

# KIC 008081482

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008081482-01	OBS	1539.01	2.819457	133.869159	70928.3	4.303	2277.2	1659.6	1.07	5767	29.51	803.79
008081482-02	OBS	No	2.819453	132.456736	1573.9	3.913	59.0	61.1	1.07	5767	5.06	803.79
008081482-03	OBS	No	32.424237	152.429749	2130.6	1.500	12.9	-1.0	1.07	5767	4.94	30.96

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008081482-01	OBS	PC	0.49	0	1	0	0	SWEET_EB—MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT—HAS_SEC_TCE
008081482-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008081482-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—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.

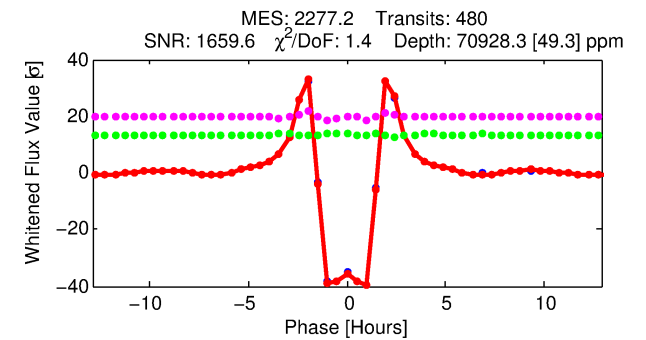
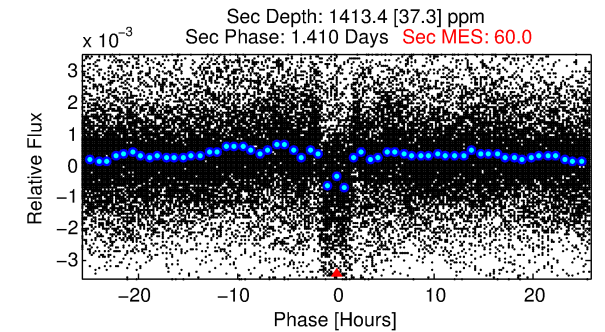
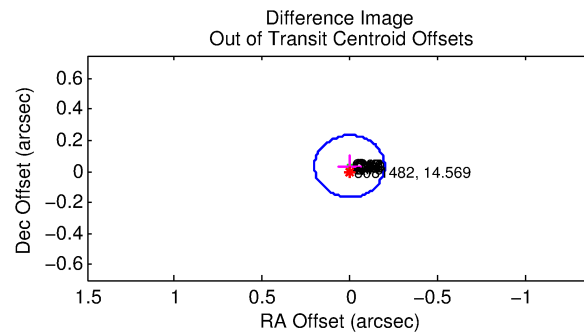
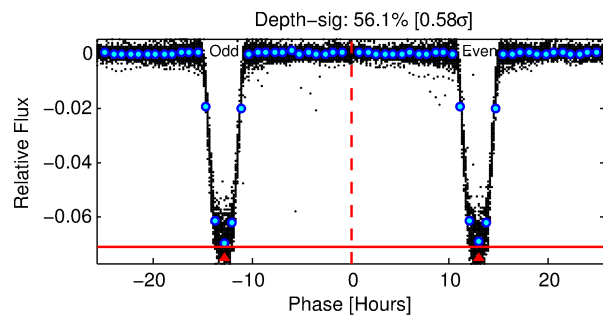
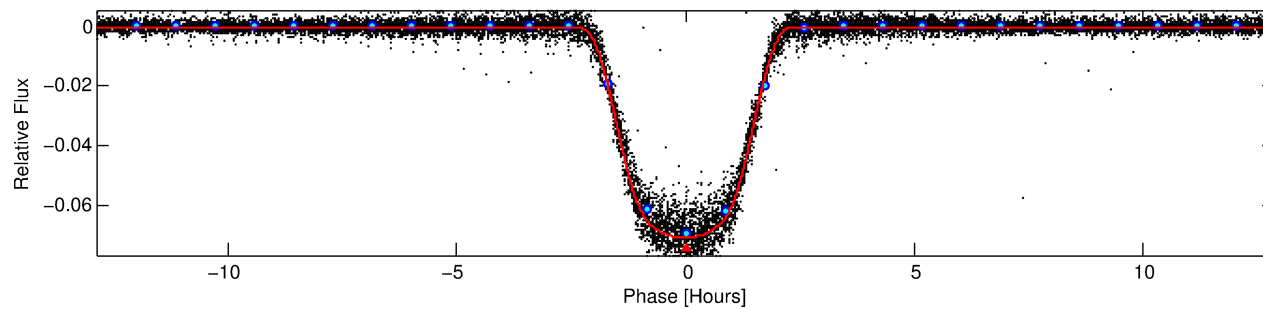
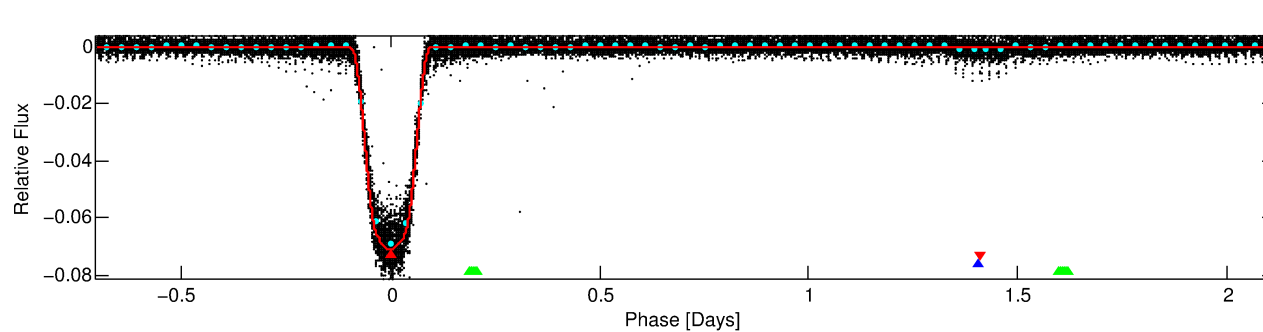
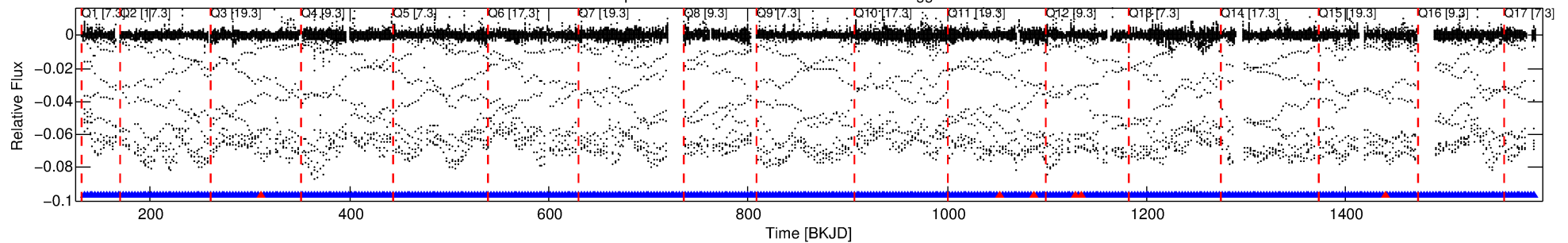
Ephemeris Match Information For 008081482-01

No Significant Match Found

# DV One-Page Summary

KIC: 8081482 Candidate: 1 of 3 Period: 2.819 d  
KOI: K01539.01 Corr: 0.998

Kp: 14.57 R\*: 1.07 Rs Teff: 5767.0 K Logg: 4.33 Fe/H: -0.160



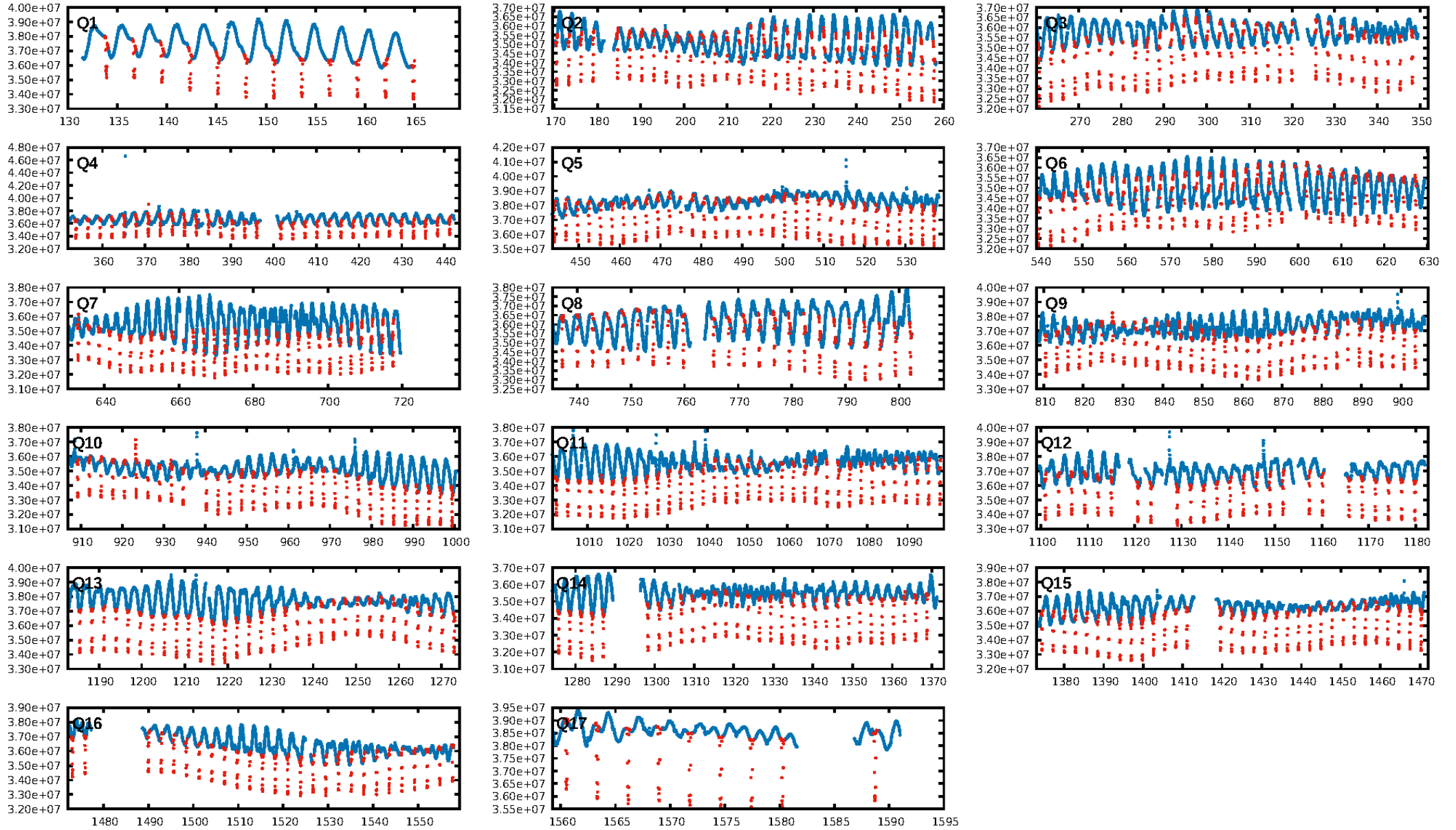
## DV Fit Results:

Period = 2.81946 [0.00000] d  
Epoch = 133.8692 [0.0000] BKJD  
Rp/R\* = 0.2518 [0.0001]  
a/R\* = 5.78 [0.00]  
b = 0.51 [0.00]  
Seff = 803.79 [282.76]  
Teq = 1358 [119] K  
Rp = 29.51 [8.38] Re  
a = 0.0377 [0.0088] AU  
Ag = 1.27 [0.43] [0.63σ]  
Teffp = 2228 [62] K [6.48σ]

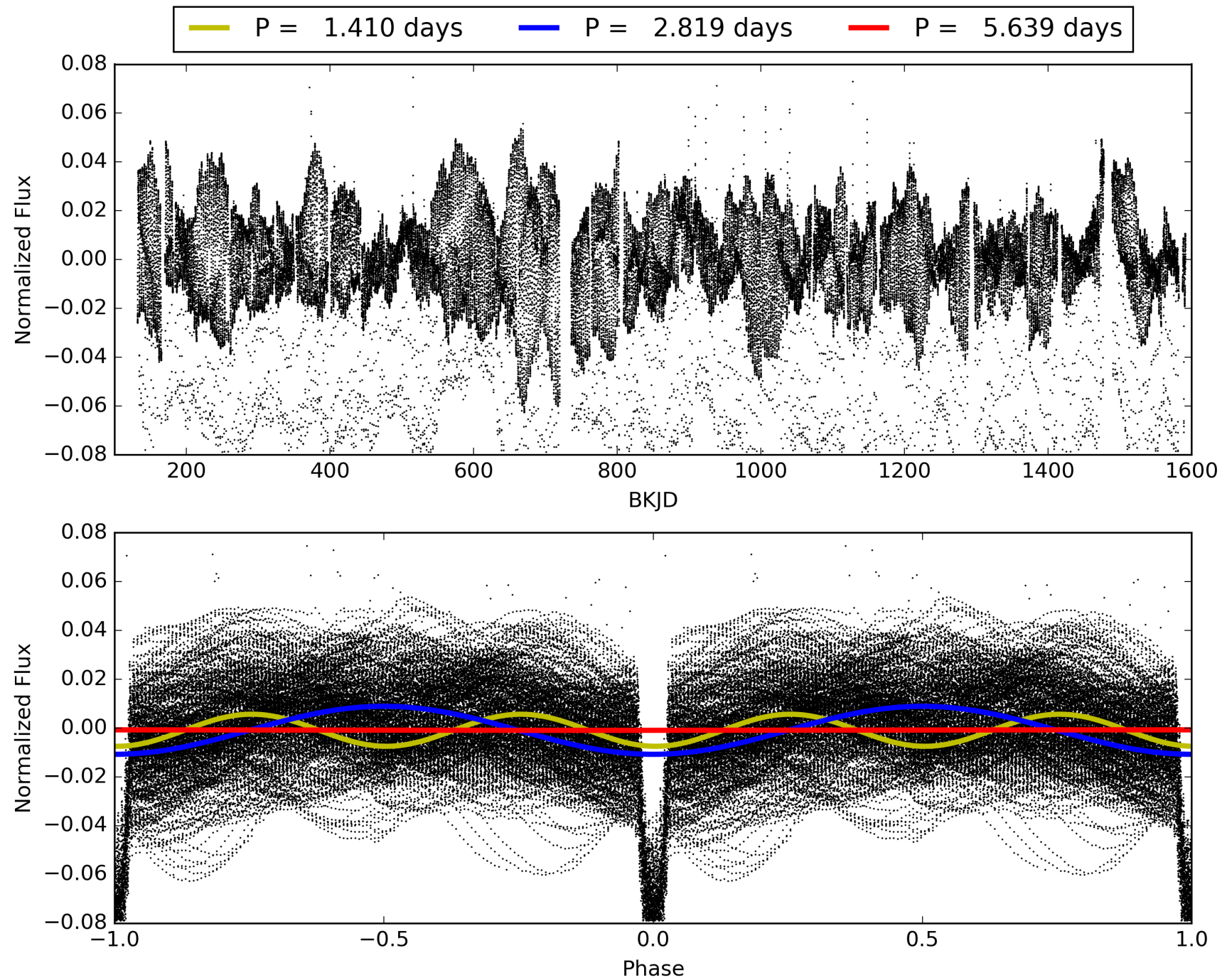
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: 100.0% [155.92σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.99 [453/459]  
GhostDiagnostic-chr: 1.459  
Centroid-sig: 0.0%  
Centroid-so: 0.224 arcsec [163.54σ]  
OotOffset-rm: 0.034 arcsec [0.51σ]  
KicOffset-rm: 0.251 arcsec [3.71σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 008081482-01, PDC Light Curves

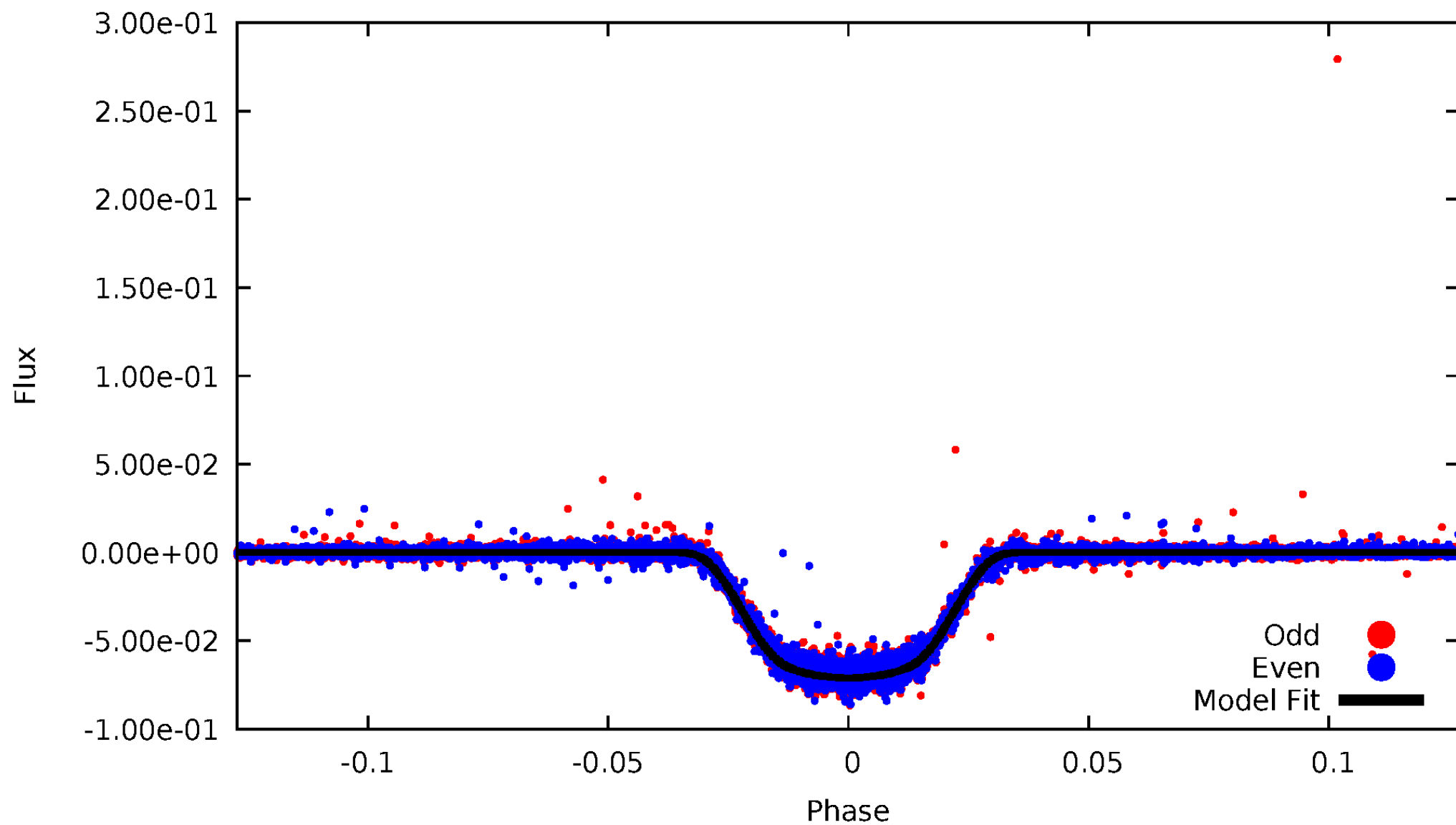


TCE 008081482-01



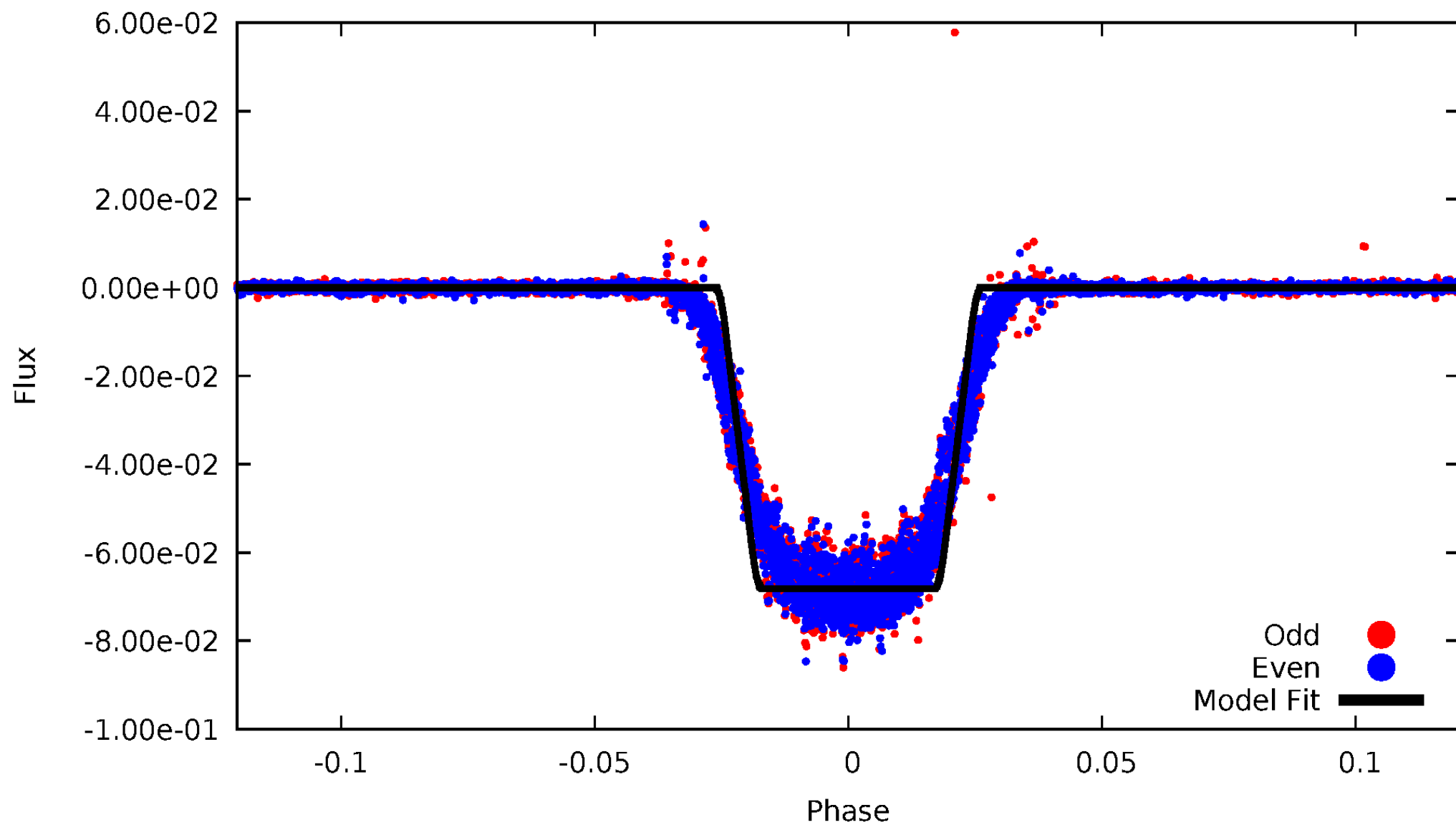
# DV Odd/Even

TCE 008081482-01



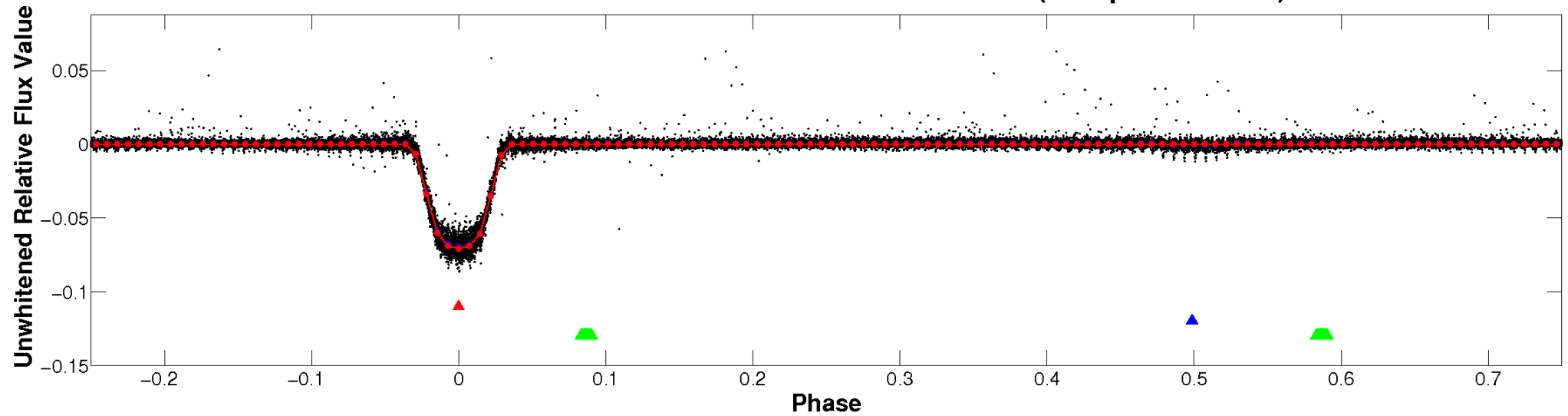
# ALT Odd/Even

TCE 008081482-01

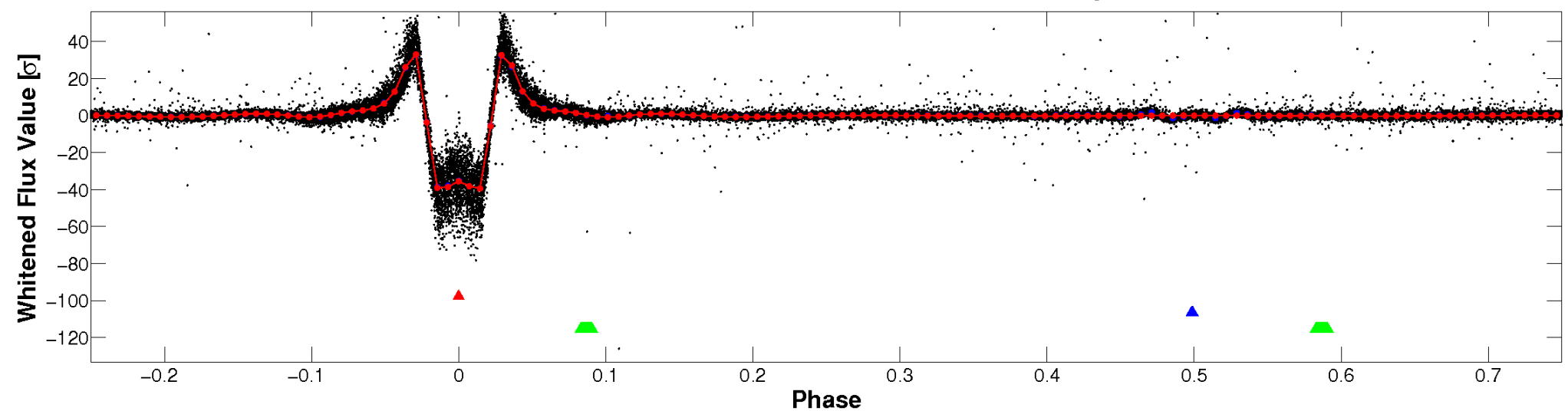


# Non-Whitened Vs. Whitened Light Curve

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



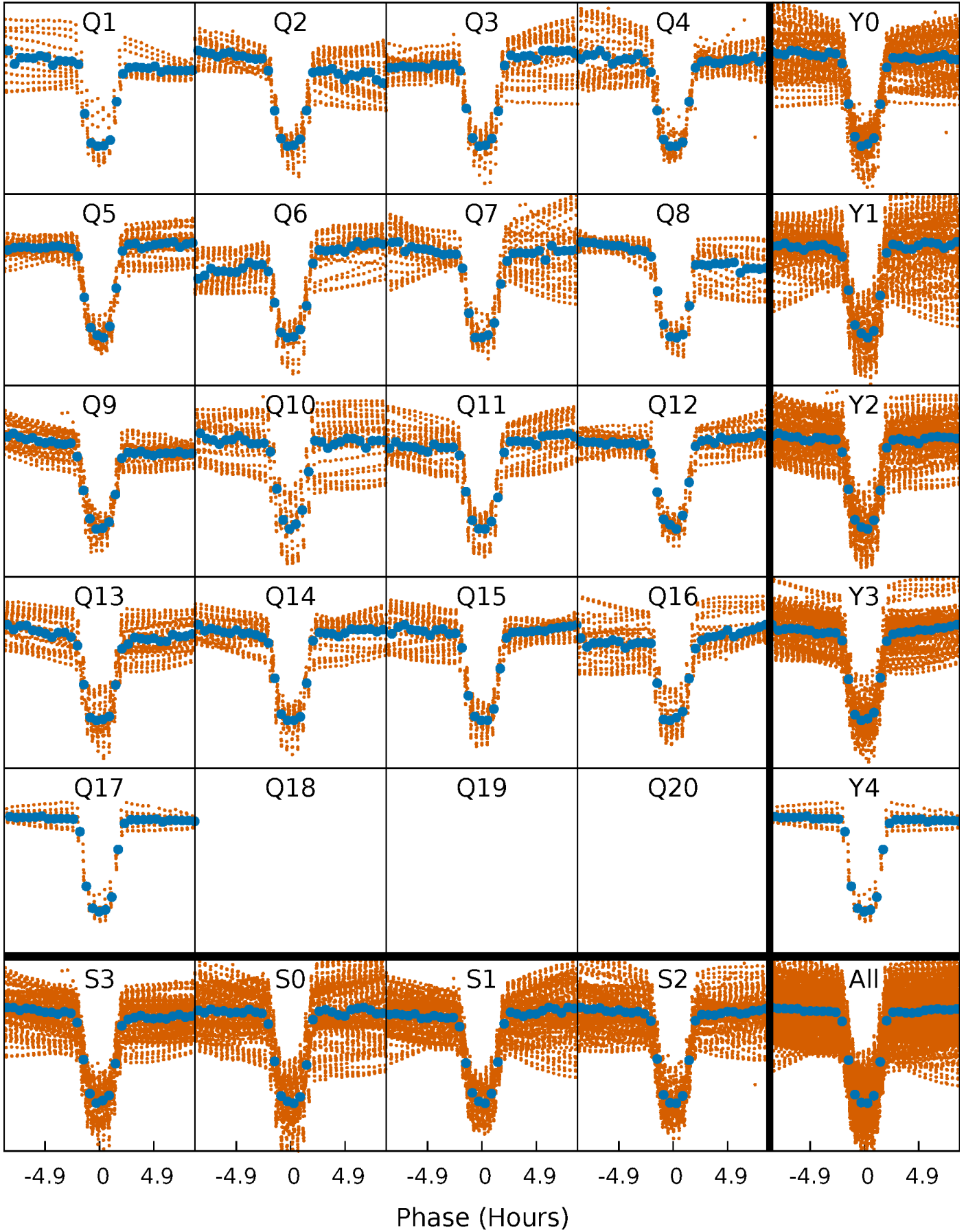
## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

