

# KIC 008329062

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008329062-01	OBS	No	2.365406	132.142003	40.8	7.358	10.3	9.5	3.81	6210	3.03	11376.36
008329062-02	OBS	No	191.510007	310.855053	196.2	20.156	7.5	5.8	3.81	6210	5.80	32.48
008329062-03	OBS	No	355.006270	137.269315	249.6	14.582	7.6	5.6	3.81	6210	6.19	14.26

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008329062-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008329062-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV
008329062-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_DV—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.

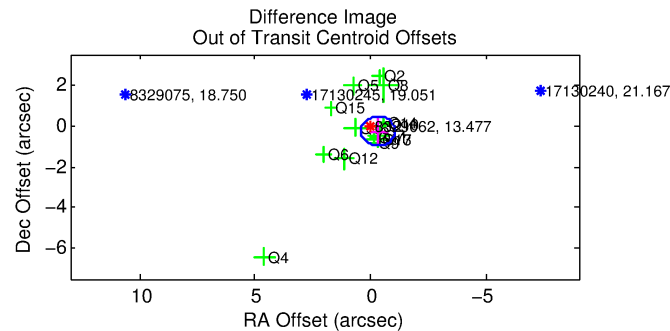
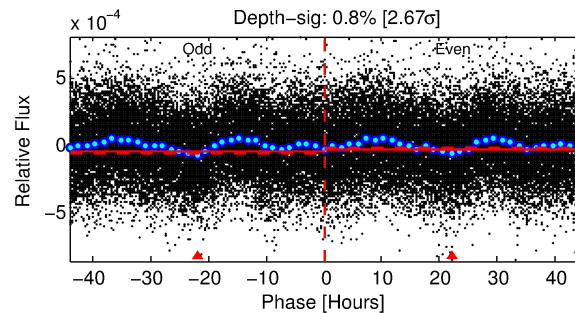
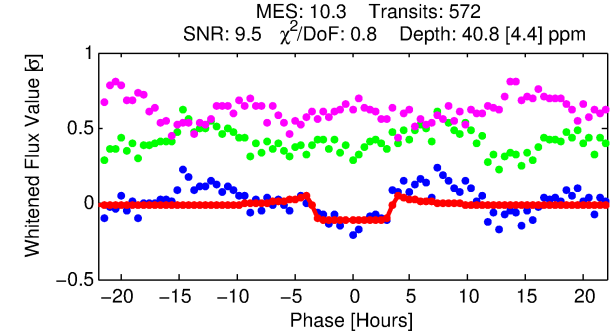
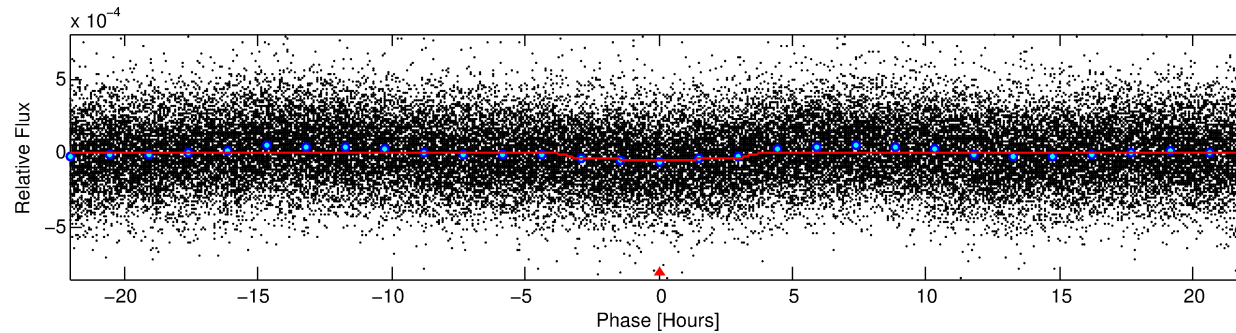
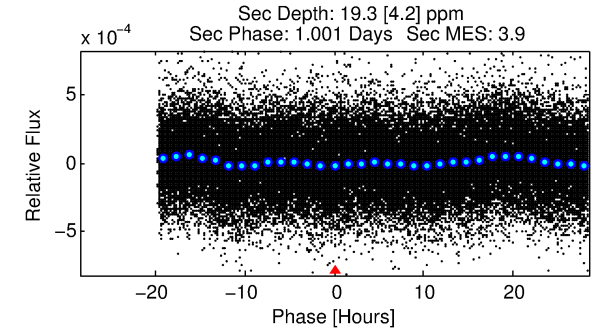
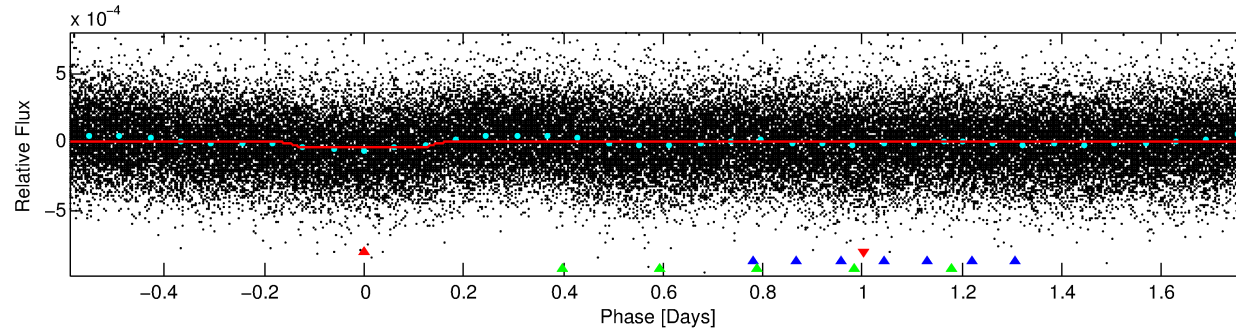
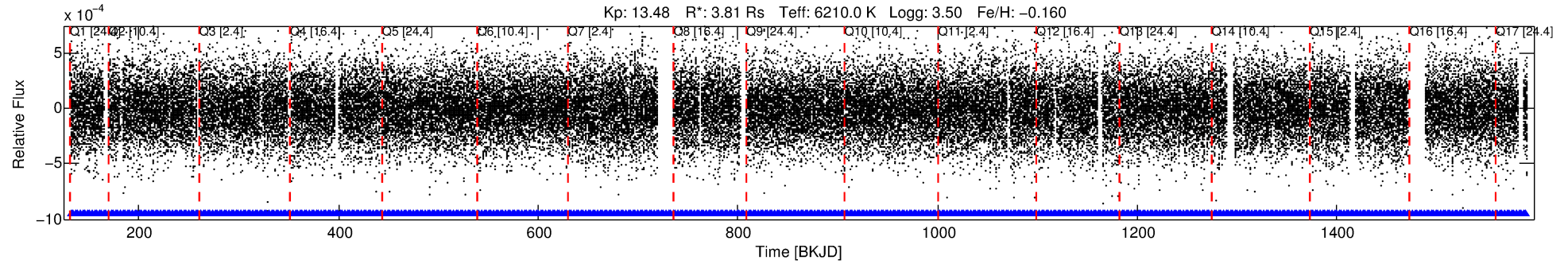
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008329062-01

No Significant Match Found

# DV One-Page Summary

KIC: 8329062 Candidate: 1 of 3 Period: 2.365 d



## DV Fit Results:

Period = 2.36541 [0.00002] d  
Epoch = 132.1420 [0.0055] BKJD  
Rp/R\* = 0.0073 [0.0008]  
a/R\* = 1.27 [0.28]  
b = 0.95 [0.06]  
Seff = 11376.36 [13638.76]  
Teq = 2633 [789] K  
Rp = 3.03 [2.00] Re  
a = 0.0412 [0.0290] AU  
Ag = 1.96 [2.42] [0.40σ]  
Teffp = 4820 [425] K [2.44σ]

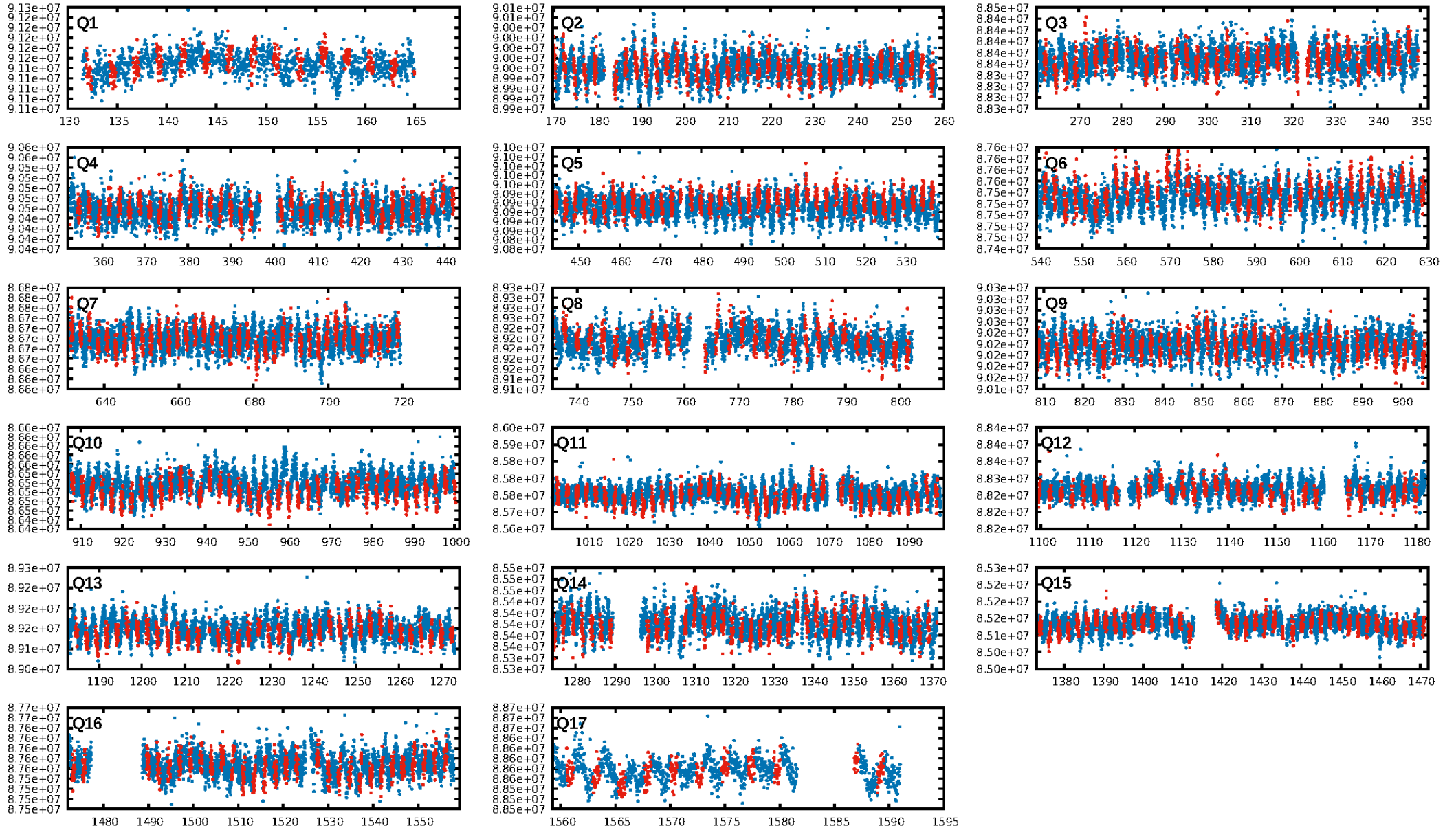
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [211.56σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 8.21e-19  
RollingBand-fgt: 1.00 [547/547]  
GhostDiagnostic-chr: 1.669  
Centroid-sig: 7.4%  
Centroid-so: 1.026 arcsec [1.27σ]  
OotOffset-rm: 0.408 arcsec [1.69σ]  
KicOffset-rm: 0.320 arcsec [1.27σ]  
OotOffset-st: 4/3/4/4 [15]  
KicOffset-st: 4/3/4/4 [15]  
DiffImageQuality-fgm: 0.73 [11/15]  
DiffImageOverlap-fno: 1.00 [17/17]

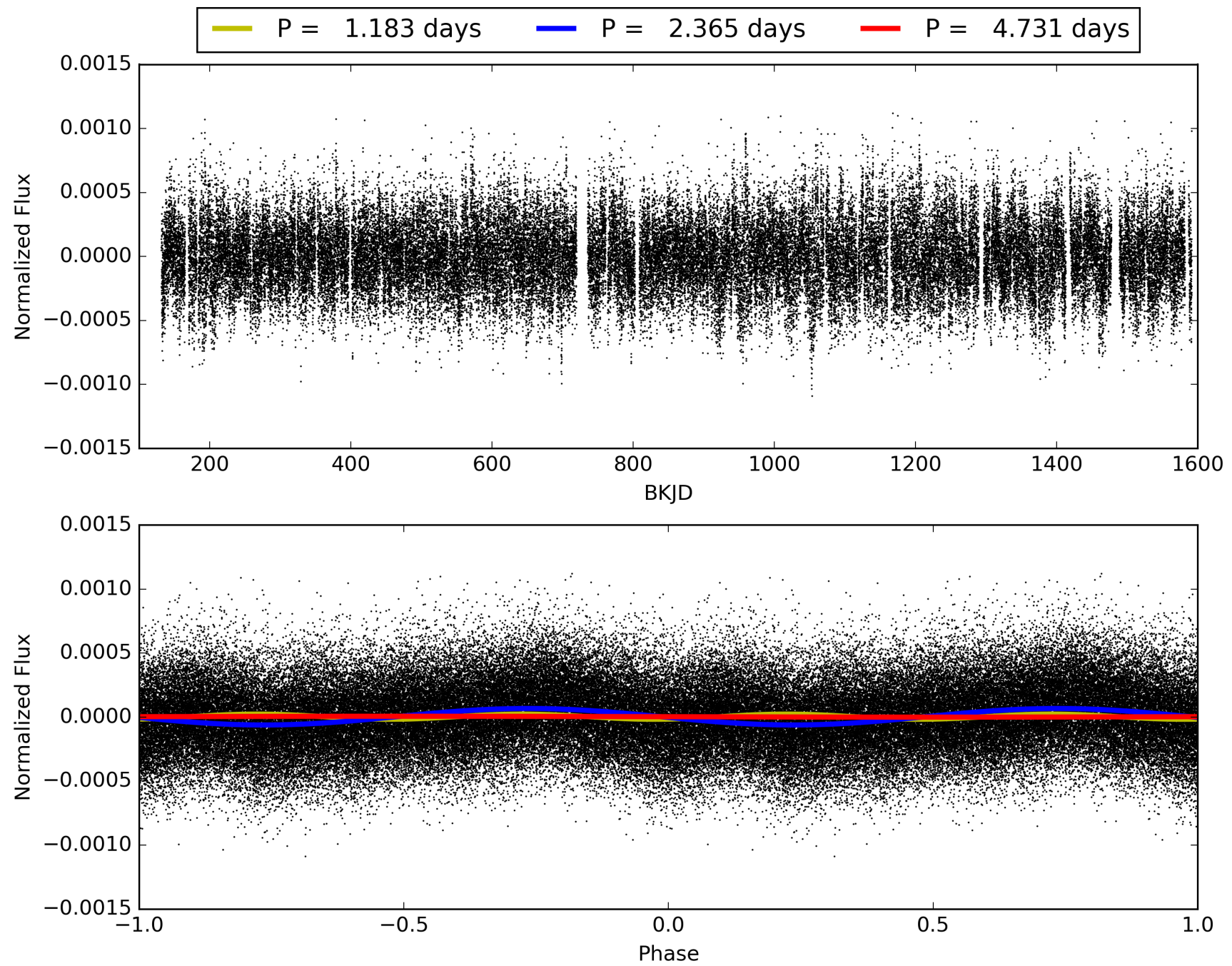
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:21:15 Z

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

# TCE 008329062-01, PDC Light Curves



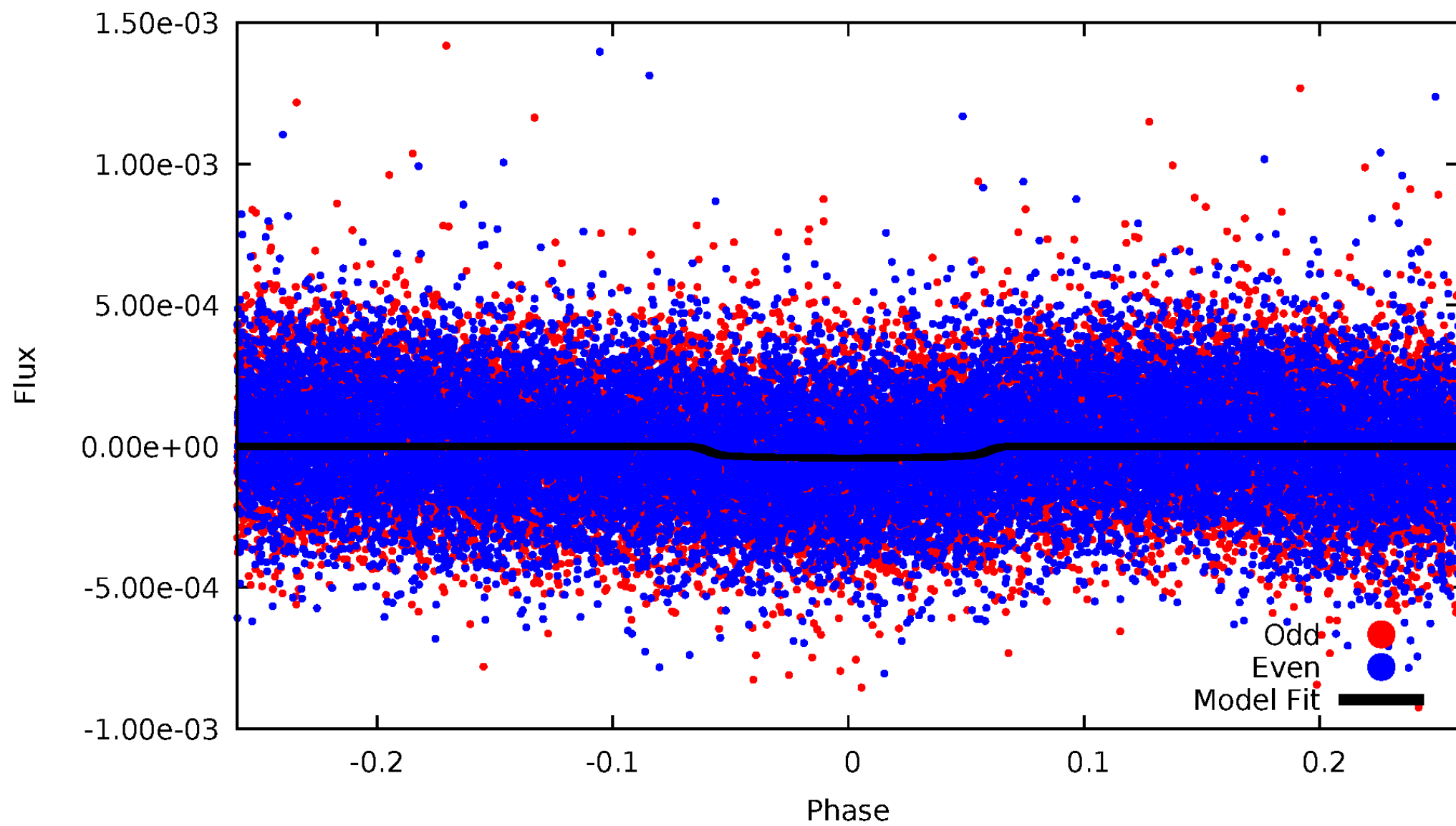
TCE 008329062-01





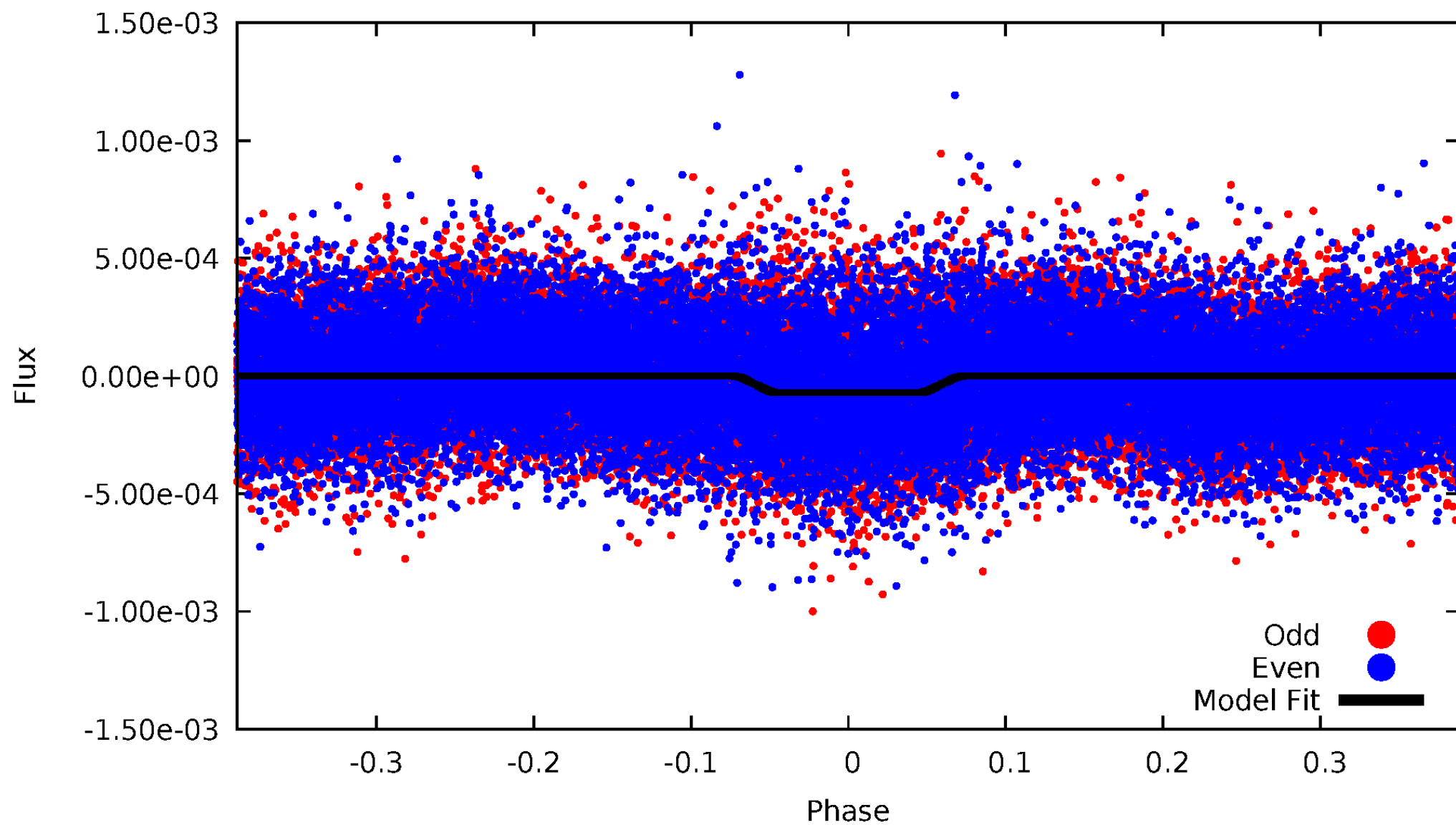
# DV Odd/Even

TCE 008329062-01

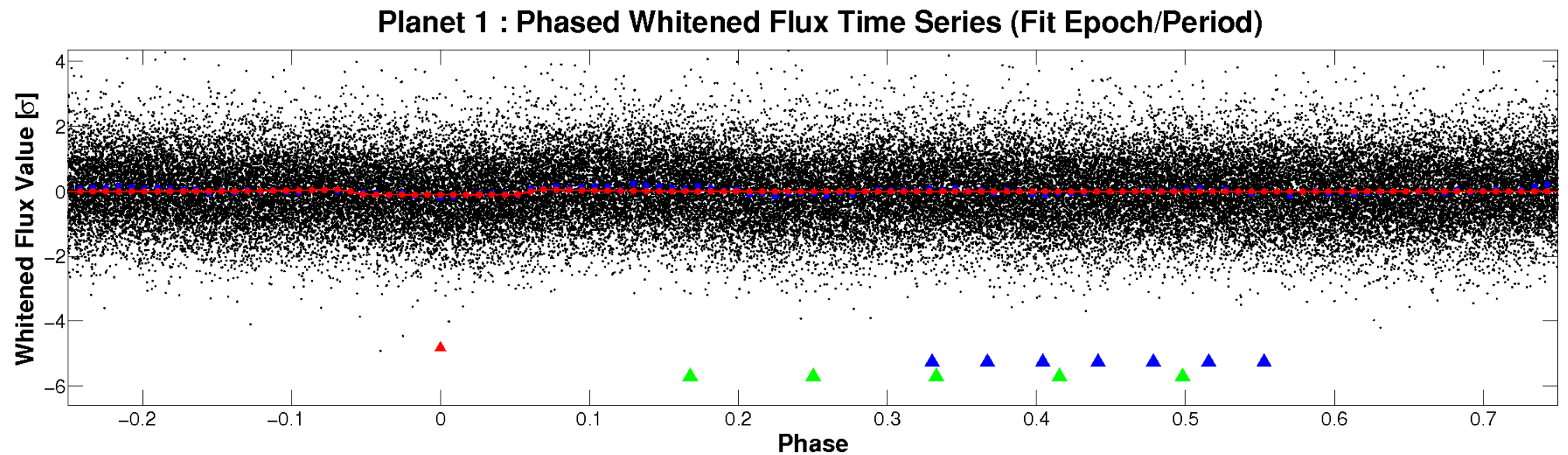
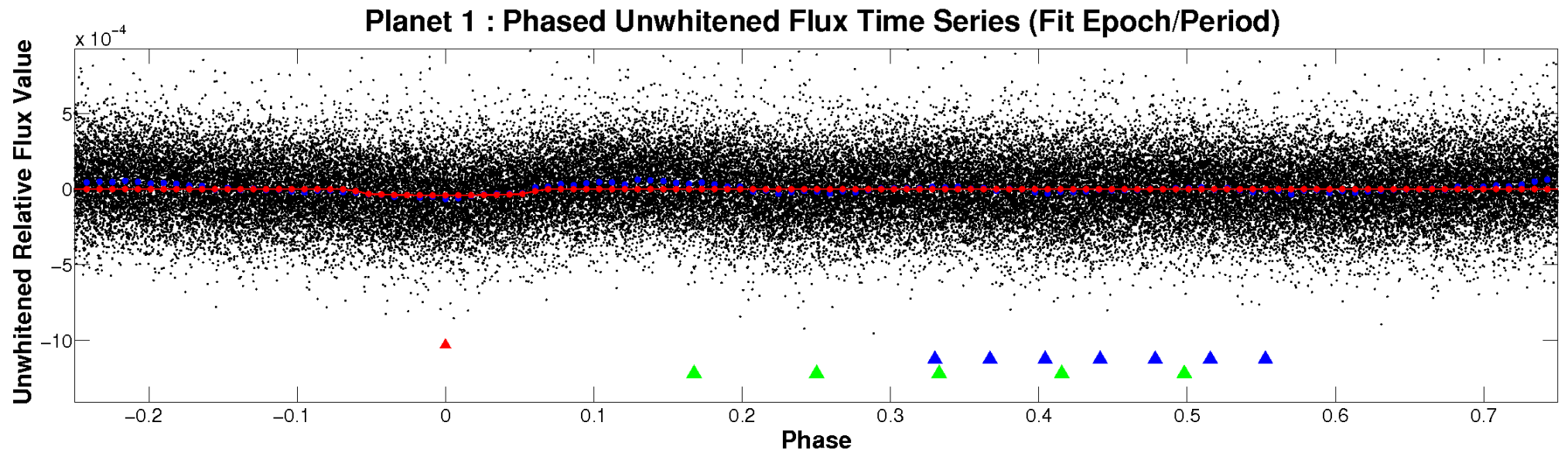


