

# KIC 006765575

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006765575-01	OBS	No	1.578006	133.046639	21.3	6.704	9.1	9.6	2.39	7061	1.11	14085.83
006765575-02	OBS	No	165.312177	253.984695	150.9	12.185	7.9	6.2	2.39	7061	3.13	28.52
006765575-03	OBS	No	106.572825	189.308314	128.7	10.802	8.0	6.3	2.39	7061	3.01	51.22
006765575-04	OBS	No	258.501283	157.820671	244.4	4.508	7.6	7.7	2.39	7061	4.14	15.71
006765575-05	OBS	No	672.191229	148.088610	209.7	6.213	7.5	7.4	2.39	7061	3.82	4.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006765575-01	OBS	FP	0.00	1	0	0	0	LPP_DV
006765575-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006765575-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV
006765575-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
006765575-05	OBS	FP	0.00	1	0	0	0	LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

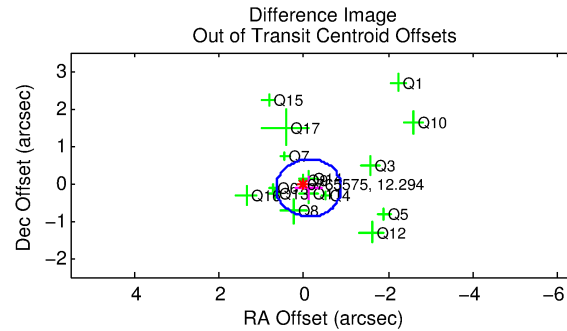
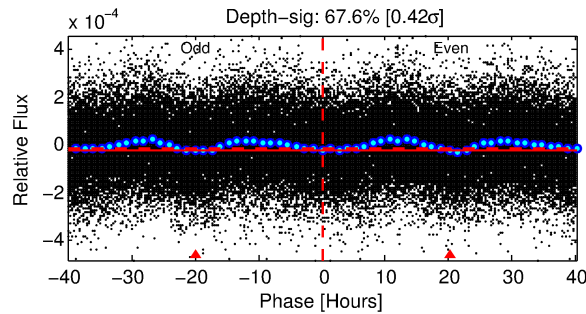
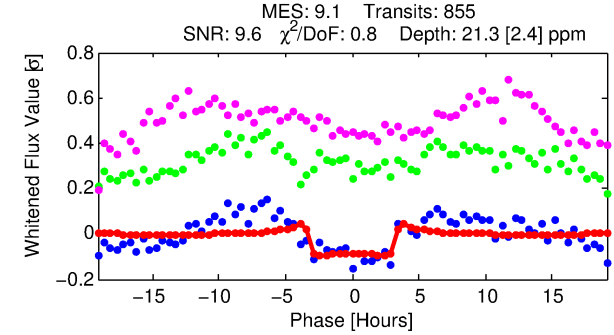
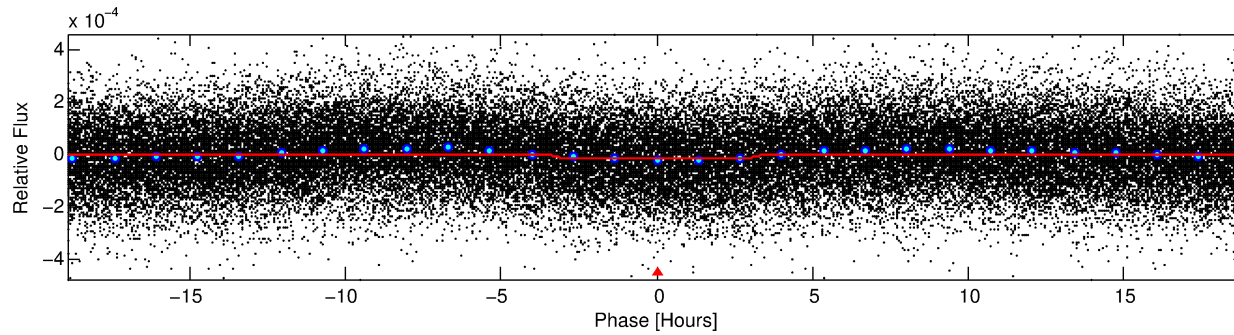
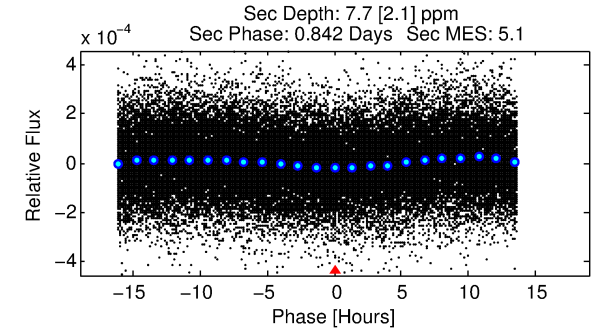
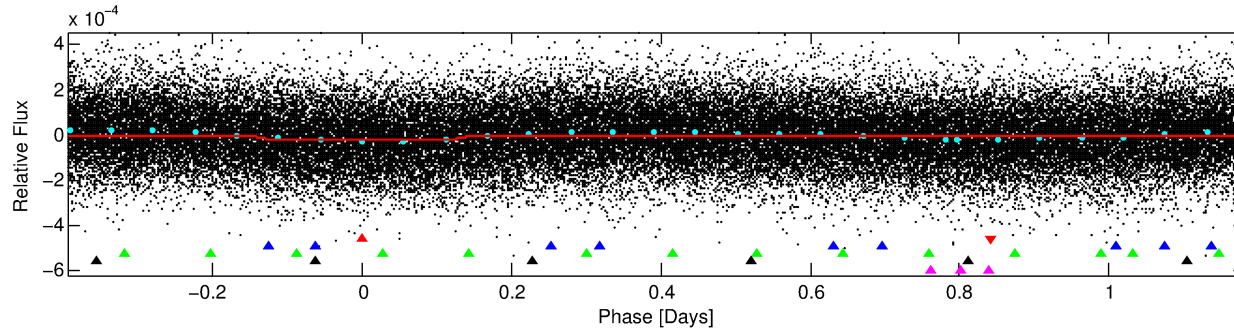
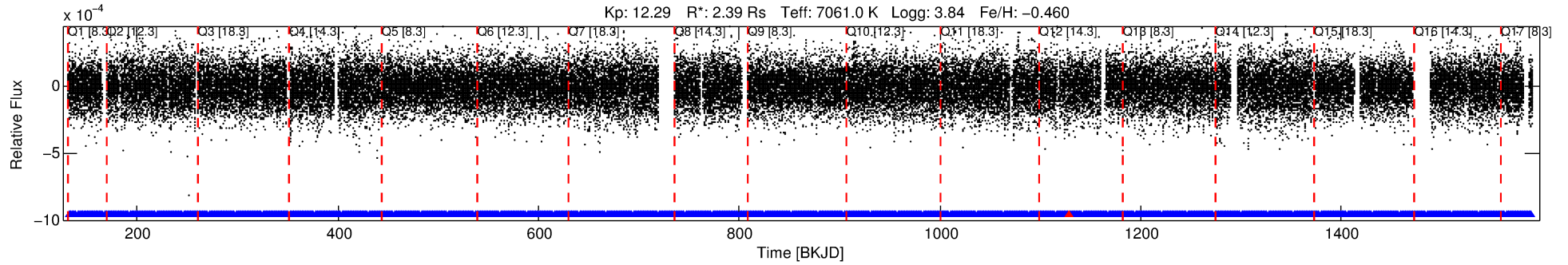
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006765575-01

No Significant Match Found

# DV One-Page Summary

KIC: 6765575 Candidate: 1 of 5 Period: 1.578 d



## DV Fit Results:

Period = 1.57801 [0.00002] d  
Epoch = 133.0466 [0.0038] BKJD  
Rp/R\* = 0.0043 [0.0023]  
a/R\* = 1.87 [4.00]  
b = 0.22 [13.31]  
Seff = 14085.84 [7236.07]  
Teq = 2778 [357] K  
Rp = 1.12 [0.70] Re  
a = 0.0300 [0.0093] AU  
Ag = 3.08 [3.76] [0.55σ]  
Teffp = 5689 [1598] K [1.78σ]

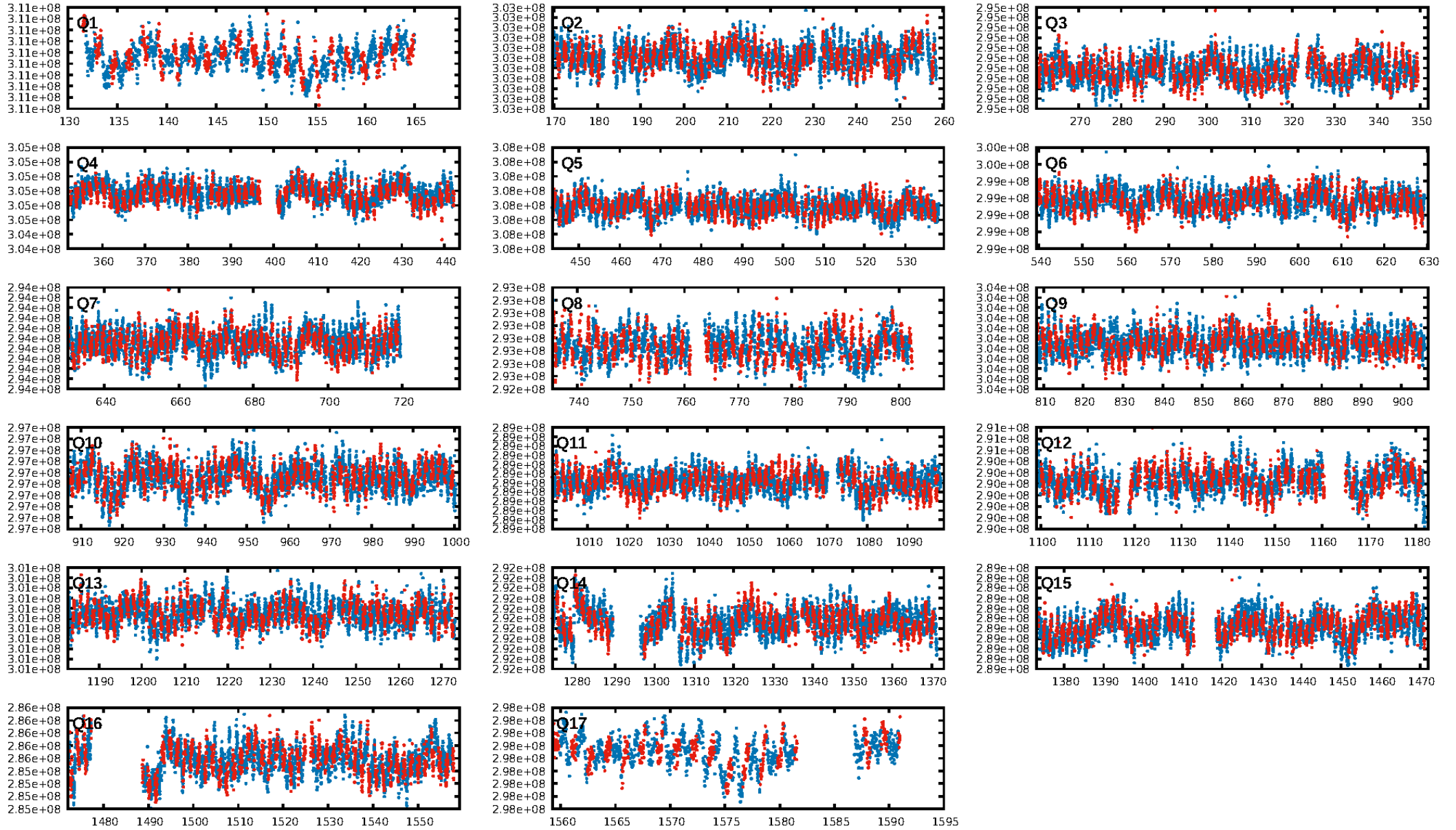
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [198.20σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.18e-13  
RollingBand-fgt: 1.00 [814/815]  
GhostDiagnostic-chr: 2.732  
Centroid-sig: 80.7%  
Centroid-so: 0.338 arcsec [0.75σ]  
OotOffset-rm: 0.176 arcsec [0.69σ]  
KicOffset-rm: 0.092 arcsec [0.32σ]  
OotOffset-st: 3/4/4/5 [16]  
KicOffset-st: 3/4/4/5 [16]  
DiffImageQuality-fgm: 0.88 [14/16]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:53:35 Z

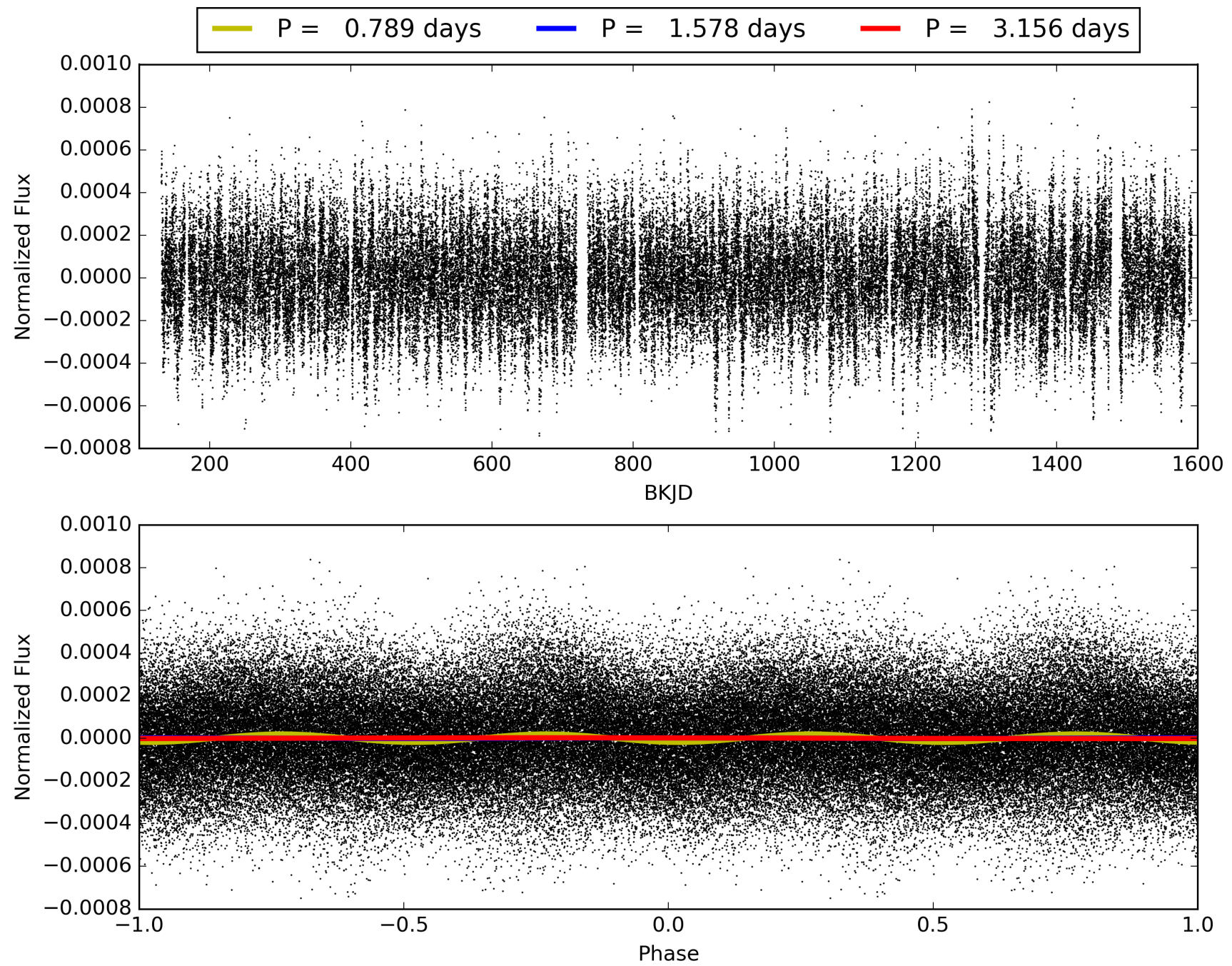
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006765575-01, PDC Light Curves





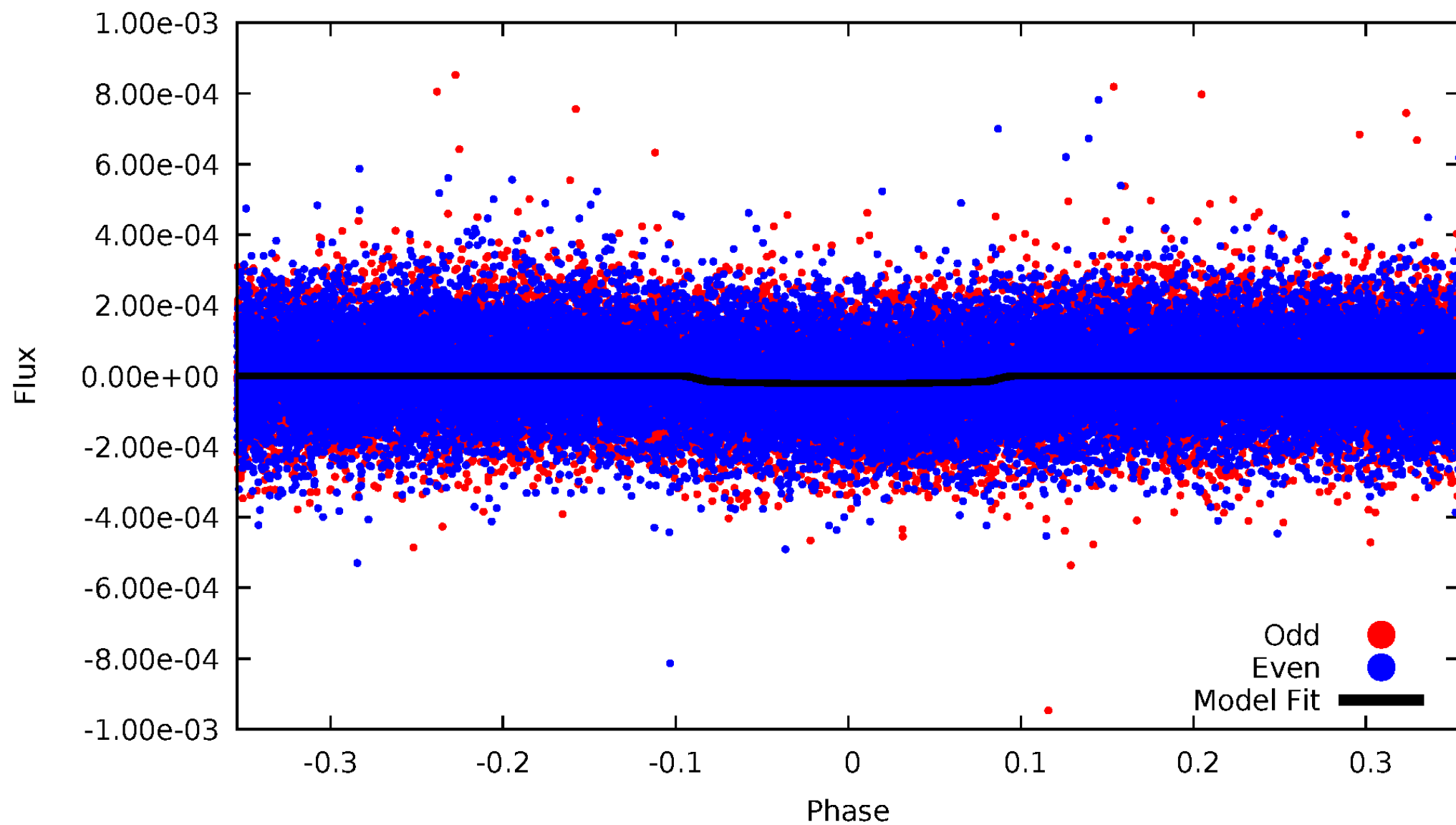
TCE 006765575-01





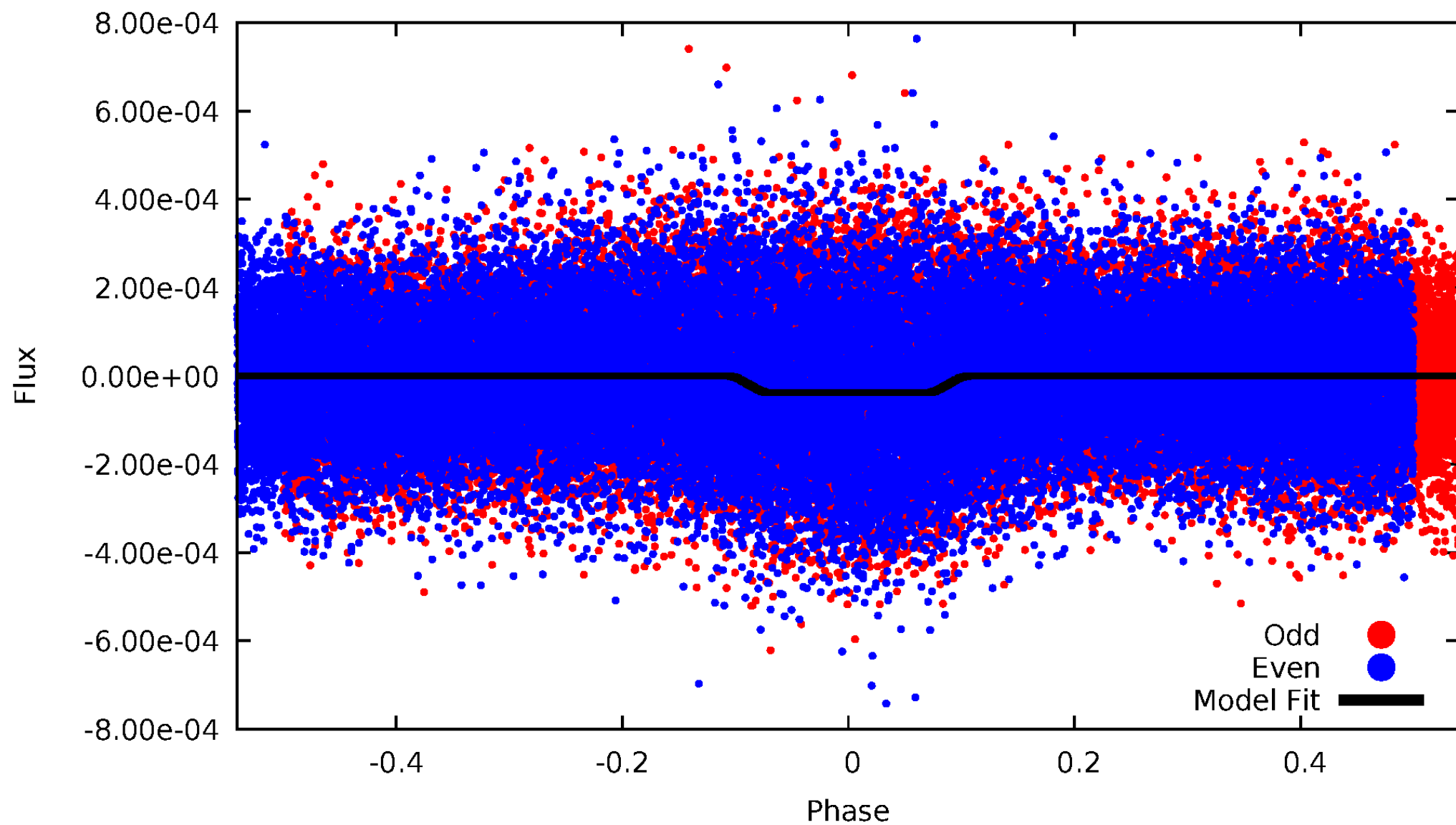
# DV Odd/Even

TCE 006765575-01

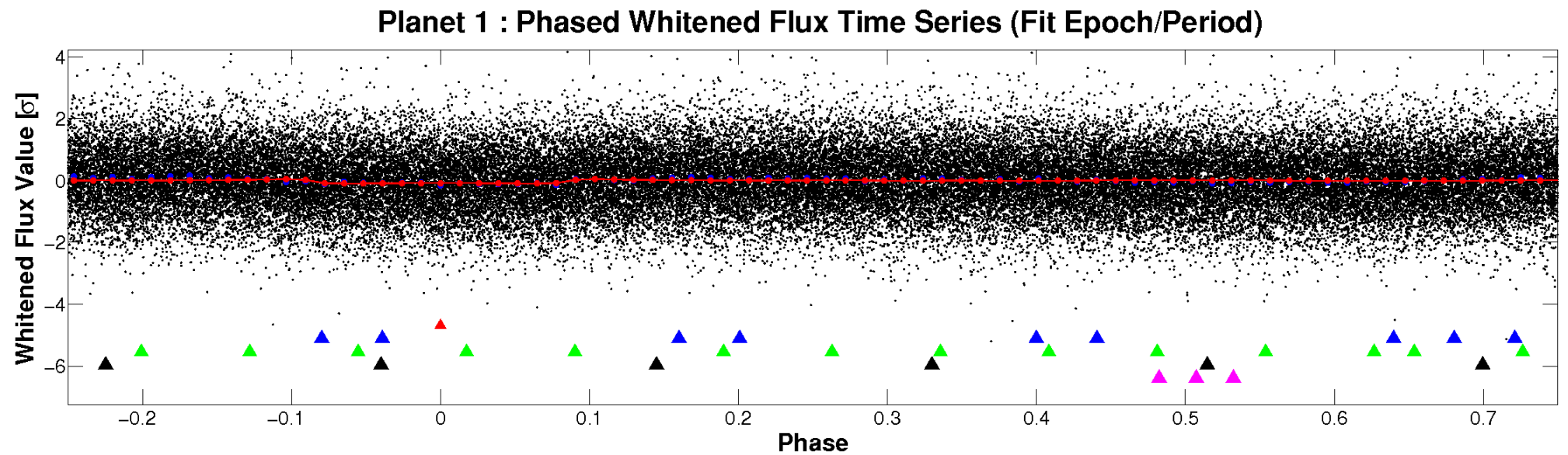
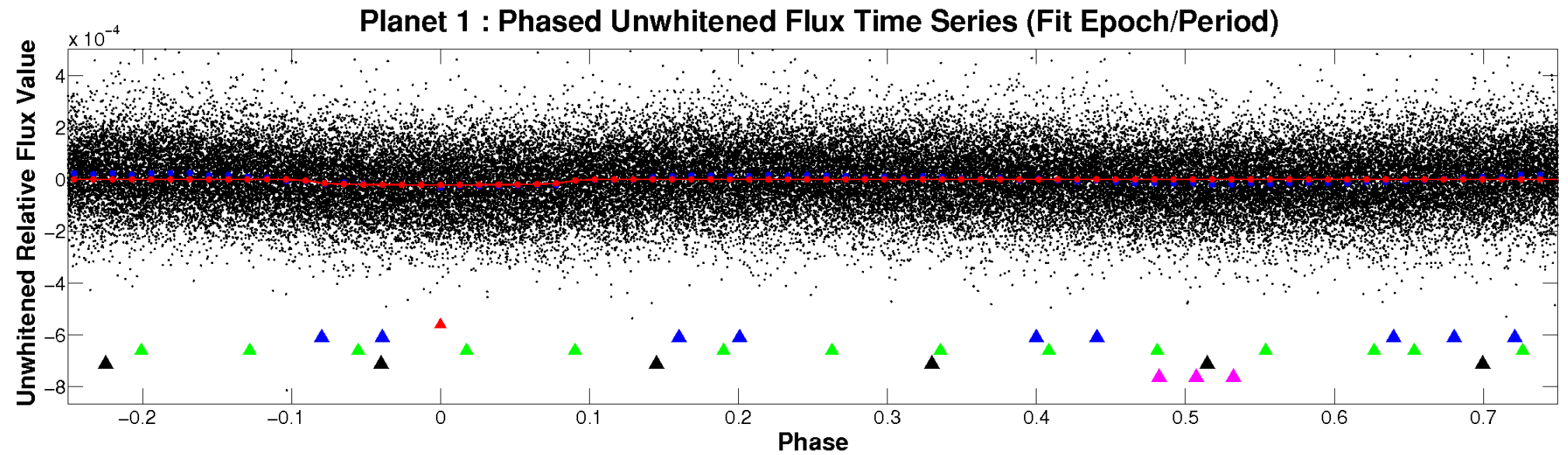


# ALT Odd/Even

TCE 006765575-01



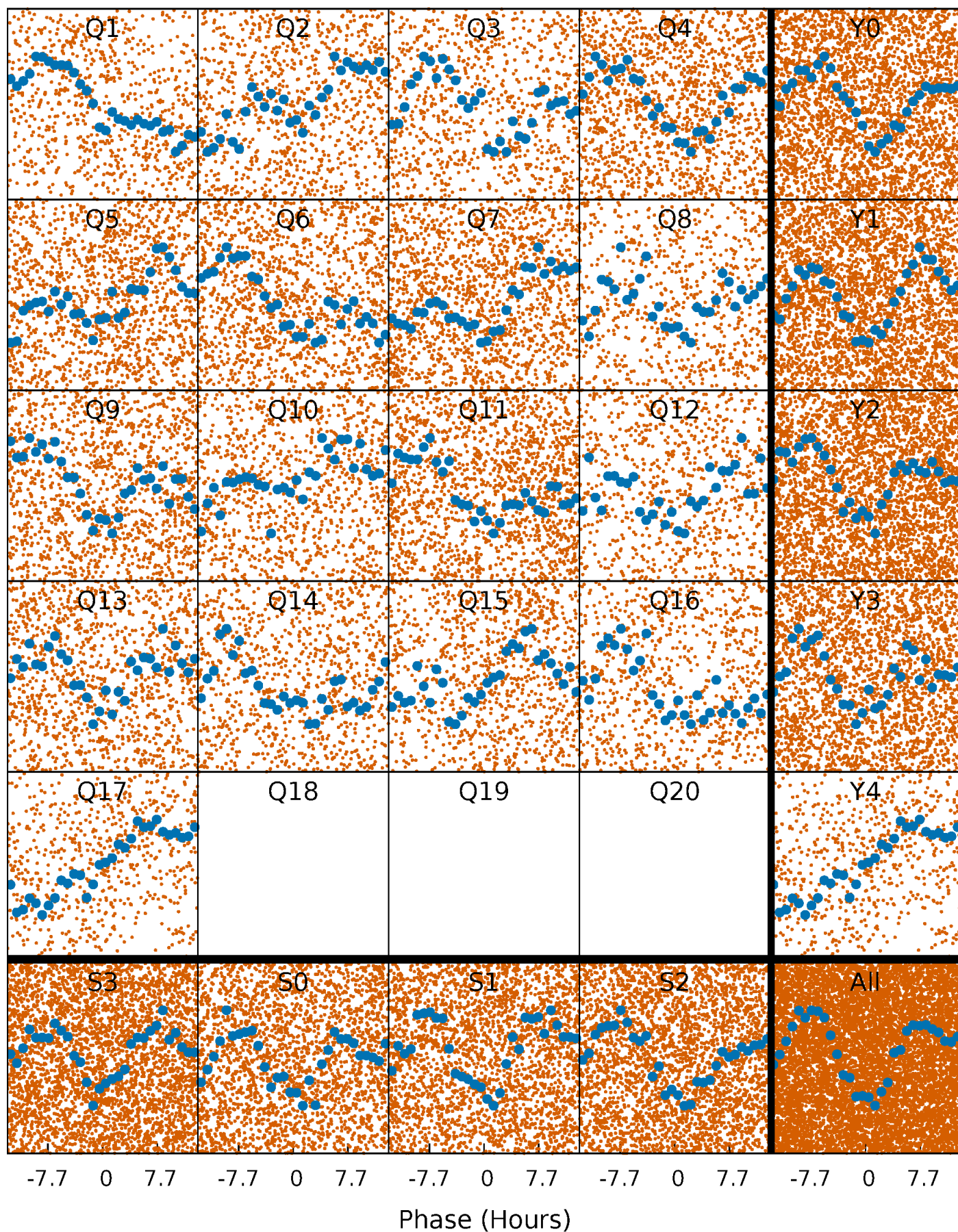
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

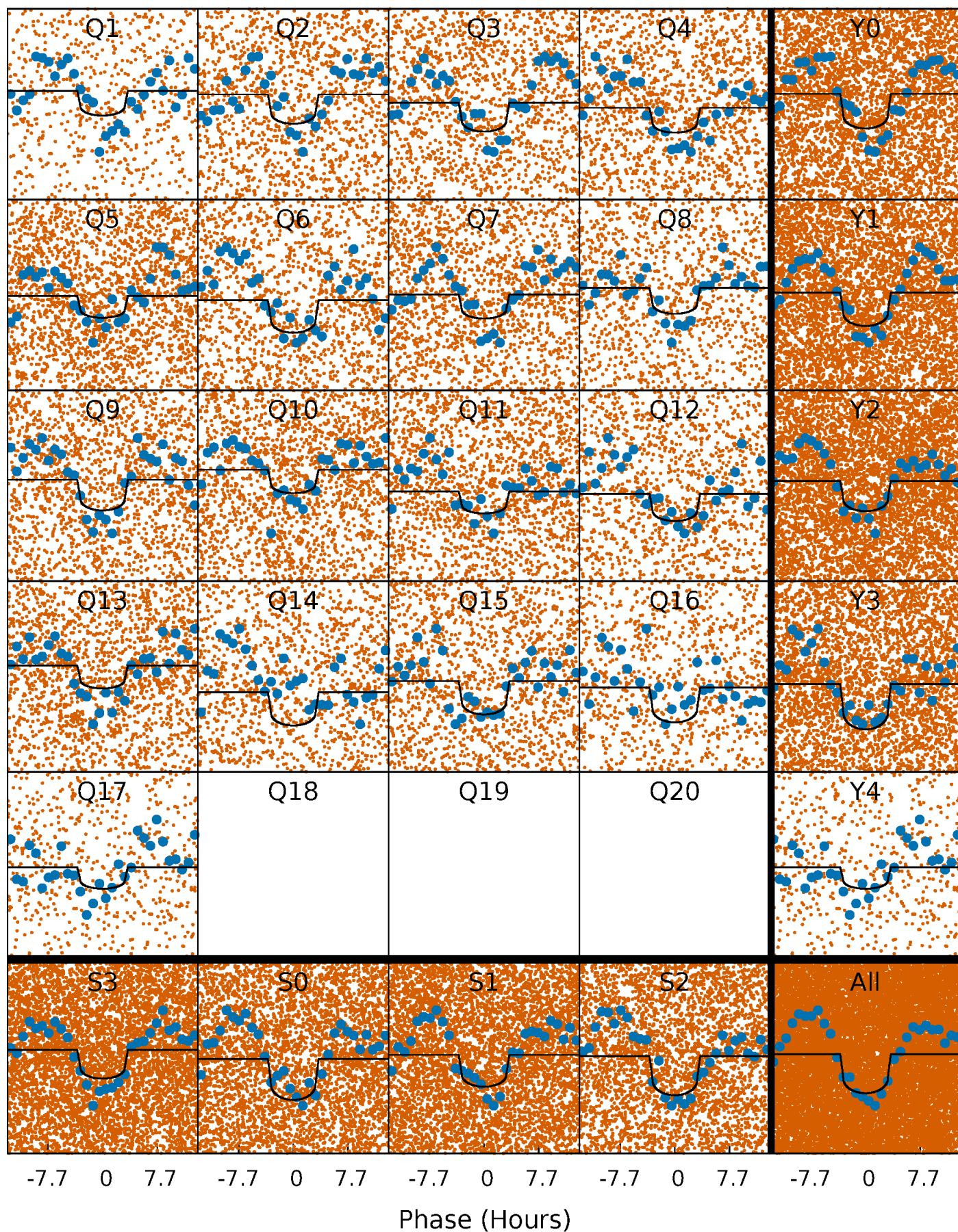
TCE 006765575-01 P= 1.578006 Days  $T_0=133.046639$  (BKJD)





# DV Quarter-Phased Transit Curves

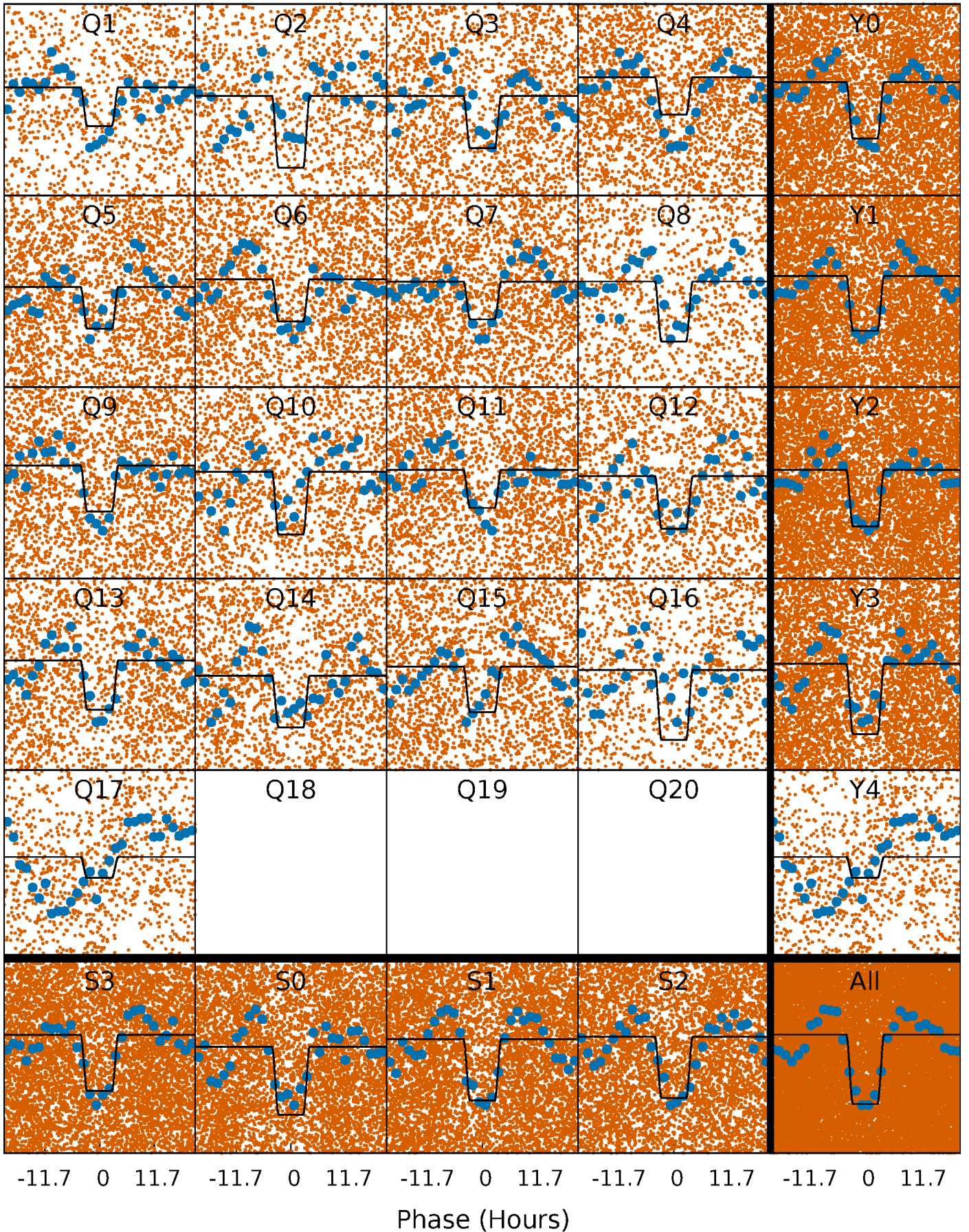
TCE 006765575-01 P= 1.578006 Days  $T_0=133.046639$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 006765575-01 P= 1.577876 Days  $T_0=133.102081$  (BKJD)

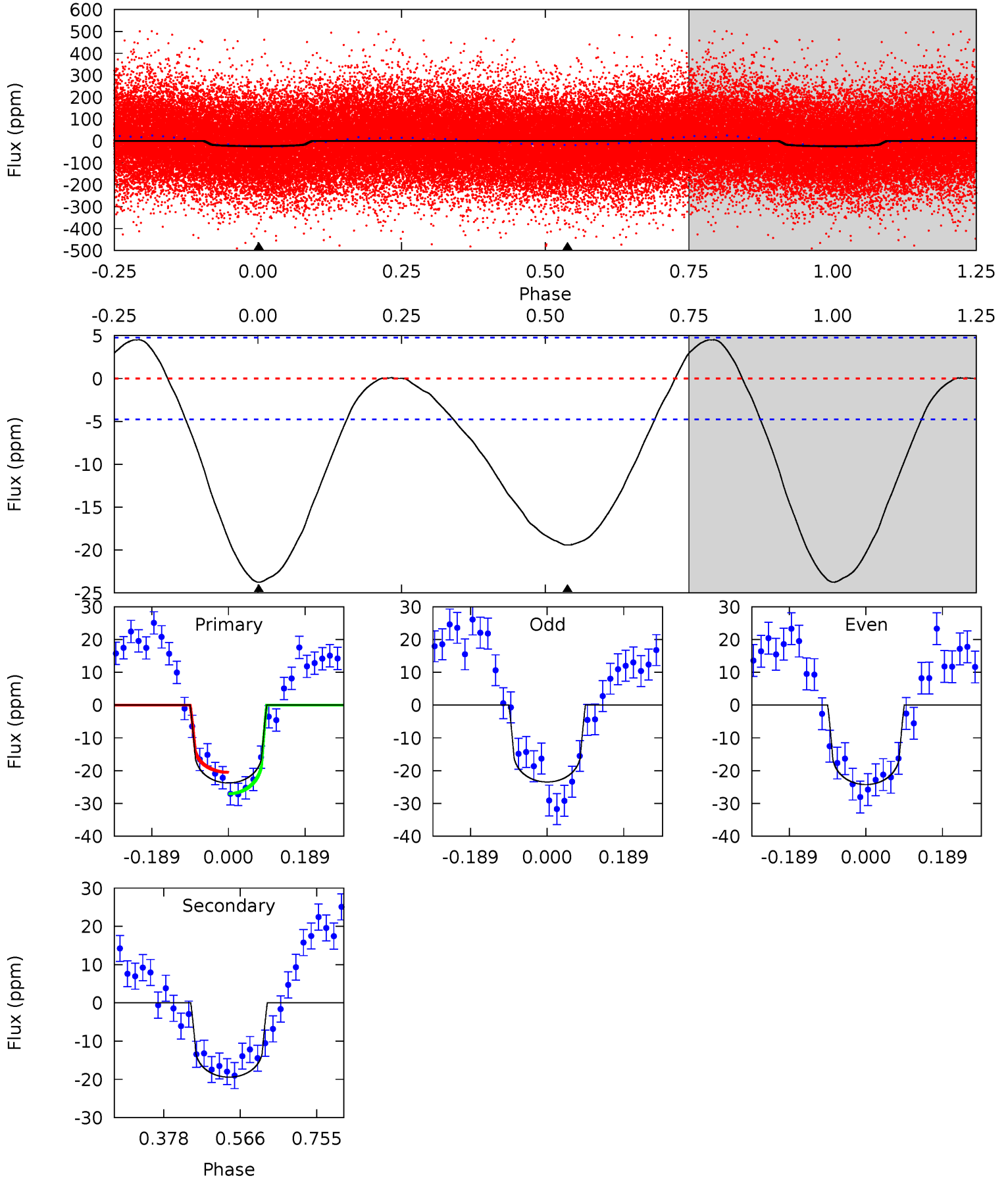




# DV Model-Shift Uniqueness Test

006765575-01, P = 1.578006 Days, E = 131.468633 Days

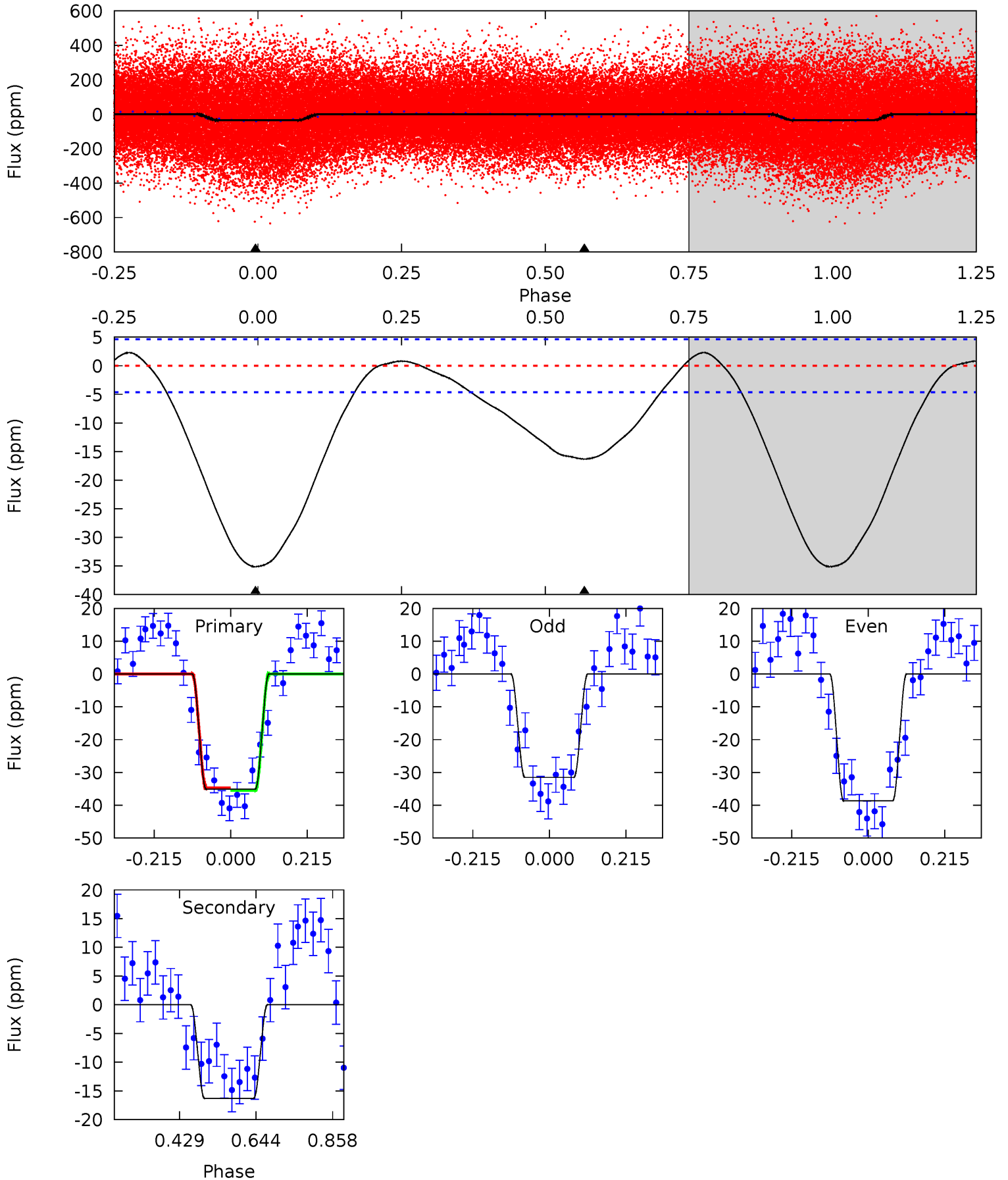
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	18.0	0	0	4.43	1.31	2.59	22.1	22.1	18.0	18.0	0.37	1.03	0.16	3.04



# Alt Model-Shift Uniqueness Test

006765575-01, P = 1.577876 Days, E = 129.946329 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
33.3	15.4	0	0	4.40	1.24	1.19	33.3	33.3	15.4	15.4	3.37	0.75	0.06	0.39



### Stellar Parameters For KIC 006765575

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7061^{+188}_{-230}$	$3.843^{+0.292}_{-0.097}$	$-0.460^{+0.300}_{-0.250}$	$2.387^{+0.448}_{-0.768}$	$1.447^{+0.225}_{-0.275}$	$0.150^{+0.271}_{-0.047}$
	+3%/-3%	+8%/-3%	+65%/-54%	+19%/-32%	+16%/-19%	+181%/-31%
Source	PHO1	FLK73	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 006765575-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-19 \pm 1$	$1.02^{+0.66}_{-0.51}$	$3798^{+228}_{-317}$	$7125^{+4366}_{-1538}$	$9.176^{+26.941}_{-5.704}$
Alt.	$-16 \pm 1$	$1.57^{+0.61}_{-0.58}$	$3803^{+237}_{-326}$	$5455^{+1417}_{-744}$	$3.330^{+4.978}_{-1.556}$

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



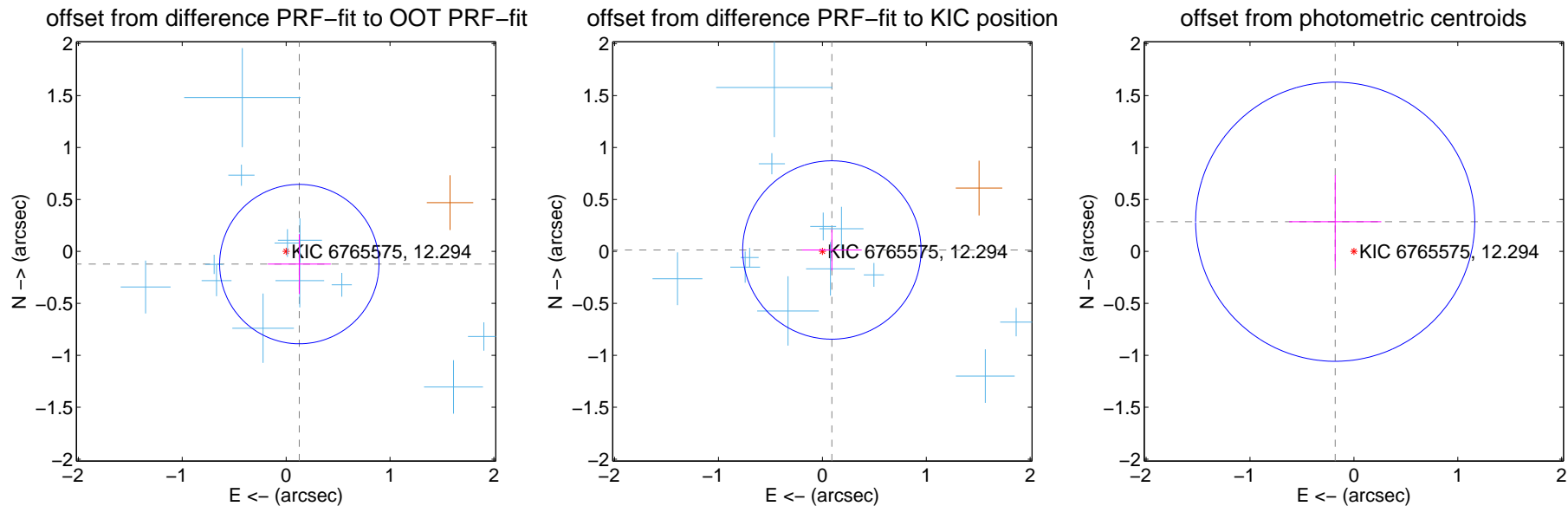
## DV Centroid Data

Supplemental centroid analysis for 006765575-01. Kepler magnitude: 12.29. Transit SNR 9.62

