

# KIC 008630254

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008630254-01	OBS	No	1.076842	131.999428	51.3	2.012	9.8	9.5	2.24	7512	1.86	23464.78
008630254-02	OBS	No	0.646113	131.558662	53.6	1.667	12.2	10.8	2.24	7512	1.90	46366.91
008630254-03	OBS	No	0.646119	131.982670	49.6	1.901	10.8	10.4	2.24	7512	1.83	46366.35
008630254-04	OBS	No	0.646104	131.782306	49.9	1.743	9.6	10.4	2.24	7512	1.65	46367.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008630254-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008630254-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008630254-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
008630254-04	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

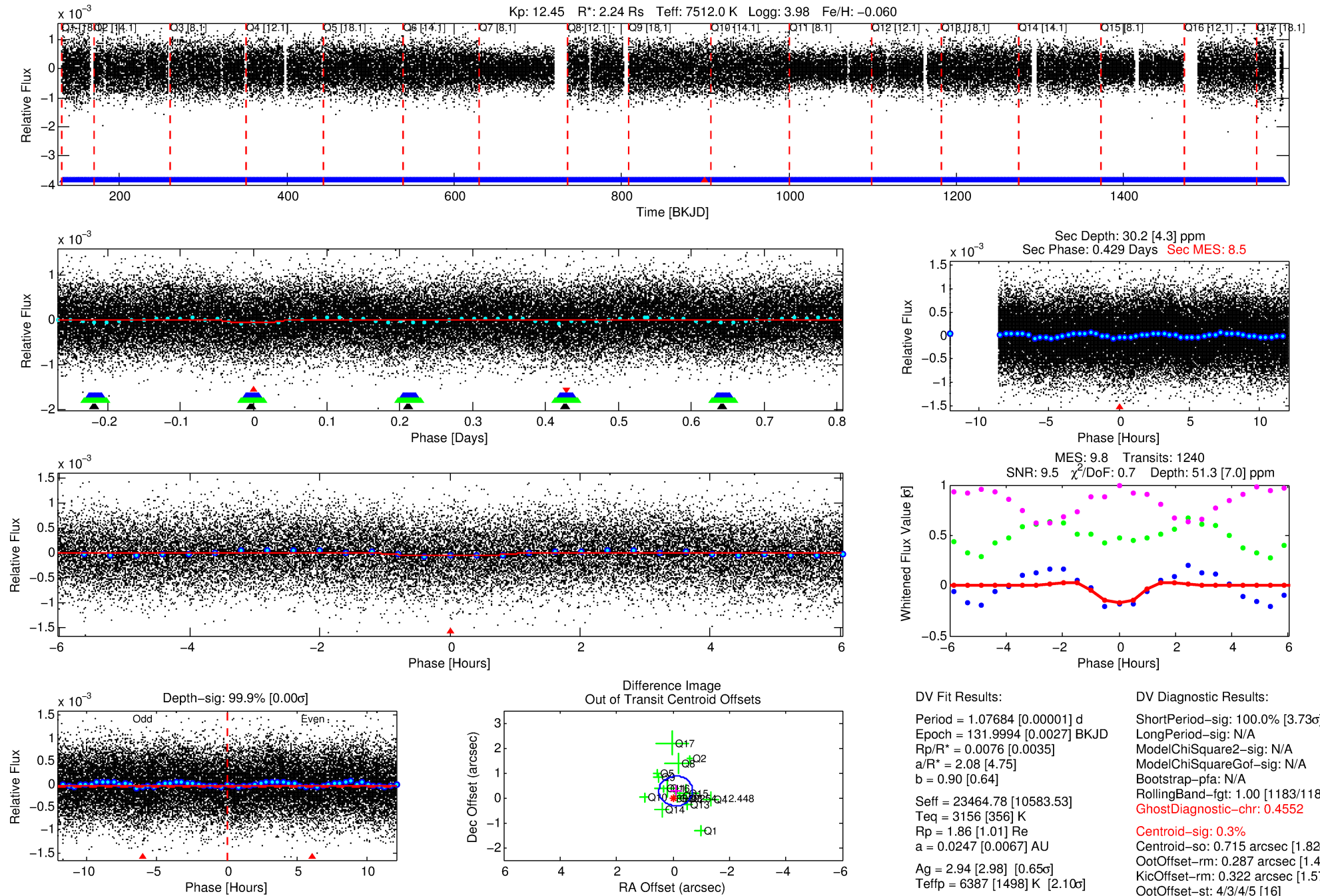
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 008630254-01

No Significant Match Found

# DV One-Page Summary

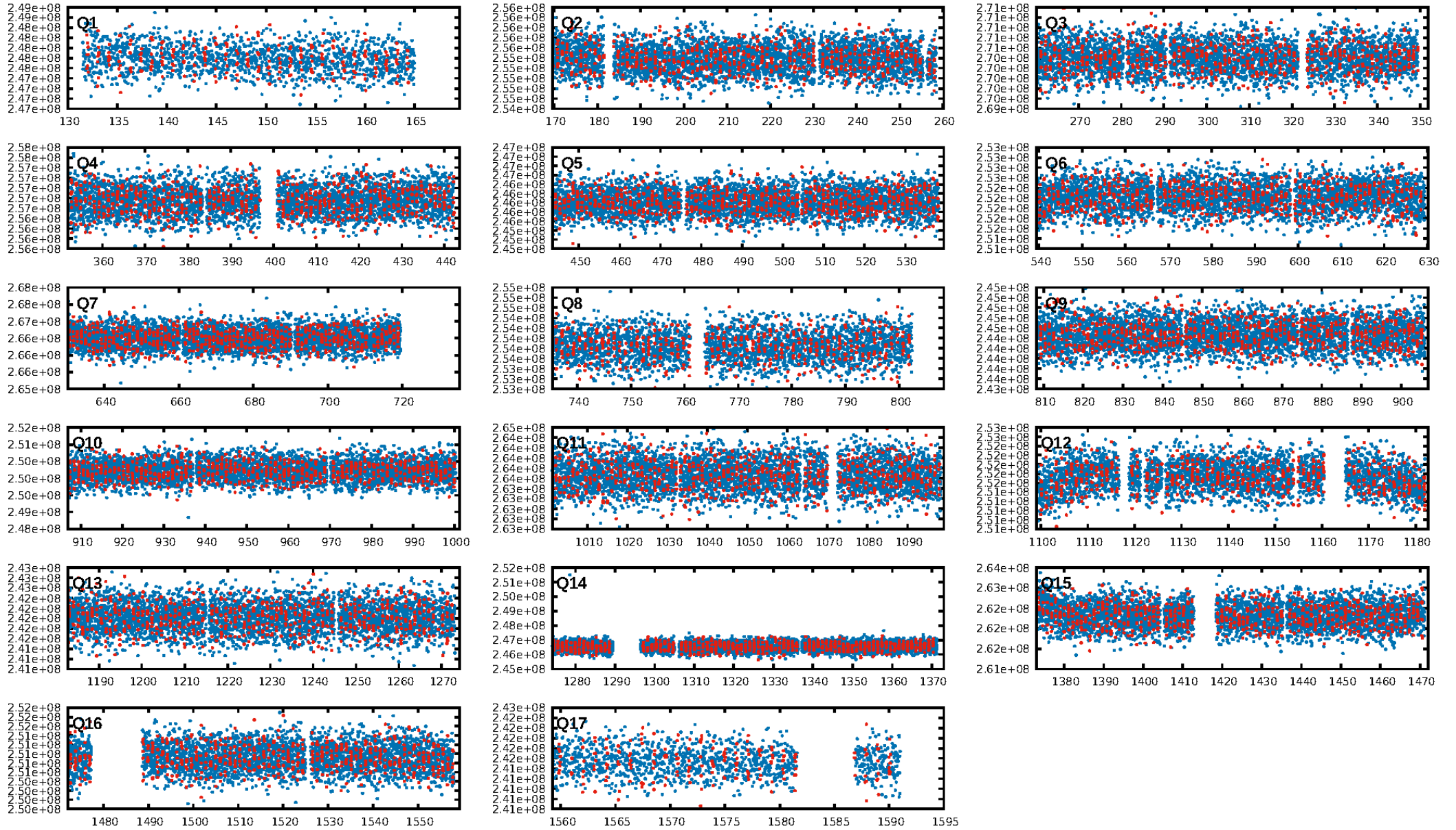
KIC: 8630254 Candidate: 1 of 4 Period: 1.077 d



Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:17:48 Z

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

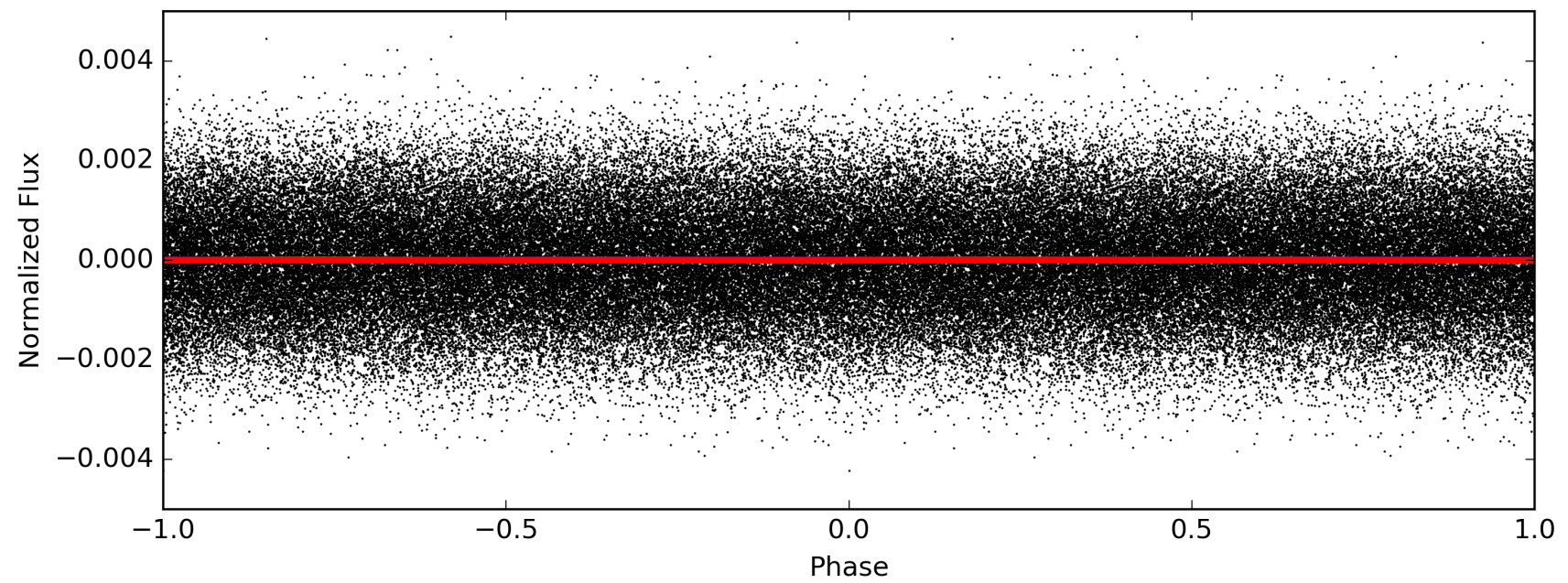
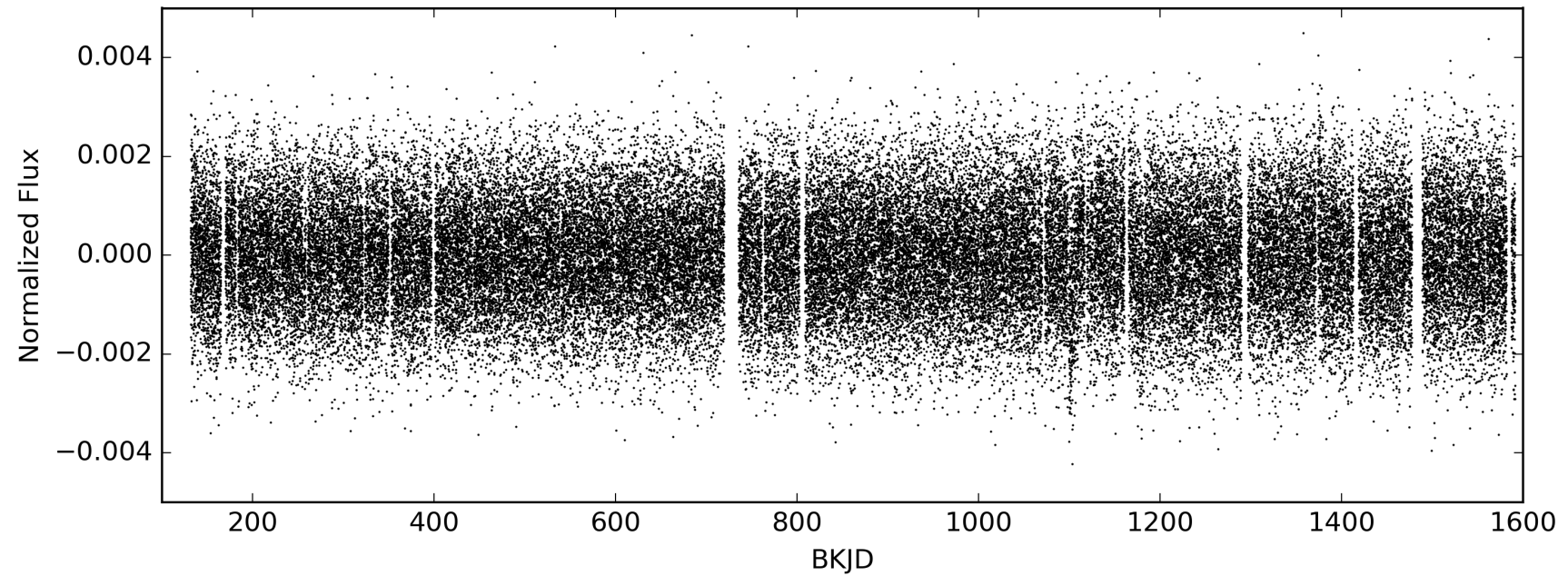
# TCE 008630254-01, PDC Light Curves





TCE 008630254-01

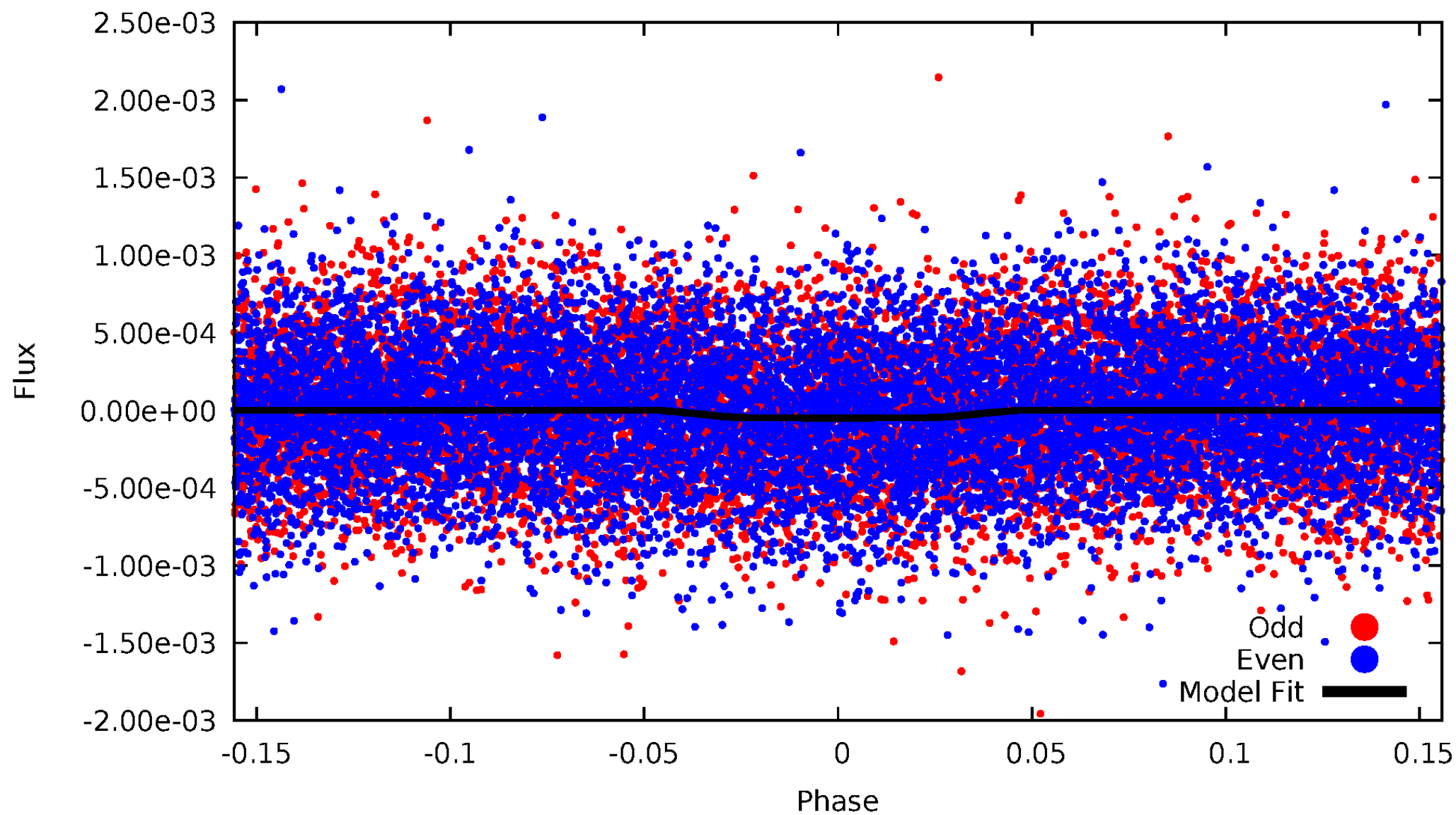
— P = 0.538 days    — P = 1.077 days    — P = 2.154 days





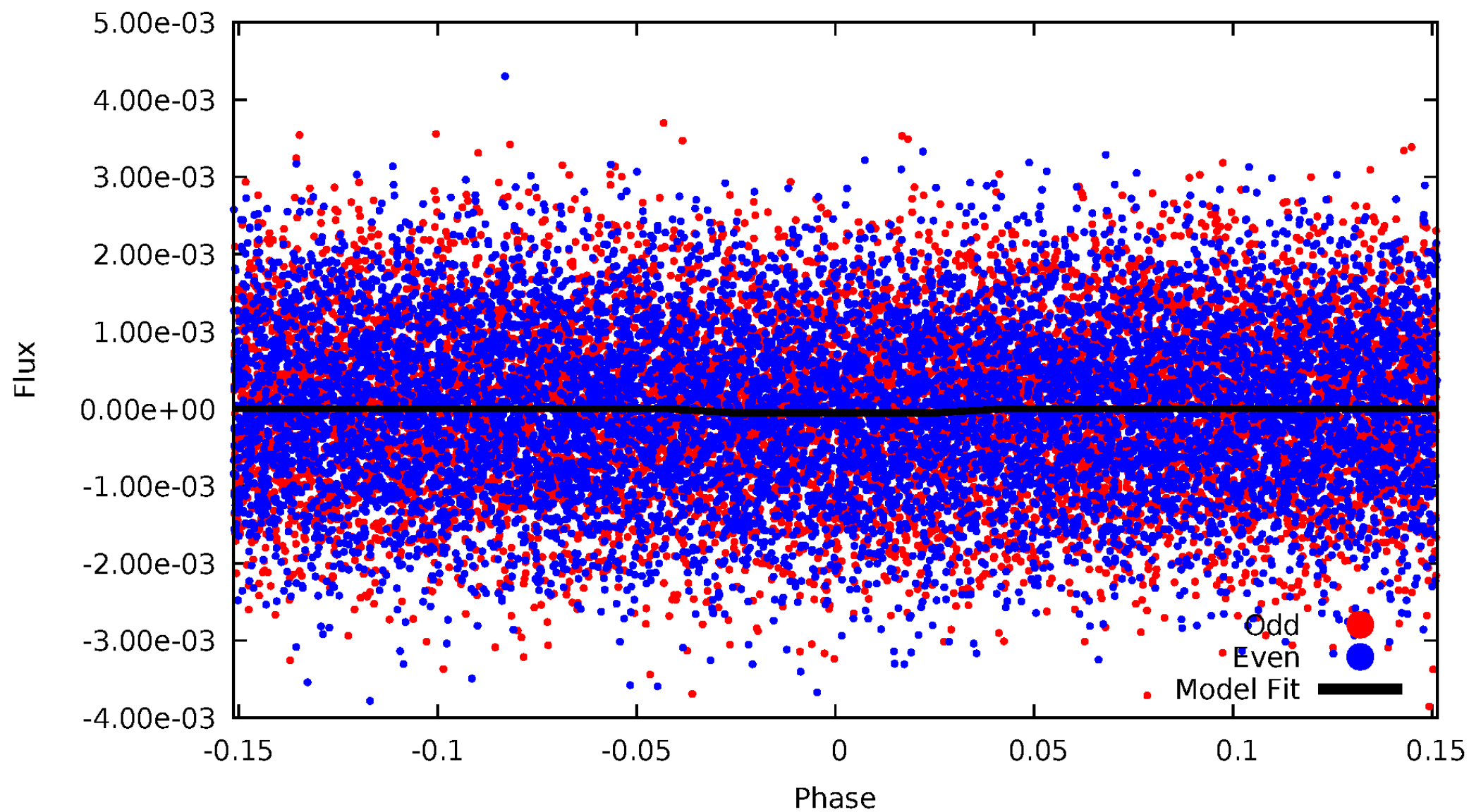
# DV Odd/Even

TCE 008630254-01

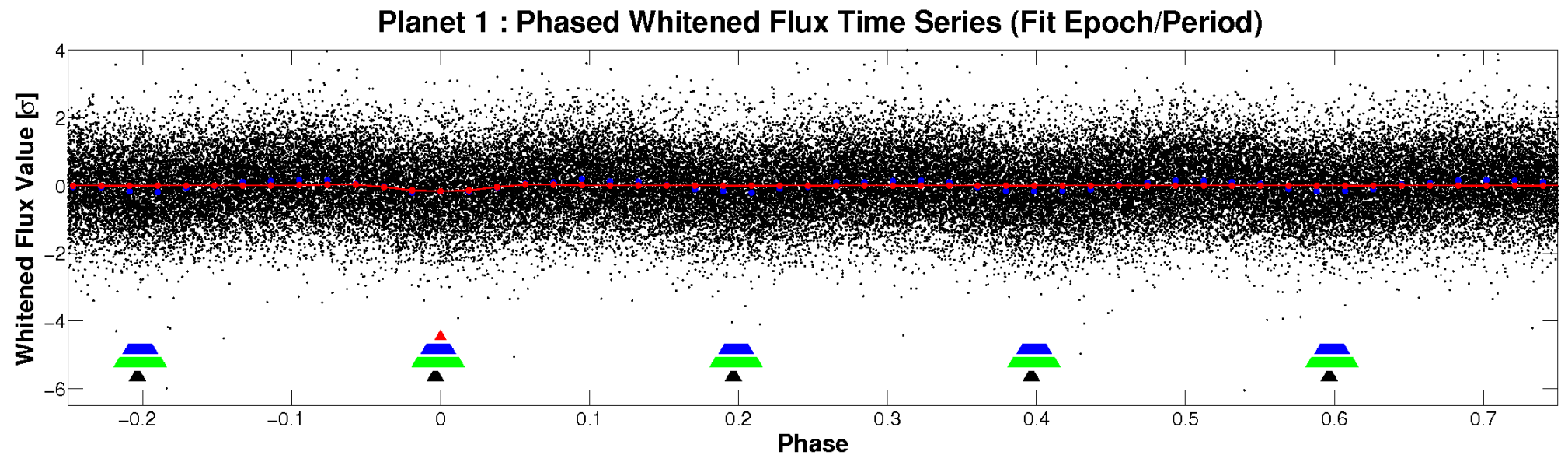
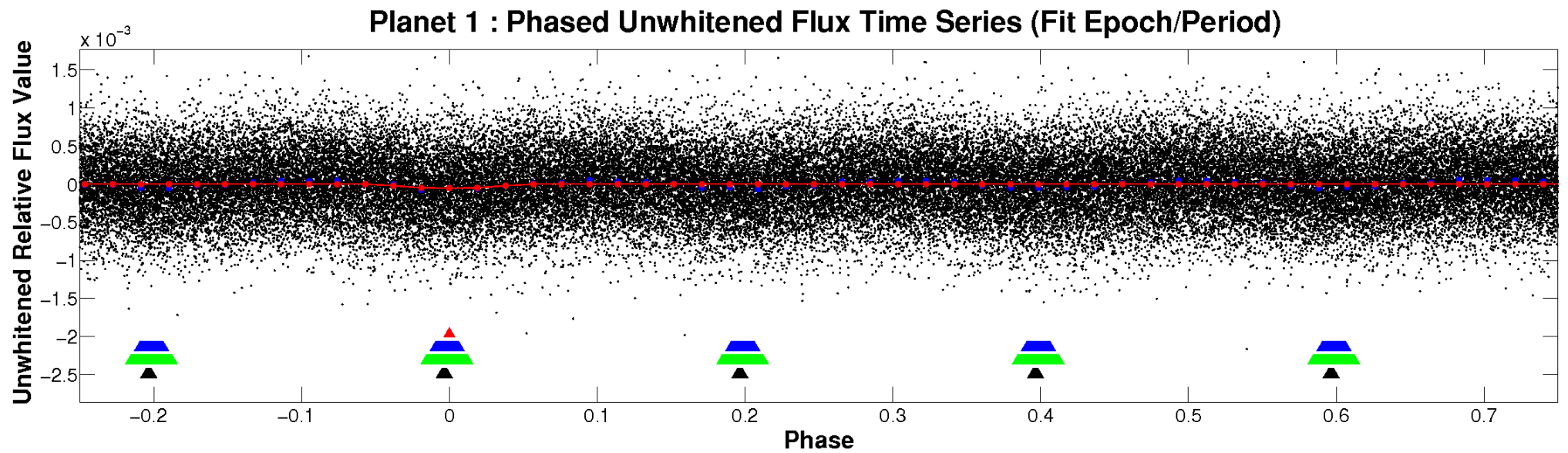


# ALT Odd/Even

TCE 008630254-01



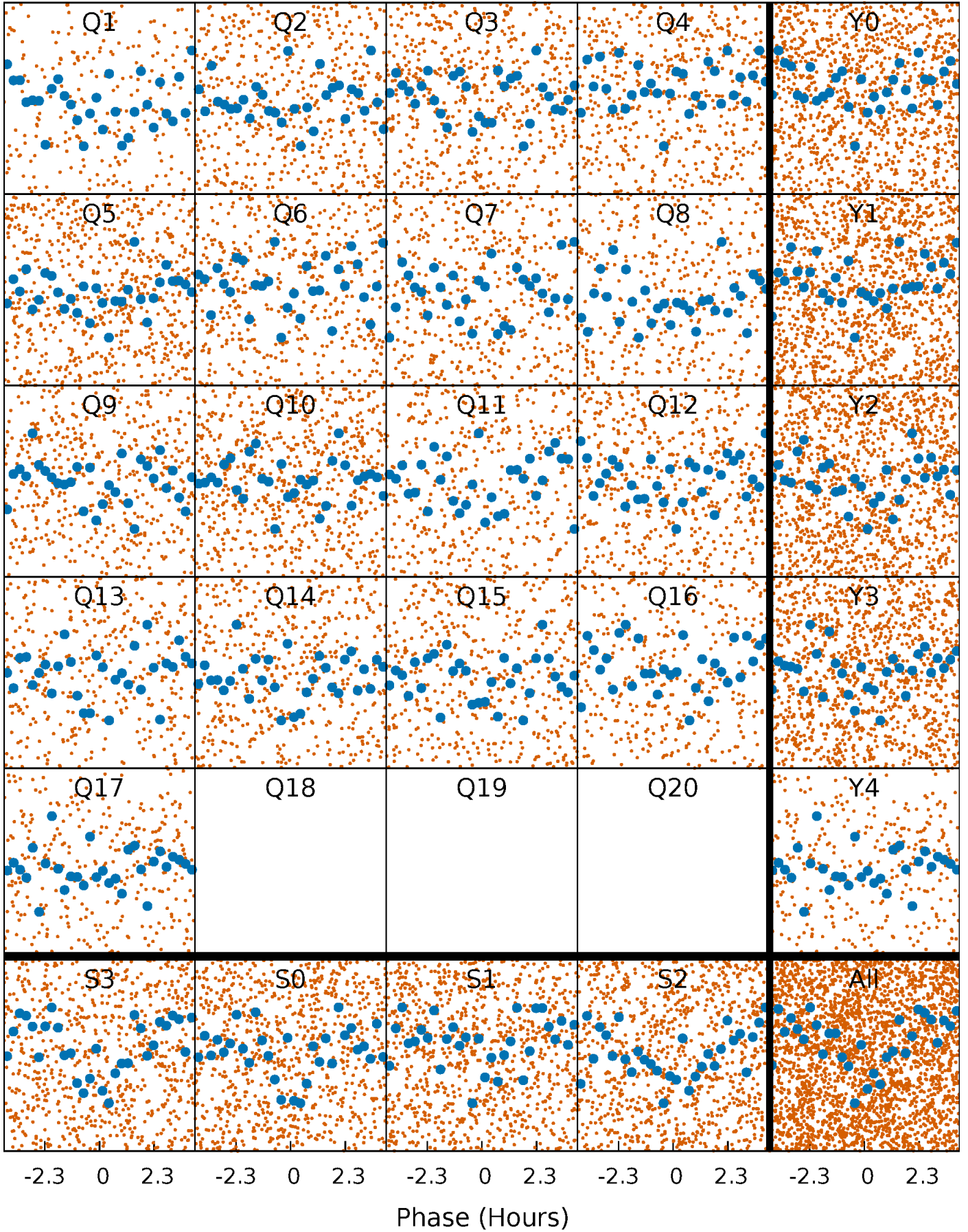
# Non-Whitened Vs. Whitened Light Curve





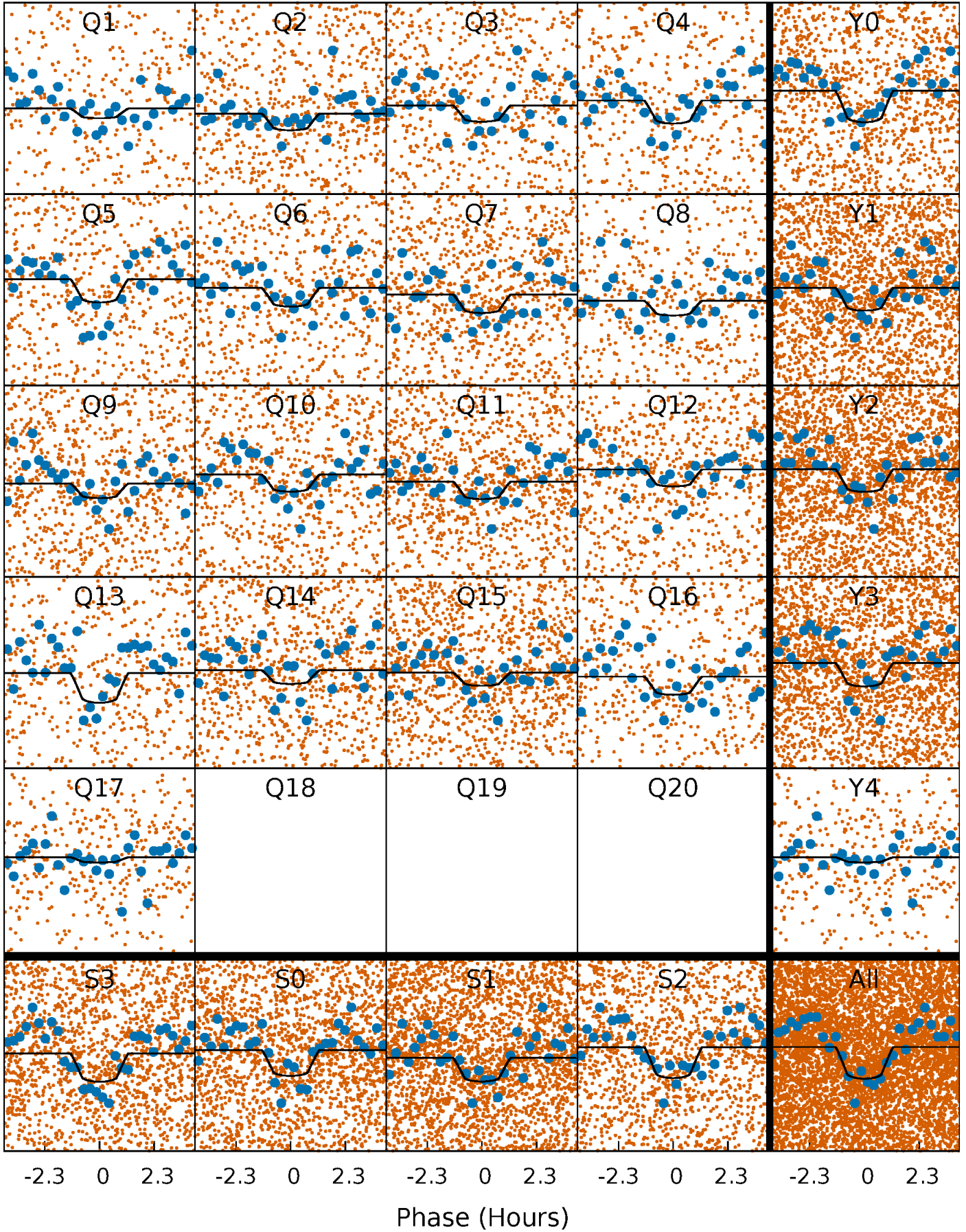
# PDC Quarter-Phased Transit Curves

TCE 008630254-01    P= 1.076842 Days     $T_0=131.999428$  (BKJD)



# DV Quarter-Phased Transit Curves

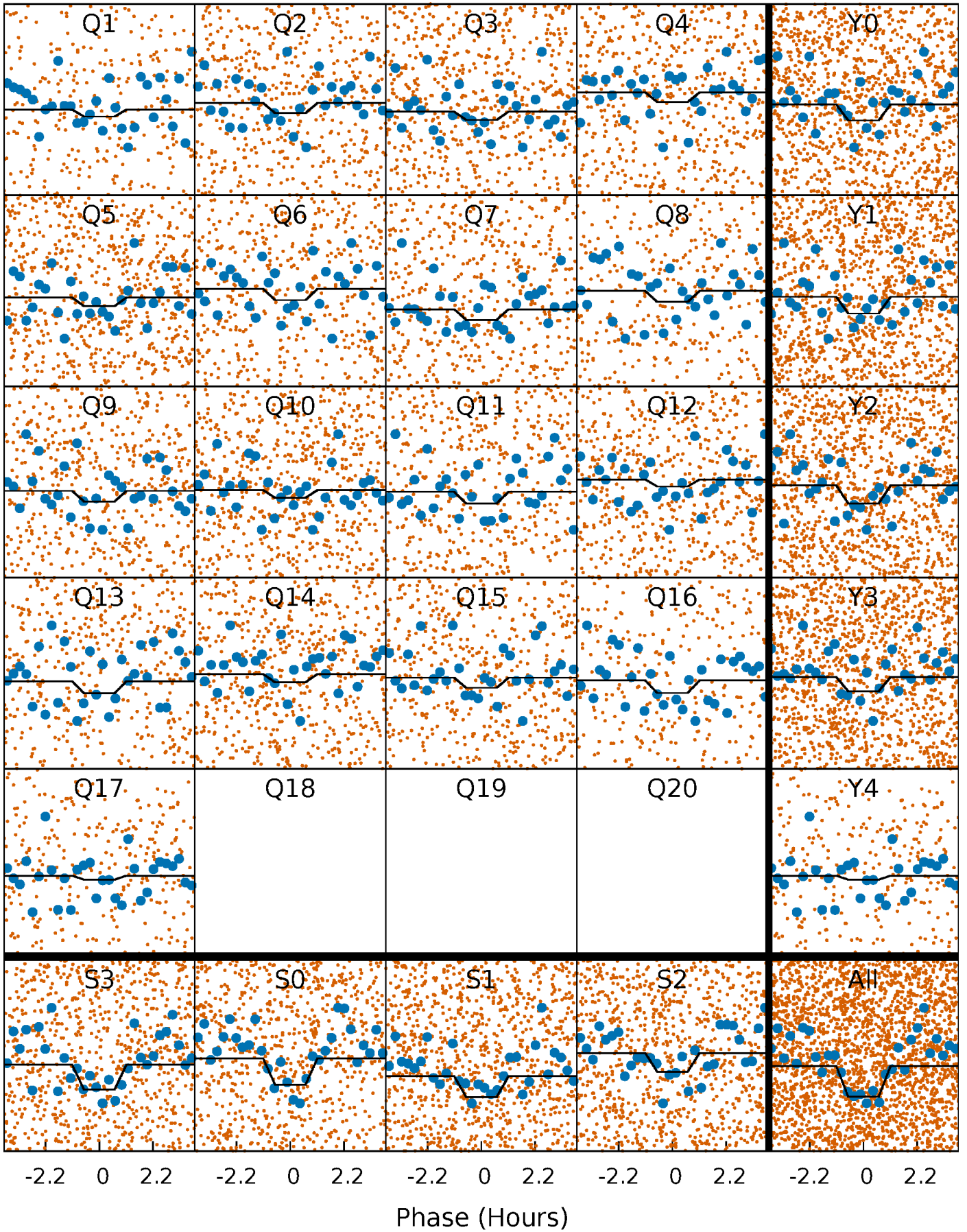
TCE 008630254-01 P= 1.076842 Days  $T_0=131.999428$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 008630254-01 P= 1.076848 Days  $T_0=131.999710$  (BKJD)

