

# KIC 007295372

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007295372-01	OBS	No	0.535695	131.808538	1.5	0.502	14.7	0.5	4.42	6487	0.56	0.00
007295372-02	OBS	No	0.535685	131.554425	7.9	4.715	9.2	7.5	4.42	6487	1.35	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007295372-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
007295372-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_RESOLVED_OFFSET

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

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

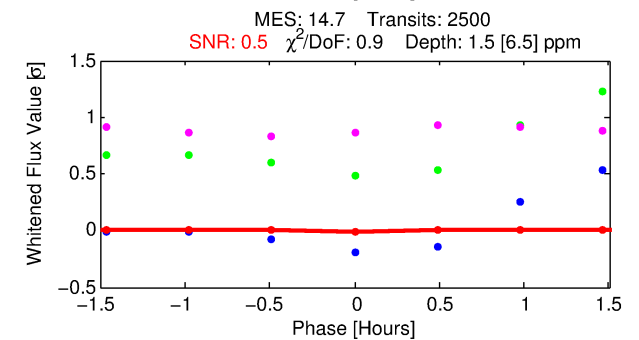
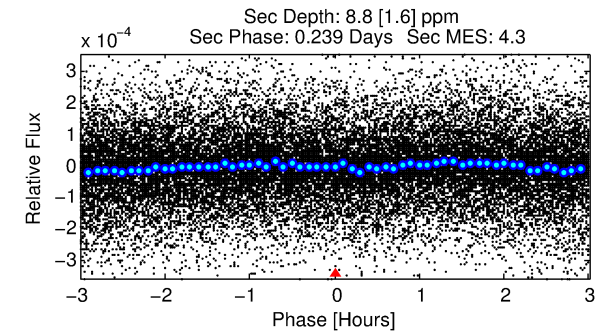
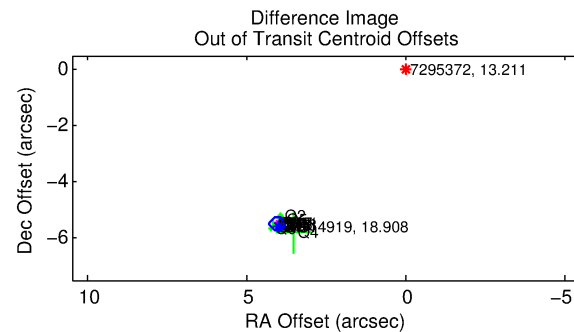
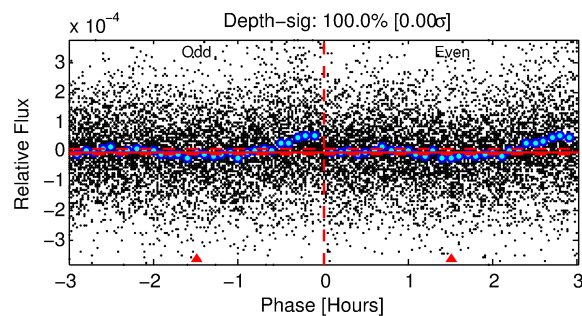
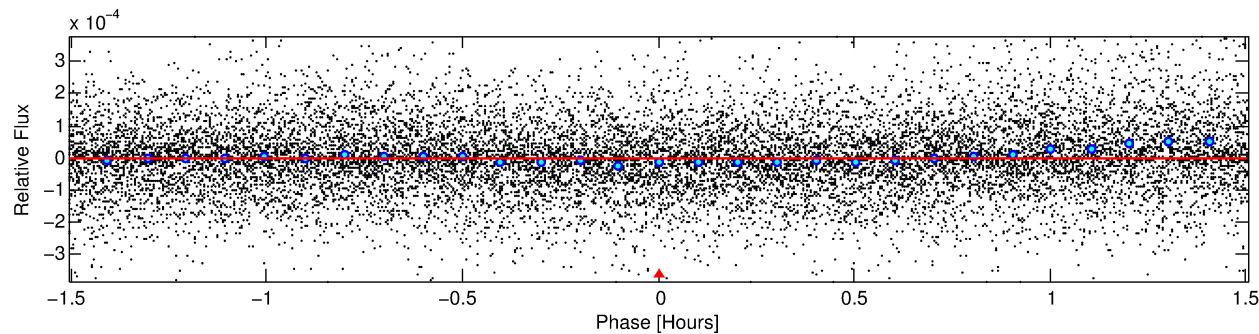
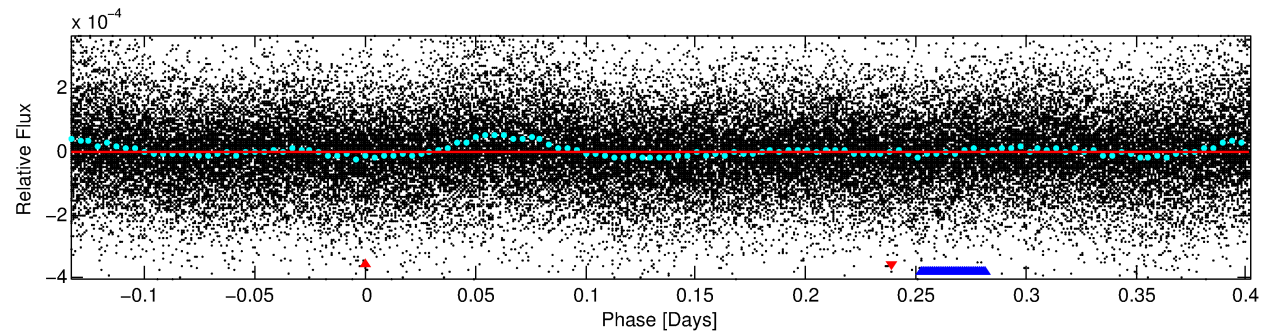
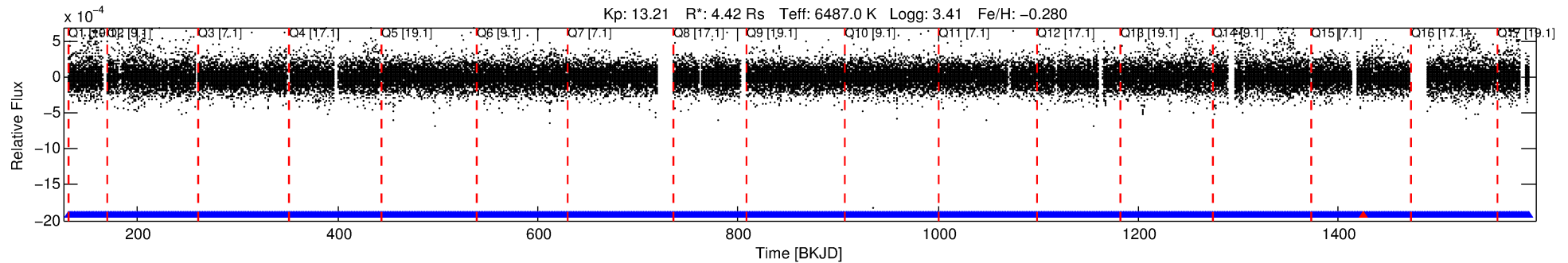
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007295372-01

No Significant Match Found

# DV One-Page Summary

KIC: 7295372 Candidate: 1 of 2 Period: 0.536 d



## DV Fit Results:

Period = 0.53570 [0.00025] d  
Epoch = 131.8085 [0.0231] BKJD  
Rp/R\* = 0.0012 [0.0644]  
a/R\* = 8.14 [2354.21]  
b = 0.10 [2905.79]  
Seff = N/A  
Teq = N/A  
Rp = 0.56 [31.04] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

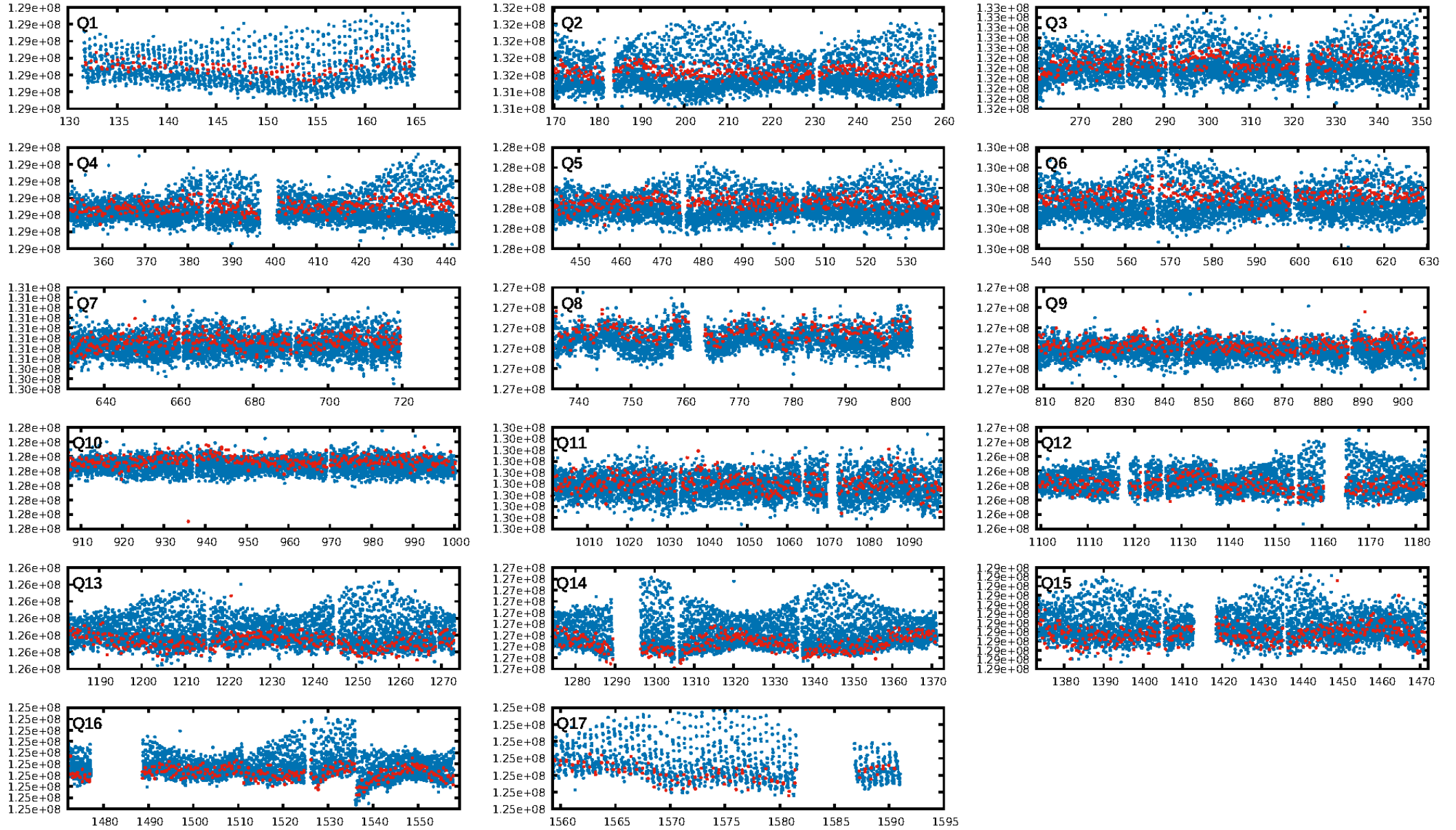
## DV Diagnostic Results:

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 [2387/2388]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 6.828 arcsec [87.92σ]  
KicOffset-rm: 6.879 arcsec [88.39σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.53 [9/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:06:43 Z

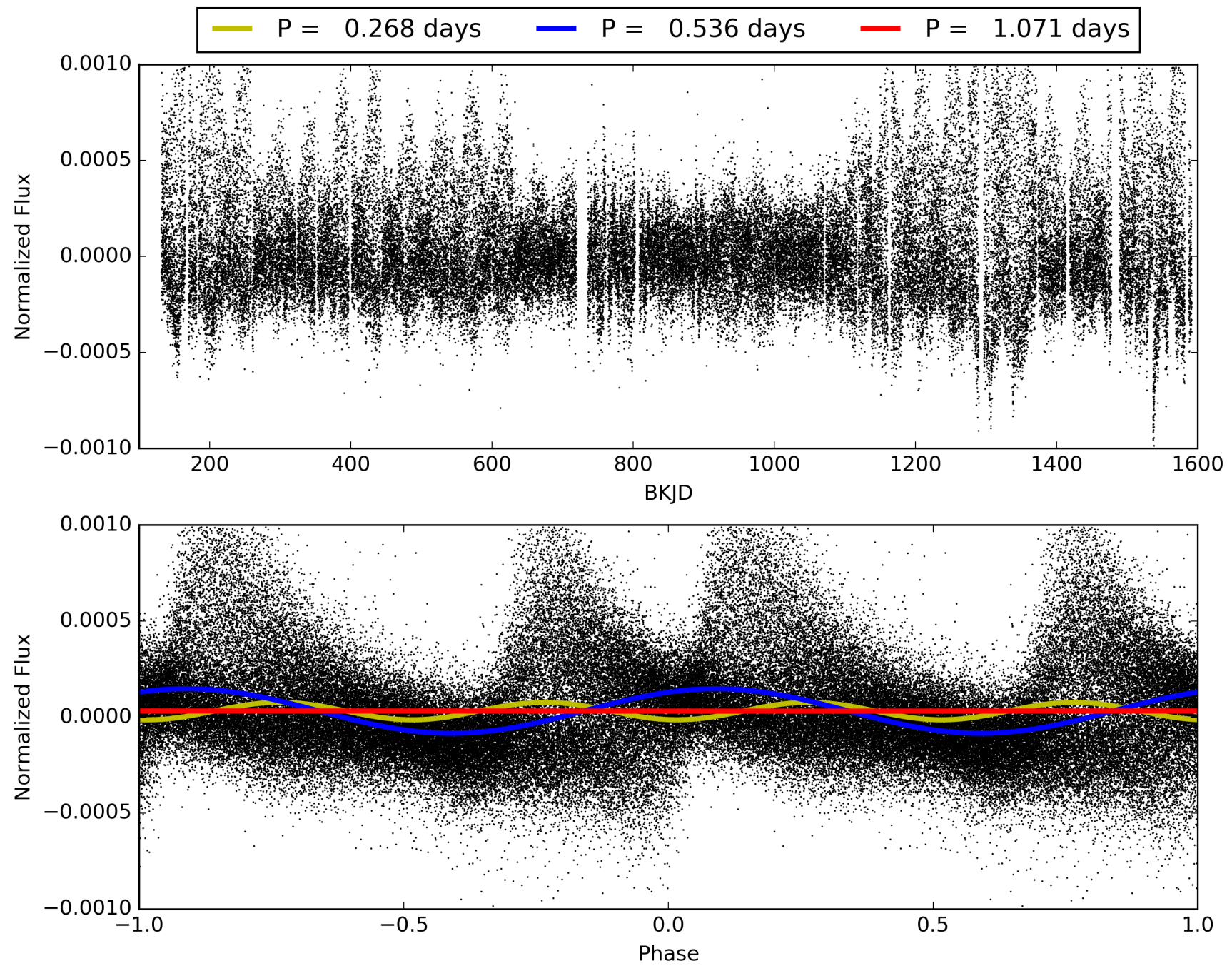
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007295372-01, PDC Light Curves



