

# KIC 006292452

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006292452-01	OBS	No	0.960616	131.842558	18.3	3.725	9.7	7.8	2.71	6967	1.34	28300.18
006292452-02	OBS	No	149.765522	278.678784	329.2	3.408	7.8	9.3	2.71	6967	5.75	33.73
006292452-03	OBS	No	496.640808	331.200804	237.6	9.171	7.4	7.2	2.71	6967	4.63	6.82

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006292452-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006292452-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_POS_ALT
006292452-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

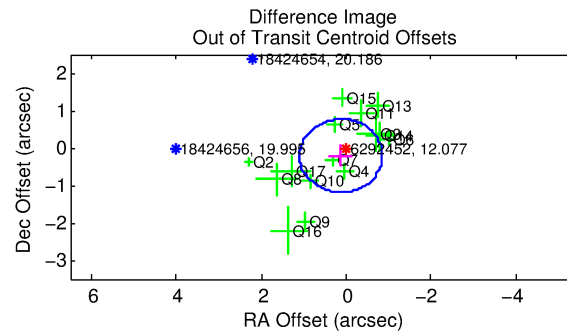
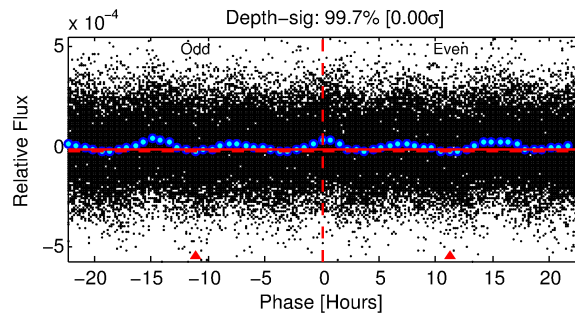
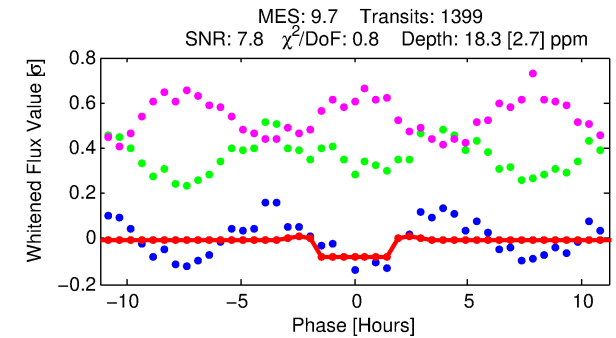
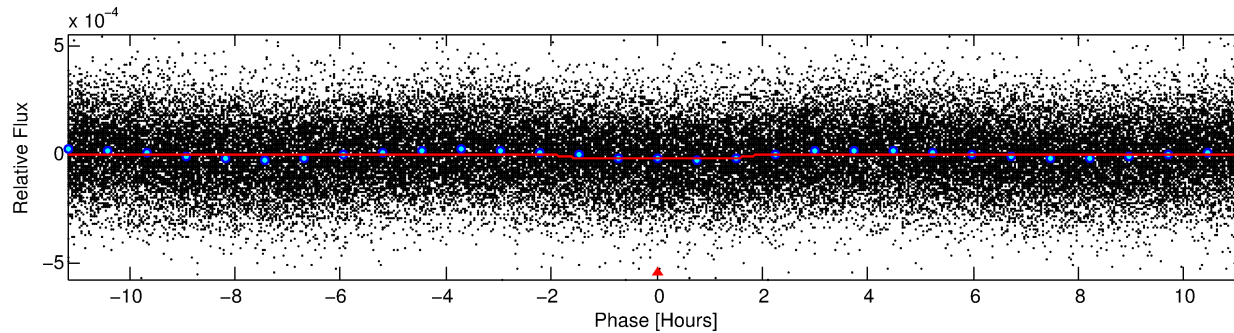
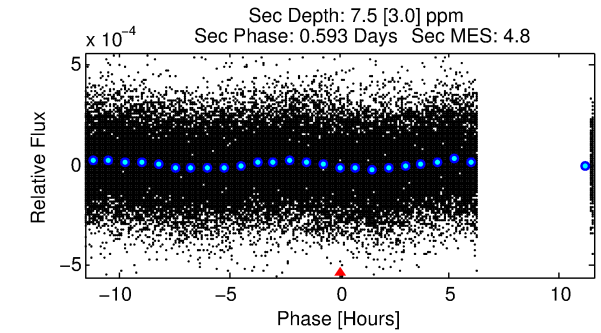
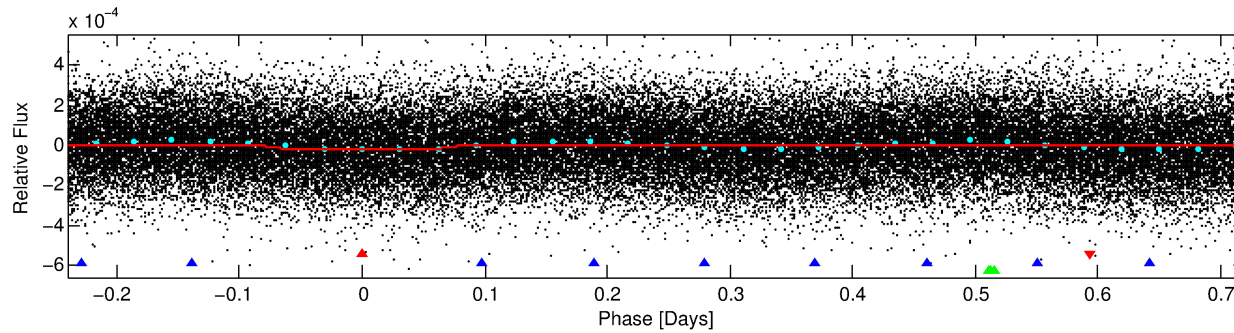
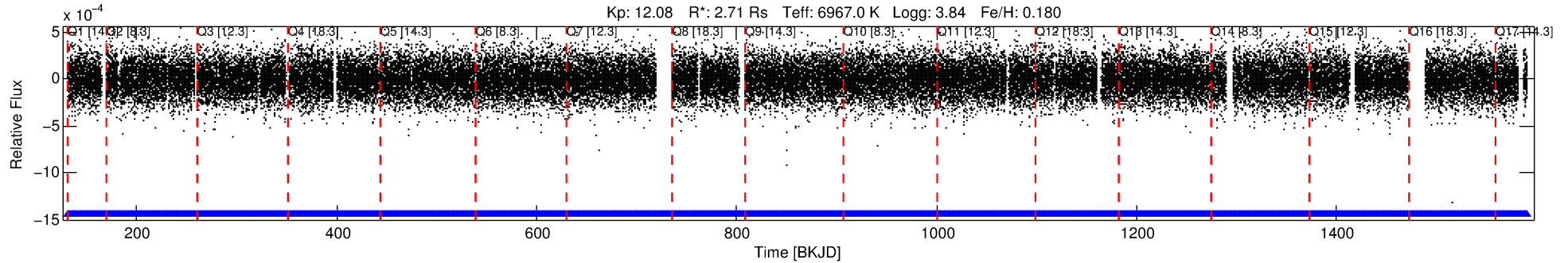
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006292452-01

No Significant Match Found

# DV One-Page Summary

KIC: 6292452 Candidate: 1 of 3 Period: 0.961 d



## DV Fit Results:

Period = 0.96062 [0.00001] d  
Epoch = 131.8426 [0.0035] BKJD  
Rp/R\* = 0.0046 [0.0014]  
a/R\* = 1.29 [0.97]  
b = 0.90 [0.41]  
Seff = 28300.18 [10224.35]  
Teq = 3307 [299] K  
Rp = 1.35 [0.56] Re  
a = 0.0234 [0.0055] AU  
Ag = 1.25 [1.03] [0.24σ]  
Teffp = 5409 [1007] K [2.00σ]

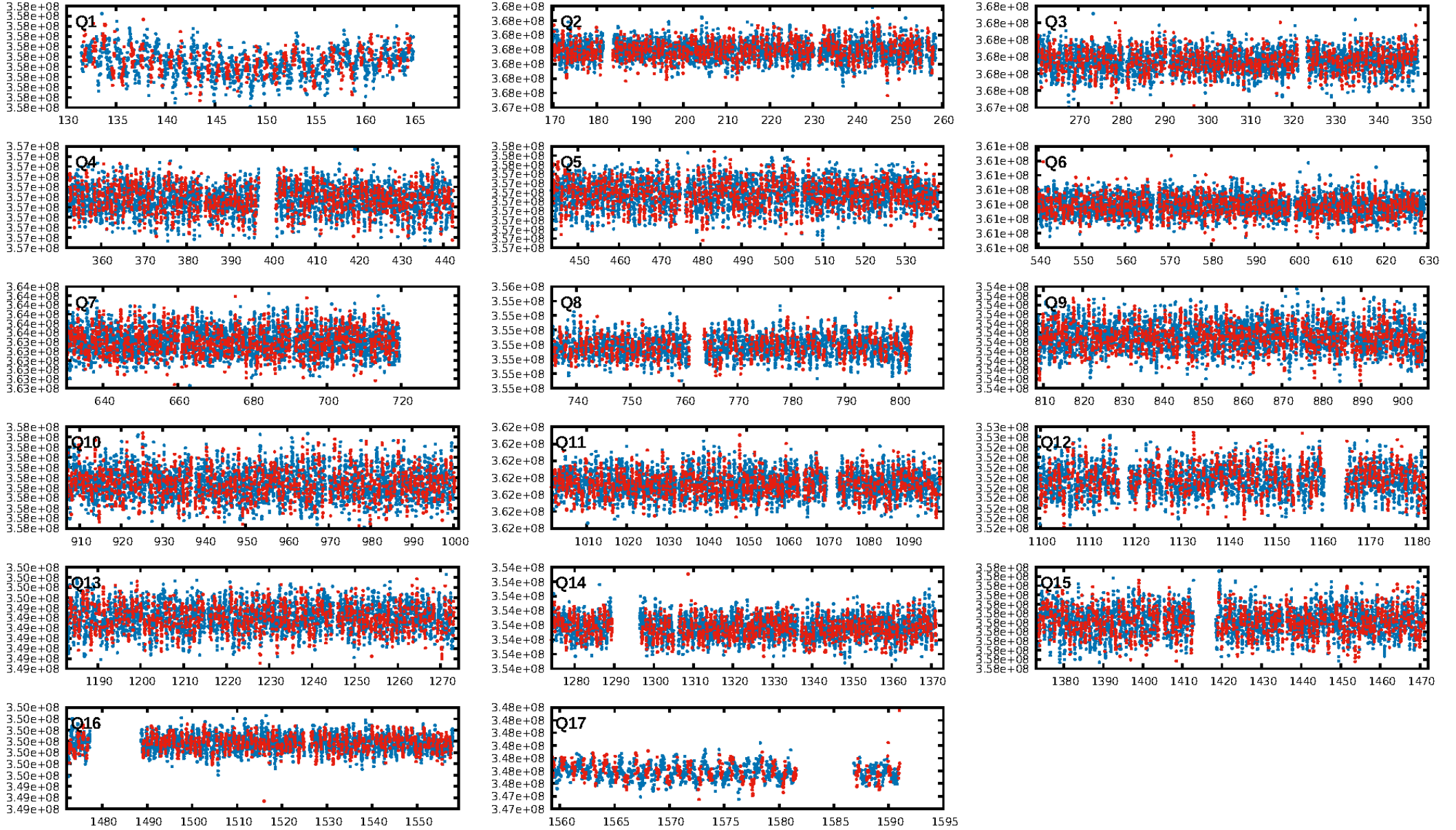
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [707.45σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.75e-14  
RollingBand-fgt: 1.00 [1335/1335]  
GhostDiagnostic-chr: 2.854  
Centroid-sig: 31.7%  
Centroid-so: 0.553 arcsec [1.09σ]  
OotOffset-rm: 0.238 arcsec [0.73σ]  
KicOffset-rm: 0.214 arcsec [0.73σ]  
OotOffset-st: 4/4/3/4 [15]  
KicOffset-st: 4/4/3/4 [15]  
DiffImageQuality-fgm: 0.93 [14/15]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:42:10 Z

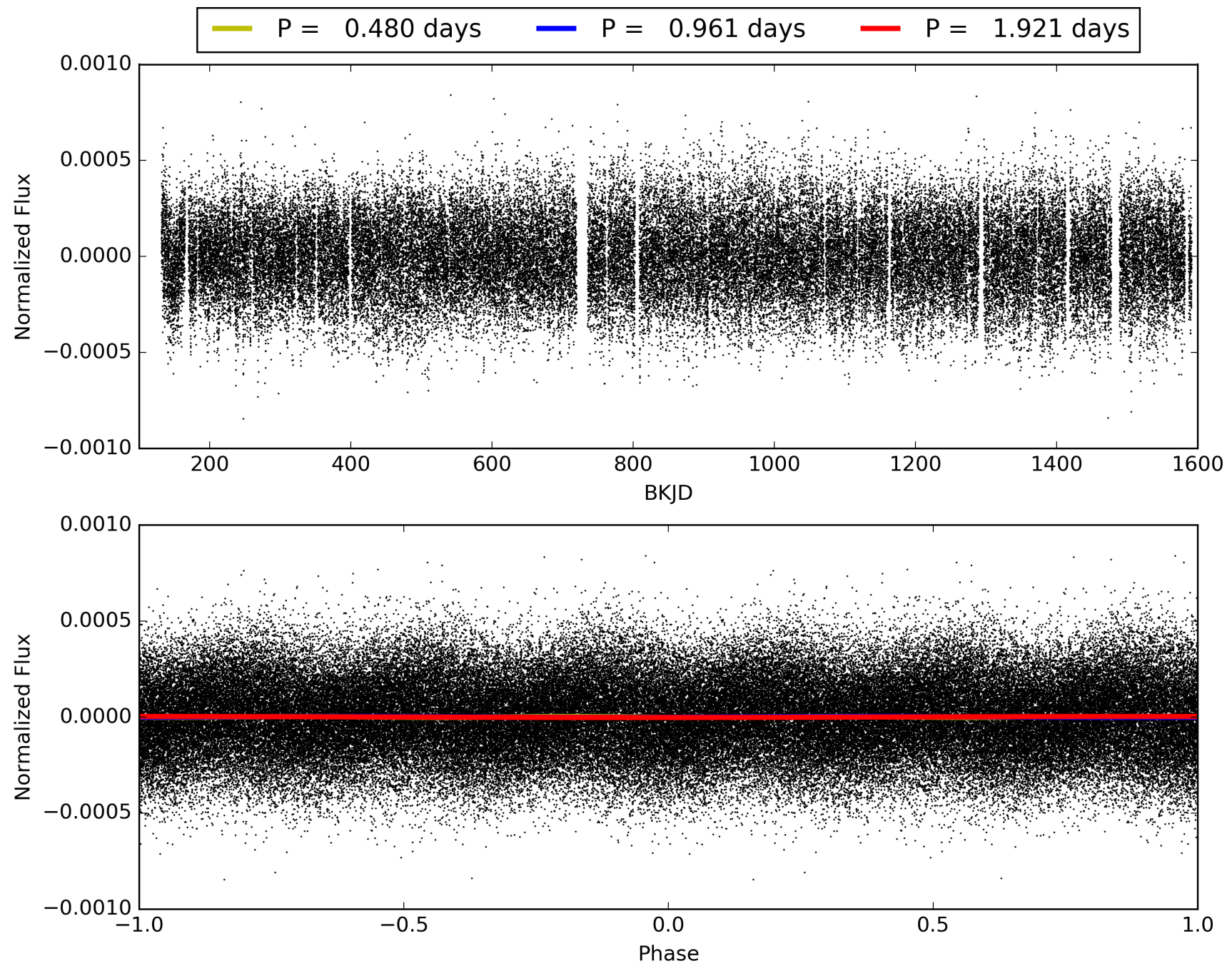
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006292452-01, PDC Light Curves





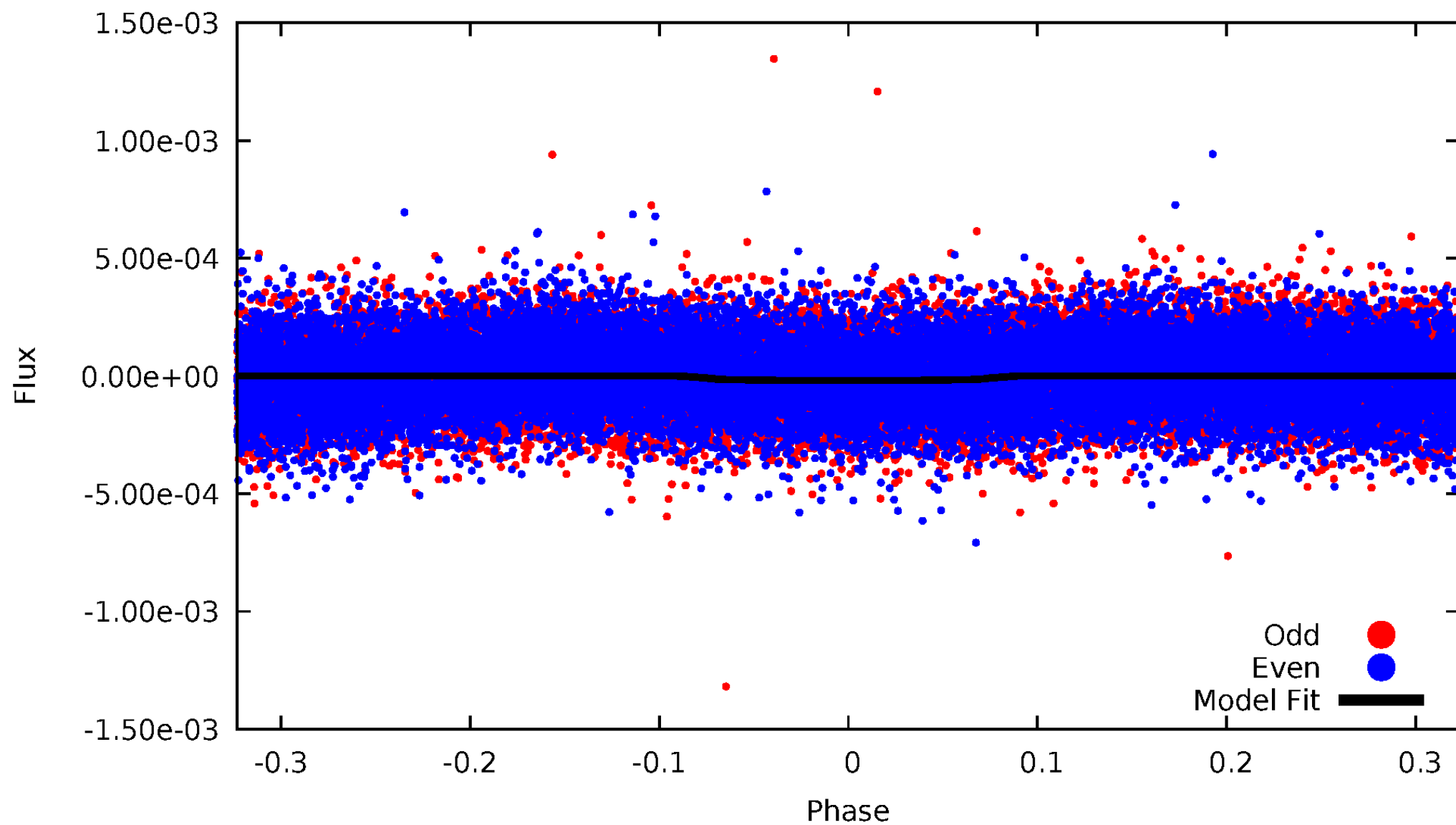
TCE 006292452-01





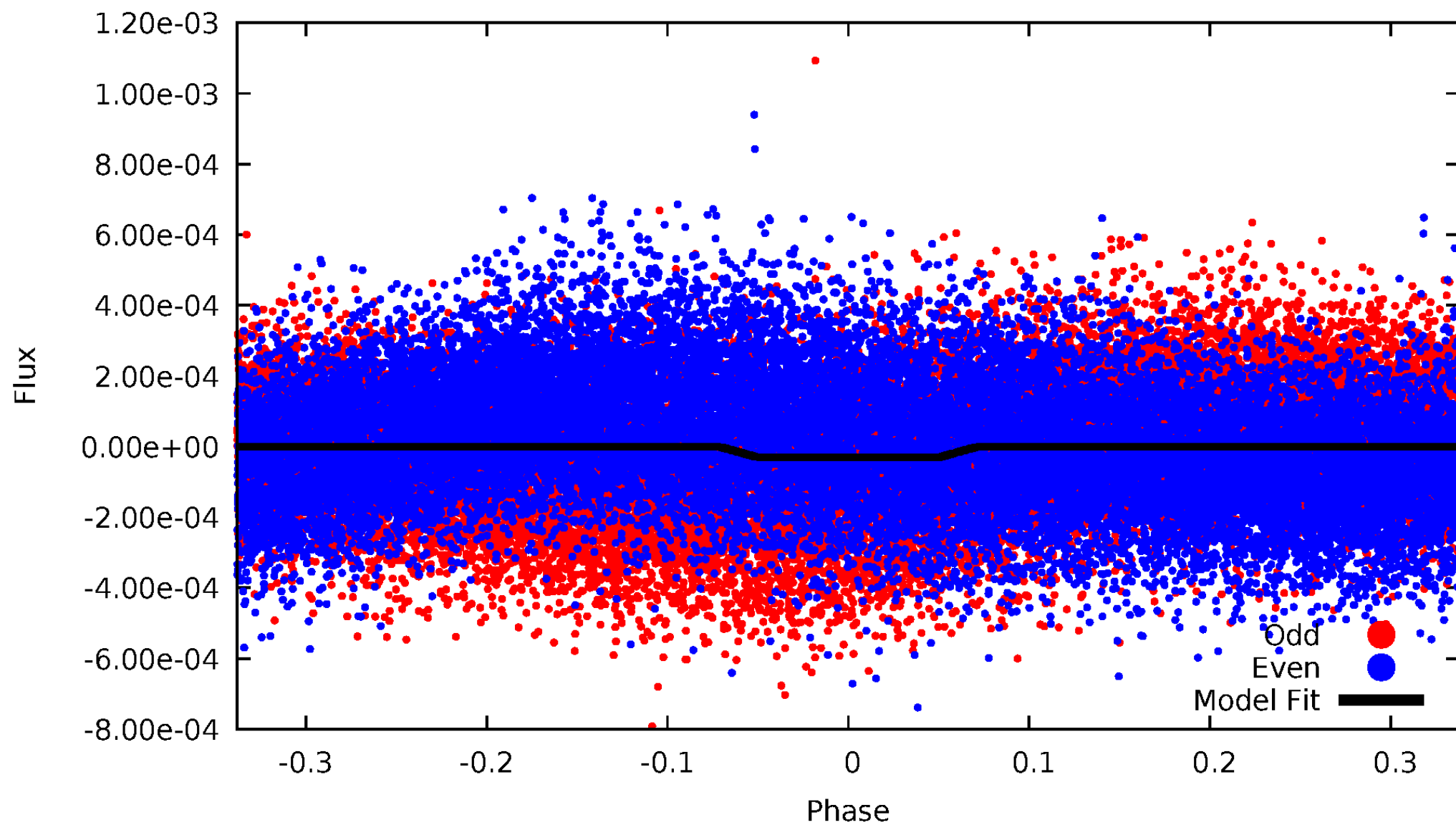
# DV Odd/Even

TCE 006292452-01



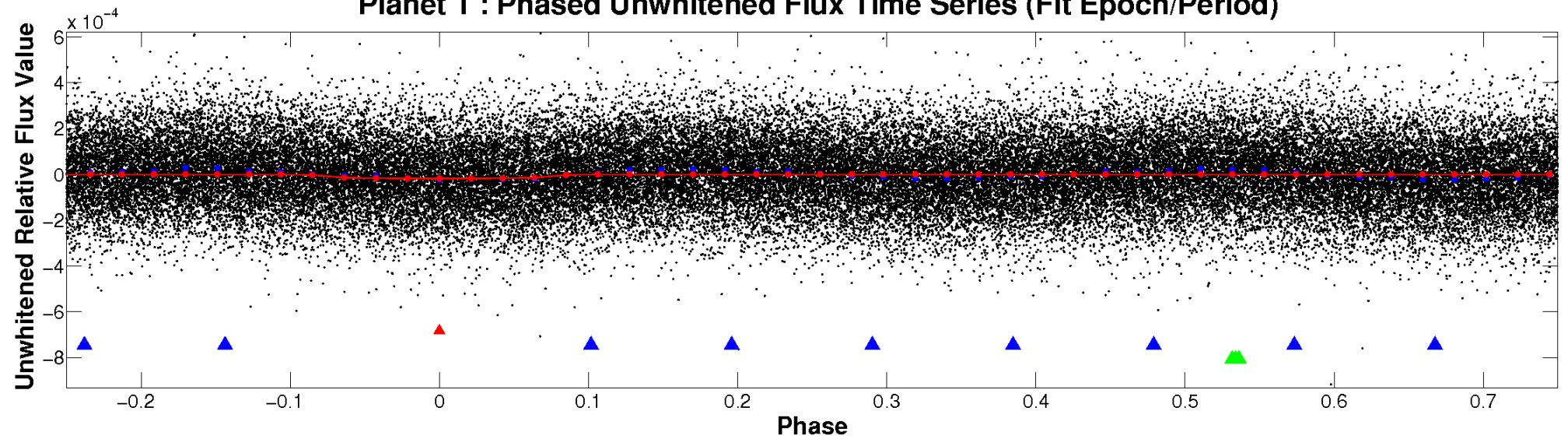
# ALT Odd/Even

TCE 006292452-01

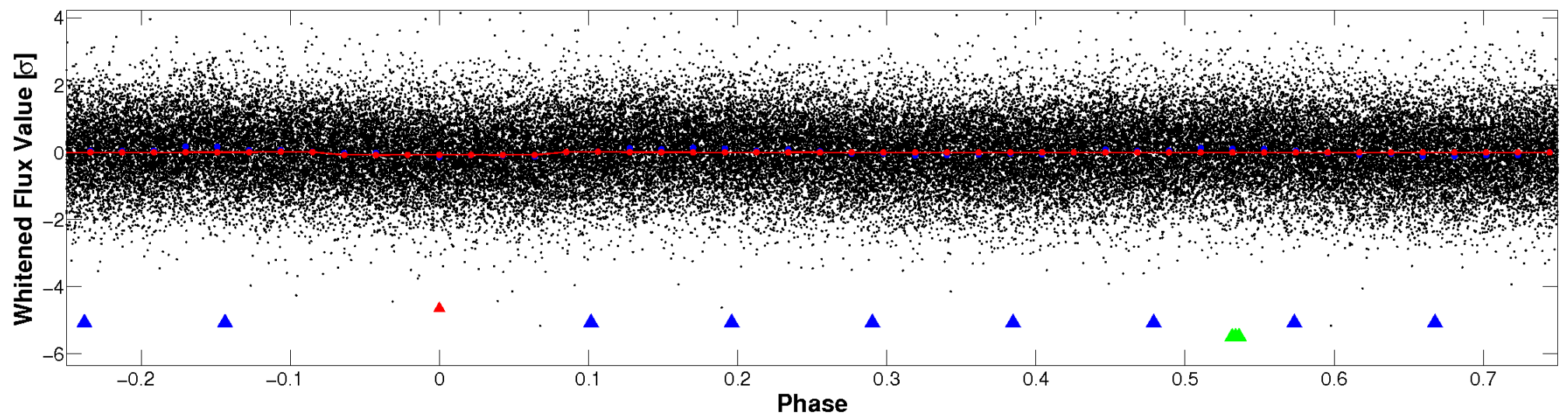


# Non-Whitened Vs. Whitened Light Curve

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



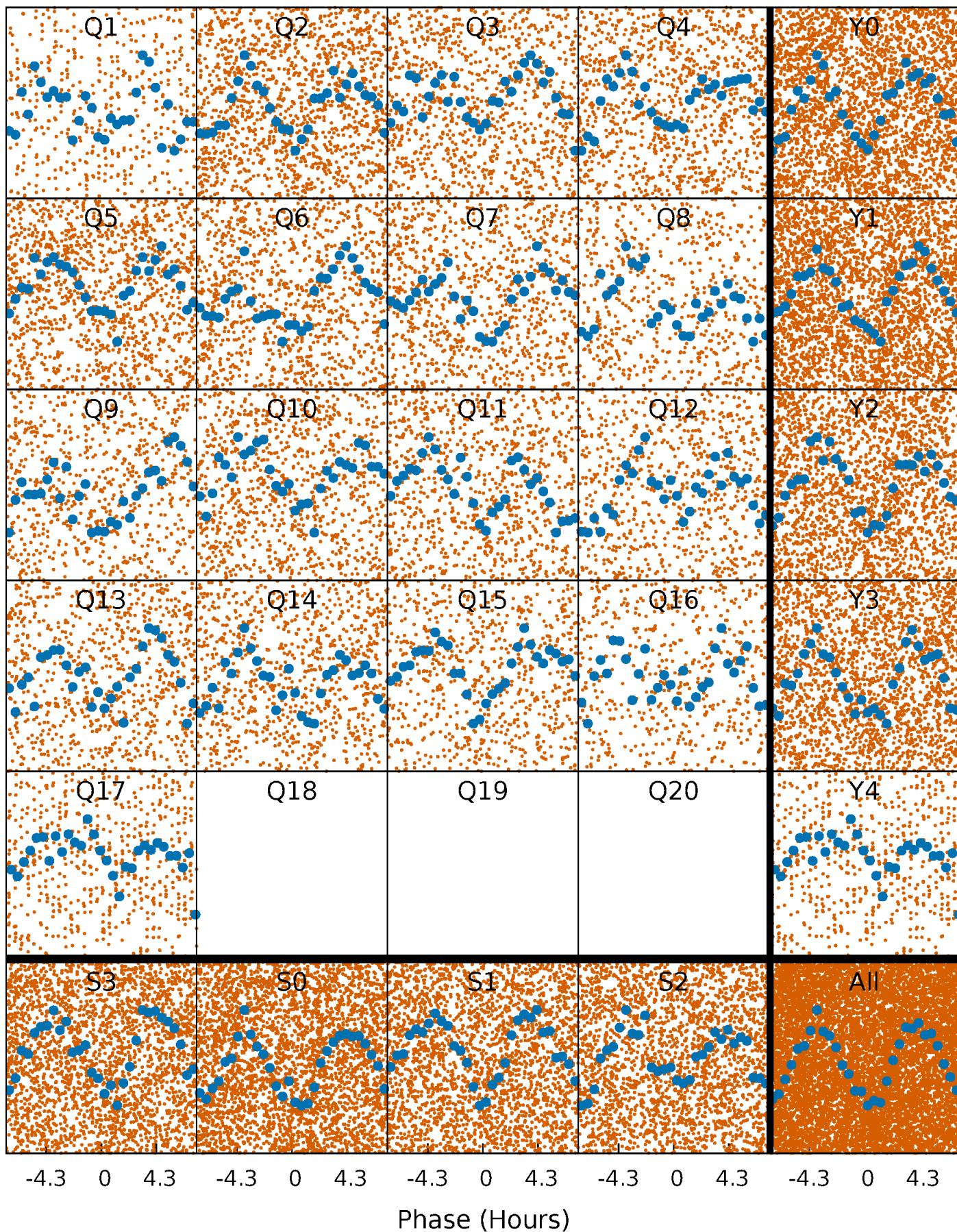
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





