

# KIC 008265244

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008265244-01	OBS	No	0.865897	131.920863	98.6	2.632	11.0	12.4	2.12	8641	2.44	44171.89
008265244-02	OBS	No	1.302281	132.104257	116.8	15.627	9.7	15.6	2.12	8641	2.96	25634.69

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008265244-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008265244-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—CENT_FEW_DIFFS

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

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

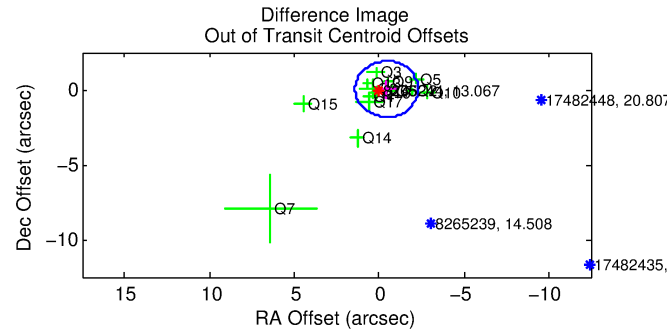
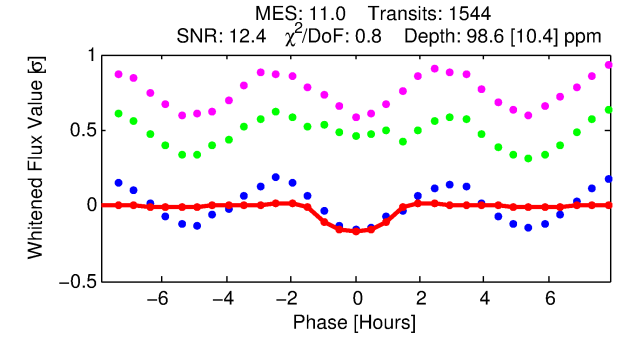
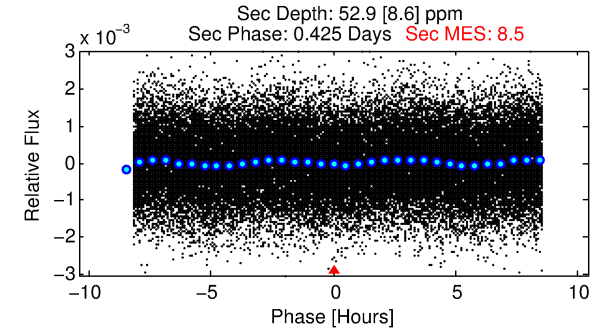
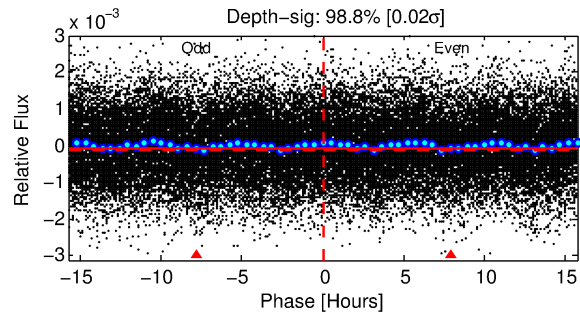
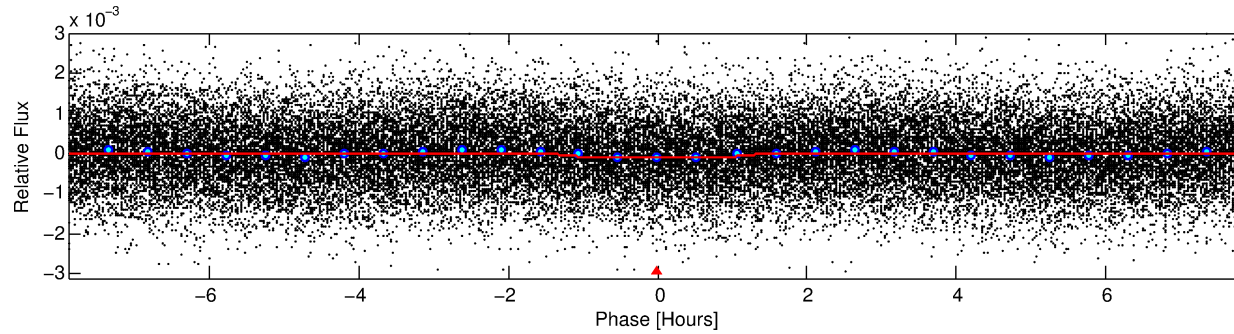
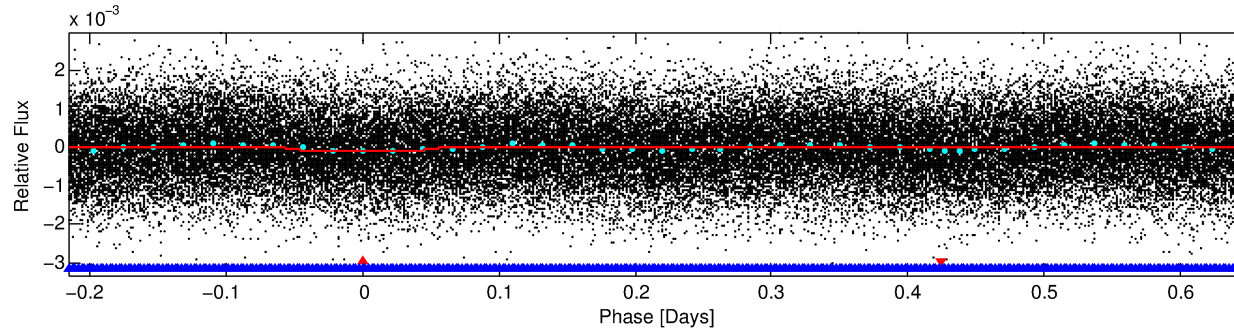
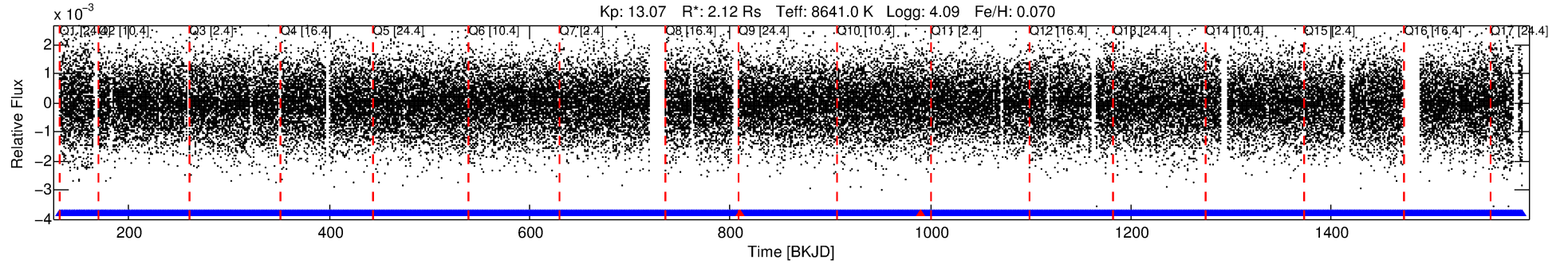
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008265244-01

No Significant Match Found

# DV One-Page Summary

KIC: 8265244 Candidate: 1 of 2 Period: 0.866 d



## DV Fit Results:

Period = 0.86590 [0.00001] d  
Epoch = 131.9209 [0.0029] BKJD  
Rp/R\* = 0.0106 [0.0055]  
a/R\* = 1.48 [2.84]  
b = 0.90 [0.74]  
Seff = 44171.88 [15585.47]  
Teq = 3697 [326] K  
Rp = 2.44 [1.43] Re  
Ag = 0.0225 [0.0049] AU  
Teffp = 7172 [1918] K [1.79 $\sigma$ ]

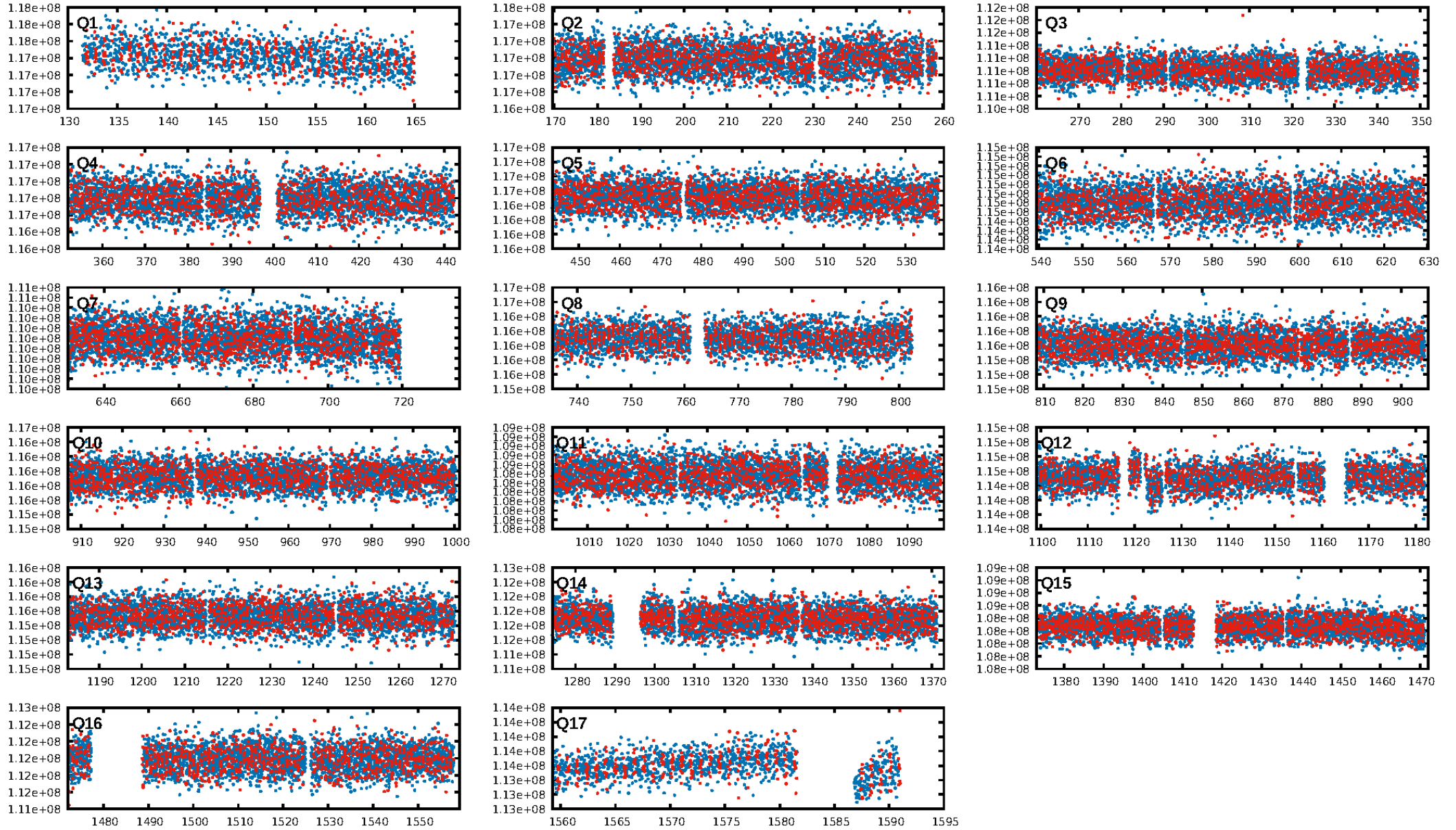
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 49.1% [0.66 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1472/1474]  
GhostDiagnostic-chr: 1.948  
**Centroid-sig: 0.0%**  
Centroid-so: 0.530 arcsec [1.12 $\sigma$ ]  
OotOffset-rm: 0.453 arcsec [0.73 $\sigma$ ]  
KicOffset-rm: 0.490 arcsec [0.79 $\sigma$ ]  
OotOffset-st: 4/3/3/4 [14]  
KicOffset-st: 4/3/3/4 [14]  
DiffImageQuality-fgm: 0.50 [7/14]  
DiffImageOverlap-fno: 0.65 [11/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:03:10 Z

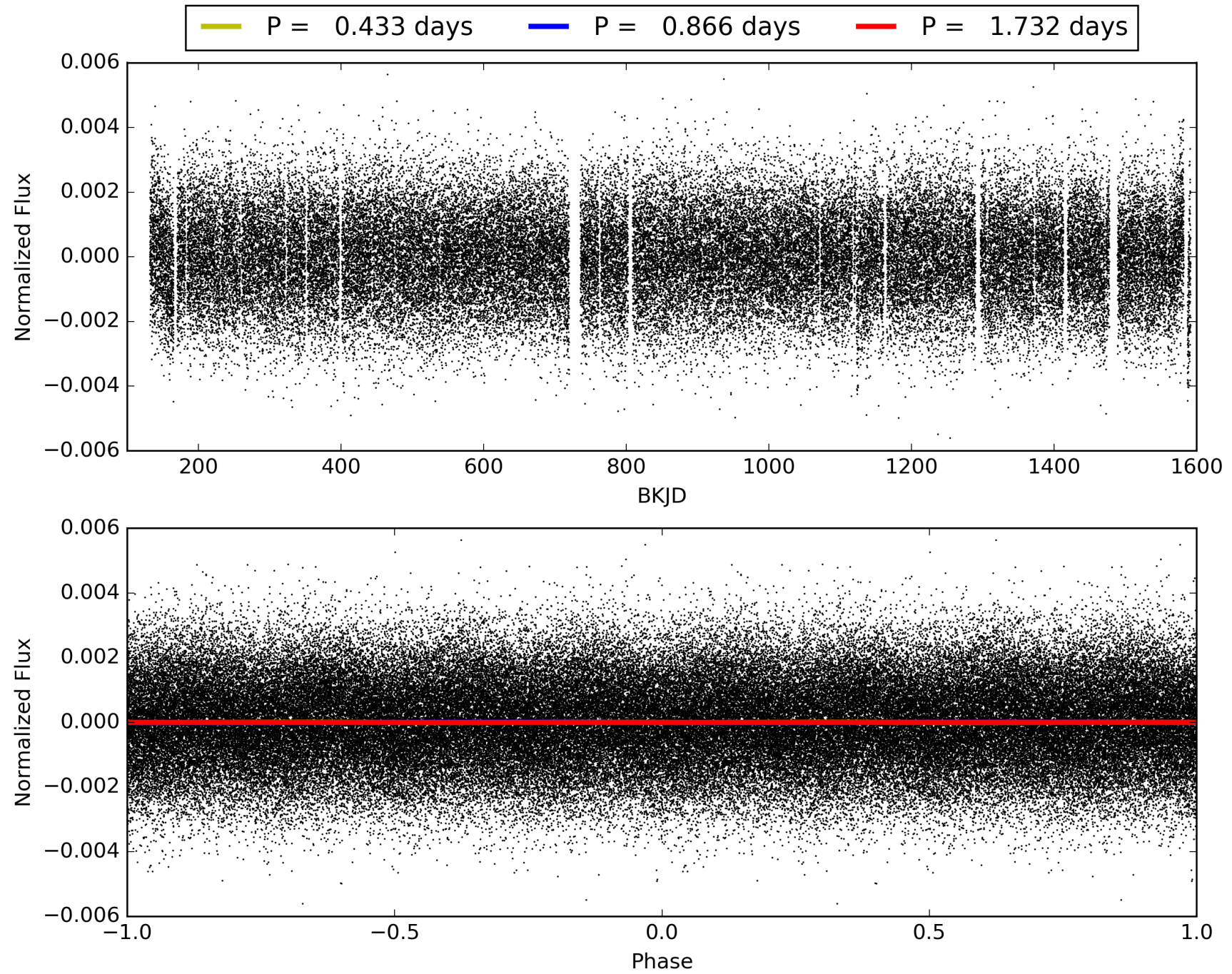
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008265244-01, PDC Light Curves