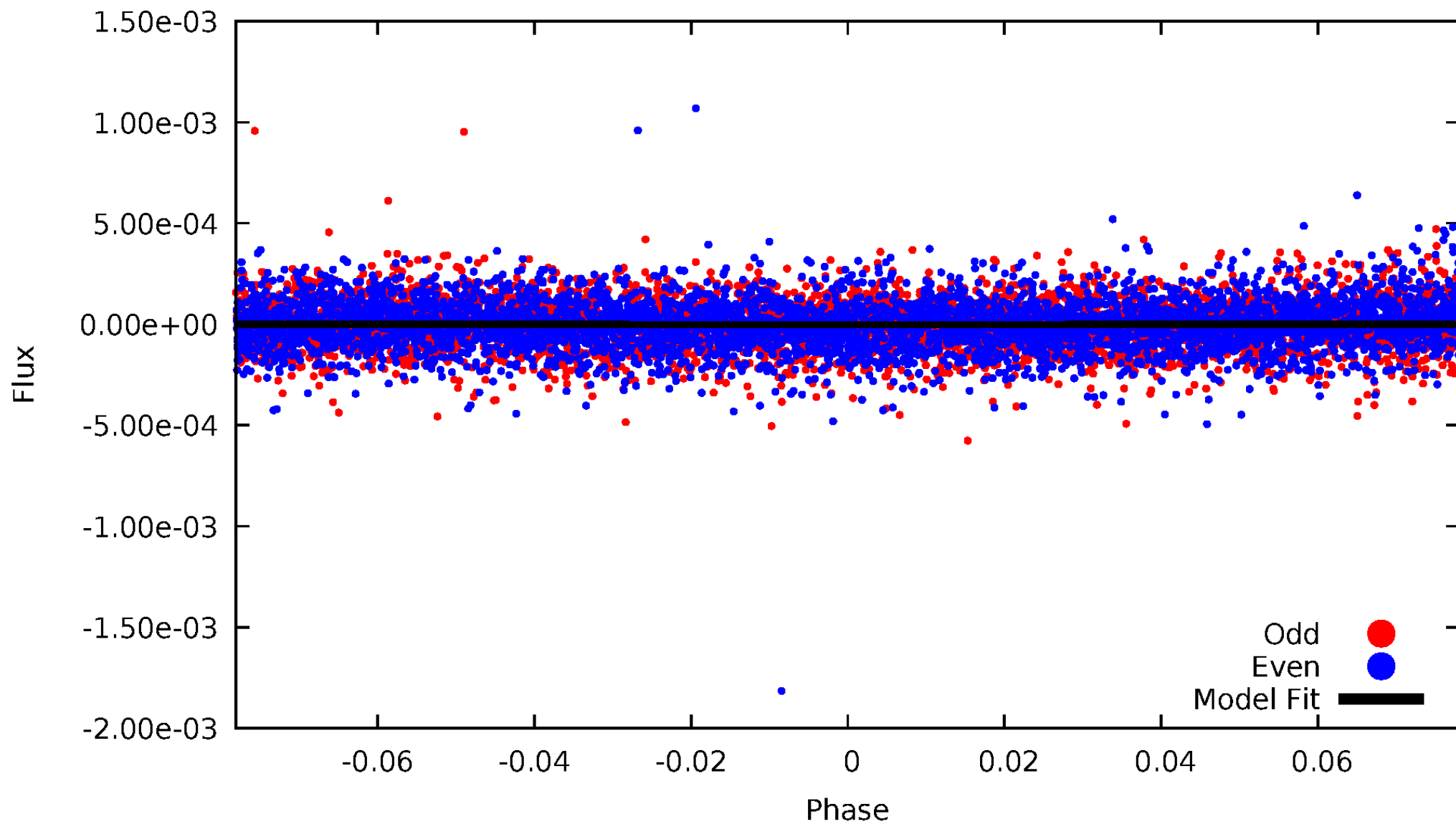


TCE 007295372-01



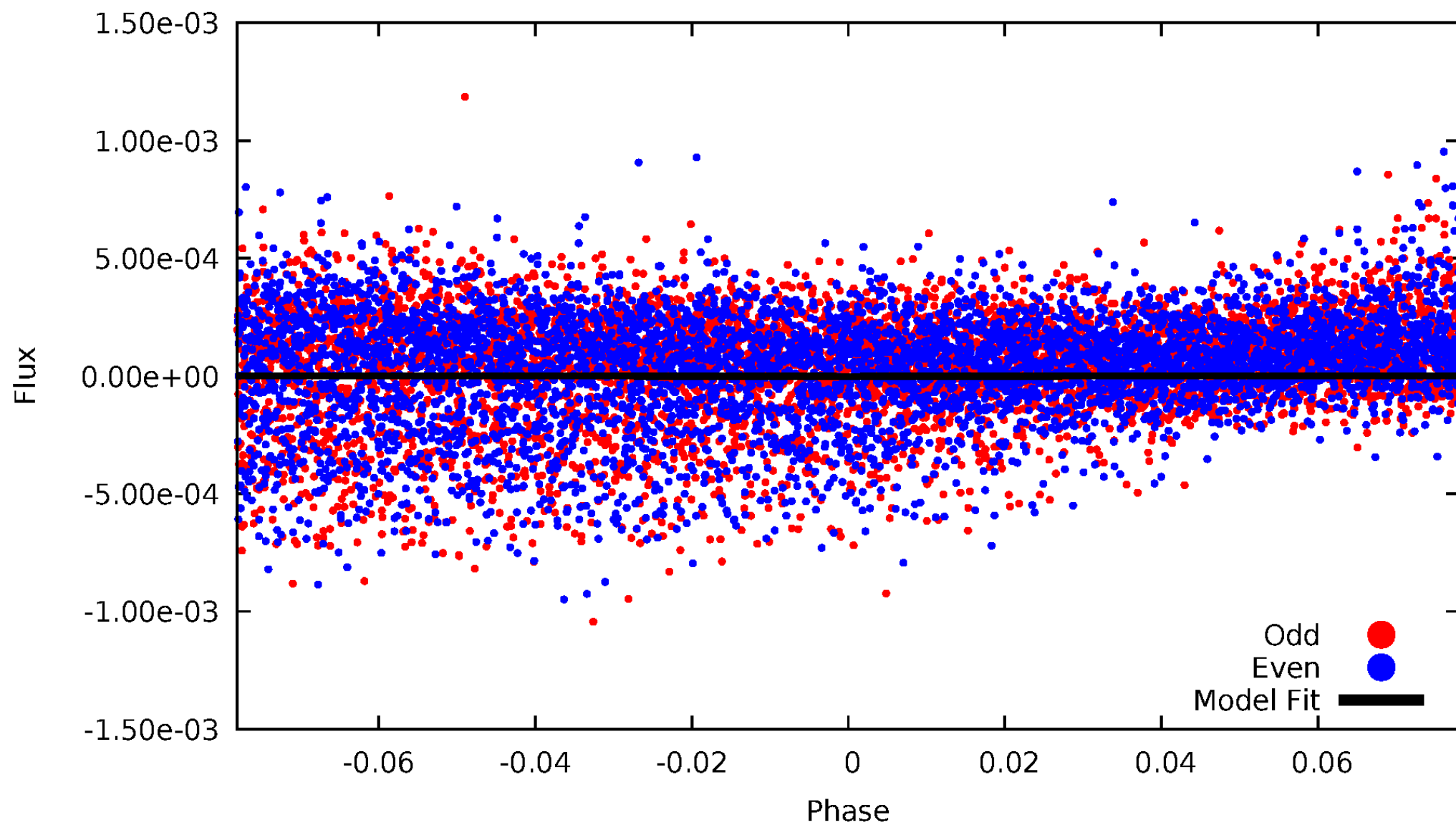
# DV Odd/Even

TCE 007295372-01



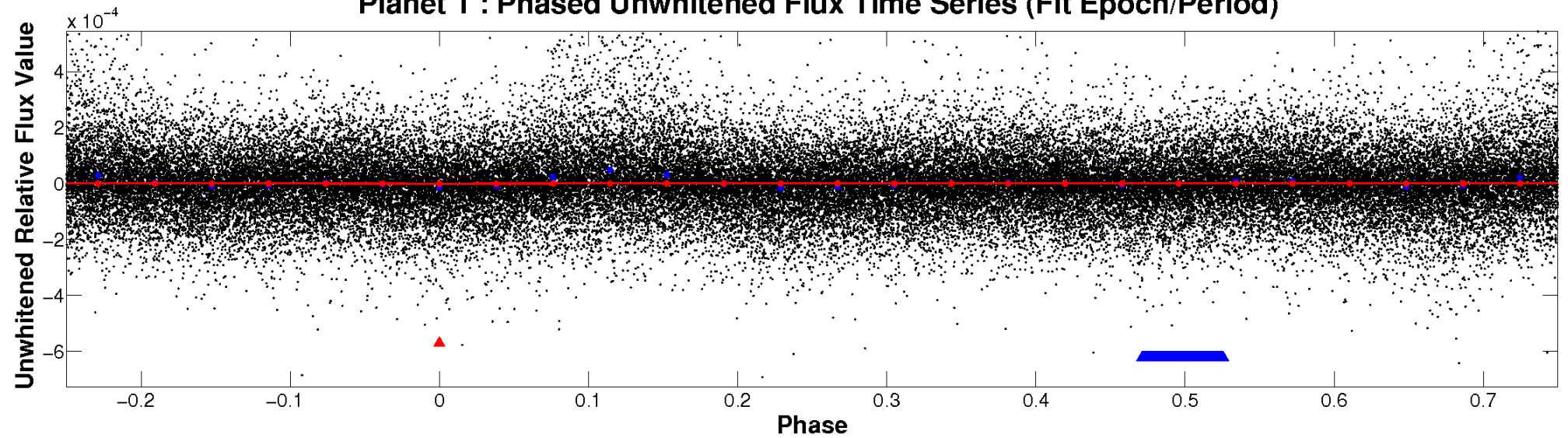
# ALT Odd/Even

TCE 007295372-01

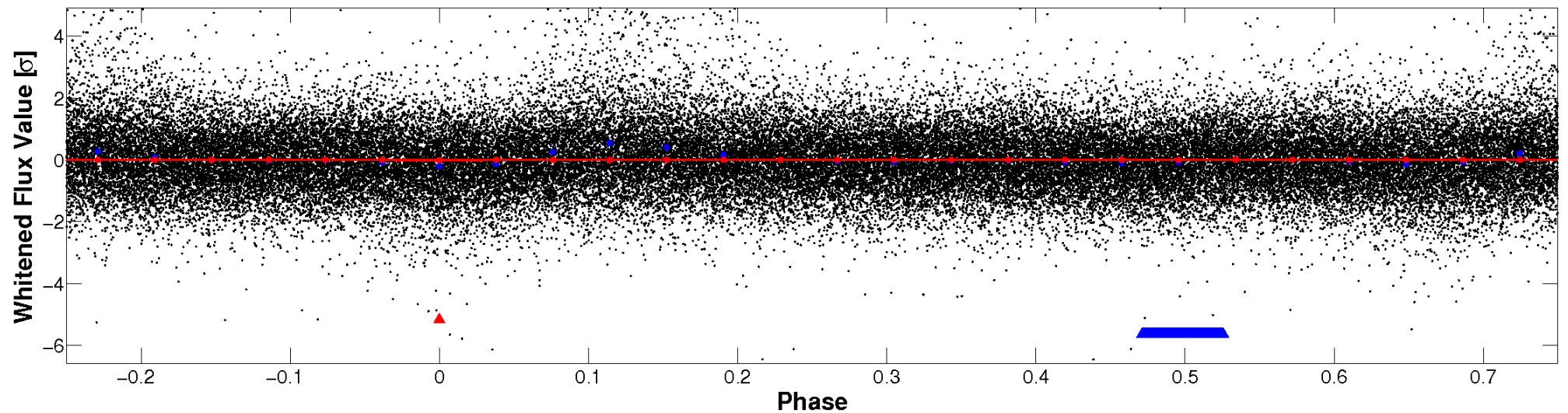


# Non-Whitened Vs. Whitened Light Curve

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



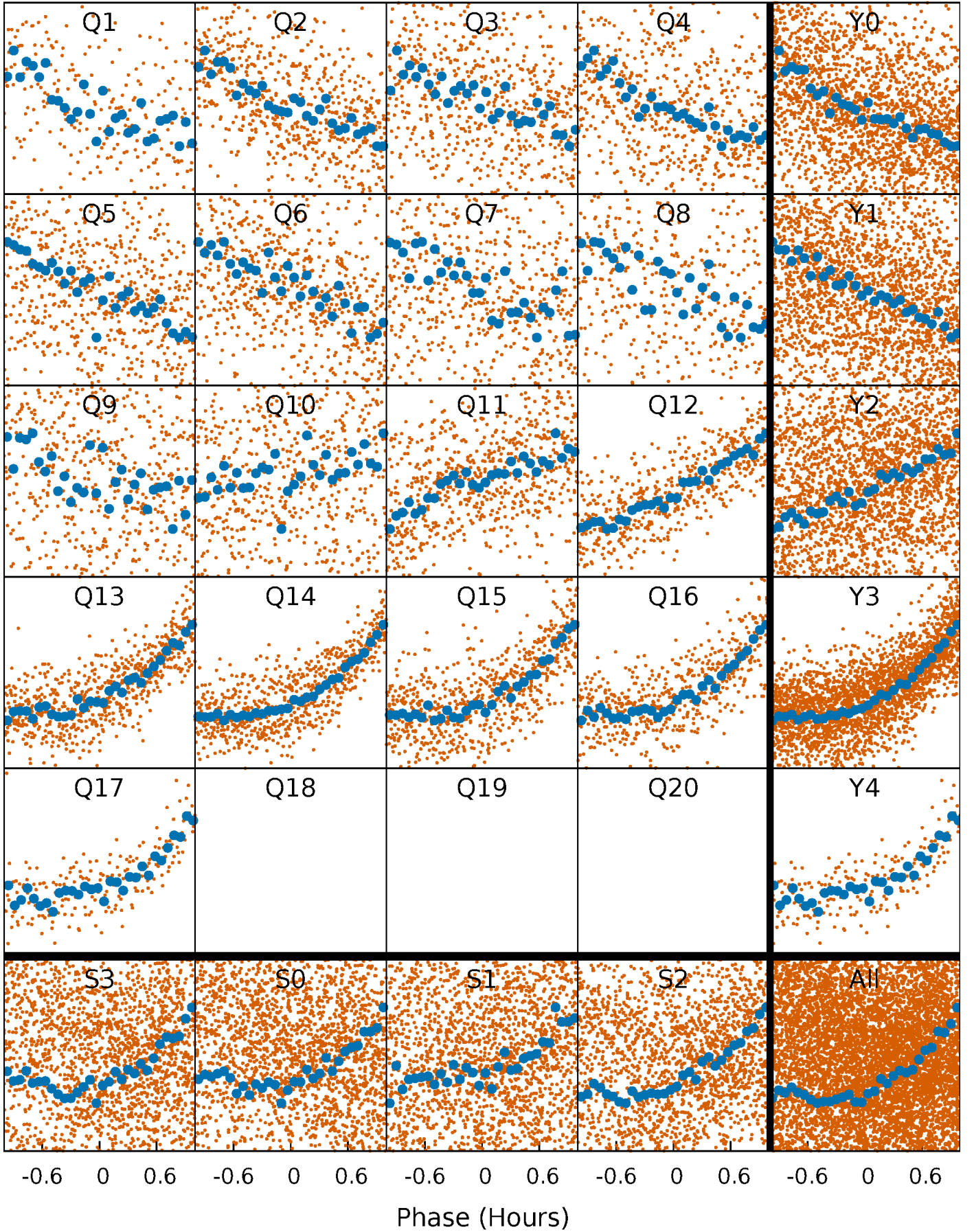
## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

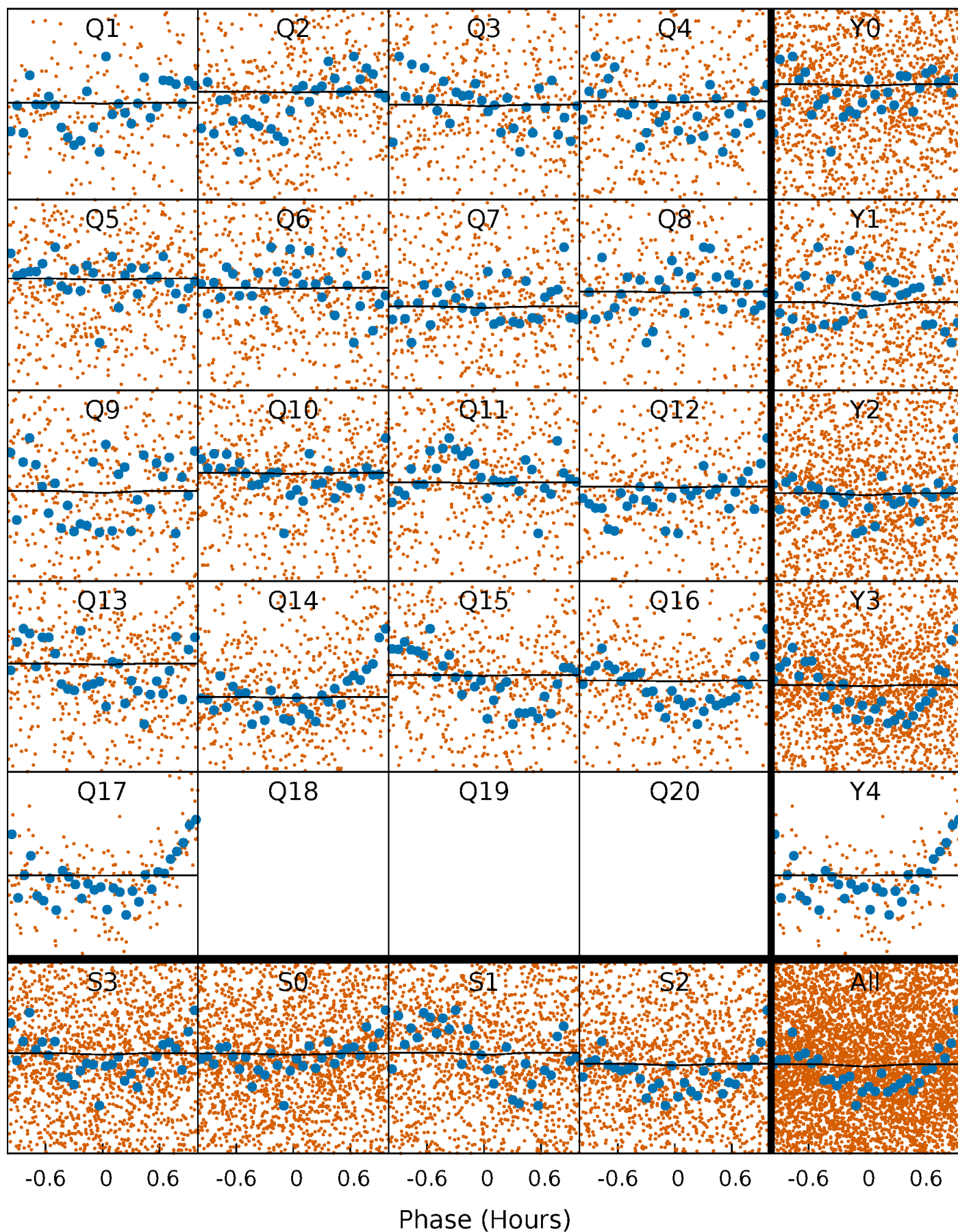
TCE 007295372-01   P= 0.535695 Days    $T_0=131.808538$  (BKJD)





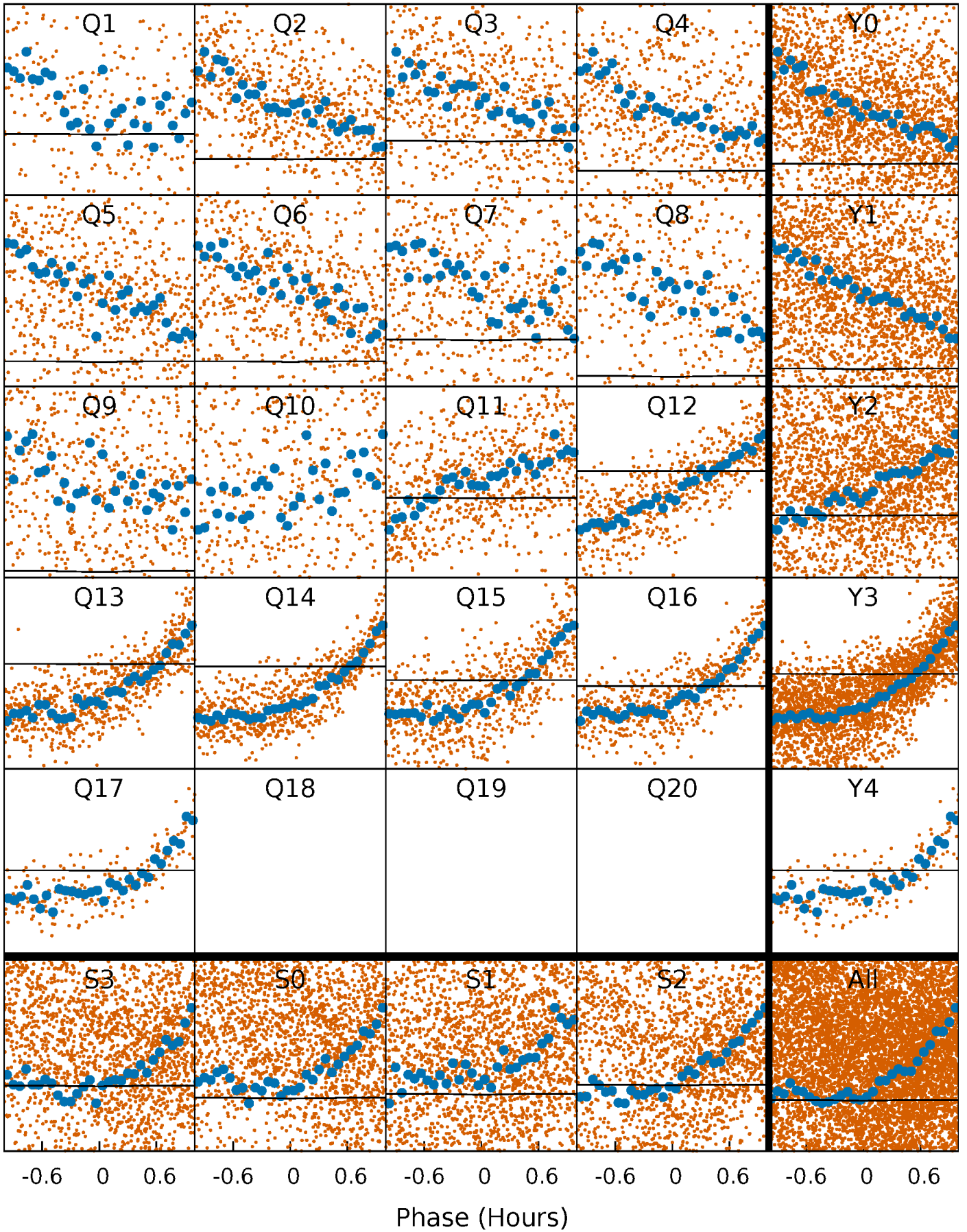
# DV Quarter-Phased Transit Curves

TCE 007295372-01 P= 0.535695 Days  $T_0=131.808538$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

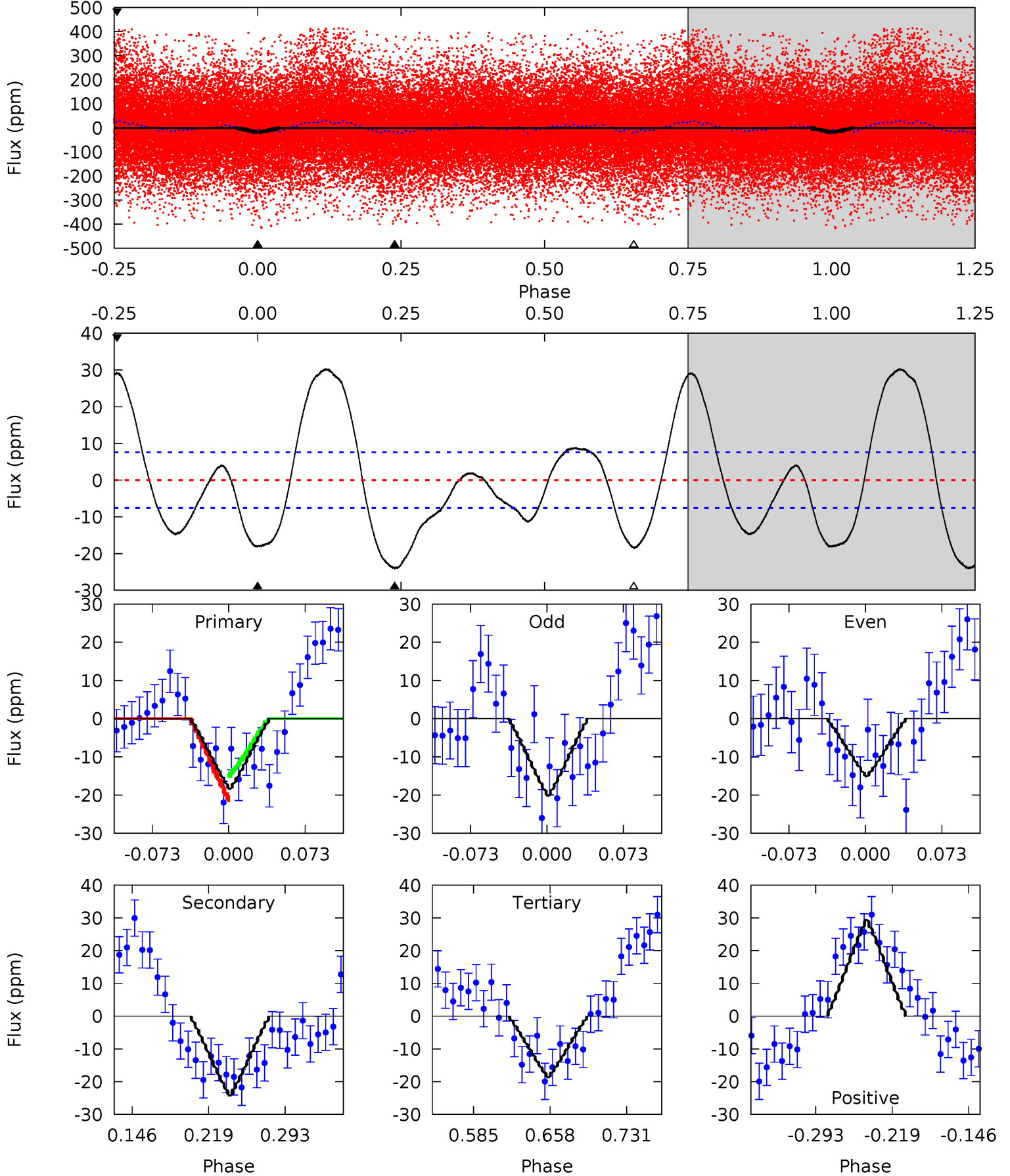
TCE 007295372-01 P= 0.535695 Days  $T_0=131.808538$  (BKJD)



