

# KIC 011618998

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011618998-01	OBS	No	0.750756	132.149227	229.4	1.087	12.2	7.6	3.65	7678	5.92	95283.93
011618998-02	OBS	No	0.750771	131.638374	158.3	2.814	10.1	8.5	3.65	7678	5.34	95281.51
011618998-03	OBS	No	0.750757	131.904873	142.8	2.046	8.6	6.8	3.65	7678	4.44	95283.84

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011618998-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
011618998-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
011618998-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

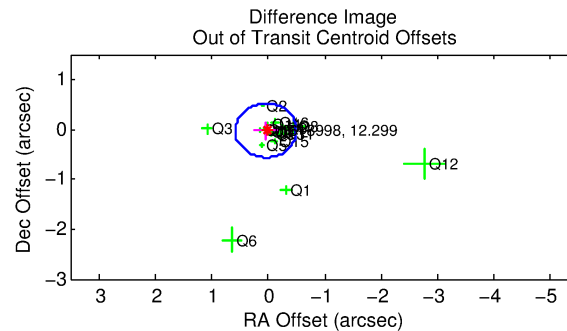
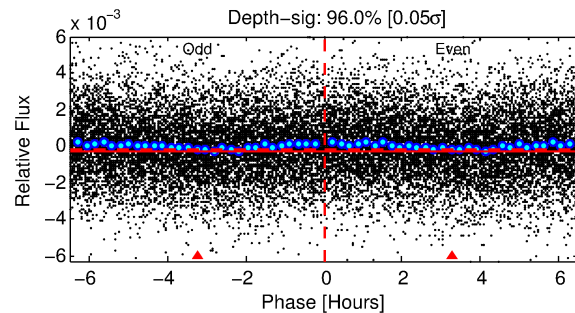
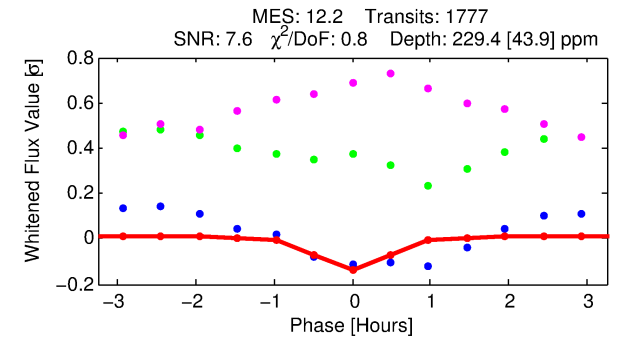
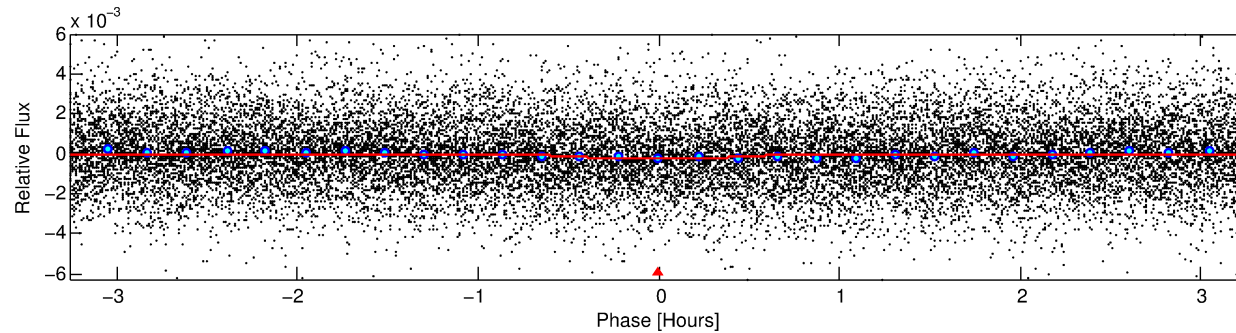
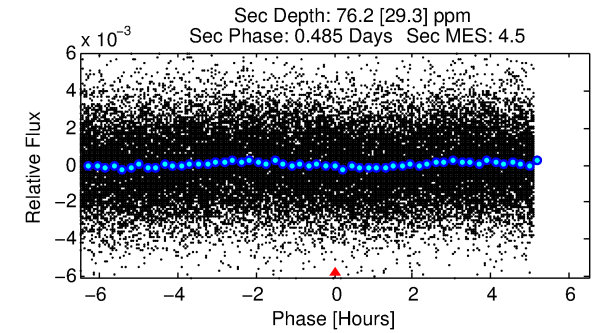
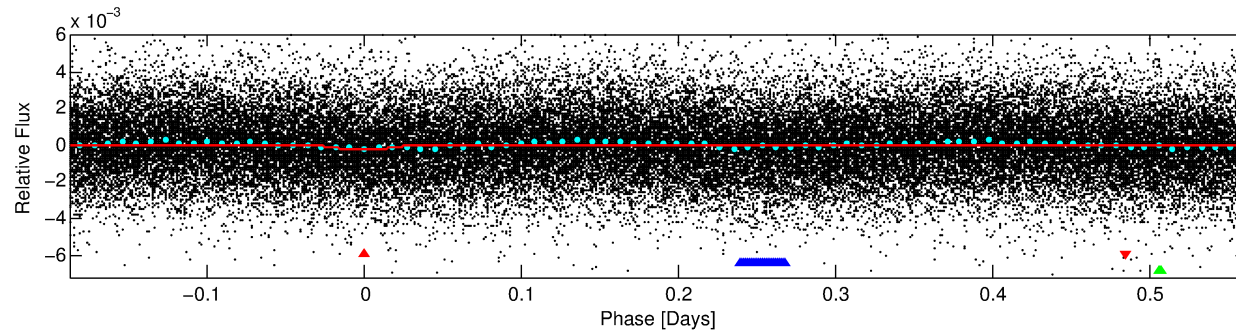
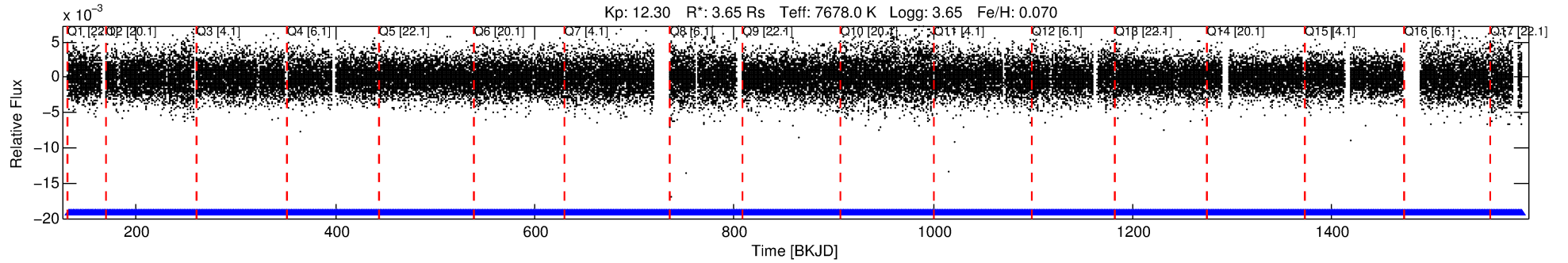
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011618998-01

No Significant Match Found

# DV One-Page Summary

KIC: 11618998 Candidate: 1 of 3 Period: 0.751 d



## DV Fit Results:

Period = 0.75076 [0.00001] d  
Epoch = 132.1492 [0.0027] BKJD  
Rp/R\* = 0.0149 [0.0091]  
a/R\* = 4.06 [13.26]  
b = 0.68 [2.79]  
Seff = 95283.93 [77202.59]  
Teff = 4480 [907] K  
Rp = 5.92 [4.70] Re  
a = 0.0208 [0.0103] AU  
Ag = 0.52 [0.78] [-0.62σ]  
Teffp = 5878 [1895] K [0.67σ]

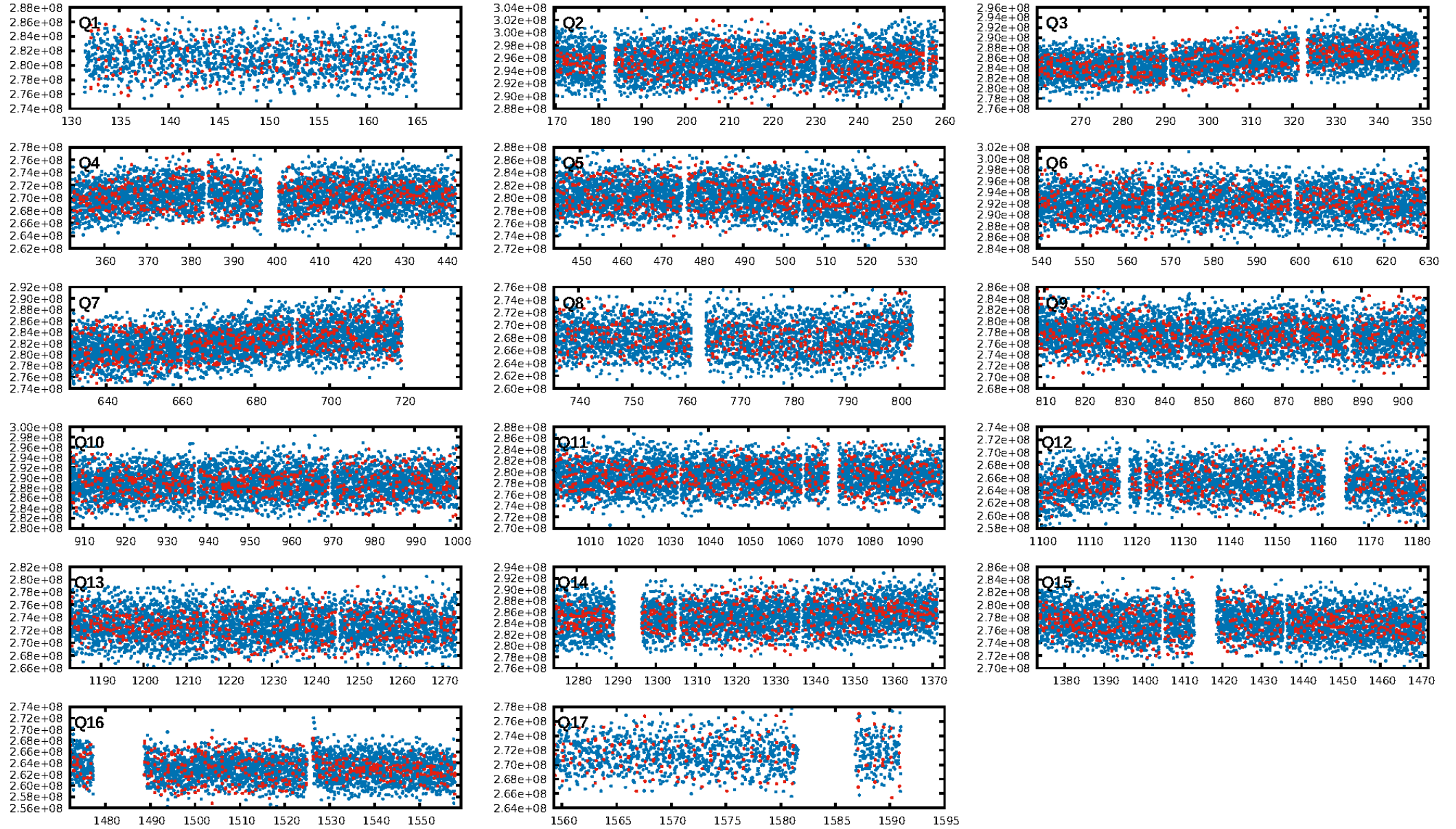
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1697/1697]  
GhostDiagnostic-chr: 2.483  
Centroid-sig: 28.6%  
Centroid-so: 0.852 arcsec [4.85σ]  
OotOffset-rm: 0.048 arcsec [0.27σ]  
KicOffset-rm: 0.207 arcsec [1.11σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.82 [14/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:37:20 Z

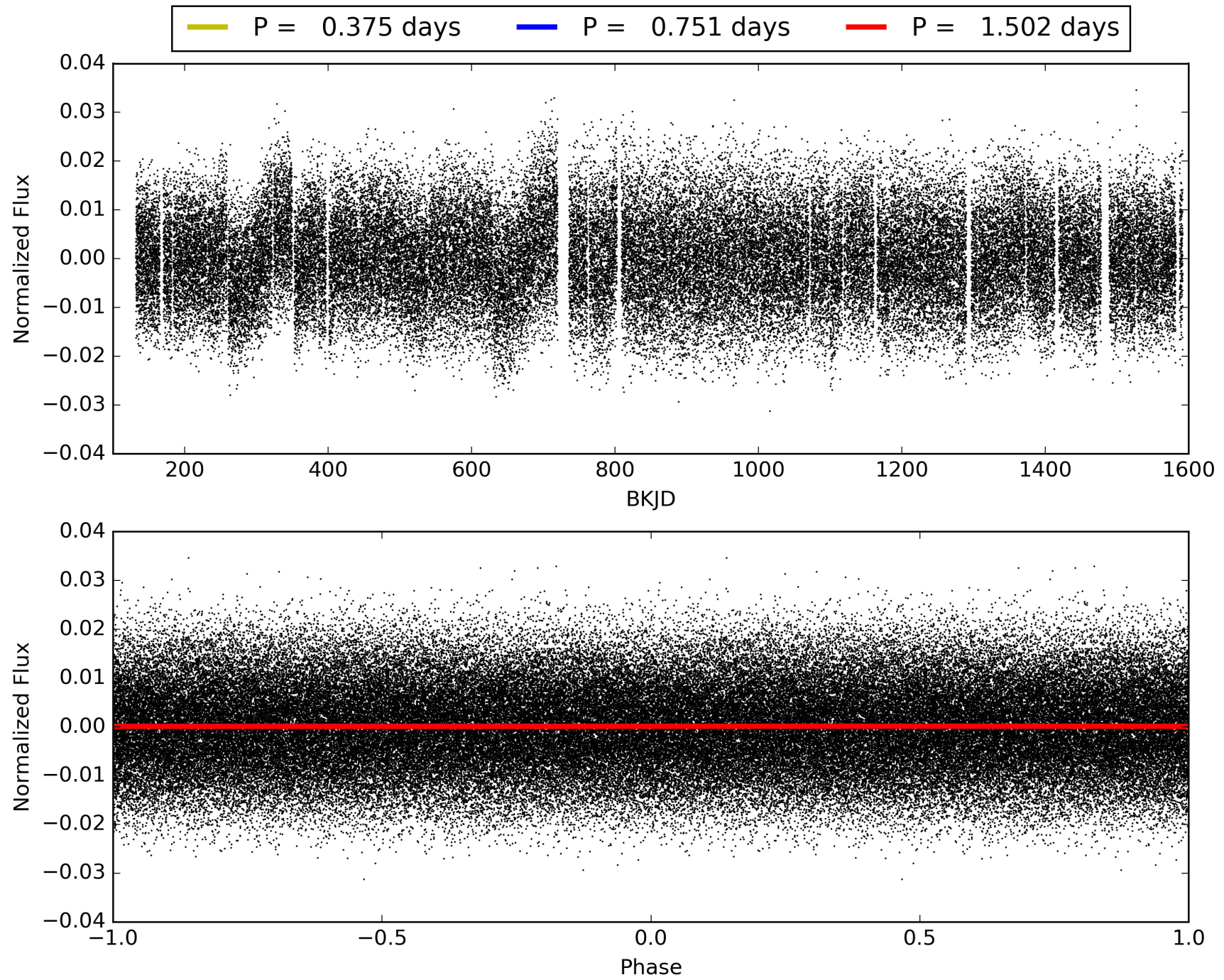
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 011618998-01, PDC Light Curves





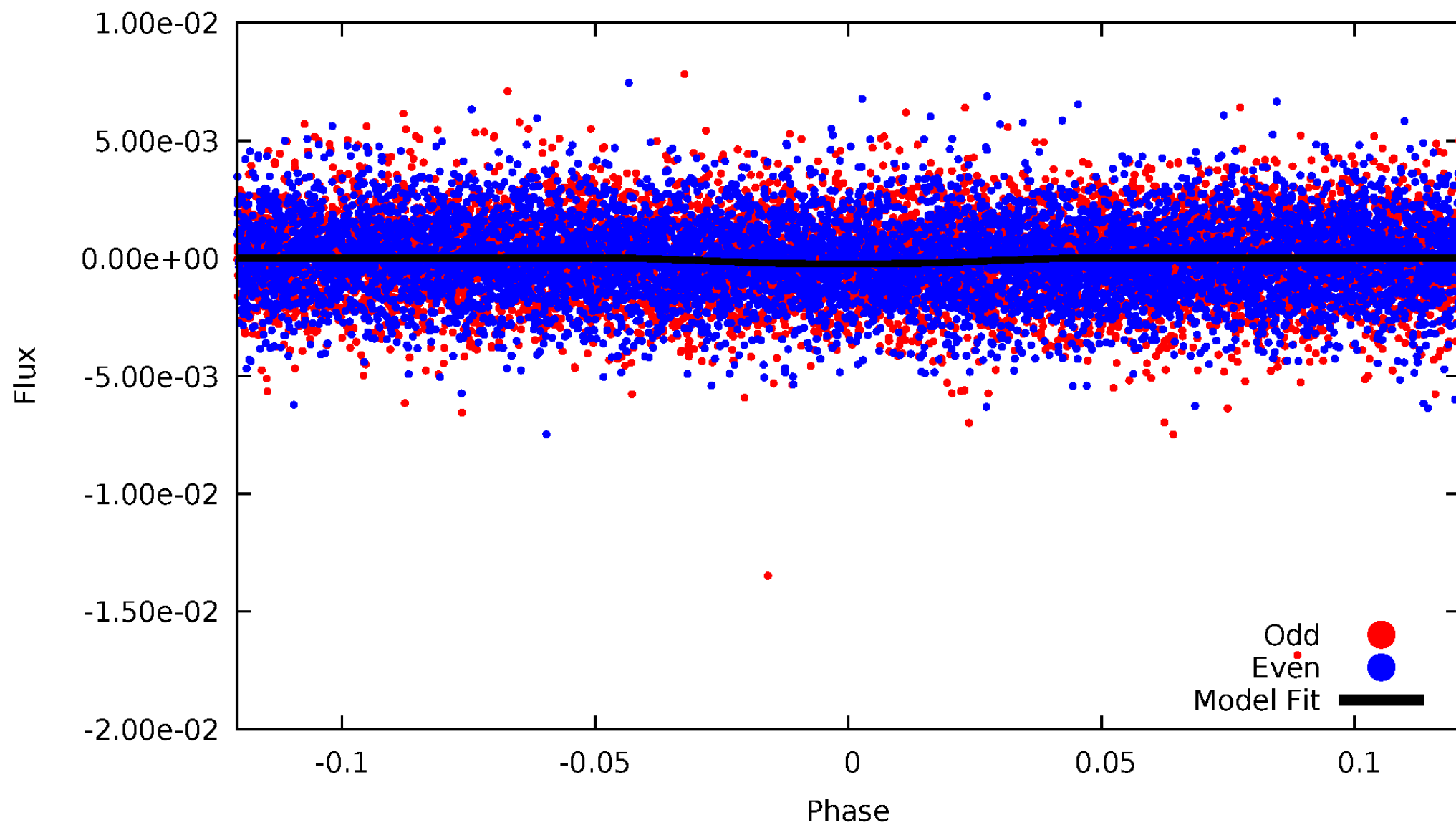
TCE 011618998-01





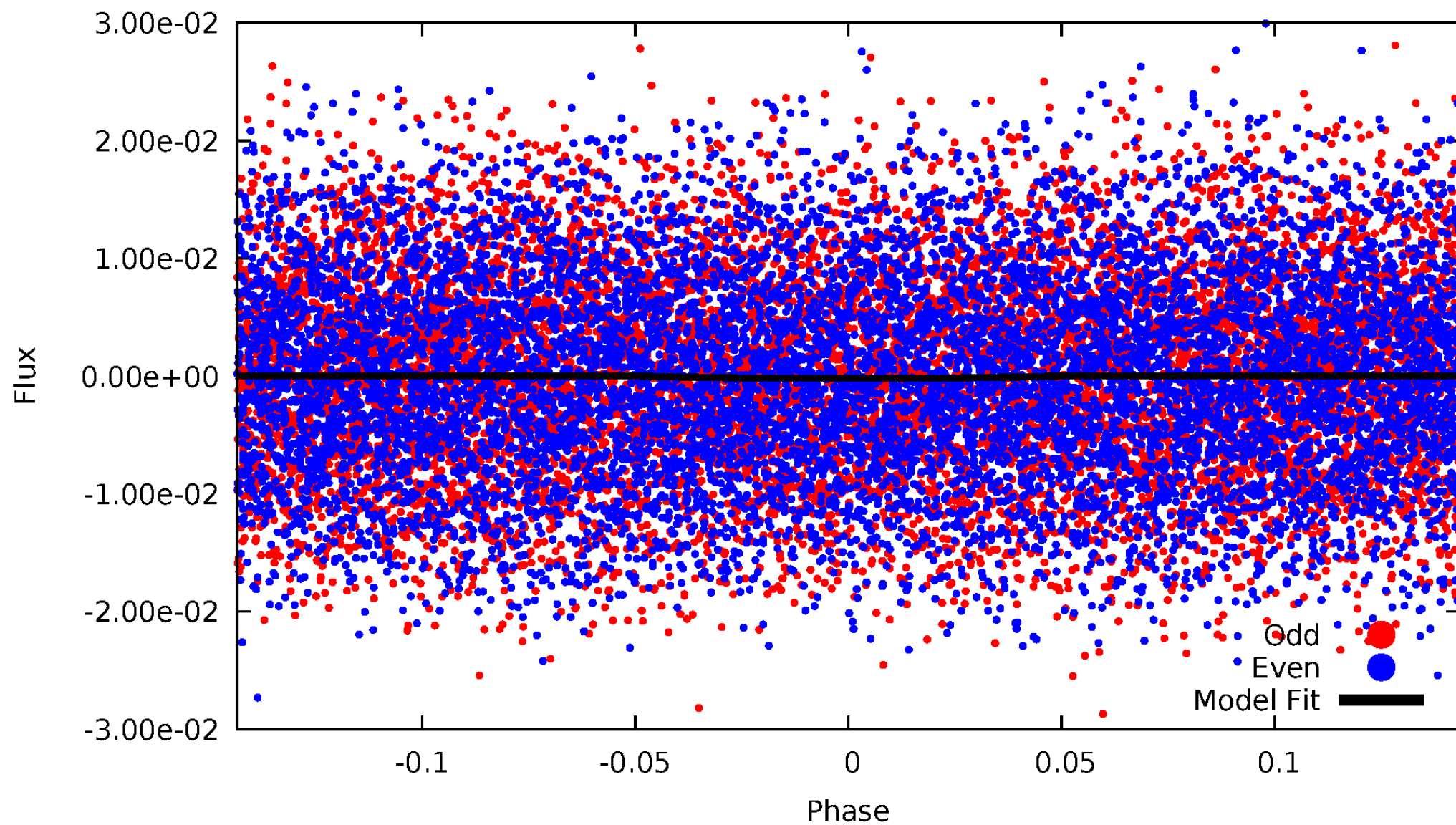
# DV Odd/Even

TCE 011618998-01

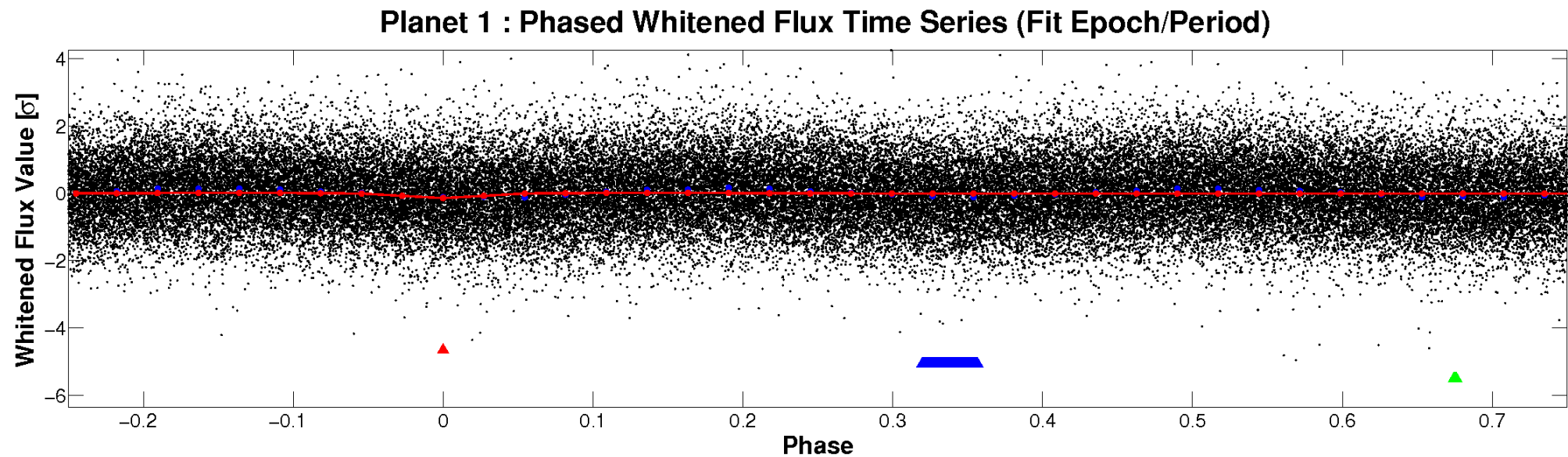
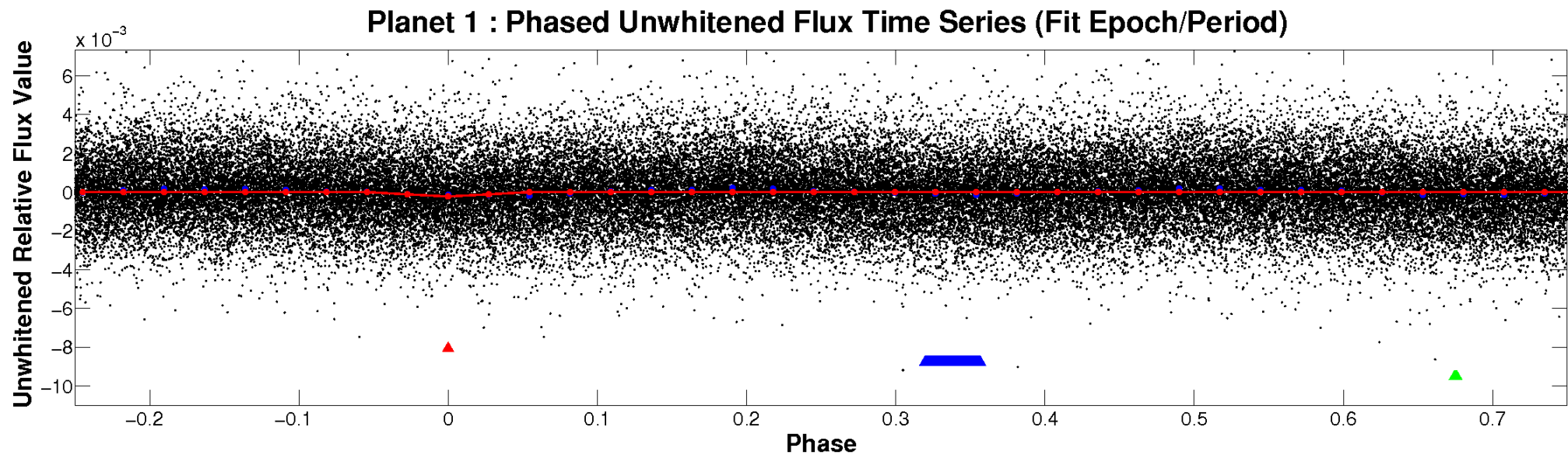


# ALT Odd/Even

TCE 011618998-01



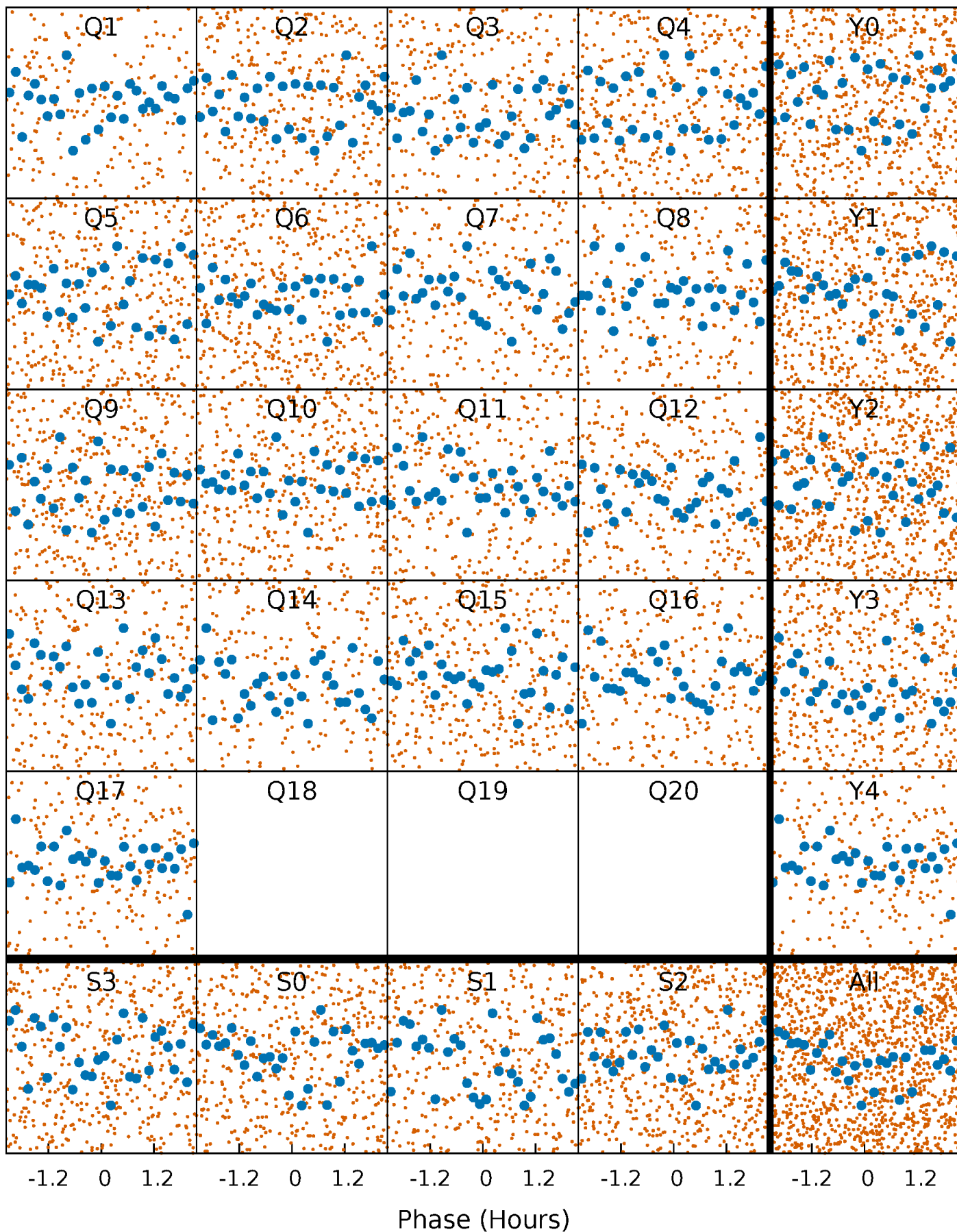
# Non-Whitened Vs. Whitened Light Curve





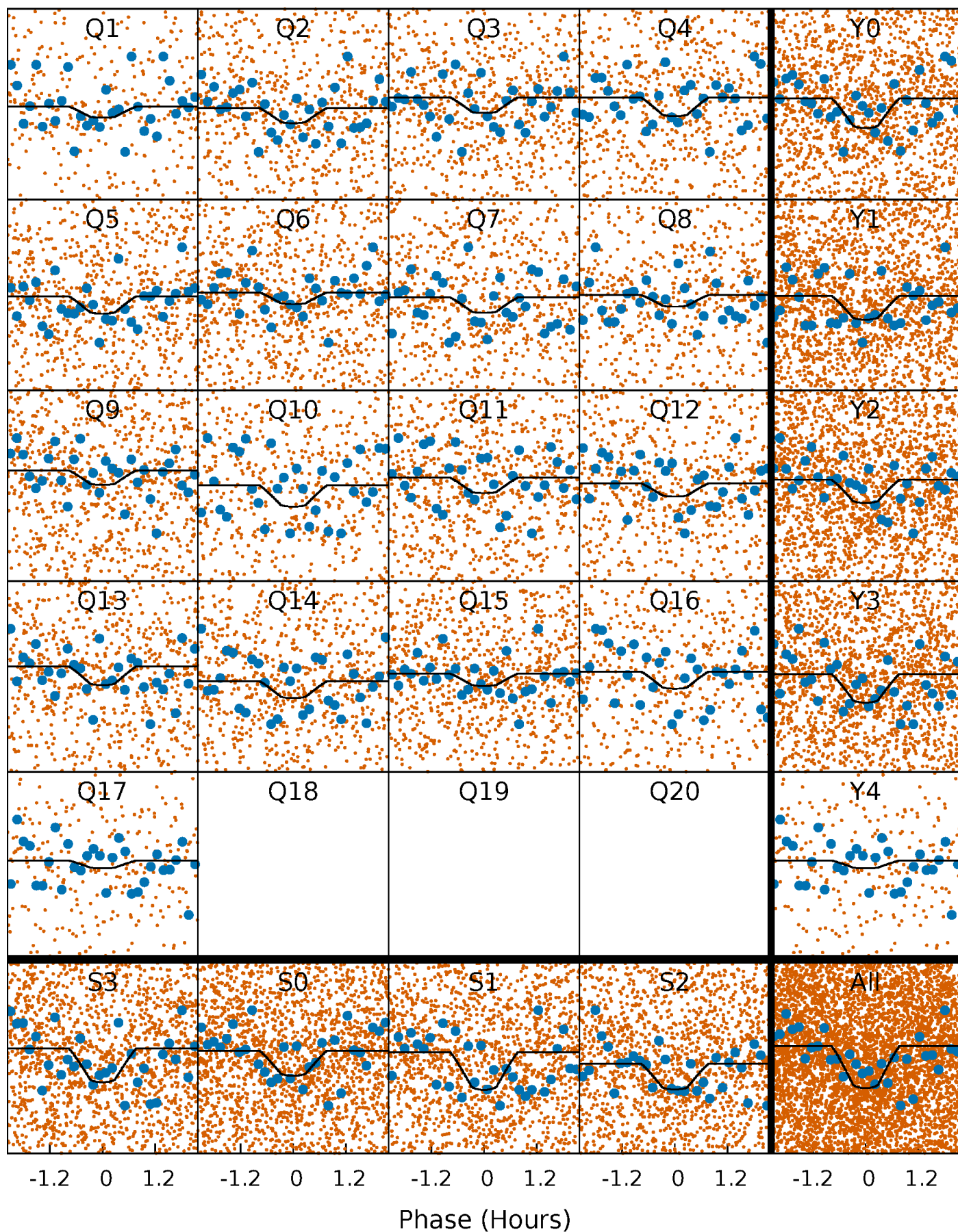
# PDC Quarter-Phased Transit Curves

TCE 011618998-01 P= 0.750756 Days  $T_0=132.149226$  (BKJD)



