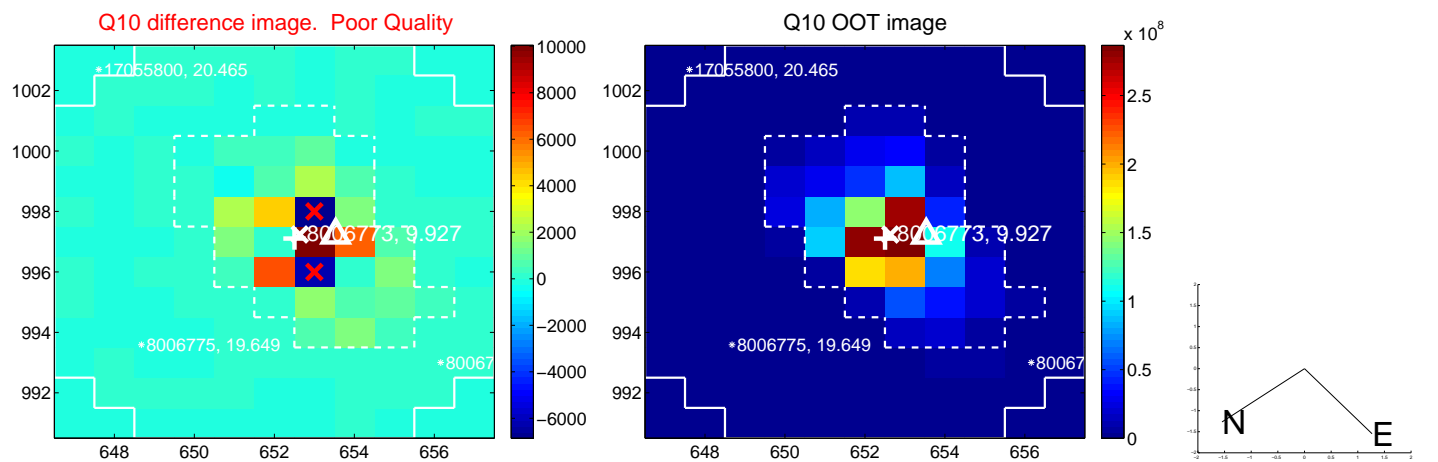
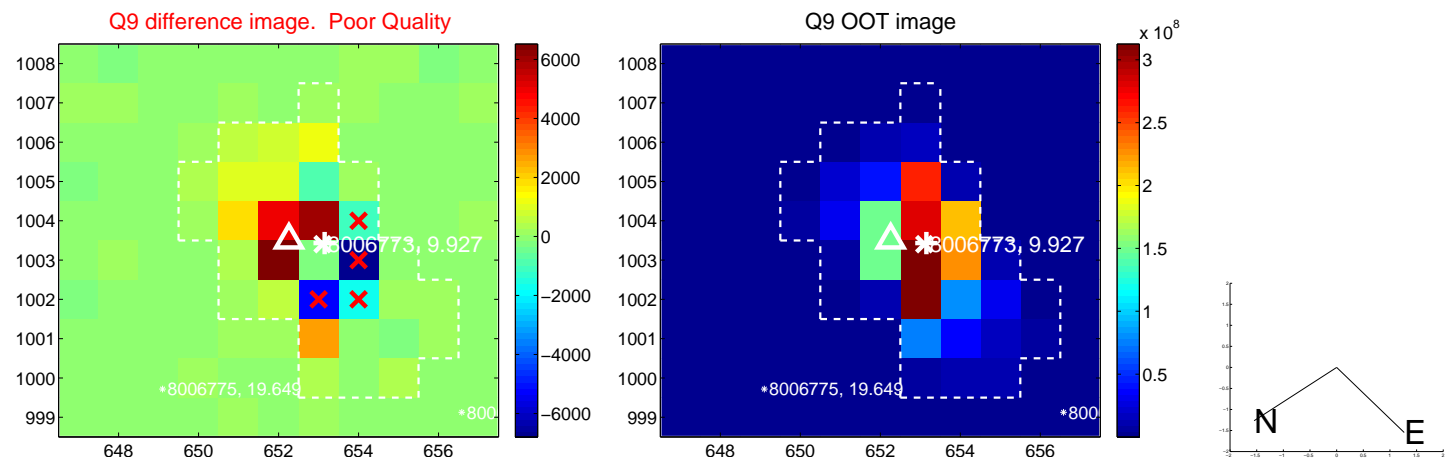


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

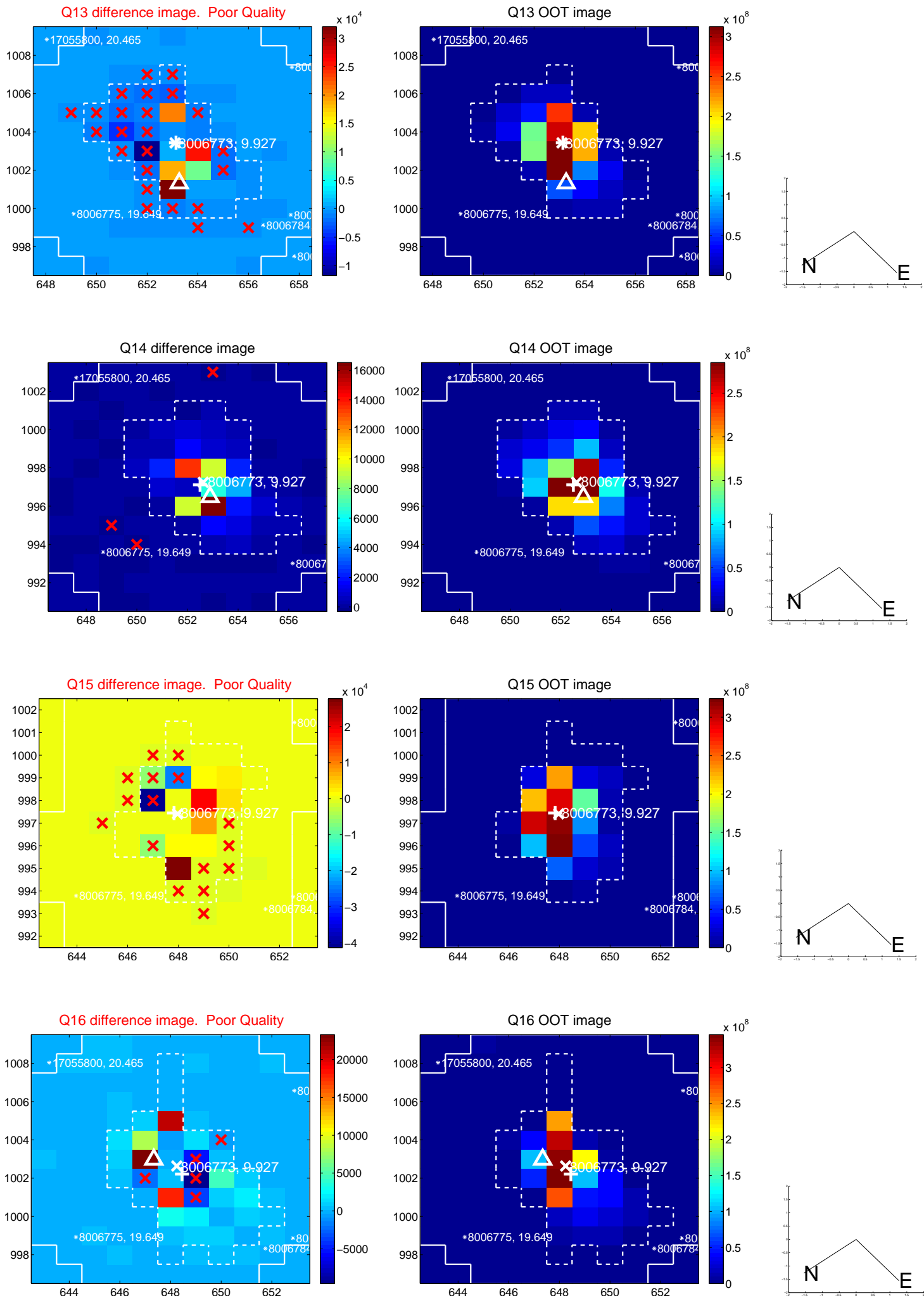




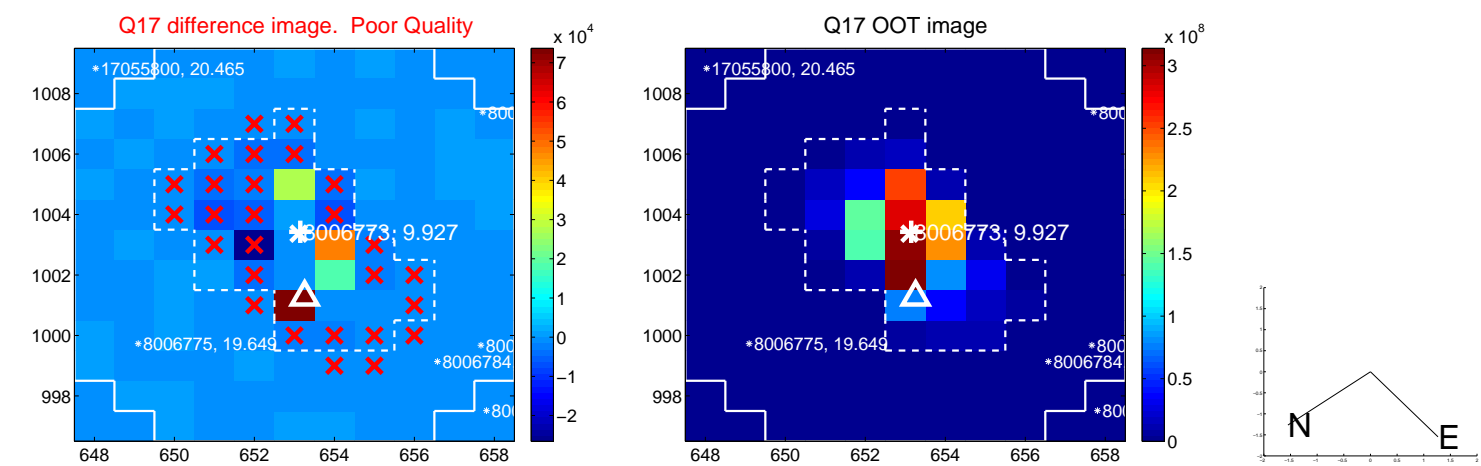
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



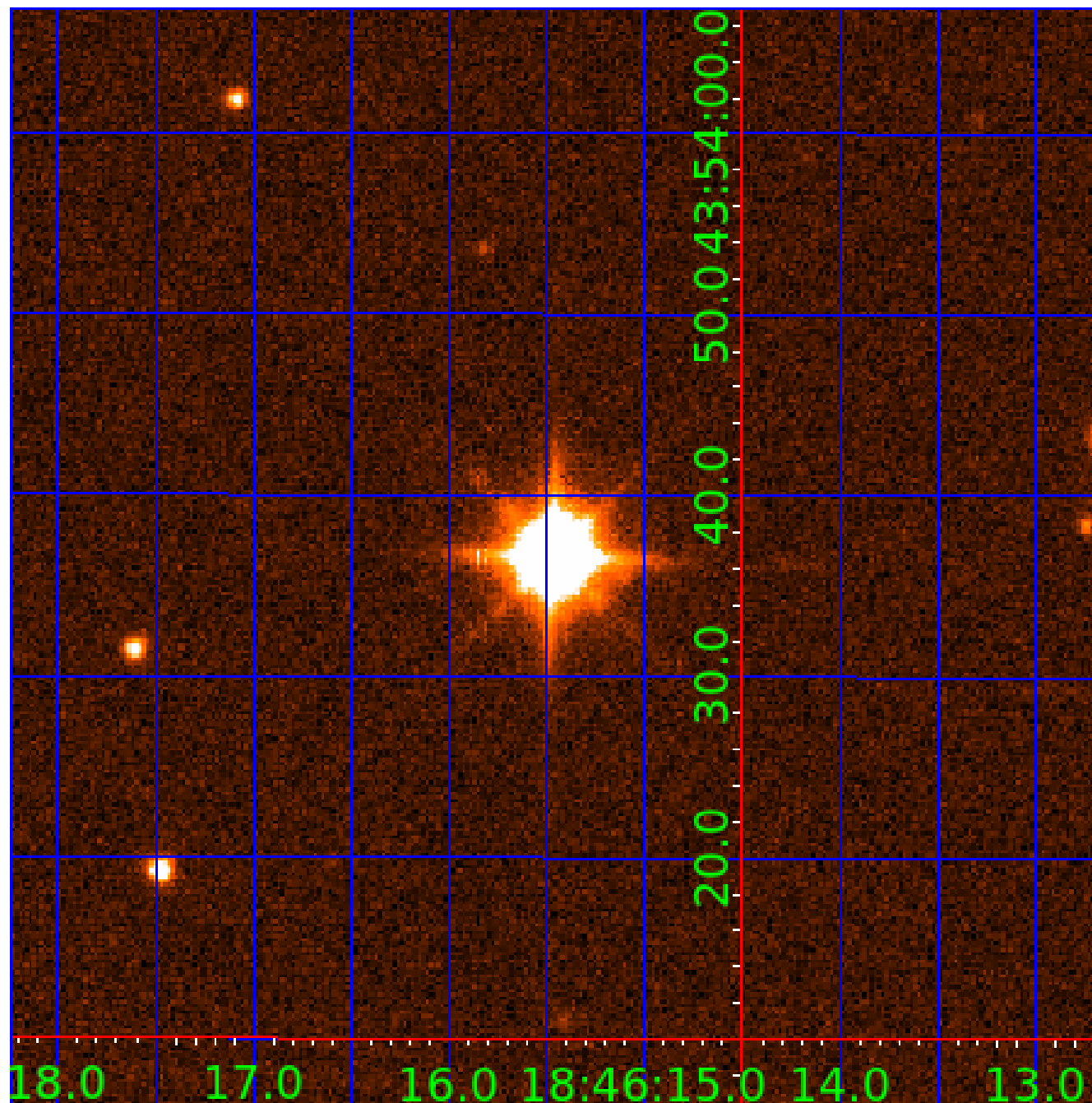
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination





# KIC 008006773

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008006773-01	OBS	No	1.805323	132.717443	3.1	13.167	8.8	6.6	3.12	8818	0.56	34668.92
008006773-02	OBS	No	33.228664	136.854120	55.4	3.229	13.7	12.7	3.12	8818	2.64	713.39
008006773-03	OBS	No	40.901634	163.233616	46.7	2.402	9.6	8.5	3.12	8818	2.58	540.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008006773-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
008006773-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008006773-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

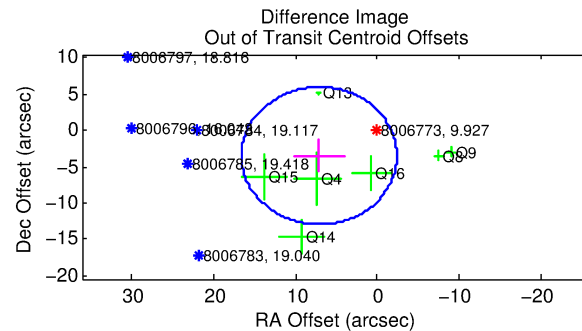
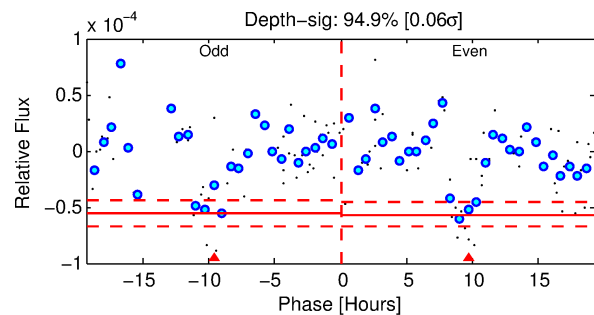
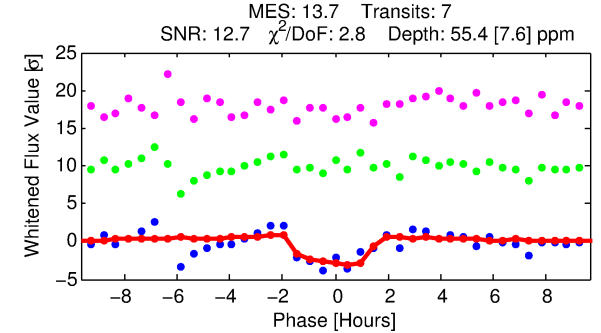
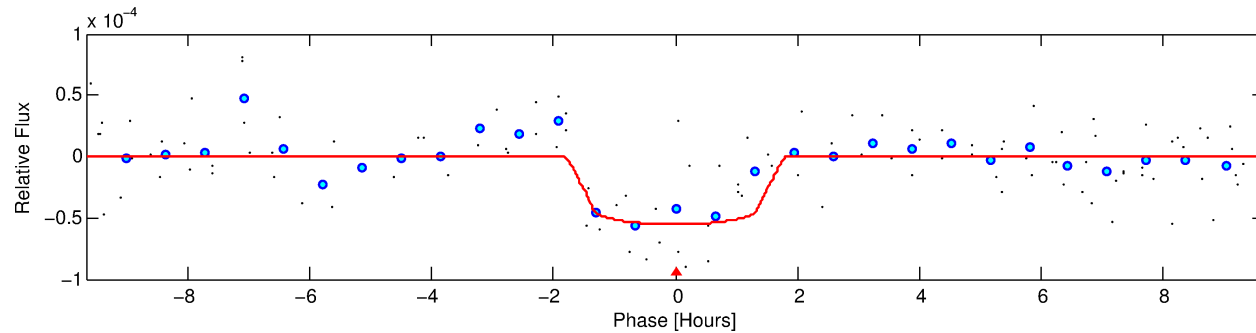
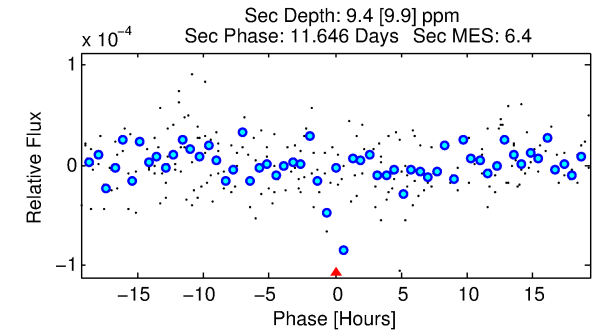
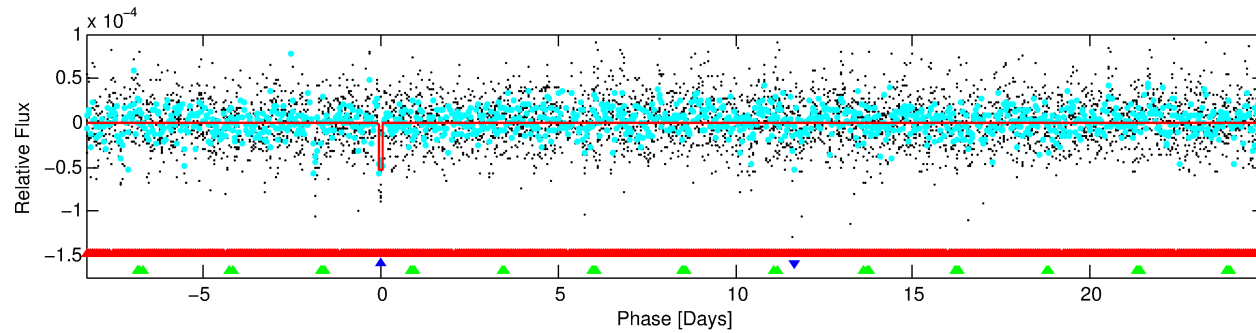
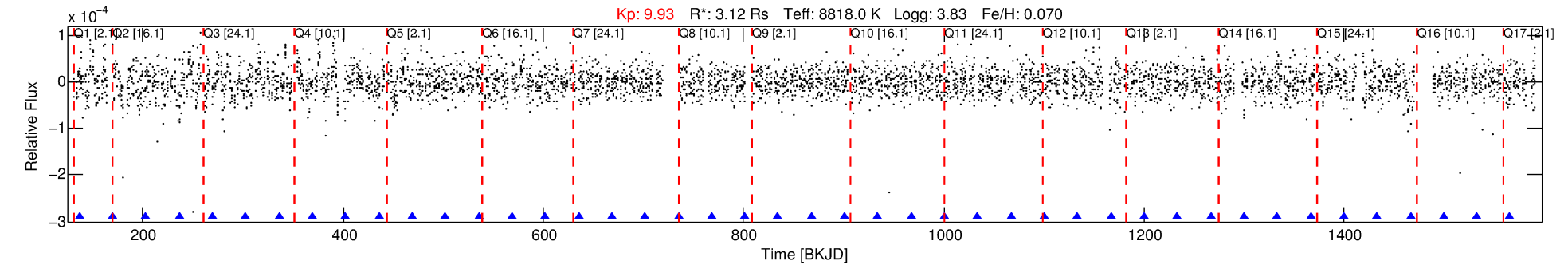
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008006773-02

No Significant Match Found

# DV One-Page Summary

KIC: 8006773 Candidate: 2 of 3 Period: 33.229 d



## DV Fit Results:

Period = 33.22866 [0.00045] d  
Epoch = 136.8541 [0.0113] BKJD  
Rp/R\* = 0.0078 [0.0034]  
a/R\* = 38.97 [116.35]  
b = 0.88 [0.79]  
Seff = 713.39 [457.55]  
Teq = 1318 [211] K  
Rp = 2.64 [1.58] Re  
a = 0.2714 [0.1055] AU  
Ag = 54.59 [81.68] [0.66σ]  
Teff = 5538 [1907] K [2.20σ]

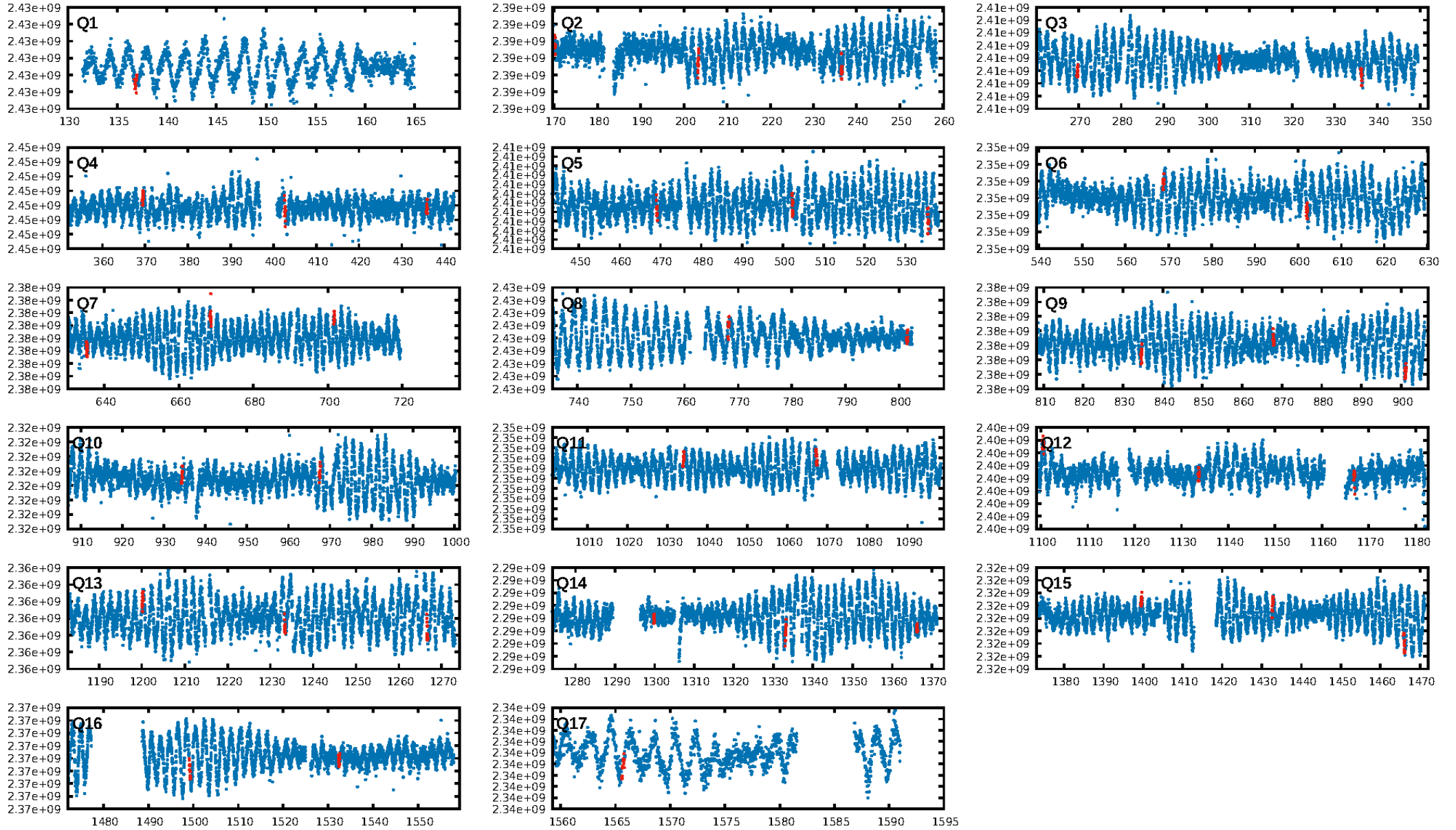
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [55.63σ]  
LongPeriod-sig: 100.0% [45.76σ]  
ModelChiSquare2-sig: 28.1%  
ModelChiSquareGof-sig: 27.6%  
Bootstrap-pfa: 2.77e-14  
RollingBand-fgt: 1.00 [7/7]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 9.2%  
Centroid-so: 1.808 arcsec [1.99σ]  
OotOffset-rm: 7.935 arcsec [2.51σ]  
KicOffset-rm: 8.026 arcsec [2.95σ]  
OotOffset-st: 1/1/3/2 [7]  
KicOffset-st: 1/1/3/2 [7]  
DiffImageQuality-fgm: 0.00 [0/7]  
DiffImageOverlap-fno: 0.76 [13/17]