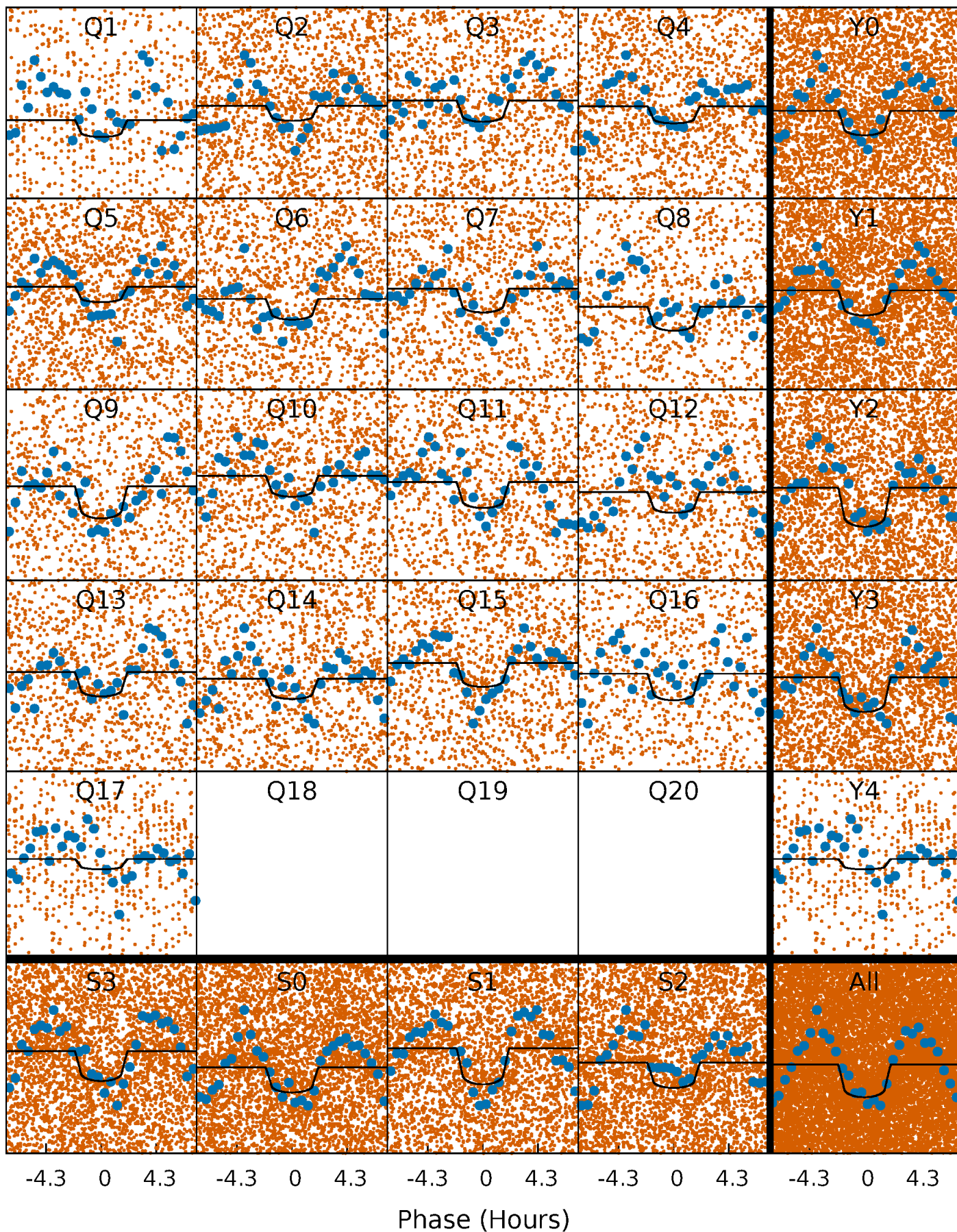
# PDC Quarter-Phased Transit Curves

TCE 006292452-01 P= 0.960616 Days  $T_0=131.842558$  (BKJD)



# DV Quarter-Phased Transit Curves

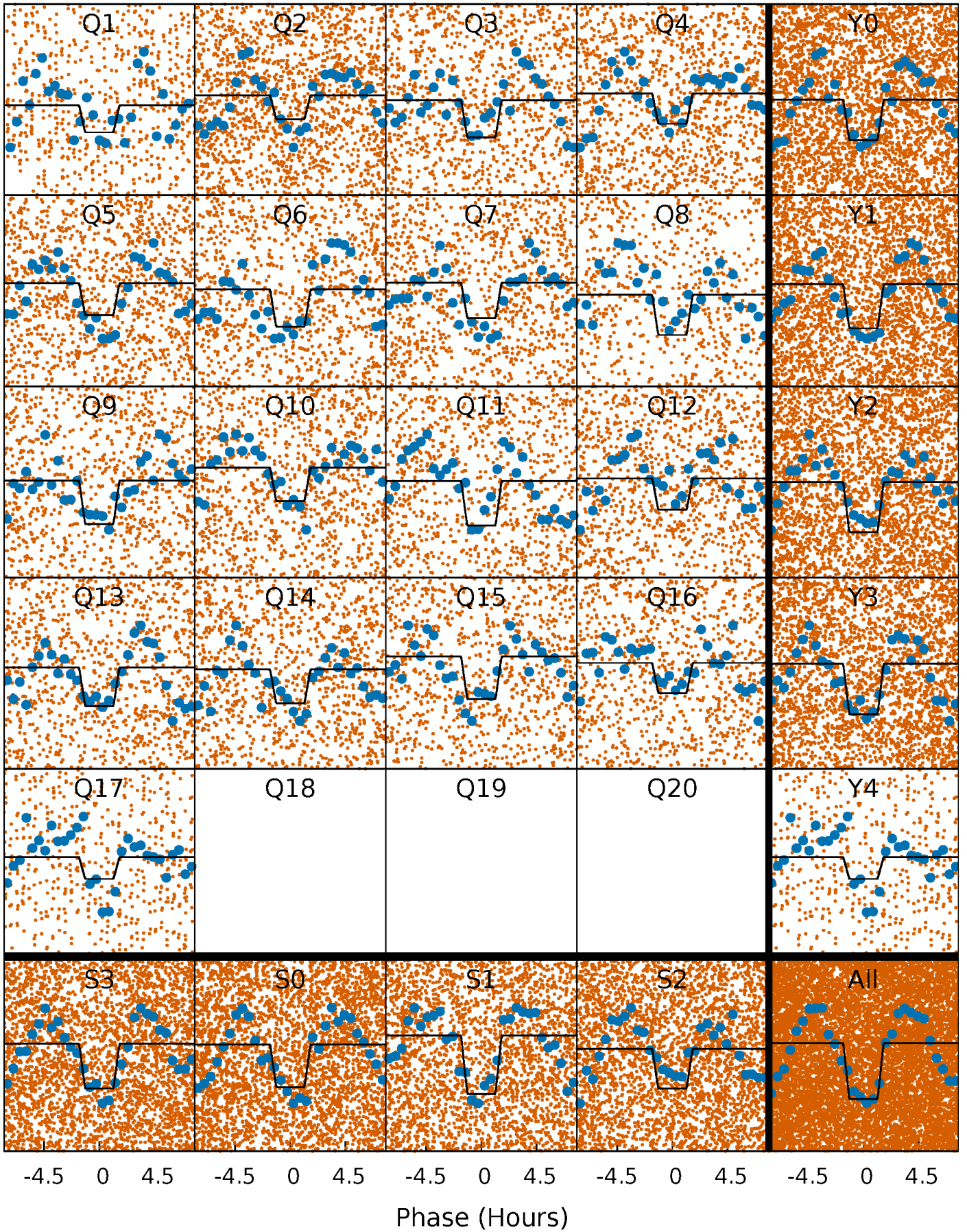
TCE 006292452-01 P= 0.960616 Days  $T_0=131.842558$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 006292452-01 P= 0.960646 Days  $T_0=131.838207$  (BKJD)

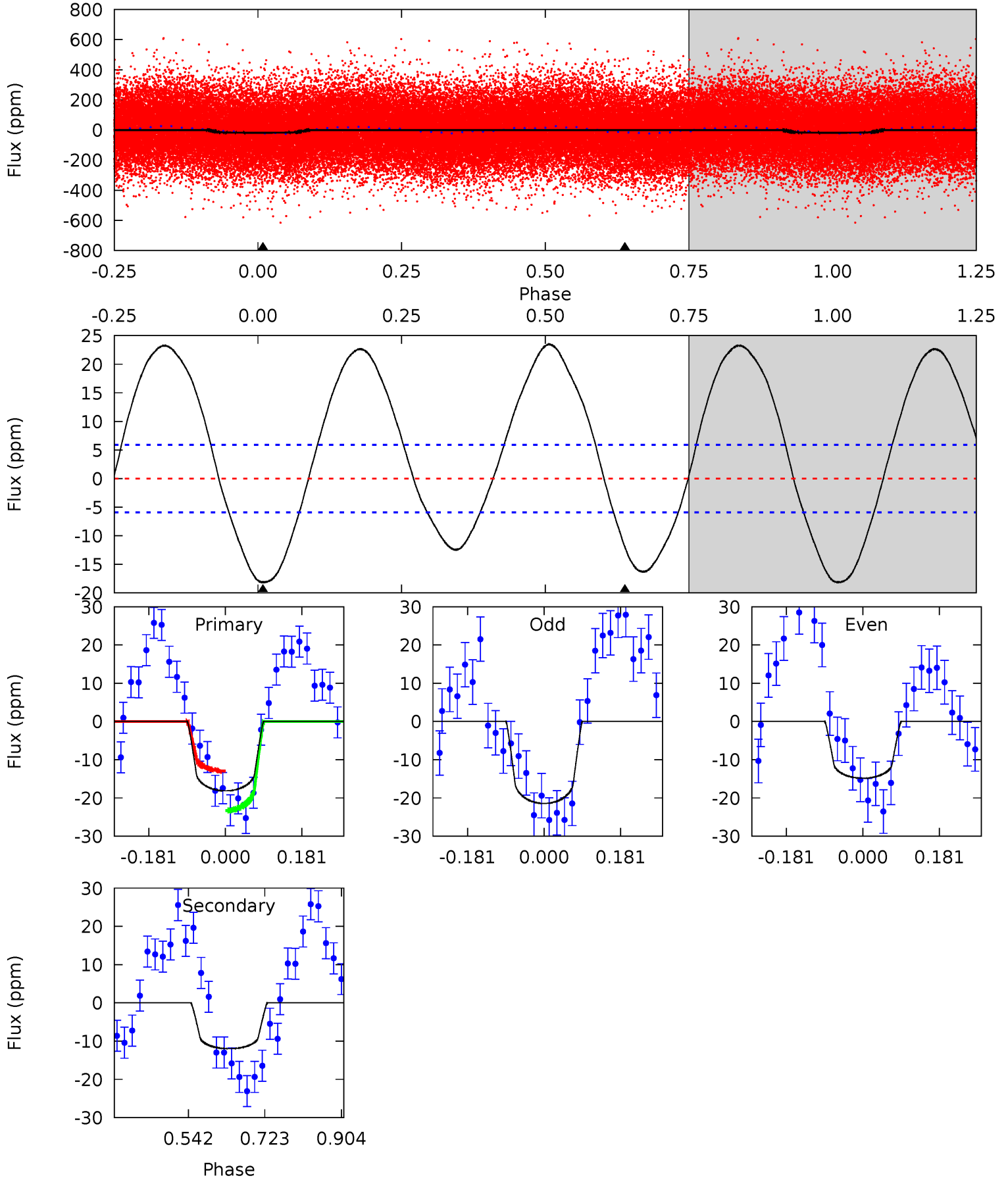




# DV Model-Shift Uniqueness Test

006292452-01, P = 0.960616 Days, E = 130.881942 Days

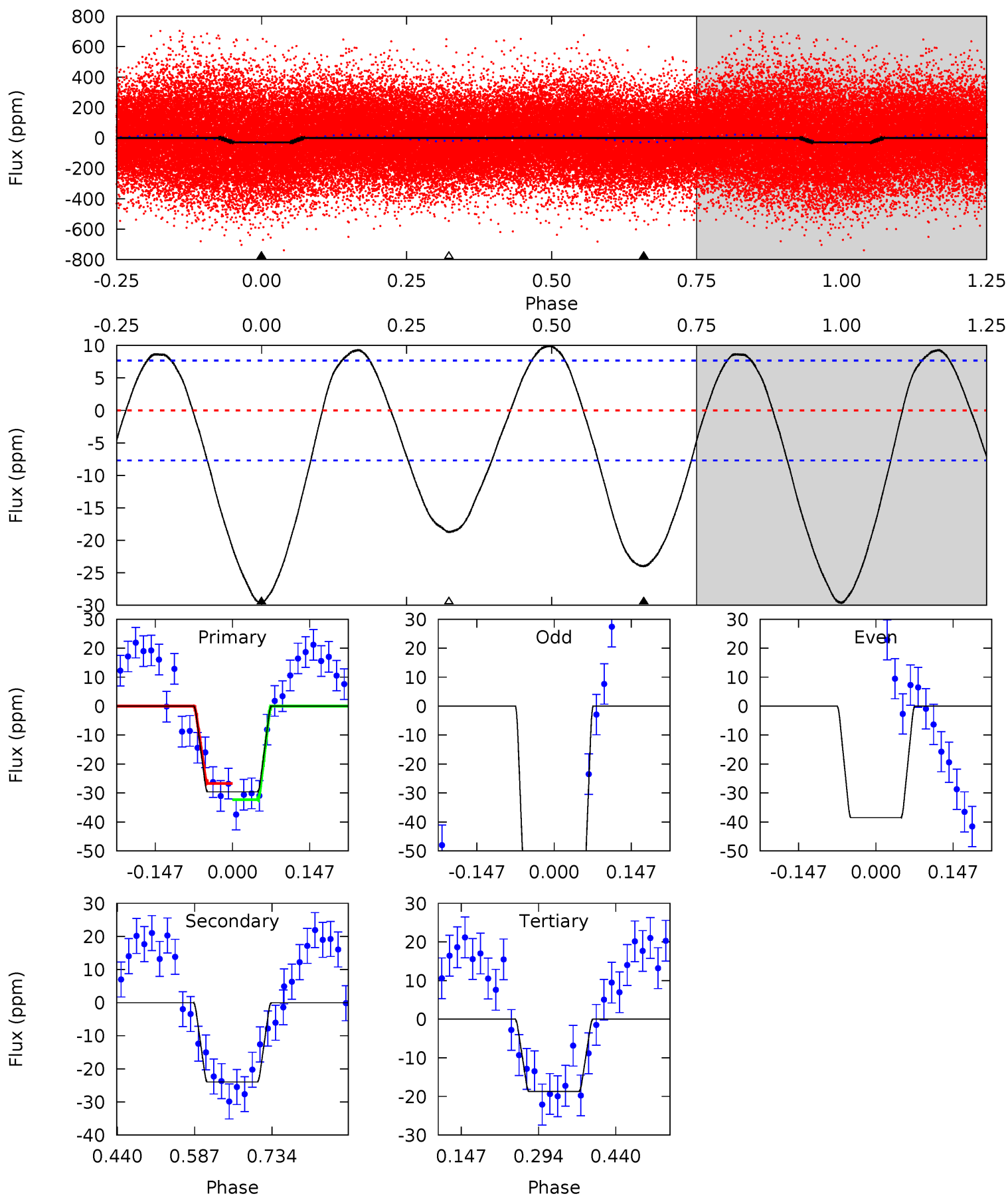
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	9.00	0	0	4.44	1.34	8.29	13.6	13.6	9.00	9.00	2.49	1.05	0.56	3.94



# Alt Model-Shift Uniqueness Test

006292452-01, P = 0.960646 Days, E = 130.877561 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	14.0	10.9	0	4.48	1.45	6.05	6.35	17.3	3.06	14.0	16.9	0.93	0.25	1.57



### Stellar Parameters For KIC 006292452

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6967^{+73}_{-83}$	$3.839^{+0.202}_{-0.093}$	$0.180^{+0.150}_{-0.150}$	$2.705^{+0.392}_{-0.727}$	$1.841^{+0.098}_{-0.245}$	$0.131^{+0.162}_{-0.038}$
	+1%/-1%	+5%/-2%	+83%/-83%	+14%/-27%	+5%/-13%	+123%/-29%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 006292452-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-12 \pm 1$	$1.31^{+0.45}_{-0.44}$	$4605^{+198}_{-292}$	$5810^{+1447}_{-883}$	$2.081^{+2.496}_{-0.947}$
Alt.	$-24 \pm 2$	$1.54^{+0.49}_{-0.44}$	$4588^{+216}_{-299}$	$6426^{+1239}_{-871}$	$3.034^{+2.656}_{-1.343}$

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



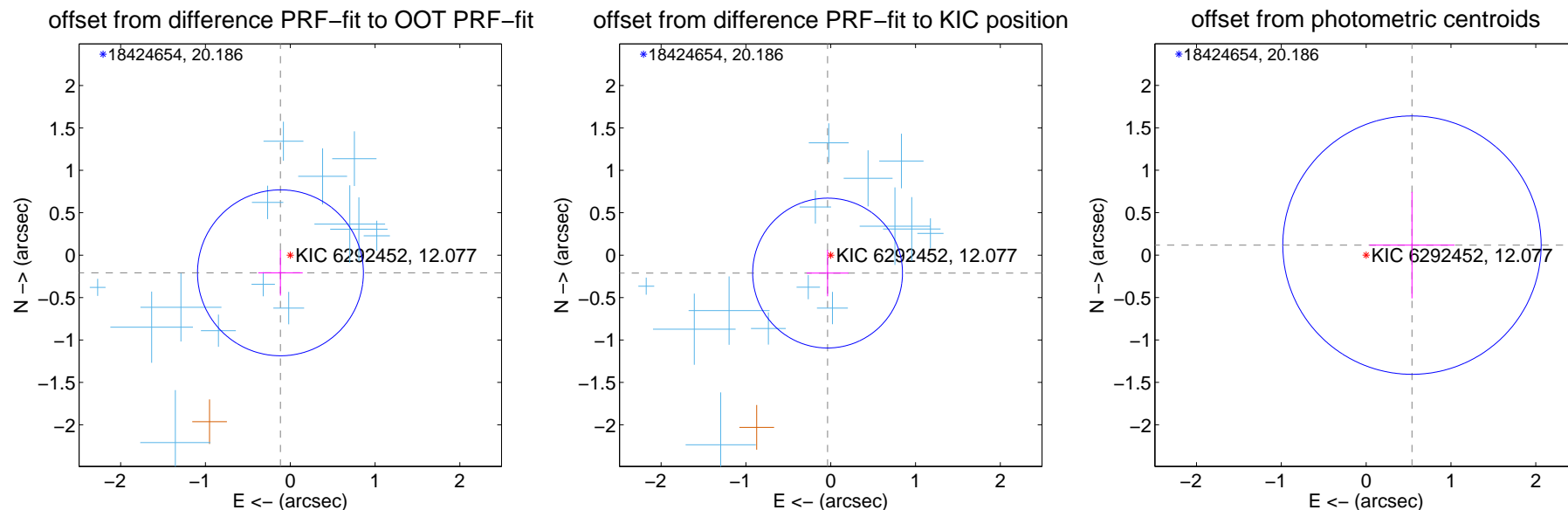
## DV Centroid Data

Supplemental centroid analysis for 006292452-01. Kepler magnitude: 12.08. Transit SNR 7.80

There are 14 quarters with good PRF difference image offsets

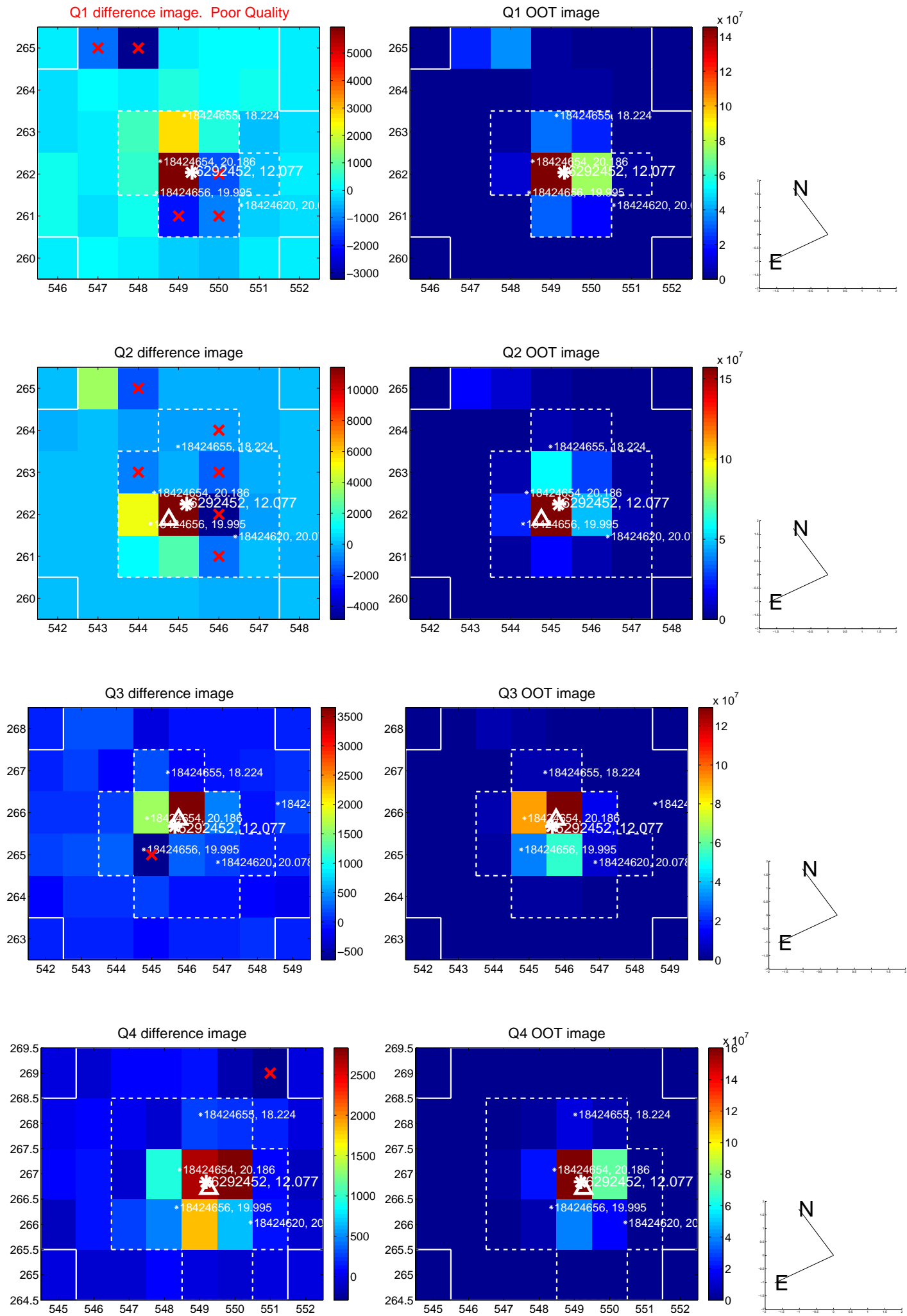
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.238 \pm 0.326$	0.73	$0.116 \pm 0.262$	$-0.208 \pm 0.269$
PRF-fit source offset from KIC position	$0.214 \pm 0.294$	0.73	$0.037 \pm 0.246$	$-0.211 \pm 0.273$
photometric centroid source offset	$0.55 \pm 0.51$	1.09	$-0.54 \pm 0.50$	$0.12 \pm 0.63$

