

# KIC 006756481

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006756481-01	OBS	No	0.527878	131.596582	102.8	2.290	13.6	15.0	3.84	7545	4.54	0.00
006756481-02	OBS	No	1.180451	132.143459	197.4	5.431	11.1	14.7	3.84	7545	7.65	55659.28
006756481-03	OBS	No	233.859925	173.747200	1169.2	10.784	8.6	8.3	3.84	7545	14.48	48.19
006756481-04	OBS	No	71.640752	178.918017	1333.4	1.635	8.6	9.9	3.84	7545	16.57	233.38
006756481-05	OBS	No	49.893201	132.145318	851.2	1.863	8.4	8.5	3.84	7545	11.32	378.05

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006756481-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006756481-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
006756481-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006756481-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006756481-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

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

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

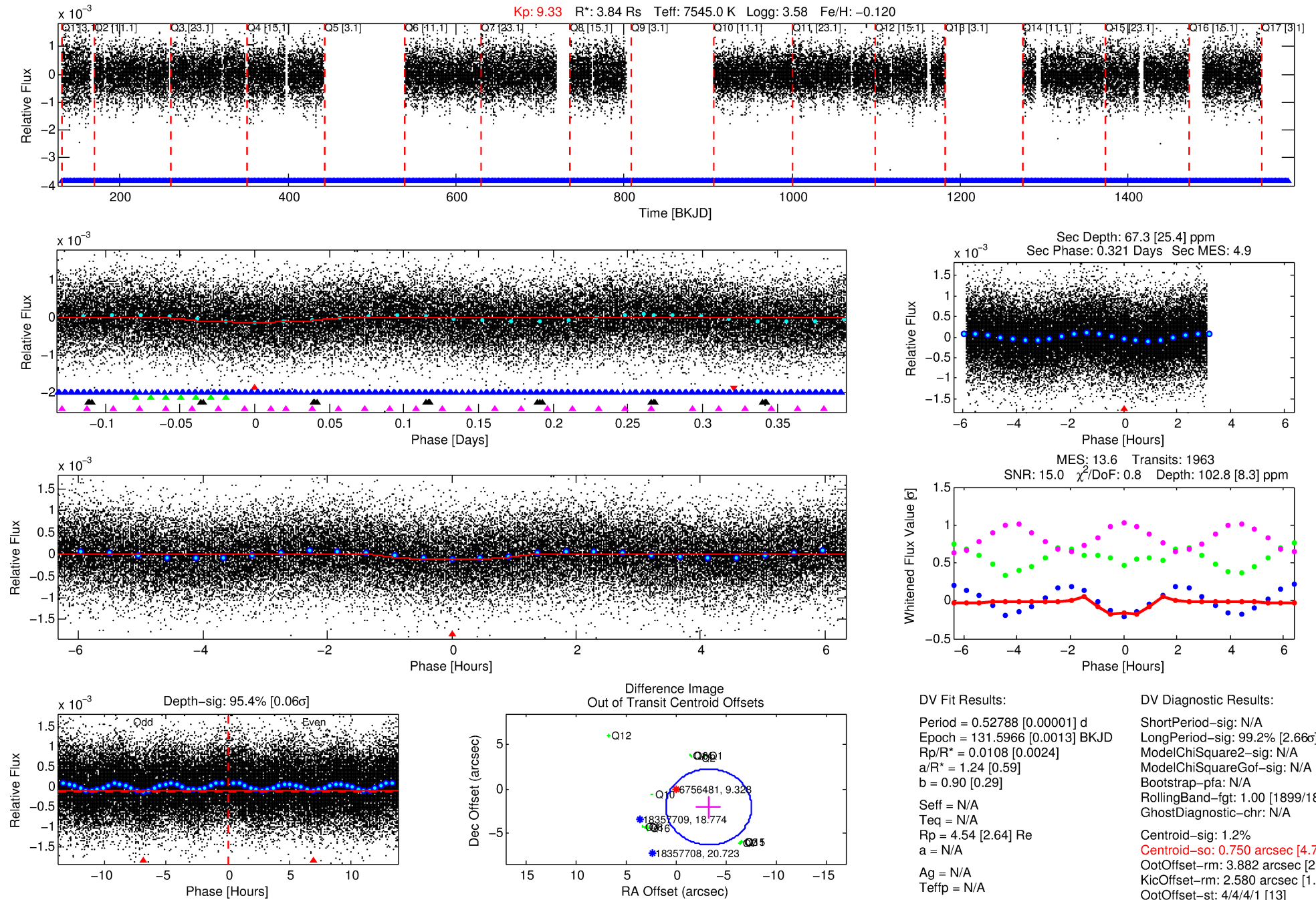
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006756481-01

No Significant Match Found

# DV One-Page Summary

KIC: 6756481 Candidate: 1 of 5 Period: 0.528 d



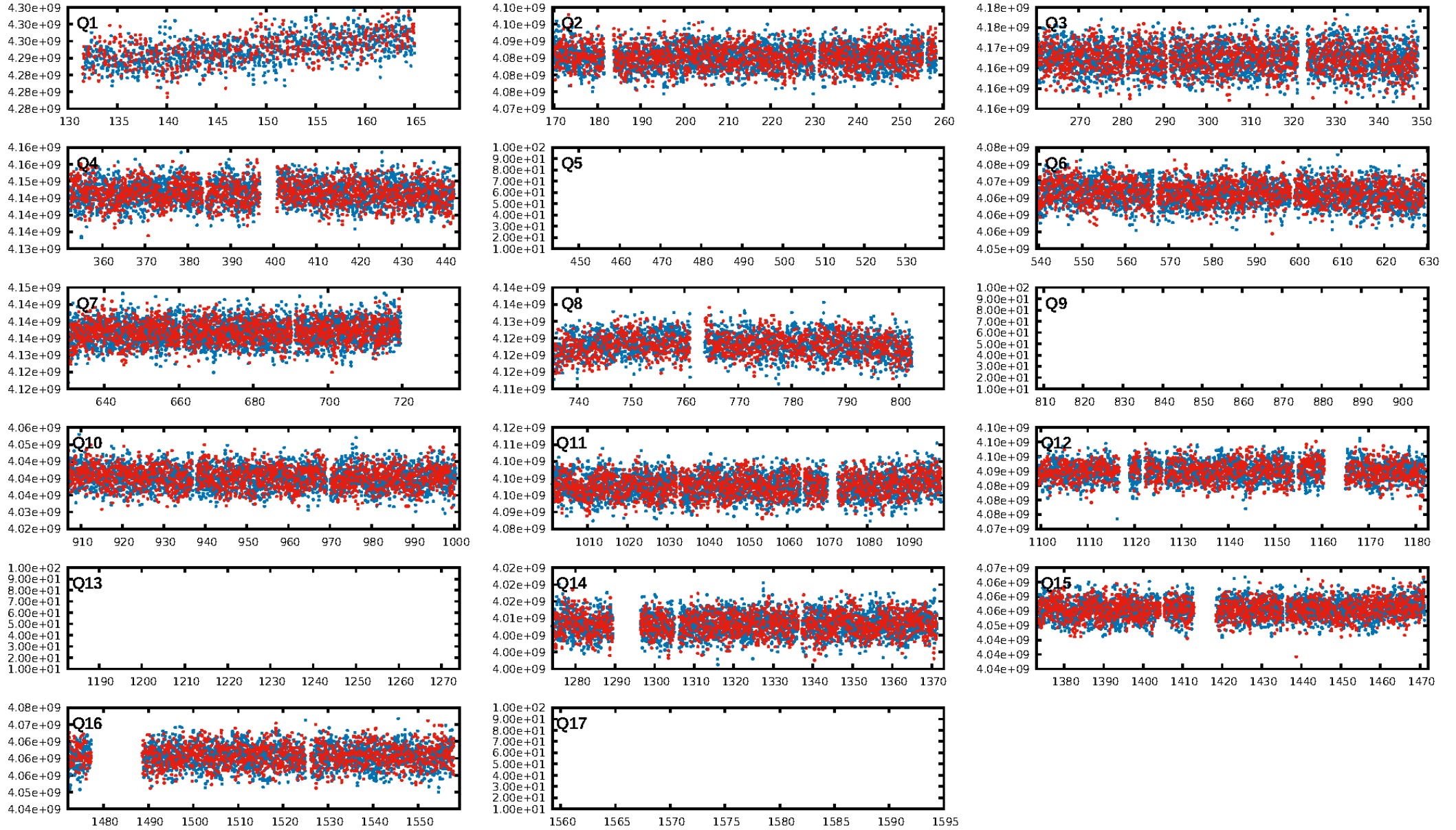
## DV Fit Results:

Period = 0.52788 [0.00001] d  
Epoch = 131.5966 [0.0013] BKJD  
Rp/R\* = 0.0108 [0.0024]  
a/R\* = 1.24 [0.59]  
b = 0.90 [0.29]  
Seff = N/A  
Teq = N/A  
Rp = 4.54 [2.64] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

## DV Diagnostic Results:

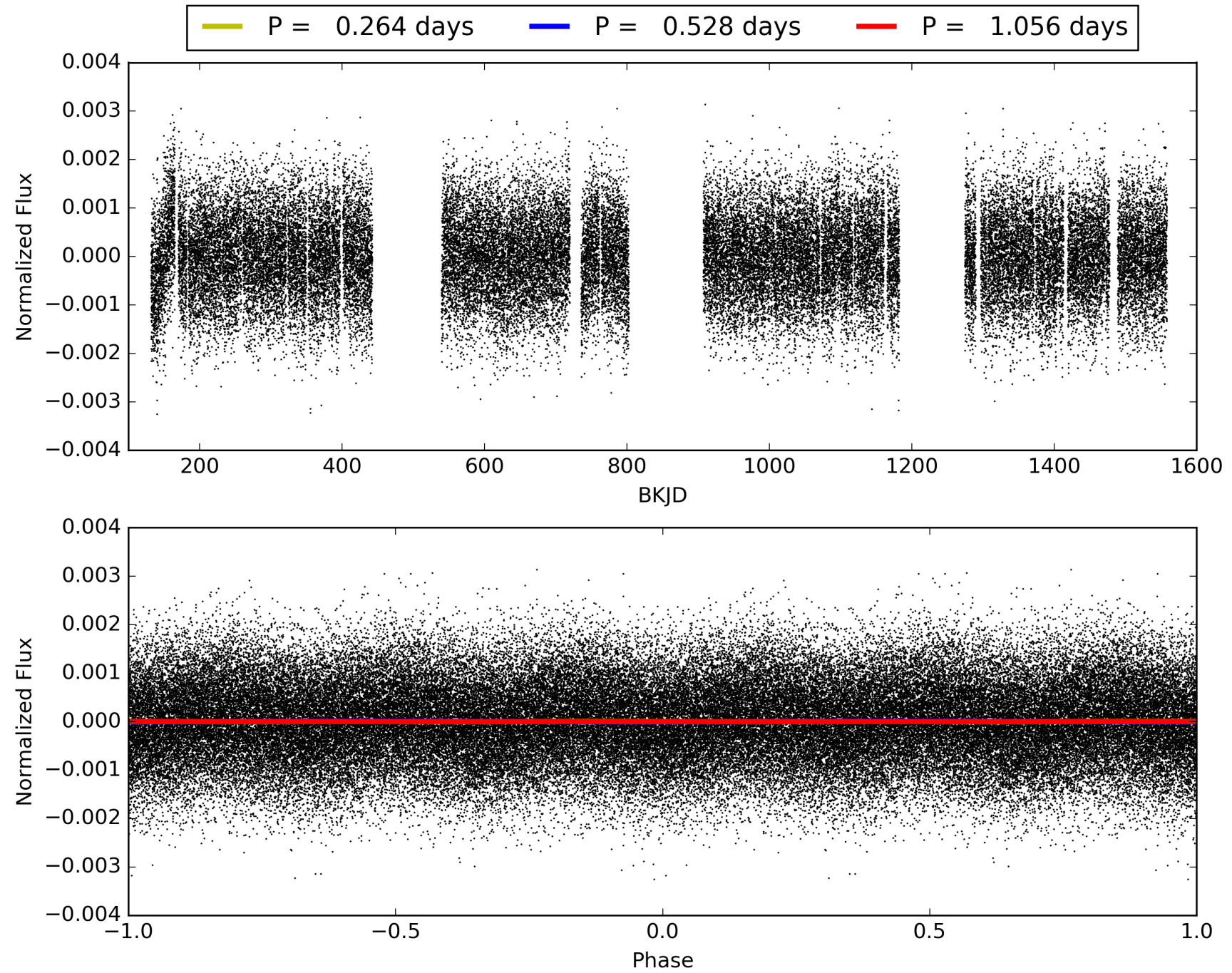
ShortPeriod-sig: N/A  
LongPeriod-sig: 99.2% [2.66σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1899/1899]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 1.2%  
Centroid-so: 0.750 arcsec [4.74σ]  
OotOffset-rm: 3.882 arcsec [2.72σ]  
KicOffset-rm: 2.580 arcsec [1.91σ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 0.00 [0/13]  
DiffImageOverlap-fno: 1.00 [13/13]

# TCE 006756481-01, PDC Light Curves





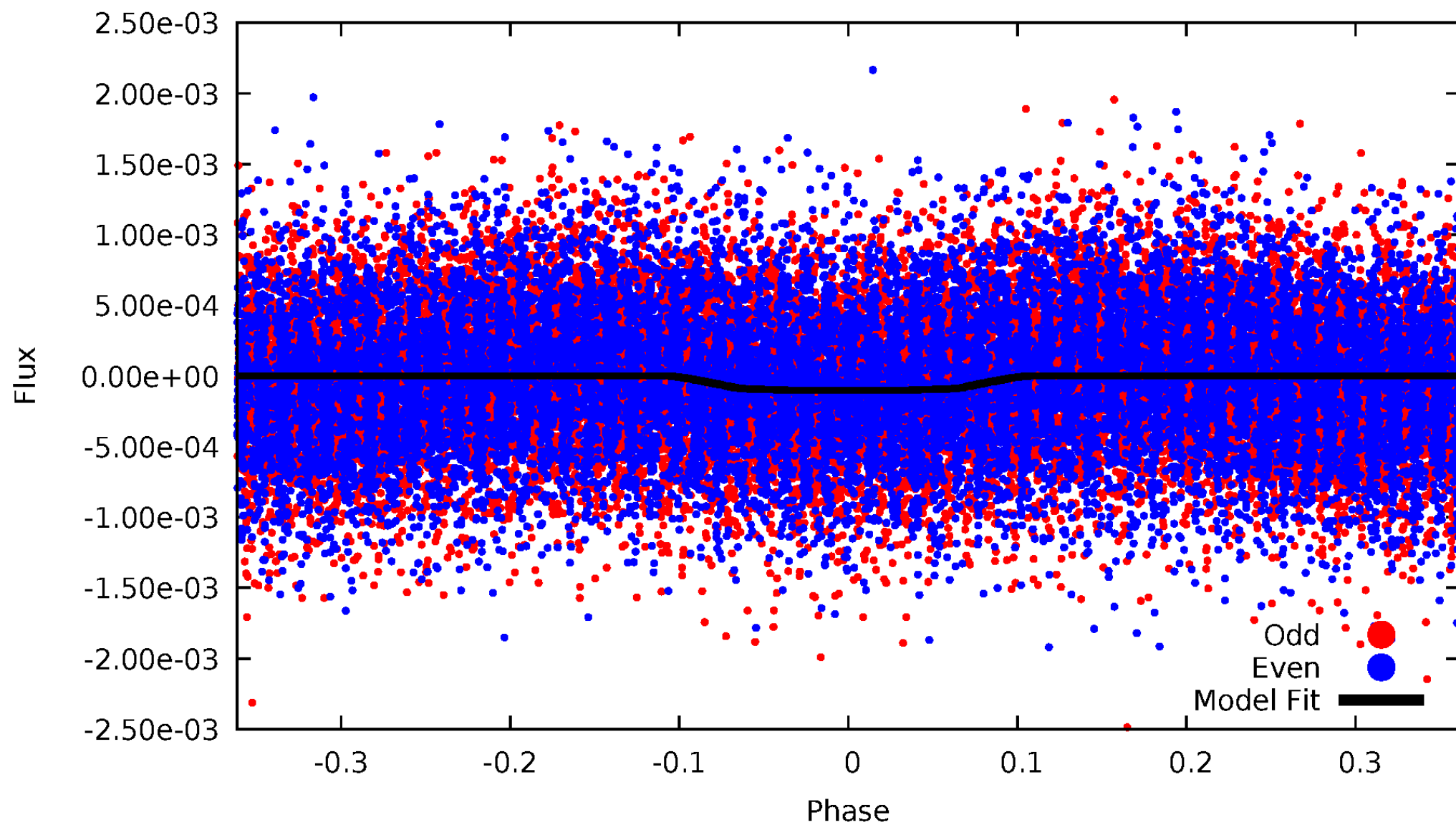
TCE 006756481-01





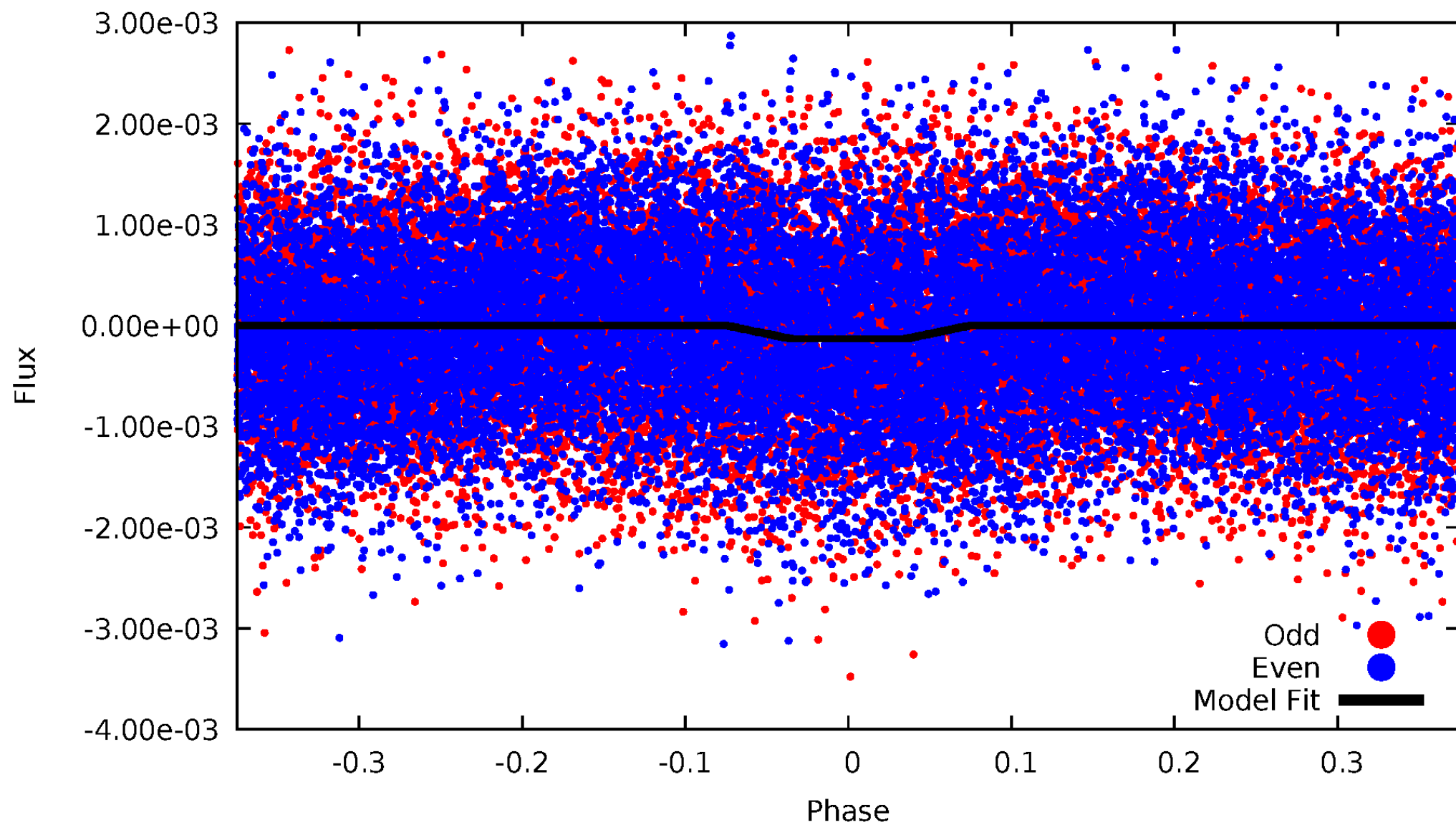
DV Odd/Even

TCE 006756481-01

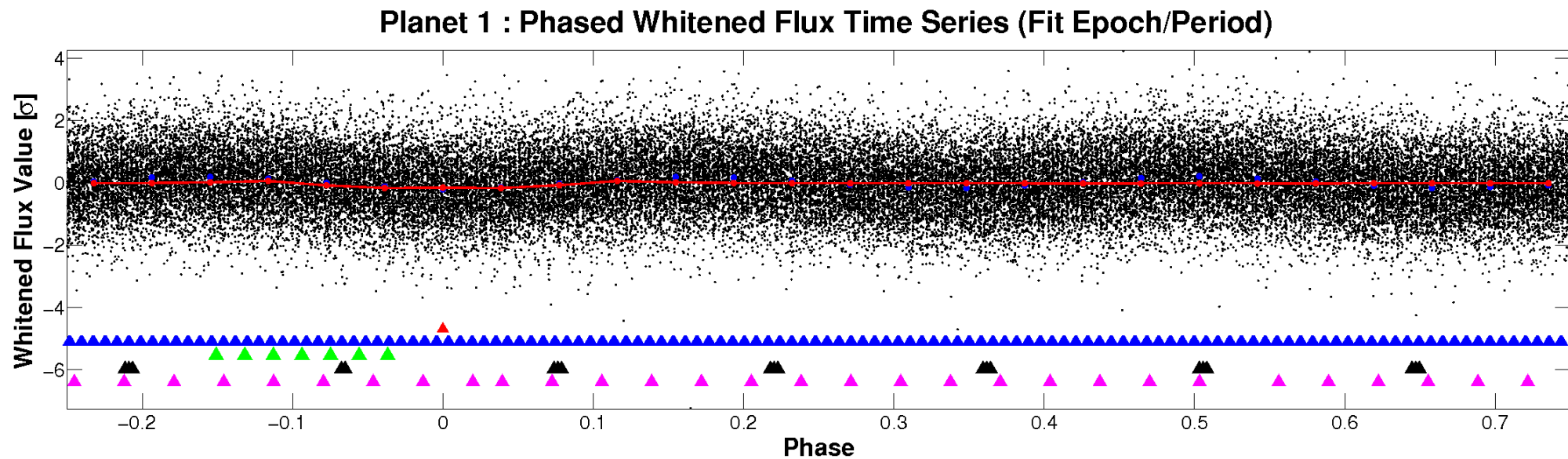
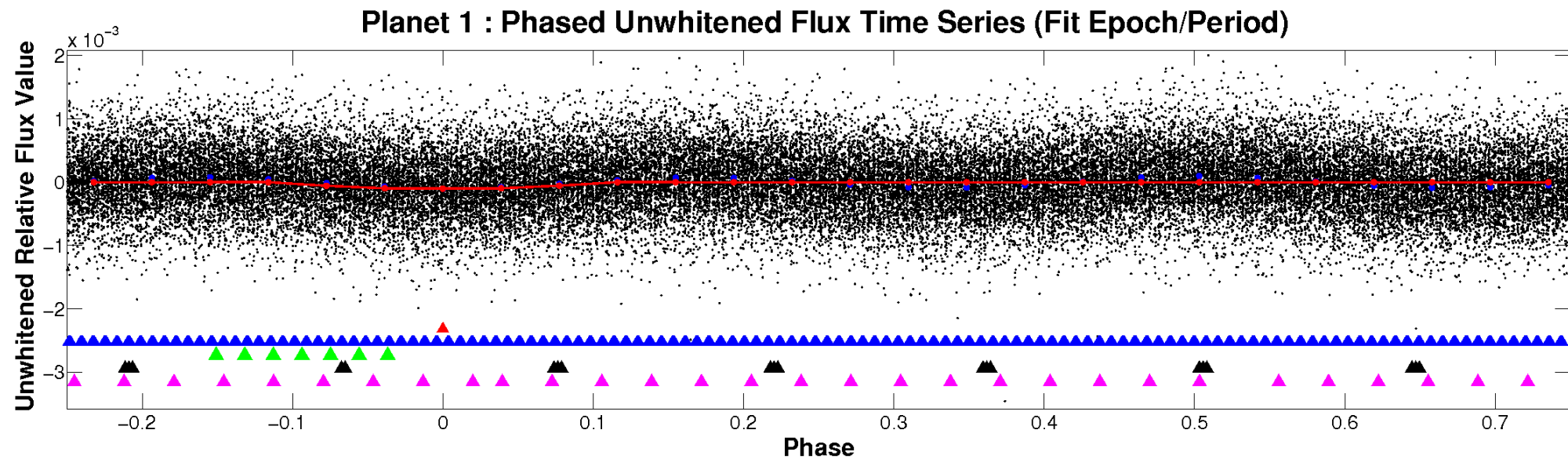