# ALT Odd/Even

TCE 008329062-01

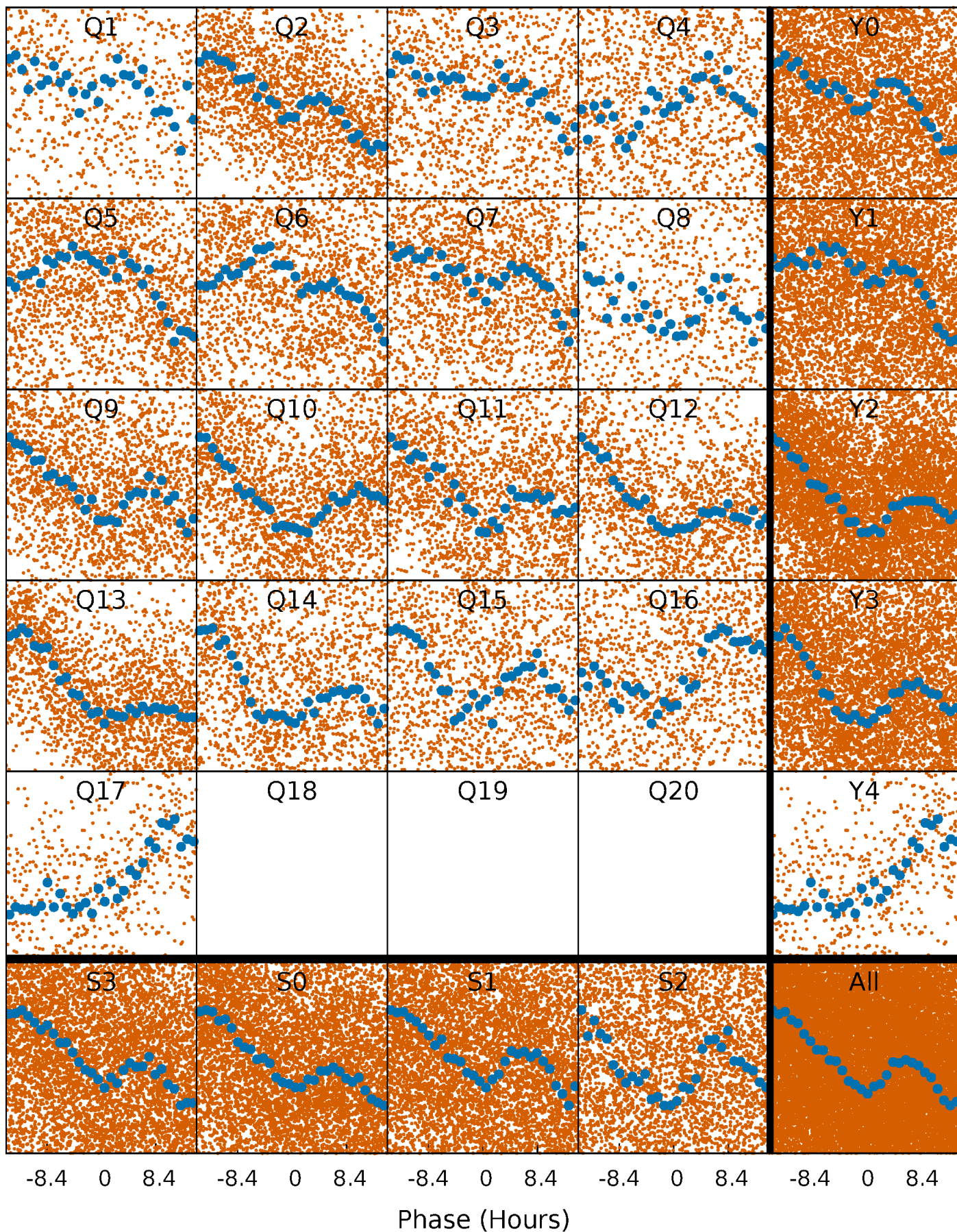


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

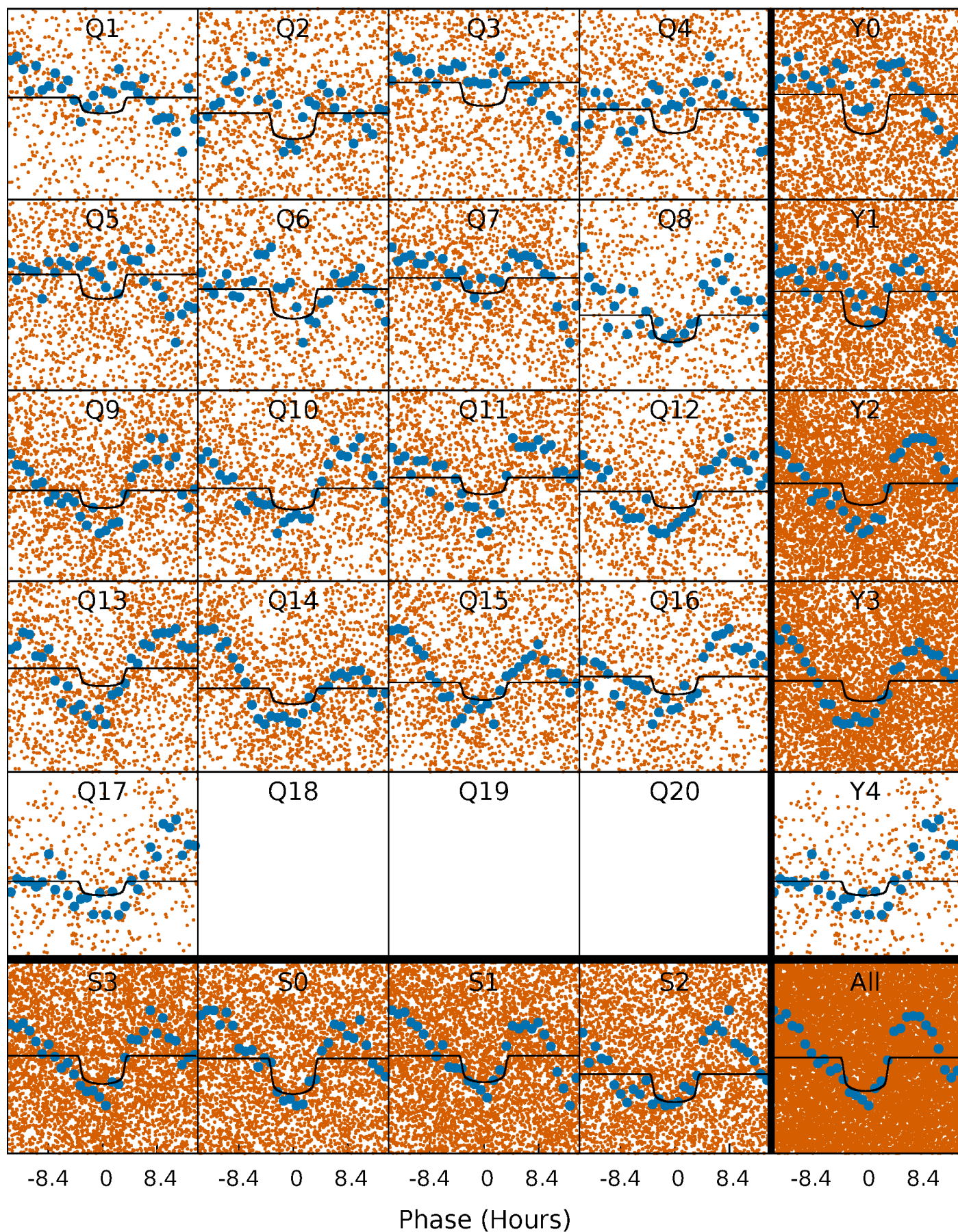
TCE 008329062-01 P= 2.365406 Days  $T_0=132.142003$  (BKJD)





# DV Quarter-Phased Transit Curves

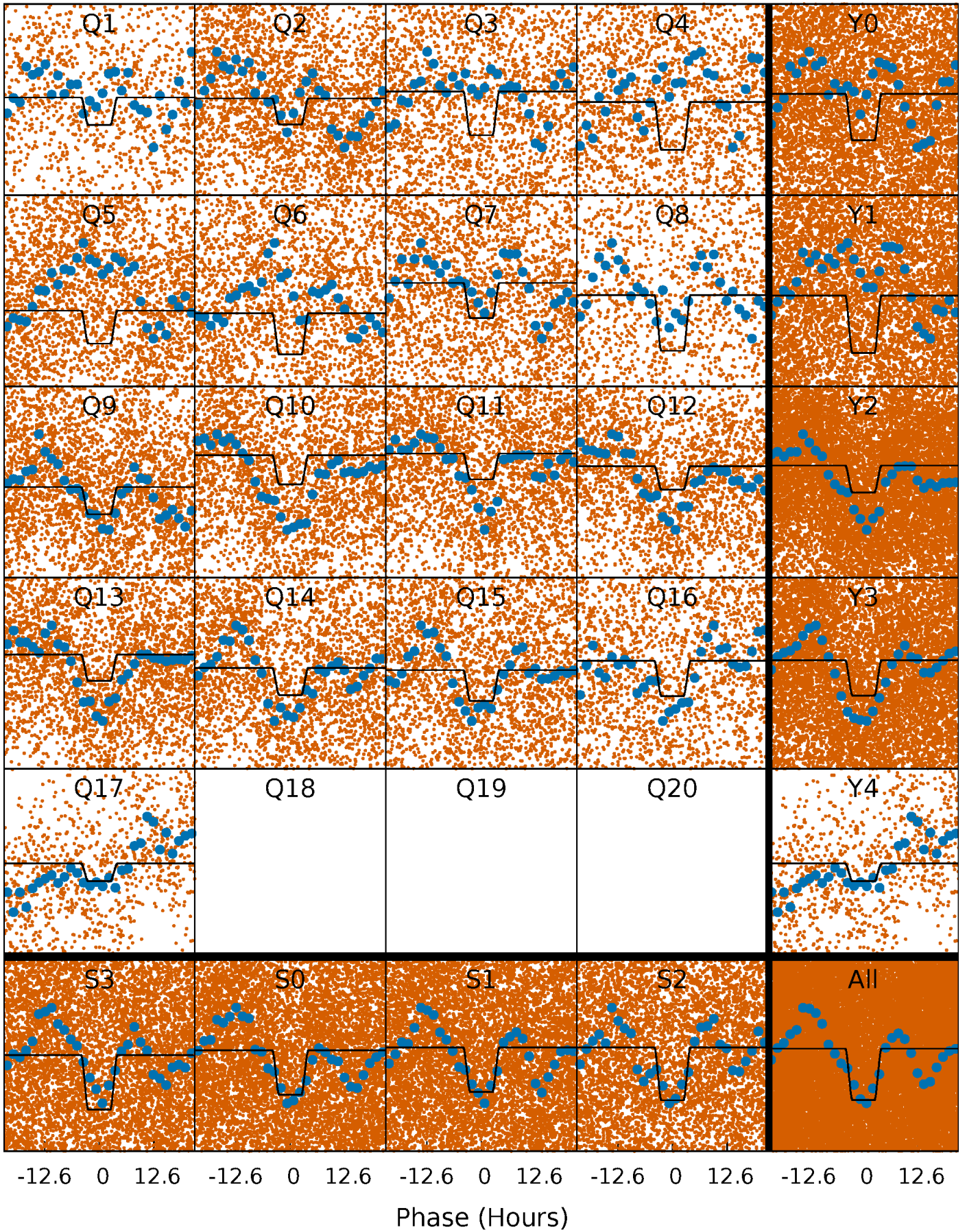
TCE 008329062-01 P= 2.365406 Days  $T_0=132.142003$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

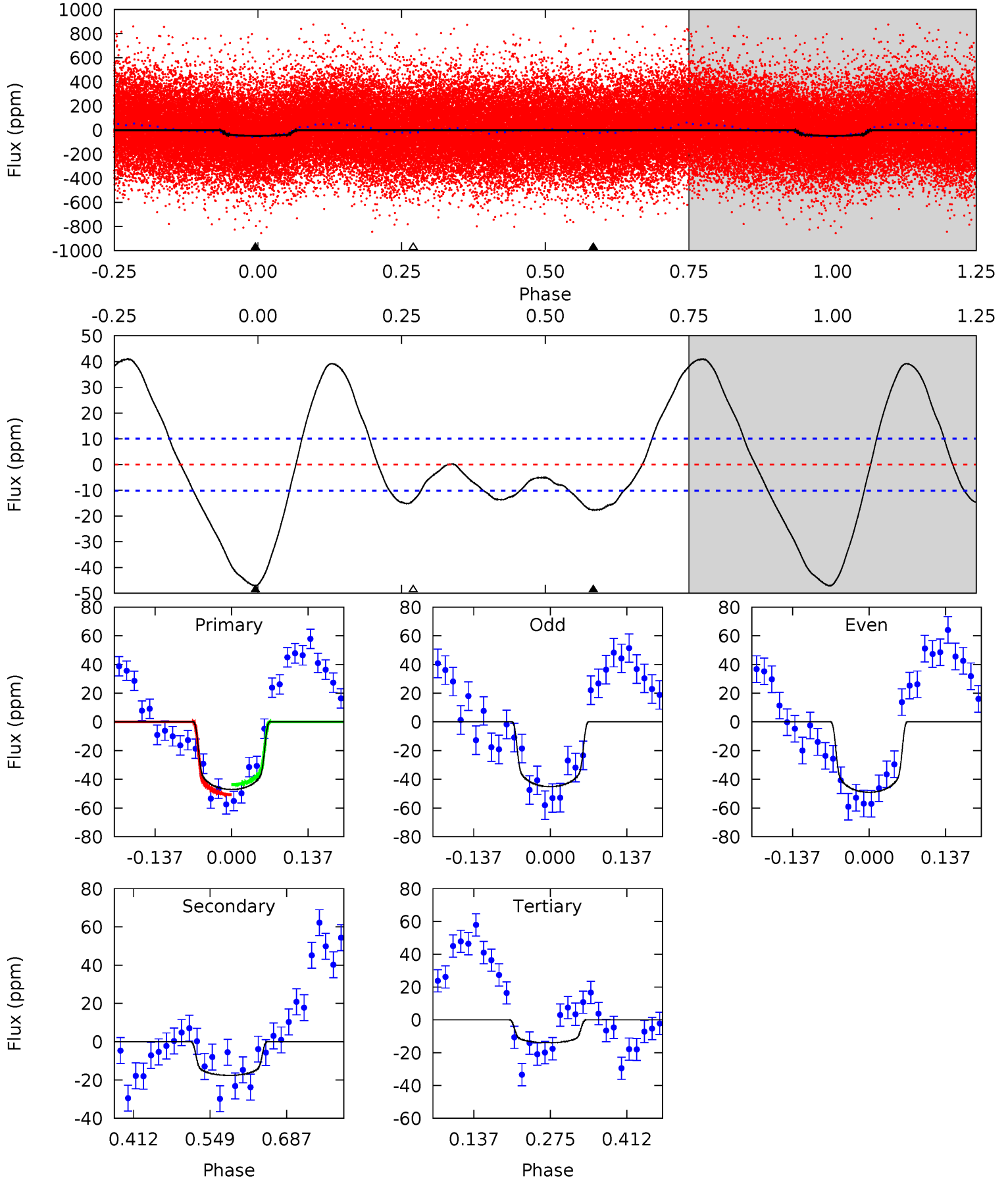
TCE 008329062-01 P= 2.365328 Days  $T_0=132.137779$  (BKJD)



# DV Model-Shift Uniqueness Test

008329062-01, P = 2.365406 Days, E = 129.776597 Days

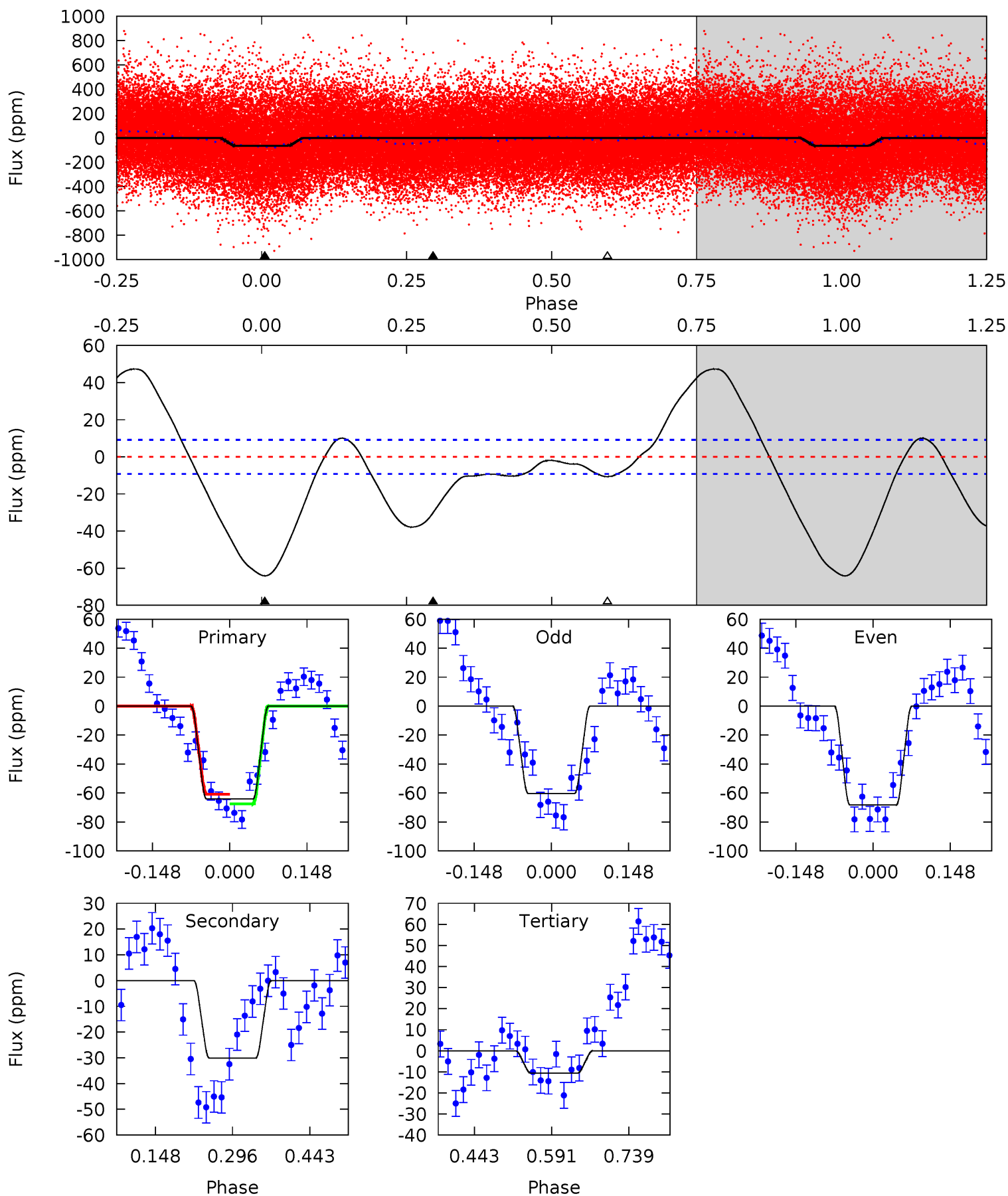
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.0	7.84	6.21	0	4.50	1.49	8.83	14.8	21.0	1.63	7.84	0.88	1.03	0.47	1.58



# Alt Model-Shift Uniqueness Test

008329062-01, P = 2.365328 Days, E = 129.772451 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
31.4	14.7	5.20	0	4.48	1.45	10.0	26.2	31.4	9.53	14.7	1.94	0.90	0.42	1.62





### Stellar Parameters For KIC 008329062

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6210^{+205}_{-231}$	$3.499^{+0.722}_{-0.127}$	$-0.160^{+0.300}_{-0.300}$	$3.810^{+0.823}_{-2.470}$	$1.673^{+0.158}_{-0.631}$	$0.043^{+0.618}_{-0.017}$
	+3%/-4%	+21%/-4%	+188%/-188%	+22%/-65%	+9%/-38%	+1450%/-39%
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 008329062-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-18 \pm 2$	$2.75^{+0.71}_{-0.92}$	$3533^{+323}_{-583}$	$4677^{+344}_{-318}$	$2.162^{+2.339}_{-0.770}$
Alt.	$-30 \pm 2$	$3.14^{+0.82}_{-1.07}$	$3536^{+342}_{-619}$	$4973^{+329}_{-291}$	$2.764^{+3.150}_{-0.944}$

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

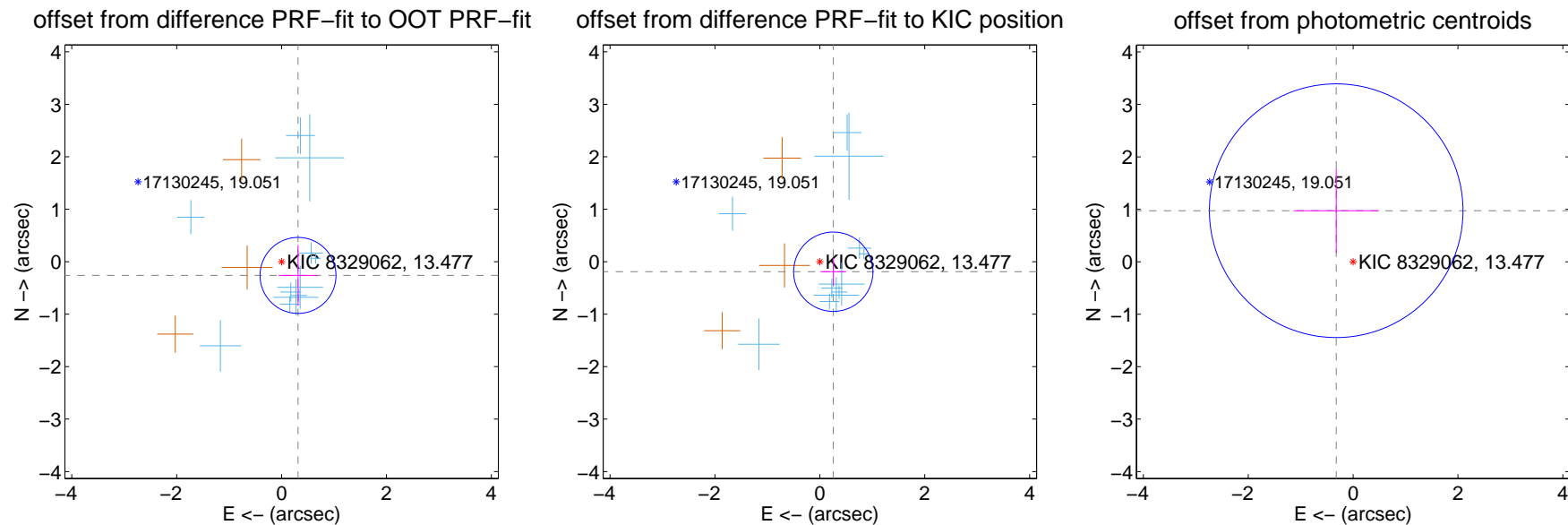
## DV Centroid Data

Supplemental centroid analysis for 008329062-01. Kepler magnitude: 13.48. Transit SNR 9.47

There are 11 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

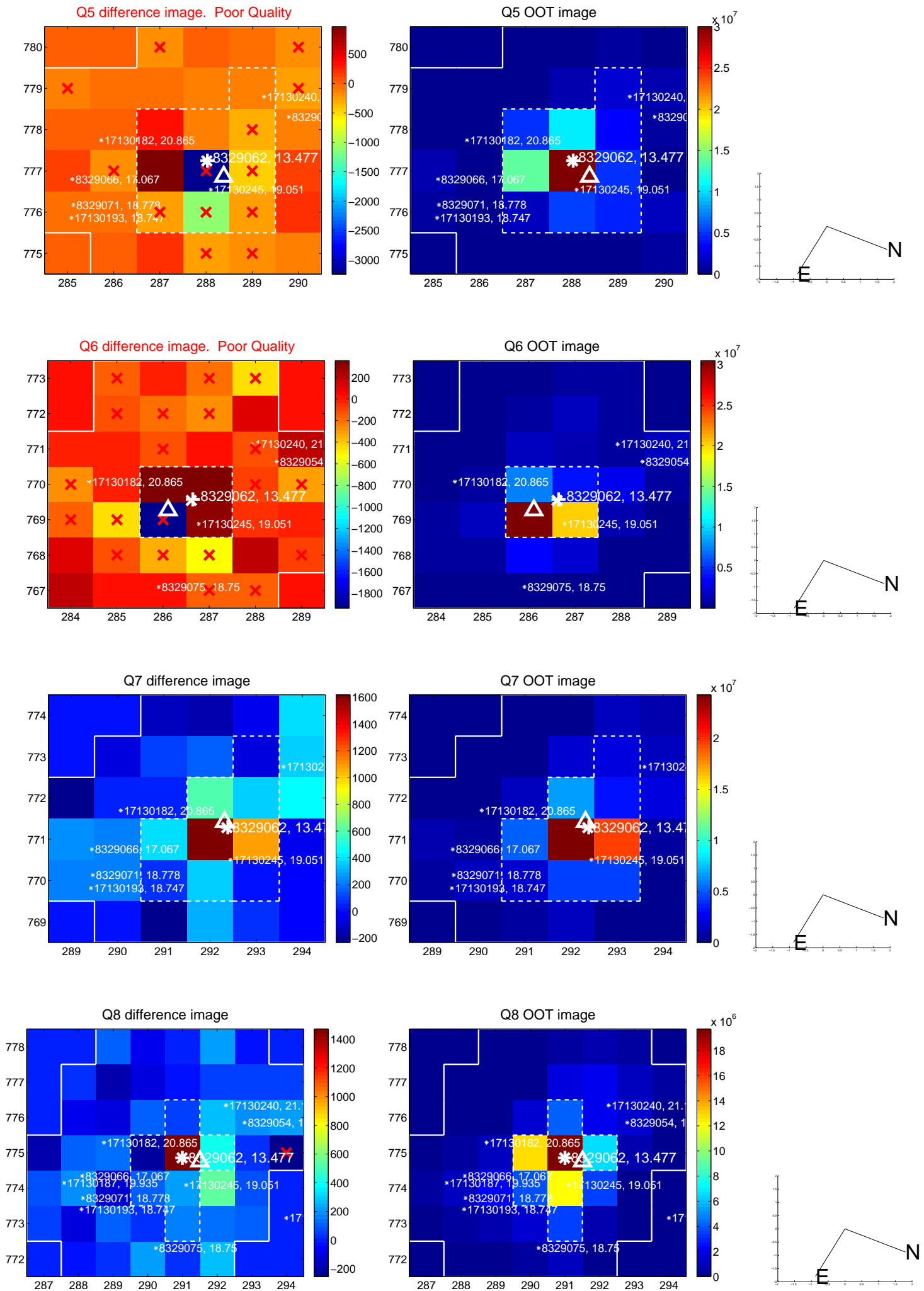
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.408 \pm 0.241$	1.69	$-0.314 \pm 0.370$	$-0.262 \pm 0.582$
PRF-fit source offset from KIC position	$0.320 \pm 0.252$	1.27	$-0.256 \pm 0.247$	$-0.191 \pm 0.262$
photometric centroid source offset	$1.03 \pm 0.81$	1.27	$0.32 \pm 0.81$	$0.97 \pm 0.81$



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.