There are 14 quarters with good PRF difference image offsets

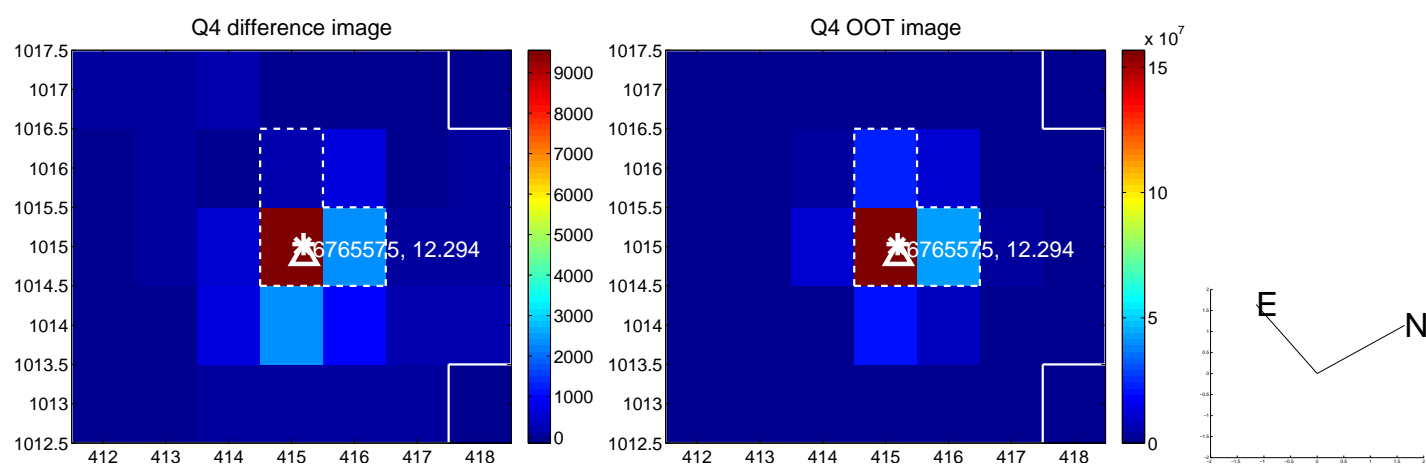
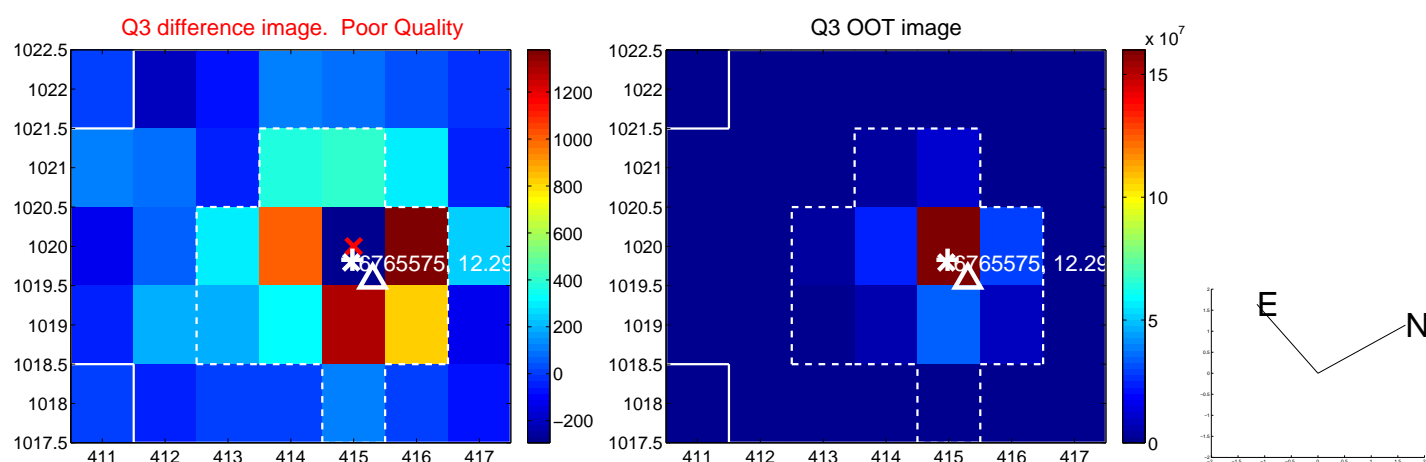
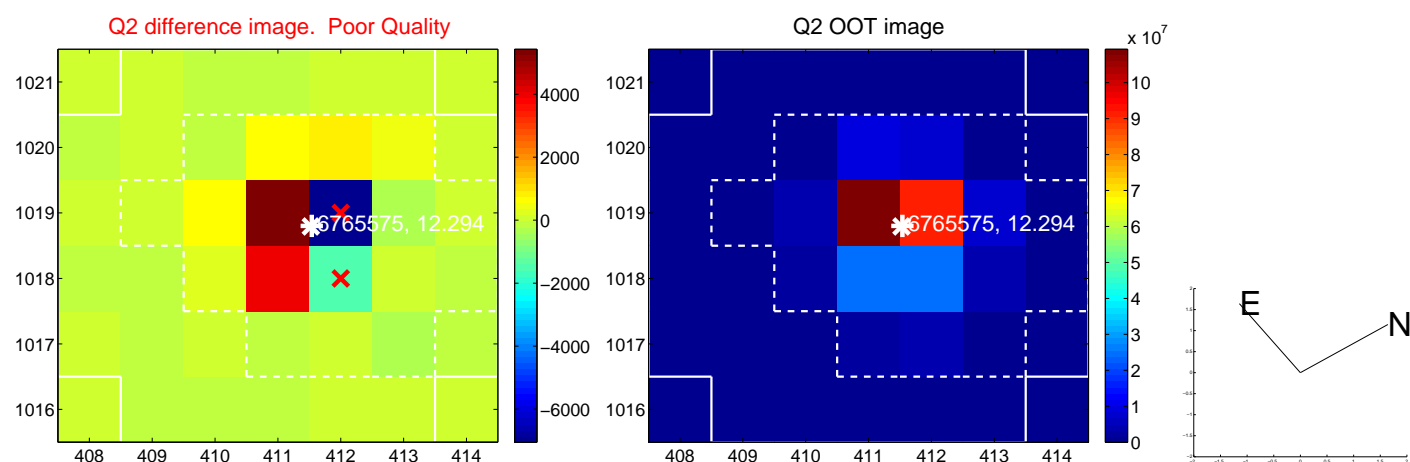
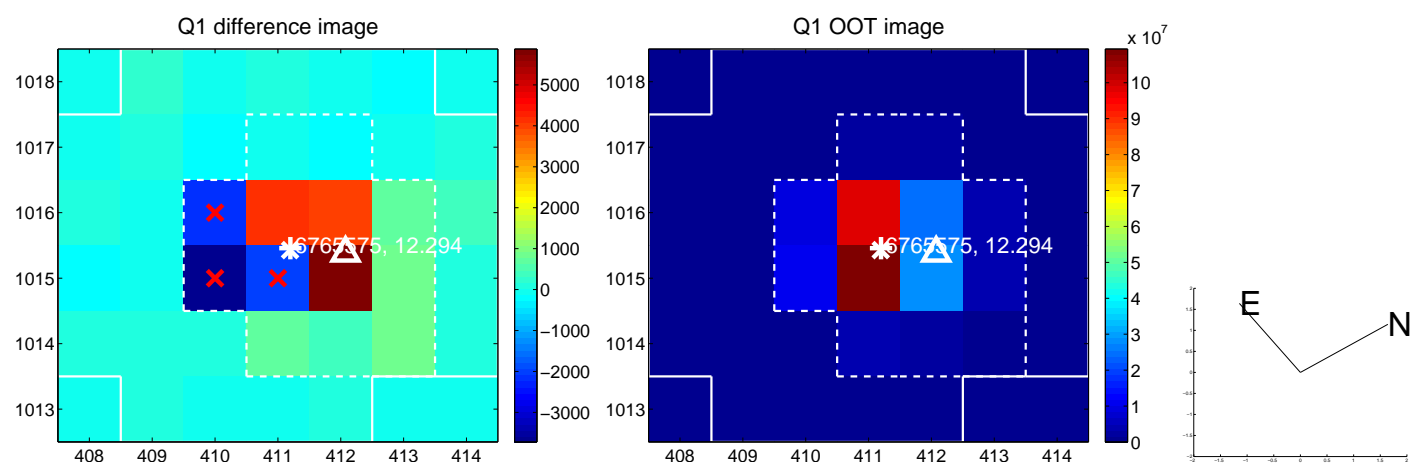
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.176 \pm 0.256$	0.69	$-0.127 \pm 0.304$	$-0.122 \pm 0.288$
PRF-fit source offset from KIC position	$0.092 \pm 0.286$	0.32	$-0.091 \pm 0.288$	$0.014 \pm 0.198$
photometric centroid source offset	$0.34 \pm 0.45$	0.75	$0.18 \pm 0.44$	$0.29 \pm 0.45$

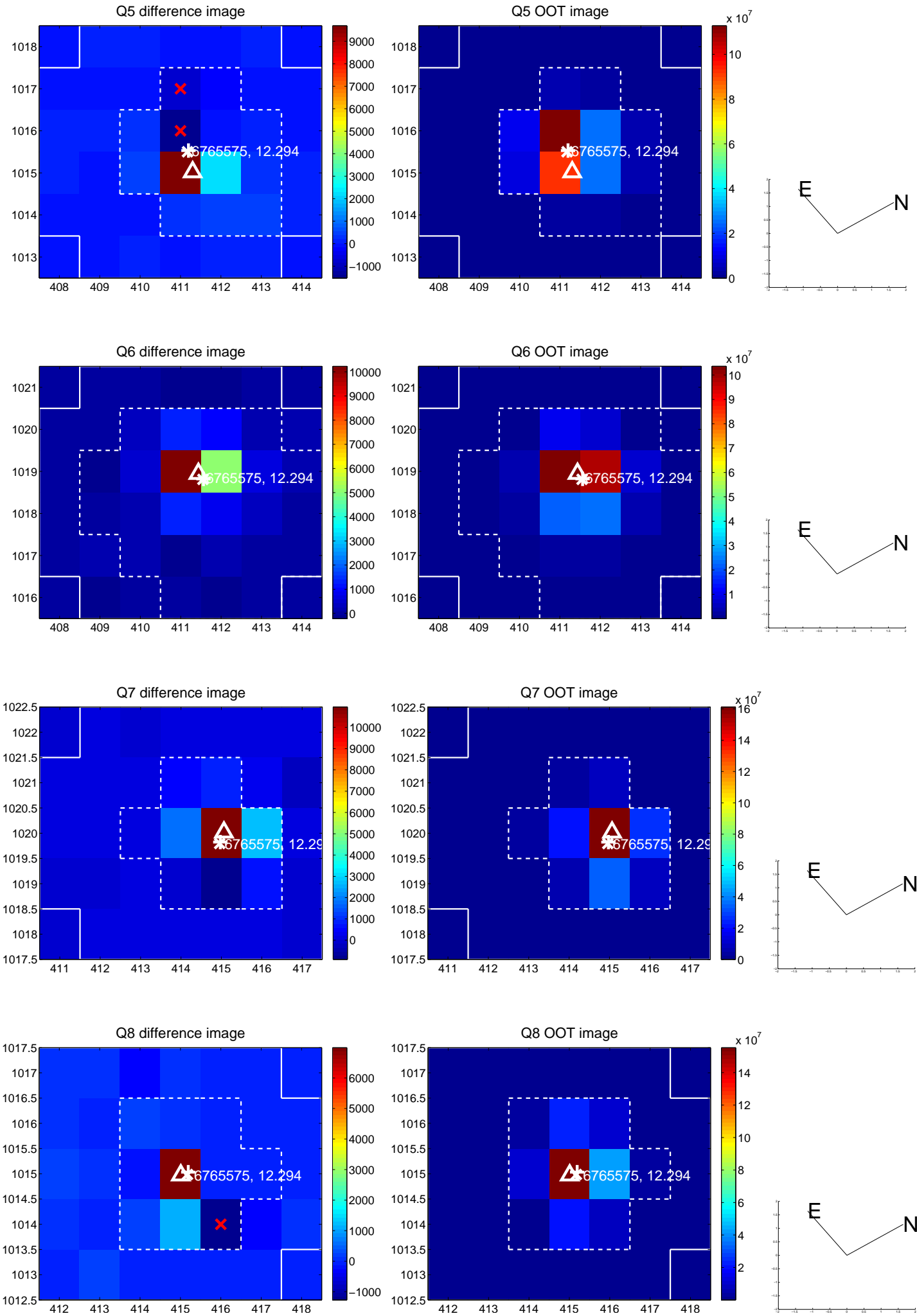


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

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

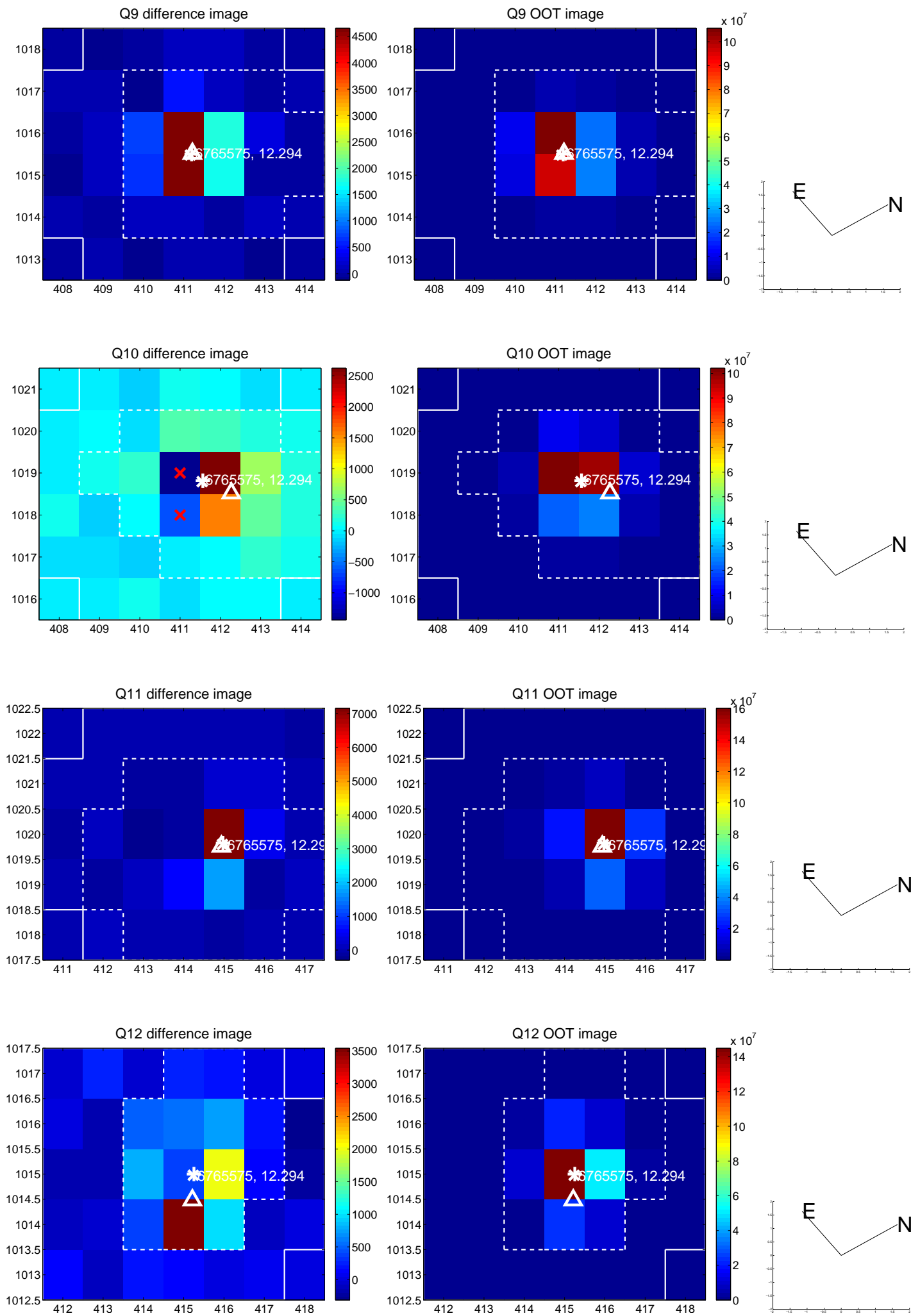


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

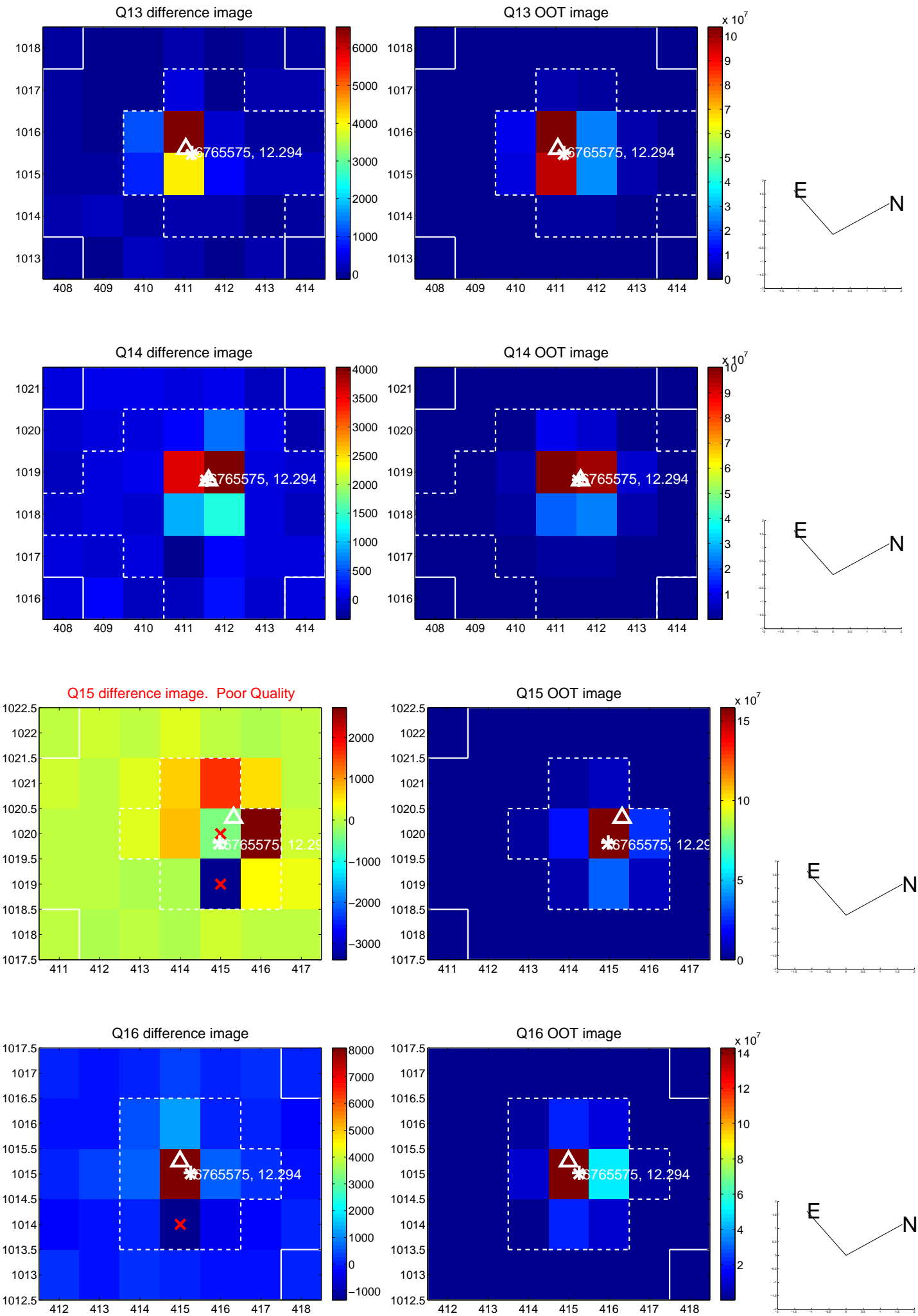




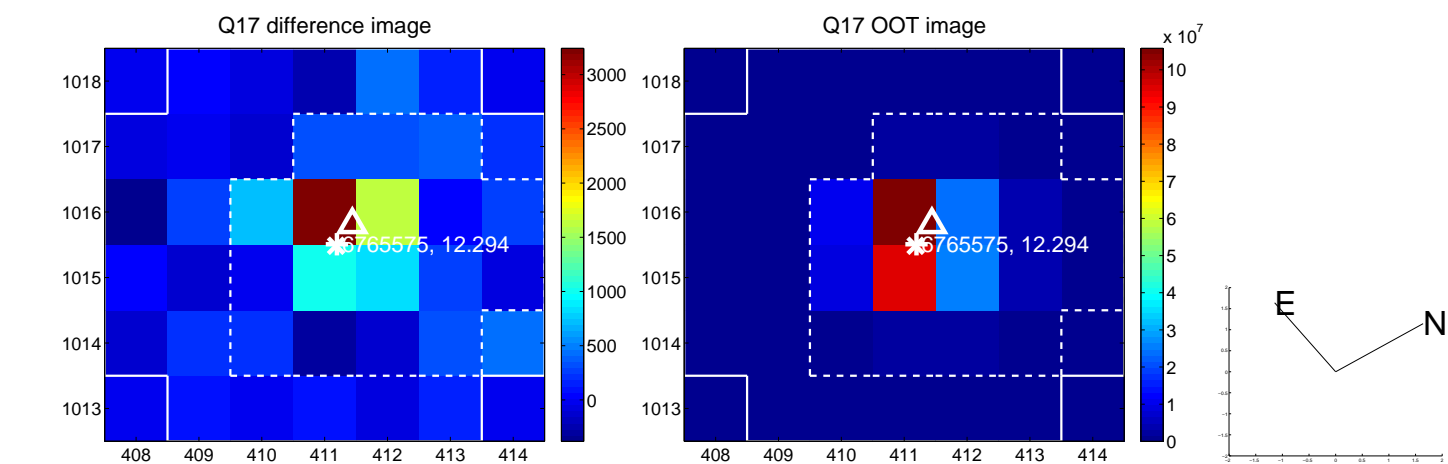
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



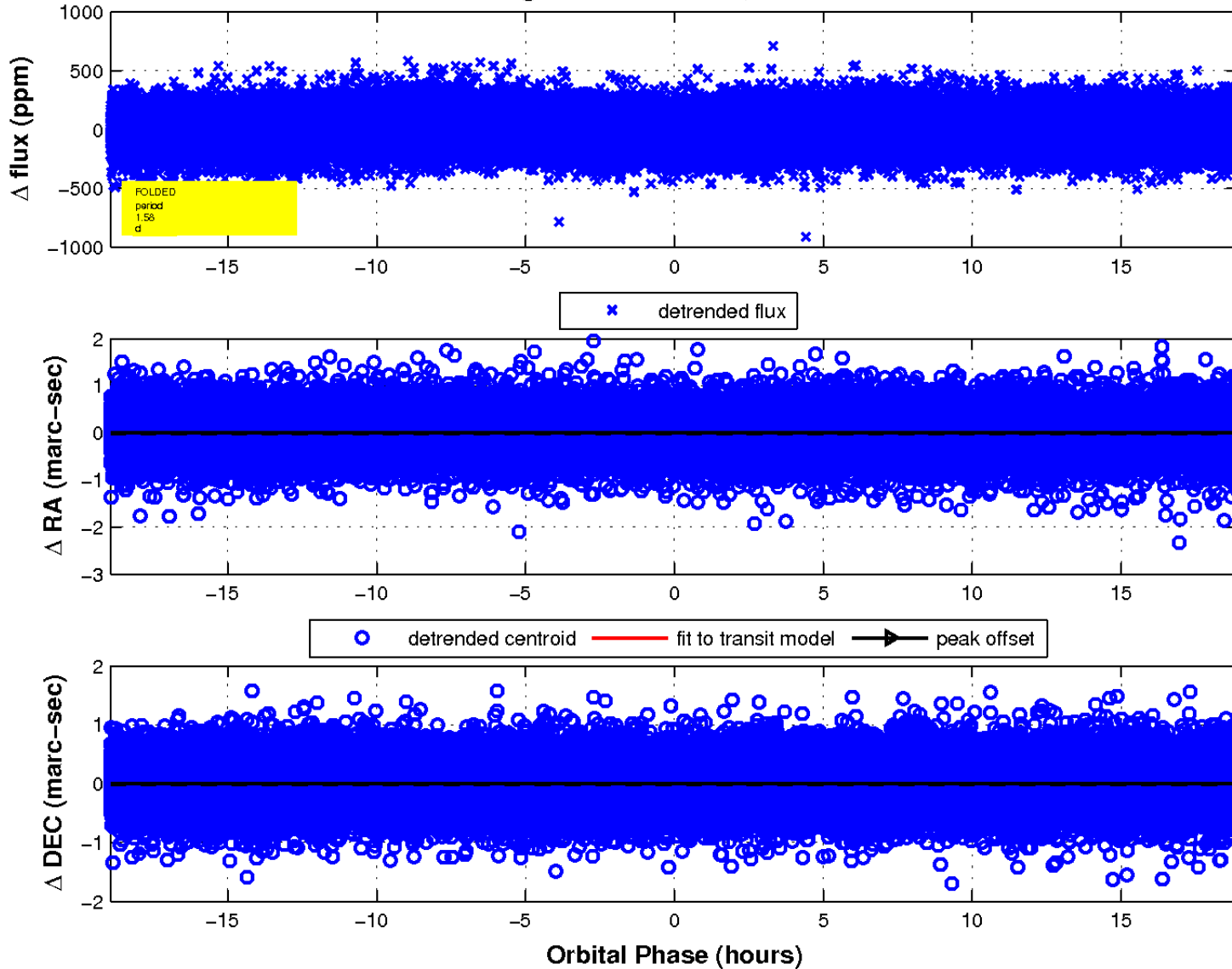
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

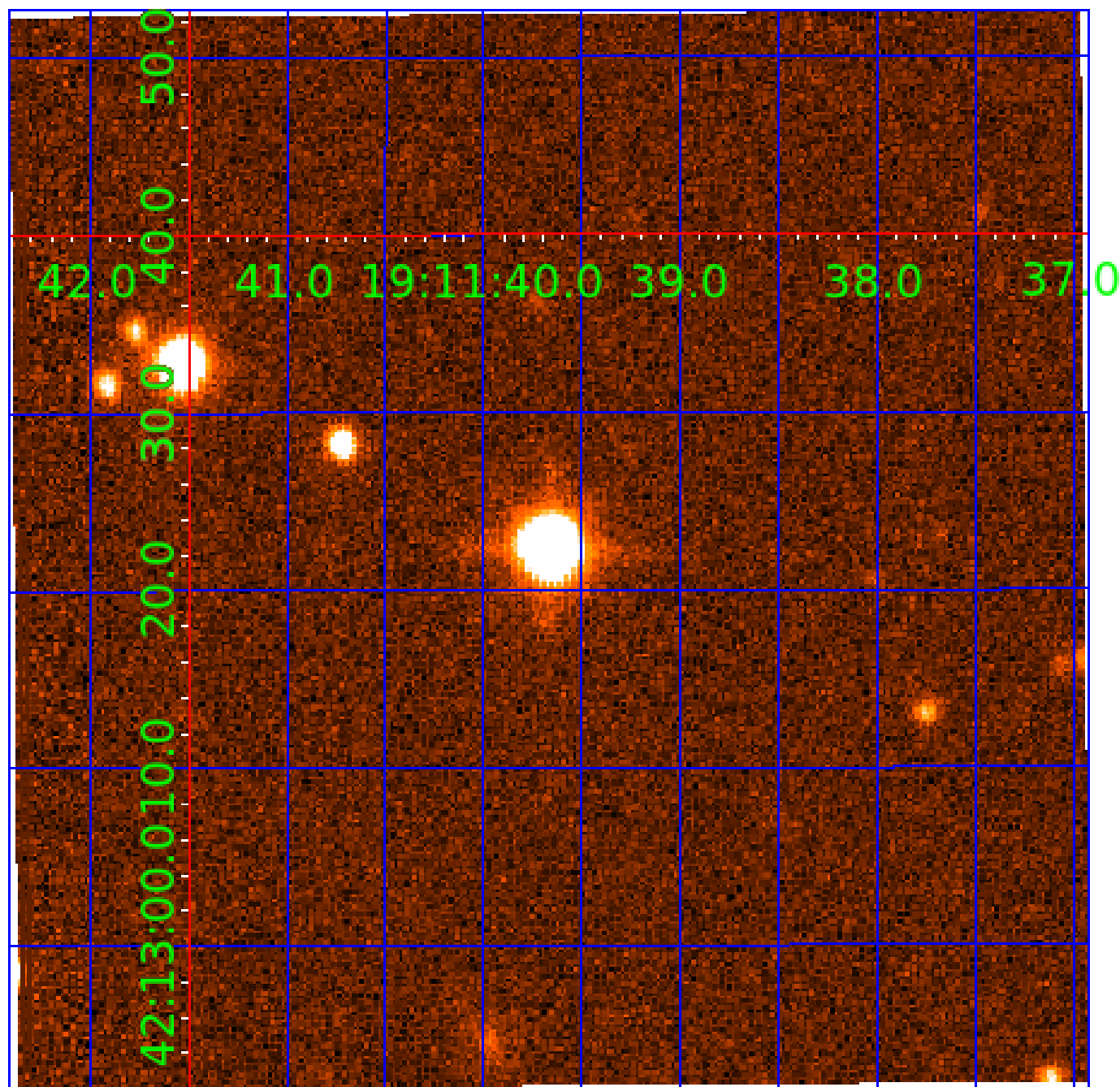


fluxWeightedCentroids, Planet 1 of 5



UKIRT Image

Declination





# KIC 006765575

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006765575-01	OBS	No	1.578006	133.046639	21.3	6.704	9.1	9.6	2.39	7061	1.11	14085.83
006765575-02	OBS	No	165.312177	253.984695	150.9	12.185	7.9	6.2	2.39	7061	3.13	28.52
006765575-03	OBS	No	106.572825	189.308314	128.7	10.802	8.0	6.3	2.39	7061	3.01	51.22
006765575-04	OBS	No	258.501283	157.820671	244.4	4.508	7.6	7.7	2.39	7061	4.14	15.71
006765575-05	OBS	No	672.191229	148.088610	209.7	6.213	7.5	7.4	2.39	7061	3.82	4.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006765575-01	OBS	FP	0.00	1	0	0	0	LPP_DV
006765575-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006765575-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV
006765575-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
006765575-05	OBS	FP	0.00	1	0	0	0	LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

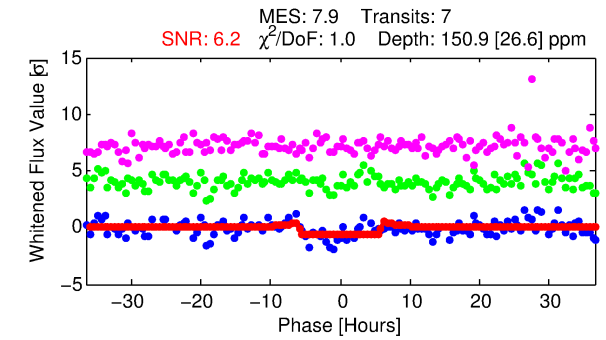
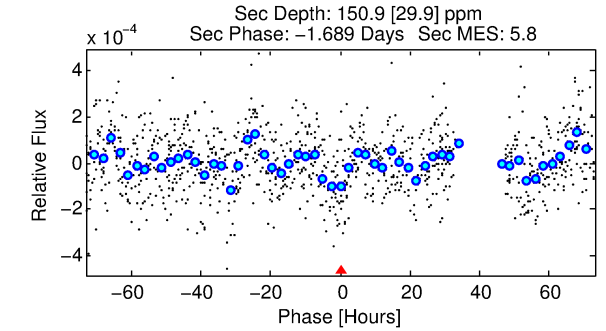
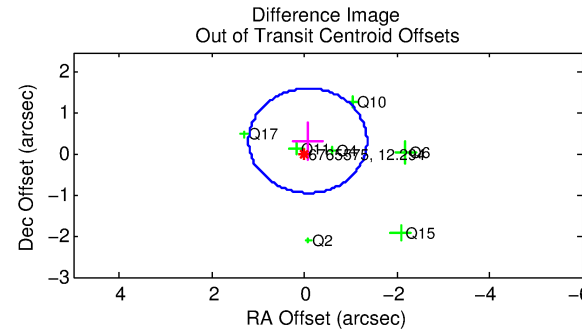
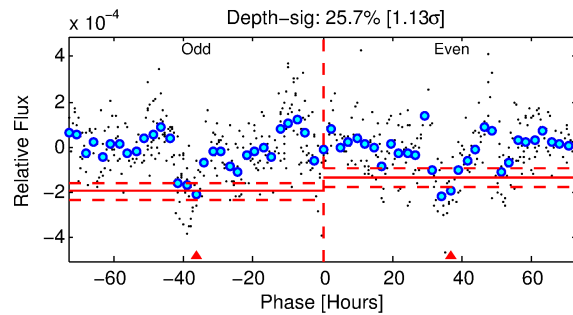
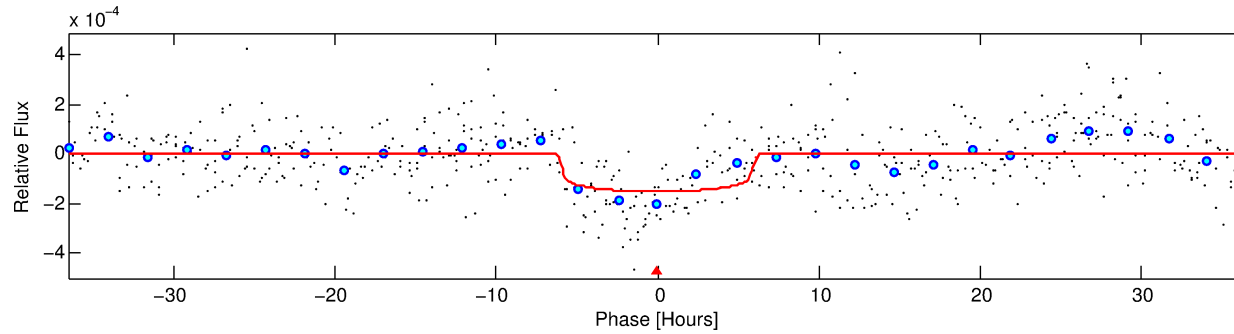
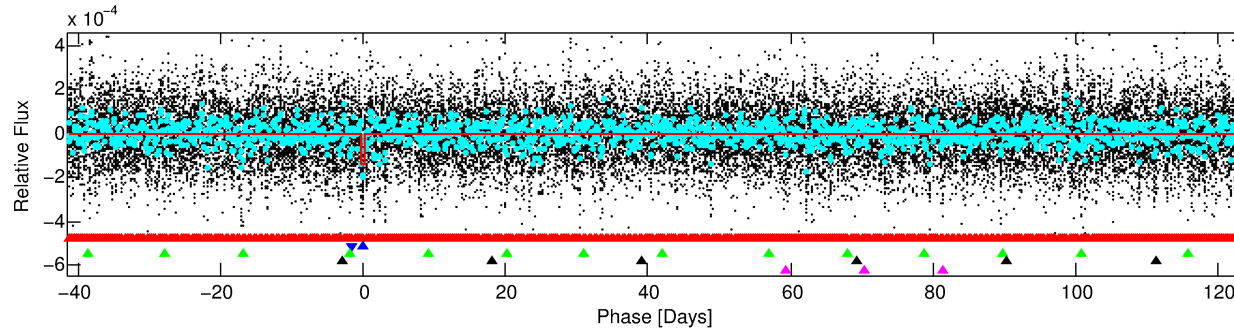
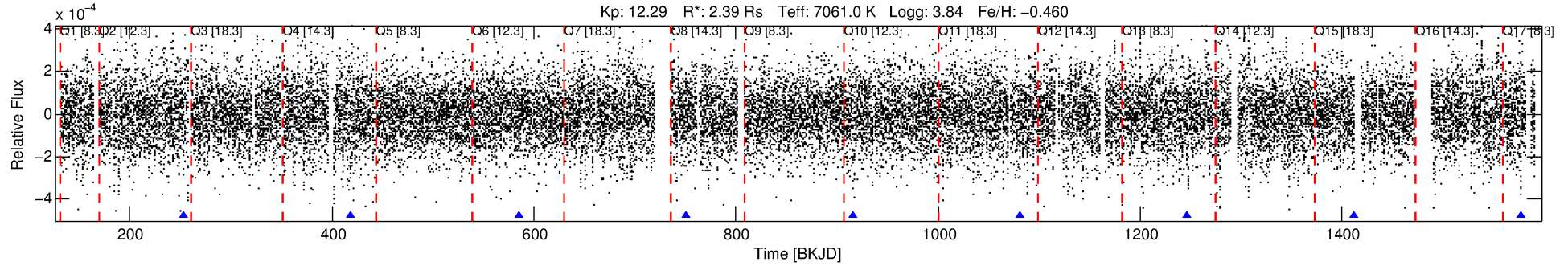
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006765575-02

No Significant Match Found

# DV One-Page Summary

KIC: 6765575 Candidate: 2 of 5 Period: 165.312 d



## DV Fit Results:

Period = 165.31218 [0.00370] d  
Epoch = 253.9847 [0.0168] BKJD  
Rp/R\* = 0.0120 [0.0061]  
a/R\* = 77.14 [218.65]  
b = 0.69 [2.19]  
Seff = 28.52 [14.65]  
Teq = 589 [76] K  
Rp = 3.13 [1.88] Re  
a = 0.6670 [0.2069] AU  
Ag = 3772.72 [4319.31] [0.87σ]  
Teffp = 7140 [1856] K [3.53σ]

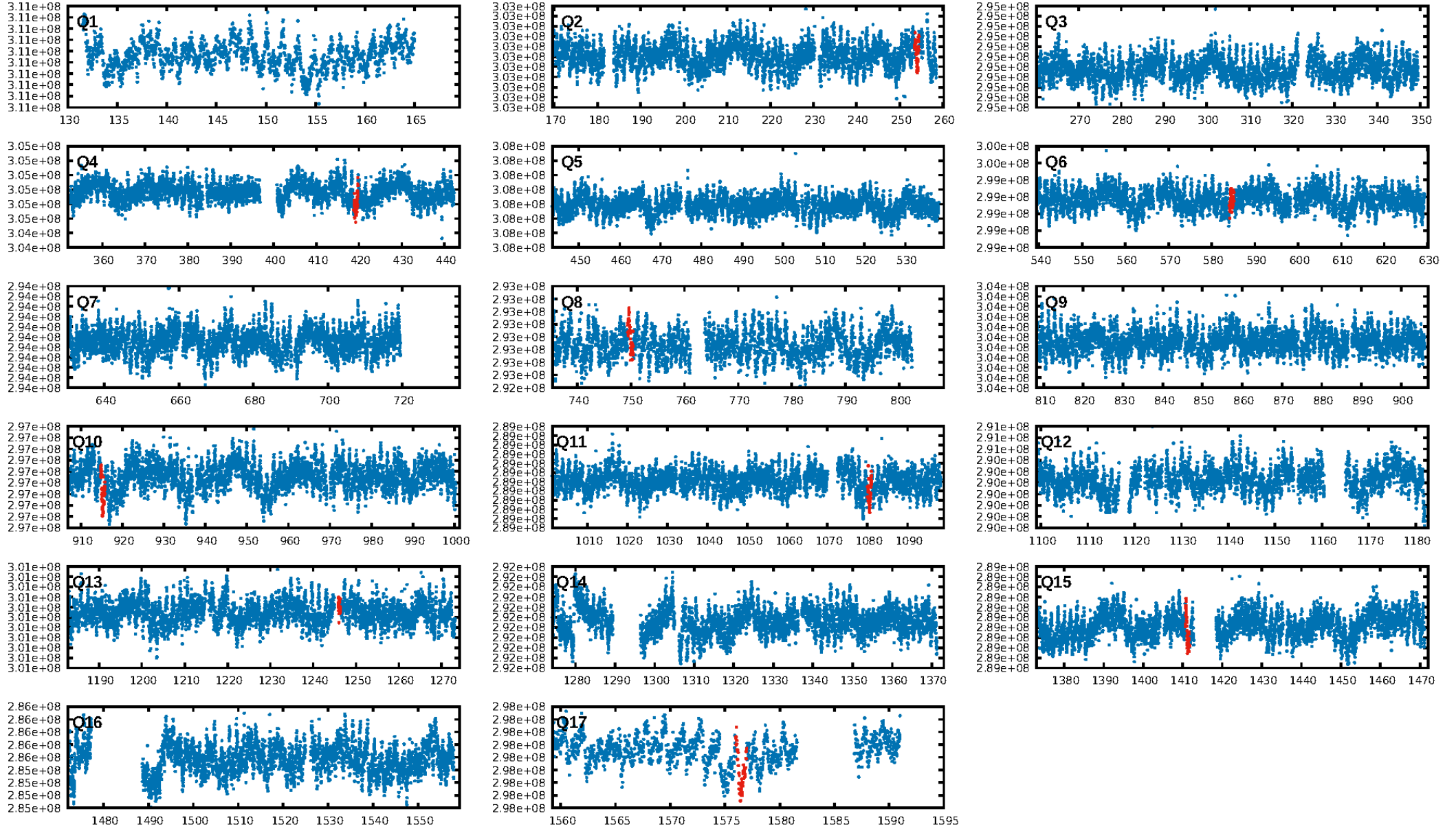
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [86.57σ]  
LongPeriod-sig: 100.0% [172.15σ]  
ModelChiSquare2-sig: 8.1%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 5.18e-10  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: -5.695  
Centroid-sig: 1.3%  
Centroid-so: 1.119 arcsec [2.14σ]  
OotOffset-rm: 0.344 arcsec [0.81σ]  
KicOffset-rm: 0.436 arcsec [0.92σ]  
OotOffset-st: 3/2/1/1 [7]  
KicOffset-st: 3/2/1/1 [7]  
DiffImageQuality-fgm: 0.86 [6/7]  
DiffImageOverlap-fno: 0.00 [0/8]

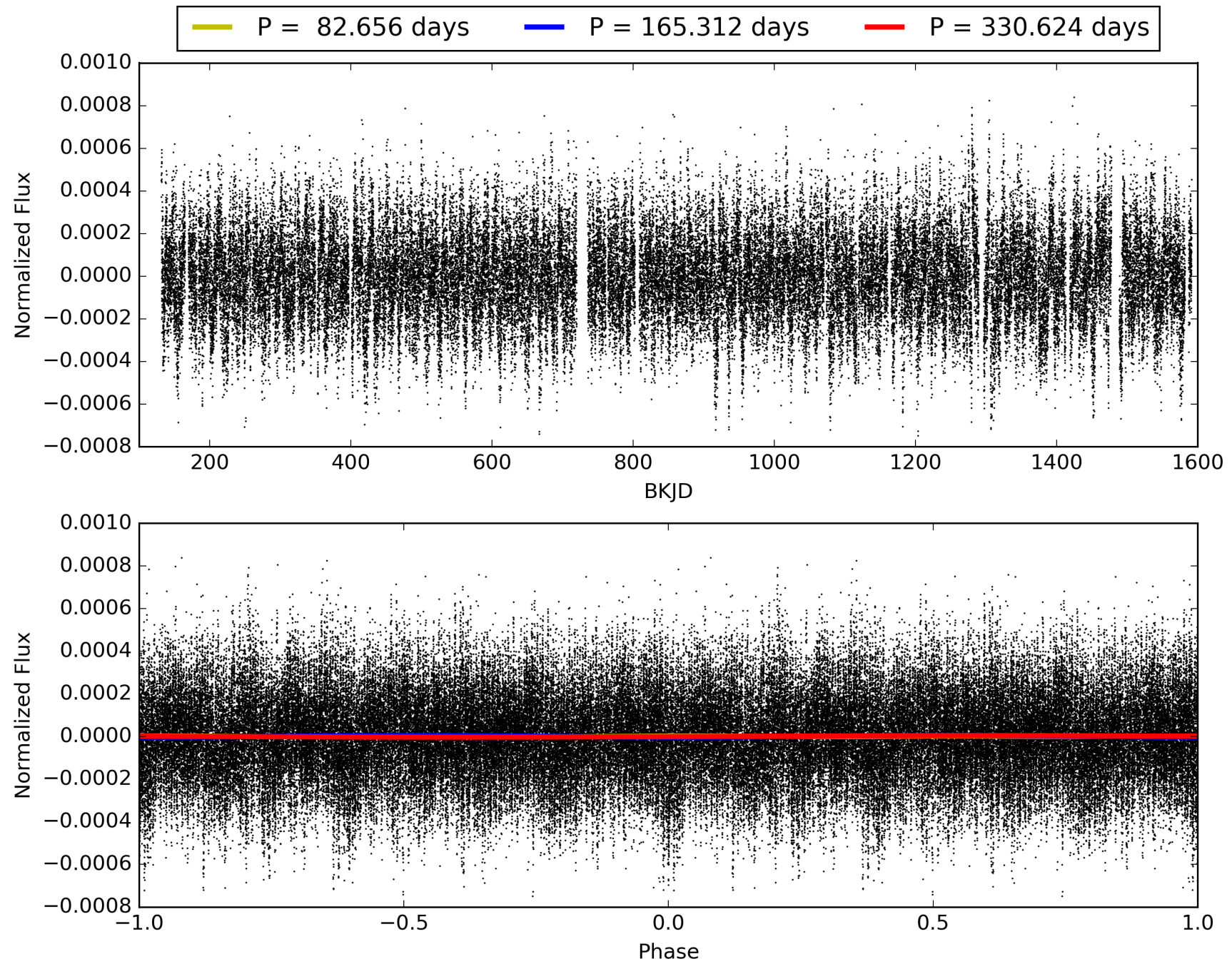
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:53:45 Z

