

# KIC 004079482

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004079482-01	OBS	No	0.968513	131.673383	299.5	2.891	14.8	13.9	2.28	8026	4.60	34011.62
004079482-02	OBS	No	0.968602	132.357425	395.1	2.941	15.1	17.1	2.28	8026	5.27	34007.46
004079482-03	OBS	No	0.968552	131.896610	412.8	2.000	13.4	-1.0	2.28	8026	4.70	34009.81

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004079482-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004079482-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
004079482-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

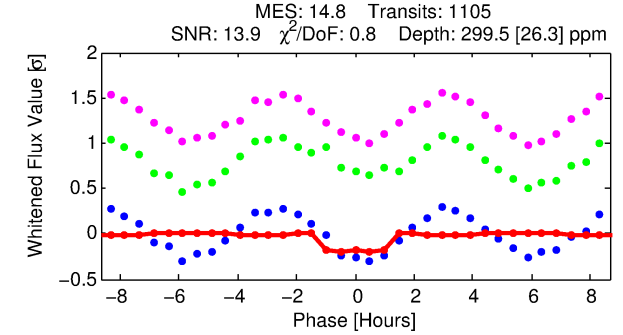
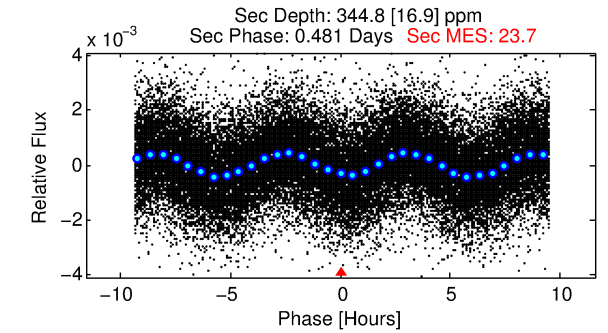
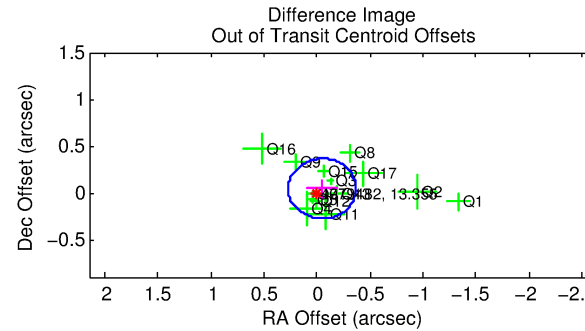
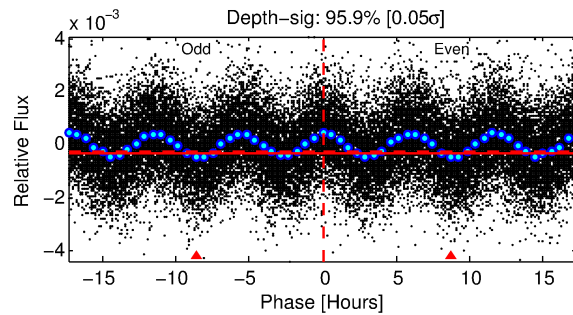
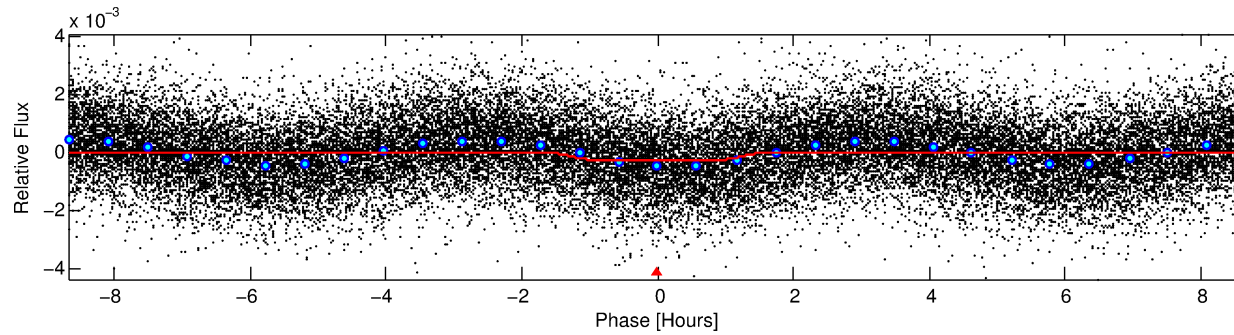
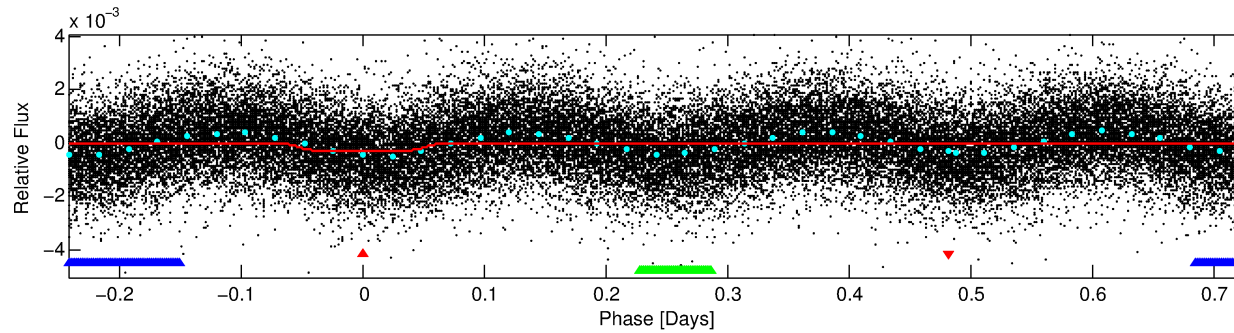
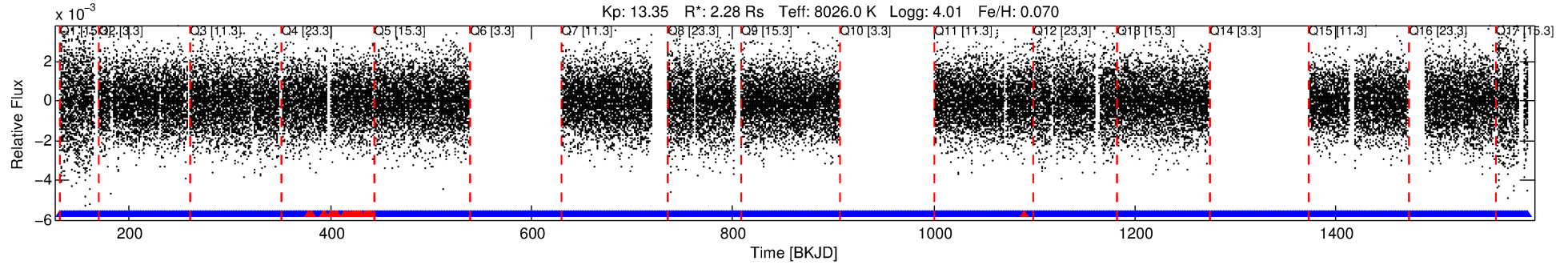
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004079482-01

No Significant Match Found

# DV One-Page Summary

KIC: 4079482 Candidate: 1 of 3 Period: 0.969 d



## DV Fit Results:

Period = 0.96851 [0.00001] d  
Epoch = 131.6734 [0.0018] BKJD  
Rp/R\* = 0.0185 [0.0027]  
a/R\* = 1.54 [0.74]  
b = 0.90 [0.17]  
Seff = 34011.63 [13475.76]  
Teq = 3463 [343] K  
Rp = 4.60 [1.48] Re  
a = 0.0239 [0.0058] AU  
Ag = 5.11 [2.37] [1.73 $\sigma$ ]  
**Teffp = 8049 [680] K [6.02 $\sigma$ ]**

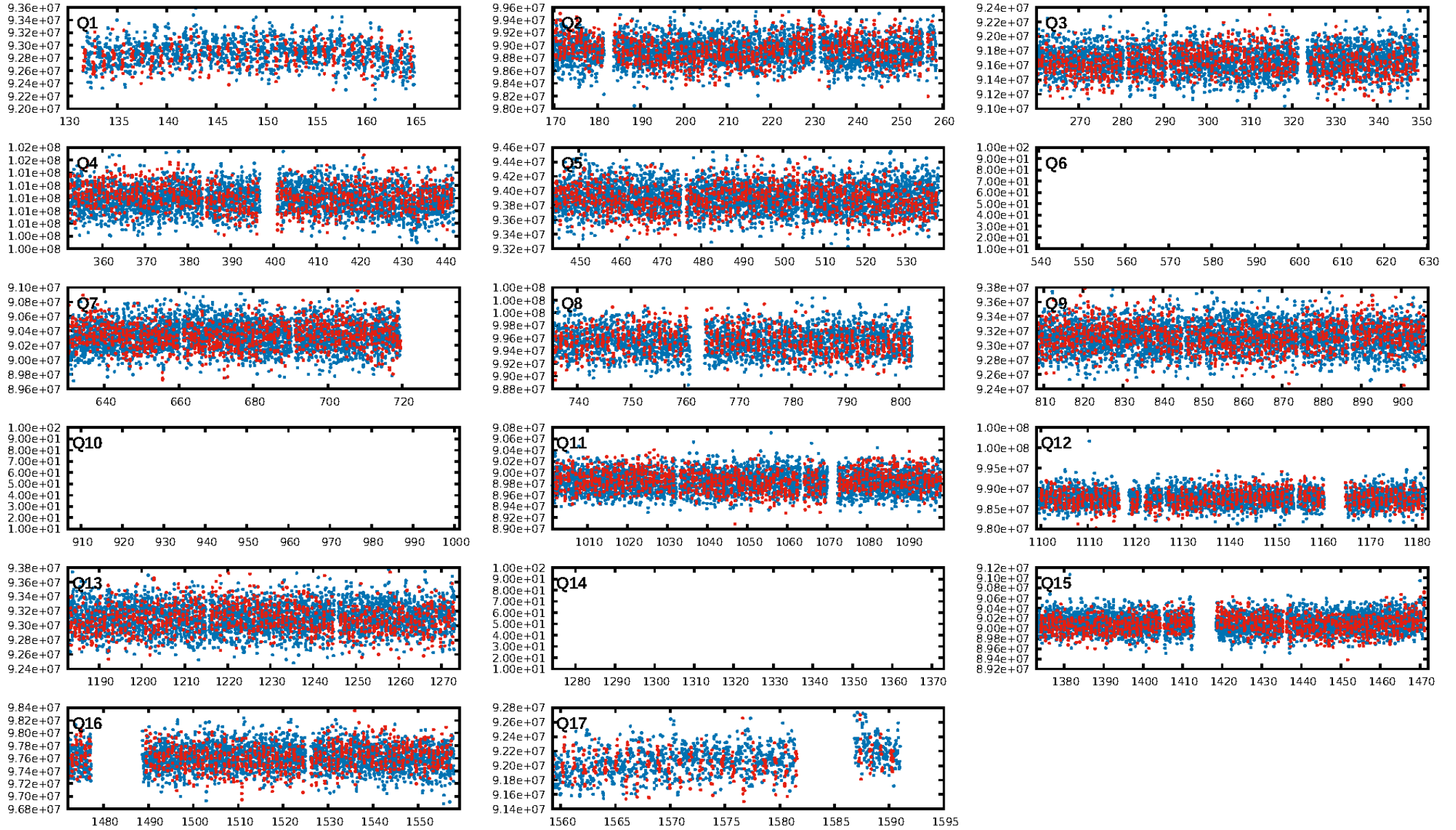
## DV Diagnostic Results:

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: 0.98 [1016/1042]  
GhostDiagnostic-chr: 1.893  
**Centroid-sig: 0.0%**  
Centroid-so: 0.035 arcsec [0.27 $\sigma$ ]  
OotOffset-rm: 0.064 arcsec [0.60 $\sigma$ ]  
OotOffset-st: 1/4/4/5 [14]  
KicOffset-rm: 0.183 arcsec [1.47 $\sigma$ ]  
KicOffset-st: 1/4/4/5 [14]  
DiffImageQuality-fgm: 0.93 [13/14]  
DiffImageOverlap-fno: 0.00 [0/14]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:39:10 Z

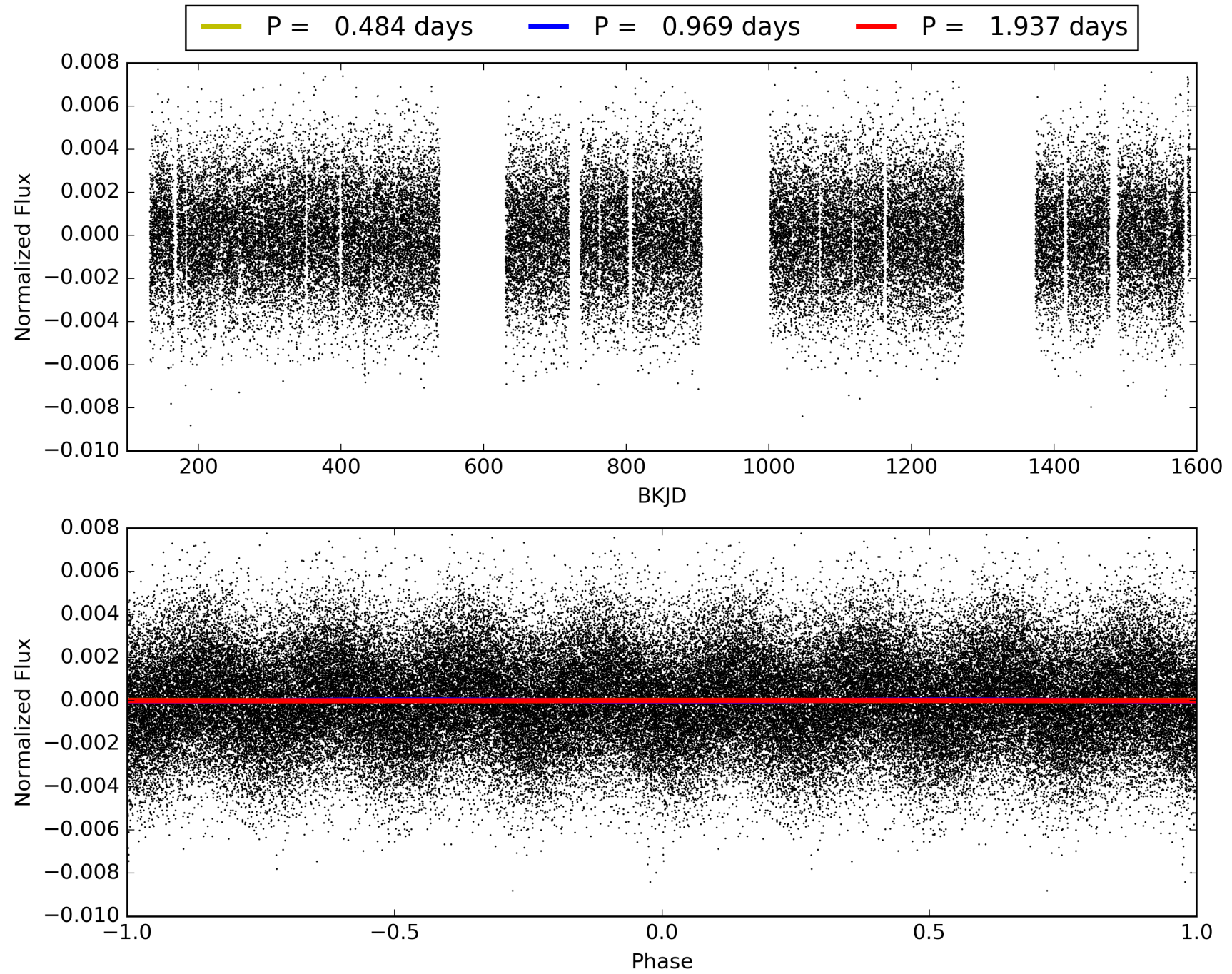
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 004079482-01, PDC Light Curves





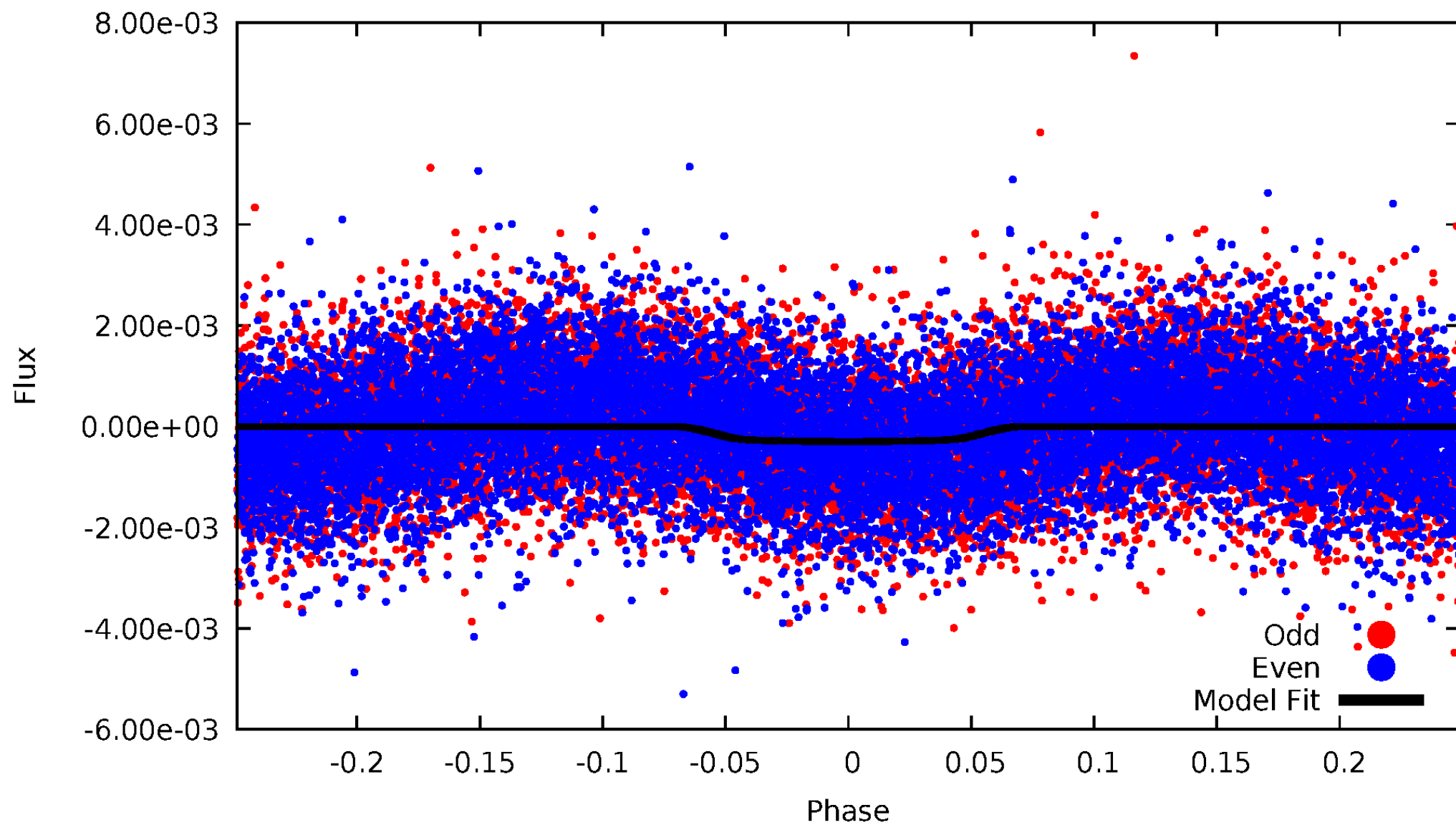
TCE 004079482-01





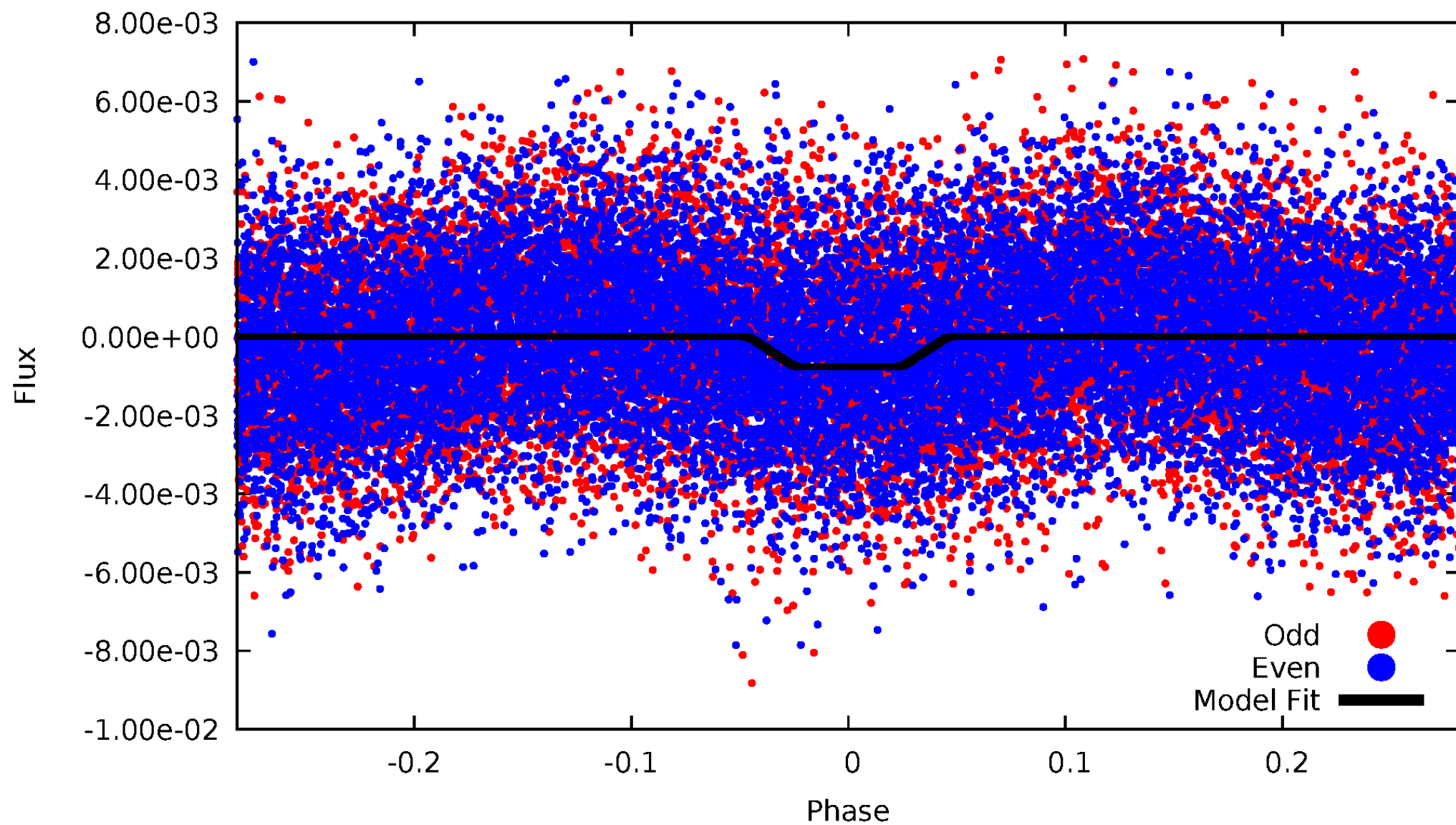
# DV Odd/Even

TCE 004079482-01



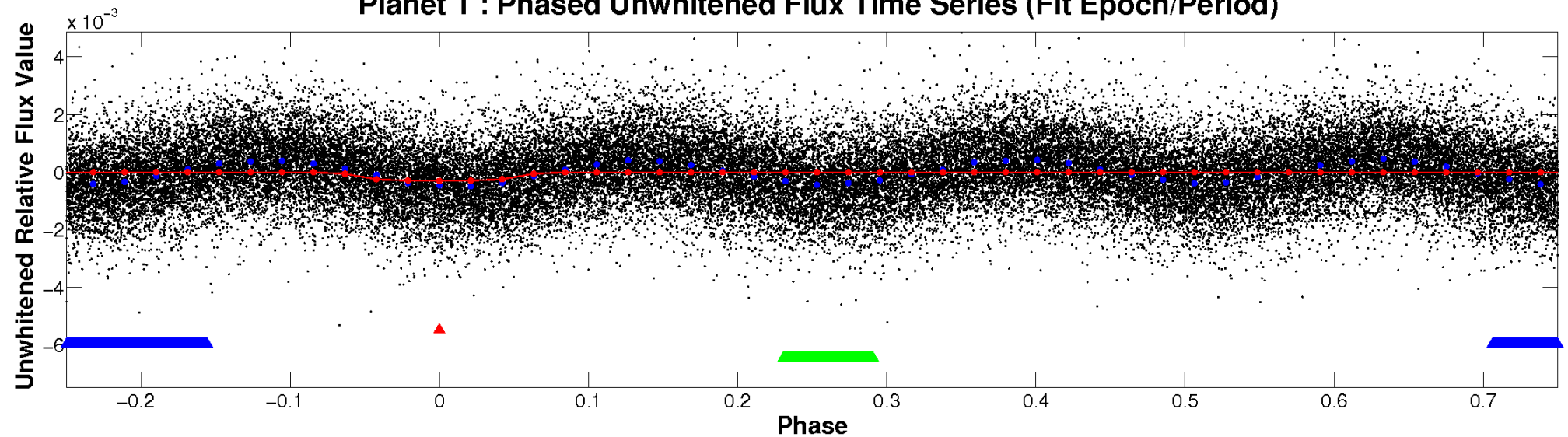
# ALT Odd/Even

TCE 004079482-01

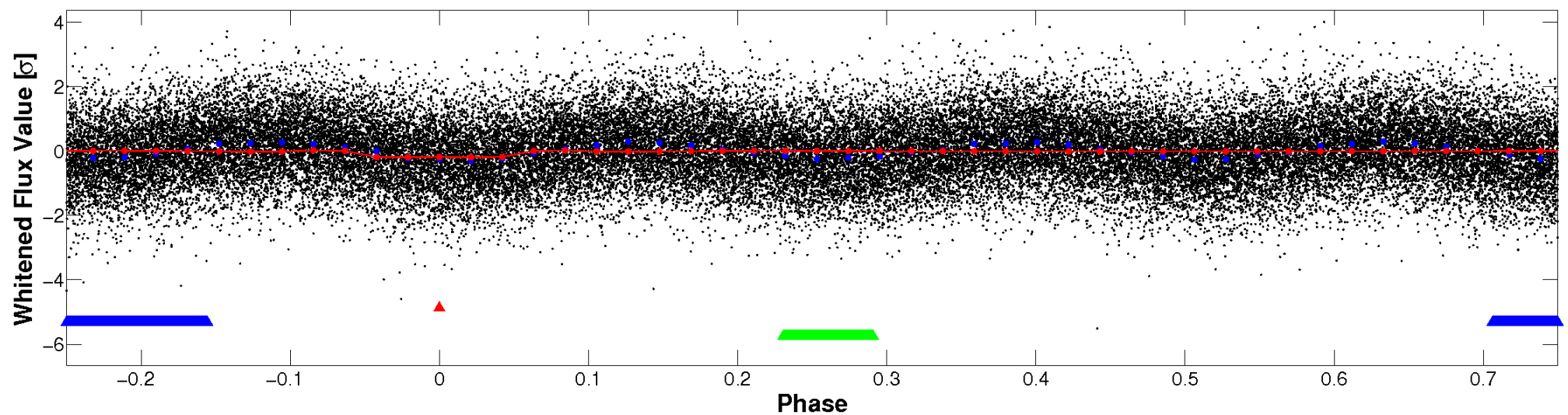


# Non-Whitened Vs. Whitened Light Curve

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



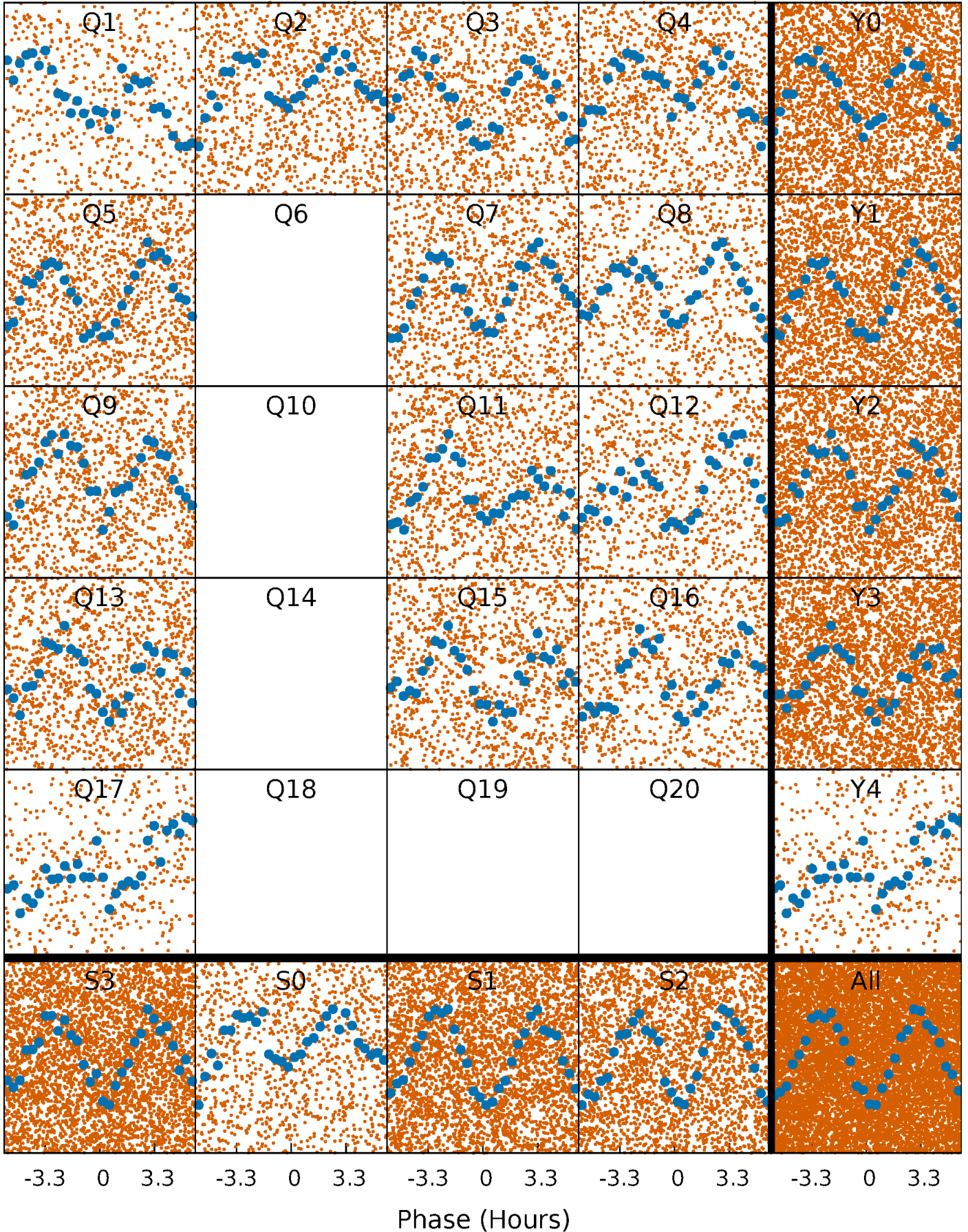
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