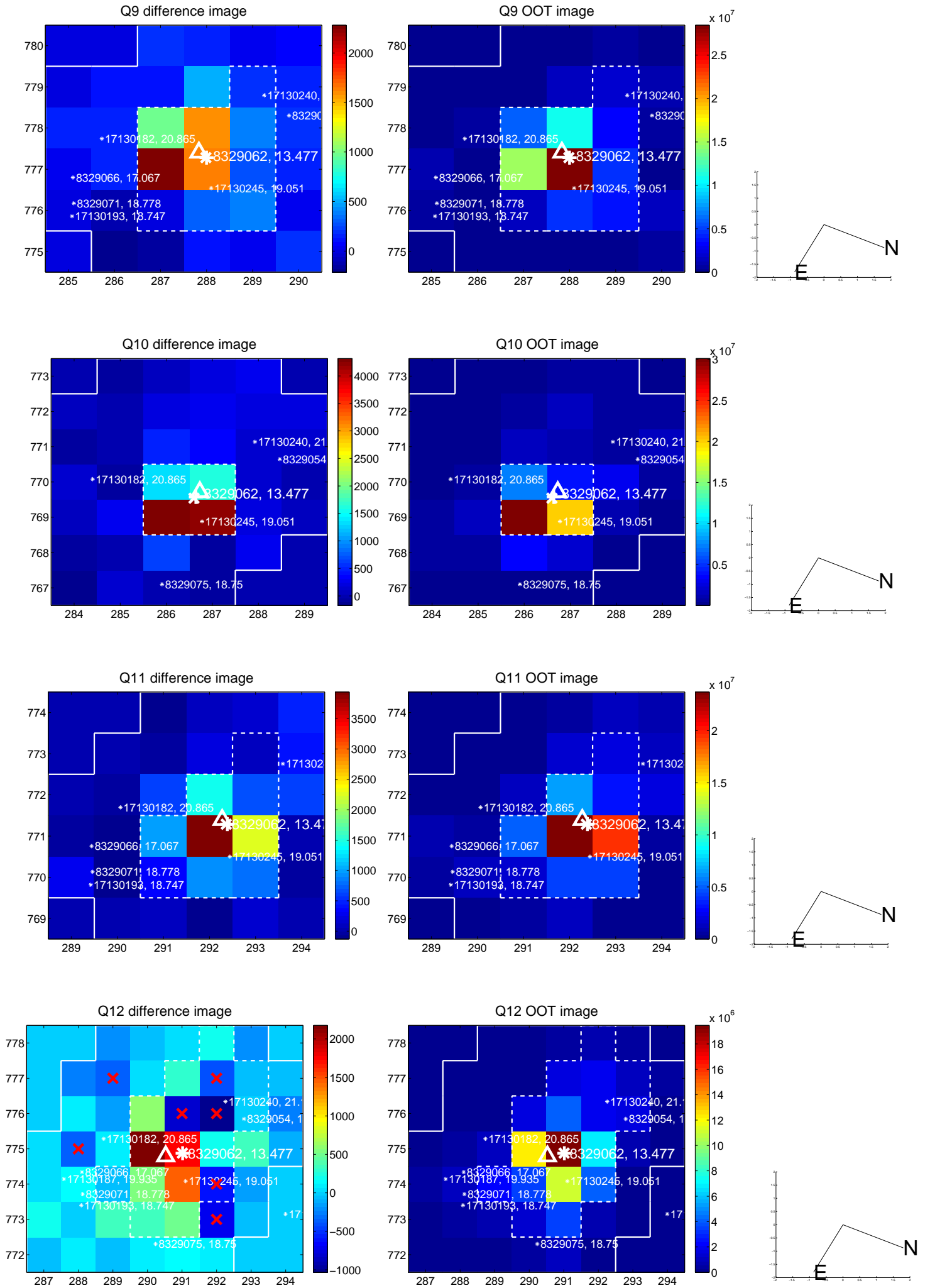


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

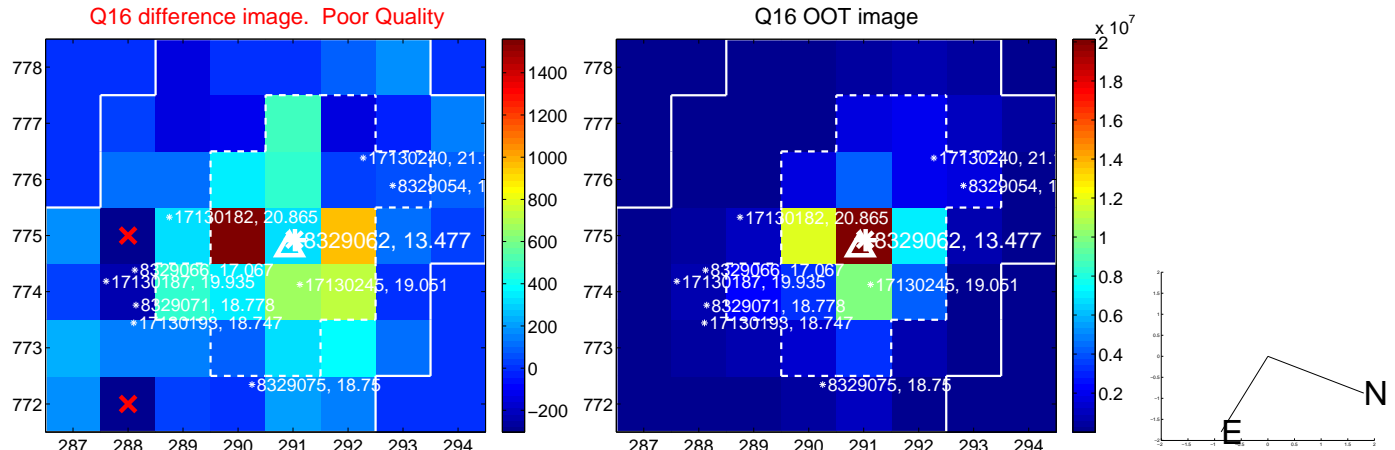
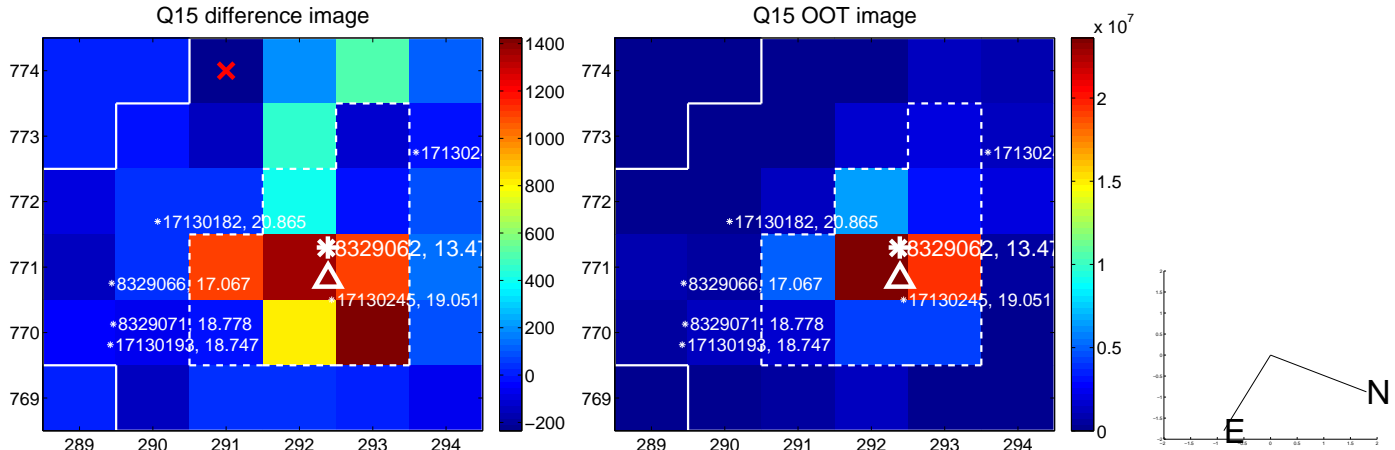
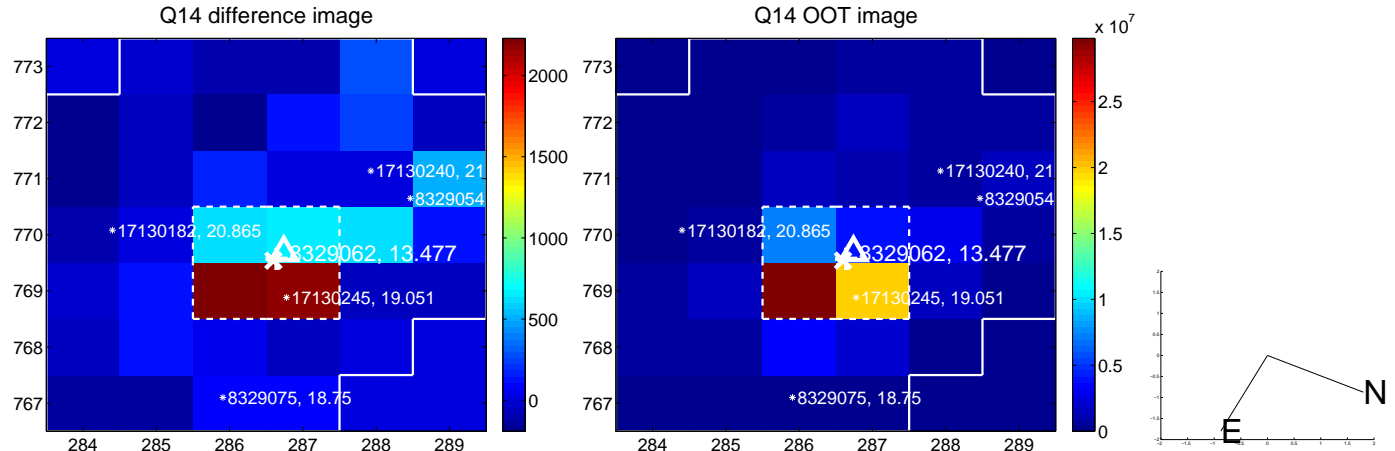
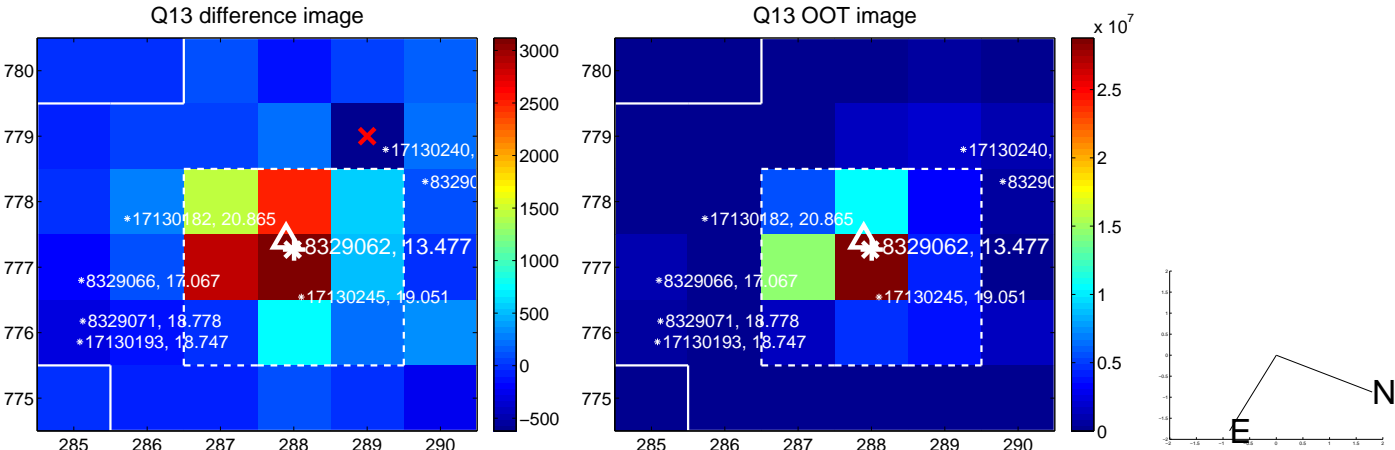




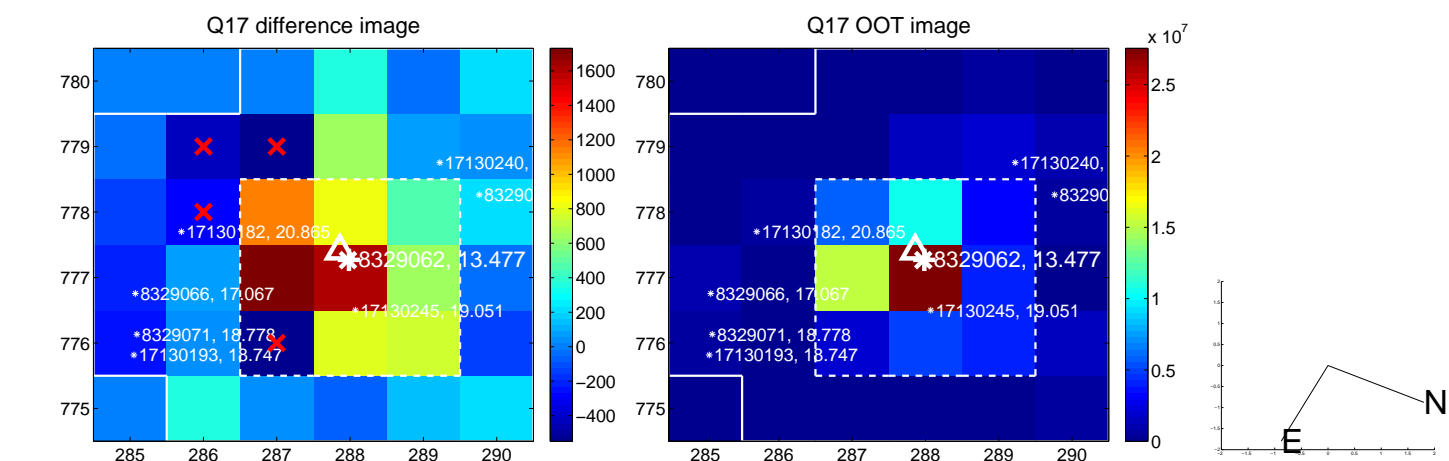
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



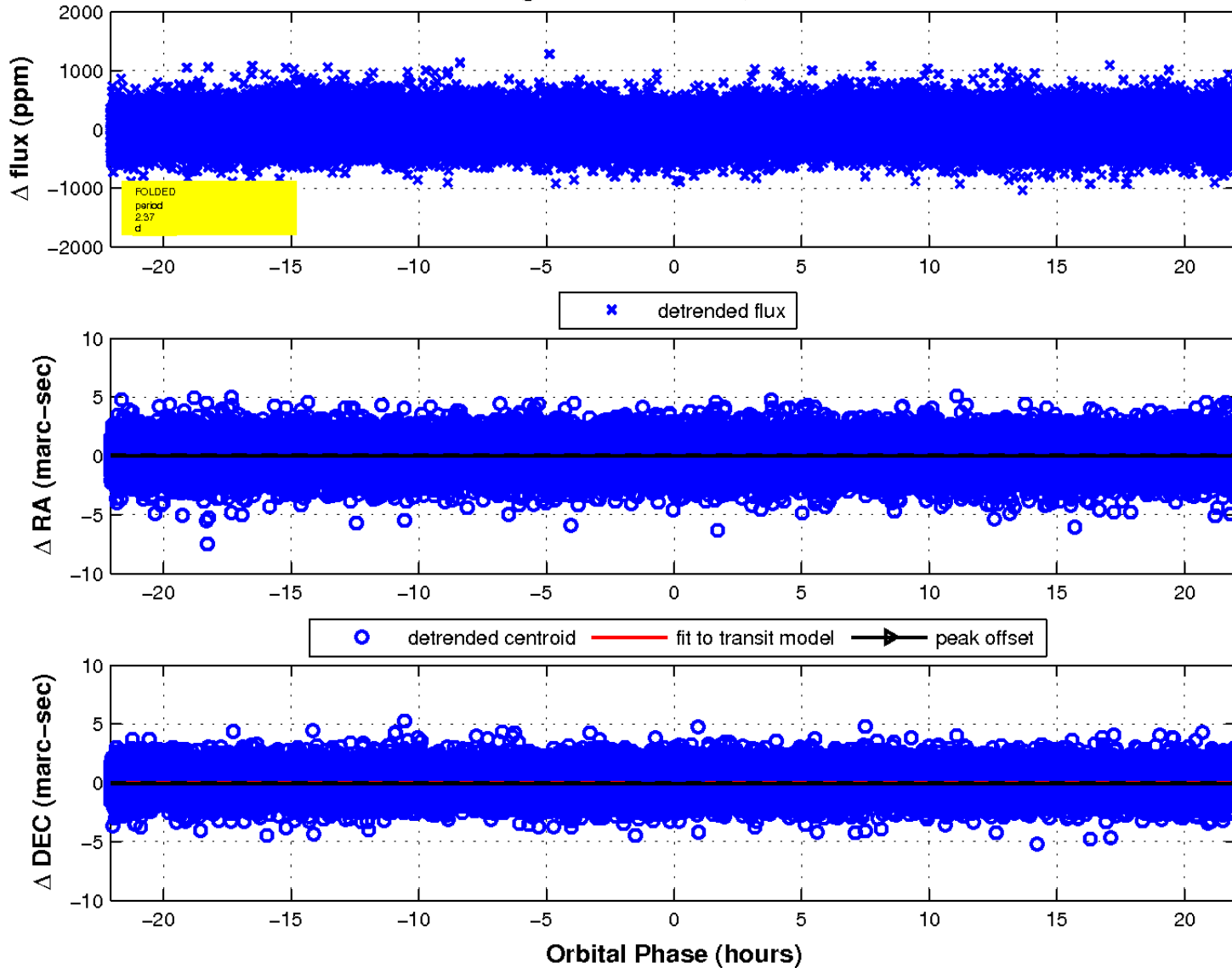
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

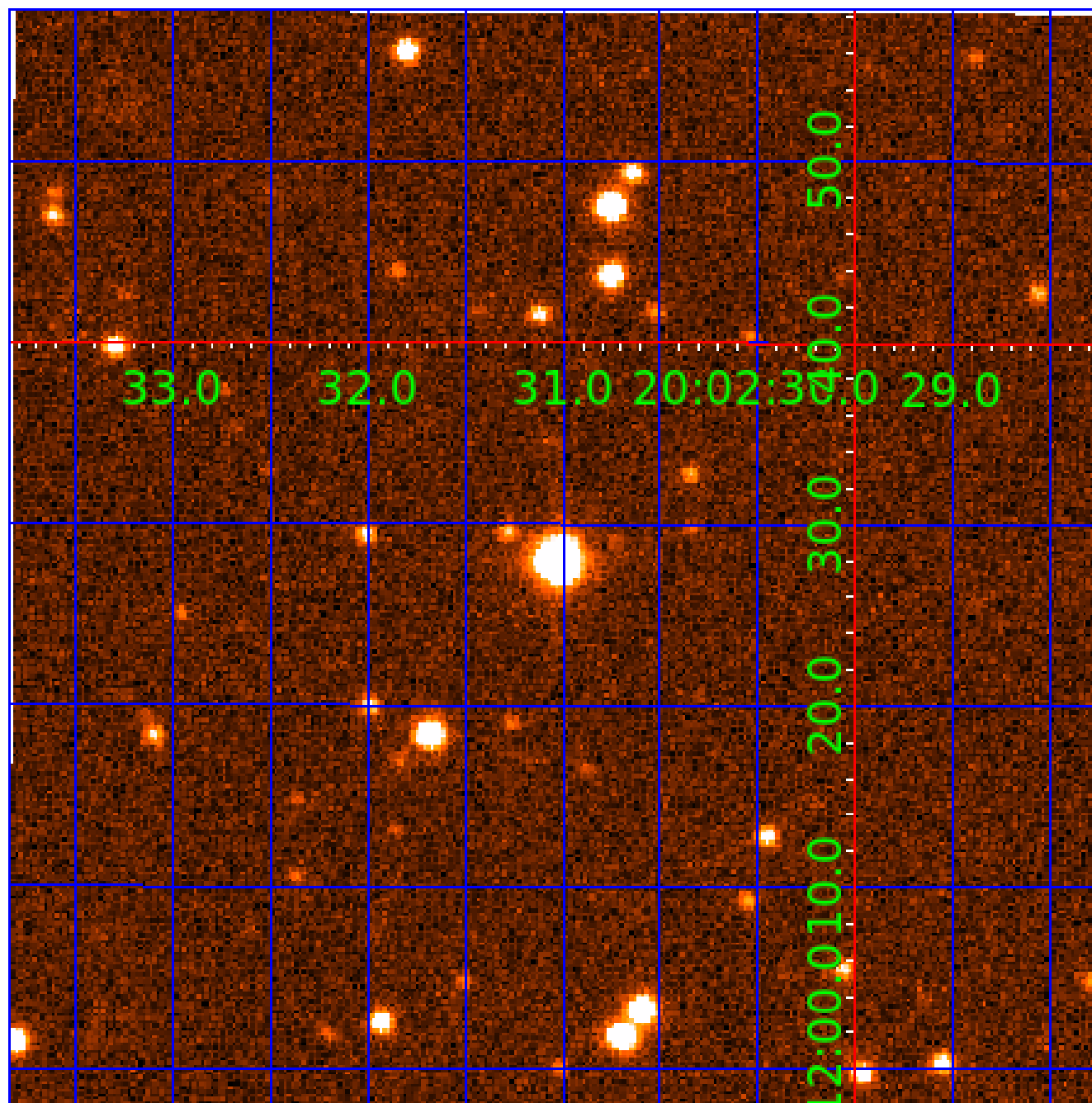


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination





# KIC 008329062

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008329062-01	OBS	No	2.365406	132.142003	40.8	7.358	10.3	9.5	3.81	6210	3.03	11376.36
008329062-02	OBS	No	191.510007	310.855053	196.2	20.156	7.5	5.8	3.81	6210	5.80	32.48
008329062-03	OBS	No	355.006270	137.269315	249.6	14.582	7.6	5.6	3.81	6210	6.19	14.26

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008329062-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008329062-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV
008329062-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_DV—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.

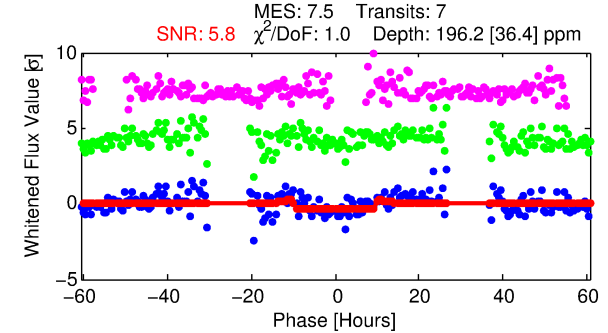
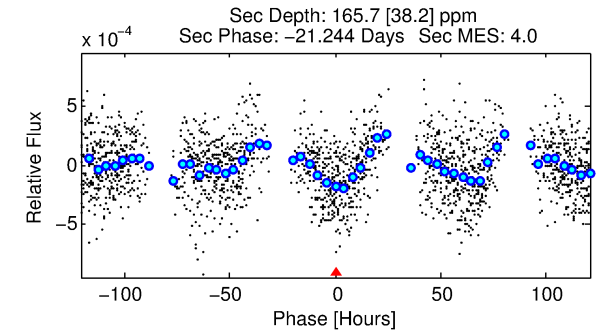
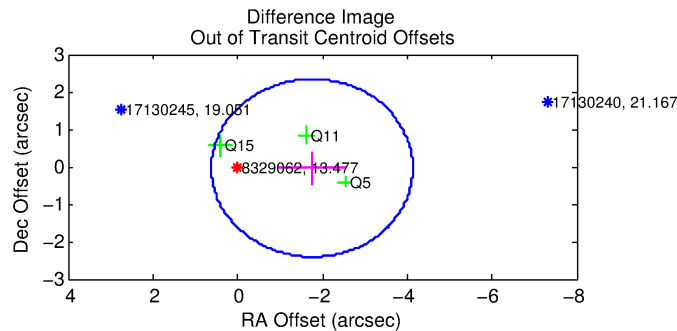
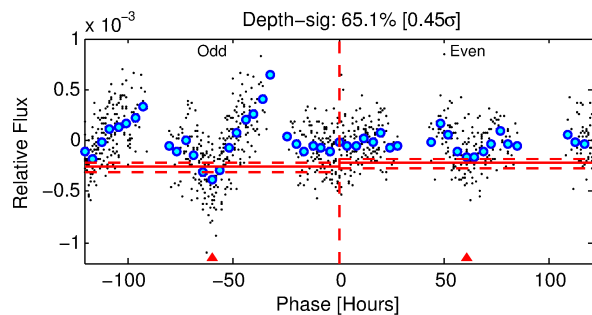
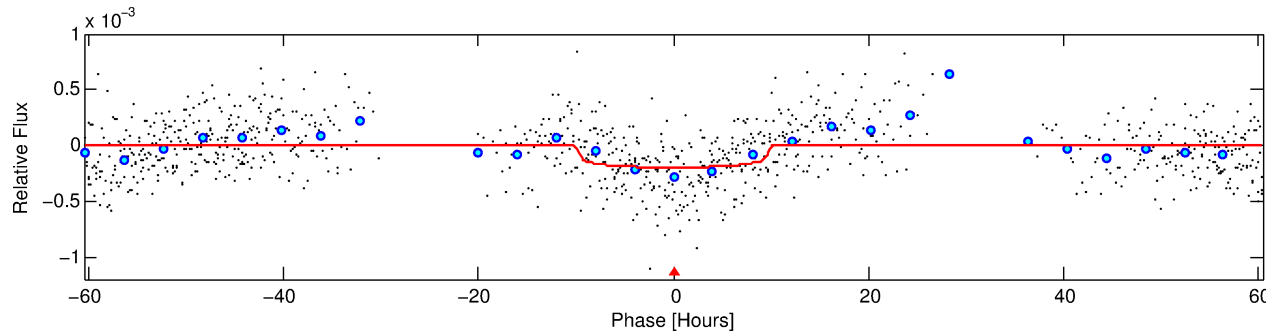
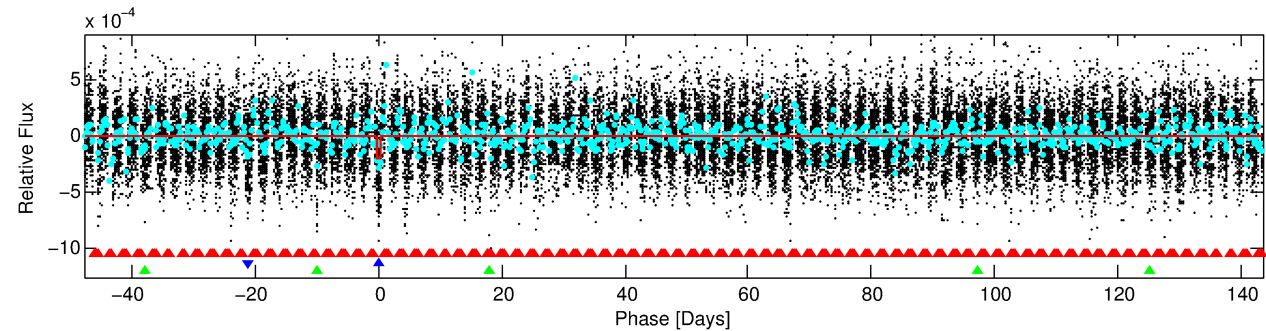
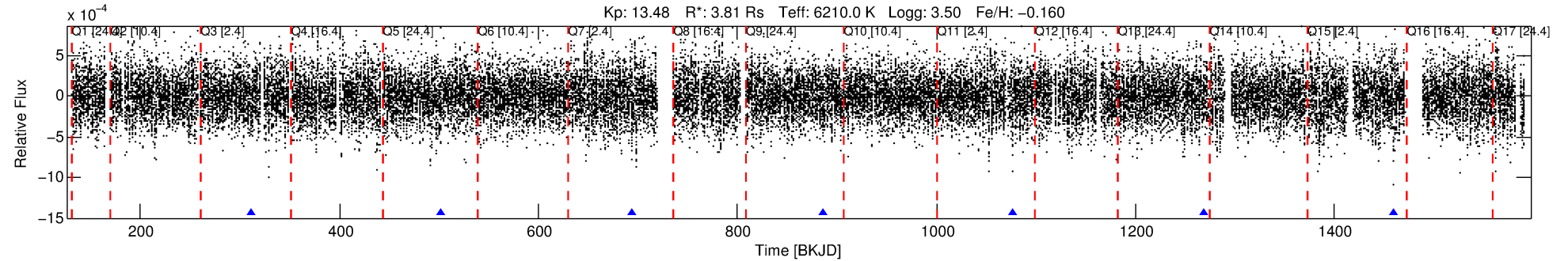
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008329062-02

No Significant Match Found

# DV One-Page Summary

KIC: 8329062 Candidate: 2 of 3 Period: 191.510 d



## DV Fit Results:

Period = 191.51001 [0.00694] d  
Epoch = 310.8551 [0.0206] BKJD  
Rp/R\* = 0.0139 [0.0031]  
a/R\* = 49.39 [51.18]  
b = 0.75 [0.60]  
Seff = 32.48 [38.94]  
Teff = 609 [182] K  
Rp = 5.80 [3.98] Re  
a = 0.7717 [0.5423] AU  
Ag = 1616.51 [2089.88] [0.77 $\sigma$ ]  
Teffp = 5968 [787] K [6.63 $\sigma$ ]

