

# KIC 007207129

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007207129-01	OBS	No	494.685024	151.489645	2275.9	10.645	22.0	5.6	2.00	7807	11.09	6.00
007207129-02	OBS	No	383.495150	241.314867	7793.2	6.785	25.0	11.8	2.00	7807	30.95	8.43
007207129-03	OBS	No	423.421447	196.973335	496.4	8.300	20.6	3.0	2.00	7807	4.69	7.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007207129-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—CENT_FEW_DIFFS
007207129-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007207129-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—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.

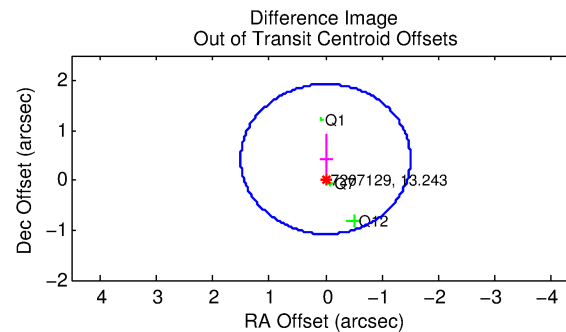
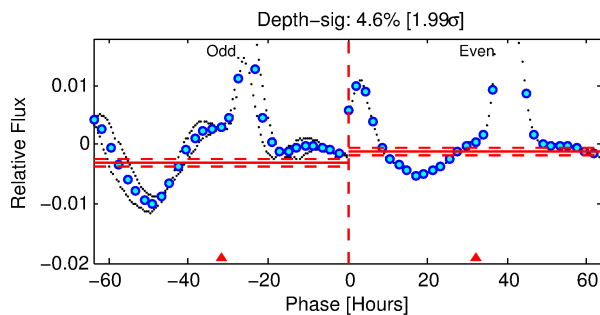
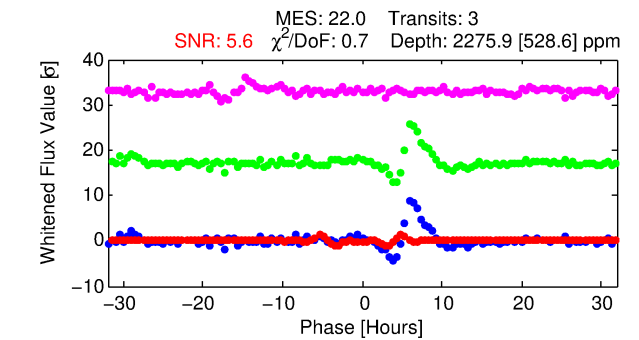
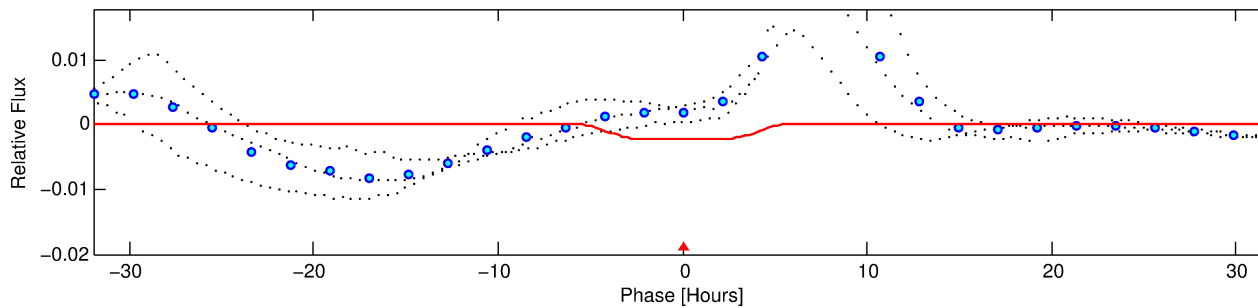
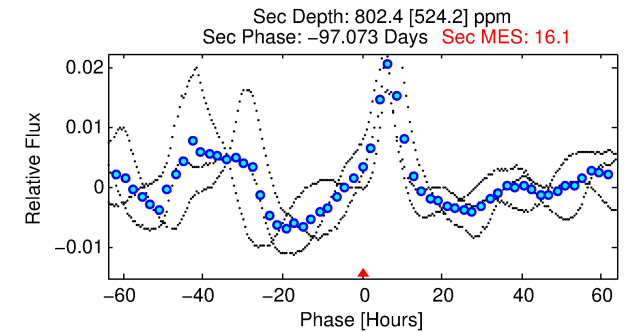
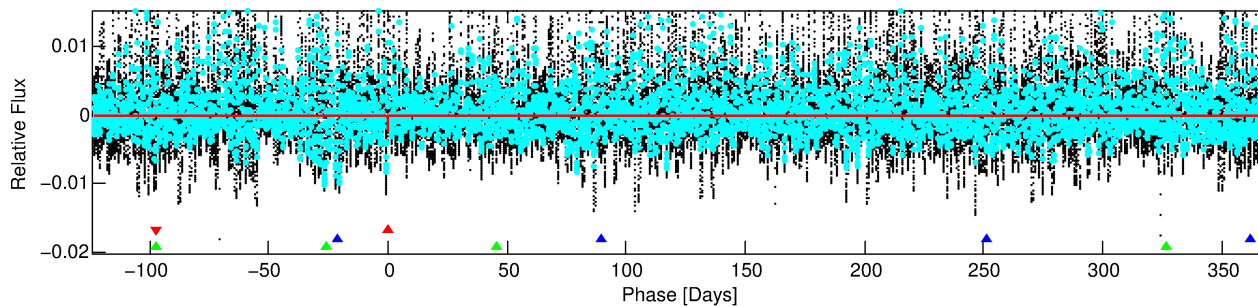
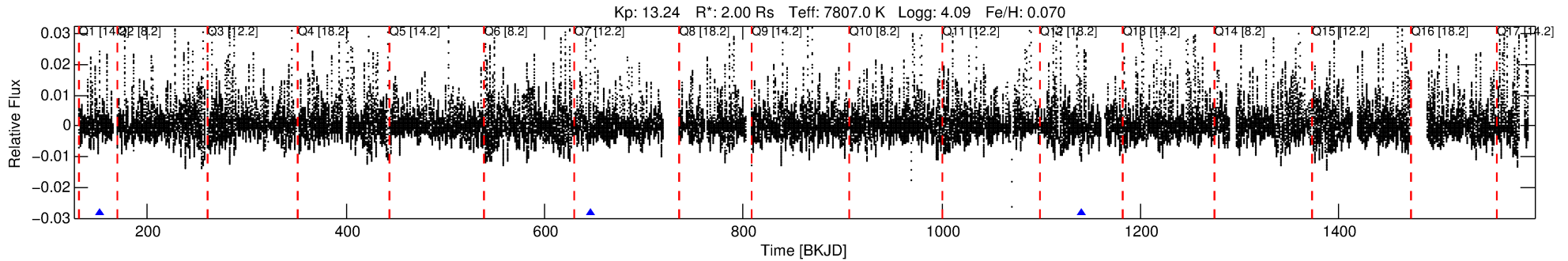
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007207129-01

No Significant Match Found

# DV One-Page Summary

KIC: 7207129 Candidate: 1 of 3 Period: 494.685 d



## DV Fit Results:

Period = 494.68502 [0.00593] d  
Epoch = 151.4896 [0.0078] BKJD  
Rp/R\* = 0.0509 [0.0060]  
a/R\* = 190.00 [10.19]  
b = 0.90 [0.01]  
Seff = 6.00 [2.08]  
Teq = 399 [35] K  
Rp = 11.09 [3.04] Re  
a = 1.4860 [0.3060] AU  
Ag = 7928.50 [5982.48] [1.33σ]  
Teffp = 5824 [1043] K [5.20σ]

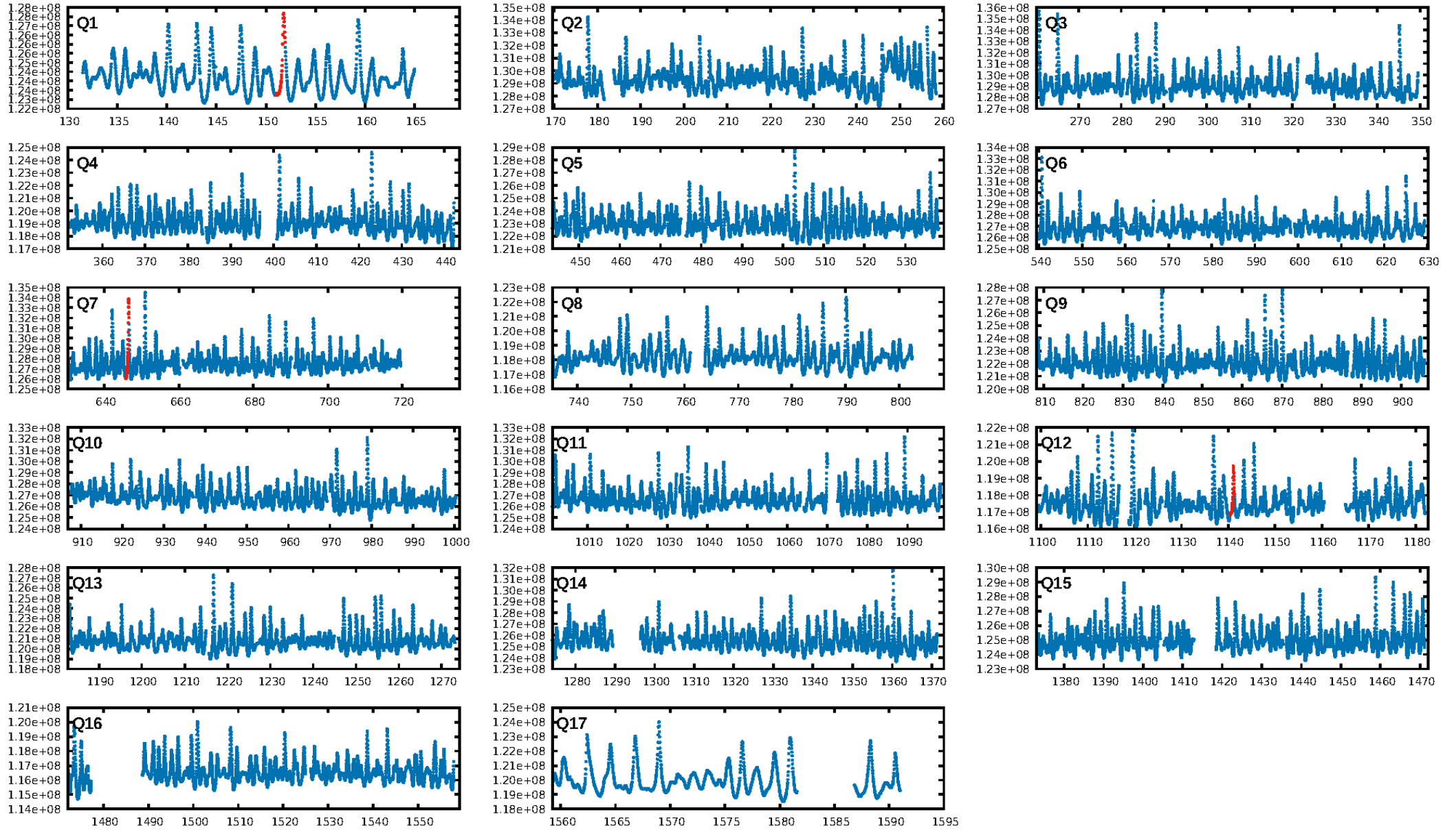
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [126.71σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 48.8%  
ModelChiSquareGof-sig: 99.8%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: 0.4178  
Centroid-sig: 50.0%  
Centroid-so: 0.371 arcsec [2.38σ]  
OotOffset-rm: 0.421 arcsec [0.84σ]  
OotOffset-st: 0/1/1/1 [3]  
KicOffset-rm: 0.494 arcsec [1.00σ]  
KicOffset-st: 0/1/1/1 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

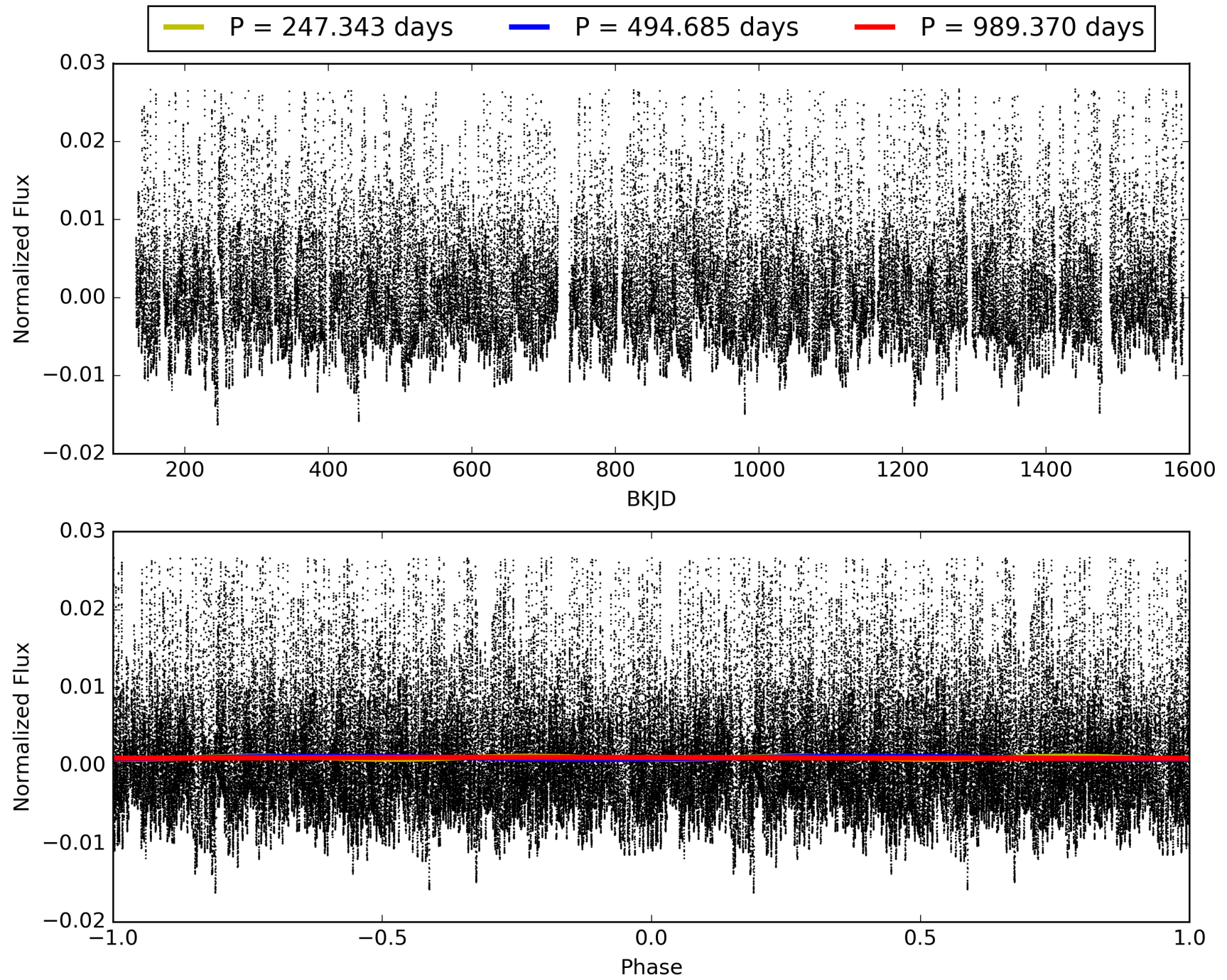
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:44:50 Z