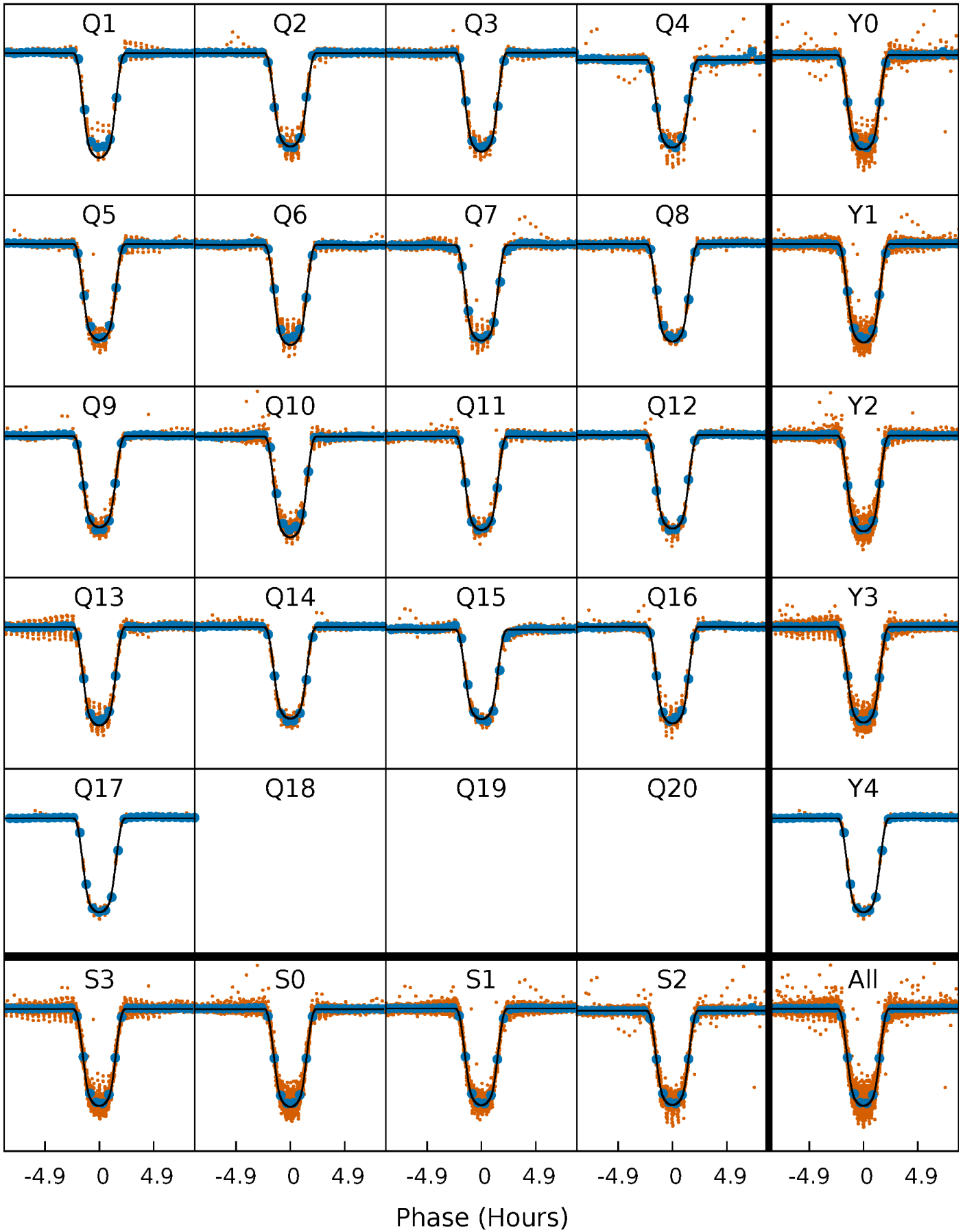
TCE 008081482-01   P= 2.819457 Days    $T_0=133.869159$  (BKJD)





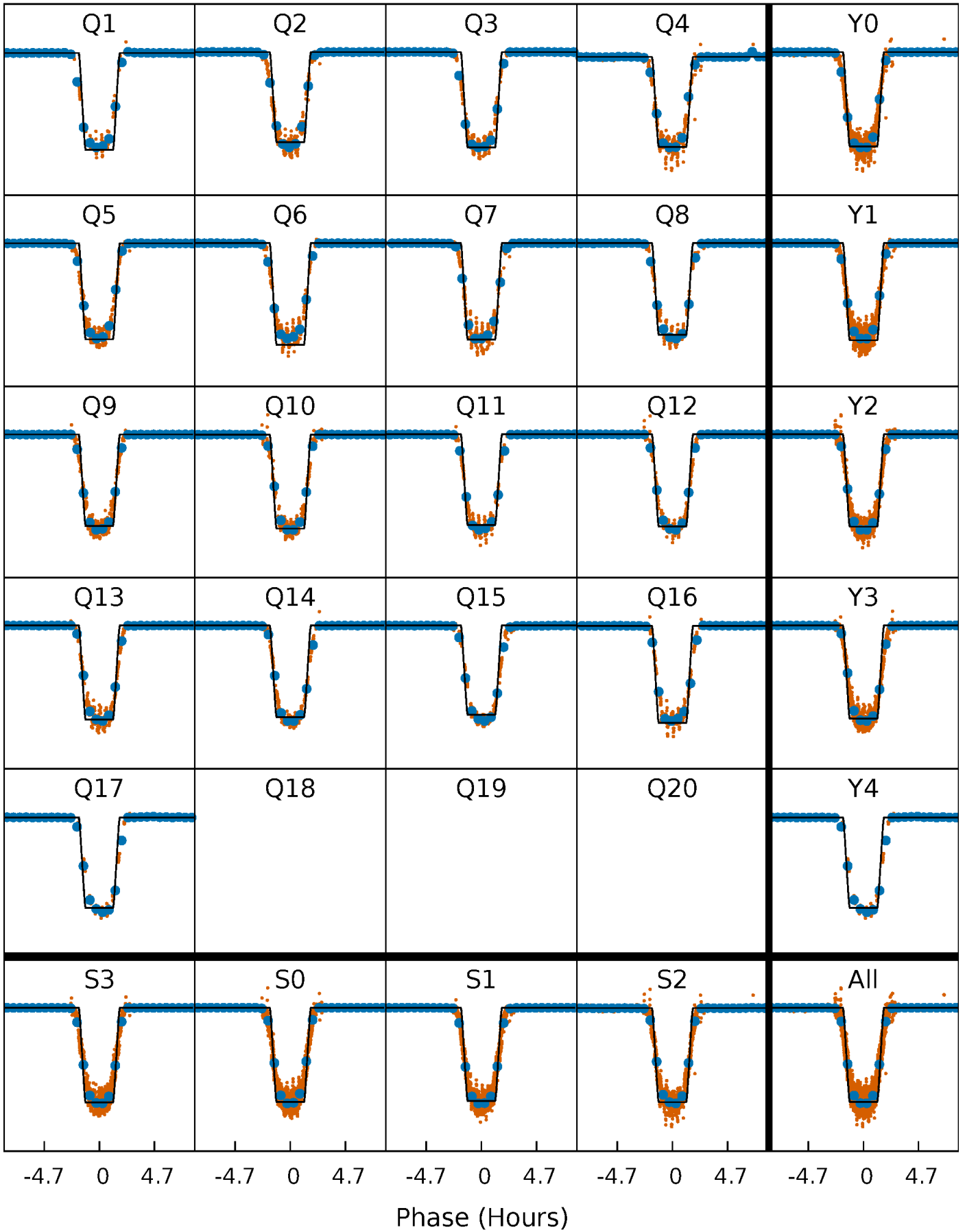
# DV Quarter-Phased Transit Curves

TCE 008081482-01 P= 2.819457 Days  $T_0=133.869159$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

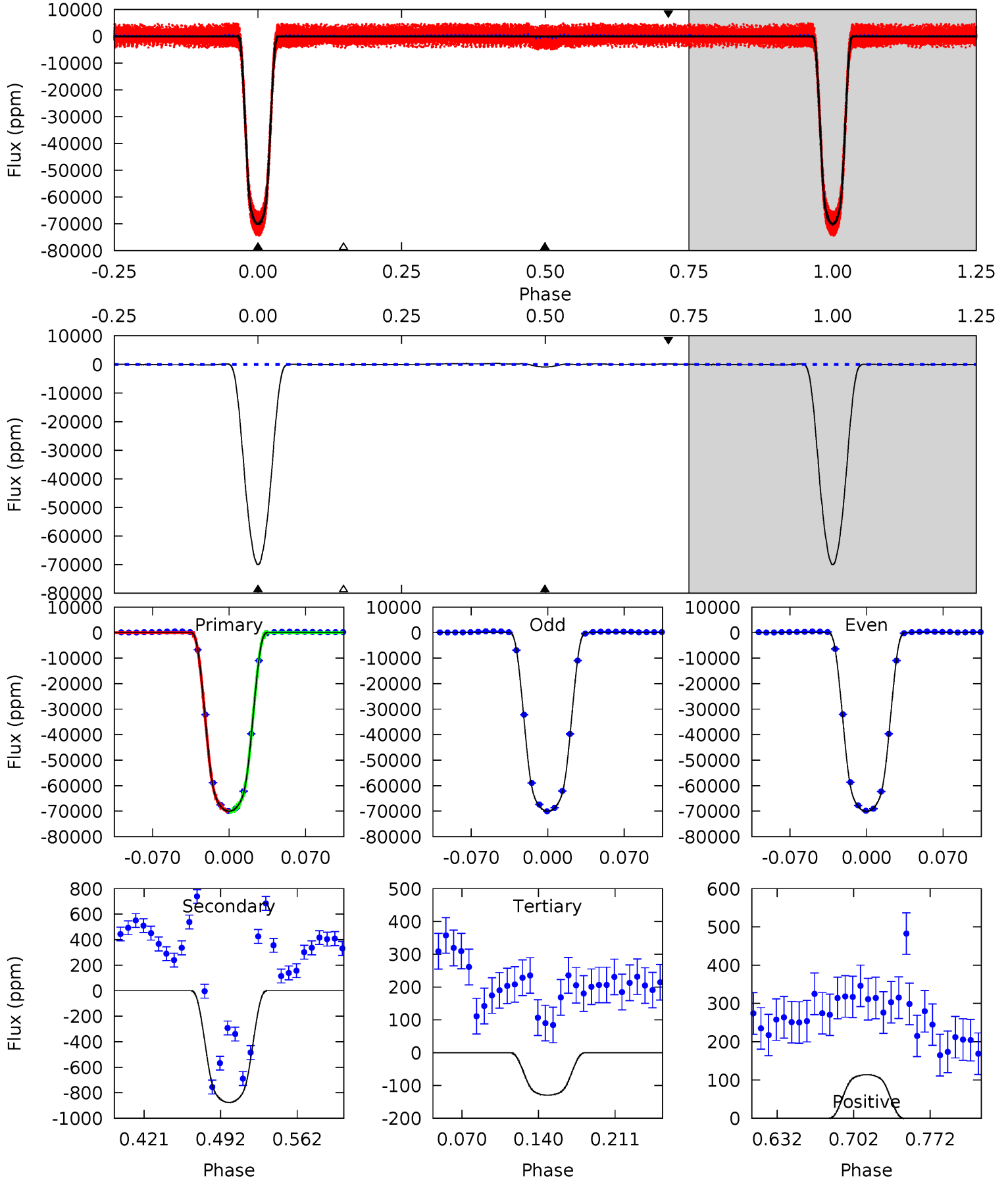
TCE 008081482-01   P= 2.819433 Days    $T_0=133.874862$  (BKJD)



# DV Model-Shift Uniqueness Test

008081482-01, P = 2.819457 Days, E = 131.049702 Days

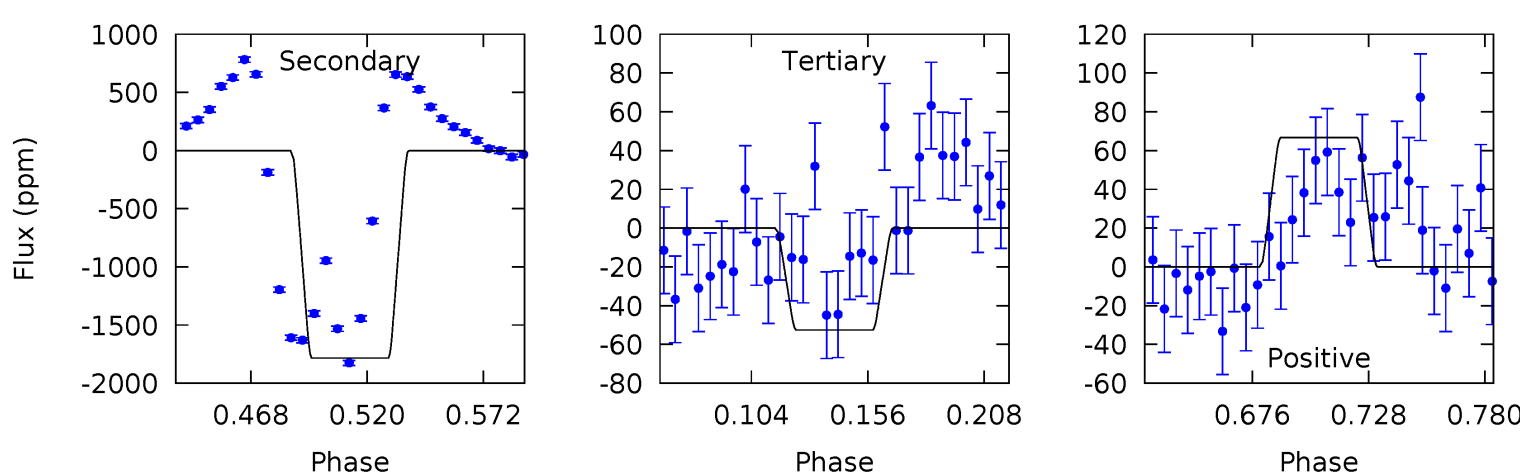
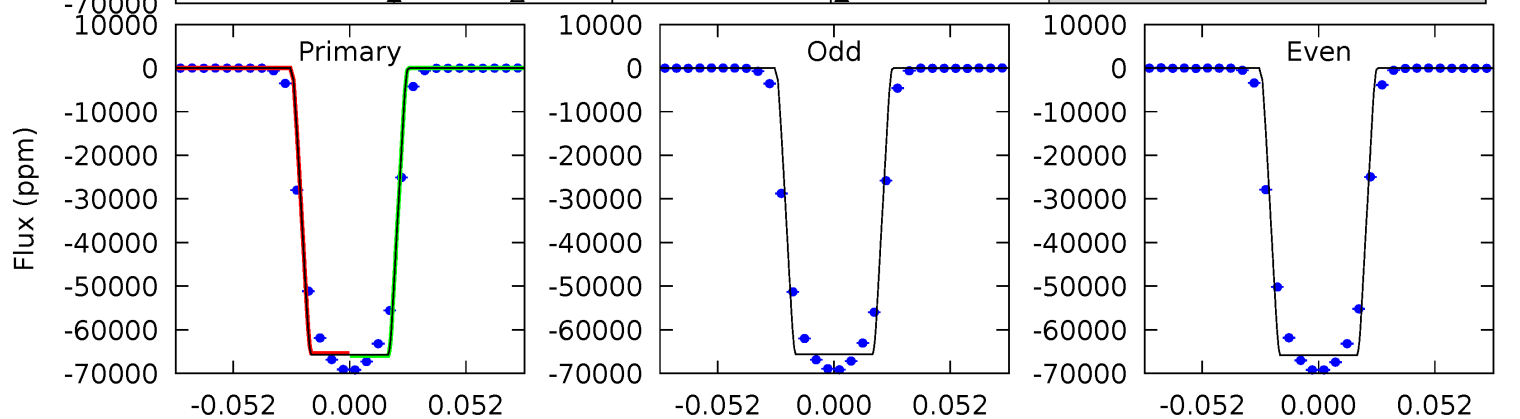
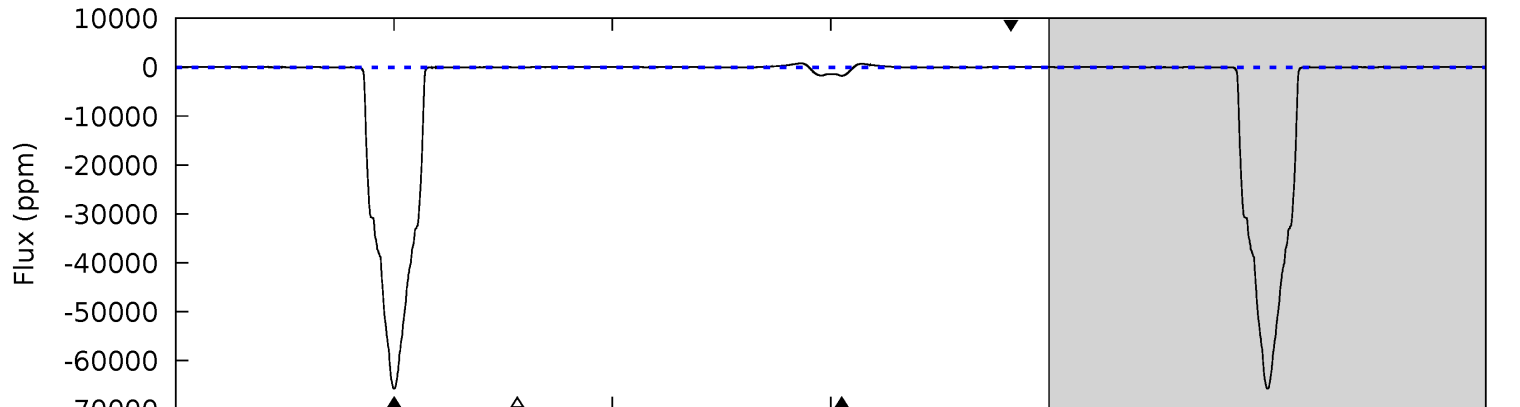
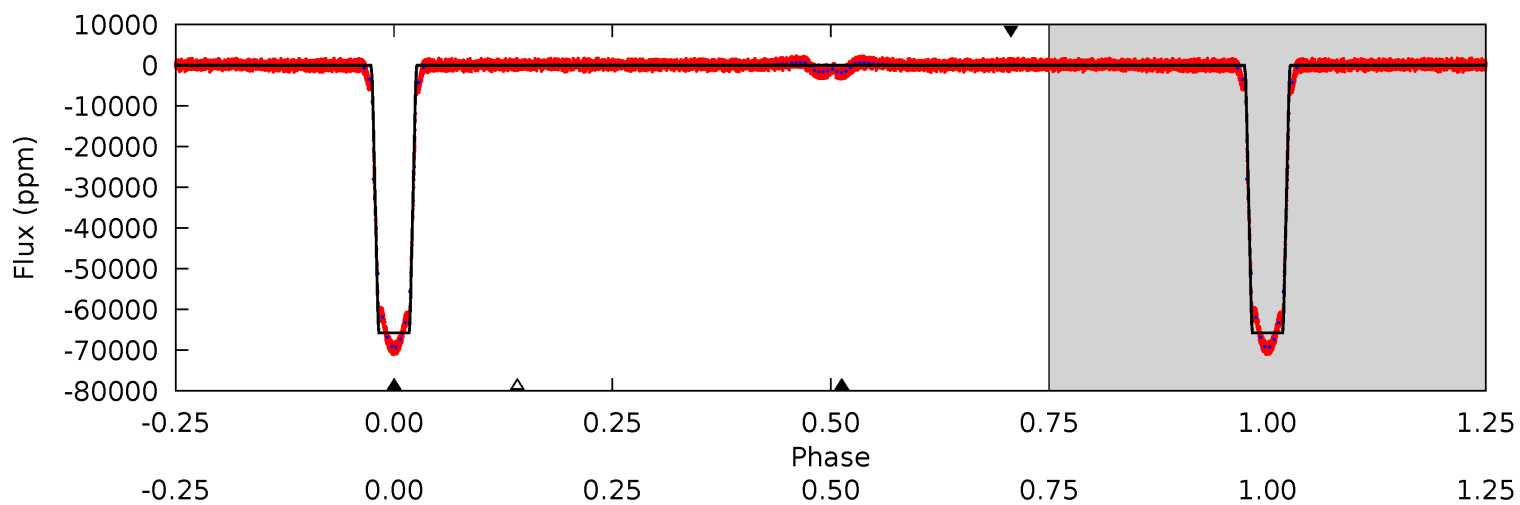
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3264	40.8	6.04	5.31	4.64	1.81	5.77	3258	3258	34.8	35.5	1.68	0.99	0.00	5.45



# Alt Model-Shift Uniqueness Test

008081482-01, P = 2.819433 Days, E = 131.055429 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
4420	119.8	3.53	4.48	4.70	1.94	5.21	4416	4415	116.3	115.4	7.00	1.00	0.01	0



### Stellar Parameters For KIC 008081482

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5767^{+155}_{-155}$	$4.330^{+0.180}_{-0.180}$	$-0.160^{+0.300}_{-0.300}$	$1.074^{+0.305}_{-0.203}$	$0.900^{+0.133}_{-0.082}$	$1.024^{+0.898}_{-0.471}$
	+3%/-3%	+4%/-4%	+188%/-188%	+28%/-19%	+15%/-9%	+88%/-46%
Source	PHO1	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 008081482-01 / KOI 1539.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-876 \pm 21$	$29.40^{+4.56}_{-3.01}$	$1898^{+132}_{-114}$	$2577^{+58}_{-75}$	$0.788^{+0.196}_{-0.184}$
Alt.	$-1783 \pm 15$	$30.45^{+4.71}_{-3.23}$	$1882^{+142}_{-111}$	$2895^{+52}_{-55}$	$1.513^{+0.408}_{-0.336}$

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

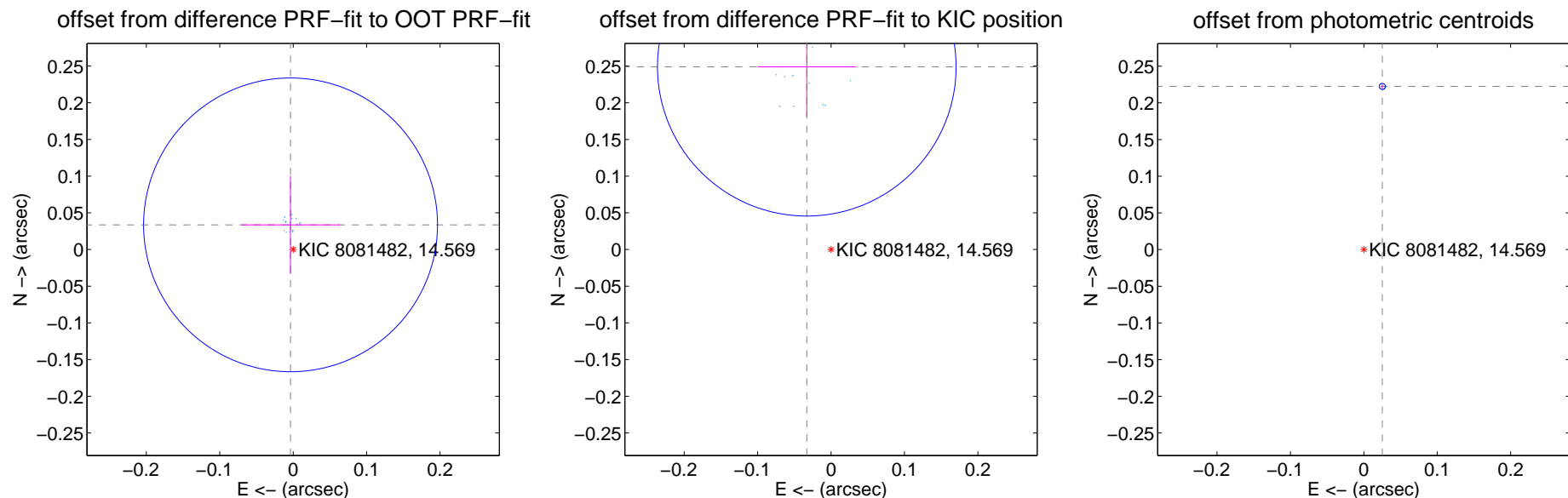
## DV Centroid Data

Supplemental centroid analysis for 008081482-01. Kepler magnitude: 14.57. Transit SNR 1659.58

There are 17 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

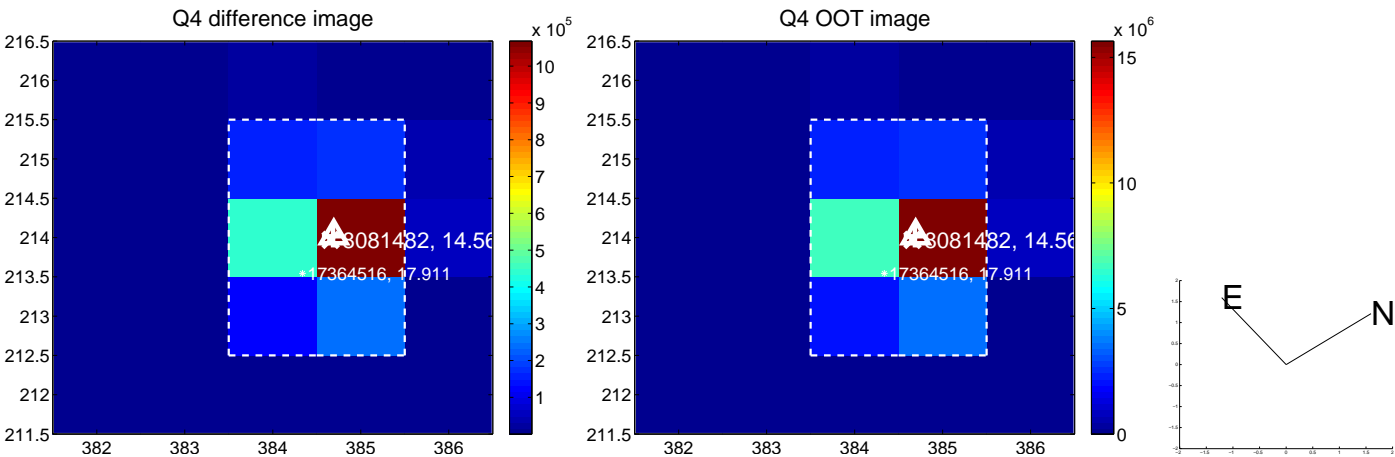
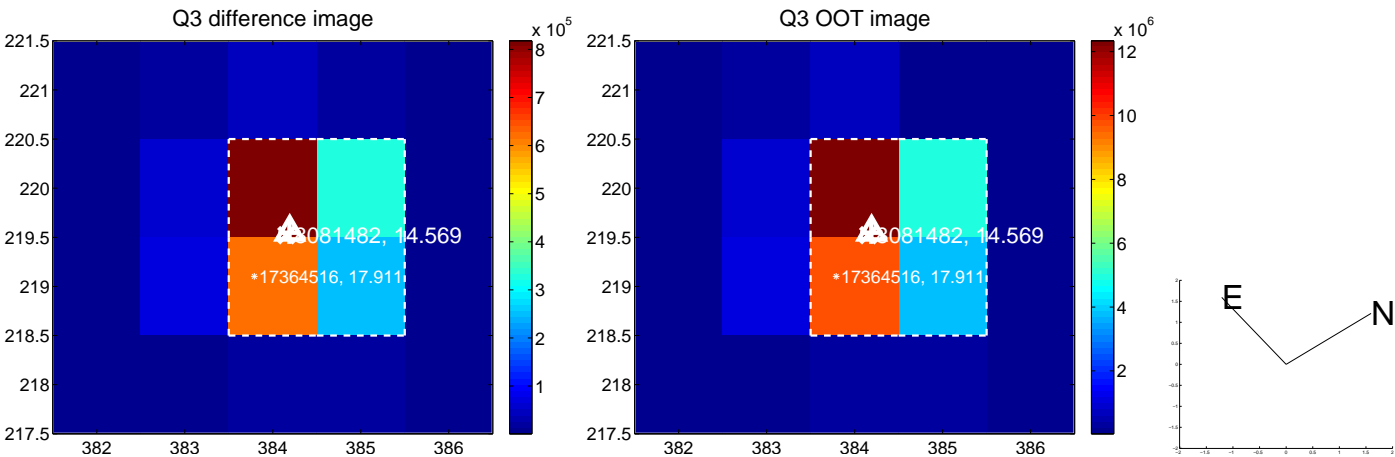
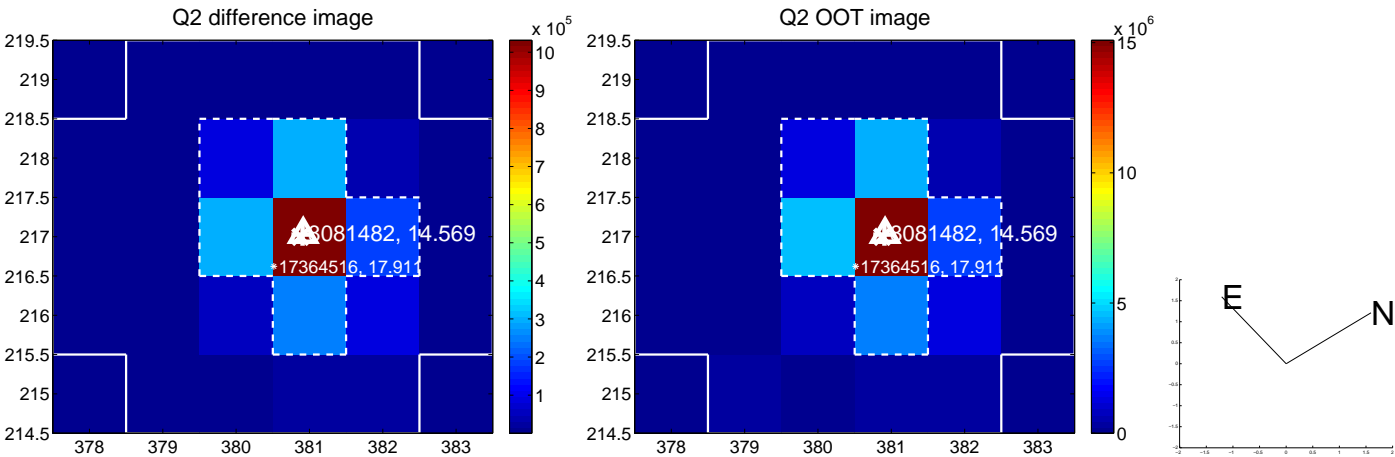
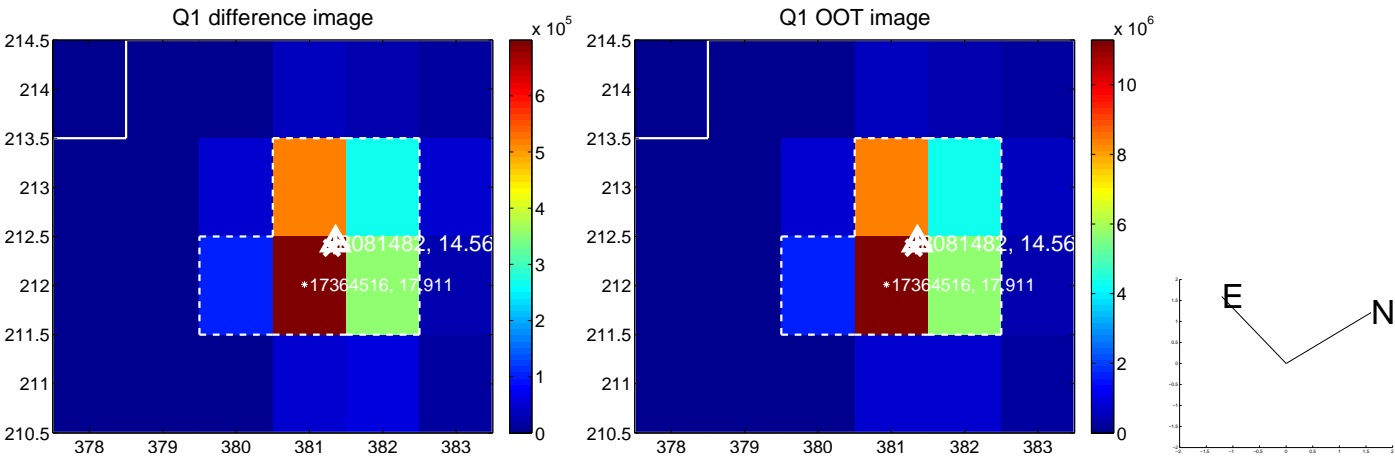
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.034 \pm 0.067$	0.51	$0.004 \pm 0.067$	$0.034 \pm 0.067$
PRF-fit source offset from KIC position	$0.251 \pm 0.068$	3.71	$0.033 \pm 0.067$	$0.249 \pm 0.068$
photometric centroid source offset	$0.22 \pm 0.00$	163.54	$-0.03 \pm 0.00$	$0.22 \pm 0.00$