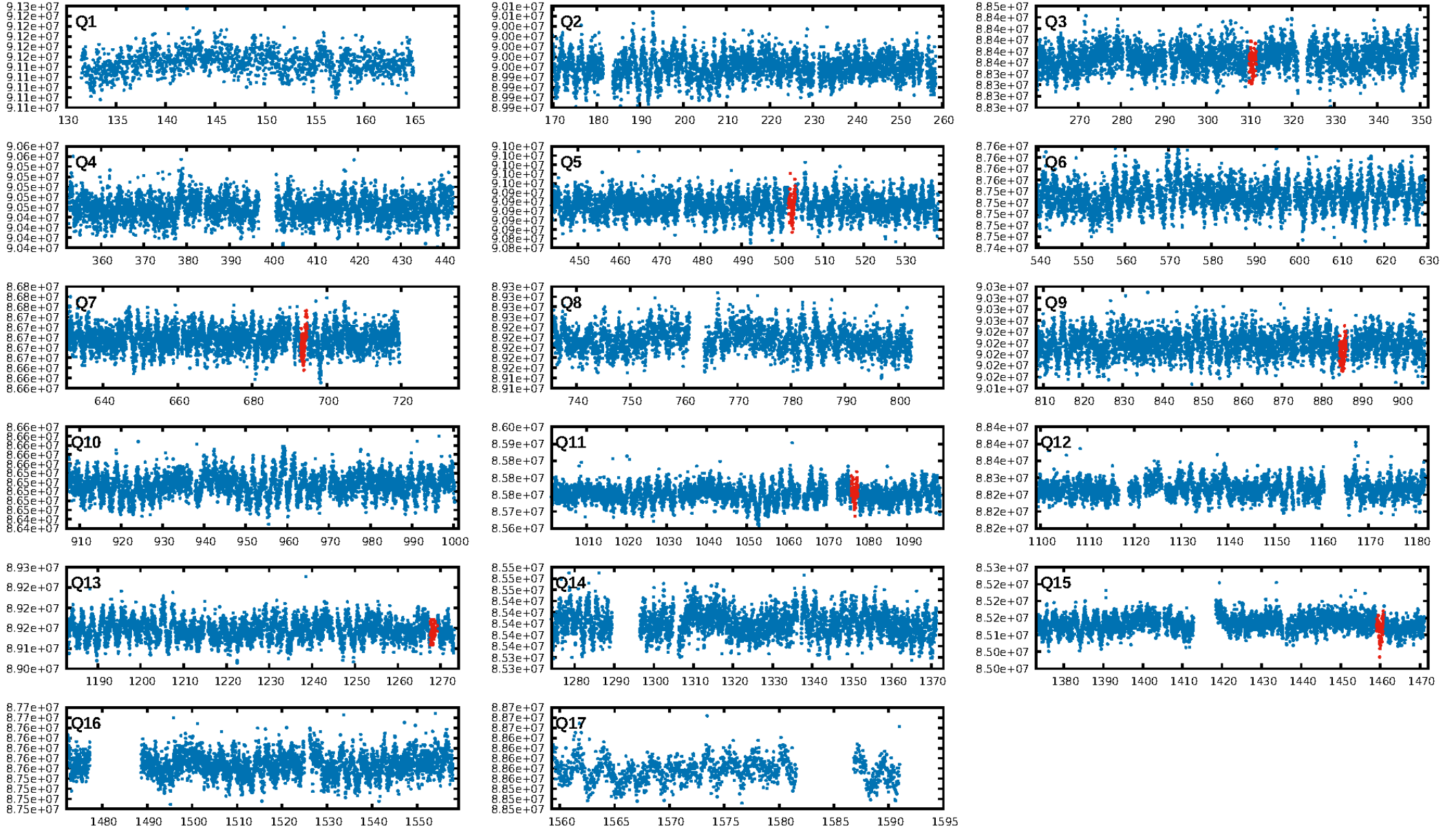
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [211.56 $\sigma$ ]  
LongPeriod-sig: 100.0% [157.73 $\sigma$ ]  
ModelChiSquare2-sig: 26.6%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.17e-10**  
RollingBand-fgt: 1.00 [7/7]  
**GhostDiagnostic-chr: 0.4359**  
Centroid-sig: 17.8%  
Centroid-so: 1.753 arcsec [1.55 $\sigma$ ]  
OotOffset-rm: 1.757 arcsec [2.22 $\sigma$ ]  
OotOffset-st: 0.2/0/1 [3]  
KicOffset-rm: 1.793 arcsec [2.25 $\sigma$ ]  
KicOffset-st: 0.2/0/1 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 0.00 [0/5]

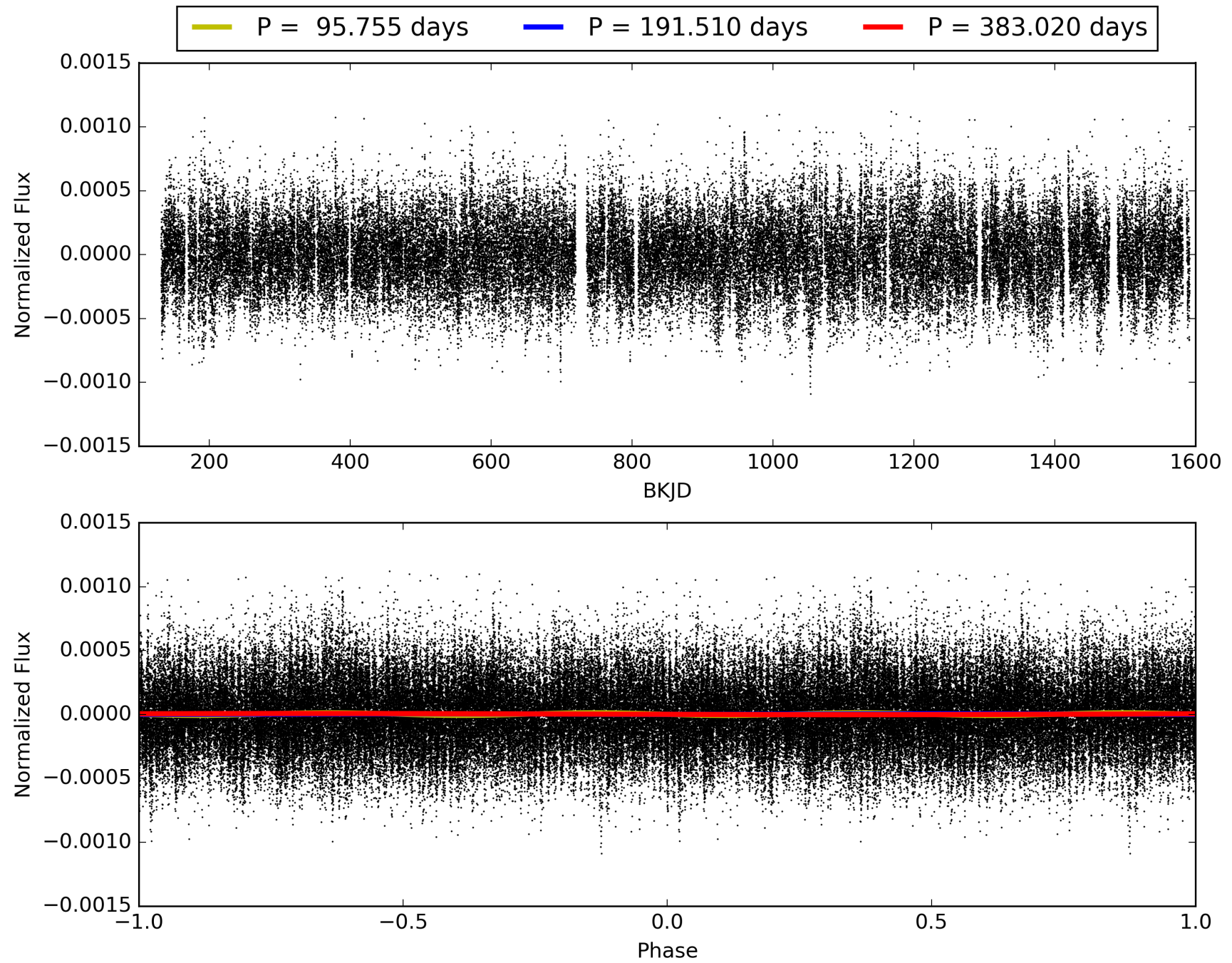
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:21:26 Z

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

# TCE 008329062-02, PDC Light Curves

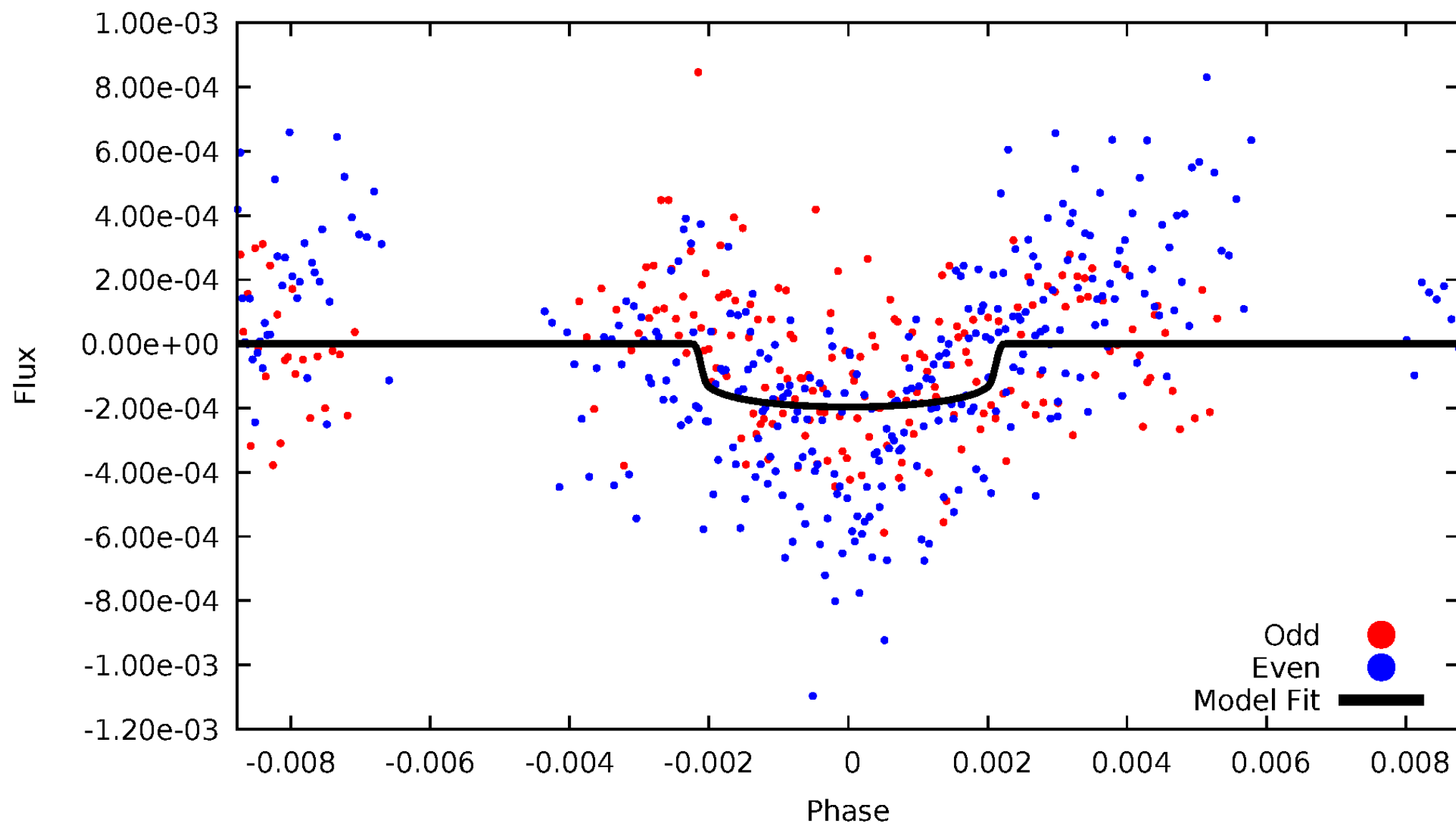


TCE 008329062-02



# DV Odd/Even

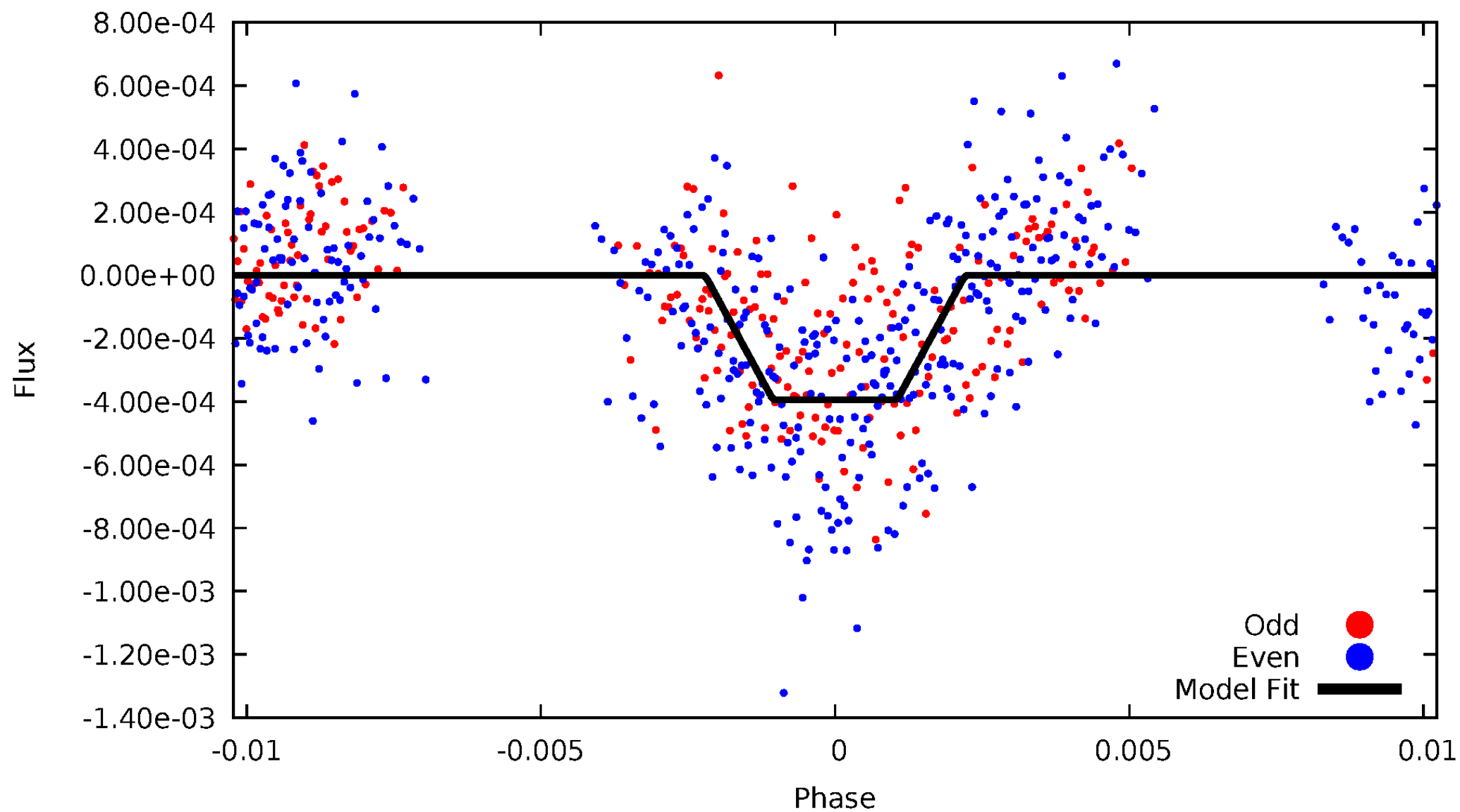
TCE 008329062-02





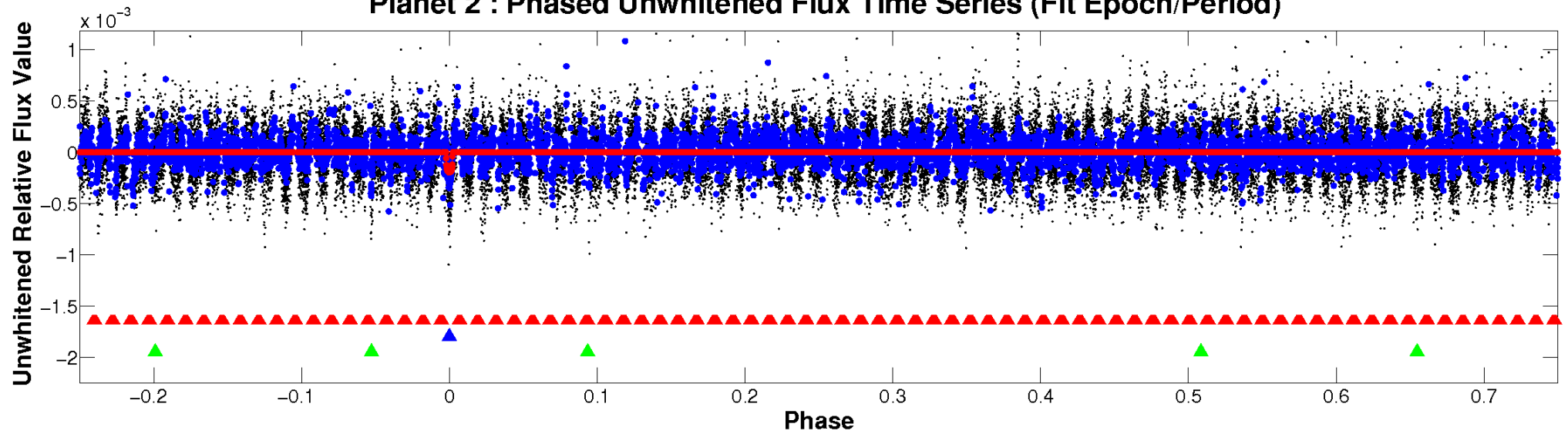
# ALT Odd/Even

TCE 008329062-02

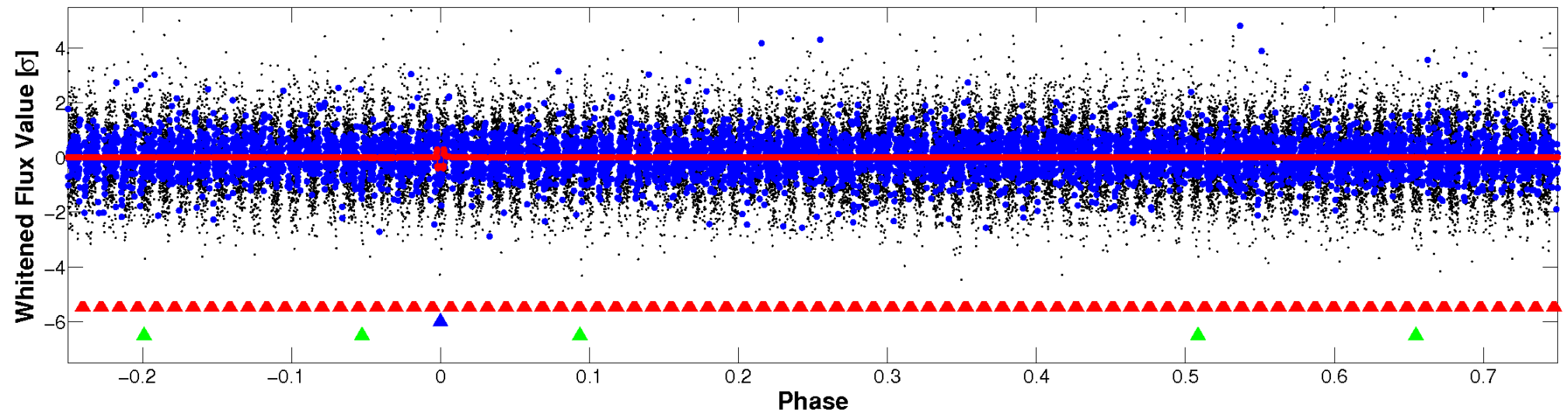


# Non-Whitened Vs. Whitened Light Curve

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

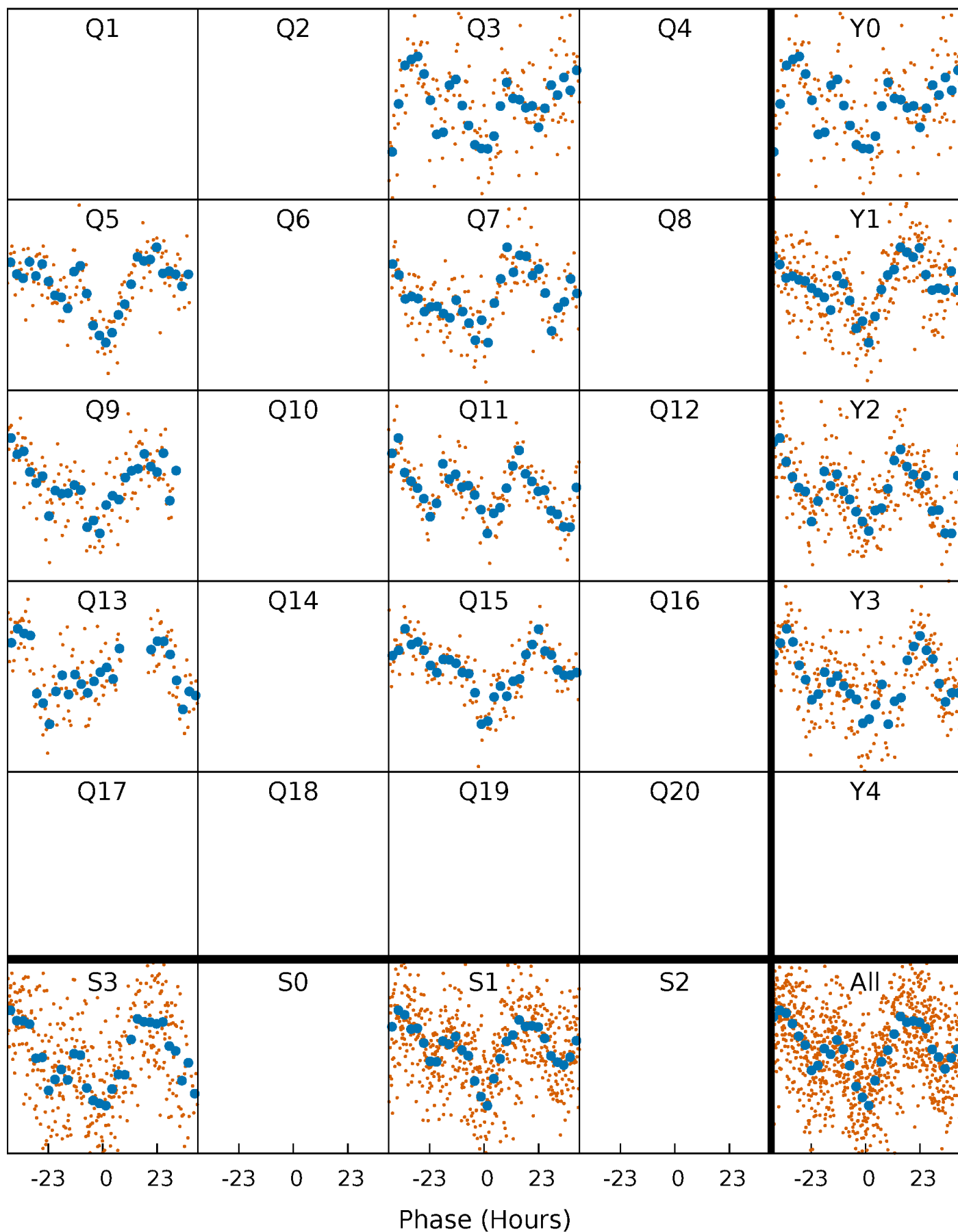


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



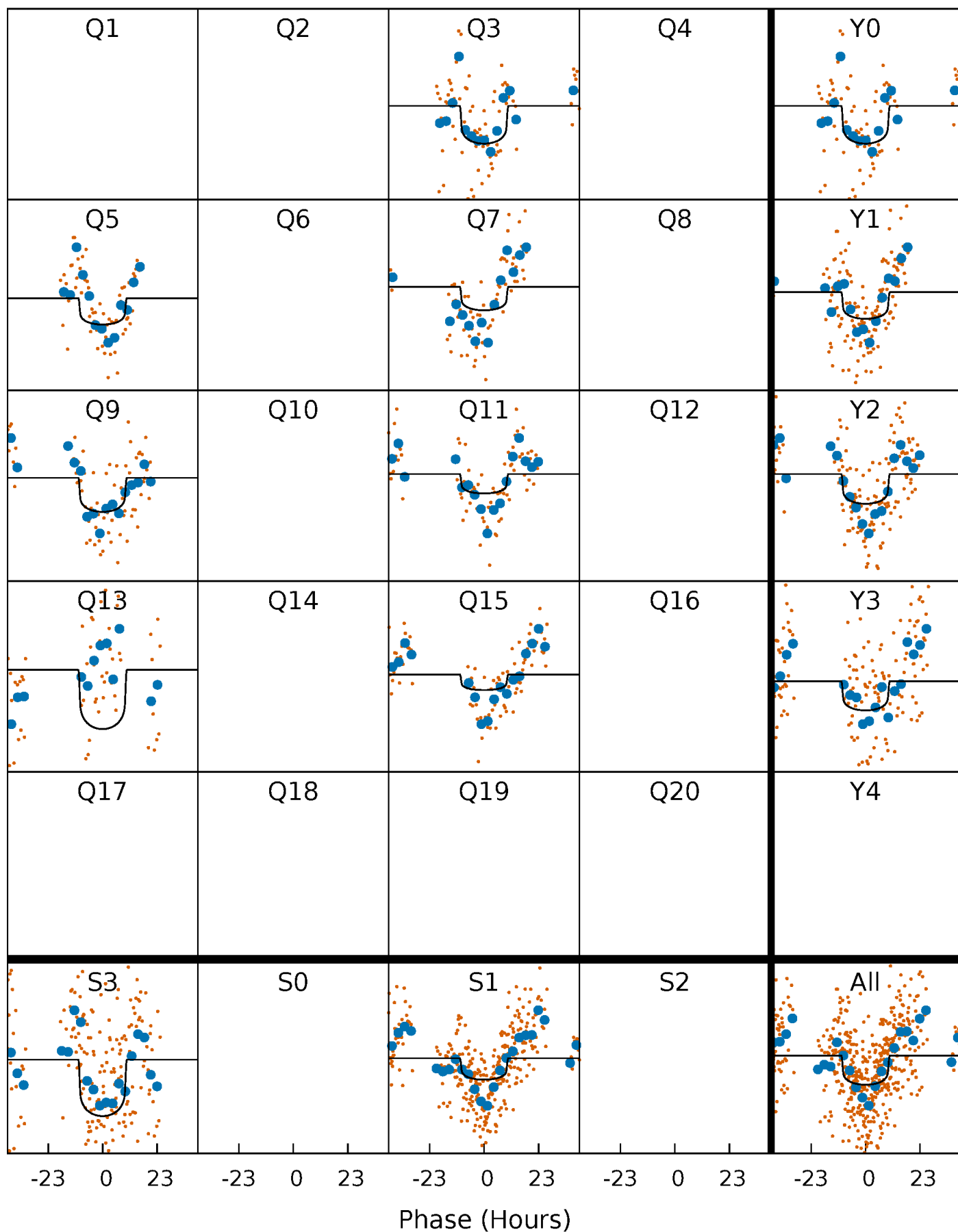
# PDC Quarter-Phased Transit Curves

TCE 008329062-02   P=191.510007 Days    $T_0=310.855053$  (BKJD)