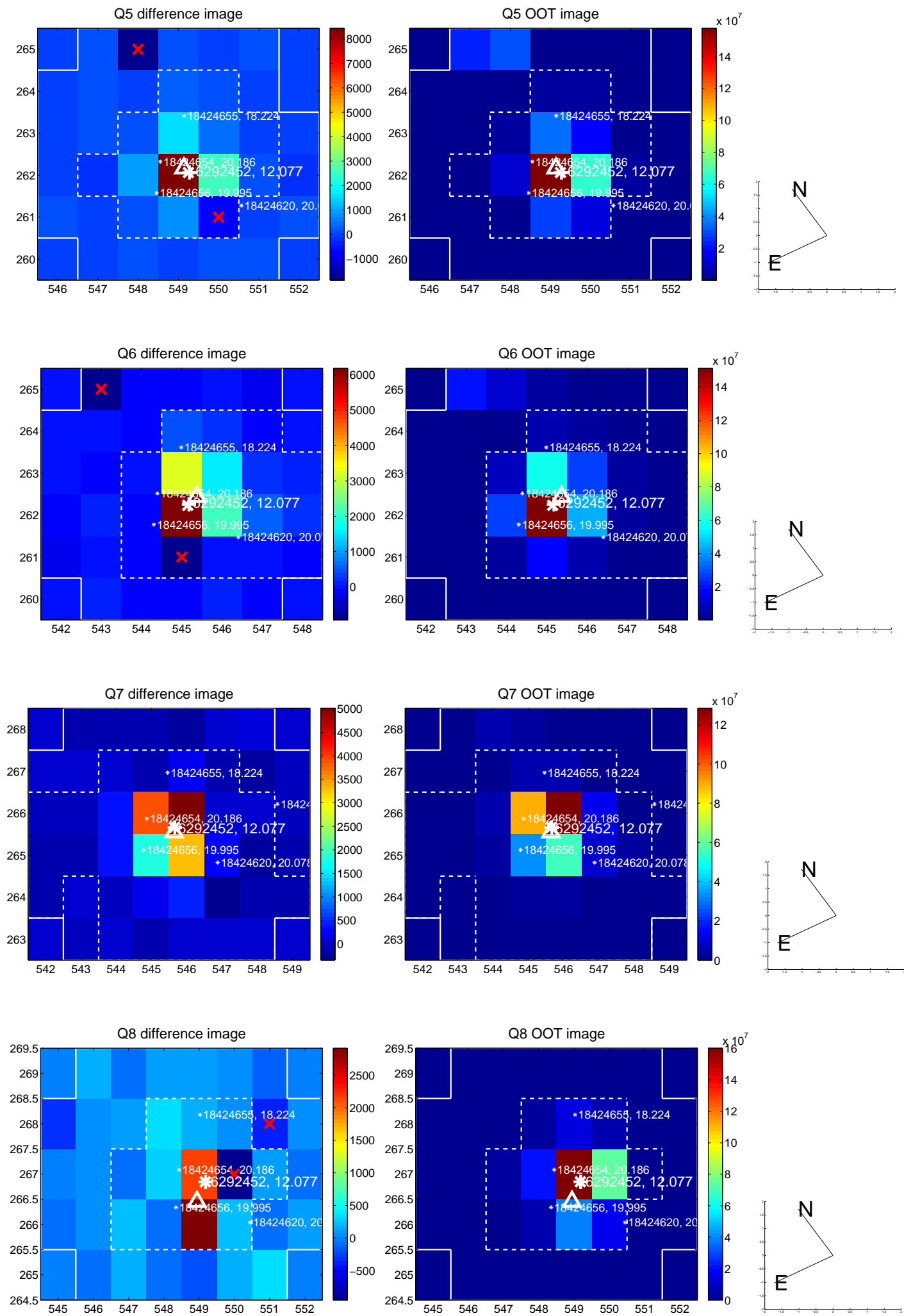


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

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

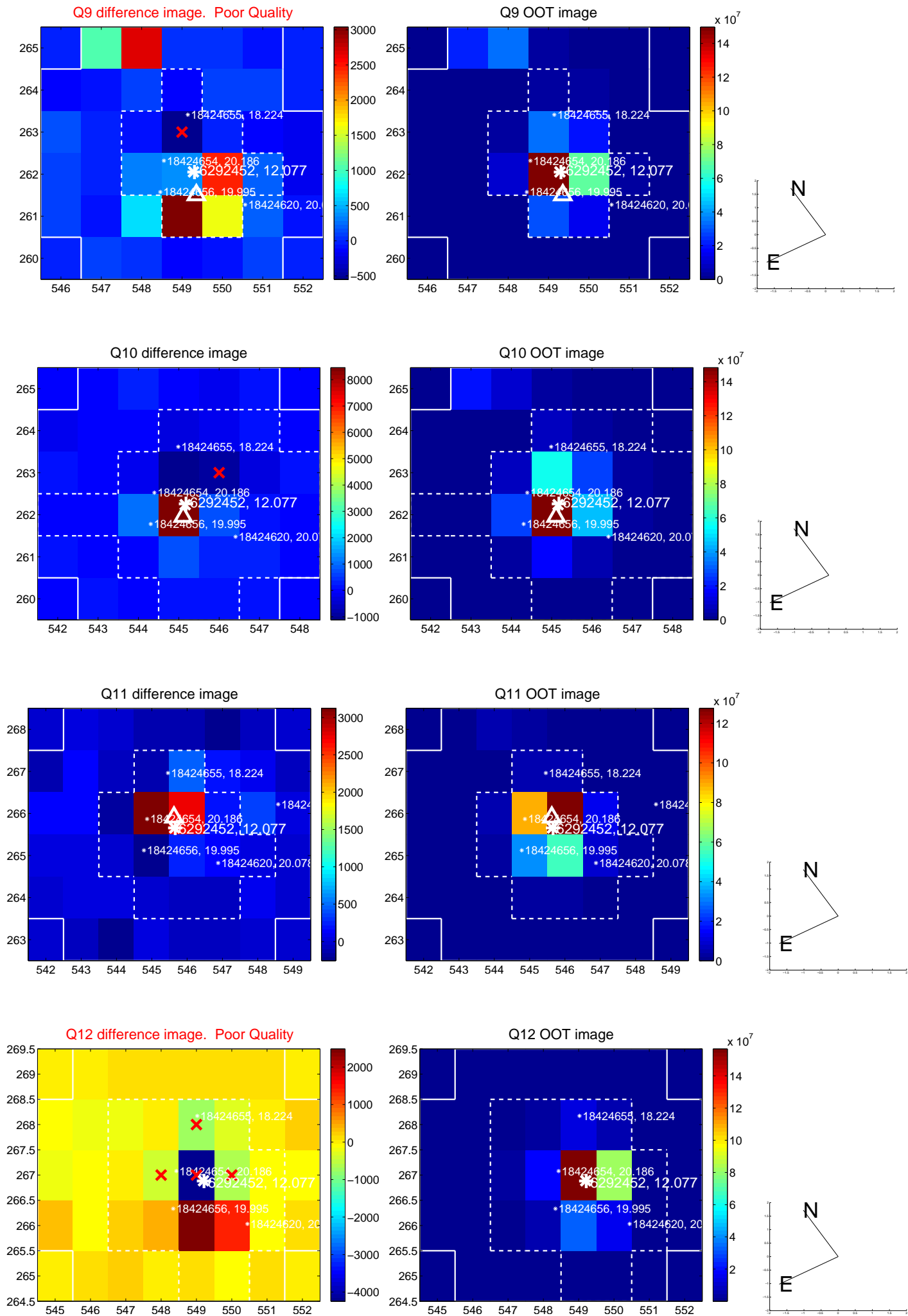


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

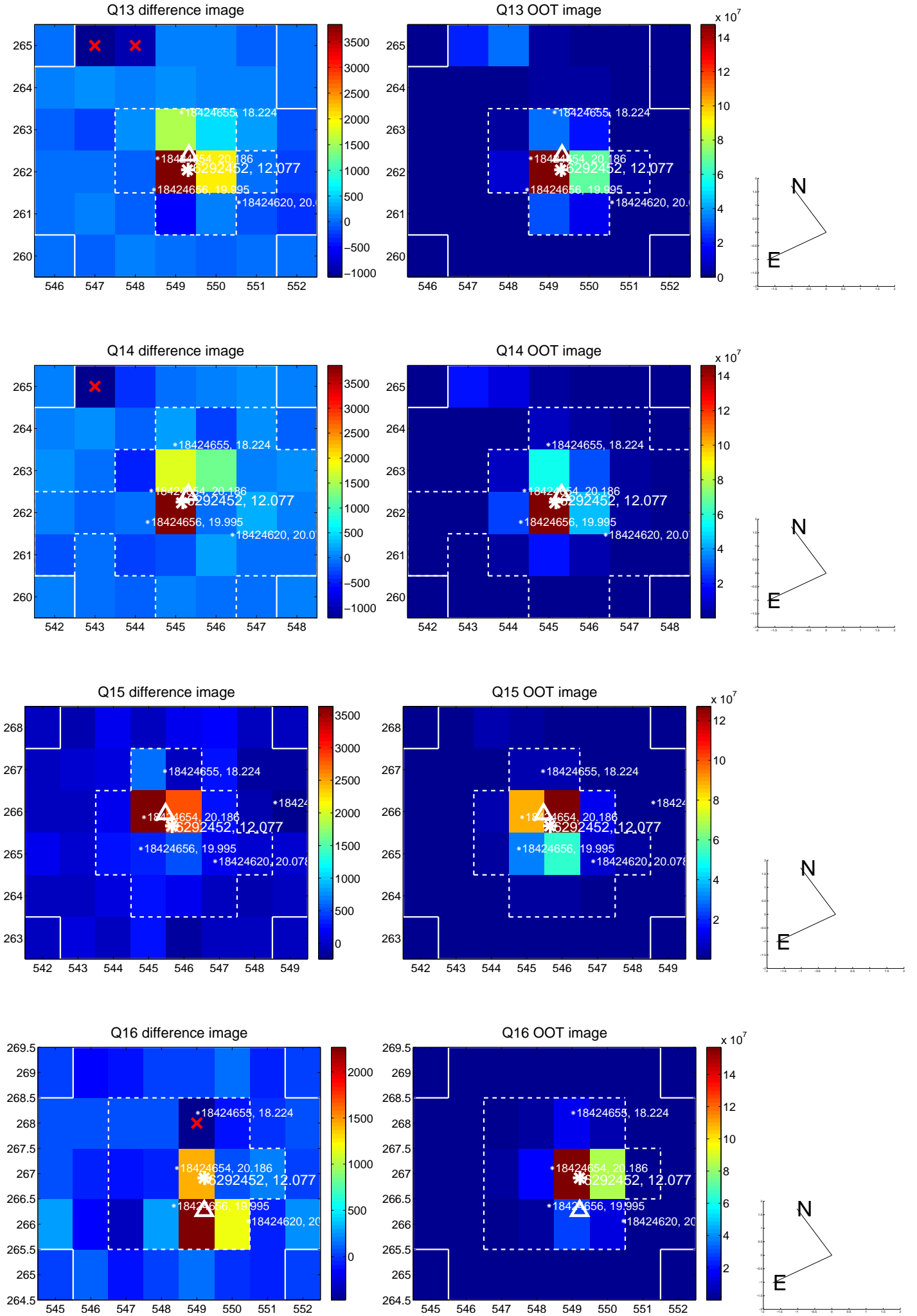




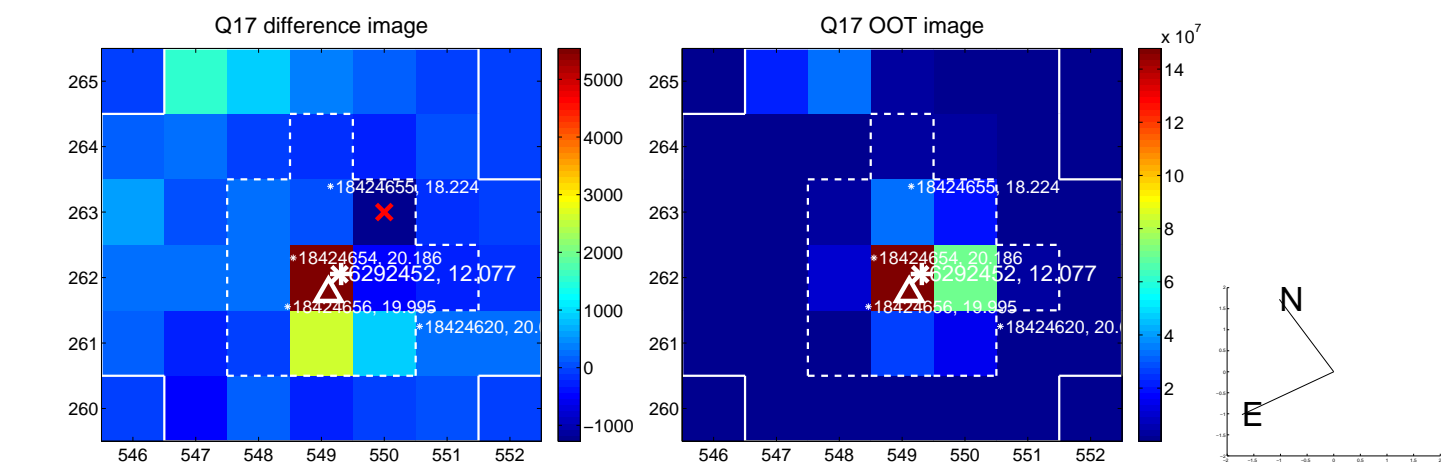
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



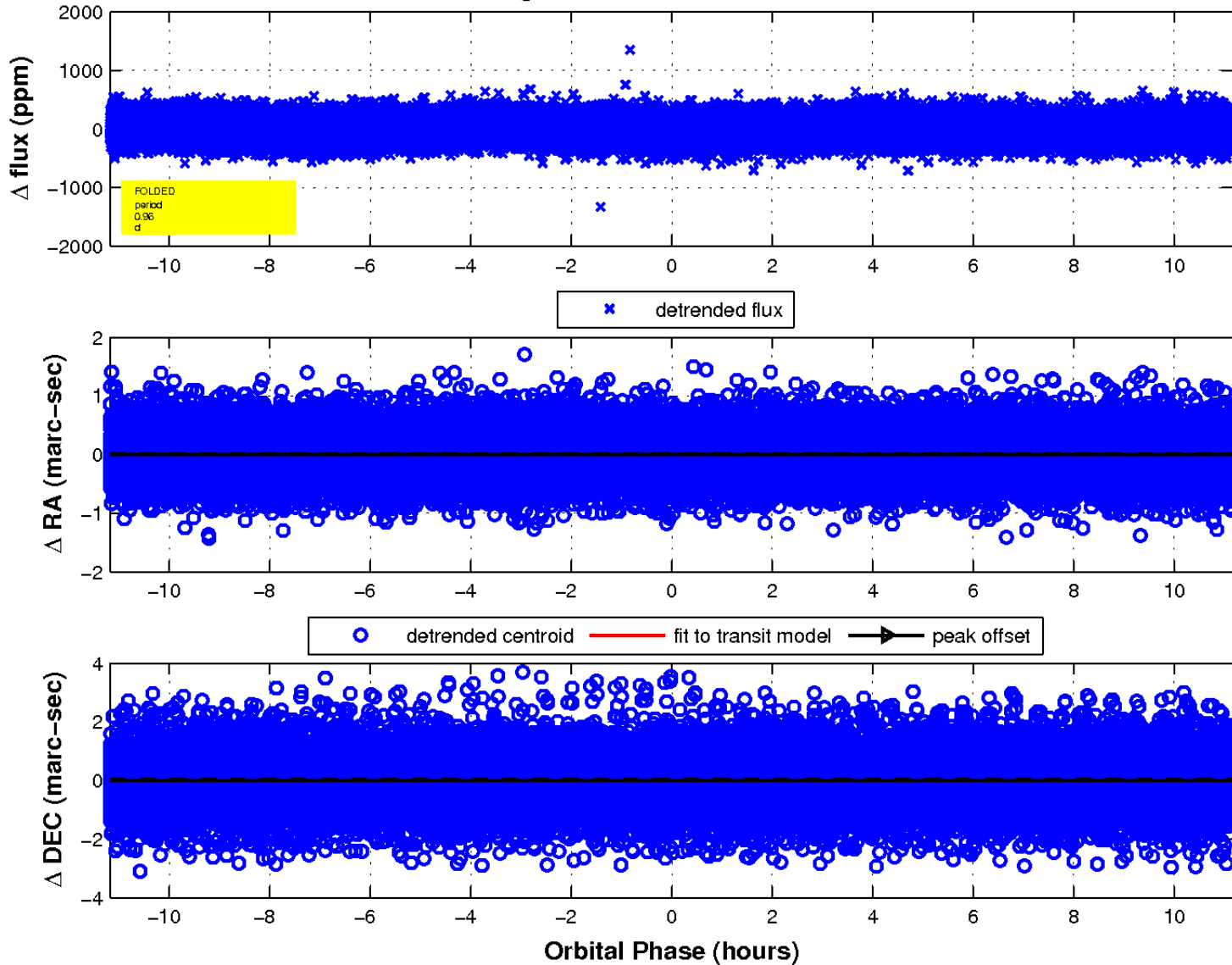
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

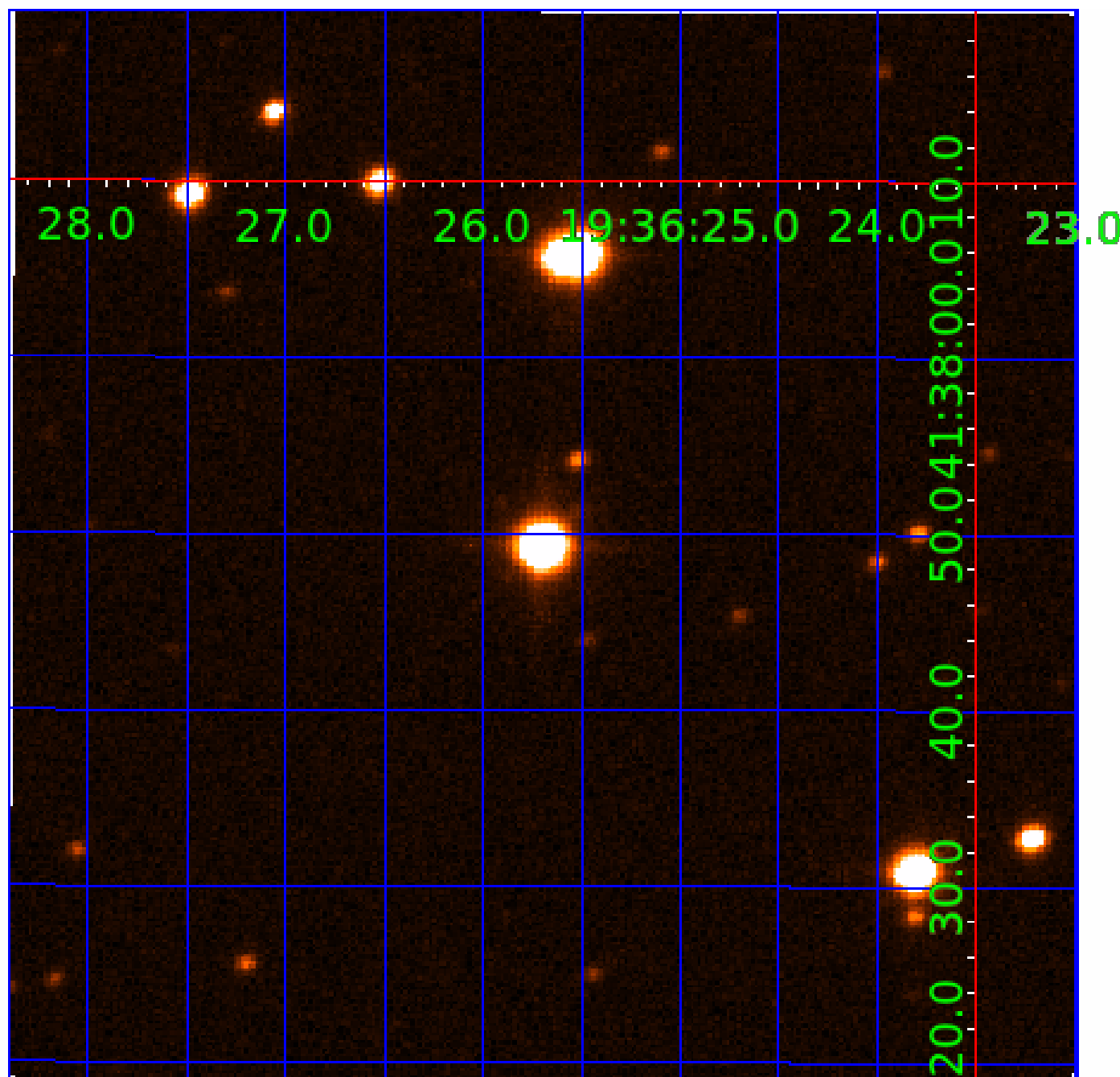


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination





# KIC 006292452

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006292452-01	OBS	No	0.960616	131.842558	18.3	3.725	9.7	7.8	2.71	6967	1.34	28300.18
006292452-02	OBS	No	149.765522	278.678784	329.2	3.408	7.8	9.3	2.71	6967	5.75	33.73
006292452-03	OBS	No	496.640808	331.200804	237.6	9.171	7.4	7.2	2.71	6967	4.63	6.82

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006292452-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006292452-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_POS_ALT
006292452-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

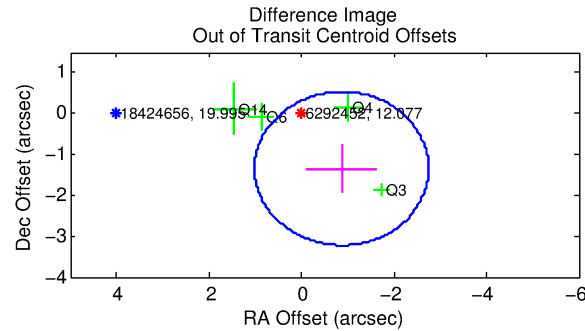
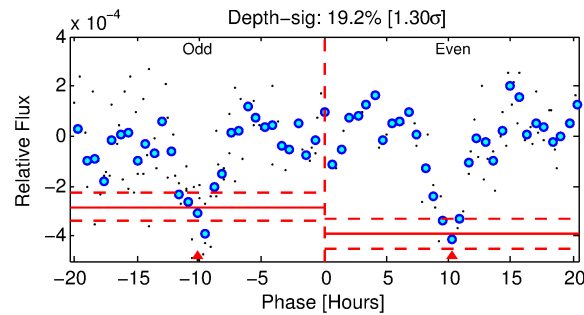
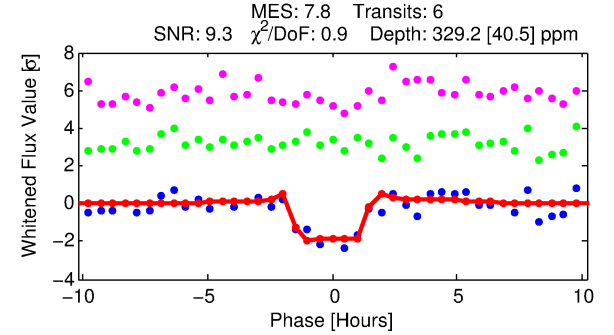
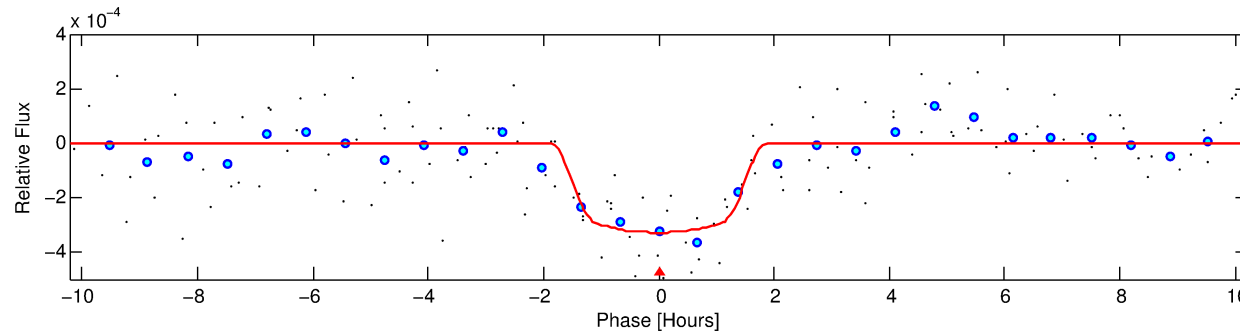
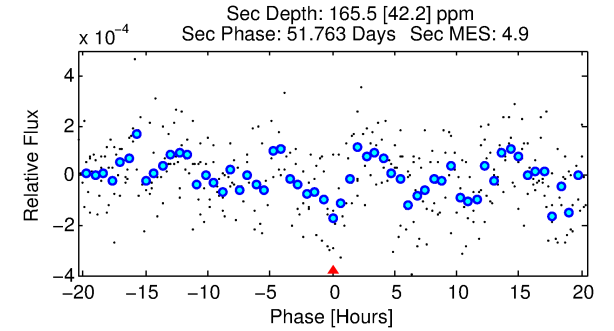
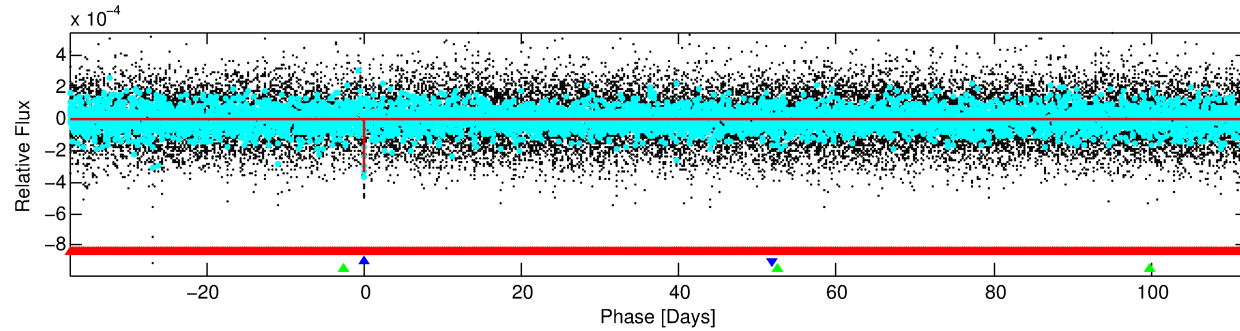
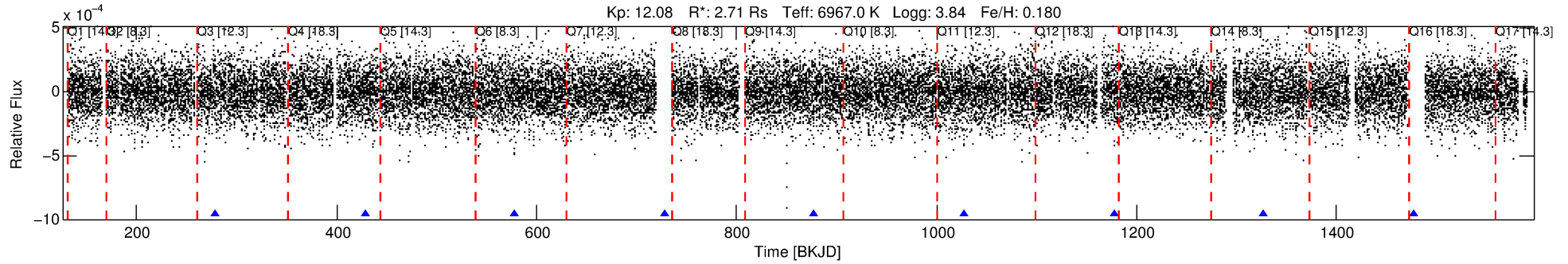
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006292452-02

No Significant Match Found

# DV One-Page Summary

KIC: 6292452 Candidate: 2 of 3 Period: 149.766 d



## DV Fit Results:

Period = 149.76552 [0.00199] d  
Epoch = 278.6788 [0.0093] BKJD  
Rp/R\* = 0.0195 [0.0045]  
a/R\* = 154.56 [203.66]  
b = 0.91 [0.25]  
Seff = 33.73 [12.18]  
Teff = 614 [56] K  
Rp = 5.75 [2.04] Re  
a = 0.6767 [0.1603] AU  
Ag = 1260.06 [805.40] [1.56σ]  
Teffp = 5661 [752] K [6.69σ]