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

# TCE 007207129-01, PDC Light Curves

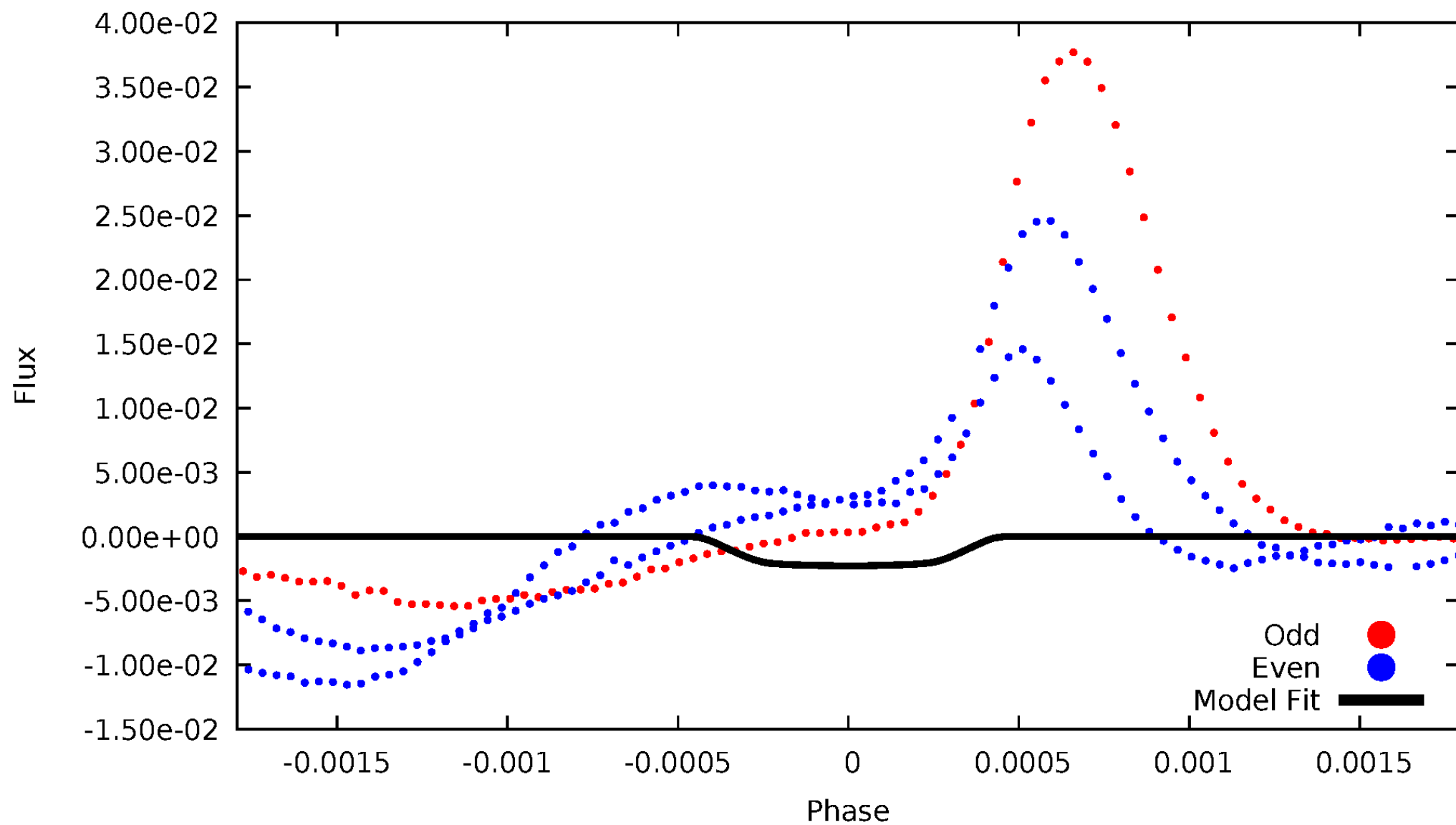


# TCE 007207129-01



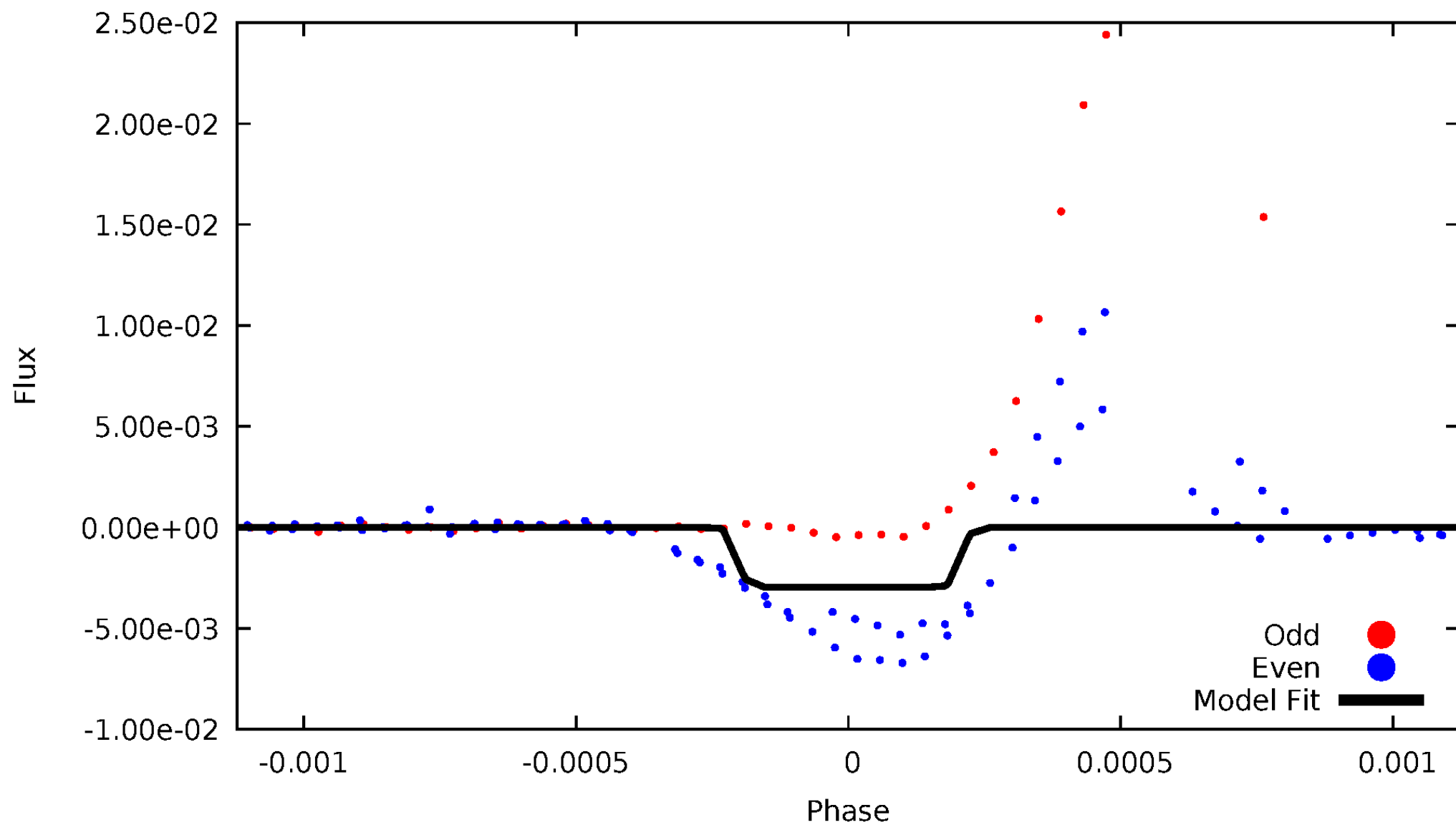
# DV Odd/Even

TCE 007207129-01



# ALT Odd/Even

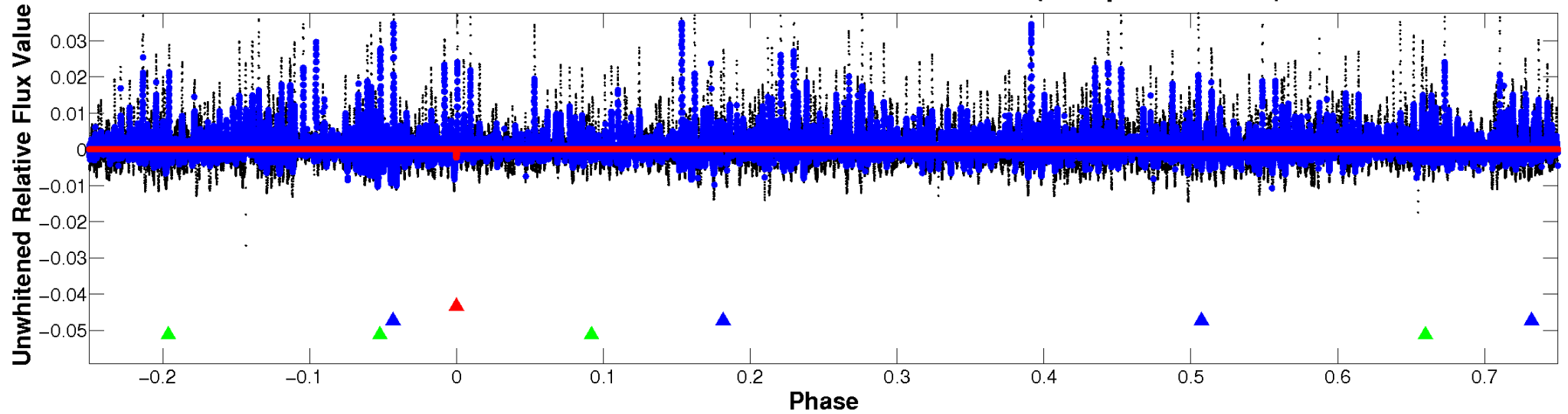
TCE 007207129-01



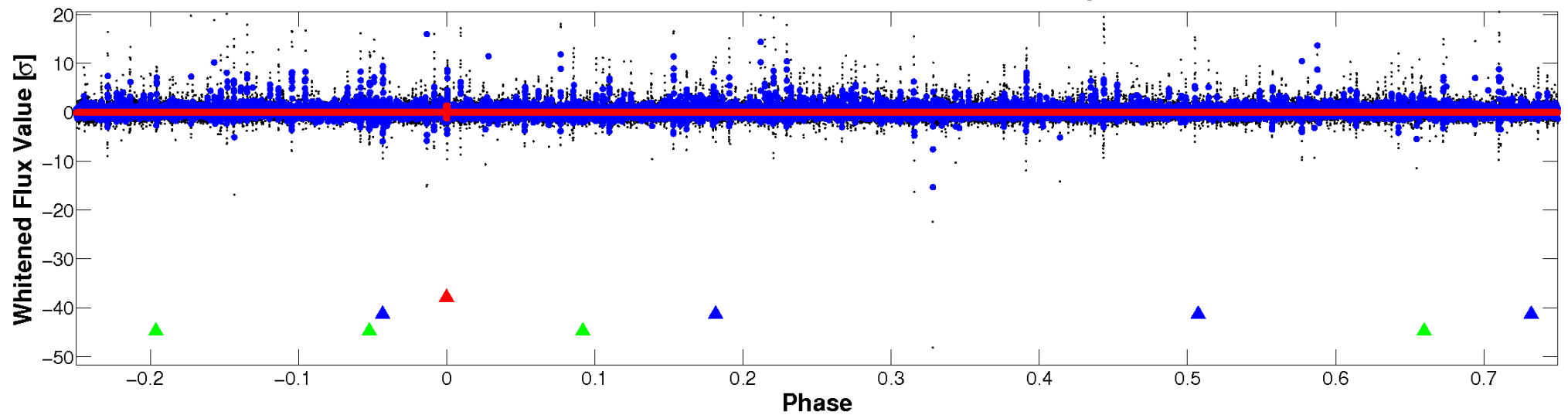


# Non-Whitened Vs. Whitened Light Curve

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

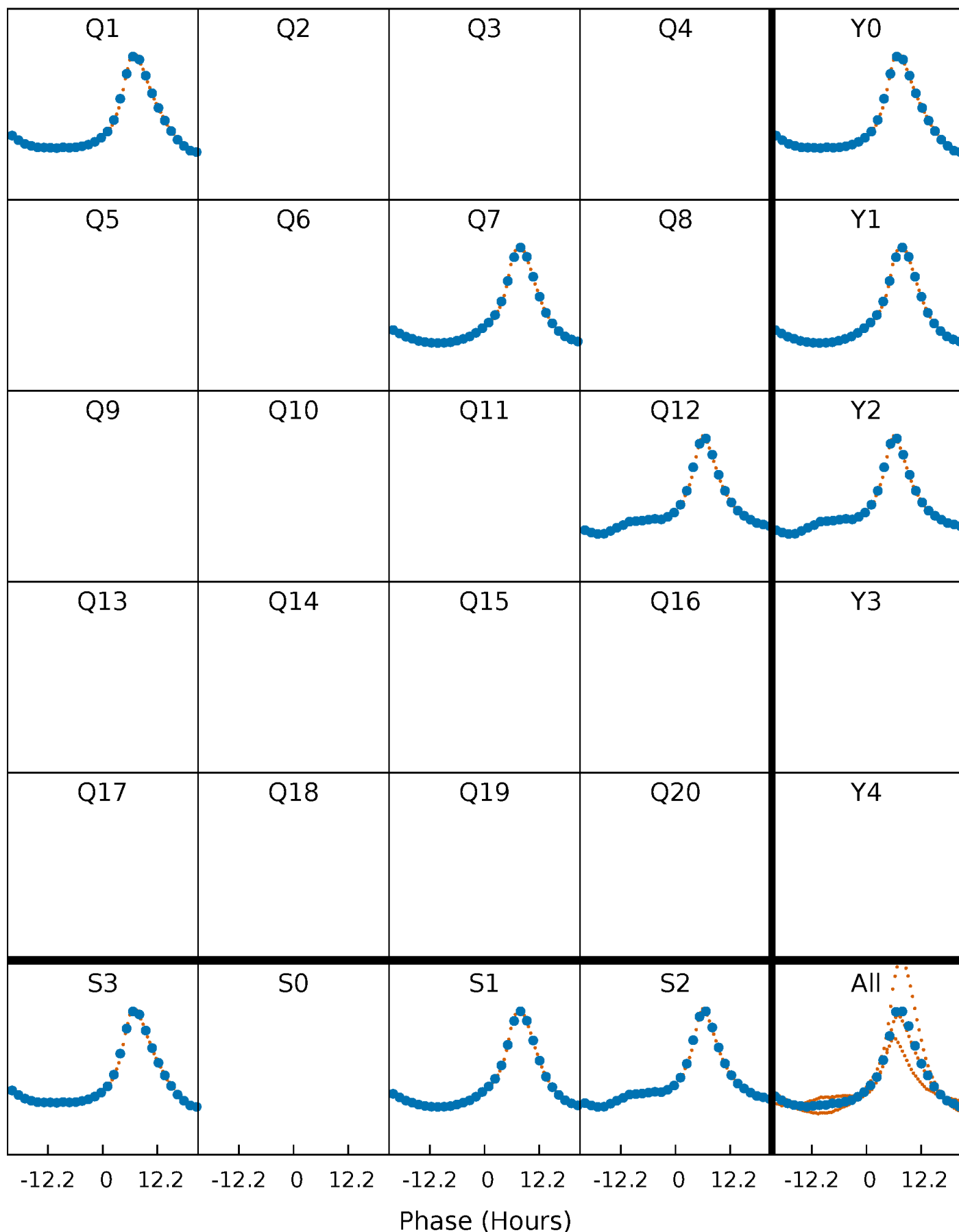


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

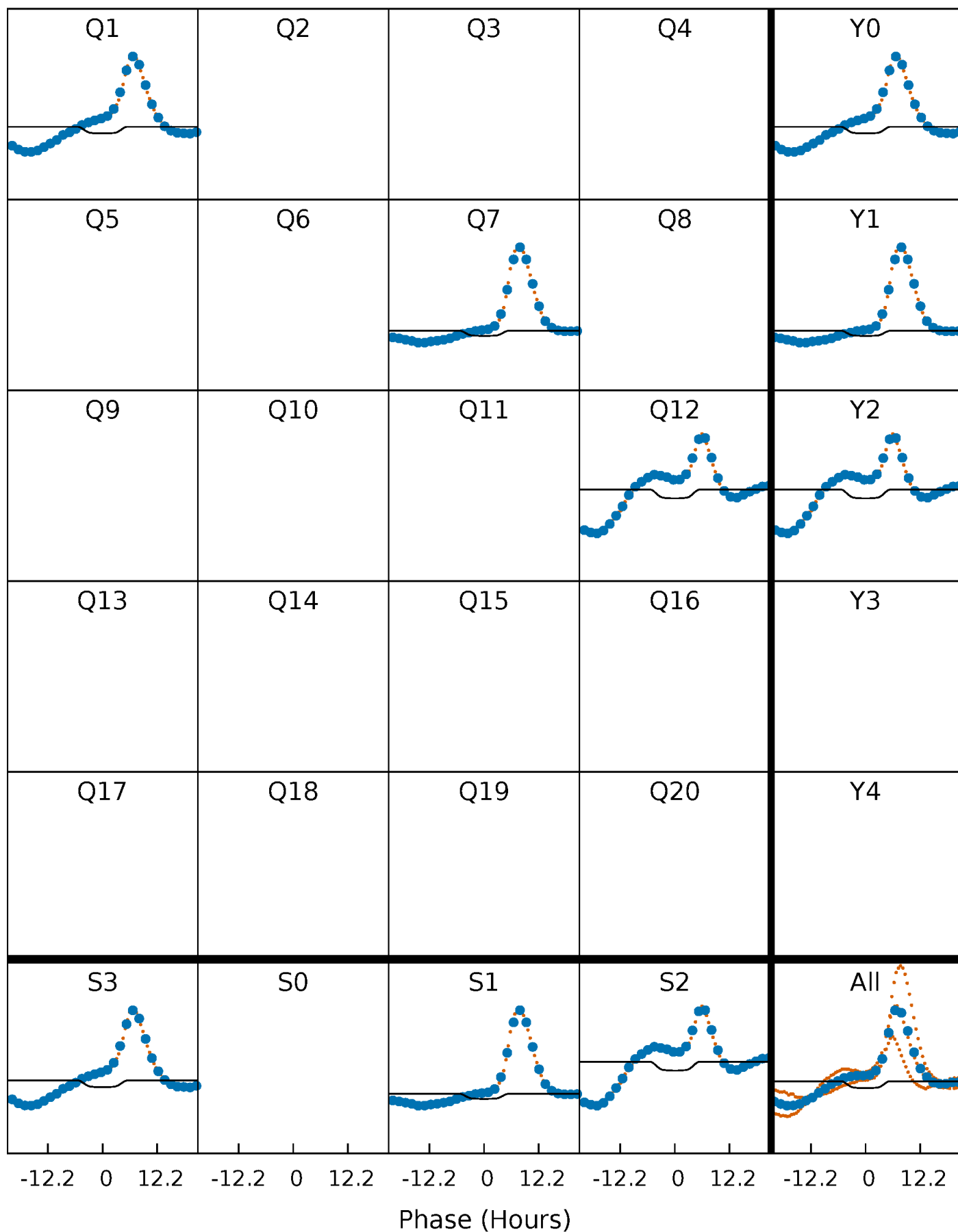
TCE 007207129-01 P=494.685024 Days  $T_0=151.489645$  (BKJD)





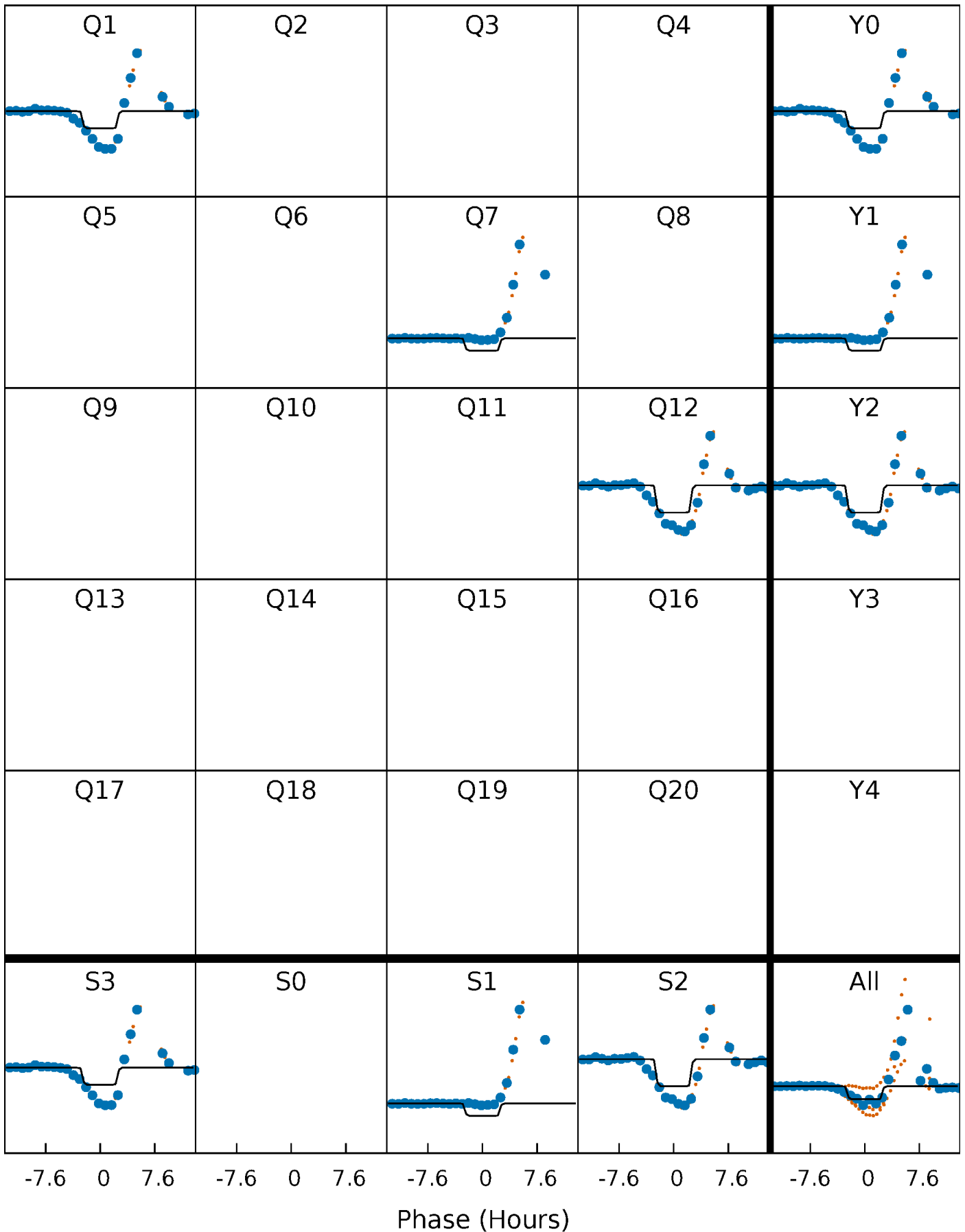
# DV Quarter-Phased Transit Curves

TCE 007207129-01 P=494.685024 Days  $T_0=151.489645$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

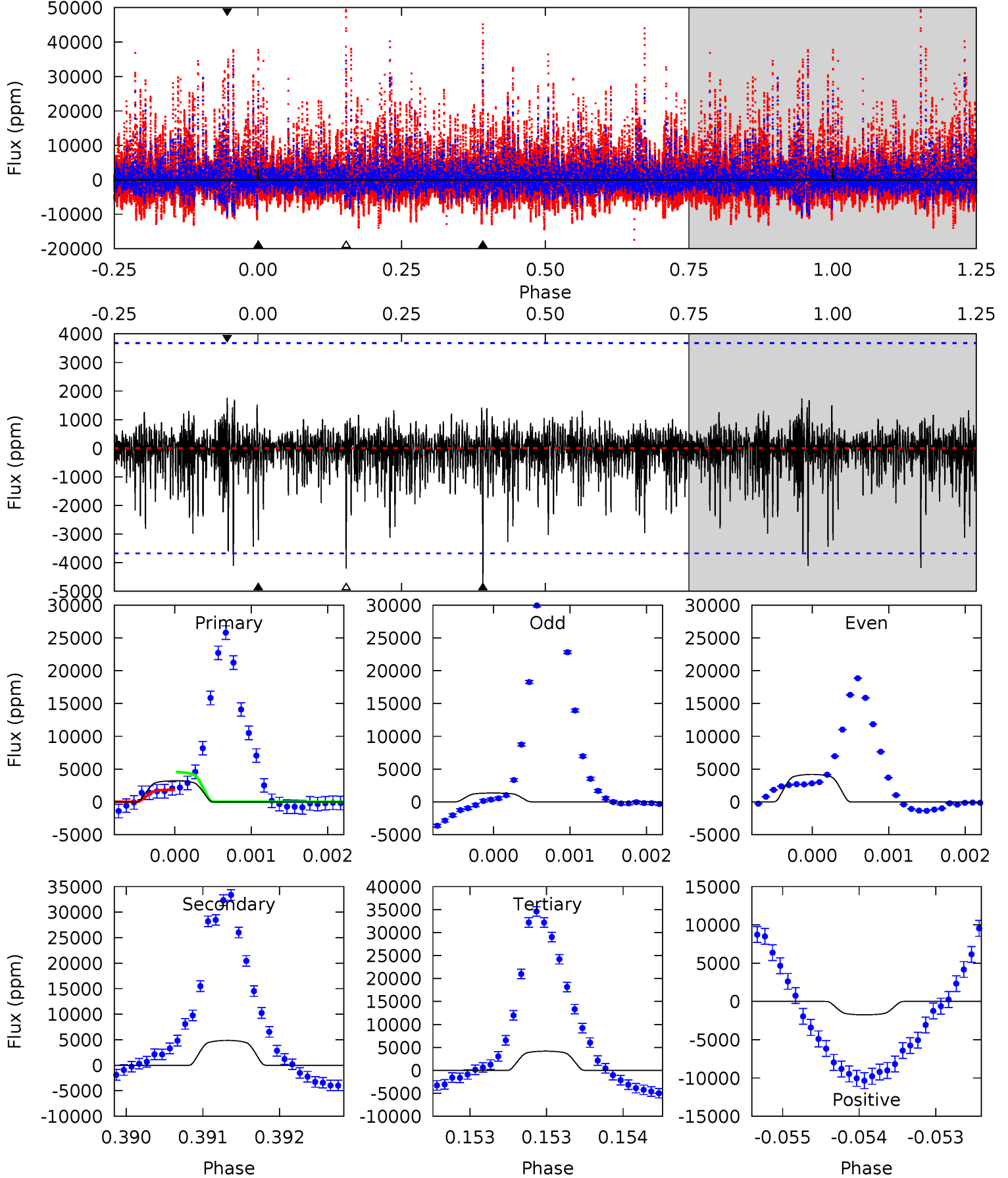
TCE 007207129-01 P=494.676054 Days  $T_0=151.529827$  (BKJD)



# DV Model-Shift Uniqueness Test

007207129-01, P = 494.685024 Days, E = 151.489645 Days

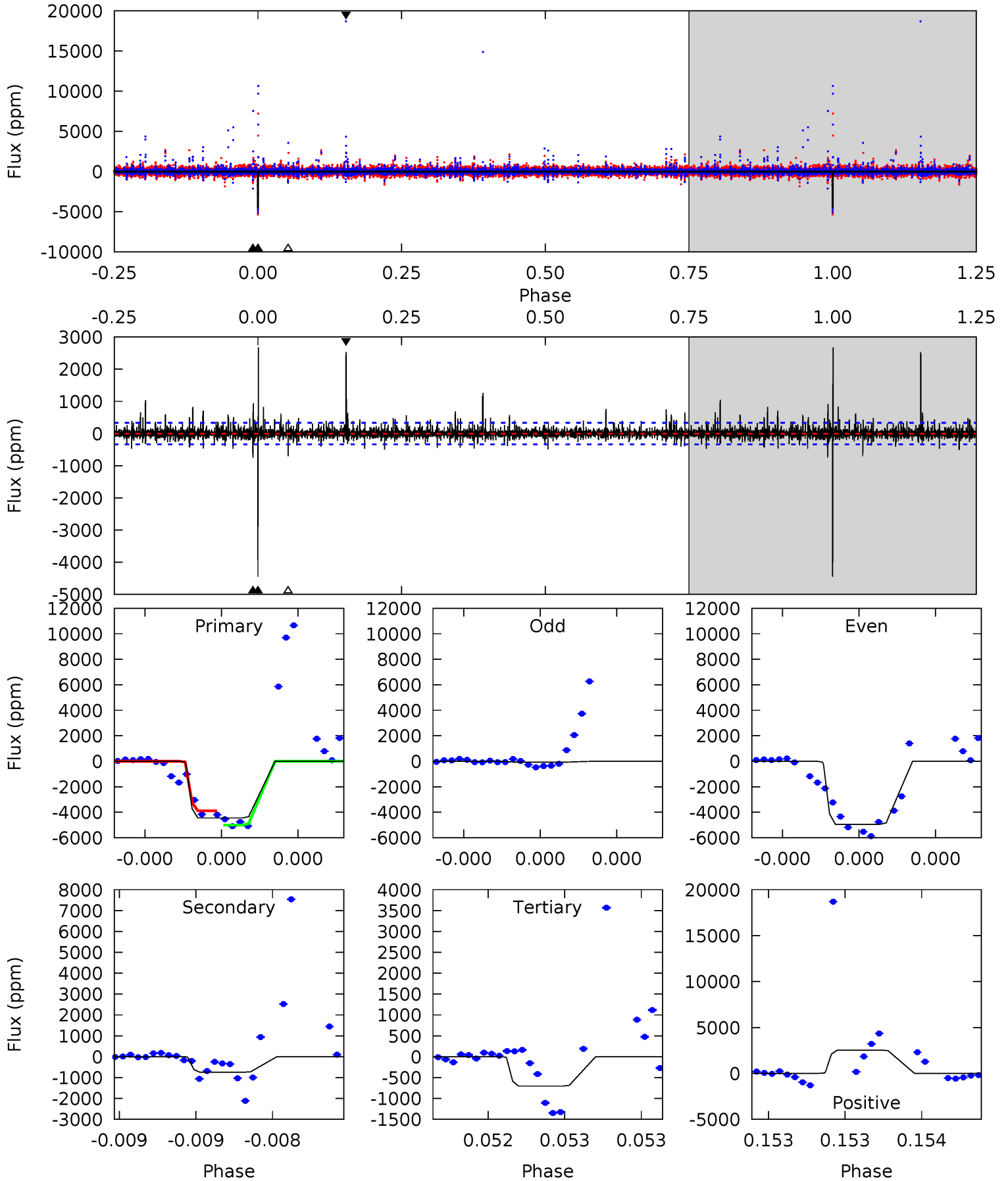
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.78	7.23	6.21	2.58	5.47	3.31	0.96	-1.43	2.19	1.02	4.64	1.88	0.78	0.26	2.02



# Alt Model-Shift Uniqueness Test

007207129-01, P = 494.676054 Days, E = 151.529827 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
74.3	12.4	11.8	42.3	5.57	3.48	1.57	62.5	32.0	0.64	-29.9	42.9	0.75	0.38	0



### Stellar Parameters For KIC 007207129

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7807^{+214}_{-349}$	$4.090^{+0.131}_{-0.160}$	$0.070^{+0.150}_{-0.400}$	$1.996^{+0.495}_{-0.405}$	$1.784^{+0.170}_{-0.291}$	$0.316^{+0.238}_{-0.145}$
	+3%/-4%	+3%/-4%	+214%/-571%	+25%/-20%	+10%/-16%	+75%/-46%
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 007207129-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-4864 \pm 673$	$11.16^{+1.85}_{-1.91}$	$557^{+39}_{-39}$	$9483^{+1143}_{-866}$	$46619^{+21084}_{-14346}$
Alt.	$-742 \pm 60$	$12.15^{+1.88}_{-1.78}$	$560^{+37}_{-34}$	$5379^{+337}_{-285}$	$6063^{+2059}_{-1546}$

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

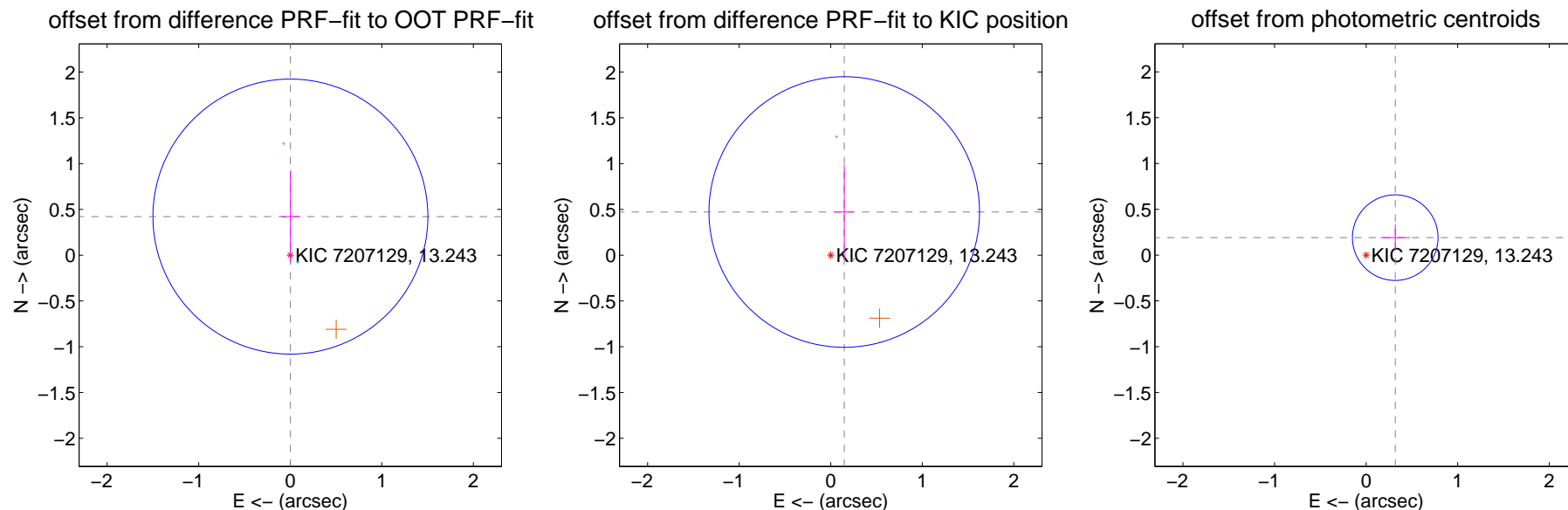
## DV Centroid Data

Supplemental centroid analysis for 007207129-01. Kepler magnitude: 13.24. Transit SNR 5.64

There are 2 quarters with good PRF difference image offsets

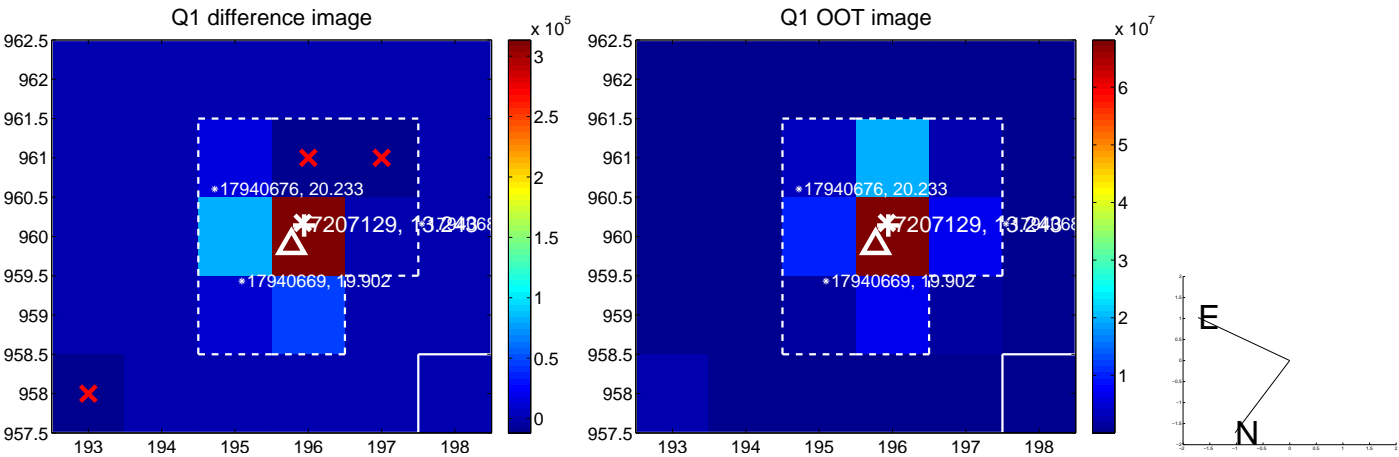
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.421 \pm 0.501$	0.84	$-0.001 \pm 0.101$	$0.421 \pm 0.501$
PRF-fit source offset from KIC position	$0.494 \pm 0.493$	1.00	$-0.148 \pm 0.103$	$0.471 \pm 0.515$
photometric centroid source offset	$0.37 \pm 0.16$	2.38	$-0.32 \pm 0.16$	$0.19 \pm 0.14$