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

# TCE 006765575-02, PDC Light Curves



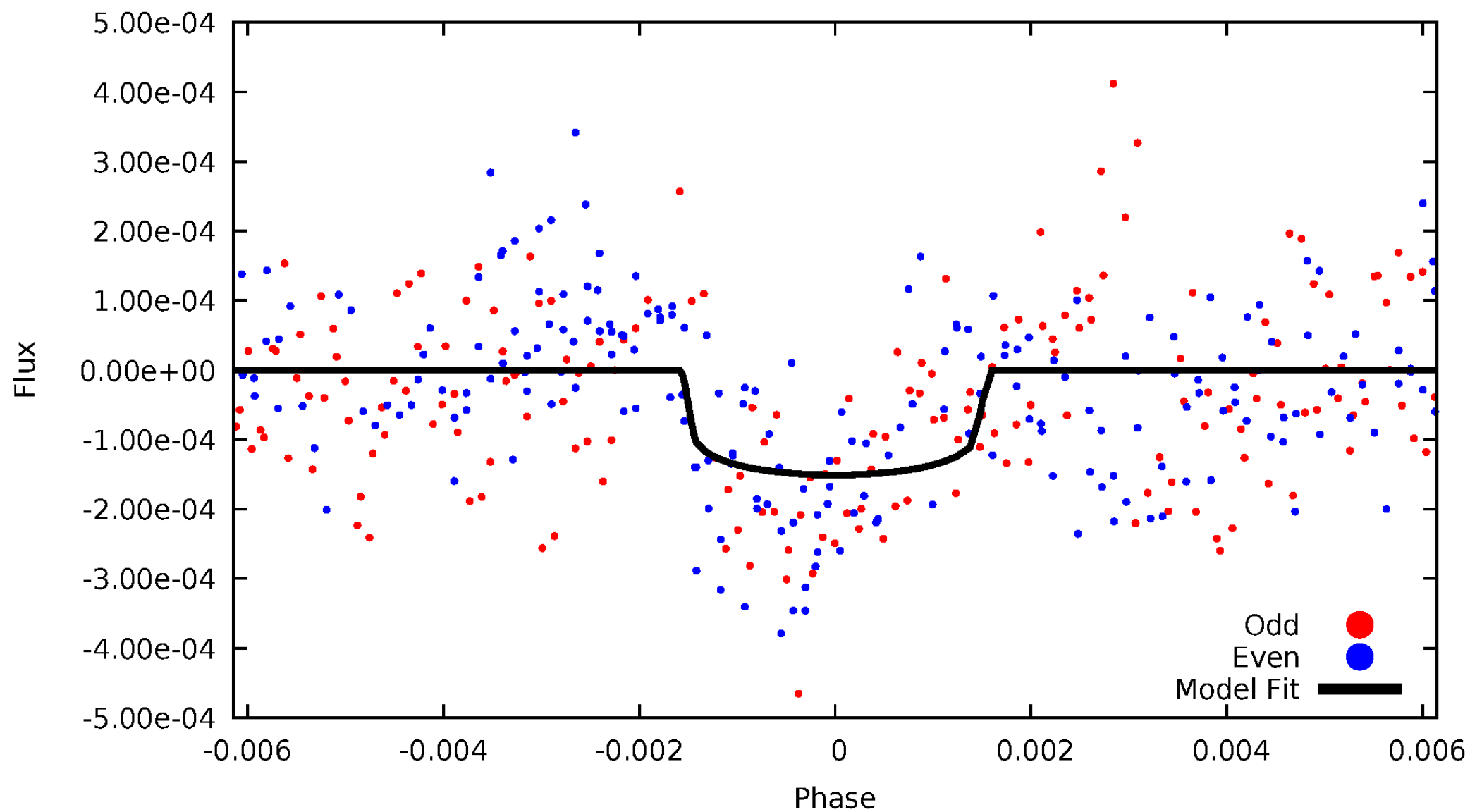
# TCE 006765575-02





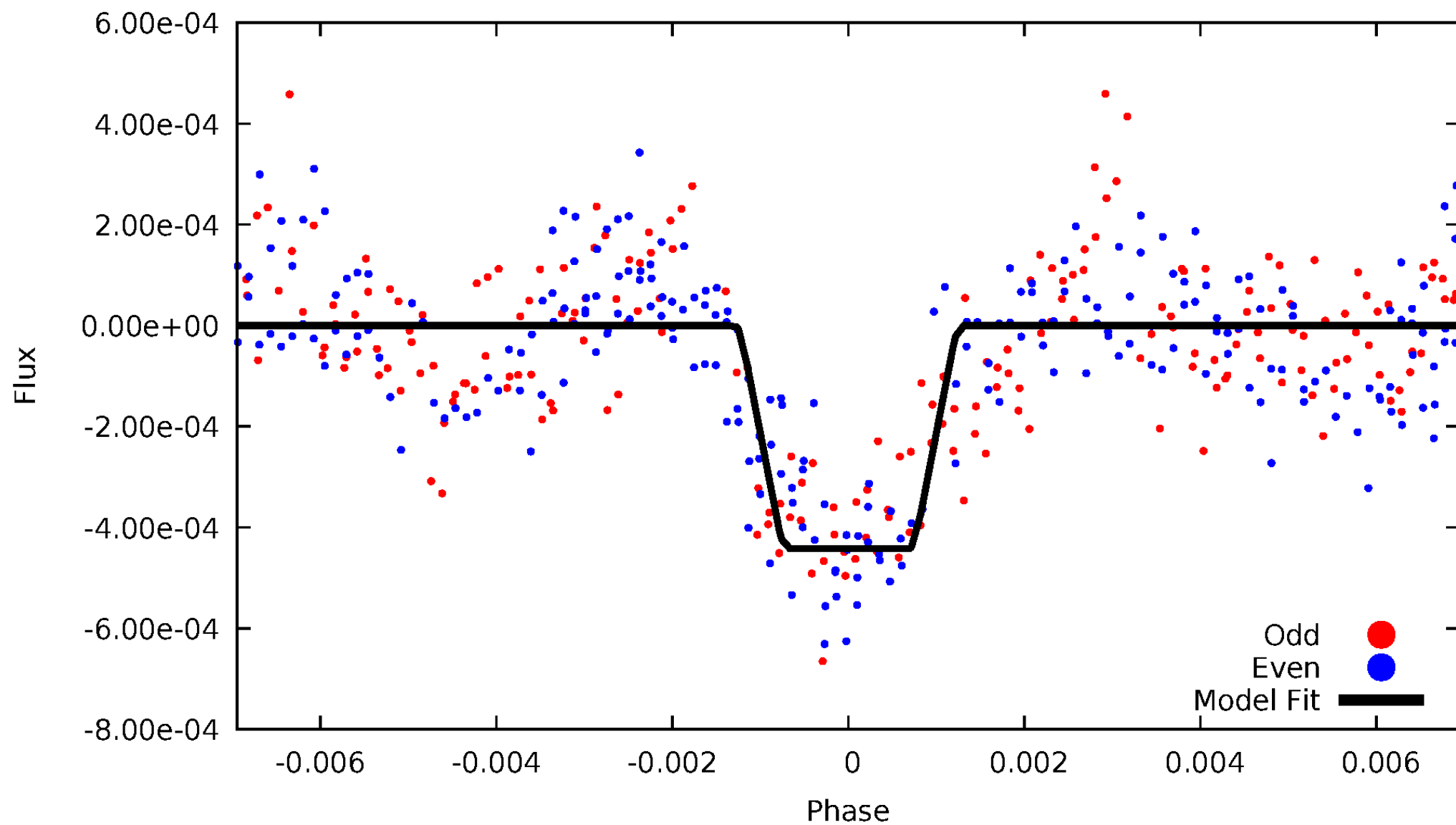
# DV Odd/Even

TCE 006765575-02



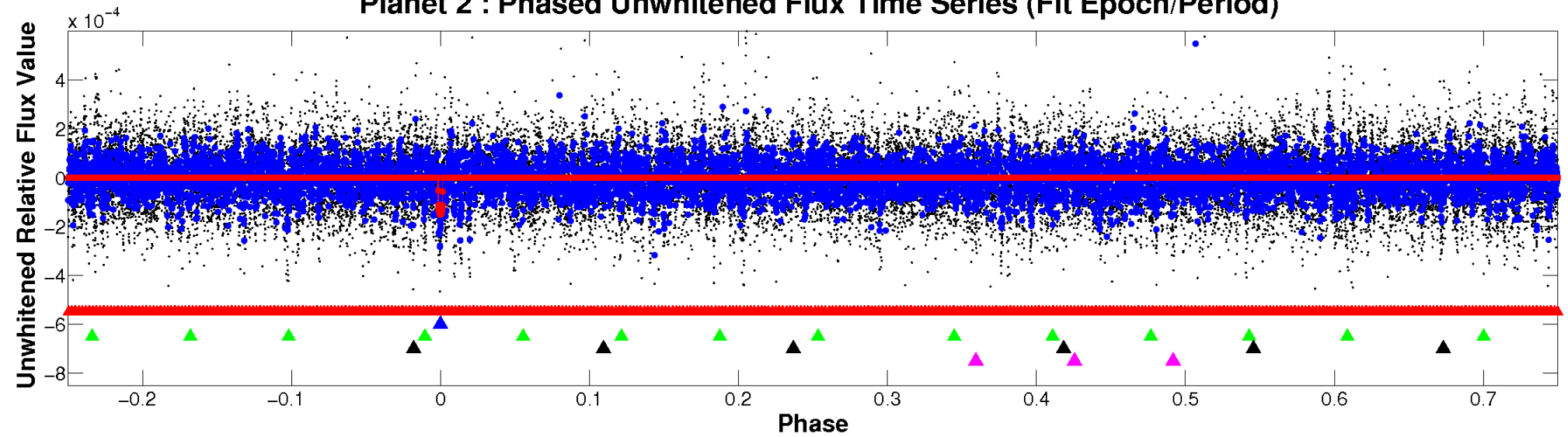
# ALT Odd/Even

TCE 006765575-02

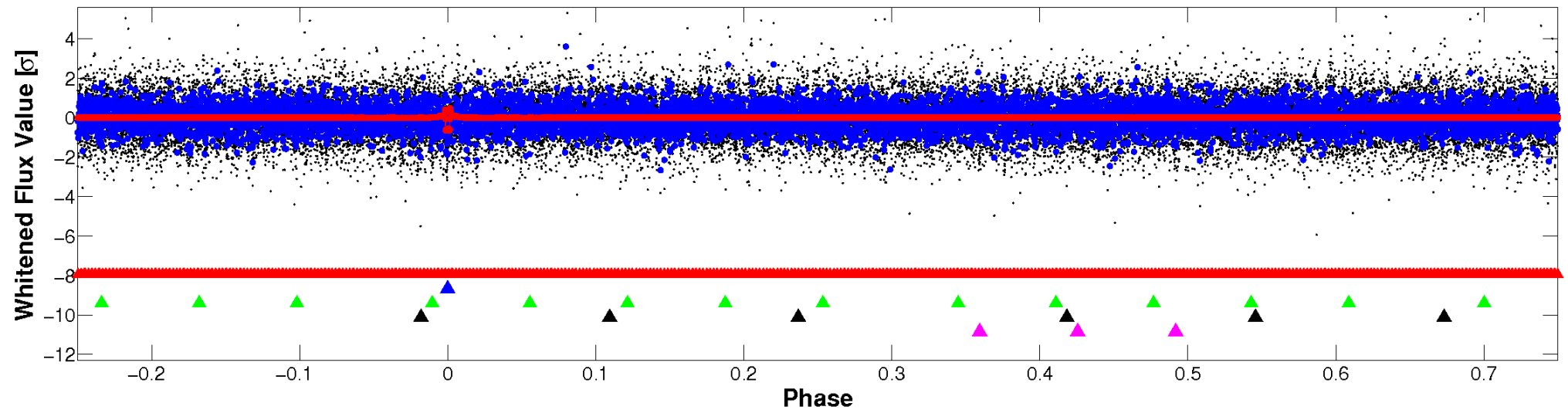


# Non-Whitened Vs. Whitened Light Curve

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

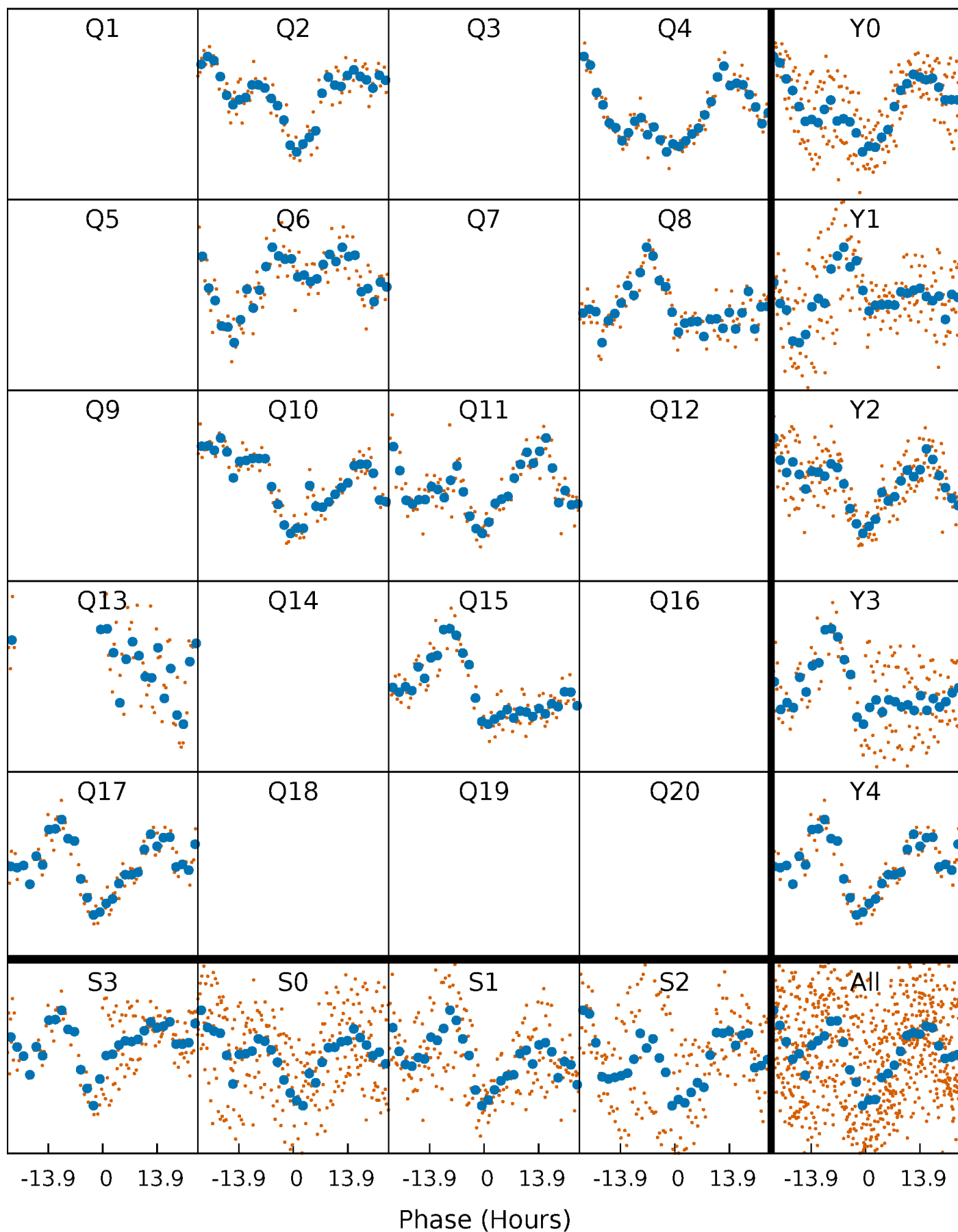


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

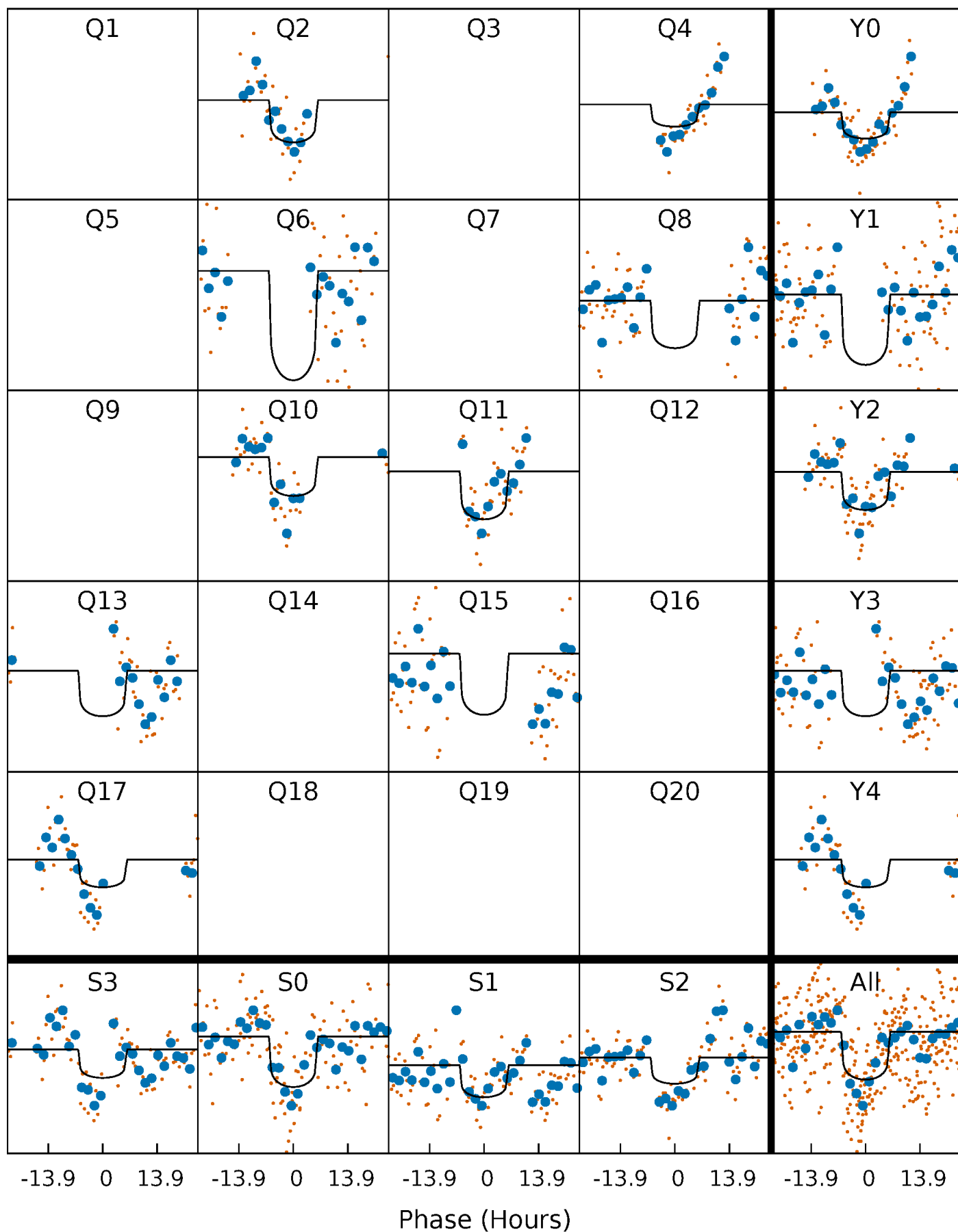
TCE 006765575-02 P=165.312177 Days  $T_0=253.984695$  (BKJD)





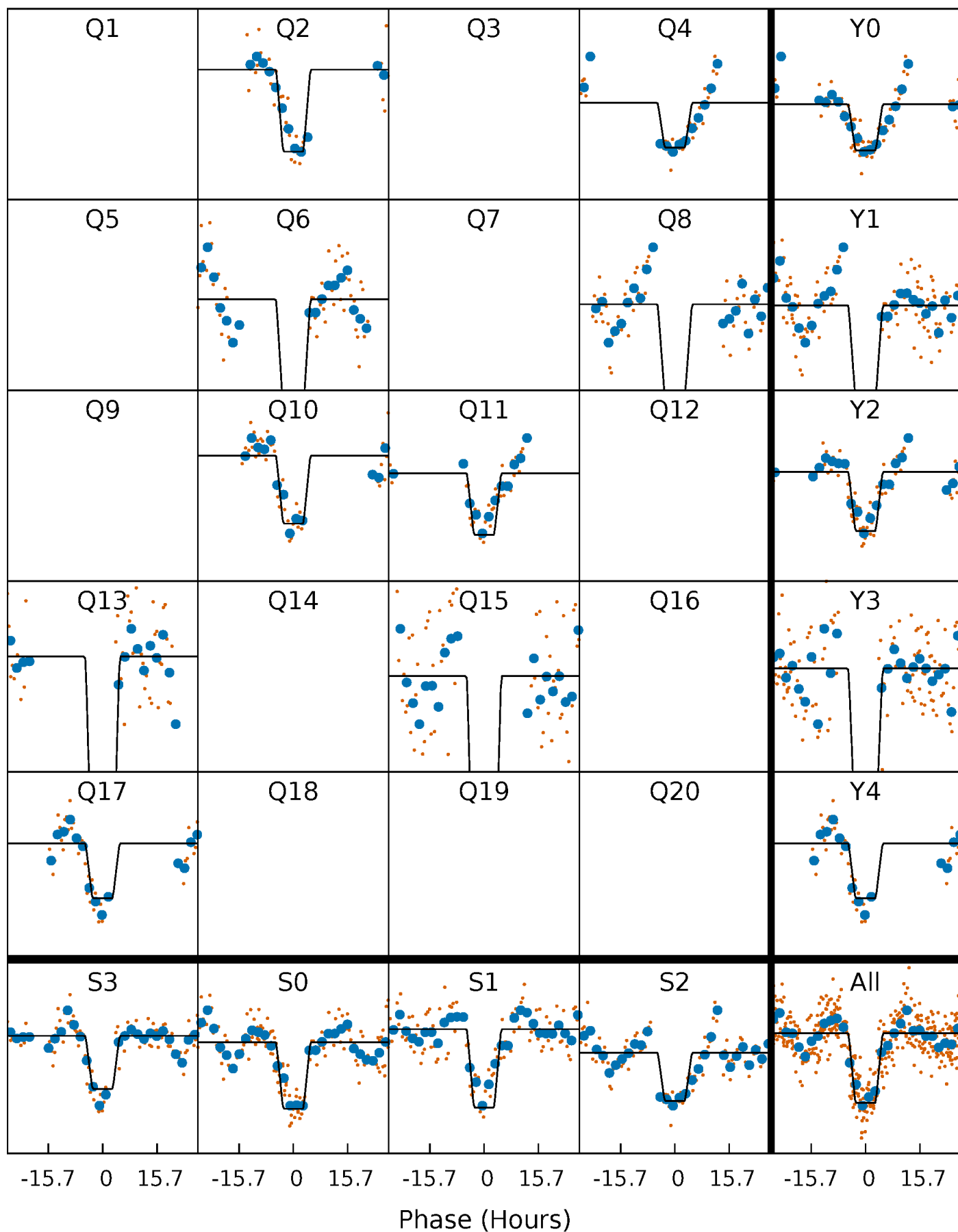
# DV Quarter-Phased Transit Curves

TCE 006765575-02 P=165.312177 Days  $T_0=253.984695$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

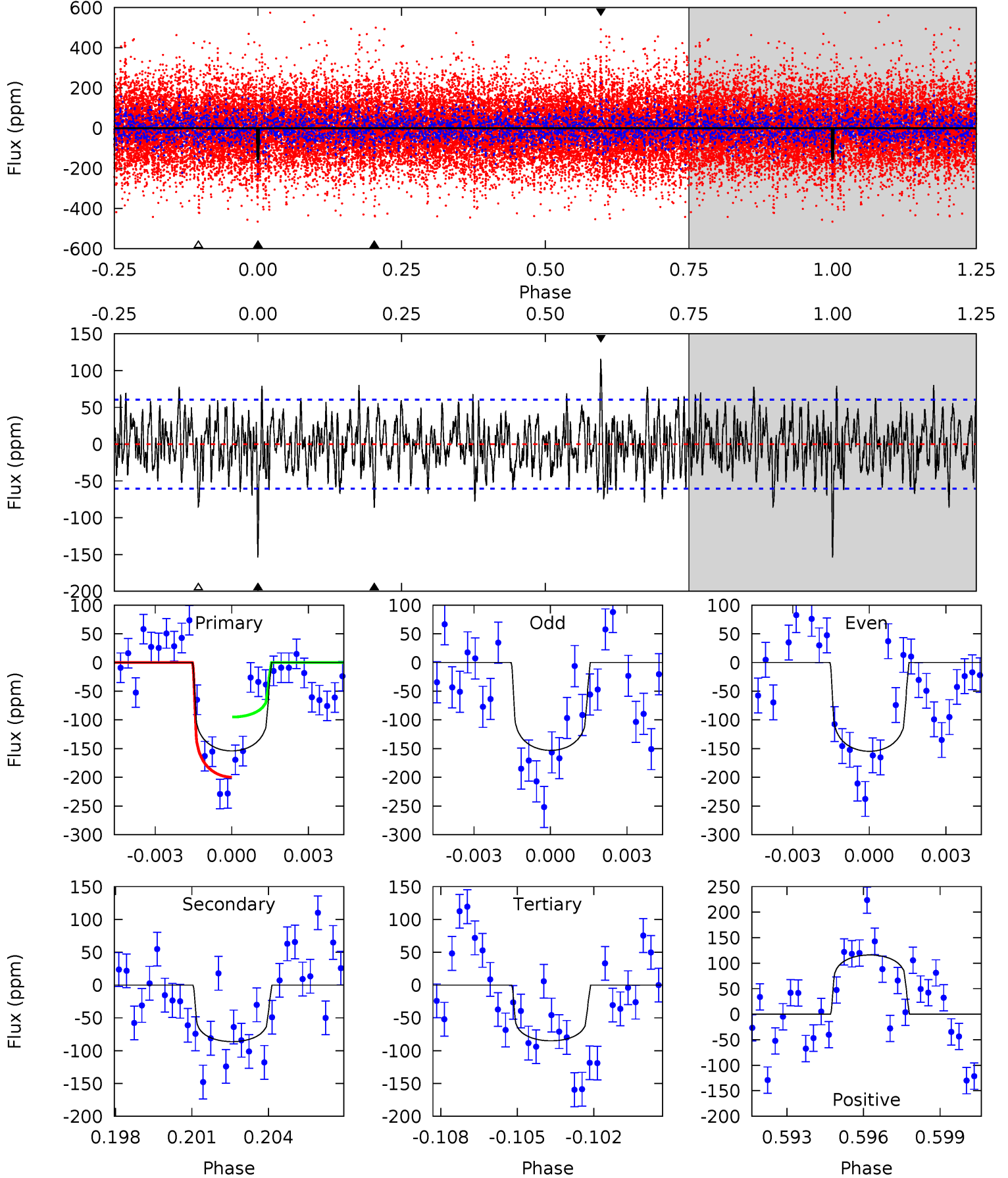
TCE 006765575-02 P=165.307500 Days  $T_0=253.975792$  (BKJD)



# DV Model-Shift Uniqueness Test

006765575-02, P = 165.312177 Days, E = 88.672518 Days

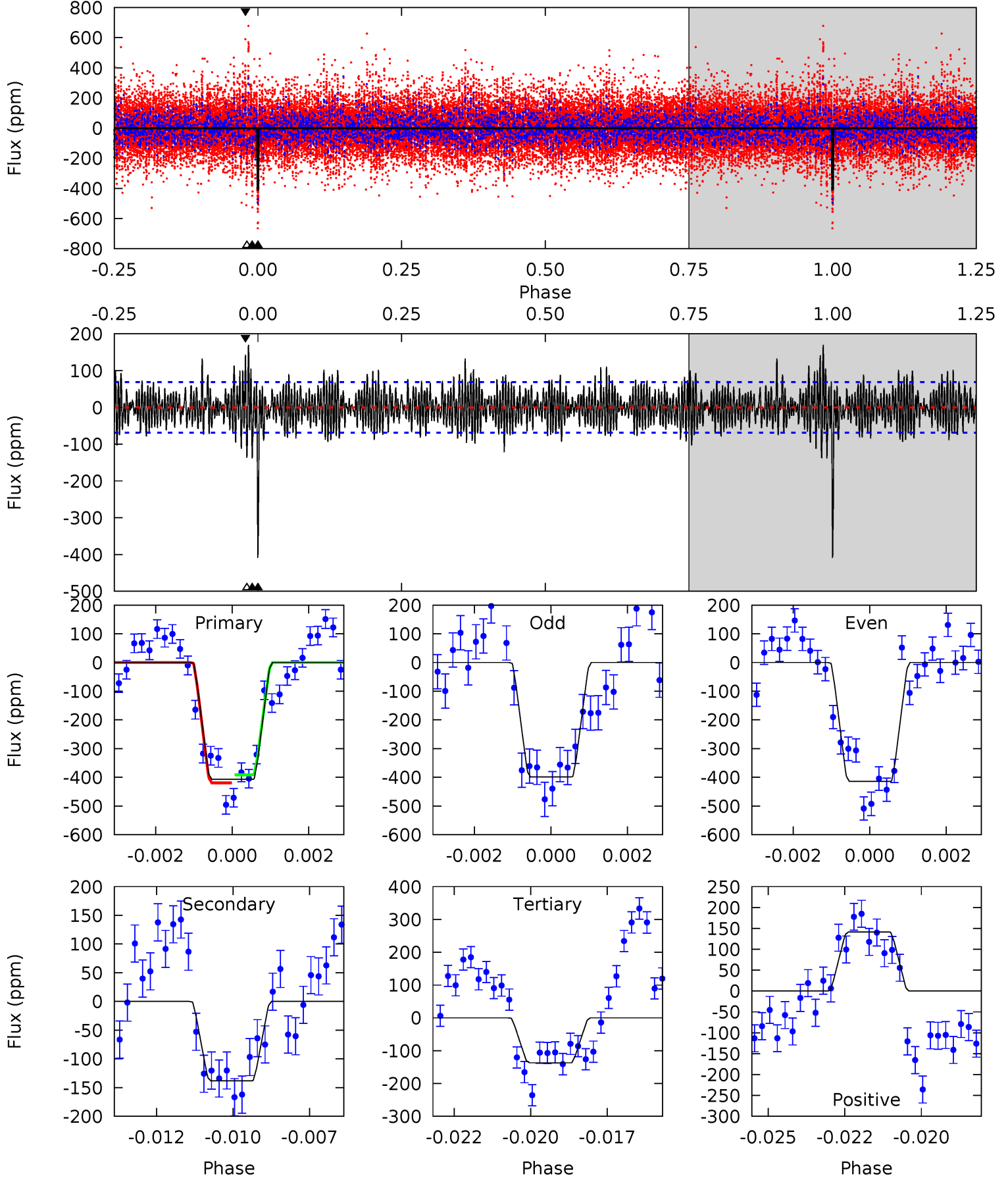
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	7.48	7.37	10.1	5.25	2.96	2.48	5.98	3.29	0.11	-2.59	0.07	0.93	0.43	4.51



# Alt Model-Shift Uniqueness Test

006765575-02, P = 165.307500 Days, E = 88.668292 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
31.2	10.6	10.5	10.8	5.29	3.02	3.16	20.7	20.4	0.10	-0.23	0.59	0.87	0.29	1.06





### Stellar Parameters For KIC 006765575

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7061^{+188}_{-230}$	$3.843^{+0.292}_{-0.097}$	$-0.460^{+0.300}_{-0.250}$	$2.387^{+0.448}_{-0.768}$	$1.447^{+0.225}_{-0.275}$	$0.150^{+0.271}_{-0.047}$
	+3%/-3%	+8%/-3%	+65%/-54%	+19%/-32%	+16%/-19%	+181%/-31%
Source	PHO1	FLK73	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 006765575-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-86 \pm 12$	$2.94^{+1.81}_{-1.38}$	$811^{+54}_{-68}$	$6171^{+2566}_{-1118}$	$2423^{+5905}_{-1459}$
Alt.	$-138 \pm 13$	$5.18^{+1.80}_{-1.73}$	$807^{+52}_{-65}$	$5266^{+1084}_{-553}$	$1288^{+1485}_{-596}$

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

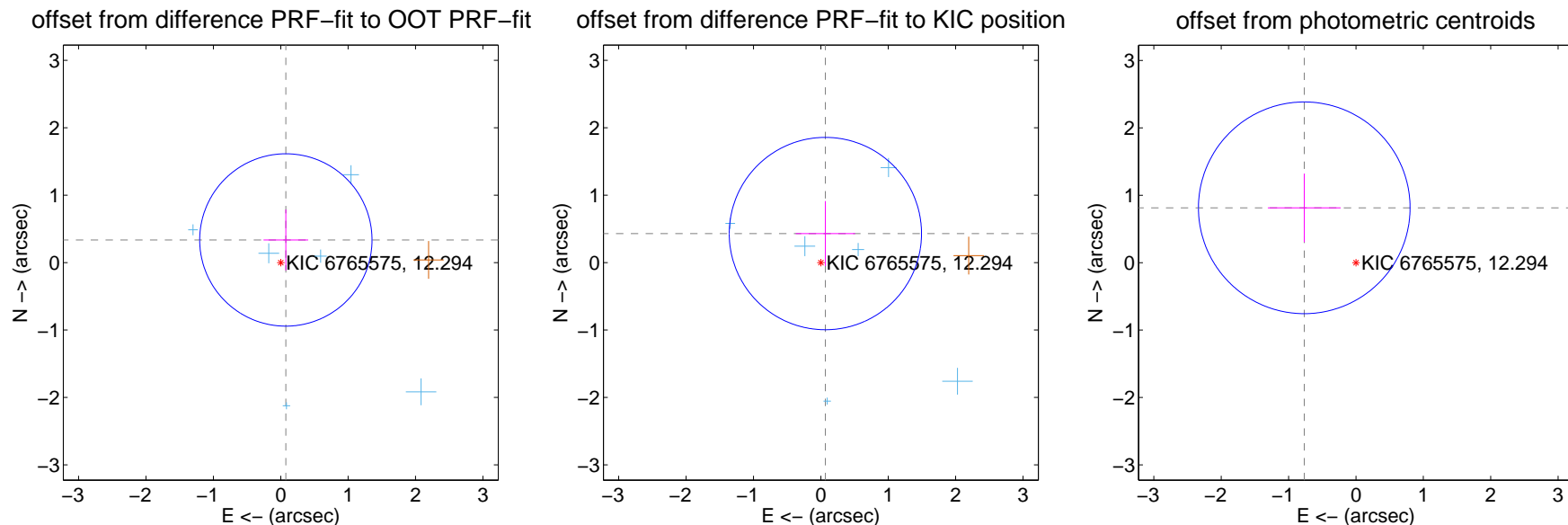
## DV Centroid Data

Supplemental centroid analysis for 006765575-02. Kepler magnitude: 12.29. Transit SNR 6.21

There are 6 quarters with good PRF difference image offsets

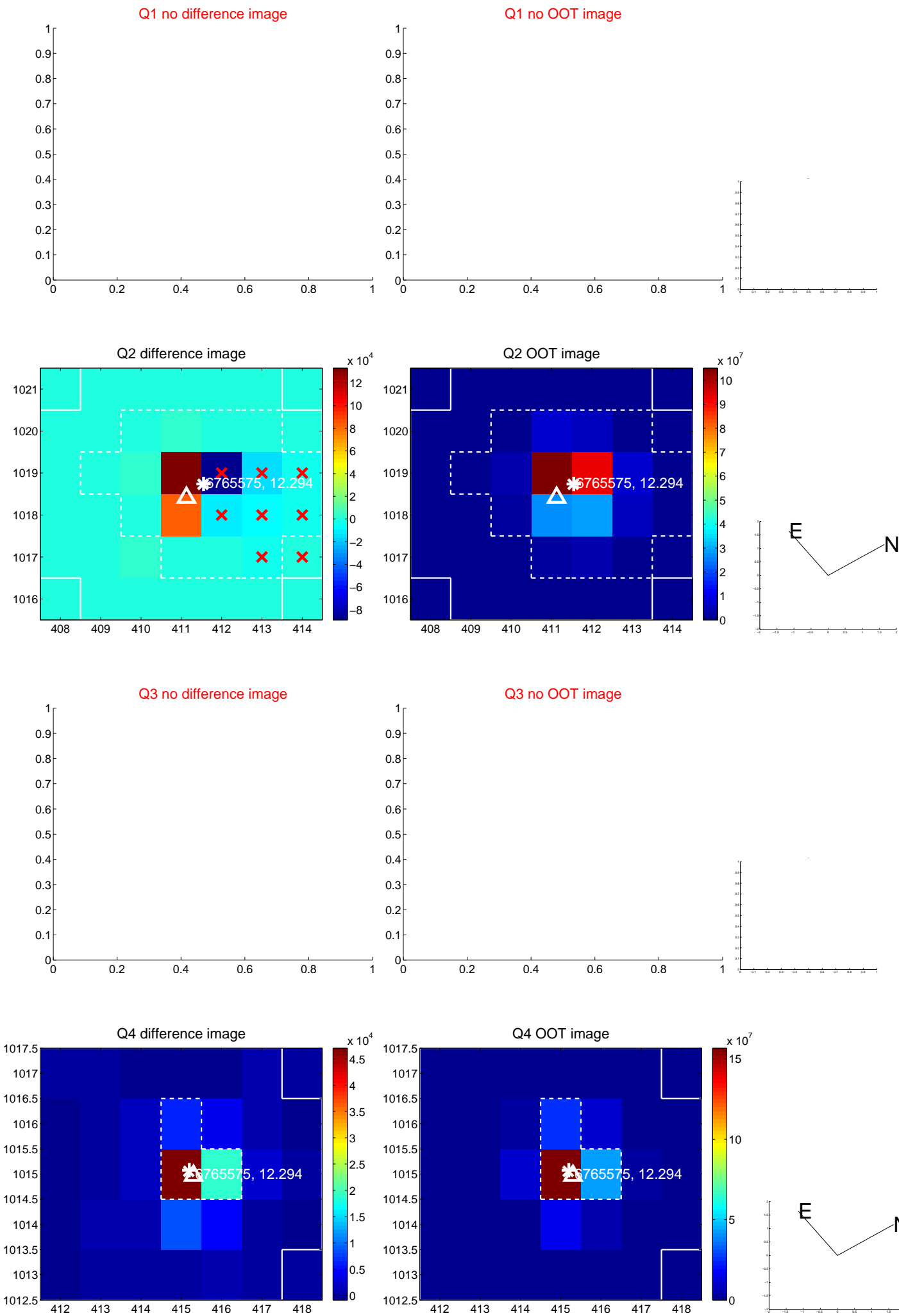
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.344 \pm 0.426$	0.81	$-0.076 \pm 0.332$	$0.336 \pm 0.452$
PRF-fit source offset from KIC position	$0.436 \pm 0.476$	0.92	$-0.067 \pm 0.441$	$0.431 \pm 0.482$
photometric centroid source offset	$1.12 \pm 0.52$	2.14	$0.77 \pm 0.54$	$0.81 \pm 0.51$



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.

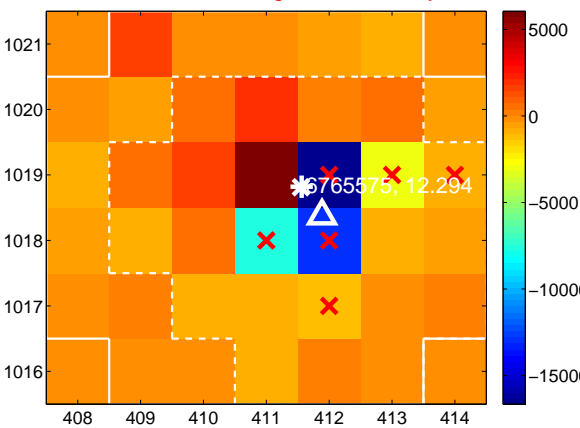
Q5 no difference image



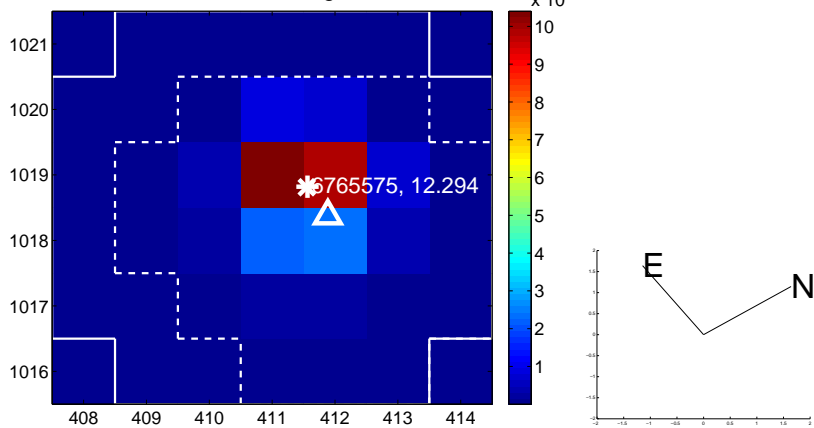
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



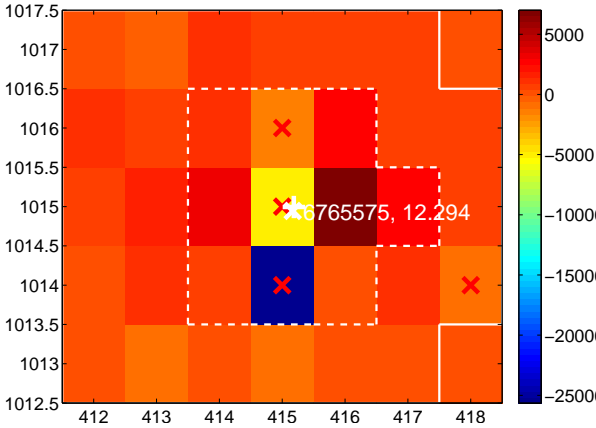
Q7 no difference image



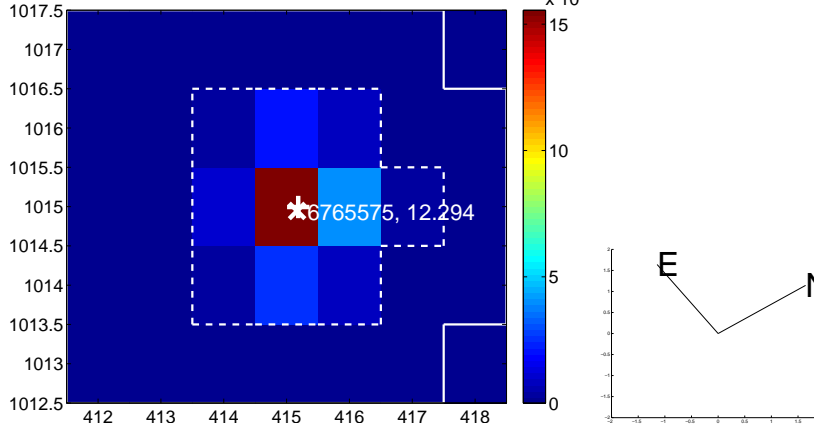
Q7 no OOT image



Q8 difference image. Poor Quality



Q8 OOT image

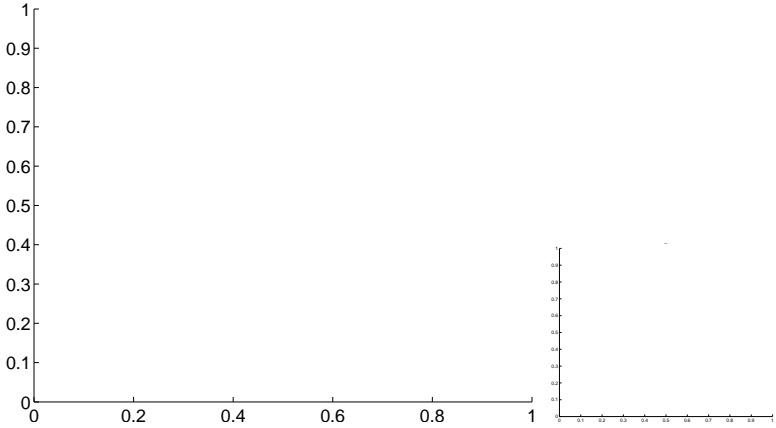


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

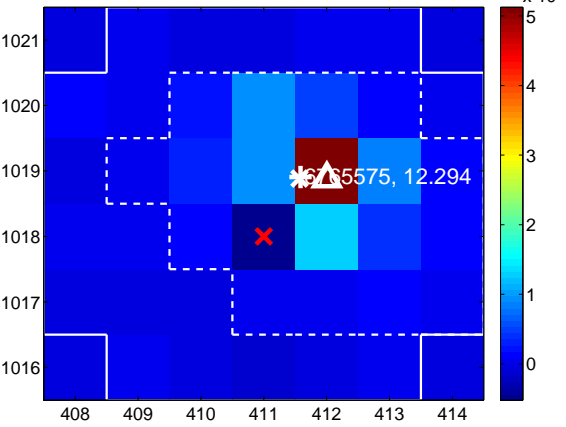
Q9 no difference image



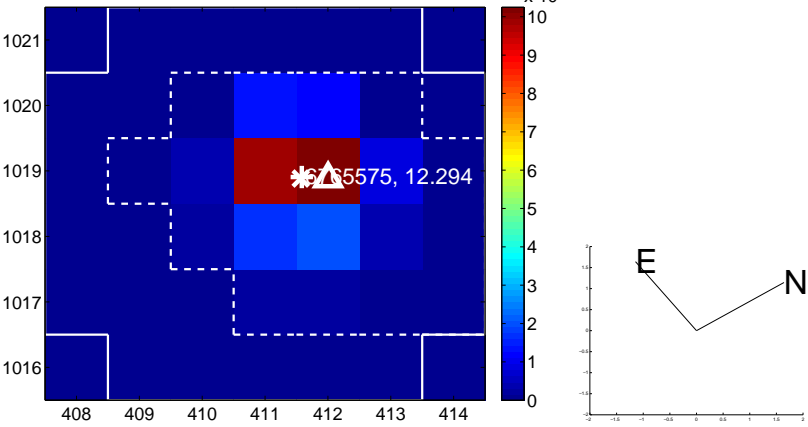
Q9 no OOT image



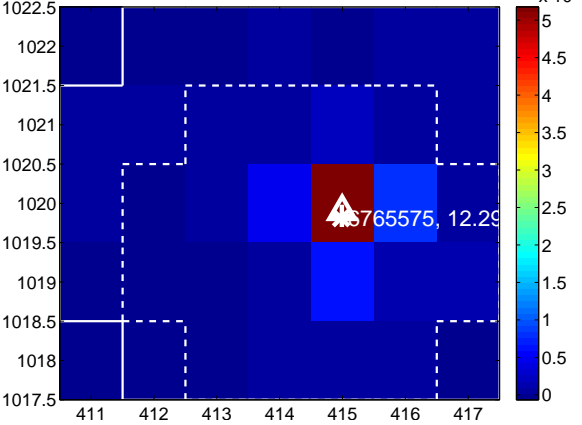
Q10 difference image



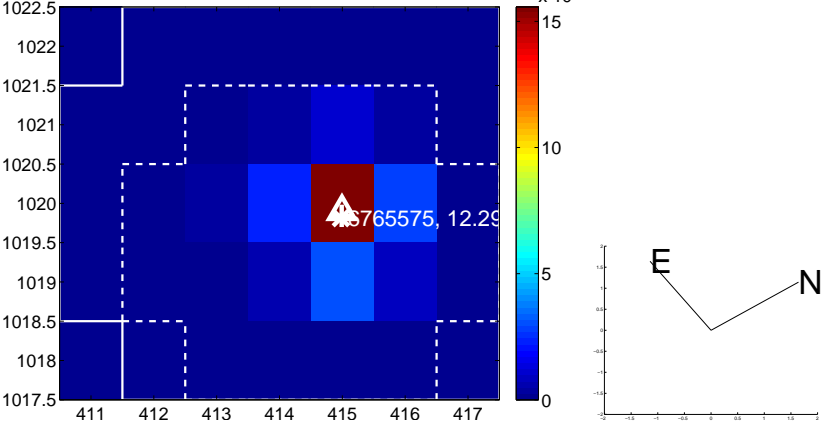
Q10 OOT image



Q11 difference image



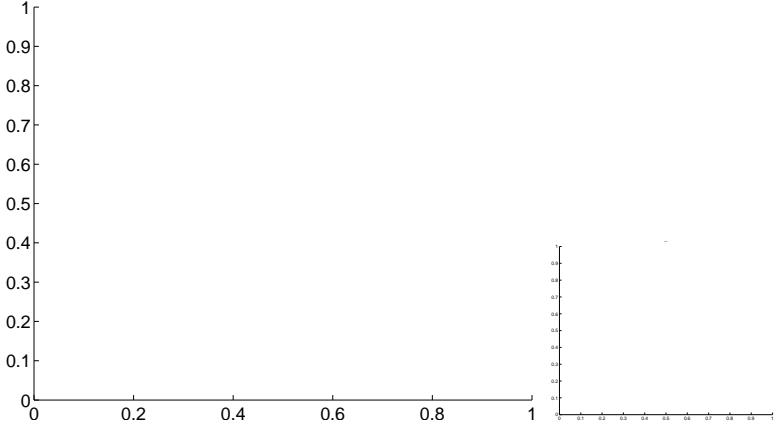
Q11 OOT image



Q12 no difference image



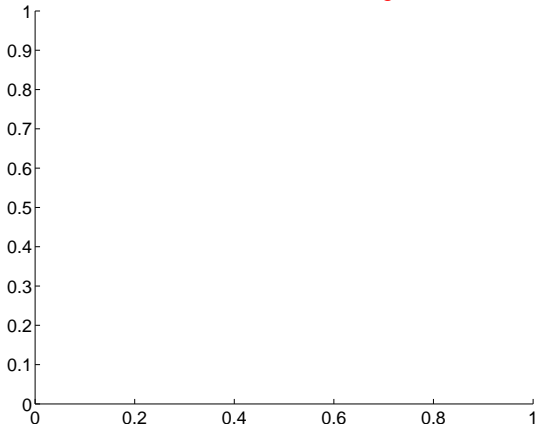
Q12 no OOT image



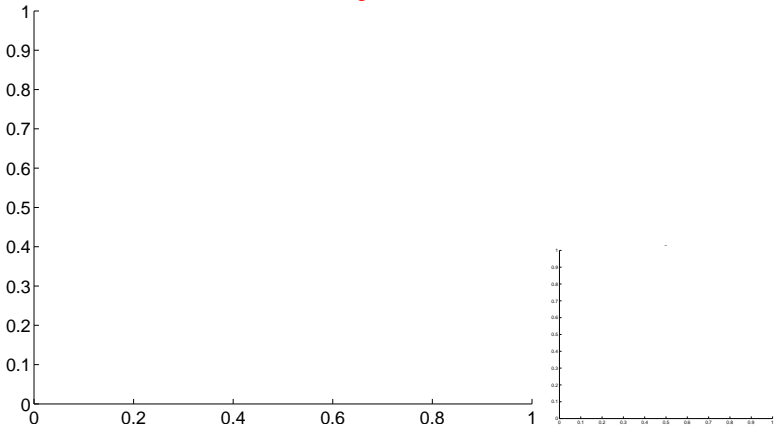


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

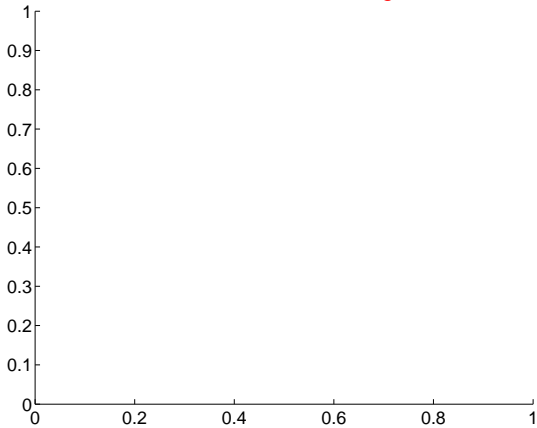
Q13 no difference image



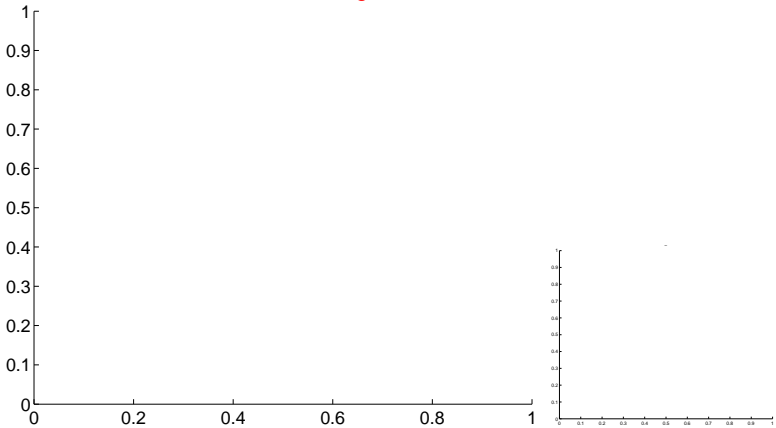
Q13 no OOT image



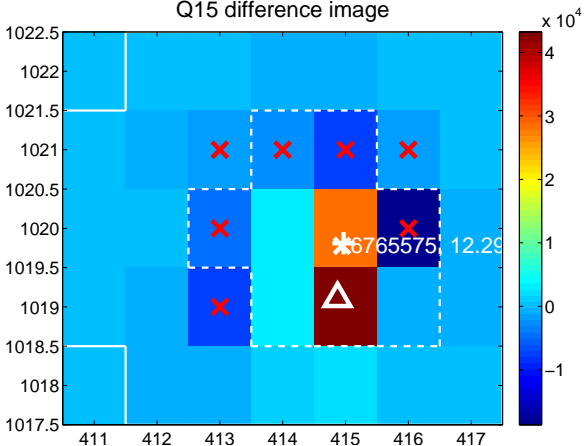
Q14 no difference image



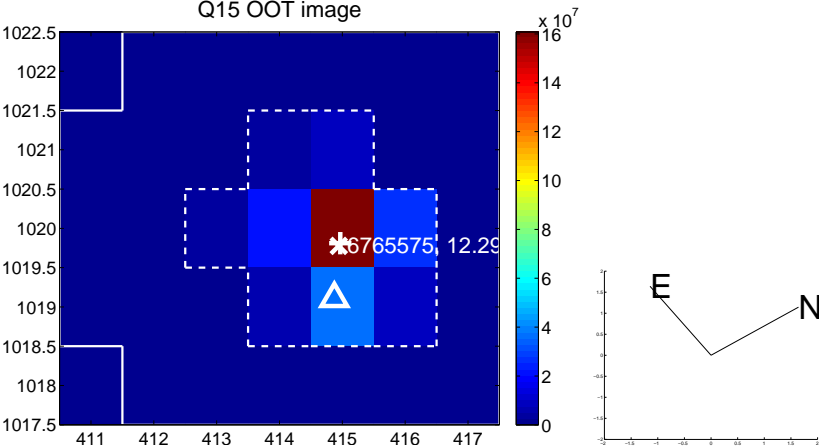
Q14 no OOT image



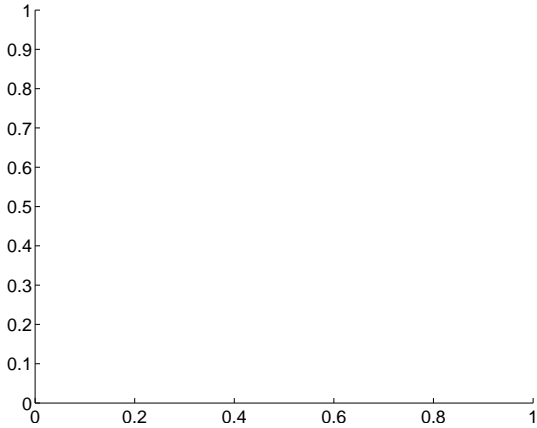
Q15 difference image



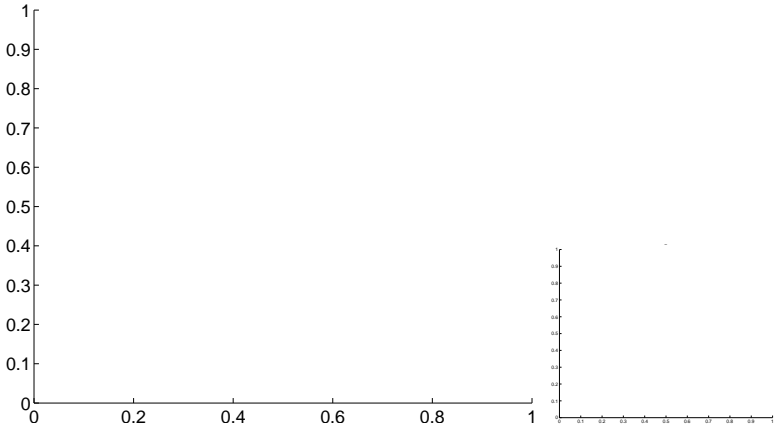
Q15 OOT image



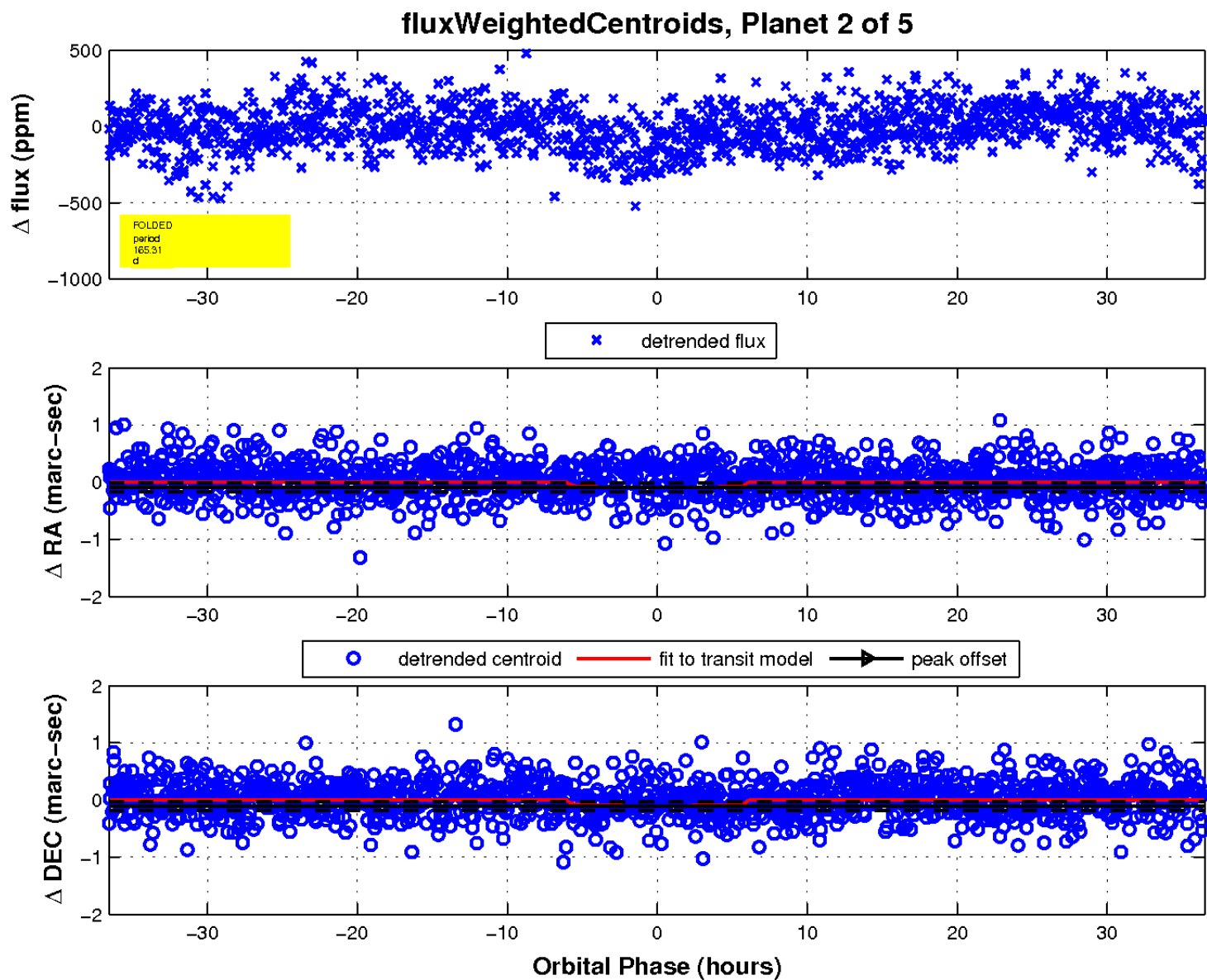
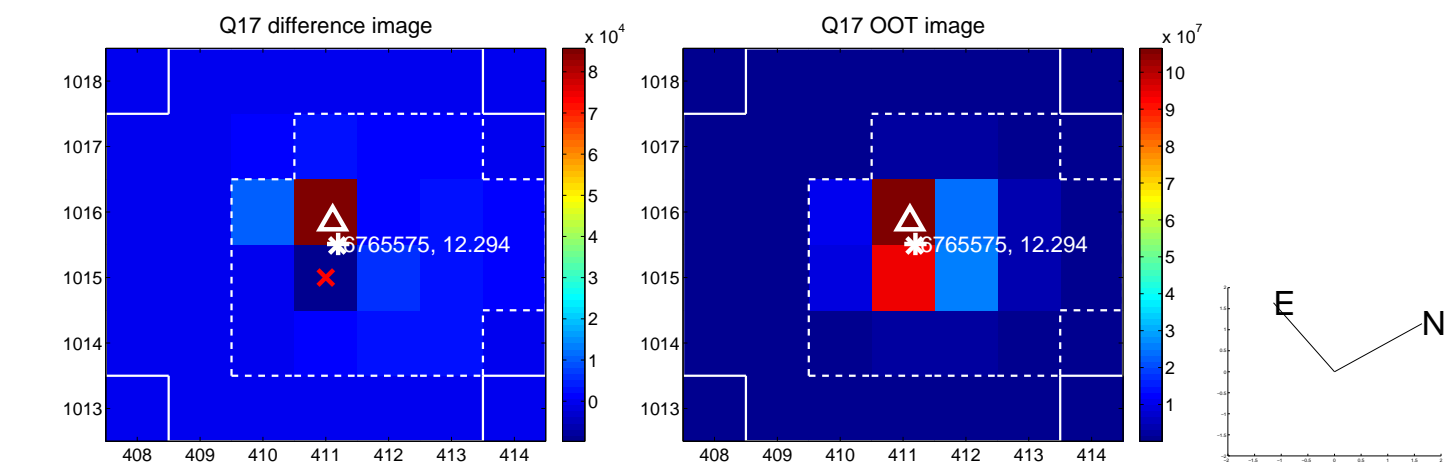
Q16 no difference image