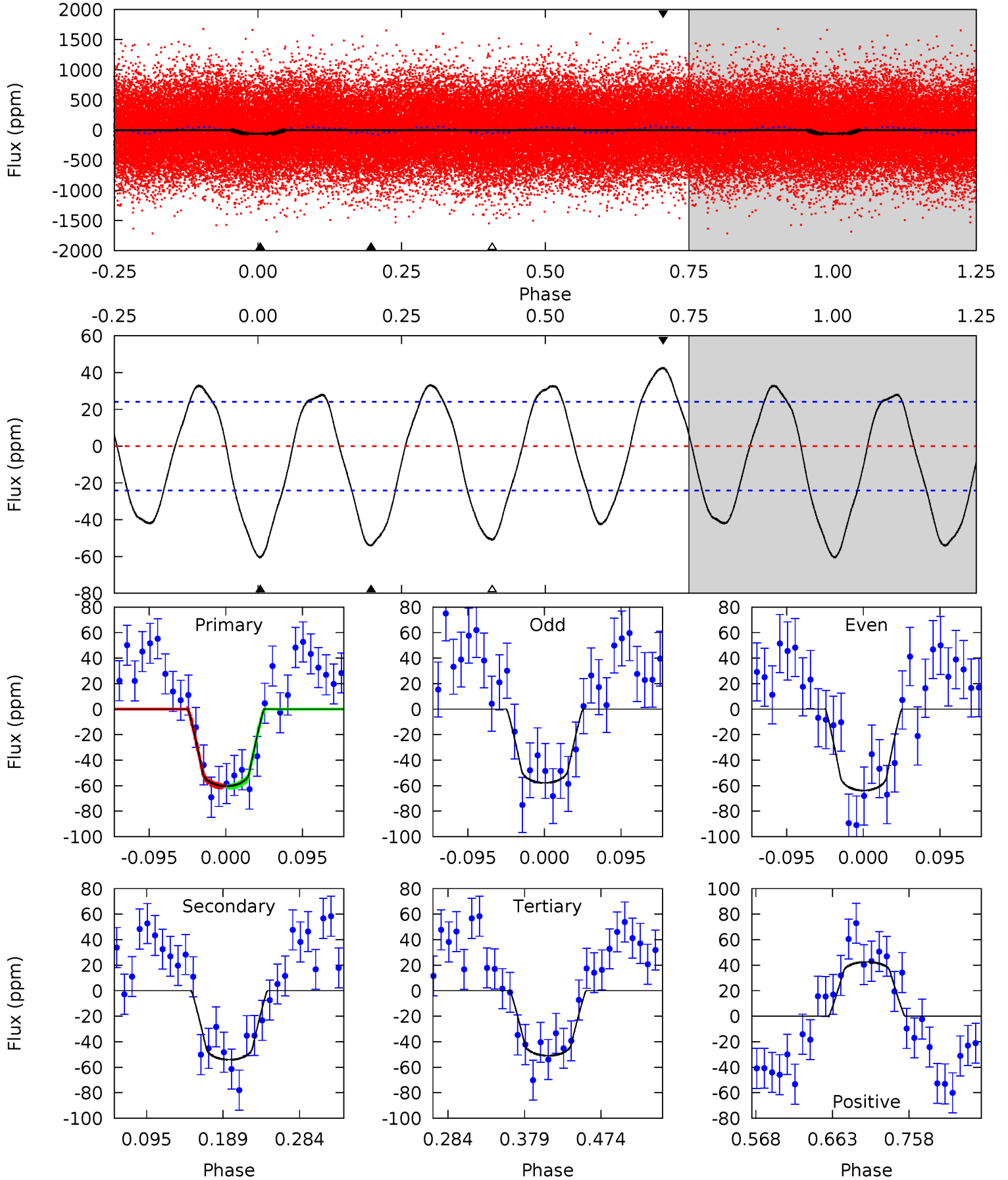




# DV Model-Shift Uniqueness Test

008630254-01, P = 1.076842 Days, E = 130.922586 Days

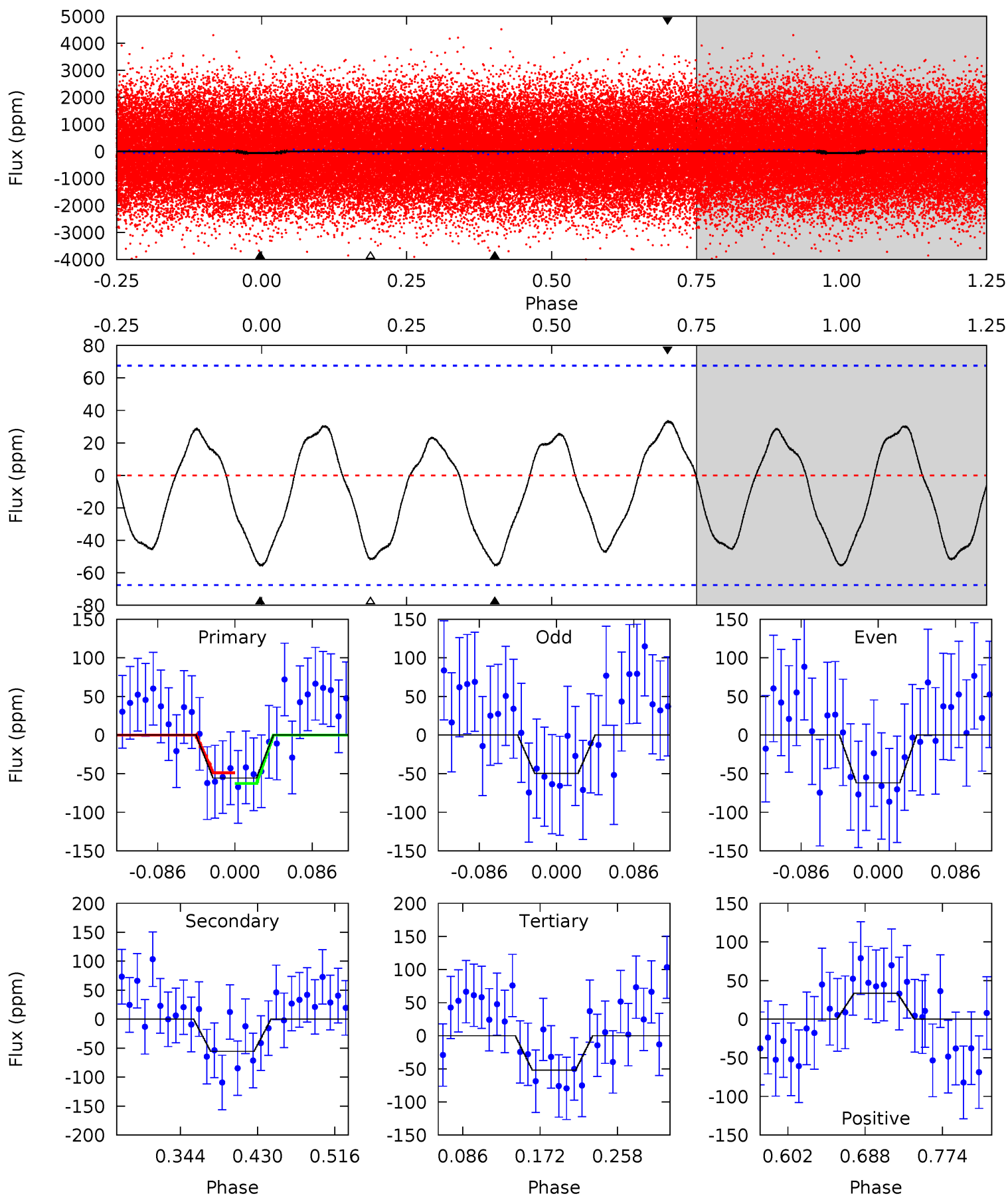
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	10.3	9.65	8.07	4.58	1.67	5.49	1.80	3.38	0.61	2.19	0.57	1.09	0.41	0.02



# Alt Model-Shift Uniqueness Test

008630254-01, P = 1.076848 Days, E = 130.922862 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
3.79	3.78	3.53	2.28	4.60	1.72	1.82	0.26	1.51	0.25	1.50	0.42	0.99	0.38	0.47



### Stellar Parameters For KIC 008630254

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7512^{+209}_{-314}$	$3.976^{+0.241}_{-0.148}$	$-0.060^{+0.200}_{-0.350}$	$2.239^{+0.540}_{-0.660}$	$1.727^{+0.185}_{-0.344}$	$0.217^{+0.328}_{-0.093}$
	+3%/-4%	+6%/-4%	+333%/-583%	+24%/-29%	+11%/-20%	+151%/-43%
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 008630254-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-54 \pm 5$	$1.78^{+0.95}_{-0.83}$	$4356^{+313}_{-326}$	$7229^{+3839}_{-1480}$	$5.526^{+14.523}_{-3.182}$
Alt.	$-56 \pm 15$	$1.72^{+0.89}_{-0.77}$	$4359^{+347}_{-359}$	$7460^{+3485}_{-1614}$	$6.065^{+12.917}_{-3.587}$

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



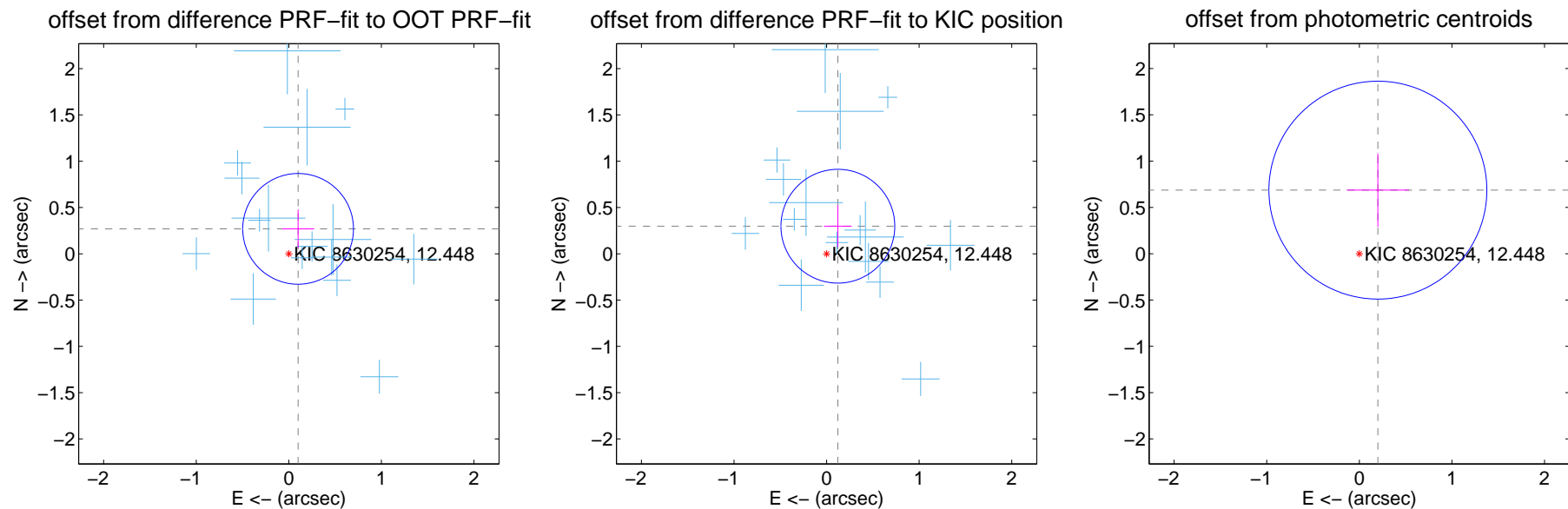
## DV Centroid Data

Supplemental centroid analysis for 008630254-01. Kepler magnitude: 12.45. Transit SNR 9.47

There are 16 quarters with good PRF difference image offsets

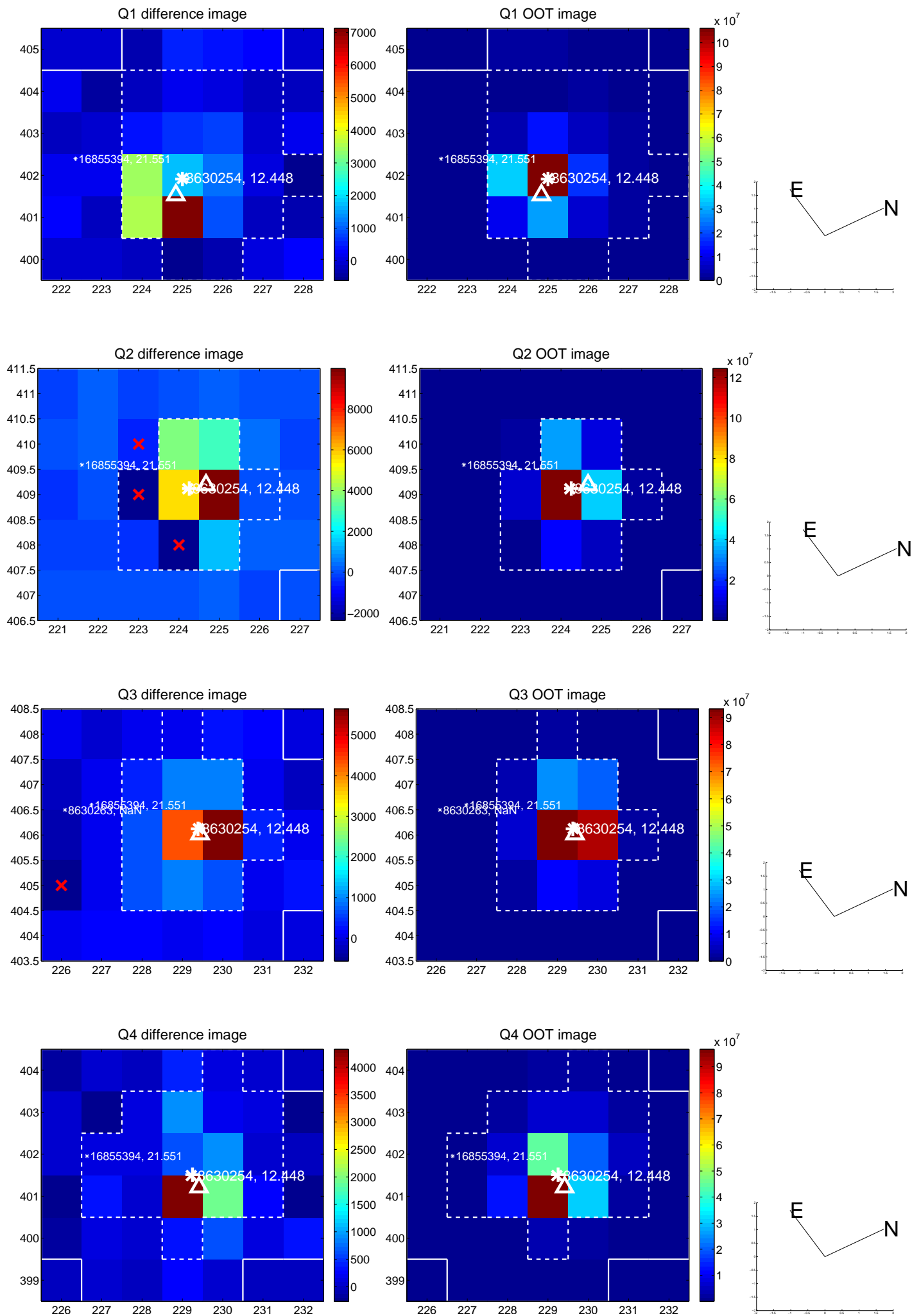
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.287 \pm 0.199$	1.44	$-0.100 \pm 0.173$	$0.269 \pm 0.210$
PRF-fit source offset from KIC position	$0.322 \pm 0.205$	1.57	$-0.122 \pm 0.150$	$0.298 \pm 0.225$
photometric centroid source offset	$0.72 \pm 0.39$	1.82	$-0.20 \pm 0.34$	$0.69 \pm 0.40$

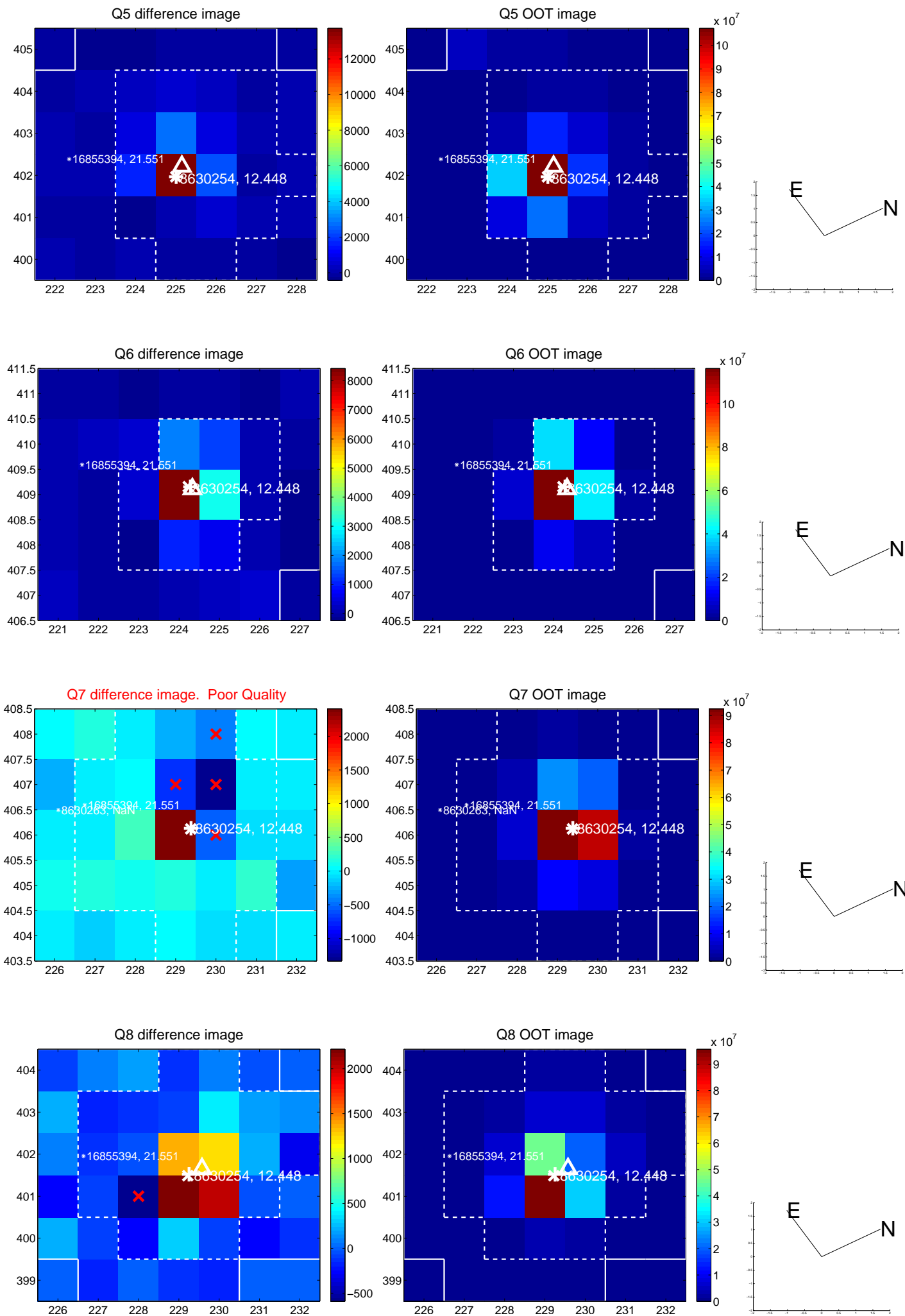


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

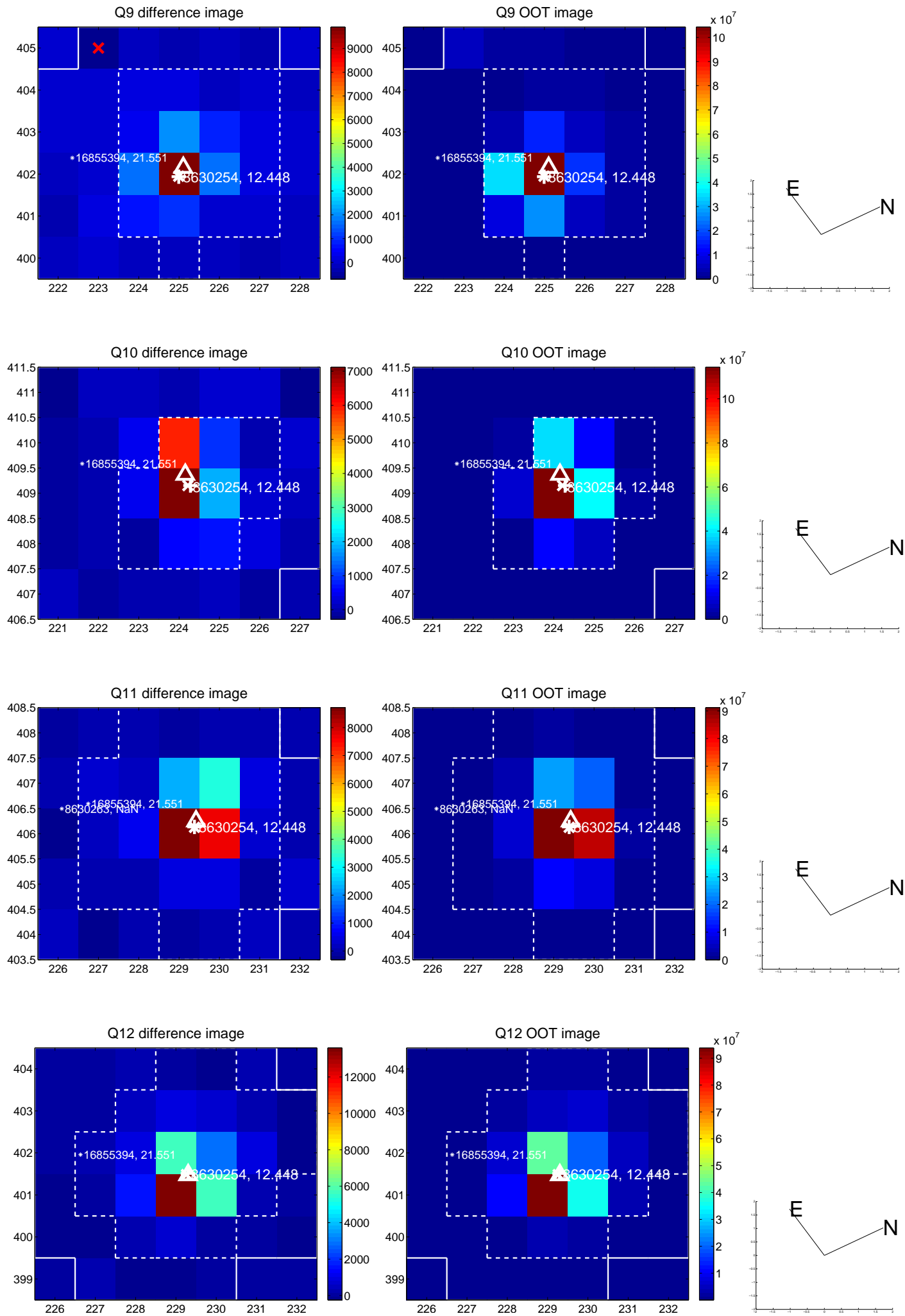


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

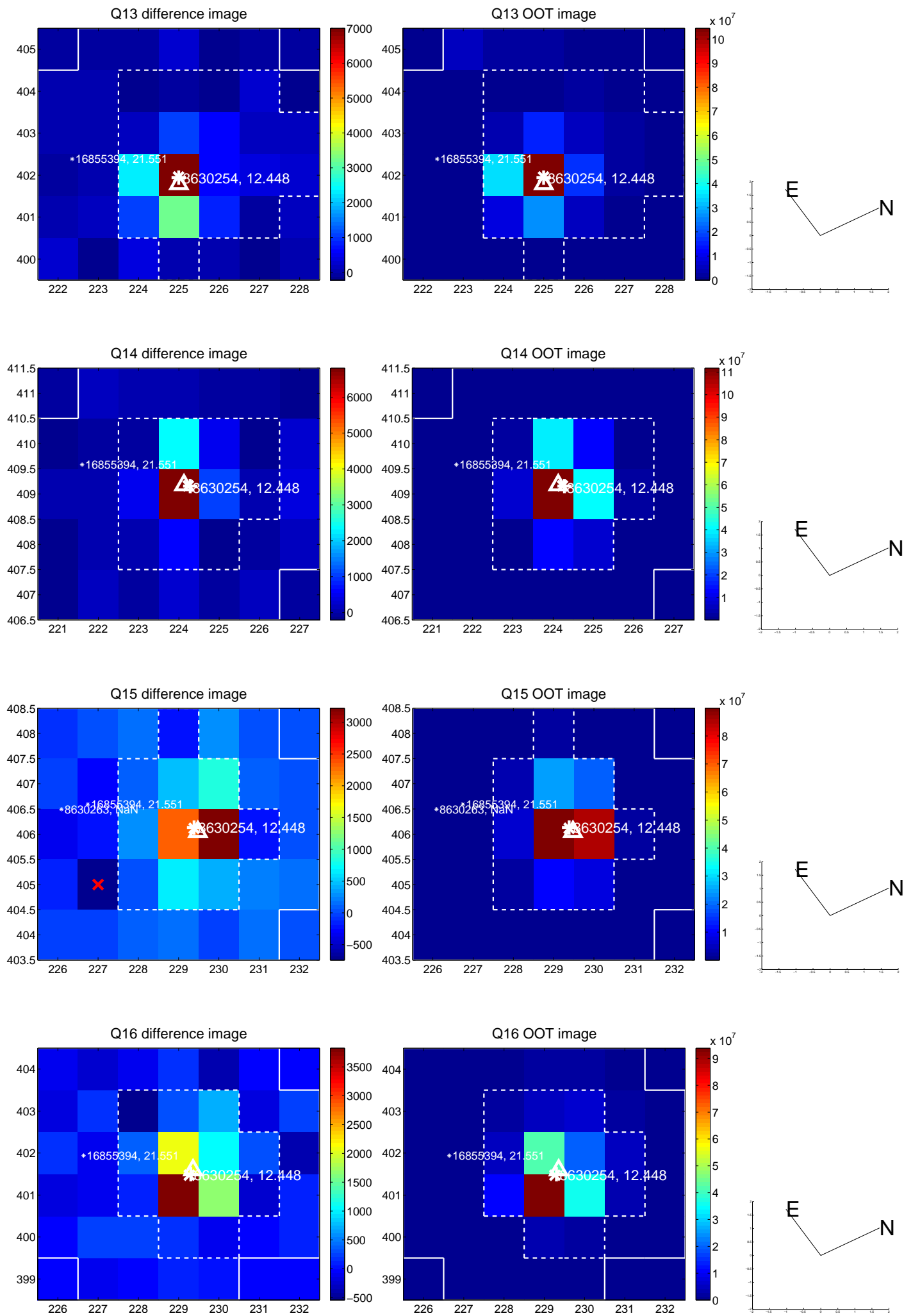




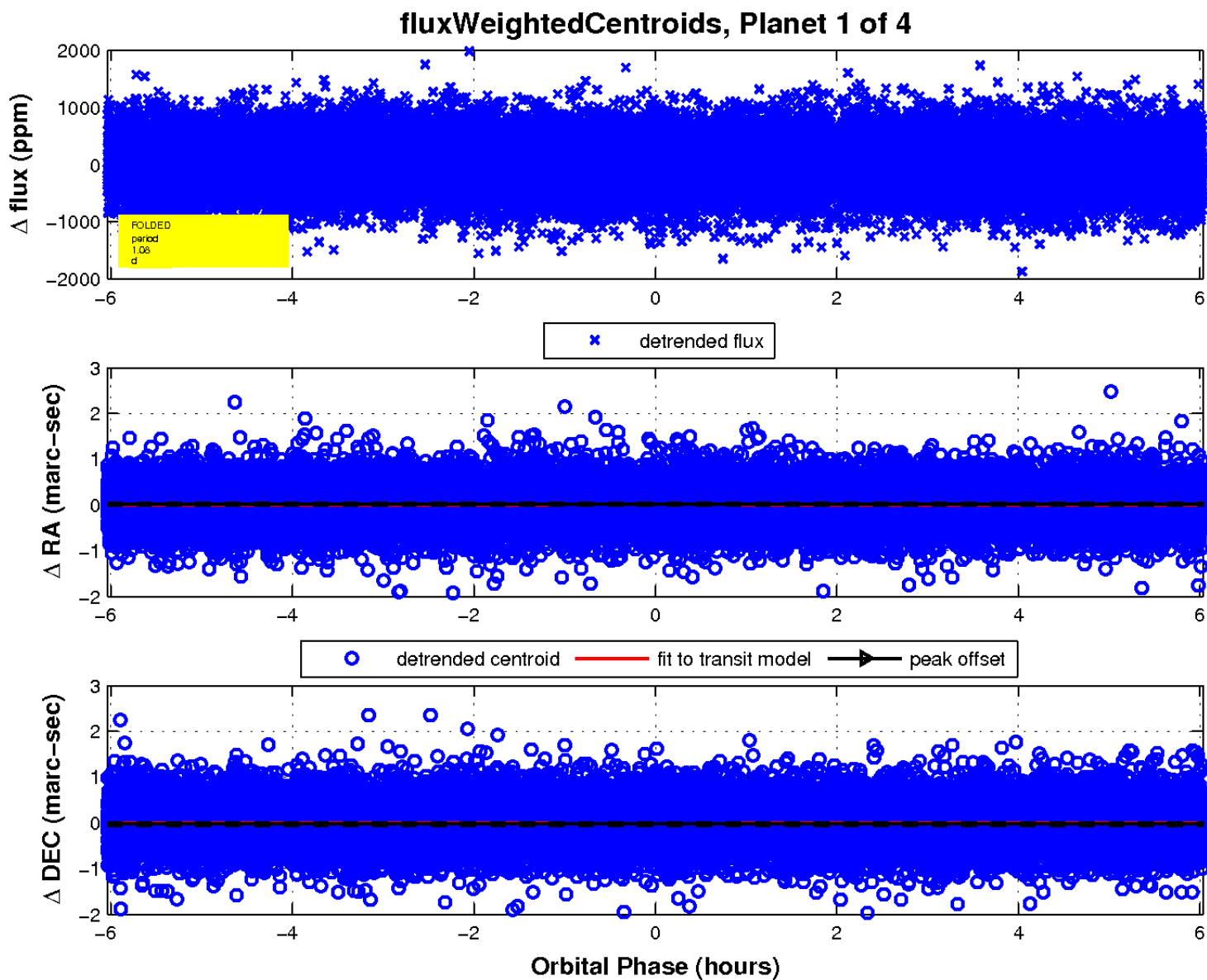
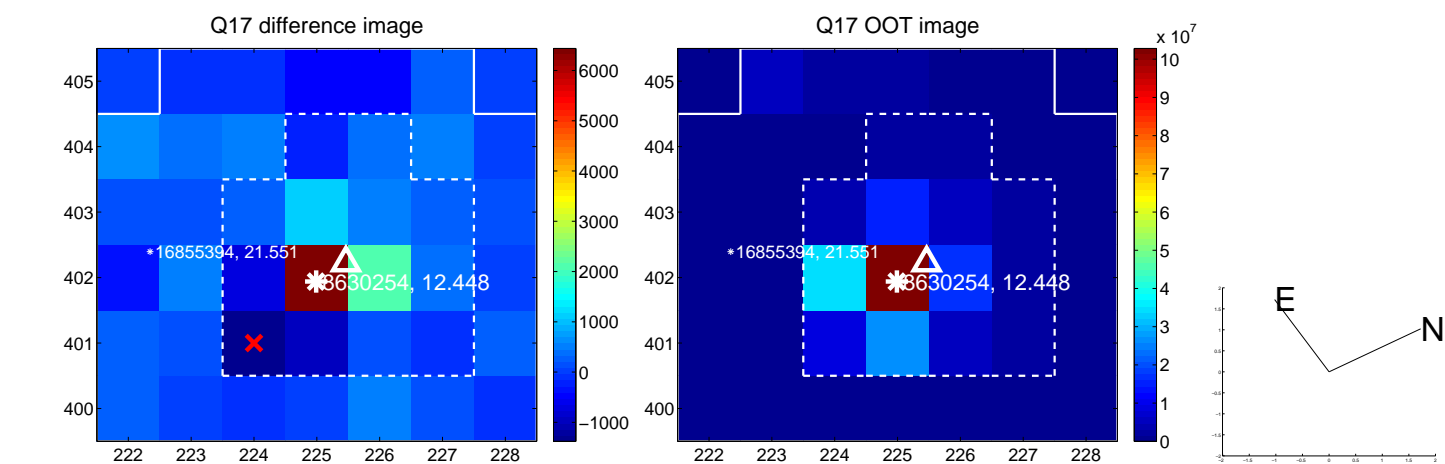
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

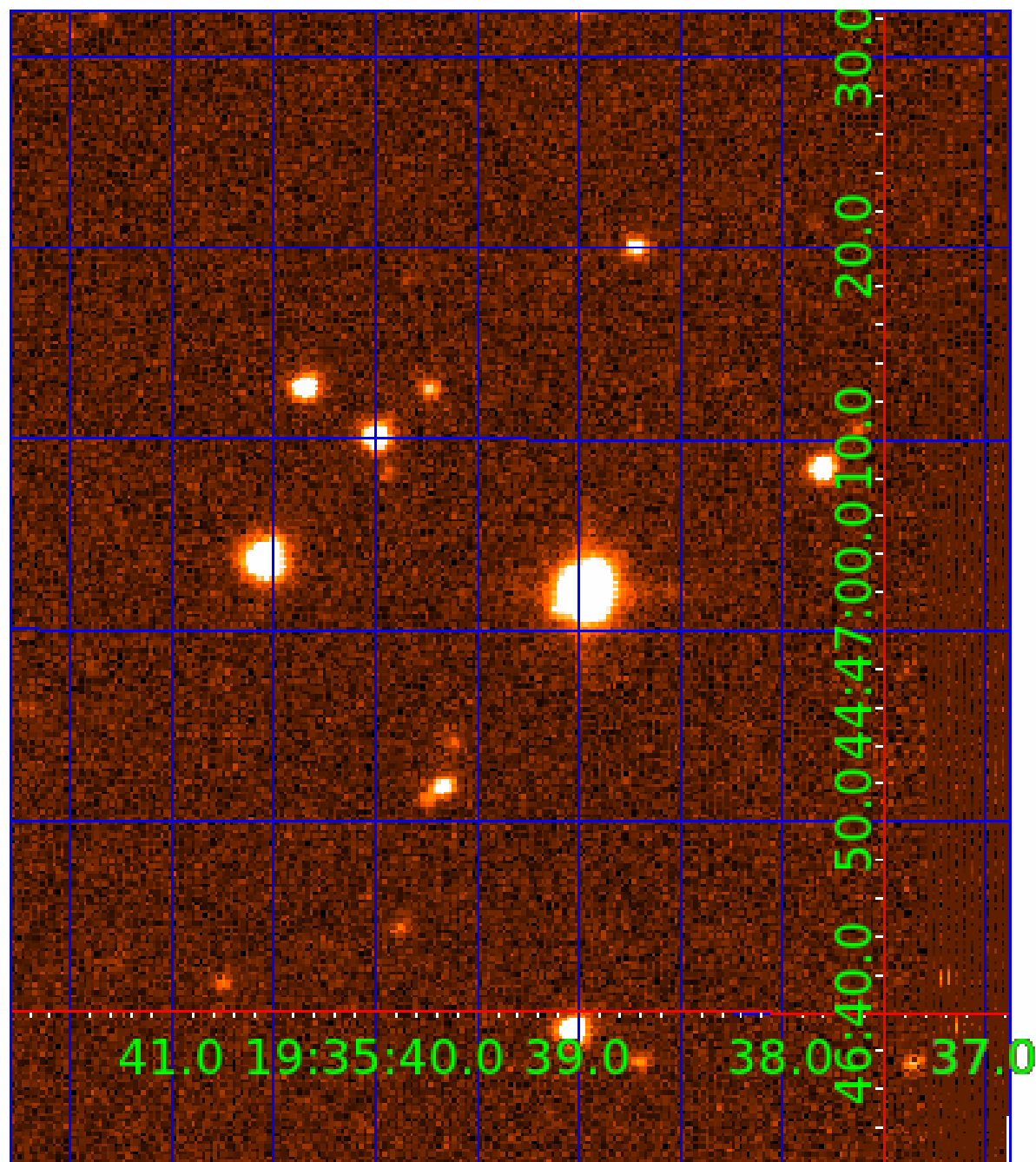


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 008630254

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008630254-01	OBS	No	1.076842	131.999428	51.3	2.012	9.8	9.5	2.24	7512	1.86	23464.78
008630254-02	OBS	No	0.646113	131.558662	53.6	1.667	12.2	10.8	2.24	7512	1.90	46366.91
008630254-03	OBS	No	0.646119	131.982670	49.6	1.901	10.8	10.4	2.24	7512	1.83	46366.35
008630254-04	OBS	No	0.646104	131.782306	49.9	1.743	9.6	10.4	2.24	7512	1.65	46367.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008630254-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008630254-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008630254-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
008630254-04	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