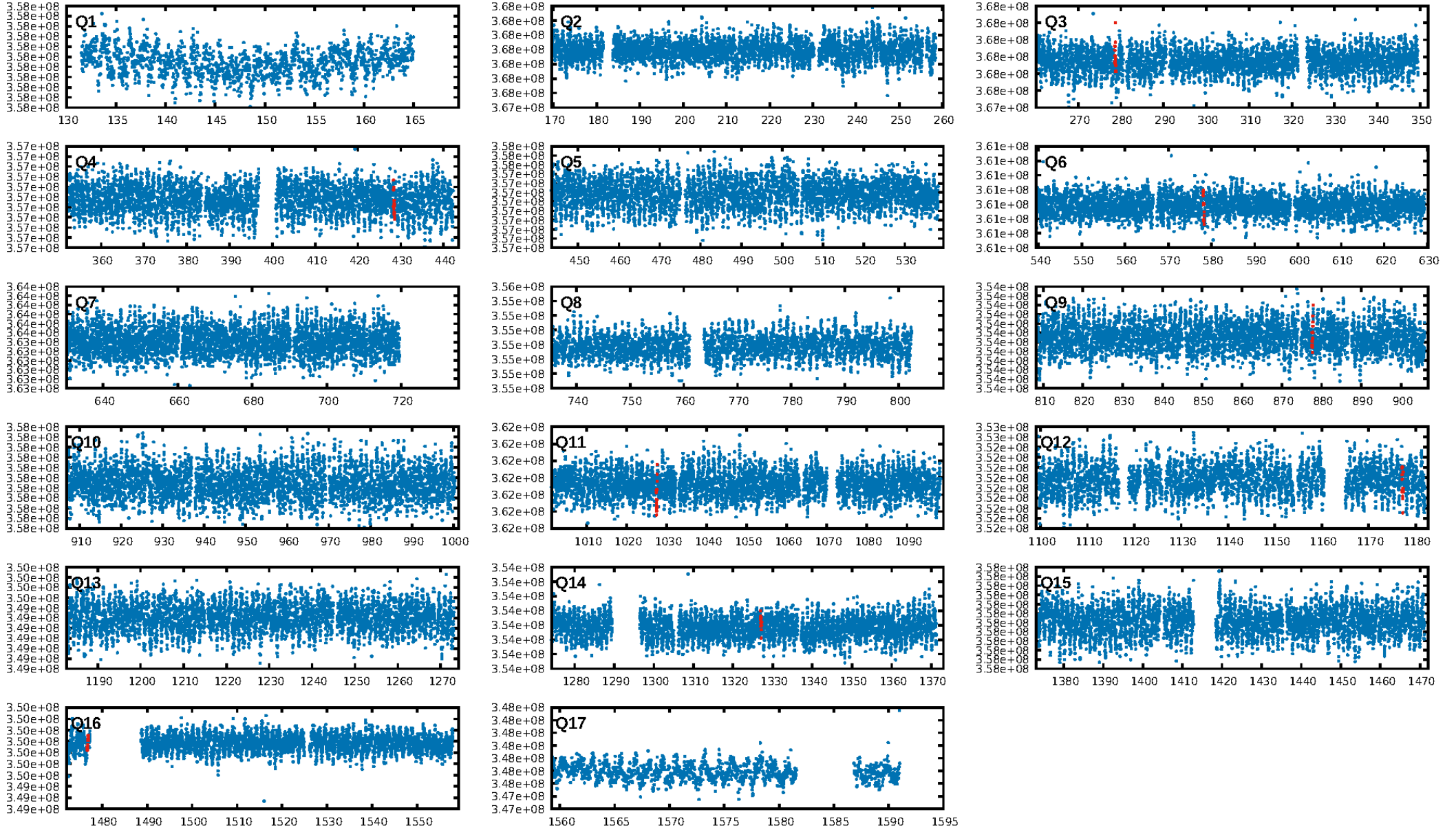
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [707.45σ]  
LongPeriod-sig: 100.0% [850.94σ]  
ModelChiSquare2-sig: 60.8%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 6.44e-10**  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: 2.152  
Centroid-sig: 27.1%  
Centroid-so: 0.707 arcsec [1.38σ]  
OotOffset-rm: 1.600 arcsec [2.55σ]  
OotOffset-st: 2/1/1/0 [4]  
KicOffset-rm: 1.659 arcsec [2.58σ]  
KicOffset-st: 2/1/1/0 [4]  
DiffImageQuality-fgm: 0.75 [3/4]  
DiffImageOverlap-fno: 0.20 [1/5]

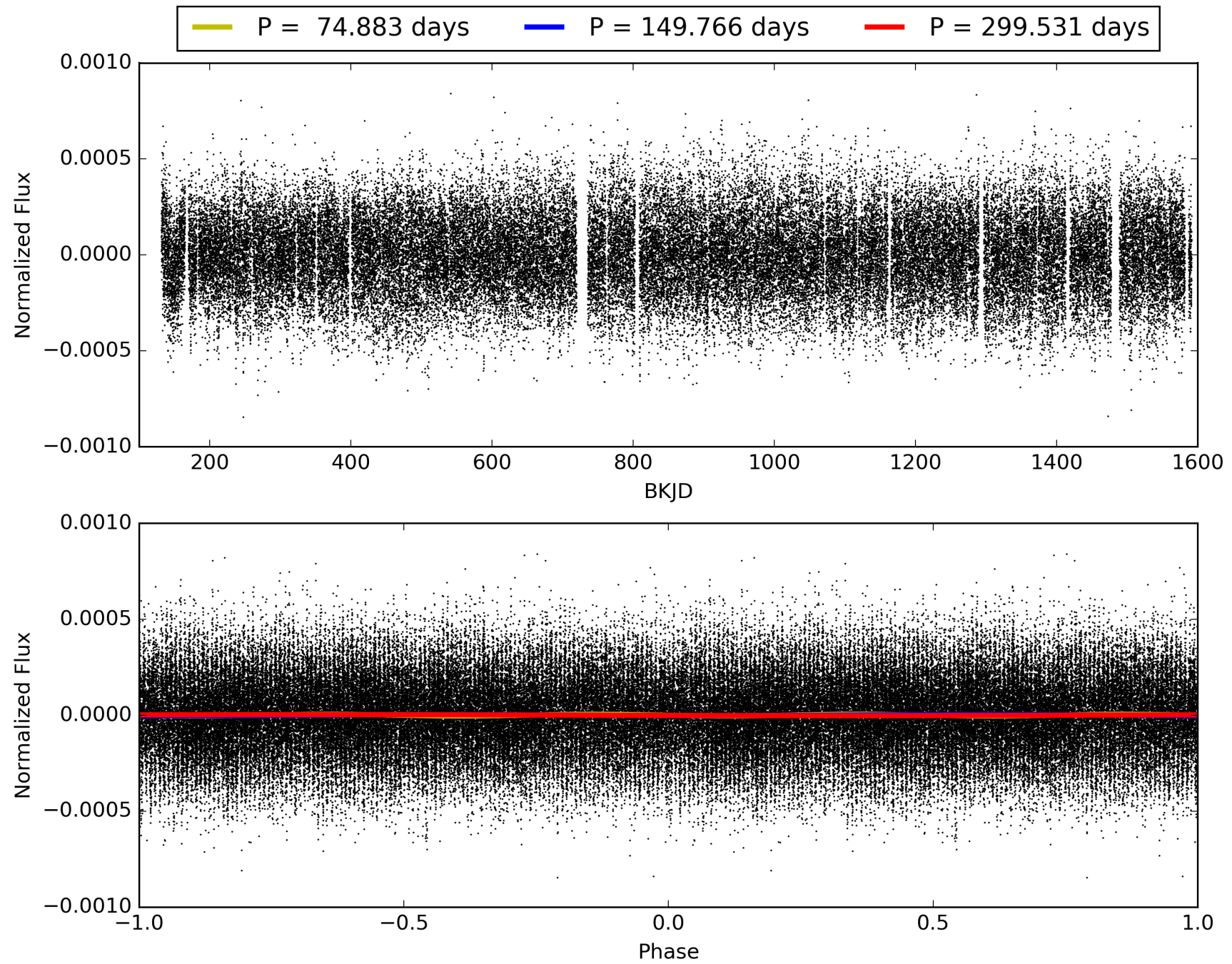
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:42:22 Z

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

# TCE 006292452-02, PDC Light Curves

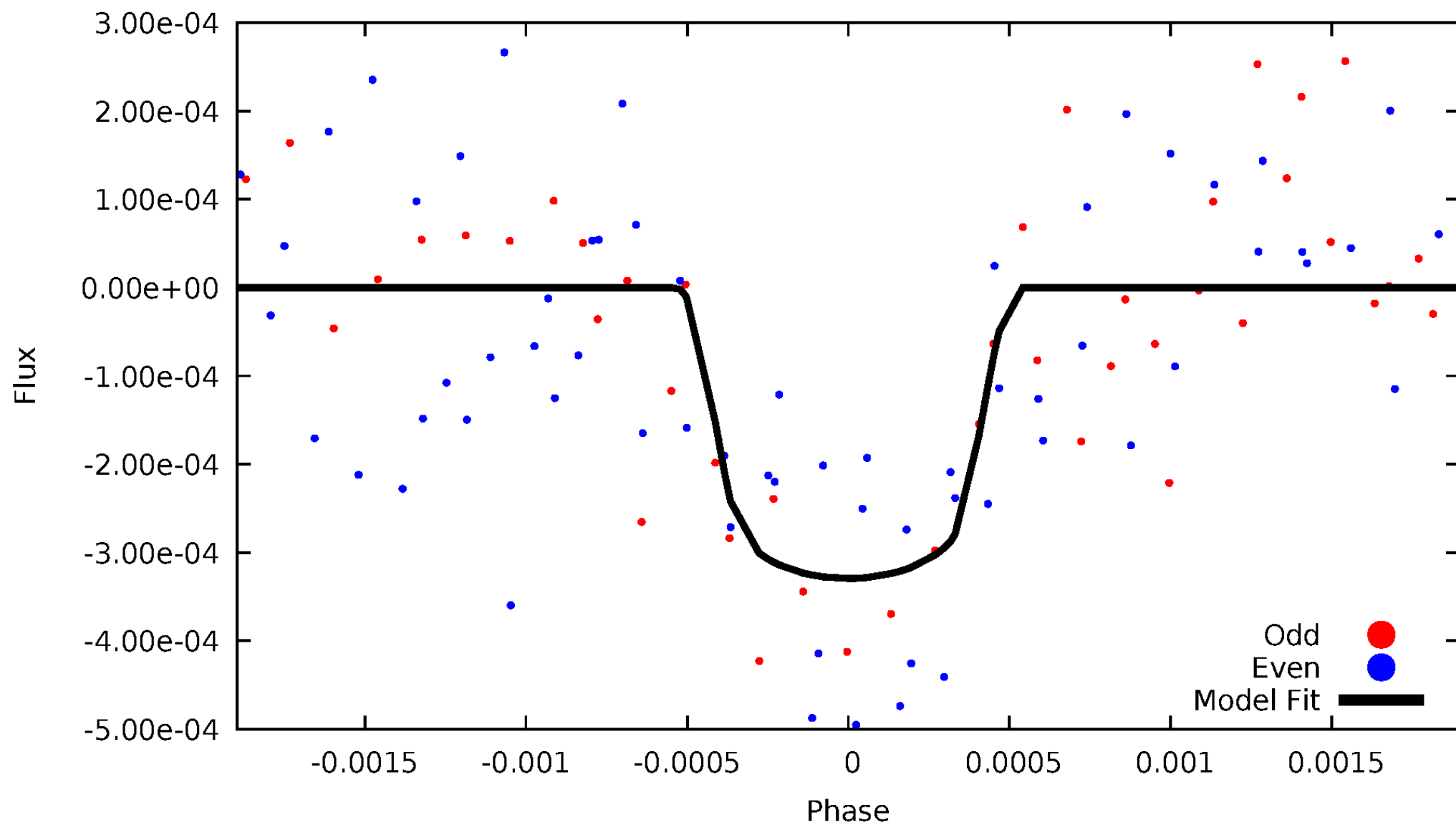


TCE 006292452-02



# DV Odd/Even

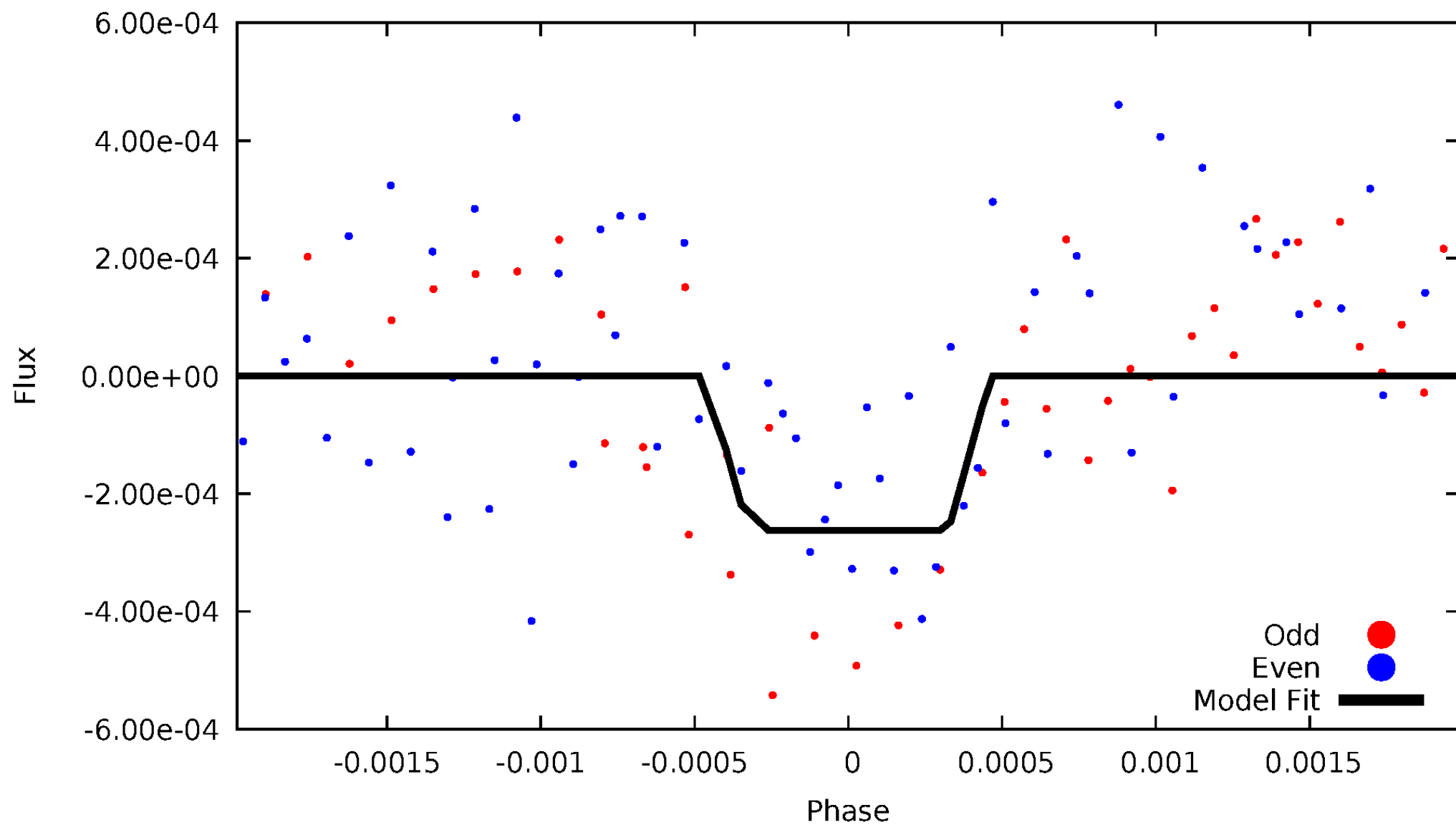
TCE 006292452-02





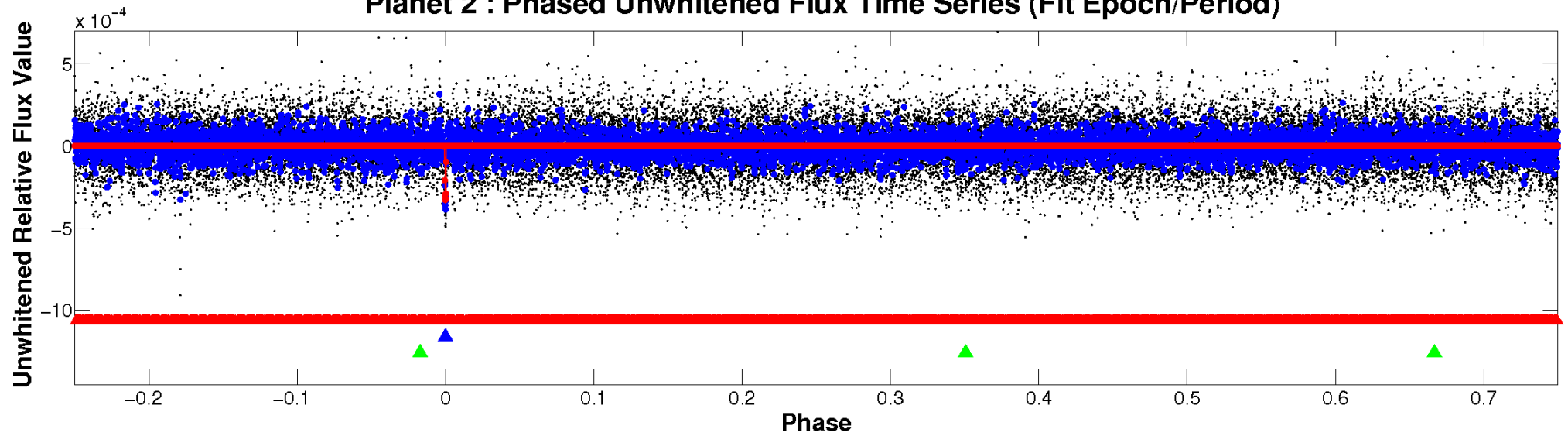
# ALT Odd/Even

TCE 006292452-02

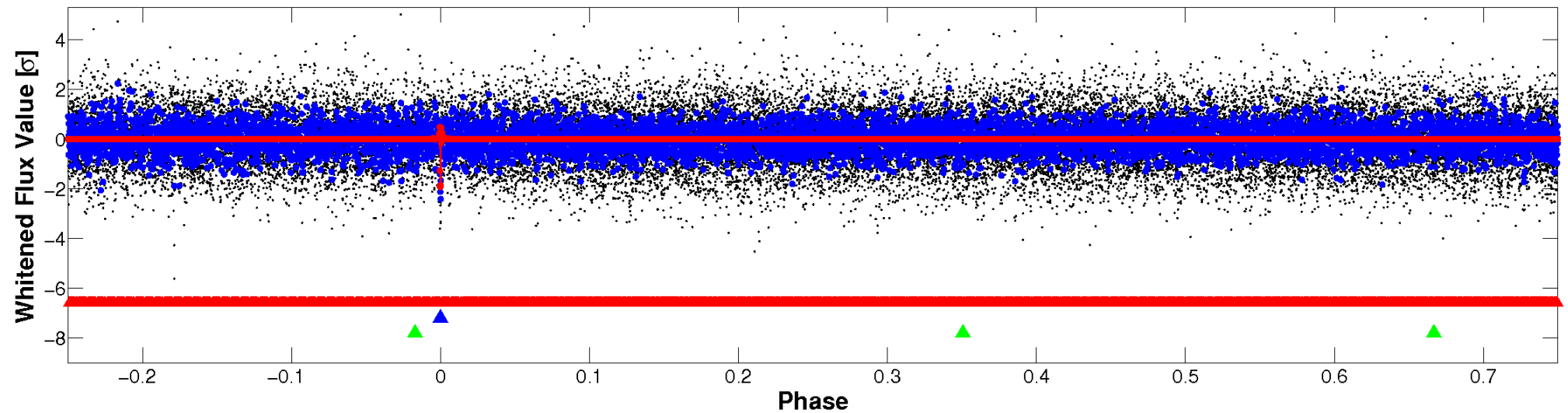


# Non-Whitened Vs. Whitened Light Curve

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

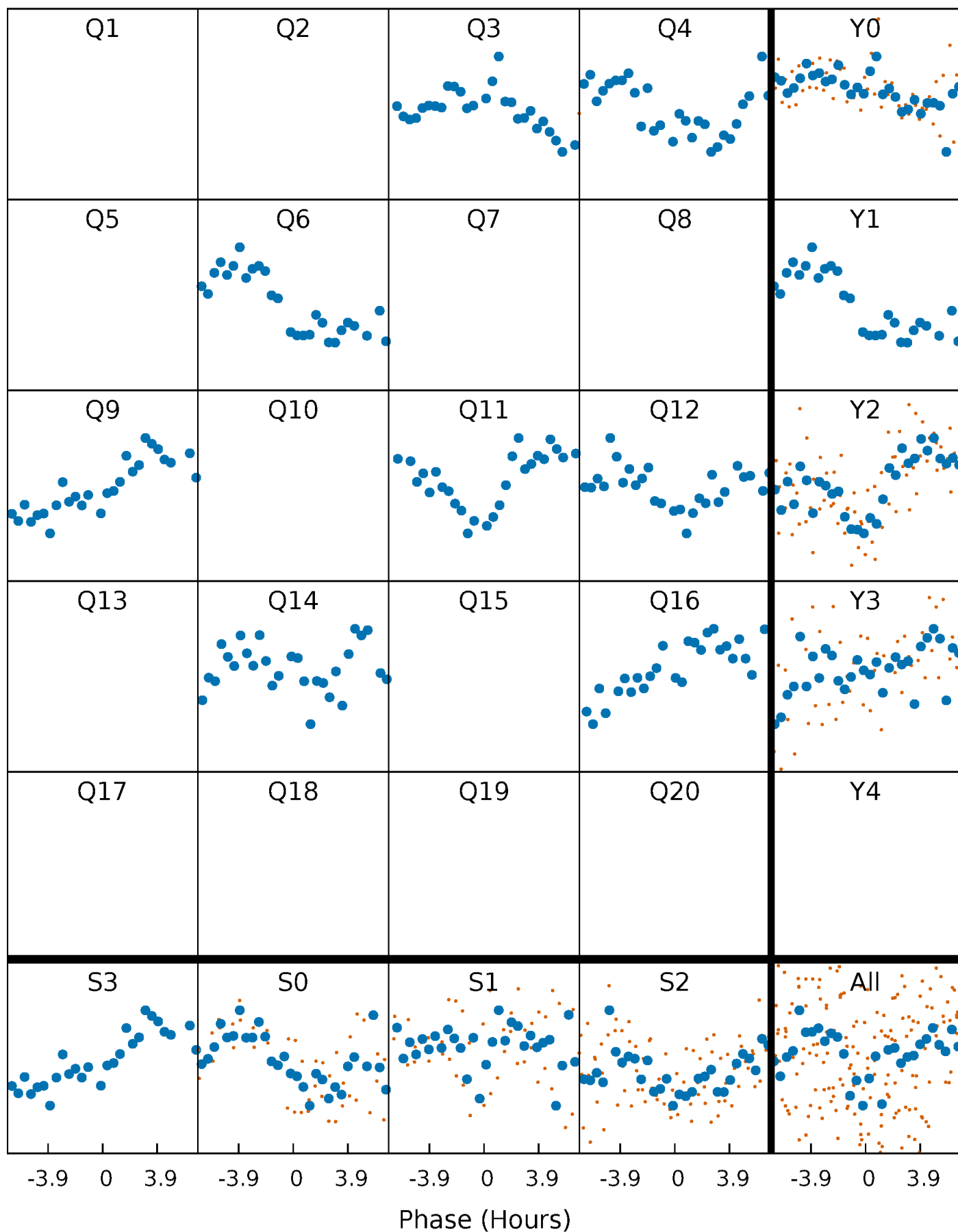


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



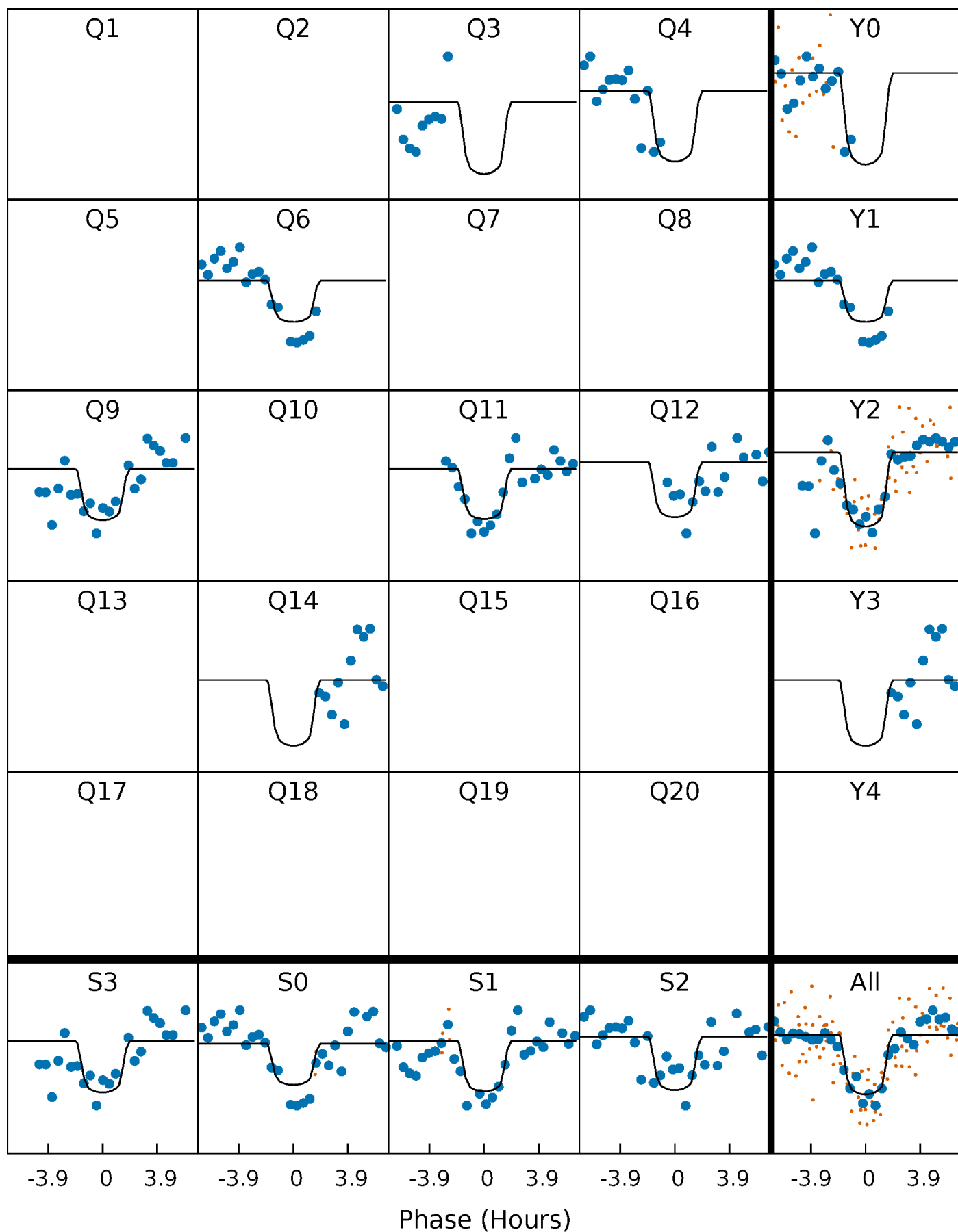
# PDC Quarter-Phased Transit Curves

TCE 006292452-02 P=149.765522 Days  $T_0=278.678784$  (BKJD)