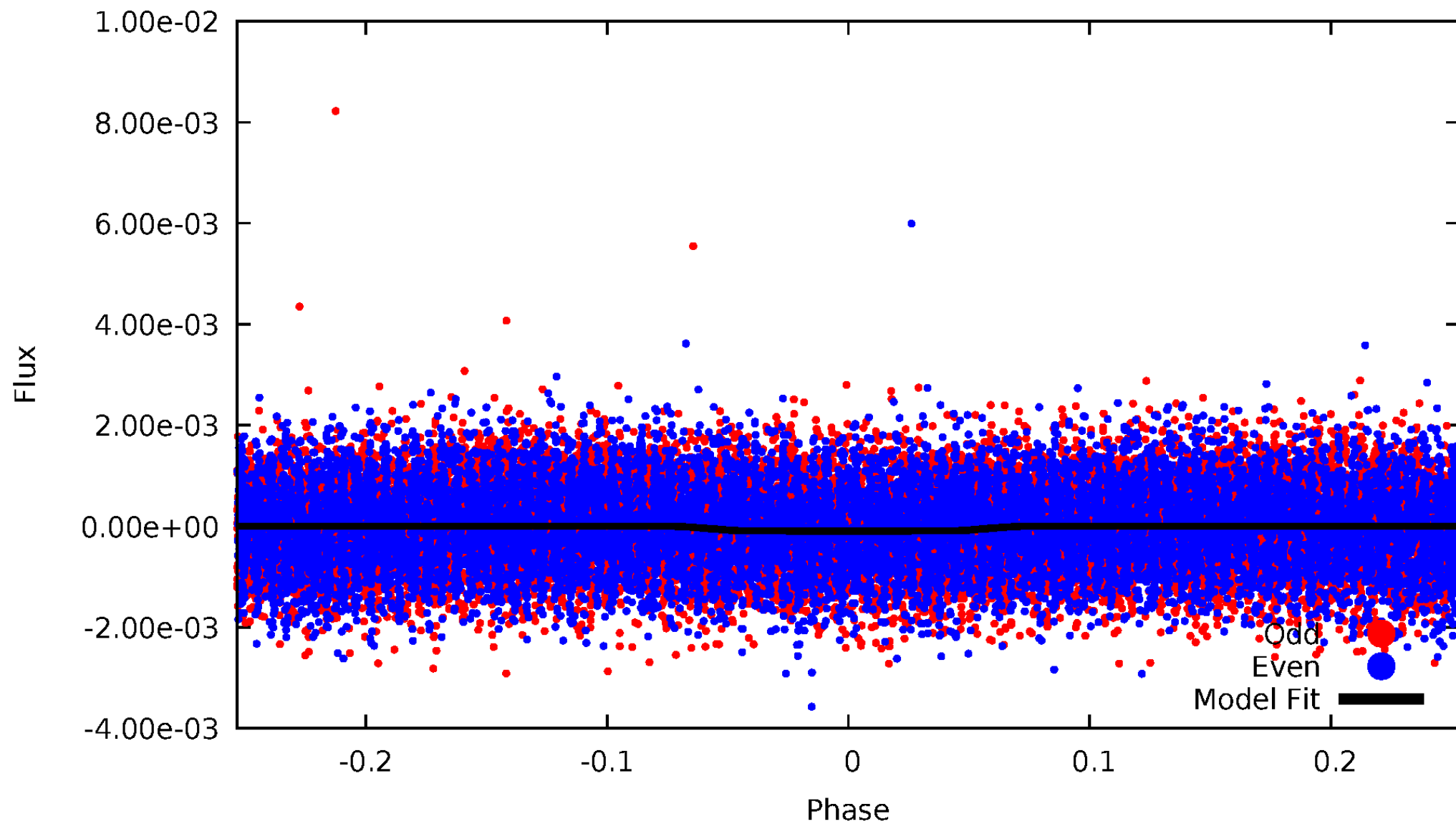


TCE 008265244-01



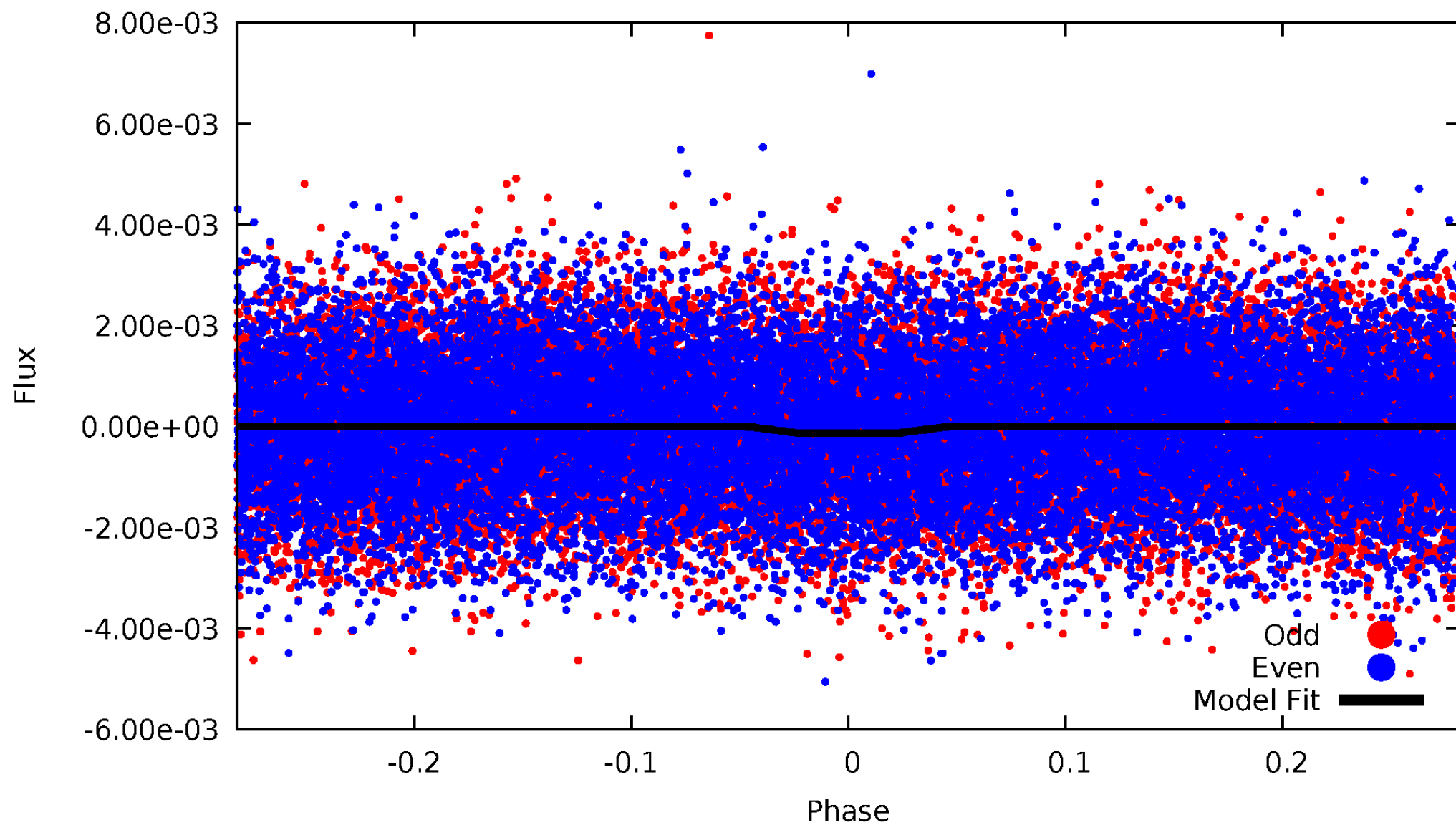
# DV Odd/Even

TCE 008265244-01

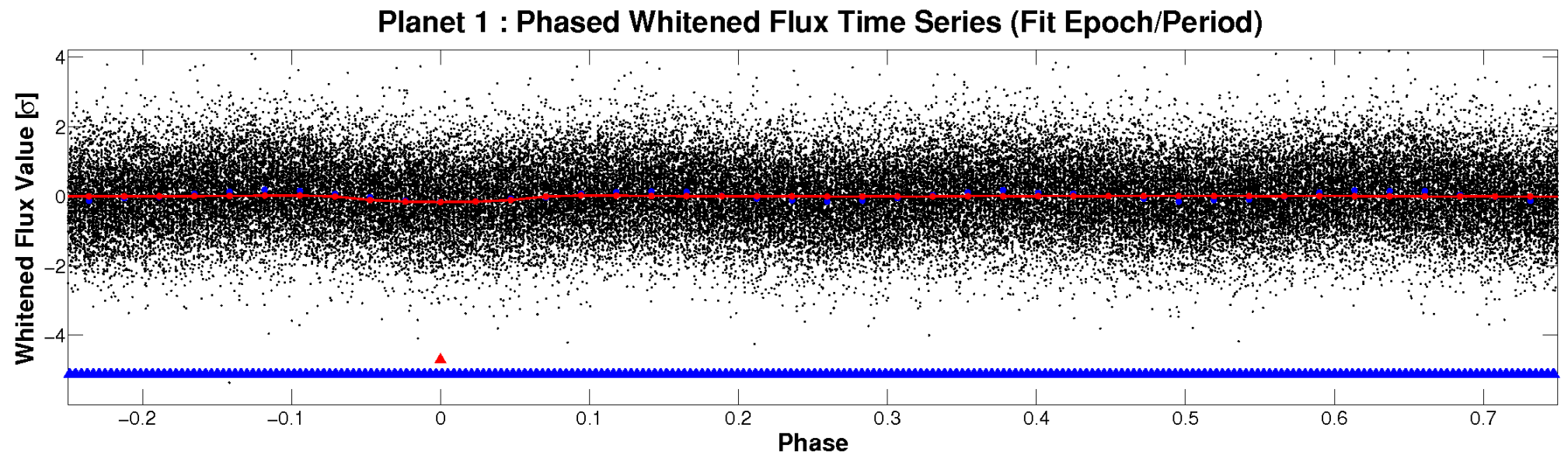
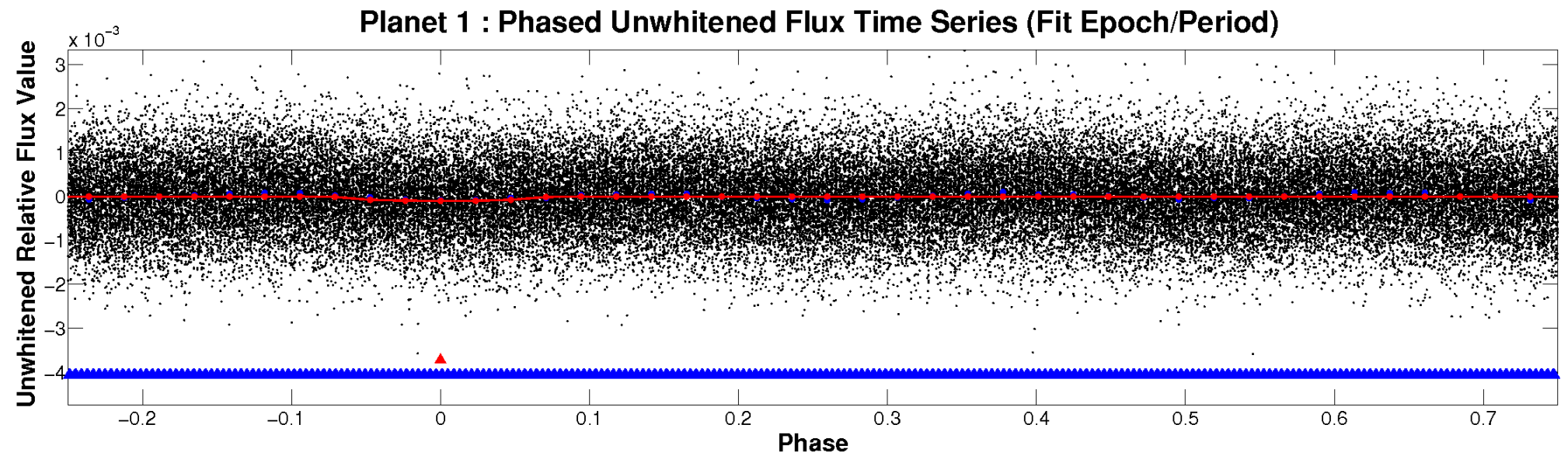


# ALT Odd/Even

TCE 008265244-01



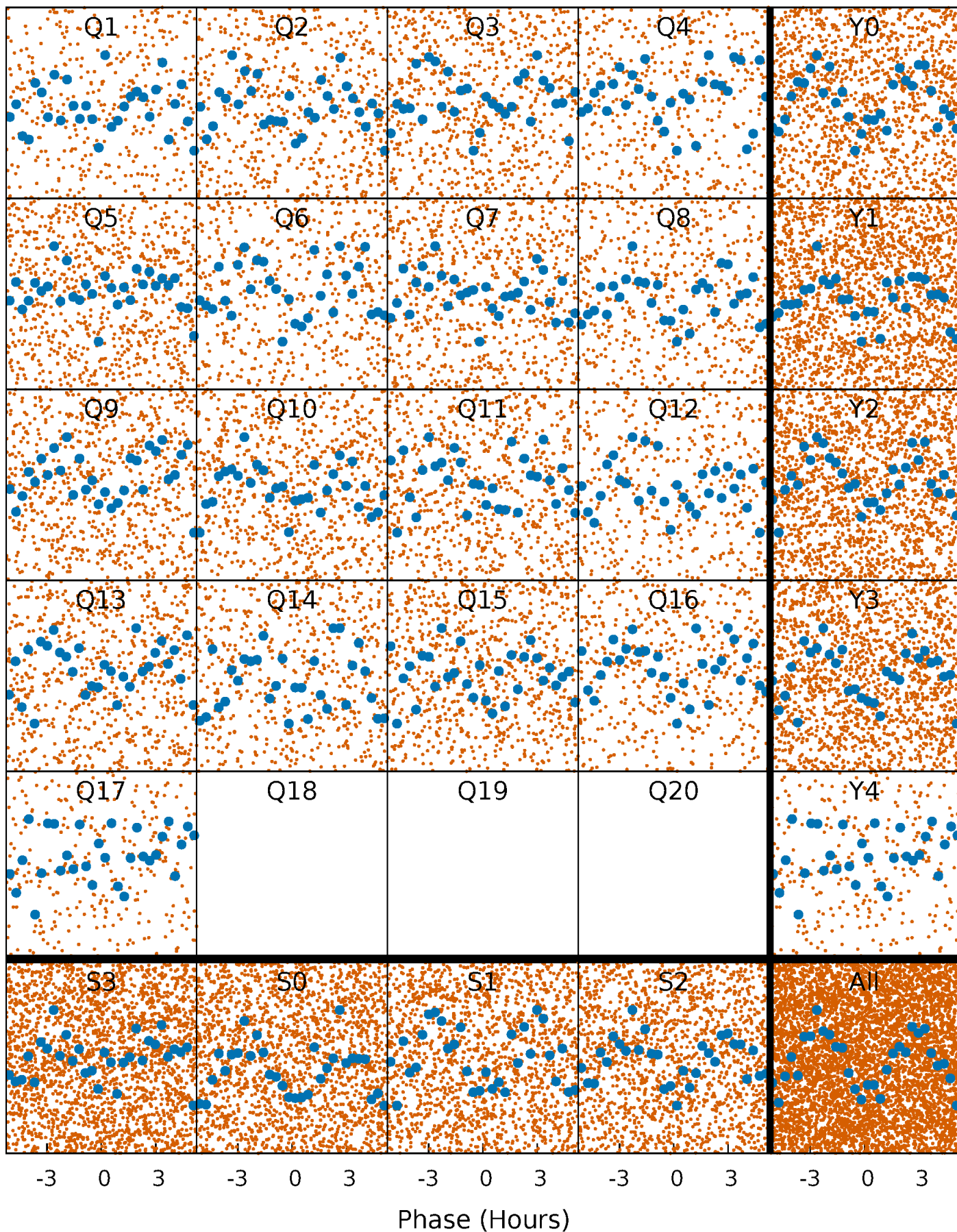
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

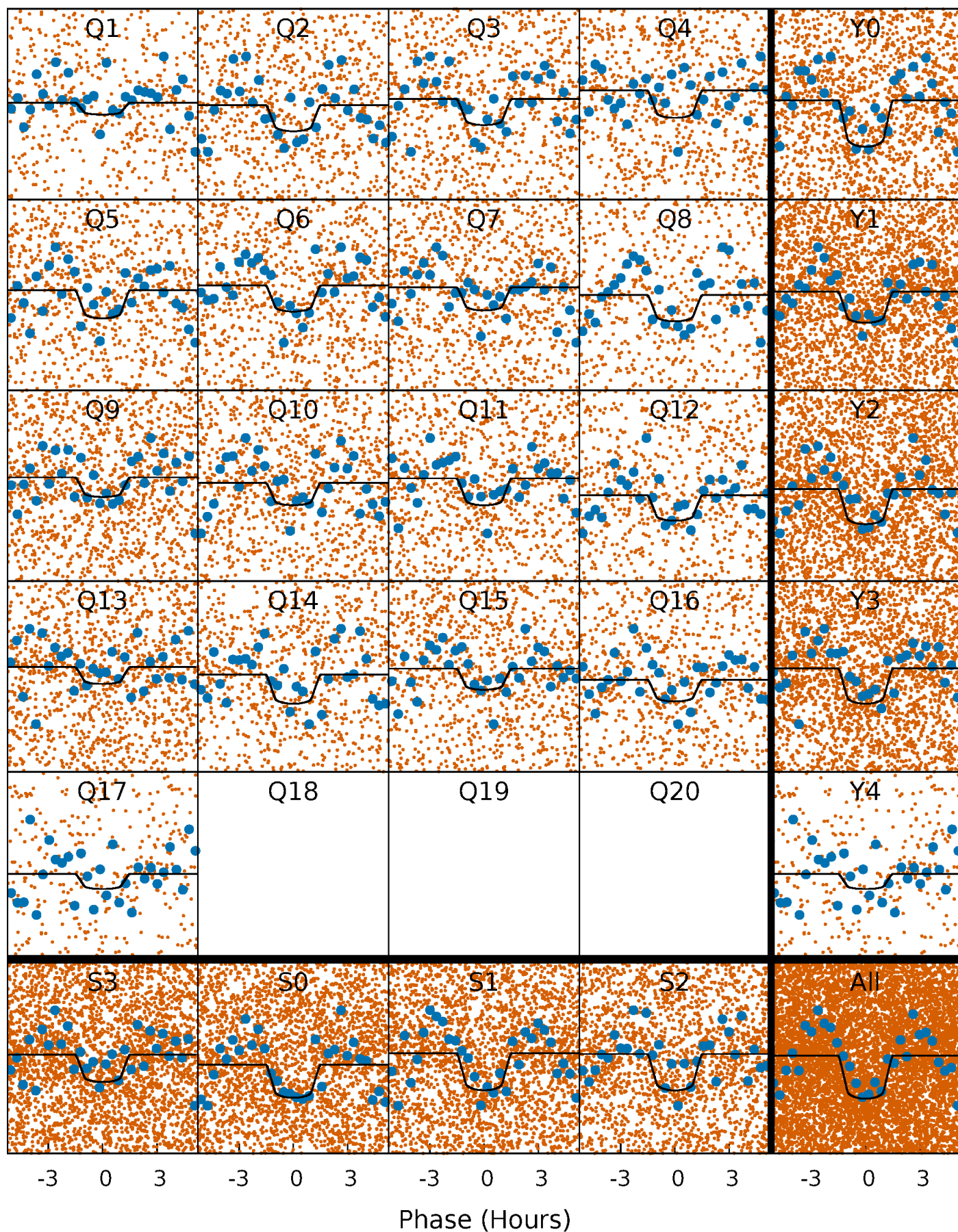
TCE 008265244-01   P= 0.865897 Days    $T_0=131.920863$  (BKJD)





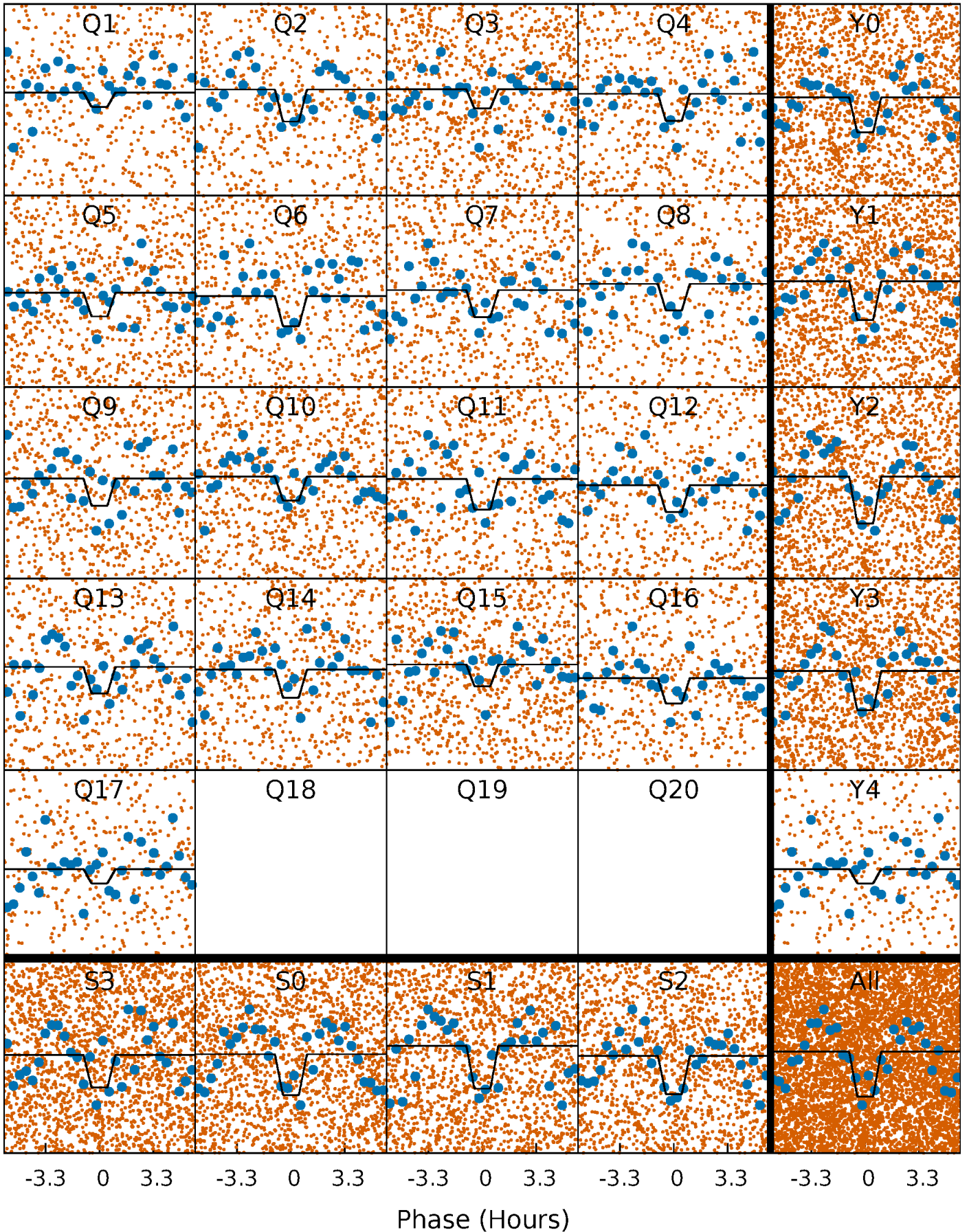
# DV Quarter-Phased Transit Curves

TCE 008265244-01 P= 0.865897 Days  $T_0=131.920863$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