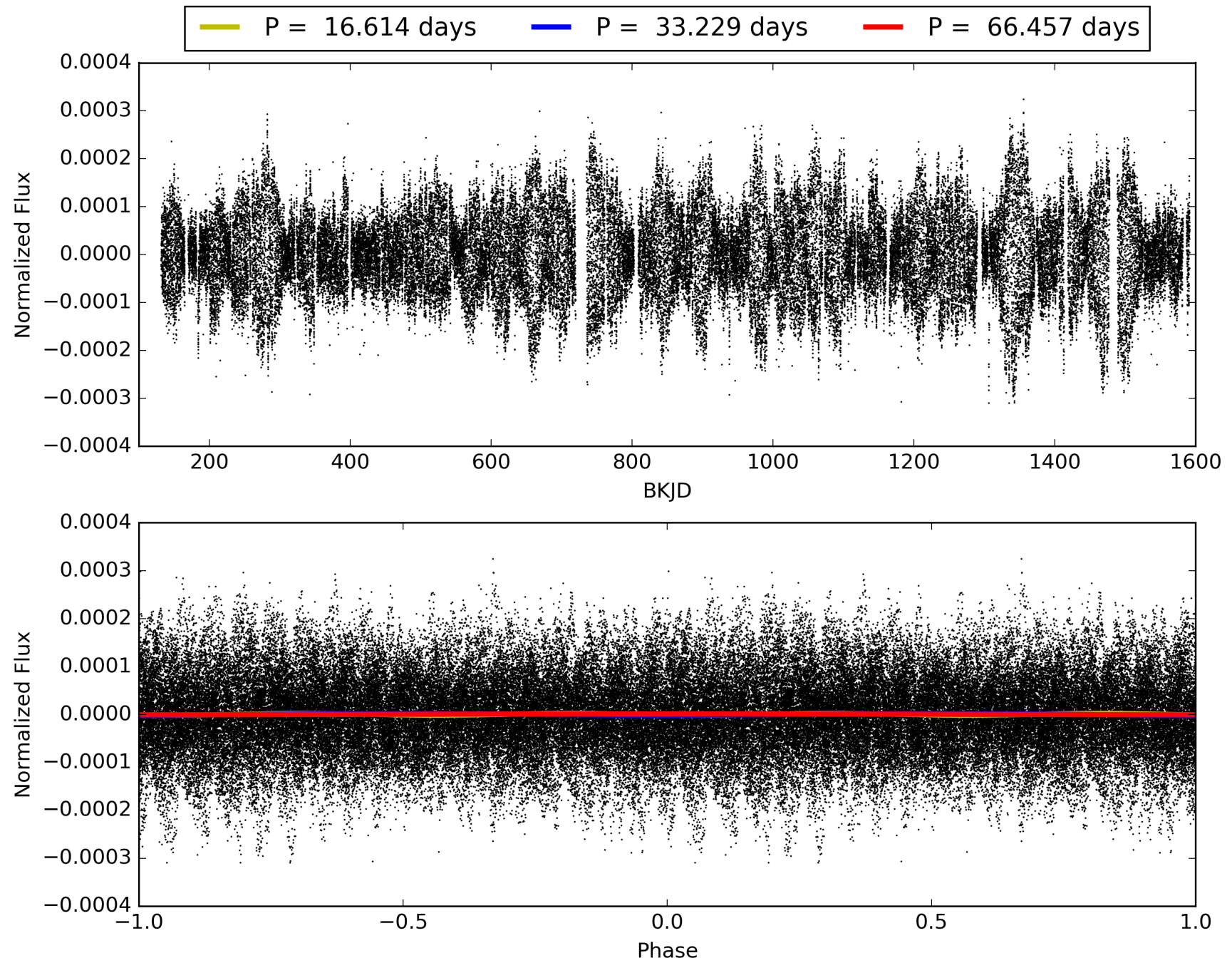
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:25:13 Z

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

# TCE 008006773-02, PDC Light Curves



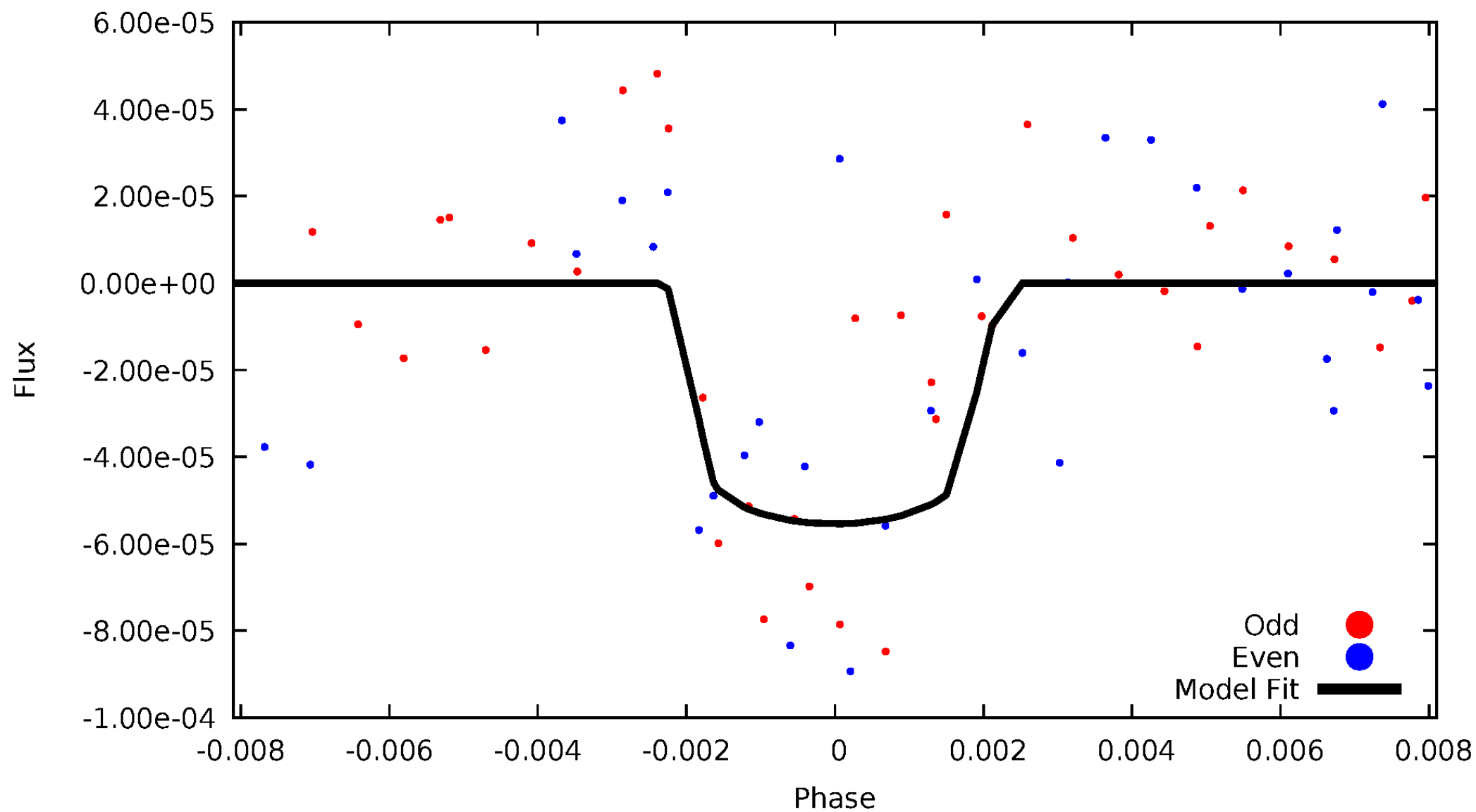
TCE 008006773-02





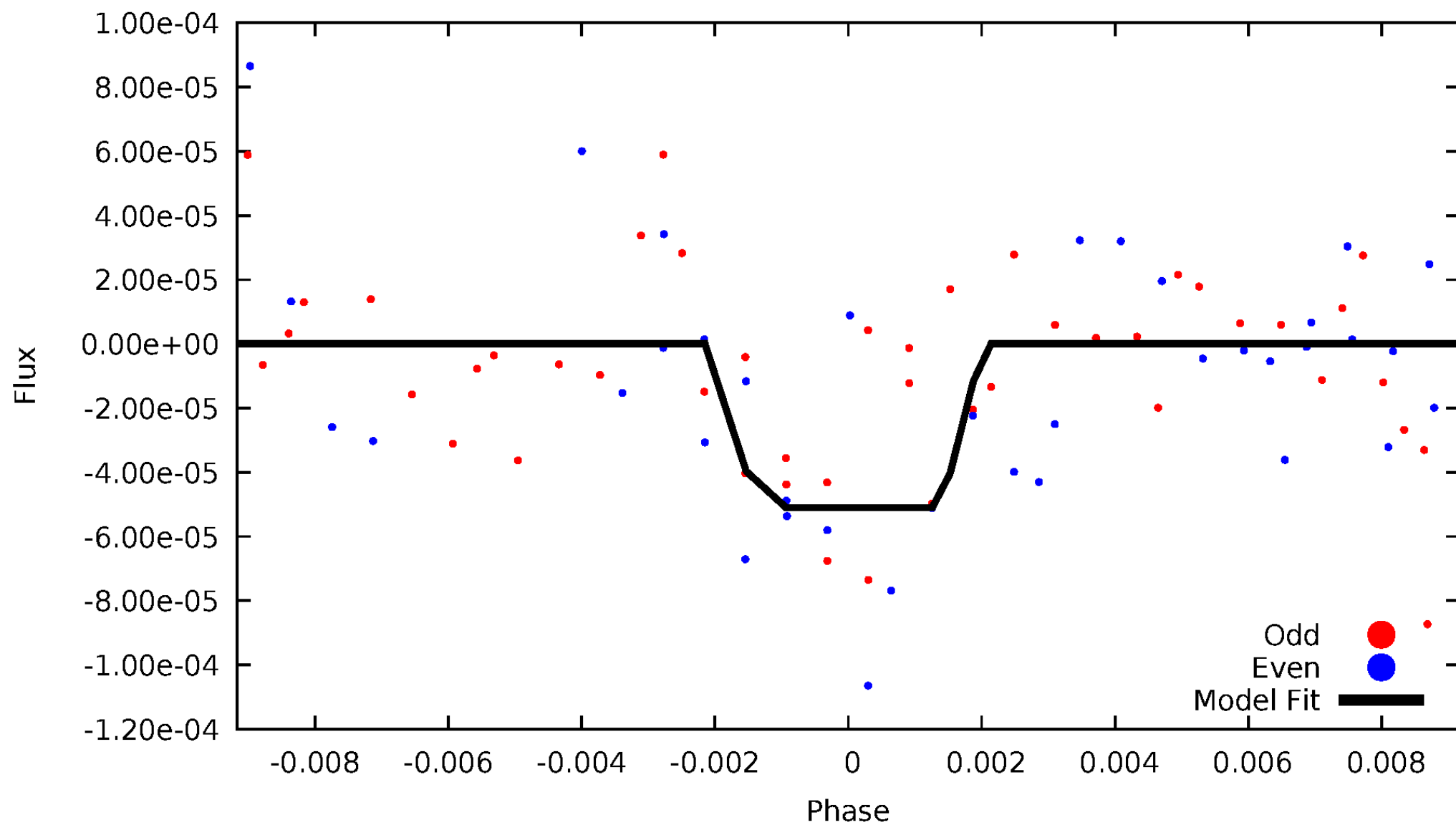
# DV Odd/Even

TCE 008006773-02



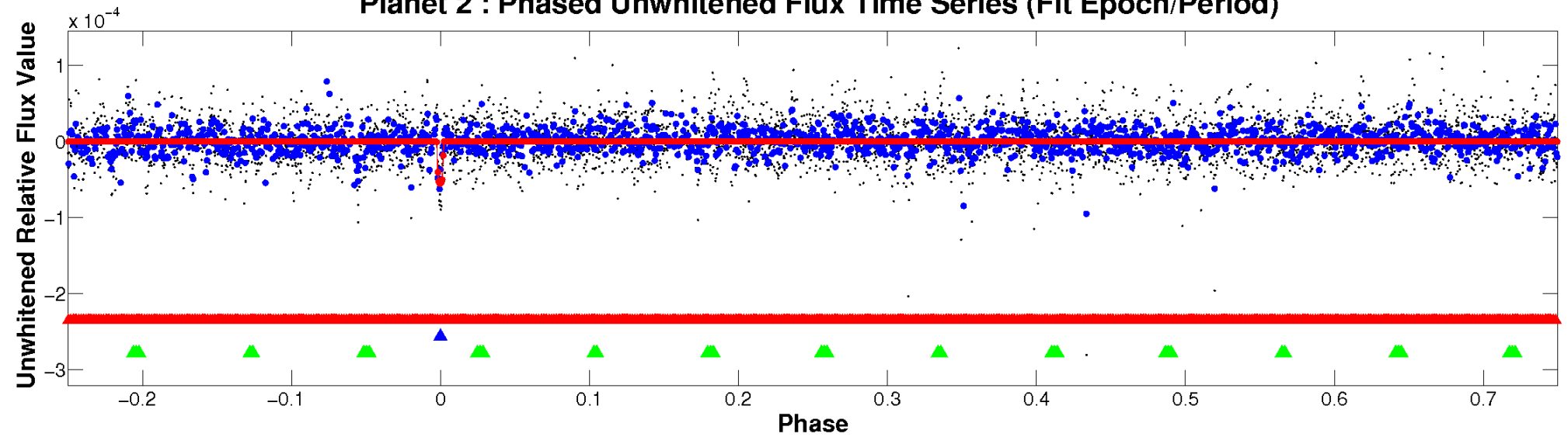
# ALT Odd/Even

TCE 008006773-02

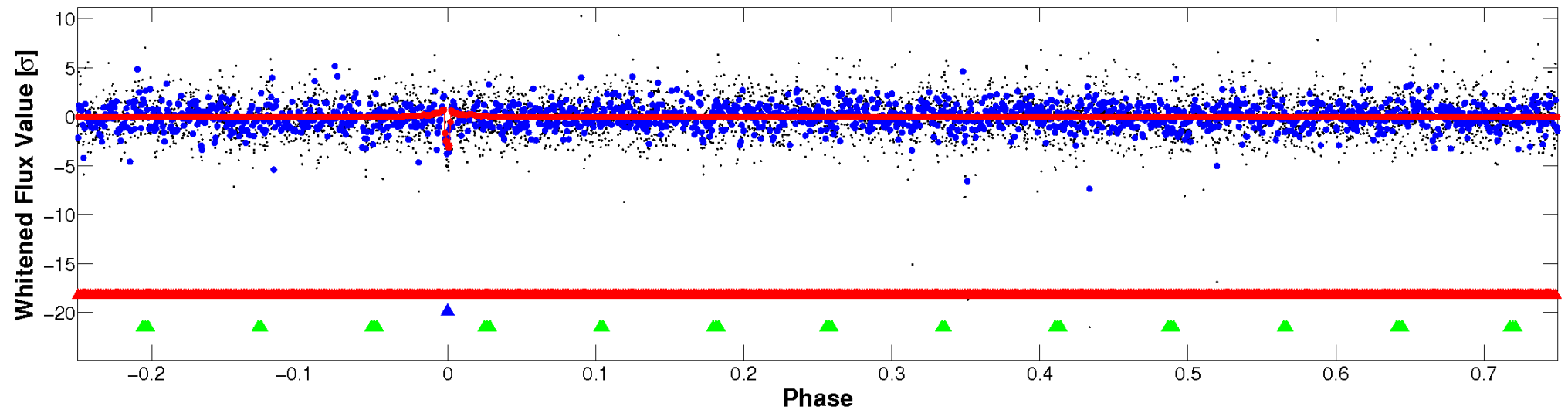


# Non-Whitened Vs. Whitened Light Curve

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

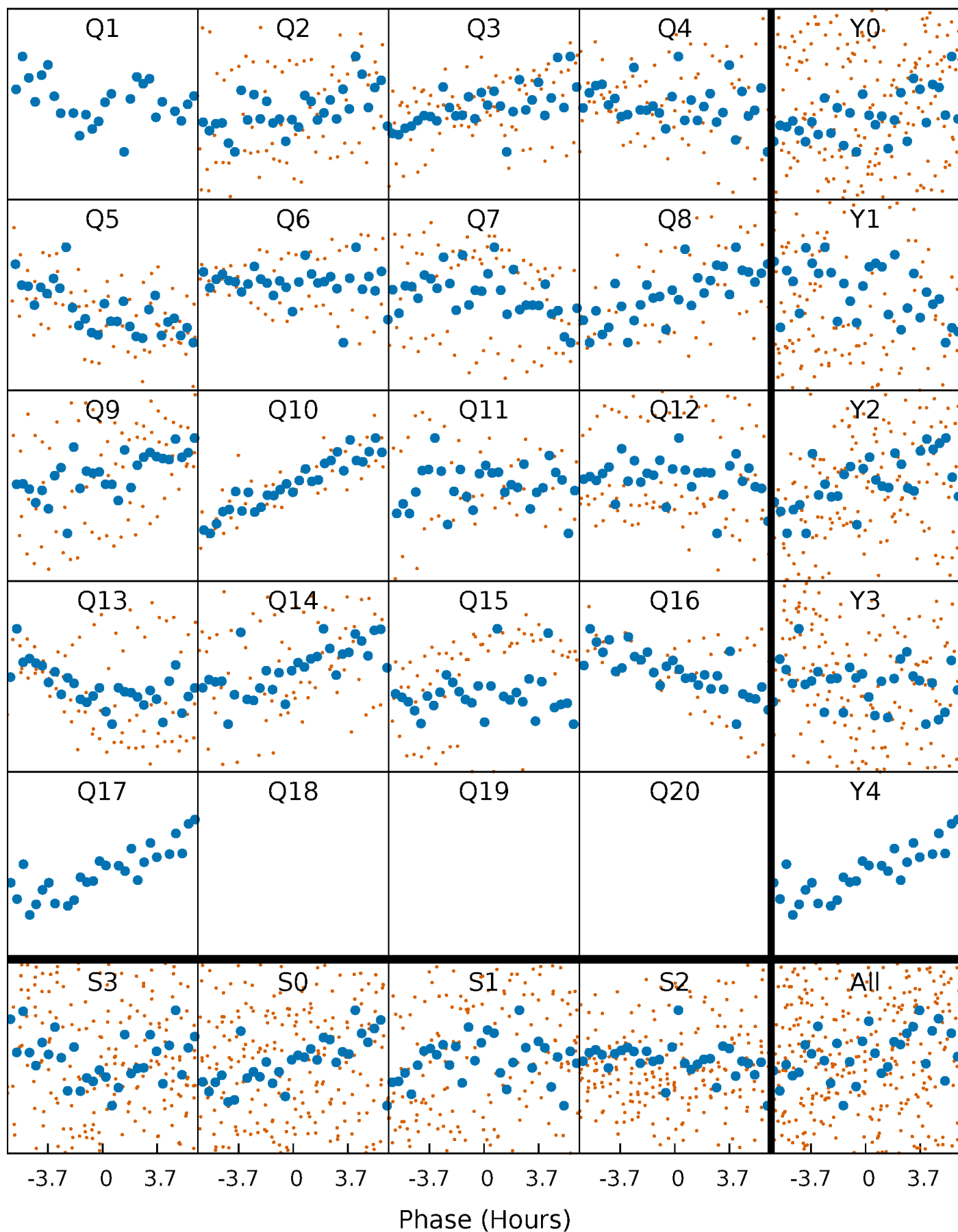


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



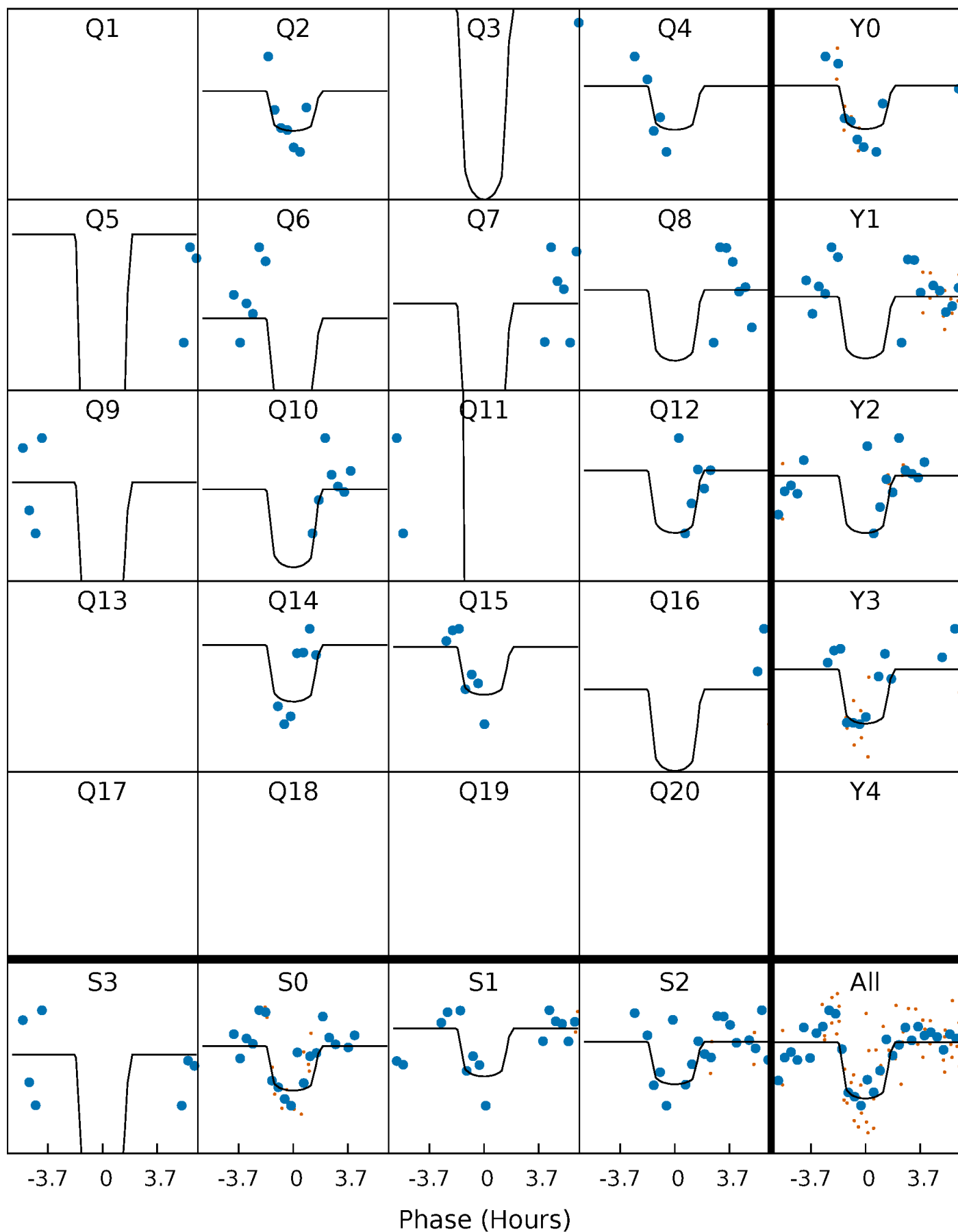
# PDC Quarter-Phased Transit Curves

TCE 008006773-02 P= 33.228664 Days  $T_0=136.854120$  (BKJD)



