

# KIC 008626219

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008626219-01	OBS	No	0.666374	131.964523	69.4	1.159	15.6	13.4	2.75	8061	2.46	78196.54
008626219-02	OBS	No	0.666380	132.127255	54.0	1.962	12.9	13.6	2.75	8061	2.35	78195.54
008626219-03	OBS	No	0.666366	131.808603	49.1	1.711	10.0	11.6	2.75	8061	2.24	78197.84

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008626219-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008626219-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008626219-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—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.

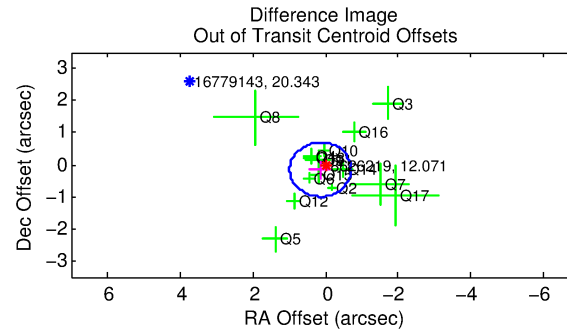
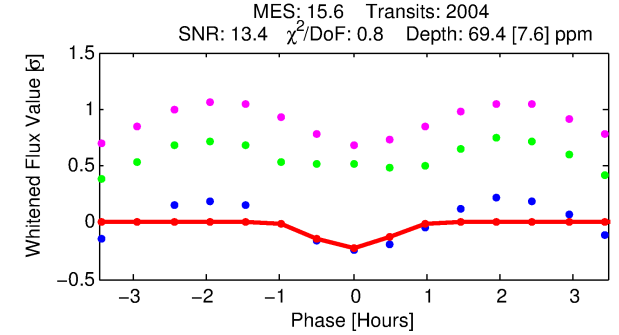
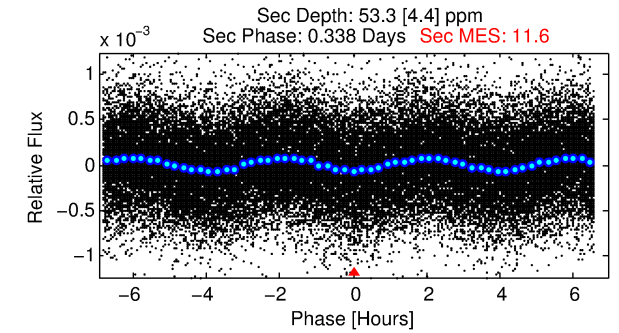
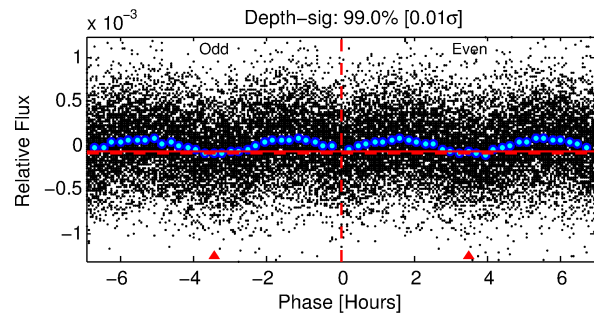
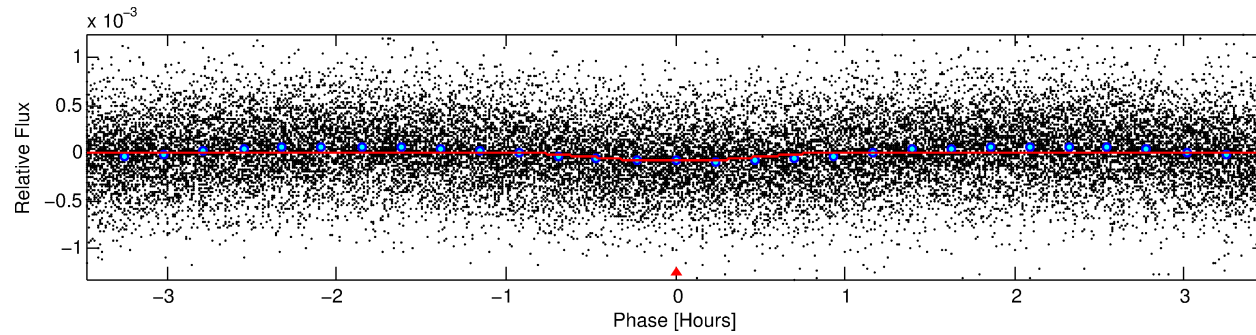
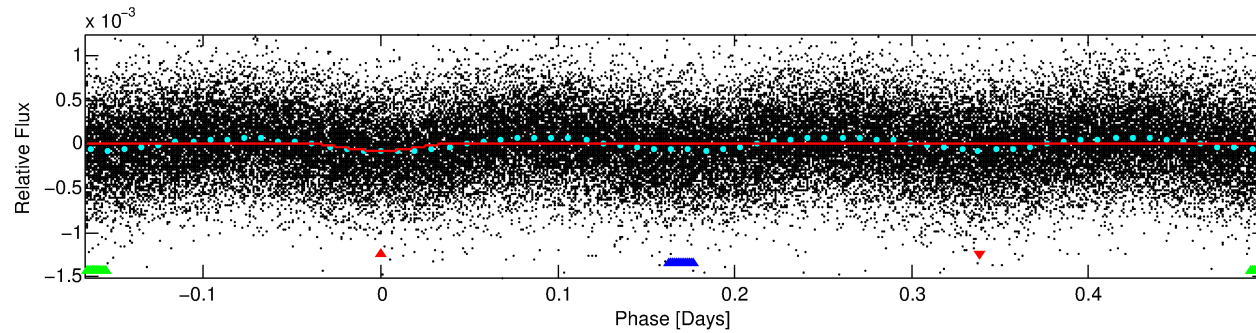
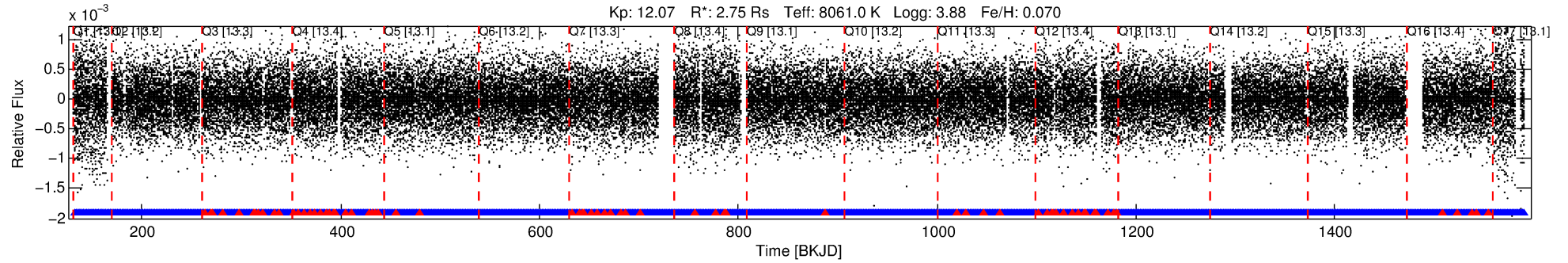
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 008626219-01

No Significant Match Found

# DV One-Page Summary

KIC: 8626219 Candidate: 1 of 3 Period: 0.666 d



## DV Fit Results:

Period = 0.66637 [0.00001] d  
Epoch = 131.9645 [0.0016] BKJD  
Rp/R\* = 0.0082 [0.0021]  
a/R\* = 3.30 [4.34]  
b = 0.70 [1.07]  
Seff = 78196.54 [38692.58]  
Teff = 4264 [527] K  
Rp = 2.46 [1.05] Re  
a = 0.0191 [0.0058] AU  
Ag = 1.77 [1.21] [0.63σ]  
Teffp = 7599 [1024] K [2.90σ]

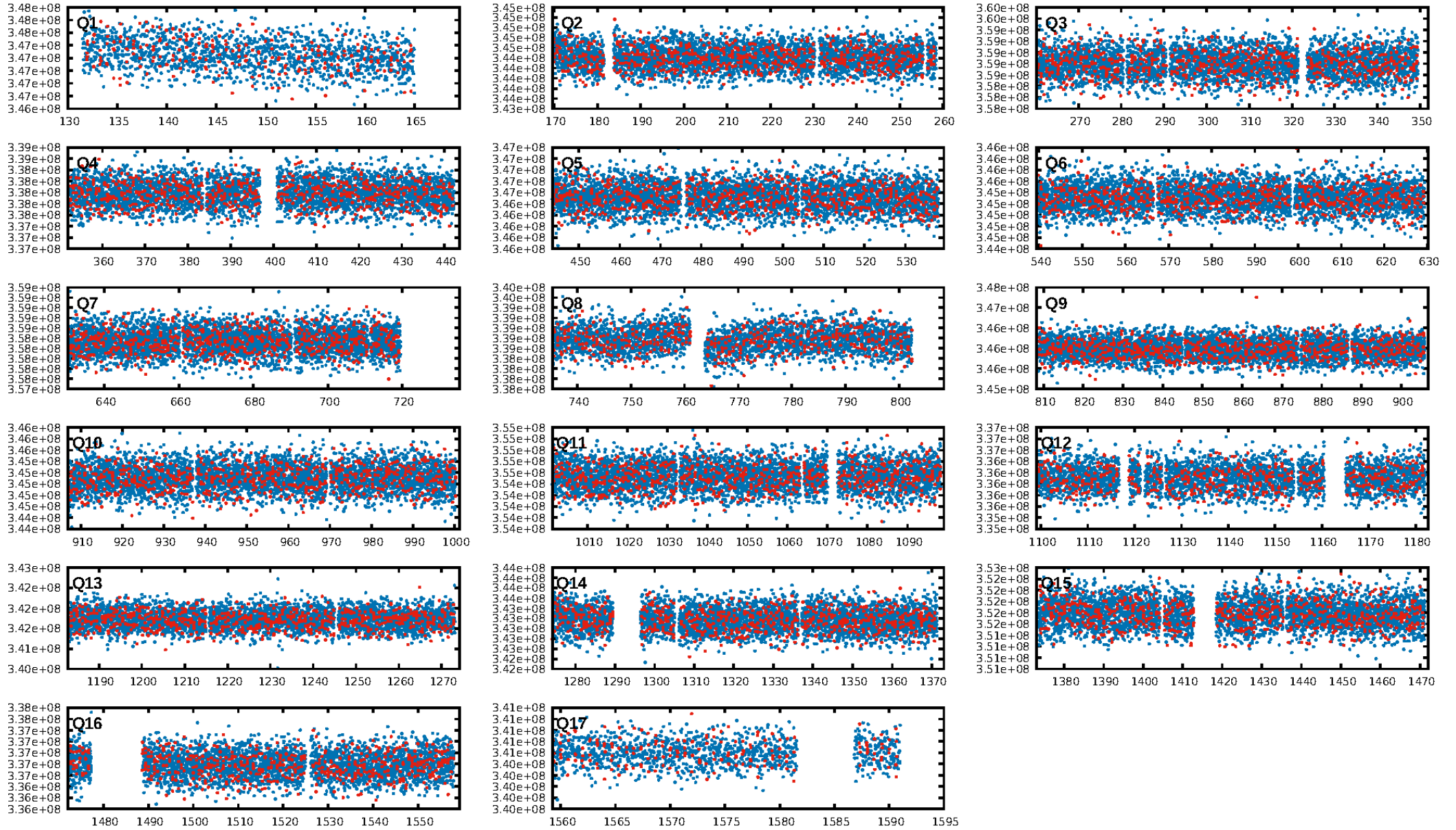
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.83e-22  
RollingBand-fgt: 0.96 [1840/1914]  
GhostDiagnostic-chr: 4.804  
Centroid-sig: 19.8%  
Centroid-so: 0.145 arcsec [0.61σ]  
OotOffset-rm: 0.209 arcsec [0.74σ]  
KicOffset-rm: 0.162 arcsec [0.65σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 0.88 [14/16]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:25:51 Z

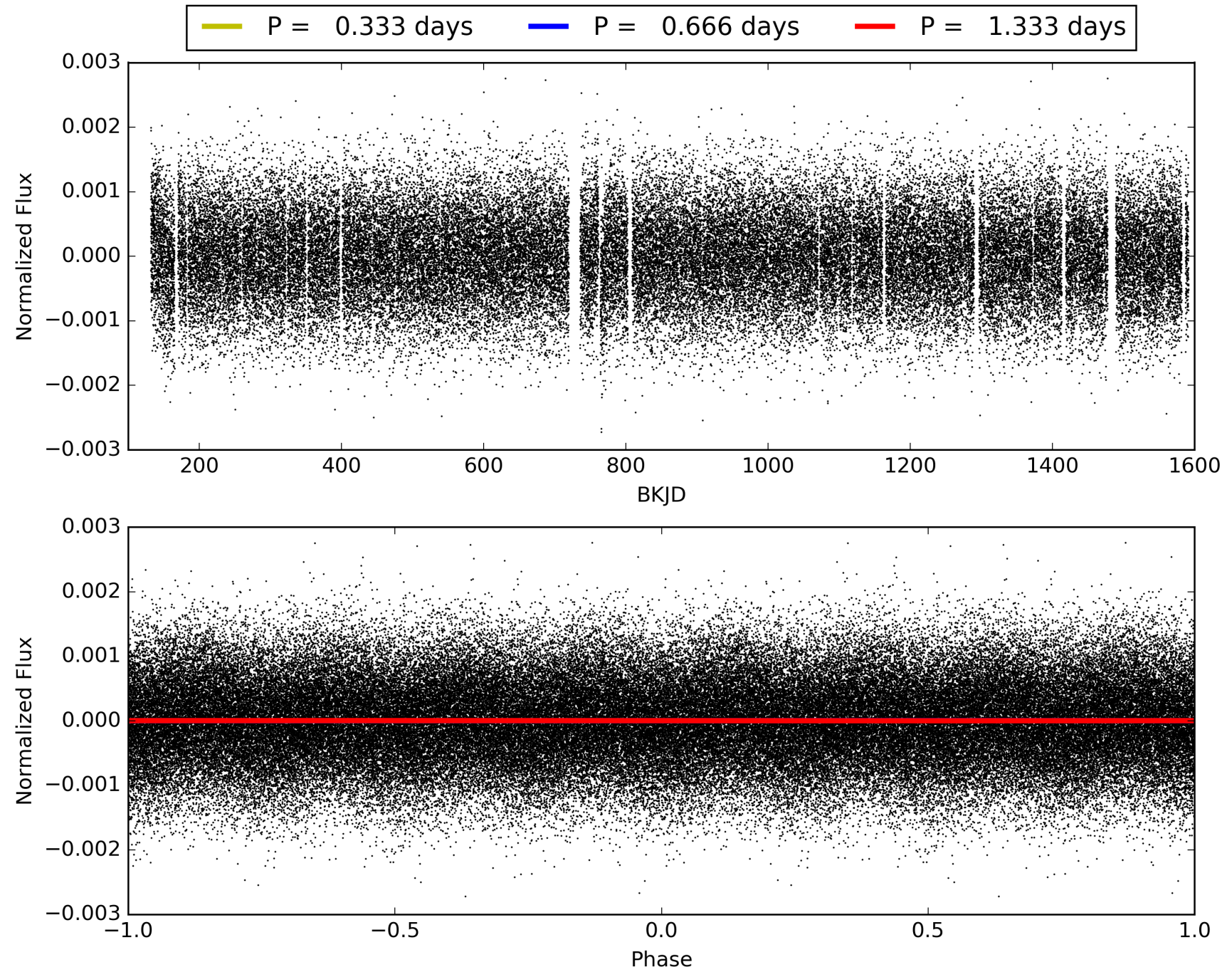
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008626219-01, PDC Light Curves





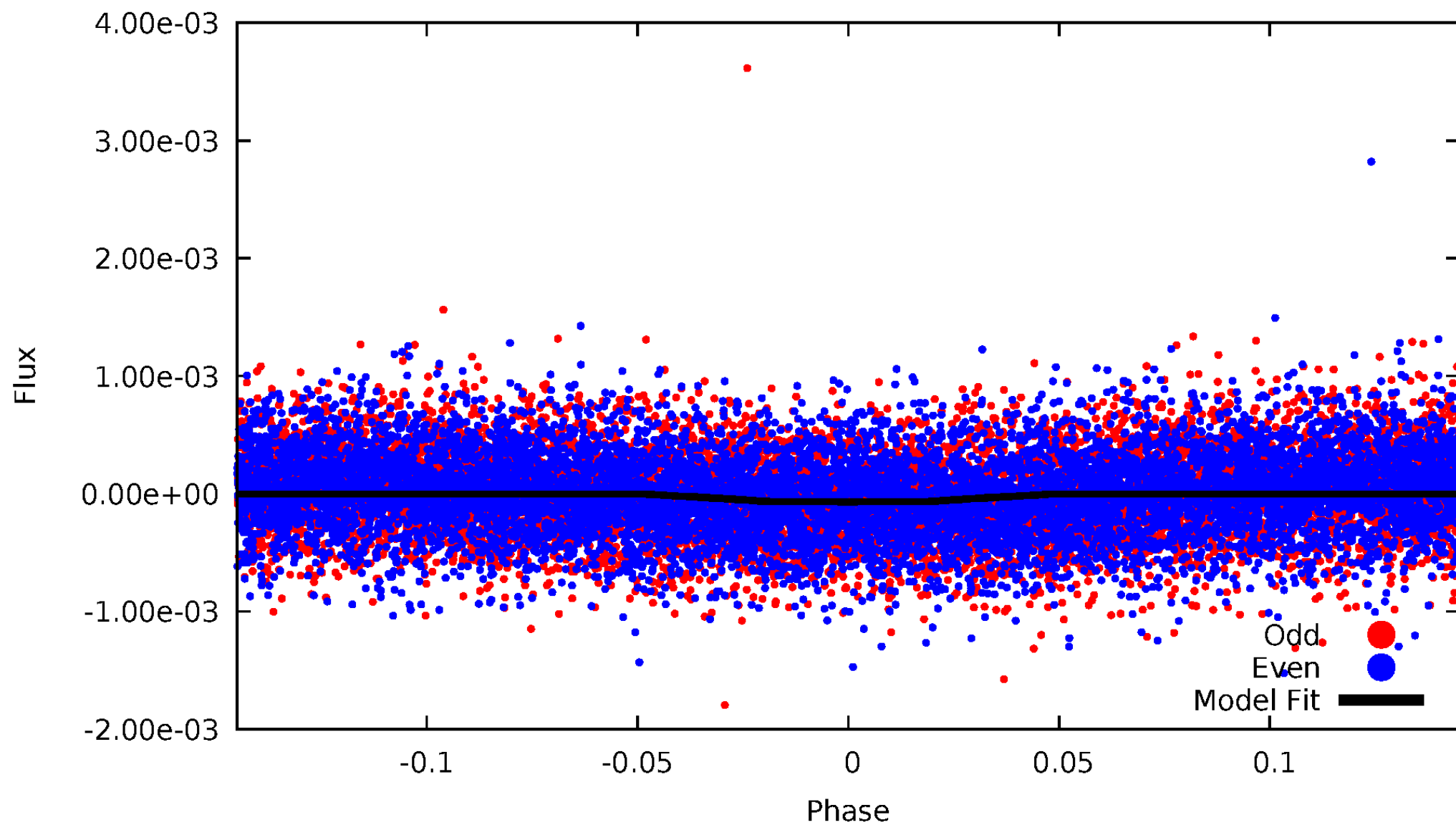
# TCE 008626219-01





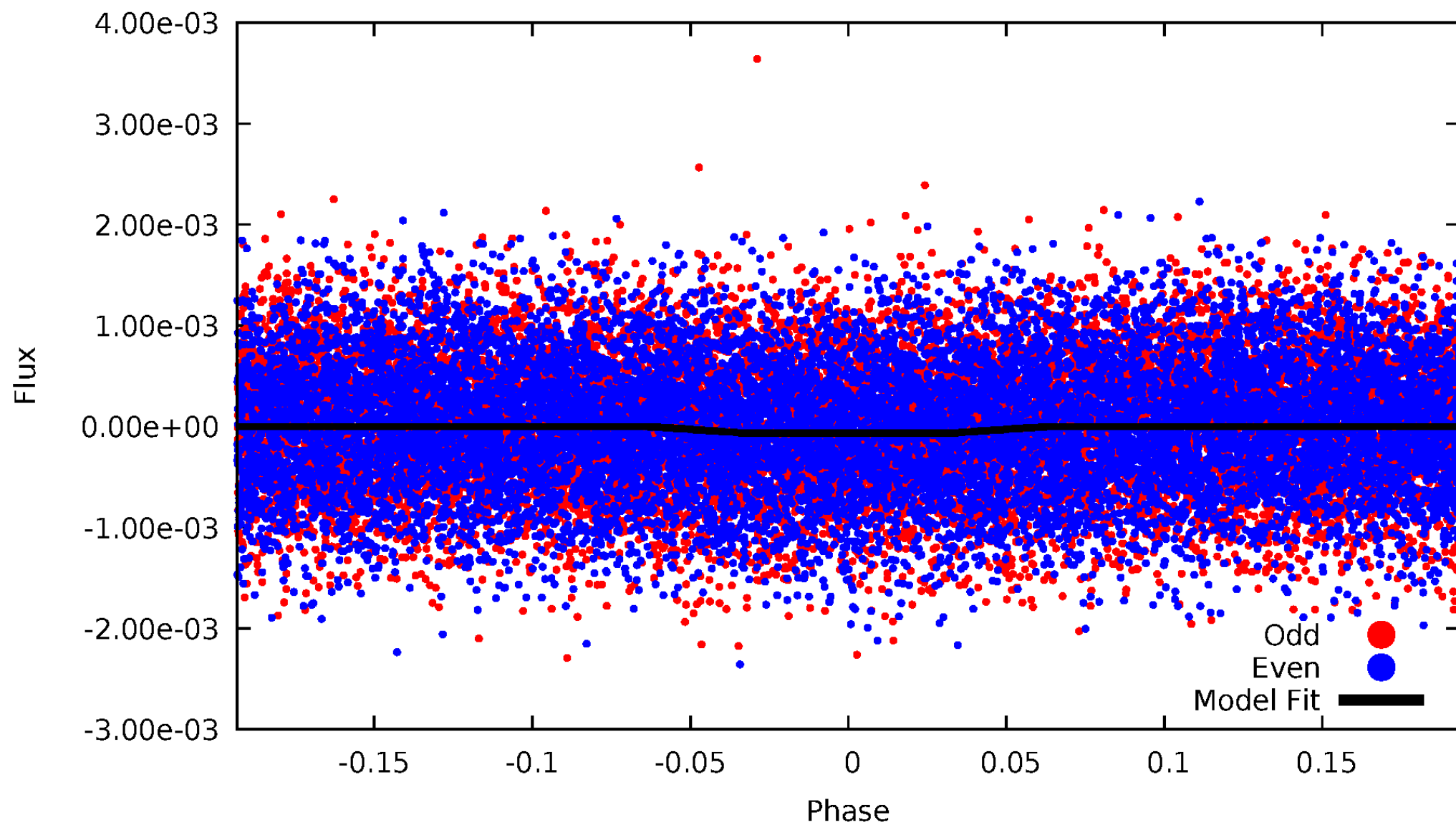
# DV Odd/Even

TCE 008626219-01

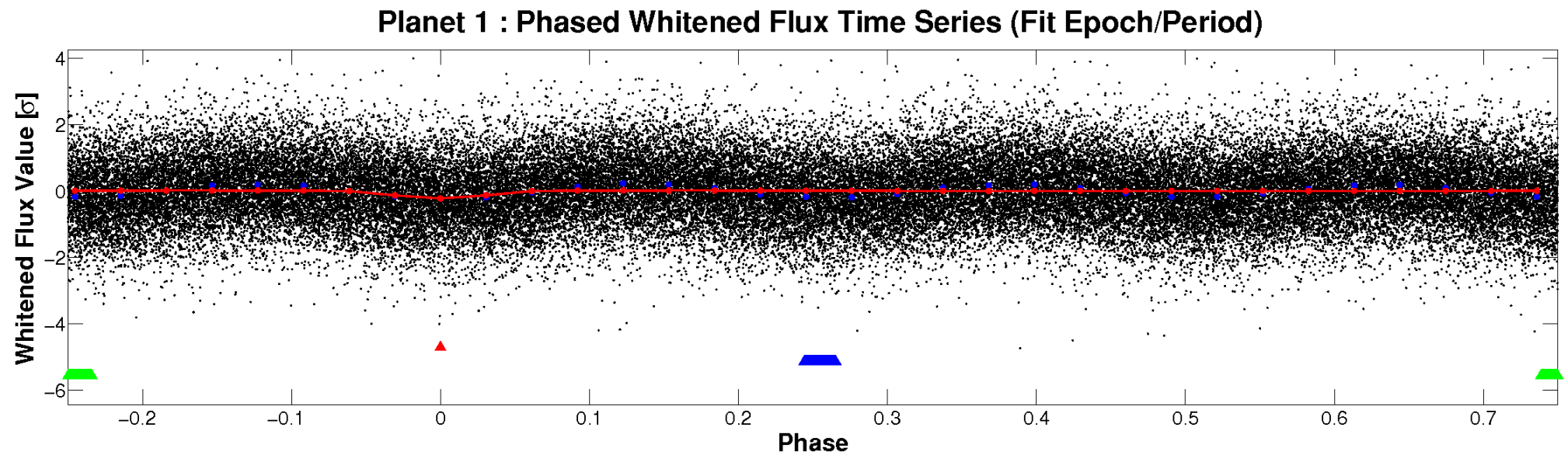
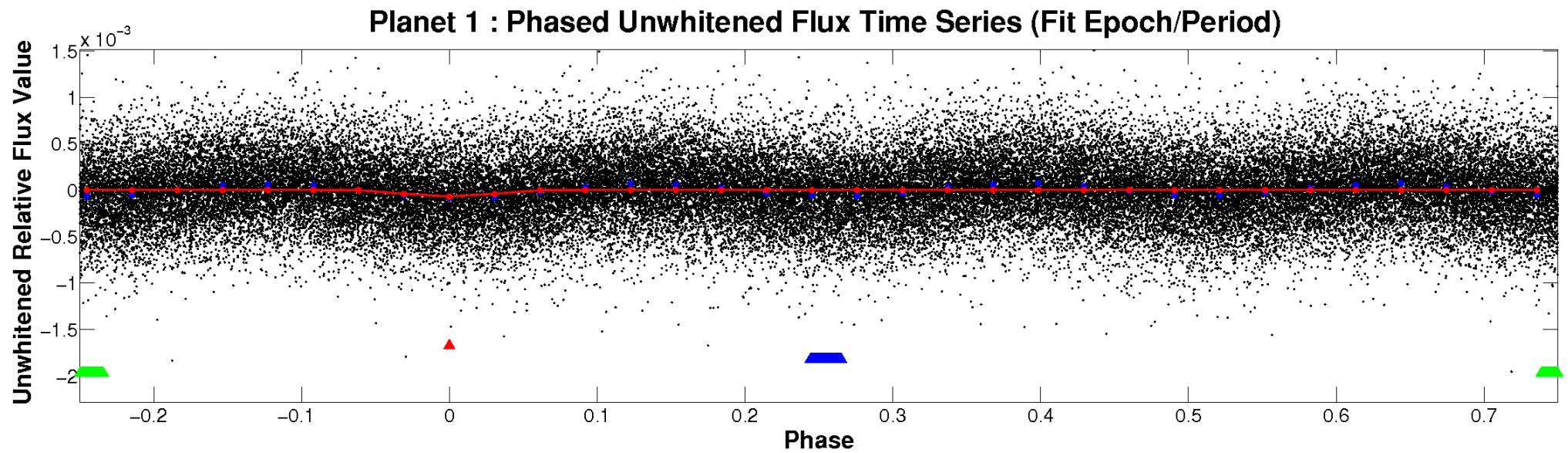


# ALT Odd/Even

TCE 008626219-01



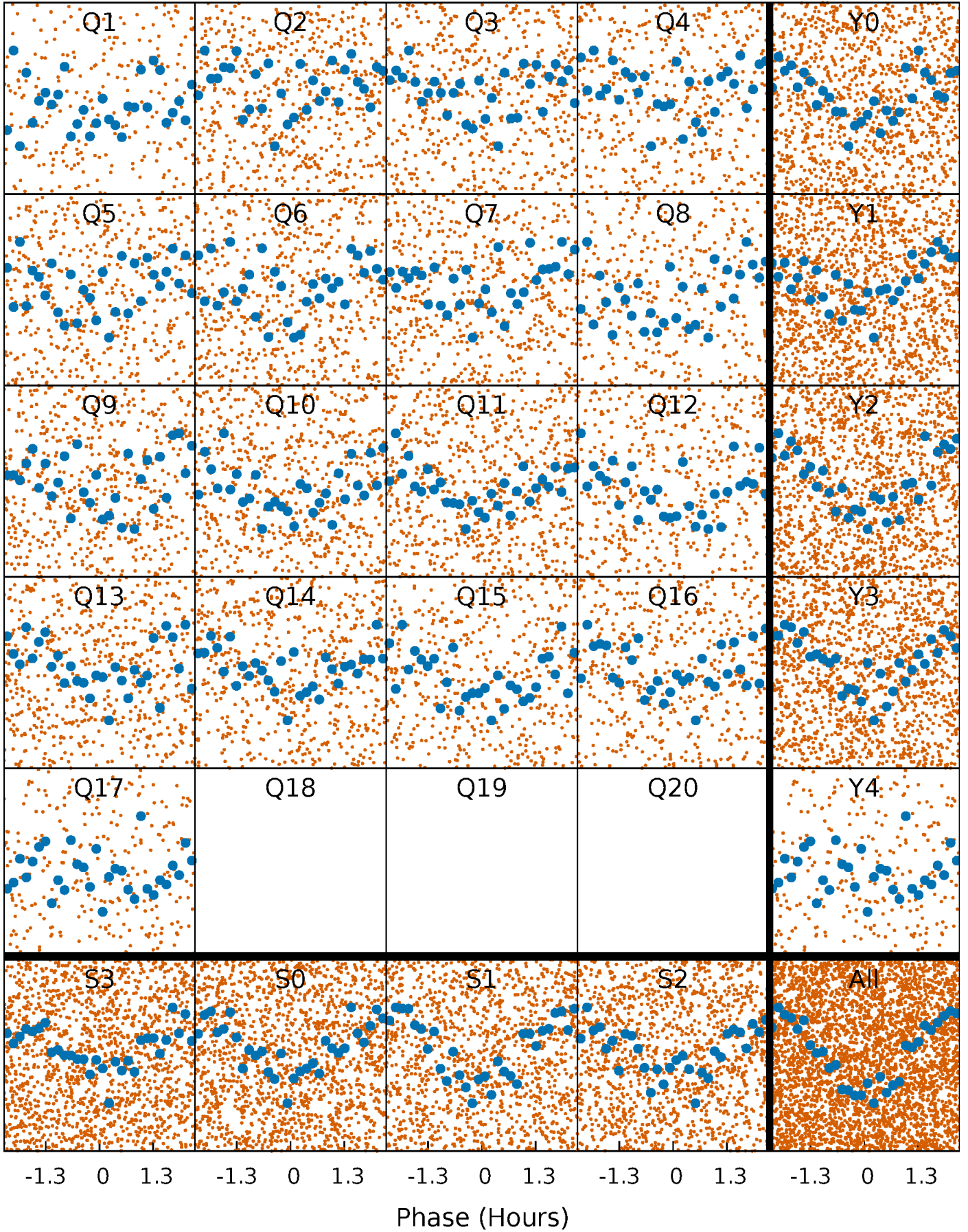
# Non-Whitened Vs. Whitened Light Curve





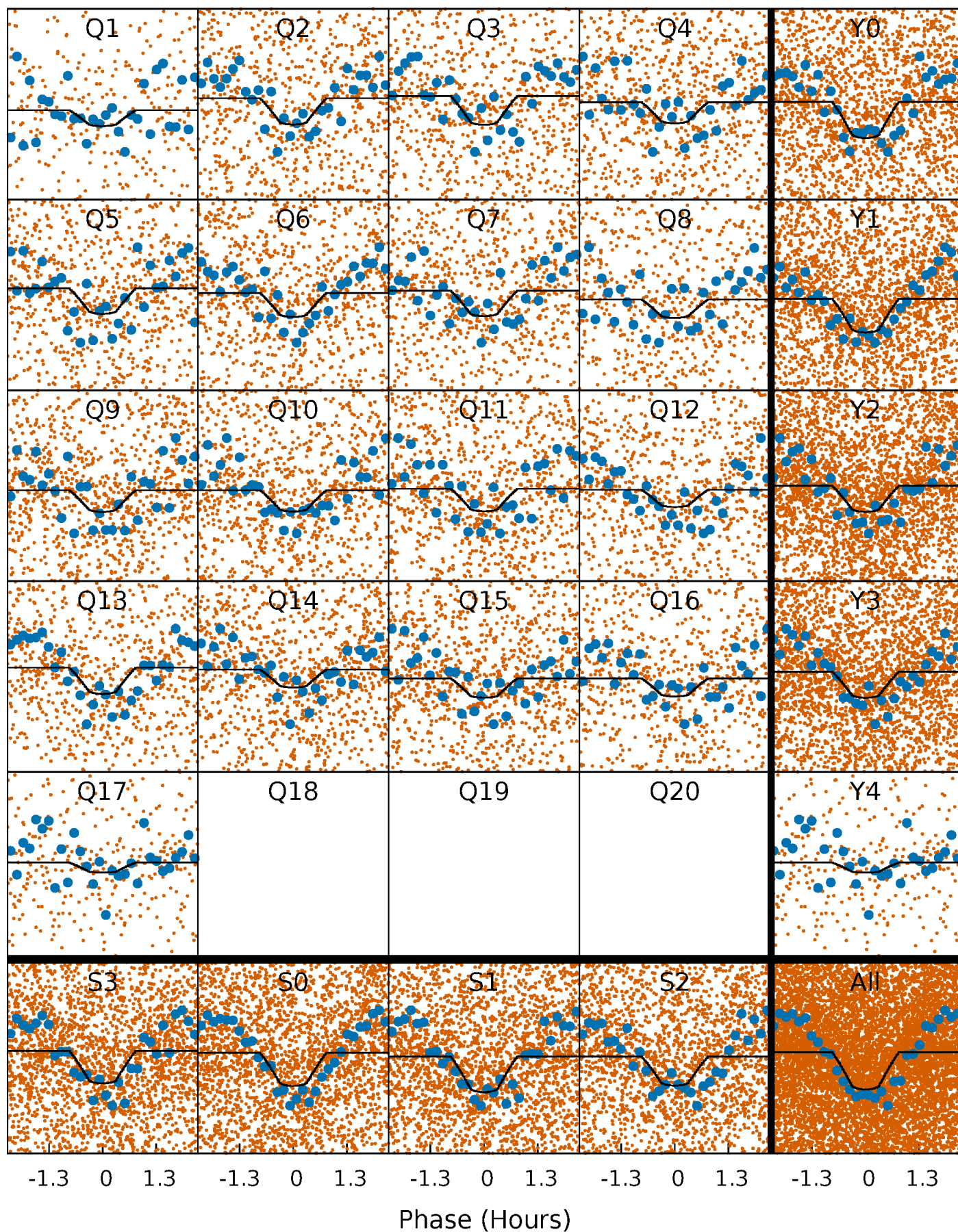
# PDC Quarter-Phased Transit Curves

TCE 008626219-01   P= 0.666374 Days    $T_0=131.964524$  (BKJD)