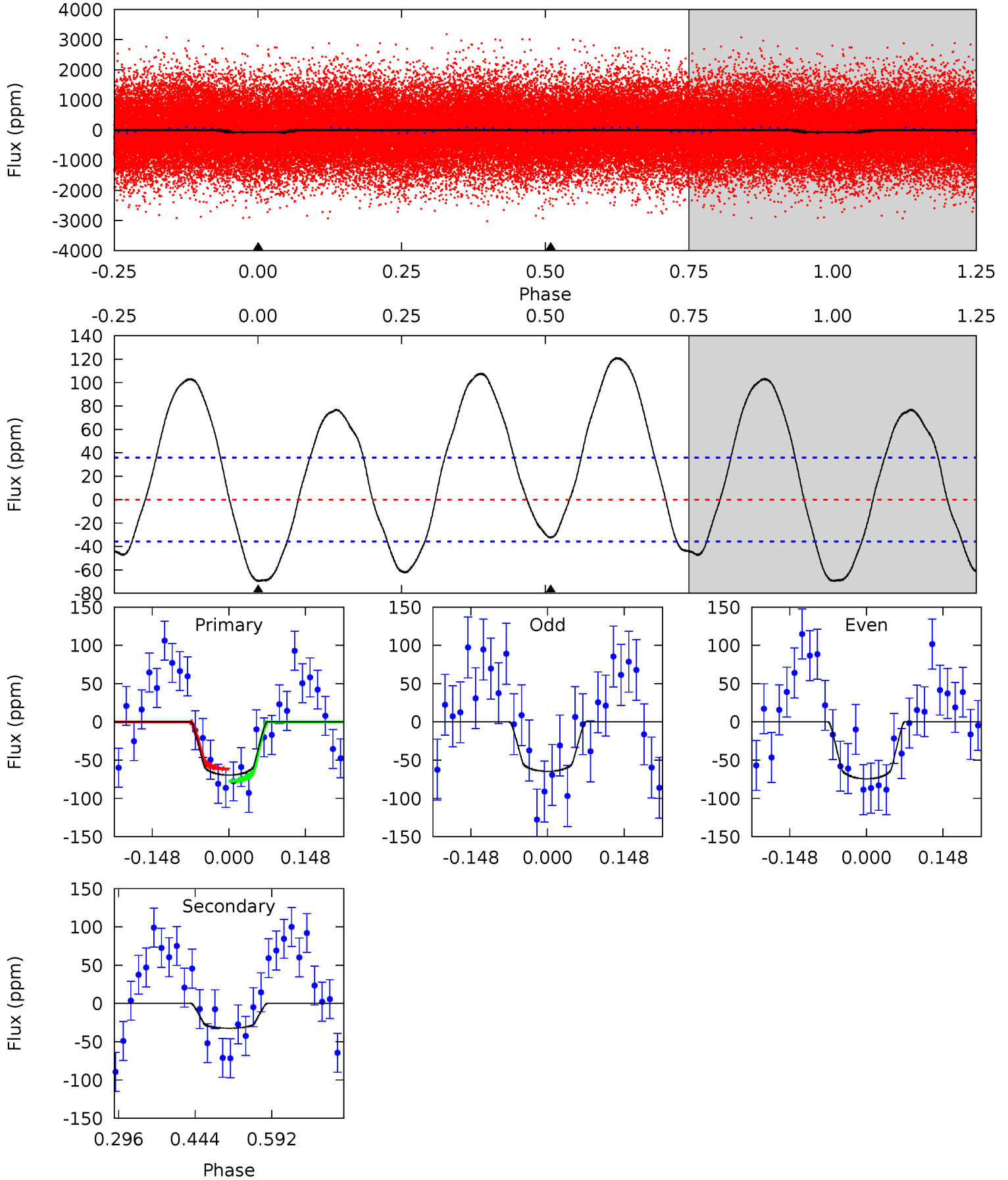
TCE 008265244-01 P= 0.865906 Days  $T_0=131.918819$  (BKJD)



# DV Model-Shift Uniqueness Test

008265244-01, P = 0.865897 Days, E = 131.054966 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
8.70	4.05	0	0	4.48	1.45	5.94	8.70	8.70	4.05	4.05	0.61	1.01	0.63	1.00

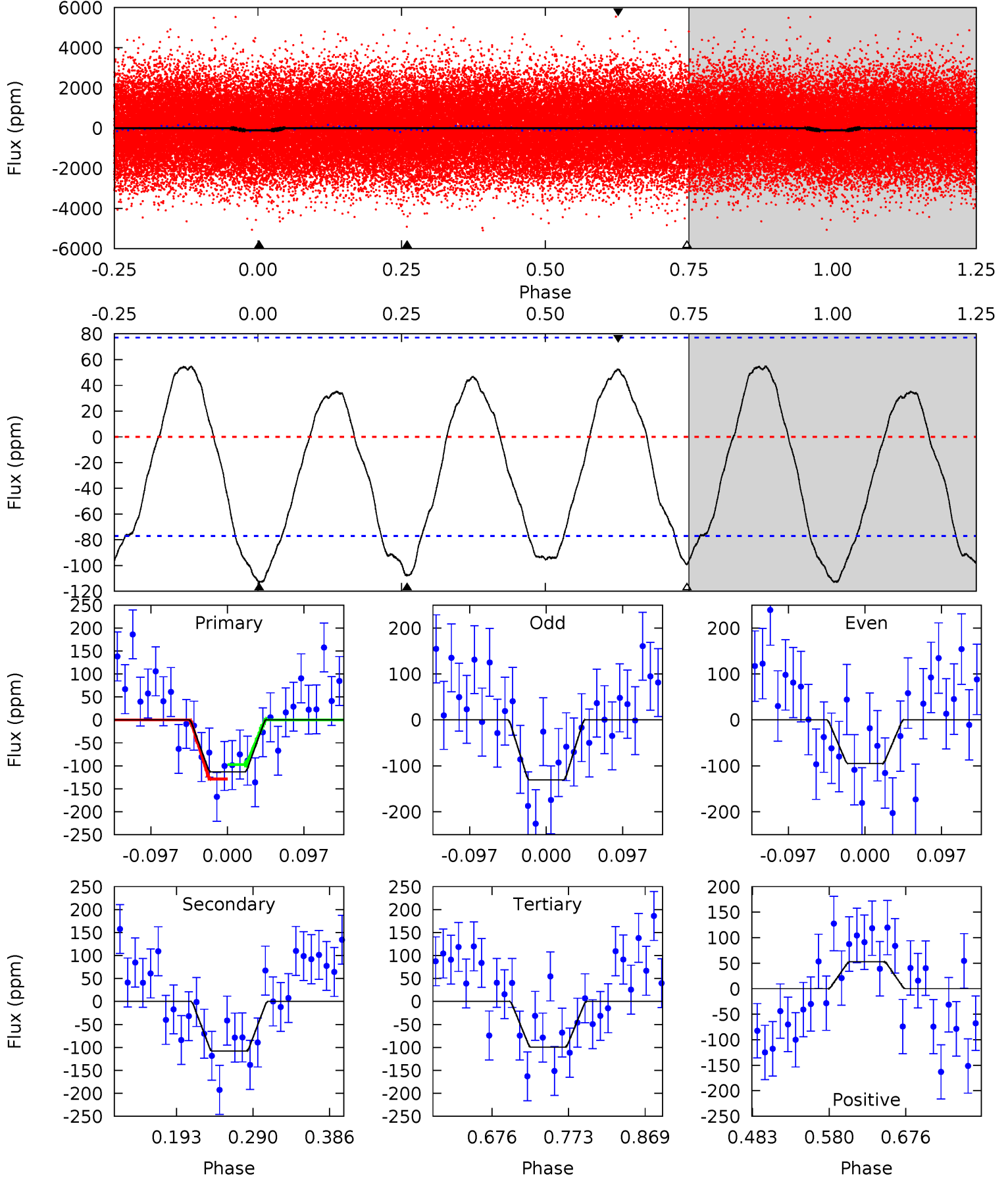




# Alt Model-Shift Uniqueness Test

008265244-01, P = 0.865906 Days, E = 131.052913 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
6.70	6.40	5.89	3.13	4.57	1.66	3.06	0.81	3.58	0.51	3.27	1.05	0.86	0.33	0.94





### Stellar Parameters For KIC 008265244

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8641^{+246}_{-387}$	$4.094^{+0.131}_{-0.160}$	$0.070^{+0.250}_{-0.550}$	$2.118^{+0.569}_{-0.466}$	$2.031^{+0.351}_{-0.429}$	$0.301^{+0.229}_{-0.129}$
	+3%/-4%	+3%/-4%	+357%/-786%	+27%/-22%	+17%/-21%	+76%/-43%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 008265244-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-32 \pm 8$	$2.47^{+1.36}_{-1.06}$	$5162^{+342}_{-329}$	$5701^{+2404}_{-1402}$	$1.476^{+3.170}_{-0.888}$
Alt.	$-108 \pm 17$	$2.63^{+1.43}_{-1.21}$	$5181^{+355}_{-353}$	$7879^{+4795}_{-1766}$	$4.242^{+10.475}_{-2.408}$

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

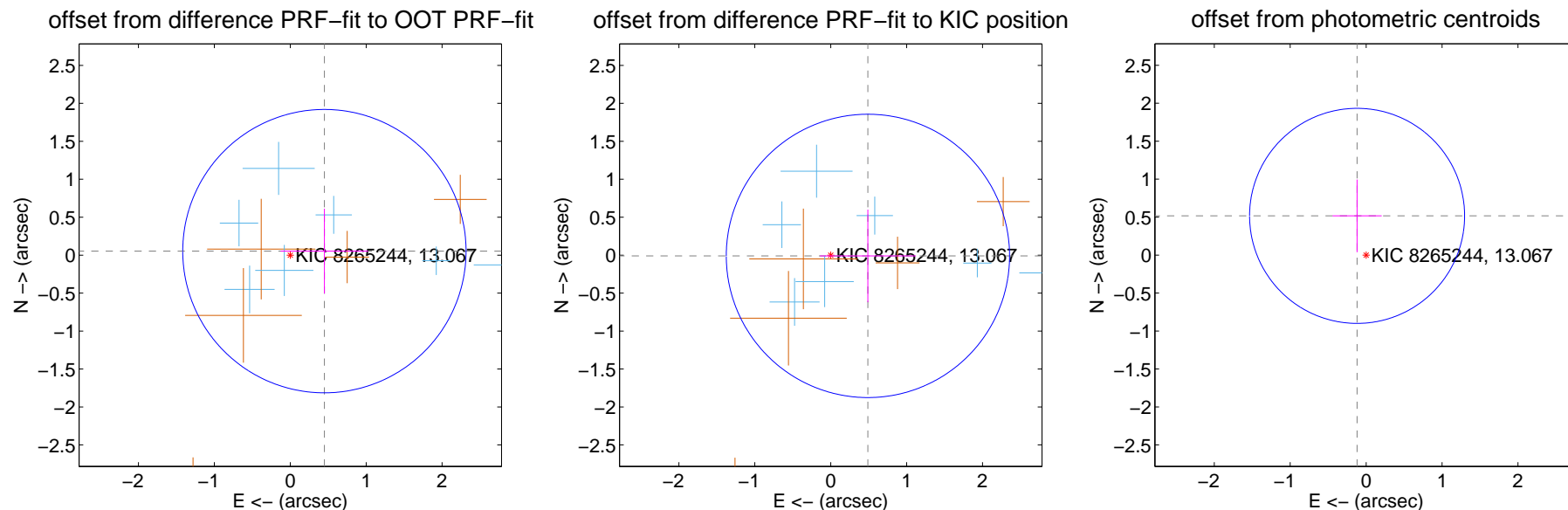
## DV Centroid Data

Supplemental centroid analysis for 008265244-01. Kepler magnitude: 13.07. Transit SNR 12.40

There are 7 quarters with good PRF difference image offsets

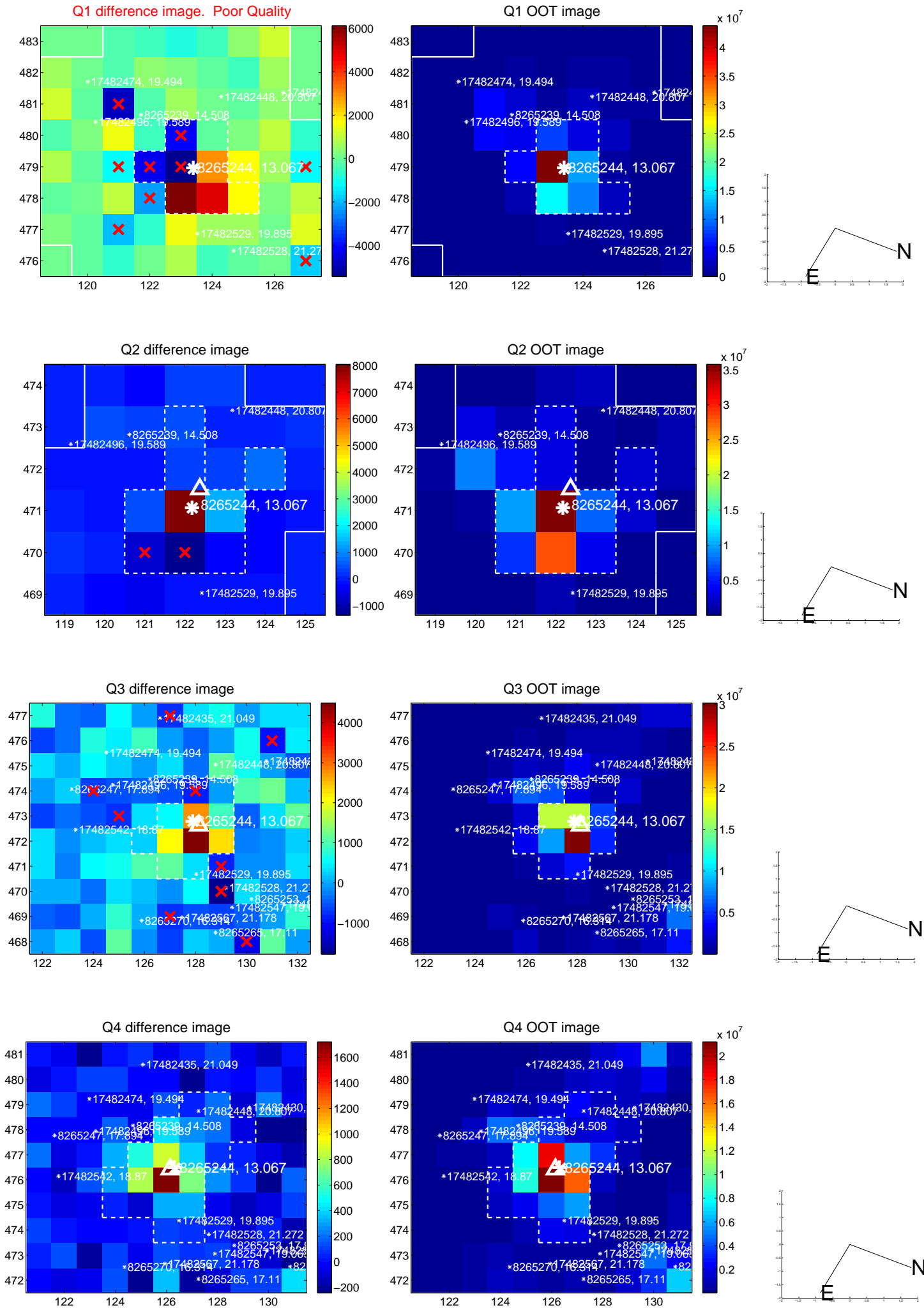
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.453 \pm 0.622$	0.73	$-0.450 \pm 0.575$	$0.053 \pm 0.559$
PRF-fit source offset from KIC position	$0.490 \pm 0.622$	0.79	$-0.490 \pm 0.631$	$-0.010 \pm 0.610$
photometric centroid source offset	$0.53 \pm 0.47$	1.12	$0.12 \pm 0.32$	$0.52 \pm 0.48$