# ALT Odd/Even

TCE 006756481-01



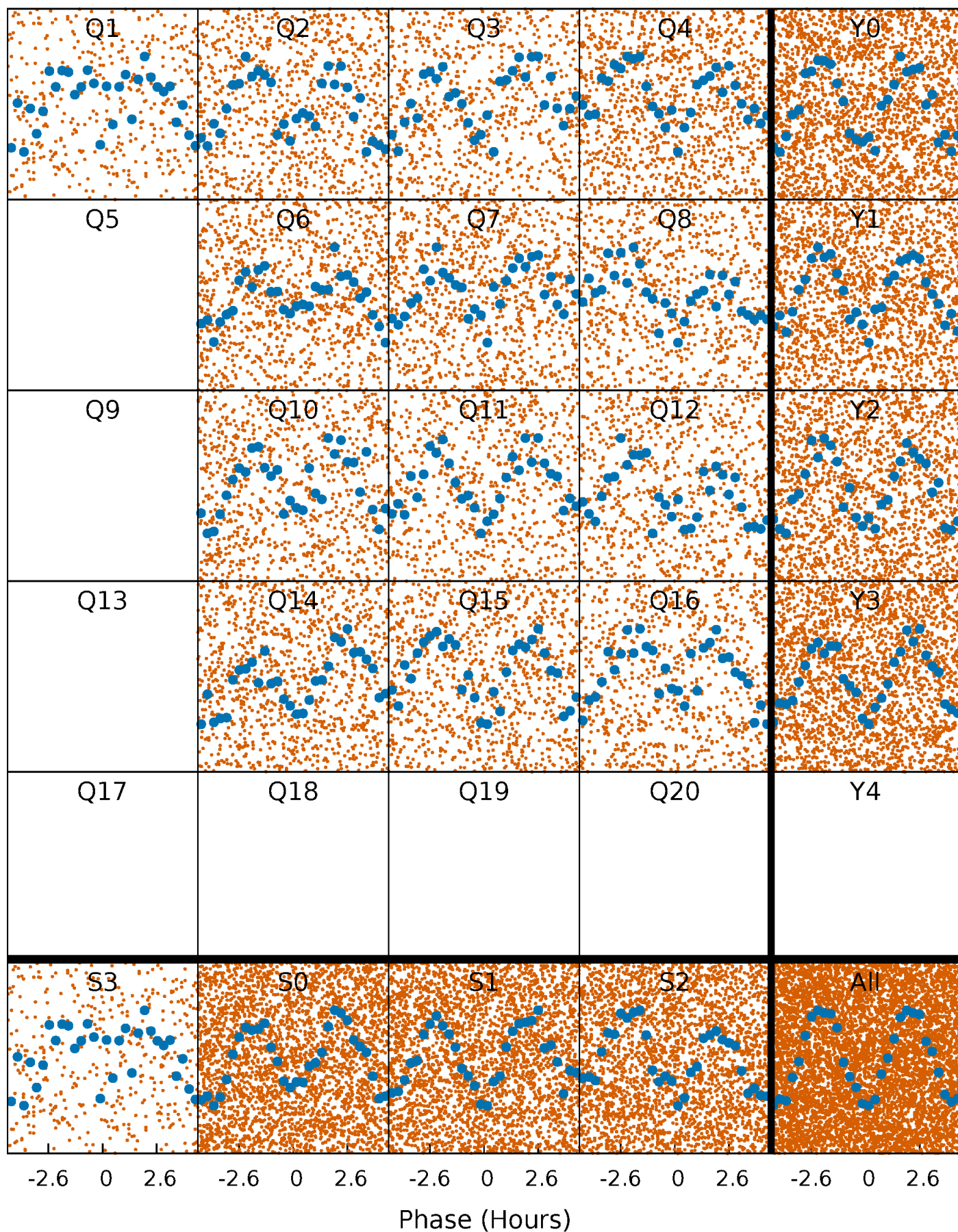
# Non-Whitened Vs. Whitened Light Curve





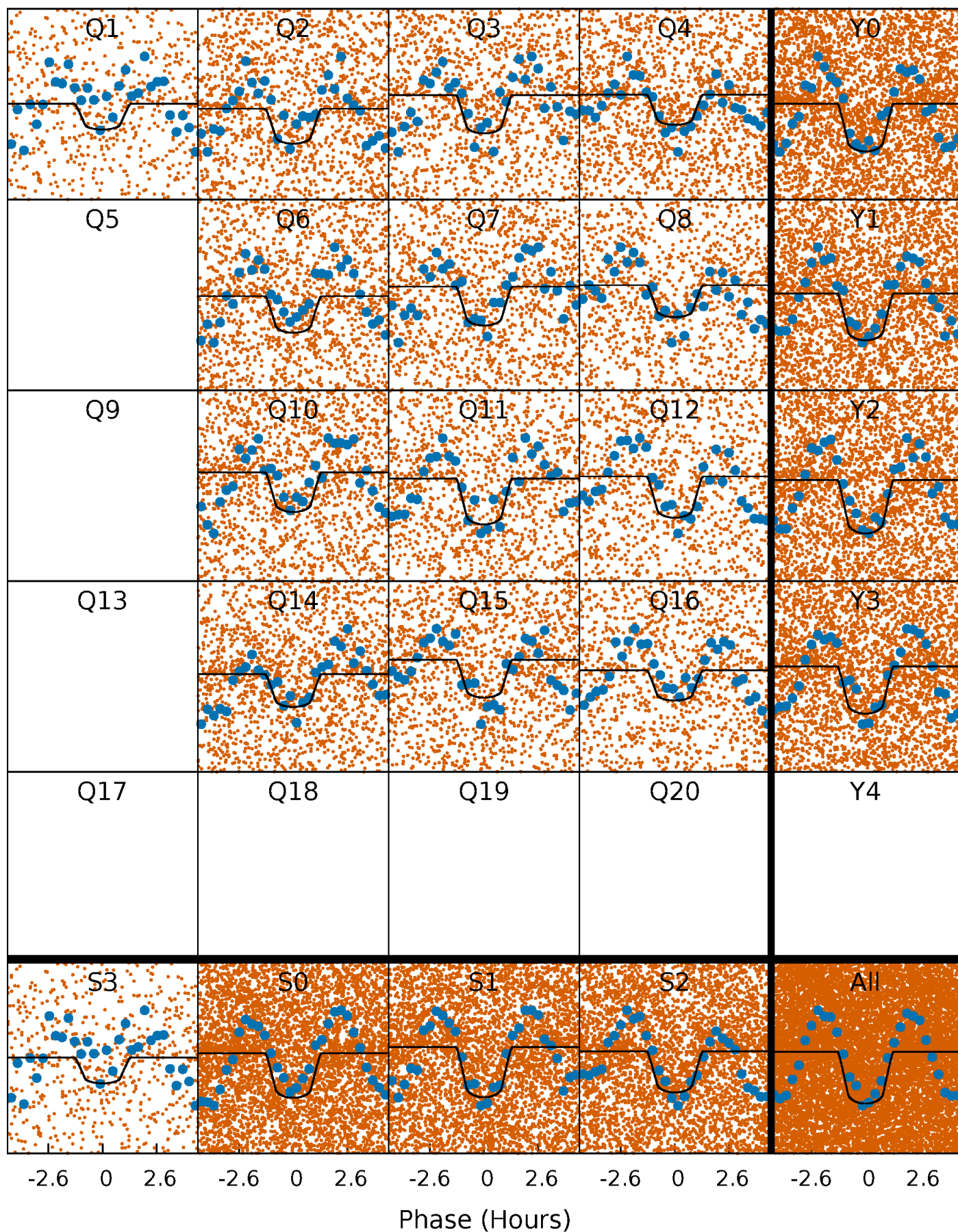
# PDC Quarter-Phased Transit Curves

TCE 006756481-01 P= 0.527878 Days  $T_0=131.596582$  (BKJD)



# DV Quarter-Phased Transit Curves

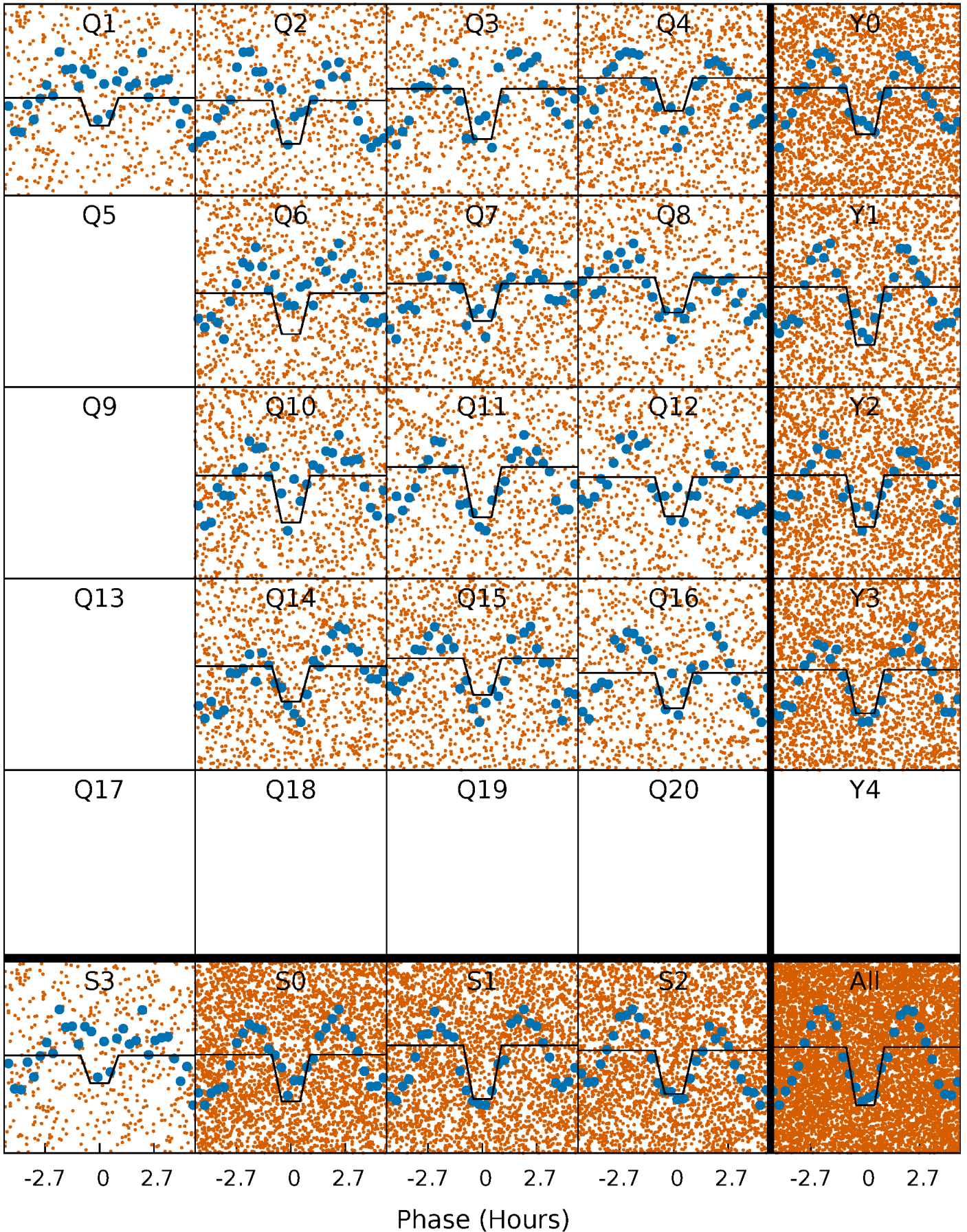
TCE 006756481-01 P= 0.527878 Days  $T_0=131.596582$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 006756481-01 P= 0.527880 Days  $T_0=131.595452$  (BKJD)

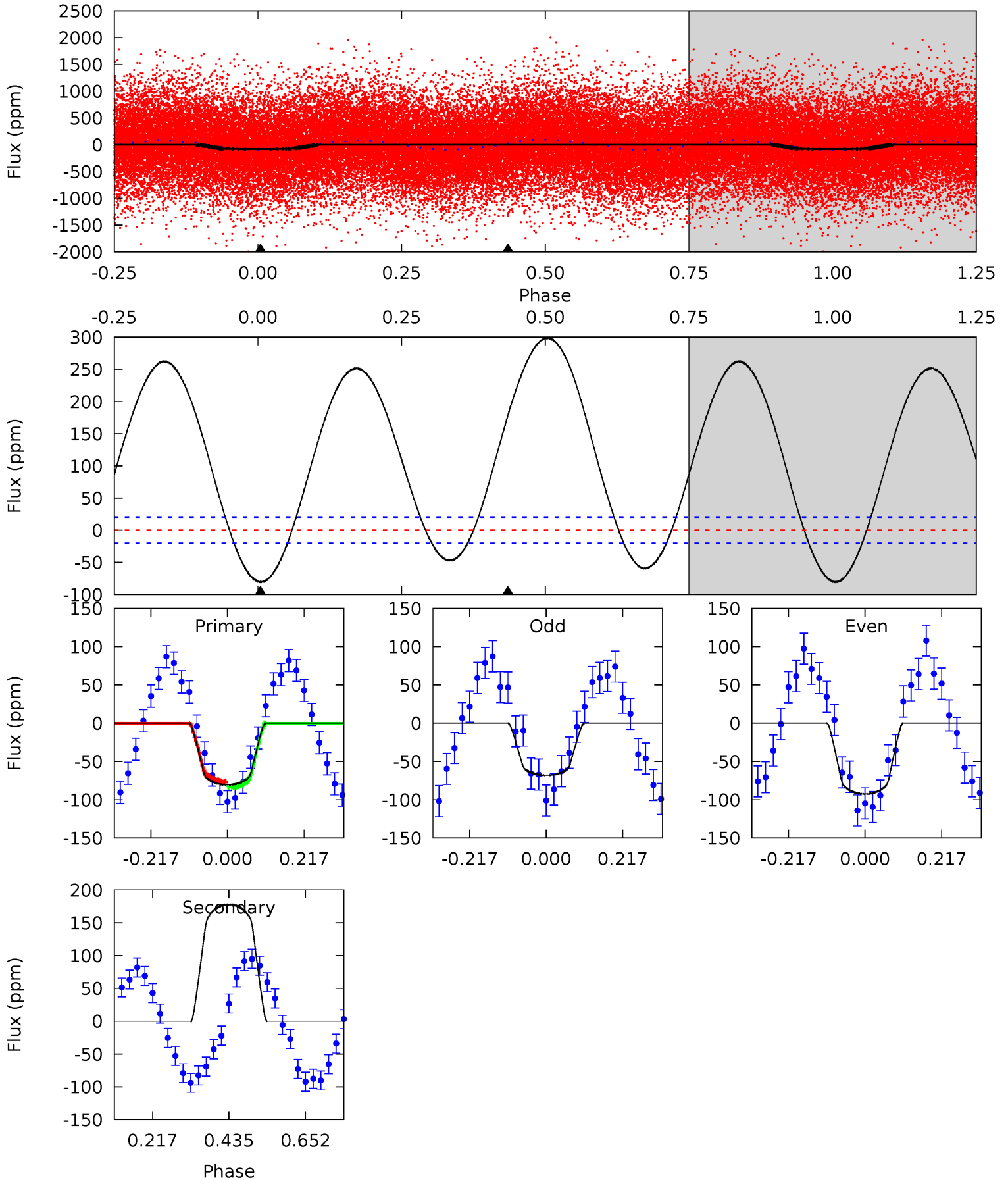




# DV Model-Shift Uniqueness Test

006756481-01, P = 0.527878 Days, E = 131.068704 Days

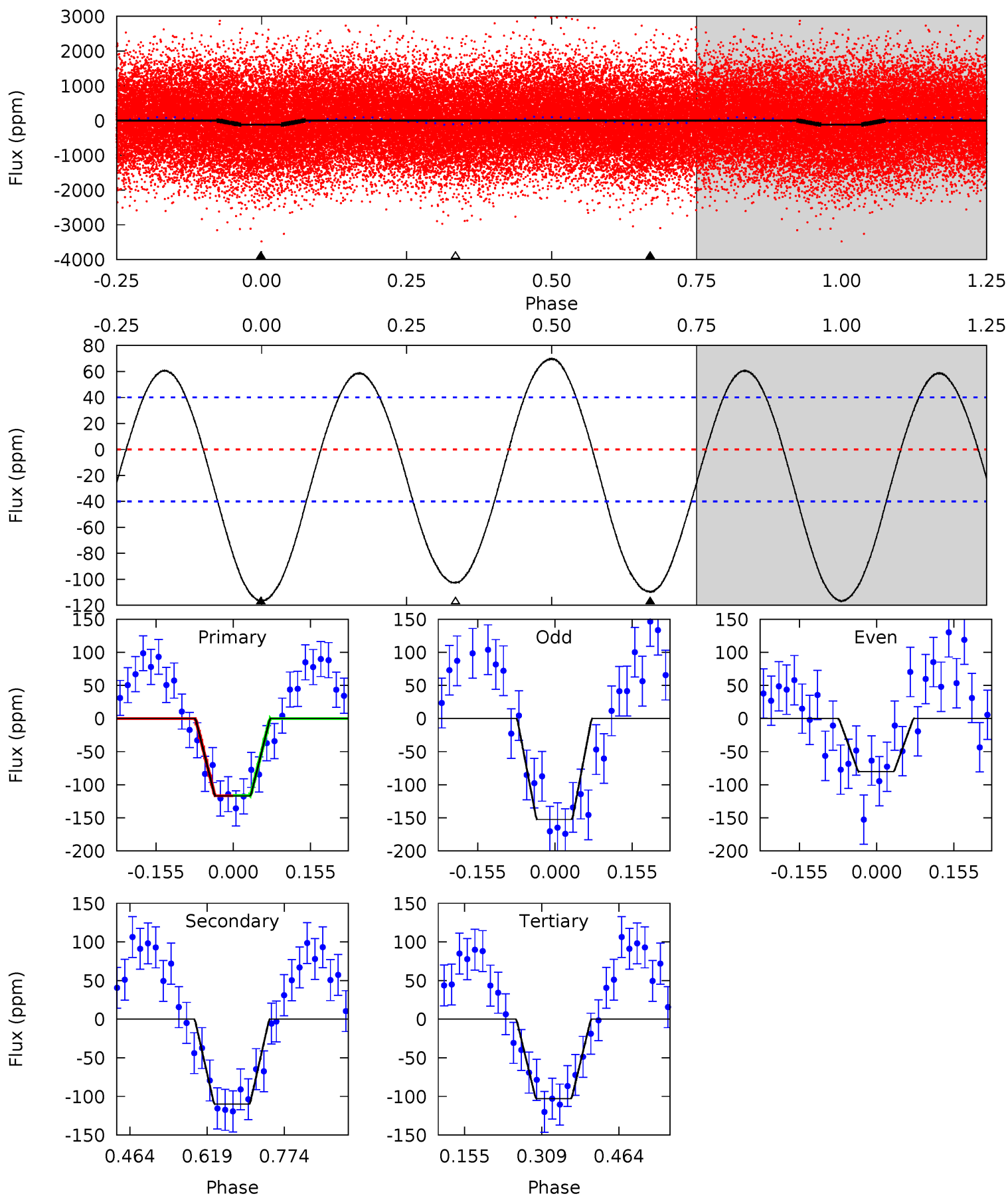
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	-38.4	0	0	4.40	1.23	17.7	17.4	17.4	-38.4	-38.4	2.63	0.94	0.79	0.75



# Alt Model-Shift Uniqueness Test

006756481-01, P = 0.527880 Days, E = 131.067572 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	12.3	11.5	0	4.47	1.42	6.90	1.59	13.1	0.79	12.3	3.96	1.23	0.37	0.03



### Stellar Parameters For KIC 006756481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$\rho_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7545^{+210}_{-341}$	$3.579^{+0.531}_{-0.059}$	$-0.120^{+0.200}_{-0.300}$	$3.838^{+0.513}_{-2.053}$	$2.040^{+0.201}_{-0.562}$	$0.051^{+0.331}_{-0.010}$
	+3%/-5%	+15%/-2%	+167%/-250%	+13%/-53%	+10%/-28%	+651%/-20%
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 006756481-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$178 \pm 5$	$3.91^{+1.32}_{-1.23}$	$6811^{+498}_{-934}$	$-9108^{+1090}_{-1586}$	$-1.653^{+0.701}_{-1.684}$
Alt.	$-110 \pm 9$	$4.21^{+1.41}_{-1.38}$	$6772^{+518}_{-938}$	$6324^{+1419}_{-994}$	$0.901^{+0.996}_{-0.373}$