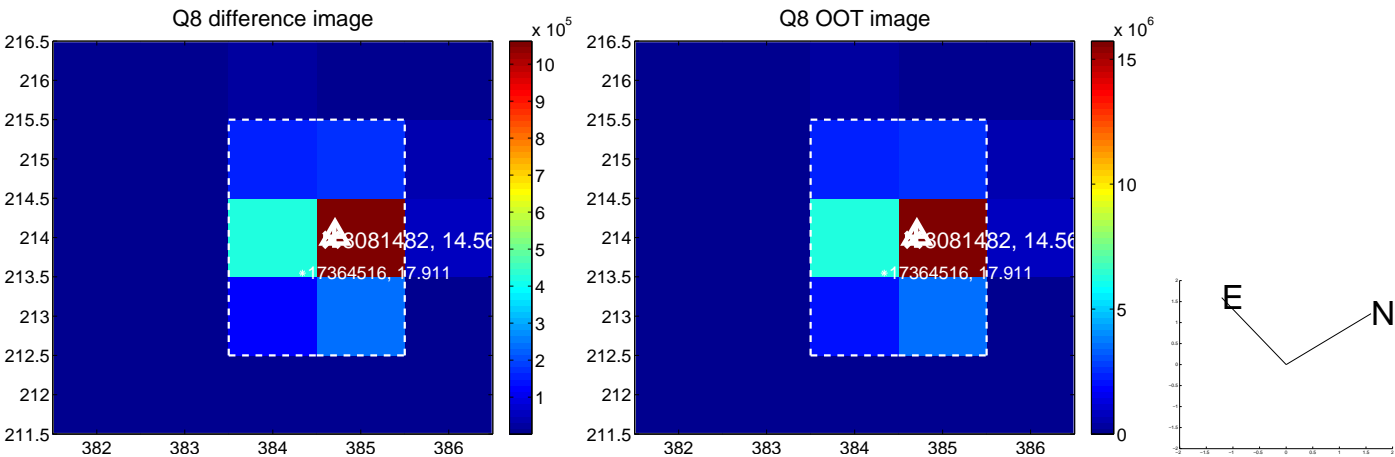
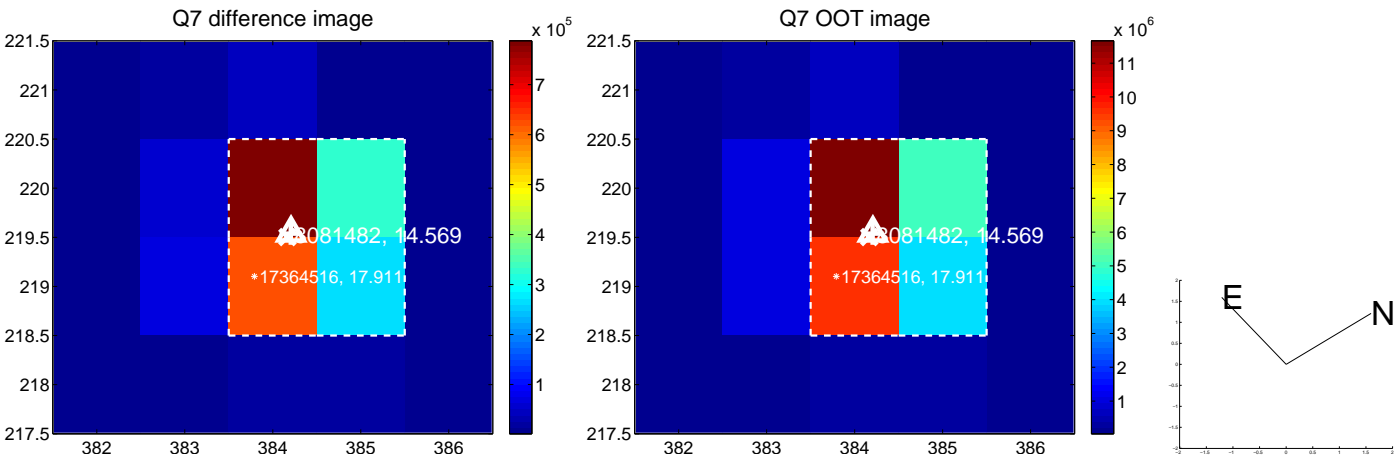
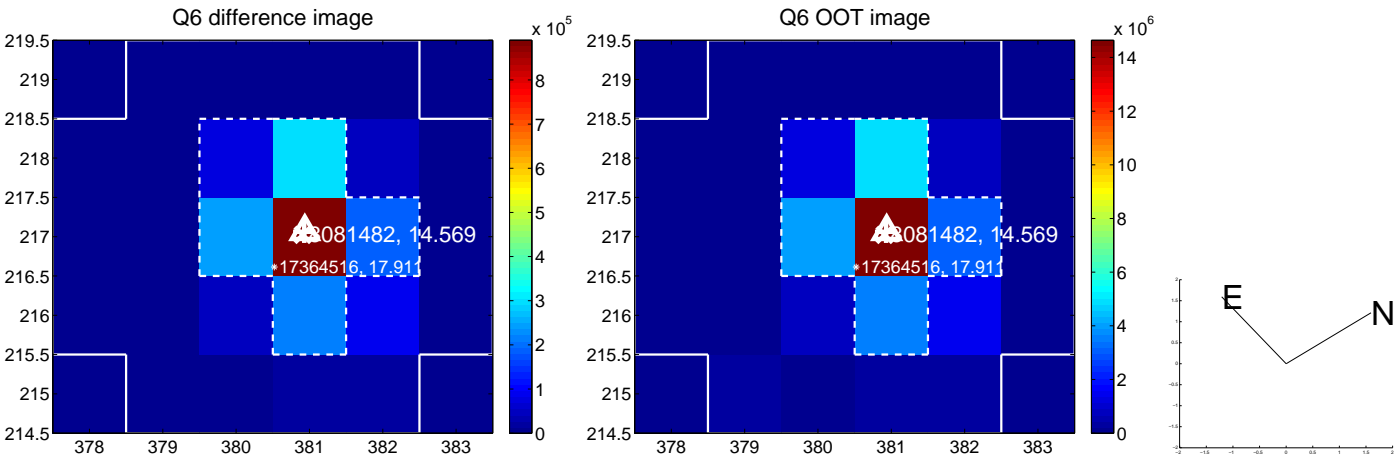
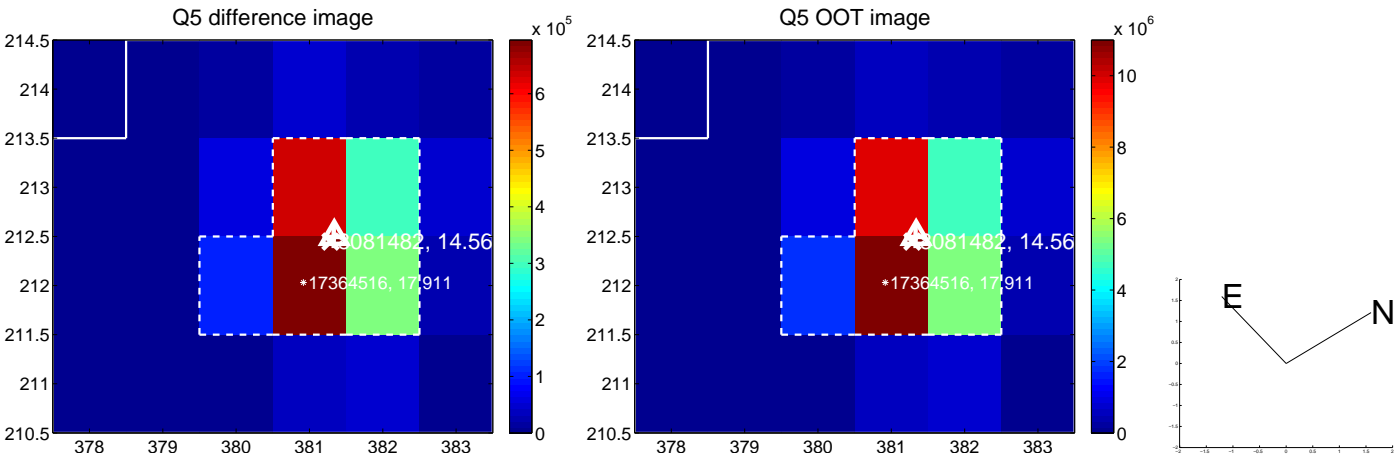
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



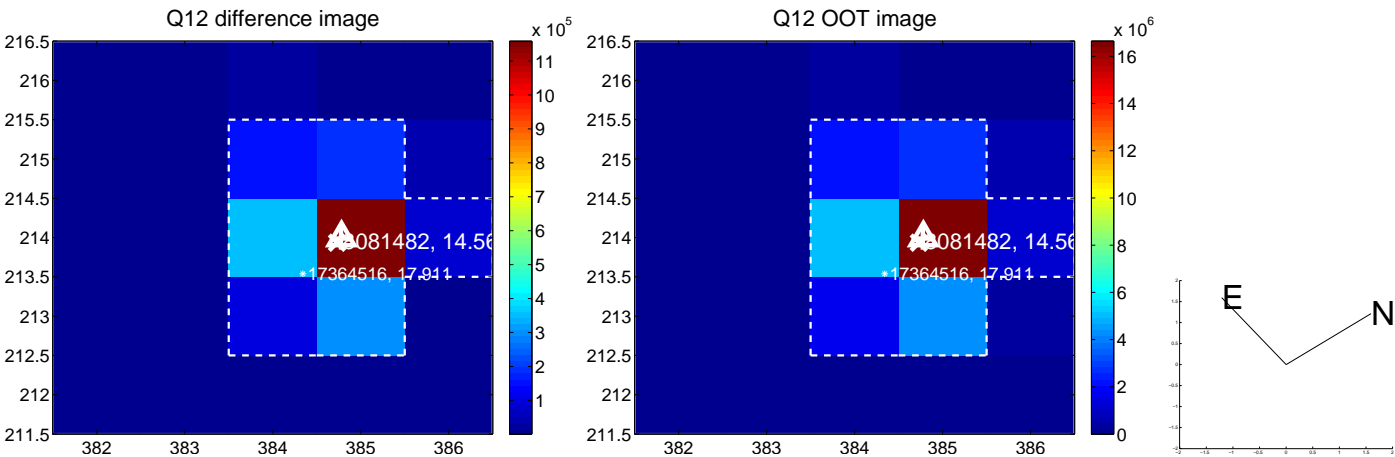
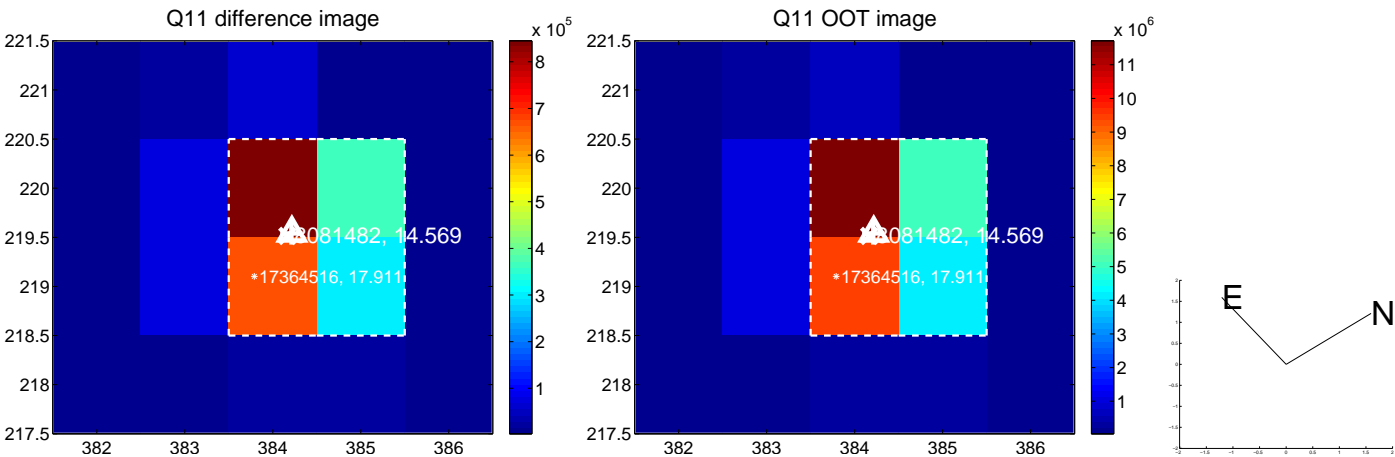
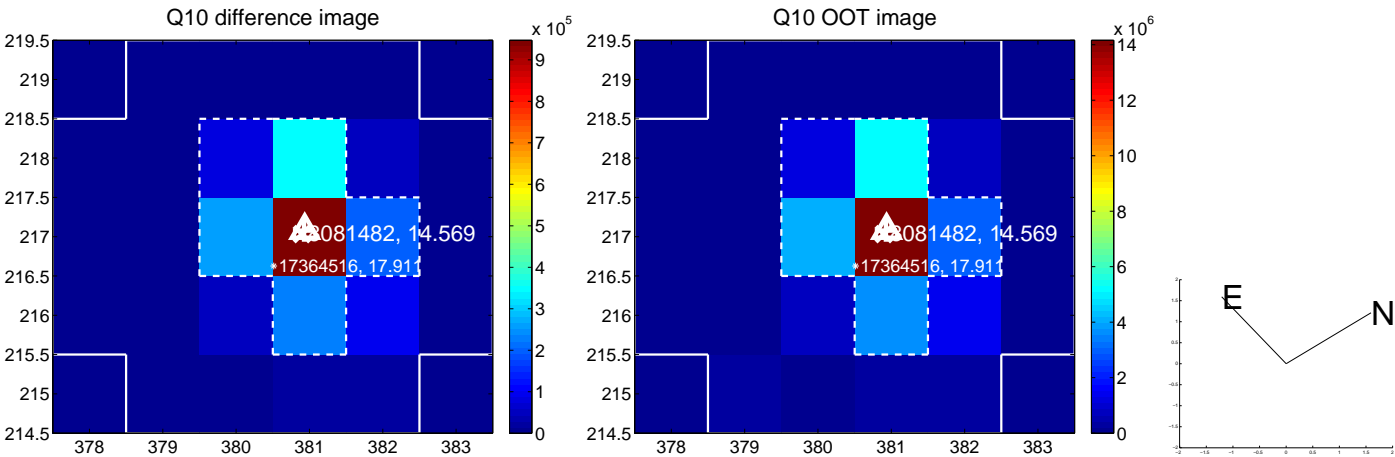
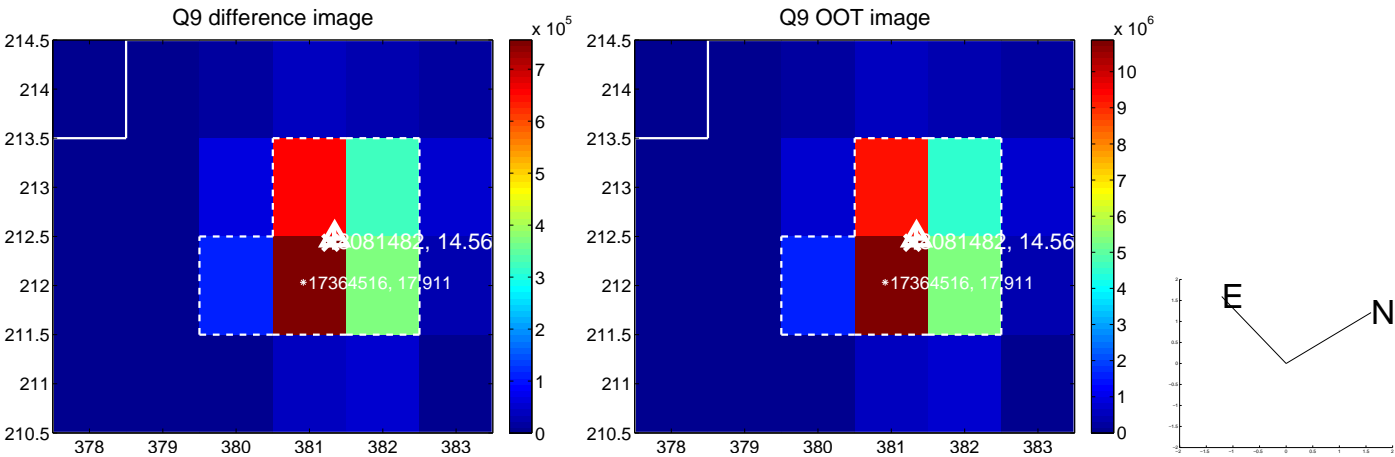
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



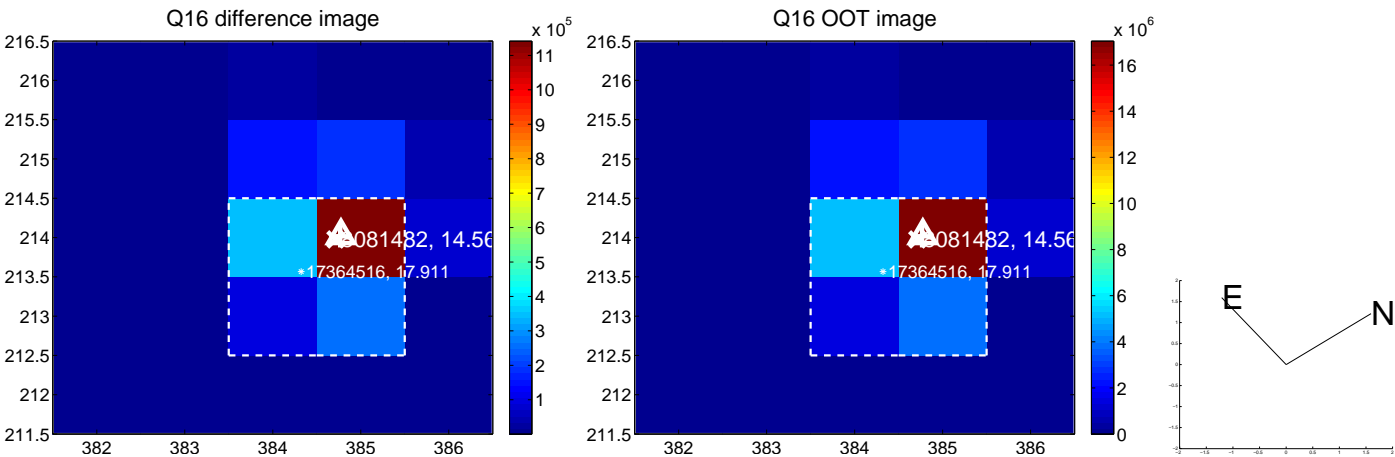
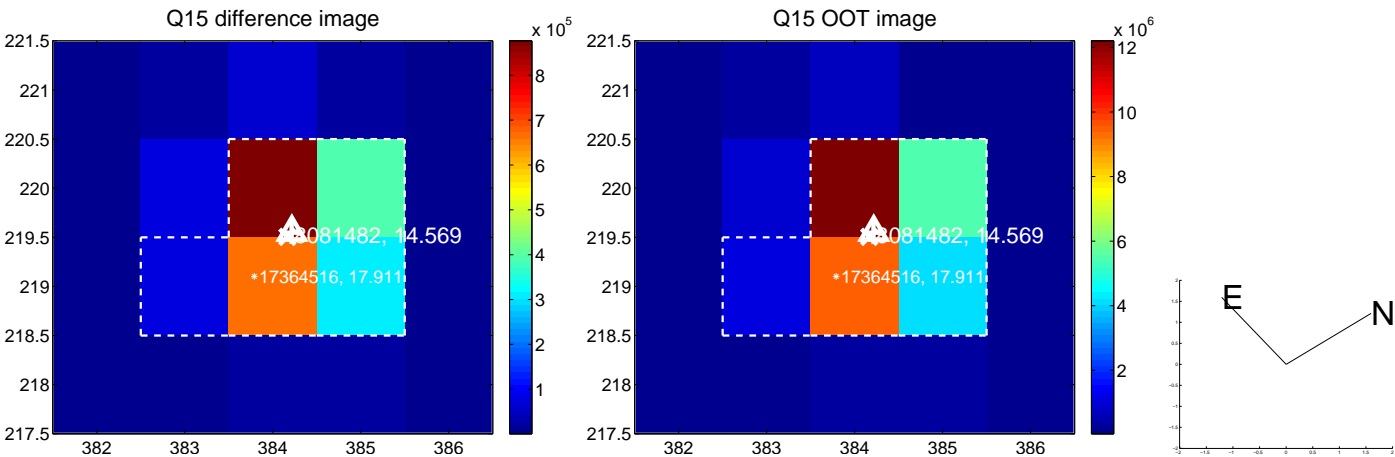
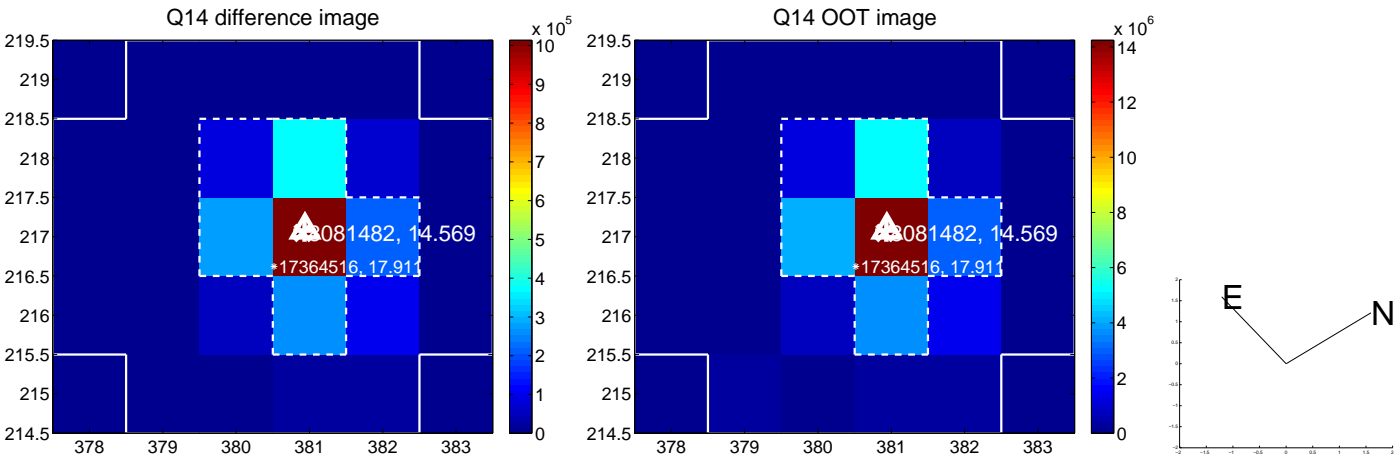
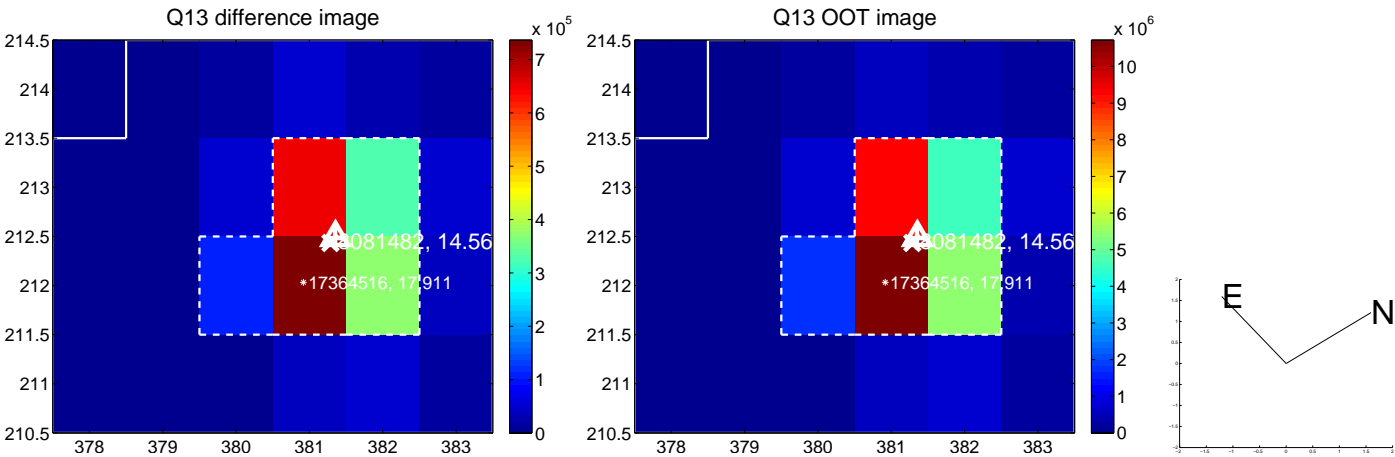
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



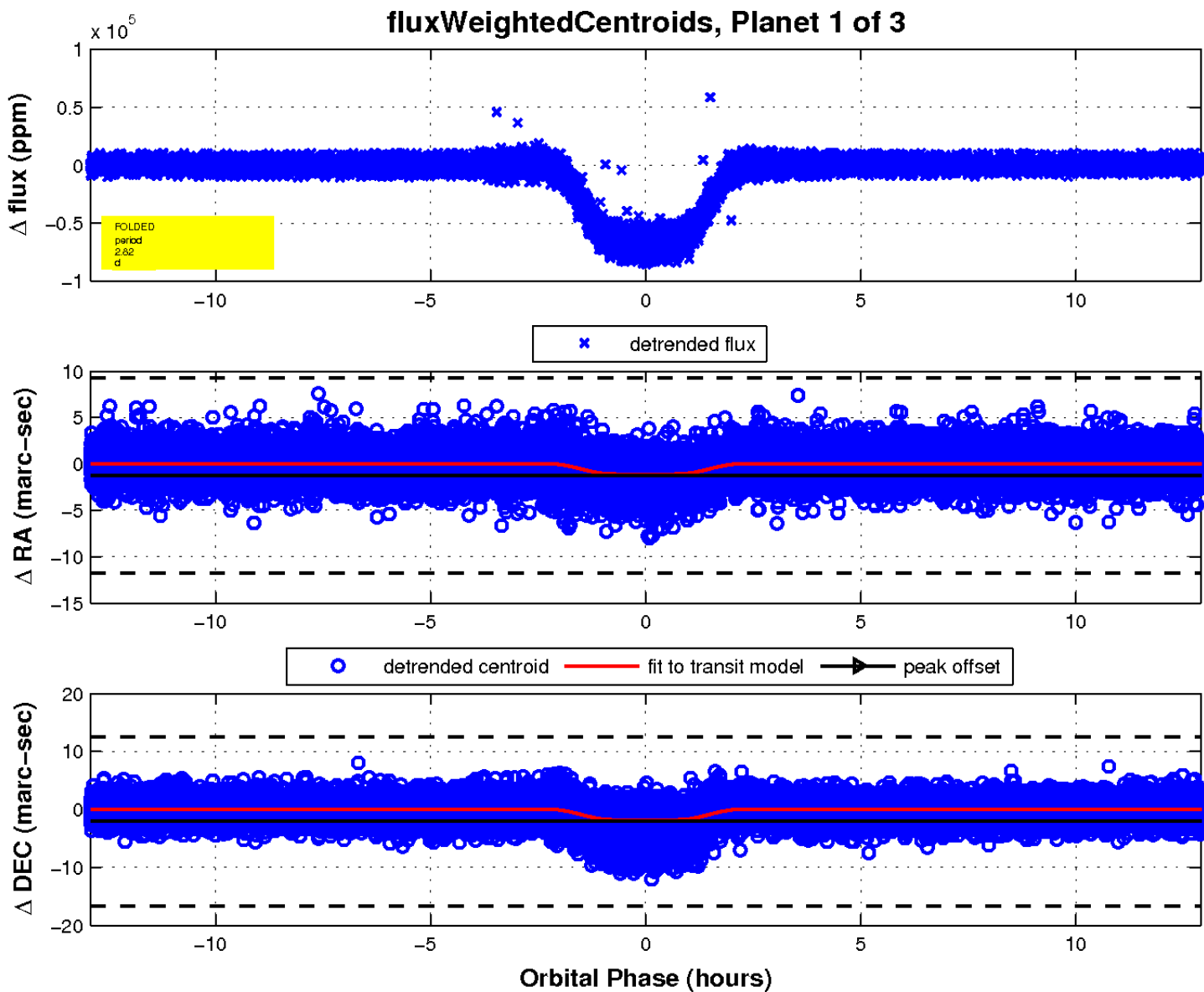
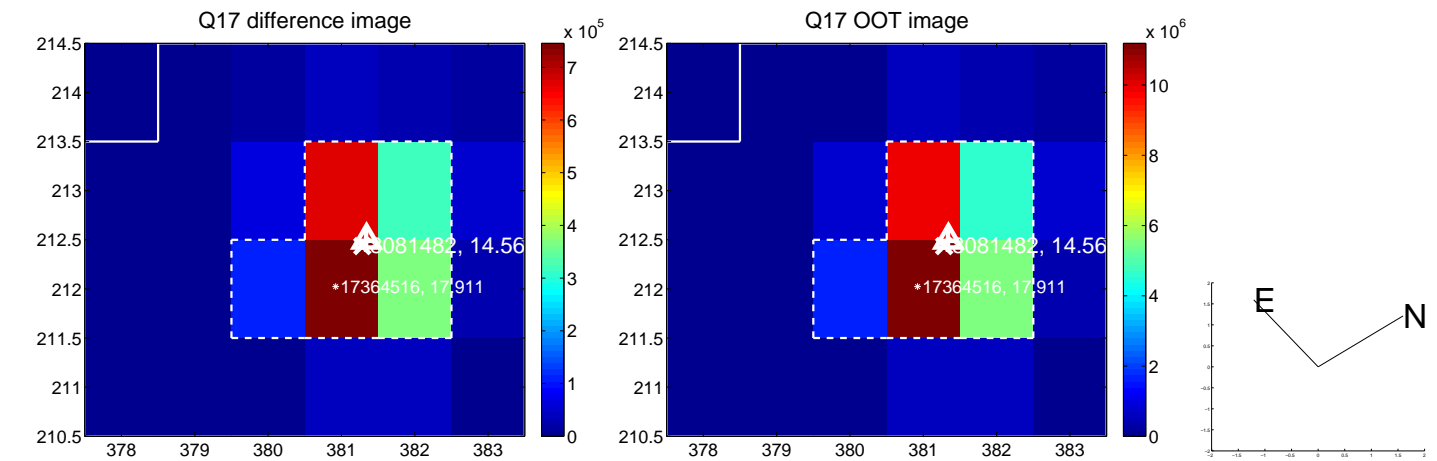
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

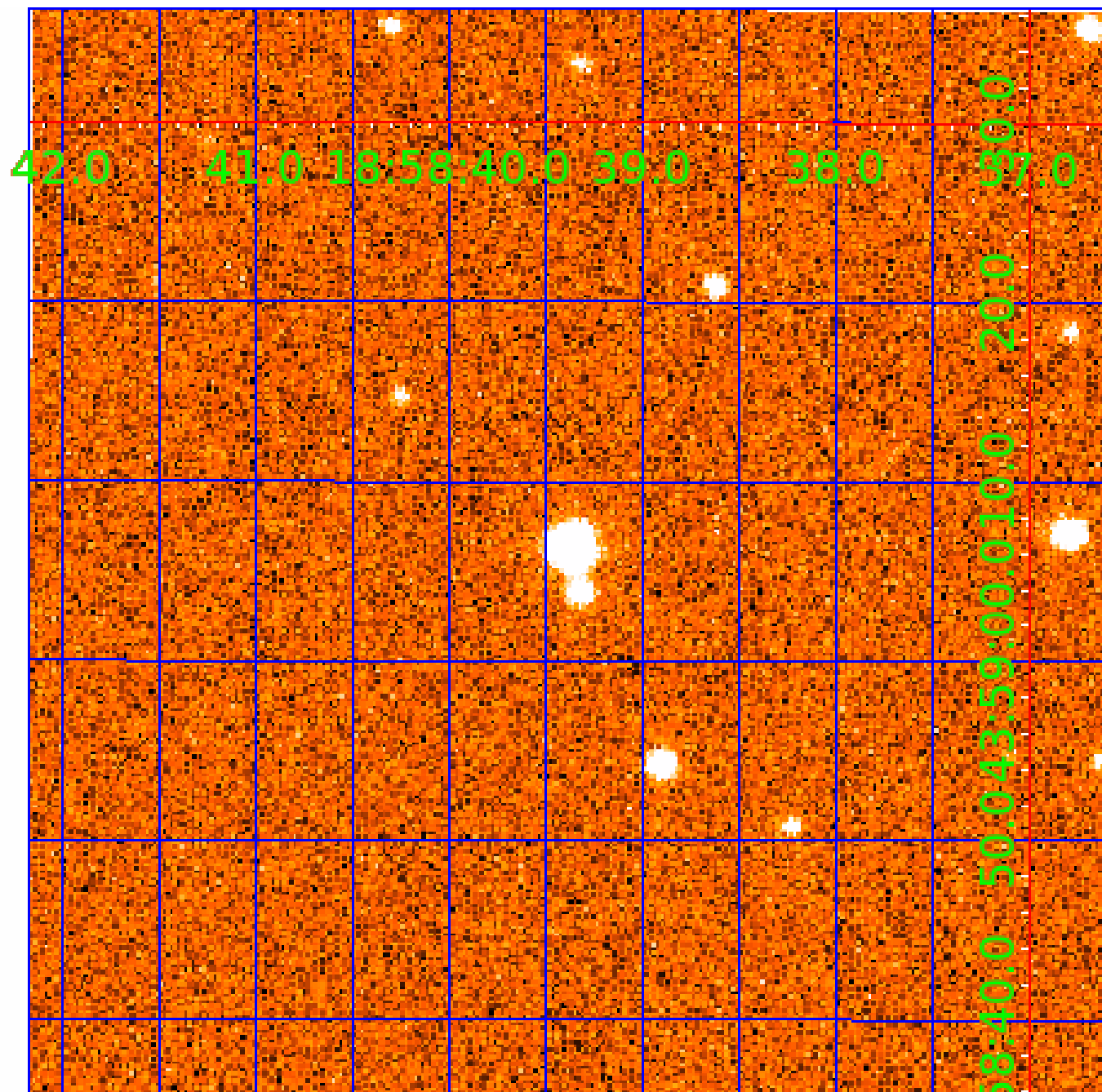


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination





# KIC 008081482

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
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008081482-02	OBS	No	2.819453	132.456736	1573.9	3.913	59.0	61.1	1.07	5767	5.06	803.79
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## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008081482-01	OBS	PC	0.49	0	1	0	0	SWEET_EB—MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT—HAS_SEC_TCE
008081482-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
008081482-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—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.

