

# KIC 007175943

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007175943-01	OBS	No	1.896470	133.021630	23.9	6.045	10.1	4.5	3.10	6983	1.75	16510.07
007175943-02	OBS	No	1.896376	131.866757	55.5	5.103	11.4	10.9	3.10	6983	2.68	16511.16
007175943-03	OBS	No	90.424558	139.457843	446.7	1.172	8.0	6.2	3.10	6983	7.06	95.49

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007175943-01	OBS	FP	0.00	1	0	1	0	LPP_DV—HALO_GHOST
007175943-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
007175943-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

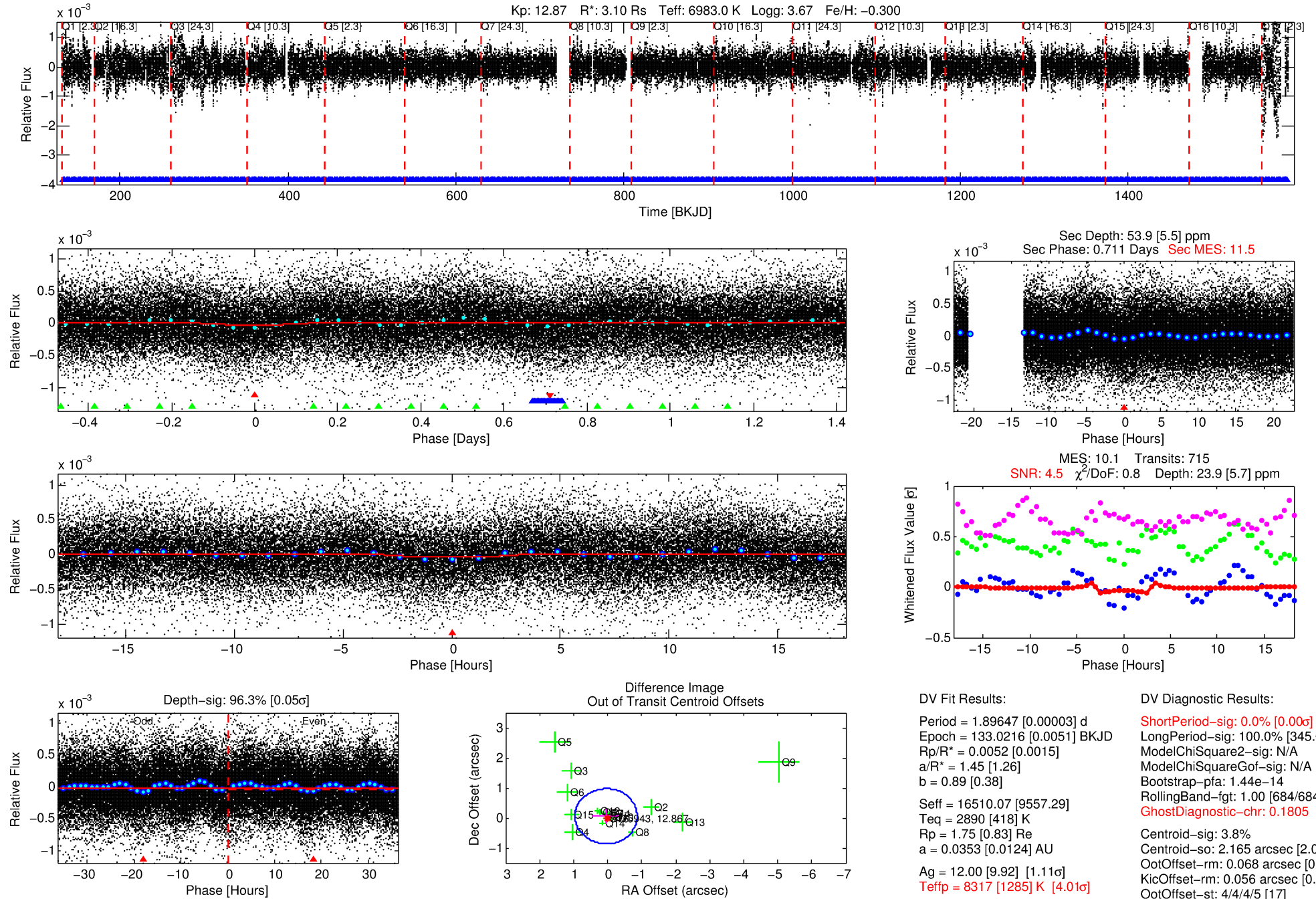
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007175943-01

No Significant Match Found

# DV One-Page Summary

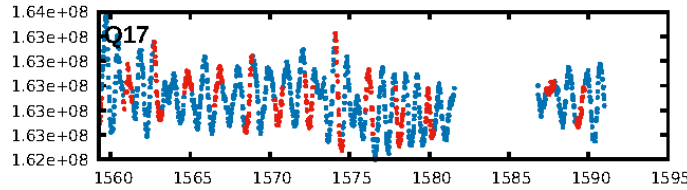
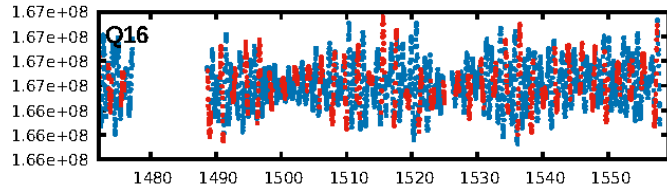
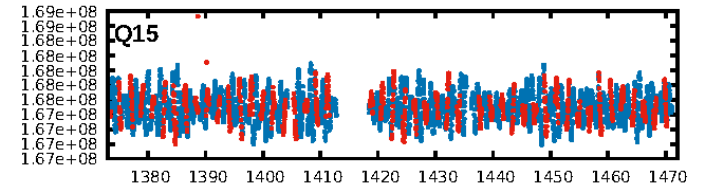
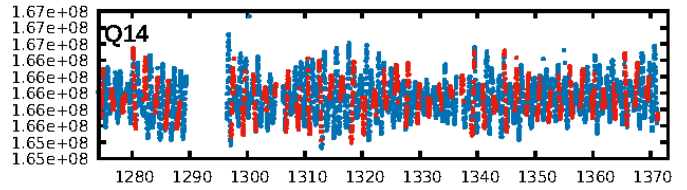
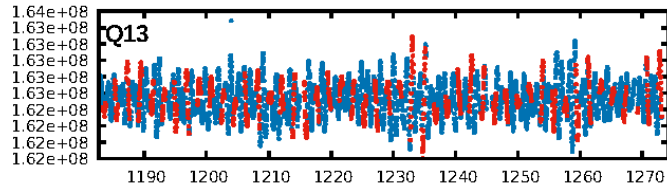
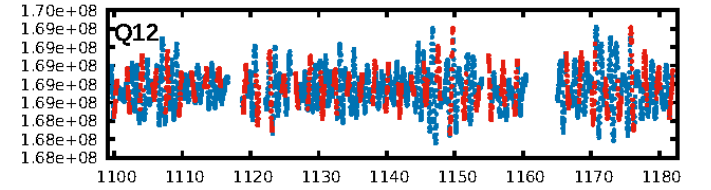
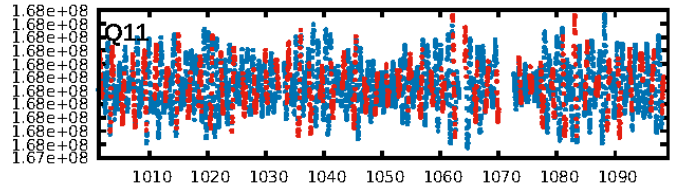
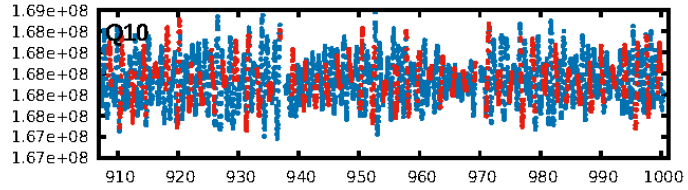
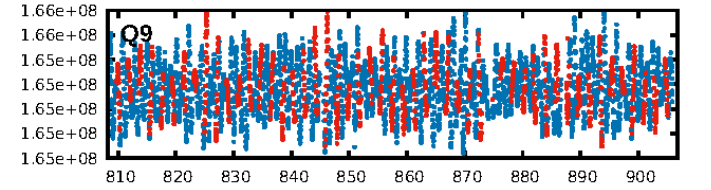
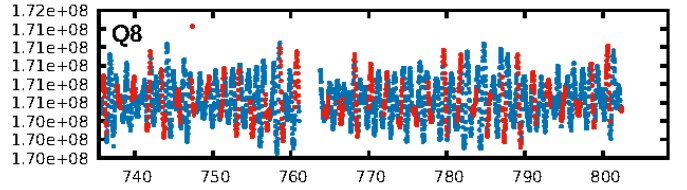
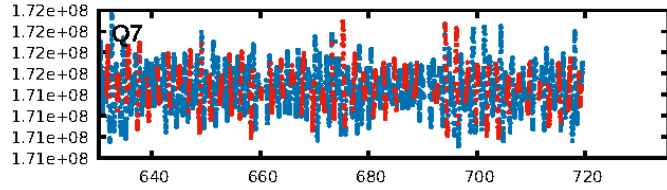
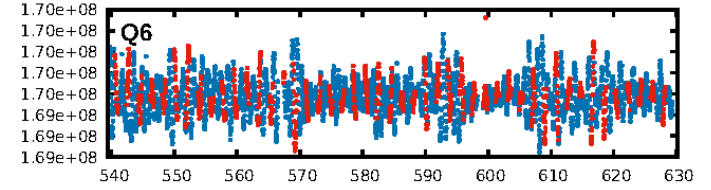
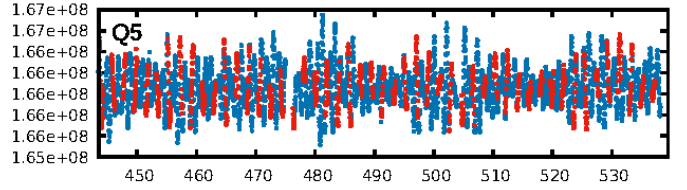
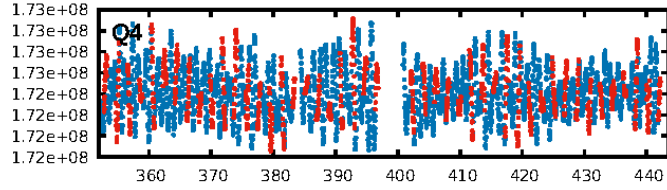
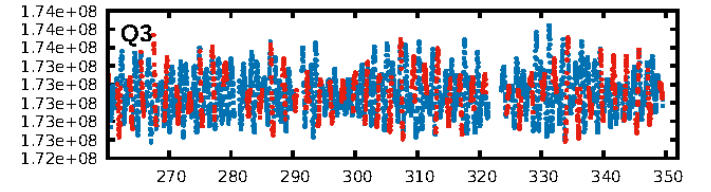
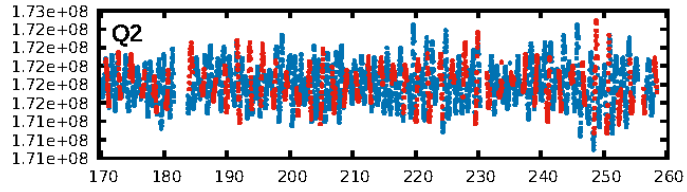
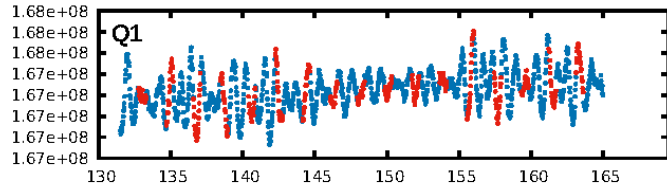
KIC: 7175943 Candidate: 1 of 3 Period: 1.896 d



Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:53:05 Z

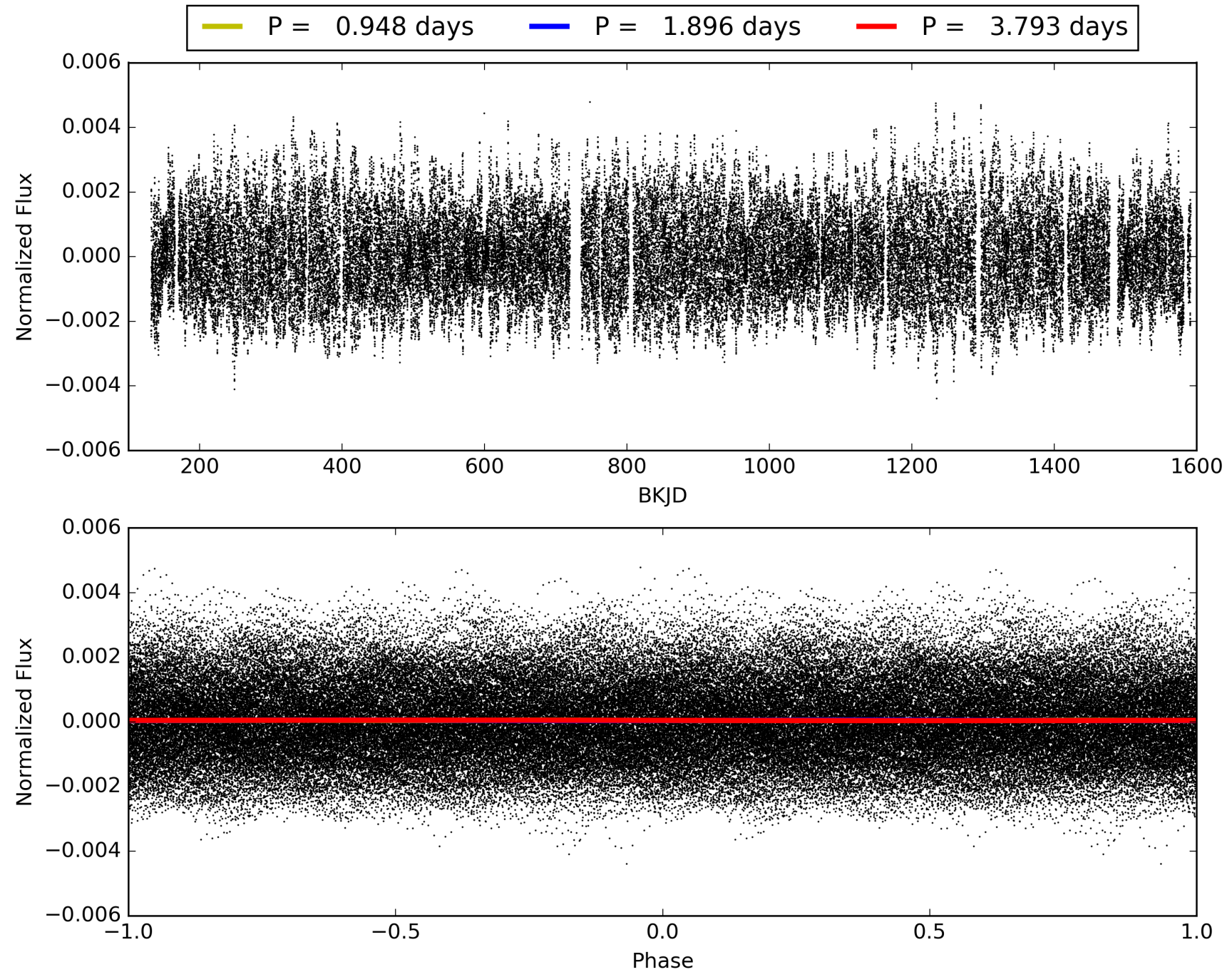
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

## TCE 007175943-01, PDC Light Curves





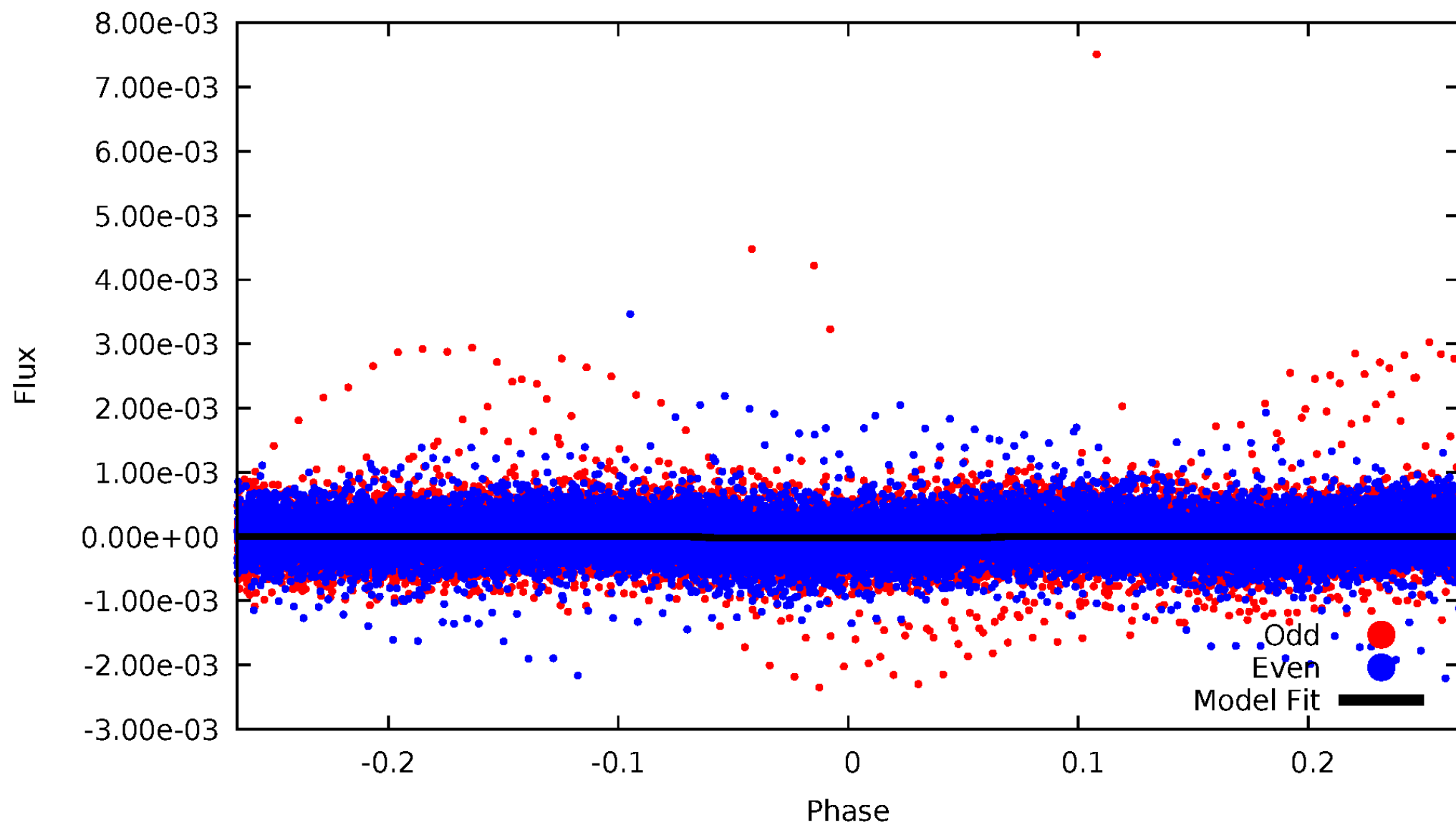
# TCE 007175943-01





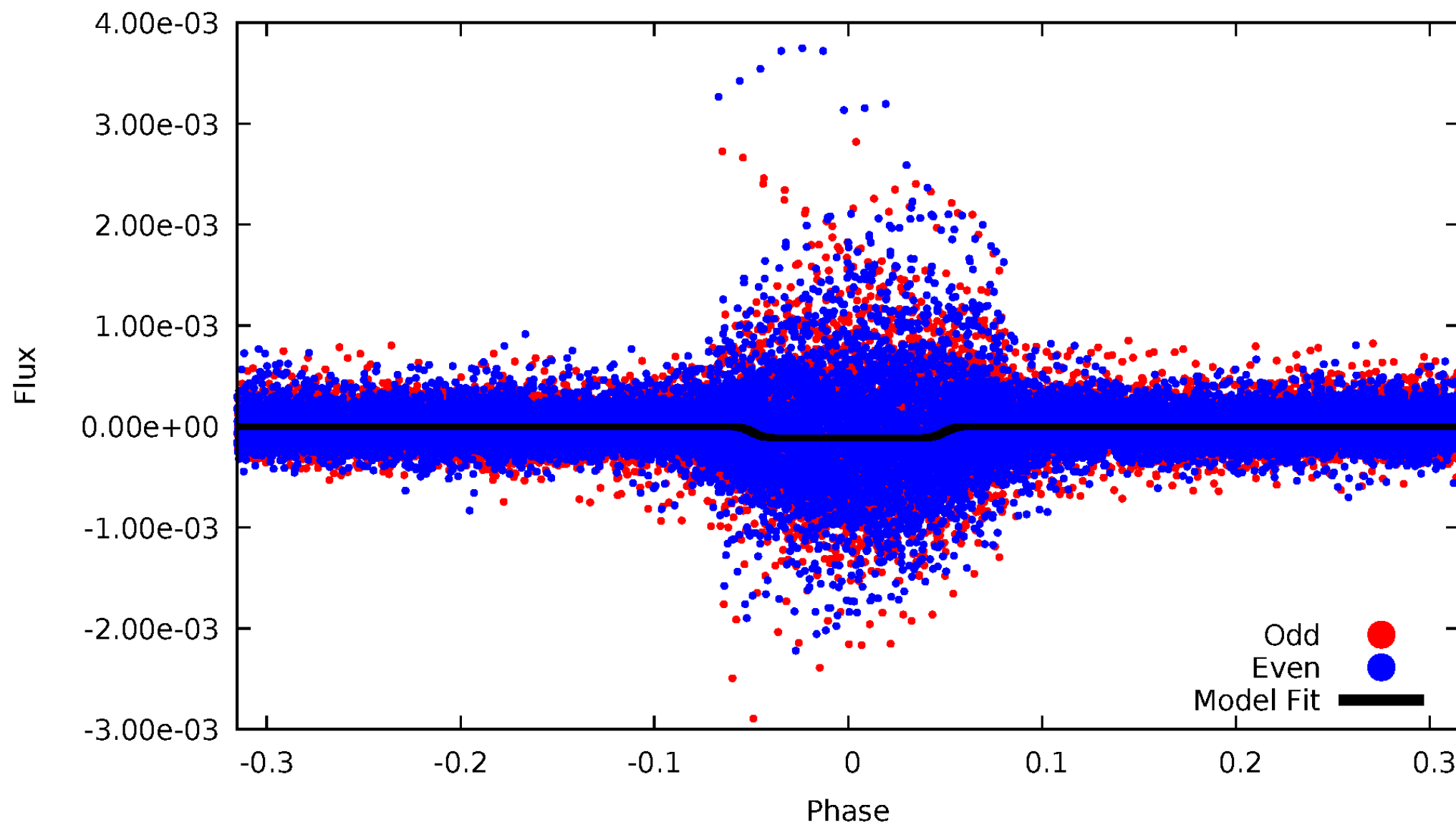
# DV Odd/Even

TCE 007175943-01



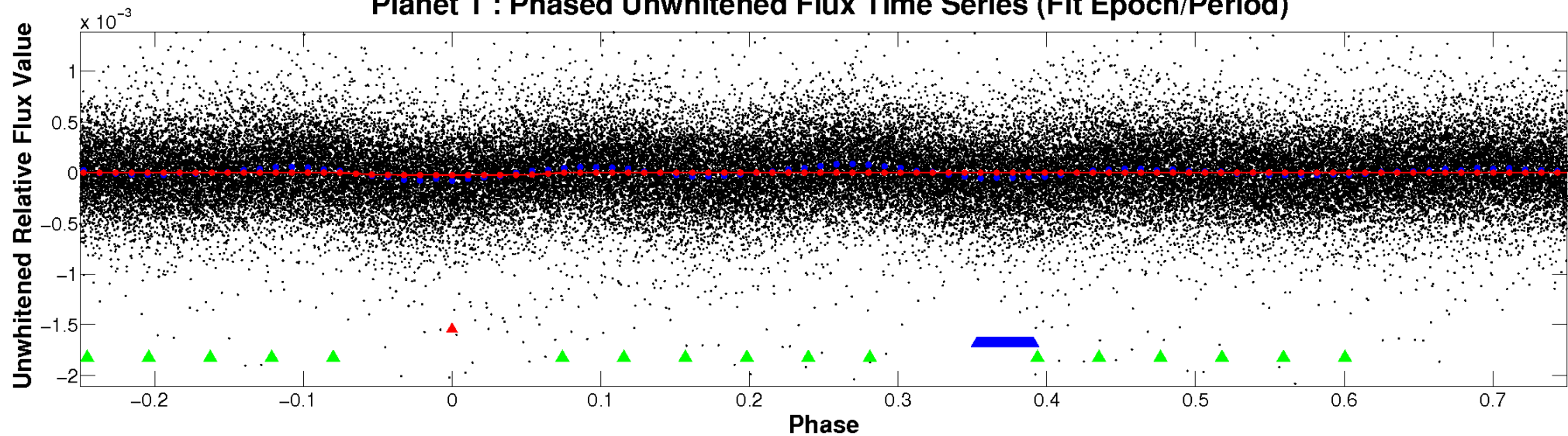
# ALT Odd/Even

TCE 007175943-01

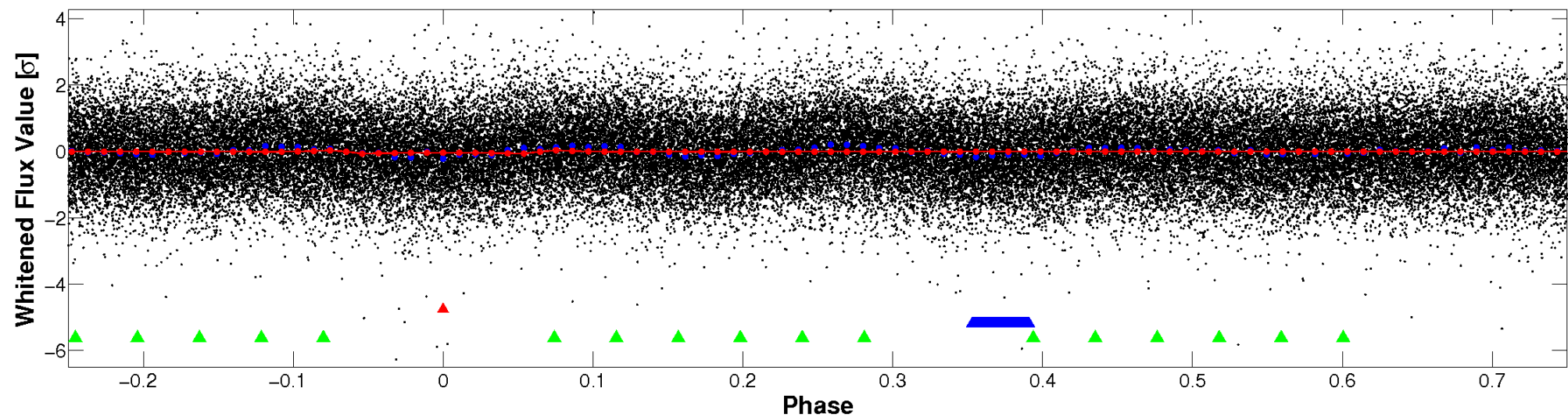


# Non-Whitened Vs. Whitened Light Curve

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



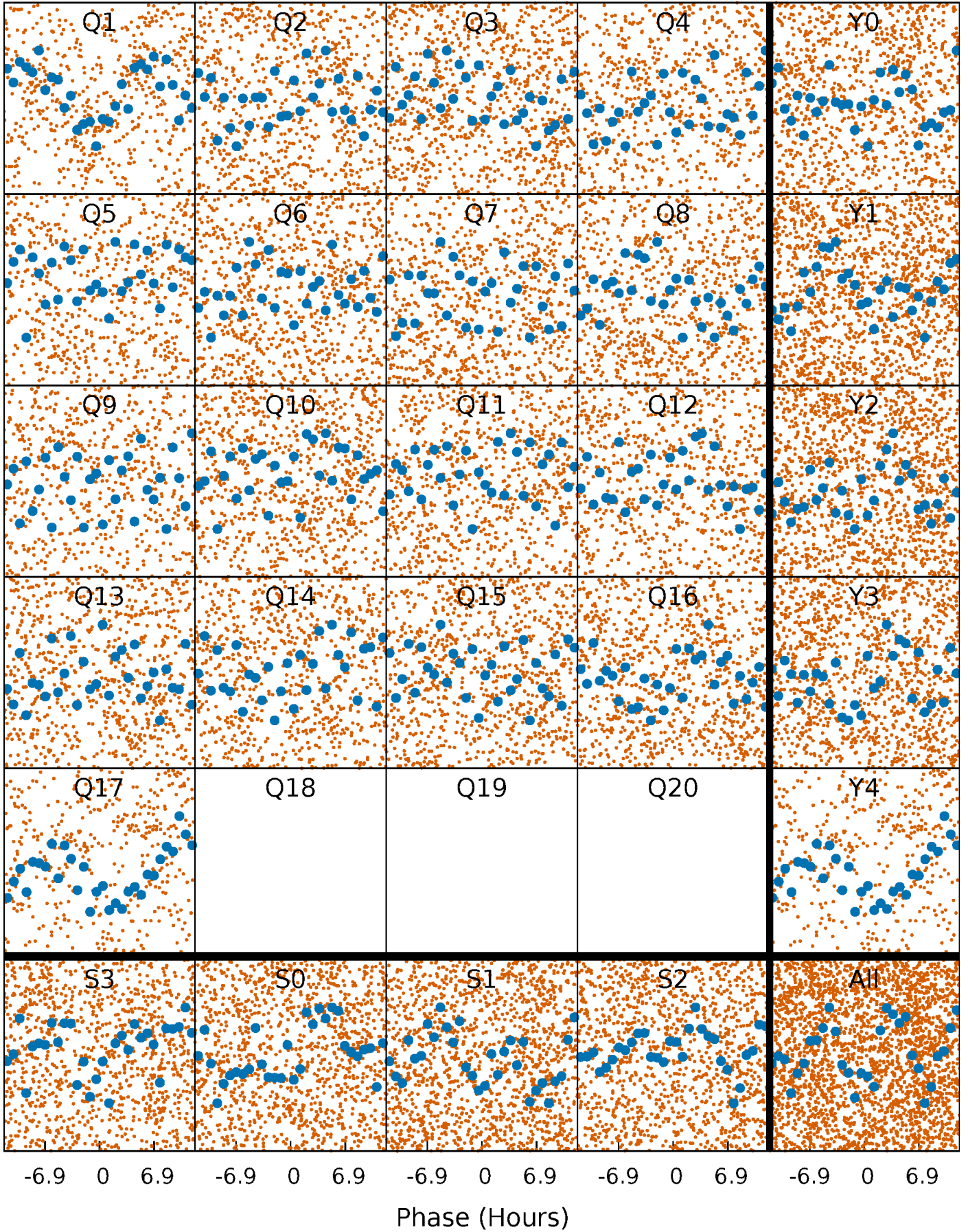
## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