# DV Model-Shift Uniqueness Test

007295372-01, P = 0.535695 Days, E = 131.272843 Days

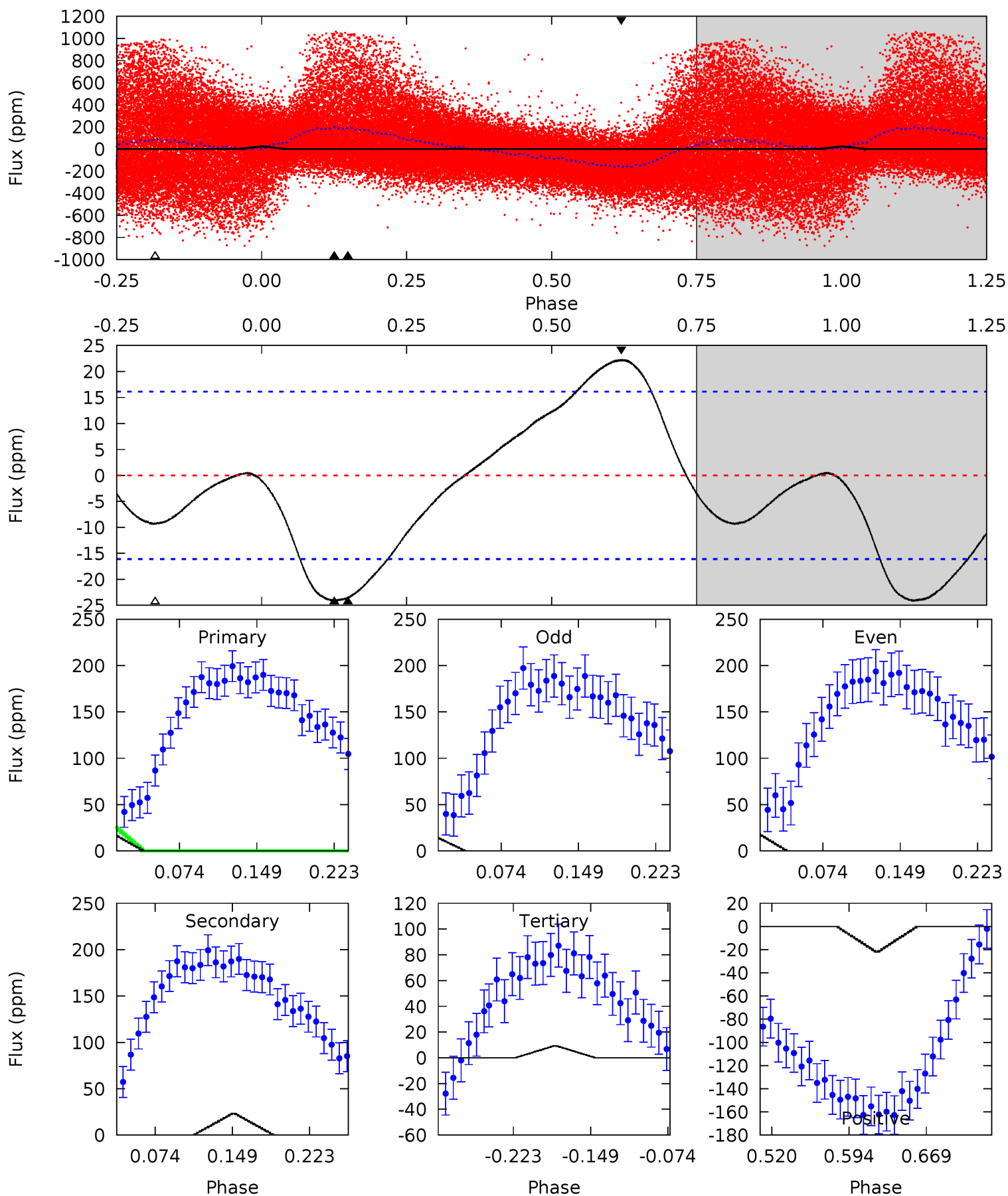
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	14.8	11.3	17.9	4.63	1.79	8.42	-0.18	-6.71	3.40	-3.13	1.55	1.73	0.56	2.10



# Alt Model-Shift Uniqueness Test

007295372-01, P = 0.535695 Days, E = 131.272843 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
6.92	6.77	2.70	6.37	4.63	1.78	2.92	4.22	0.55	4.07	0.40	0.77	0.33	0.48	4.20





### Stellar Parameters For KIC 007295372

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6487^{+179}_{-179}$	$3.410^{+0.399}_{-0.070}$	$-0.280^{+0.350}_{-0.300}$	$4.419^{+0.639}_{-1.790}$	$1.831^{+0.144}_{-0.460}$	$0.030^{+0.096}_{-0.009}$
	+3%/-3%	+12%/-2%	+125%/-107%	+14%/-41%	+8%/-25%	+321%/-31%
Source	PHO1	FLK73	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 007295372-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-24 \pm 2$	$19.11^{+21.53}_{-13.56}$	$6463^{+424}_{-642}$	$-5194^{+840}_{-384}$	$0.009^{+0.092}_{-0.007}$
Alt.	$-24 \pm 3$	$17.53^{+22.05}_{-11.50}$	$6497^{+381}_{-695}$	$-5199^{+815}_{-375}$	$0.010^{+0.080}_{-0.008}$

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

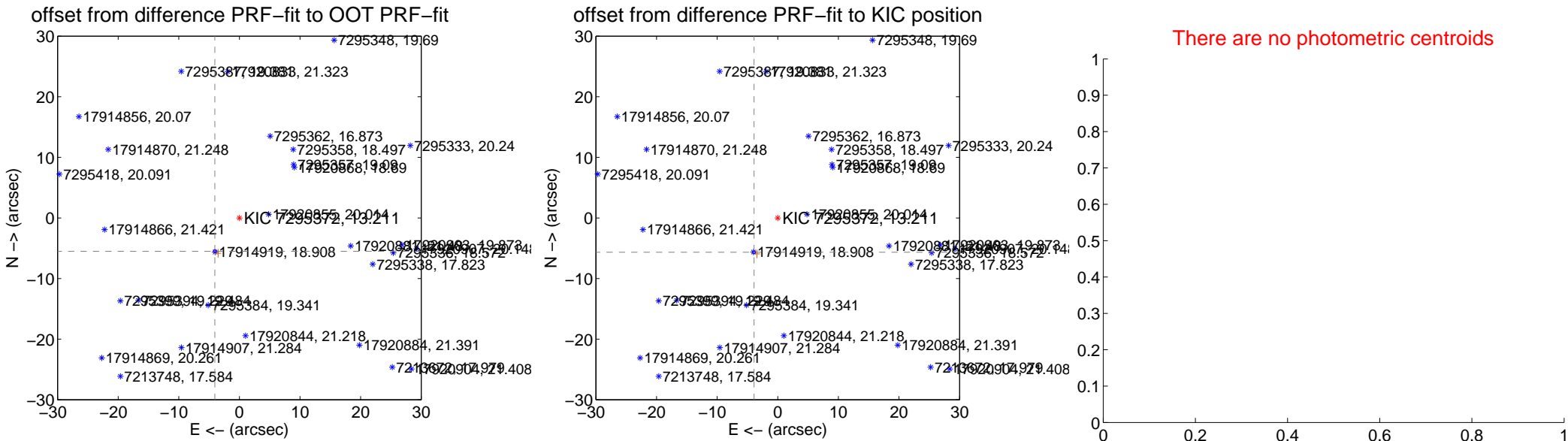
## DV Centroid Data

Supplemental centroid analysis for 007295372-01. Kepler magnitude: 13.21. Transit SNR 0.50

There are 9 quarters with good PRF difference image offsets

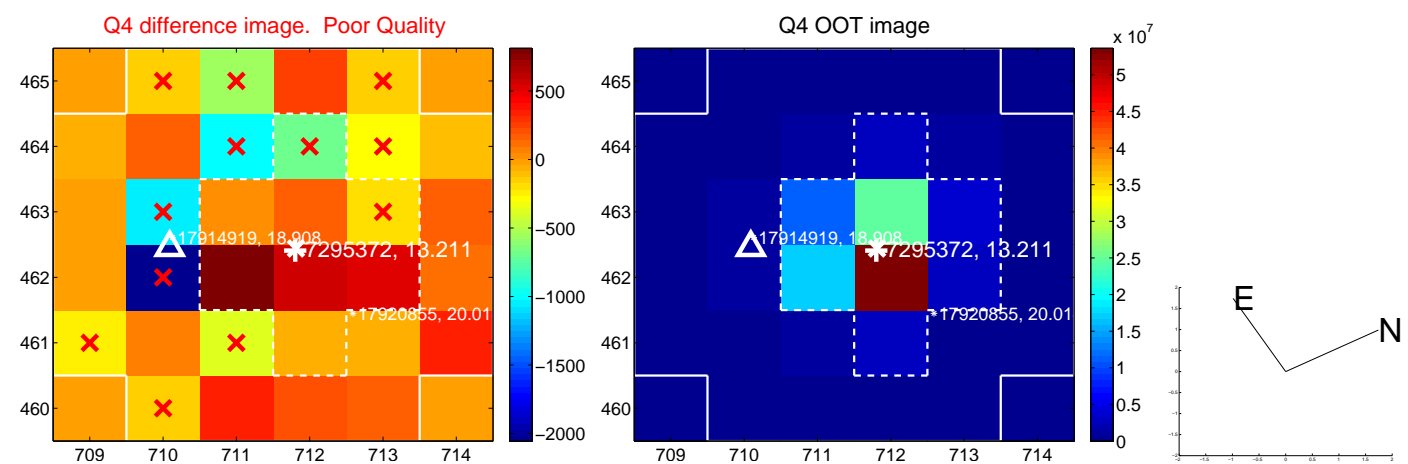
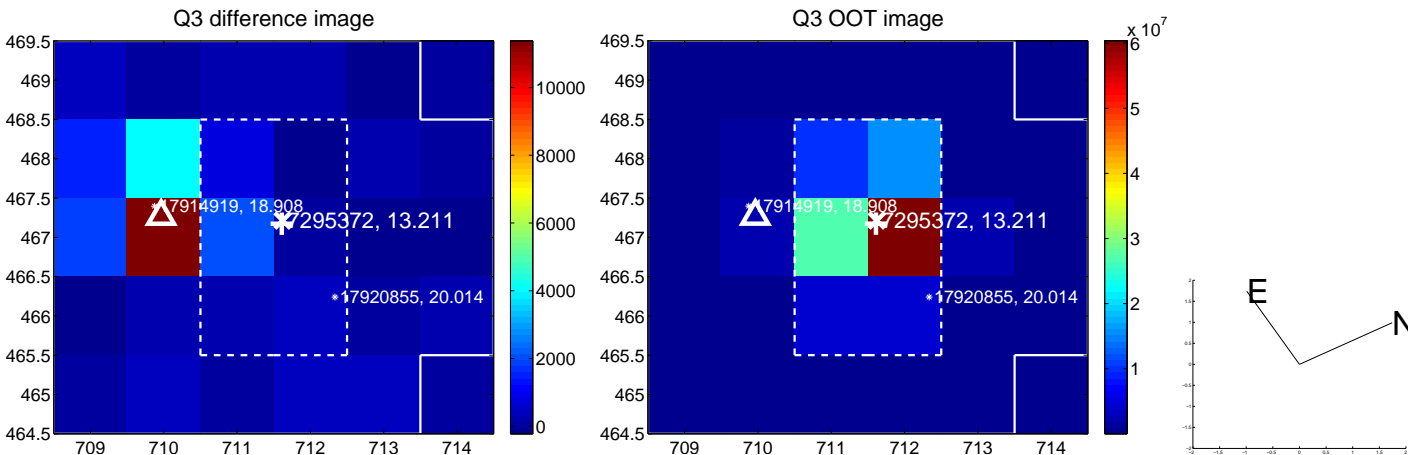
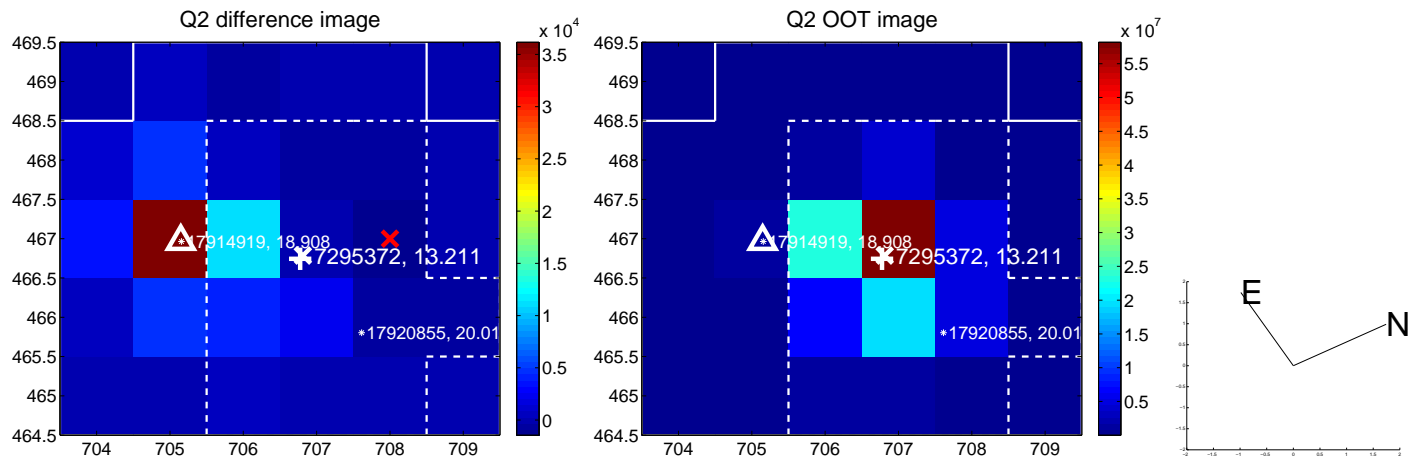
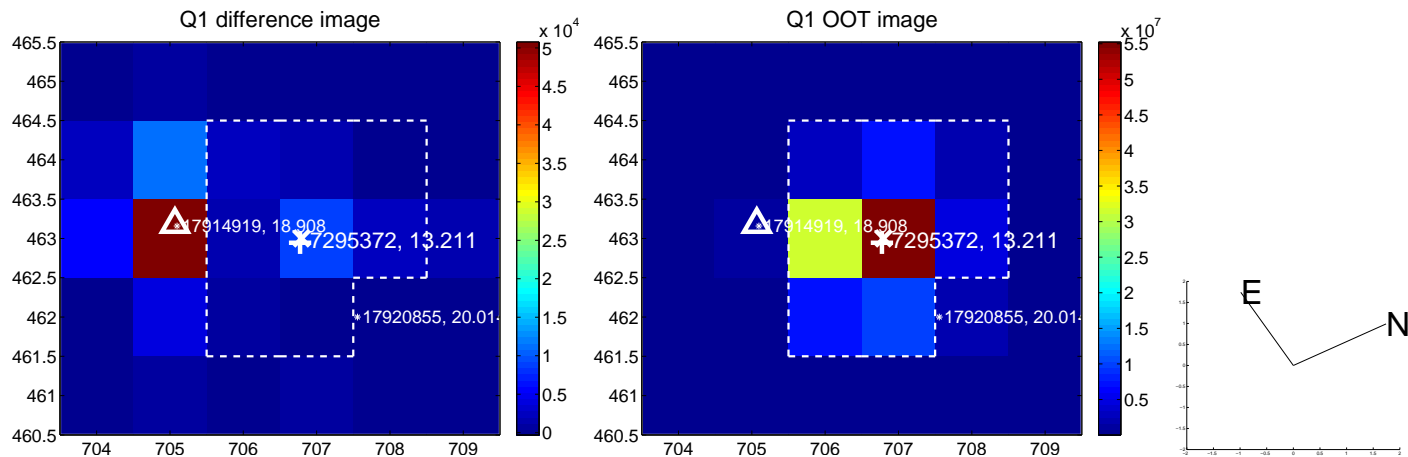
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>6.828 <math>\pm</math> 0.078</b>	<b>87.92</b>	4.049 $\pm$ 0.074	-5.498 $\pm$ 0.080
PRF-fit source offset from KIC position	<b>6.879 <math>\pm</math> 0.078</b>	<b>88.39</b>	3.906 $\pm$ 0.074	-5.663 $\pm$ 0.080
photometric centroid source offset	—	—	—	—

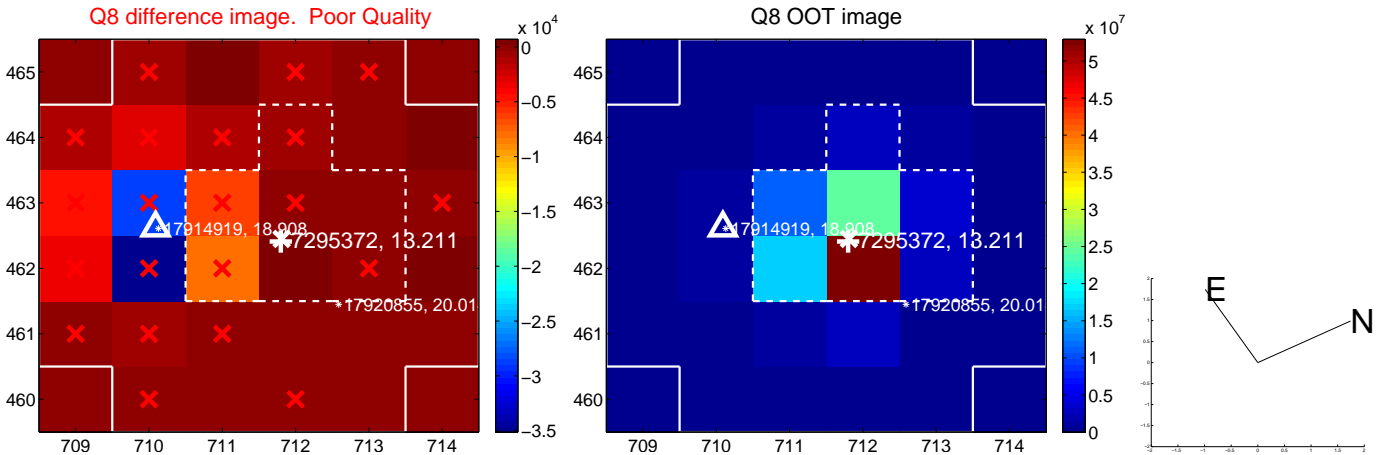
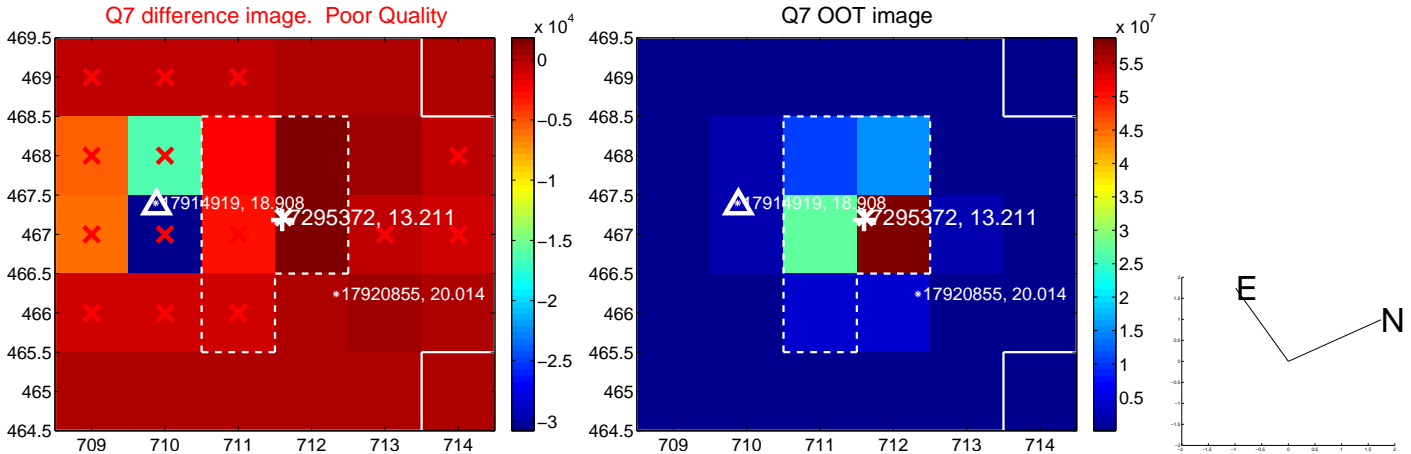
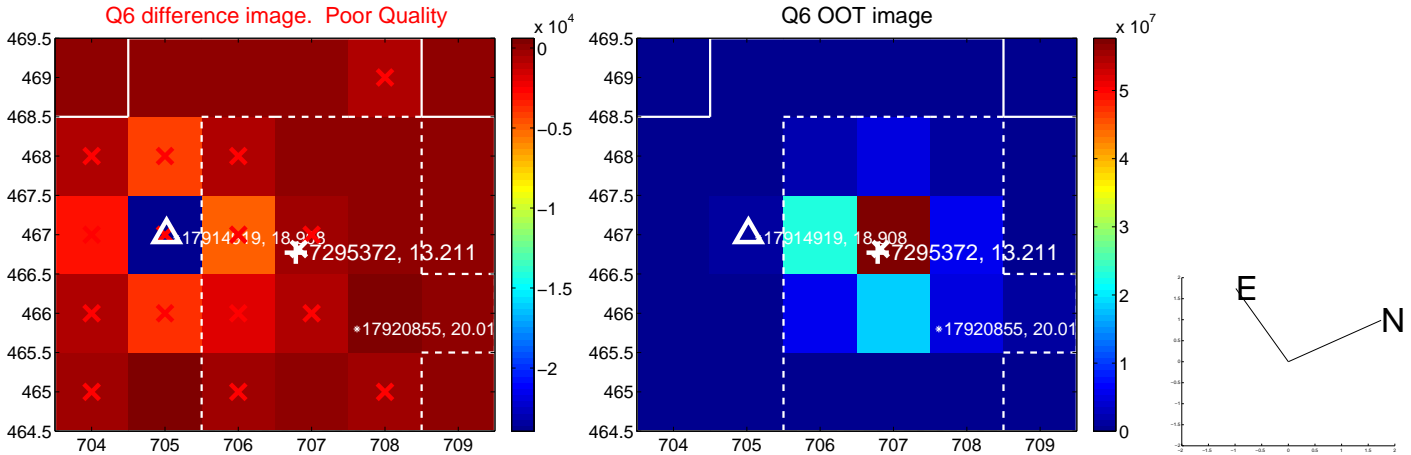
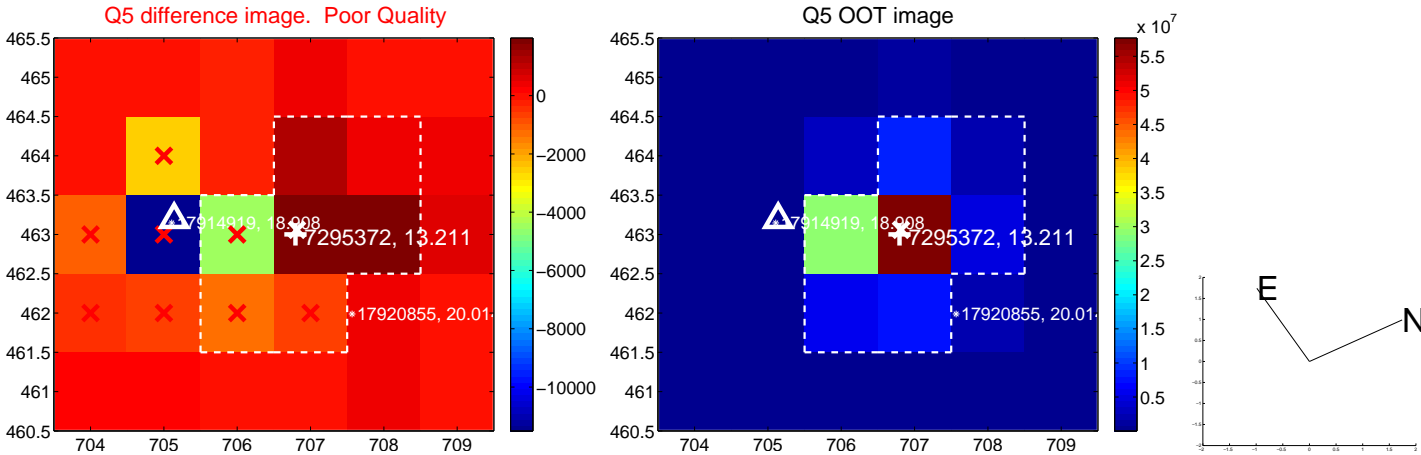