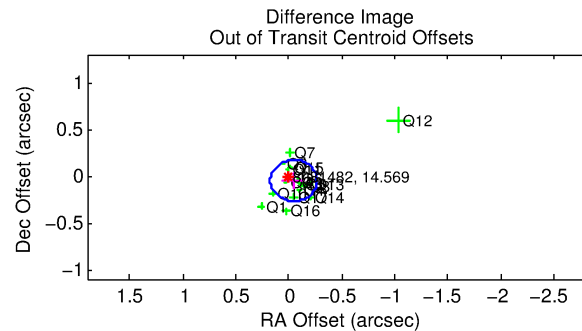
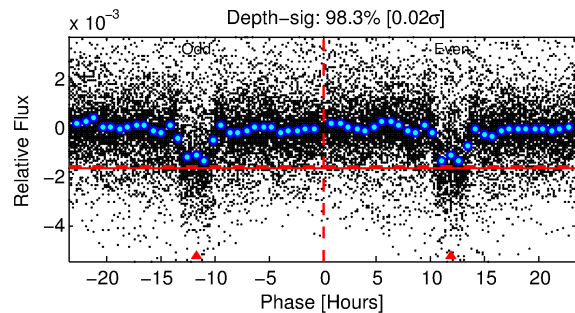
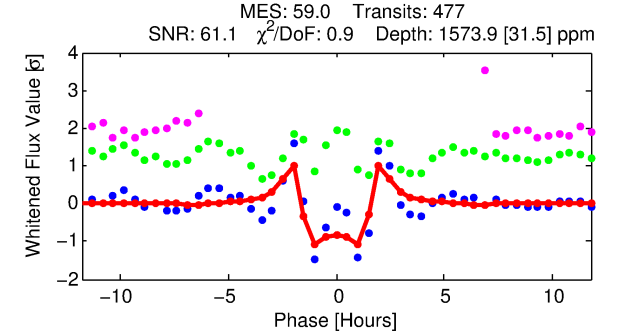
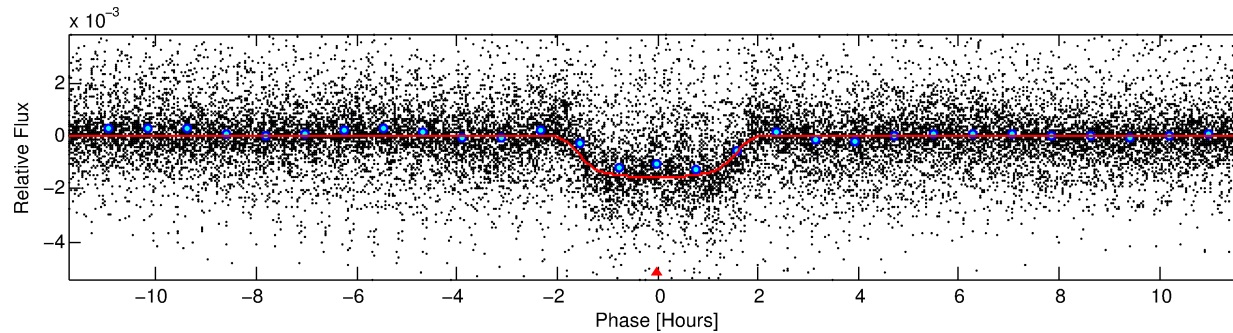
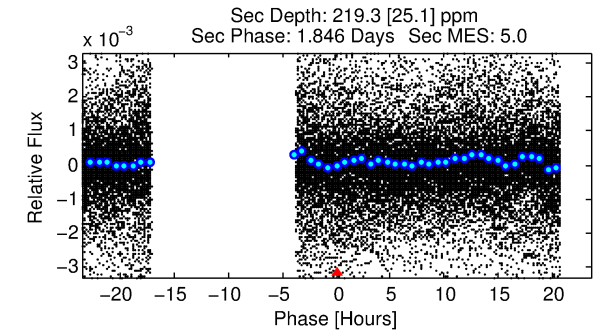
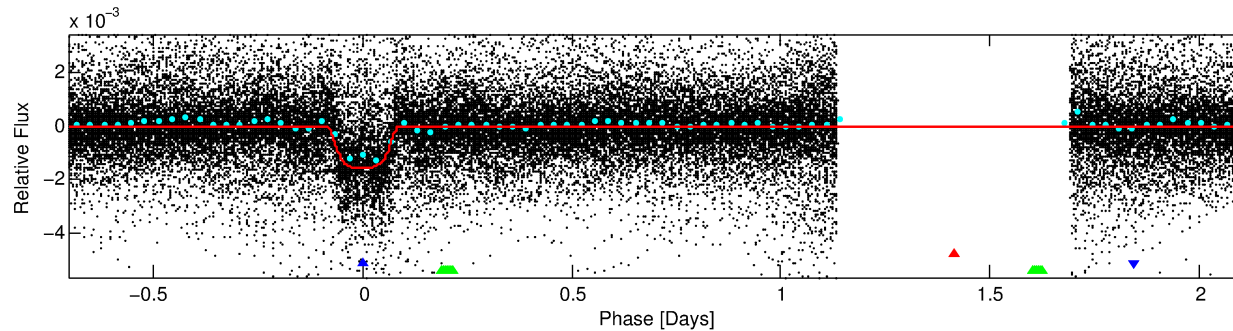
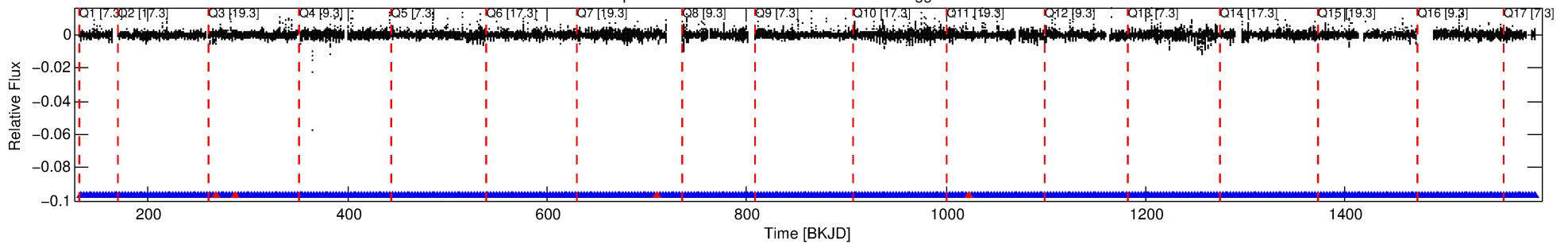
## Ephemeris Match Information For 008081482-02

No Significant Match Found

# DV One-Page Summary

KIC: 8081482 Candidate: 2 of 3 Period: 2.819 d  
KOI: K01539 Corr: No Ephemeris Match

Kp: 14.57 R\*: 1.07 Rs Teff: 5767.0 K Logg: 4.33 Fe/H: -0.160



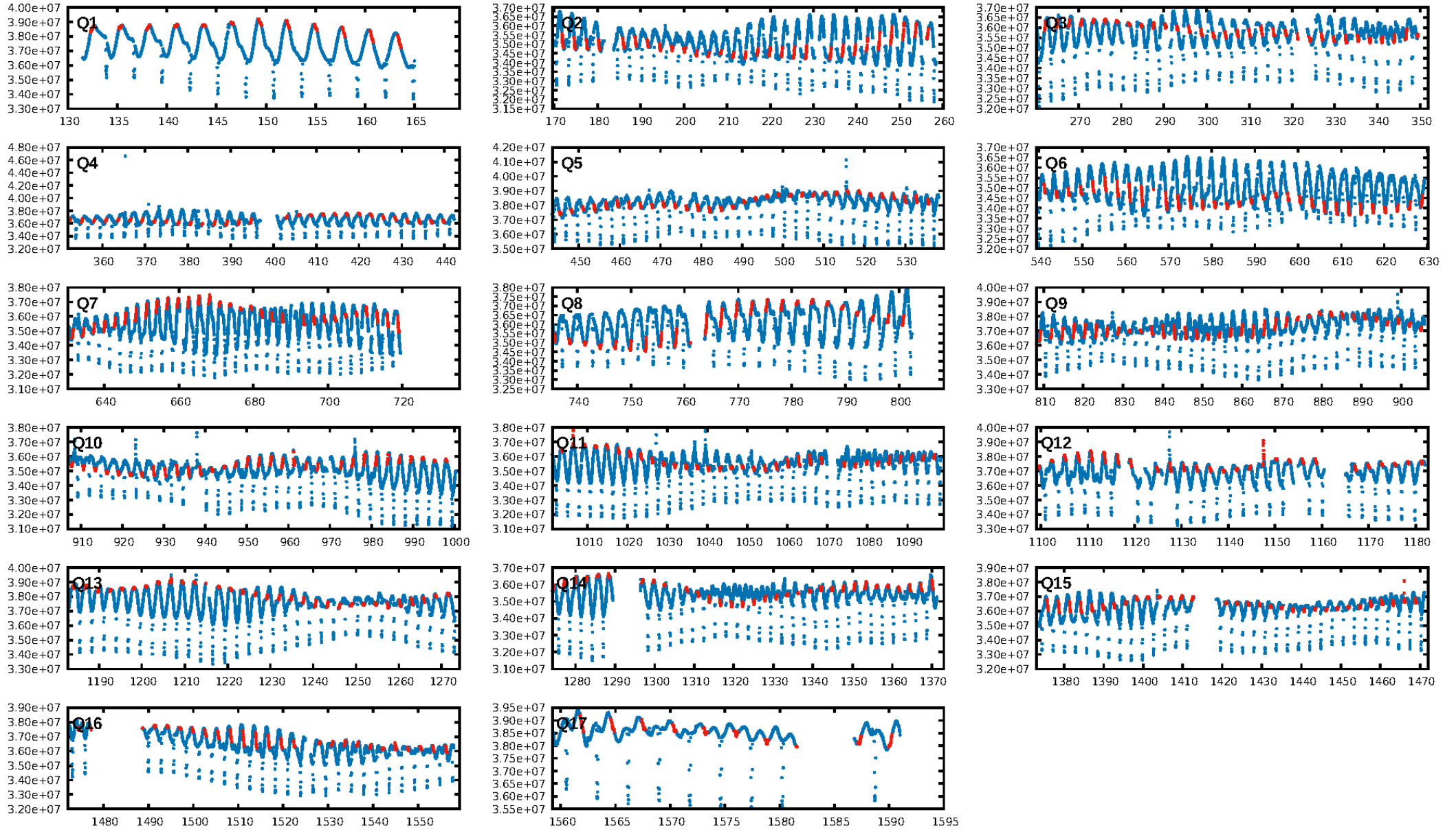
## DV Fit Results:

Period = 2.81945 [0.00000] d  
Epoch = 132.4567 [0.0004] BKJD  
Rp/R\* = 0.0431 [0.0005]  
a/R\* = 3.07 [0.08]  
b = 0.90 [0.01]  
Seff = 803.79 [282.76]  
Teff = 1358 [119] K  
Rp = 5.06 [1.44] Re  
a = 0.0377 [0.0088] AU  
Ag = 6.71 [2.38] [2.40σ]  
Teffp = 3379 [134] K [11.24σ]

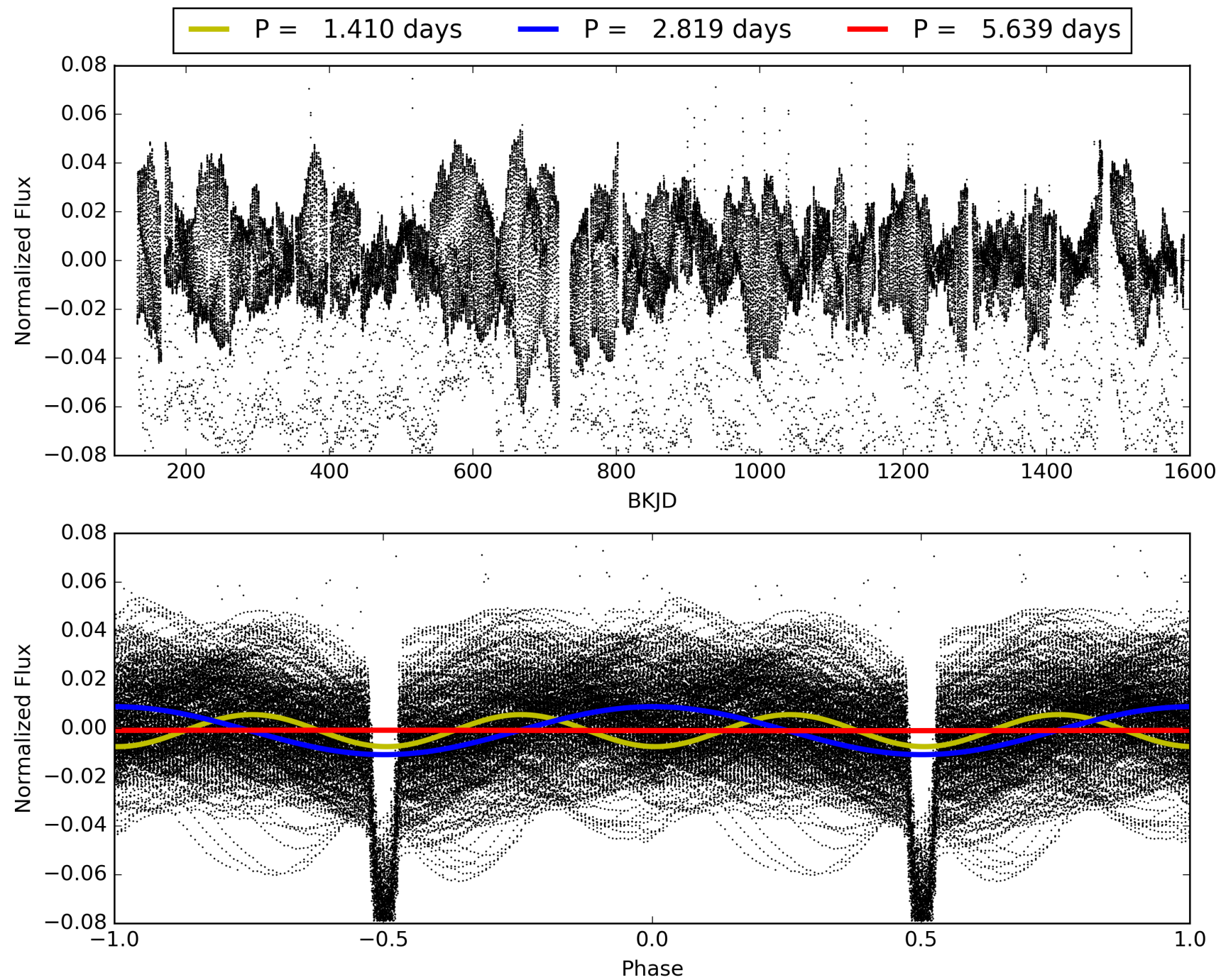
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.99 [451/455]  
GhostDiagnostic-chr: 1.254  
Centroid-sig: 82.2%  
Centroid-so: 0.180 arcsec [3.06σ]  
OotOffset-rm: 0.068 arcsec [0.92σ]  
KicOffset-rm: 0.154 arcsec [1.72σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.88 [15/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 008081482-02, PDC Light Curves

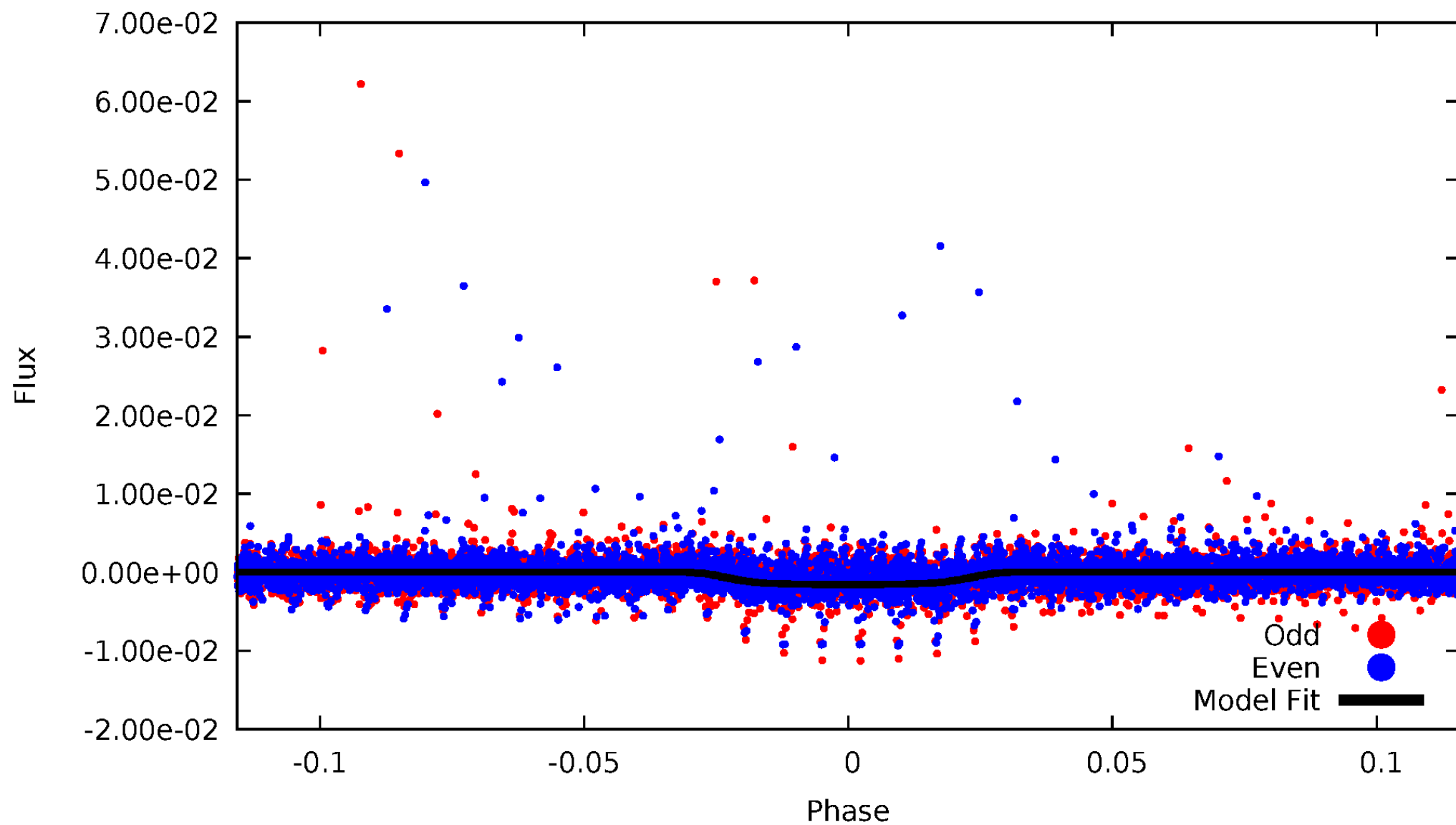


TCE 008081482-02



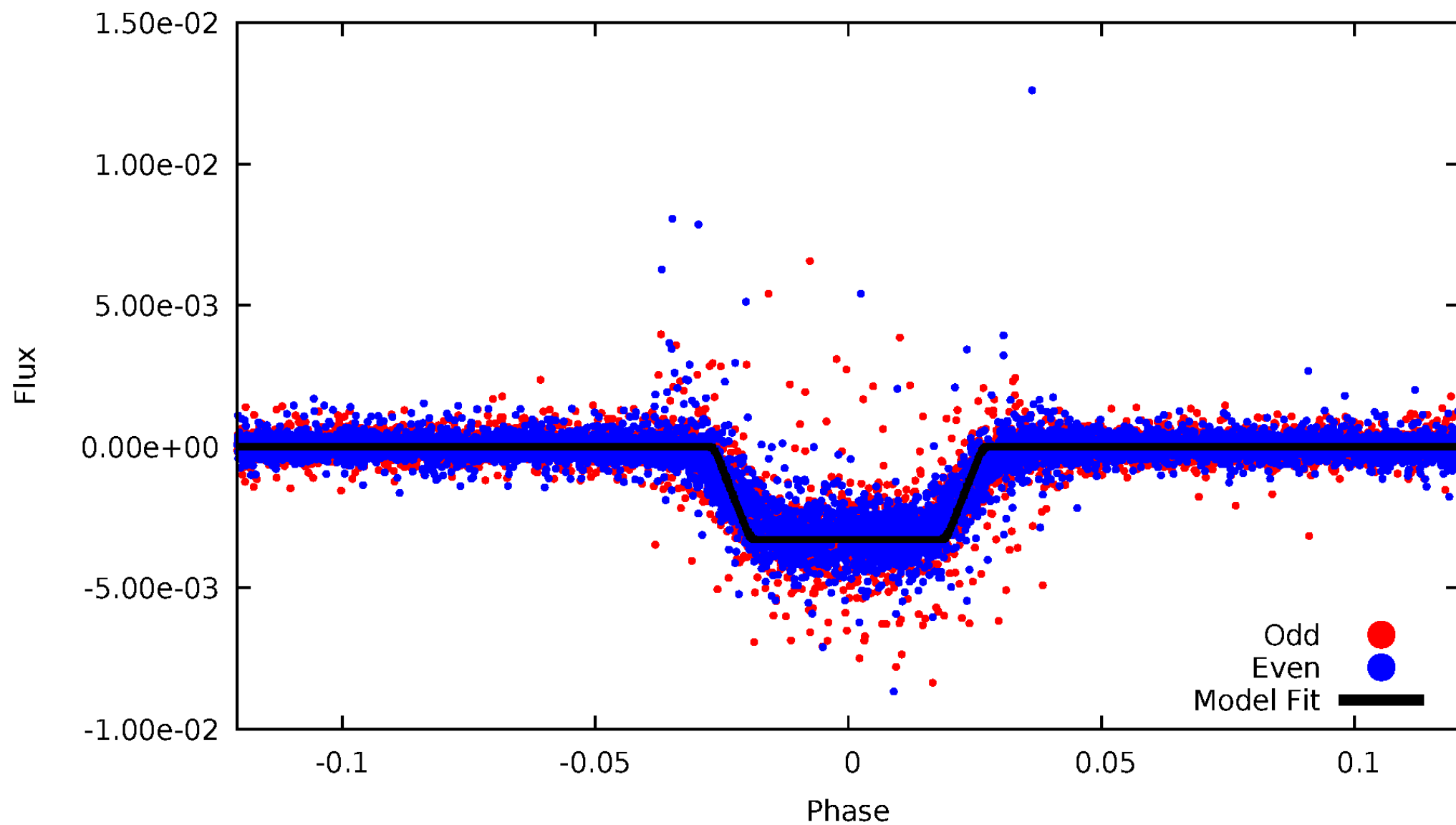
# DV Odd/Even

TCE 008081482-02



# ALT Odd/Even

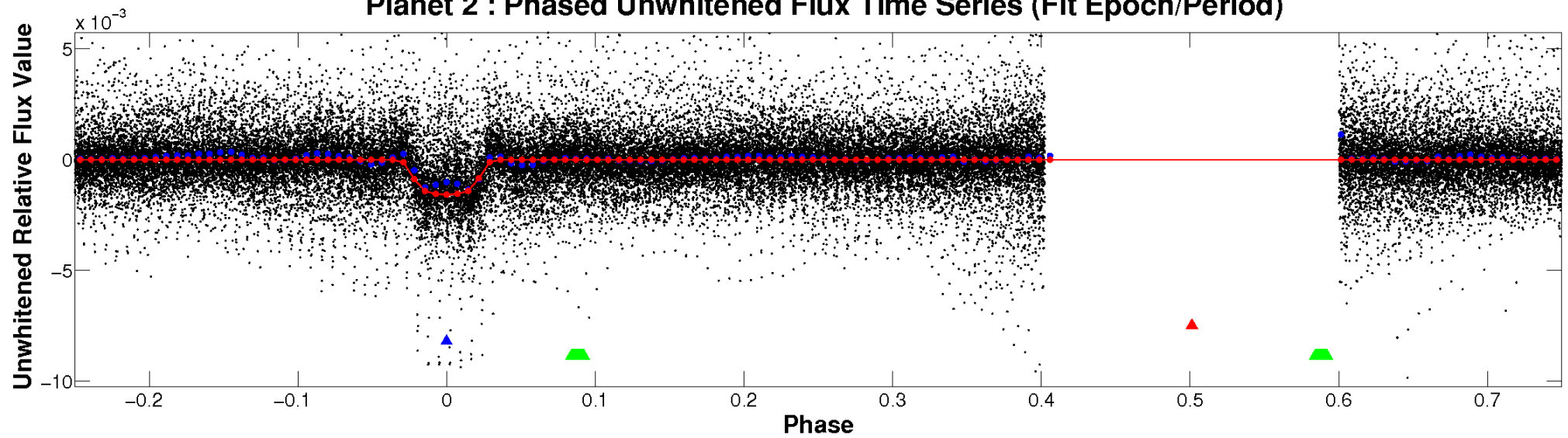
TCE 008081482-02



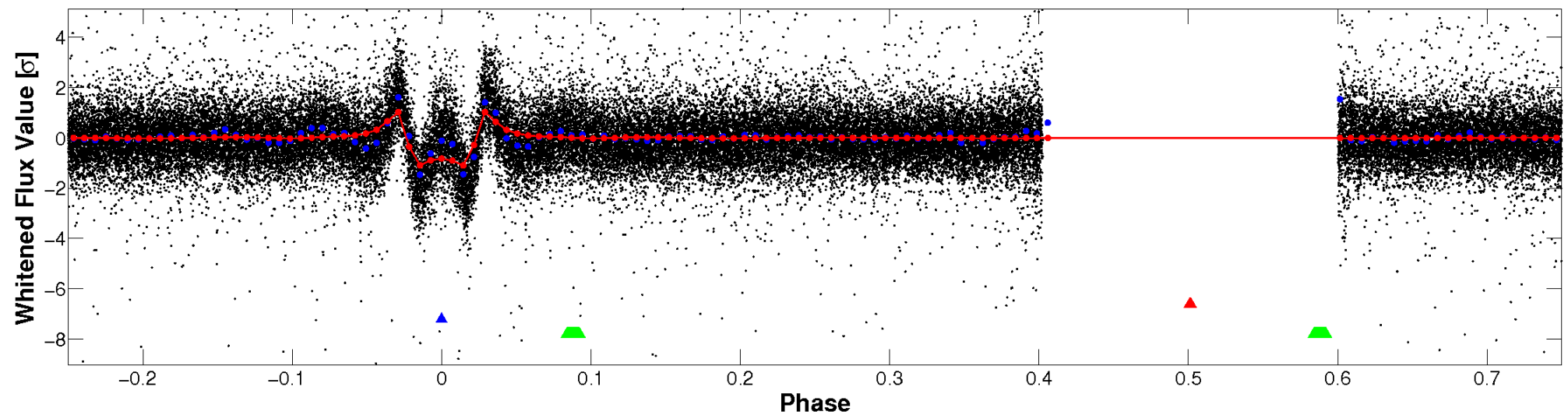


# Non-Whitened Vs. Whitened Light Curve

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

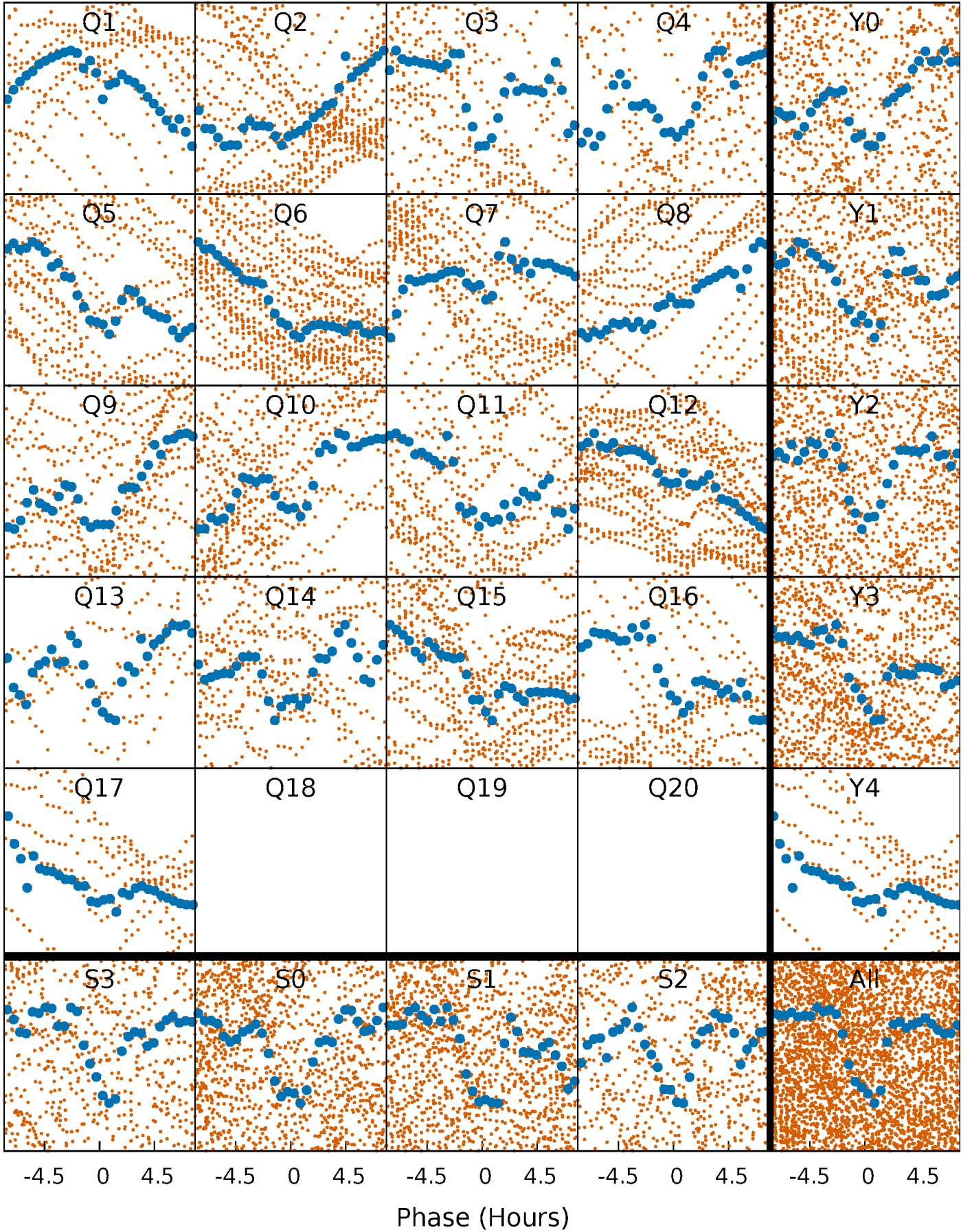


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



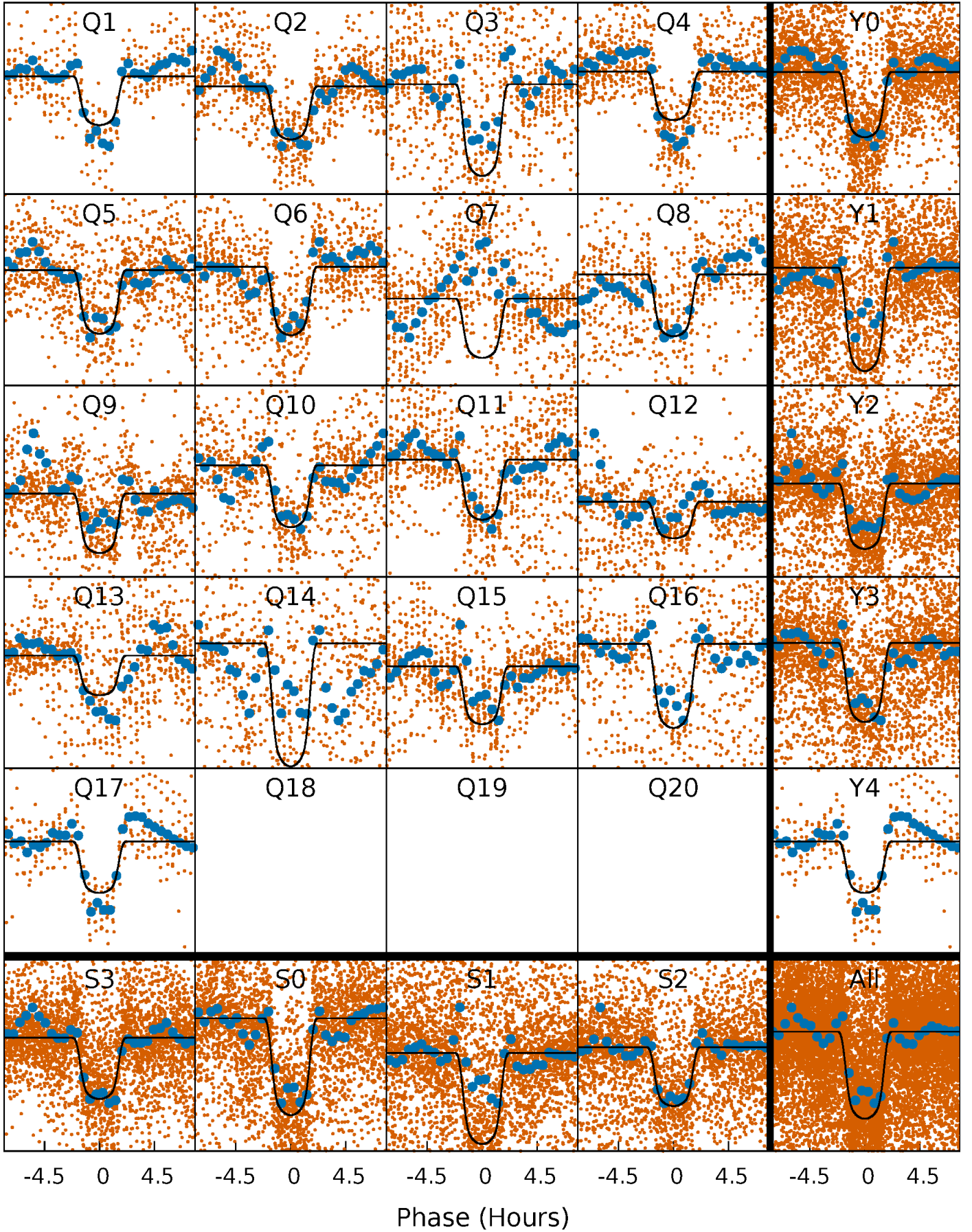
# PDC Quarter-Phased Transit Curves

TCE 008081482-02   P= 2.819453 Days    $T_0=132.456736$  (BKJD)