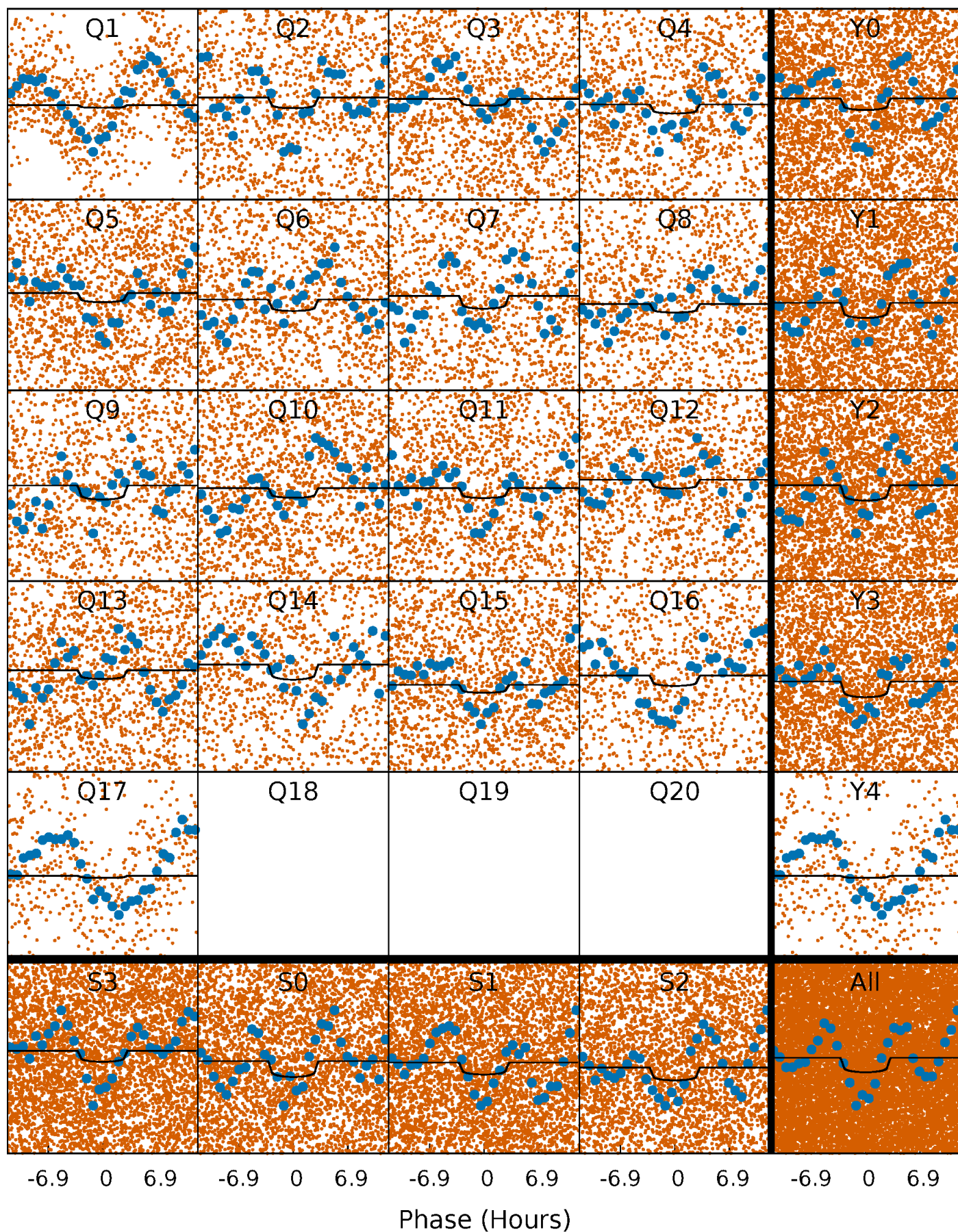
# PDC Quarter-Phased Transit Curves

TCE 007175943-01 P= 1.896470 Days  $T_0=133.021630$  (BKJD)



# DV Quarter-Phased Transit Curves

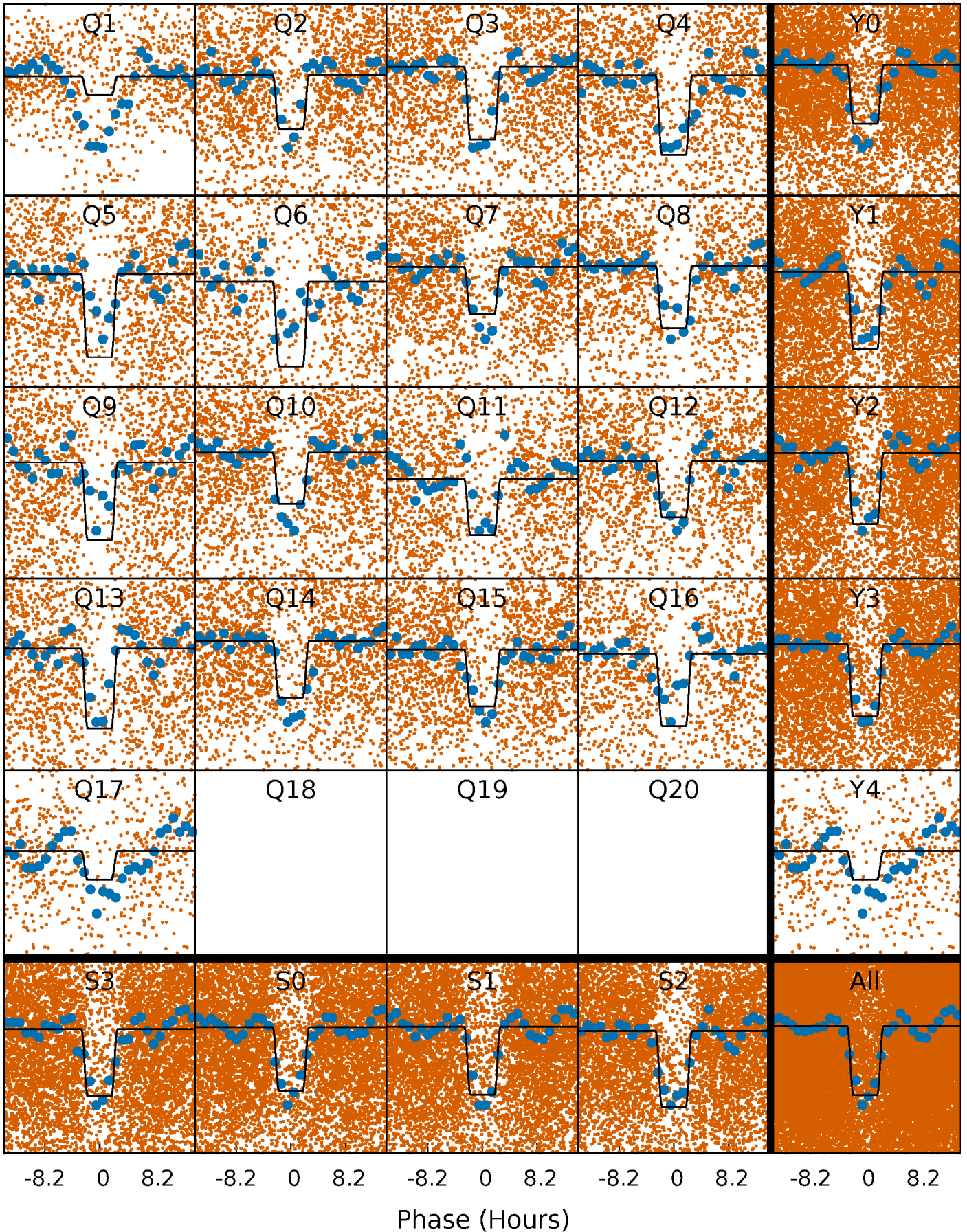
TCE 007175943-01 P= 1.896470 Days  $T_0=133.021630$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 007175943-01 P= 1.896438 Days  $T_0=133.012015$  (BKJD)

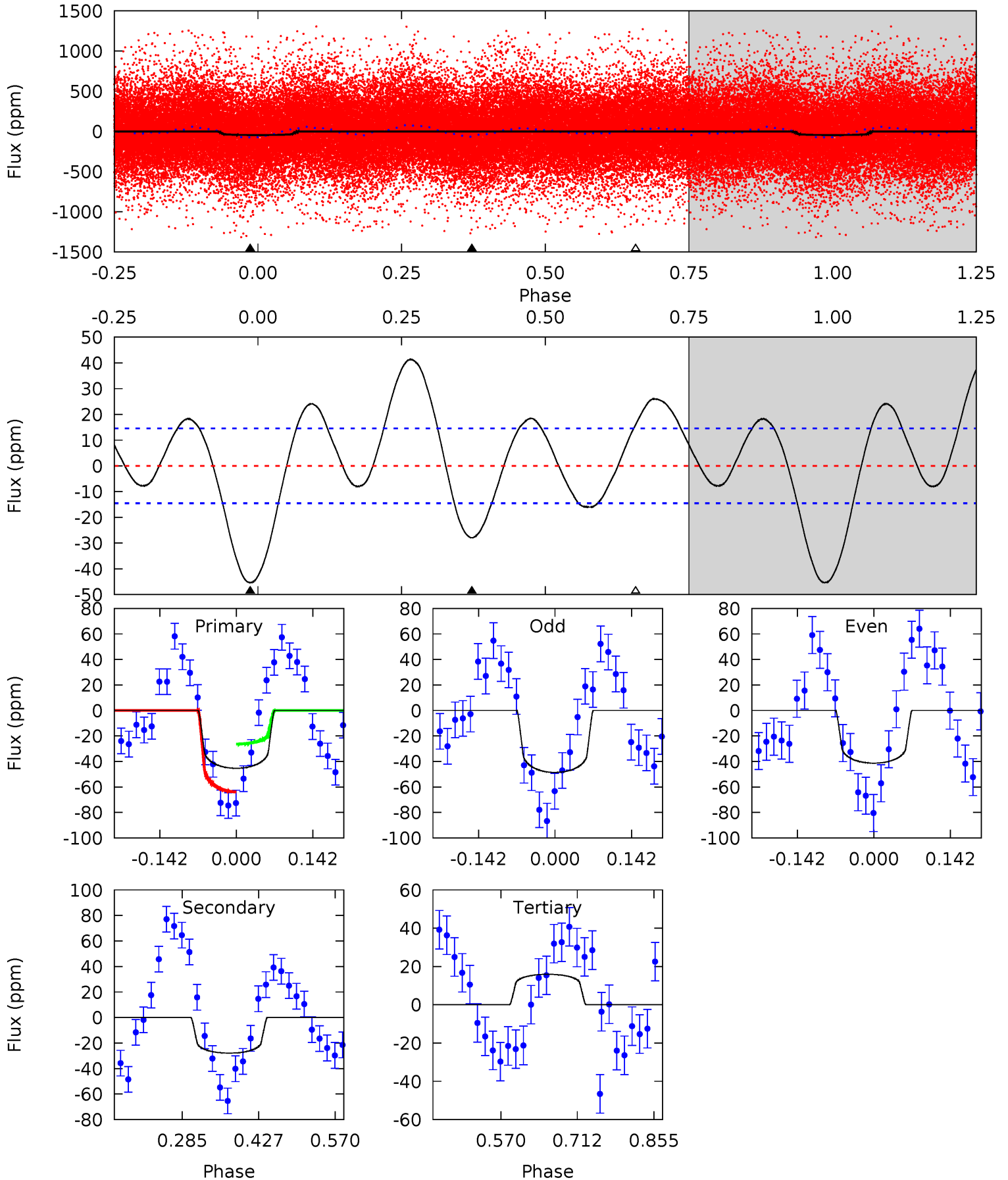




# DV Model-Shift Uniqueness Test

007175943-01, P = 1.896470 Days, E = 131.125160 Days

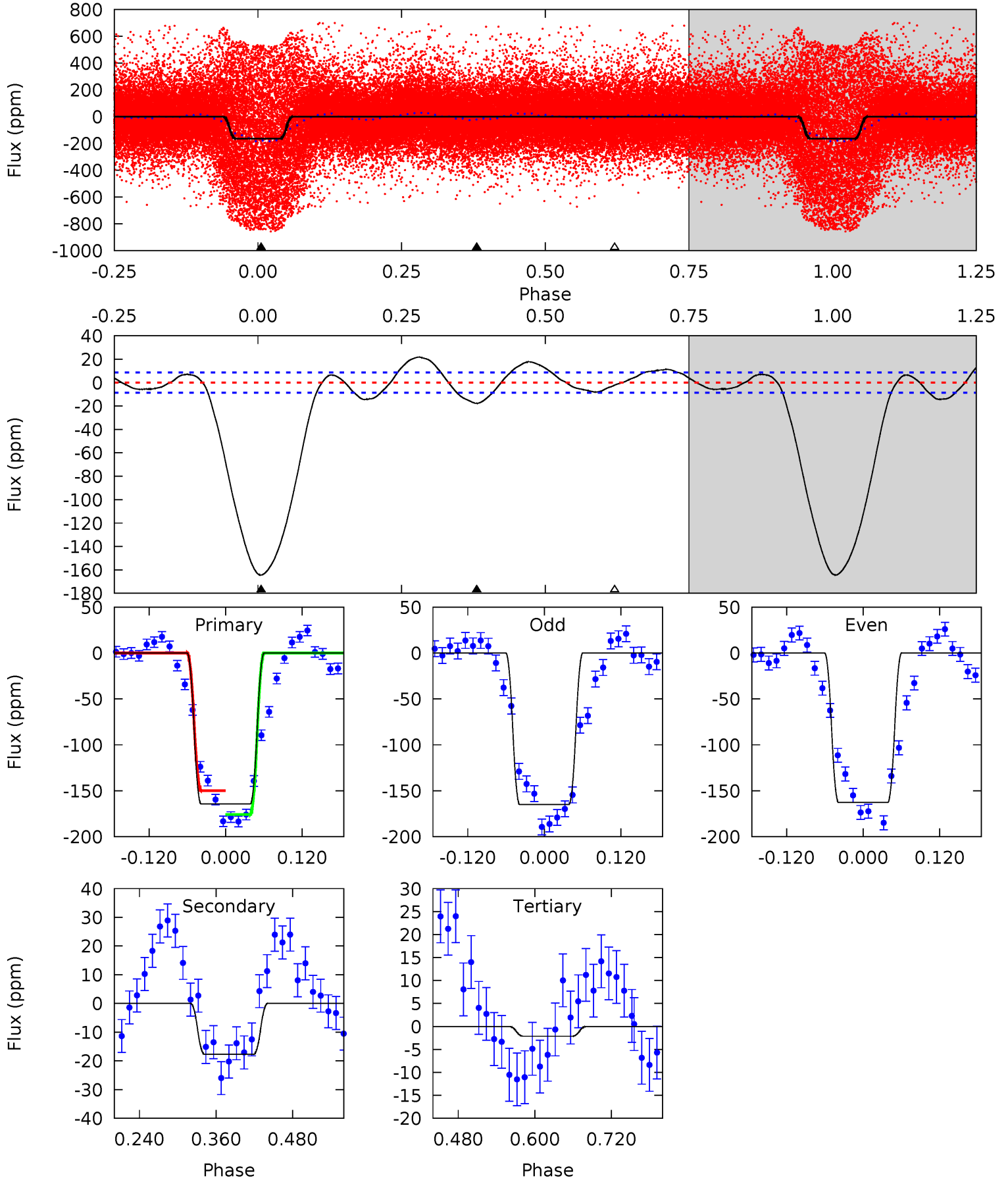
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	8.62	-4.92	0	4.49	1.47	3.83	18.9	14.0	13.5	8.62	1.13	0.96	0.48	5.77



# Alt Model-Shift Uniqueness Test

007175943-01, P = 1.896438 Days, E = 131.115577 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
85.6	9.22	1.11	0	4.53	1.55	3.79	84.5	85.6	8.11	9.22	0.58	0.71	0.12	6.62



### Stellar Parameters For KIC 007175943

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6983^{+183}_{-224}$	$3.665^{+0.332}_{-0.059}$	$-0.300^{+0.300}_{-0.250}$	$3.104^{+0.377}_{-1.130}$	$1.625^{+0.216}_{-0.324}$	$0.077^{+0.176}_{-0.020}$
	+3%/-3%	+9%/-2%	+100%/-83%	+12%/-36%	+13%/-20%	+230%/-26%
Source	PHO1	FLK73	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 007175943-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-28 \pm 3$	$1.58^{+0.67}_{-0.50}$	$3919^{+231}_{-391}$	$6977^{+1868}_{-1043}$	$7.619^{+8.630}_{-3.720}$
Alt.	$-18 \pm 2$	$3.32^{+0.77}_{-0.71}$	$3934^{+211}_{-367}$	$4244^{+412}_{-328}$	$1.070^{+0.684}_{-0.328}$

$T_{\text{max}}$  = 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

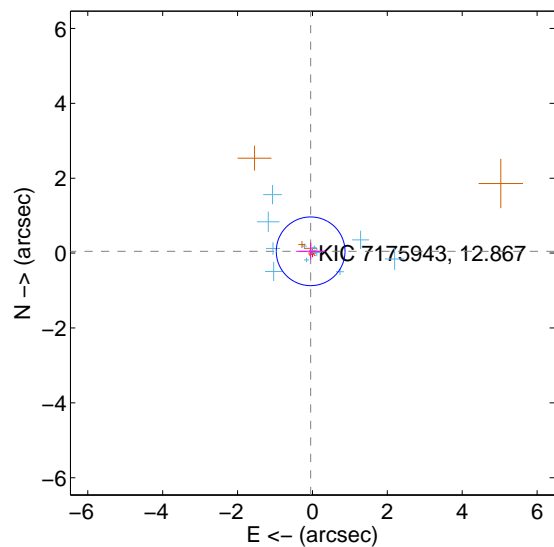
Supplemental centroid analysis for 007175943-01. Kepler magnitude: 12.87. Transit SNR 4.51

There are 12 quarters with good PRF difference image offsets

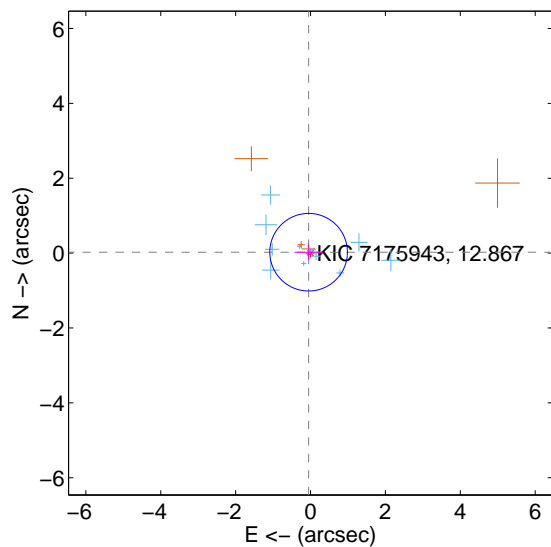
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.068 \pm 0.306$	0.22	$0.048 \pm 0.389$	$0.048 \pm 0.222$
PRF-fit source offset from KIC position	$0.056 \pm 0.345$	0.16	$0.051 \pm 0.380$	$0.024 \pm 0.204$
photometric centroid source offset	$2.16 \pm 1.07$	2.02	$-2.16 \pm 1.07$	$-0.10 \pm 0.80$

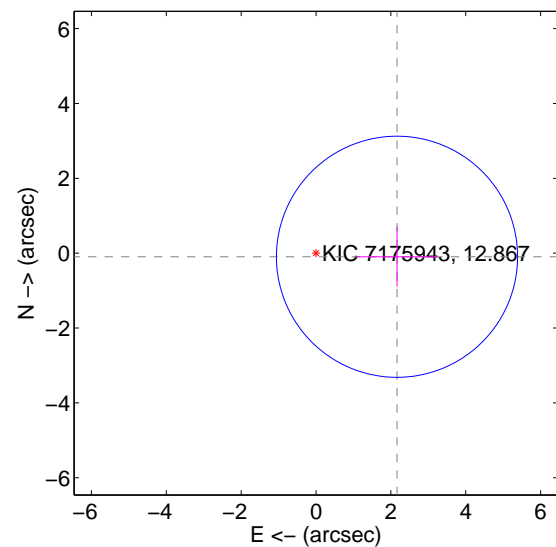
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