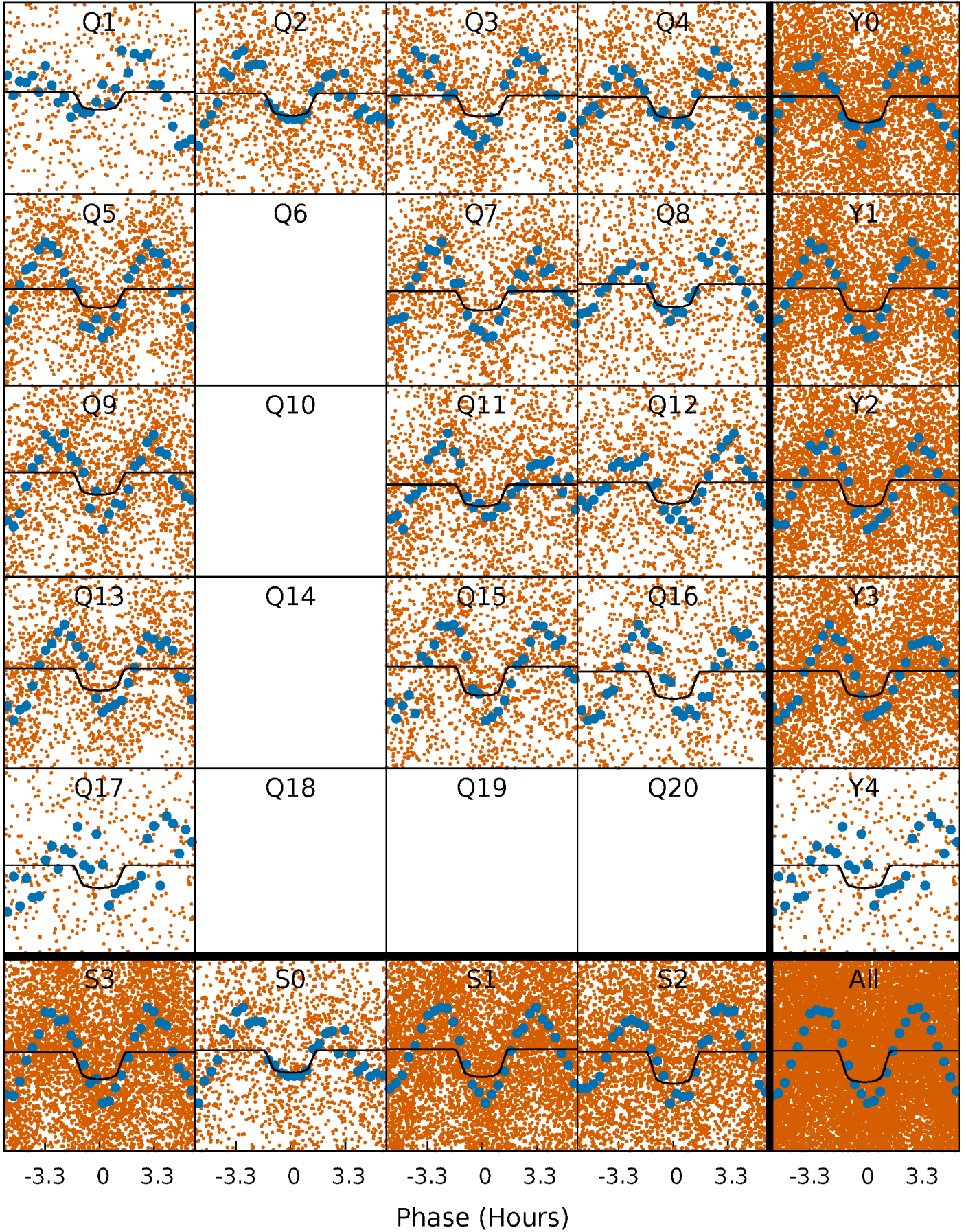
# PDC Quarter-Phased Transit Curves

TCE 004079482-01 P= 0.968513 Days  $T_0=131.673383$  (BKJD)



# DV Quarter-Phased Transit Curves

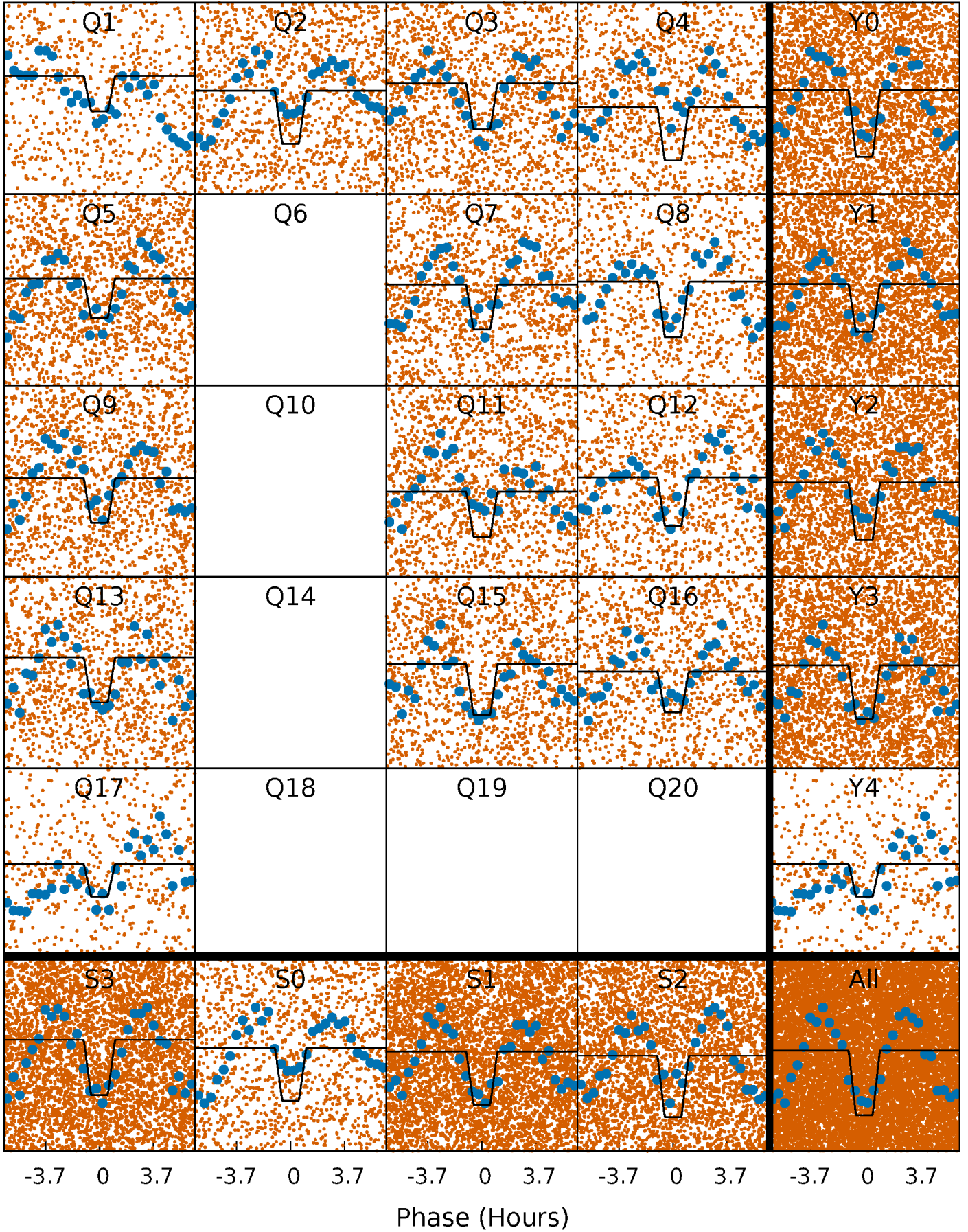
TCE 004079482-01 P= 0.968513 Days  $T_0=131.673383$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 004079482-01 P= 0.968549 Days  $T_0=131.660882$  (BKJD)

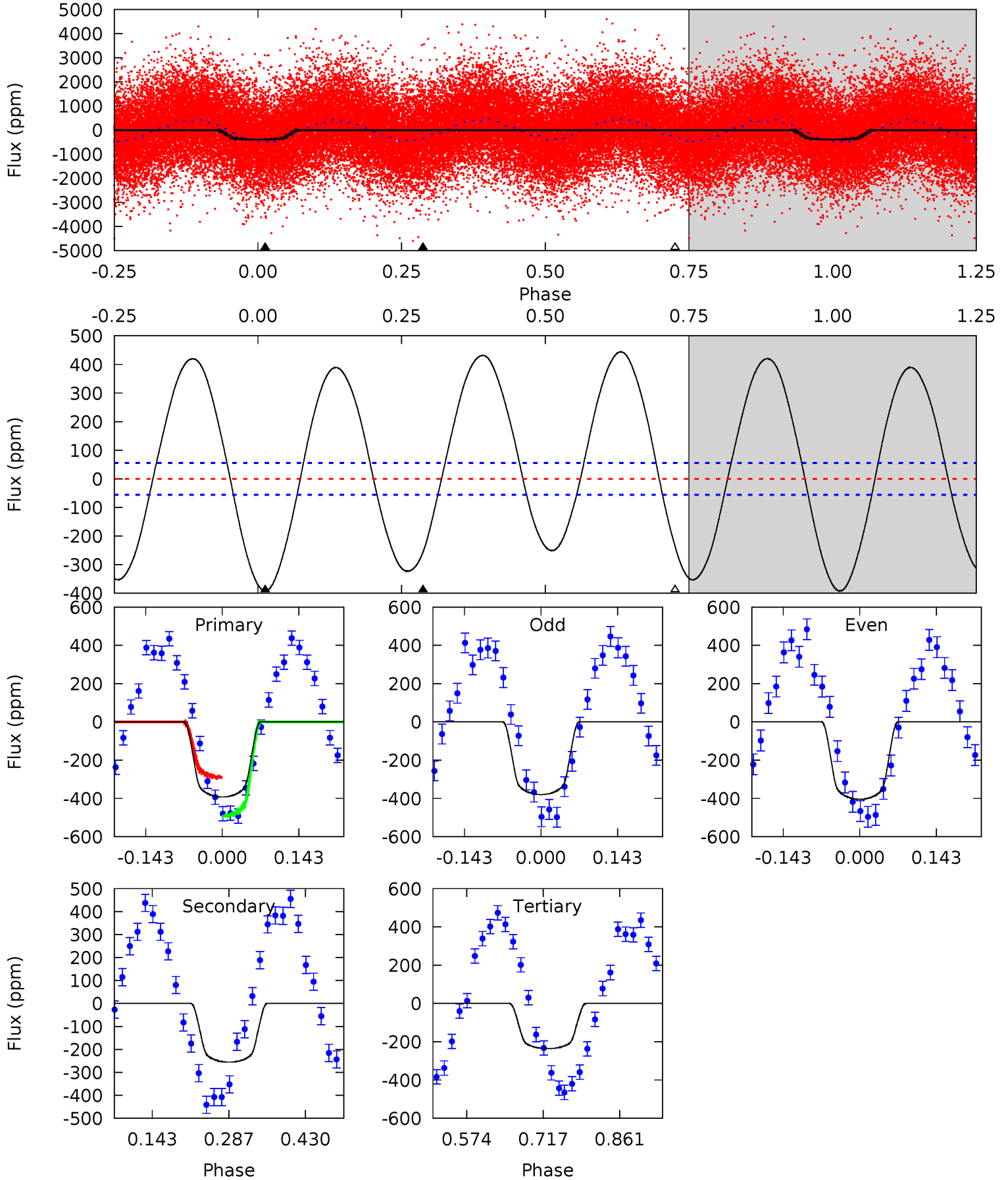




# DV Model-Shift Uniqueness Test

004079482-01, P = 0.968513 Days, E = 130.704870 Days

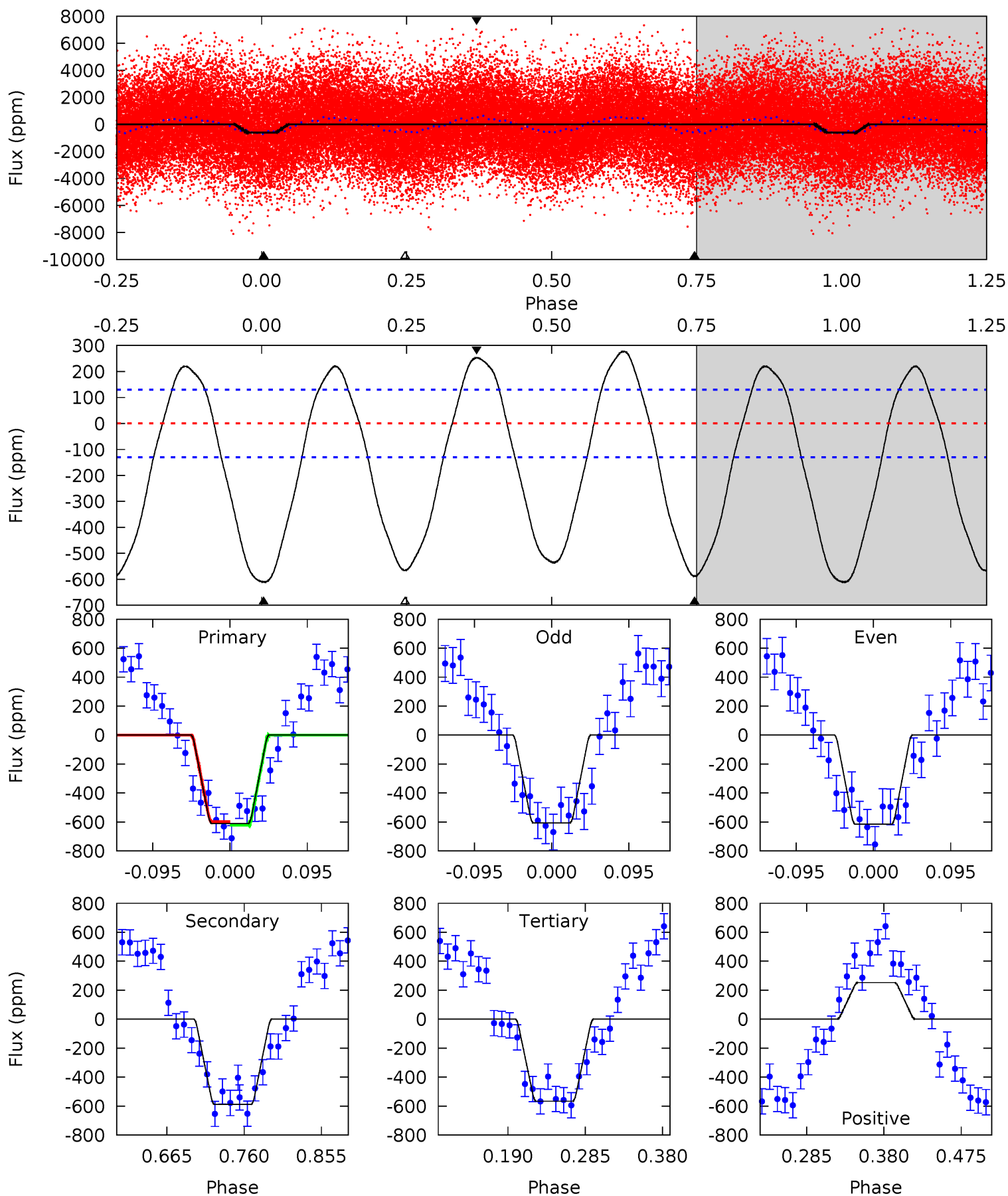
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.6	20.6	19.0	0	4.49	1.46	20.2	12.6	31.6	1.58	20.6	1.00	1.02	0.53	8.39



# Alt Model-Shift Uniqueness Test

004079482-01, P = 0.968549 Days, E = 130.692333 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	20.7	19.9	8.89	4.58	1.67	10.1	1.57	12.6	0.78	11.8	0.15	1.00	0.31	0.42



### Stellar Parameters For KIC 004079482

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8026^{+223}_{-335}$	$4.007^{+0.198}_{-0.132}$	$0.070^{+0.250}_{-0.450}$	$2.282^{+0.437}_{-0.656}$	$1.929^{+0.233}_{-0.378}$	$0.229^{+0.254}_{-0.089}$
	+3%/-4%	+5%/-3%	+357%/-643%	+19%/-29%	+12%/-20%	+111%/-39%
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 004079482-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-256 \pm 12$	$4.49^{+0.98}_{-0.90}$	$4790^{+305}_{-342}$	$7199^{+802}_{-628}$	$3.987^{+2.004}_{-1.254}$
Alt.	$-588 \pm 28$	$6.80^{+1.19}_{-1.13}$	$4798^{+337}_{-342}$	$7249^{+569}_{-497}$	$3.974^{+1.555}_{-1.031}$

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



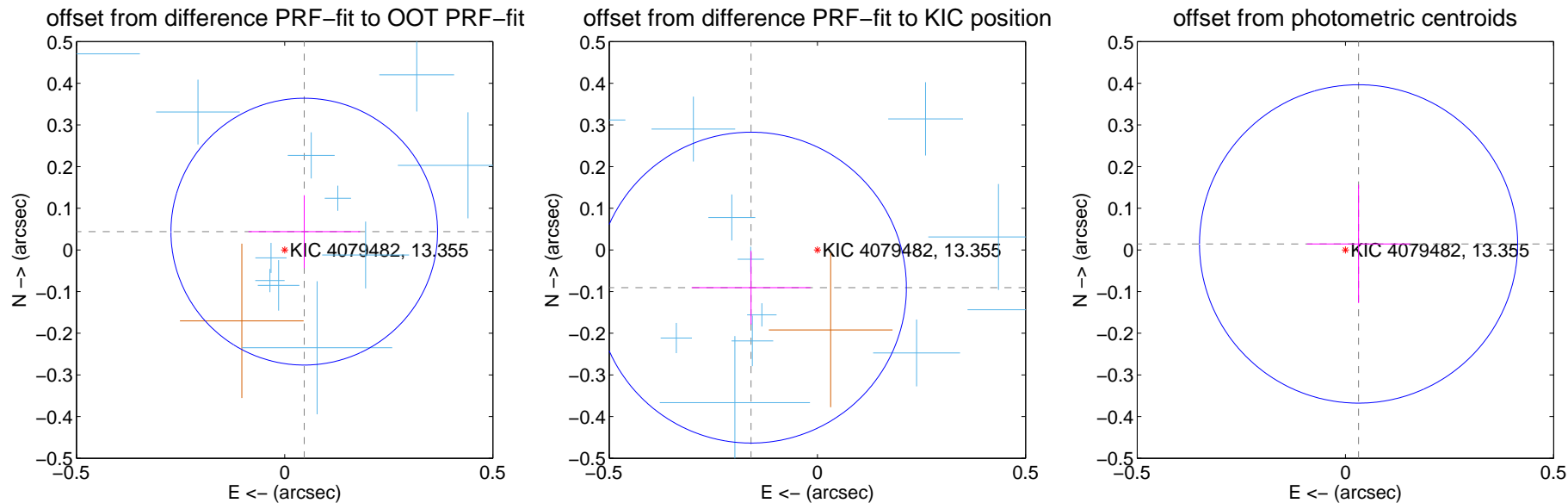
## DV Centroid Data

Supplemental centroid analysis for 004079482-01. Kepler magnitude: 13.36. Transit SNR 13.89

There are 13 quarters with good PRF difference image offsets

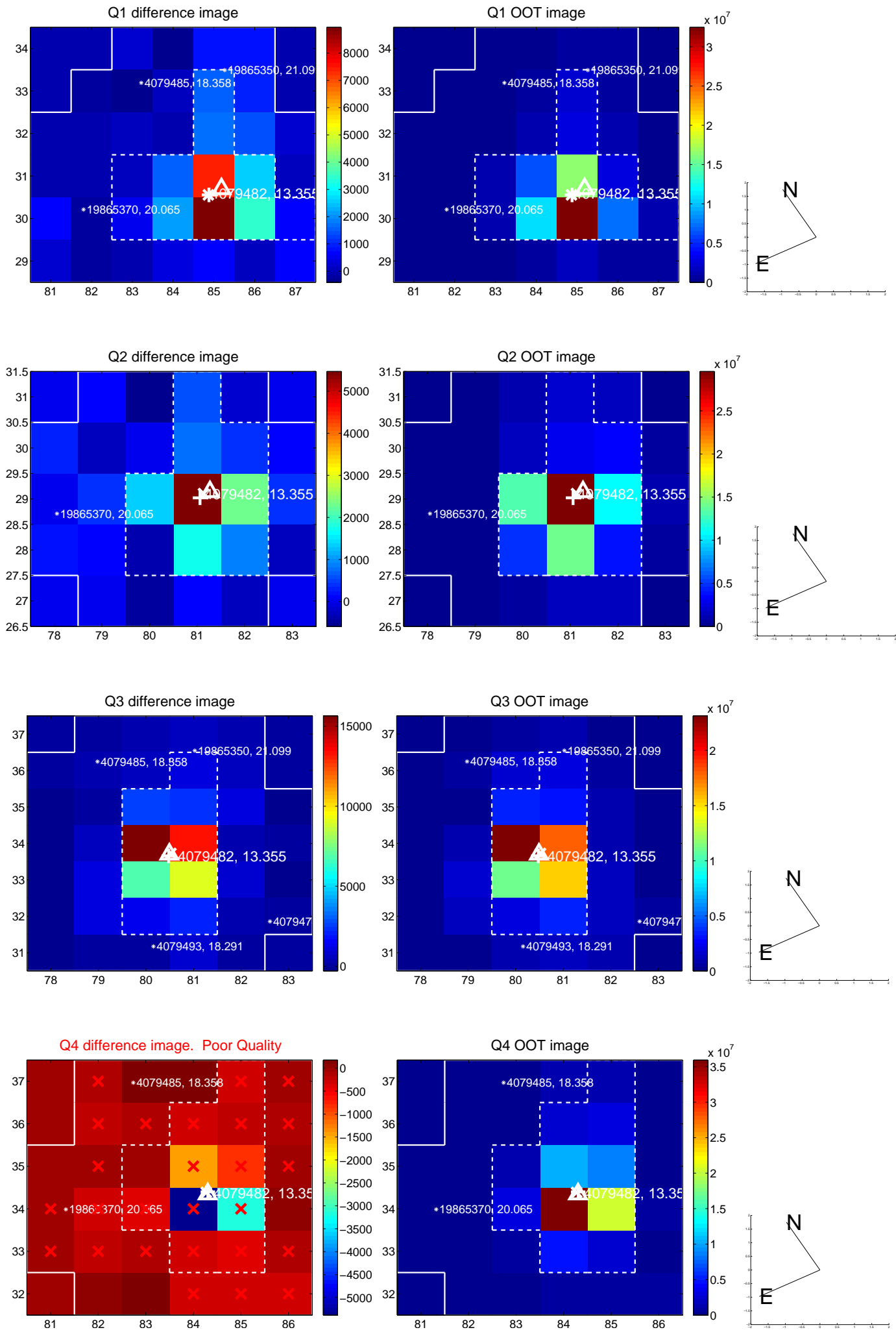
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.064 \pm 0.107$	0.60	$-0.047 \pm 0.134$	$0.044 \pm 0.087$
PRF-fit source offset from KIC position	$0.183 \pm 0.124$	1.47	$0.159 \pm 0.143$	$-0.090 \pm 0.088$
photometric centroid source offset	$0.03 \pm 0.13$	0.27	$-0.03 \pm 0.12$	$0.01 \pm 0.14$

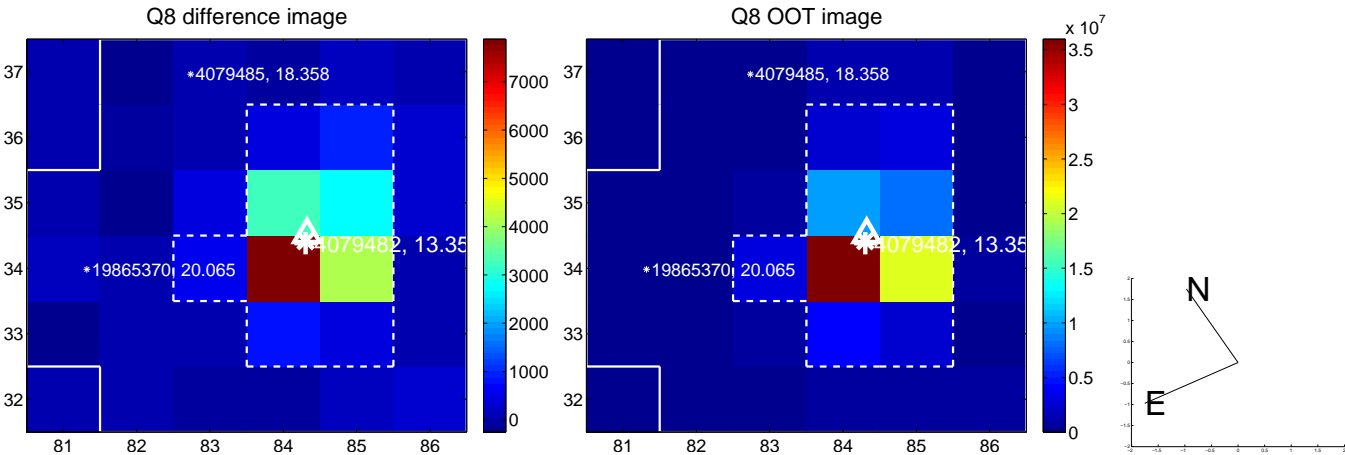
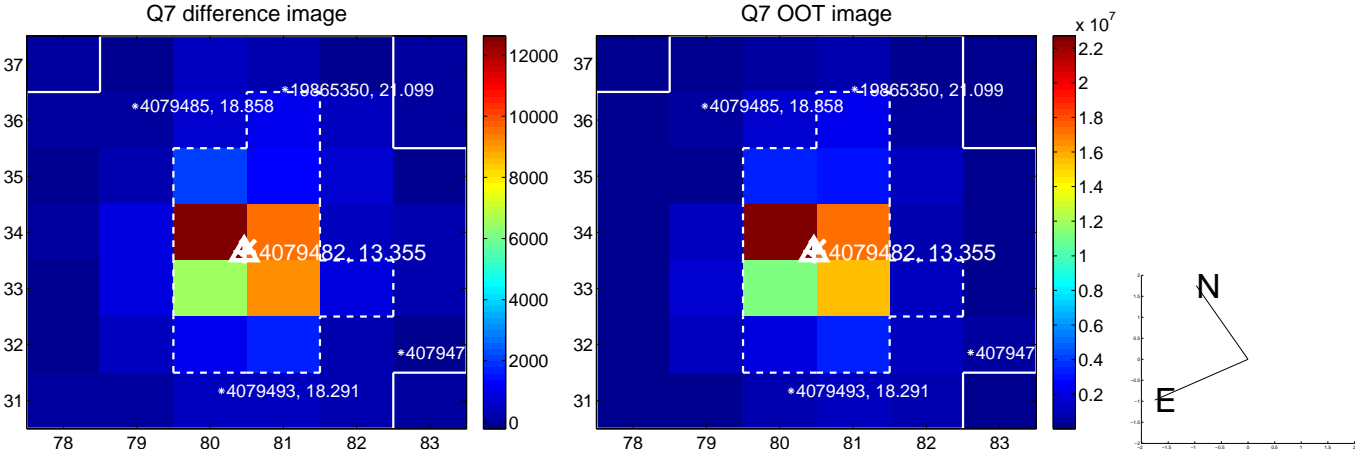
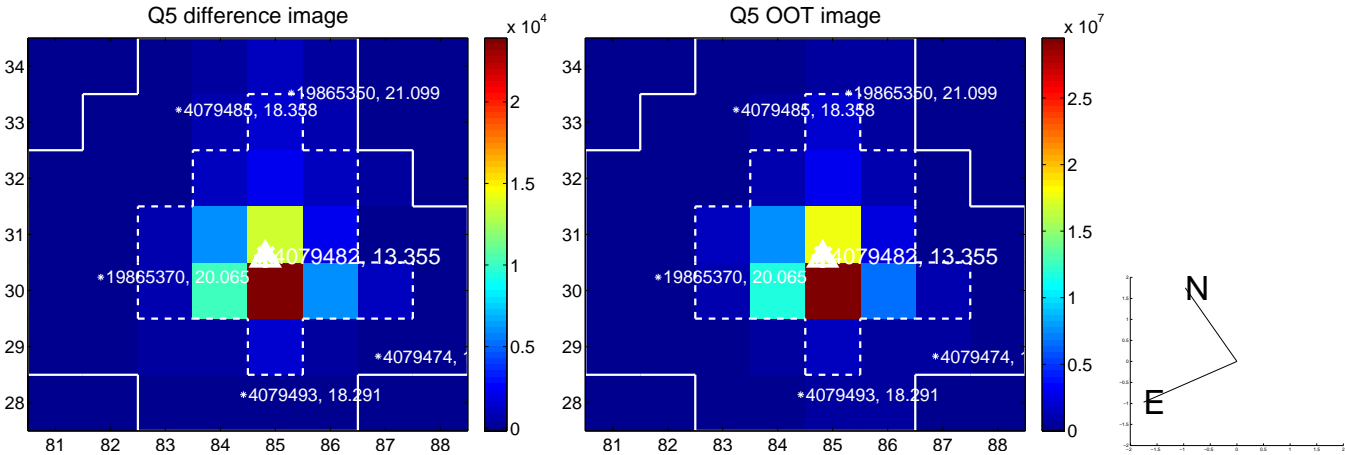