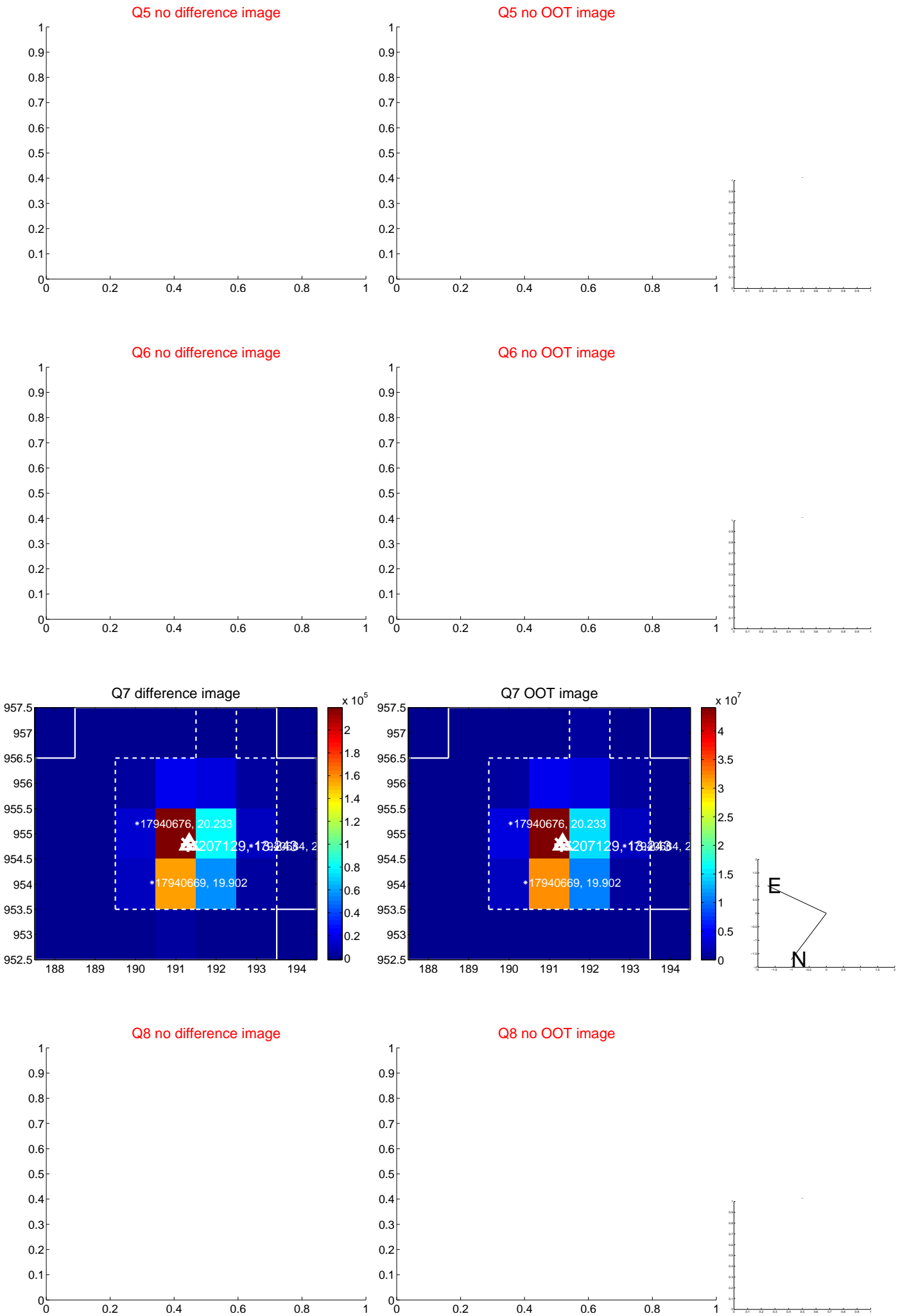
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

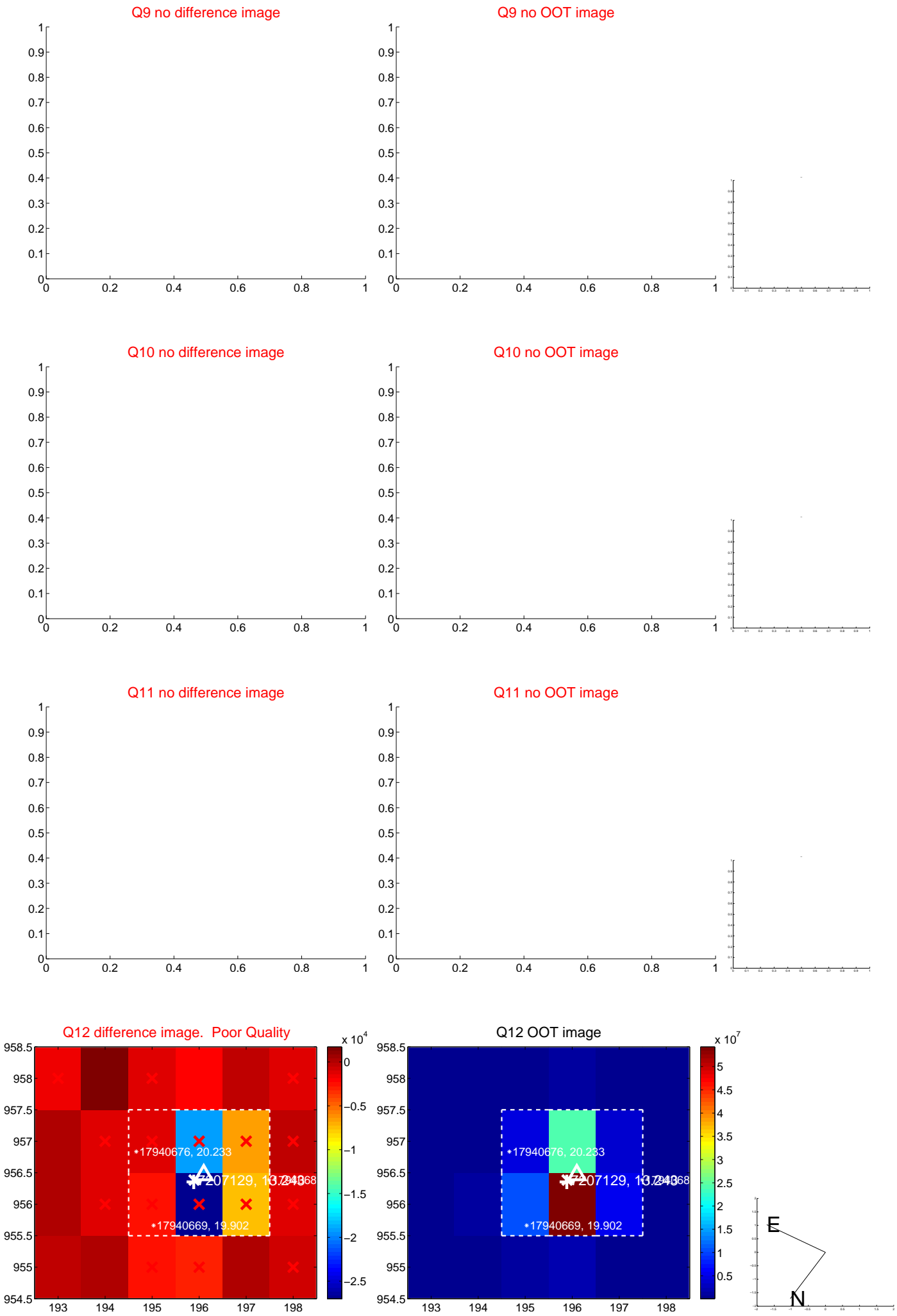




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



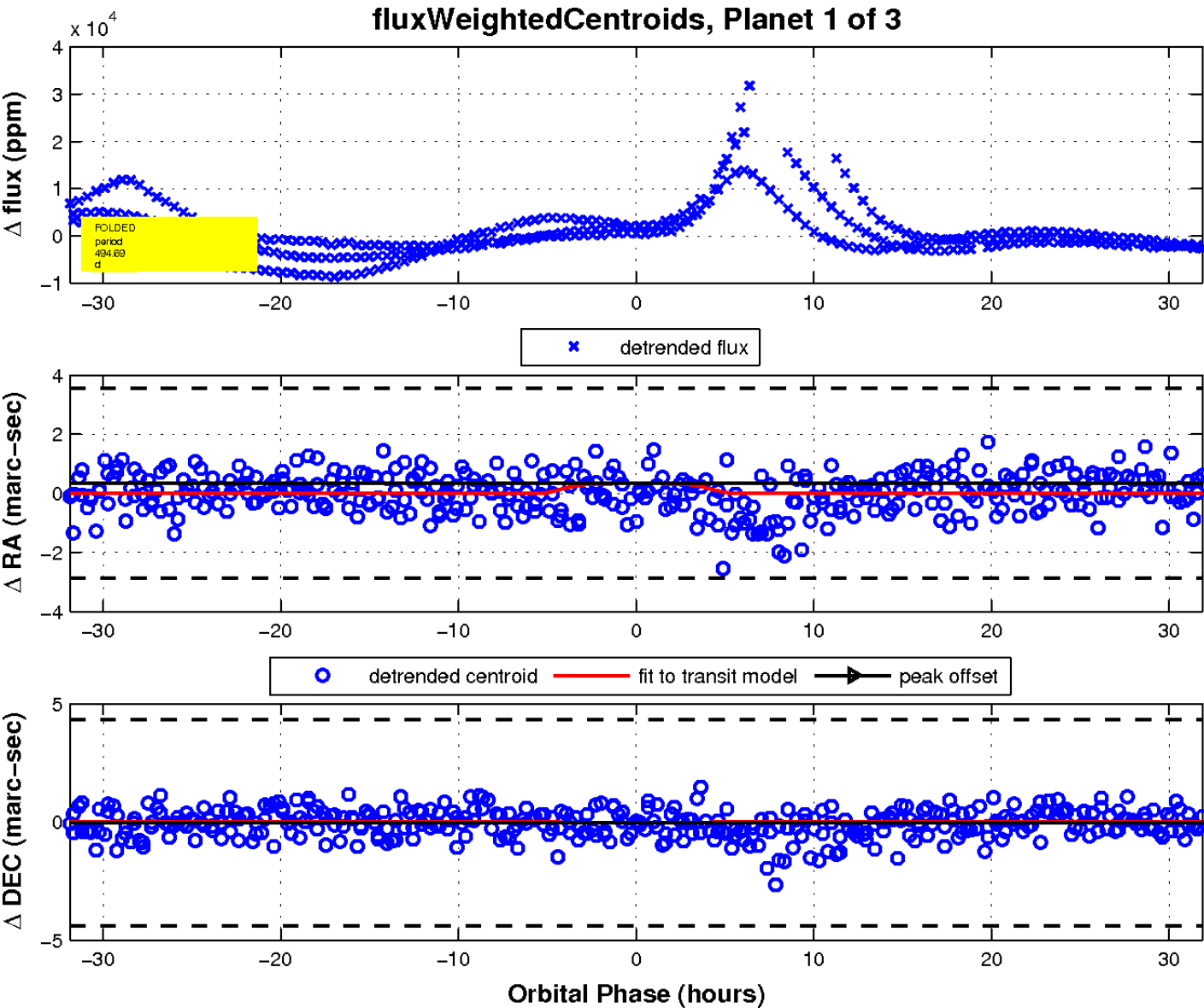
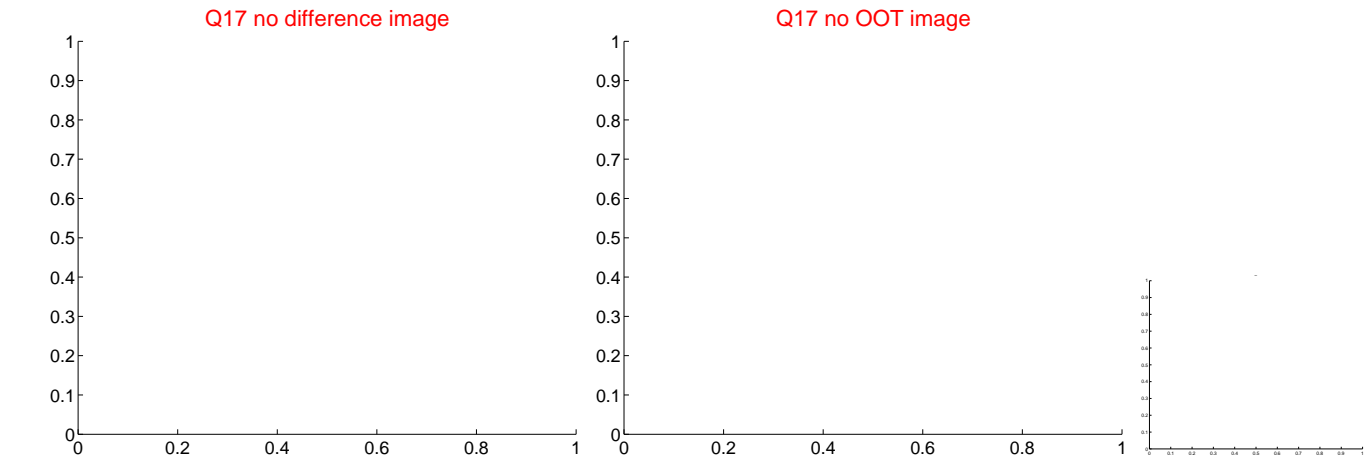
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



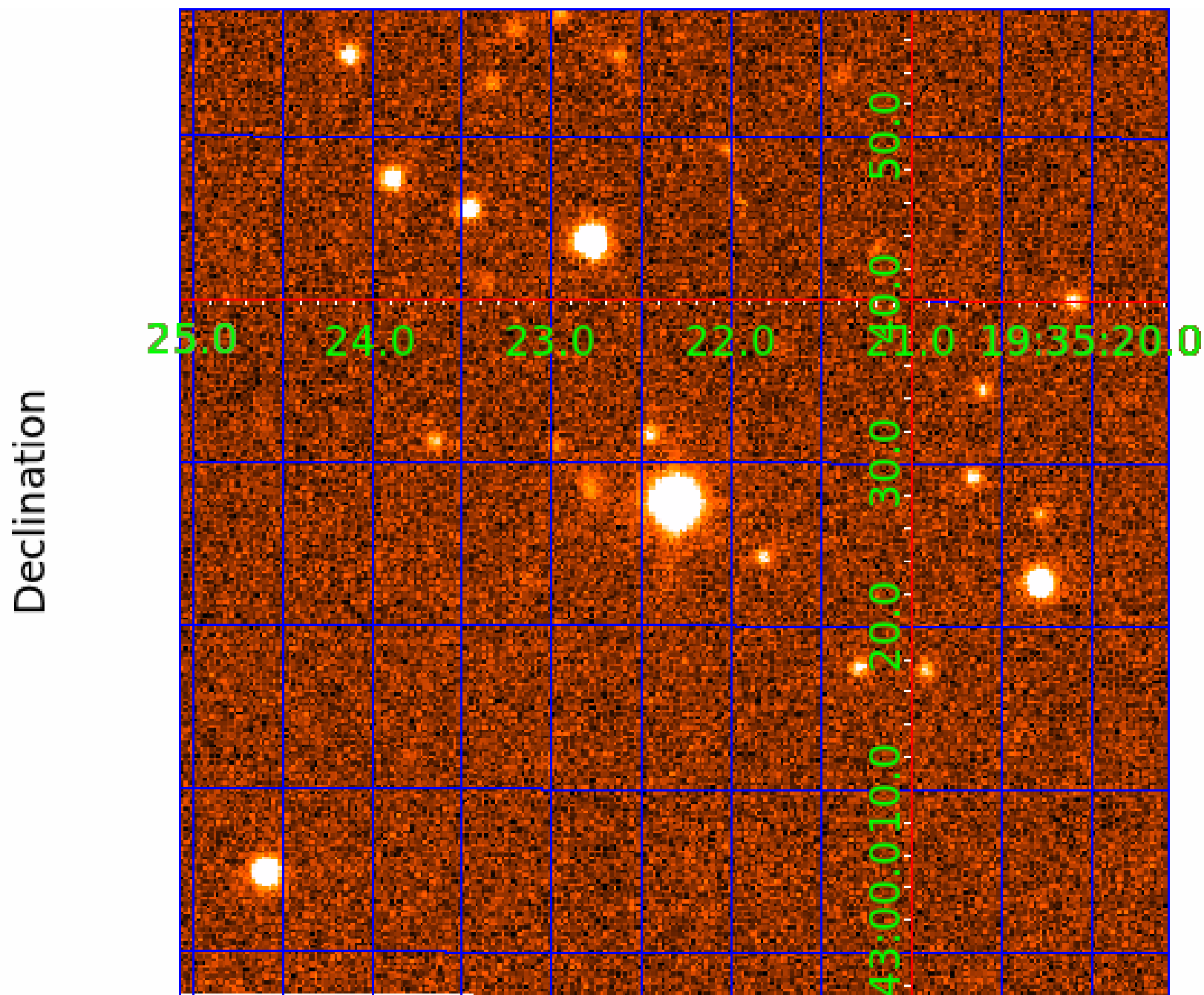
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 007207129

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007207129-01	OBS	No	494.685024	151.489645	2275.9	10.645	22.0	5.6	2.00	7807	11.09	6.00
007207129-02	OBS	No	383.495150	241.314867	7793.2	6.785	25.0	11.8	2.00	7807	30.95	8.43
007207129-03	OBS	No	423.421447	196.973335	496.4	8.300	20.6	3.0	2.00	7807	4.69	7.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007207129-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—CENT_FEW_DIFFS
007207129-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007207129-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—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.

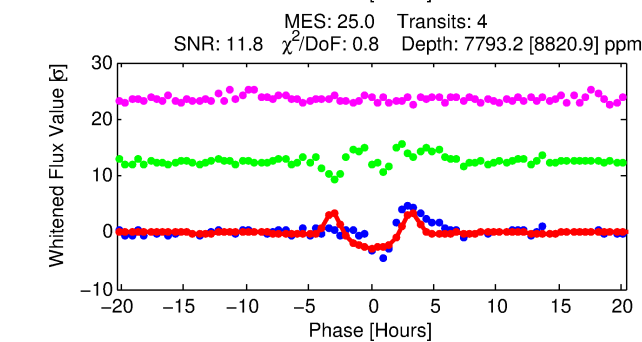
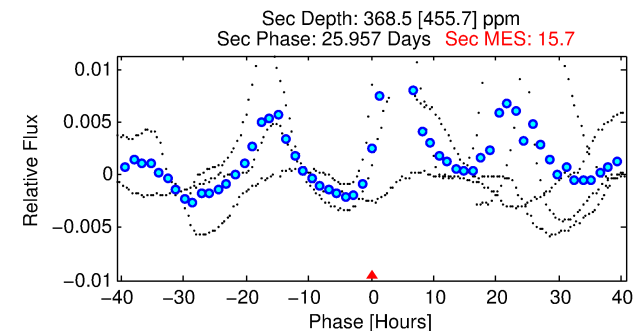
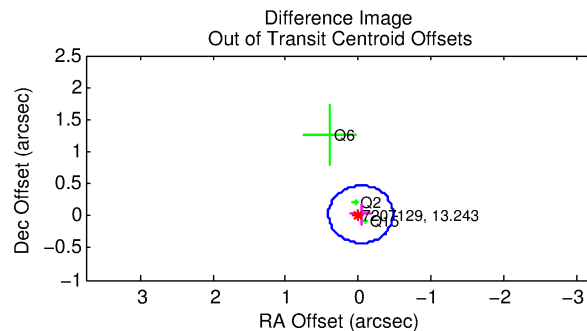
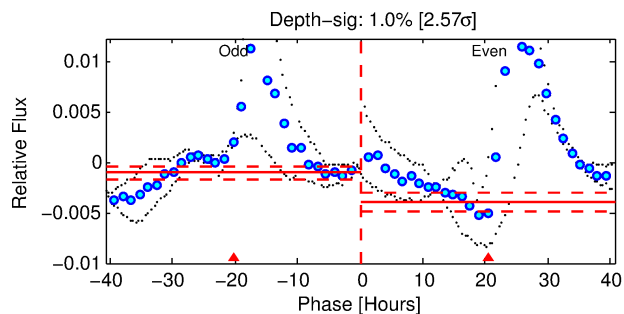
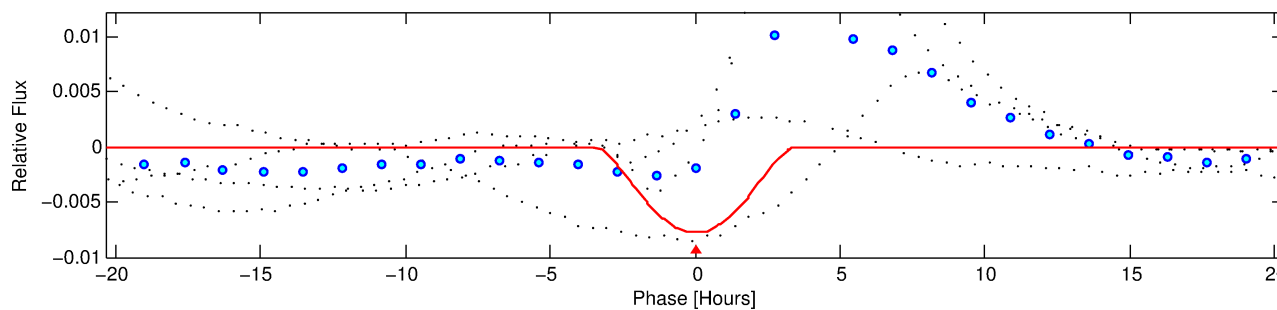
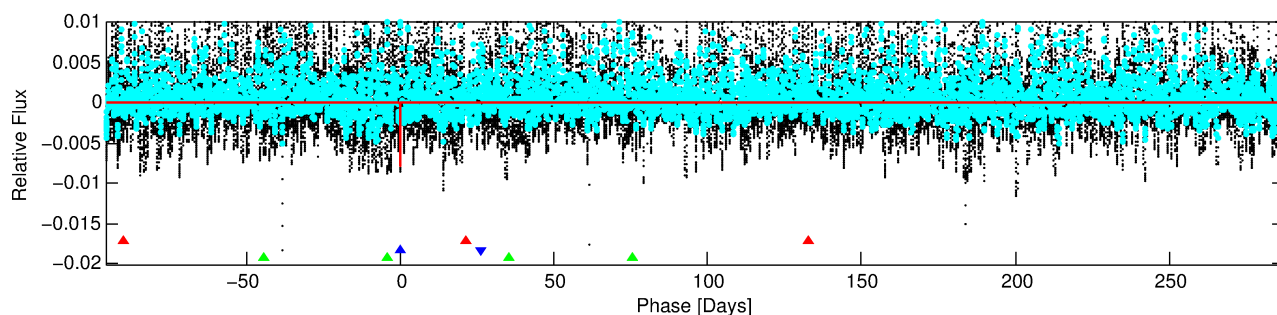
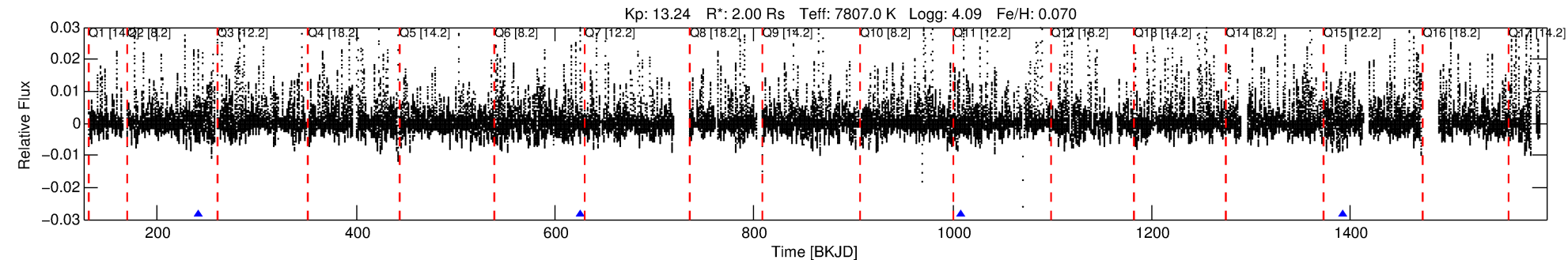
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007207129-02

No Significant Match Found

# DV One-Page Summary

KIC: 7207129 Candidate: 2 of 3 Period: 383.495 d



## DV Fit Results:

Period = 383.49515 [0.00177] d  
Epoch = 241.3149 [0.0028] BKJD  
Rp/R\* = 0.1421 [0.0553]  
a/R\* = 238.22 [14.23]  
b = 1.00 [0.03]  
Seff = 8.43 [2.92]  
Teq = 435 [38] K  
**Rp = 30.95 [14.28] Re**  
a = 1.2540 [0.2583] AU  
Ag = 332.76 [496.06] [0.67 $\sigma$ ]  
Teffp = 2869 [1056] K [2.30 $\sigma$ ]

## DV Diagnostic Results:

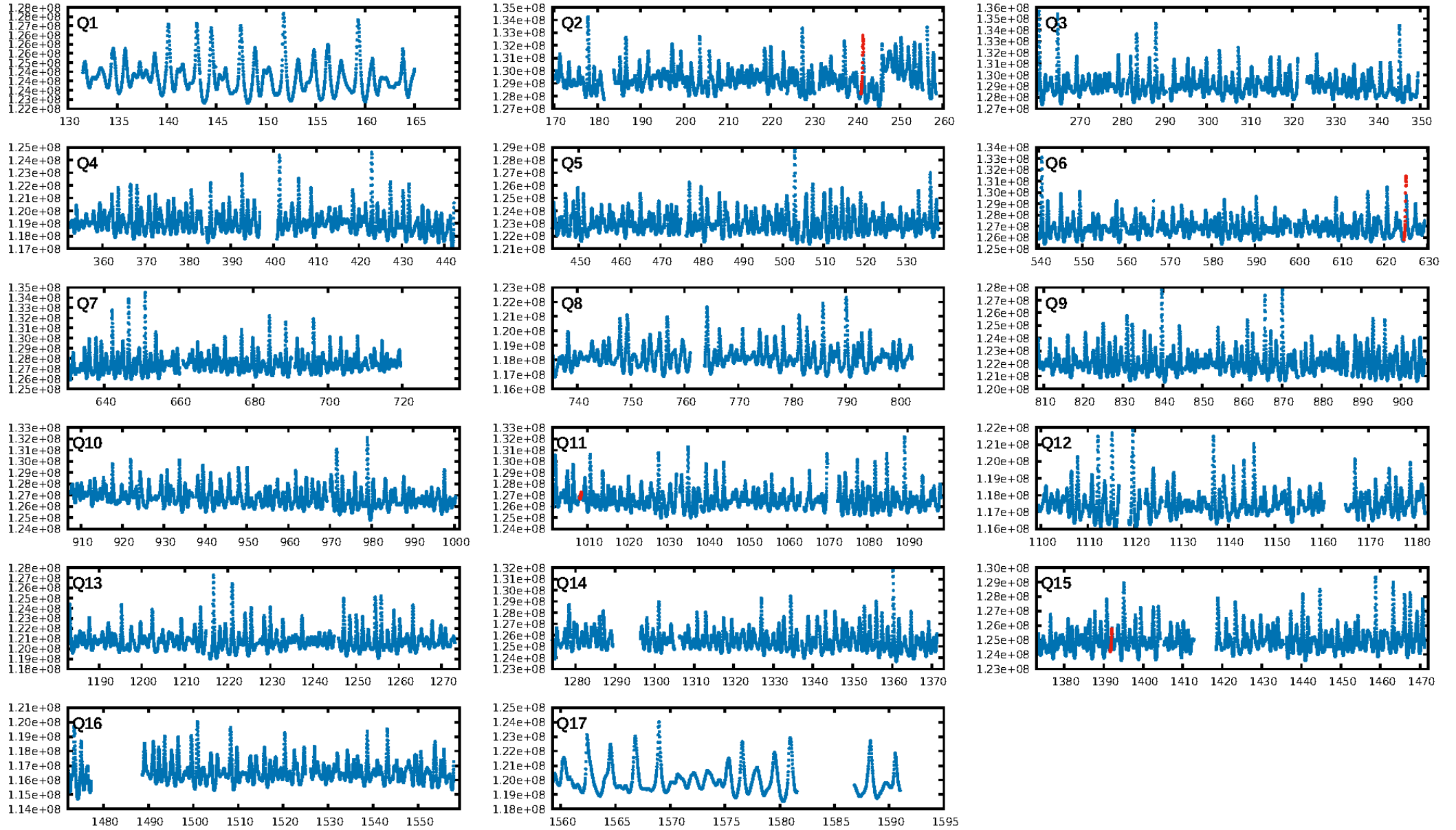
ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [89.38 $\sigma$ ]  
ModelChiSquare2-sig: 1.8%  
ModelChiSquareGof-sig: 99.8%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
**GhostDiagnostic-chr: 0.6499**  
**Centroid-sig: 0.1%**  
**Centroid-so: 0.317 arcsec [5.62 $\sigma$ ]**  
OotOffset-rm: 0.040 arcsec [0.27 $\sigma$ ]  
OotOffset-st: 2/1/0/0 [3]  
KicOffset-st: 2/1/0/0 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:45:01 Z