Q16 no OOT image

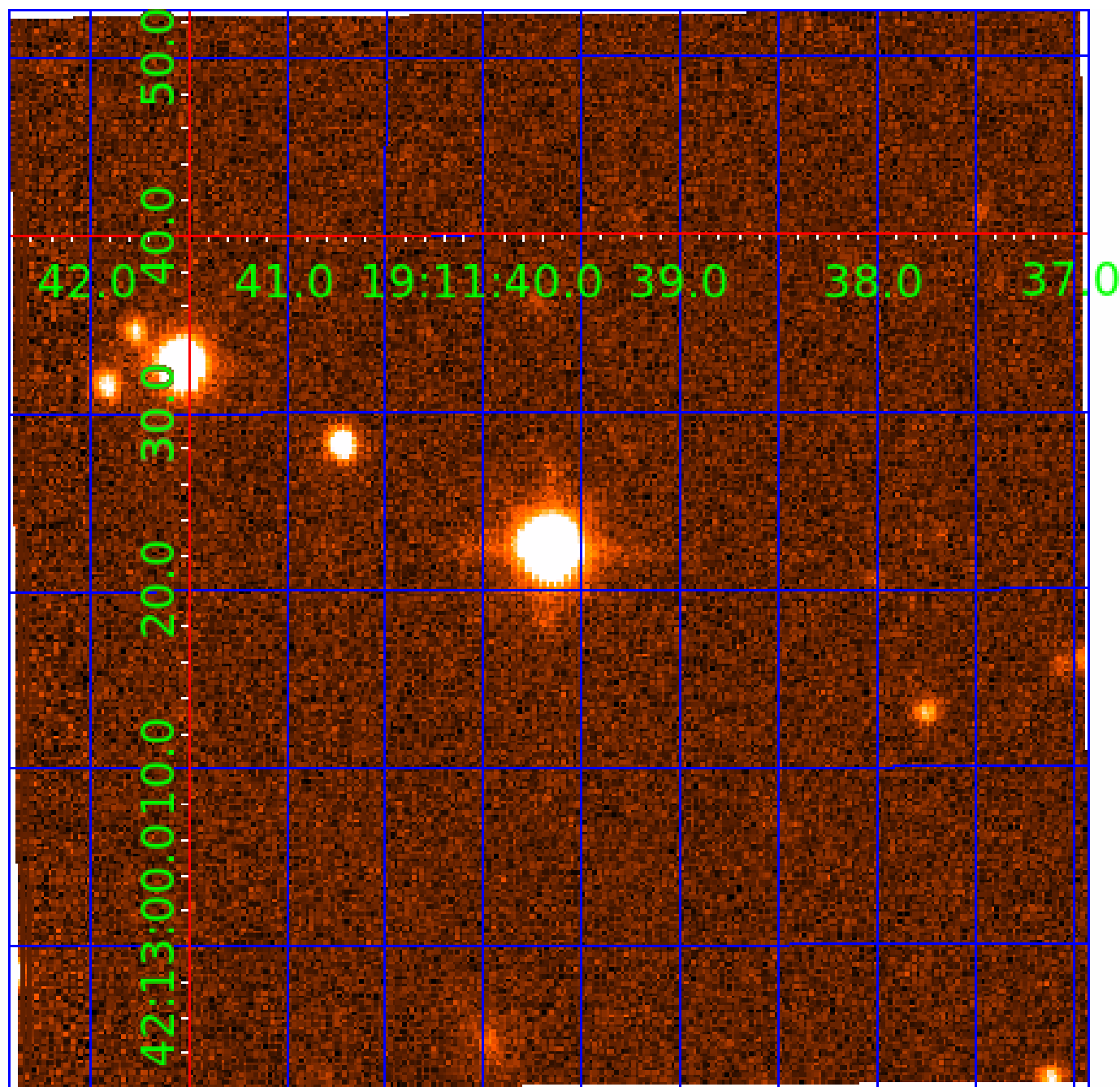


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 006765575

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006765575-01	OBS	No	1.578006	133.046639	21.3	6.704	9.1	9.6	2.39	7061	1.11	14085.83
006765575-02	OBS	No	165.312177	253.984695	150.9	12.185	7.9	6.2	2.39	7061	3.13	28.52
006765575-03	OBS	No	106.572825	189.308314	128.7	10.802	8.0	6.3	2.39	7061	3.01	51.22
006765575-04	OBS	No	258.501283	157.820671	244.4	4.508	7.6	7.7	2.39	7061	4.14	15.71
006765575-05	OBS	No	672.191229	148.088610	209.7	6.213	7.5	7.4	2.39	7061	3.82	4.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006765575-01	OBS	FP	0.00	1	0	0	0	LPP_DV
006765575-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006765575-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV
006765575-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
006765575-05	OBS	FP	0.00	1	0	0	0	LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

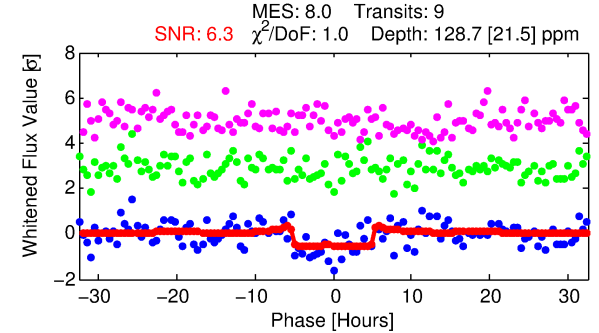
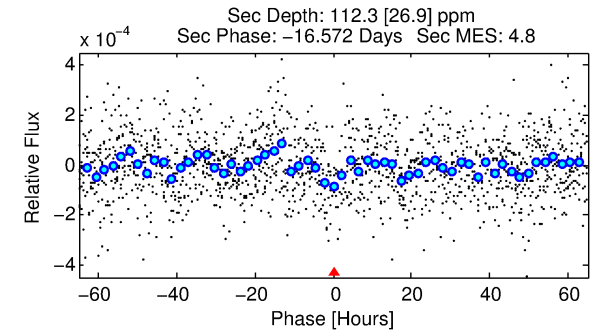
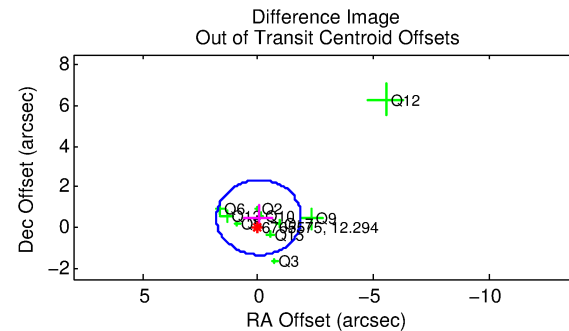
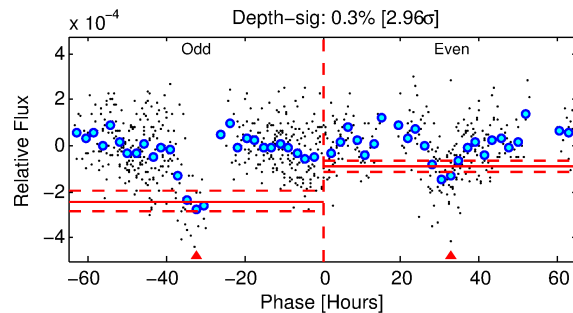
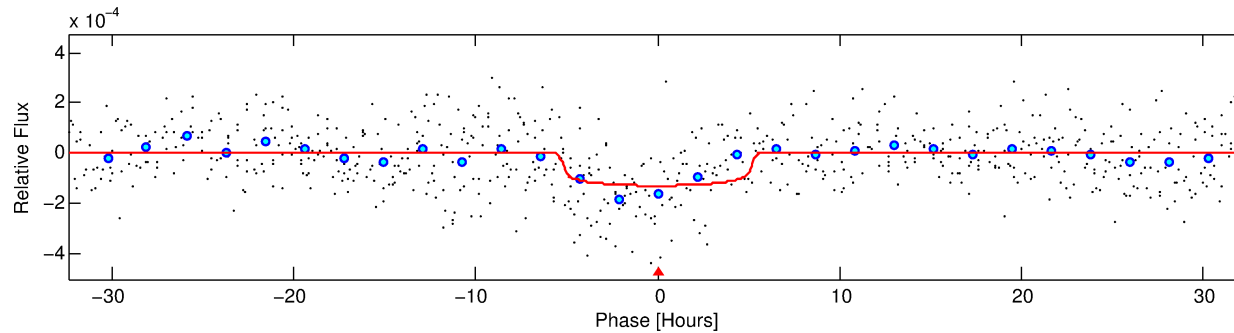
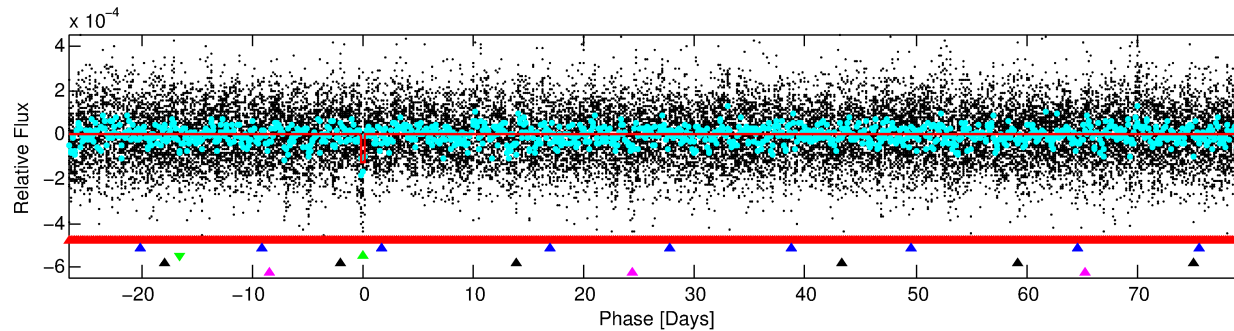
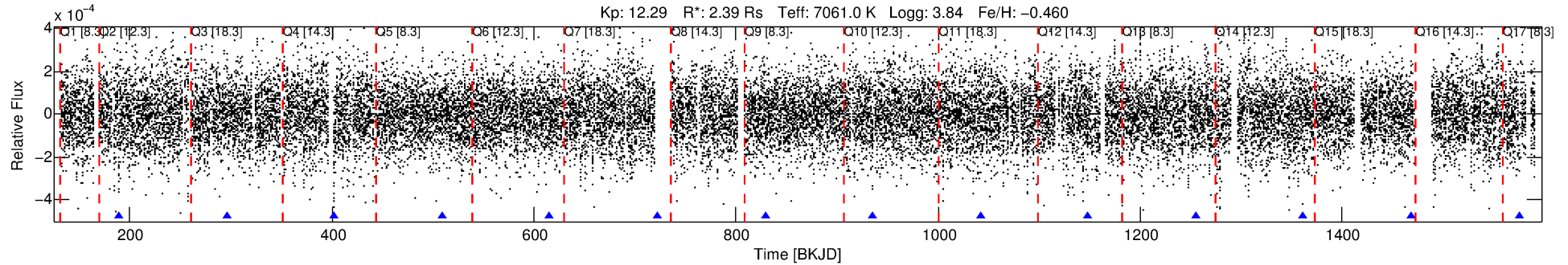
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006765575-03

No Significant Match Found

# DV One-Page Summary

KIC: 6765575 Candidate: 3 of 5 Period: 106.573 d



## DV Fit Results:

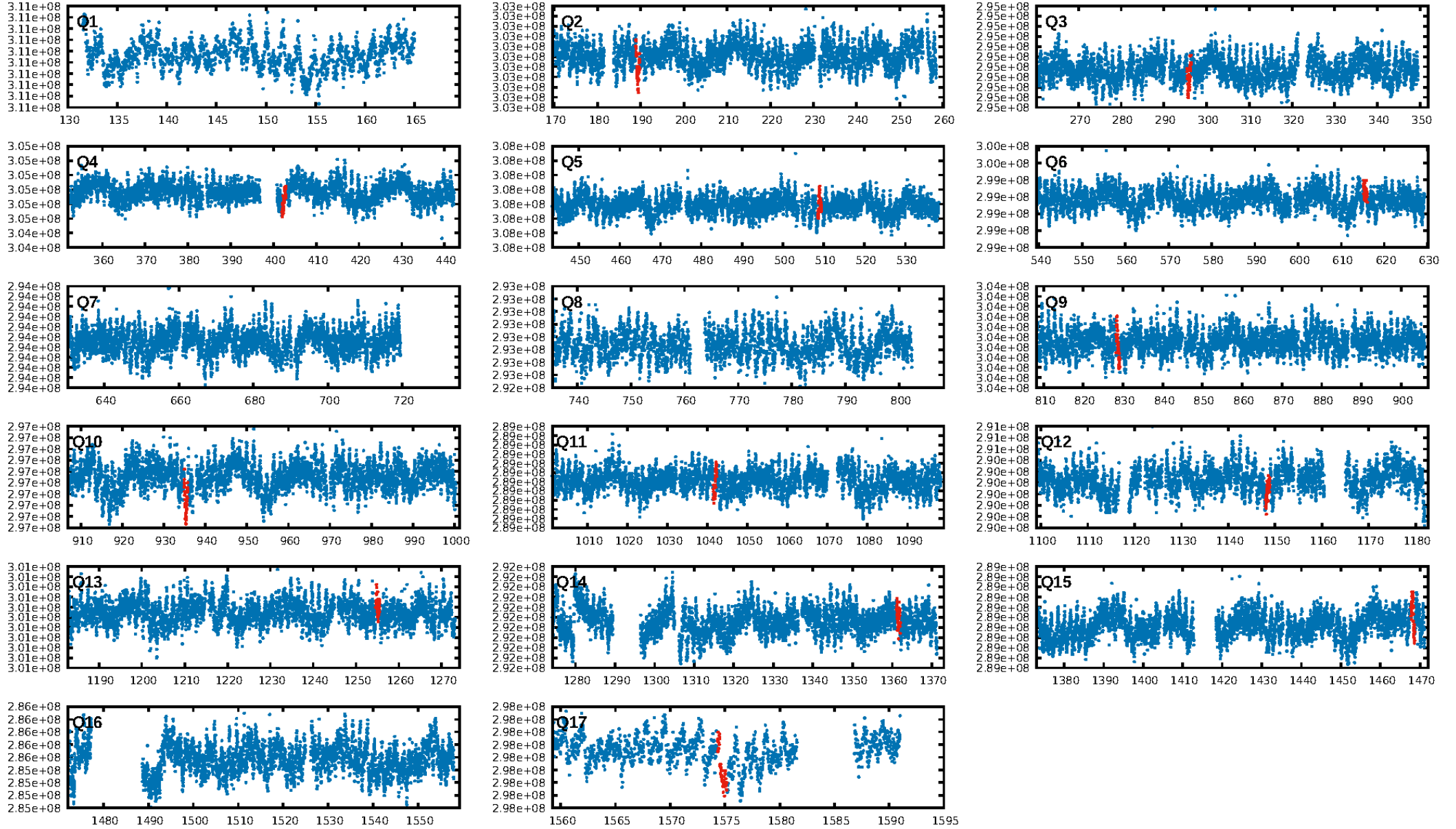
Period = 106.57282 [0.00200] d  
Epoch = 189.3083 [0.0149] BKJD  
Rp/R\* = 0.0116 [0.0038]  
a/R\* = 44.68 [83.33]  
b = 0.82 [0.75]  
Seff = 51.22 [26.31]  
Teq = 682 [88] K  
Rp = 3.01 [1.39] Re  
a = 0.4978 [0.1544] AU  
Ag = 1685.95 [1457.51] [1.16 $\sigma$ ]  
Teffp = 6758 [1215] K [4.99 $\sigma$ ]

## DV Diagnostic Results:

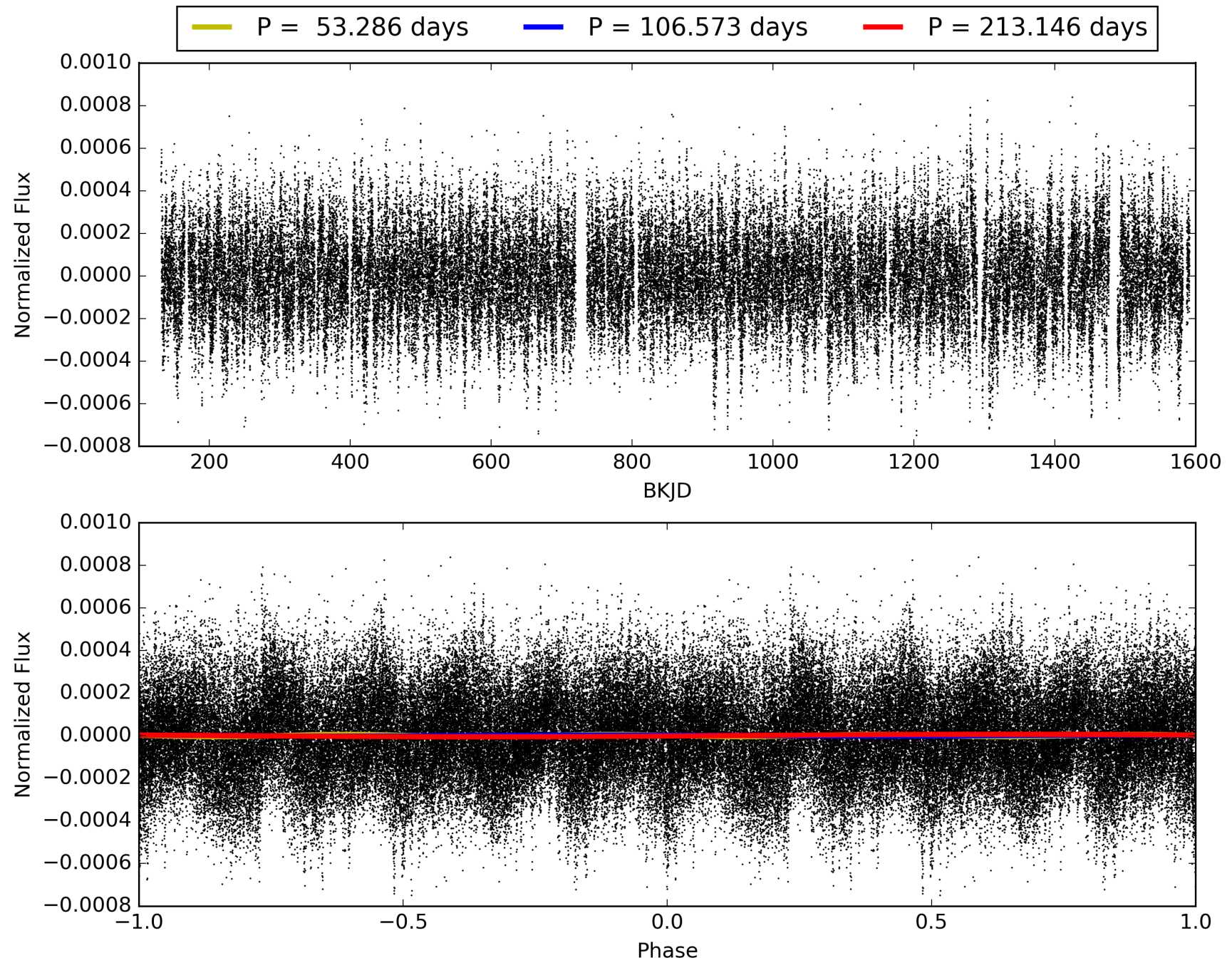
ShortPeriod-sig: 100.0% [198.20 $\sigma$ ]  
LongPeriod-sig: 100.0% [86.57 $\sigma$ ]  
ModelChiSquare2-sig: 0.4%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 2.28e-10**  
RollingBand-fgt: 1.00 [8/8]  
GhostDiagnostic-chr: 11.04  
Centroid-sig: 10.3%  
Centroid-so: 1.001 arcsec [1.84 $\sigma$ ]  
OotOffset-rm: 0.510 arcsec [0.83 $\sigma$ ]  
KicOffset-rm: 0.611 arcsec [1.04 $\sigma$ ]  
OotOffset-st: 3/2/1/4 [10]  
KicOffset-st: 3/2/1/4 [10]  
DiffImageQuality-fgm: 0.40 [4/10]  
DiffImageOverlap-fno: 0.00 [0/11]



# TCE 006765575-03, PDC Light Curves

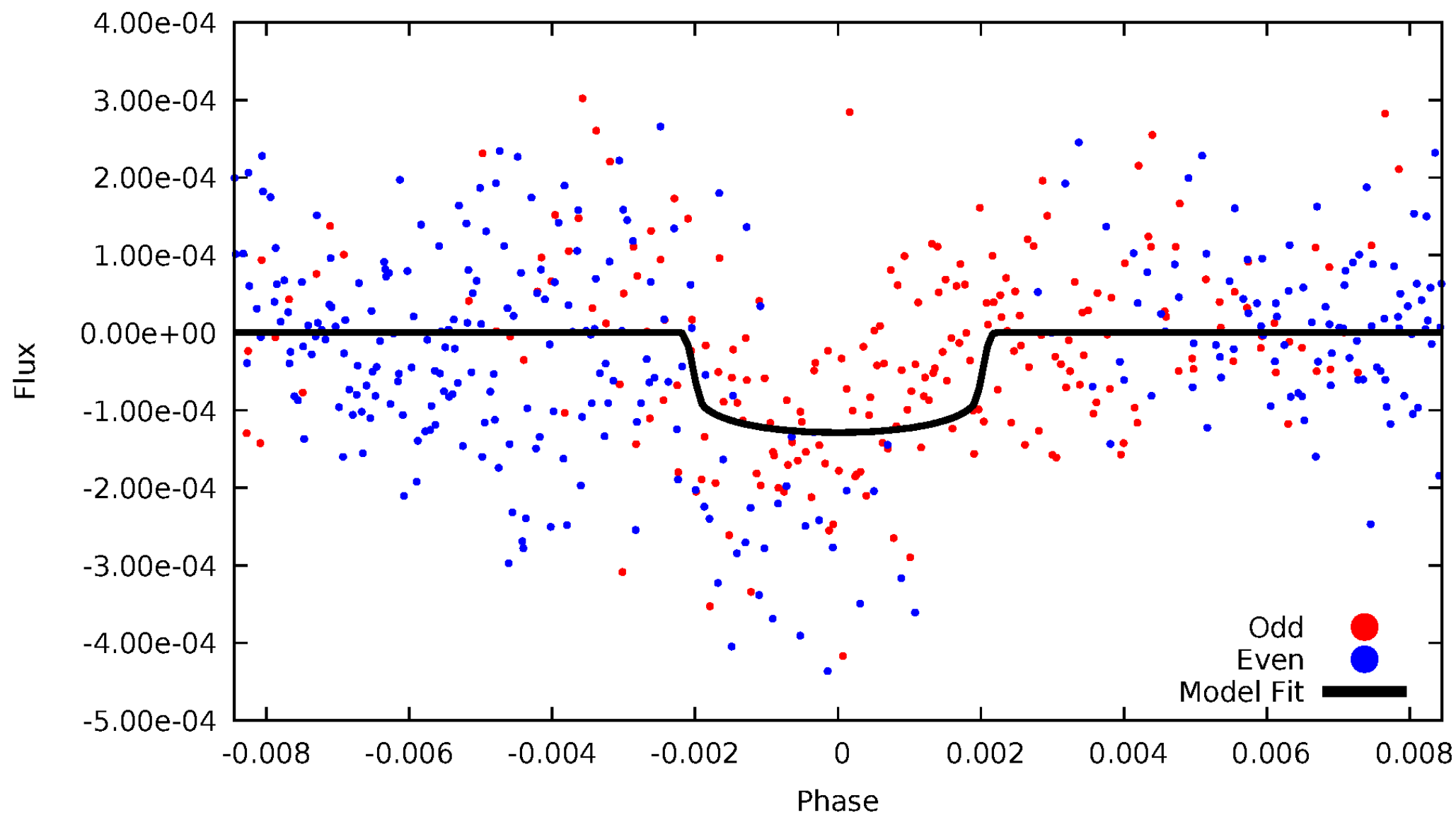


TCE 006765575-03



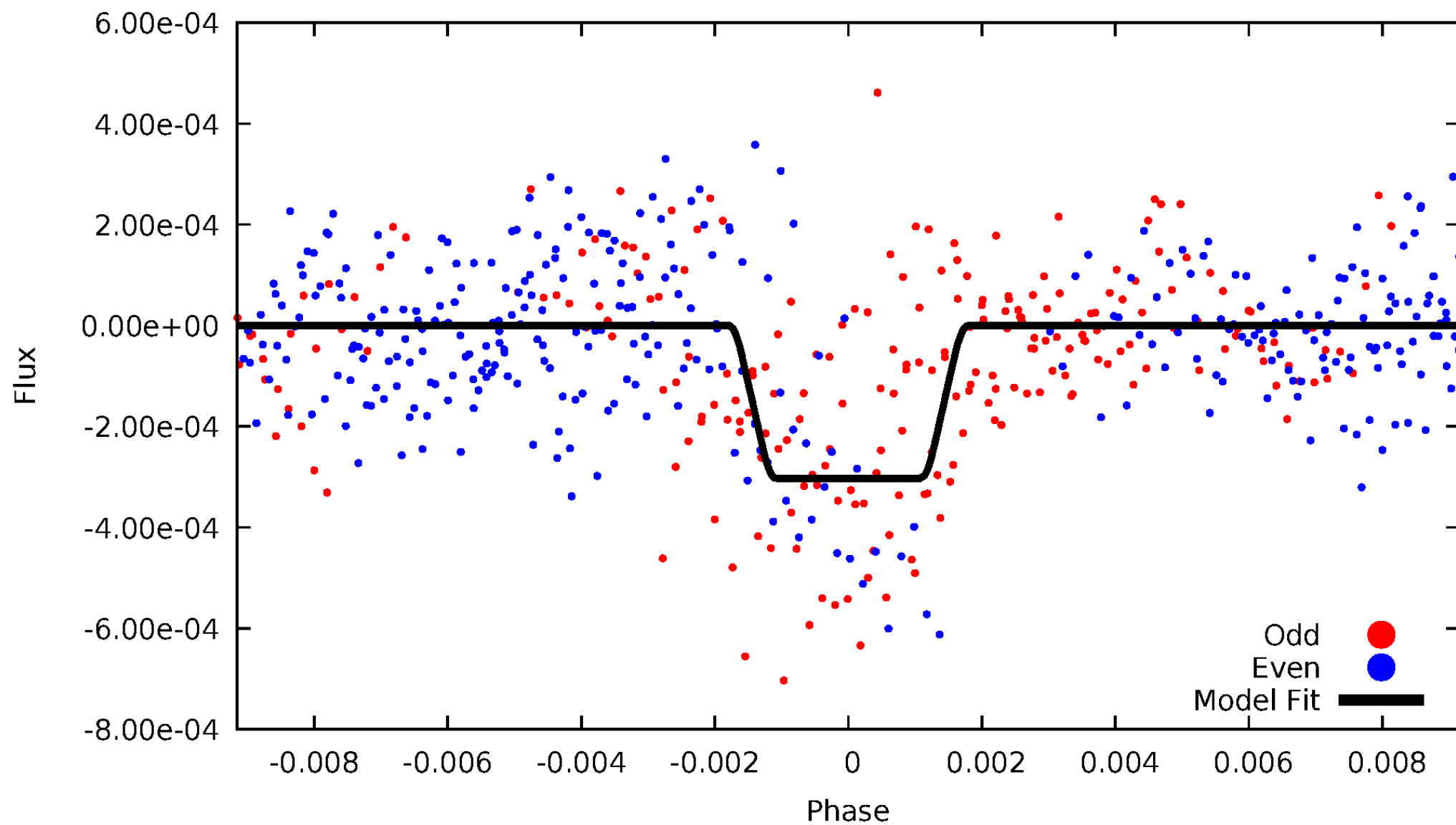
# DV Odd/Even

TCE 006765575-03



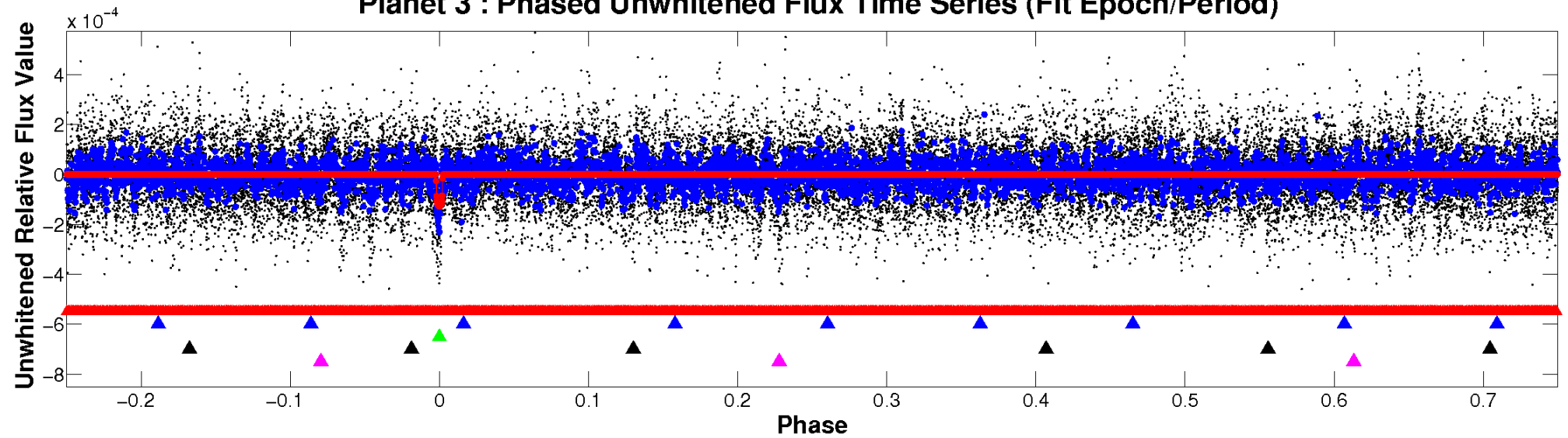
# ALT Odd/Even

TCE 006765575-03

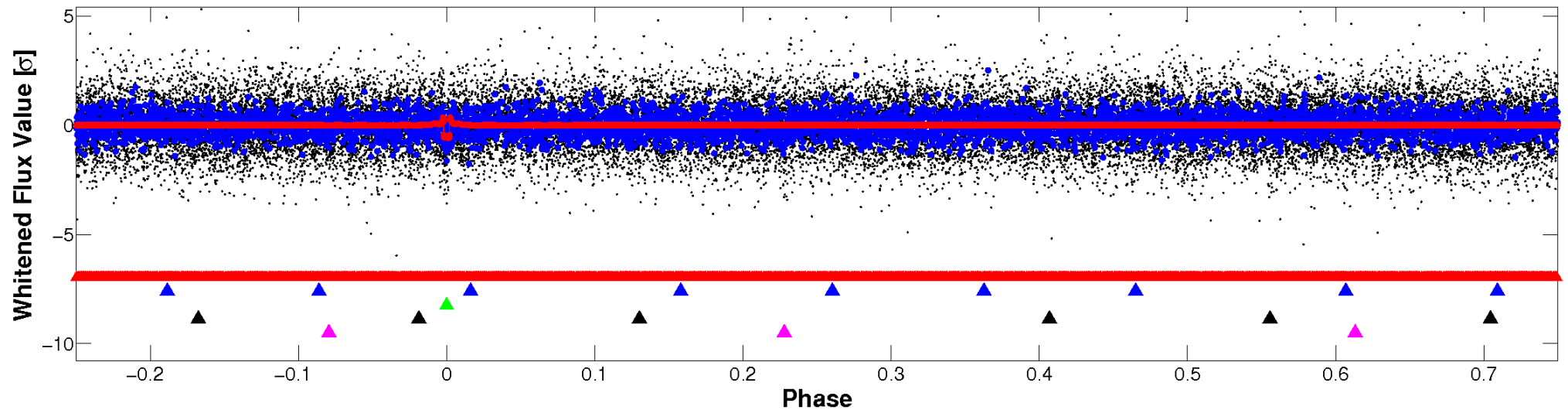


# Non-Whitened Vs. Whitened Light Curve

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



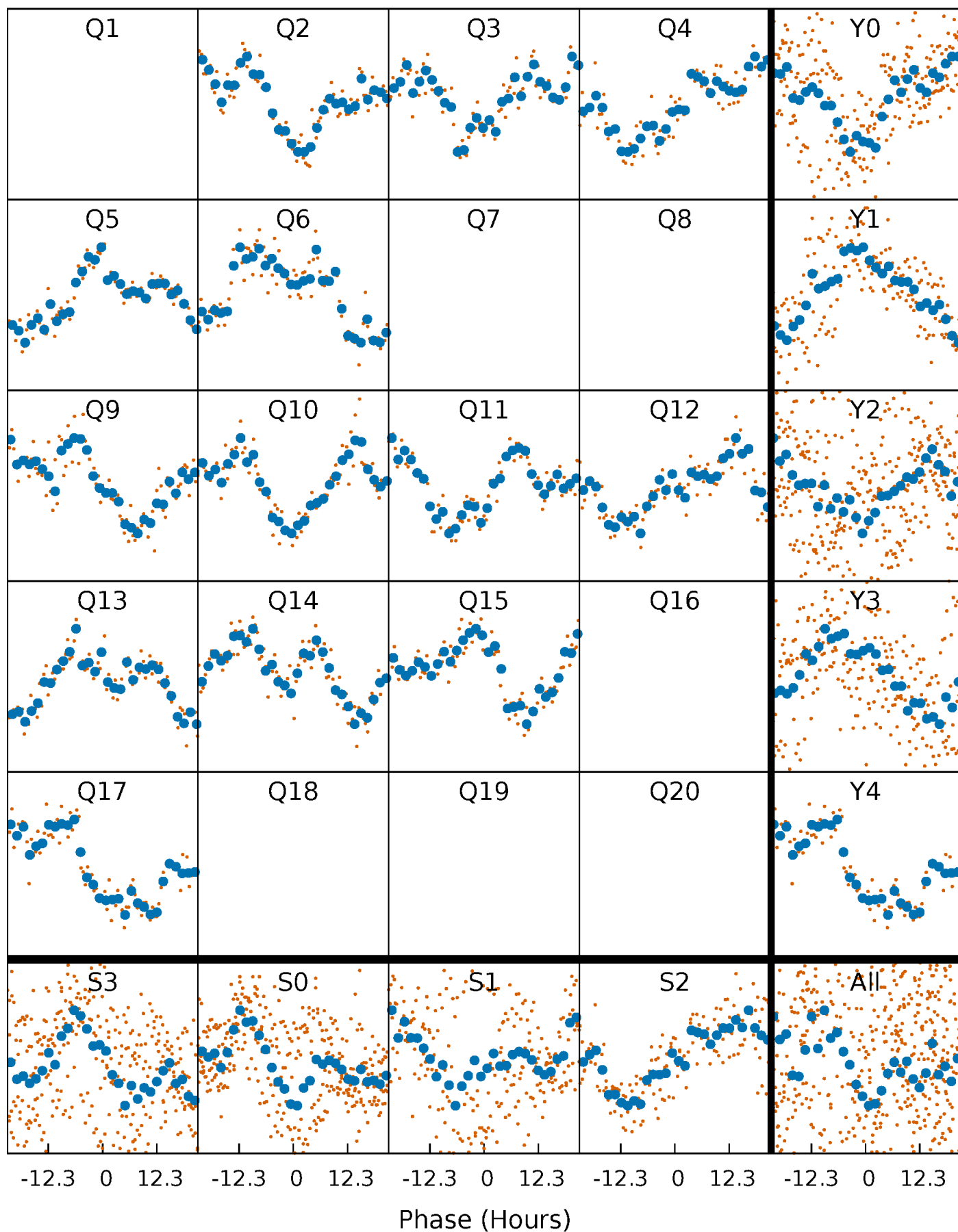
Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)





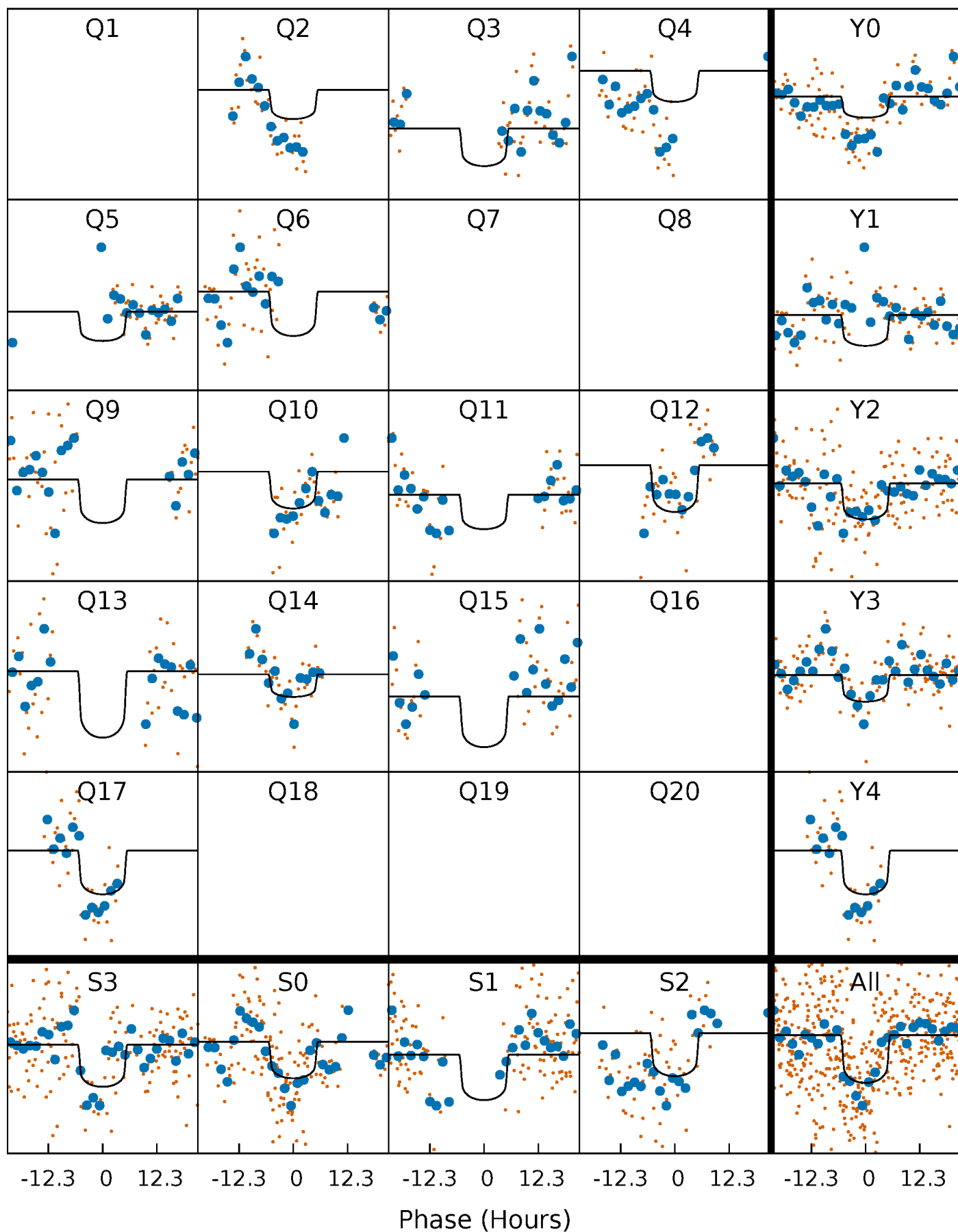
# PDC Quarter-Phased Transit Curves

TCE 006765575-03     $P=106.572825$  Days     $T_0=189.308314$  (BKJD)



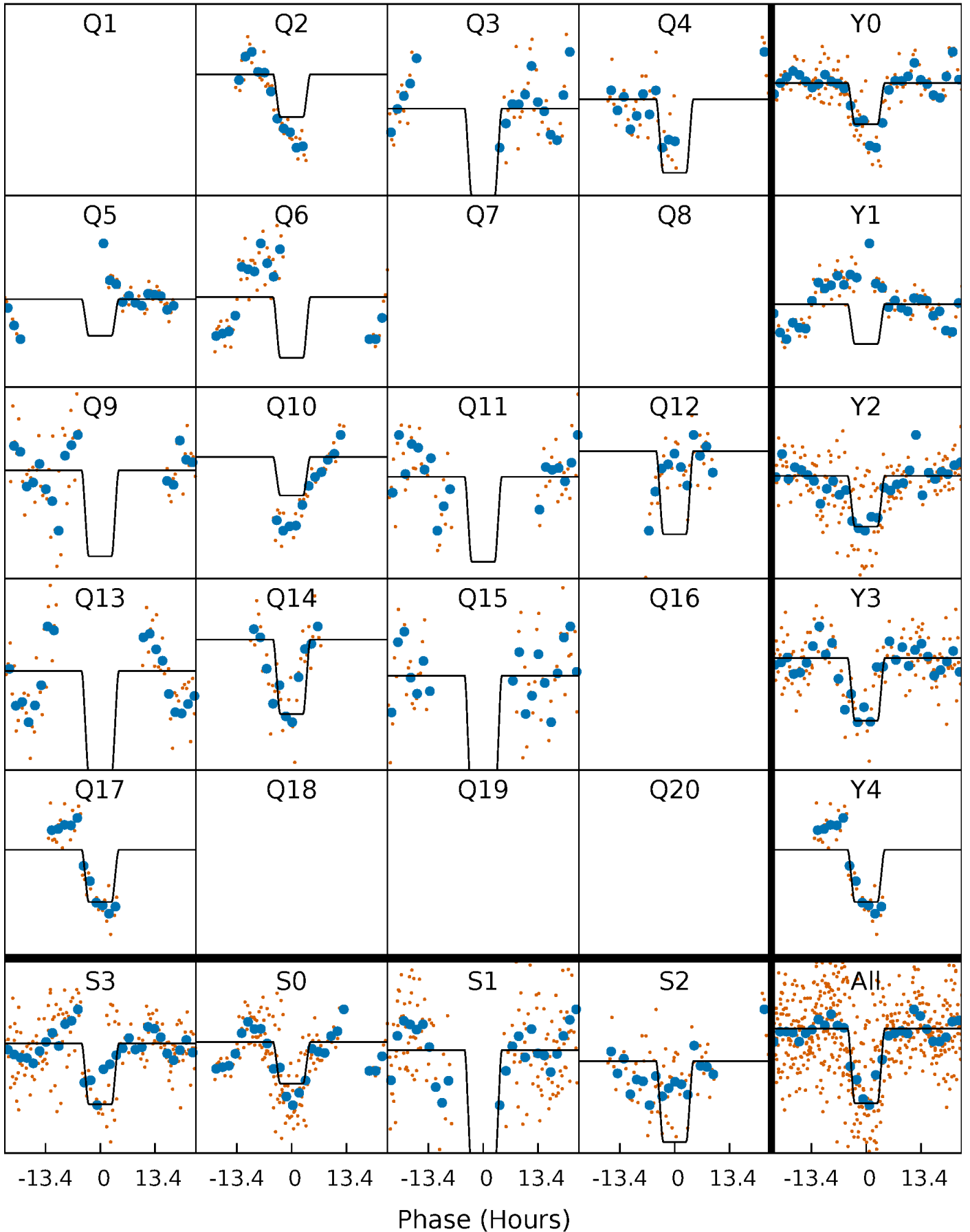
# DV Quarter-Phased Transit Curves

TCE 006765575-03 P=106.572825 Days  $T_0=189.308314$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