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

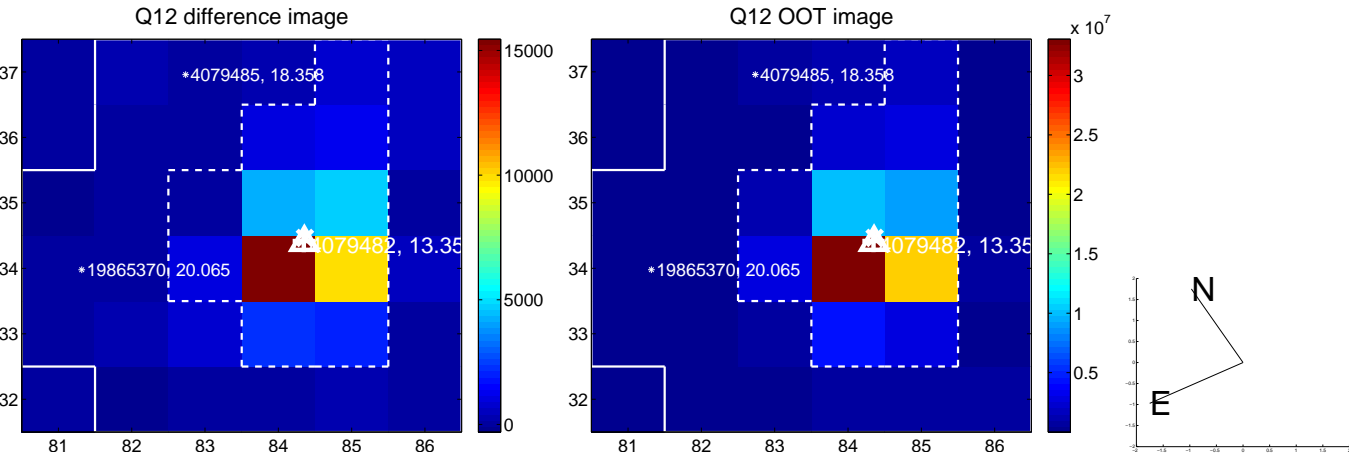
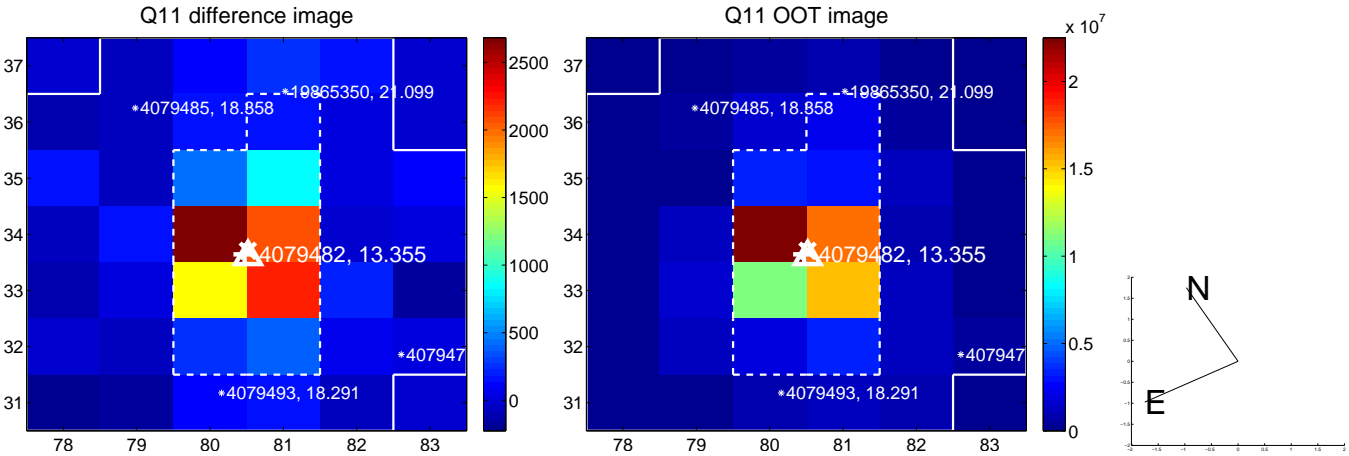
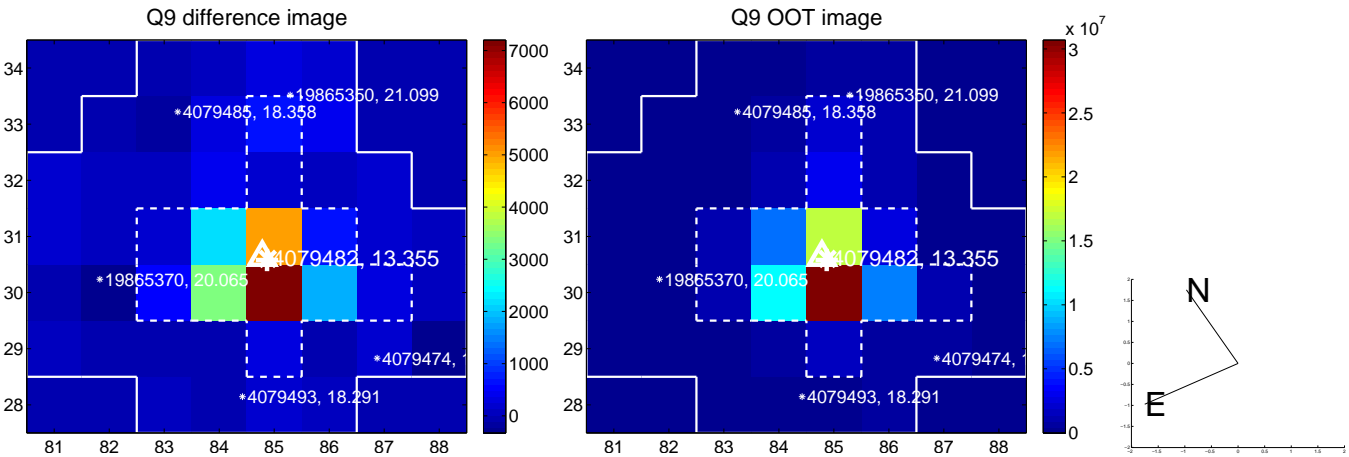


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

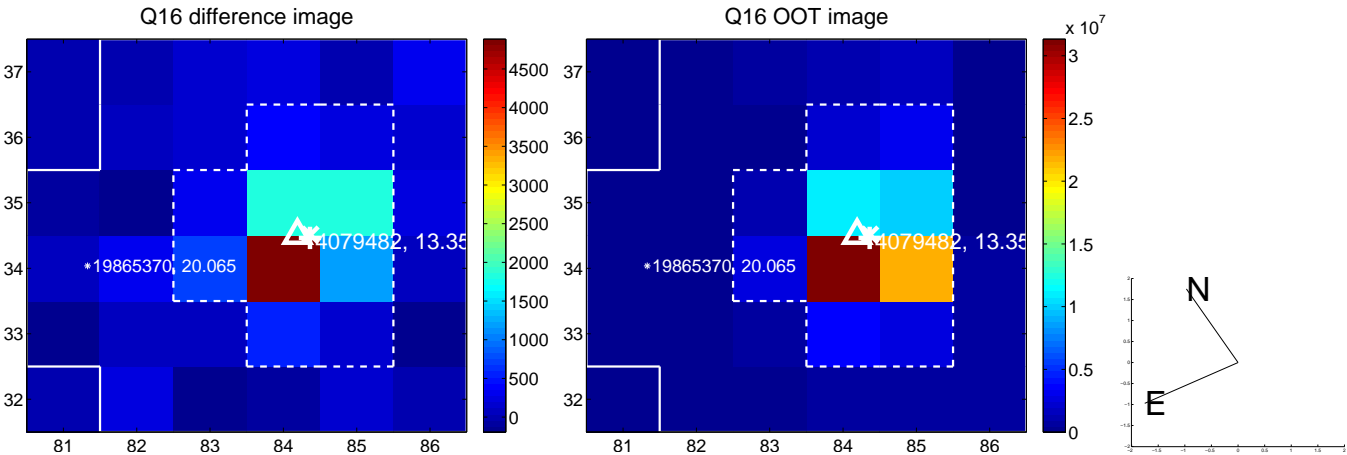
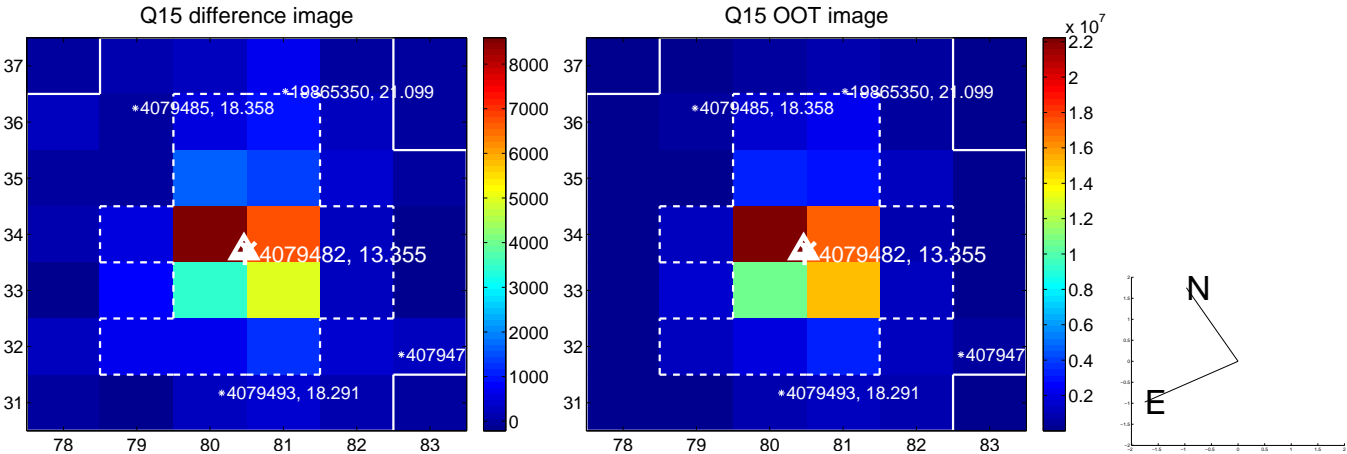
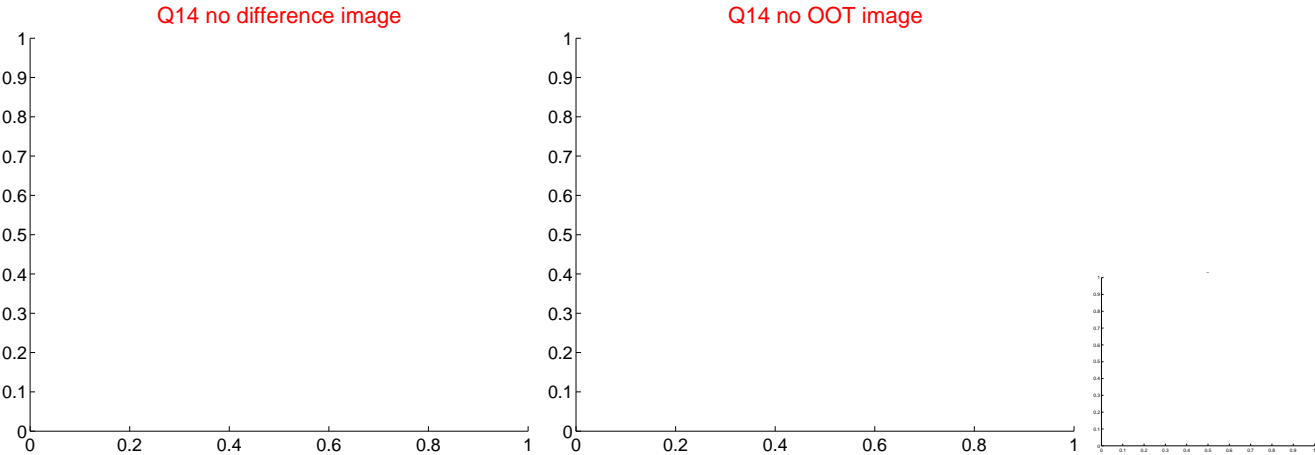
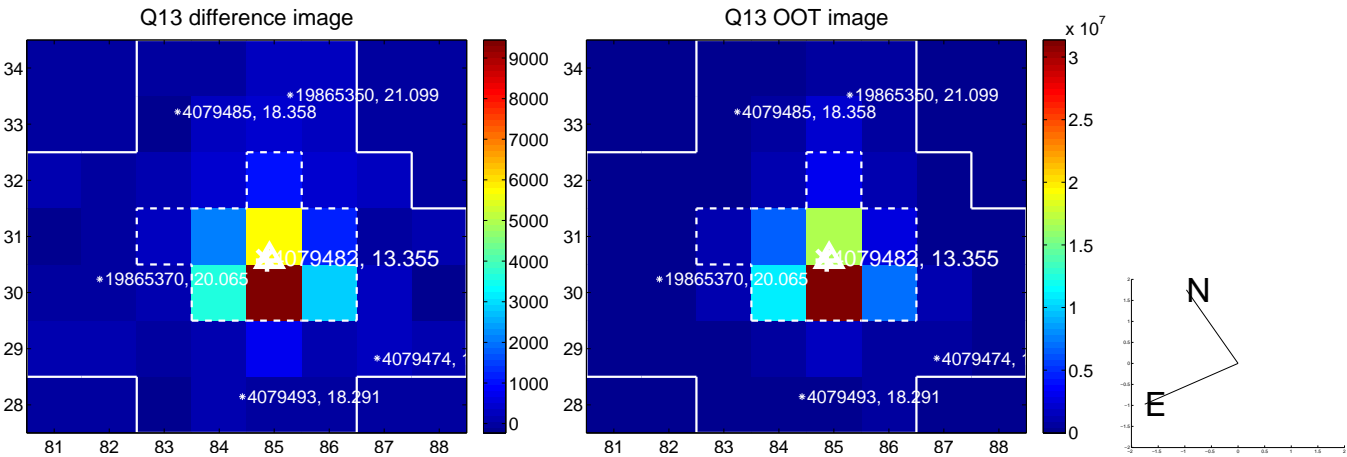




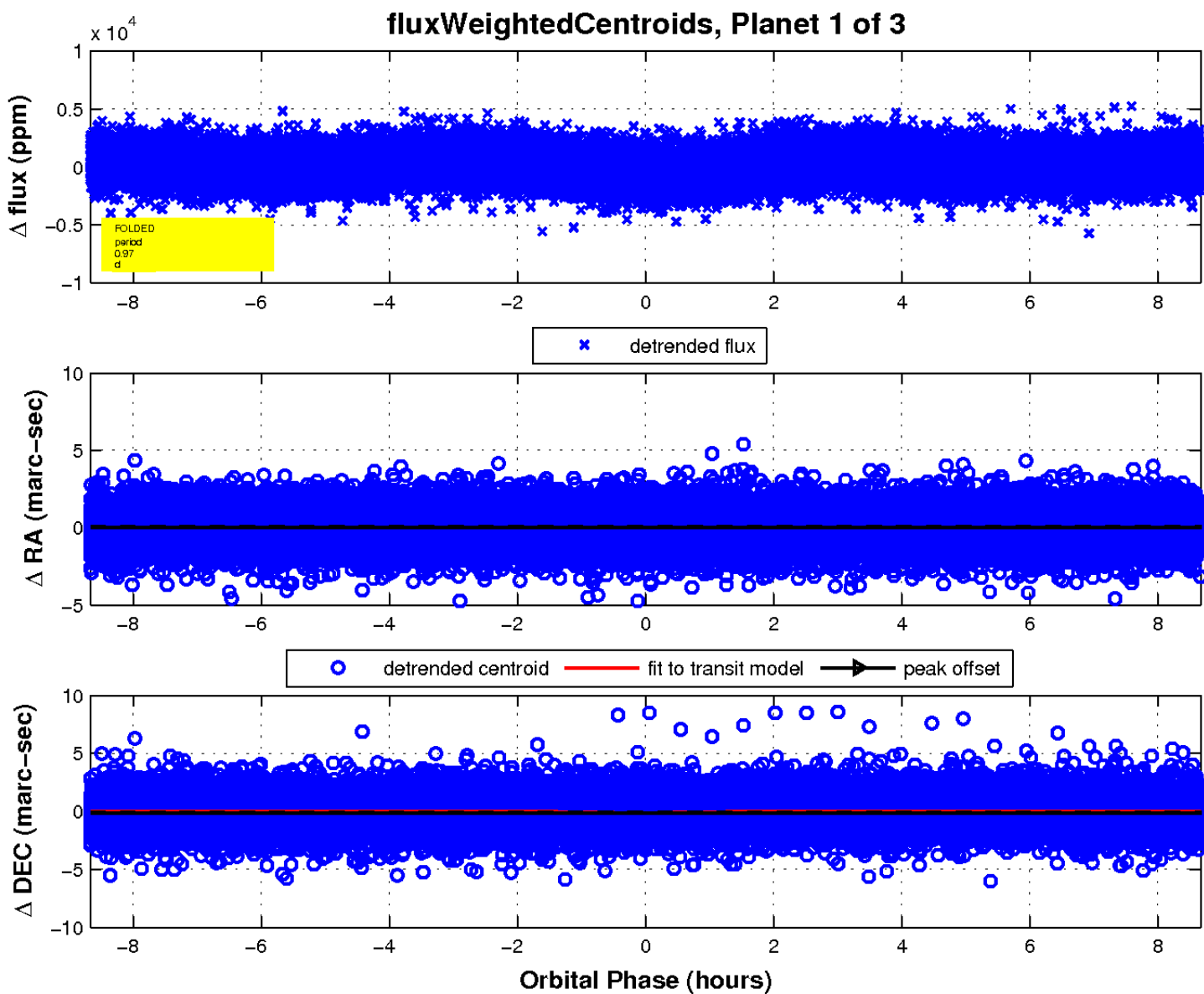
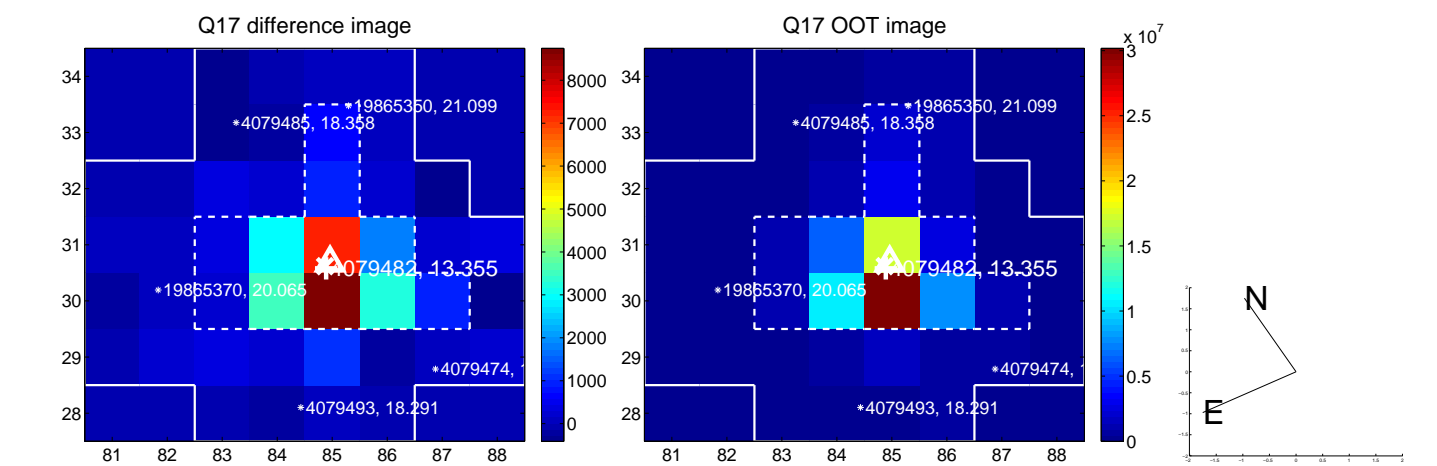
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

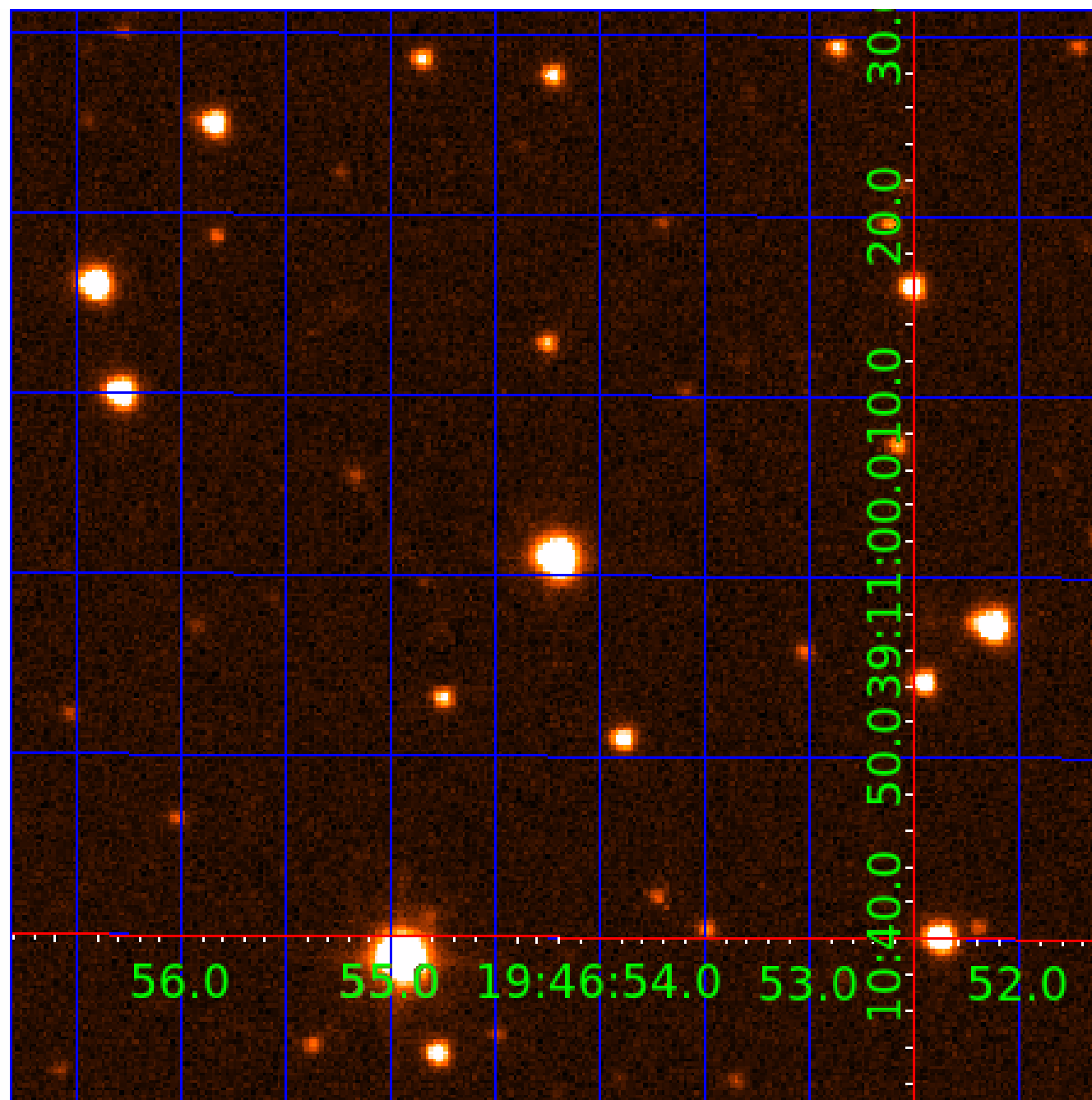


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 004079482

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004079482-01	OBS	No	0.968513	131.673383	299.5	2.891	14.8	13.9	2.28	8026	4.60	34011.62
004079482-02	OBS	No	0.968602	132.357425	395.1	2.941	15.1	17.1	2.28	8026	5.27	34007.46
004079482-03	OBS	No	0.968552	131.896610	412.8	2.000	13.4	-1.0	2.28	8026	4.70	34009.81

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004079482-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004079482-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
004079482-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

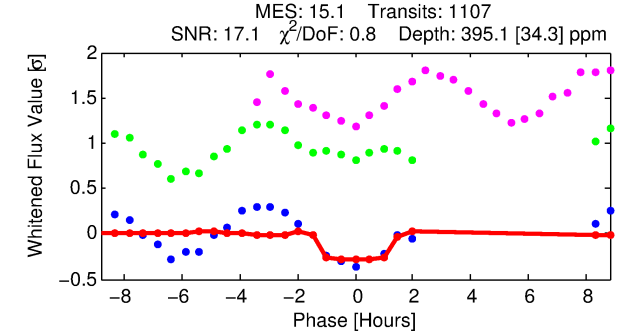
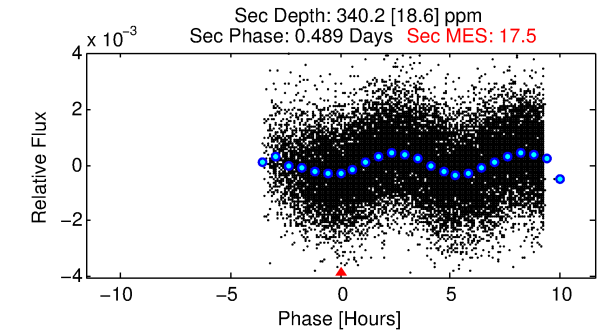
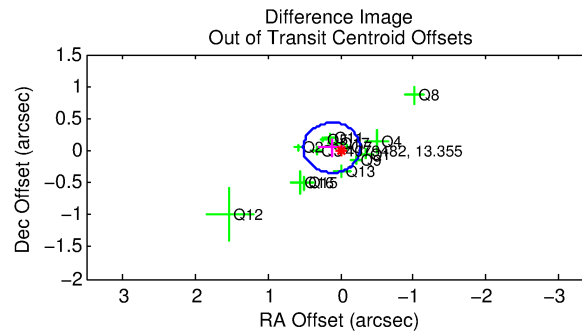
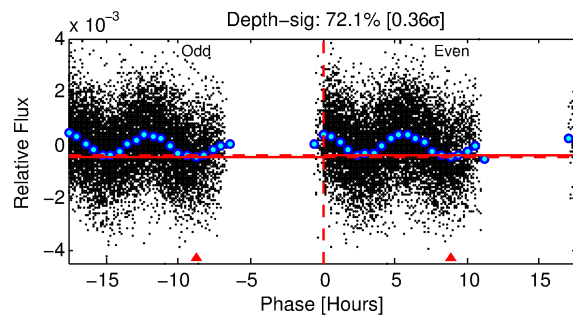
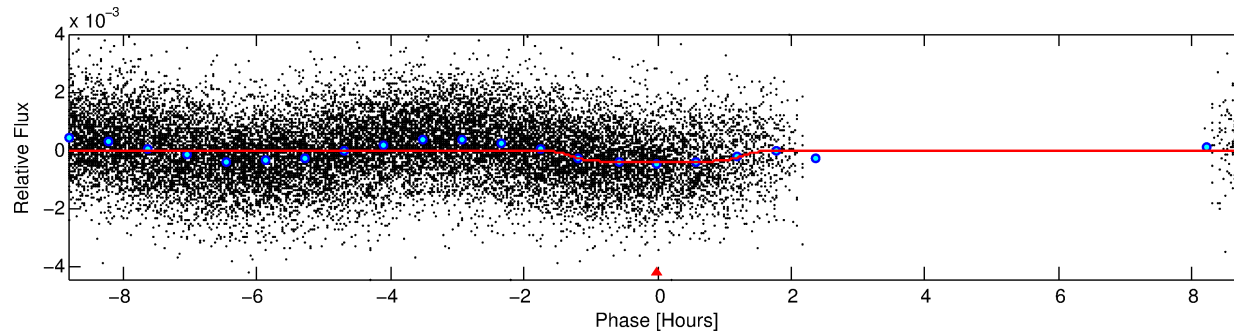
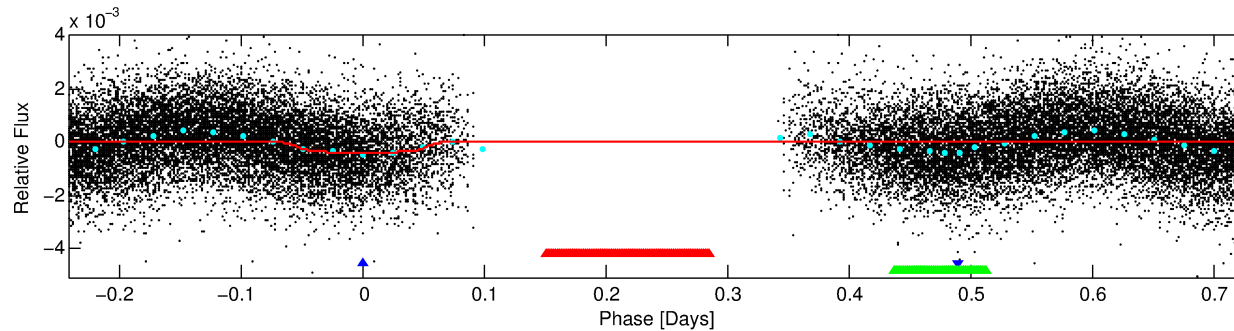
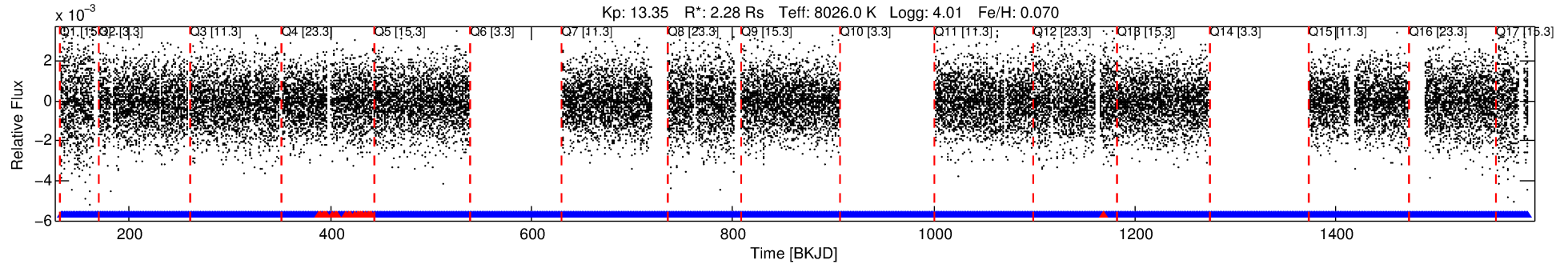
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004079482-02

No Significant Match Found

# DV One-Page Summary

KIC: 4079482 Candidate: 2 of 3 Period: 0.969 d



## DV Fit Results:

Period = 0.96860 [0.00001] d  
Epoch = 132.3574 [0.0022] BKJD  
Rp/R\* = 0.0212 [0.0026]  
a/R\* = 1.54 [0.62]  
b = 0.90 [0.15]  
Seff = 34007.47 [13474.11]  
Teq = 3463 [343] K  
Rp = 5.27 [1.65] Re  
a = 0.0239 [0.0058] AU  
Ag = 3.84 [1.69] [1.68 $\sigma$ ]  
Teffp = 7495 [567] K [6.08 $\sigma$ ]

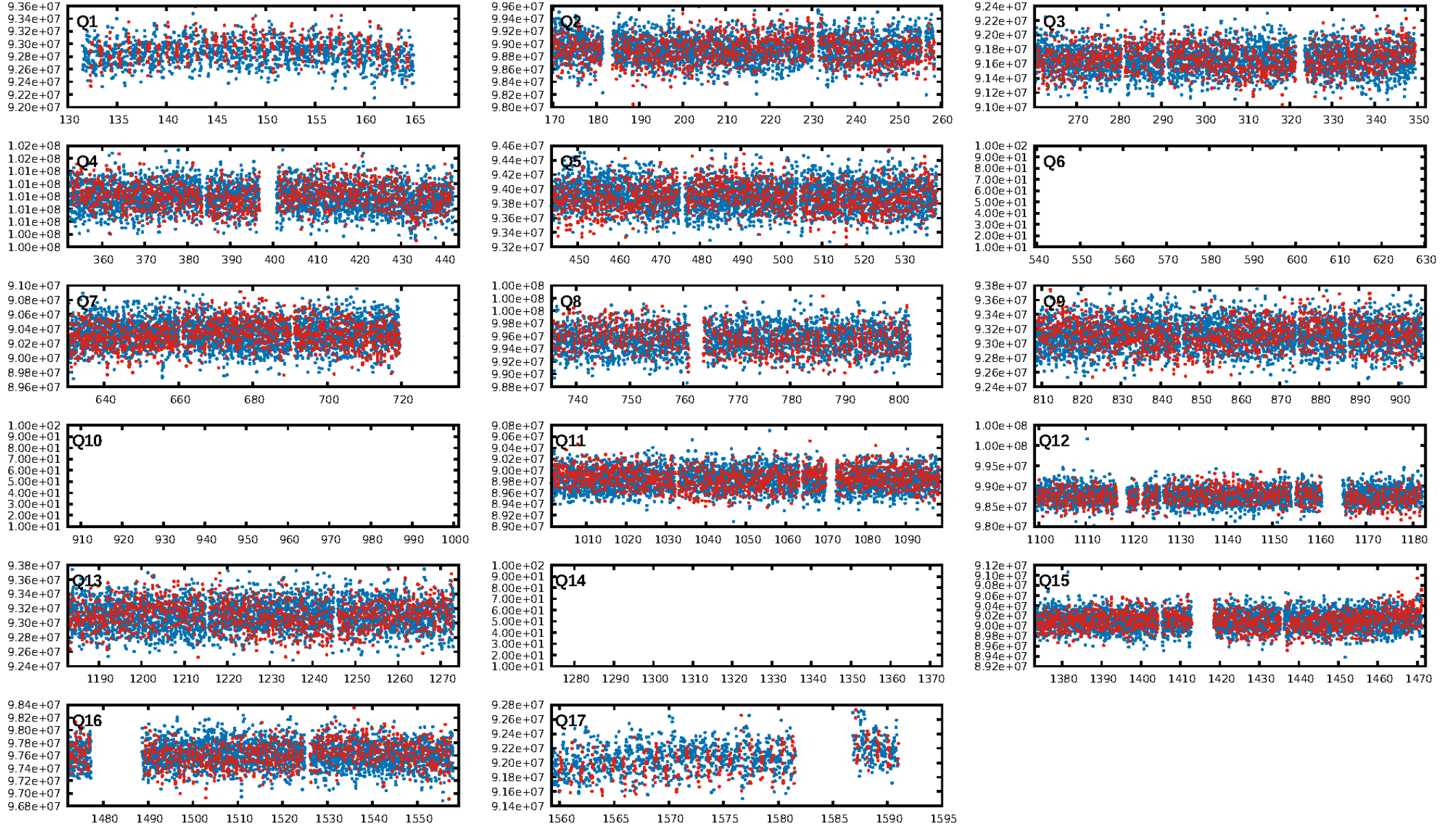
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.98 [1020/1045]  
GhostDiagnostic-chr: 1.715  
Centroid-sig: 14.1%  
Centroid-so: 0.268 arcsec [2.51 $\sigma$ ]  
OotOffset-rm: 0.133 arcsec [1.02 $\sigma$ ]  
OotOffset-st: 1/4/4/5 [14]  
KicOffset-rm: 0.307 arcsec [1.62 $\sigma$ ]  
KicOffset-st: 1/4/4/5 [14]  
DiffImageQuality-fgm: 0.93 [13/14]  
DiffImageOverlap-fno: 0.00 [0/14]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:39:20 Z