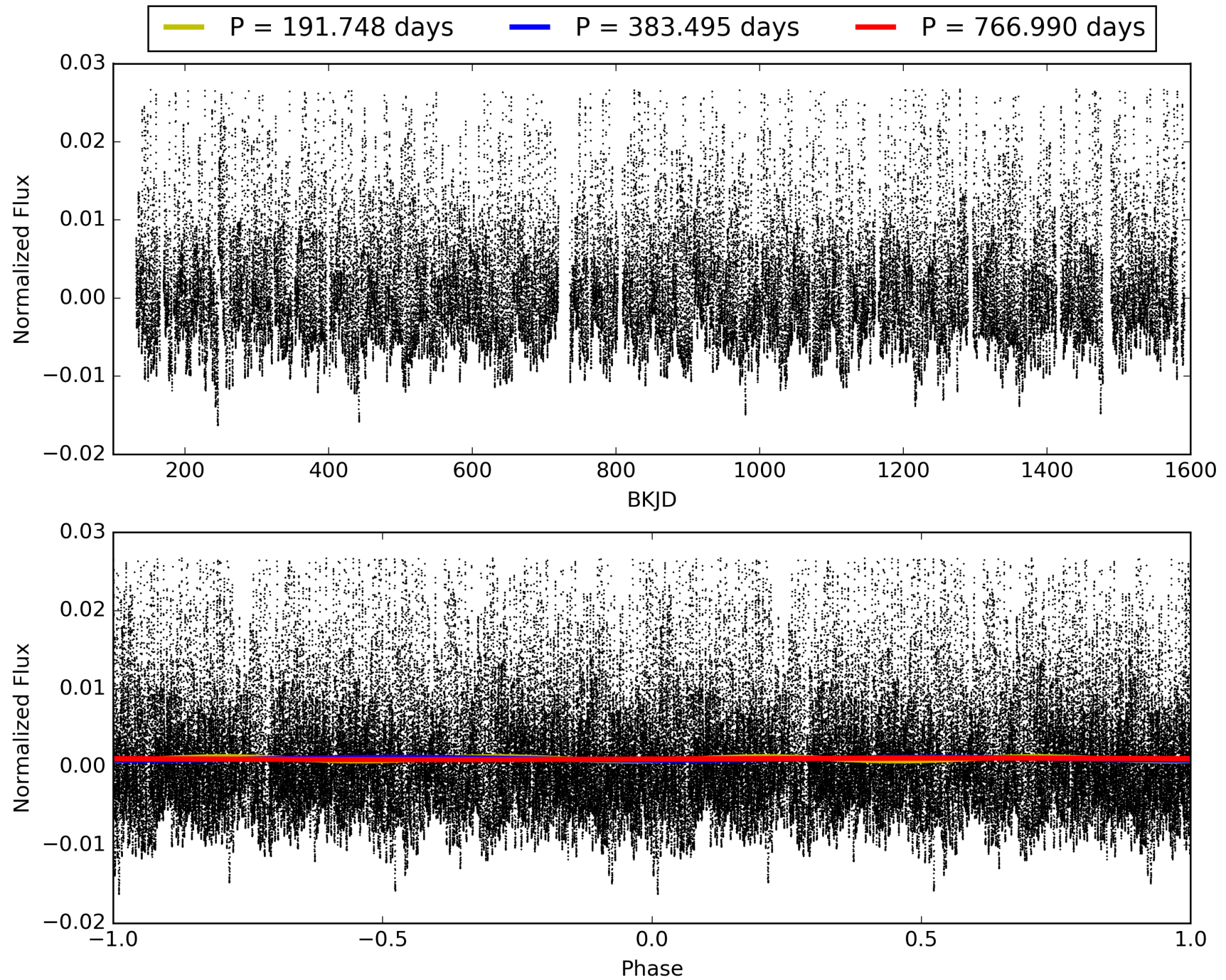
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 007207129-02, PDC Light Curves

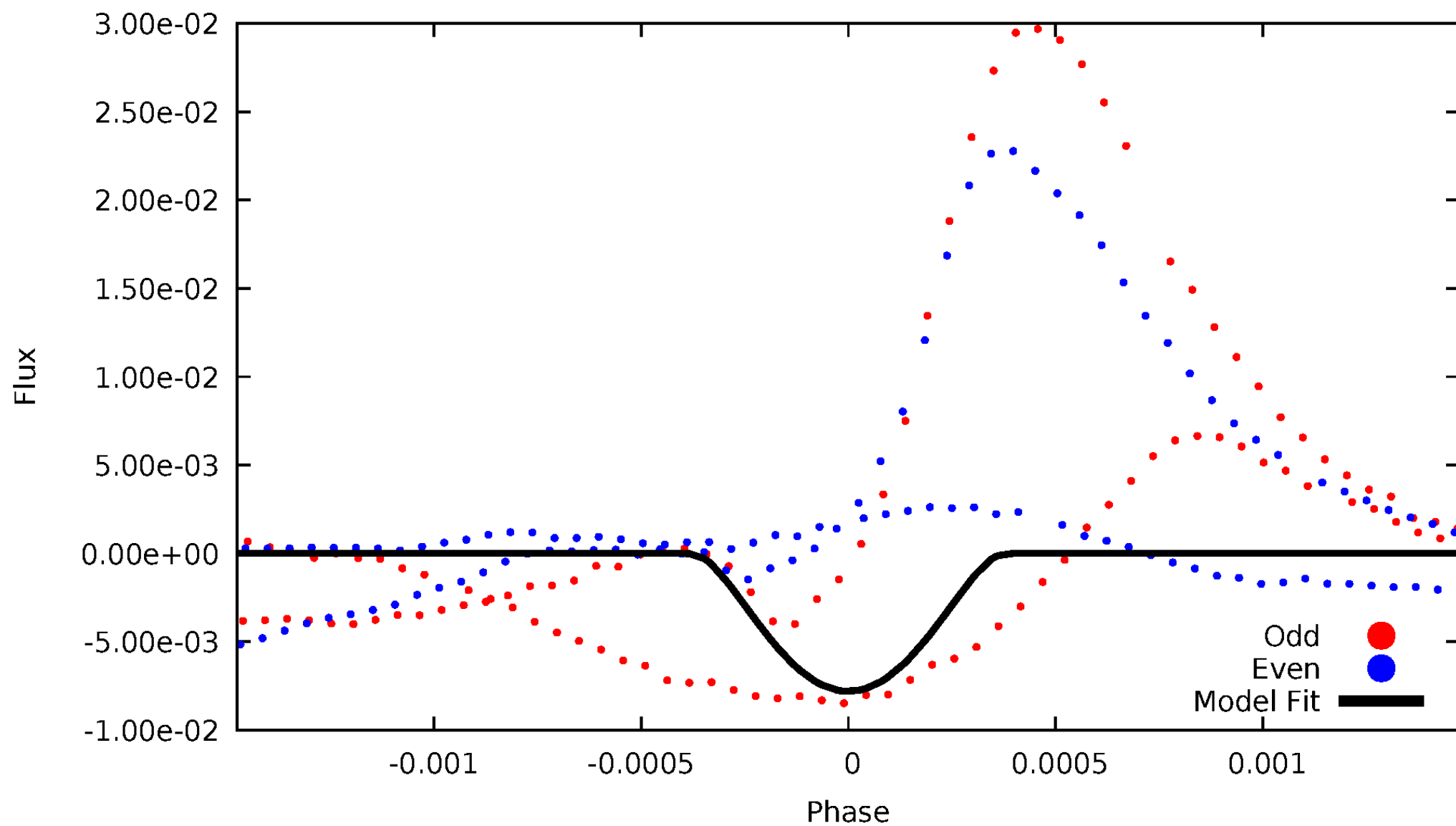


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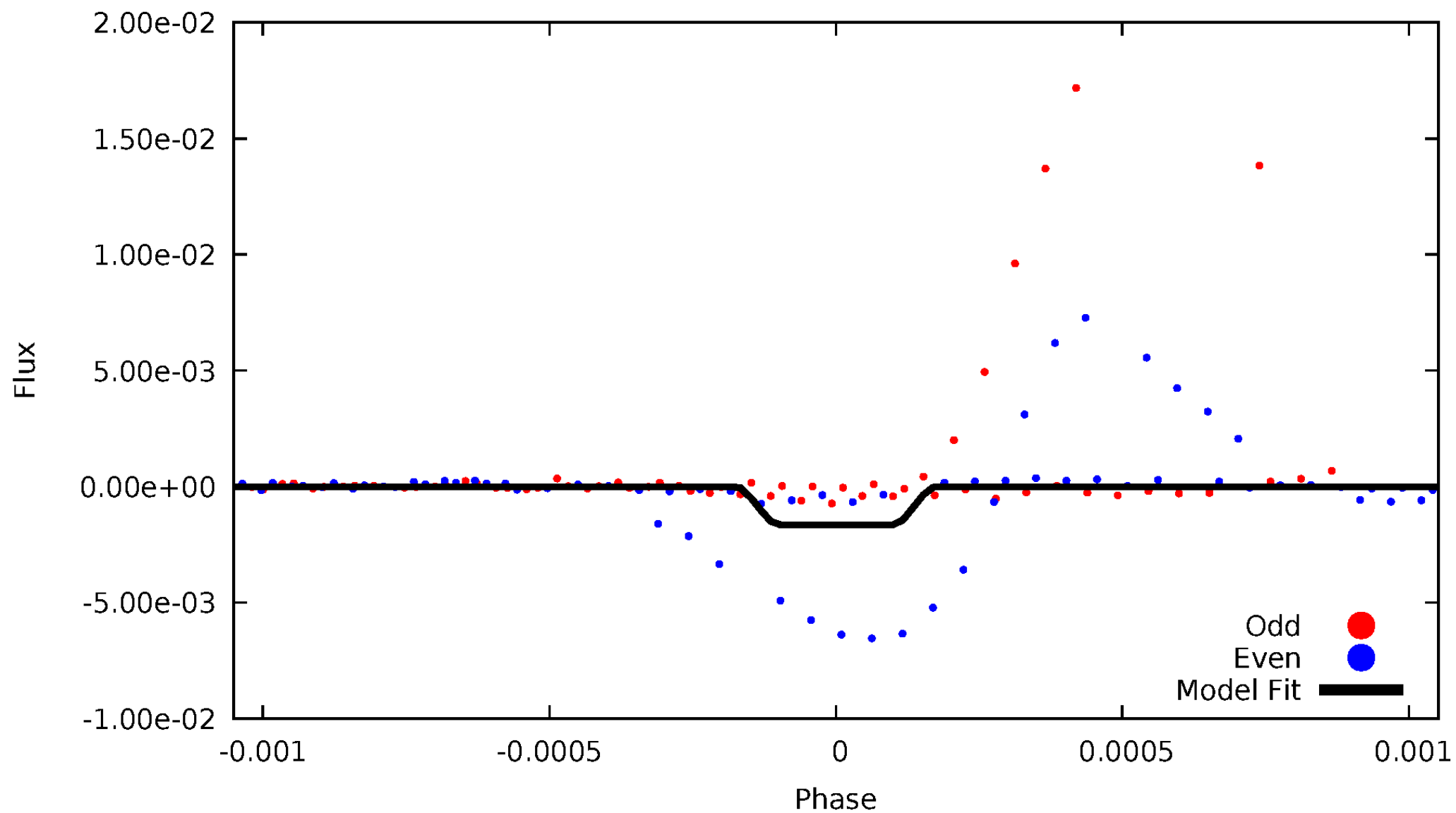
# DV Odd/Even

TCE 007207129-02



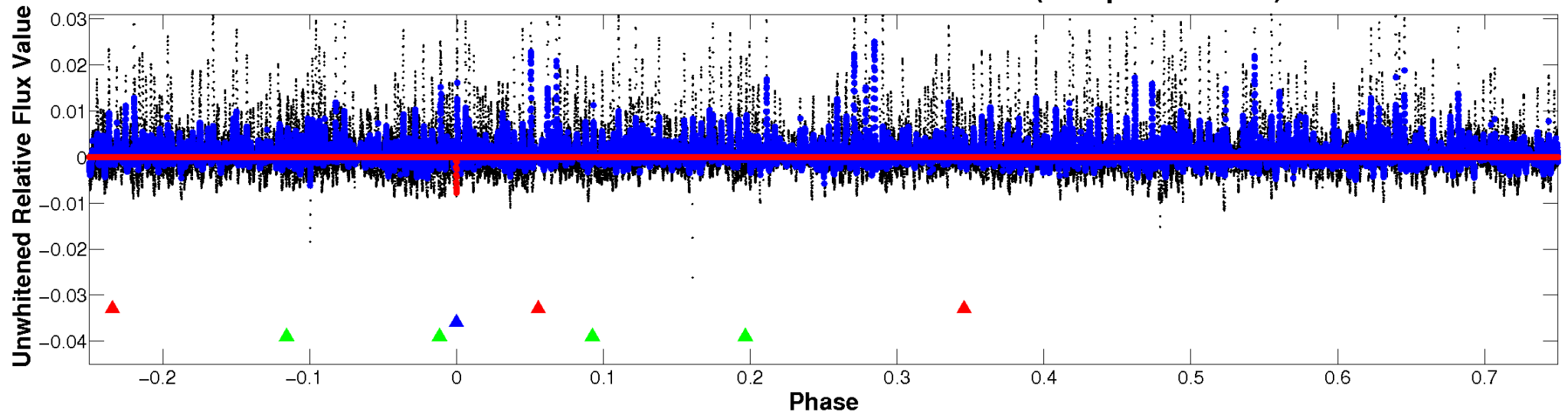
# ALT Odd/Even

TCE 007207129-02

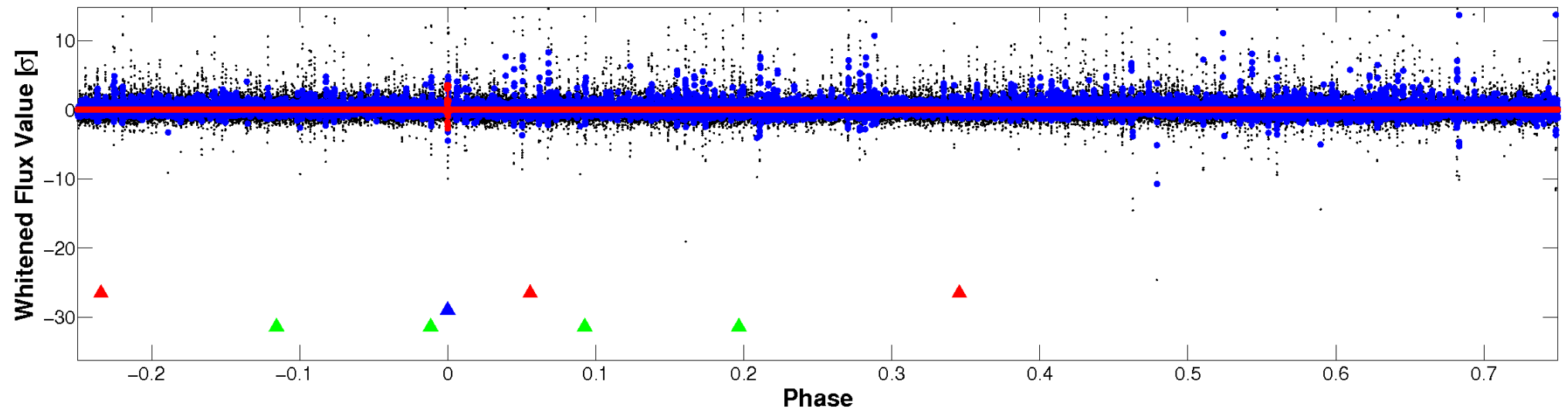


# Non-Whitened Vs. Whitened Light Curve

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

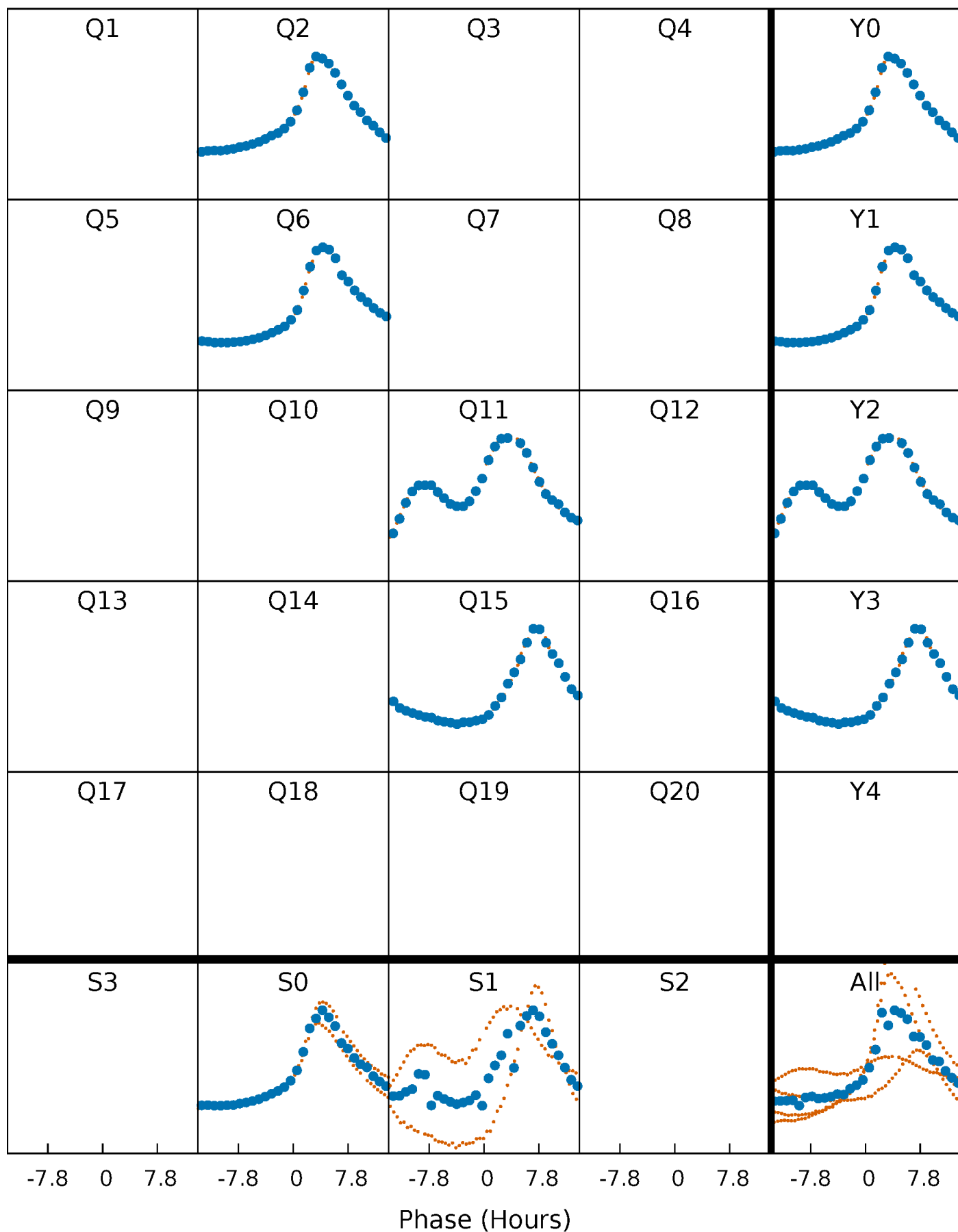


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



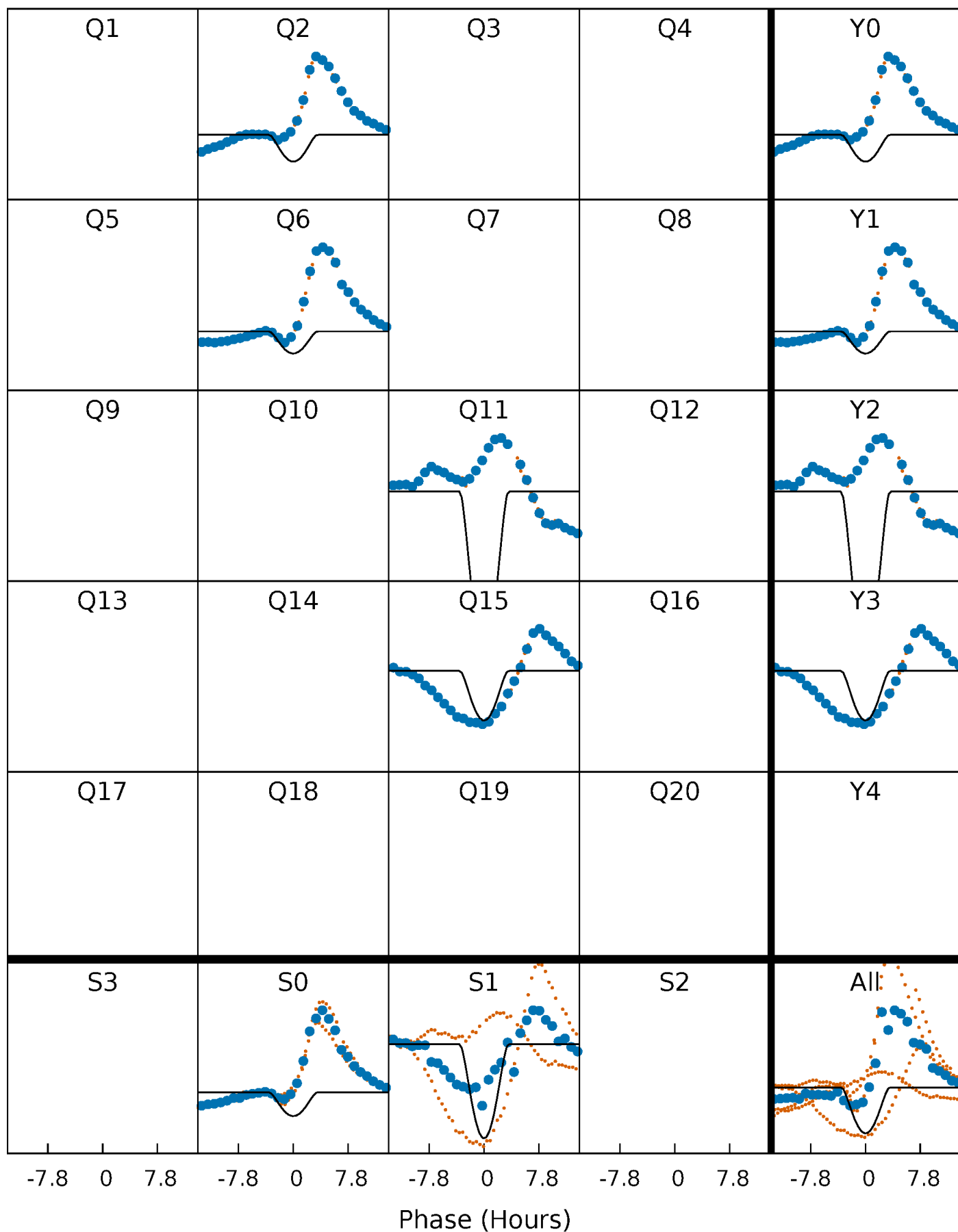
# PDC Quarter-Phased Transit Curves

TCE 007207129-02 P=383.495150 Days  $T_0=241.314867$  (BKJD)



# DV Quarter-Phased Transit Curves

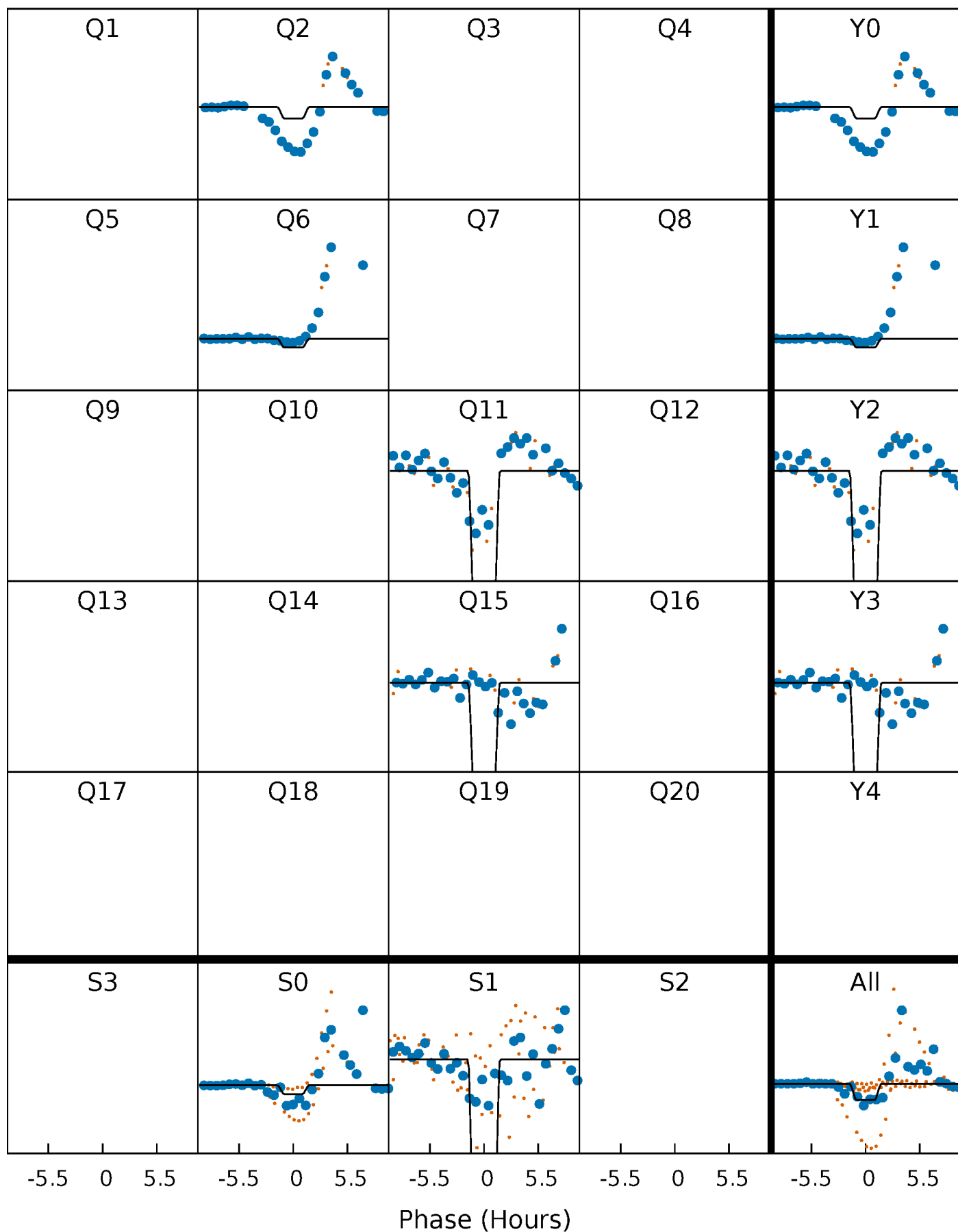
TCE 007207129-02 P=383.495150 Days  $T_0=241.314867$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