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

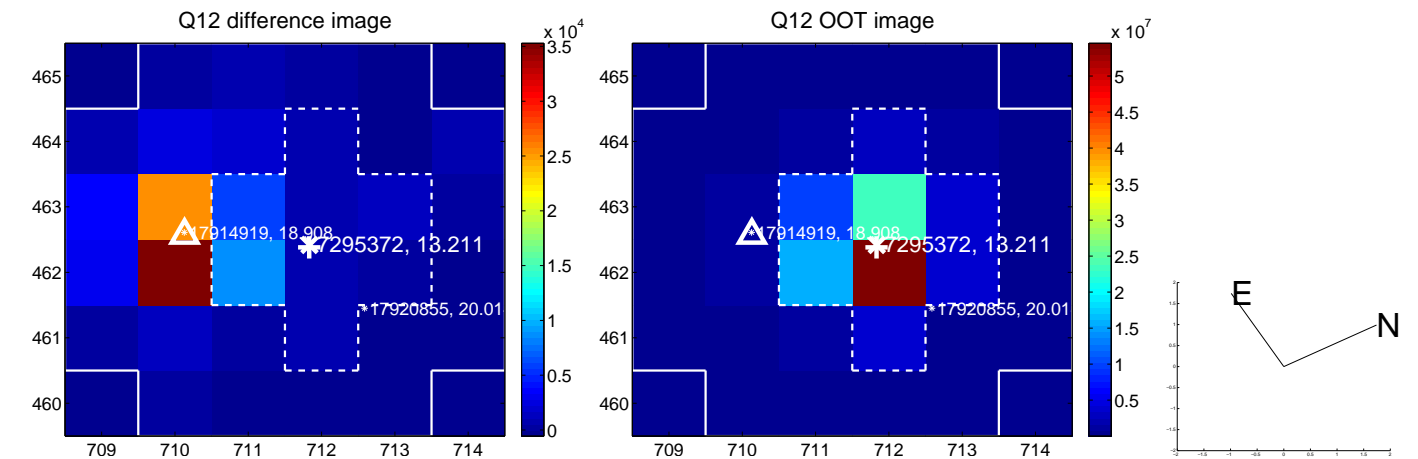
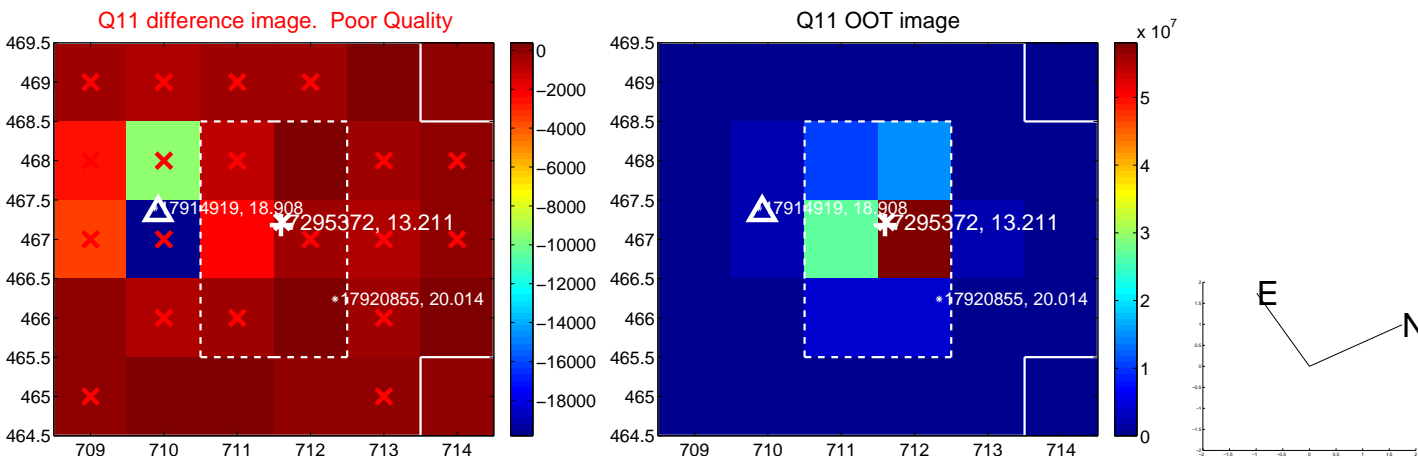
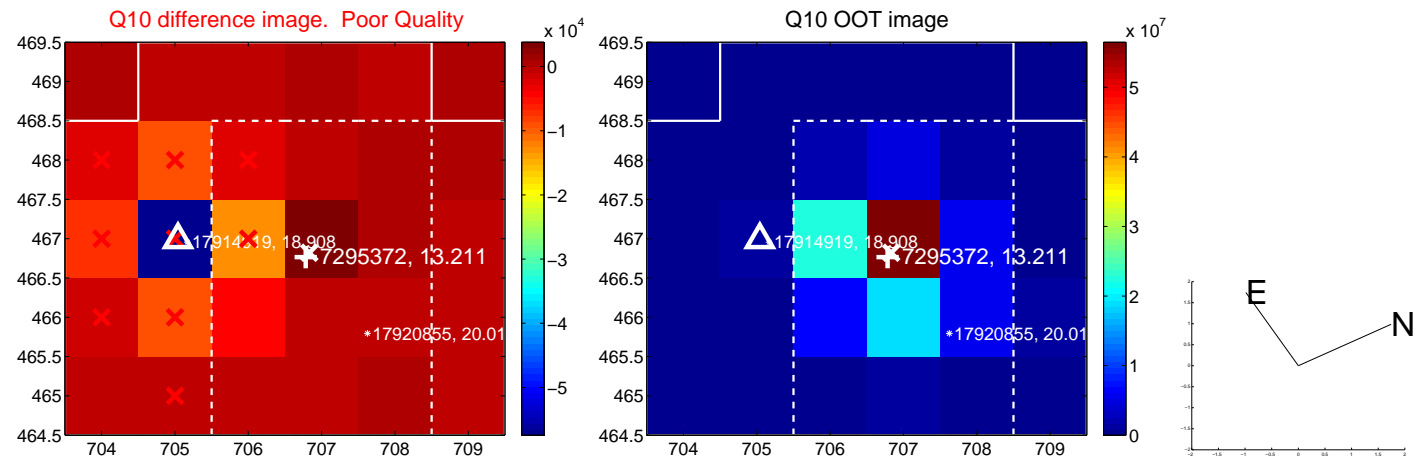
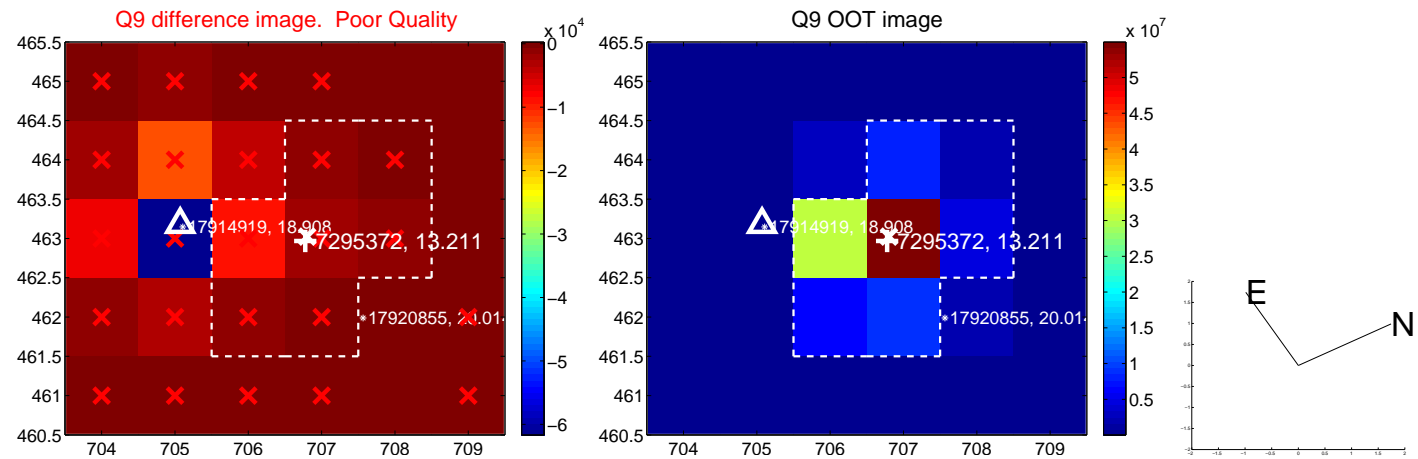


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

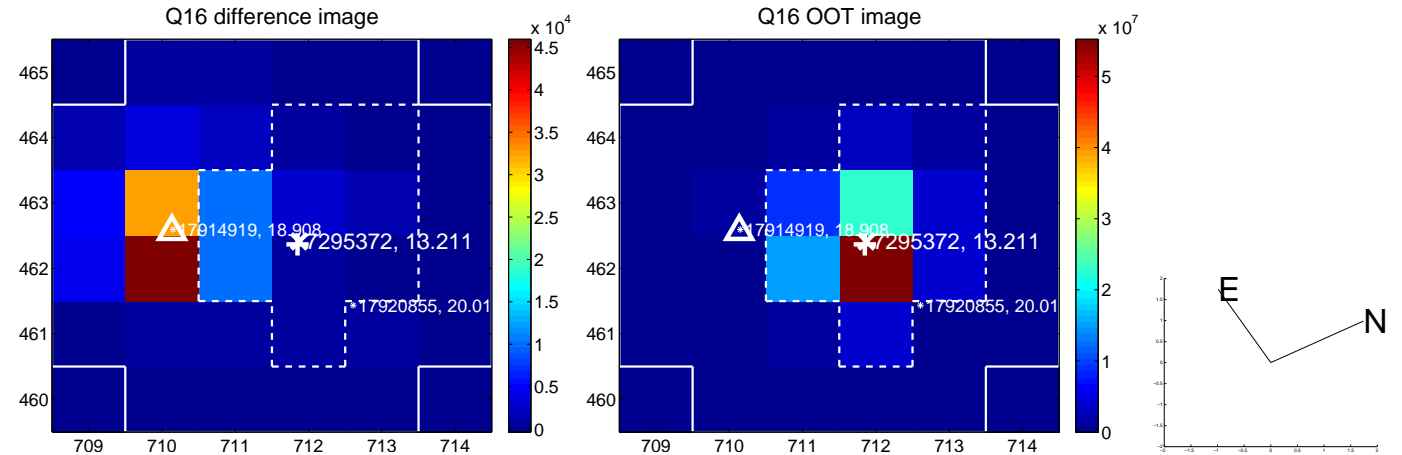
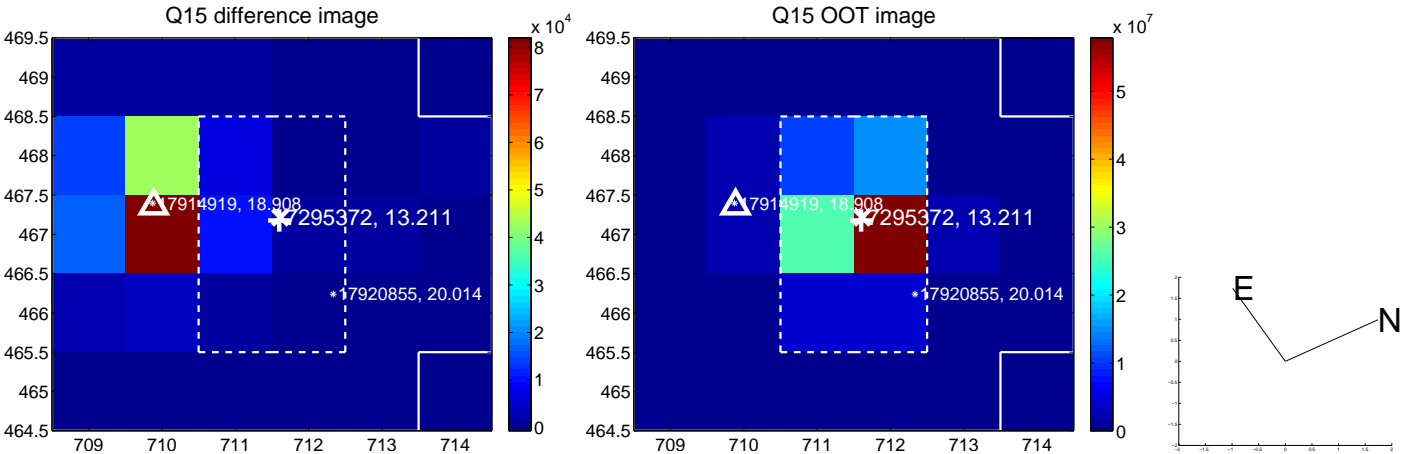
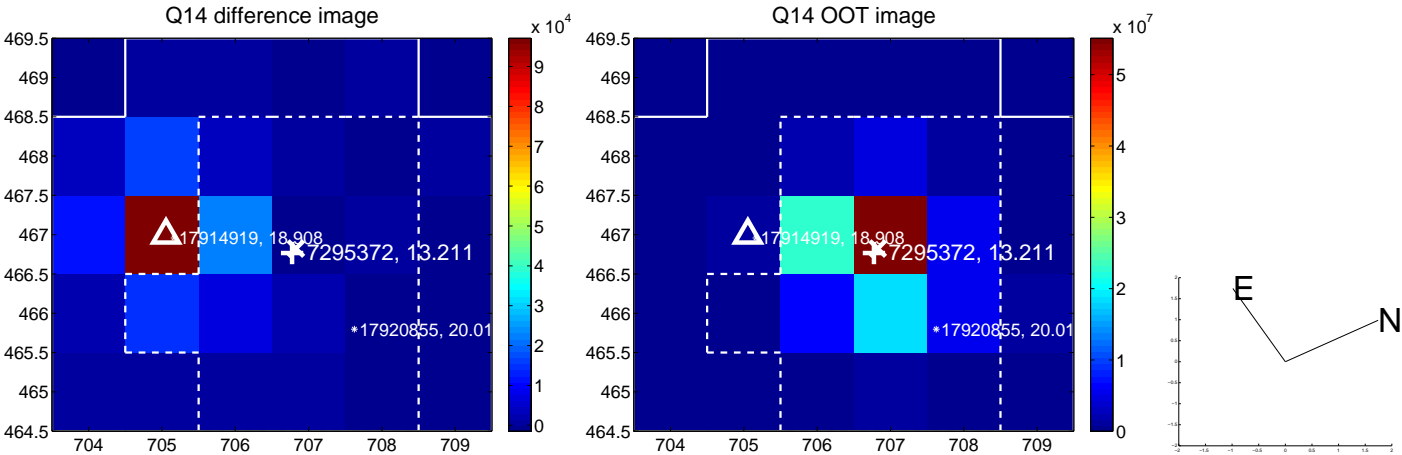
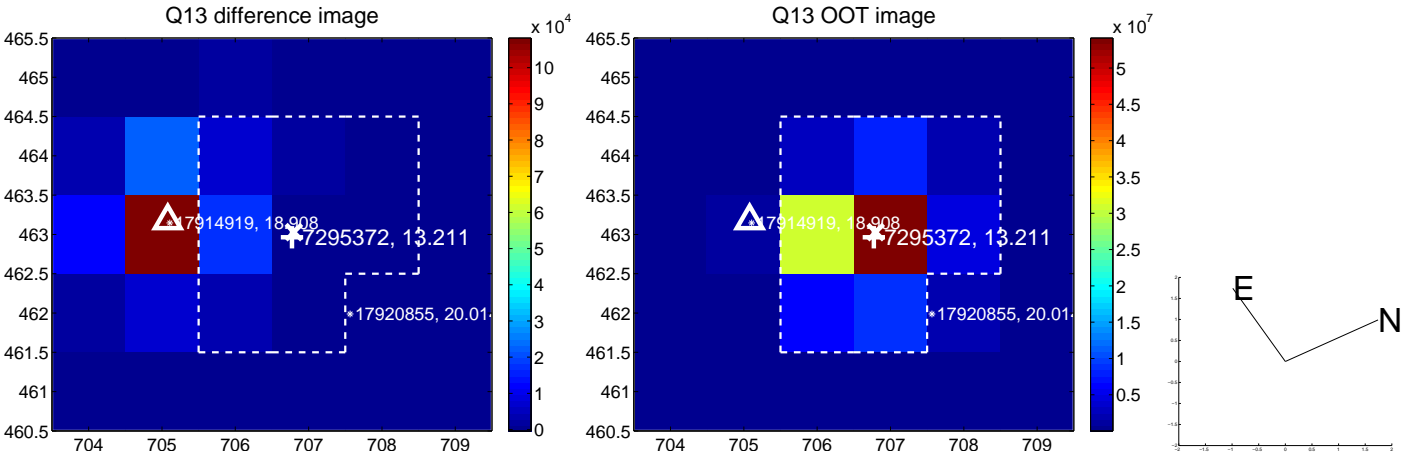




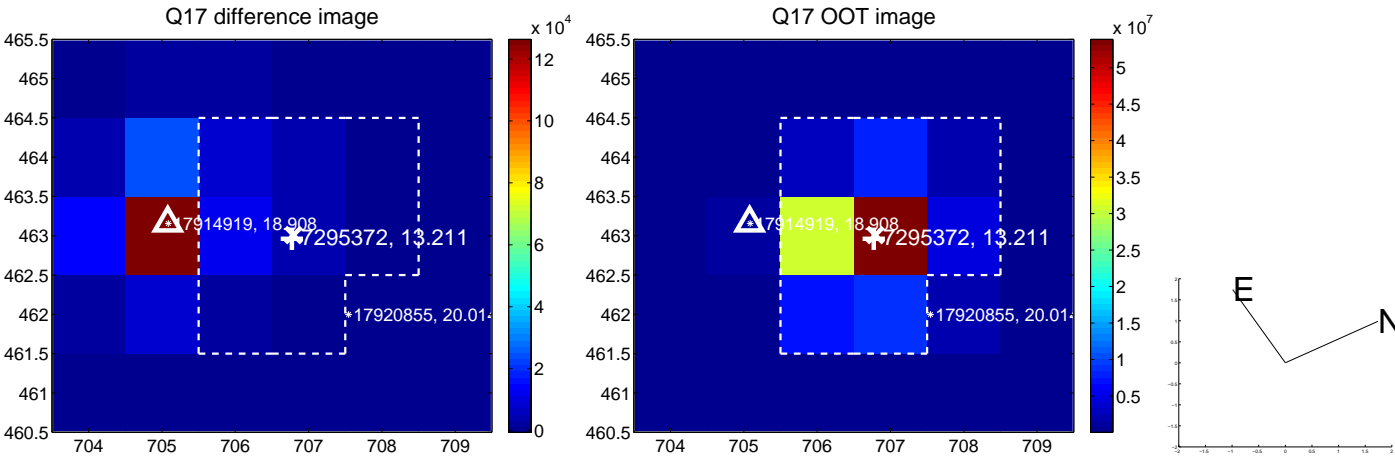
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