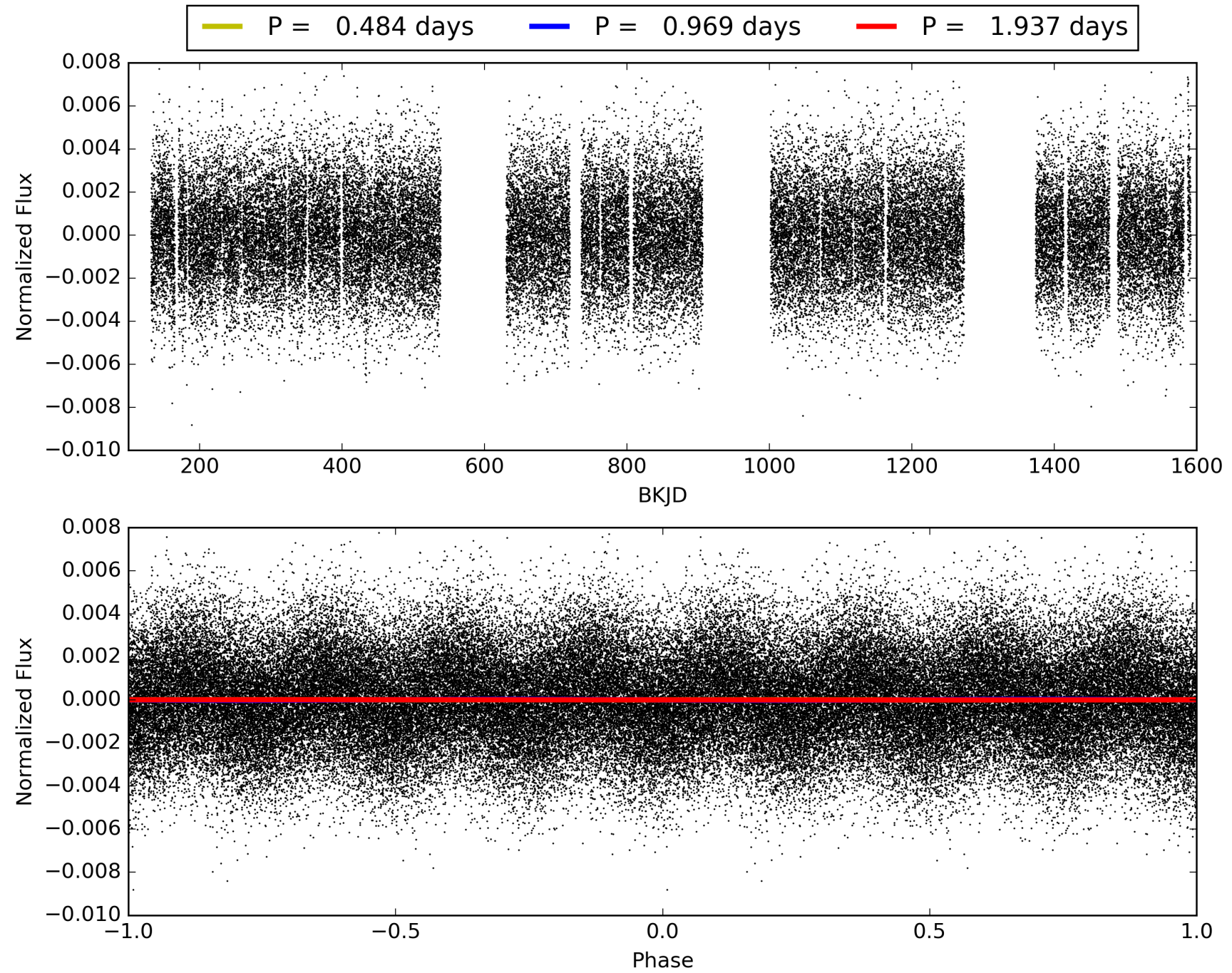
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 004079482-02, PDC Light Curves





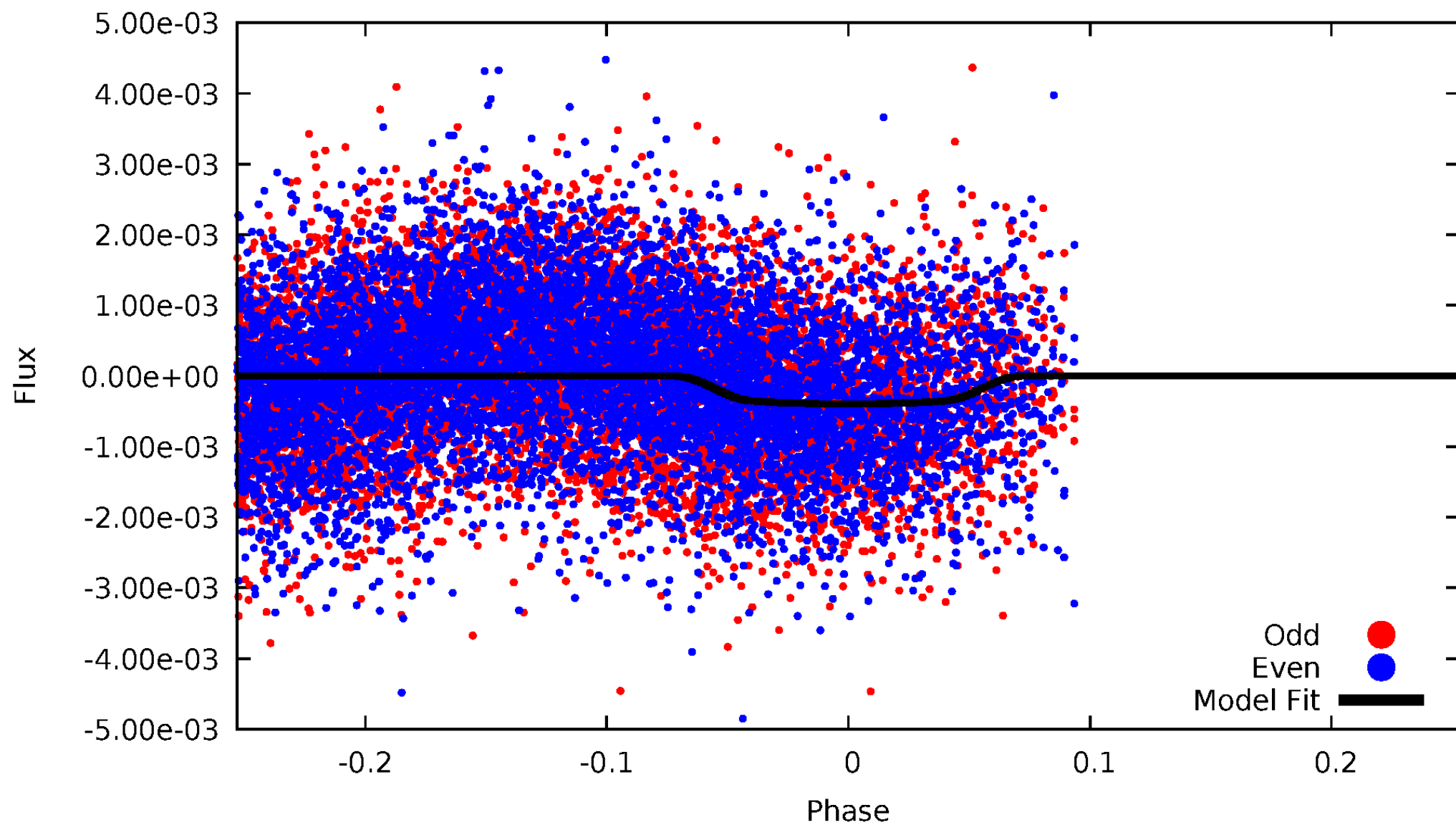
TCE 004079482-02





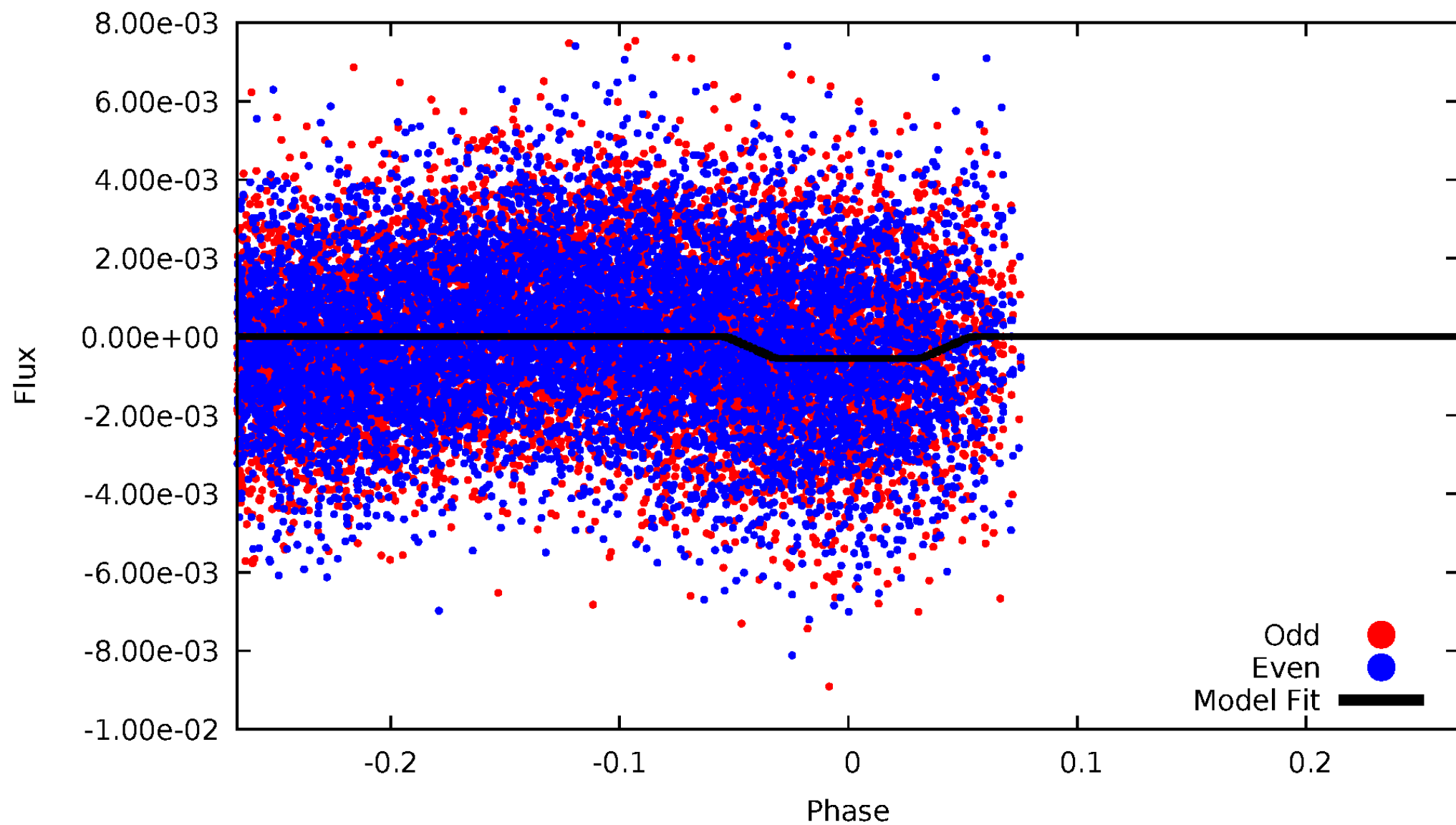
DV Odd/Even

TCE 004079482-02



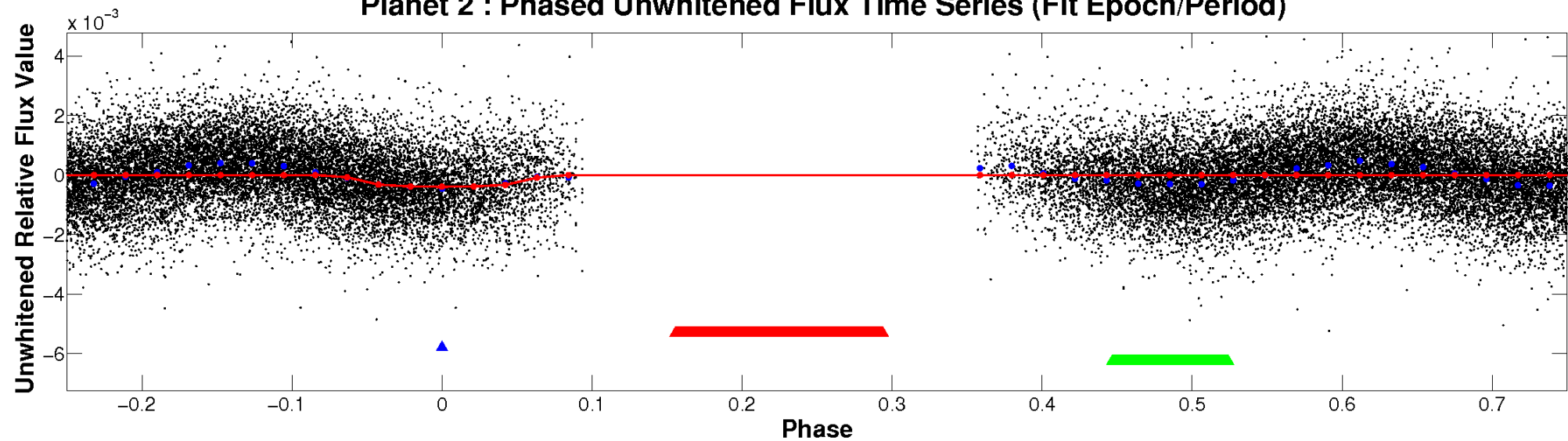
# ALT Odd/Even

TCE 004079482-02

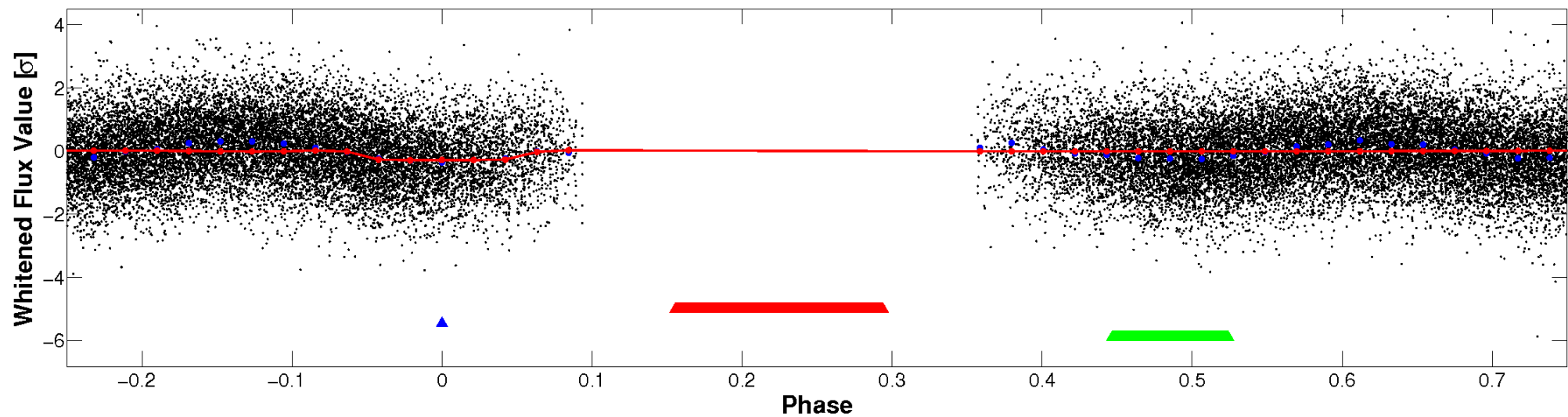


# Non-Whitened Vs. Whitened Light Curve

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

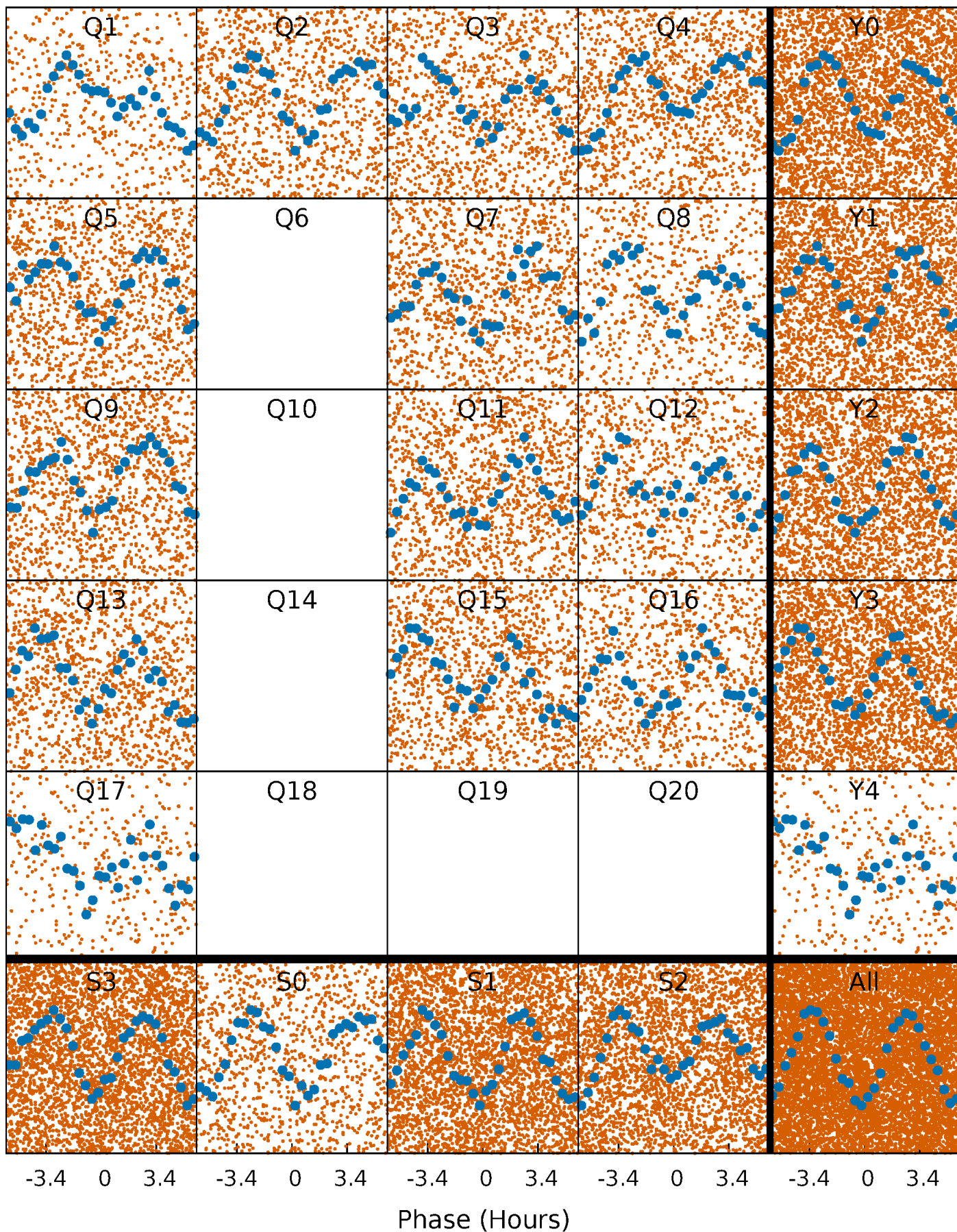


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

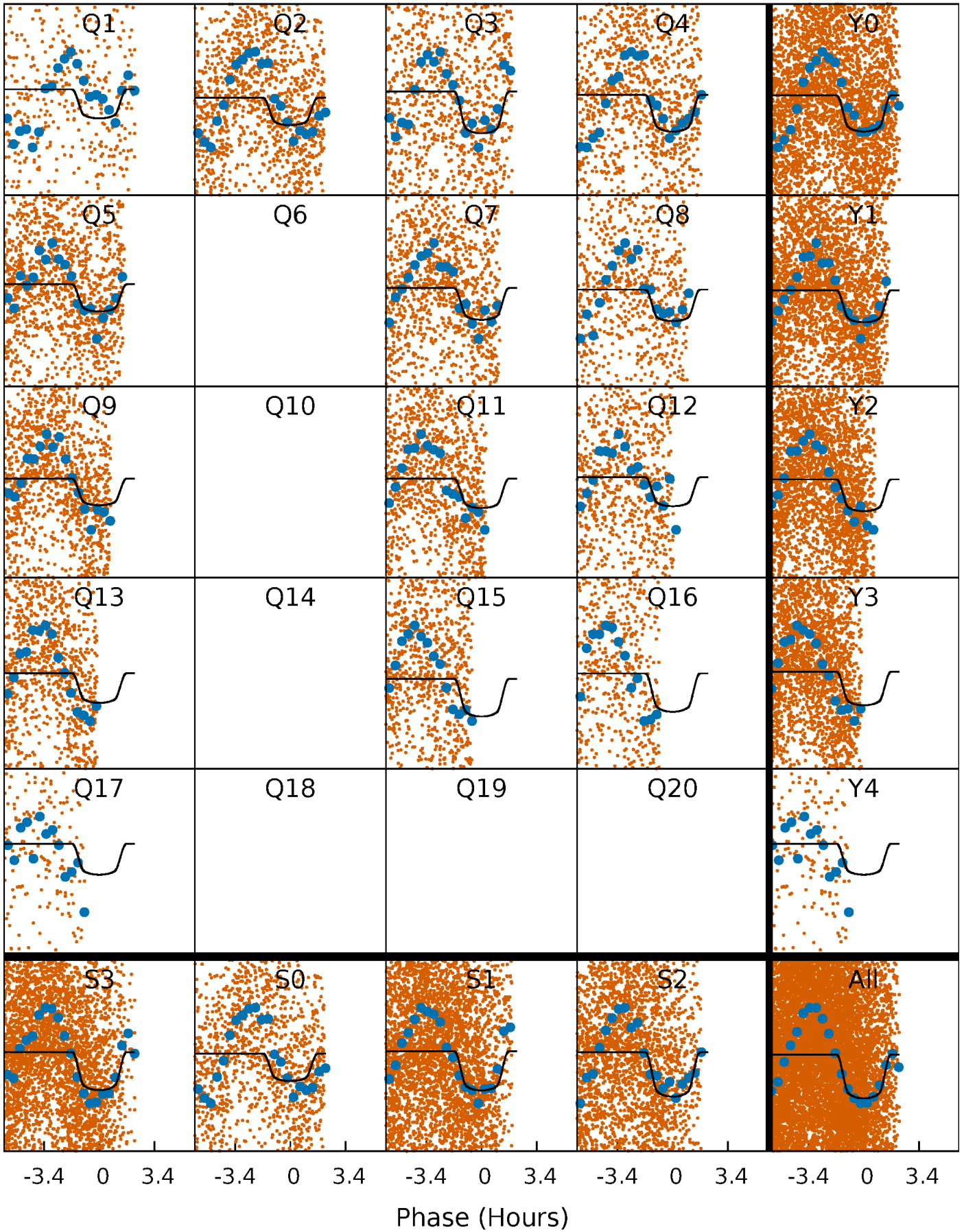
TCE 004079482-02   P= 0.968602 Days    $T_0=132.357425$  (BKJD)





# DV Quarter-Phased Transit Curves

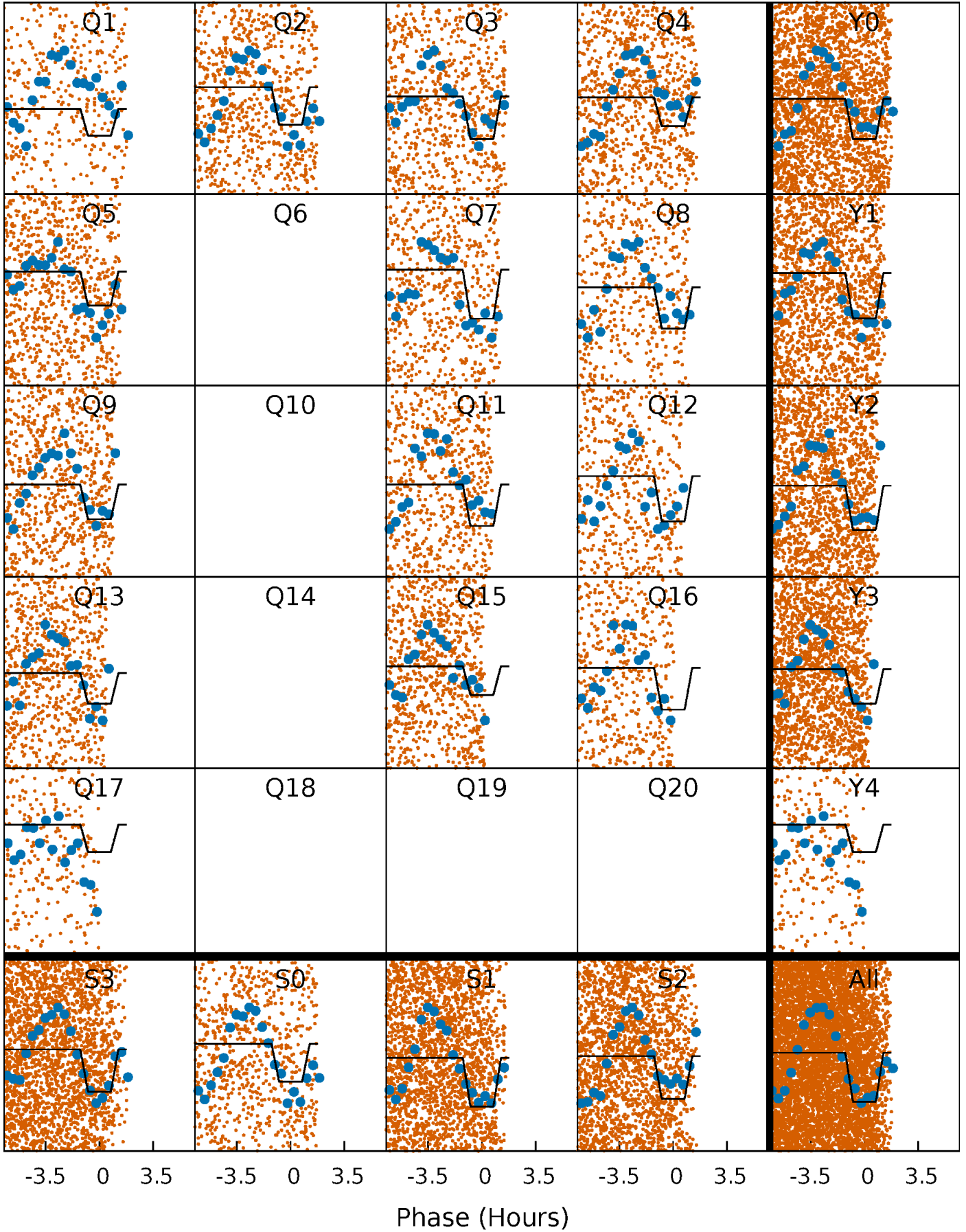
TCE 004079482-02     $P = 0.968602$  Days     $T_0 = 132.357425$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

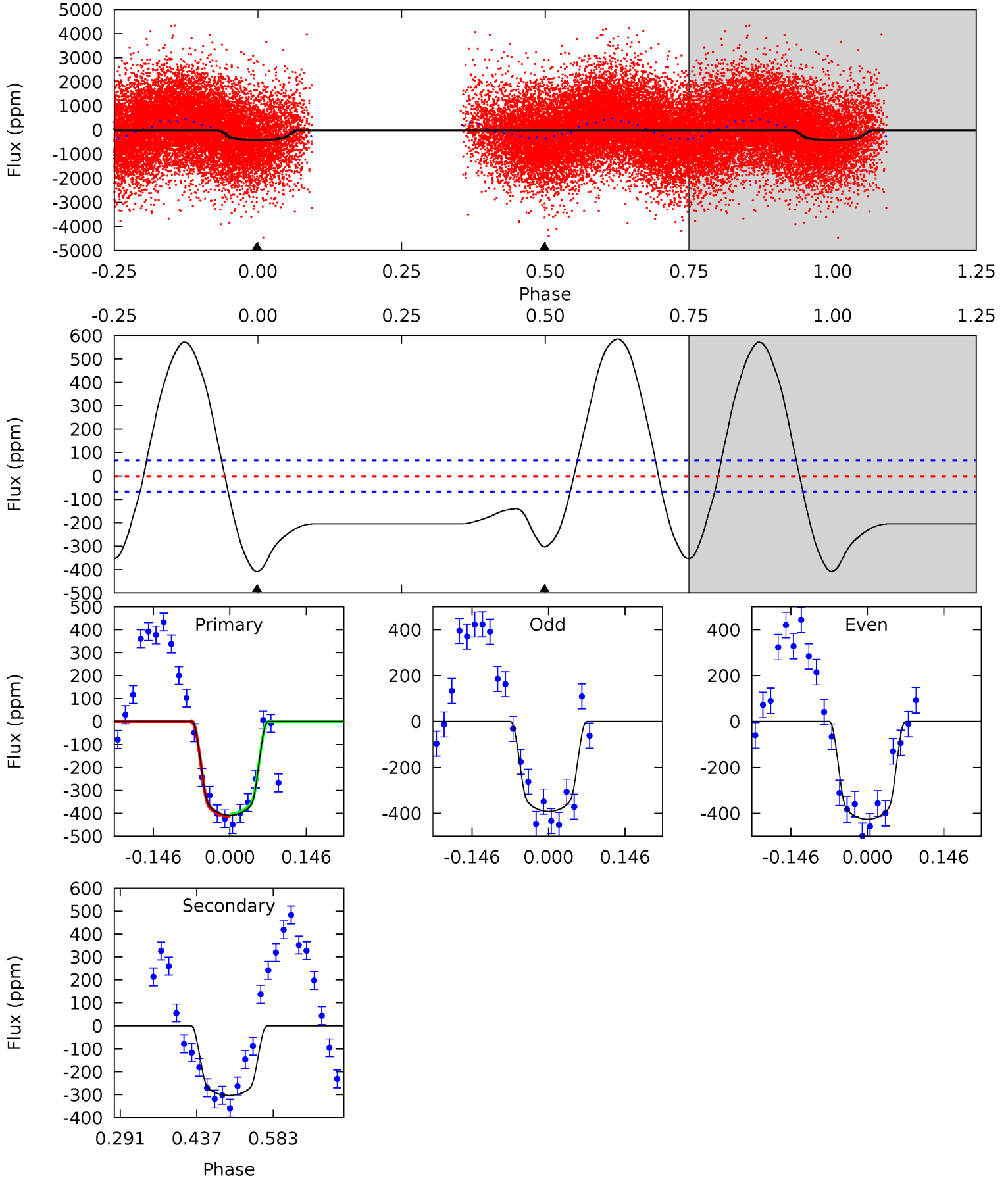
TCE 004079482-02   P= 0.968563 Days    $T_0=132.376027$  (BKJD)