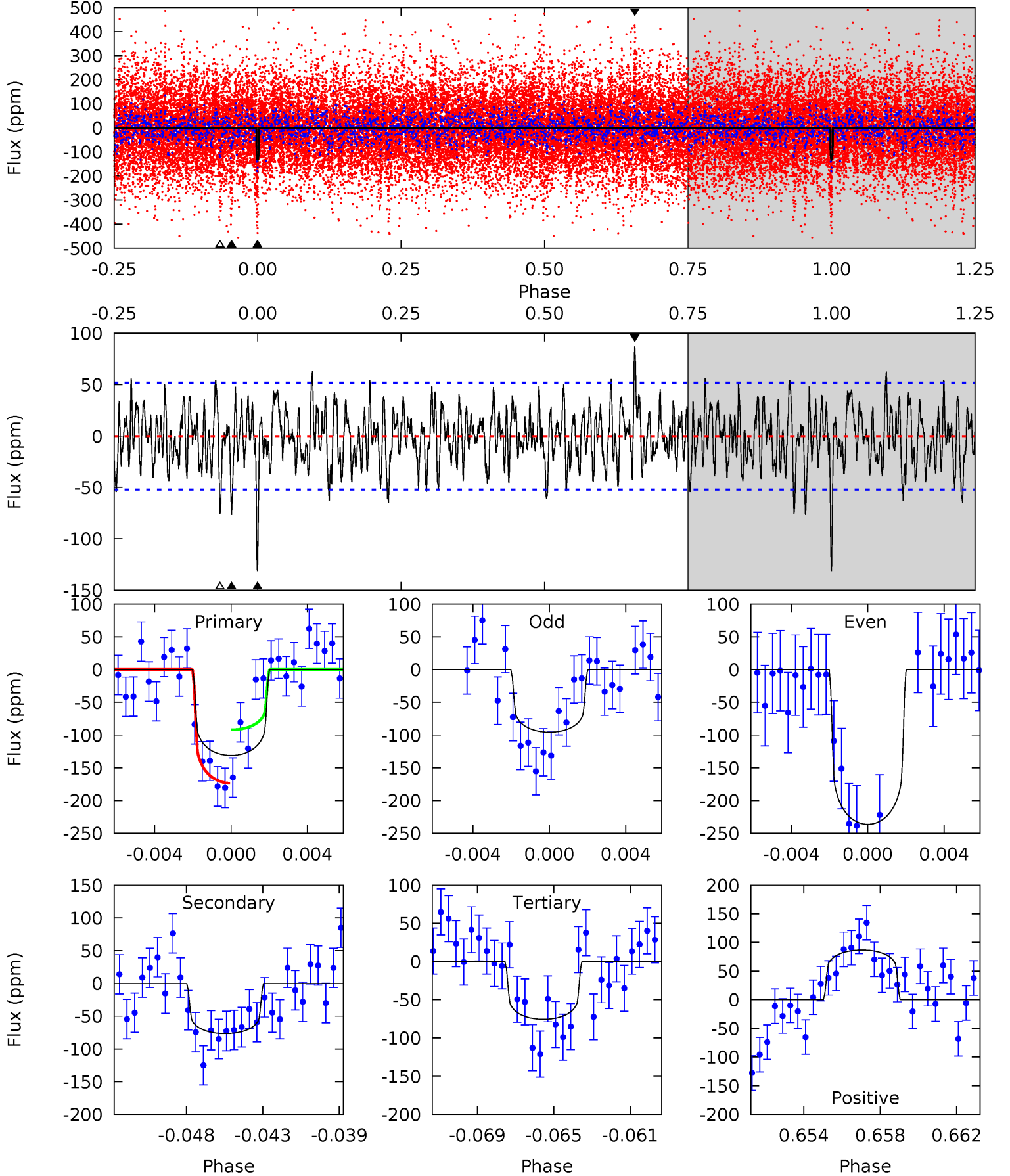
TCE 006765575-03 P=106.573421 Days  $T_0=189.277275$  (BKJD)



# DV Model-Shift Uniqueness Test

006765575-03, P = 106.572825 Days, E = 82.735489 Days

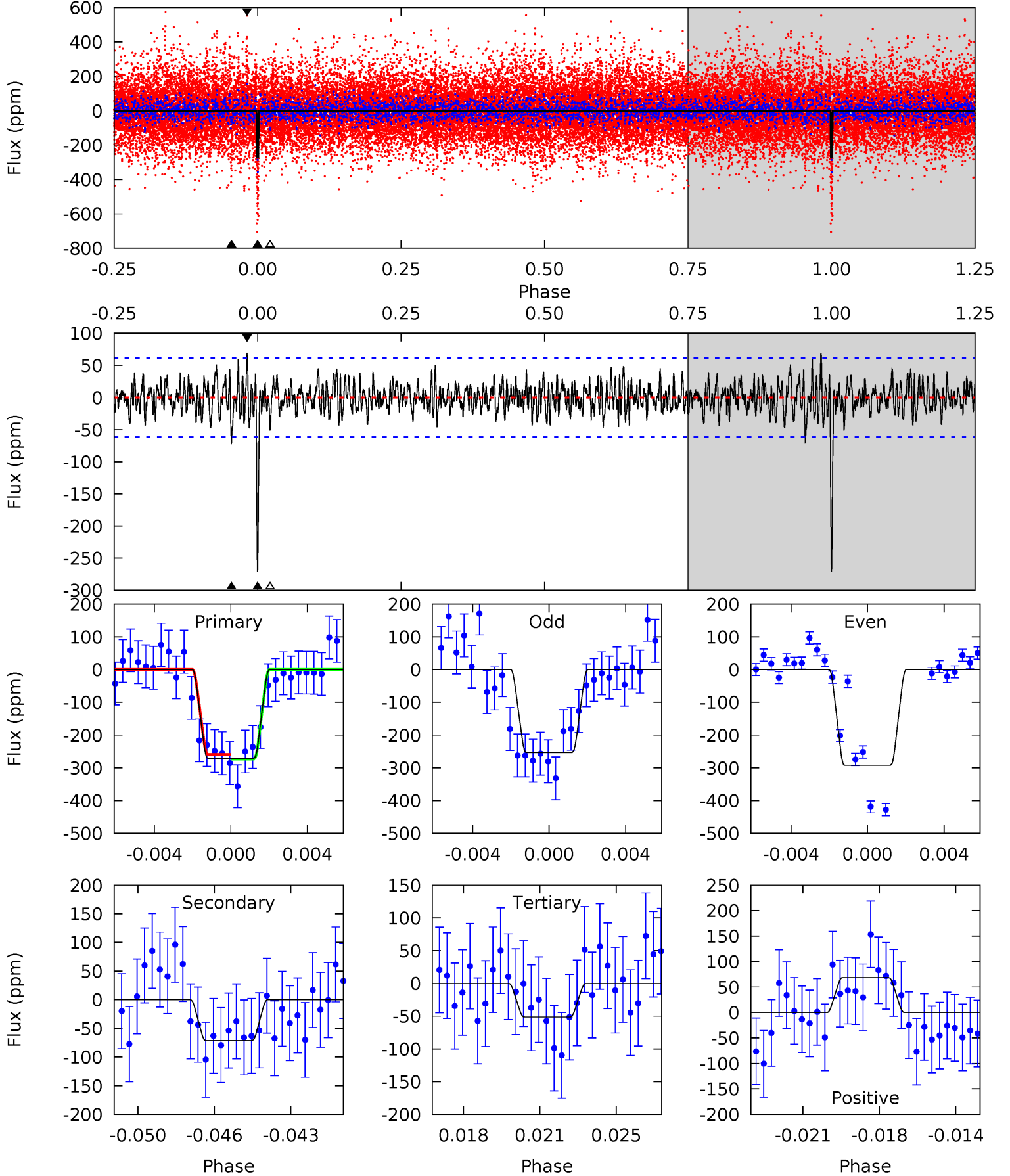
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	7.64	7.54	8.65	5.18	2.85	2.33	5.54	4.42	0.10	-1.01	6.05	1.18	0.40	4.05



# Alt Model-Shift Uniqueness Test

006765575-03, P = 106.573421 Days, E = 82.703854 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
22.9	6.03	4.34	5.80	5.22	2.91	1.55	18.6	17.1	1.69	0.23	1.55	0.77	0.20	0.60



### Stellar Parameters For KIC 006765575

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7061^{+188}_{-230}$	$3.843^{+0.292}_{-0.097}$	$-0.460^{+0.300}_{-0.250}$	$2.387^{+0.448}_{-0.768}$	$1.447^{+0.225}_{-0.275}$	$0.150^{+0.271}_{-0.047}$
	+3%/-3%	+8%/-3%	+65%/-54%	+19%/-32%	+16%/-19%	+181%/-31%
Source	PHO1	FLK73	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 006765575-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-77 \pm 10$	$2.82^{+1.05}_{-0.98}$	$932^{+58}_{-79}$	$6096^{+1532}_{-774}$	$1365^{+1831}_{-663}$
Alt.	$-71 \pm 12$	$4.29^{+1.17}_{-1.13}$	$934^{+58}_{-78}$	$4956^{+640}_{-433}$	$529^{+429}_{-215}$

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



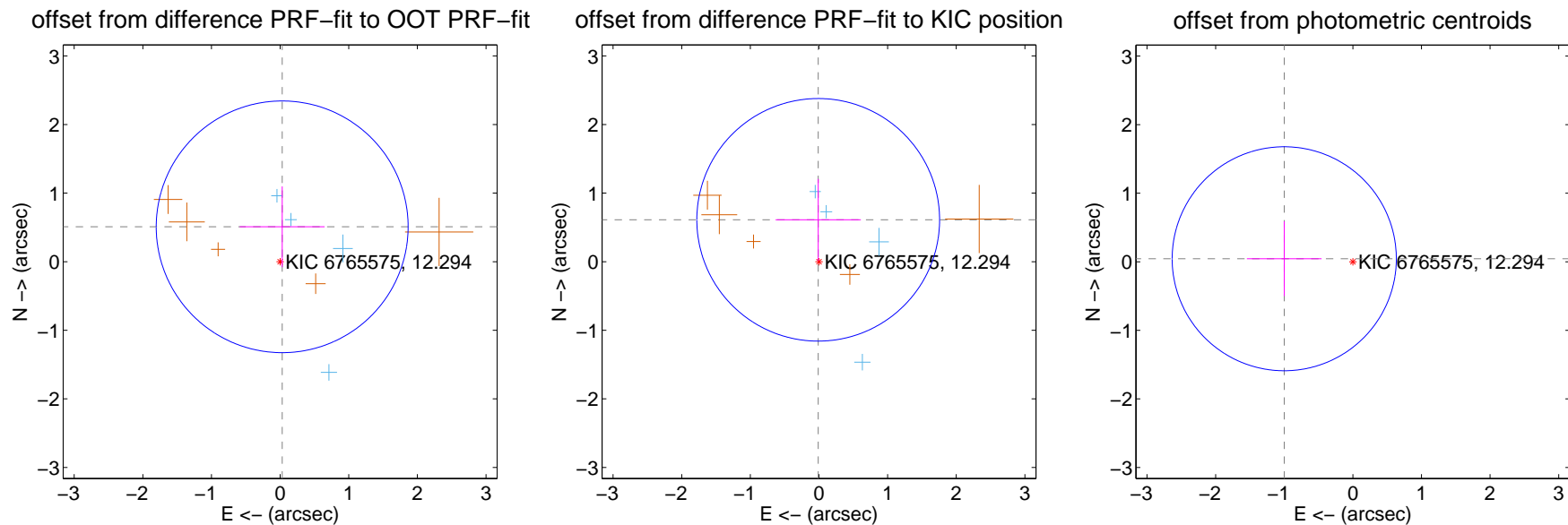
## DV Centroid Data

Supplemental centroid analysis for 006765575-03. Kepler magnitude: 12.29. Transit SNR 6.29

There are 4 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.510 \pm 0.612$	0.83	$-0.030 \pm 0.619$	$0.509 \pm 0.589$
PRF-fit source offset from KIC position	$0.611 \pm 0.589$	1.04	$0.011 \pm 0.621$	$0.610 \pm 0.597$
photometric centroid source offset	$1.00 \pm 0.54$	1.84	$1.00 \pm 0.54$	$0.04 \pm 0.54$



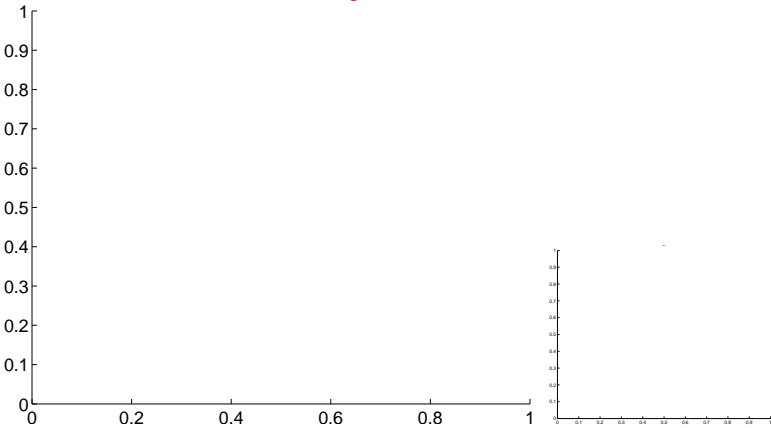
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

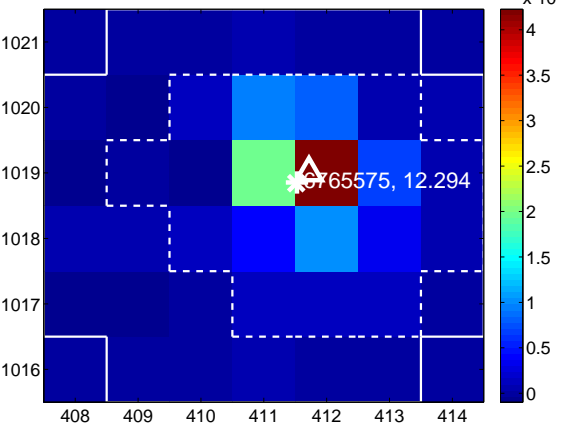
Q1 no difference image



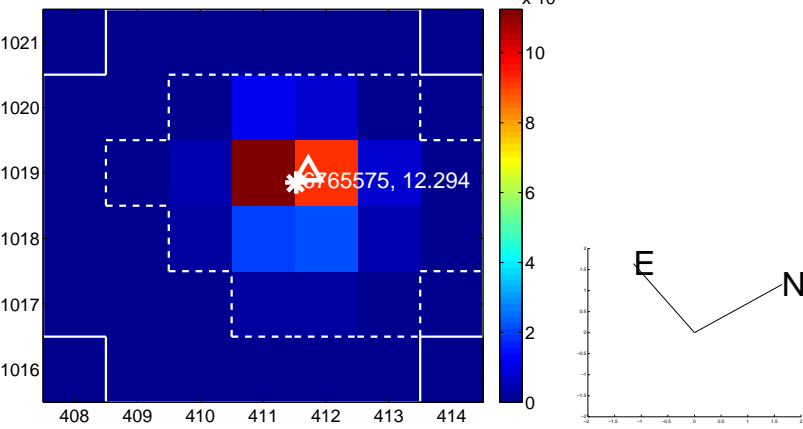
Q1 no OOT image



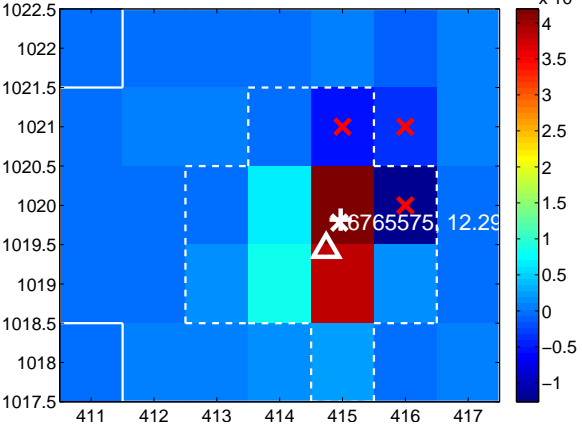
Q2 difference image



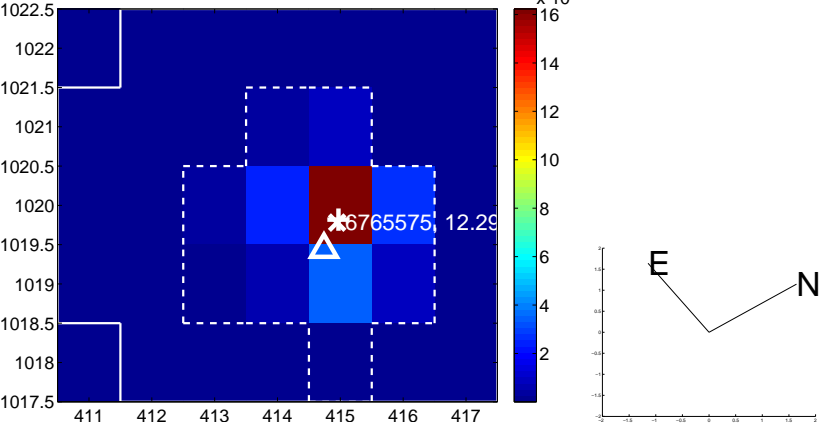
Q2 OOT image



Q3 difference image



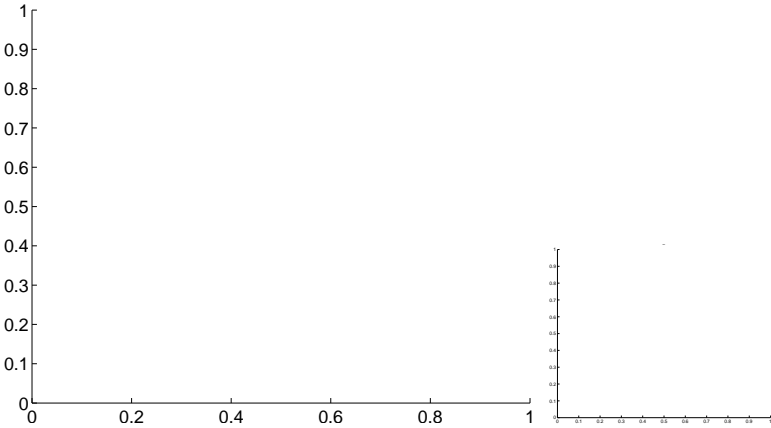
Q3 OOT image



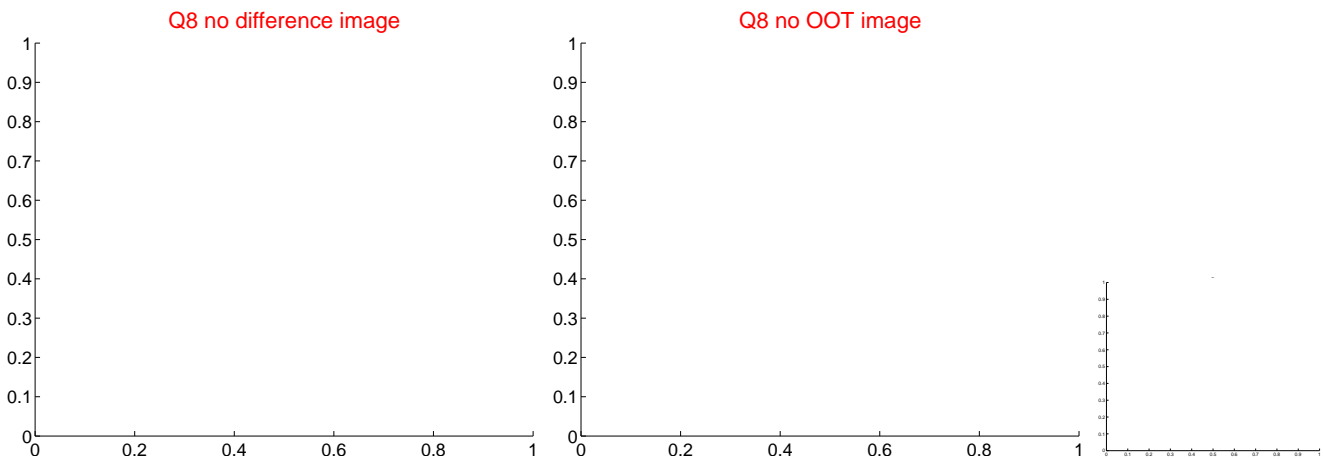
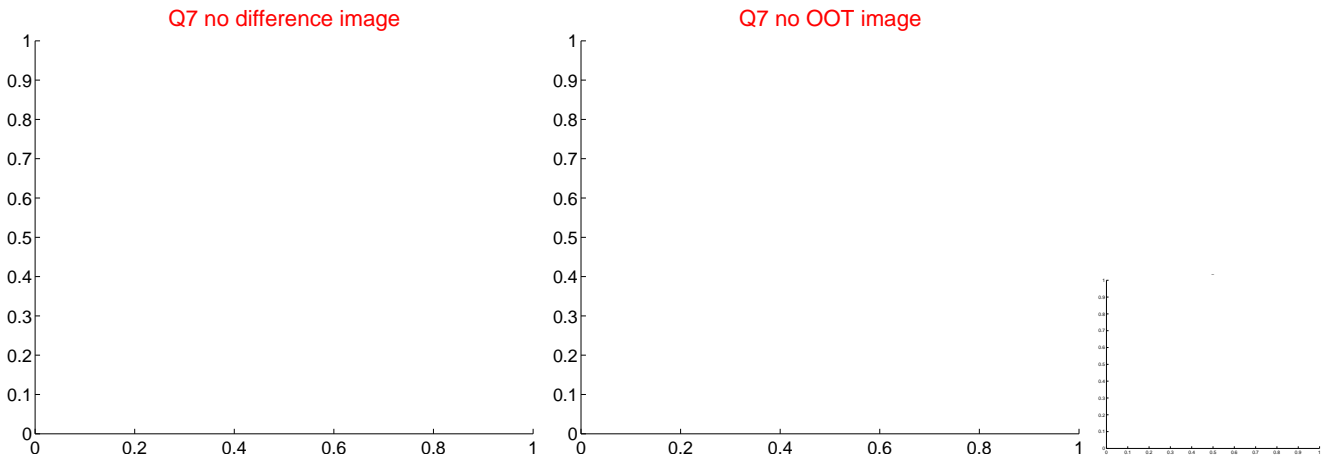
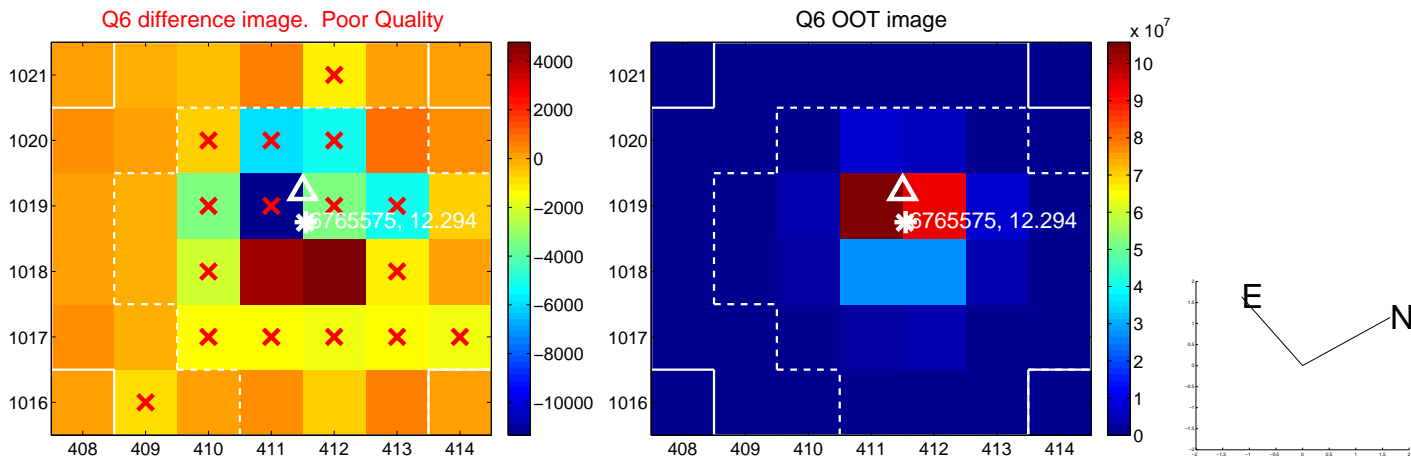
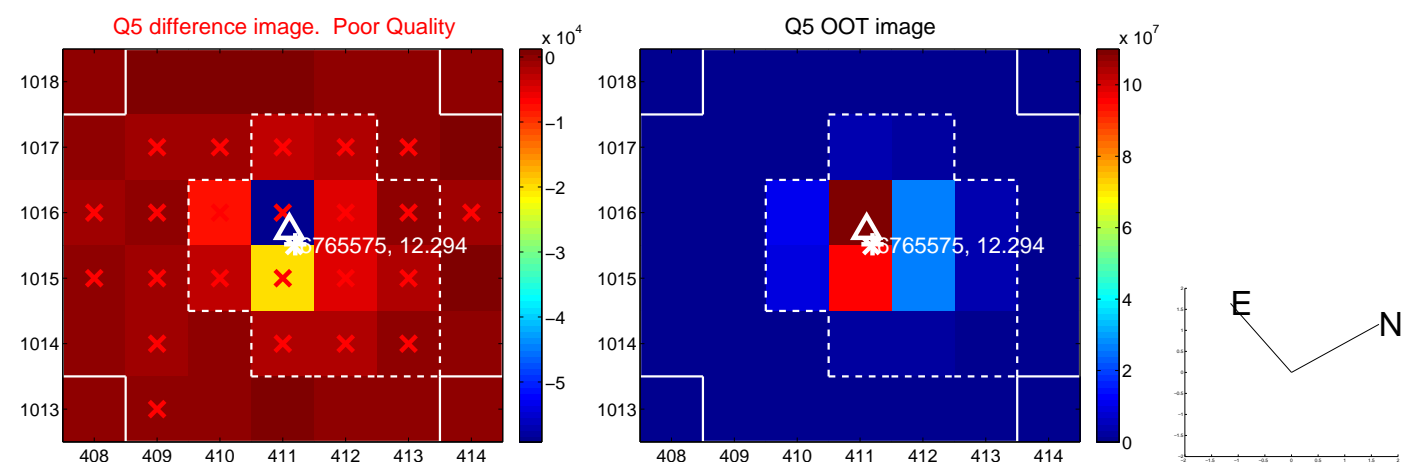
Q4 no difference image



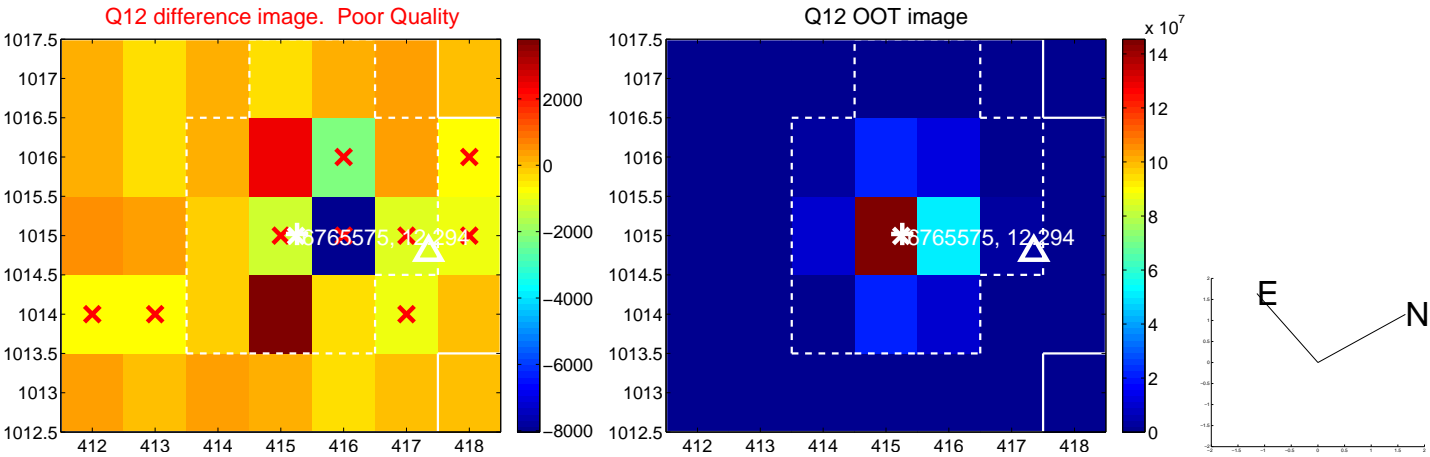
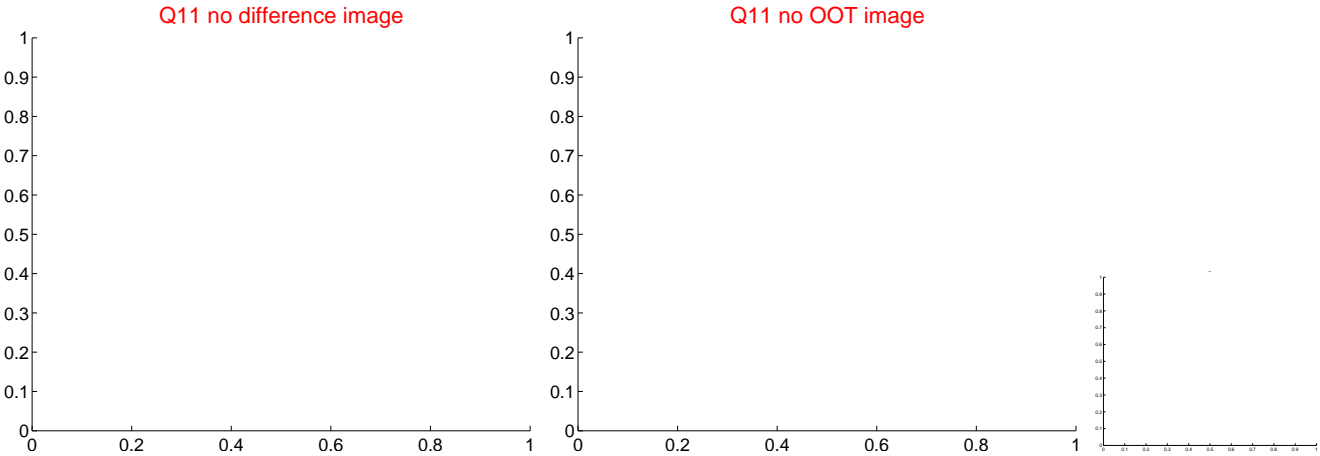
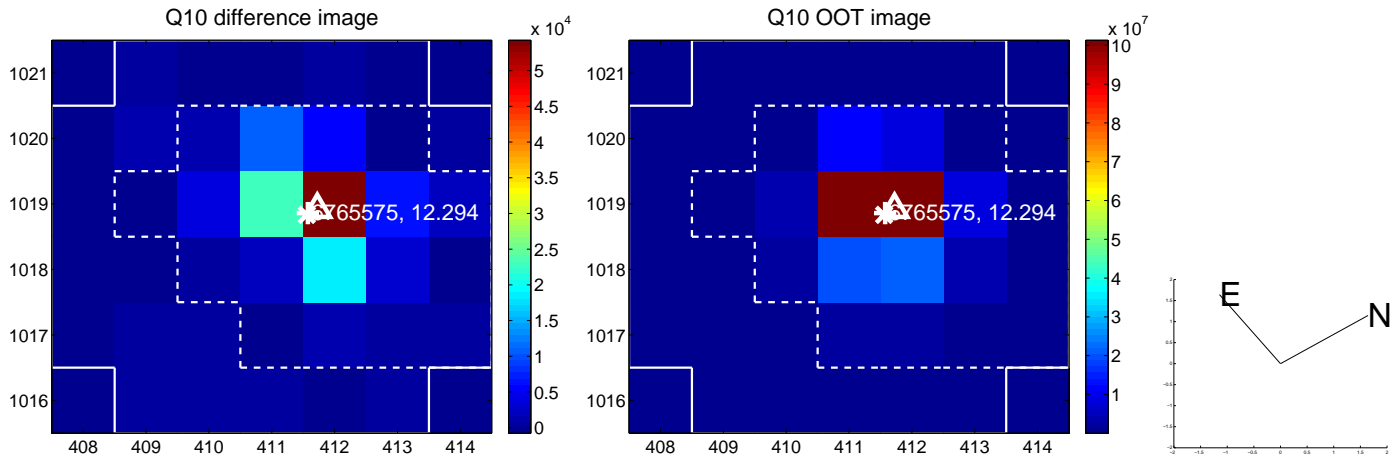
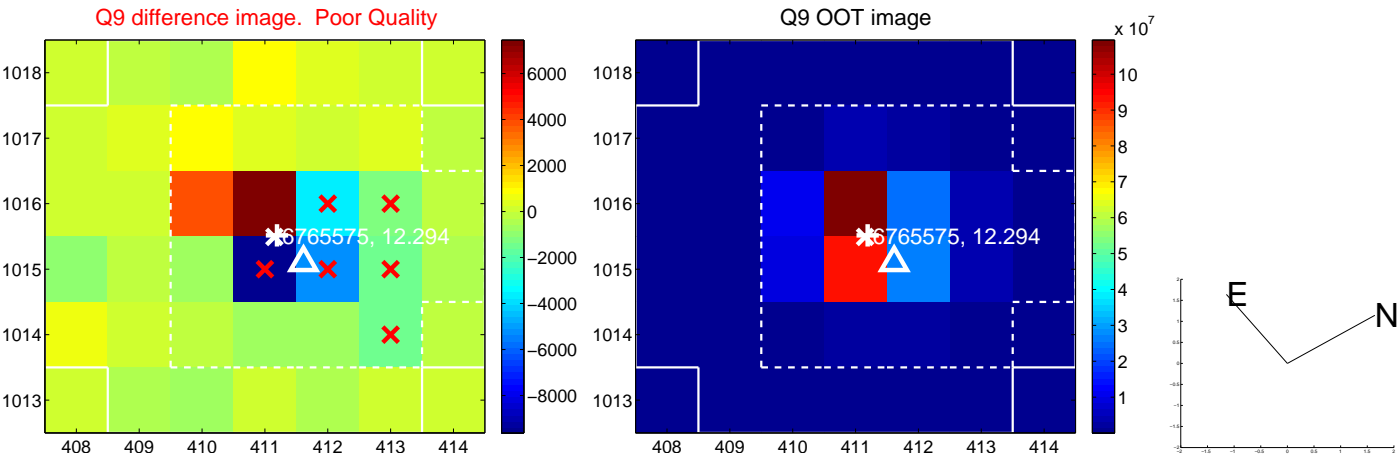
Q4 no OOT image



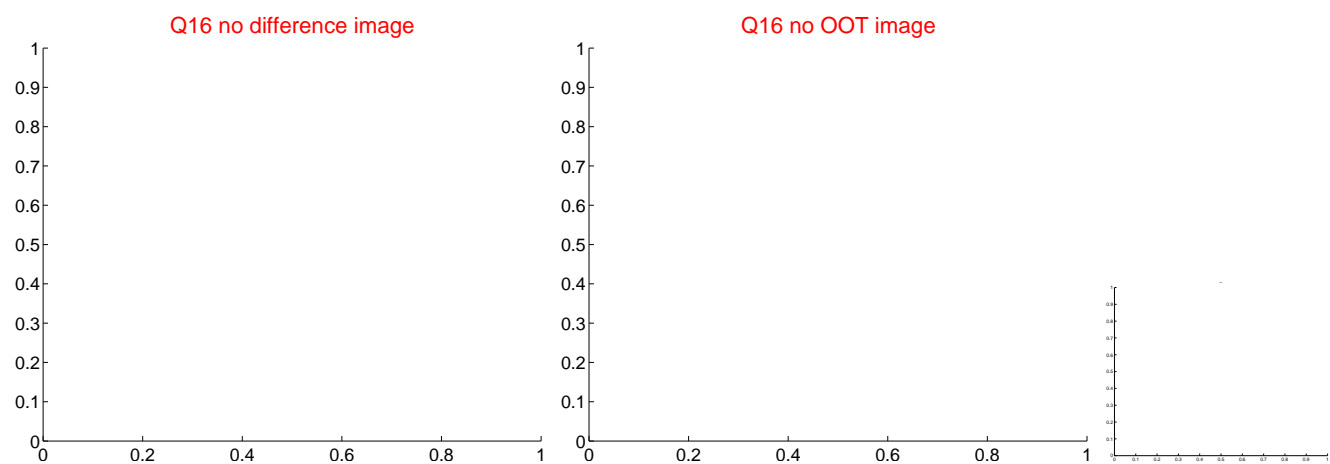
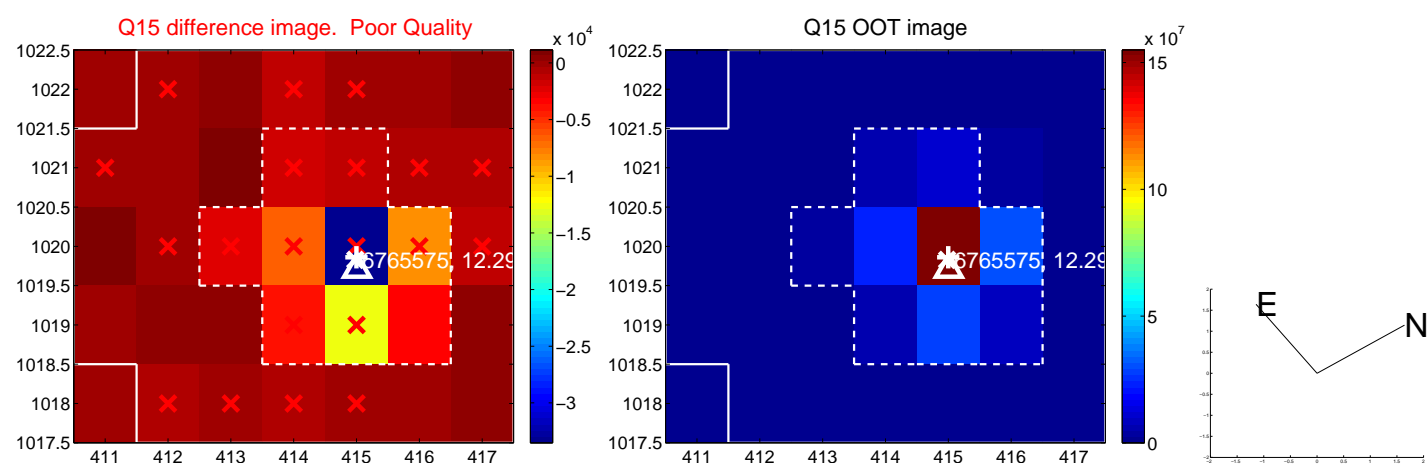
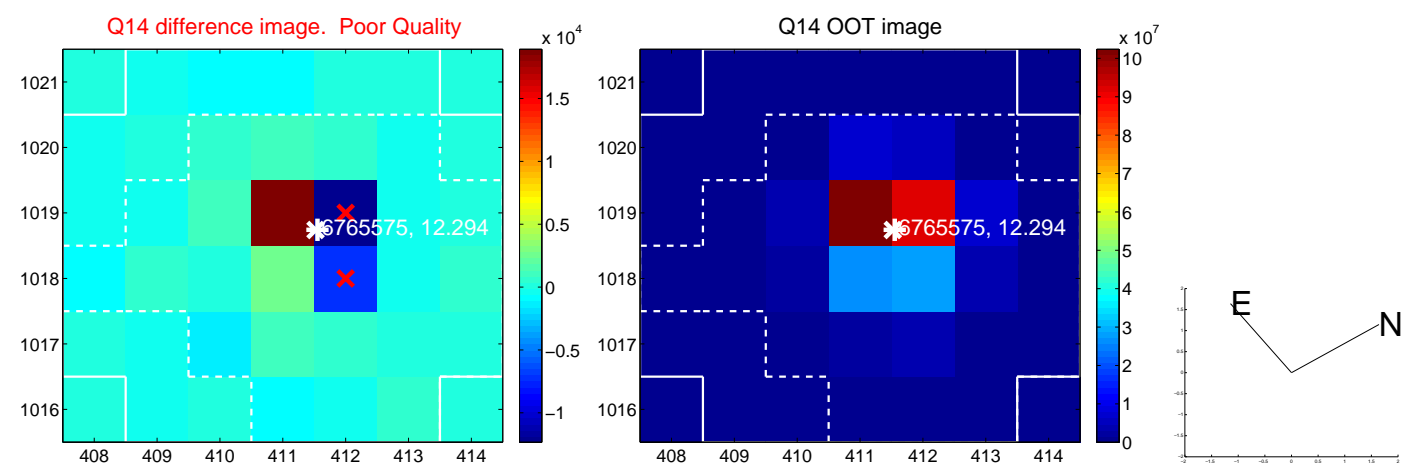
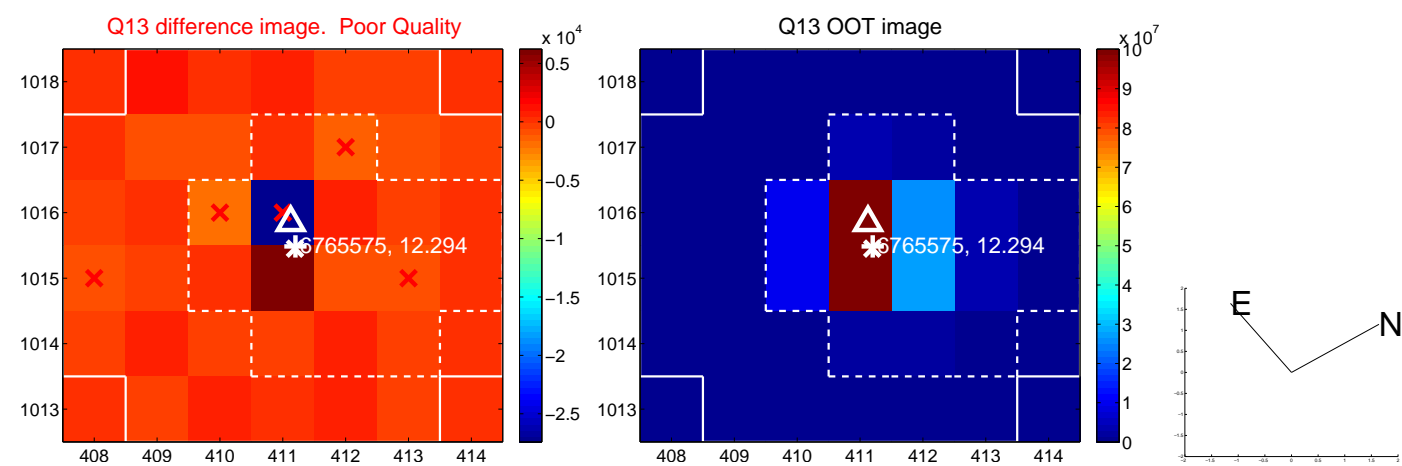
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



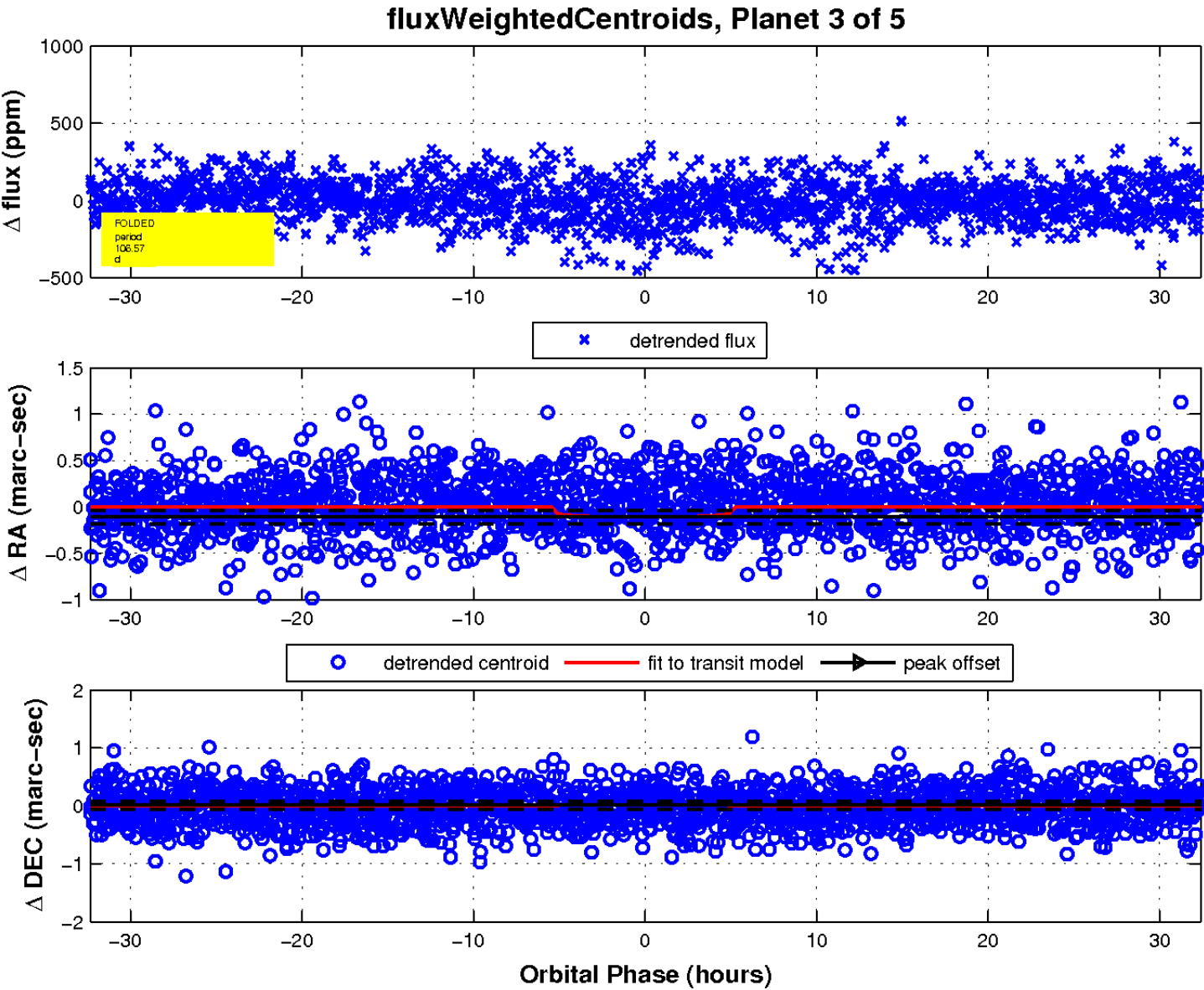
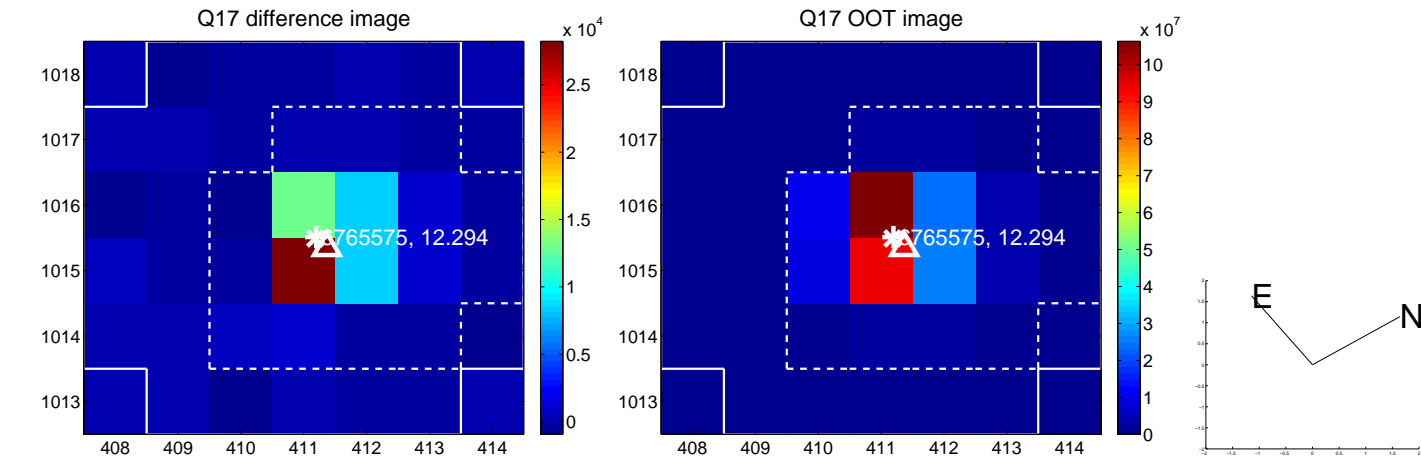
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



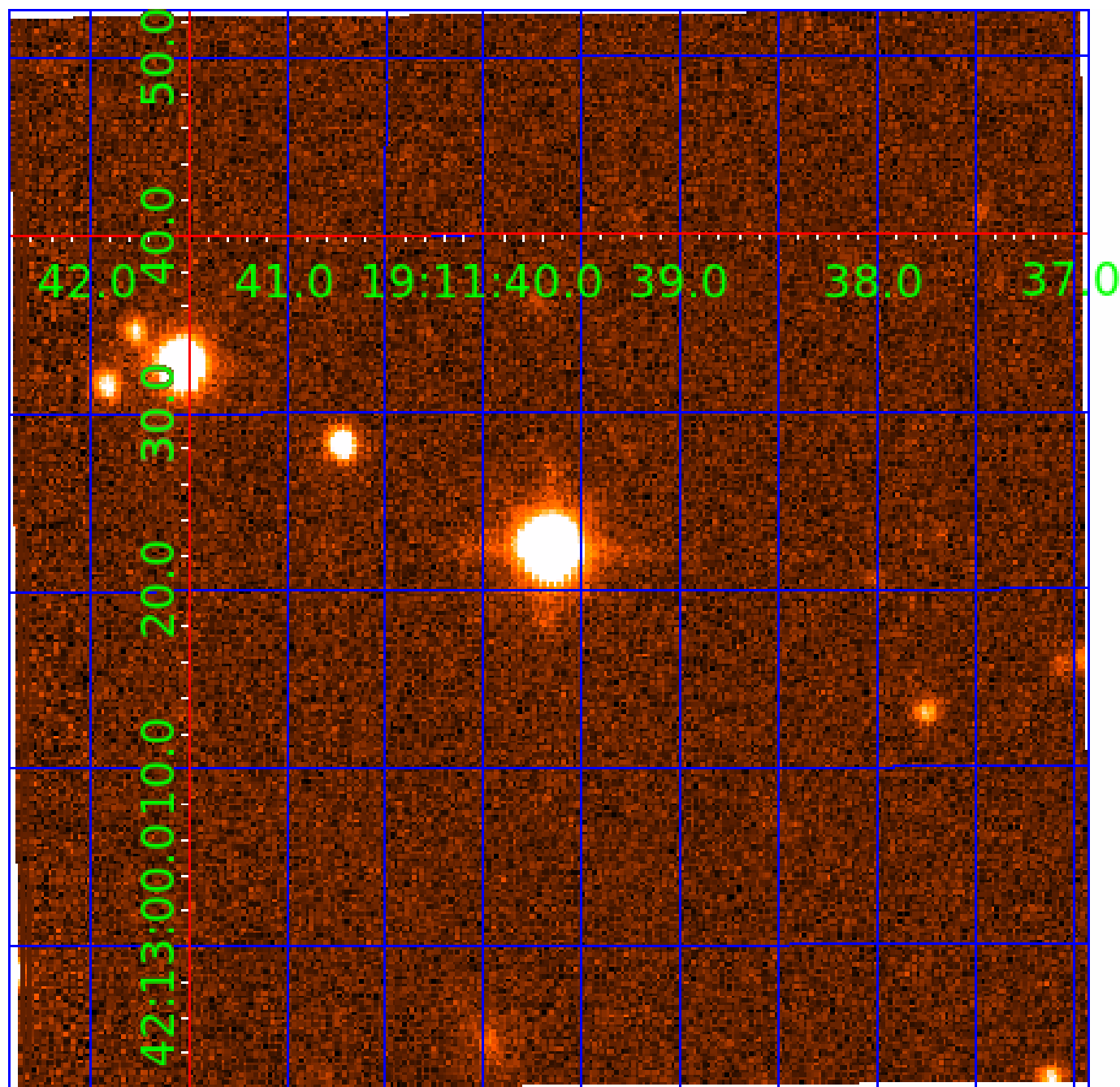
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 006765575