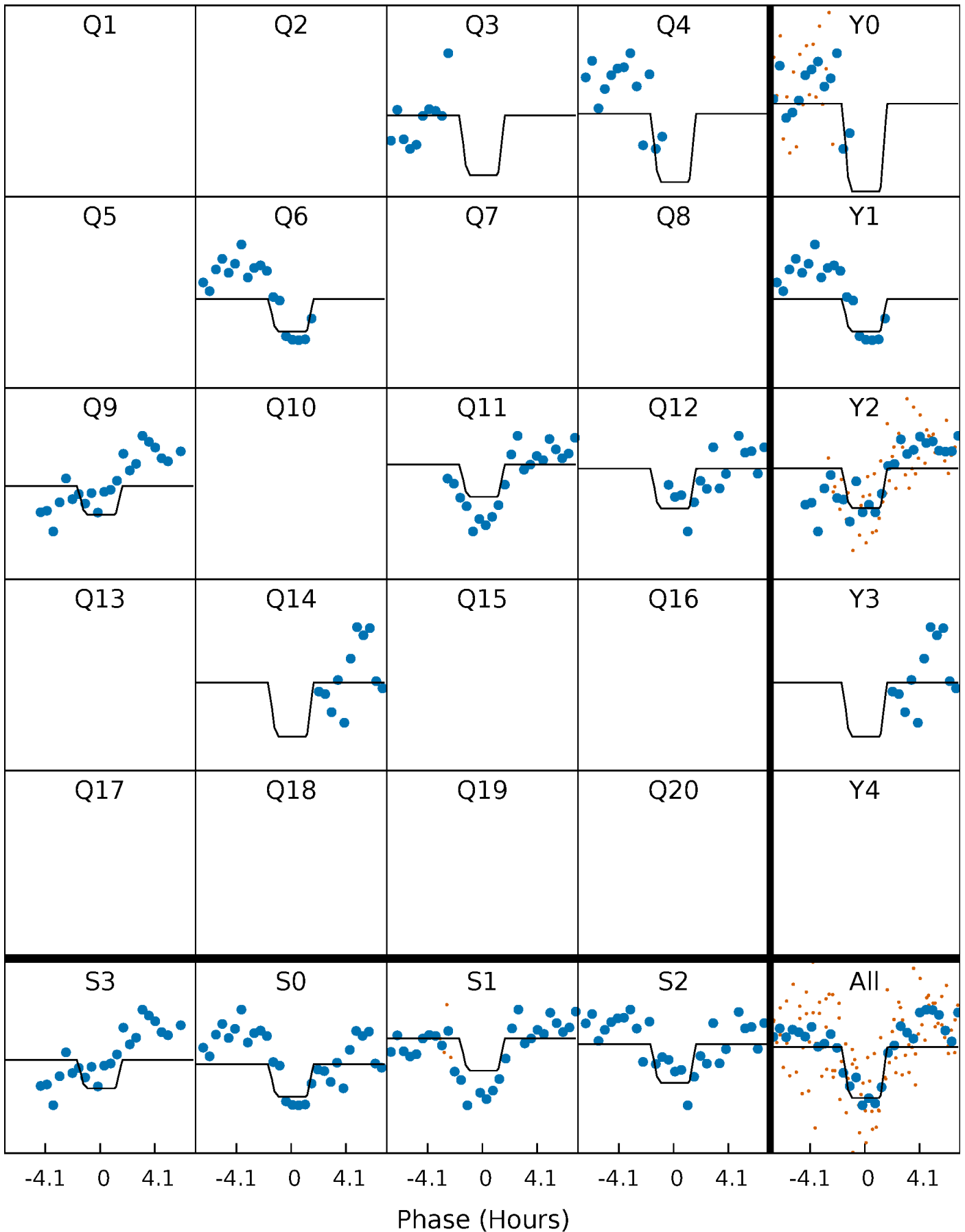
# DV Quarter-Phased Transit Curves

TCE 006292452-02   P=149.765522 Days    $T_0=278.678784$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006292452-02     $P=149.763413$  Days     $T_0=278.684795$  (BKJD)

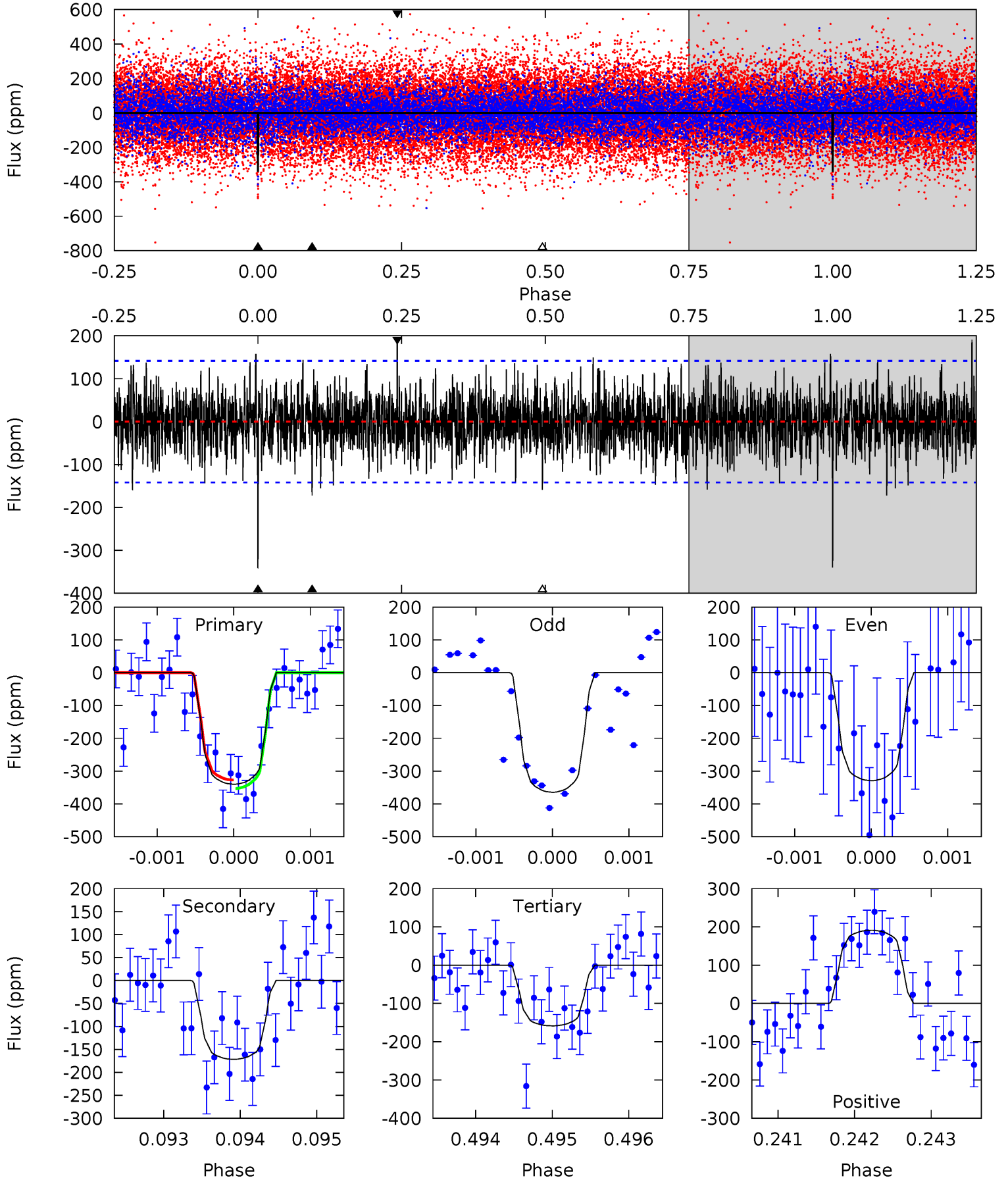




# DV Model-Shift Uniqueness Test

006292452-02, P = 149.765522 Days, E = 128.913262 Days

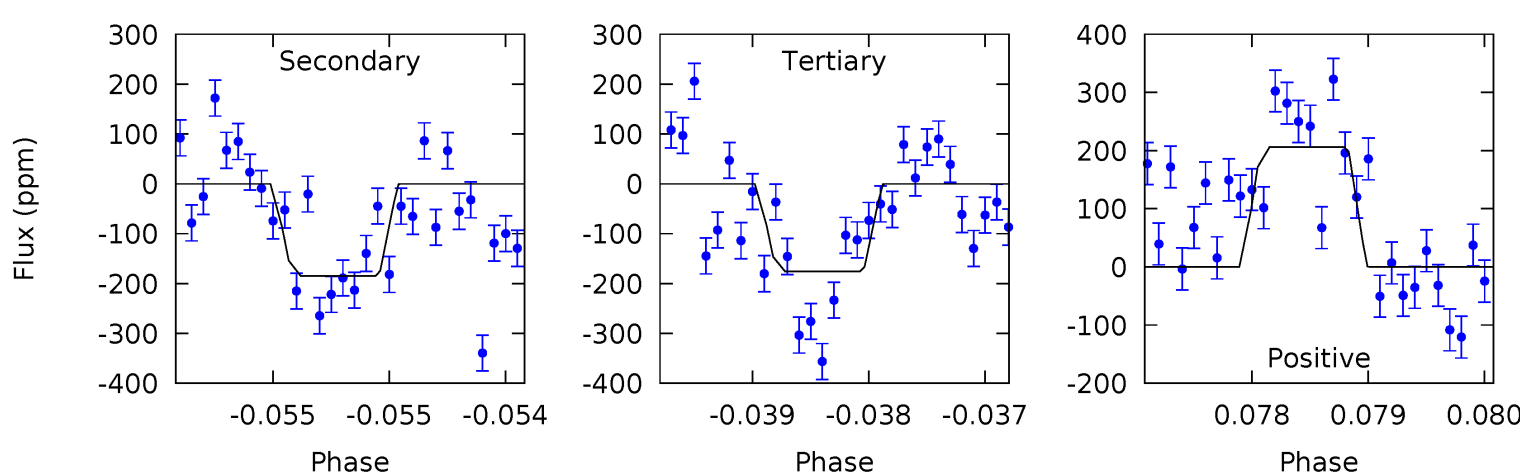
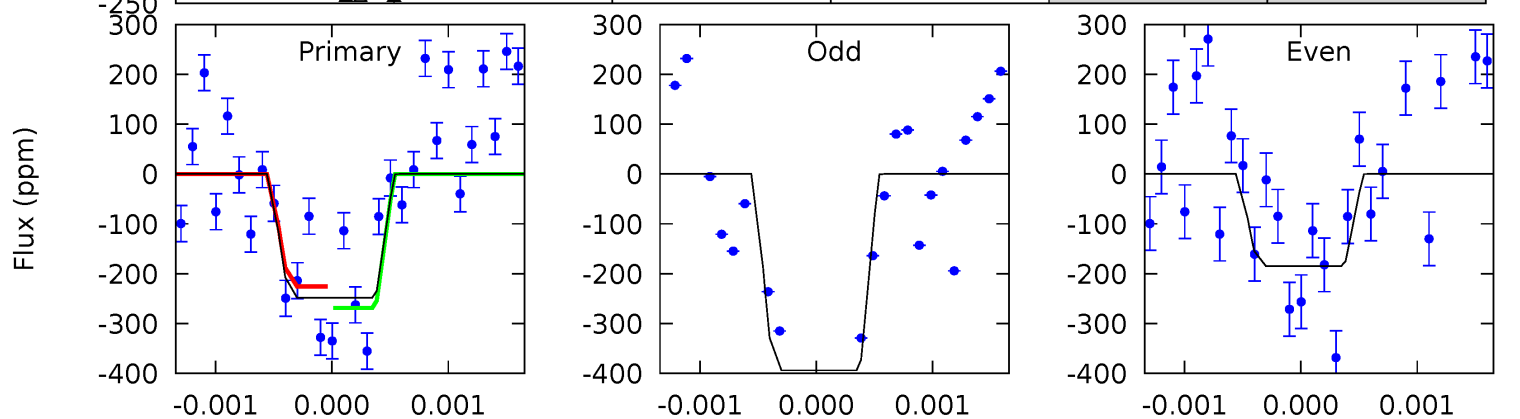
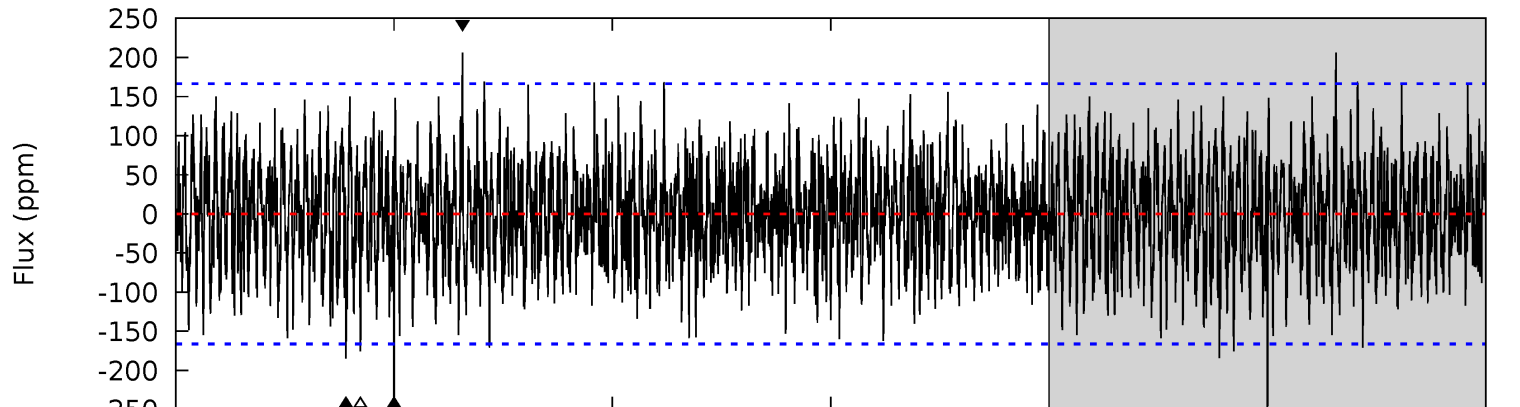
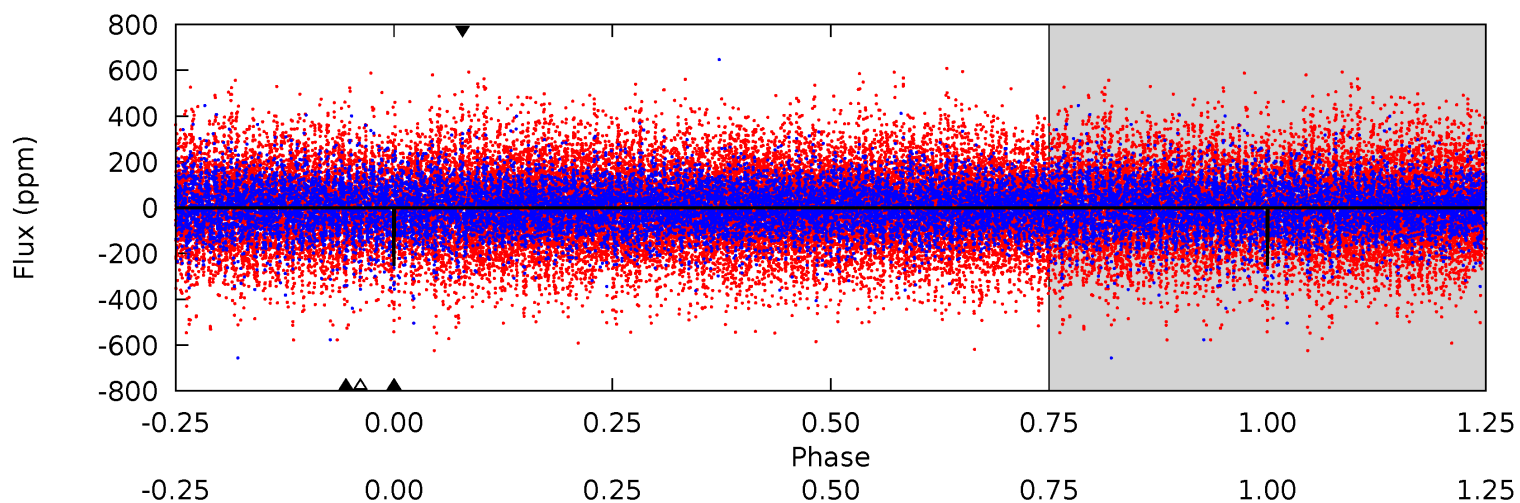
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	6.61	6.10	7.36	5.46	3.30	1.80	6.99	5.73	0.50	-0.75	0.64	1.09	0.36	0.50



# Alt Model-Shift Uniqueness Test

006292452-02, P = 149.763413 Days, E = 128.921382 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
8.17	6.08	5.78	6.78	5.48	3.33	1.87	2.39	1.40	0.30	-0.70	3.27	0.99	0.45	0.71



### Stellar Parameters For KIC 006292452

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6967^{+73}_{-83}$	$3.839^{+0.202}_{-0.093}$	$0.180^{+0.150}_{-0.150}$	$2.705^{+0.392}_{-0.727}$	$1.841^{+0.098}_{-0.245}$	$0.131^{+0.162}_{-0.038}$
	+1%/-1%	+5%/-2%	+83%/-83%	+14%/-27%	+5%/-13%	+123%/-29%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 006292452-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-172 \pm 26$	$5.57^{+1.47}_{-1.34}$	$856^{+31}_{-53}$	$5663^{+820}_{-527}$	$1344^{+1057}_{-503}$
Alt.	$-185 \pm 30$	$4.53^{+1.48}_{-1.32}$	$853^{+36}_{-54}$	$6369^{+1314}_{-799}$	$2232^{+2363}_{-985}$

$T_{\text{max}}$  = 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

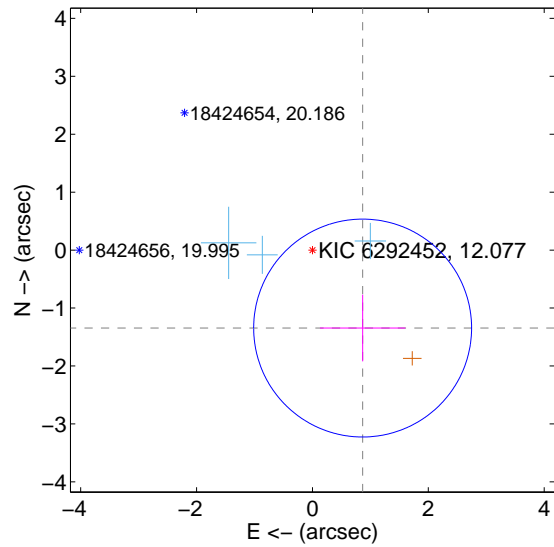
Supplemental centroid analysis for 006292452-02. Kepler magnitude: 12.08. Transit SNR 9.26

There are 3 quarters with good PRF difference image offsets

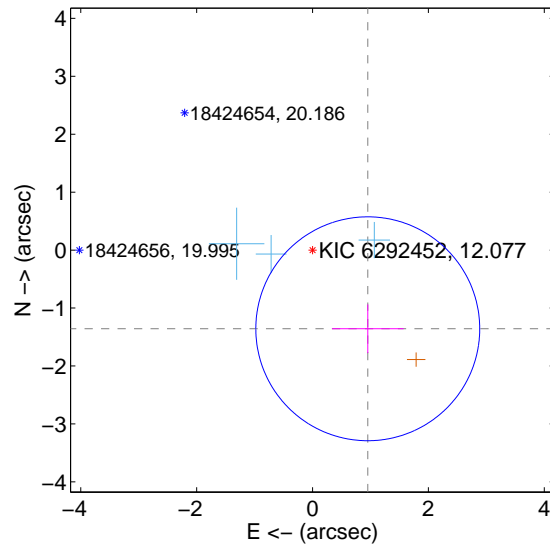
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.600 \pm 0.627$	2.55	$-0.866 \pm 0.738$	$-1.346 \pm 0.575$
PRF-fit source offset from KIC position	$1.659 \pm 0.644$	2.58	$-0.954 \pm 0.618$	$-1.358 \pm 0.421$
photometric centroid source offset	$0.71 \pm 0.51$	1.38	$0.40 \pm 0.45$	$0.58 \pm 0.54$

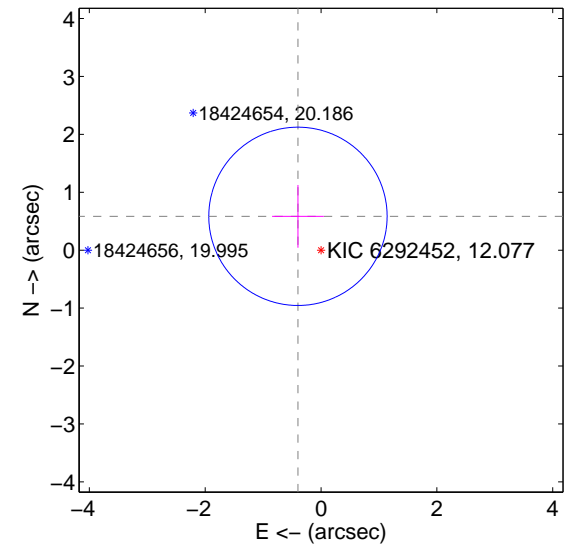
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

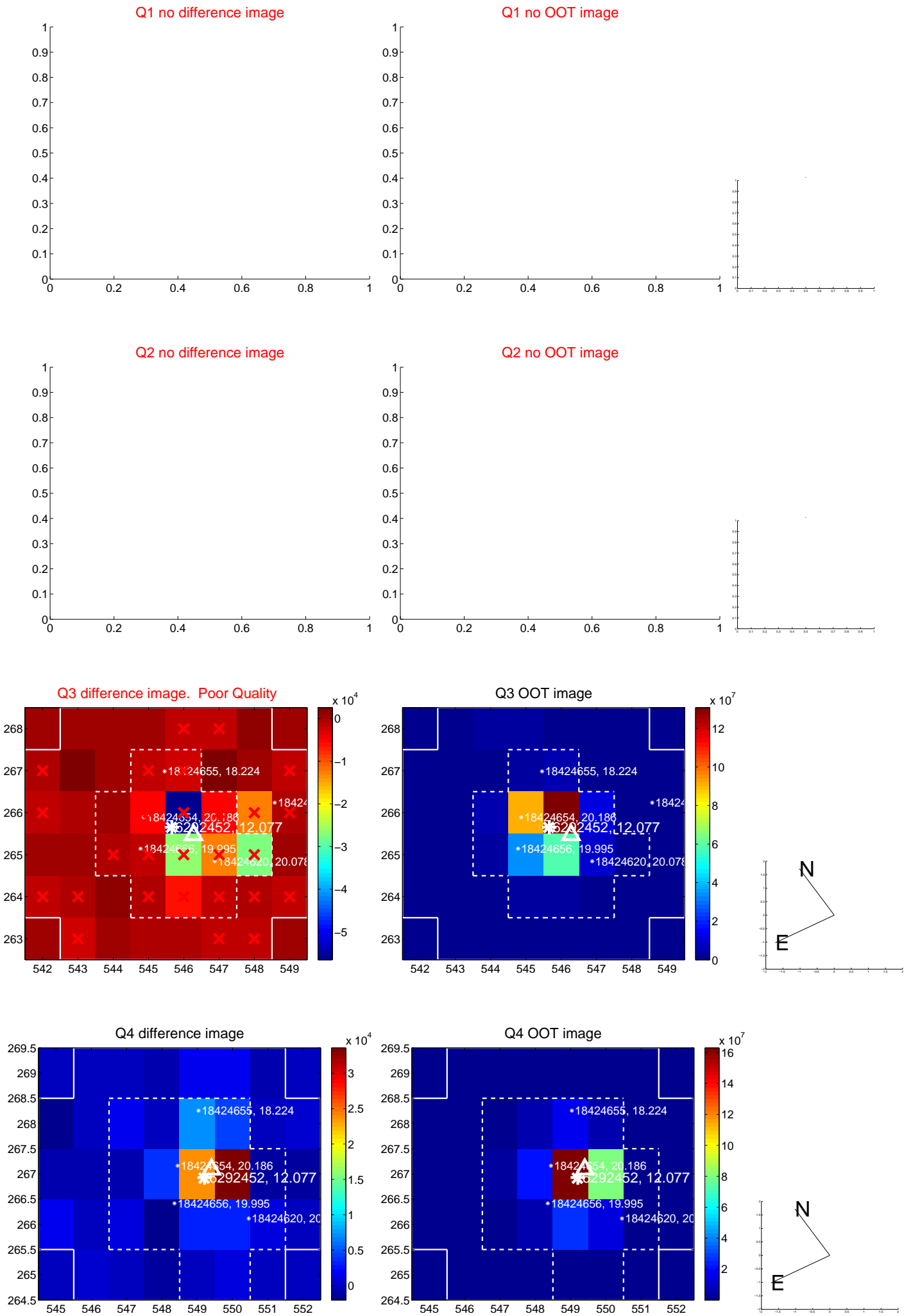


offset from photometric centroids



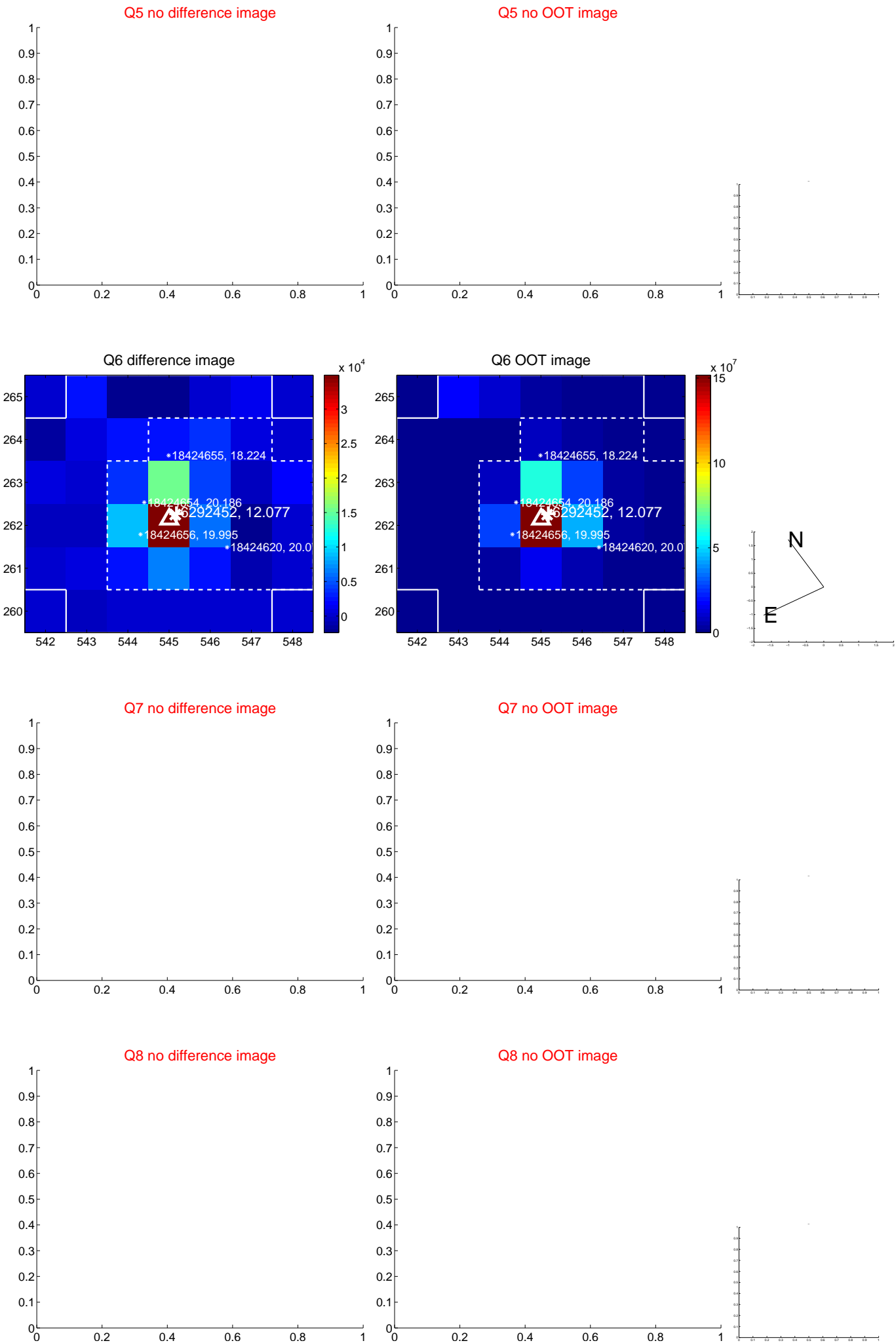
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