# DV Model-Shift Uniqueness Test

004079482-02, P = 0.968602 Days, E = 131.388823 Days

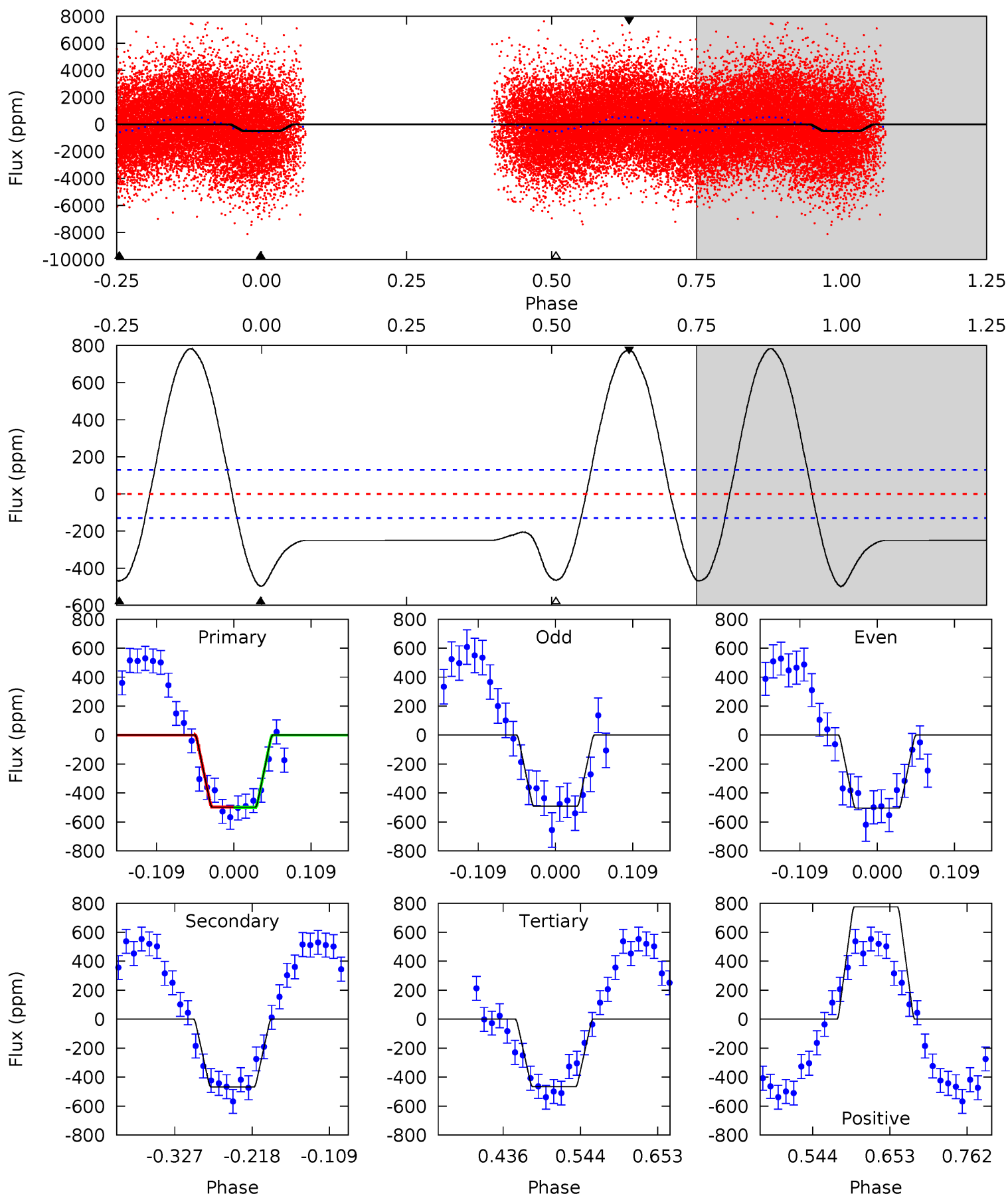
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.5	20.4	0	0	4.49	1.45	19.5	27.5	27.5	20.4	20.4	1.16	1.04	0.59	0.32



# Alt Model-Shift Uniqueness Test

004079482-02, P = 0.968563 Days, E = 131.407464 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
17.4	16.4	16.3	27.1	4.55	1.60	15.9	1.14	-9.69	0.09	-10.7	0.23	1.04	0.61	0.04



### Stellar Parameters For KIC 004079482

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8026^{+223}_{-335}$	$4.007^{+0.198}_{-0.132}$	$0.070^{+0.250}_{-0.450}$	$2.282^{+0.437}_{-0.656}$	$1.929^{+0.233}_{-0.378}$	$0.229^{+0.254}_{-0.089}$
	+3%/-4%	+5%/-3%	+357%/-643%	+19%/-29%	+12%/-20%	+111%/-39%
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 004079482-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-303 \pm 15$	$5.16^{+0.98}_{-0.88}$	$4822^{+285}_{-344}$	$6945^{+634}_{-532}$	$3.484^{+1.507}_{-0.985}$
Alt.	$-468 \pm 29$	$5.78^{+0.91}_{-1.01}$	$4810^{+296}_{-358}$	$7485^{+640}_{-526}$	$4.422^{+1.902}_{-1.116}$

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

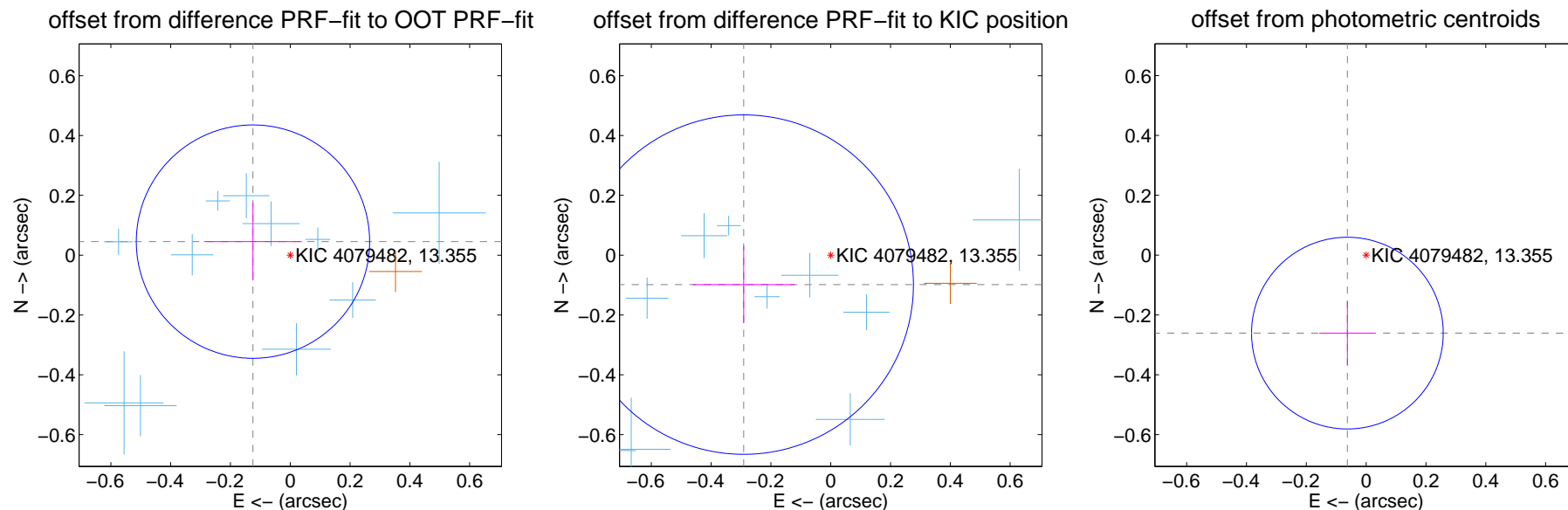
## DV Centroid Data

Supplemental centroid analysis for 004079482-02. Kepler magnitude: 13.36. Transit SNR 17.10

There are 13 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

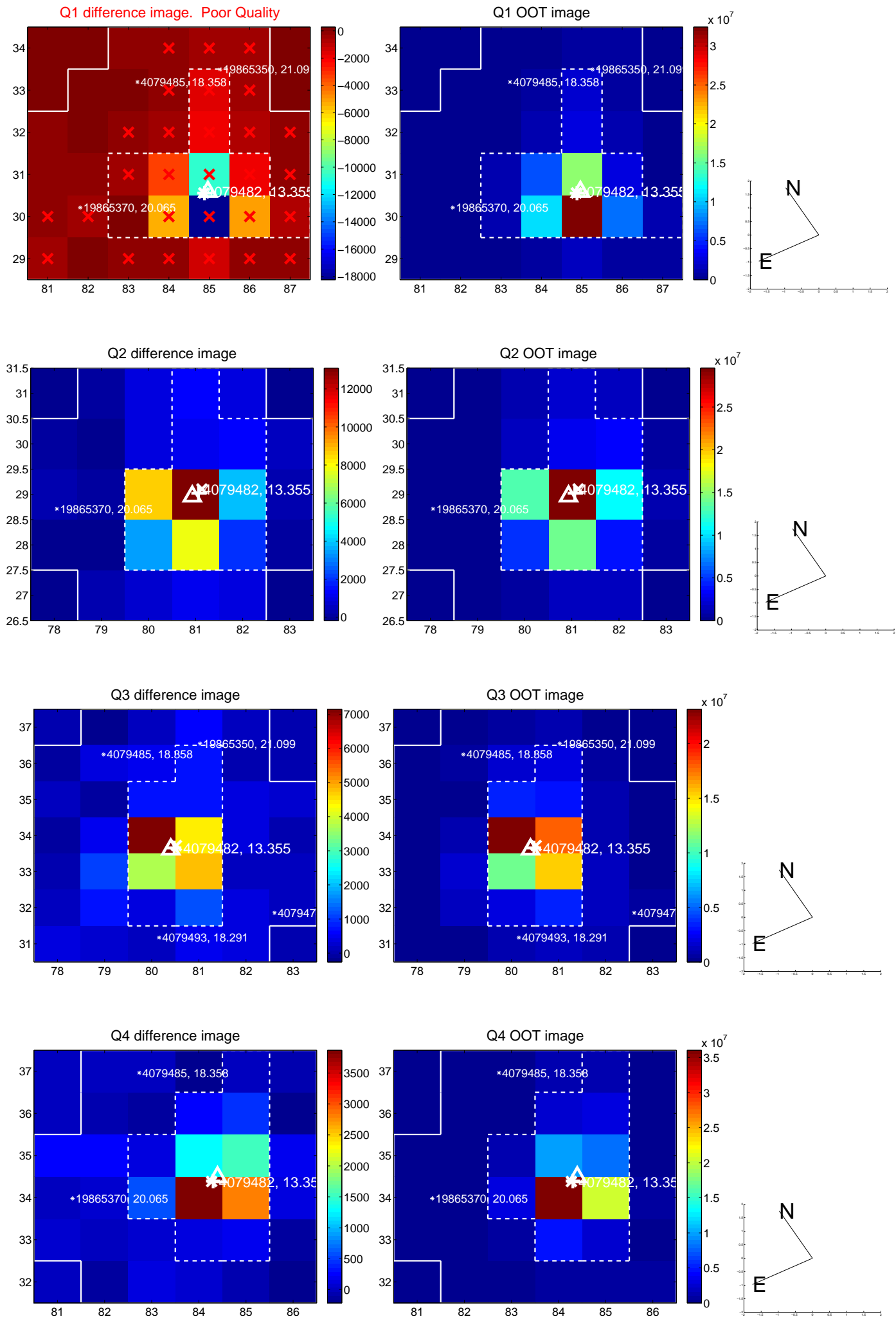
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.133 \pm 0.130$	1.02	$0.125 \pm 0.164$	$0.045 \pm 0.129$
PRF-fit source offset from KIC position	$0.307 \pm 0.189$	1.62	$0.291 \pm 0.171$	$-0.098 \pm 0.129$
photometric centroid source offset	$0.27 \pm 0.11$	2.51	$0.06 \pm 0.09$	$-0.26 \pm 0.11$



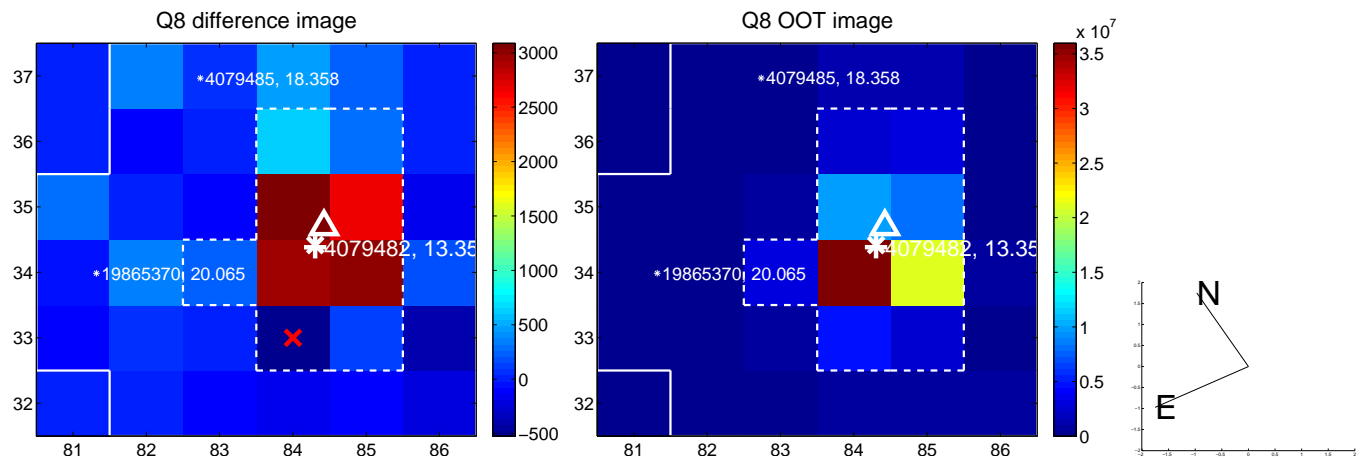
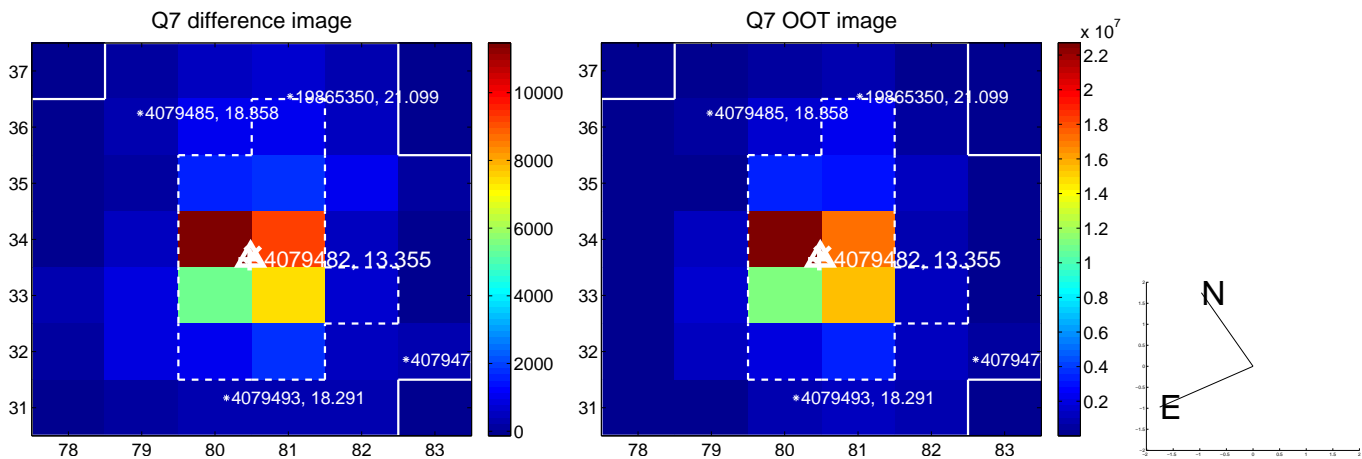
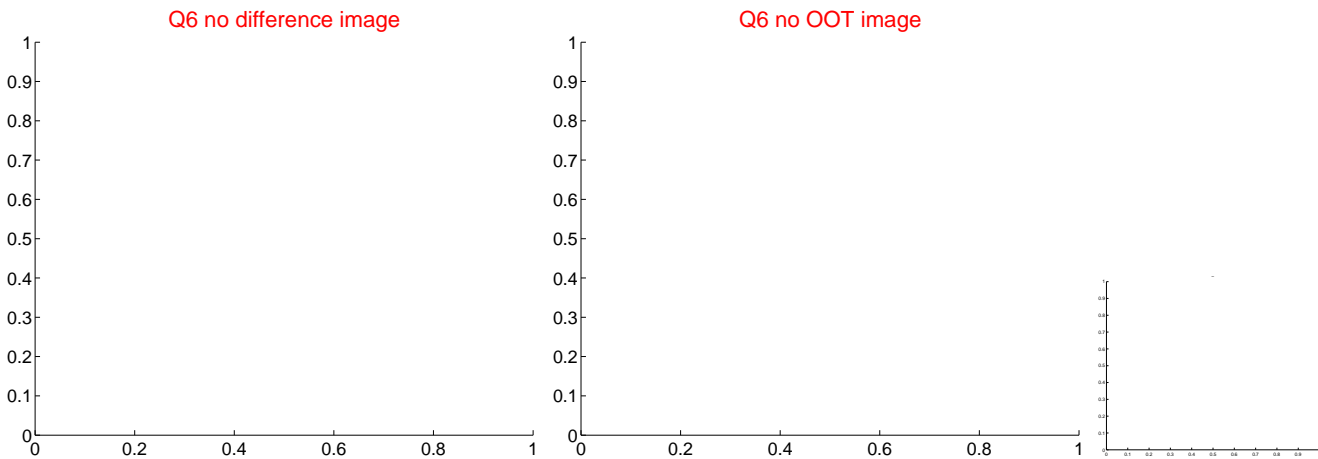
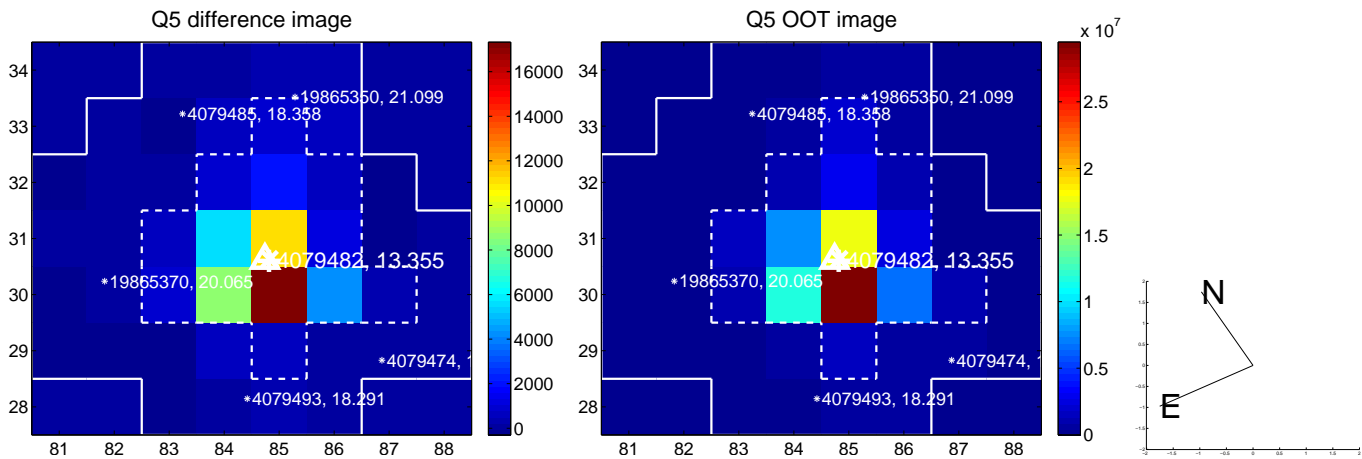
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



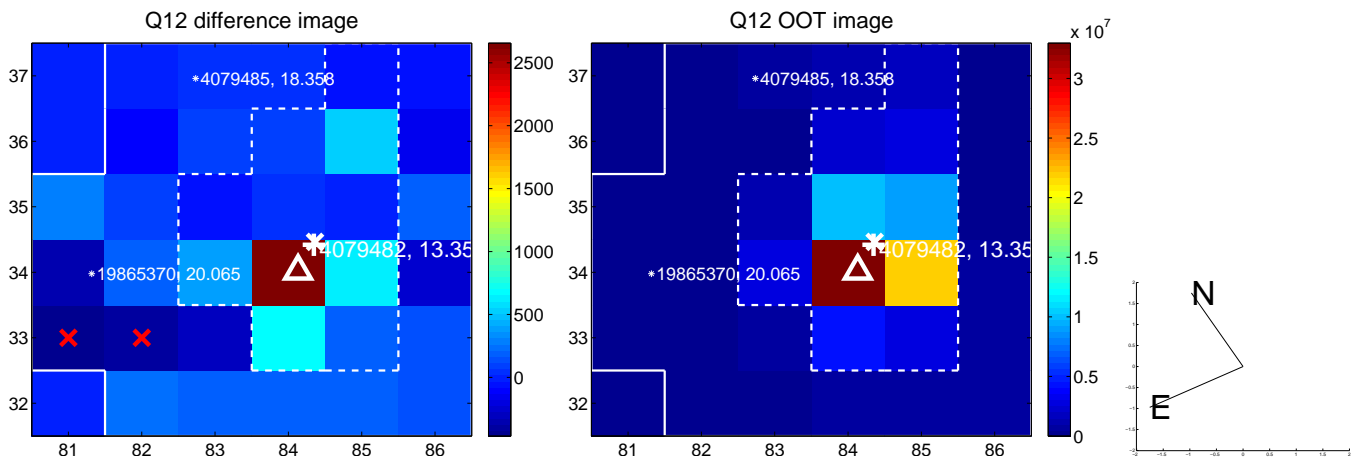
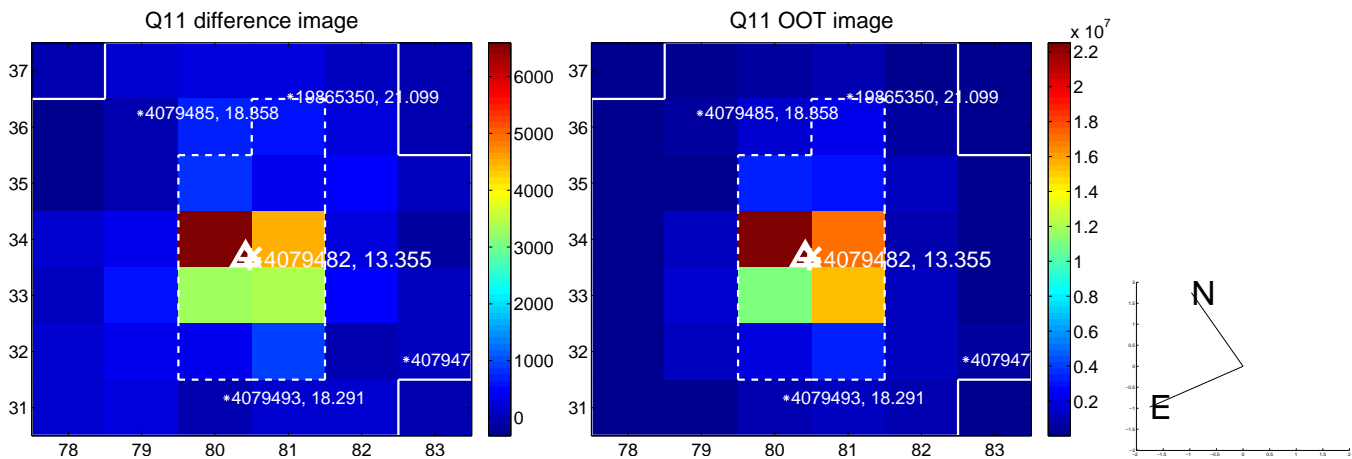
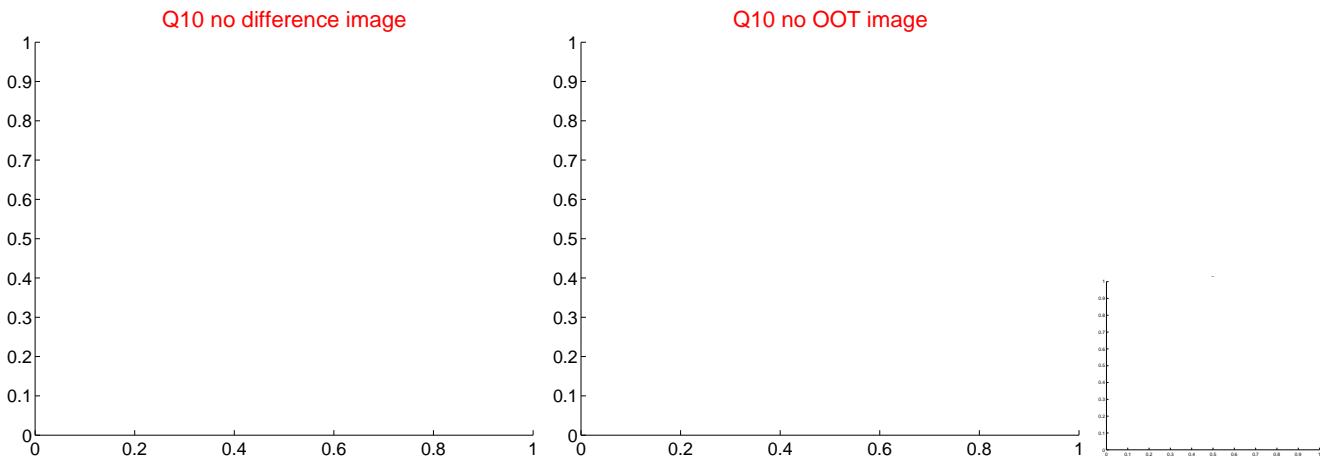
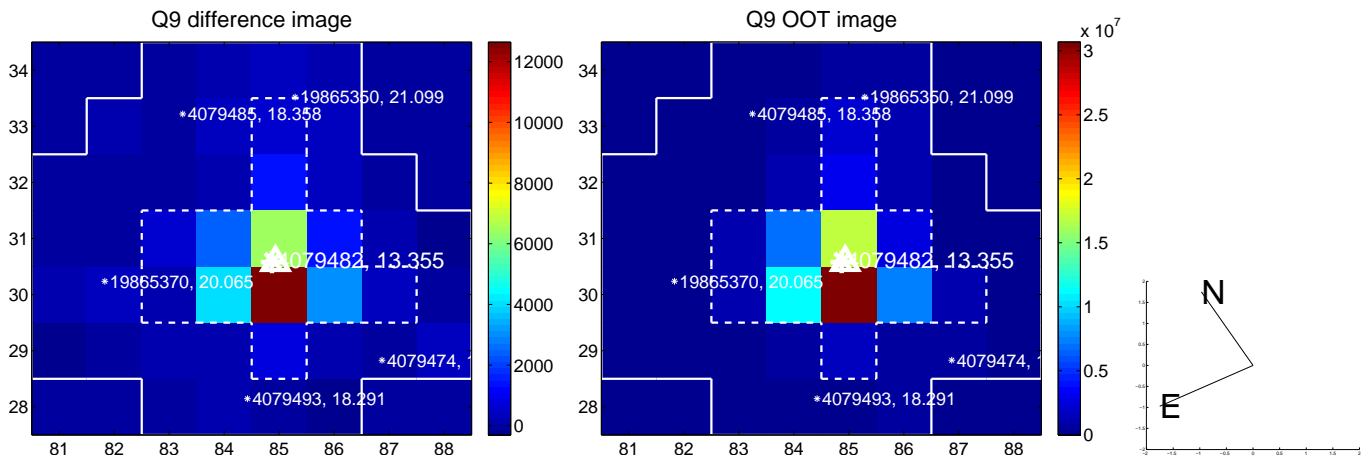
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