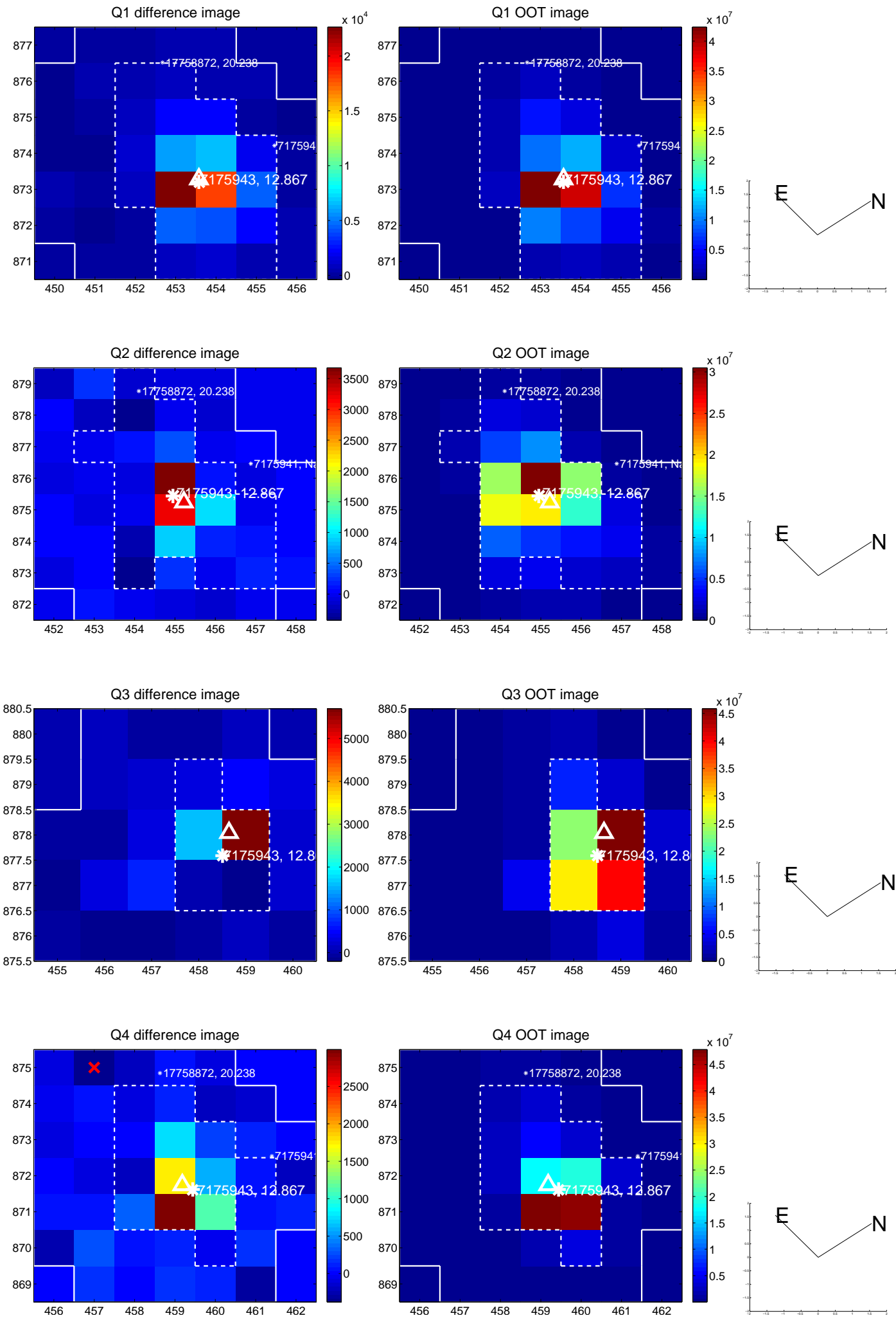


offset from photometric centroids

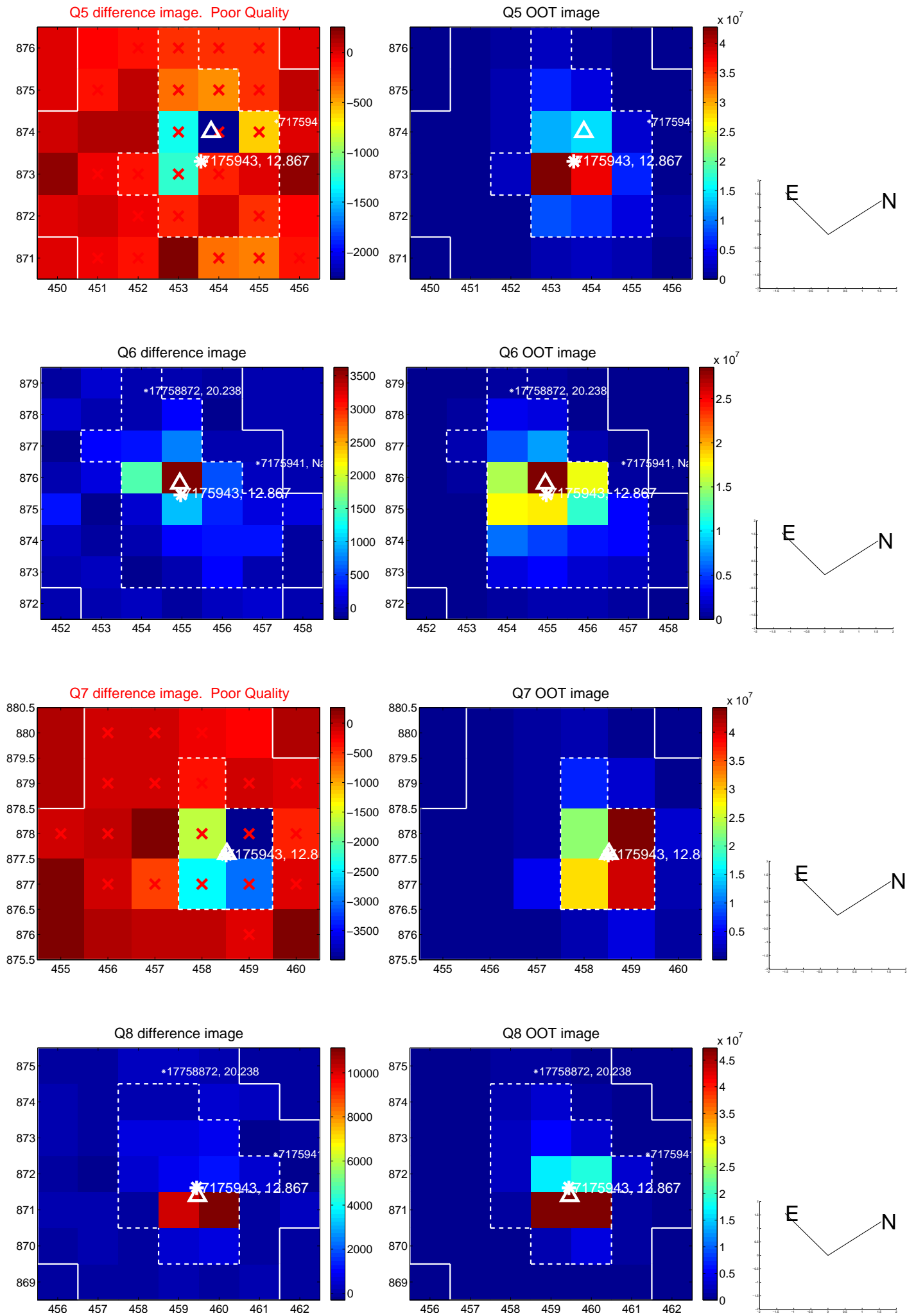


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

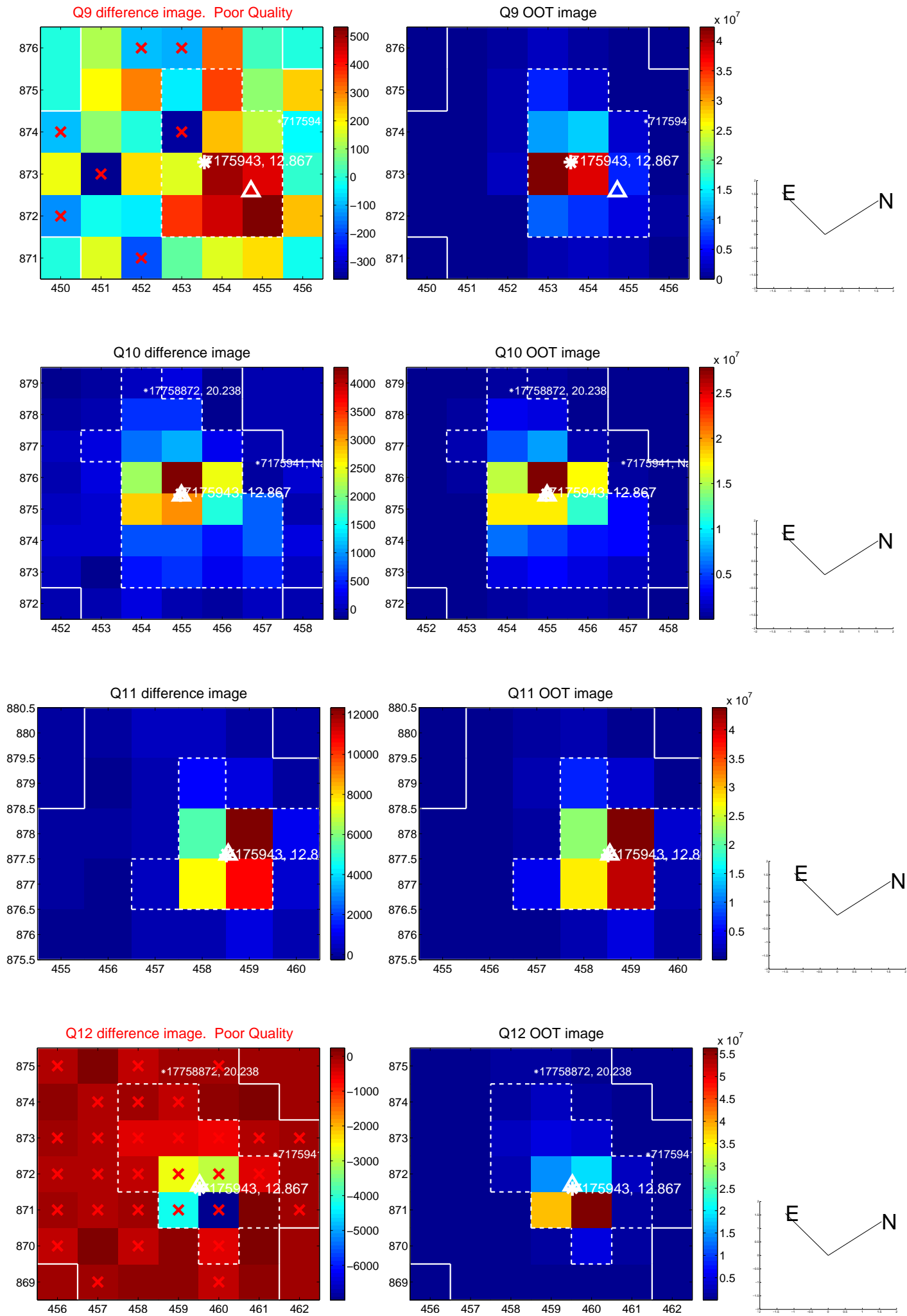


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

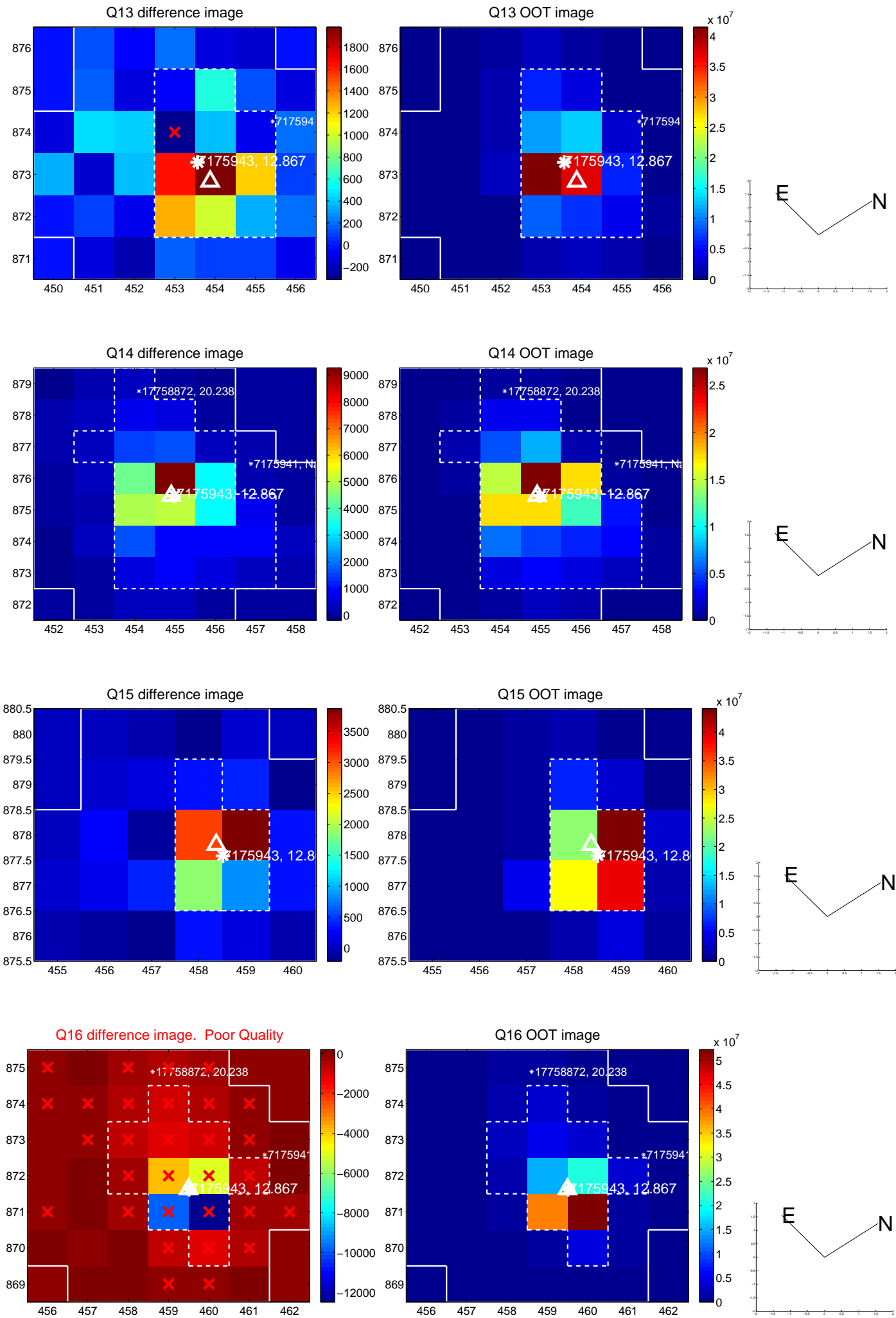




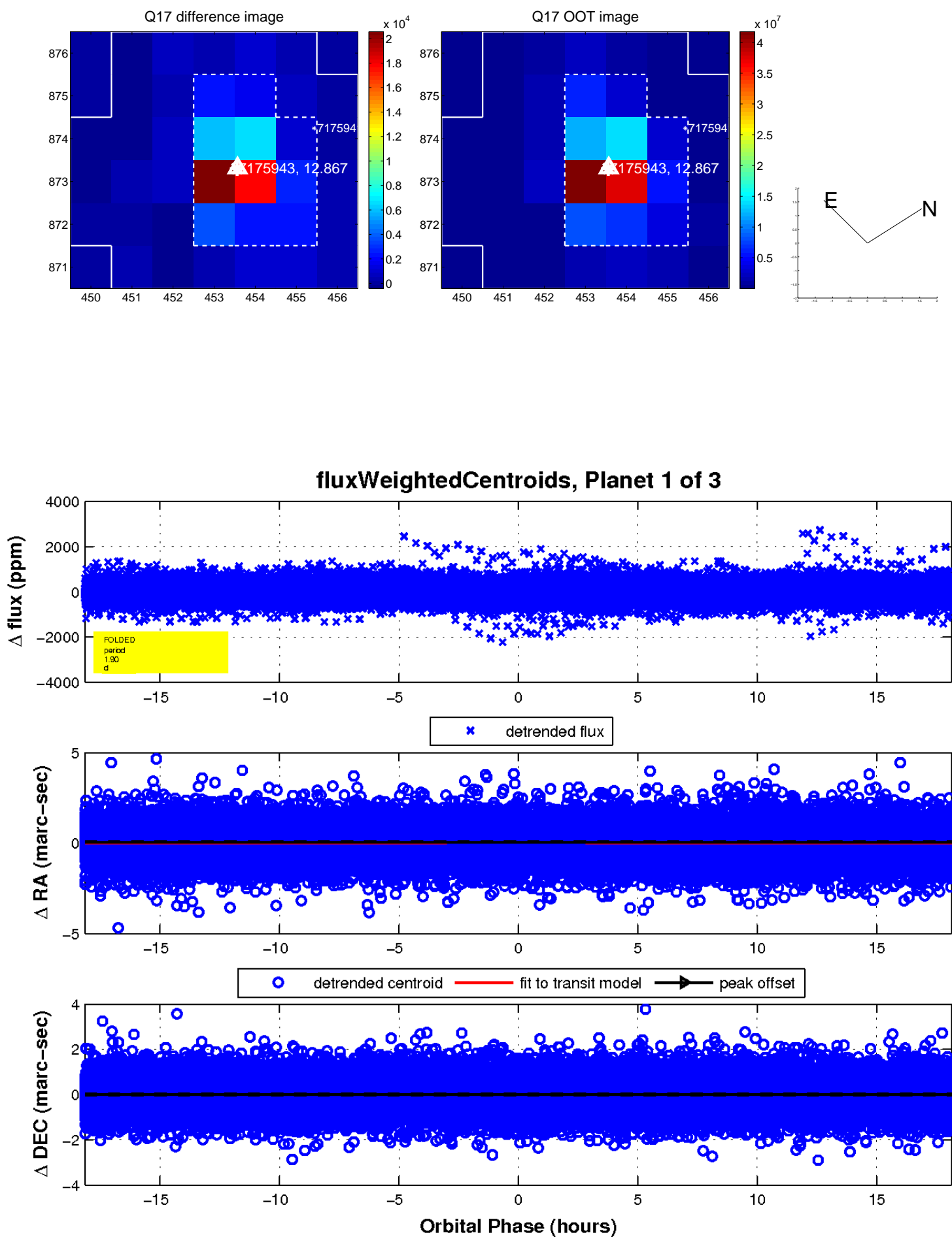
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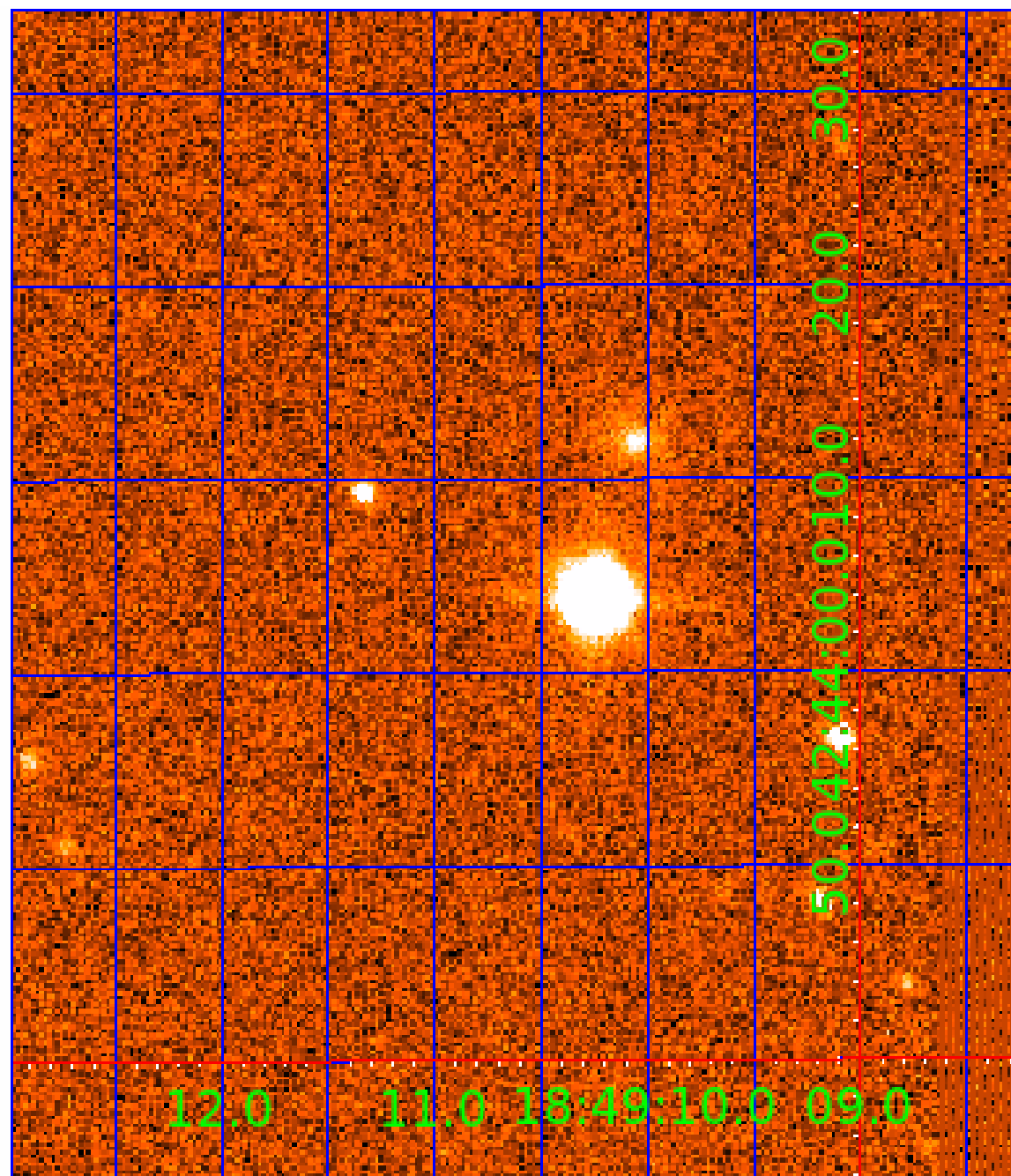


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 007175943

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
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007175943-02	OBS	No	1.896376	131.866757	55.5	5.103	11.4	10.9	3.10	6983	2.68	16511.16
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## Robovetter Results

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007175943-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
007175943-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

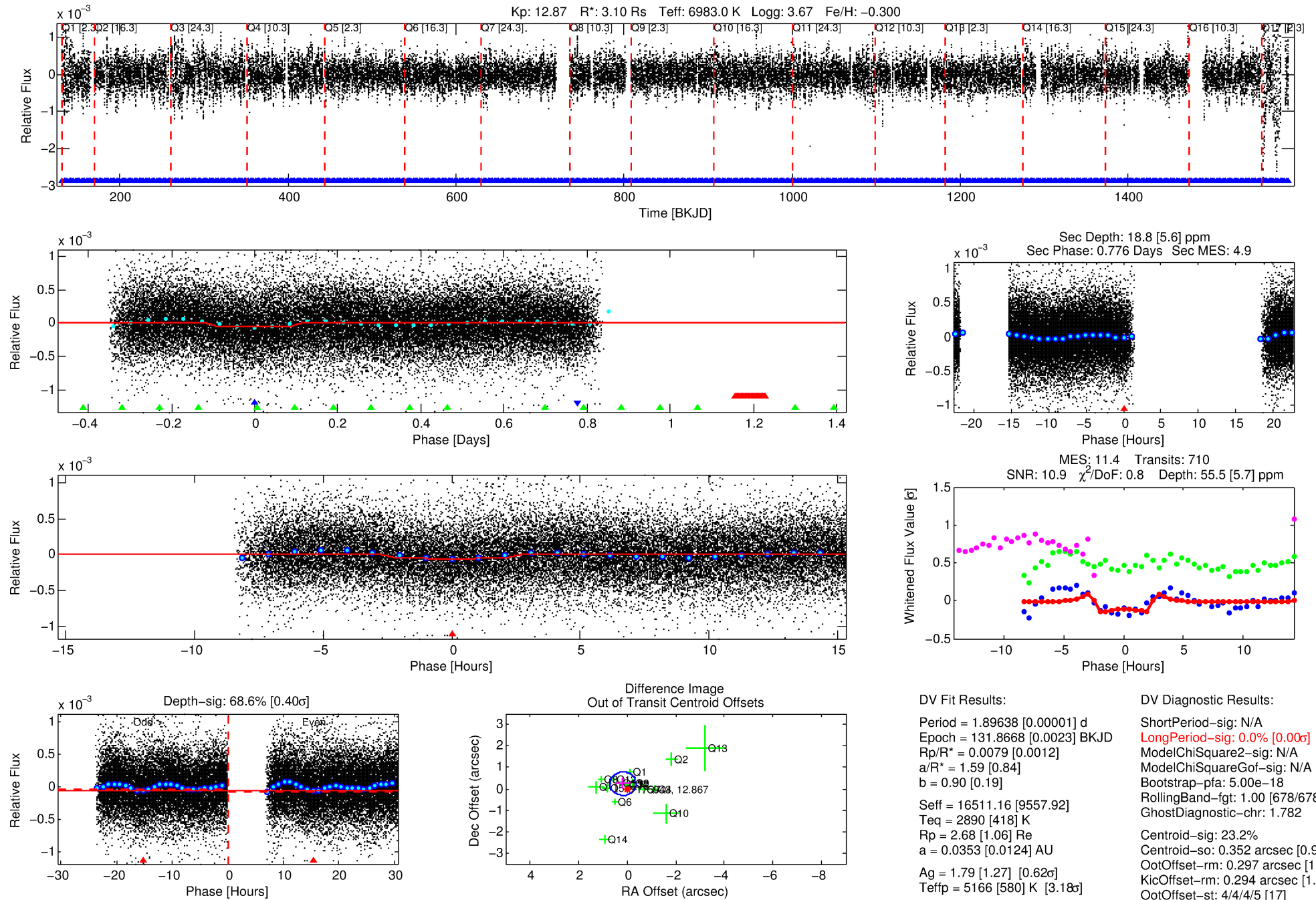
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007175943-02

No Significant Match Found

# DV One-Page Summary

KIC: 7175943 Candidate: 2 of 3 Period: 1.896 d



## DV Fit Results:

Period = 1.89638 [0.00001] d  
Epoch = 131.8668 [0.0023] BKJD  
Rp/R\* = 0.0079 [0.0012]  
a/R\* = 1.59 [0.84]  
b = 0.90 [0.19]  
Seff = 16511.16 [9557.92]  
Teff = 2890 [418] K  
Rp = 2.68 [1.06] Re  
a = 0.0353 [0.0124] AU  
Ag = 1.79 [1.27] [0.62 $\sigma$ ]  
Teffp = 5166 [580] K [3.18 $\sigma$ ]

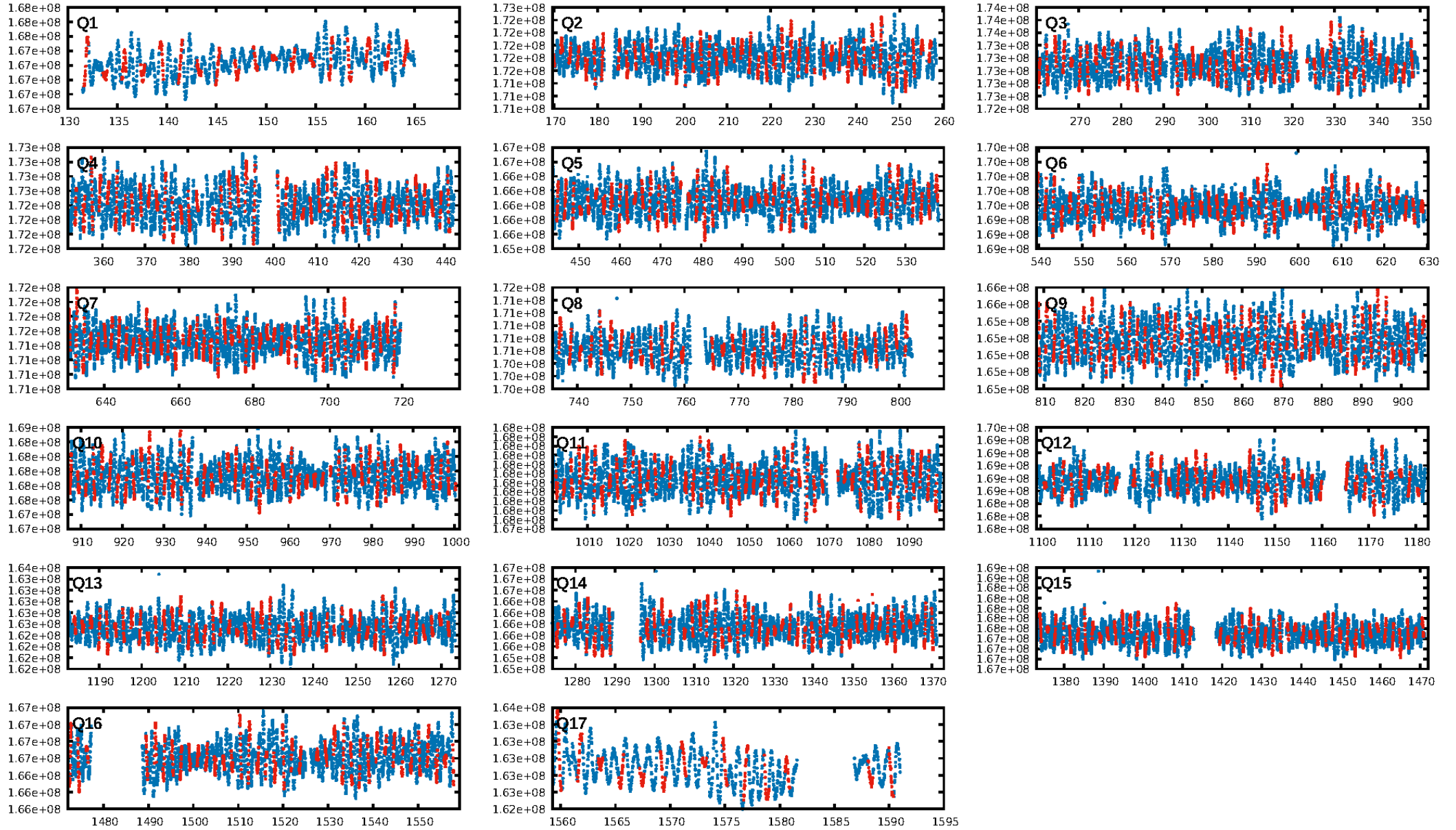
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.00e-18  
RollingBand-fgt: 1.00 [678/678]  
GhostDiagnostic-chr: 1.782  
Centroid-sig: 23.2%  
Centroid-so: 0.352 arcsec [0.94 $\sigma$ ]  
OotOffset-rm: 0.297 arcsec [1.64 $\sigma$ ]  
KicOffset-rm: 0.294 arcsec [1.53 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.65 [11/17]  
DiffImageOverlap-fno: 1.00 [17/17]

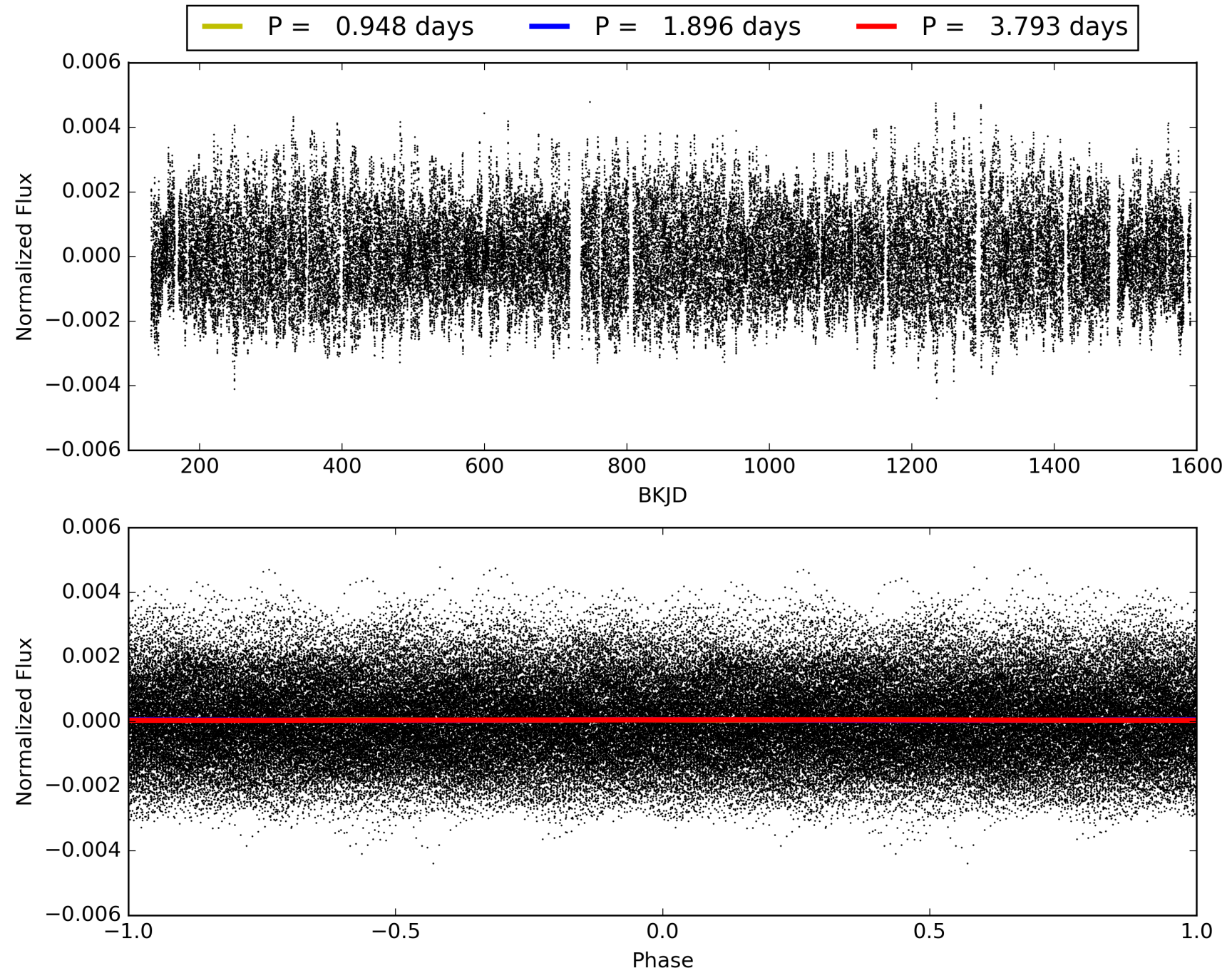
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:53:17 Z