# DV Quarter-Phased Transit Curves

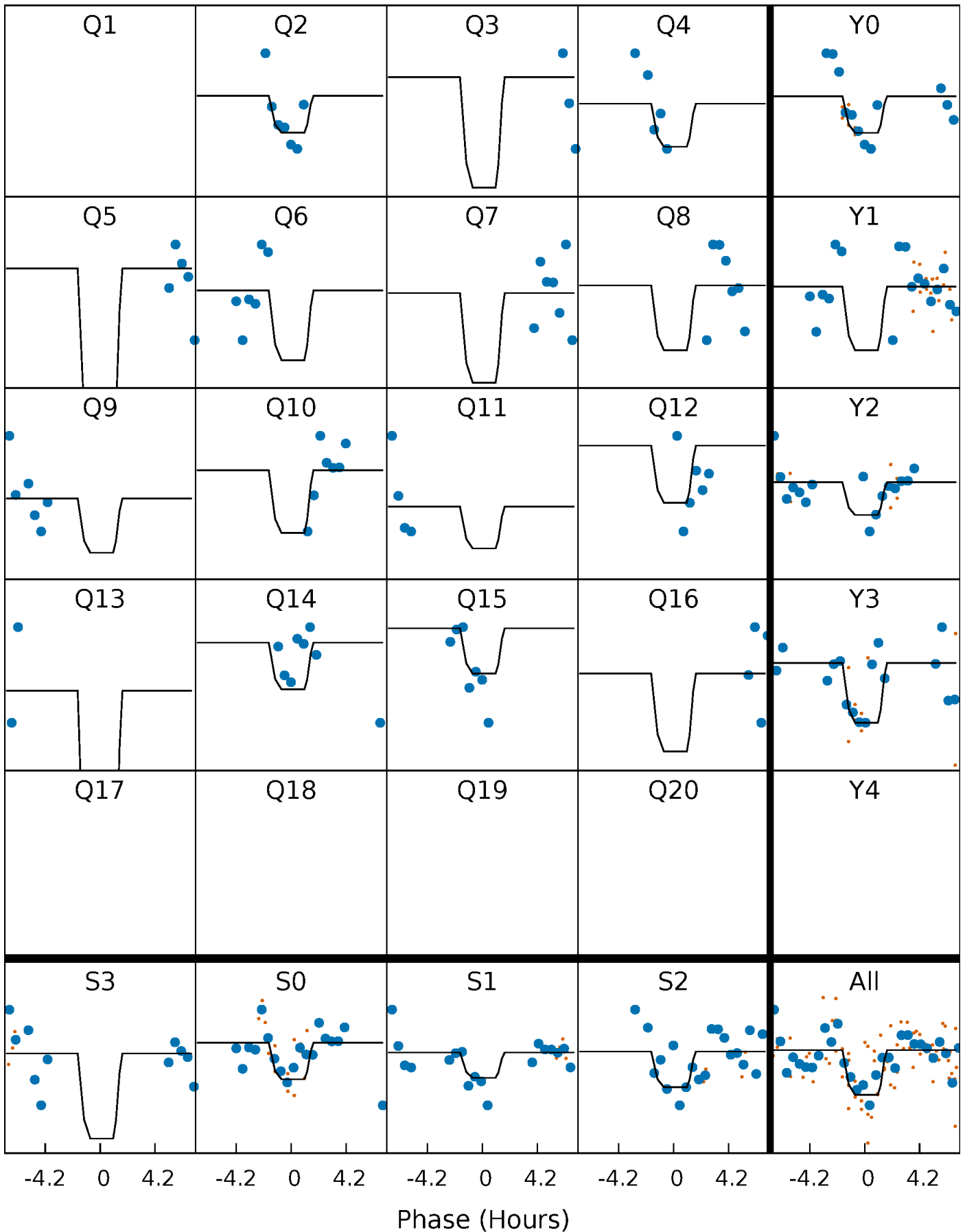
TCE 008006773-02 P= 33.228664 Days  $T_0=136.854120$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

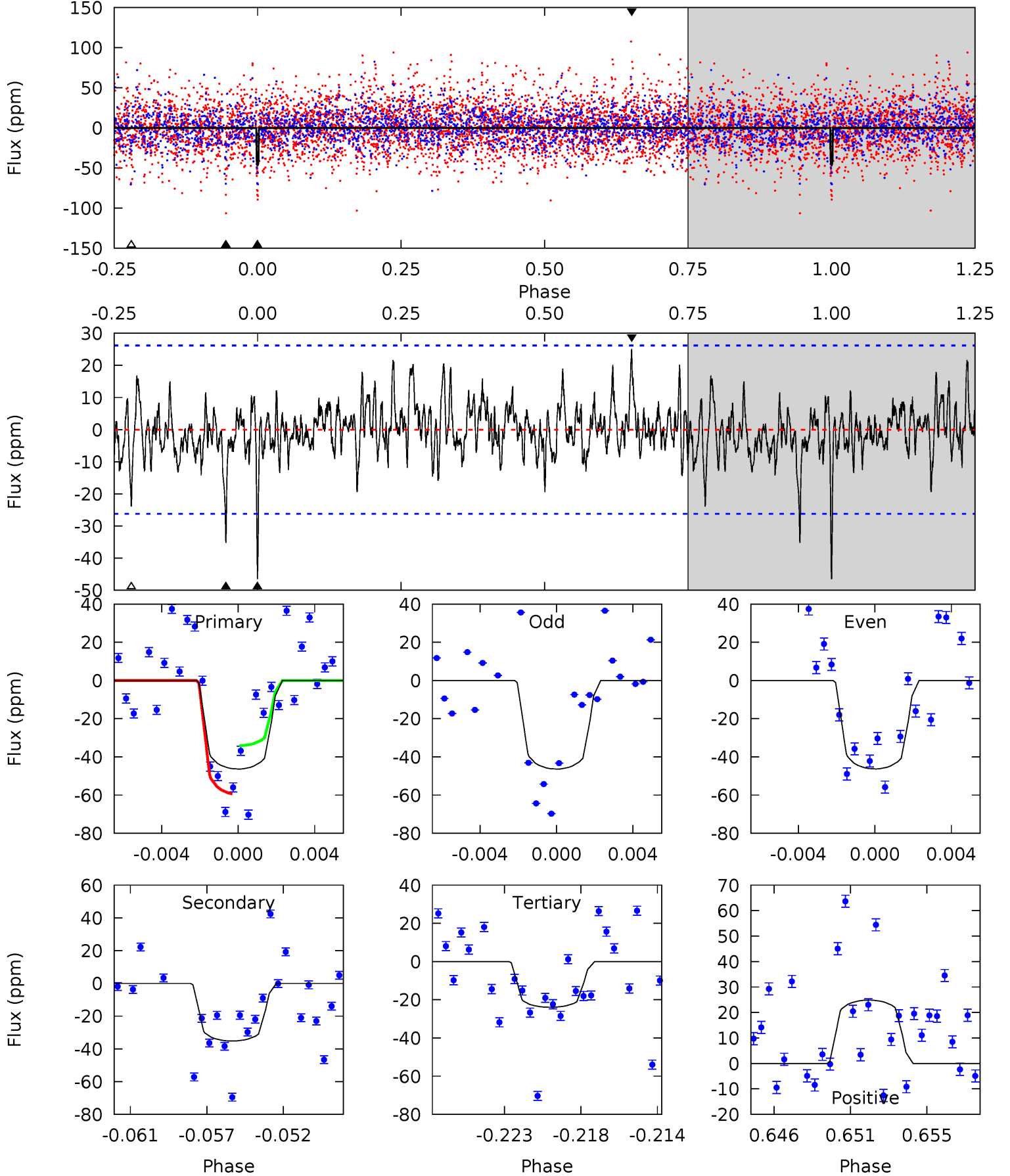
TCE 008006773-02 P= 33.228239 Days  $T_0=136.868167$  (BKJD)



# DV Model-Shift Uniqueness Test

008006773-02,  $P = 33.228664$  Days,  $E = 103.625456$  Days

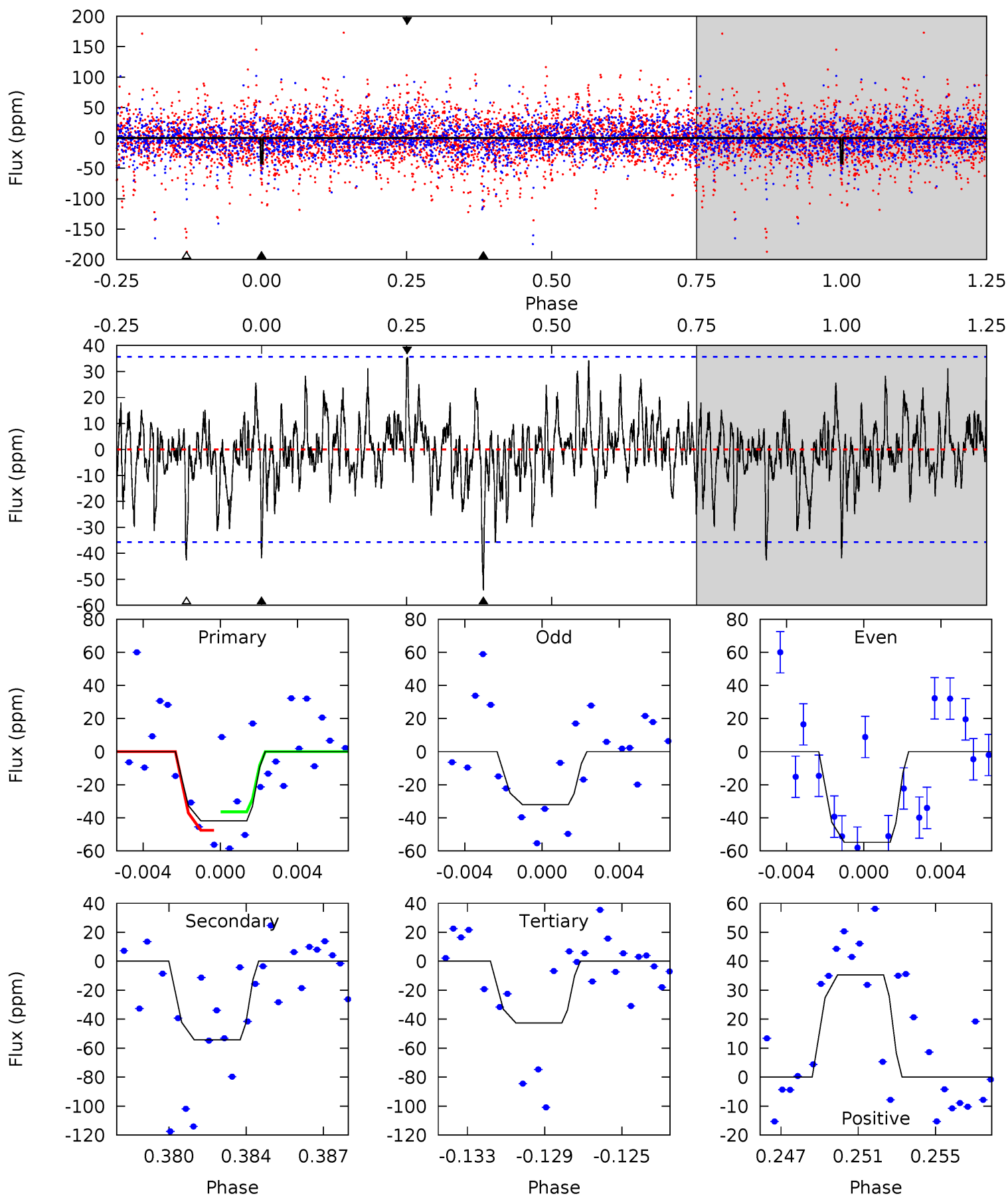
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.18	6.97	4.74	4.92	5.18	2.85	1.38	4.44	4.25	2.23	2.05	0.01	0.98	0.35	2.49



# Alt Model-Shift Uniqueness Test

008006773-02, P = 33.228239 Days, E = 103.639928 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
6.13	7.94	6.23	5.17	5.21	2.90	1.57	-0.11	0.96	1.70	2.77	1.44	0.99	0.39	0.83



### Stellar Parameters For KIC 008006773

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8818^{+240}_{-412}$	$3.834^{+0.357}_{-0.153}$	$0.070^{+0.150}_{-0.600}$	$3.115^{+0.937}_{-1.289}$	$2.412^{+0.326}_{-0.816}$	$0.112^{+0.345}_{-0.050}$
	+3%/-5%	+9%/-4%	+214%/-857%	+30%/-41%	+14%/-34%	+307%/-44%
Source	KIC0	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 008006773-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-35 \pm 5$	$2.51^{+1.19}_{-1.10}$	$1802^{+142}_{-204}$	$7332^{+3109}_{-1202}$	$223^{+461}_{-116}$
Alt.	$-54 \pm 7$	$2.09^{+1.31}_{-1.01}$	$1791^{+146}_{-196}$	$9260^{+6182}_{-2212}$	$471^{+1350}_{-279}$

$T_{max}$  = 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

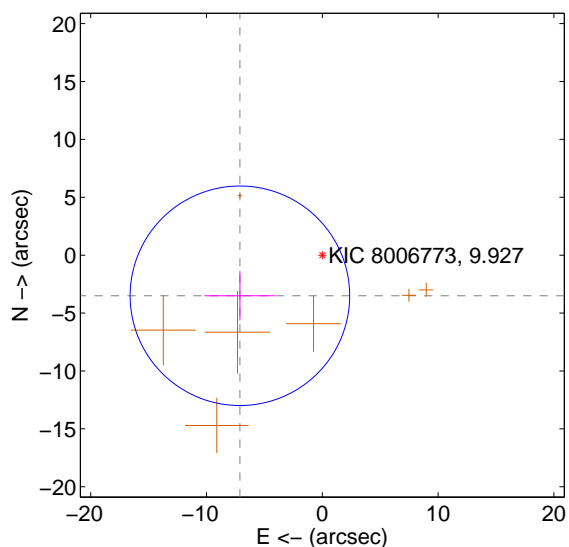
Supplemental centroid analysis for 008006773-02. **Kepler magnitude: 9.93.** Transit SNR 12.65

**There are 0 quarters with good PRF difference image offsets**

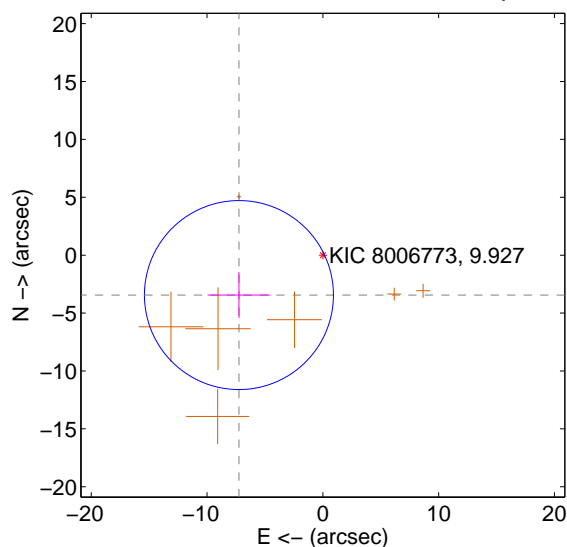
The direct PRF centroid is offset from the target star catalog position by about 1.73 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$7.935 \pm 3.160$	2.51	$7.118 \pm 3.060$	$-3.507 \pm 2.138$
PRF-fit source offset from KIC position	$8.026 \pm 2.721$	2.95	$7.249 \pm 2.710$	$-3.445 \pm 1.987$
photometric centroid source offset	$1.81 \pm 0.91$	1.99	$1.66 \pm 0.94$	$0.71 \pm 0.72$

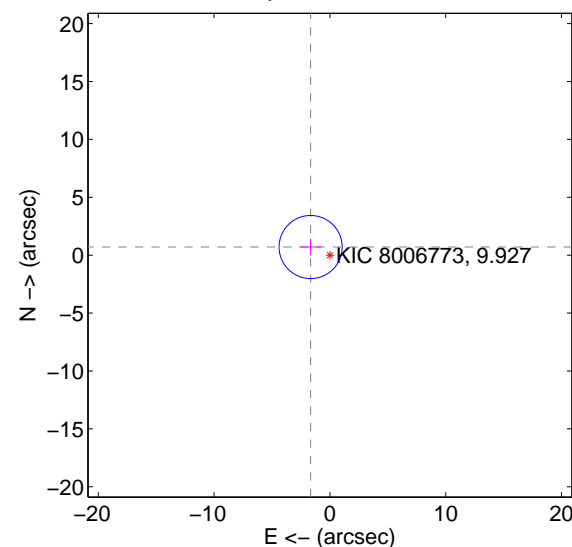
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



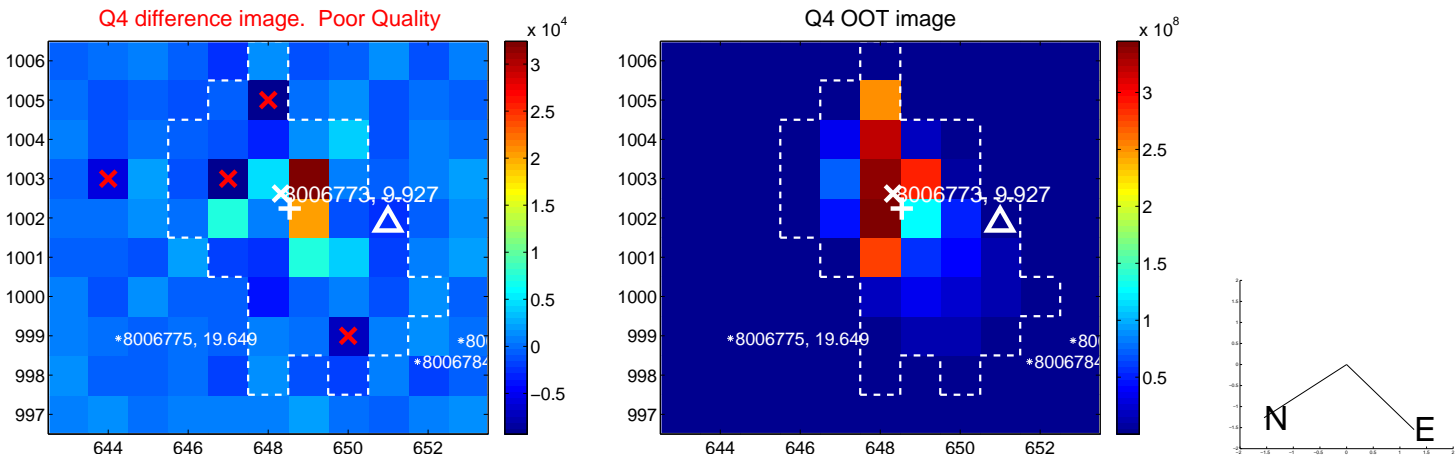
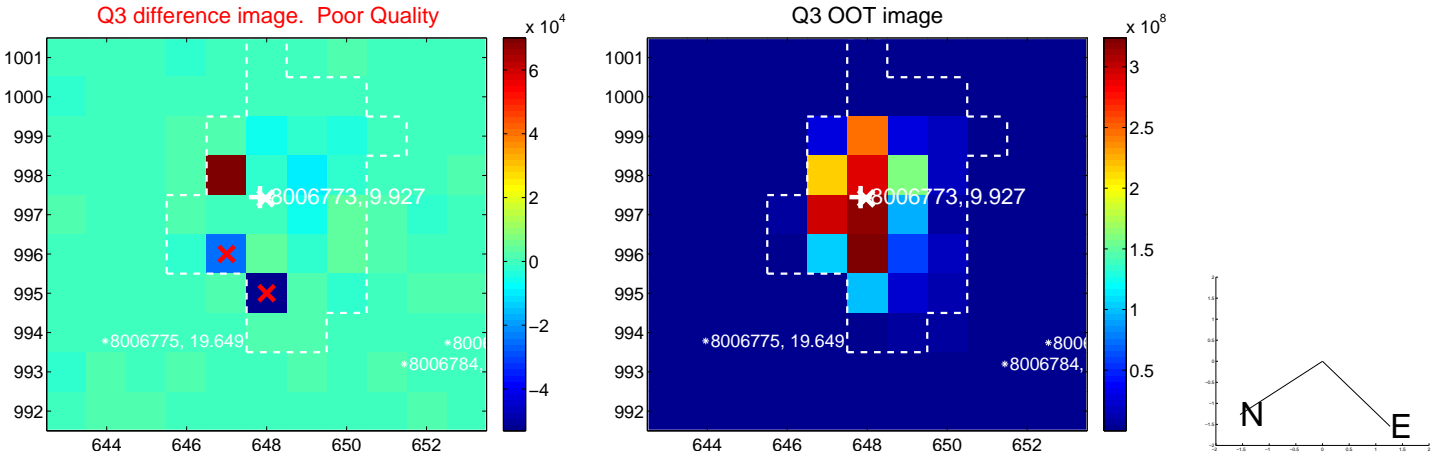
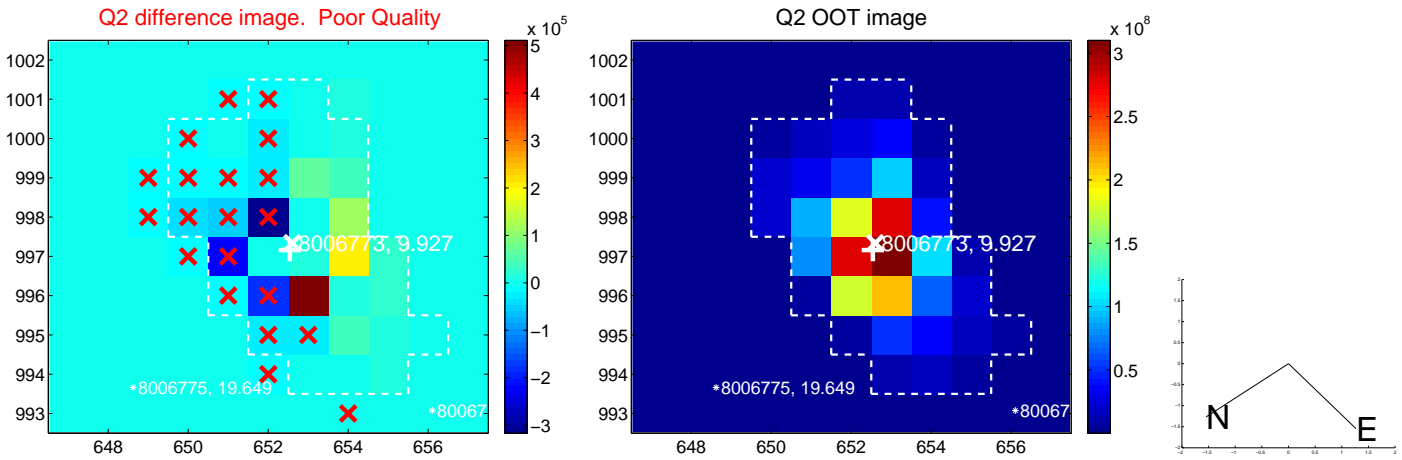
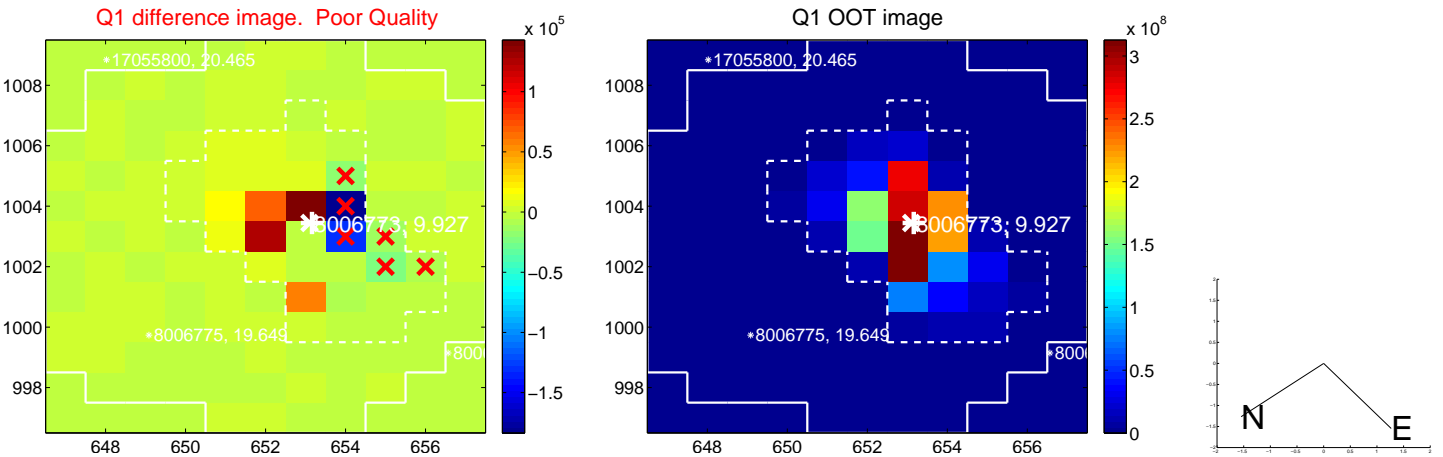
offset from photometric centroids