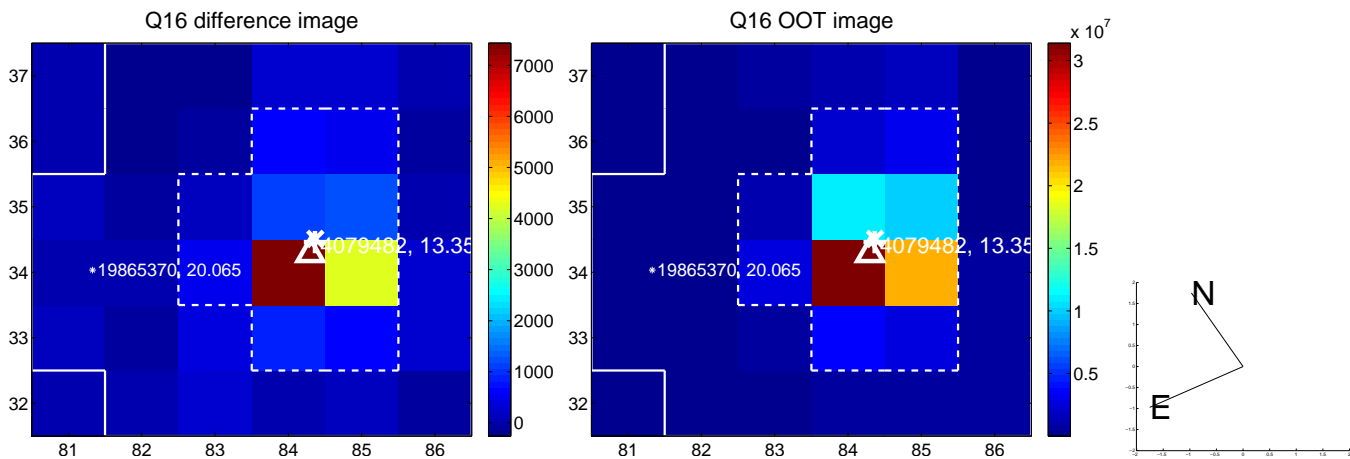
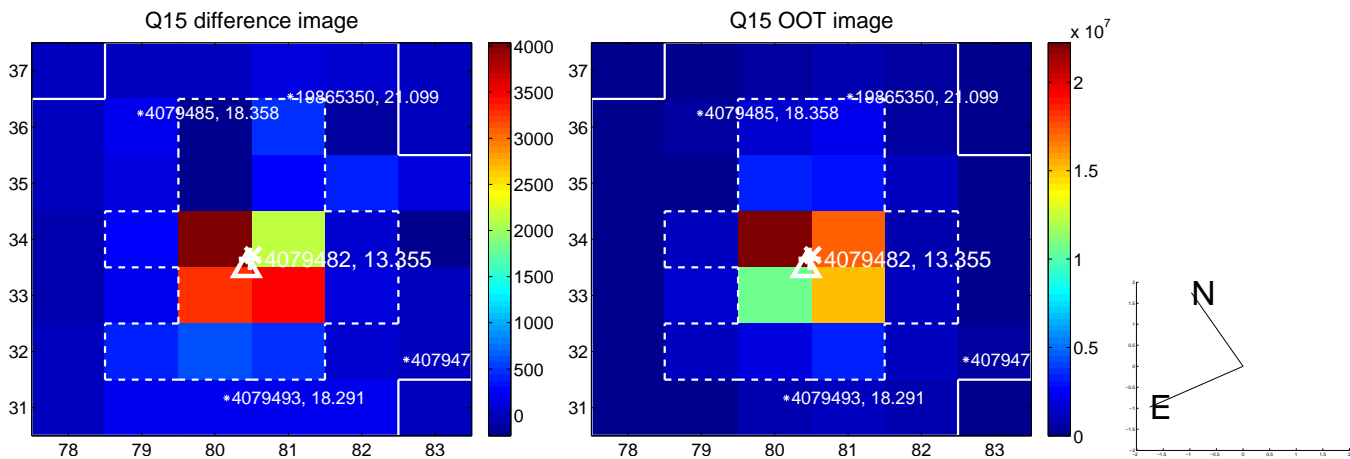
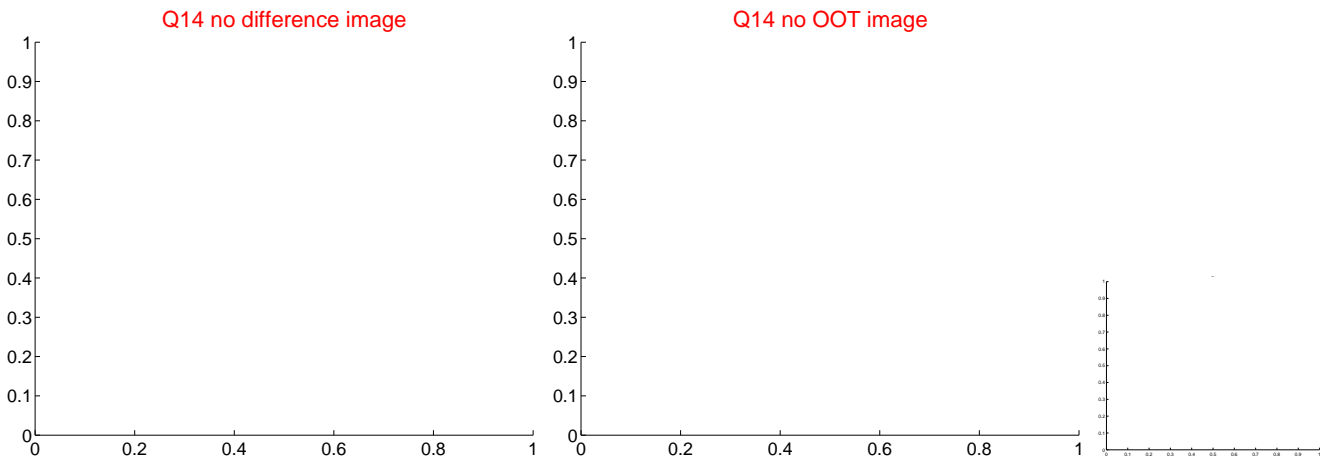
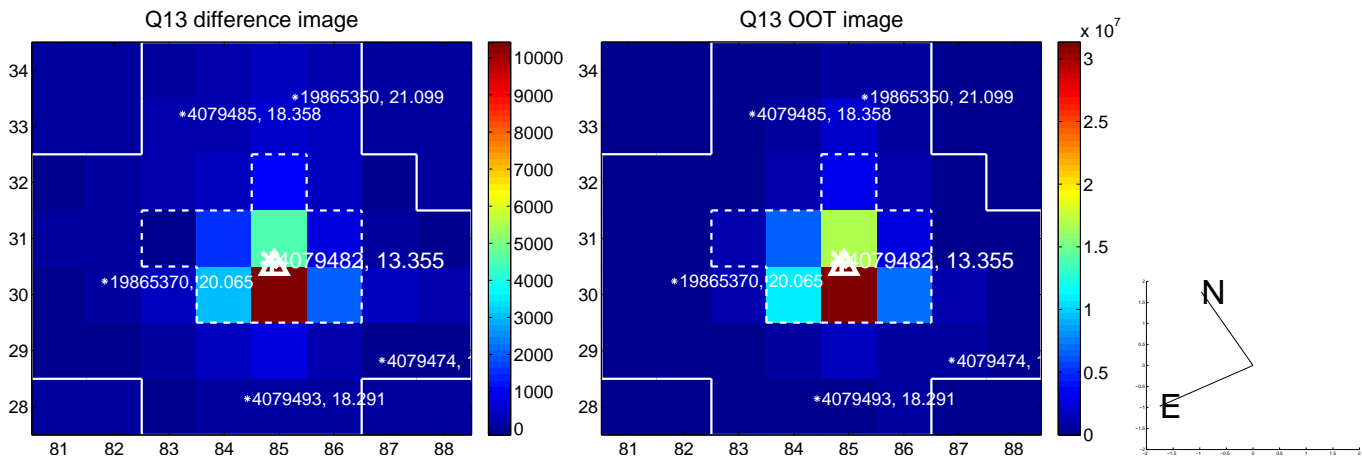
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



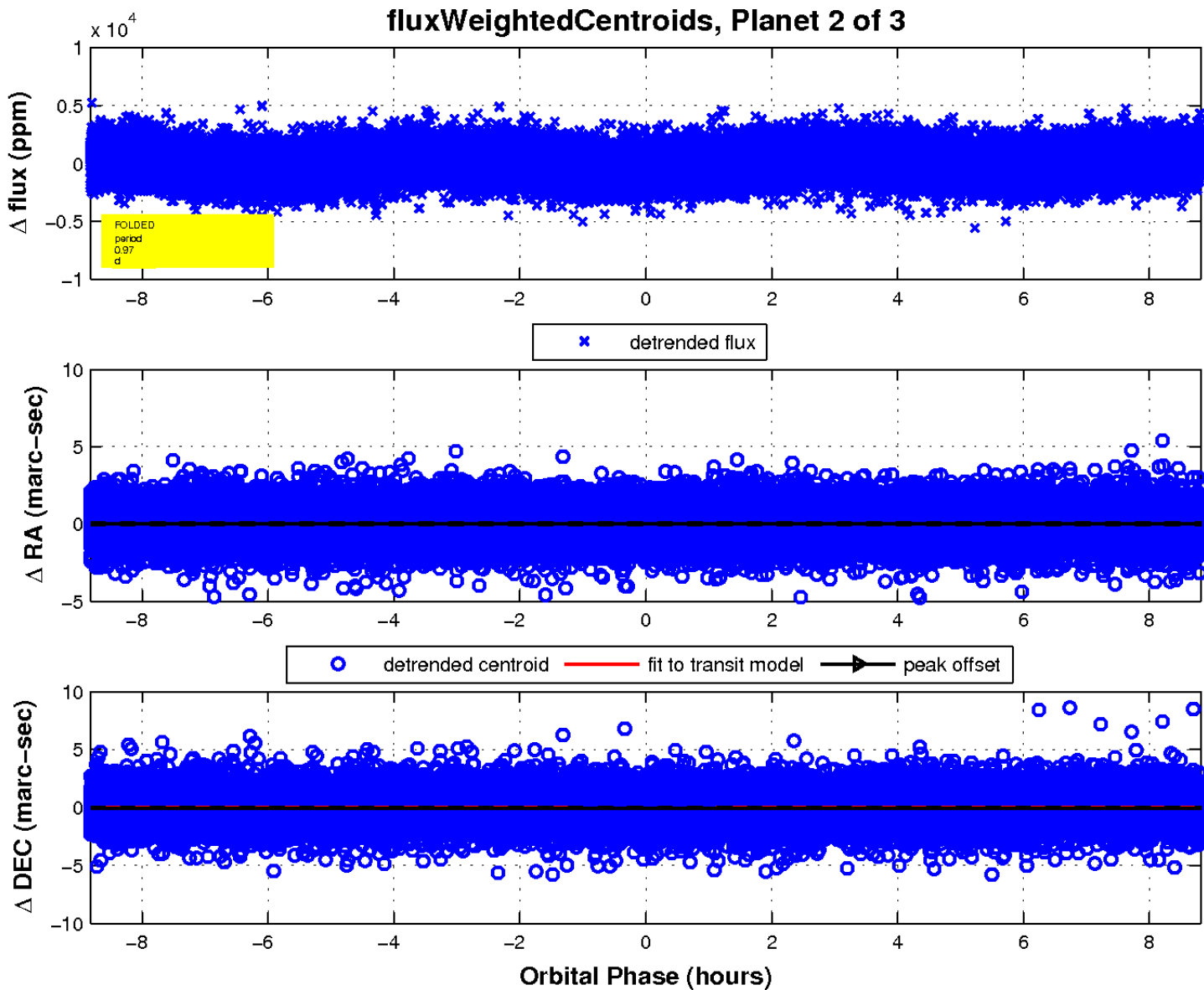
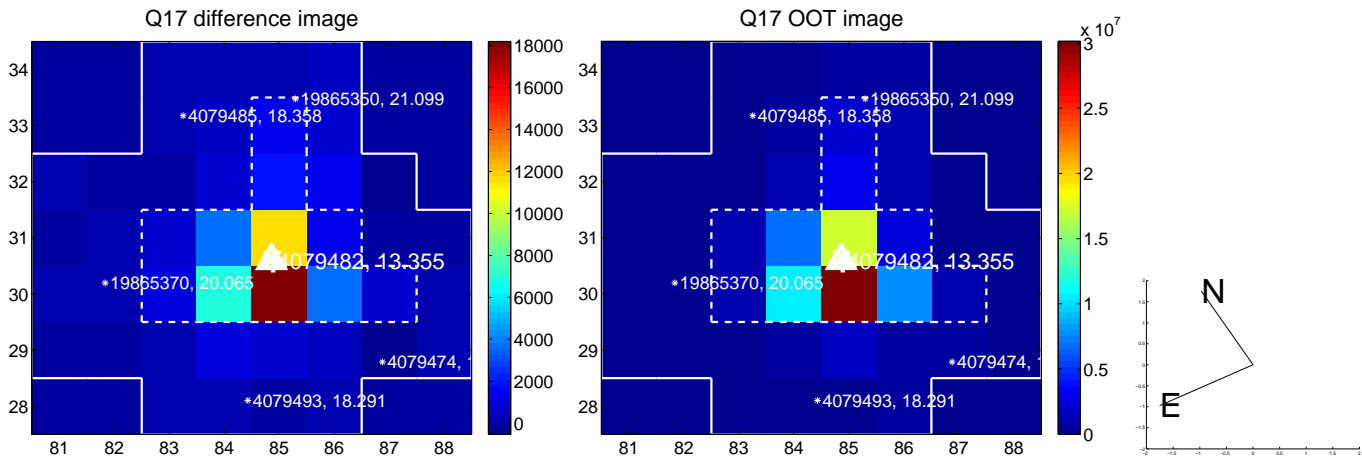
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



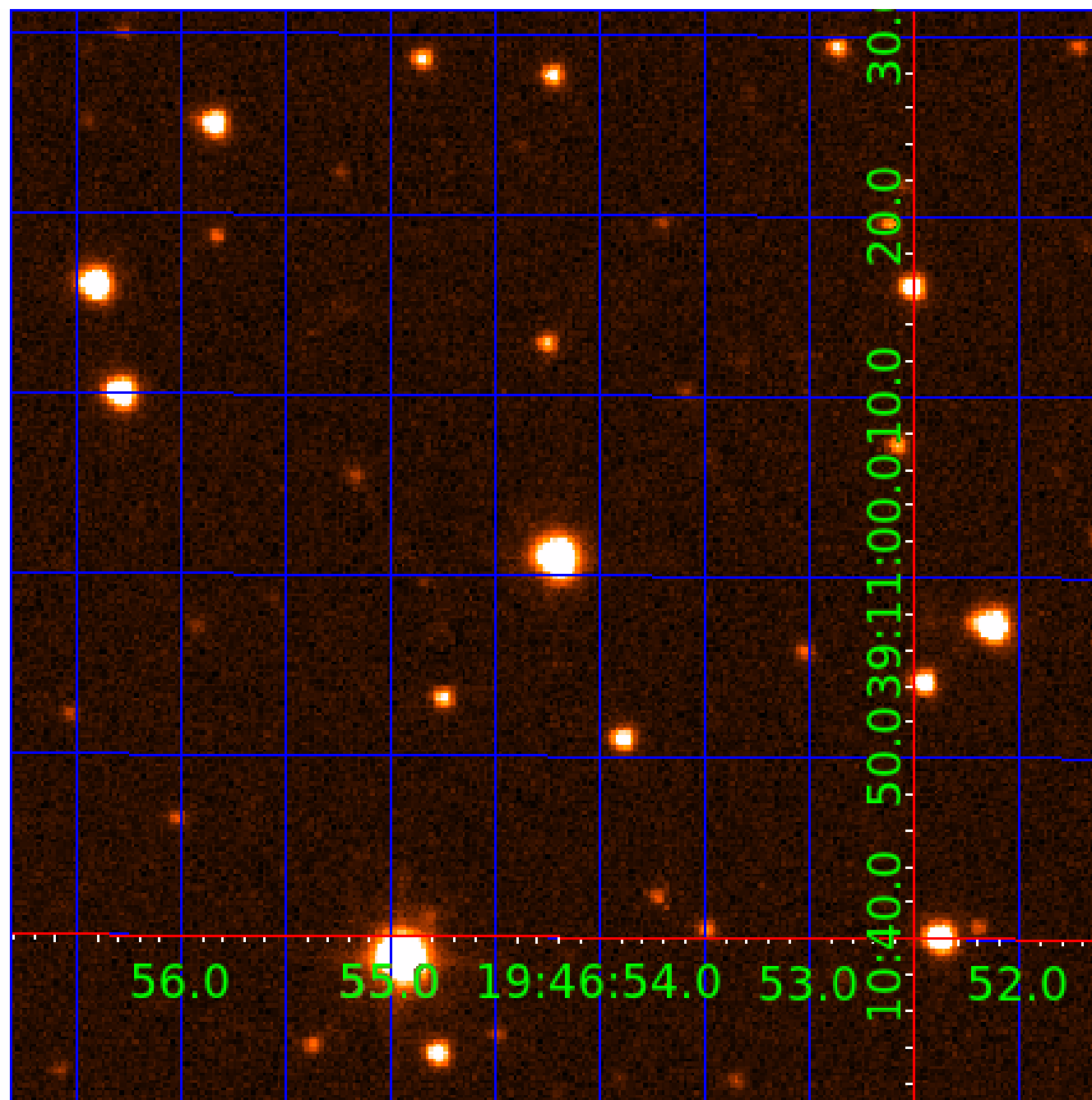
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





# UKIRT Image

Declination



# KIC 004079482

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004079482-01	OBS	No	0.968513	131.673383	299.5	2.891	14.8	13.9	2.28	8026	4.60	34011.62
004079482-02	OBS	No	0.968602	132.357425	395.1	2.941	15.1	17.1	2.28	8026	5.27	34007.46
004079482-03	OBS	No	0.968552	131.896610	412.8	2.000	13.4	-1.0	2.28	8026	4.70	34009.81

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004079482-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004079482-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
004079482-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

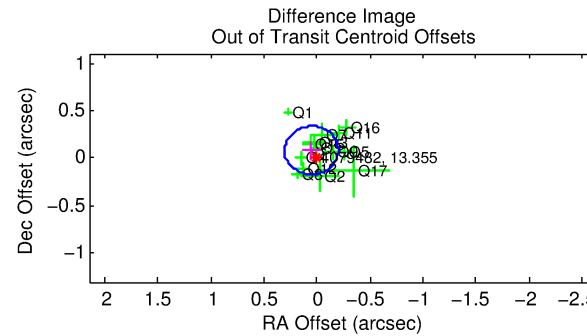
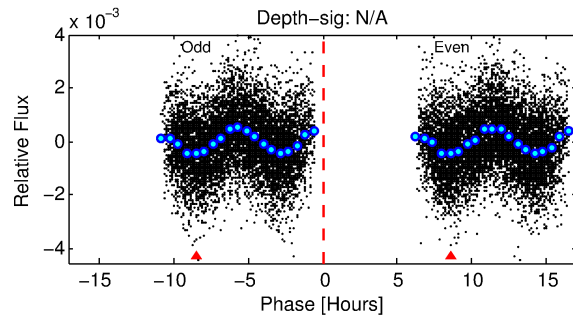
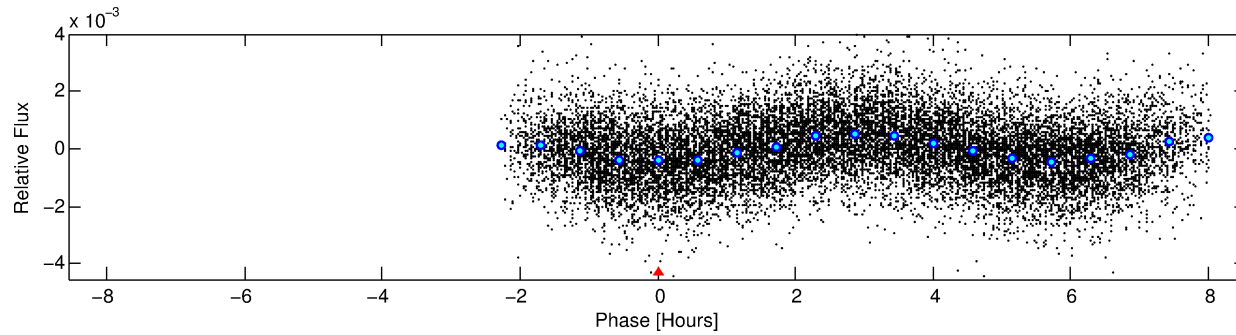
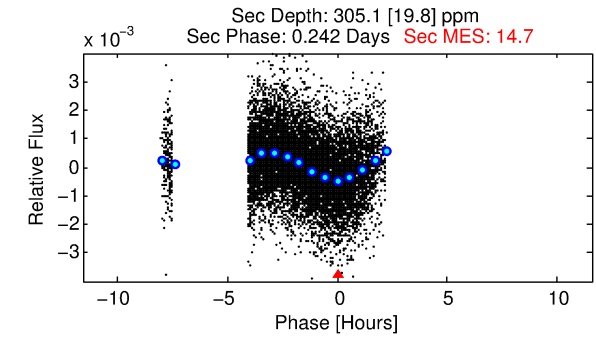
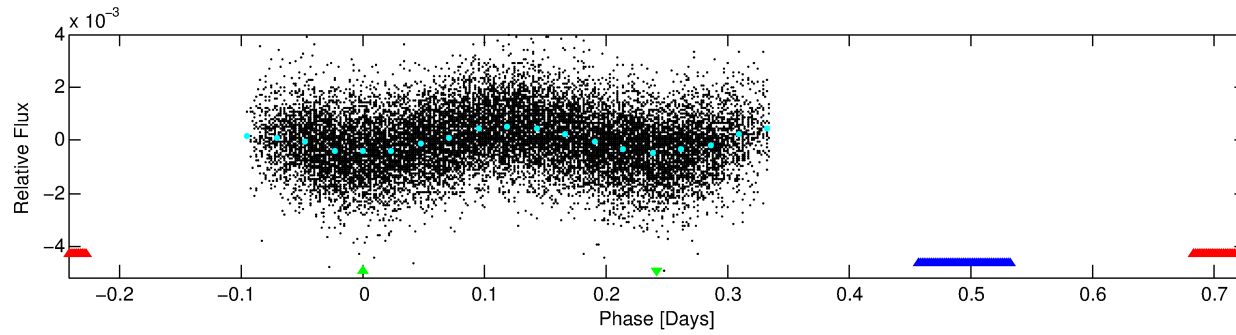
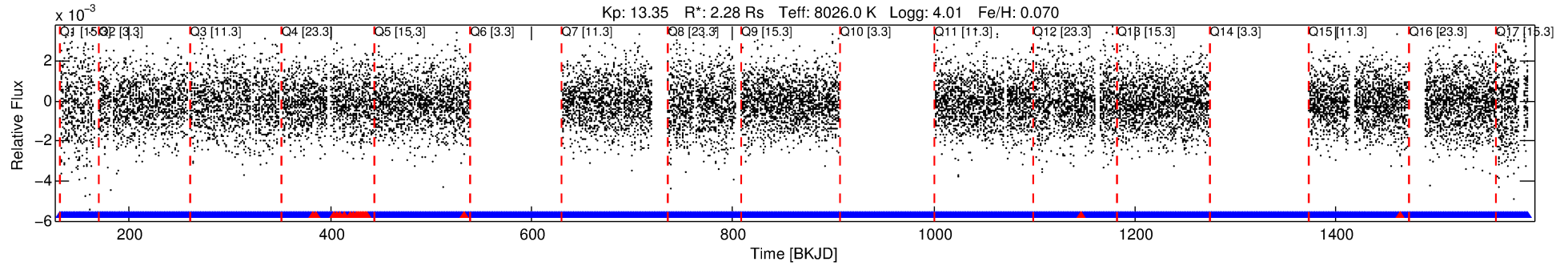
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004079482-03

No Significant Match Found

# DV One-Page Summary

KIC: 4079482 Candidate: 3 of 3 Period: 0.969 d



## TPS TCE Results:

Period = 0.96855 d  
Epoch = 131.8966 BKJD

DV fit results are unavailable

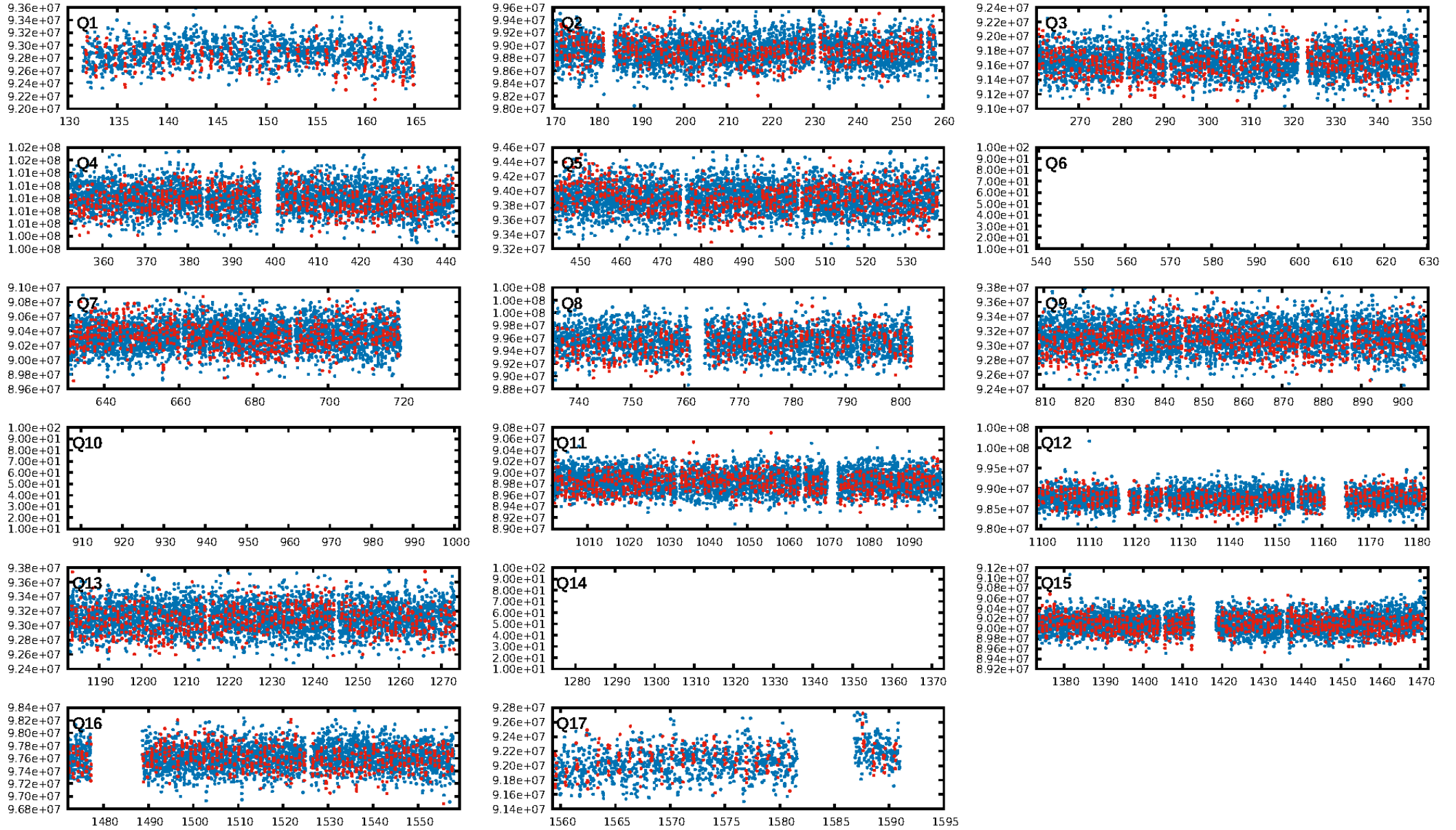
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 $\sigma$ ]  
LongPeriod-sig: 0.0% [0.00 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.98 [1016/1042]  
GhostDiagnostic-chr: 2.335  
Centroid-sig: 0.0%  
Centroid-so: 0.036 arcsec [0.42 $\sigma$ ]  
OotOffset-rm: 0.099 arcsec [1.18 $\sigma$ ]  
KicOffset-rm: 0.181 arcsec [2.10 $\sigma$ ]  
OotOffset-st: 1/4/4/5 [14]  
KicOffset-st: 1/4/4/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 0.00 [0/14]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:39:28 Z

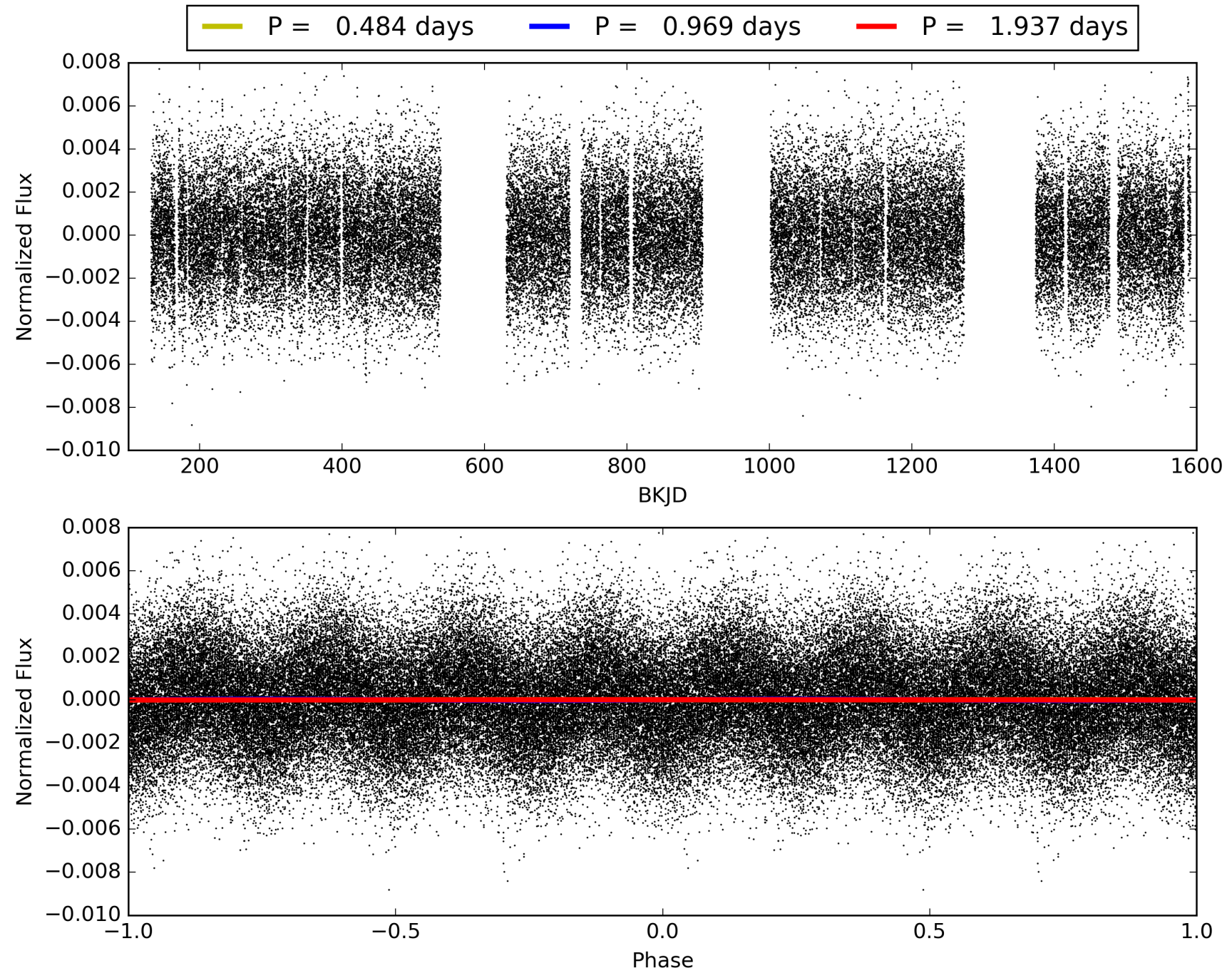
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 004079482-03, PDC Light Curves