**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.

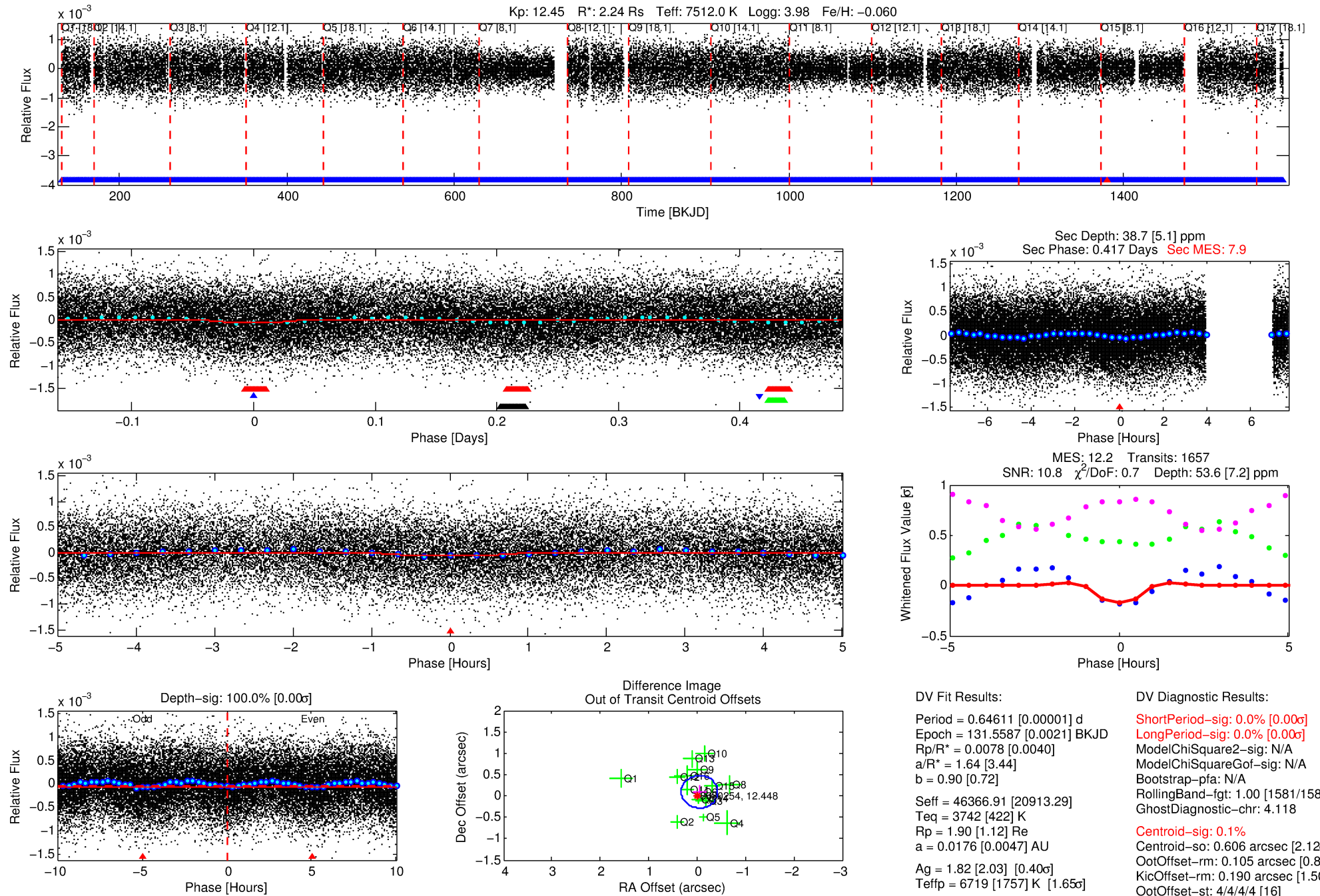
Ephemeris Match Information For 008630254-02

No Significant Match Found



# DV One-Page Summary

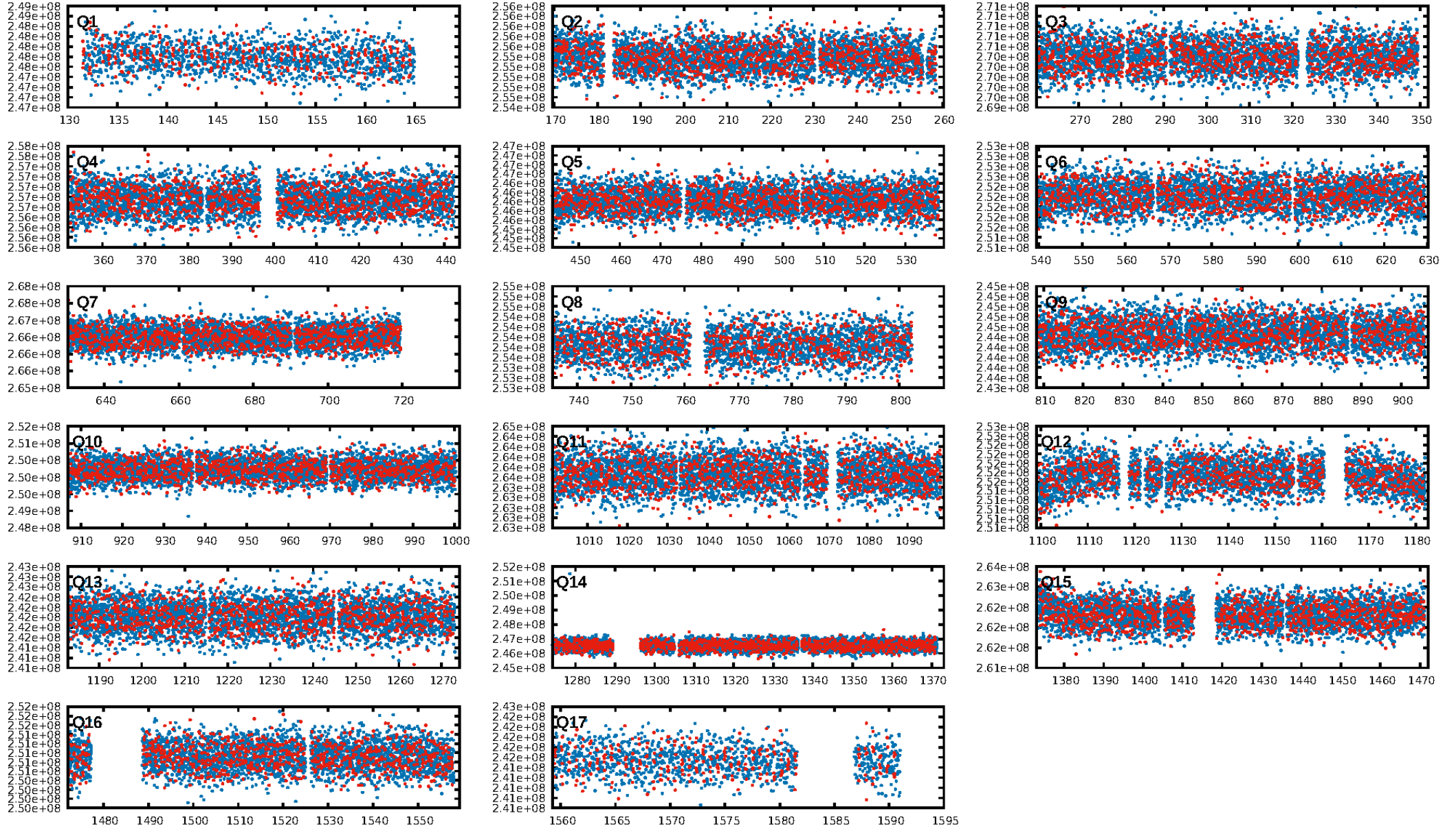
KIC: 8630254 Candidate: 2 of 4 Period: 0.646 d



Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:17:58 Z

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

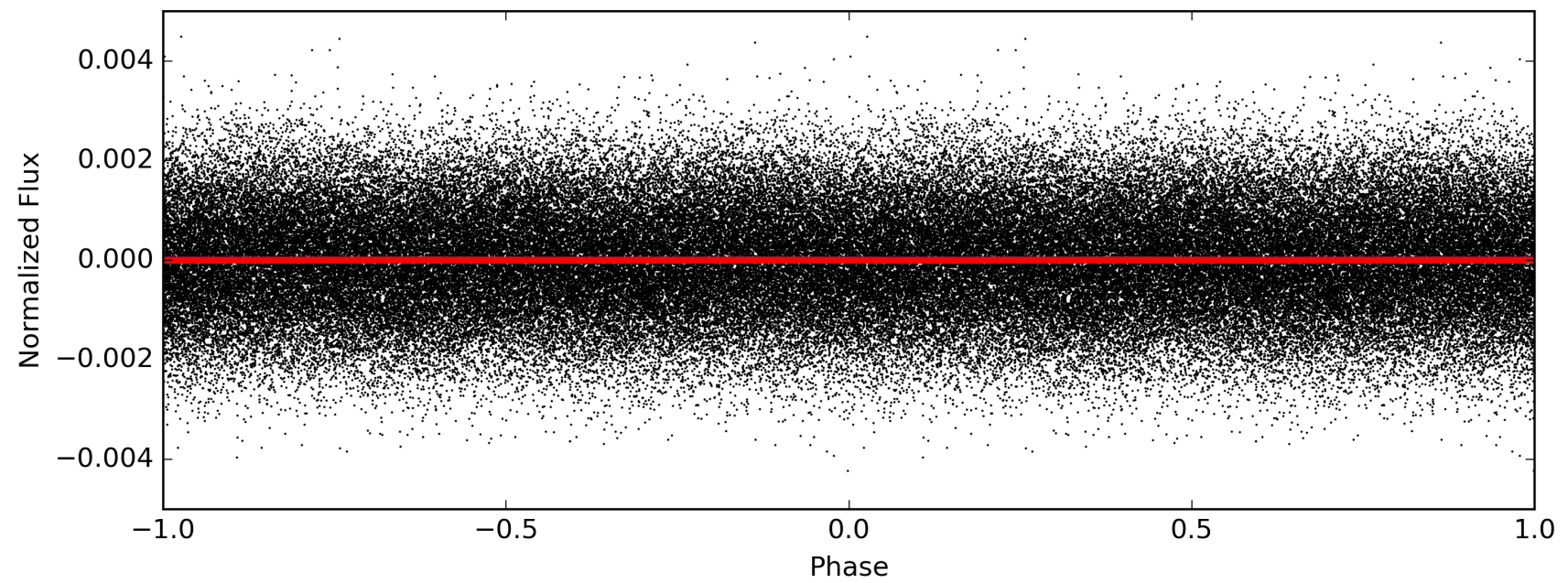
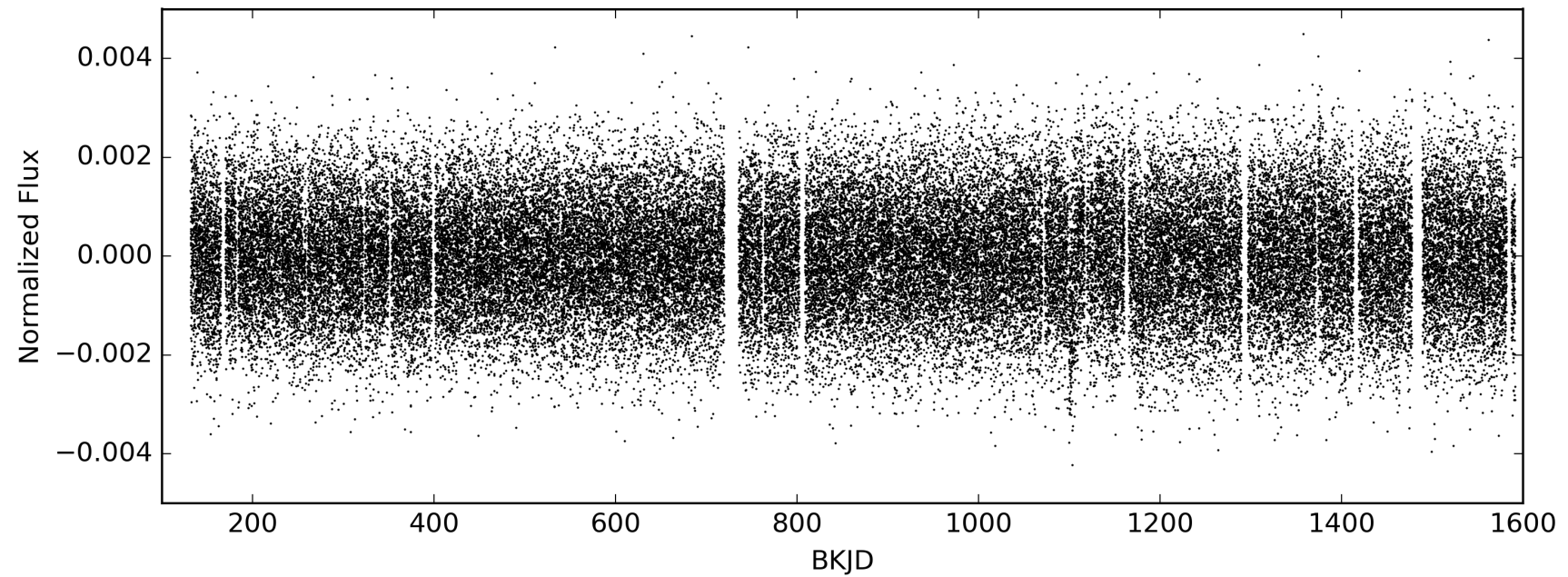
# TCE 008630254-02, PDC Light Curves





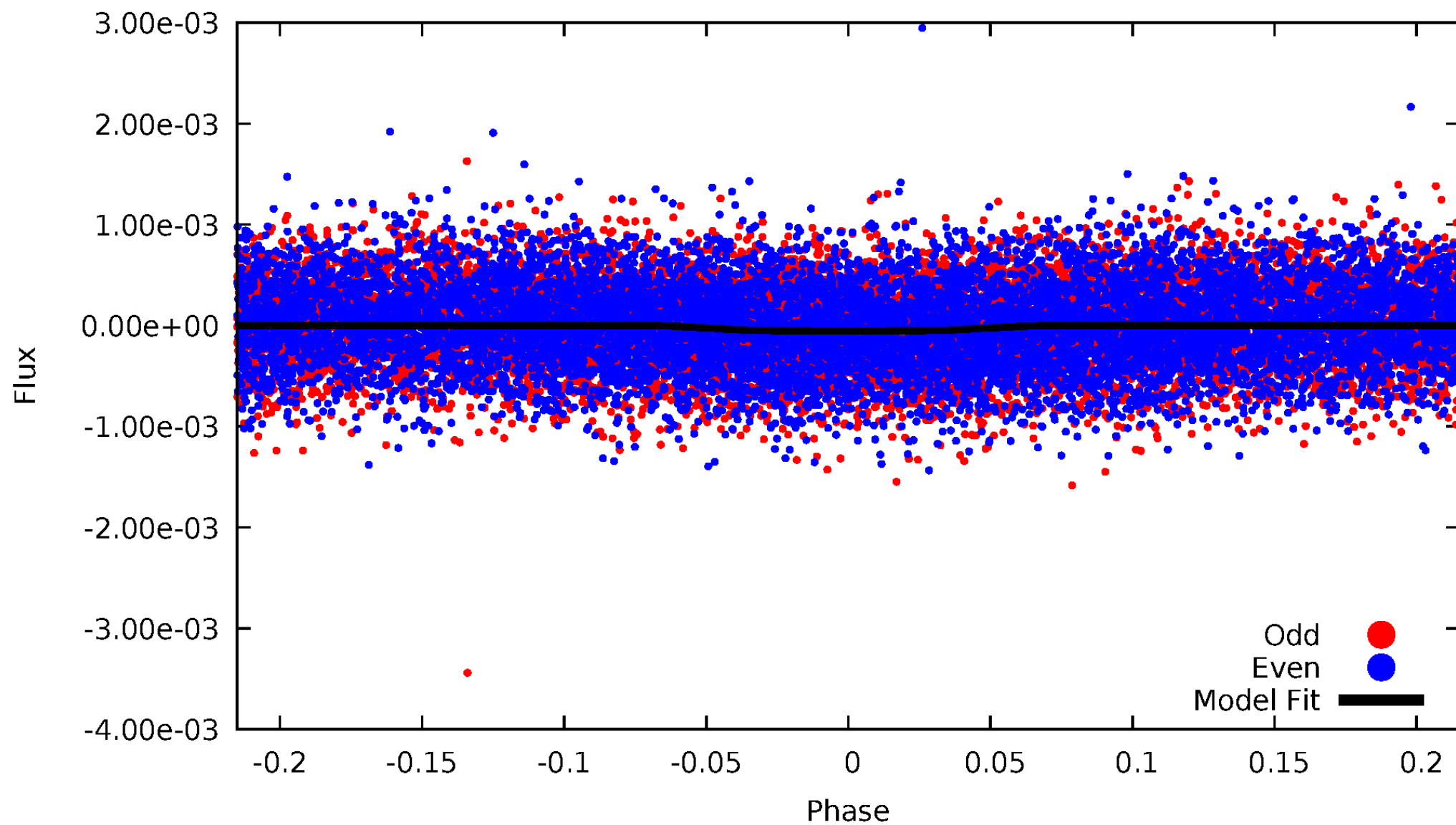
TCE 008630254-02

— P = 0.323 days    — P = 0.646 days    — P = 1.292 days



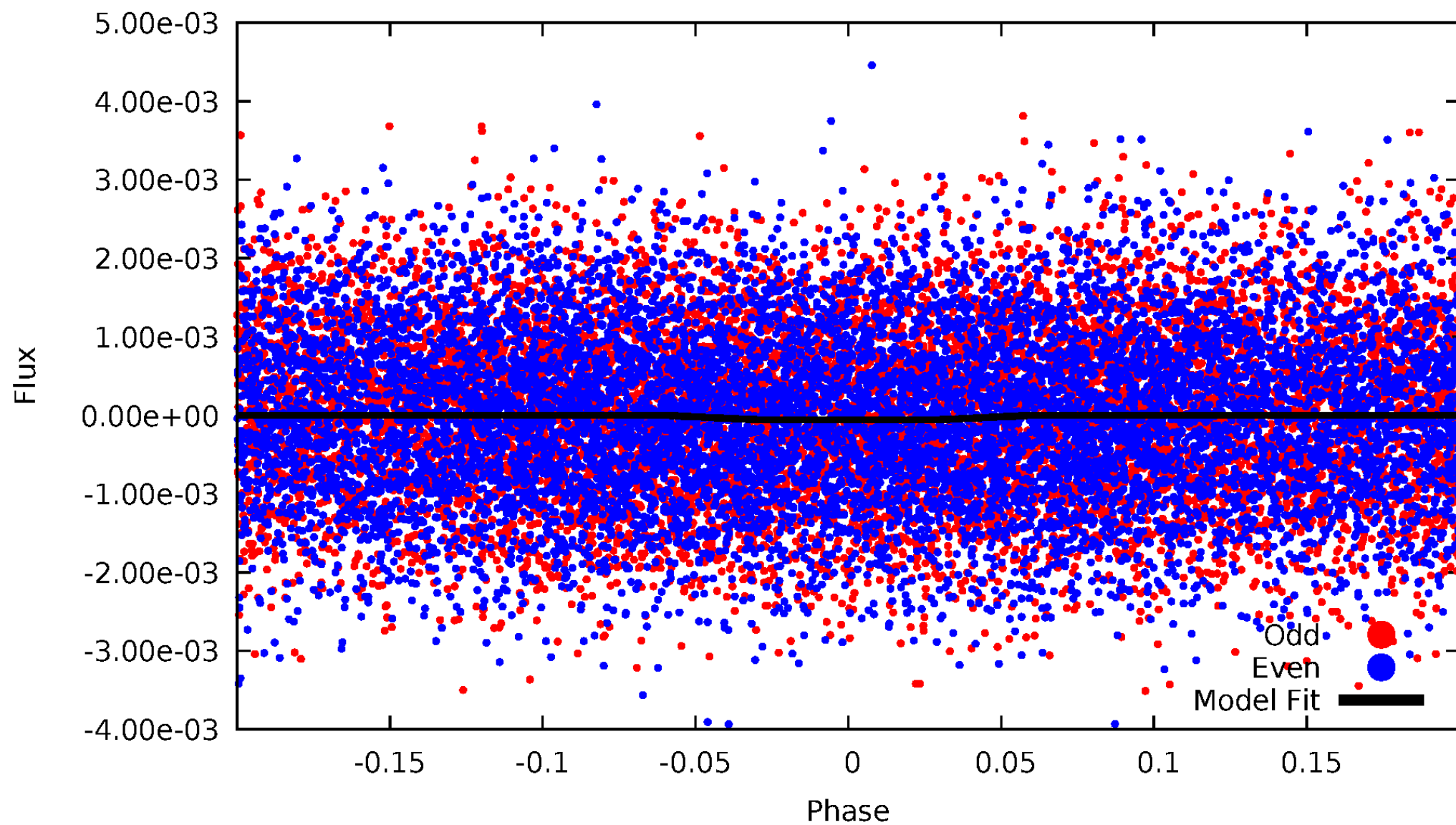
DV Odd/Even

TCE 008630254-02



# ALT Odd/Even

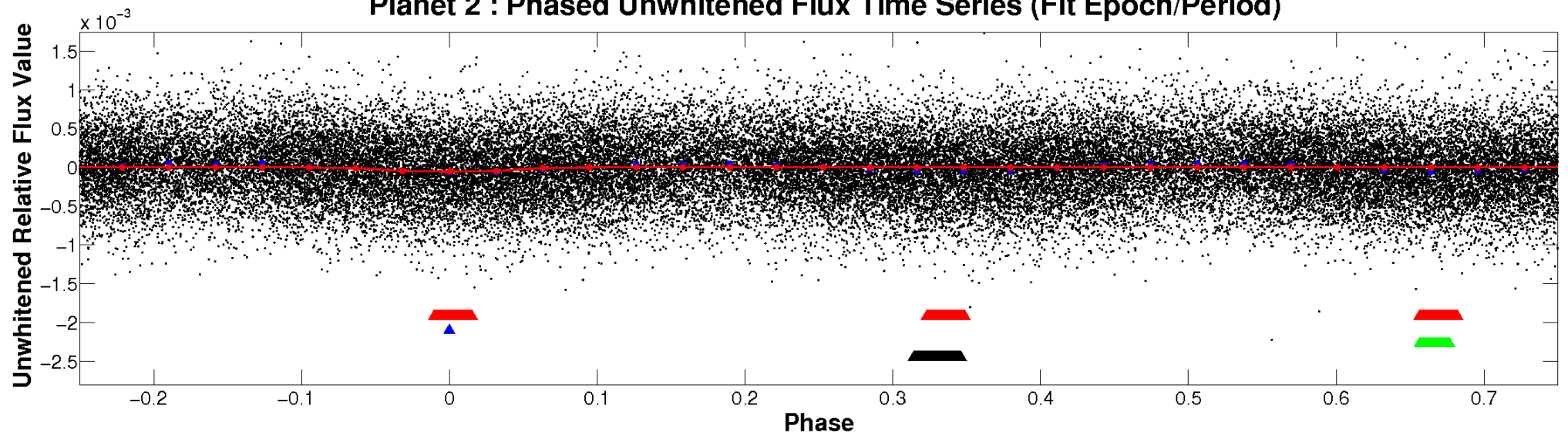
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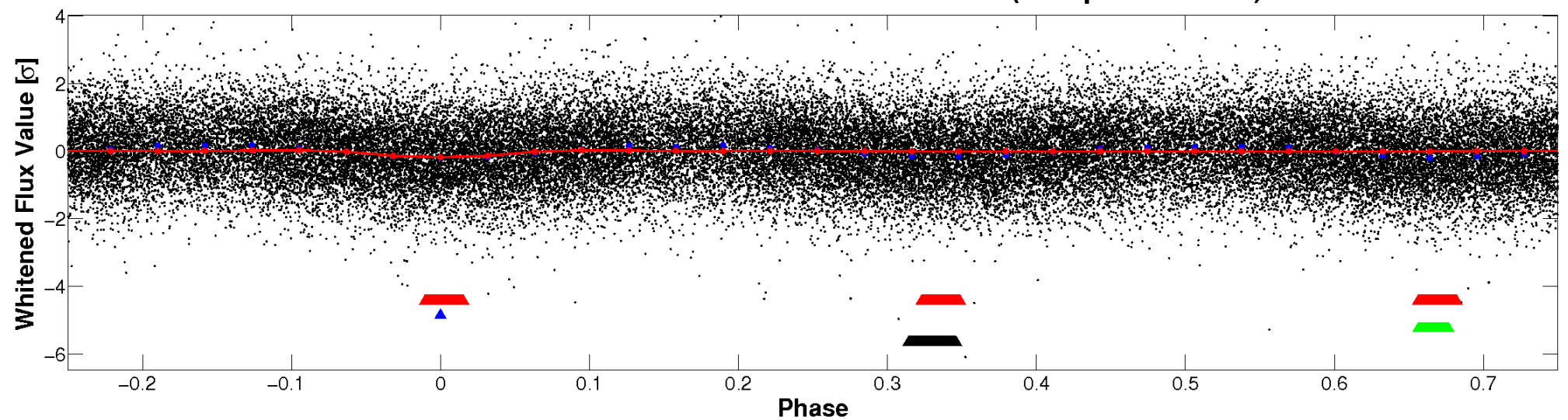


# Non-Whitened Vs. Whitened Light Curve

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

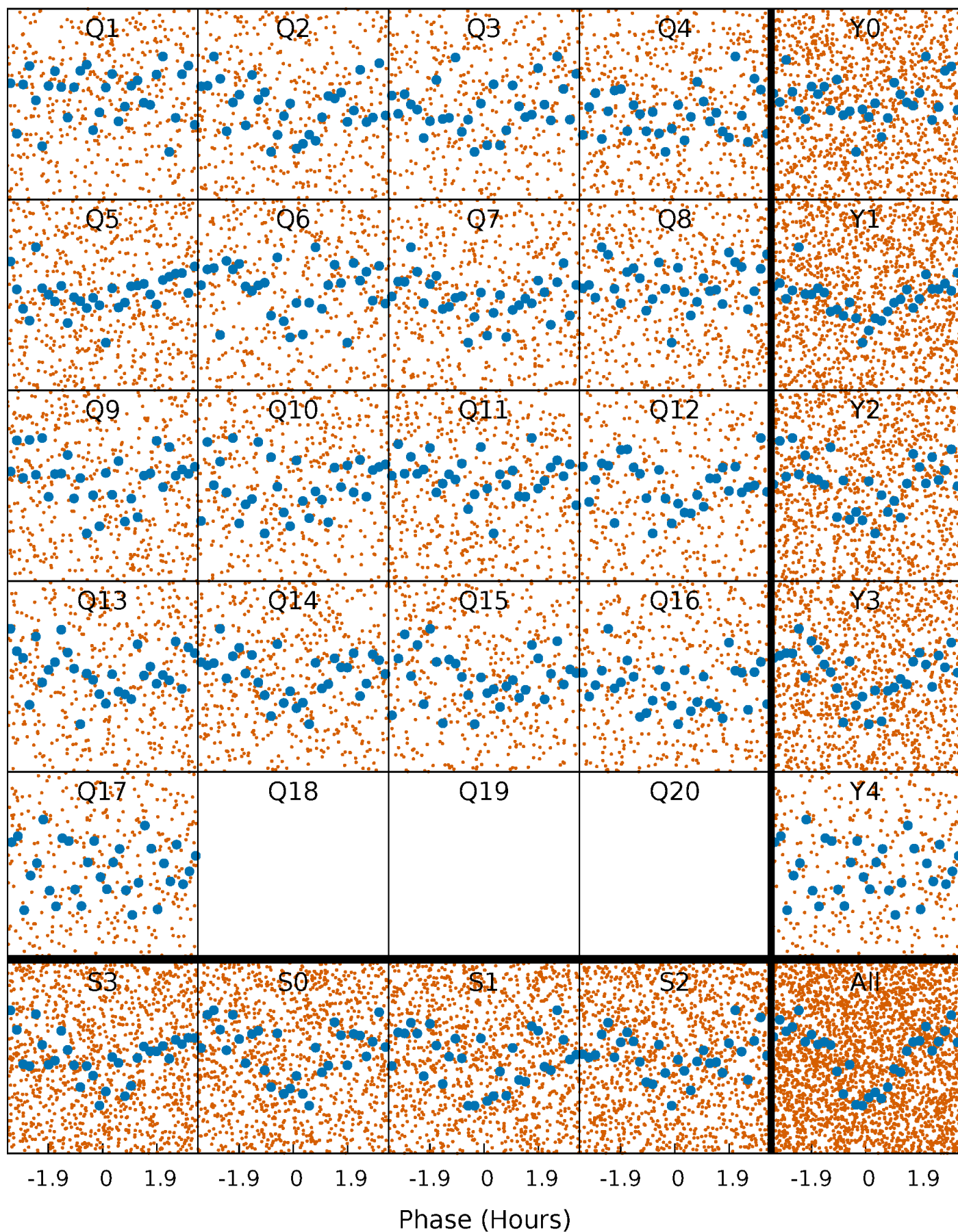


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



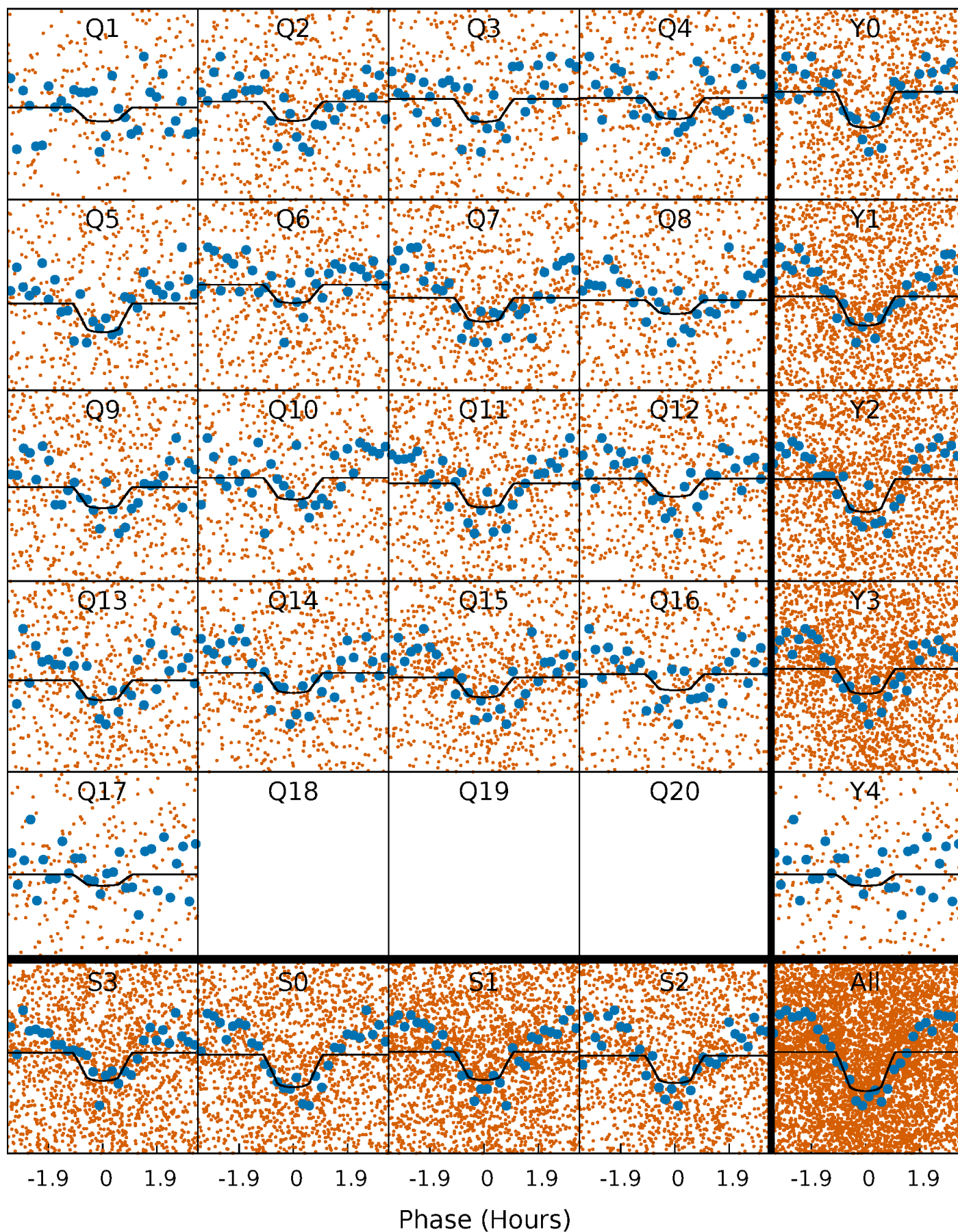
# PDC Quarter-Phased Transit Curves

TCE 008630254-02   P= 0.646113 Days    $T_0=131.558662$  (BKJD)



# DV Quarter-Phased Transit Curves

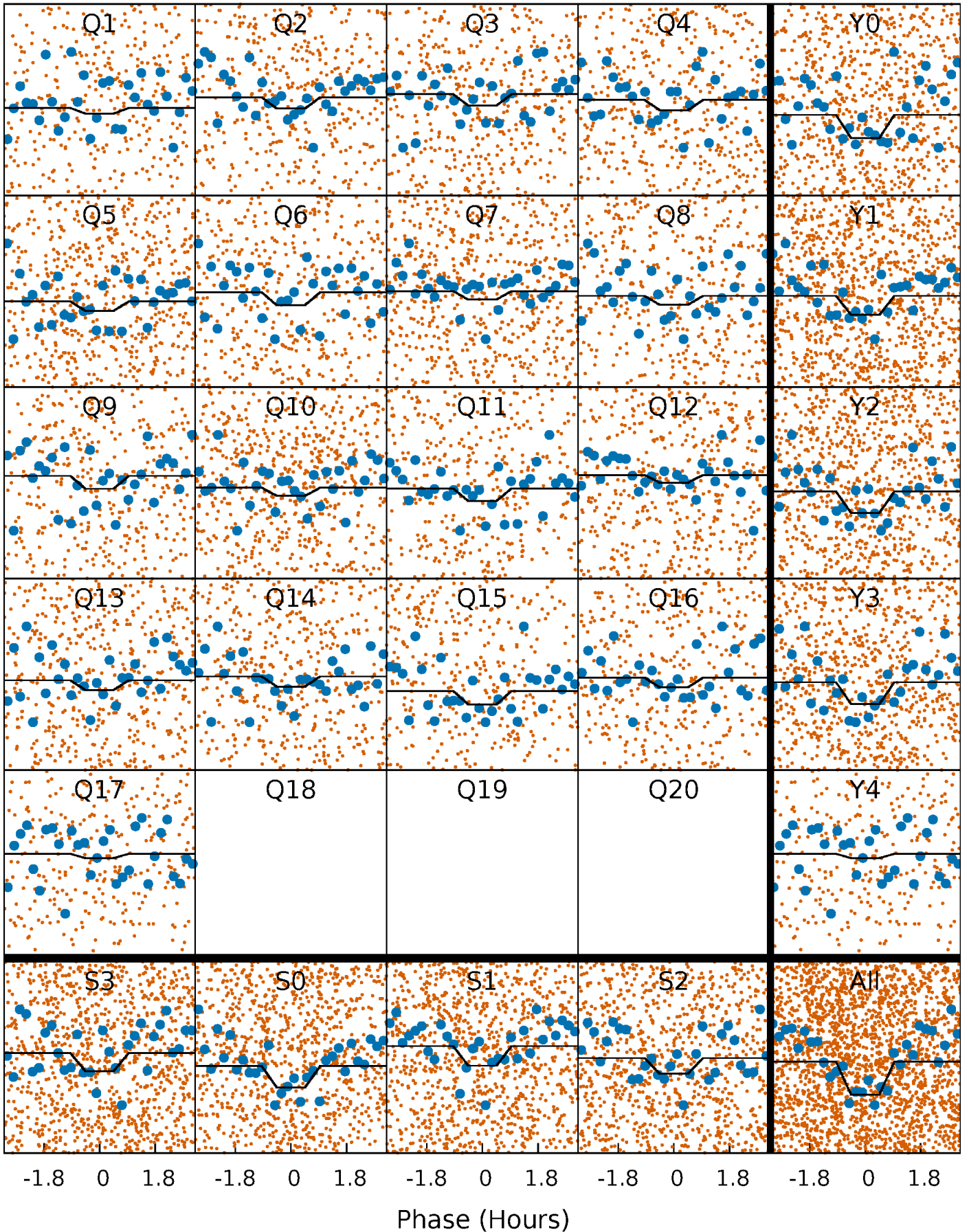
TCE 008630254-02   P= 0.646113 Days    $T_0=131.558662$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 008630254-02 P= 0.646119 Days  $T_0=131.558868$  (BKJD)