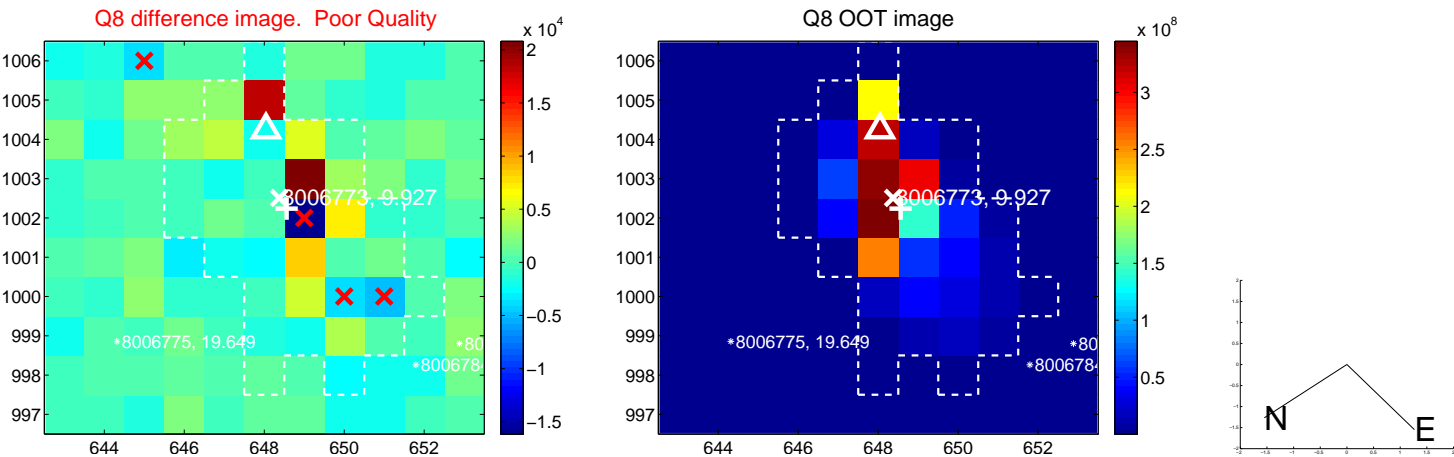
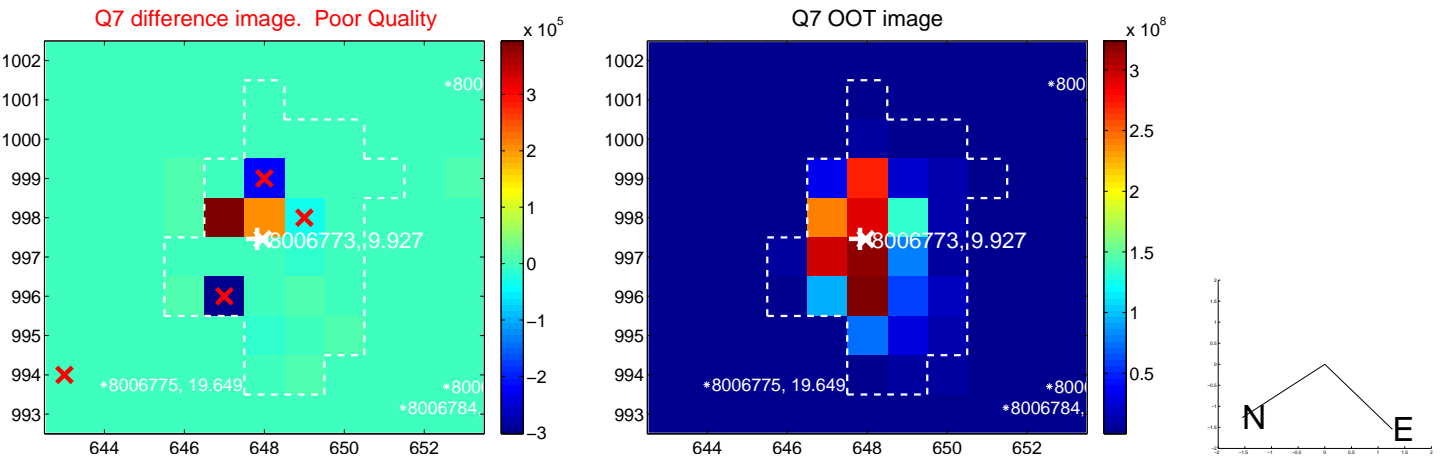
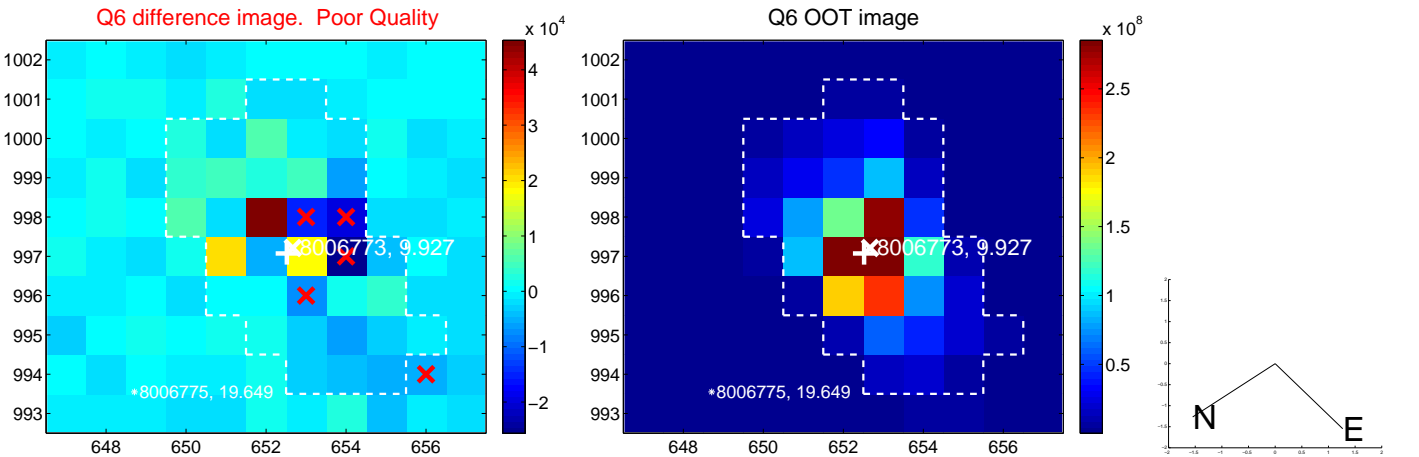
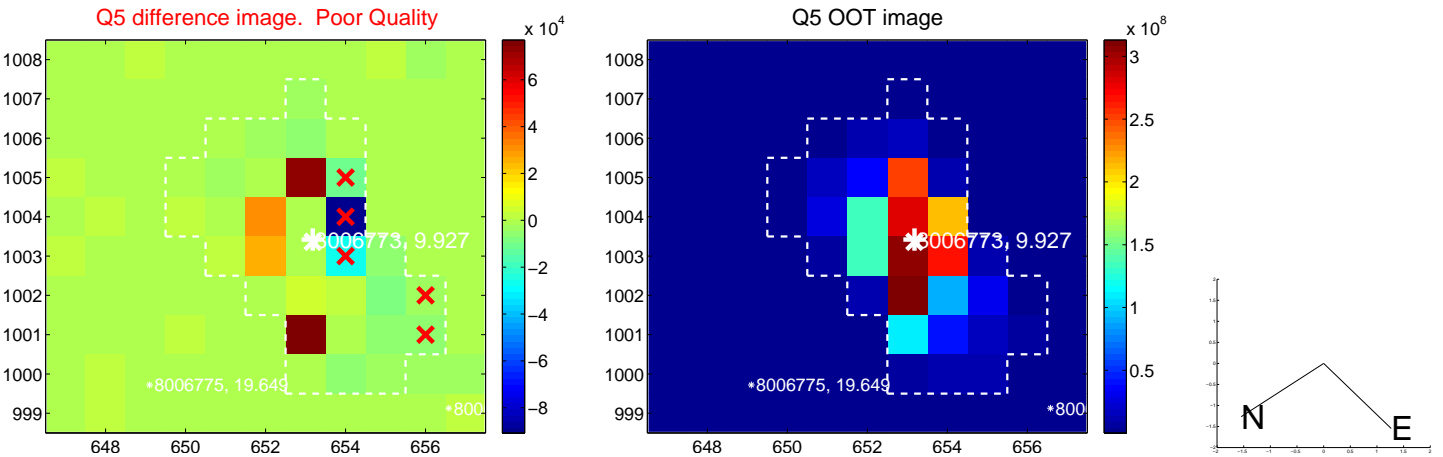
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



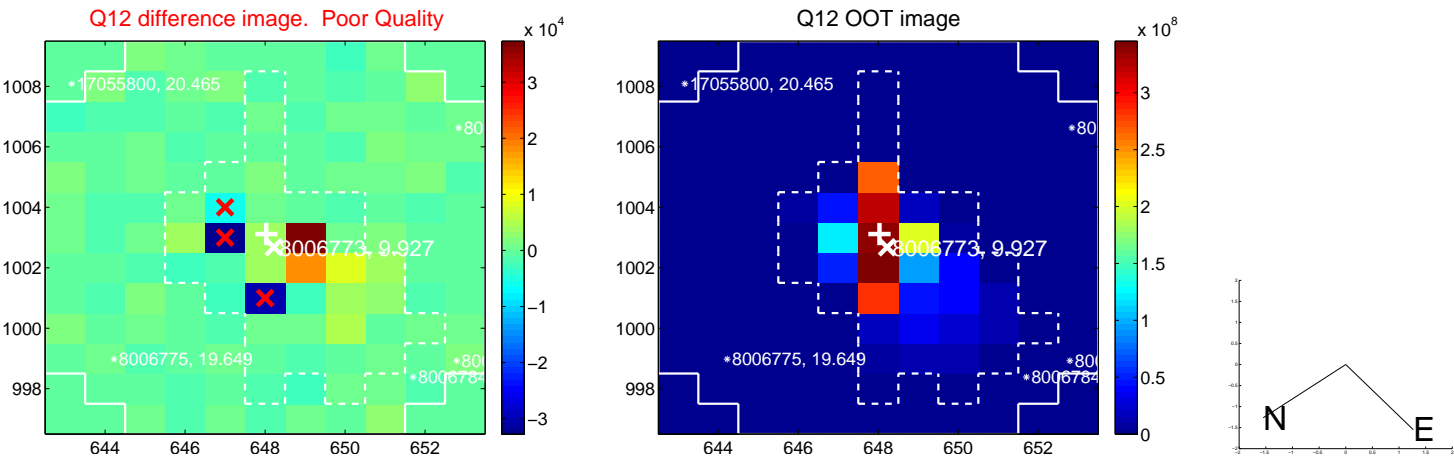
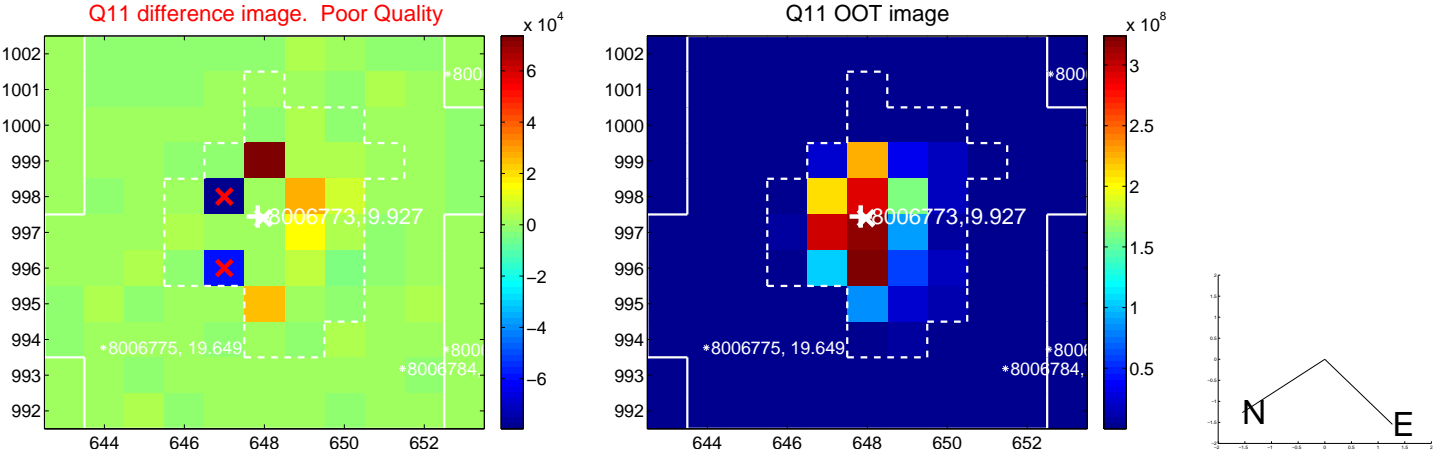
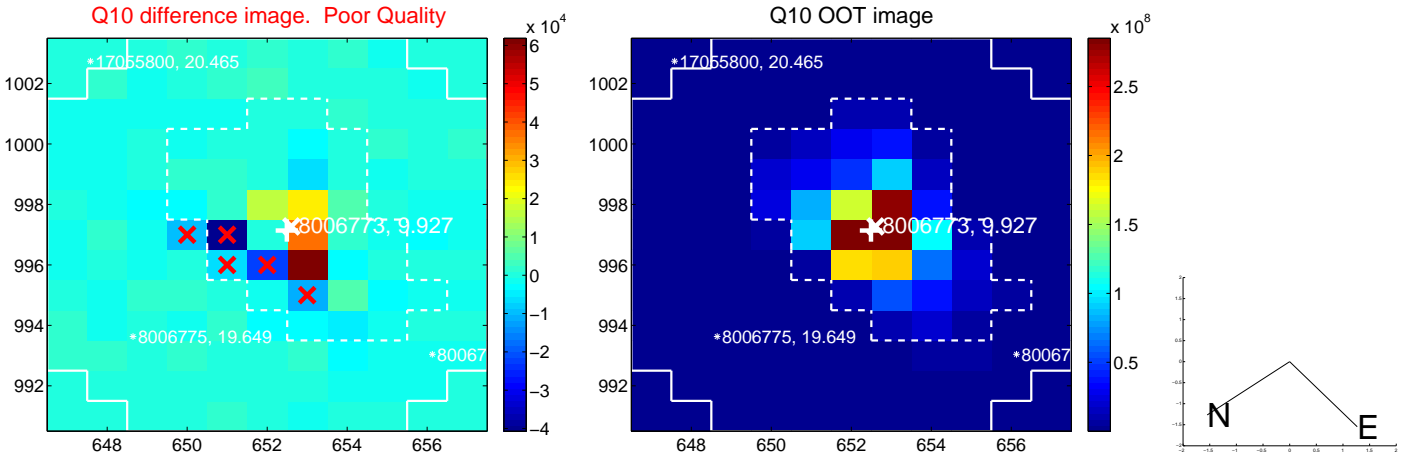
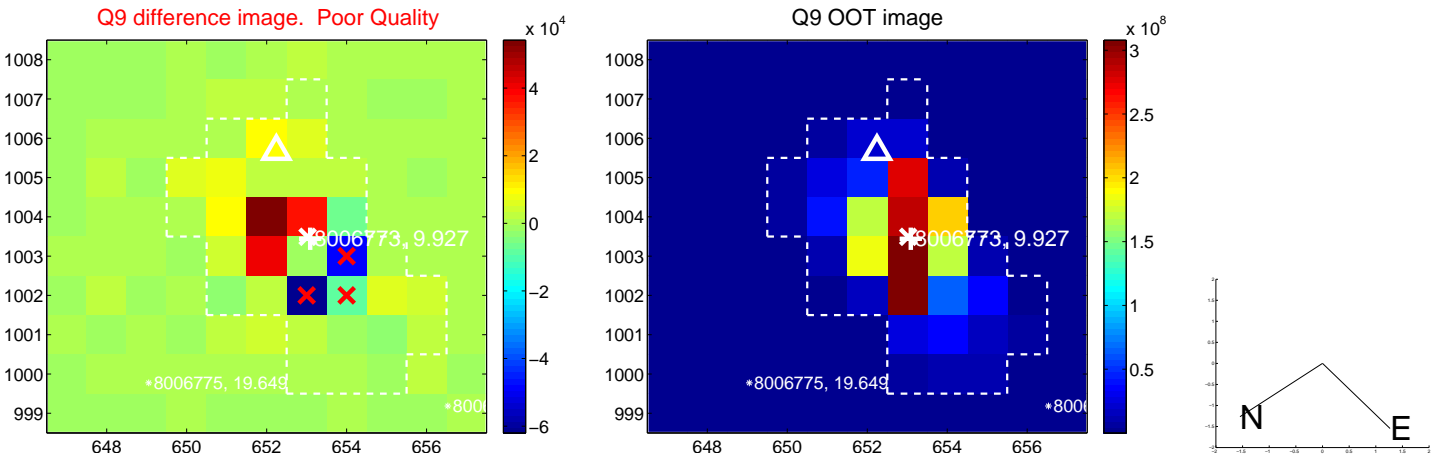
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



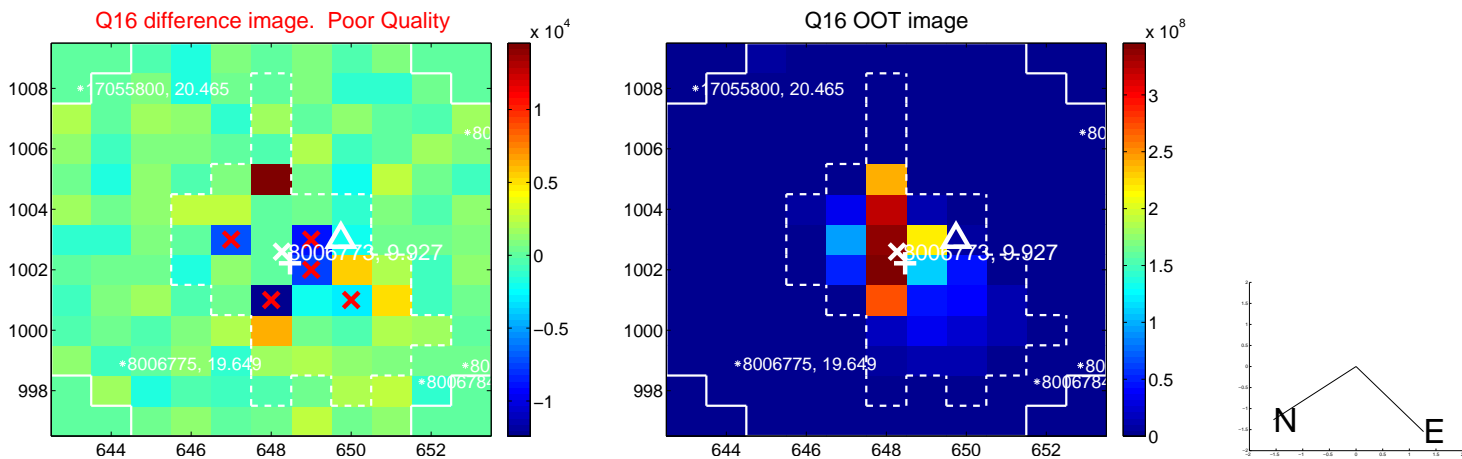
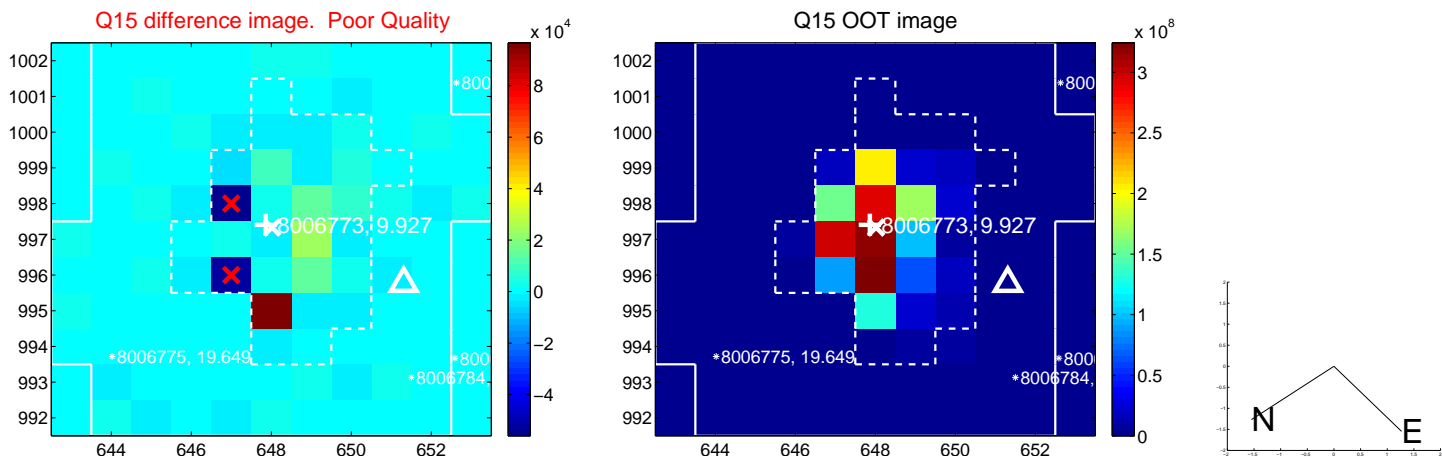
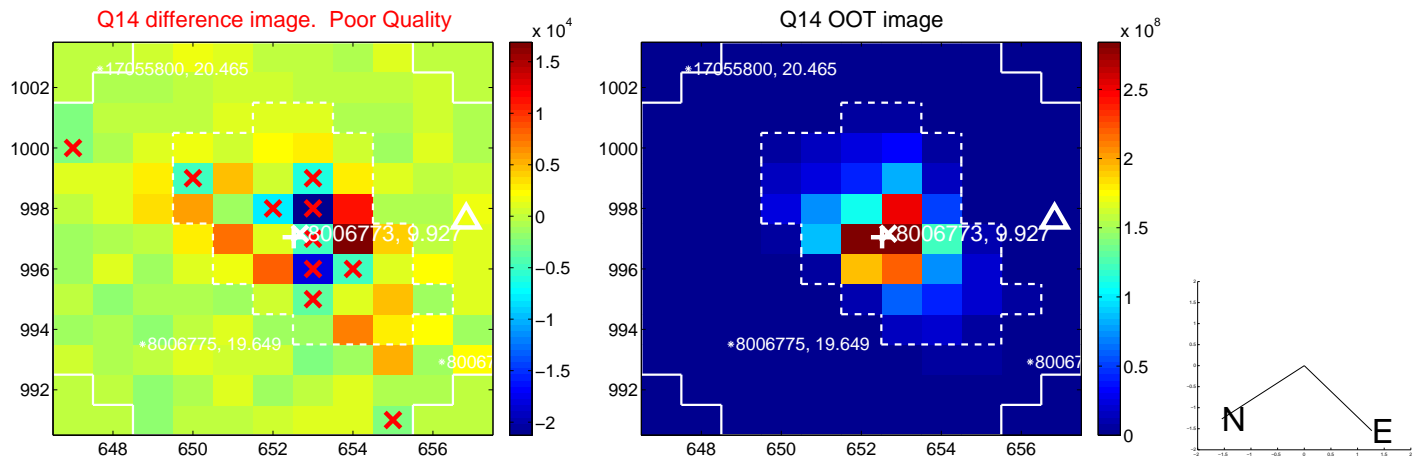
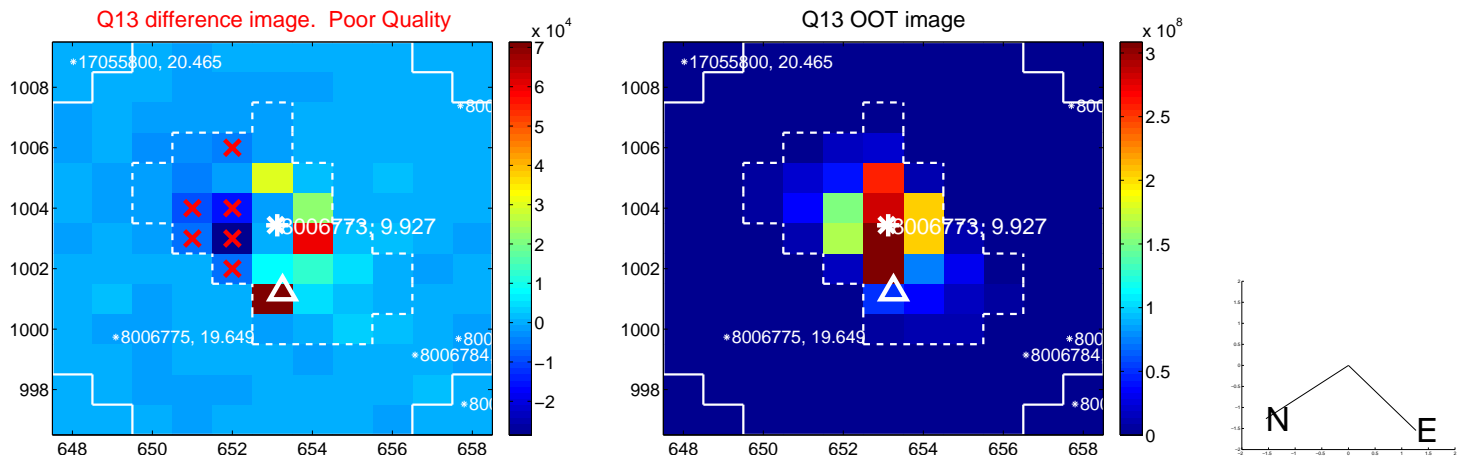
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