# DV Quarter-Phased Transit Curves

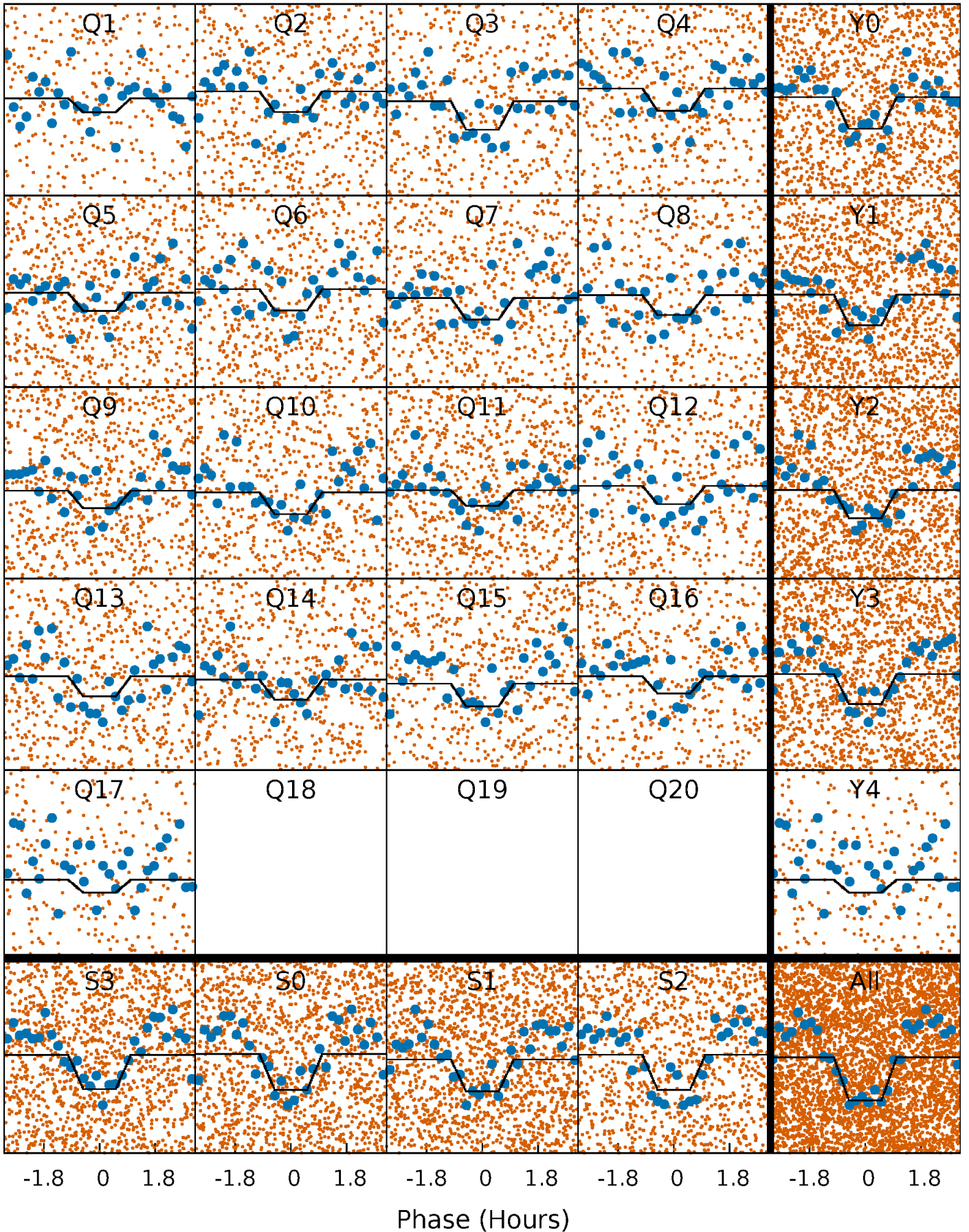
TCE 008626219-01 P= 0.666374 Days  $T_0=131.964524$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 008626219-01 P= 0.666377 Days  $T_0=131.964429$  (BKJD)

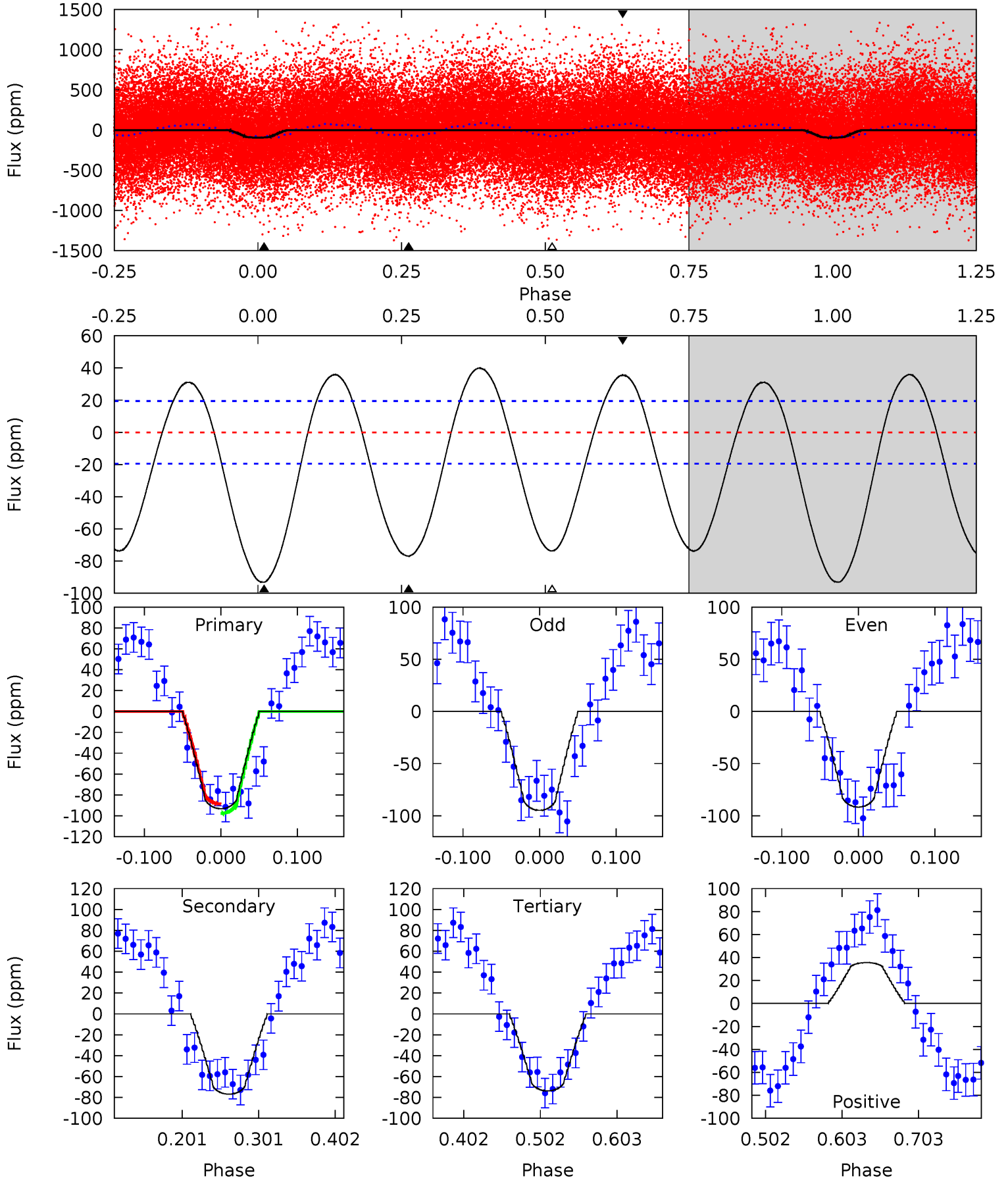




# DV Model-Shift Uniqueness Test

008626219-01, P = 0.666374 Days, E = 131.298150 Days

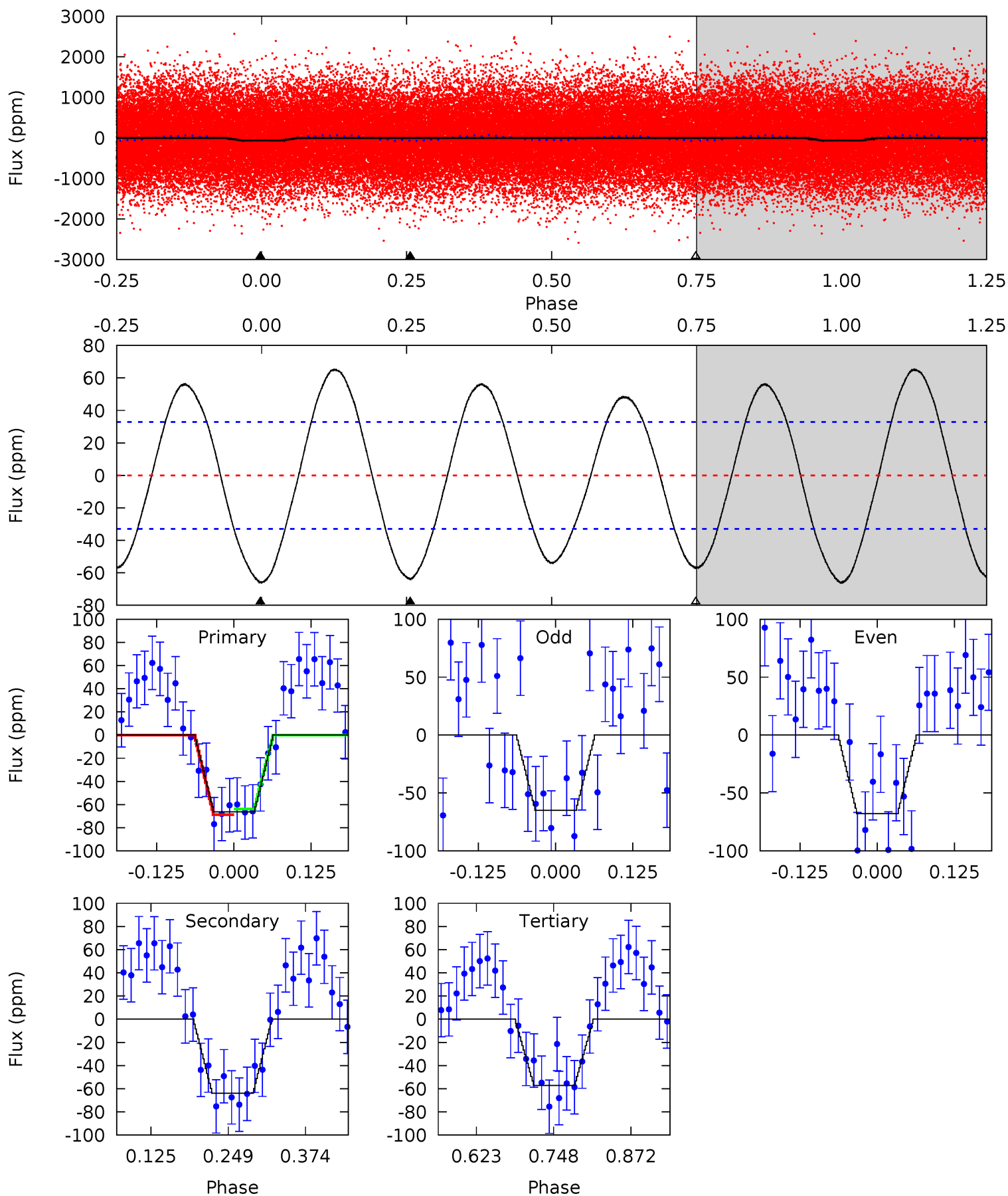
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.9	18.1	17.3	8.37	4.56	1.64	9.37	4.57	13.5	0.74	9.71	0.37	1.00	0.30	1.07



# Alt Model-Shift Uniqueness Test

008626219-01, P = 0.666377 Days, E = 131.298052 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.09	8.77	7.82	0	4.52	1.54	5.29	1.27	9.09	0.95	8.77	0.19	1.16	0.50	0.34



### Stellar Parameters For KIC 008626219

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8061^{+222}_{-361}$	$3.881^{+0.260}_{-0.140}$	$0.070^{+0.250}_{-0.400}$	$2.745^{+0.635}_{-0.952}$	$2.087^{+0.306}_{-0.459}$	$0.142^{+0.275}_{-0.052}$
	+3%/-4%	+7%/-4%	+357%/-571%	+23%/-35%	+15%/-22%	+193%/-37%
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 008626219-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-77 \pm 4$	$2.34^{+0.73}_{-0.70}$	$5867^{+435}_{-539}$	$8047^{+2131}_{-1142}$	$2.755^{+2.901}_{-1.145}$
Alt.	$-64 \pm 7$	$2.31^{+0.79}_{-0.63}$	$5853^{+423}_{-510}$	$7634^{+1737}_{-1119}$	$2.363^{+2.052}_{-0.983}$

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



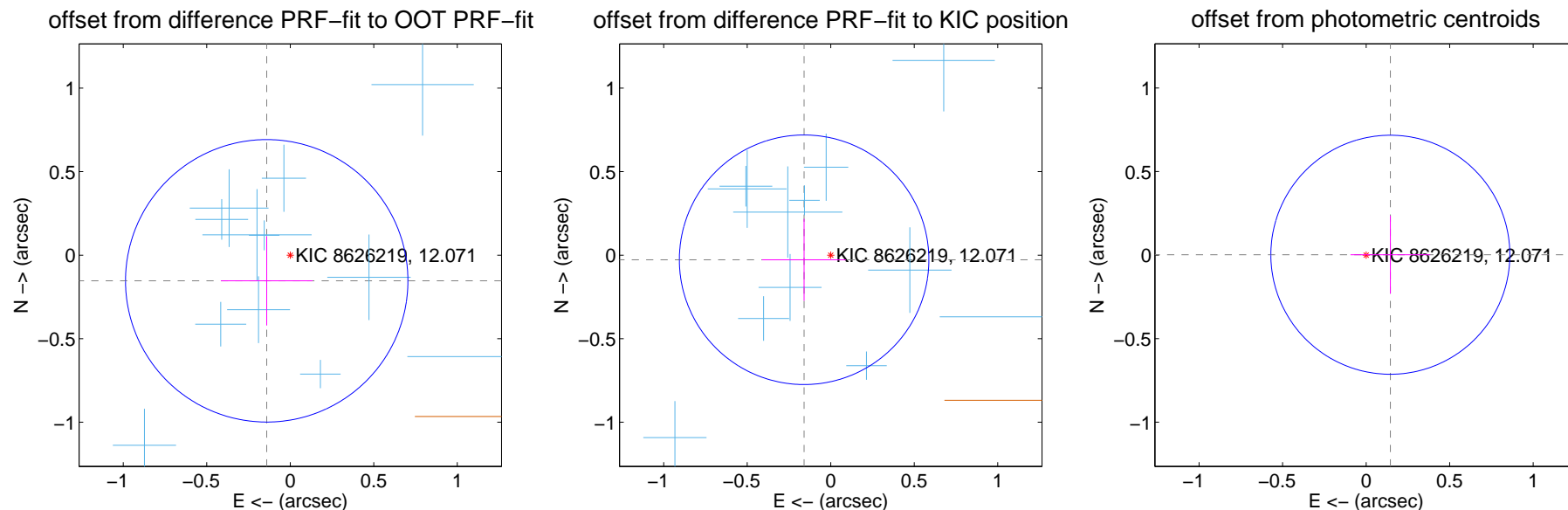
## DV Centroid Data

Supplemental centroid analysis for 008626219-01. Kepler magnitude: 12.07. Transit SNR 13.42

There are 14 quarters with good PRF difference image offsets

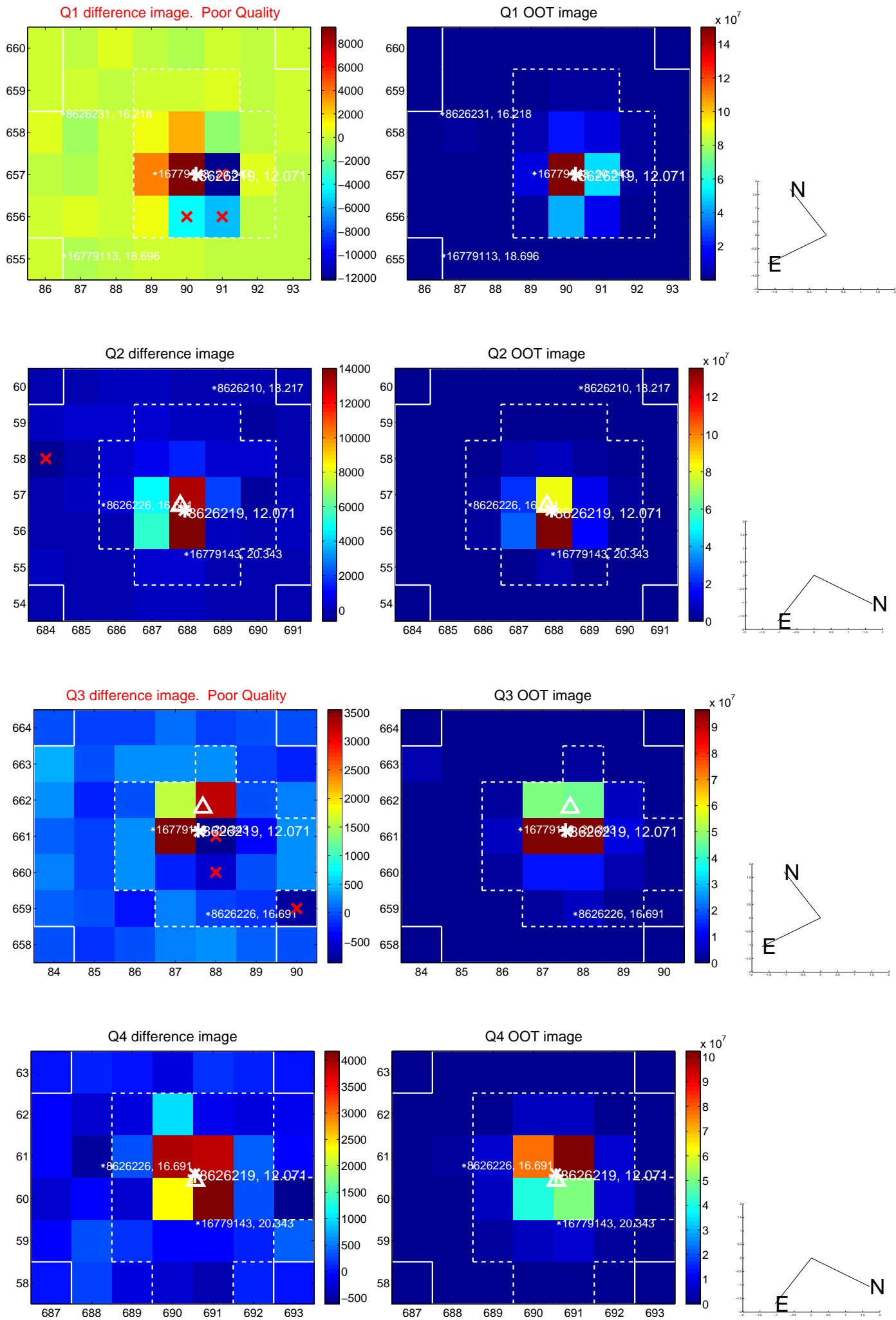
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.209 \pm 0.282$	0.74	$0.141 \pm 0.274$	$-0.154 \pm 0.267$
PRF-fit source offset from KIC position	$0.162 \pm 0.249$	0.65	$0.159 \pm 0.250$	$-0.028 \pm 0.246$
photometric centroid source offset	$0.14 \pm 0.24$	0.61	$-0.14 \pm 0.24$	$0.00 \pm 0.23$

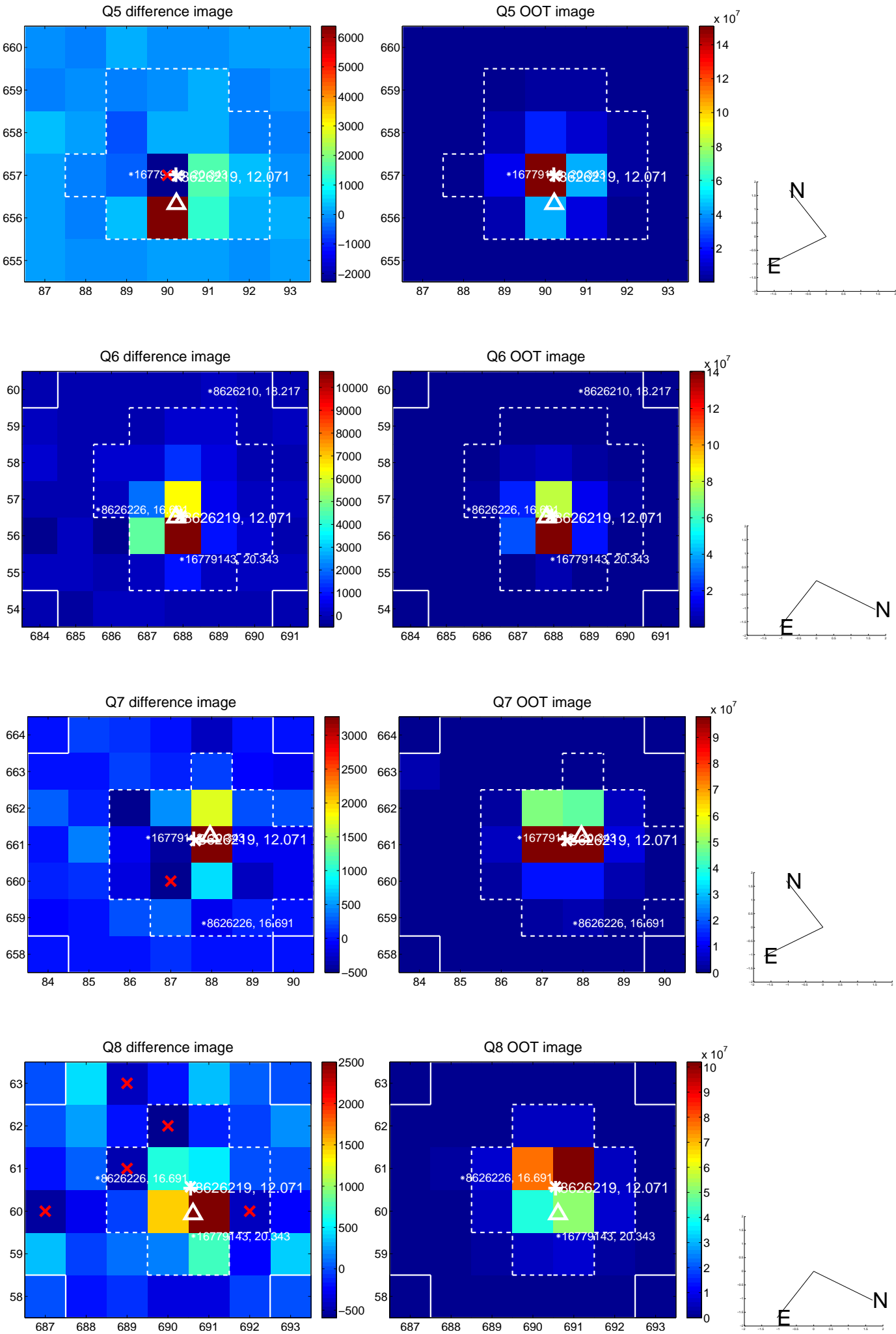


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

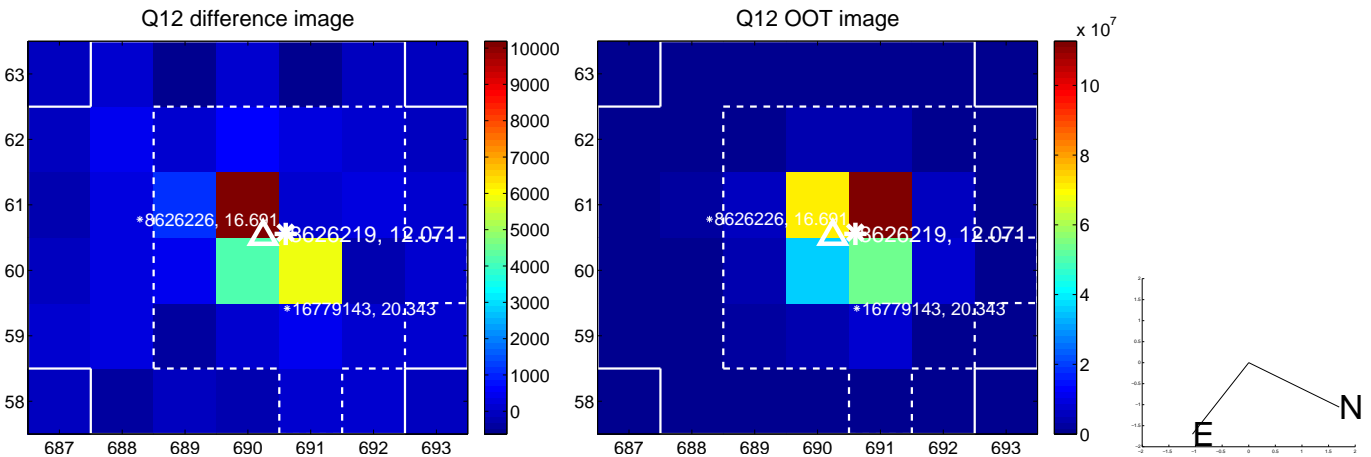
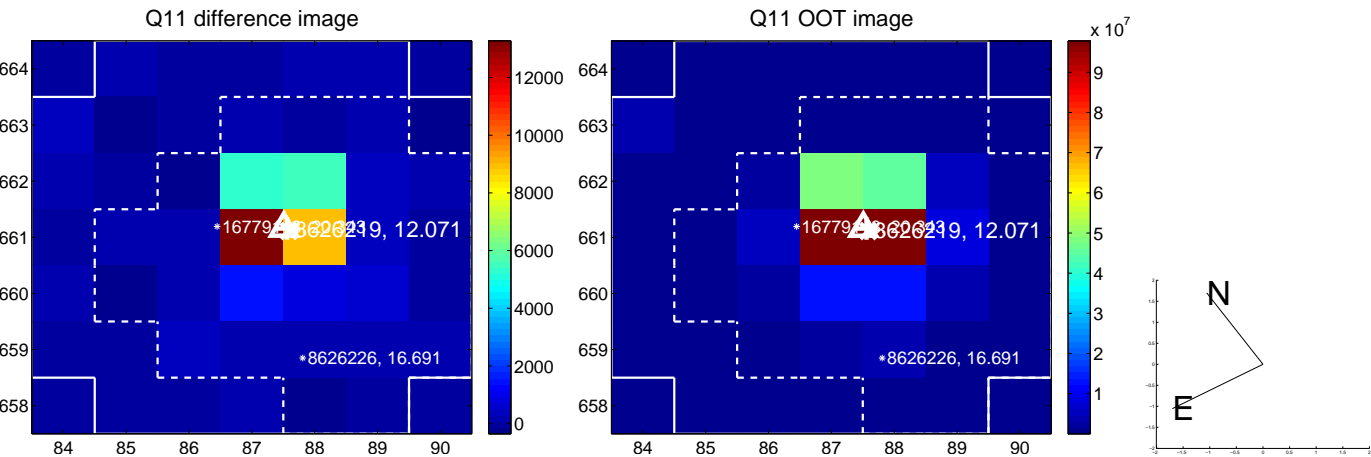
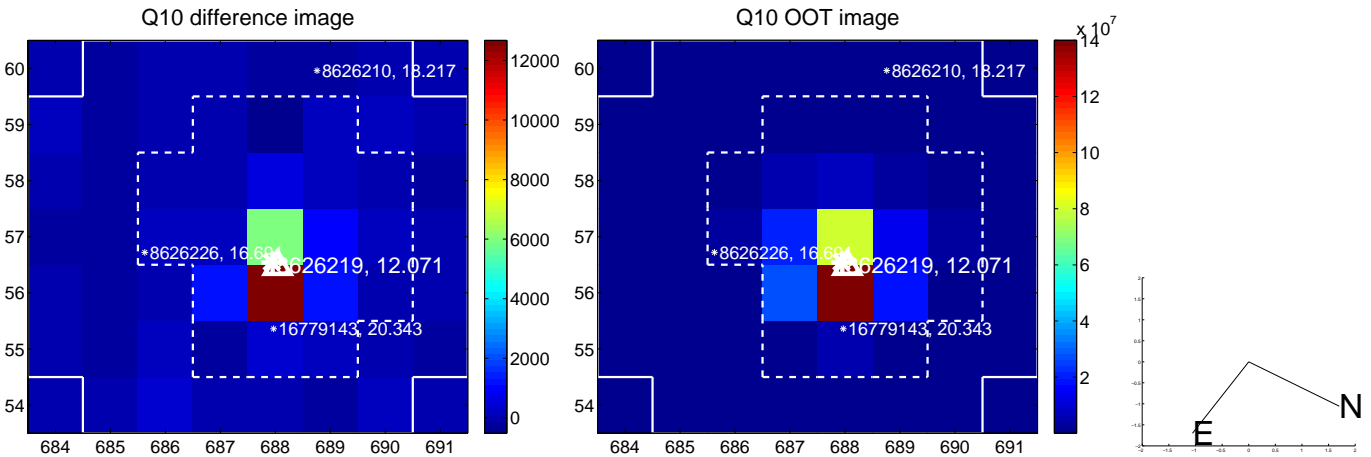
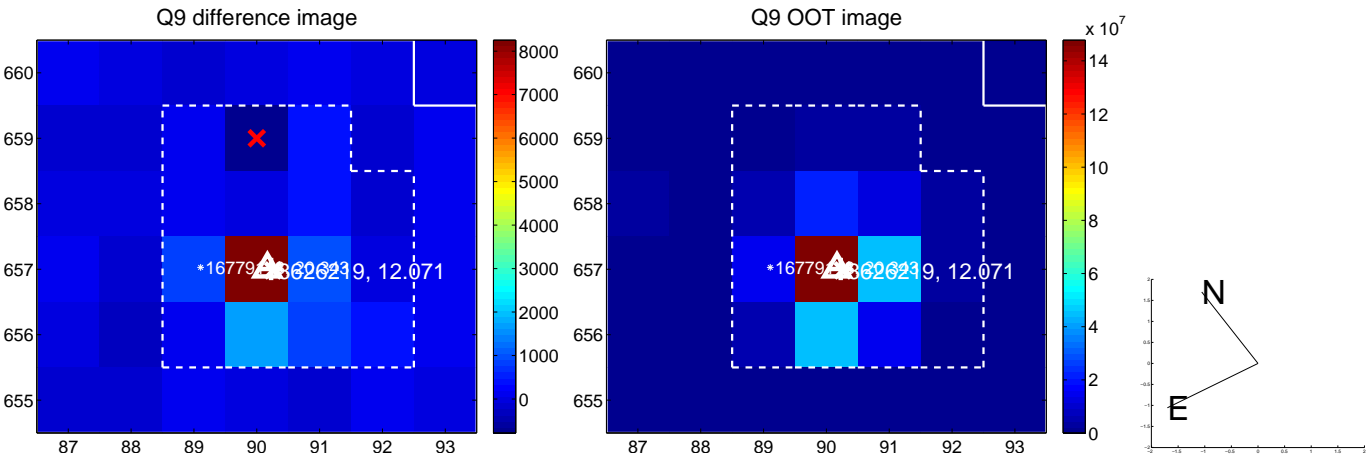
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

