

# KIC 005866555

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005866555-01	OBS	No	0.511946	131.715761	62.6	1.026	10.4	8.0	3.19	8162	2.57	160103.16
005866555-02	OBS	No	0.708270	132.203621	80.1	2.479	8.8	8.8	3.19	8162	3.28	103856.43
005866555-03	OBS	No	0.708250	131.856347	64.4	4.577	8.4	8.5	3.19	8162	2.79	103860.29

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005866555-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
005866555-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
005866555-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

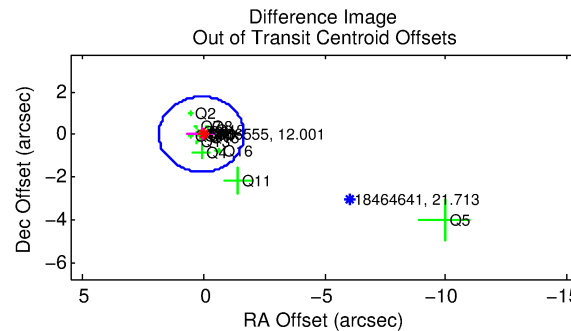
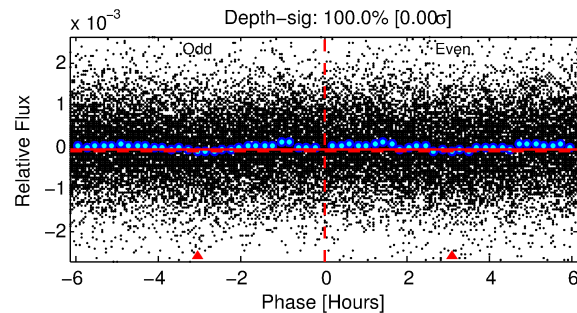
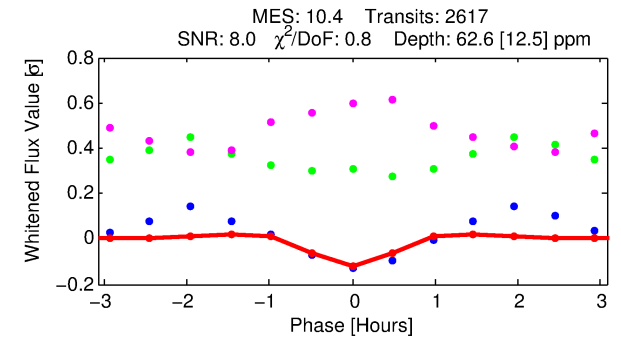
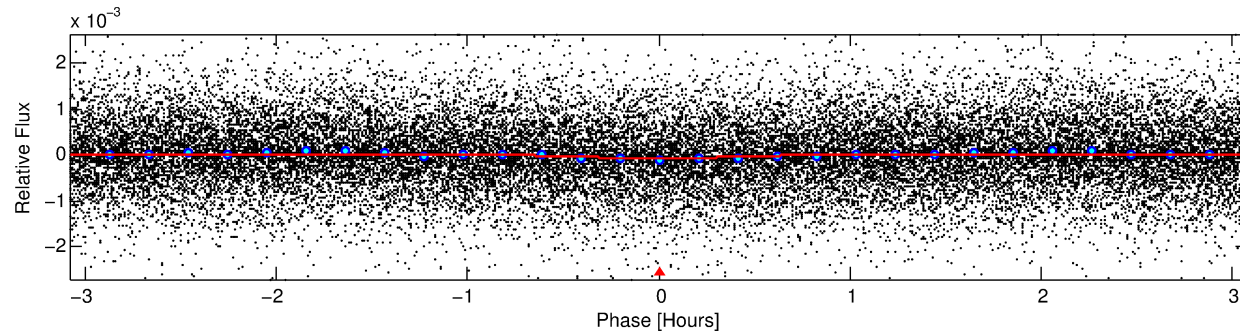
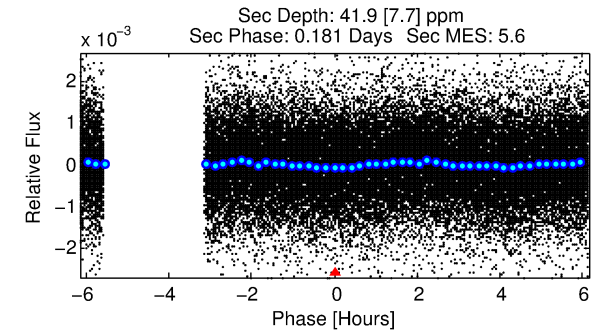
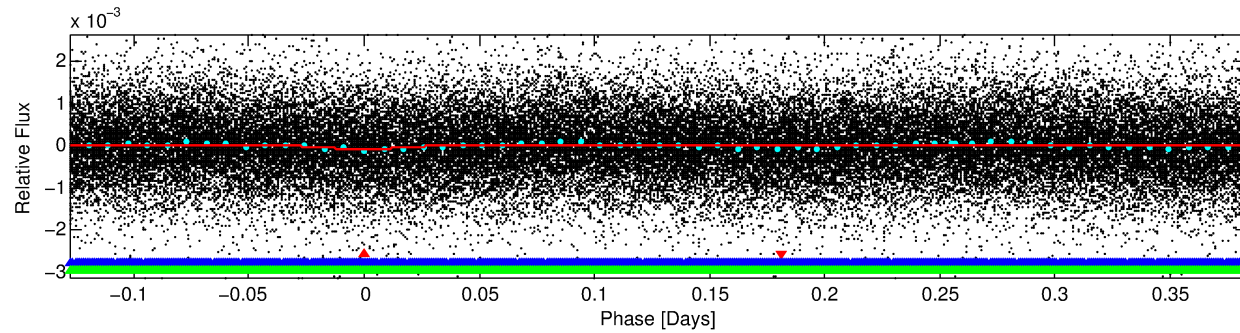
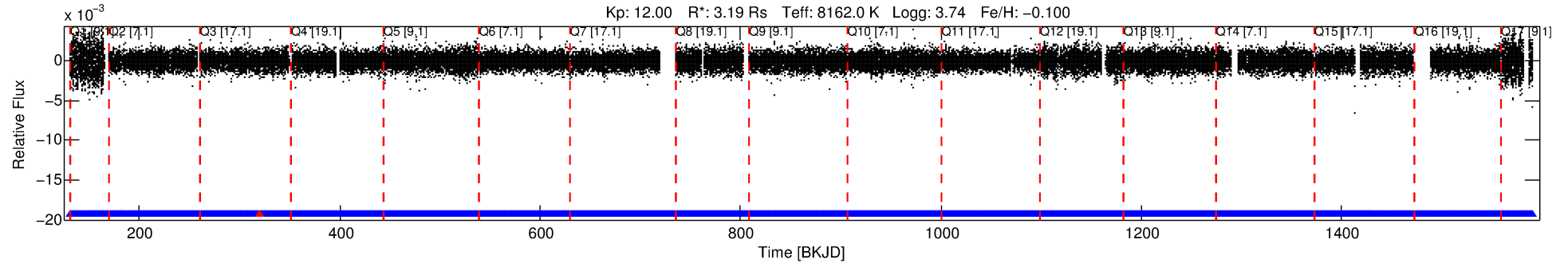
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 005866555-01

No Significant Match Found

# DV One-Page Summary

KIC: 5866555 Candidate: 1 of 3 Period: 0.512 d



## DV Fit Results:

Period = 0.51195 [0.00002] d  
Epoch = 131.7158 [0.0024] BKJD  
Rp/R\* = 0.0074 [0.0166]  
a/R\* = 3.87 [46.13]  
b = 0.10 [126.92]  
Seff = 160103.16 [119933.08]  
Teq = 5101 [955] K  
Rp = 2.57 [5.90] Re  
a = 0.0159 [0.0073] AU  
Ag = 0.88 [4.01] [-0.03σ]  
Teffp = 7643 [8585] K [0.29σ]

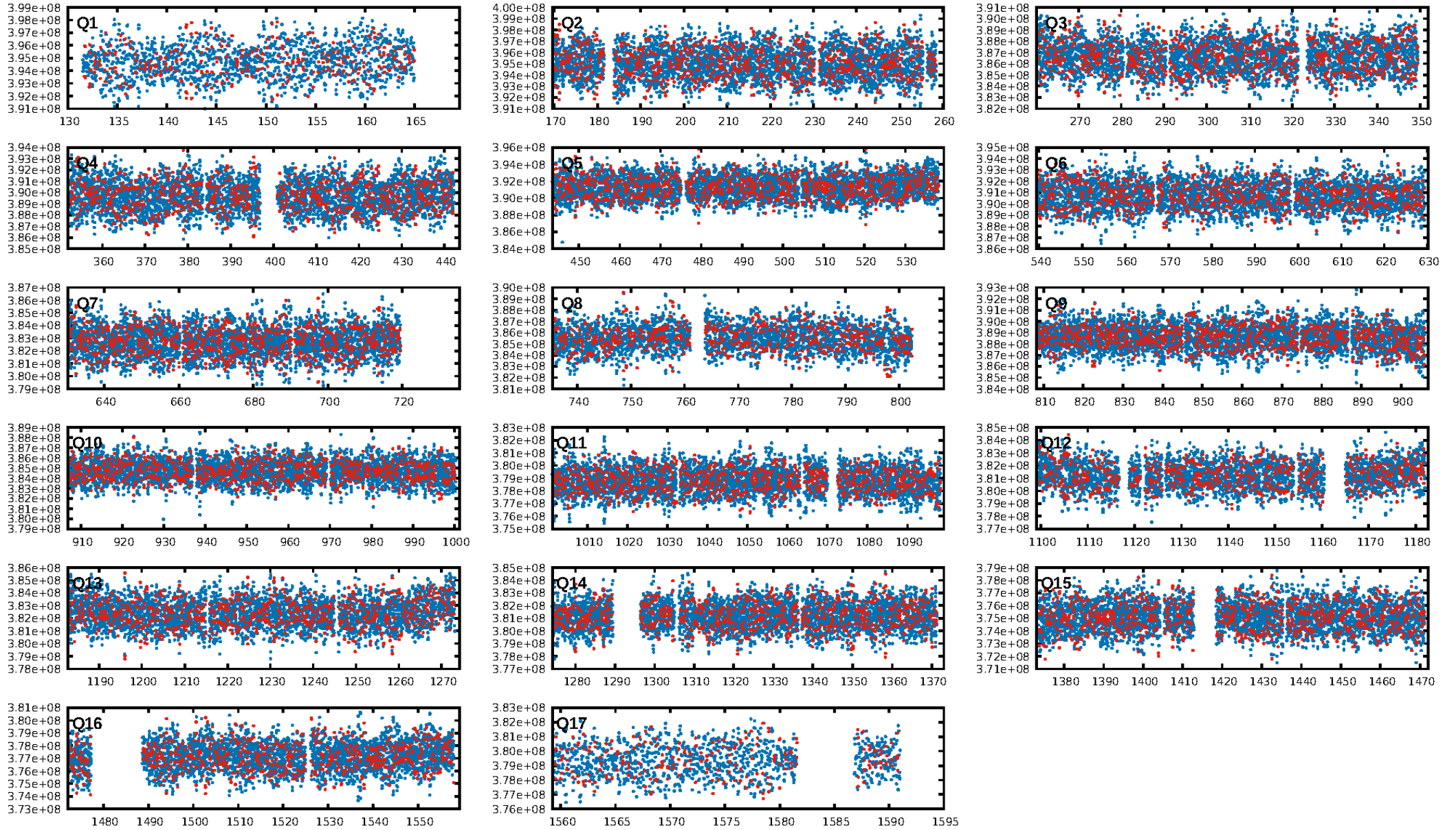
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 68.5% [1.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2498/2499]  
GhostDiagnostic-chr: 1.636  
Centroid-sig: 10.1%  
Centroid-so: 0.219 arcsec [1.18σ]  
OotOffset-rm: 0.089 arcsec [0.15σ]  
KicOffset-rm: 0.173 arcsec [0.28σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.76 [13/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:22:48 Z

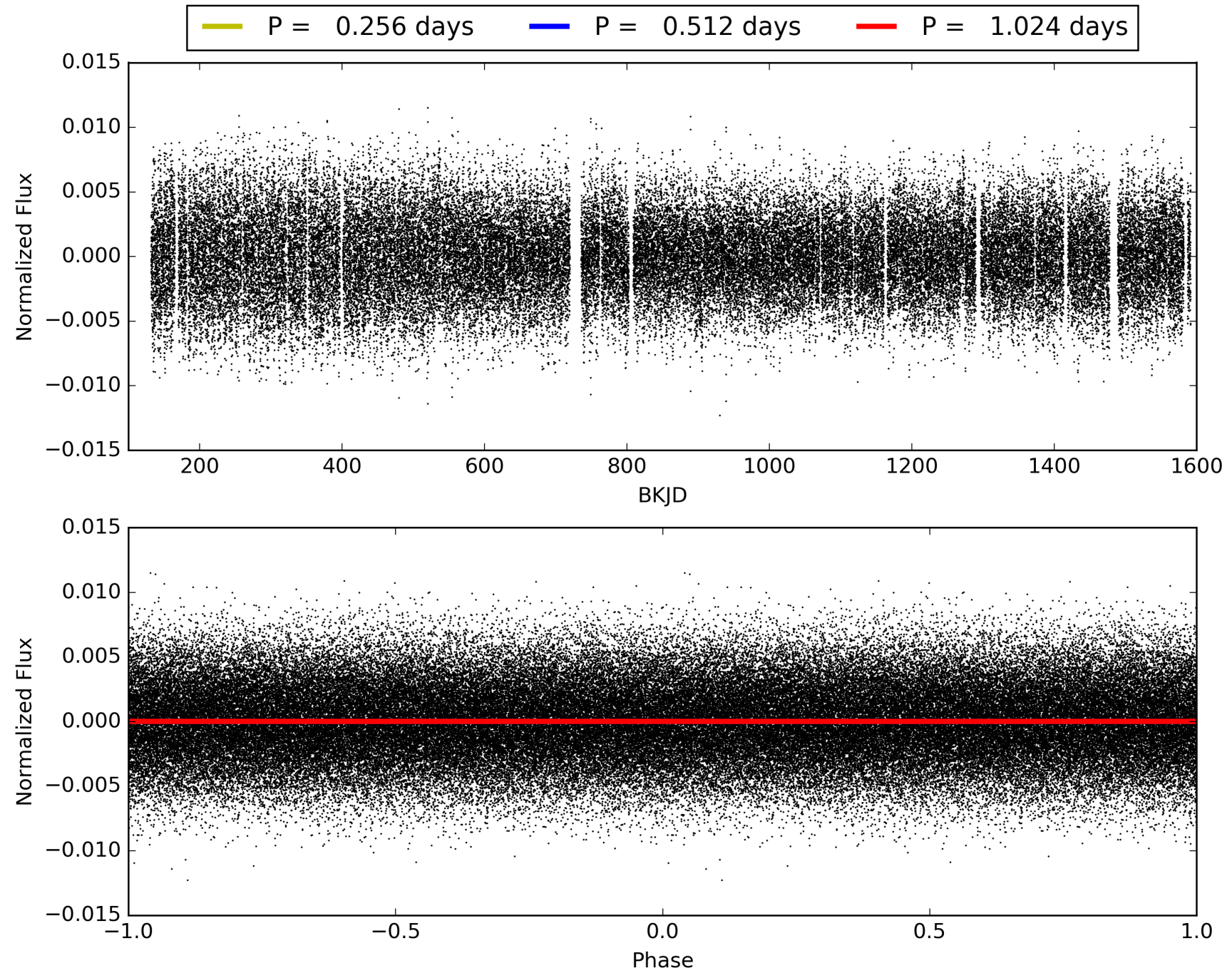
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005866555-01, PDC Light Curves





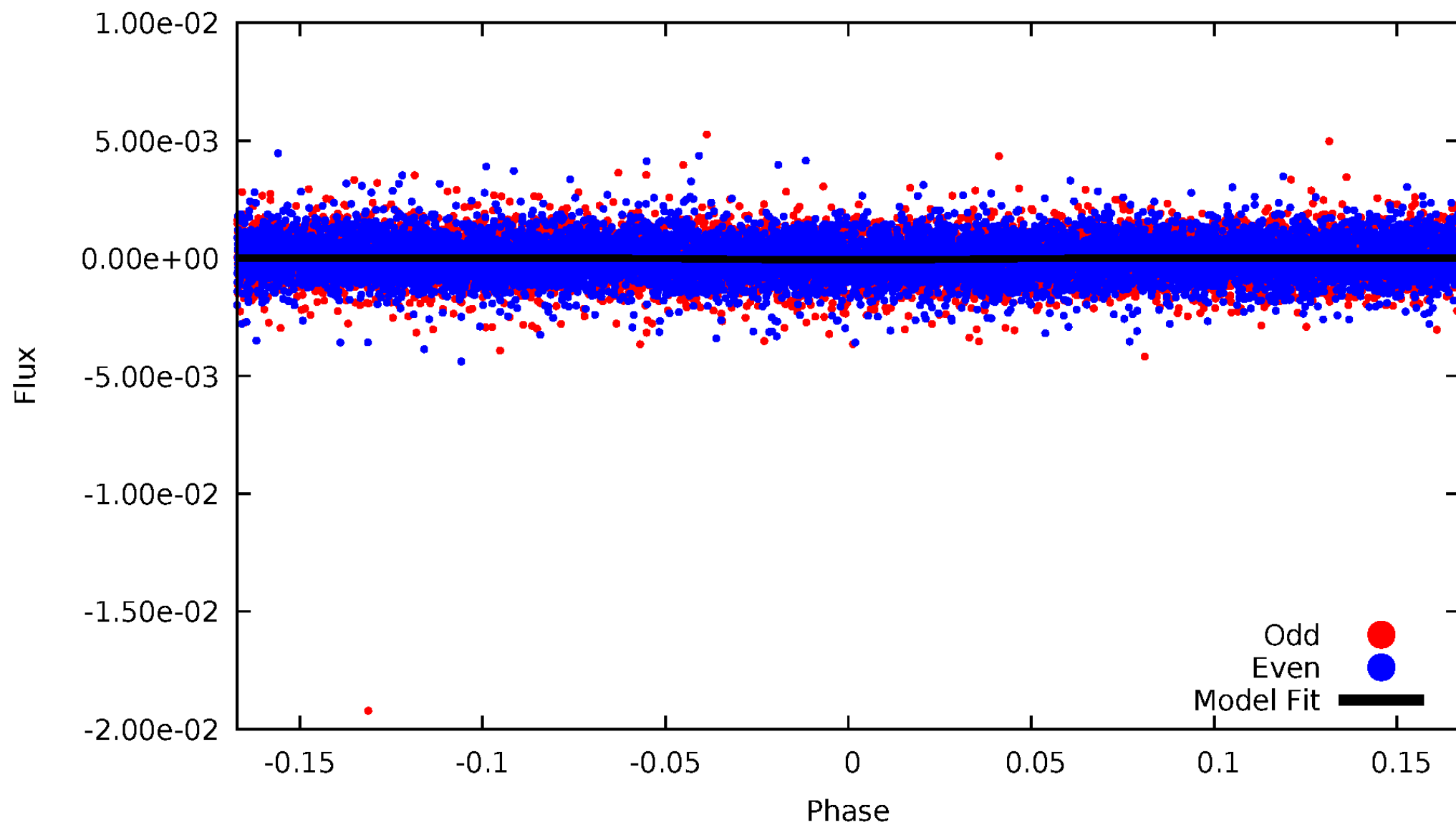
TCE 005866555-01





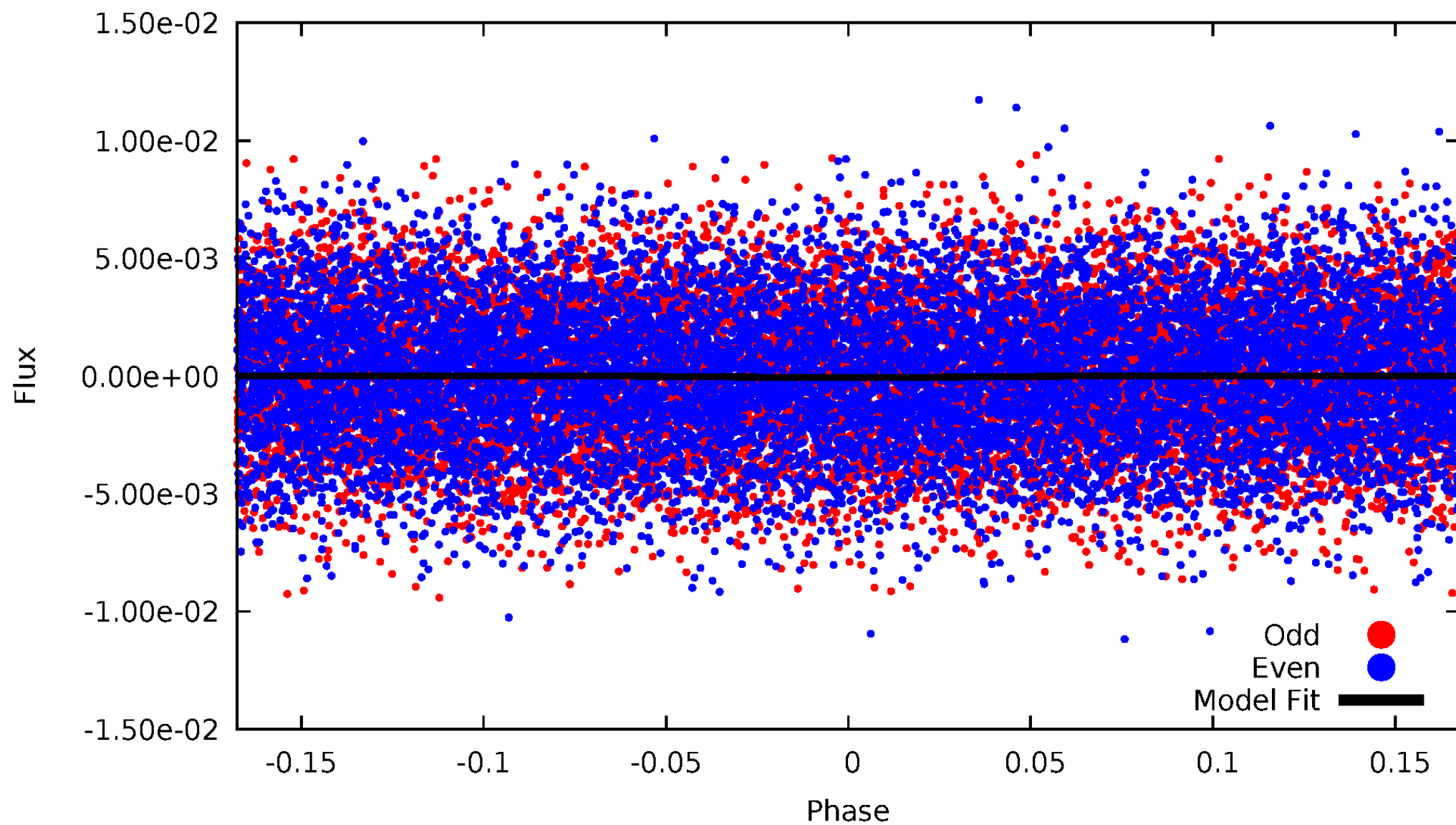
# DV Odd/Even

TCE 005866555-01



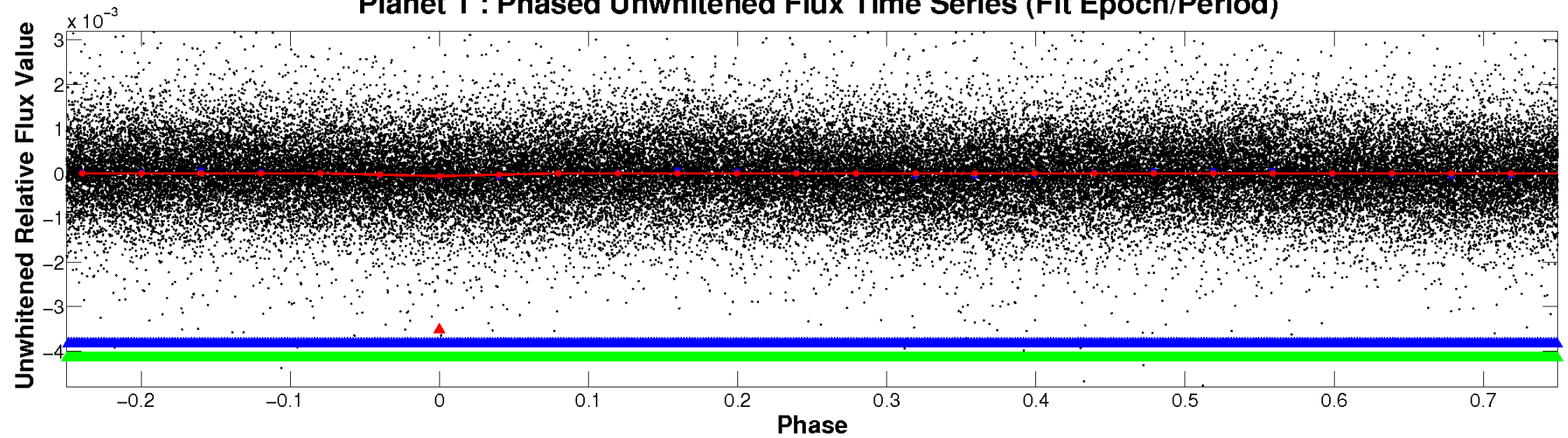
# ALT Odd/Even

TCE 005866555-01

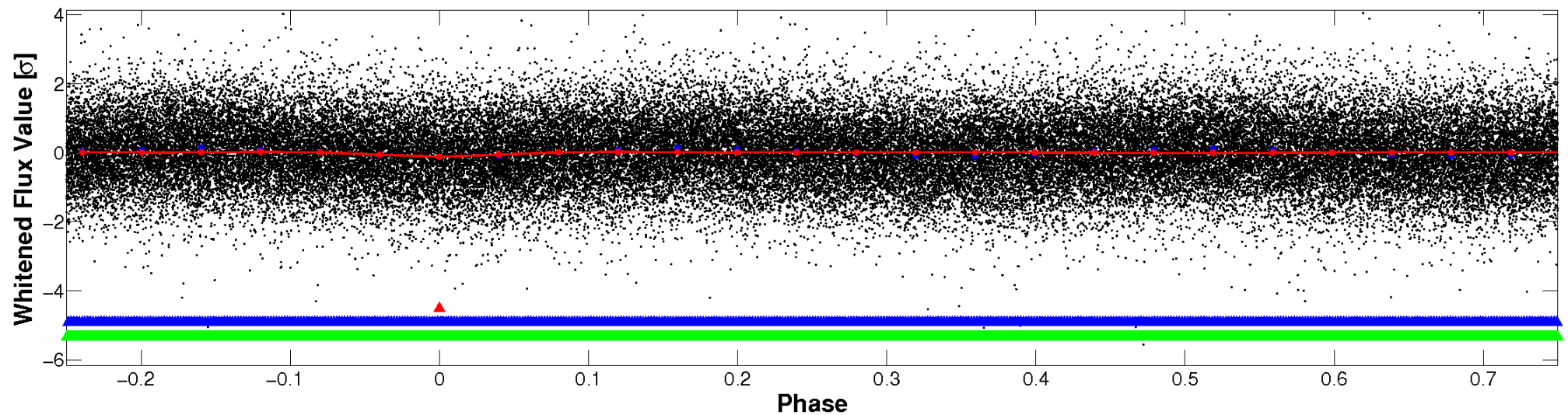


# Non-Whitened Vs. Whitened Light Curve

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



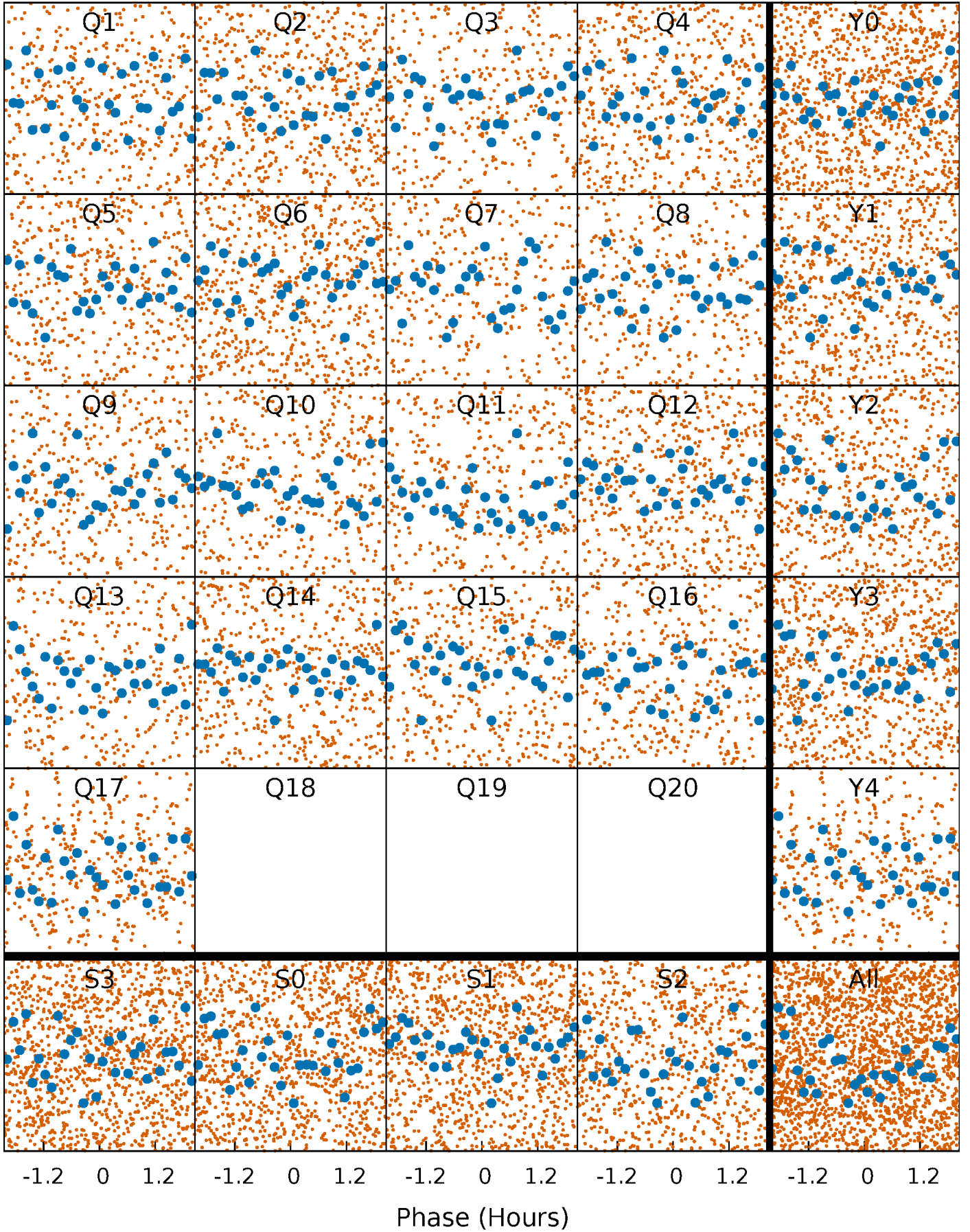
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