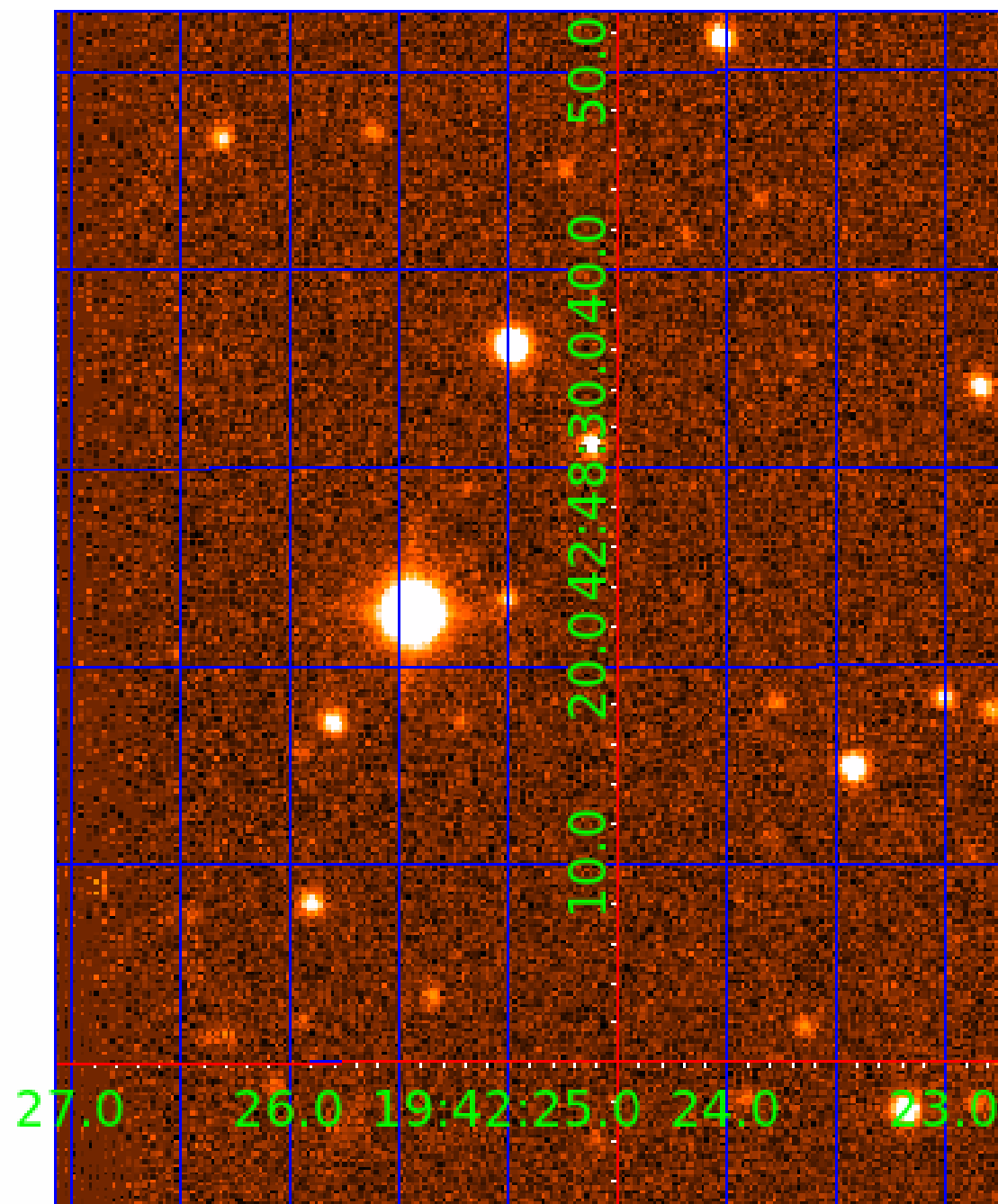
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination





# KIC 007295372

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007295372-01	OBS	No	0.535695	131.808538	1.5	0.502	14.7	0.5	4.42	6487	0.56	0.00
007295372-02	OBS	No	0.535685	131.554425	7.9	4.715	9.2	7.5	4.42	6487	1.35	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007295372-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_RESOLVED_OFFSET
007295372-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_RESOLVED_OFFSET

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

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

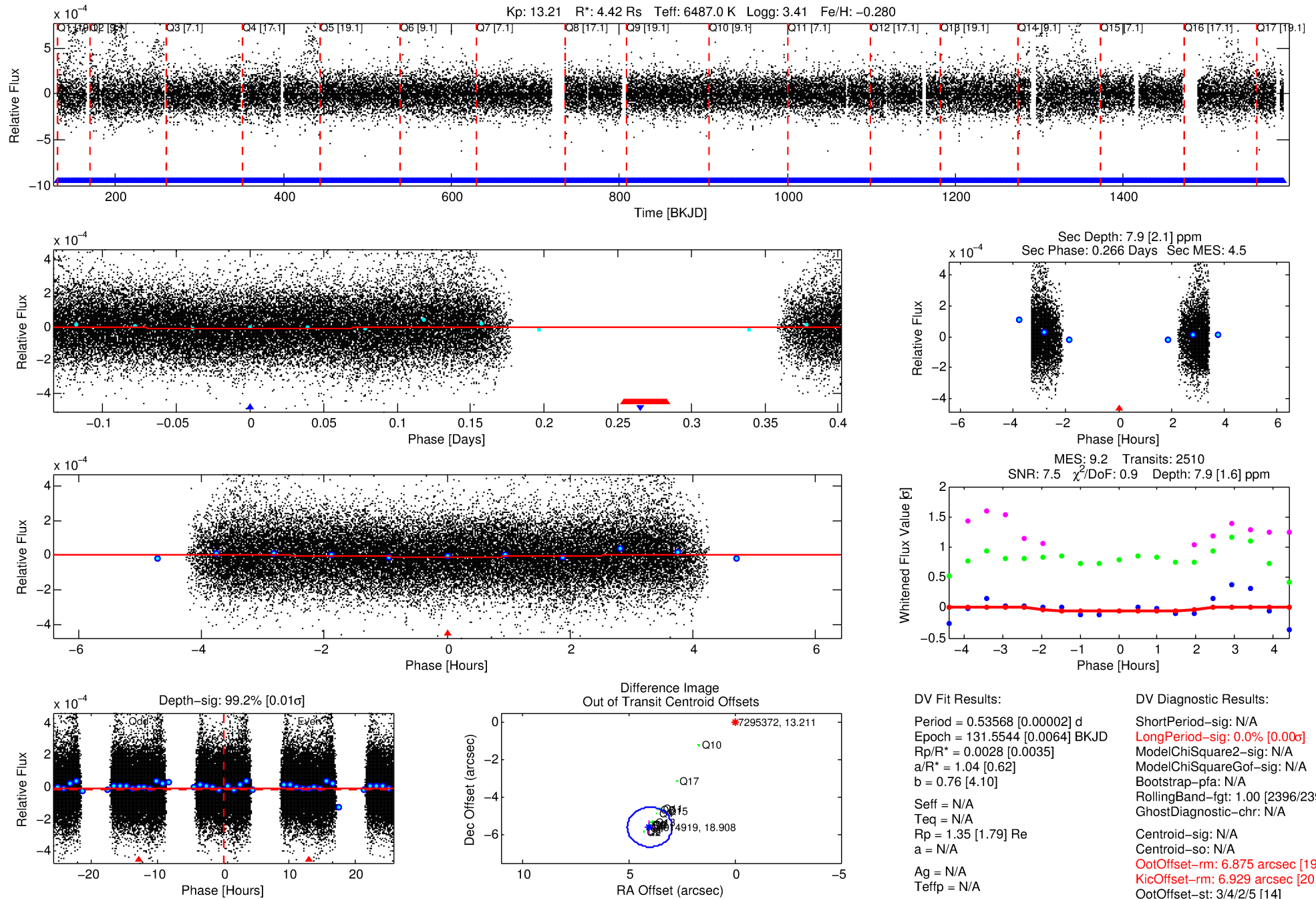
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007295372-02

No Significant Match Found

# DV One-Page Summary

KIC: 7295372 Candidate: 2 of 2 Period: 0.536 d



## DV Fit Results:

Period = 0.53568 [0.00002] d  
Epoch = 131.5544 [0.0064] BKJD  
Rp/R\* = 0.0028 [0.0035]  
a/R\* = 1.04 [0.62]  
b = 0.76 [4.10]  
Seff = N/A  
Teq = N/A  
Rp = 1.35 [1.79] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

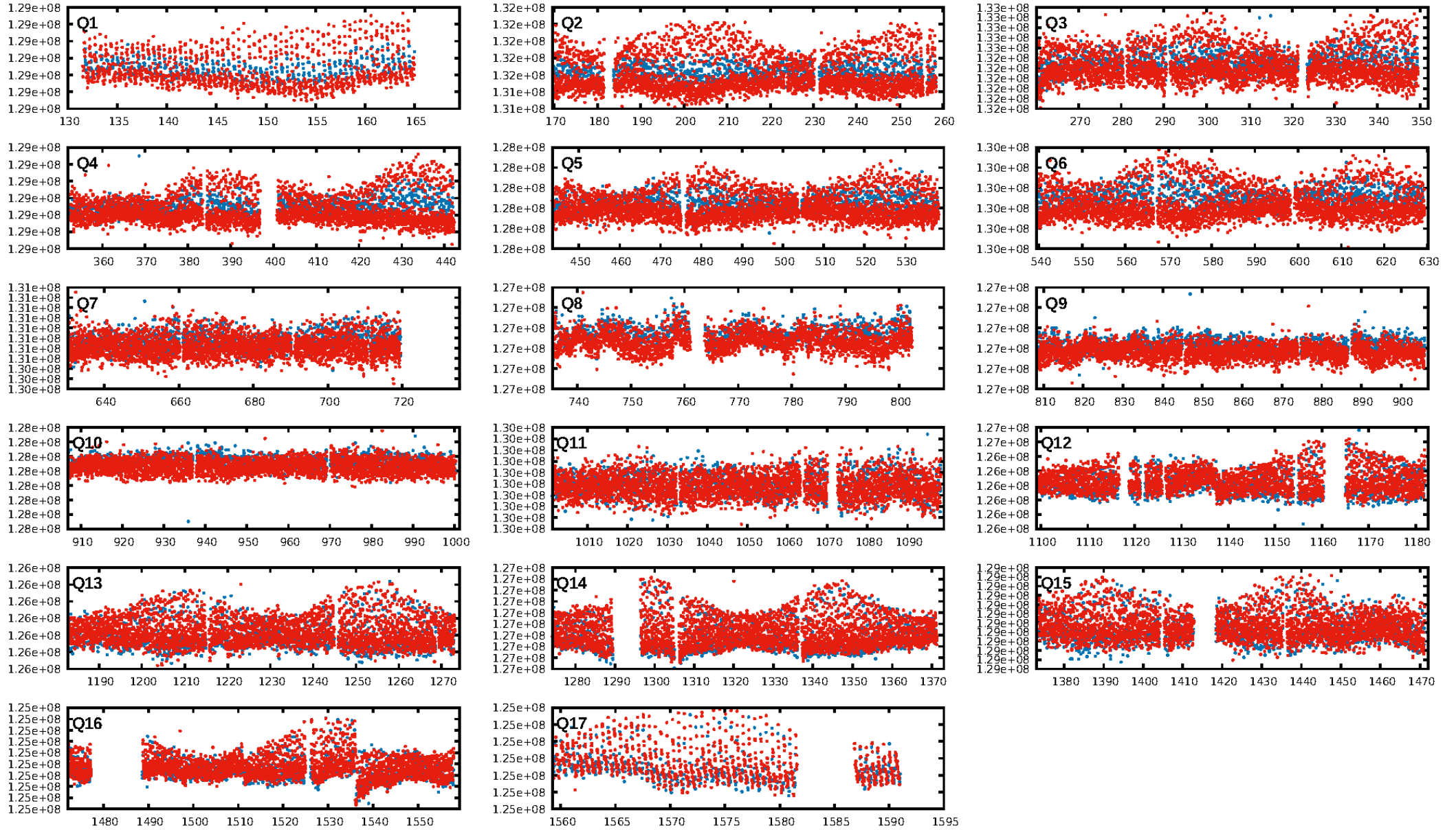
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2396/2396]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 6.875 arcsec [19.50 $\sigma$ ]  
KicOffset-rm: 6.929 arcsec [20.08 $\sigma$ ]  
OotOffset-st: 3/4/2/5 [14]  
KicOffset-st: 3/4/2/5 [14]  
DiffImageQuality-fgm: 0.79 [11/14]  
DiffImageOverlap-fno: 0.00 [0/17]

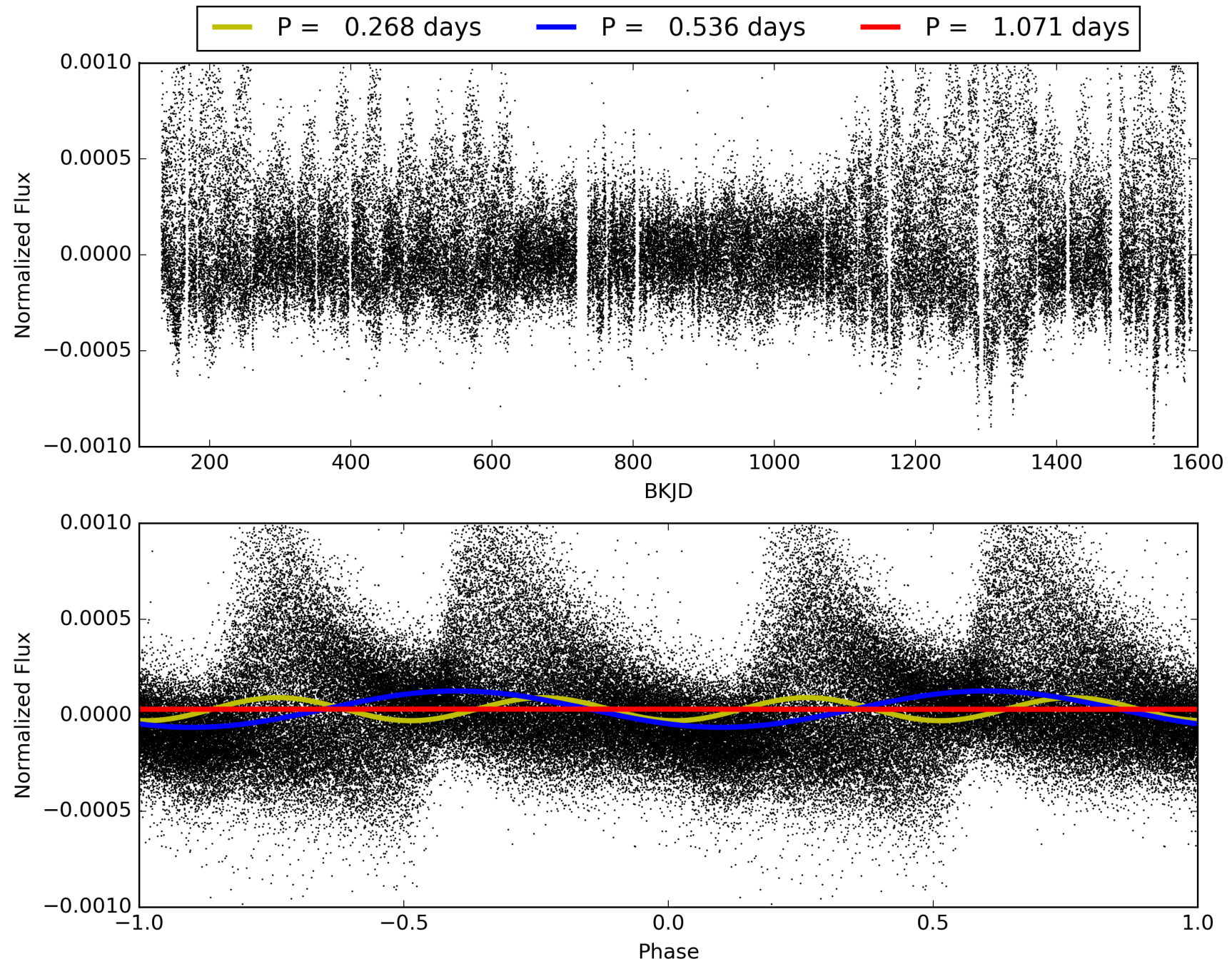
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:06:55 Z