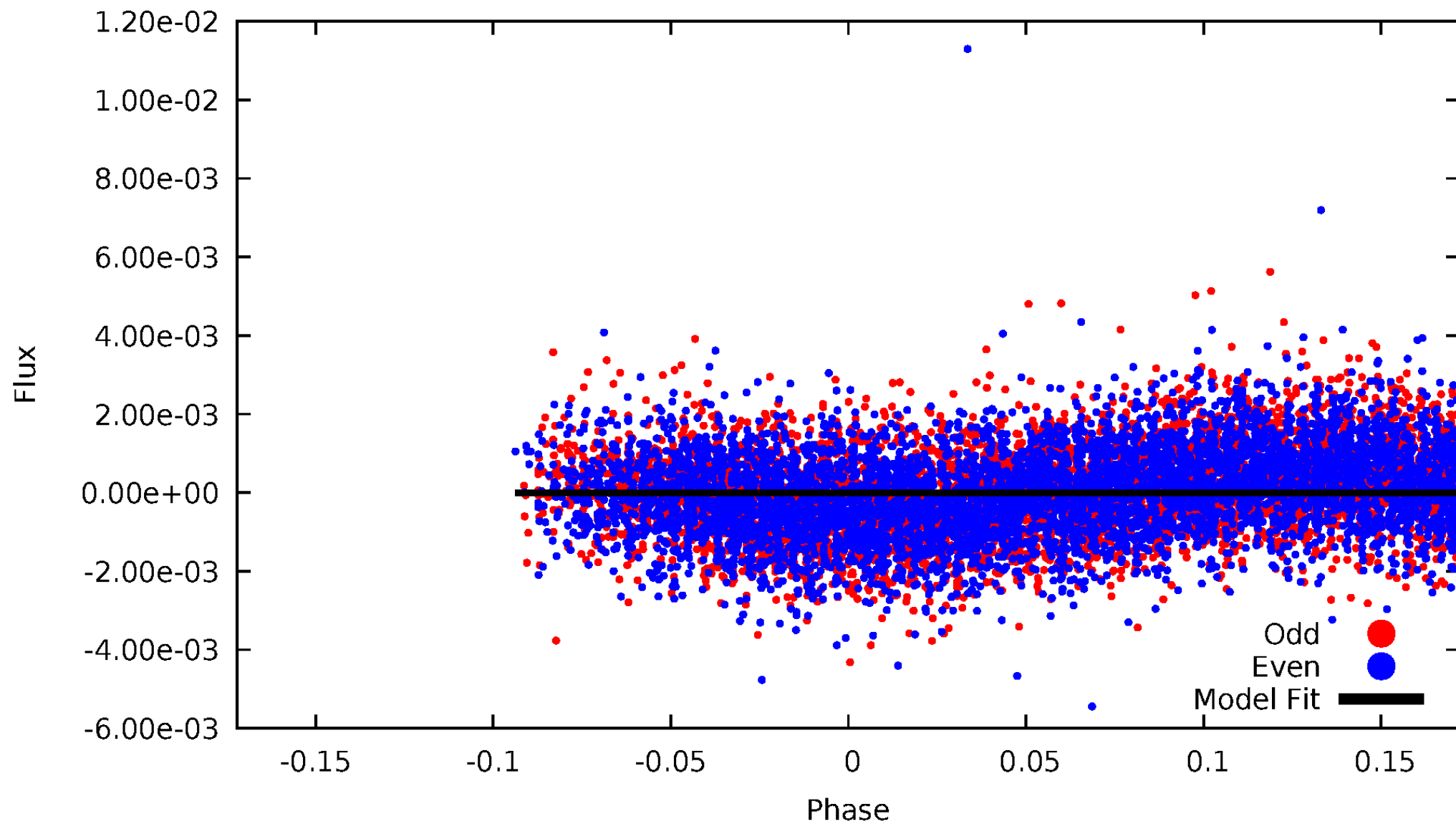
# TCE 004079482-03





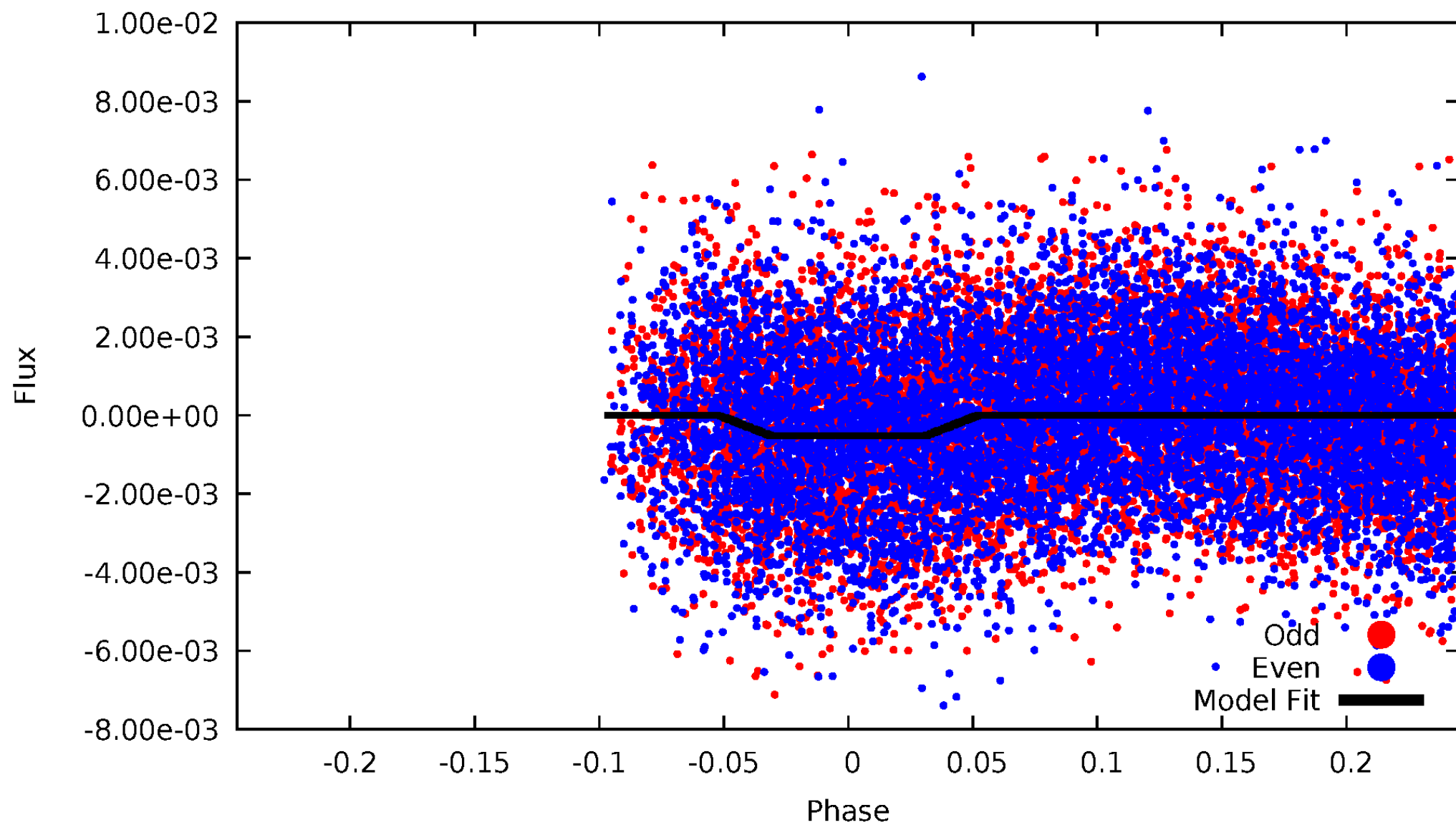
# DV Odd/Even

TCE 004079482-03



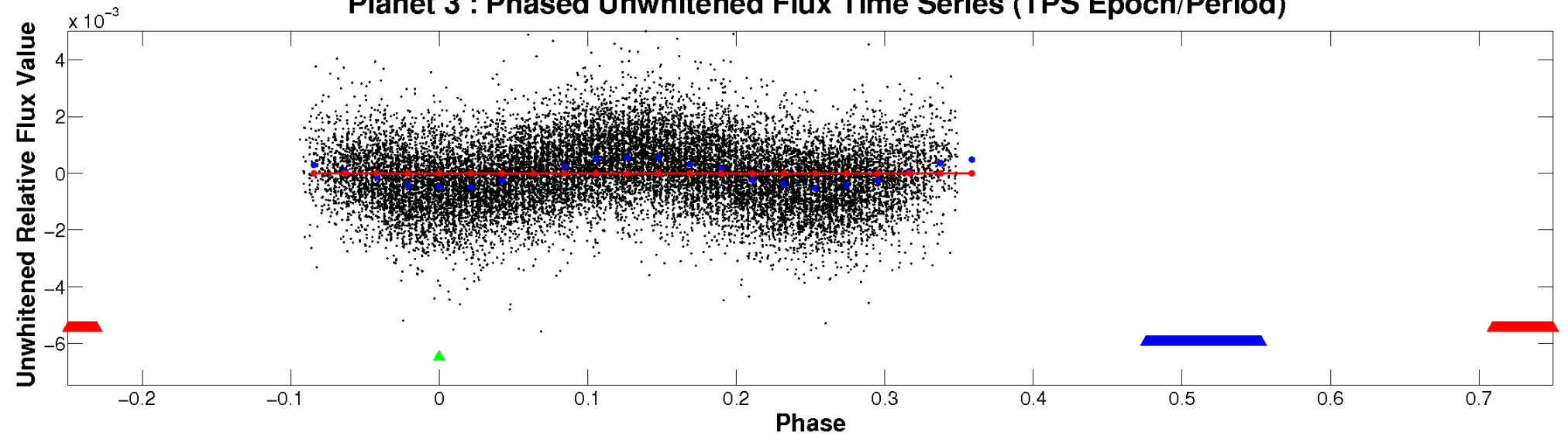
# ALT Odd/Even

TCE 004079482-03



# Non-Whitened Vs. Whitened Light Curve

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

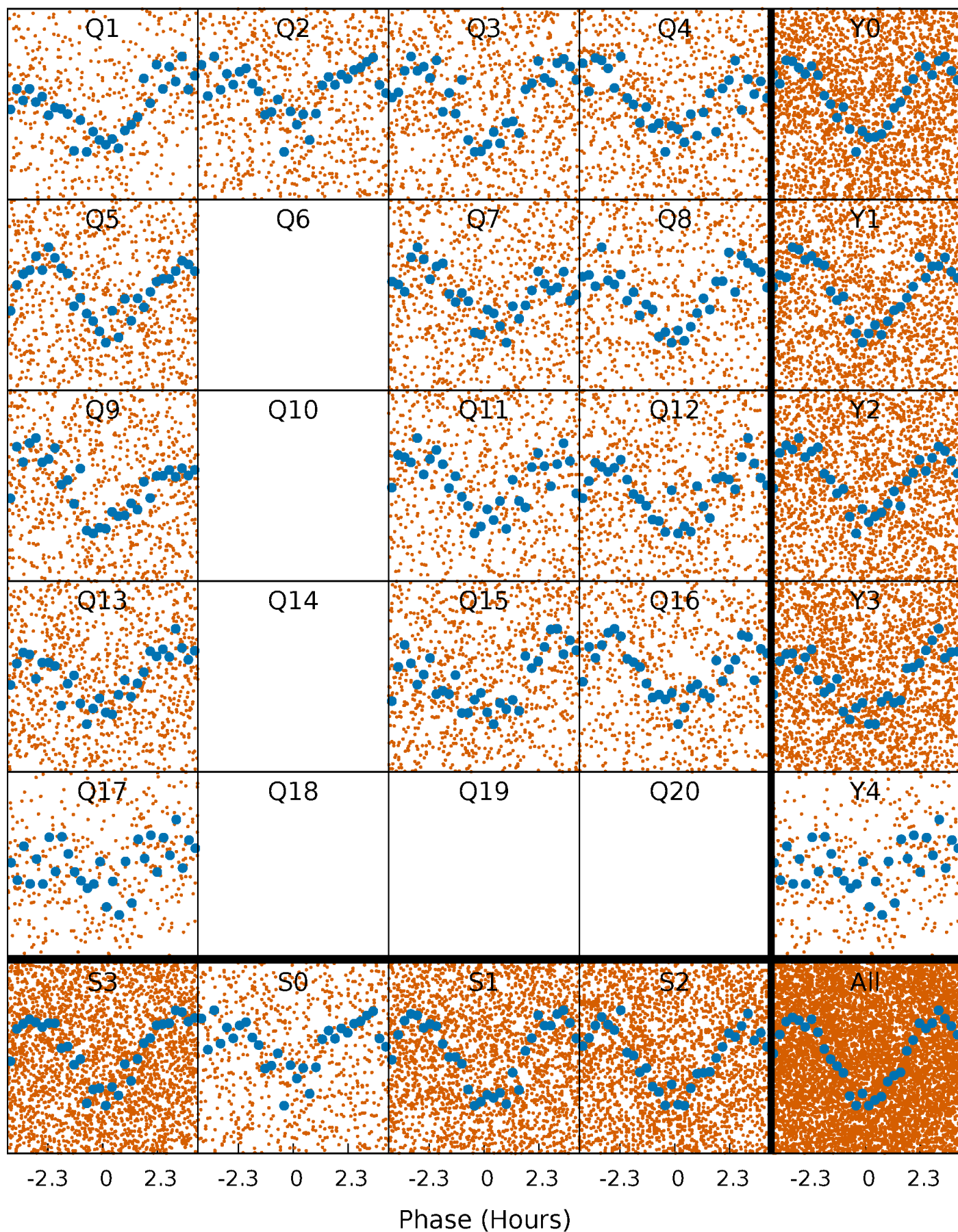


**Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



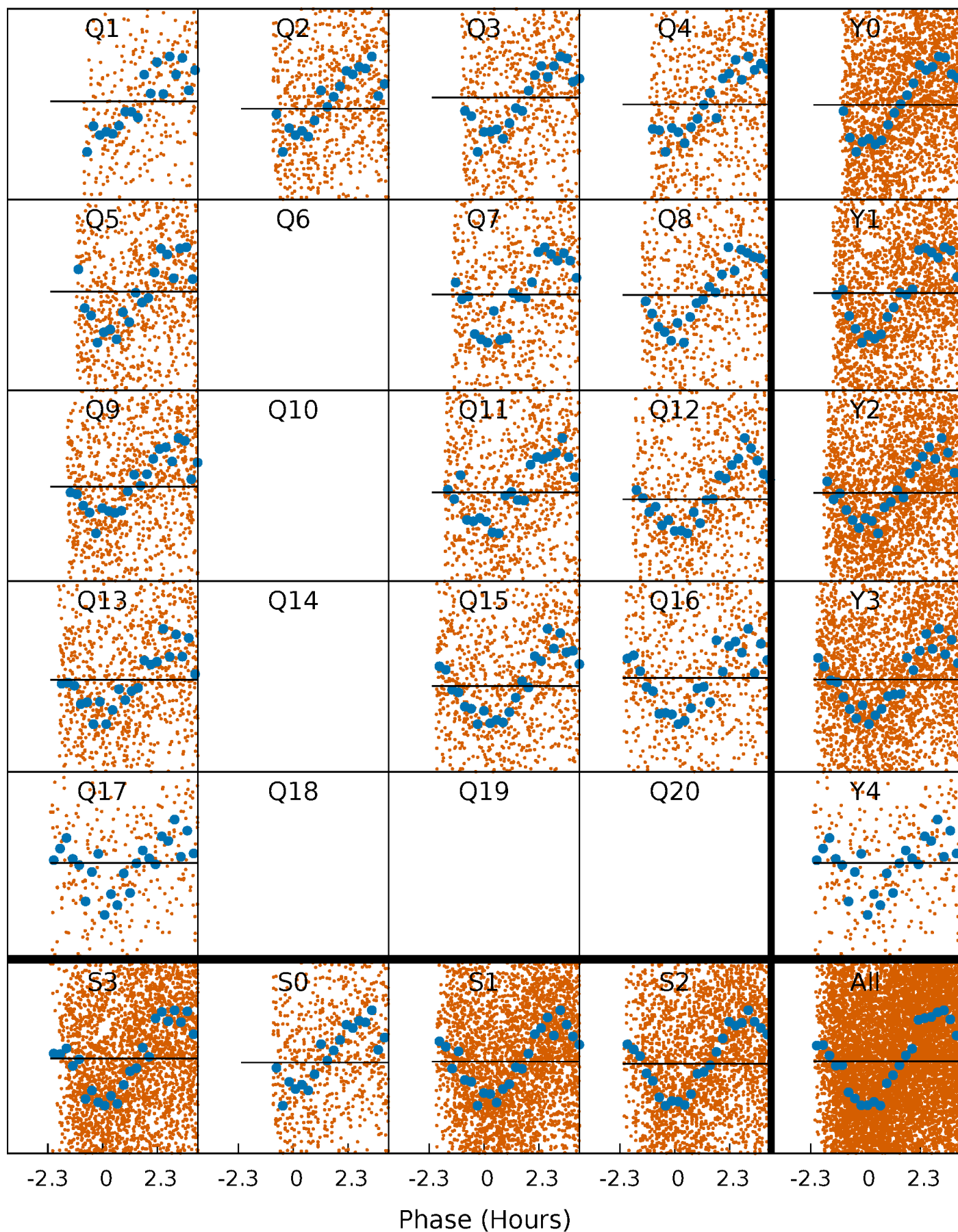
# PDC Quarter-Phased Transit Curves

TCE 004079482-03   P= 0.968552 Days    $T_0=131.896611$  (BKJD)



# DV Quarter-Phased Transit Curves

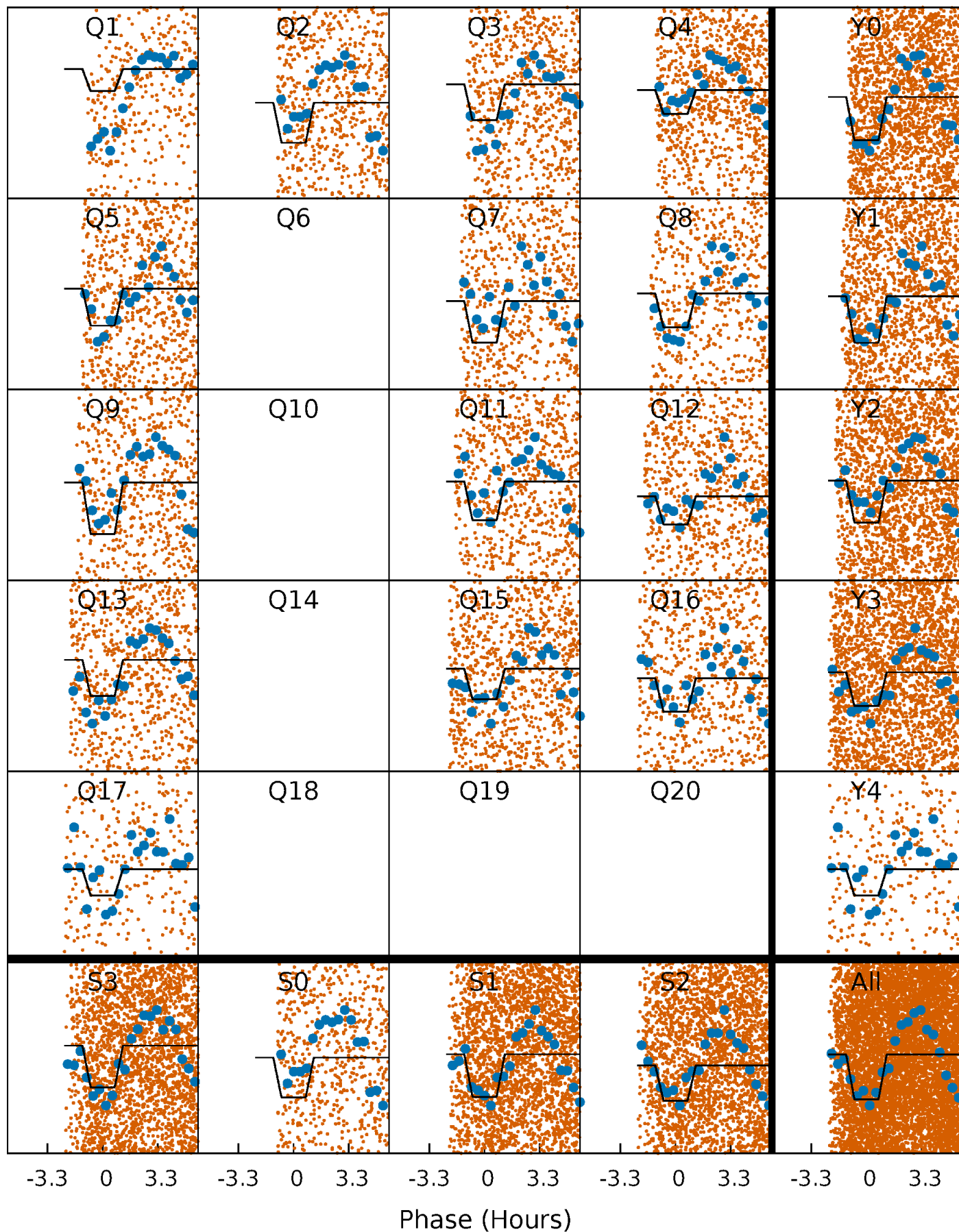
TCE 004079482-03     $P = 0.968552$  Days     $T_0 = 131.896611$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

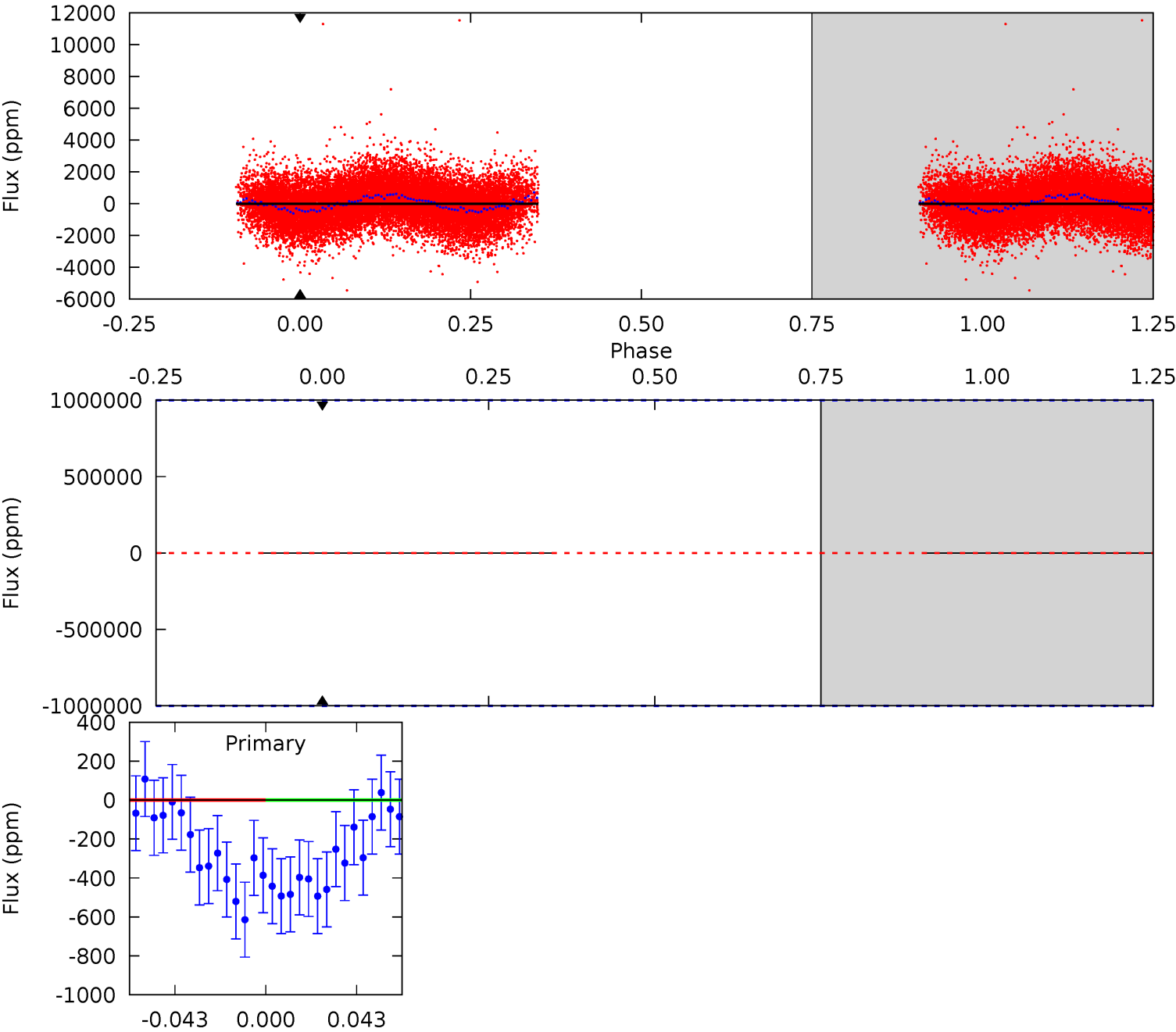
TCE 004079482-03   P= 0.968552 Days    $T_0=131.900640$  (BKJD)



DV Model-Shift Uniqueness Test

004079482-03, P = 0.968552 Days, E = 130.928059 Days

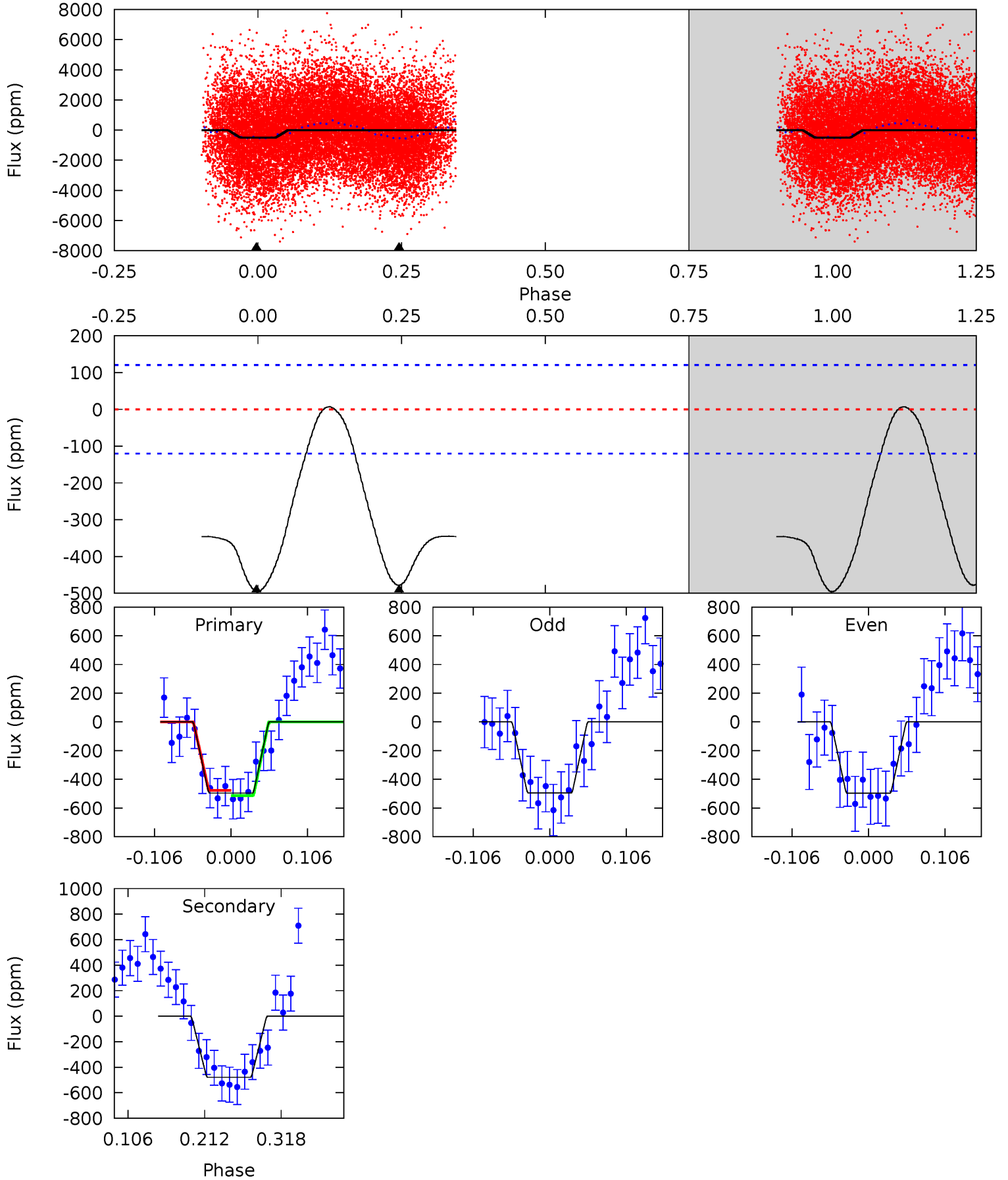
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

004079482-03, P = 0.968552 Days, E = 130.932088 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
18.7	18.1	0	0	4.55	1.62	0.37	18.7	18.7	18.1	18.1	0.02	1.03	0.01	0.68



### Stellar Parameters For KIC 004079482

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8026^{+223}_{-335}$	$4.007^{+0.198}_{-0.132}$	$0.070^{+0.250}_{-0.450}$	$2.282^{+0.437}_{-0.656}$	$1.929^{+0.233}_{-0.378}$	$0.229^{+0.254}_{-0.089}$
	+3%/-4%	+5%/-3%	+357%/-643%	+19%/-29%	+12%/-20%	+111%/-39%
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 004079482-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$18.29^{+20.03}_{-12.39}$	$4770^{+321}_{-342}$	$4696^{+40635}_{-44837}$	$0.808^{+162.442}_{-132.292}$
Alt.	$-478 \pm 26$	$19.34^{+19.83}_{-13.68}$	$4808^{+305}_{-341}$	$3321^{+4145}_{-7182}$	$0.388^{+4.266}_{-0.291}$

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

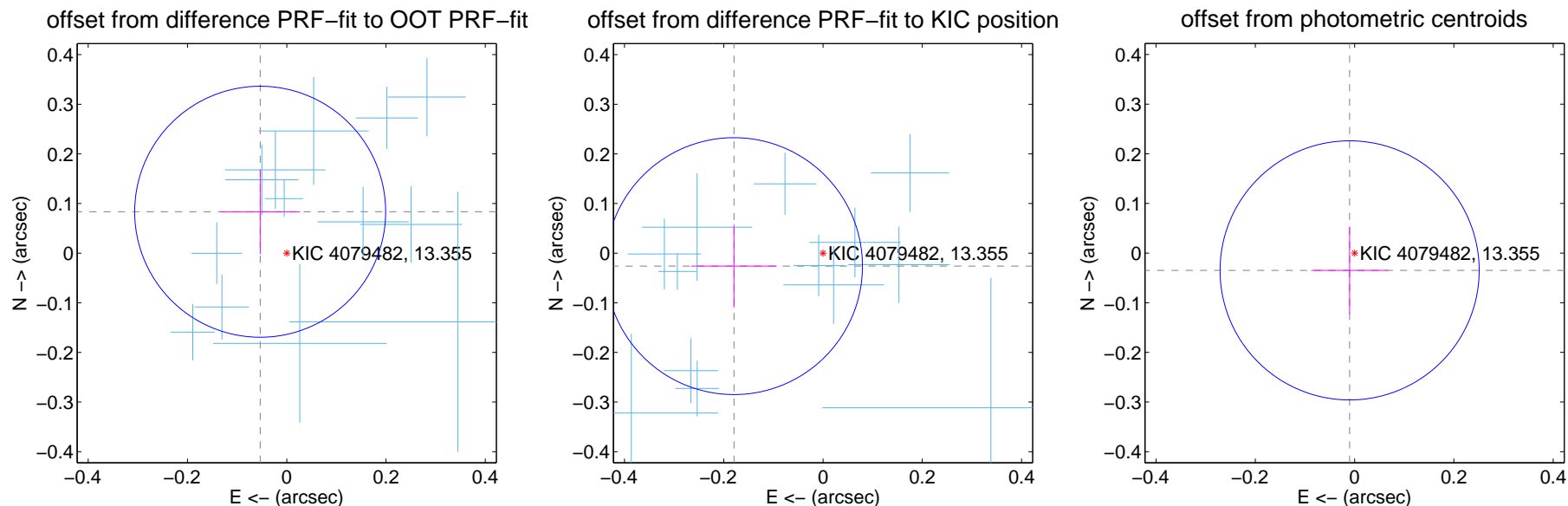
## DV Centroid Data

Supplemental centroid analysis for 004079482-03. Kepler magnitude: 13.36. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