# DV Quarter-Phased Transit Curves

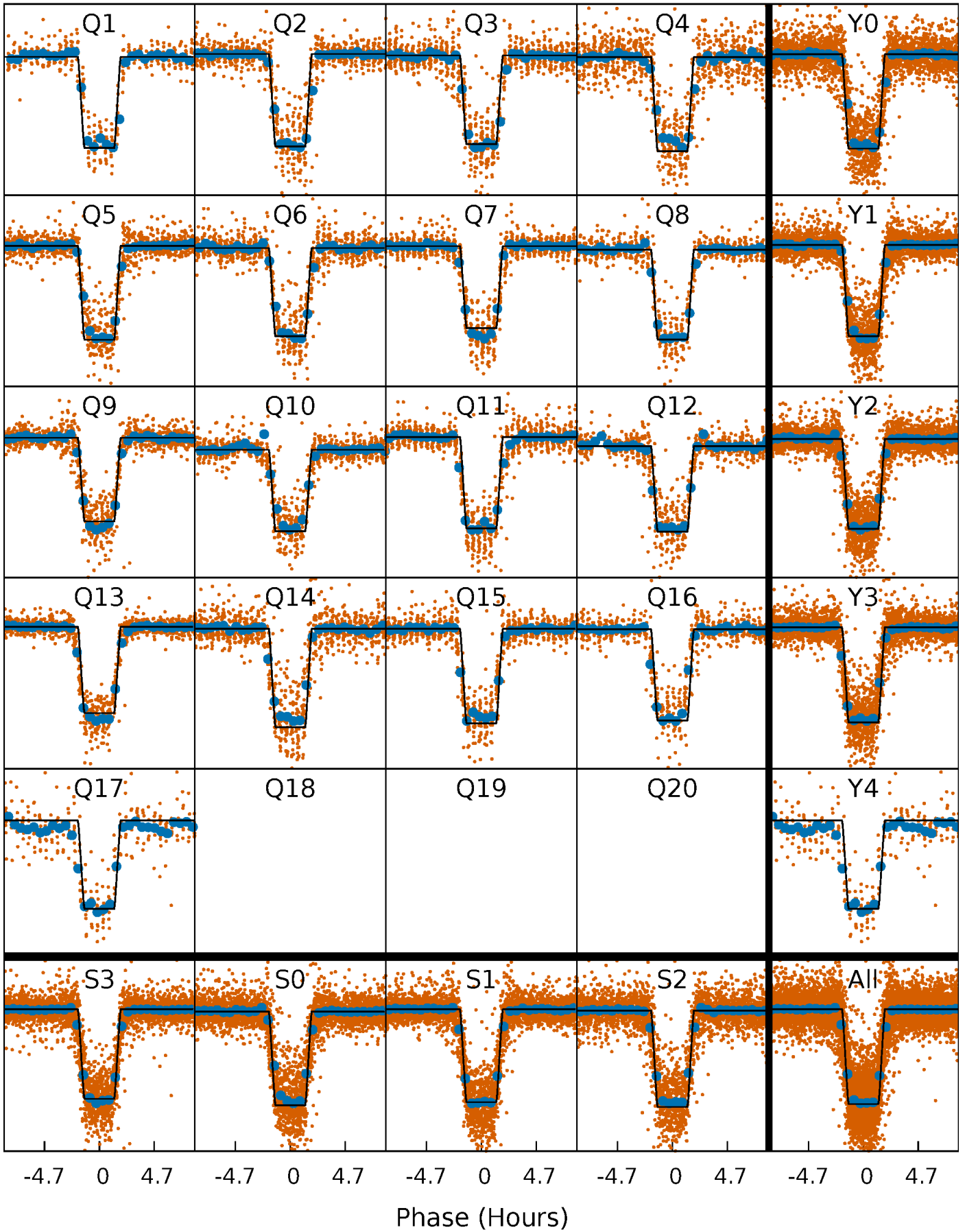
TCE 008081482-02   P= 2.819453 Days    $T_0=132.456736$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

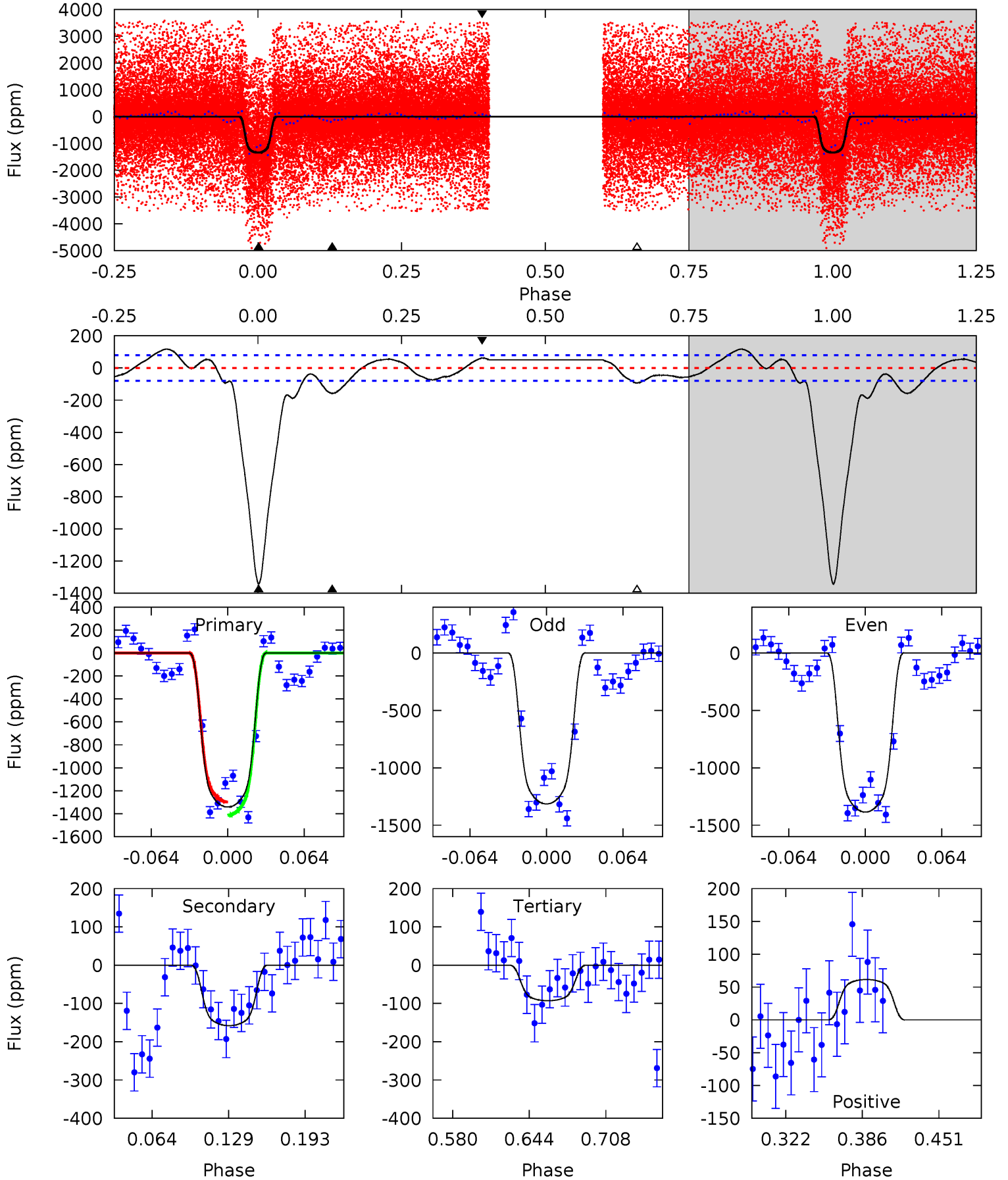
TCE 008081482-02   P= 2.819490 Days    $T_0=132.451529$  (BKJD)



# DV Model-Shift Uniqueness Test

008081482-02, P = 2.819453 Days, E = 129.637283 Days

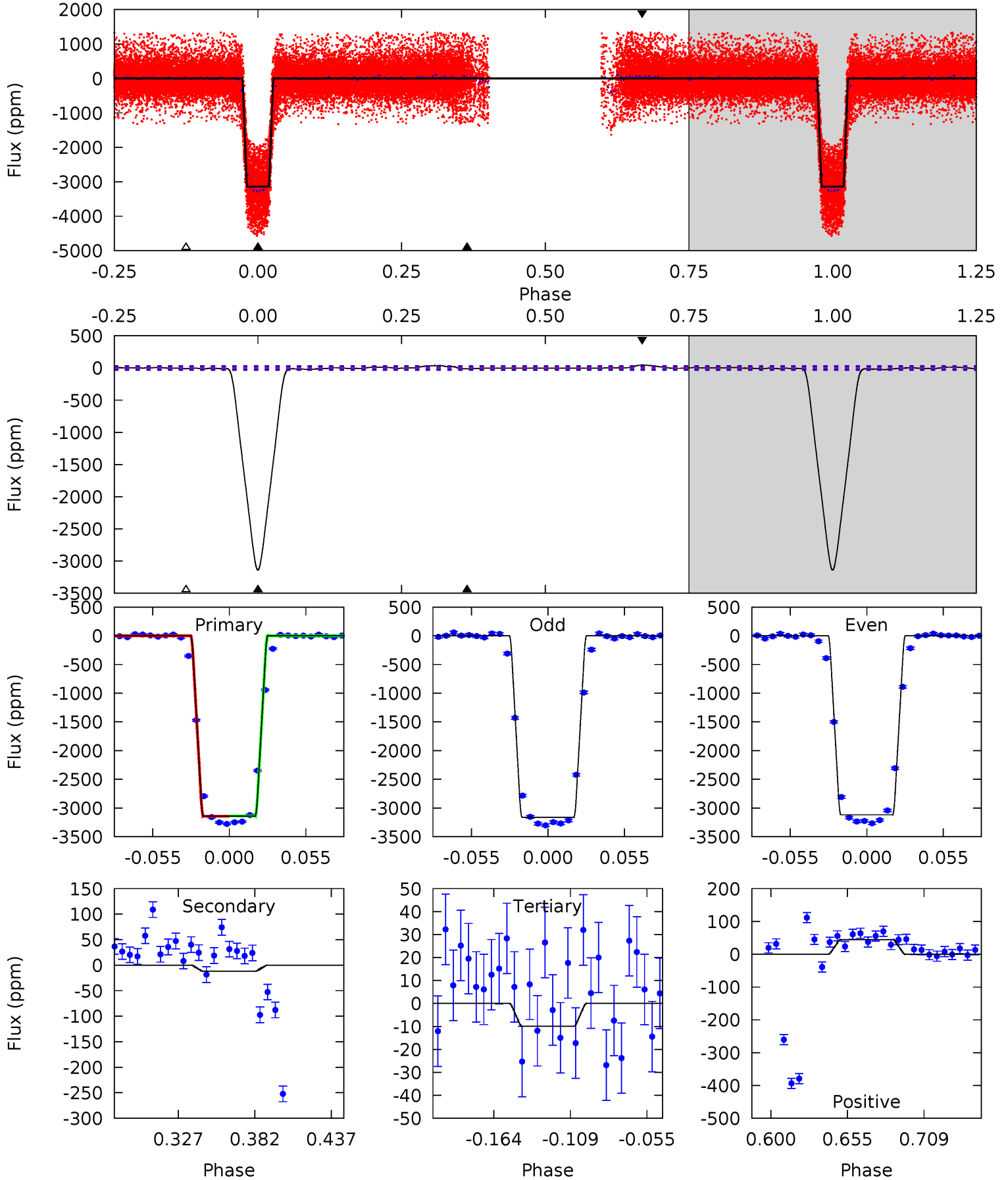
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
78.6	9.25	5.44	3.60	4.66	1.85	3.21	73.2	75.0	3.81	5.65	2.09	0.85	0.08	3.52



# Alt Model-Shift Uniqueness Test

008081482-02, P = 2.819490 Days, E = 129.632039 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
518.0	1.92	1.64	7.40	4.69	1.92	2.35	516.4	510.7	0.28	-5.48	3.51	0.99	0.01	0.46





### Stellar Parameters For KIC 008081482

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5767^{+155}_{-155}$	$4.330^{+0.180}_{-0.180}$	$-0.160^{+0.300}_{-0.300}$	$1.074^{+0.305}_{-0.203}$	$0.900^{+0.133}_{-0.082}$	$1.024^{+0.898}_{-0.471}$
	+3%/-3%	+4%/-4%	+188%/-188%	+28%/-19%	+15%/-9%	+88%/-46%
Source	PHO1	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 008081482-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-158 \pm 17$	$5.00^{+0.81}_{-0.56}$	$1888^{+148}_{-115}$	$3533^{+94}_{-97}$	$4.861^{+1.589}_{-1.205}$
Alt.	$-12 \pm 6$	$6.69^{+1.20}_{-0.78}$	$1895^{+156}_{-131}$	$-2164^{+4056}_{-220}$	$0.195^{+0.138}_{-0.102}$

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

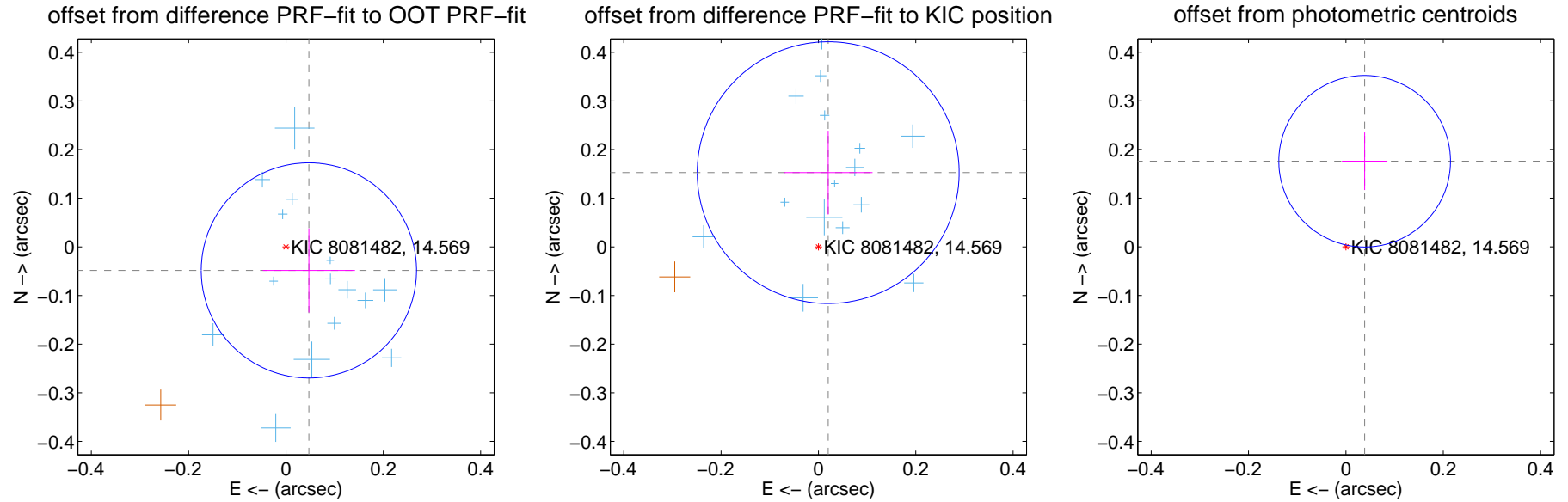
## DV Centroid Data

Supplemental centroid analysis for 008081482-02. Kepler magnitude: 14.57. Transit SNR 61.08

There are 15 quarters with good PRF difference image offsets

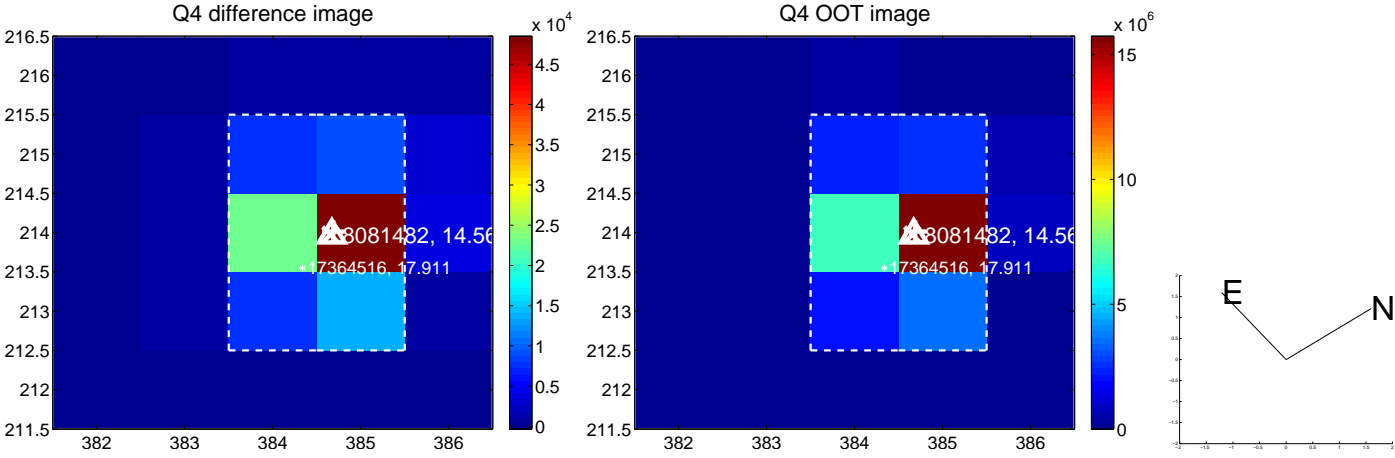
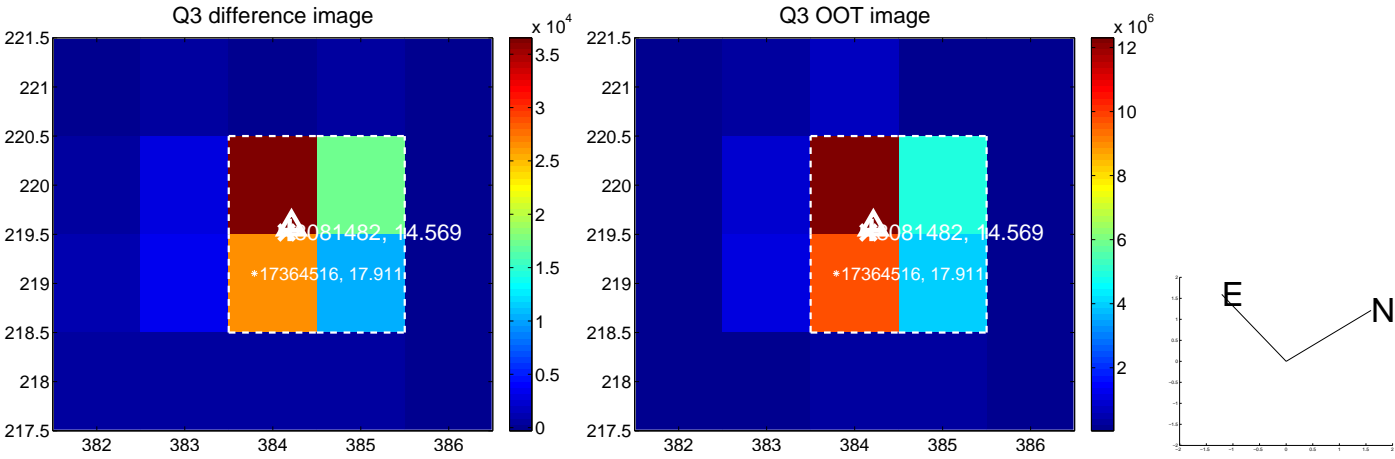
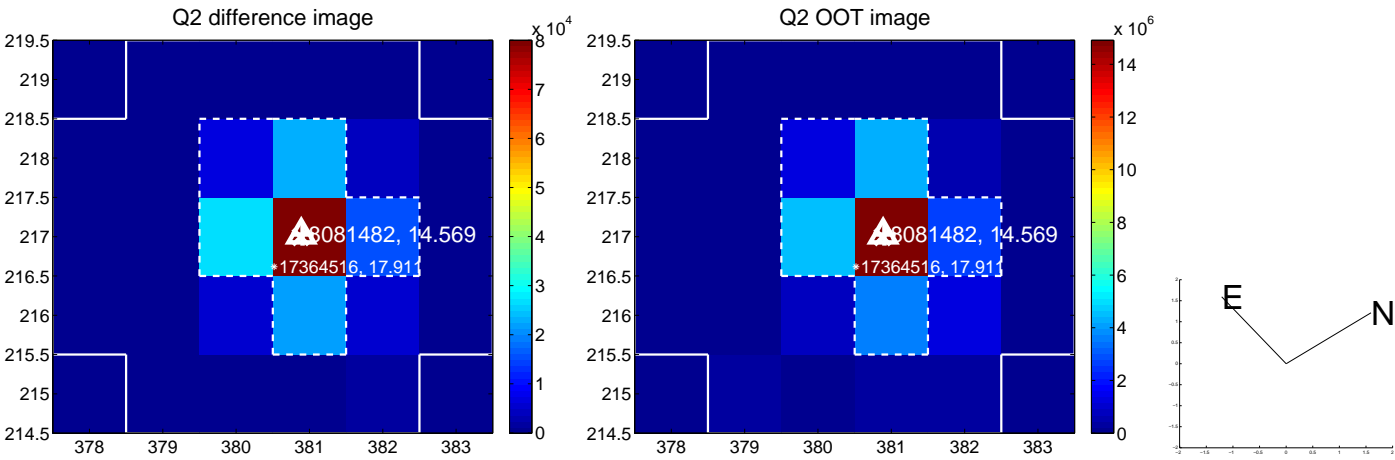
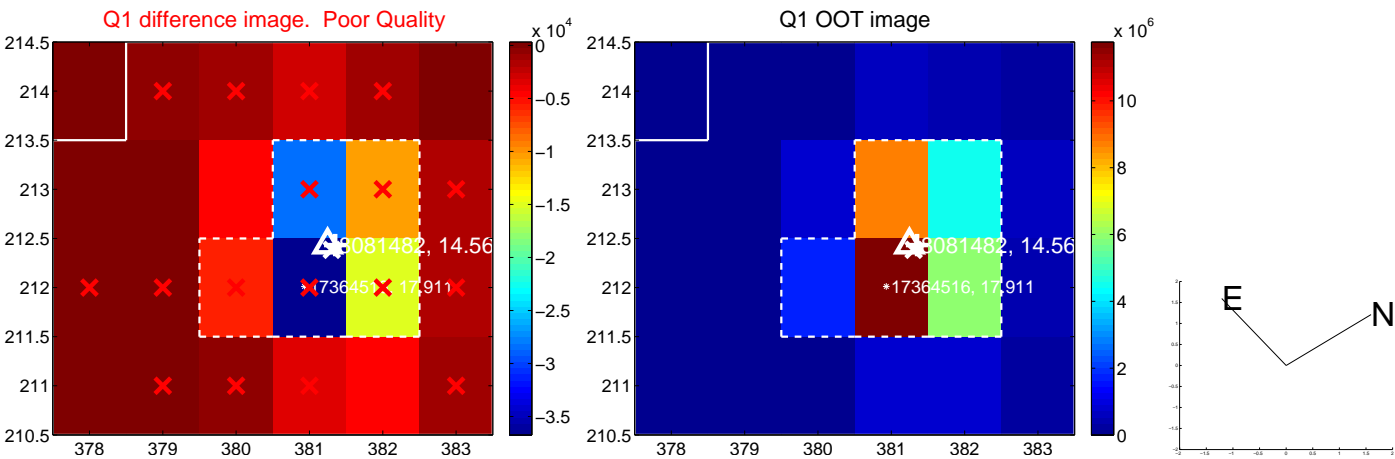
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.068 \pm 0.074$	0.92	$-0.047 \pm 0.095$	$-0.048 \pm 0.086$
PRF-fit source offset from KIC position	$0.154 \pm 0.090$	1.72	$-0.020 \pm 0.091$	$0.153 \pm 0.086$
photometric centroid source offset	$0.18 \pm 0.06$	3.06	$-0.04 \pm 0.05$	$0.18 \pm 0.06$

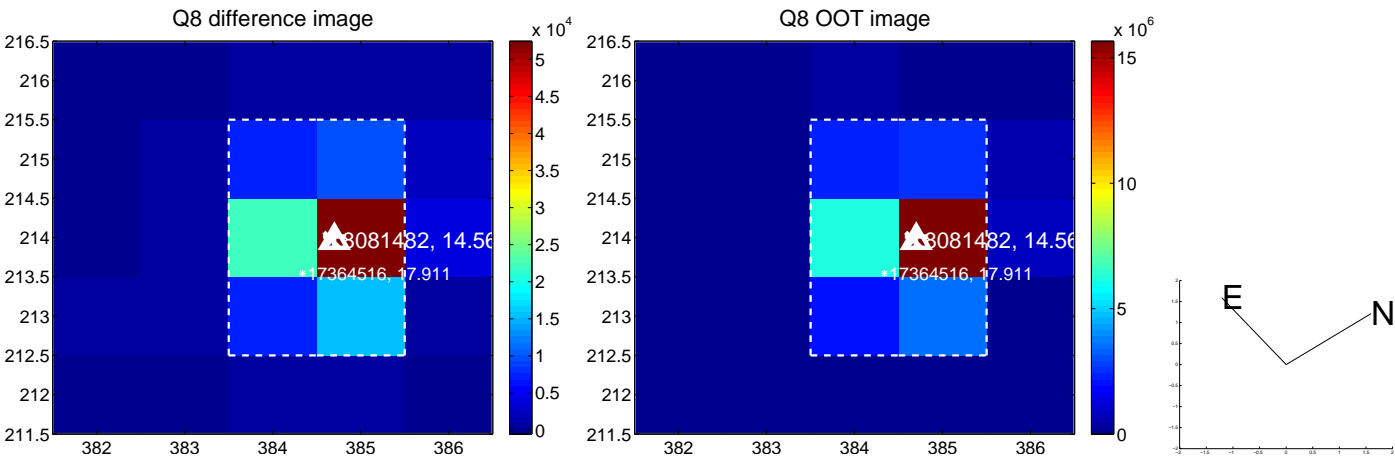
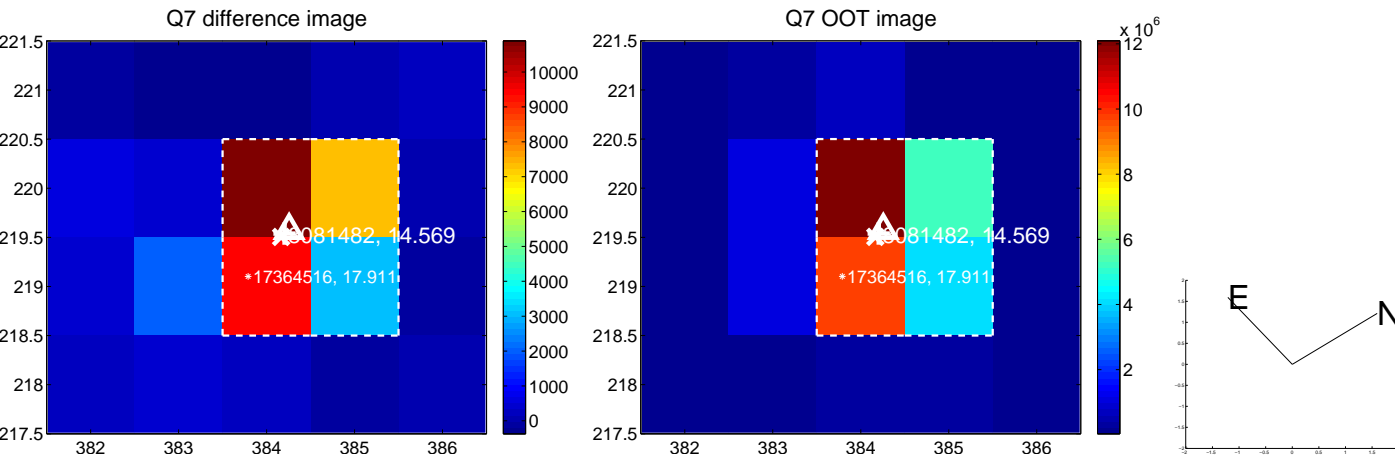
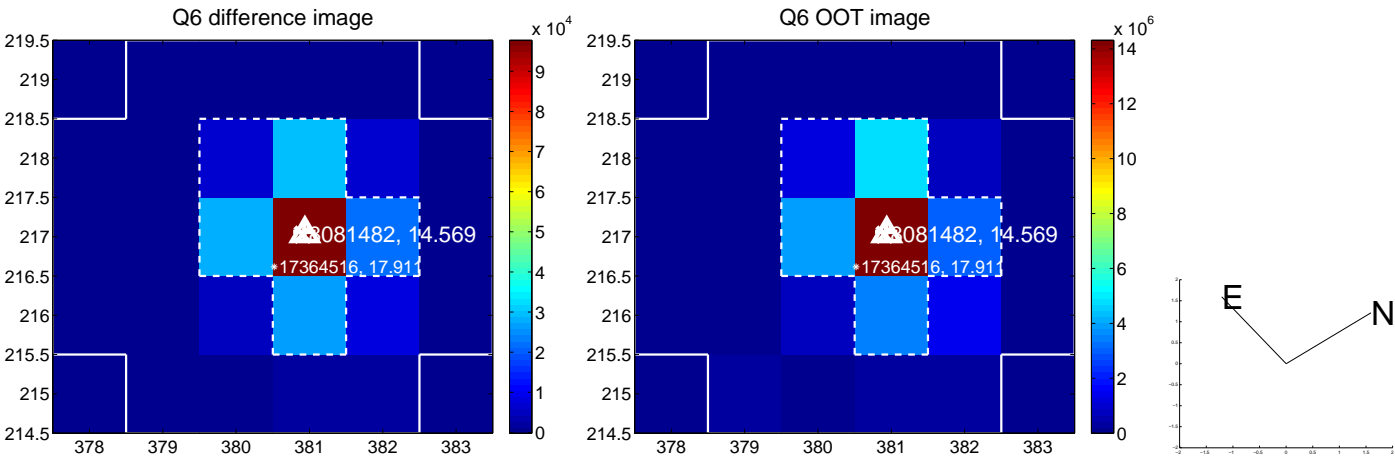
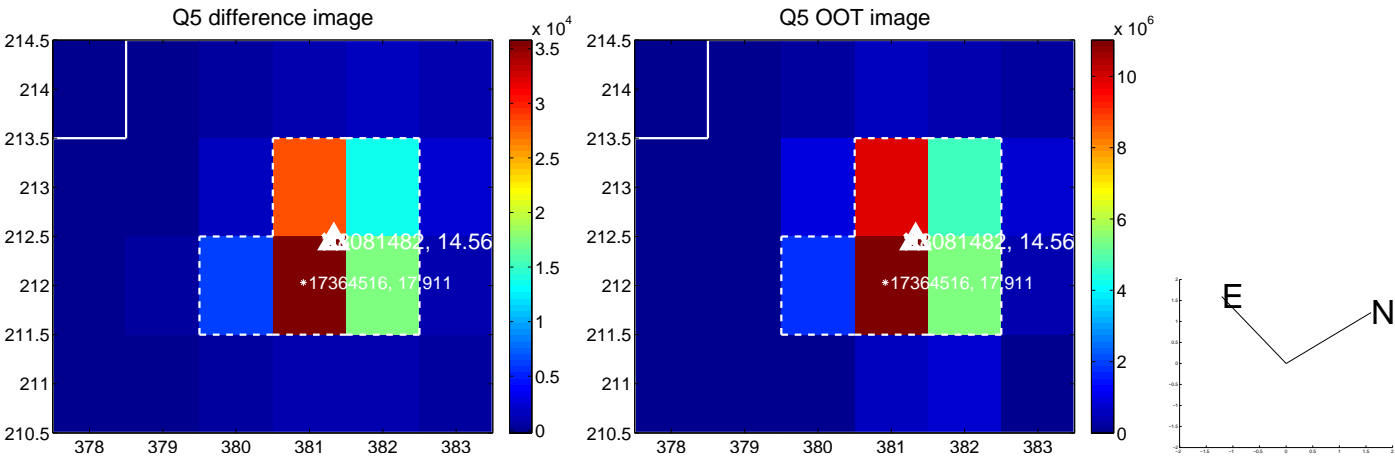