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

# TCE 007295372-02, PDC Light Curves



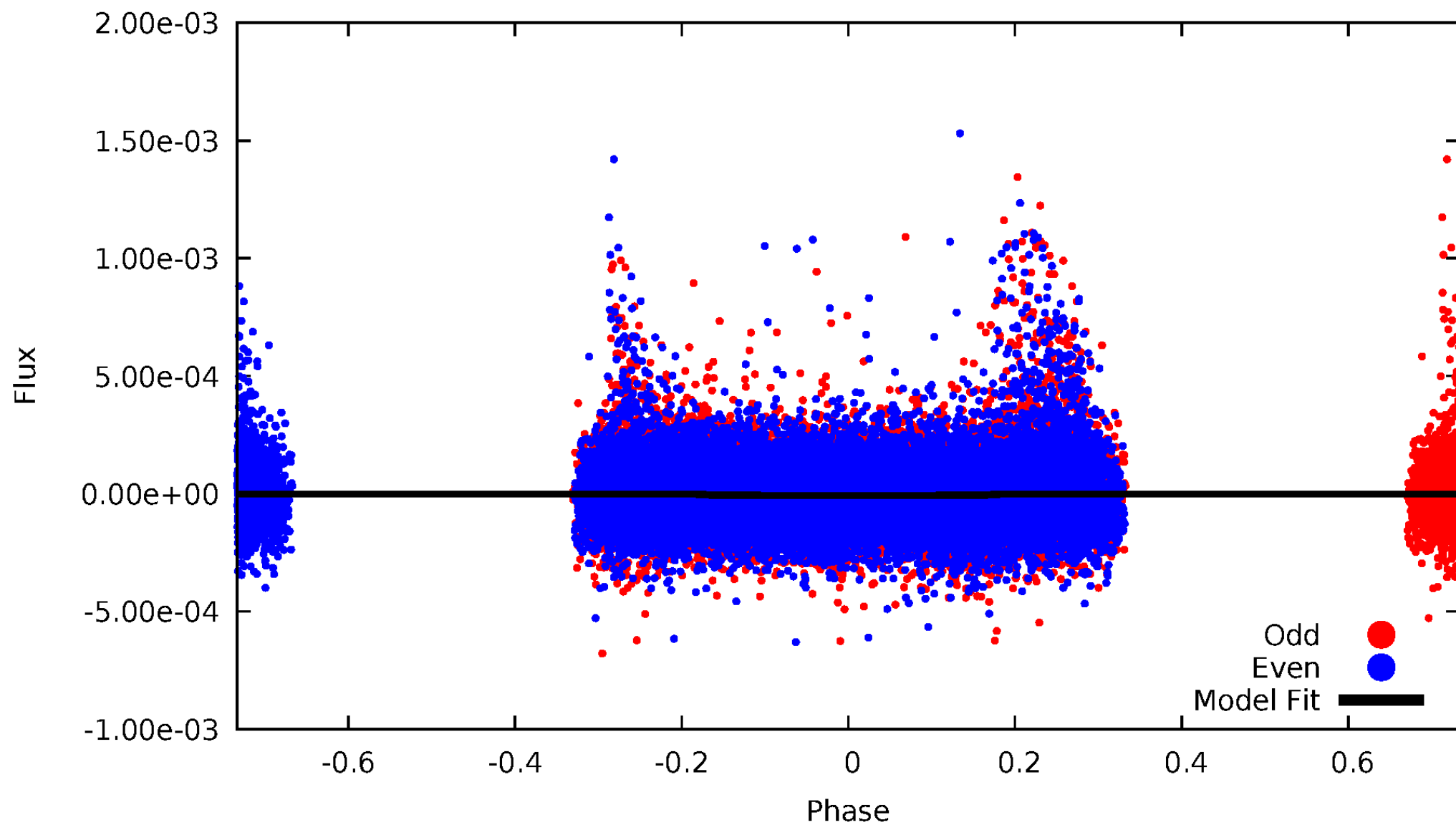
TCE 007295372-02





# DV Odd/Even

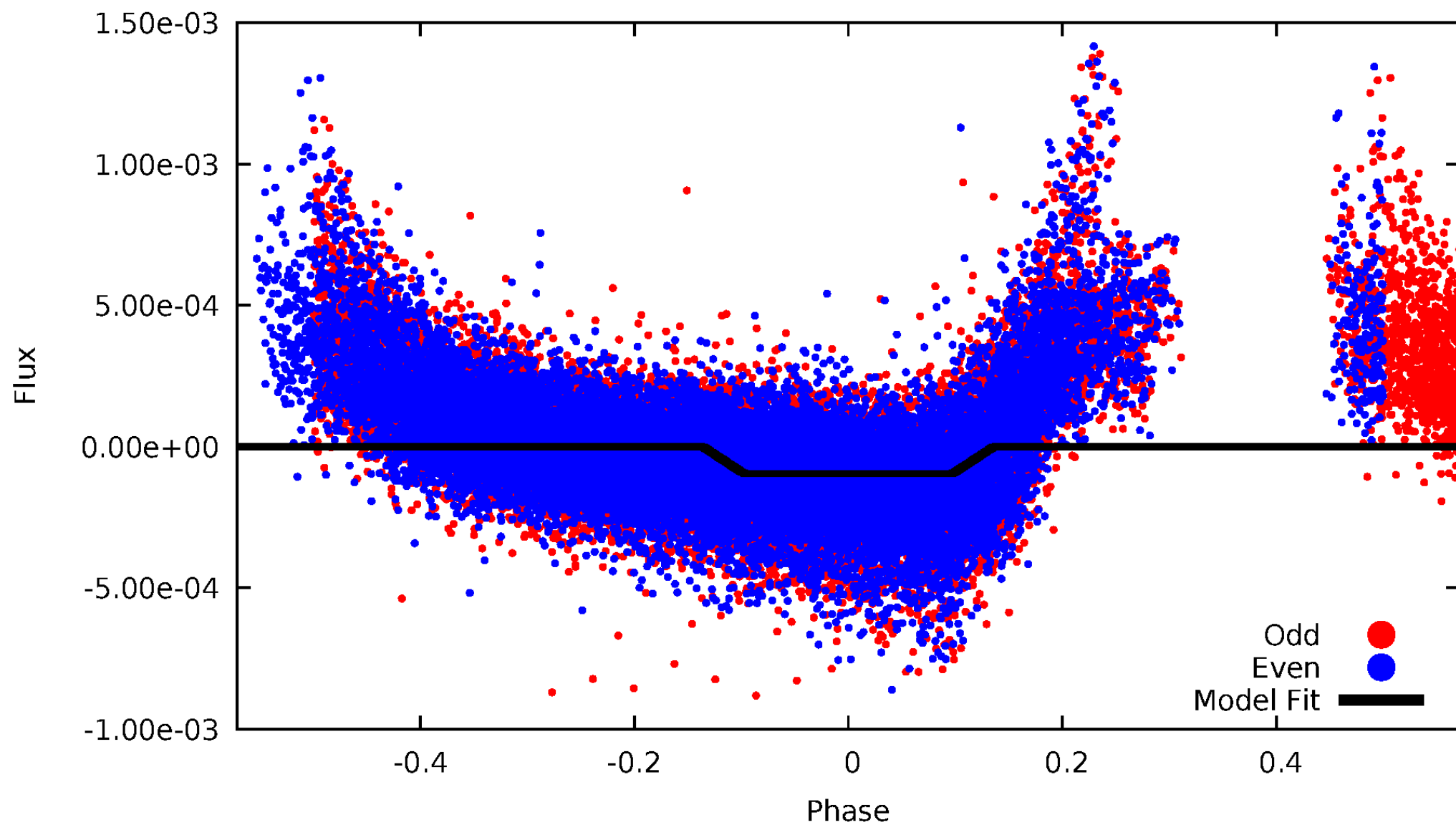
TCE 007295372-02





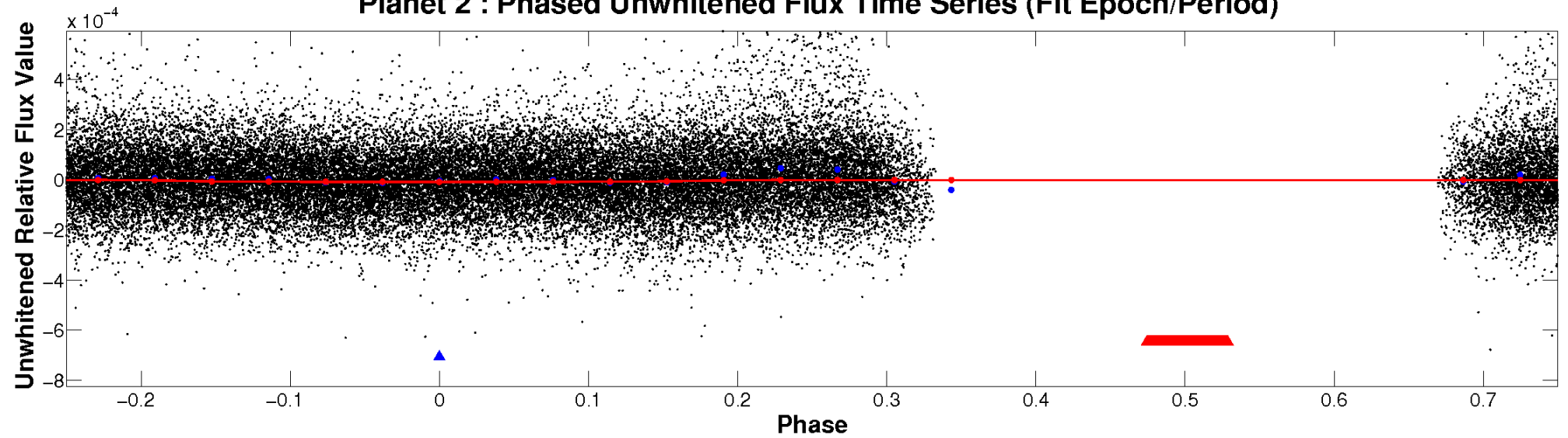
# ALT Odd/Even

TCE 007295372-02

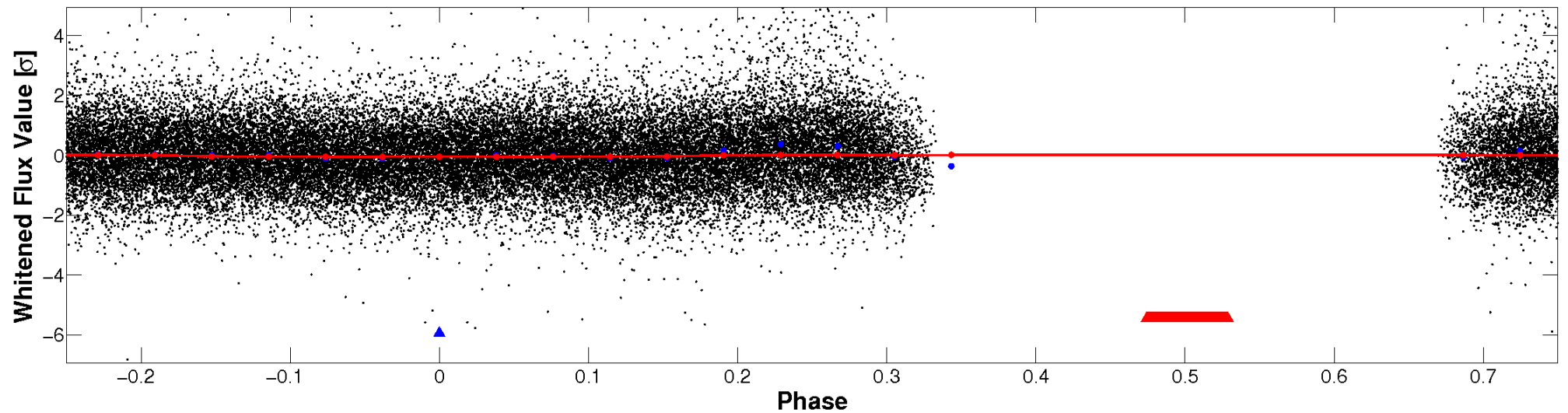


# Non-Whitened Vs. Whitened Light Curve

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

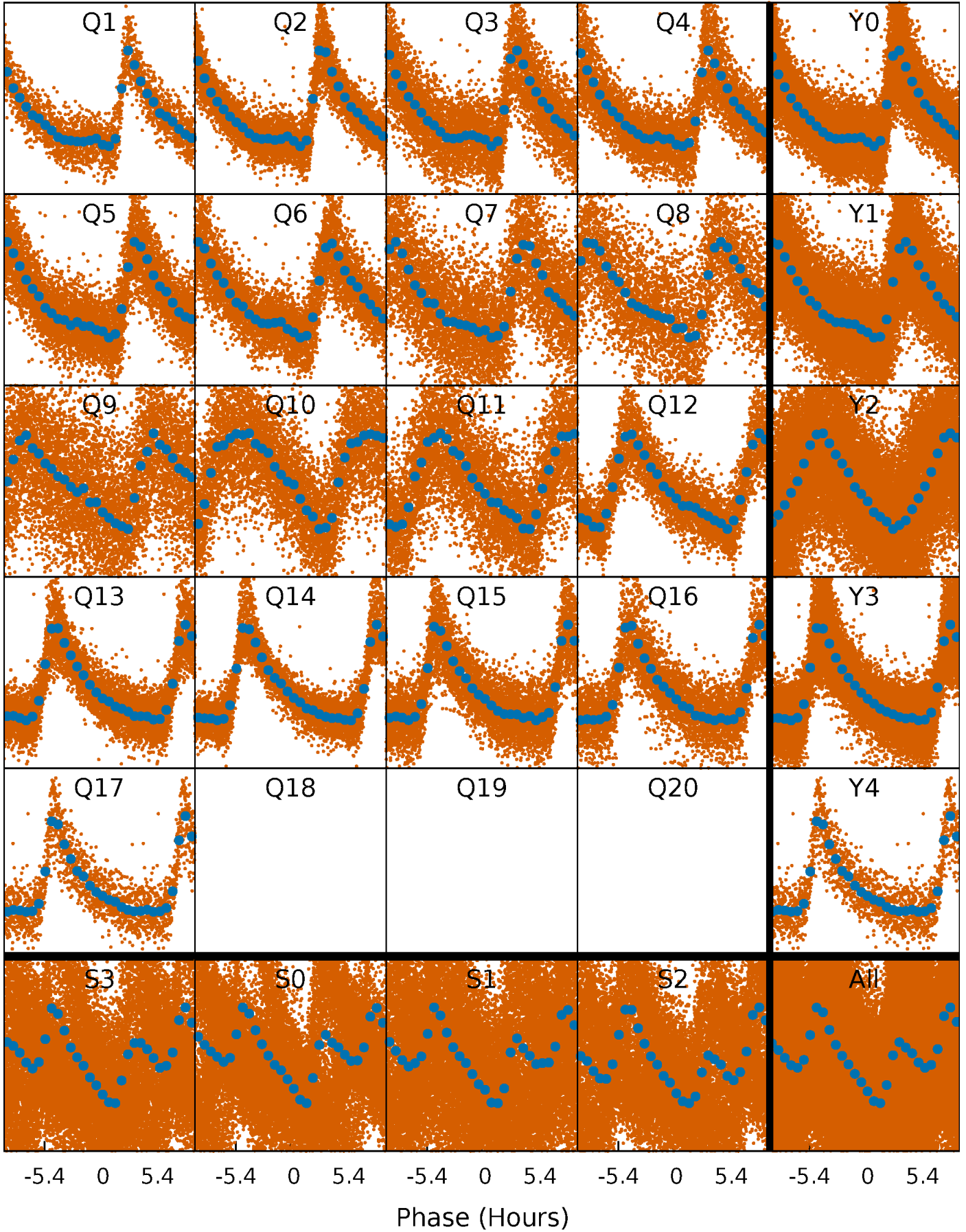


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



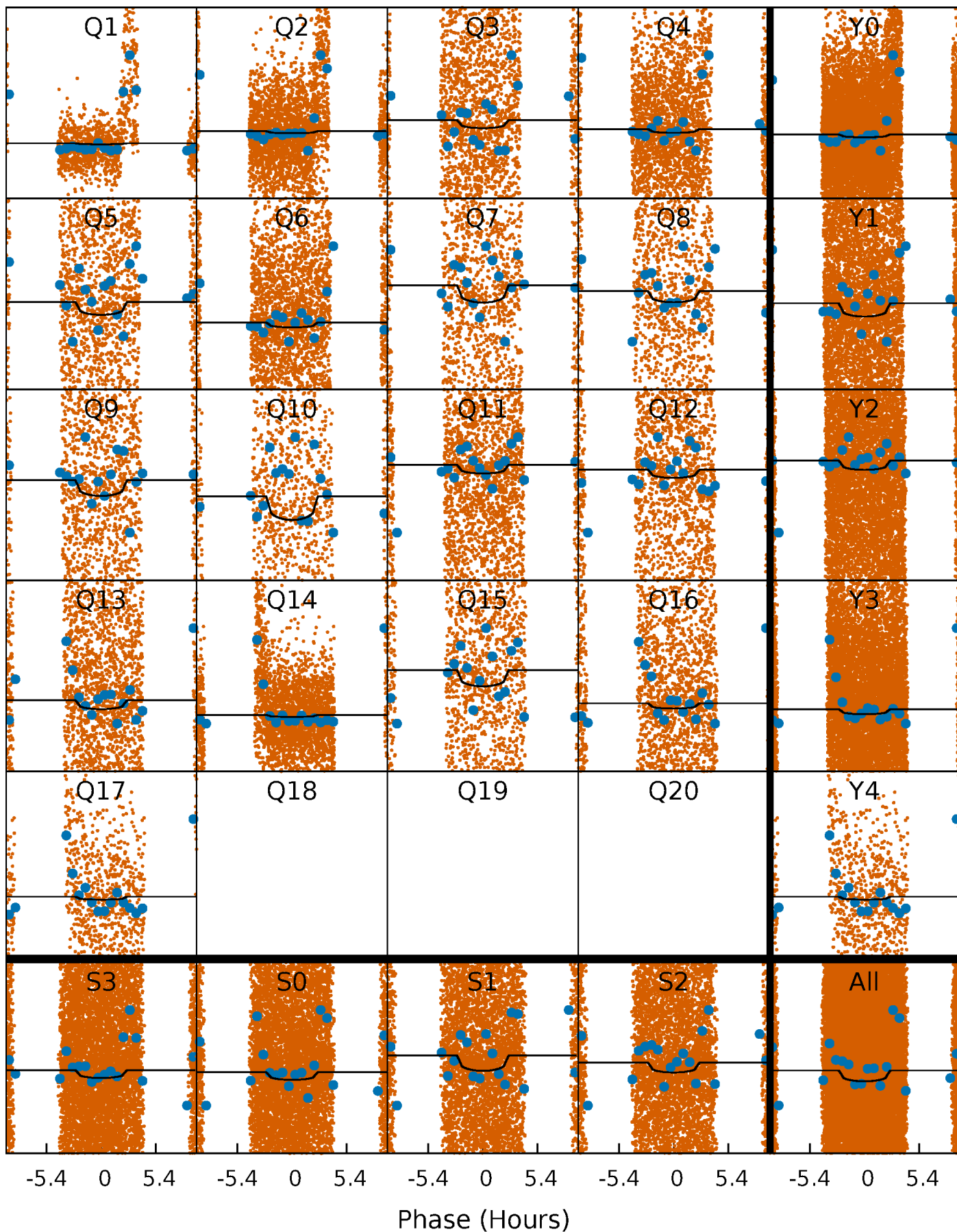
# PDC Quarter-Phased Transit Curves

TCE 007295372-02   P= 0.535685 Days    $T_0=131.554425$  (BKJD)



# DV Quarter-Phased Transit Curves

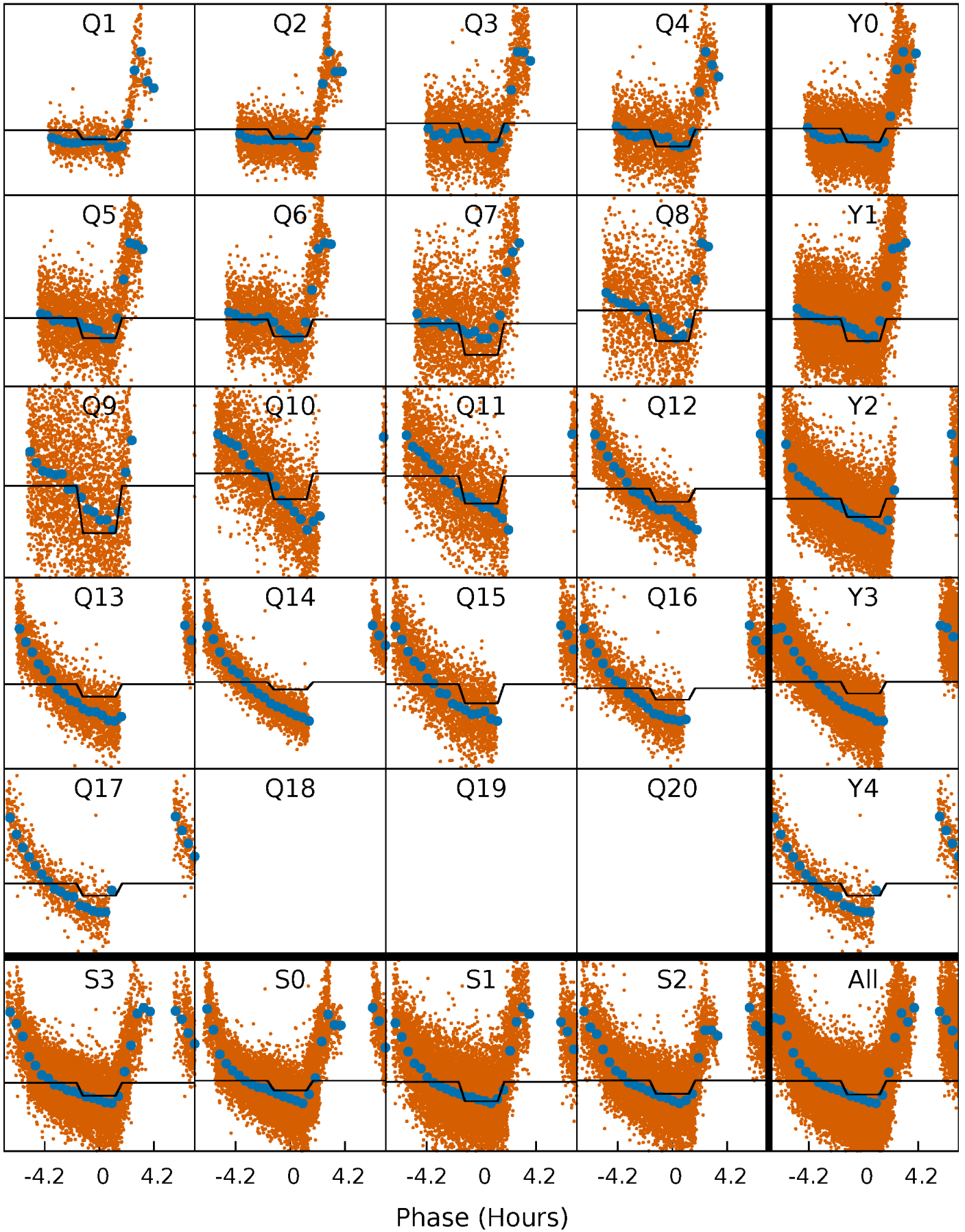
TCE 007295372-02     $P = 0.535685$  Days     $T_0 = 131.554425$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

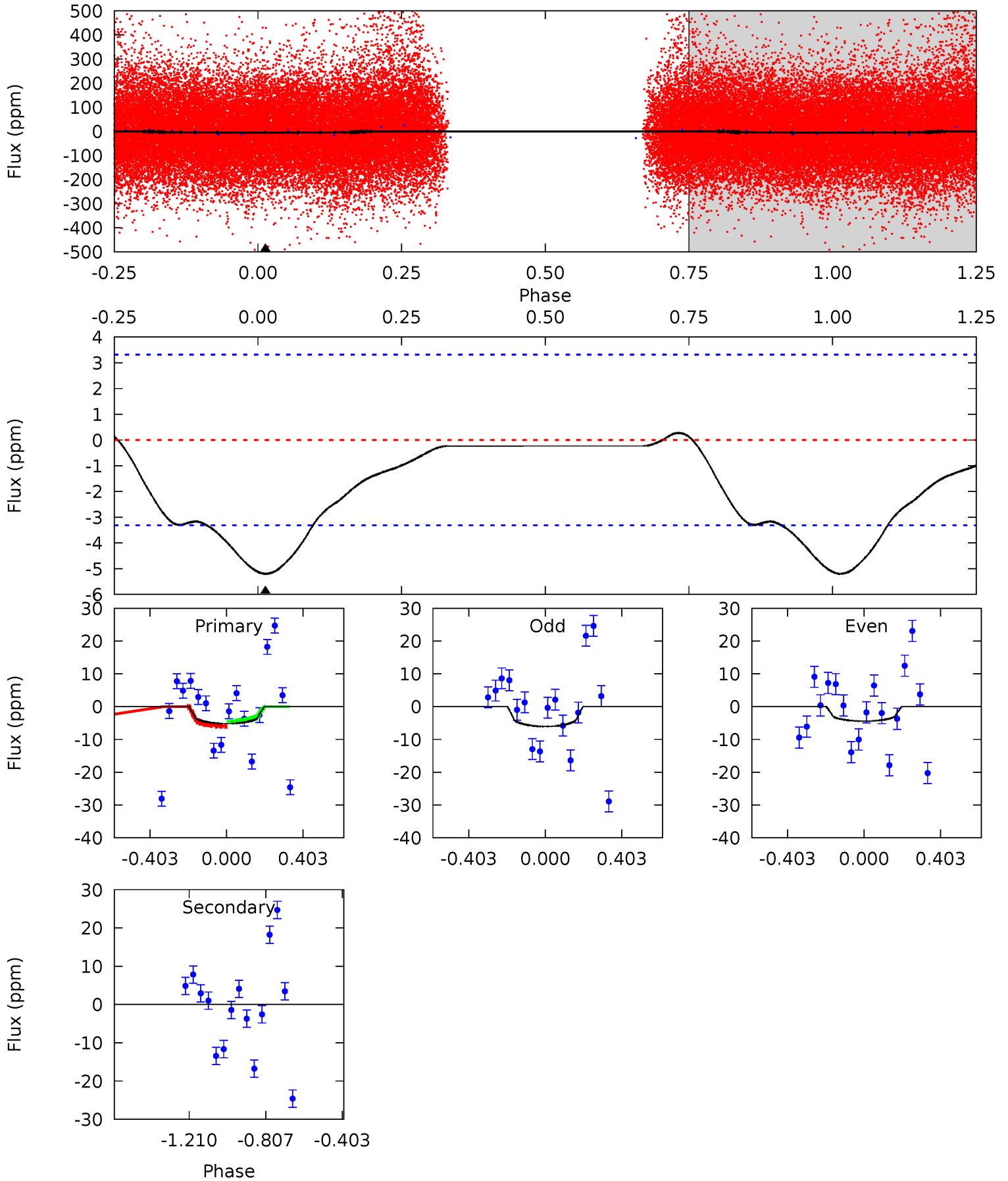
TCE 007295372-02     $P = 0.535746$  Days     $T_0 = 131.537379$  (BKJD)



# DV Model-Shift Uniqueness Test

007295372-02, P = 0.535685 Days, E = 131.018740 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
6.69	0	0	0	4.26	0.84	0.36	6.69	6.69	0	0	1.04	0.93	0.05	0.96