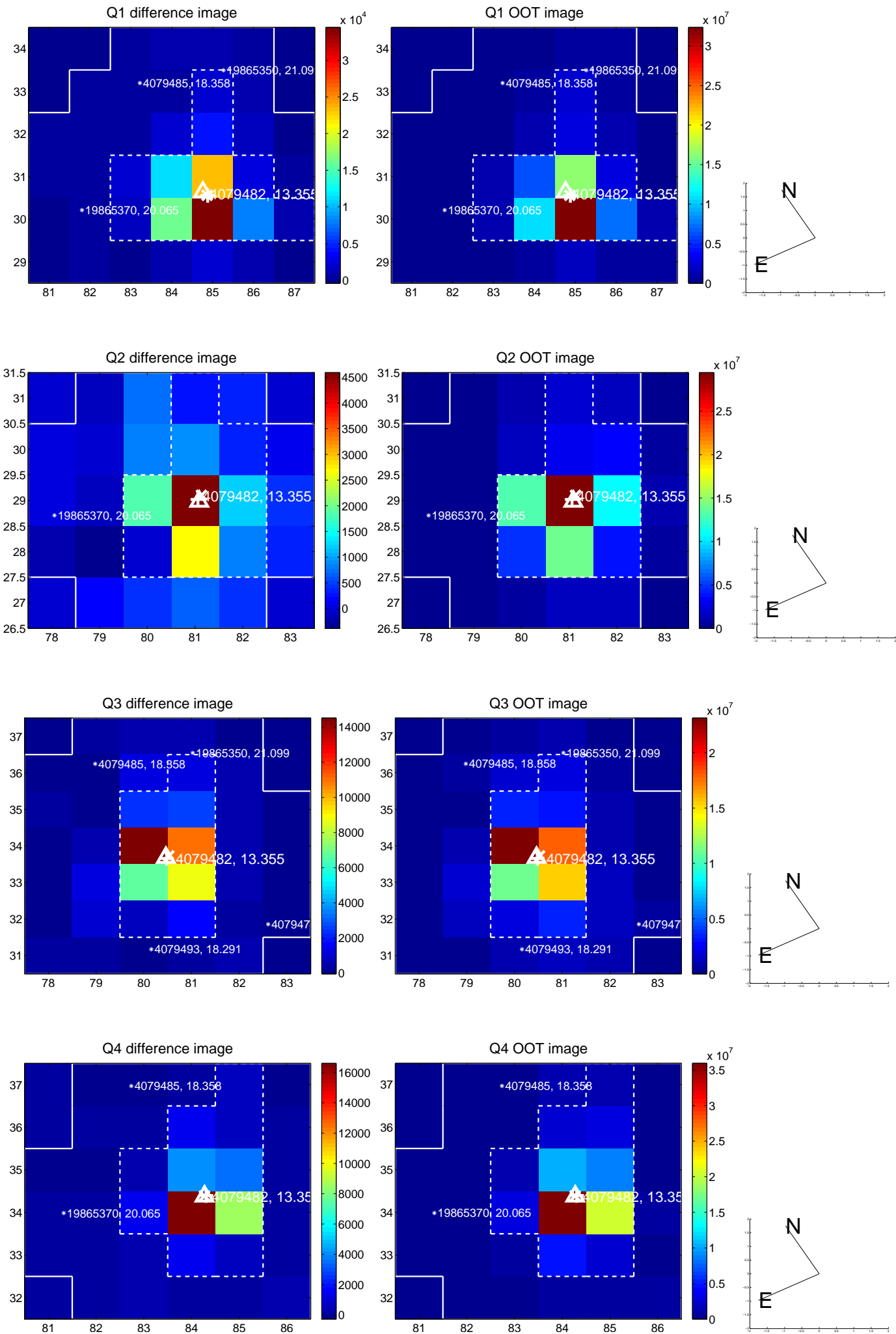
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.099 \pm 0.084$	1.18	$0.054 \pm 0.081$	$0.083 \pm 0.085$
PRF-fit source offset from KIC position	$0.181 \pm 0.086$	2.10	$0.179 \pm 0.086$	$-0.026 \pm 0.084$
photometric centroid source offset	$0.04 \pm 0.09$	0.42	$0.01 \pm 0.08$	$-0.03 \pm 0.09$



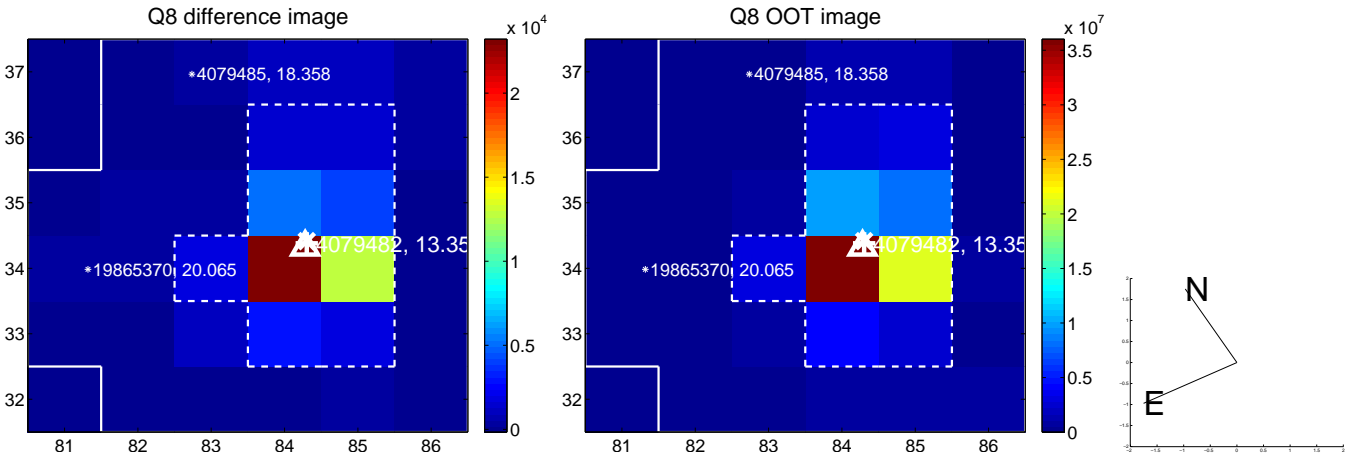
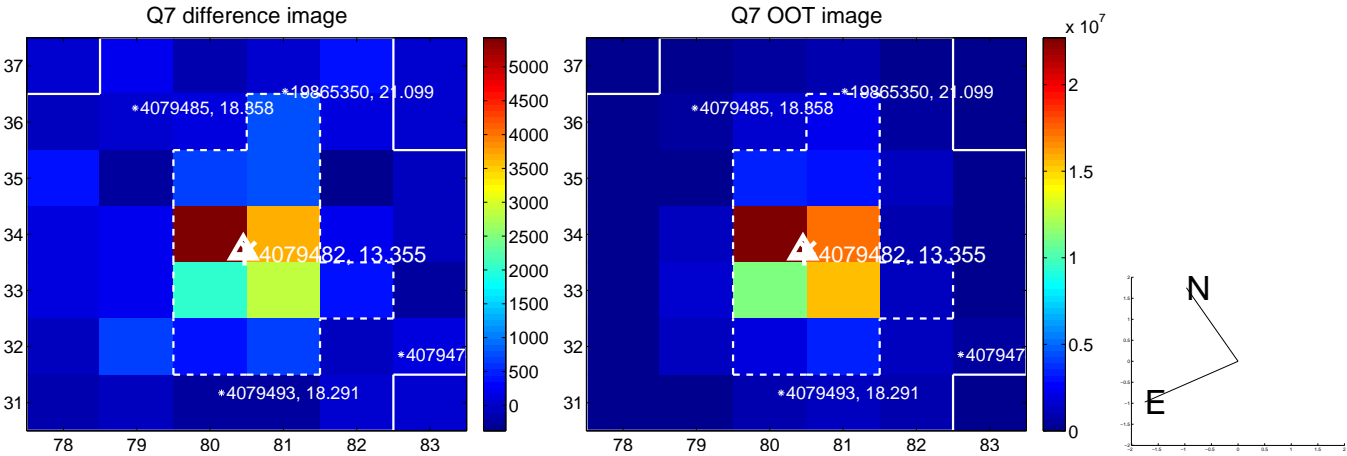
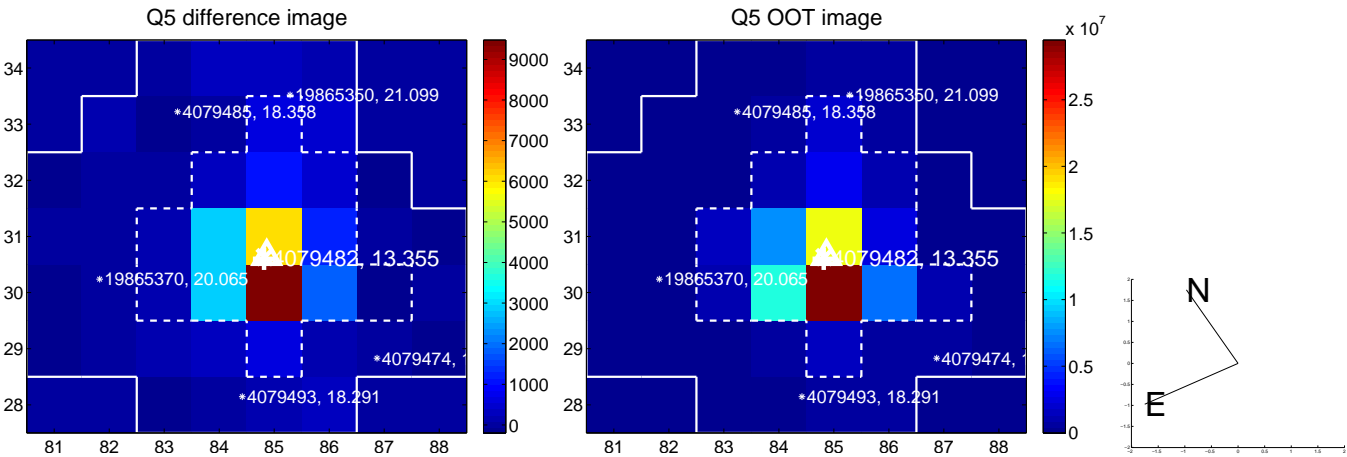
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



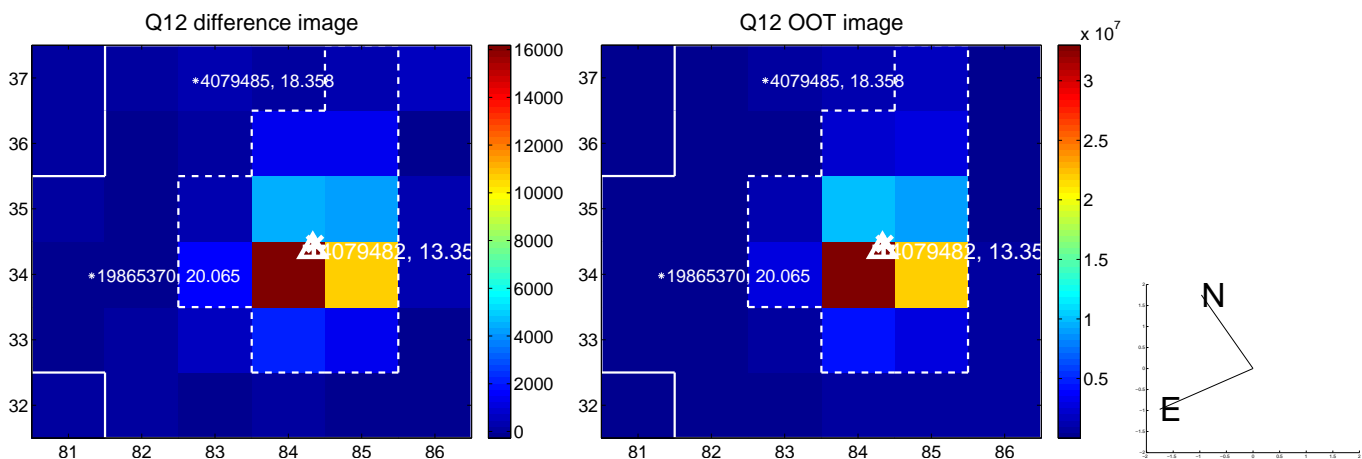
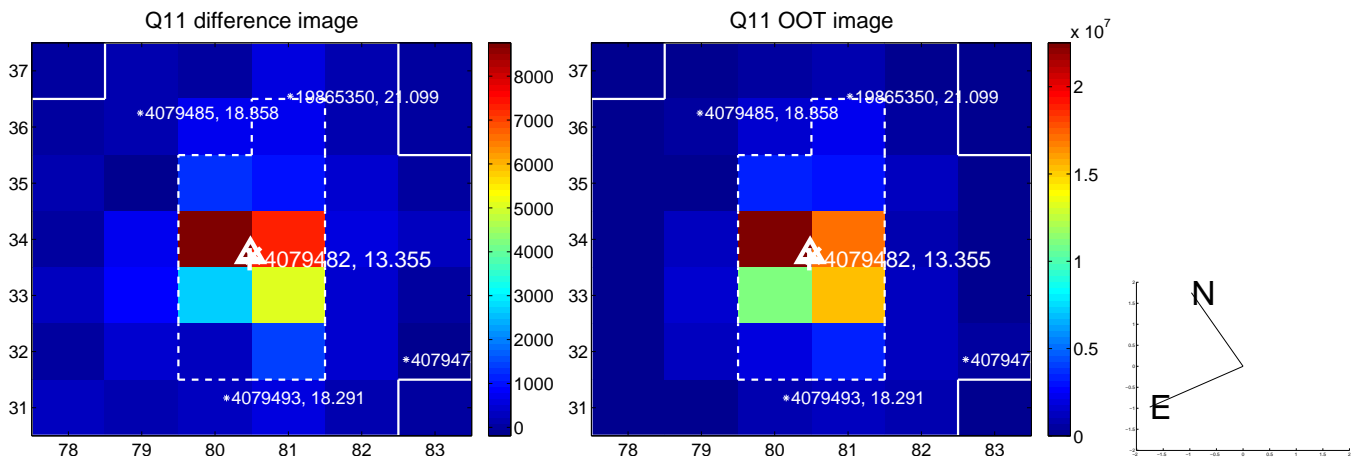
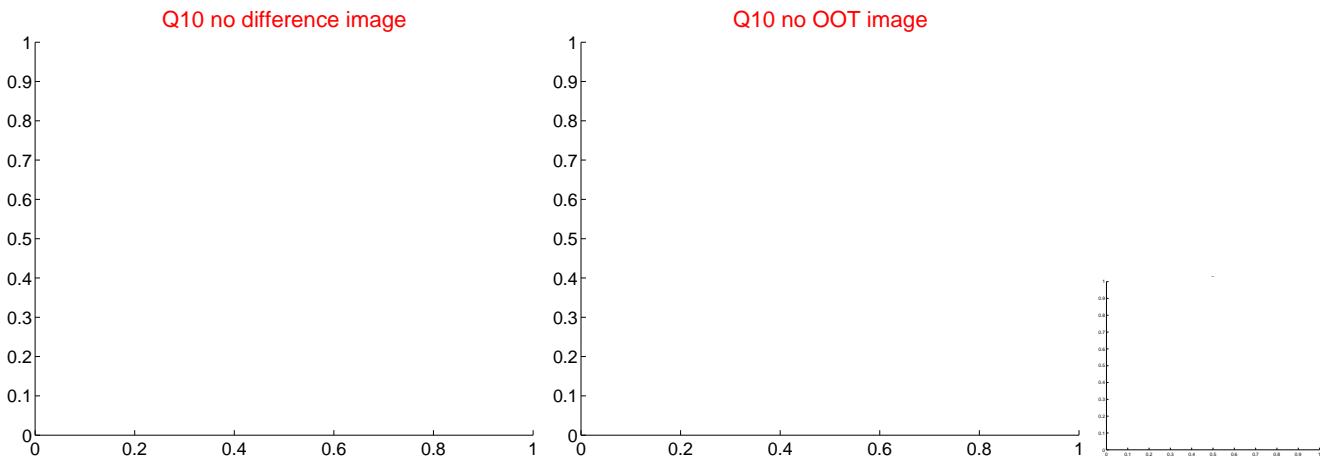
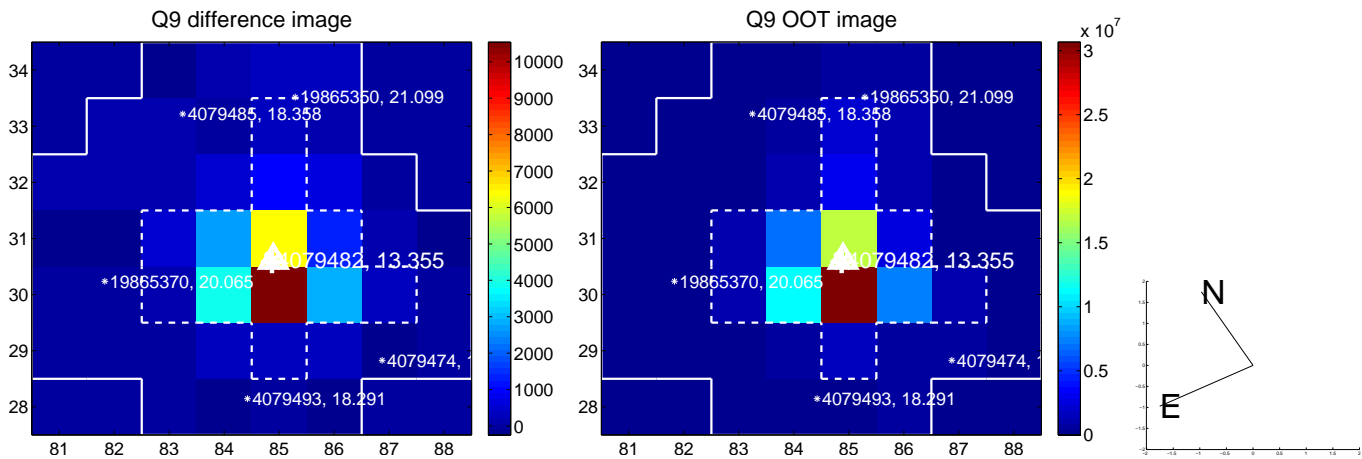
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



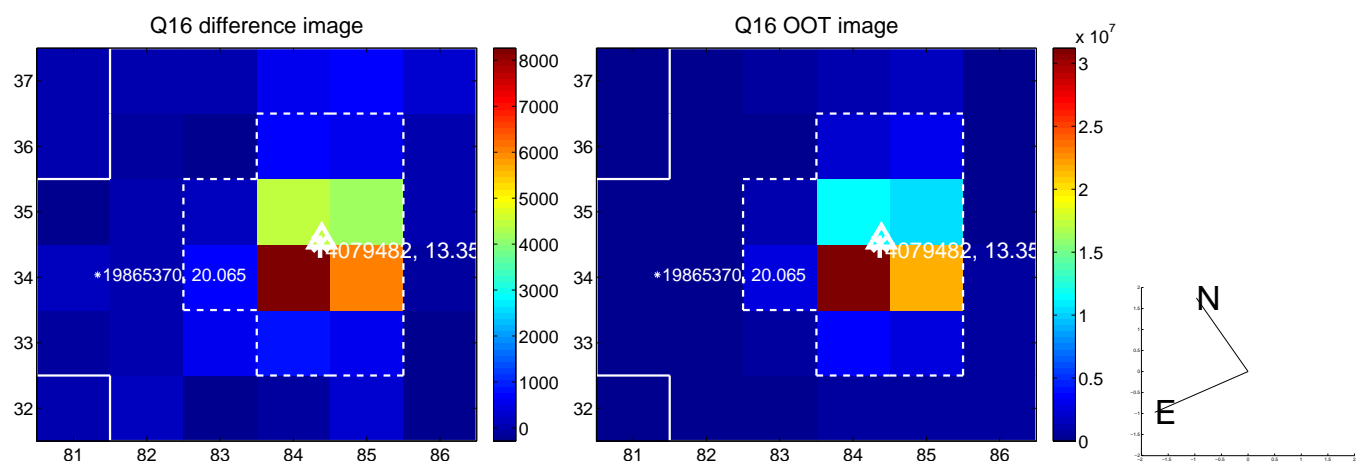
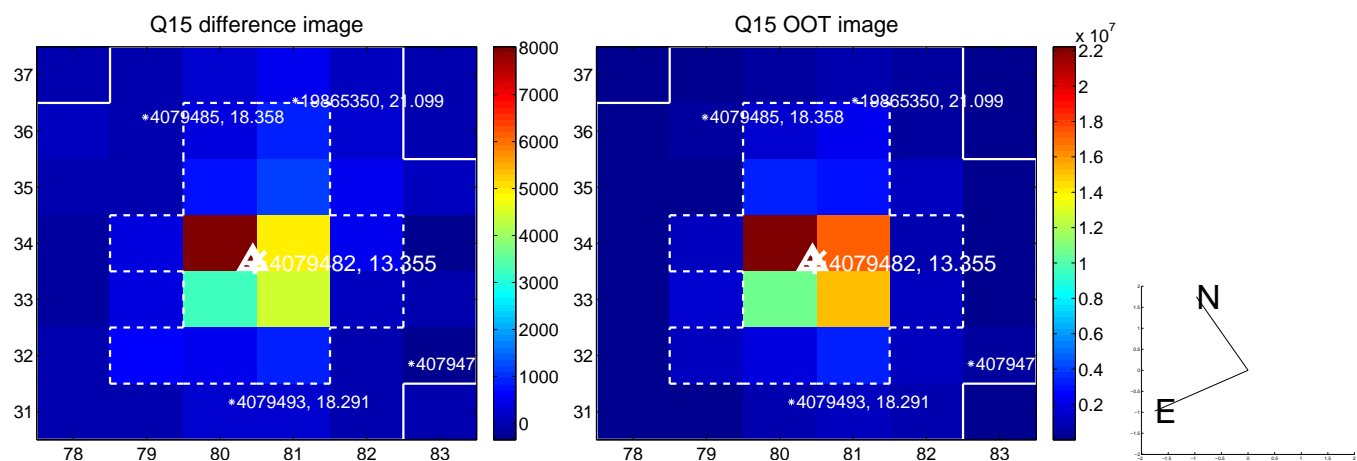
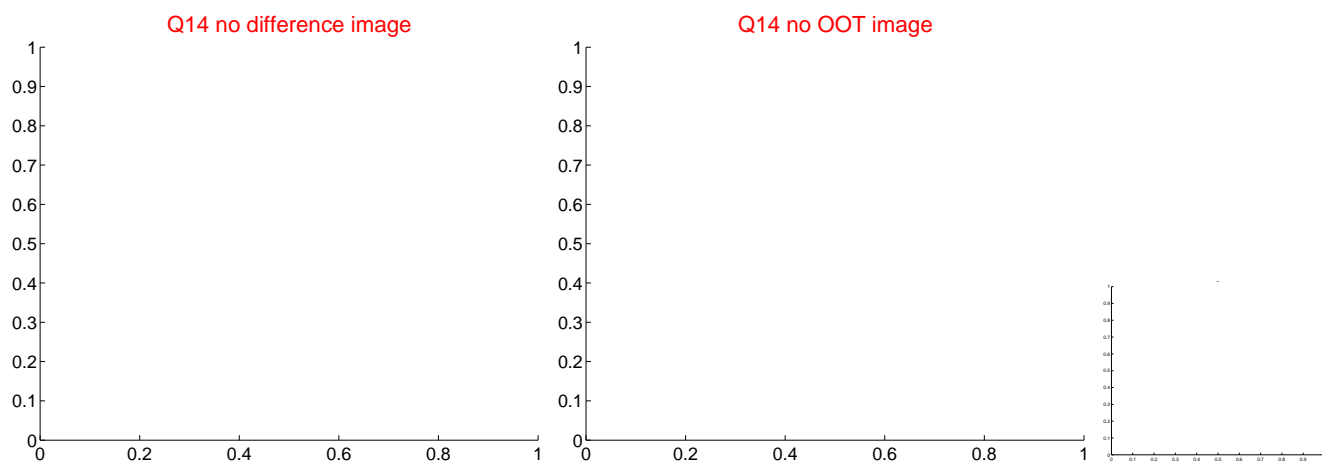
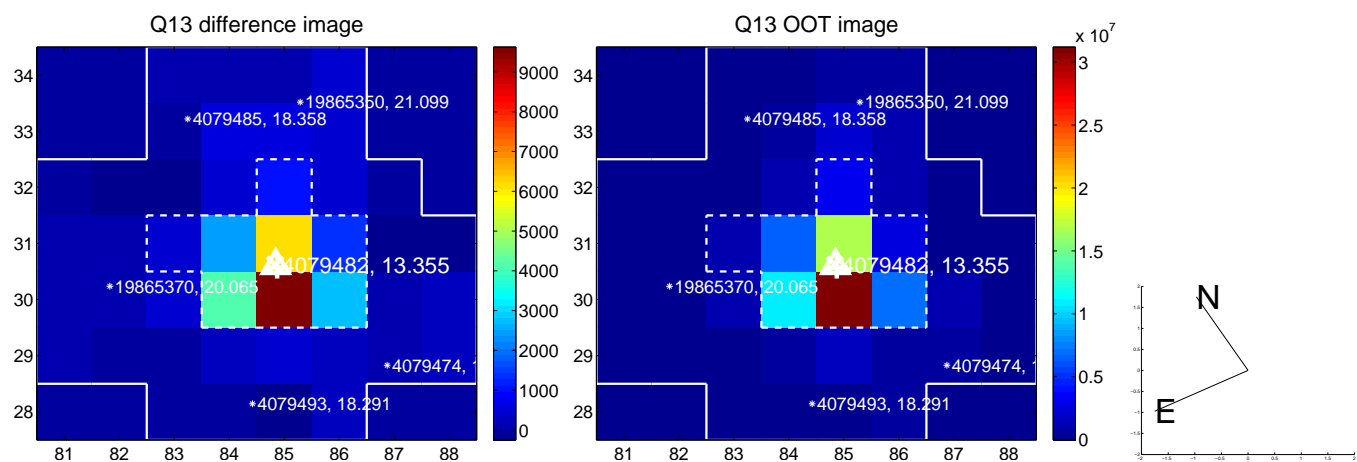
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



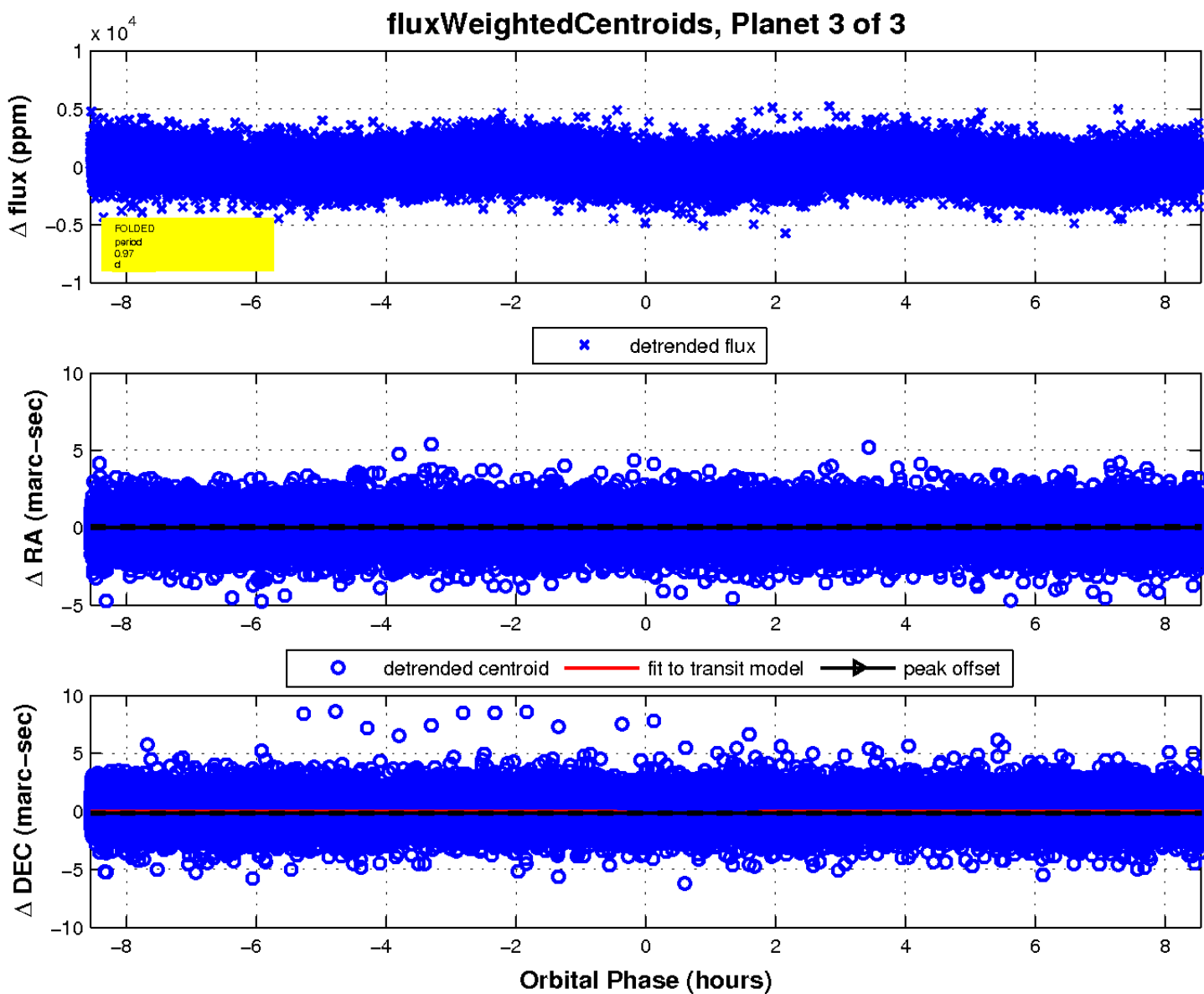
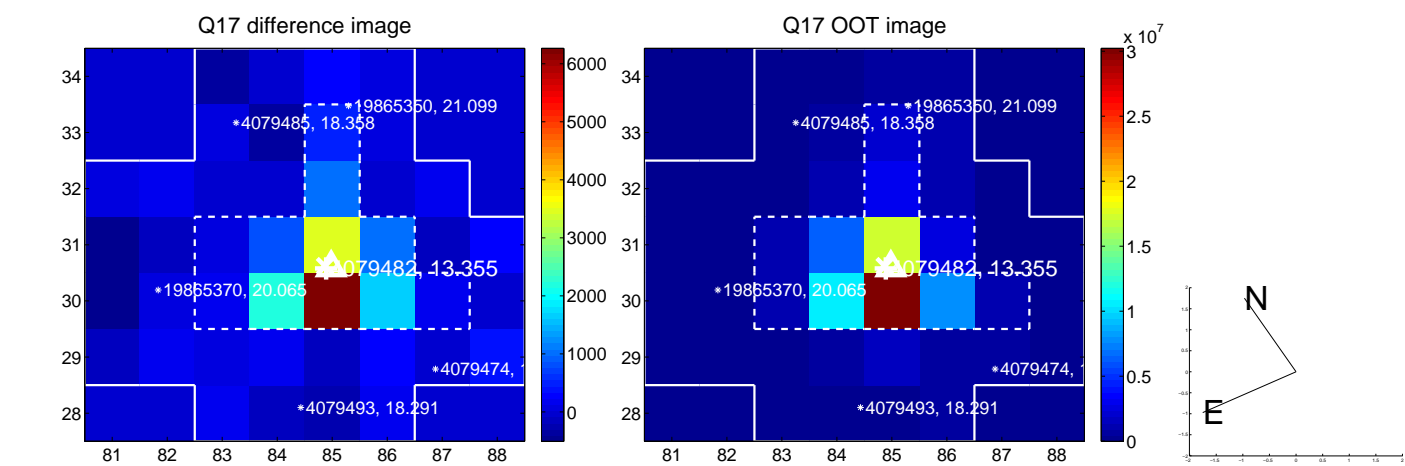
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