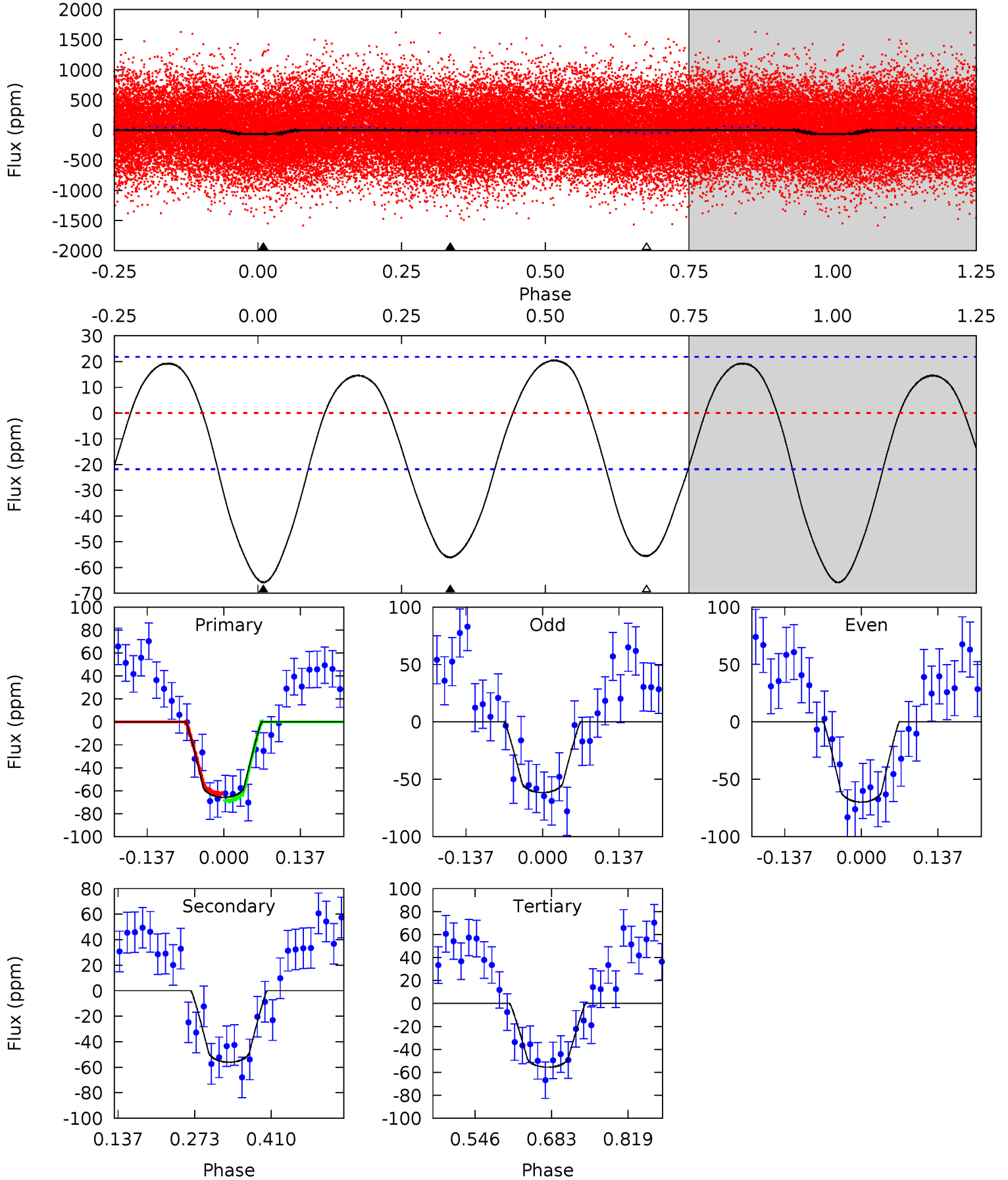




# DV Model-Shift Uniqueness Test

008630254-02, P = 0.646113 Days, E = 130.912549 Days

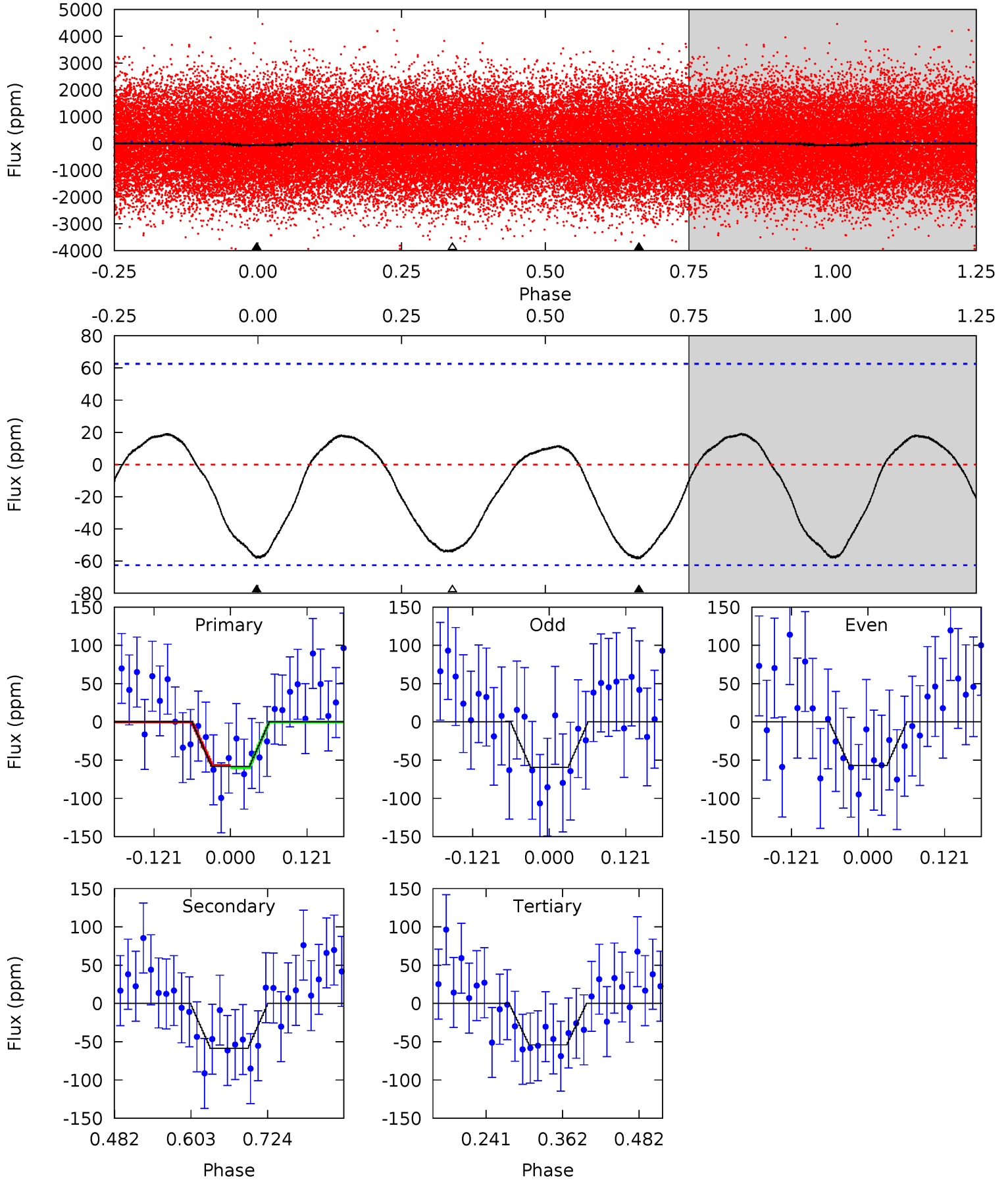
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	11.6	11.5	0	4.50	1.49	5.69	2.11	13.6	0.11	11.6	0.85	1.00	0.24	0.64



# Alt Model-Shift Uniqueness Test

008630254-02, P = 0.646119 Days, E = 130.912749 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.21	4.23	3.92	0	4.53	1.55	1.84	0.29	4.21	0.32	4.23	0.09	1.07	0.25	0.11



### Stellar Parameters For KIC 008630254

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7512^{+209}_{-314}$	$3.976^{+0.241}_{-0.148}$	$-0.060^{+0.200}_{-0.350}$	$2.239^{+0.540}_{-0.660}$	$1.727^{+0.185}_{-0.344}$	$0.217^{+0.328}_{-0.093}$
	+3%/-4%	+6%/-4%	+333%/-583%	+24%/-29%	+11%/-20%	+151%/-43%
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 008630254-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-56 \pm 5$	$1.89^{+0.98}_{-0.94}$	$5144^{+408}_{-410}$	$6987^{+3787}_{-1581}$	$2.668^{+7.211}_{-1.550}$
Alt.	$-59 \pm 14$	$1.76^{+0.99}_{-0.89}$	$5169^{+415}_{-456}$	$7275^{+5372}_{-1798}$	$3.104^{+10.319}_{-1.905}$

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

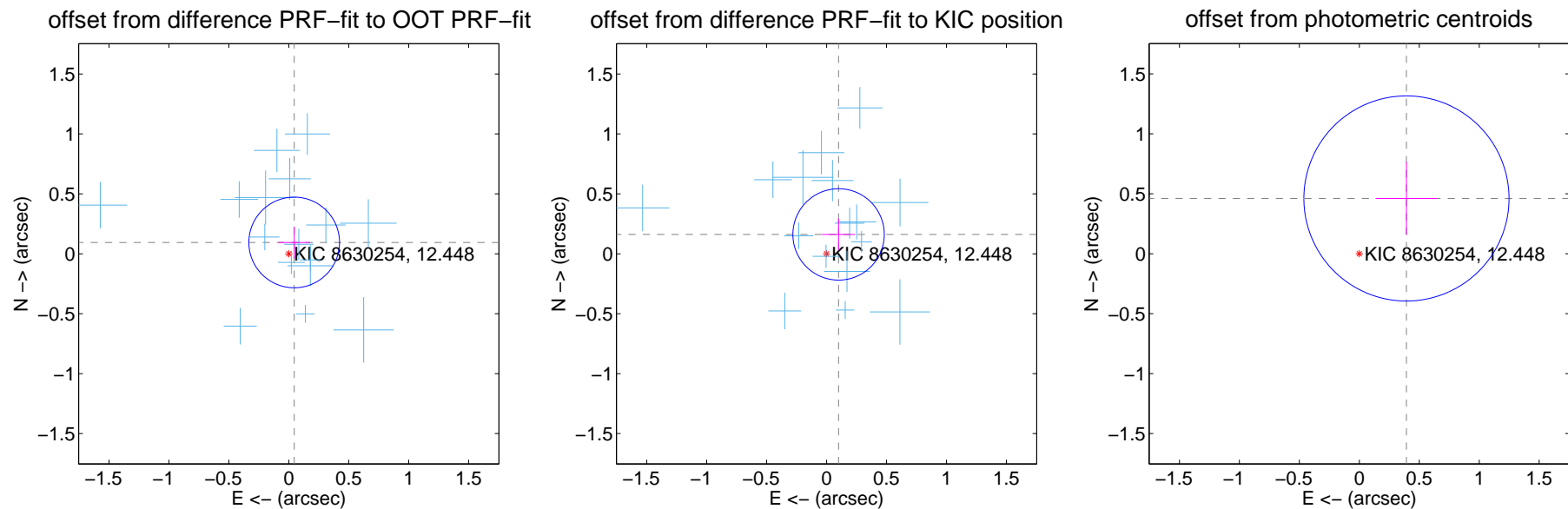
## DV Centroid Data

Supplemental centroid analysis for 008630254-02. Kepler magnitude: 12.45. Transit SNR 10.82

There are 16 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

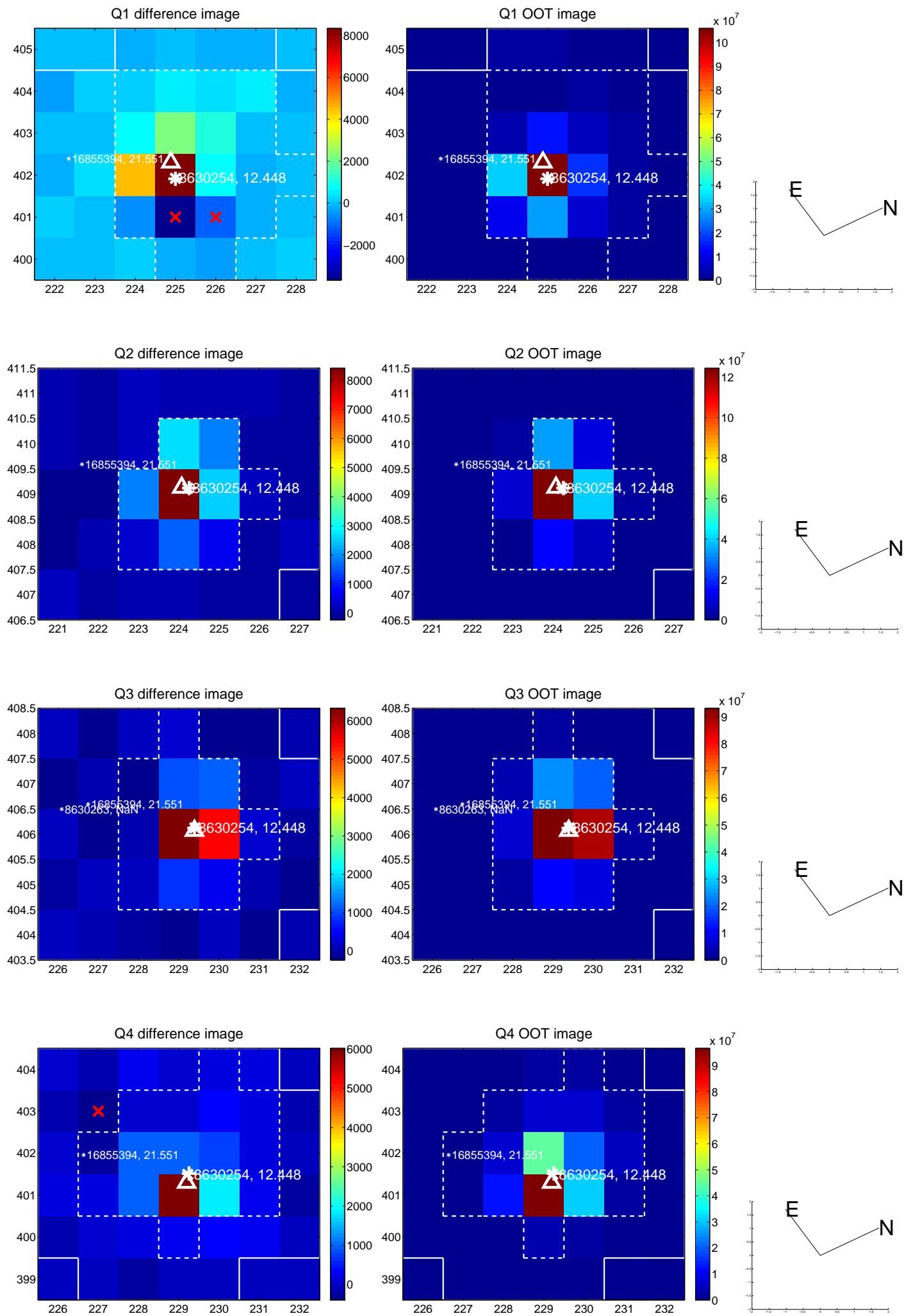
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.105 \pm 0.126$	0.83	$-0.045 \pm 0.132$	$0.095 \pm 0.132$
PRF-fit source offset from KIC position	$0.190 \pm 0.127$	1.50	$-0.100 \pm 0.137$	$0.162 \pm 0.132$
photometric centroid source offset	$0.61 \pm 0.29$	2.12	$-0.39 \pm 0.26$	$0.46 \pm 0.30$



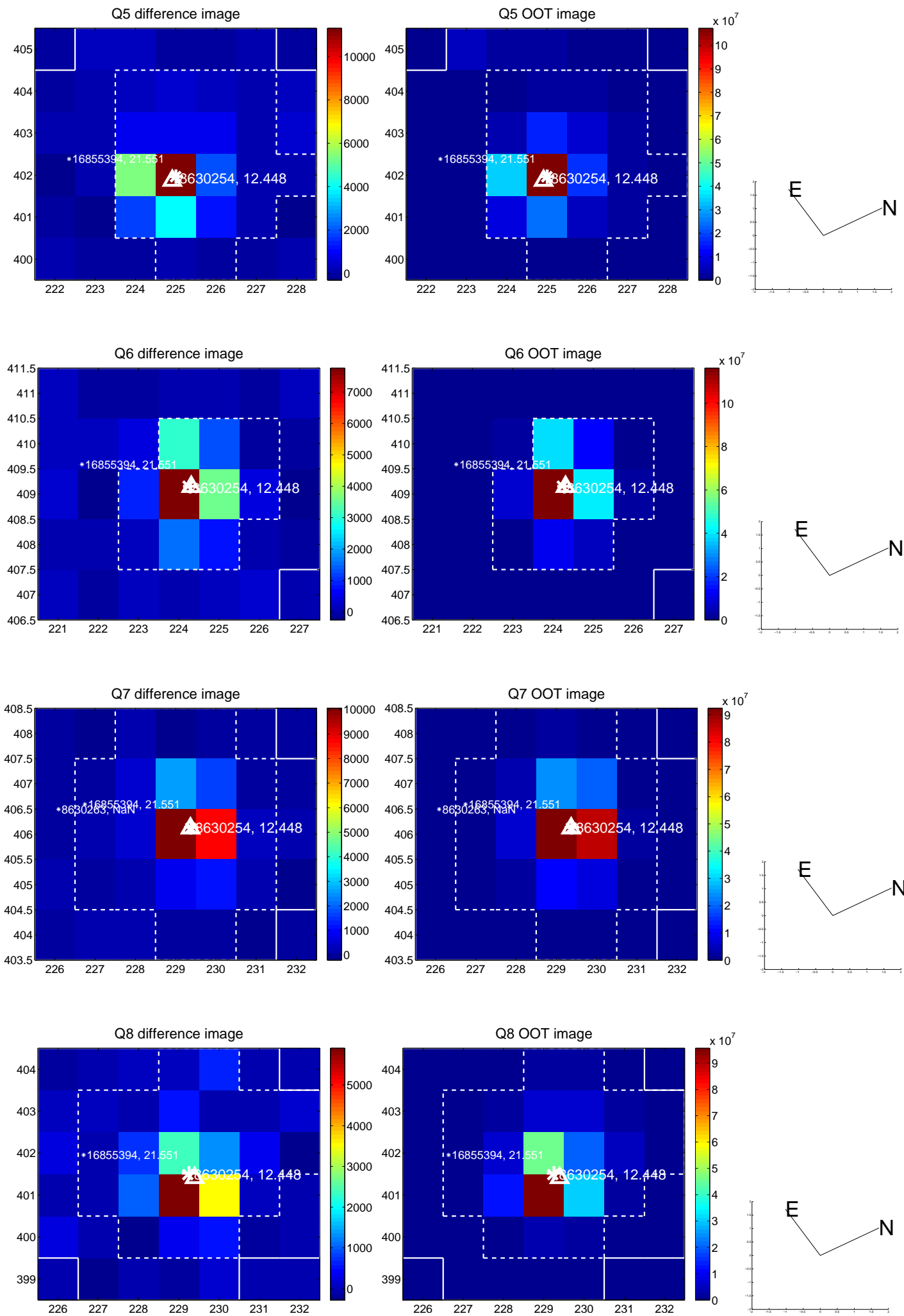
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



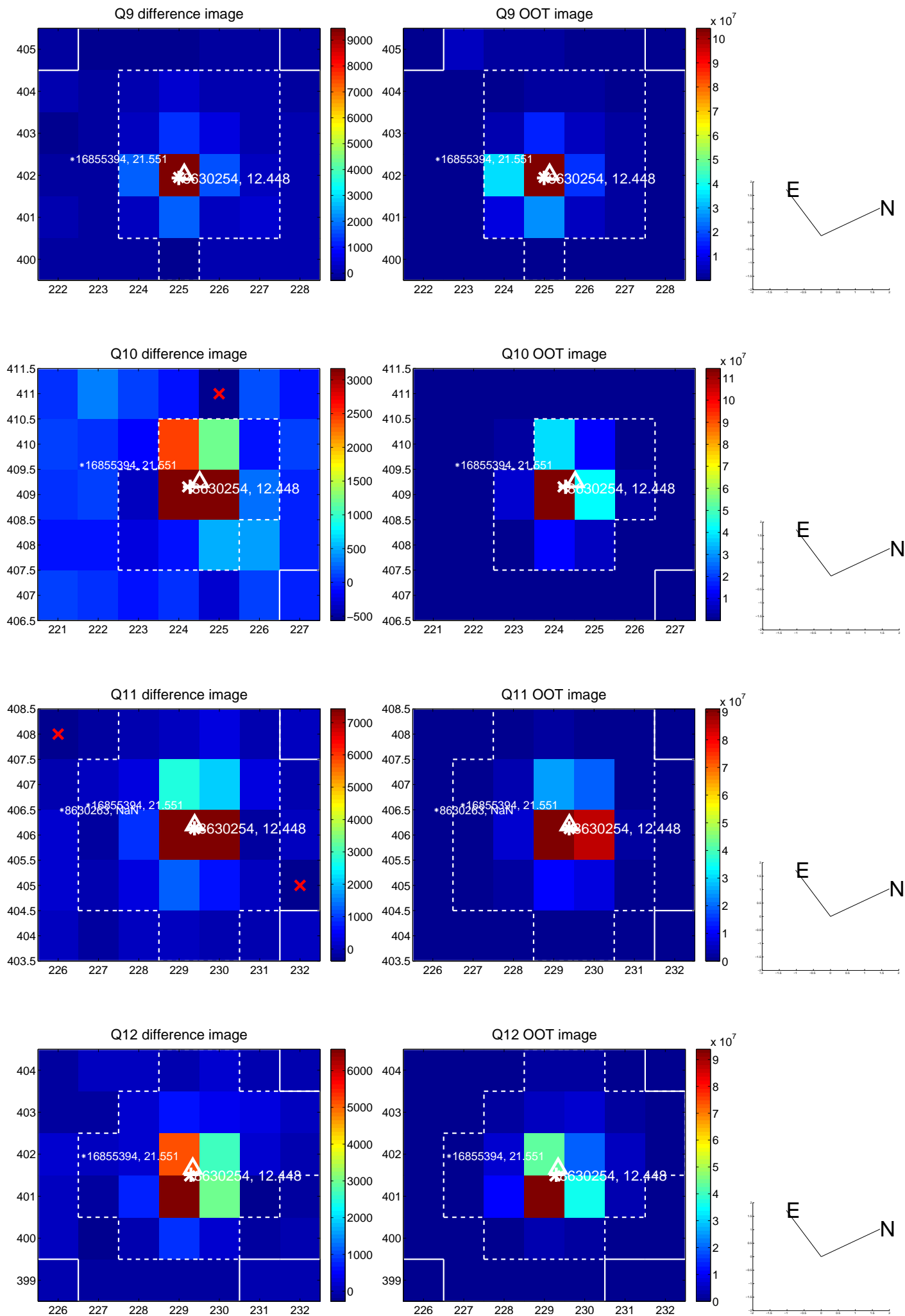
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



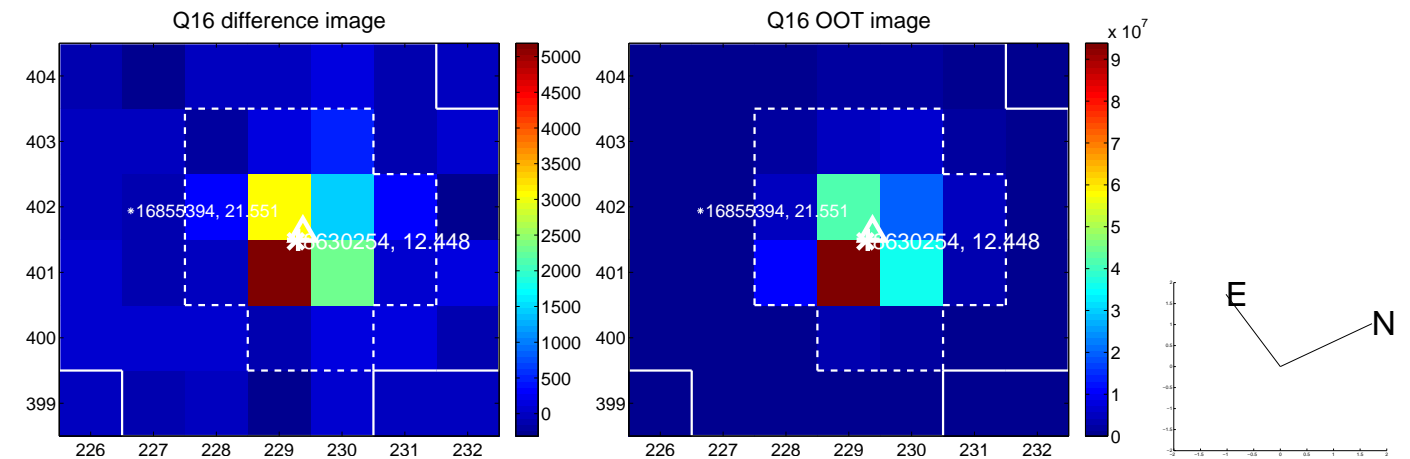
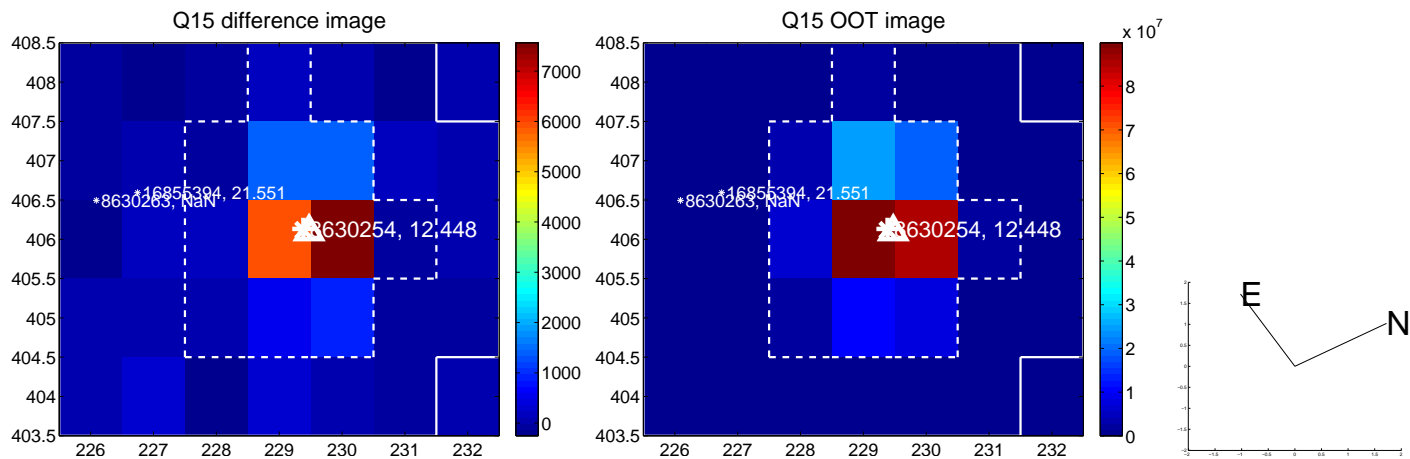
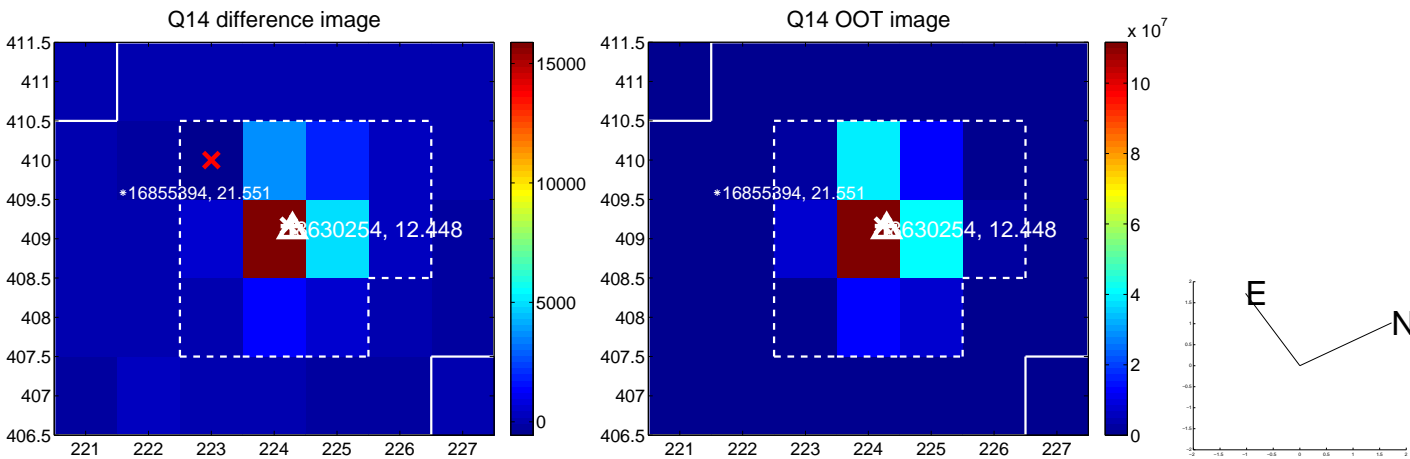
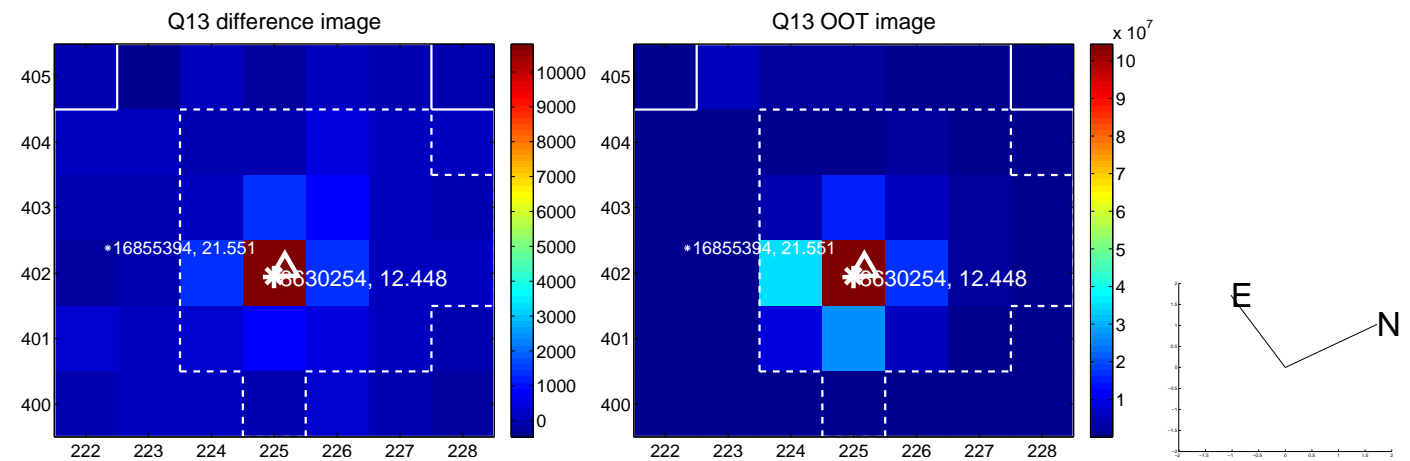
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



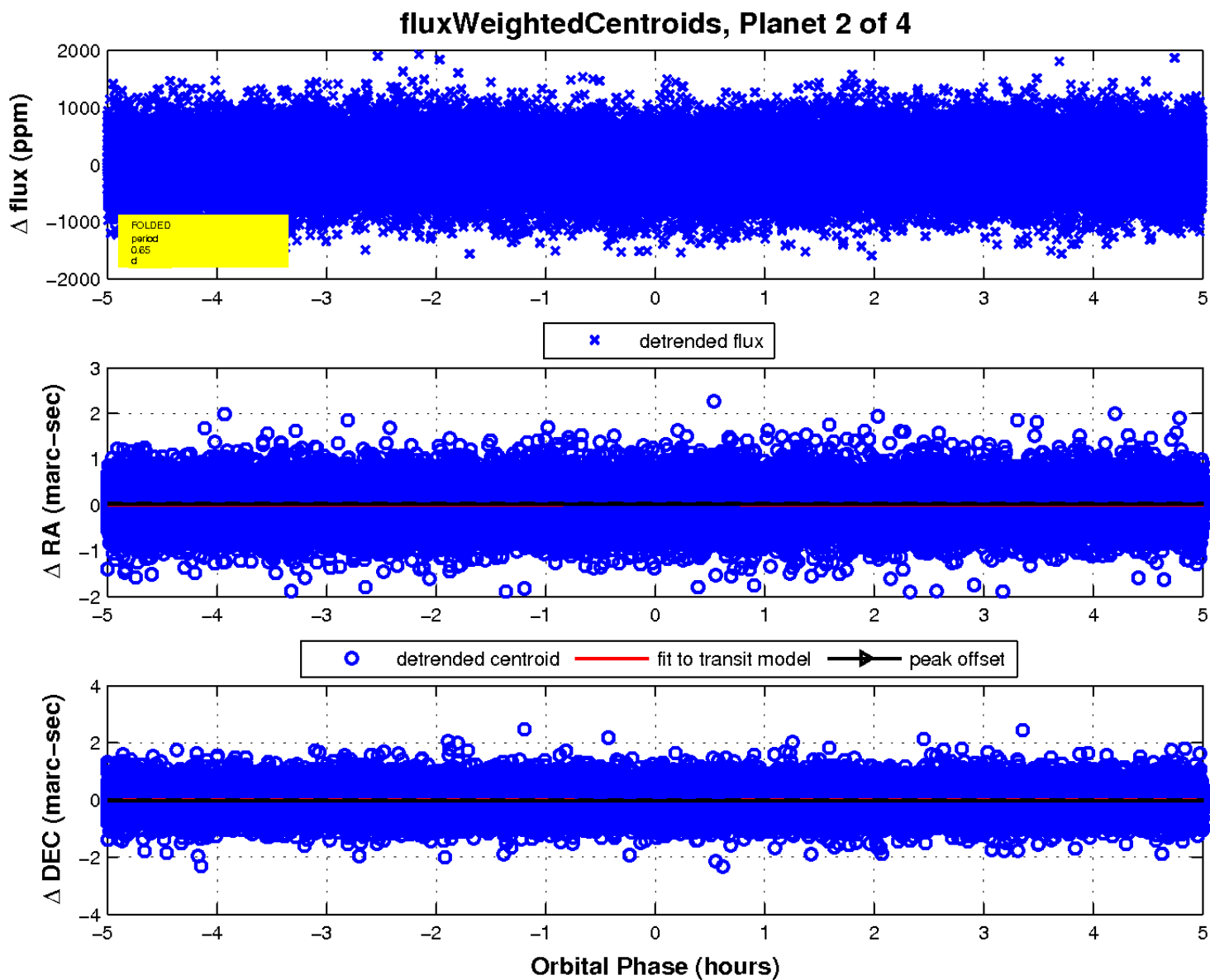
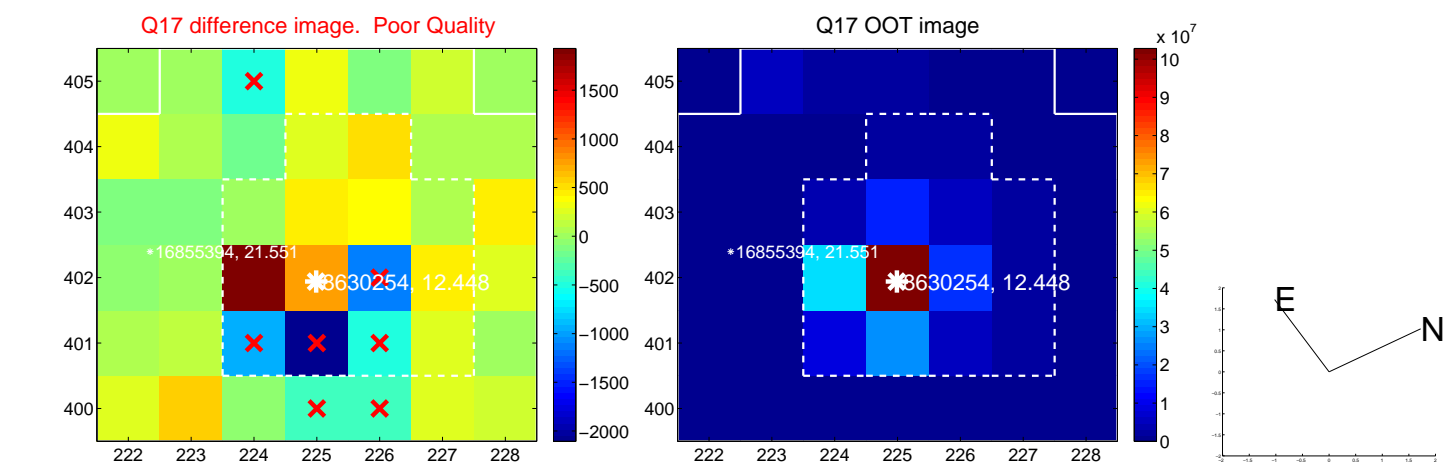
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