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



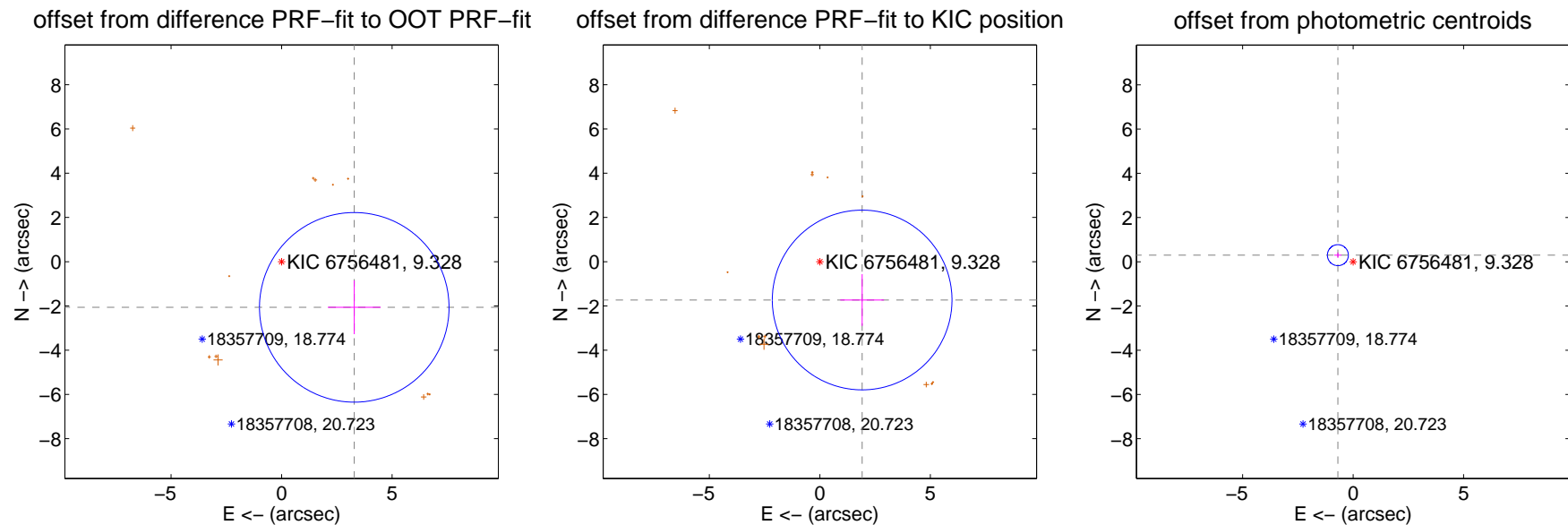
## DV Centroid Data

Supplemental centroid analysis for 006756481-01. **Kepler magnitude: 9.33.** Transit SNR 14.96

**There are 0 quarters with good PRF difference image offsets**

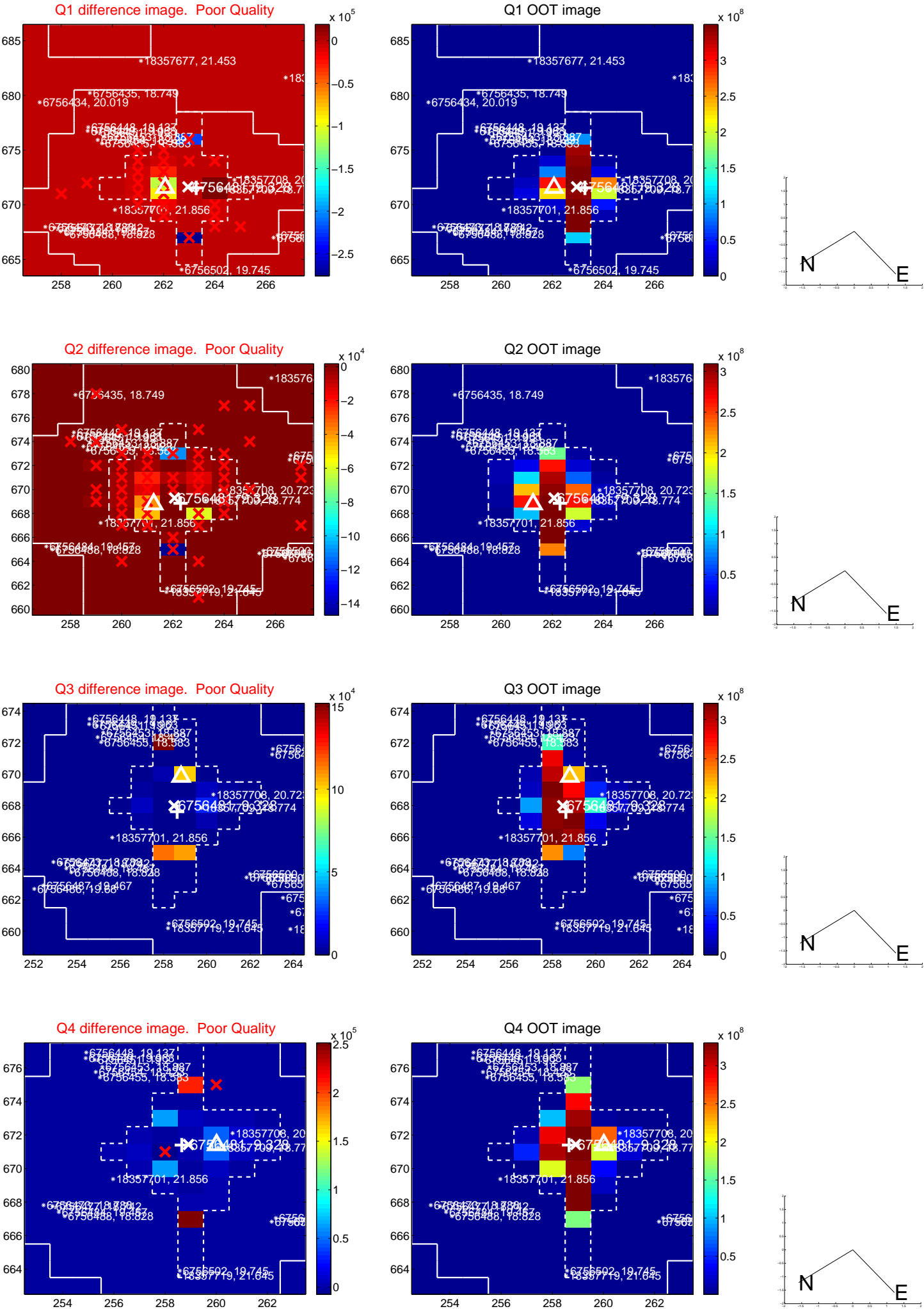
The direct PRF centroid is offset from the target star catalog position by about 0.79 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.882 \pm 1.429$	2.72	$-3.288 \pm 1.196$	$-2.064 \pm 1.212$
PRF-fit source offset from KIC position	$2.580 \pm 1.354$	1.91	$-1.913 \pm 0.988$	$-1.731 \pm 1.169$
photometric centroid source offset	$0.75 \pm 0.16$	4.74	$0.69 \pm 0.16$	$0.30 \pm 0.12$

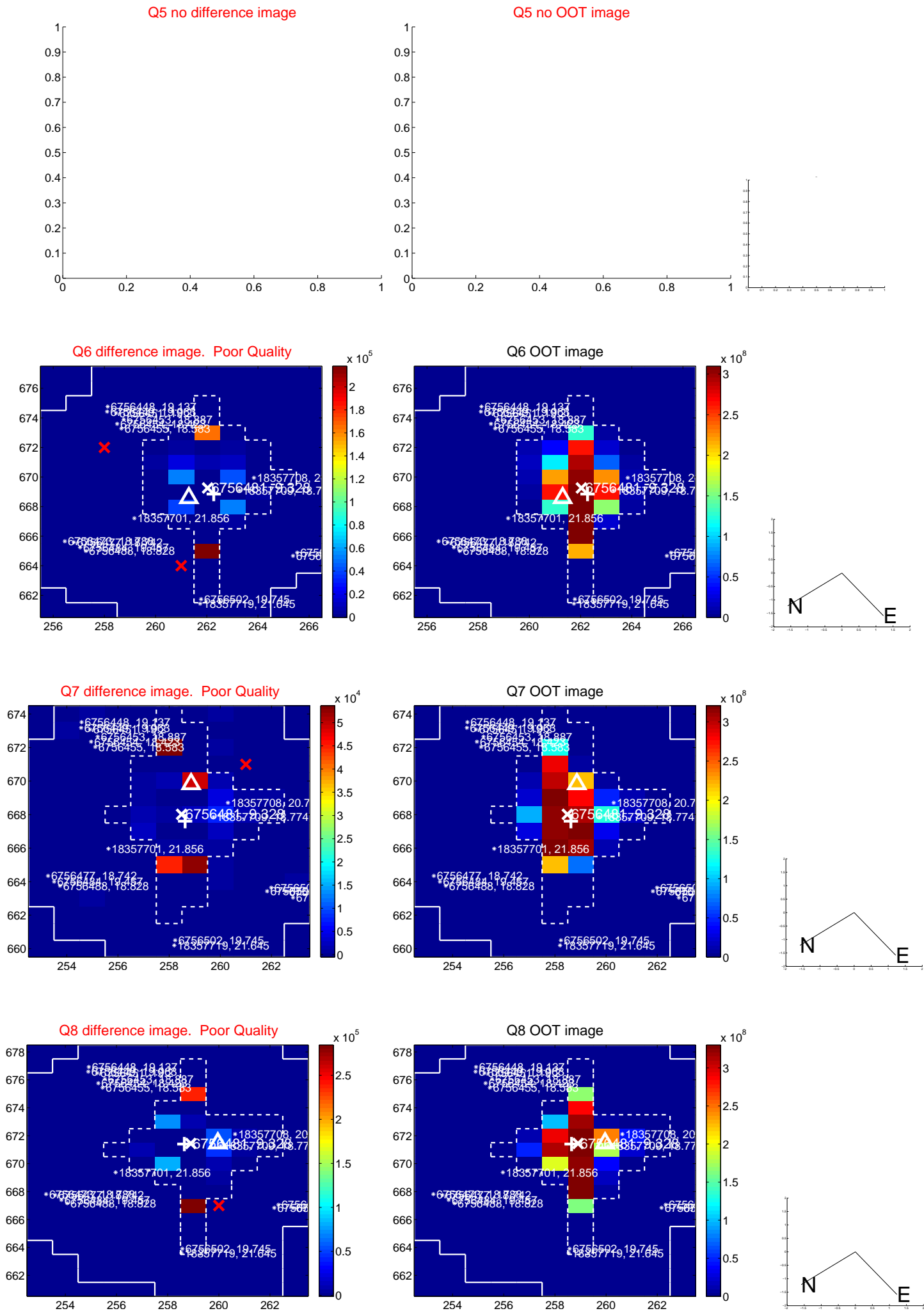


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

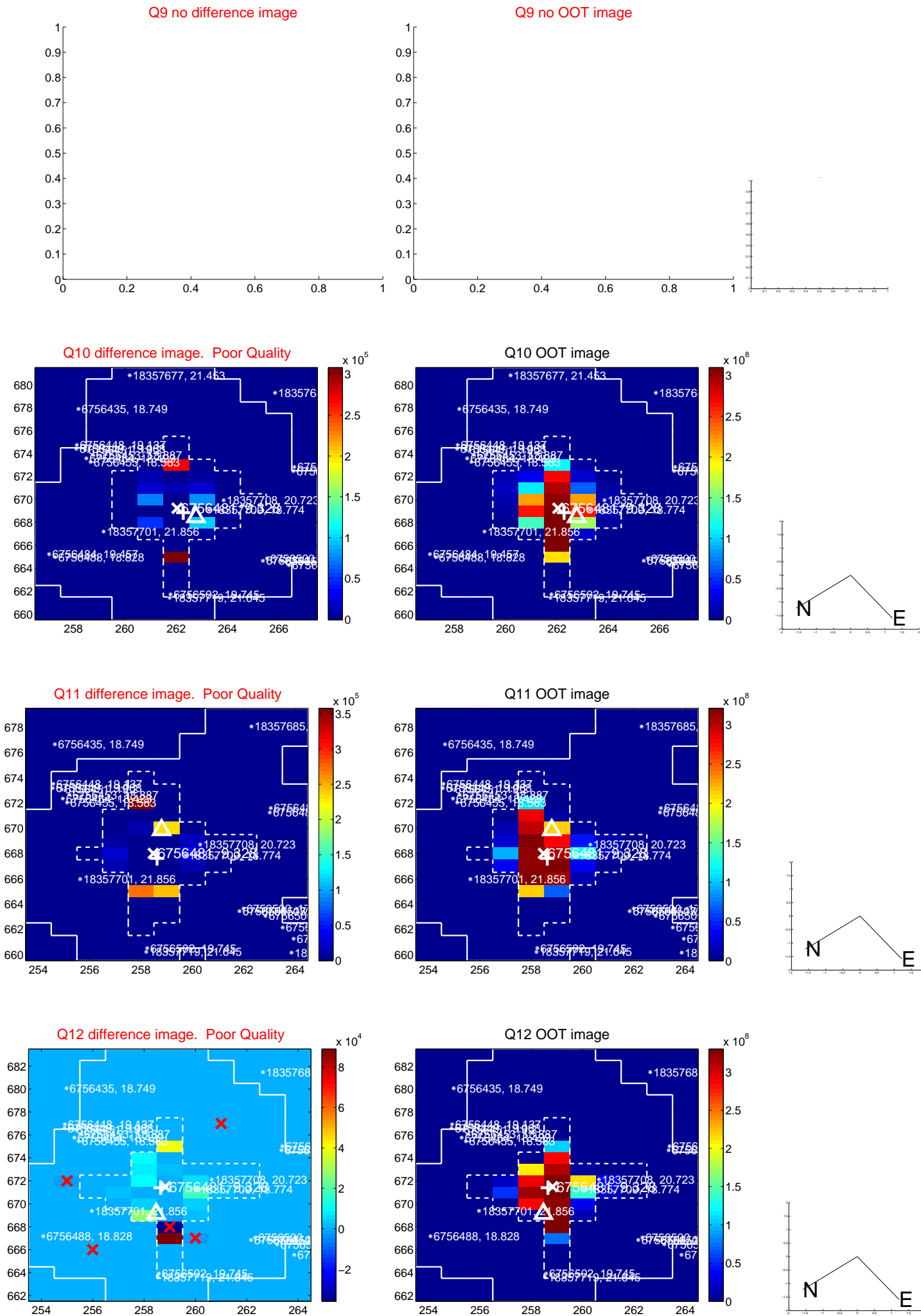


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

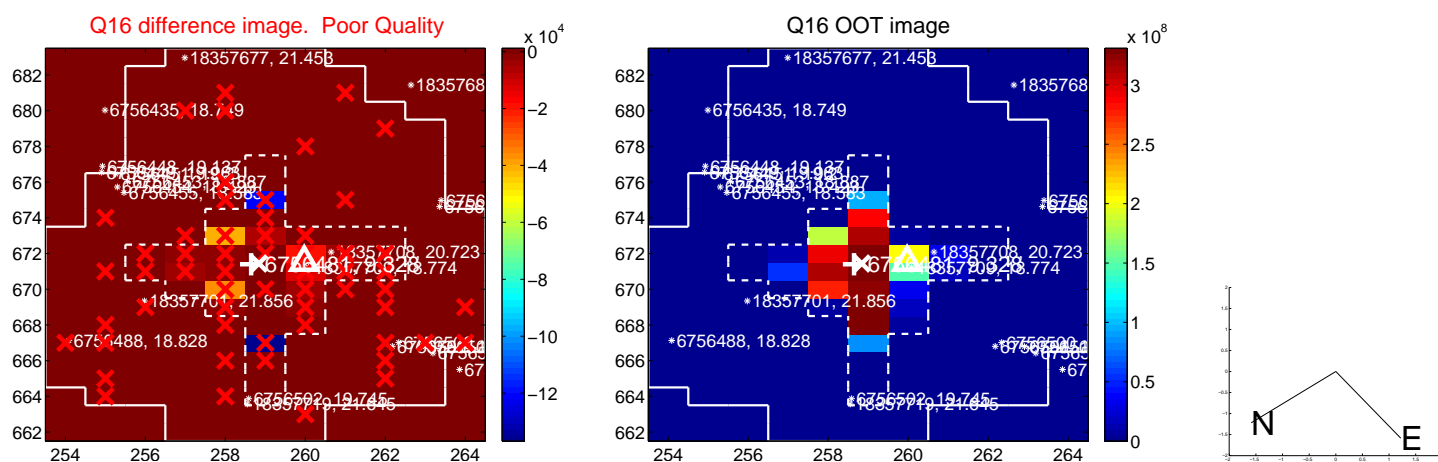
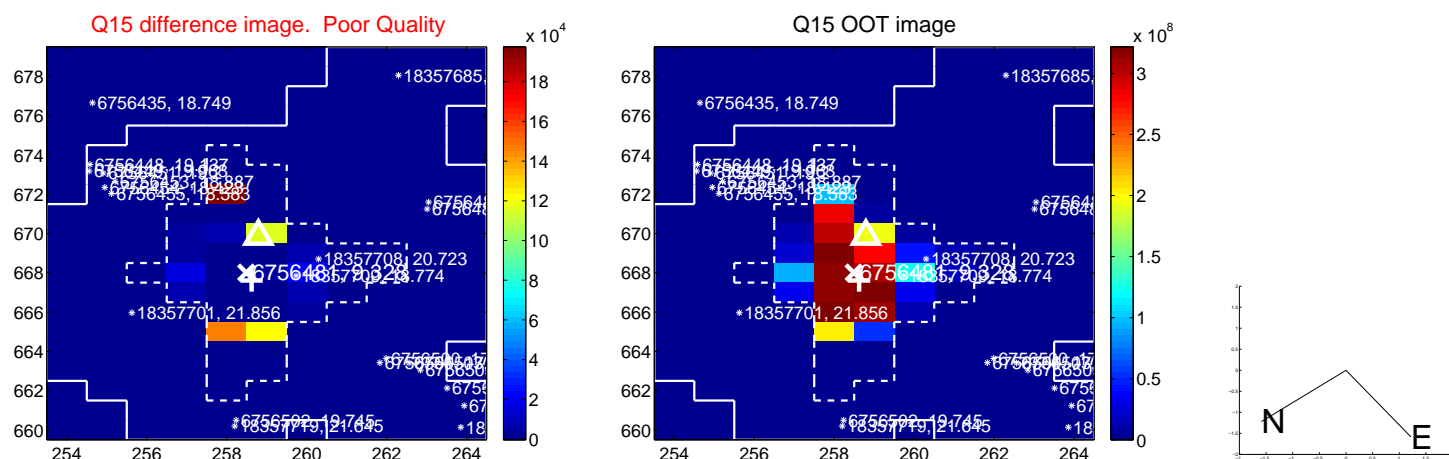
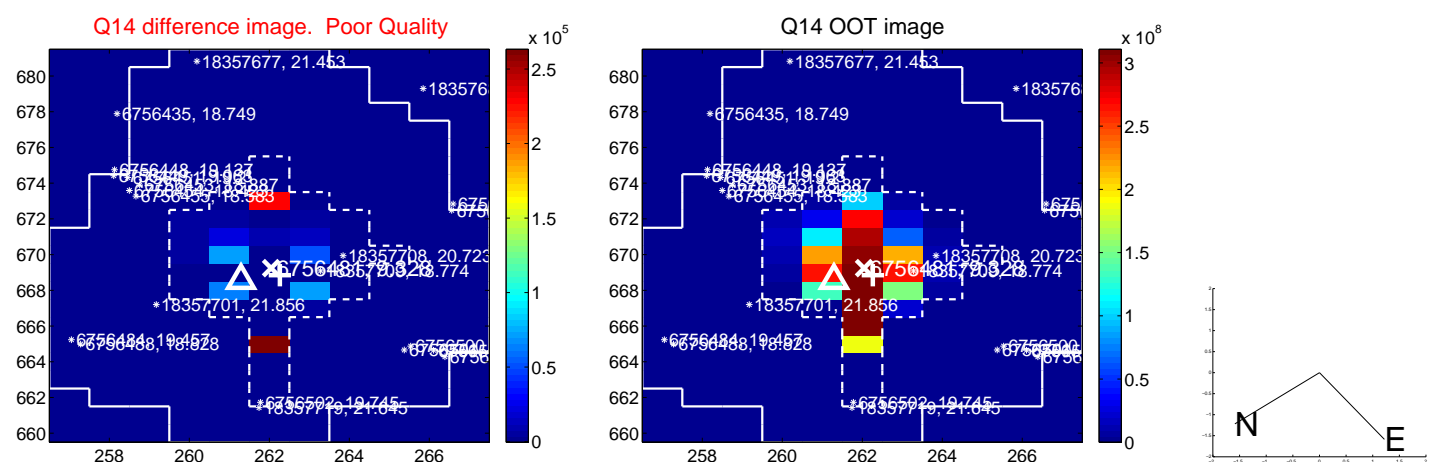
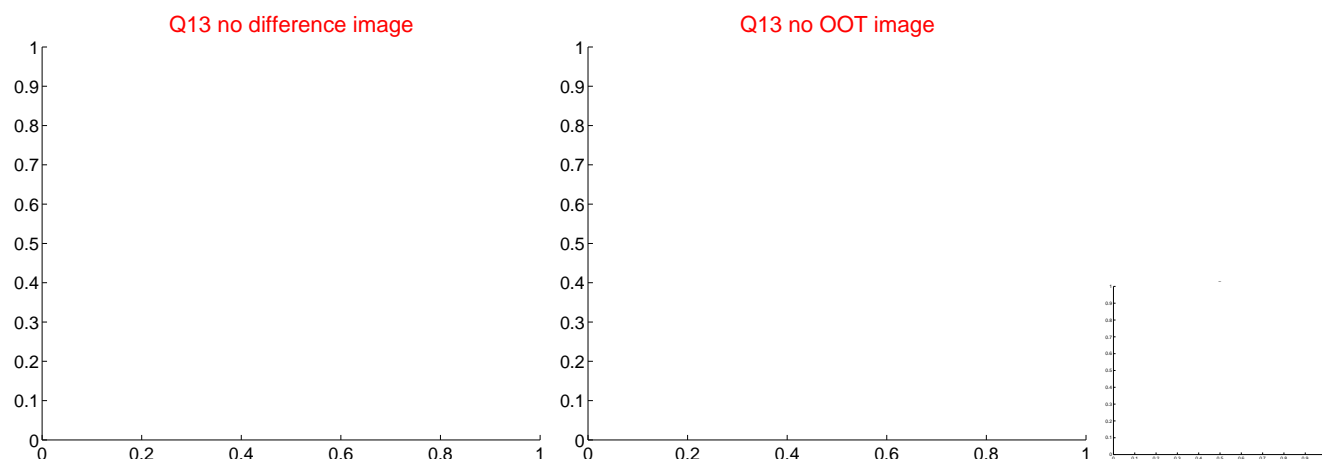