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

# TCE 007175943-02, PDC Light Curves



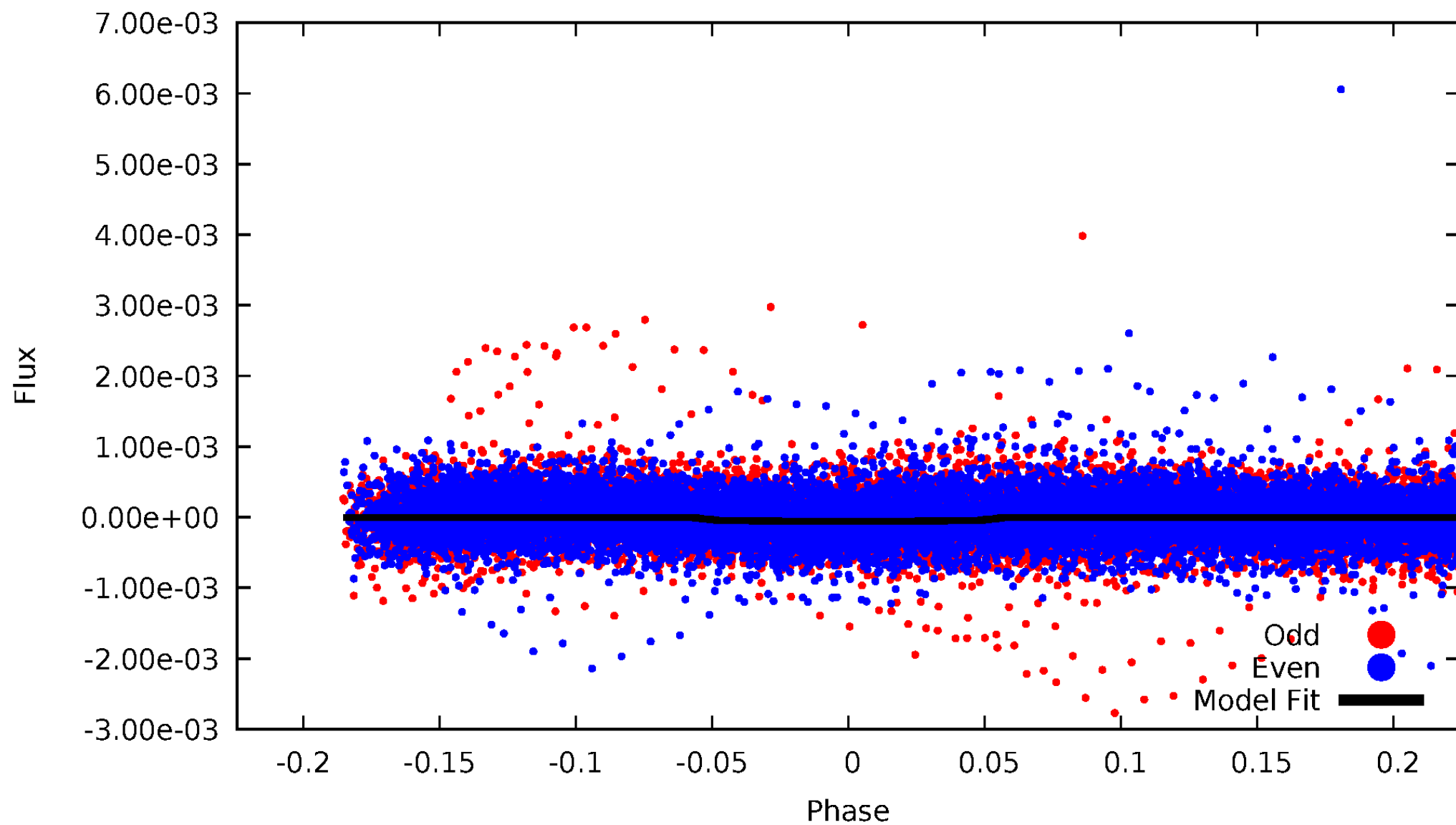
# TCE 007175943-02





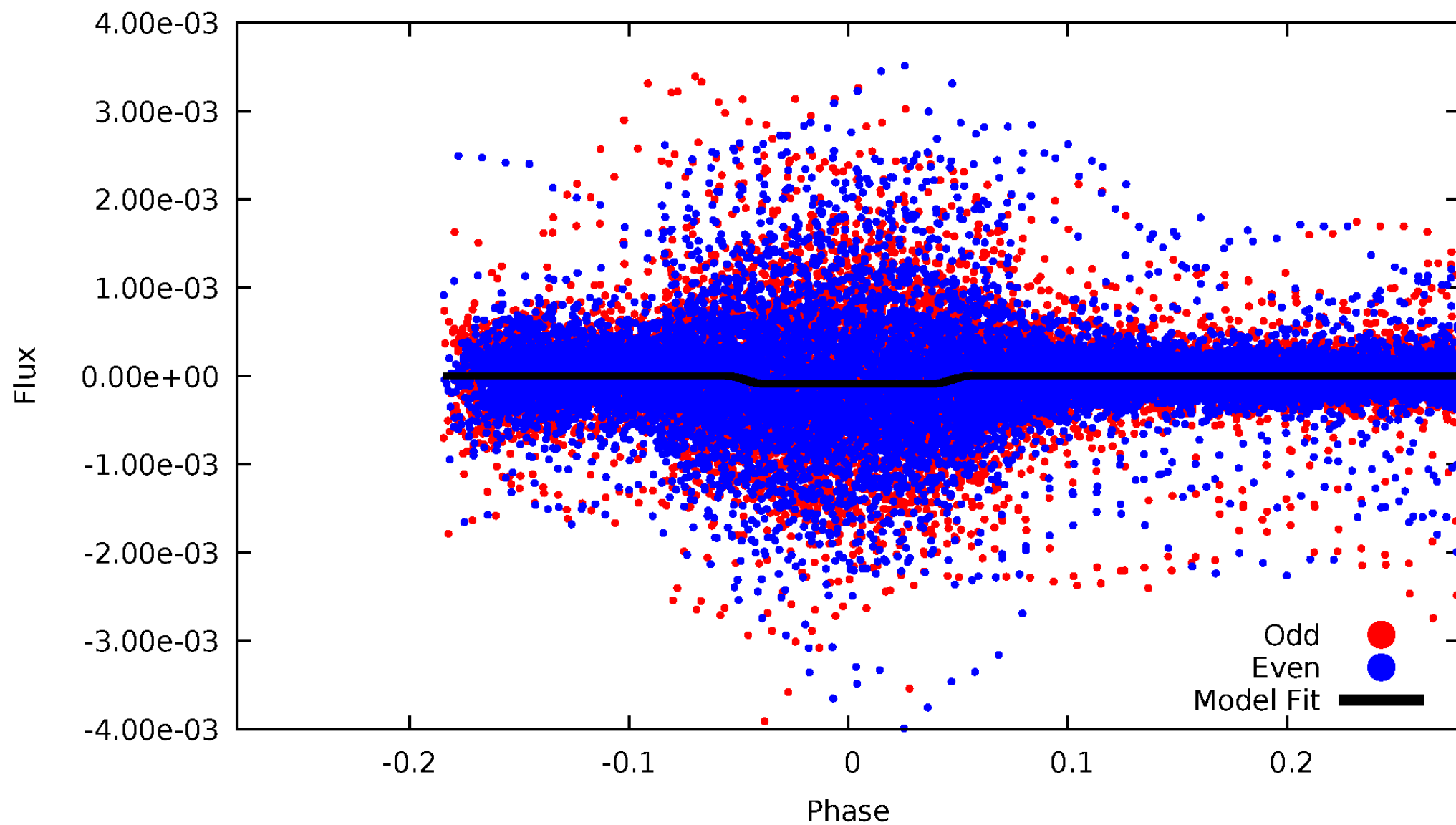
# DV Odd/Even

TCE 007175943-02



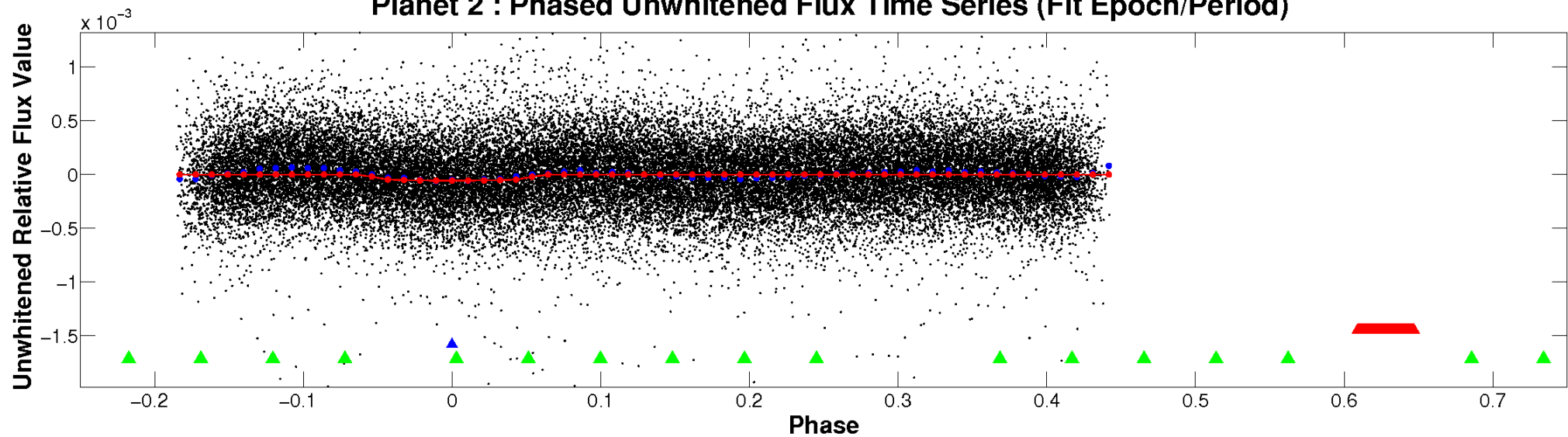
# ALT Odd/Even

TCE 007175943-02

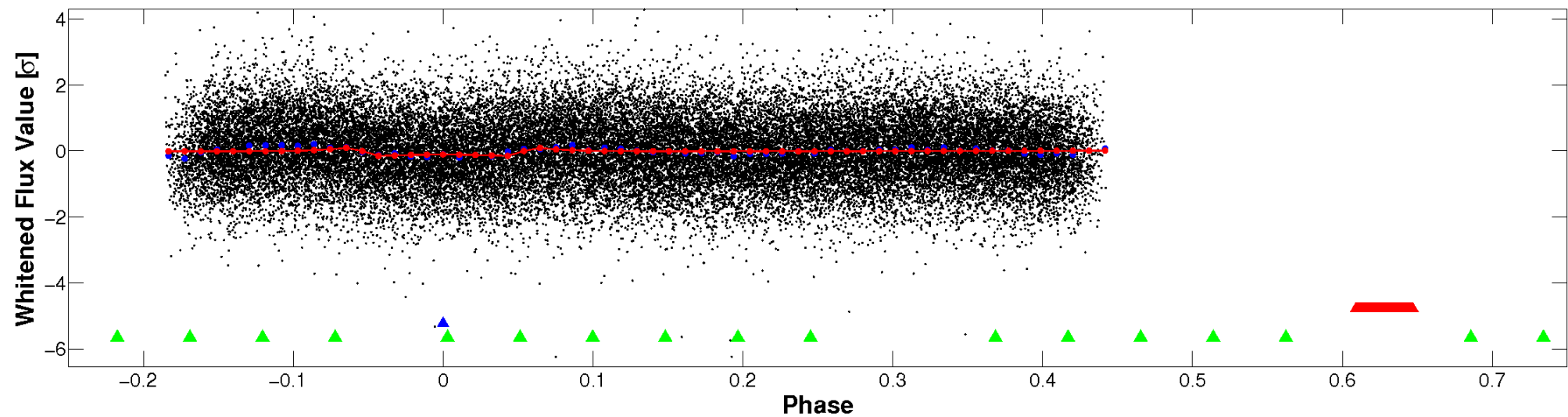


# Non-Whitened Vs. Whitened Light Curve

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

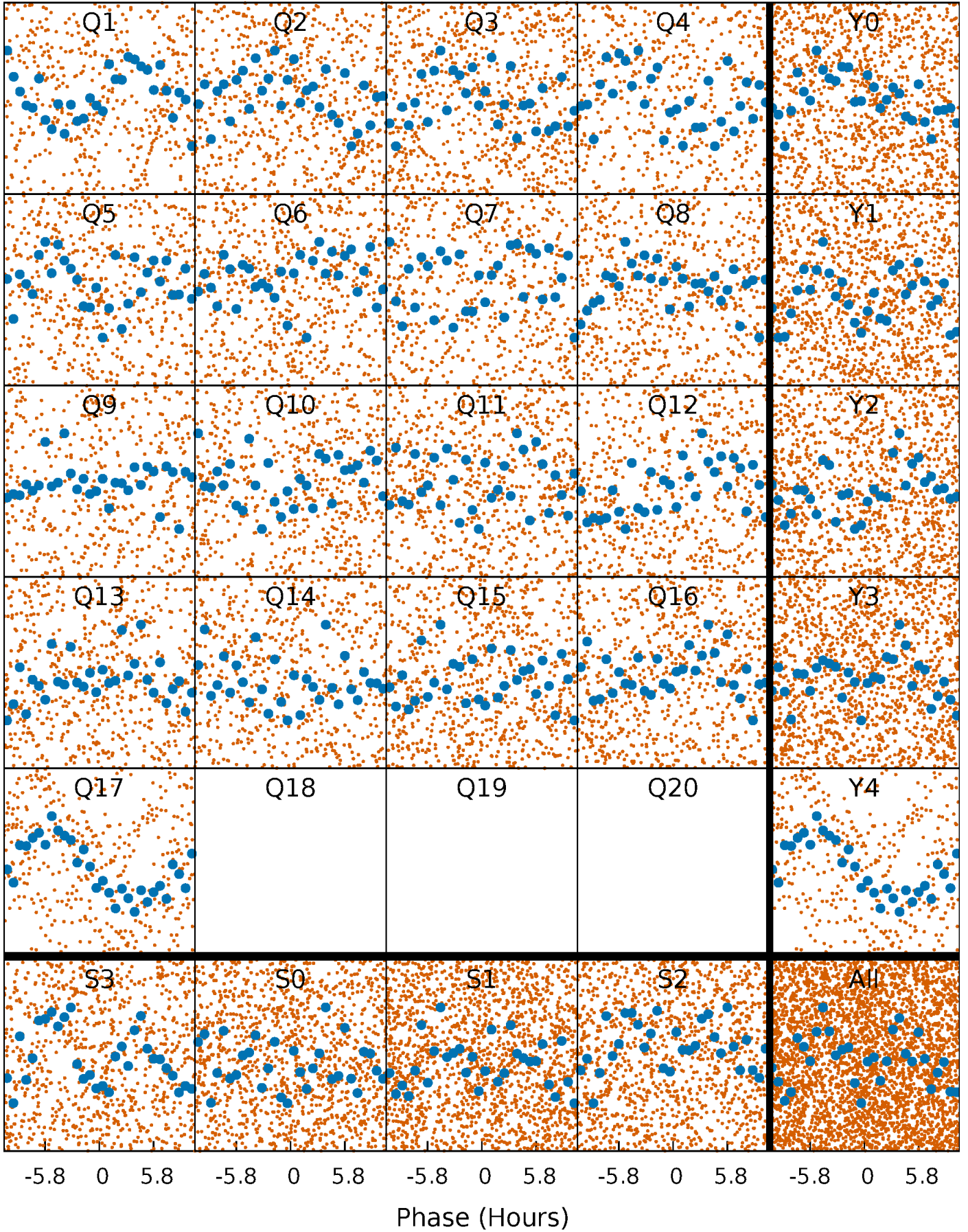


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

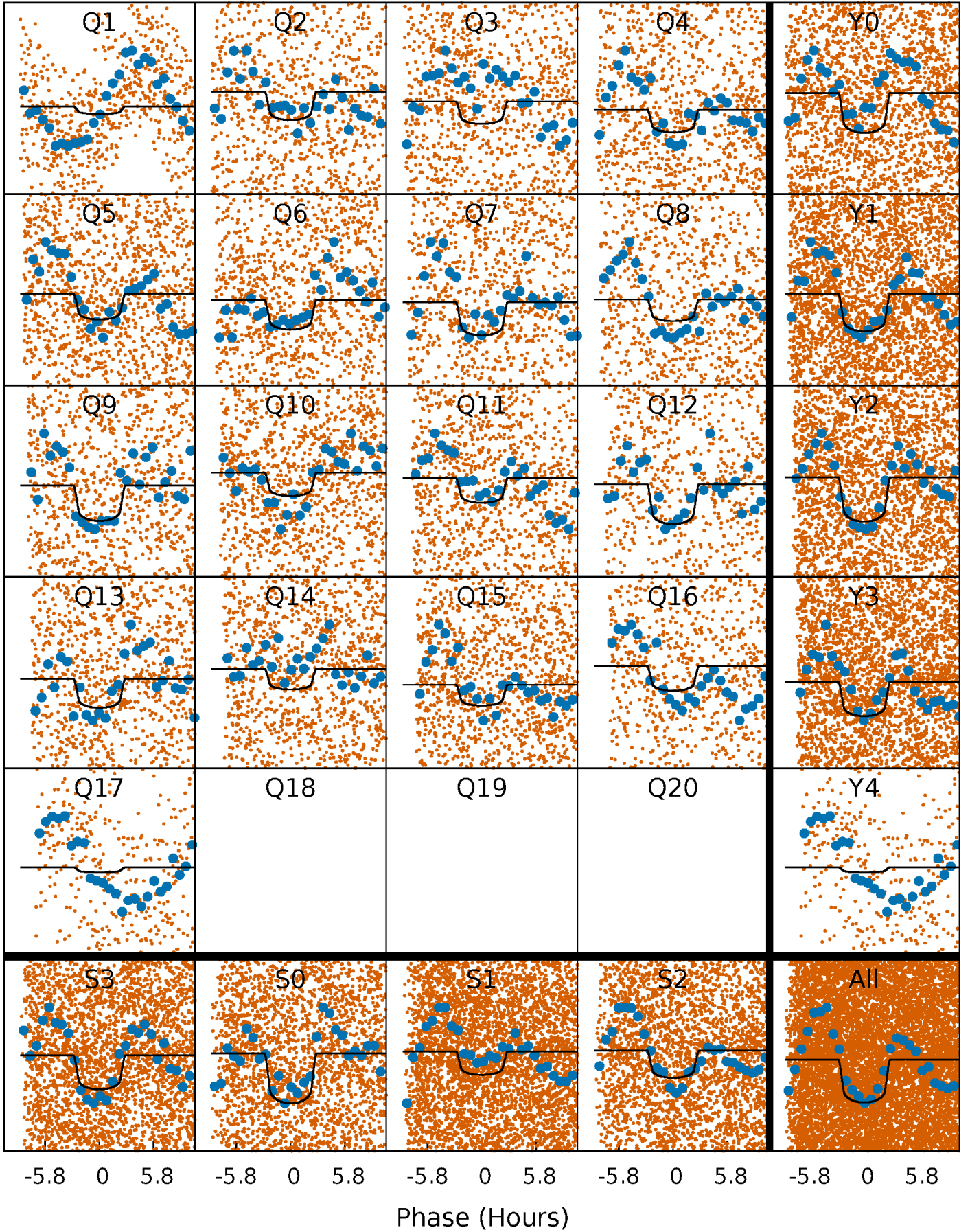
TCE 007175943-02   P= 1.896376 Days    $T_0=131.866757$  (BKJD)





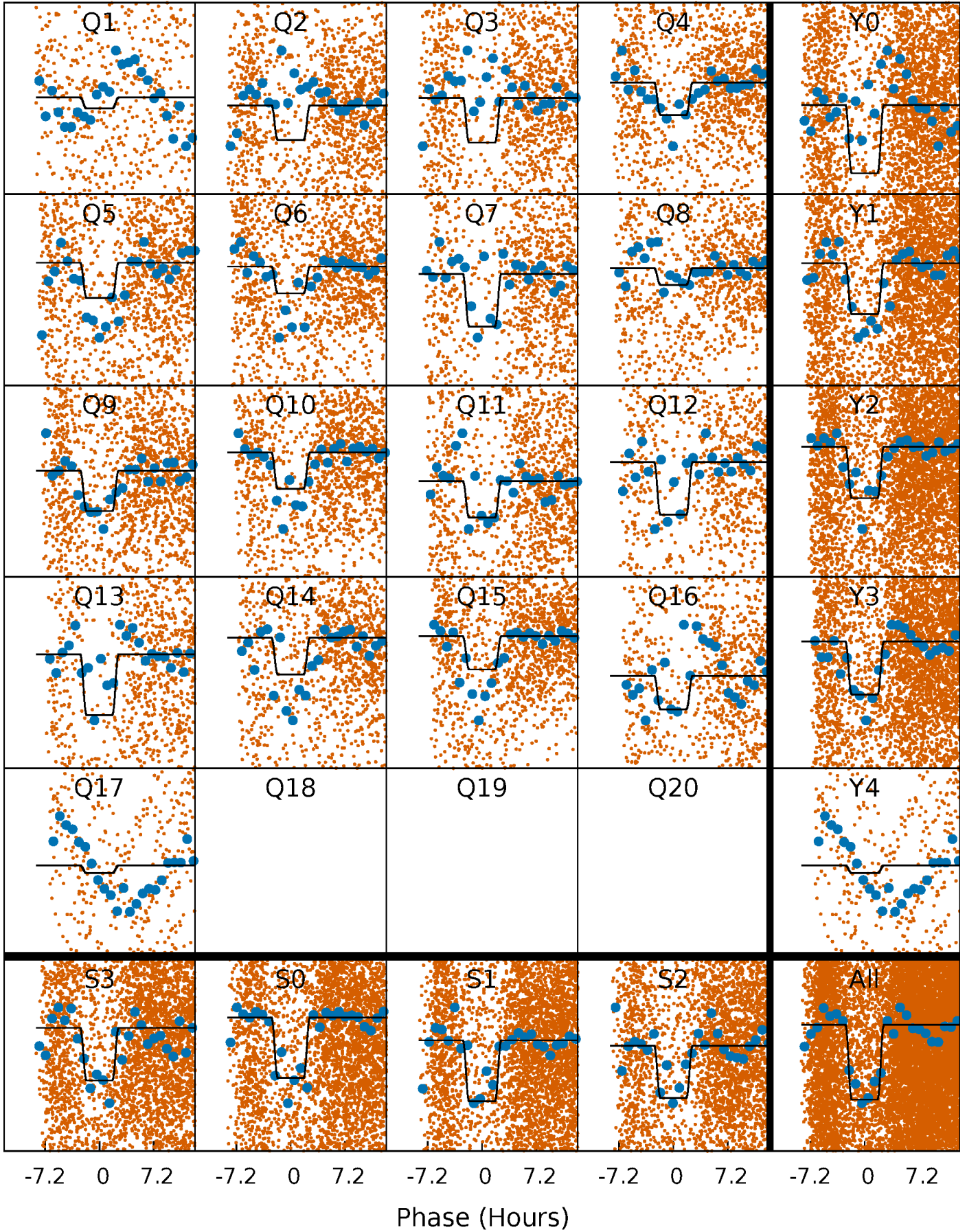
# DV Quarter-Phased Transit Curves

TCE 007175943-02   P= 1.896376 Days    $T_0=131.866757$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

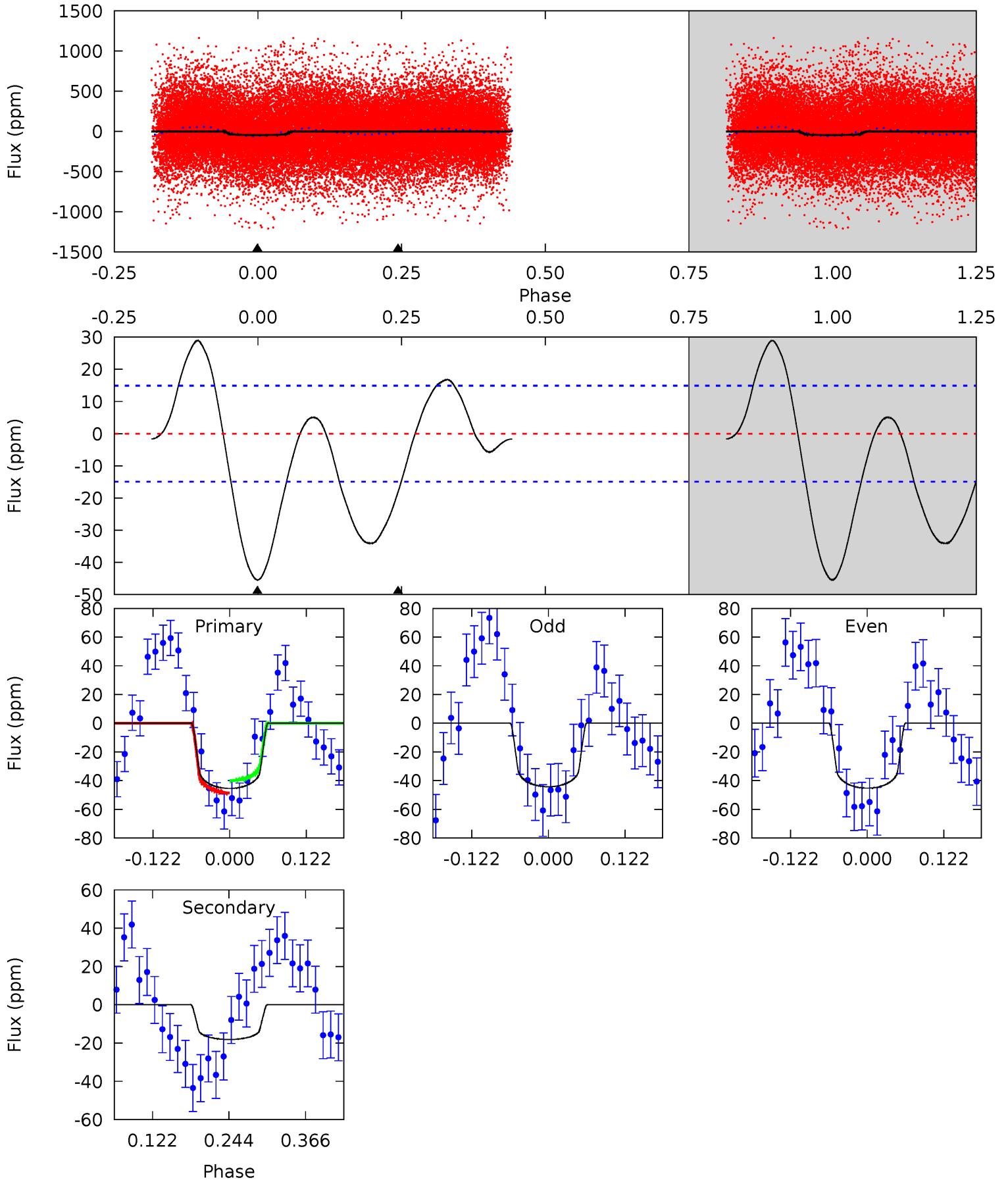
TCE 007175943-02   P= 1.896366 Days    $T_0=131.865378$  (BKJD)