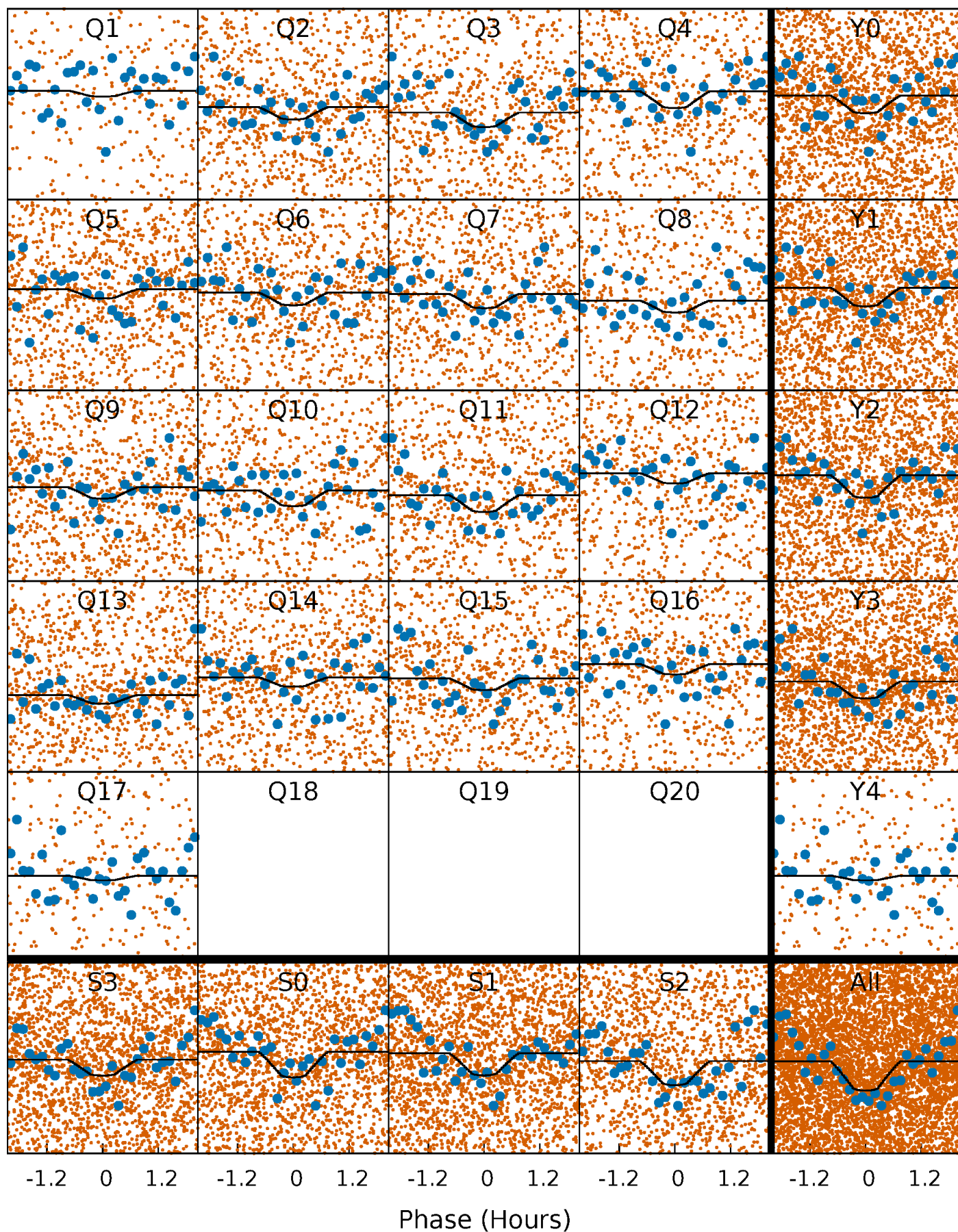
# PDC Quarter-Phased Transit Curves

TCE 005866555-01   P= 0.511946 Days    $T_0=131.715761$  (BKJD)



# DV Quarter-Phased Transit Curves

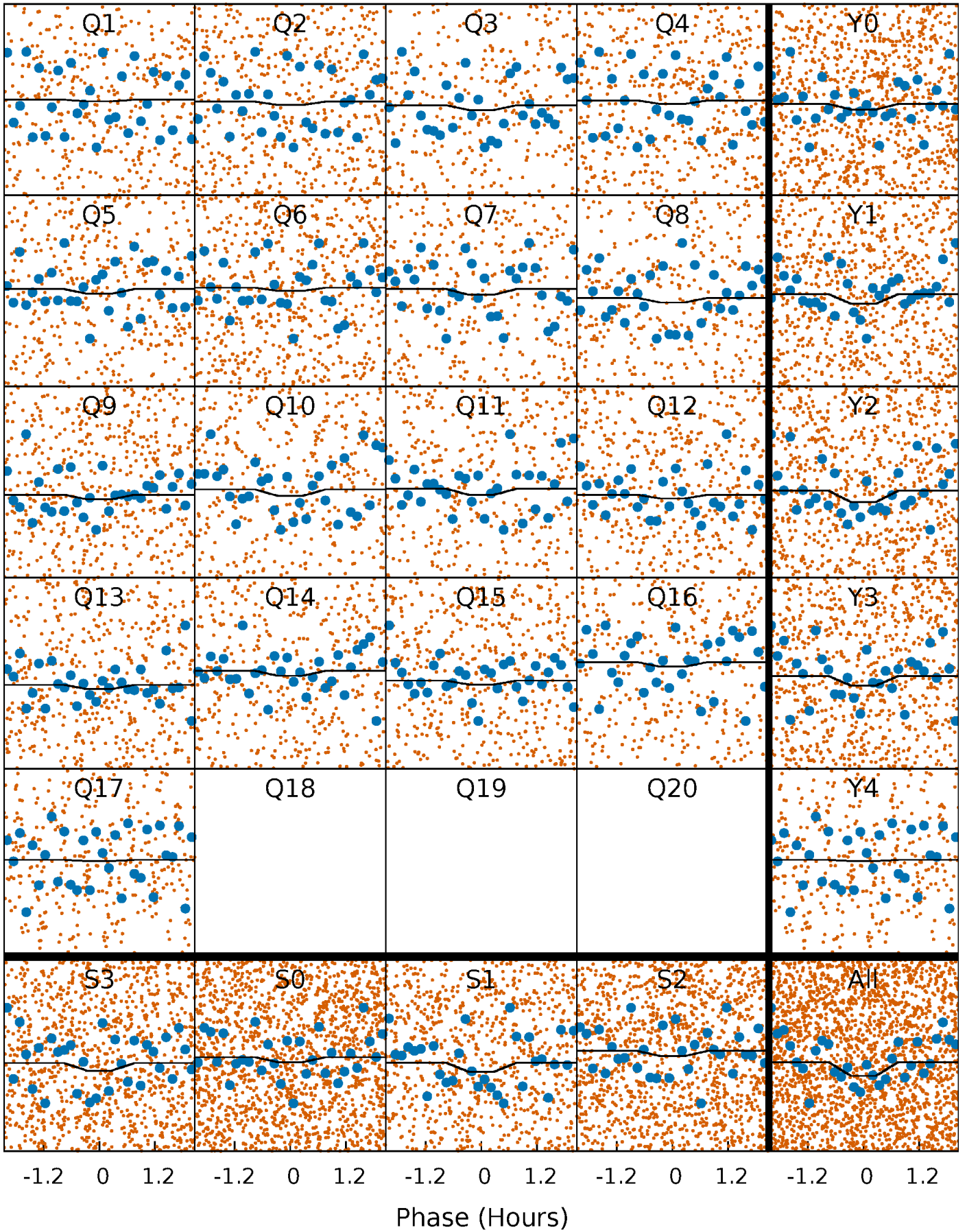
TCE 005866555-01 P= 0.511946 Days  $T_0=131.715761$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 005866555-01 P= 0.511949 Days  $T_0=131.715890$  (BKJD)

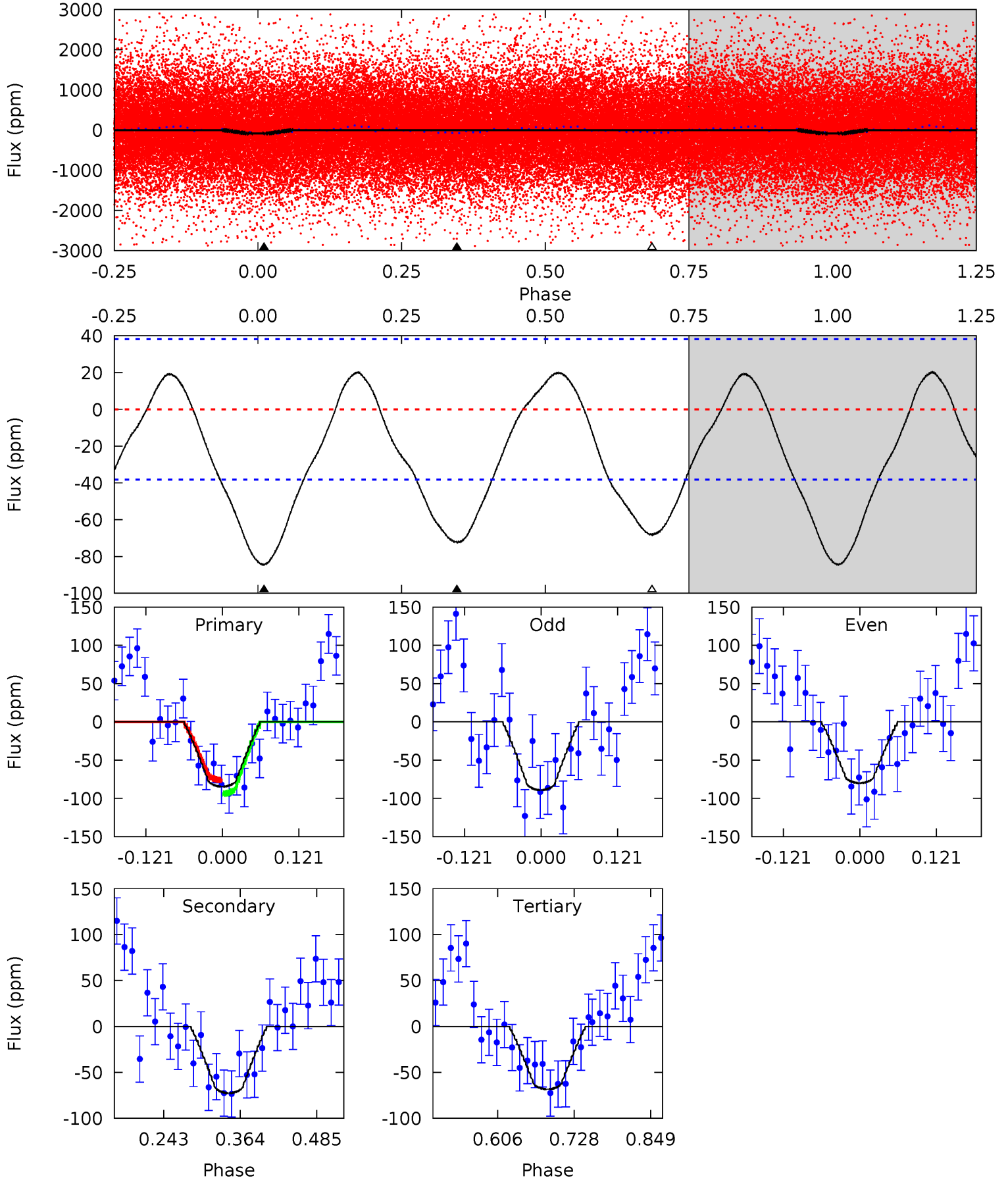




# DV Model-Shift Uniqueness Test

005866555-01, P = 0.511946 Days, E = 131.203815 Days

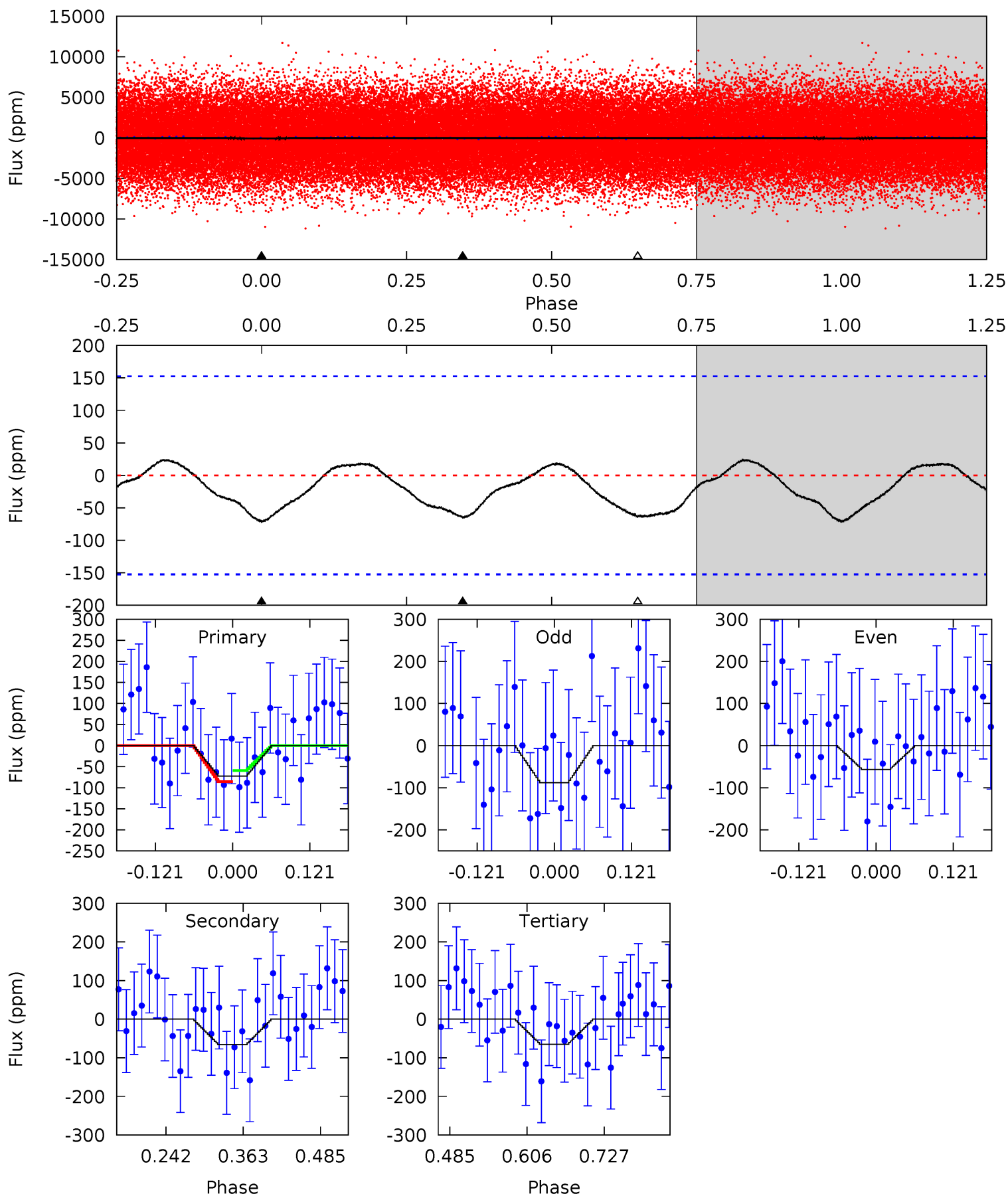
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	8.59	8.10	0	4.52	1.55	3.51	1.92	10.0	0.50	8.59	0.55	1.06	0.19	1.06



# Alt Model-Shift Uniqueness Test

005866555-01, P = 0.511949 Days, E = 131.203941 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.14	1.95	1.93	0	4.52	1.55	0.88	0.22	2.14	0.03	1.95	0.47	1.01	0.25	0.39



### Stellar Parameters For KIC 005866555

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8162^{+227}_{-368}$	$3.741^{+0.424}_{-0.106}$	$-0.100^{+0.200}_{-0.350}$	$3.191^{+0.775}_{-1.551}$	$2.046^{+0.331}_{-0.496}$	$0.089^{+0.363}_{-0.029}$
	+3%/-5%	+11%/-3%	+200%/-350%	+24%/-49%	+16%/-24%	+410%/-33%
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 005866555-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-73 \pm 8$	$4.32^{+4.93}_{-3.02}$	$6832^{+553}_{-827}$	$5017^{+8414}_{-9939}$	$0.544^{+5.657}_{-0.425}$
Alt.	$-66 \pm 34$	$4.64^{+4.39}_{-3.05}$	$6859^{+571}_{-773}$	$4020^{+5733}_{-9224}$	$0.378^{+2.581}_{-0.298}$

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



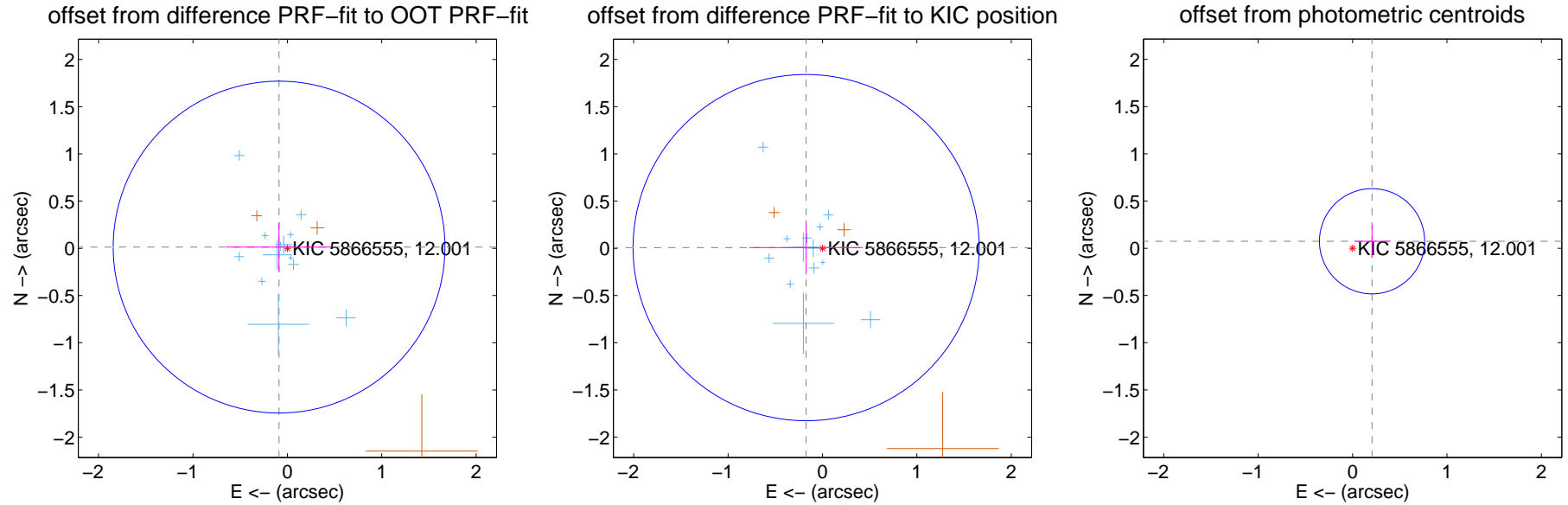
## DV Centroid Data

Supplemental centroid analysis for 005866555-01. Kepler magnitude: 12.00. Transit SNR 8.02

There are 13 quarters with good PRF difference image offsets

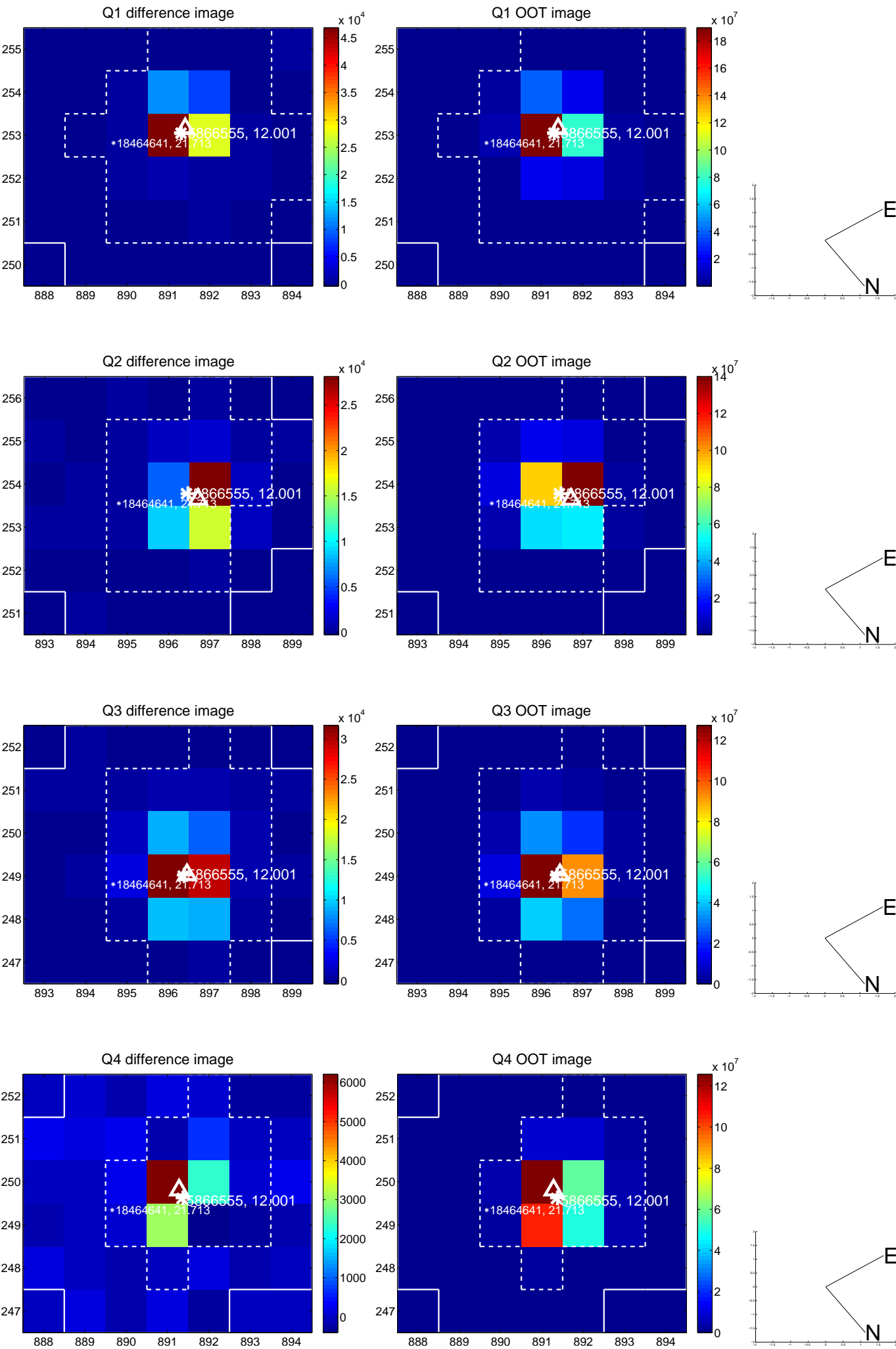
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.089 \pm 0.586$	0.15	$0.088 \pm 0.559$	$0.013 \pm 0.260$
PRF-fit source offset from KIC position	$0.173 \pm 0.611$	0.28	$0.173 \pm 0.601$	$0.008 \pm 0.285$
photometric centroid source offset	$0.22 \pm 0.19$	1.18	$-0.21 \pm 0.19$	$0.07 \pm 0.17$

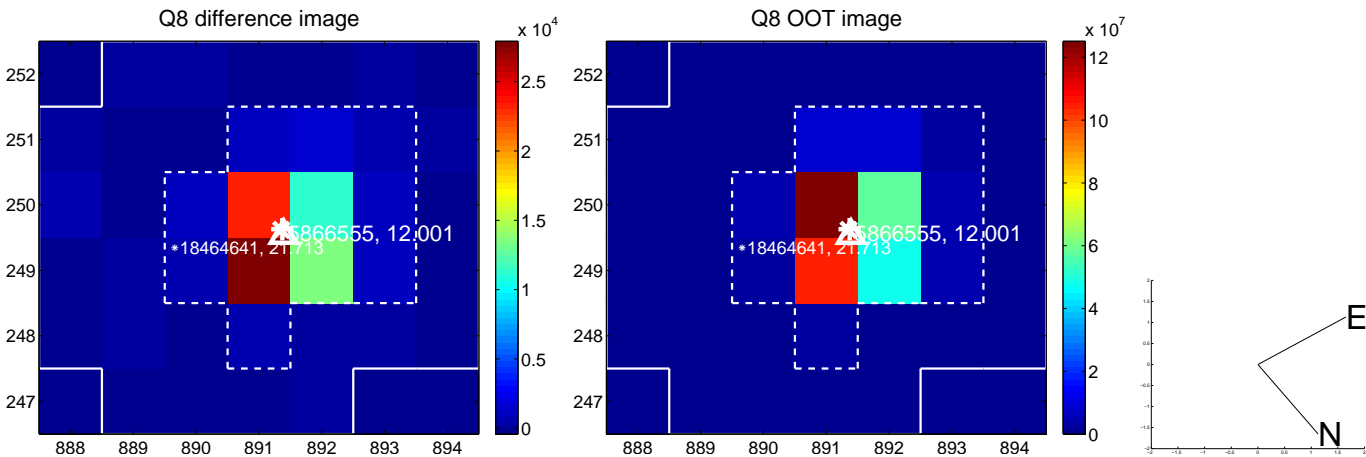
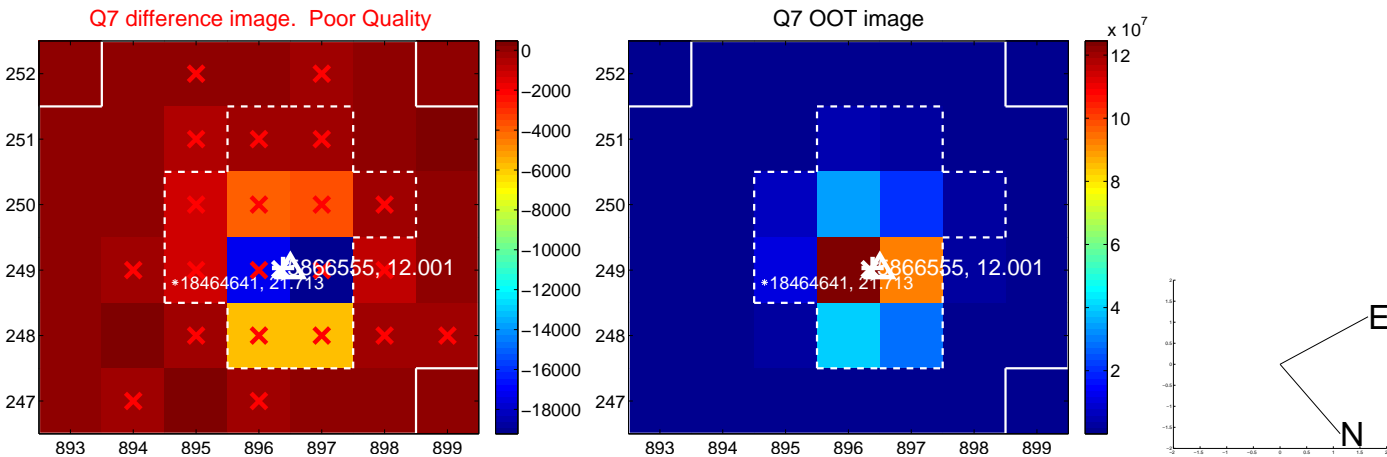
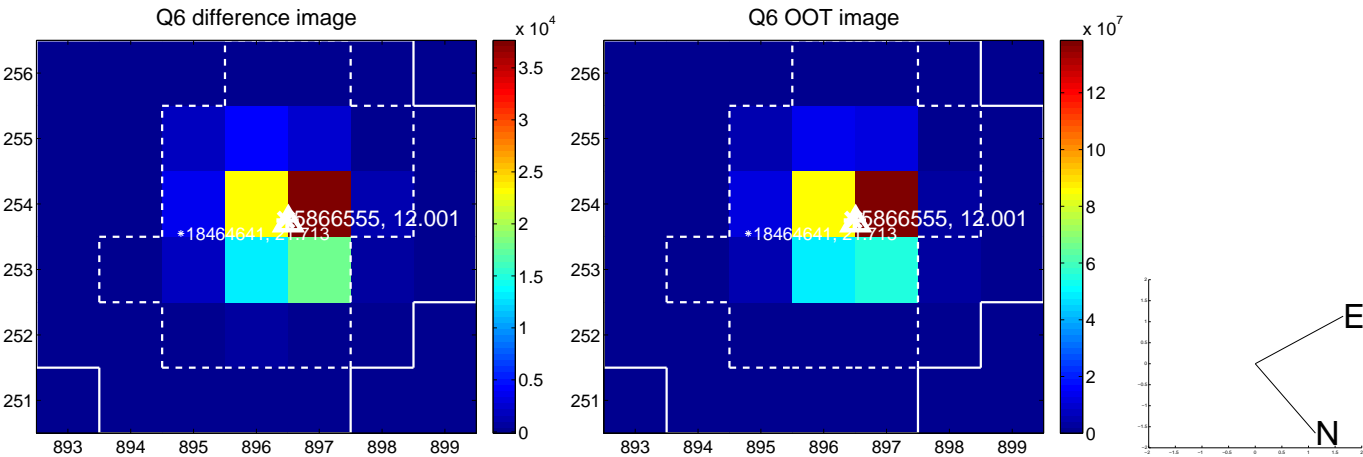
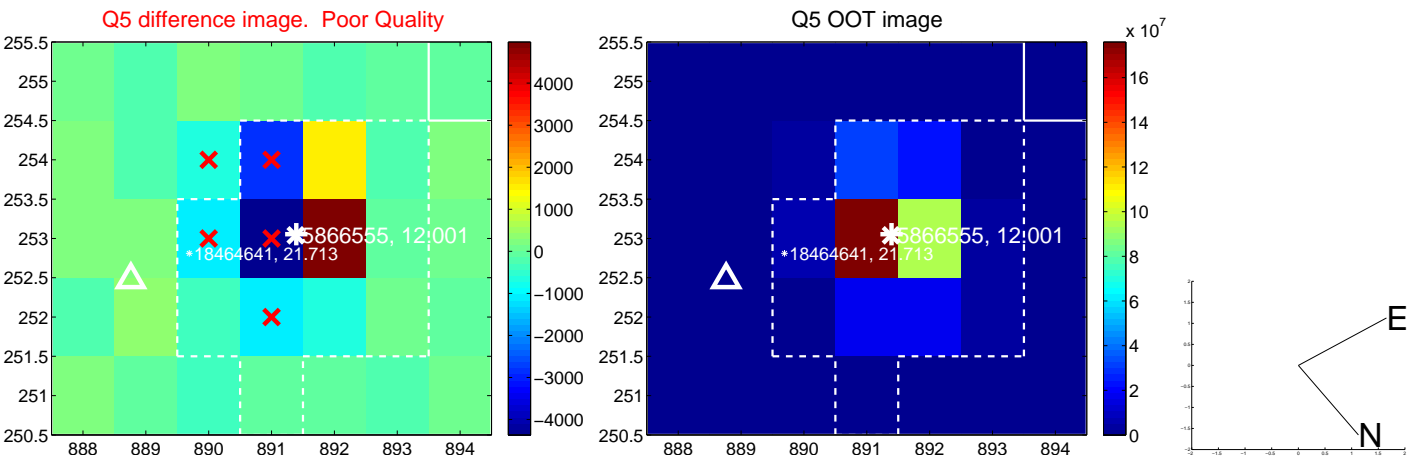