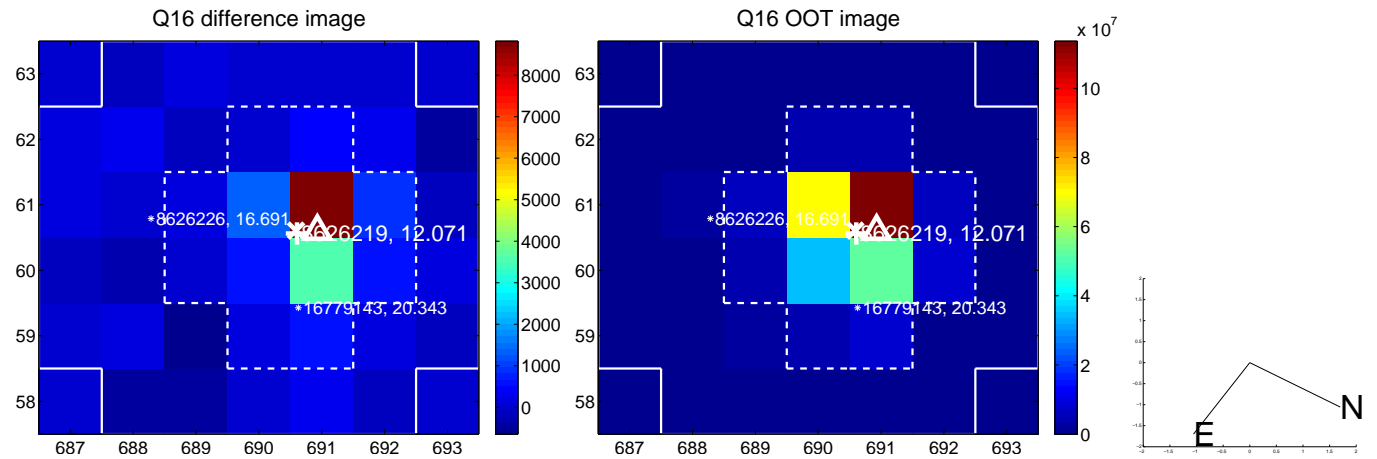
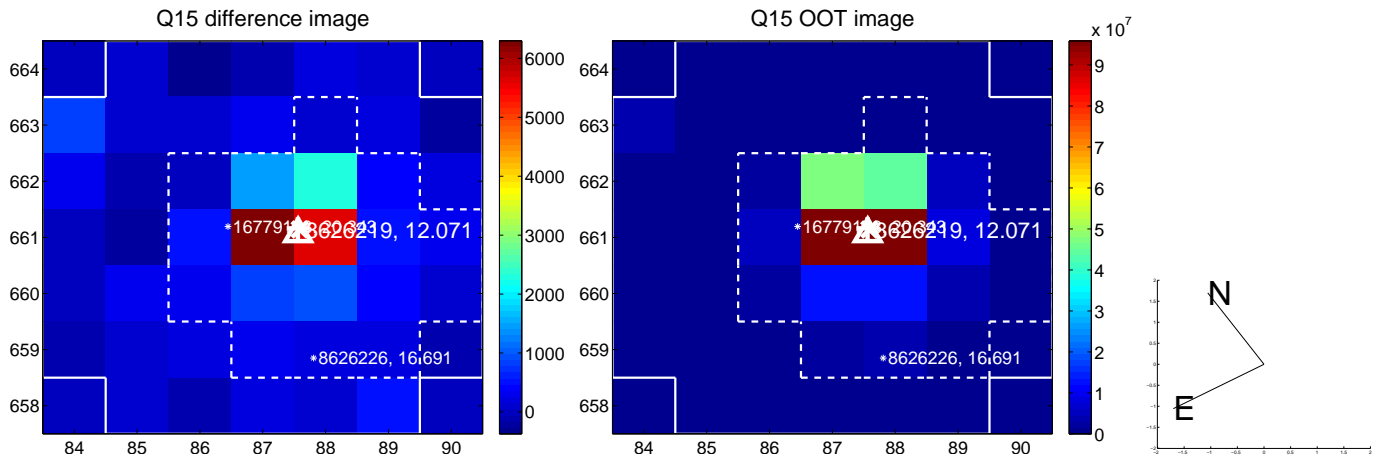
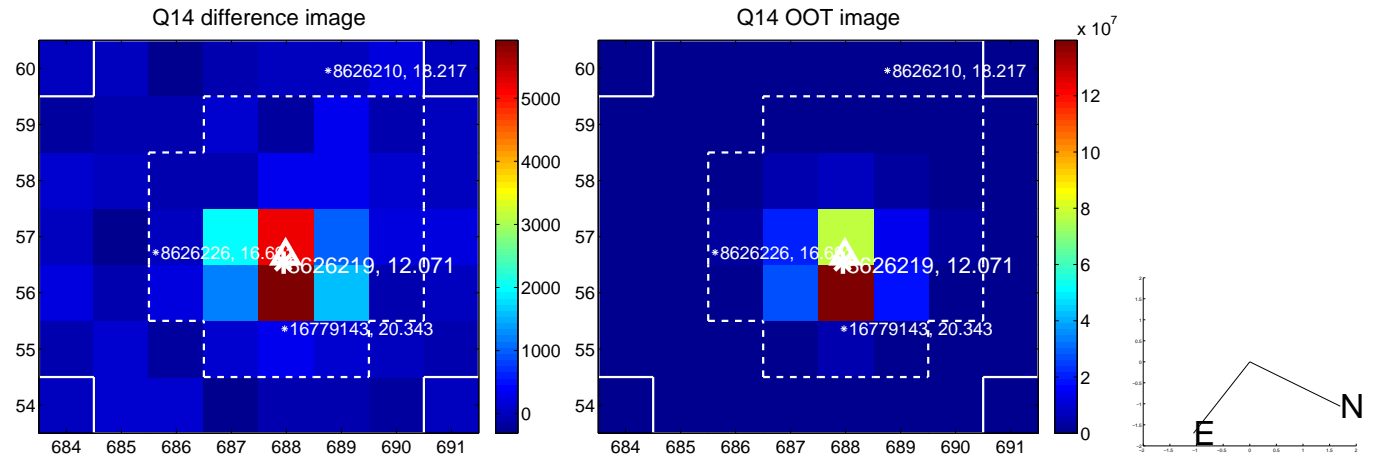
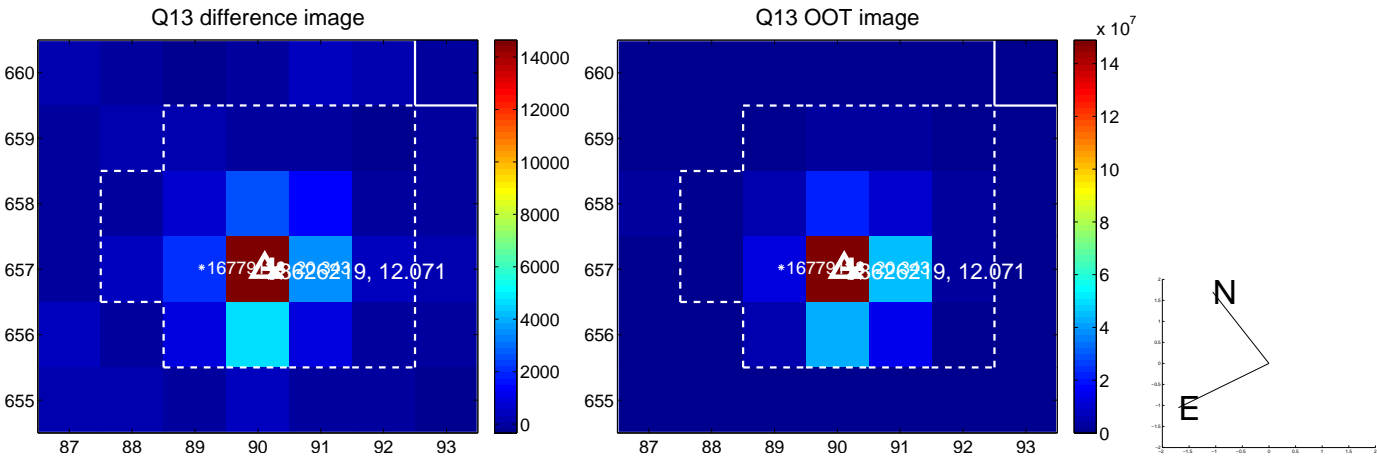


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

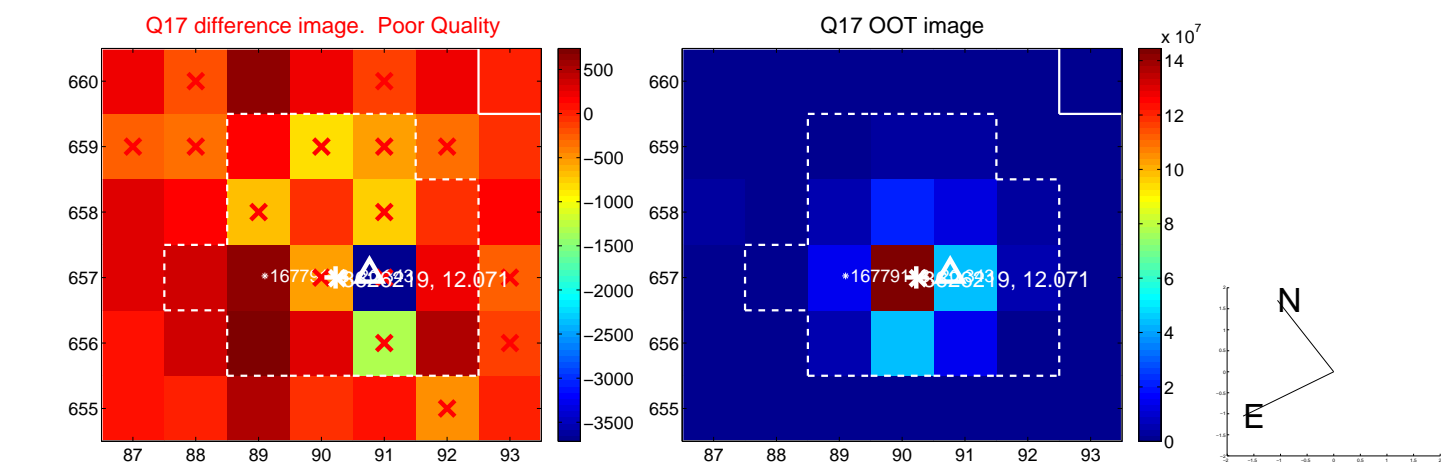




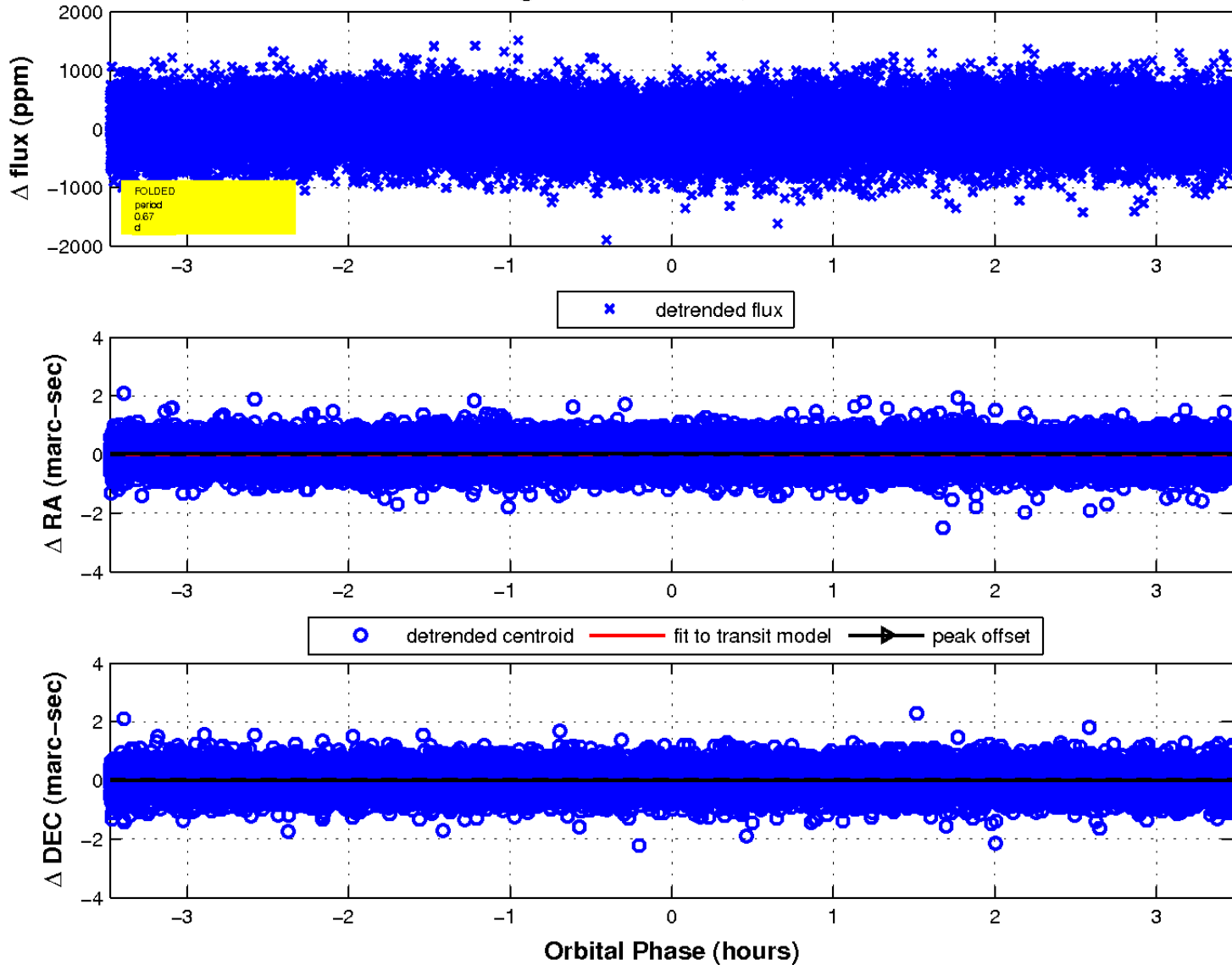
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

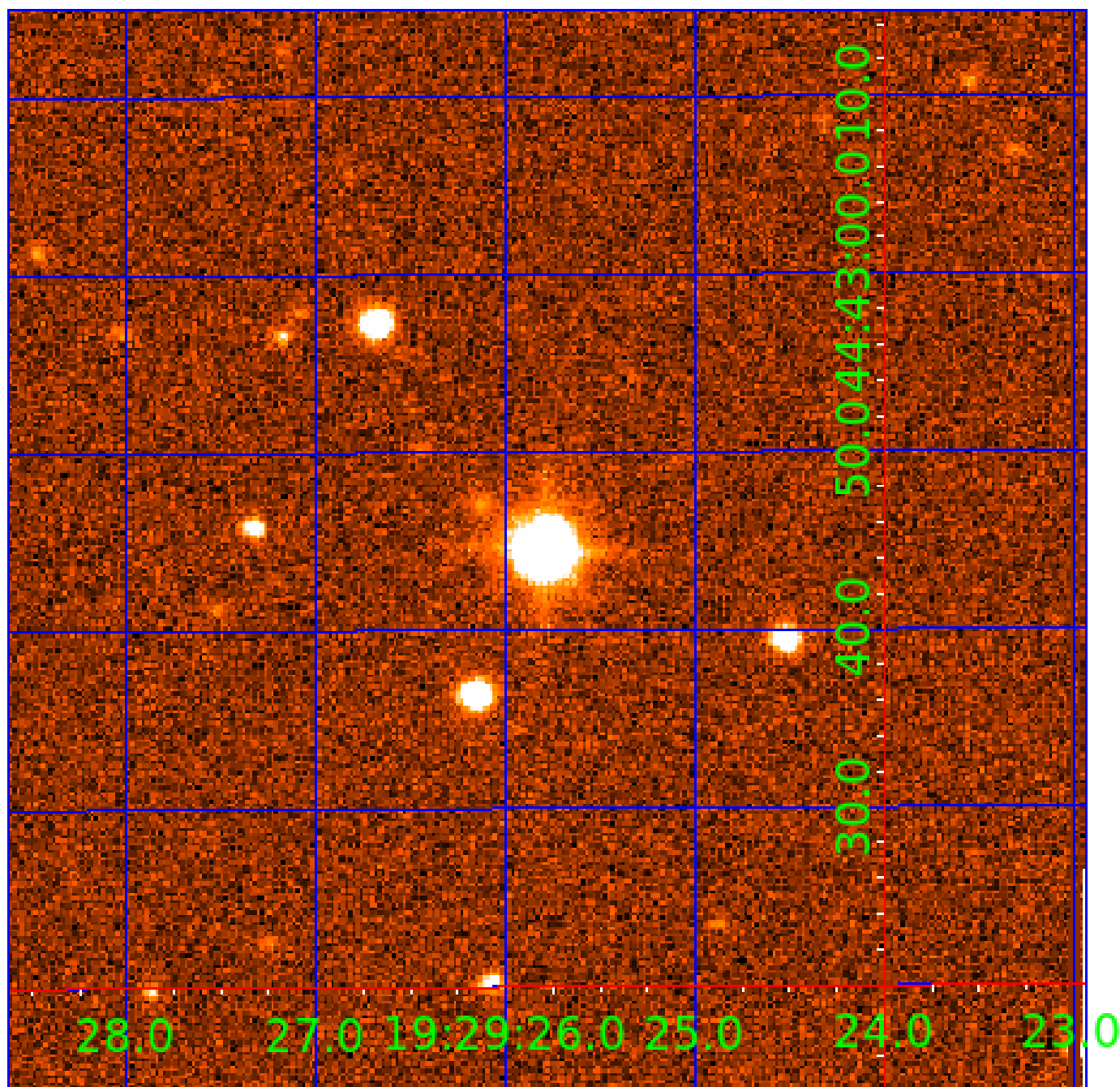


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



# KIC 008626219

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008626219-01	OBS	No	0.666374	131.964523	69.4	1.159	15.6	13.4	2.75	8061	2.46	78196.54
008626219-02	OBS	No	0.666380	132.127255	54.0	1.962	12.9	13.6	2.75	8061	2.35	78195.54
008626219-03	OBS	No	0.666366	131.808603	49.1	1.711	10.0	11.6	2.75	8061	2.24	78197.84

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008626219-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008626219-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008626219-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—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.

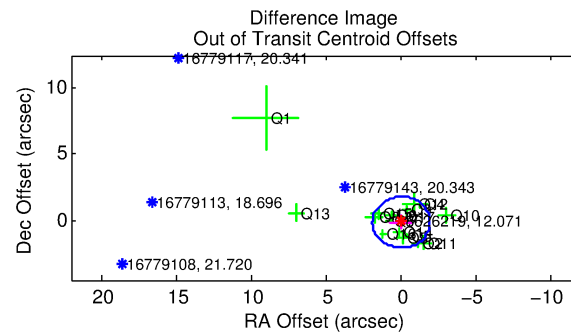
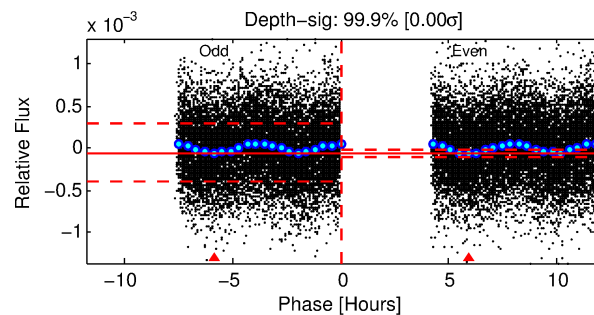
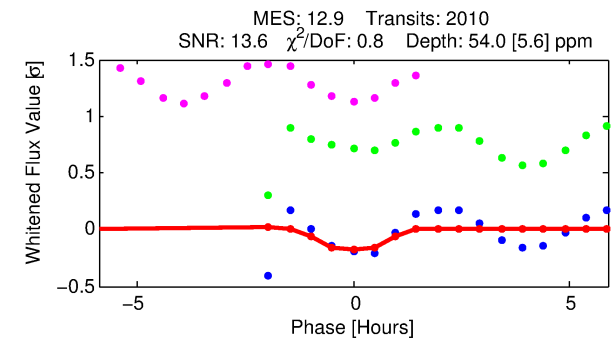
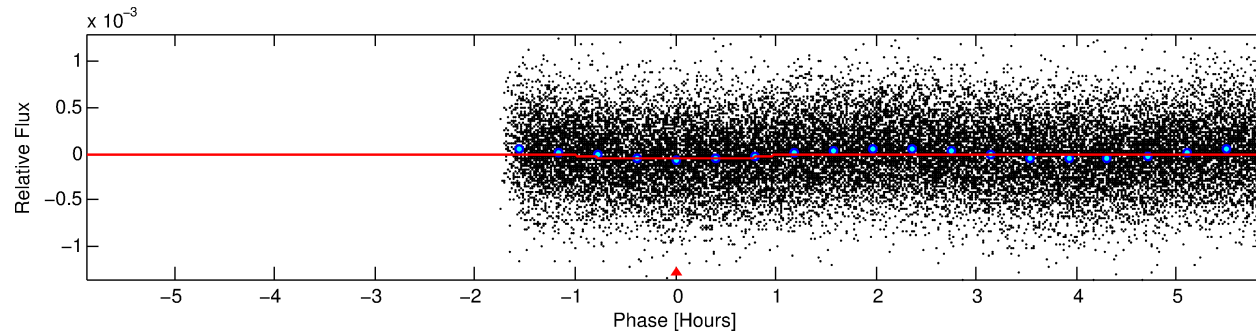
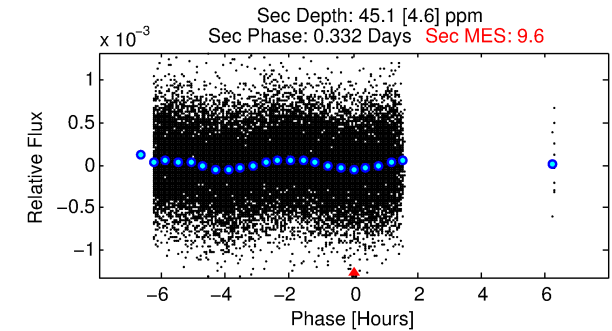
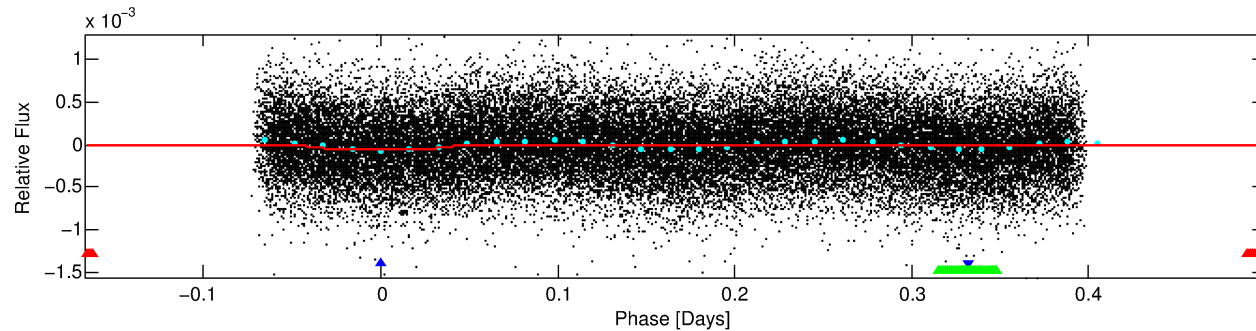
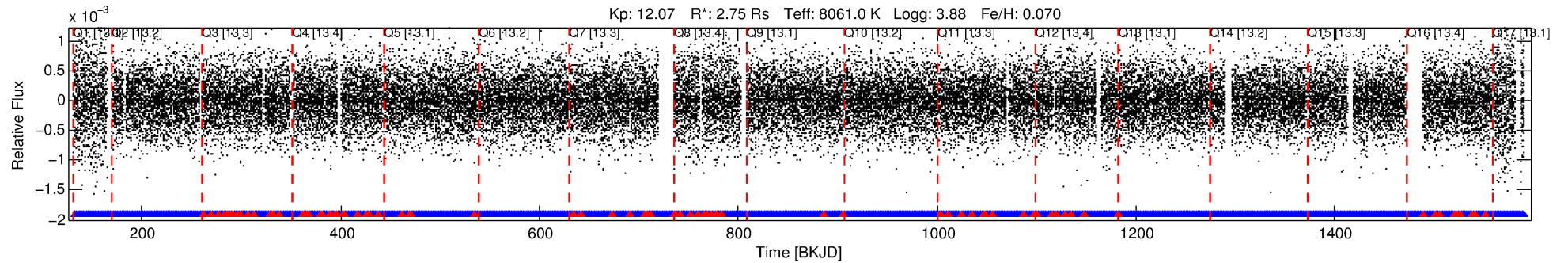
## Ephemeris Match Information For 008626219-02

No Significant Match Found



# DV One-Page Summary

KIC: 8626219 Candidate: 2 of 3 Period: 0.666 d



## DV Fit Results:

Period = 0.66638 [0.00001] d  
Epoch = 132.1273 [0.0021] BKJD  
Rp/R\* = 0.0078 [0.0029]  
a/R\* = 1.50 [1.93]  
b = 0.90 [0.49]  
Seff = 78195.54 [38692.09]  
Teq = 4264 [527] K  
Rp = 2.35 [1.19] Re  
a = 0.0191 [0.0058] AU  
Ag = 1.64 [1.43] [0.44σ]  
Teffp = 7457 [1425] K [2.10σ]

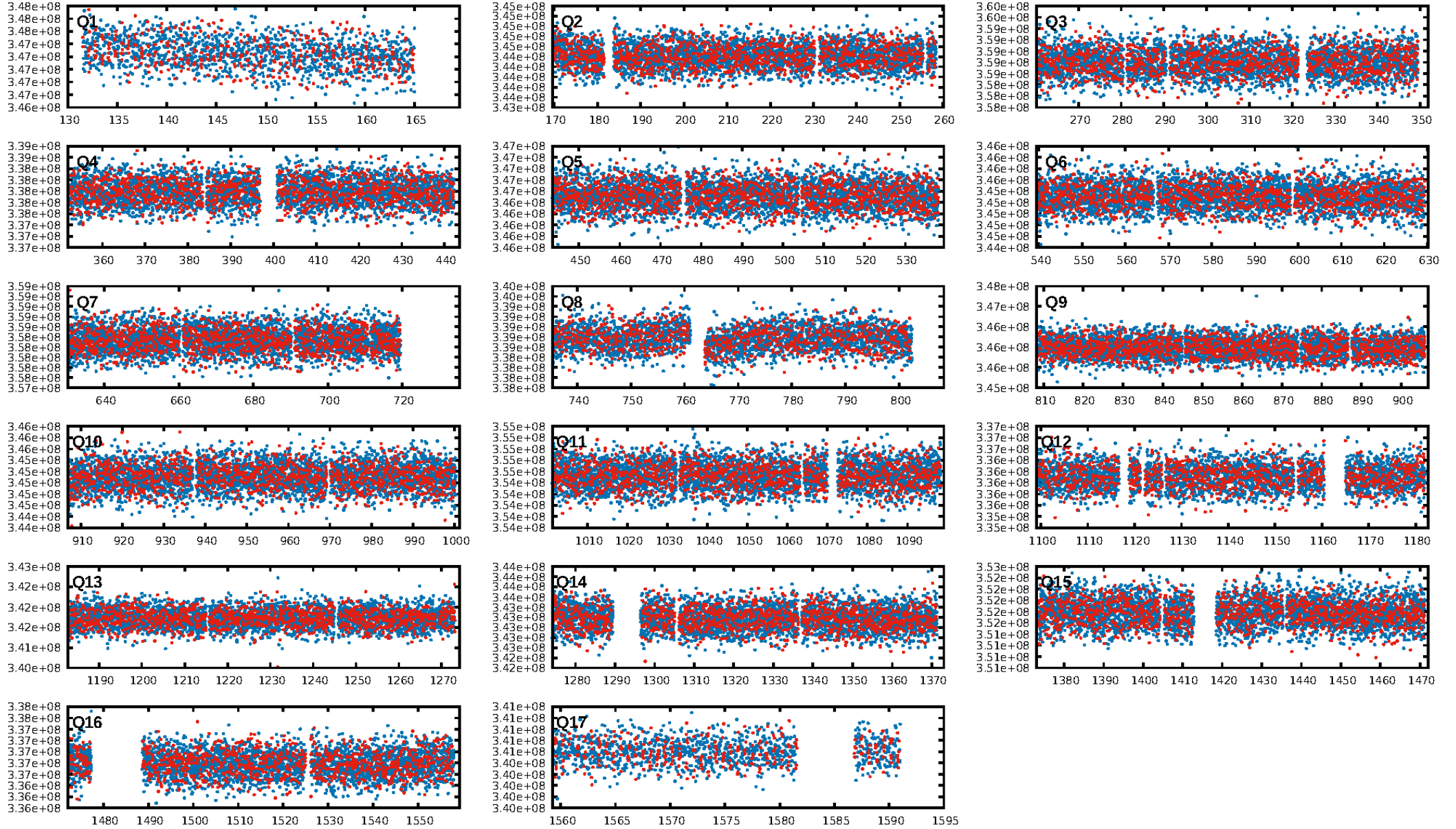
## DV Diagnostic Results:

**ShortPeriod-sig: 0.0% [0.00σ]**  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: 9.38e-13  
RollingBand-fgt: 0.96 [1834/1919]  
GhostDiagnostic-chr: -6.359  
Centroid-sig: 0.8%  
Centroid-so: 0.547 arcsec [2.39σ]  
OotOffset-rm: 0.150 arcsec [0.23σ]  
KicOffset-rm: 0.014 arcsec [0.04σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.59 [10/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:26:02 Z