# DV Model-Shift Uniqueness Test

007175943-02, P = 1.896376 Days, E = 129.970381 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
13.8	5.51	0	0	4.52	1.55	2.61	13.8	13.8	5.51	5.51	0.15	0.94	0.39	1.27

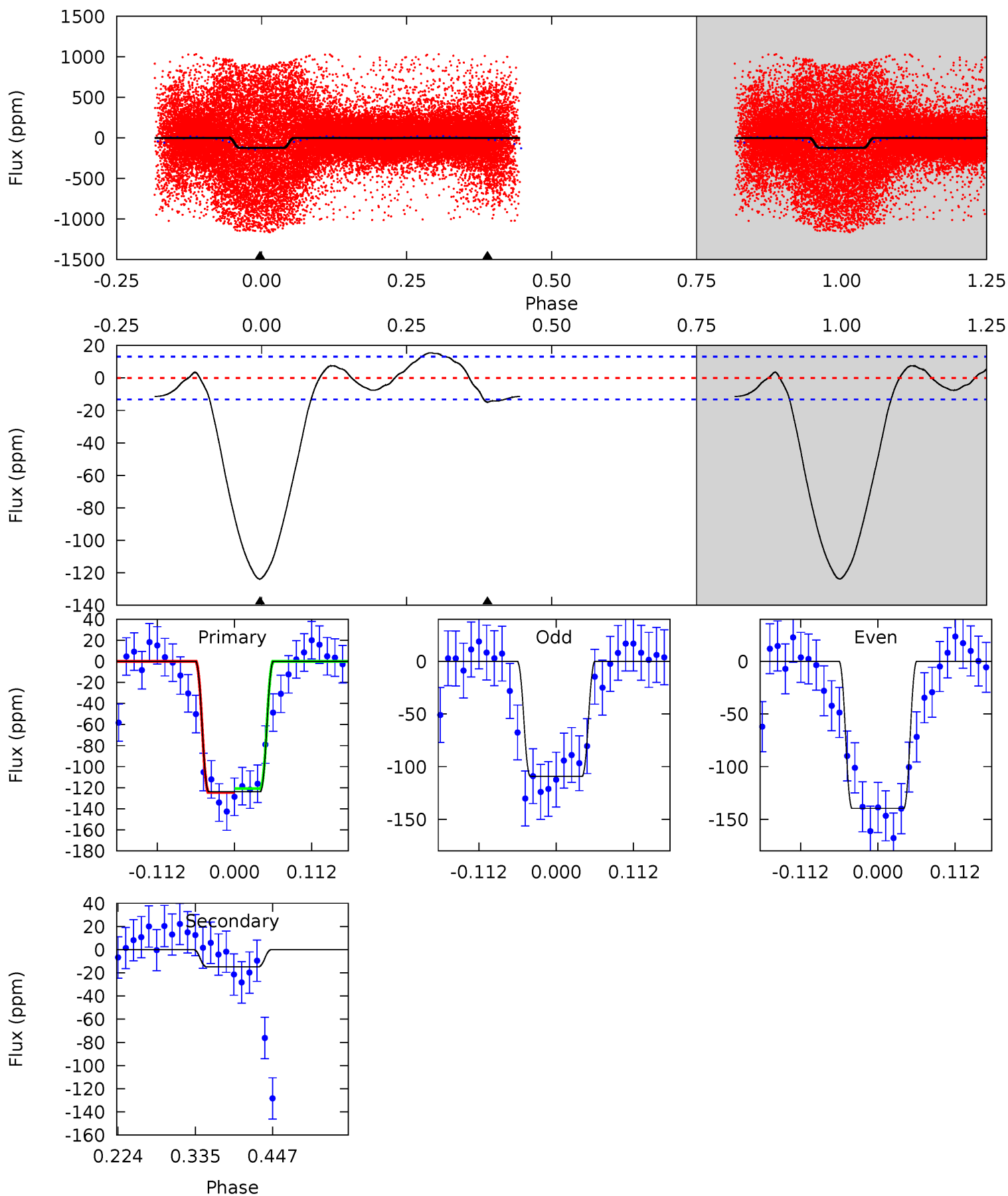




# Alt Model-Shift Uniqueness Test

007175943-02, P = 1.896366 Days, E = 129.969012 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
42.7	5.12	0	0	4.54	1.59	2.12	42.7	42.7	5.12	5.12	5.26	0.76	0.11	0.54





### Stellar Parameters For KIC 007175943

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6983^{+183}_{-224}$	$3.665^{+0.332}_{-0.059}$	$-0.300^{+0.300}_{-0.250}$	$3.104^{+0.377}_{-1.130}$	$1.625^{+0.216}_{-0.324}$	$0.077^{+0.176}_{-0.020}$
	+3%/-3%	+9%/-2%	+100%/-83%	+12%/-36%	+13%/-20%	+230%/-26%
Source	PHO1	FLK73	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 007175943-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-18 \pm 3$	$2.52^{+0.55}_{-0.58}$	$3916^{+229}_{-311}$	$4952^{+529}_{-462}$	$1.981^{+1.284}_{-0.688}$
Alt.	$-15 \pm 3$	$3.02^{+0.57}_{-0.69}$	$3923^{+219}_{-347}$	$4337^{+356}_{-374}$	$1.134^{+0.703}_{-0.361}$

$T_{\text{max}}$  = 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

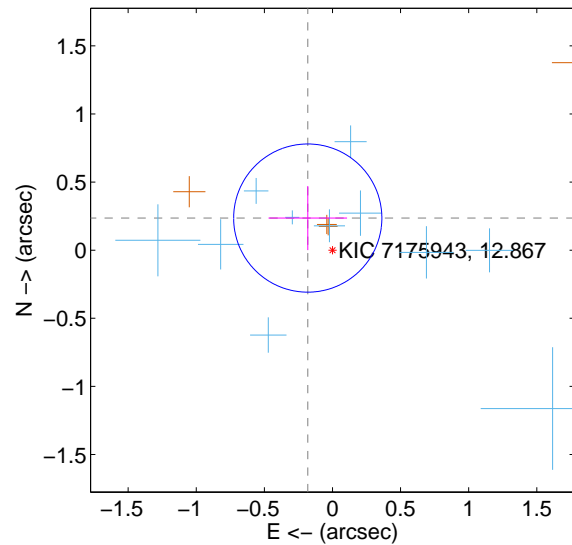
Supplemental centroid analysis for 007175943-02. Kepler magnitude: 12.87. Transit SNR 10.92

There are 11 quarters with good PRF difference image offsets

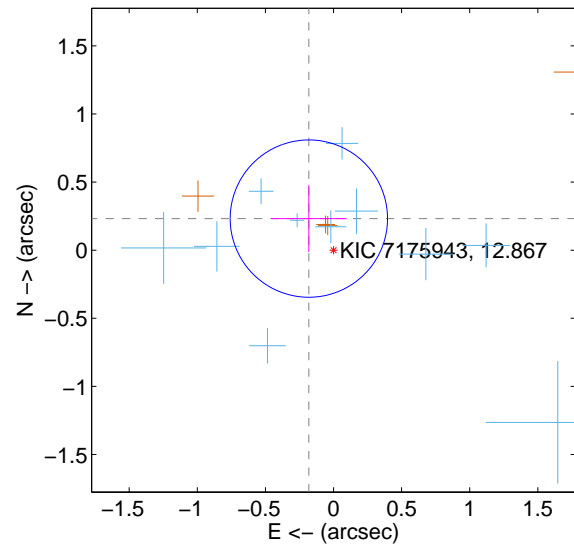
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.297 \pm 0.181$	1.64	$0.181 \pm 0.288$	$0.236 \pm 0.235$
PRF-fit source offset from KIC position	$0.294 \pm 0.192$	1.53	$0.181 \pm 0.278$	$0.232 \pm 0.246$
photometric centroid source offset	$0.35 \pm 0.38$	0.94	$0.01 \pm 0.50$	$-0.35 \pm 0.38$

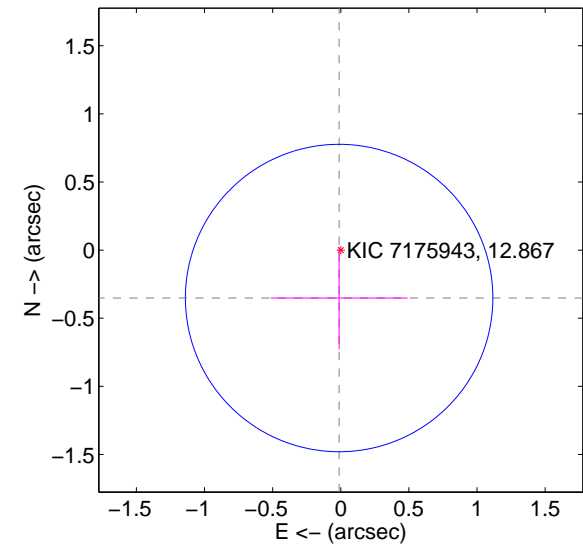
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

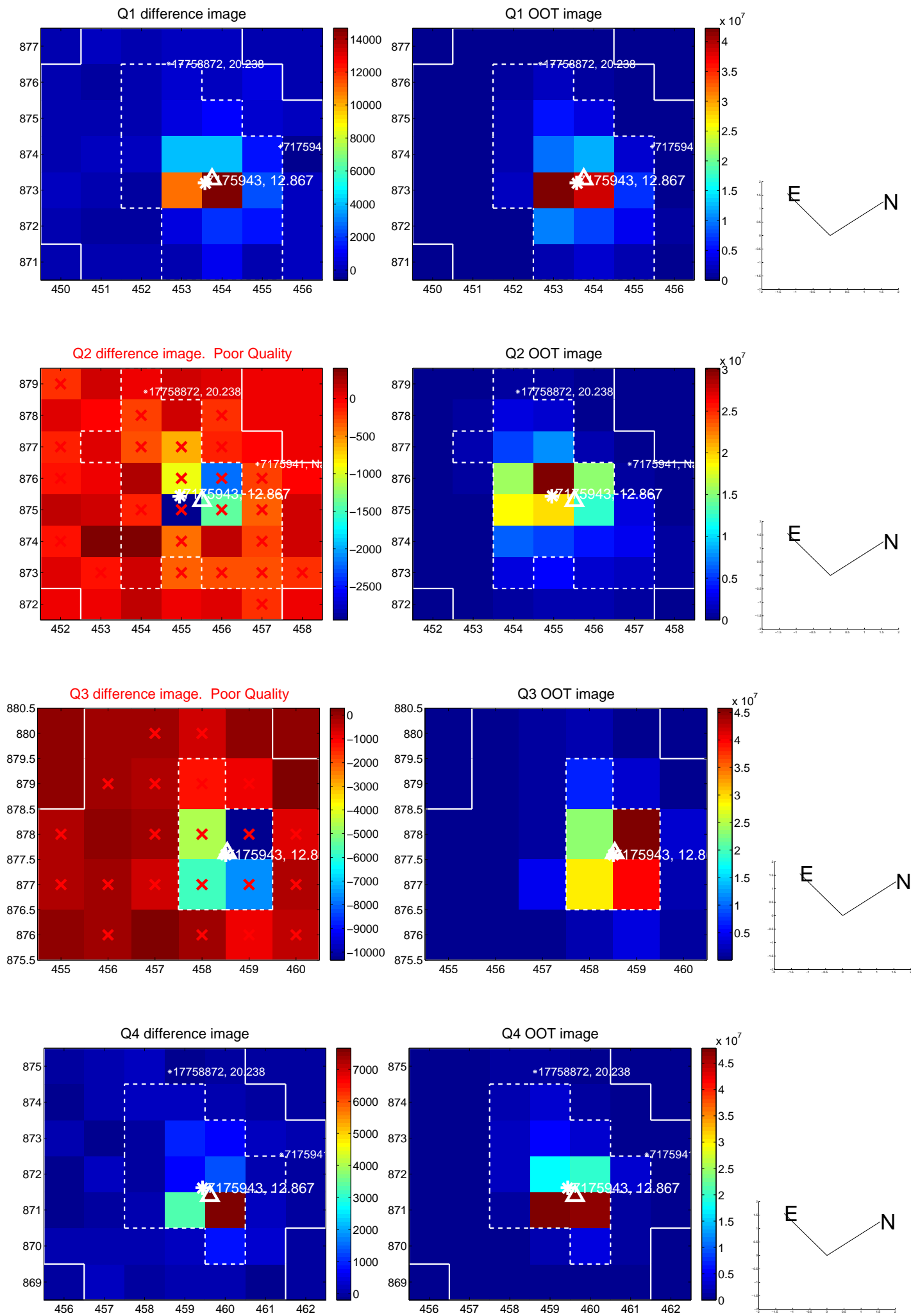


offset from photometric centroids

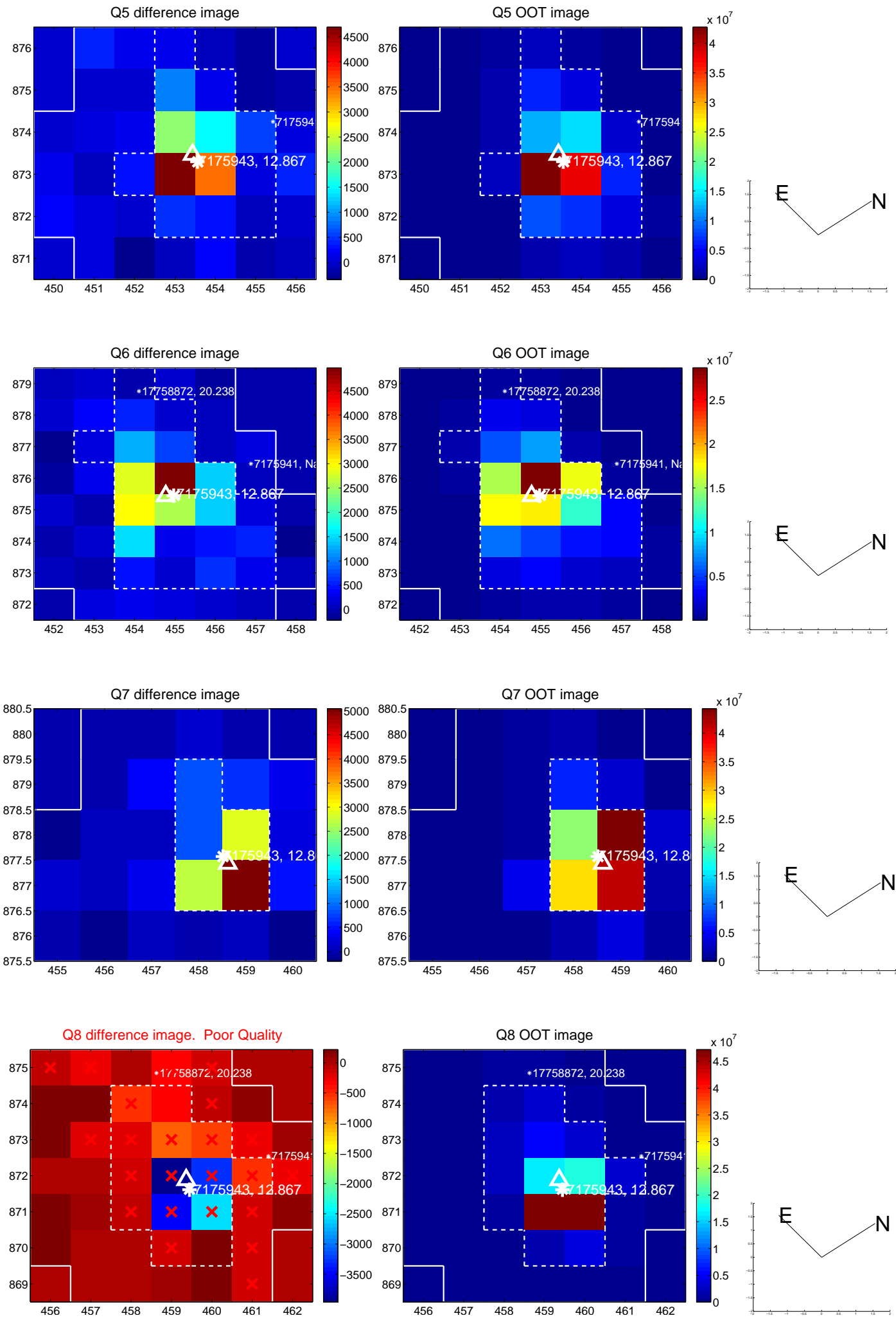


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

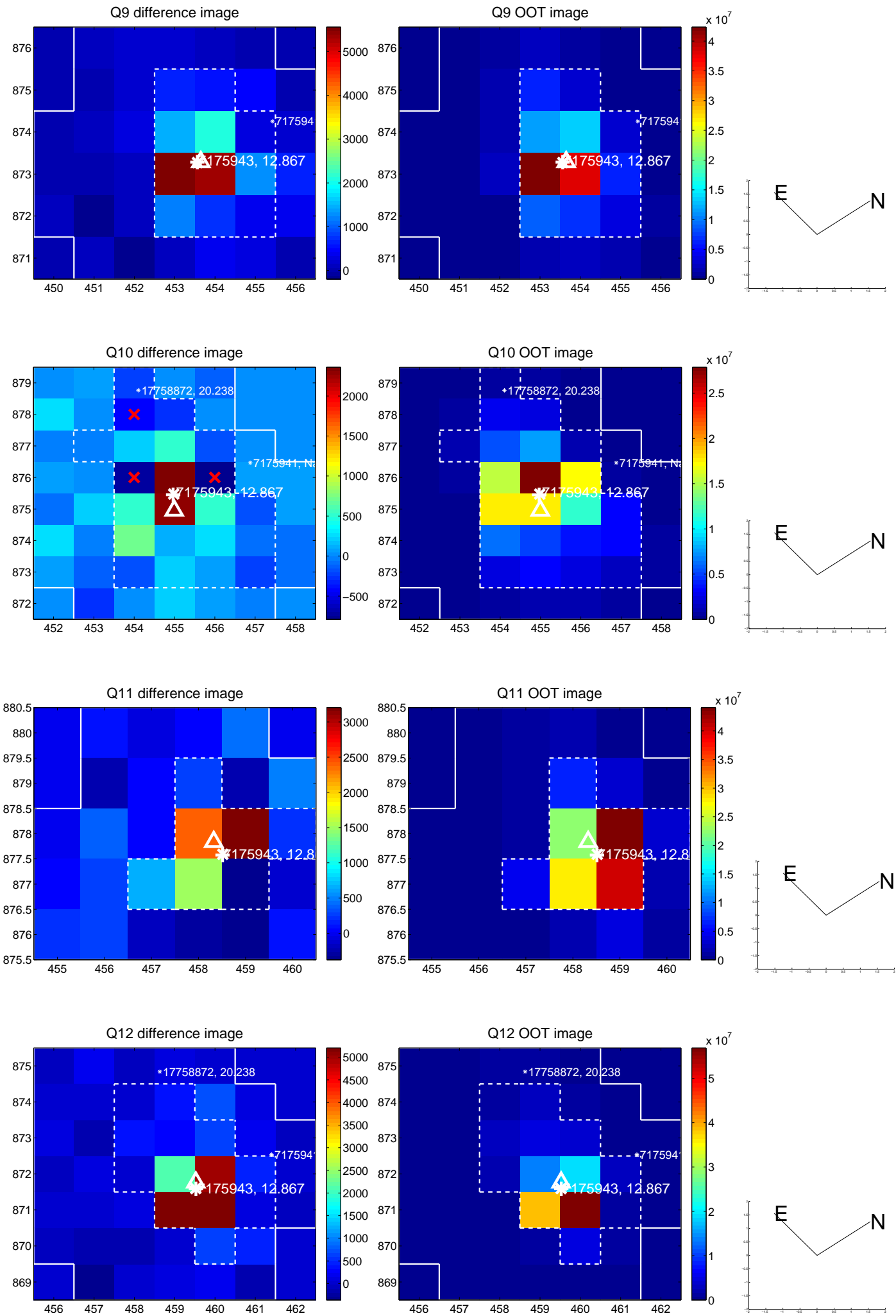
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

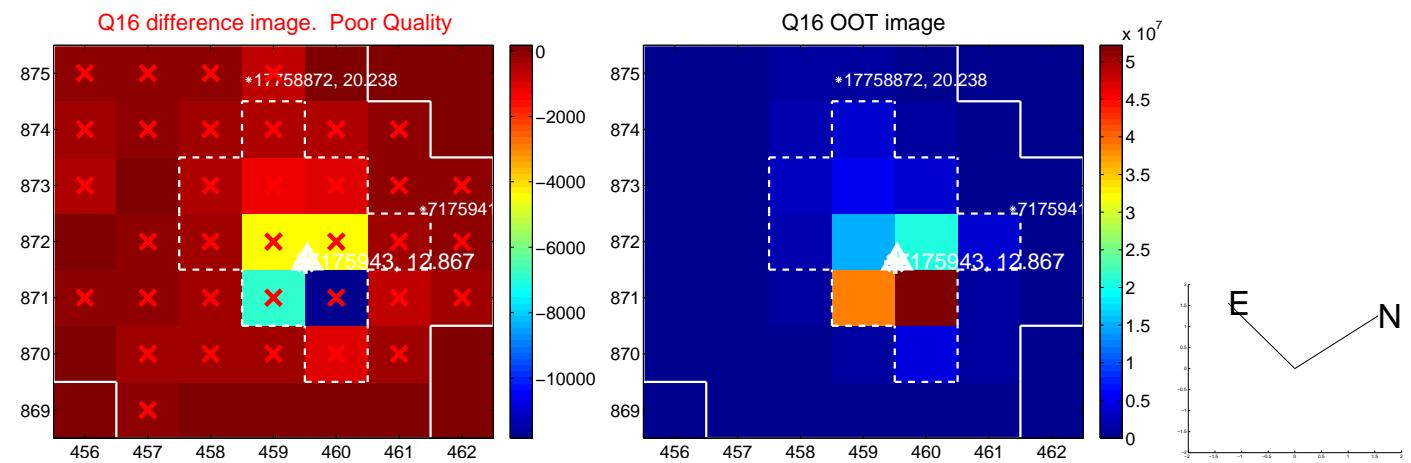
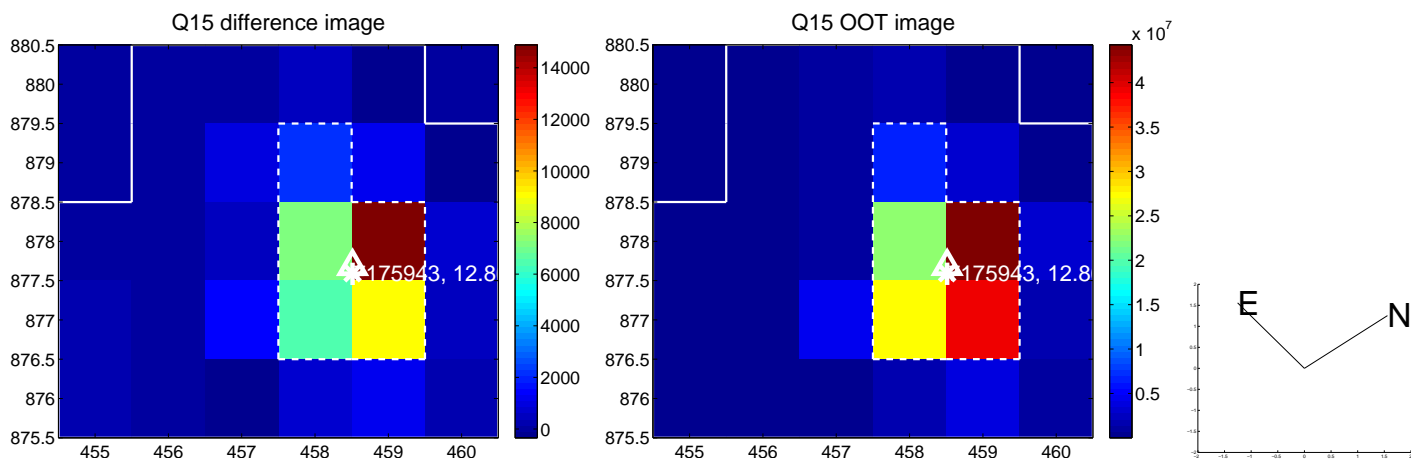
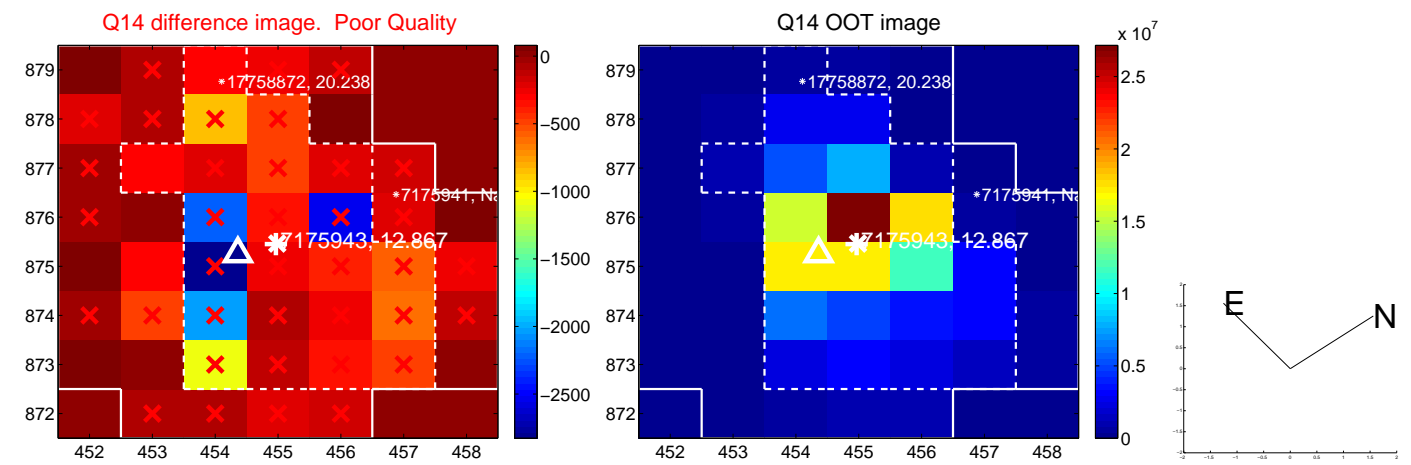
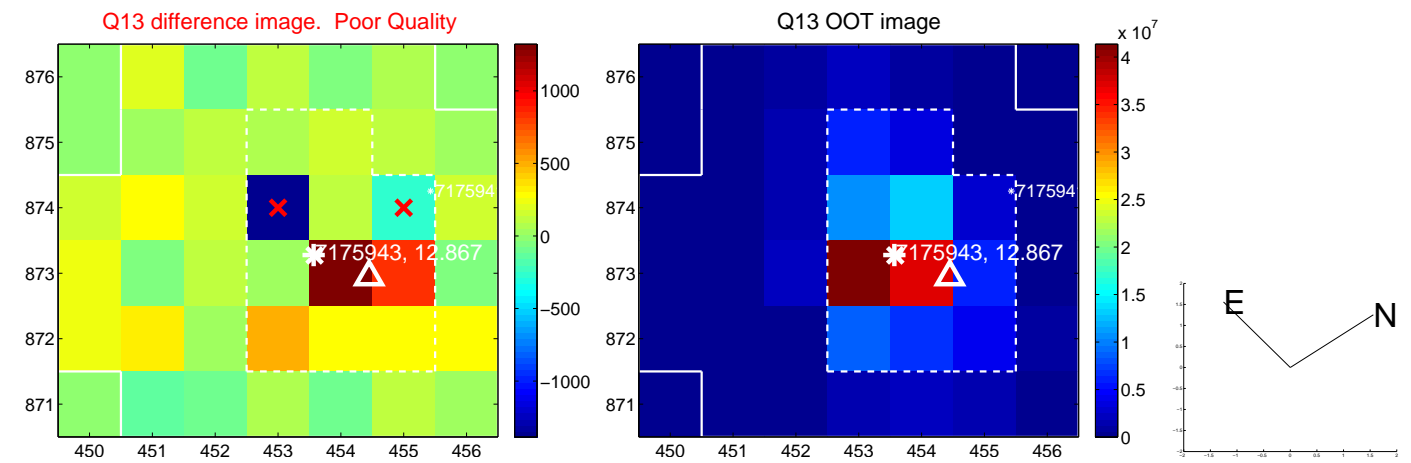