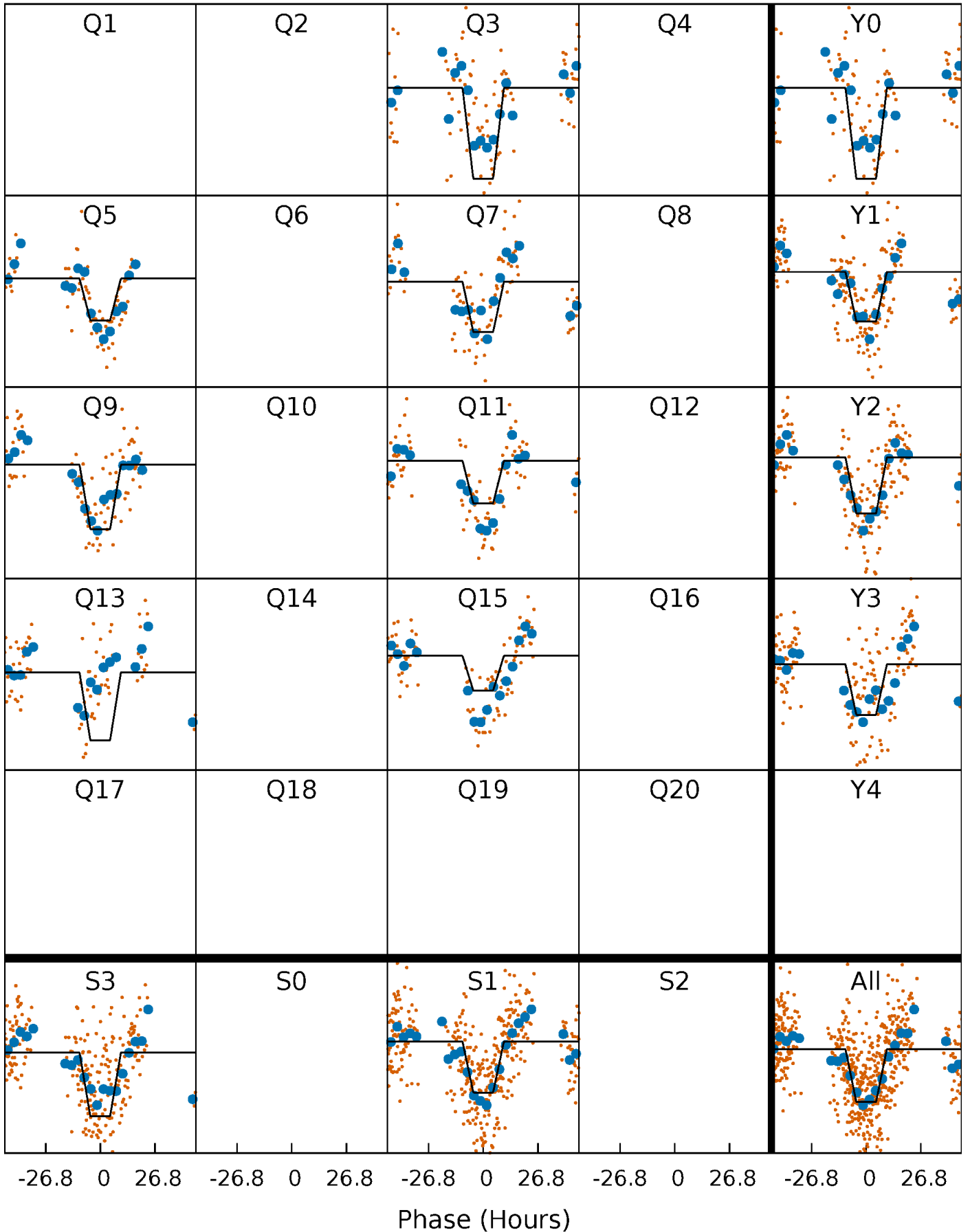
# DV Quarter-Phased Transit Curves

TCE 008329062-02   P=191.510007 Days    $T_0=310.855053$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

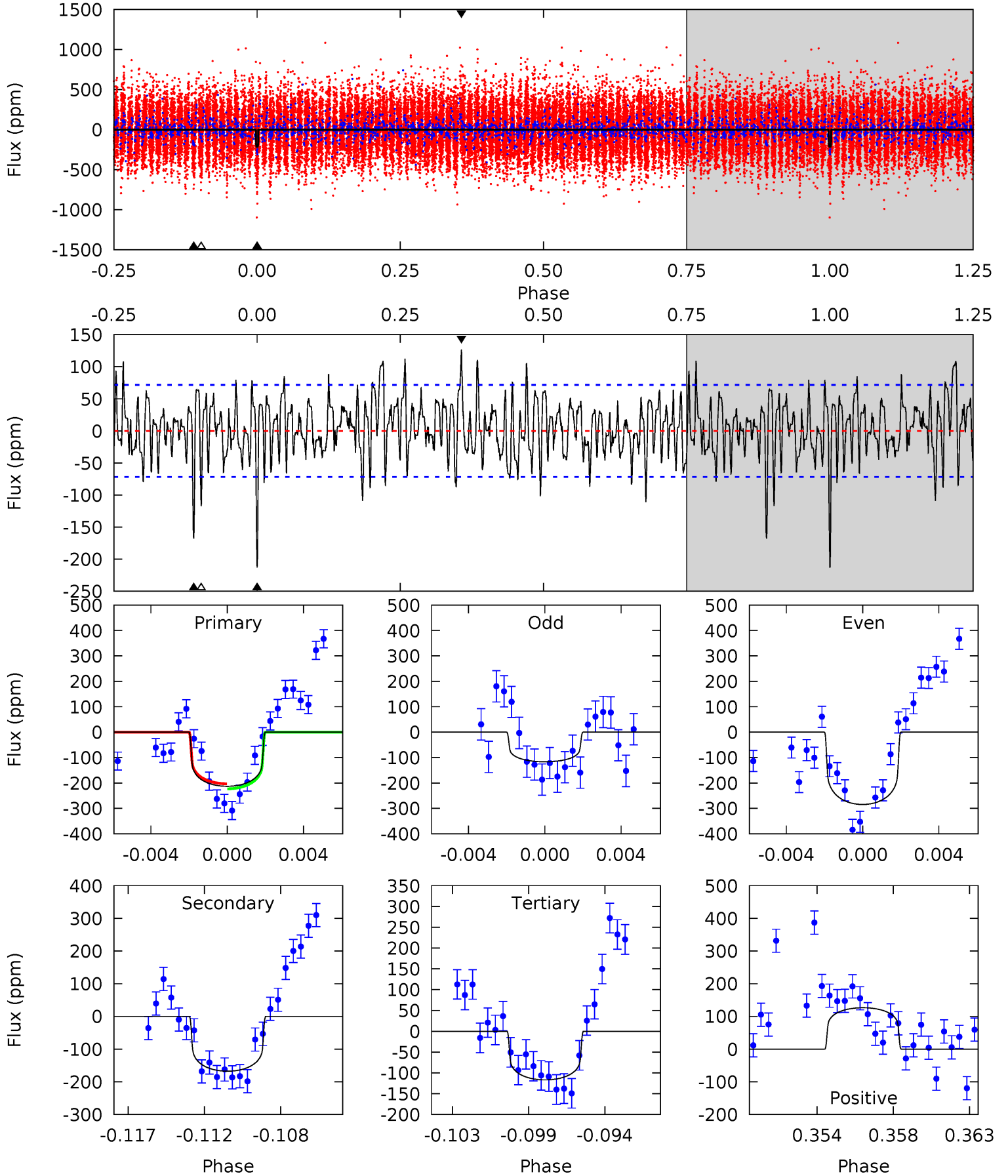
TCE 008329062-02     $P=191.530569$  Days     $T_0=310.800685$  (BKJD)



# DV Model-Shift Uniqueness Test

008329062-02, P = 191.510007 Days, E = 119.345046 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
15.4	12.1	8.45	9.14	5.18	2.84	2.84	6.94	6.24	3.67	2.97	6.03	0.99	0.37	0.71

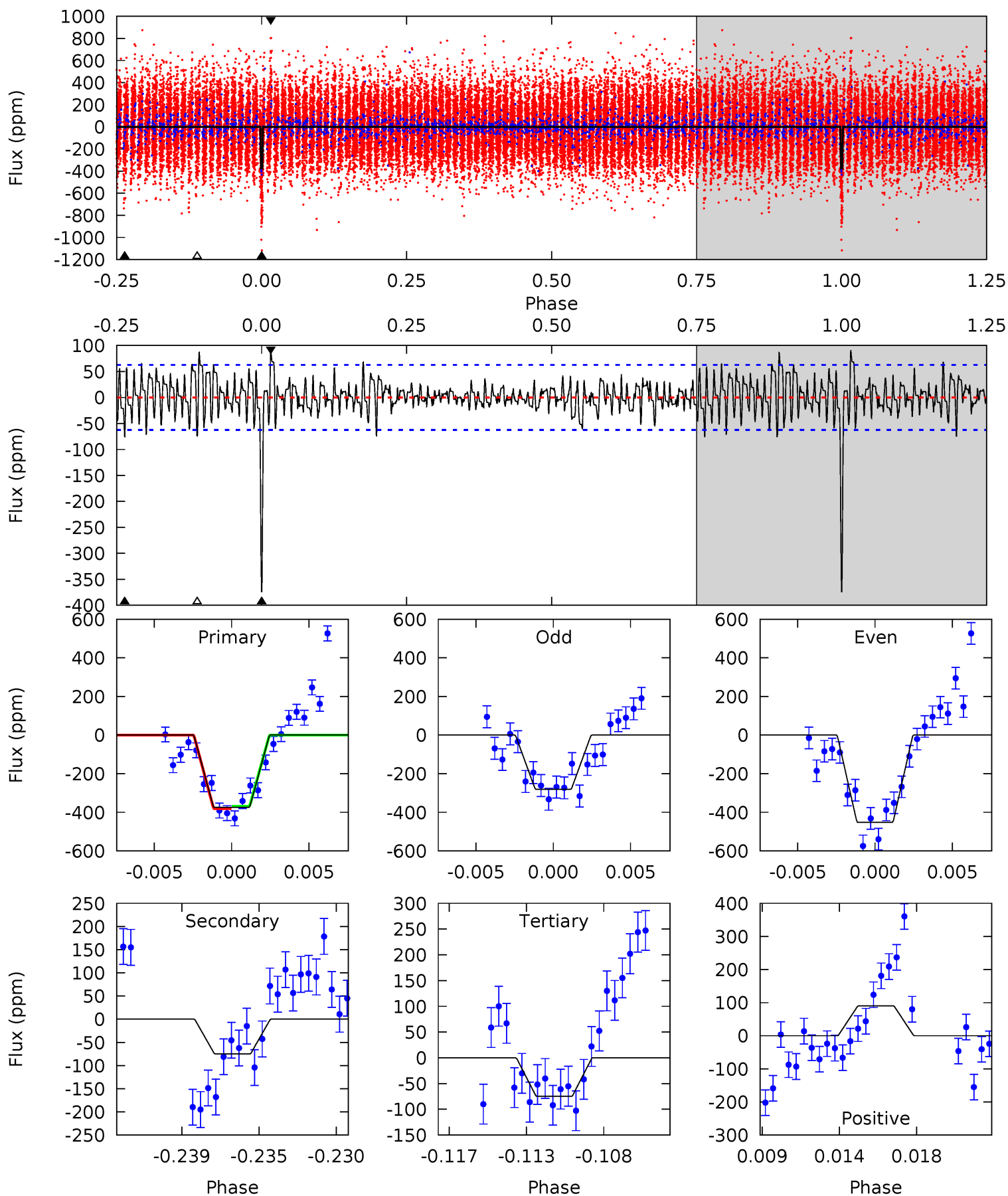




# Alt Model-Shift Uniqueness Test

008329062-02, P = 191.530569 Days, E = 119.270116 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
31.0	6.21	6.20	7.49	5.18	2.84	2.00	24.8	23.5	0.02	-1.27	7.03	1.16	0.19	0.52



### Stellar Parameters For KIC 008329062

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6210^{+205}_{-231}$	$3.499^{+0.722}_{-0.127}$	$-0.160^{+0.300}_{-0.300}$	$3.810^{+0.823}_{-2.470}$	$1.673^{+0.158}_{-0.631}$	$0.043^{+0.618}_{-0.017}$
	+3%/-4%	+21%/-4%	+188%/-188%	+22%/-65%	+9%/-38%	+1450%/-39%
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 008329062-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-168 \pm 14$	$5.07^{+1.85}_{-1.85}$	$816^{+75}_{-130}$	$5974^{+850}_{-550}$	$2057^{+2561}_{-909}$
Alt.	$-75 \pm 12$	$7.37^{+2.32}_{-2.51}$	$822^{+73}_{-139}$	$4326^{+353}_{-304}$	$436^{+548}_{-176}$

$T_{max}$  = 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

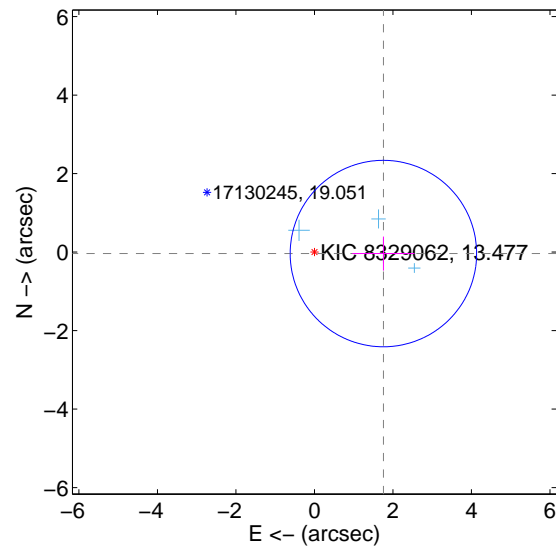
Supplemental centroid analysis for 008329062-02. Kepler magnitude: 13.48. Transit SNR 5.81

There are 3 quarters with good PRF difference image offsets

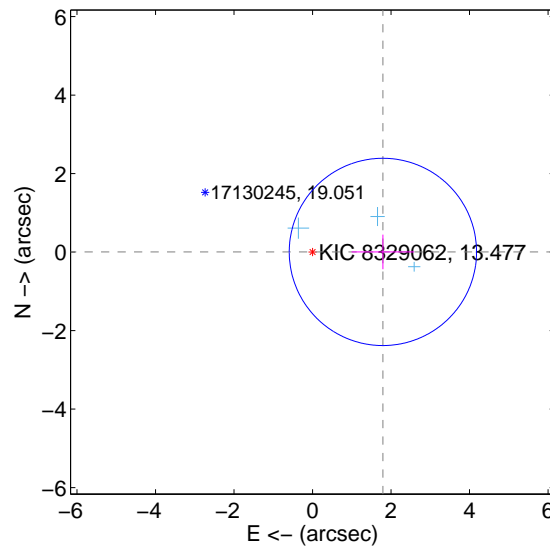
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.757 \pm 0.792$	2.22	$-1.757 \pm 0.792$	$-0.037 \pm 0.433$
PRF-fit source offset from KIC position	$1.793 \pm 0.795$	2.25	$-1.793 \pm 0.795$	$0.004 \pm 0.442$
photometric centroid source offset	$1.75 \pm 1.13$	1.55	$1.40 \pm 1.11$	$-1.05 \pm 1.17$

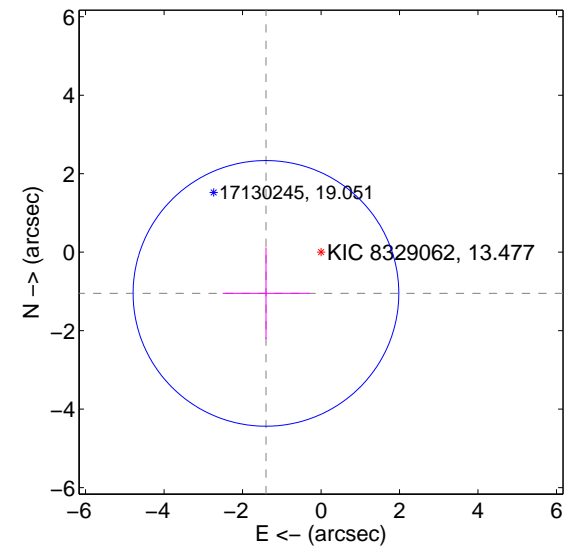
offset from difference PRF-fit to OOT PRF-fit



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.

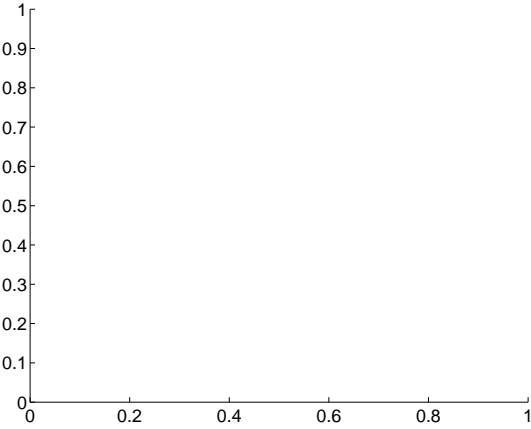
Q1 no difference image



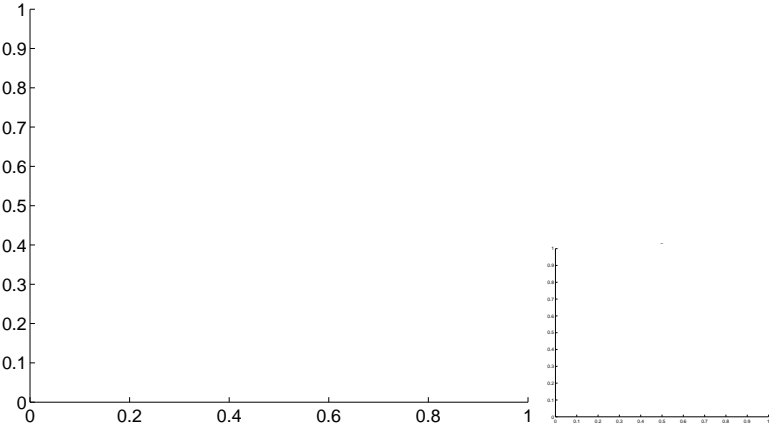
Q1 no OOT image



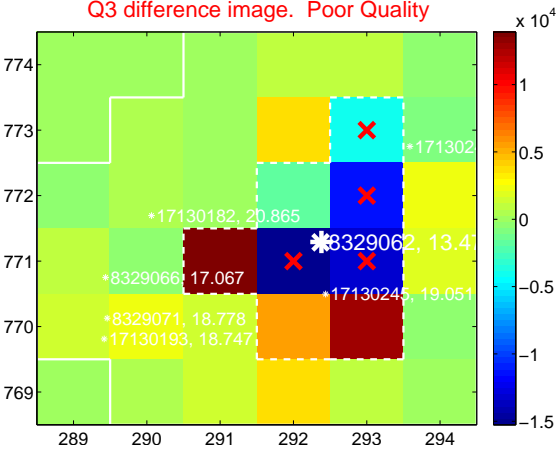
Q2 no difference image



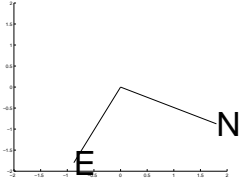
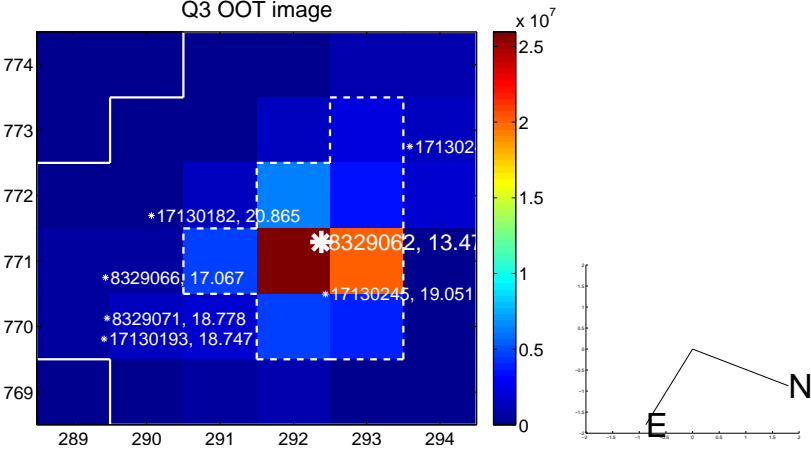
Q2 no OOT image



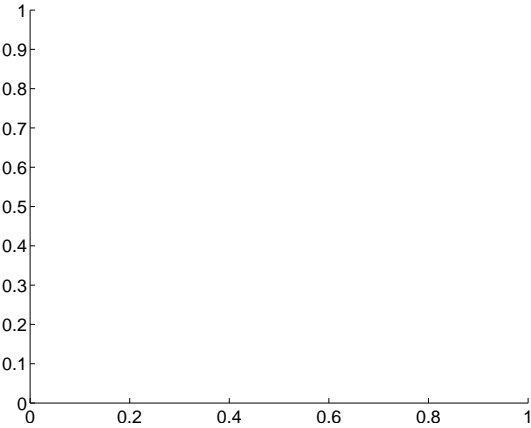
Q3 difference image. Poor Quality



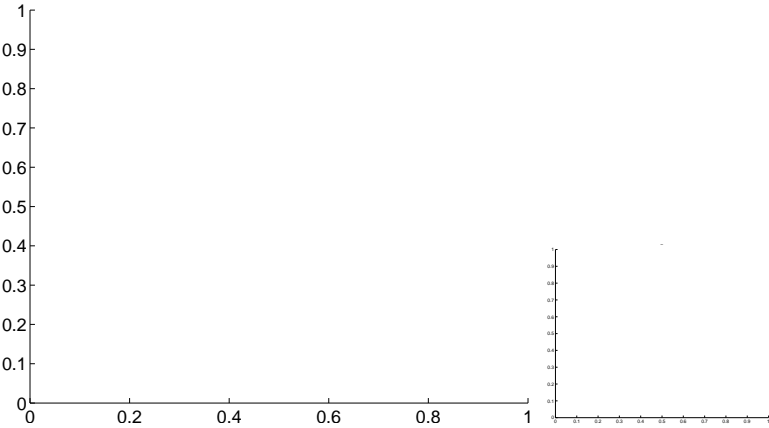
Q3 OOT image



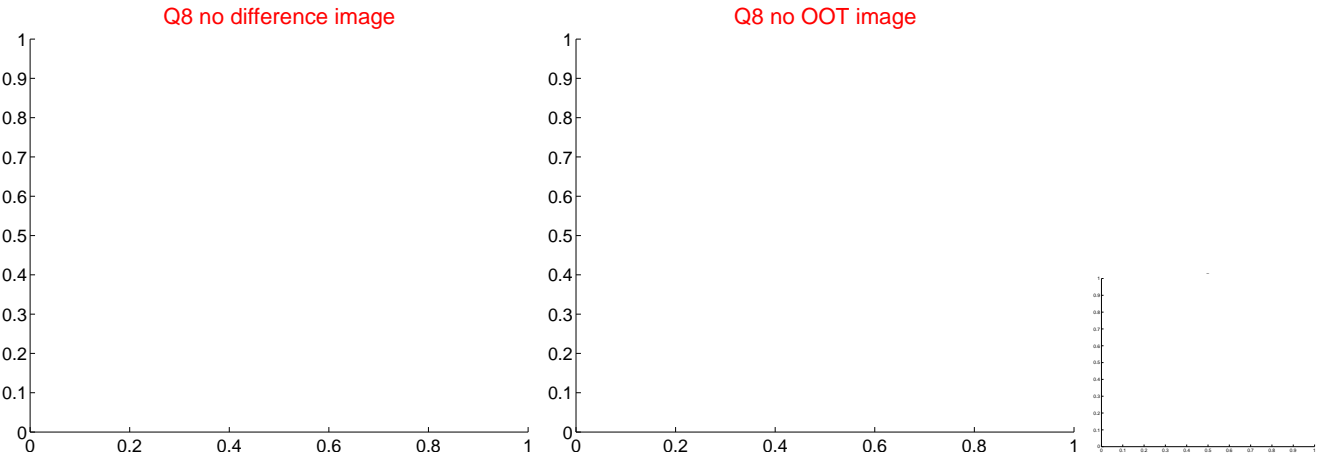
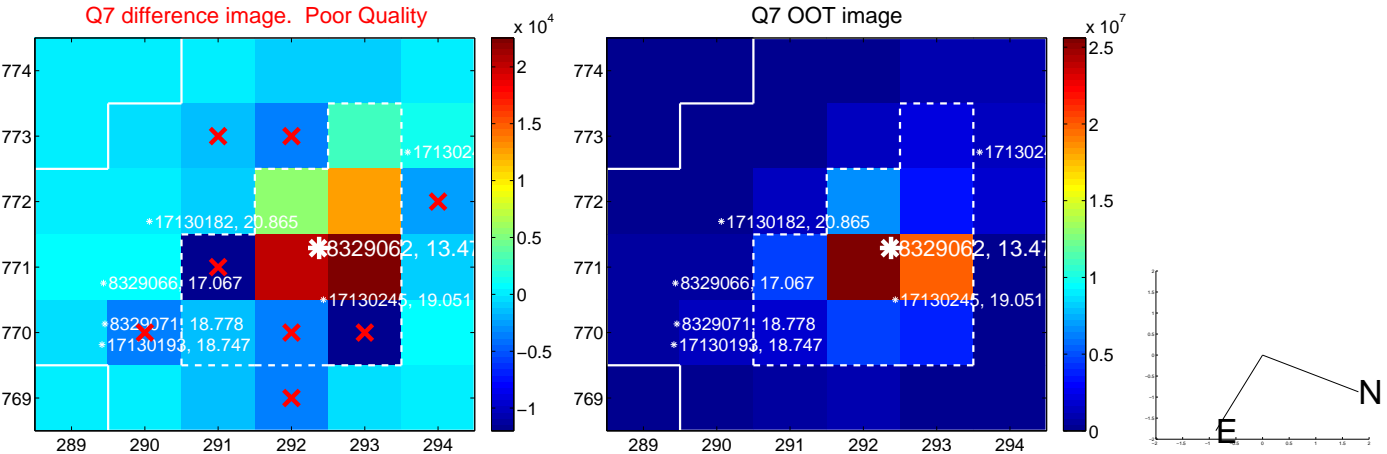
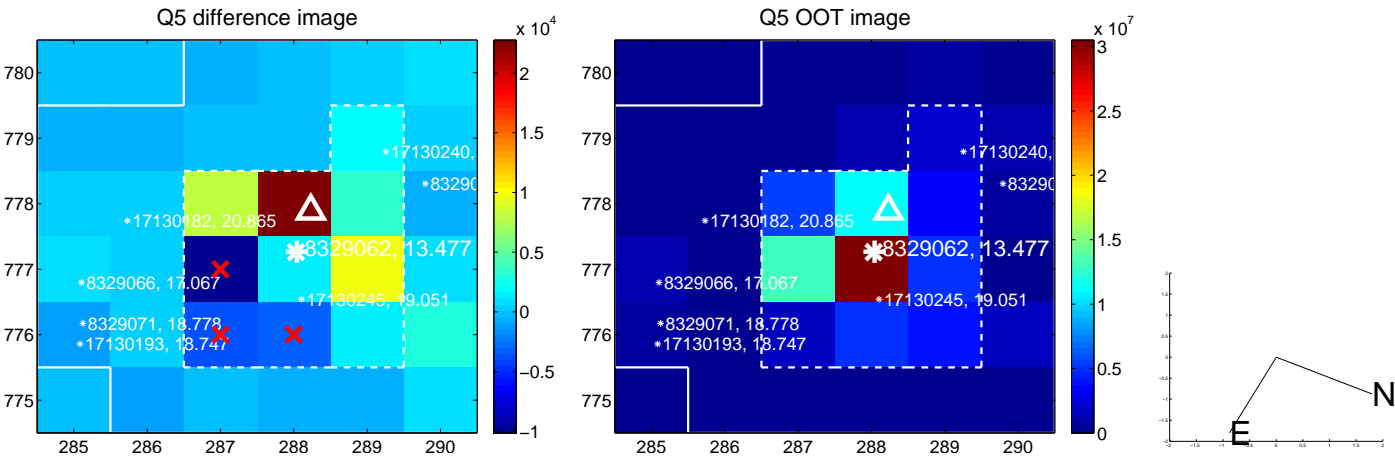
Q4 no difference image