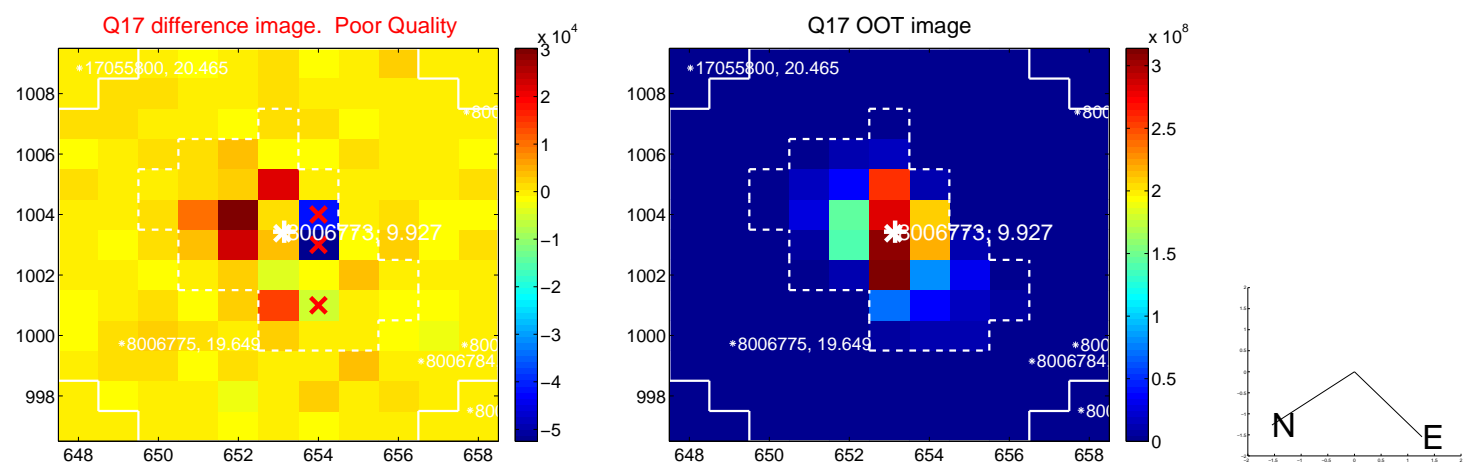
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



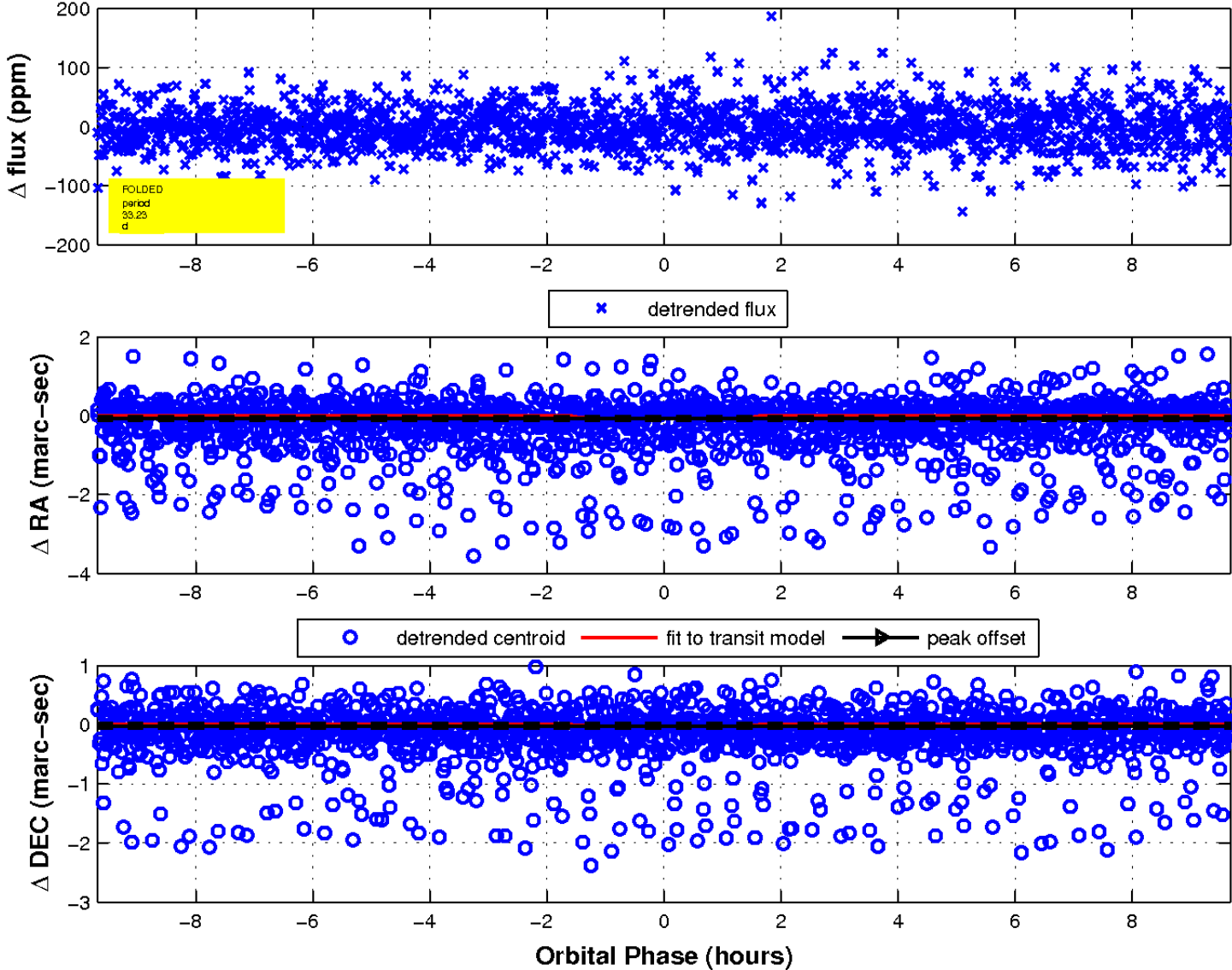
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



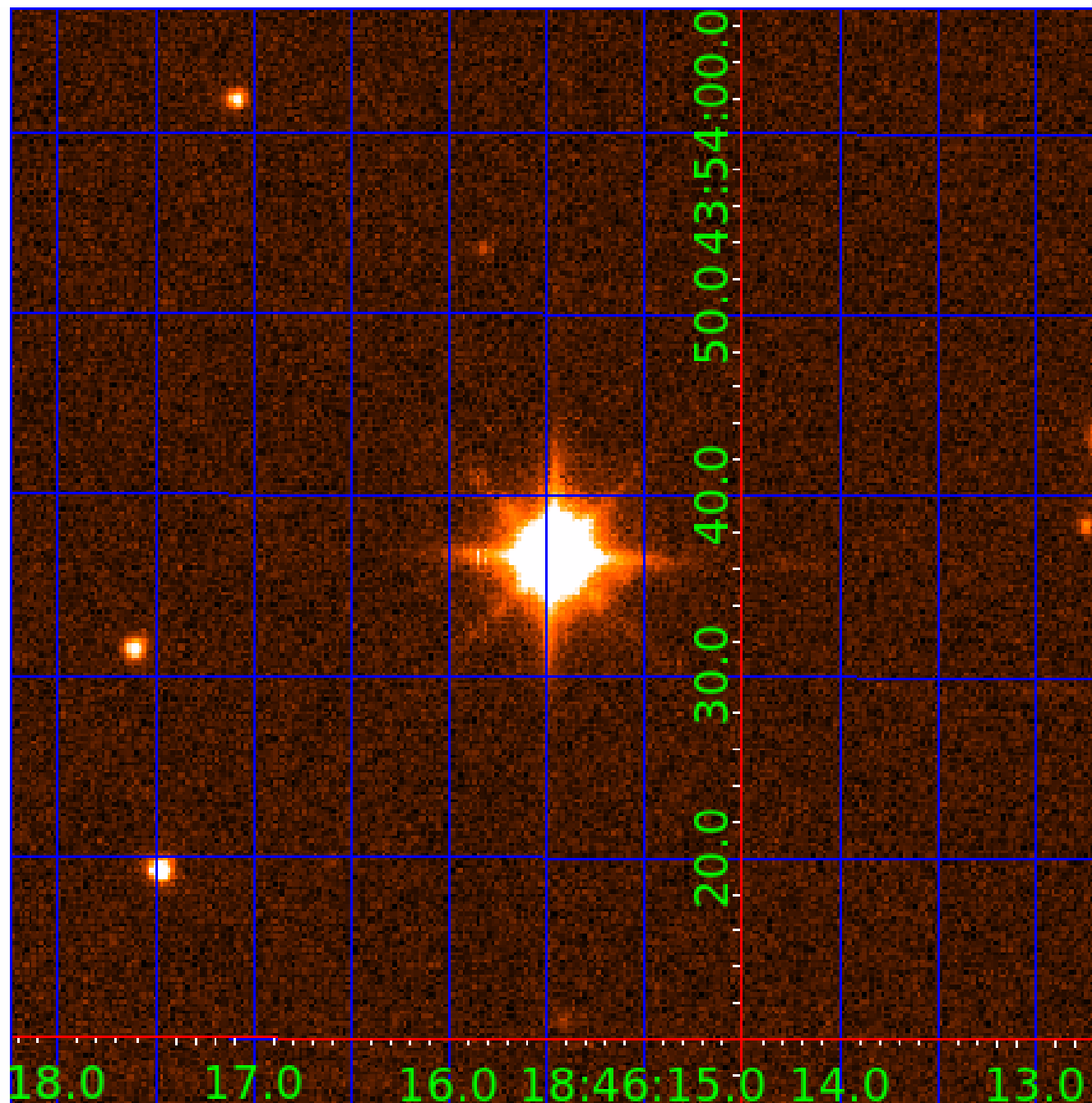
fluxWeightedCentroids, Planet 2 of 3





UKIRT Image

Declination



# KIC 008006773

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008006773-01	OBS	No	1.805323	132.717443	3.1	13.167	8.8	6.6	3.12	8818	0.56	34668.92
008006773-02	OBS	No	33.228664	136.854120	55.4	3.229	13.7	12.7	3.12	8818	2.64	713.39
008006773-03	OBS	No	40.901634	163.233616	46.7	2.402	9.6	8.5	3.12	8818	2.58	540.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008006773-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
008006773-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008006773-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

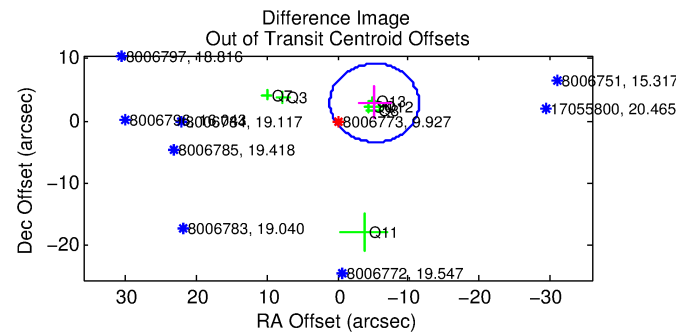
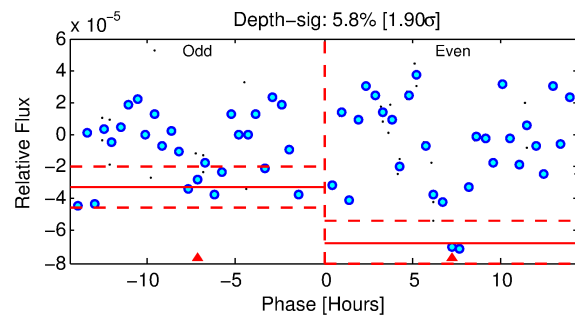
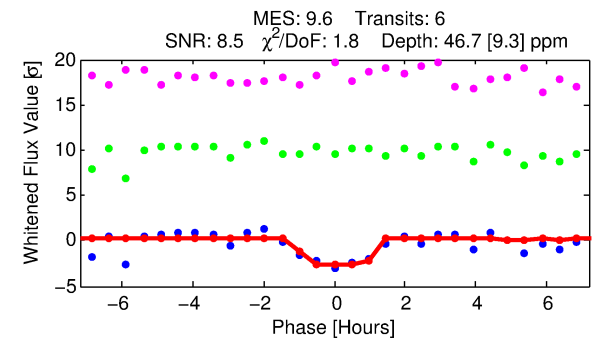
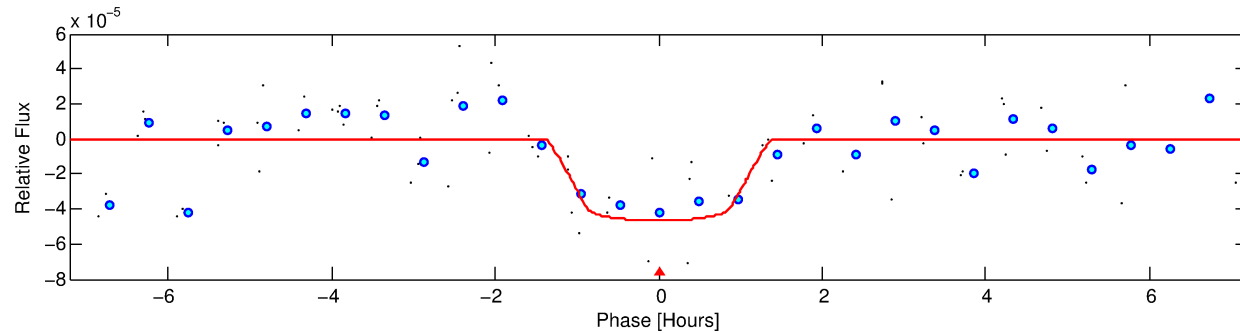
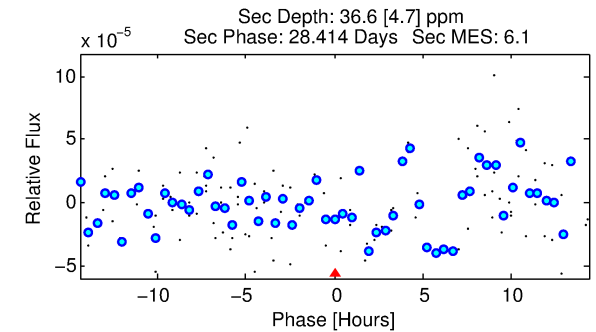
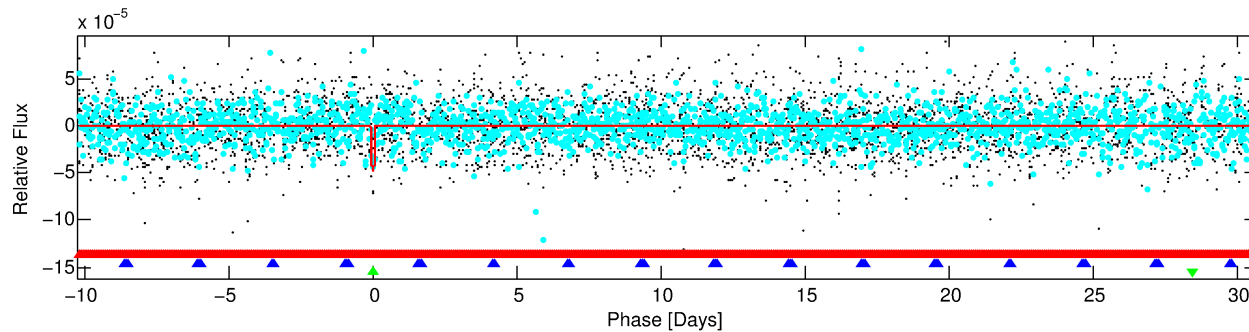
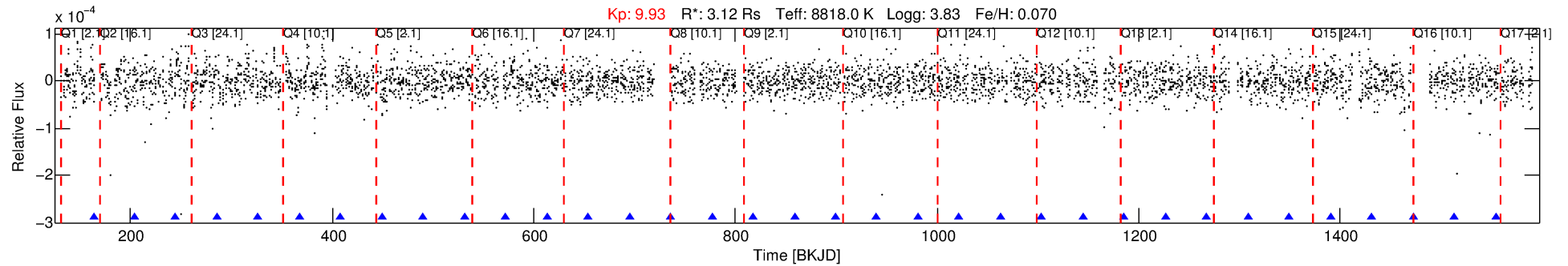
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 008006773-03

No Significant Match Found

# DV One-Page Summary

KIC: 8006773 Candidate: 3 of 3 Period: 40.902 d



## DV Fit Results:

Period = 40.90163 [0.00050] d  
Epoch = 163.2336 [0.0066] BKJD  
Rp/R\* = 0.0076 [0.0037]  
a/R\* = 43.63 [152.21]  
b = 0.95 [0.36]  
Seff = 540.79 [346.84]  
Teff = 1230 [197] K  
Rp = 2.58 [1.65] Re  
a = 0.3118 [0.1212] AU  
Ag = 295.35 [342.04] [0.86σ]  
Teffp = 7881 [1970] K [3.36σ]

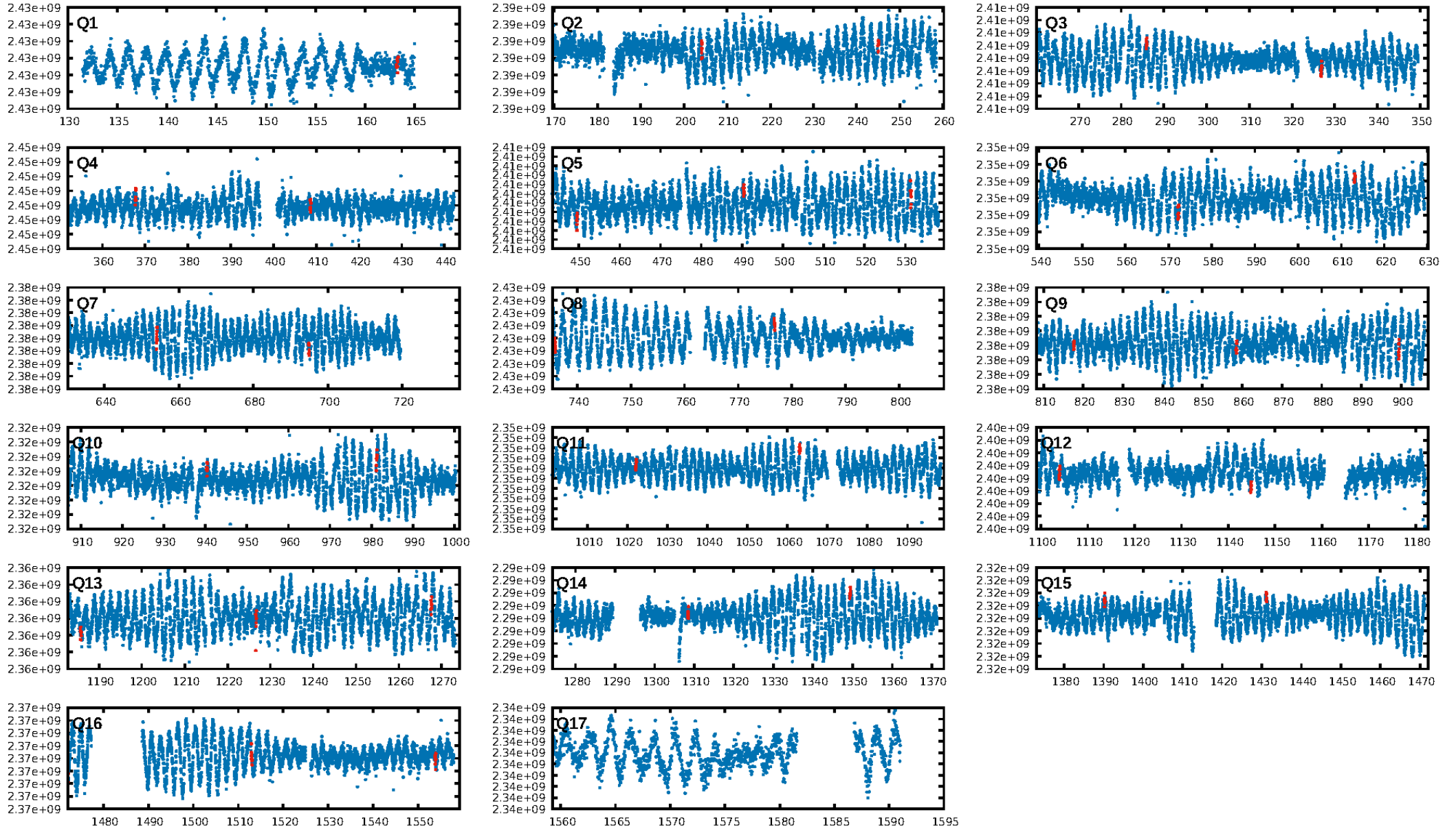
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [45.76σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 9.4%  
ModelChiSquareGof-sig: 98.7%  
**Bootstrap-pfa: 7.53e-08**  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 21.7%  
Centroid-so: 1.365 arcsec [1.00σ]  
OotOffset-rm: 5.941 arcsec [2.83σ]  
KicOffset-rm: 3.445 arcsec [1.78σ]  
OotOffset-st: 0/3/3/1 [7]  
KicOffset-st: 0/3/3/1 [7]  
DiffImageQuality-fgm: 0.00 [0/7]  
DiffImageOverlap-fno: 0.75 [12/16]