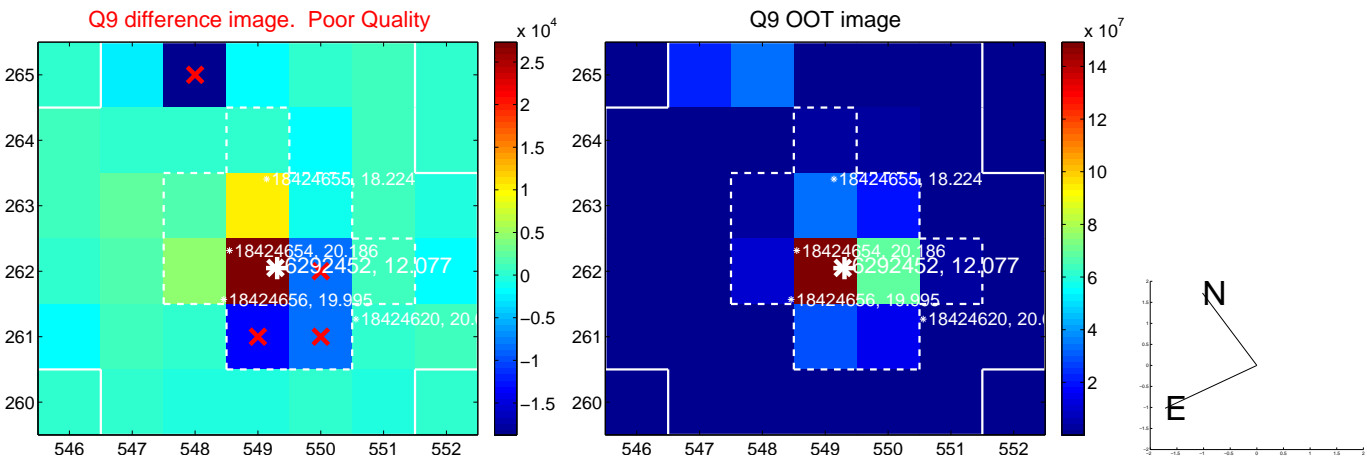




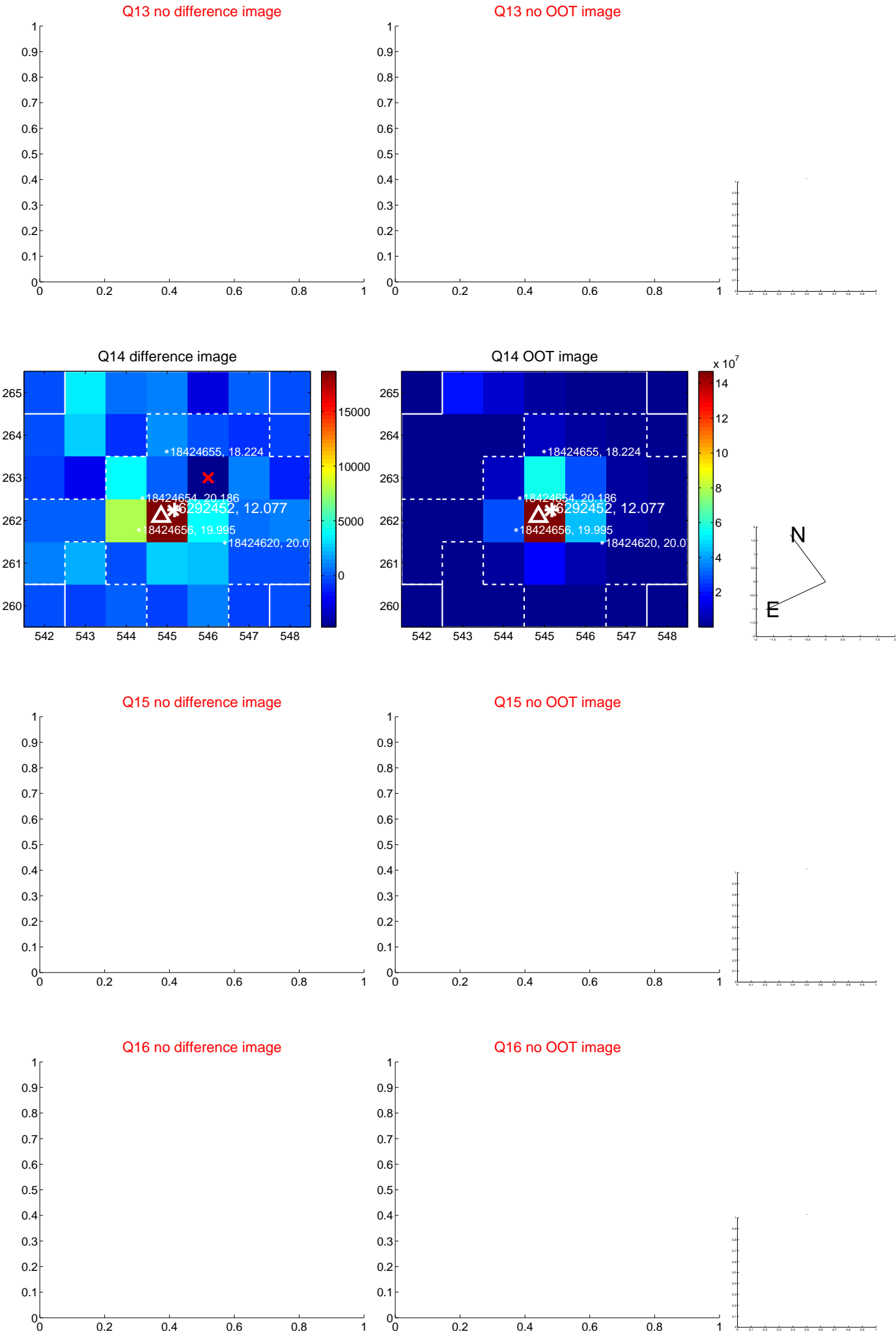
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



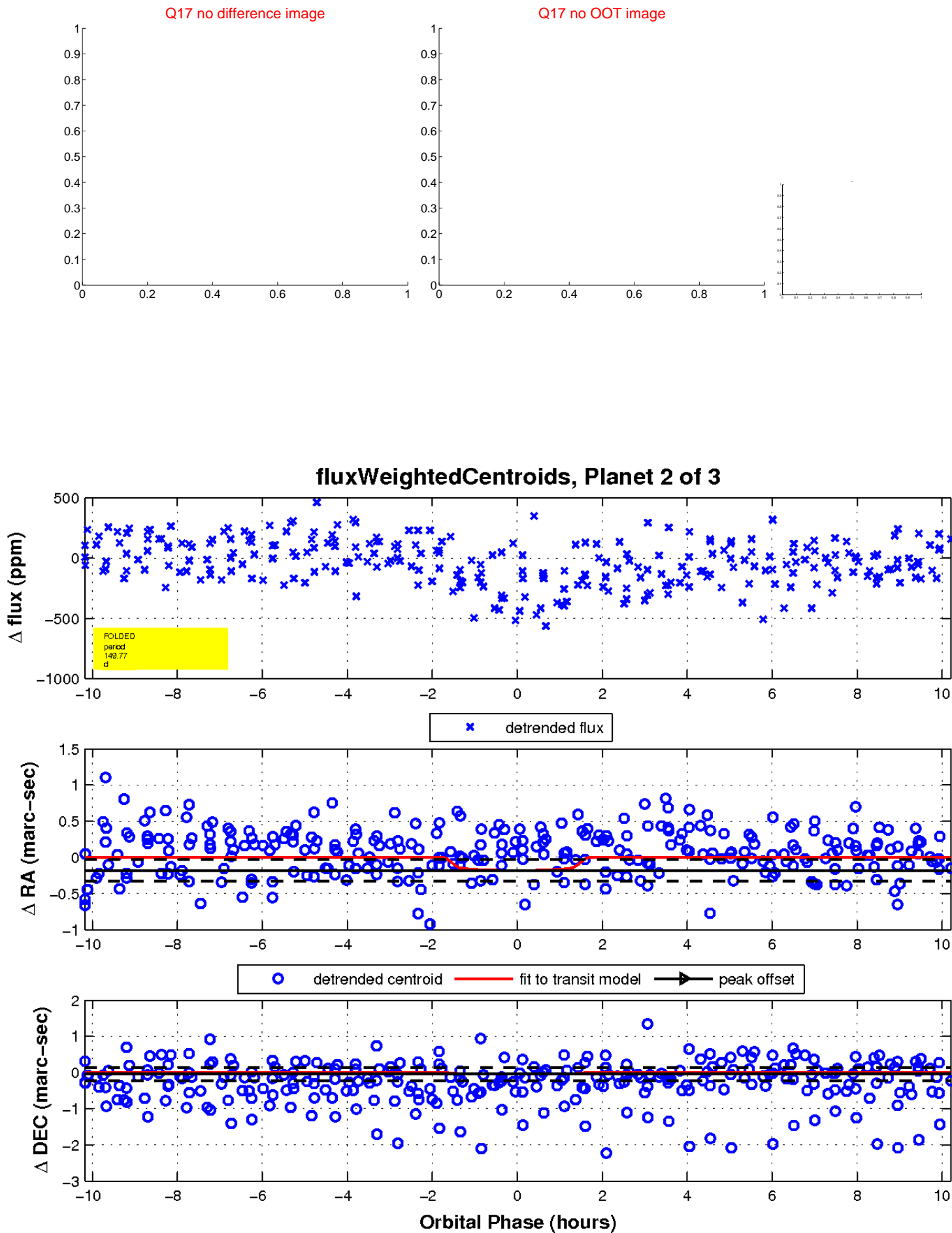
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

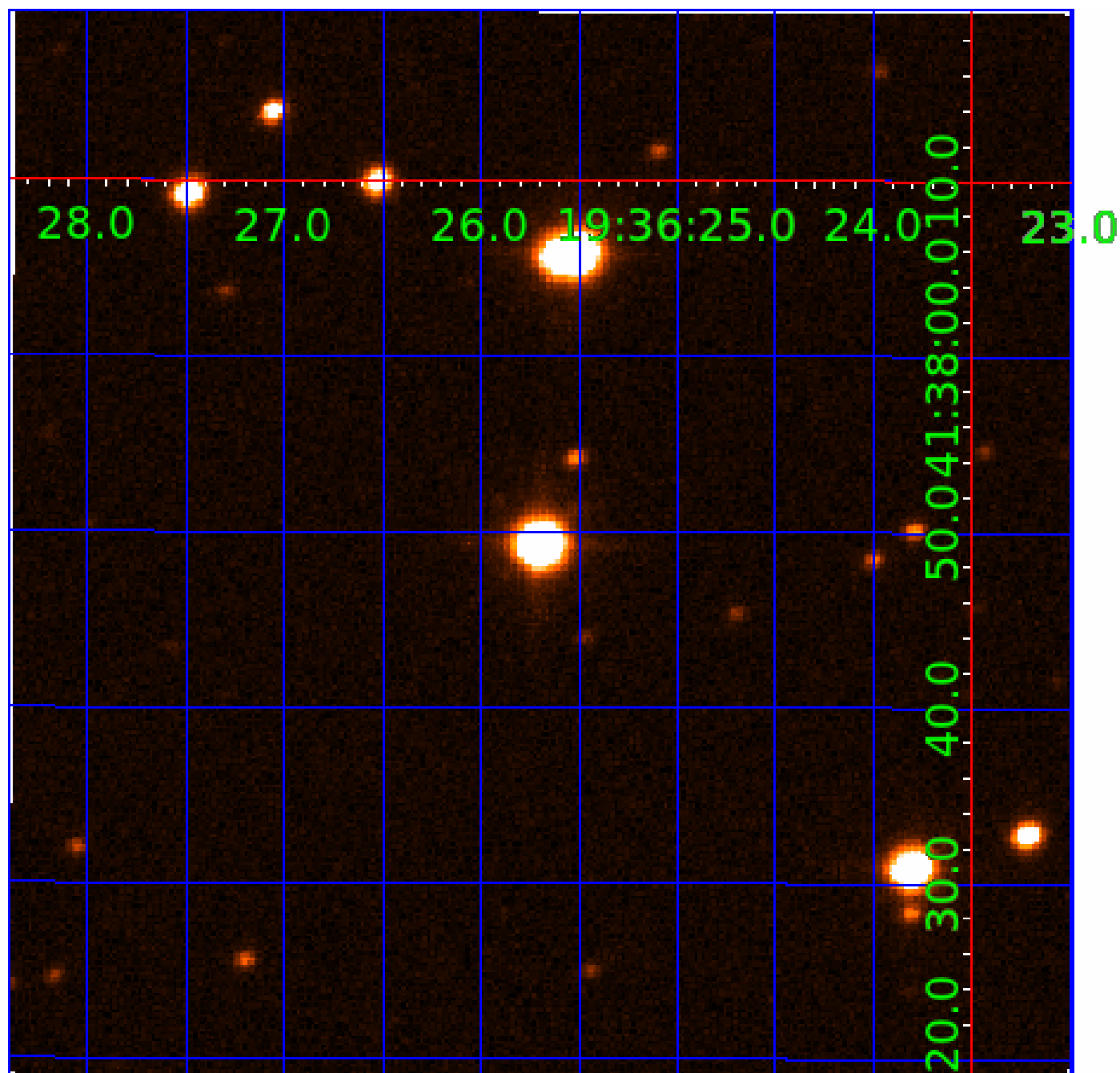


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 006292452

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006292452-01	OBS	No	0.960616	131.842558	18.3	3.725	9.7	7.8	2.71	6967	1.34	28300.18
006292452-02	OBS	No	149.765522	278.678784	329.2	3.408	7.8	9.3	2.71	6967	5.75	33.73
006292452-03	OBS	No	496.640808	331.200804	237.6	9.171	7.4	7.2	2.71	6967	4.63	6.82

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006292452-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006292452-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_POS_ALT
006292452-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

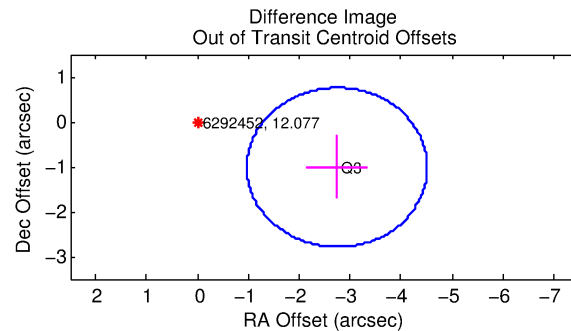
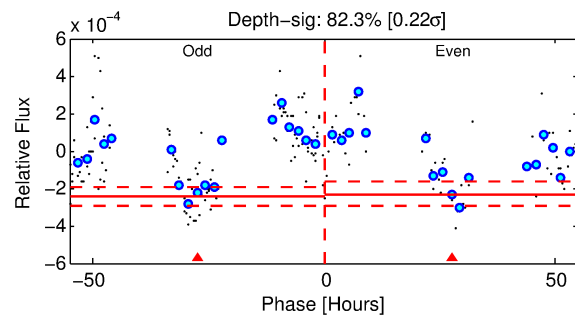
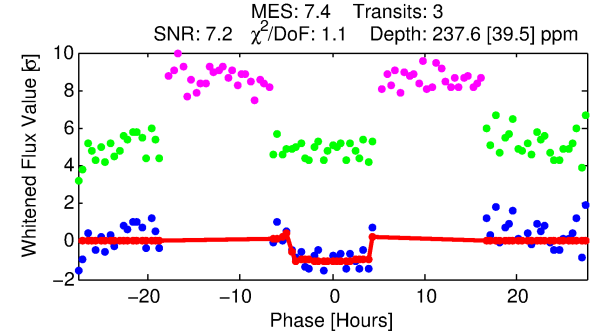
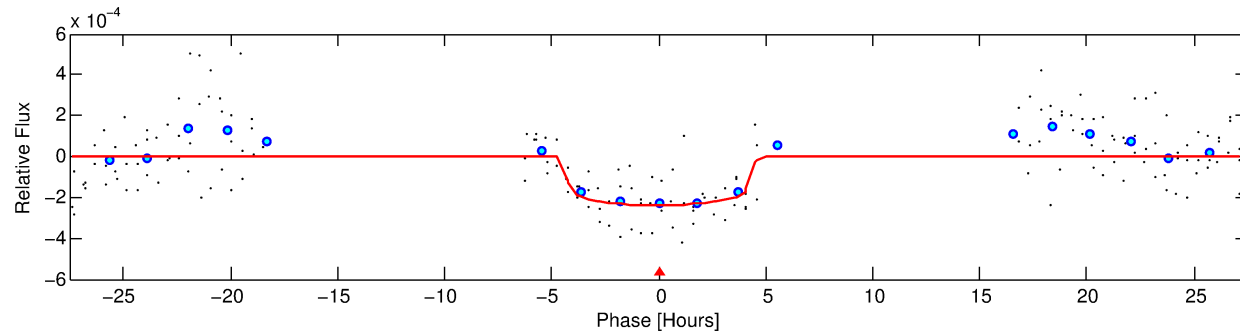
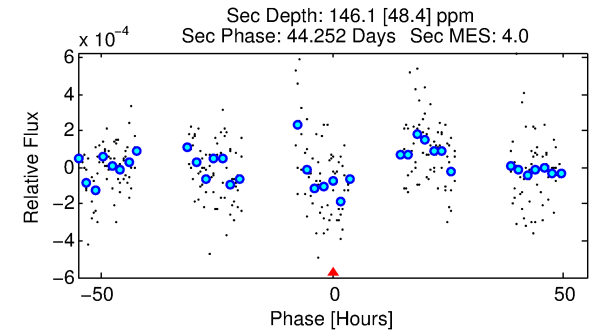
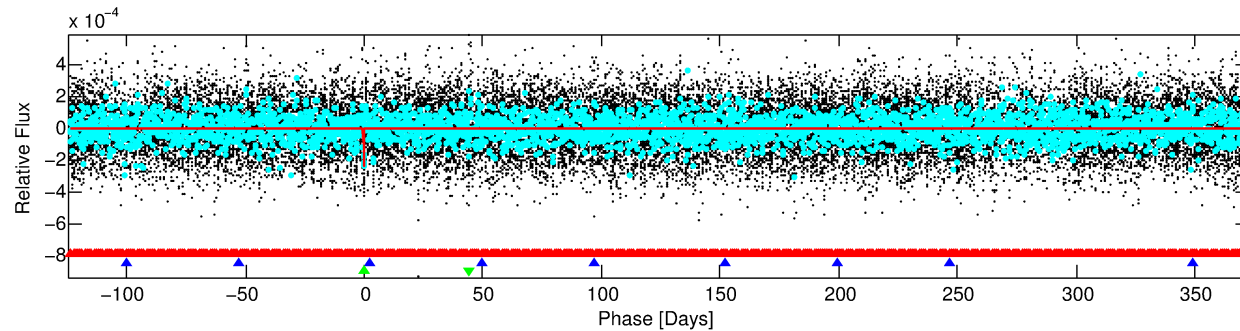
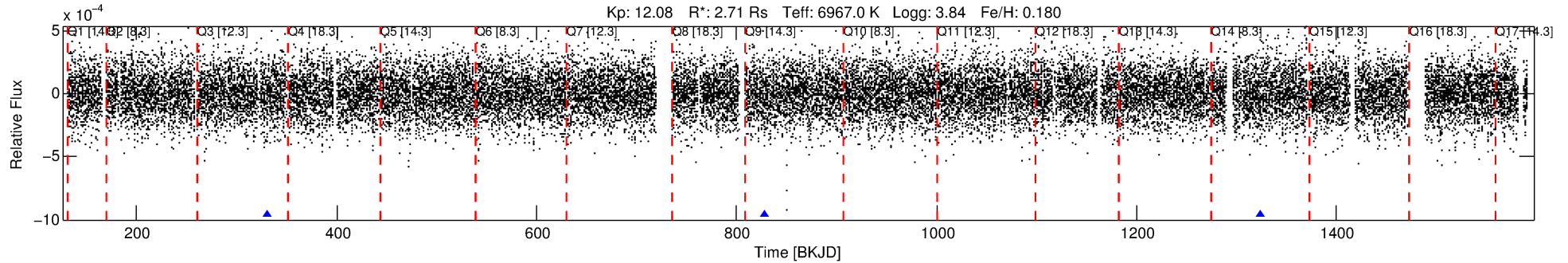
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006292452-03

No Significant Match Found

# DV One-Page Summary

KIC: 6292452 Candidate: 3 of 3 Period: 496.641 d



## DV Fit Results:

Period = 496.64081 [0.01038] d  
Epoch = 331.2008 [0.0129] BKJD  
Rp/R\* = 0.0157 [0.0039]  
a/R\* = 248.36 [326.67]  
b = 0.82 [0.53]  
Seff = 6.82 [2.46]  
Teff = 412 [37] K  
Rp = 4.63 [1.69] Re  
a = 1.5049 [0.3566] AU  
Ag = 8480.81 [5867.20] [1.45 $\sigma$ ]  
Teffp = 6114 [908] K [6.28 $\sigma$ ]

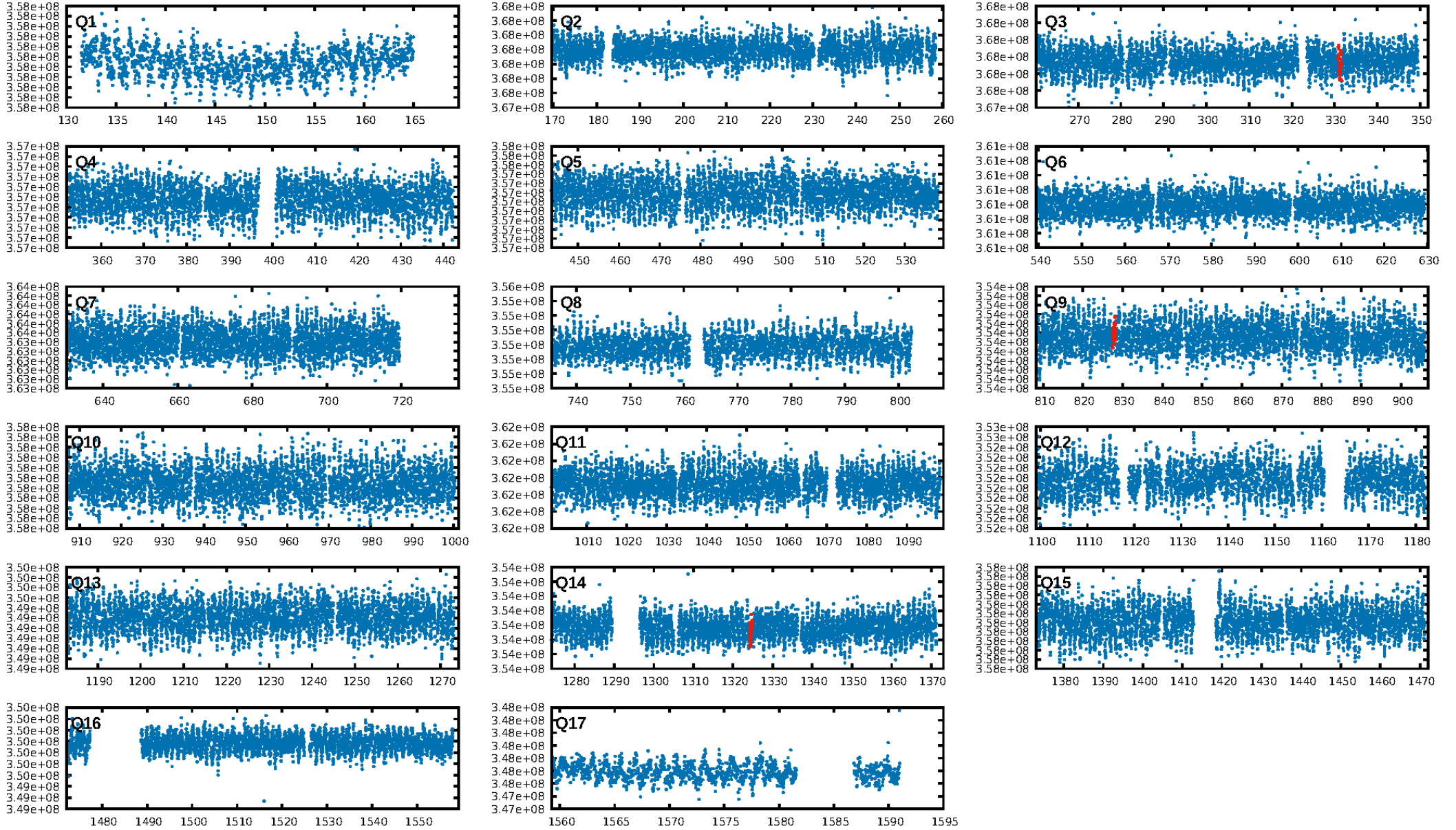
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [850.94 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 90.6%  
ModelChiSquareGof-sig: 99.8%  
**Bootstrap-pfa: 2.99e-09**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.908  
Centroid-sig: 63.5%  
Centroid-so: 0.195 arcsec [0.29 $\sigma$ ]  
**OotOffset-rm: 2.925 arcsec [4.95 $\sigma$ ]**  
**KicOffset-rm: 2.976 arcsec [5.03 $\sigma$ ]**  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 0.00 [0/3]

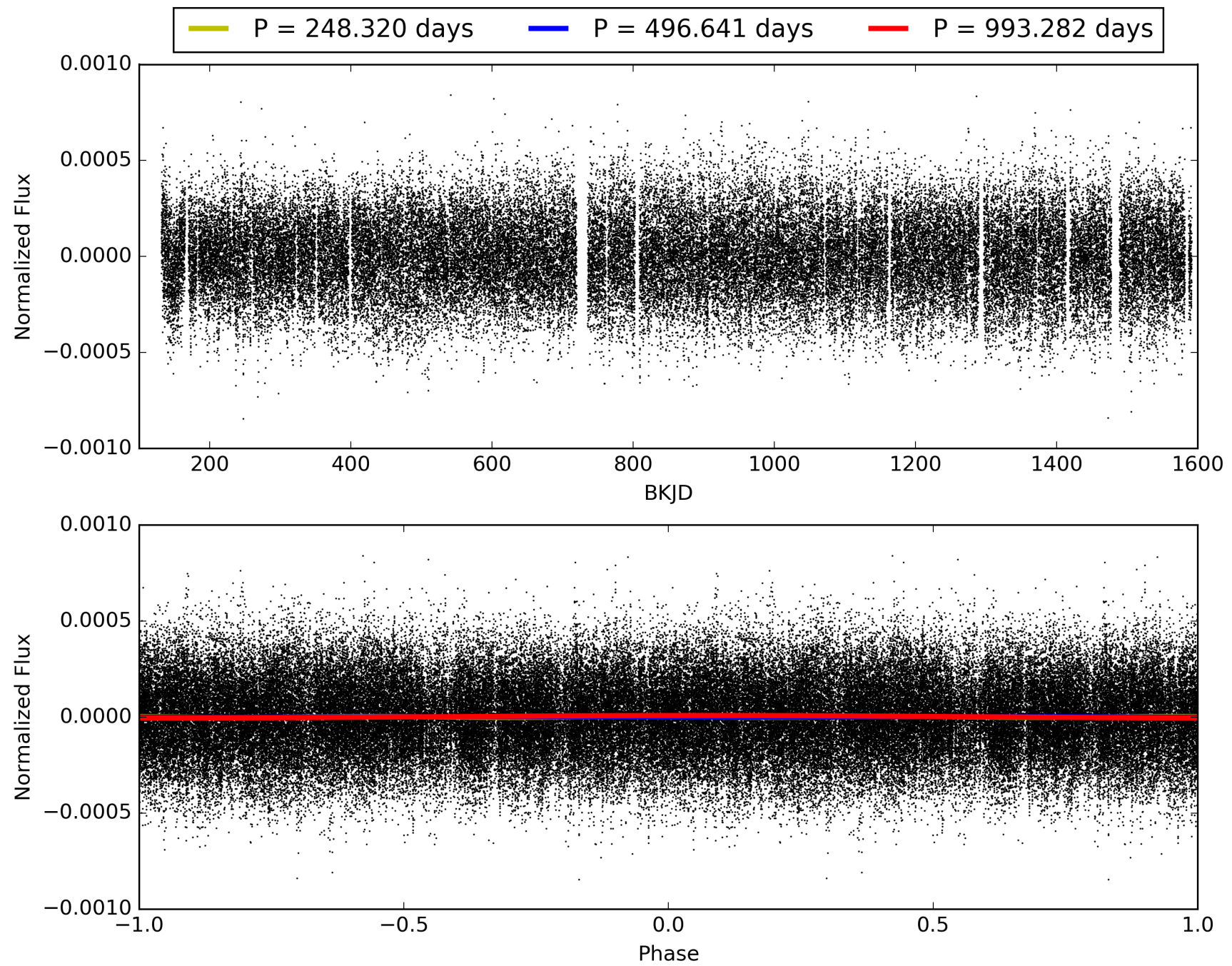
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:42:30 Z