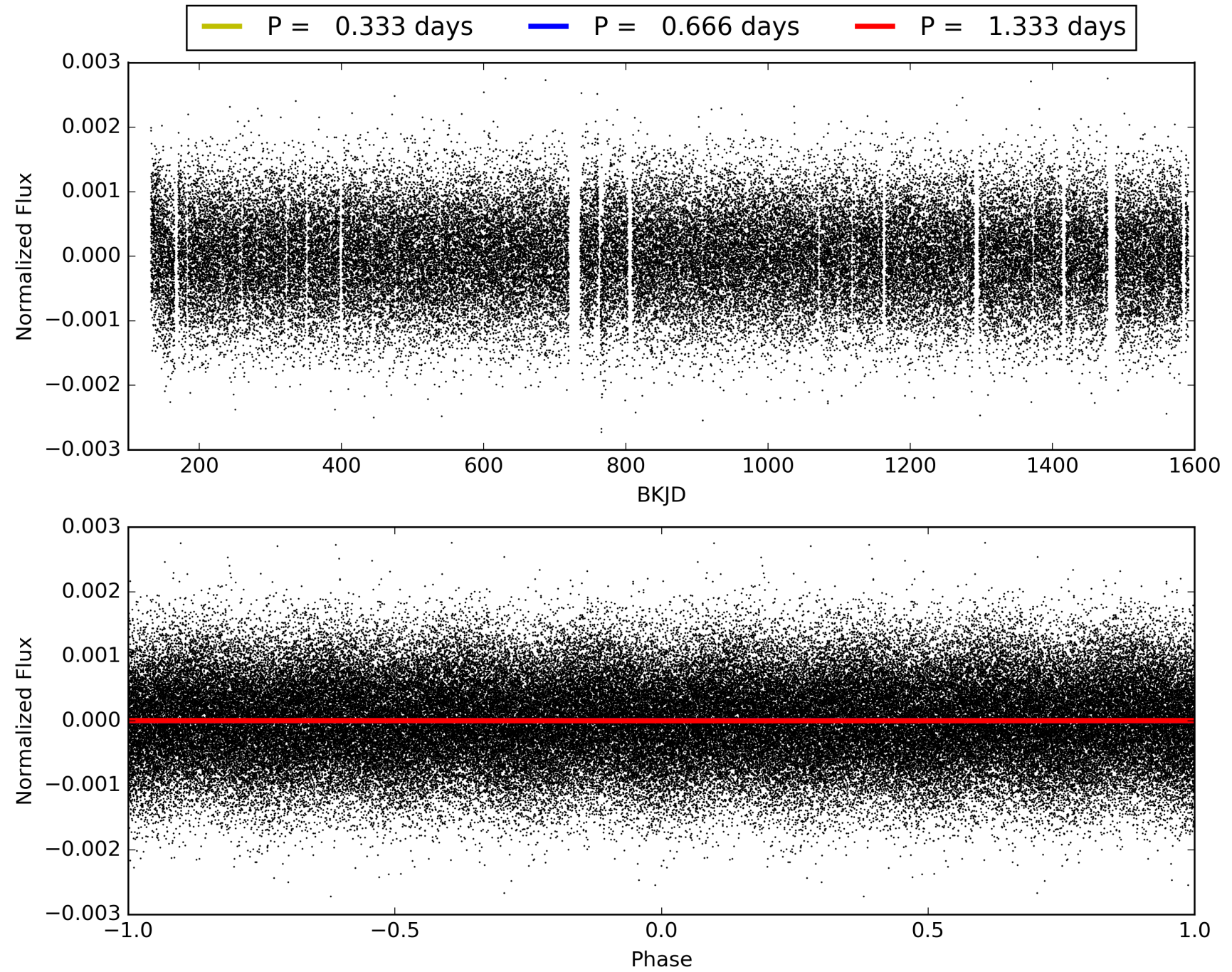
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008626219-02, PDC Light Curves



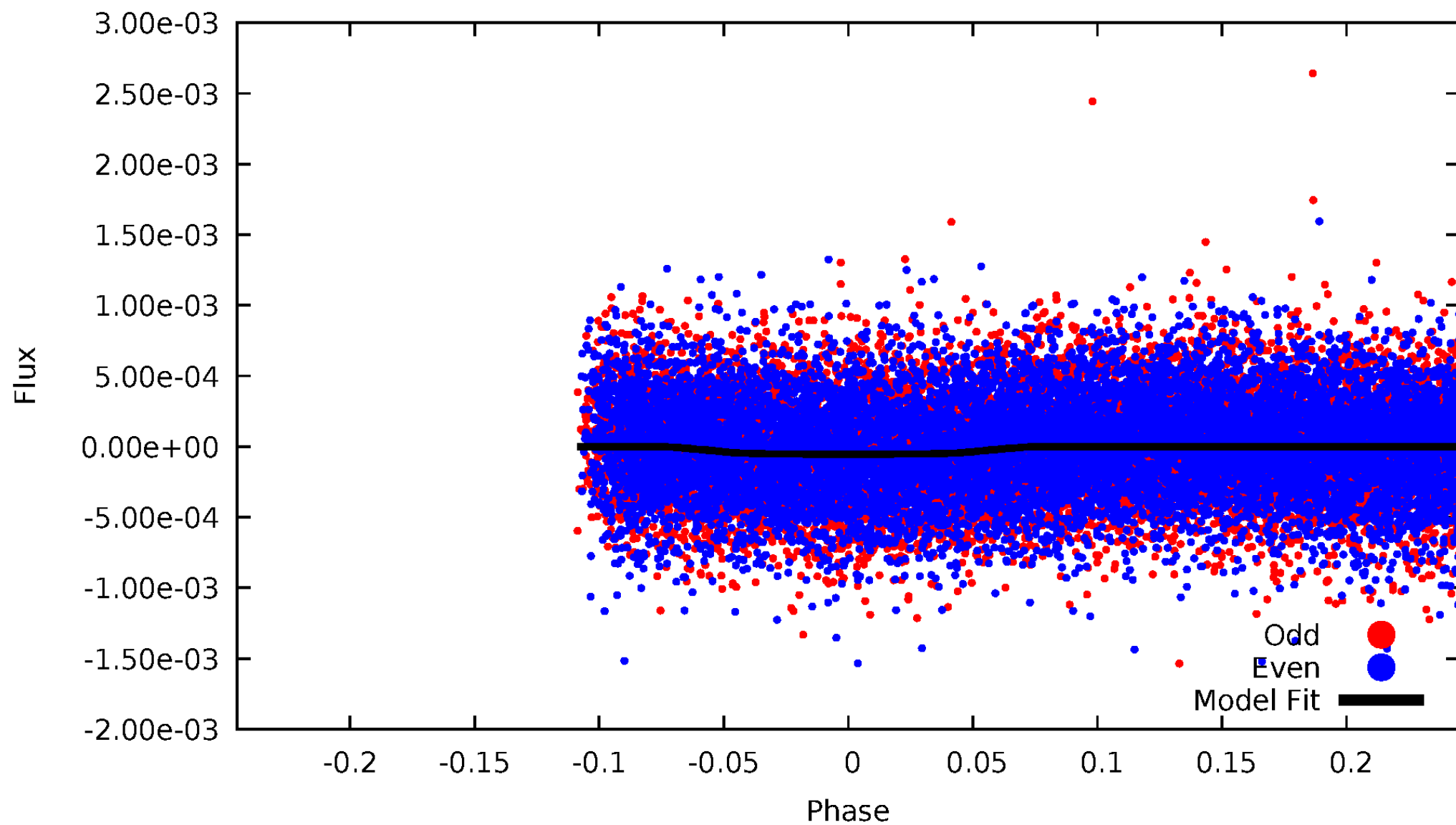


# TCE 008626219-02



# DV Odd/Even

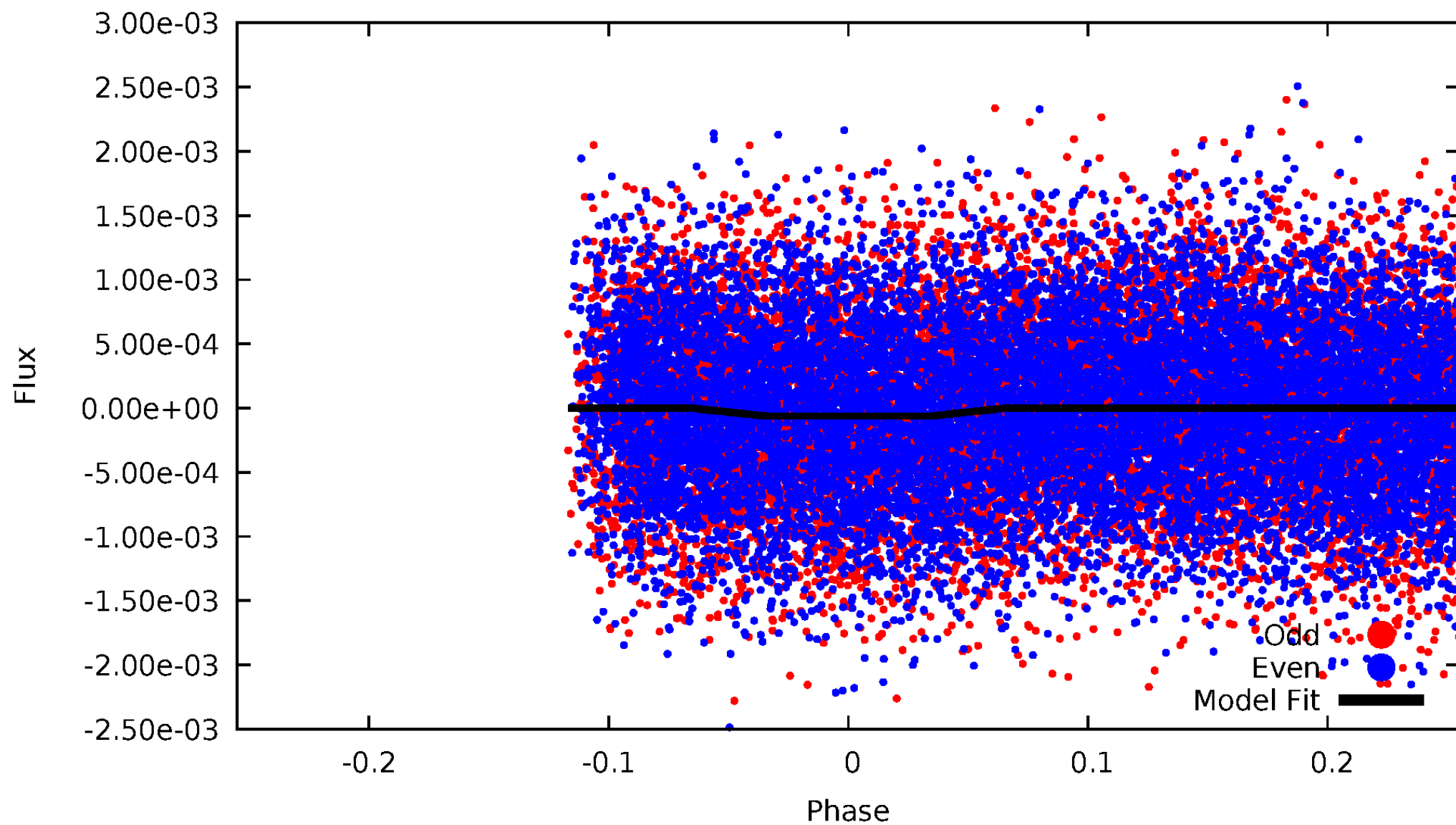
TCE 008626219-02





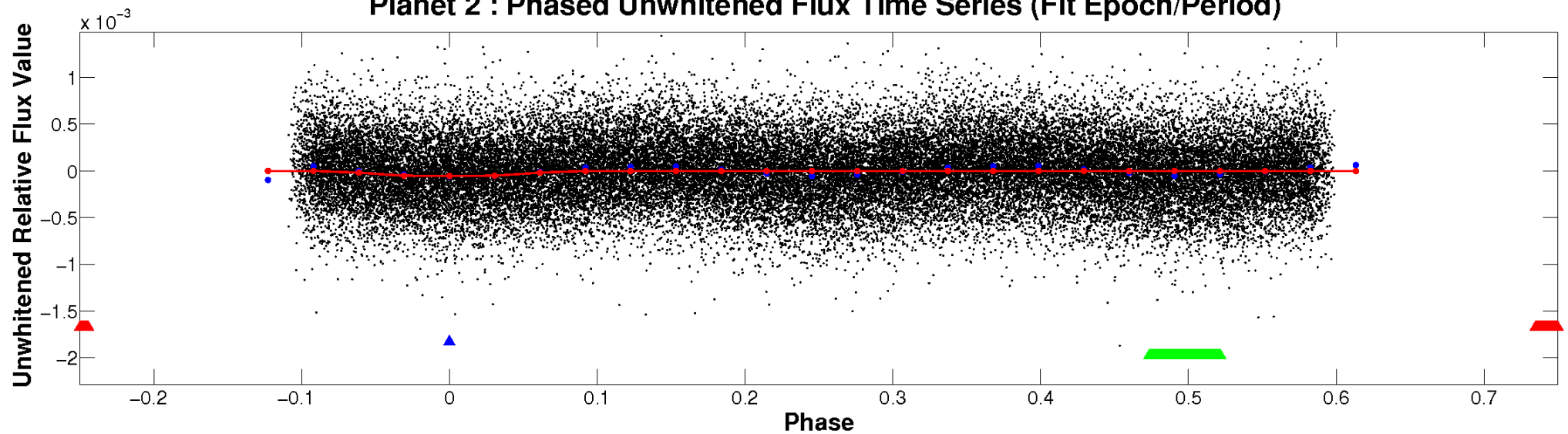
# ALT Odd/Even

TCE 008626219-02

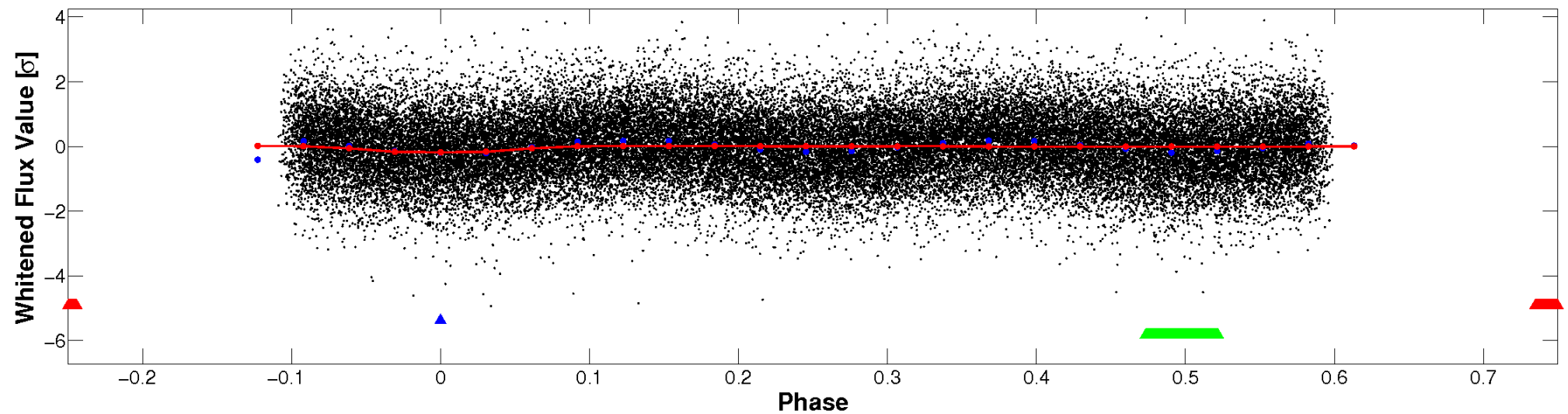


# Non-Whitened Vs. Whitened Light Curve

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

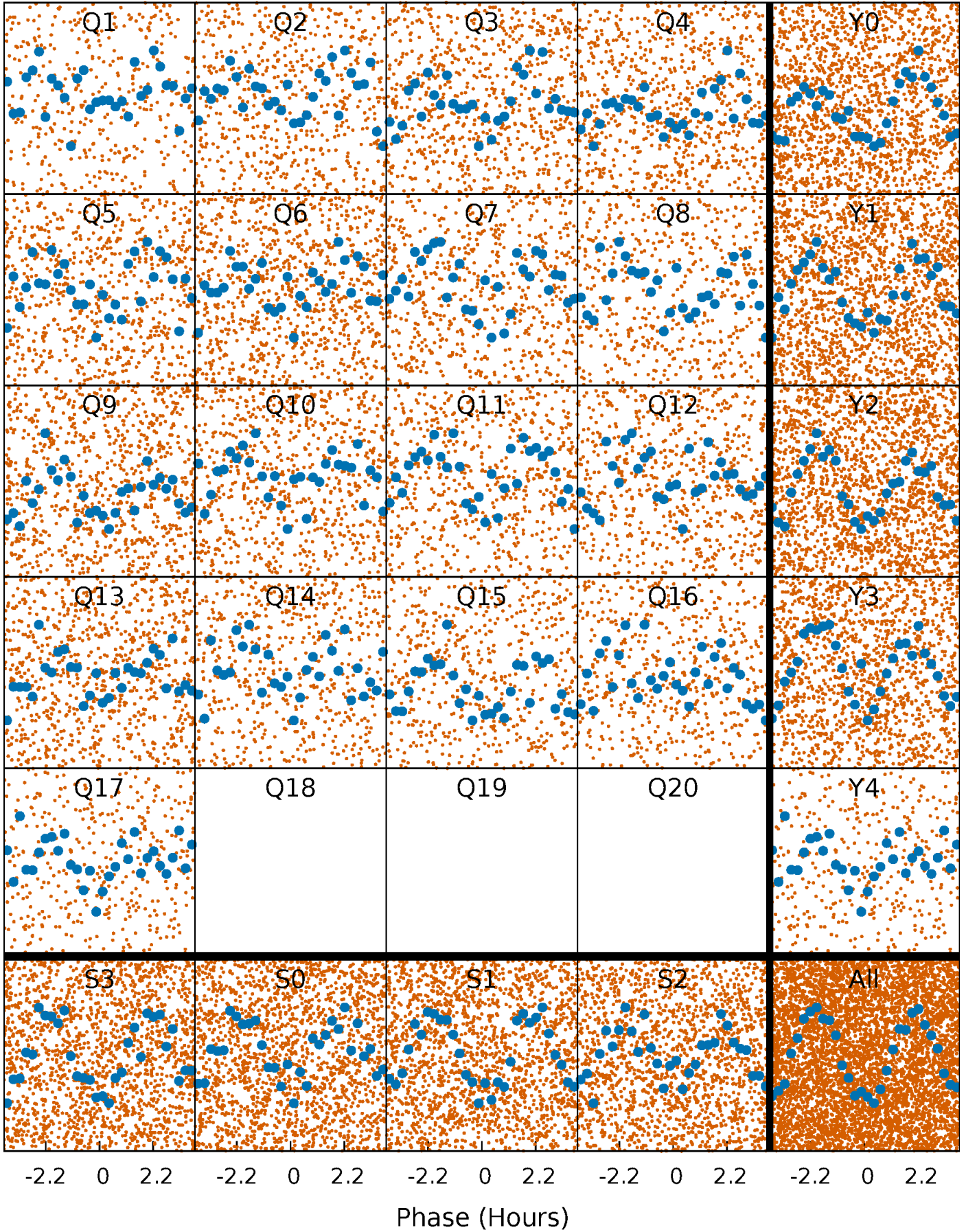


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

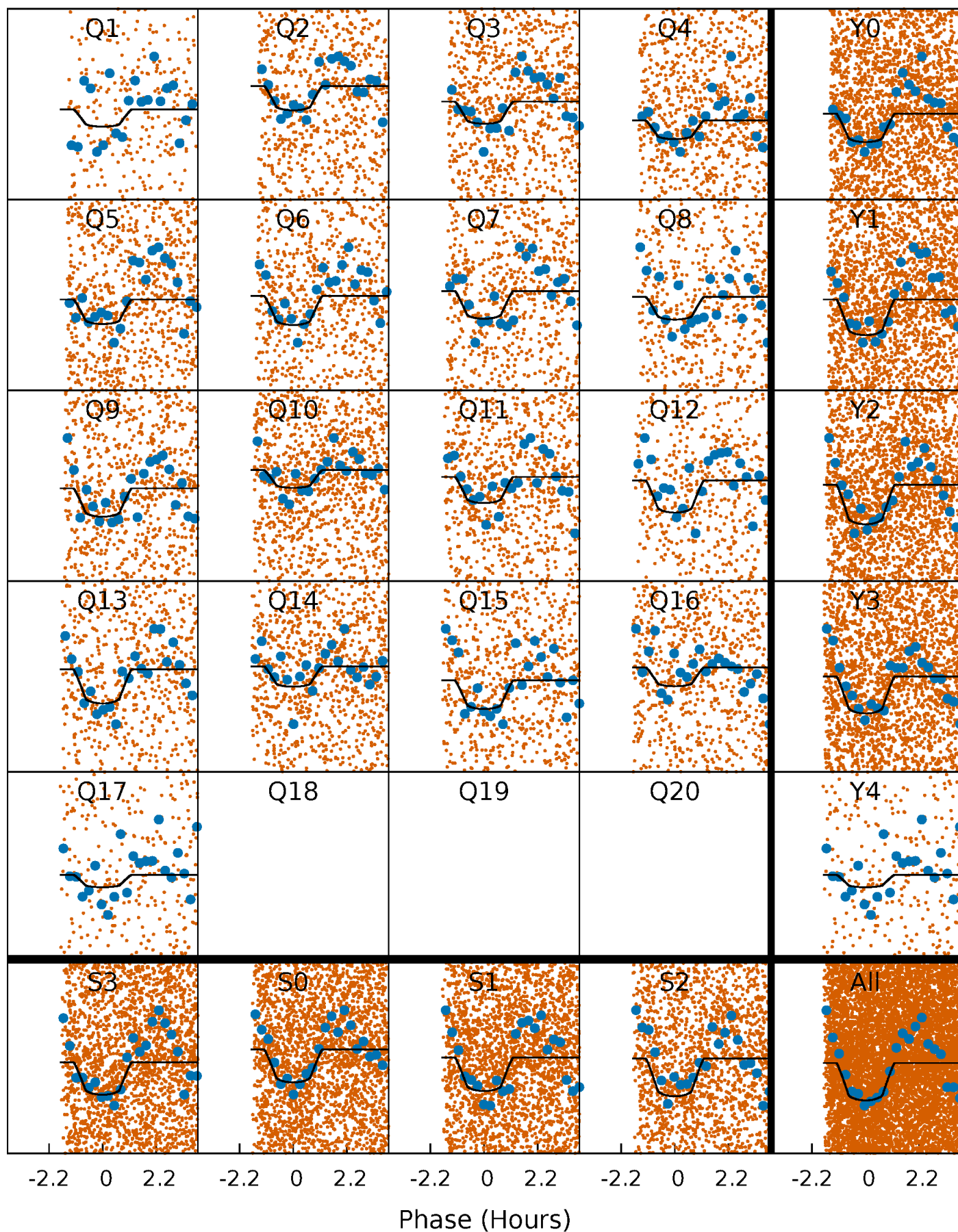
TCE 008626219-02   P= 0.666380 Days    $T_0=132.127255$  (BKJD)





# DV Quarter-Phased Transit Curves

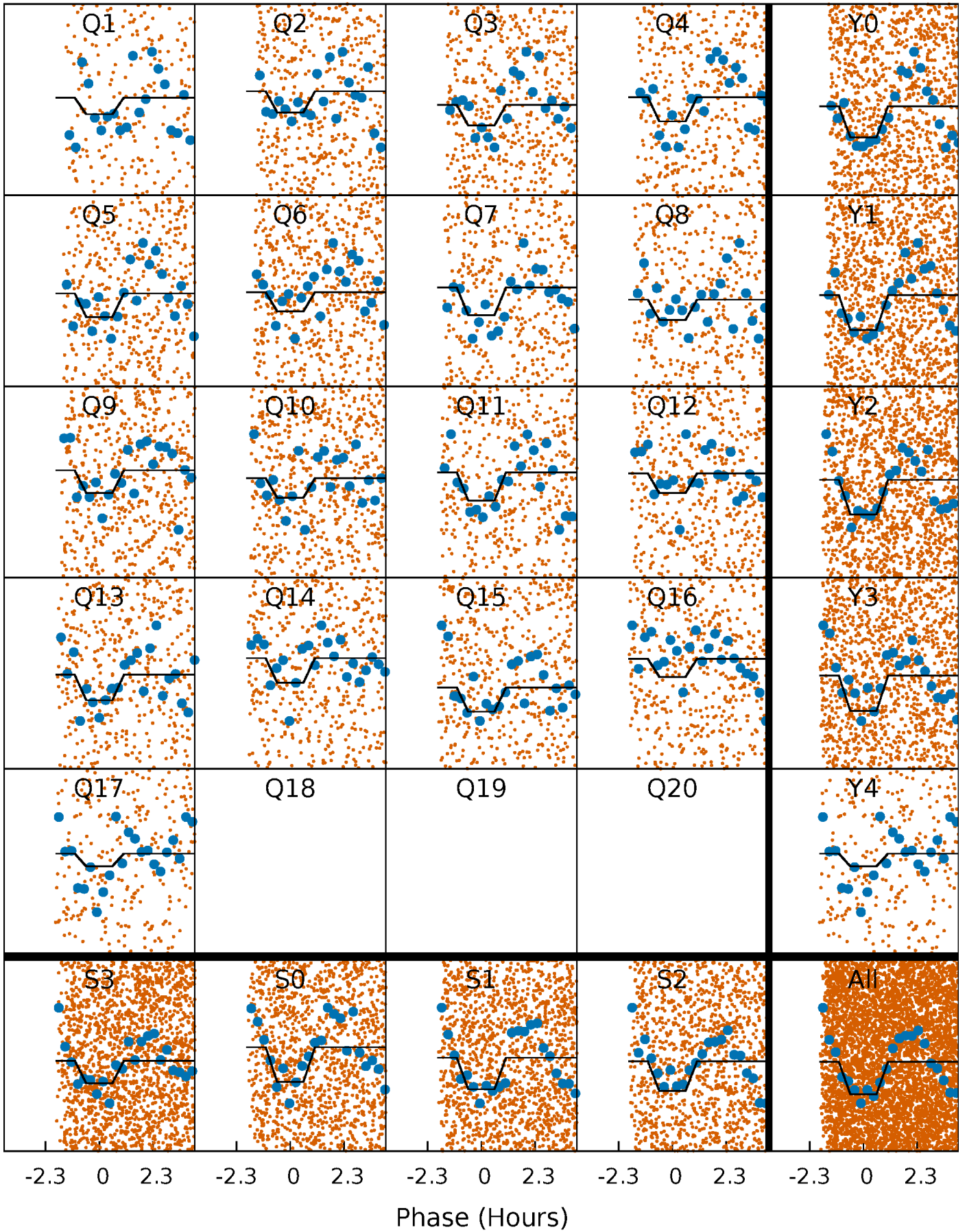
TCE 008626219-02   P= 0.666380 Days    $T_0=132.127255$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

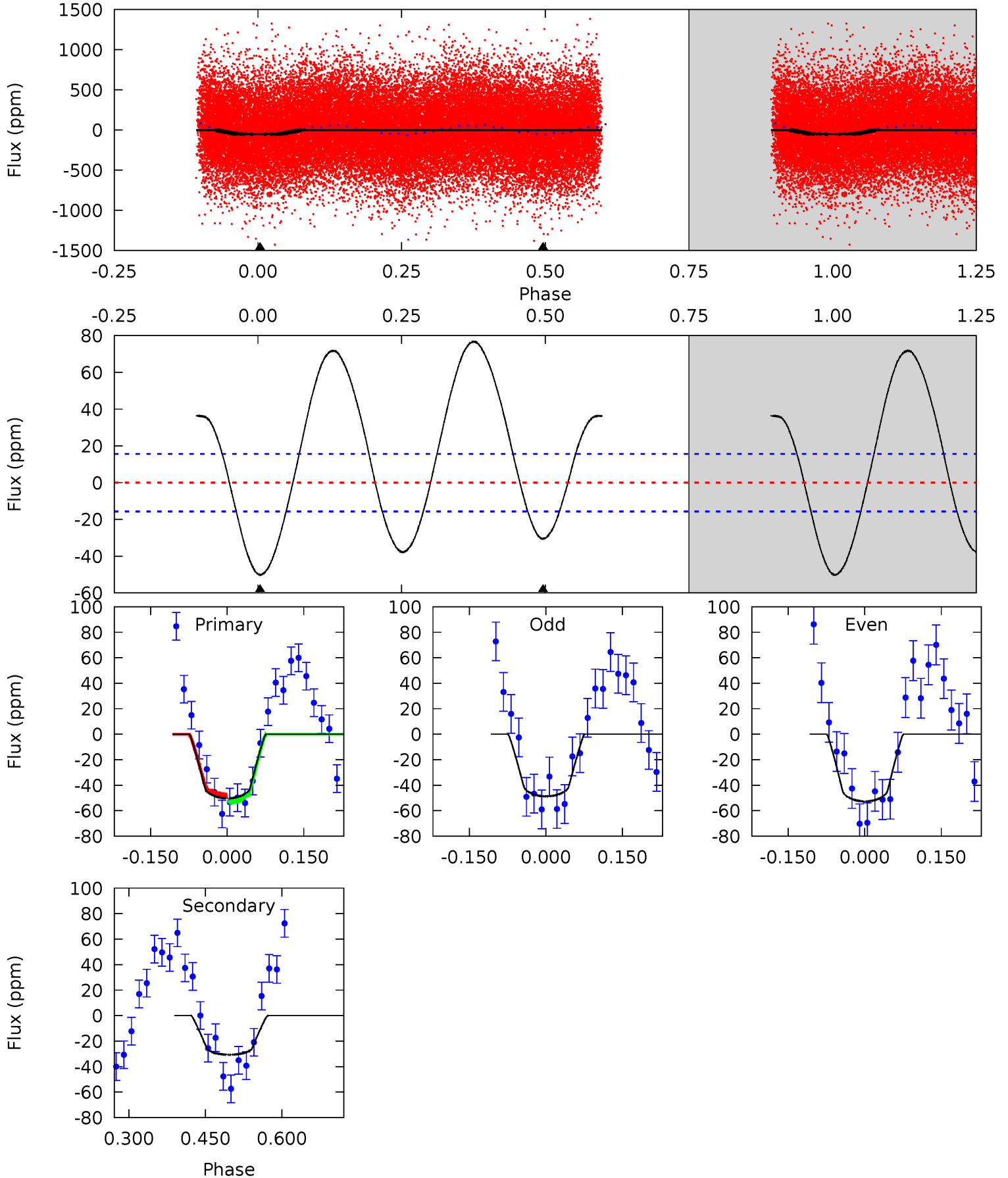
TCE 008626219-02 P= 0.666383 Days  $T_0=132.127592$  (BKJD)



# DV Model-Shift Uniqueness Test

008626219-02, P = 0.666380 Days, E = 131.460875 Days

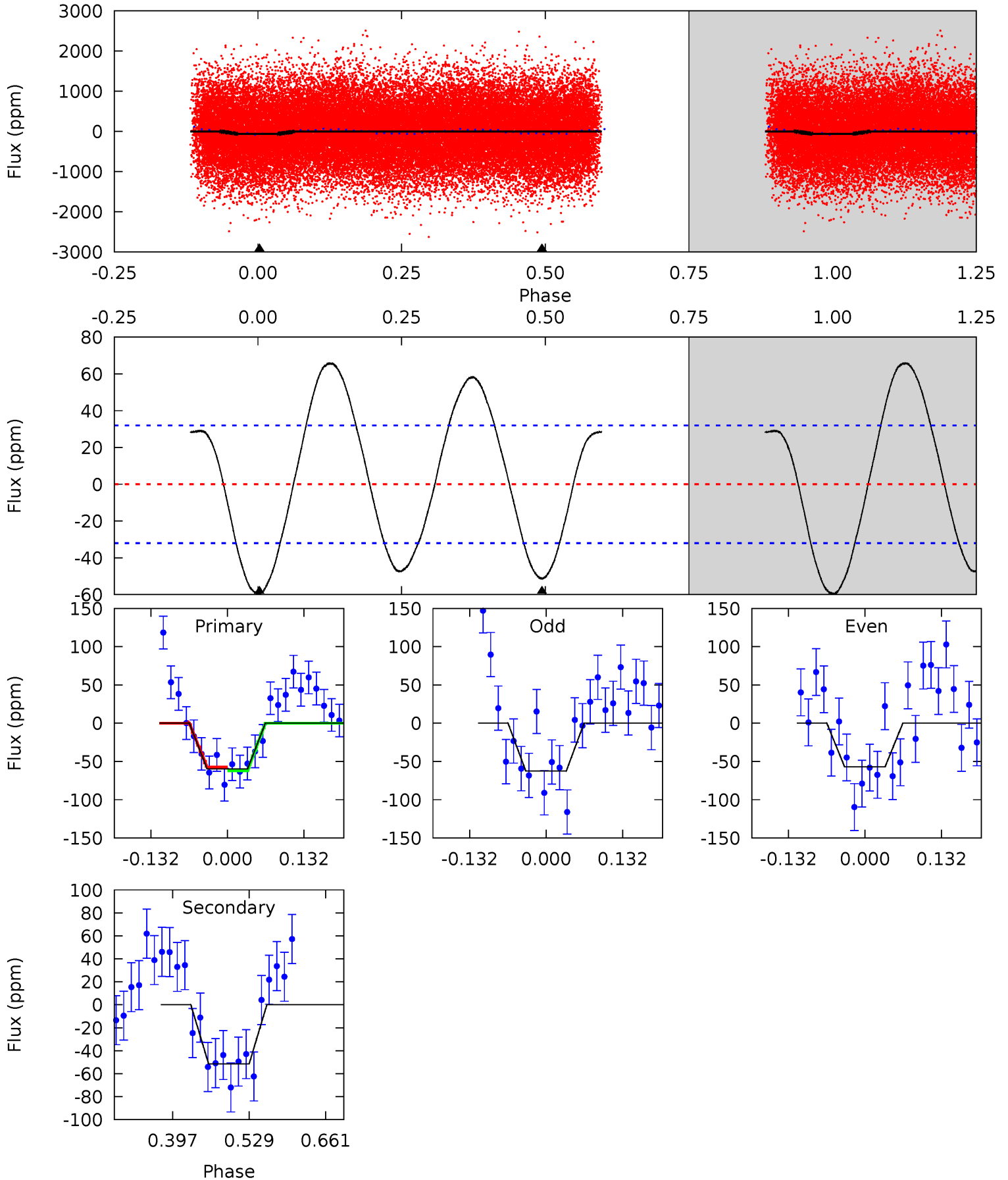
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	8.76	0	0	4.48	1.44	9.24	14.4	14.4	8.76	8.76	0.57	0.93	0.60	0.68