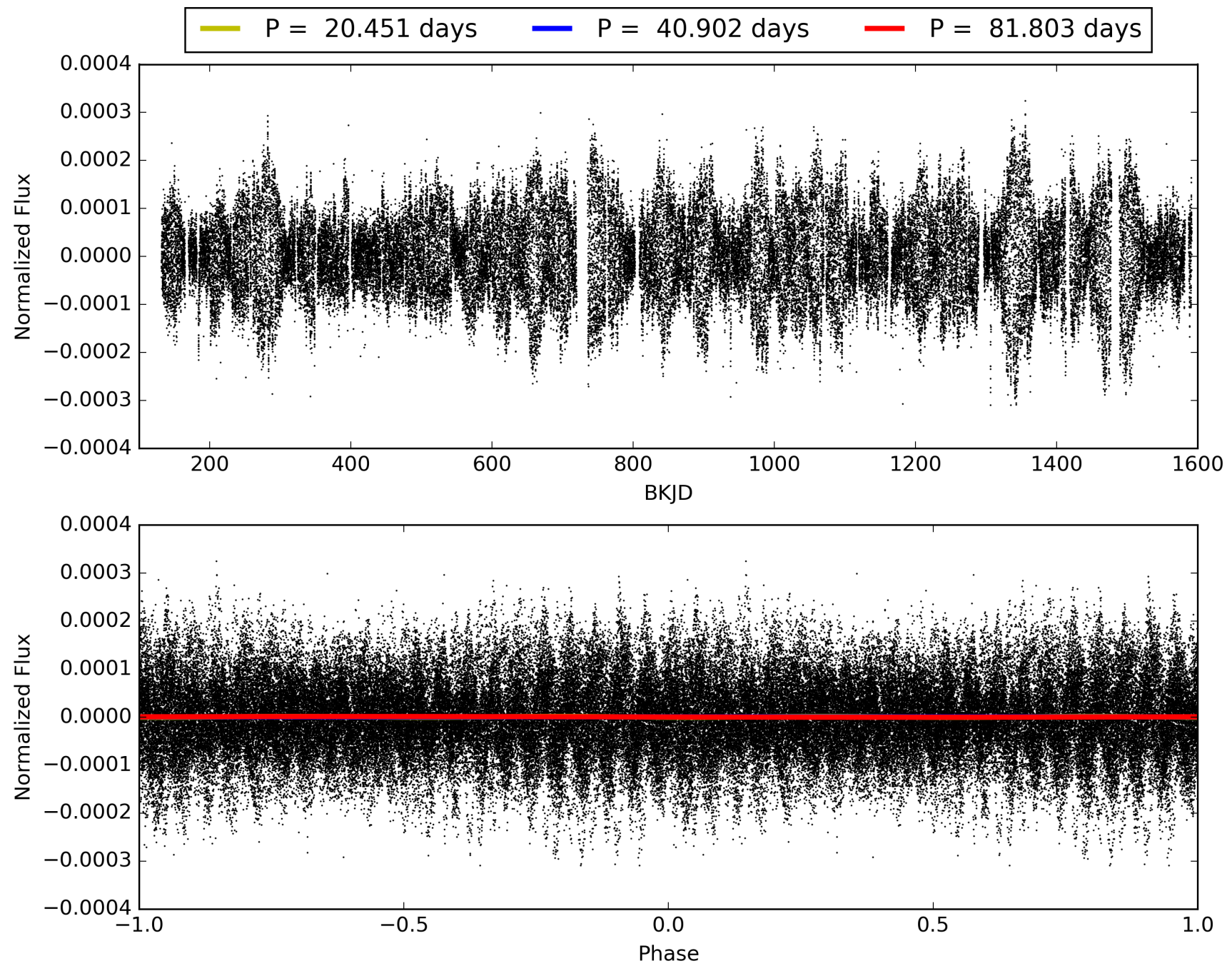
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:25:16 Z

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

# TCE 008006773-03, PDC Light Curves



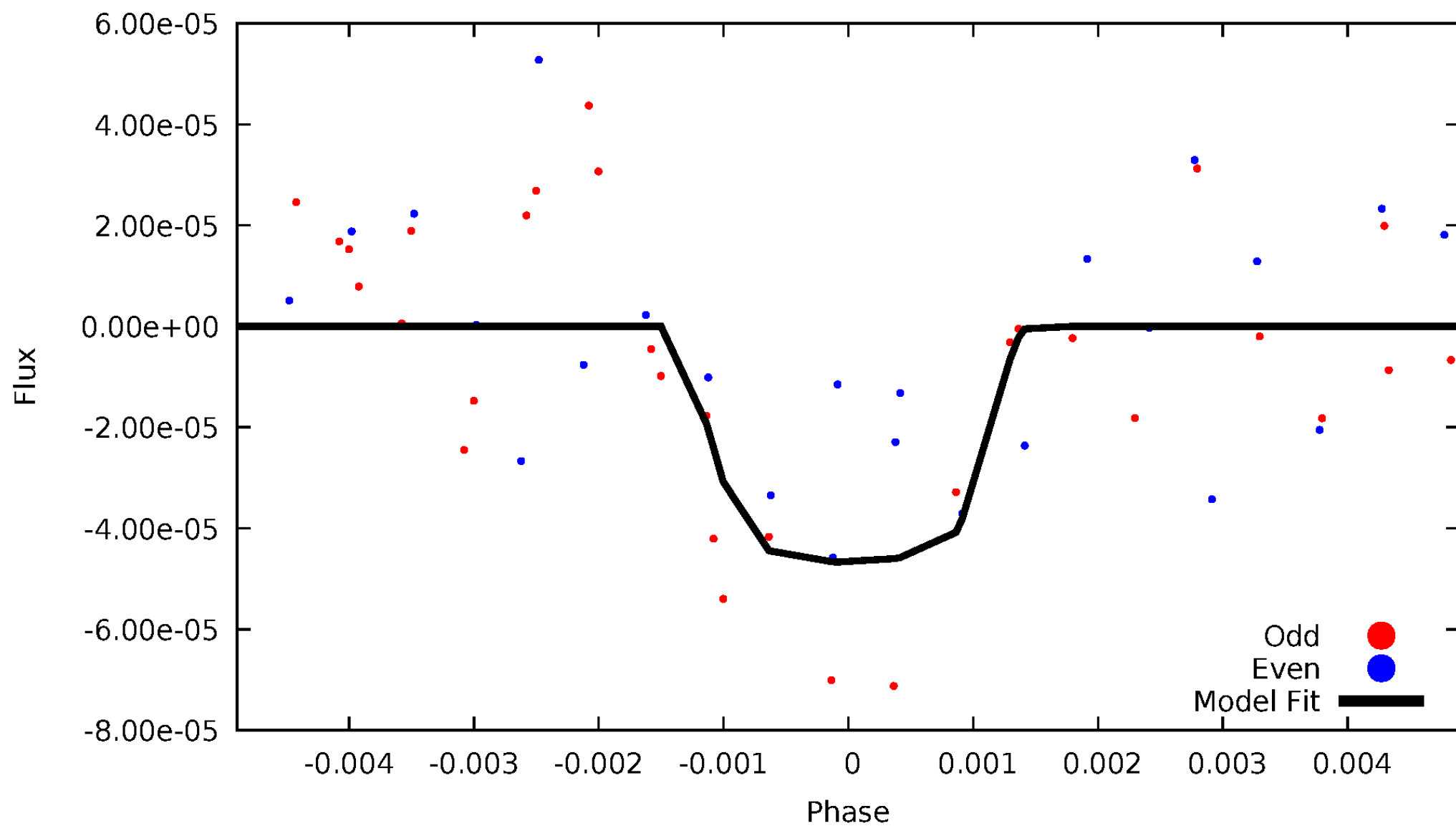
TCE 008006773-03





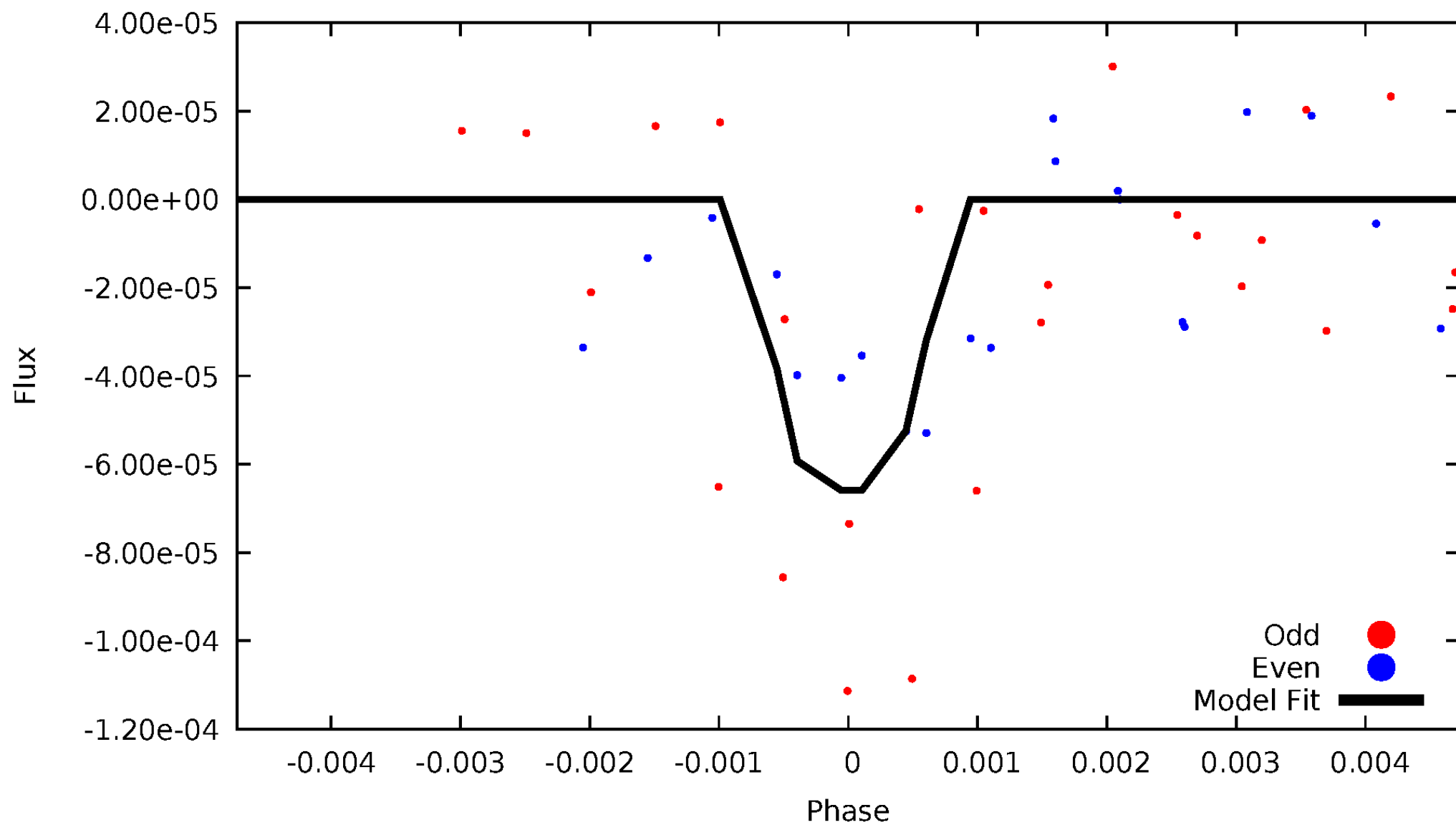
# DV Odd/Even

TCE 008006773-03



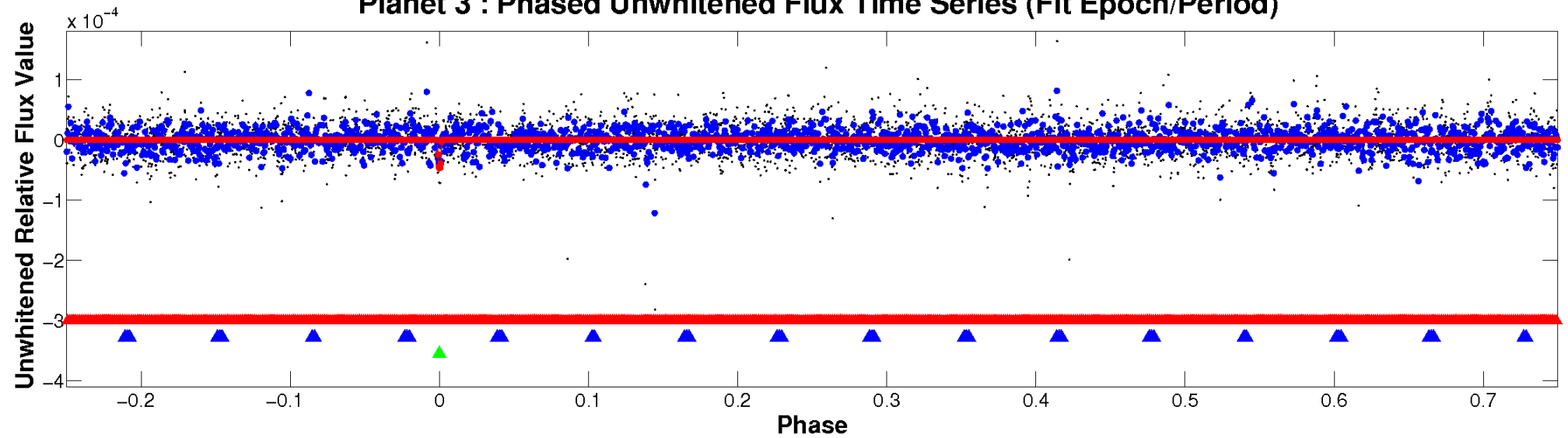
# ALT Odd/Even

TCE 008006773-03

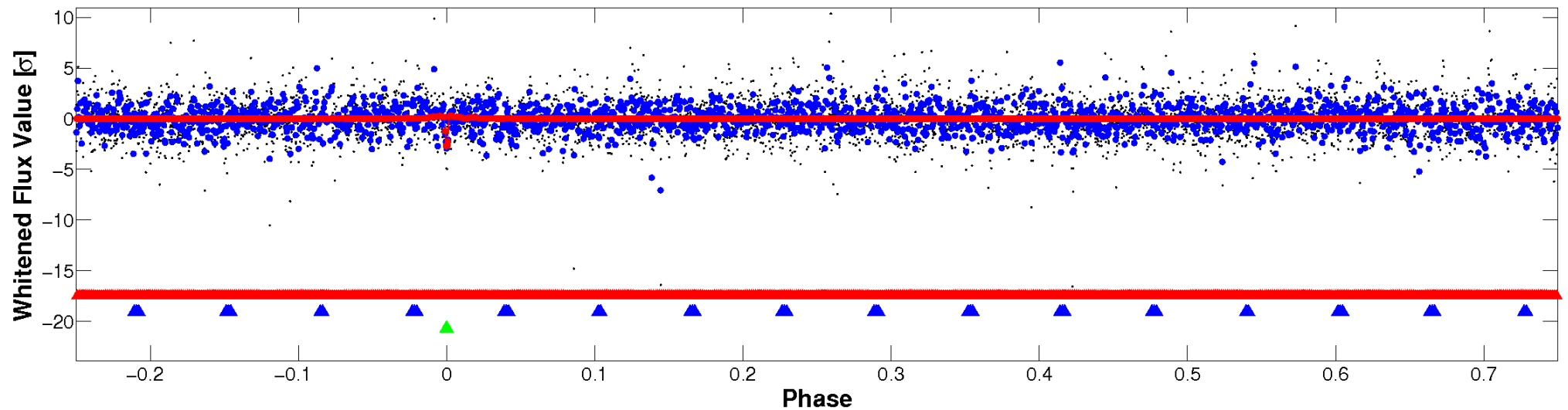


# Non-Whitened Vs. Whitened Light Curve

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

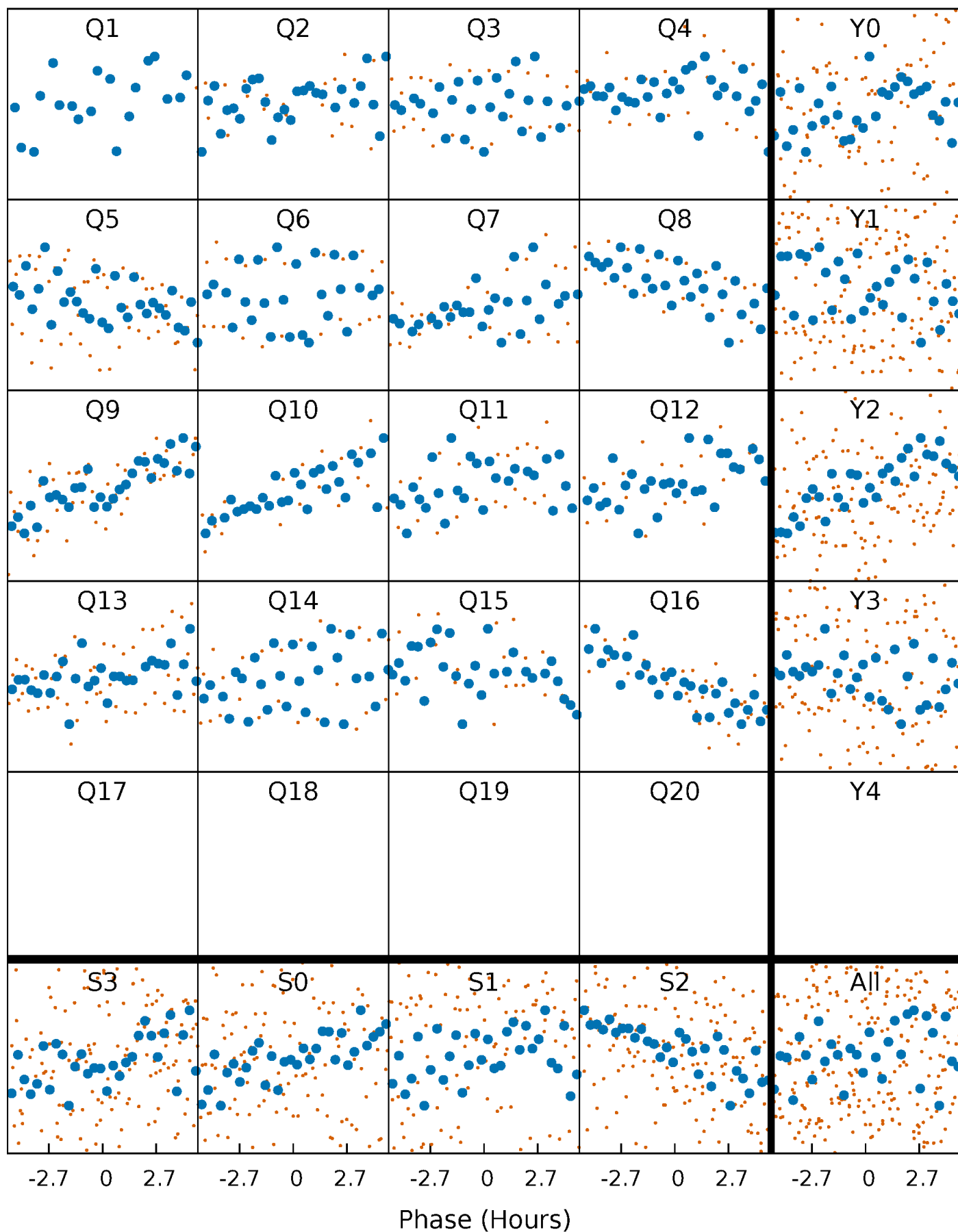


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



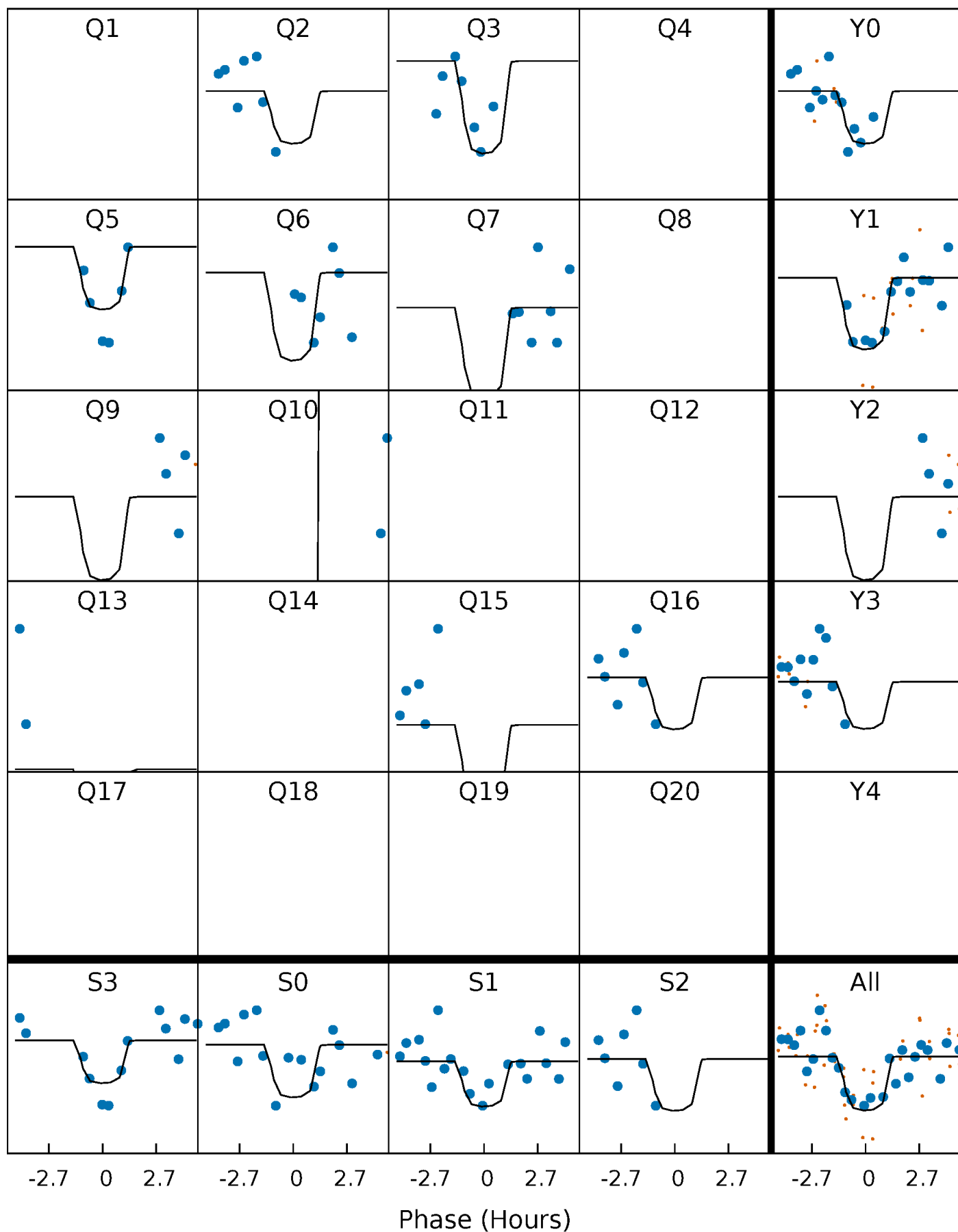
# PDC Quarter-Phased Transit Curves

TCE 008006773-03 P= 40.901634 Days  $T_0=163.233616$  (BKJD)