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

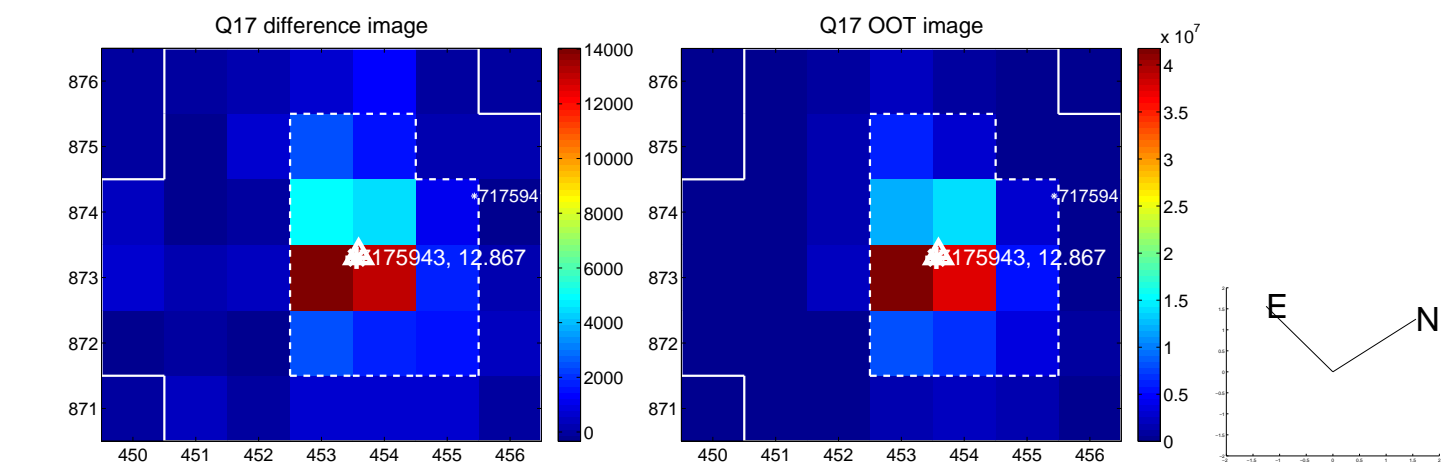




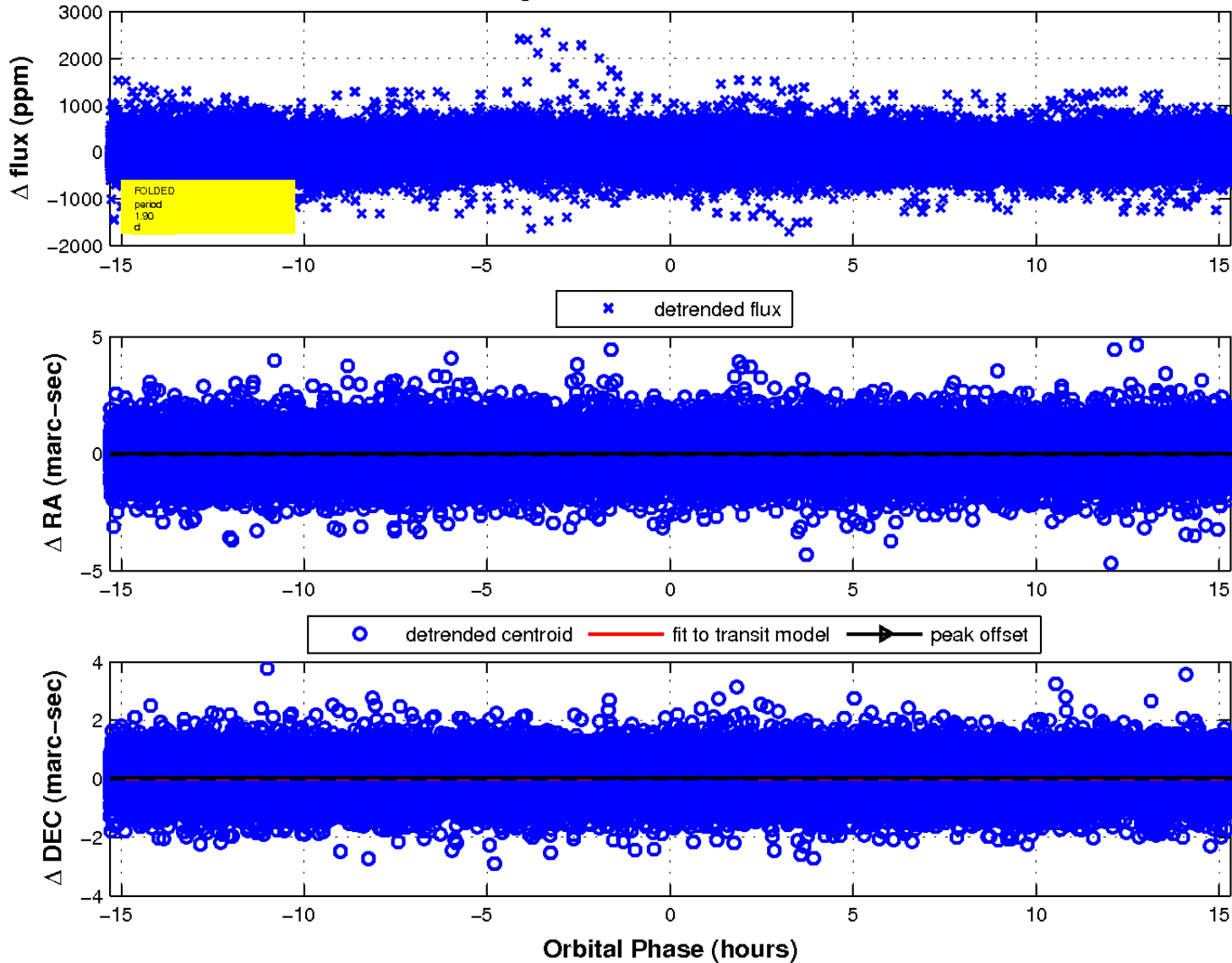
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

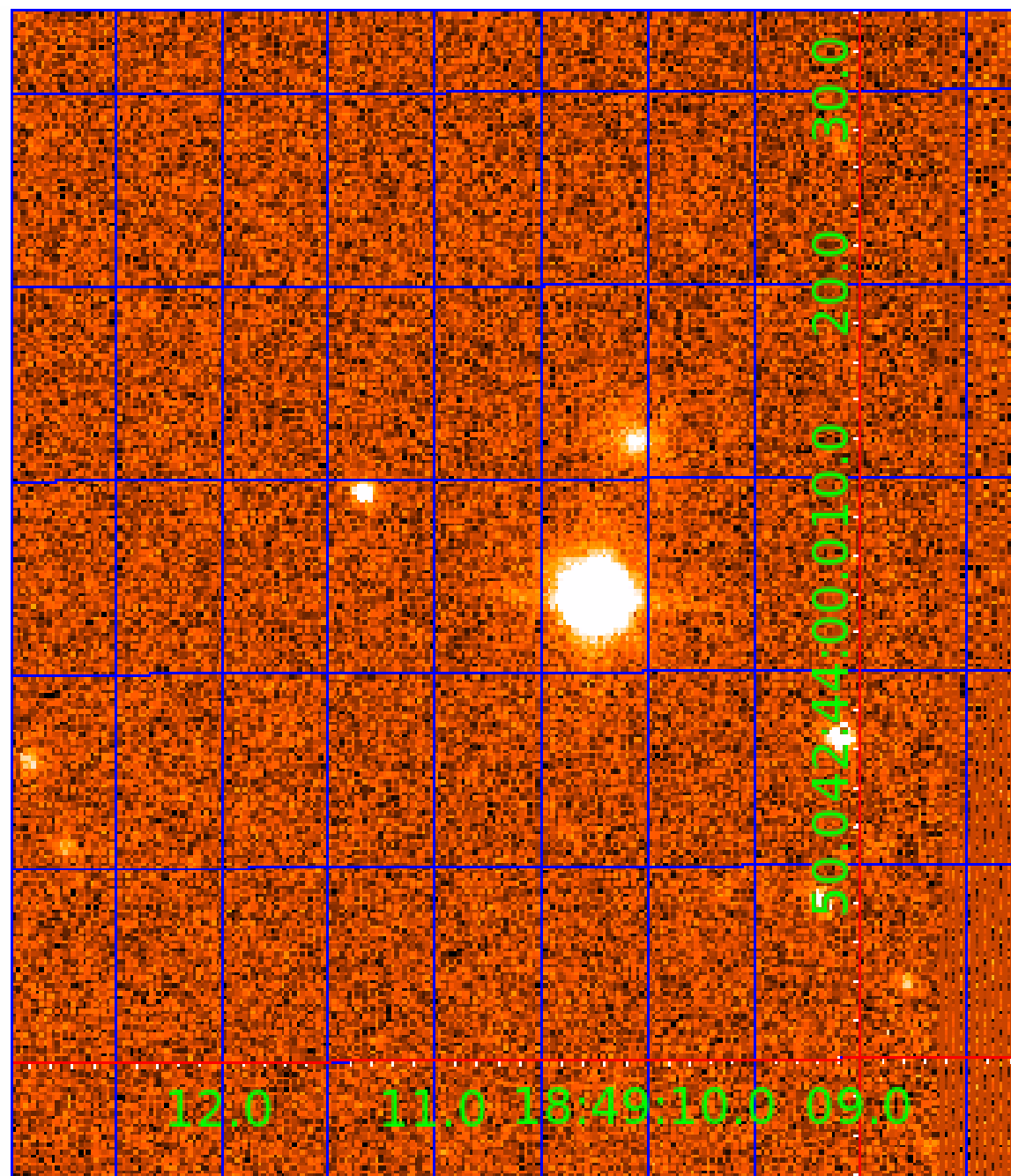


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



# KIC 007175943

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007175943-01	OBS	No	1.896470	133.021630	23.9	6.045	10.1	4.5	3.10	6983	1.75	16510.07
007175943-02	OBS	No	1.896376	131.866757	55.5	5.103	11.4	10.9	3.10	6983	2.68	16511.16
007175943-03	OBS	No	90.424558	139.457843	446.7	1.172	8.0	6.2	3.10	6983	7.06	95.49

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007175943-01	OBS	FP	0.00	1	0	1	0	LPP_DV—HALO_GHOST
007175943-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
007175943-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

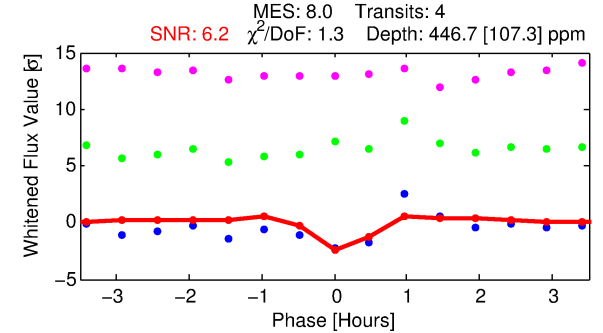
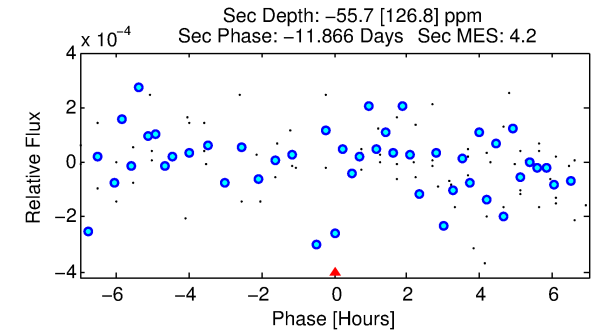
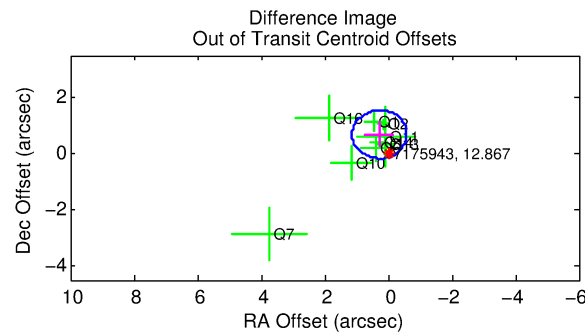
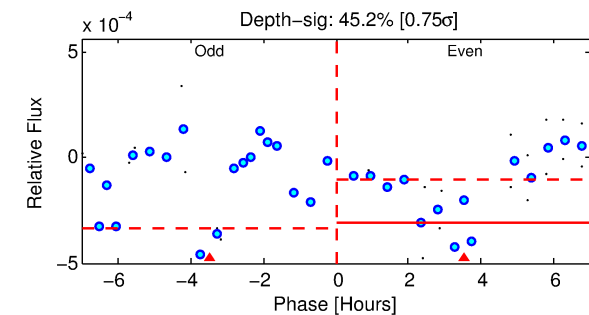
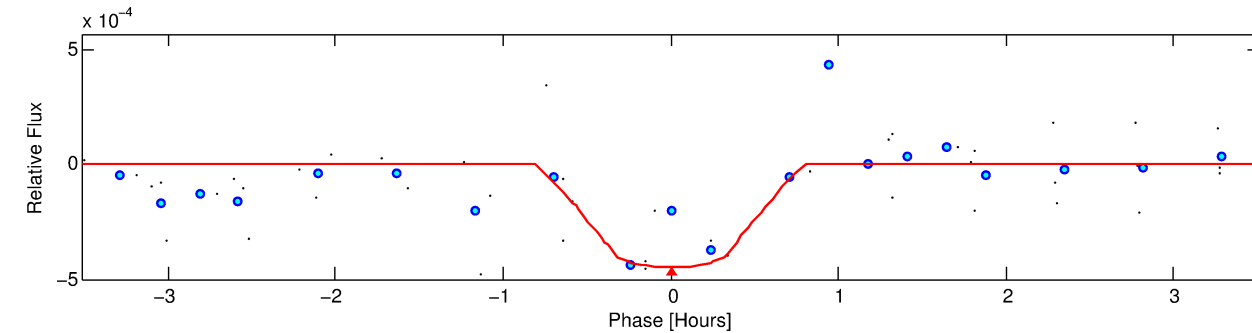
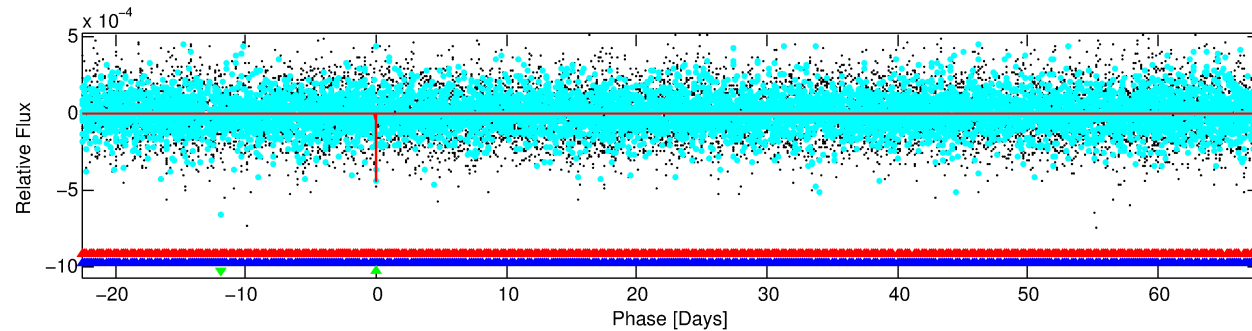
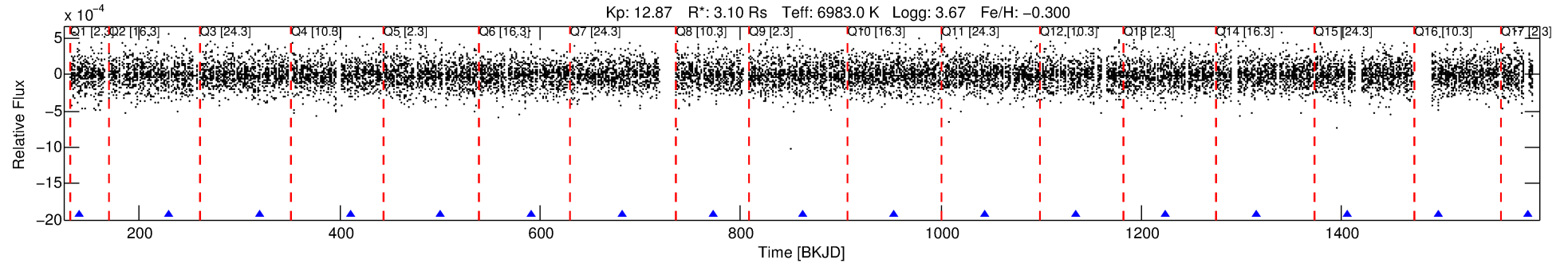
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007175943-03

No Significant Match Found

# DV One-Page Summary

KIC: 7175943 Candidate: 3 of 3 Period: 90.425 d



## DV Fit Results:

Period = 90.42456 [0.00076] d  
Epoch = 139.4578 [0.0077] BKJD  
Rp/R\* = 0.0209 [0.0433]  
a/R\* = 438.50 [5522.43]  
b = 0.70 [9.13]  
Seff = 95.49 [55.28]  
Teq = 797 [115] K  
Rp = 7.06 [14.89] Re  
a = 0.4636 [0.1632] AU  
Ag = N/A  
Teffp = N/A

## DV Diagnostic Results:

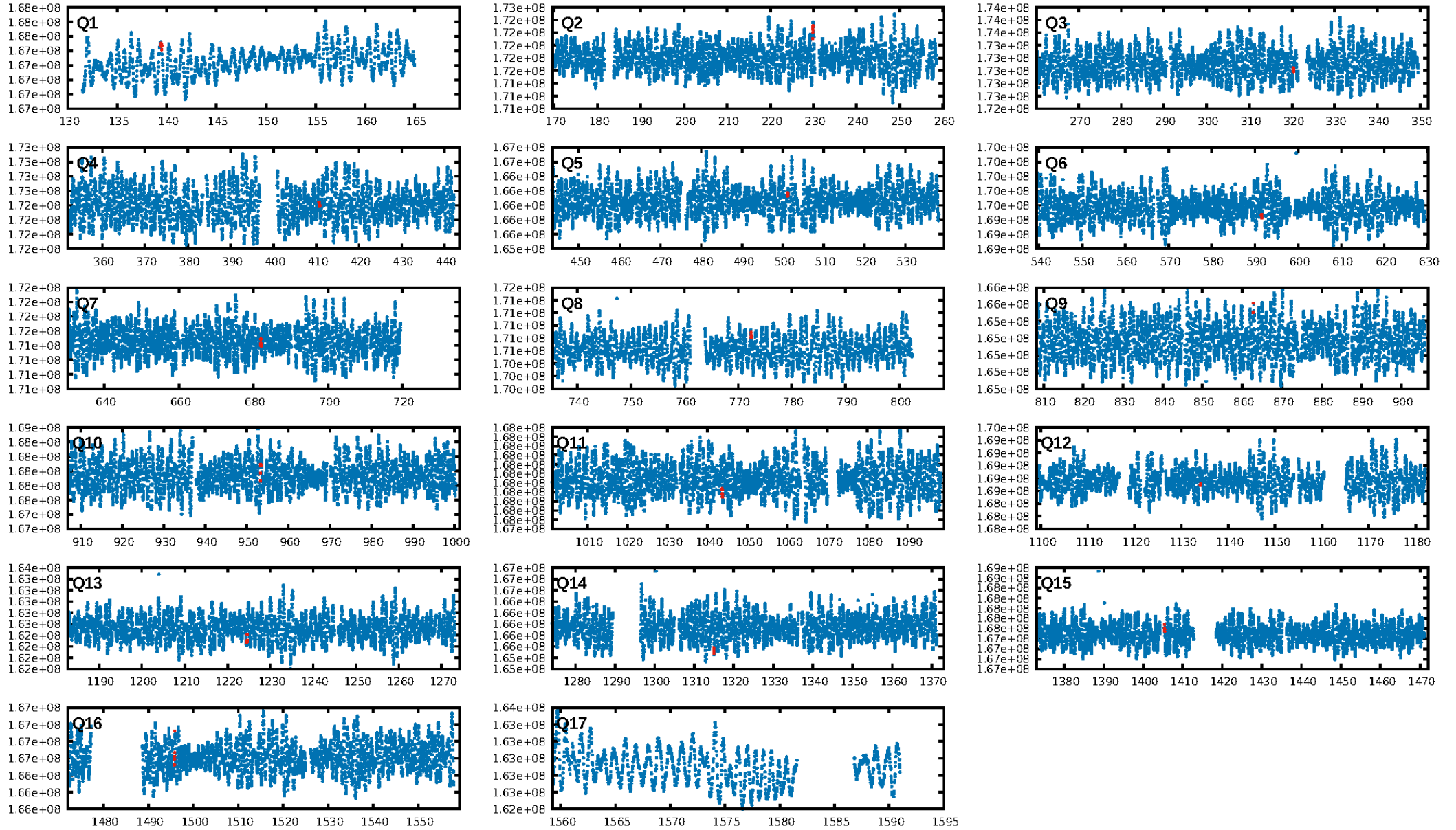
ShortPeriod-sig: 100.0% [345.06 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 72.6%  
ModelChiSquareGof-sig: 91.4%  
**Bootstrap-pfa: 4.36e-12**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -0.3353  
Centroid-sig: 15.2%  
Centroid-so: 0.607 arcsec [0.88 $\sigma$ ]  
OotOffset-rm: 0.739 arcsec [2.58 $\sigma$ ]  
KicOffset-rm: 0.697 arcsec [2.58 $\sigma$ ]  
OotOffset-st: 4/2/1/2 [9]  
KicOffset-st: 4/2/1/2 [9]  
DiffImageQuality-fgm: 0.22 [2/9]  
DiffImageOverlap-fno: 0.31 [4/13]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:53:26 Z

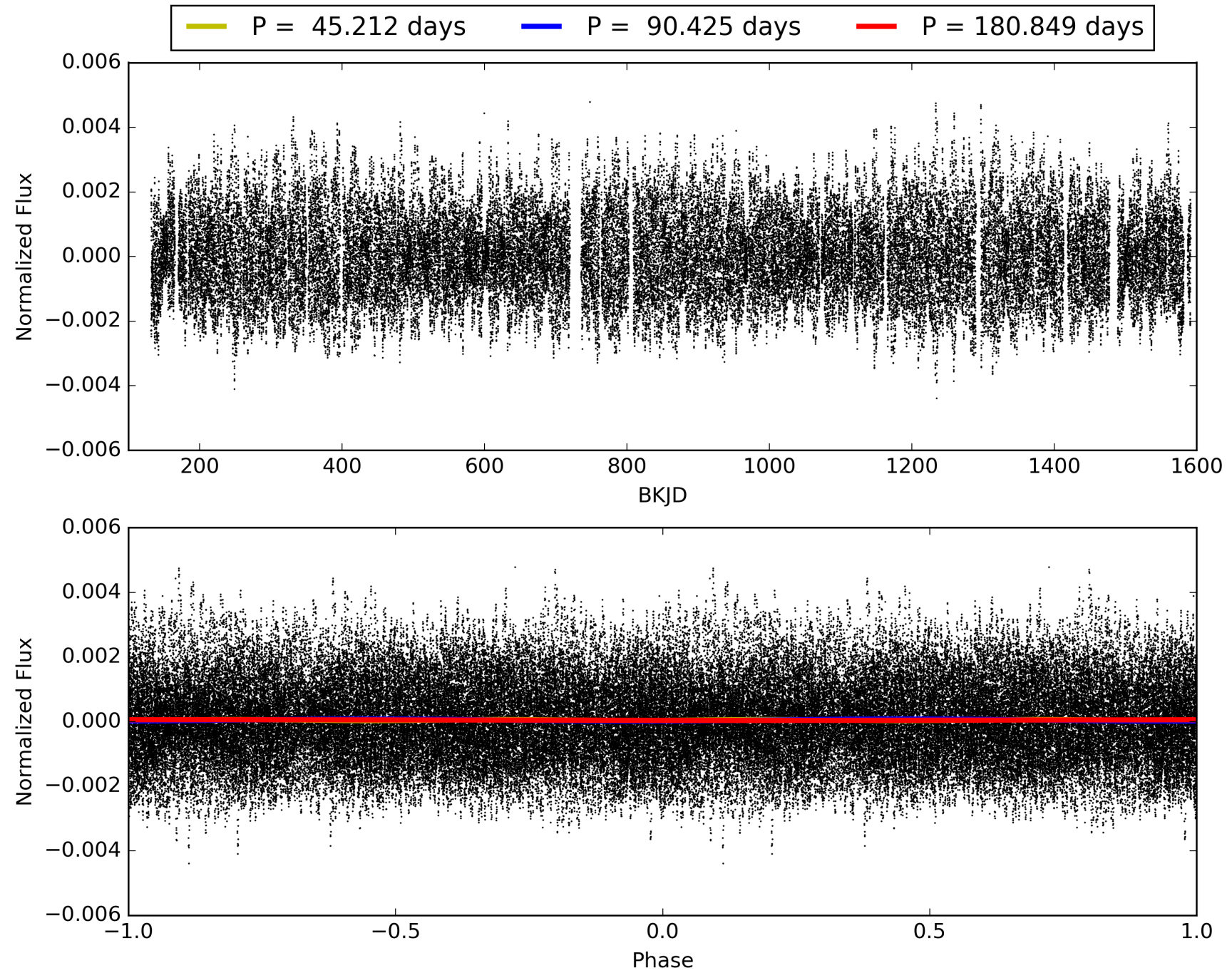
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 007175943-03, PDC Light Curves