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

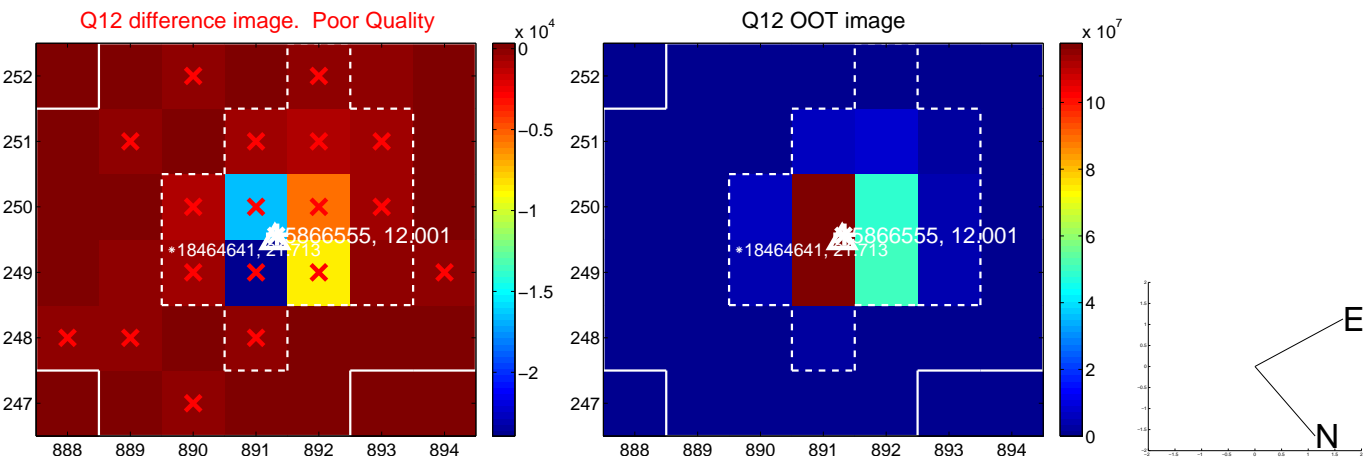
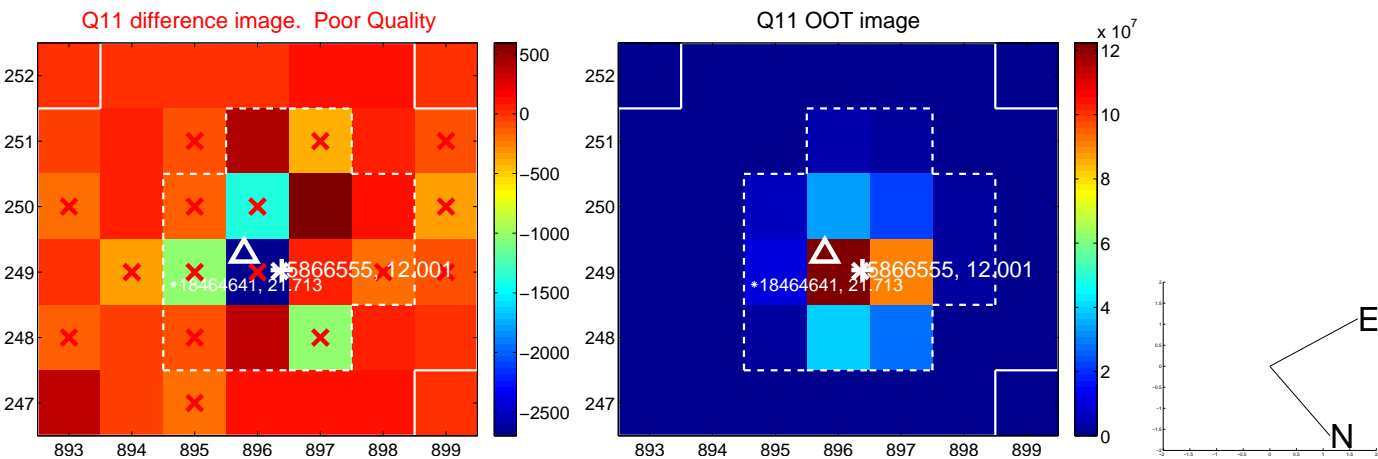
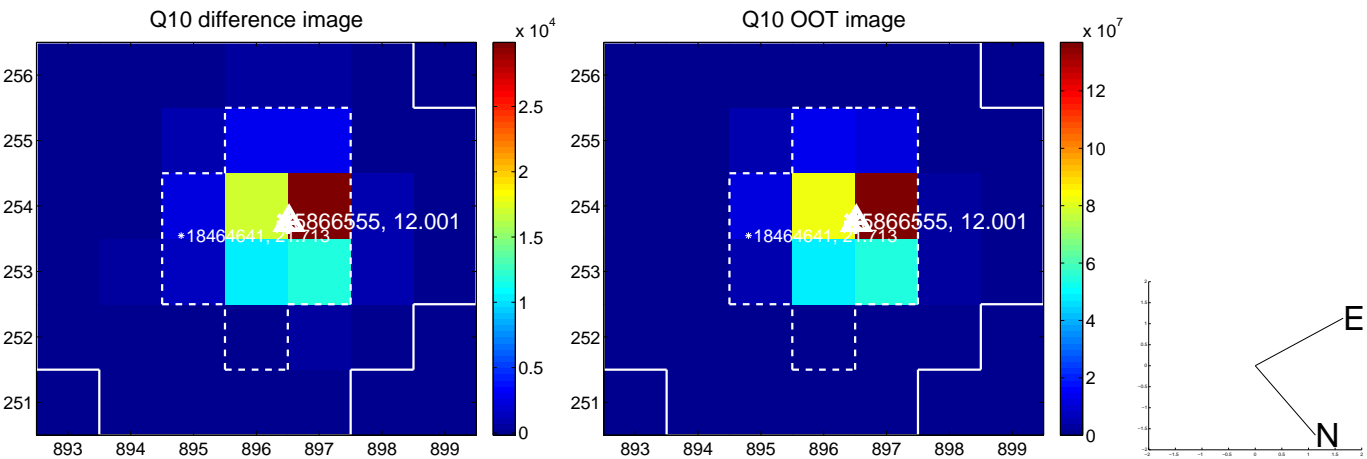
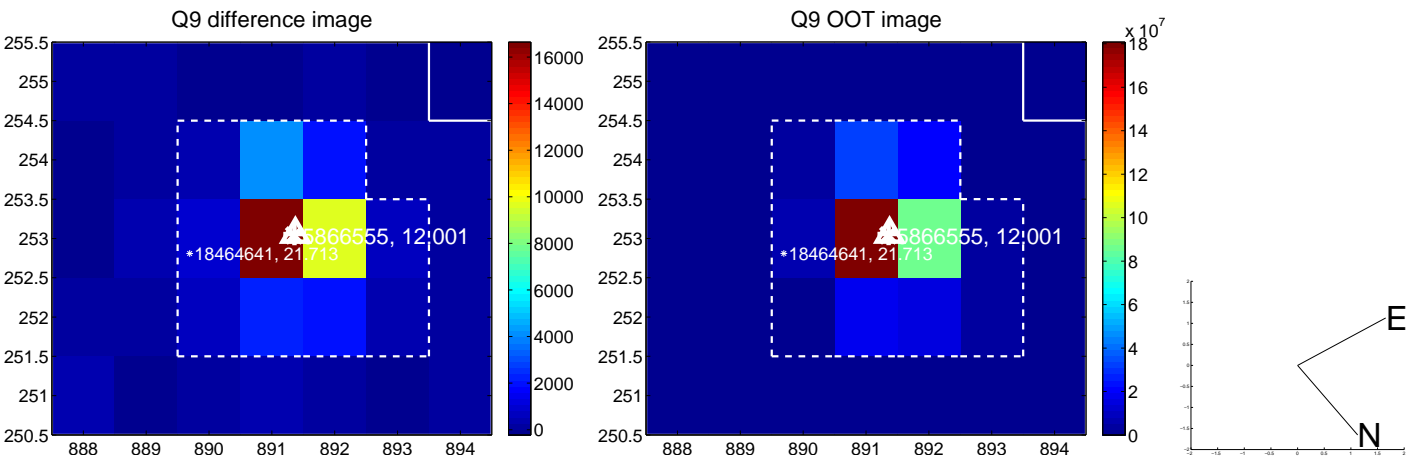
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

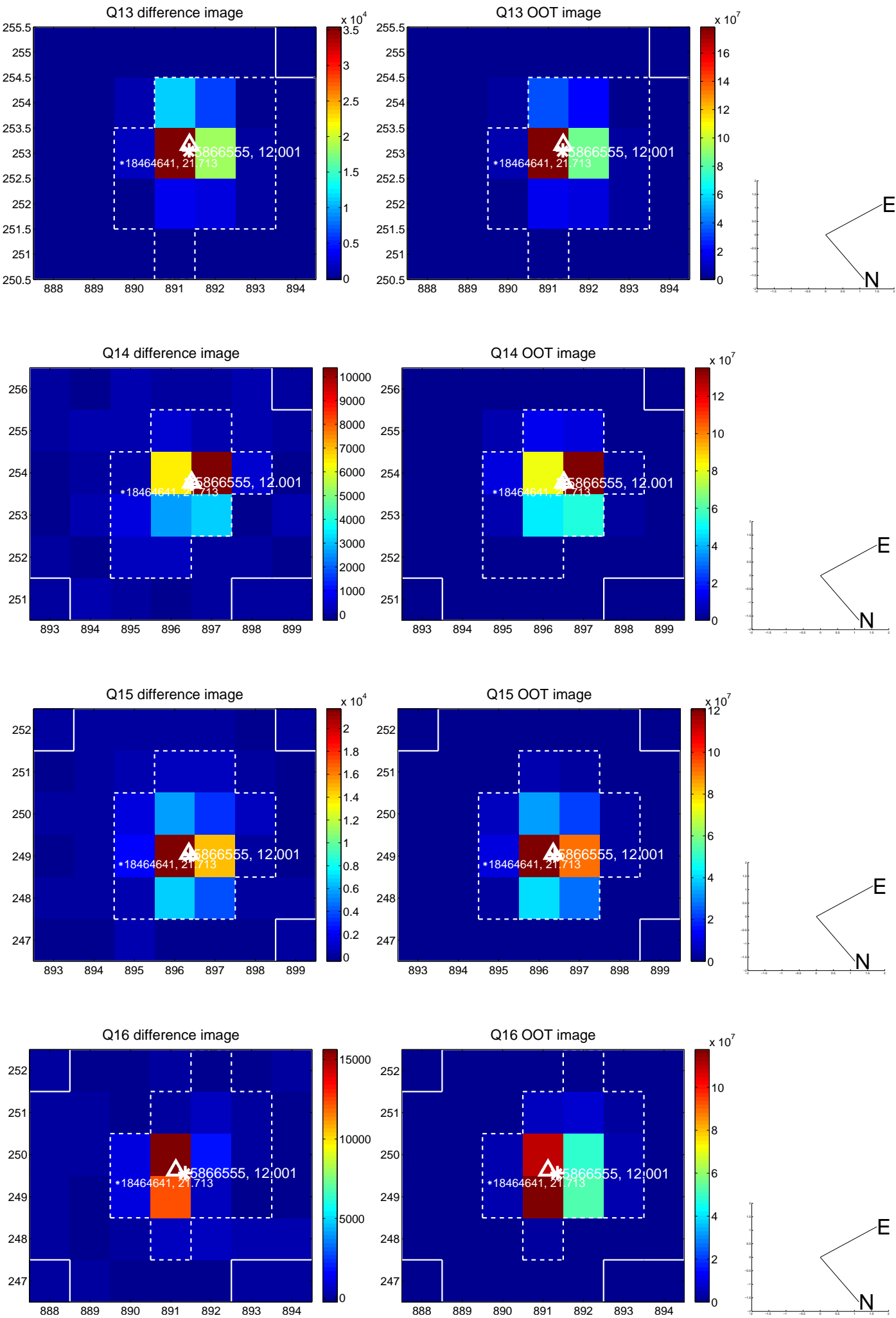


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





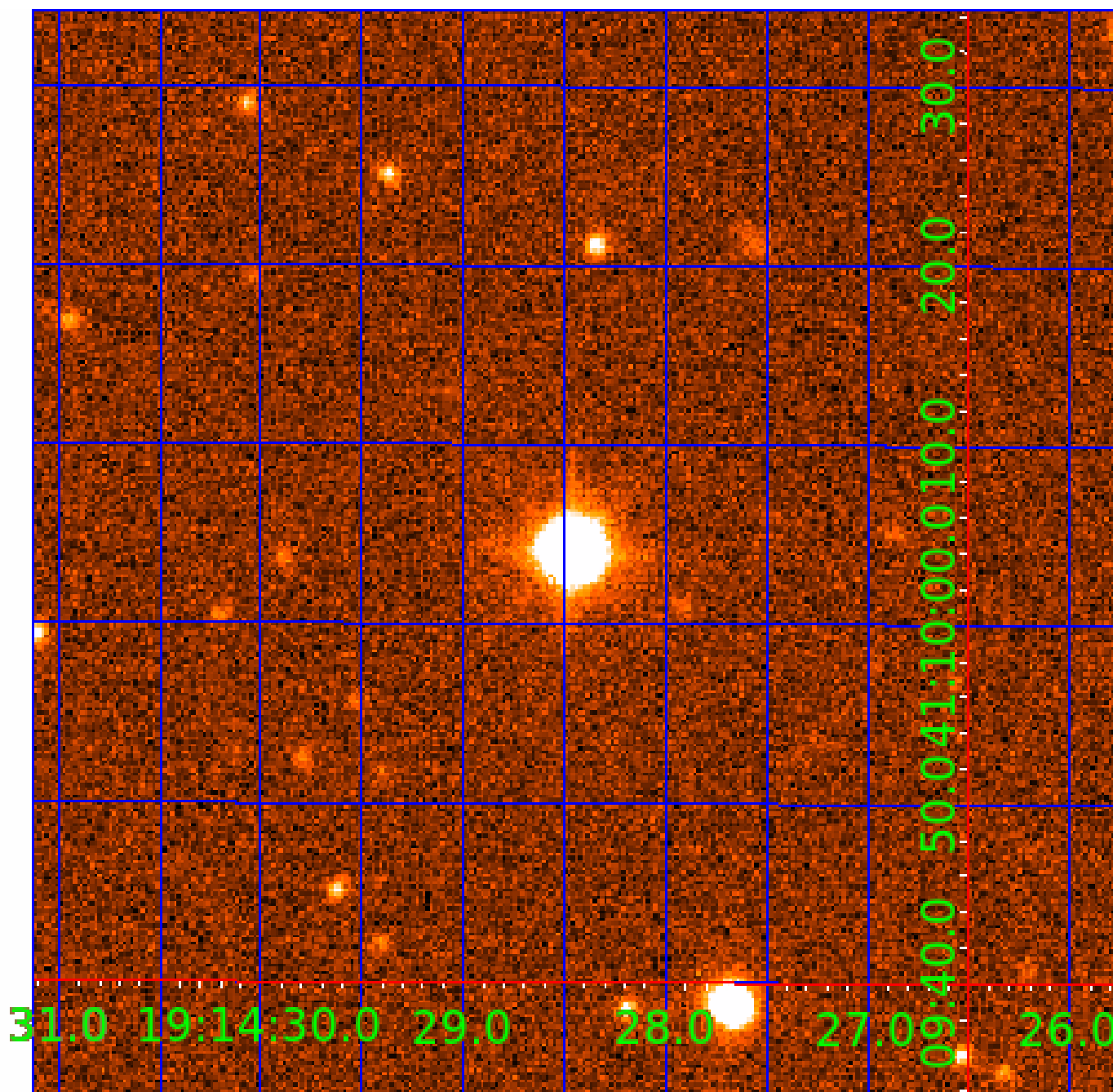
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 005866555

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005866555-01	OBS	No	0.511946	131.715761	62.6	1.026	10.4	8.0	3.19	8162	2.57	160103.16
005866555-02	OBS	No	0.708270	132.203621	80.1	2.479	8.8	8.8	3.19	8162	3.28	103856.43
005866555-03	OBS	No	0.708250	131.856347	64.4	4.577	8.4	8.5	3.19	8162	2.79	103860.29

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005866555-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
005866555-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
005866555-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

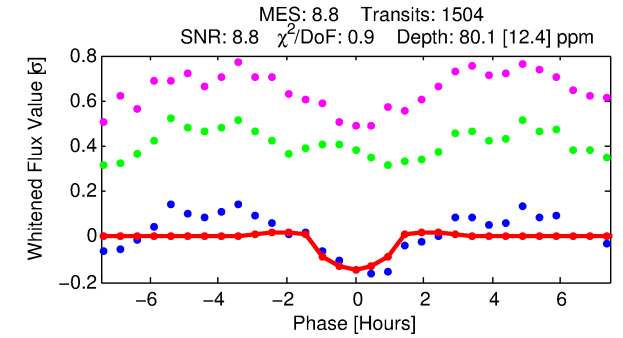
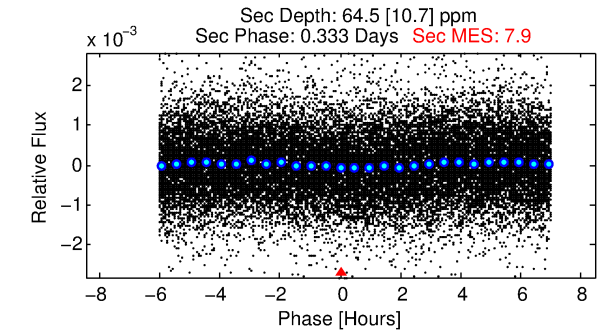
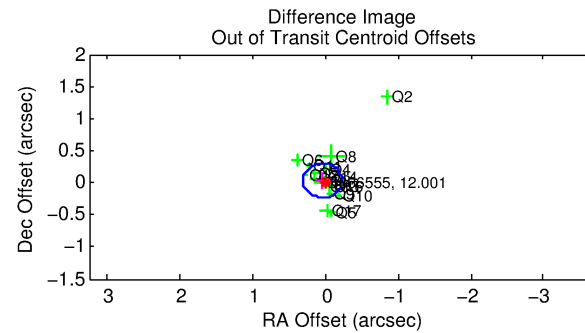
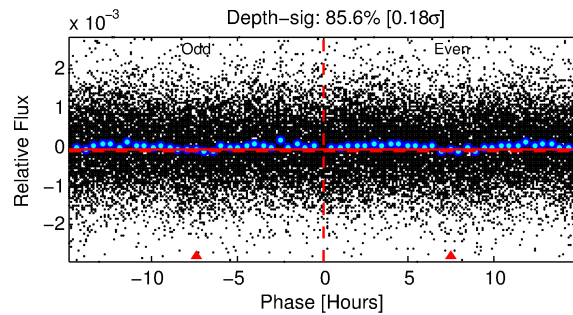
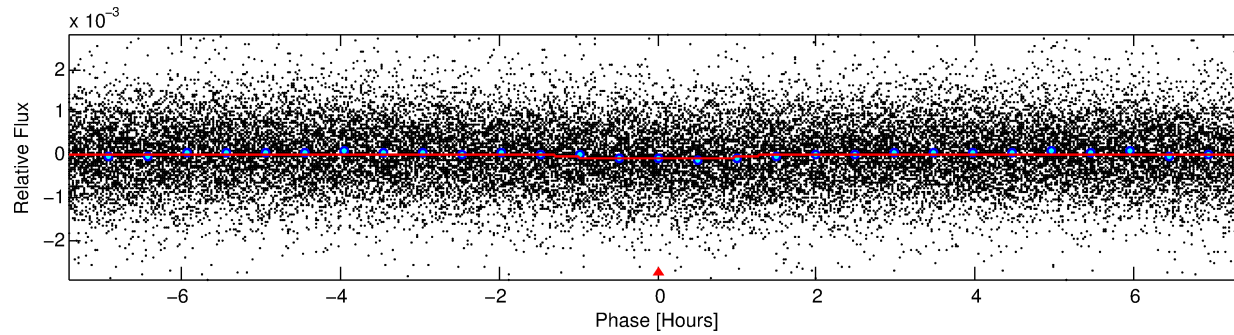
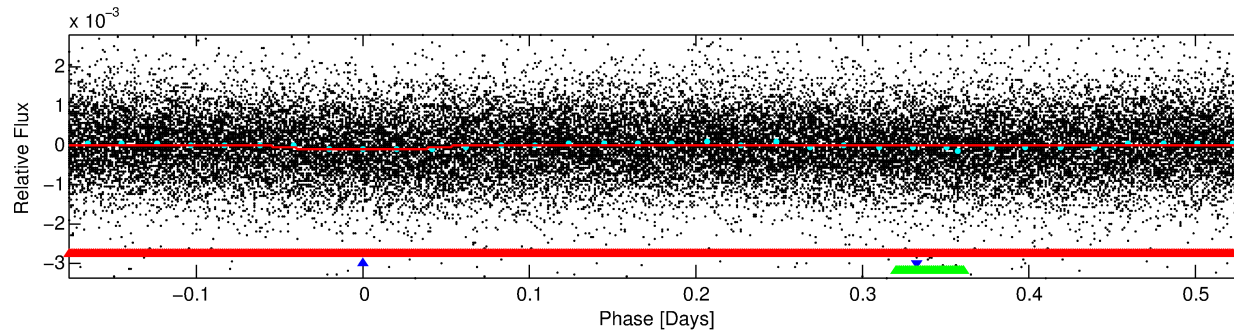
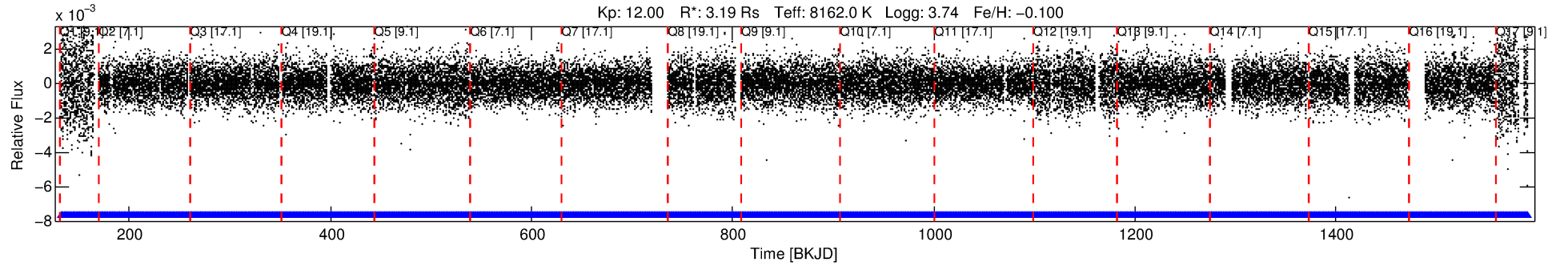
## Ephemeris Match Information For 005866555-02

No Significant Match Found



# DV One-Page Summary

KIC: 5866555 Candidate: 2 of 3 Period: 0.708 d



## DV Fit Results:

Period = 0.70827 [0.00001] d  
Epoch = 132.2036 [0.0038] BKJD  
Rp/R\* = 0.0094 [0.0081]  
a/R\* = 1.43 [3.81]  
b = 0.88 [1.40]  
Seff = 103856.43 [77798.72]  
Teff = 4578 [857] K  
Rp = 3.28 [3.24] Re  
a = 0.0197 [0.0091] AU  
Ag = 1.29 [2.42] [0.12 $\sigma$ ]  
Teffp = 7542 [3280] K [0.87 $\sigma$ ]

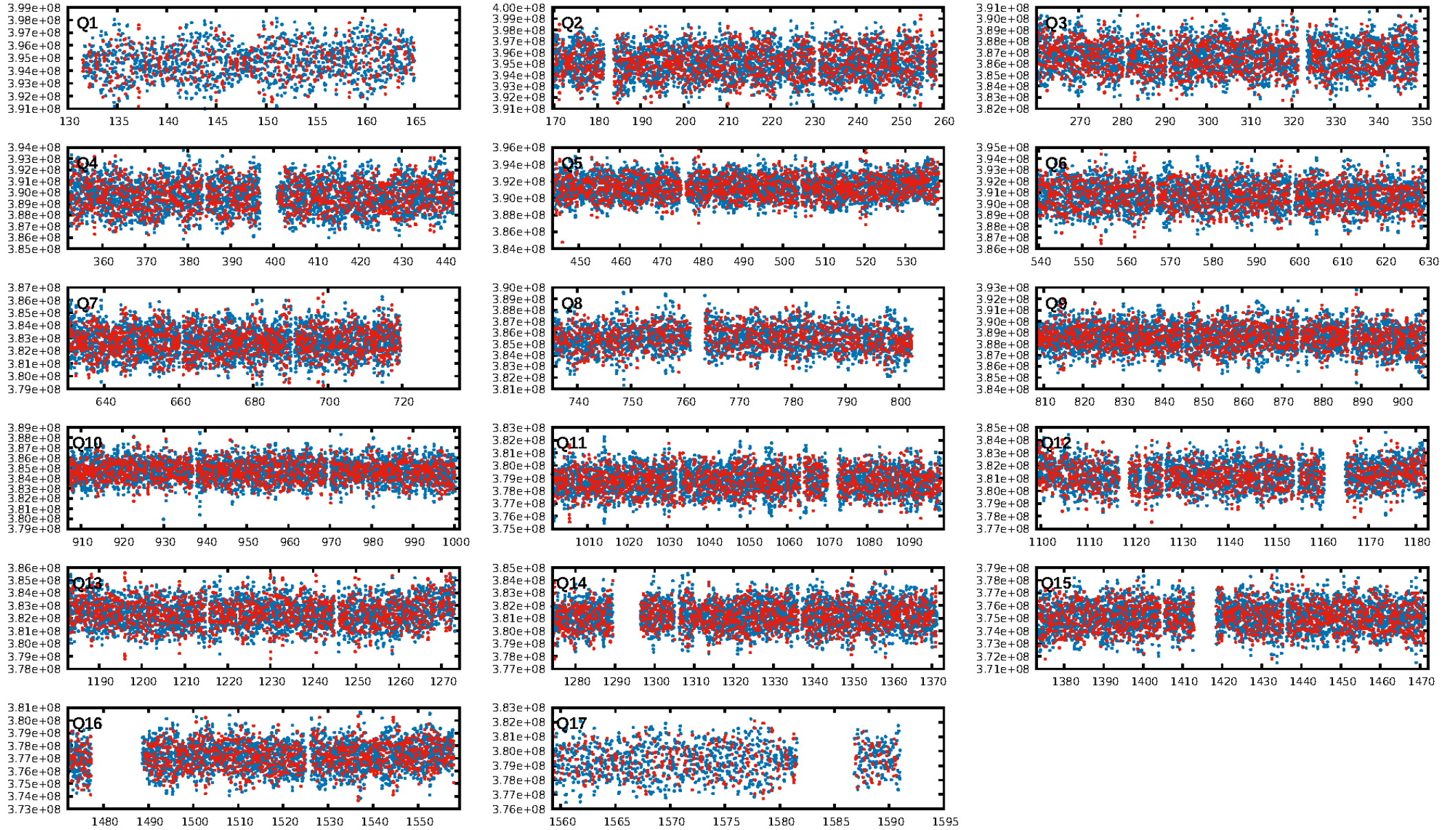
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1436/1436]  
GhostDiagnostic-chr: 1.865  
Centroid-sig: 11.0%  
Centroid-so: 0.135 arcsec [1.31 $\sigma$ ]  
OotOffset-rm: 0.054 arcsec [0.60 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-rm: 0.142 arcsec [1.65 $\sigma$ ]  
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 14:22:59 Z