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

# TCE 006292452-03, PDC Light Curves

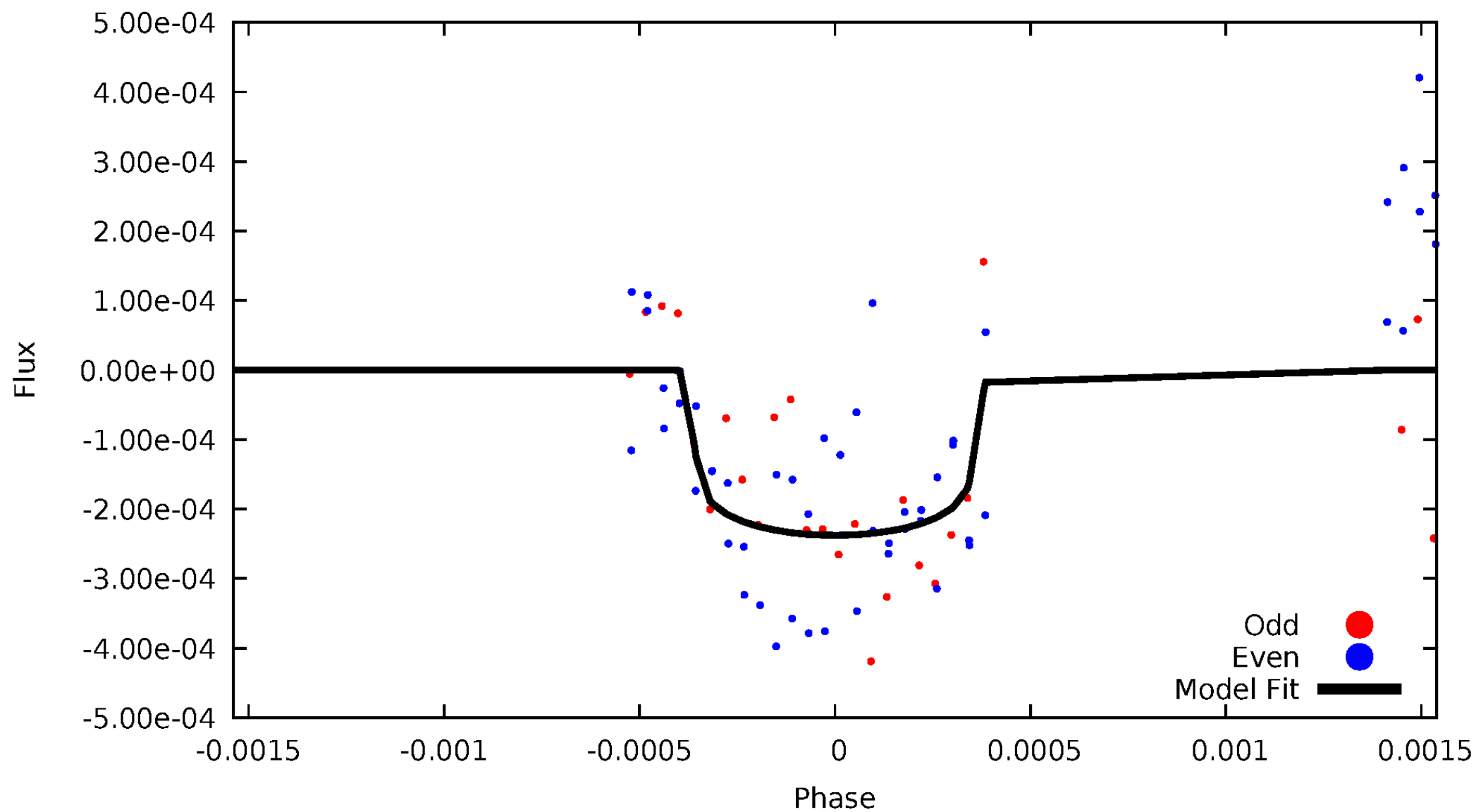


TCE 006292452-03



# DV Odd/Even

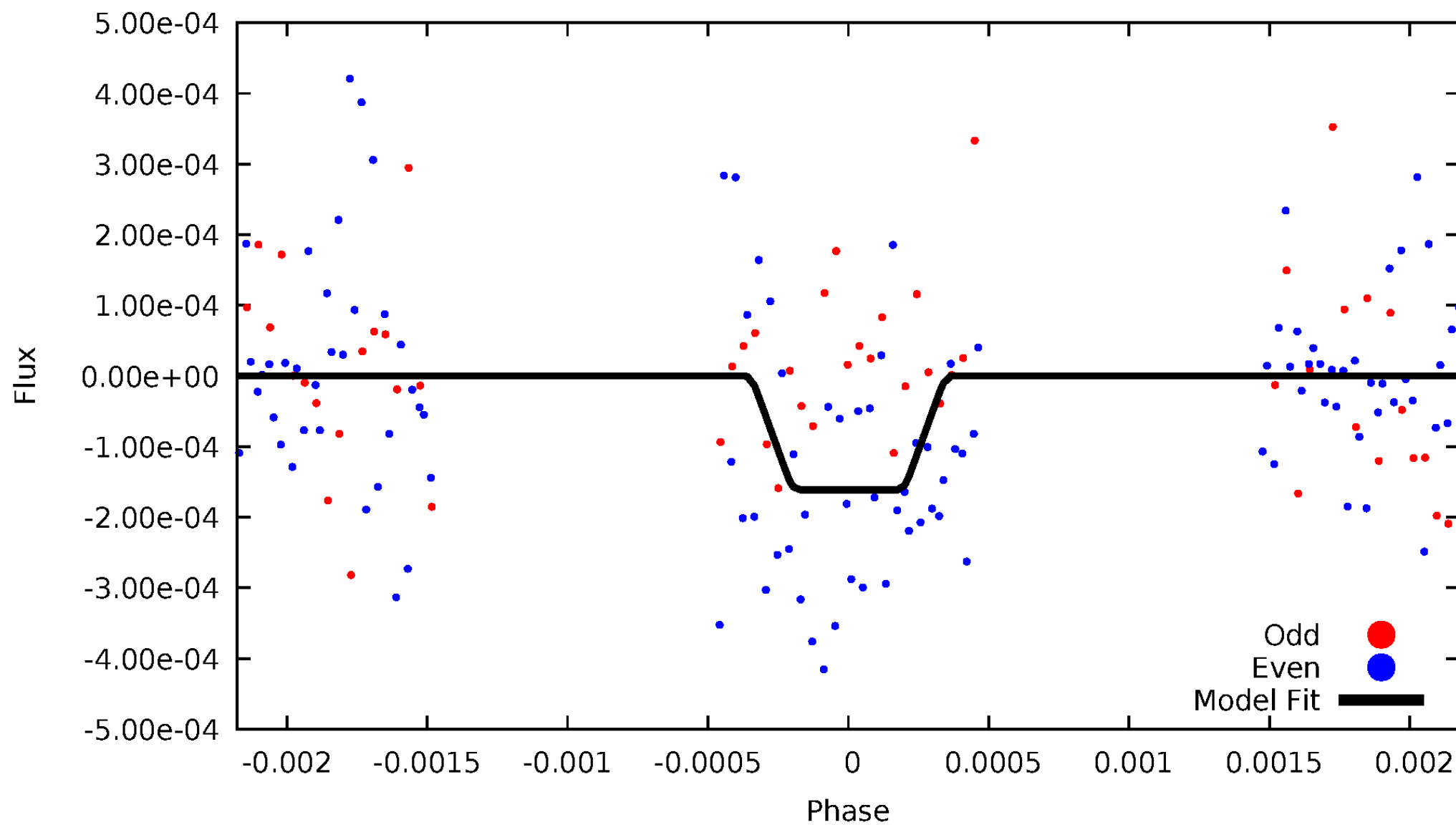
TCE 006292452-03





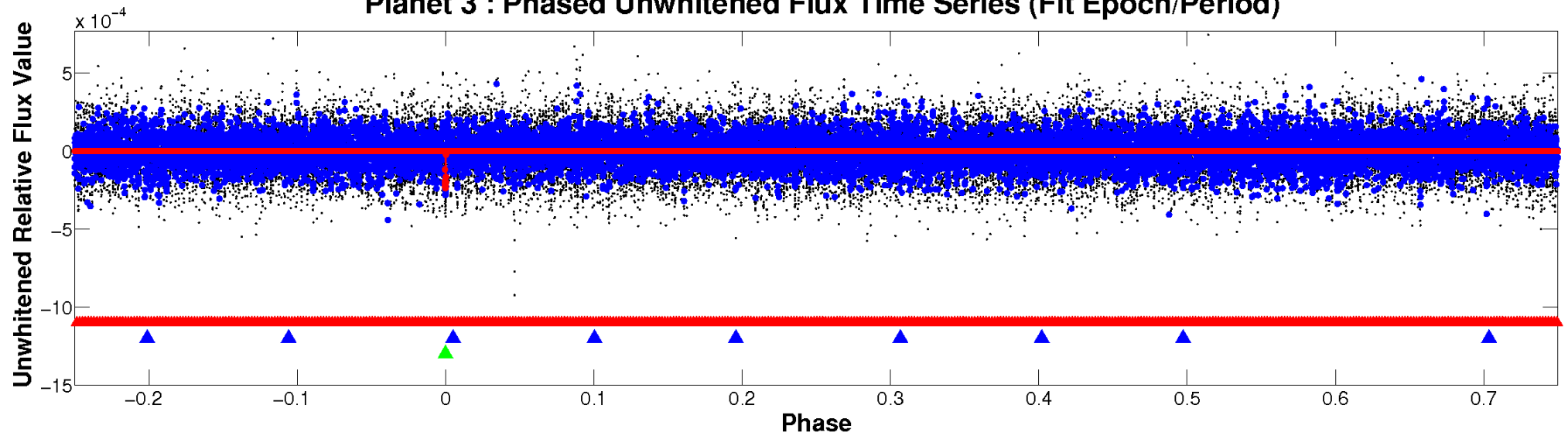
# ALT Odd/Even

TCE 006292452-03

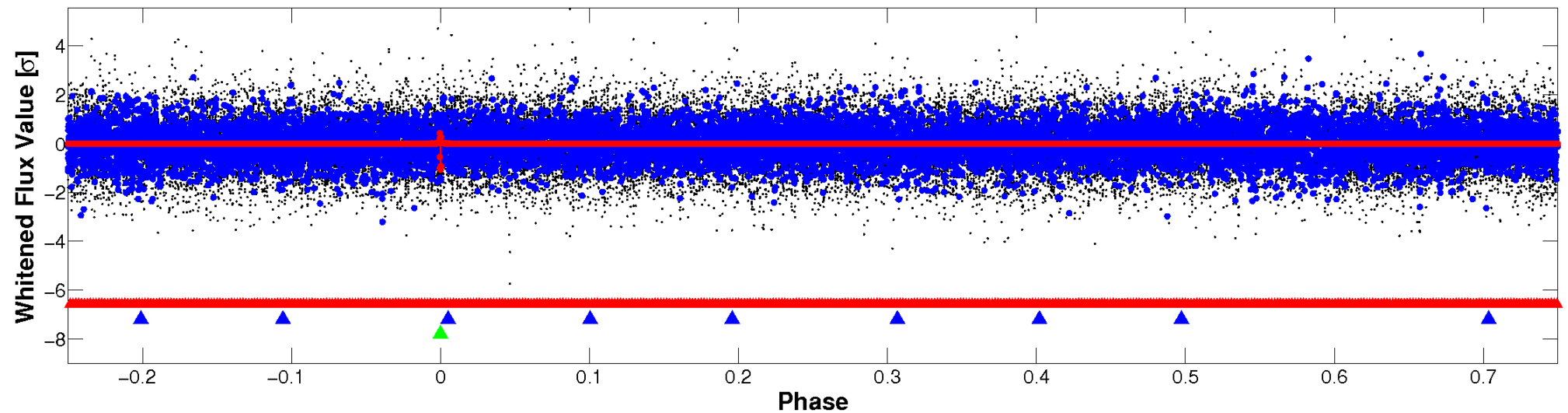


# Non-Whitened Vs. Whitened Light Curve

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

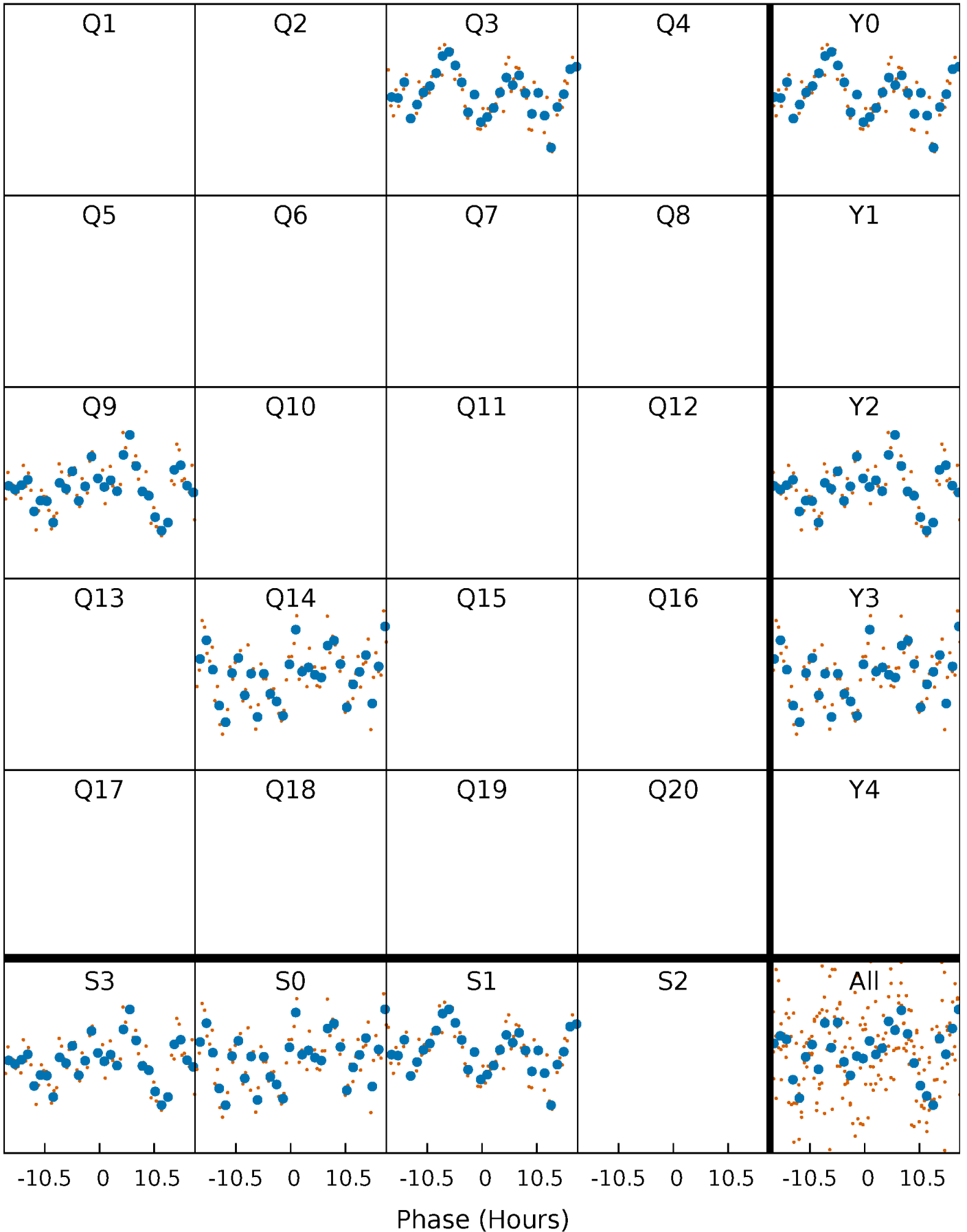


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



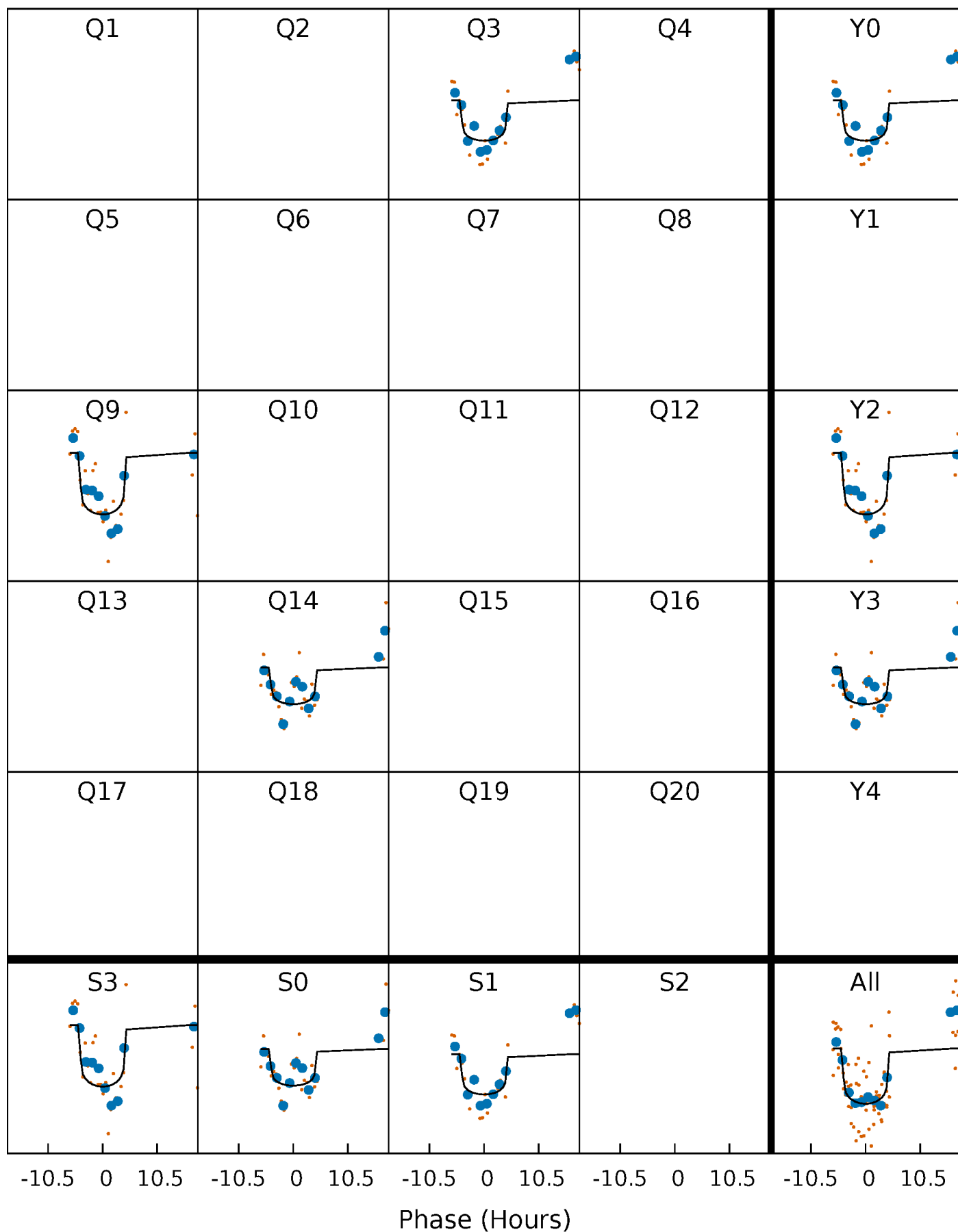
# PDC Quarter-Phased Transit Curves

TCE 006292452-03     $P=496.640808$  Days     $T_0=331.200804$  (BKJD)



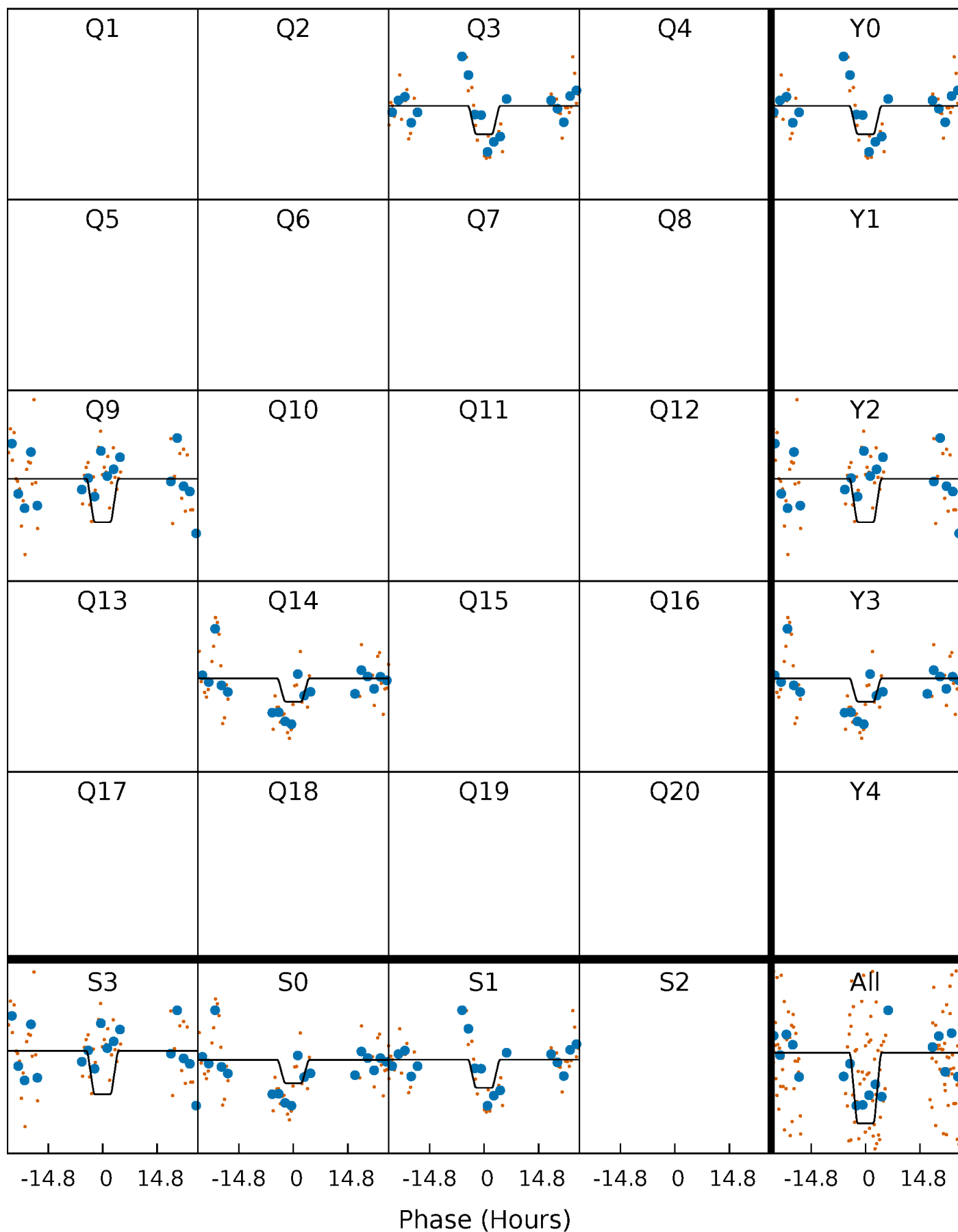
# DV Quarter-Phased Transit Curves

TCE 006292452-03     $P=496.640808$  Days     $T_0=331.200804$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

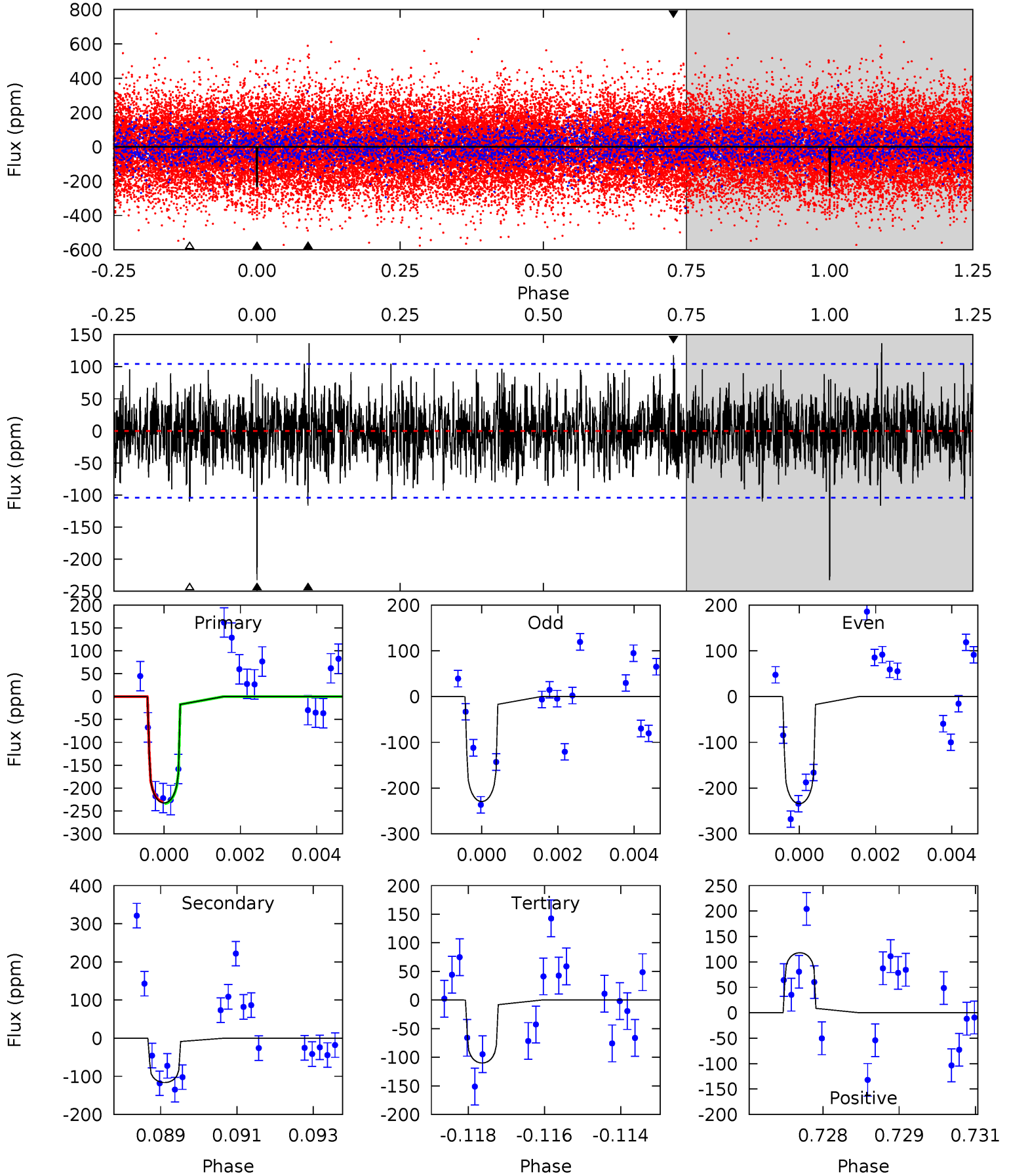
TCE 006292452-03     $P=496.644487$  Days     $T_0=331.162341$  (BKJD)