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

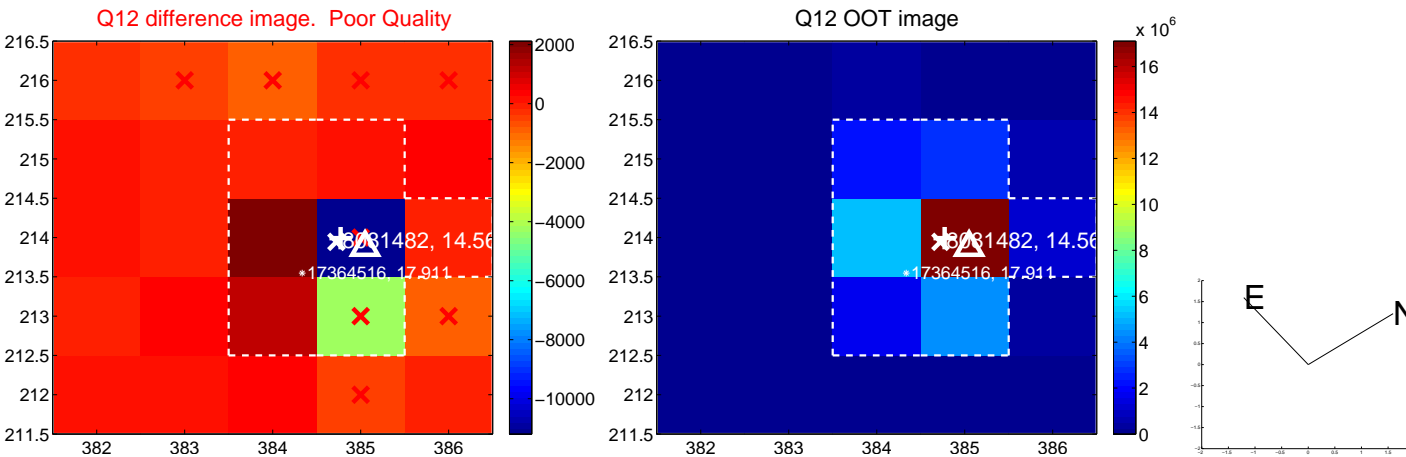
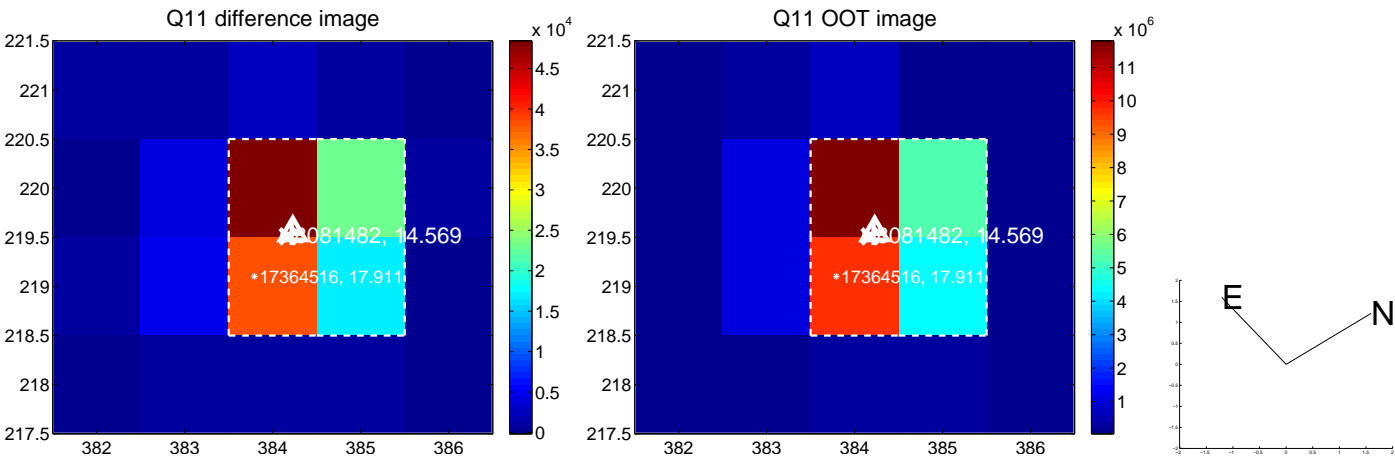
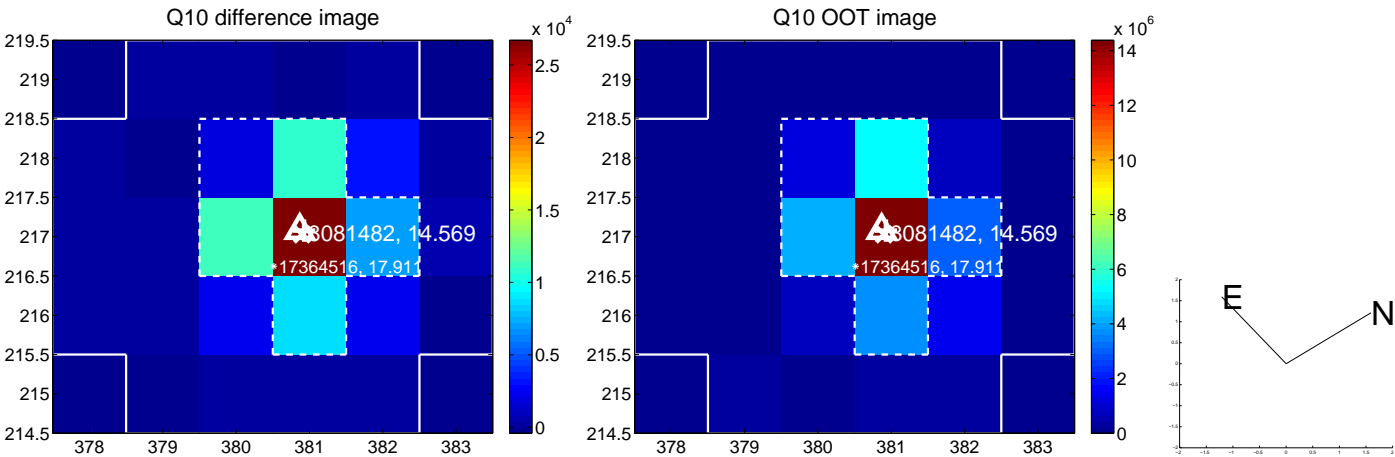
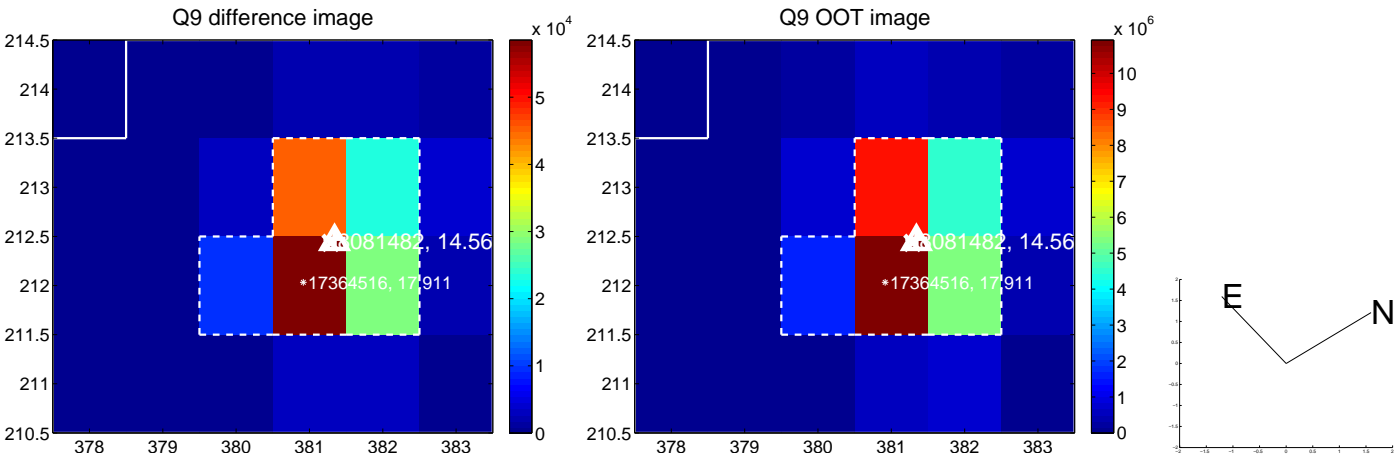
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



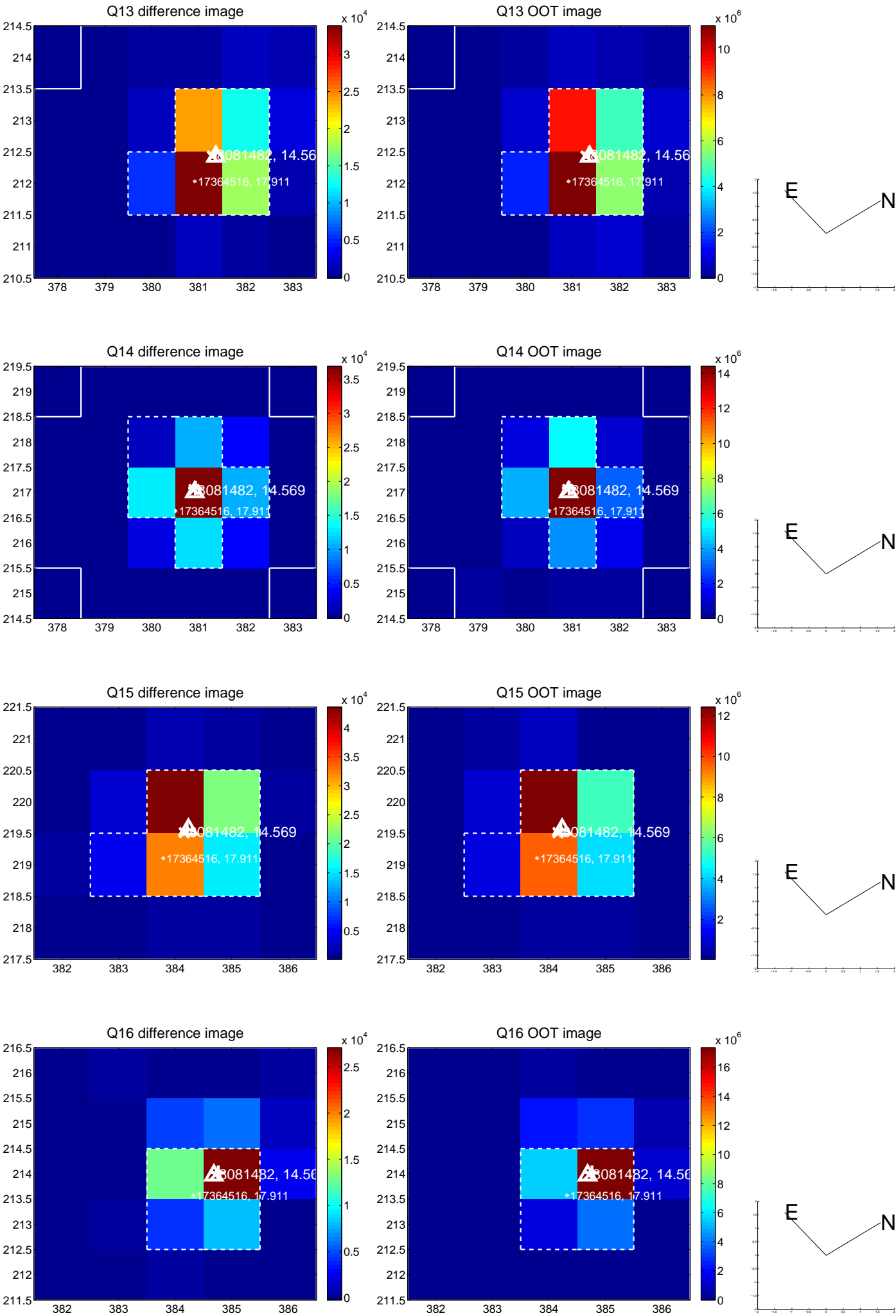
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



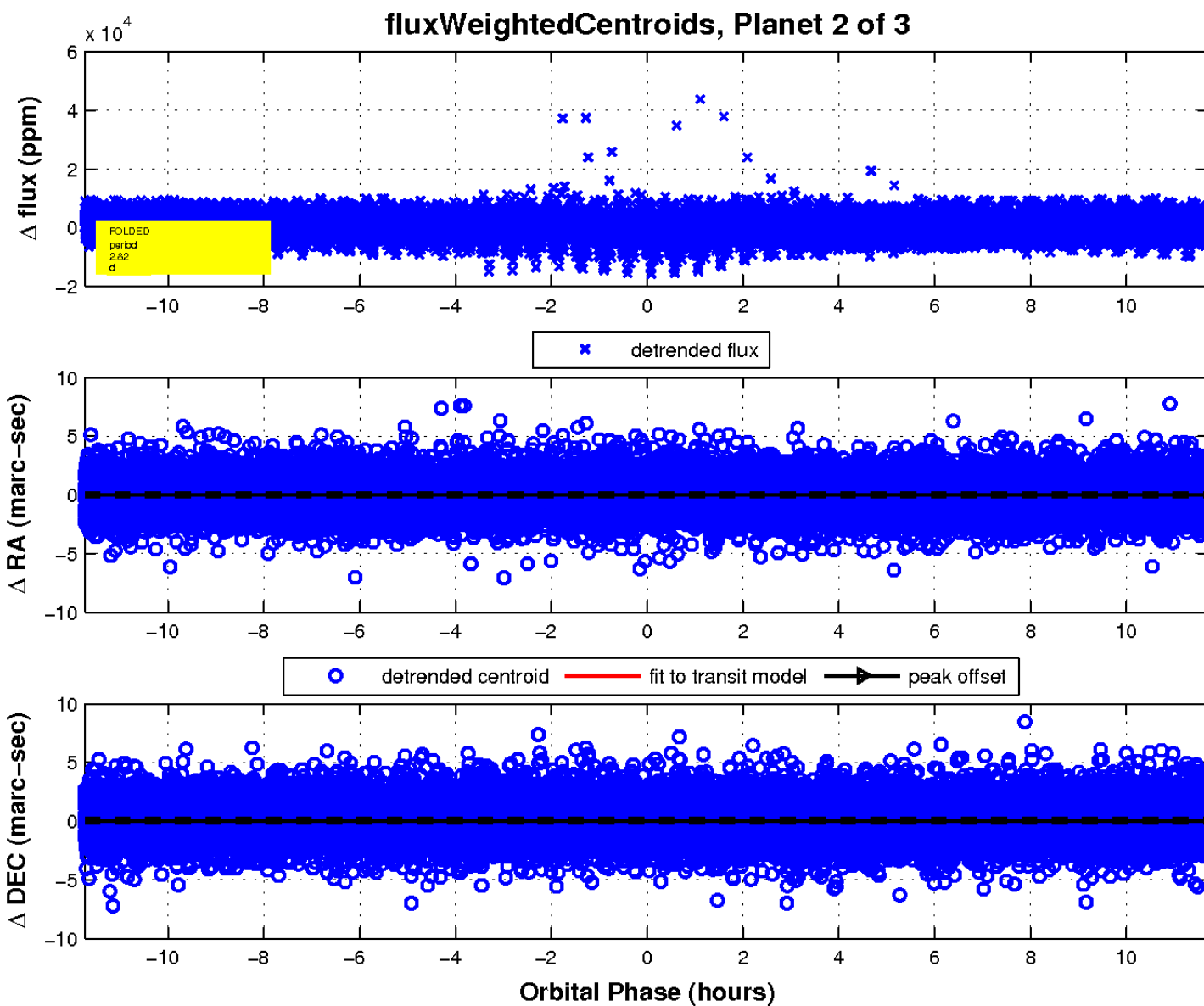
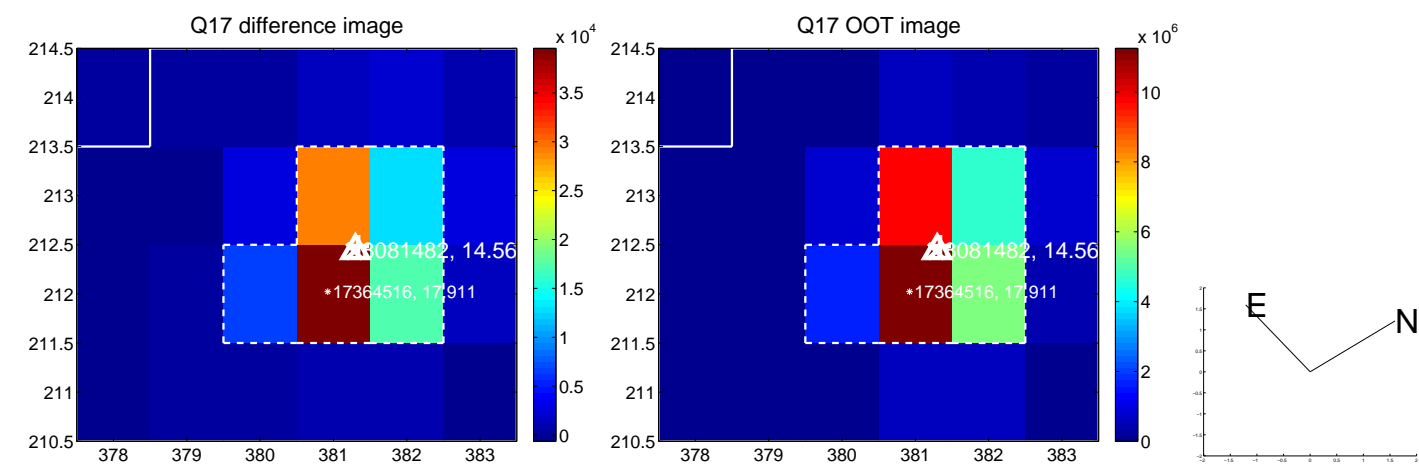
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



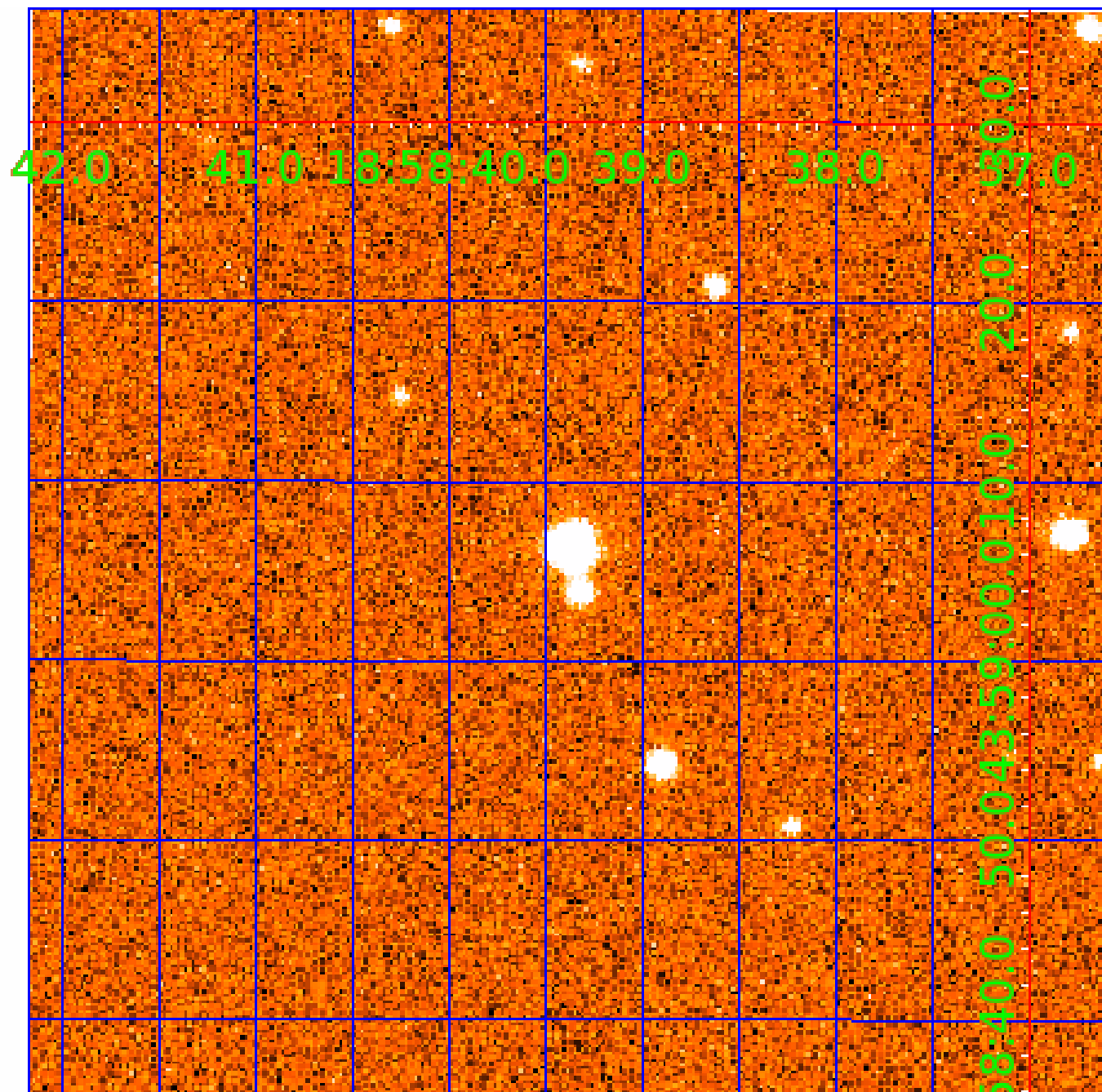
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





# UKIRT Image

Declination



# KIC 008081482

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008081482-01	OBS	1539.01	2.819457	133.869159	70928.3	4.303	2277.2	1659.6	1.07	5767	29.51	803.79
008081482-02	OBS	No	2.819453	132.456736	1573.9	3.913	59.0	61.1	1.07	5767	5.06	803.79
008081482-03	OBS	No	32.424237	152.429749	2130.6	1.500	12.9	-1.0	1.07	5767	4.94	30.96

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008081482-01	OBS	PC	0.49	0	1	0	0	<del>SWEET_EB</del> <del>MOD_SEC_DV</del> <del>PLANET_OCCULT_DV</del> <del>MOD_SEC_ALT</del> <del>HAS_SEC_TCE</del>
008081482-02	OBS	FP	0.00	1	1	0	0	<del>IS_SEC_TCE</del>
008081482-03	OBS	FP	0.00	1	0	0	0	<del>INDIV_TRANS_RUBBLE</del> <del>TRANS_GAPPED</del> <del>LPP_DV</del> <del>ALL_TRANS_CHASES</del> <del>CENT_NOFITS</del>

**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.

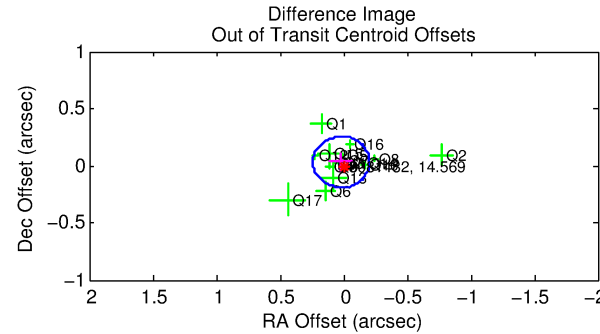
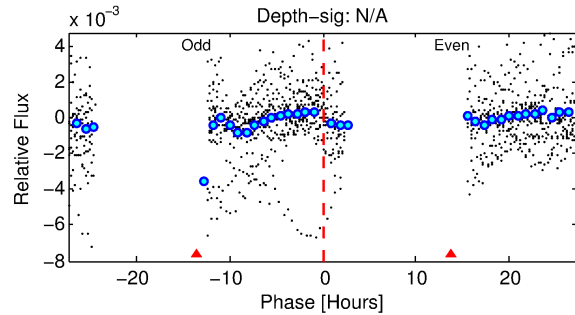
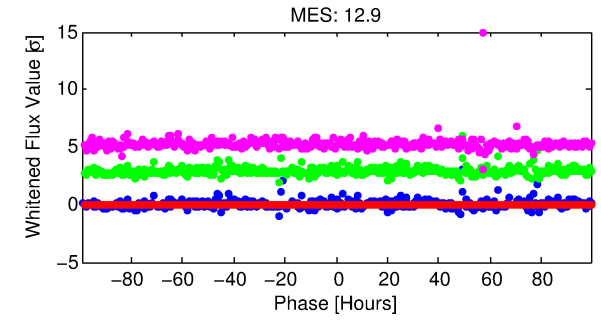
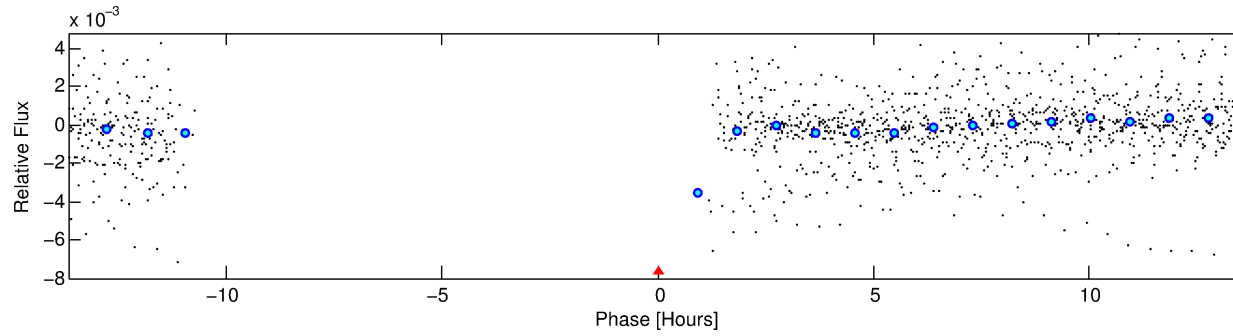
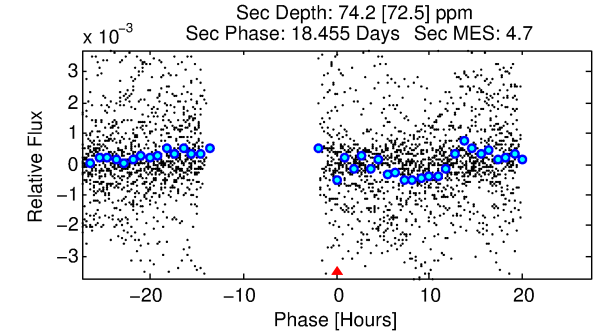
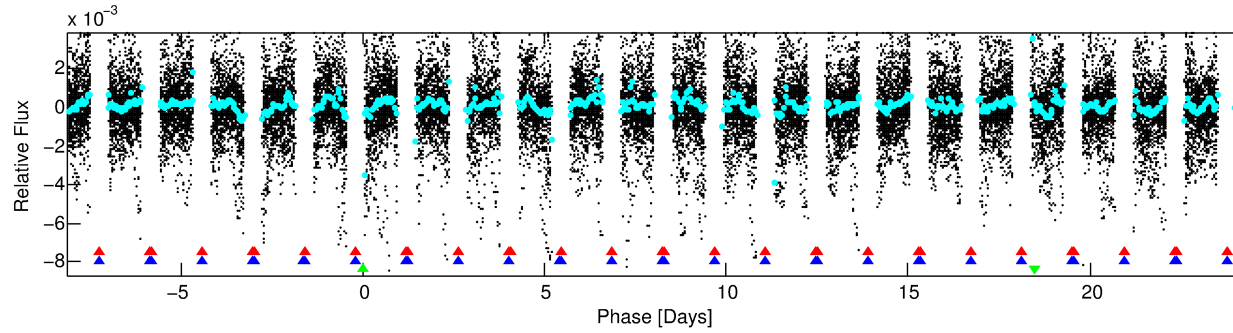
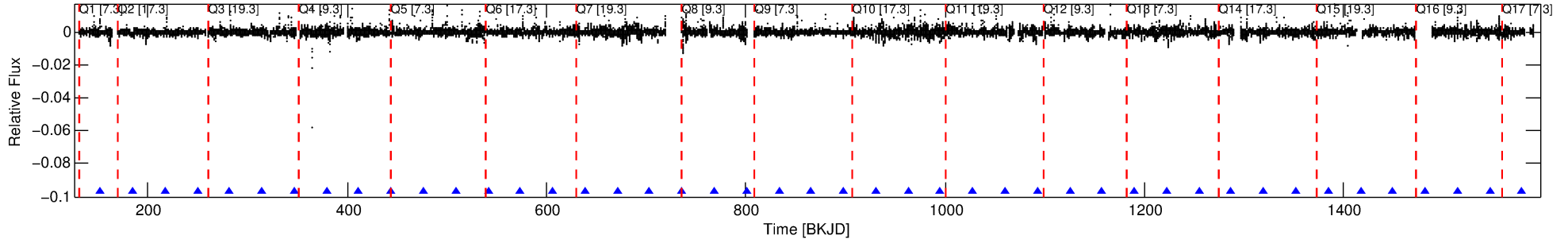
Ephemeris Match Information For 008081482-03

No Significant Match Found

# DV One-Page Summary

KIC: 8081482 Candidate: 3 of 3 Period: 32.424 d  
KOI: K01539 Corr: No Ephemeris Match

Kp: 14.57 R\*: 1.07 Rs Teff: 5767.0 K Logg: 4.33 Fe/H: -0.160



TPS TCE Results:

Period = 32.42424 d  
Epoch = 152.4297 BKJD

DV fit results are unavailable

DV Diagnostic Results:

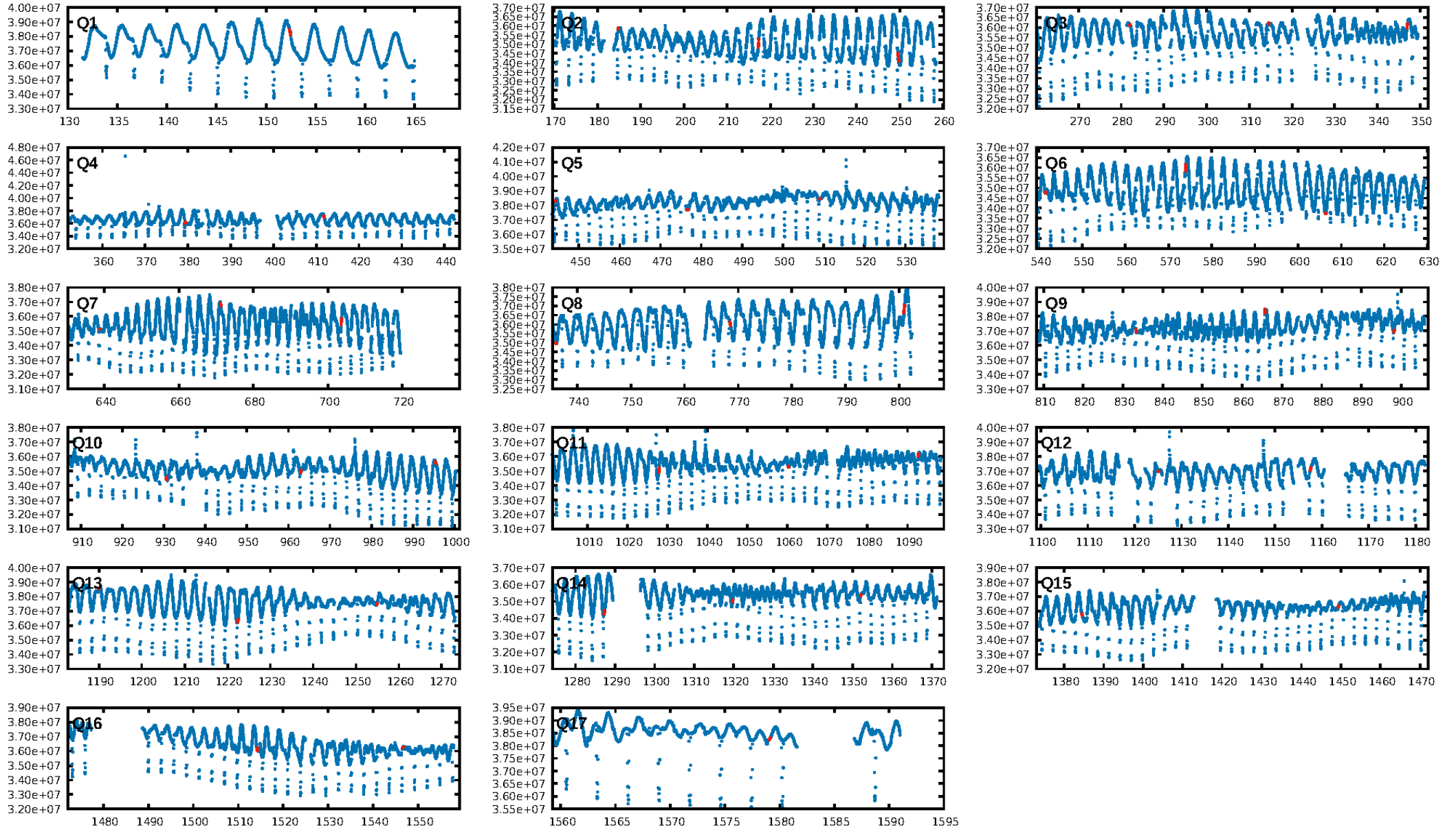
ShortPeriod-sig: 100.0% [155.92σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [38/38]  
GhostDiagnostic-chr: 0.5928