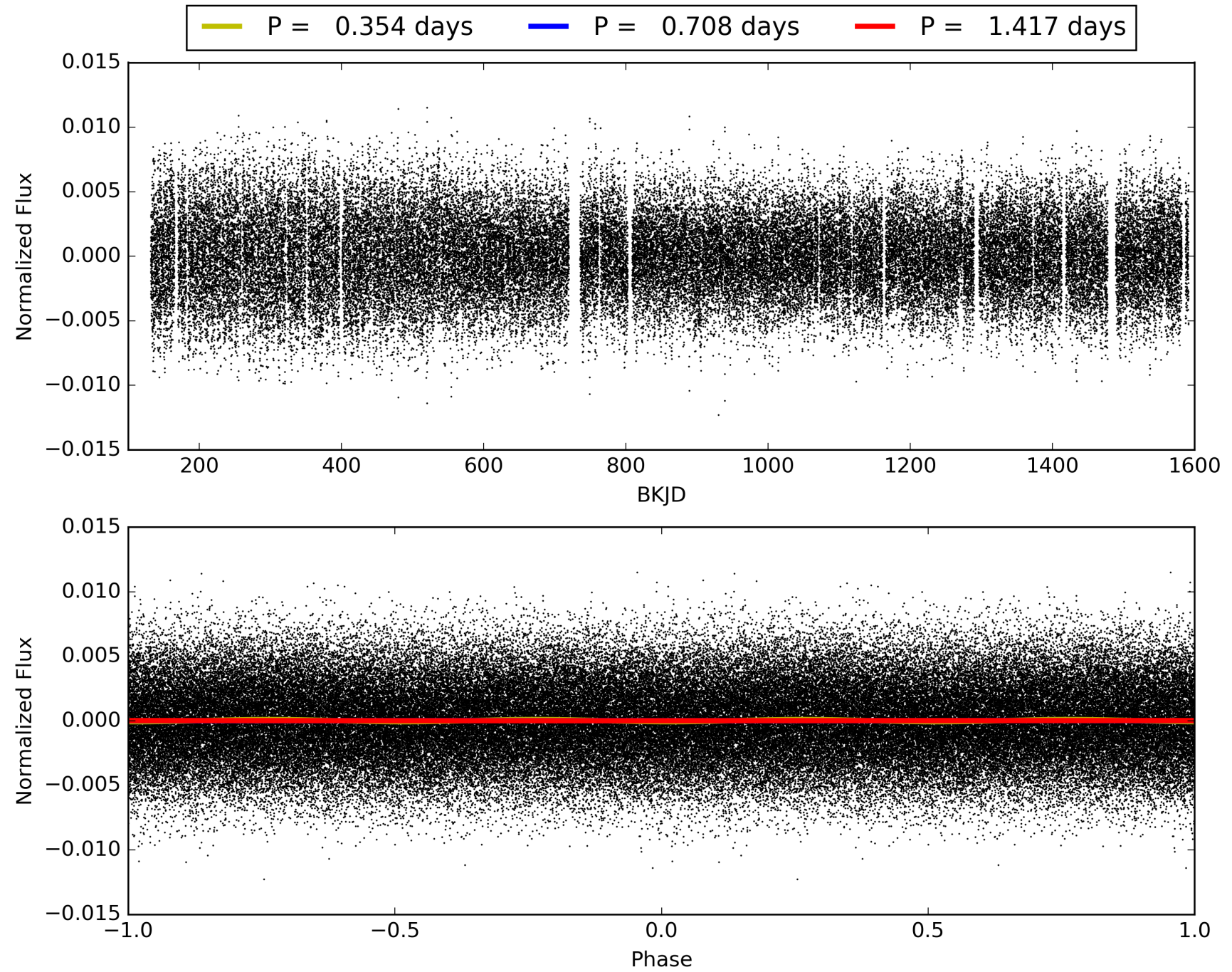
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005866555-02, PDC Light Curves



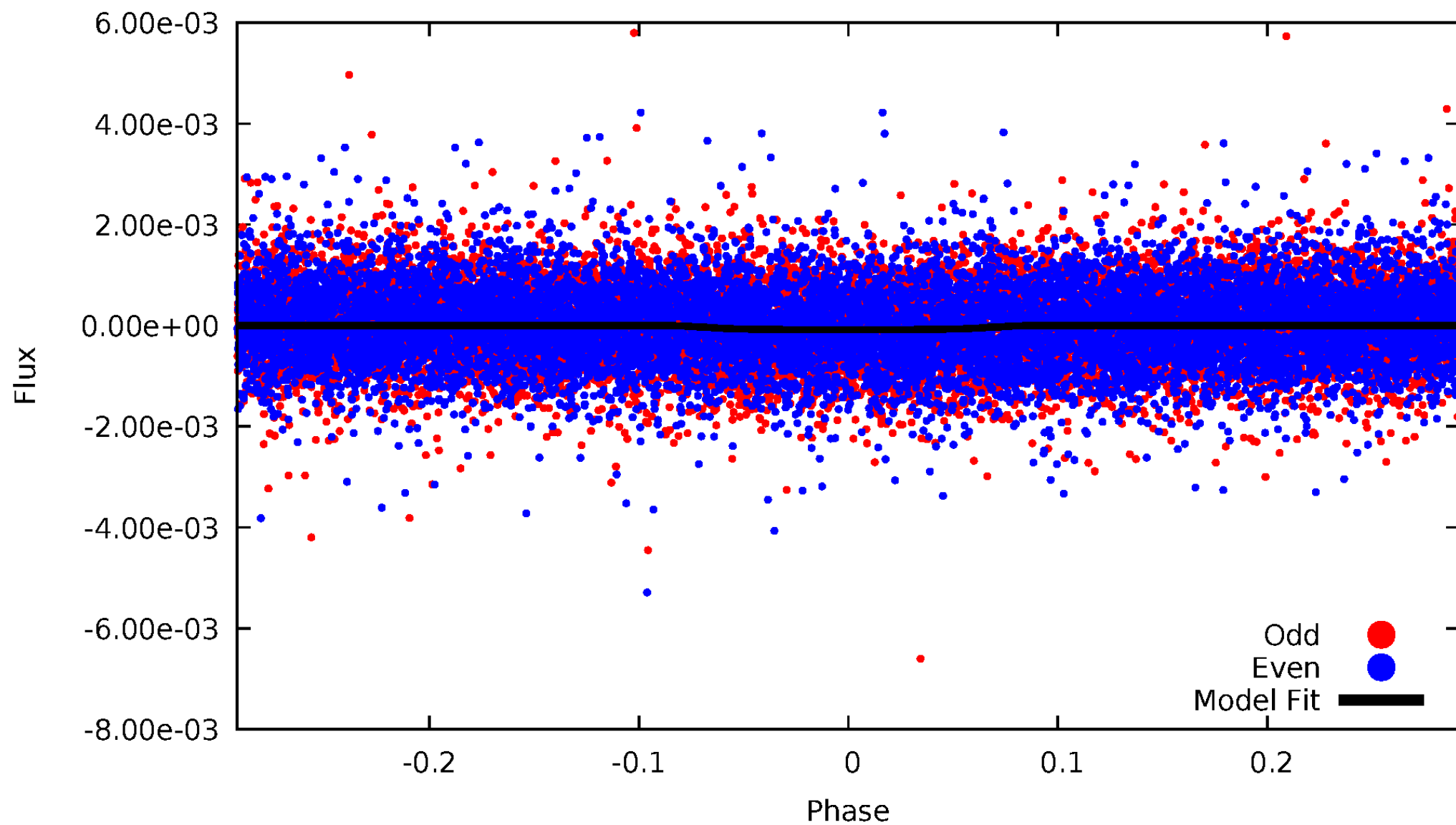


# TCE 005866555-02



DV Odd/Even

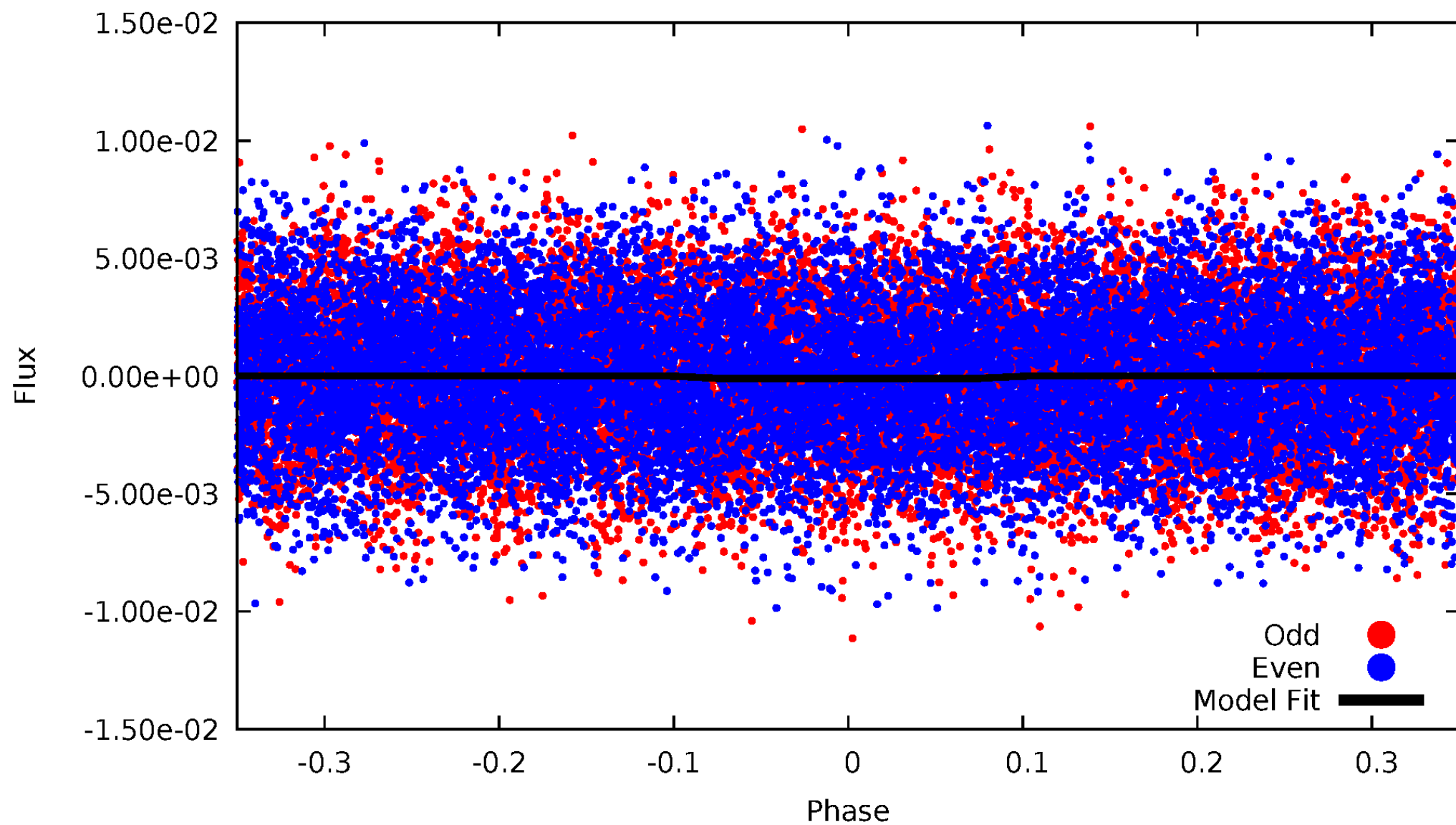
TCE 005866555-02





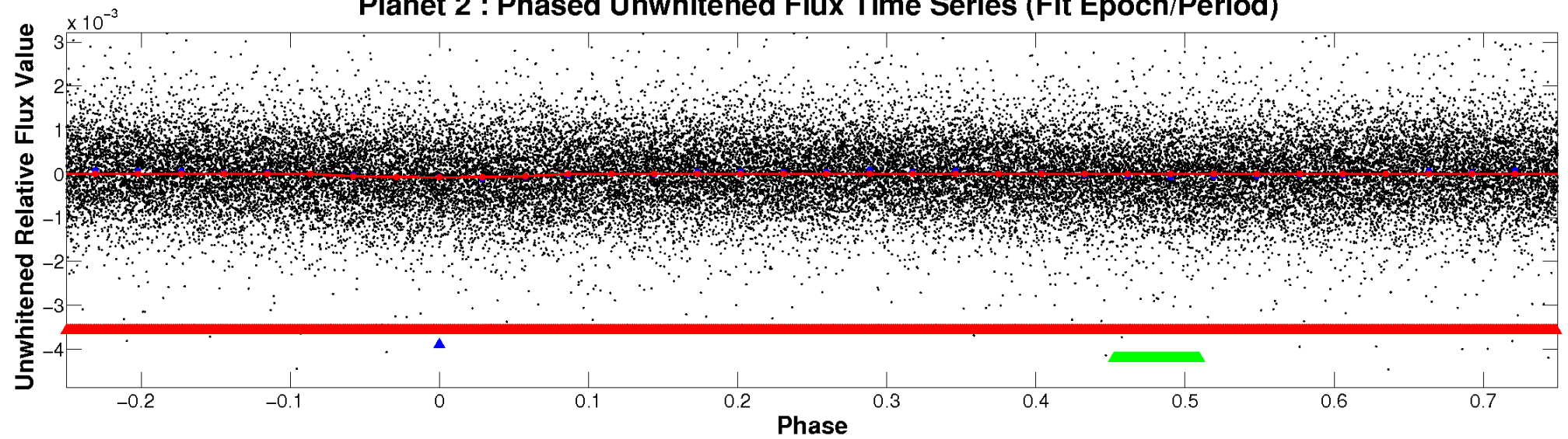
ALT Odd/Even

TCE 005866555-02

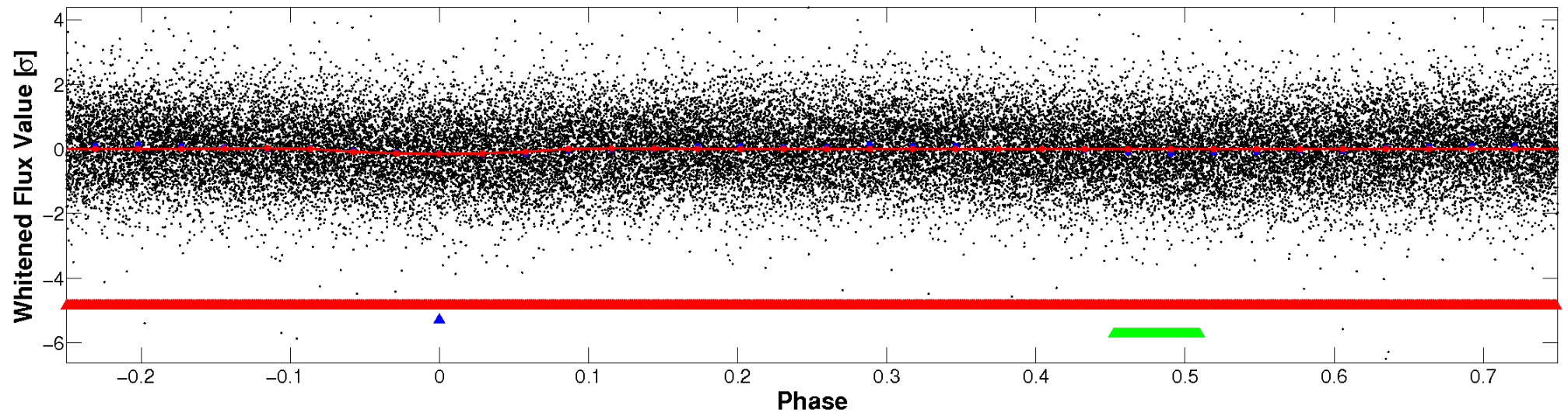


# Non-Whitened Vs. Whitened Light Curve

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

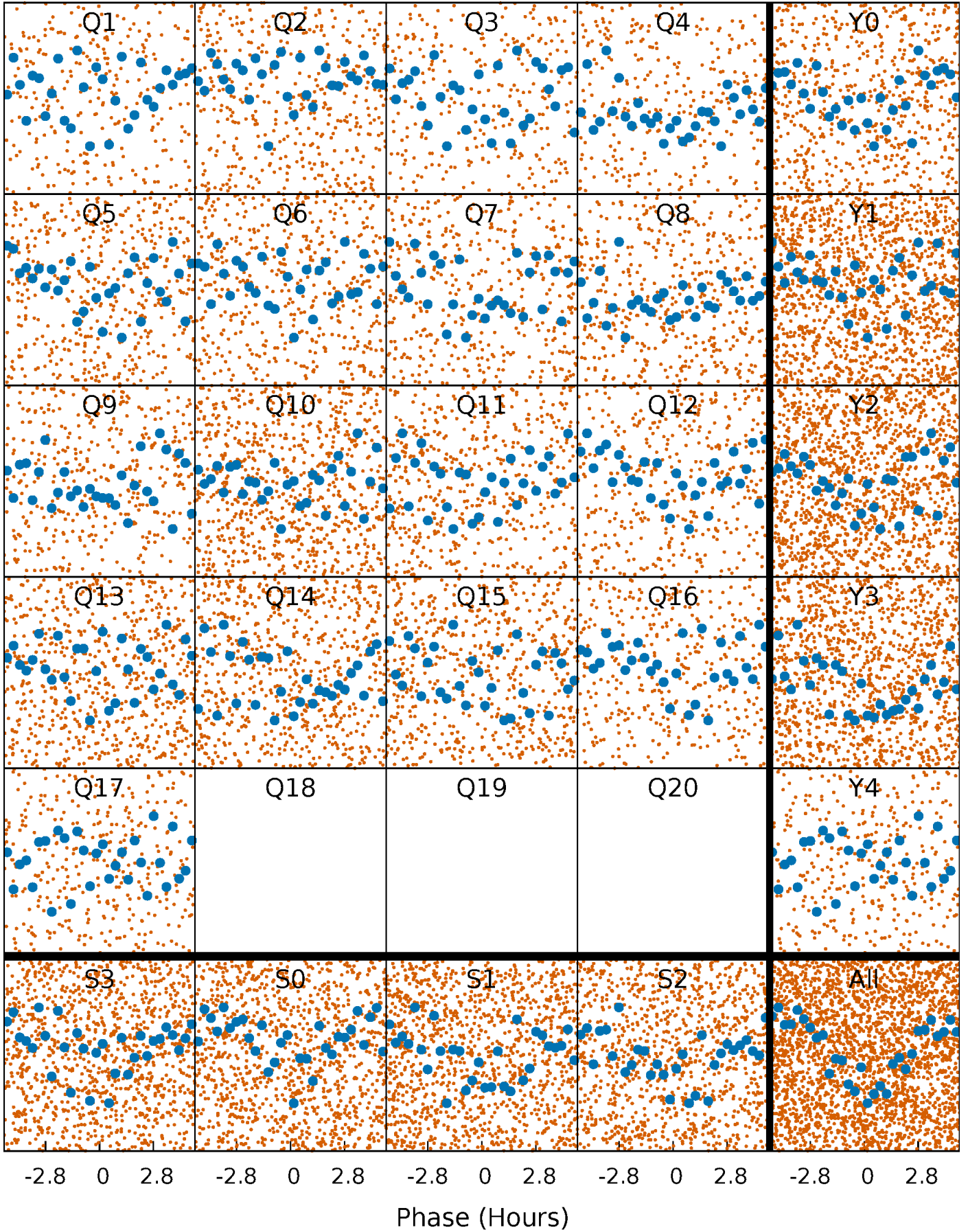


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

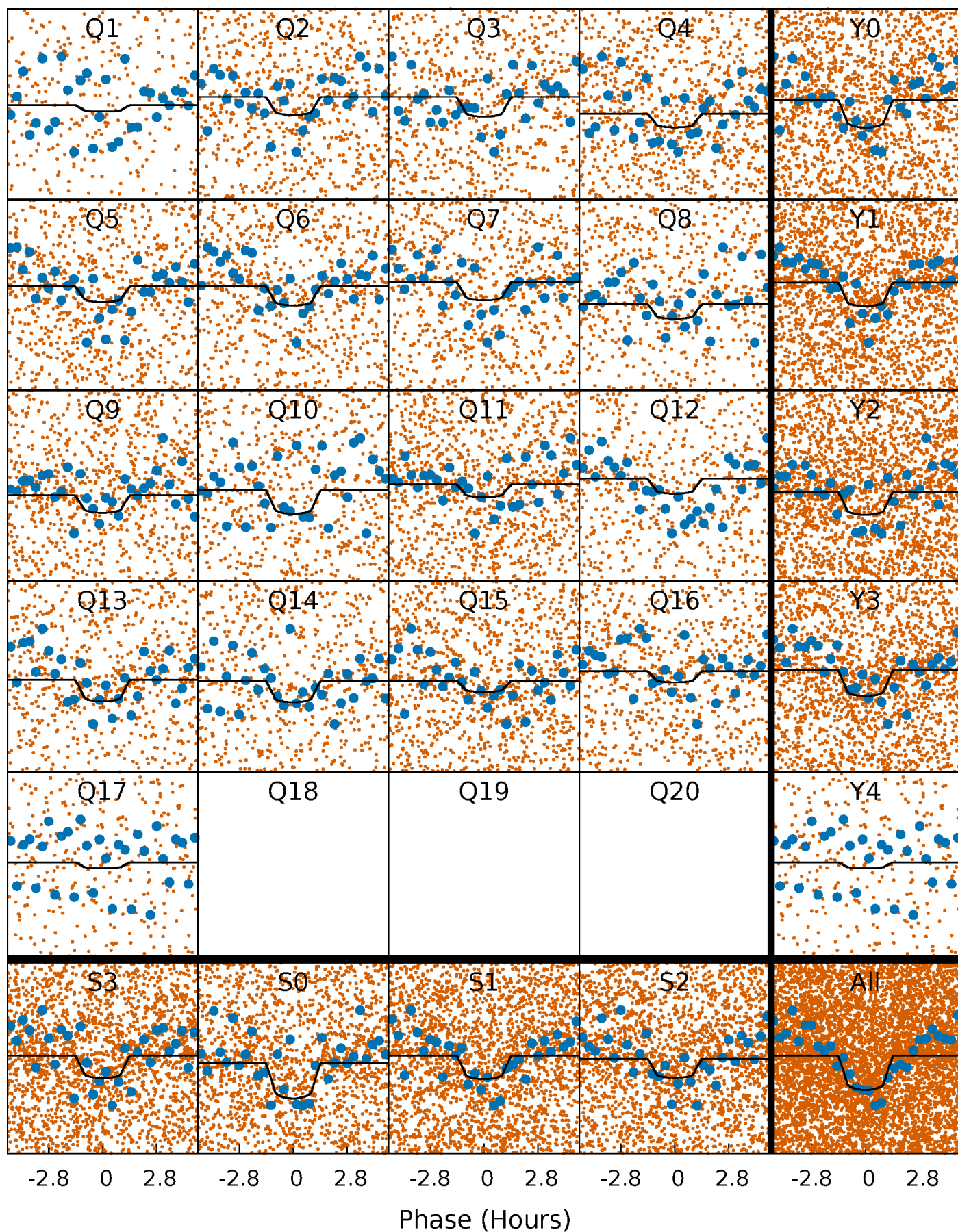
TCE 005866555-02    P= 0.708270 Days     $T_0=132.203621$  (BKJD)





# DV Quarter-Phased Transit Curves

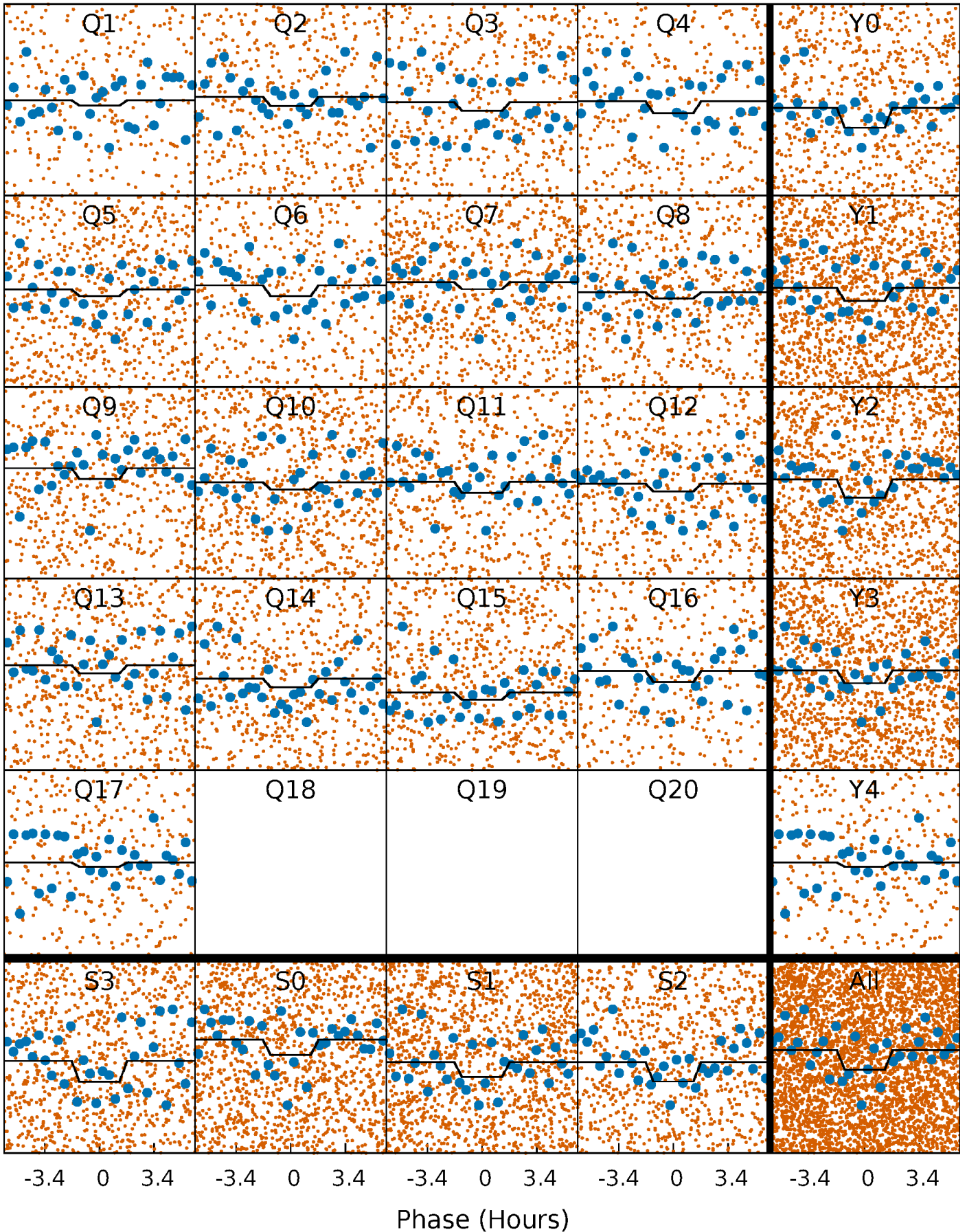
TCE 005866555-02 P= 0.708270 Days  $T_0=132.203621$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

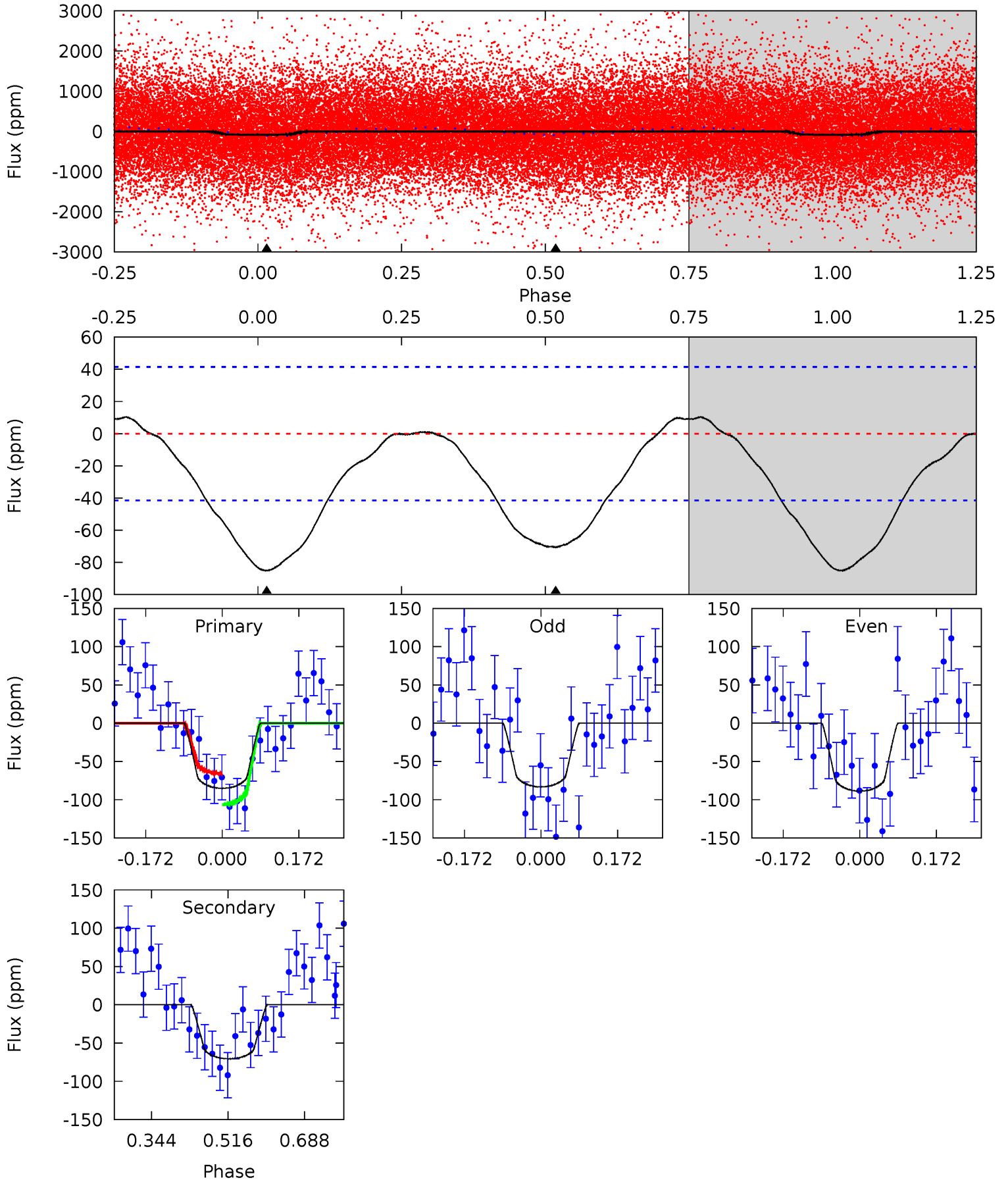
TCE 005866555-02 P= 0.708303 Days  $T_0=132.196766$  (BKJD)