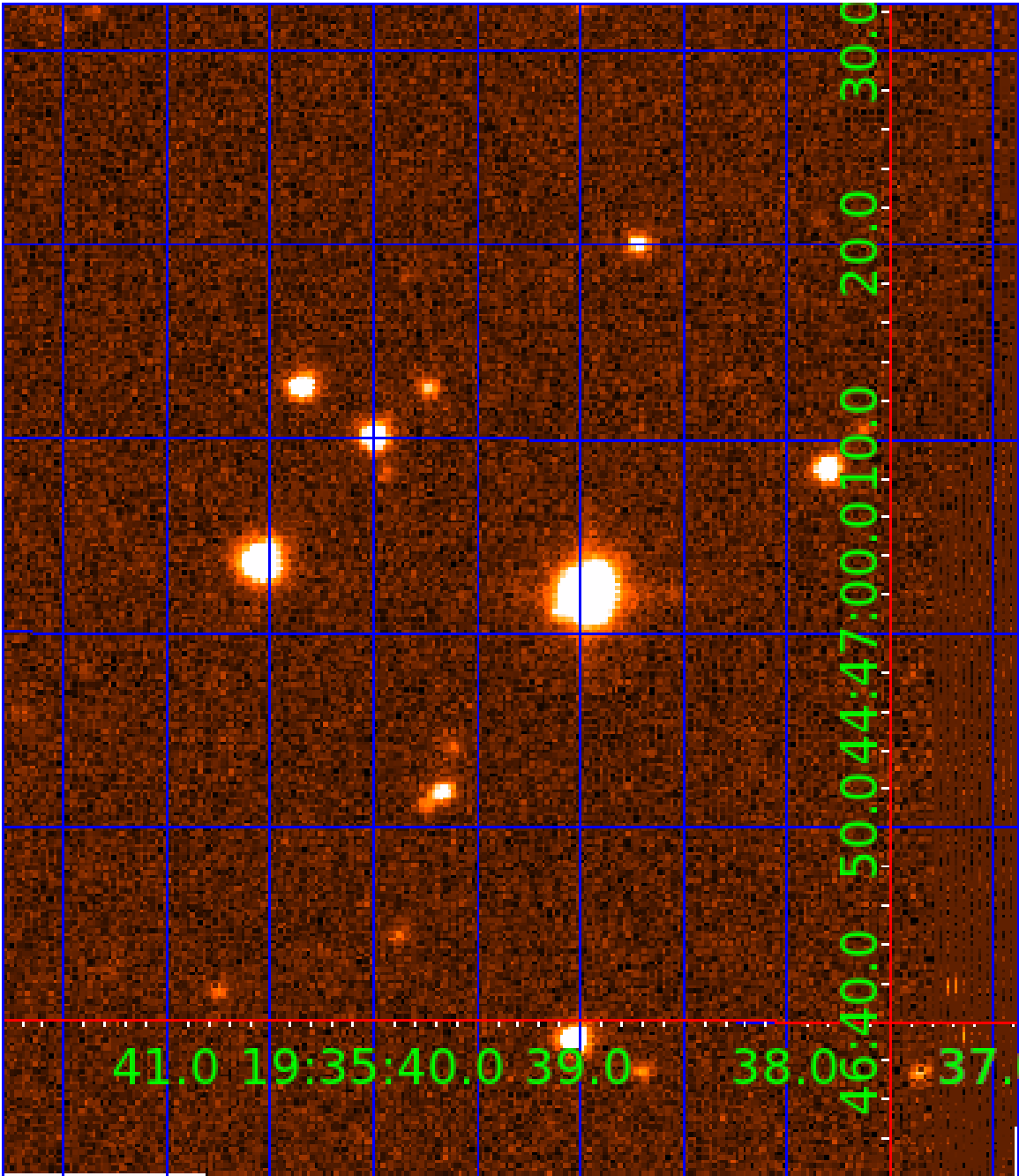
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 008630254

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008630254-01	OBS	No	1.076842	131.999428	51.3	2.012	9.8	9.5	2.24	7512	1.86	23464.78
008630254-02	OBS	No	0.646113	131.558662	53.6	1.667	12.2	10.8	2.24	7512	1.90	46366.91
008630254-03	OBS	No	0.646119	131.982670	49.6	1.901	10.8	10.4	2.24	7512	1.83	46366.35
008630254-04	OBS	No	0.646104	131.782306	49.9	1.743	9.6	10.4	2.24	7512	1.65	46367.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008630254-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008630254-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008630254-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
008630254-04	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

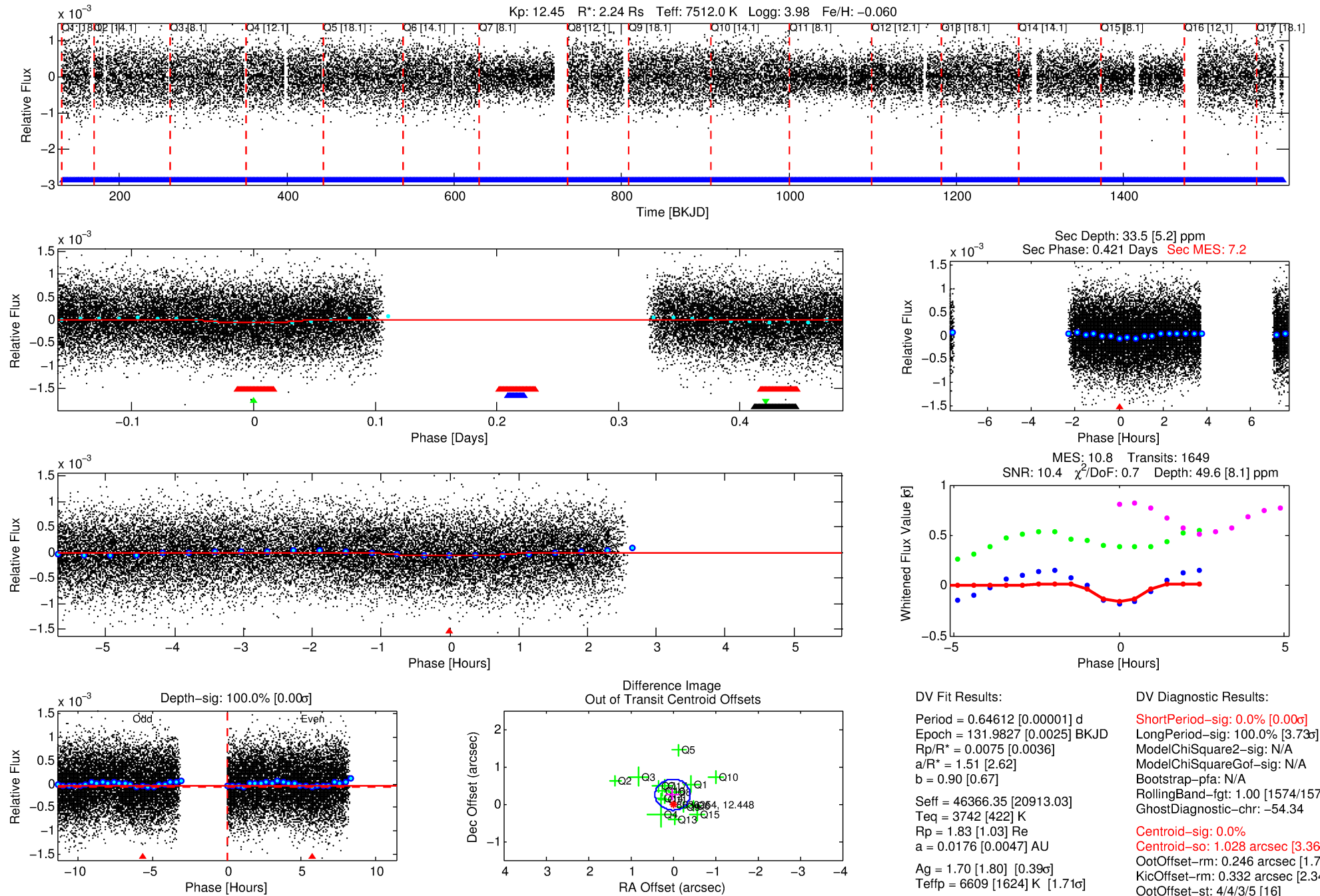
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 008630254-03

No Significant Match Found

# DV One-Page Summary

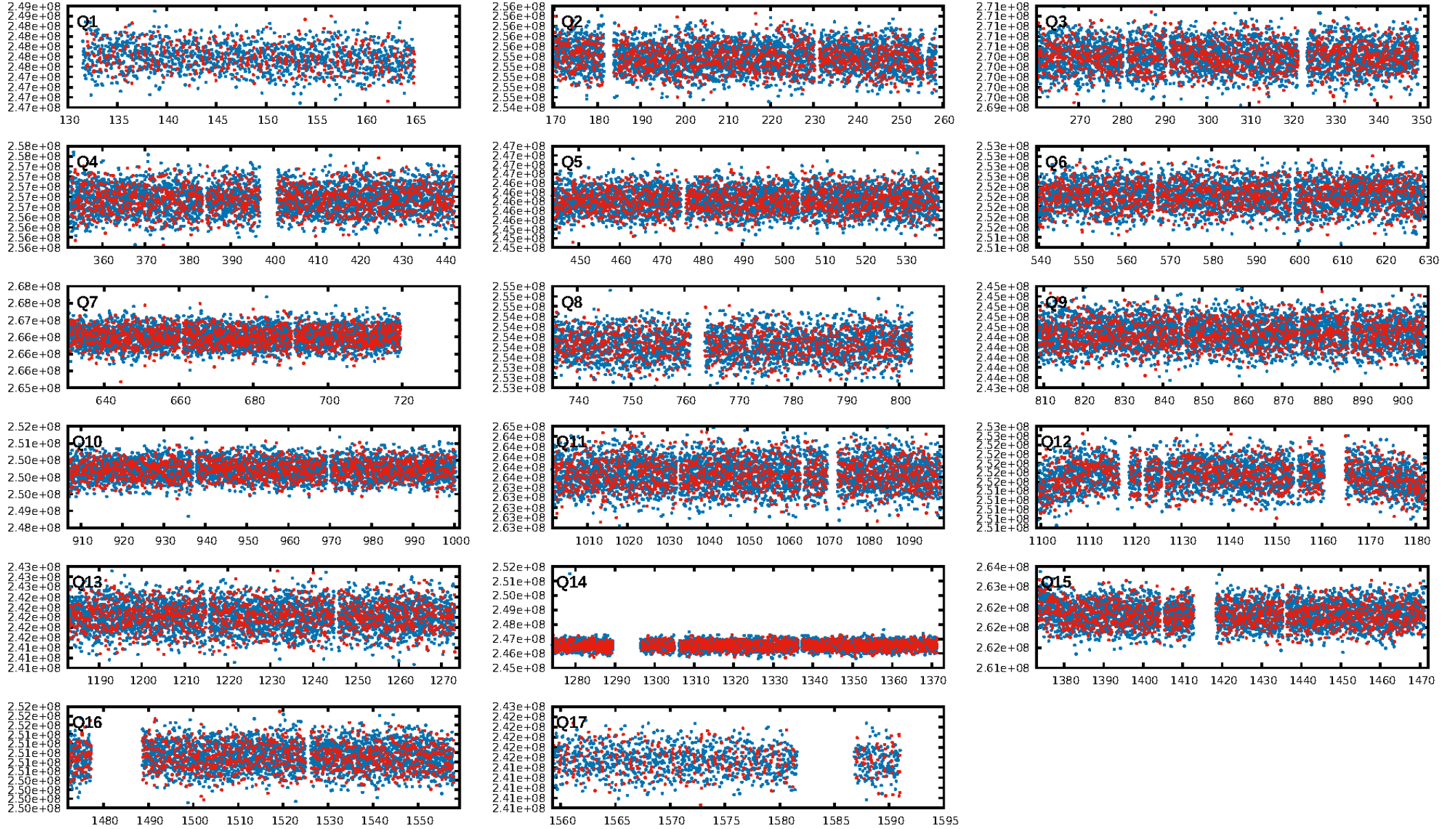
KIC: 8630254 Candidate: 3 of 4 Period: 0.646 d



Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:18:08 Z

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

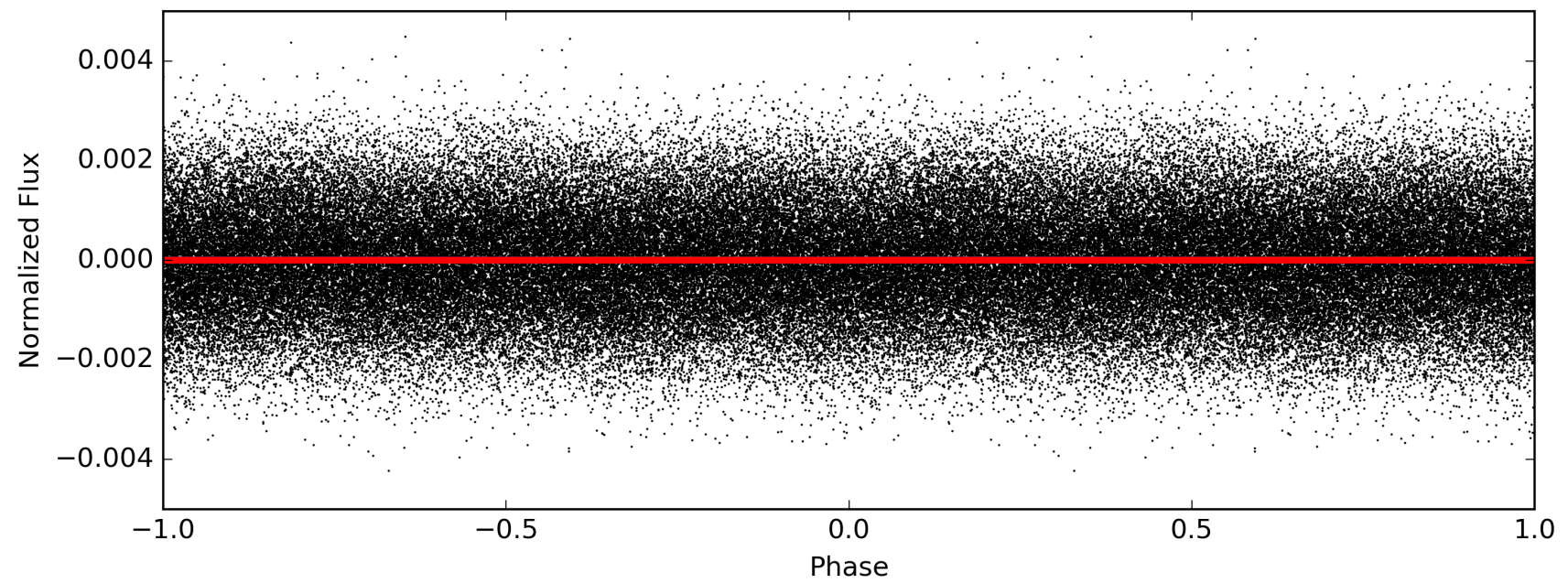
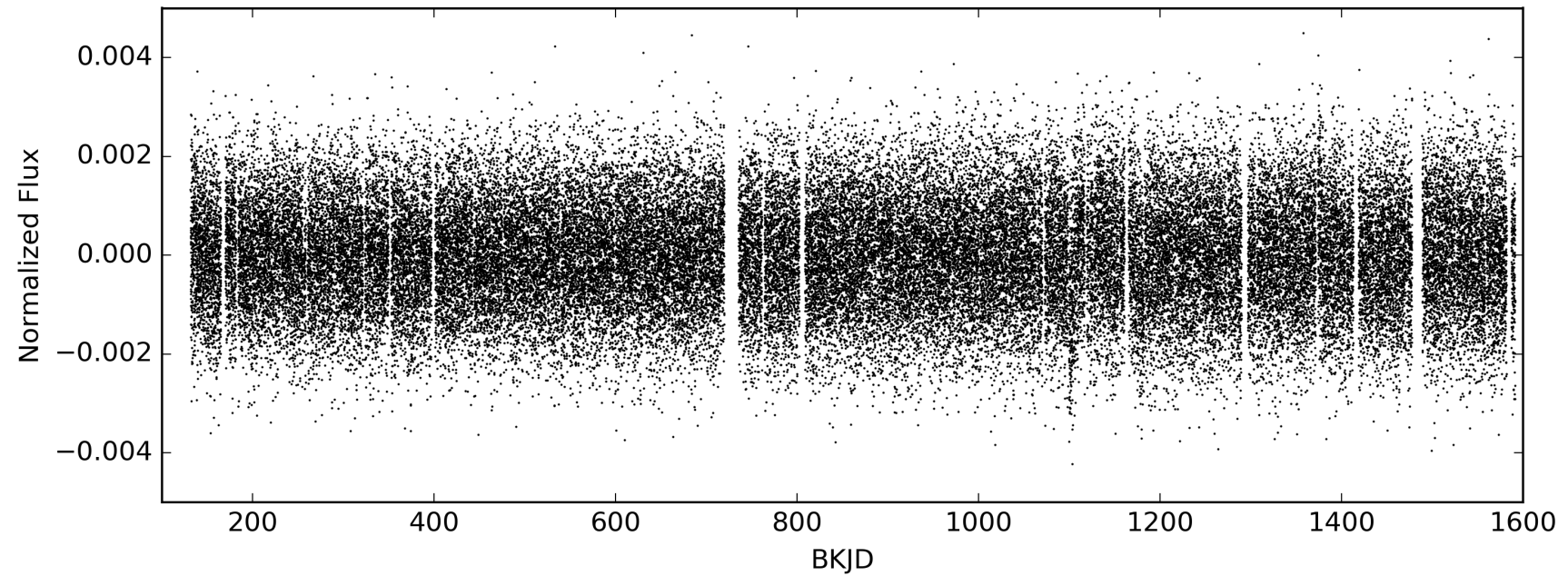
# TCE 008630254-03, PDC Light Curves





TCE 008630254-03

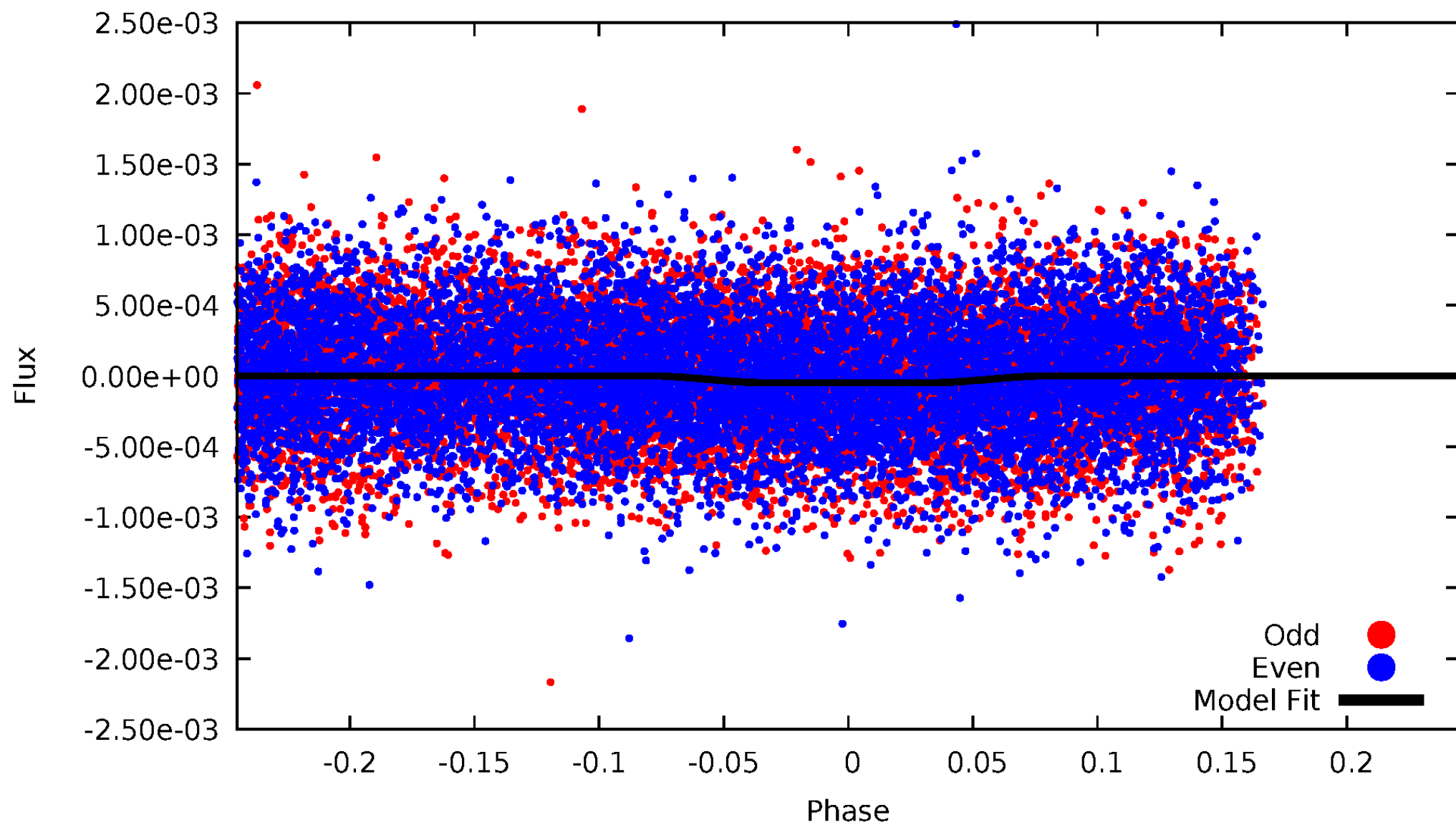
— P = 0.323 days    — P = 0.646 days    — P = 1.292 days





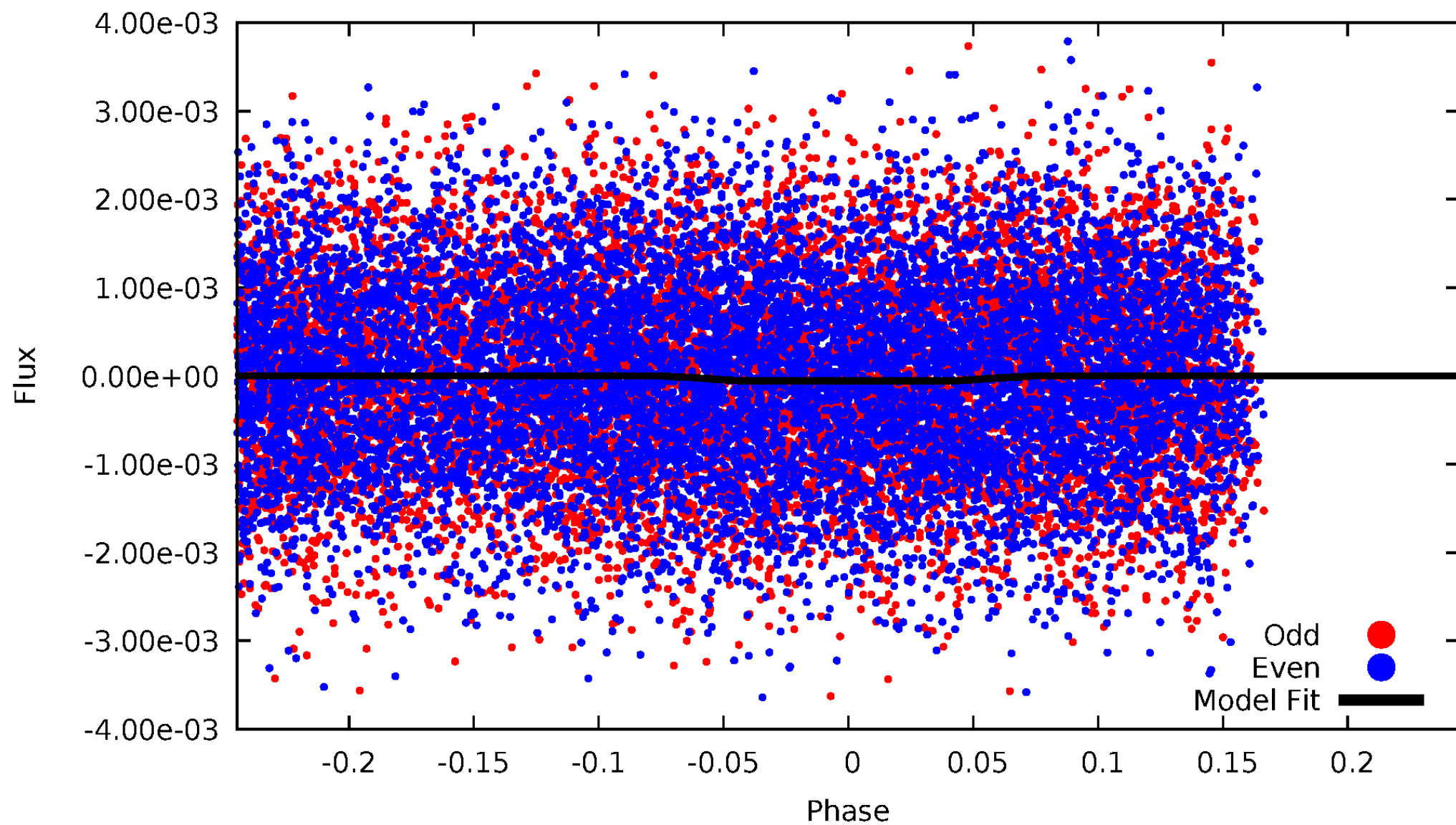
DV Odd/Even

TCE 008630254-03

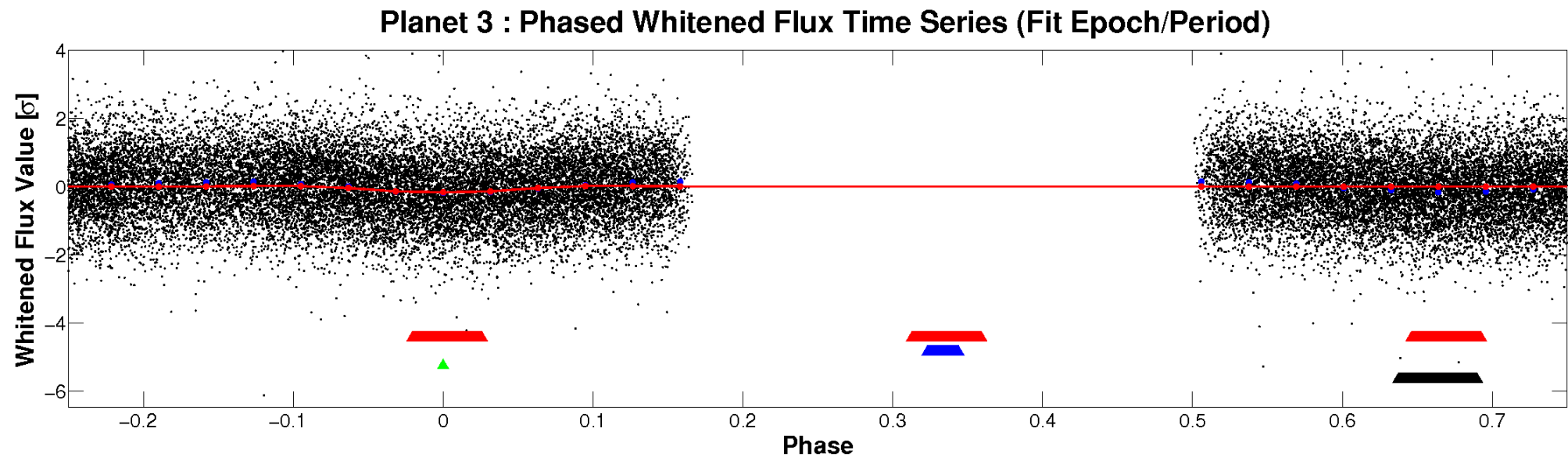
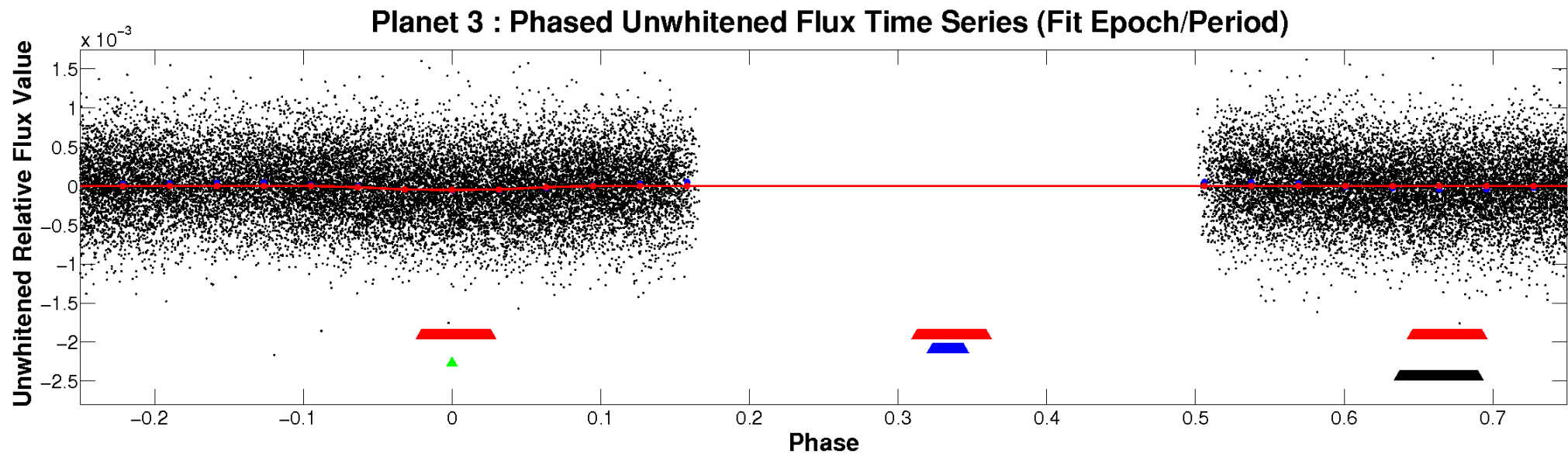


# ALT Odd/Even

TCE 008630254-03

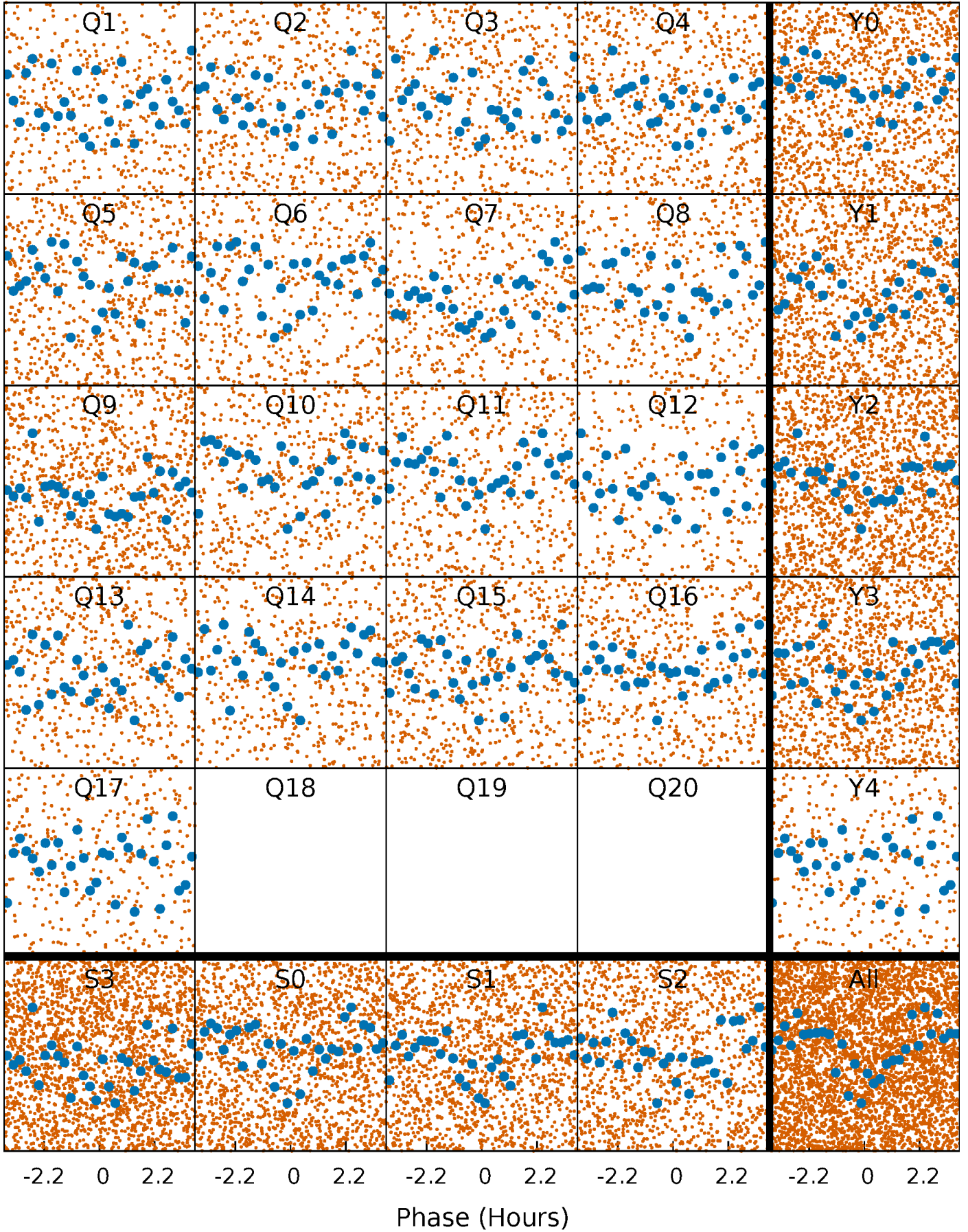


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

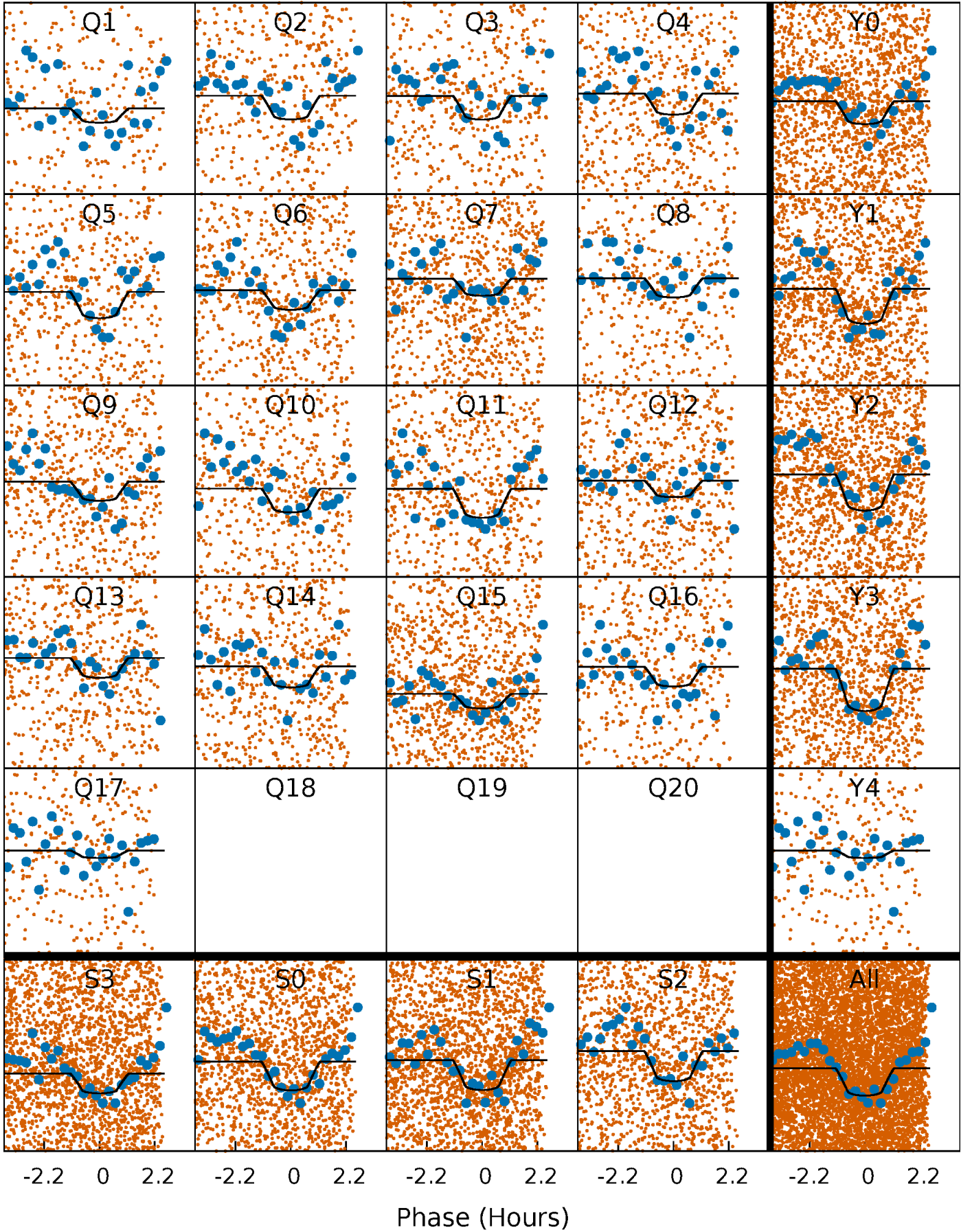
TCE 008630254-03 P= 0.646119 Days  $T_0=131.982670$  (BKJD)