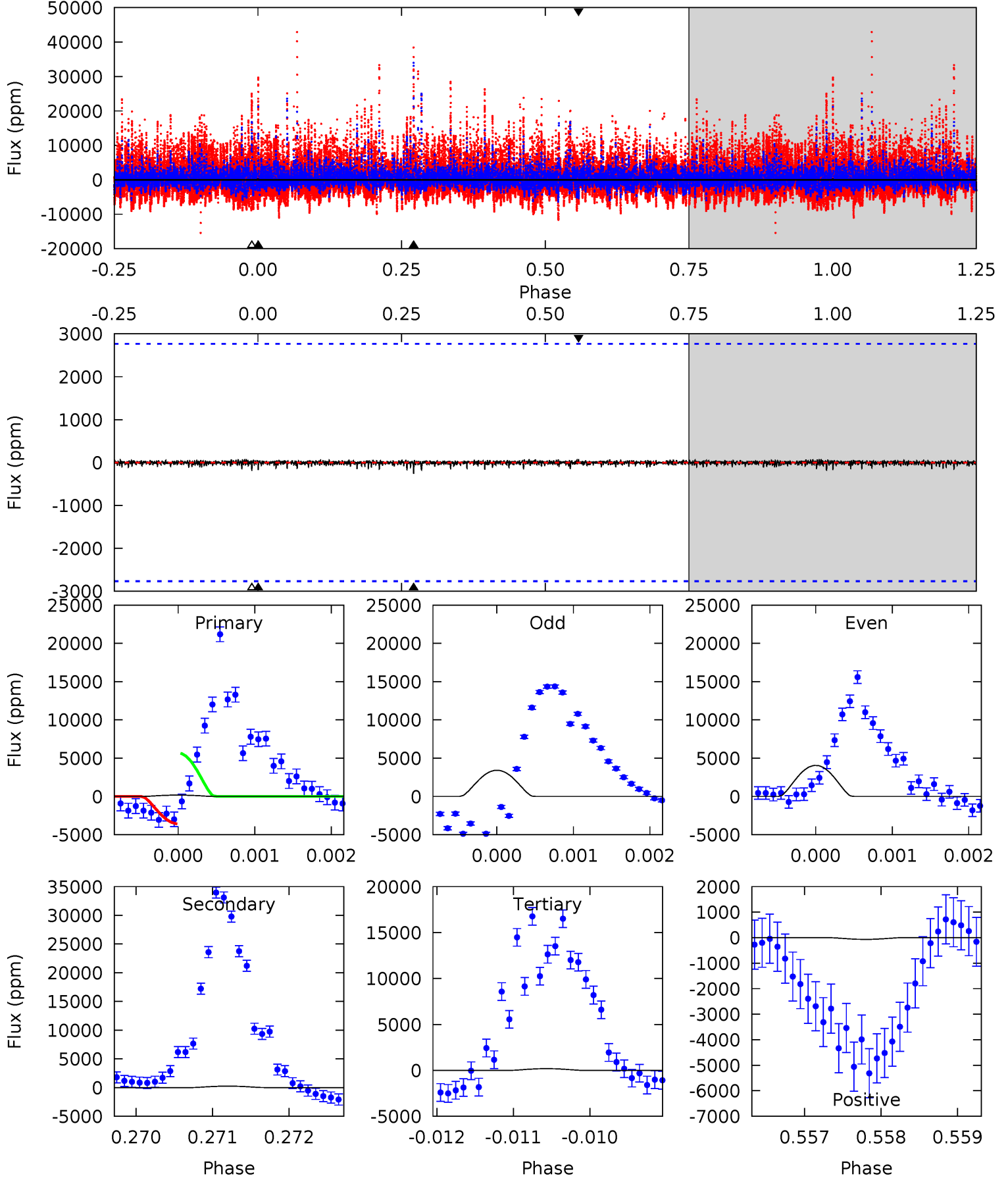
TCE 007207129-02 P=383.483432 Days  $T_0=241.279937$  (BKJD)



# DV Model-Shift Uniqueness Test

007207129-02, P = 383.495150 Days, E = 241.314867 Days

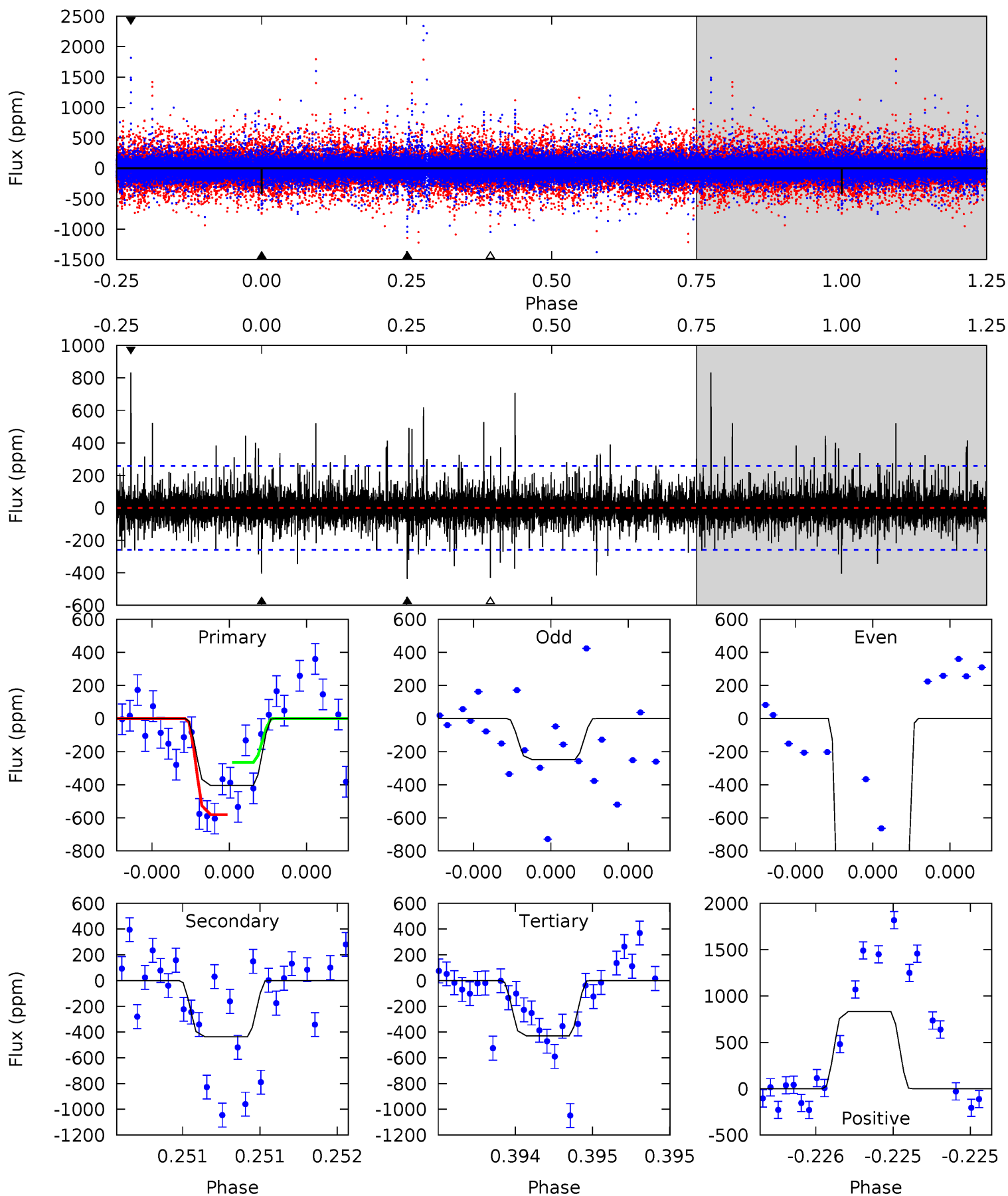
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.35	0.51	0.37	0.13	5.49	3.36	0.06	-0.03	0.21	0.14	0.38	0.49	0.09	0.21	2.03



# Alt Model-Shift Uniqueness Test

007207129-02, P = 383.483432 Days, E = 241.279937 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.82	9.52	9.38	18.2	5.65	3.60	1.49	-0.56	-9.34	0.14	-8.64	20.1	3.39	0.66	3.45



### Stellar Parameters For KIC 007207129

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7807^{+214}_{-349}$	$4.090^{+0.131}_{-0.160}$	$0.070^{+0.150}_{-0.400}$	$1.996^{+0.495}_{-0.405}$	$1.784^{+0.170}_{-0.291}$	$0.316^{+0.238}_{-0.145}$
	+3%/-4%	+3%/-4%	+214%/-571%	+25%/-20%	+10%/-16%	+75%/-46%
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 007207129-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-258 \pm 503$	$30.57^{+14.07}_{-12.50}$	$605^{+47}_{-39}$	$3111^{+885}_{-6248}$	$210^{+781}_{-413}$
Alt.	$-437 \pm 46$	$12.02^{+10.45}_{-7.83}$	$605^{+42}_{-37}$	$4740^{+3646}_{-920}$	$2535^{+18486}_{-1797}$

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

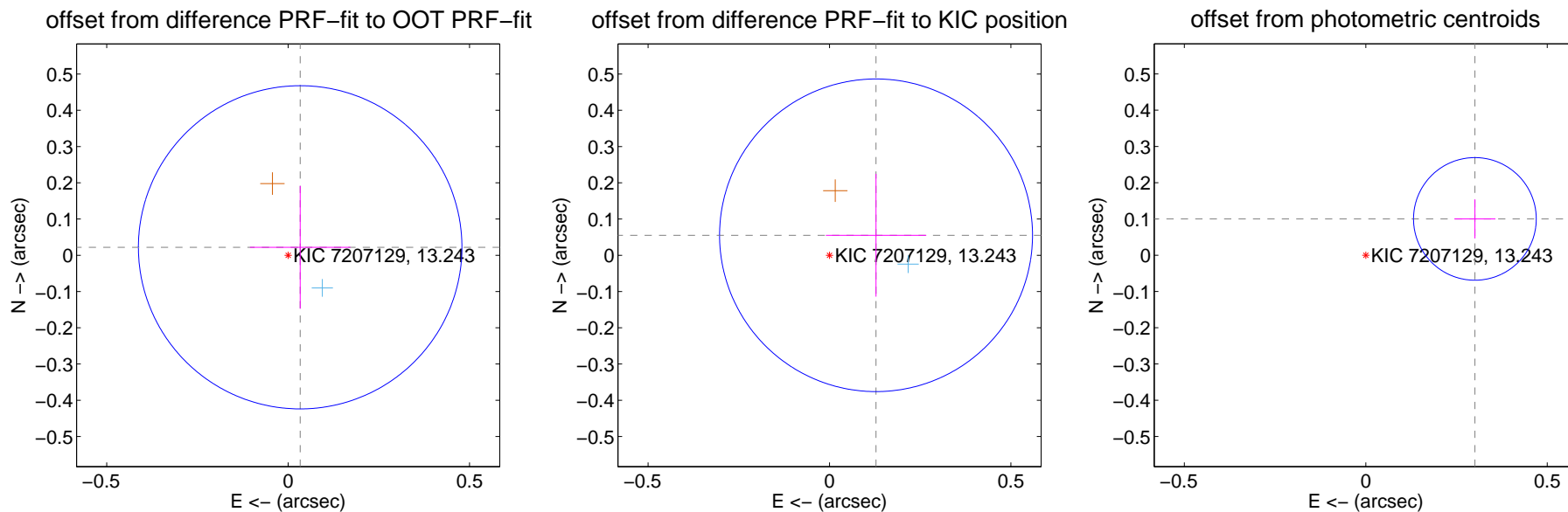
## DV Centroid Data

Supplemental centroid analysis for 007207129-02. Kepler magnitude: 13.24. Transit SNR 11.83

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.040 \pm 0.149$	0.27	$-0.033 \pm 0.138$	$0.022 \pm 0.169$
PRF-fit source offset from KIC position	$0.140 \pm 0.144$	0.97	$-0.128 \pm 0.138$	$0.055 \pm 0.169$
photometric centroid source offset	$0.32 \pm 0.06$	5.62	$-0.30 \pm 0.06$	$0.10 \pm 0.05$



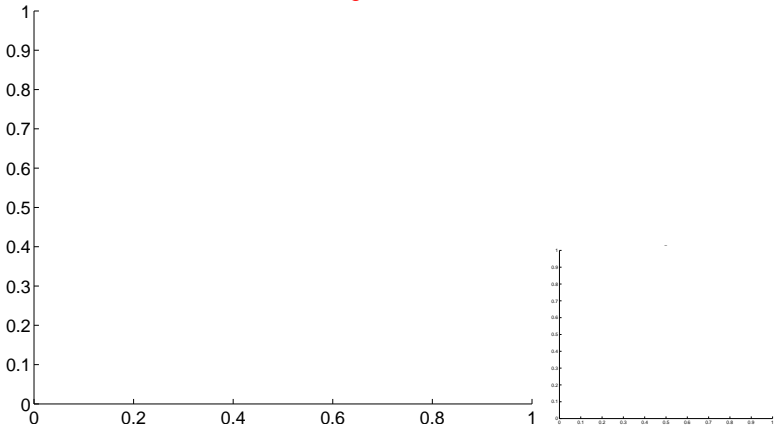
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

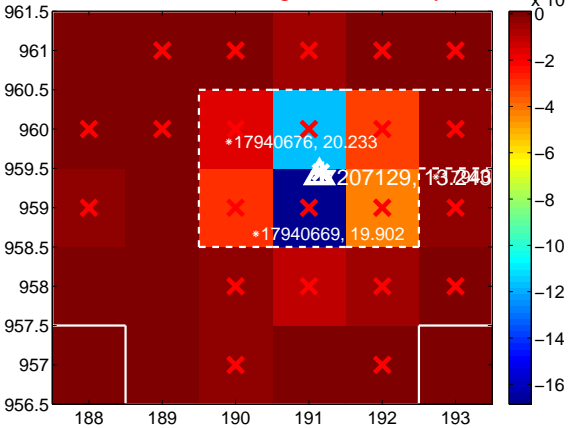
Q1 no difference image



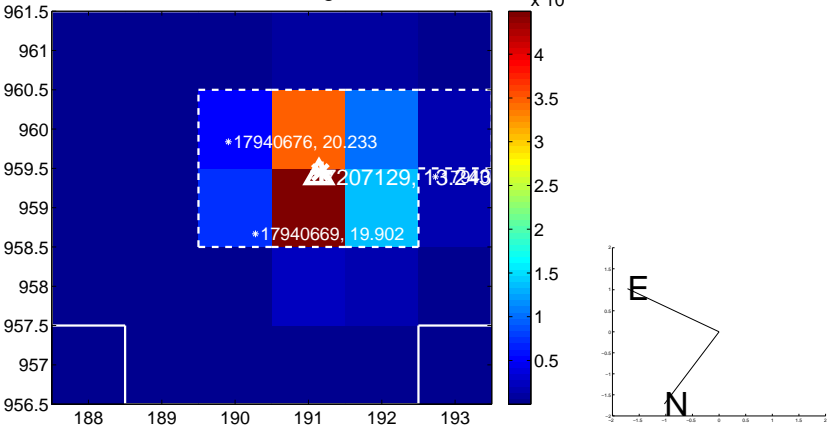
Q1 no OOT image



Q2 difference image. Poor Quality



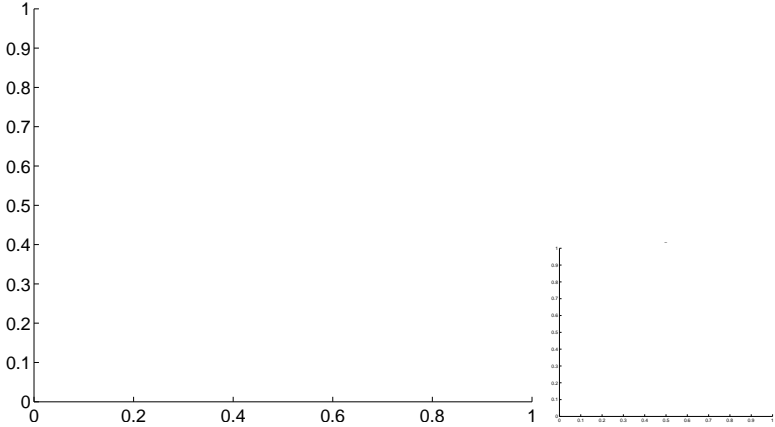
Q2 OOT image



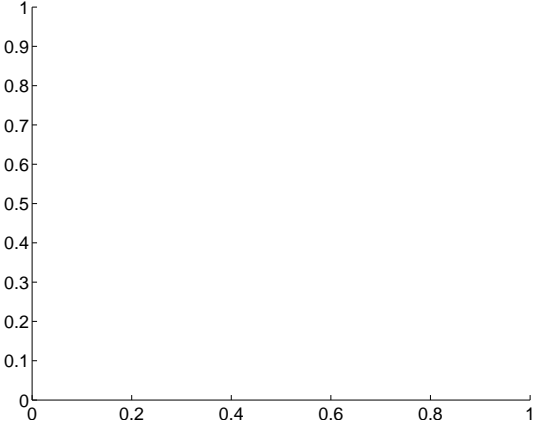
Q3 no difference image



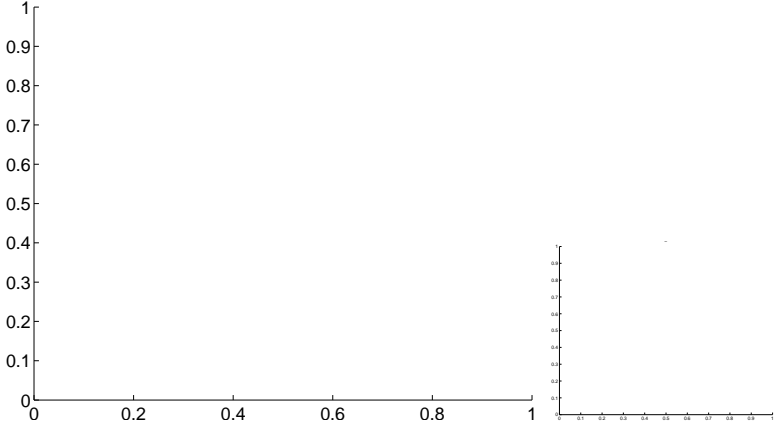
Q3 no OOT image



Q4 no difference image



Q4 no OOT image



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

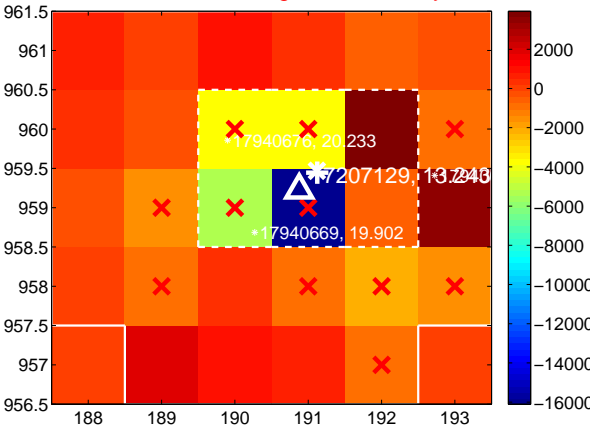
Q5 no difference image



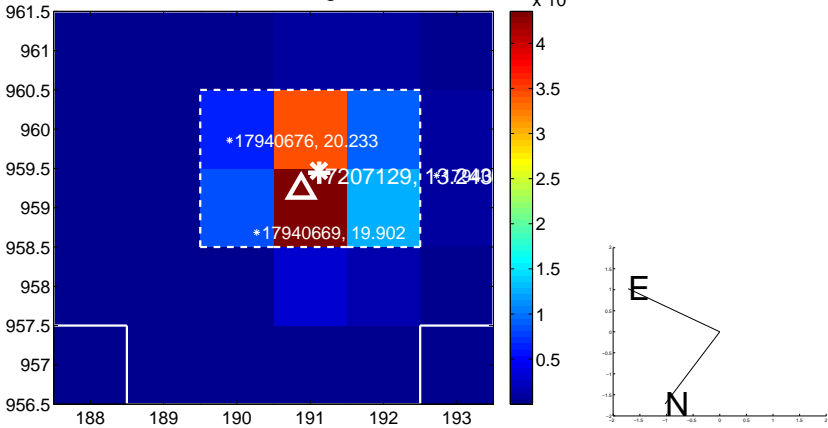
Q5 no OOT image



Q6 difference image. Poor Quality



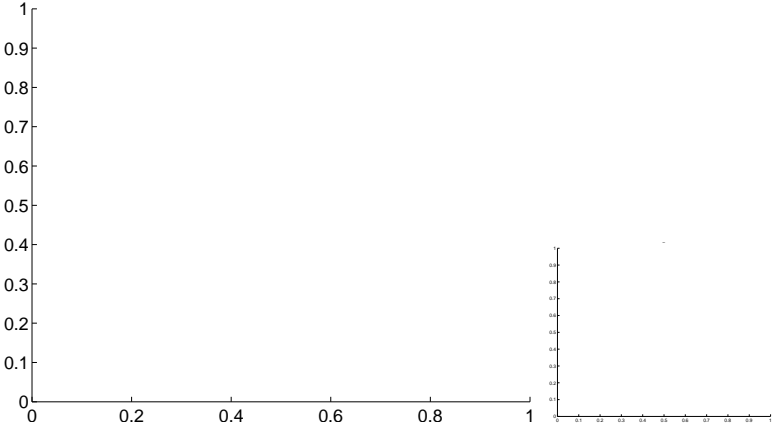
Q6 OOT image



Q7 no difference image



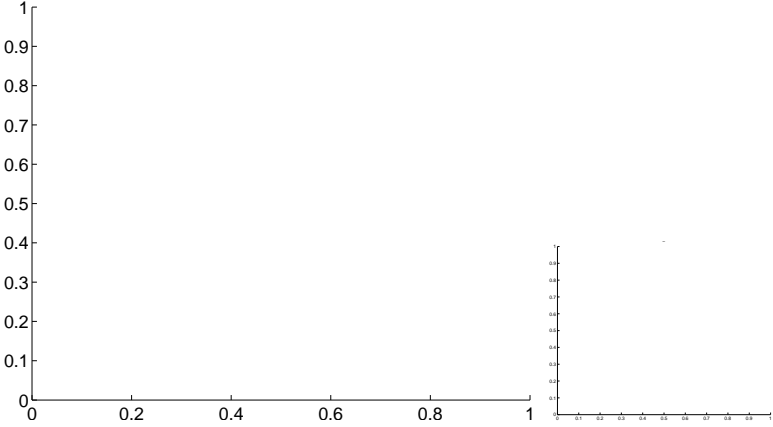
Q7 no OOT image



Q8 no difference image



Q8 no OOT image

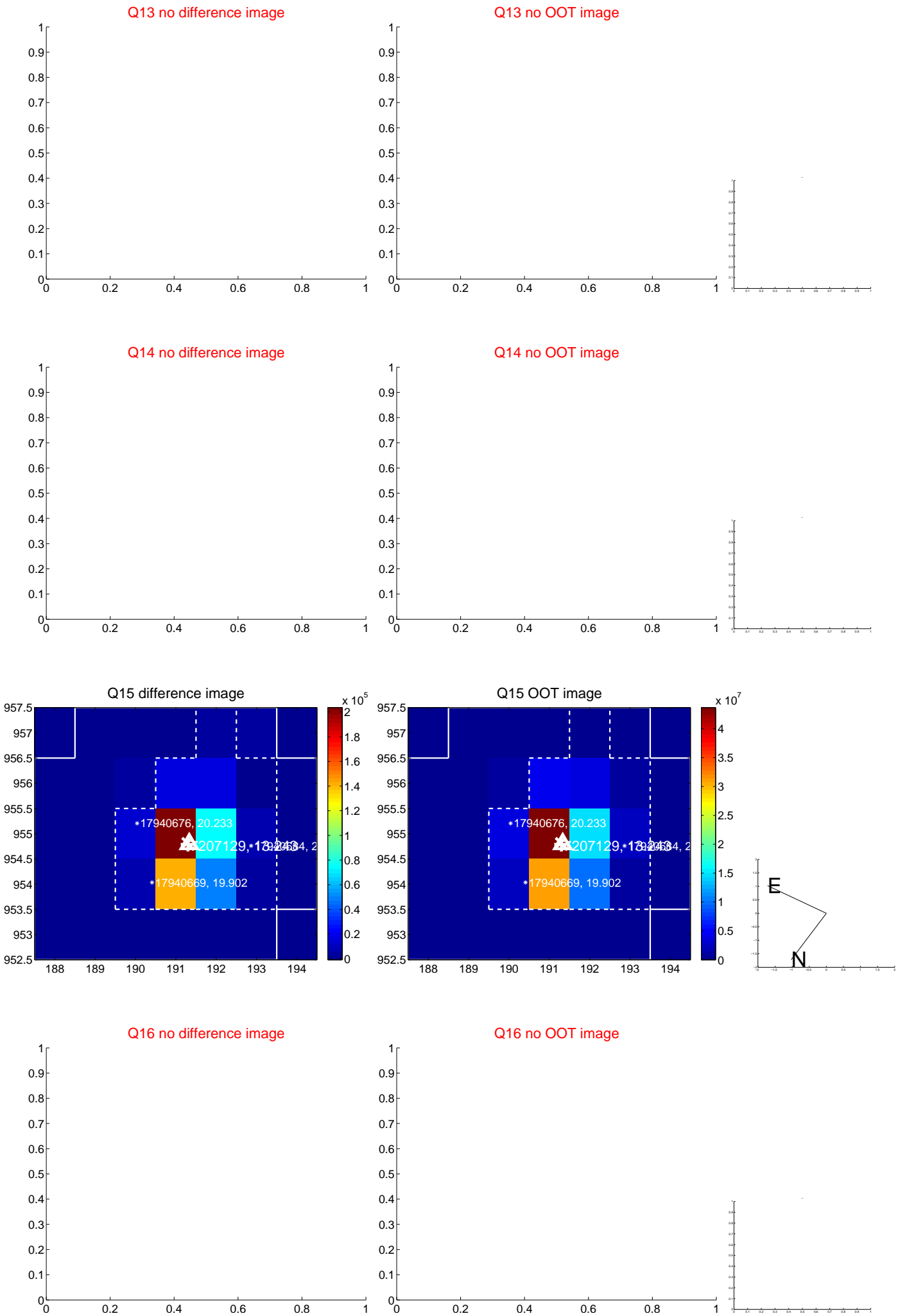




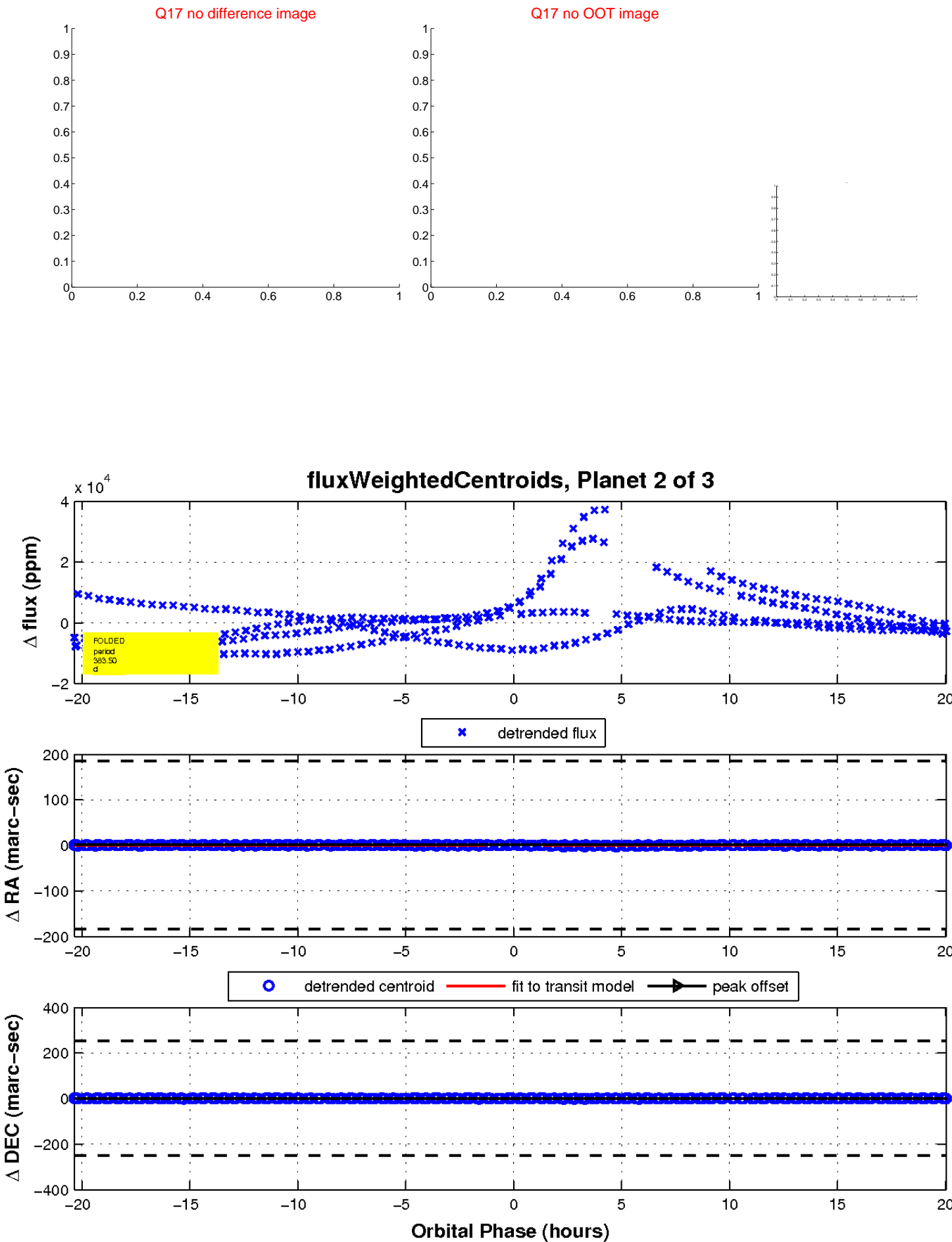
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