# DV Model-Shift Uniqueness Test

005866555-02, P = 0.708270 Days, E = 131.495351 Days

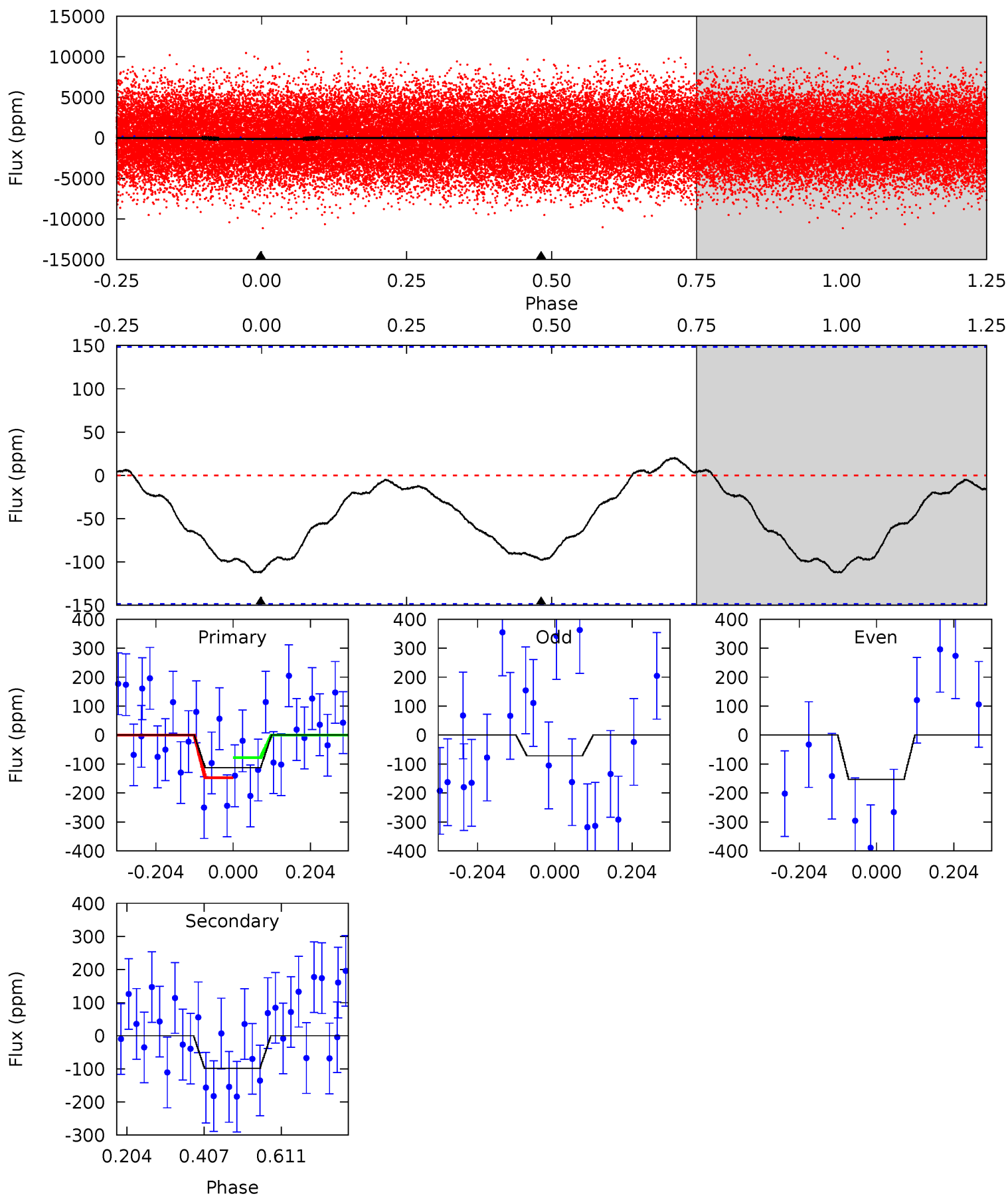
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.13	7.56	0	0	4.45	1.37	0.66	9.13	9.13	7.56	7.56	0.30	0.87	0.11	2.19



# Alt Model-Shift Uniqueness Test

005866555-02, P = 0.708303 Days, E = 131.488463 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
3.35	2.93	0	0	4.41	1.27	0.35	3.35	3.35	2.93	2.93	1.21	0.97	0.15	1.03



### Stellar Parameters For KIC 005866555

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8162^{+227}_{-368}$	$3.741^{+0.424}_{-0.106}$	$-0.100^{+0.200}_{-0.350}$	$3.191^{+0.775}_{-1.551}$	$2.046^{+0.331}_{-0.496}$	$0.089^{+0.363}_{-0.029}$
	+3%/-5%	+11%/-3%	+200%/-350%	+24%/-49%	+16%/-24%	+410%/-33%
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 005866555-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-70 \pm 9$	$3.21^{+2.67}_{-1.98}$	$6148^{+513}_{-775}$	$6606^{+7493}_{-2427}$	$1.443^{+8.166}_{-1.018}$
Alt.	$-99 \pm 34$	$3.63^{+2.72}_{-2.30}$	$6164^{+512}_{-729}$	$6633^{+7933}_{-2203}$	$1.468^{+9.660}_{-1.001}$

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

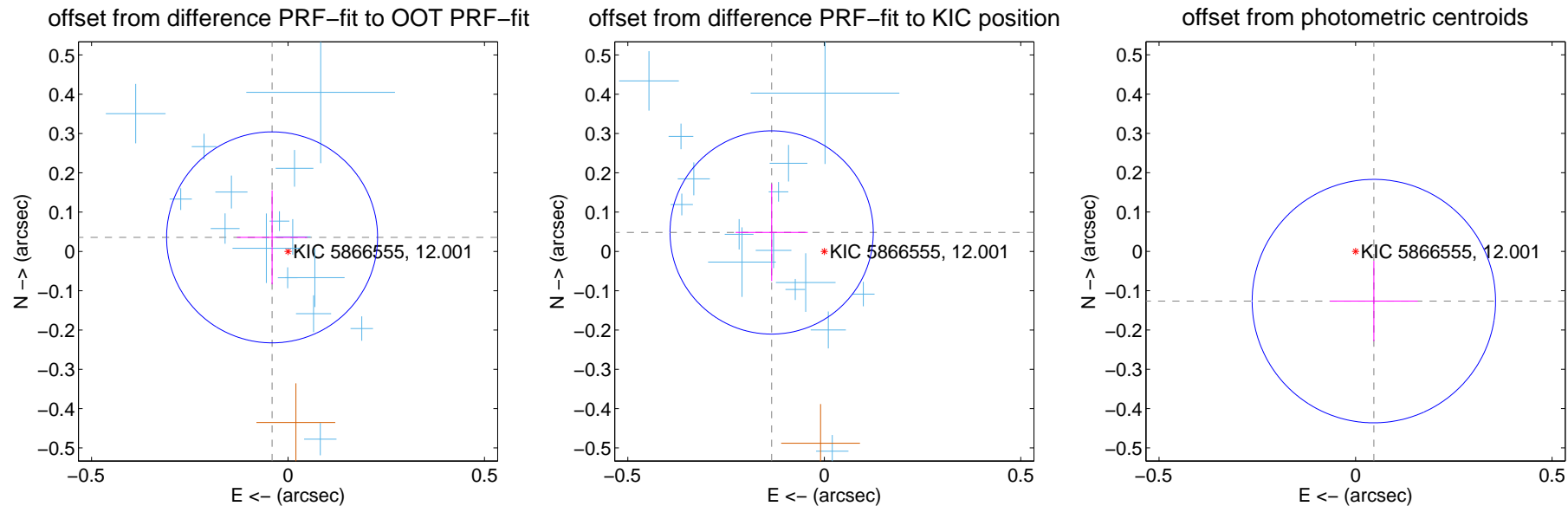
## DV Centroid Data

Supplemental centroid analysis for 005866555-02. Kepler magnitude: 12.00. Transit SNR 8.84

There are 16 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

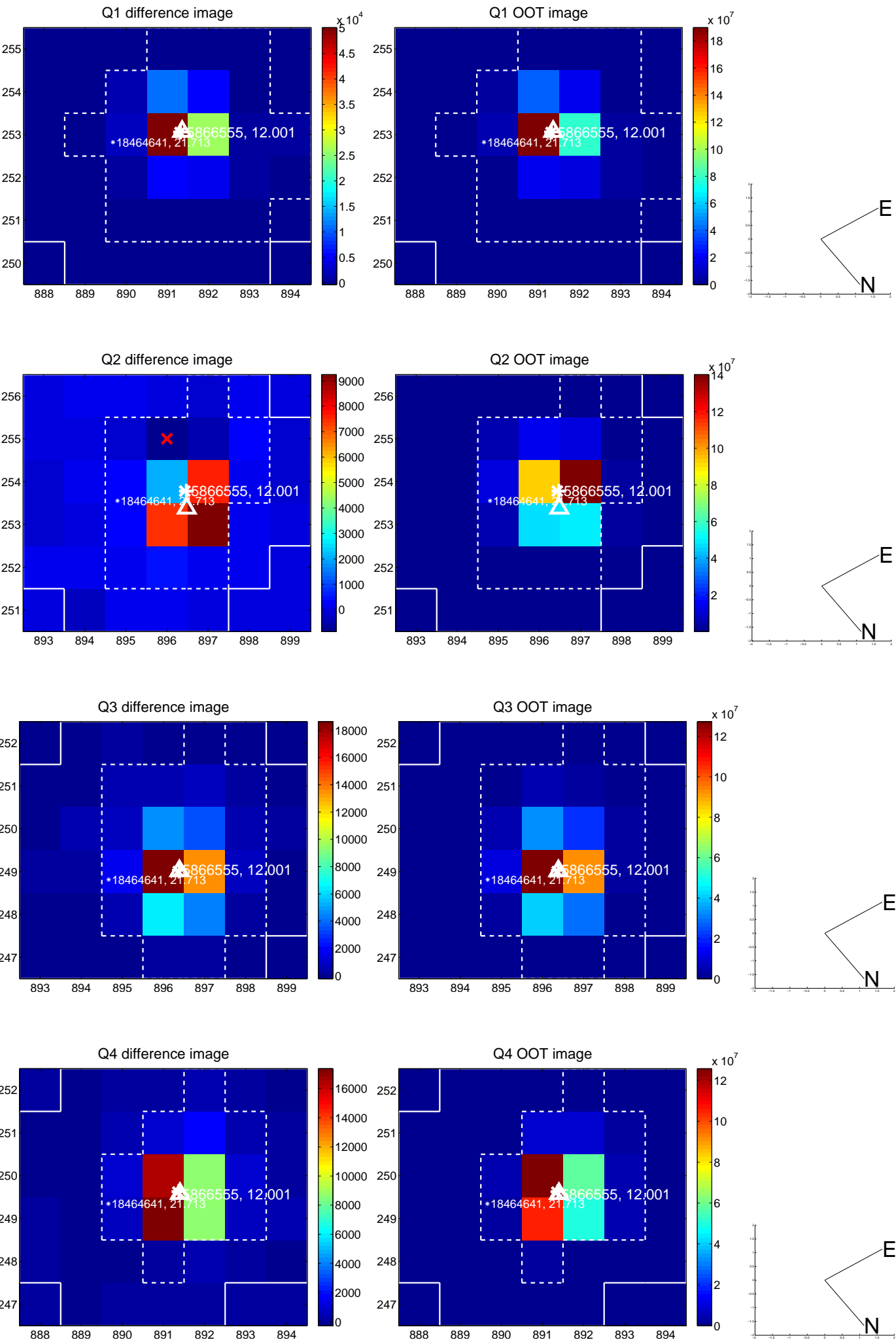
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.054 \pm 0.090$	0.60	$0.041 \pm 0.089$	$0.036 \pm 0.120$
PRF-fit source offset from KIC position	$0.142 \pm 0.086$	1.65	$0.134 \pm 0.092$	$0.048 \pm 0.124$
photometric centroid source offset	$0.13 \pm 0.10$	1.31	$-0.05 \pm 0.11$	$-0.13 \pm 0.10$



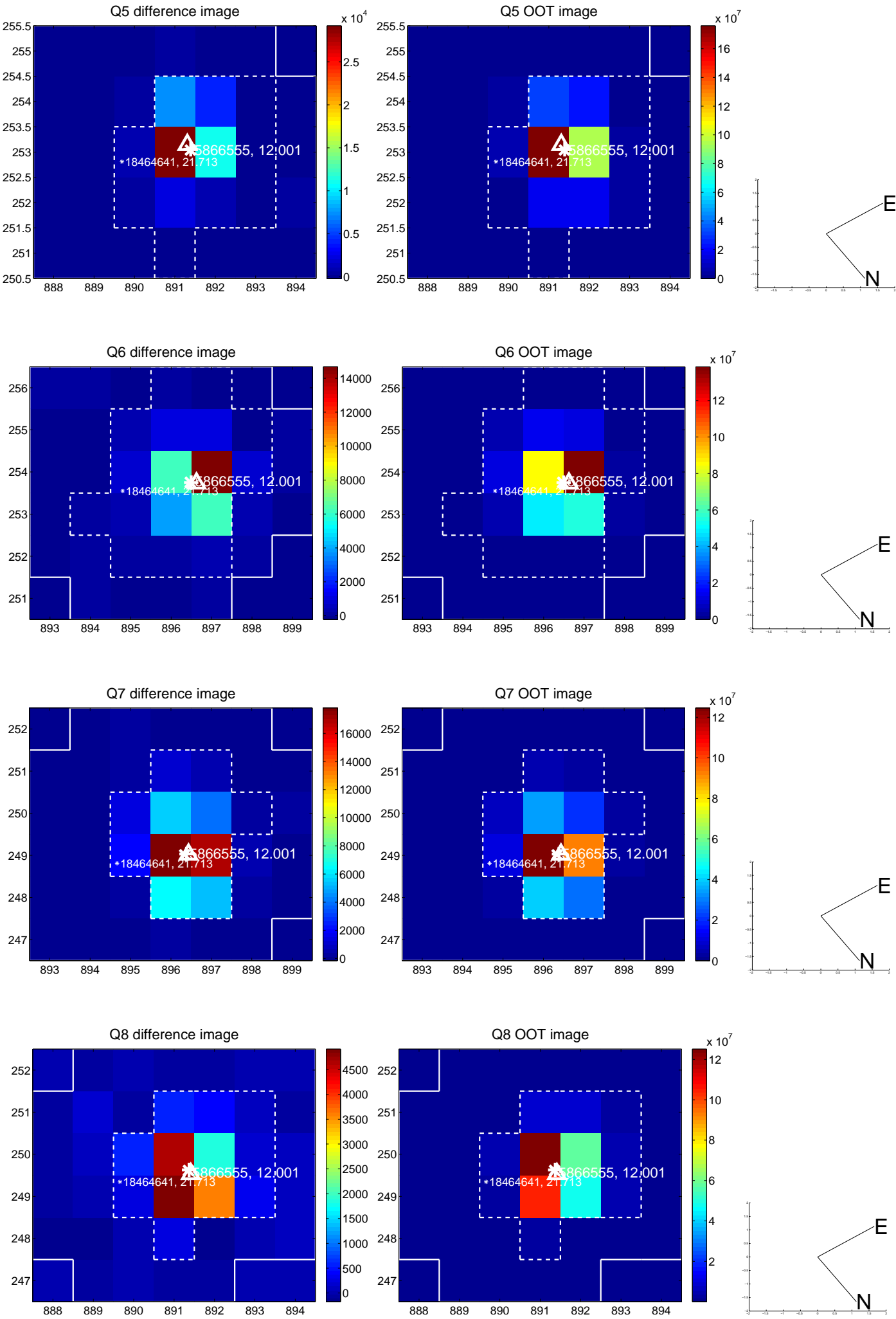
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



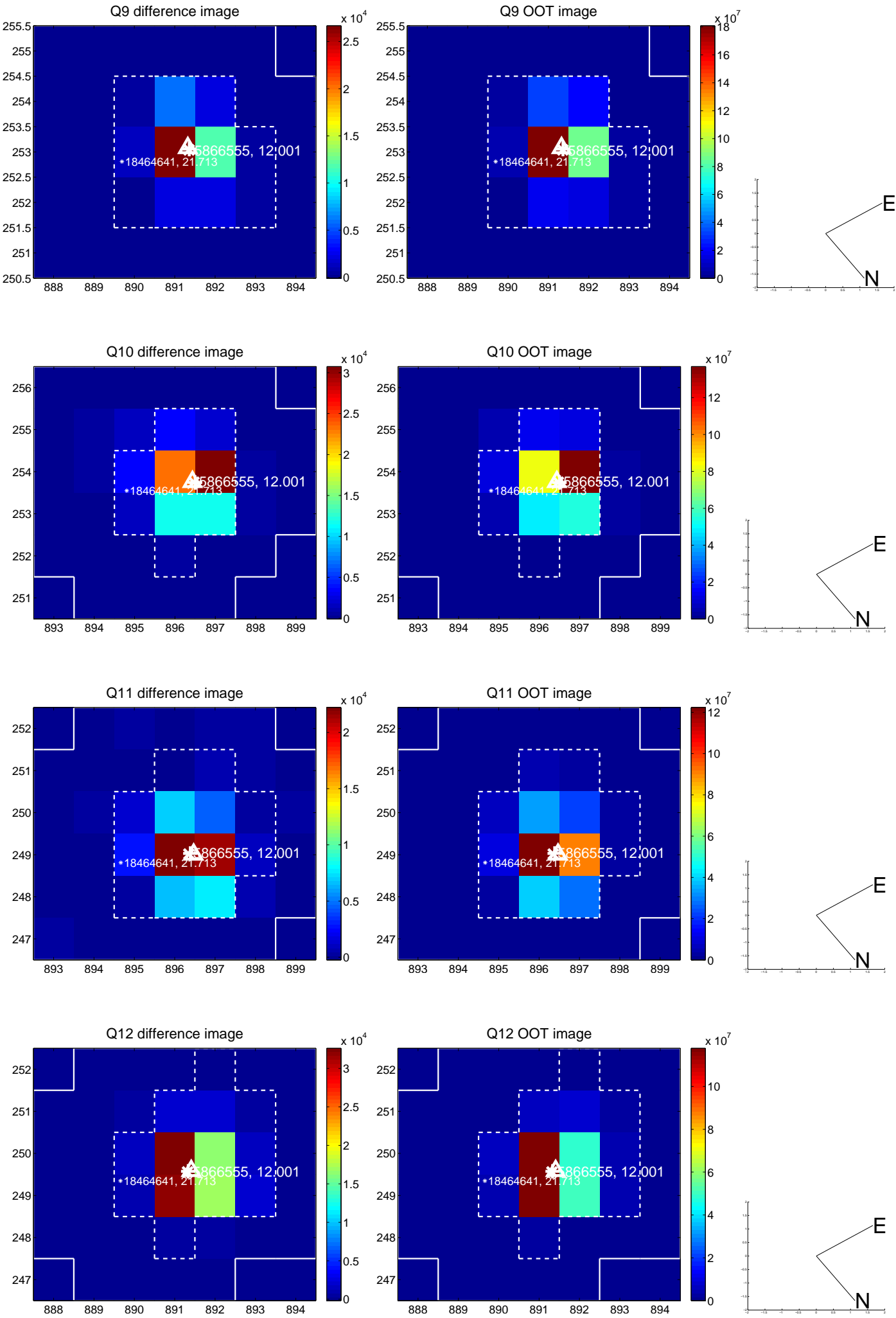
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



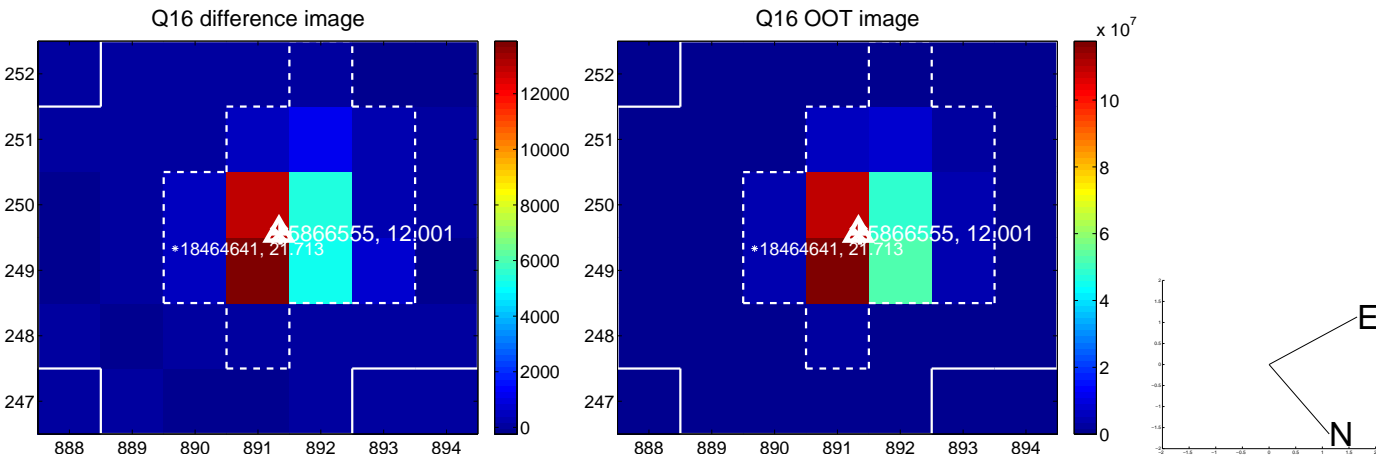
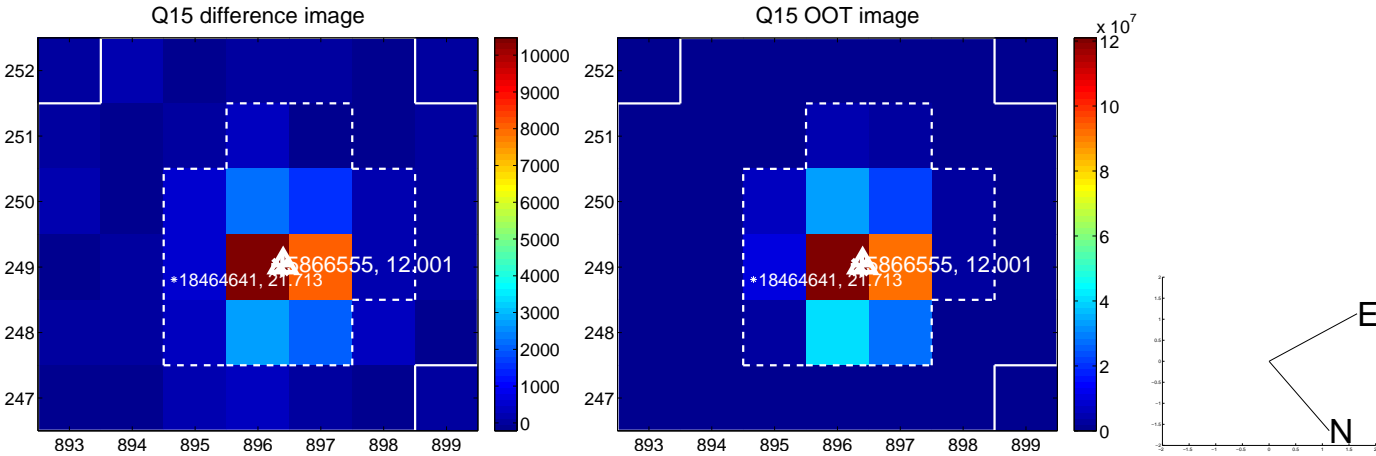
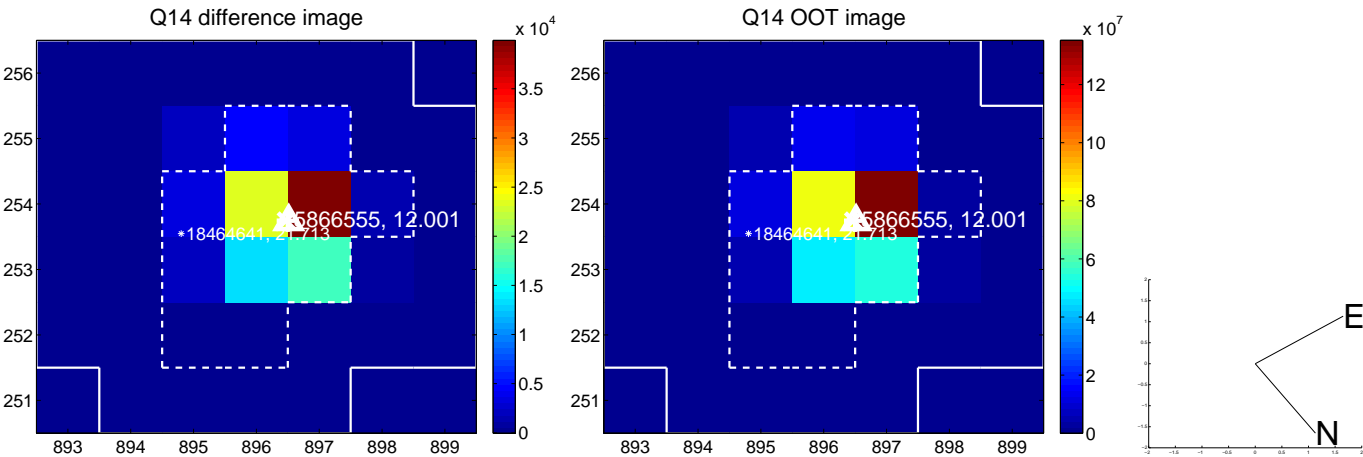
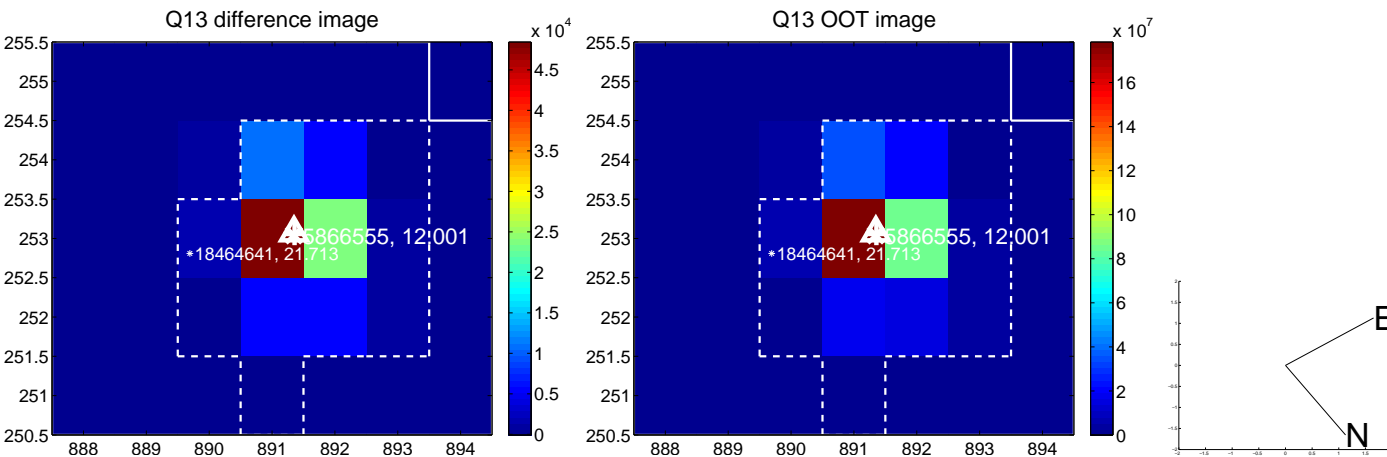
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



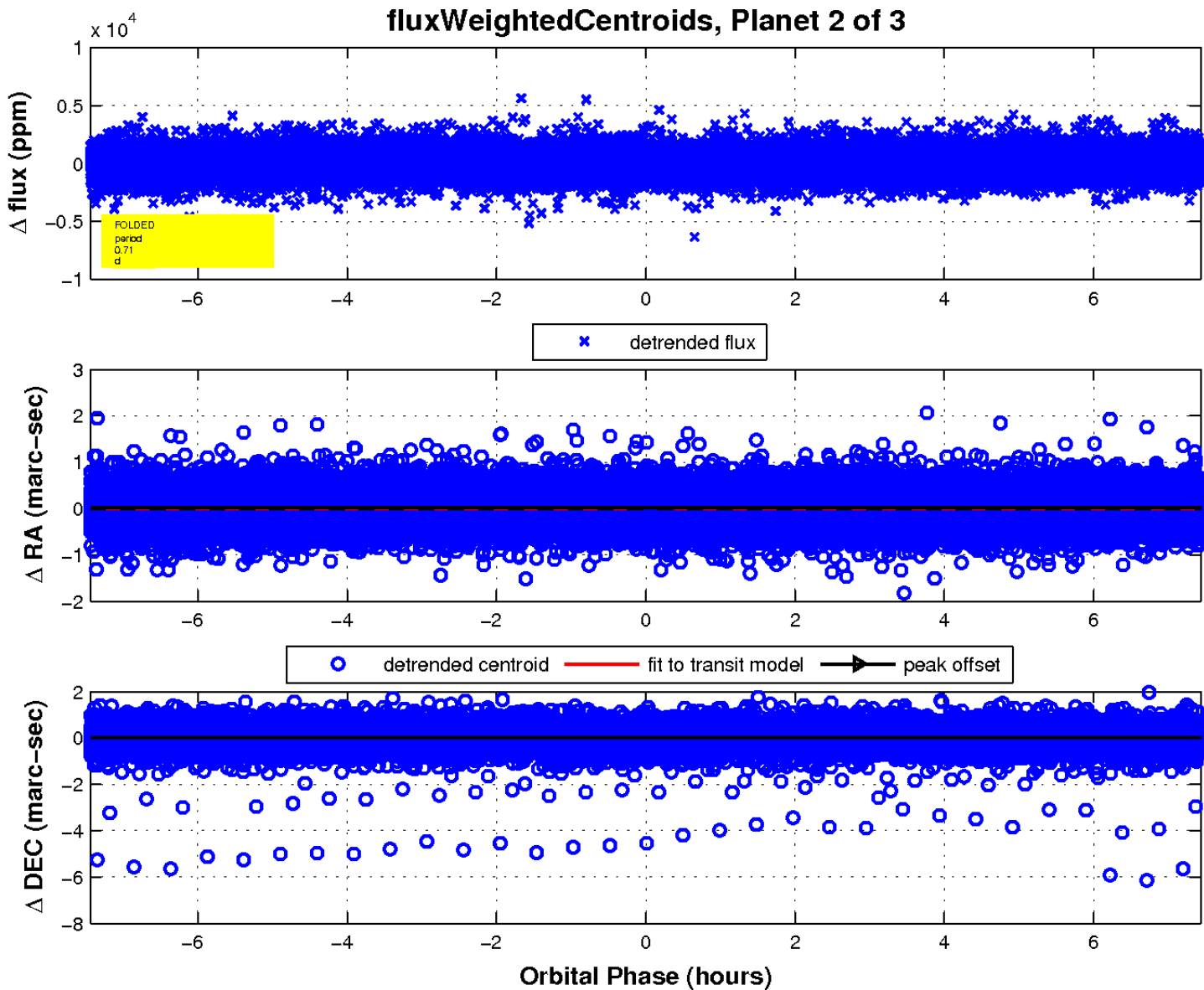
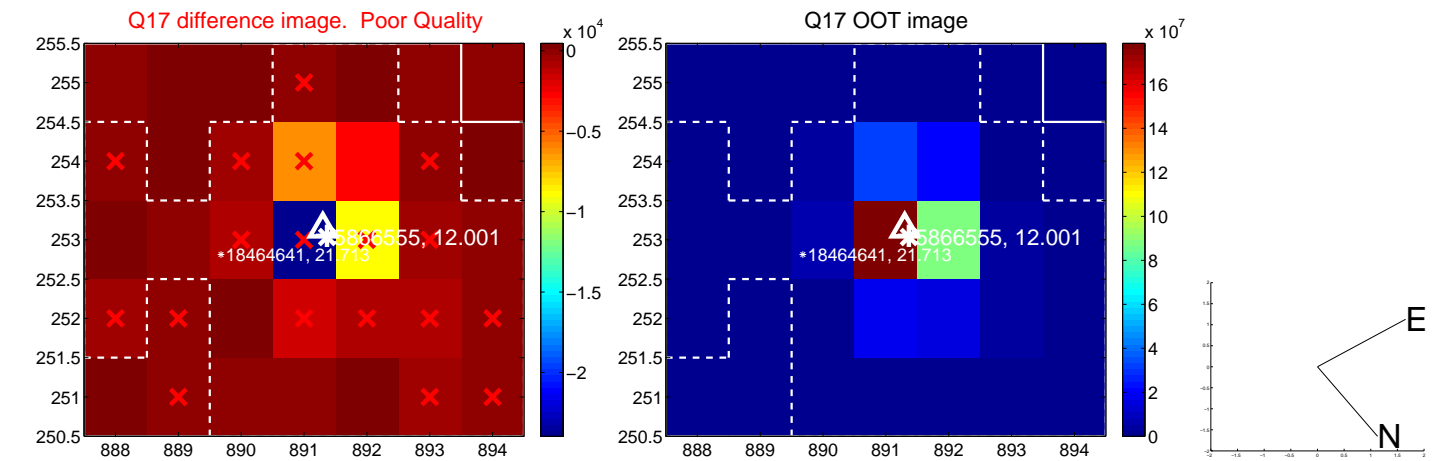
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