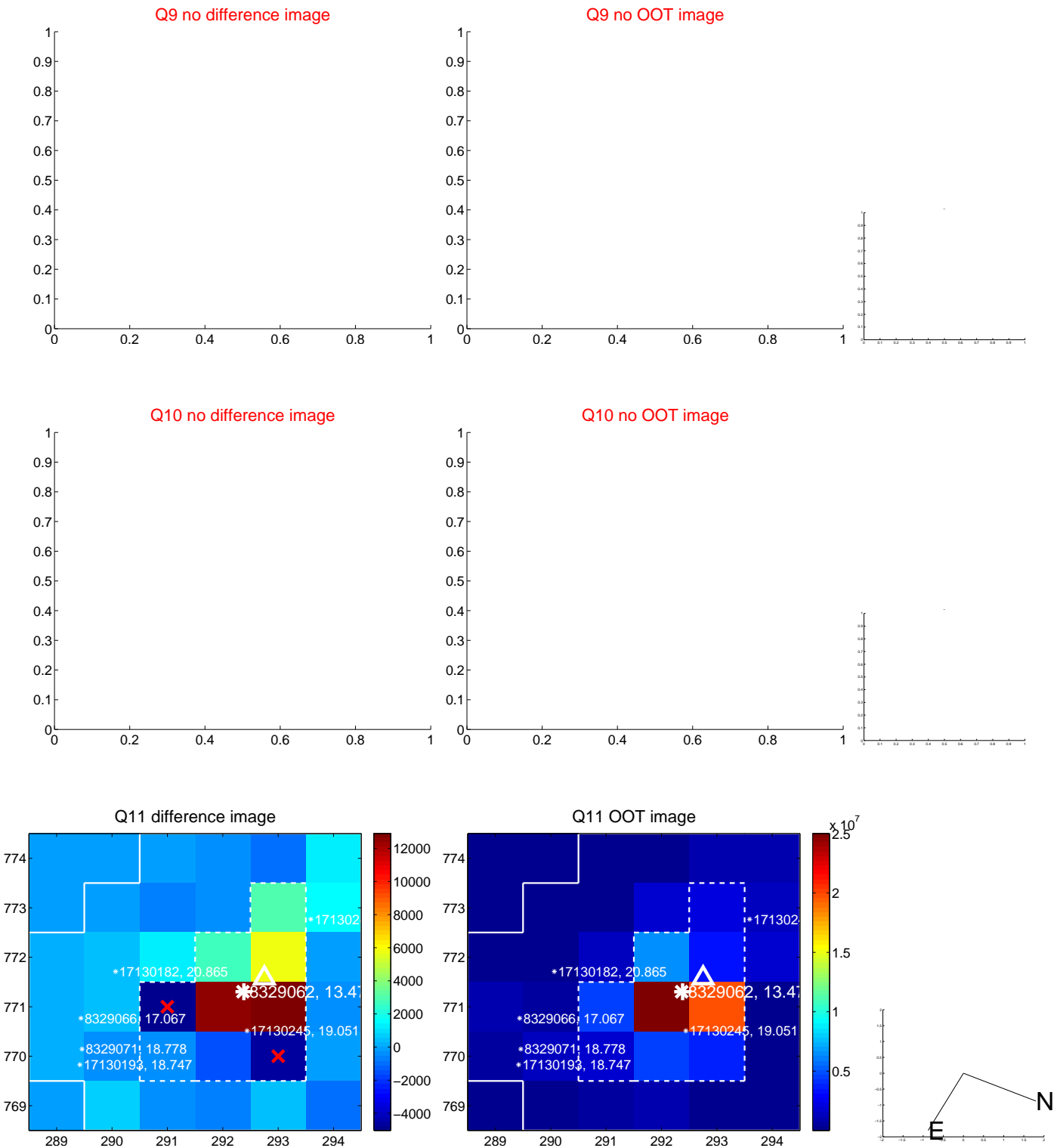
Q4 no OOT image



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

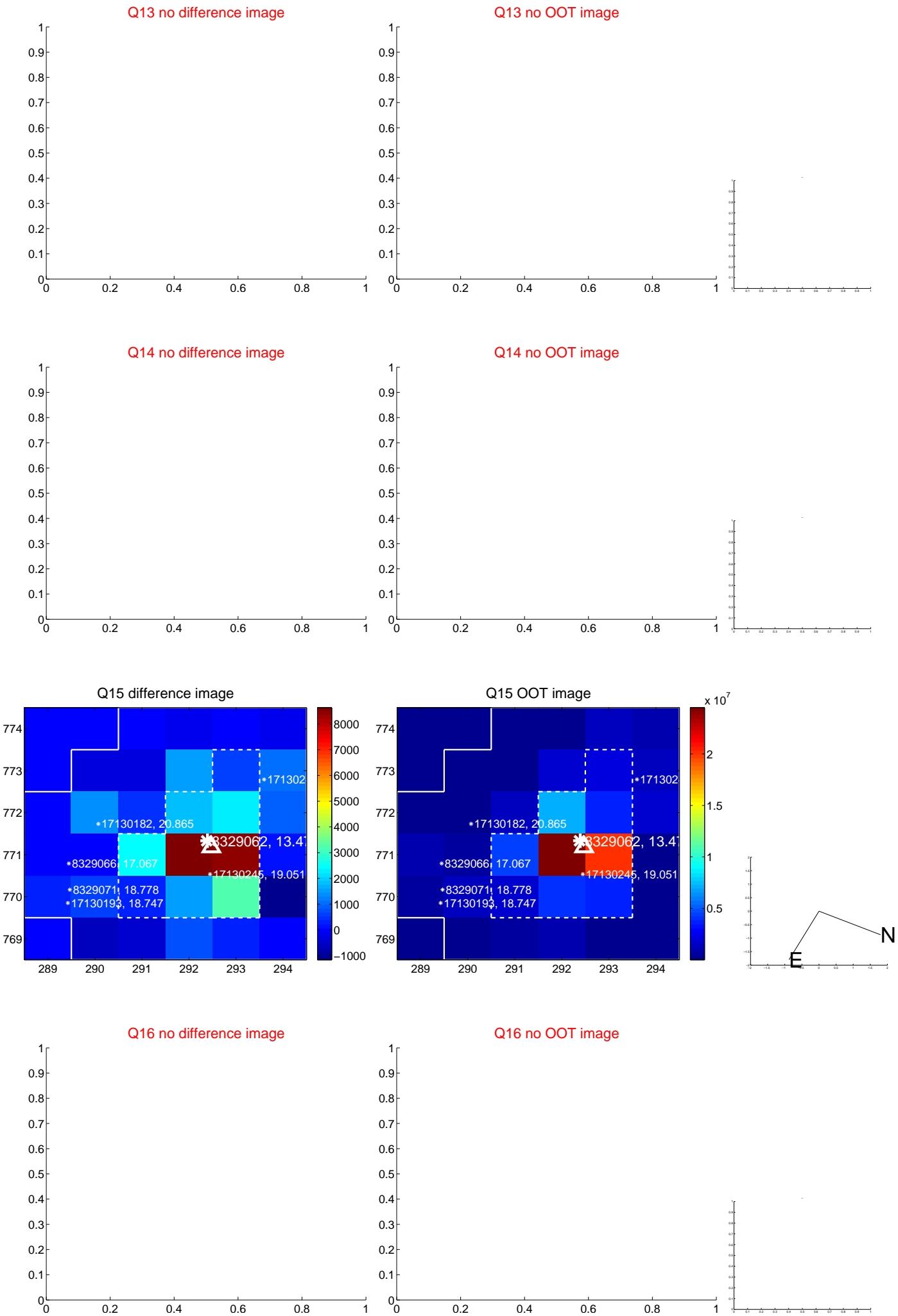


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

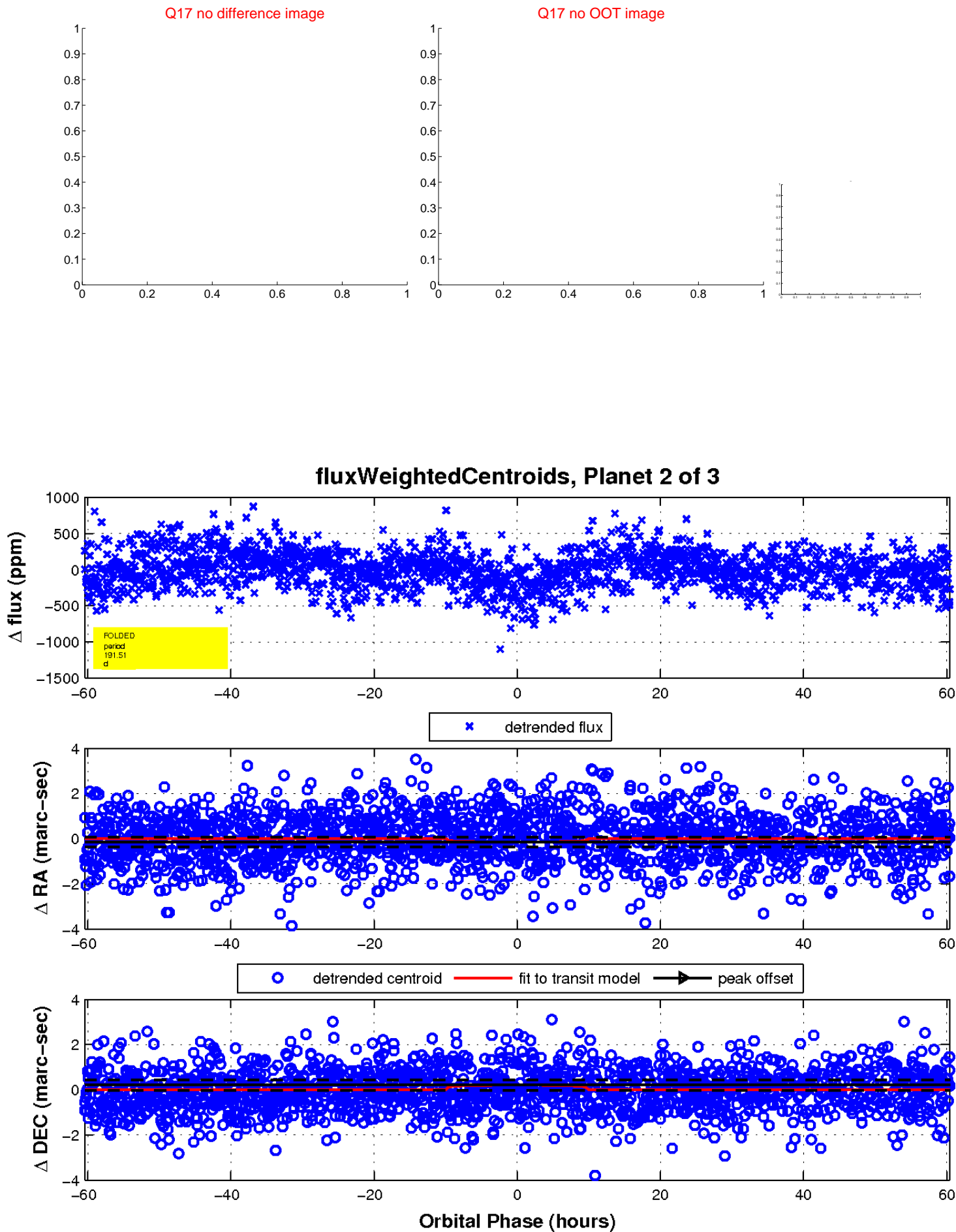




white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

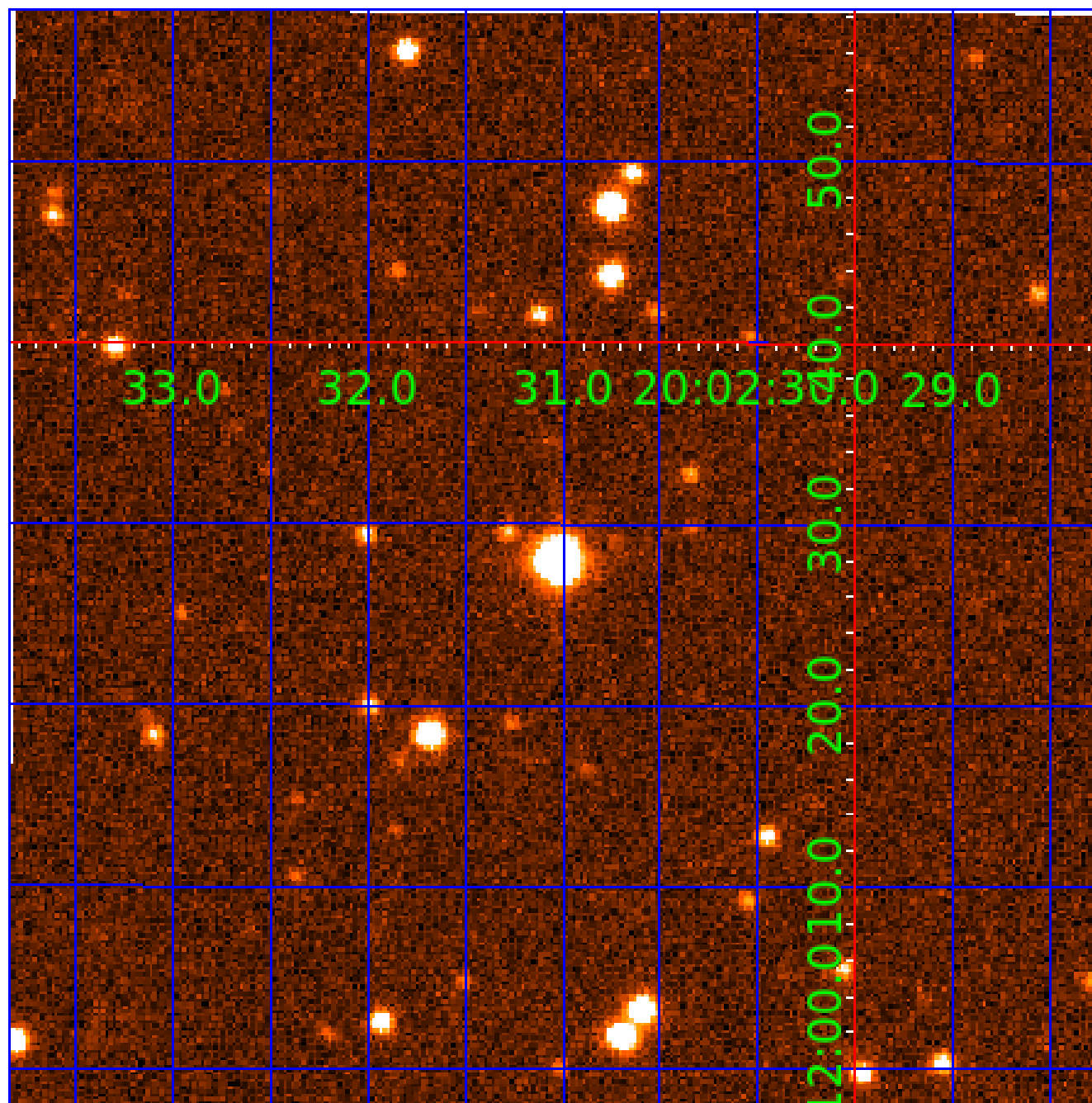


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 008329062

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008329062-01	OBS	No	2.365406	132.142003	40.8	7.358	10.3	9.5	3.81	6210	3.03	11376.36
008329062-02	OBS	No	191.510007	310.855053	196.2	20.156	7.5	5.8	3.81	6210	5.80	32.48
008329062-03	OBS	No	355.006270	137.269315	249.6	14.582	7.6	5.6	3.81	6210	6.19	14.26

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008329062-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008329062-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV
008329062-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—MOD_NONUNIQ_DV—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.

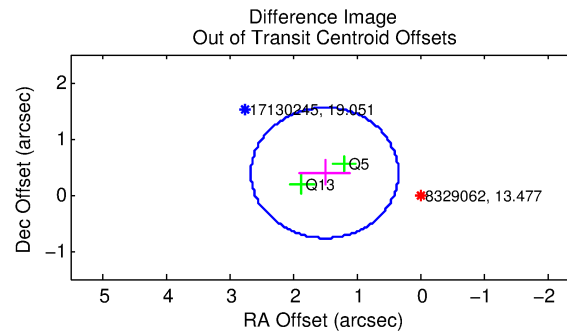
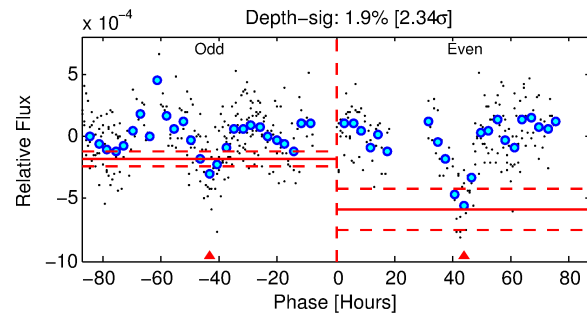
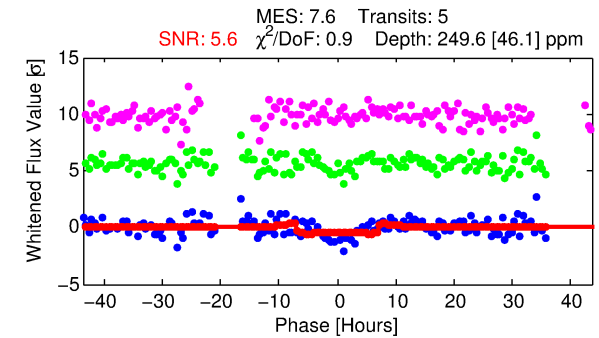
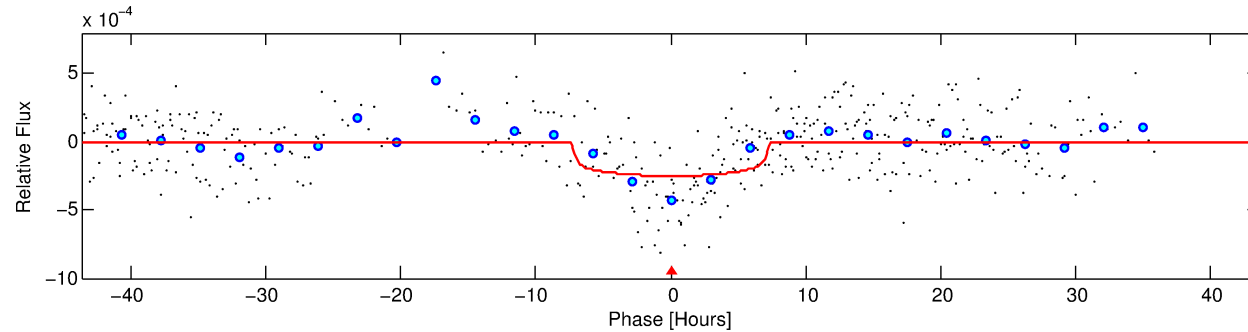
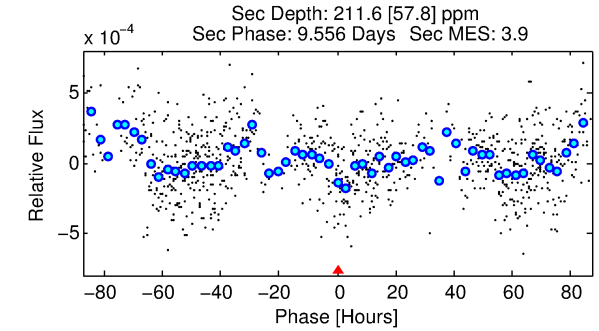
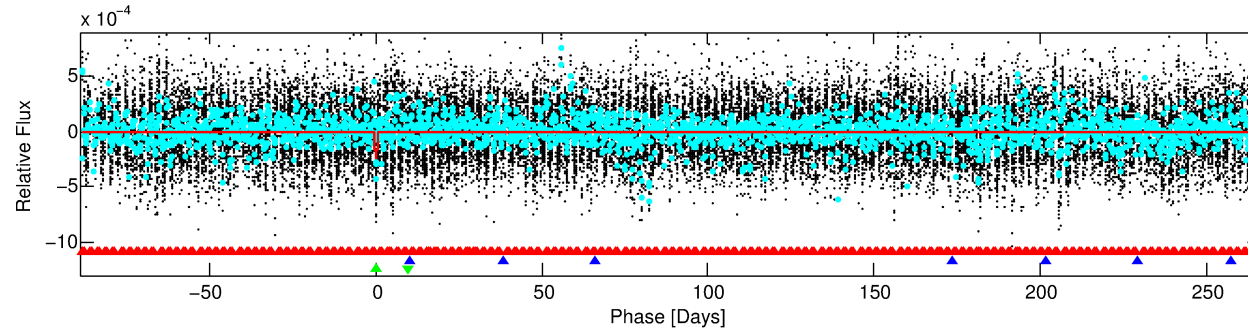
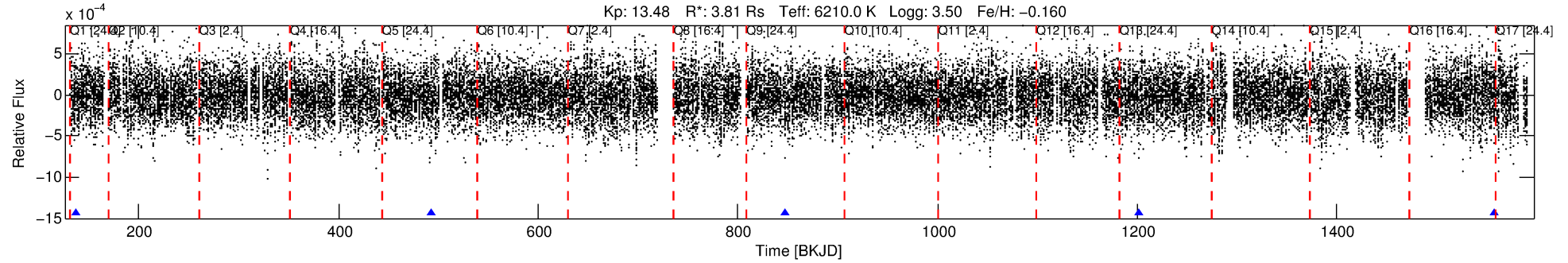
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008329062-03

No Significant Match Found

# DV One-Page Summary

KIC: 8329062 Candidate: 3 of 3 Period: 355.006 d



## DV Fit Results:

Period = 355.00627 [0.00750] d  
Epoch = 137.2693 [0.0217] BKJD  
Rp/R\* = 0.0149 [0.0084]  
a/R\* = 165.39 [462.09]  
b = 0.49 [4.36]  
Seff = 14.26 [17.10]  
Teq = 496 [149] K  
Rp = 6.19 [5.31] Re  
a = 1.1645 [0.8184] AU  
Ag = 4118.98 [6833.53] [0.60σ]  
Teffp = 6138 [1789] K [3.14σ]

## DV Diagnostic Results:

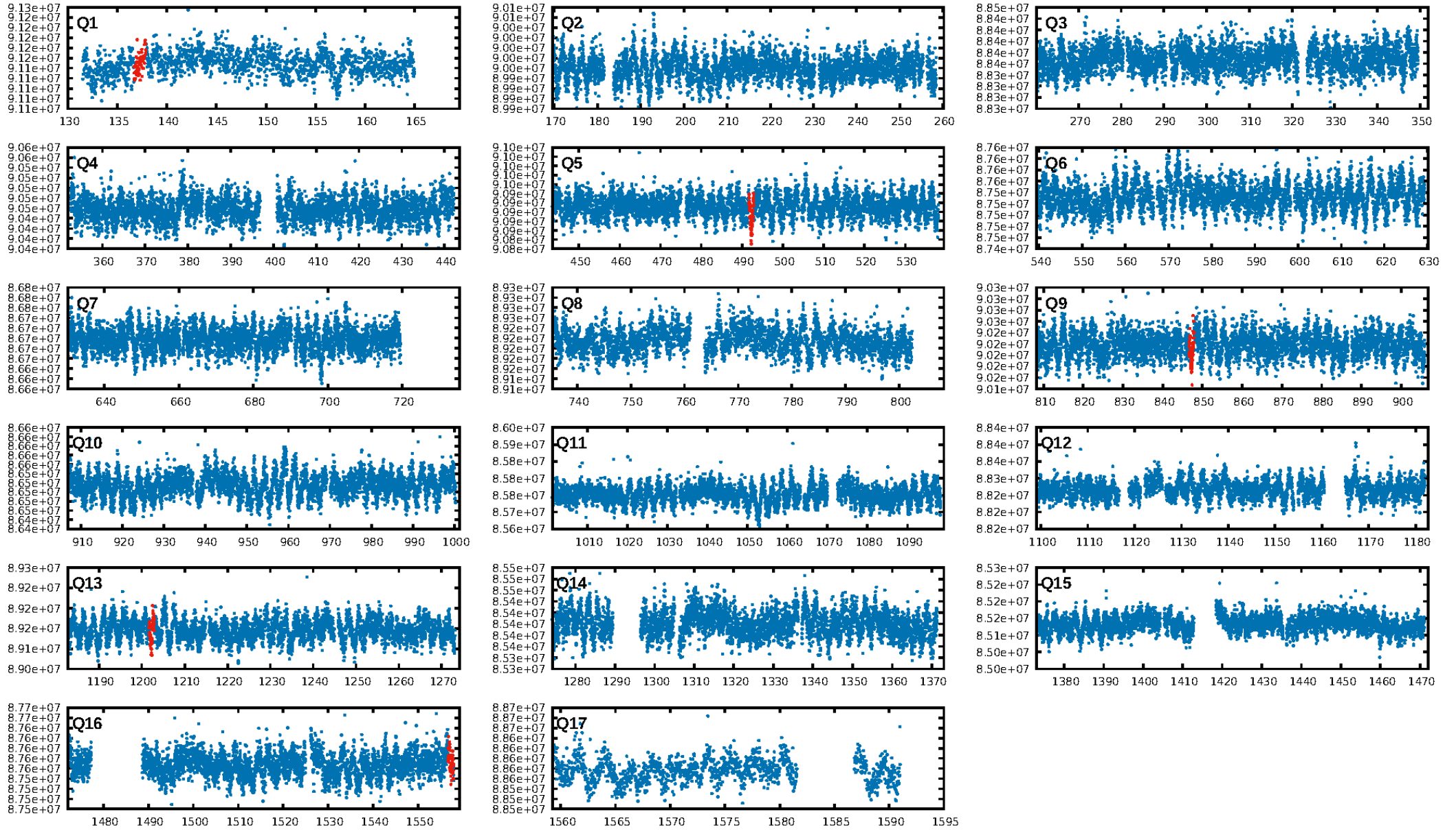
ShortPeriod-sig: 100.0% [157.73σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 34.2%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 4.37e-11**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 2.518  
Centroid-sig: 50.8%  
Centroid-so: 1.520 arcsec [1.34σ]  
**OotOffset-rm: 1.548 arcsec [4.01σ]**  
**KicOffset-rm: 1.527 arcsec [3.90σ]**  
OotOffset-st: 0/0/0/2 [2]  
KicOffset-st: 0/0/0/2 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 0.00 [0/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:21:33 Z

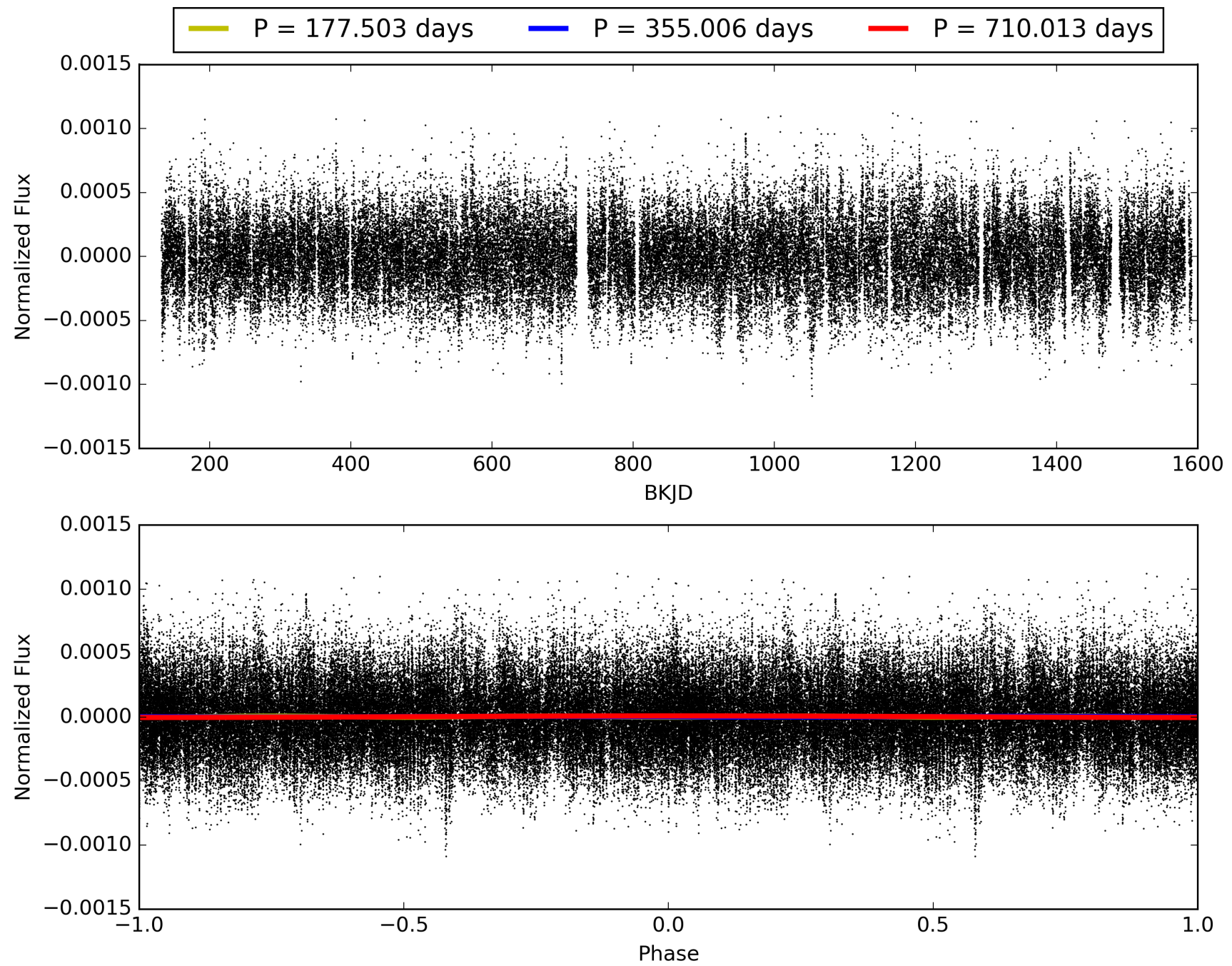
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 008329062-03, PDC Light Curves