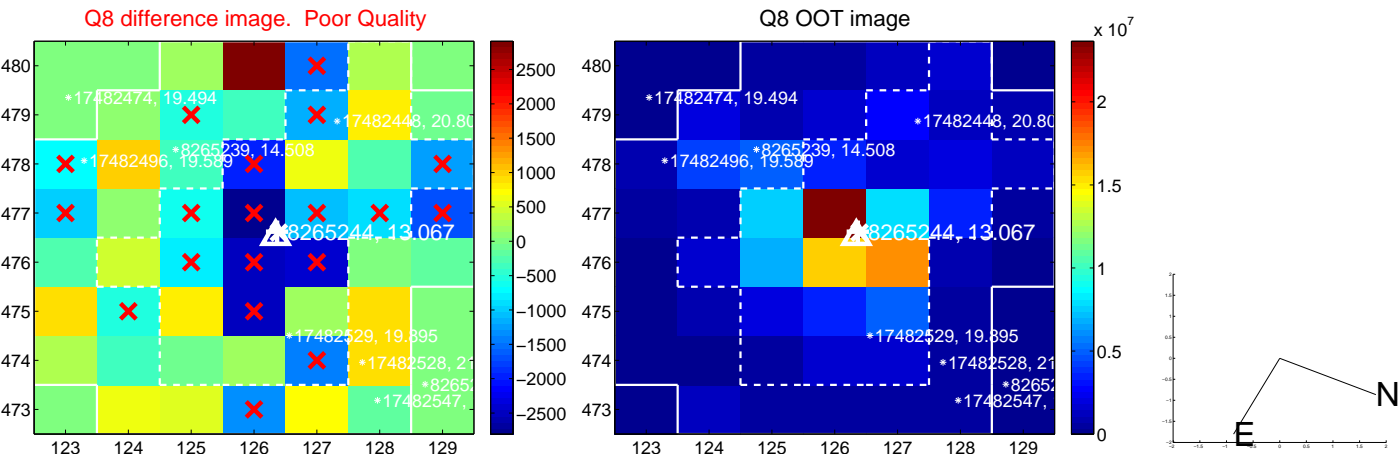
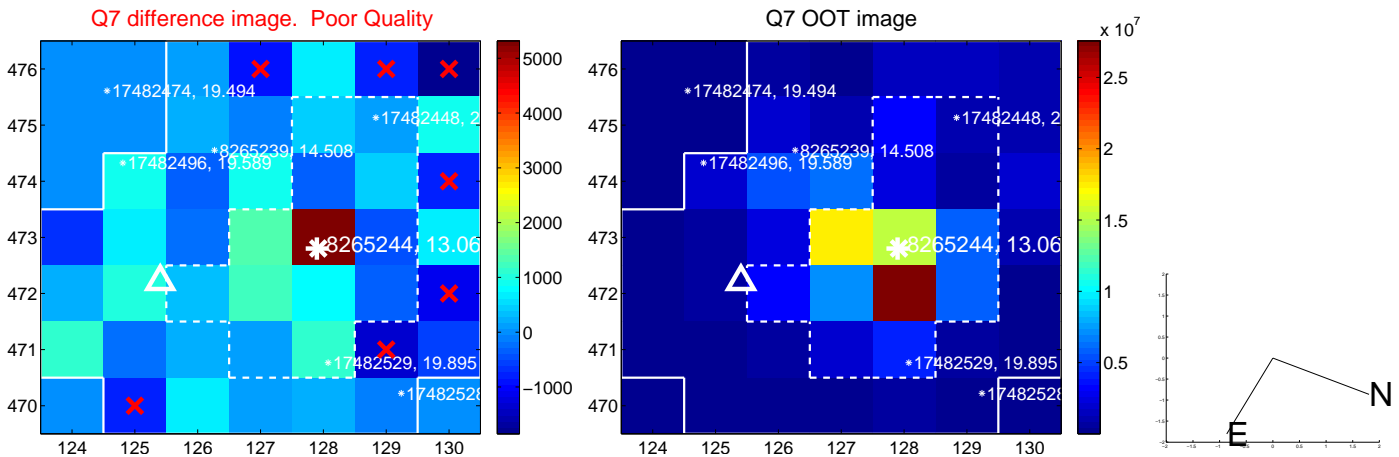
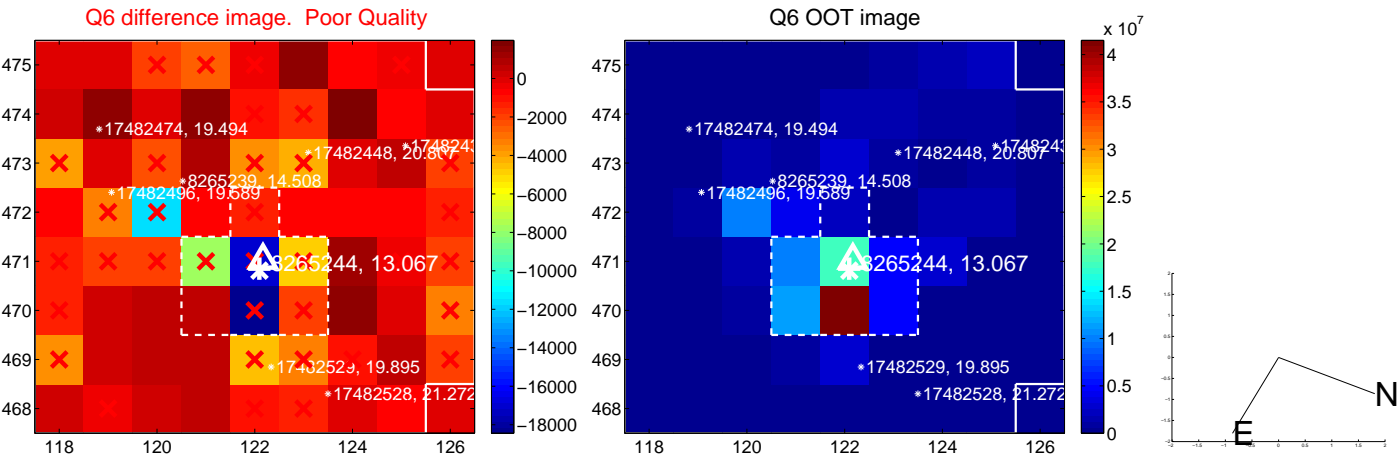
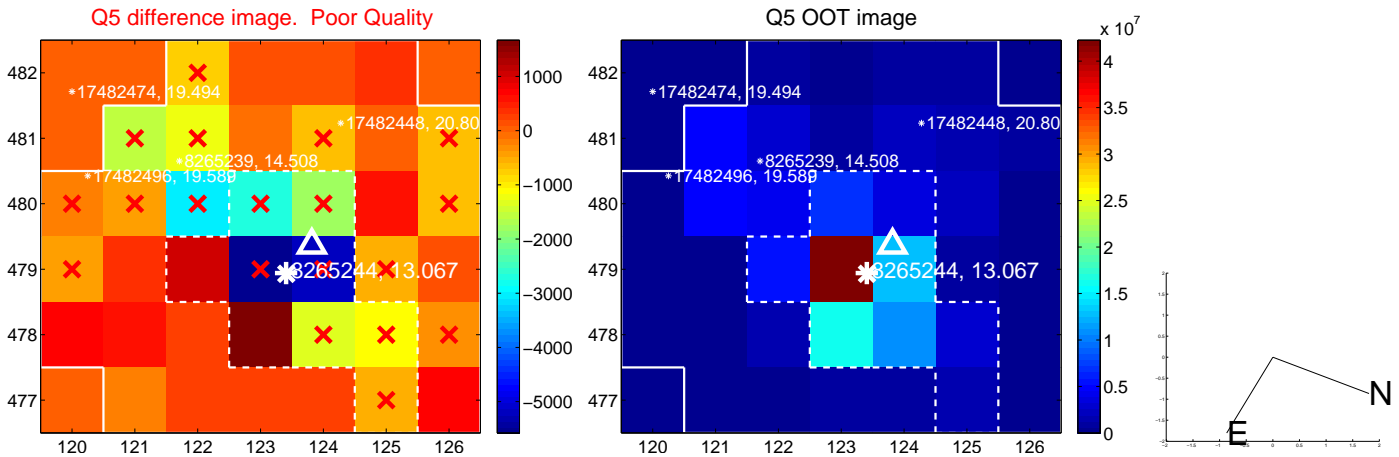


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

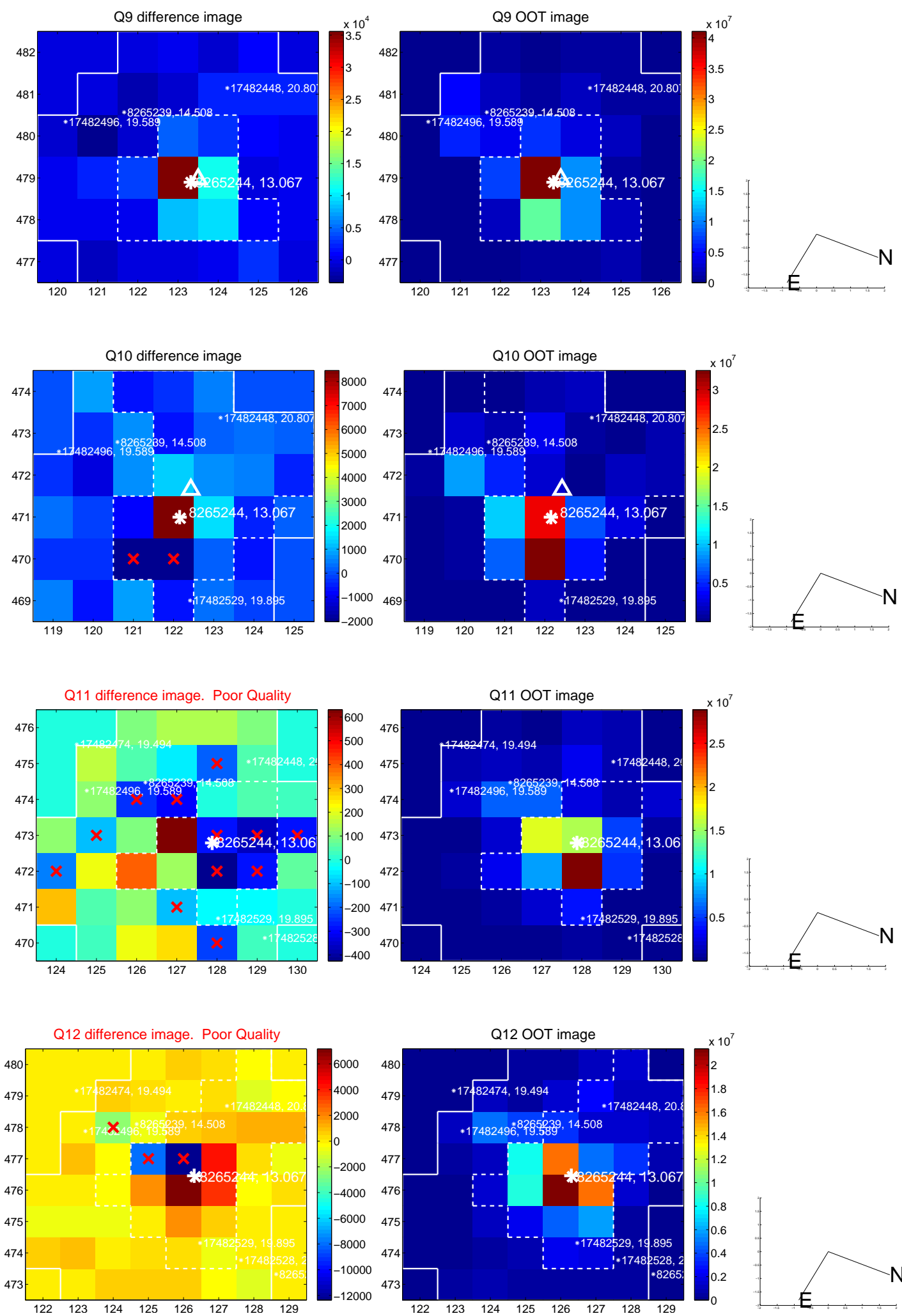


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

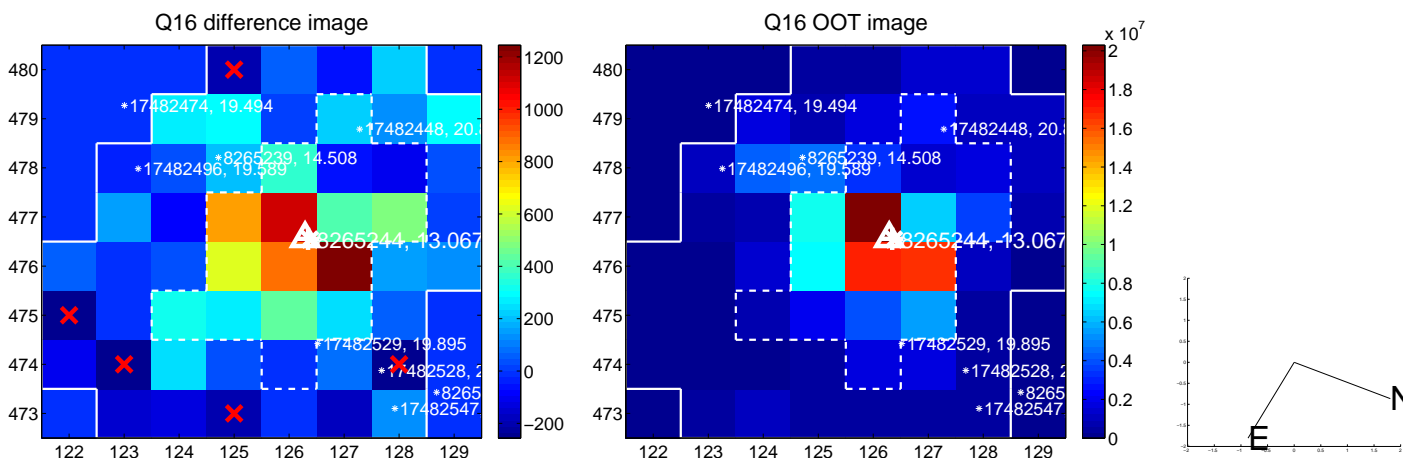
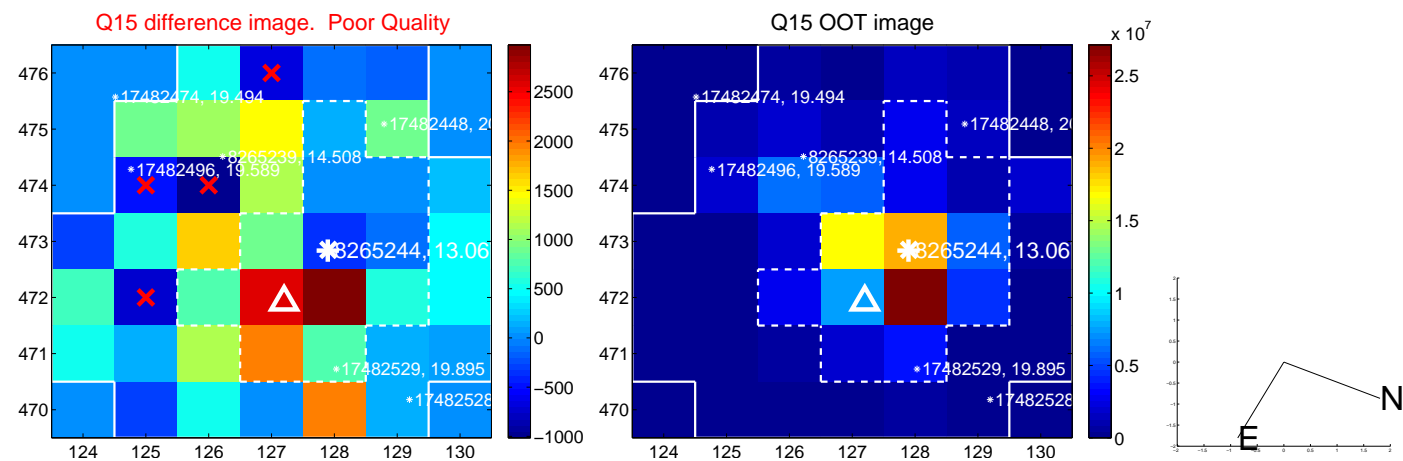
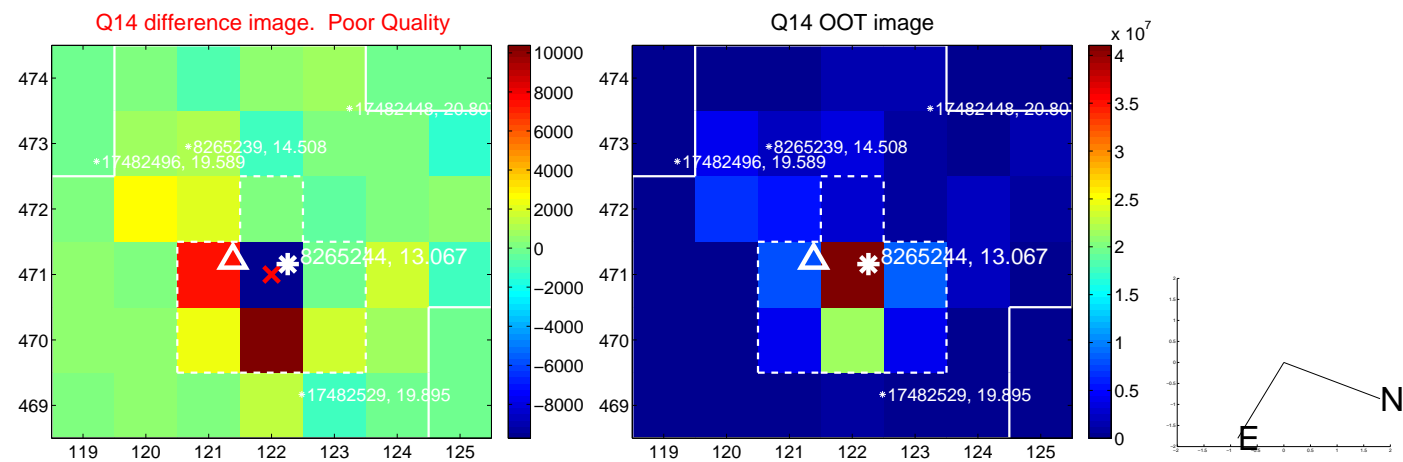
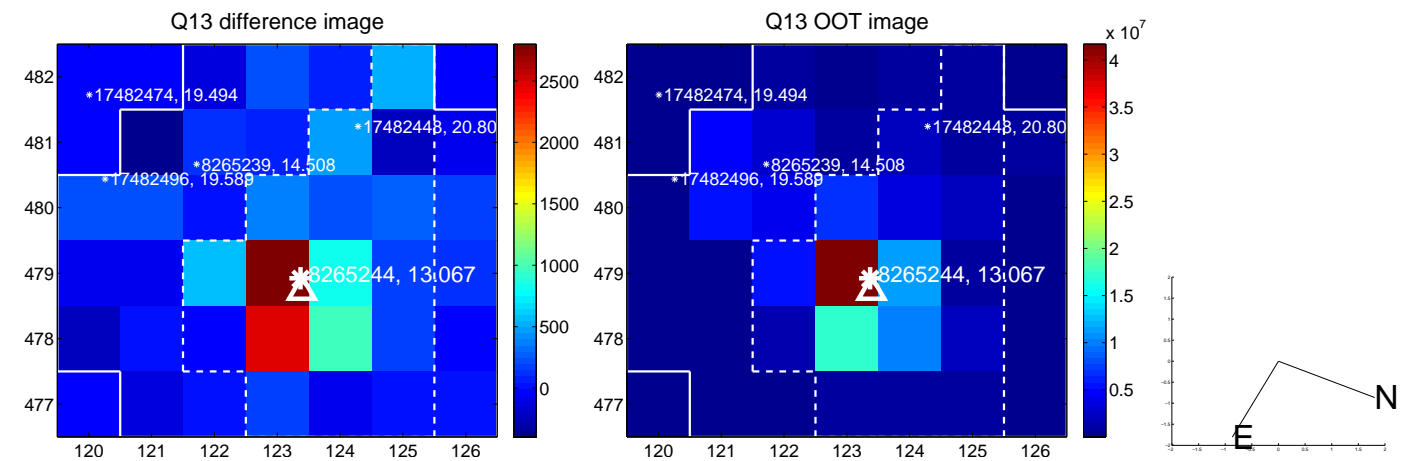




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



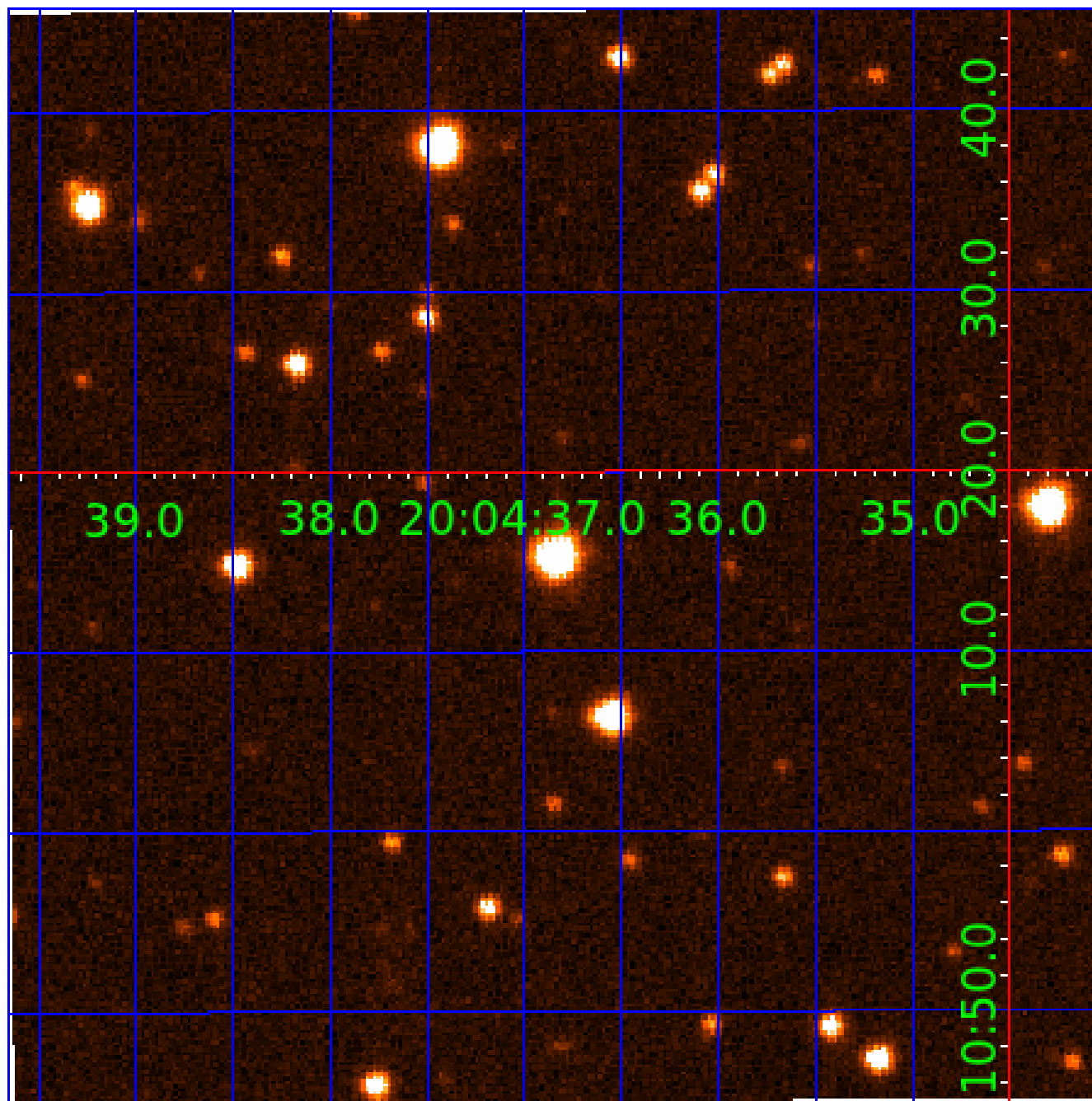
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination