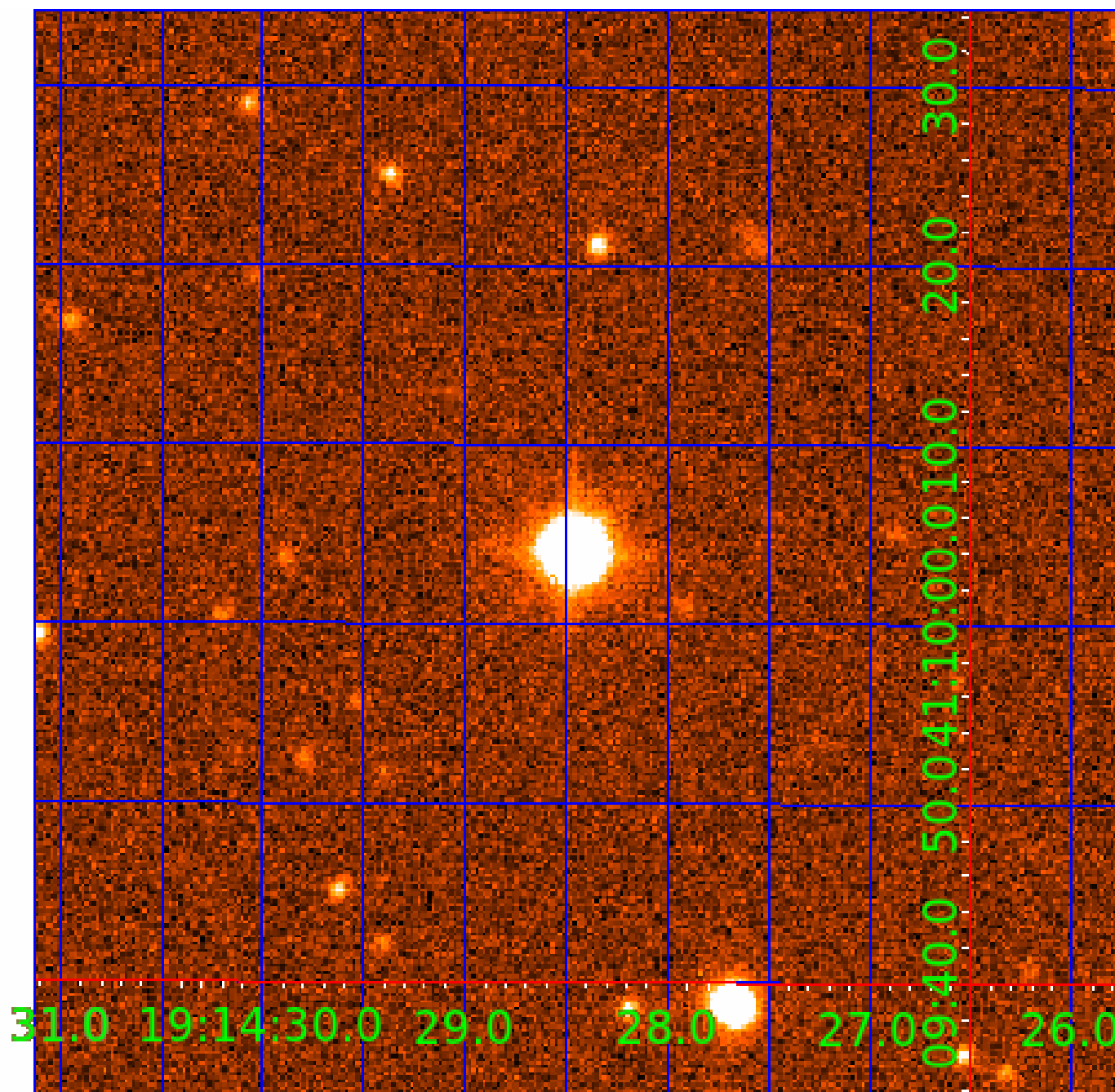


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 005866555

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005866555-01	OBS	No	0.511946	131.715761	62.6	1.026	10.4	8.0	3.19	8162	2.57	160103.16
005866555-02	OBS	No	0.708270	132.203621	80.1	2.479	8.8	8.8	3.19	8162	3.28	103856.43
005866555-03	OBS	No	0.708250	131.856347	64.4	4.577	8.4	8.5	3.19	8162	2.79	103860.29

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005866555-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
005866555-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
005866555-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

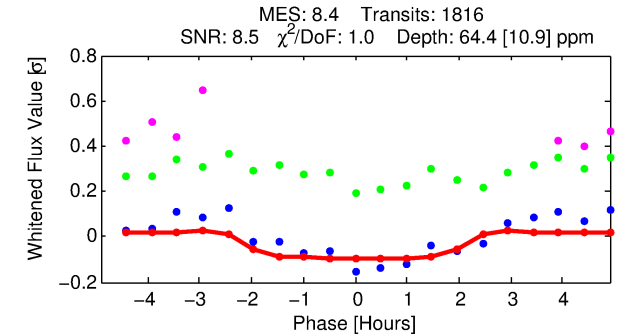
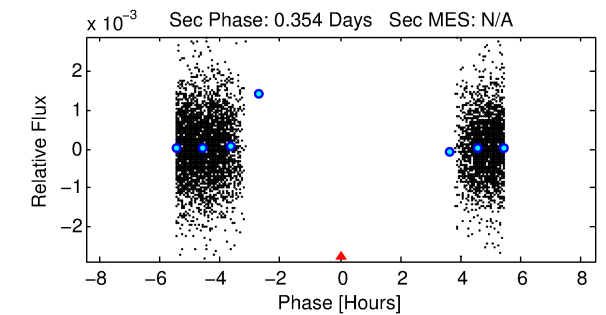
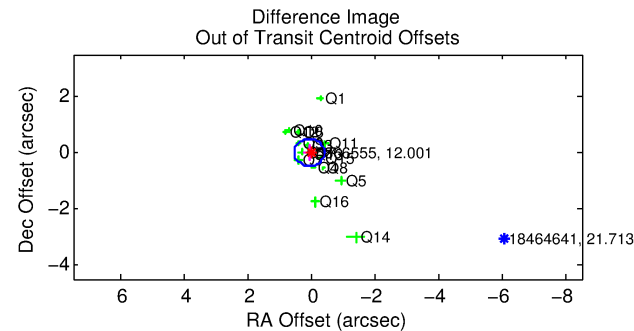
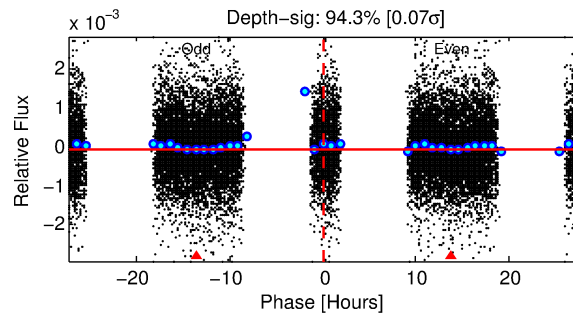
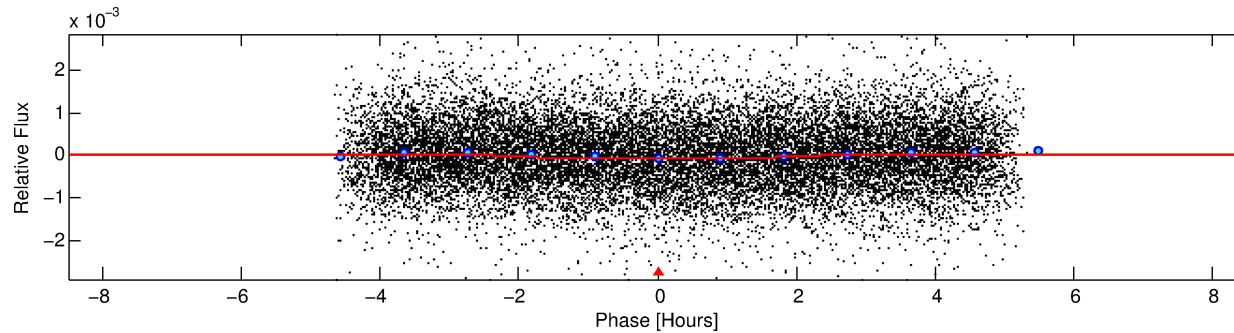
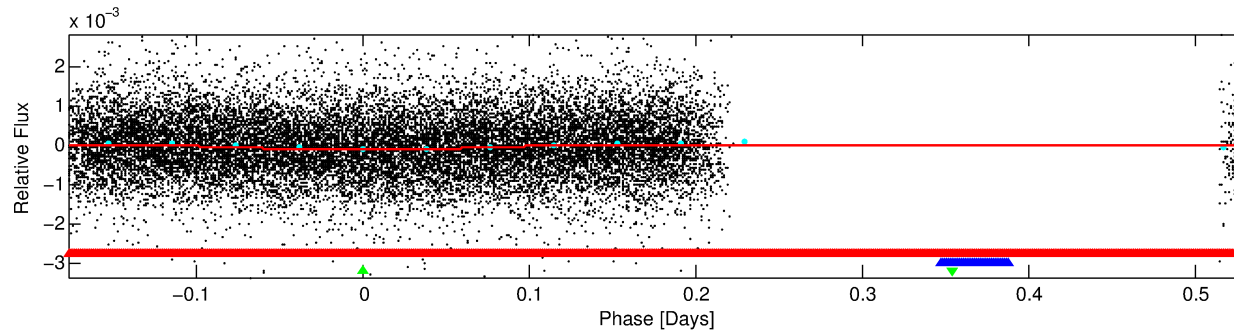
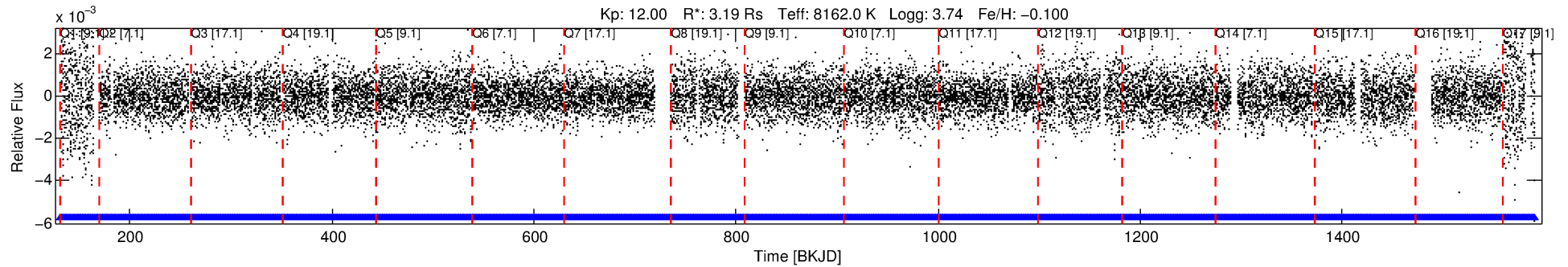
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005866555-03

No Significant Match Found

# DV One-Page Summary

KIC: 5866555 Candidate: 3 of 3 Period: 0.708 d



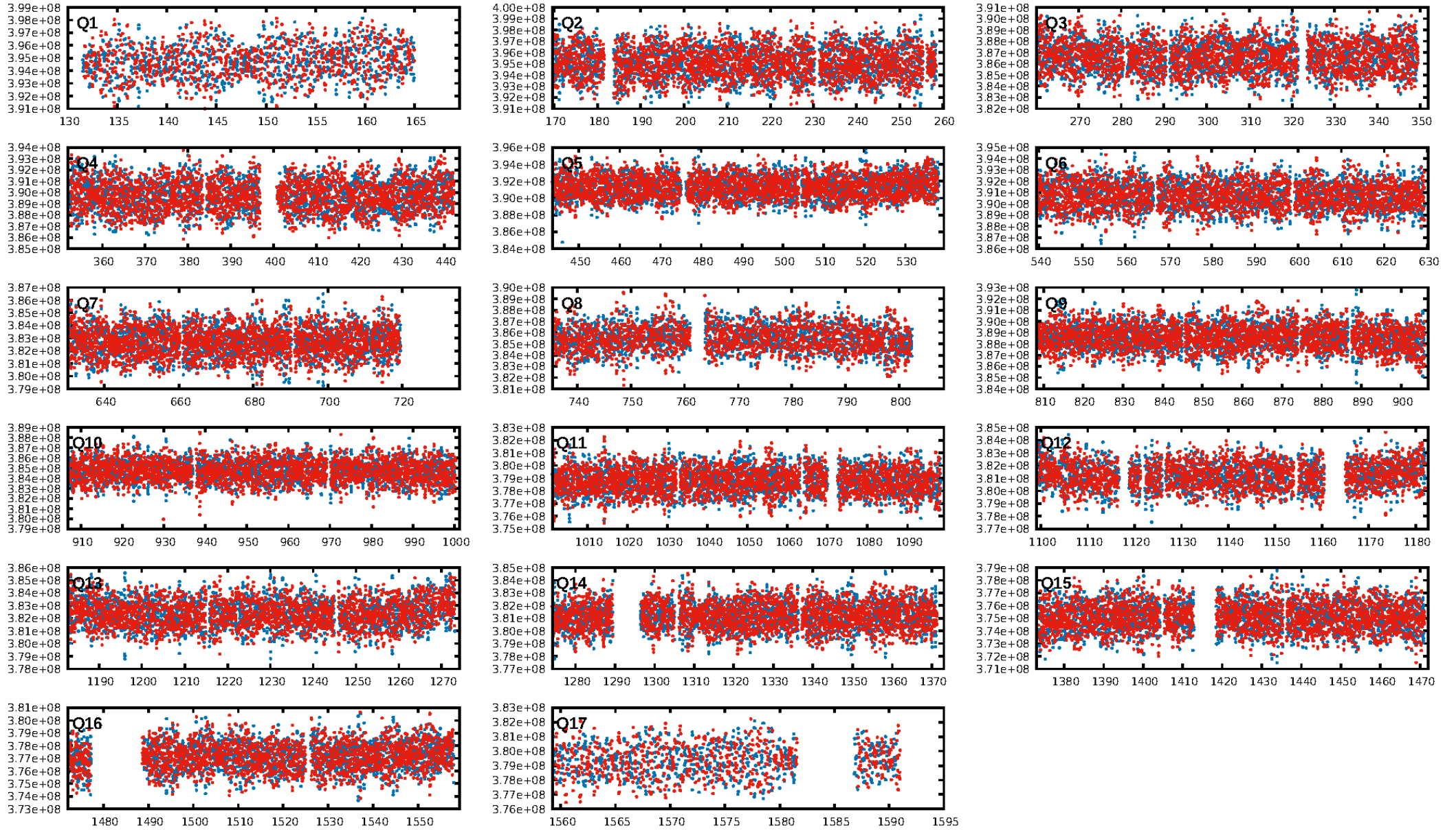
## DV Fit Results:

Period = 0.70825 [0.00001] d  
Epoch = 131.8563 [0.0058] BKJD  
Rp/R\* = 0.0080 [0.0085]  
a/R\* = 1.16 [1.88]  
b = 0.77 [3.41]  
Seff = 103860.29 [77801.62]  
Teq = 4578 [857] K  
Rp = 2.79 [3.26] Re  
a = 0.0197 [0.0091] AU

## DV Diagnostic Results:

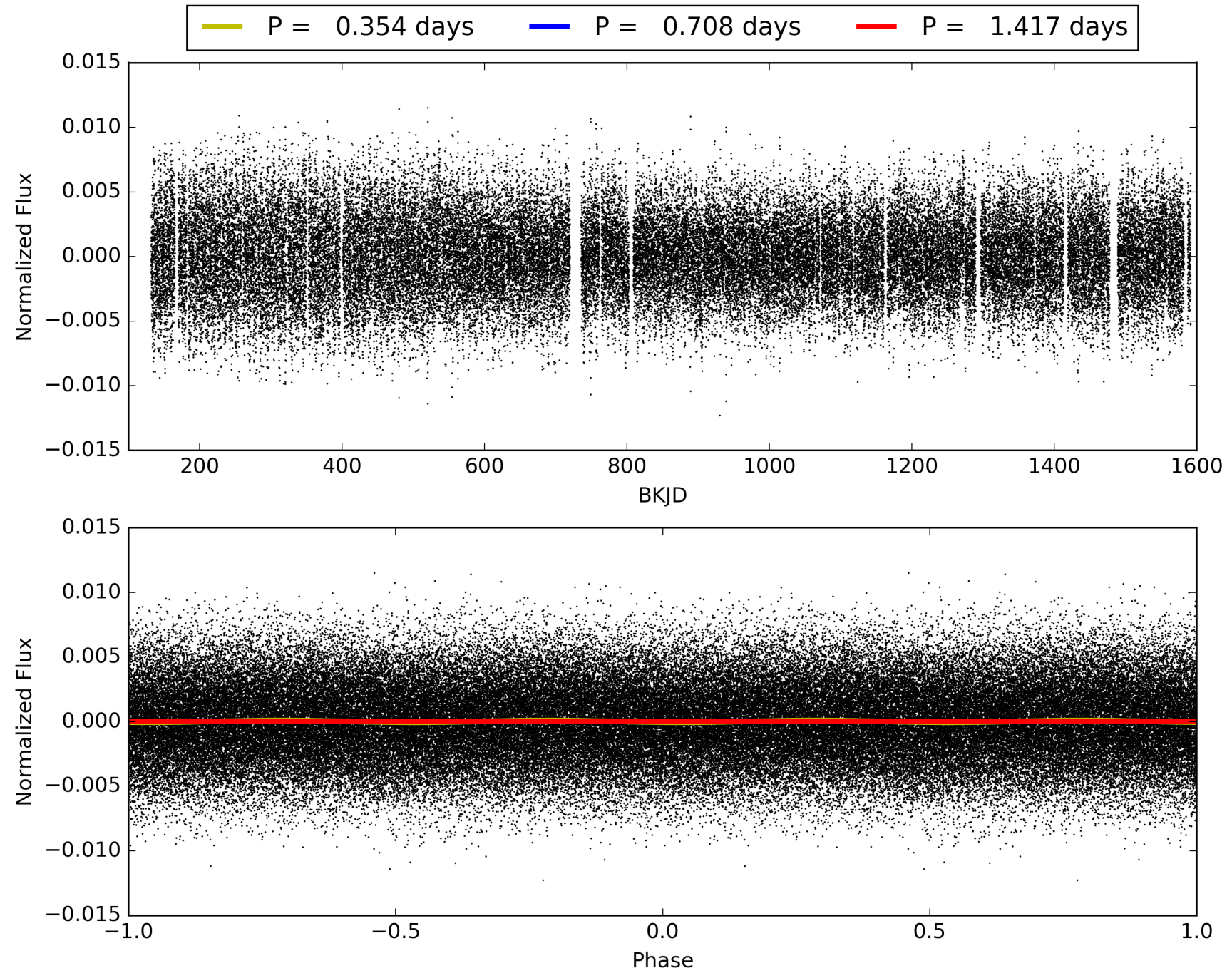
ShortPeriod-sig: 68.5% [1.00σ]  
**LongPeriod-sig: 0.0% [0.00σ]**  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1737/1737]  
GhostDiagnostic-chr: 1.621  
**Centroid-sig: 0.0%**  
**Centroid-so: 0.318 arcsec [3.09σ]**  
OotOffset-rm: 0.070 arcsec [0.44σ]  
KicOffset-rm: 0.160 arcsec [1.05σ]  
OotOffset-st: 3/4/4/5 [16]  
KicOffset-st: 3/4/4/5 [16]  
DiffImageQuality-fgm: 0.69 [11/16]  
DiffImageOverlap-fno: 0.00 [0/17]