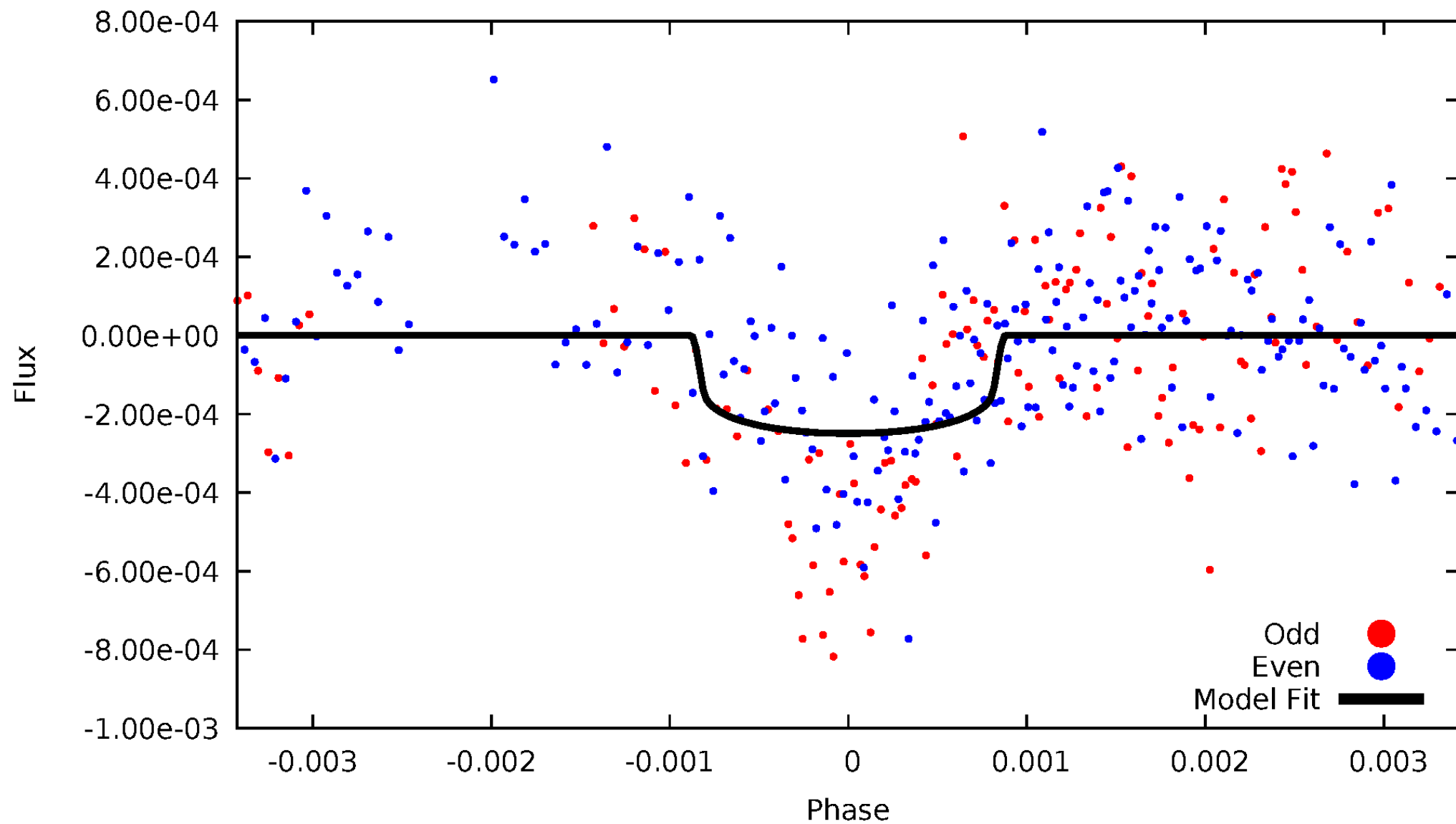


TCE 008329062-03



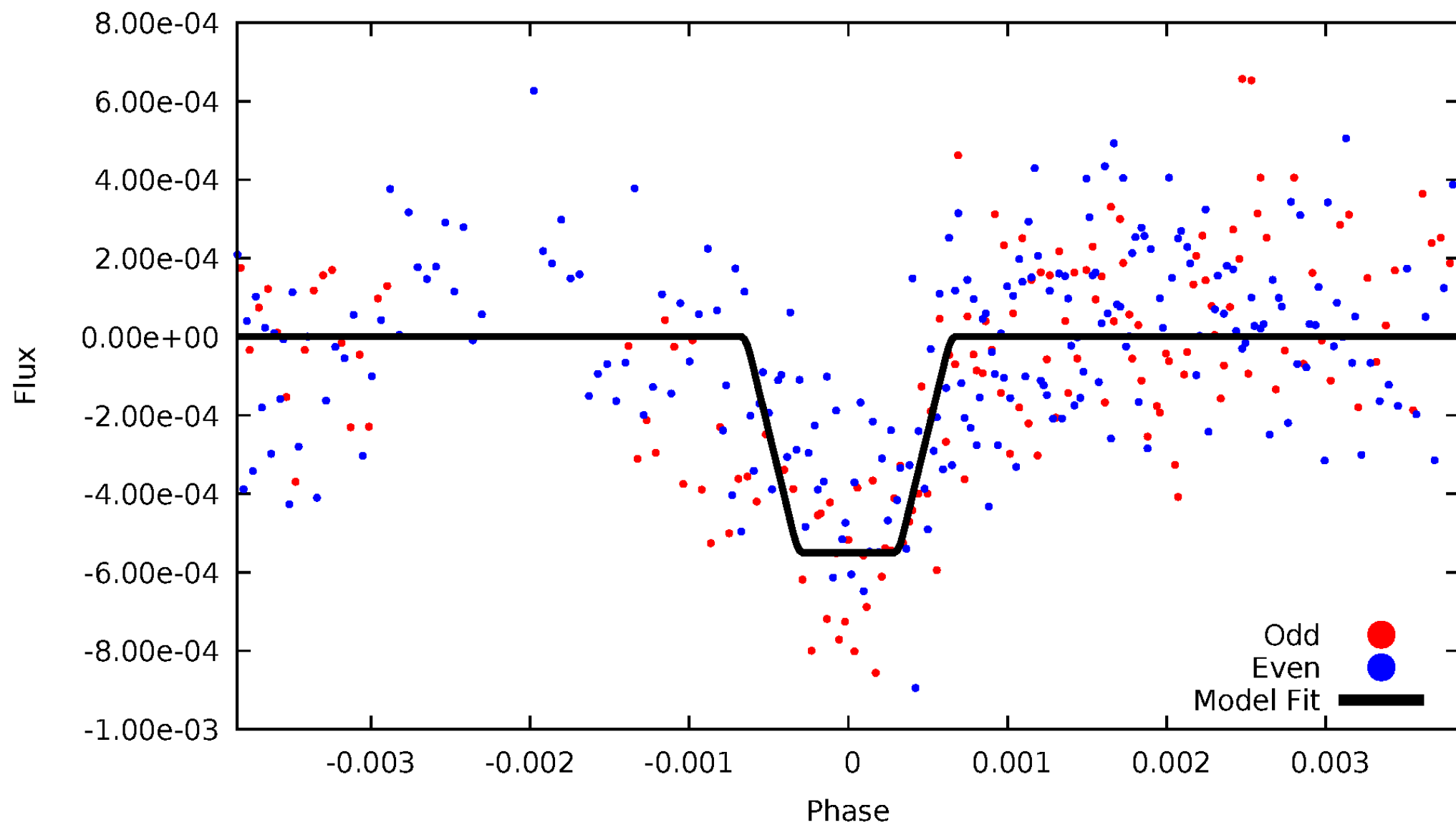
# DV Odd/Even

TCE 008329062-03

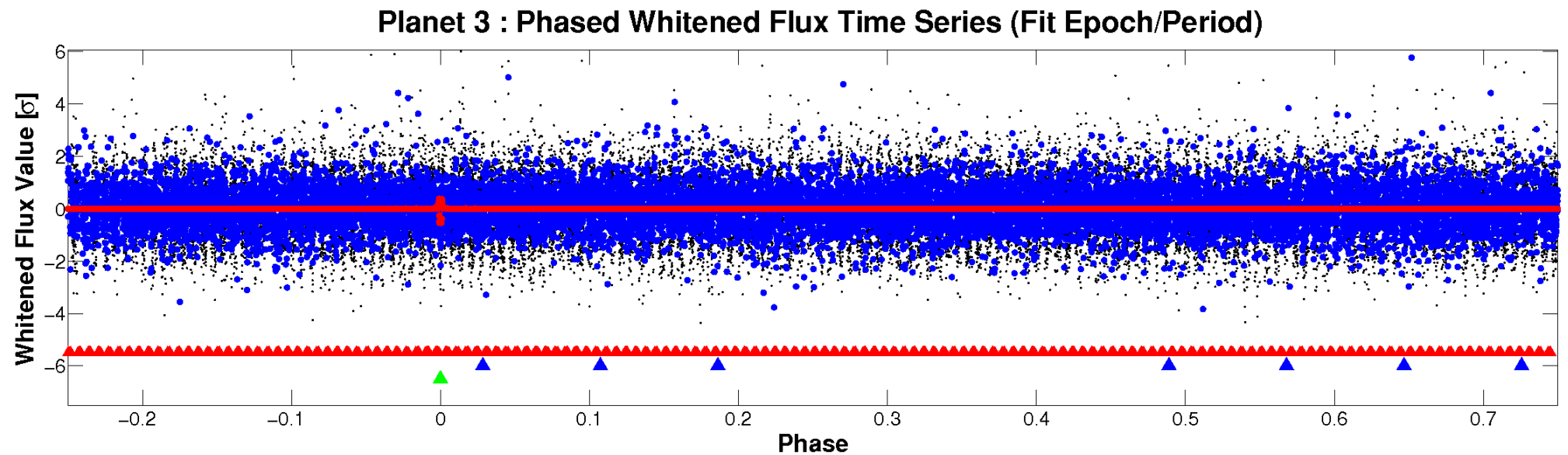
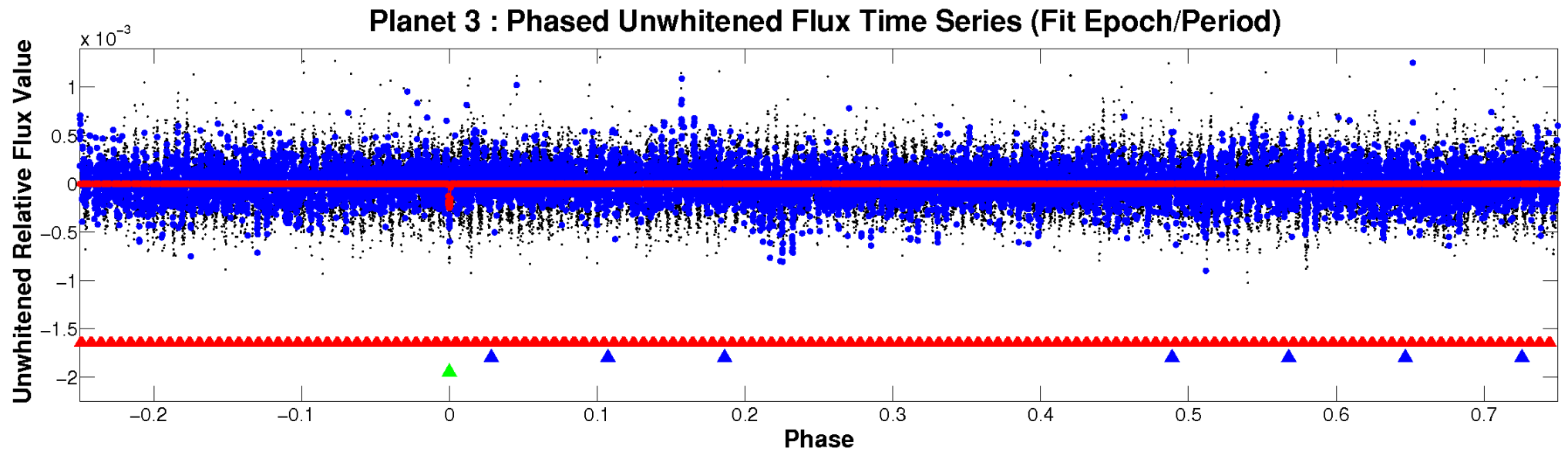


# ALT Odd/Even

TCE 008329062-03



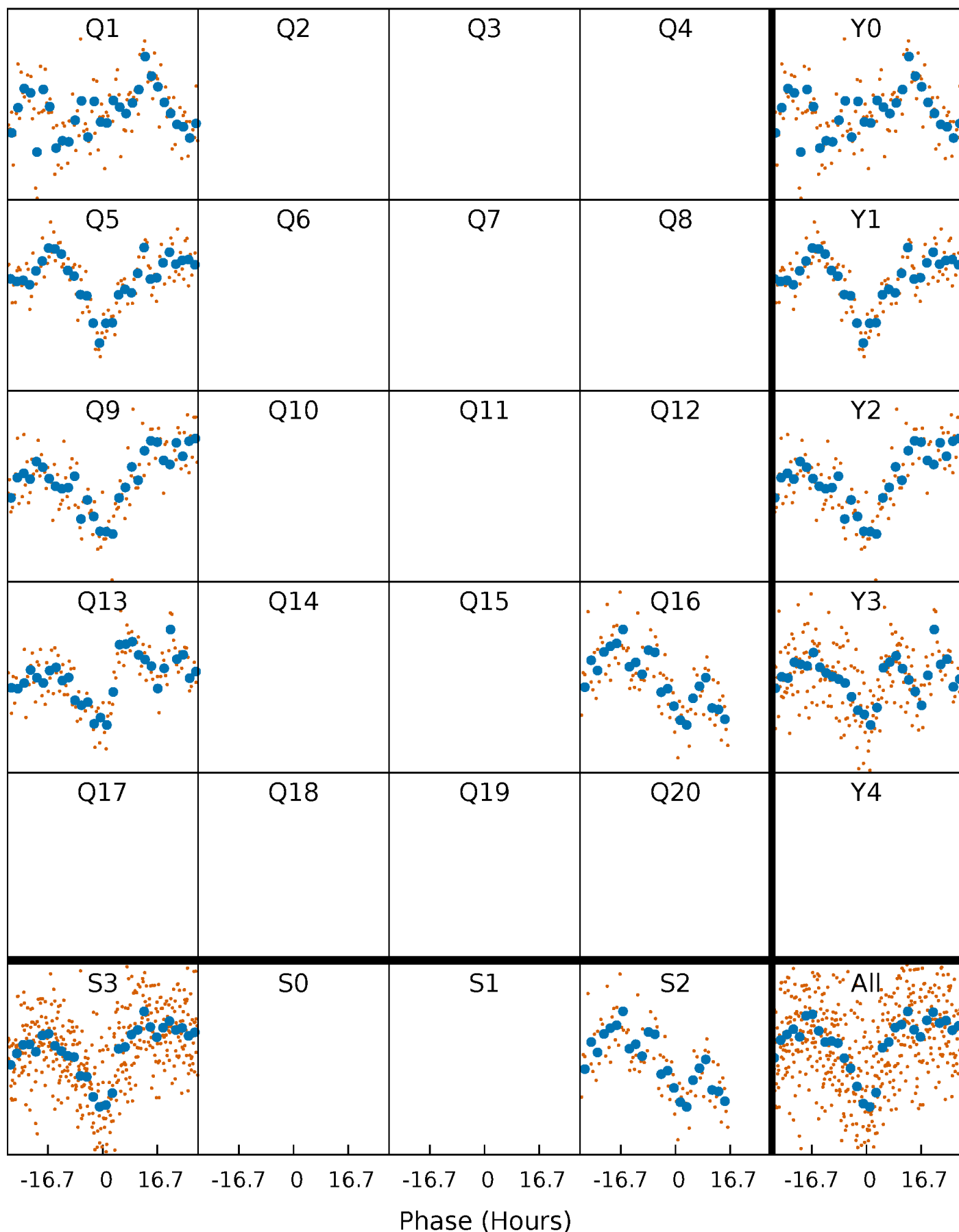
# Non-Whitened Vs. Whitened Light Curve





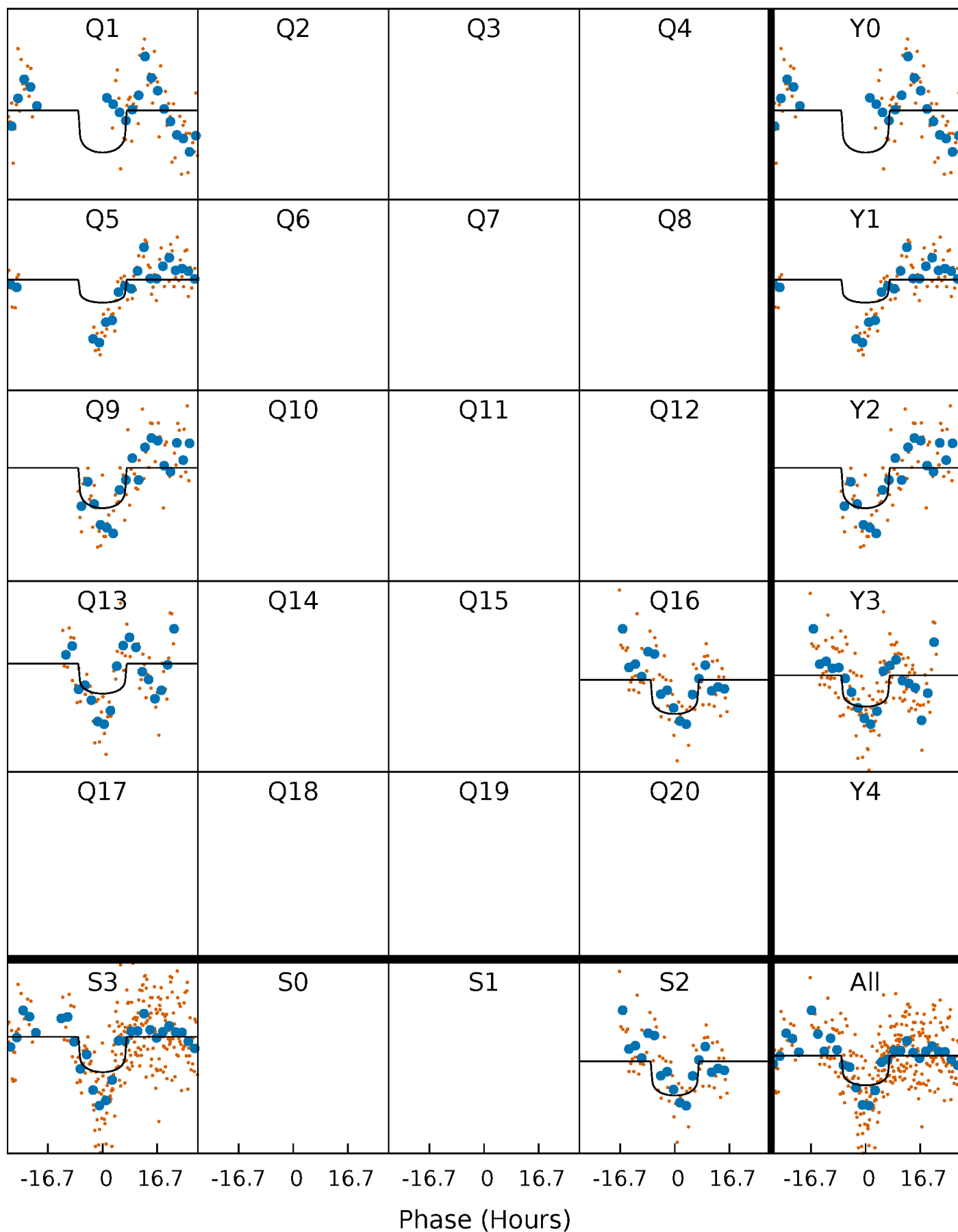
# PDC Quarter-Phased Transit Curves

TCE 008329062-03 P=355.006270 Days  $T_0=137.269315$  (BKJD)



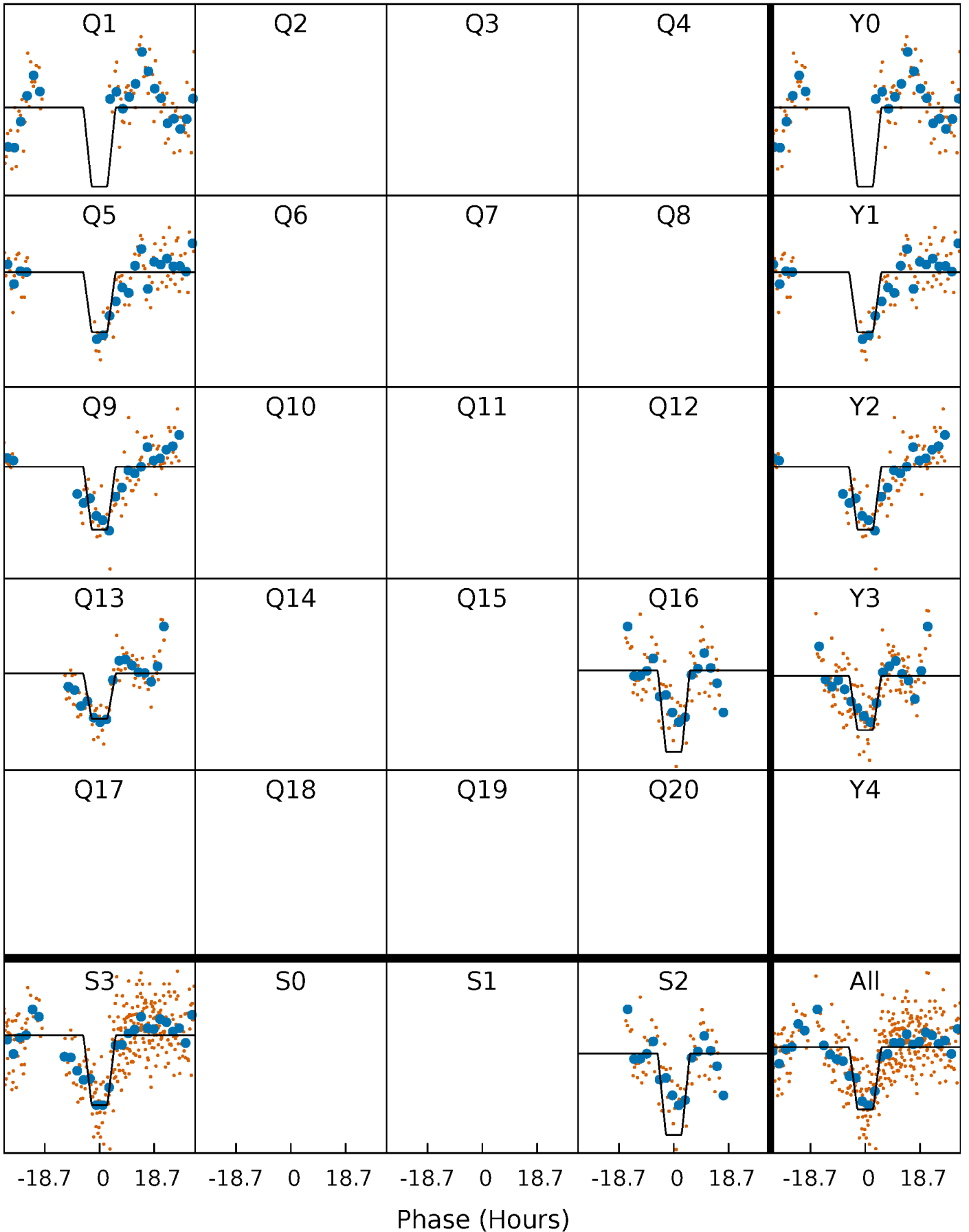
# DV Quarter-Phased Transit Curves

TCE 008329062-03     $P=355.006270$  Days     $T_0=137.269315$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

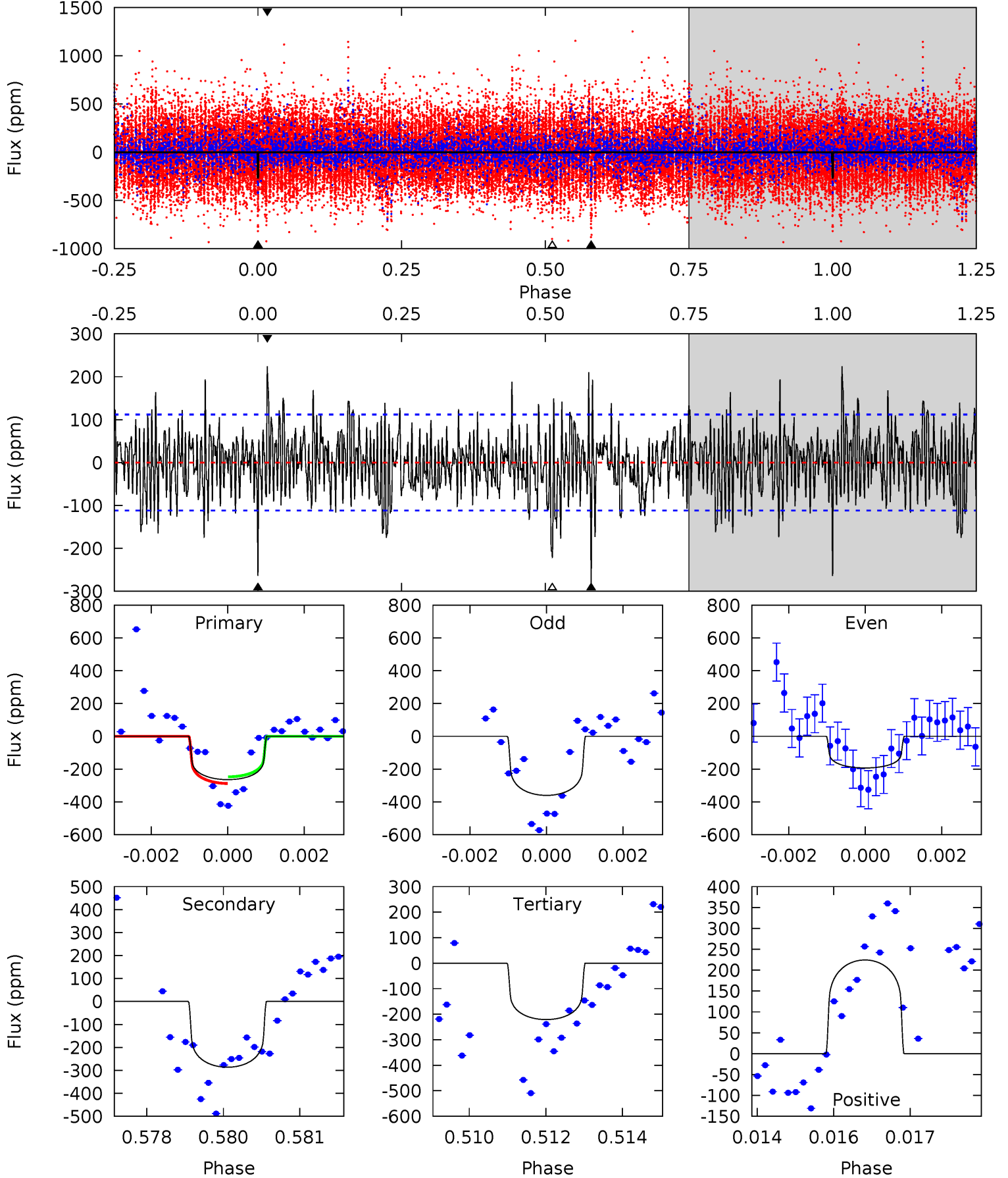
TCE 008329062-03     $P=355.019483$  Days     $T_0=137.213021$  (BKJD)