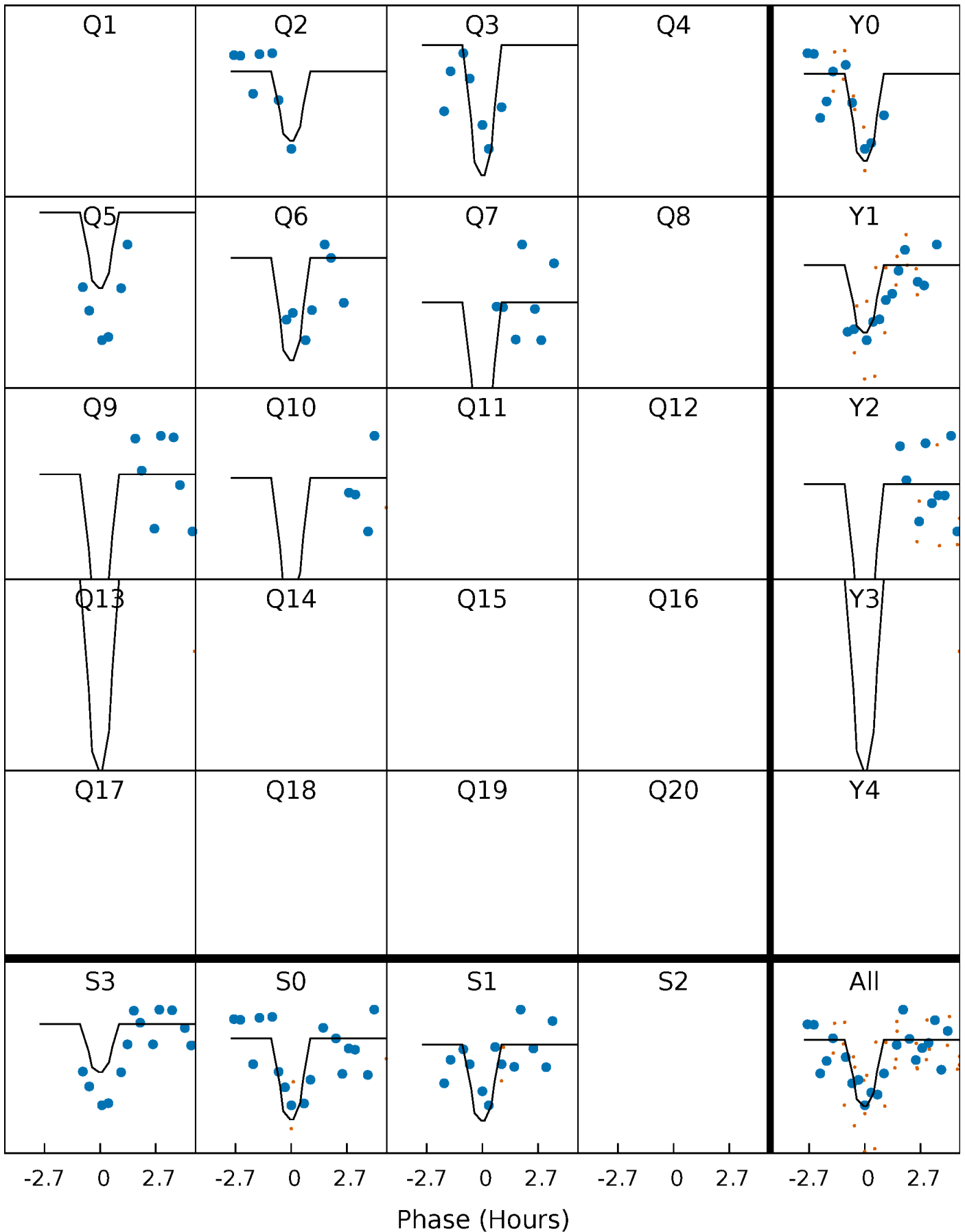
# DV Quarter-Phased Transit Curves

TCE 008006773-03 P= 40.901634 Days  $T_0=163.233616$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 008006773-03 P= 40.907623 Days  $T_0=163.186401$  (BKJD)

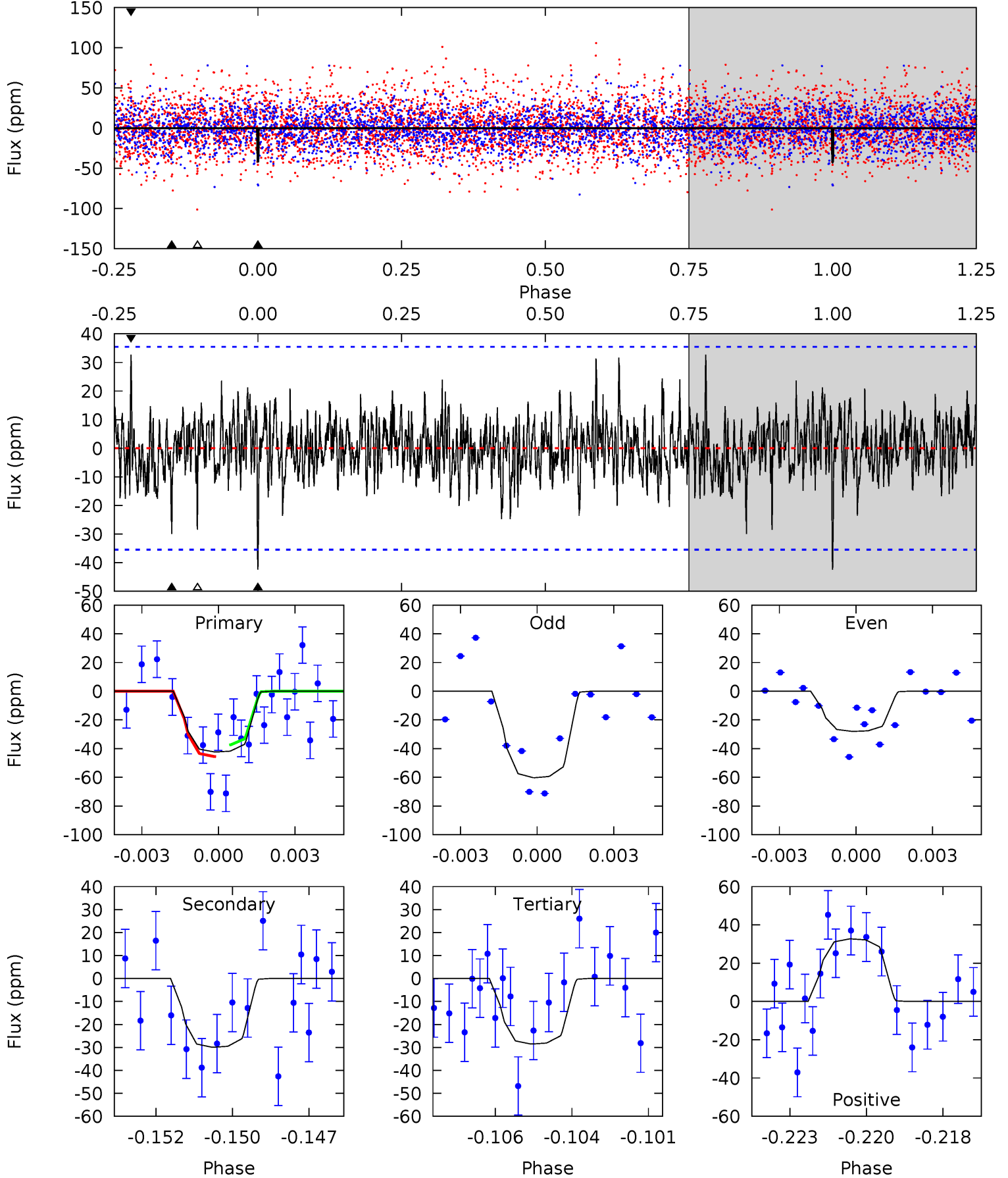




# DV Model-Shift Uniqueness Test

008006773-03, P = 40.901634 Days, E = 122.331982 Days

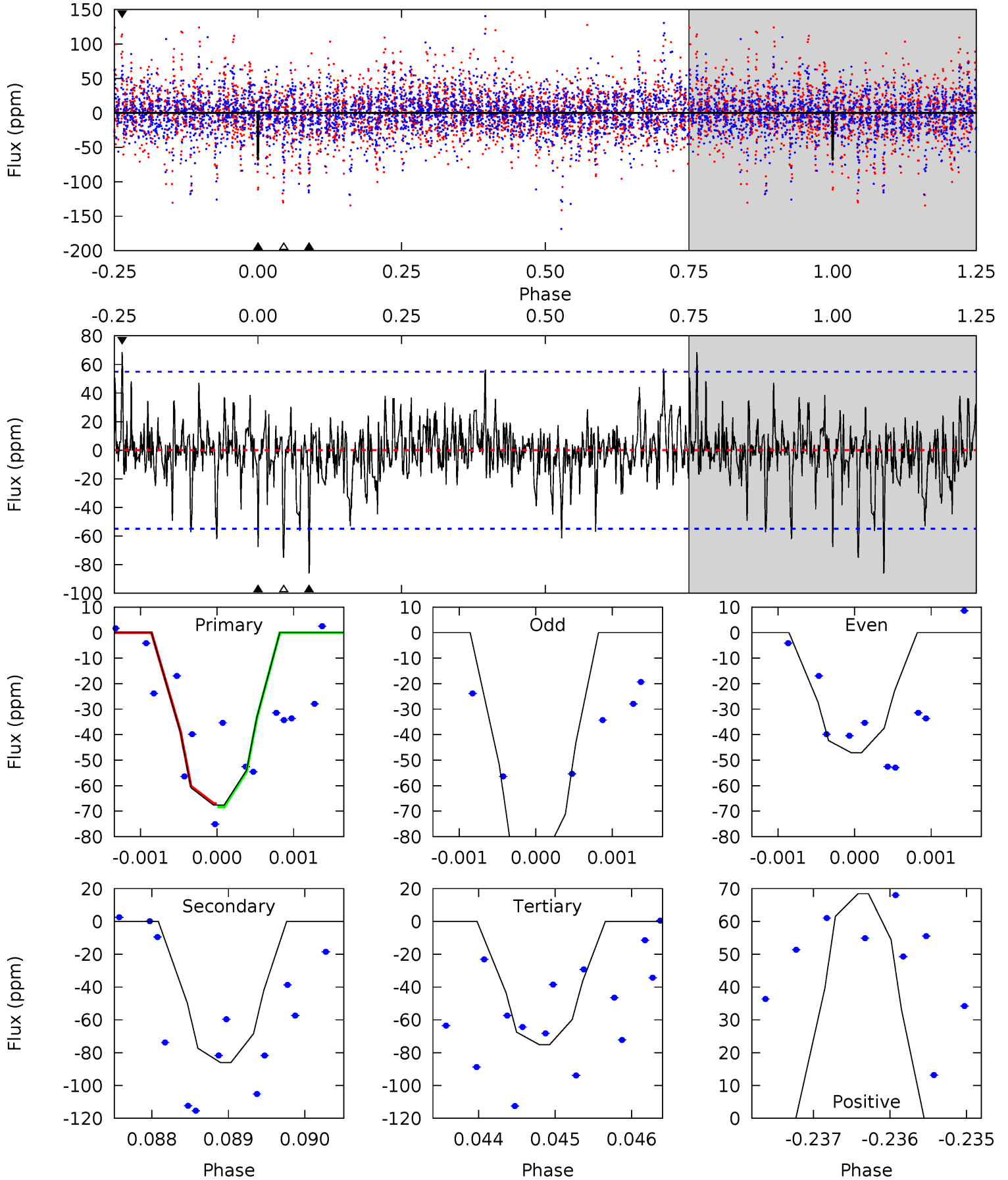
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.31	4.46	4.25	4.87	5.28	3.02	1.25	2.06	1.44	0.21	-0.41	2.38	1.09	0.44	0.61



# Alt Model-Shift Uniqueness Test

008006773-03, P = 40.907623 Days, E = 122.278778 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
6.69	8.51	7.43	6.77	5.43	3.25	1.58	-0.74	-0.08	1.08	1.74	2.04	1.29	0.44	0.07



### Stellar Parameters For KIC 008006773

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8818^{+240}_{-412}$	$3.834^{+0.357}_{-0.153}$	$0.070^{+0.150}_{-0.600}$	$3.115^{+0.937}_{-1.289}$	$2.412^{+0.326}_{-0.816}$	$0.112^{+0.345}_{-0.050}$
	+3%/-5%	+9%/-4%	+214%/-857%	+30%/-41%	+14%/-34%	+307%/-44%
Source	KIC0	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 008006773-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-30 \pm 7$	$2.45^{+1.43}_{-1.21}$	$1675^{+151}_{-181}$	$7046^{+3610}_{-1284}$	$265^{+695}_{-164}$
Alt.	$-86 \pm 10$	$2.52^{+1.39}_{-1.25}$	$1665^{+148}_{-183}$	$9677^{+6275}_{-2216}$	$707^{+2045}_{-406}$

$T_{max}$  = 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

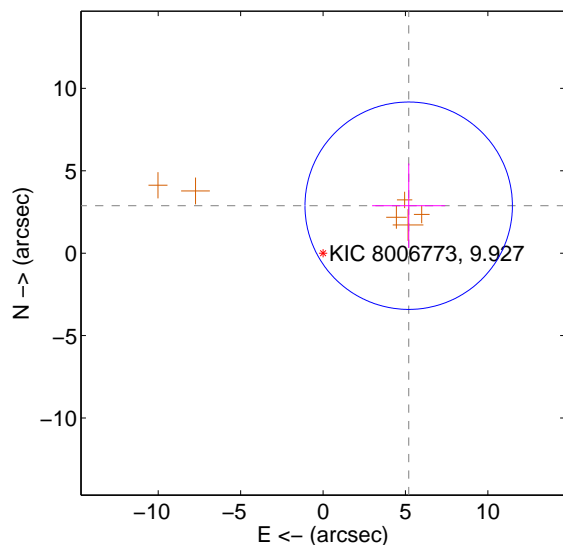
Supplemental centroid analysis for 008006773-03. **Kepler magnitude: 9.93.** Transit SNR 8.50

**There are 0 quarters with good PRF difference image offsets**

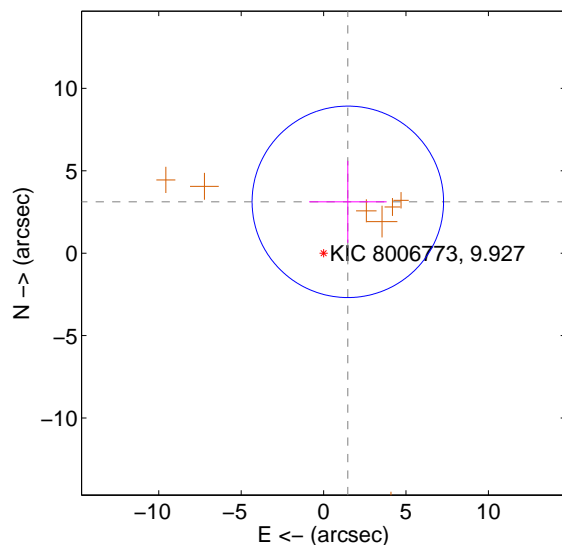
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$5.941 \pm 2.097$	2.83	$-5.197 \pm 2.217$	$2.879 \pm 2.563$
PRF-fit source offset from KIC position	$3.445 \pm 1.936$	1.78	$-1.471 \pm 2.351$	$3.115 \pm 2.489$
photometric centroid source offset	$1.37 \pm 1.36$	1.00	$-1.36 \pm 1.36$	$0.07 \pm 1.04$

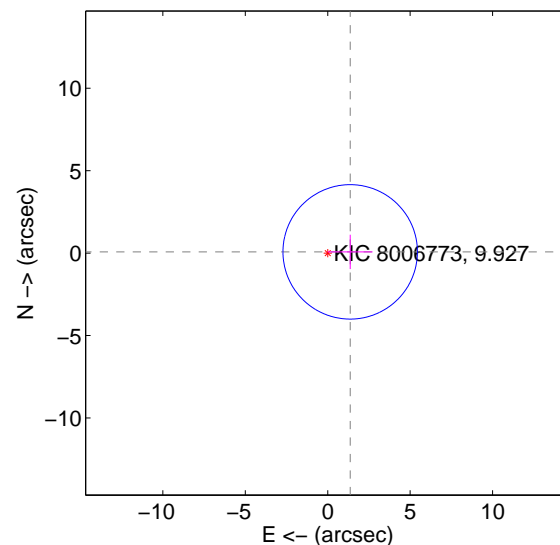
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

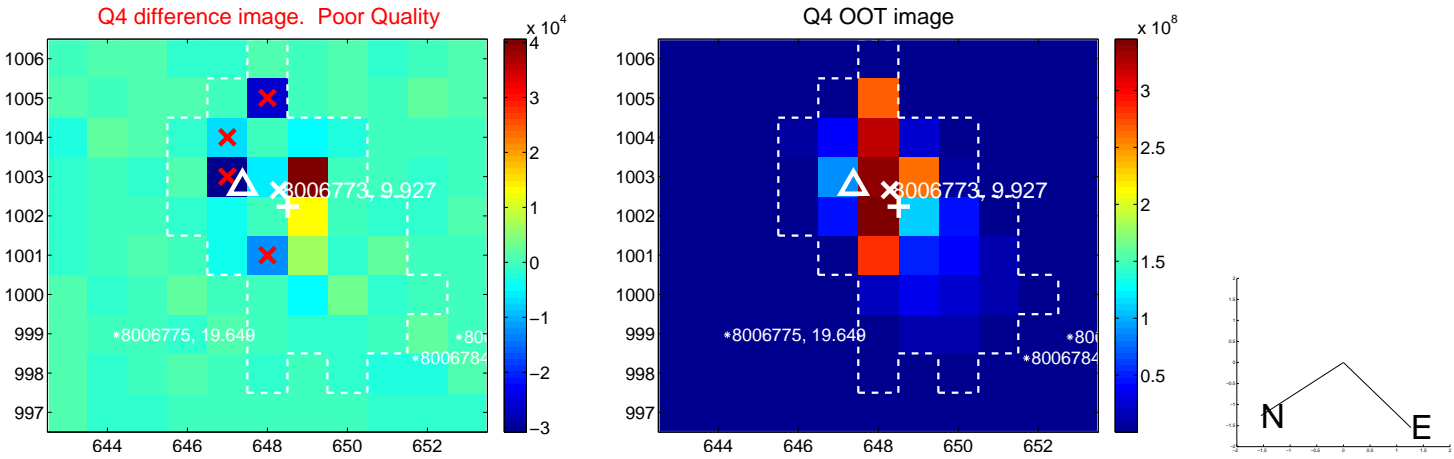
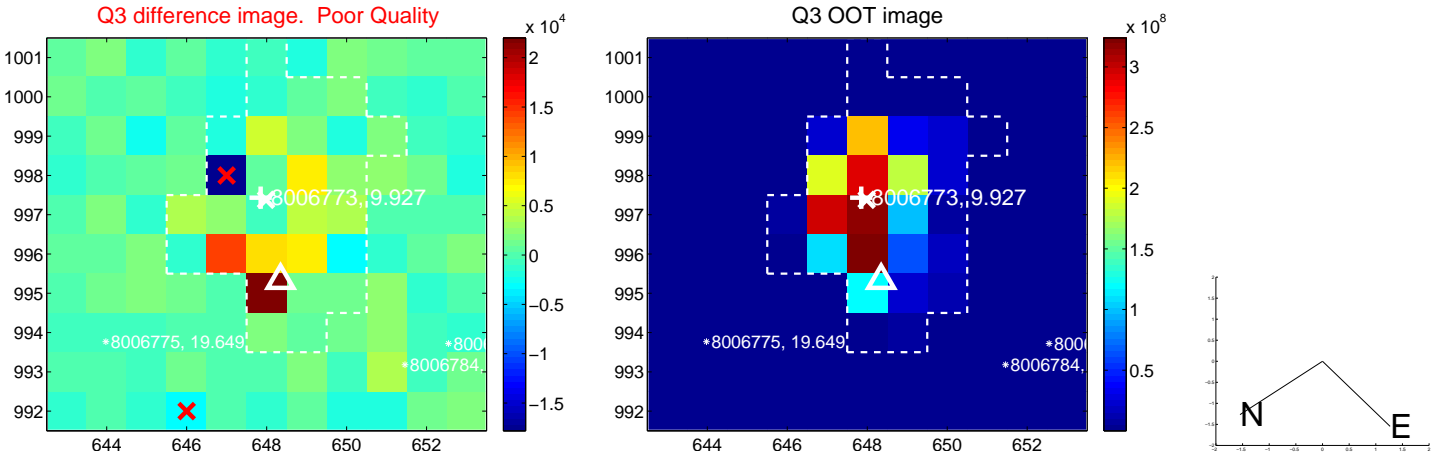
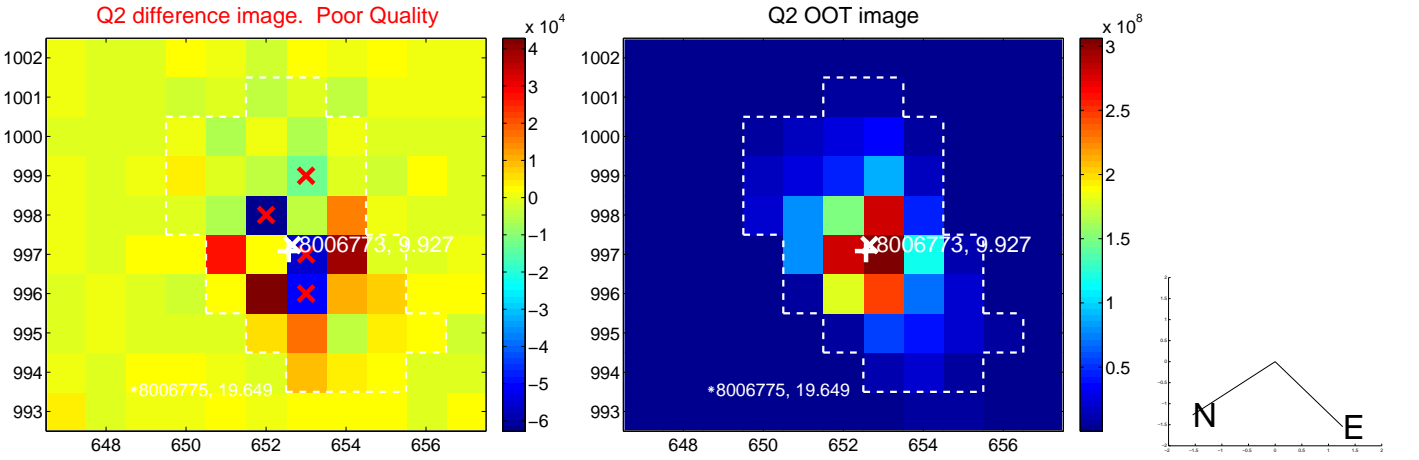
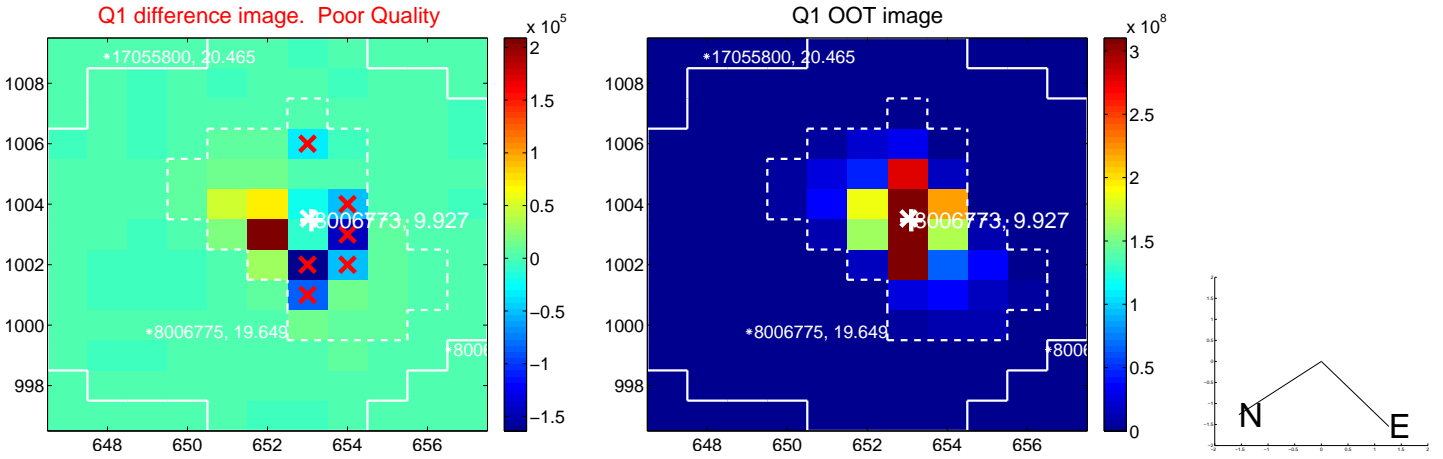