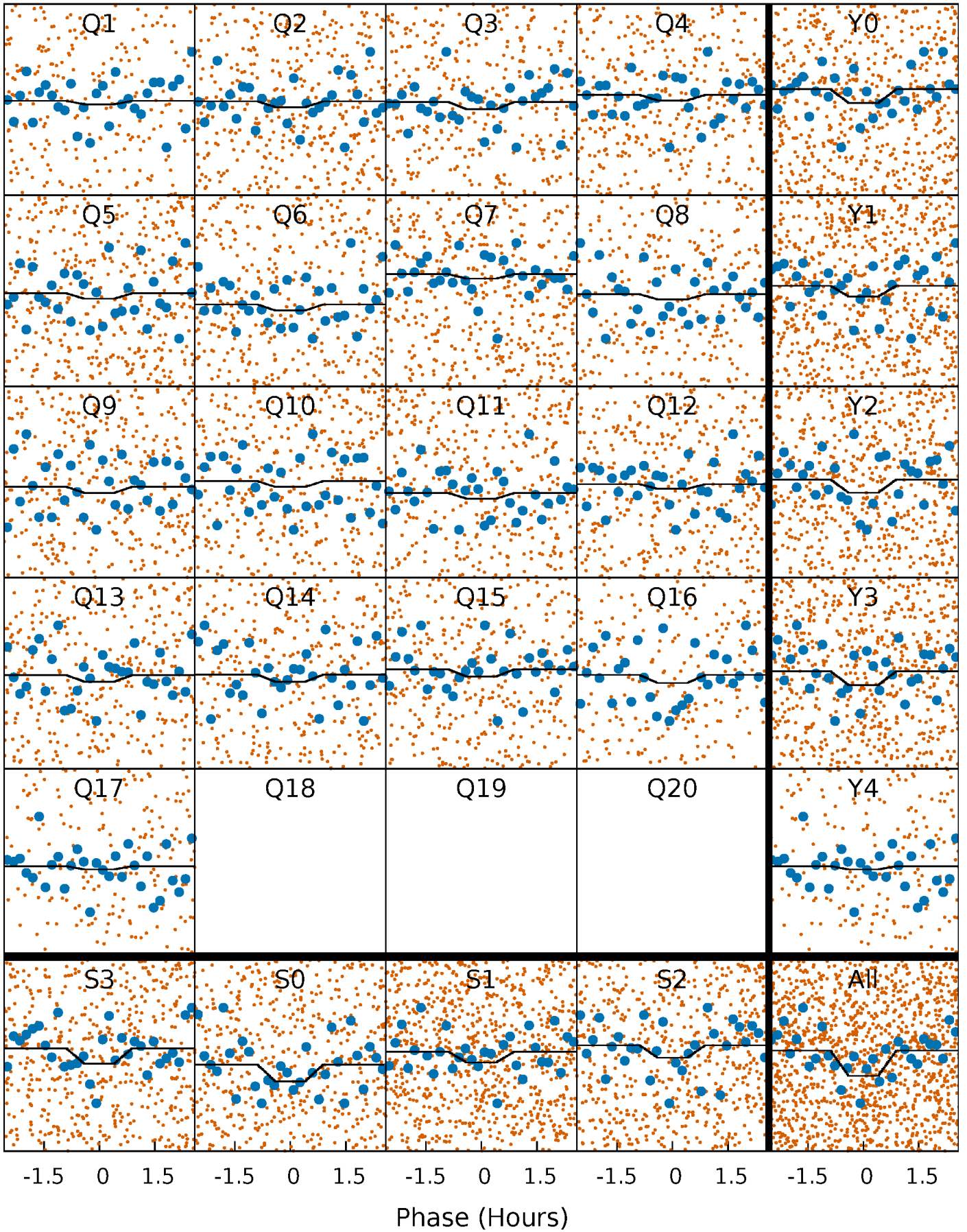
# DV Quarter-Phased Transit Curves

TCE 011618998-01   P= 0.750756 Days    $T_0=132.149226$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 011618998-01 P= 0.750767 Days  $T_0=132.148093$  (BKJD)

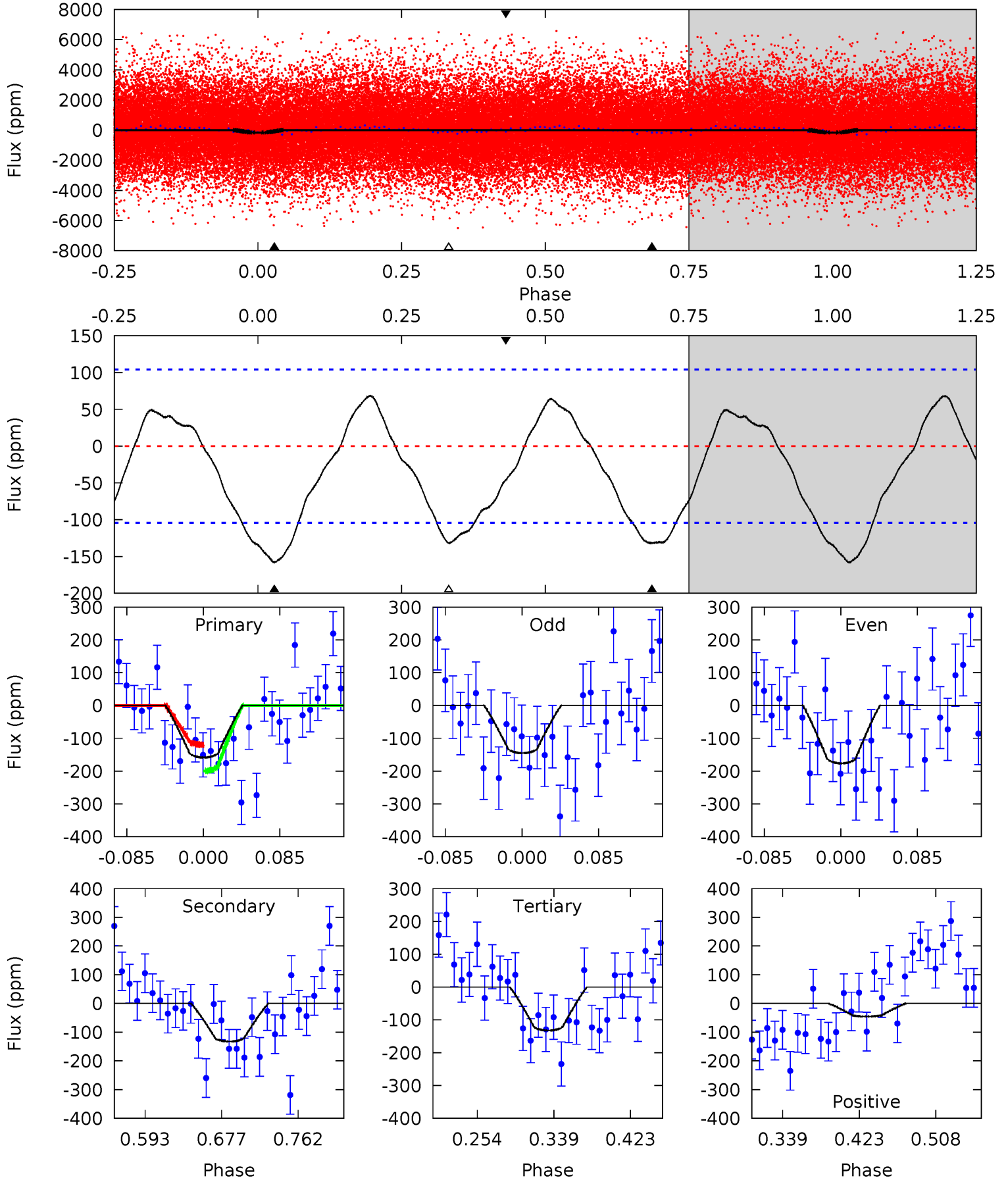




# DV Model-Shift Uniqueness Test

011618998-01,  $P = 0.750756$  Days,  $E = 131.398470$  Days

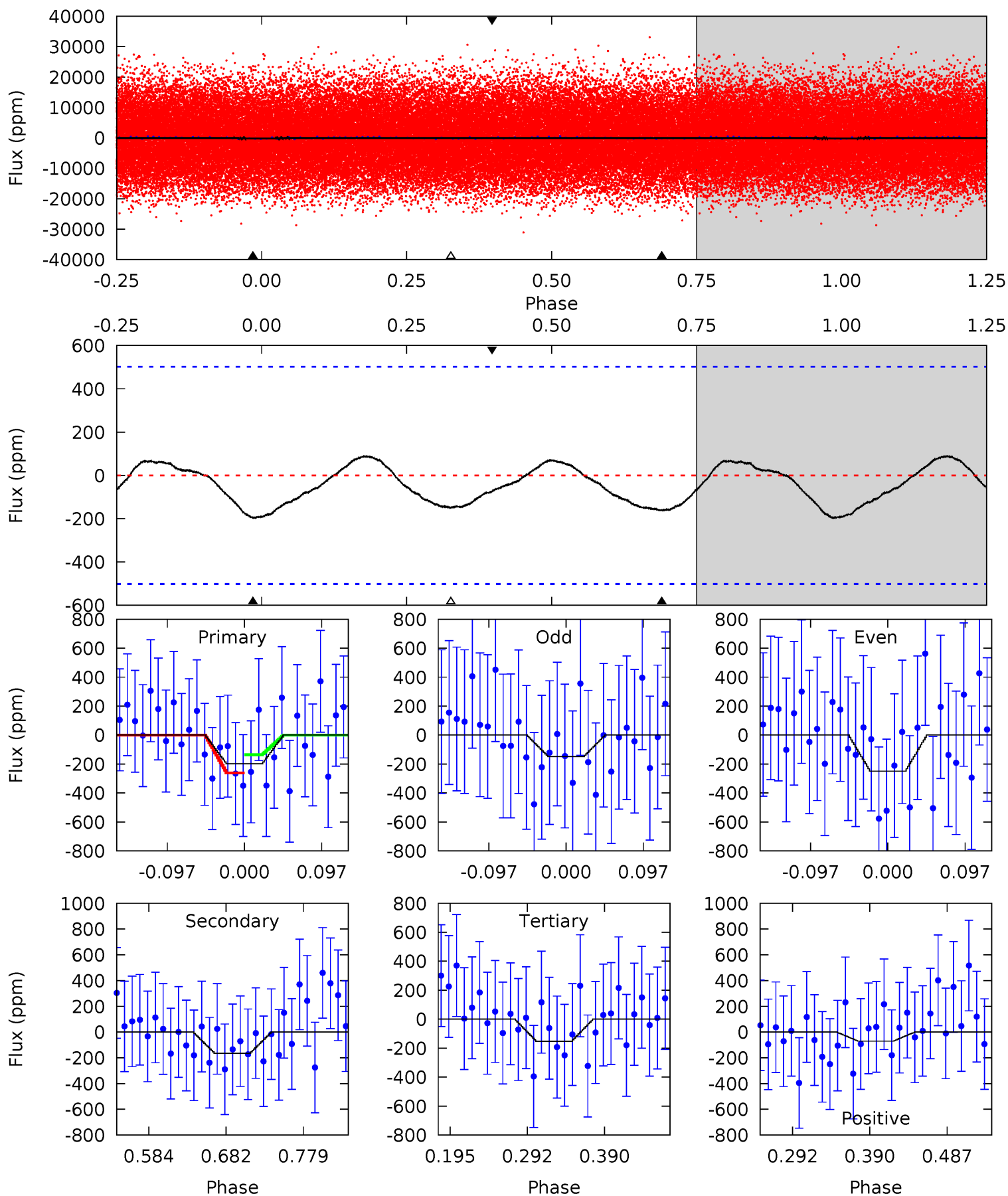
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.01	5.85	5.85	-2.00	4.60	1.72	2.47	1.16	9.01	0.00	7.85	0.70	0.92	0.30	1.77



# Alt Model-Shift Uniqueness Test

011618998-01, P = 0.750767 Days, E = 131.397326 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
1.81	1.50	1.38	-0.64	4.57	1.66	0.65	0.43	2.45	0.12	2.14	0.46	0.51	0.31	0.57



### Stellar Parameters For KIC 011618998

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7678^{+214}_{-321}$	$3.645^{+0.467}_{-0.082}$	$0.070^{+0.150}_{-0.350}$	$3.645^{+0.617}_{-1.851}$	$2.140^{+0.297}_{-0.552}$	$0.062^{+0.275}_{-0.022}$
	+3%/-4%	+13%/-2%	+214%/-500%	+17%/-51%	+14%/-26%	+442%/-35%
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 011618998-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-132 \pm 23$	$5.30^{+3.63}_{-2.97}$	$6053^{+430}_{-739}$	$5990^{+4866}_{-2012}$	$1.126^{+4.298}_{-0.742}$
Alt.	$-165 \pm 110$	$5.28^{+3.57}_{-2.85}$	$6046^{+410}_{-770}$	$6208^{+4687}_{-9501}$	$1.176^{+5.621}_{-0.908}$

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



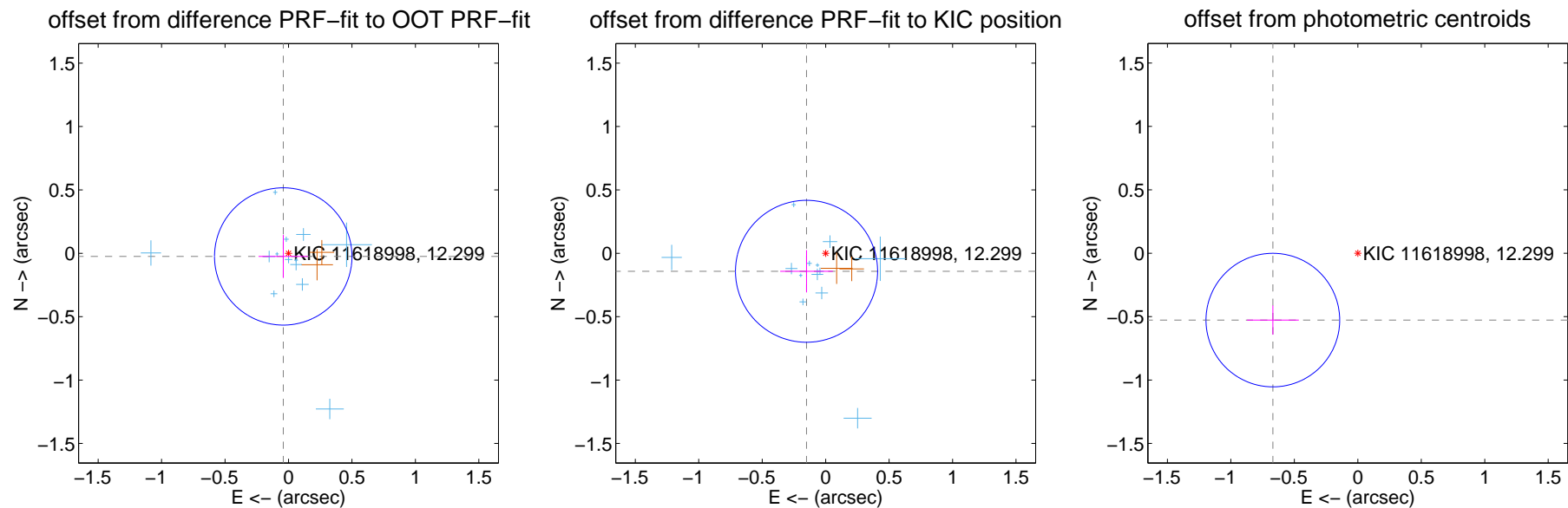
## DV Centroid Data

Supplemental centroid analysis for 011618998-01. Kepler magnitude: 12.30. Transit SNR 7.62

There are 14 quarters with good PRF difference image offsets

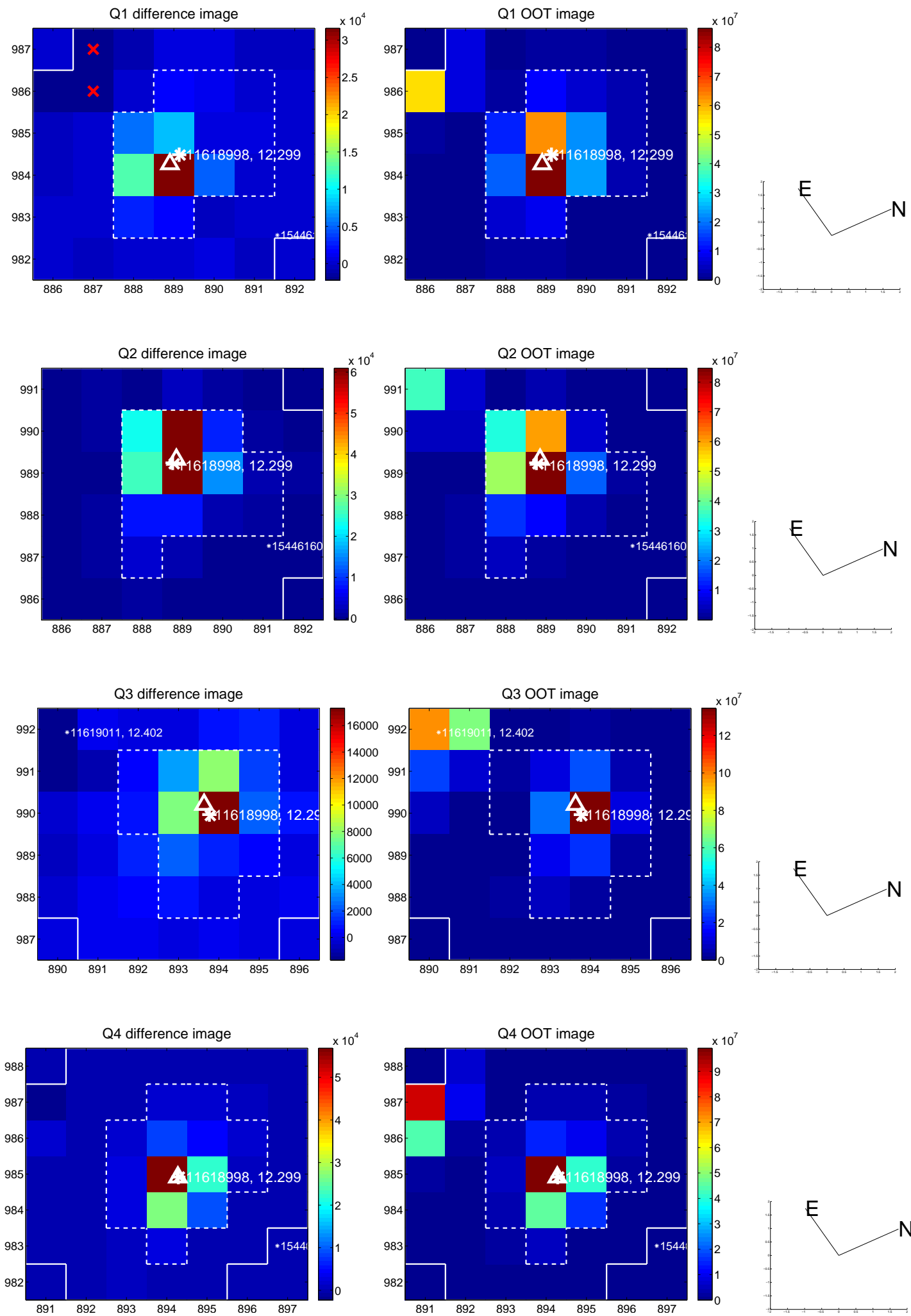
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.048 \pm 0.181$	0.27	$0.041 \pm 0.194$	$-0.025 \pm 0.170$
PRF-fit source offset from KIC position	$0.207 \pm 0.187$	1.11	$0.151 \pm 0.208$	$-0.142 \pm 0.167$
photometric centroid source offset	$0.85 \pm 0.18$	4.85	$0.67 \pm 0.20$	$-0.53 \pm 0.11$

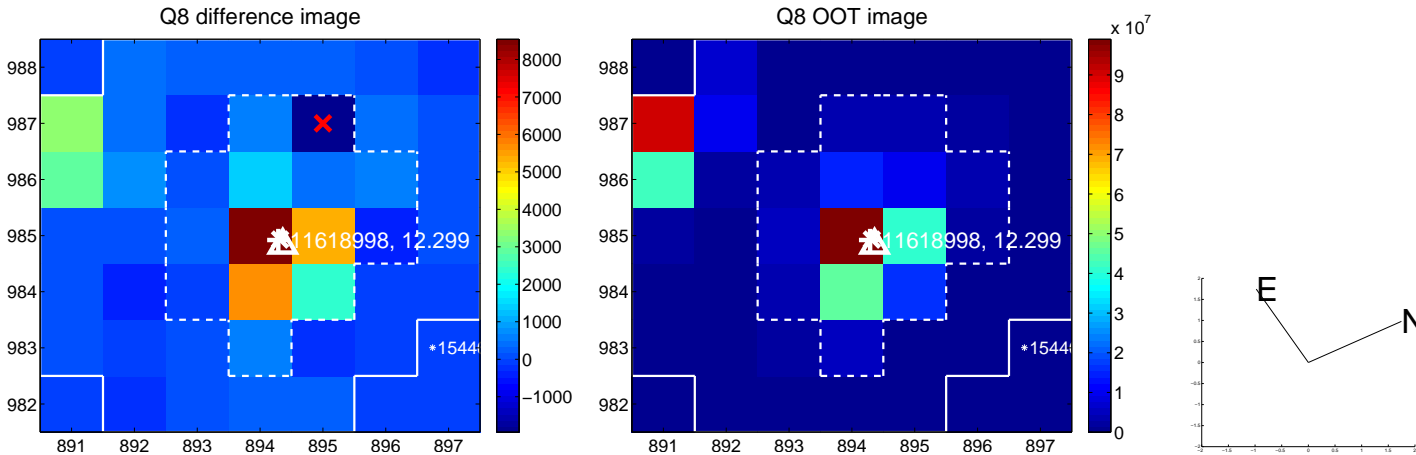
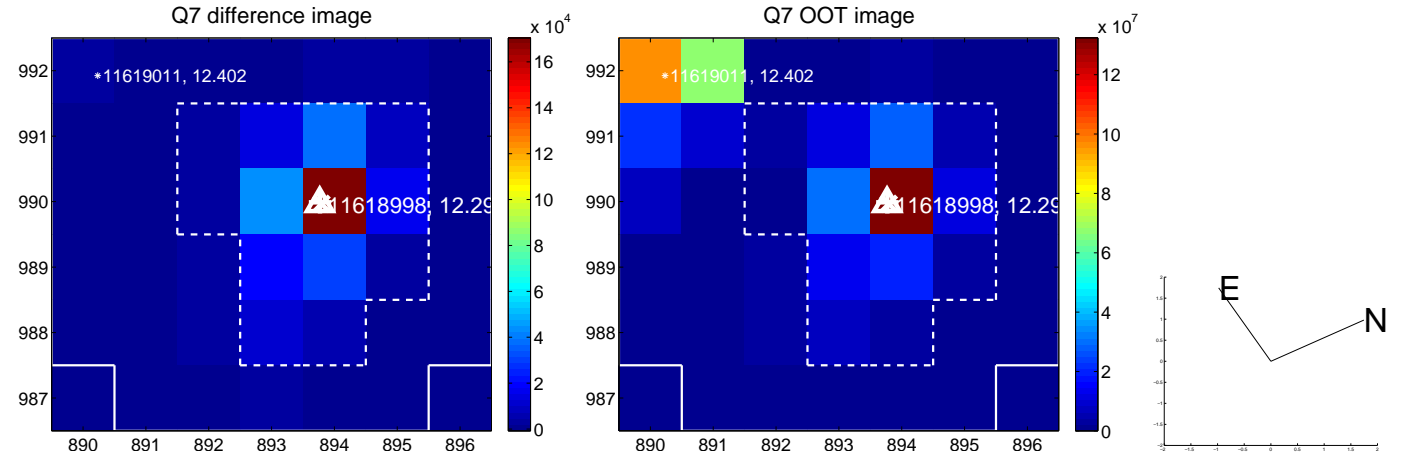
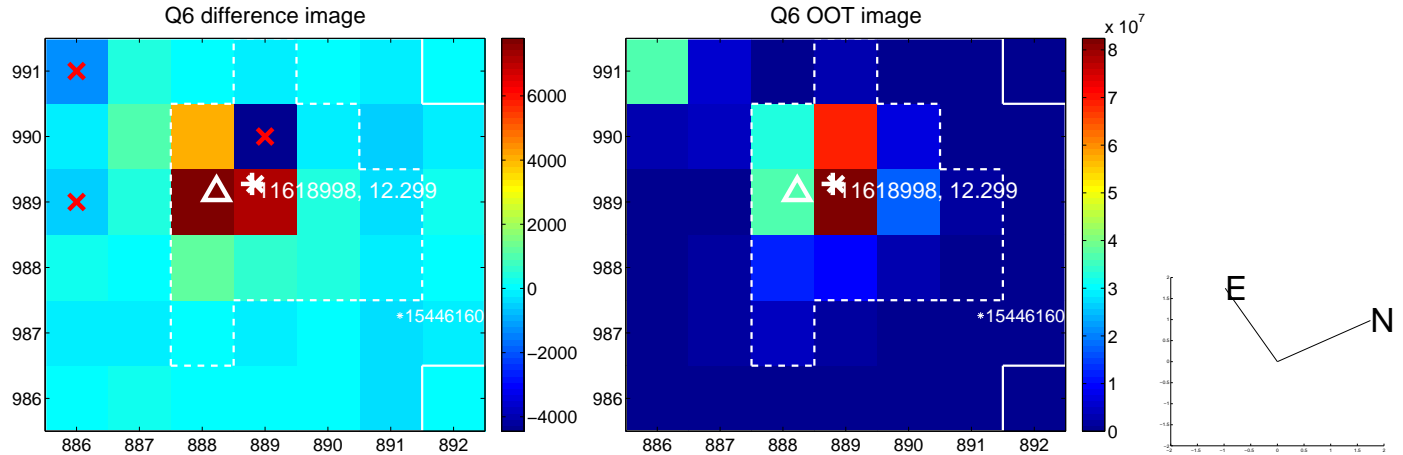
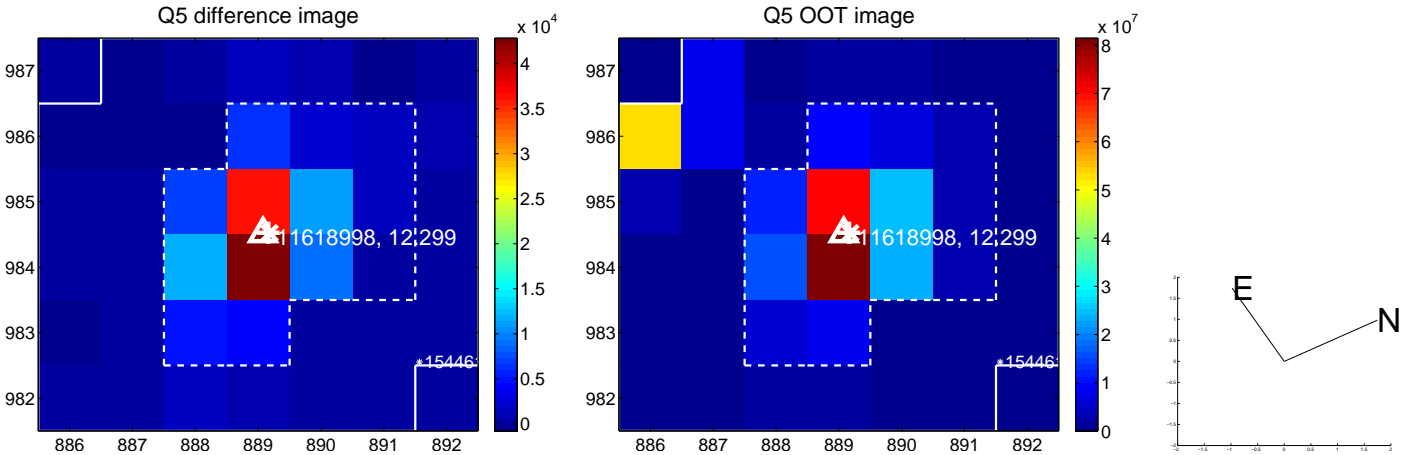