# Alt Model-Shift Uniqueness Test

008626219-02, P = 0.666383 Days, E = 131.461209 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
8.41	7.25	0	0	4.51	1.51	5.13	8.41	8.41	7.25	7.25	0.39	1.26	0.52	0.34



### Stellar Parameters For KIC 008626219

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8061^{+222}_{-361}$	$3.881^{+0.260}_{-0.140}$	$0.070^{+0.250}_{-0.400}$	$2.745^{+0.635}_{-0.952}$	$2.087^{+0.306}_{-0.459}$	$0.142^{+0.275}_{-0.052}$
	+3%/-4%	+7%/-4%	+357%/-571%	+23%/-35%	+15%/-22%	+193%/-37%
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 008626219-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-31 \pm 4$	$2.25^{+0.98}_{-0.85}$	$5879^{+369}_{-522}$	$6068^{+2149}_{-1270}$	$1.213^{+1.896}_{-0.614}$
Alt.	$-51 \pm 7$	$2.22^{+1.01}_{-0.87}$	$5865^{+465}_{-499}$	$7222^{+2830}_{-1420}$	$2.016^{+3.386}_{-1.047}$

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

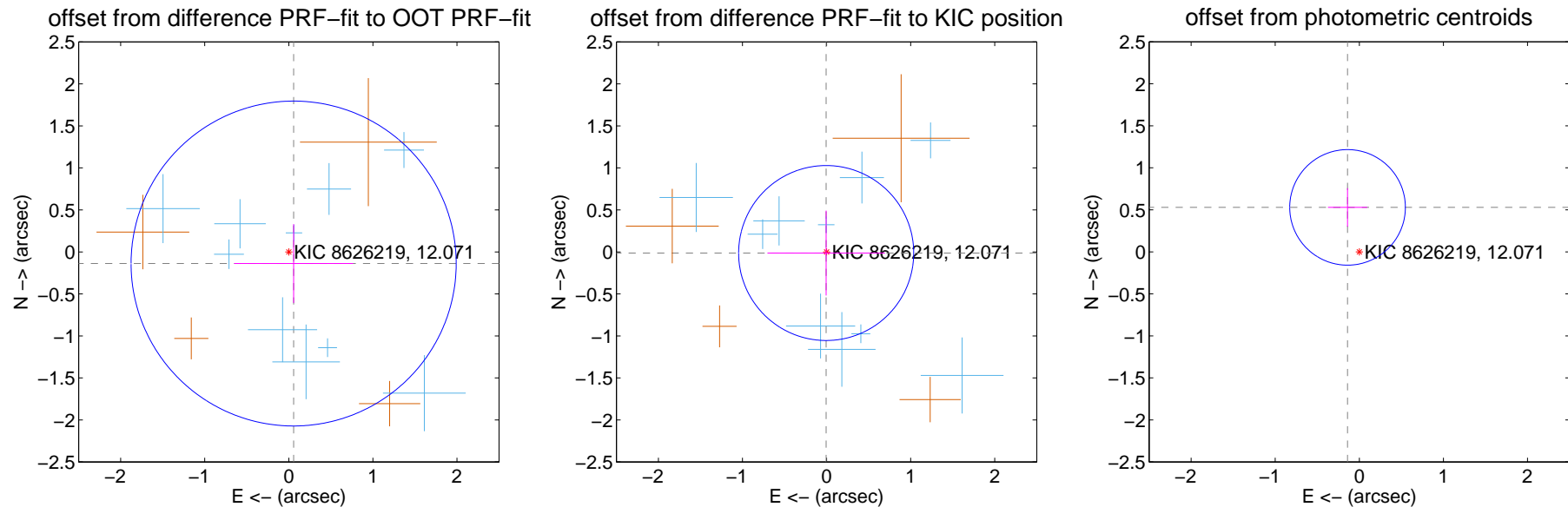
## DV Centroid Data

Supplemental centroid analysis for 008626219-02. Kepler magnitude: 12.07. Transit SNR 13.58

There are 10 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

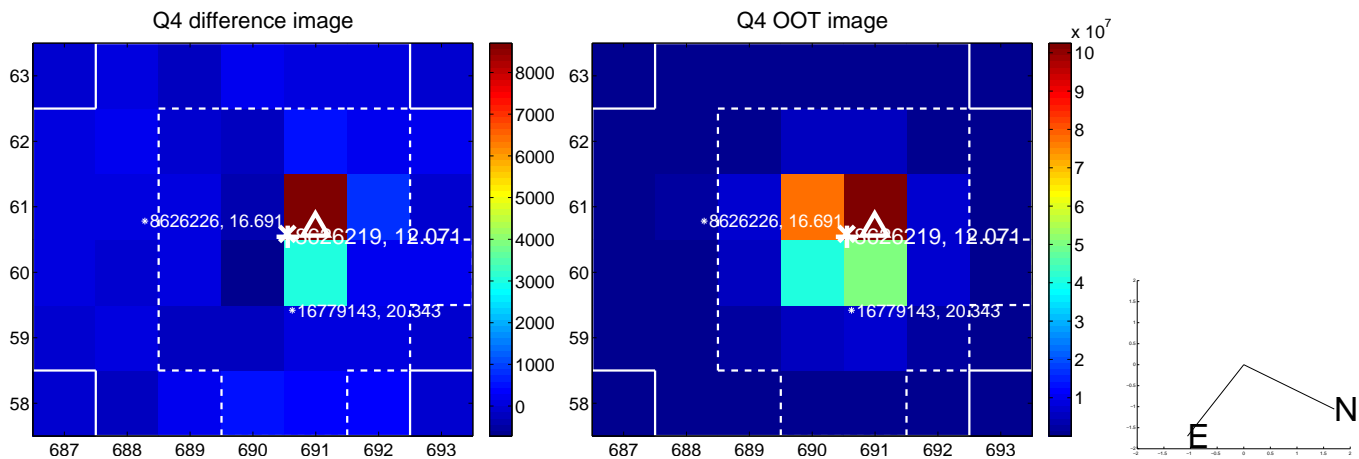
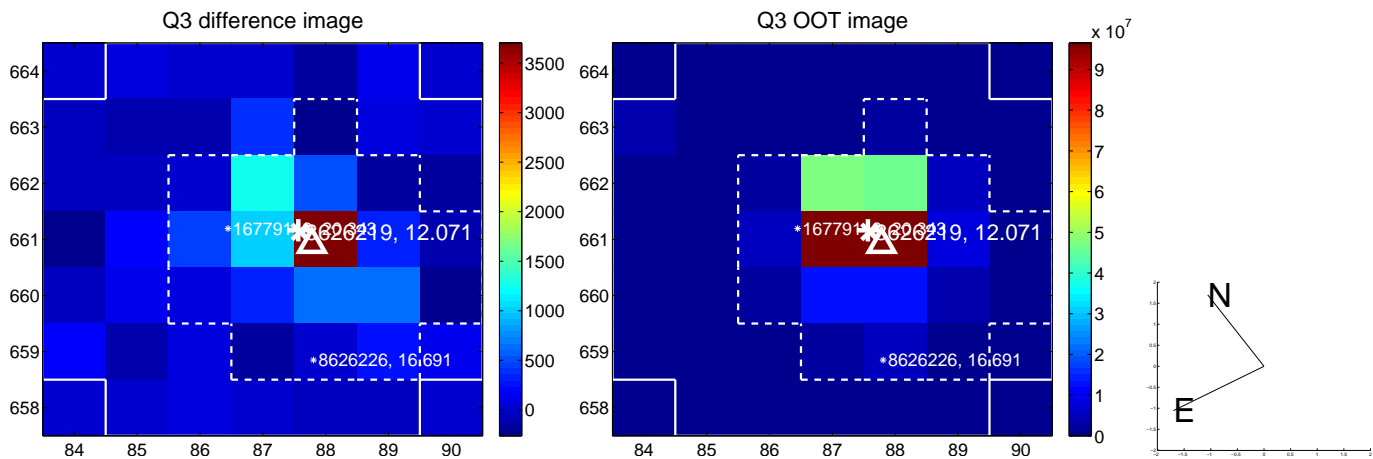
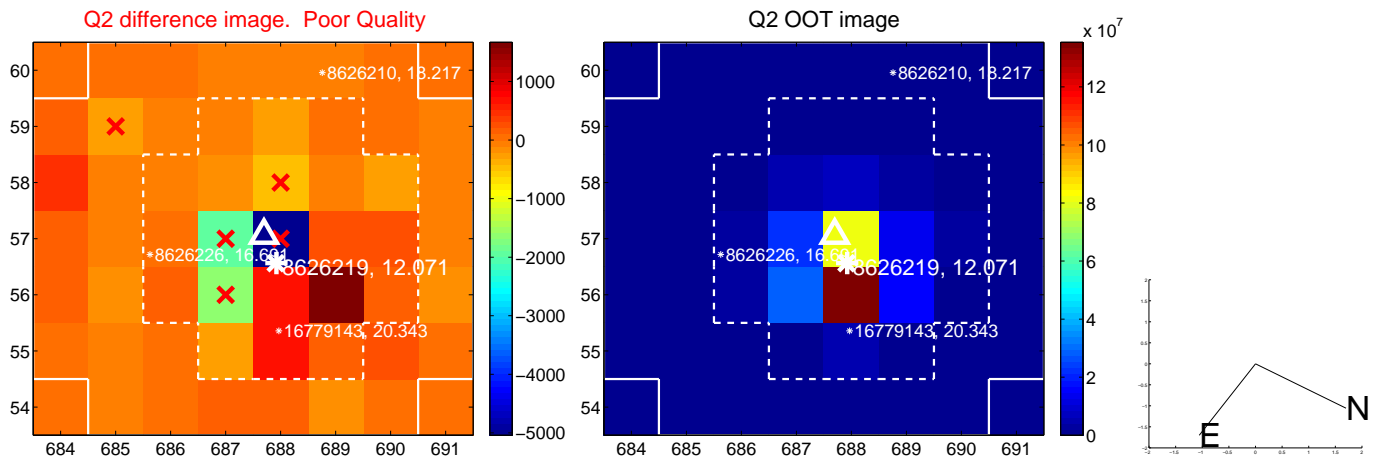
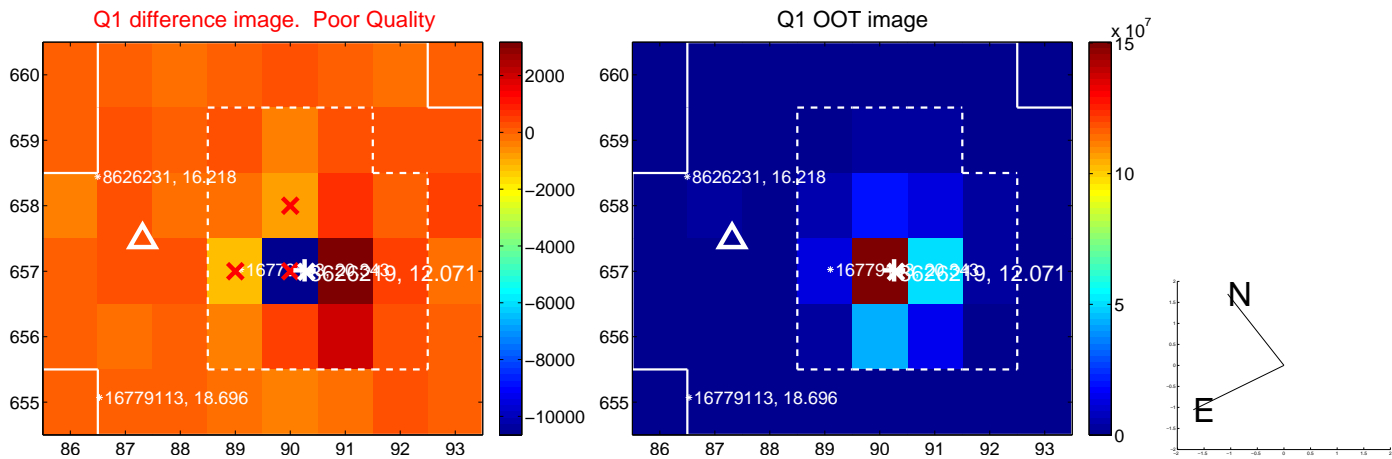
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.150 \pm 0.645$	0.23	$-0.057 \pm 0.708$	$-0.138 \pm 0.469$
PRF-fit source offset from KIC position	$0.014 \pm 0.347$	0.04	$0.005 \pm 0.698$	$-0.013 \pm 0.505$
photometric centroid source offset	$0.55 \pm 0.23$	2.39	$0.14 \pm 0.23$	$0.53 \pm 0.23$



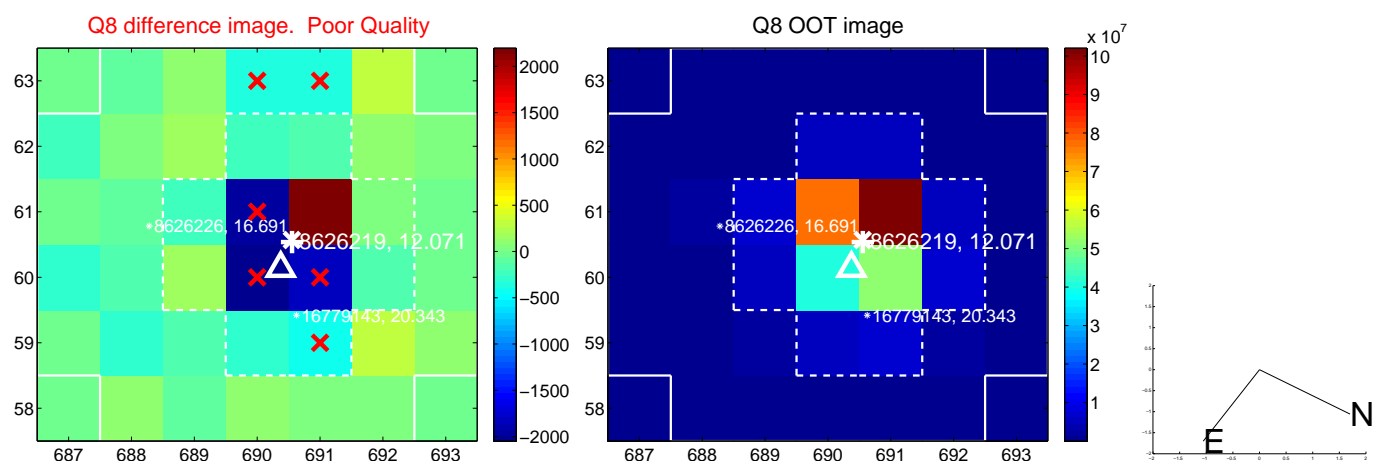
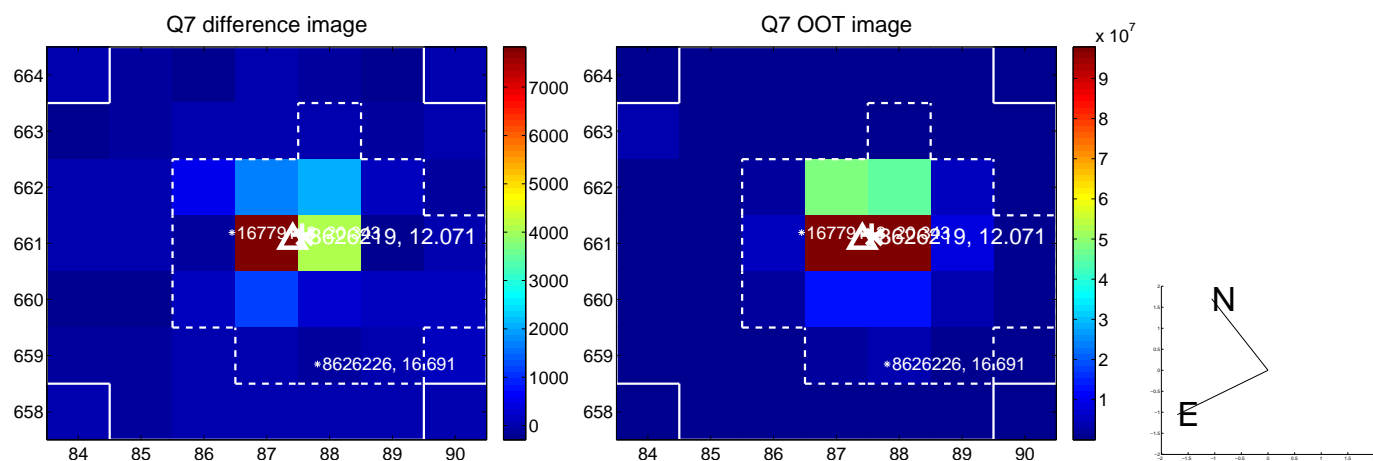
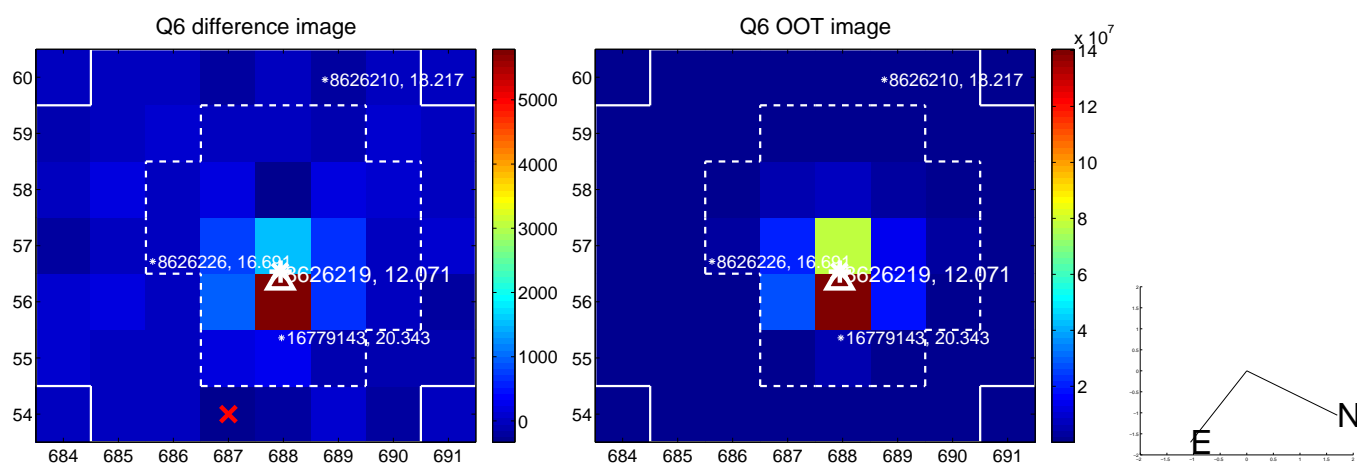
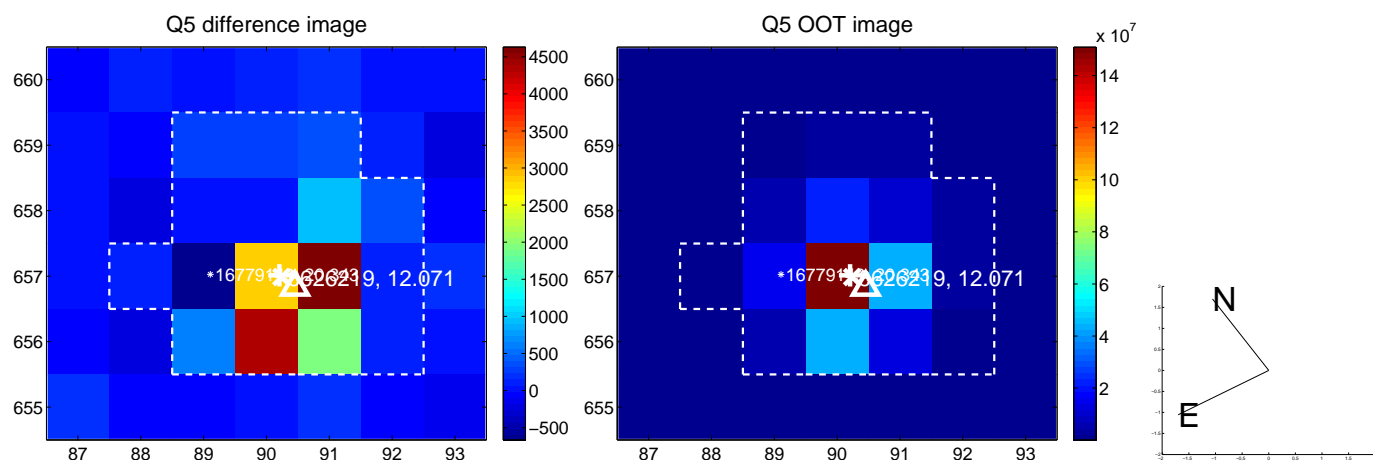
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.



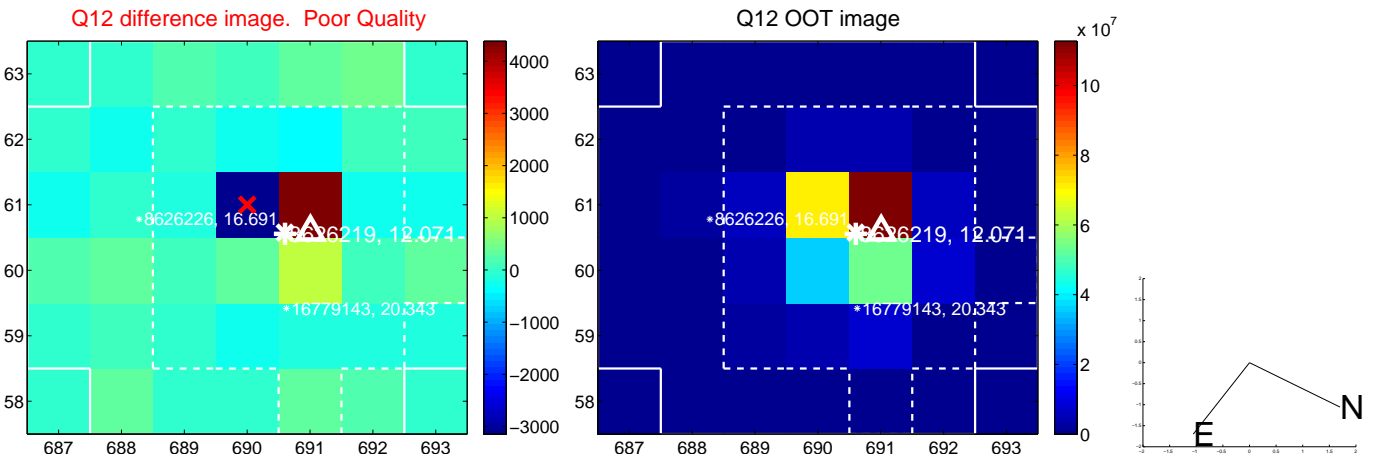
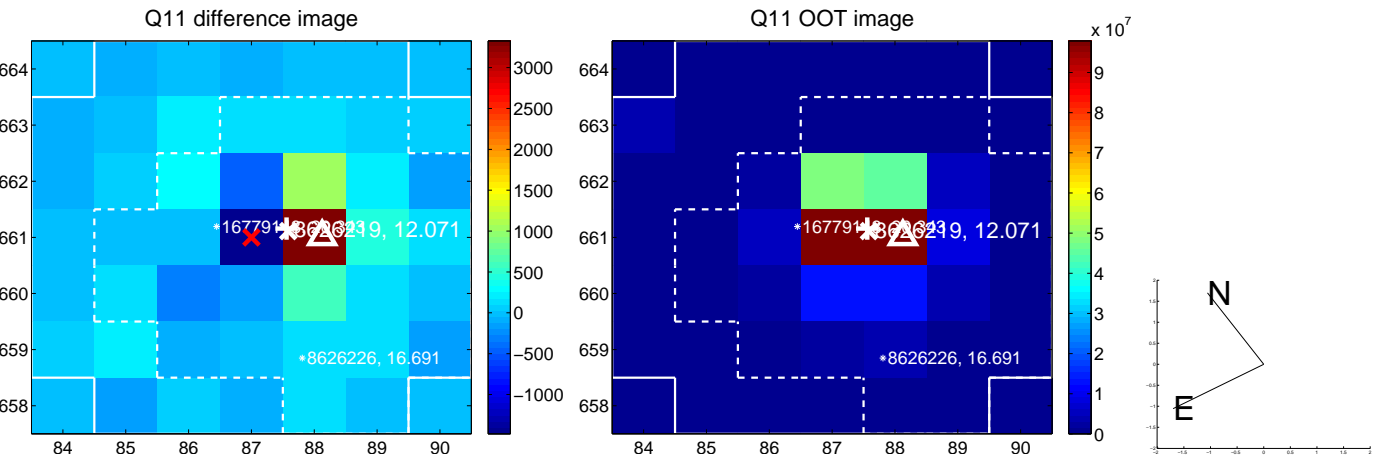
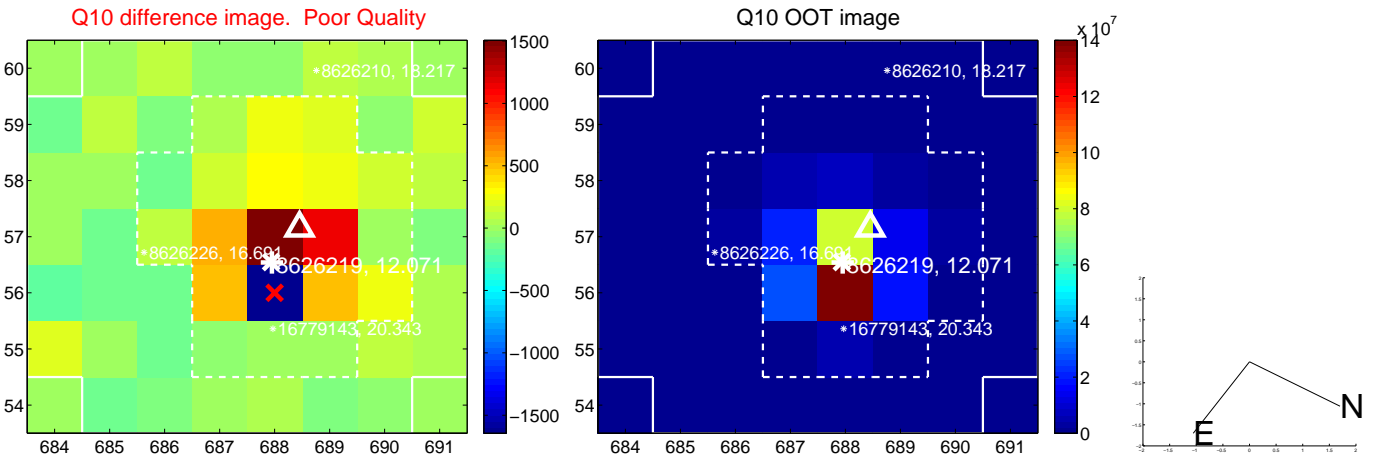
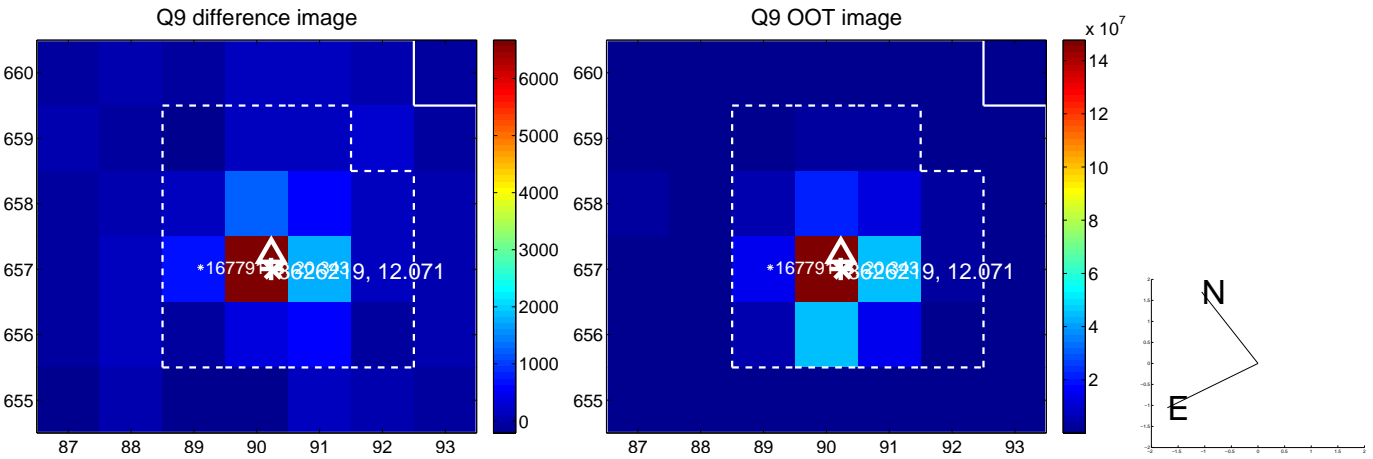
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