offset from photometric centroids

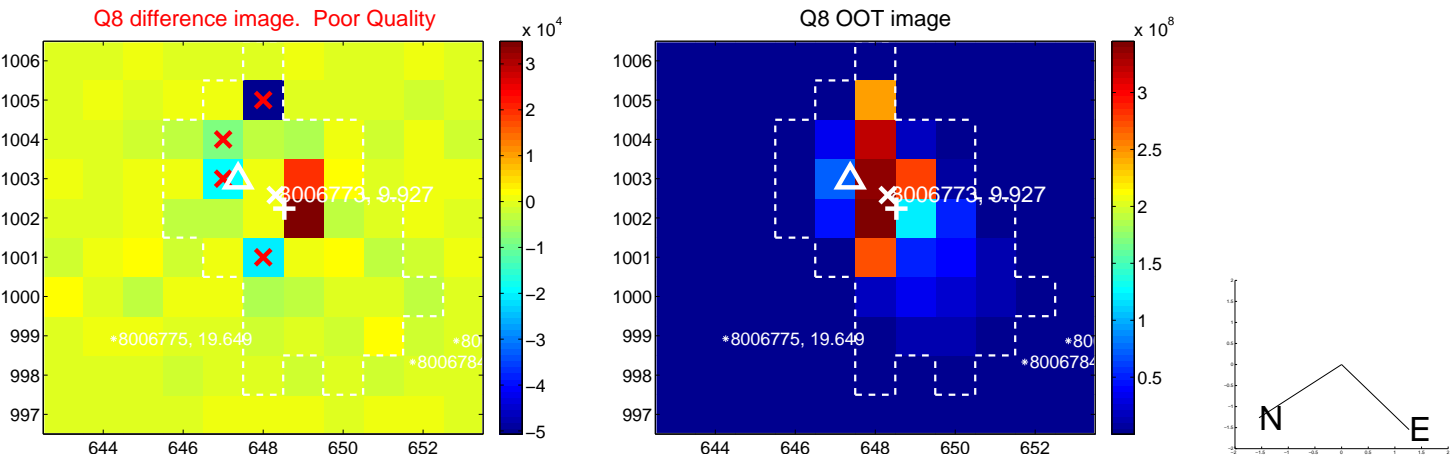
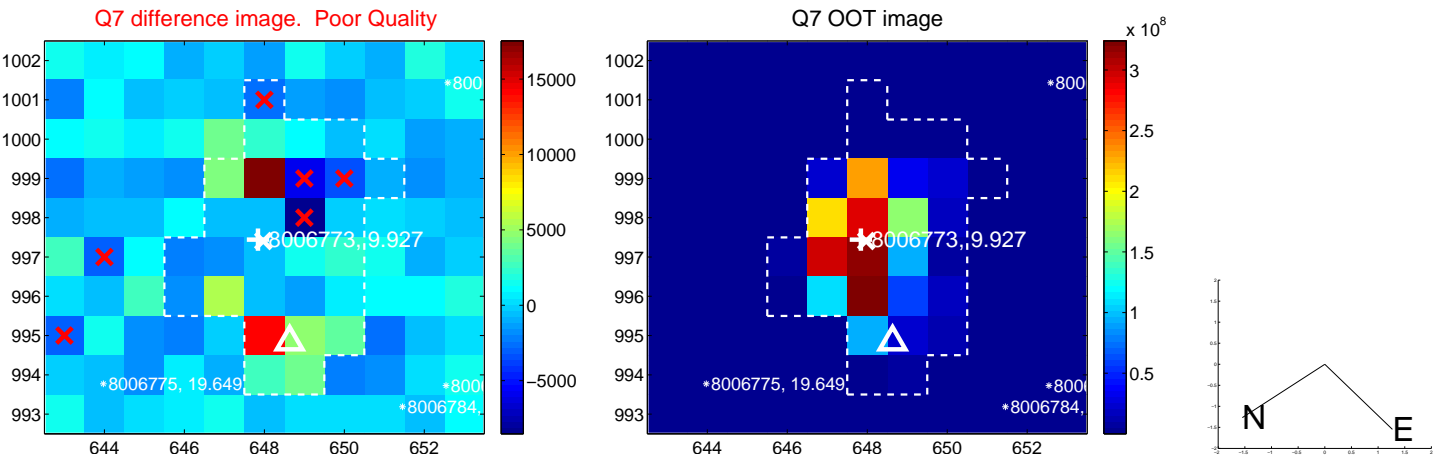
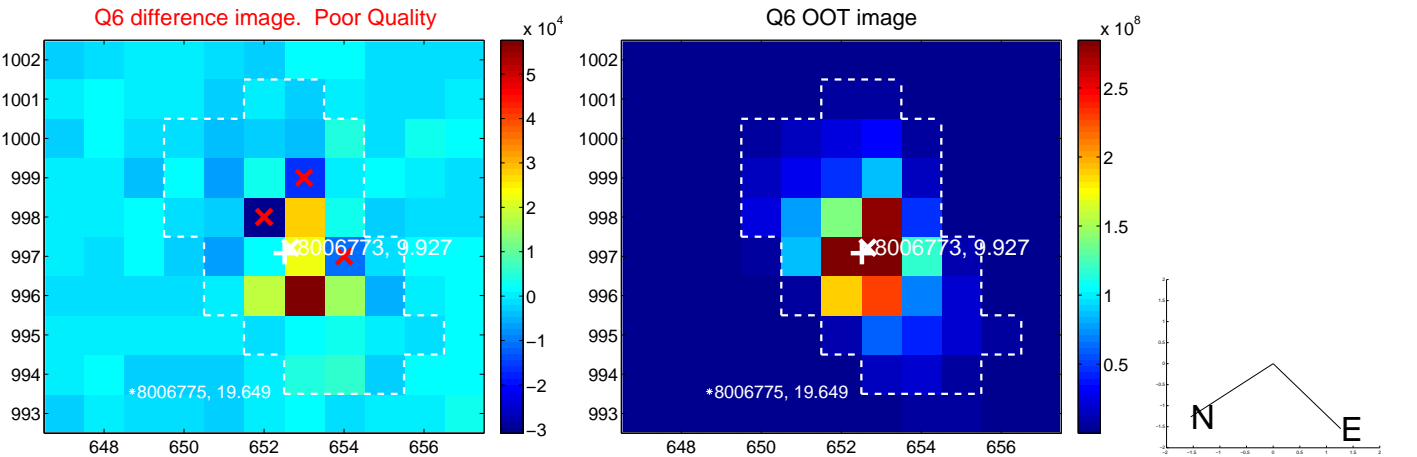
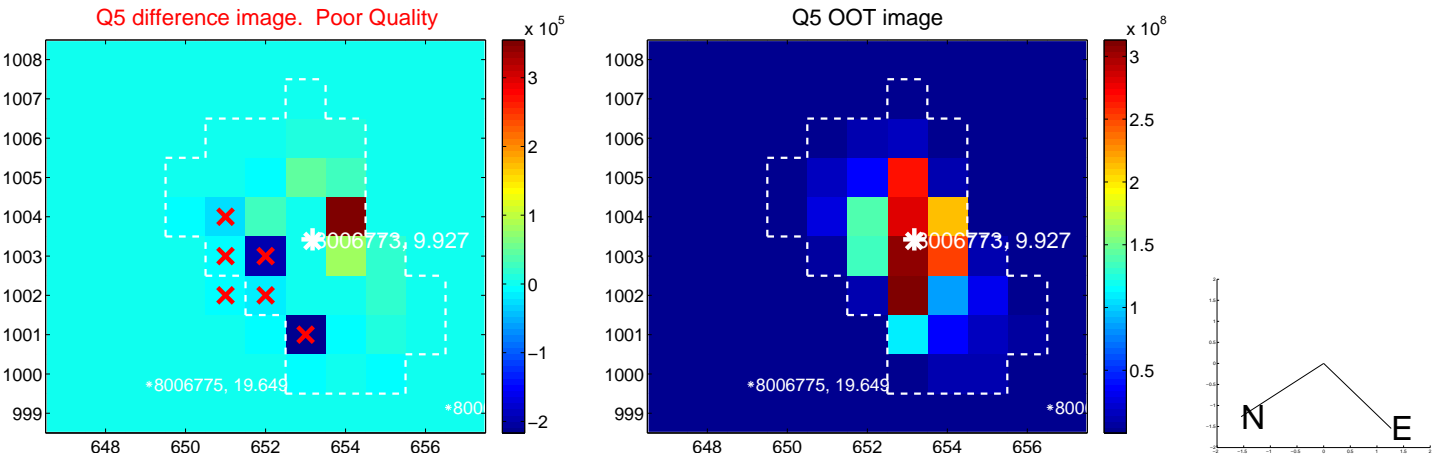


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

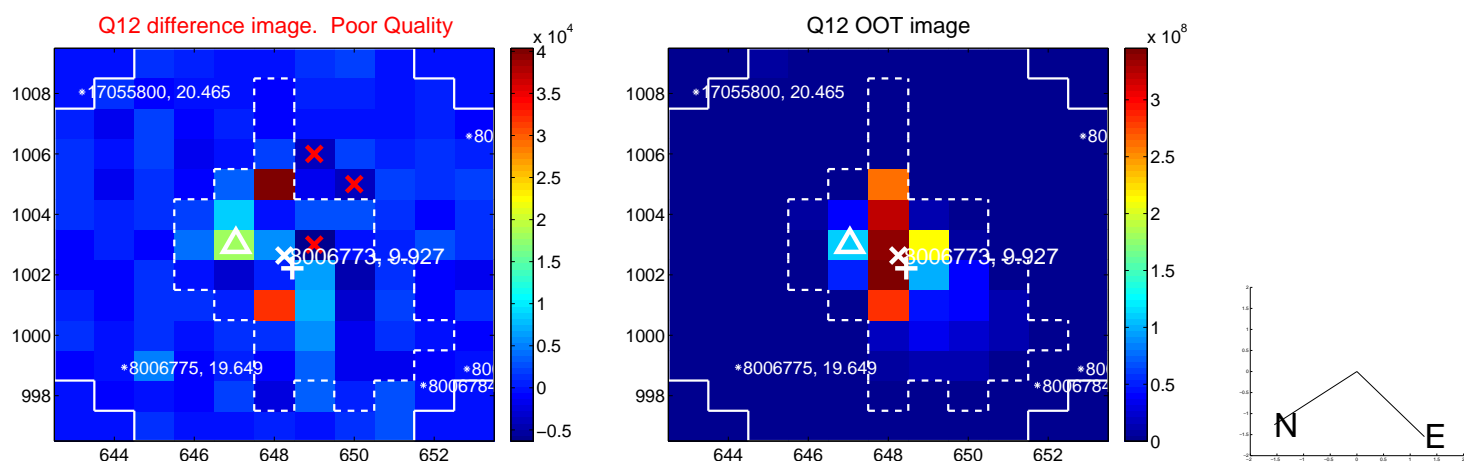
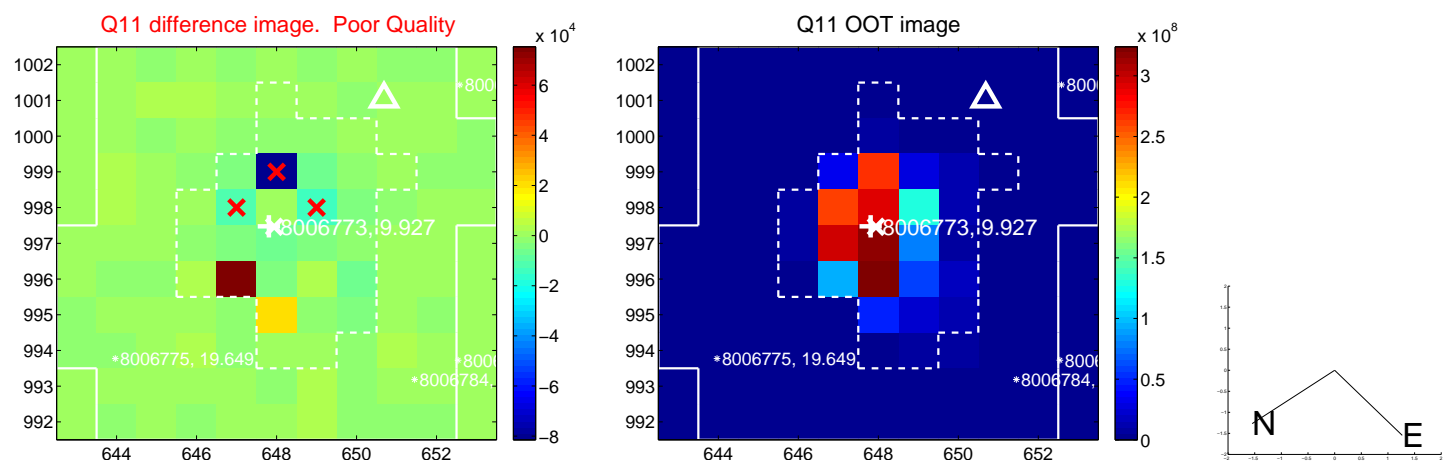
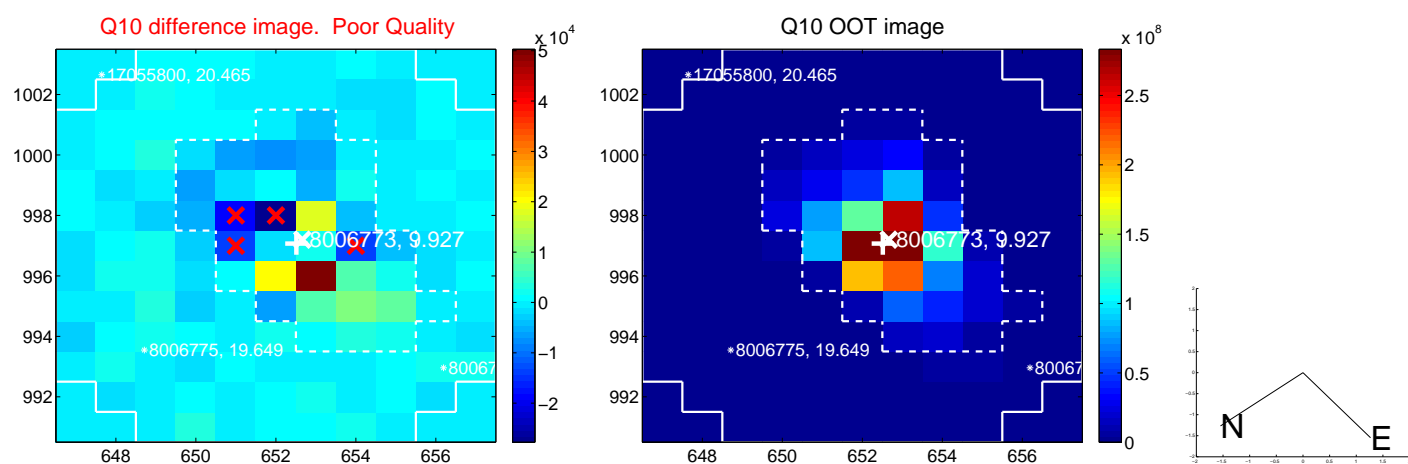
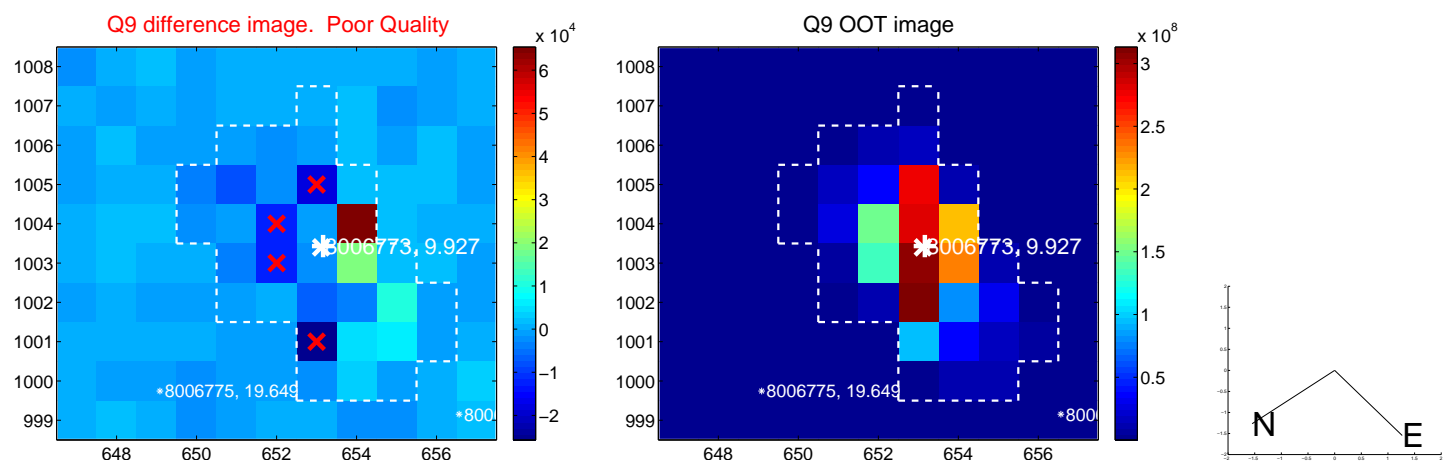


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

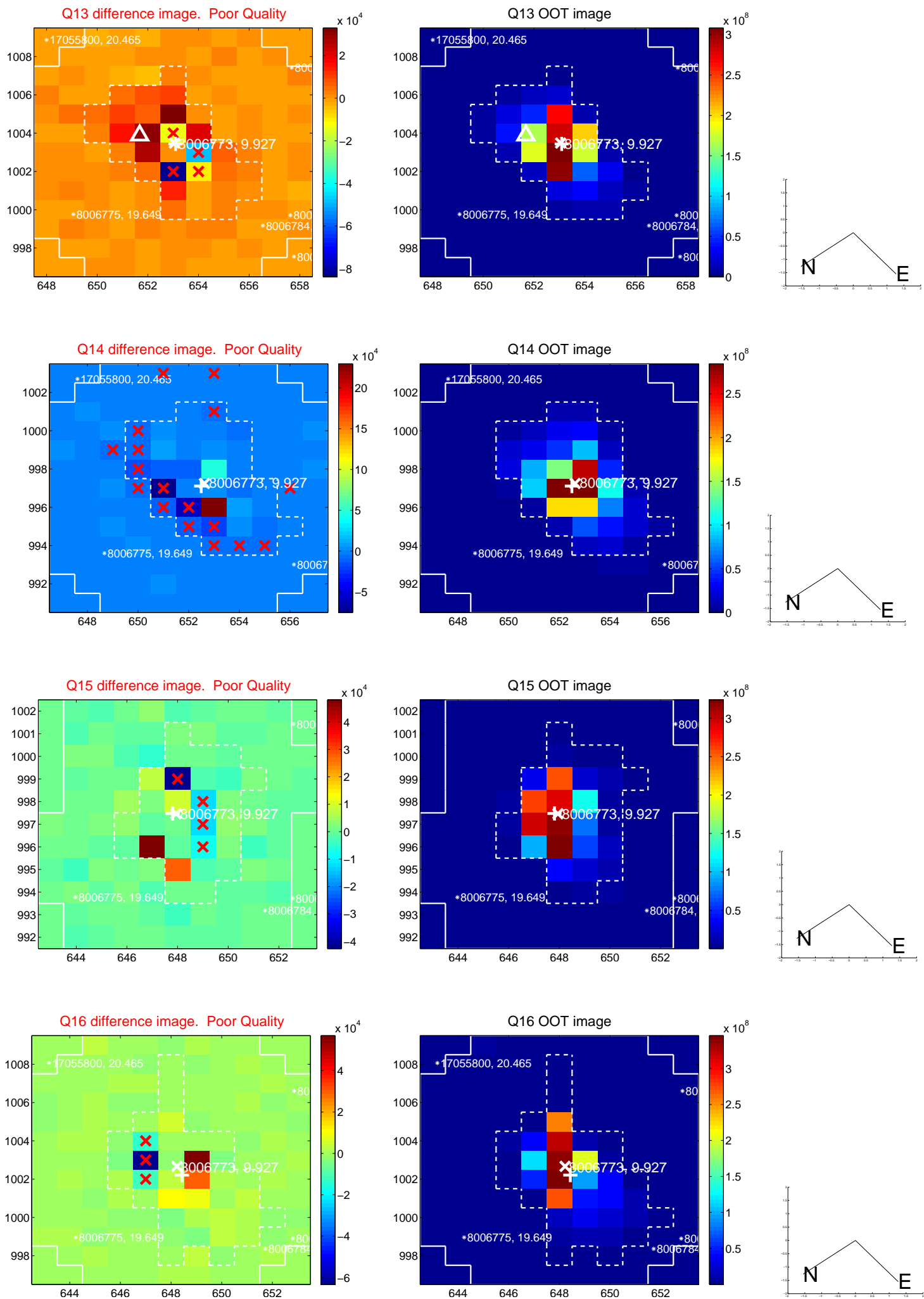




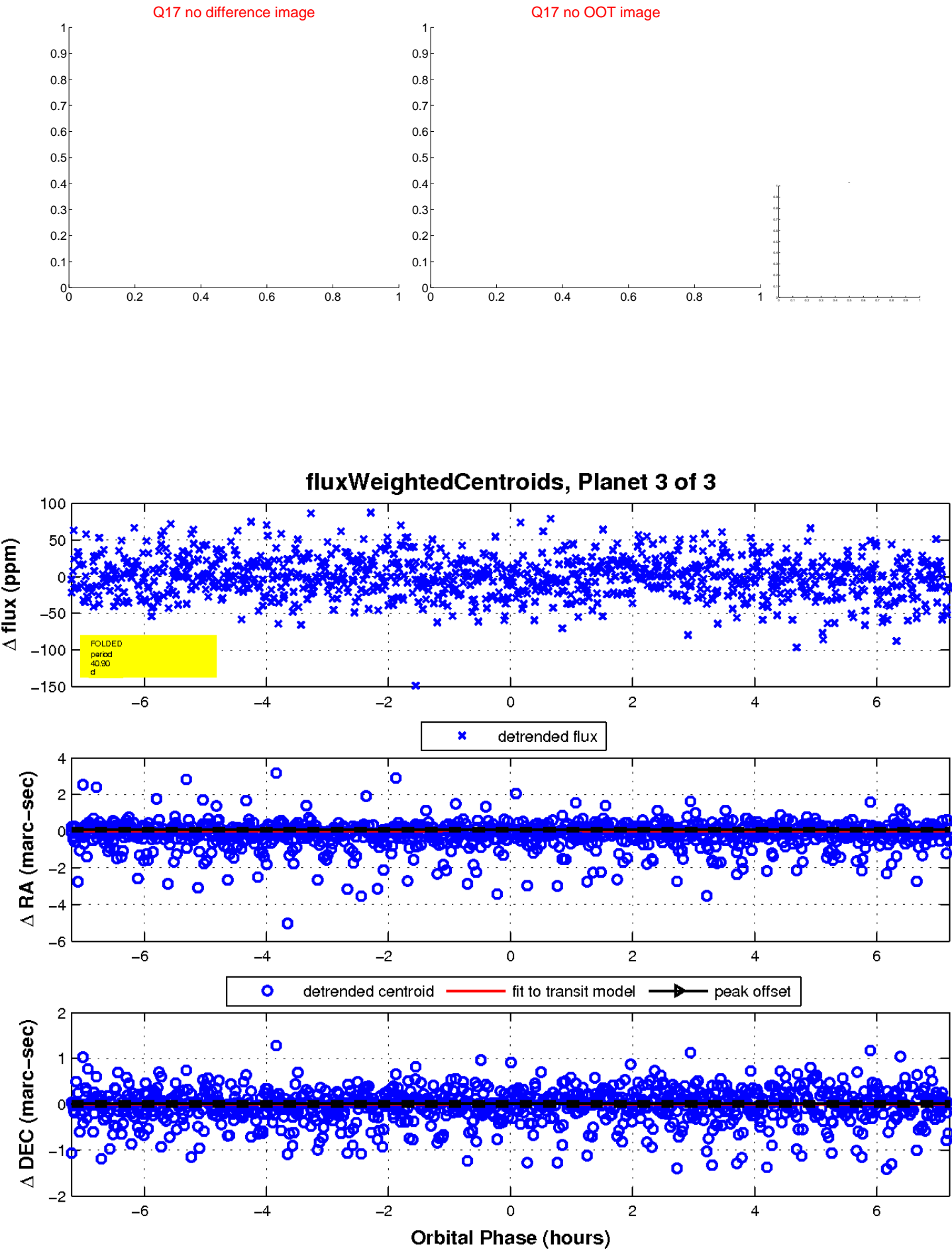
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