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

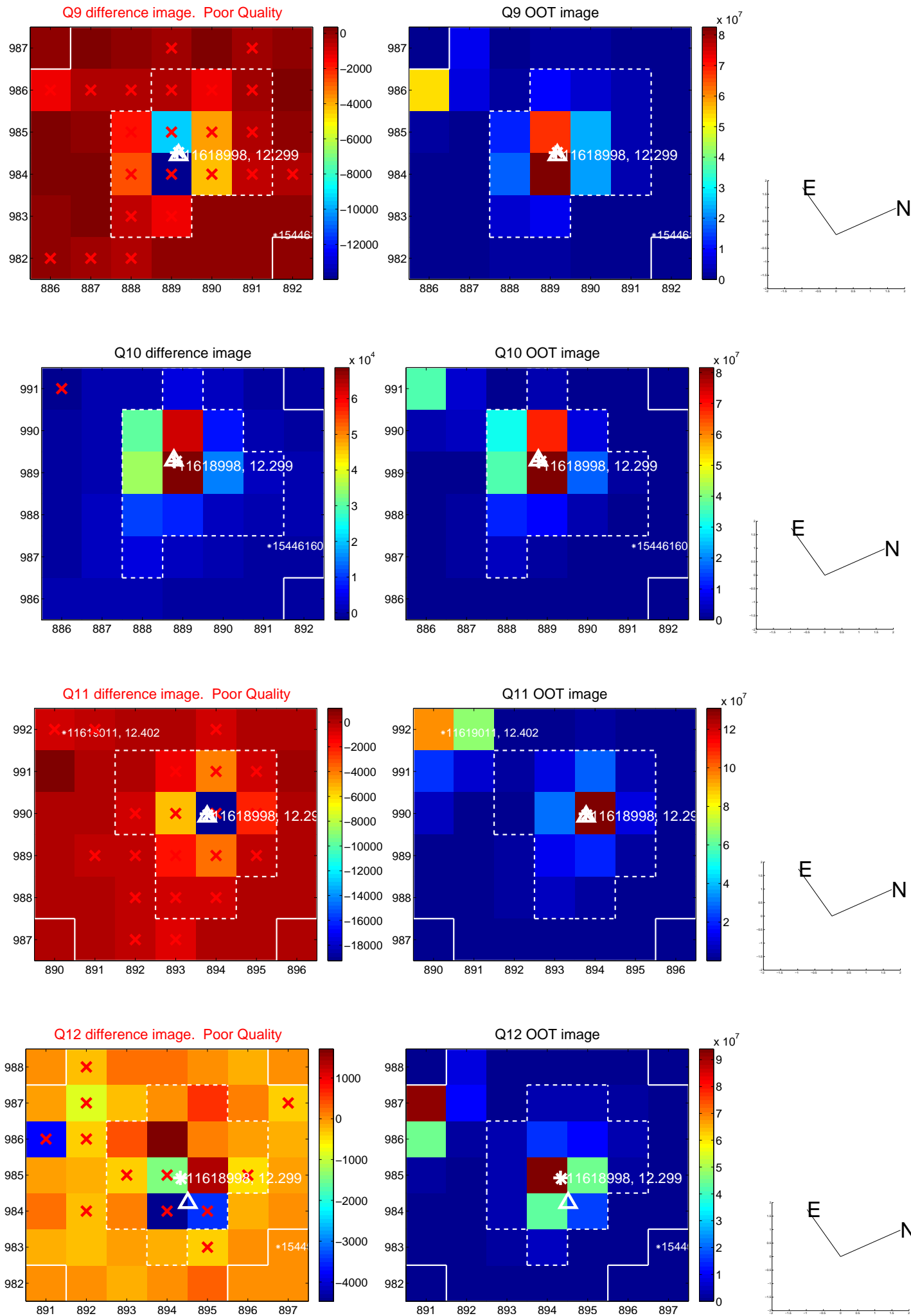


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

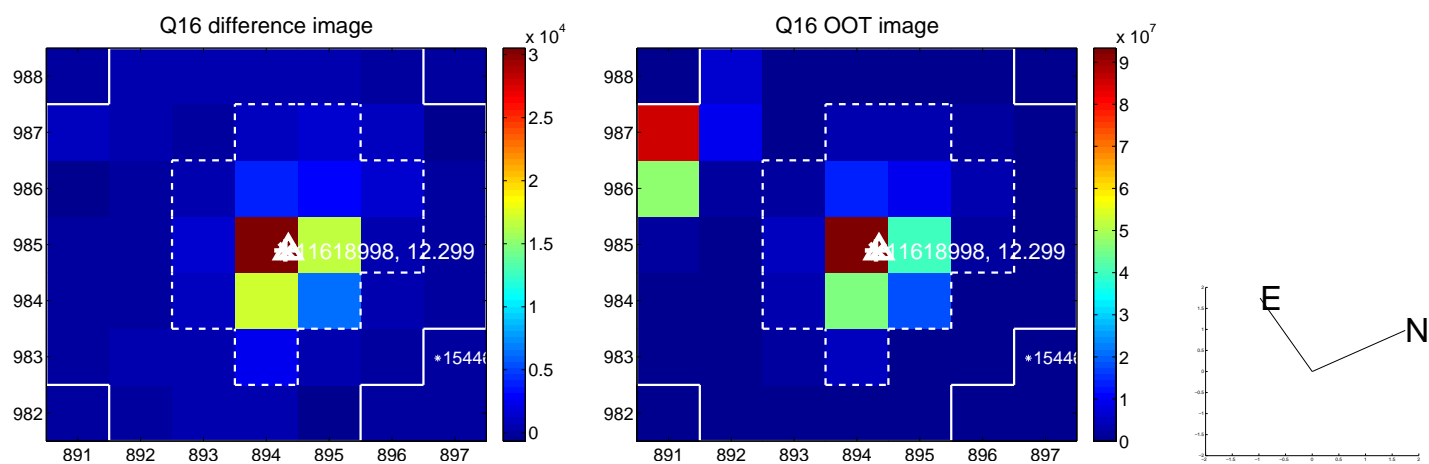
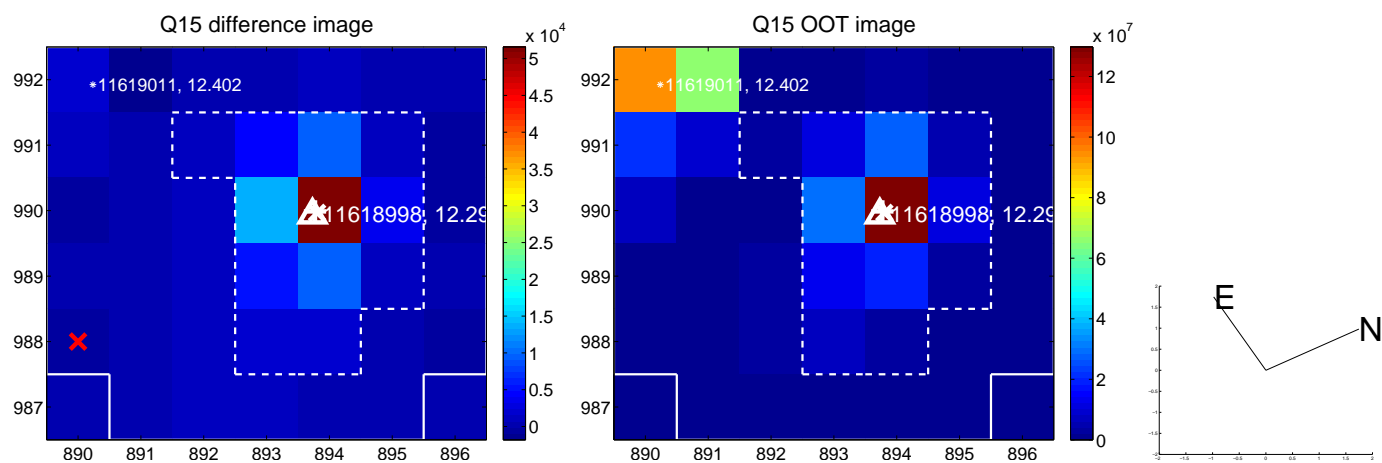
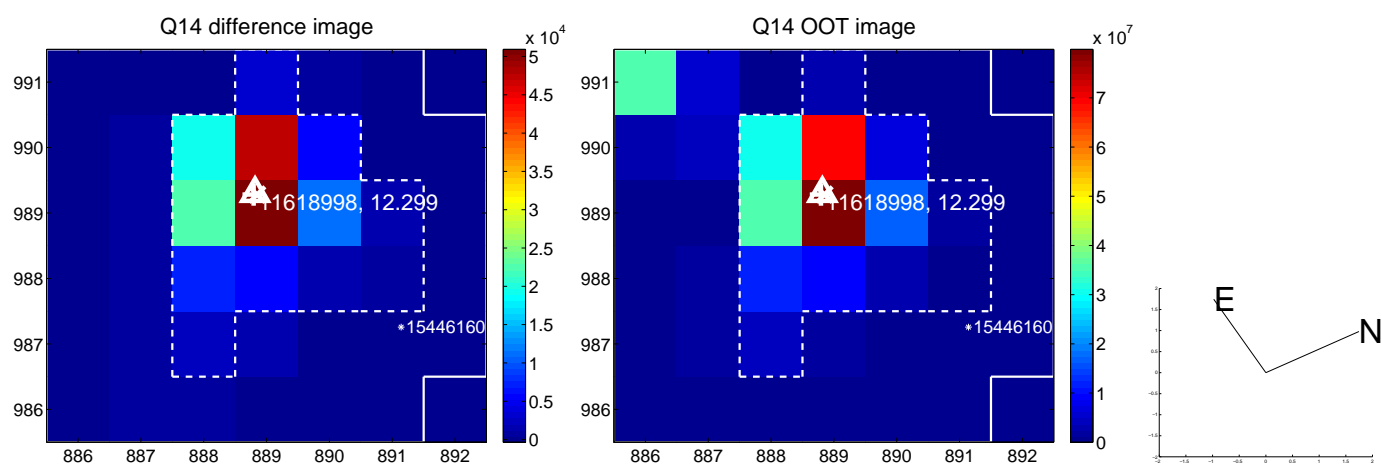
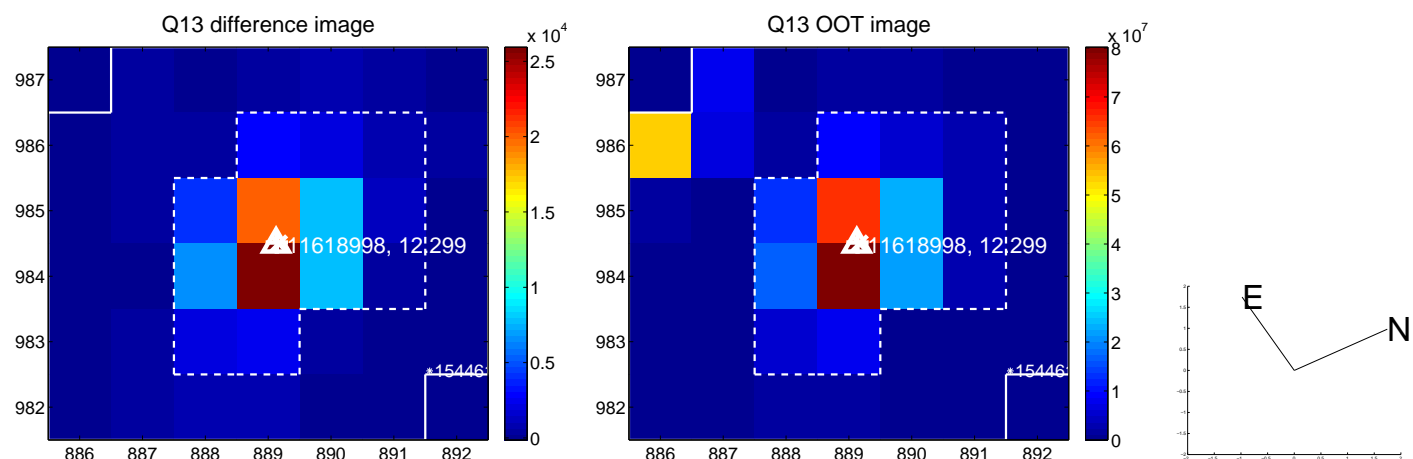




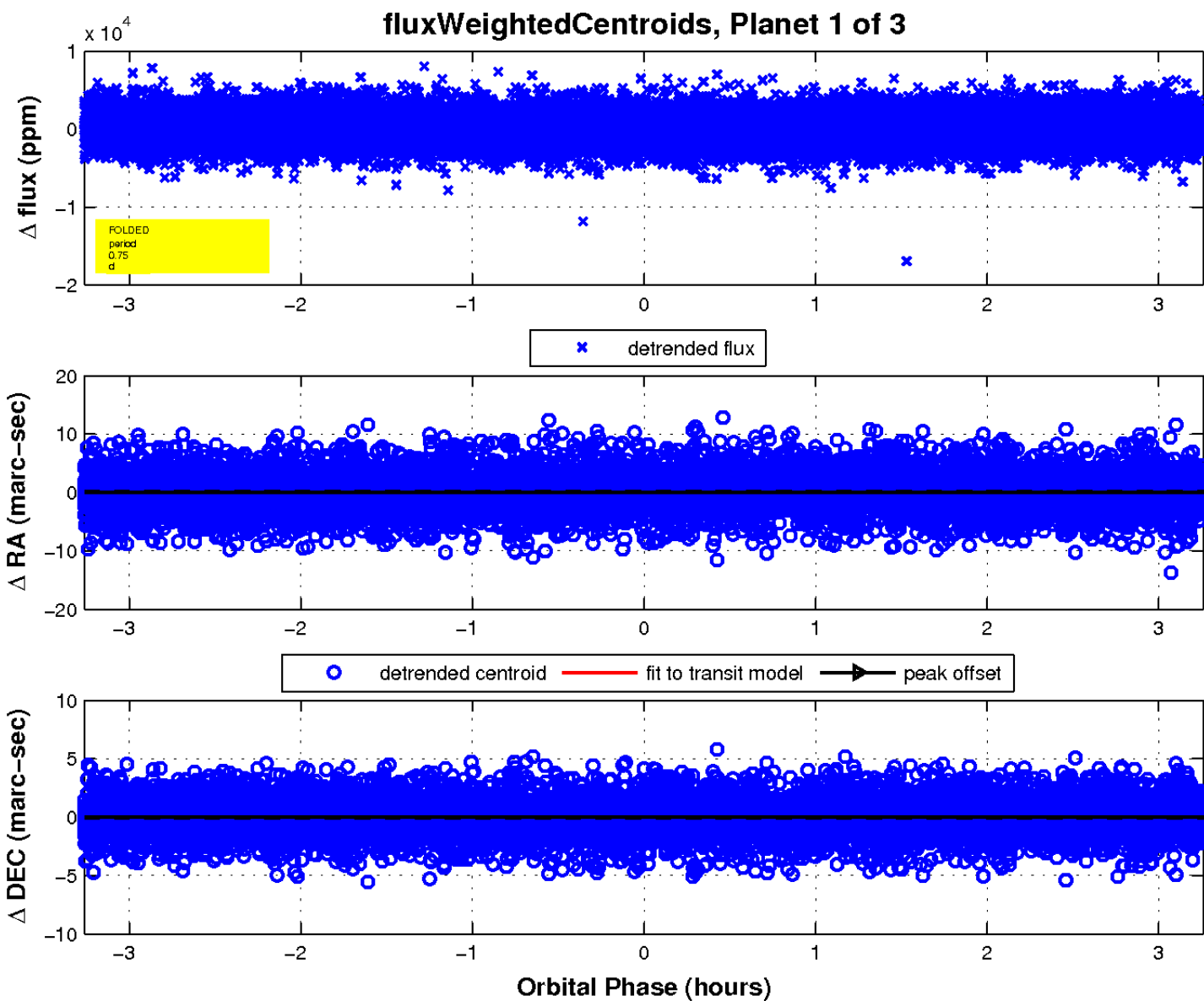
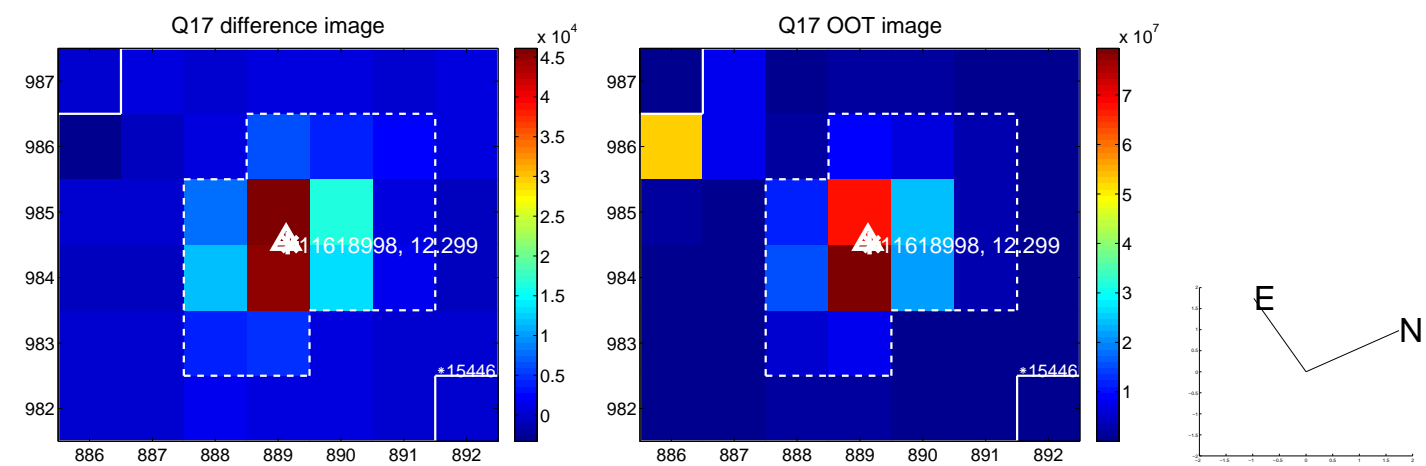
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

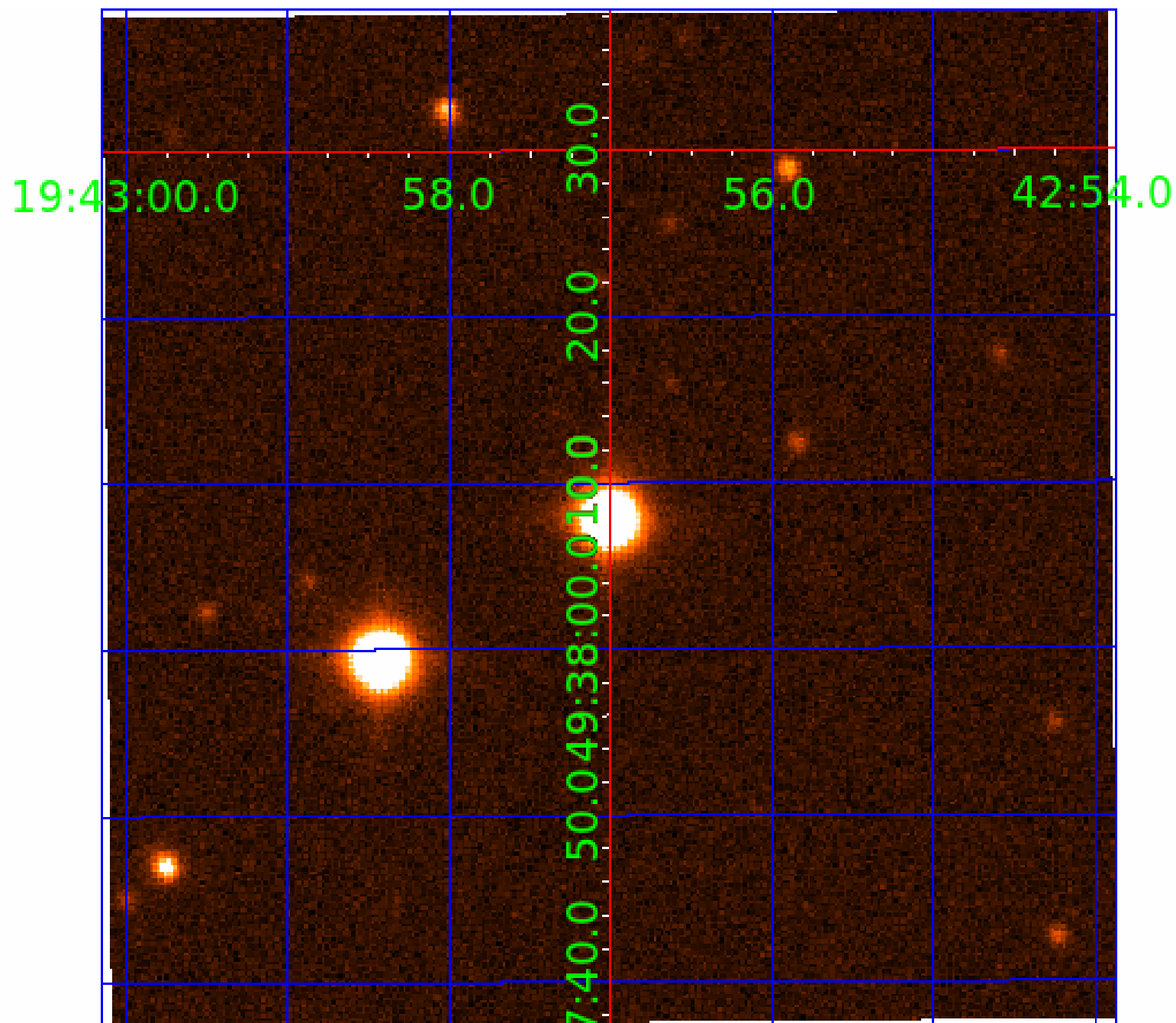


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 011618998

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011618998-01	OBS	No	0.750756	132.149227	229.4	1.087	12.2	7.6	3.65	7678	5.92	95283.93
011618998-02	OBS	No	0.750771	131.638374	158.3	2.814	10.1	8.5	3.65	7678	5.34	95281.51
011618998-03	OBS	No	0.750757	131.904873	142.8	2.046	8.6	6.8	3.65	7678	4.44	95283.84

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011618998-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
011618998-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
011618998-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

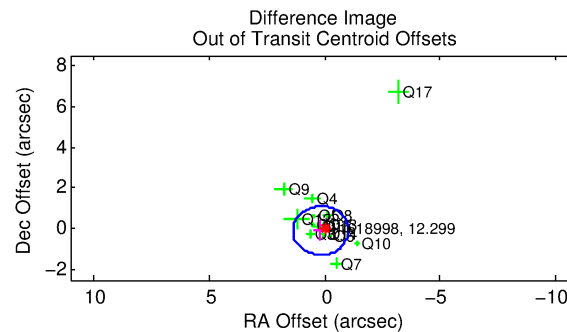
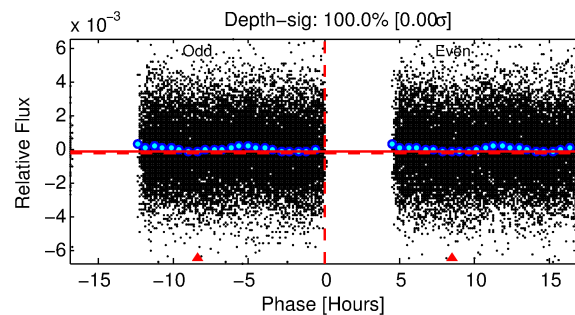
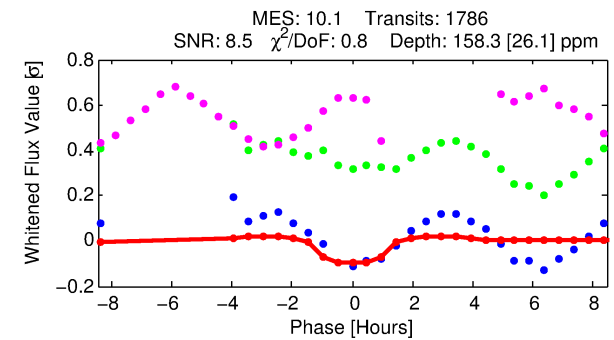
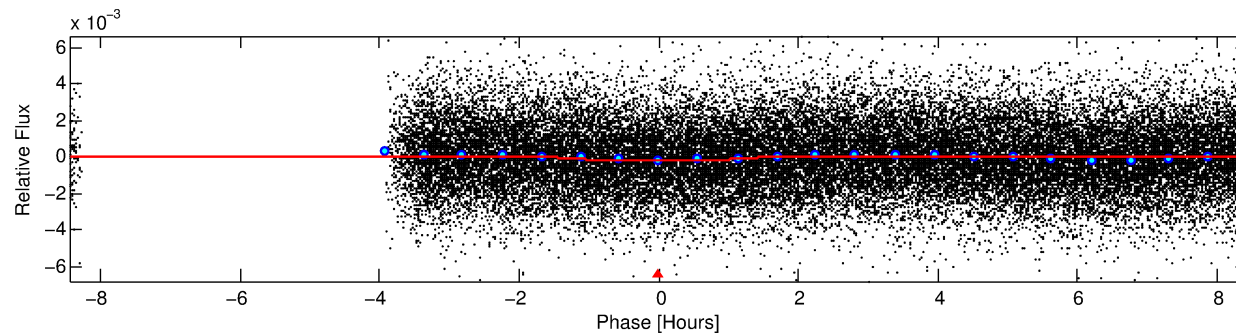
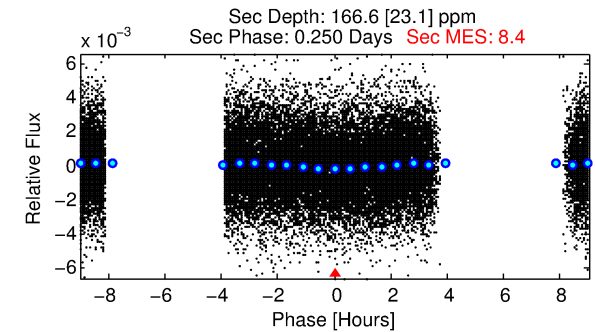
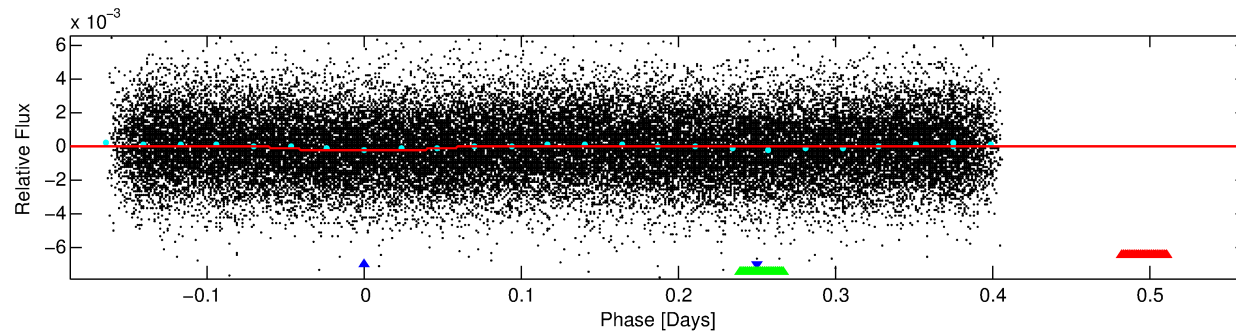
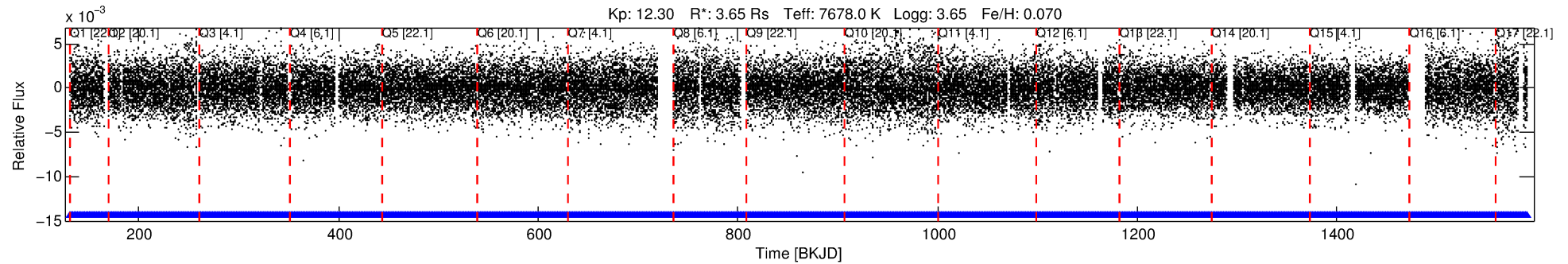
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011618998-02

No Significant Match Found

# DV One-Page Summary

KIC: 11618998 Candidate: 2 of 3 Period: 0.751 d



## DV Fit Results:

Period = 0.75077 [0.00001] d  
Epoch = 131.6384 [0.0041] BKJD  
Rp/R\* = 0.0134 [0.0085]  
a/R\* = 1.34 [2.26]  
b = 0.90 [0.82]  
Seff = 95281.50 [77200.62]  
Teq = 4480 [907] K  
Rp = 5.34 [4.33] Re  
a = 0.0208 [0.0103] AU  
Ag = 1.40 [2.09] [0.19σ]  
Teffp = 7528 [2413] K [1.18σ]

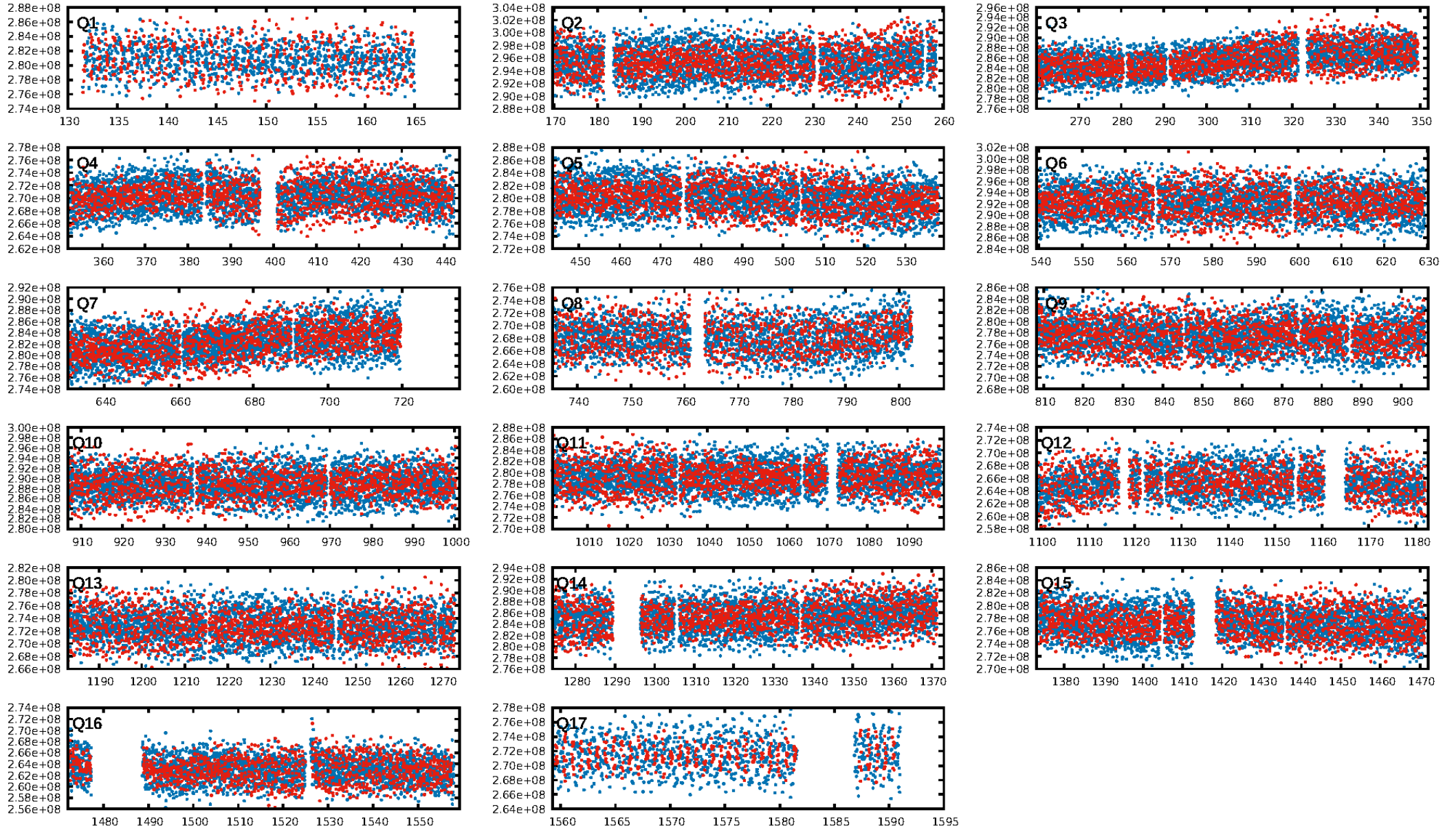
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1706/1706]  
GhostDiagnostic-chr: 1.332  
Centroid-sig: 0.0%  
Centroid-so: 0.545 arcsec [3.96σ]  
OotOffset-rm: 0.196 arcsec [0.49σ]  
OotOffset-st: 3/3/3/5 [14]  
KicOffset-rm: 0.364 arcsec [0.75σ]  
KicOffset-st: 3/3/3/5 [14]  
DiffImageQuality-fgm: 0.79 [11/14]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:37:31 Z