Centroid-sig: 16.2%  
Centroid-so: 0.135 arcsec [2.07σ]  
OotOffset-rm: 0.038 arcsec [0.51σ]  
KicOffset-rm: 0.243 arcsec [3.13σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.18 [3/17]  
DiffImageOverlap-fno: 0.00 [0/17]

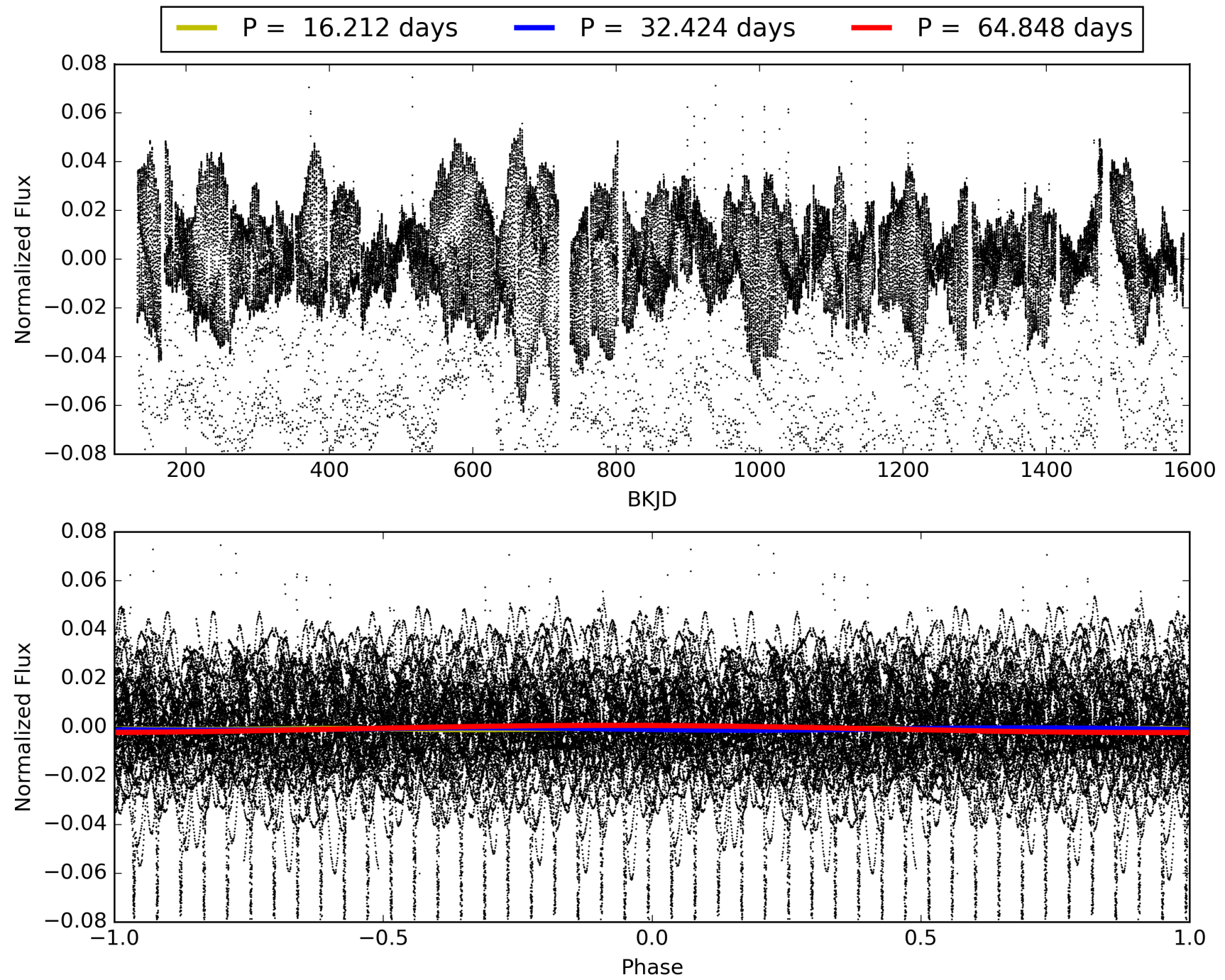
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:03:06 Z

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

# TCE 008081482-03, PDC Light Curves

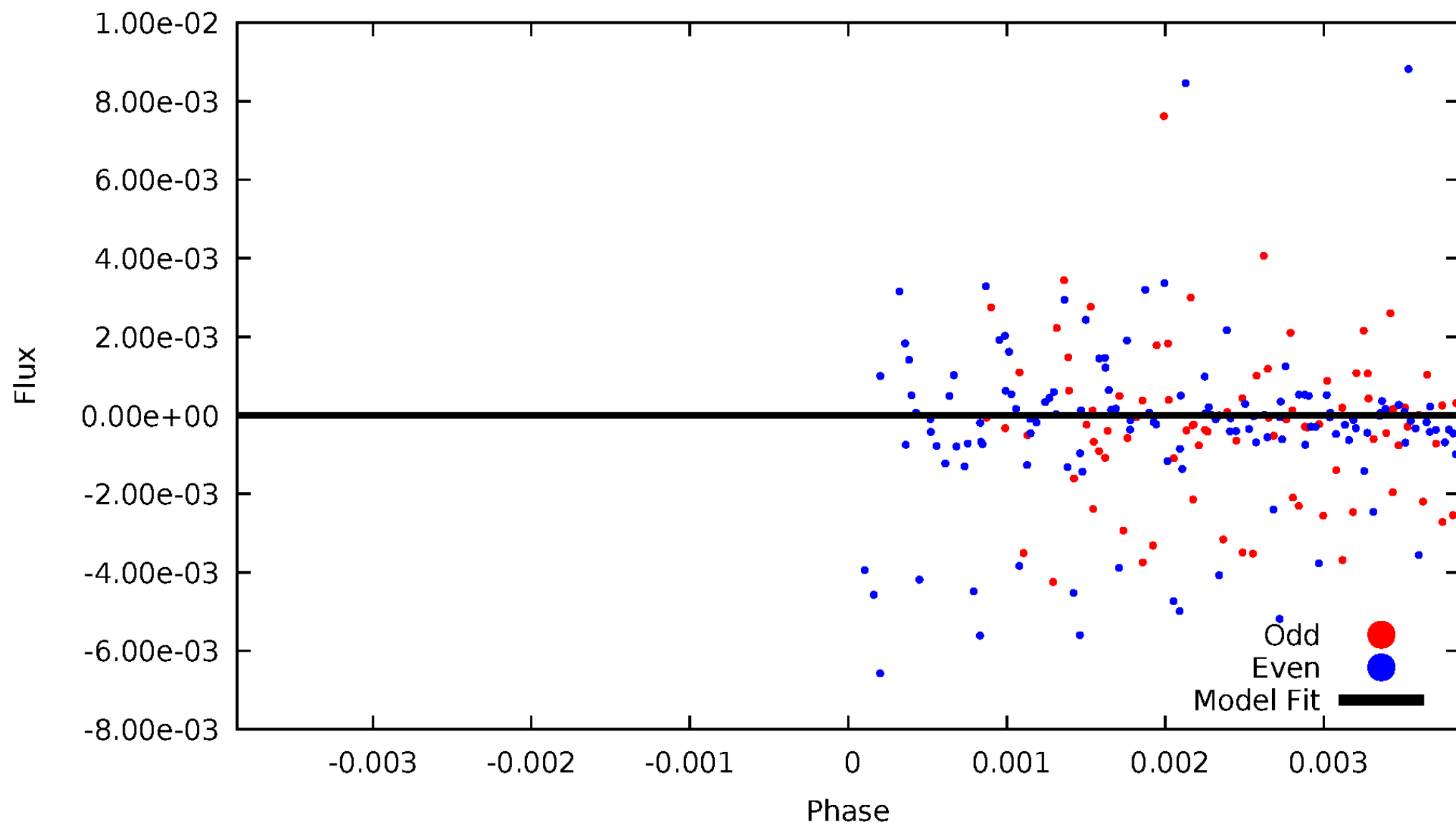


TCE 008081482-03



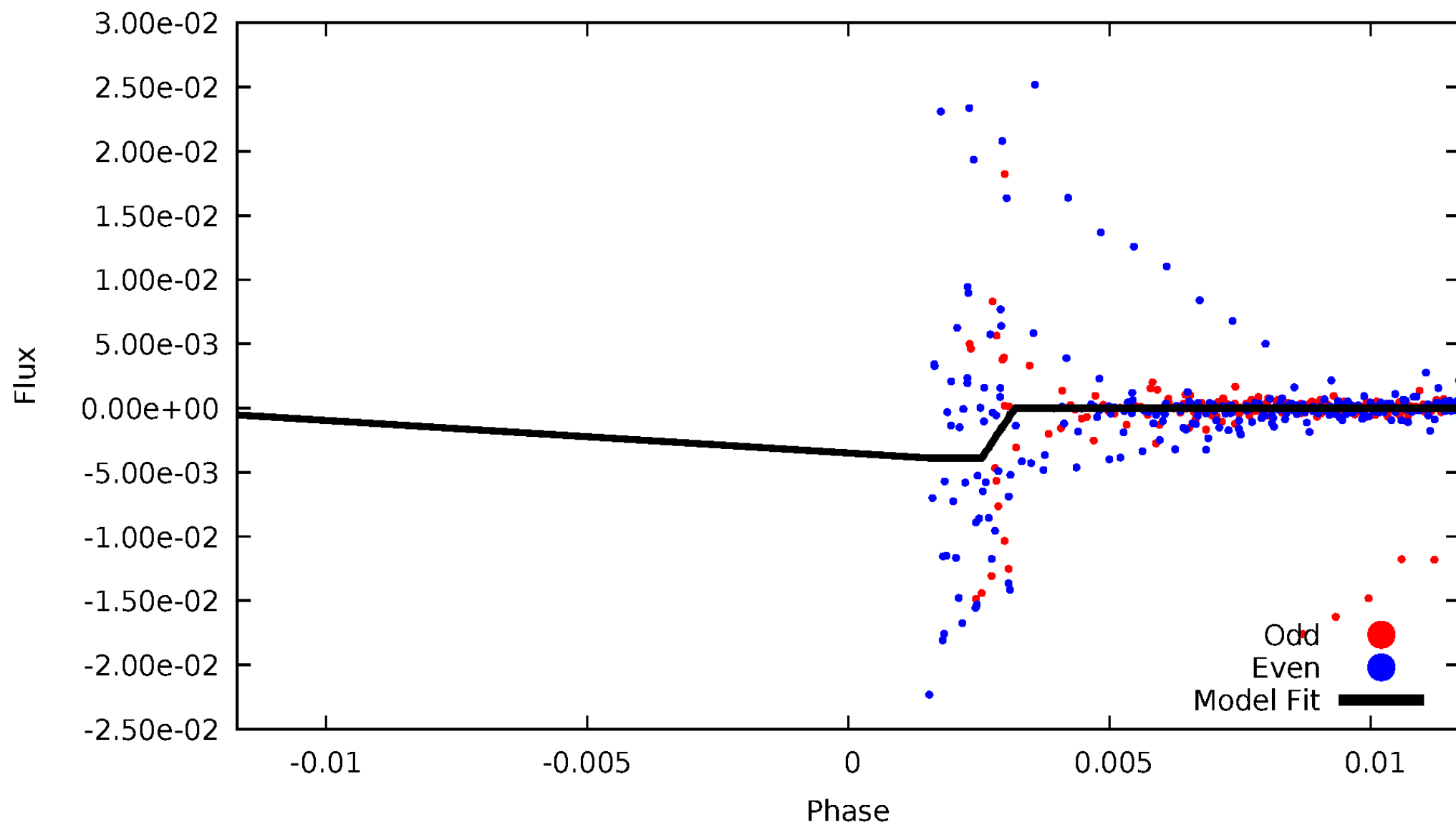
# DV Odd/Even

TCE 008081482-03



# ALT Odd/Even

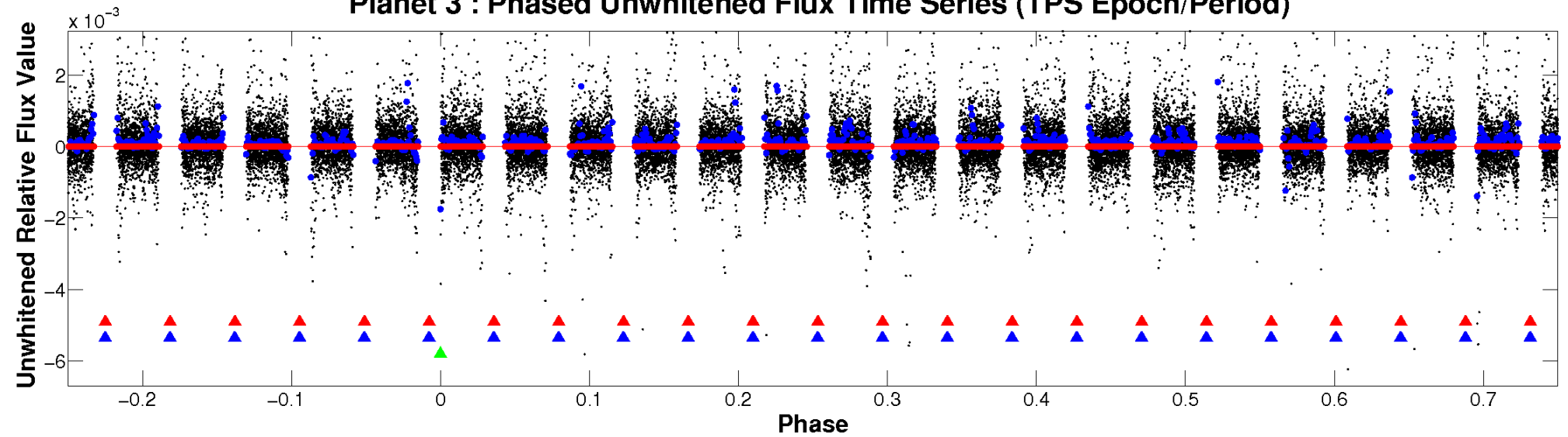
TCE 008081482-03



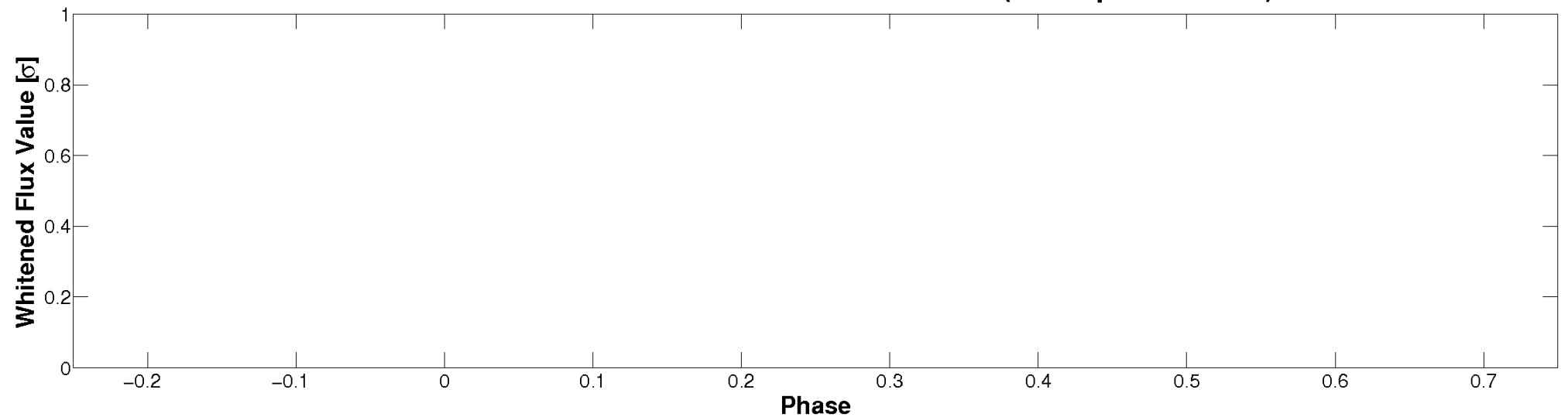


# Non-Whitened Vs. Whitened Light Curve

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



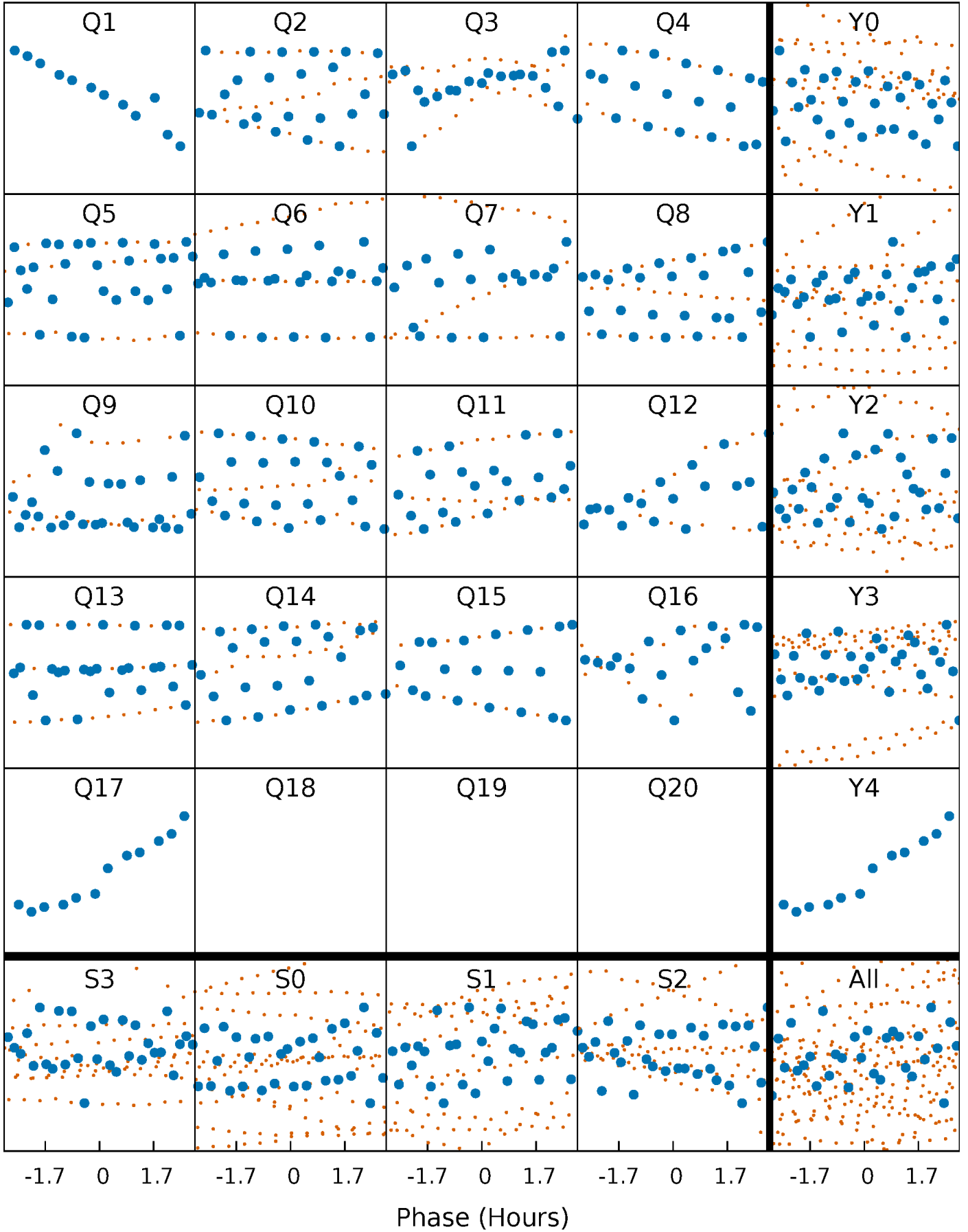
**Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)**





# PDC Quarter-Phased Transit Curves

TCE 008081482-03   P= 32.424237 Days    $T_0=152.429749$  (BKJD)



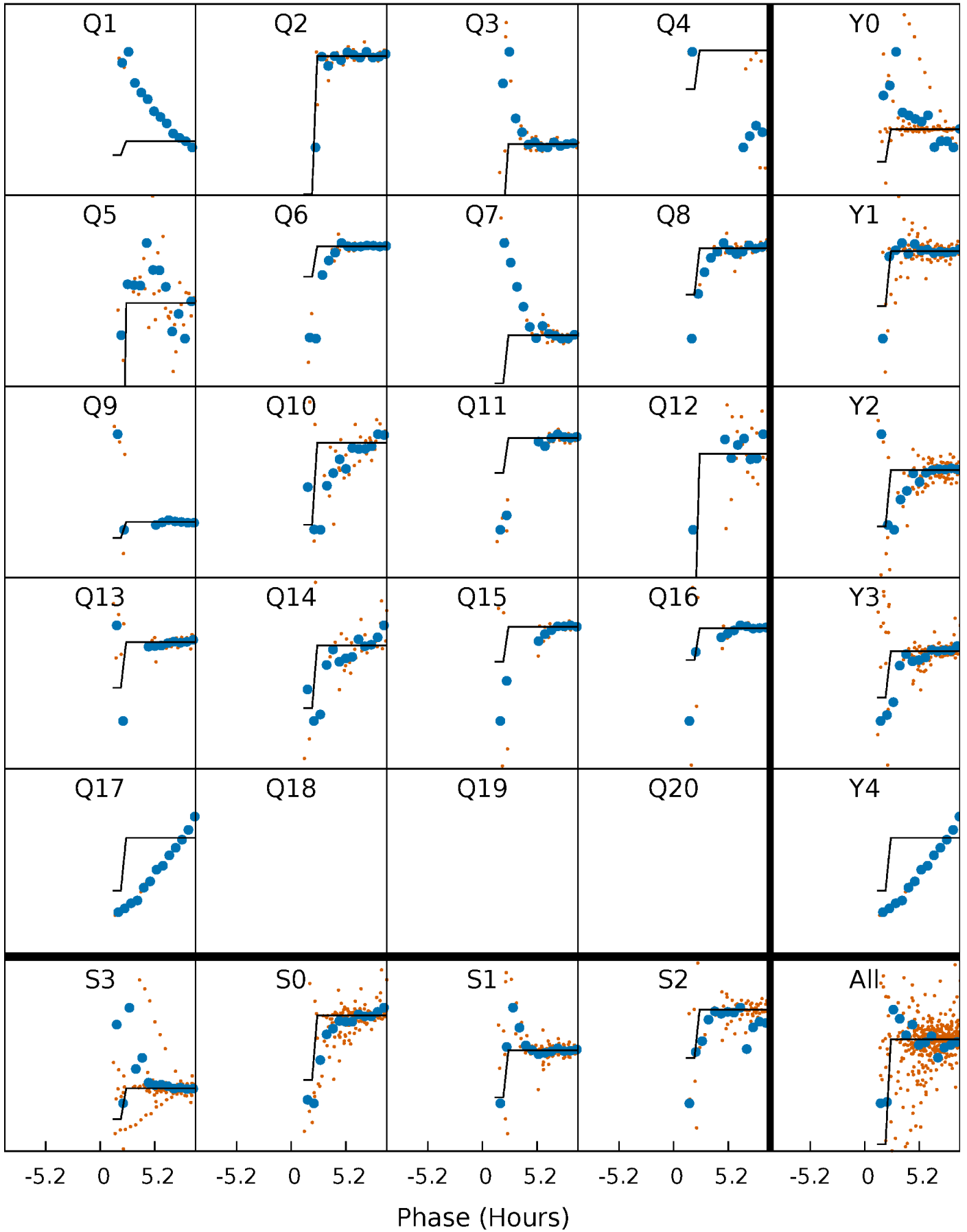
# DV Quarter-Phased Transit Curves

TCE 008081482-03     $P = 32.424237$  Days     $T_0 = 152.429749$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

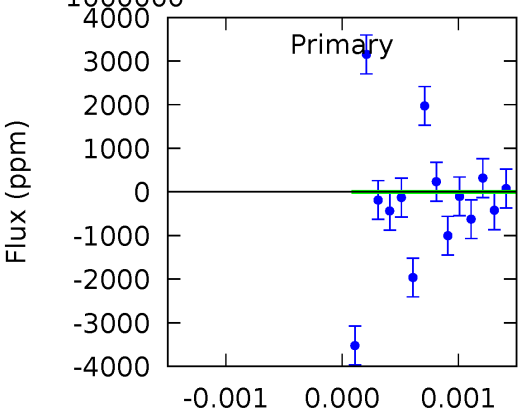
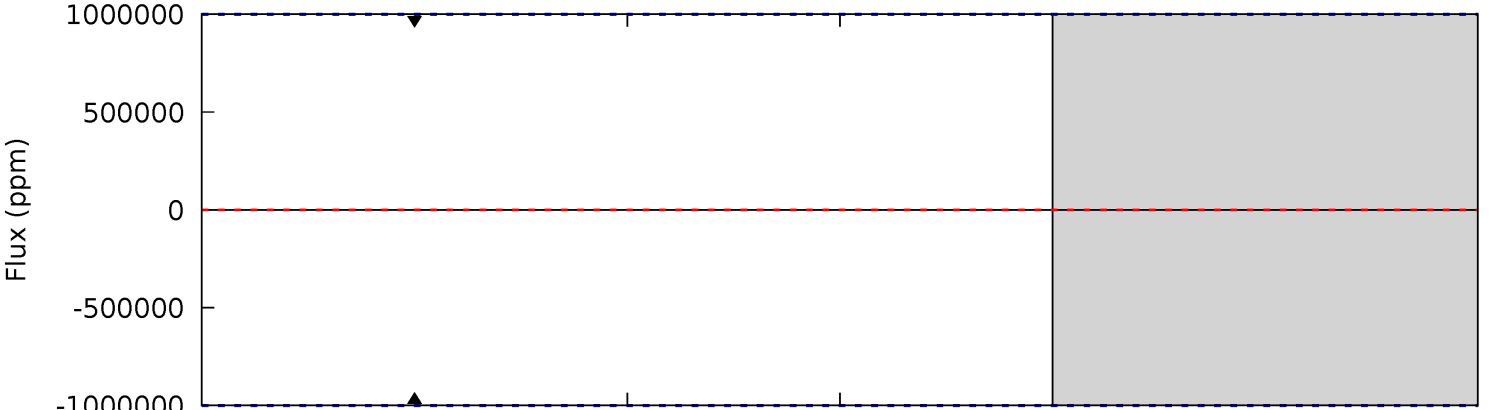
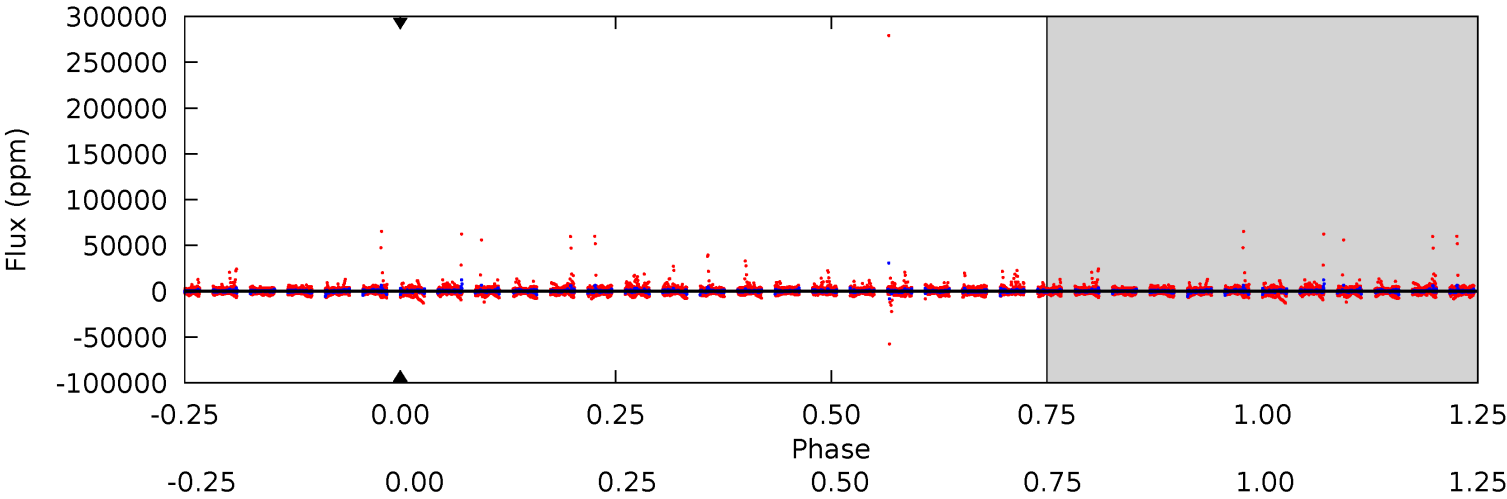
TCE 008081482-03   P= 32.424237 Days    $T_0=152.382785$  (BKJD)



# DV Model-Shift Uniqueness Test

008081482-03, P = 32.424237 Days, E = 120.005512 Days

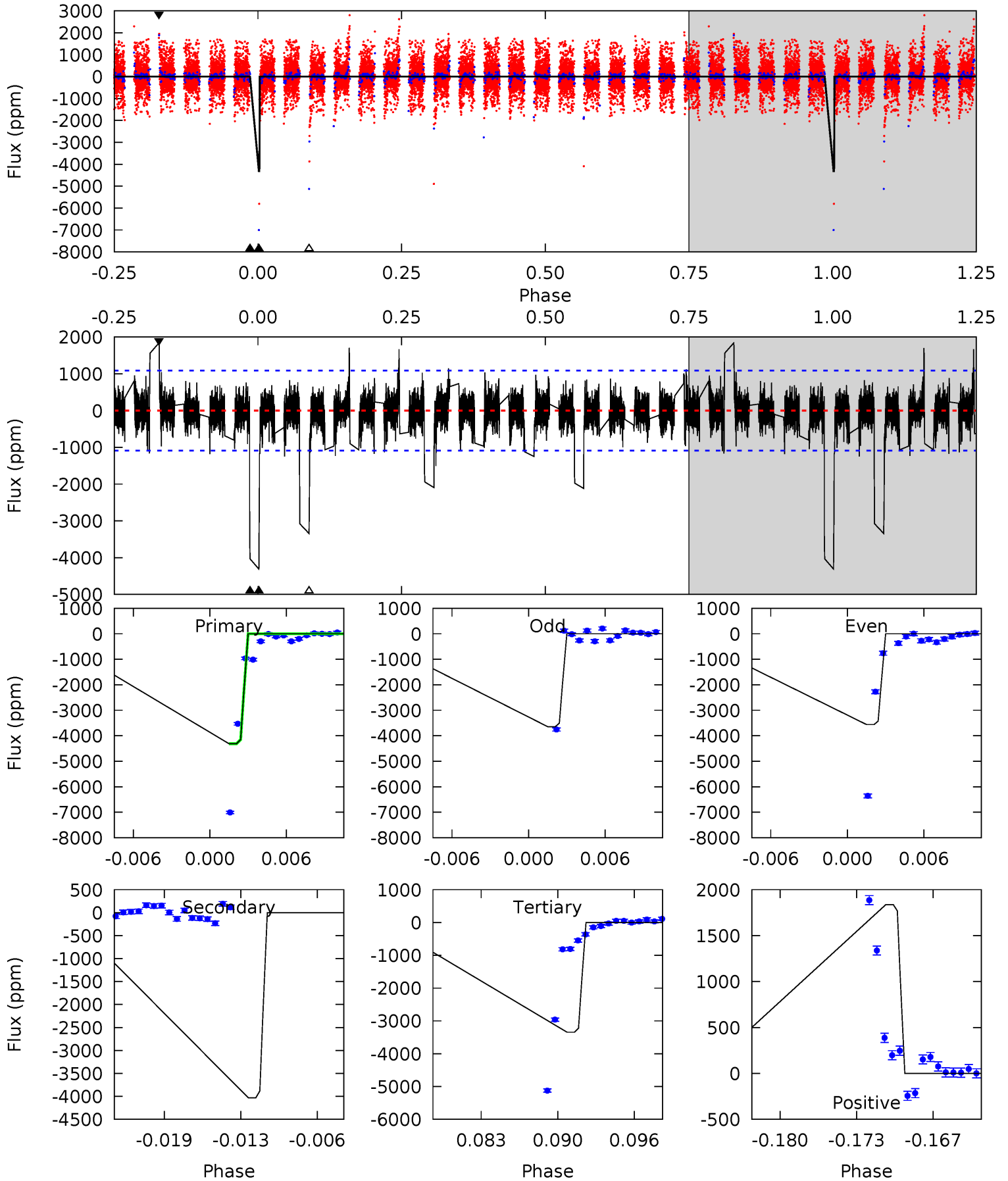
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