# DV Model-Shift Uniqueness Test

006292452-03, P = 496.640808 Days, E = 331.200804 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
11.9	5.96	5.64	6.05	5.34	3.12	1.76	6.28	5.87	0.32	-0.09	0.11	1.02	0.37	0.08

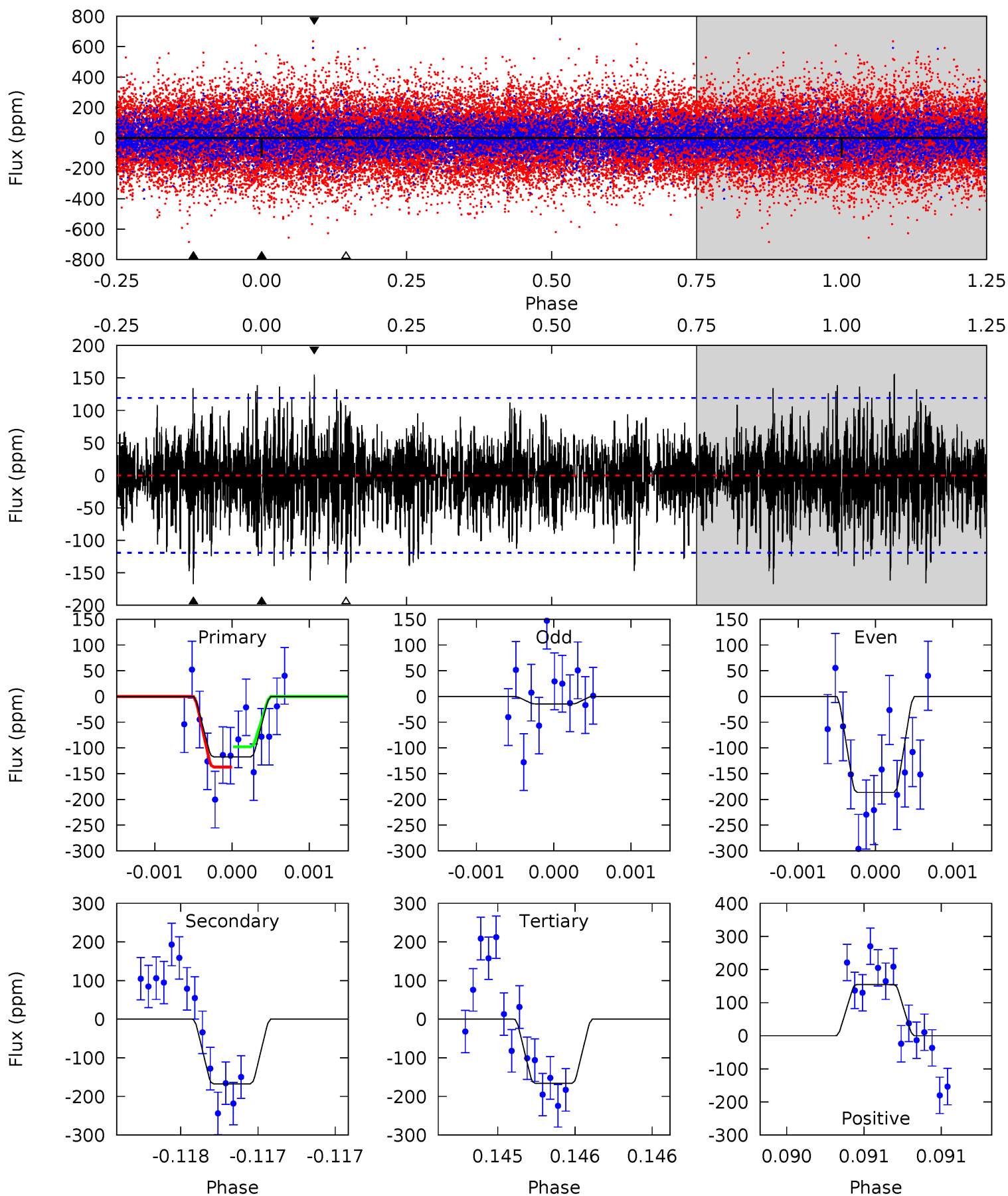




# Alt Model-Shift Uniqueness Test

006292452-03, P = 496.644487 Days, E = 331.162341 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.43	7.74	7.68	7.16	5.51	3.38	1.97	-2.24	-1.73	0.06	0.58	3.69	0.67	0.48	0.91



### Stellar Parameters For KIC 006292452

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6967^{+73}_{-83}$	$3.839^{+0.202}_{-0.093}$	$0.180^{+0.150}_{-0.150}$	$2.705^{+0.392}_{-0.727}$	$1.841^{+0.098}_{-0.245}$	$0.131^{+0.162}_{-0.038}$
	+1%/-1%	+5%/-2%	+83%/-83%	+14%/-27%	+5%/-13%	+123%/-29%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 006292452-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-116 \pm 20$	$4.41^{+1.39}_{-1.17}$	$571^{+25}_{-34}$	$5758^{+883}_{-595}$	$7398^{+6135}_{-3215}$
Alt.	$-167 \pm 22$	$3.64^{+1.17}_{-1.18}$	$573^{+23}_{-33}$	$7037^{+1857}_{-967}$	$15719^{+19069}_{-6879}$

$T_{\text{max}}$  = 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

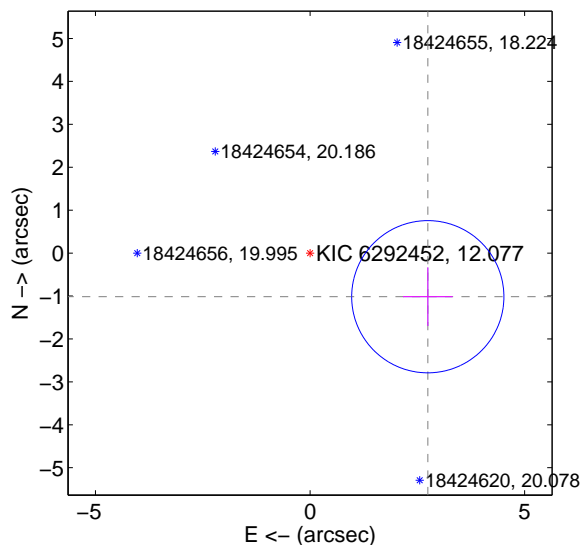
Supplemental centroid analysis for 006292452-03. Kepler magnitude: 12.08. Transit SNR 7.19

There are 1 quarters with good PRF difference image offsets

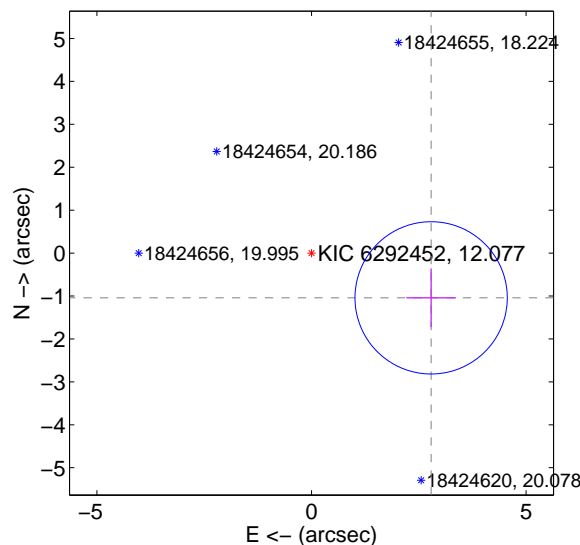
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.925 \pm 0.591$	4.95	$-2.743 \pm 0.577$	$-1.016 \pm 0.683$
PRF-fit source offset from KIC position	$2.976 \pm 0.591$	5.03	$-2.787 \pm 0.577$	$-1.043 \pm 0.683$
photometric centroid source offset	$0.19 \pm 0.68$	0.29	$-0.19 \pm 0.65$	$-0.04 \pm 1.06$

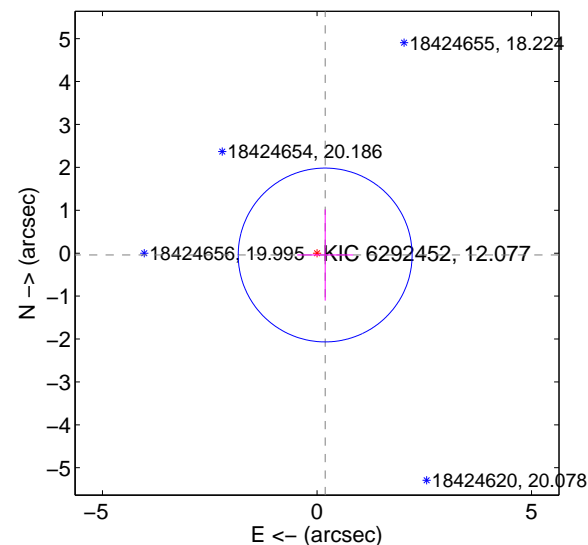
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

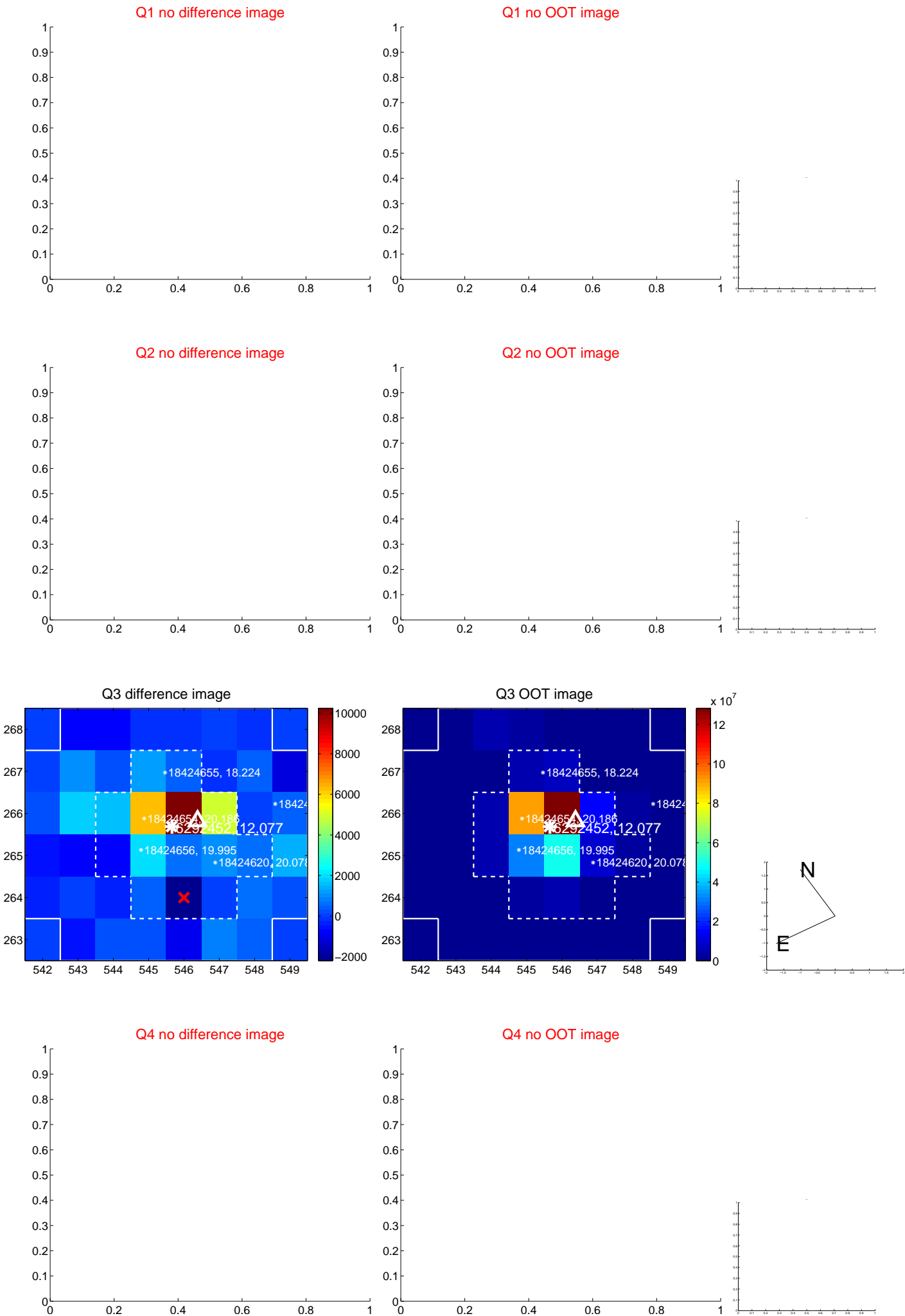


offset from photometric centroids



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.

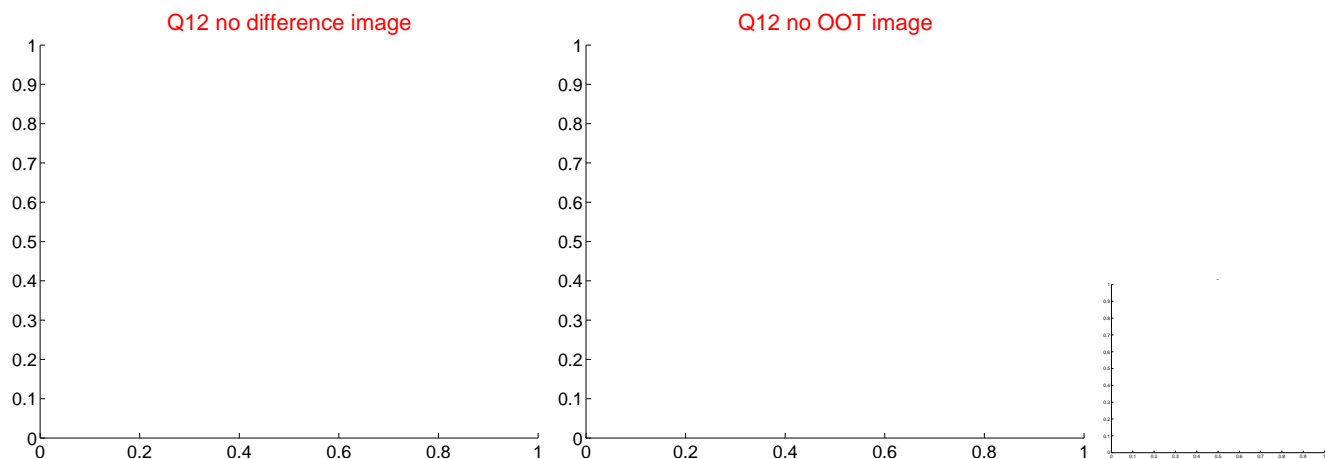
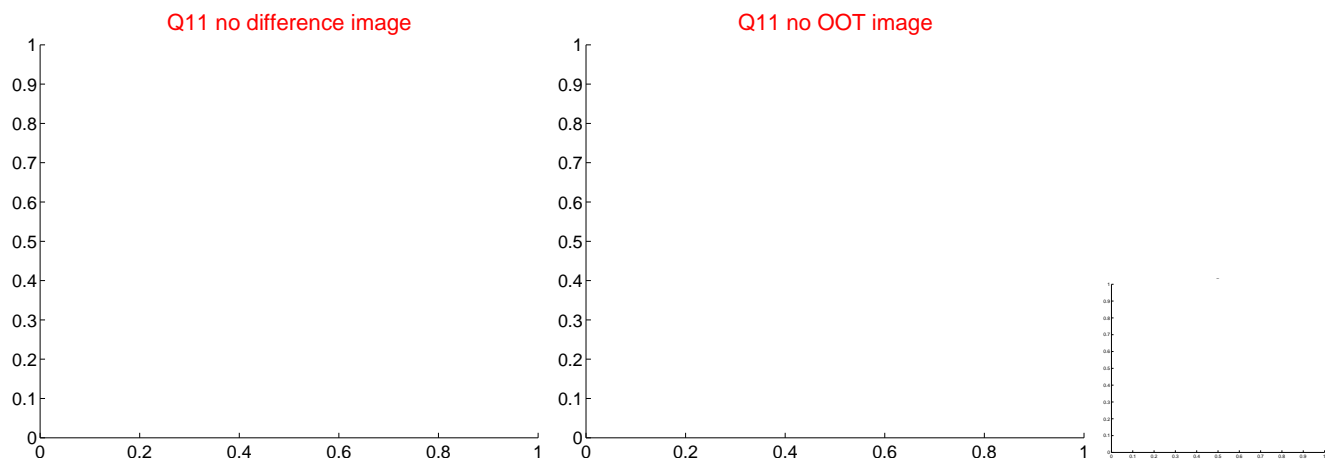
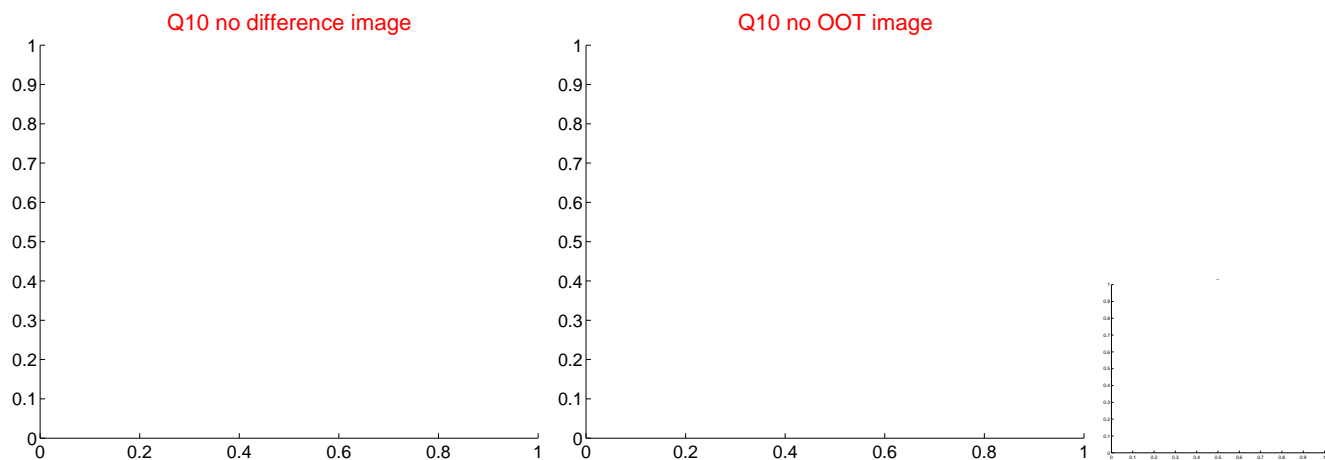
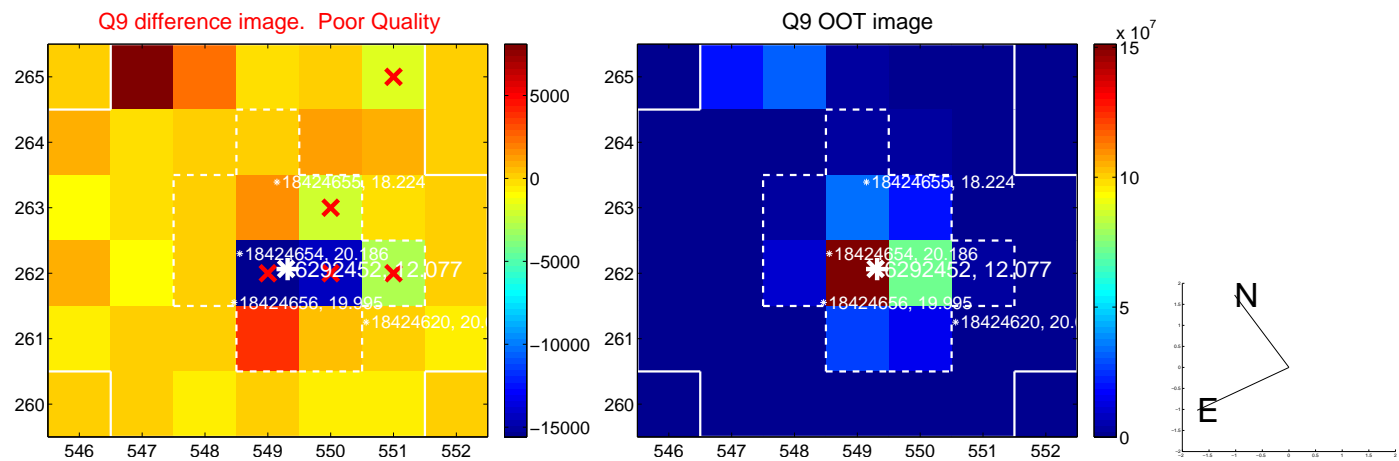
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

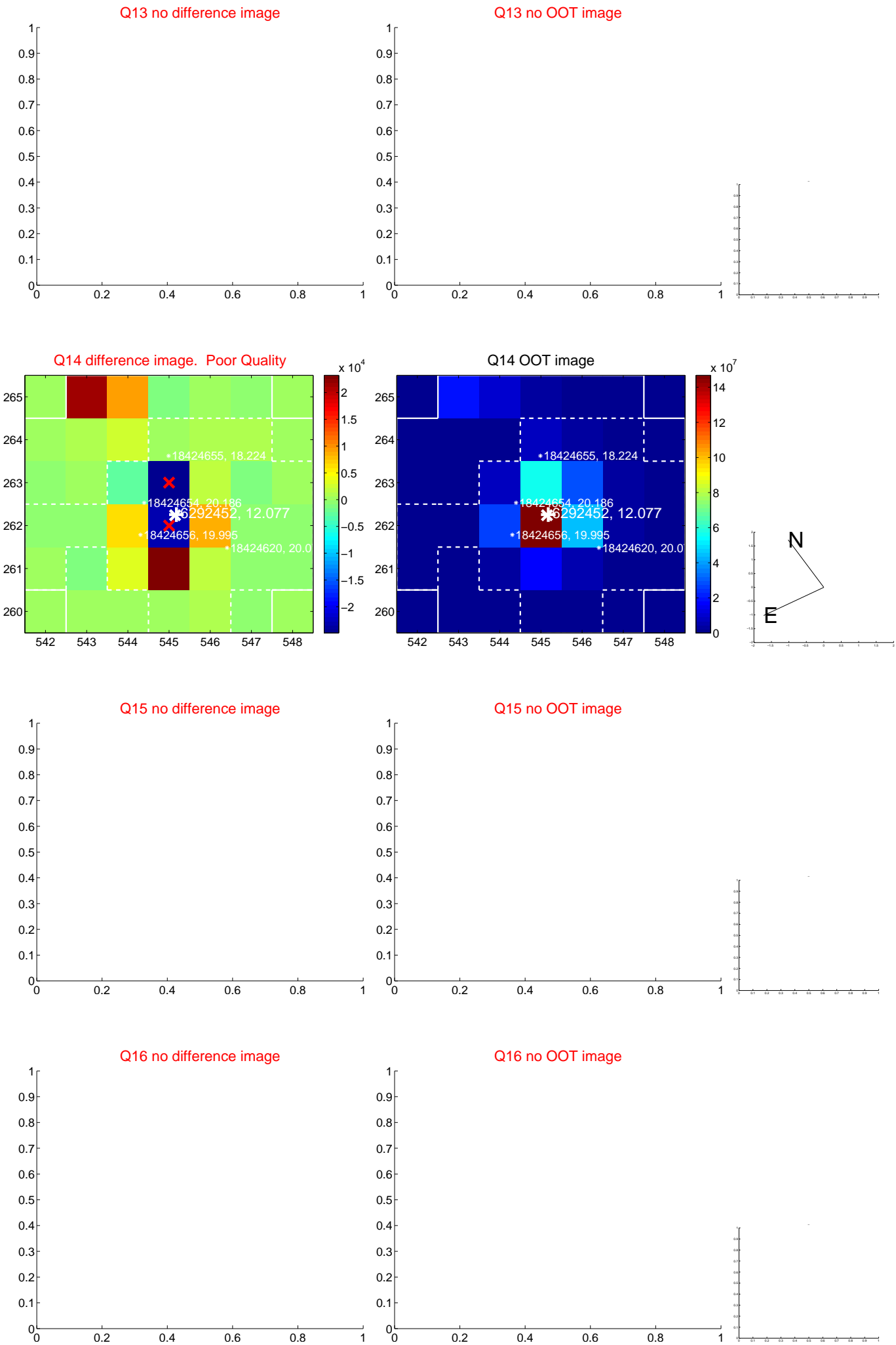


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

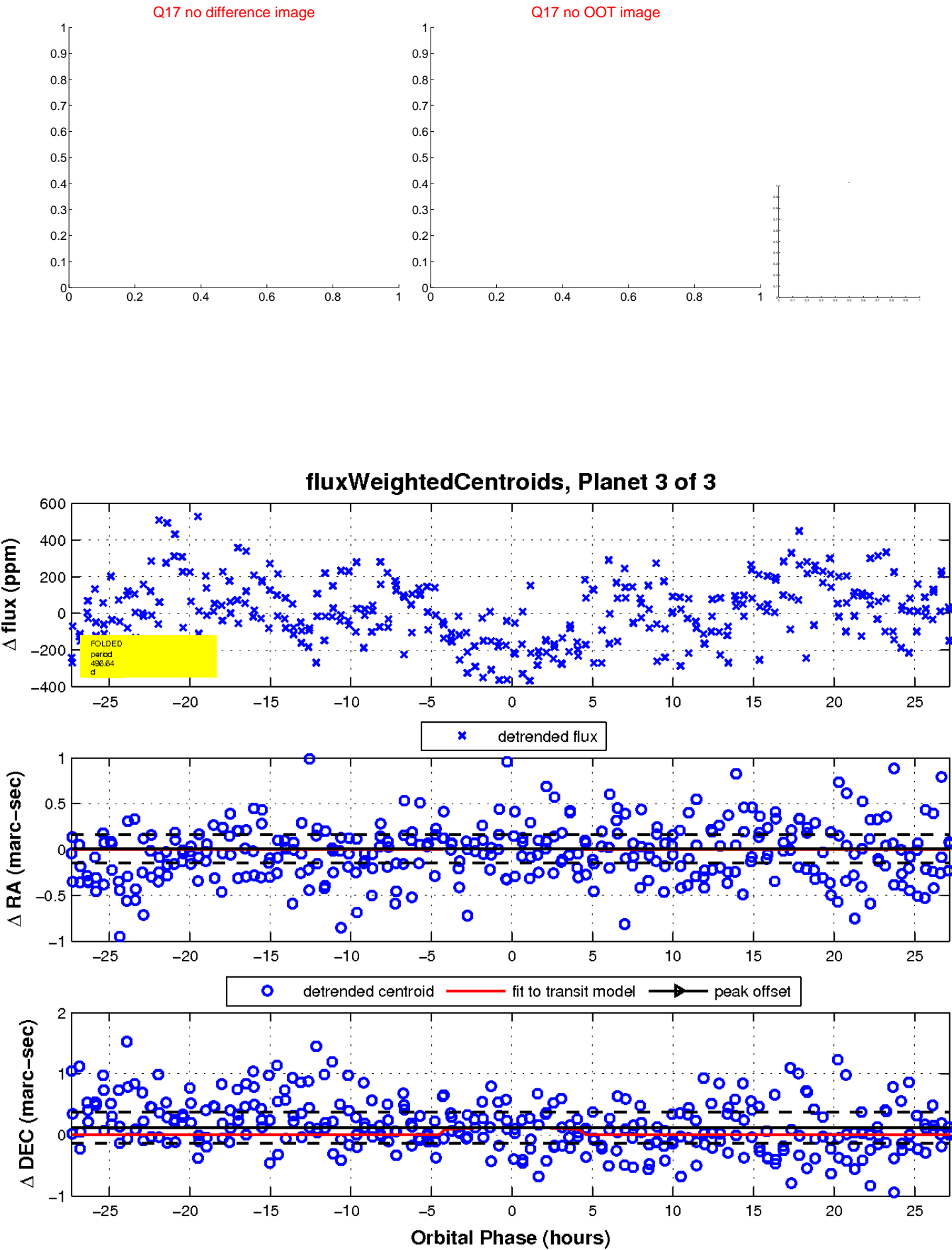




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