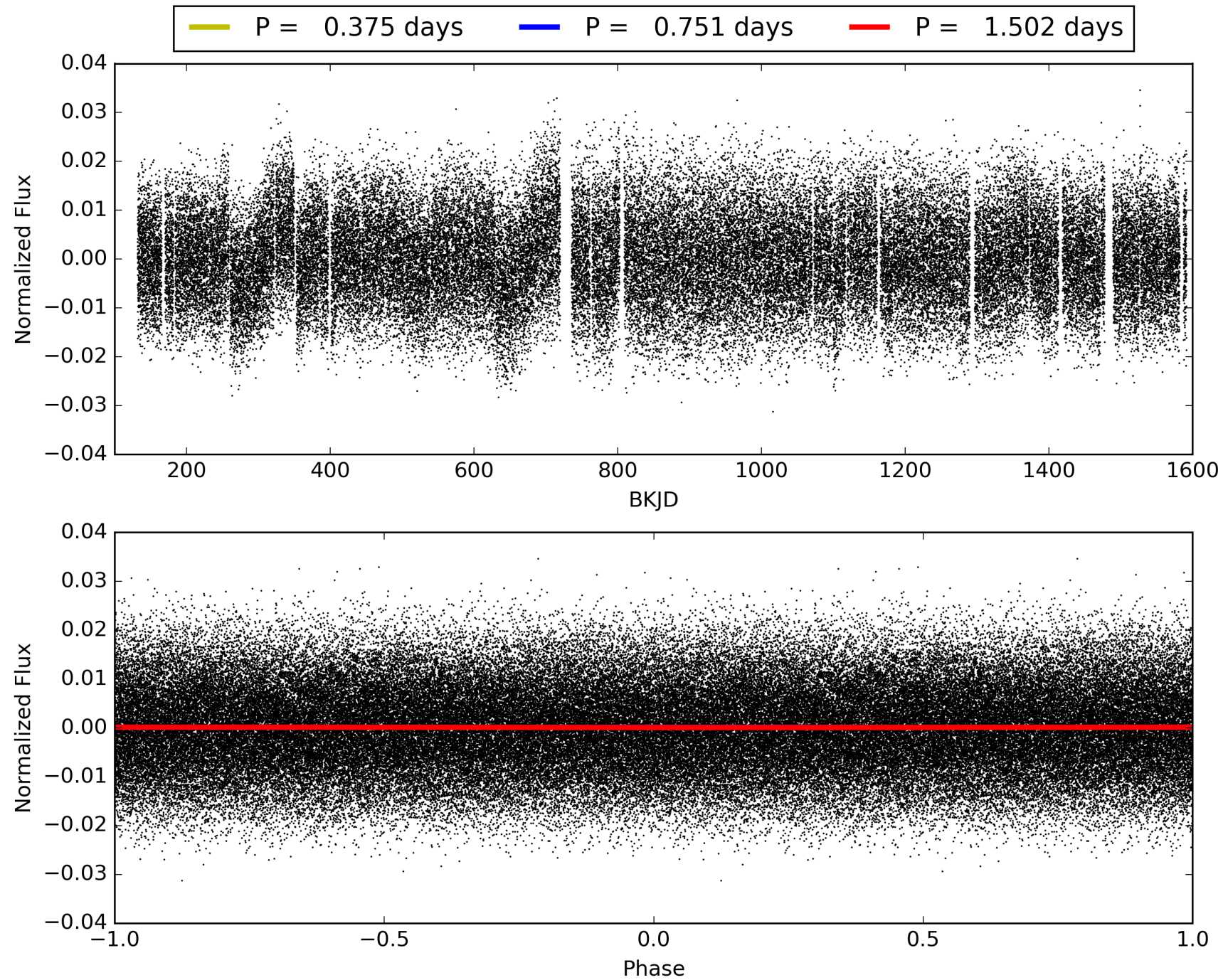
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 011618998-02, PDC Light Curves





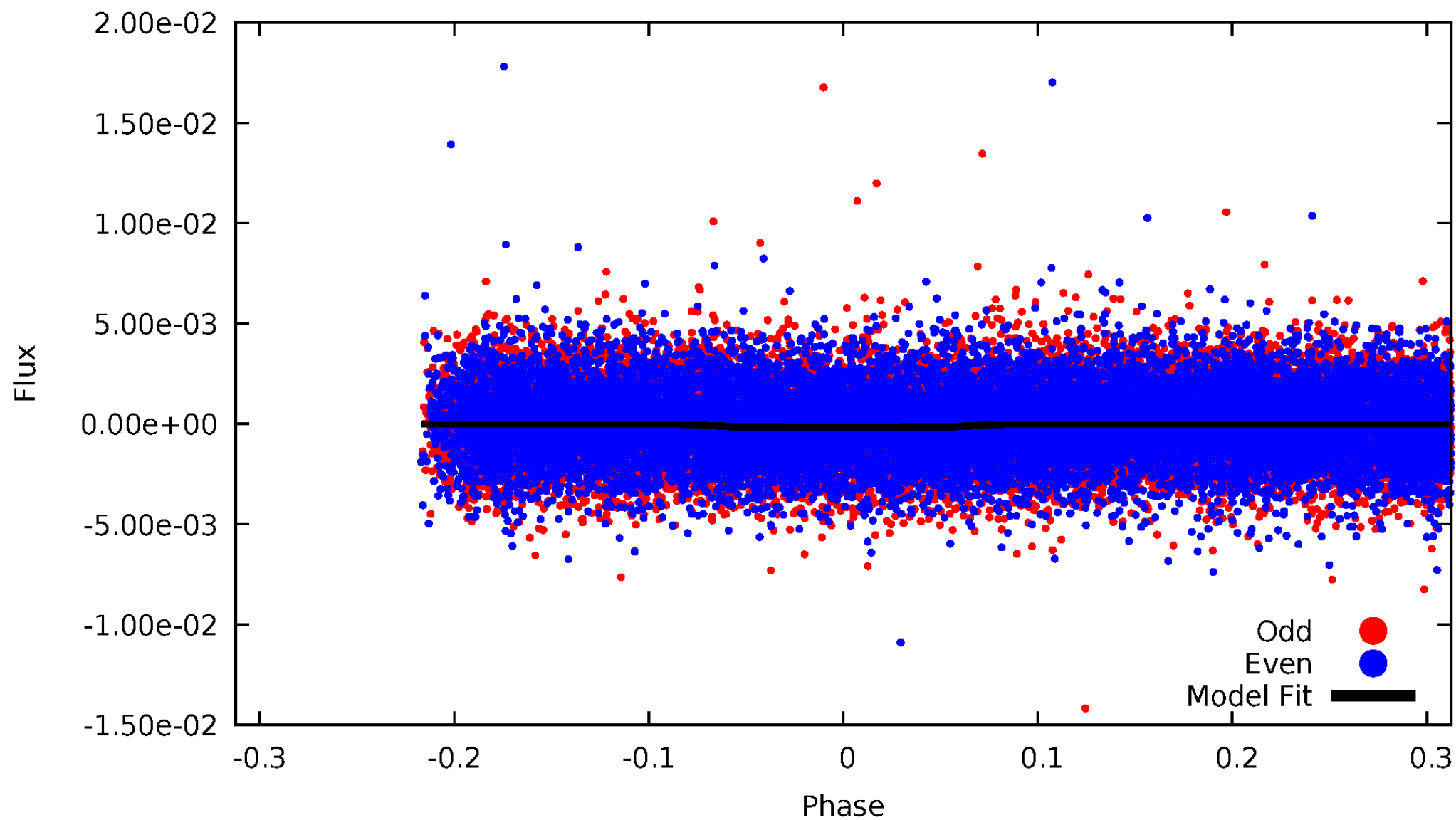
# TCE 011618998-02





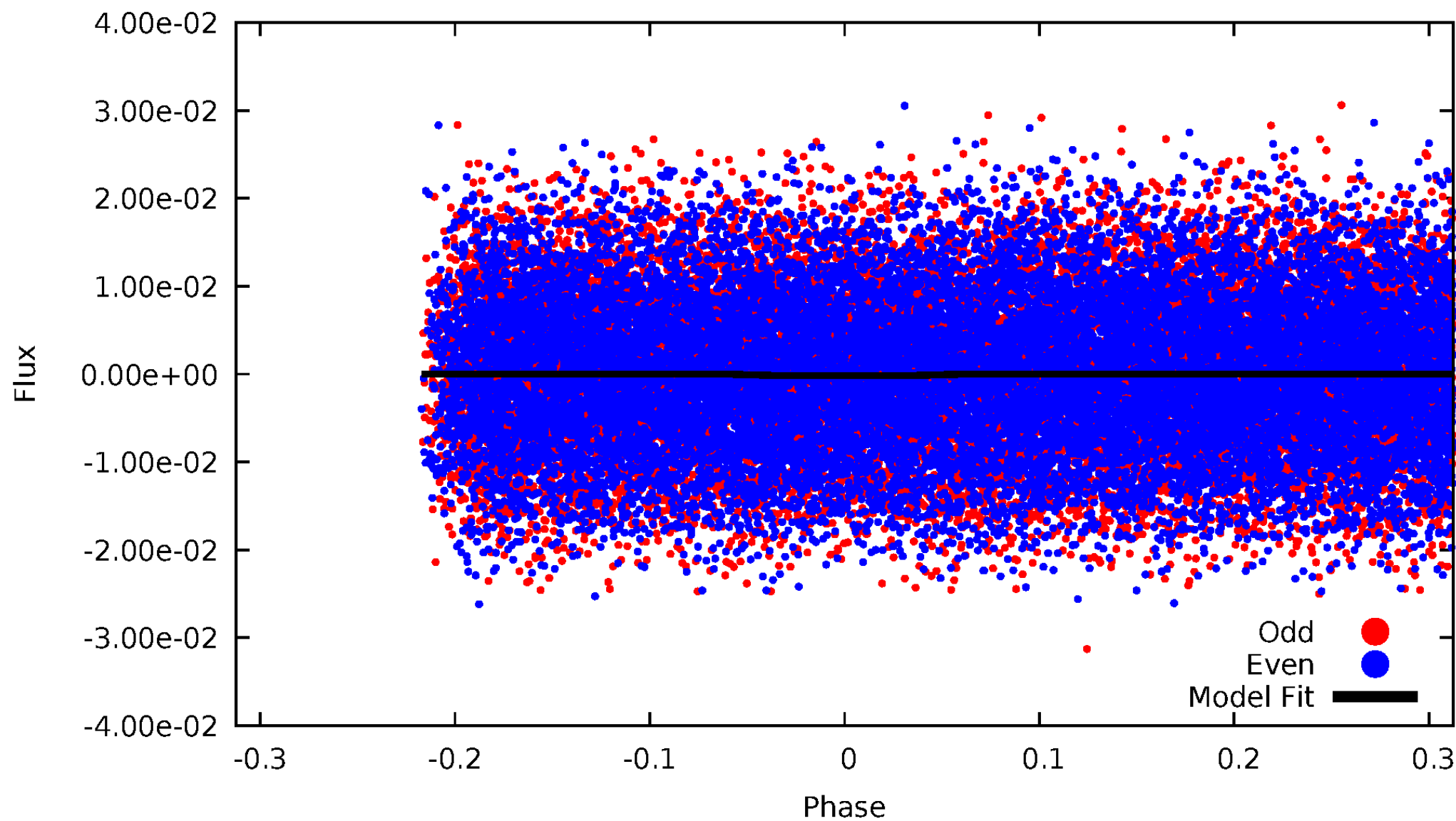
# DV Odd/Even

TCE 011618998-02



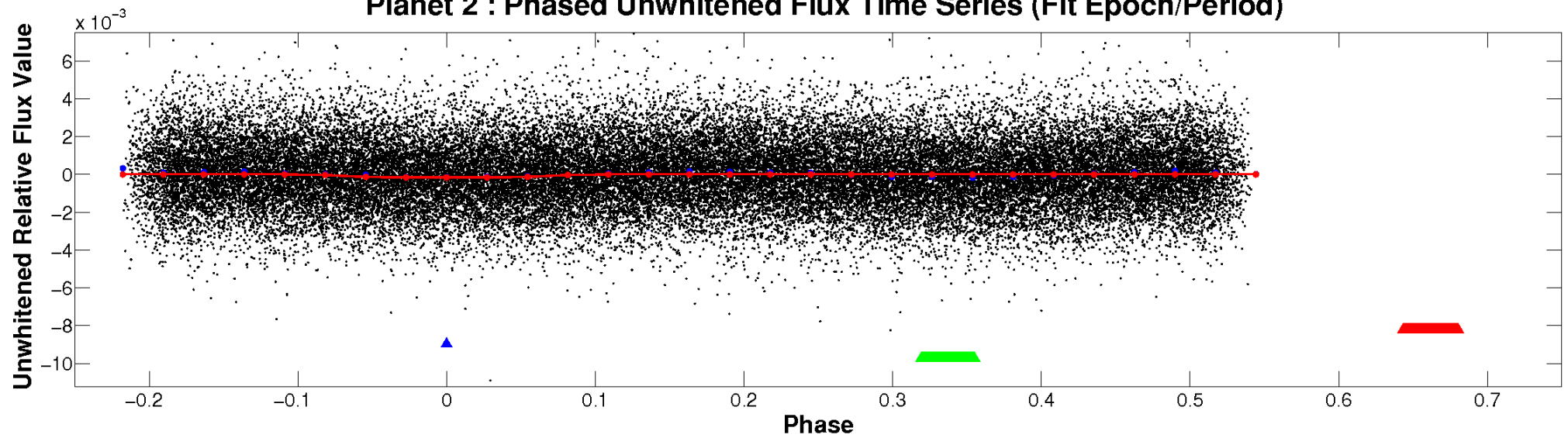
# ALT Odd/Even

TCE 011618998-02

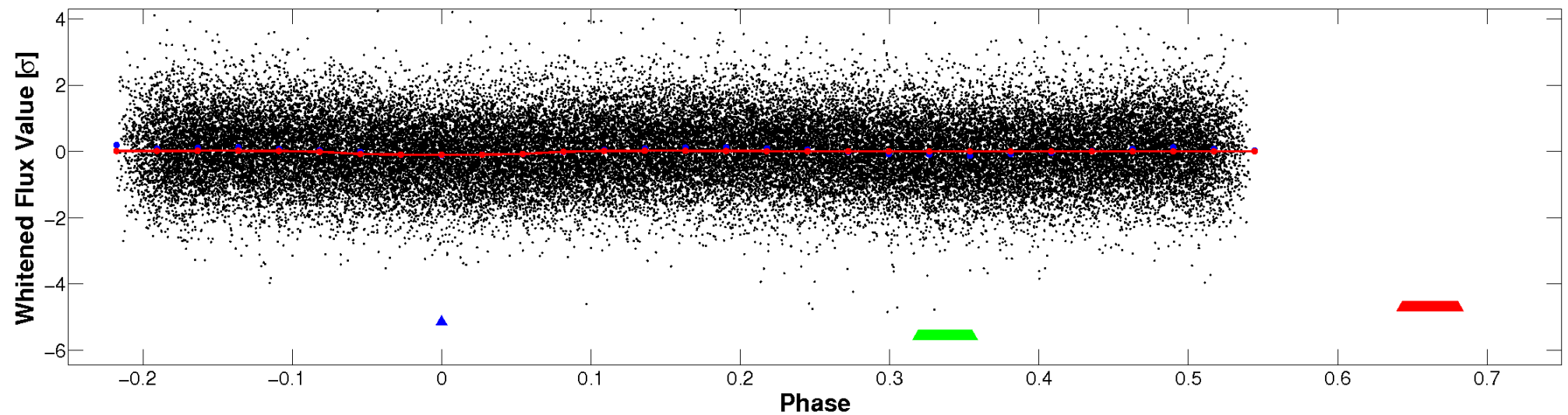


# Non-Whitened Vs. Whitened Light Curve

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

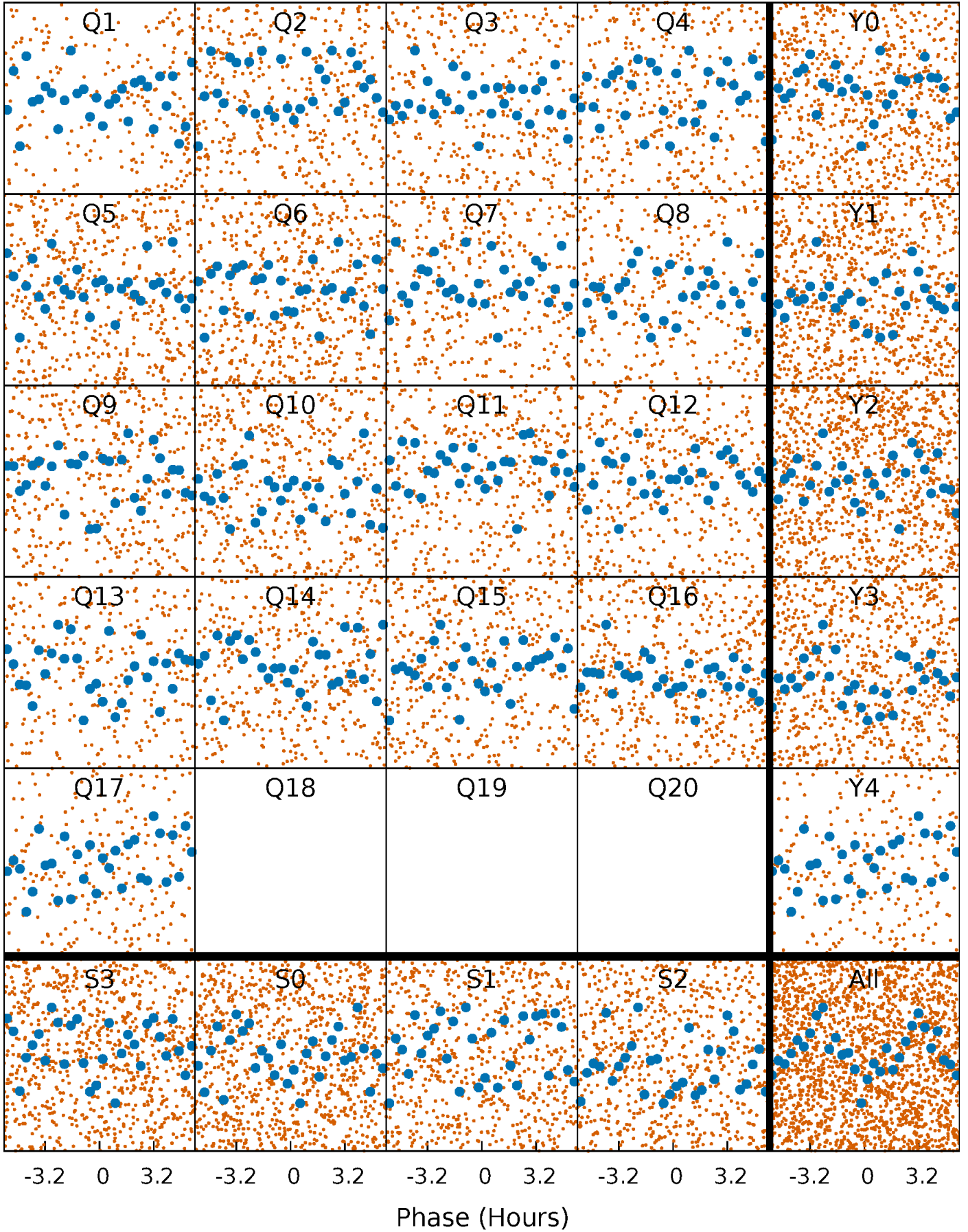


**Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

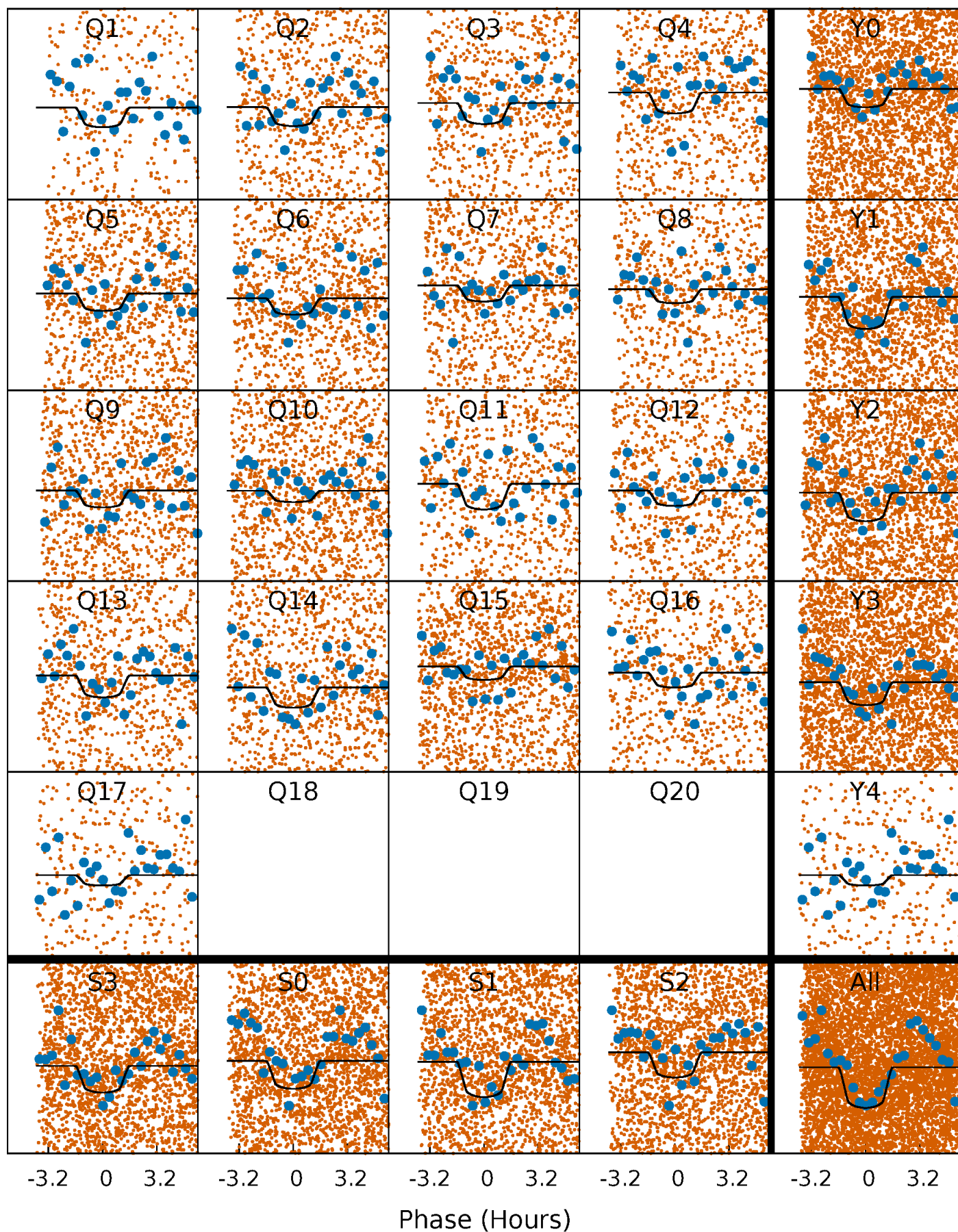
TCE 011618998-02   P= 0.750771 Days    $T_0=131.638374$  (BKJD)





# DV Quarter-Phased Transit Curves

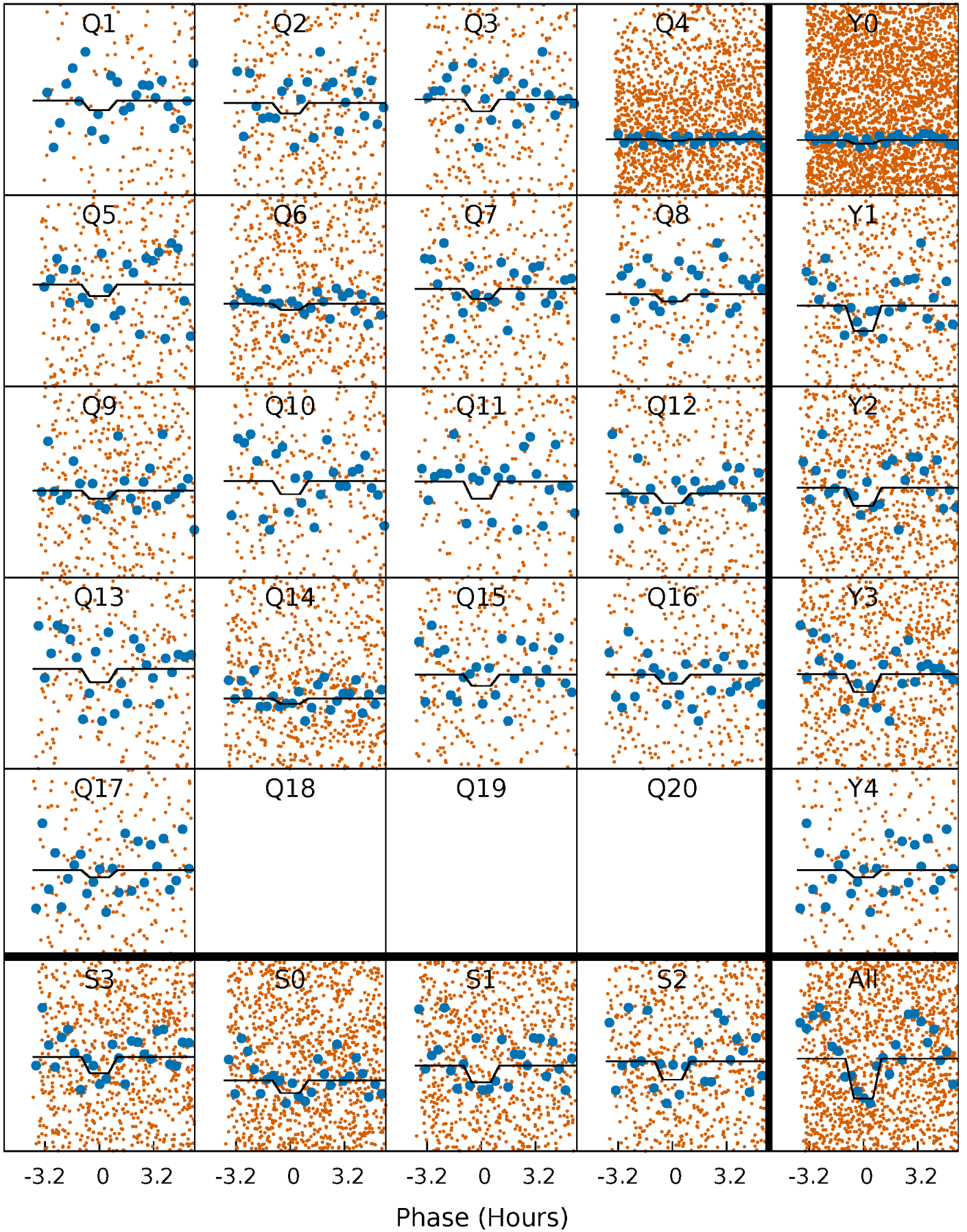
TCE 011618998-02   P= 0.750771 Days    $T_0=131.638374$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

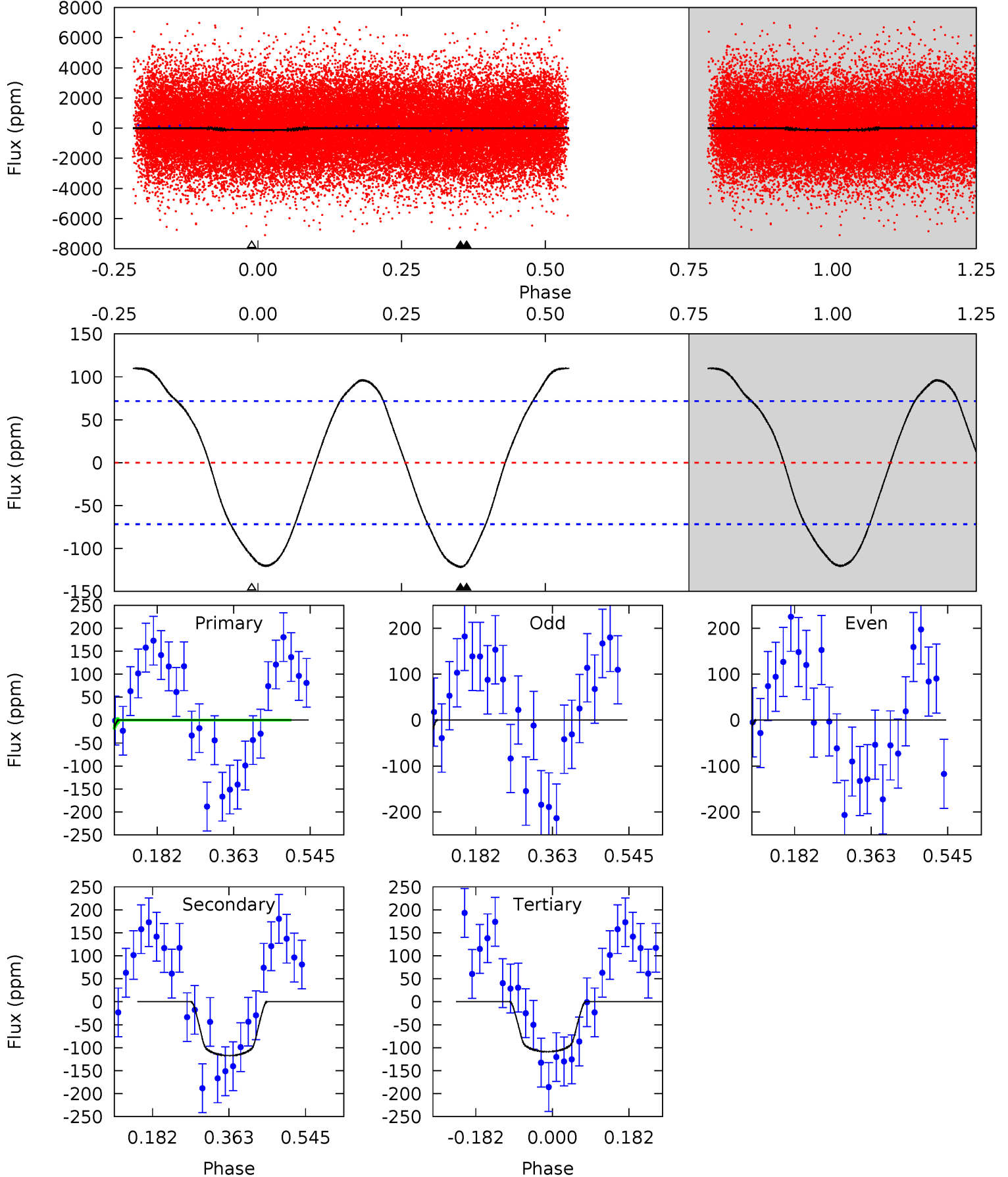
TCE 011618998-02   P= 0.750771 Days    $T_0=131.638374$  (BKJD)