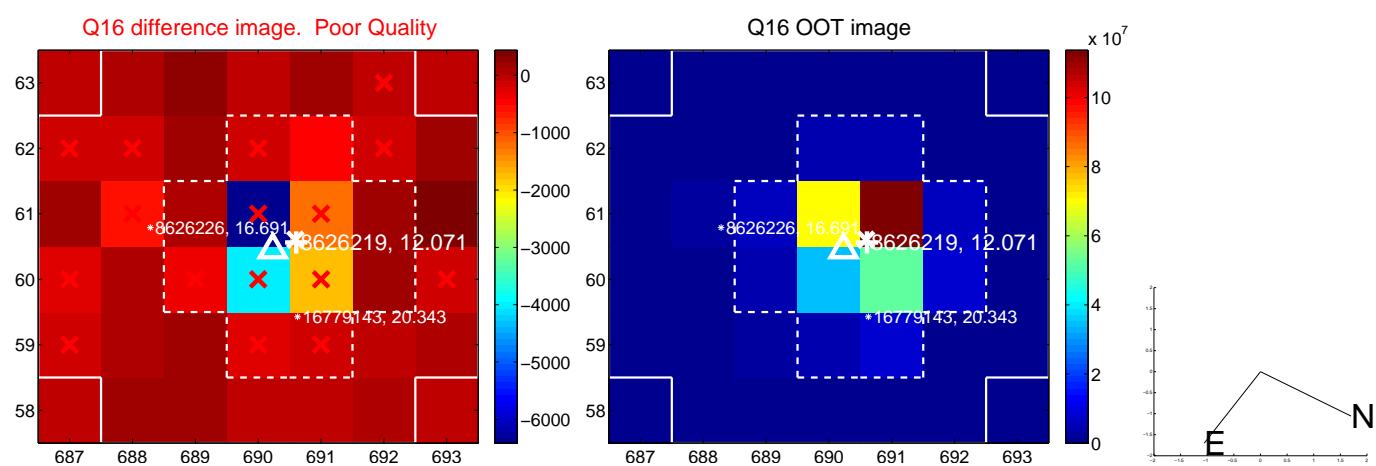
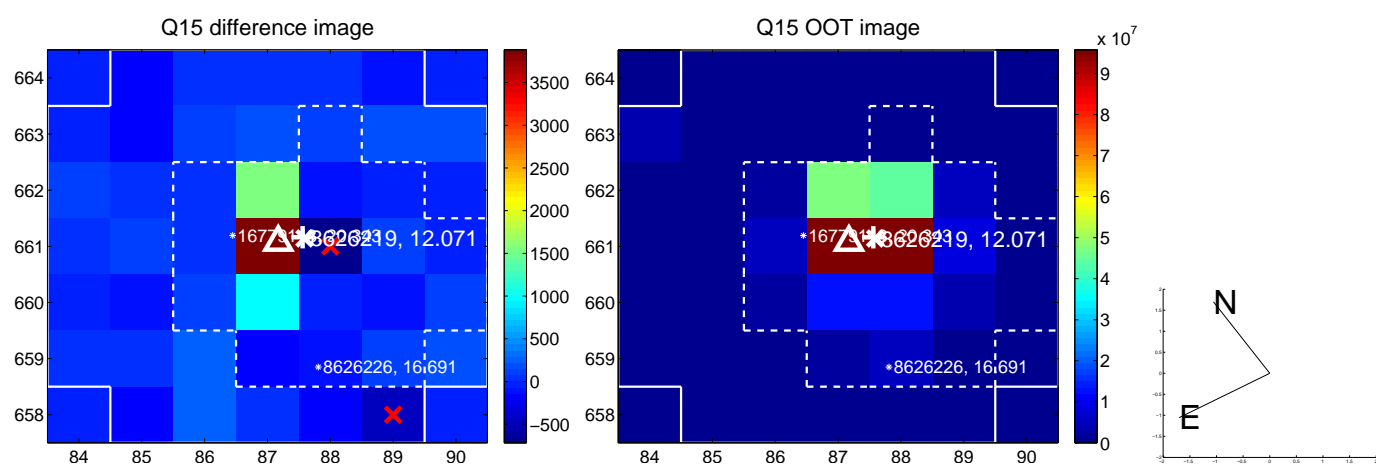
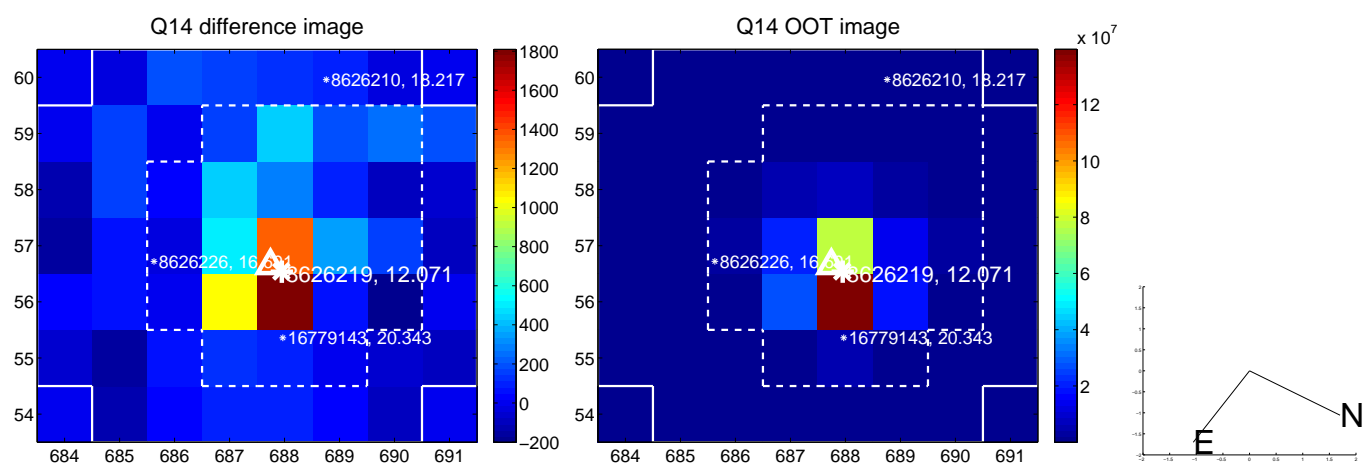
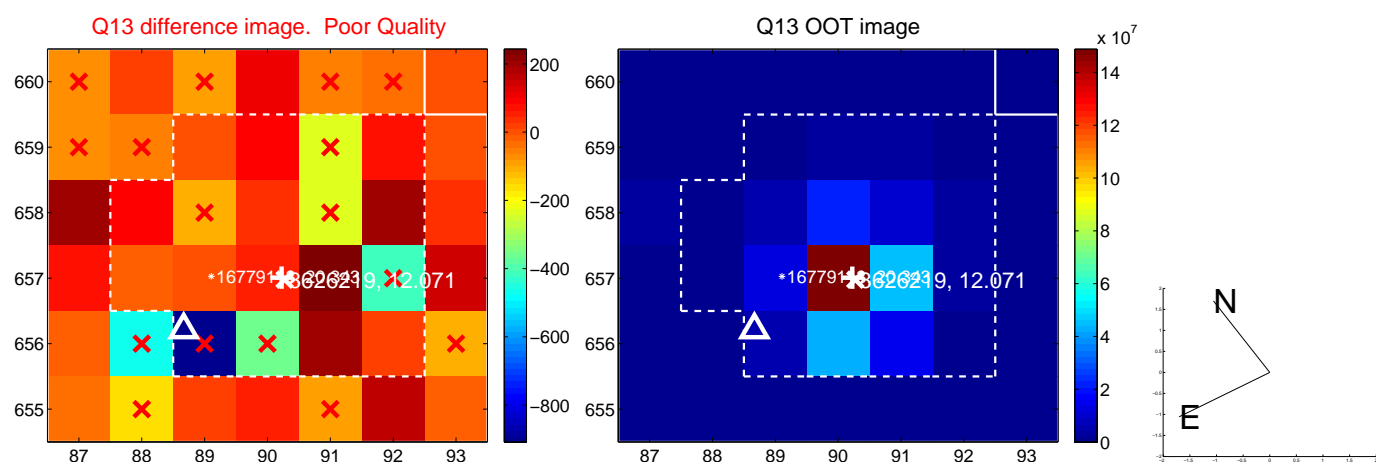
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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

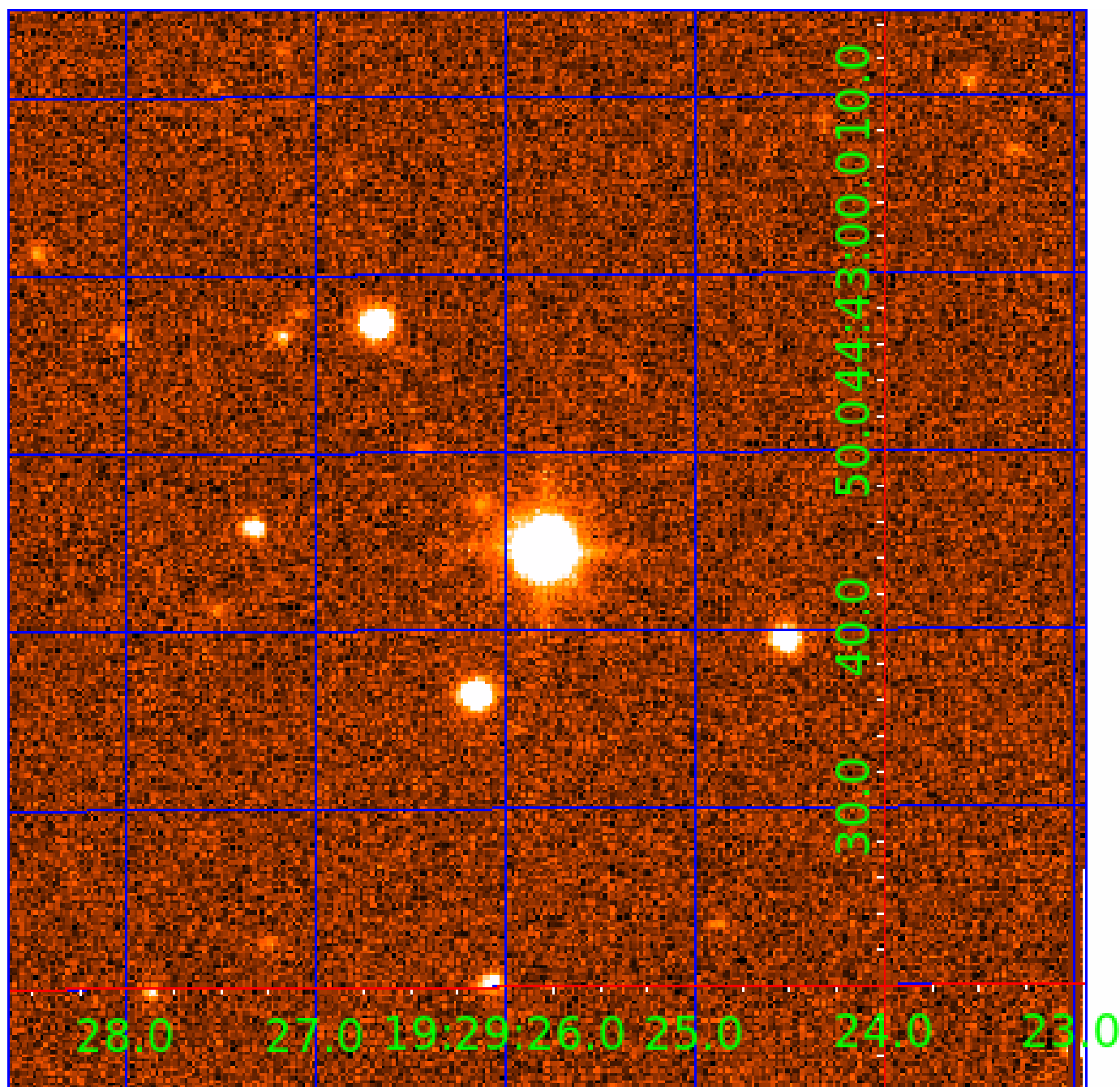






UKIRT Image

Declination



# KIC 008626219

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008626219-01	OBS	No	0.666374	131.964523	69.4	1.159	15.6	13.4	2.75	8061	2.46	78196.54
008626219-02	OBS	No	0.666380	132.127255	54.0	1.962	12.9	13.6	2.75	8061	2.35	78195.54
008626219-03	OBS	No	0.666366	131.808603	49.1	1.711	10.0	11.6	2.75	8061	2.24	78197.84

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008626219-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008626219-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
008626219-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—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.

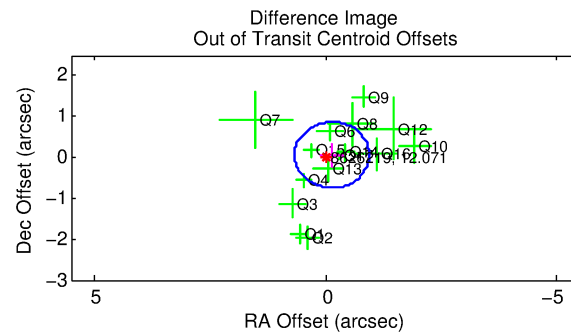
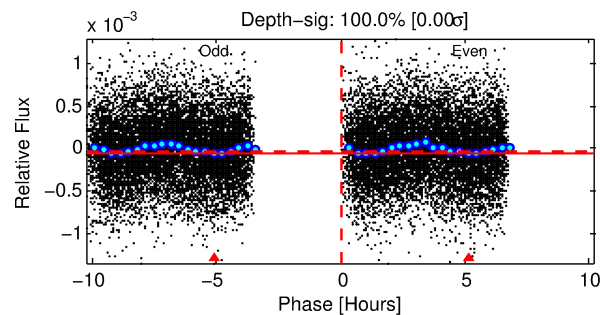
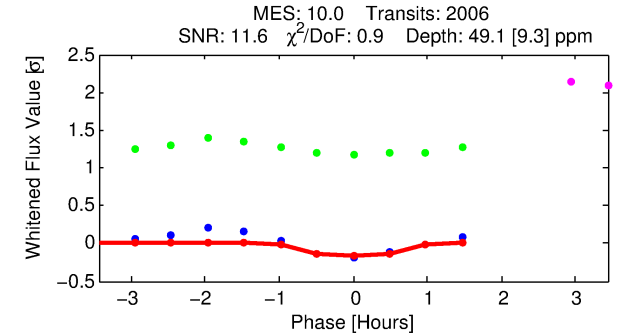
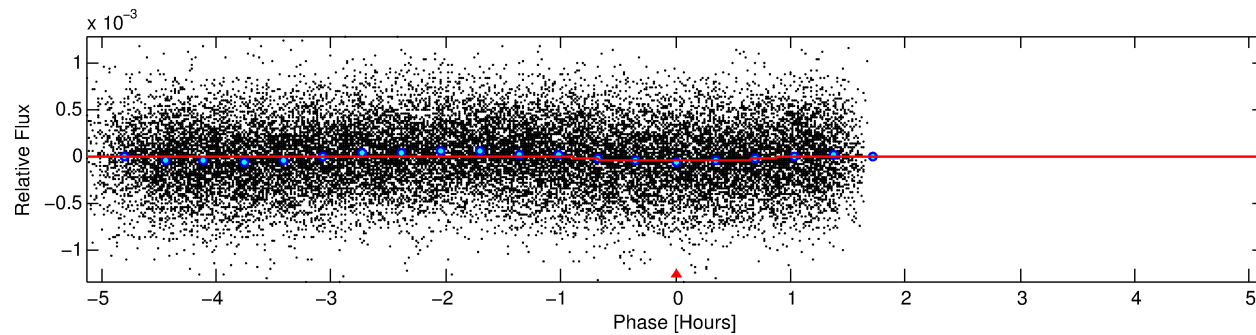
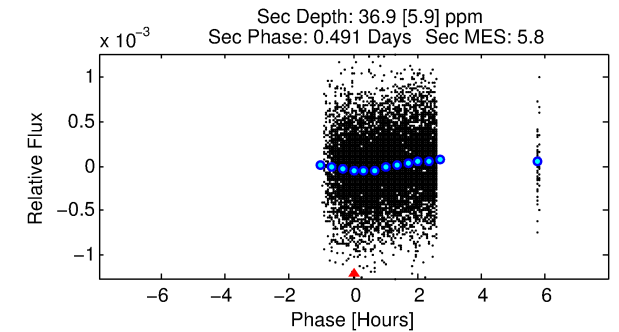
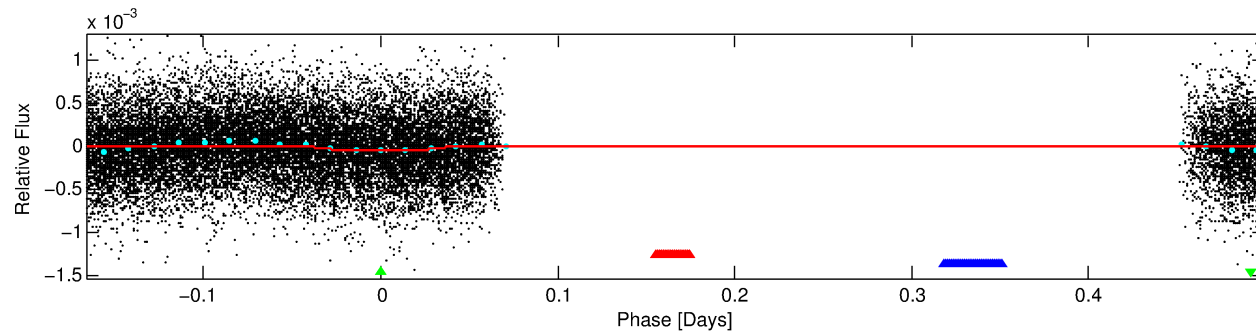
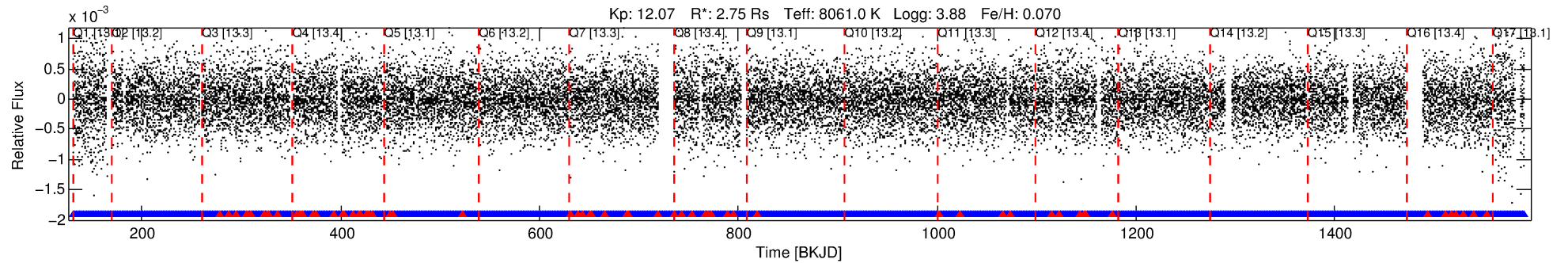
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008626219-03

No Significant Match Found

# DV One-Page Summary

KIC: 8626219 Candidate: 3 of 3 Period: 0.666 d



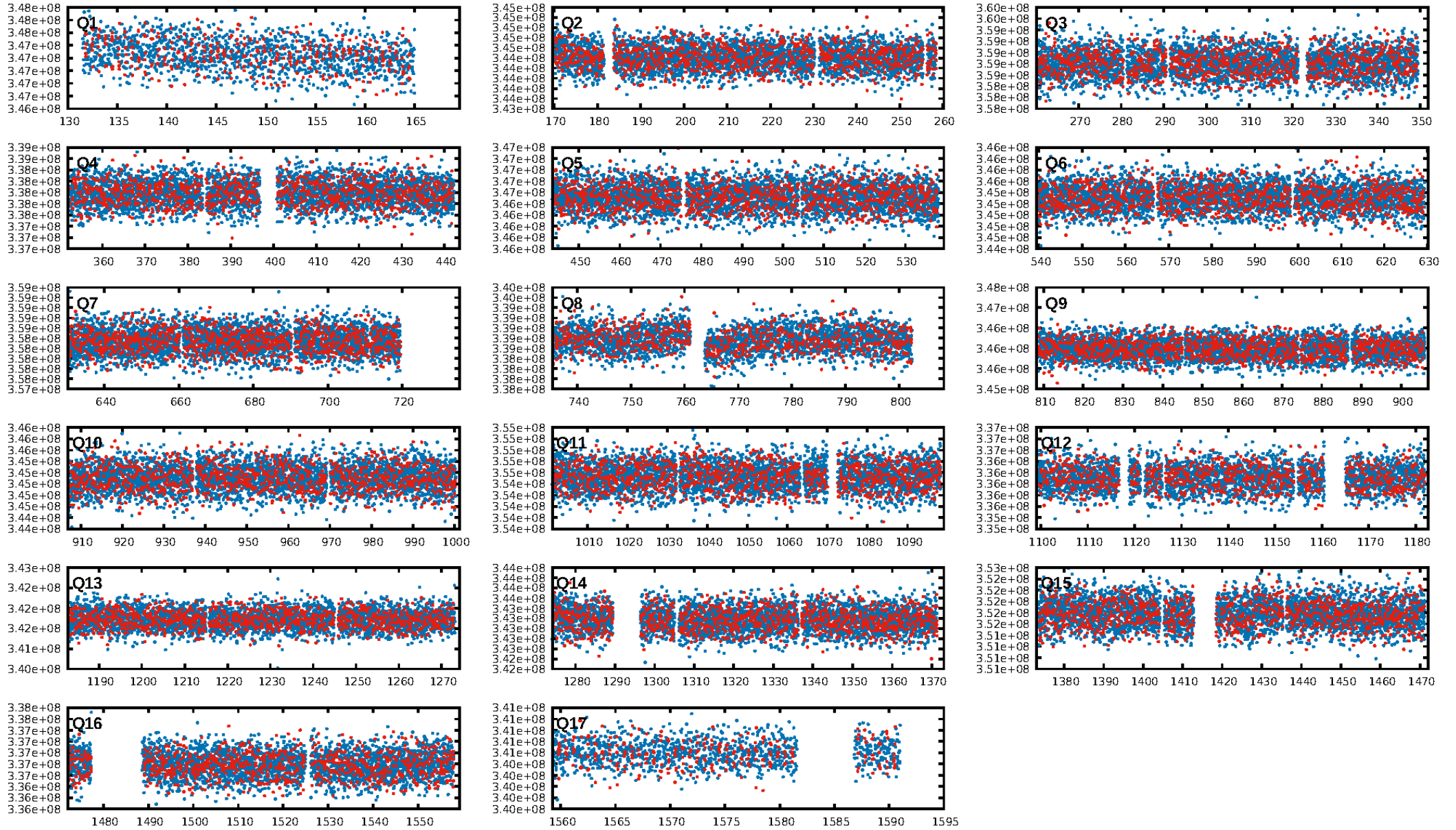
## DV Fit Results:

Period = 0.66637 [0.00002] d  
Epoch = 131.8086 [0.0024] BKJD  
Rp/R\* = 0.0075 [0.0038]  
a/R\* = 1.64 [3.28]  
b = 0.90 [0.68]  
Seff = 78197.84 [38693.23]  
Teff = 4264 [527] K  
Rp = 2.24 [1.39] Re  
a = 0.0191 [0.0058] AU  
Ag = 1.48 [1.68] [0.28σ]  
Teffp = 7267 [1914] K [1.51σ]

## DV Diagnostic Results:

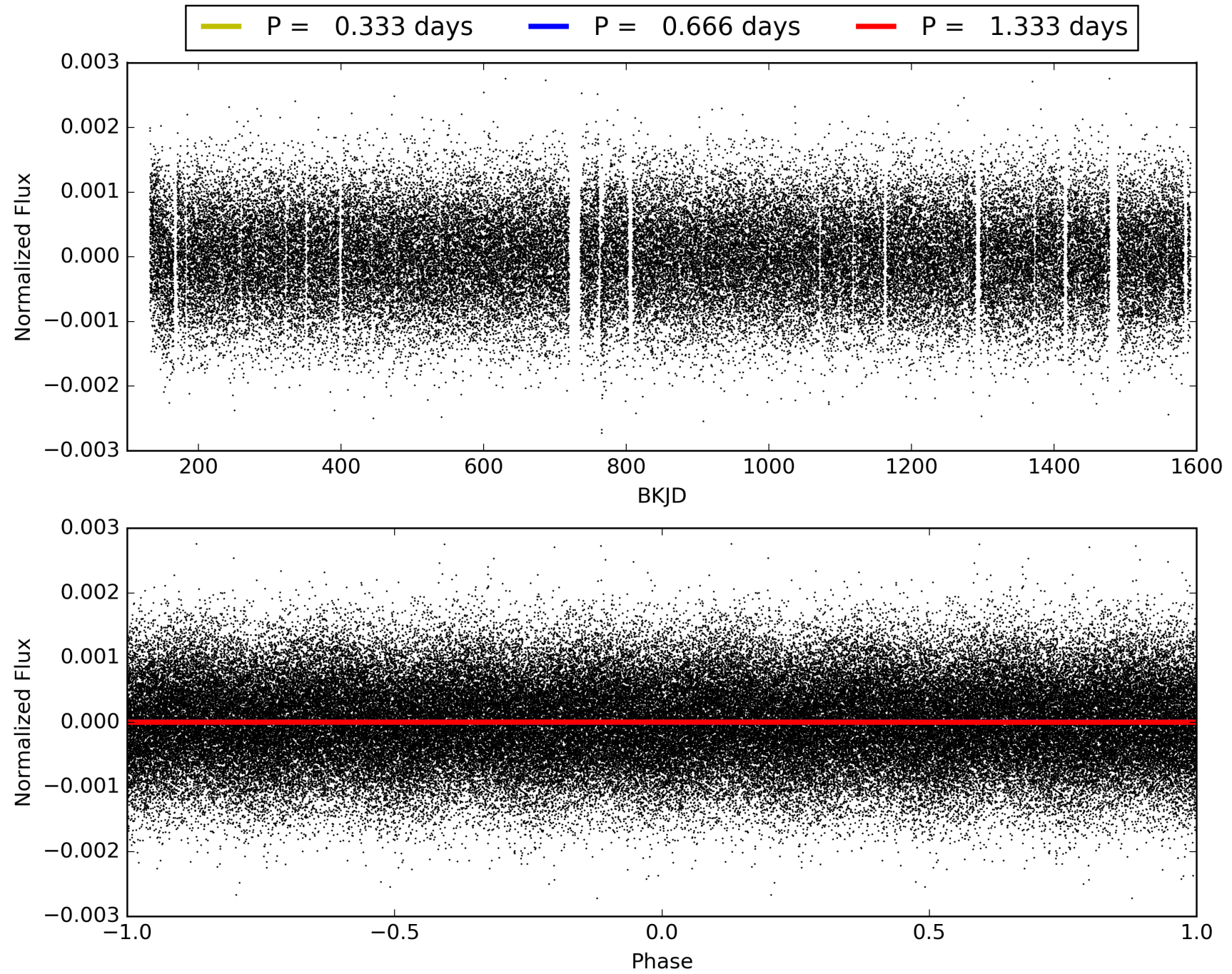
ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.12e-05  
RollingBand-fgt: 0.96 [1843/1917]  
GhostDiagnostic-chr: 1.002  
Centroid-sig: 93.5%  
Centroid-so: 0.139 arcsec [0.51σ]  
OotOffset-rm: 0.149 arcsec [0.56σ]  
KicOffset-rm: 0.162 arcsec [0.58σ]  
OotOffset-st: 4/3/4/4 [15]  
KicOffset-st: 4/3/4/4 [15]  
DiffImageQuality-fgm: 0.80 [12/15]  
DiffImageOverlap-fno: 0.00 [0/17]