# DV Model-Shift Uniqueness Test

008329062-03, P = 355.006270 Days, E = 137.269315 Days

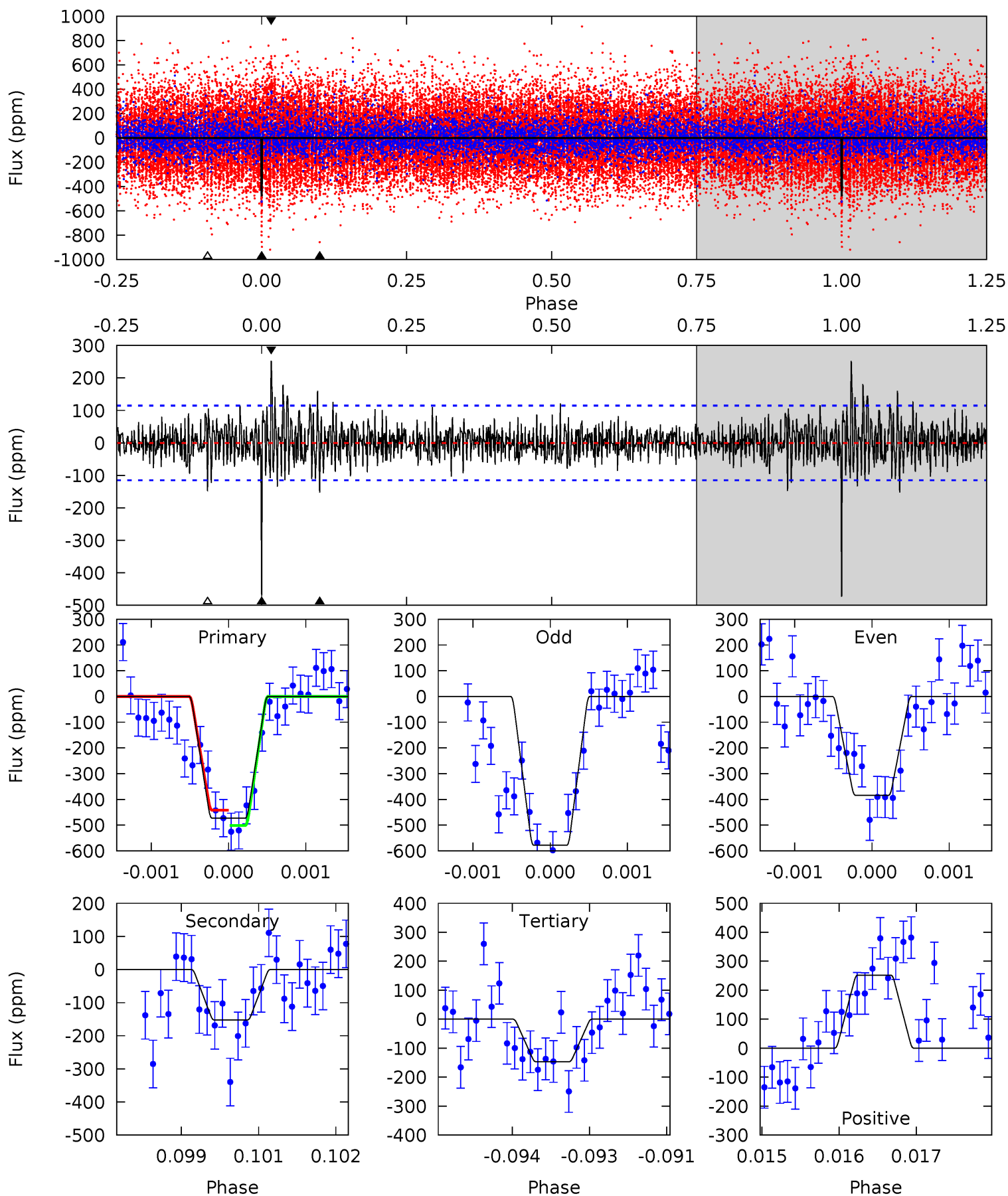
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	13.7	10.6	10.8	5.35	3.13	2.83	2.08	1.92	3.13	2.97	3.96	0.83	0.44	0.95



# Alt Model-Shift Uniqueness Test

008329062-03, P = 355.019483 Days, E = 137.213021 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
22.2	7.15	6.88	11.8	5.40	3.21	1.84	15.3	10.4	0.26	-4.68	4.51	0.74	0.35	1.38





### Stellar Parameters For KIC 008329062

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6210^{+205}_{-231}$	$3.499^{+0.722}_{-0.127}$	$-0.160^{+0.300}_{-0.300}$	$3.810^{+0.823}_{-2.470}$	$1.673^{+0.158}_{-0.631}$	$0.043^{+0.618}_{-0.017}$
	+3%/-4%	+21%/-4%	+188%/-188%	+22%/-65%	+9%/-38%	+1450%/-39%
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 008329062-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-286 \pm 21$	$5.38^{+3.83}_{-2.99}$	$668^{+63}_{-116}$	$6464^{+3705}_{-1200}$	$7031^{+26197}_{-4501}$
Alt.	$-152 \pm 21$	$8.27^{+4.18}_{-3.70}$	$662^{+66}_{-116}$	$4658^{+951}_{-561}$	$1686^{+3387}_{-980}$

$T_{\text{max}}$  = 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

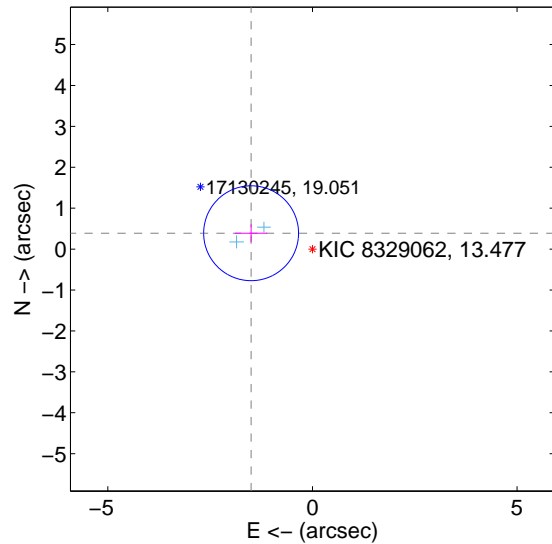
Supplemental centroid analysis for 008329062-03. Kepler magnitude: 13.48. Transit SNR 5.56

There are 2 quarters with good PRF difference image offsets

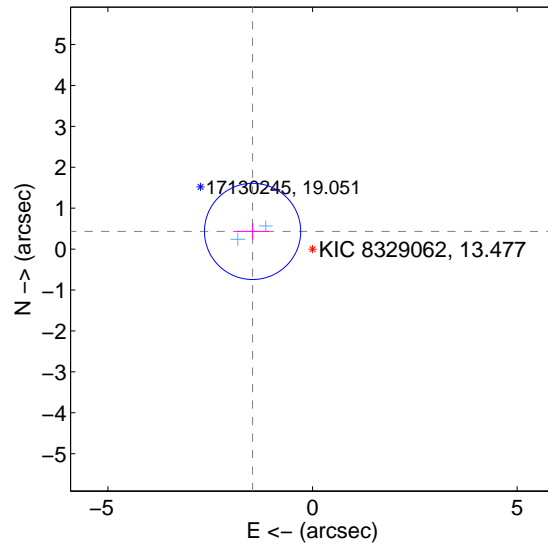
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.548 \pm 0.387$	4.01	$1.499 \pm 0.395$	$0.388 \pm 0.217$
PRF-fit source offset from KIC position	$1.527 \pm 0.392$	3.90	$1.465 \pm 0.404$	$0.432 \pm 0.200$
photometric centroid source offset	$1.52 \pm 1.14$	1.34	$1.46 \pm 1.13$	$-0.42 \pm 1.24$

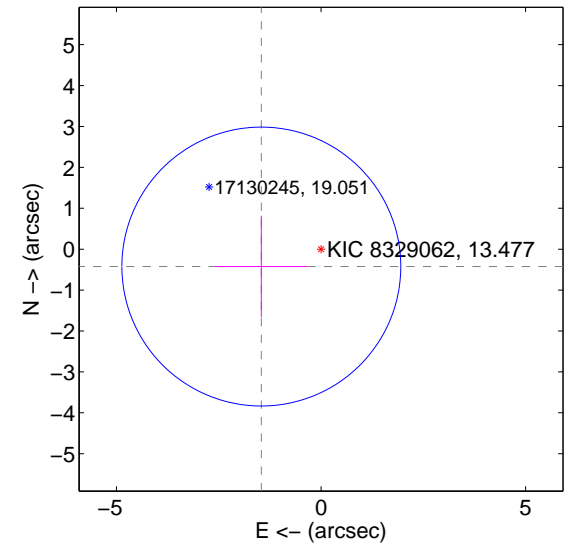
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

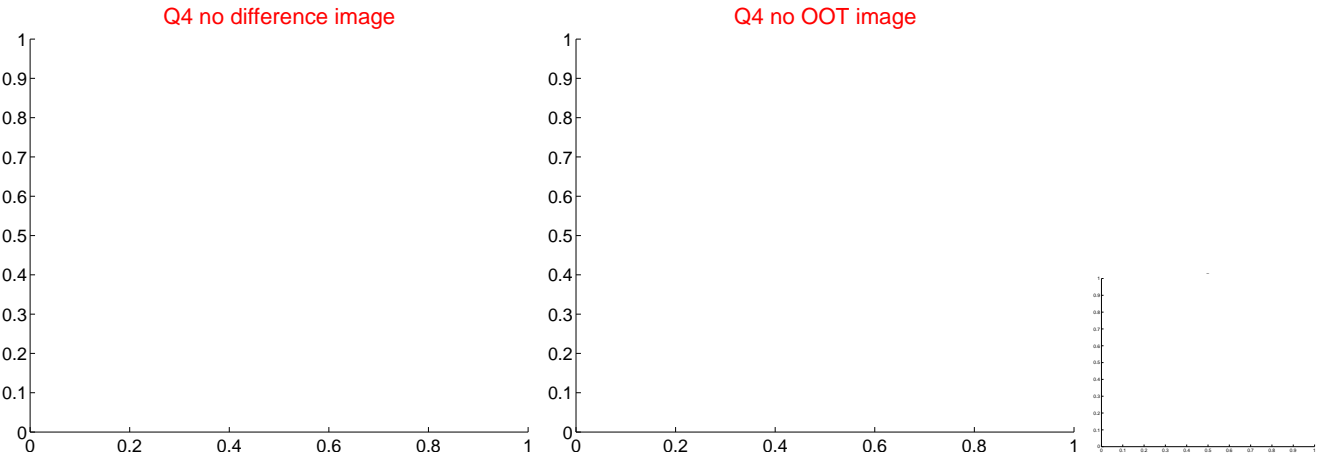
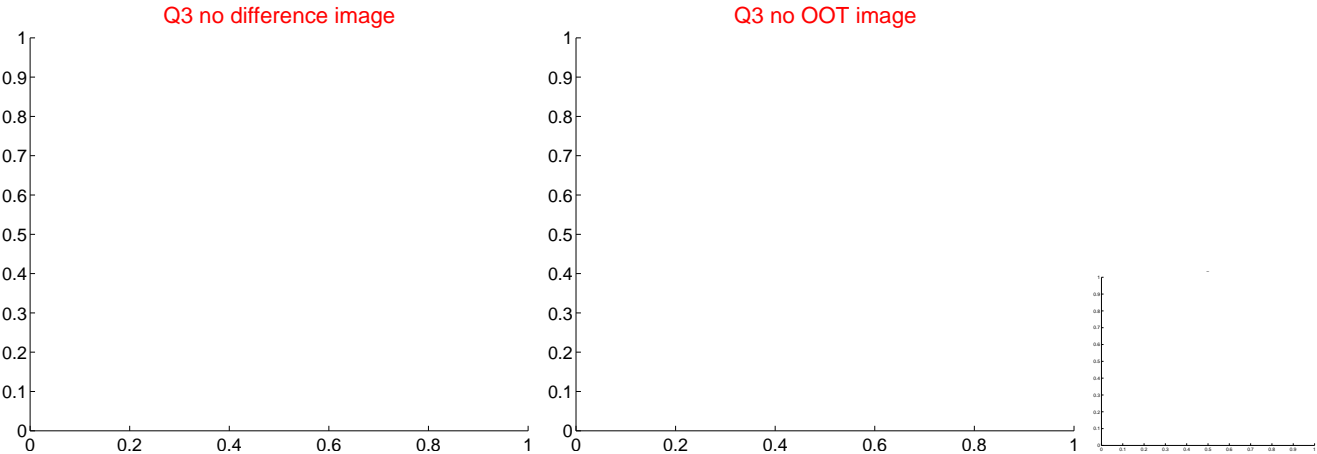
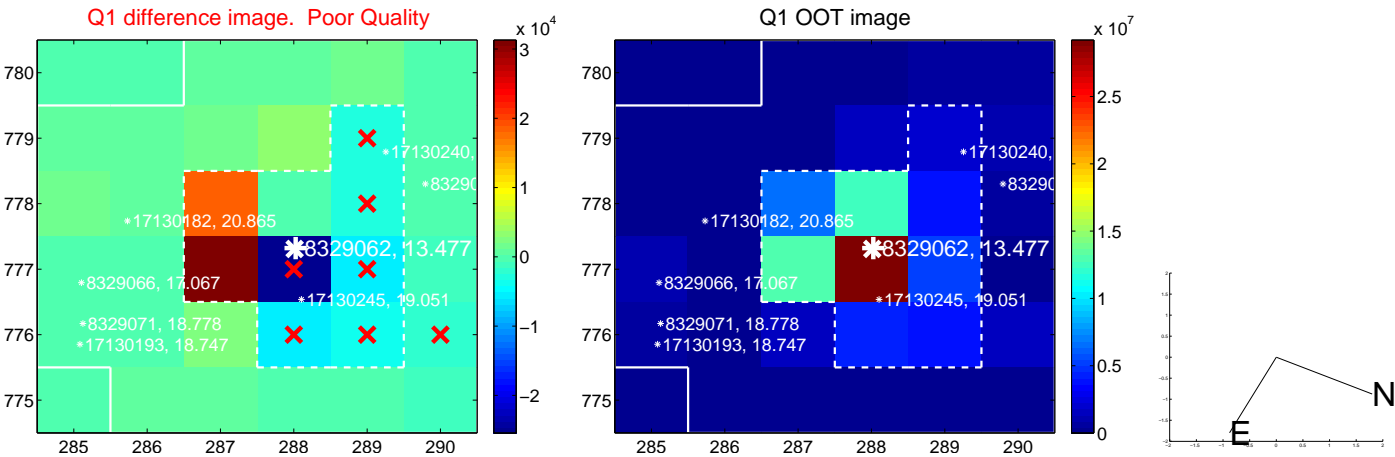


offset from photometric centroids

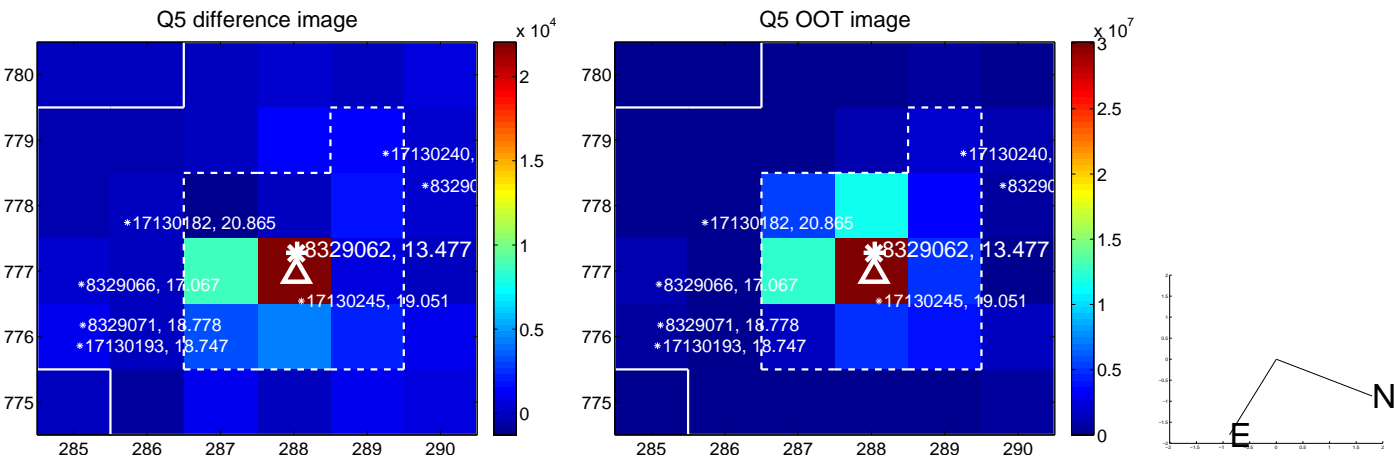


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



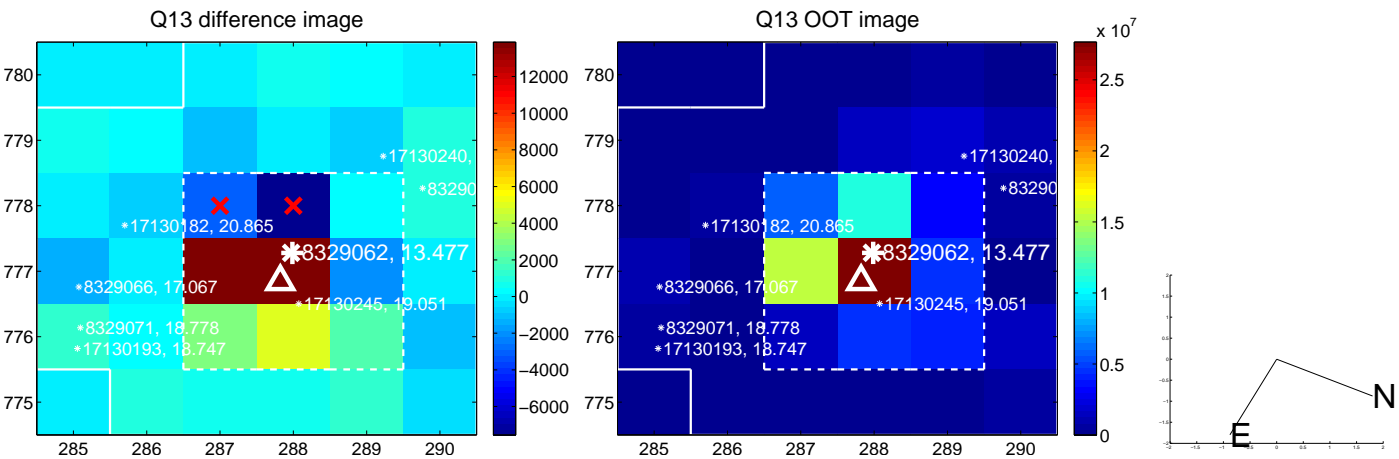
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



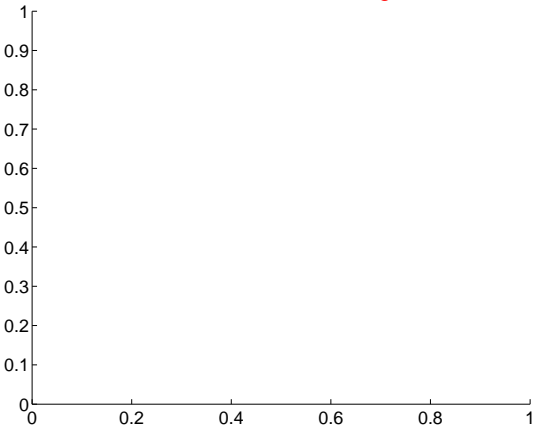
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



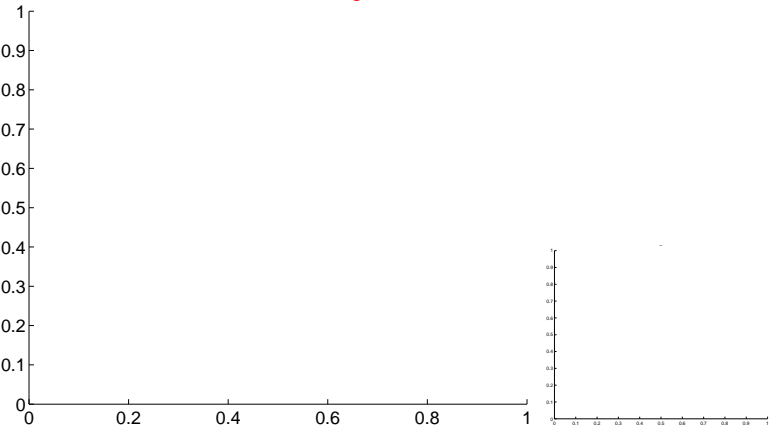
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



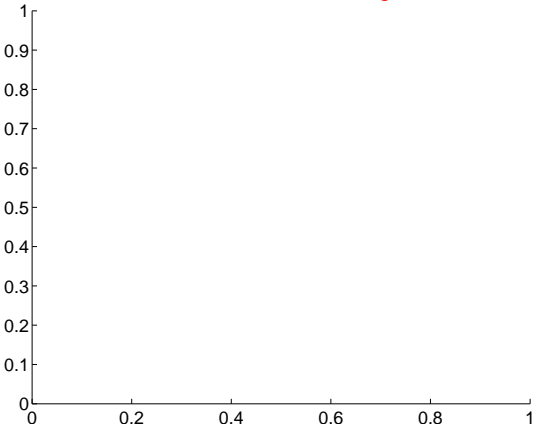
Q14 no difference image



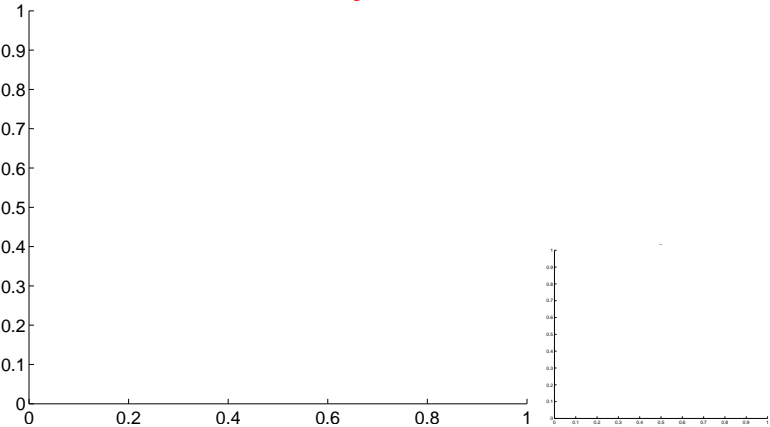
Q14 no OOT image



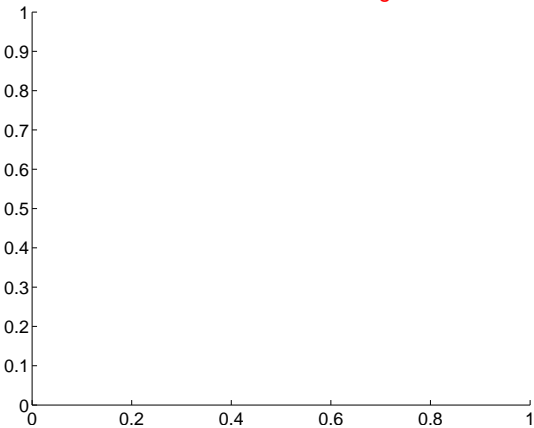
Q15 no difference image



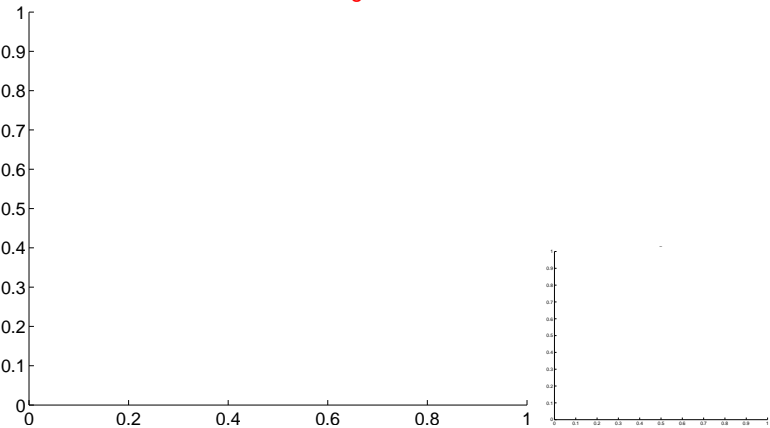
Q15 no OOT image



Q16 no difference image

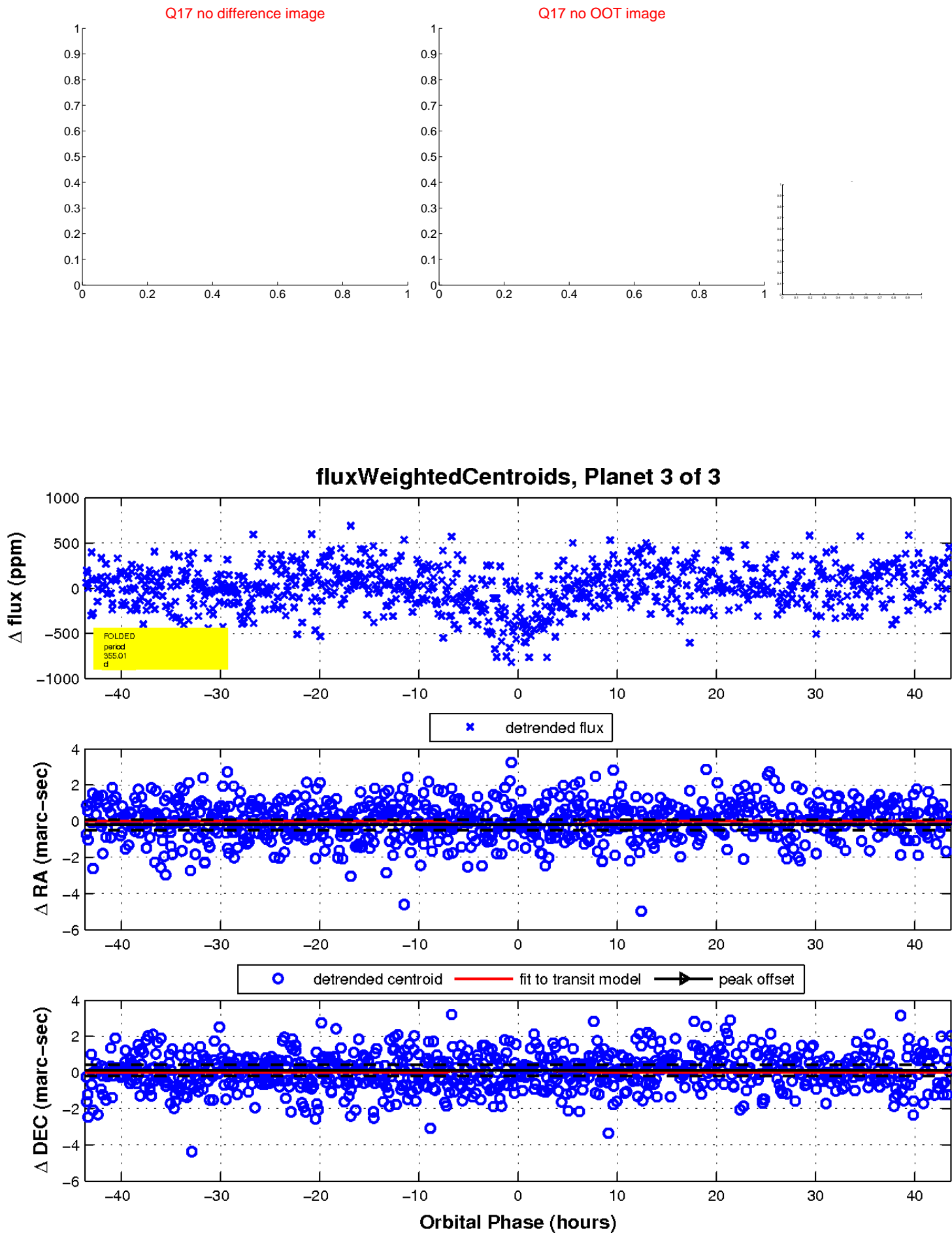


Q16 no OOT image





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



UKIRT Image

Declination