# DV Model-Shift Uniqueness Test

011618998-02, P = 0.750771 Days, E = 130.887603 Days

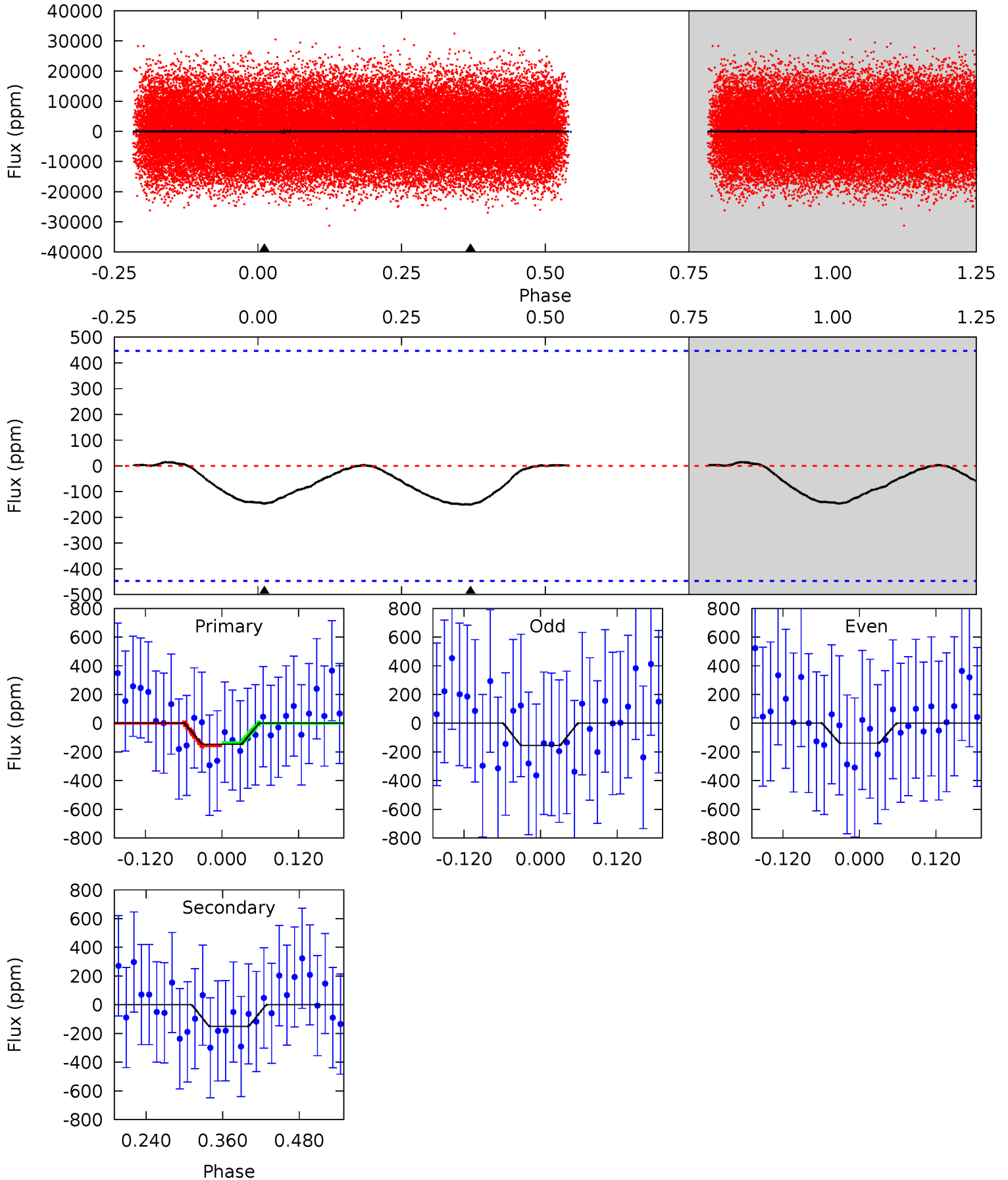
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.51	7.26	6.73	0	4.44	1.34	4.82	0.78	7.51	0.52	7.26	1.49	1.00	0.48	0.12



# Alt Model-Shift Uniqueness Test

011618998-02, P = 0.750771 Days, E = 130.887603 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
1.49	1.53	0	0	4.53	1.55	0.17	1.49	1.49	1.53	1.53	0.08	0.50	0.09	0.11



### Stellar Parameters For KIC 011618998

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7678^{+214}_{-321}$	$3.645^{+0.467}_{-0.082}$	$0.070^{+0.150}_{-0.350}$	$3.645^{+0.617}_{-1.851}$	$2.140^{+0.297}_{-0.552}$	$0.062^{+0.275}_{-0.022}$
	+3%/-4%	+13%/-2%	+214%/-500%	+17%/-51%	+14%/-26%	+442%/-35%
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 011618998-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-117 \pm 16$	$4.81^{+3.50}_{-2.57}$	$6013^{+441}_{-753}$	$6172^{+4226}_{-2104}$	$1.211^{+4.624}_{-0.813}$
Alt.	$-151 \pm 99$	$4.99^{+3.44}_{-2.76}$	$6029^{+423}_{-749}$	$6375^{+4810}_{-3087}$	$1.286^{+5.535}_{-0.961}$

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

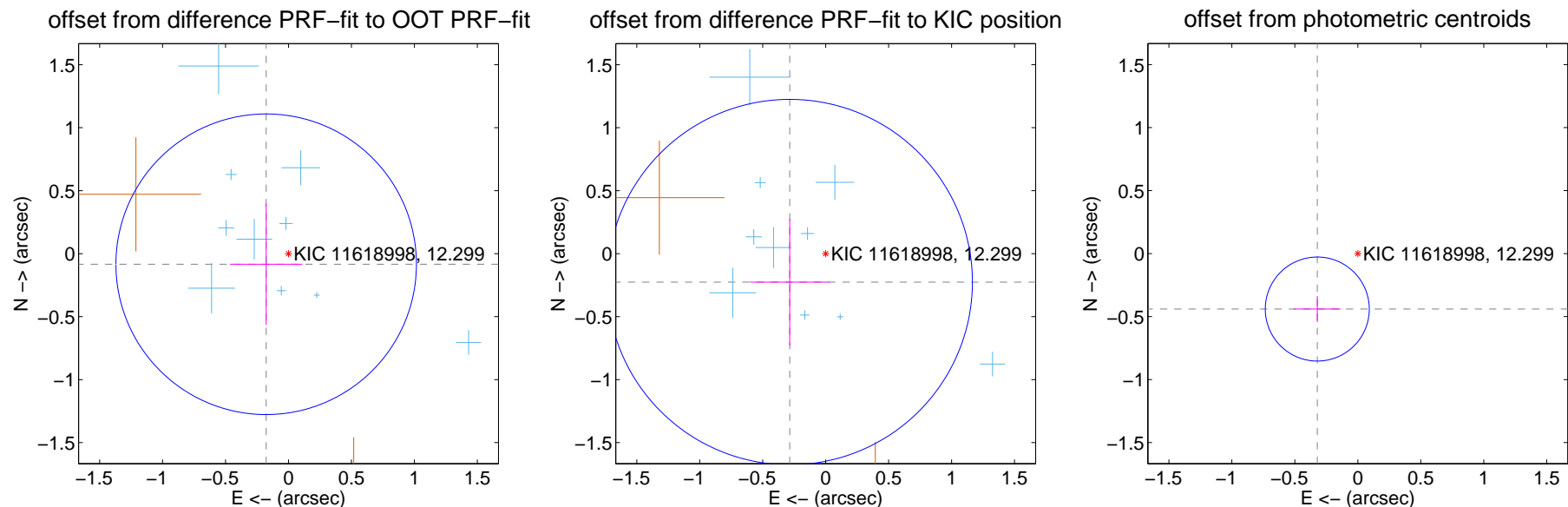
## DV Centroid Data

Supplemental centroid analysis for 011618998-02. Kepler magnitude: 12.30. Transit SNR 8.47

There are 11 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

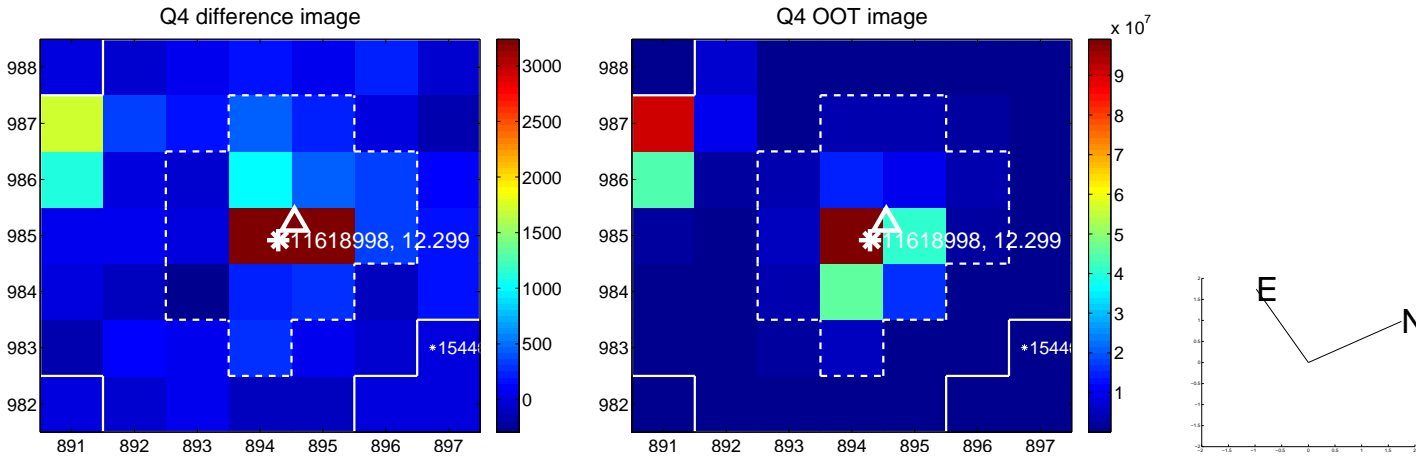
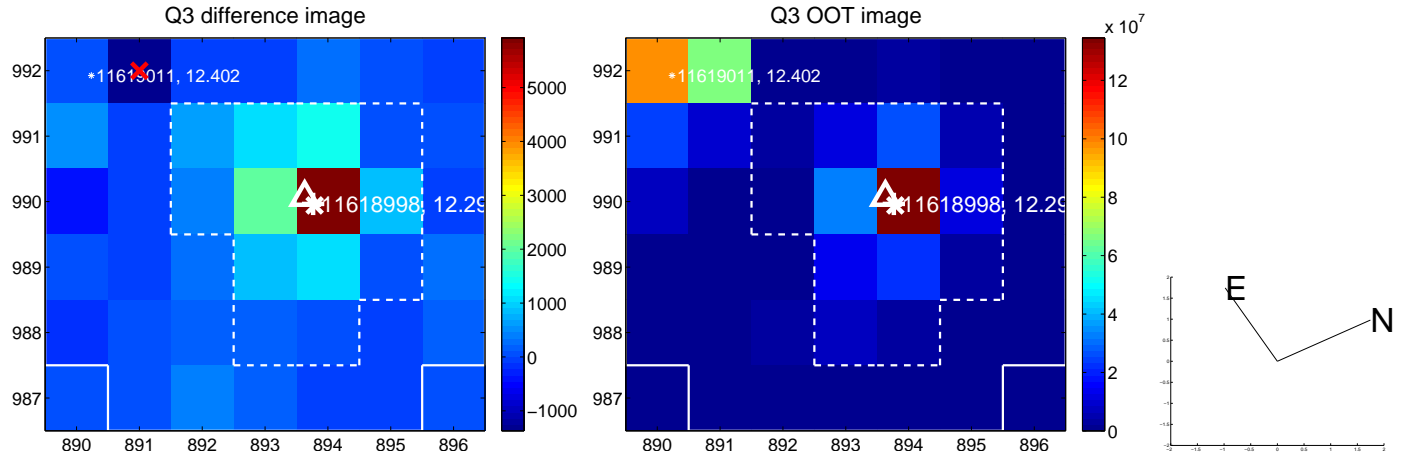
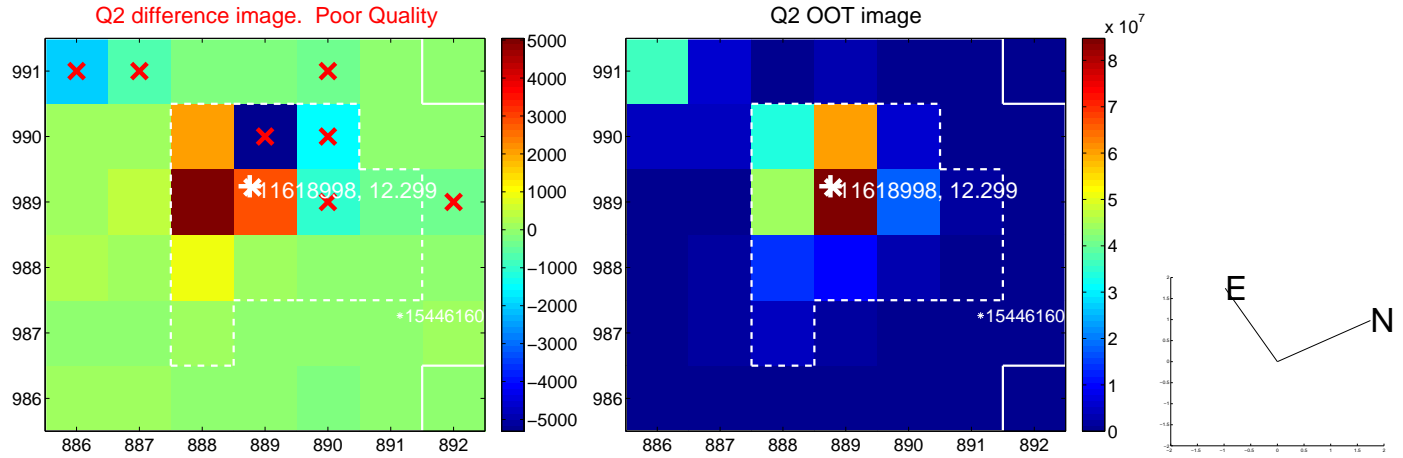
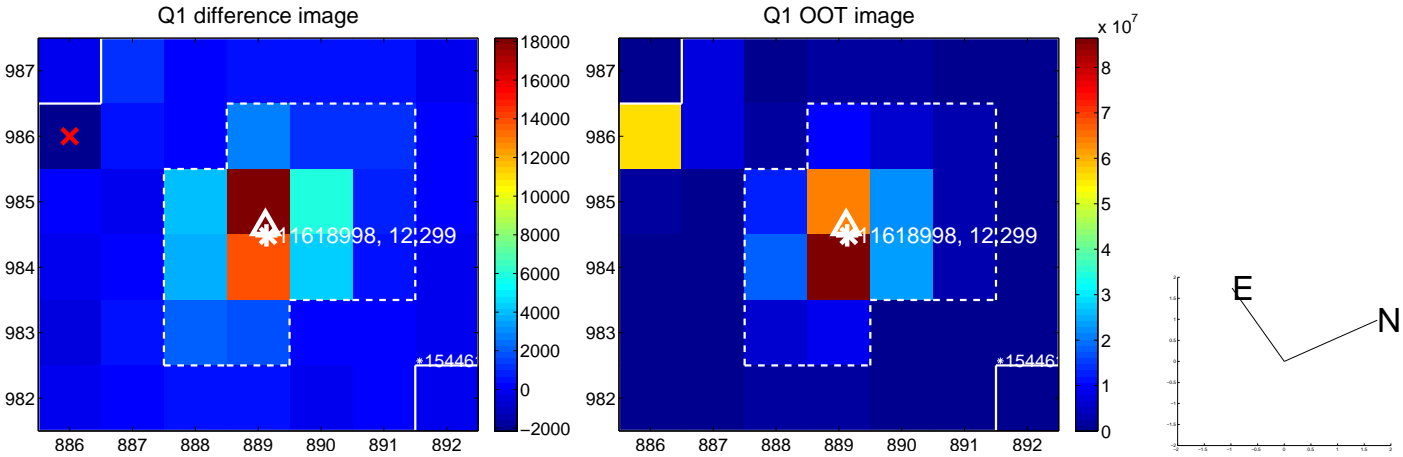
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.196 \pm 0.398$	0.49	$0.177 \pm 0.287$	$-0.084 \pm 0.481$
PRF-fit source offset from KIC position	$0.364 \pm 0.484$	0.75	$0.285 \pm 0.316$	$-0.226 \pm 0.503$
photometric centroid source offset	$0.55 \pm 0.14$	3.96	$0.32 \pm 0.19$	$-0.44 \pm 0.10$



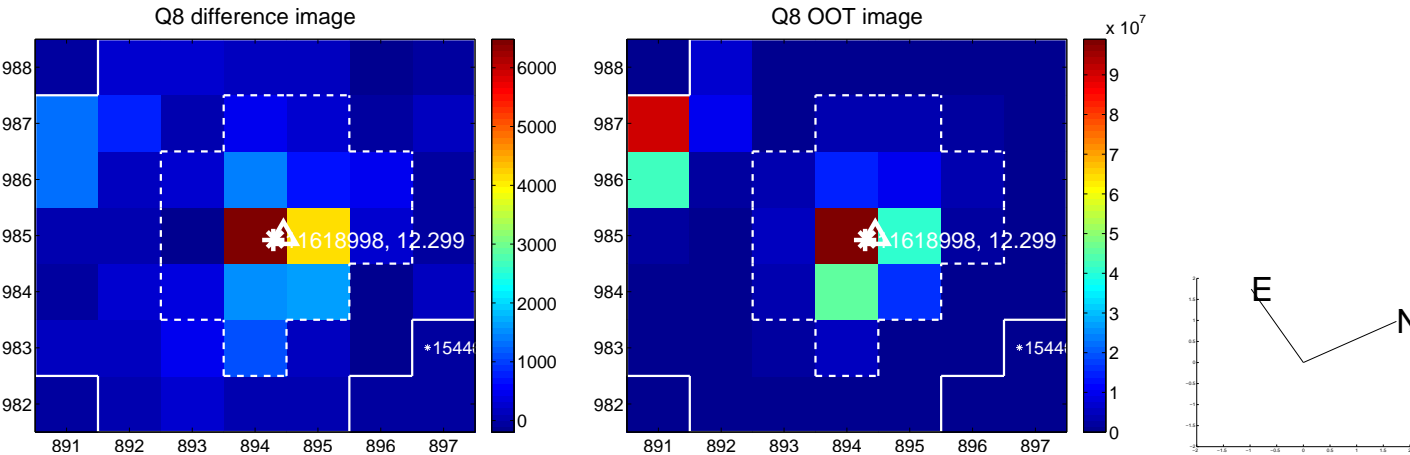
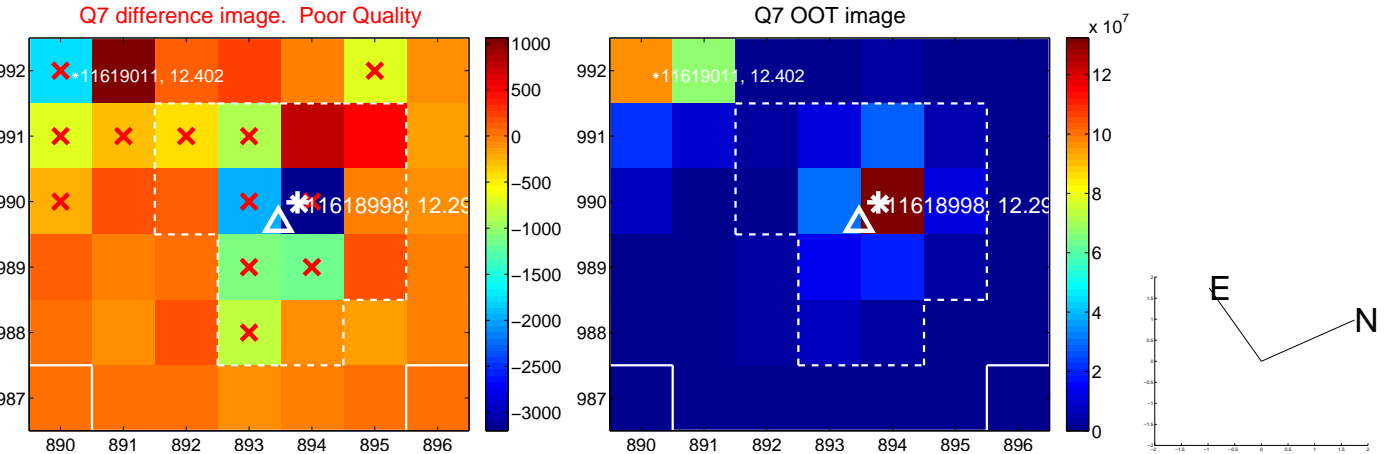
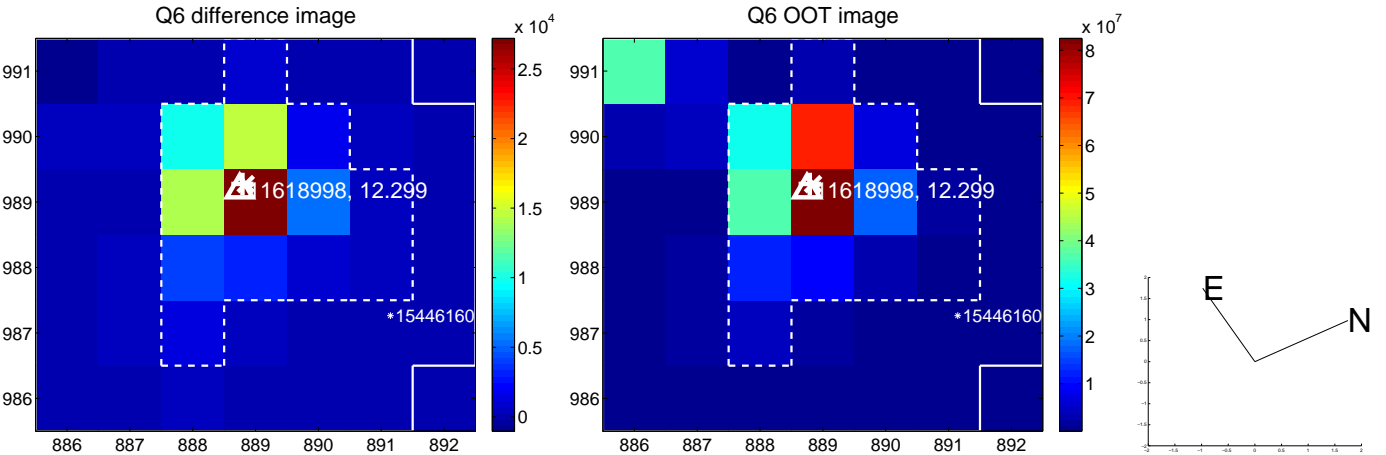
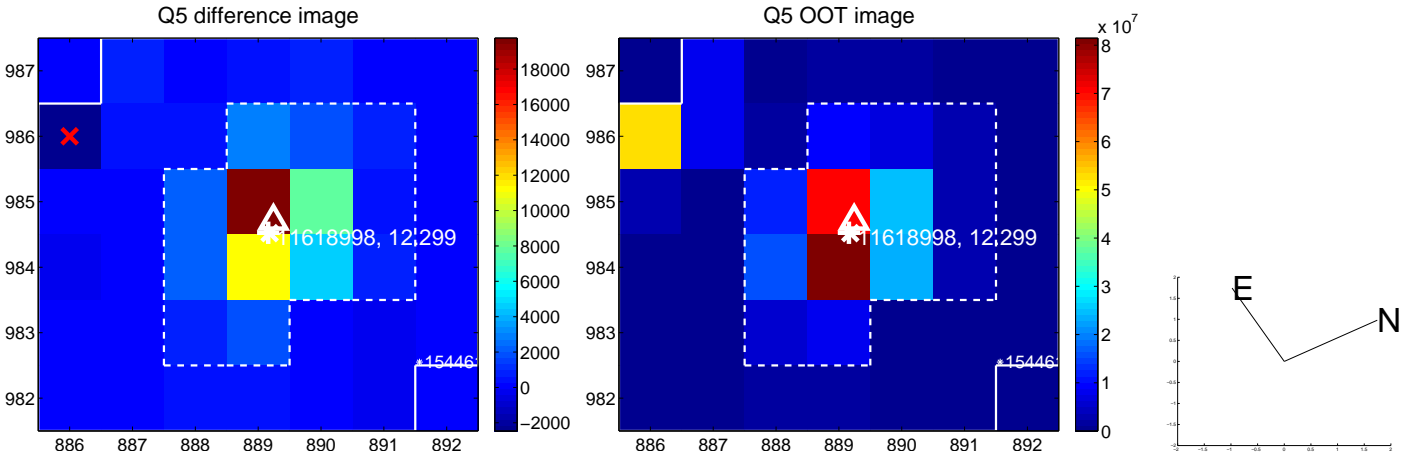
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



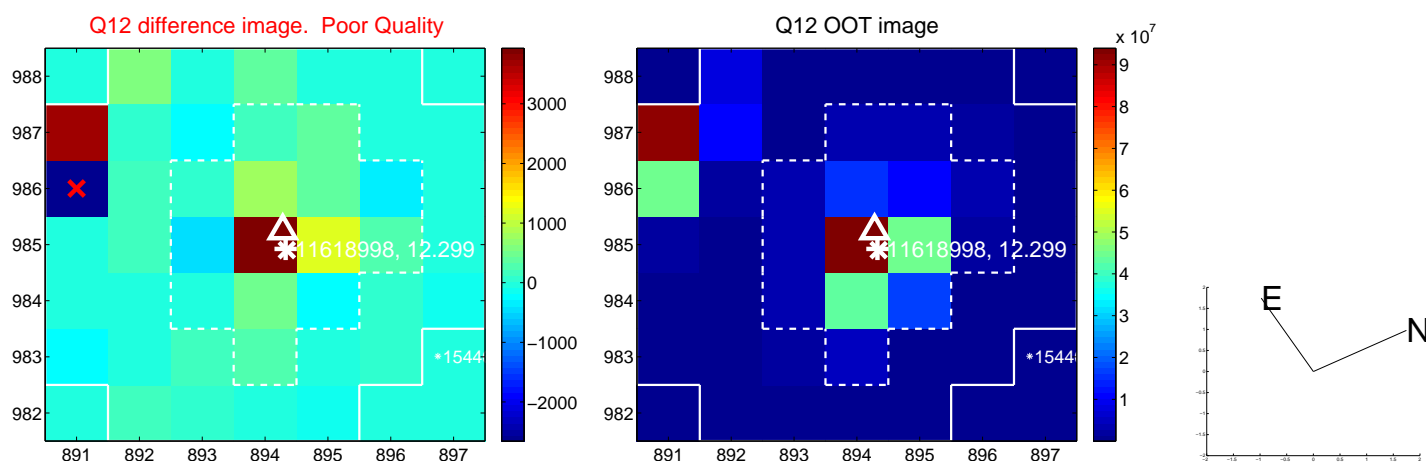
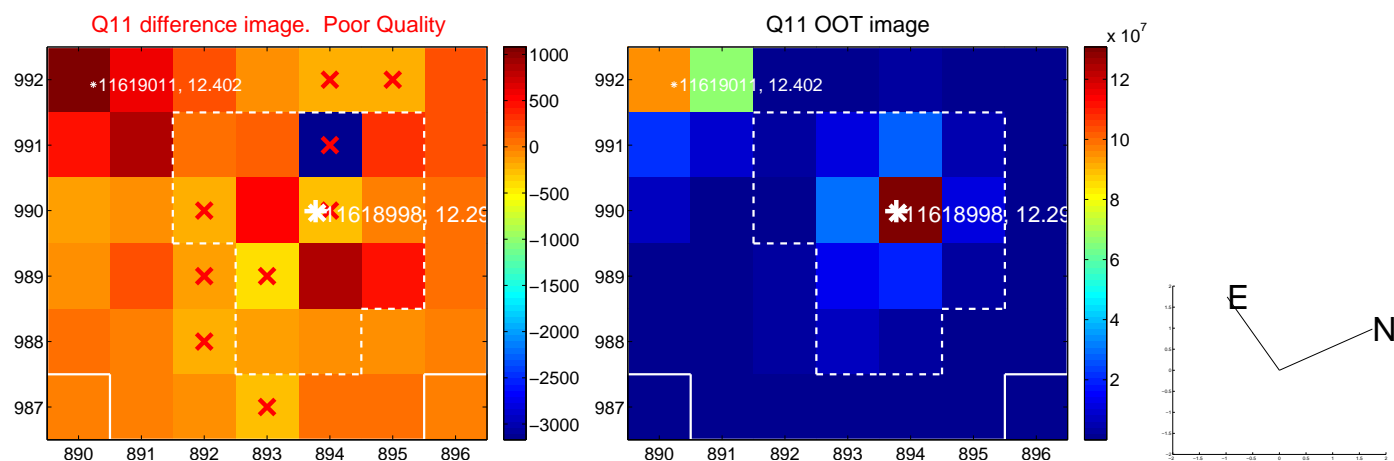
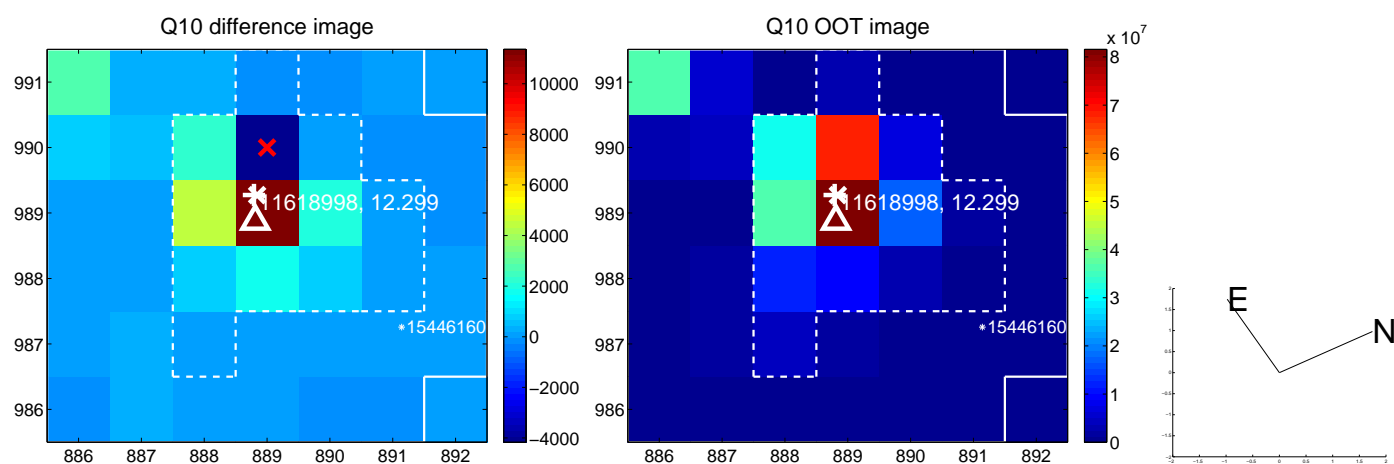
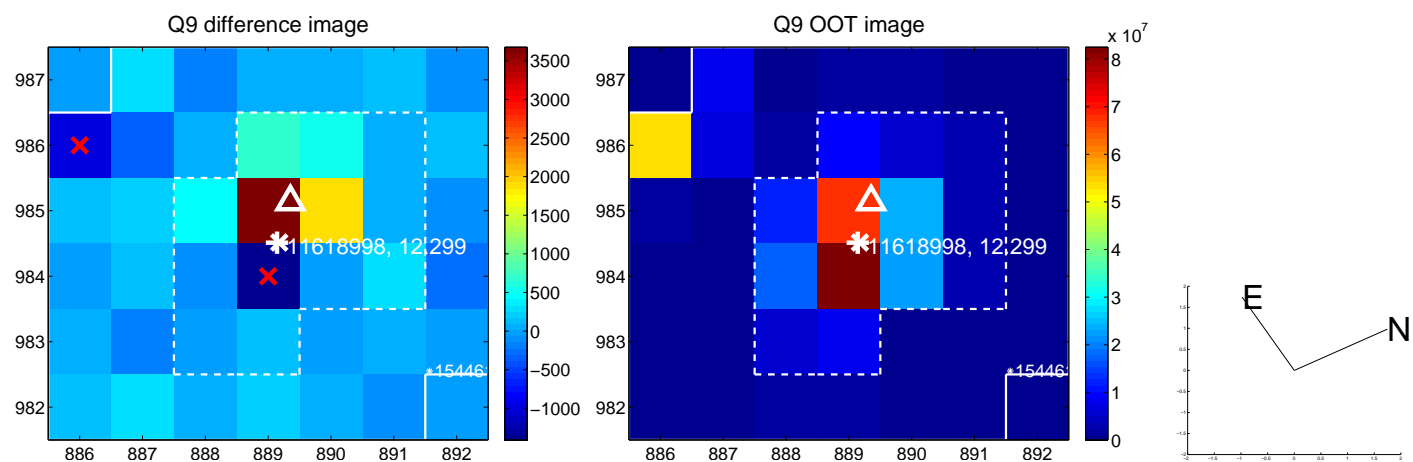
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