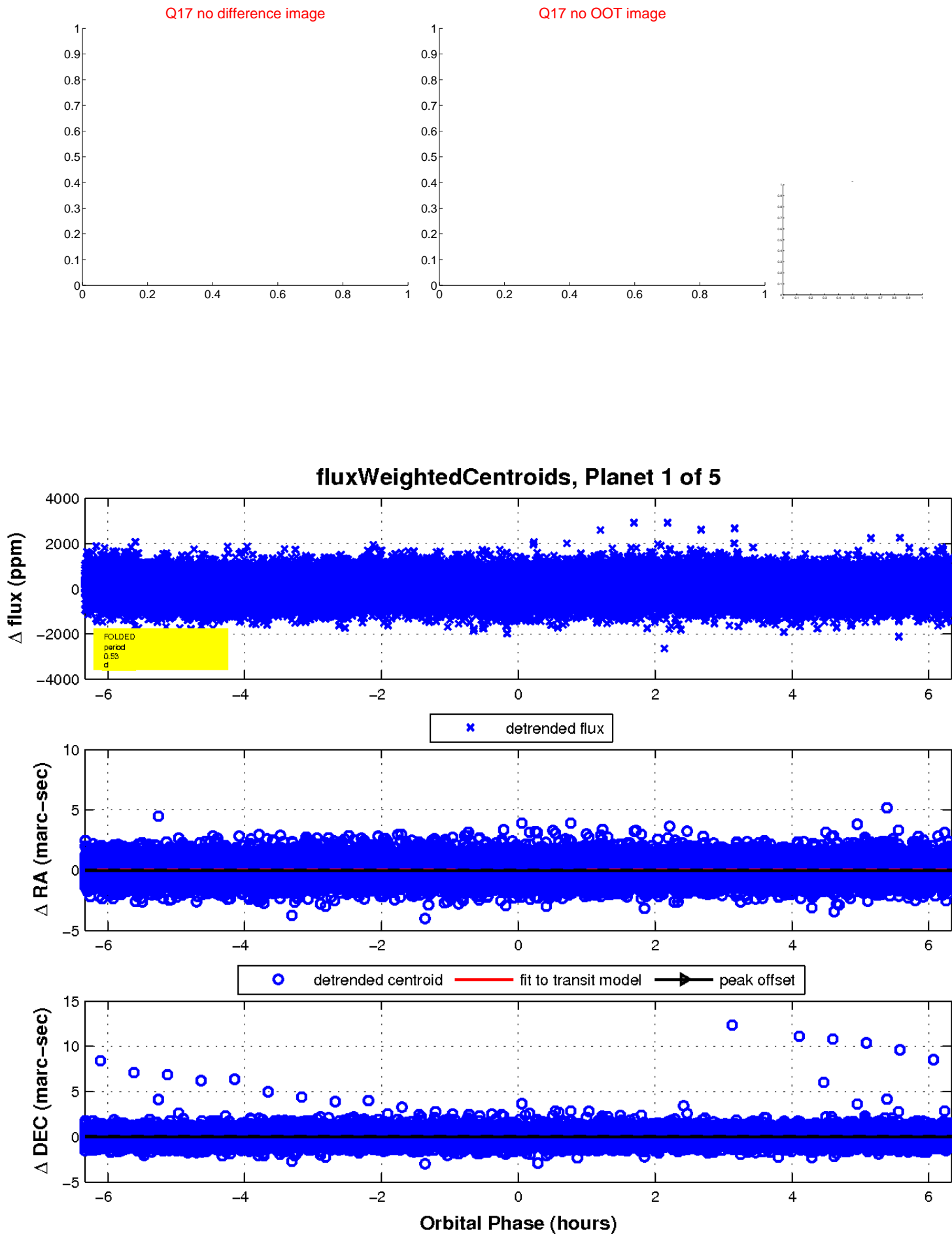
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



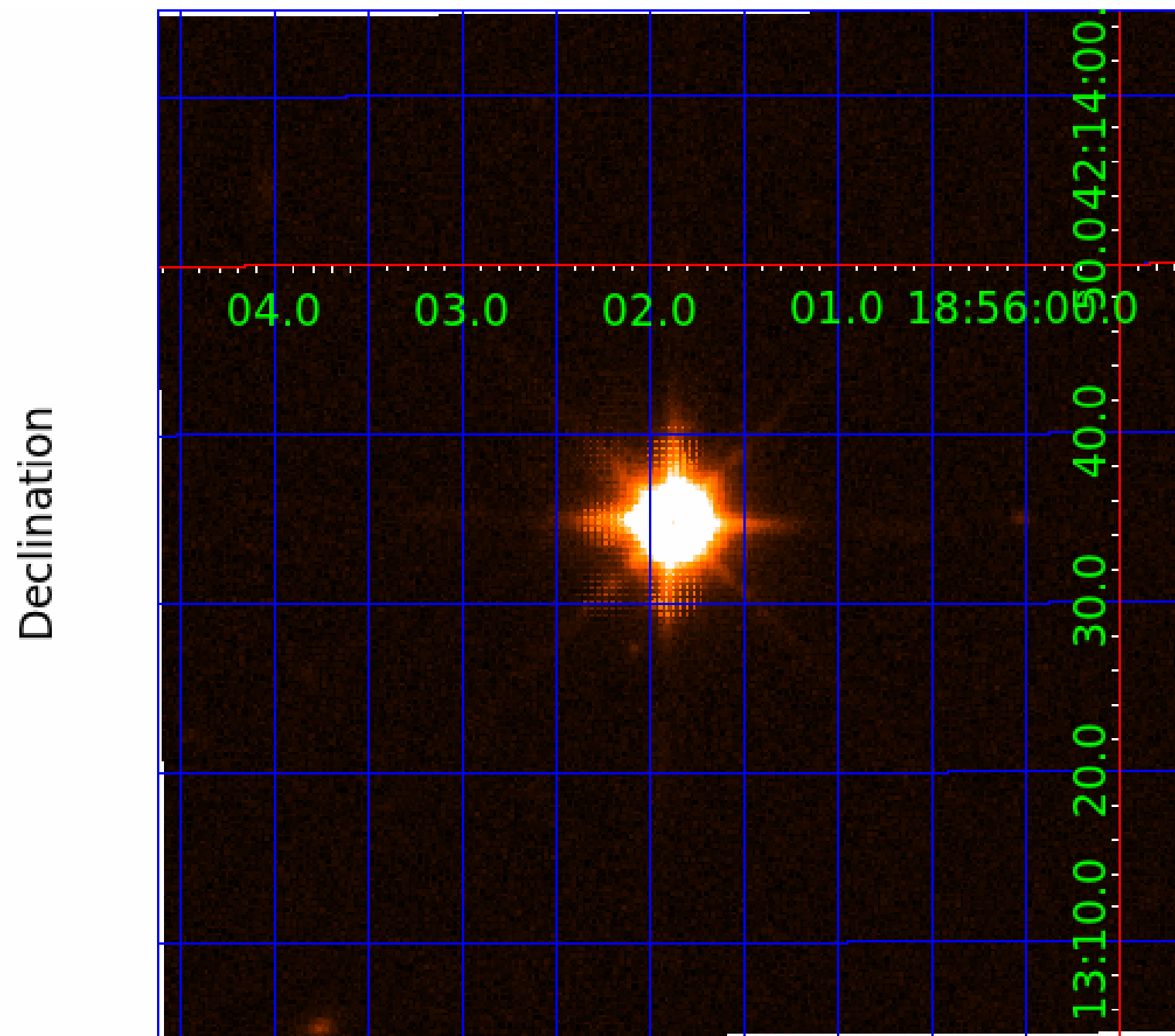
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 006756481

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006756481-01	OBS	No	0.527878	131.596582	102.8	2.290	13.6	15.0	3.84	7545	4.54	0.00
006756481-02	OBS	No	1.180451	132.143459	197.4	5.431	11.1	14.7	3.84	7545	7.65	55659.28
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006756481-04	OBS	No	71.640752	178.918017	1333.4	1.635	8.6	9.9	3.84	7545	16.57	233.38
006756481-05	OBS	No	49.893201	132.145318	851.2	1.863	8.4	8.5	3.84	7545	11.32	378.05

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006756481-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006756481-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
006756481-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006756481-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006756481-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

**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.

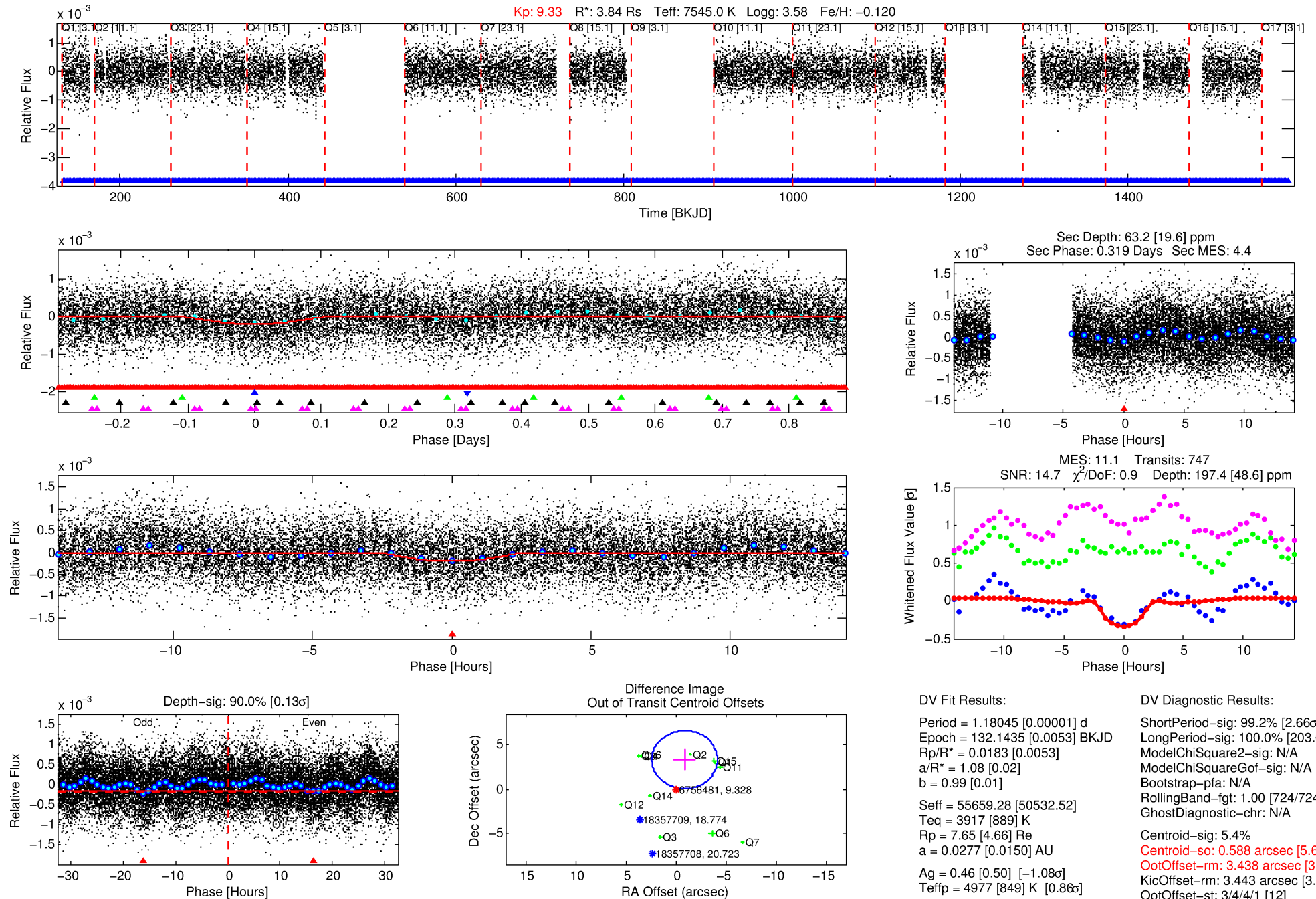
## Ephemeris Match Information For 006756481-02

No Significant Match Found



# DV One-Page Summary

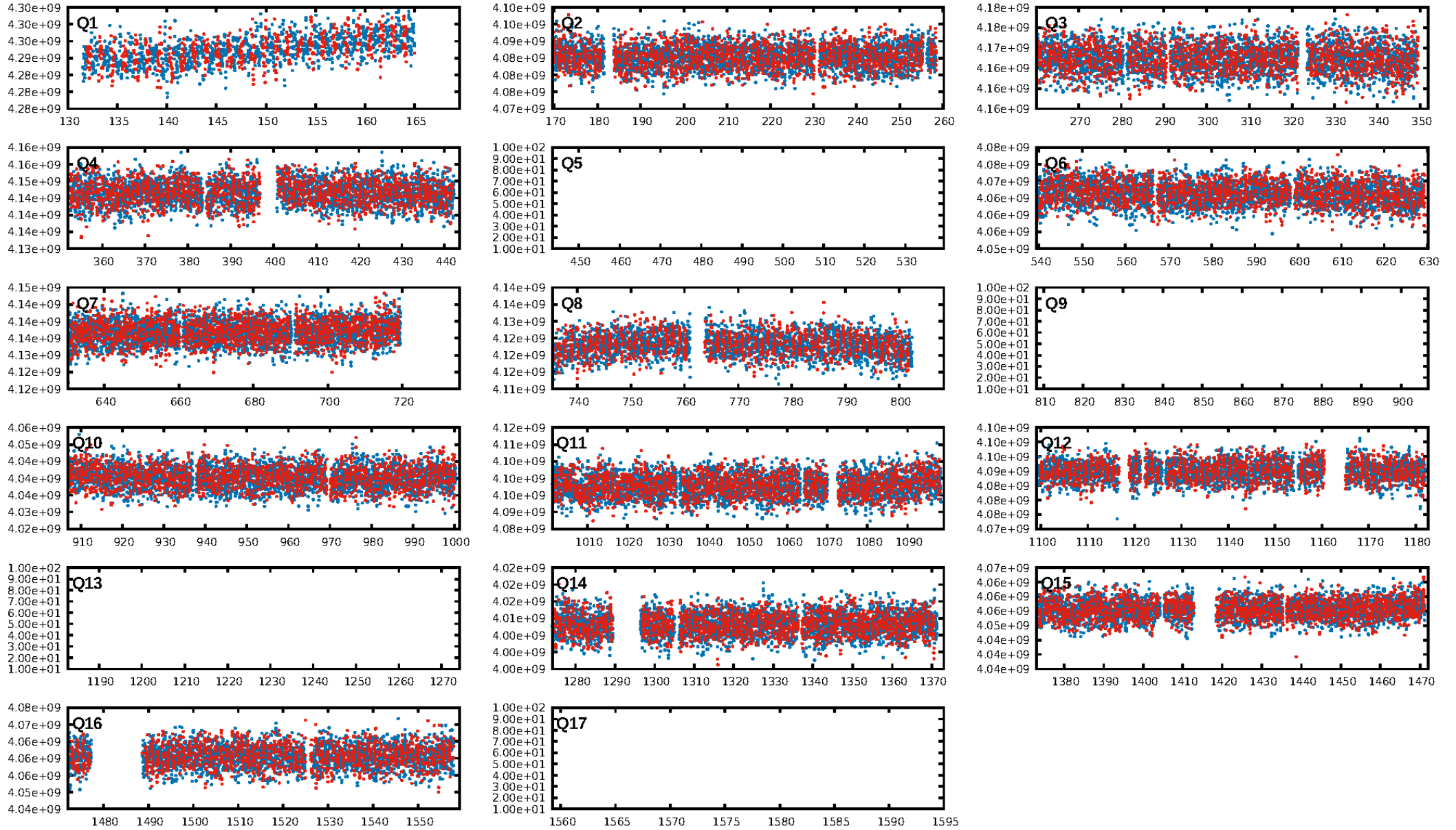
KIC: 6756481 Candidate: 2 of 5 Period: 1.180 d



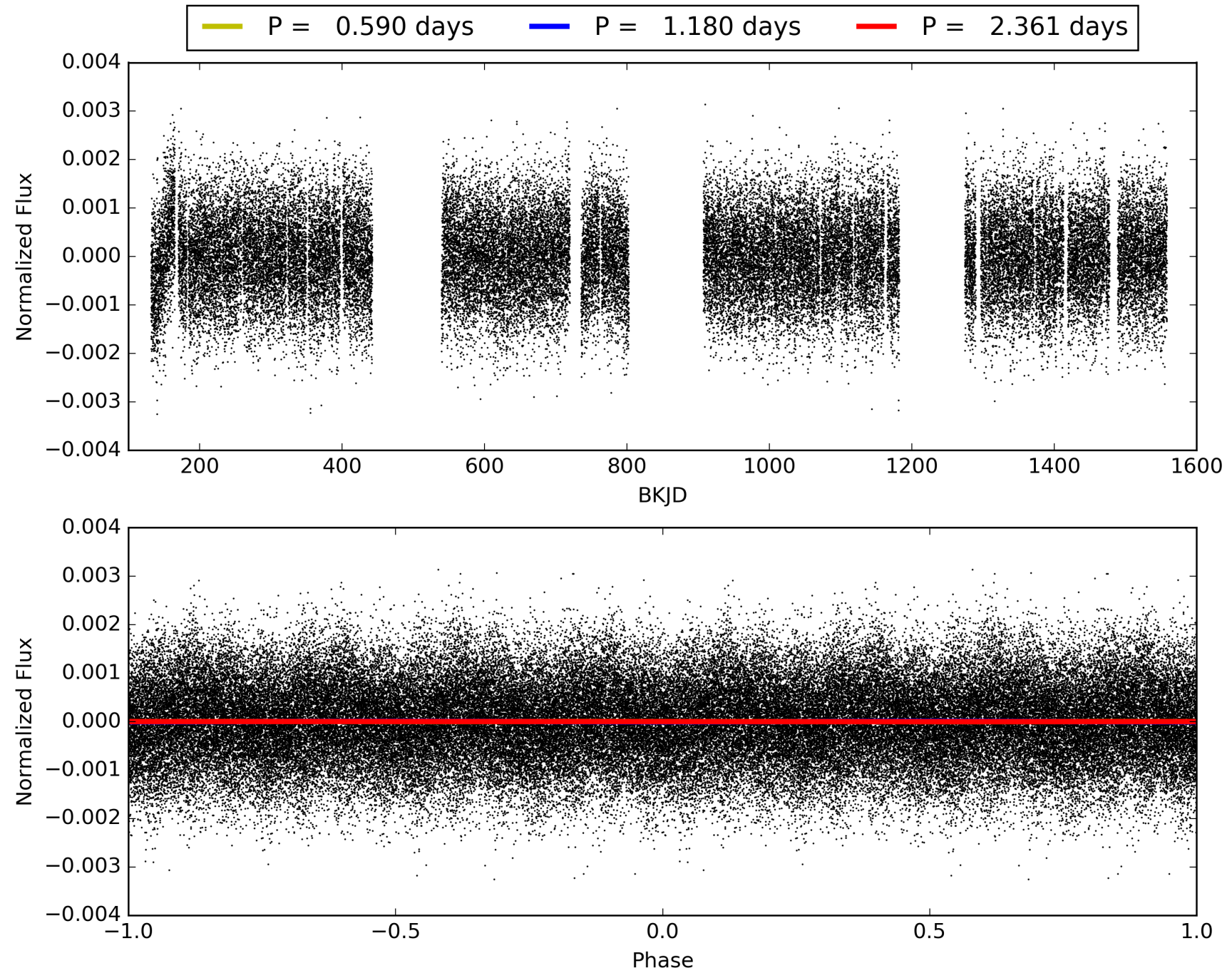
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:23:46 Z