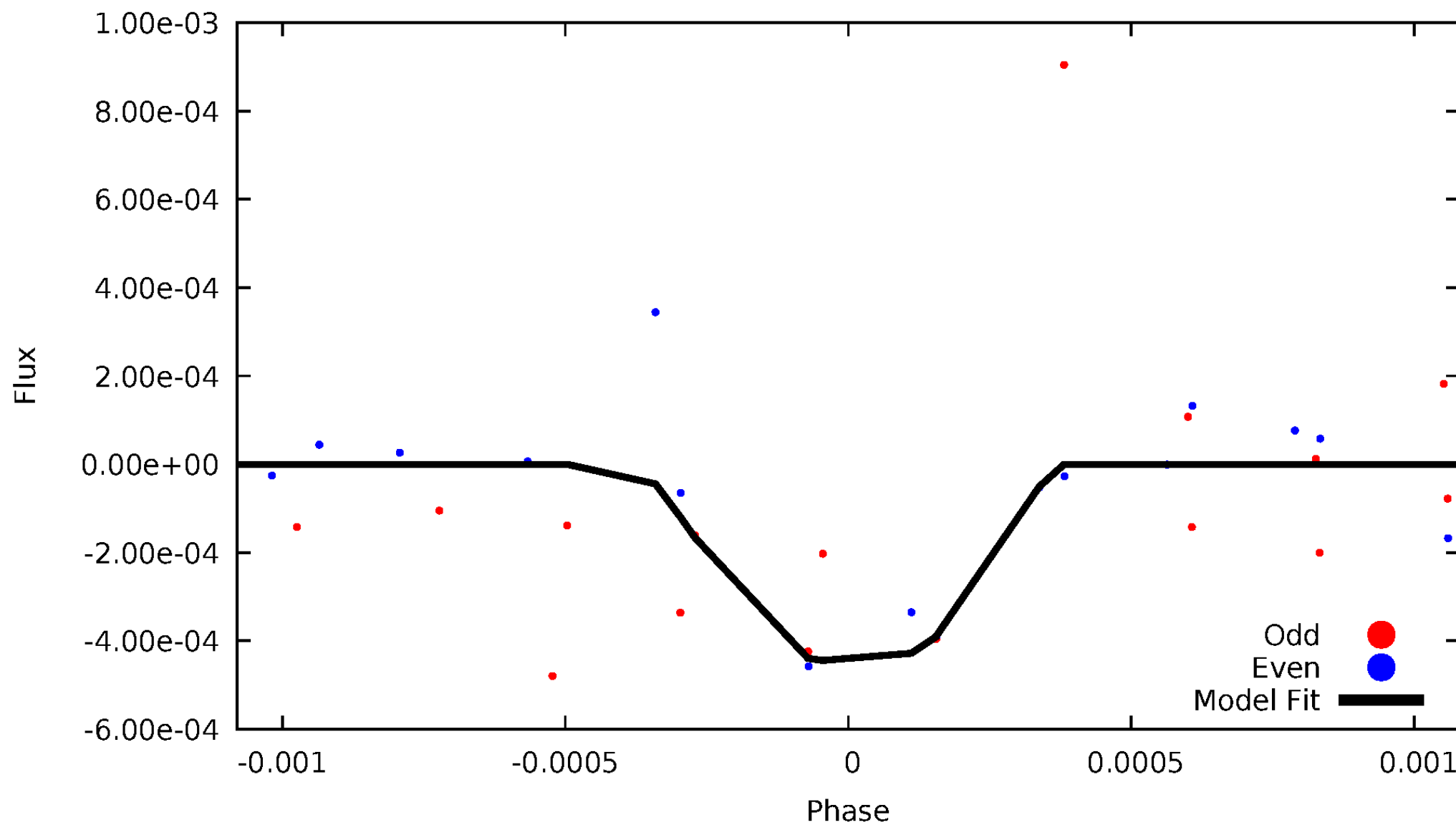


# TCE 007175943-03



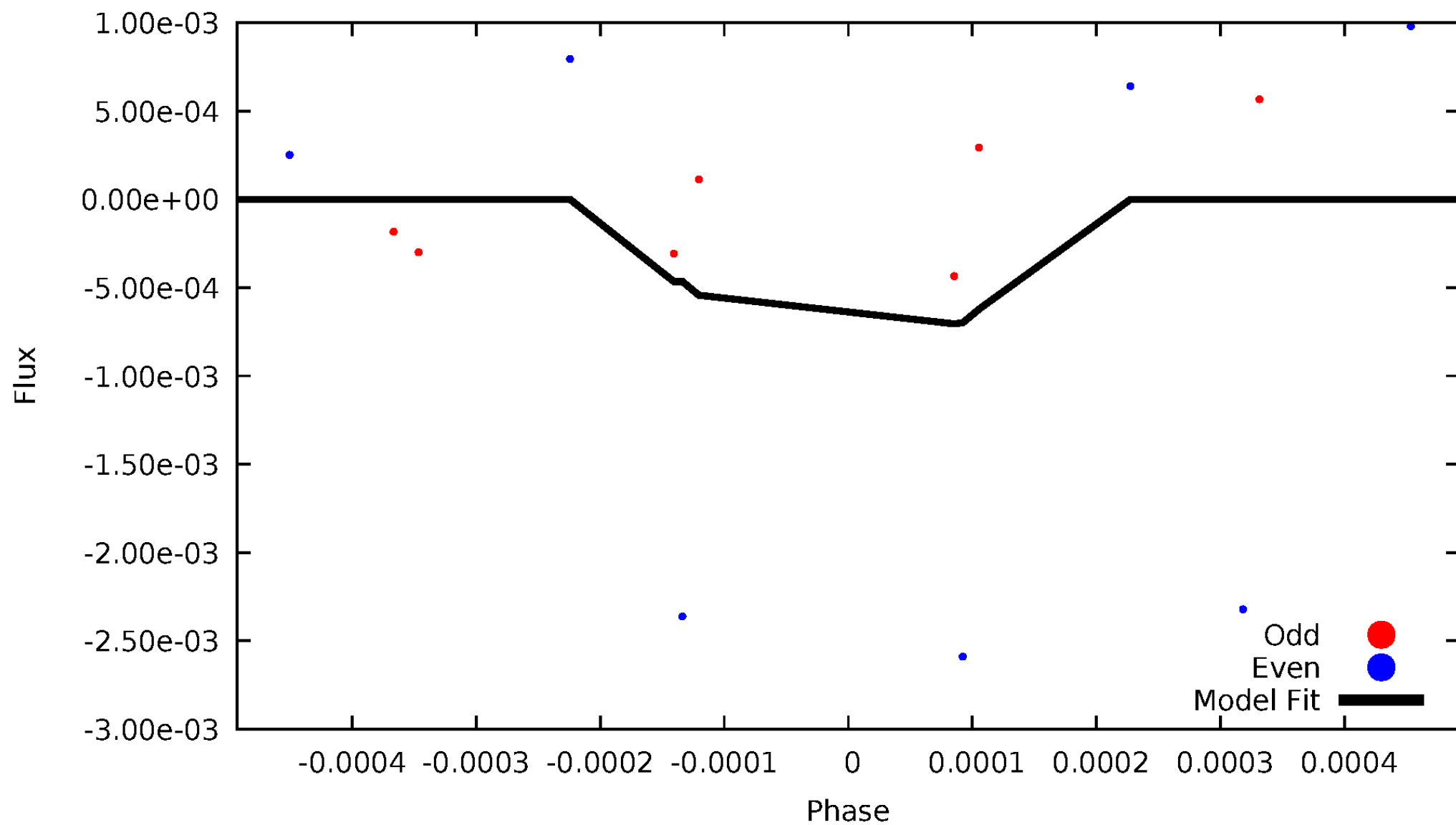
# DV Odd/Even

TCE 007175943-03



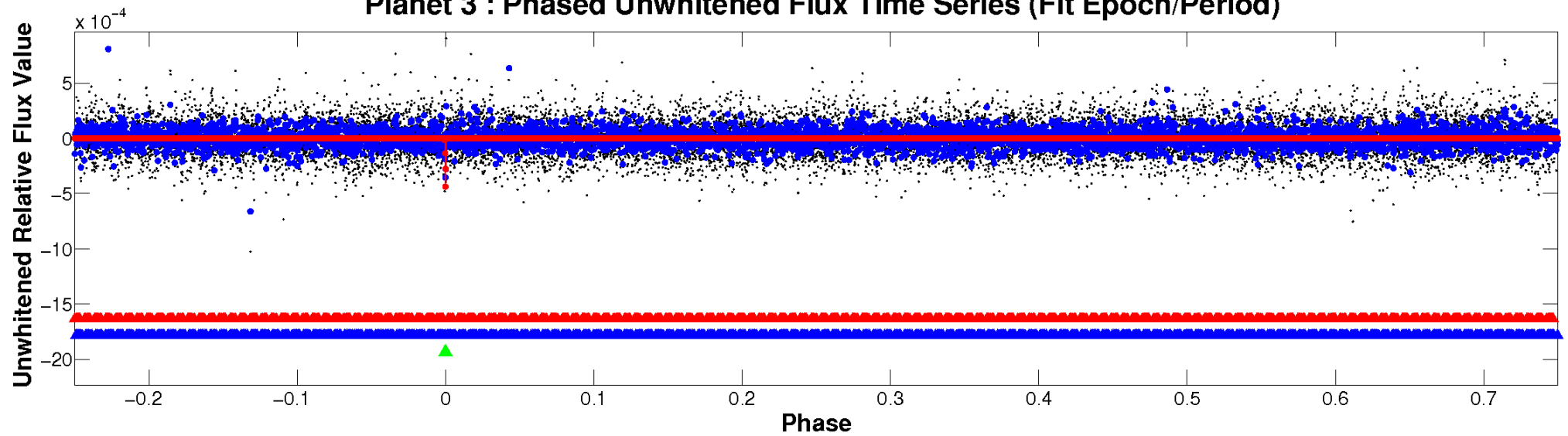
# ALT Odd/Even

TCE 007175943-03

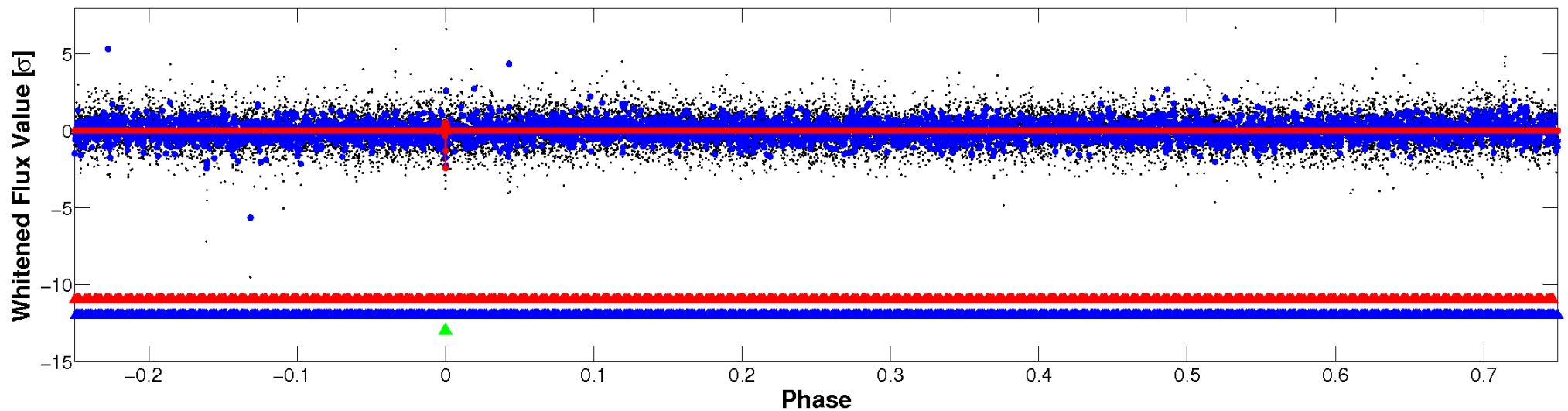


# Non-Whitened Vs. Whitened Light Curve

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



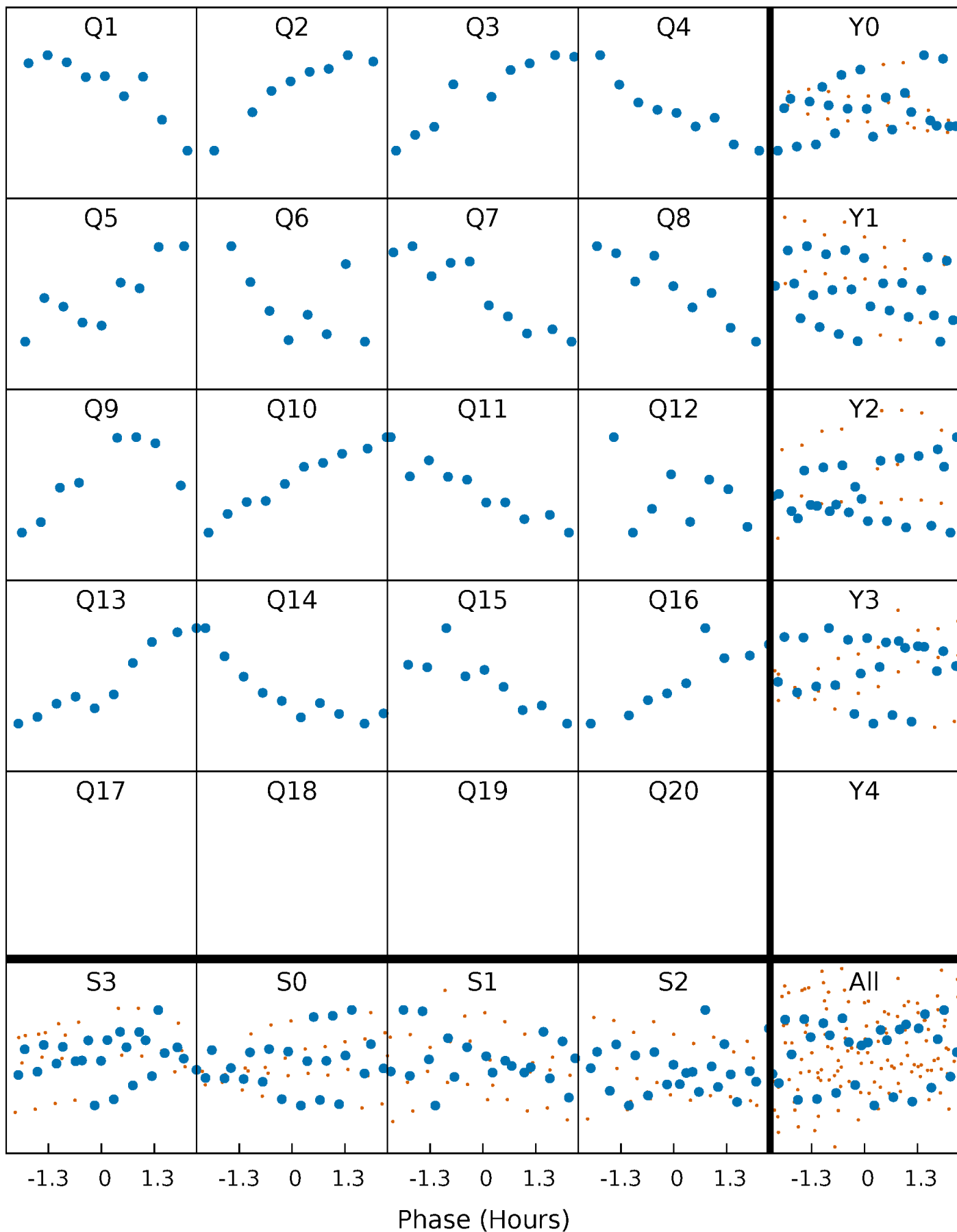
**Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





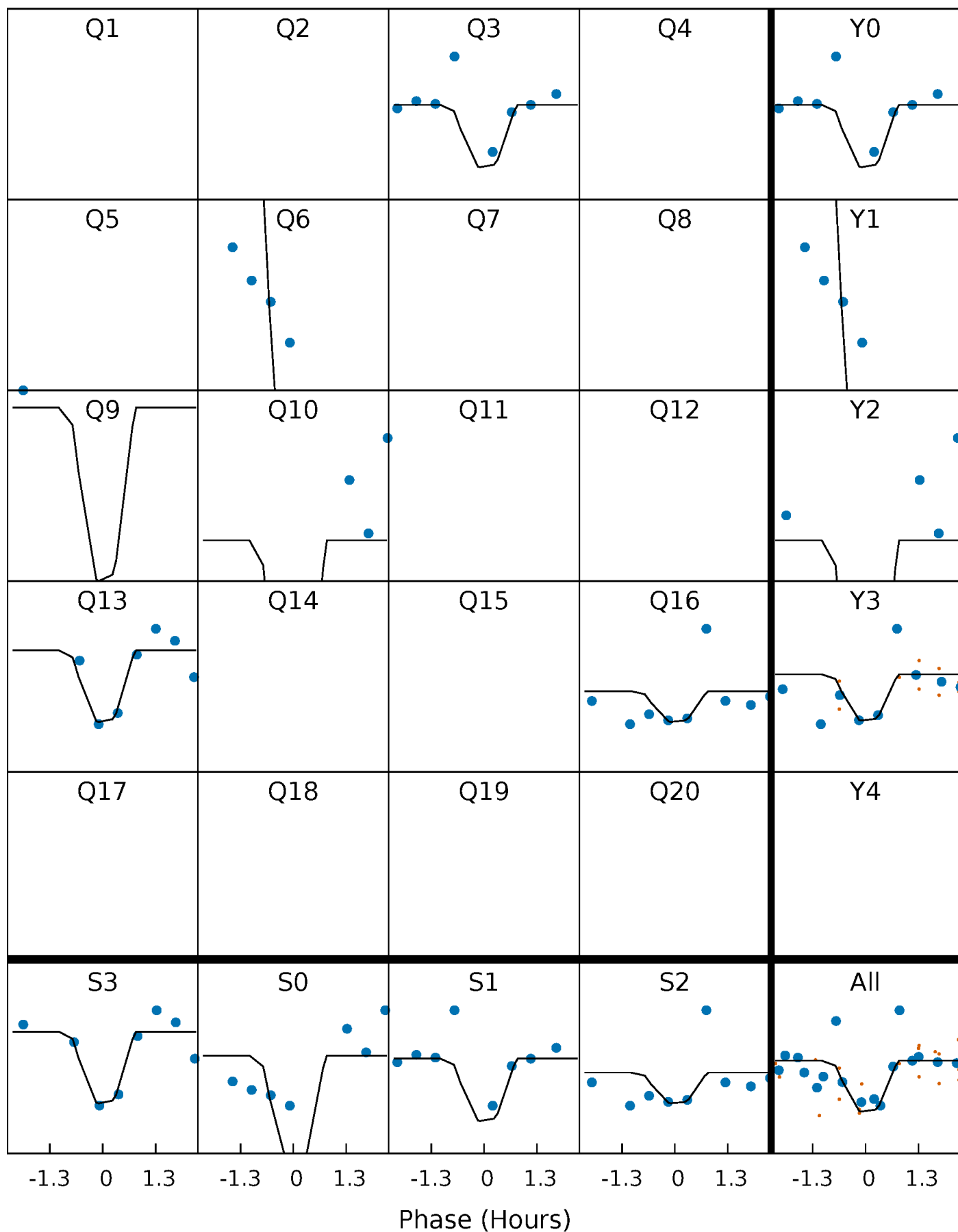
# PDC Quarter-Phased Transit Curves

TCE 007175943-03   P= 90.424558 Days    $T_0=139.457843$  (BKJD)



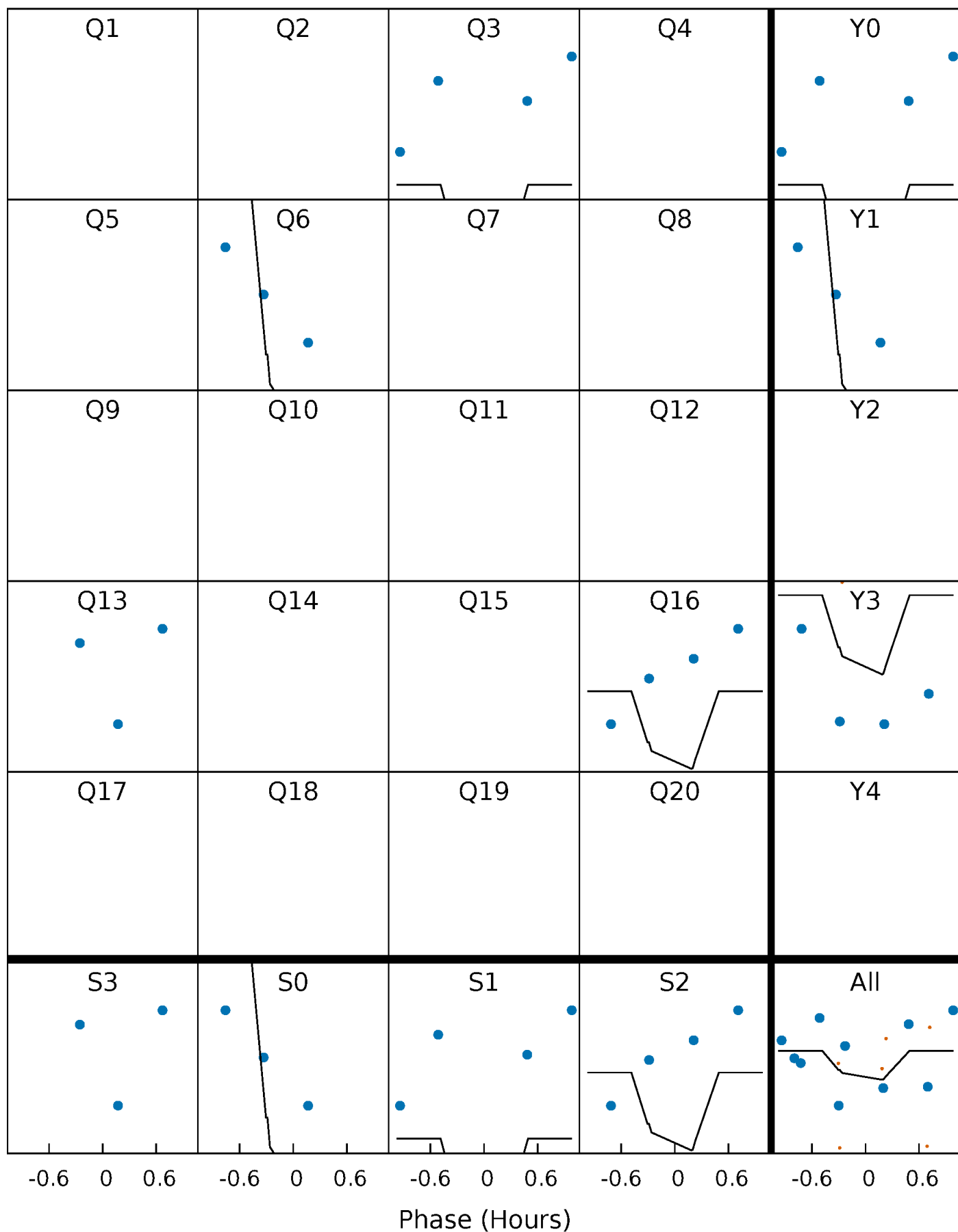
# DV Quarter-Phased Transit Curves

TCE 007175943-03     $P = 90.424558$  Days     $T_0 = 139.457843$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

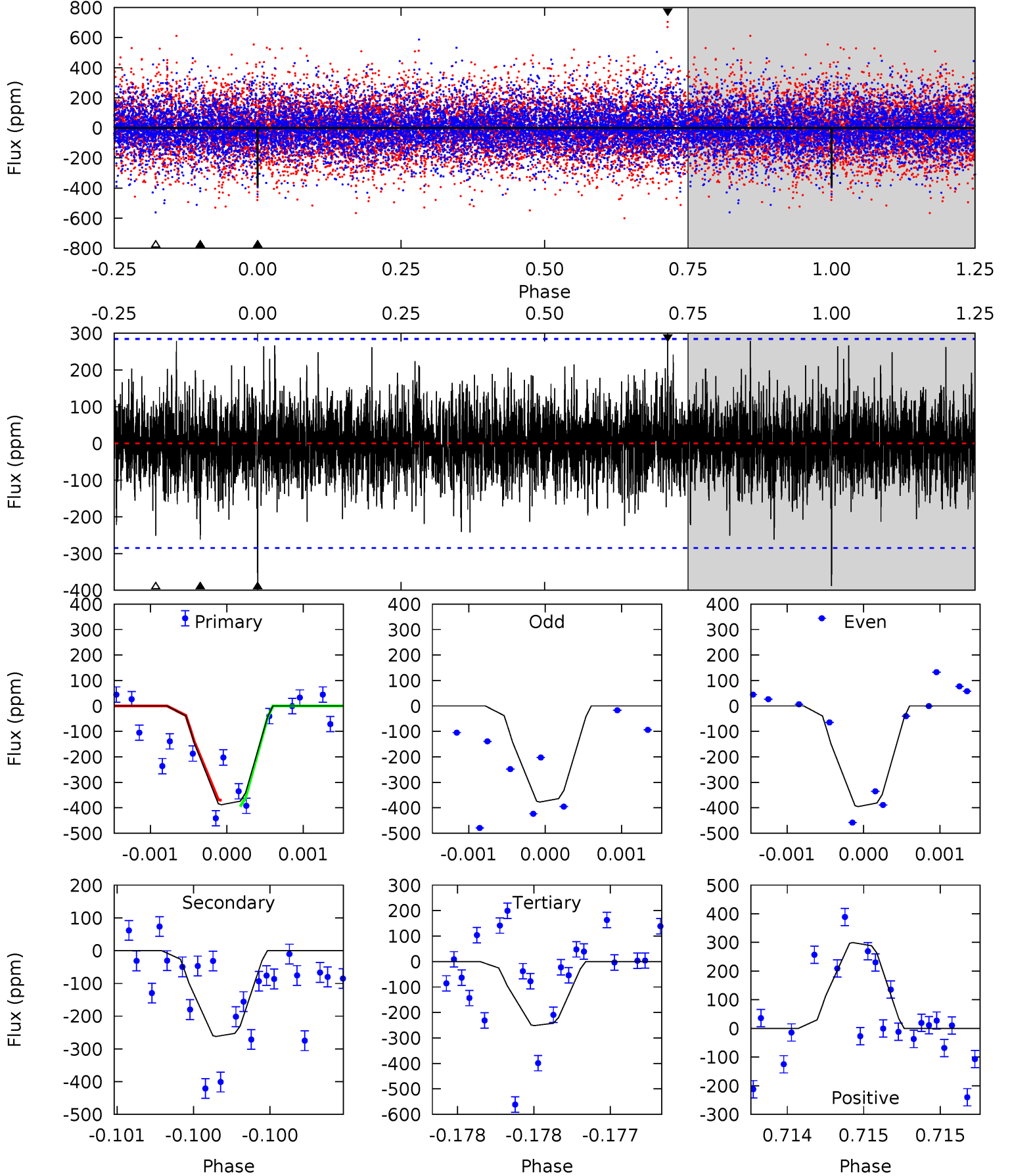
TCE 007175943-03 P= 90.424140 Days  $T_0=139.448174$  (BKJD)



# DV Model-Shift Uniqueness Test

007175943-03, P = 90.424558 Days, E = 49.033285 Days

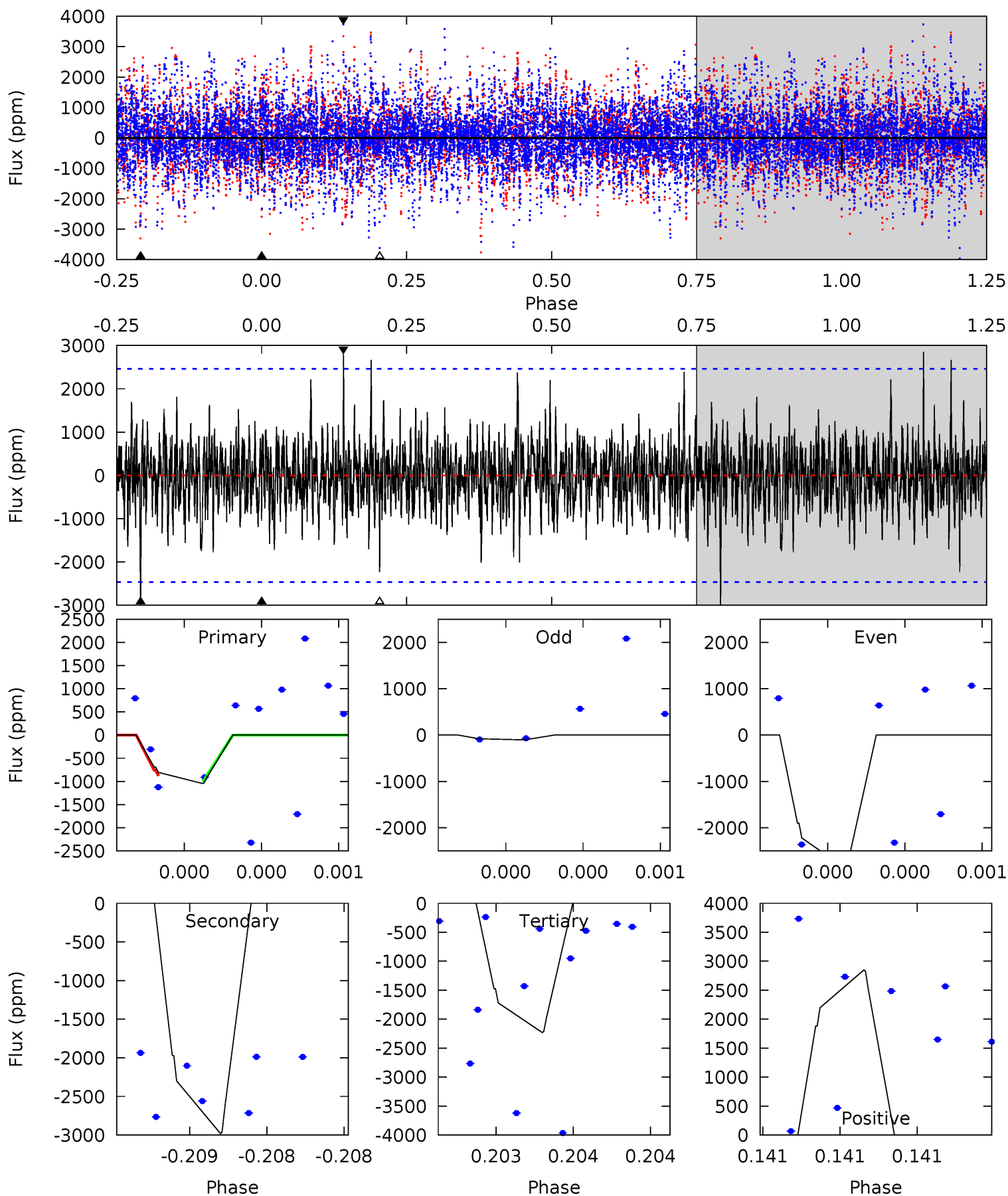
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.54	5.09	4.88	5.82	5.53	3.42	1.31	2.65	1.72	0.21	-0.73	0.17	0.96	0.44	0.23