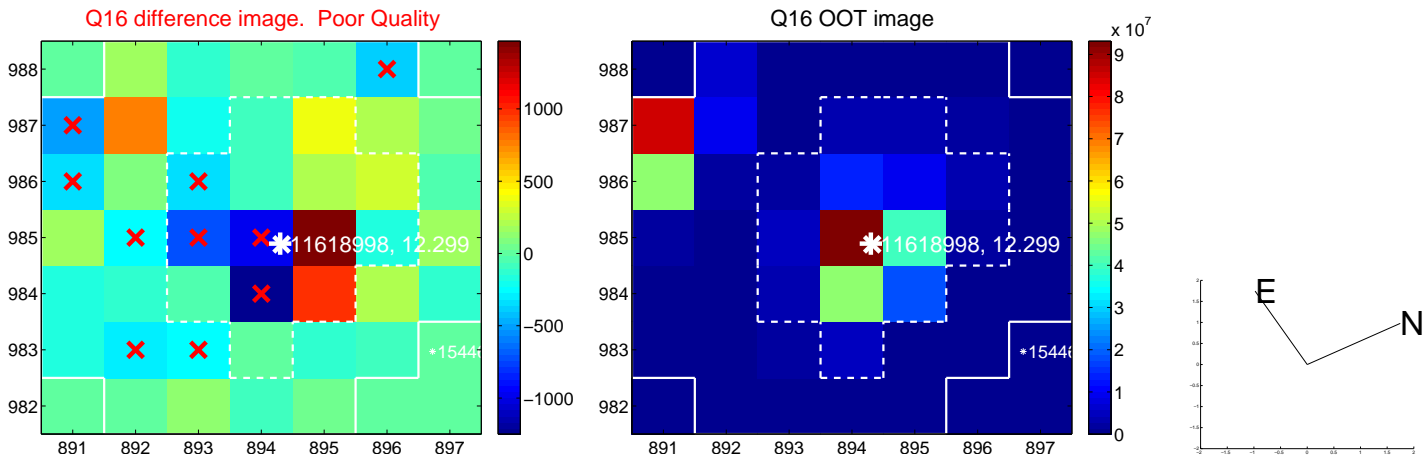
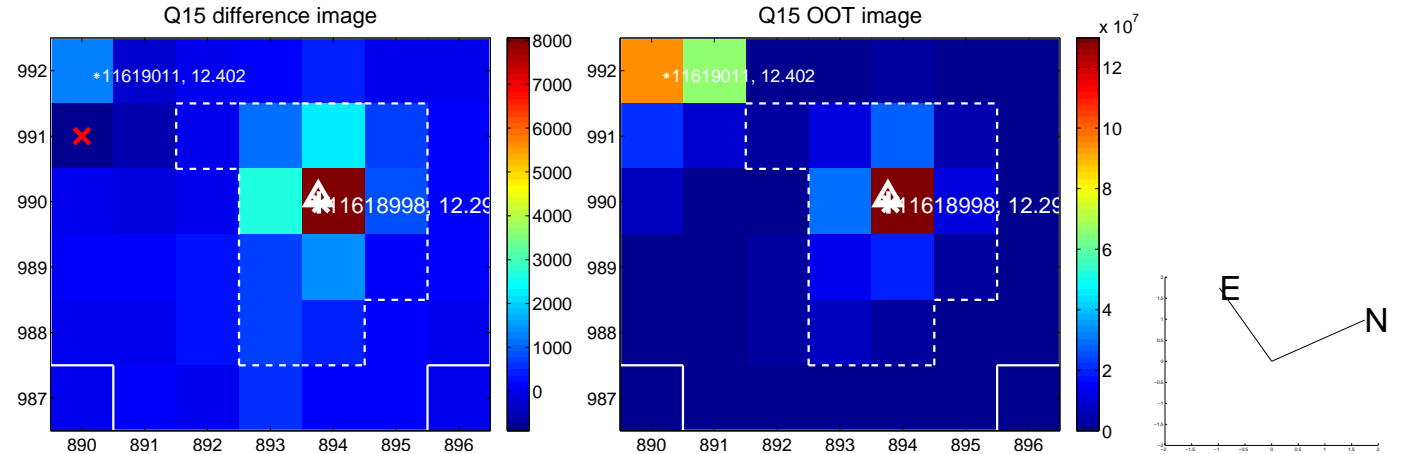
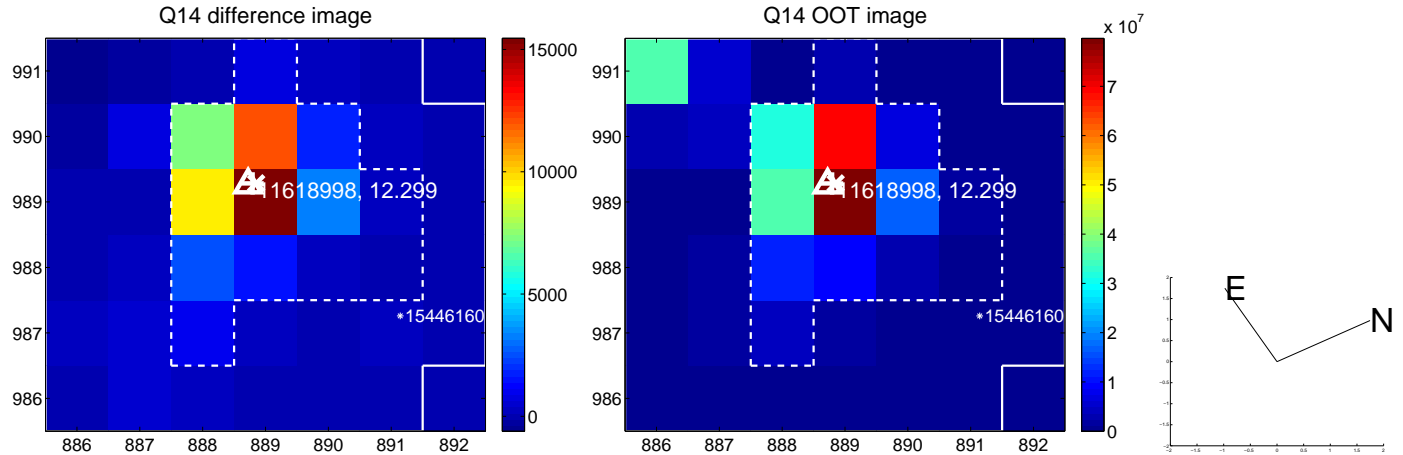
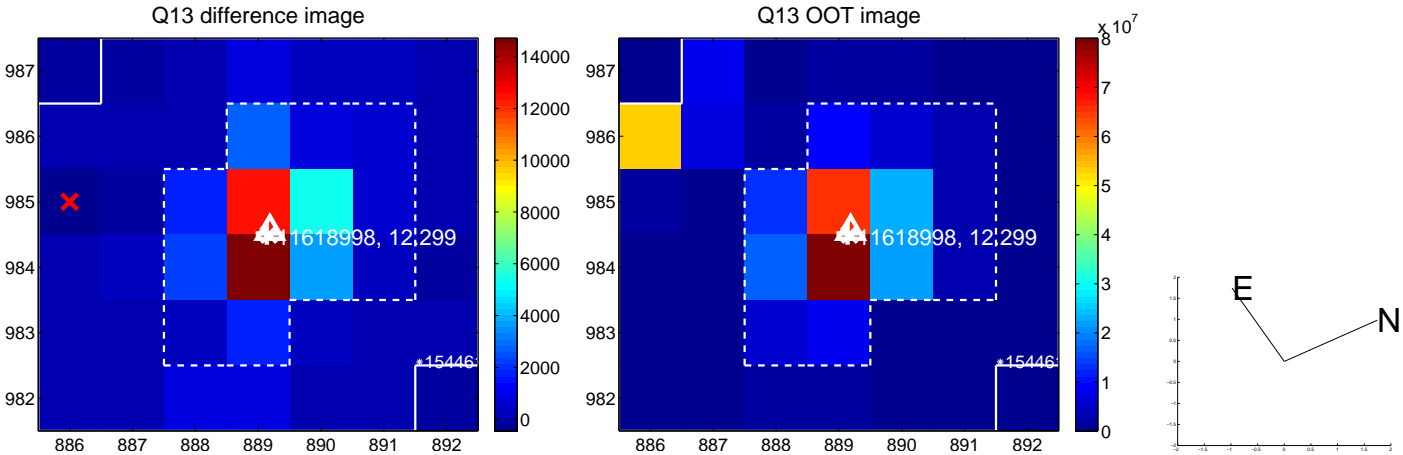
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



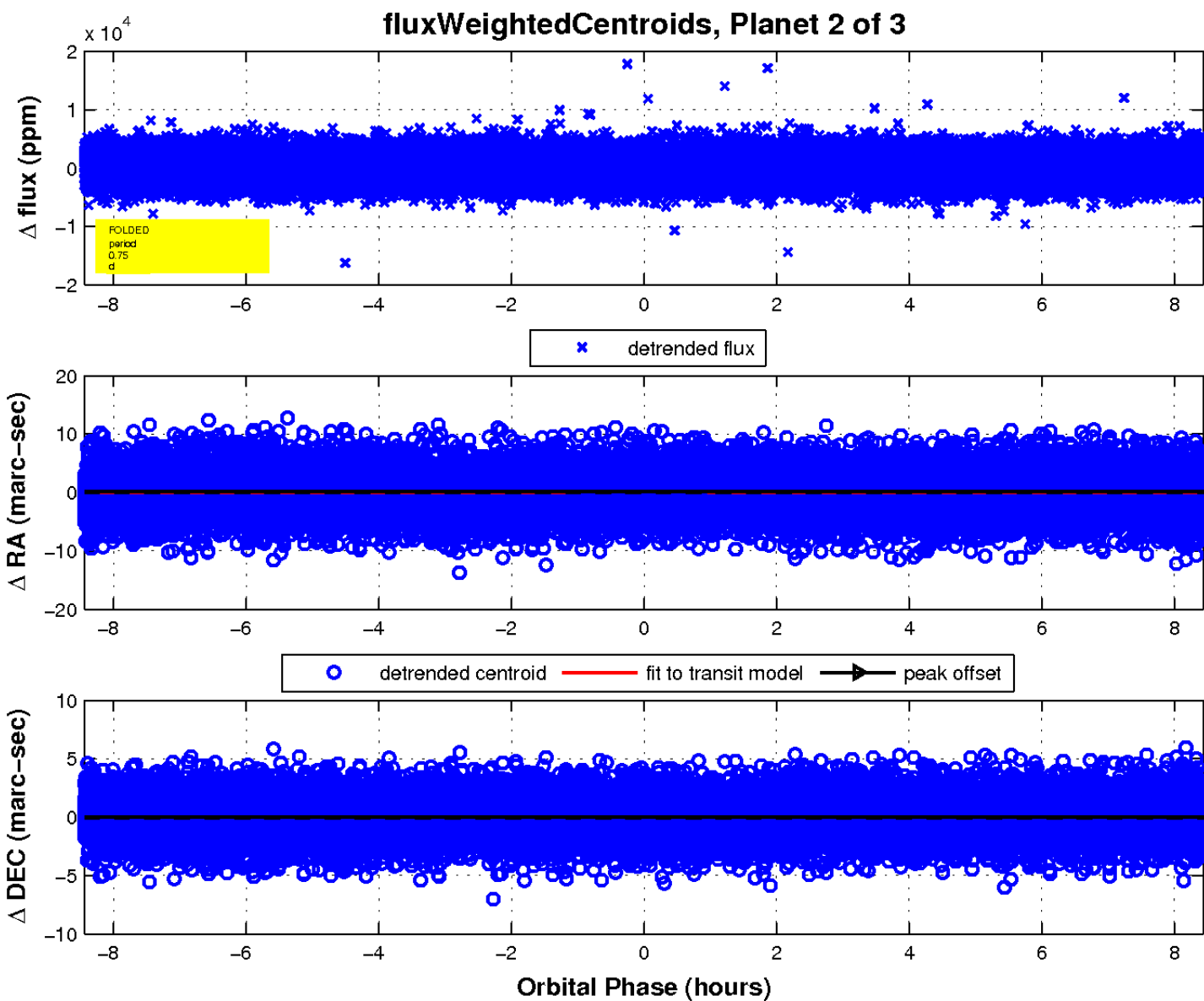
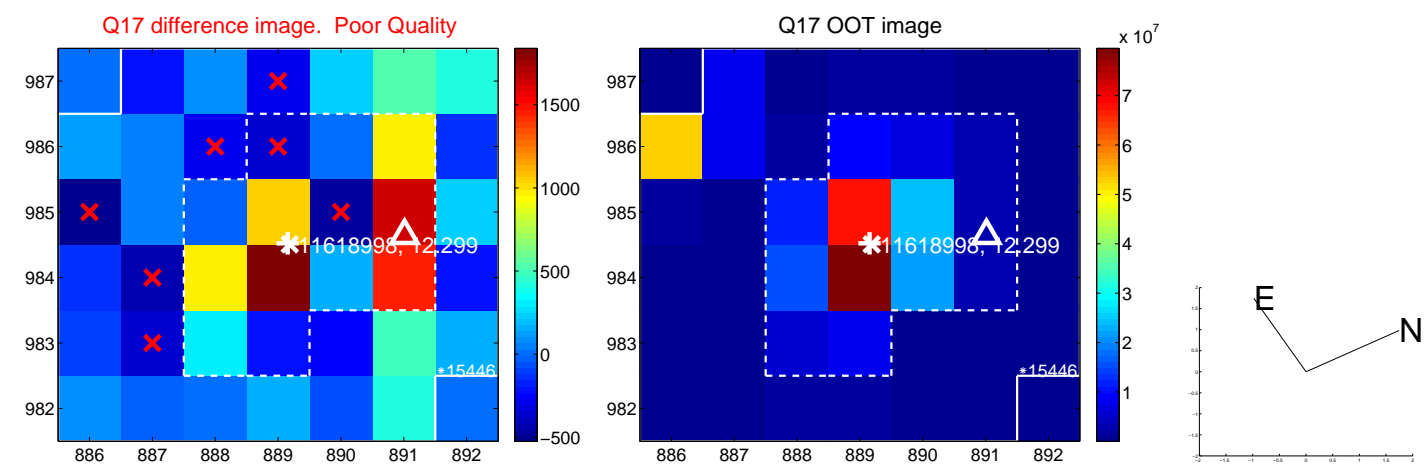
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



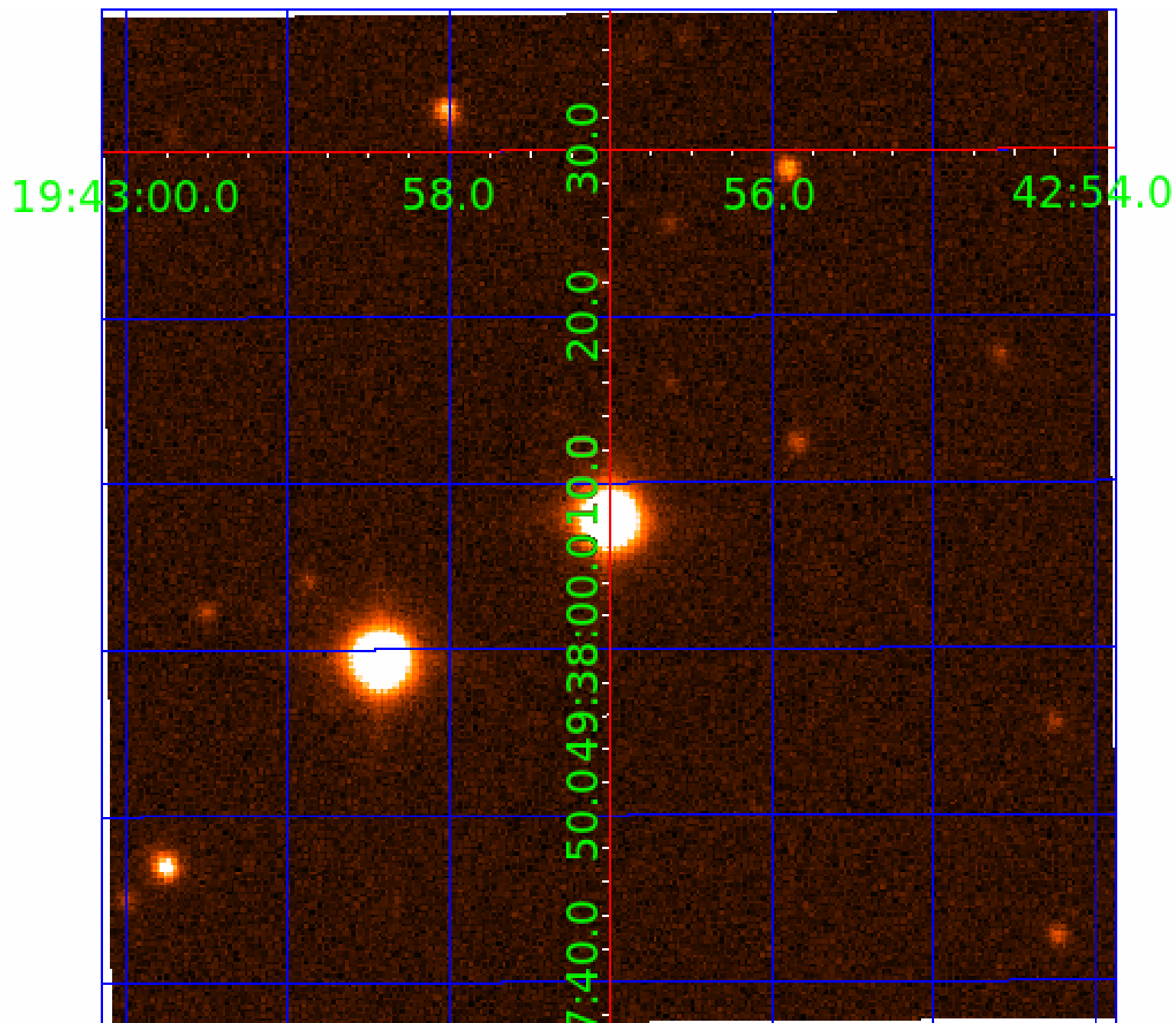
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 011618998

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011618998-01	OBS	No	0.750756	132.149227	229.4	1.087	12.2	7.6	3.65	7678	5.92	95283.93
011618998-02	OBS	No	0.750771	131.638374	158.3	2.814	10.1	8.5	3.65	7678	5.34	95281.51
011618998-03	OBS	No	0.750757	131.904873	142.8	2.046	8.6	6.8	3.65	7678	4.44	95283.84

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011618998-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
011618998-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
011618998-03	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

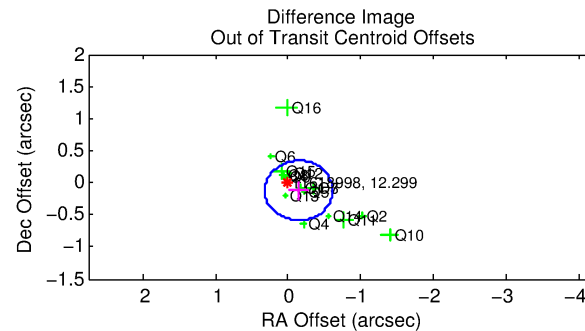
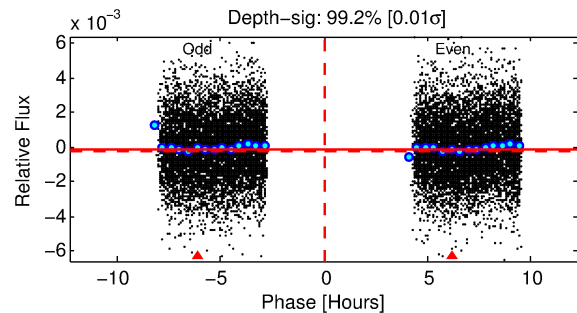
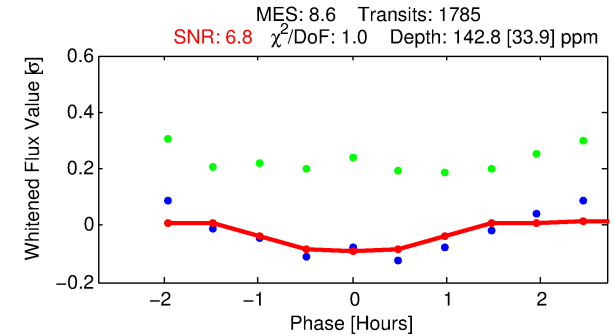
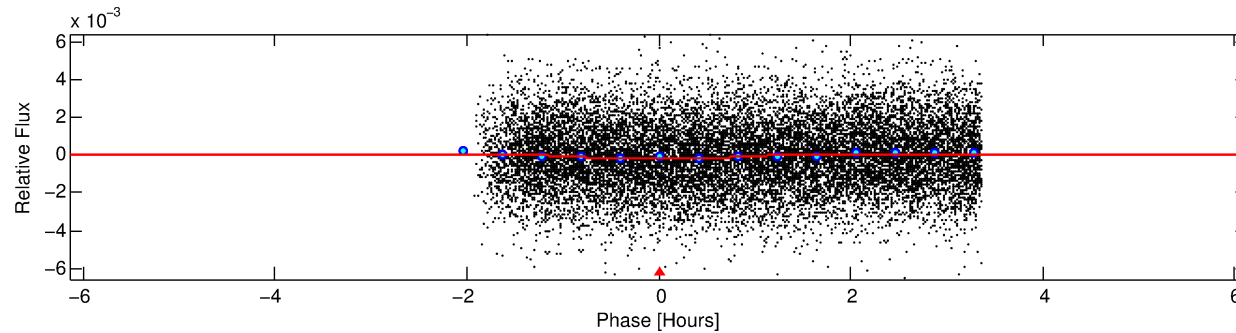
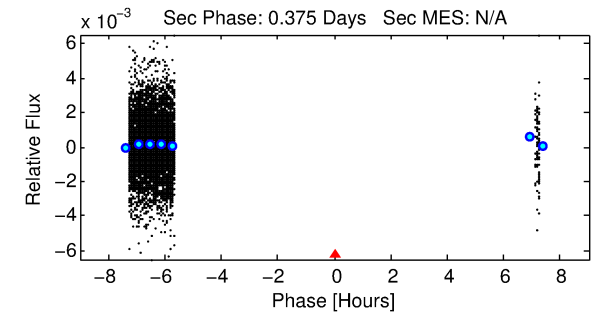
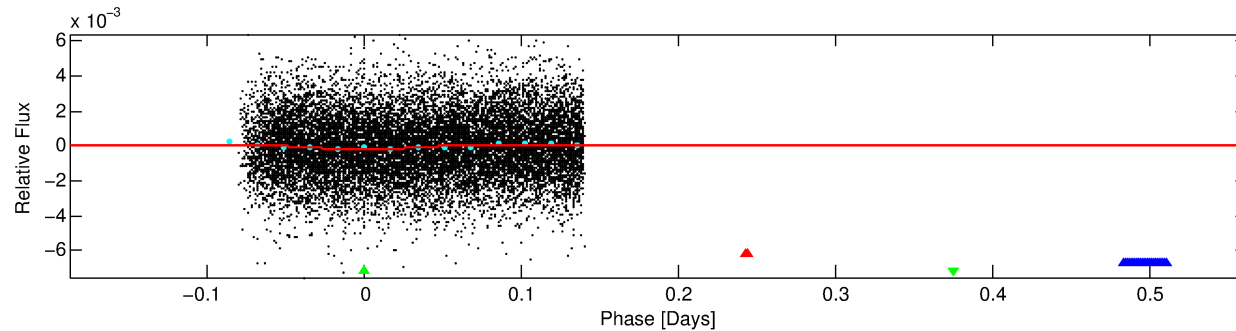
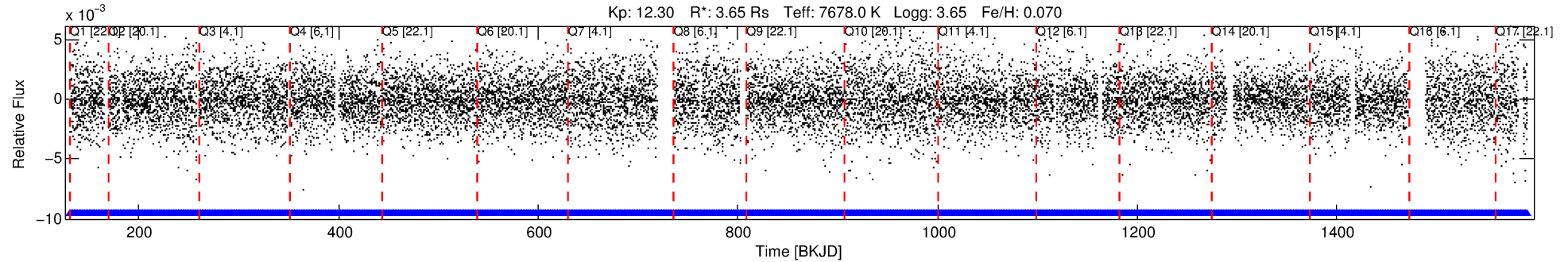
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011618998-03

No Significant Match Found

# DV One-Page Summary

KIC: 11618998 Candidate: 3 of 3 Period: 0.751 d



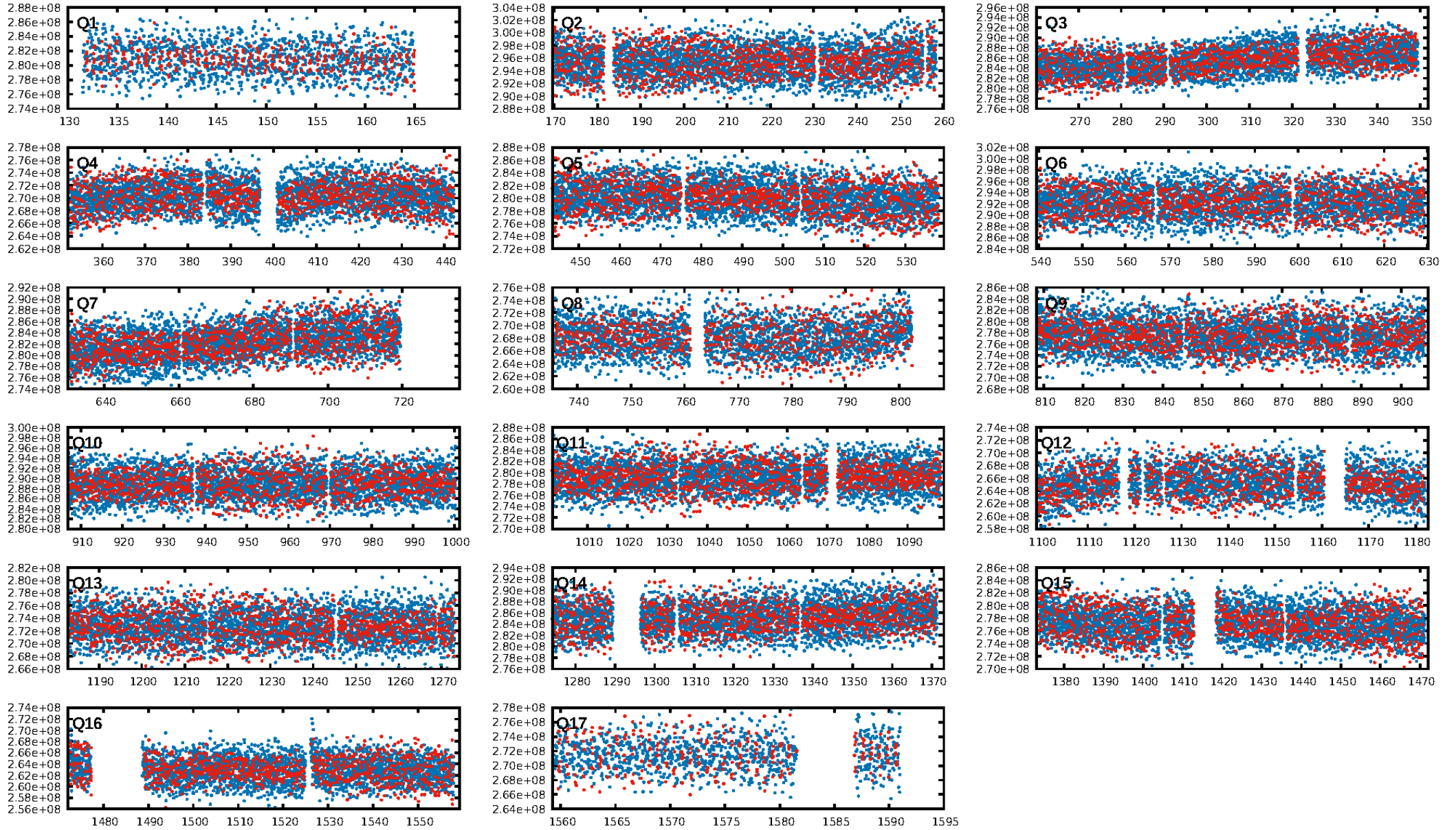
## DV Fit Results:

Period = 0.75076 [0.00002] d  
Epoch = 131.9049 [0.0046] BKJD  
Rp/R\* = 0.0112 [0.0171]  
a/R\* = 2.79 [20.93]  
b = 0.29 [27.37]  
Seff = 95283.84 [77202.51]  
Teq = 4480 [907] K  
Rp = 4.44 [7.16] Re  
a = 0.0208 [0.0103] AU