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

# TCE 006756481-02, PDC Light Curves

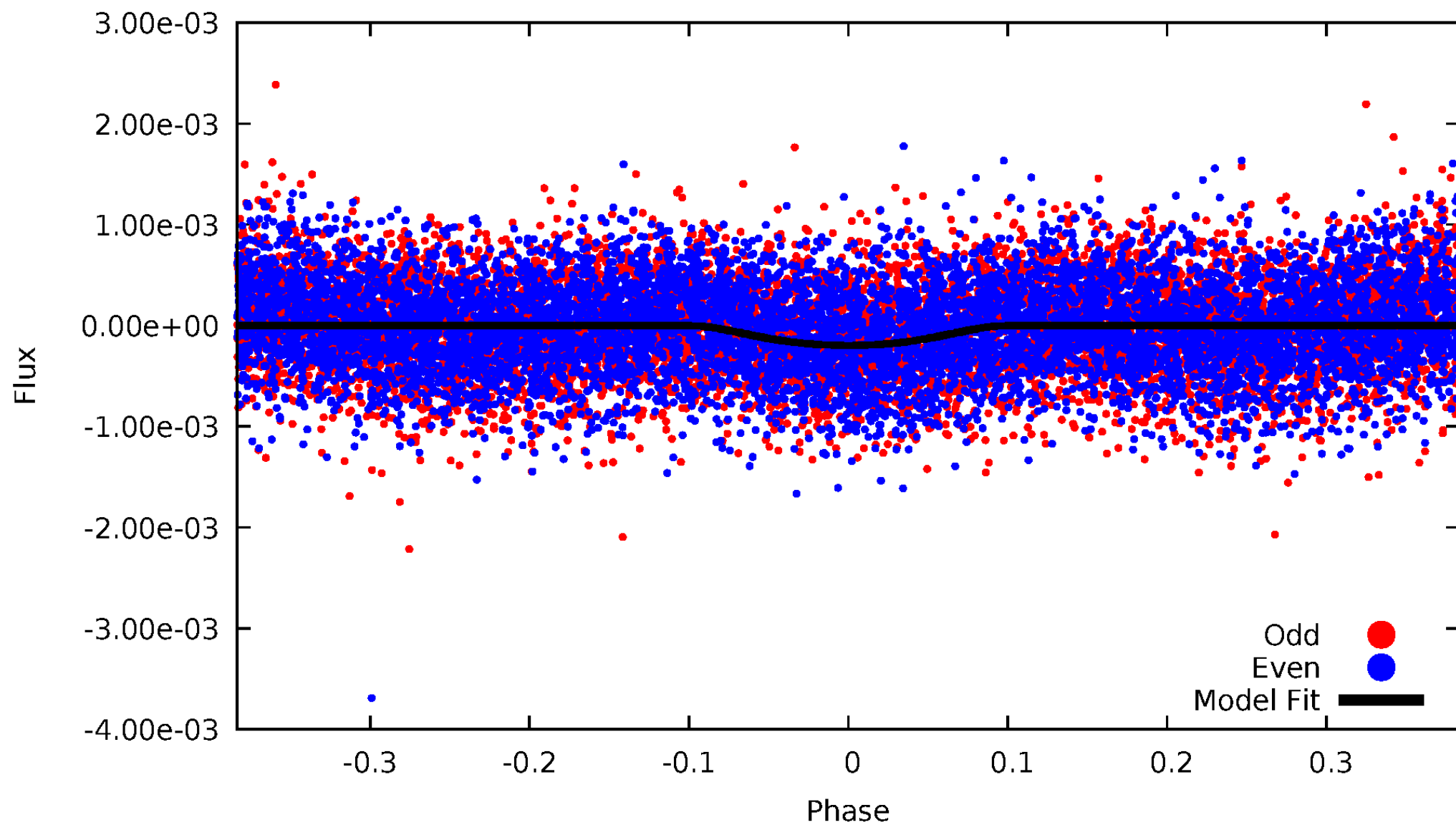


TCE 006756481-02



# DV Odd/Even

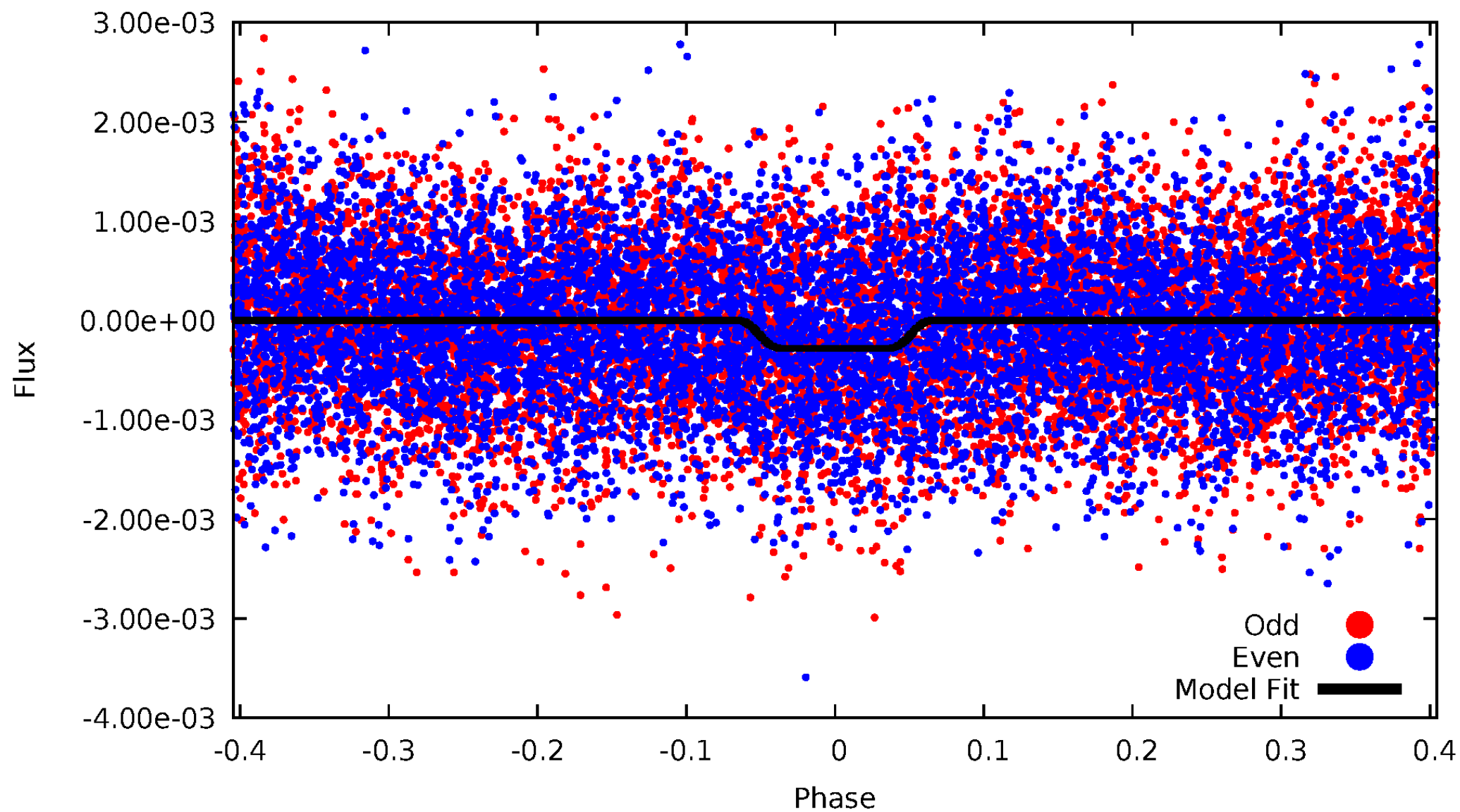
TCE 006756481-02





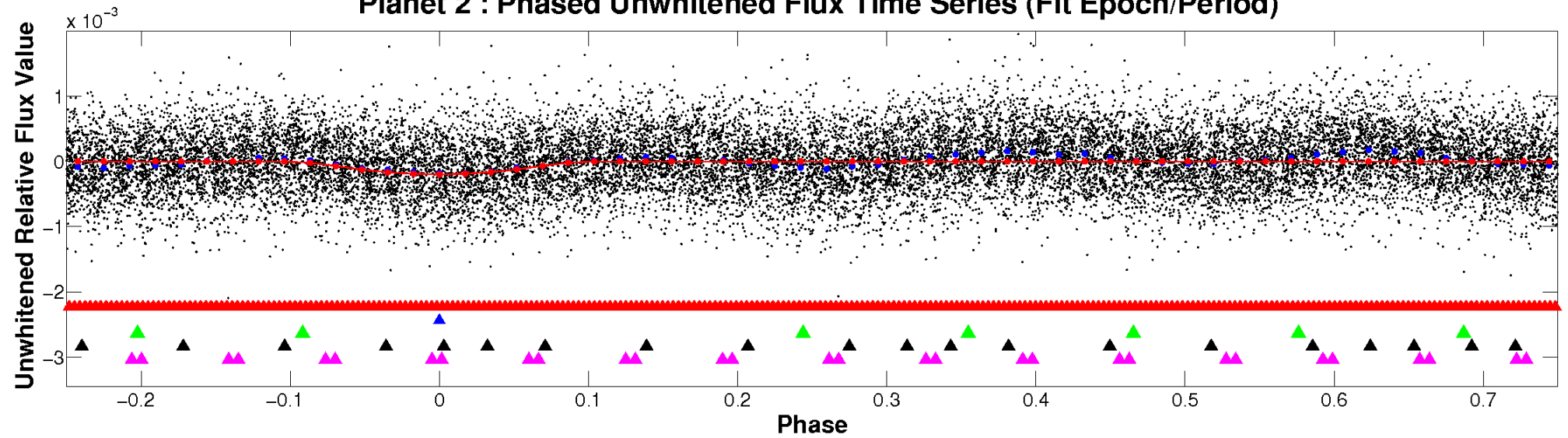
# ALT Odd/Even

TCE 006756481-02

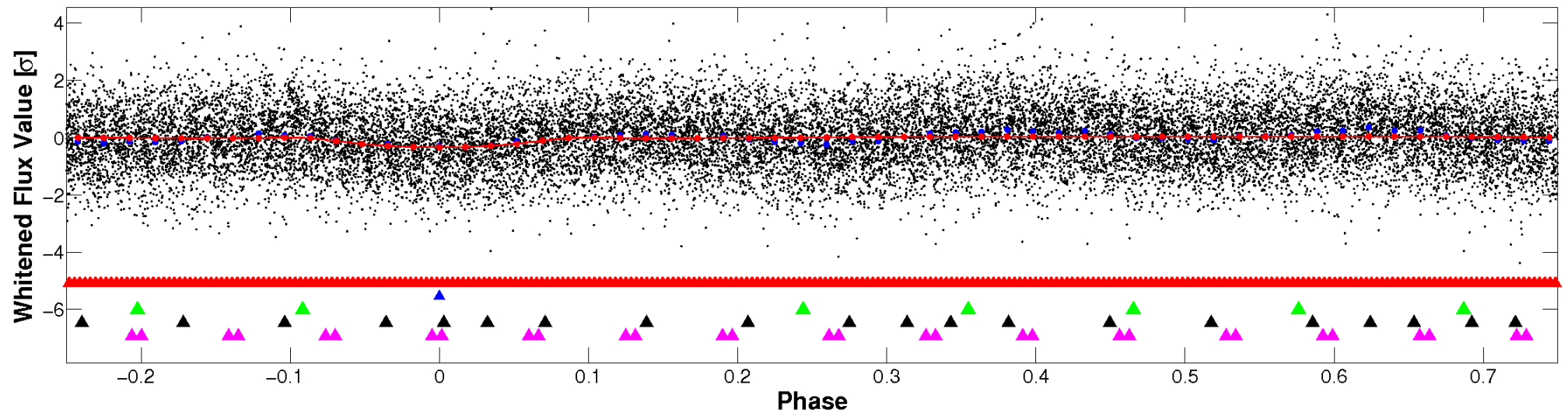


# Non-Whitened Vs. Whitened Light Curve

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

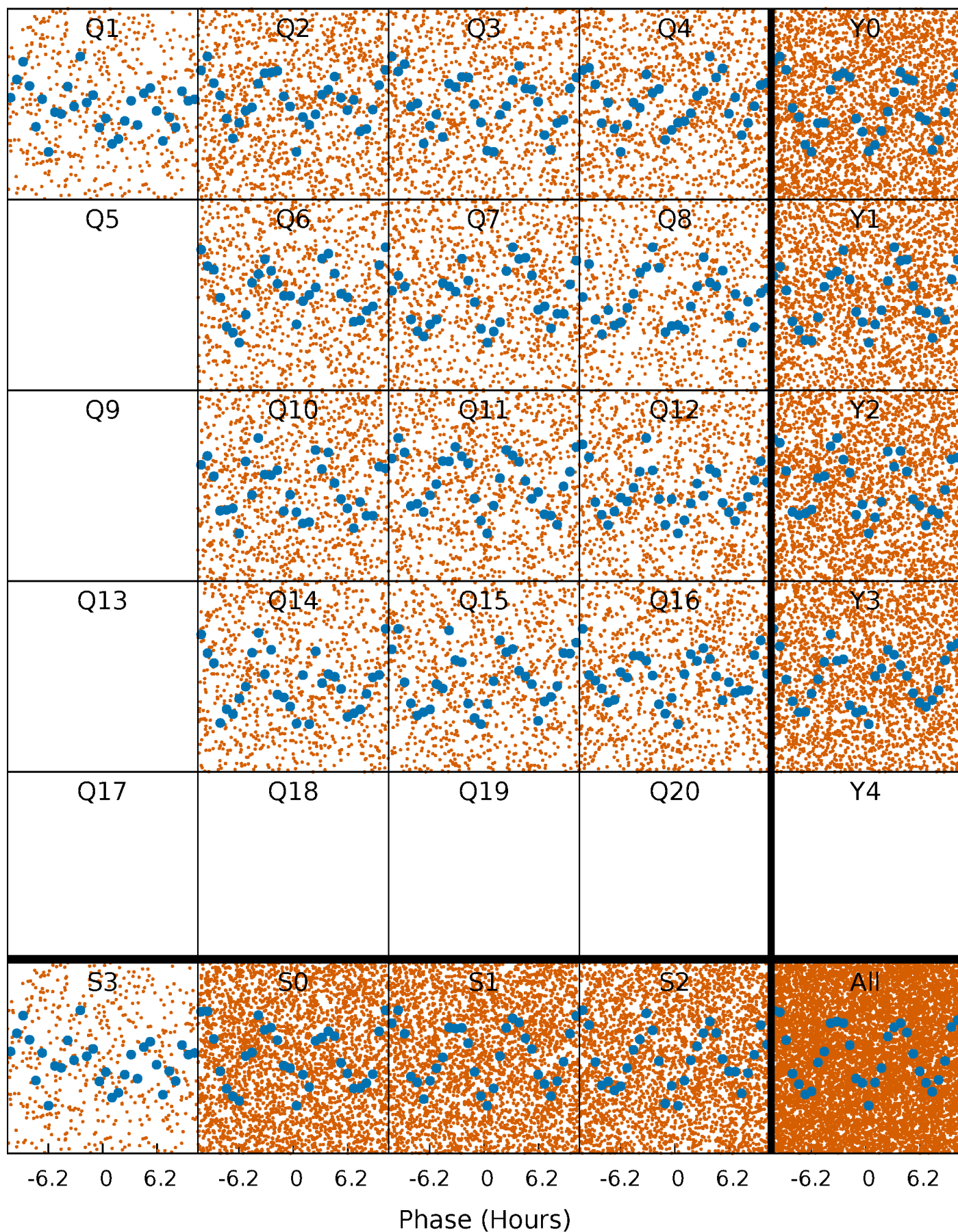


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

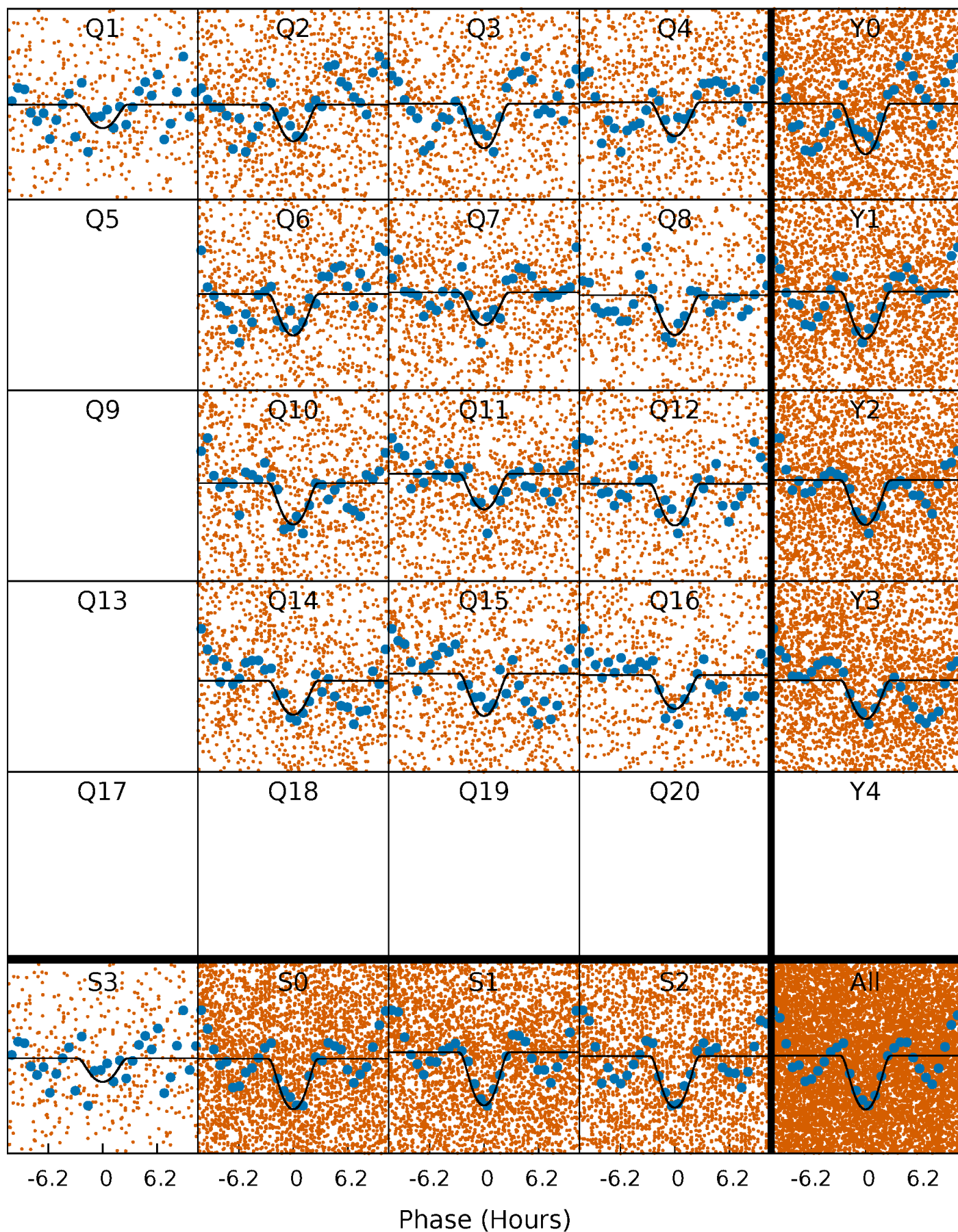
TCE 006756481-02 P= 1.180451 Days  $T_0=132.143459$  (BKJD)





# DV Quarter-Phased Transit Curves

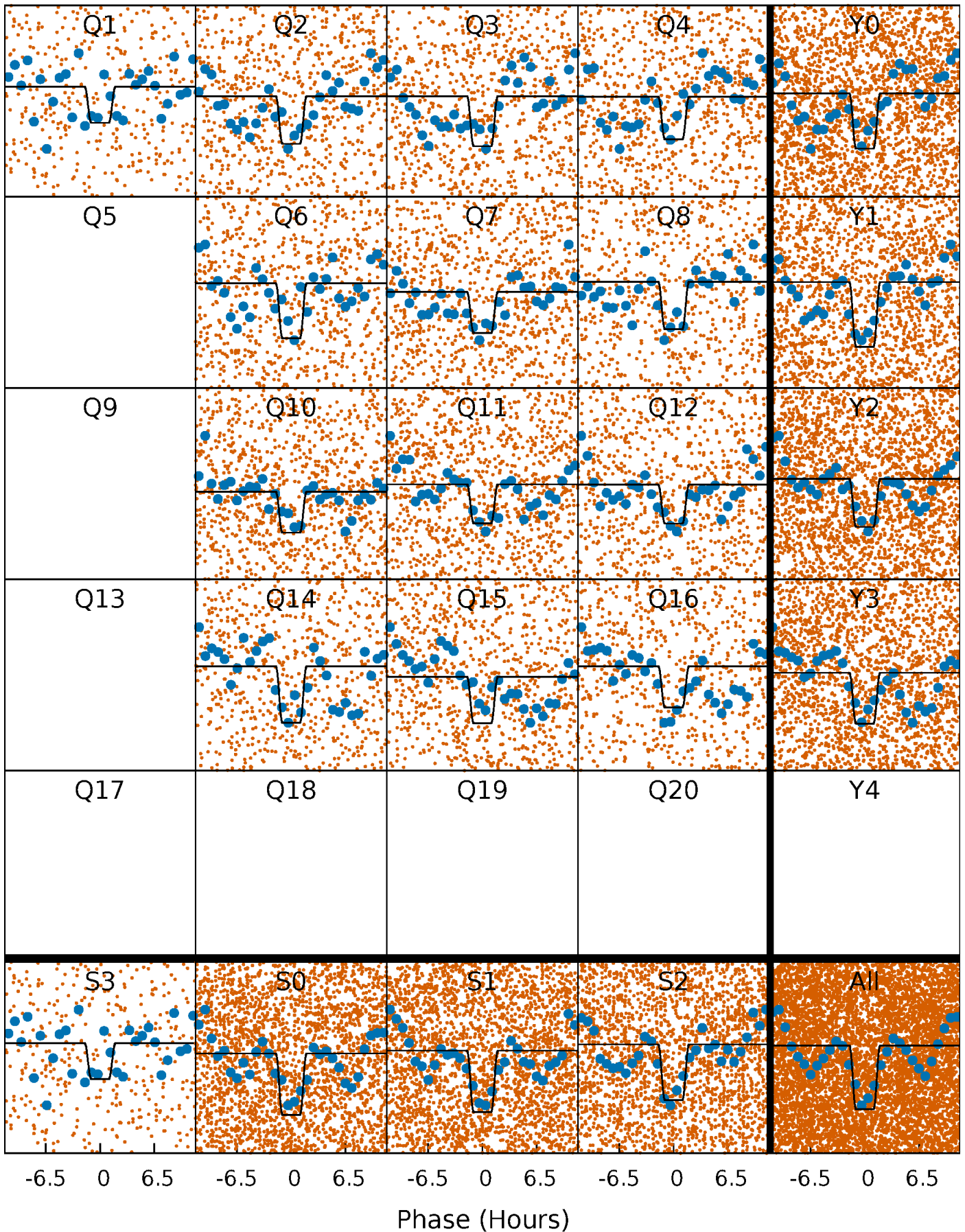
TCE 006756481-02     $P = 1.180451$  Days     $T_0 = 132.143459$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

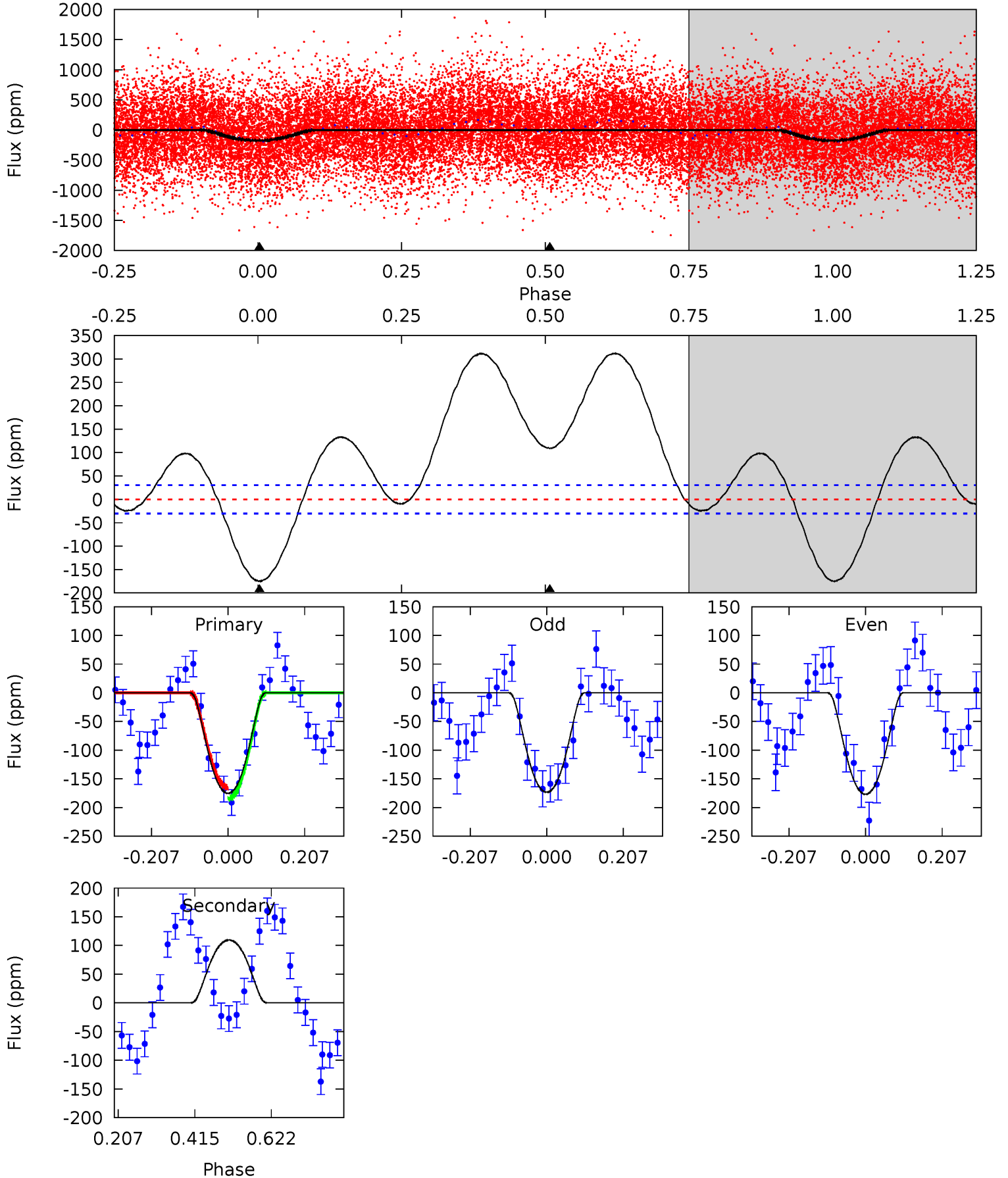
TCE 006756481-02 P= 1.180450 Days  $T_0=132.150172$  (BKJD)