# Alt Model-Shift Uniqueness Test

007175943-03, P = 90.424140 Days, E = 49.024034 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
2.39	6.82	5.10	6.52	5.63	3.57	1.28	-2.71	-4.13	1.72	0.30	3.84	2.33	0.49	0.11





### Stellar Parameters For KIC 007175943

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6983^{+183}_{-224}$	$3.665^{+0.332}_{-0.059}$	$-0.300^{+0.300}_{-0.250}$	$3.104^{+0.377}_{-1.130}$	$1.625^{+0.216}_{-0.324}$	$0.077^{+0.176}_{-0.020}$
	+3%/-3%	+9%/-2%	+100%/-83%	+12%/-36%	+13%/-20%	+230%/-26%
Source	PHO1	FLK73	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 007175943-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-262 \pm 51$	$12.23^{+11.71}_{-8.63}$	$1084^{+61}_{-96}$	$4593^{+3759}_{-968}$	$207^{+2077}_{-157}$
Alt.	$-2983 \pm 437$	$14.62^{+12.64}_{-9.87}$	$1083^{+60}_{-98}$	$7582^{+10678}_{-2008}$	$1643^{+13534}_{-1165}$

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

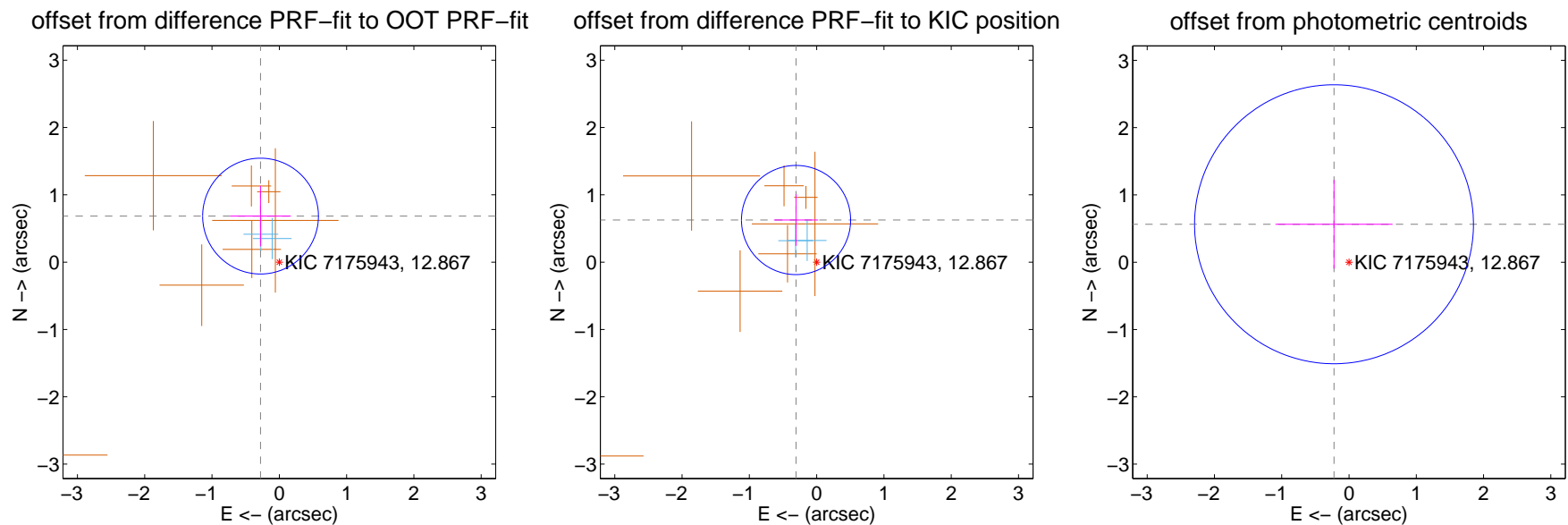
## DV Centroid Data

Supplemental centroid analysis for 007175943-03. Kepler magnitude: 12.87. Transit SNR 6.16

There are 2 quarters with good PRF difference image offsets

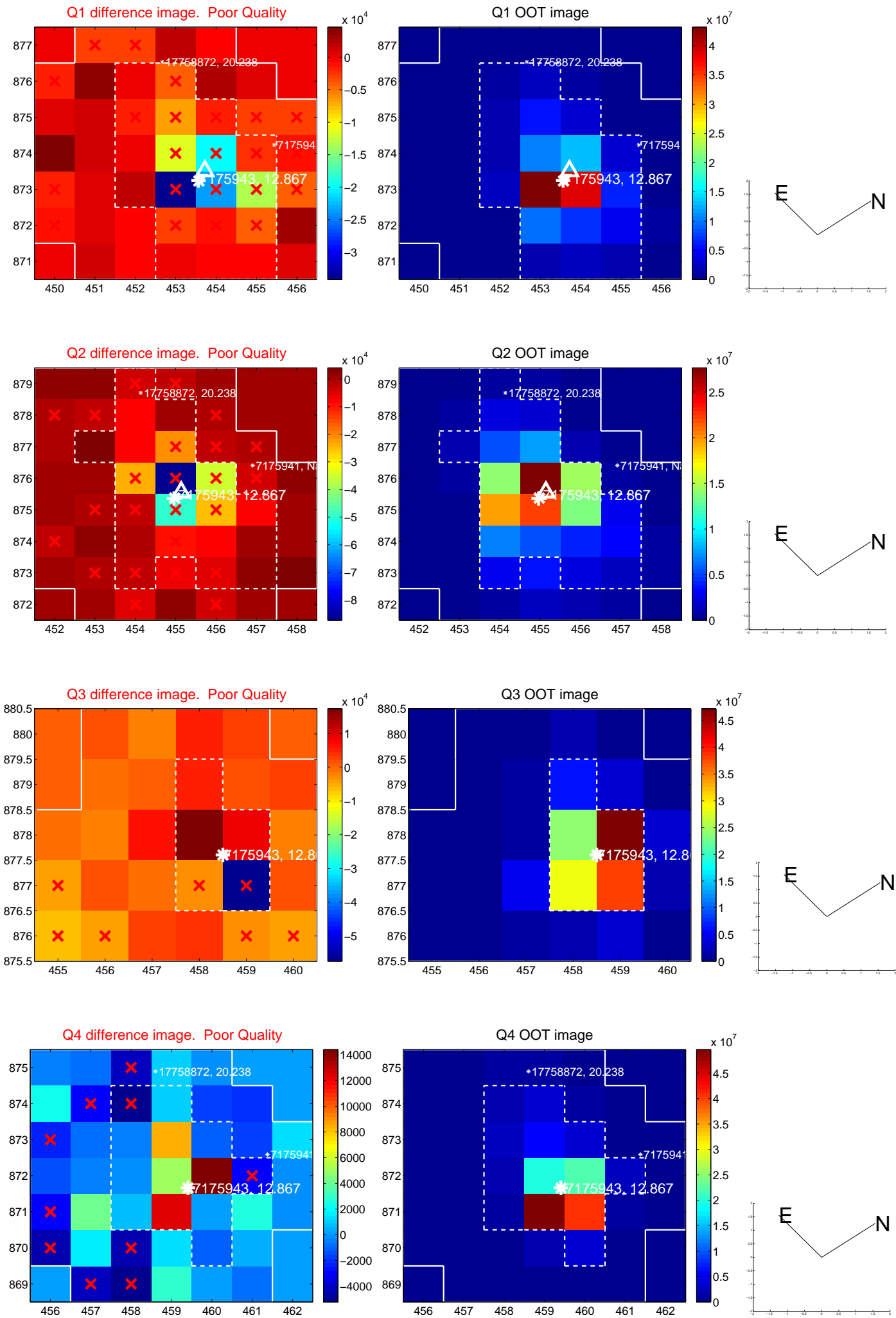
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.739 \pm 0.287$	2.58	$0.279 \pm 0.451$	$0.684 \pm 0.449$
PRF-fit source offset from KIC position	$0.697 \pm 0.270$	2.58	$0.306 \pm 0.329$	$0.626 \pm 0.383$
photometric centroid source offset	$0.61 \pm 0.69$	0.88	$0.22 \pm 0.87$	$0.56 \pm 0.66$

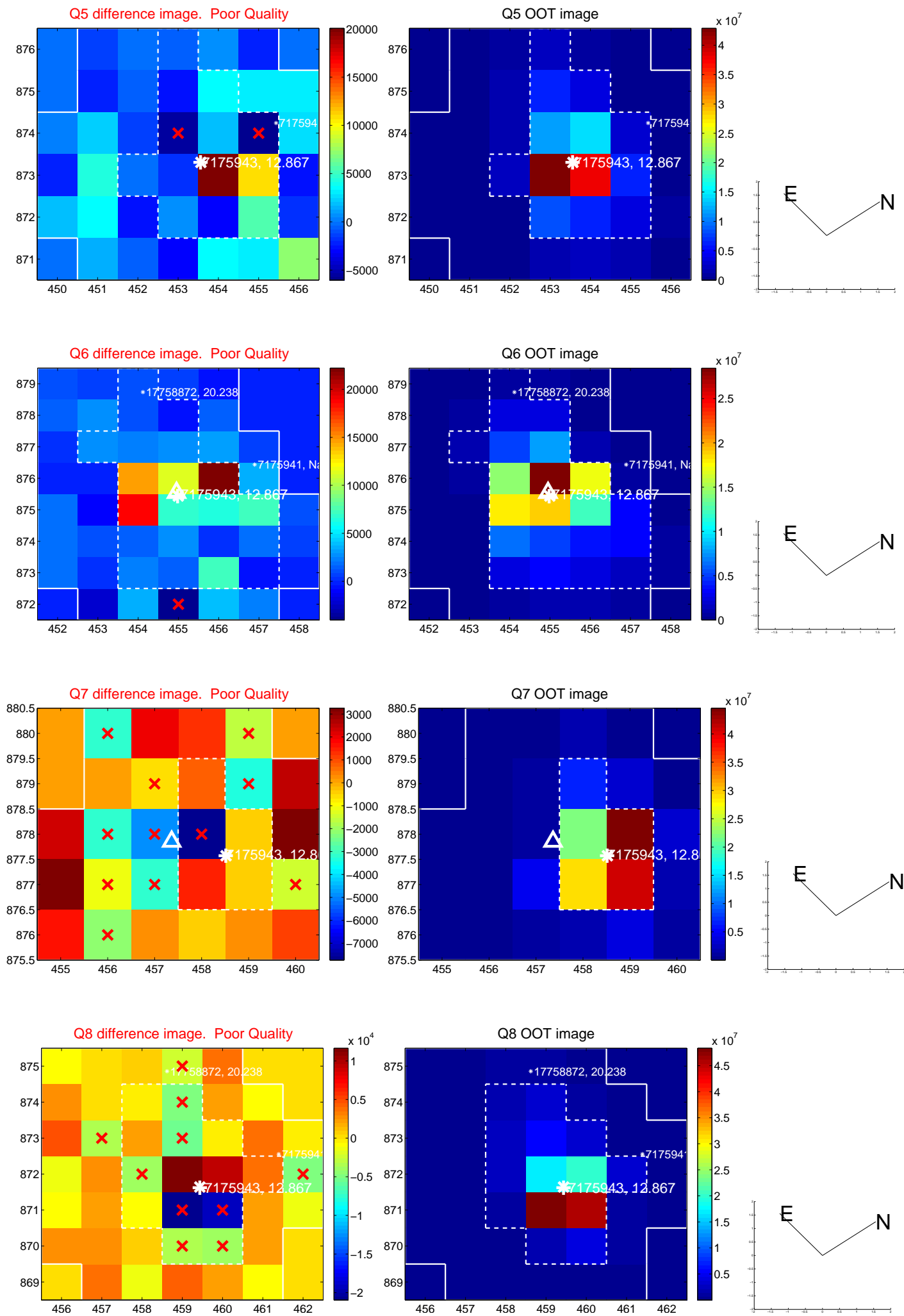


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

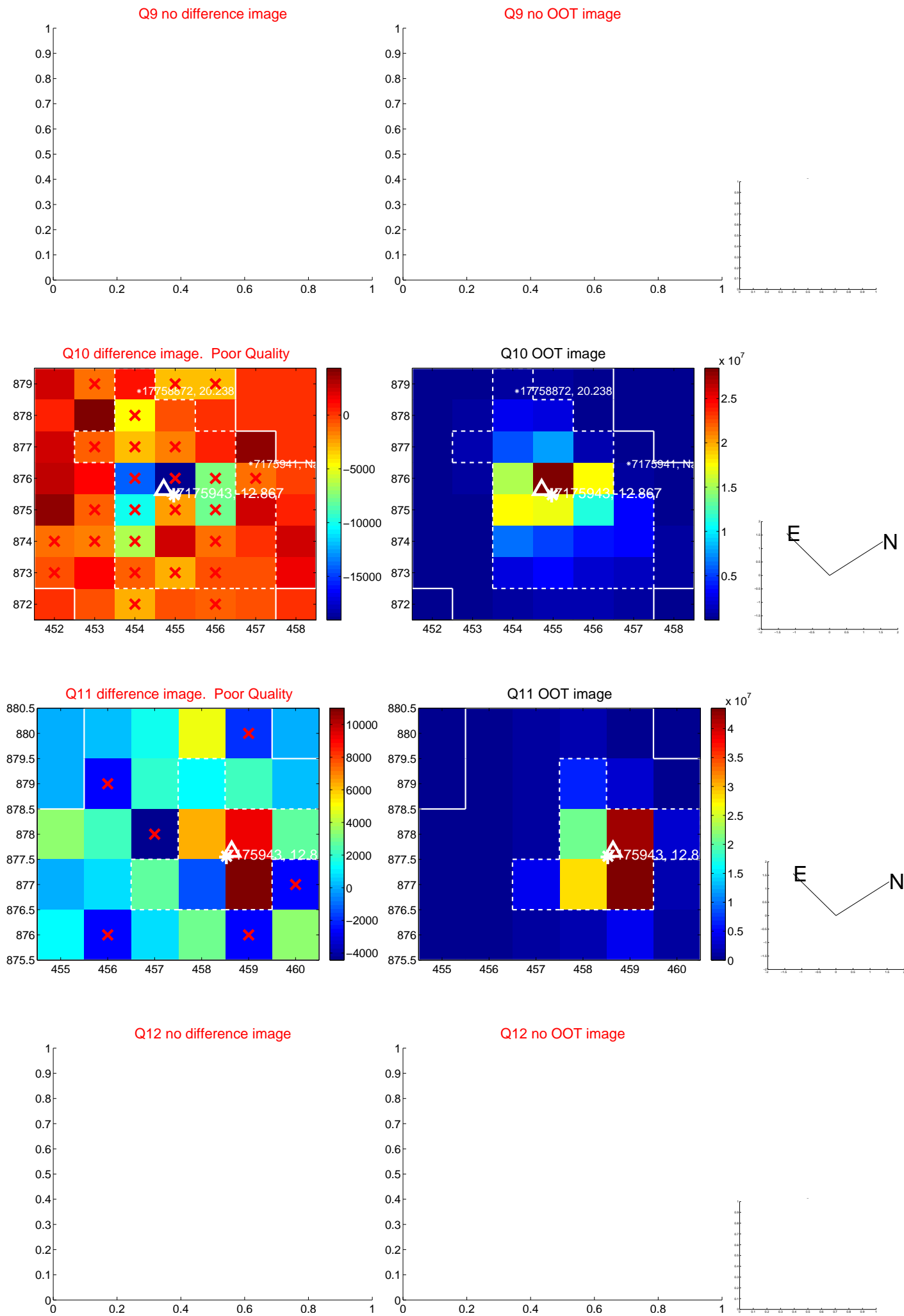
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

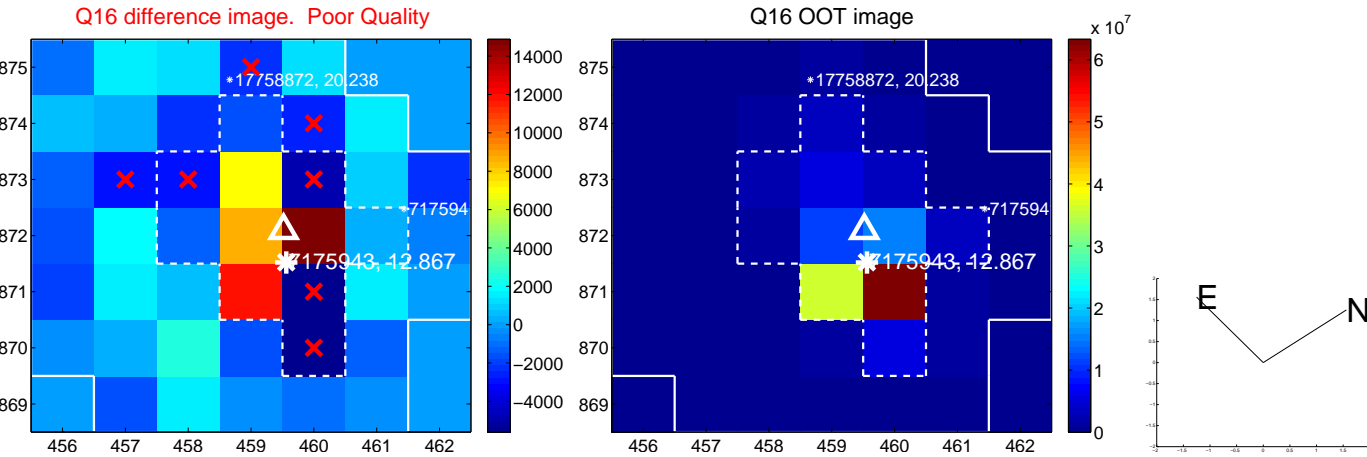
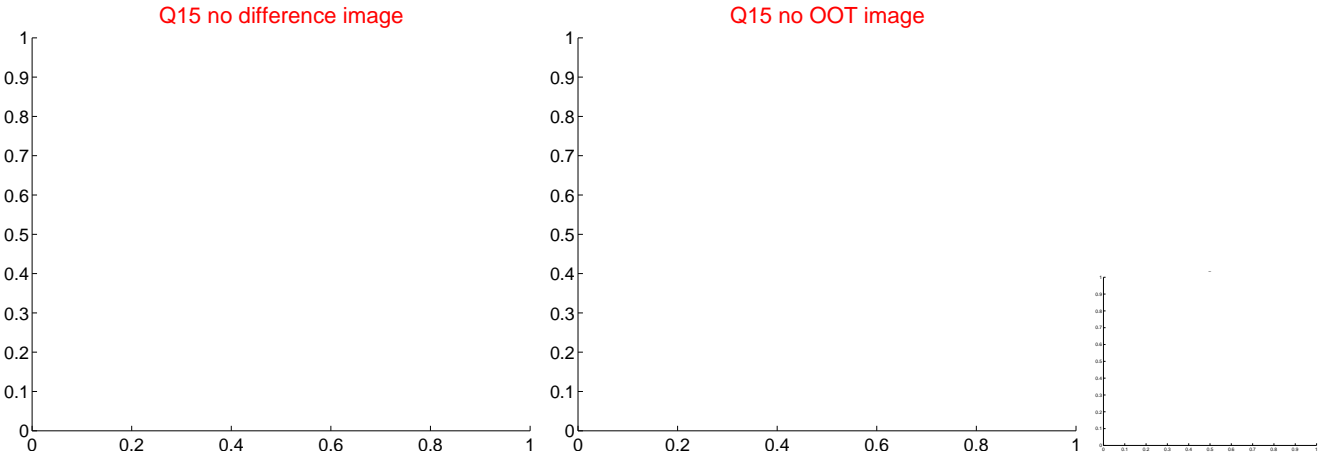
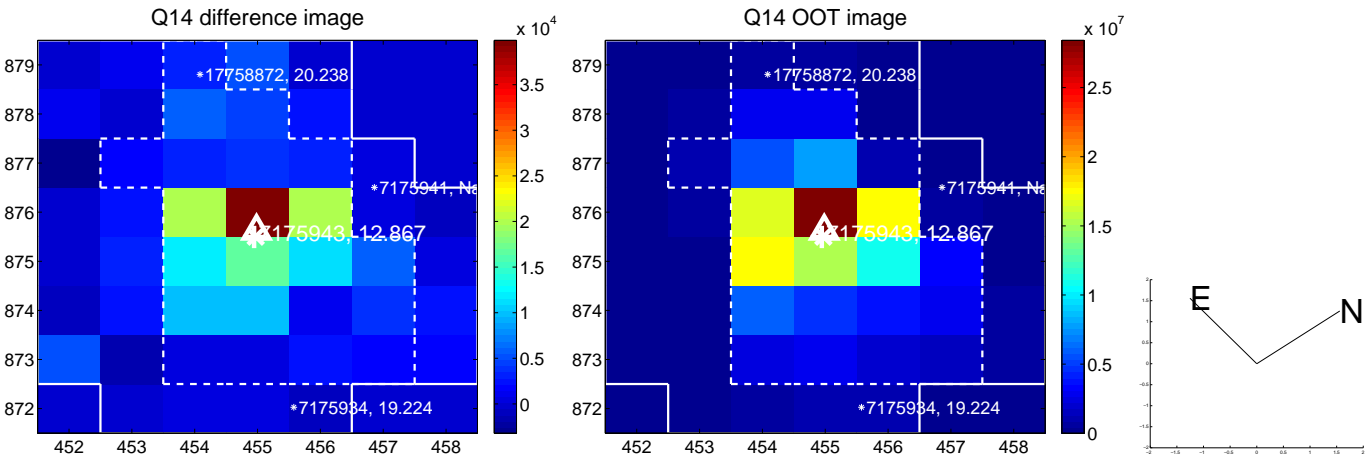
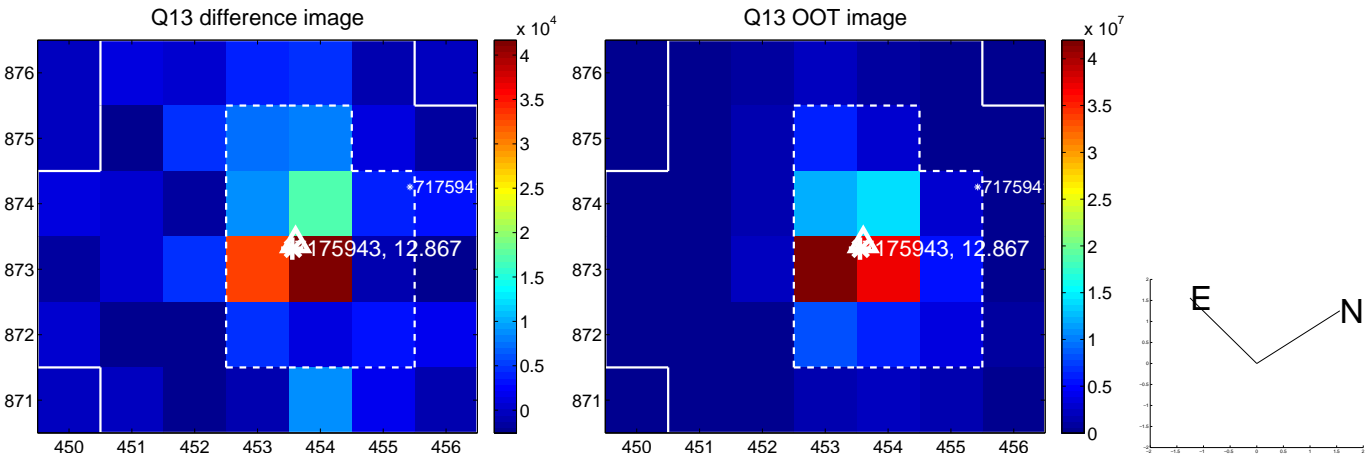


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

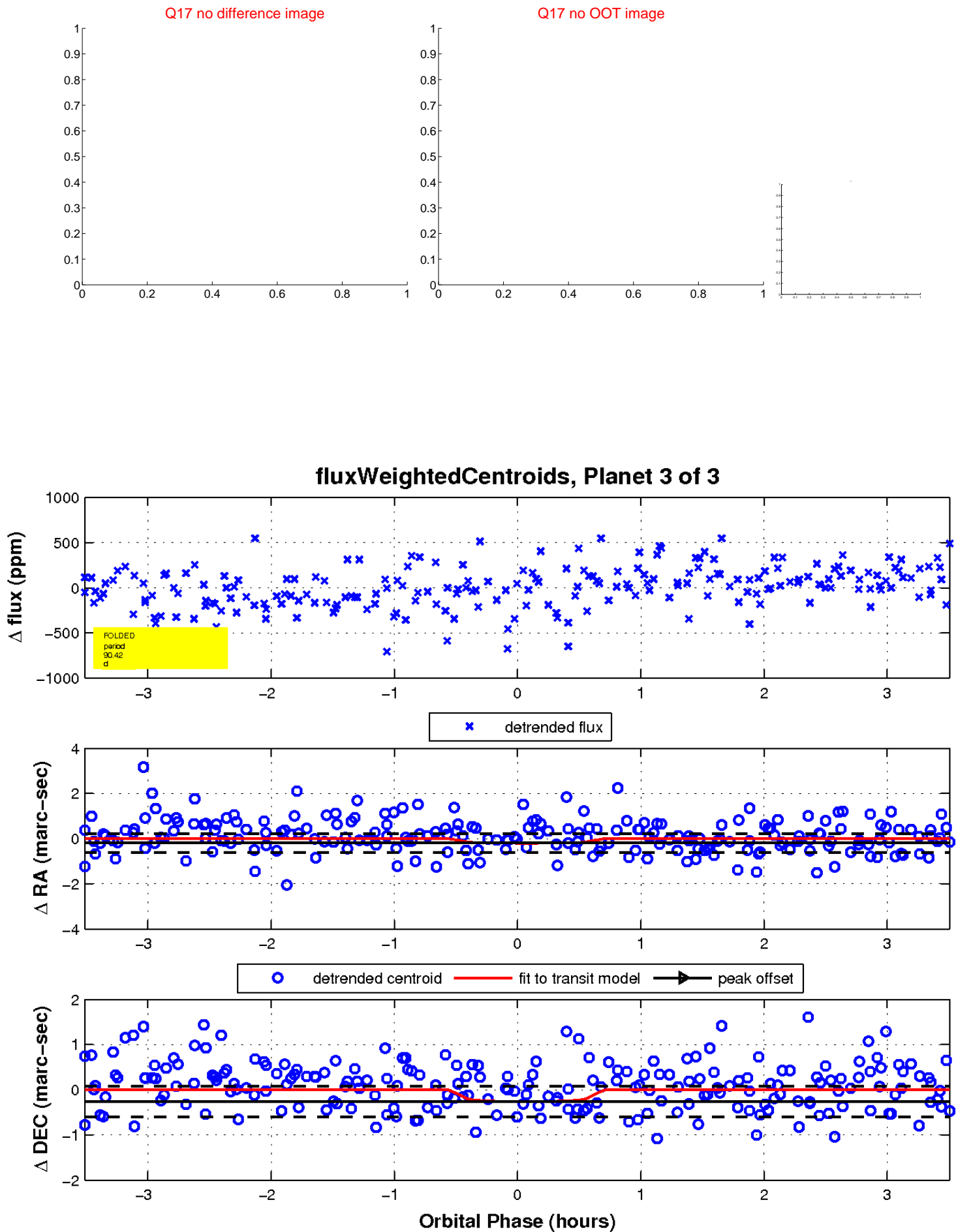




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