## DV Diagnostic Results:

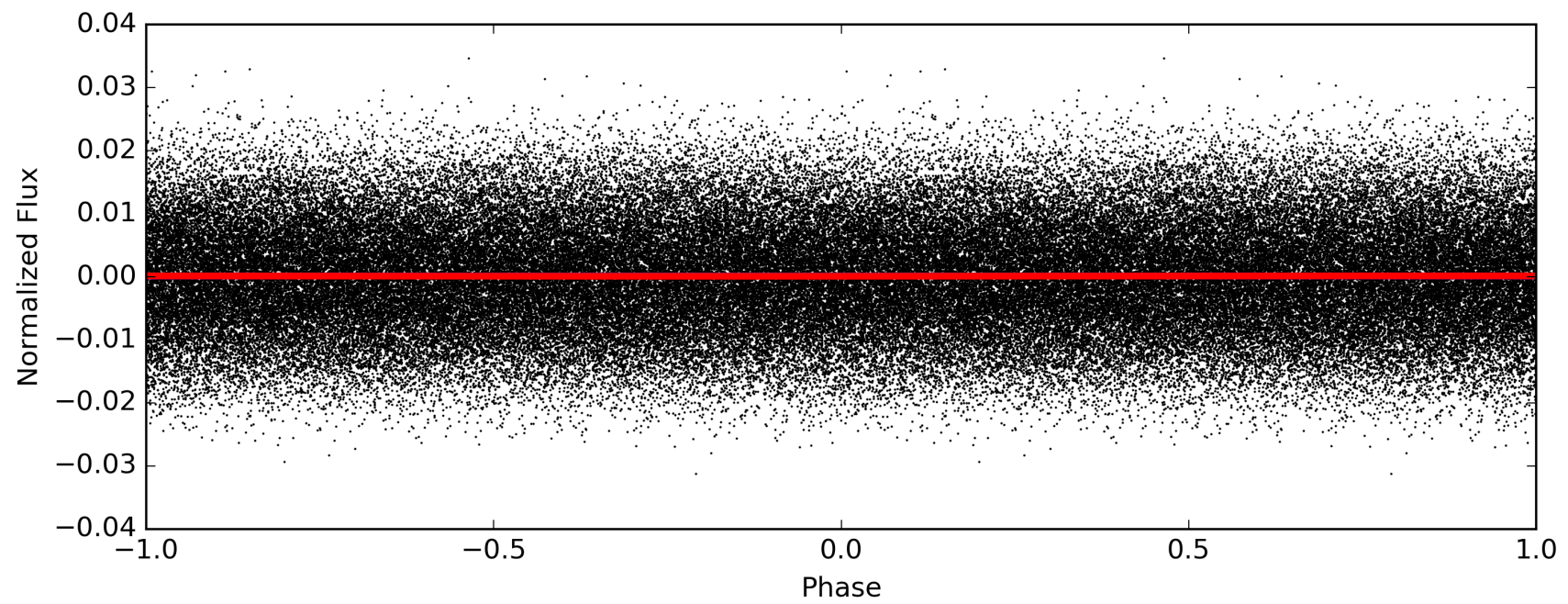
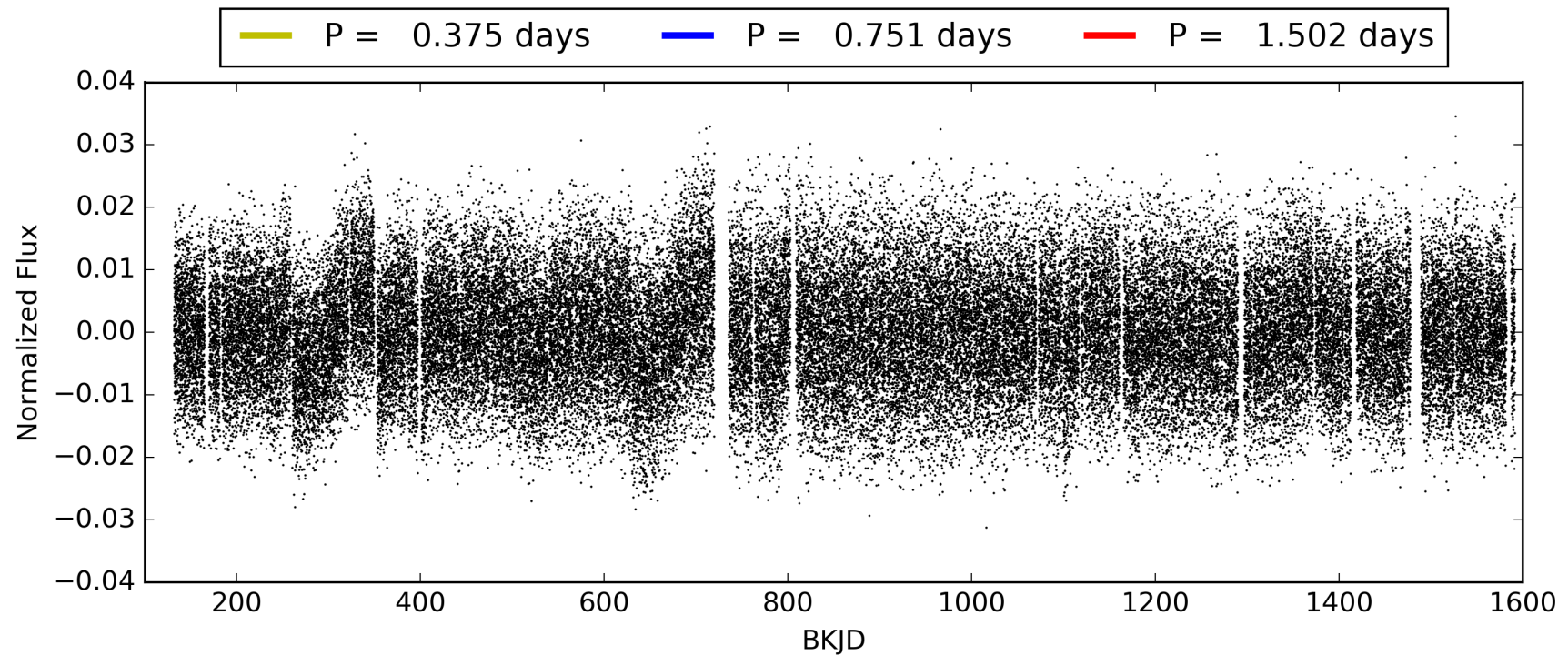
ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1704/1704]  
GhostDiagnostic-chr: 1.227  
Centroid-sig: 0.6%  
Centroid-so: 0.641 arcsec [3.26σ]  
OotOffset-rm: 0.188 arcsec [1.21σ]  
KicOffset-rm: 0.180 arcsec [1.22σ]  
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]

# TCE 011618998-03, PDC Light Curves





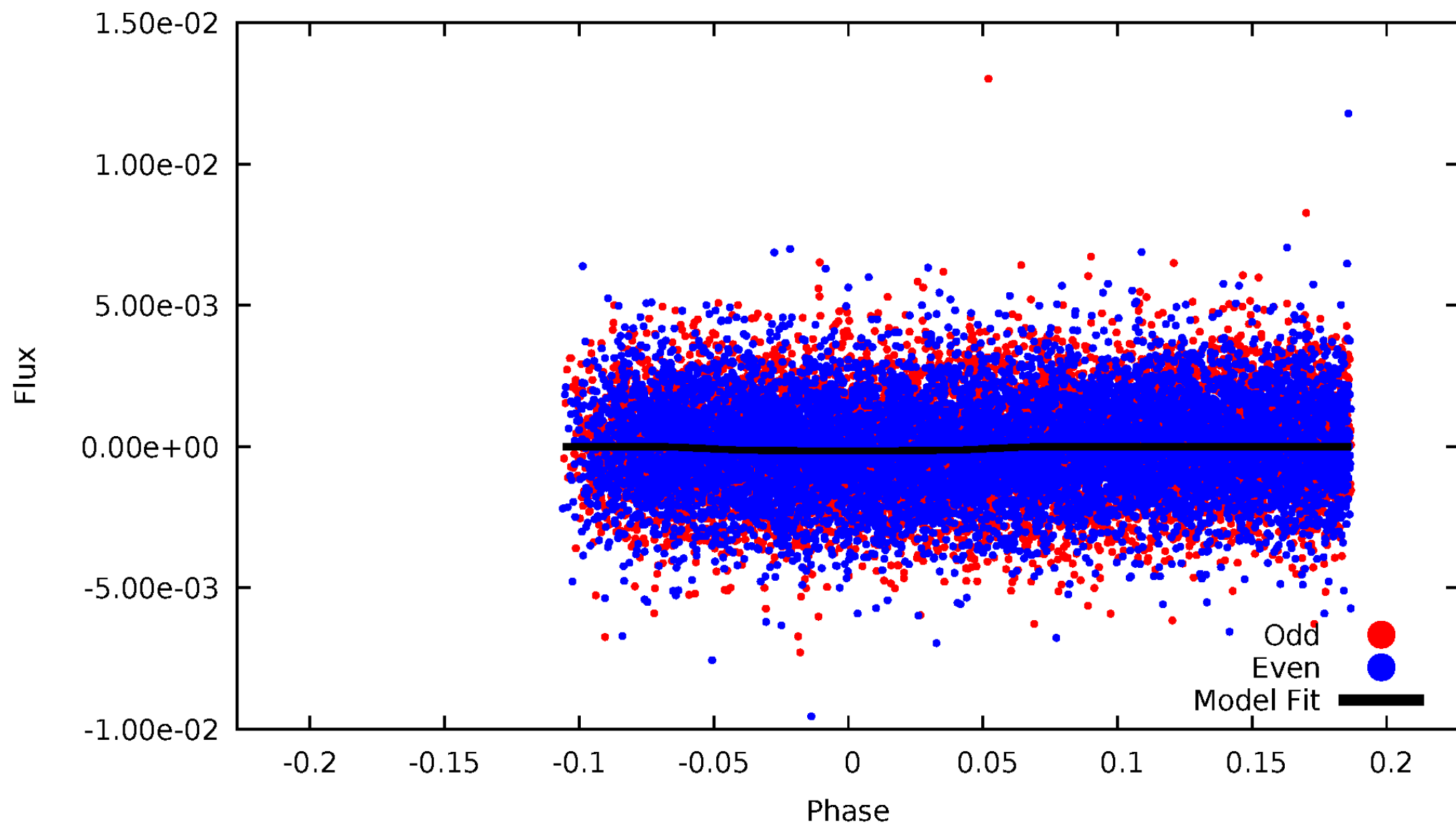
TCE 011618998-03





# DV Odd/Even

TCE 011618998-03

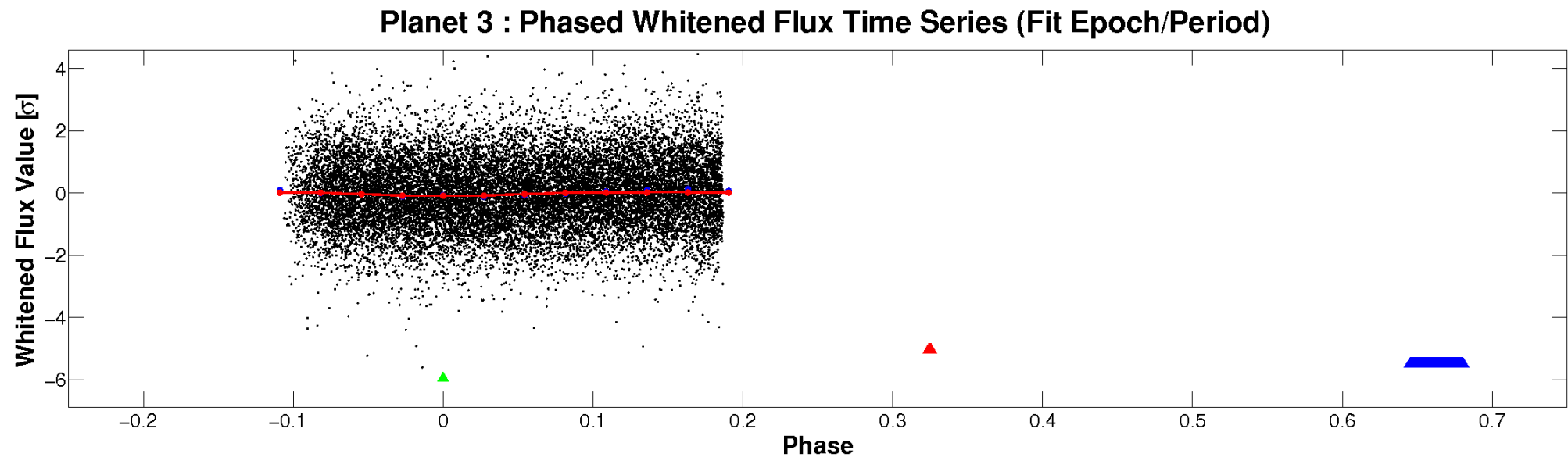
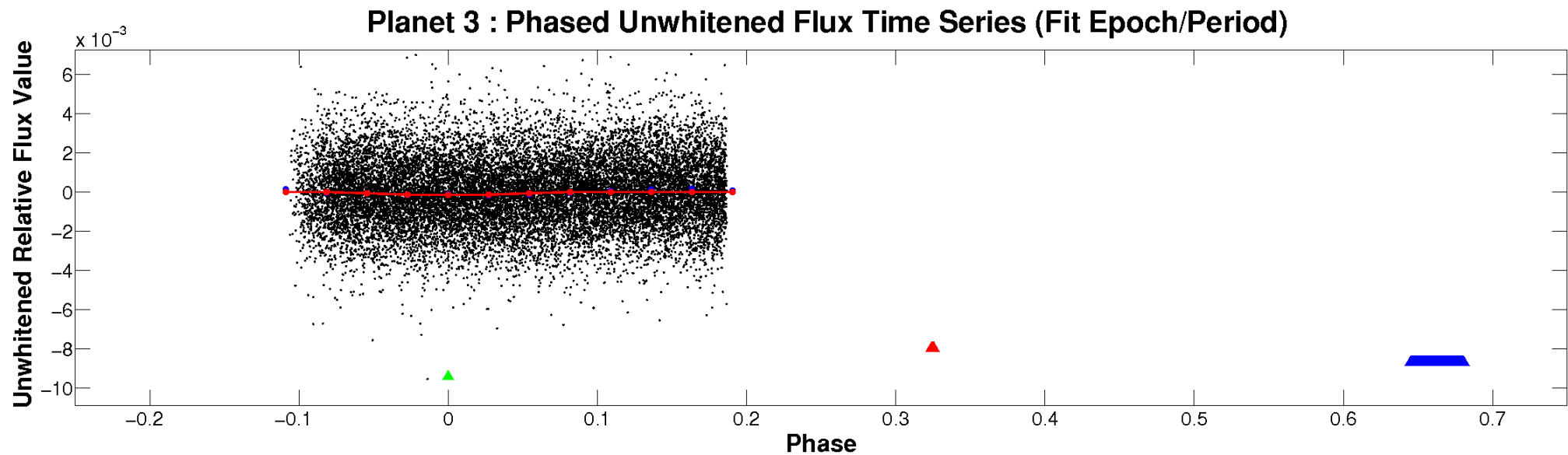




ALT Odd/Even

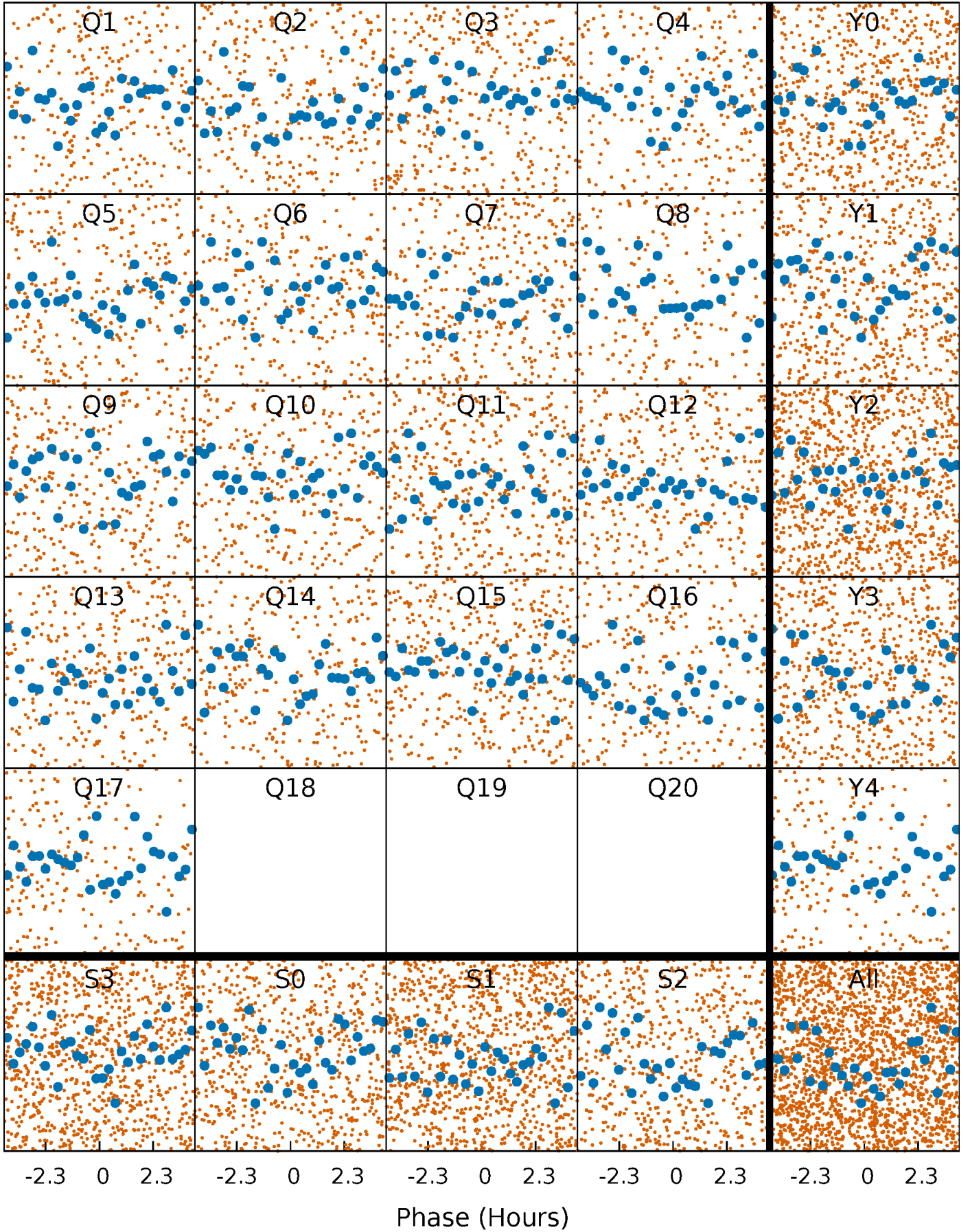
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

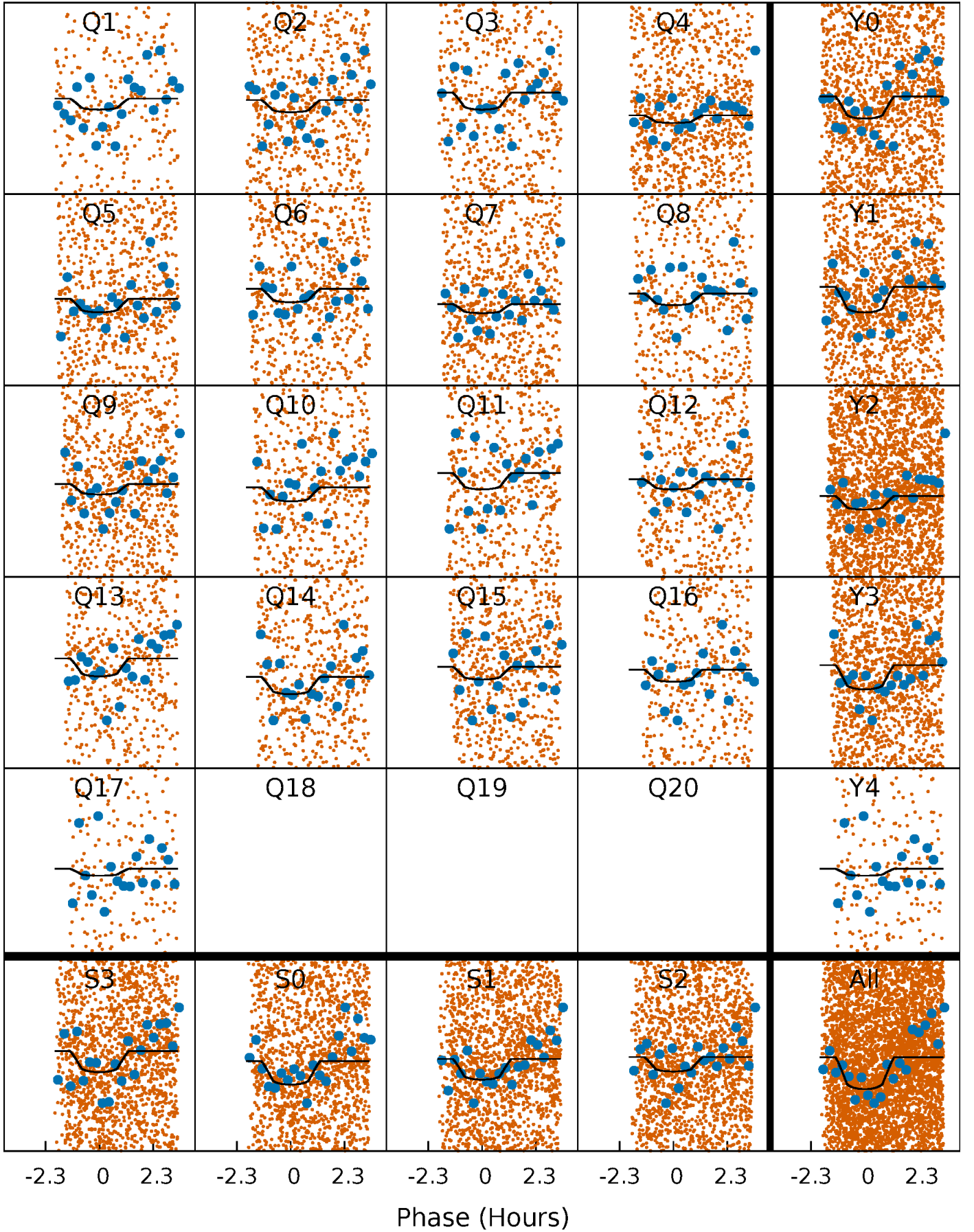
TCE 011618998-03   P= 0.750757 Days    $T_0=131.904873$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 011618998-03   P= 0.750757 Days    $T_0=131.904873$  (BKJD)

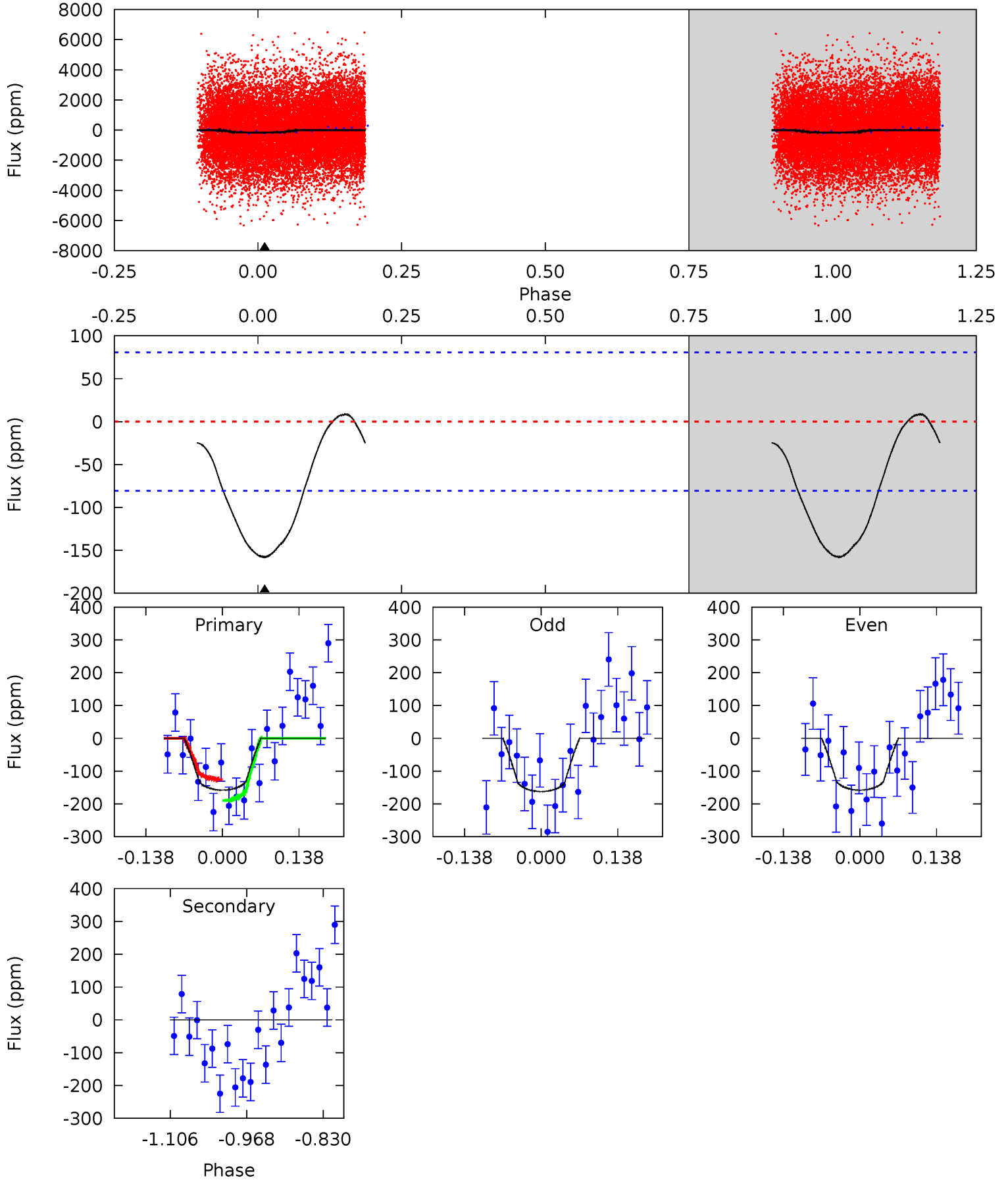


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

011618998-03, P = 0.750757 Days, E = 131.154116 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
8.80	0	0	0	4.50	1.48	0.57	8.80	8.80	0	0	0.12	0.91	0.05	1.77



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 011618998

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7678^{+214}_{-321}$	$3.645^{+0.467}_{-0.082}$	$0.070^{+0.150}_{-0.350}$	$3.645^{+0.617}_{-1.851}$	$2.140^{+0.297}_{-0.552}$	$0.062^{+0.275}_{-0.022}$
	+3%/-4%	+13%/-2%	+214%/-500%	+17%/-51%	+14%/-26%	+442%/-35%
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 011618998-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$0 \pm 18$	$5.74^{+5.58}_{-3.80}$	$6010^{+441}_{-738}$	$-4932^{+1315}_{-710}$	$-0.000^{+0.208}_{-0.239}$
Alt.	N/A	N/A	N/A	N/A	N/A

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



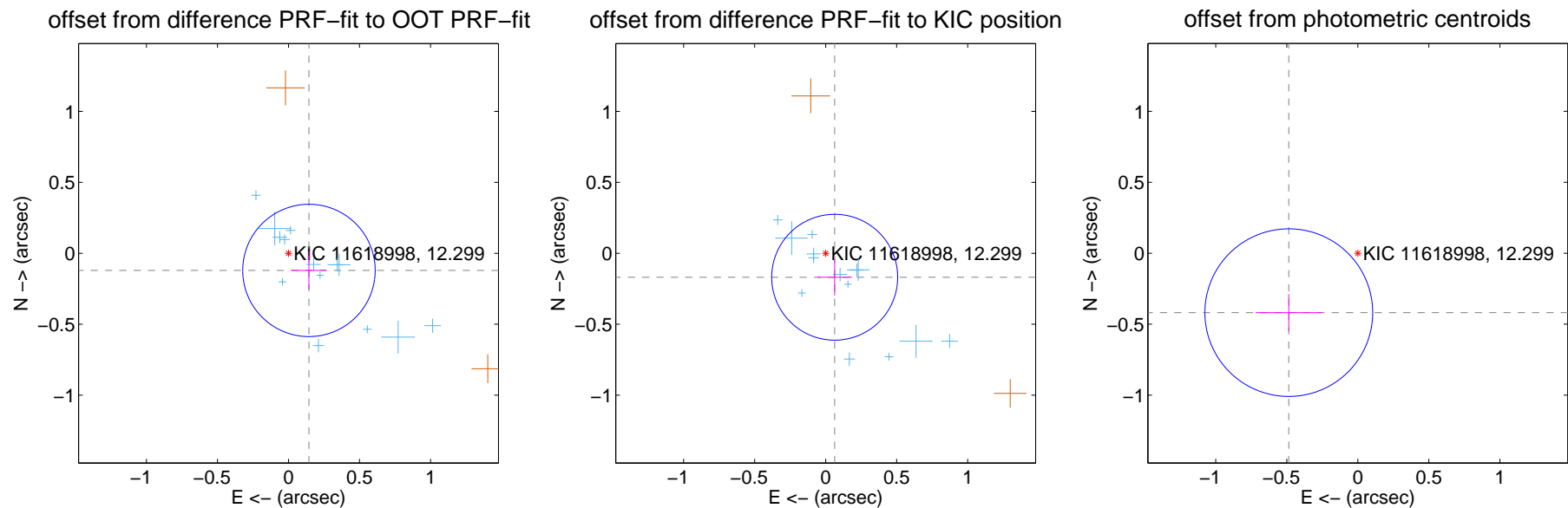
## DV Centroid Data

Supplemental centroid analysis for 011618998-03. Kepler magnitude: 12.30. Transit SNR 6.82