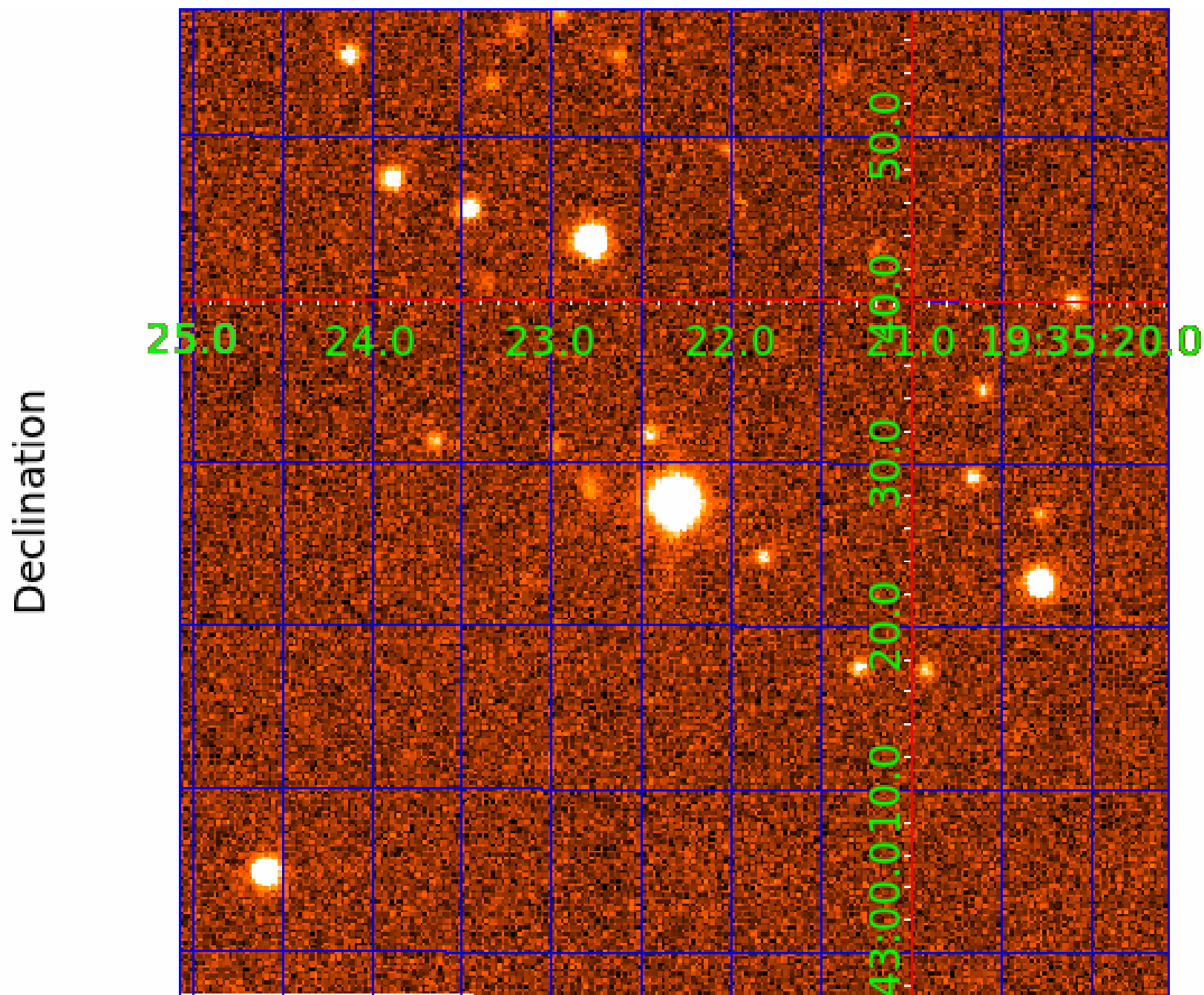
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



# KIC 007207129

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007207129-01	OBS	No	494.685024	151.489645	2275.9	10.645	22.0	5.6	2.00	7807	11.09	6.00
007207129-02	OBS	No	383.495150	241.314867	7793.2	6.785	25.0	11.8	2.00	7807	30.95	8.43
007207129-03	OBS	No	423.421447	196.973335	496.4	8.300	20.6	3.0	2.00	7807	4.69	7.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007207129-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—CENT_FEW_DIFFS
007207129-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007207129-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—INCONSISTENT_TRANS—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.

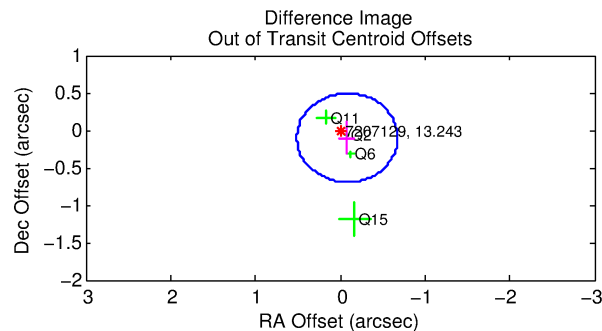
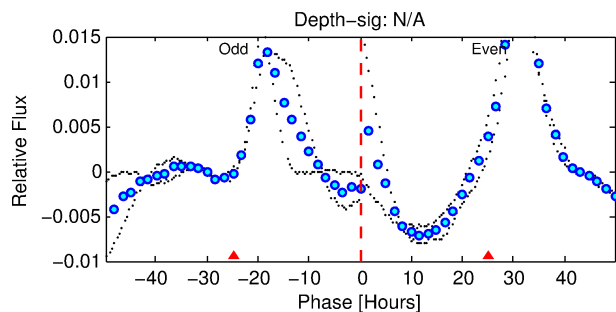
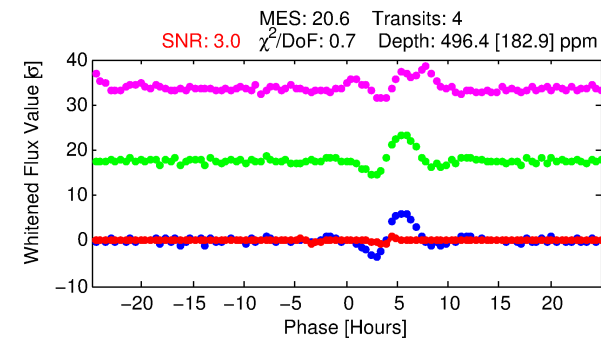
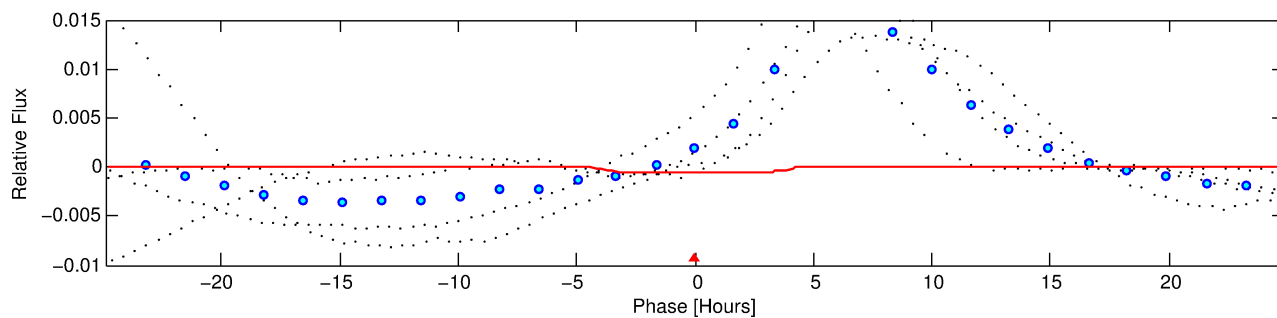
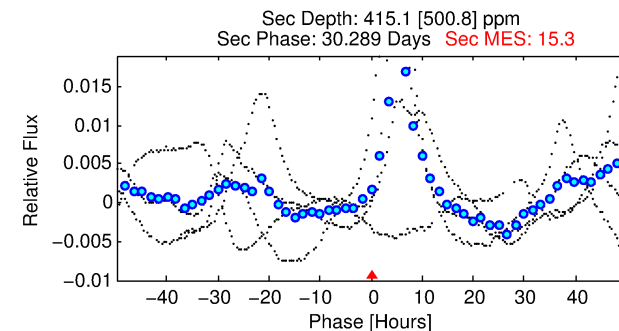
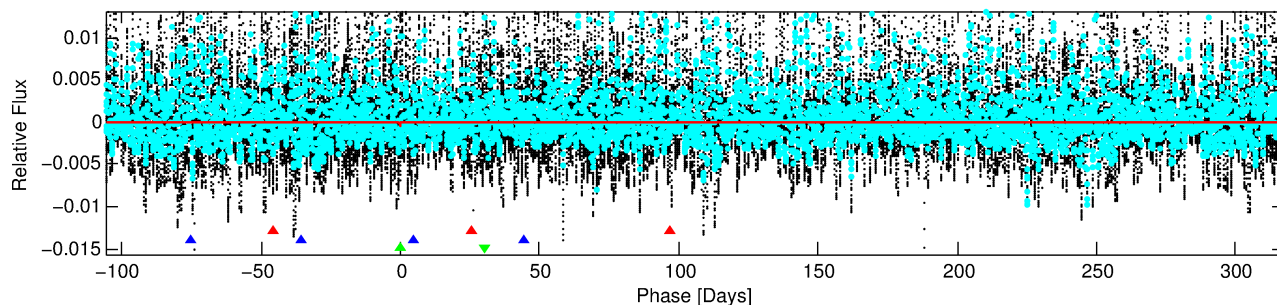
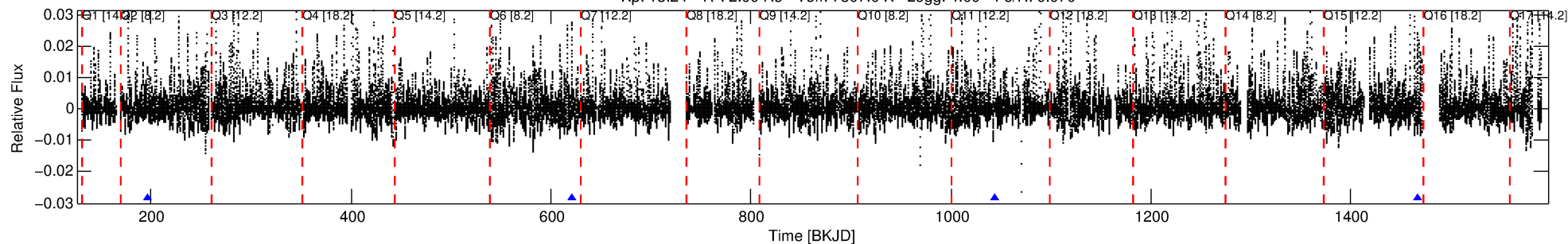
## Ephemeris Match Information For 007207129-03

No Significant Match Found

# DV One-Page Summary

KIC: 7207129 Candidate: 3 of 3 Period: 423.421 d

Kp: 13.24 R\*: 2.00 Rs Teff: 7807.0 K Logg: 4.09 Fe/H: 0.070



## DV Fit Results:

Period = 423.42145 [0.00510] d  
Epoch = 196.9733 [0.0082] BKJD  
Rp/R\* = 0.0215 [0.0094]  
a/R\* = 316.83 [616.77]  
b = 0.62 [1.95]  
Seff = 7.39 [2.56]  
Teq = 420 [36] K  
Rp = 4.69 [2.35] Re  
a = 1.3396 [0.2759] AU  
Ag = 18609.41 [28247.25] [0.66σ]  
Teff = 7592 [2846] K [2.52σ]

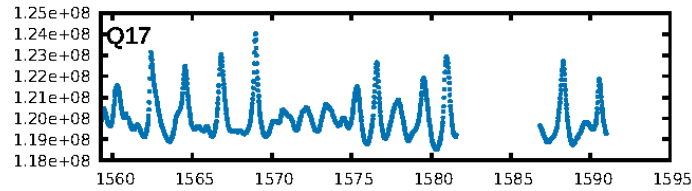
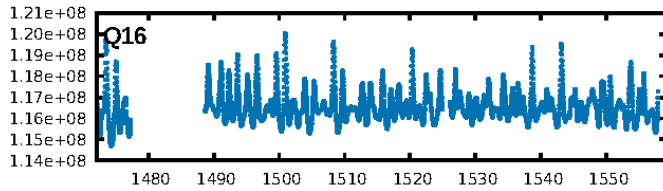
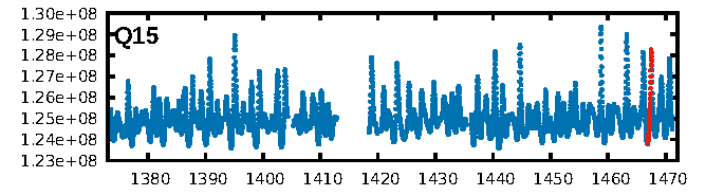
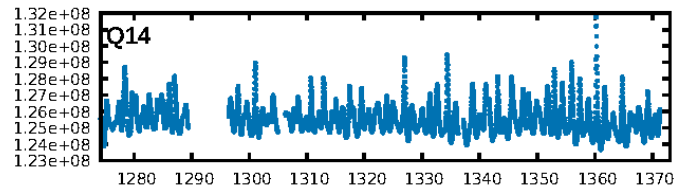
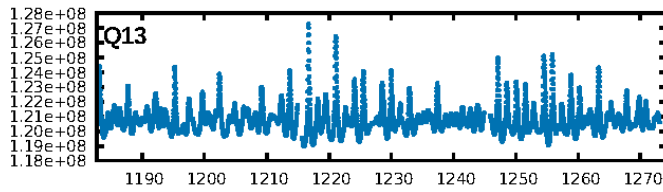
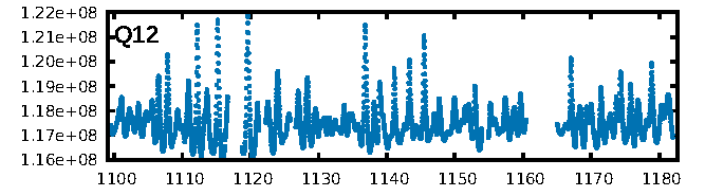
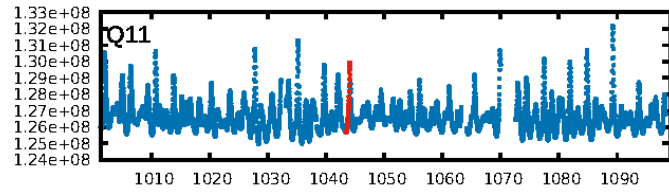
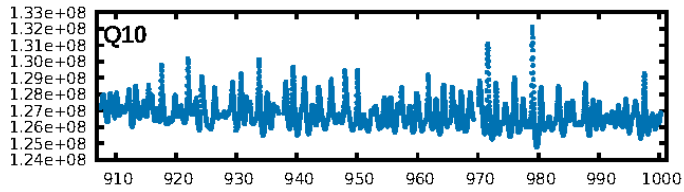
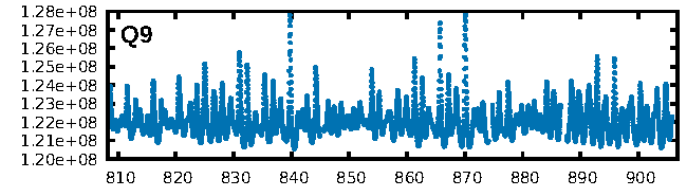
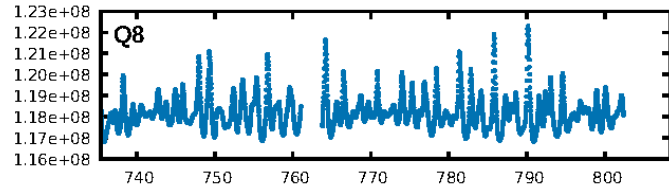
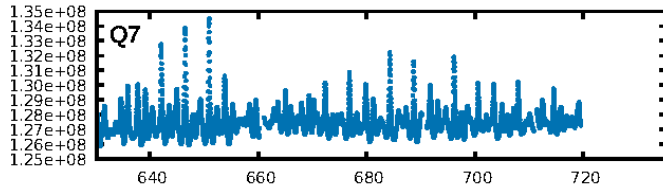
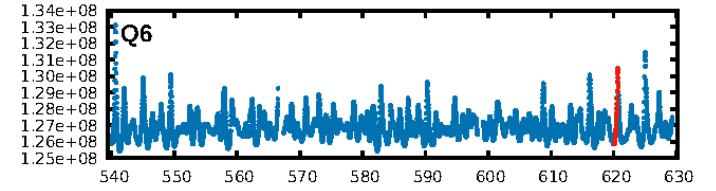
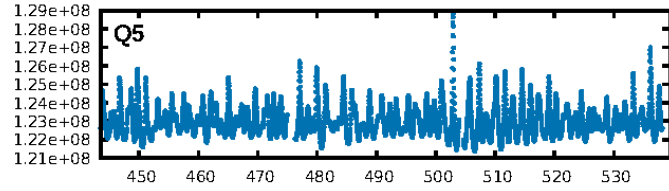
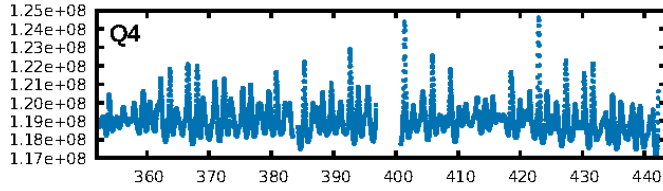
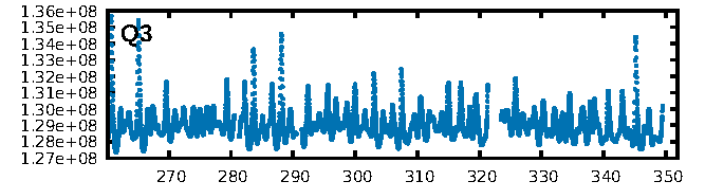
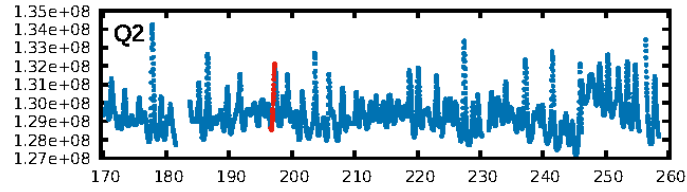
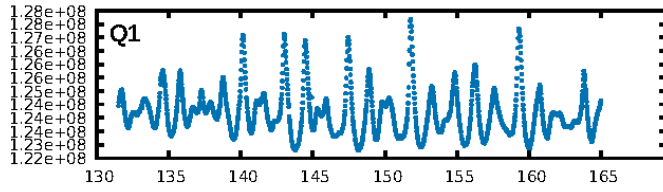
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [89.38σ]  
LongPeriod-sig: 100.0% [126.71σ]  
ModelChiSquare2-sig: 29.2%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 2.983  
Centroid-sig: 1.2%  
Centroid-so: 1.050 arcsec [1.60σ]  
OotOffset-rm: 0.131 arcsec [0.66σ]  
OotOffset-st: 2/2/0/0 [4]  
KicOffset-rm: 0.189 arcsec [1.06σ]  
KicOffset-st: 2/2/0/0 [4]  
DiffImageQuality-fgm: 0.25 [1/4]  
DiffImageOverlap-fno: 1.00 [4/4]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:45:11 Z

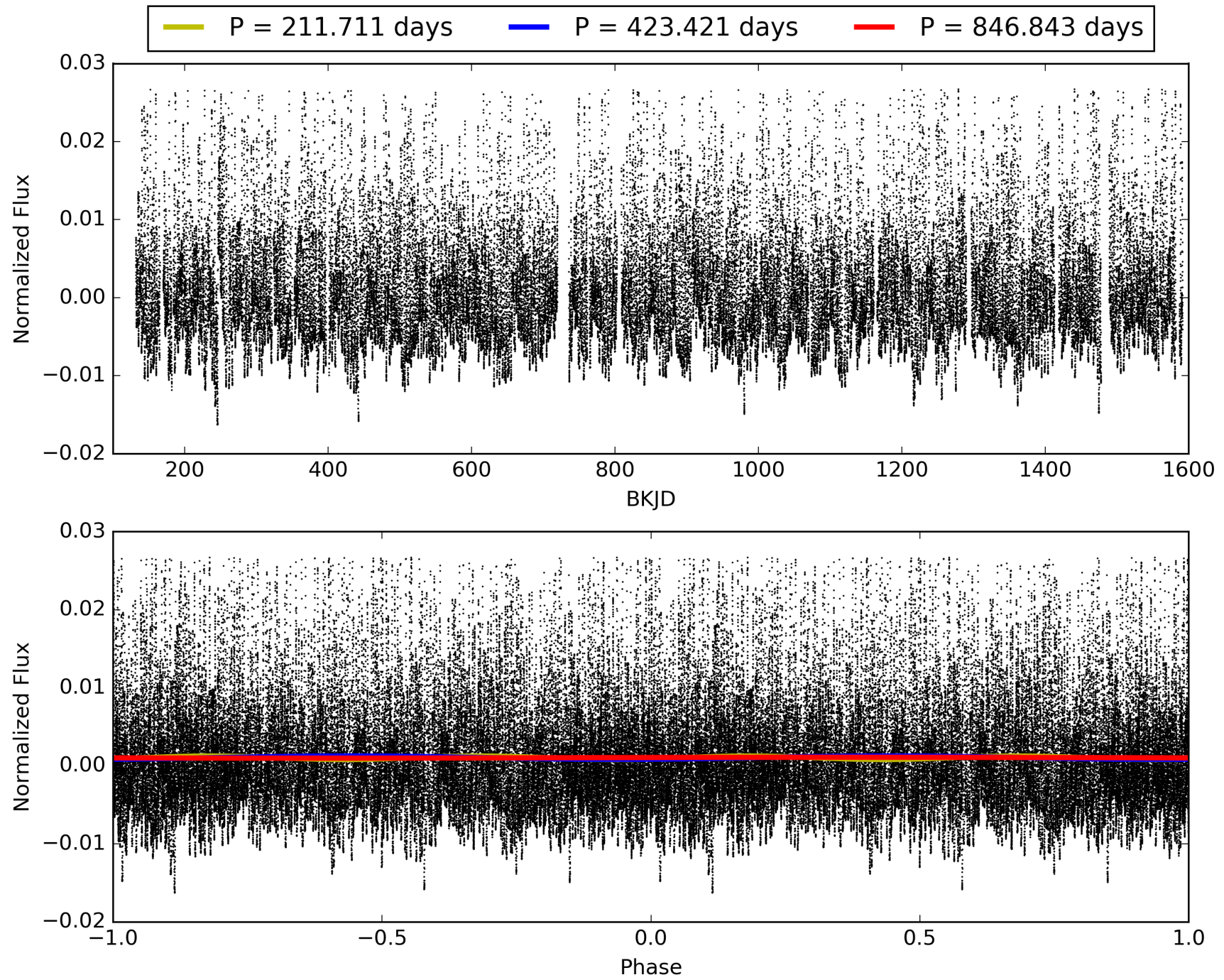
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007207129-03, PDC Light Curves