# DV Model-Shift Uniqueness Test

006756481-02, P = 1.180451 Days, E = 130.963008 Days

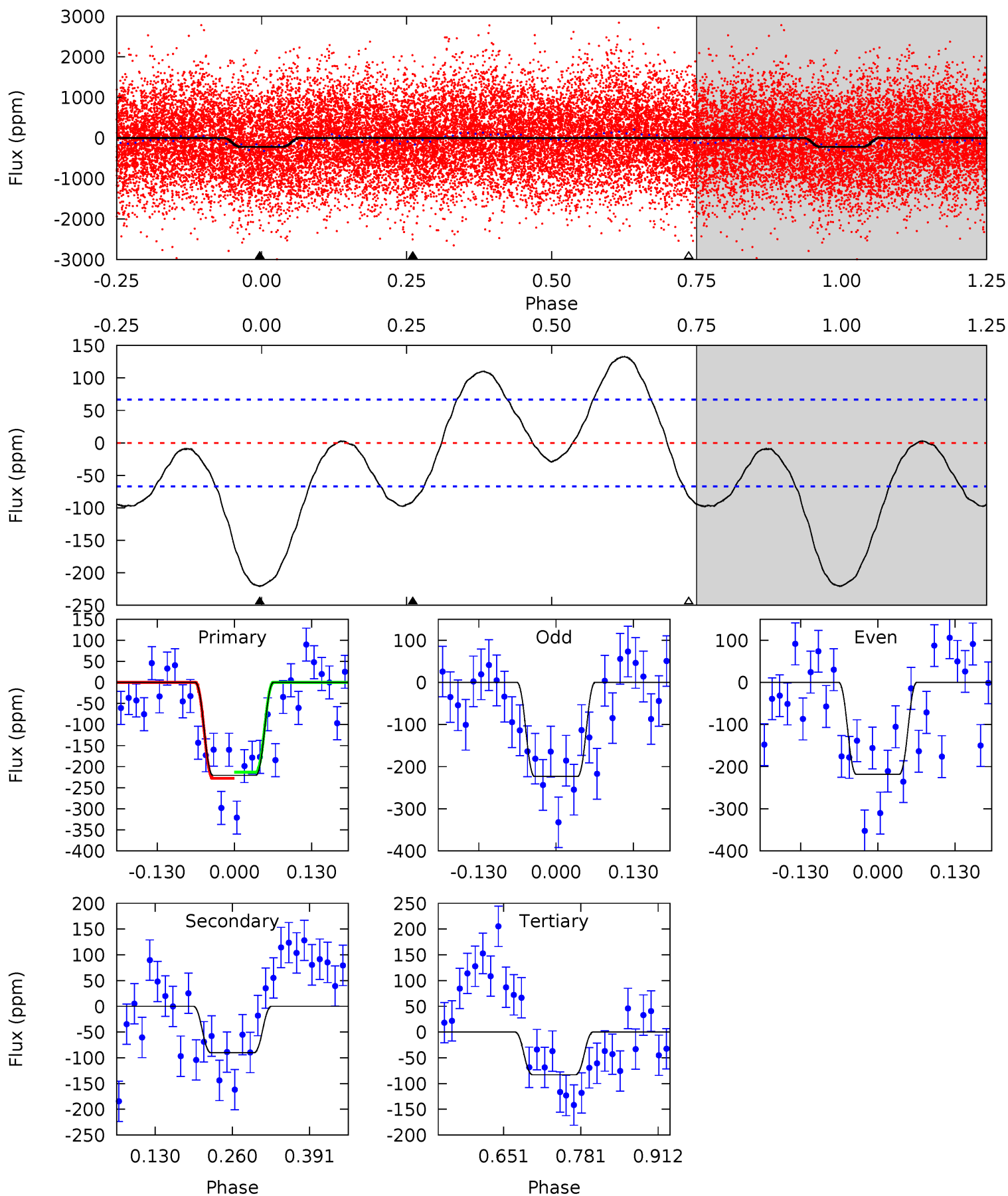
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.5	-15.9	0	0	4.41	1.26	3.94	25.5	25.5	-15.9	-15.9	0.26	1.31	0.64	1.45



# Alt Model-Shift Uniqueness Test

006756481-02, P = 1.180450 Days, E = 130.969722 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
14.9	6.09	5.59	0	4.51	1.51	4.81	9.30	14.9	0.50	6.09	0.18	1.05	0.38	0.51



### Stellar Parameters For KIC 006756481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$\rho_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7545^{+210}_{-341}$	$3.579^{+0.531}_{-0.059}$	$-0.120^{+0.200}_{-0.300}$	$3.838^{+0.513}_{-2.053}$	$2.040^{+0.201}_{-0.562}$	$0.051^{+0.331}_{-0.010}$
	+3%/-5%	+15%/-2%	+167%/-250%	+13%/-53%	+10%/-28%	+651%/-20%
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 006756481-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$110 \pm 7$	$6.68^{+2.58}_{-2.41}$	$5186^{+426}_{-748}$	$-5977^{+546}_{-827}$	$-1.011^{+0.459}_{-1.485}$
Alt.	$-90 \pm 15$	$6.13^{+2.56}_{-2.41}$	$5219^{+371}_{-688}$	$5129^{+1265}_{-1032}$	$1.024^{+1.604}_{-0.528}$

$T_{\text{max}}$  = 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

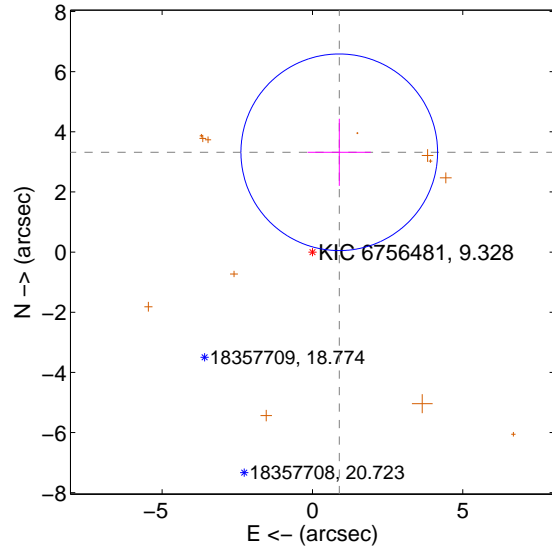
Supplemental centroid analysis for 006756481-02. **Kepler magnitude: 9.33.** Transit SNR 14.71

**There are 0 quarters with good PRF difference image offsets**

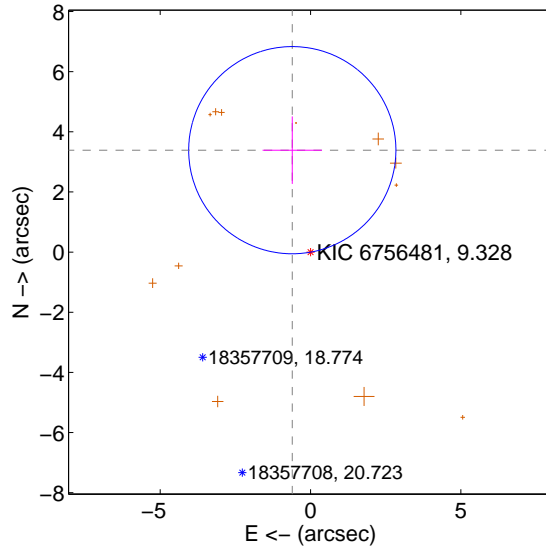
The direct PRF centroid is offset from the target star catalog position by about 0.79 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>3.438 \pm 1.090</math></b>	<b>3.15</b>	$-0.892 \pm 1.053$	$3.320 \pm 1.118$
PRF-fit source offset from KIC position	$3.443 \pm 1.149$	3.00	$0.606 \pm 0.989$	$3.390 \pm 1.122$
photometric centroid source offset	<b><math>0.59 \pm 0.10</math></b>	<b>5.66</b>	$0.28 \pm 0.13$	$0.52 \pm 0.10$

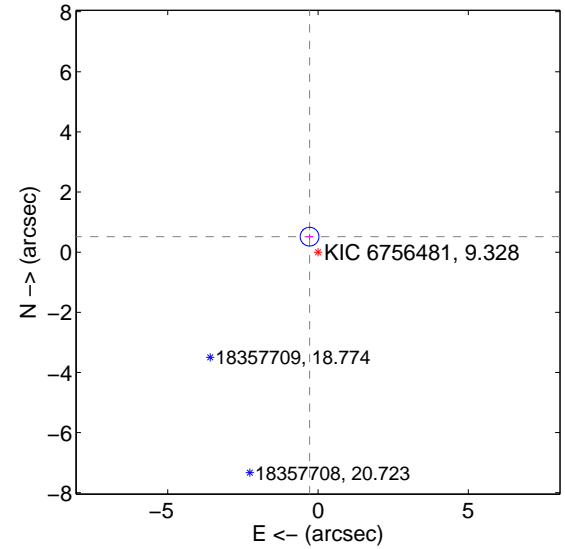
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

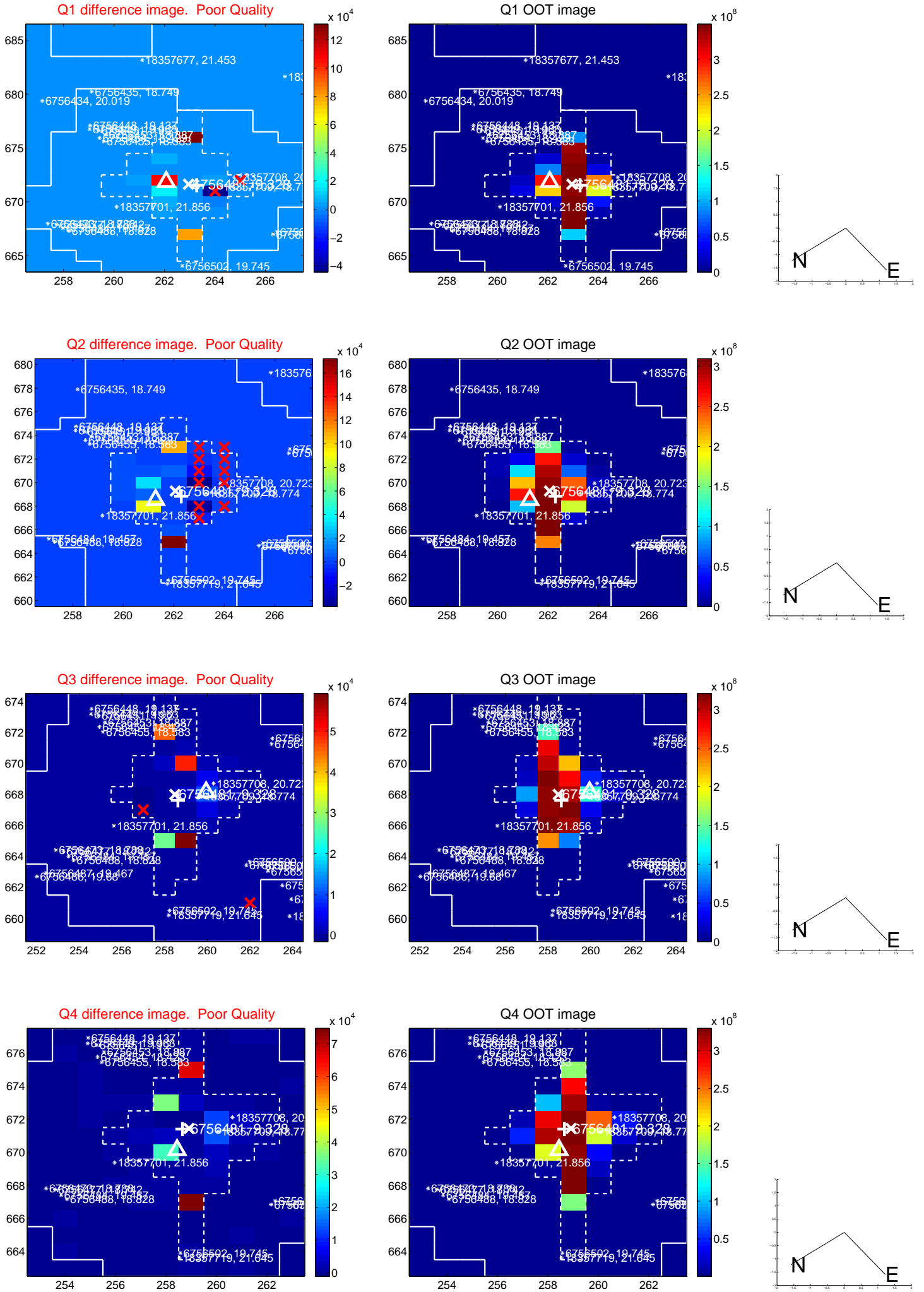


offset from photometric centroids



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

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



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

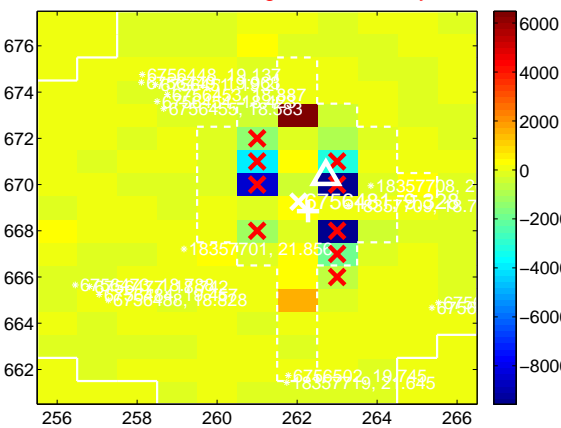
Q5 no difference image



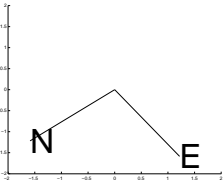
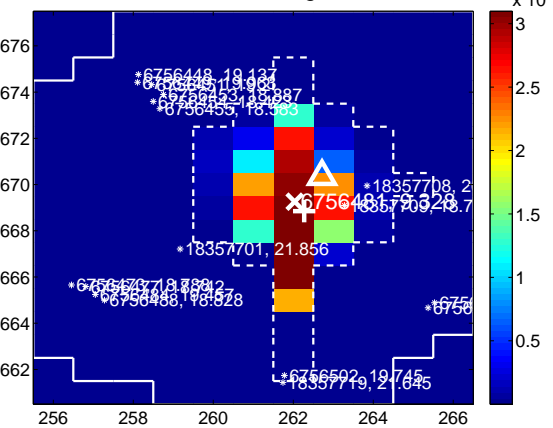
Q5 no OOT image



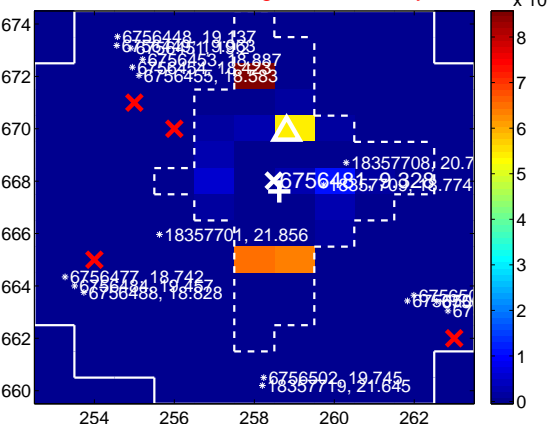
Q6 difference image. Poor Quality



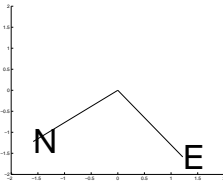
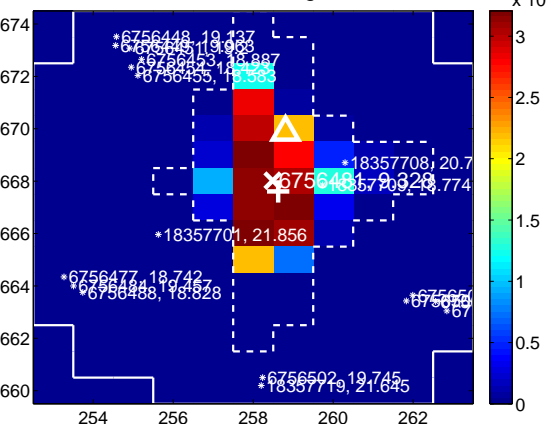
Q6 OOT image



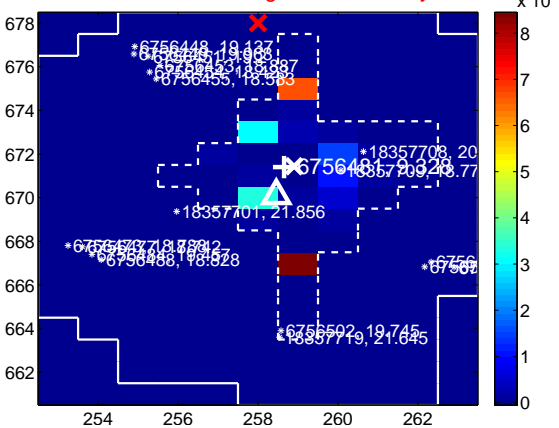
Q7 difference image. Poor Quality



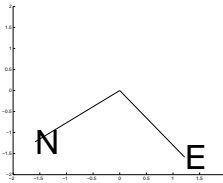
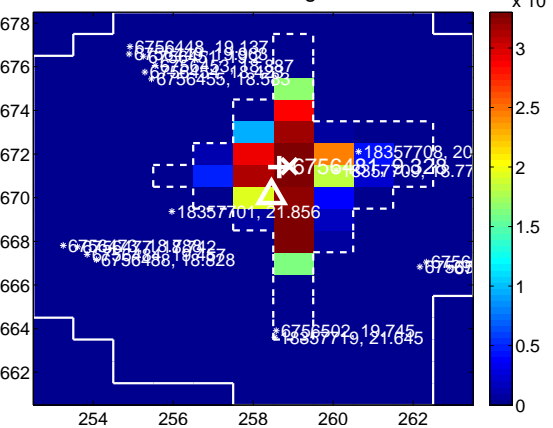
Q7 OOT image



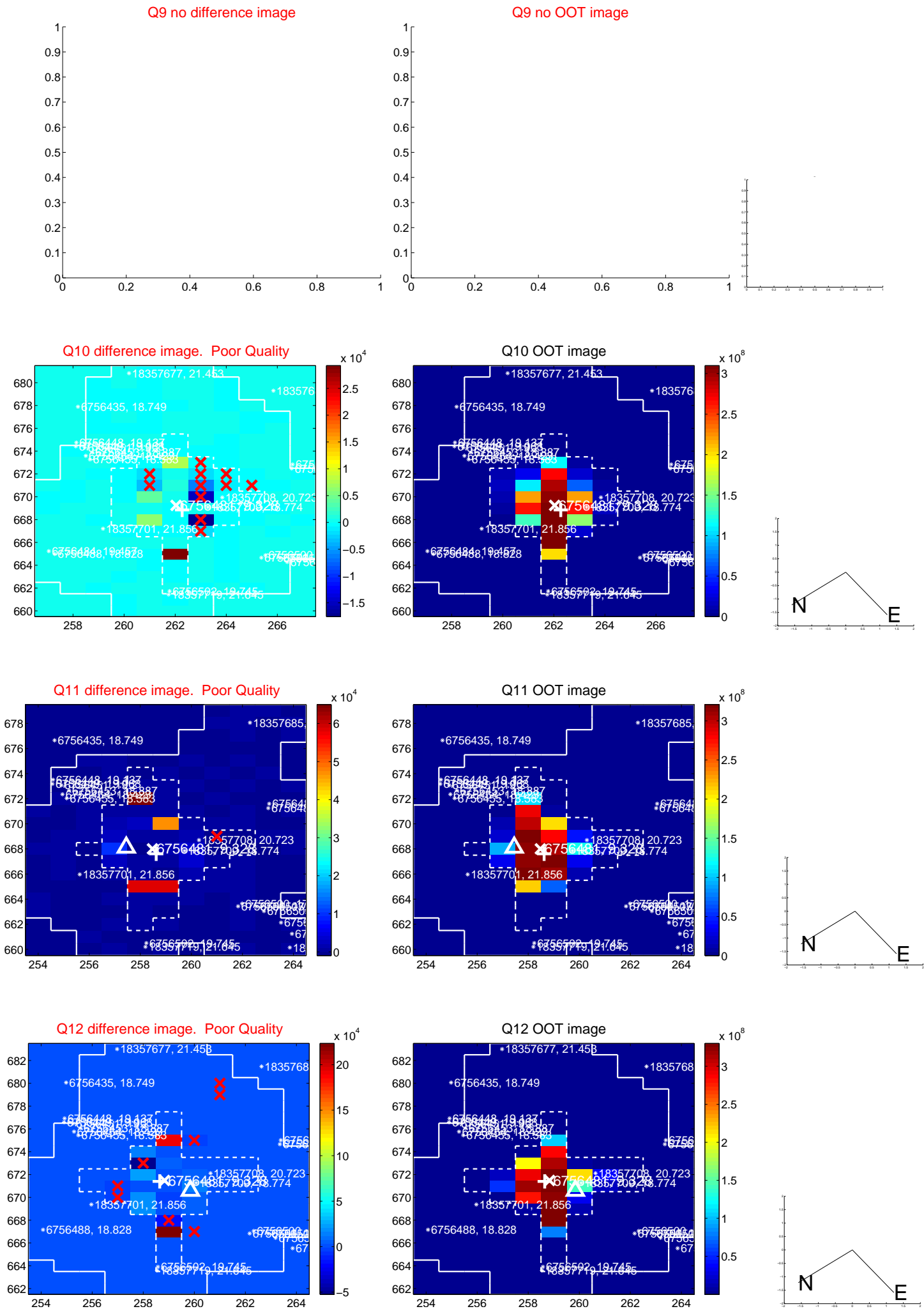
Q8 difference image. Poor Quality



Q8 OOT image

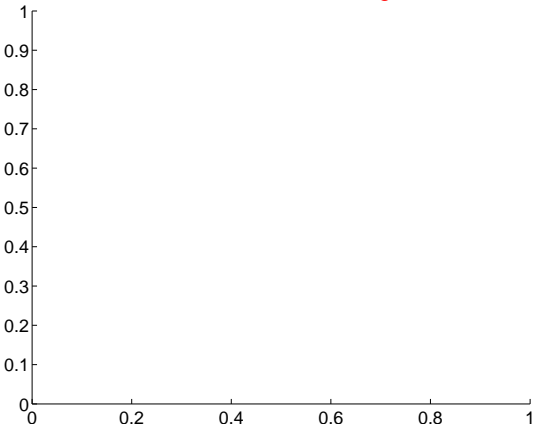


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

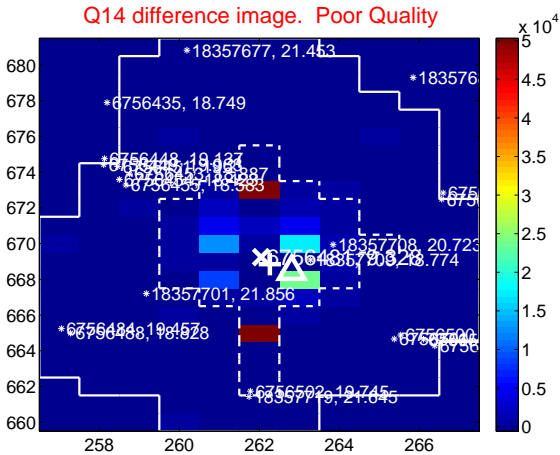
Q13 no difference image



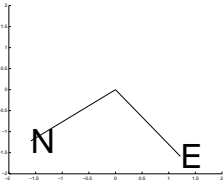
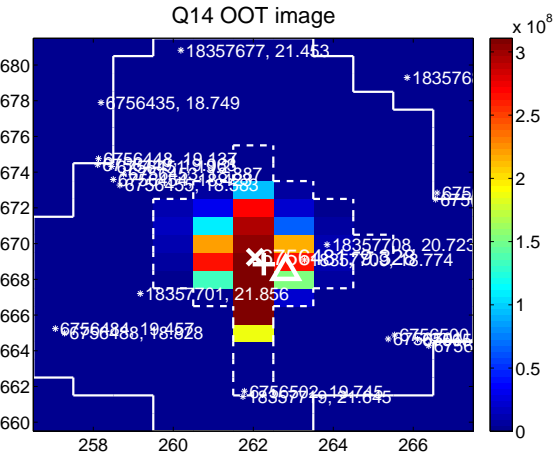
Q13 no OOT image