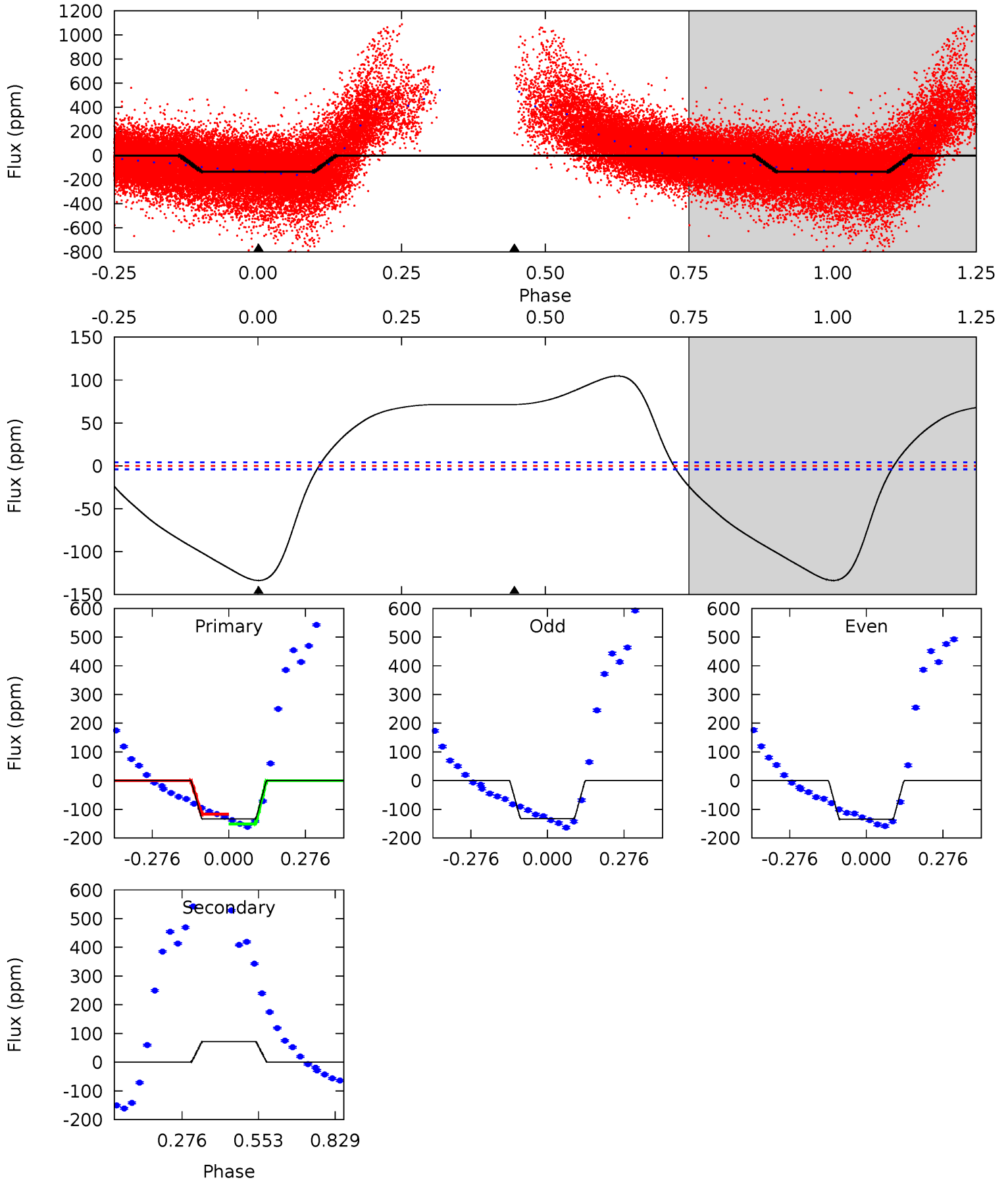




# Alt Model-Shift Uniqueness Test

007295372-02, P = 0.535746 Days, E = 131.001633 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
144.2	-77.2	0	0	4.35	1.09	23.0	144.2	144.2	-77.2	-77.2	1.35	1.16	0.44	6.16



### Stellar Parameters For KIC 007295372

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6487^{+179}_{-179}$	$3.410^{+0.399}_{-0.070}$	$-0.280^{+0.350}_{-0.300}$	$4.419^{+0.639}_{-1.790}$	$1.831^{+0.144}_{-0.460}$	$0.030^{+0.096}_{-0.009}$
	+3%/-3%	+12%/-2%	+125%/-107%	+14%/-41%	+8%/-25%	+321%/-31%
Source	PHO1	FLK73	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 007295372-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1$	$1.52^{+1.47}_{-1.00}$	$6485^{+394}_{-755}$	$-5340^{+756}_{-432}$	$-0.001^{+0.067}_{-0.073}$
Alt.	$71 \pm 1$	$4.17^{+1.93}_{-1.59}$	$6487^{+400}_{-694}$	$-6796^{+682}_{-1465}$	$-0.553^{+0.293}_{-0.883}$

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

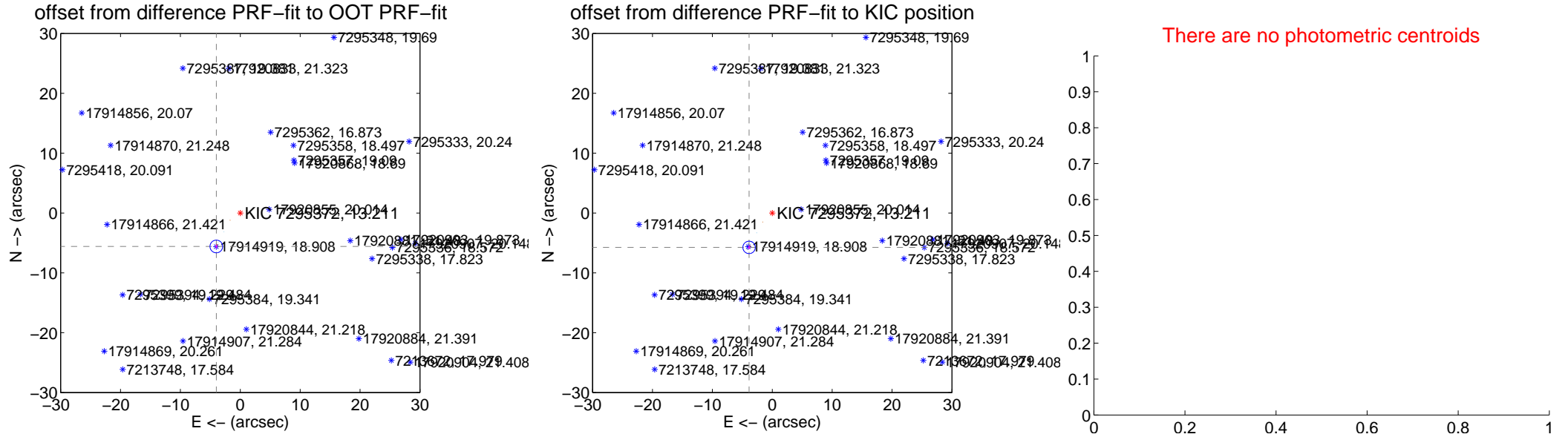
## DV Centroid Data

Supplemental centroid analysis for 007295372-02. Kepler magnitude: 13.21. Transit SNR 7.50

There are 11 quarters with good PRF difference image offsets

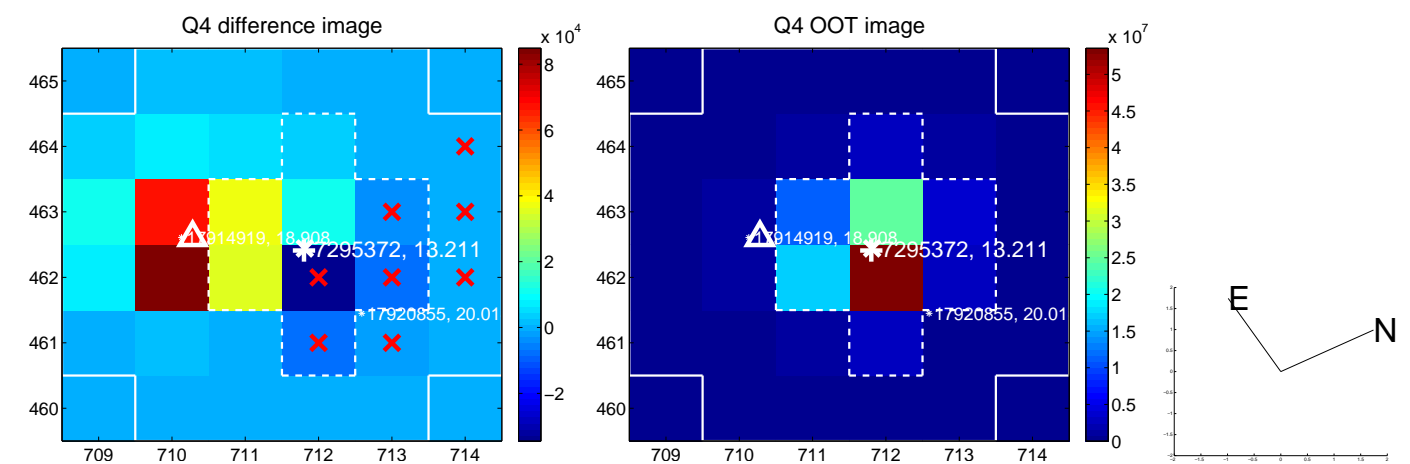
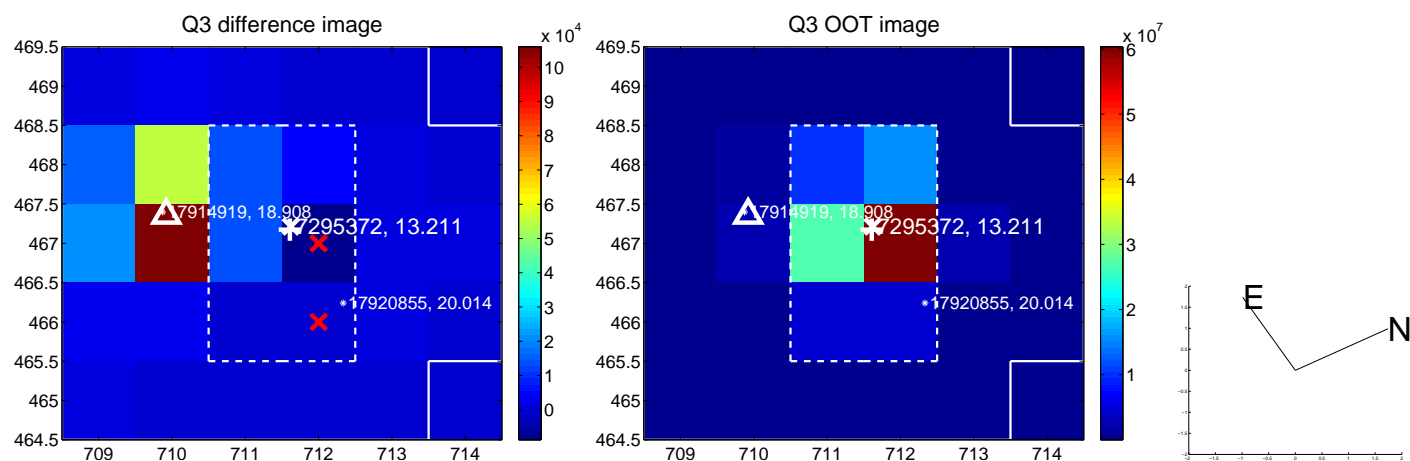
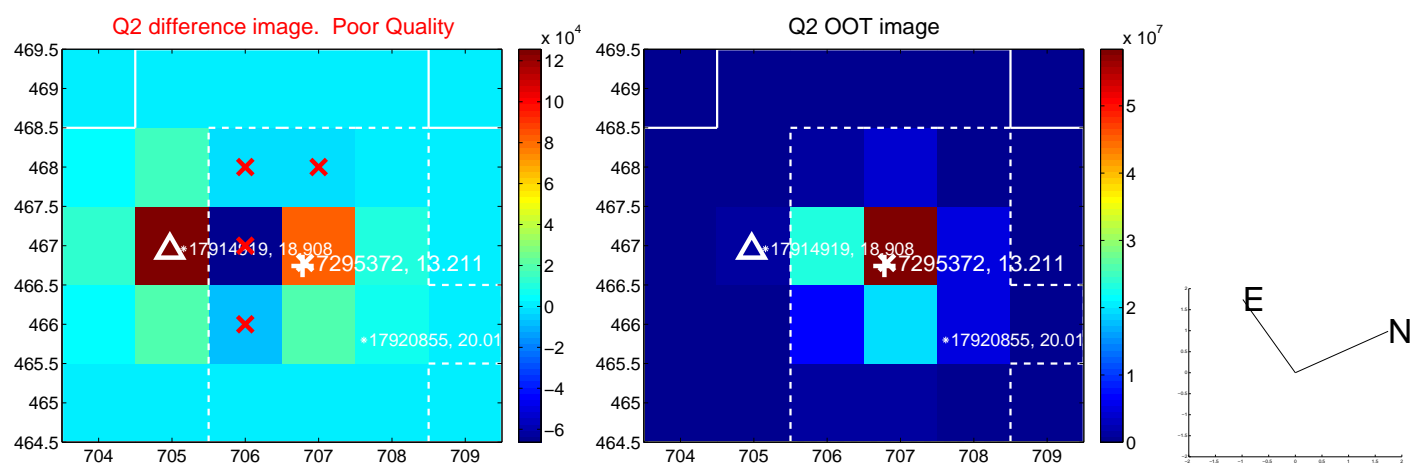
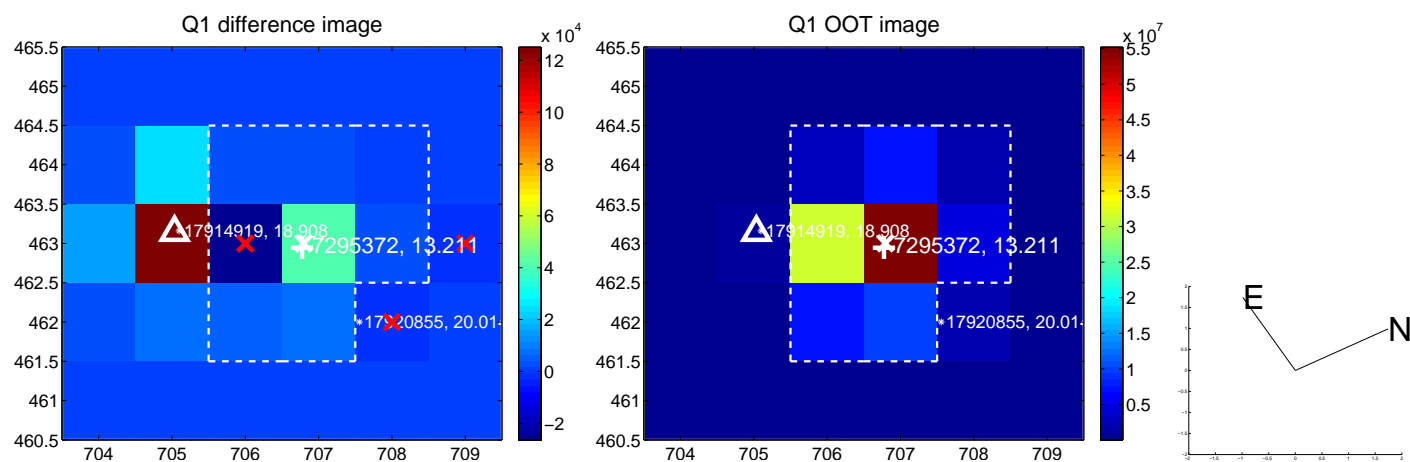
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>6.875 \pm 0.353</math></b>	<b>19.50</b>	$4.002 \pm 0.183$	$-5.590 \pm 0.312$
PRF-fit source offset from KIC position	<b><math>6.929 \pm 0.345</math></b>	<b>20.08</b>	$3.871 \pm 0.178$	$-5.747 \pm 0.305$
photometric centroid source offset	—	—	—	—

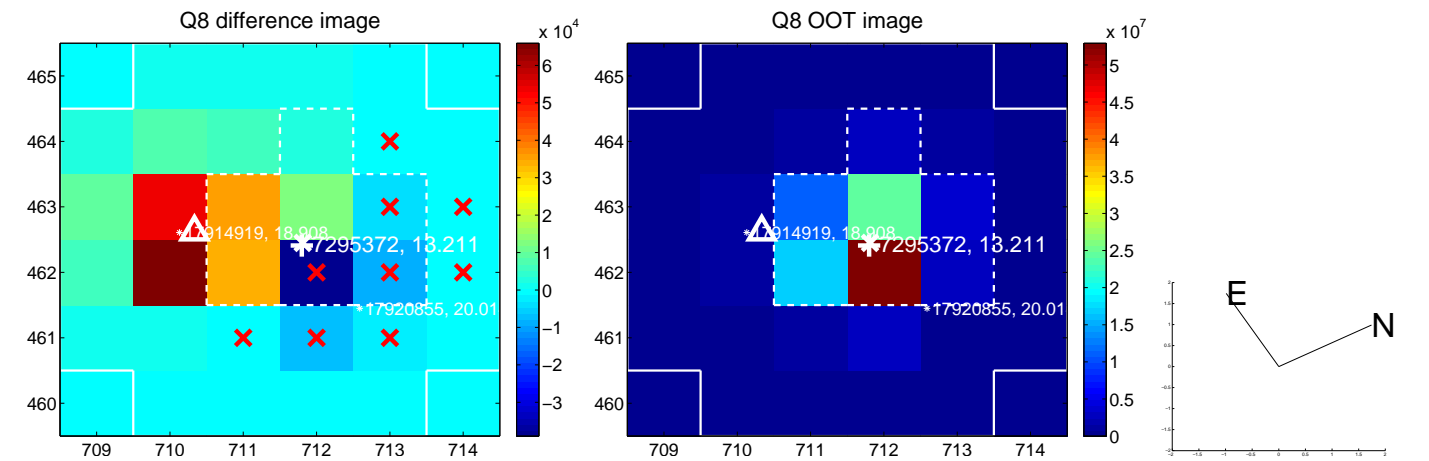
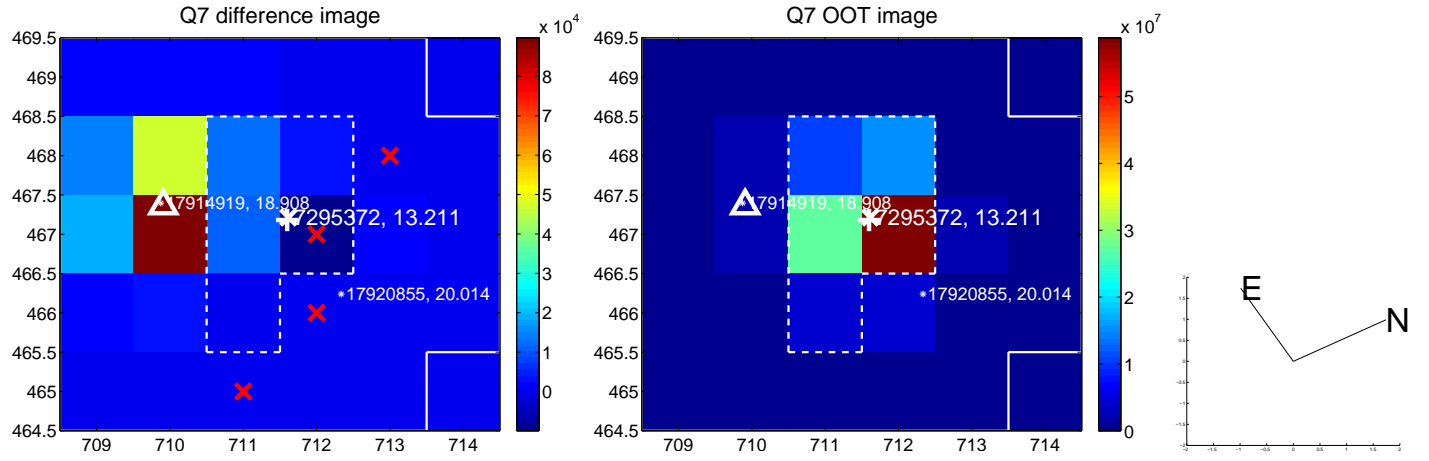
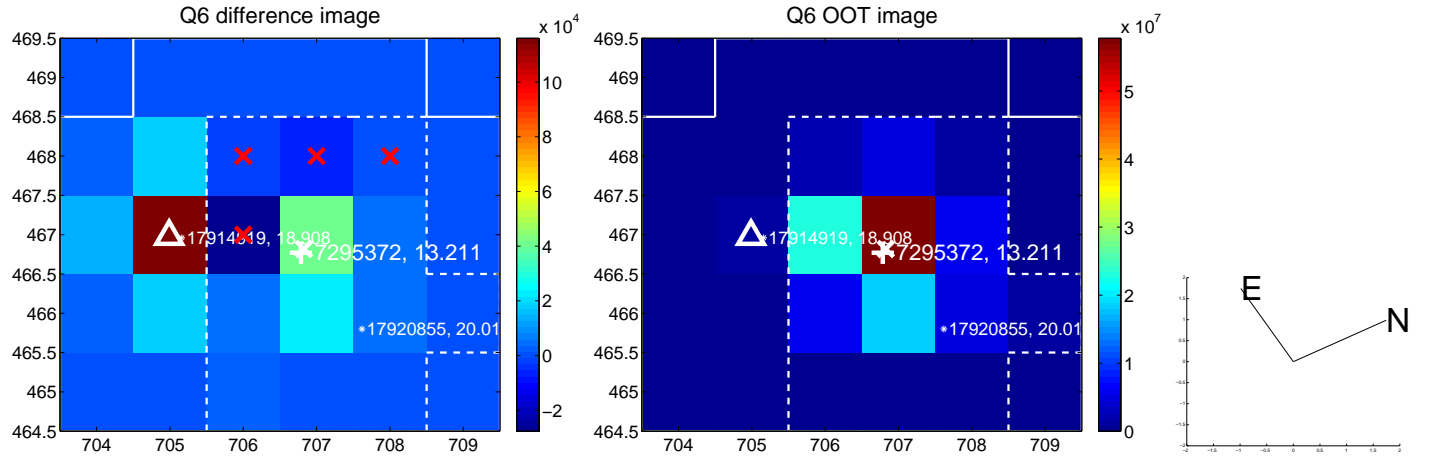
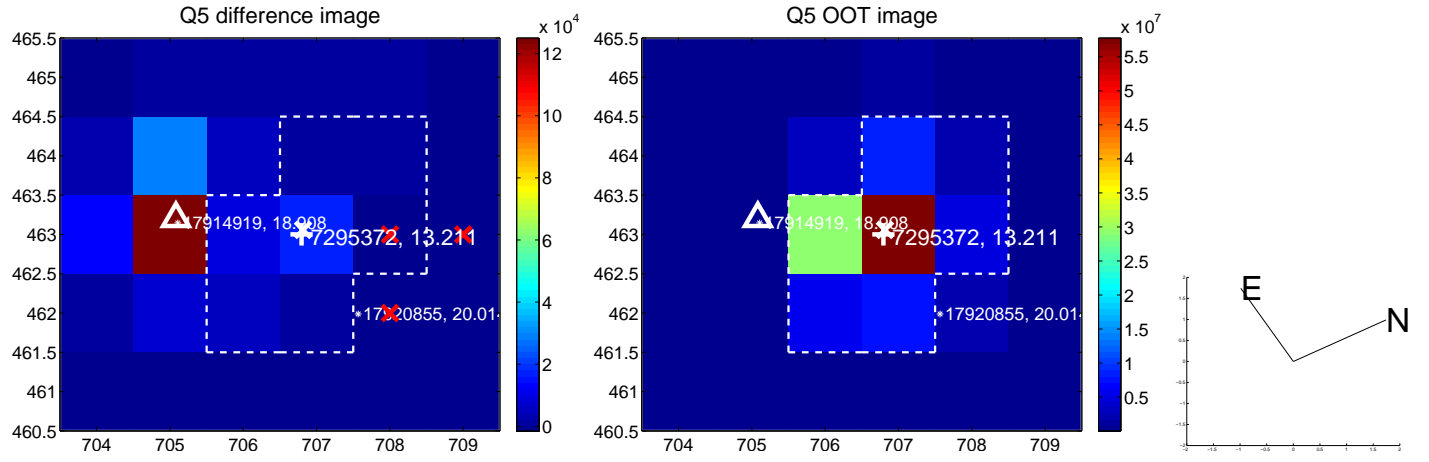