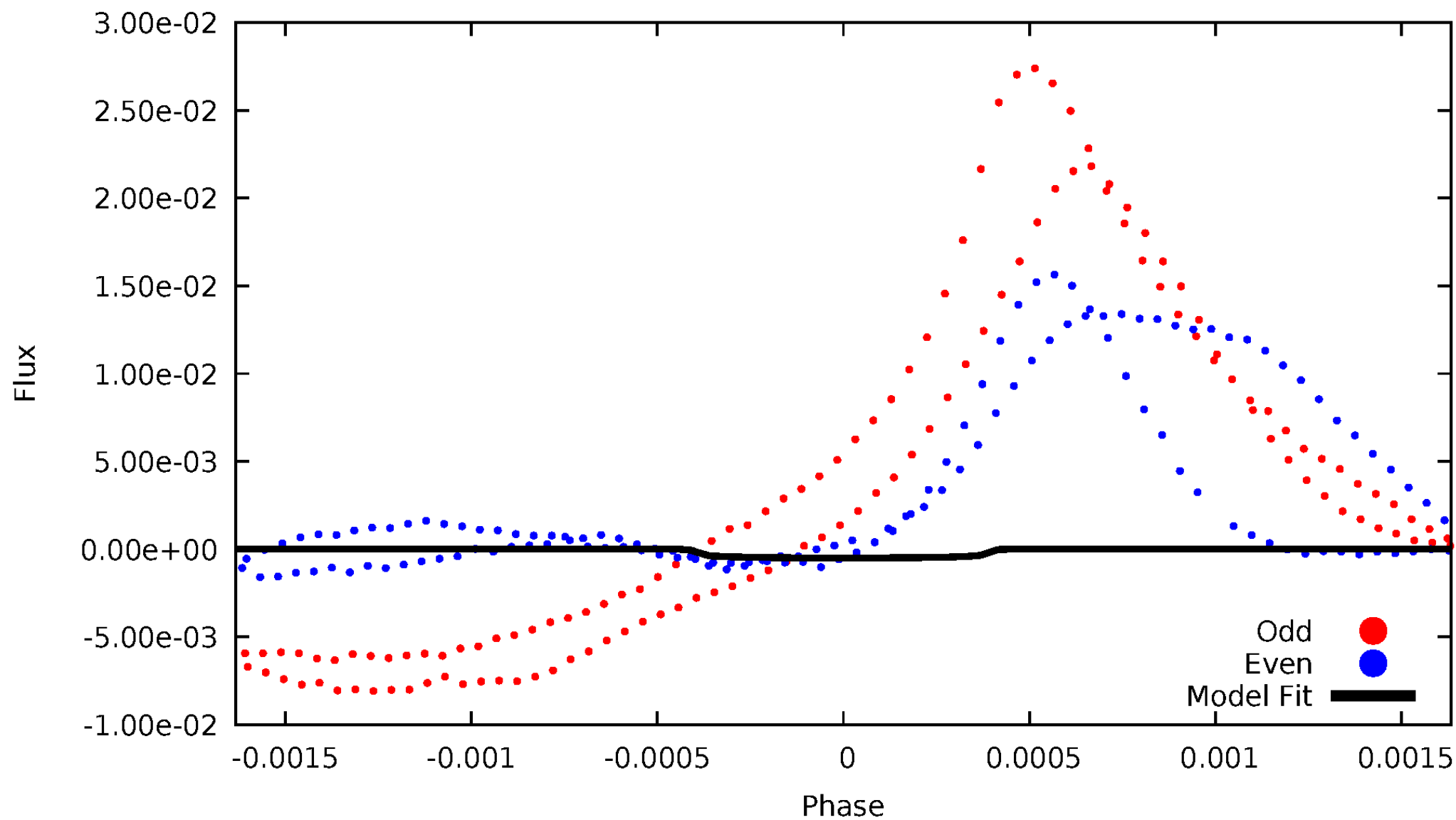
TCE 007207129-03





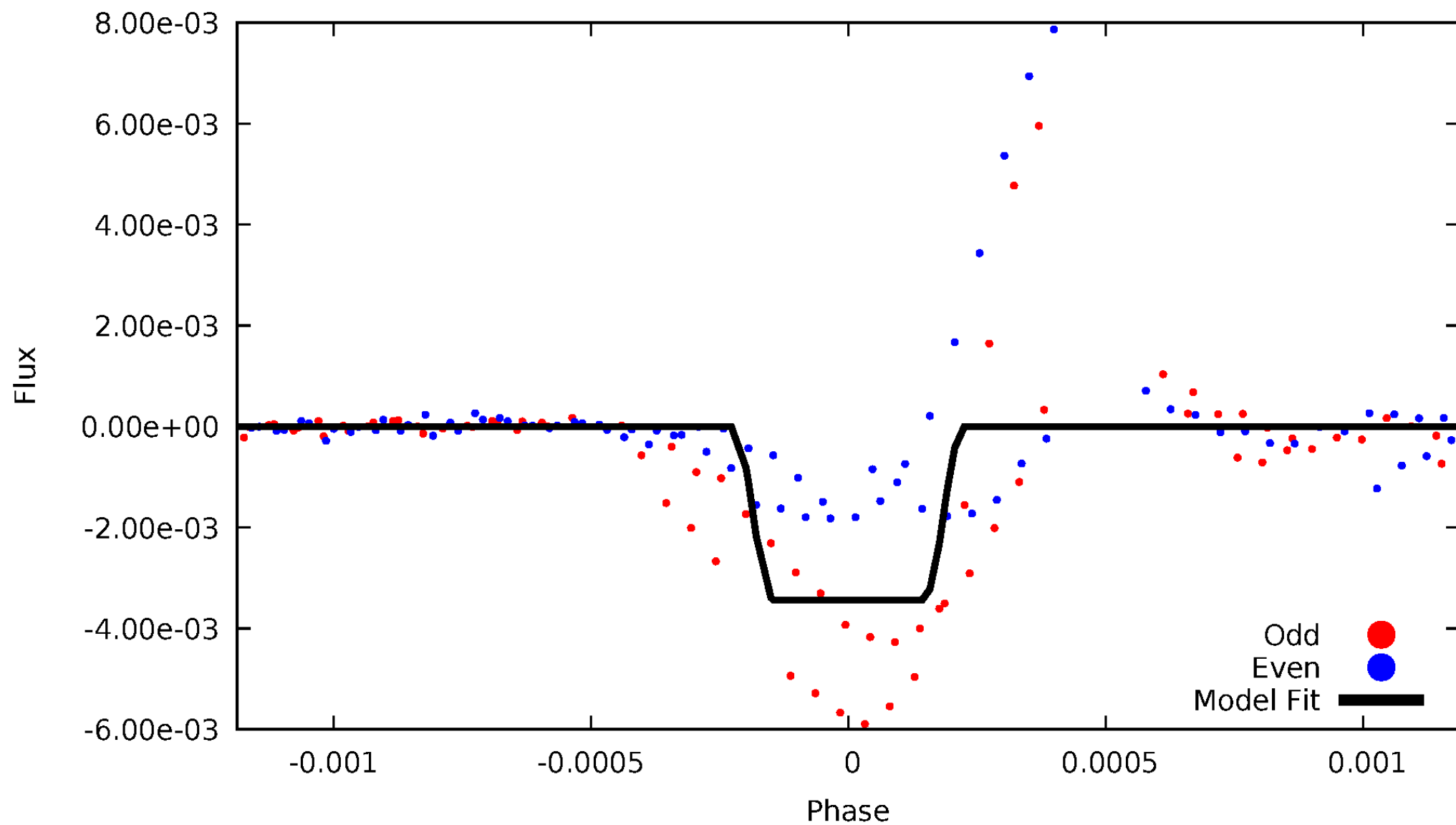
# DV Odd/Even

TCE 007207129-03



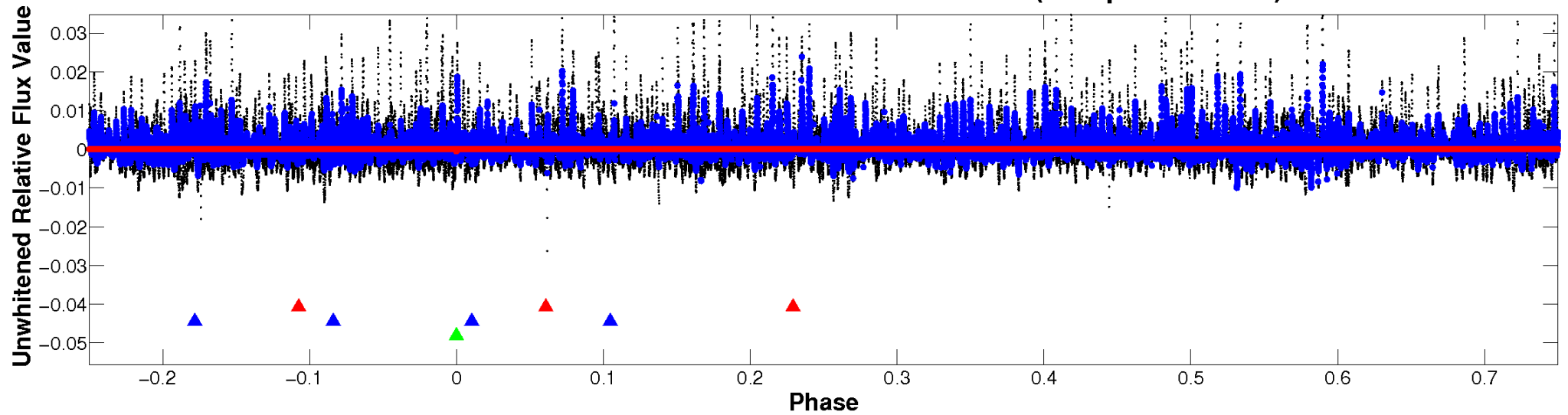
# ALT Odd/Even

TCE 007207129-03

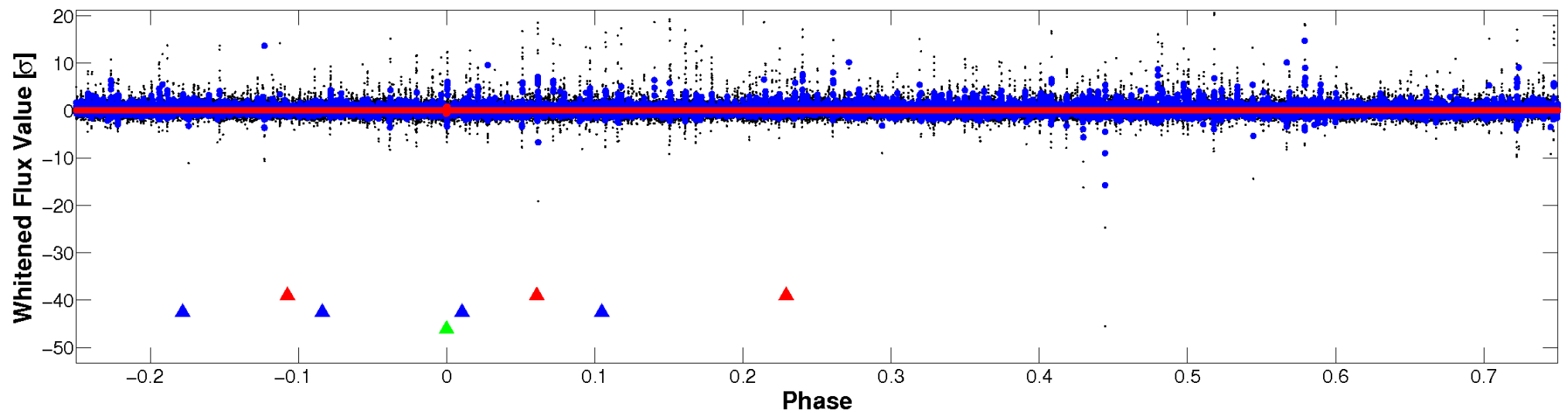


# Non-Whitened Vs. Whitened Light Curve

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

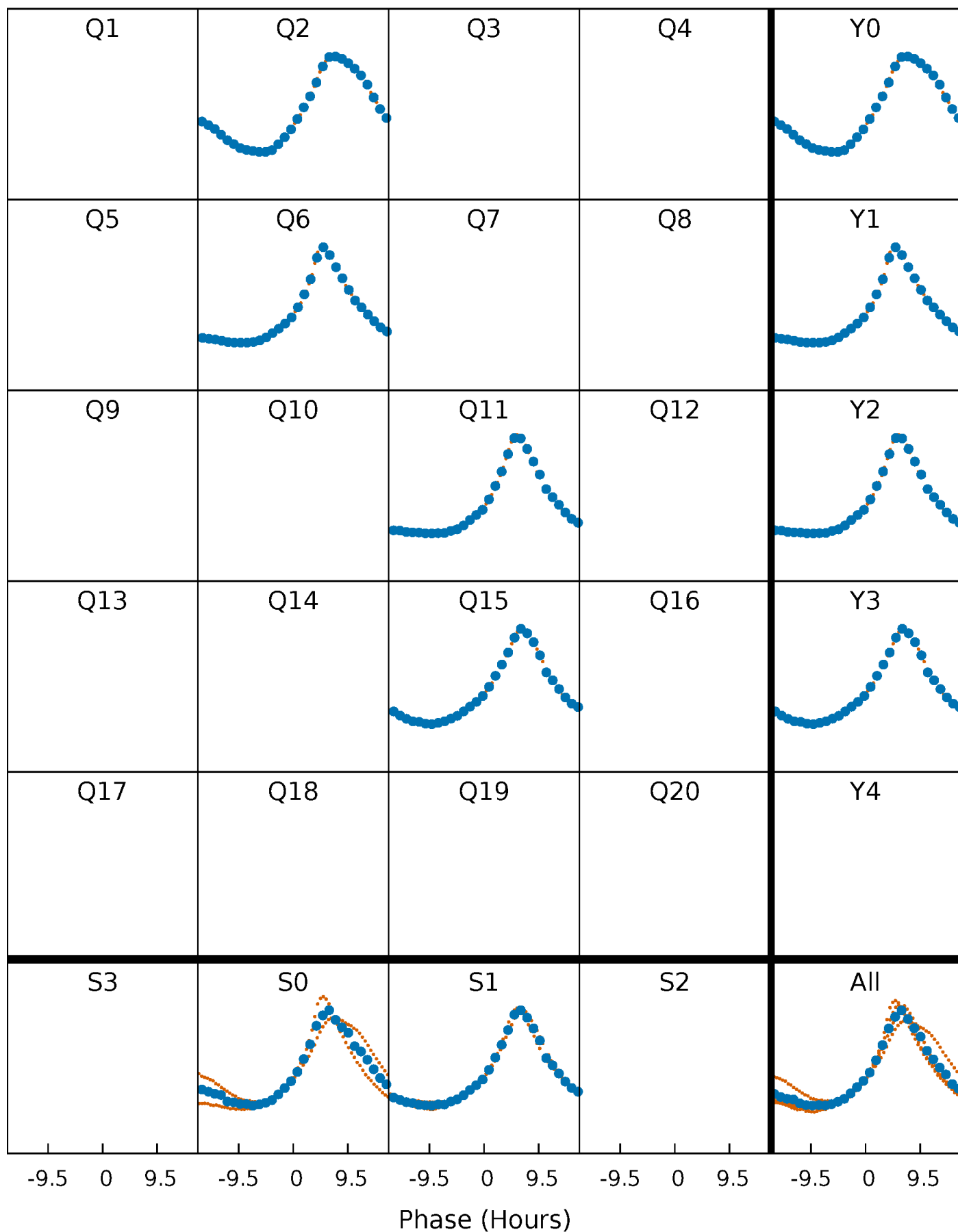


**Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



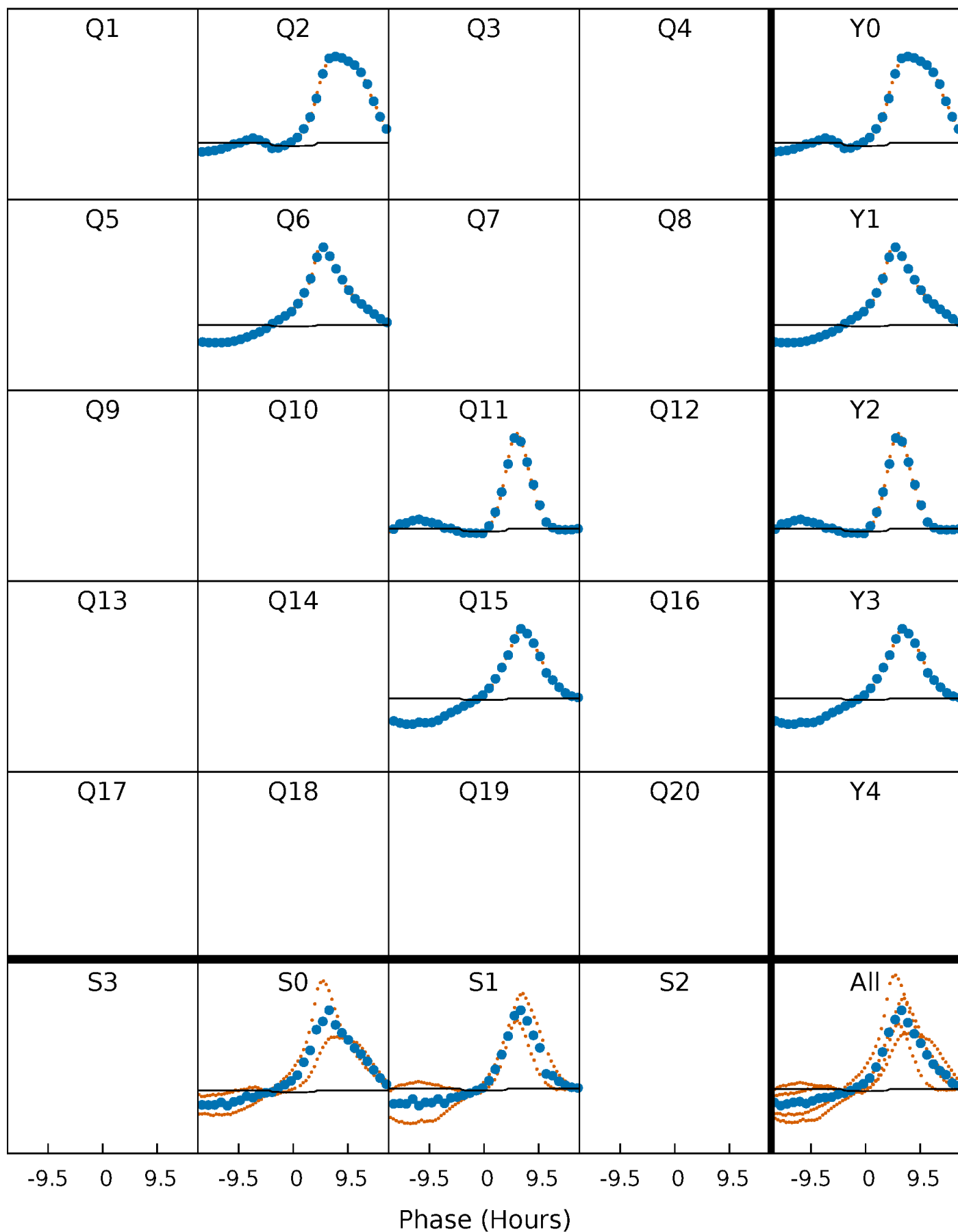
# PDC Quarter-Phased Transit Curves

TCE 007207129-03 P=423.421447 Days  $T_0=196.973335$  (BKJD)



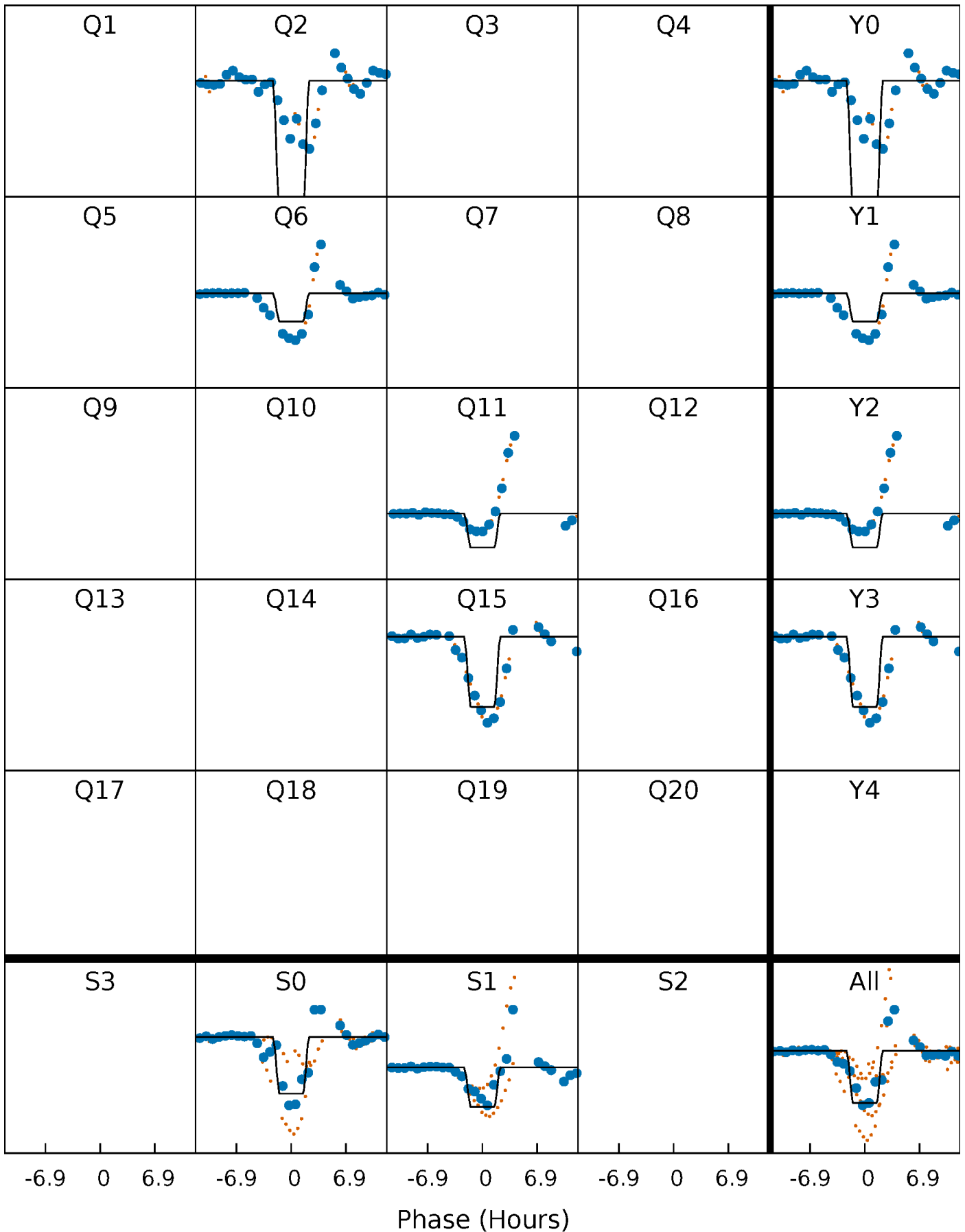
# DV Quarter-Phased Transit Curves

TCE 007207129-03 P=423.421447 Days  $T_0=196.973335$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

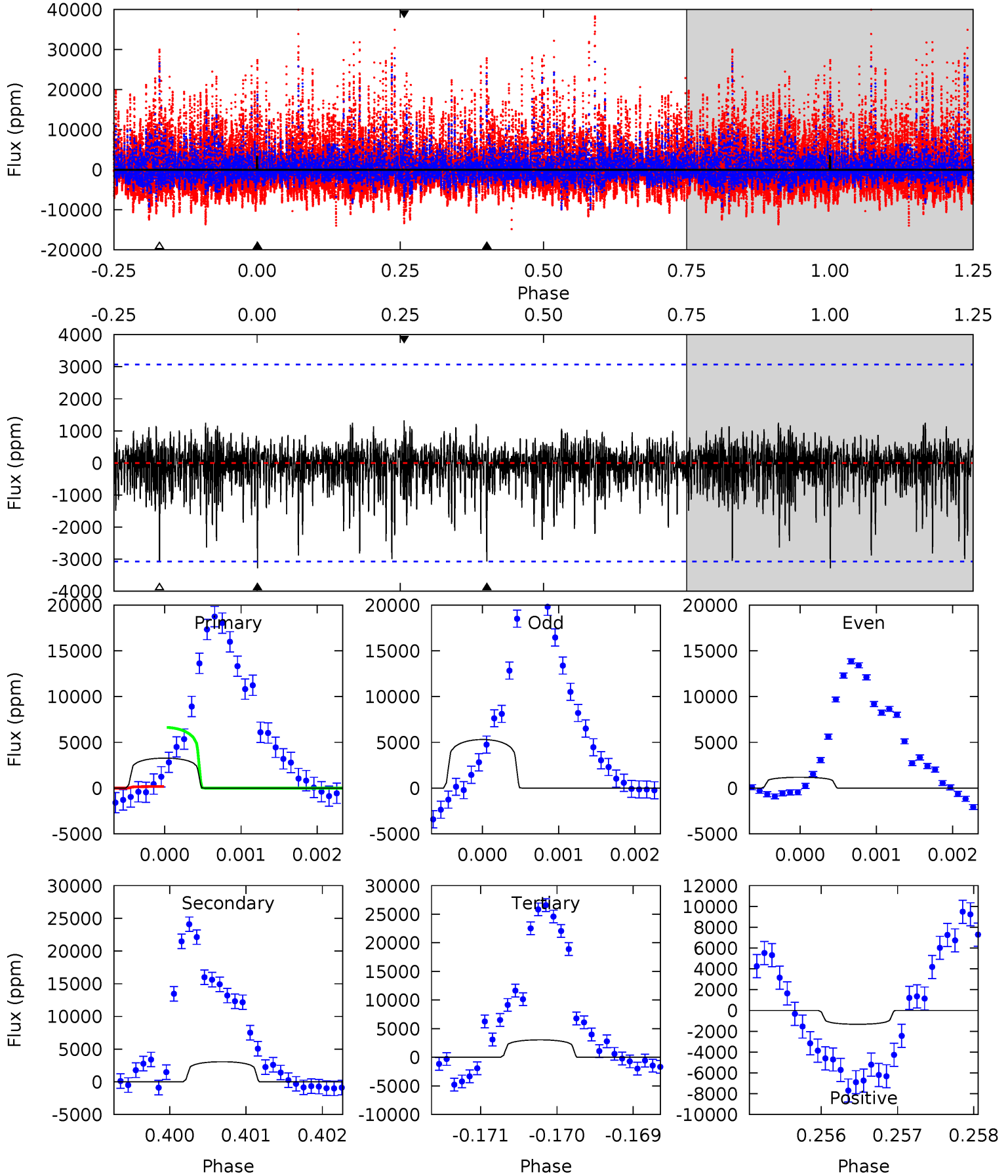
TCE 007207129-03 P=423.431041 Days  $T_0=197.004502$  (BKJD)