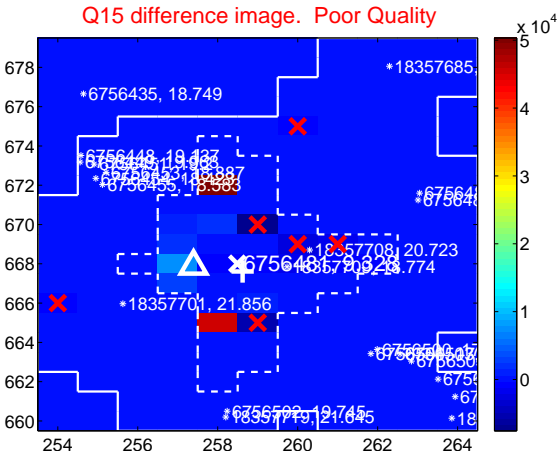
Q14 difference image. Poor Quality



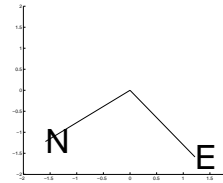
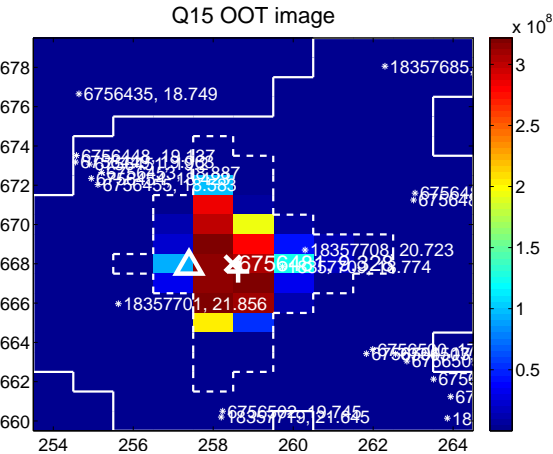
Q14 OOT image



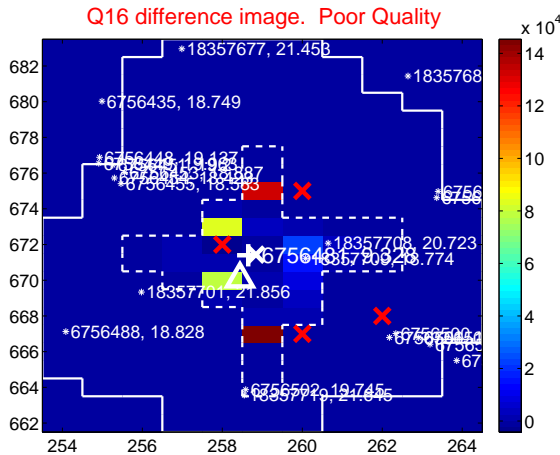
Q15 difference image. Poor Quality



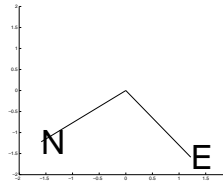
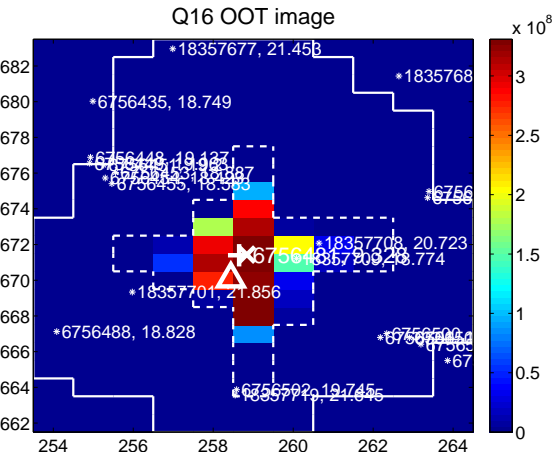
Q15 OOT image



Q16 difference image. Poor Quality

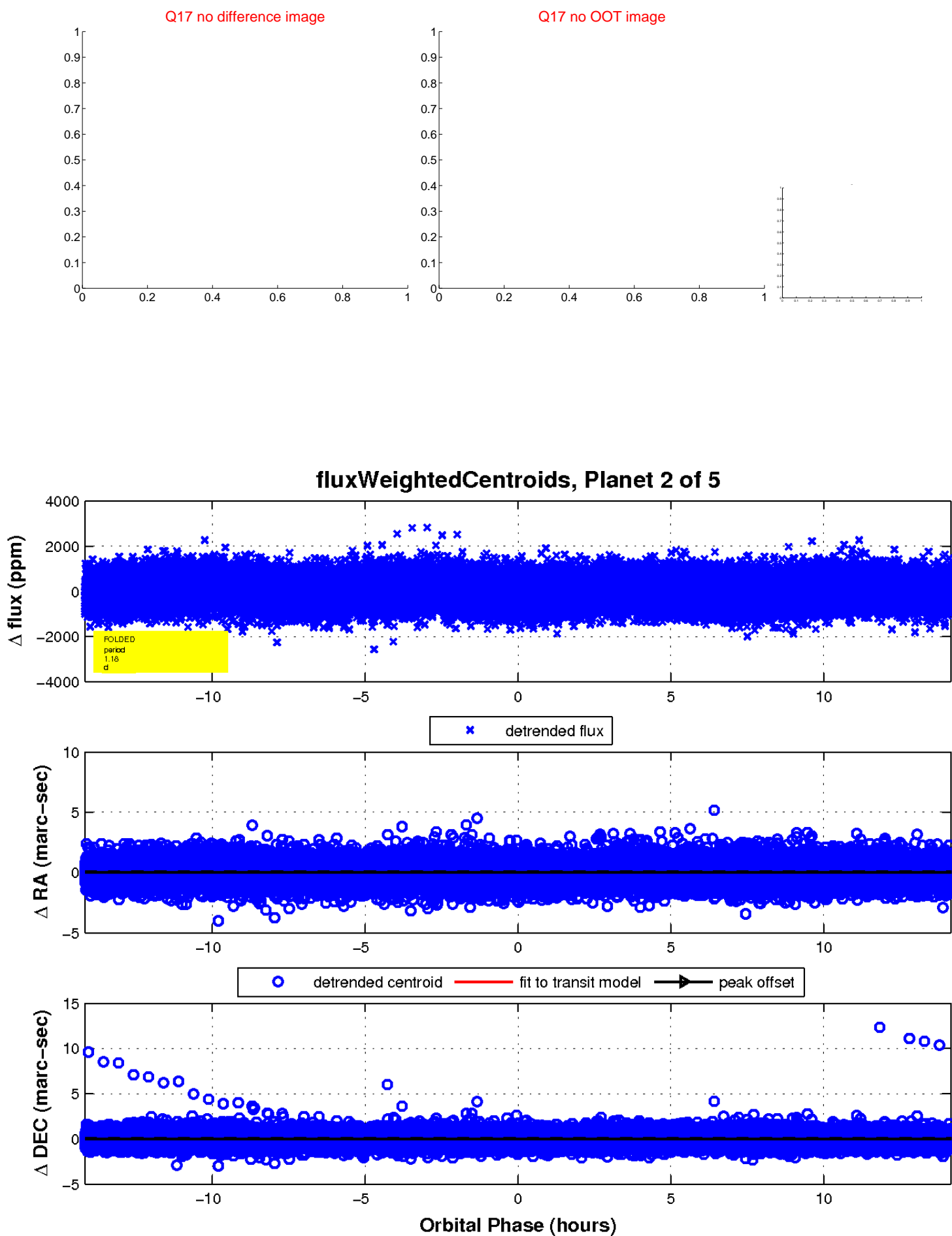


Q16 OOT image

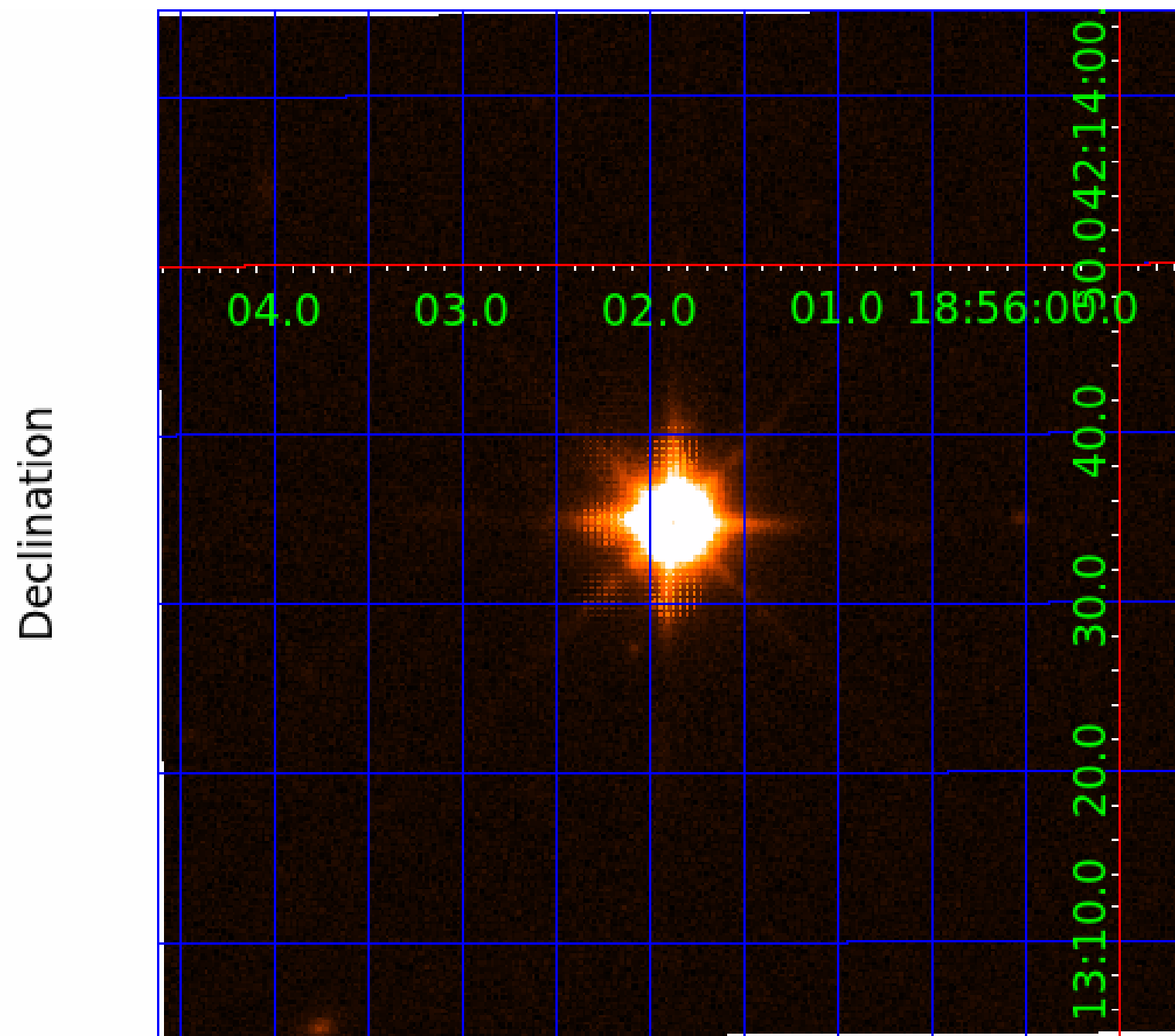




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image



# KIC 006756481

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006756481-01	OBS	No	0.527878	131.596582	102.8	2.290	13.6	15.0	3.84	7545	4.54	0.00
006756481-02	OBS	No	1.180451	132.143459	197.4	5.431	11.1	14.7	3.84	7545	7.65	55659.28
006756481-03	OBS	No	233.859925	173.747200	1169.2	10.784	8.6	8.3	3.84	7545	14.48	48.19
006756481-04	OBS	No	71.640752	178.918017	1333.4	1.635	8.6	9.9	3.84	7545	16.57	233.38
006756481-05	OBS	No	49.893201	132.145318	851.2	1.863	8.4	8.5	3.84	7545	11.32	378.05

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006756481-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006756481-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
006756481-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006756481-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006756481-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

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

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

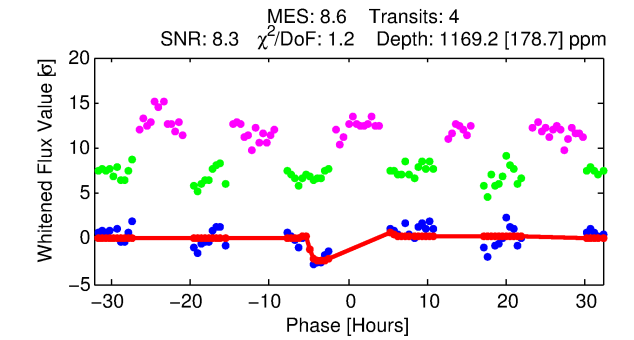
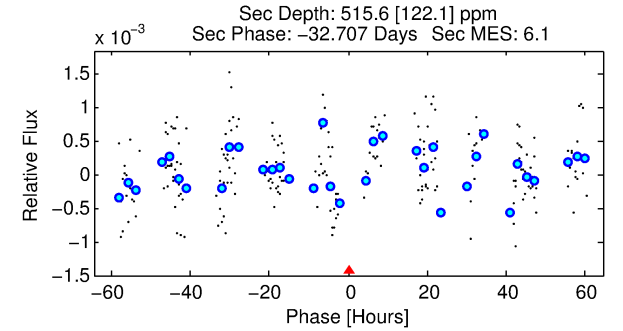
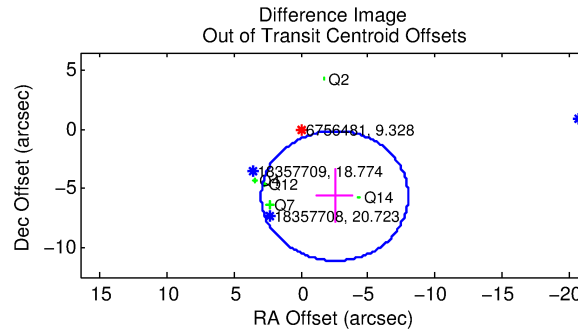
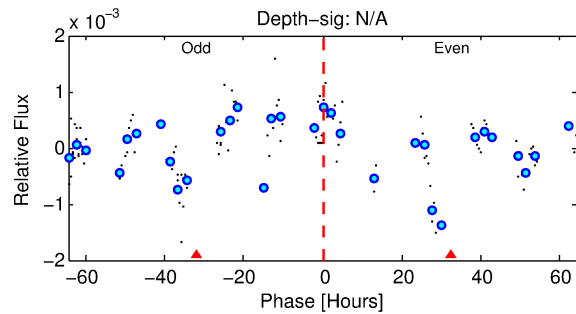
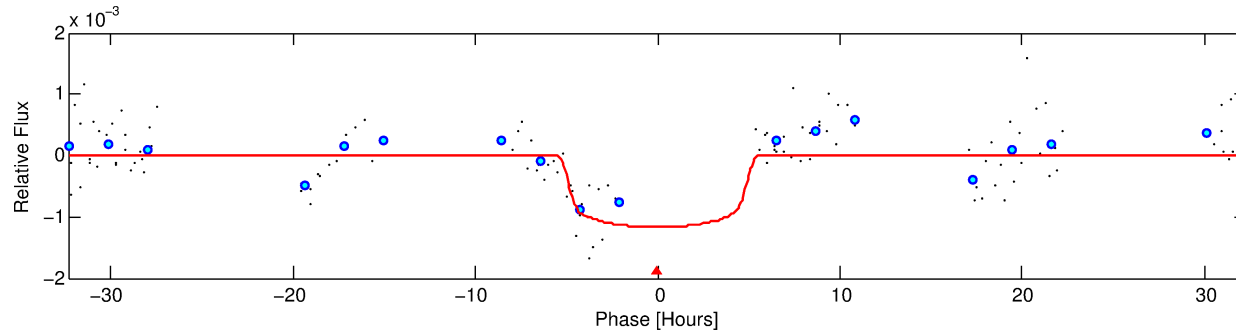
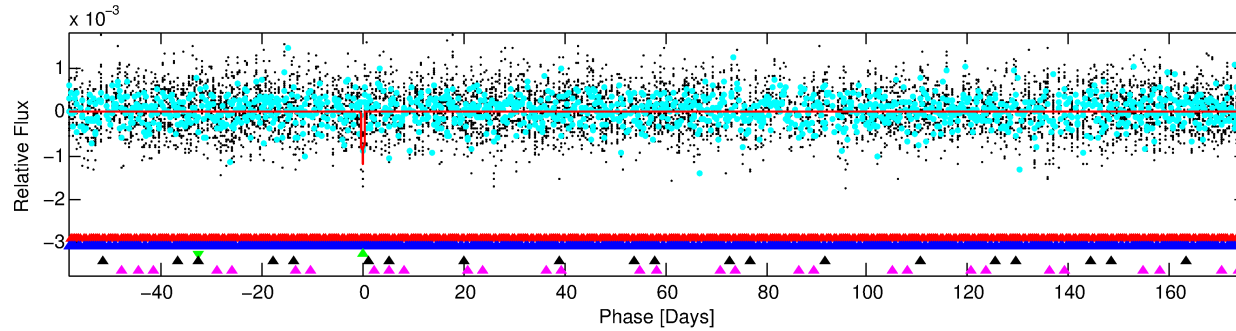
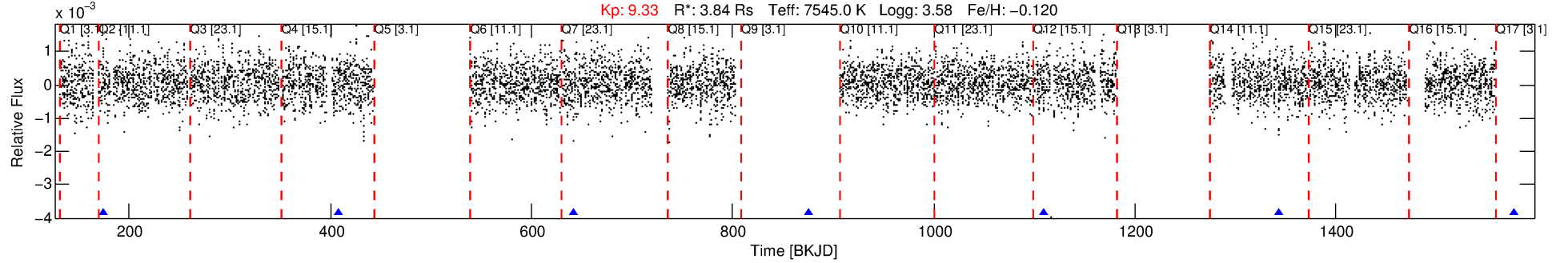
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006756481-03

No Significant Match Found

# DV One-Page Summary

KIC: 6756481 Candidate: 3 of 5 Period: 233.860 d



## DV Fit Results:

Period = 233.85992 [0.00666] d  
Epoch = 173.7472 [0.0381] BKJD  
 $R_p/R^* = 0.0346$  [0.0043]  
 $a/R^* = 109.00$  [57.15]  
 $b = 0.80$  [0.26]  
 $\text{Seff} = 48.19$  [43.75]  
 $T_{\text{eq}} = 672$  [152] K  
 $R_p = 14.48$  [7.95]  $R_e$   
 $a = 0.9420$  [0.5102] AU  
 $A_g = 1200.43$  [1144.35] [1.05σ]  
 $T_{\text{eff}} = 6114$  [592] K [8.91σ]

## DV Diagnostic Results:

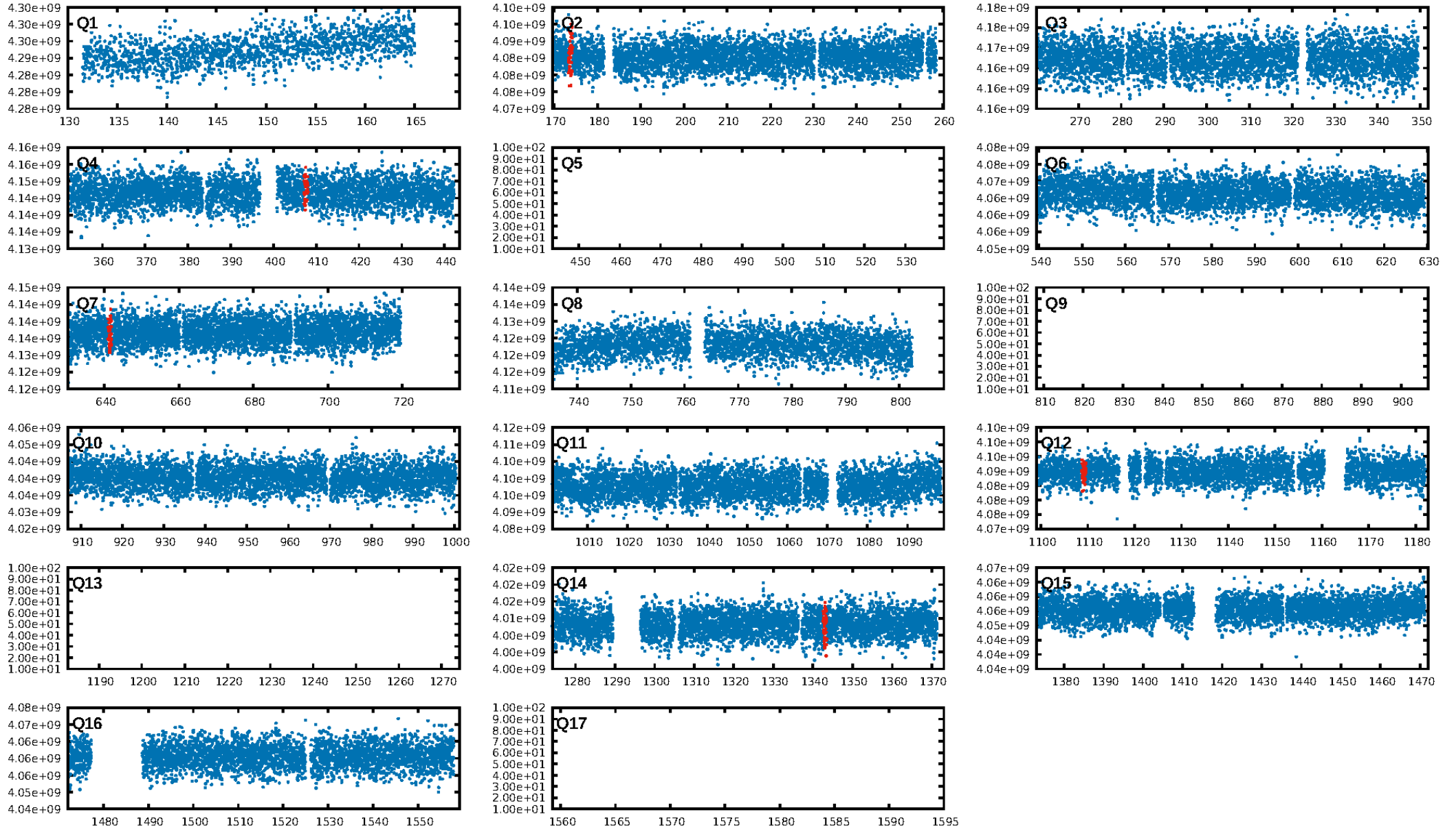
ShortPeriod-sig: 100.0% [356.94σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 64.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 0.0%  
Centroid-so: 0.137 arcsec [0.77σ]  
OotOffset-rm: 6.183 arcsec [3.38σ]  
KicOffset-rm: 5.200 arcsec [3.36σ]  
OotOffset-st: 2/1/2/0 [5]  
KicOffset-st: 2/1/2/0 [5]  
DiffImageQuality-fgm: 0.00 [0/5]  
DiffImageOverlap-fno: 0.00 [0/5]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:23:53 Z