# TCE 008626219-03, PDC Light Curves



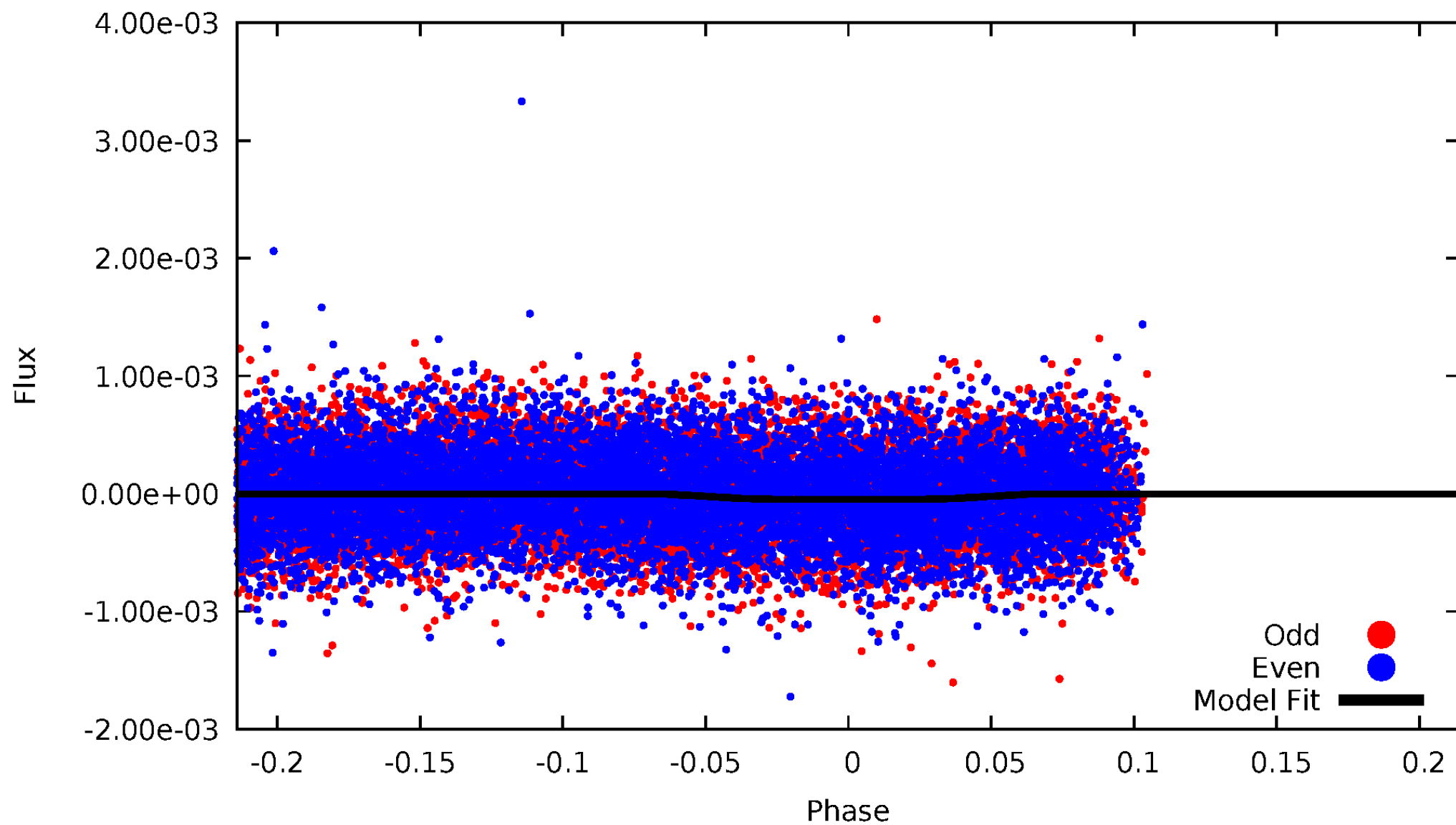


# TCE 008626219-03



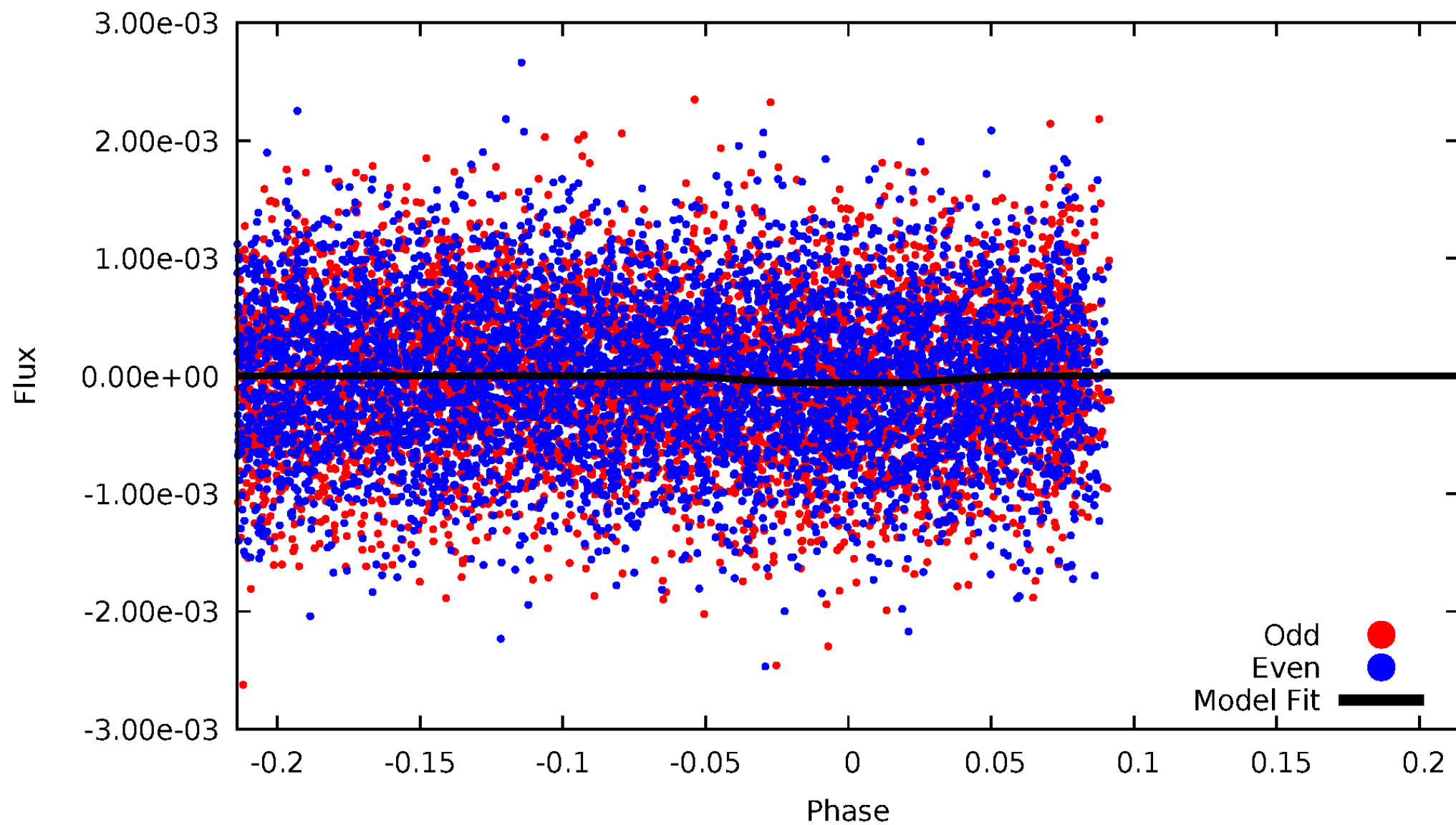
# DV Odd/Even

TCE 008626219-03



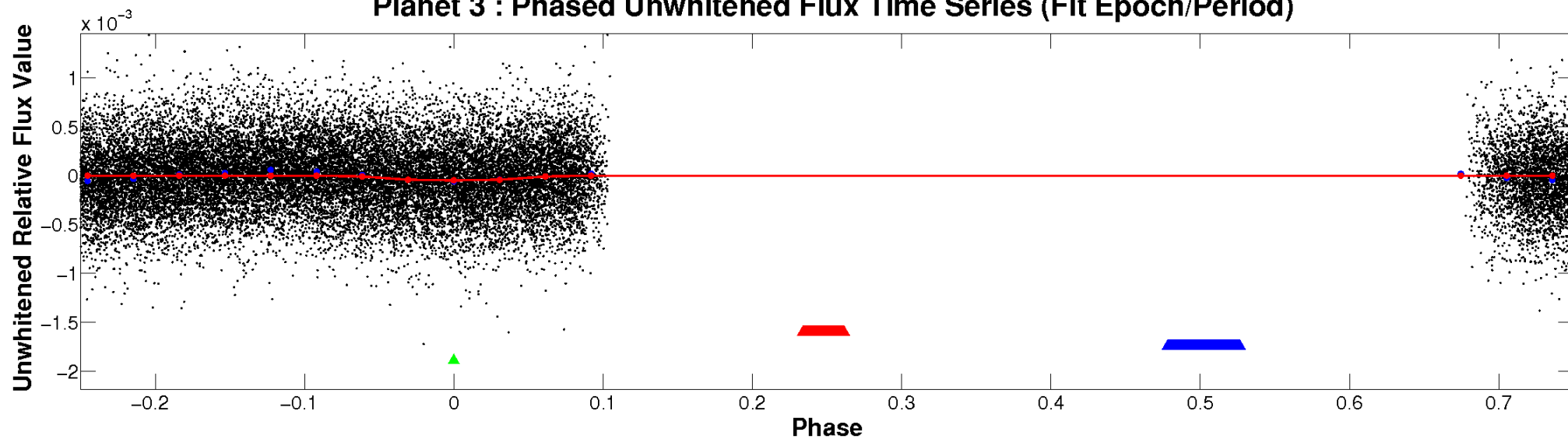
ALT Odd/Even

TCE 008626219-03

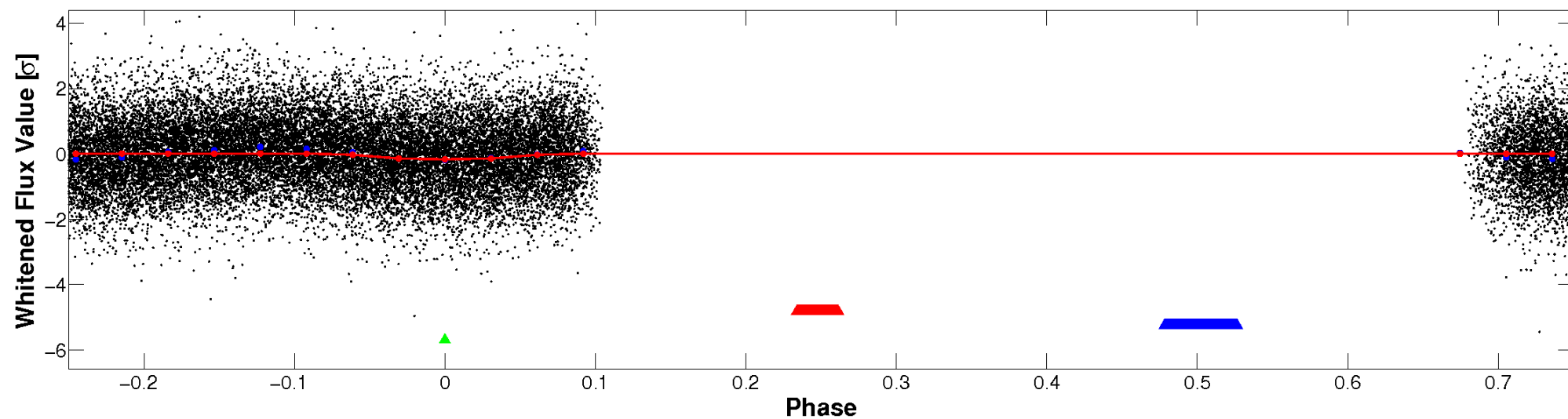


# Non-Whitened Vs. Whitened Light Curve

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



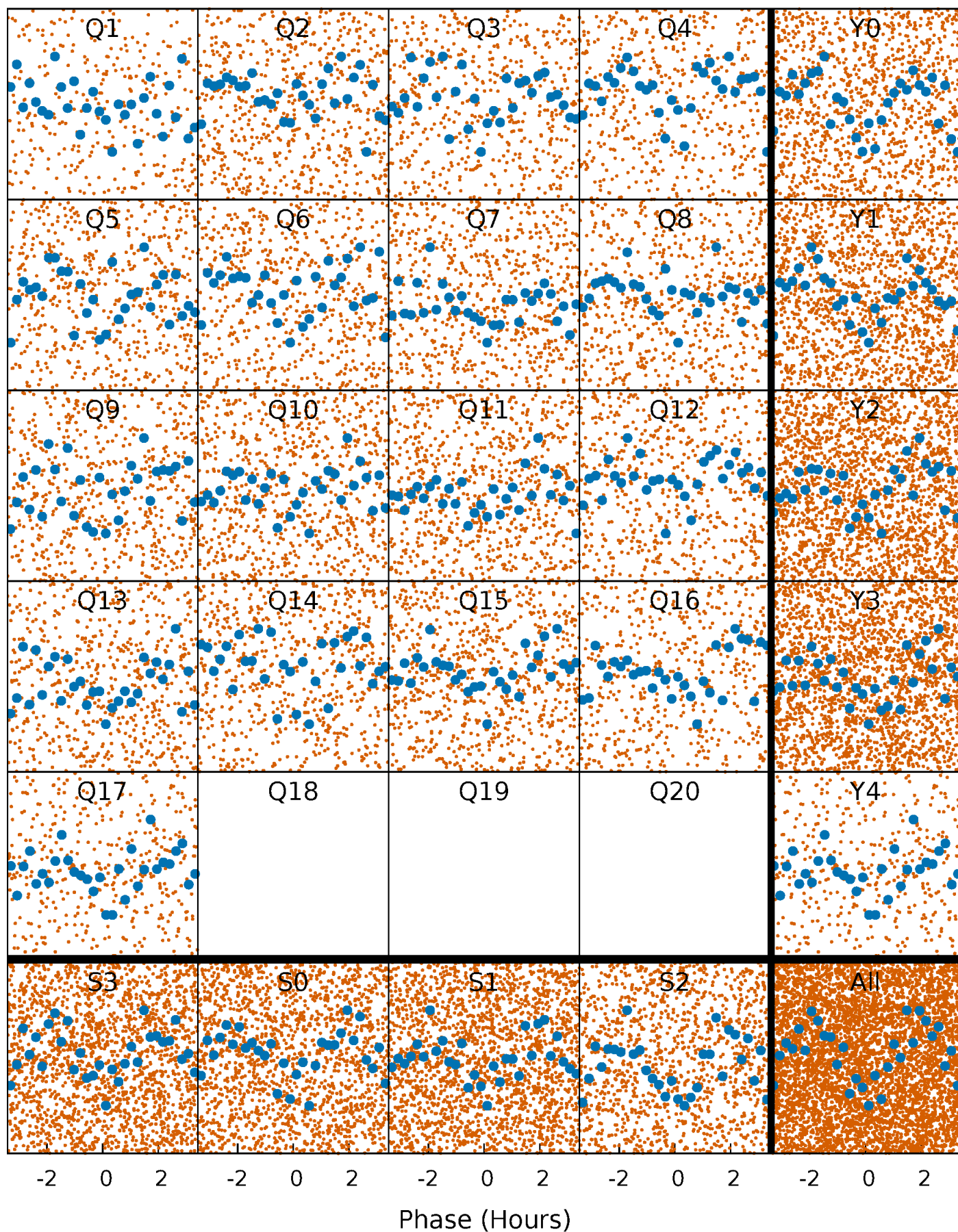
## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)





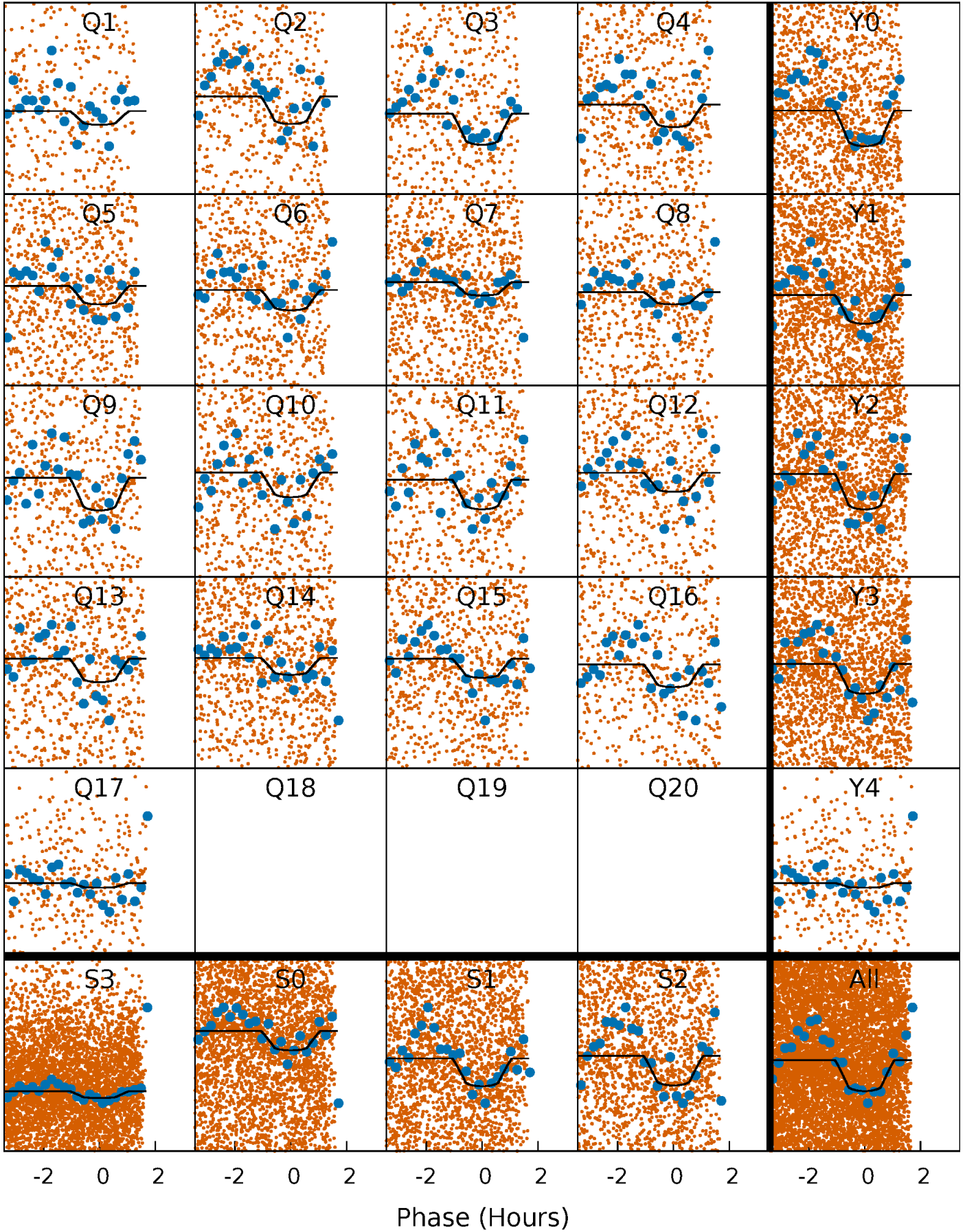
# PDC Quarter-Phased Transit Curves

TCE 008626219-03 P= 0.666366 Days  $T_0=131.808603$  (BKJD)



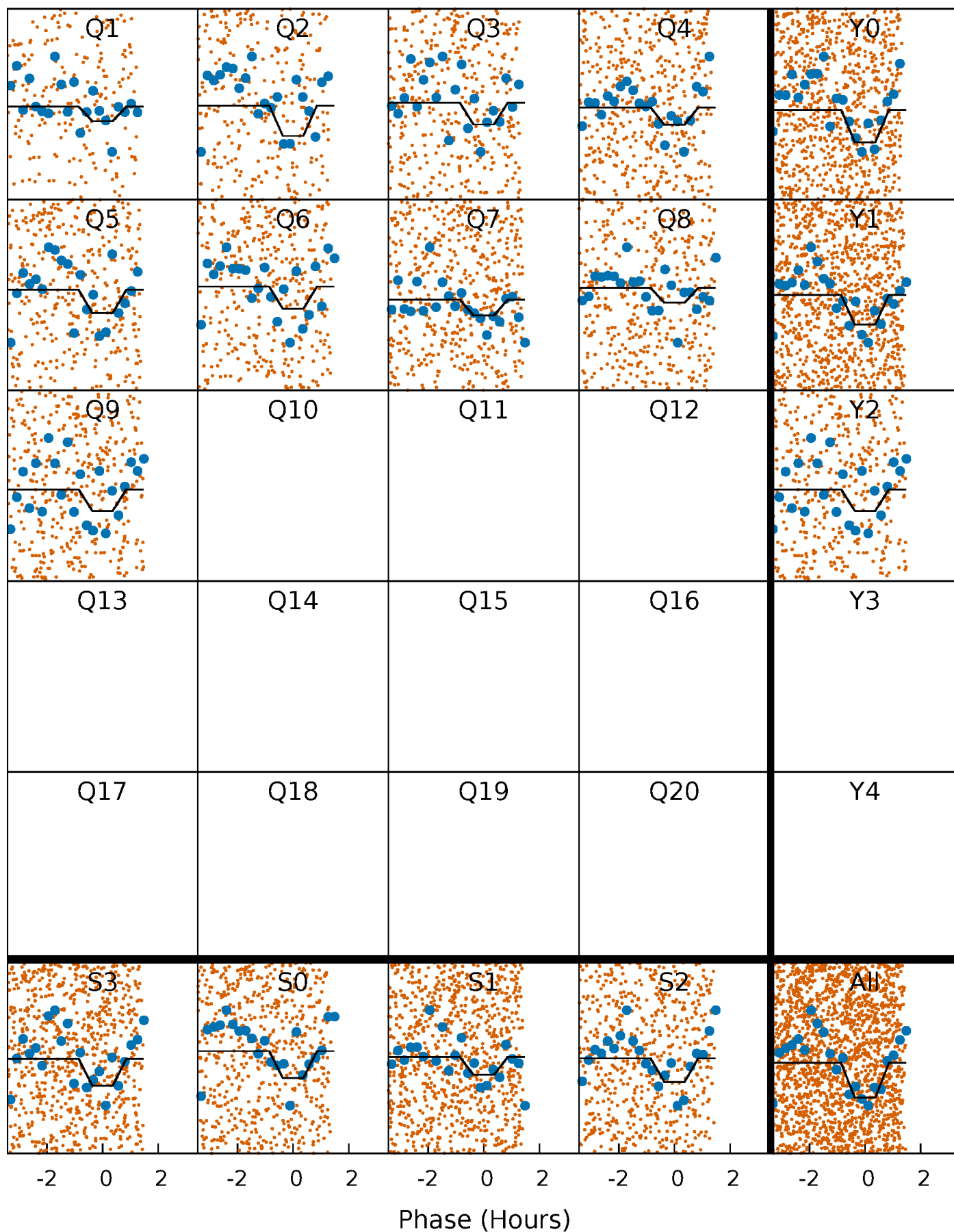
# DV Quarter-Phased Transit Curves

TCE 008626219-03   P= 0.666366 Days    $T_0=131.808603$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 008626219-03   P= 0.666366 Days    $T_0=131.808603$  (BKJD)

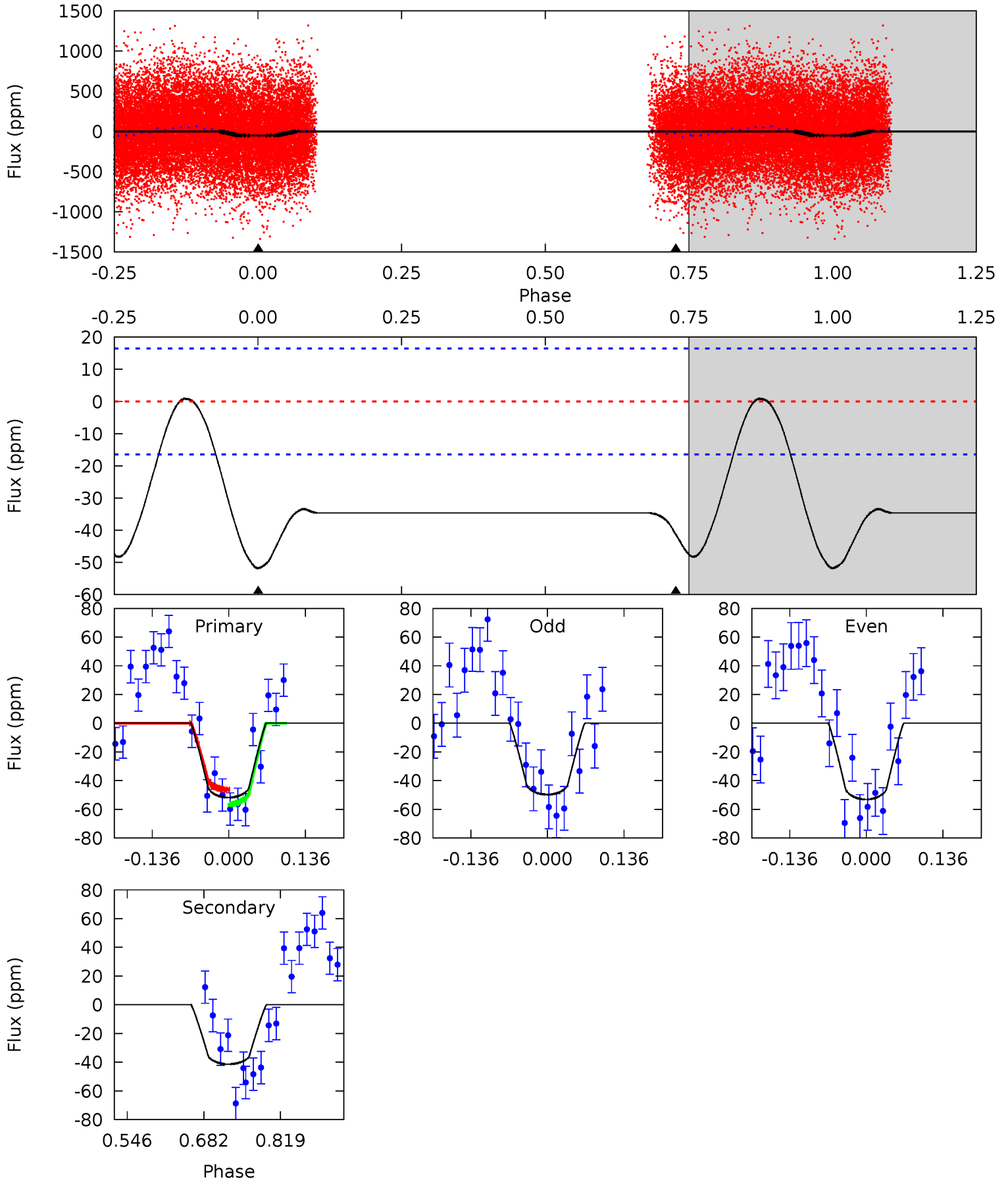




# DV Model-Shift Uniqueness Test

008626219-03, P = 0.666366 Days, E = 131.142237 Days

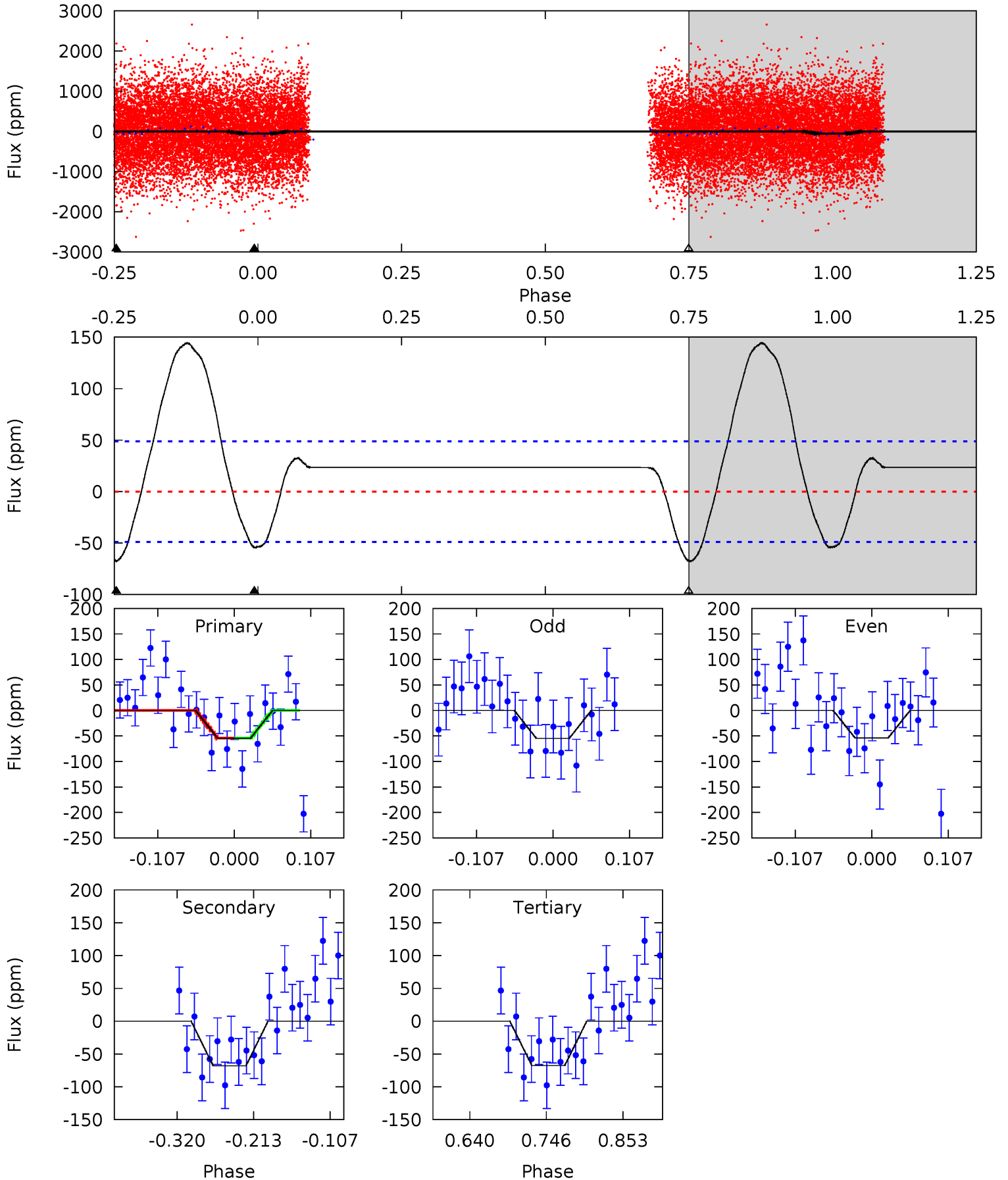
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	11.3	0	0	4.50	1.49	0.63	14.2	14.2	11.3	11.3	0.45	0.97	0.02	1.39



# Alt Model-Shift Uniqueness Test

008626219-03, P = 0.666366 Days, E = 131.142237 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
5.07	6.34	6.30	0	4.55	1.61	7.55	-1.23	5.07	0.04	6.34	0.03	1.04	0.68	0.01





### Stellar Parameters For KIC 008626219

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8061^{+222}_{-361}$	$3.881^{+0.260}_{-0.140}$	$0.070^{+0.250}_{-0.400}$	$2.745^{+0.635}_{-0.952}$	$2.087^{+0.306}_{-0.459}$	$0.142^{+0.275}_{-0.052}$
	+3%/-4%	+7%/-4%	+357%/-571%	+23%/-35%	+15%/-22%	+193%/-37%
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 008626219-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-41 \pm 4$	$2.16^{+1.18}_{-1.07}$	$5913^{+435}_{-528}$	$6911^{+4252}_{-1693}$	$1.699^{+5.156}_{-0.959}$
Alt.	$-68 \pm 11$	$2.19^{+1.11}_{-1.07}$	$5839^{+464}_{-495}$	$8158^{+4858}_{-2021}$	$2.891^{+7.286}_{-1.675}$

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

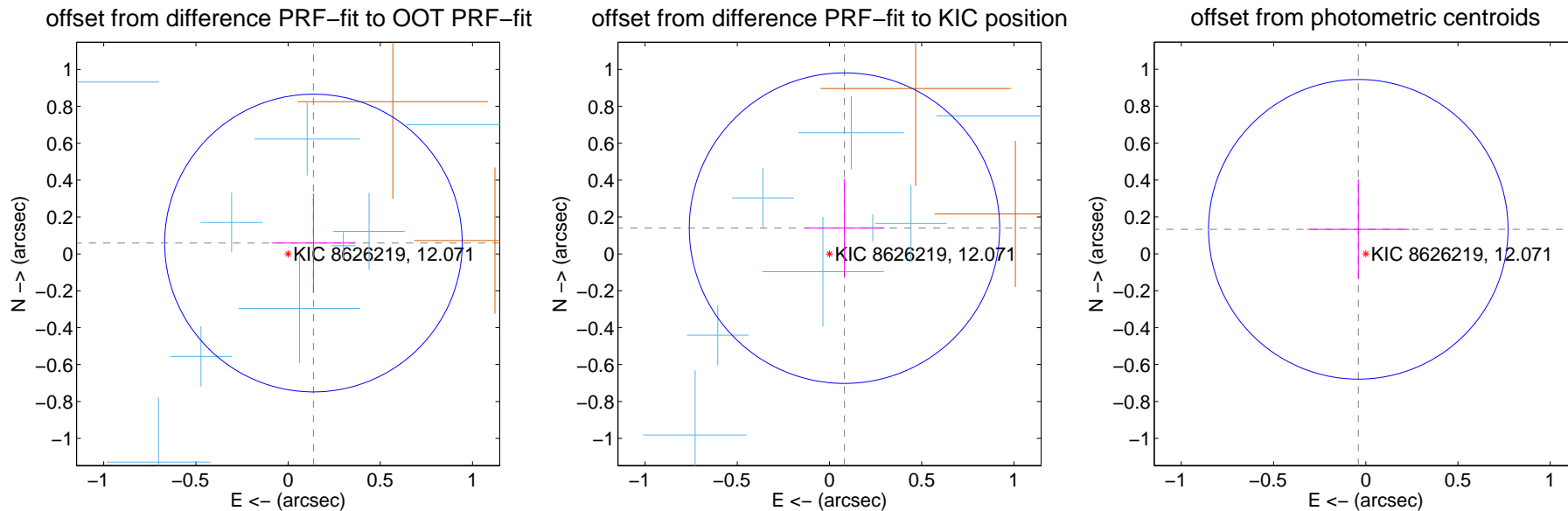
## DV Centroid Data

Supplemental centroid analysis for 008626219-03. Kepler magnitude: 12.07. Transit SNR 11.60

There are 12 quarters with good PRF difference image offsets

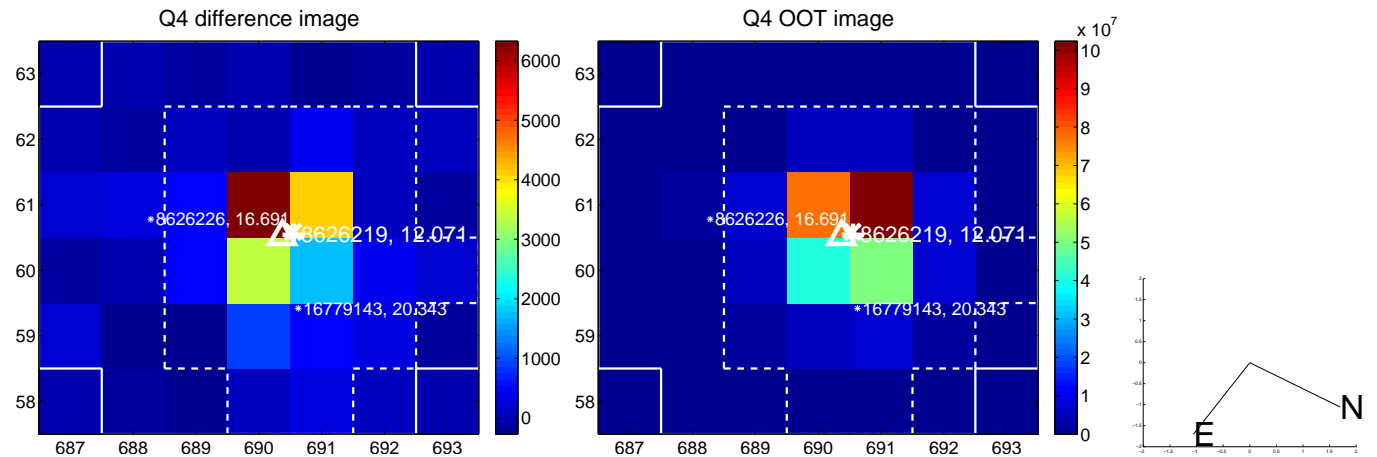
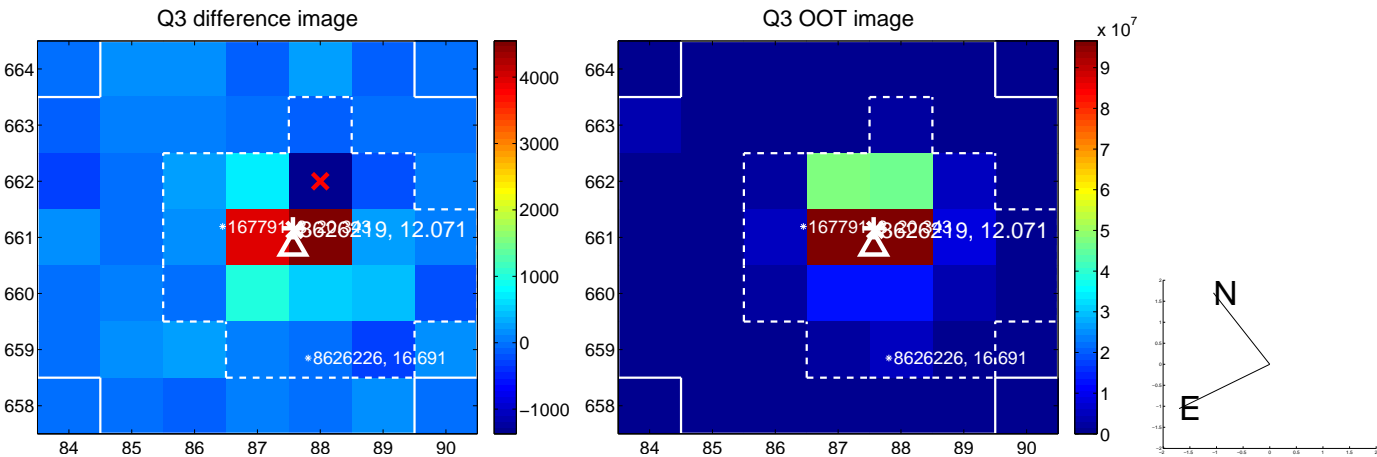
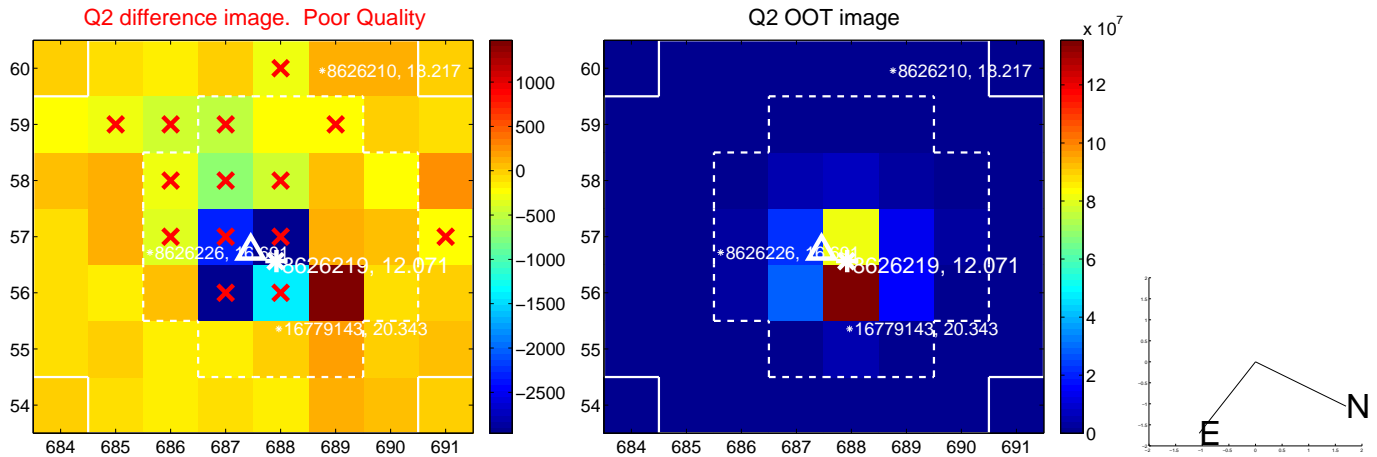
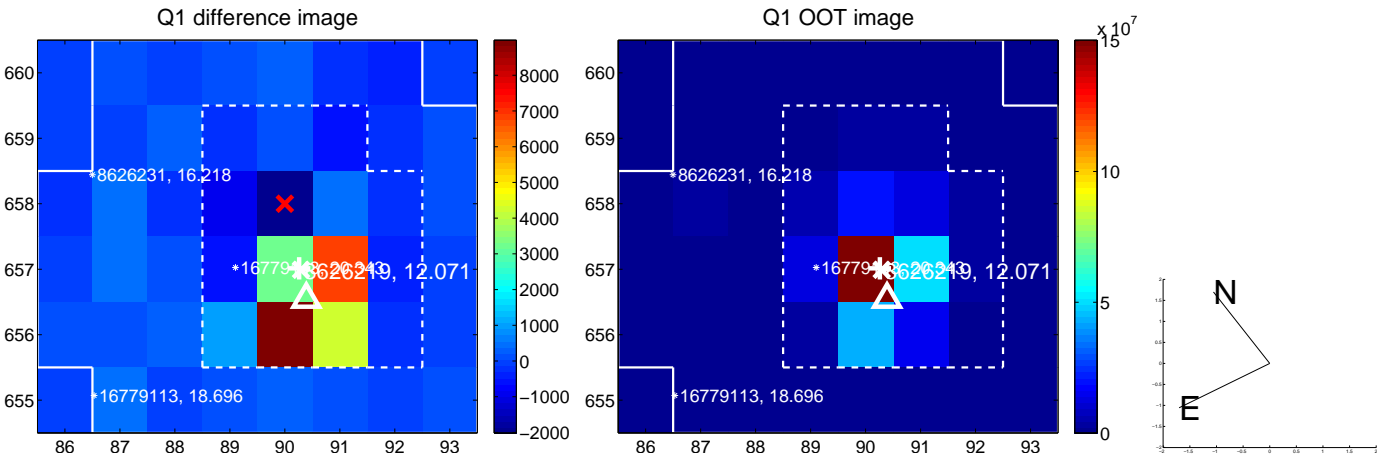
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.149 \pm 0.269$	0.56	$-0.137 \pm 0.227$	$0.059 \pm 0.269$
PRF-fit source offset from KIC position	$0.162 \pm 0.281$	0.58	$-0.081 \pm 0.213$	$0.140 \pm 0.267$
photometric centroid source offset	$0.14 \pm 0.27$	0.51	$0.04 \pm 0.28$	$0.13 \pm 0.27$