# KIC 008265244

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008265244-01	OBS	No	0.865897	131.920863	98.6	2.632	11.0	12.4	2.12	8641	2.44	44171.89
008265244-02	OBS	No	1.302281	132.104257	116.8	15.627	9.7	15.6	2.12	8641	2.96	25634.69

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008265244-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008265244-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—CENT_FEW_DIFFS

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

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

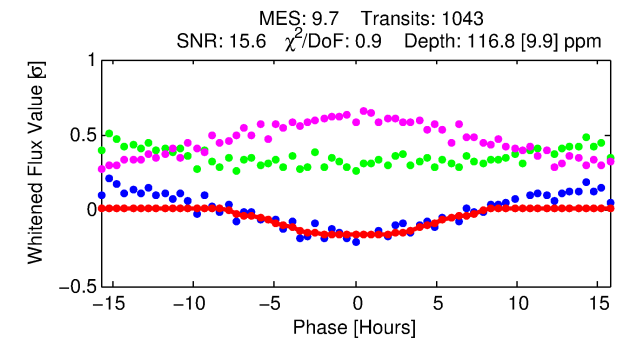
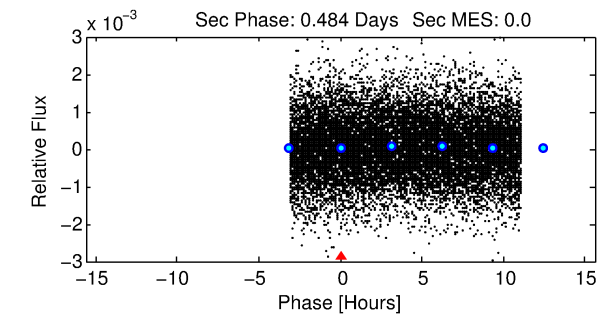
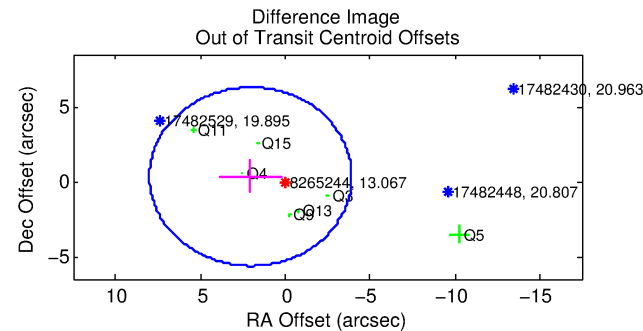
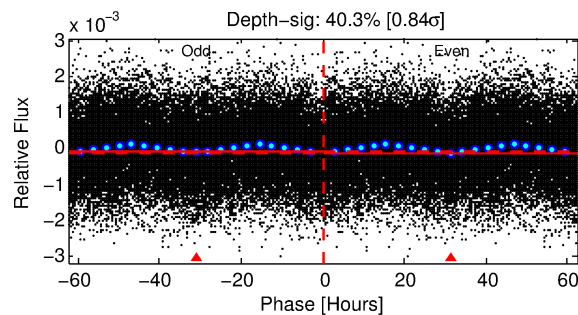
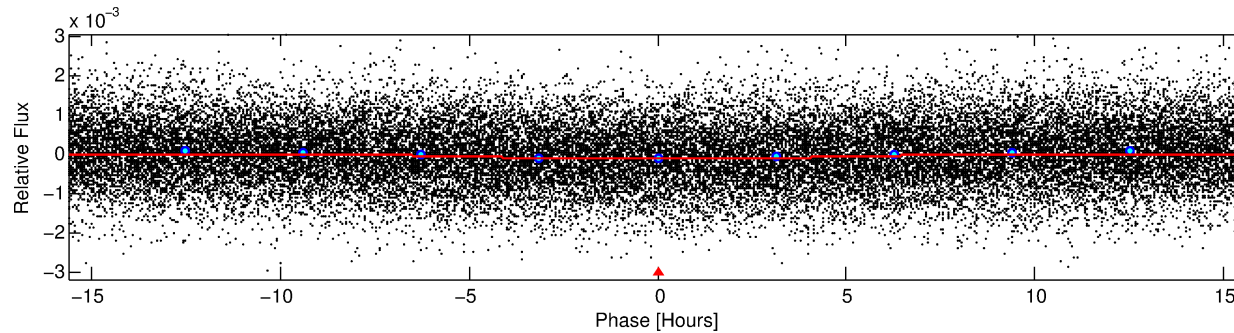
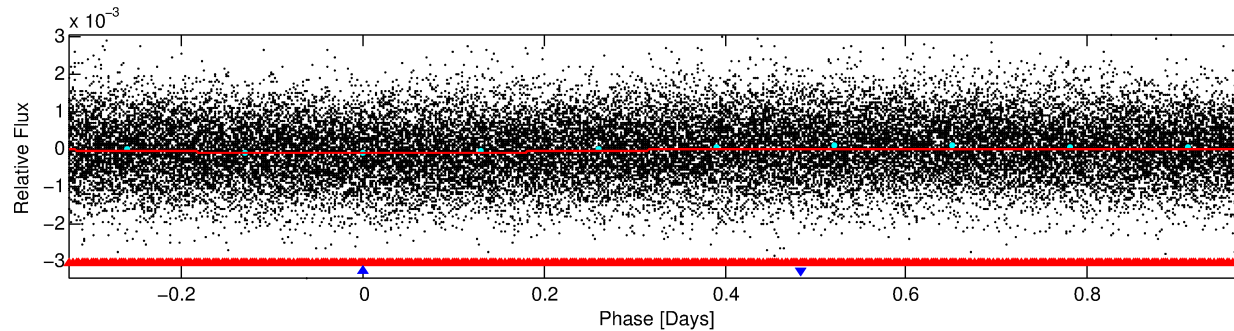
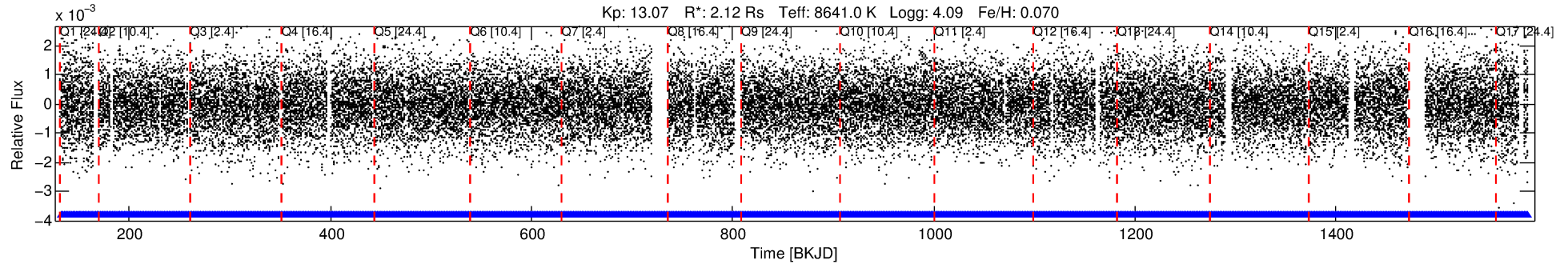
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008265244-02

No Significant Match Found

# DV One-Page Summary

KIC: 8265244 Candidate: 2 of 2 Period: 1.302 d



## DV Fit Results:

Period = 1.30228 [0.00003] d  
Epoch = 132.1043 [0.0145] BKJD  
Rp/R\* = 0.0128 [0.0007]  
a/R\* = 1.00 [0.00]  
b = 0.98 [0.01]  
Seff = 25634.69 [9044.86]  
Teq = 3227 [285] K  
Rp = 2.96 [0.81] Re  
a = 0.0296 [0.0064] AU  
Ag = N/A  
Teffp = N/A

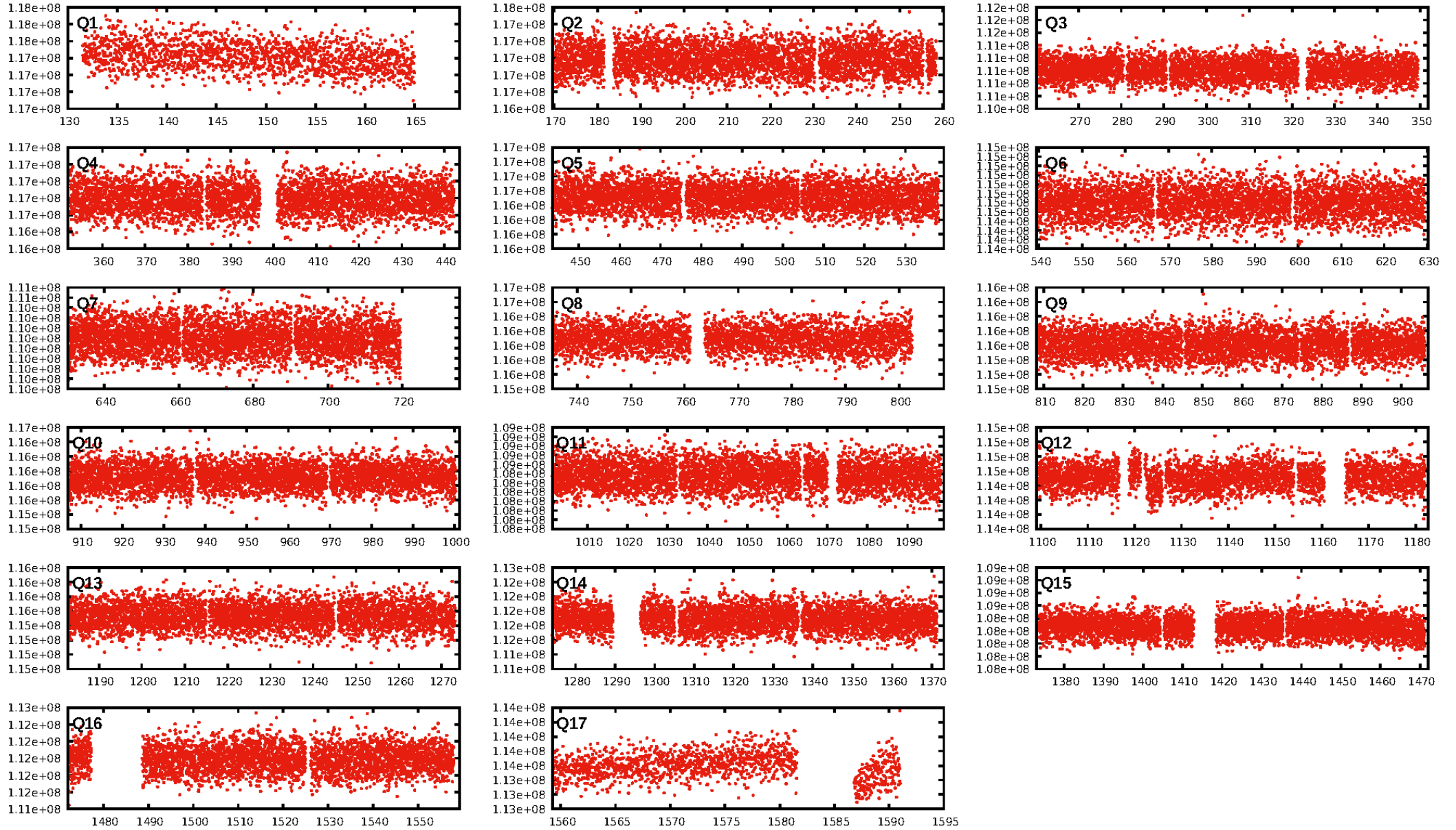
## DV Diagnostic Results:

ShortPeriod-sig: 49.1% [0.66 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [995/995]  
GhostDiagnostic-chr: 2.416  
Centroid-sig: 0.0%  
Centroid-so: 0.774 arcsec [3.34 $\sigma$ ]  
OotOffset-rm: 2.062 arcsec [1.04 $\sigma$ ]  
KicOffset-rm: 2.003 arcsec [1.27 $\sigma$ ]  
OotOffset-st: 0/3/1/3 [7]  
KicOffset-st: 0/3/1/3 [7]  
DiffImageQuality-fgm: 0.00 [0/7]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:03:26 Z

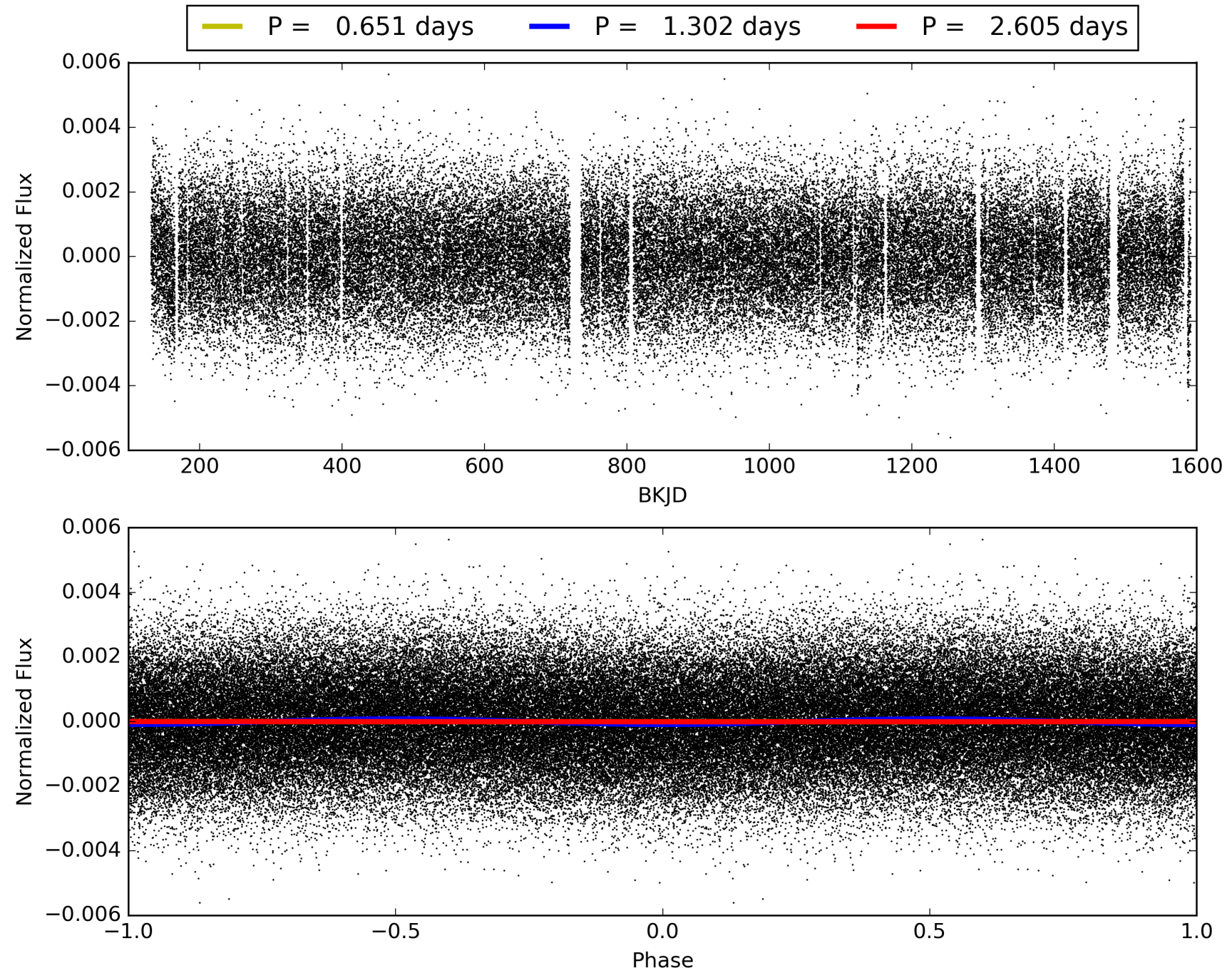
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008265244-02, PDC Light Curves