There are 14 quarters with good PRF difference image offsets

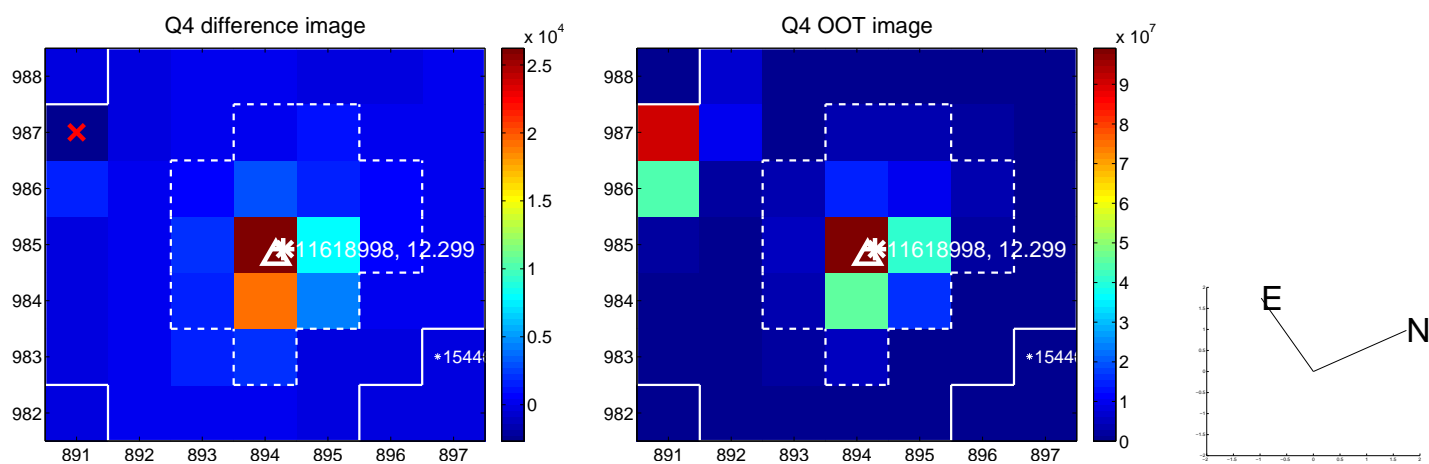
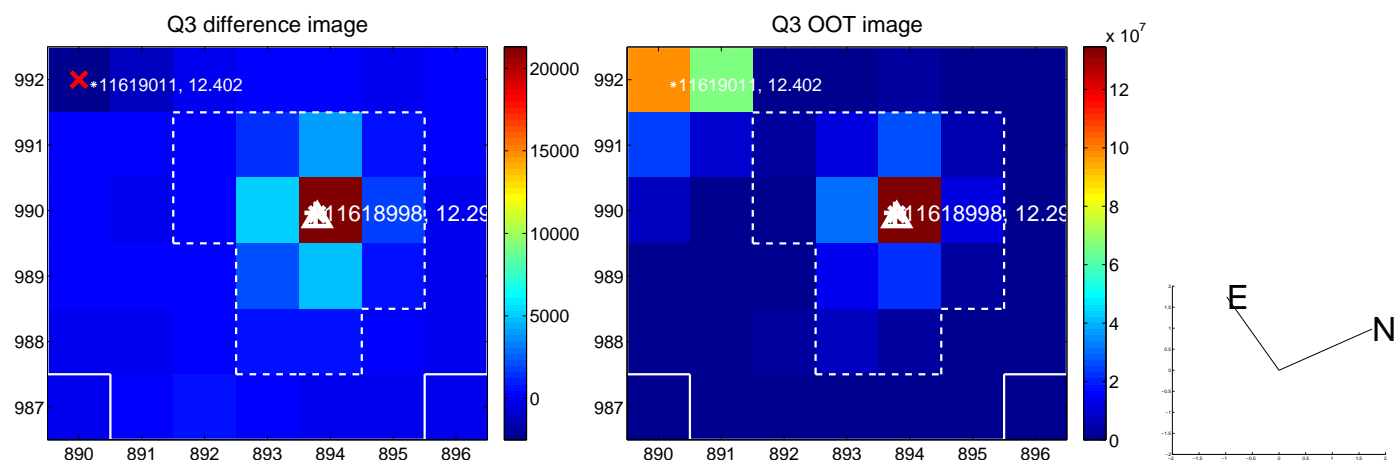
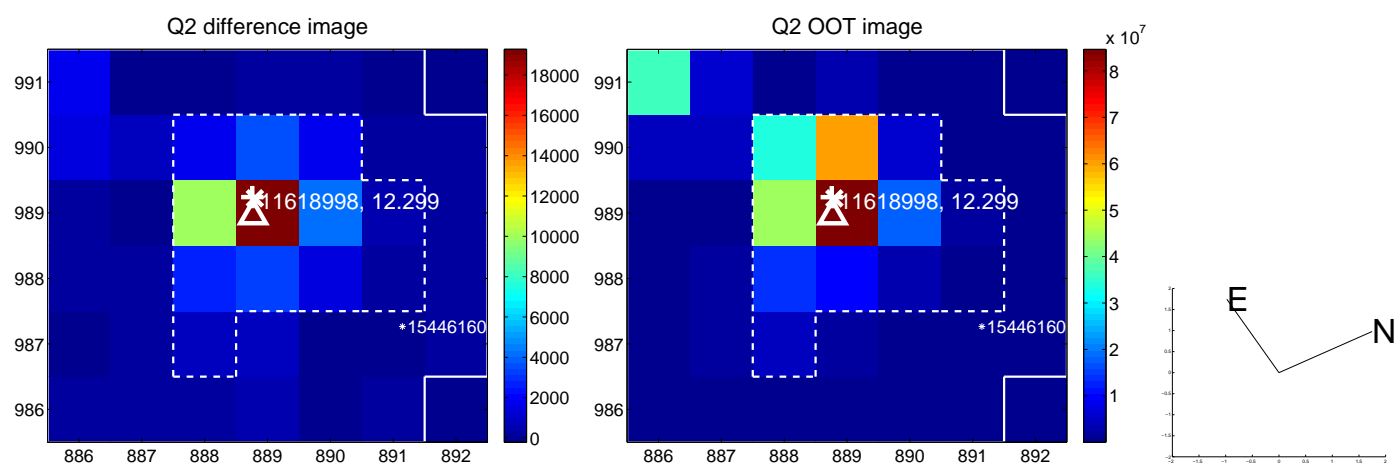
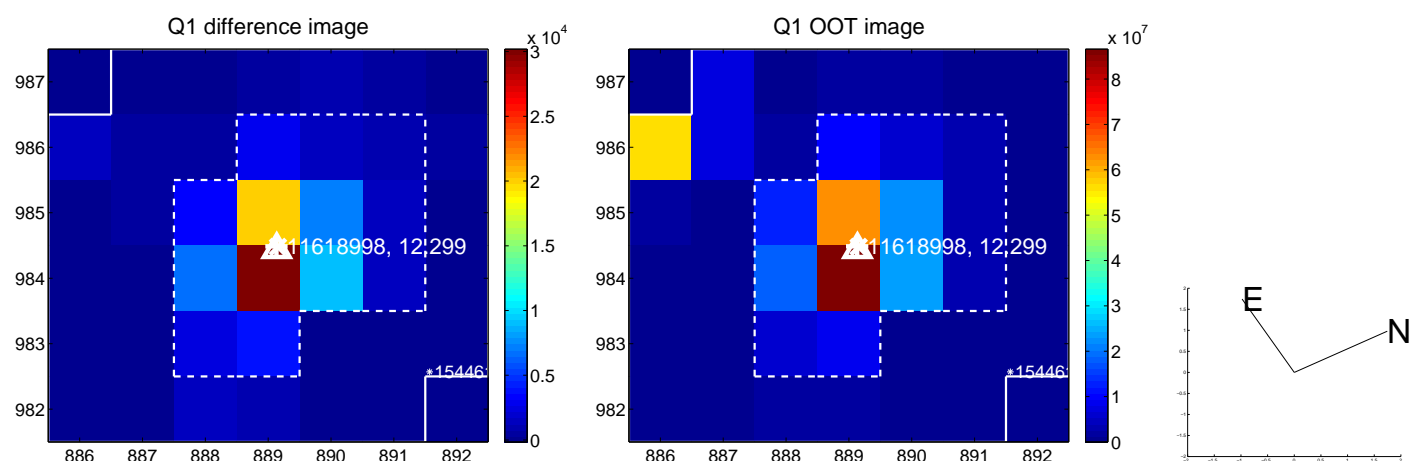
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.188 \pm 0.155$	1.21	$-0.144 \pm 0.123$	$-0.121 \pm 0.133$
PRF-fit source offset from KIC position	$0.180 \pm 0.148$	1.22	$-0.064 \pm 0.122$	$-0.169 \pm 0.129$
photometric centroid source offset	$0.64 \pm 0.20$	3.26	$0.49 \pm 0.23$	$-0.42 \pm 0.13$

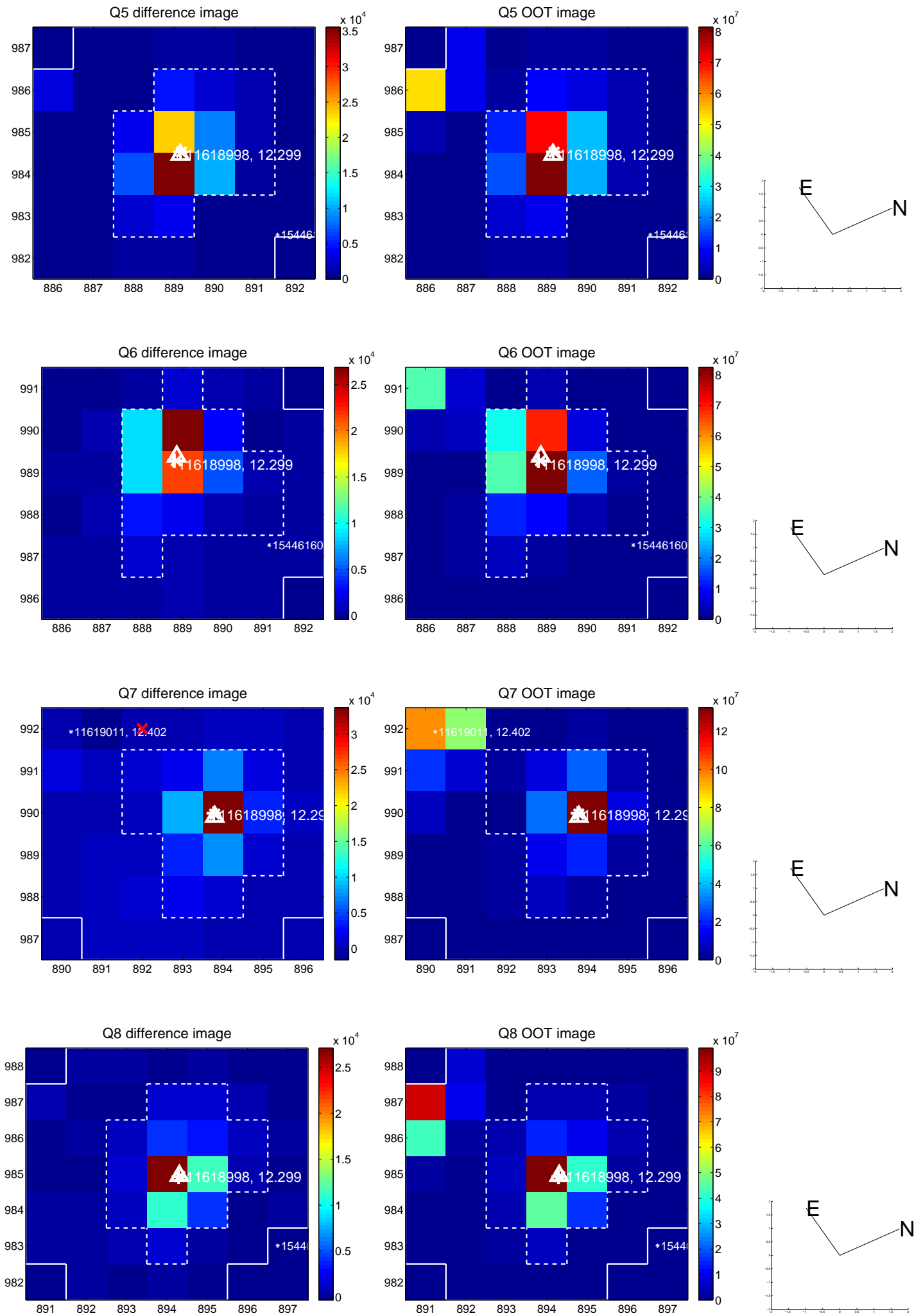


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

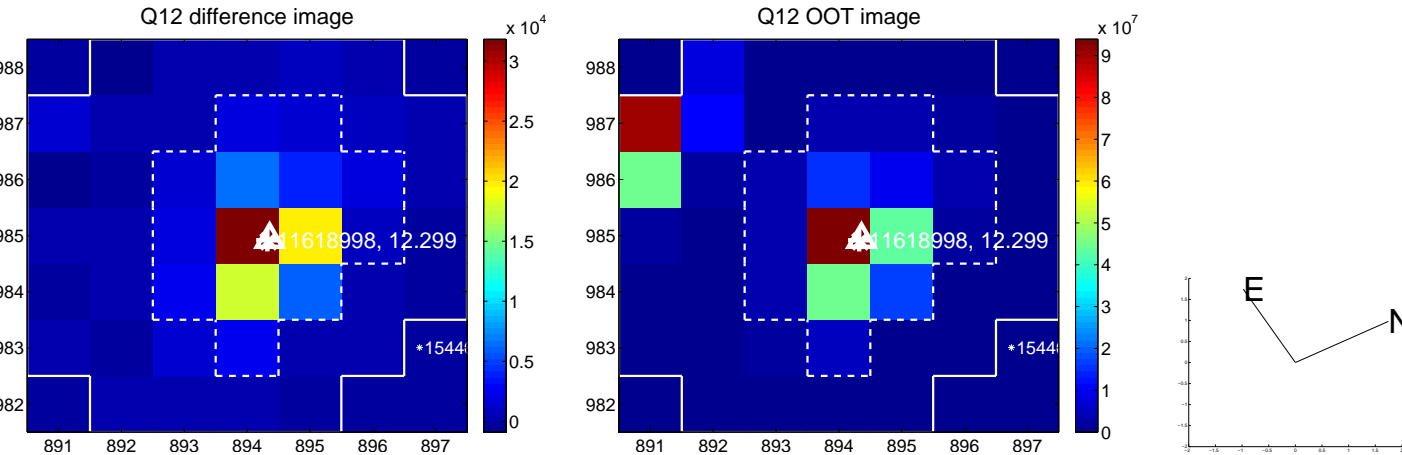
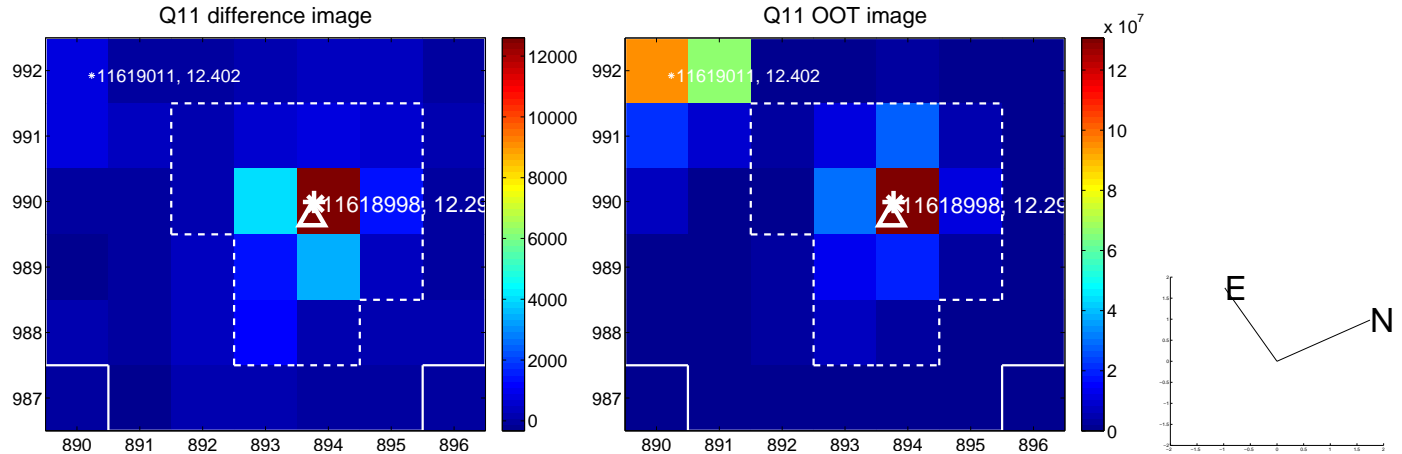
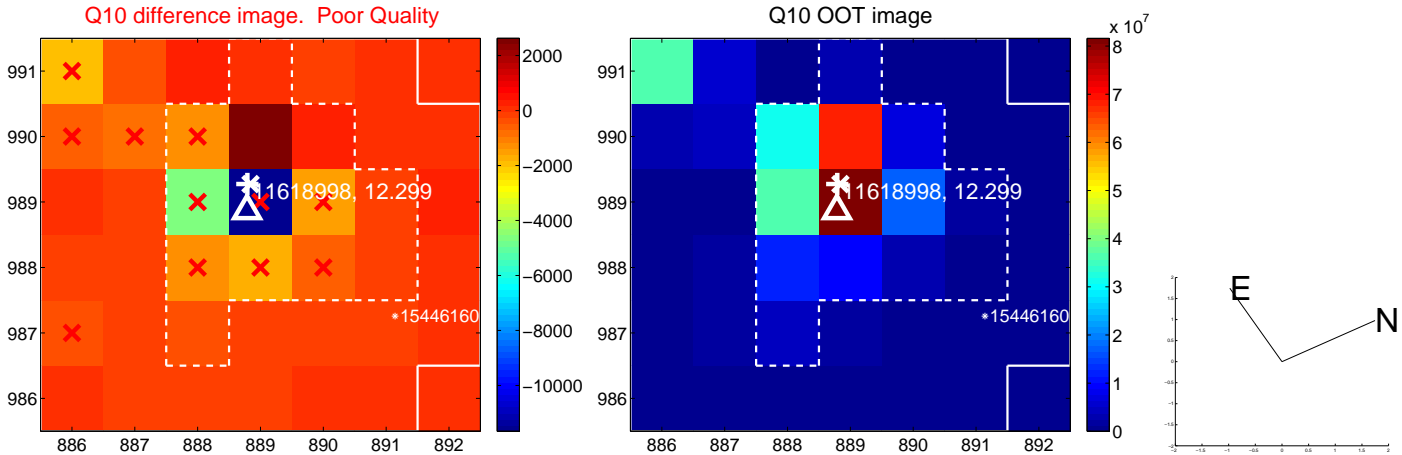
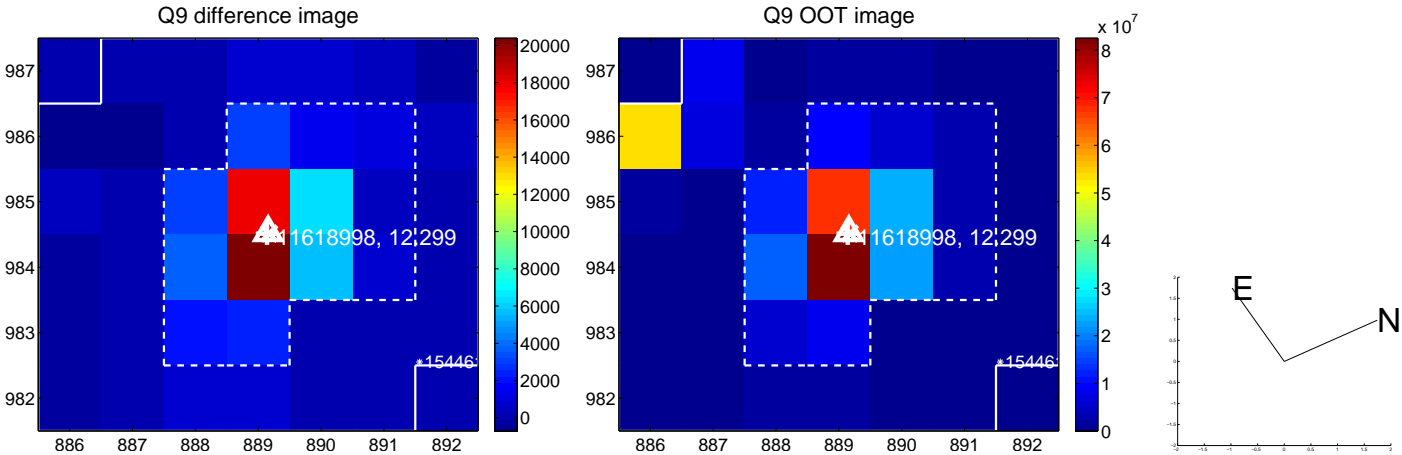
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



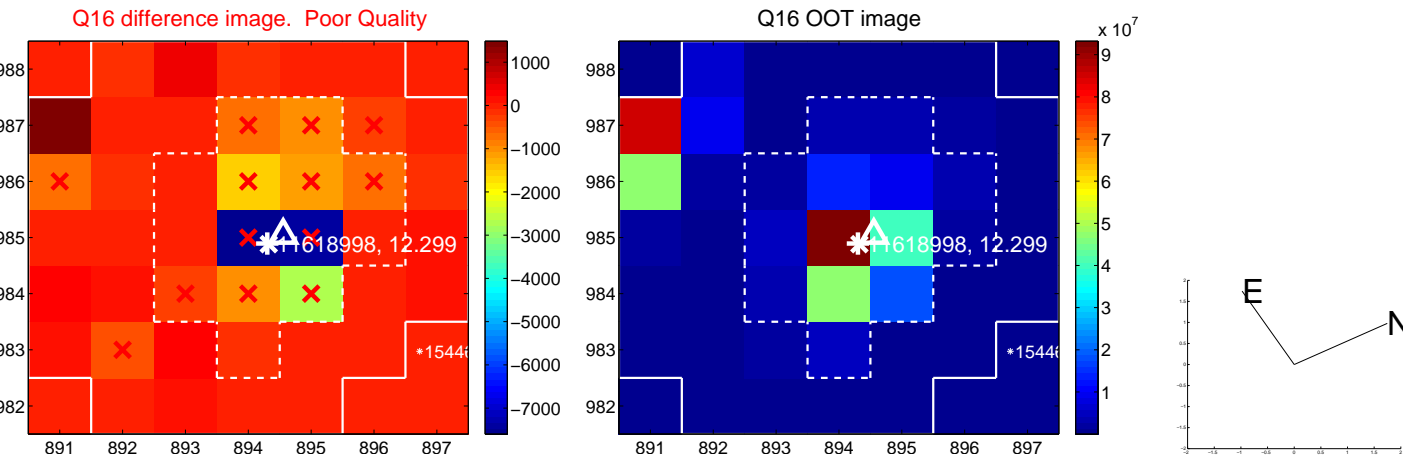
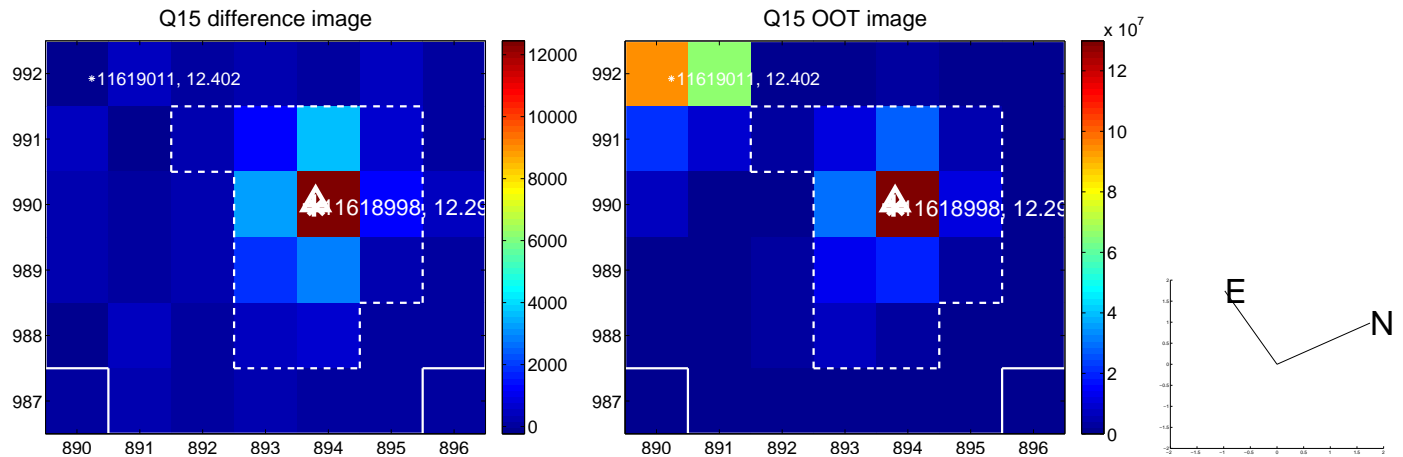
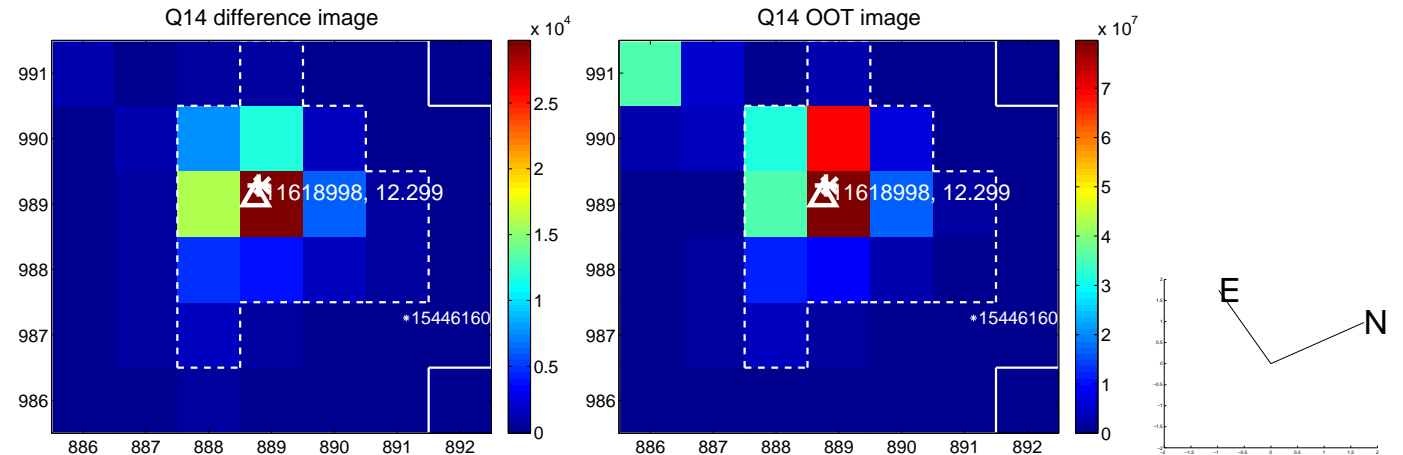
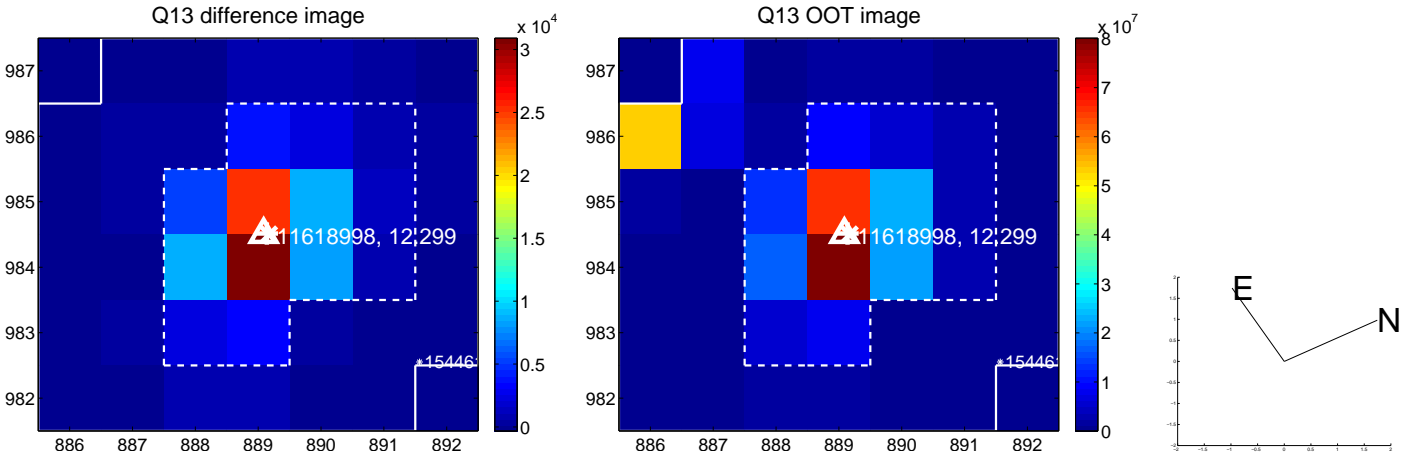
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

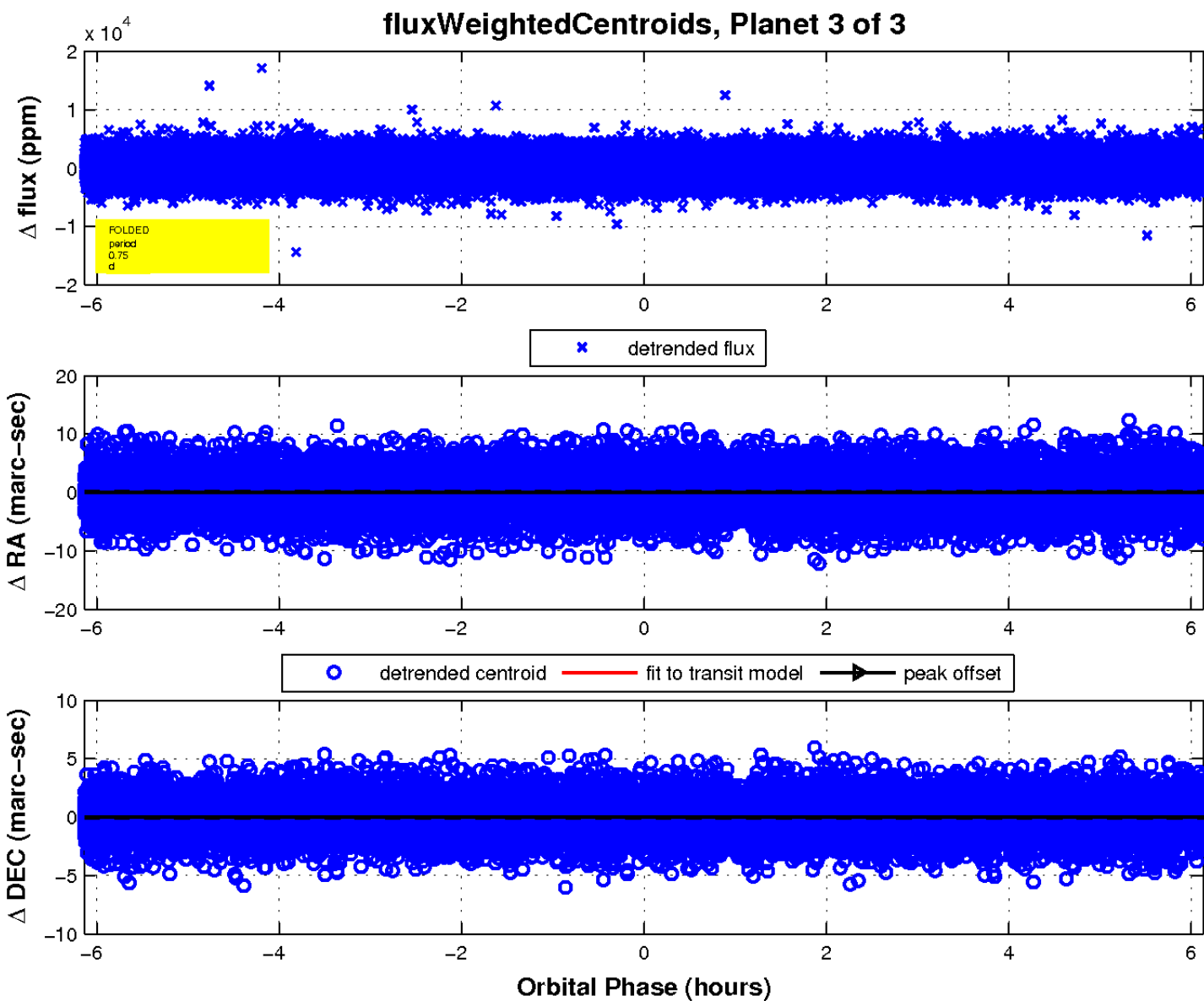
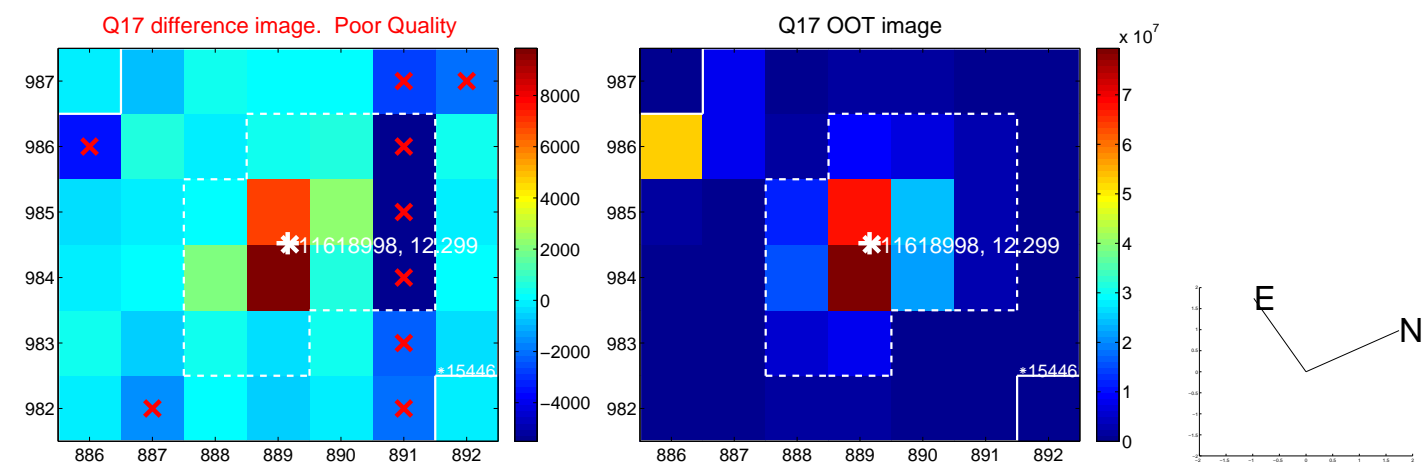


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