008081482-03, P = 32.424237 Days, E = 119.958548 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
20.2	18.9	15.7	8.62	5.11	2.73	1.17	4.54	11.6	3.23	10.3	0.23	1.50	0.30	0



### Stellar Parameters For KIC 008081482

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5767^{+155}_{-155}$	$4.330^{+0.180}_{-0.180}$	$-0.160^{+0.300}_{-0.300}$	$1.074^{+0.305}_{-0.203}$	$0.900^{+0.133}_{-0.082}$	$1.024^{+0.898}_{-0.471}$
	+3%/-3%	+4%/-4%	+188%/-188%	+28%/-19%	+15%/-9%	+88%/-46%
Source	PHO1	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 008081482-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$10.33^{+9.53}_{-6.80}$	$837^{+61}_{-51}$	$3689^{+13578}_{-20483}$	$169^{+32194}_{-30438}$
Alt.	$-4032 \pm 213$	$11.34^{+10.08}_{-7.62}$	$839^{+61}_{-49}$	$4780^{+3658}_{-986}$	$637^{+5236}_{-455}$

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

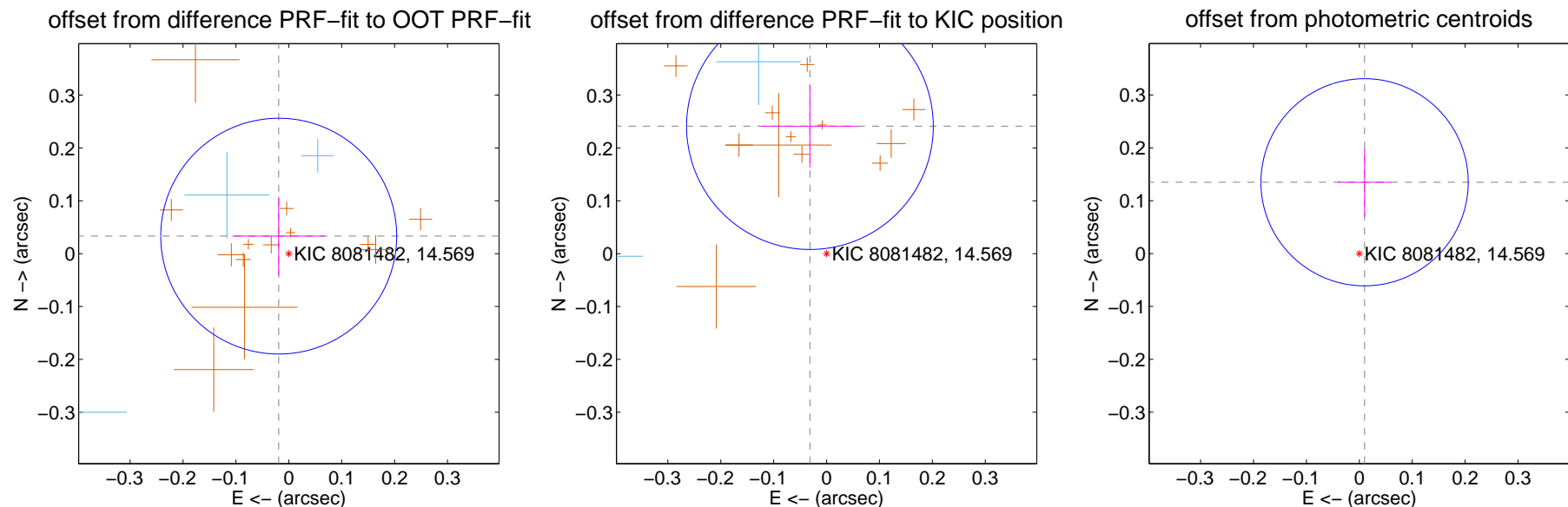
## DV Centroid Data

Supplemental centroid analysis for 008081482-03. Kepler magnitude: 14.57. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

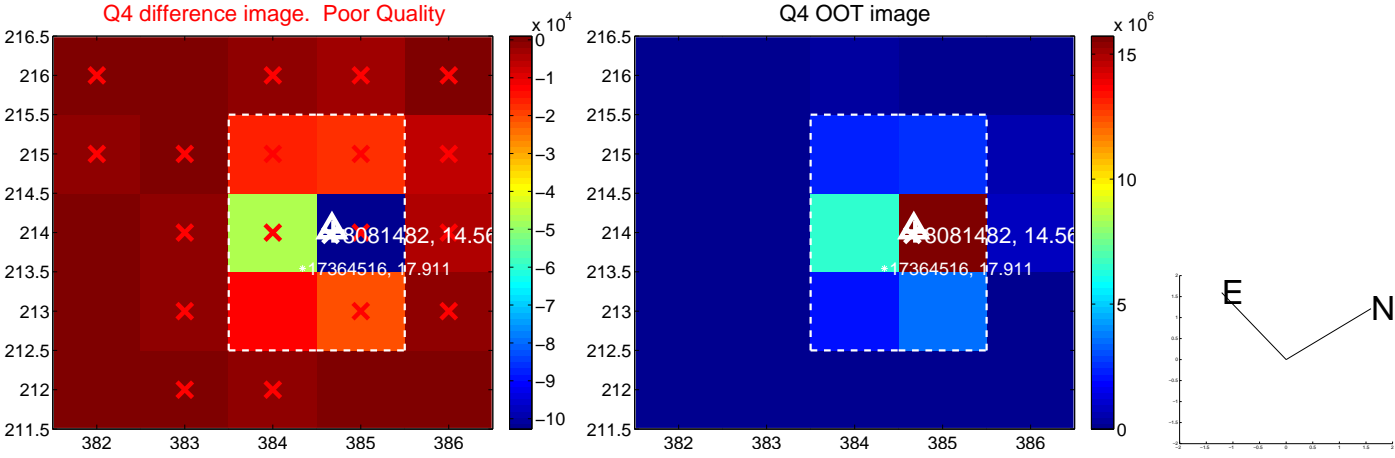
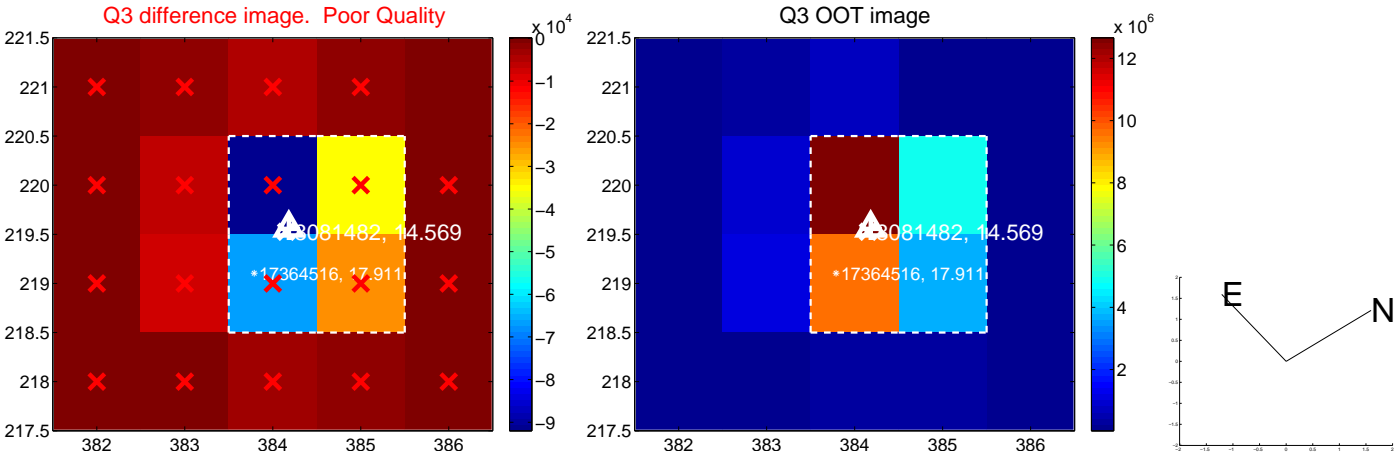
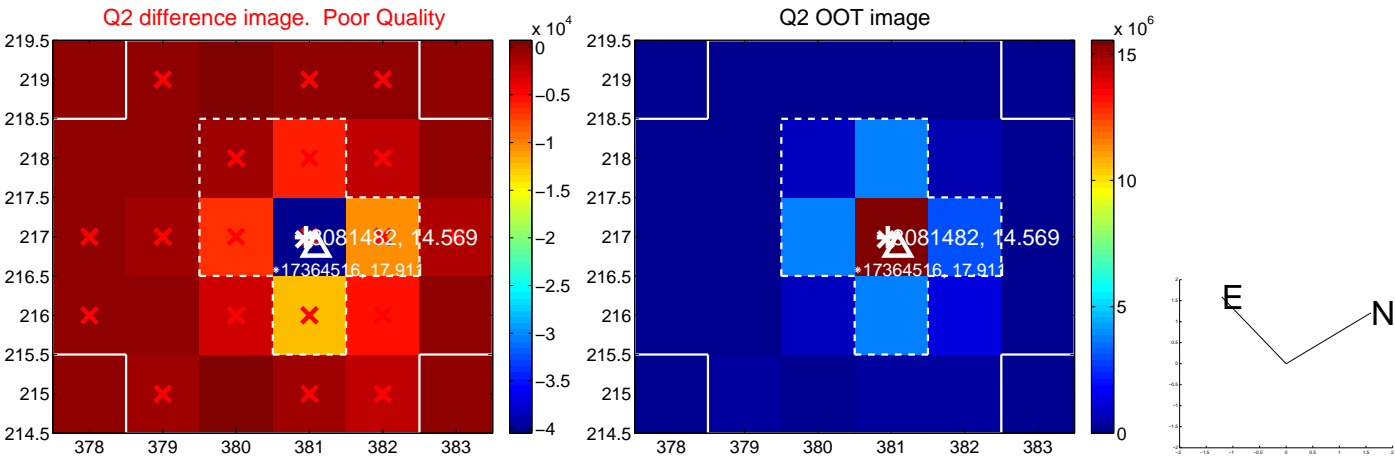
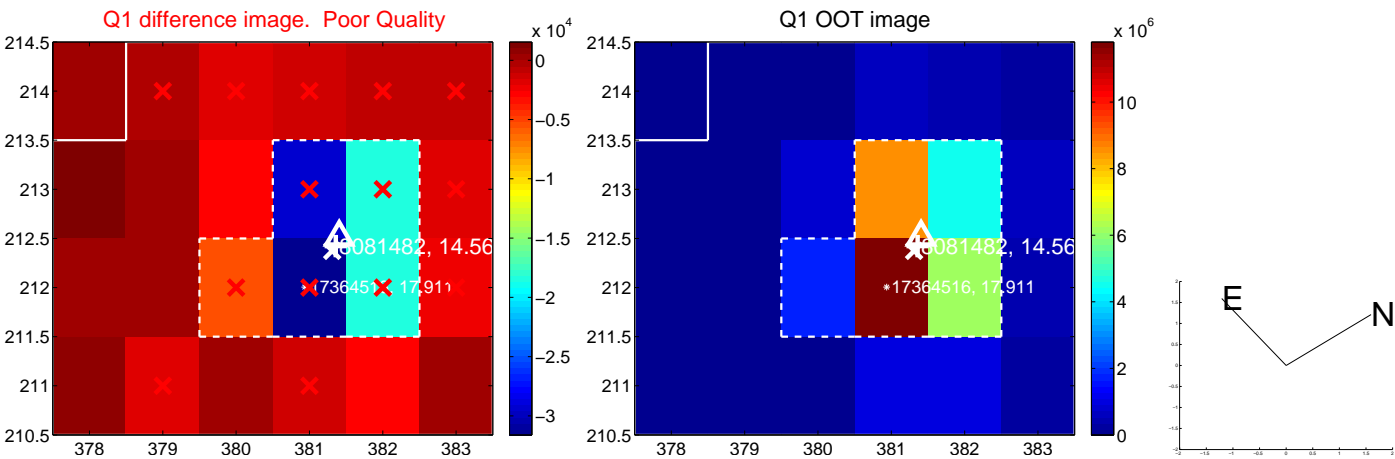
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.038 \pm 0.074$	0.51	$0.019 \pm 0.087$	$0.033 \pm 0.074$
PRF-fit source offset from KIC position	<b><math>0.243 \pm 0.078</math></b>	<b>3.13</b>	$0.031 \pm 0.090$	$0.241 \pm 0.078$
photometric centroid source offset	$0.14 \pm 0.07$	2.07	$-0.01 \pm 0.05$	$0.13 \pm 0.07$



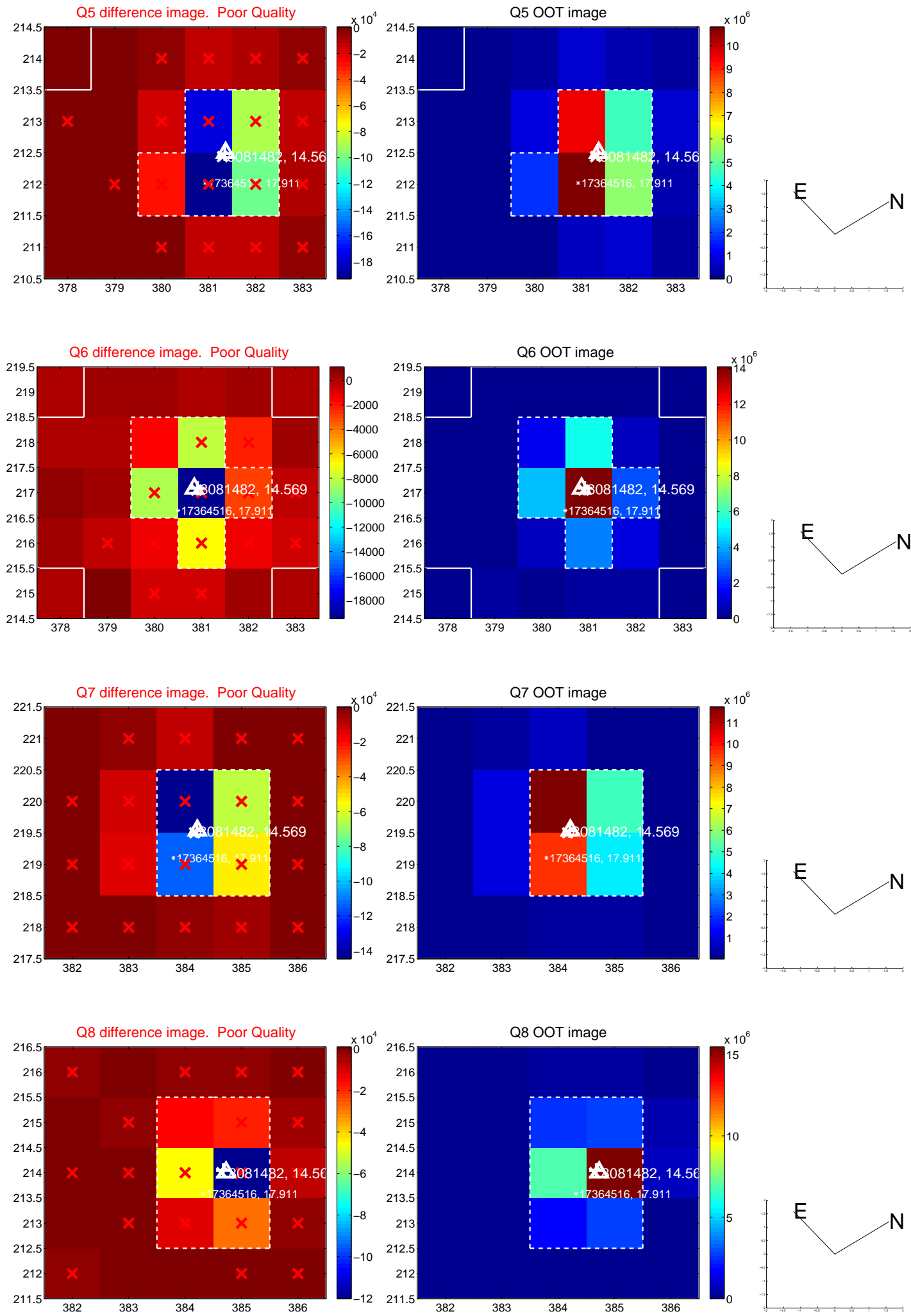
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

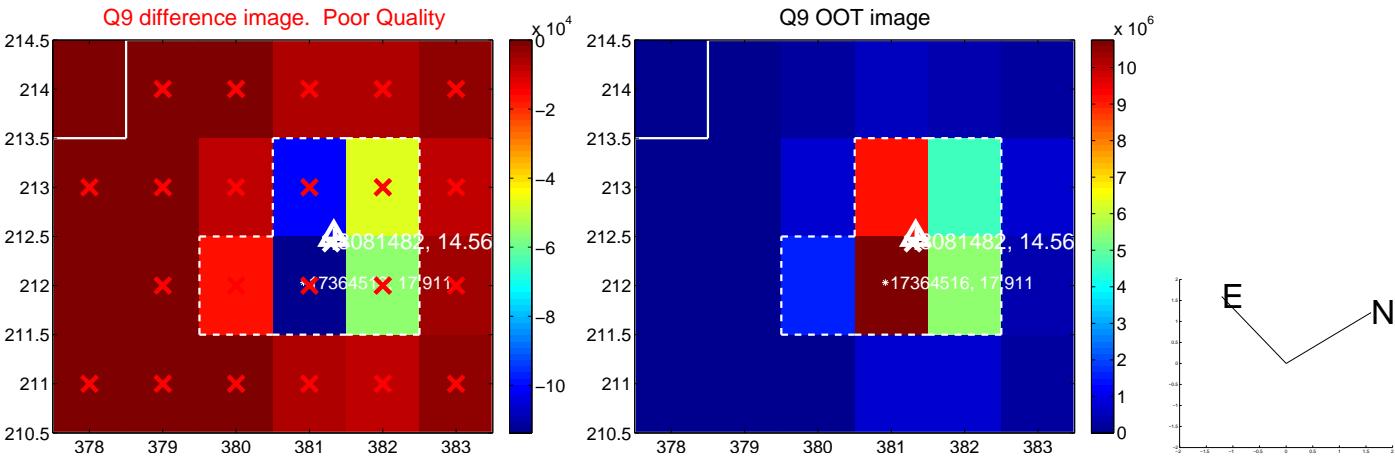




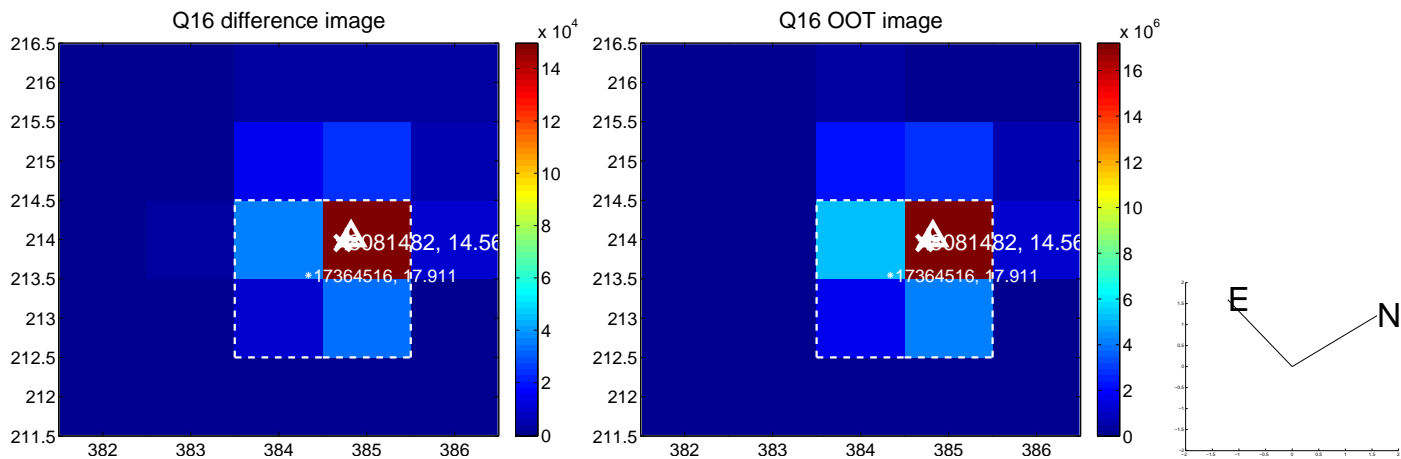
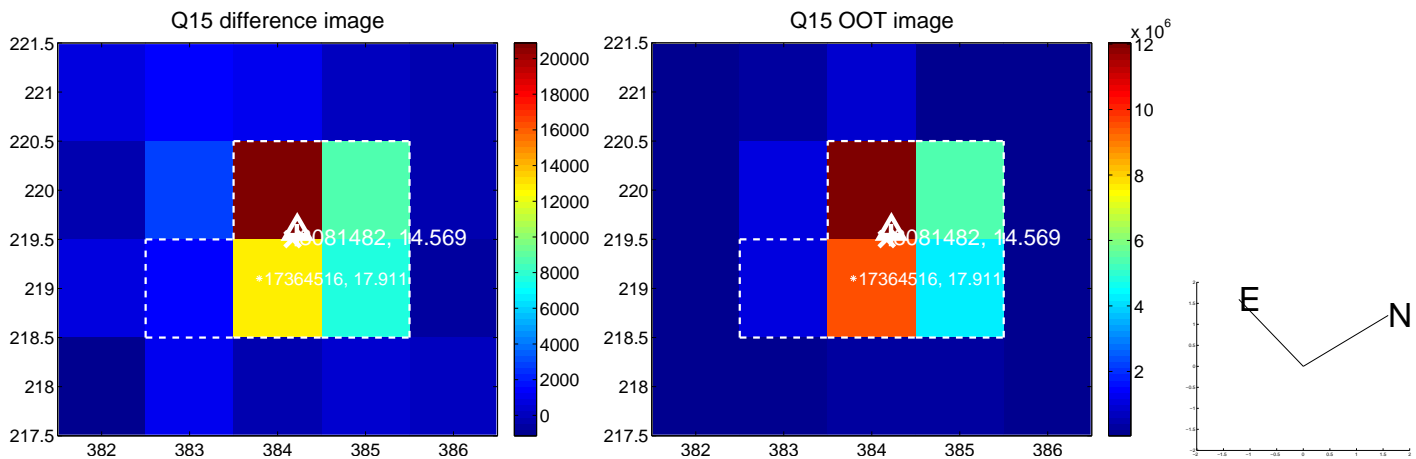
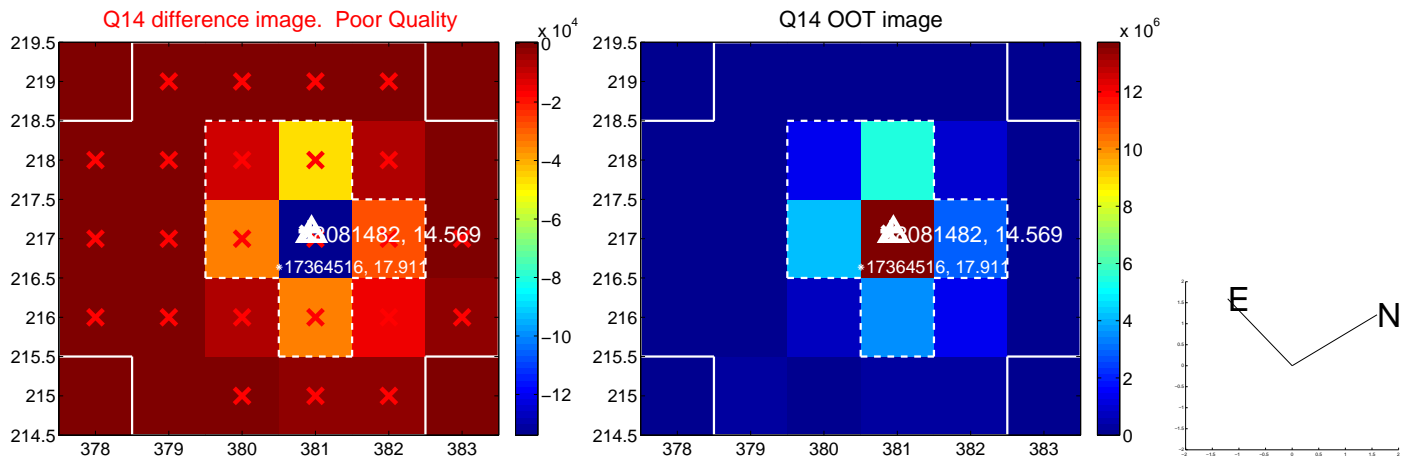
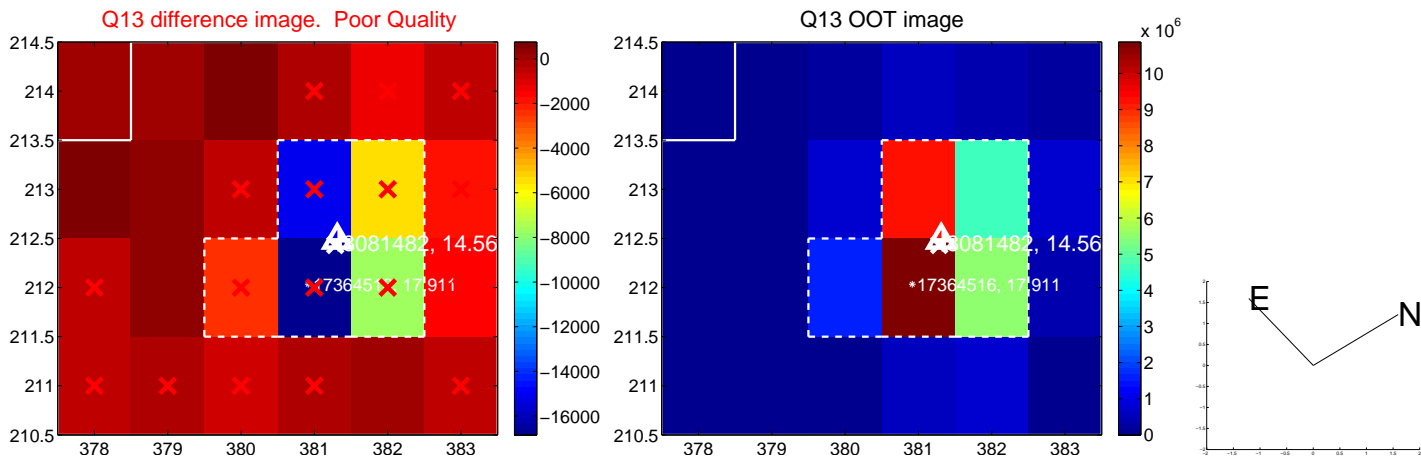
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



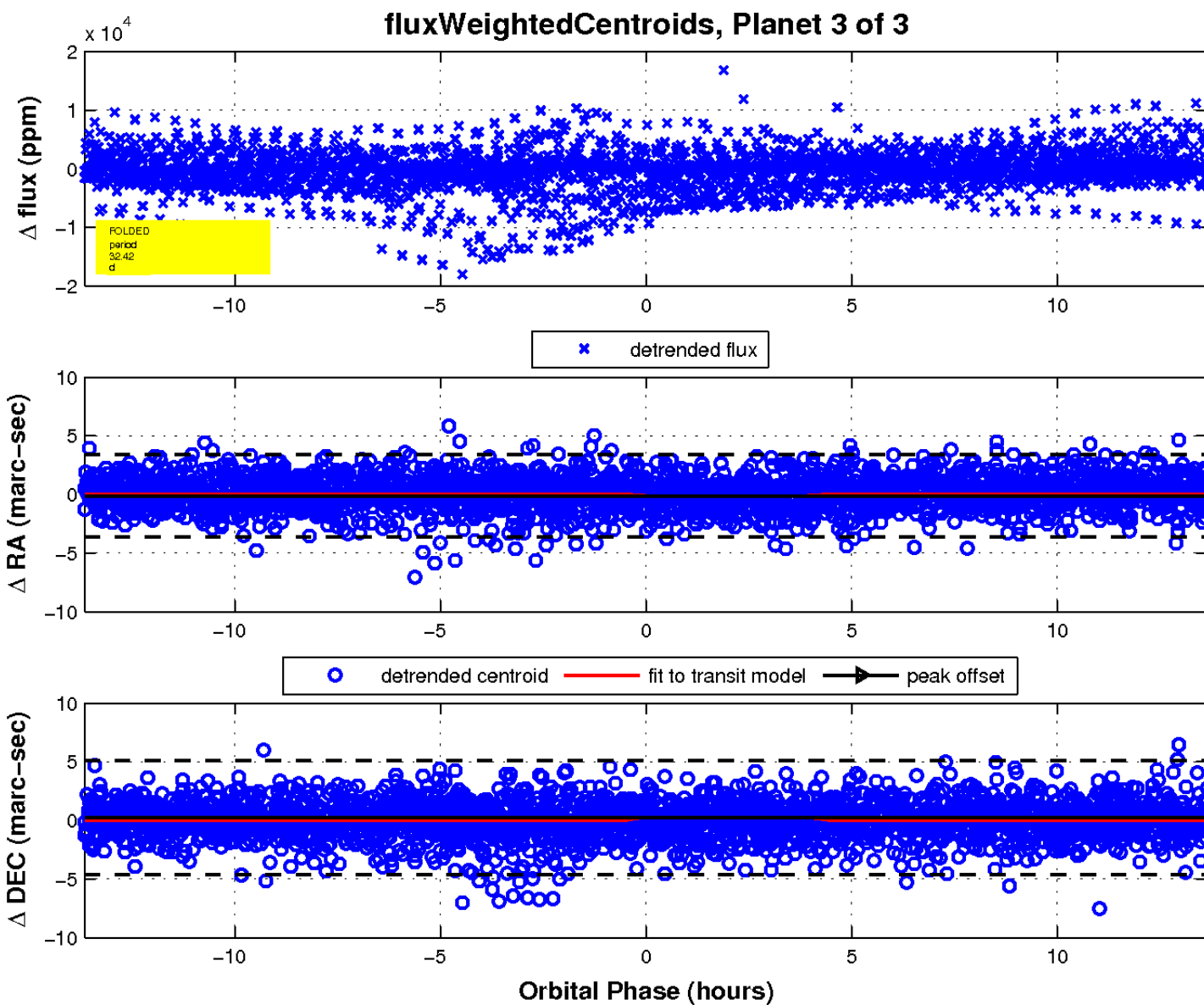
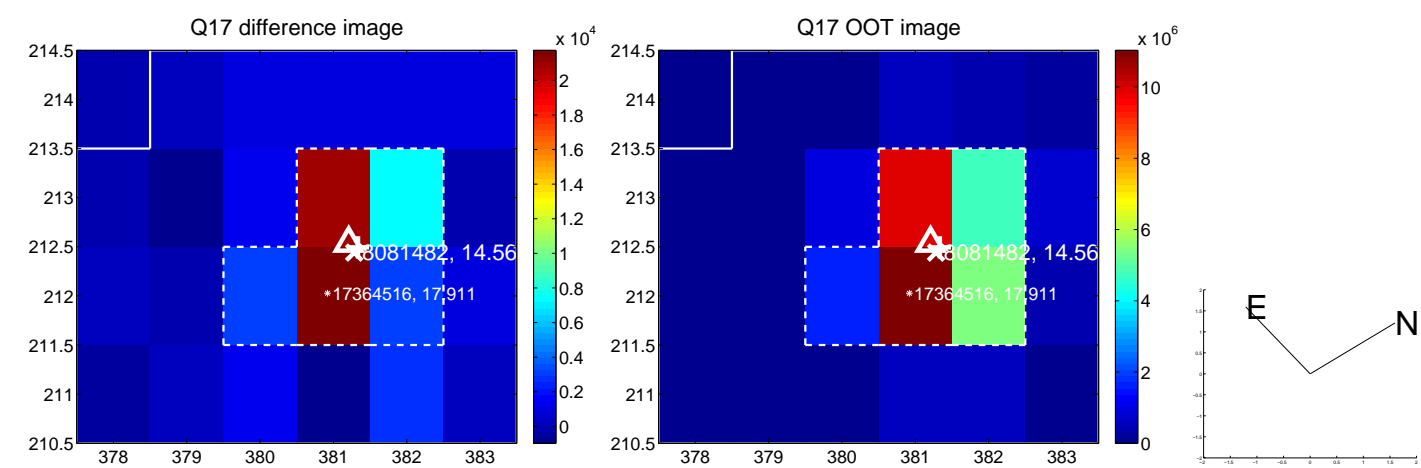
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