# TCE 005866555-03, PDC Light Curves



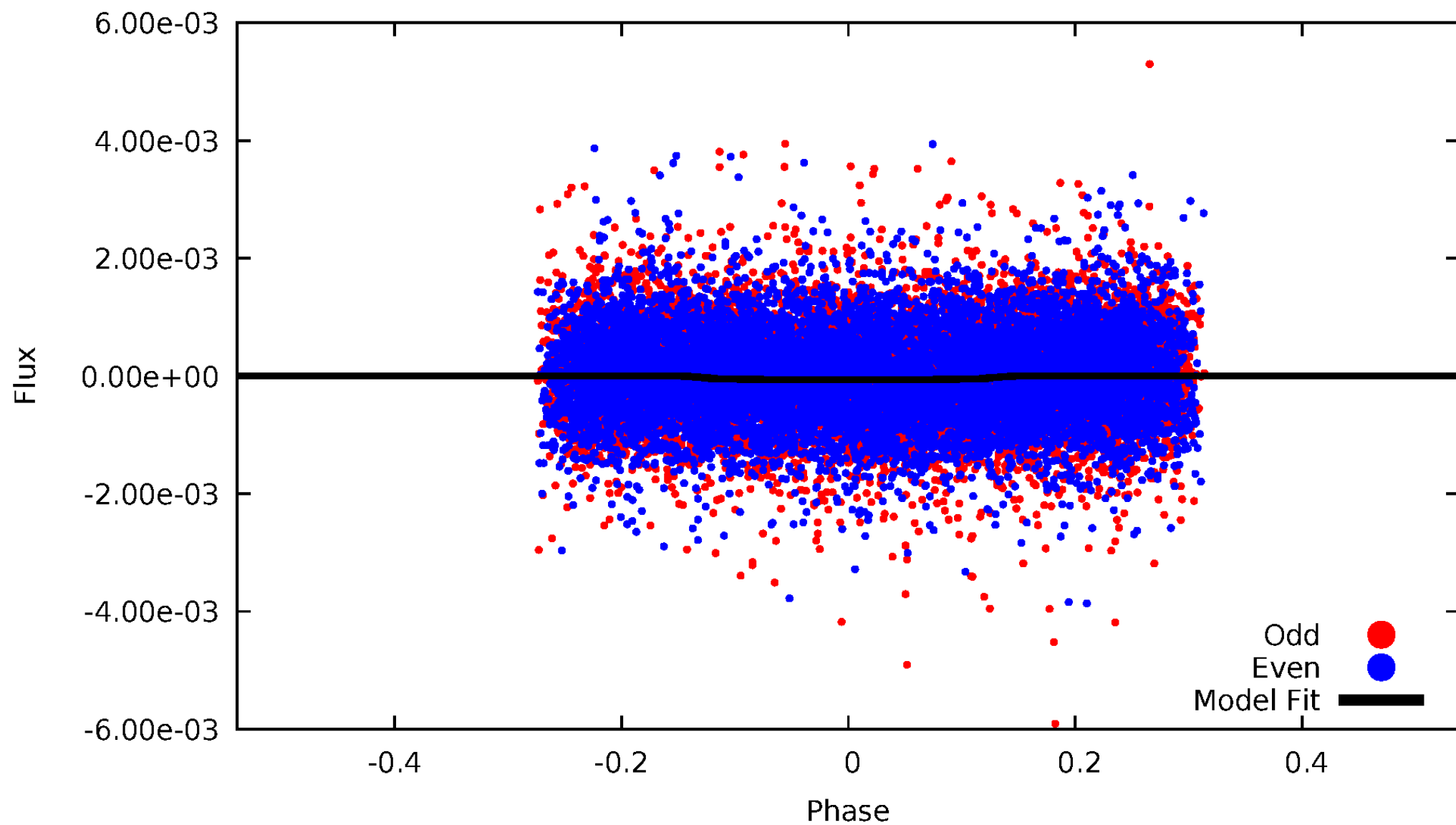


TCE 005866555-03



DV Odd/Even

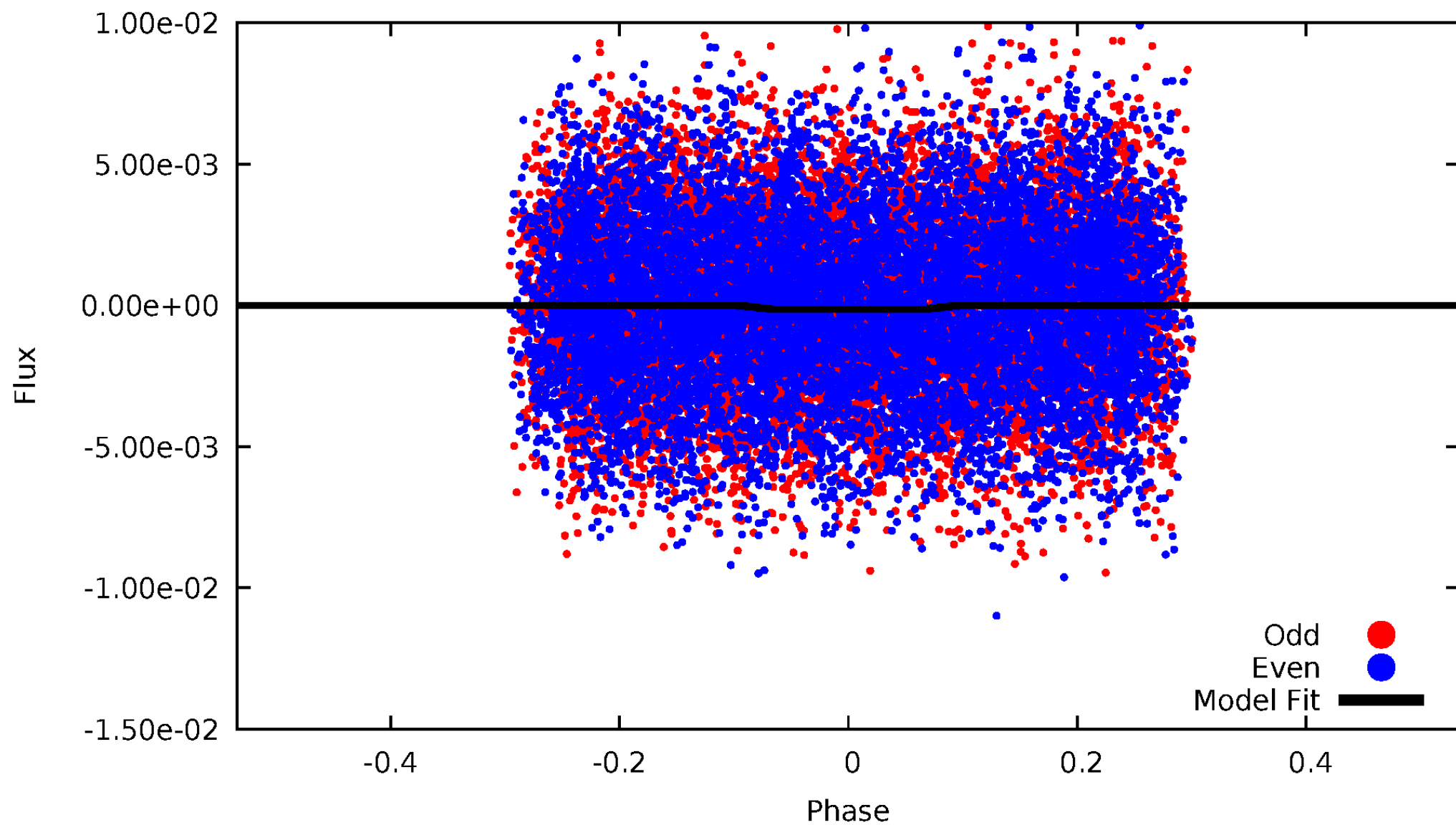
TCE 005866555-03





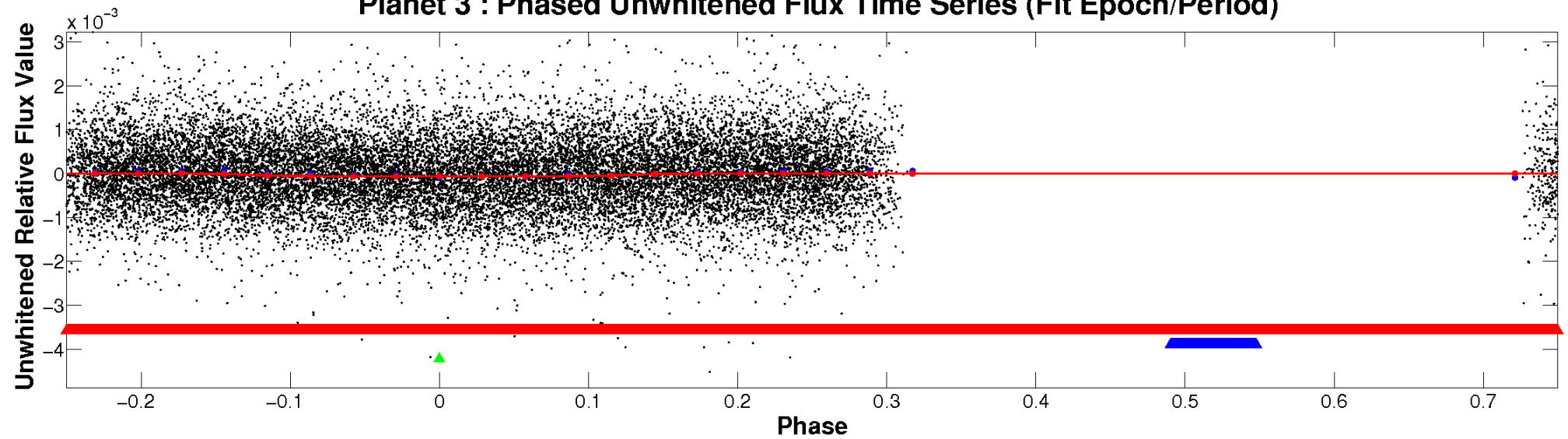
# ALT Odd/Even

TCE 005866555-03

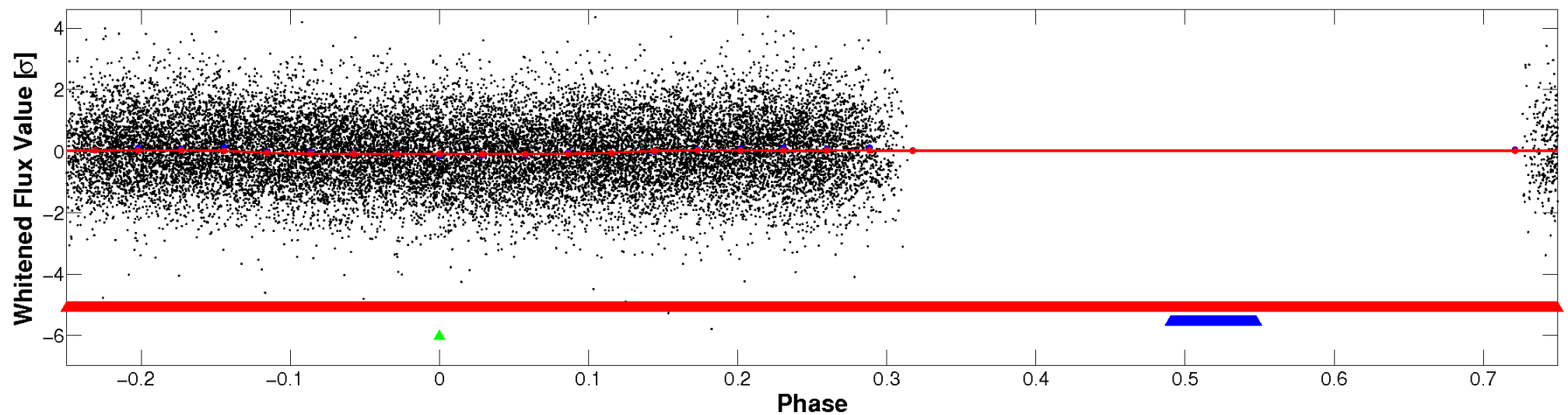


# Non-Whitened Vs. Whitened Light Curve

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

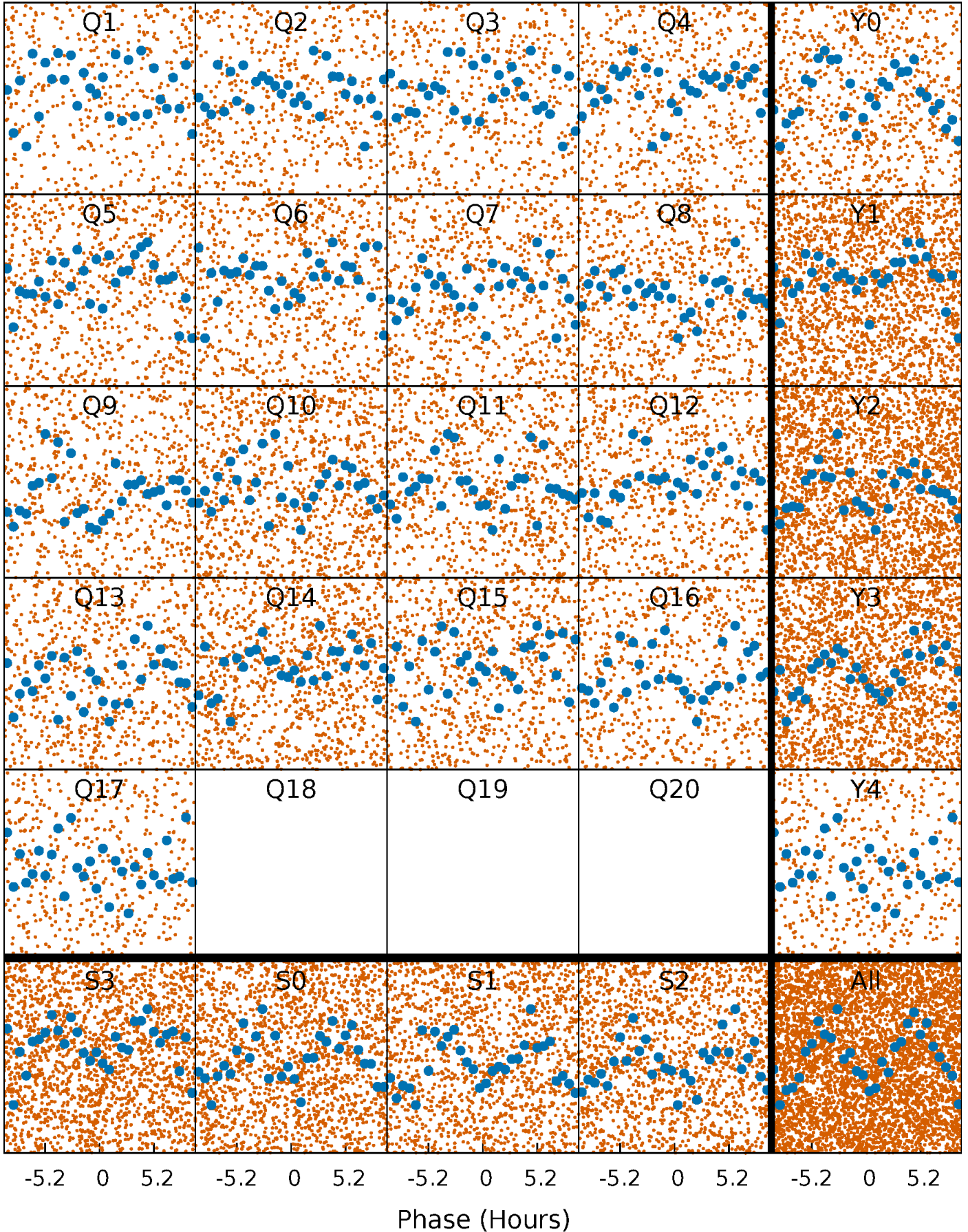


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



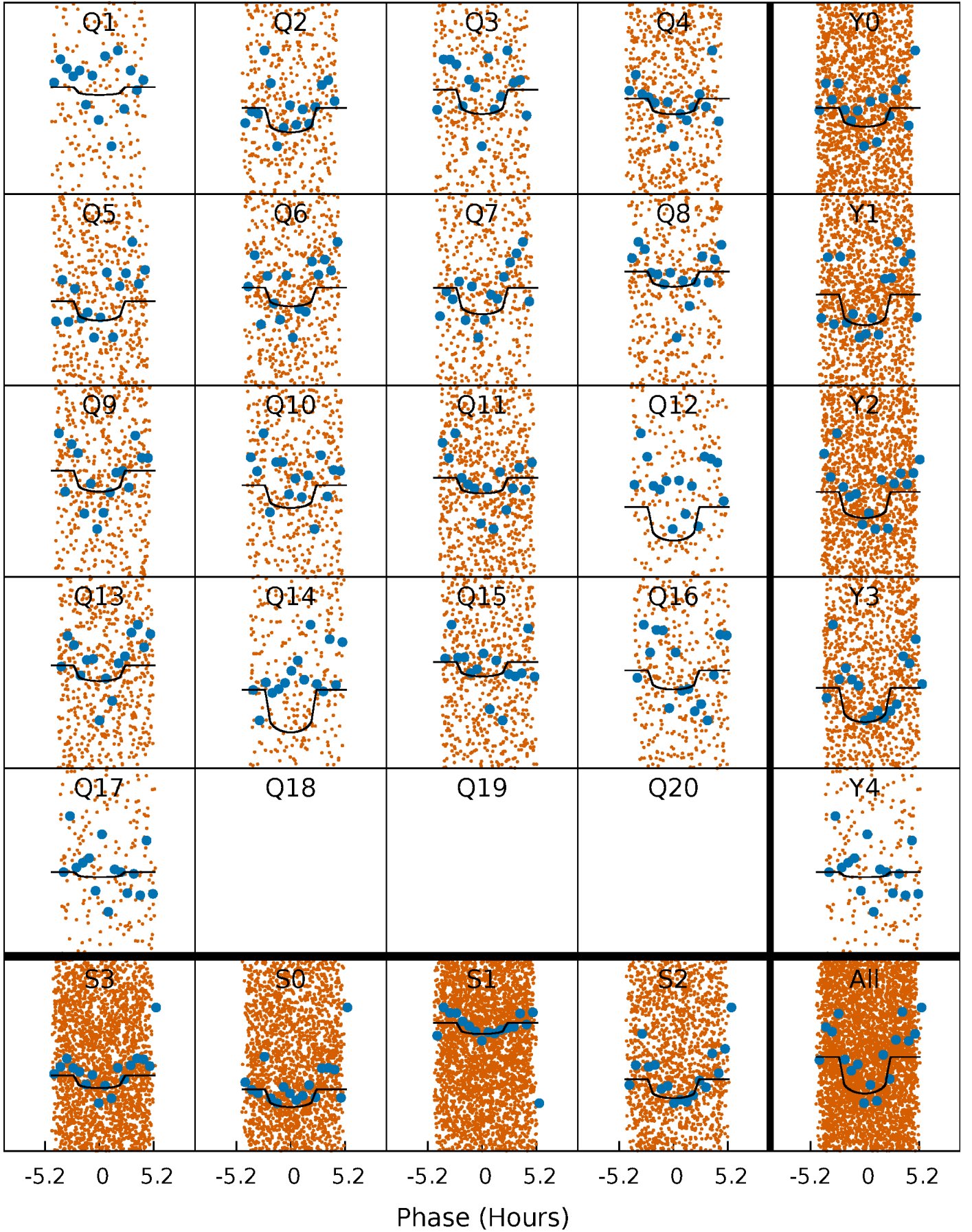
# PDC Quarter-Phased Transit Curves

TCE 005866555-03   P= 0.708250 Days    $T_0=131.856347$  (BKJD)



# DV Quarter-Phased Transit Curves

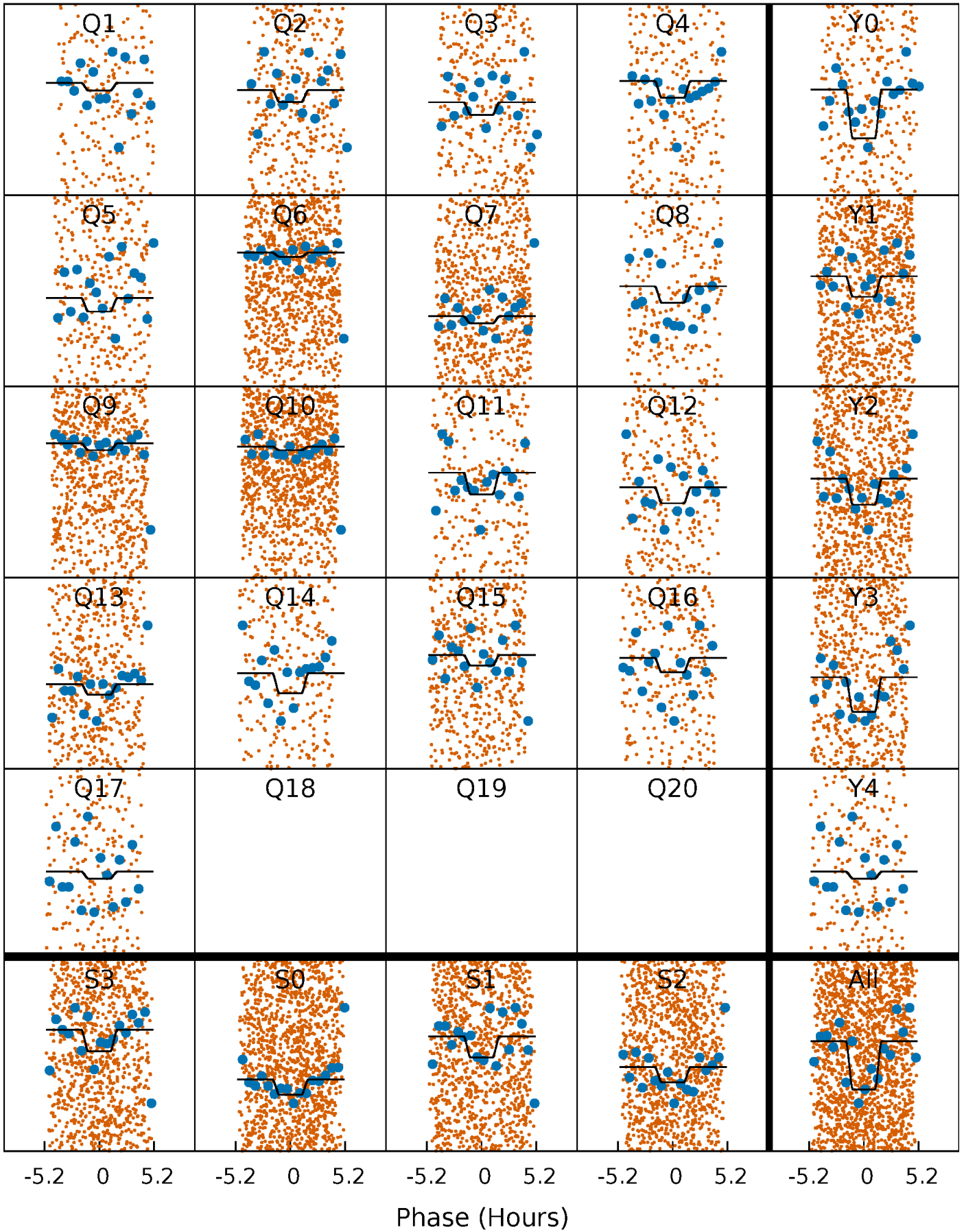
TCE 005866555-03     $P = 0.708250$  Days     $T_0 = 131.856347$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 005866555-03   P= 0.708292 Days    $T_0=131.825232$  (BKJD)

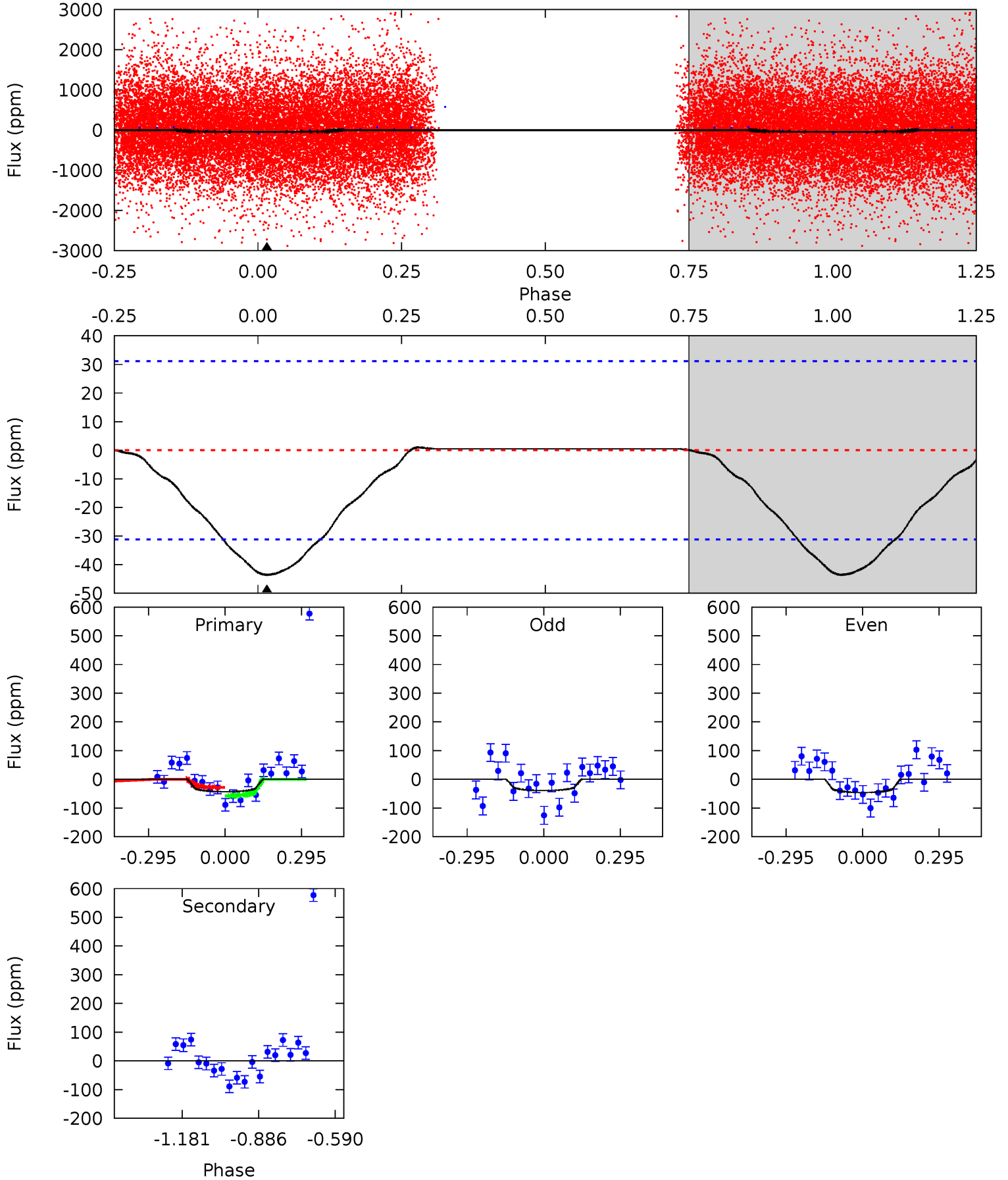




# DV Model-Shift Uniqueness Test

005866555-03, P = 0.708250 Days, E = 131.148097 Days

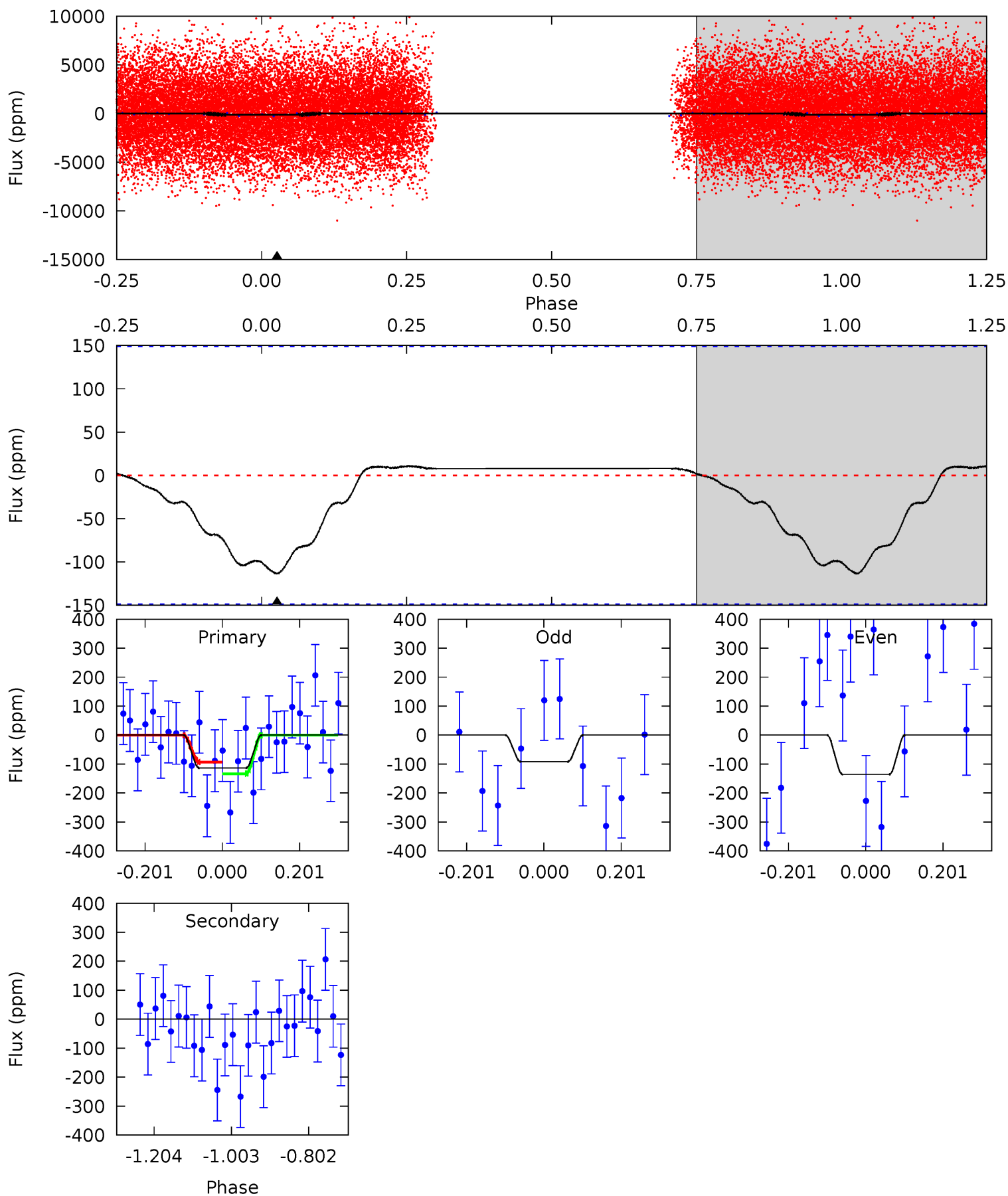
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.06	0	0	0	4.33	1.05	0.11	6.06	6.06	0	0	0.48	0.86	0.02	2.05



# Alt Model-Shift Uniqueness Test

005866555-03, P = 0.708292 Days, E = 131.825232 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
3.37	0	0	0	4.42	1.28	0.29	3.37	3.37	0	0	0.64	0.89	0.09	0.60



### Stellar Parameters For KIC 005866555

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8162^{+227}_{-368}$	$3.741^{+0.424}_{-0.106}$	$-0.100^{+0.200}_{-0.350}$	$3.191^{+0.775}_{-1.551}$	$2.046^{+0.331}_{-0.496}$	$0.089^{+0.363}_{-0.029}$
	+3%/-5%	+11%/-3%	+200%/-350%	+24%/-49%	+16%/-24%	+410%/-33%
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 005866555-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$0 \pm 7$	$2.96^{+2.82}_{-1.90}$	$6138^{+541}_{-741}$	$-4934^{+7592}_{-841}$	$0.002^{+0.314}_{-0.293}$
Alt.	$0 \pm 34$	$4.09^{+2.80}_{-2.35}$	$6160^{+520}_{-736}$	$-4940^{+9778}_{-1439}$	$-0.001^{+0.627}_{-0.573}$

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

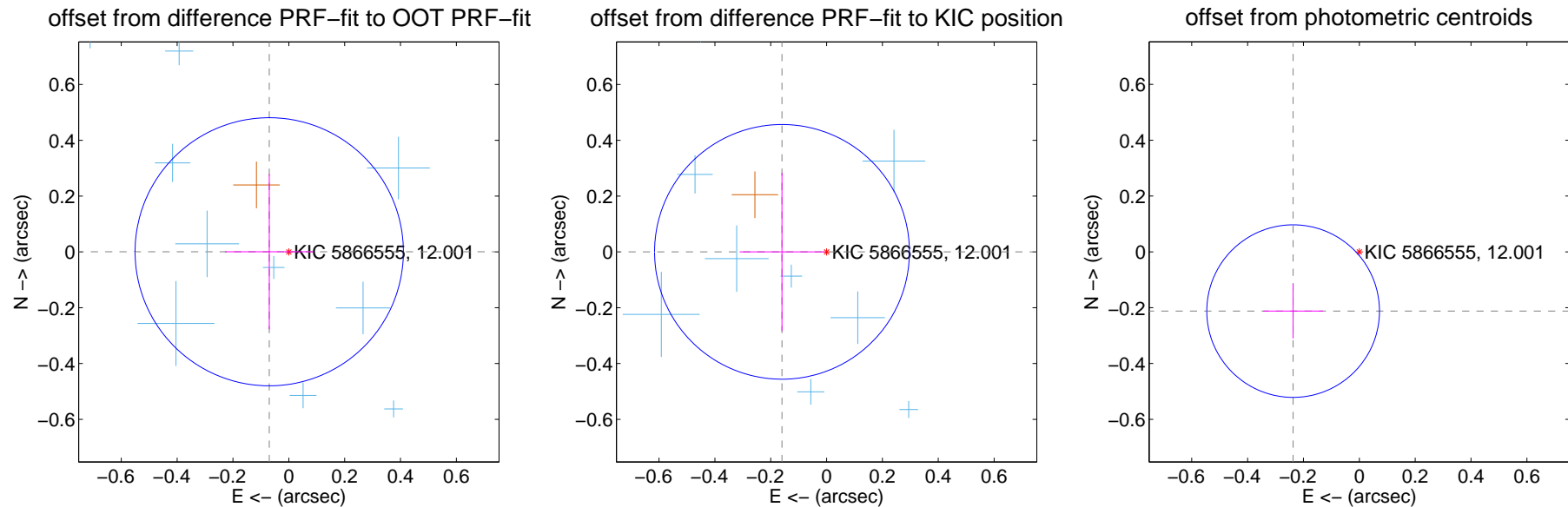
## DV Centroid Data

Supplemental centroid analysis for 005866555-03. Kepler magnitude: 12.00. Transit SNR 8.48

There are 11 quarters with good PRF difference image offsets

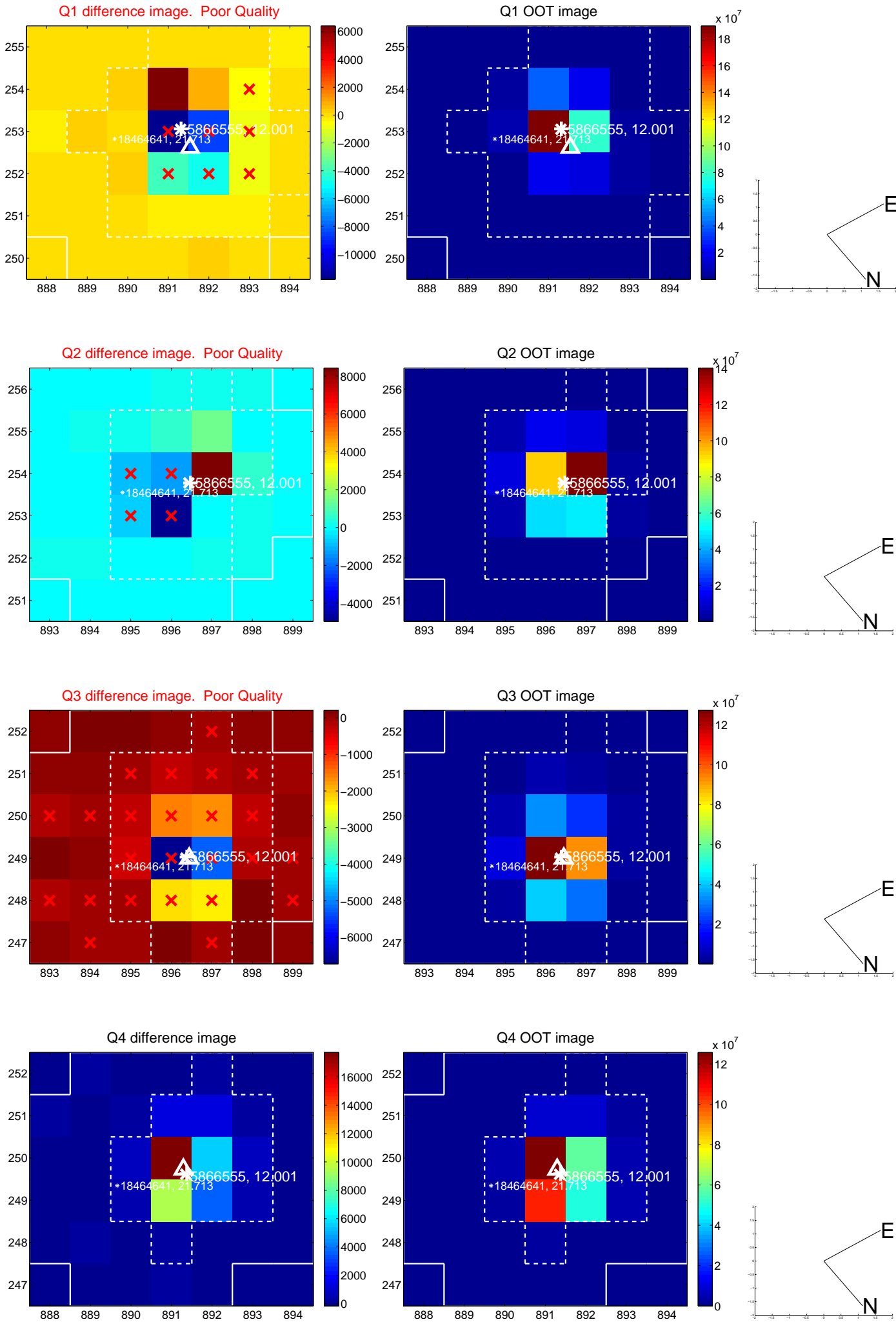
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.070 \pm 0.160$	0.44	$0.070 \pm 0.159$	$0.001 \pm 0.278$
PRF-fit source offset from KIC position	$0.160 \pm 0.152$	1.05	$0.160 \pm 0.152$	$0.000 \pm 0.283$
photometric centroid source offset	$0.32 \pm 0.10$	3.09	$0.24 \pm 0.11$	$-0.21 \pm 0.10$