# DV Quarter-Phased Transit Curves

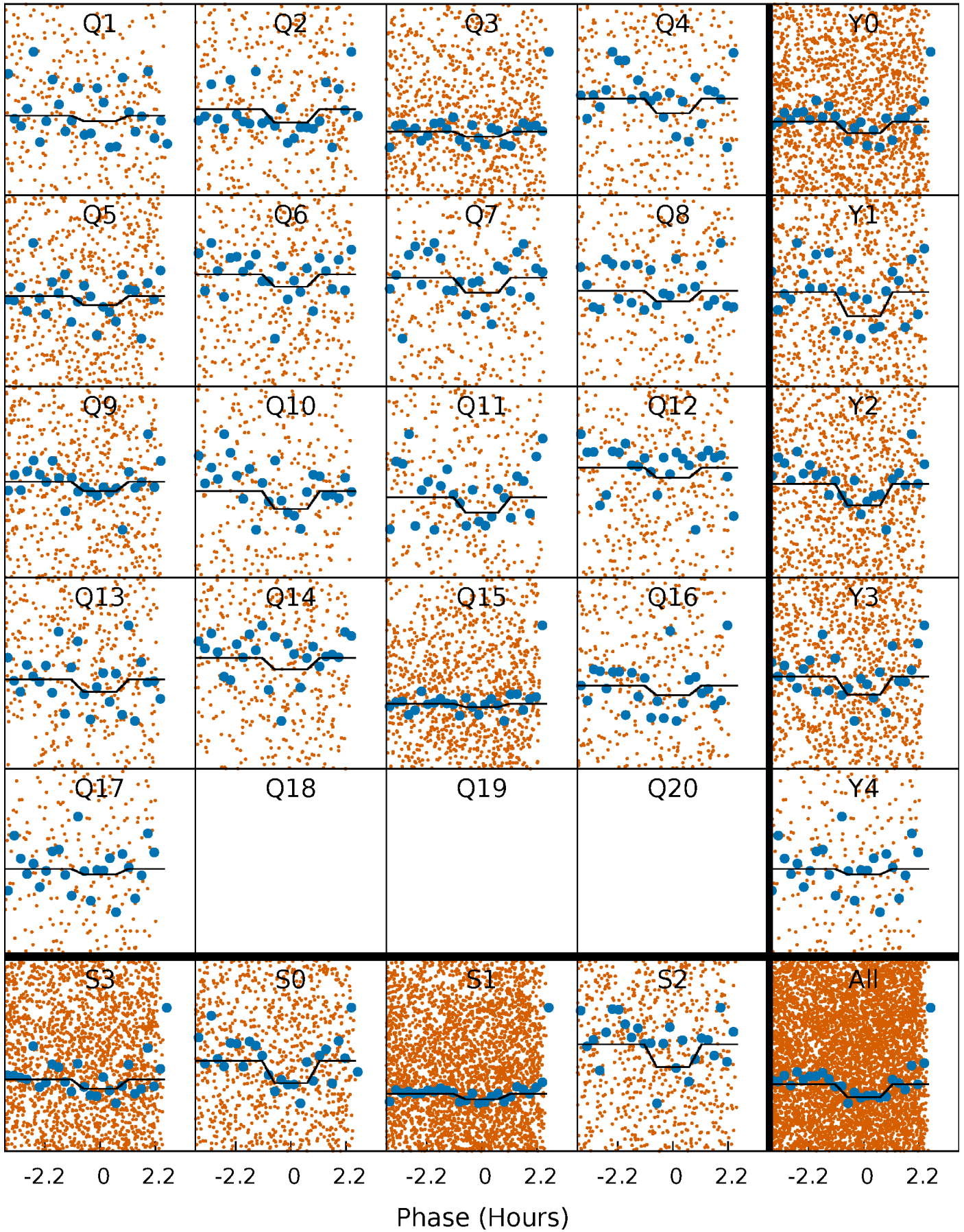
TCE 008630254-03 P= 0.646119 Days  $T_0=131.982670$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

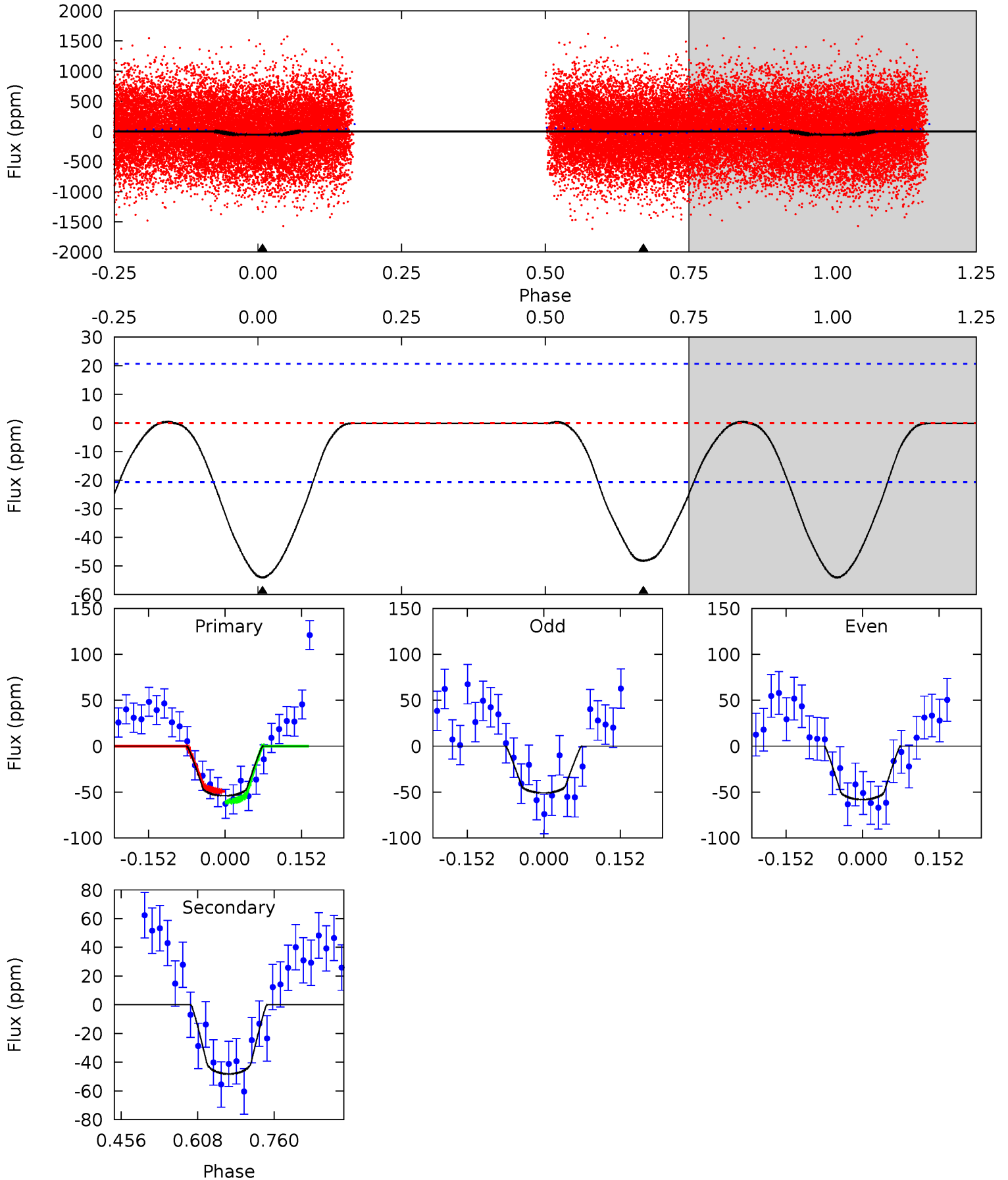
TCE 008630254-03 P= 0.646119 Days  $T_0=131.982648$  (BKJD)



# DV Model-Shift Uniqueness Test

008630254-03, P = 0.646119 Days, E = 131.336551 Days

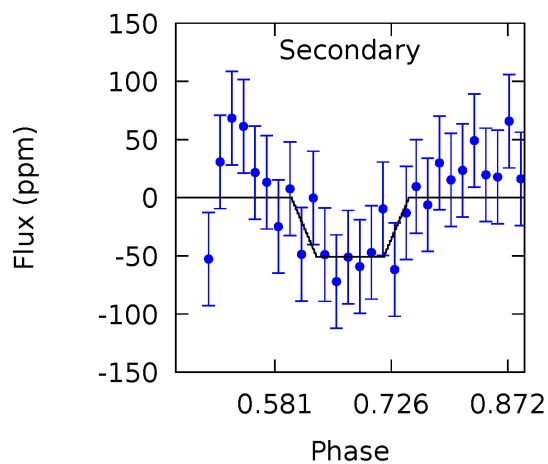
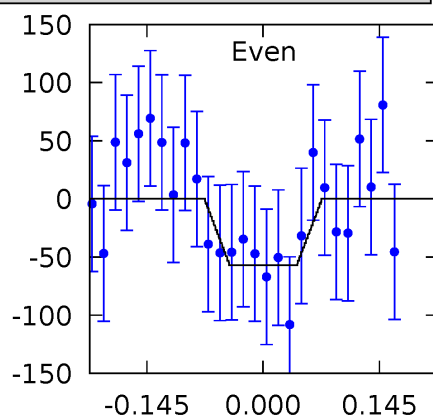
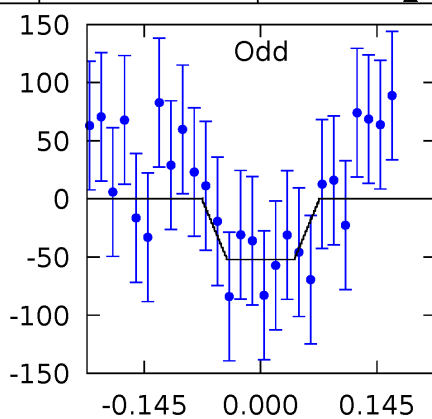
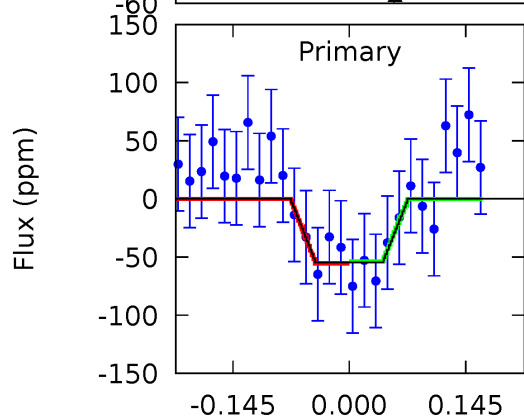
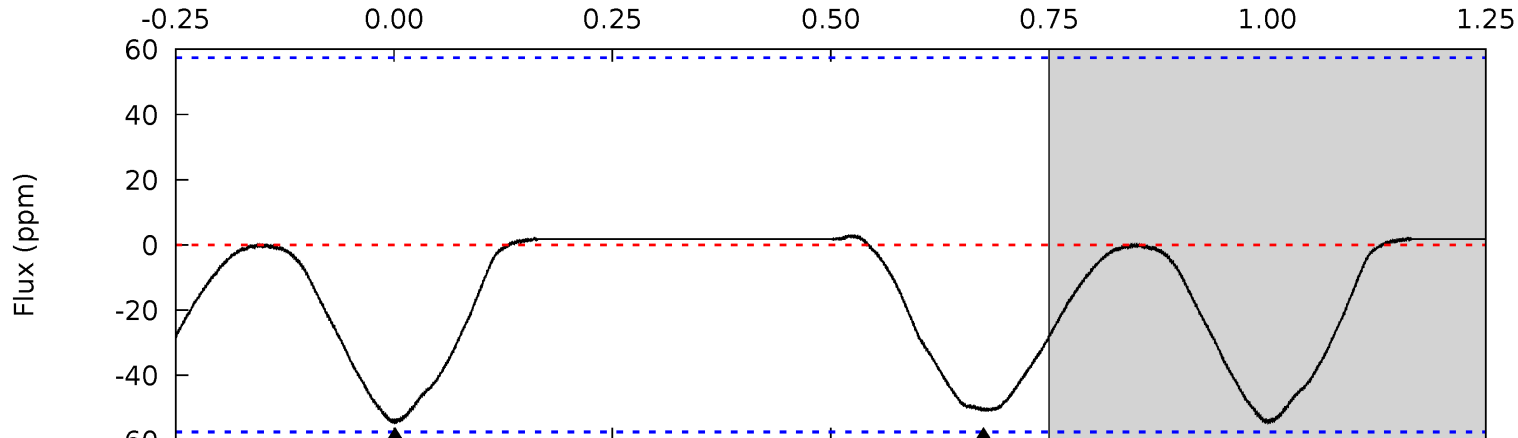
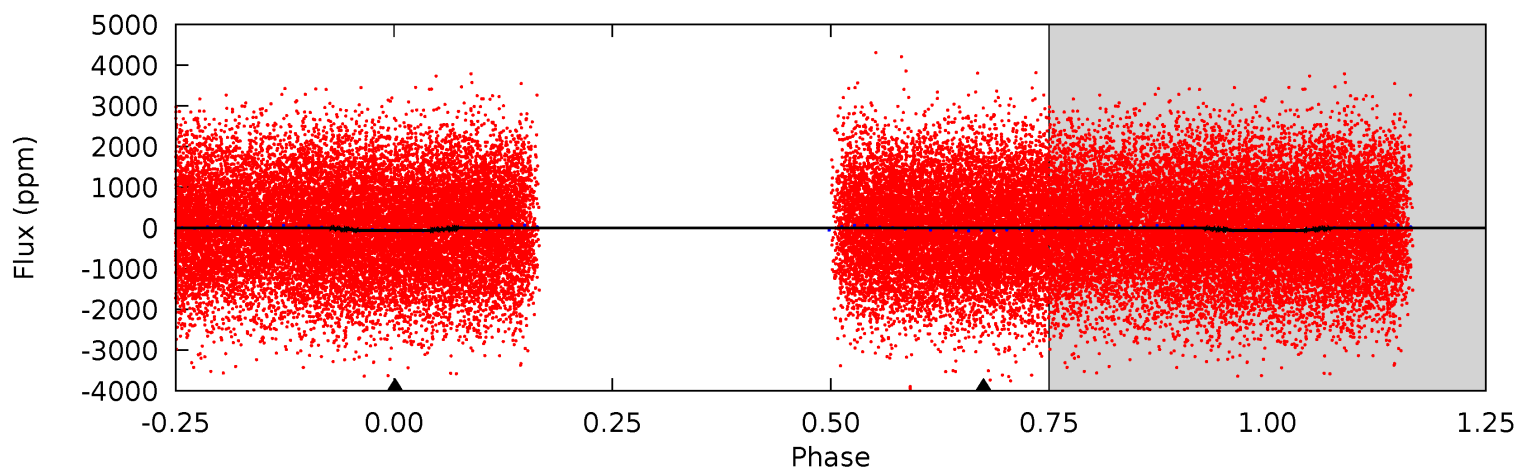
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	10.4	0	0	4.48	1.43	0.13	11.7	11.7	10.4	10.4	0.79	1.04	0.01	1.24



# Alt Model-Shift Uniqueness Test

008630254-03, P = 0.646119 Days, E = 131.336529 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.26	3.96	0	0	4.49	1.46	0.13	4.26	4.26	3.96	3.96	0.19	1.00	0.05	0.07



### Stellar Parameters For KIC 008630254

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7512^{+209}_{-314}$	$3.976^{+0.241}_{-0.148}$	$-0.060^{+0.200}_{-0.350}$	$2.239^{+0.540}_{-0.660}$	$1.727^{+0.185}_{-0.344}$	$0.217^{+0.328}_{-0.093}$
	+3%/-4%	+6%/-4%	+333%/-583%	+24%/-29%	+11%/-20%	+151%/-43%
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 008630254-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-48 \pm 5$	$1.80^{+0.87}_{-0.82}$	$5165^{+377}_{-391}$	$6764^{+3643}_{-1343}$	$2.451^{+5.959}_{-1.336}$
Alt.	$-51 \pm 13$	$1.74^{+0.94}_{-0.80}$	$5170^{+392}_{-401}$	$7023^{+3717}_{-1584}$	$2.752^{+6.727}_{-1.604}$

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

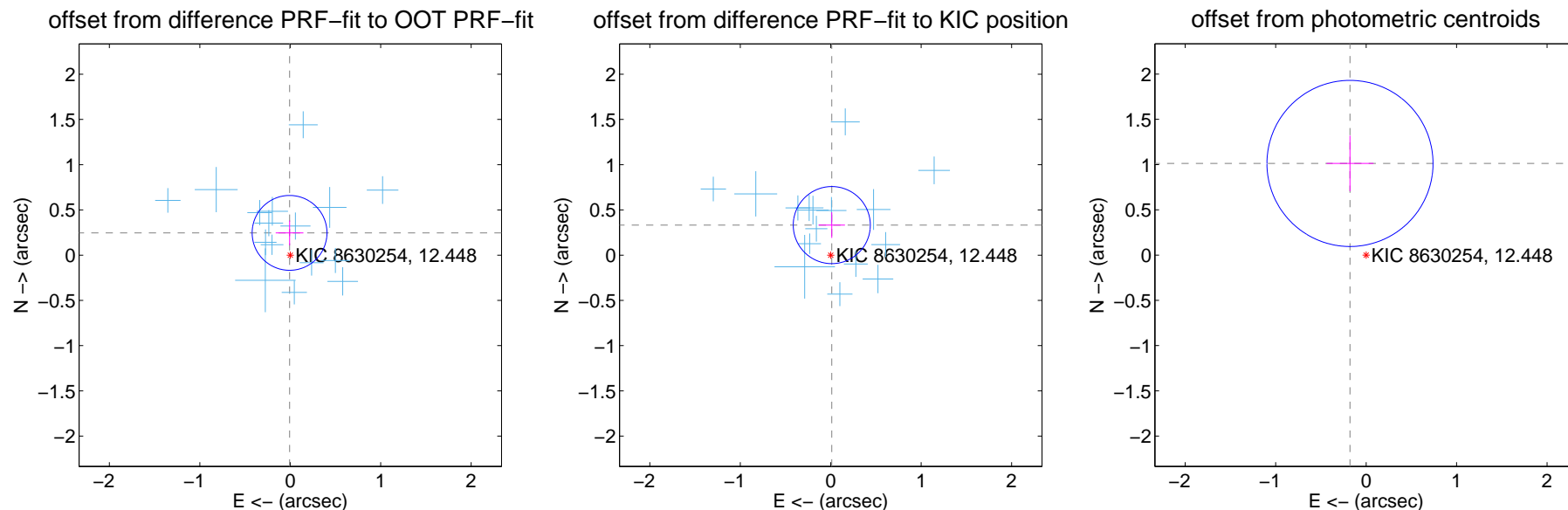
## DV Centroid Data

Supplemental centroid analysis for 008630254-03. Kepler magnitude: 12.45. Transit SNR 10.37

There are 16 quarters with good PRF difference image offsets

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

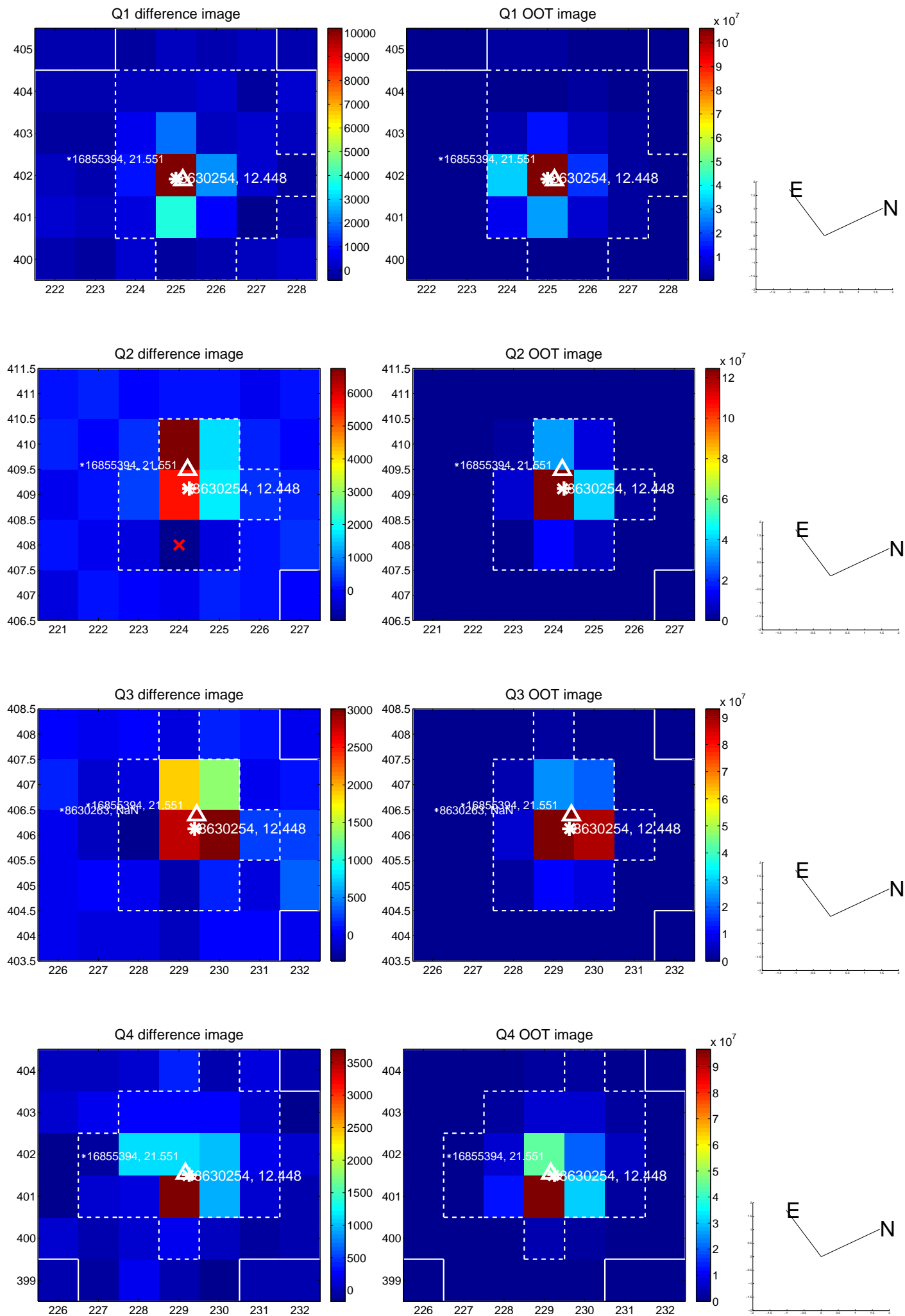
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.246 \pm 0.138$	1.79	$0.008 \pm 0.153$	$0.246 \pm 0.137$
PRF-fit source offset from KIC position	$0.332 \pm 0.142$	2.34	$-0.012 \pm 0.146$	$0.332 \pm 0.142$
photometric centroid source offset	$1.03 \pm 0.31$	3.36	$0.18 \pm 0.26$	$1.01 \pm 0.31$



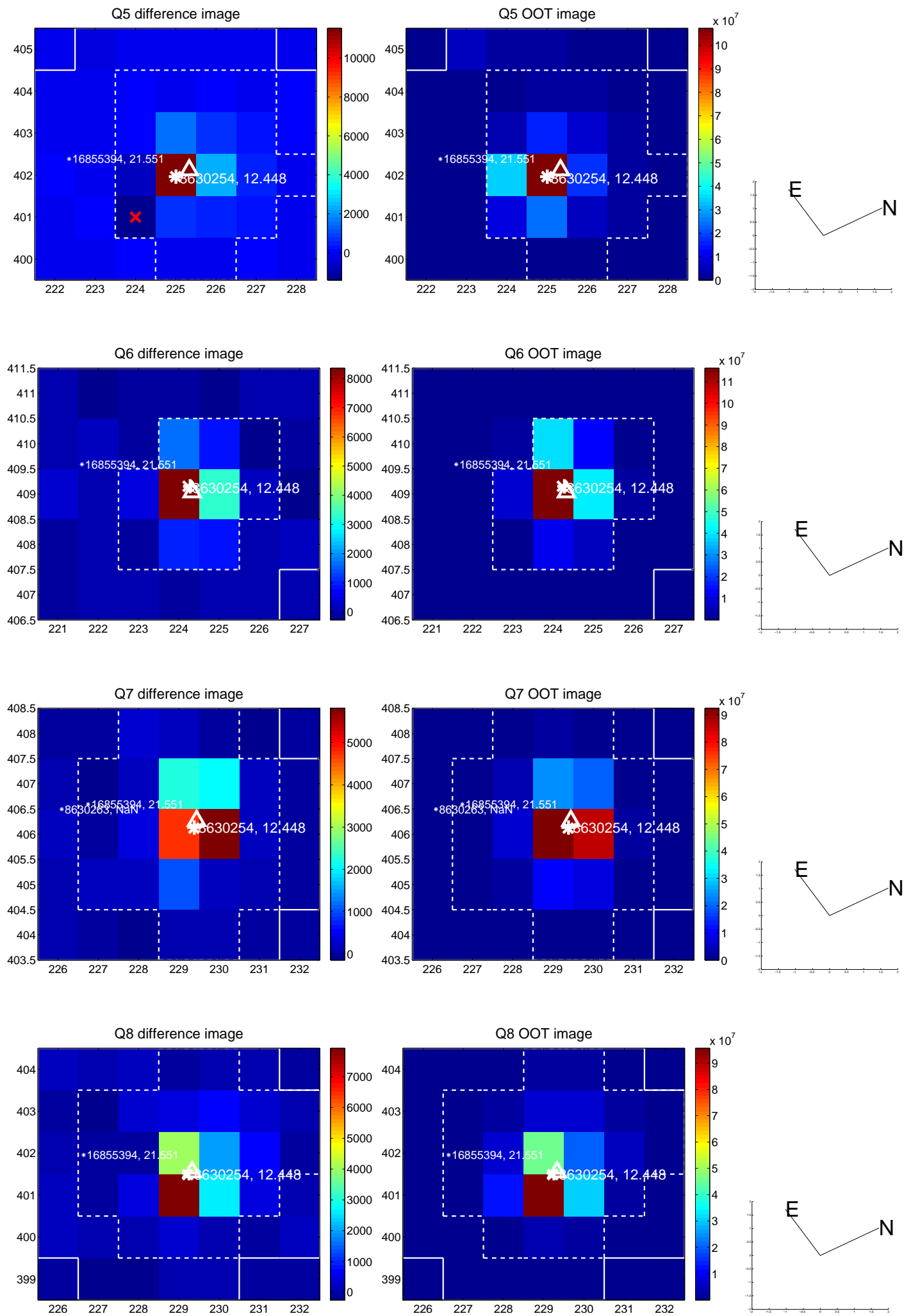
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



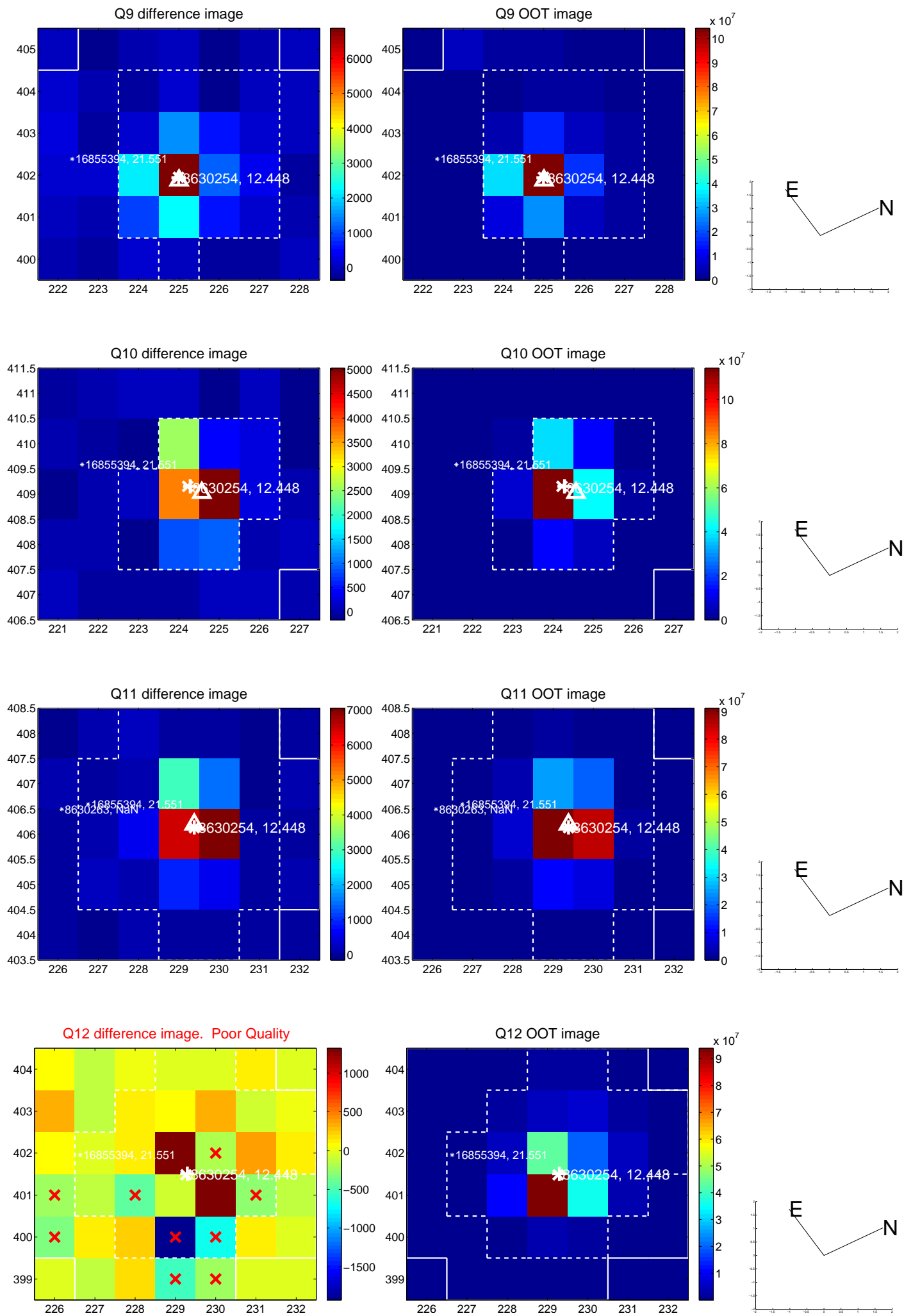
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



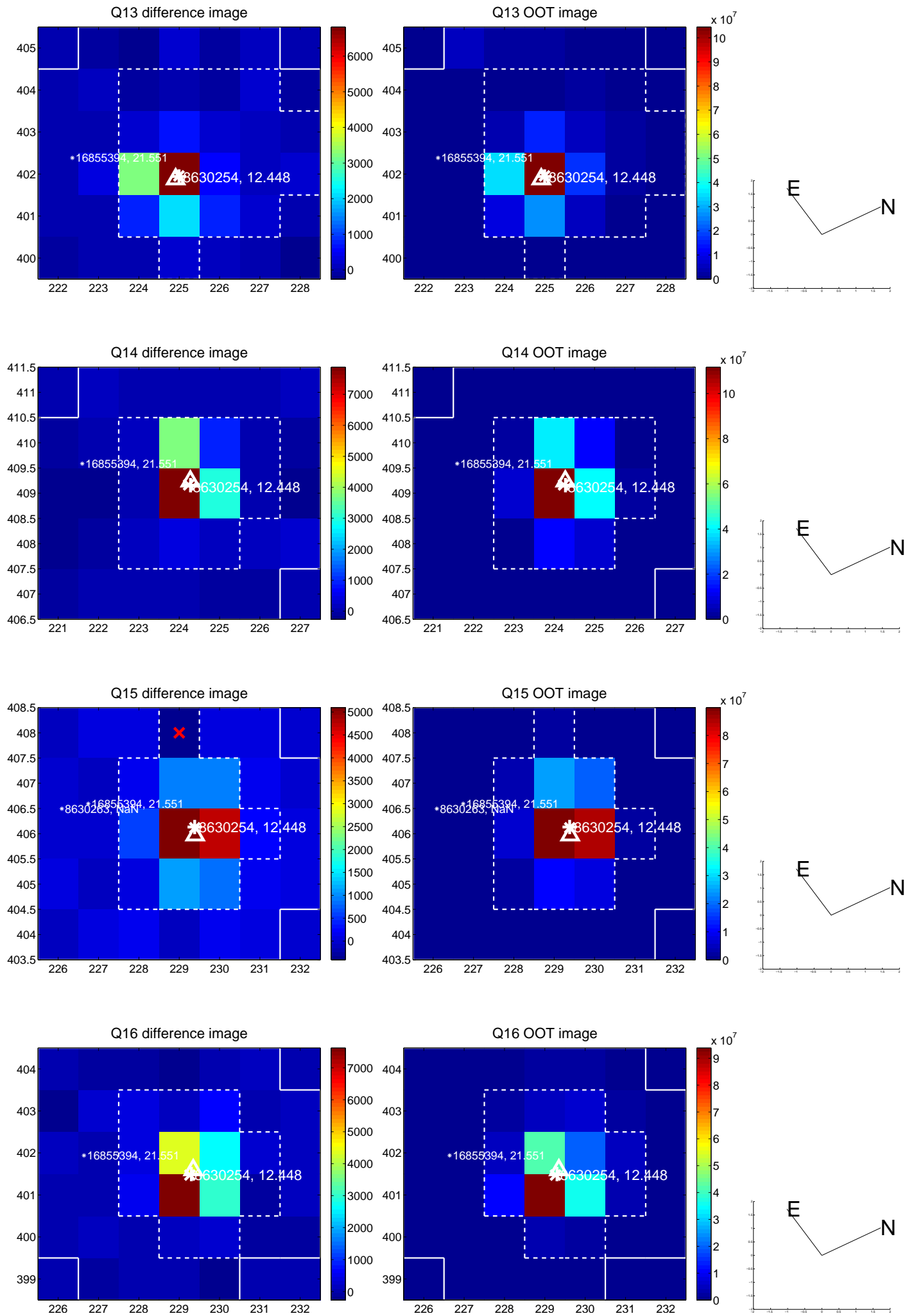
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