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006765575-01	OBS	No	1.578006	133.046639	21.3	6.704	9.1	9.6	2.39	7061	1.11	14085.83
006765575-02	OBS	No	165.312177	253.984695	150.9	12.185	7.9	6.2	2.39	7061	3.13	28.52
006765575-03	OBS	No	106.572825	189.308314	128.7	10.802	8.0	6.3	2.39	7061	3.01	51.22
006765575-04	OBS	No	258.501283	157.820671	244.4	4.508	7.6	7.7	2.39	7061	4.14	15.71
006765575-05	OBS	No	672.191229	148.088610	209.7	6.213	7.5	7.4	2.39	7061	3.82	4.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006765575-01	OBS	FP	0.00	1	0	0	0	LPP_DV
006765575-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006765575-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV
006765575-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
006765575-05	OBS	FP	0.00	1	0	0	0	LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

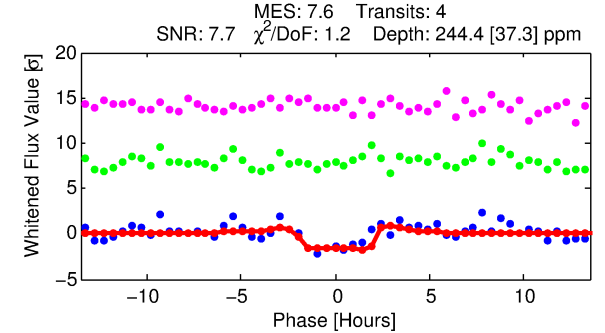
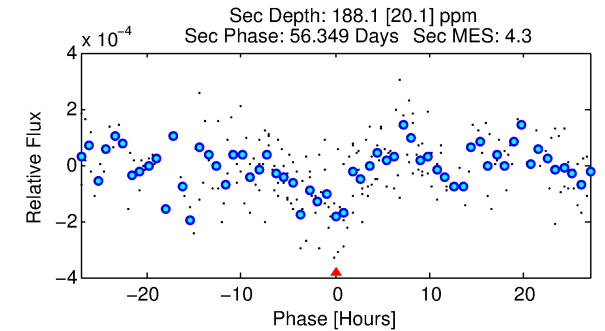
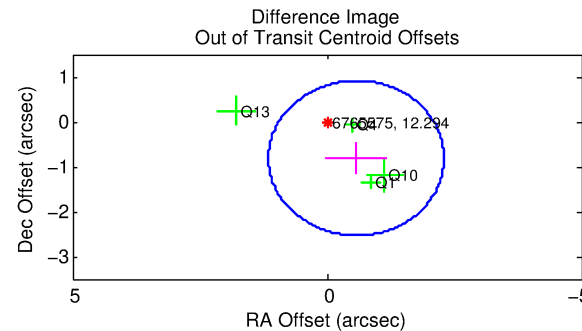
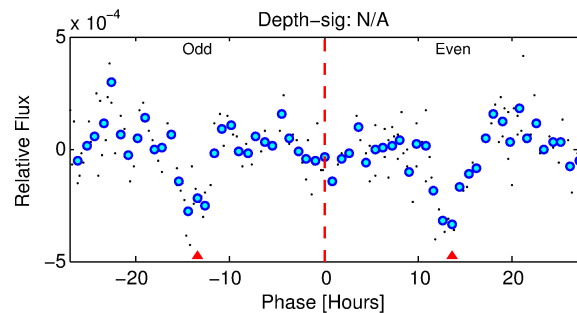
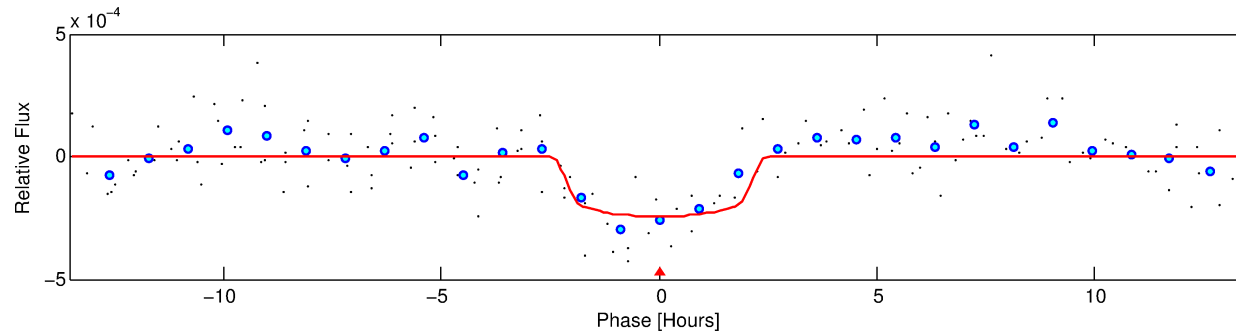
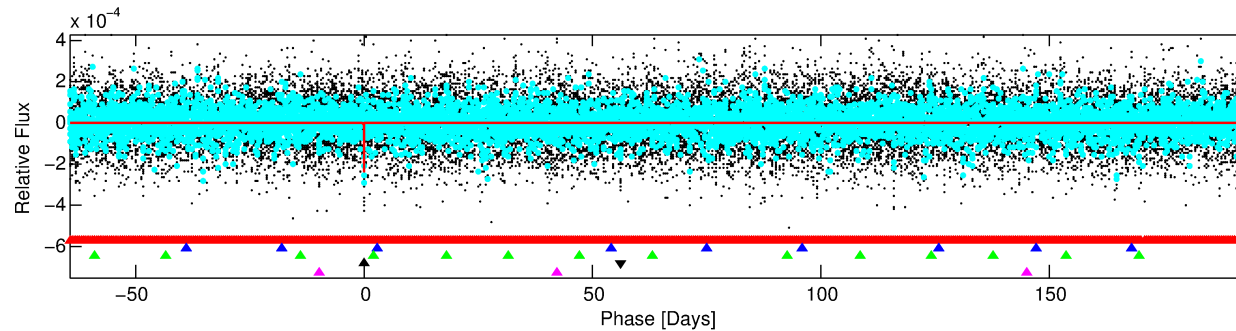
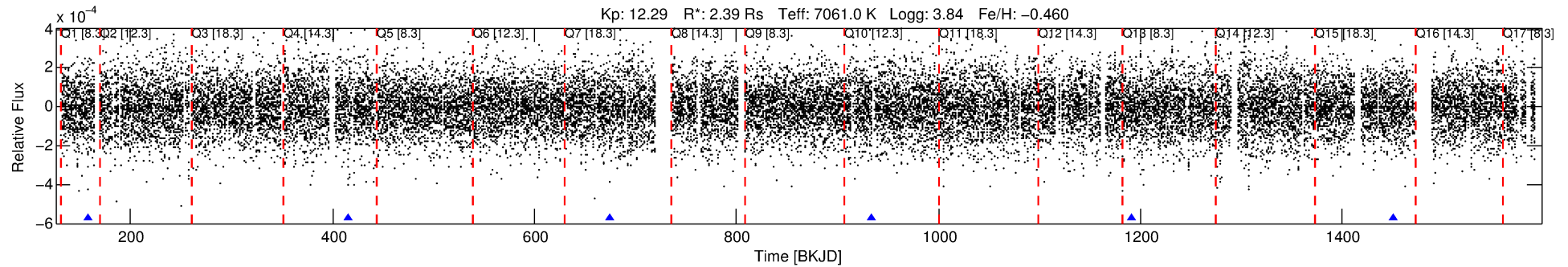
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006765575-04

No Significant Match Found

# DV One-Page Summary

KIC: 6765575 Candidate: 4 of 5 Period: 258.501 d



## DV Fit Results:

Period = 258.50128 [0.00362] d  
Epoch = 157.8207 [0.0073] BKJD  
Rp/R\* = 0.0159 [0.0116]  
a/R\* = 268.62 [1132.58]  
b = 0.81 [1.80]  
Seff = 15.71 [8.07]  
Teq = 508 [65] K  
Rp = 4.14 [3.30] Re  
a = 0.8986 [0.2788] AU  
Ag = 4883.41 [7548.98] [0.65σ]  
Teffp = 6562 [2411] K [2.51σ]

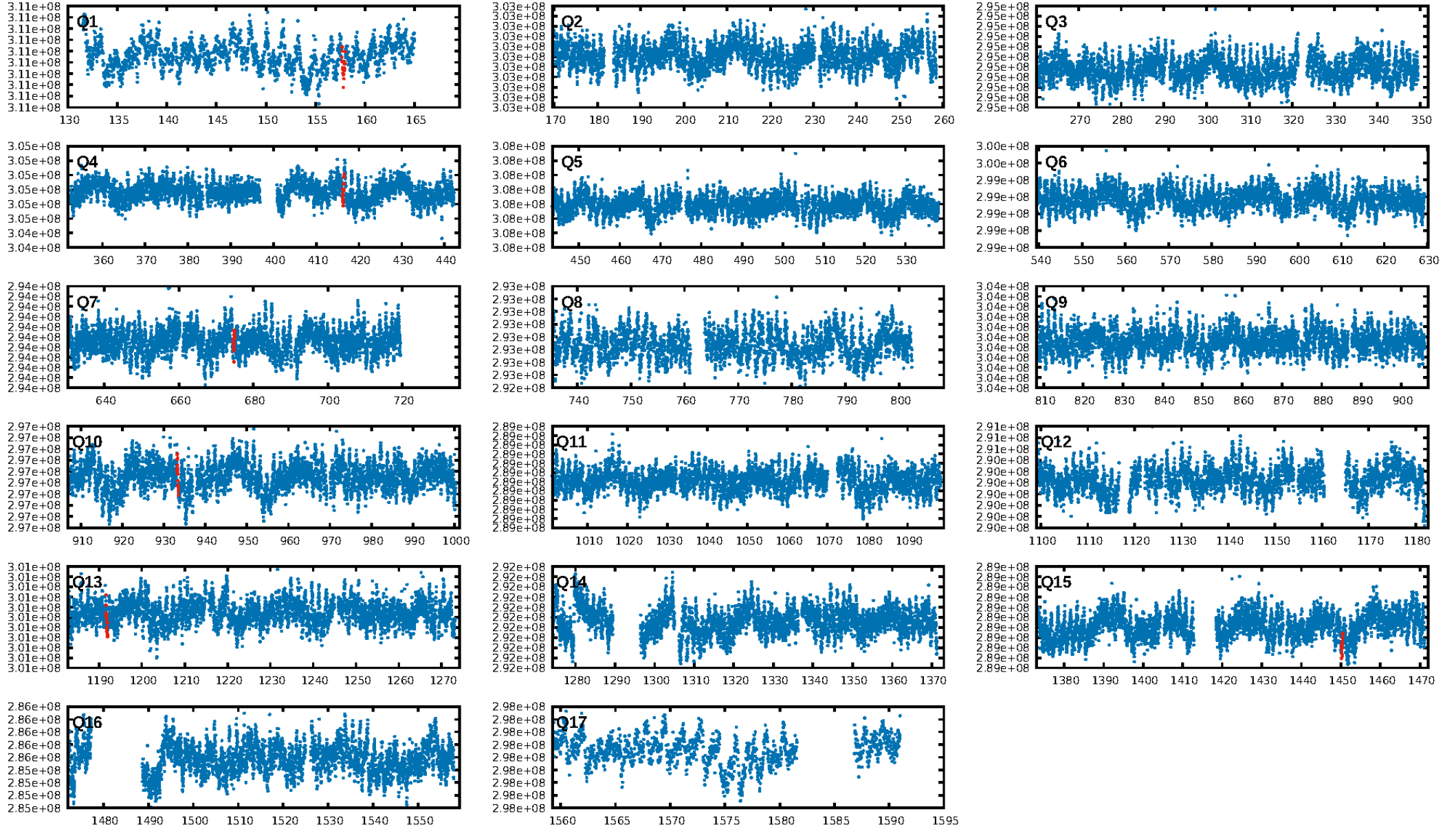
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [172.15σ]  
LongPeriod-sig: 100.0% [1293.43σ]  
ModelChiSquare2-sig: 85.9%  
ModelChiSquareGof-sig: 99.4%  
**Bootstrap-pfa: 2.69e-10**  
RollingBand-fgt: 1.00 [3/3]  
**GhostDiagnostic-chr: -0.4126**  
Centroid-sig: 77.7%  
Centroid-so: 0.393 arcsec [0.77σ]  
OotOffset-rm: 0.993 arcsec [1.73σ]  
KicOffset-rm: 0.899 arcsec [1.69σ]  
OotOffset-st: 1/0/1/2 [4]  
KicOffset-st: 1/0/1/2 [4]  
DiffImageQuality-fgm: 0.75 [3/4]  
DiffImageOverlap-fno: 0.20 [1/5]

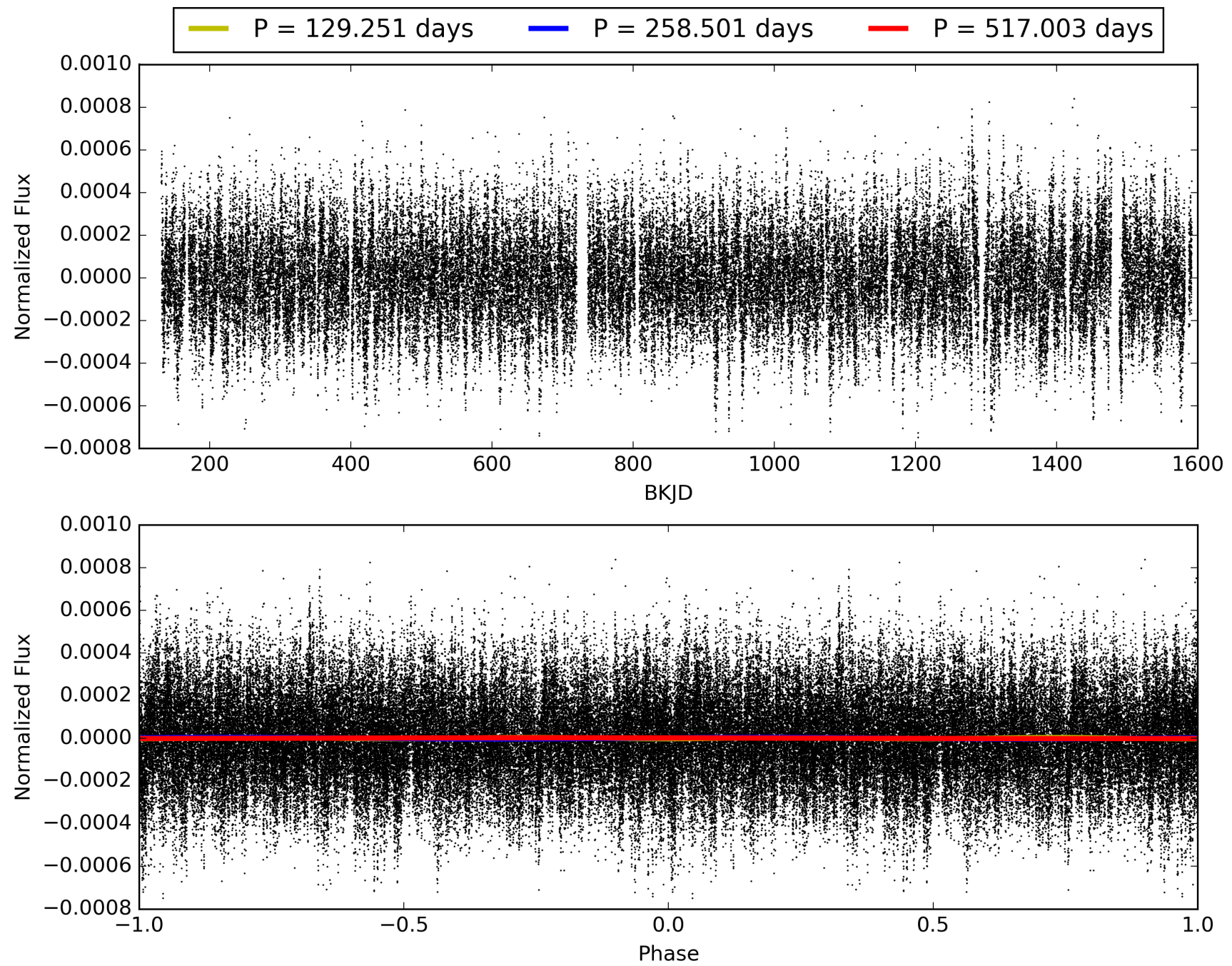
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:53:57 Z

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

# TCE 006765575-04, PDC Light Curves



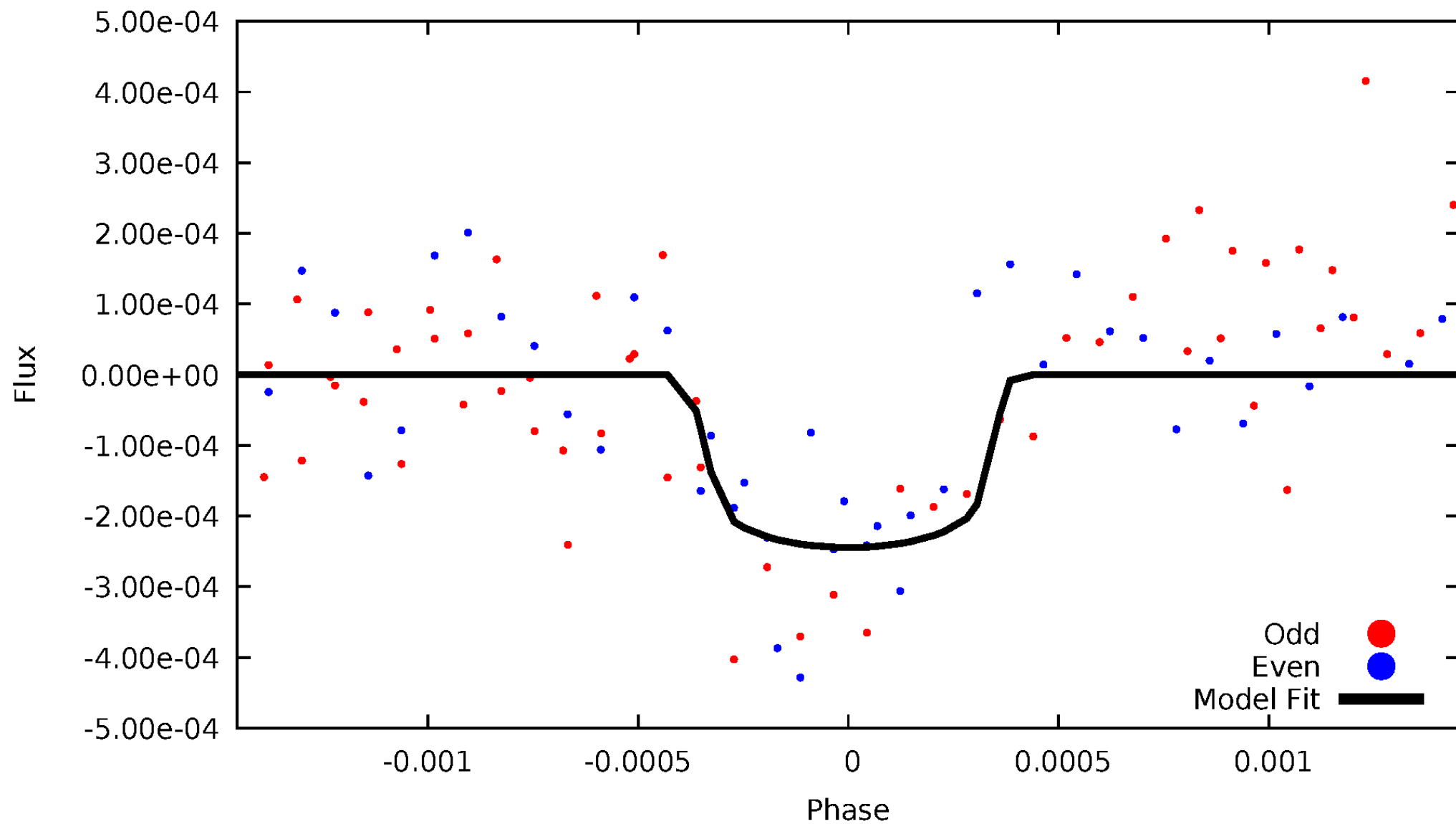
TCE 006765575-04





# DV Odd/Even

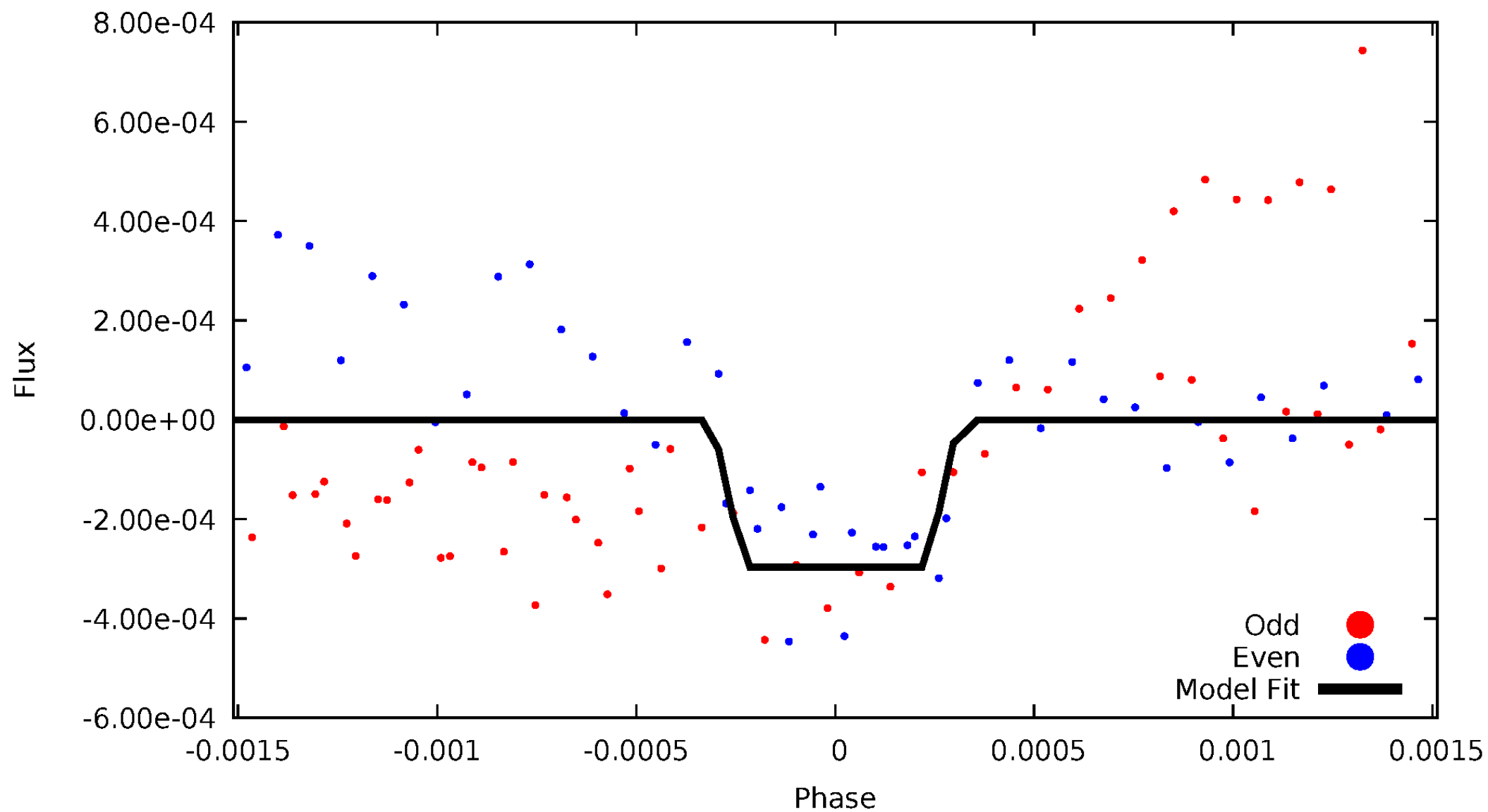
TCE 006765575-04





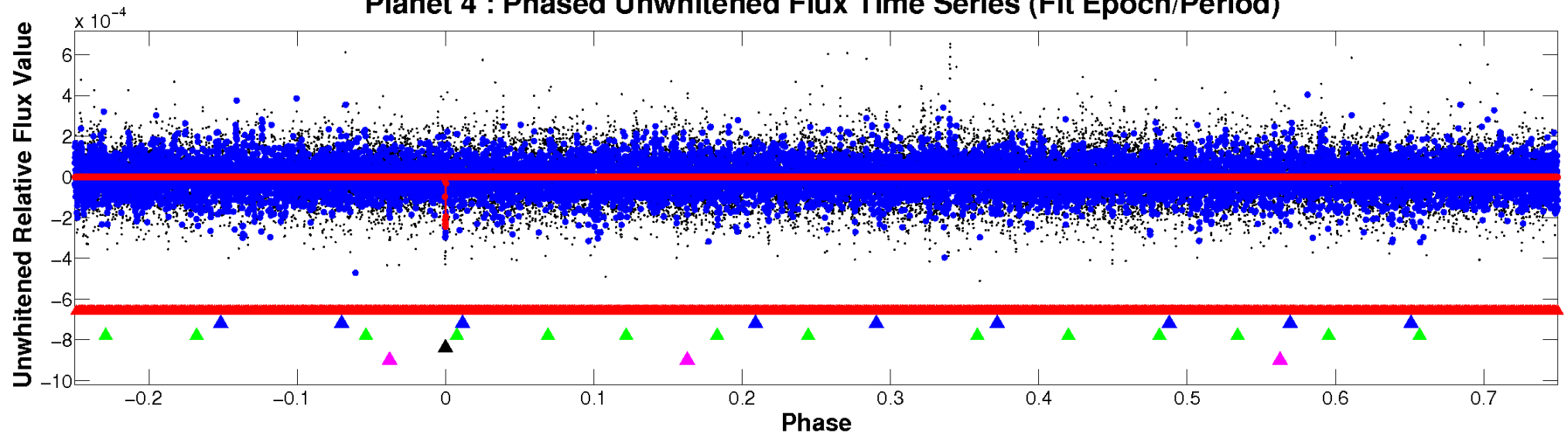
# ALT Odd/Even

TCE 006765575-04

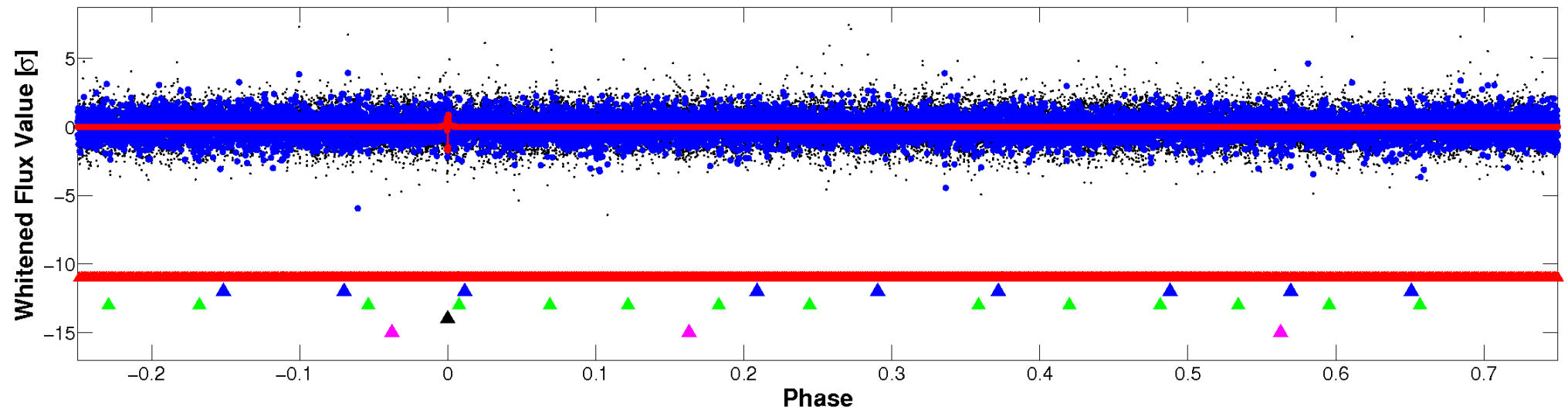


# Non-Whitened Vs. Whitened Light Curve

## Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

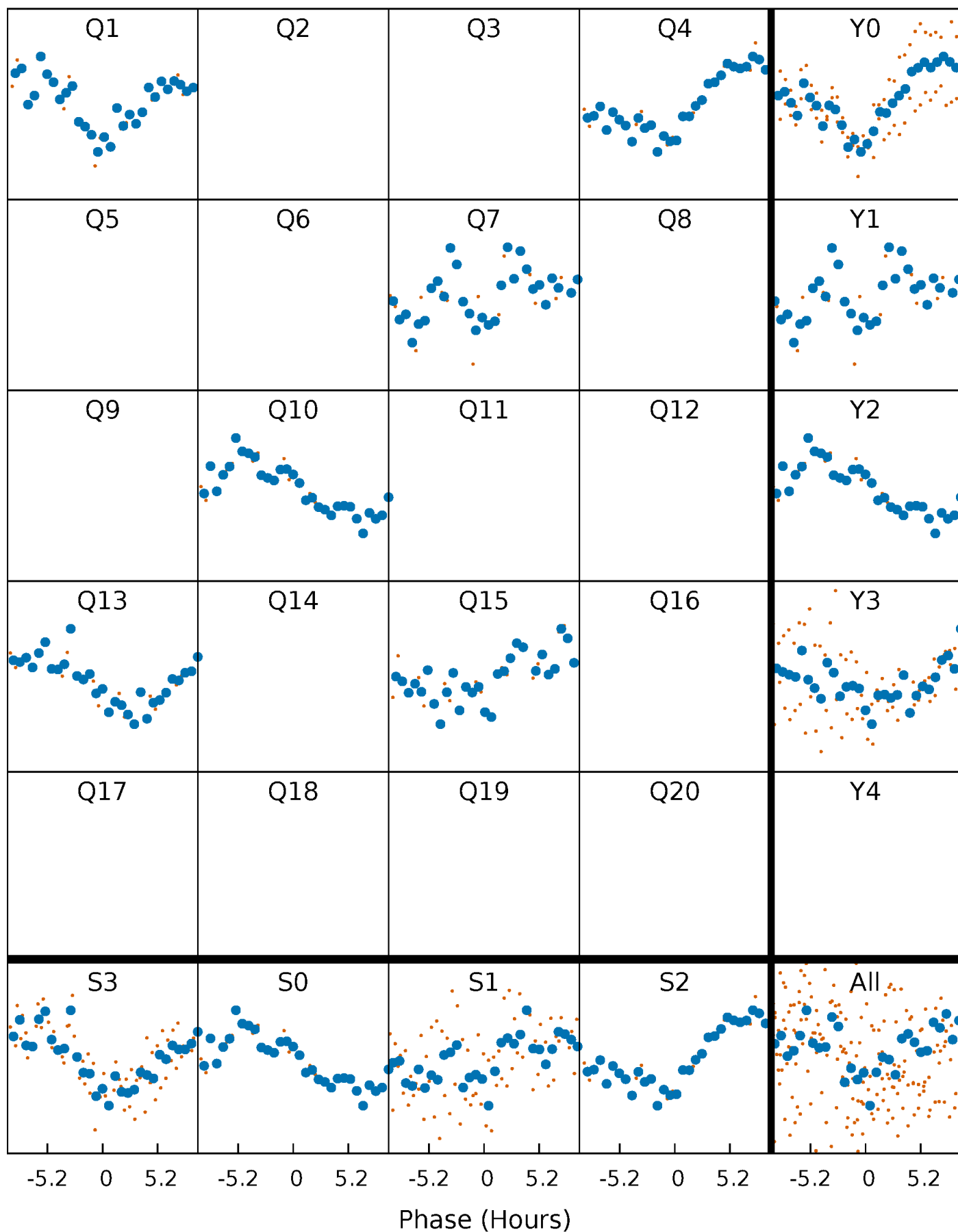


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



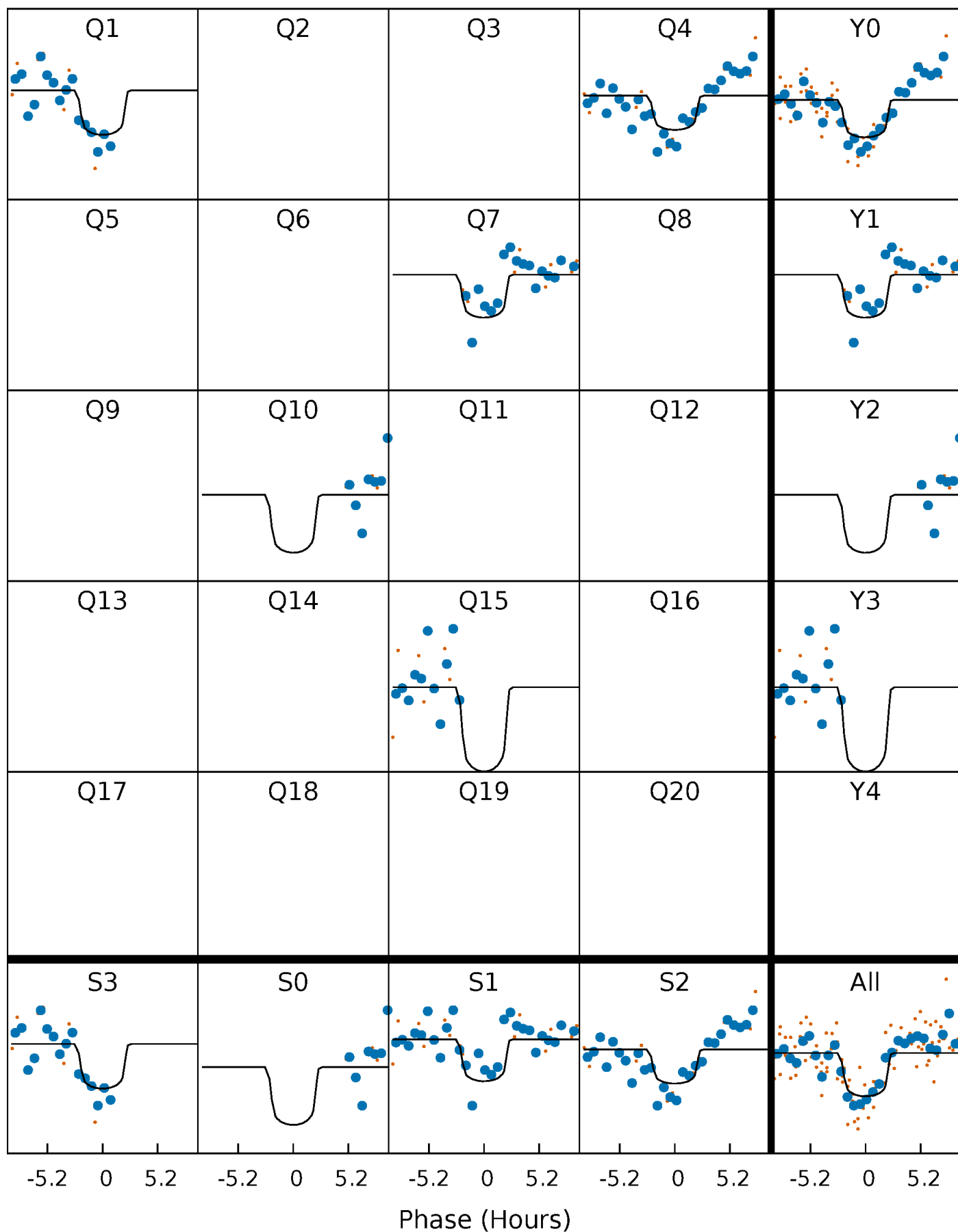
# PDC Quarter-Phased Transit Curves

TCE 006765575-04 P=258.501283 Days  $T_0=157.820671$  (BKJD)



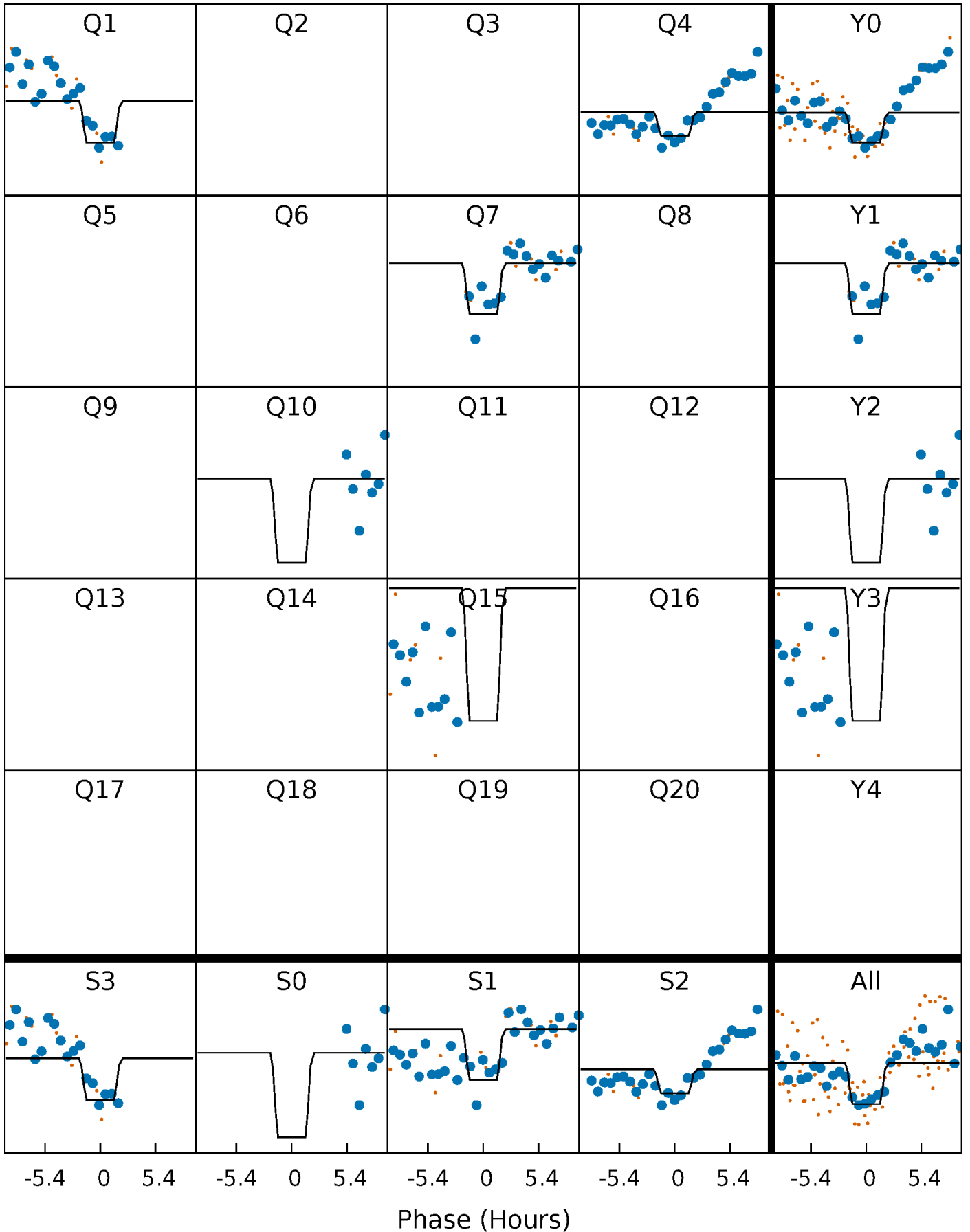
# DV Quarter-Phased Transit Curves

TCE 006765575-04     $P=258.501283$  Days     $T_0=157.820671$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

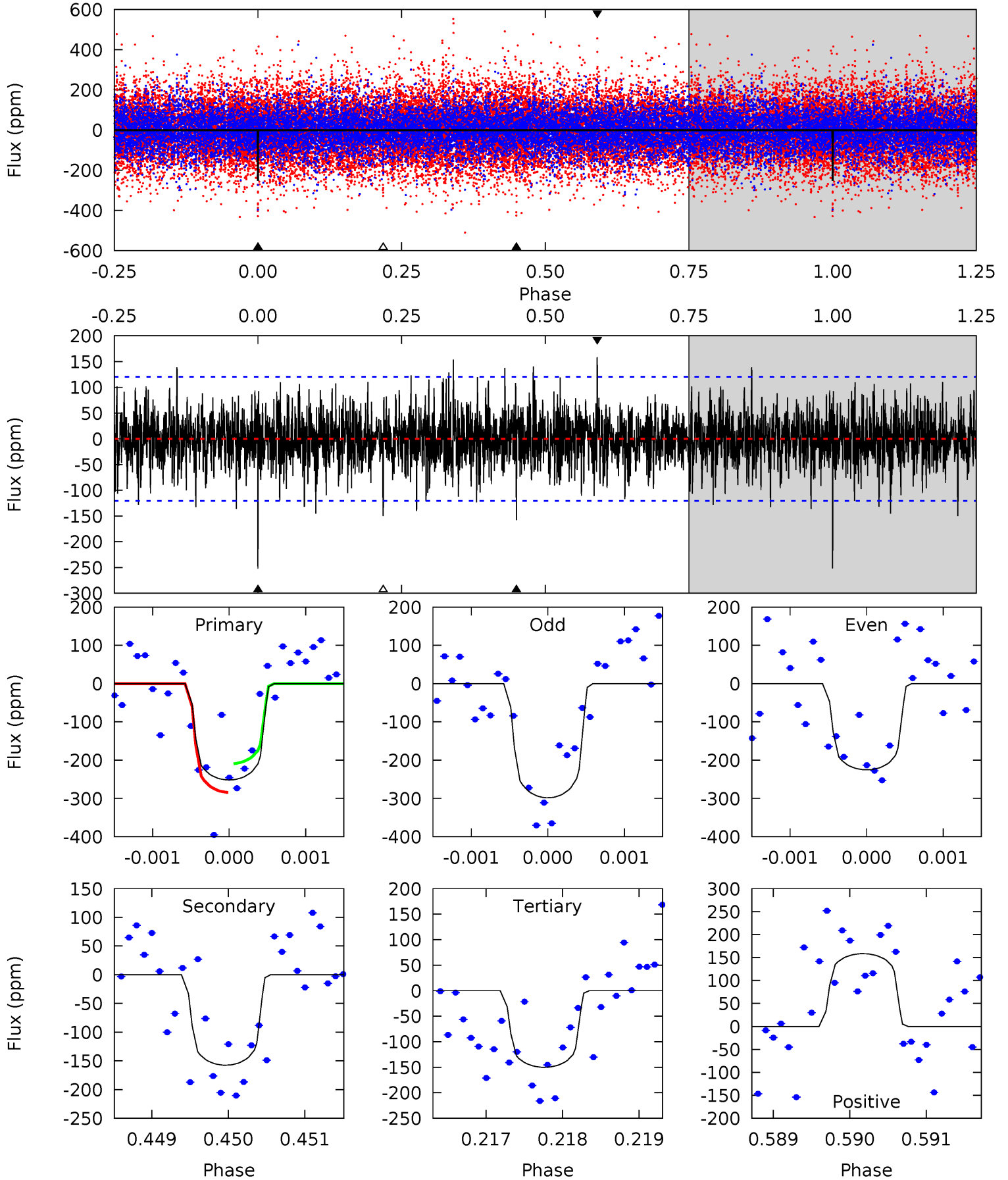
TCE 006765575-04 P=258.512249 Days  $T_0=157.785319$  (BKJD)



# DV Model-Shift Uniqueness Test

006765575-04, P = 258.501283 Days, E = 157.820671 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	7.19	6.85	7.23	5.50	3.37	1.80	4.65	4.27	0.34	-0.04	1.62	0.88	0.39	1.69

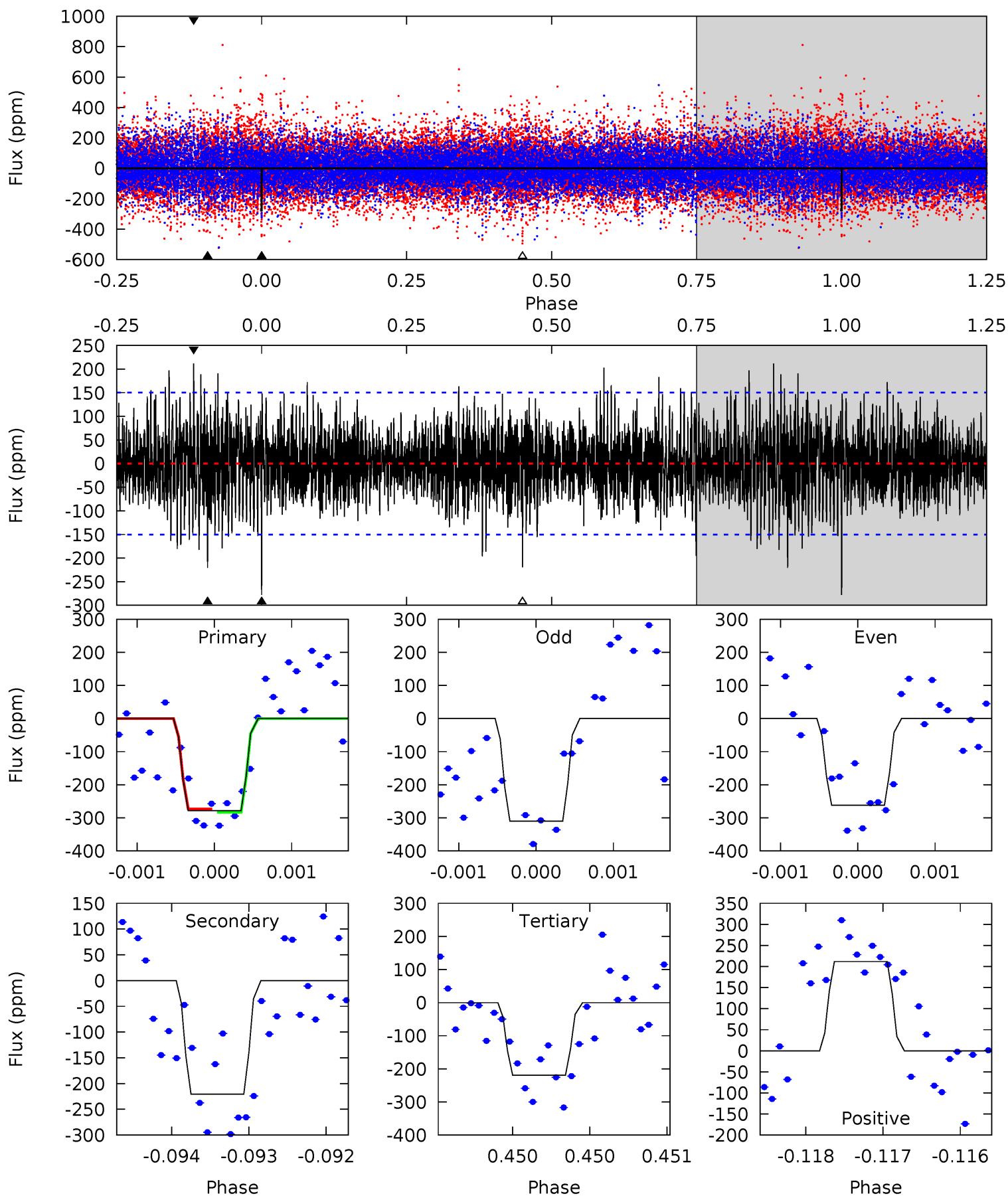




# Alt Model-Shift Uniqueness Test

006765575-04, P = 258.512249 Days, E = 157.785319 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
10.2	8.11	8.06	7.79	5.53	3.42	2.06	2.16	2.43	0.04	0.32	0.87	1.06	0.43	0.17



### Stellar Parameters For KIC 006765575

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7061^{+188}_{-230}$	$3.843^{+0.292}_{-0.097}$	$-0.460^{+0.300}_{-0.250}$	$2.387^{+0.448}_{-0.768}$	$1.447^{+0.225}_{-0.275}$	$0.150^{+0.271}_{-0.047}$
	+3%/-3%	+8%/-3%	+65%/-54%	+19%/-32%	+16%/-19%	+181%/-31%
Source	PHO1	FLK73	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 006765575-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-158 \pm 22$	$4.20^{+2.83}_{-2.46}$	$693^{+47}_{-56}$	$5956^{+3929}_{-1164}$	$3960^{+18193}_{-2516}$
Alt.	$-220 \pm 27$	$4.43^{+3.04}_{-2.41}$	$695^{+41}_{-58}$	$6314^{+4244}_{-1343}$	$4896^{+19405}_{-3171}$

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

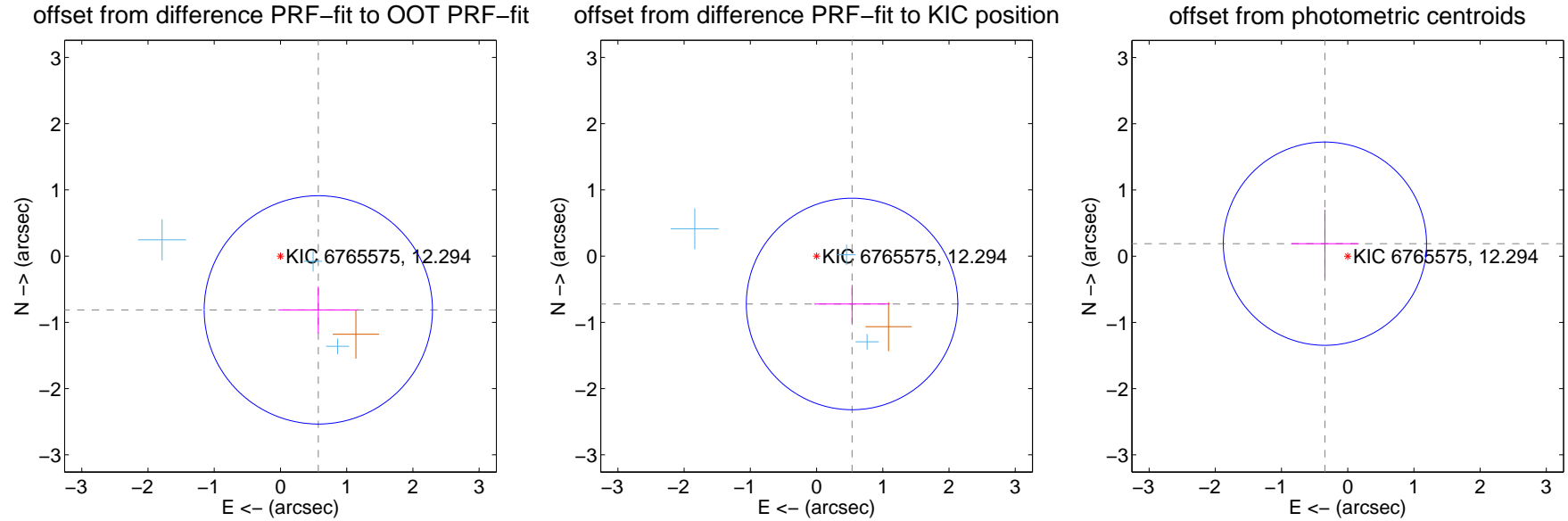
## DV Centroid Data

Supplemental centroid analysis for 006765575-04. Kepler magnitude: 12.29. Transit SNR 7.75