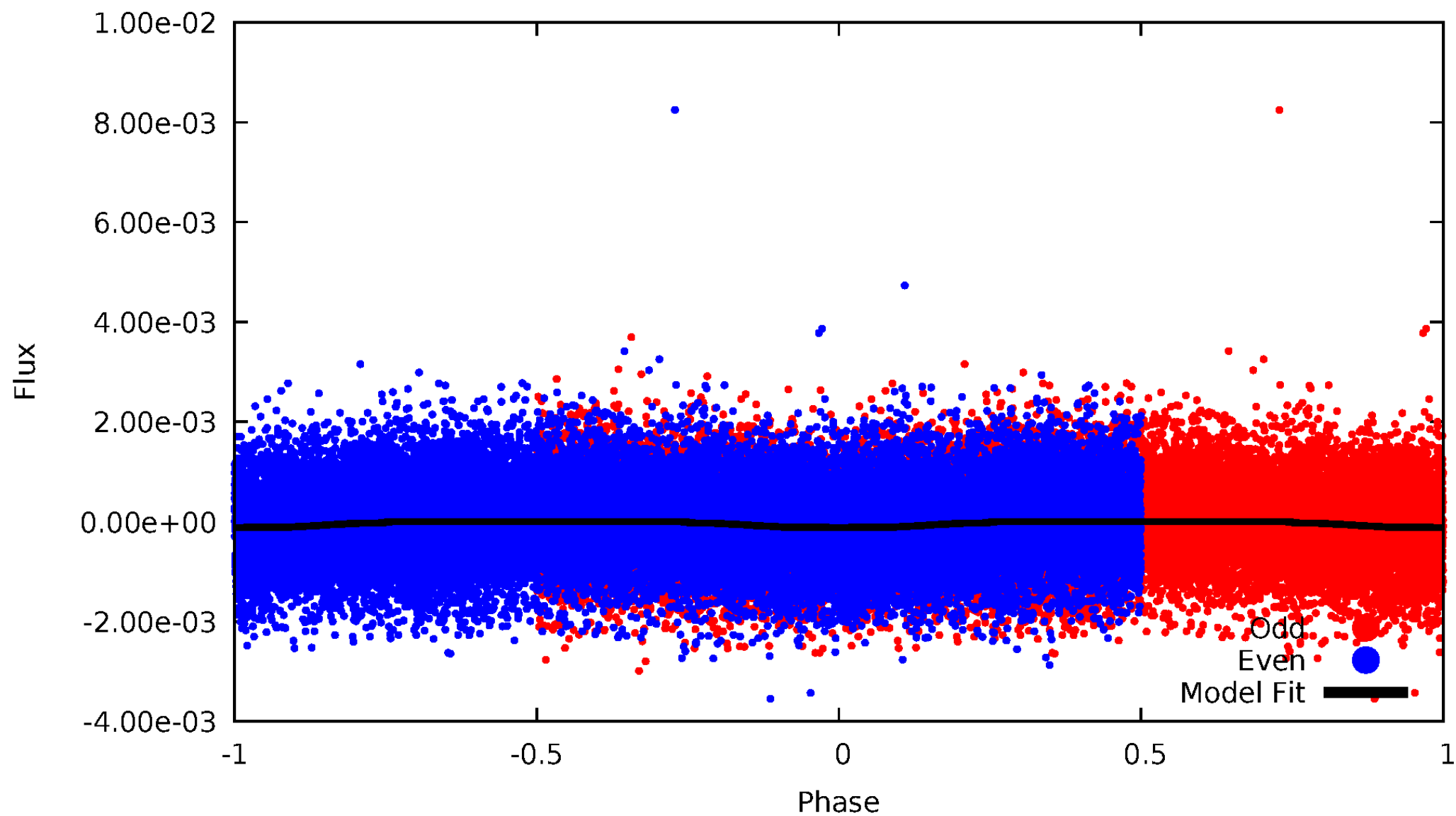


TCE 008265244-02



# DV Odd/Even

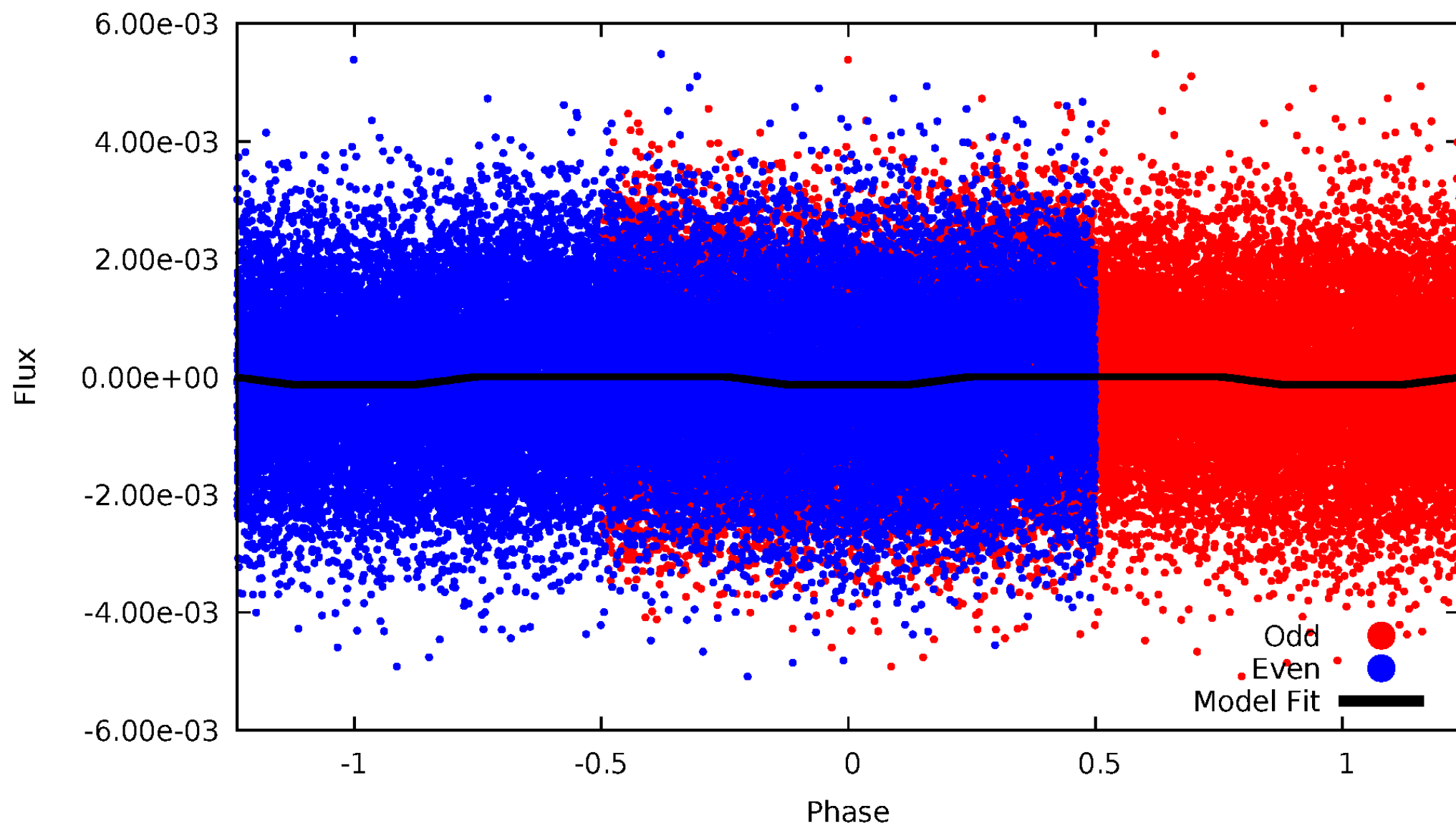
TCE 008265244-02





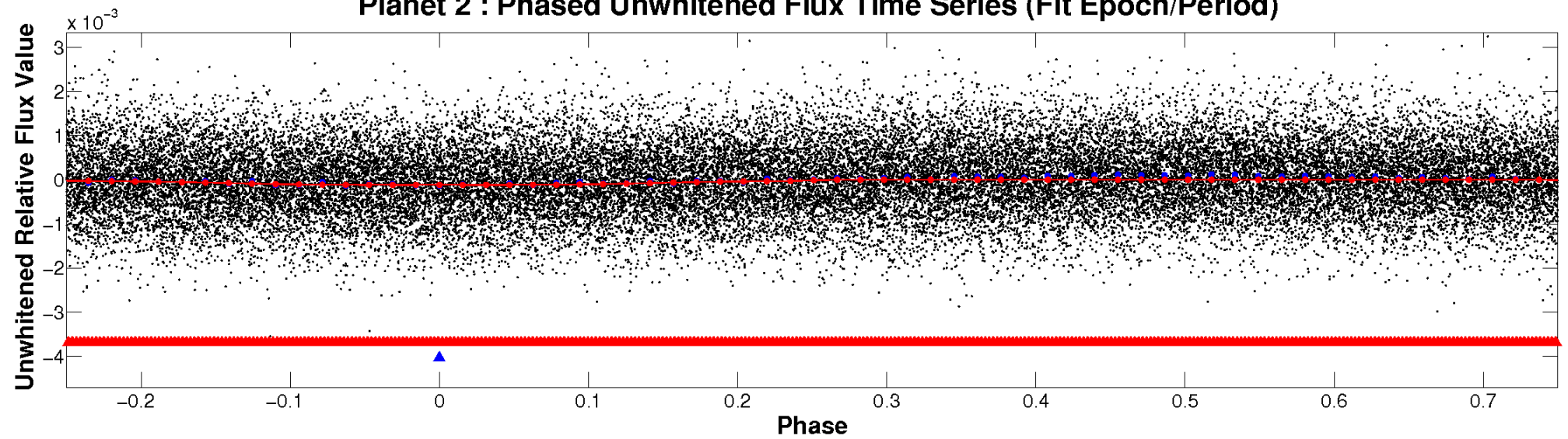
# ALT Odd/Even

TCE 008265244-02

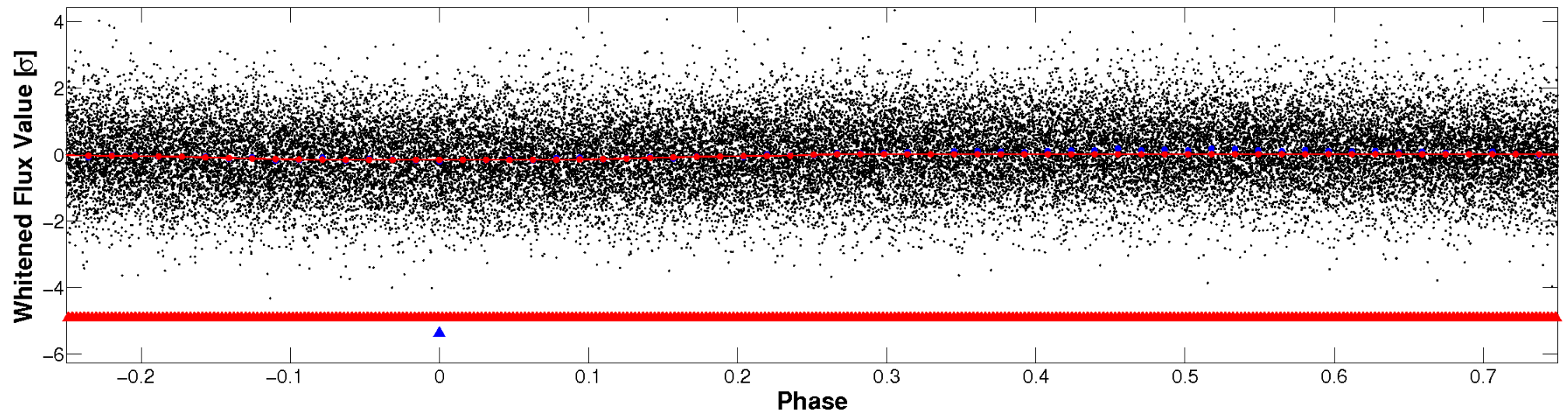


# Non-Whitened Vs. Whitened Light Curve

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

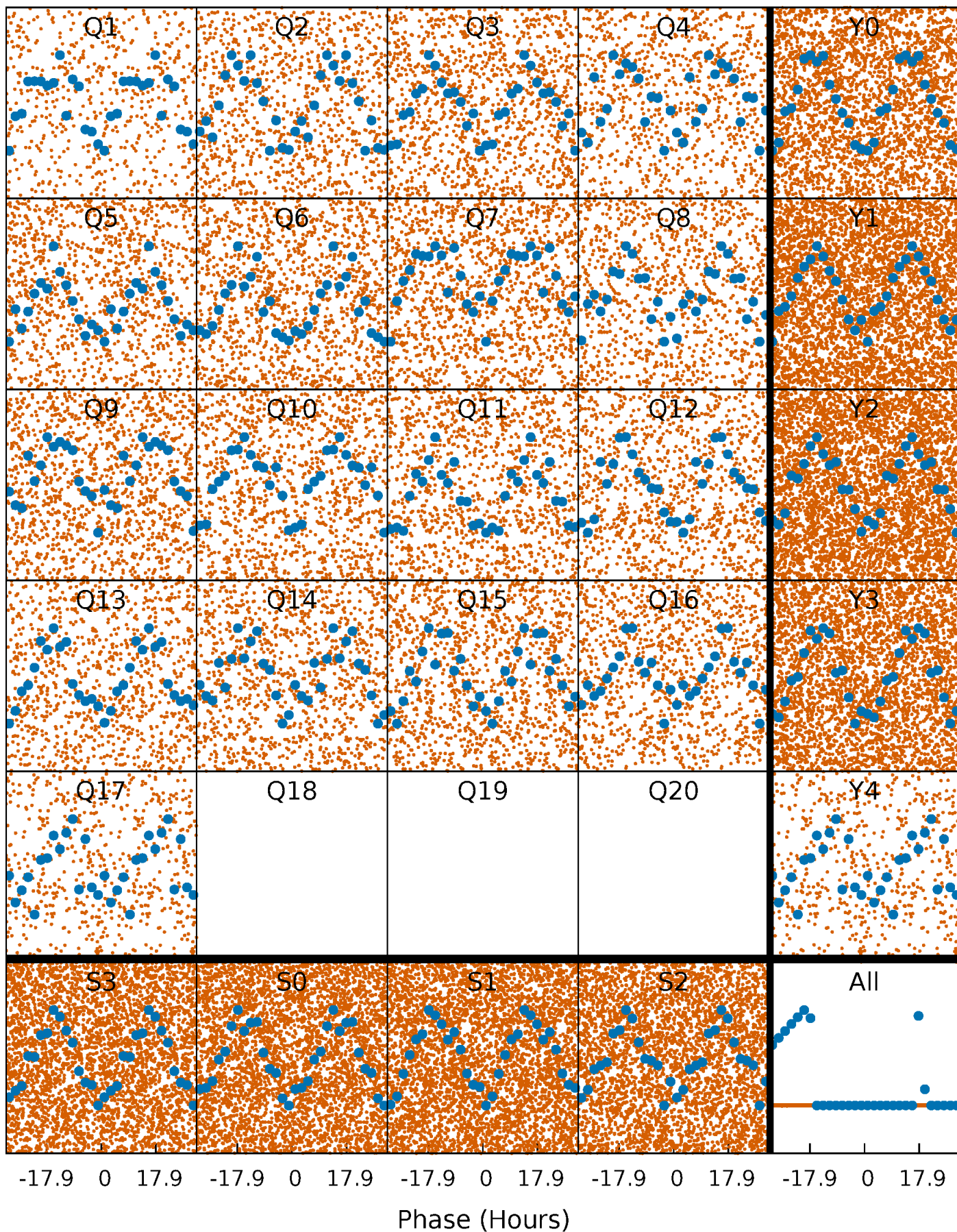


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

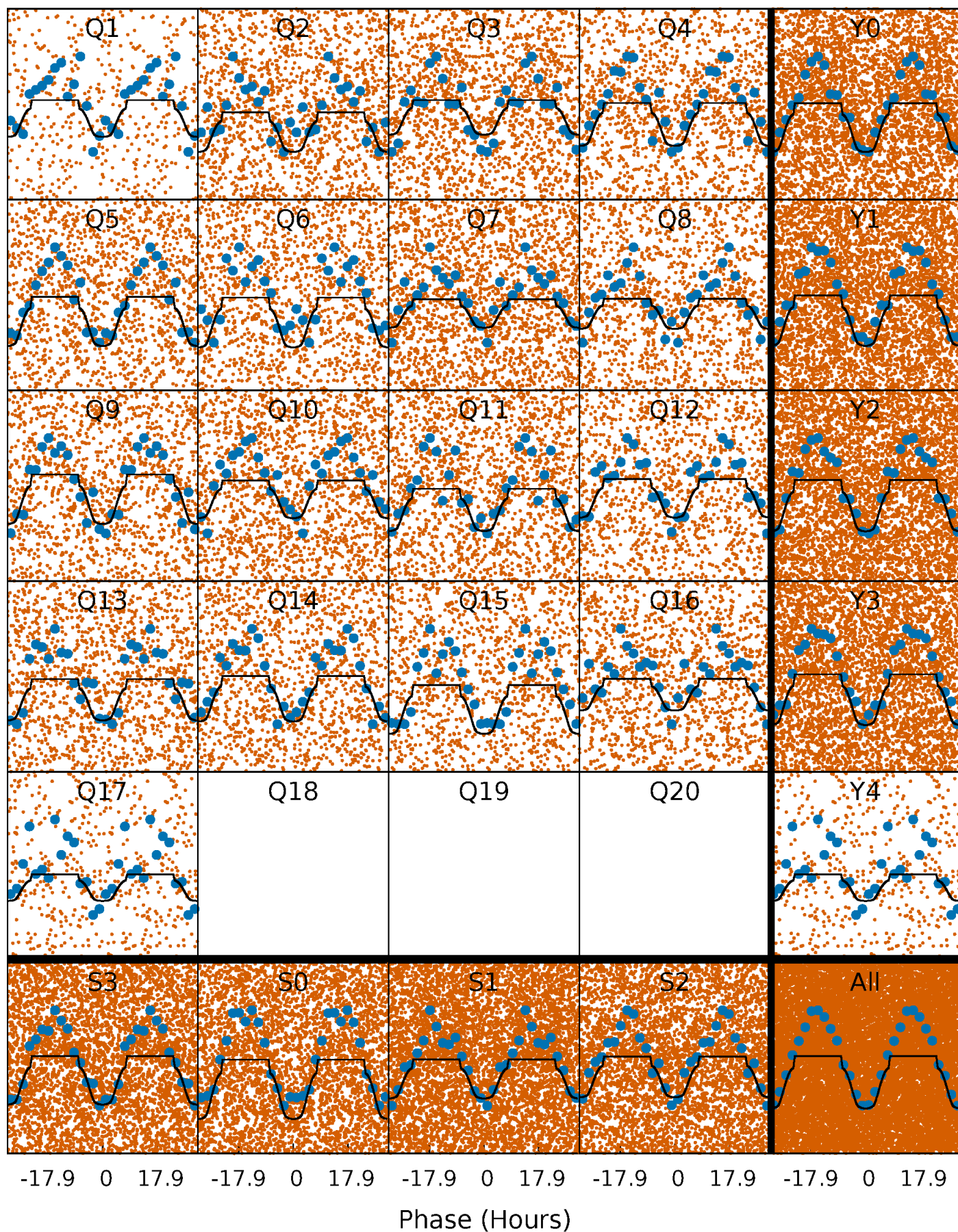
TCE 008265244-02   P= 1.302281 Days    $T_0=132.104257$  (BKJD)





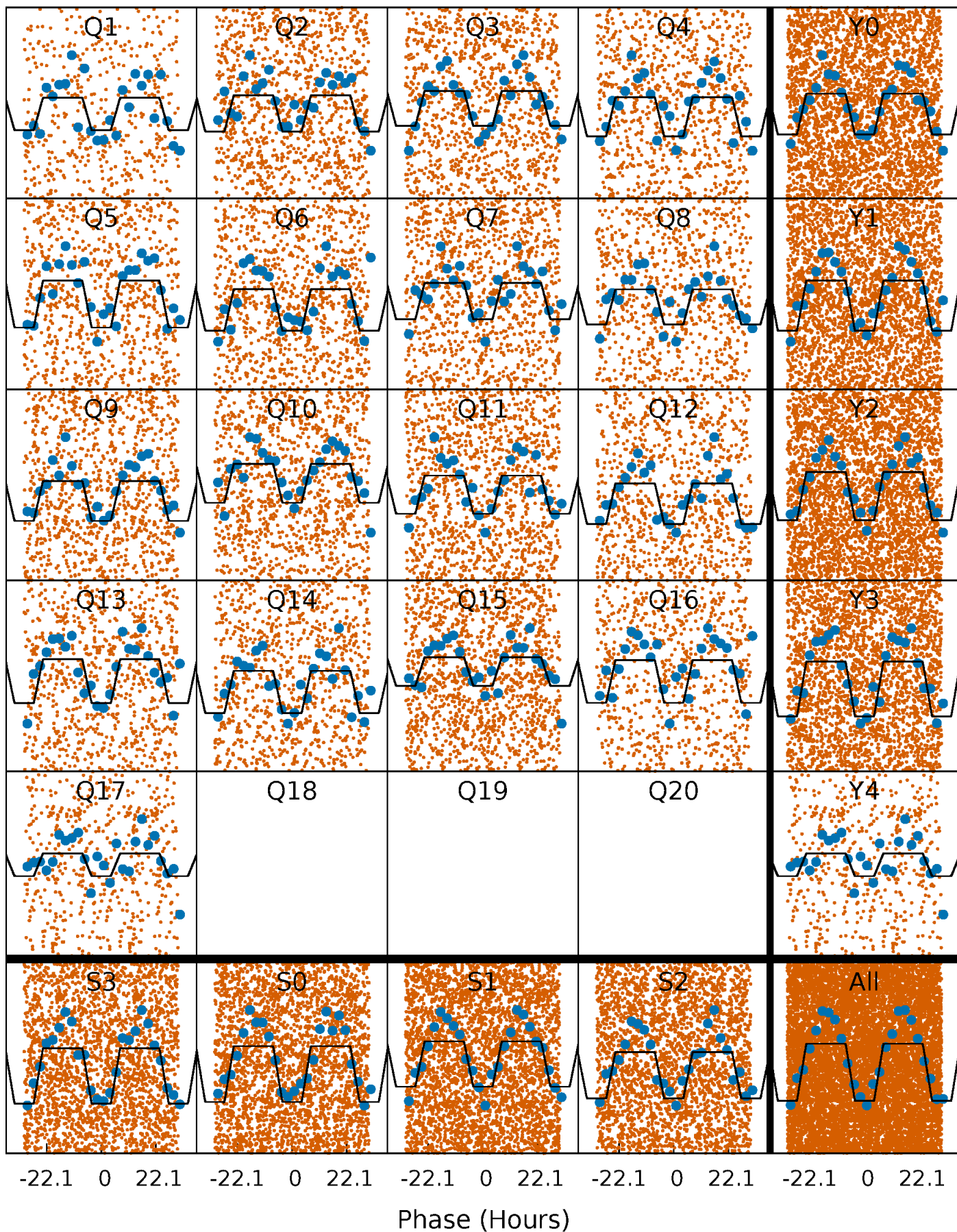
# DV Quarter-Phased Transit Curves

TCE 008265244-02 P= 1.302281 Days  $T_0=132.104257$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 008265244-02   P= 1.302344 Days    $T_0=132.059491$  (BKJD)