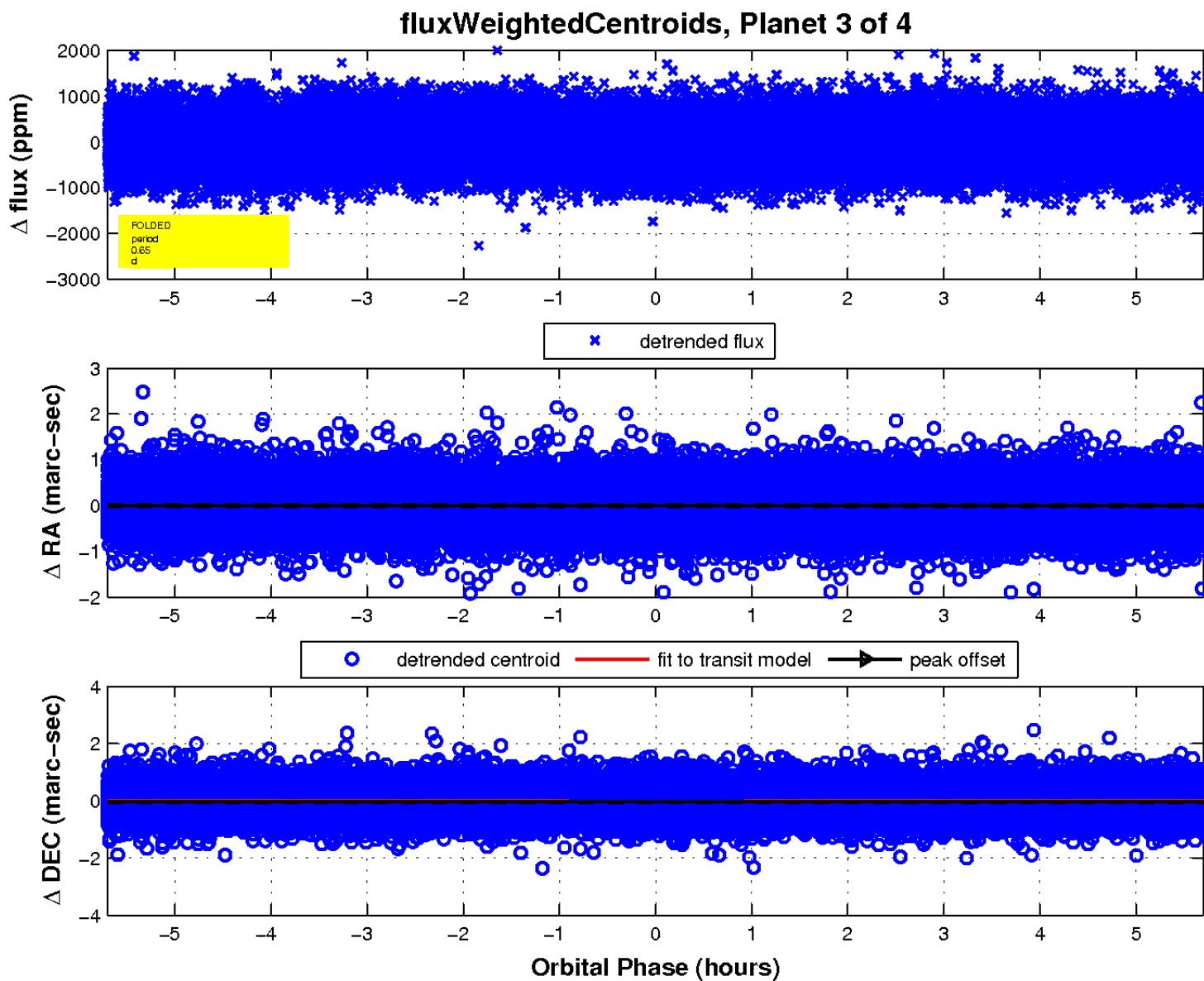
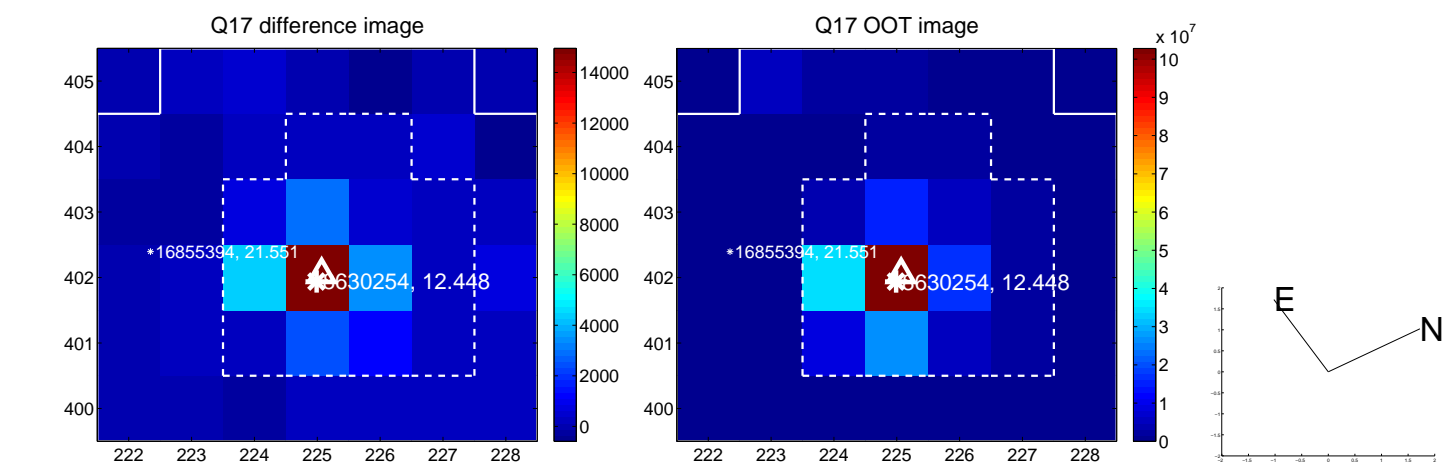
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



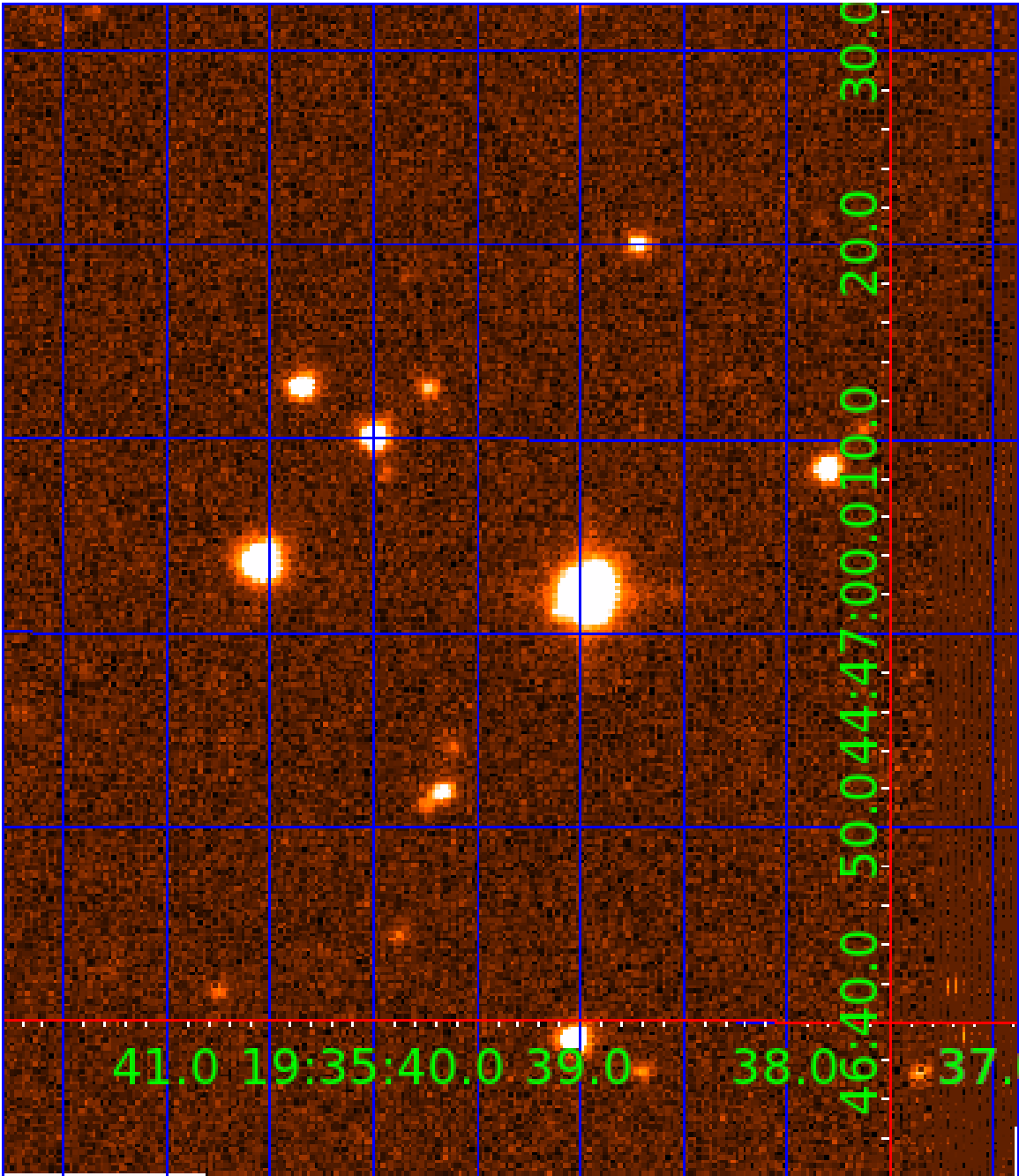
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 008630254

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008630254-01	OBS	No	1.076842	131.999428	51.3	2.012	9.8	9.5	2.24	7512	1.86	23464.78
008630254-02	OBS	No	0.646113	131.558662	53.6	1.667	12.2	10.8	2.24	7512	1.90	46366.91
008630254-03	OBS	No	0.646119	131.982670	49.6	1.901	10.8	10.4	2.24	7512	1.83	46366.35
008630254-04	OBS	No	0.646104	131.782306	49.9	1.743	9.6	10.4	2.24	7512	1.65	46367.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008630254-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008630254-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
008630254-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
008630254-04	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

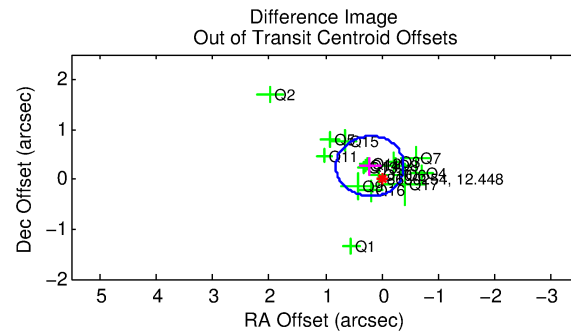
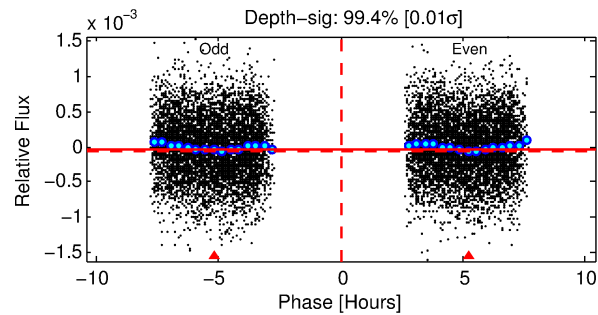
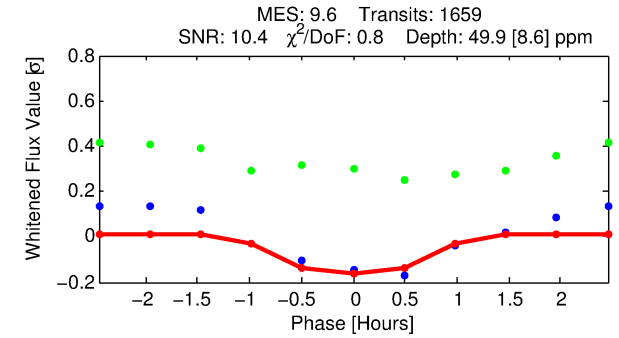
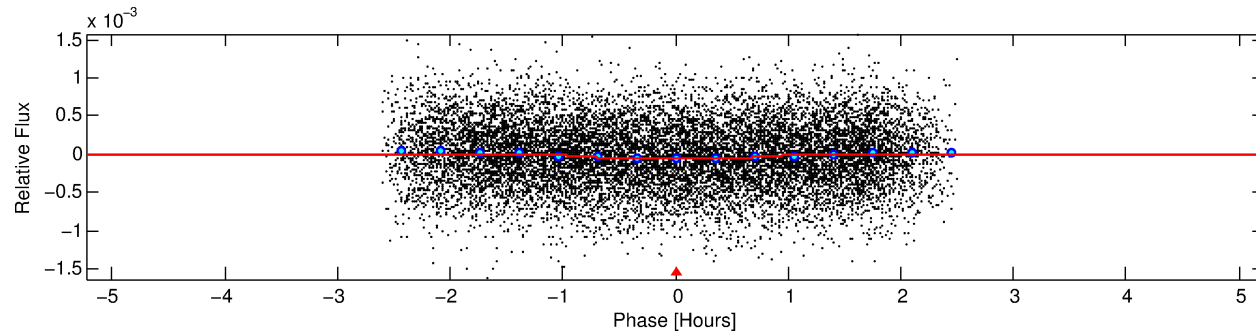
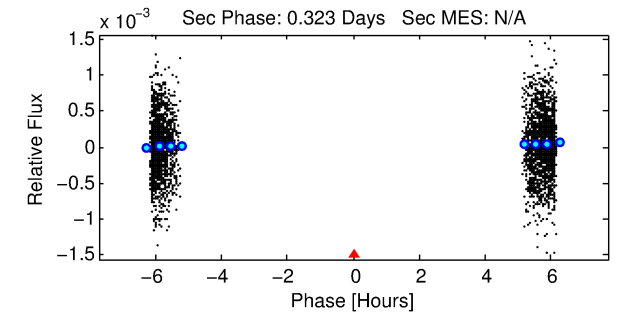
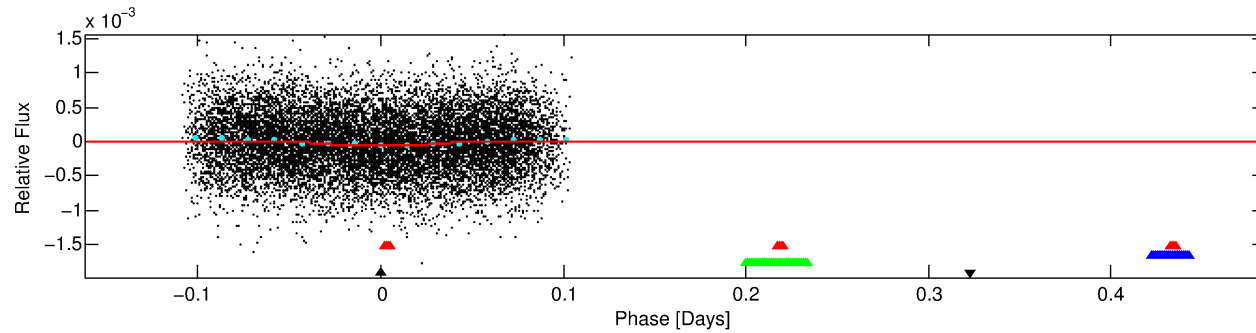
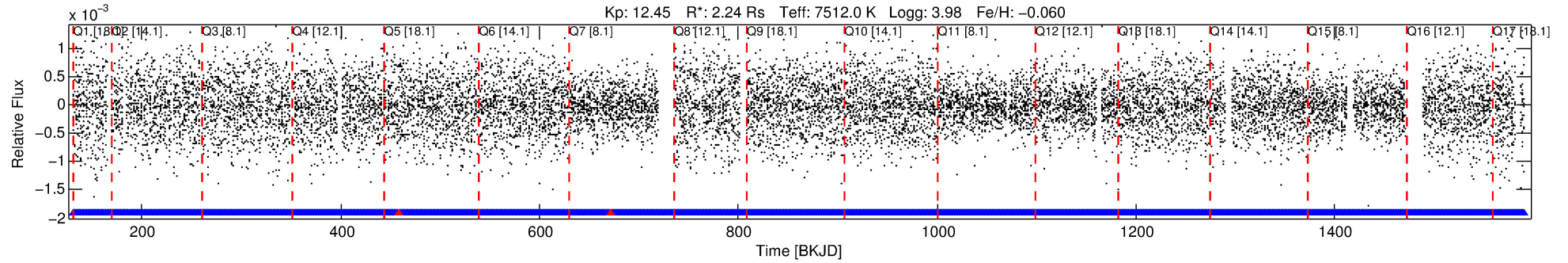
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 008630254-04

No Significant Match Found

# DV One-Page Summary

KIC: 8630254 Candidate: 4 of 4 Period: 0.646 d



## DV Fit Results:

Period = 0.64610 [0.00002] d  
Epoch = 131.7823 [0.0026] BKJD  
Rp/R\* = 0.0067 [0.0026]  
a/R\* = 2.56 [5.10]  
b = 0.51 [3.41]  
Seff = 46367.79 [20913.68]  
Teff = 3742 [422] K  
Rp = 1.65 [0.80] Re  
a = 0.0176 [0.0047] AU

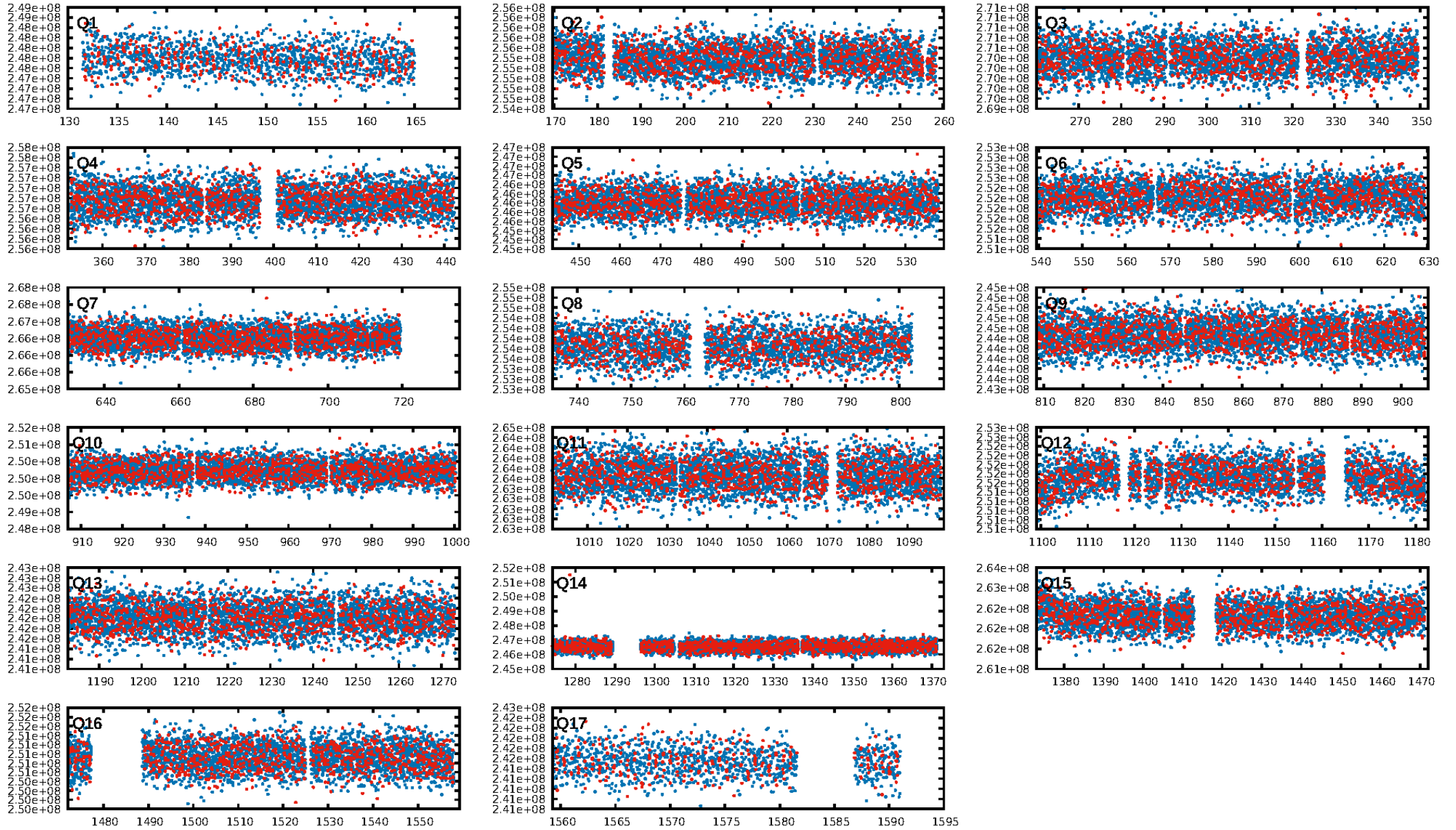
## DV Diagnostic Results:

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 [1583/1585]  
GhostDiagnostic-chr: 16.34  
Centroid-sig: 0.3%  
Centroid-so: 0.625 arcsec [1.99σ]  
OotOffset-rm: 0.336 arcsec [1.68σ]  
KicOffset-rm: 0.388 arcsec [2.06σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.94 [16/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 18:18:17 Z

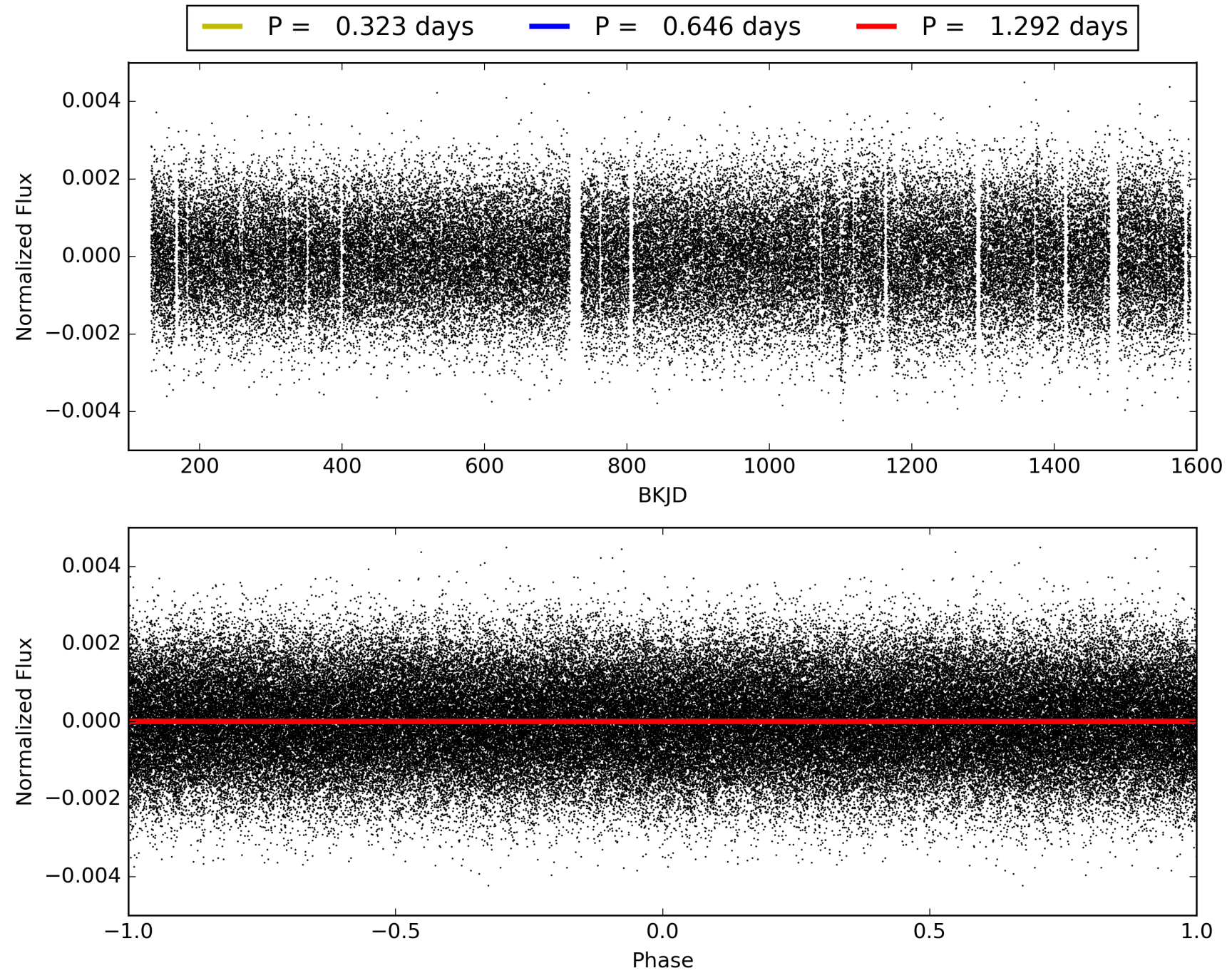
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008630254-04, PDC Light Curves





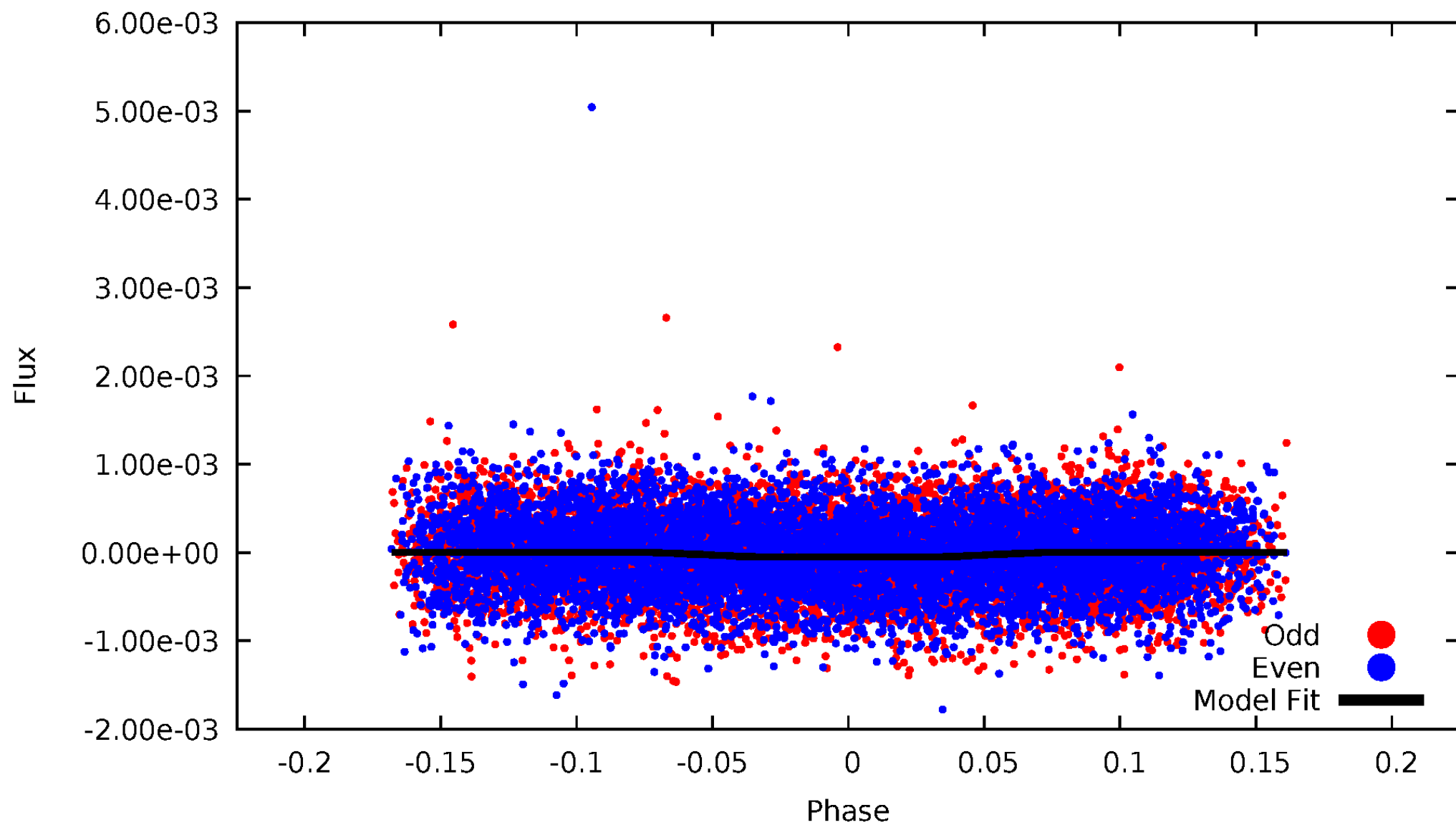
TCE 008630254-04





# DV Odd/Even

TCE 008630254-04



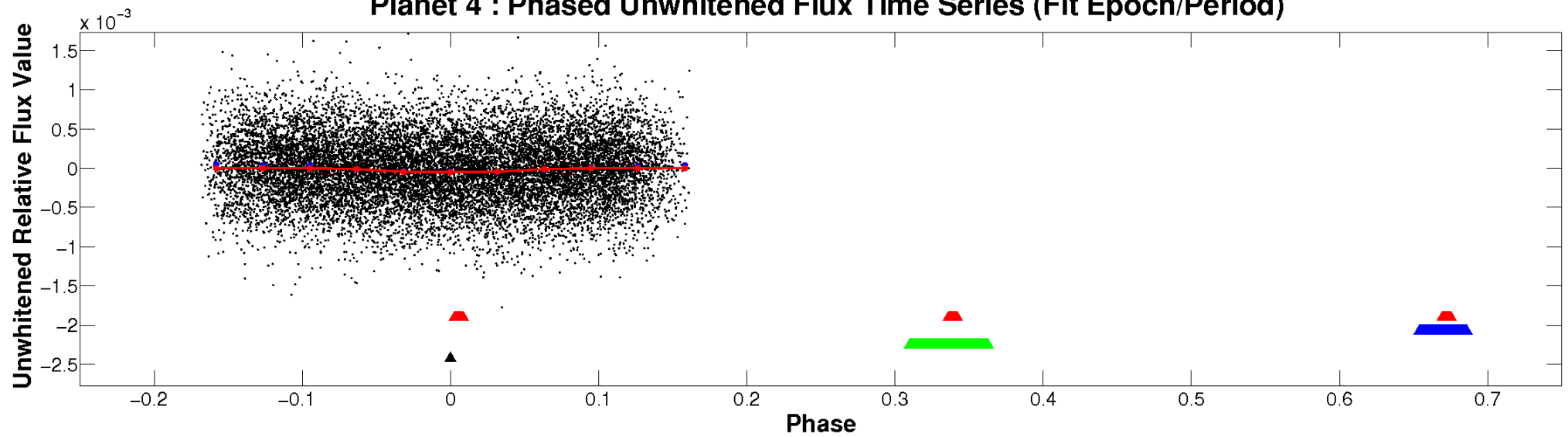


ALT Odd/Even

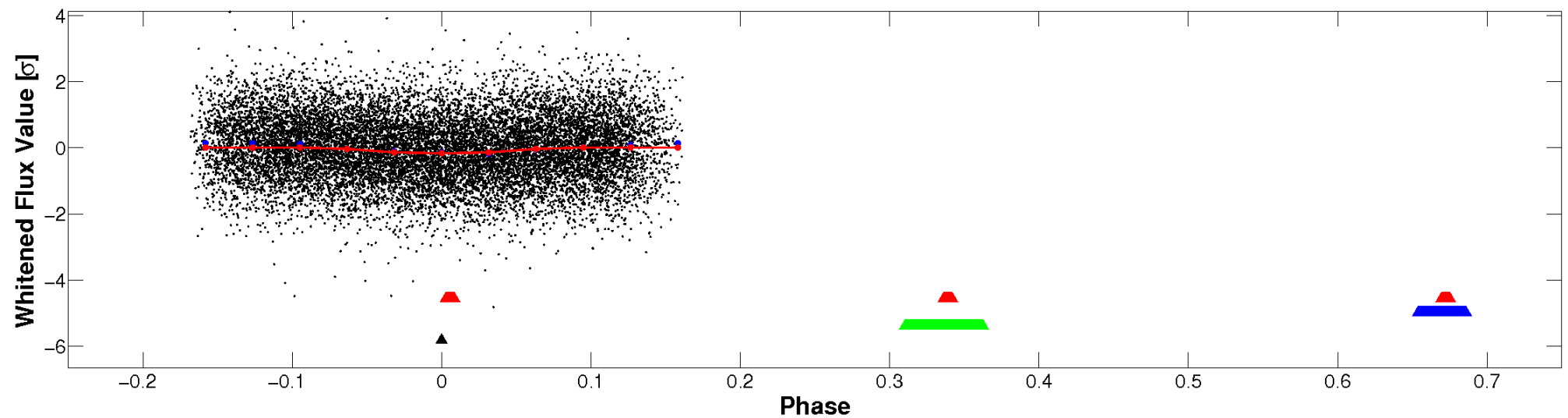
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

## Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

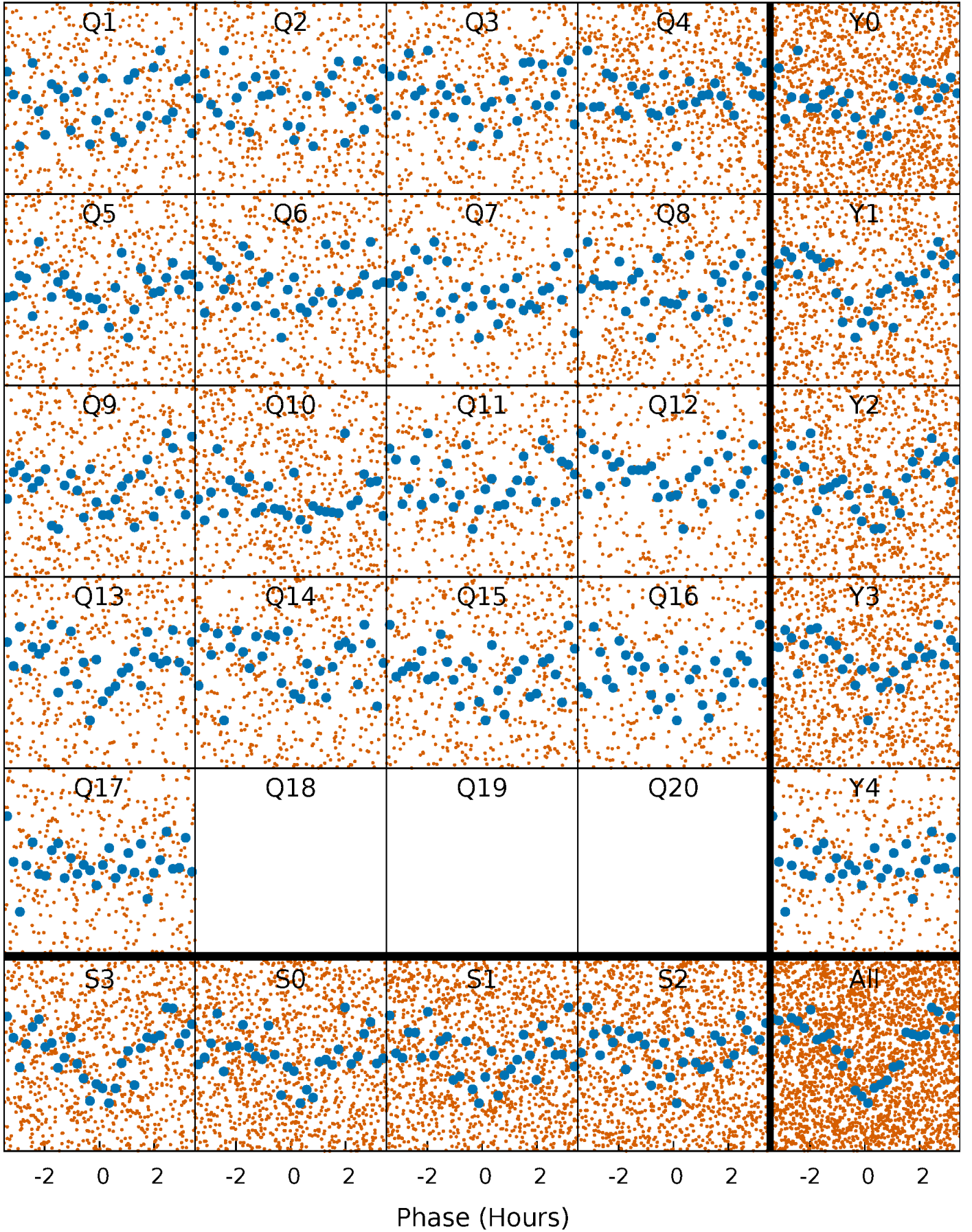


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

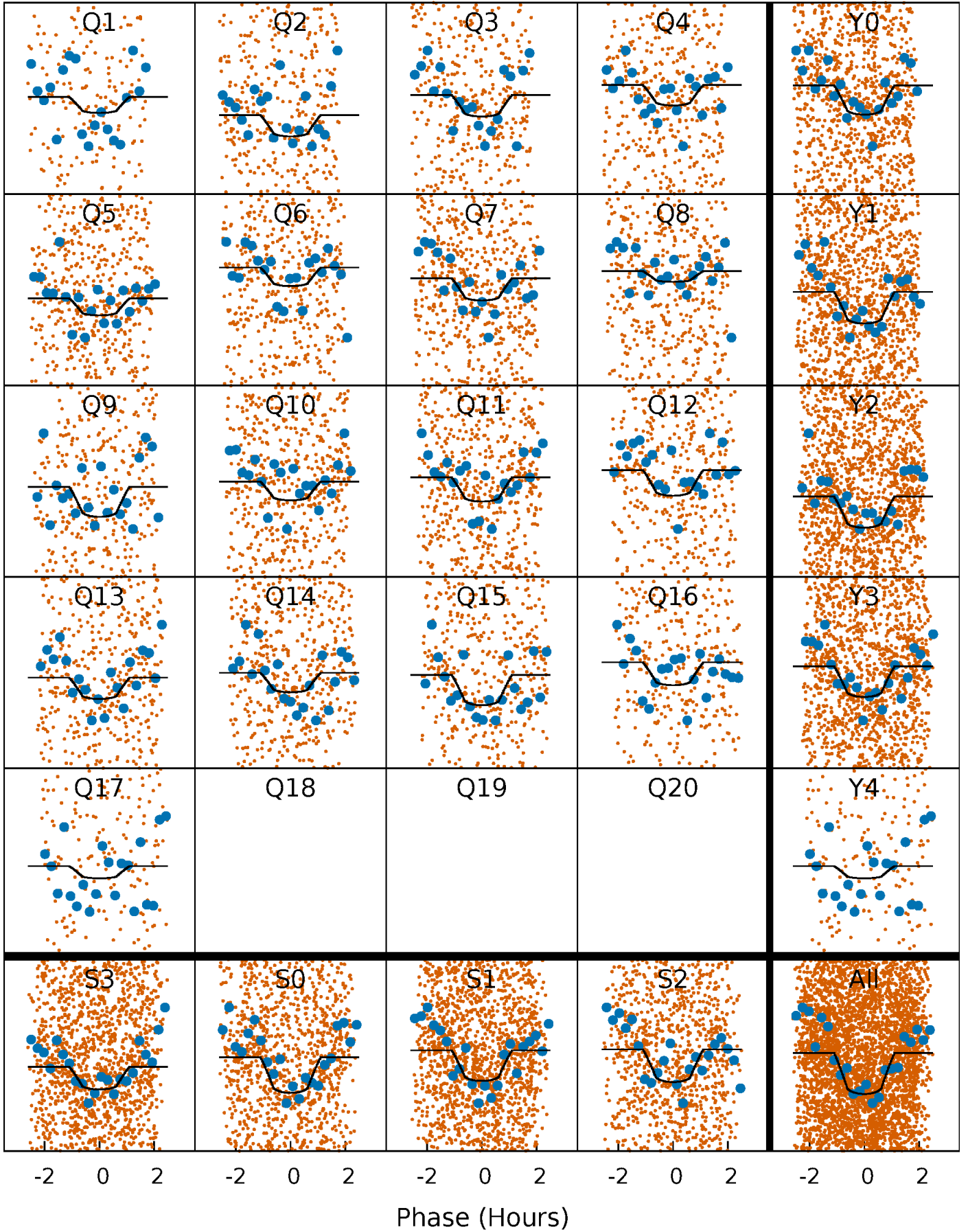
TCE 008630254-04   P= 0.646104 Days    $T_0=131.782306$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 008630254-04     $P = 0.646104$  Days     $T_0 = 131.782306$  (BKJD)