# DV Model-Shift Uniqueness Test

007207129-03, P = 423.421447 Days, E = 196.973335 Days

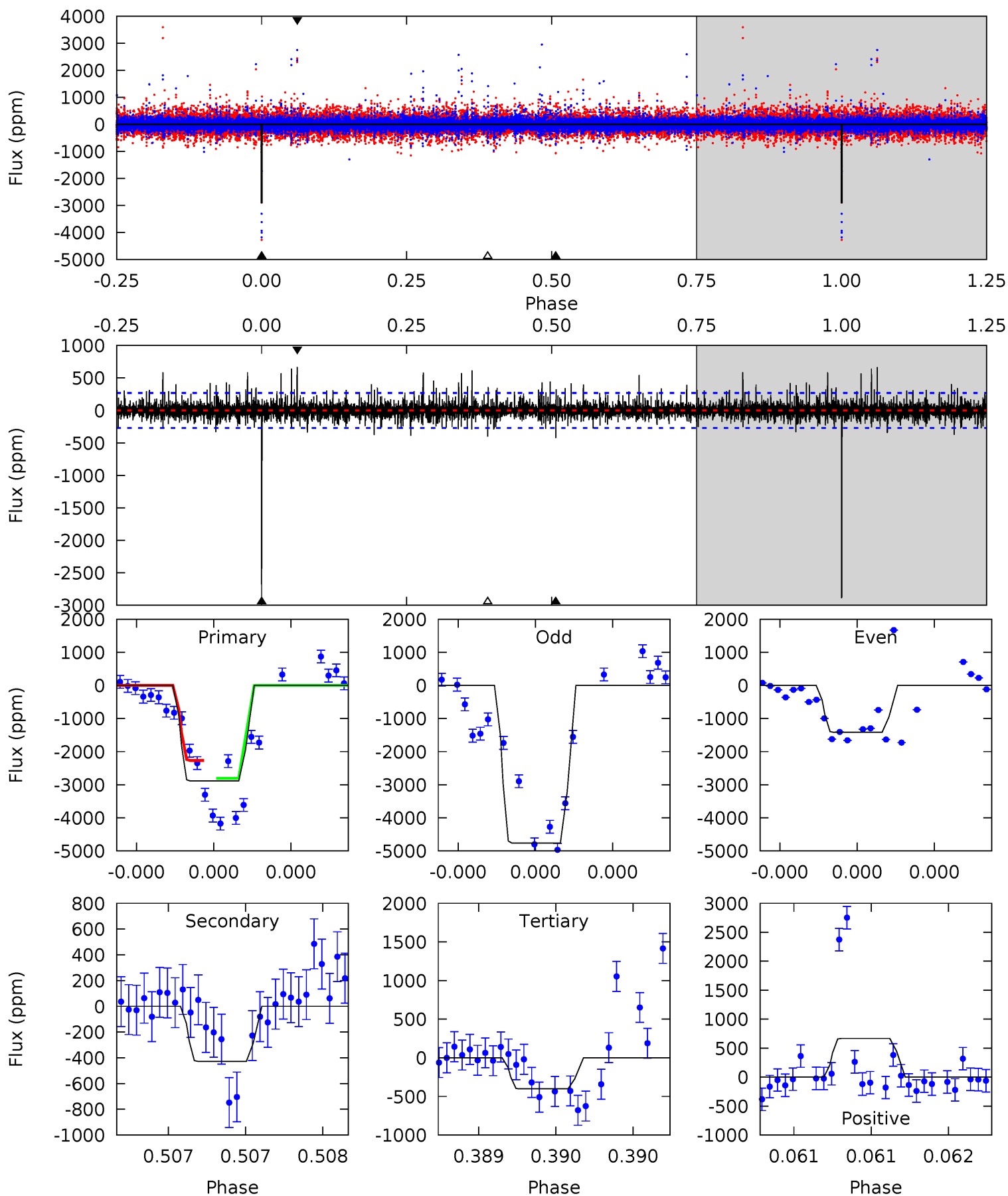
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.85	5.47	5.43	2.37	5.48	3.33	1.03	0.42	3.48	0.04	3.10	3.23	1.58	0.29	5.80



# Alt Model-Shift Uniqueness Test

007207129-03, P = 423.431041 Days, E = 197.004502 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
60.1	8.90	8.36	13.9	5.60	3.52	1.51	51.8	46.2	0.54	-4.99	33.7	1.15	0.19	0





### Stellar Parameters For KIC 007207129

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7807^{+214}_{-349}$	$4.090^{+0.131}_{-0.160}$	$0.070^{+0.150}_{-0.400}$	$1.996^{+0.495}_{-0.405}$	$1.784^{+0.170}_{-0.291}$	$0.316^{+0.238}_{-0.145}$
	+3%/-4%	+3%/-4%	+214%/-571%	+25%/-20%	+10%/-16%	+75%/-46%
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 007207129-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-3068 \pm 561$	$4.78^{+2.09}_{-2.11}$	$589^{+39}_{-40}$	$15974^{+13838}_{-4440}$	$131202^{+290161}_{-69468}$
Alt.	$-427 \pm 48$	$12.92^{+2.67}_{-2.44}$	$586^{+40}_{-37}$	$4629^{+388}_{-294}$	$2498^{+1289}_{-781}$

$T_{\text{max}}$  = 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

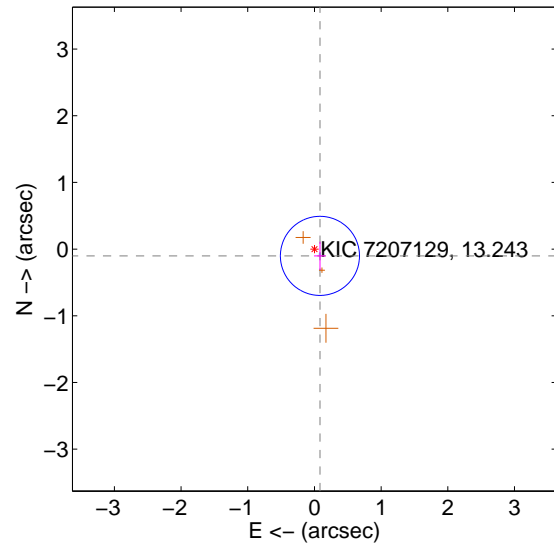
Supplemental centroid analysis for 007207129-03. Kepler magnitude: 13.24. Transit SNR 2.97

There are 1 quarters with good PRF difference image offsets

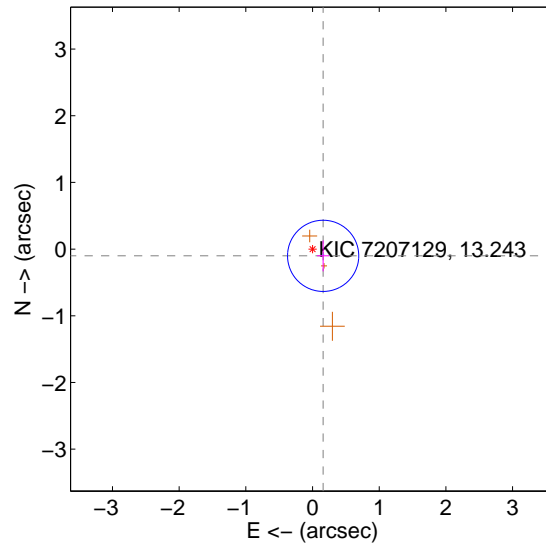
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.131 \pm 0.198$	0.66	$-0.082 \pm 0.089$	$-0.102 \pm 0.212$
PRF-fit source offset from KIC position	$0.189 \pm 0.178$	1.06	$-0.159 \pm 0.091$	$-0.101 \pm 0.233$
photometric centroid source offset	$1.05 \pm 0.66$	1.60	$-0.49 \pm 0.65$	$-0.93 \pm 0.66$

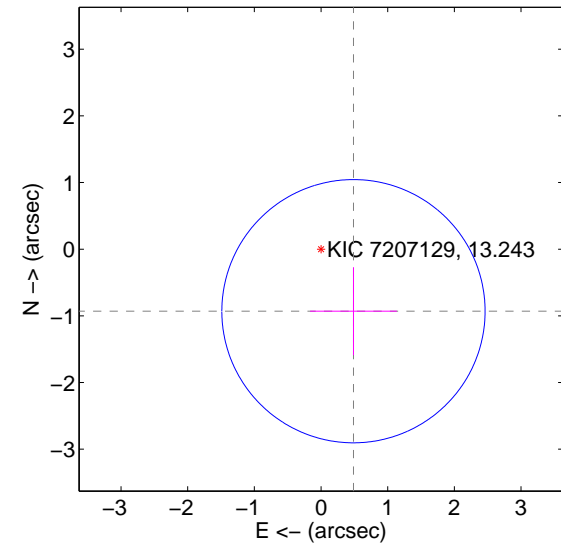
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



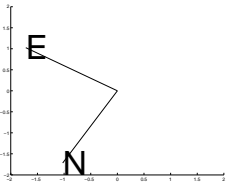
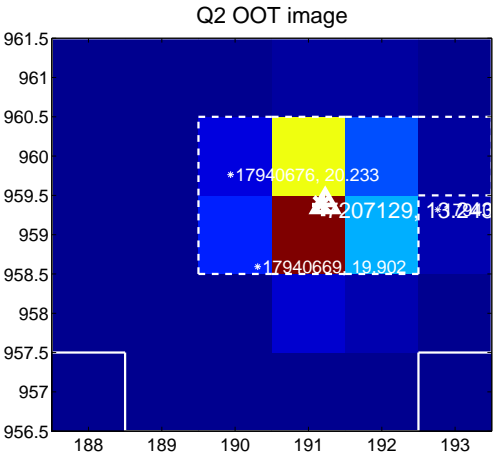
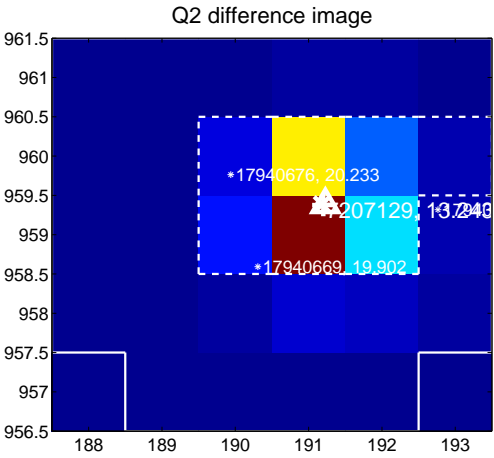
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

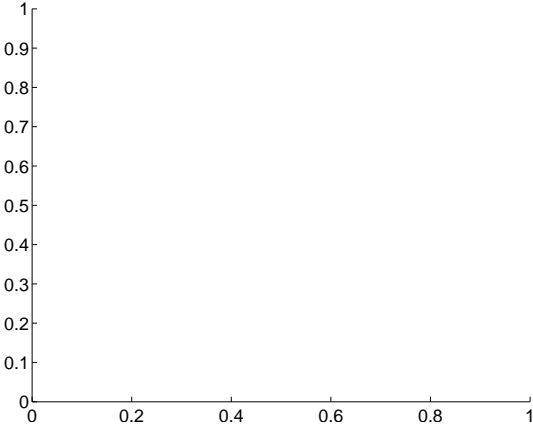
Q1 no difference image



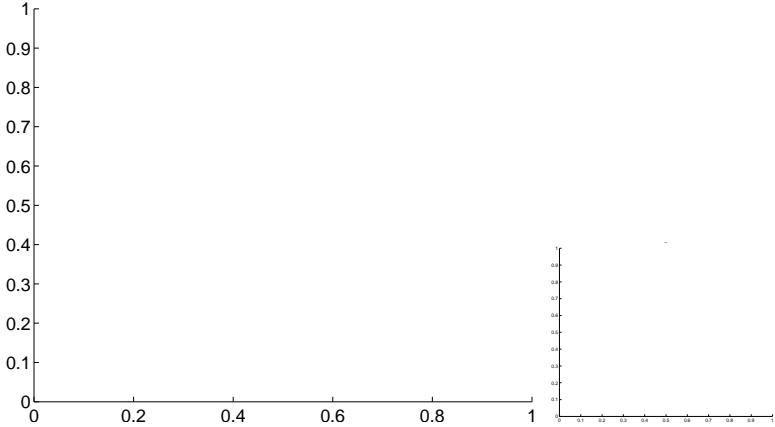
Q1 no OOT image



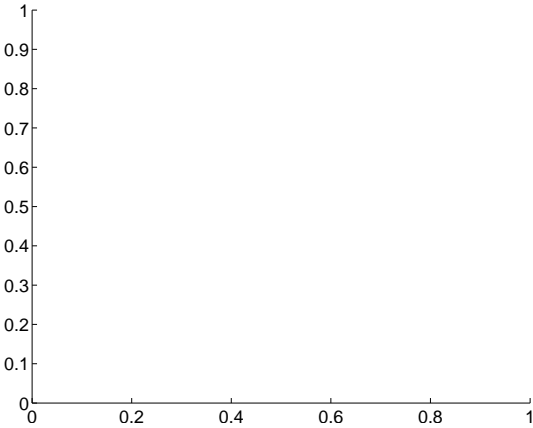
Q3 no difference image



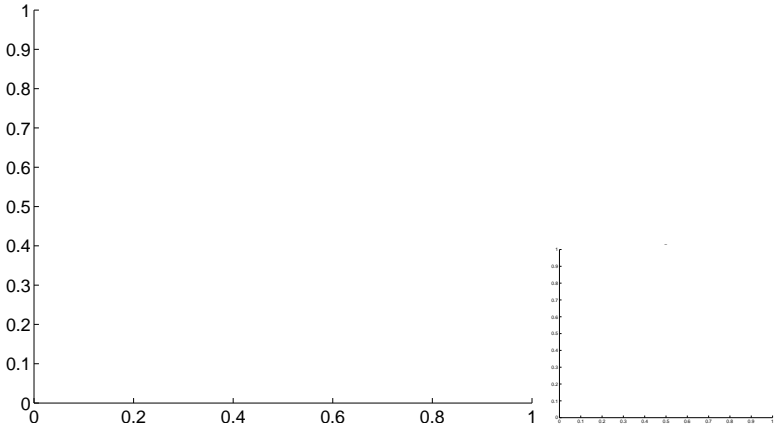
Q3 no OOT image



Q4 no difference image



Q4 no OOT image



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

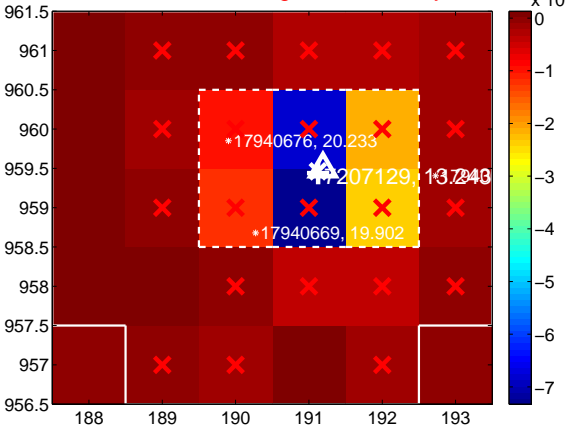
Q5 no difference image



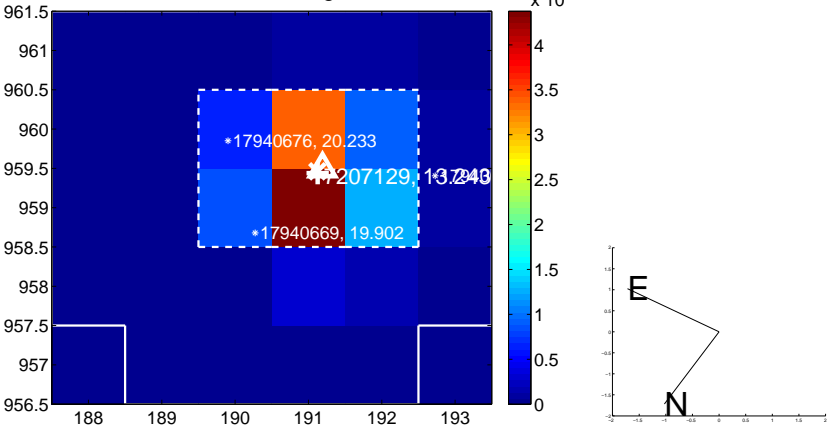
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



Q7 no difference image



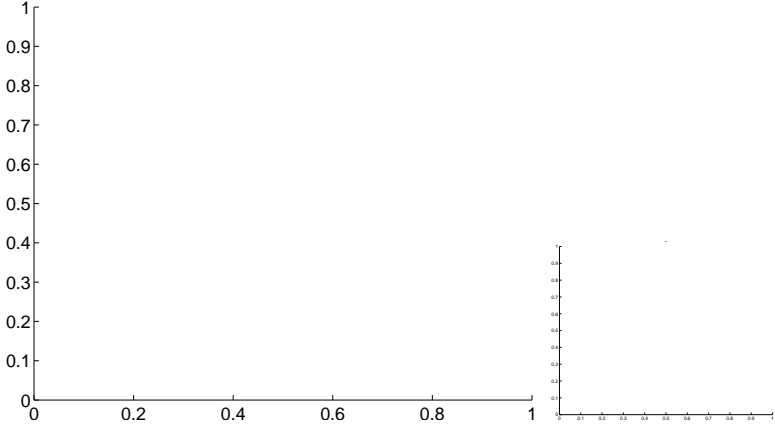
Q7 no OOT image



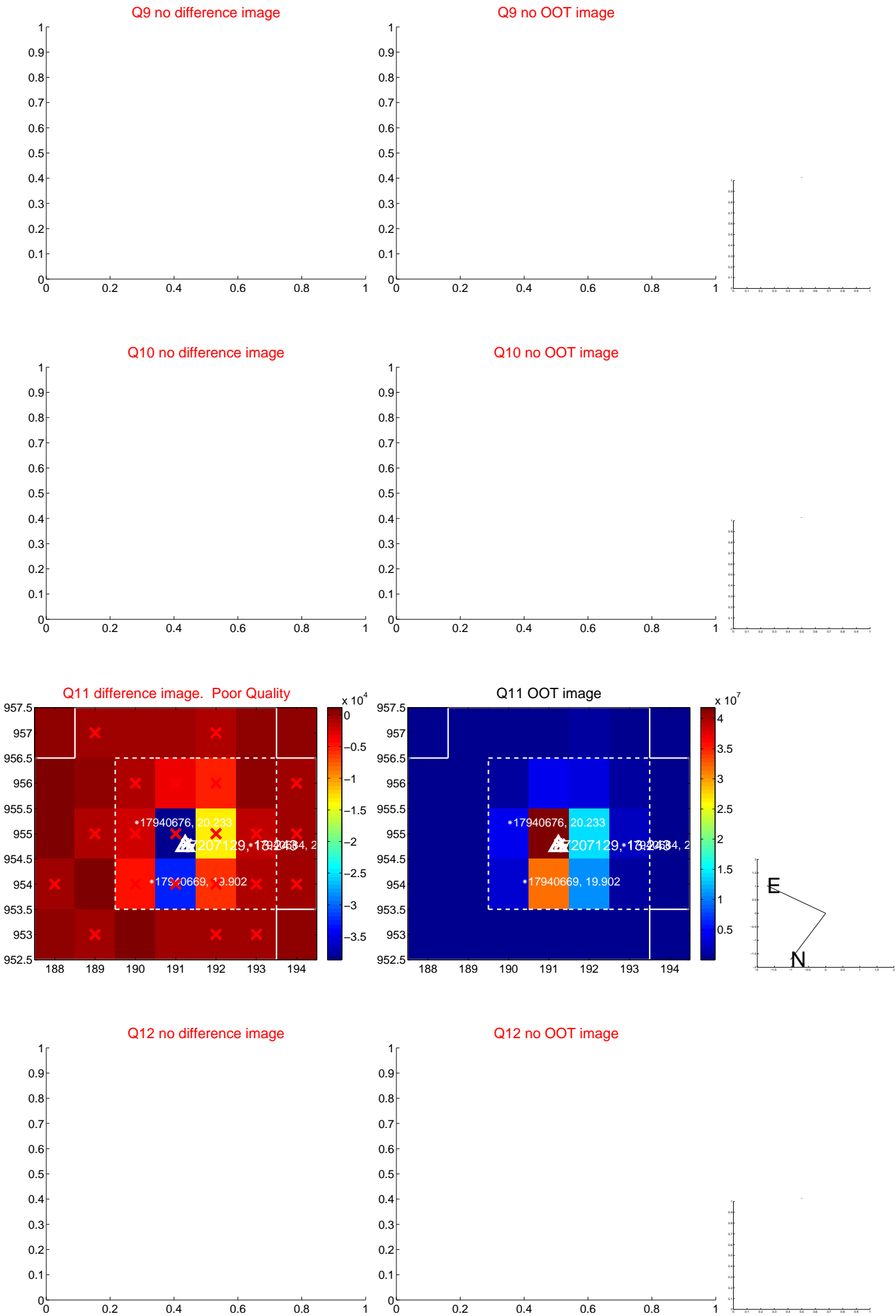
Q8 no difference image



Q8 no OOT image



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.

Q13 no difference image



Q13 no OOT image



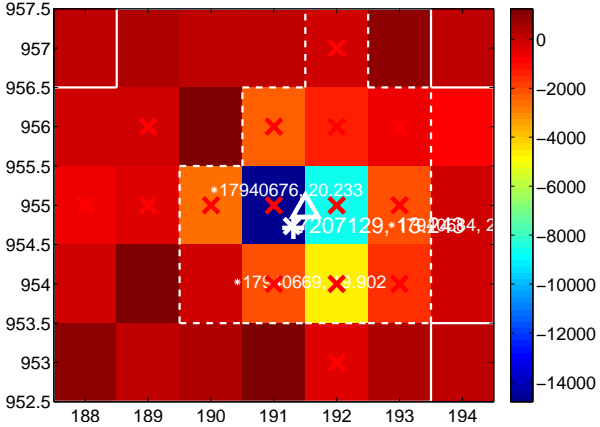
Q14 no difference image



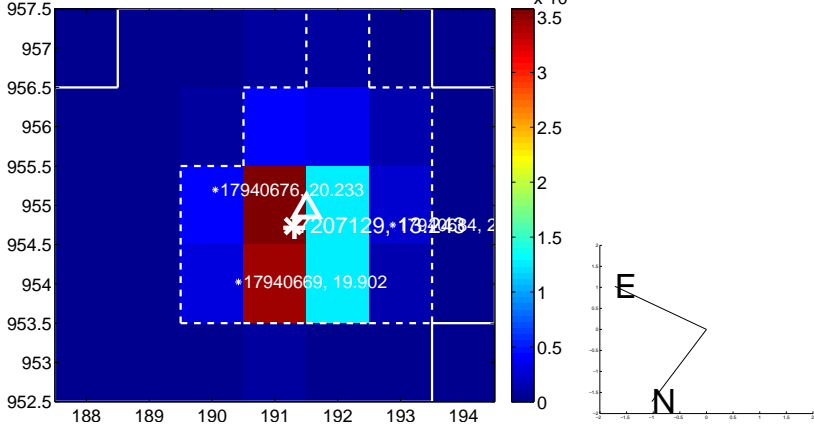
Q14 no OOT image



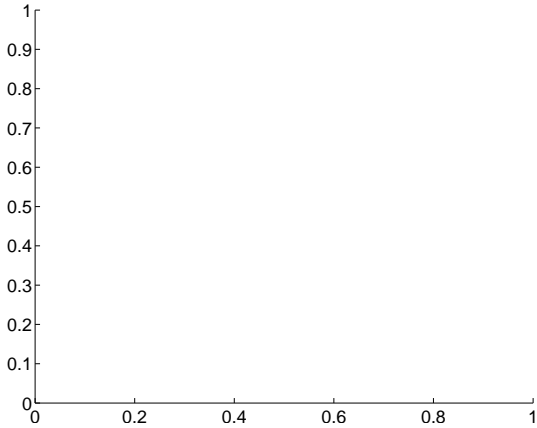
Q15 difference image. Poor Quality



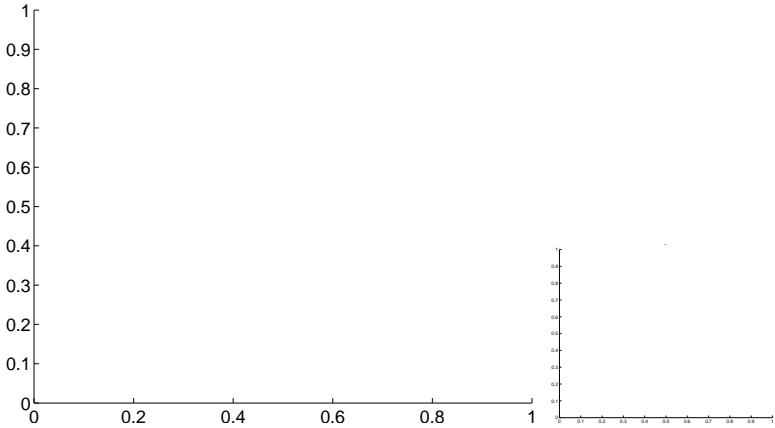
Q15 OOT image



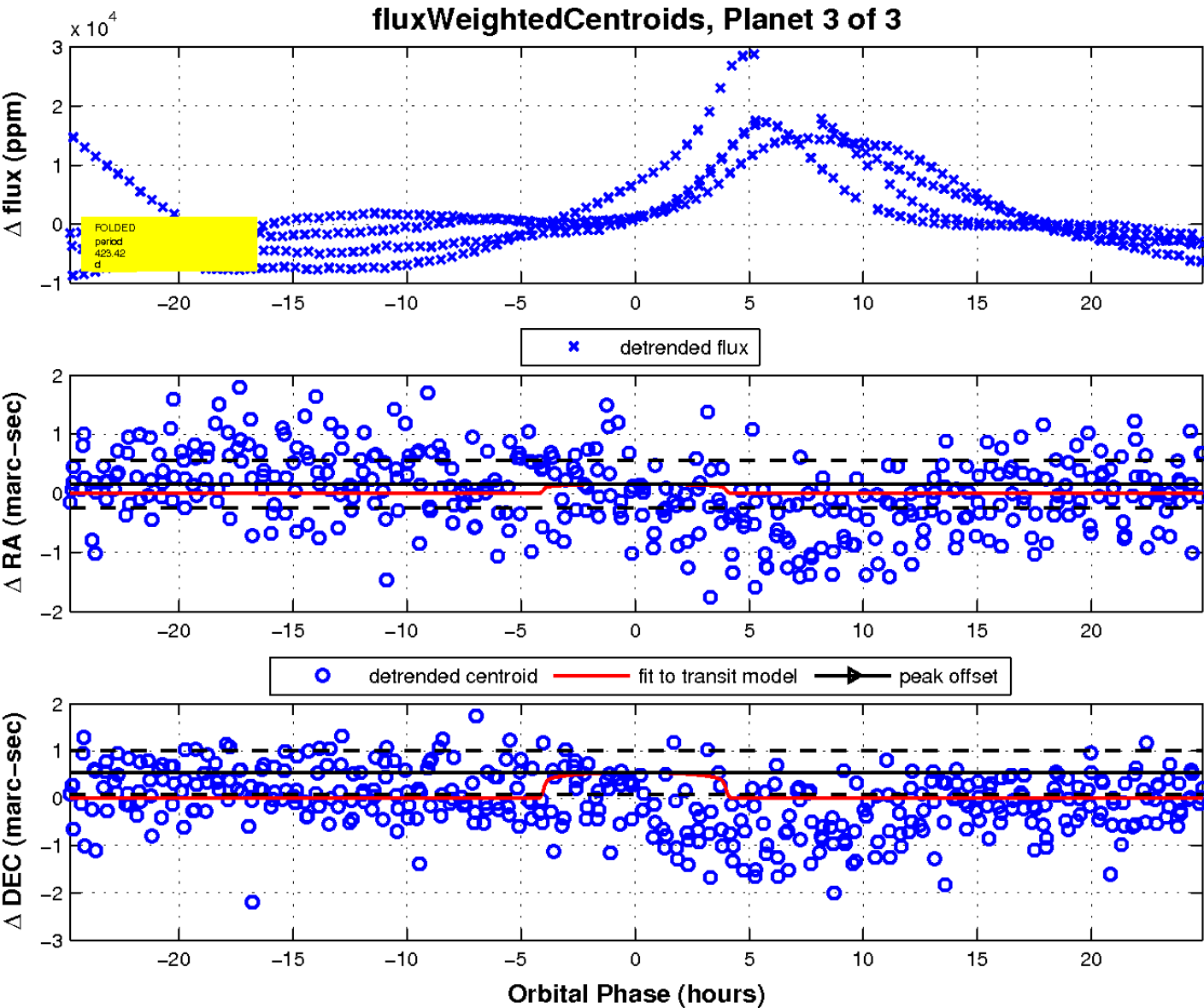
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