There are 3 quarters with good PRF difference image offsets

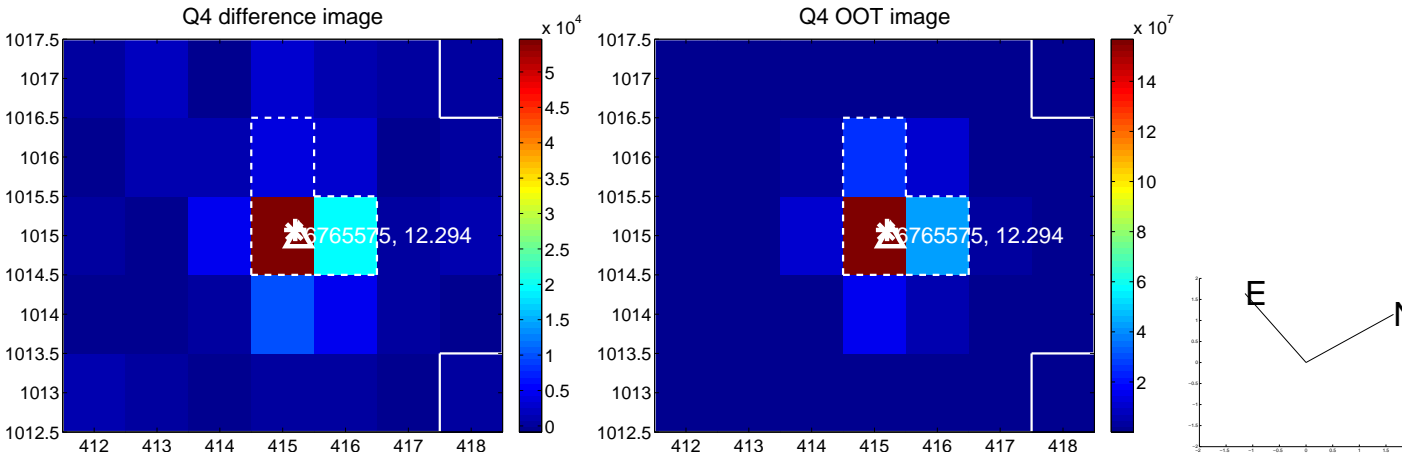
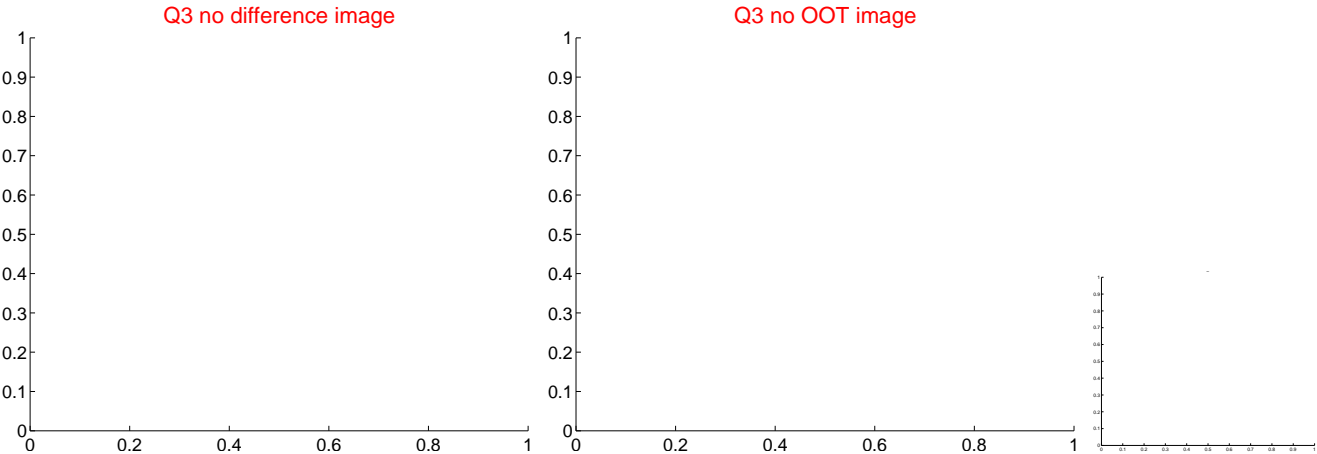
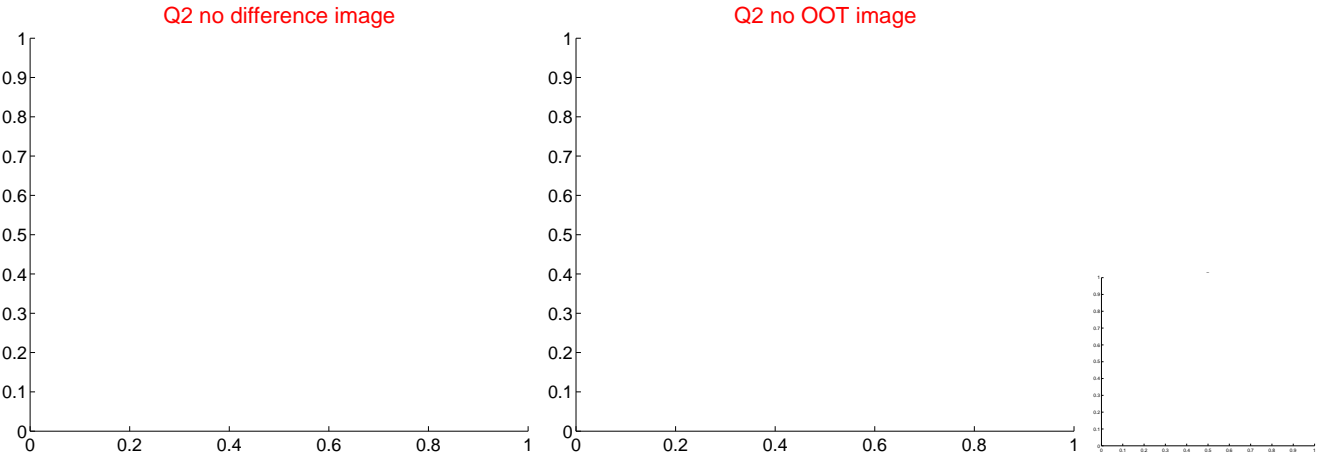
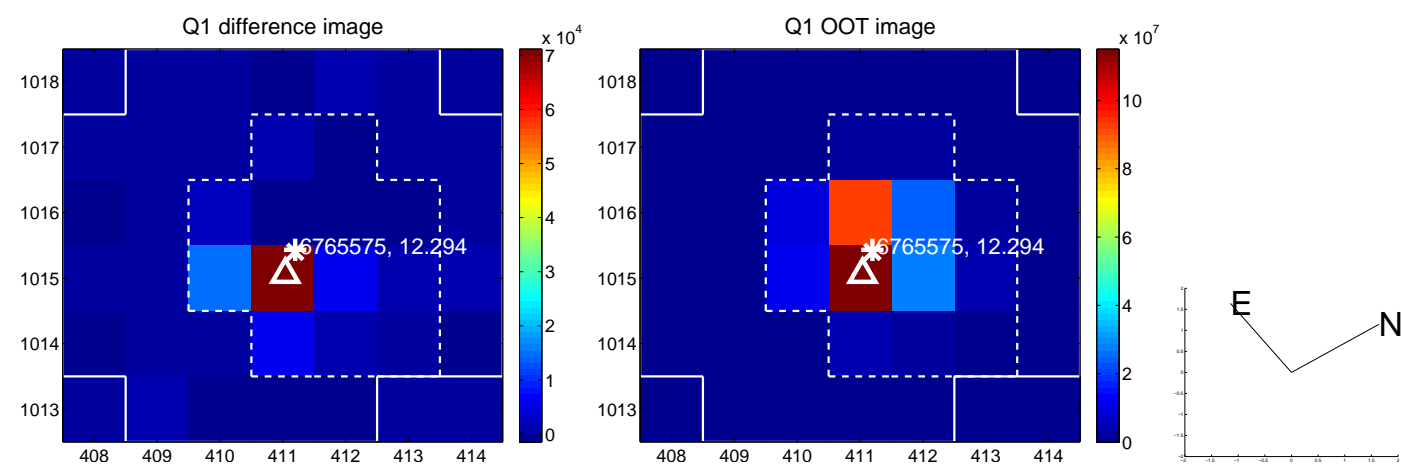
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.993 \pm 0.574$	1.73	$-0.572 \pm 0.600$	$-0.811 \pm 0.352$
PRF-fit source offset from KIC position	$0.899 \pm 0.532$	1.69	$-0.536 \pm 0.571$	$-0.722 \pm 0.288$
photometric centroid source offset	$0.39 \pm 0.51$	0.77	$0.34 \pm 0.51$	$0.19 \pm 0.51$



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

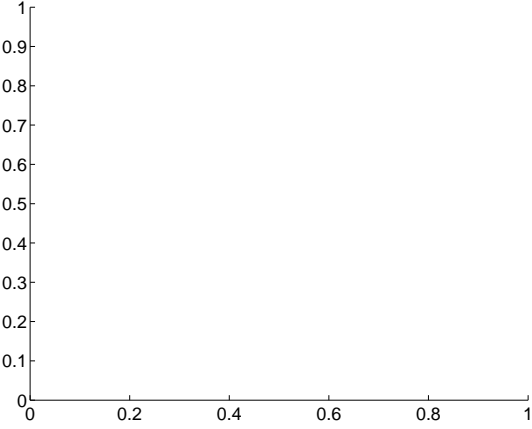
Q5 no difference image



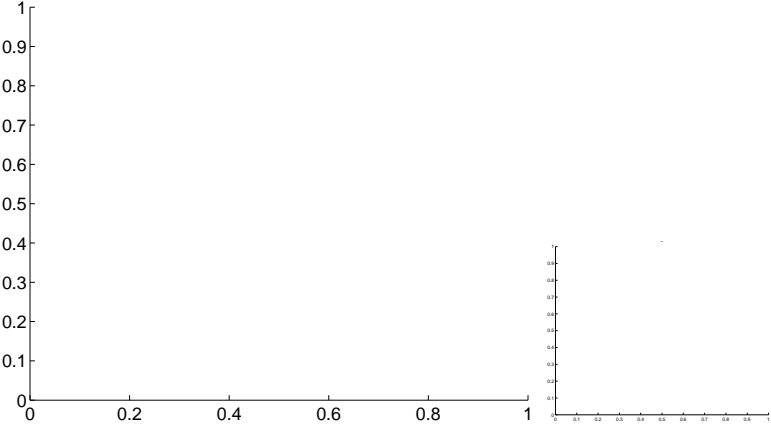
Q5 no OOT image



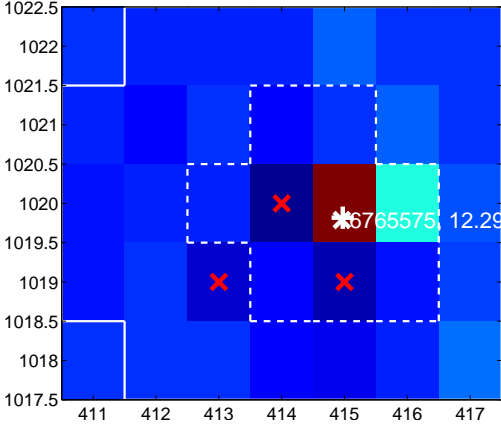
Q6 no difference image



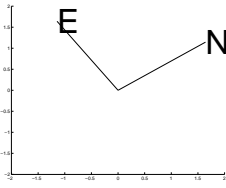
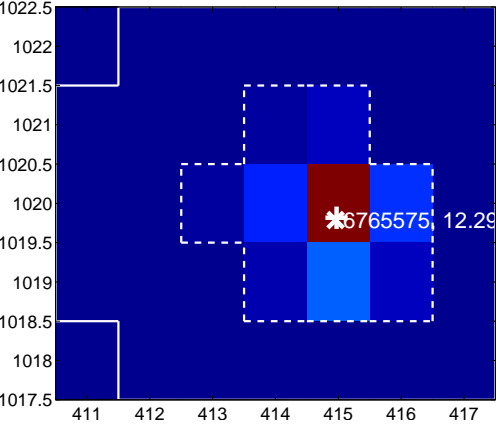
Q6 no OOT image



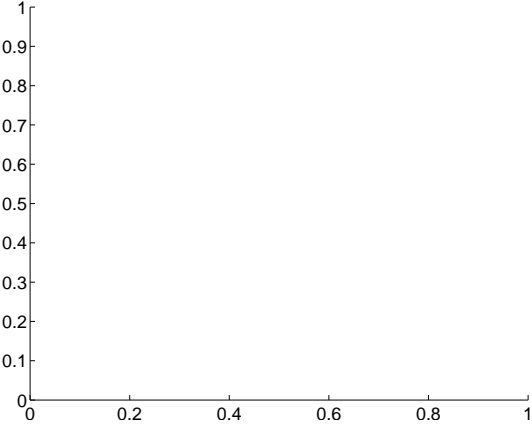
Q7 difference image. Poor Quality



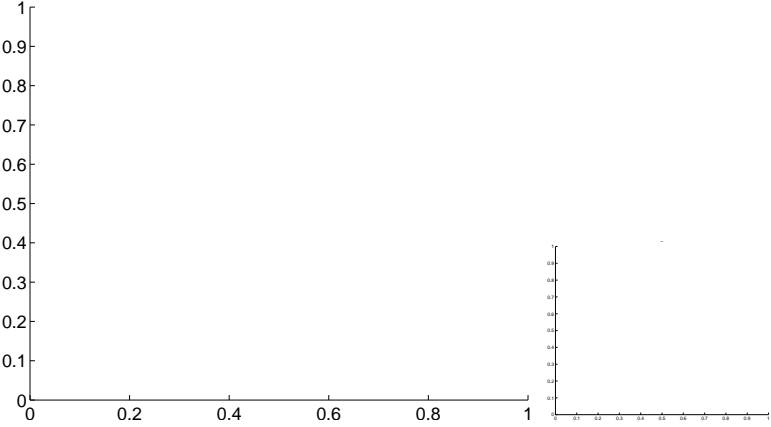
Q7 OOT image



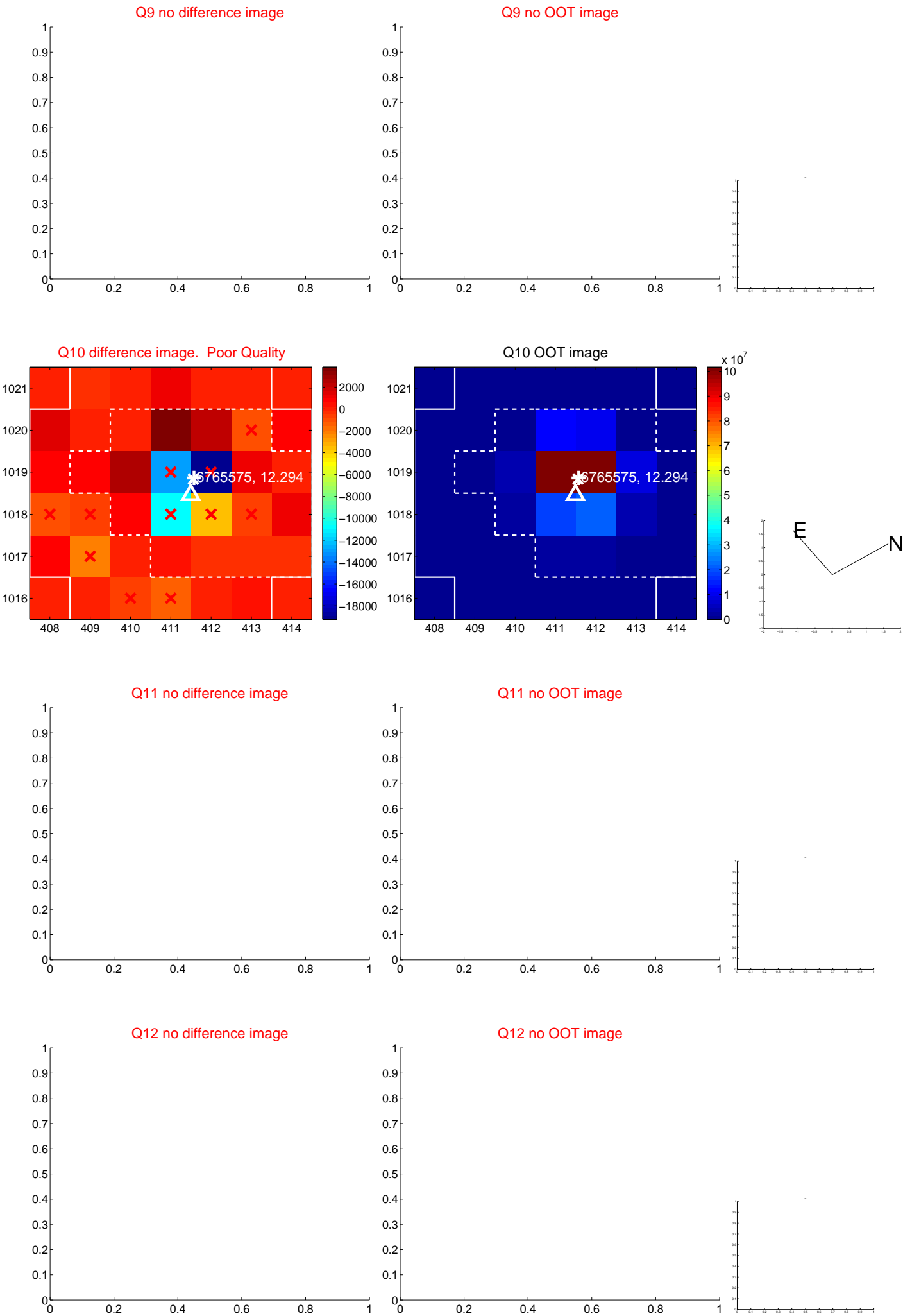
Q8 no difference image



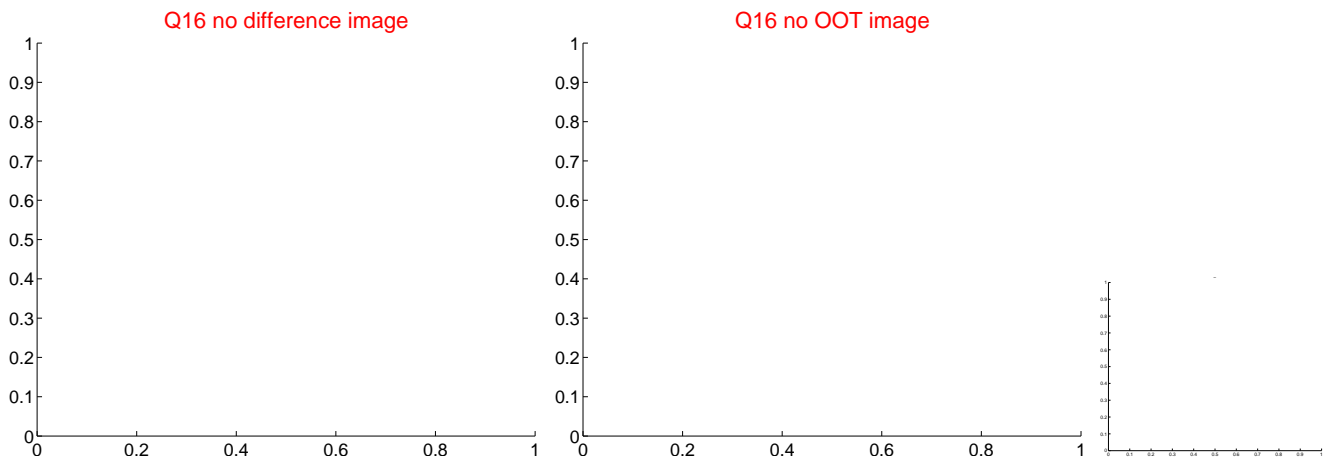
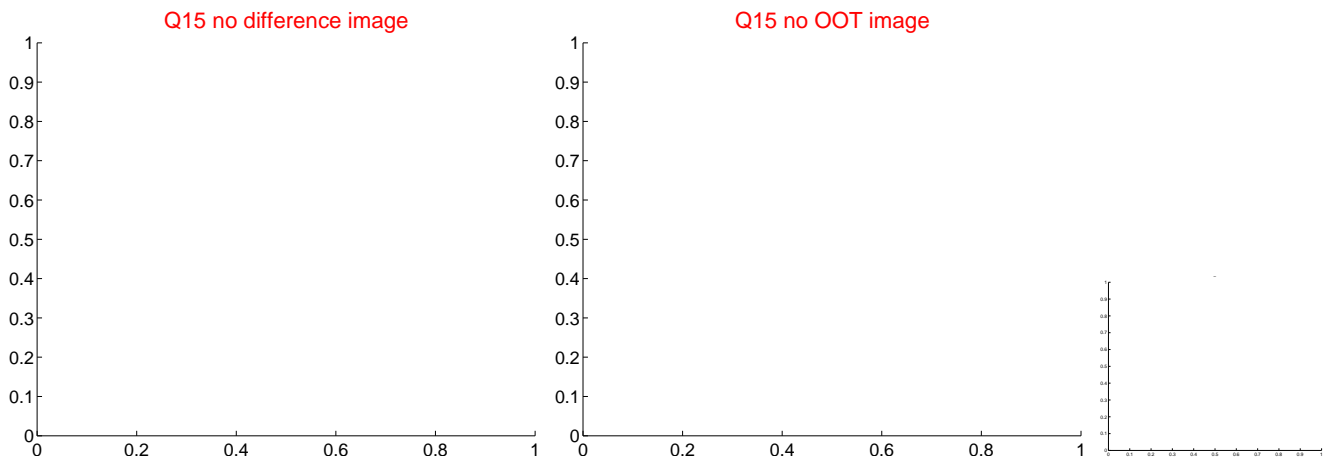
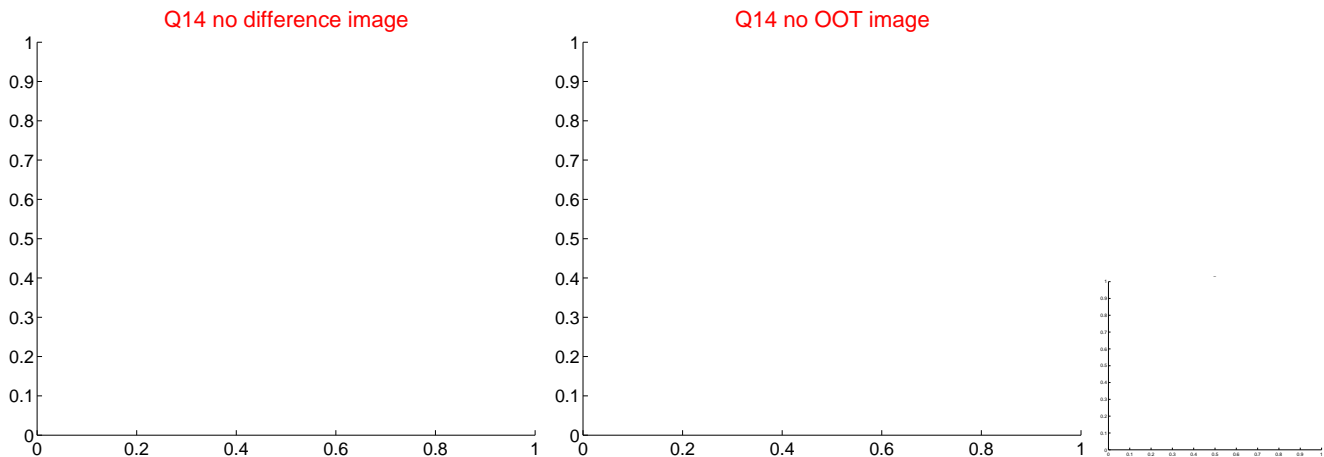
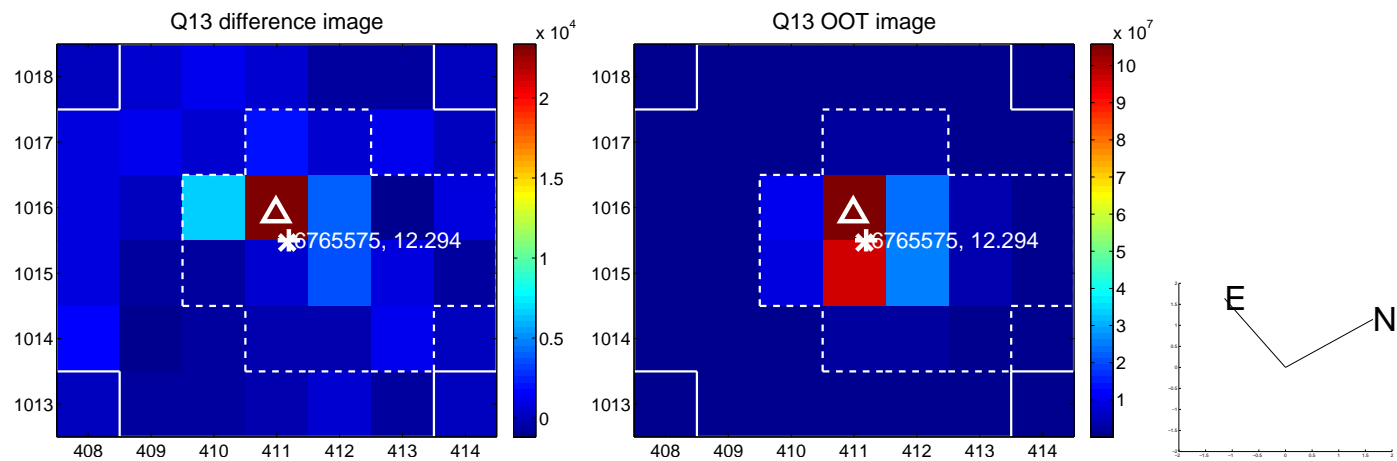
Q8 no OOT image



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

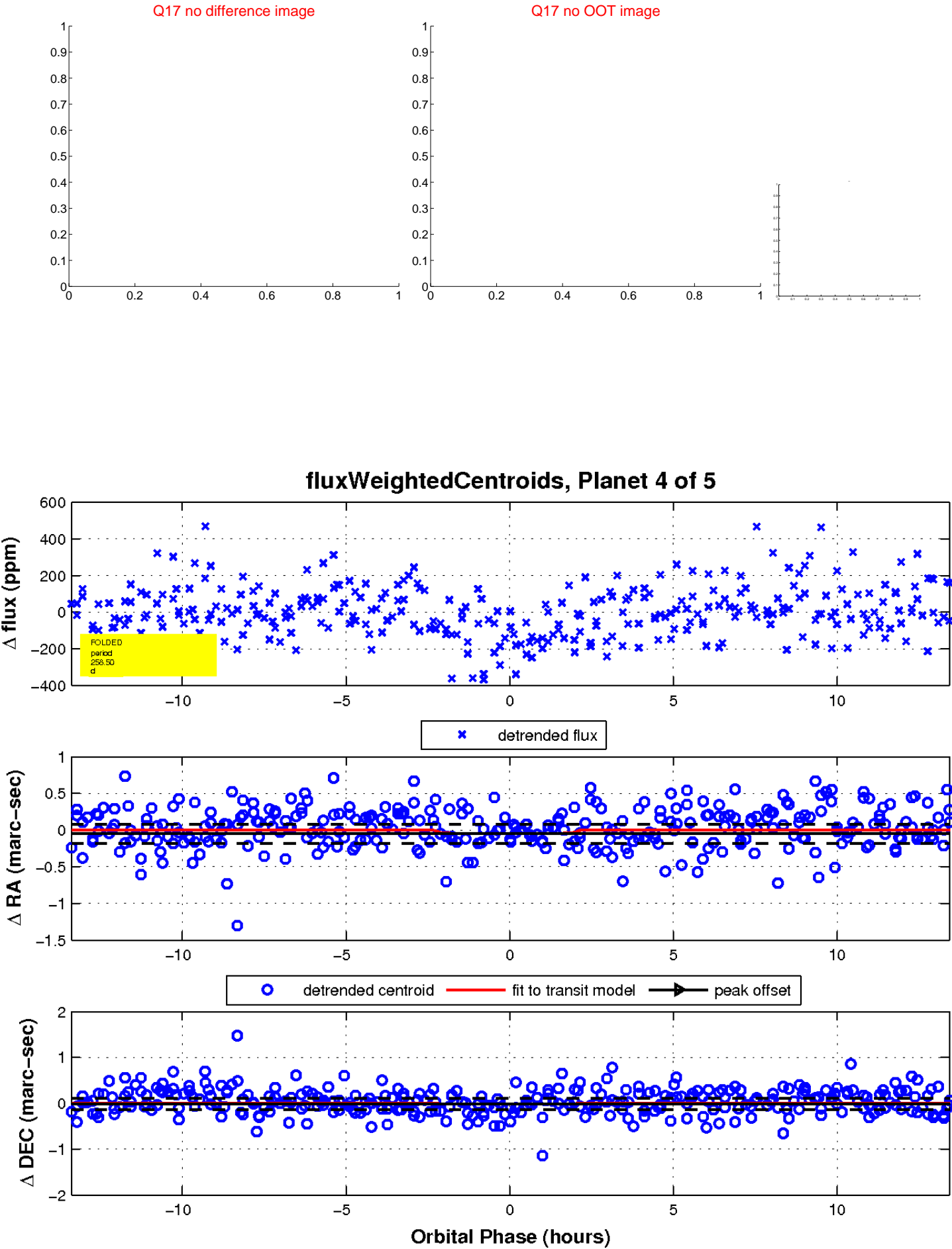


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\Delta$ : difference centroid. red  $\times$ : large negative pixel value.



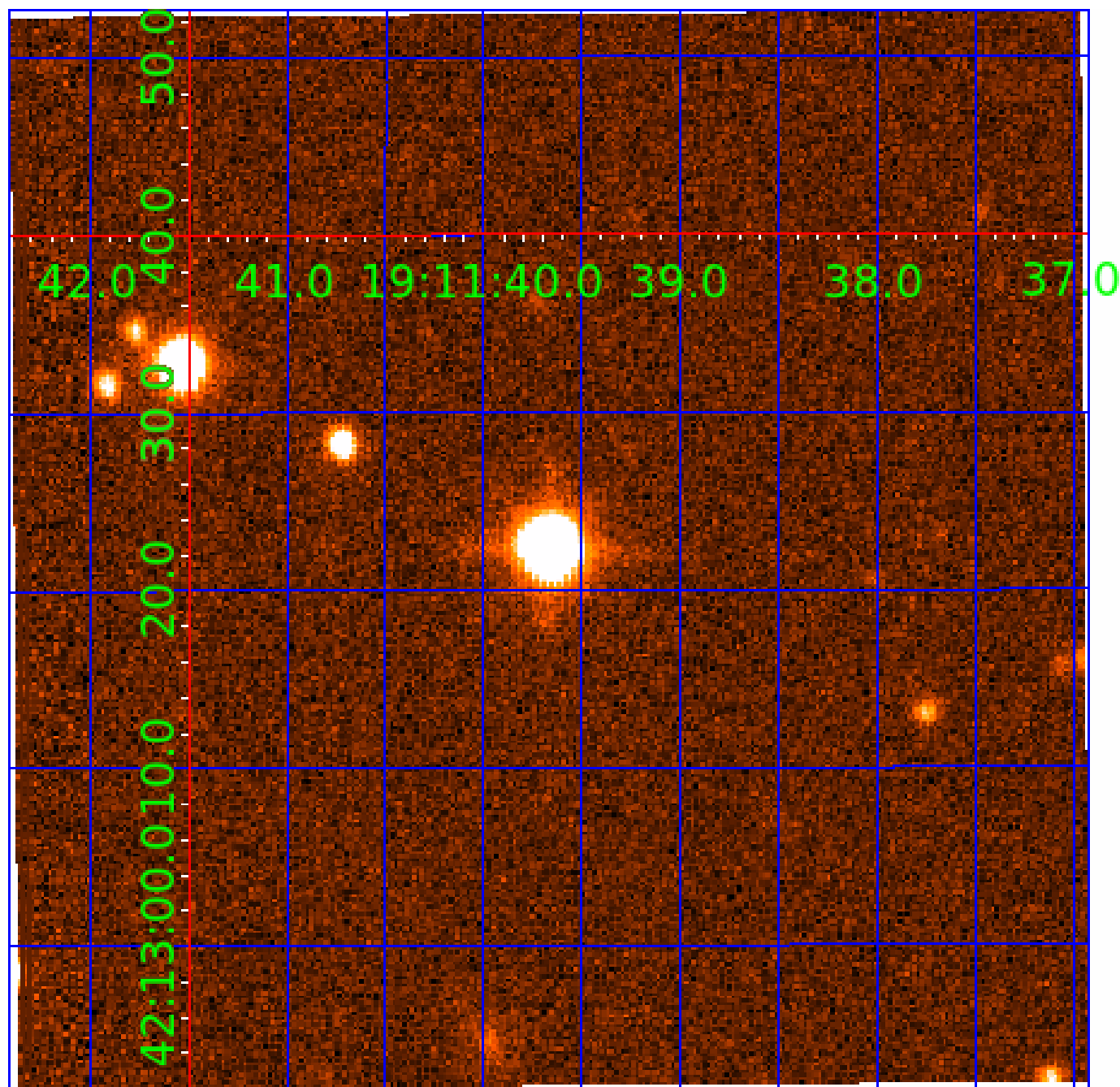


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 006765575

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006765575-01	OBS	No	1.578006	133.046639	21.3	6.704	9.1	9.6	2.39	7061	1.11	14085.83
006765575-02	OBS	No	165.312177	253.984695	150.9	12.185	7.9	6.2	2.39	7061	3.13	28.52
006765575-03	OBS	No	106.572825	189.308314	128.7	10.802	8.0	6.3	2.39	7061	3.01	51.22
006765575-04	OBS	No	258.501283	157.820671	244.4	4.508	7.6	7.7	2.39	7061	4.14	15.71
006765575-05	OBS	No	672.191229	148.088610	209.7	6.213	7.5	7.4	2.39	7061	3.82	4.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006765575-01	OBS	FP	0.00	1	0	0	0	LPP_DV
006765575-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006765575-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV
006765575-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
006765575-05	OBS	FP	0.00	1	0	0	0	LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

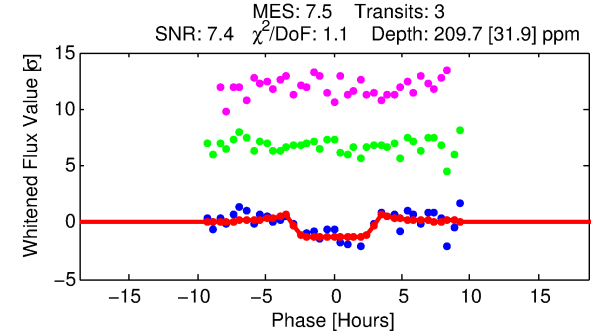
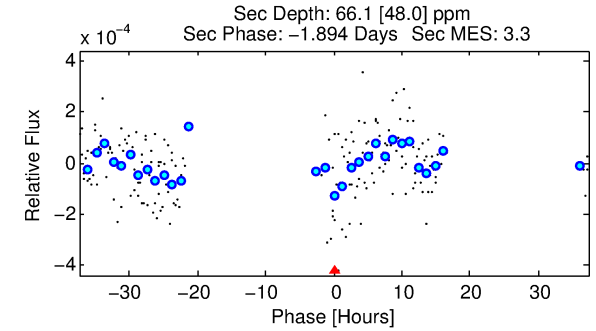
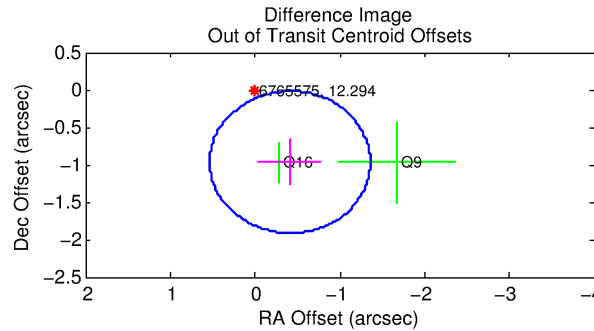
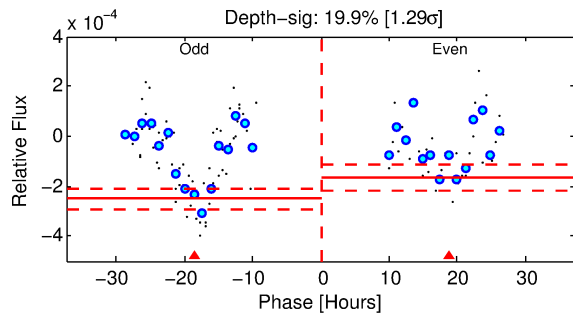
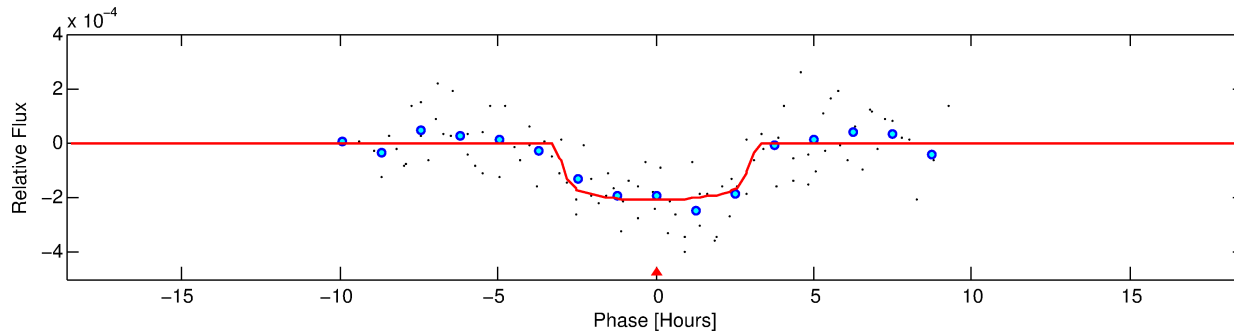
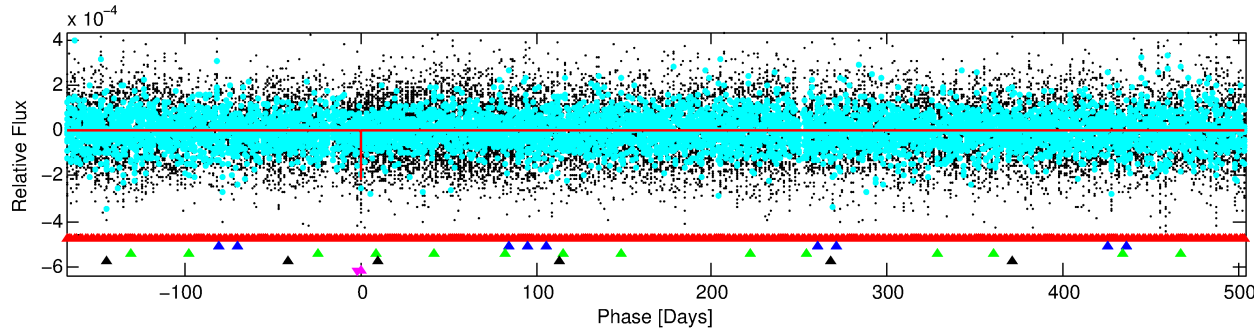
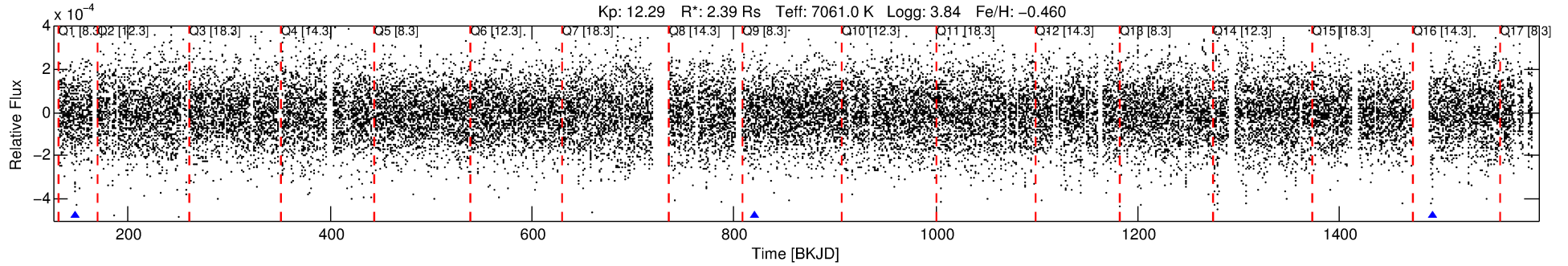
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006765575-05

No Significant Match Found

# DV One-Page Summary

KIC: 6765575 Candidate: 5 of 5 Period: 672.191 d



## DV Fit Results:

Period = 672.19123 [0.00662] d  
Epoch = 148.0886 [0.0084] BKJD  
Rp/R\* = 0.0147 [0.0090]  
a/R\* = 514.10 [1828.34]  
b = 0.80 [1.60]  
Seff = 4.39 [2.26]  
Teq = 369 [47] K  
Rp = 3.82 [2.66] Re  
a = 1.6993 [0.5271] AU  
Ag = 7200.49 [10915.14] [0.66σ]  
Teff = 5258 [1890] K [2.59σ]

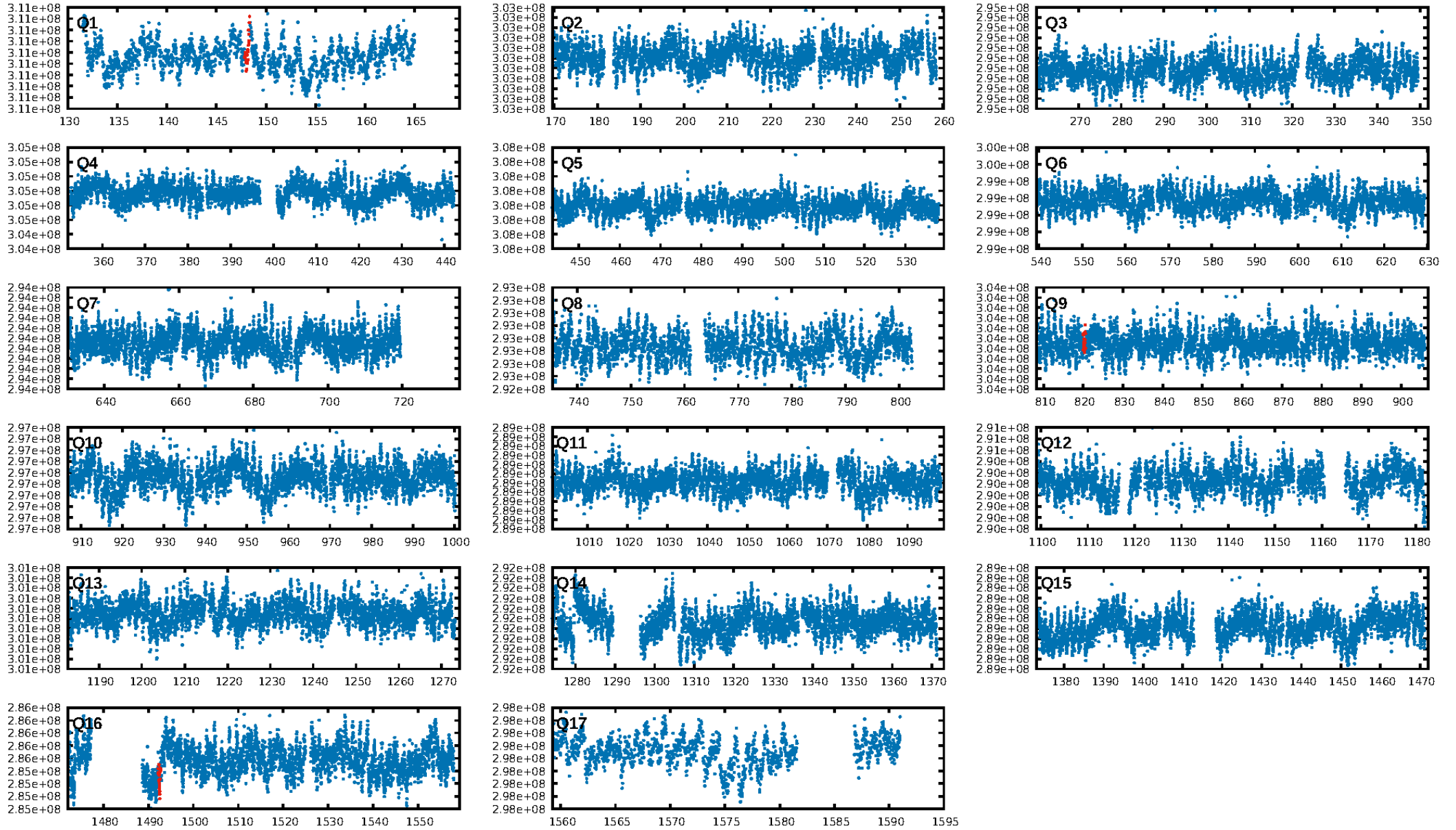
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1293.43σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 11.7%  
ModelChiSquareGof-sig: 92.2%  
**Bootstrap-pfa: 7.04e-09**  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: 2.136  
Centroid-sig: 9.5%  
Centroid-so: 0.783 arcsec [1.00σ]  
**OotOffset-rm: 1.051 arcsec [3.33σ]**  
KicOffset-rm: 0.938 arcsec [2.97σ]  
OotOffset-st: 0/0/1/1 [2]  
KicOffset-st: 0/0/1/1 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:54:07 Z

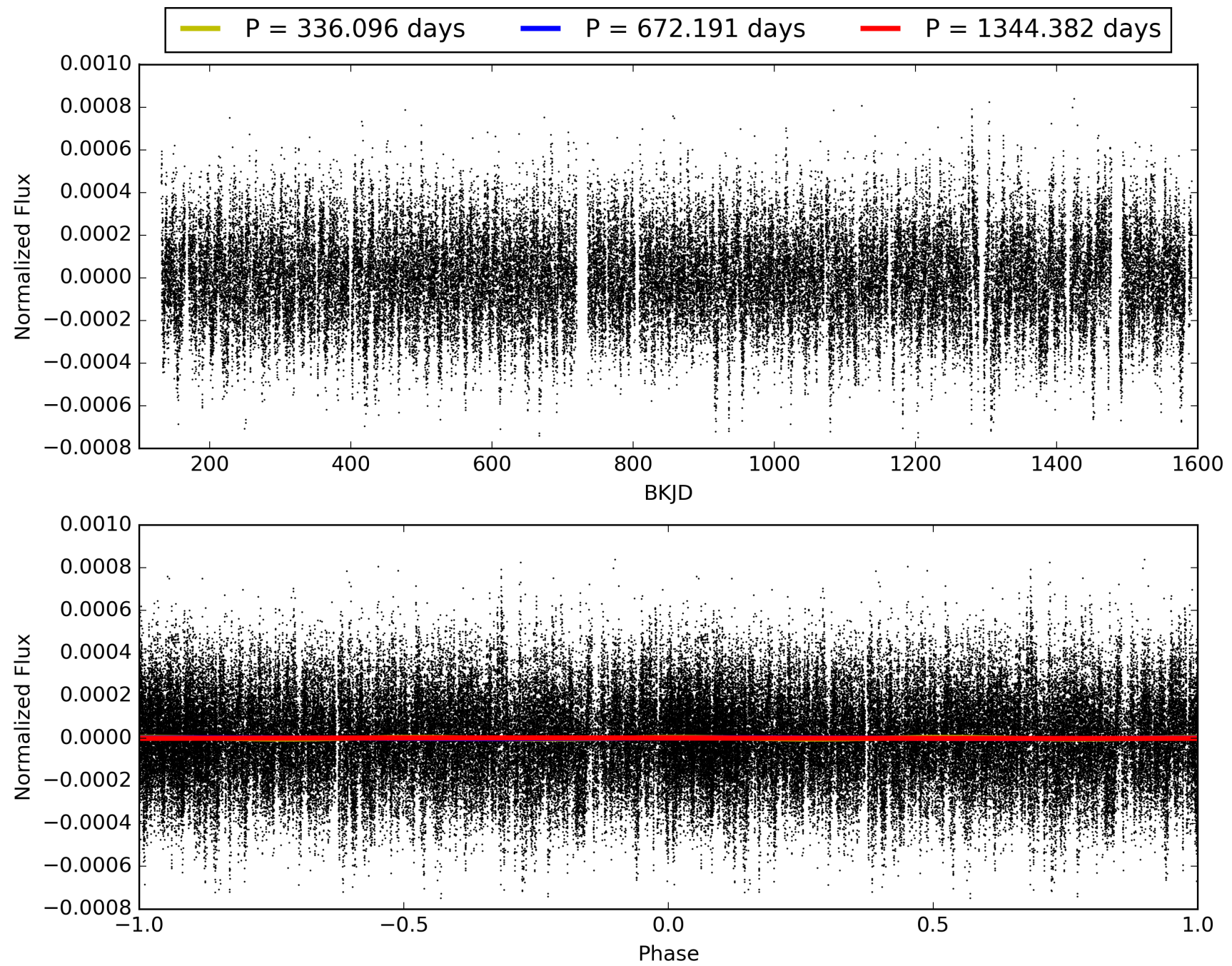
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006765575-05, PDC Light Curves