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

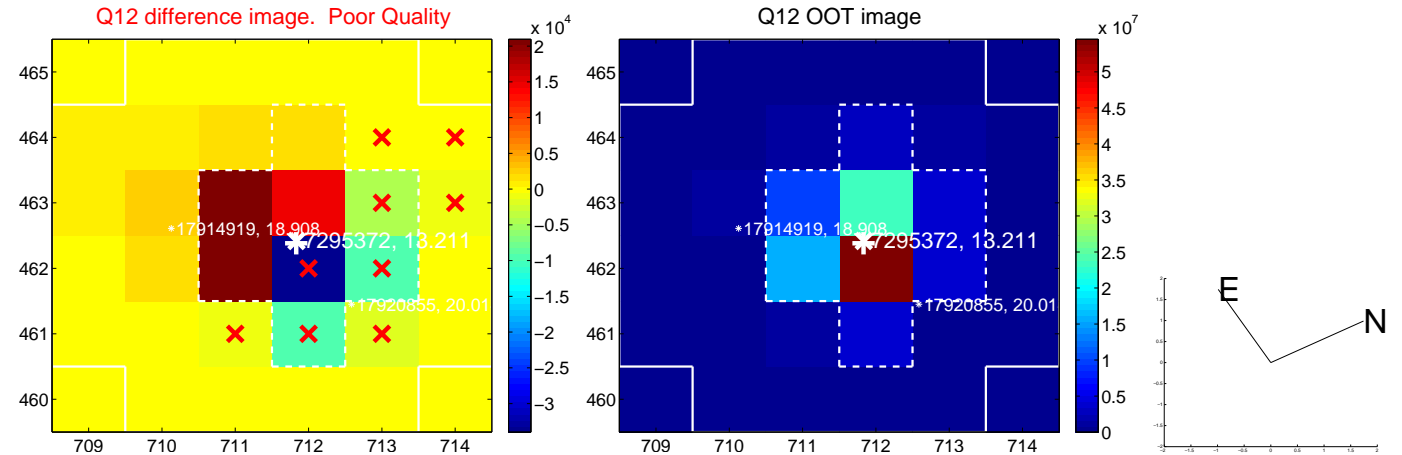
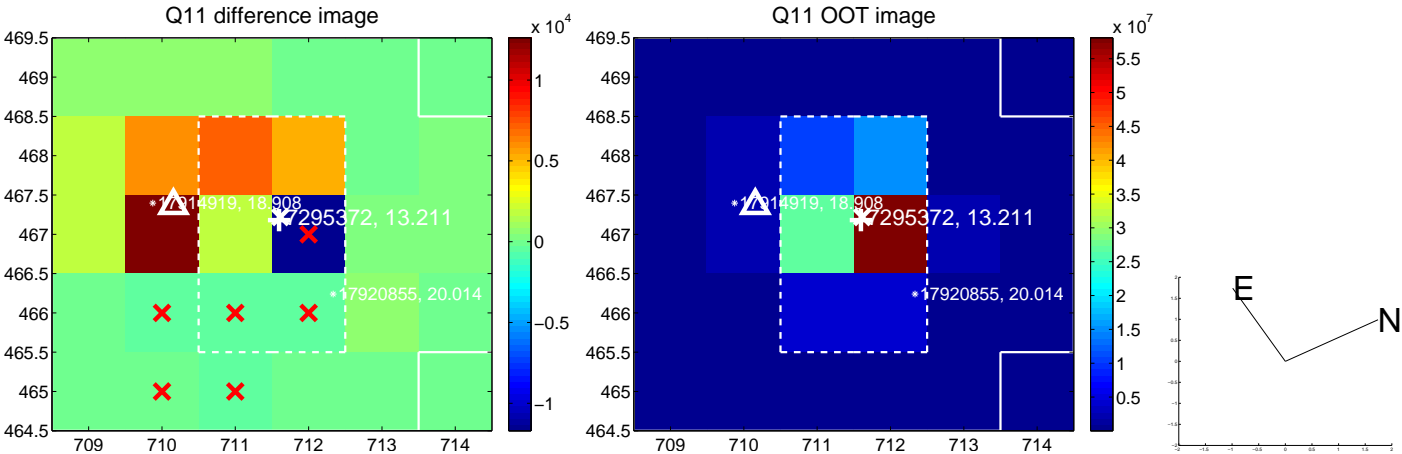
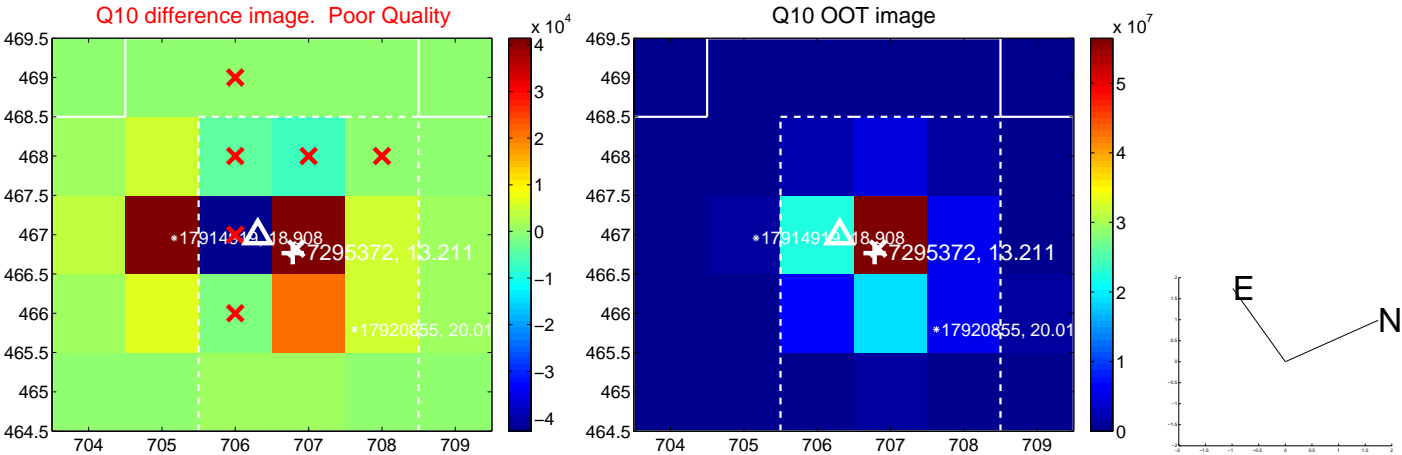
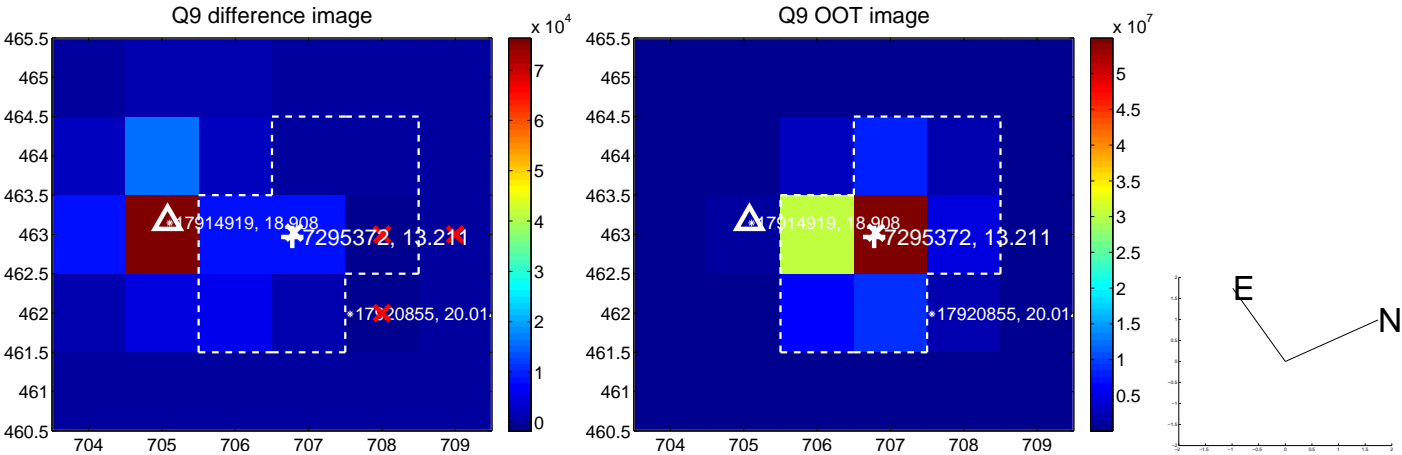
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

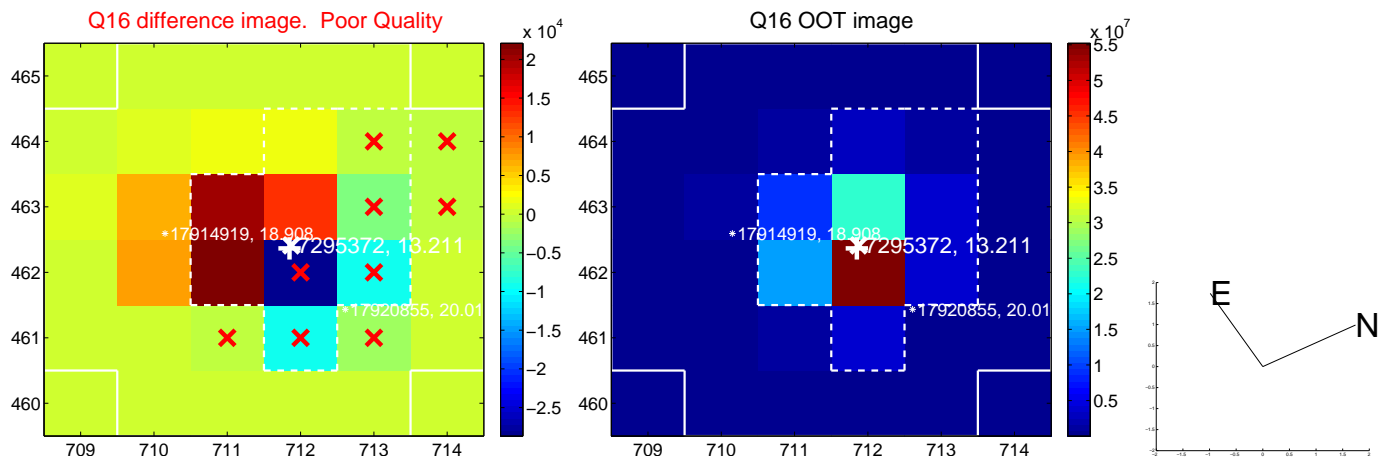
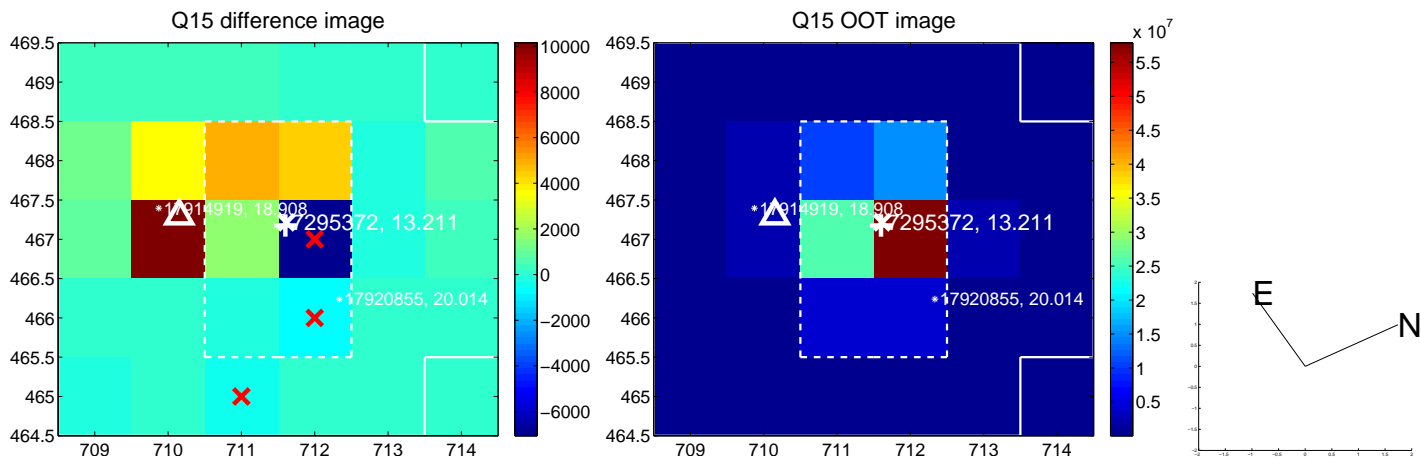
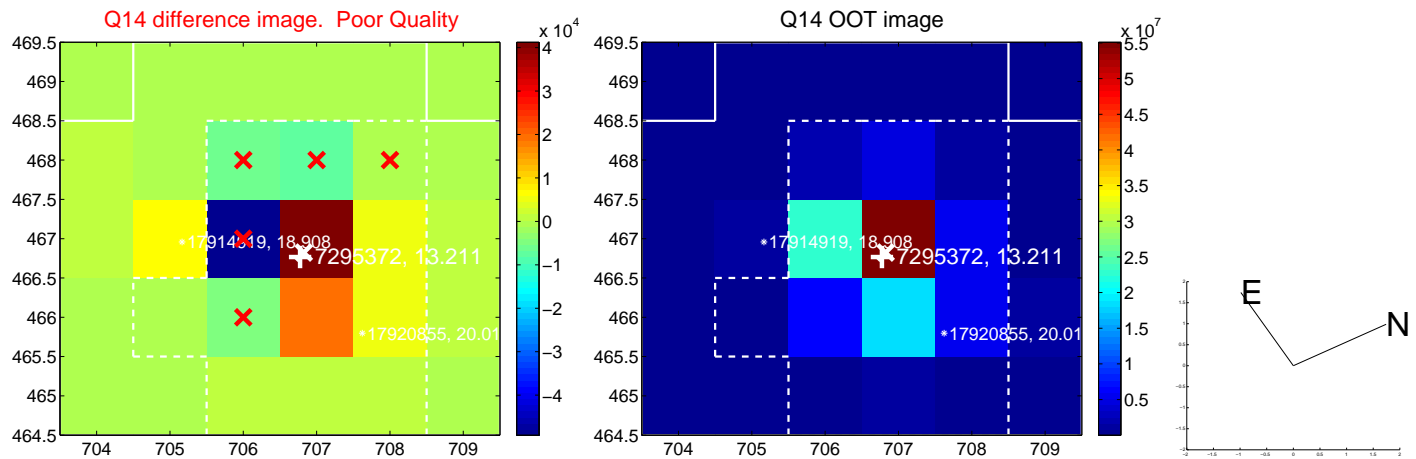
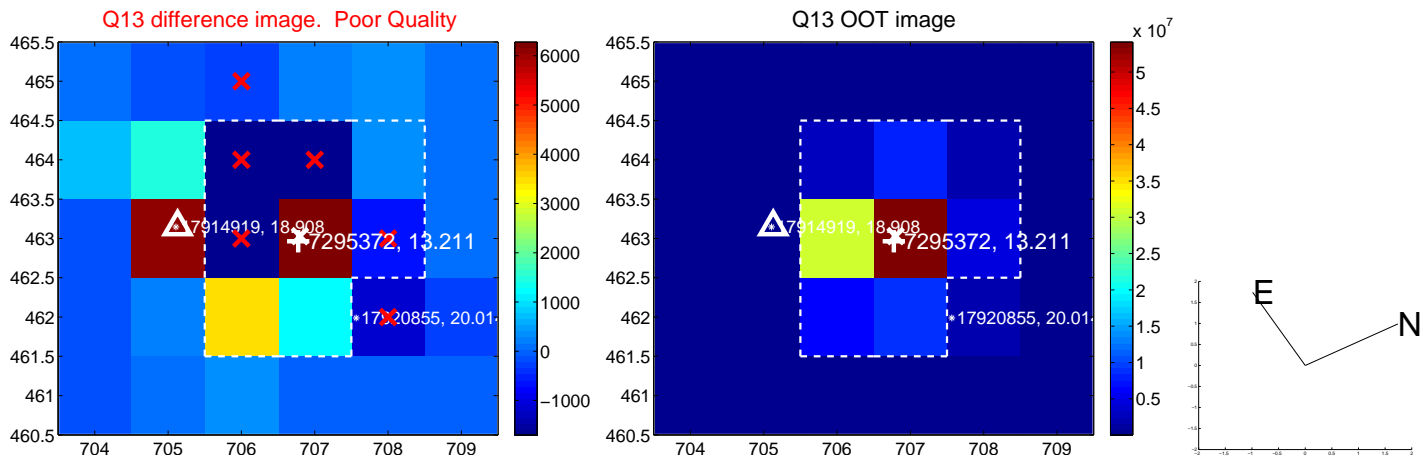


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

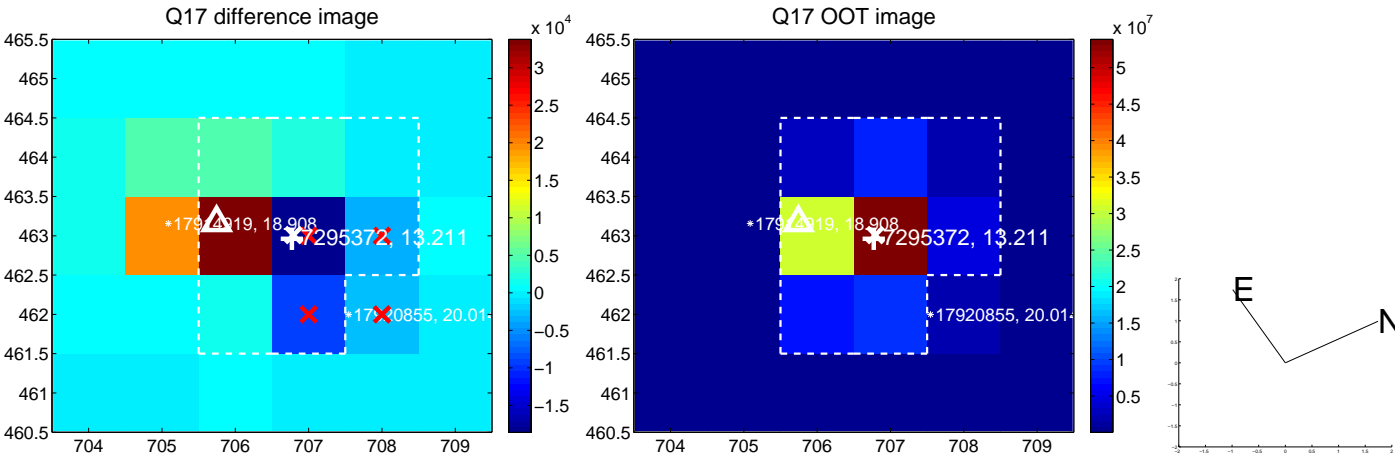




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



folded centroid time series figure for this object.

UKIRT Image

Declination