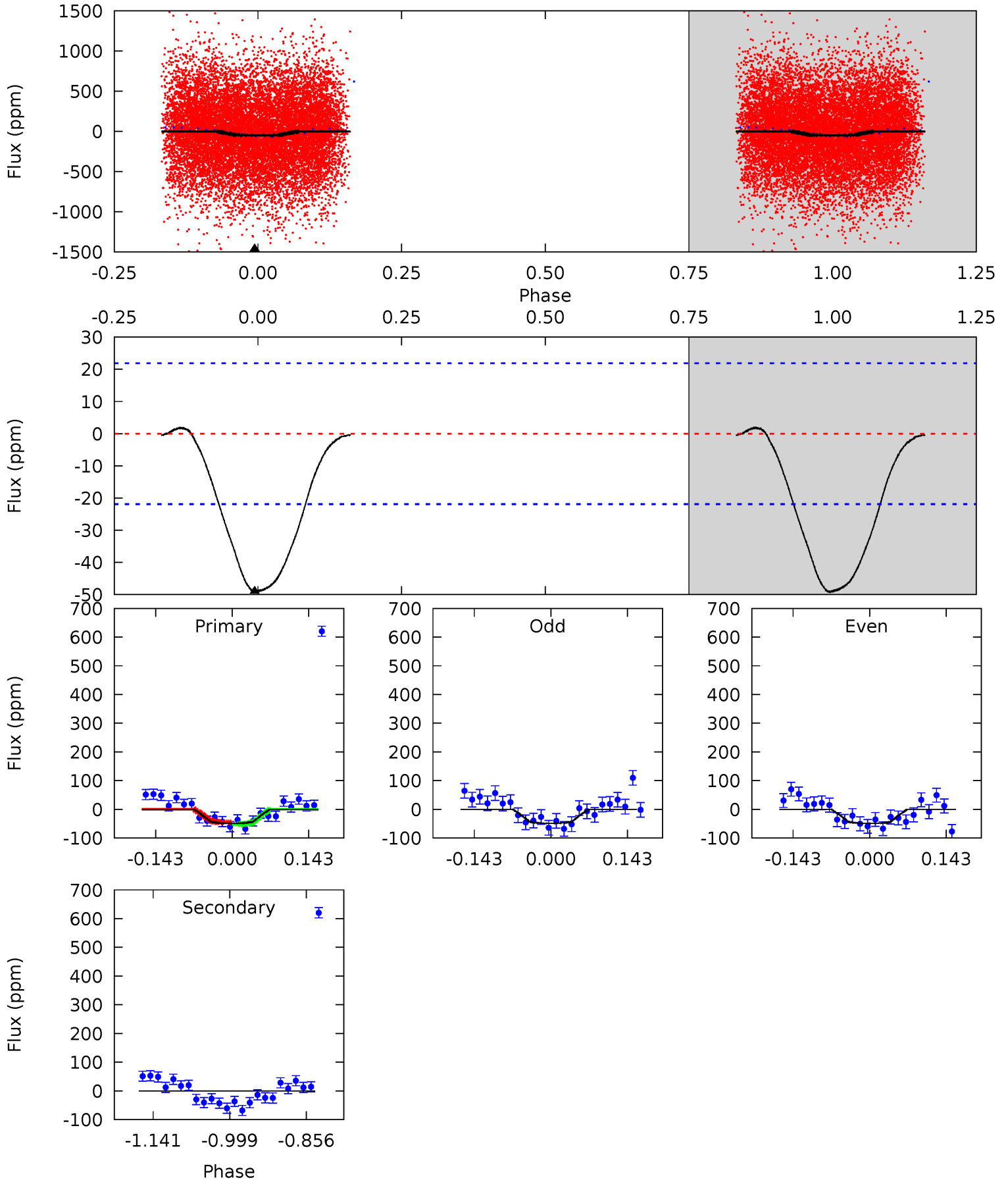


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

008630254-04, P = 0.646104 Days, E = 131.136202 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
10.1	0	0	0	4.49	1.47	0.42	10.1	10.1	0	0	0.04	1.11	0.04	0.68



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 008630254

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7512^{+209}_{-314}$	$3.976^{+0.241}_{-0.148}$	$-0.060^{+0.200}_{-0.350}$	$2.239^{+0.540}_{-0.660}$	$1.727^{+0.185}_{-0.344}$	$0.217^{+0.328}_{-0.093}$
	+3%/-4%	+6%/-4%	+333%/-583%	+24%/-29%	+11%/-20%	+151%/-43%
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 008630254-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 5$	$1.58^{+0.65}_{-0.61}$	$5163^{+369}_{-375}$	$-4316^{+7882}_{-799}$	$0.016^{+0.392}_{-0.353}$
Alt.	N/A	N/A	N/A	N/A	N/A

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



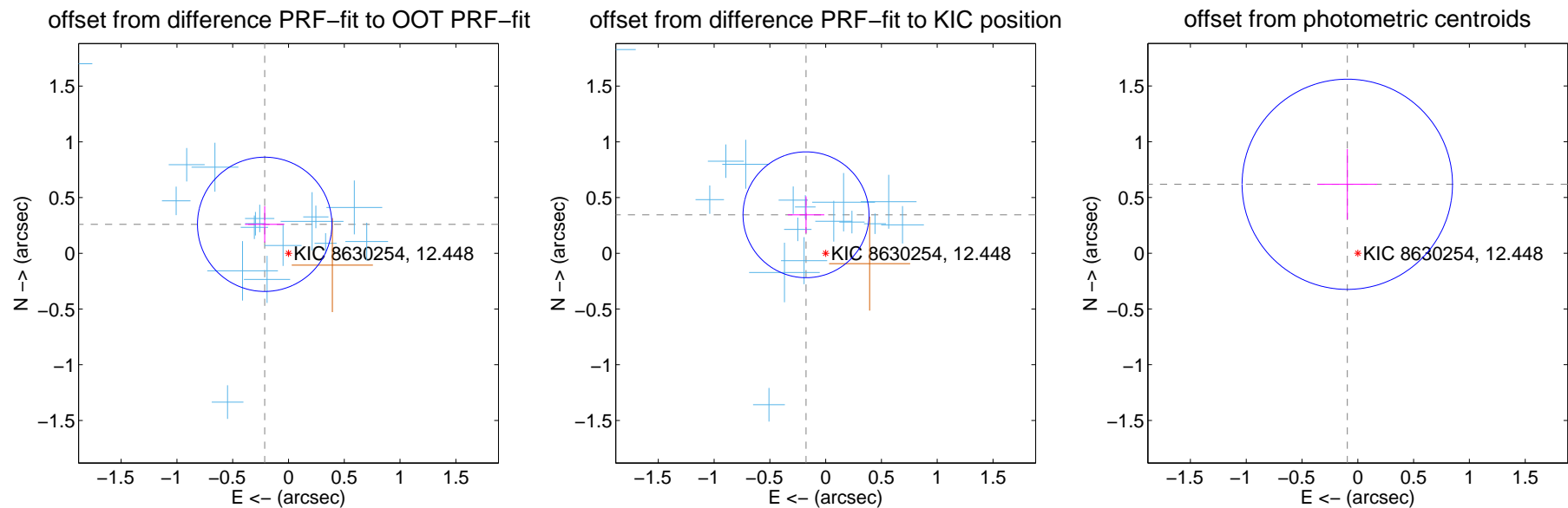
## DV Centroid Data

Supplemental centroid analysis for 008630254-04. Kepler magnitude: 12.45. Transit SNR 10.39

There are 16 quarters with good PRF difference image offsets

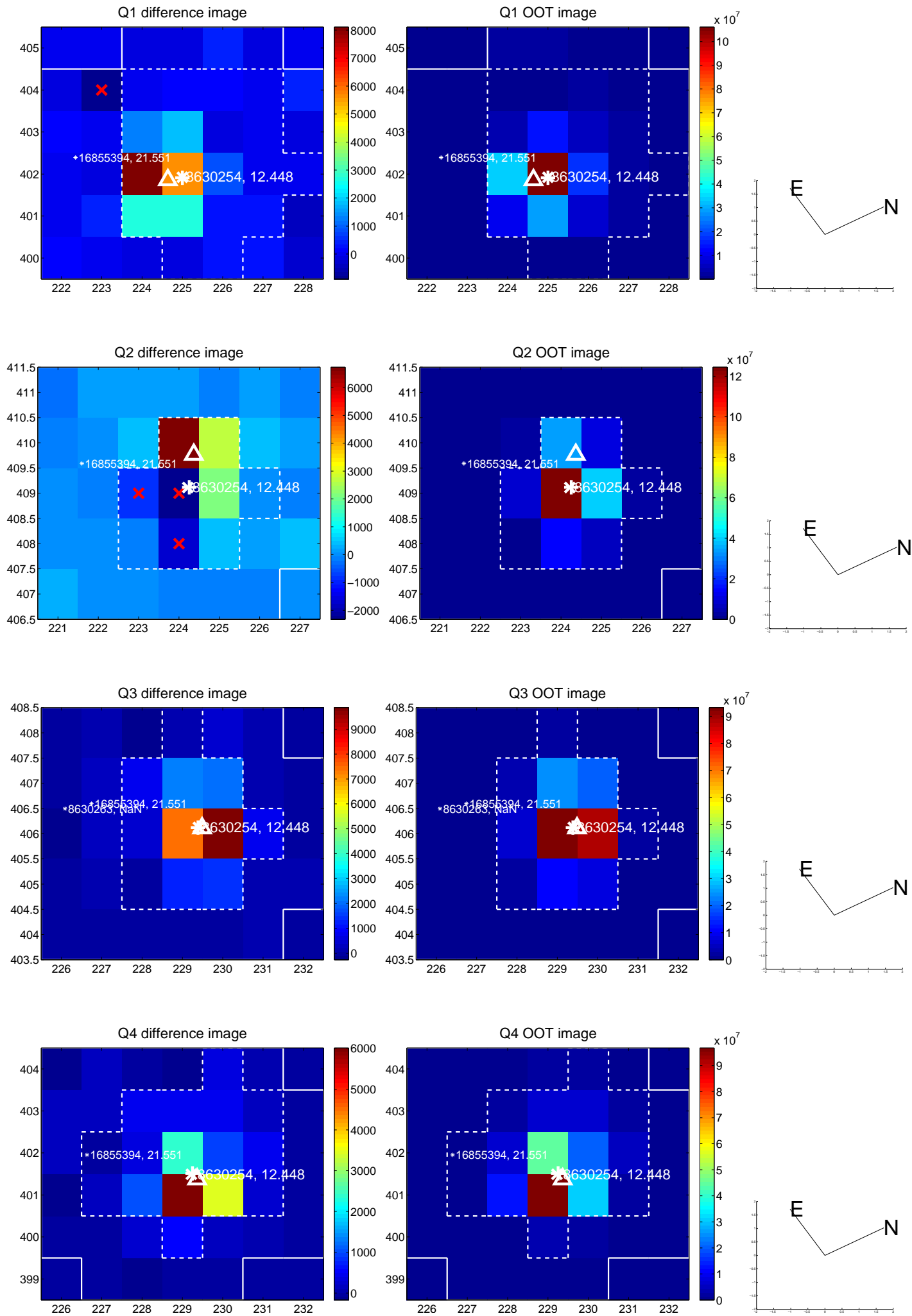
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.336 \pm 0.201$	1.68	$0.214 \pm 0.176$	$0.260 \pm 0.163$
PRF-fit source offset from KIC position	$0.388 \pm 0.188$	2.06	$0.176 \pm 0.164$	$0.345 \pm 0.165$
photometric centroid source offset	$0.63 \pm 0.31$	1.99	$0.09 \pm 0.27$	$0.62 \pm 0.32$

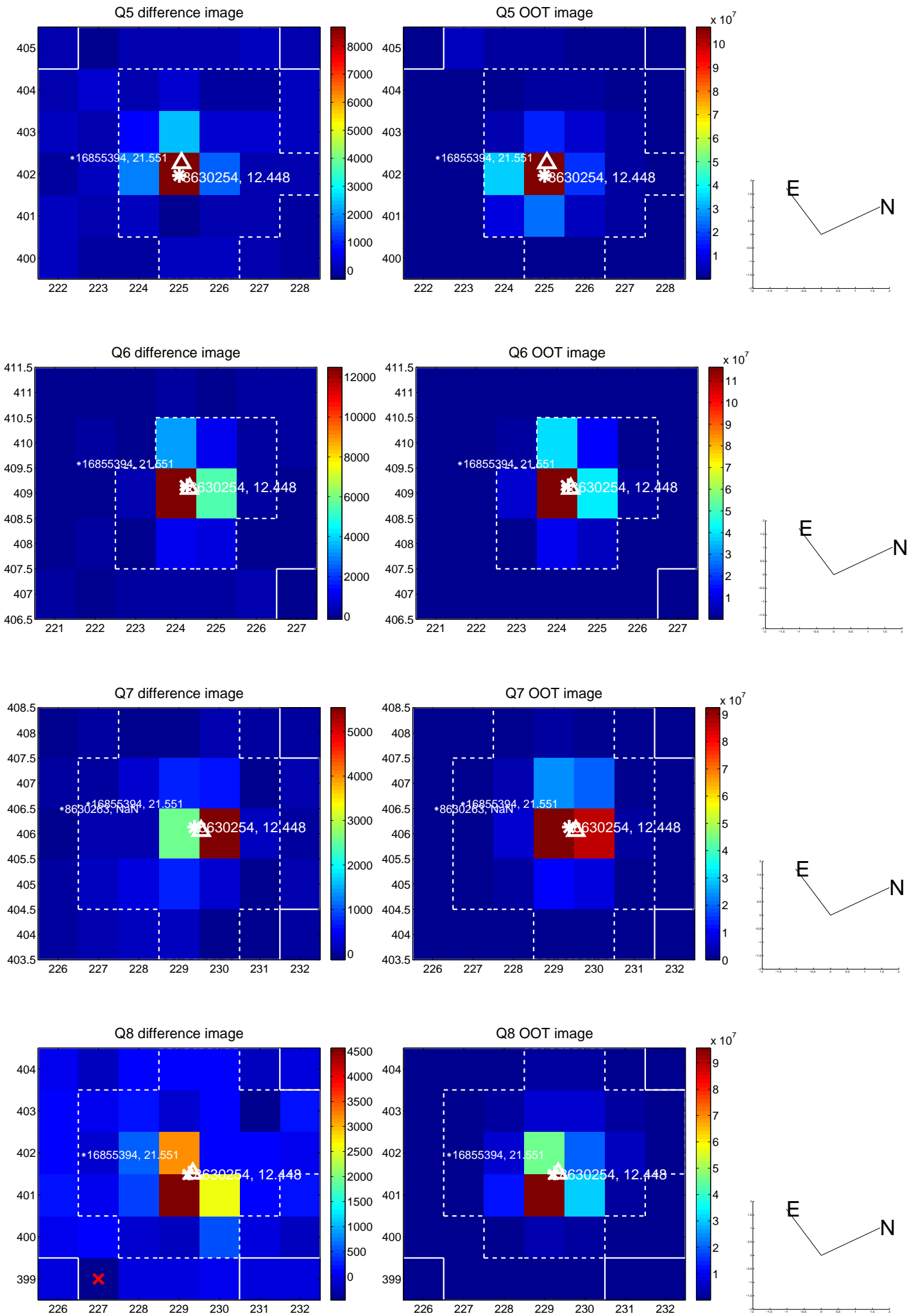


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

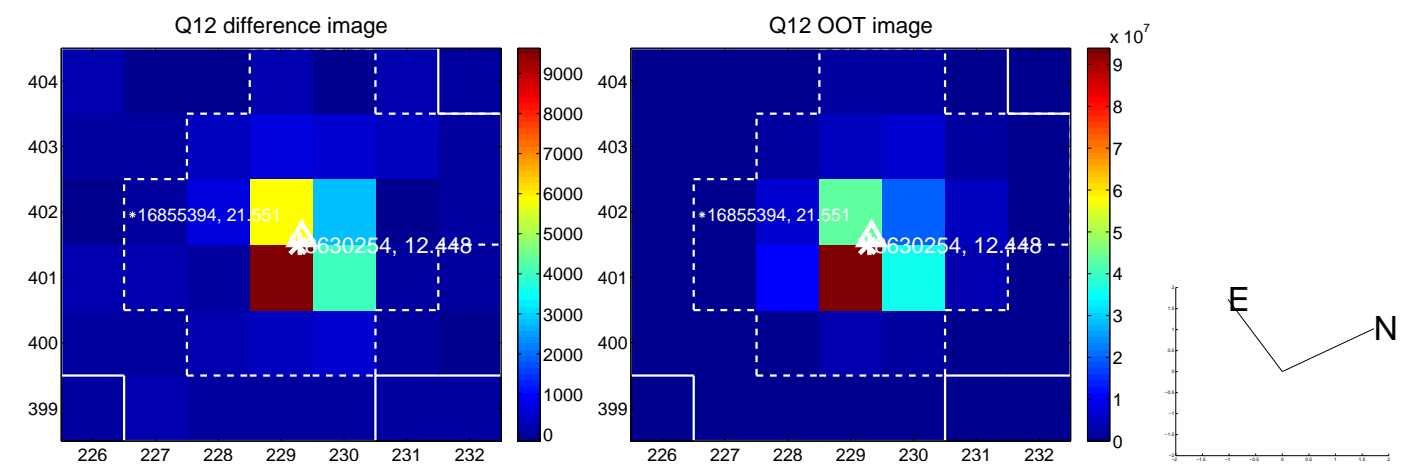
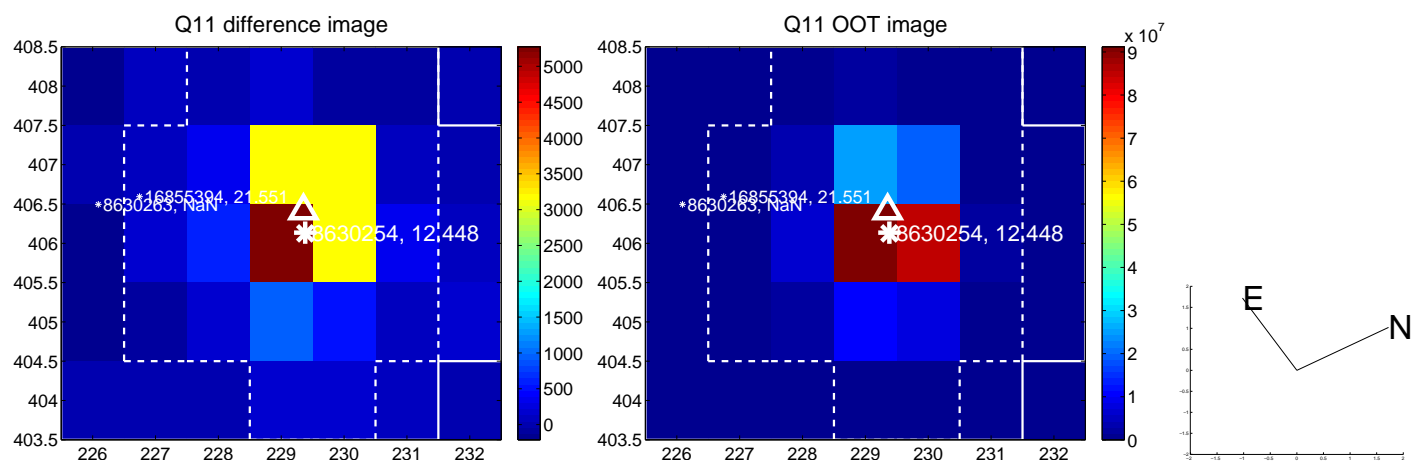
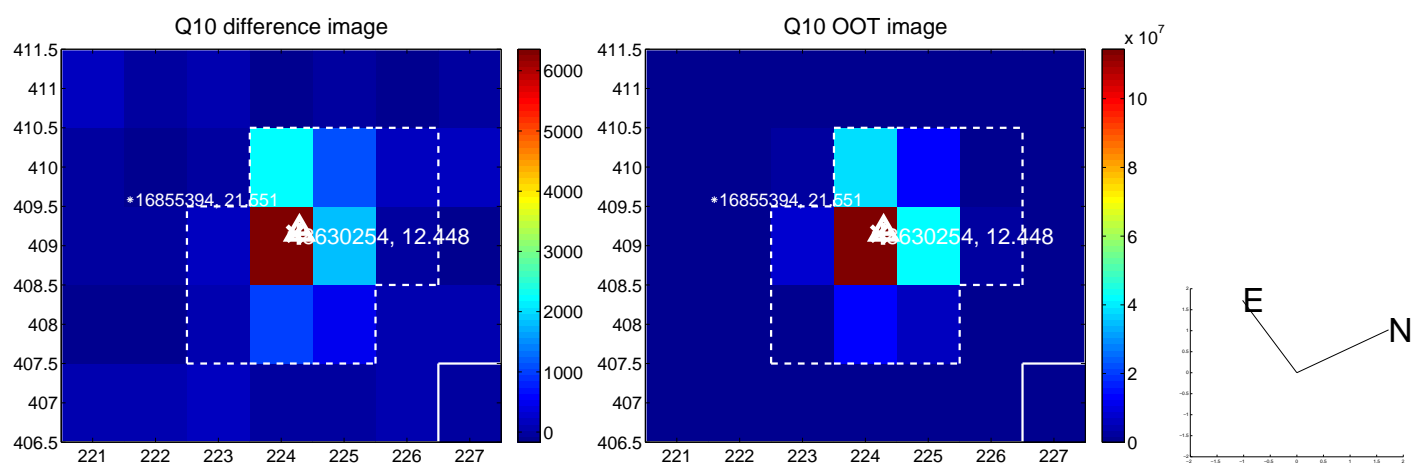
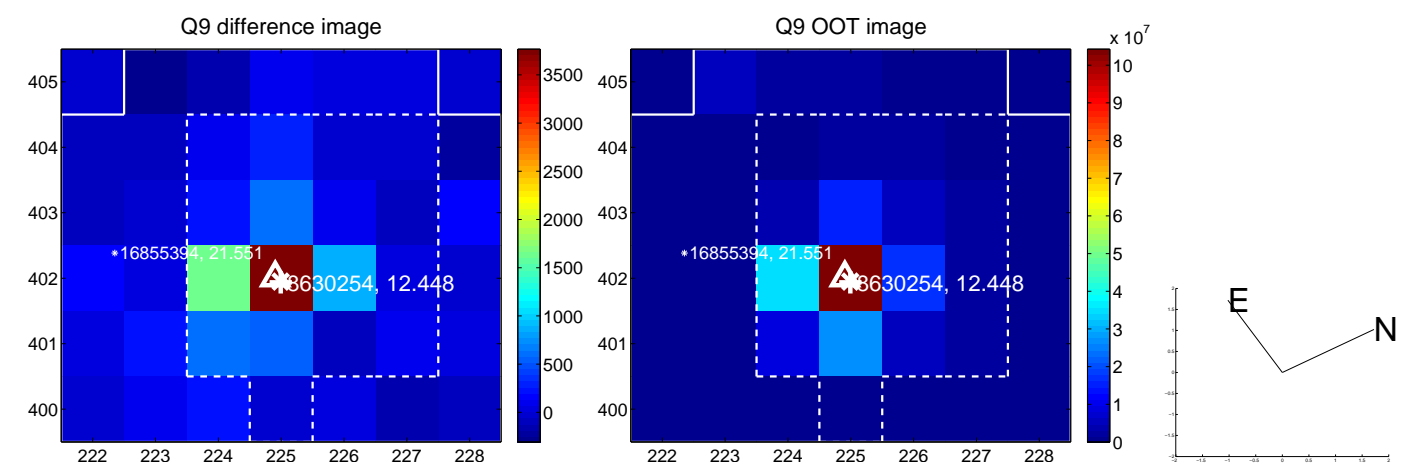
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



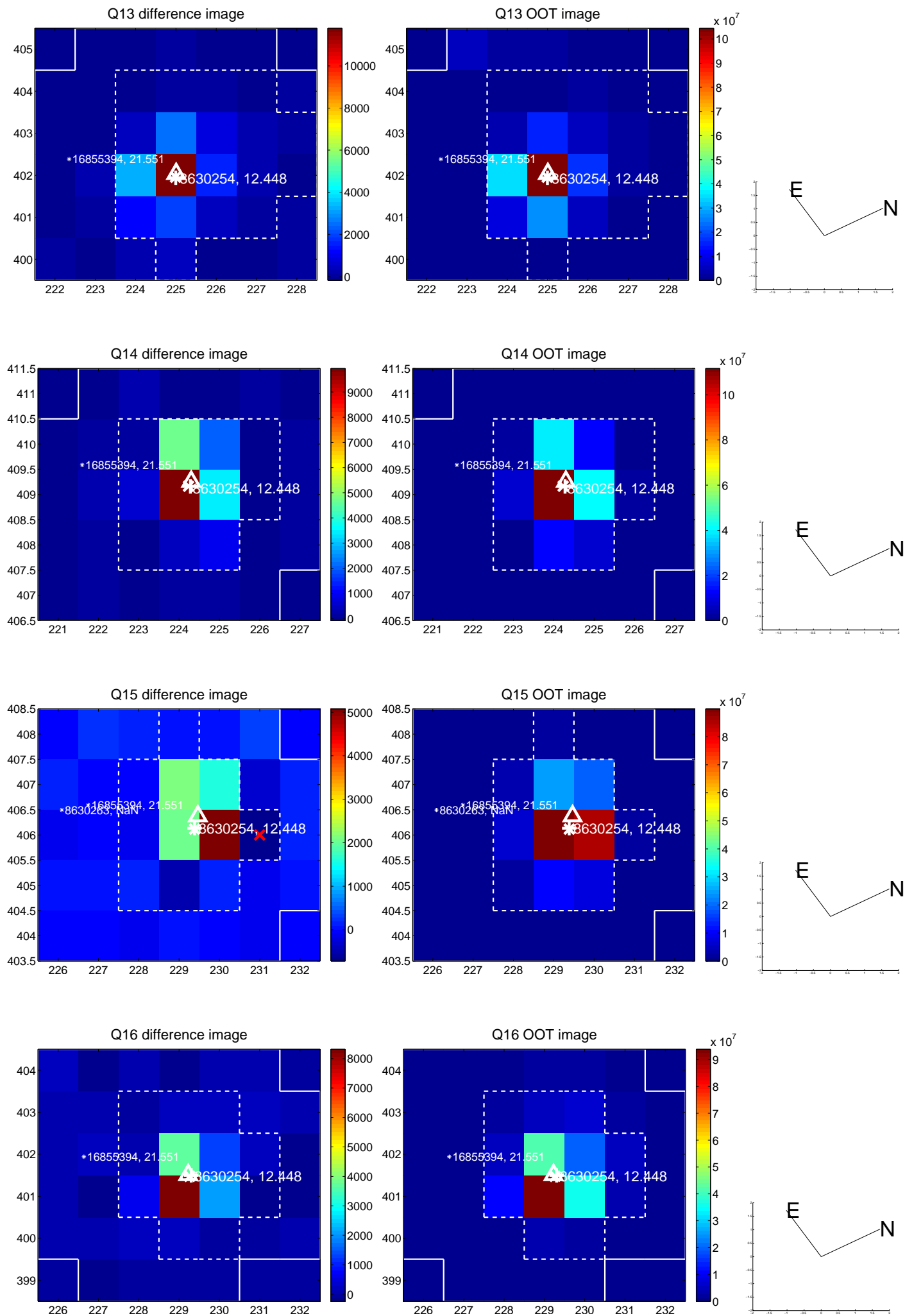
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

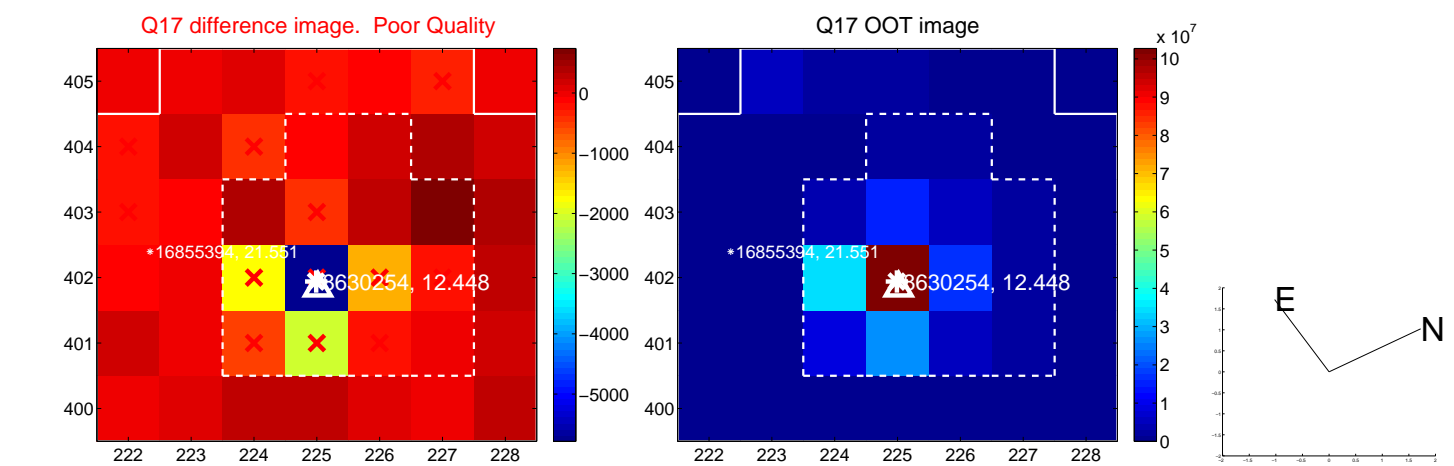


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

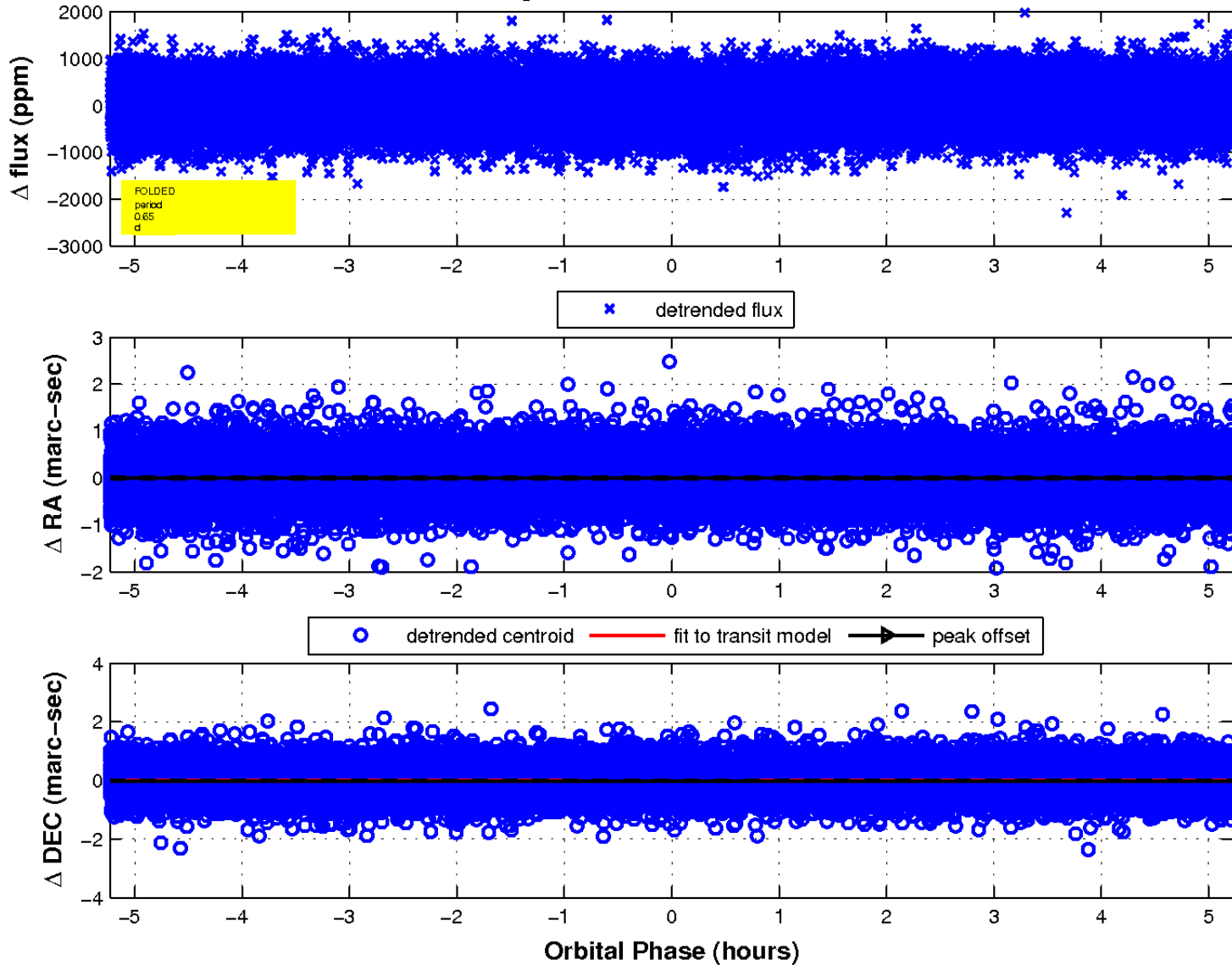




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 4 of 4



UKIRT Image

Declination