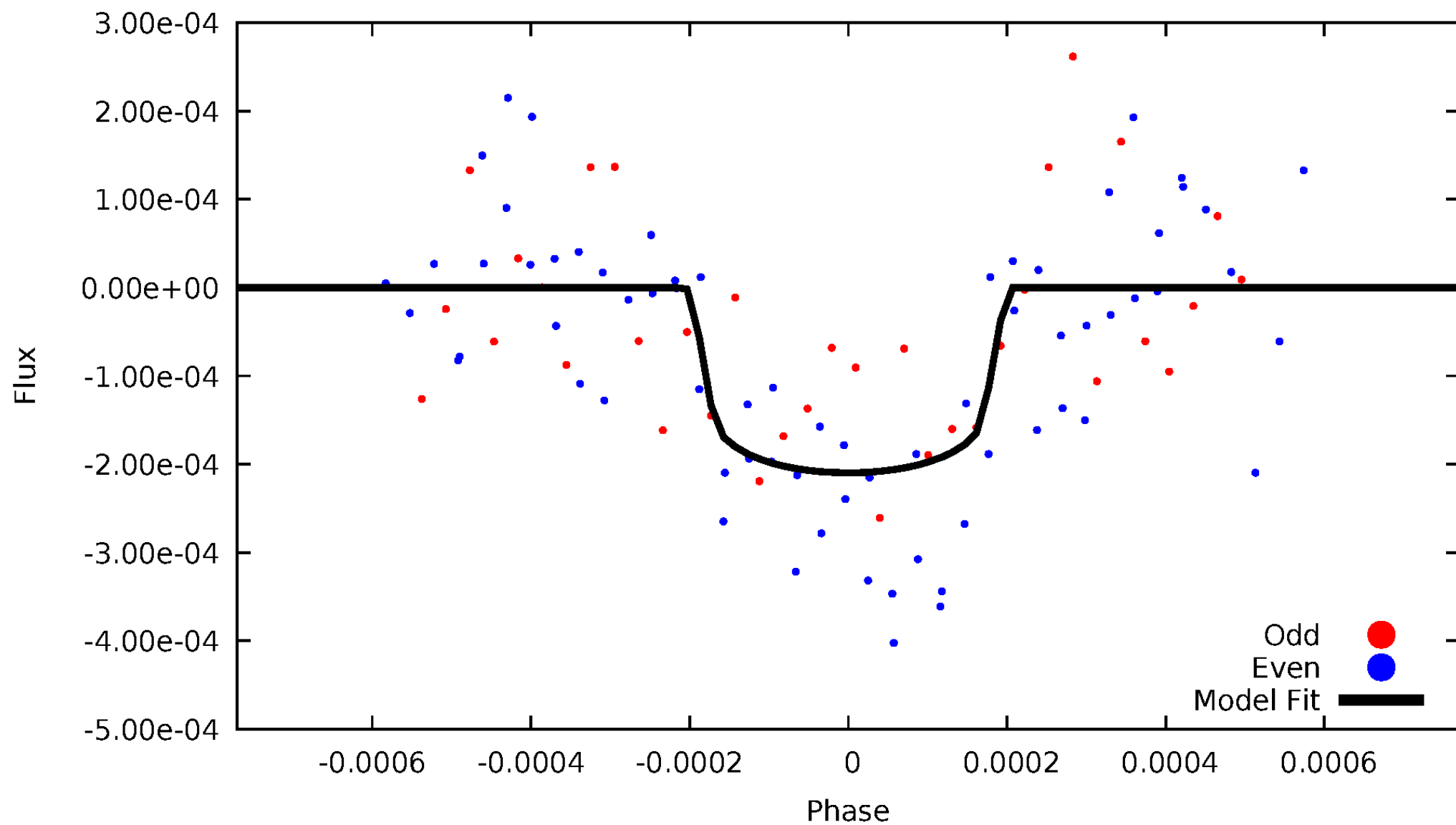


TCE 006765575-05



# DV Odd/Even

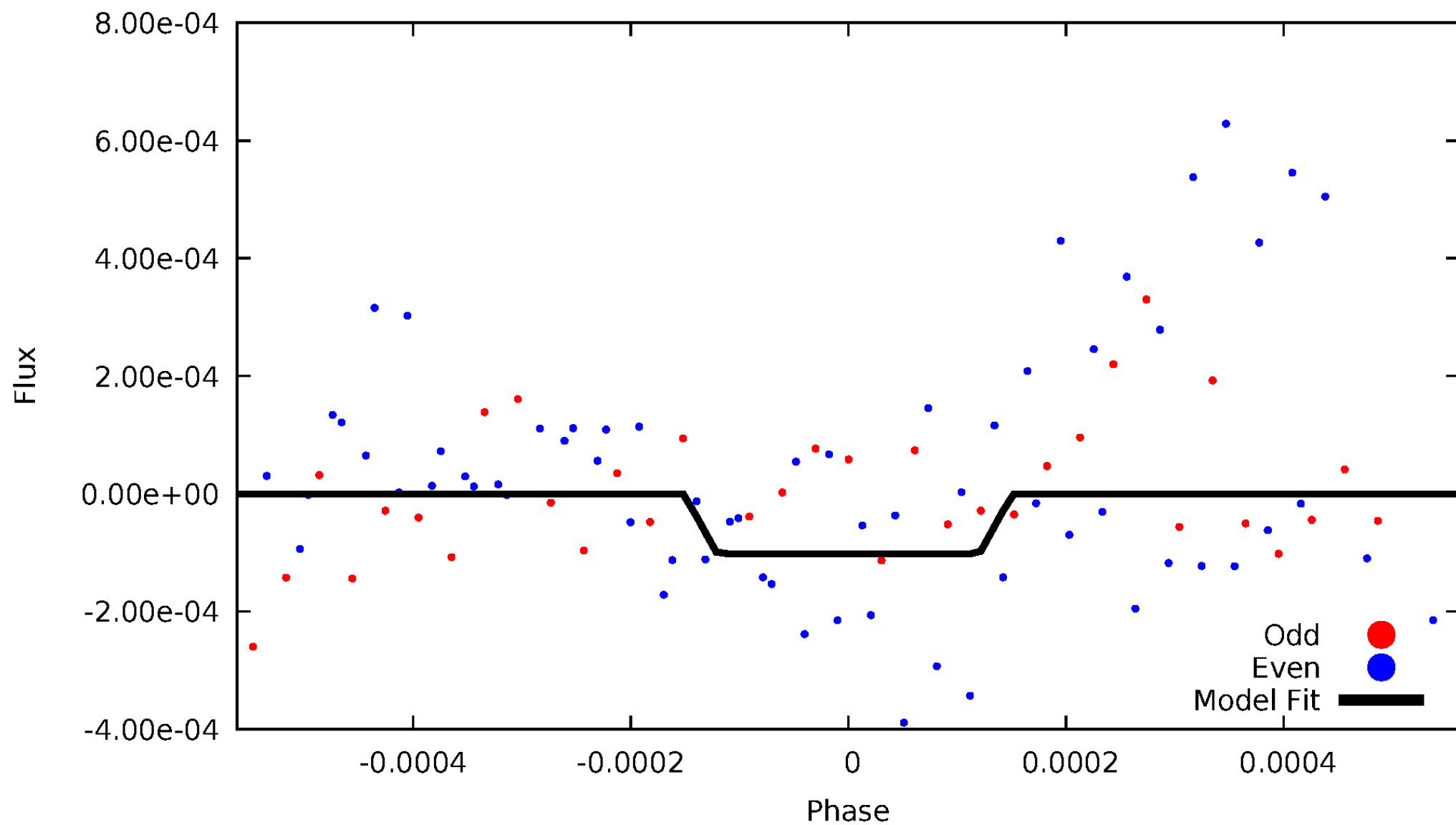
TCE 006765575-05





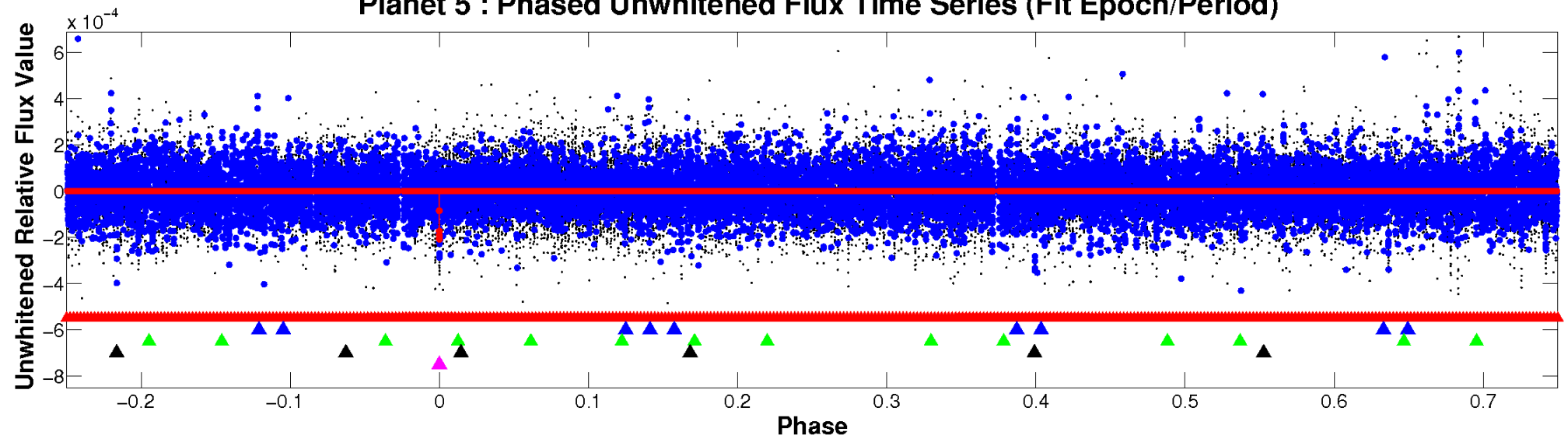
# ALT Odd/Even

TCE 006765575-05

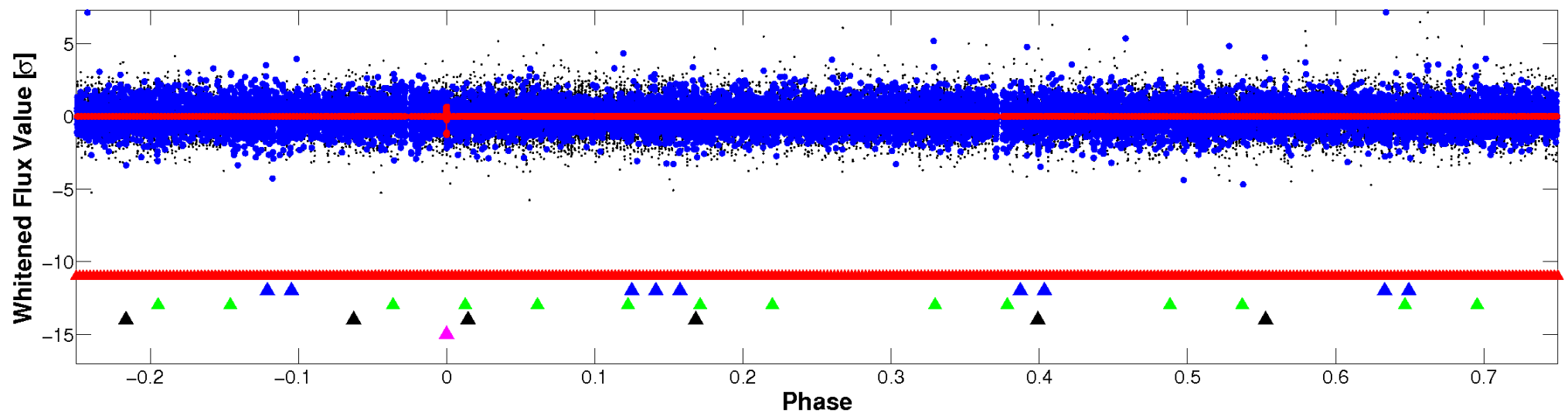


# Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

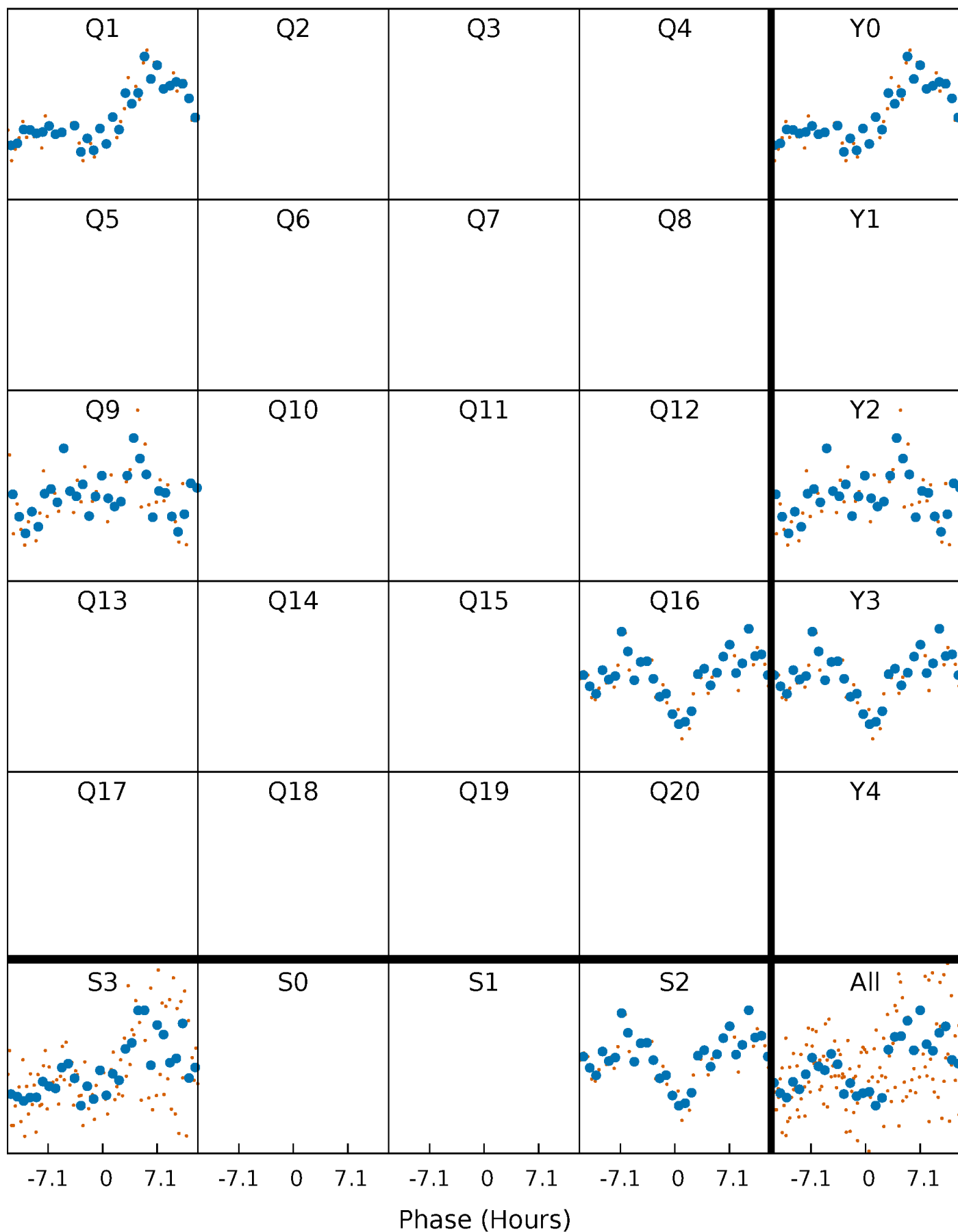


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



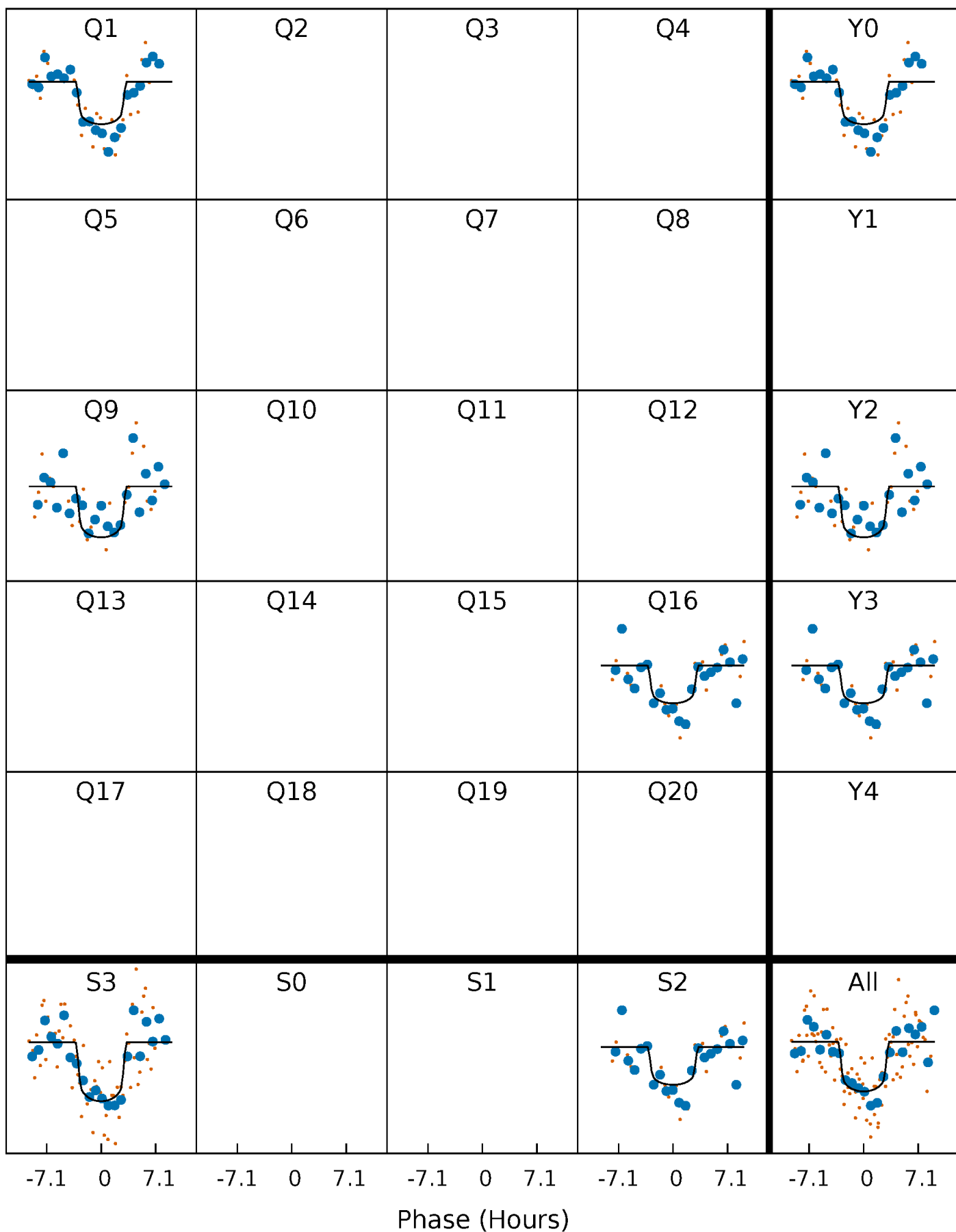
# PDC Quarter-Phased Transit Curves

TCE 006765575-05     $P=672.191229$  Days     $T_0=148.088610$  (BKJD)



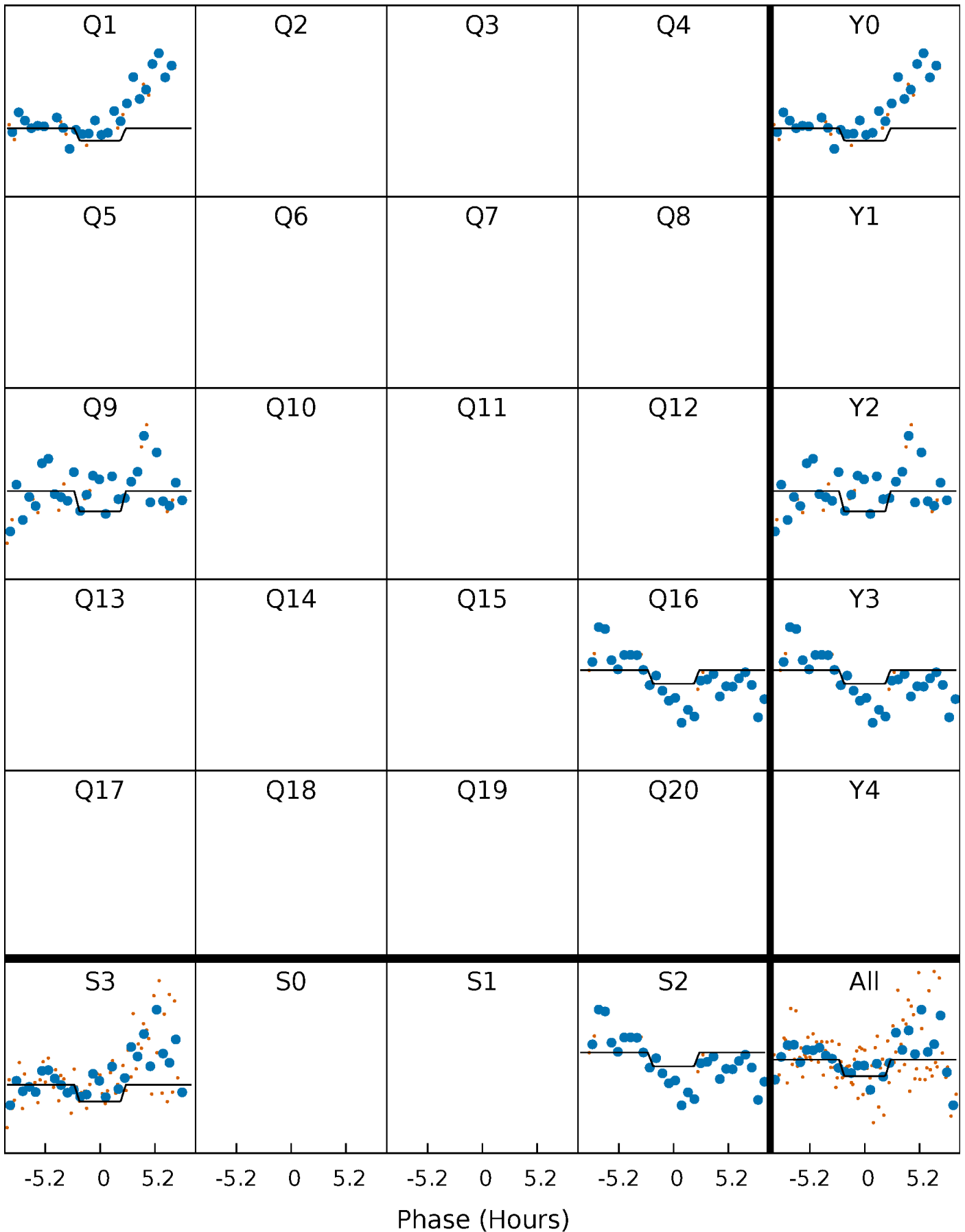
# DV Quarter-Phased Transit Curves

TCE 006765575-05 P=672.191229 Days  $T_0=148.088610$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

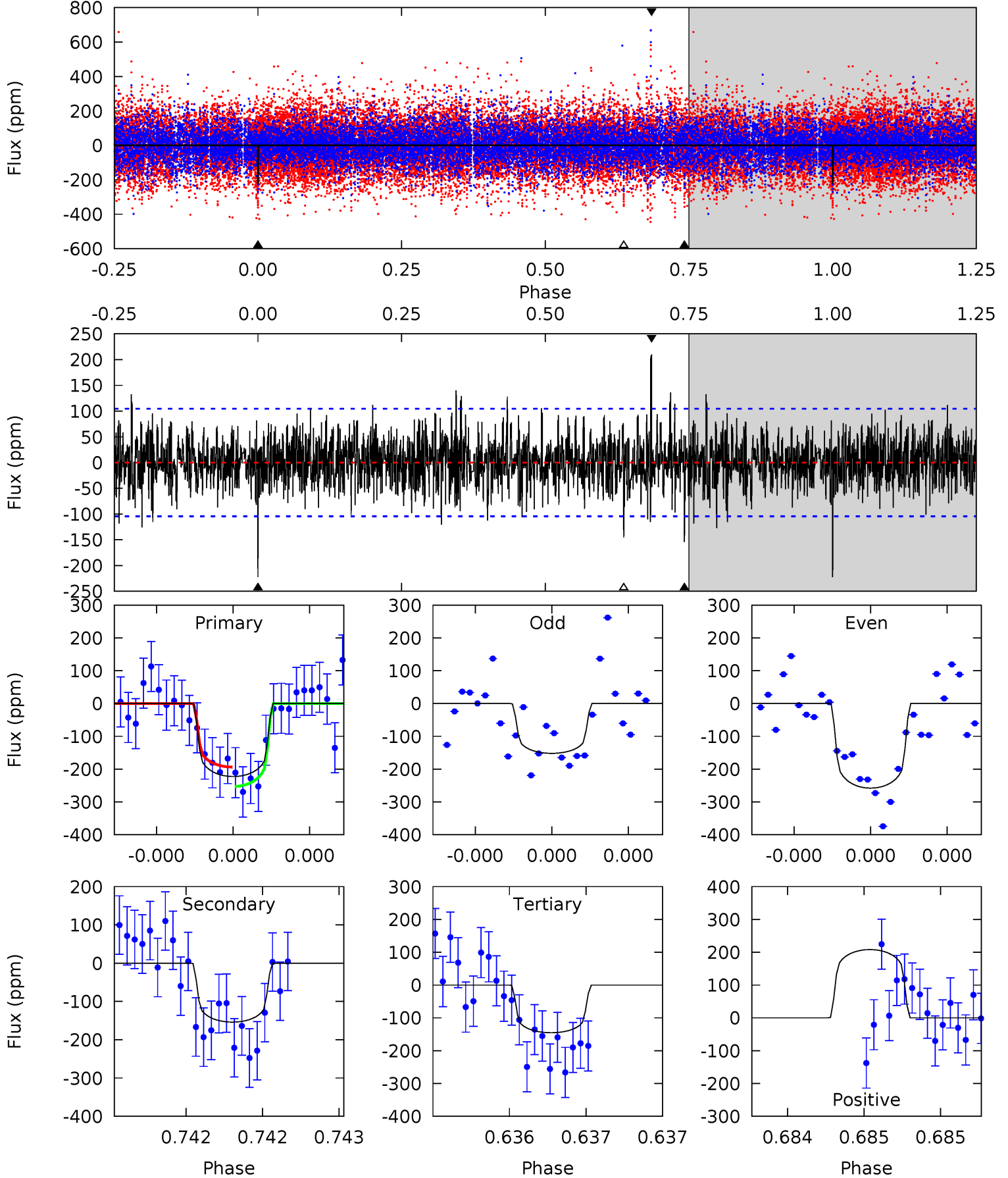
TCE 006765575-05     $P=672.189201$  Days     $T_0=148.096821$  (BKJD)



# DV Model-Shift Uniqueness Test

006765575-05, P = 672.191229 Days, E = 148.088610 Days

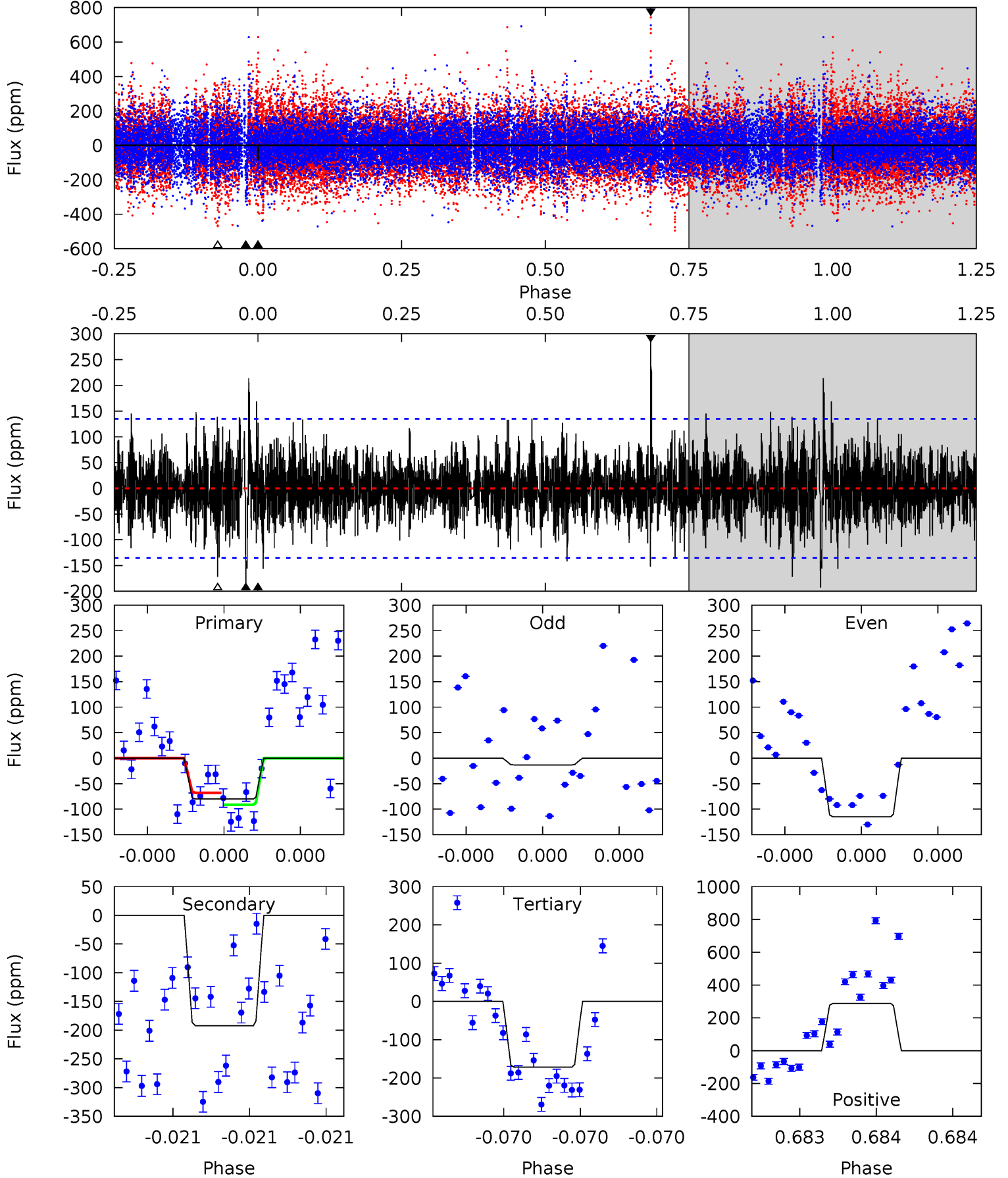
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	8.27	7.80	11.2	5.61	3.54	2.03	4.15	0.77	0.46	-2.91	2.66	0.90	0.48	1.59



# Alt Model-Shift Uniqueness Test

006765575-05, P = 672.189201 Days, E = 148.096821 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
3.36	8.08	7.21	12.1	5.67	3.62	1.87	-3.85	-8.71	0.87	-3.99	2.00	6.12	0.60	0.49





### Stellar Parameters For KIC 006765575

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7061^{+188}_{-230}$	$3.843^{+0.292}_{-0.097}$	$-0.460^{+0.300}_{-0.250}$	$2.387^{+0.448}_{-0.768}$	$1.447^{+0.225}_{-0.275}$	$0.150^{+0.271}_{-0.047}$
	+3%/-3%	+8%/-3%	+65%/-54%	+19%/-32%	+16%/-19%	+181%/-31%
Source	PHO1	FLK73	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 006765575-05 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-154 \pm 19$	$3.64^{+2.33}_{-2.04}$	$505^{+31}_{-42}$	$6398^{+4113}_{-1287}$	$18296^{+75217}_{-11350}$
Alt.	$-192 \pm 24$	$2.77^{+2.33}_{-1.67}$	$505^{+34}_{-42}$	$7912^{+8884}_{-2126}$	$39555^{+217272}_{-27457}$

$T_{max}$  = 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

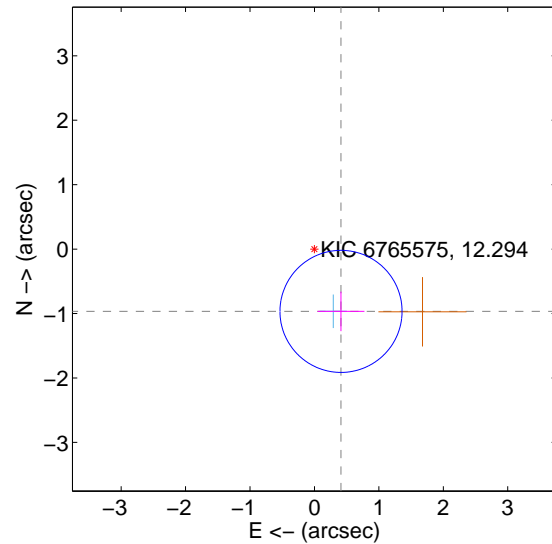
Supplemental centroid analysis for 006765575-05. Kepler magnitude: 12.29. Transit SNR 7.43

There are 1 quarters with good PRF difference image offsets

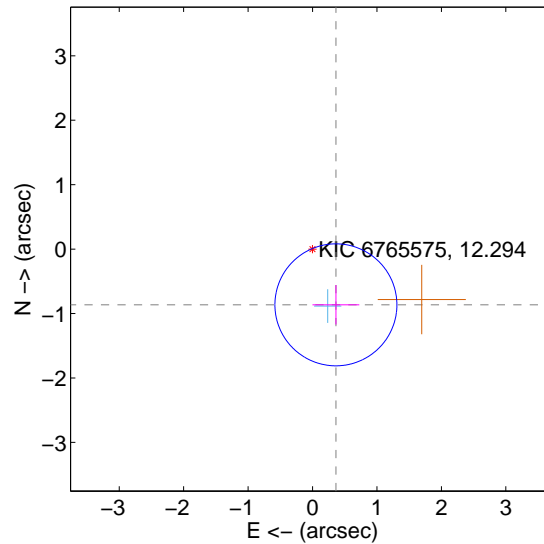
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.051 \pm 0.316$	3.33	$-0.412 \pm 0.364$	$-0.967 \pm 0.306$
PRF-fit source offset from KIC position	$0.938 \pm 0.315$	2.97	$-0.363 \pm 0.364$	$-0.865 \pm 0.306$
photometric centroid source offset	$0.78 \pm 0.78$	1.00	$-0.47 \pm 0.73$	$-0.63 \pm 0.81$

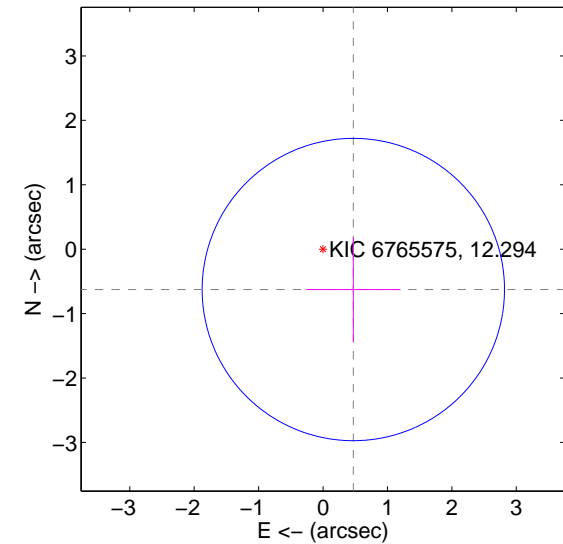
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

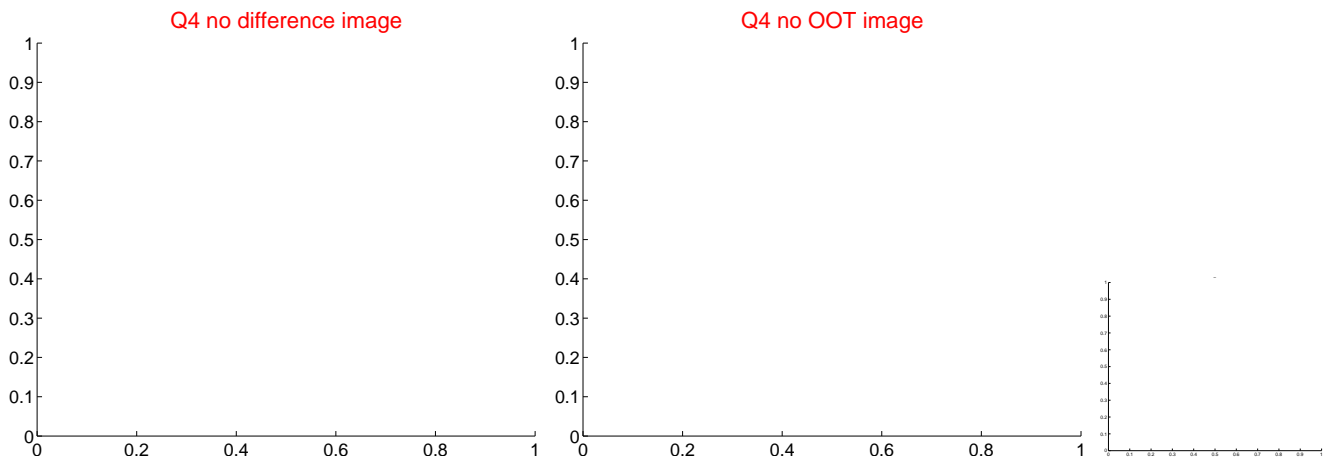
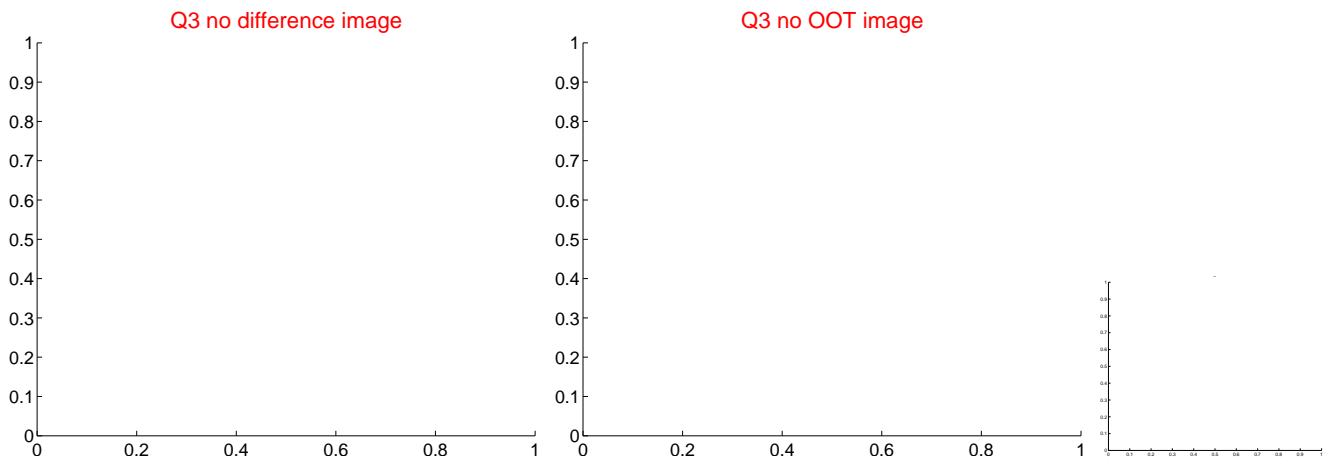
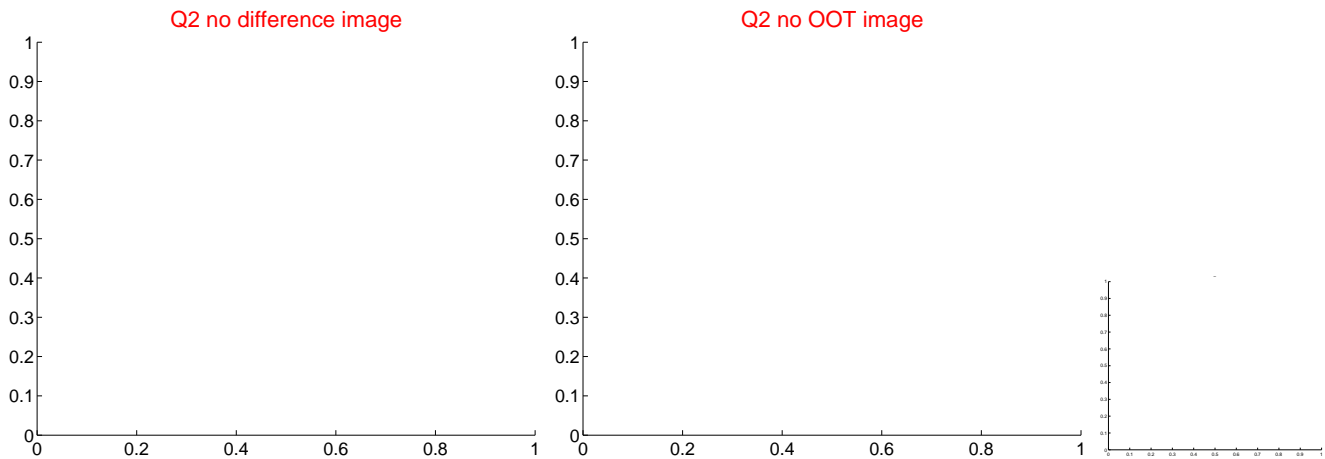
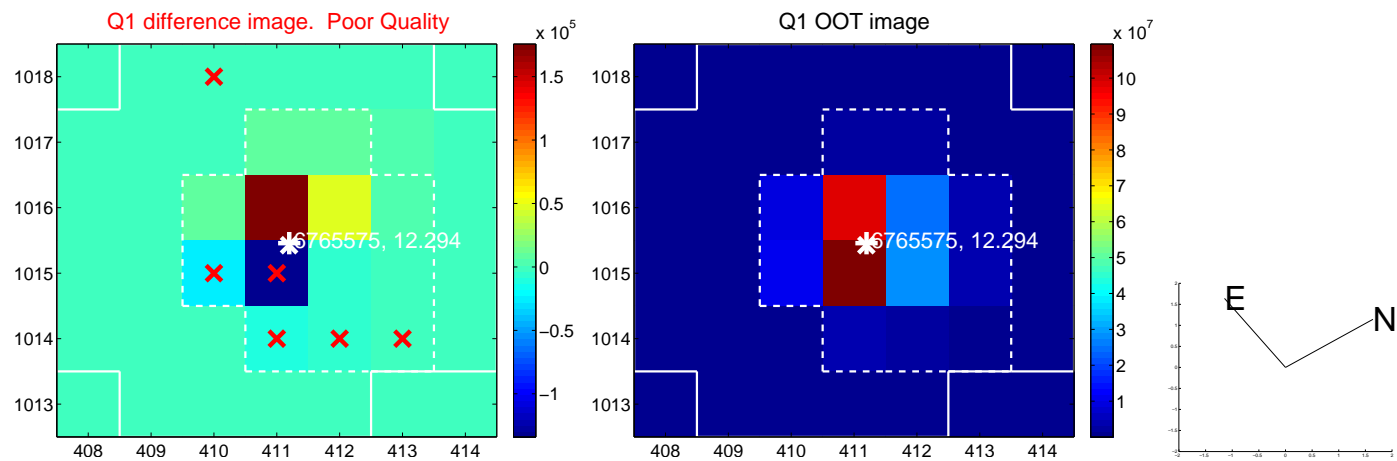


offset from photometric centroids



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.

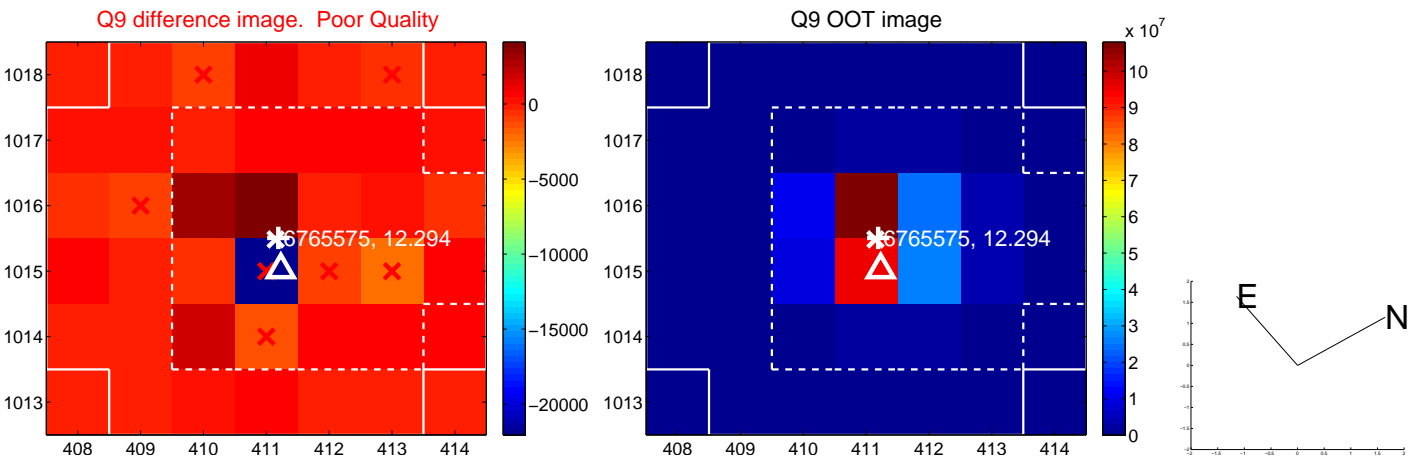
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



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



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

Q13 no difference image



Q13 no OOT image



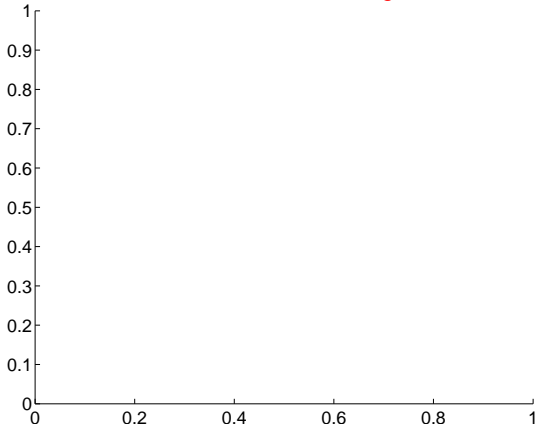
Q14 no difference image



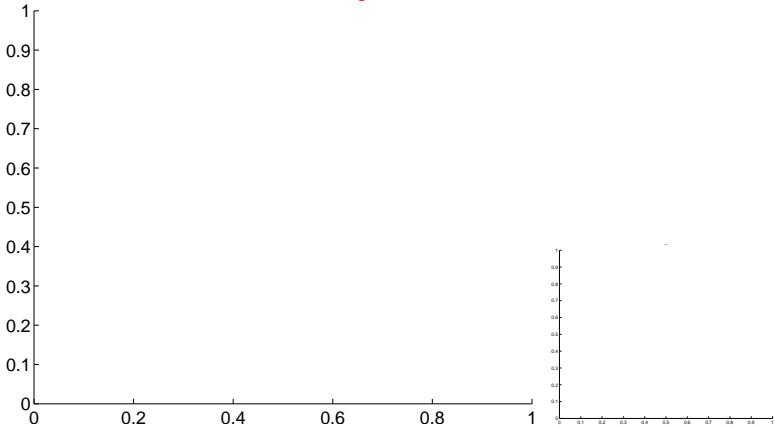
Q14 no OOT image



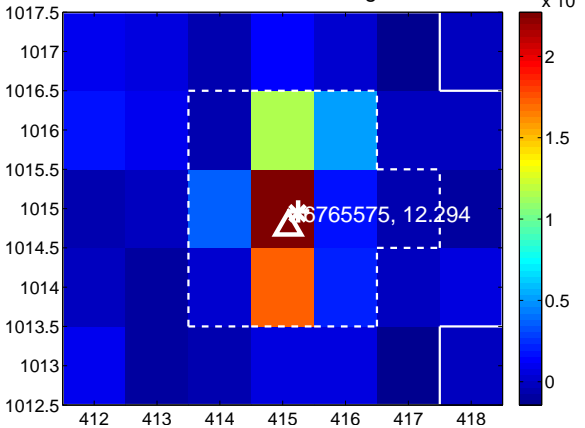
Q15 no difference image



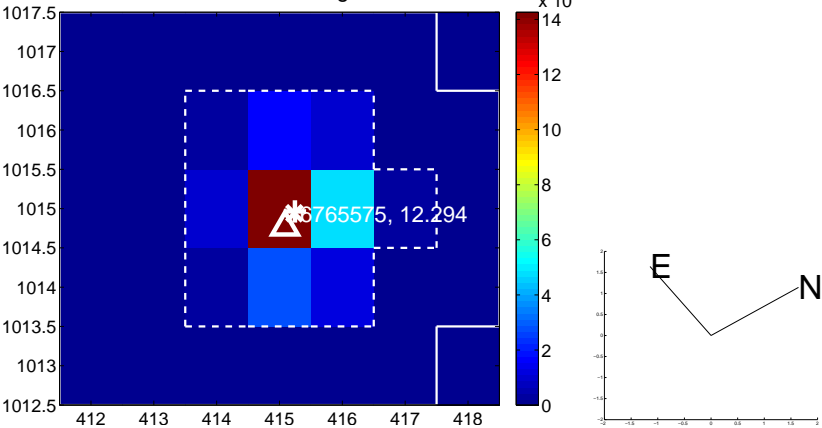
Q15 no OOT image



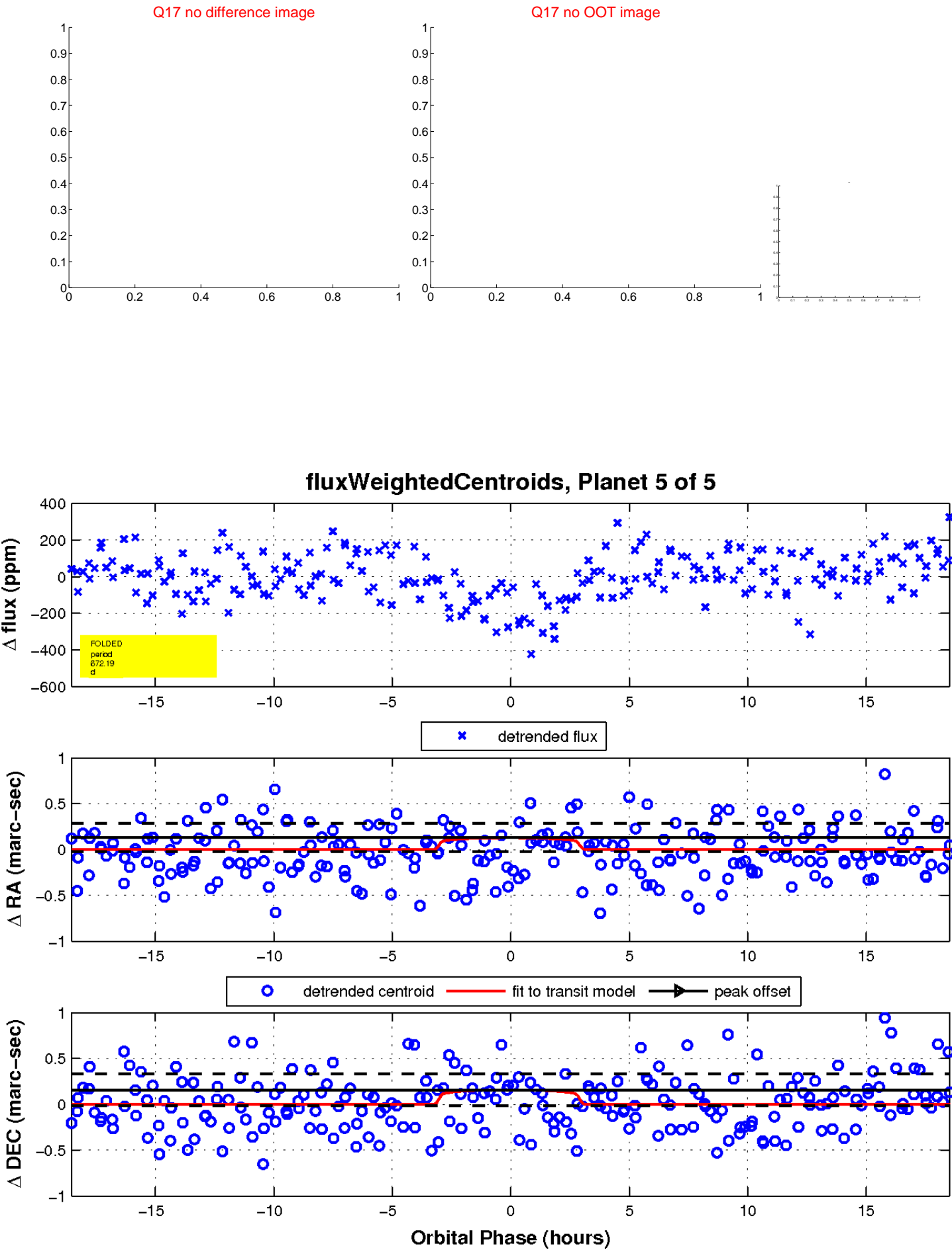
Q16 difference image



Q16 OOT image



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





UKIRT Image

Declination