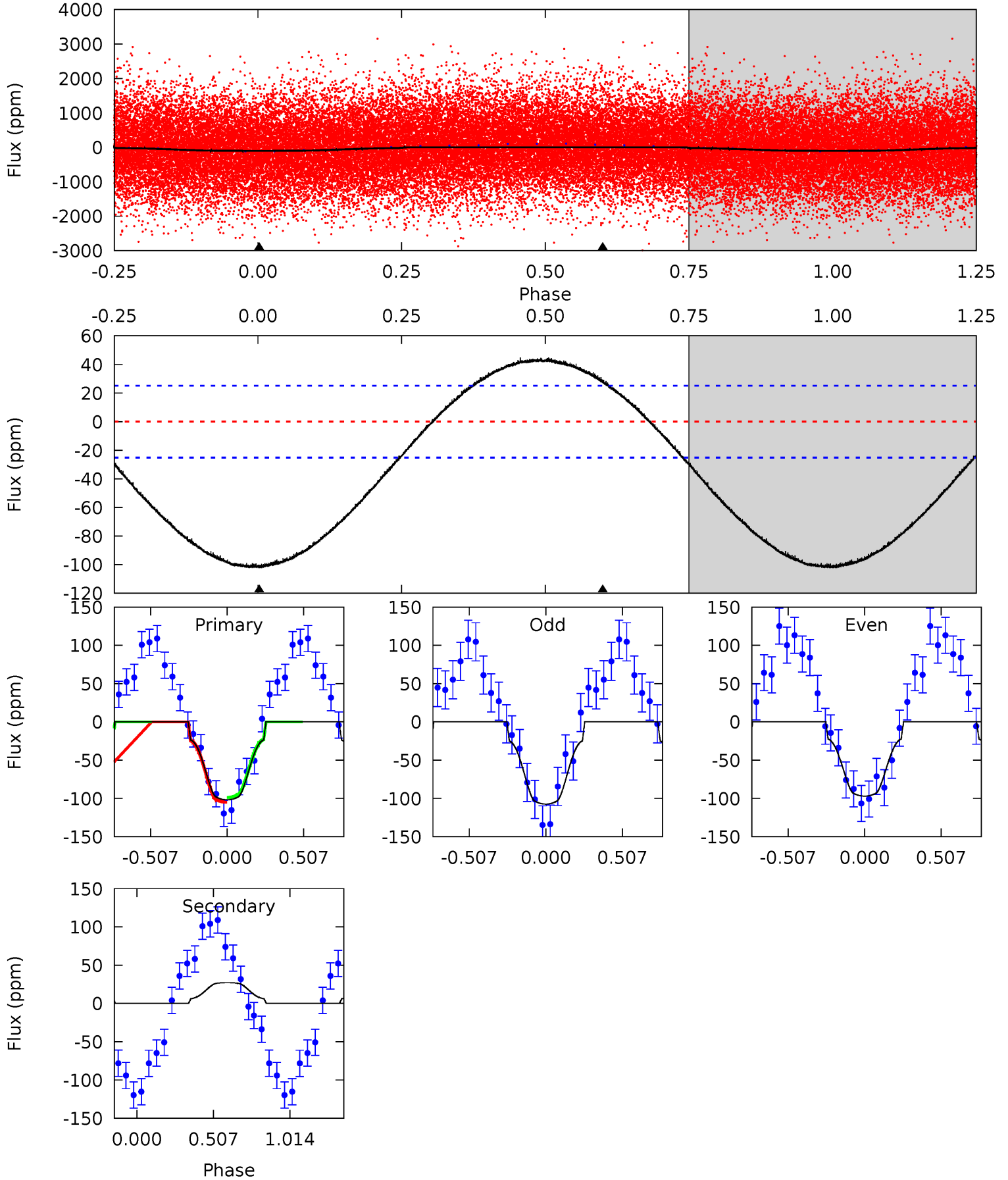




# DV Model-Shift Uniqueness Test

008265244-02, P = 1.302281 Days, E = 130.801976 Days

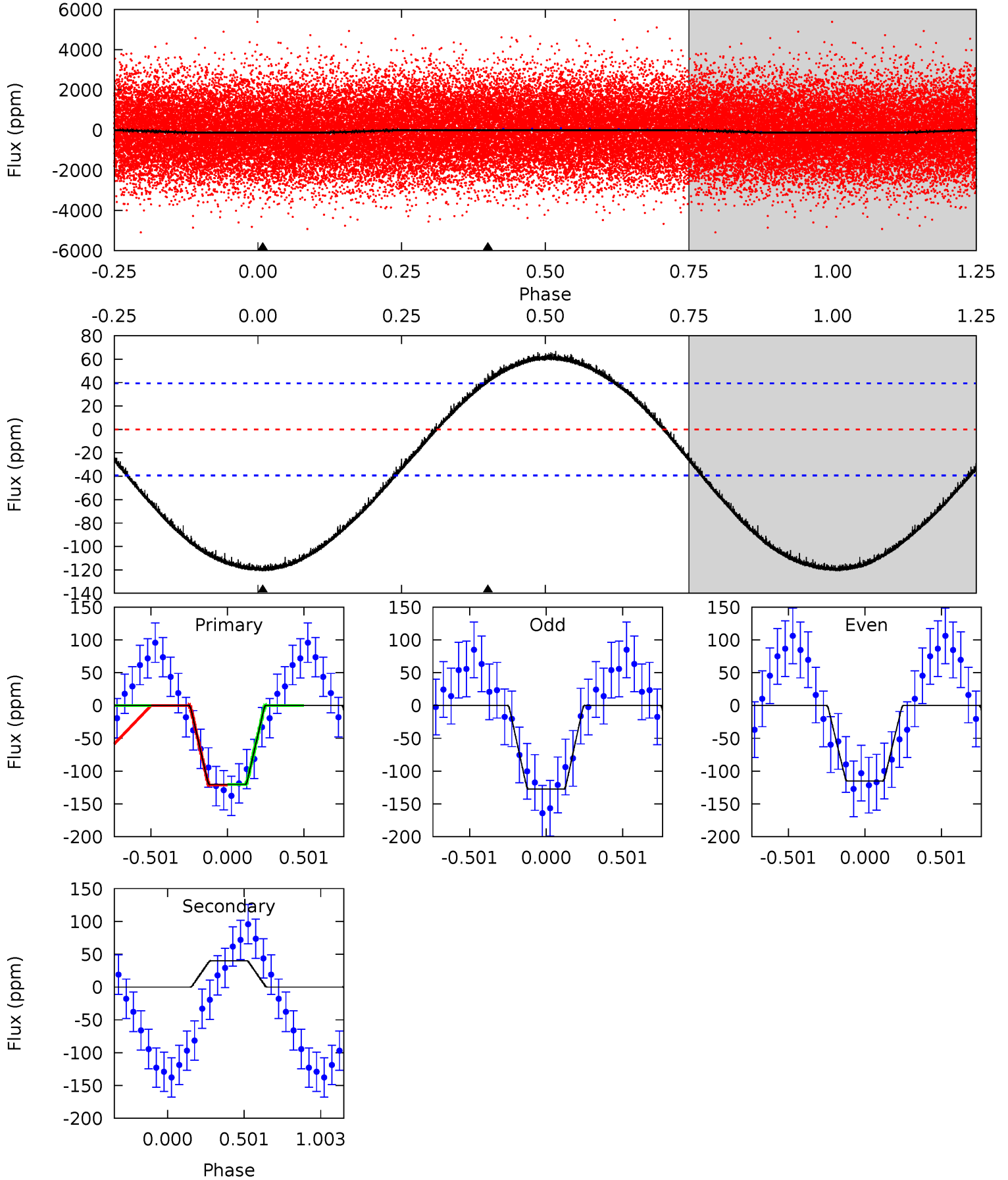
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	-4.57	0	0	4.21	0.66	1.99	17.1	17.1	-4.57	-4.57	0.88	1.06	0.31	0.56



# Alt Model-Shift Uniqueness Test

008265244-02, P = 1.302344 Days, E = 130.757147 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
12.9	-4.30	0	0	4.21	0.67	1.75	12.9	12.9	-4.30	-4.30	0.67	0.97	0.36	0.05



### Stellar Parameters For KIC 008265244

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8641^{+246}_{-387}$	$4.094^{+0.131}_{-0.160}$	$0.070^{+0.250}_{-0.550}$	$2.118^{+0.569}_{-0.466}$	$2.031^{+0.351}_{-0.429}$	$0.301^{+0.229}_{-0.129}$
	+3%/-4%	+3%/-4%	+357%/-786%	+27%/-22%	+17%/-21%	+76%/-43%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 008265244-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$27 \pm 6$	$2.99^{+0.43}_{-0.39}$	$4522^{+326}_{-300}$	$-5546^{+300}_{-301}$	$-1.437^{+0.413}_{-0.558}$
Alt.	$40 \pm 9$	$2.68^{+0.43}_{-0.41}$	$4495^{+337}_{-295}$	$-6304^{+438}_{-371}$	$-2.668^{+0.839}_{-1.065}$

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

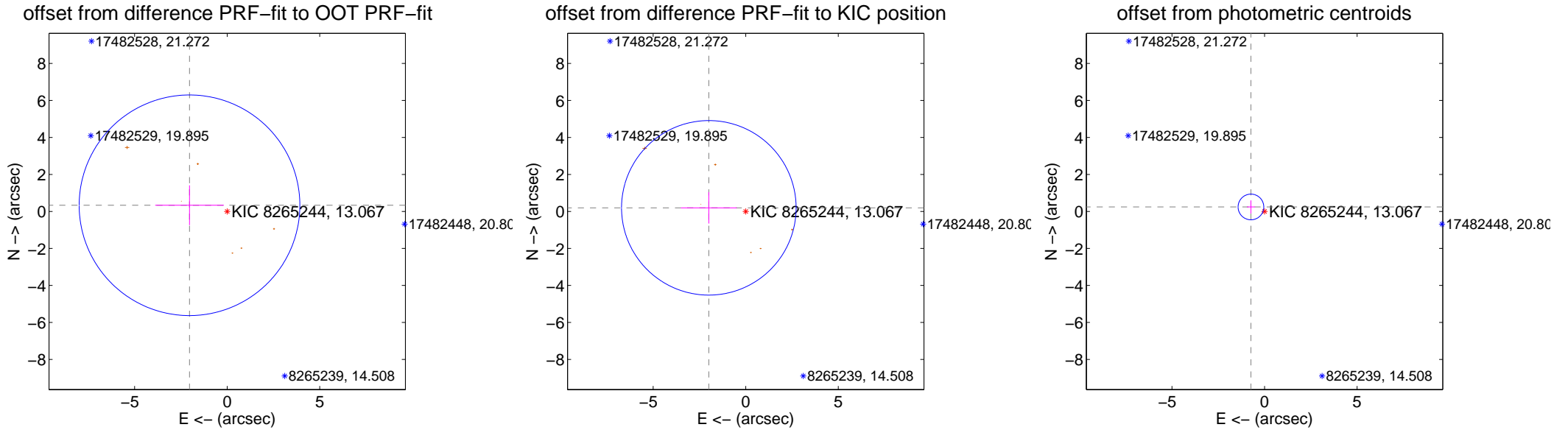
## DV Centroid Data

Supplemental centroid analysis for 008265244-02. Kepler magnitude: 13.07. Transit SNR 15.62

There are 0 quarters with good PRF difference image offsets

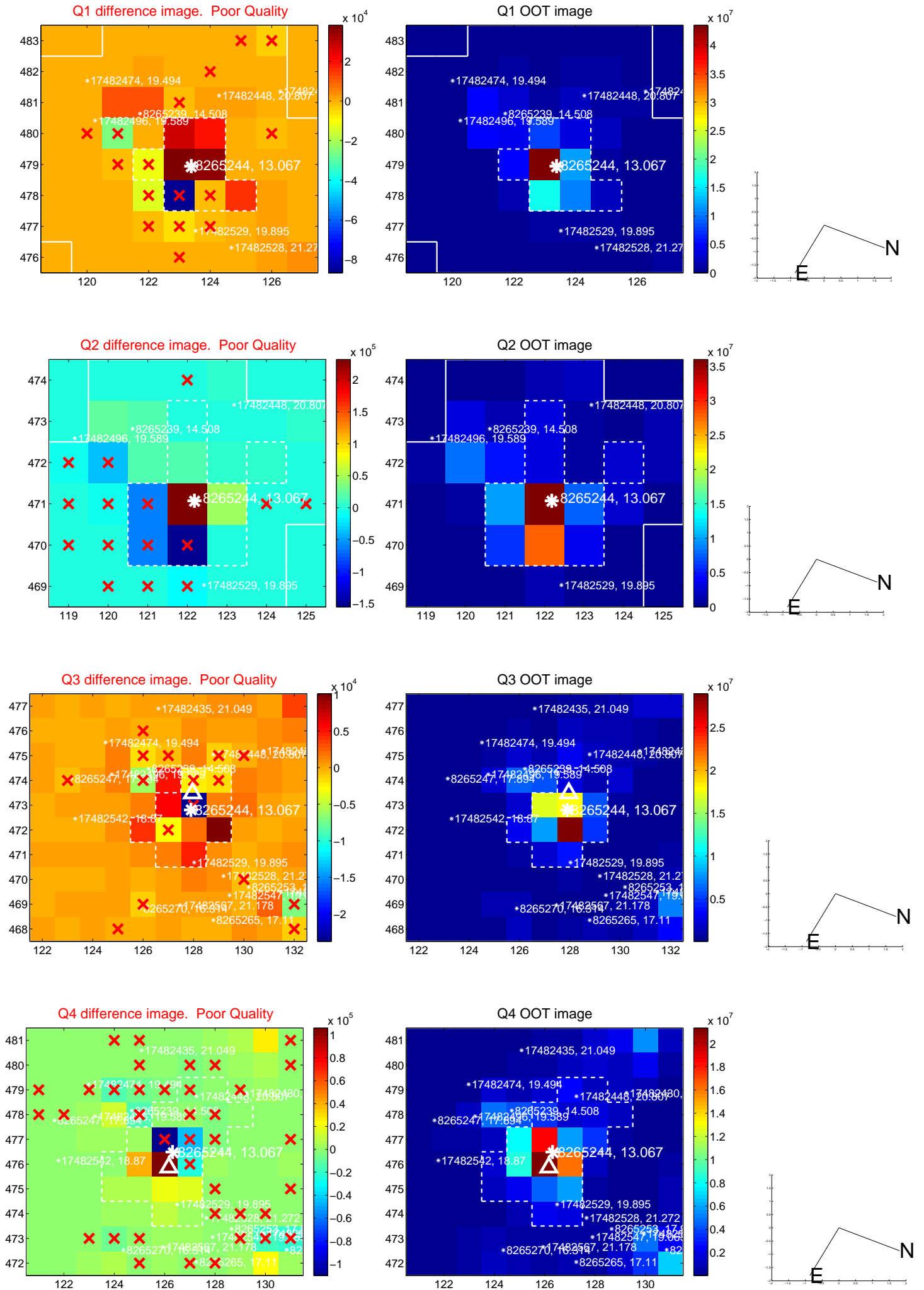
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.062 \pm 1.987$	1.04	$2.035 \pm 1.857$	$0.333 \pm 1.076$
PRF-fit source offset from KIC position	$2.003 \pm 1.572$	1.27	$1.993 \pm 1.509$	$0.195 \pm 0.849$
photometric centroid source offset	$0.77 \pm 0.23$	3.34	$0.73 \pm 0.21$	$0.24 \pm 0.36$