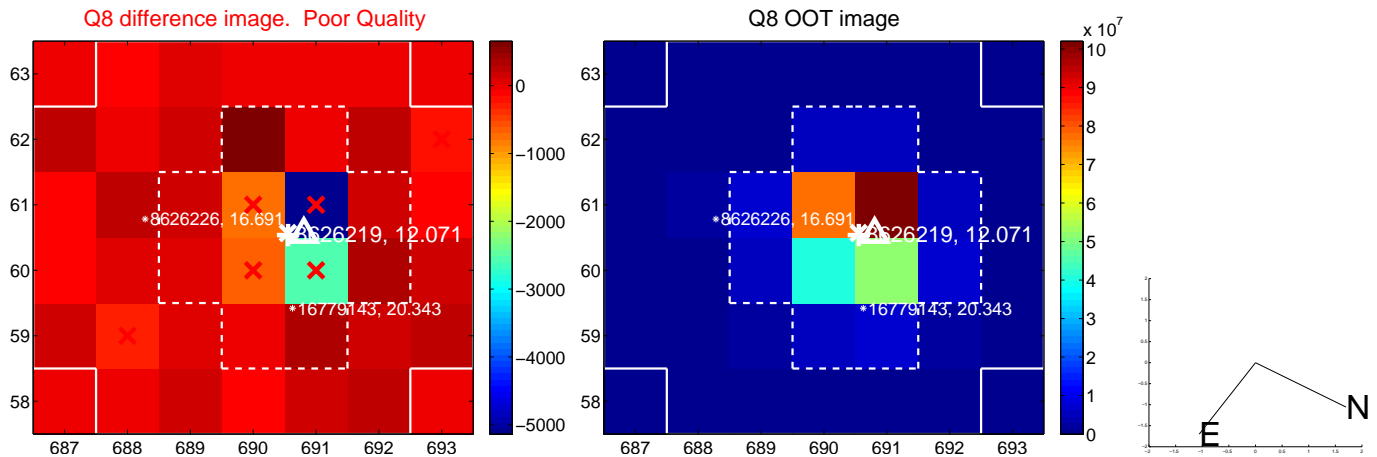
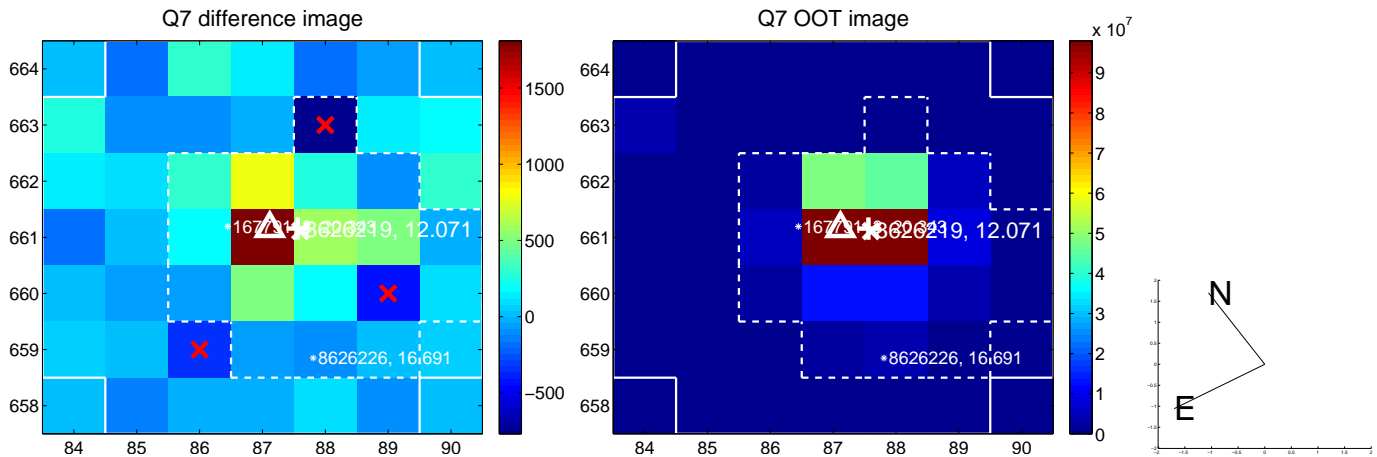
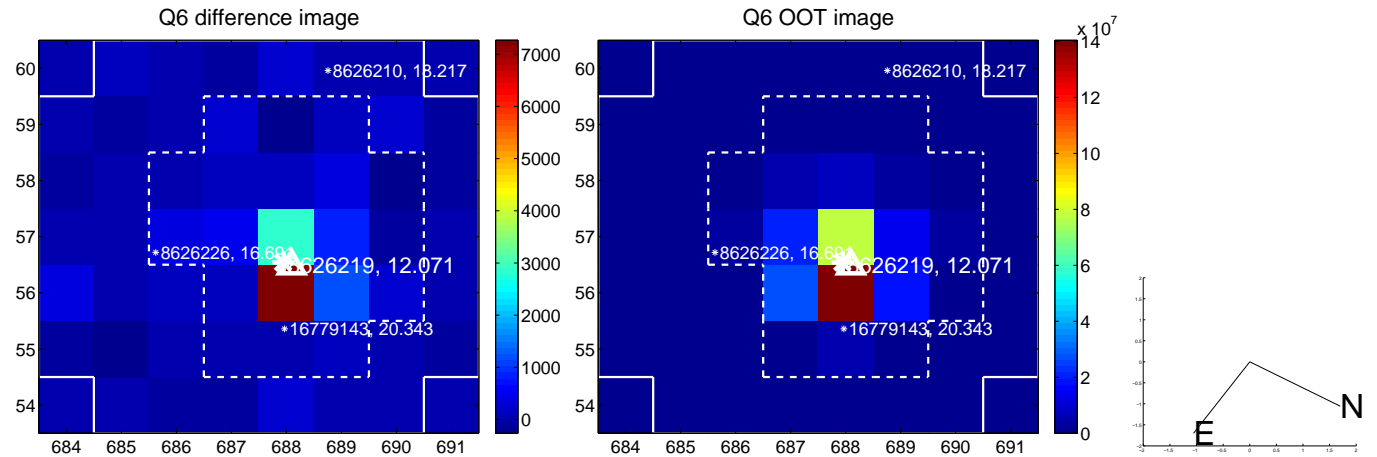
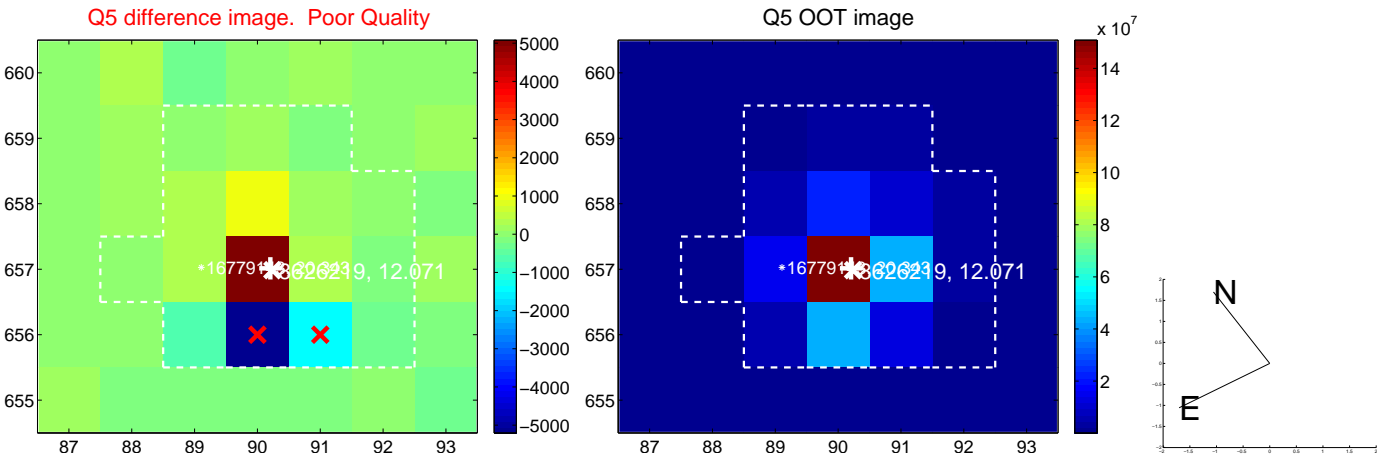


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

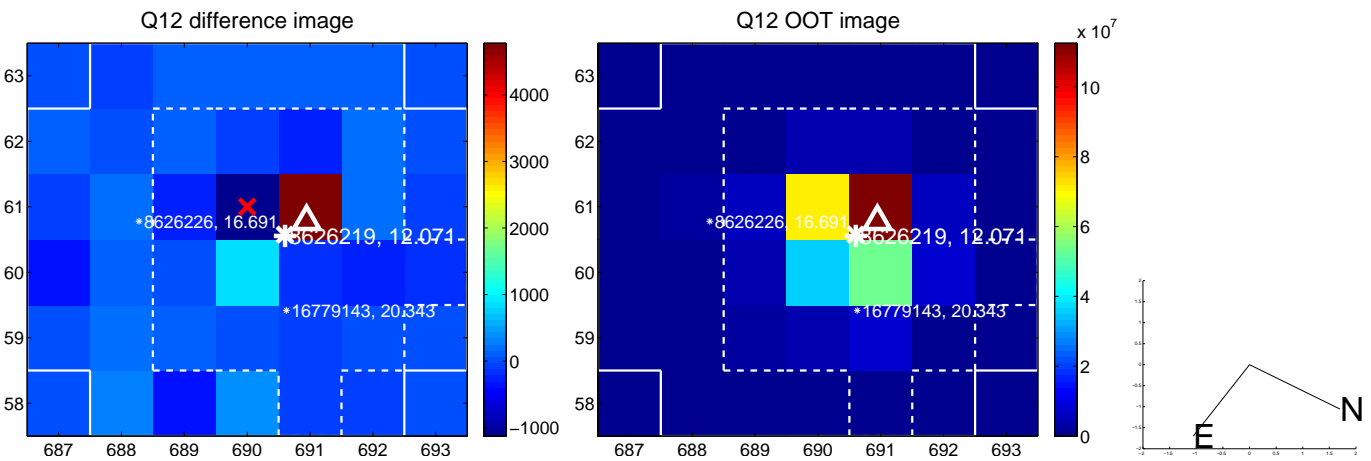
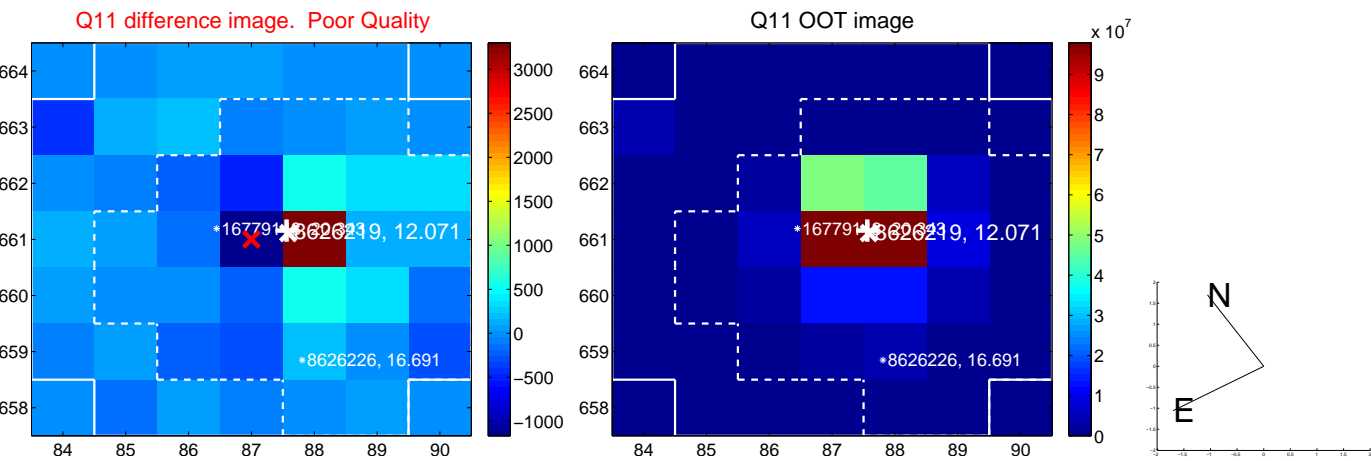
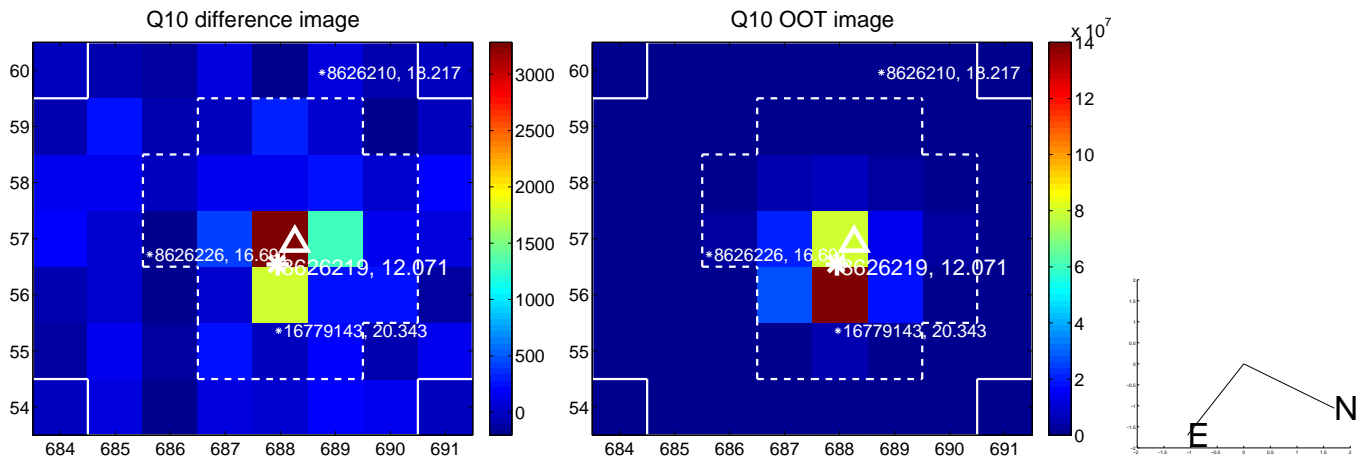
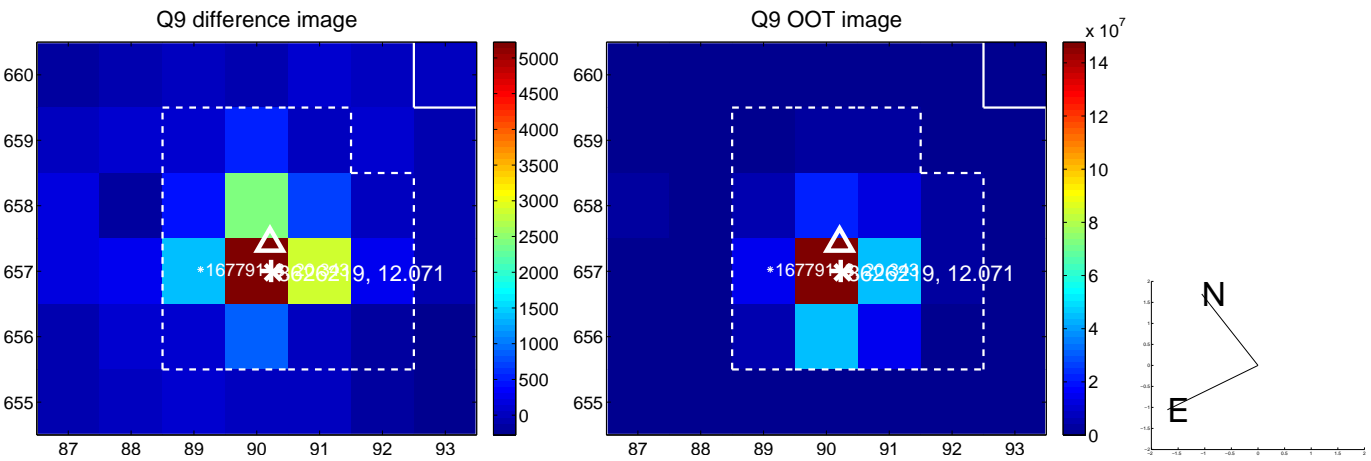
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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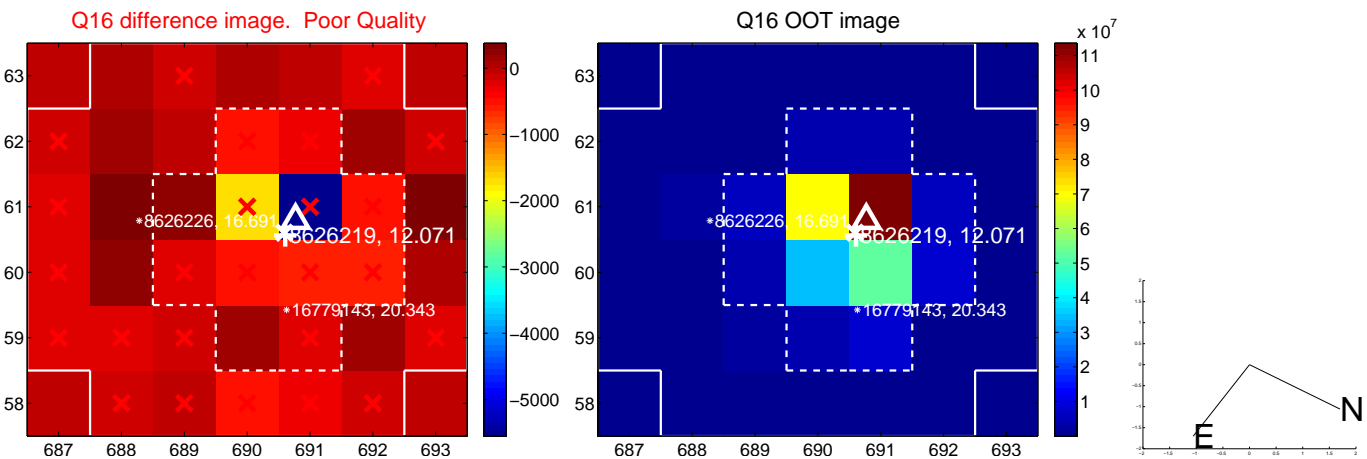
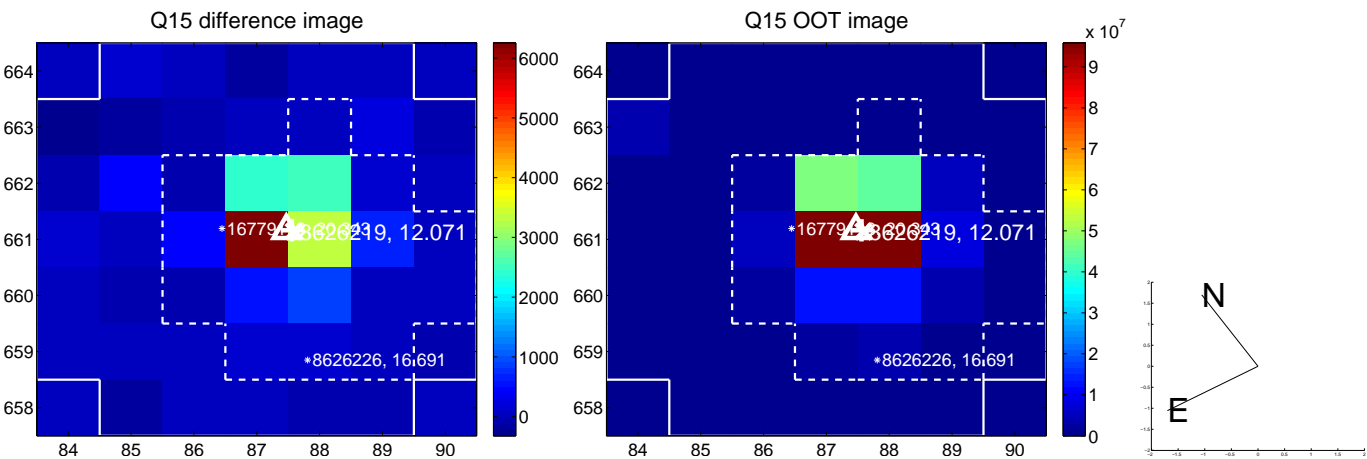
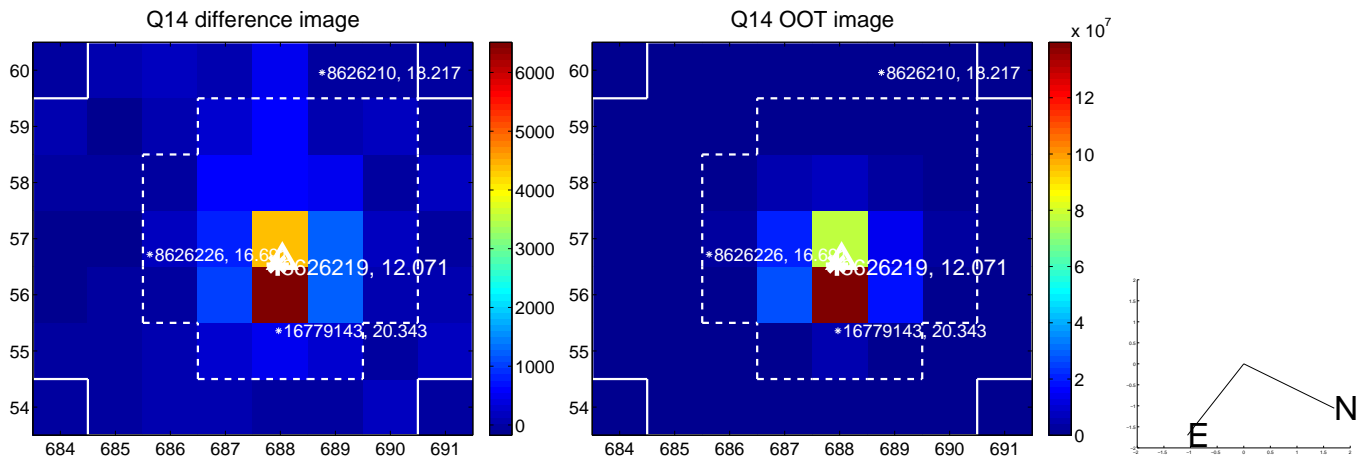
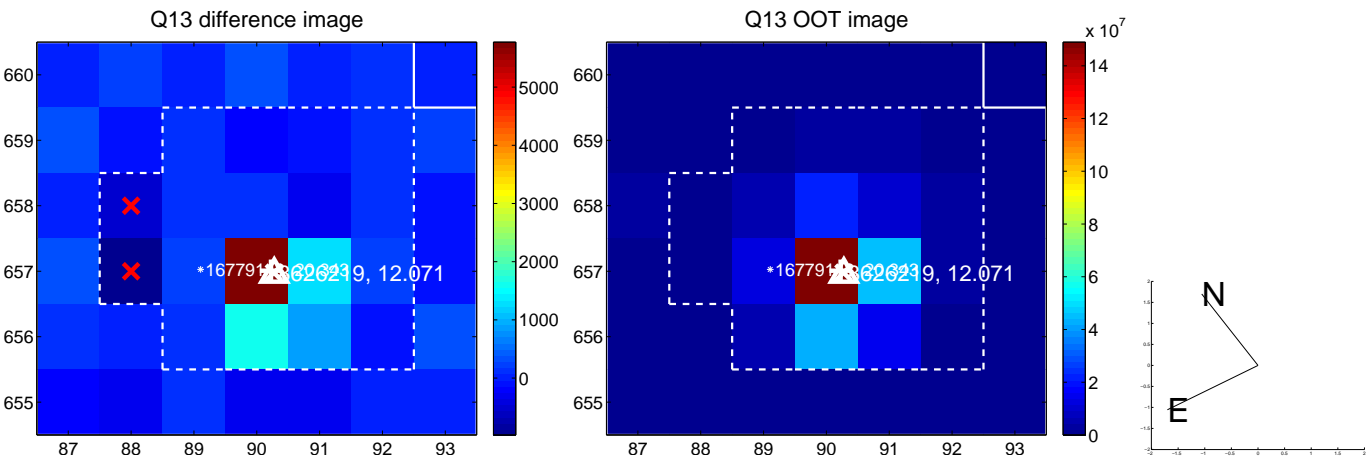


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

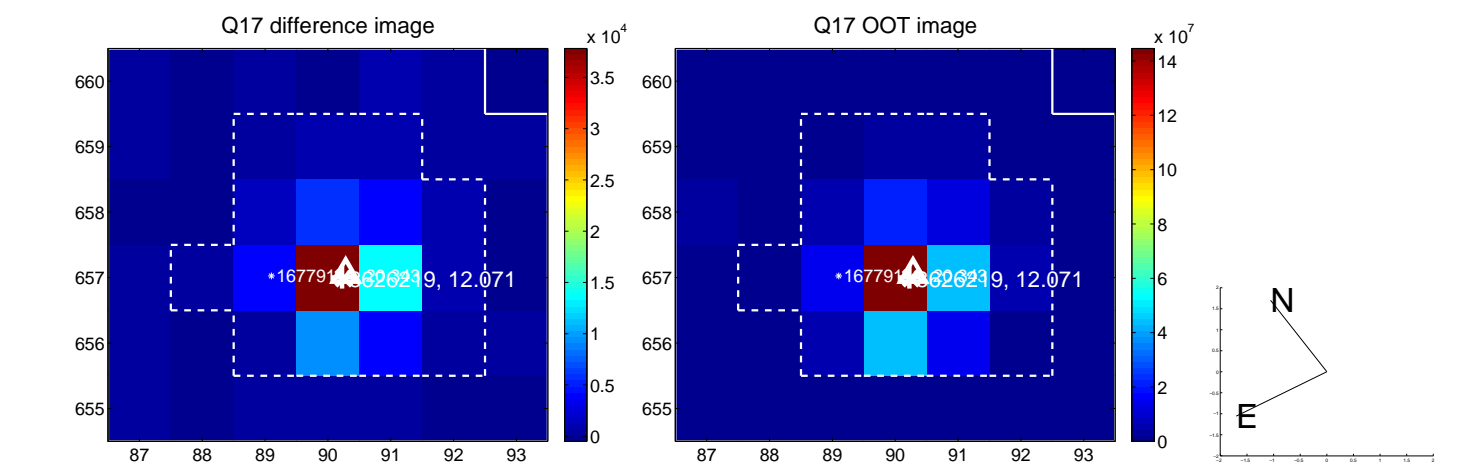




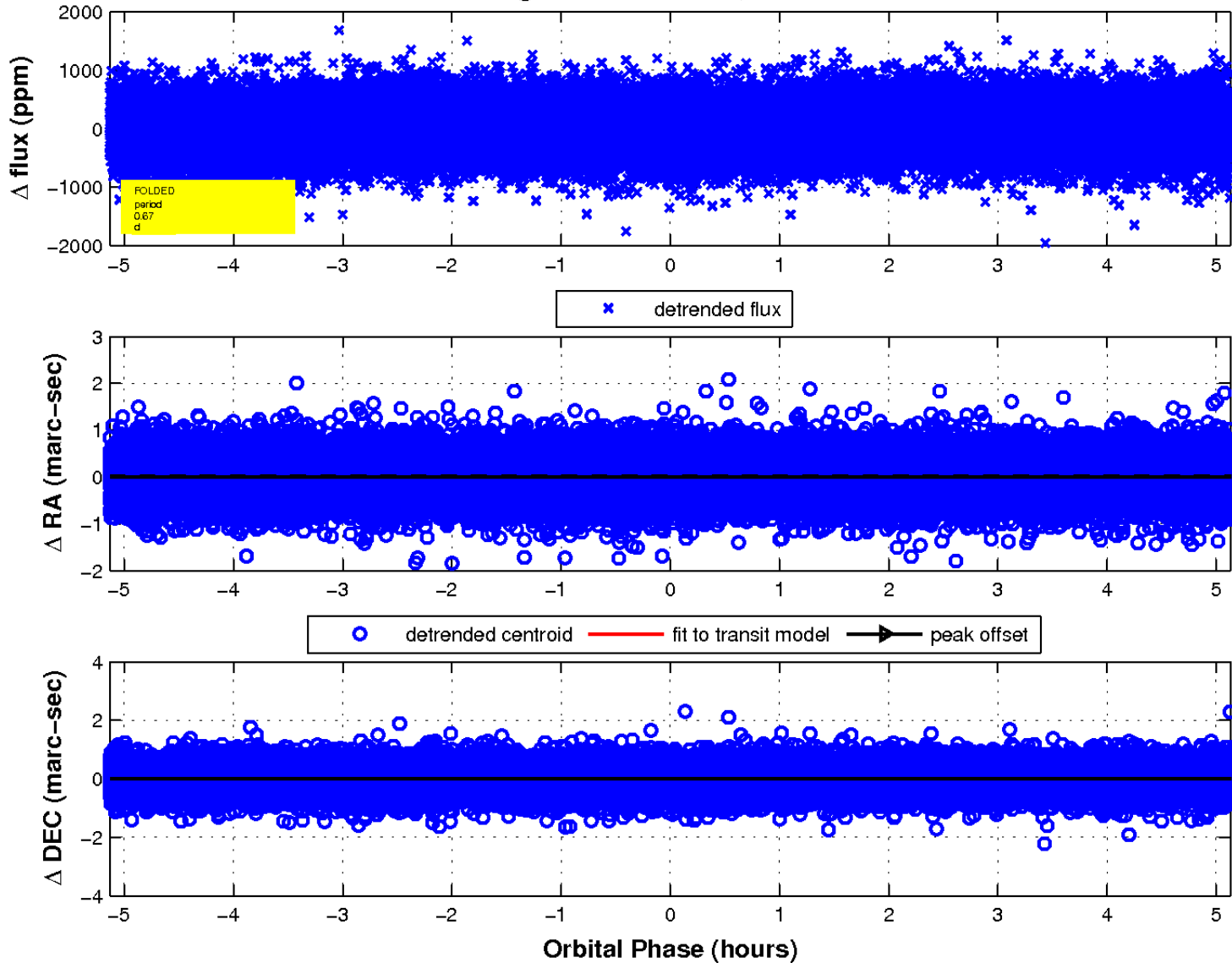
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