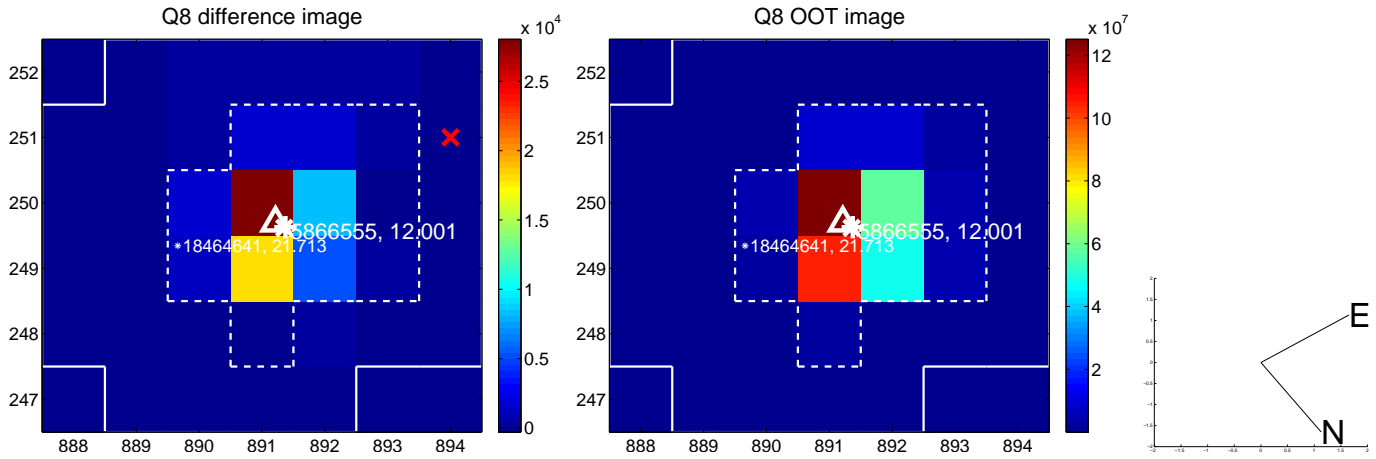
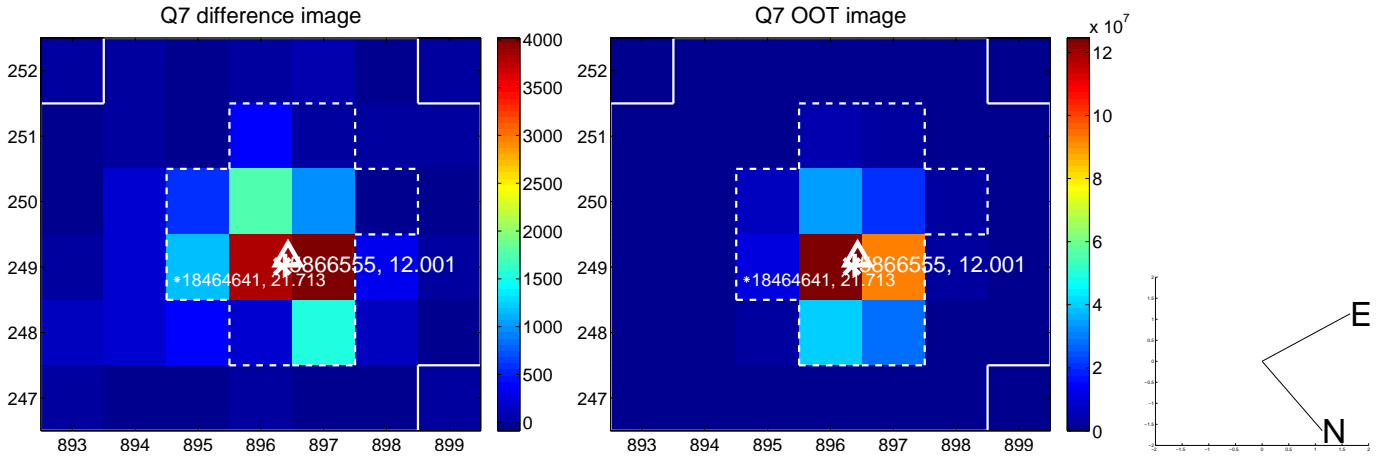
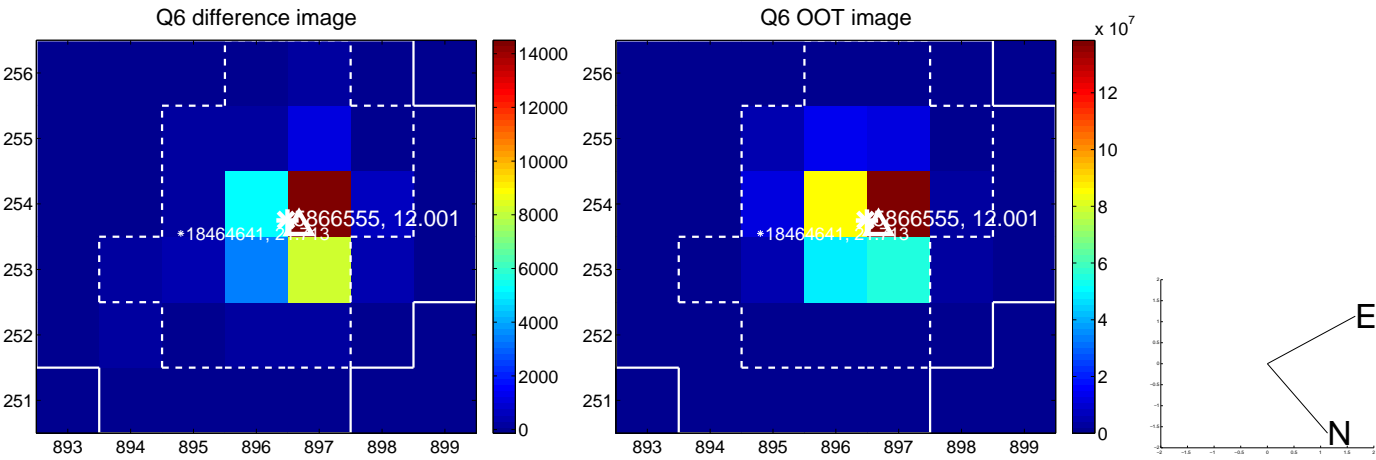
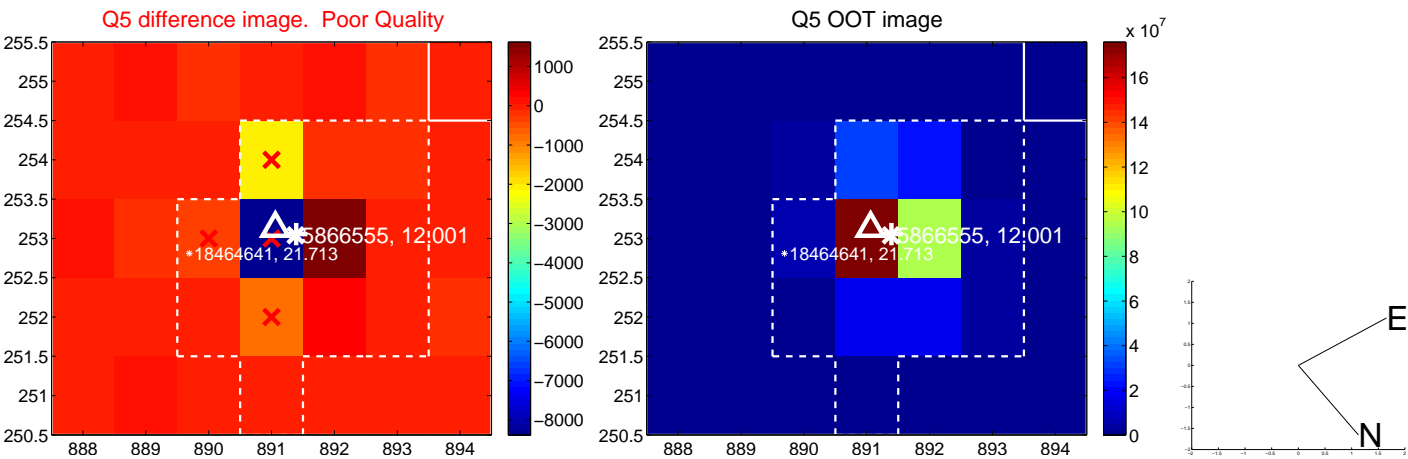
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

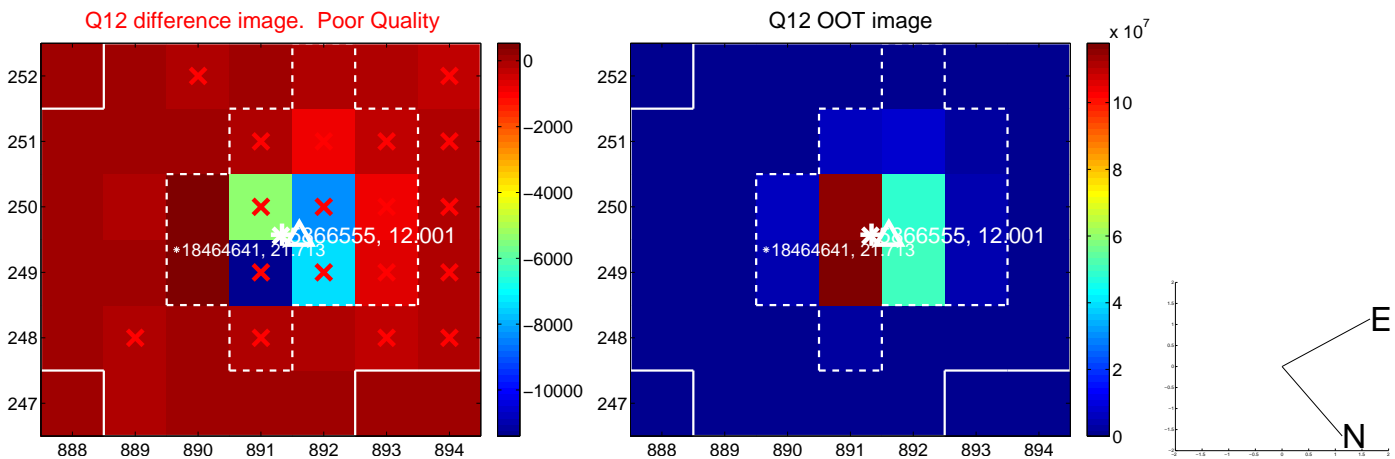
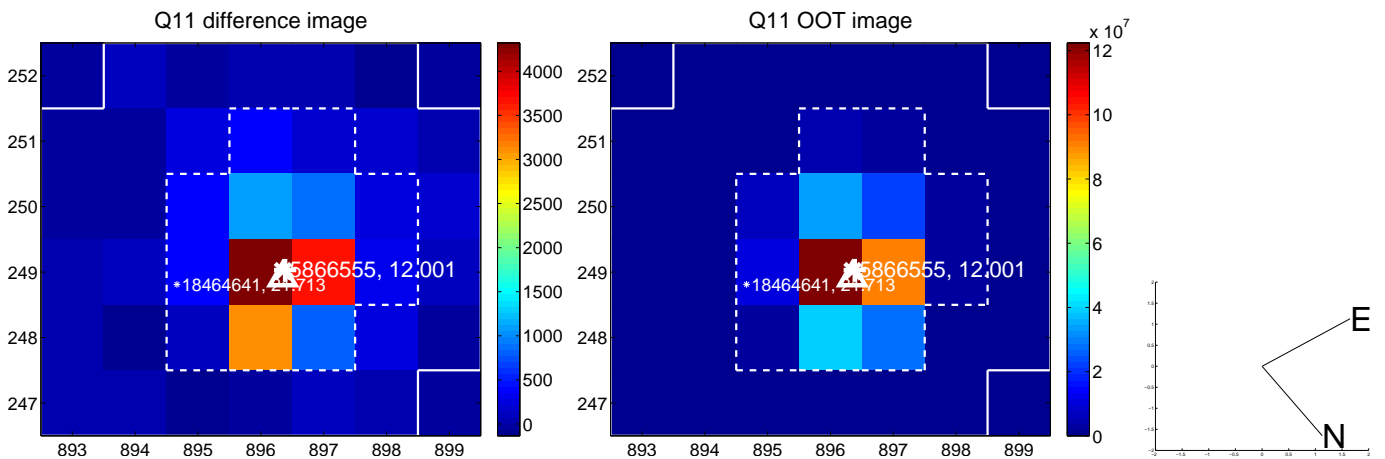
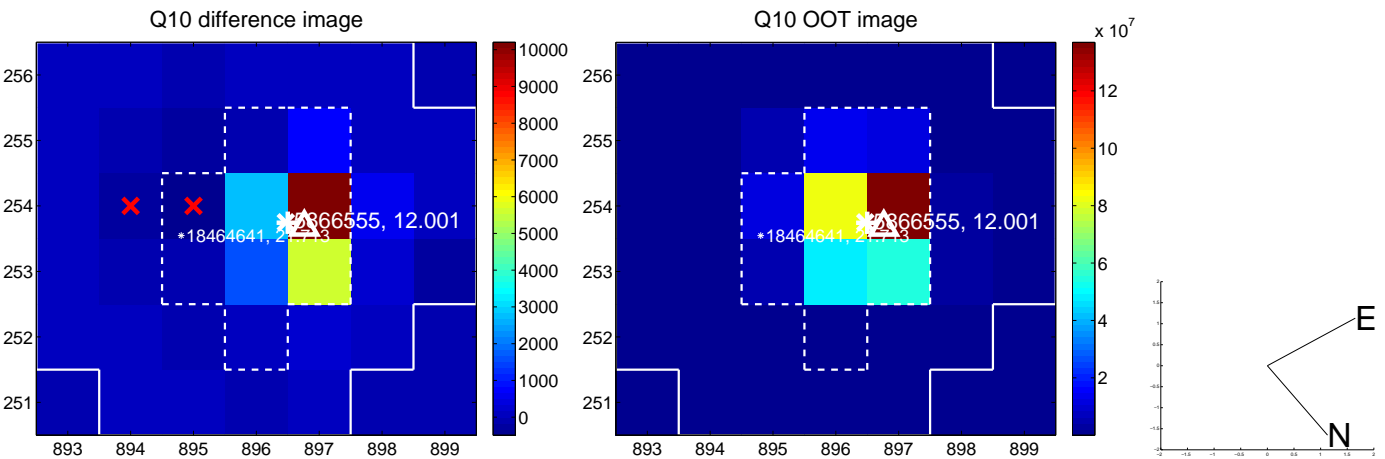
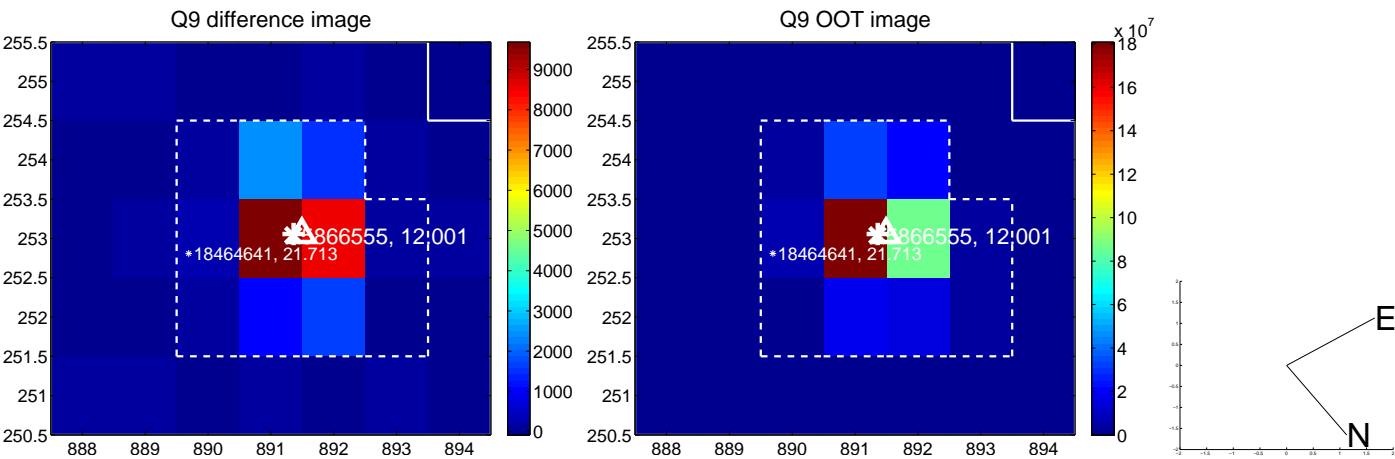




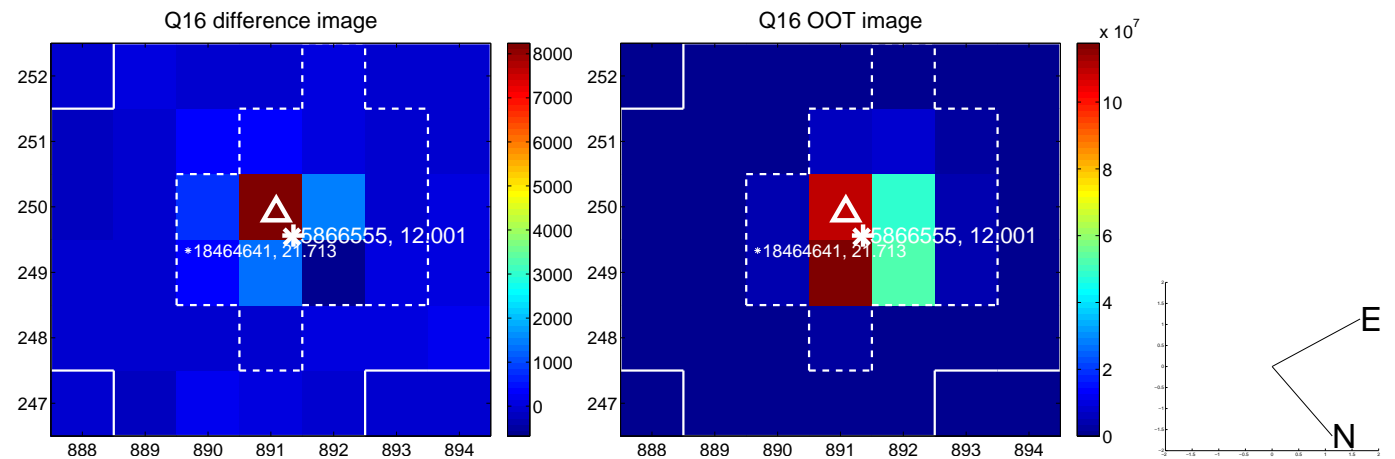
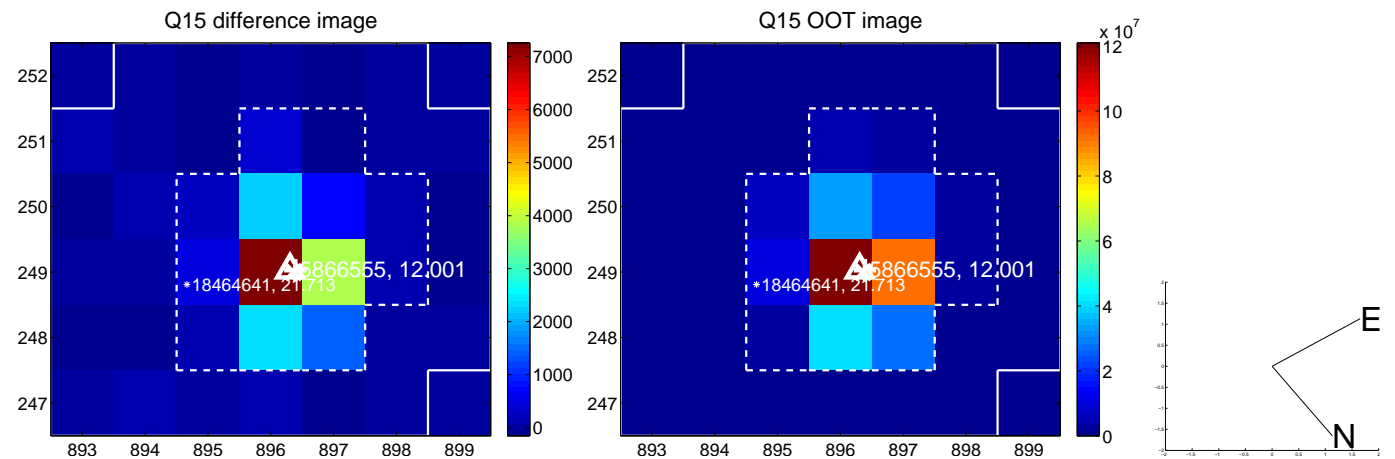
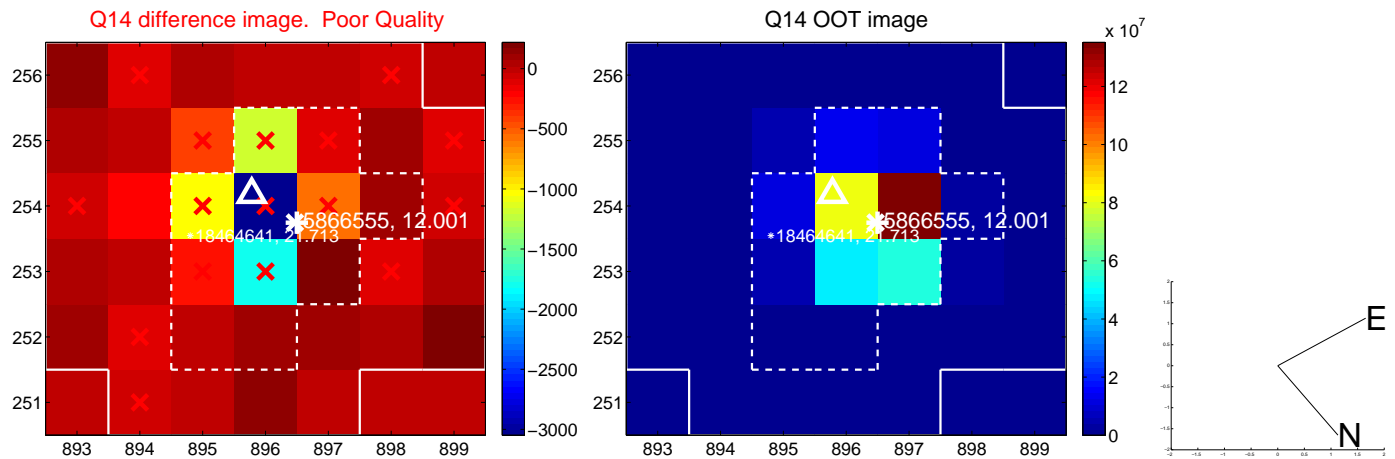
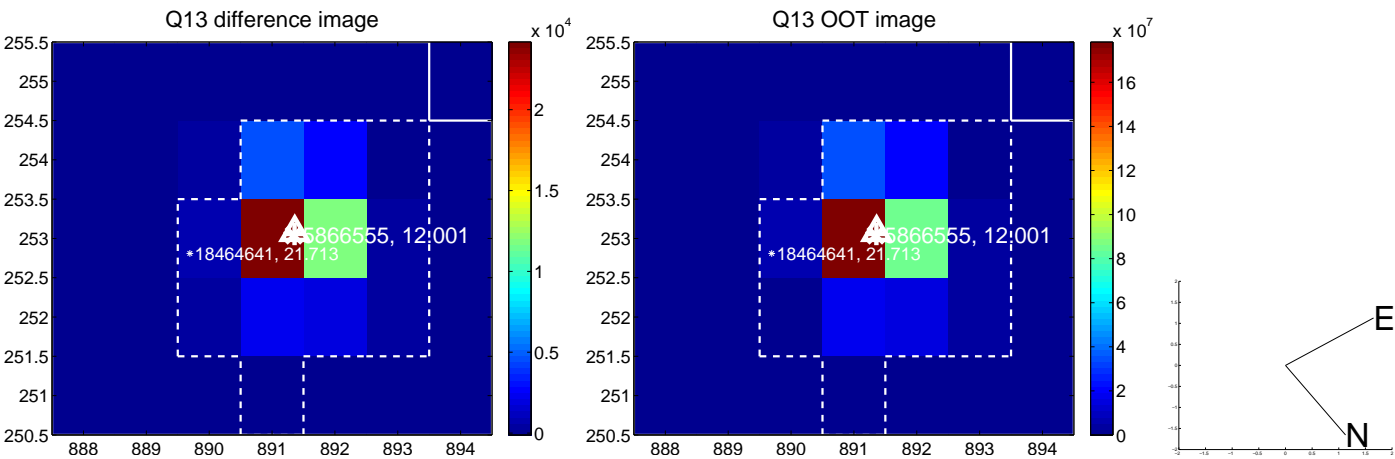
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



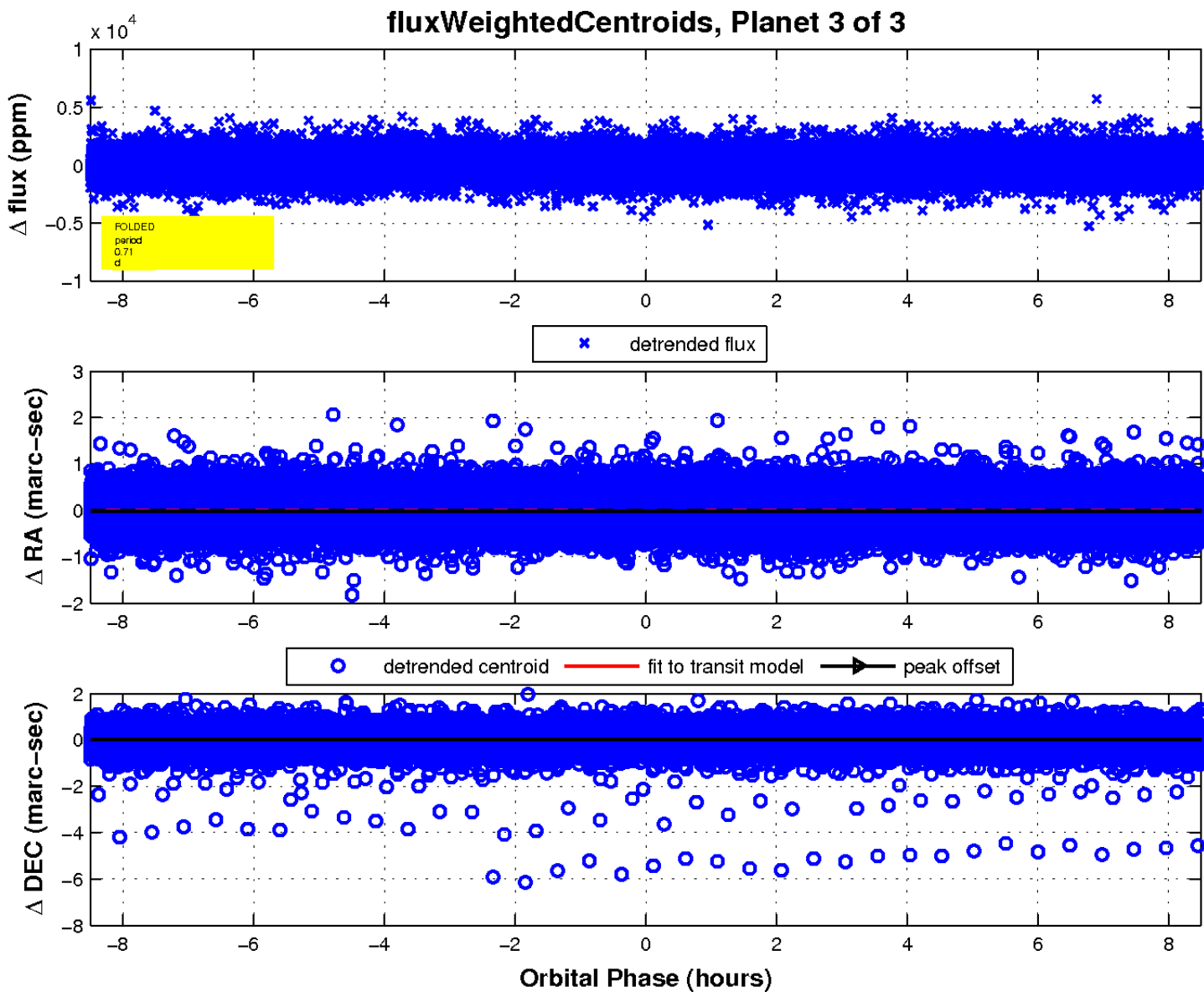
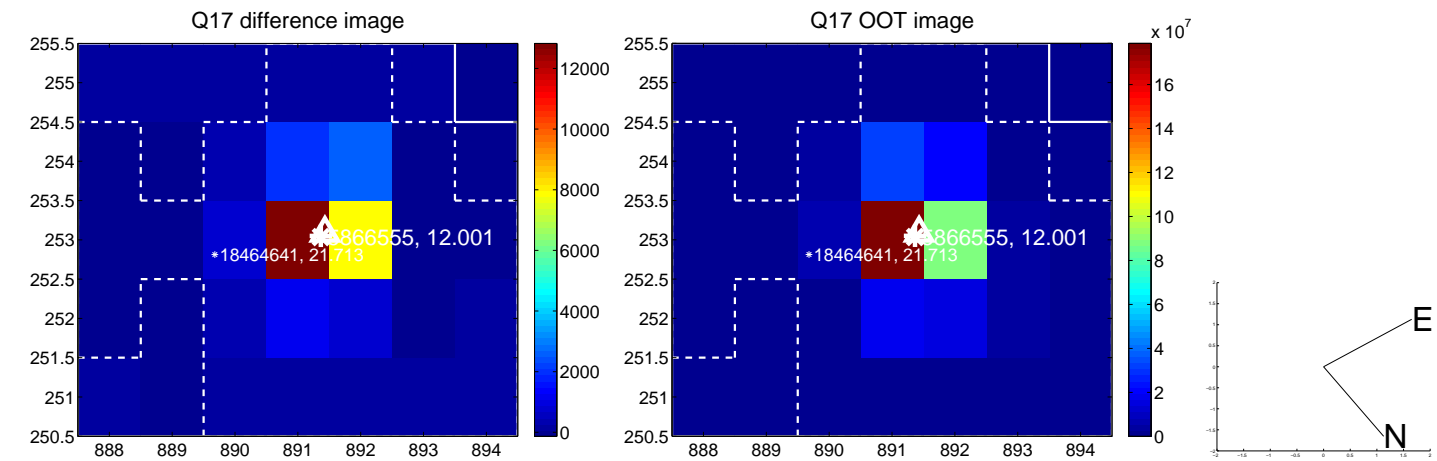
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