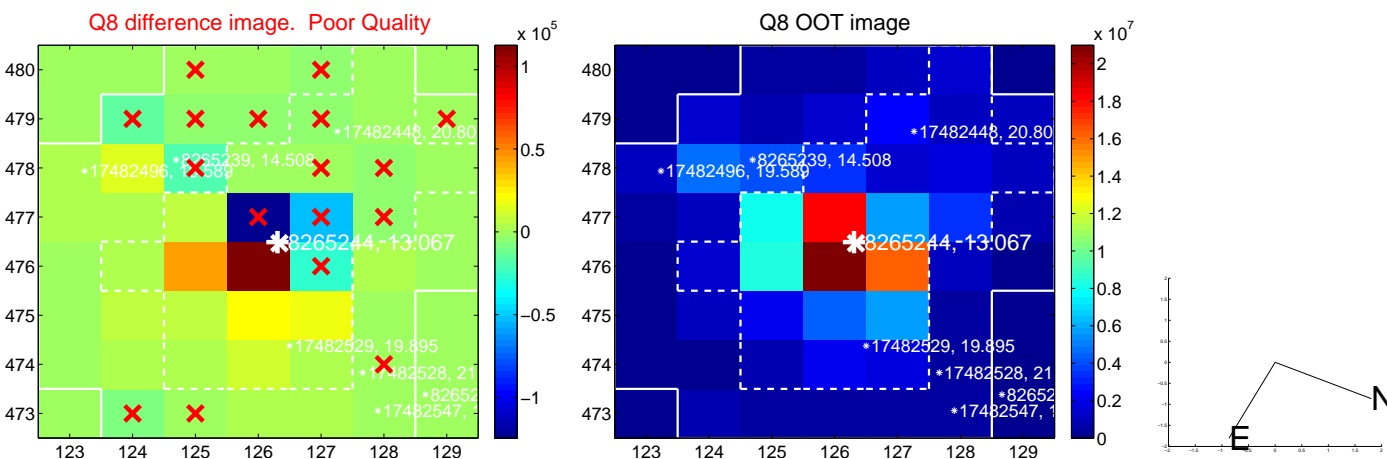
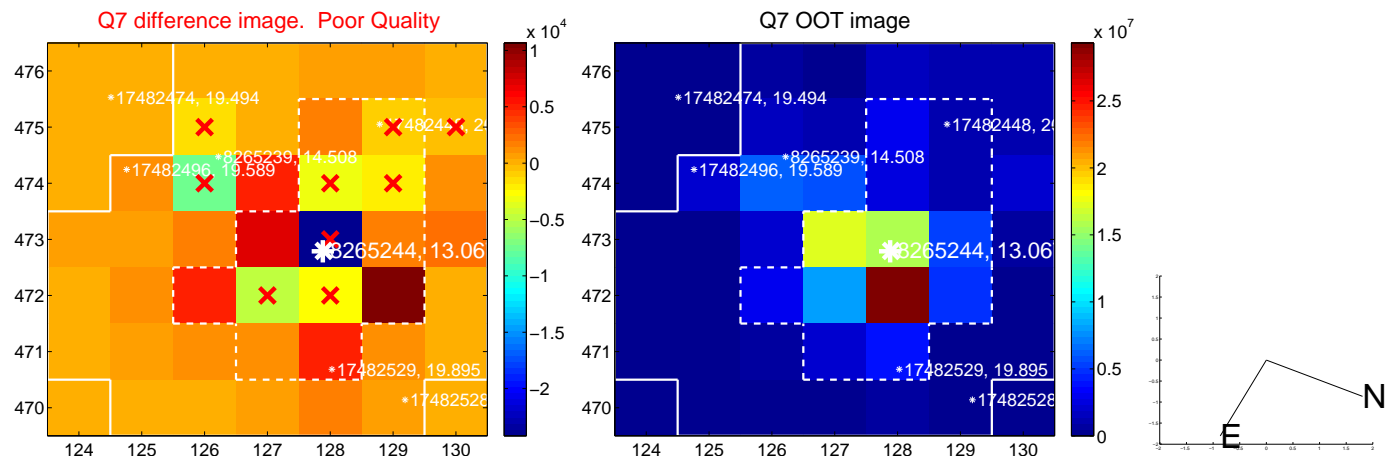
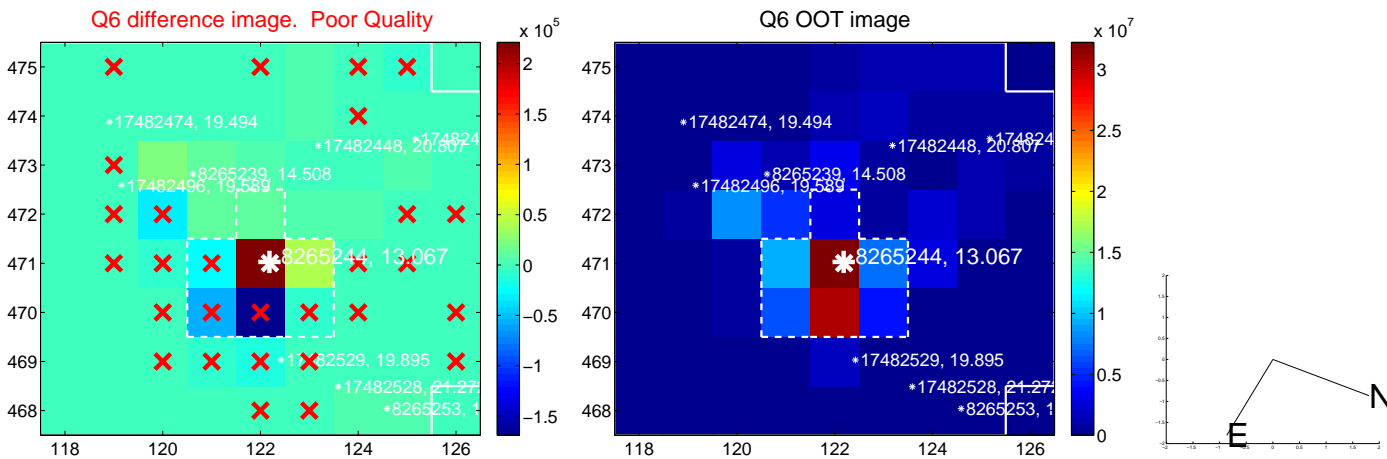
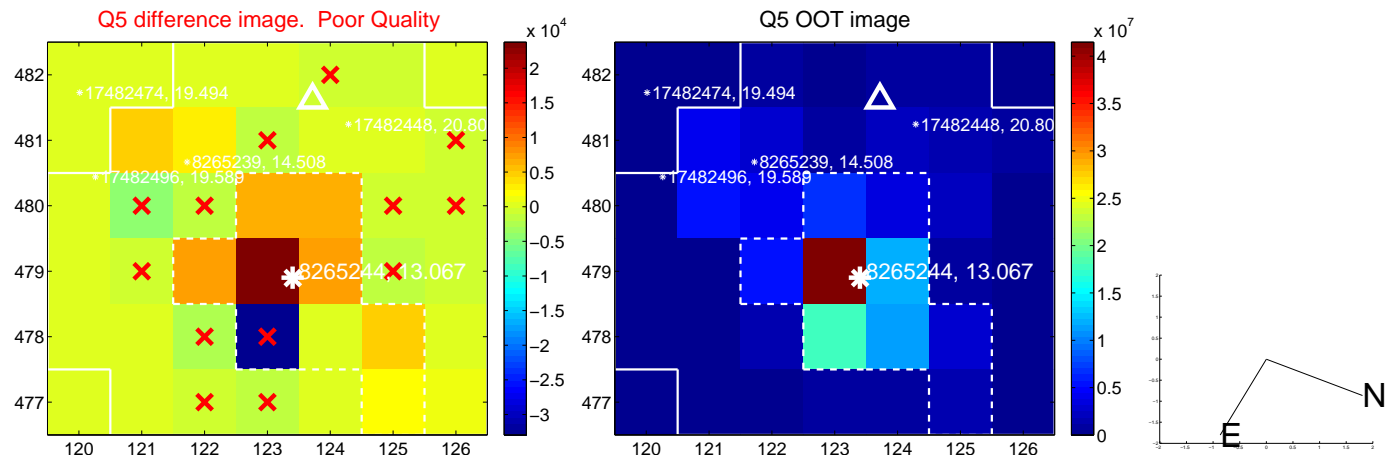
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

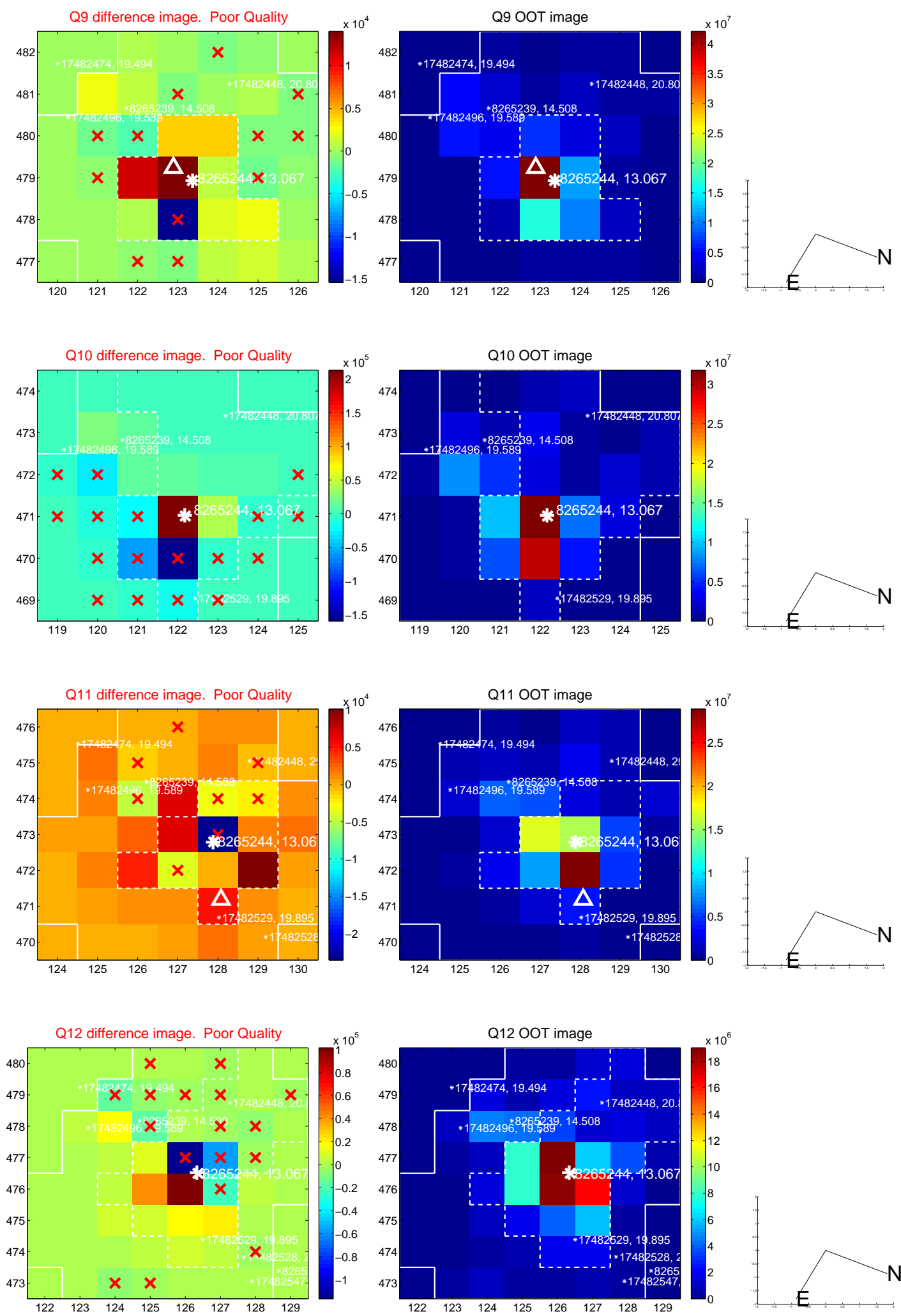




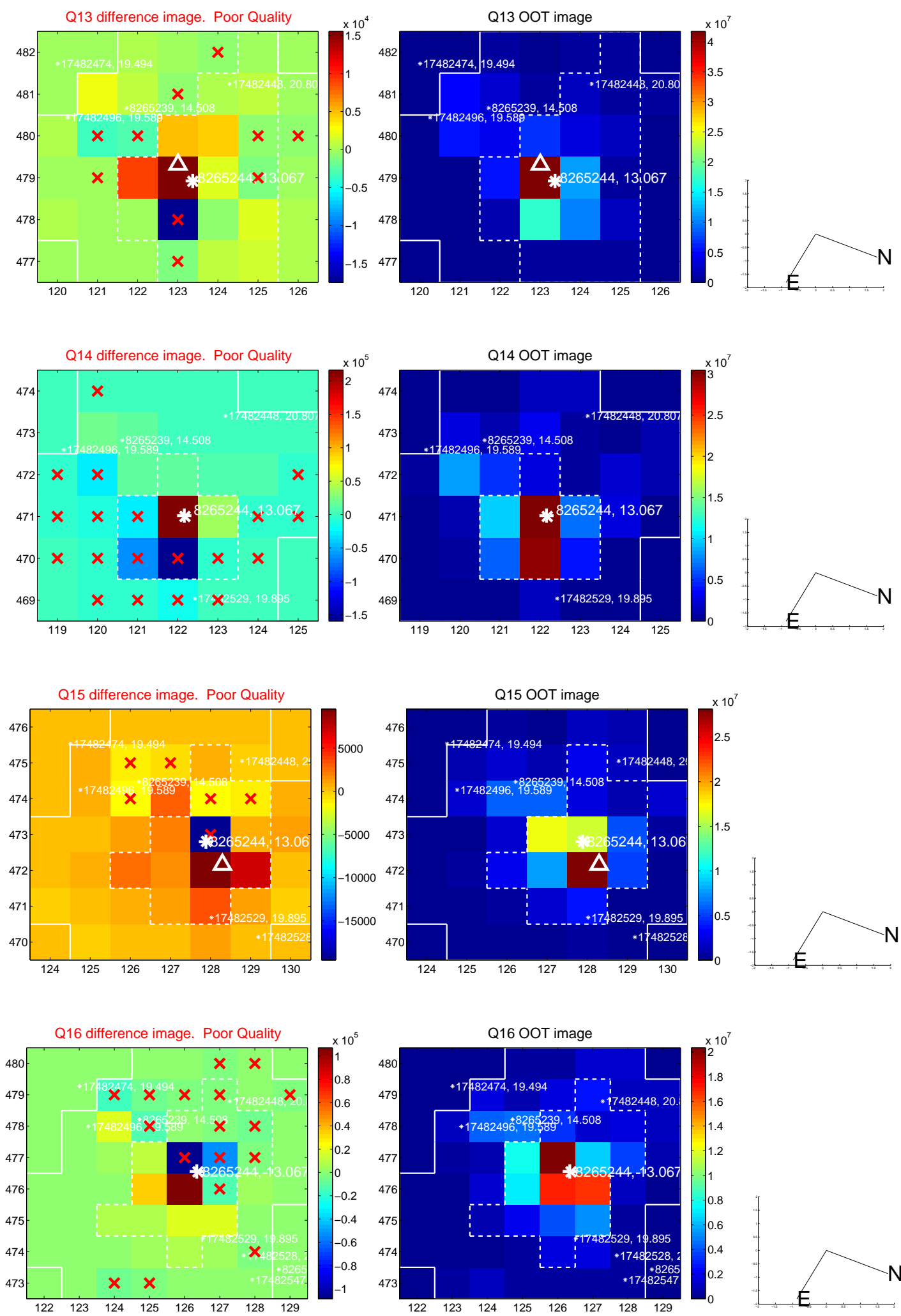
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



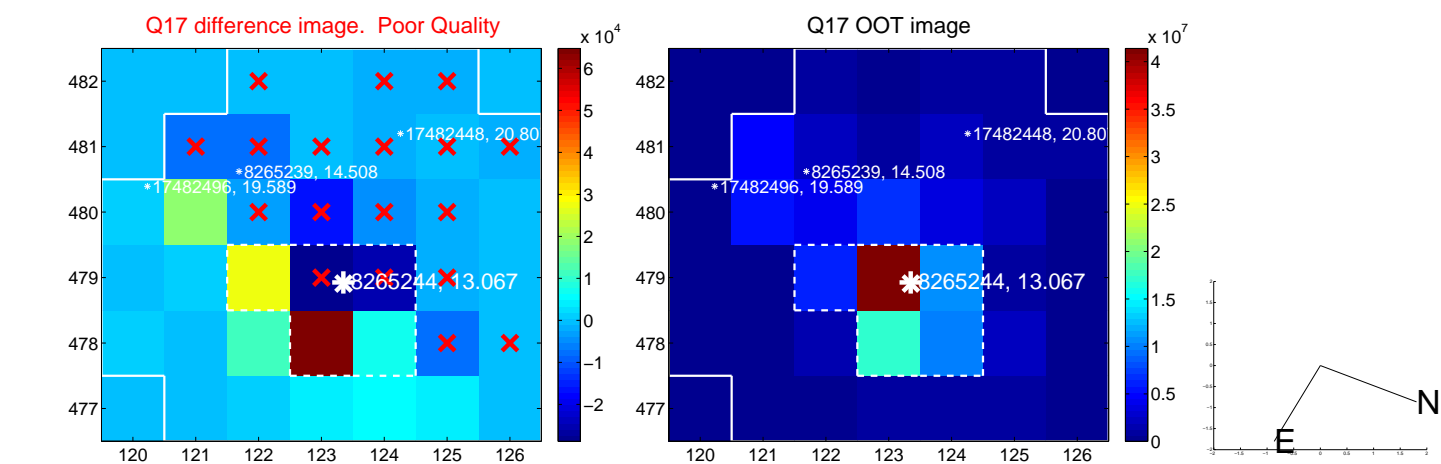
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



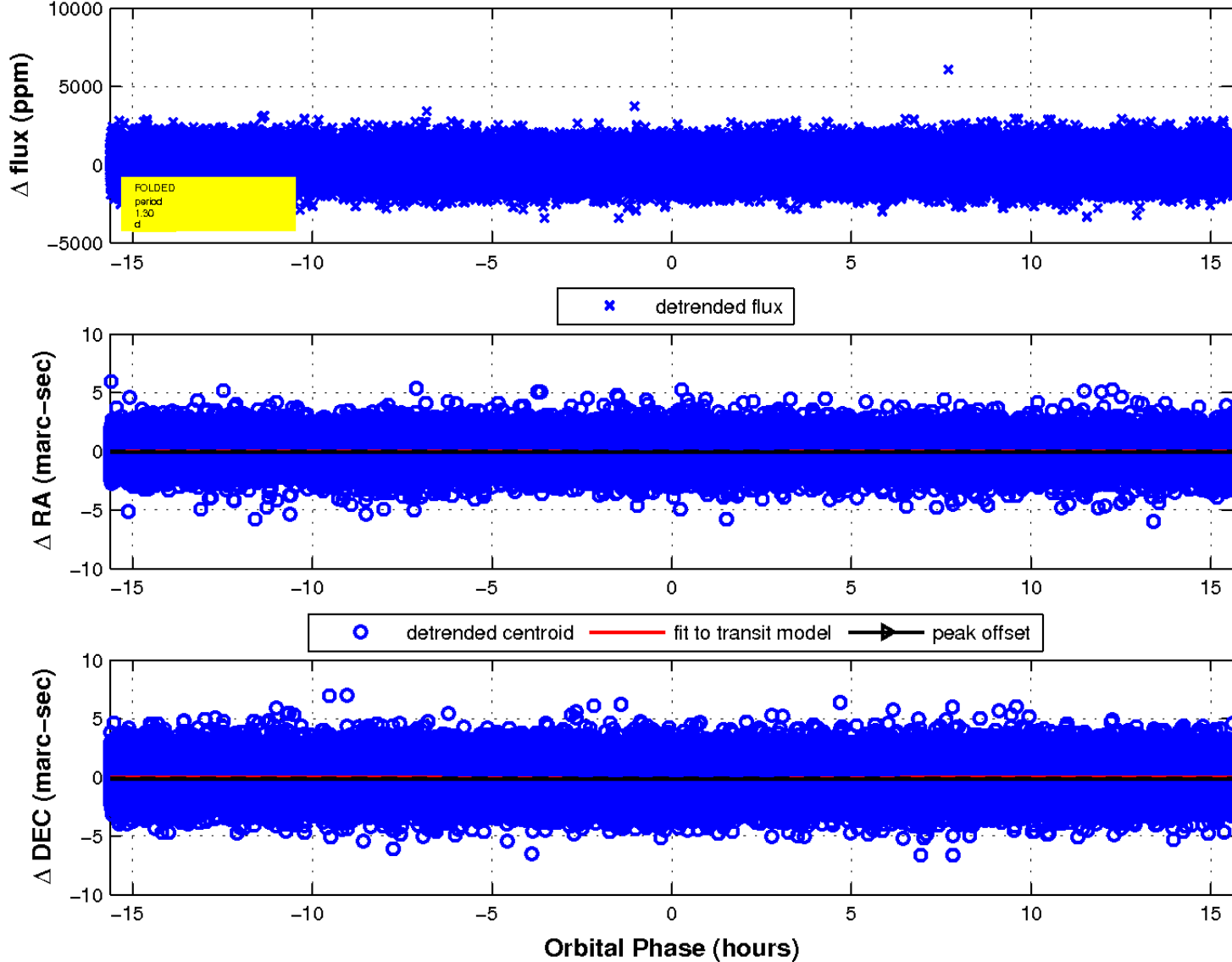
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