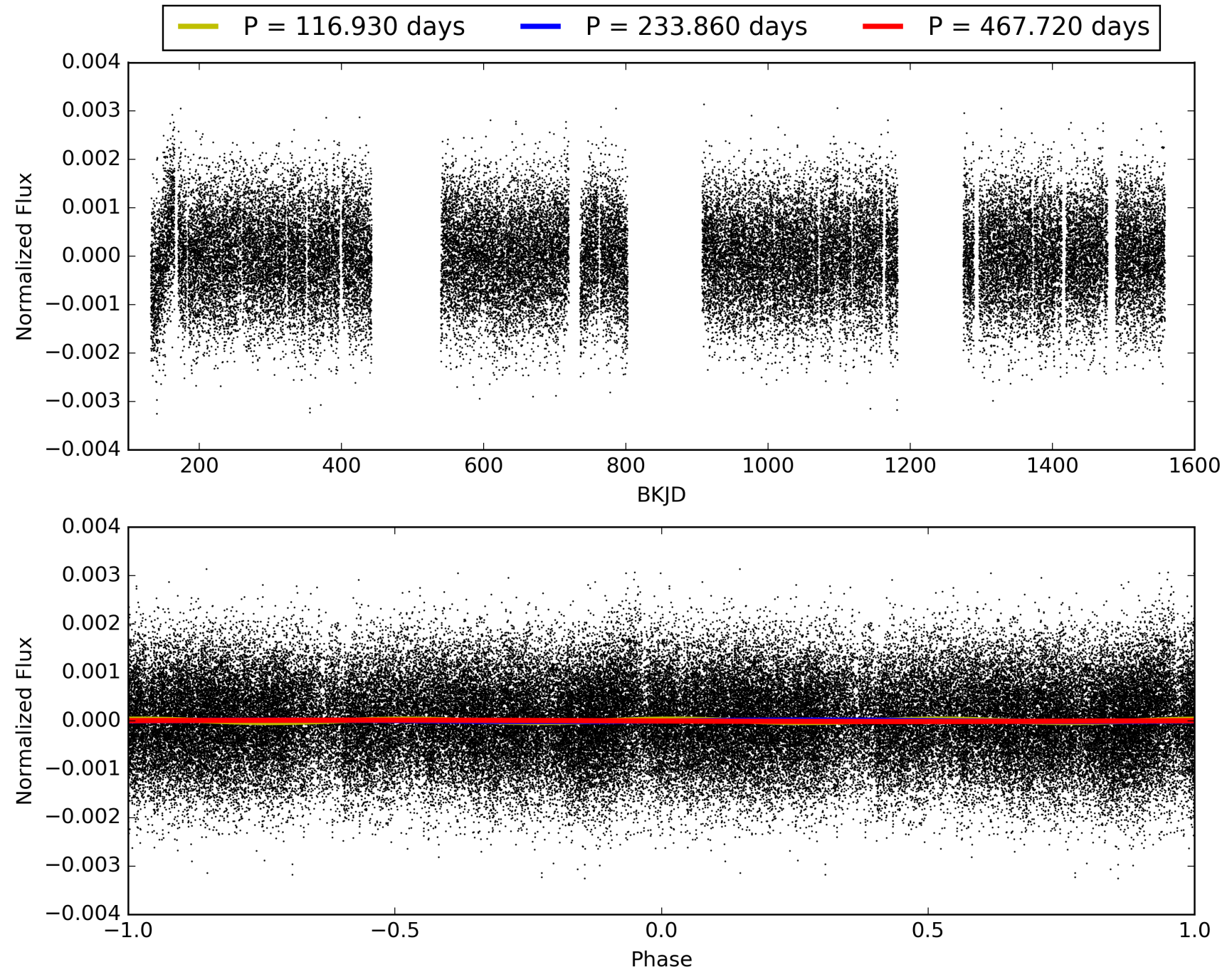
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 006756481-03, PDC Light Curves

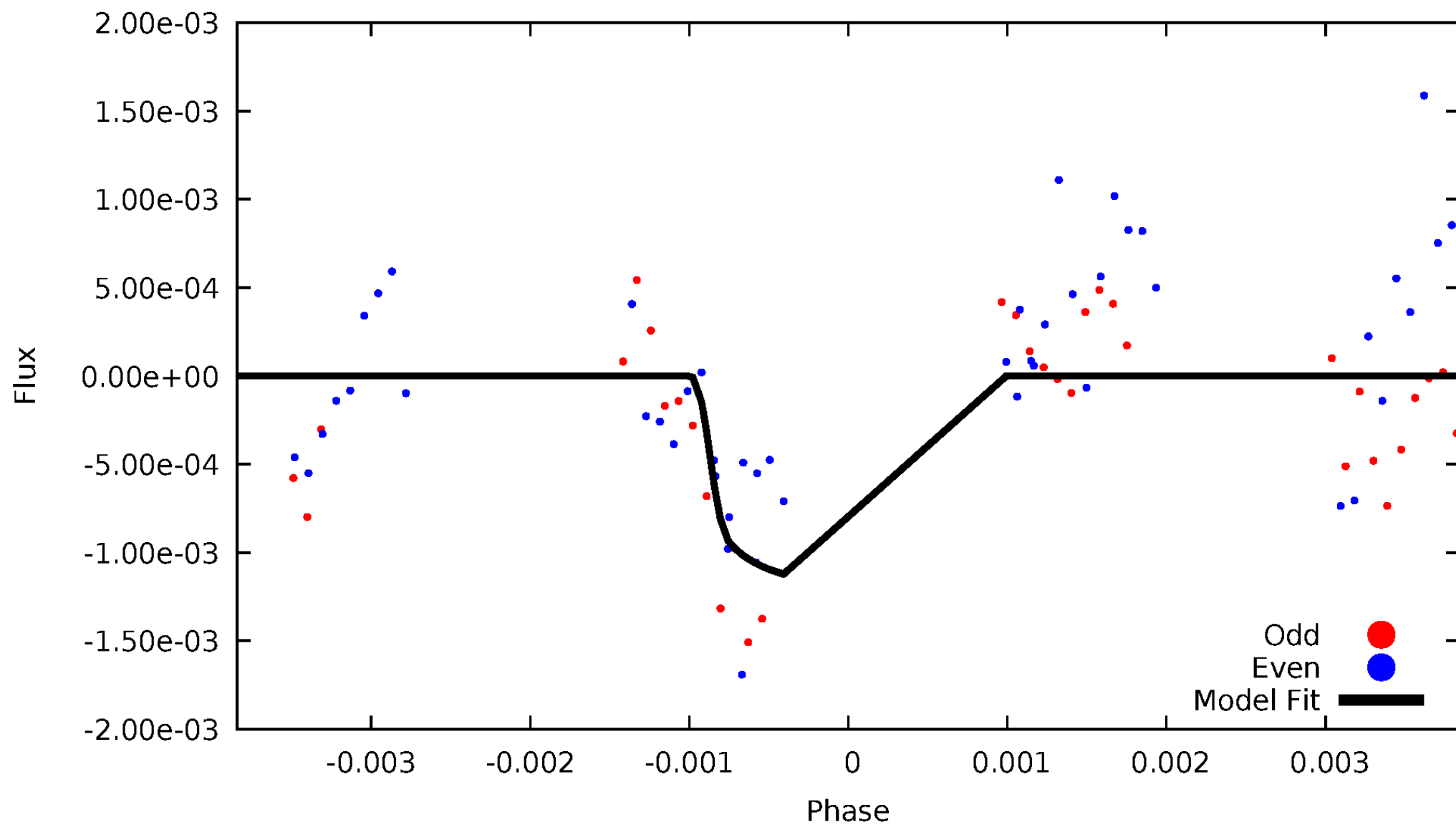


TCE 006756481-03



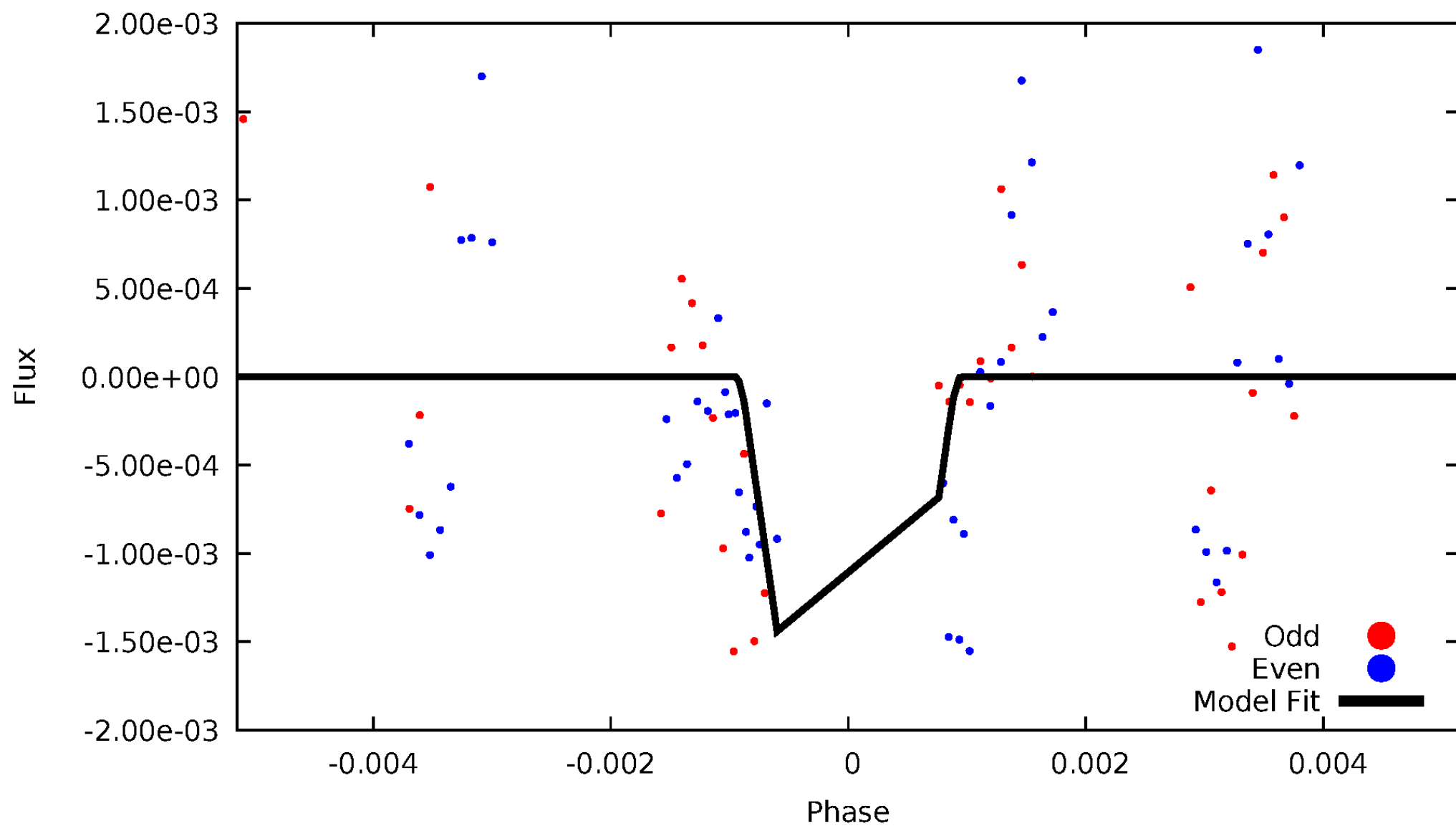
# DV Odd/Even

TCE 006756481-03



# ALT Odd/Even

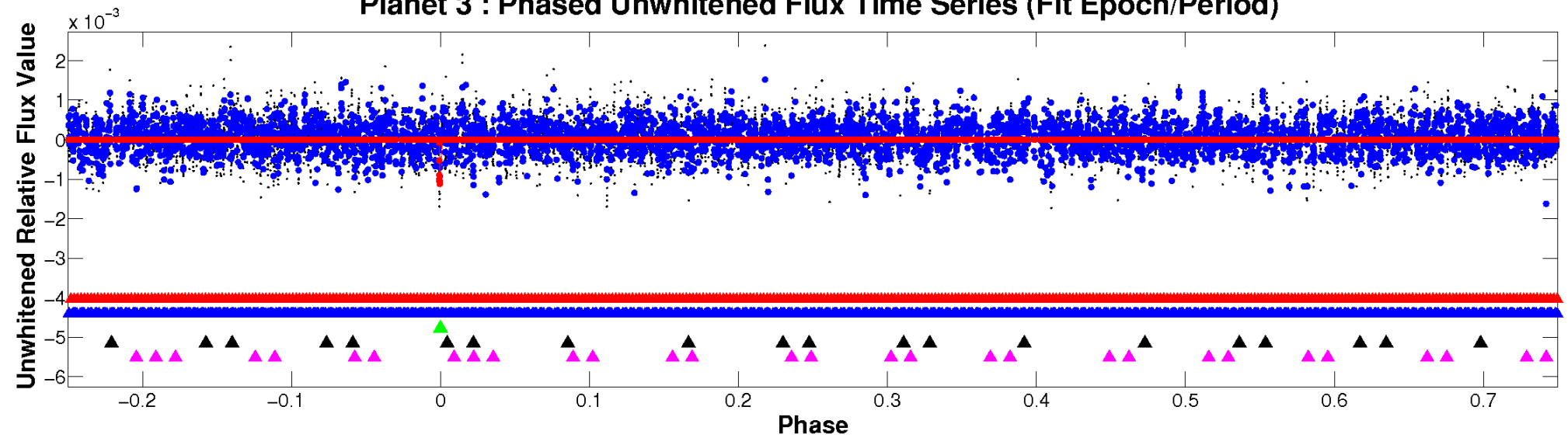
TCE 006756481-03



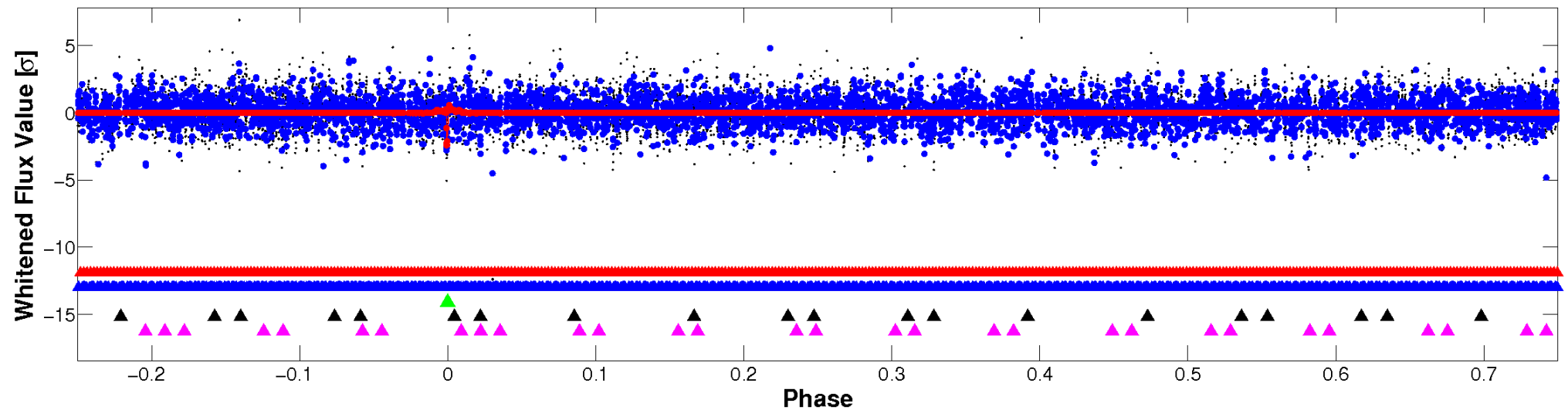


# Non-Whitened Vs. Whitened Light Curve

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

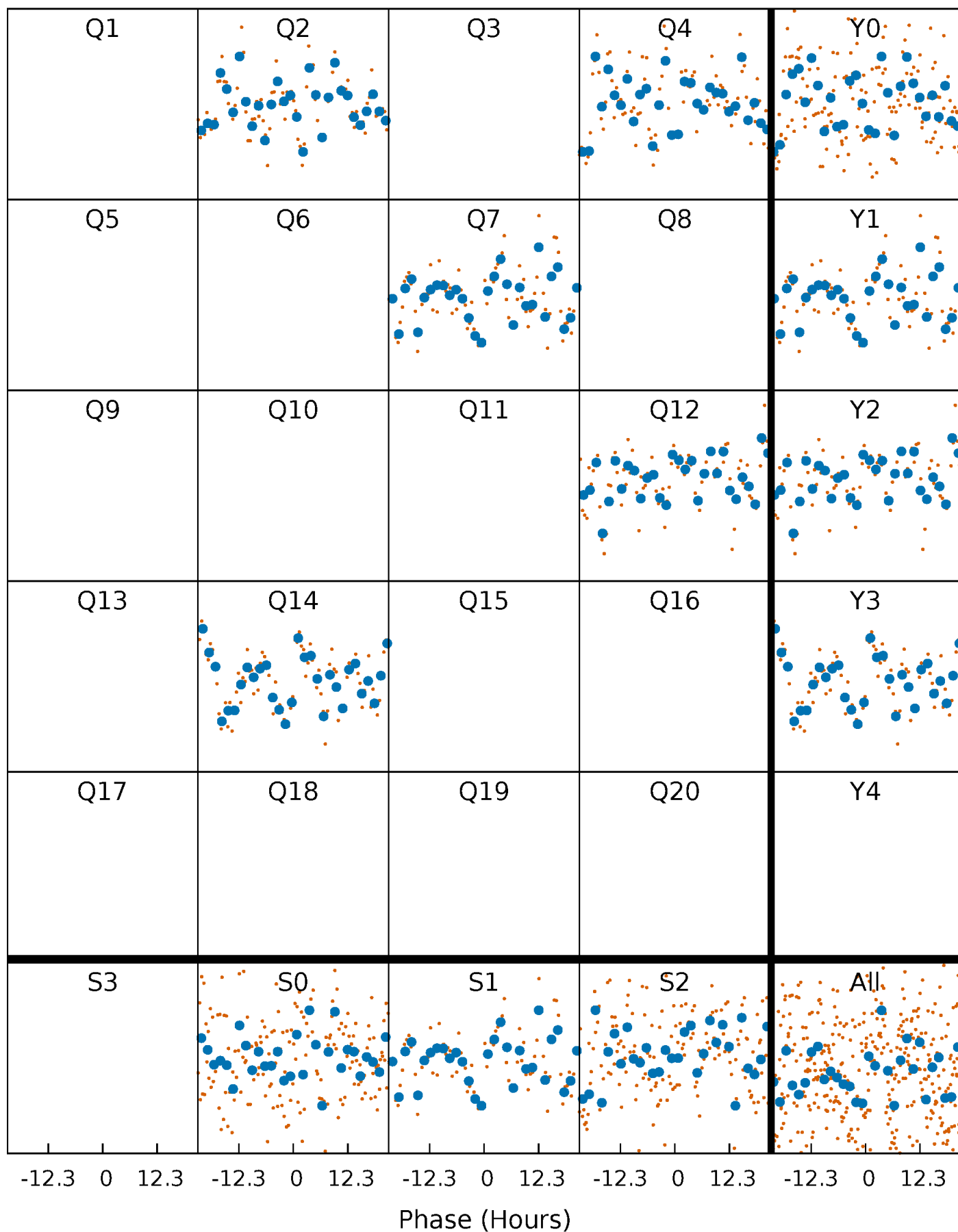


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



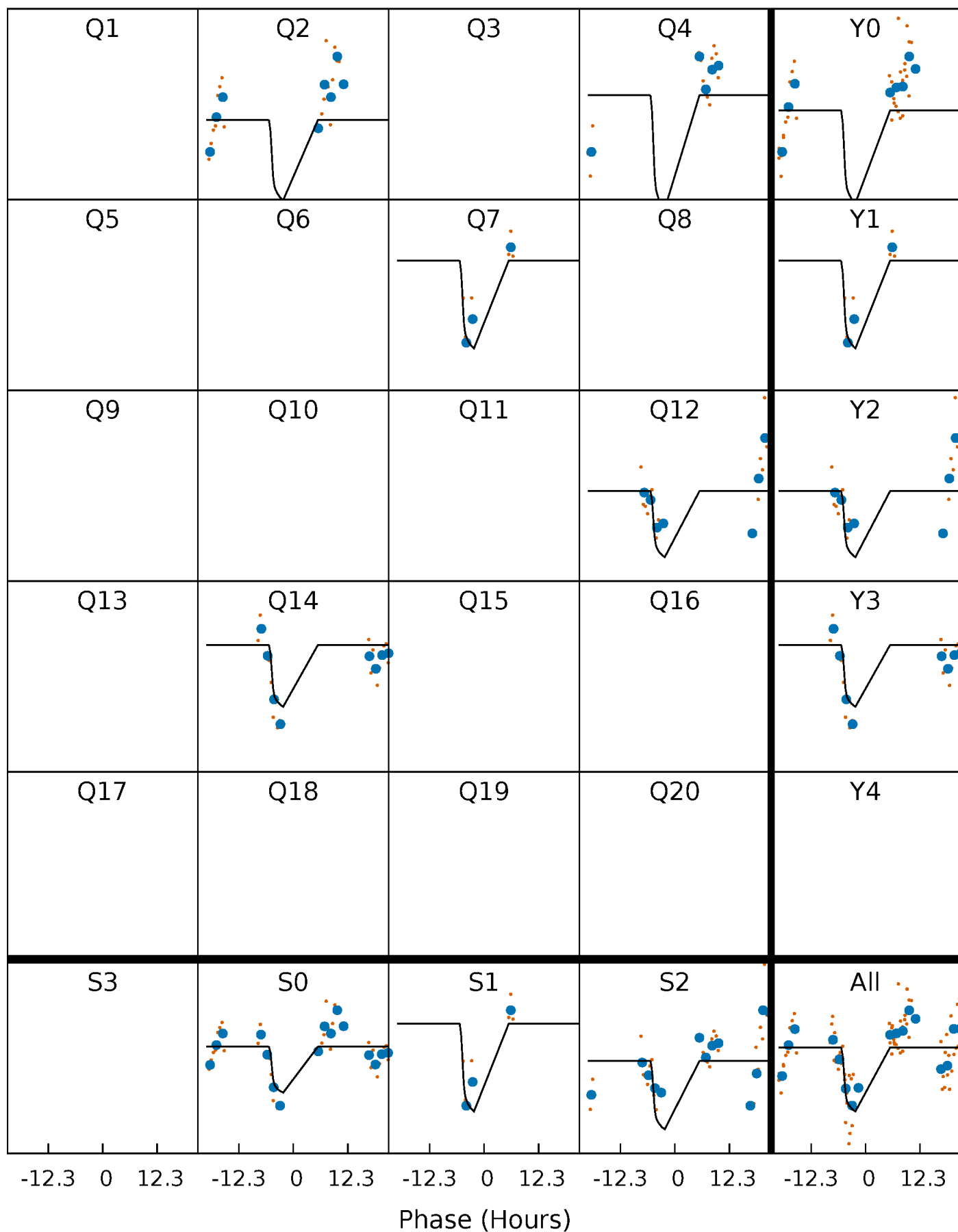
# PDC Quarter-Phased Transit Curves

TCE 006756481-03     $P=233.859925$  Days     $T_0=173.747200$  (BKJD)



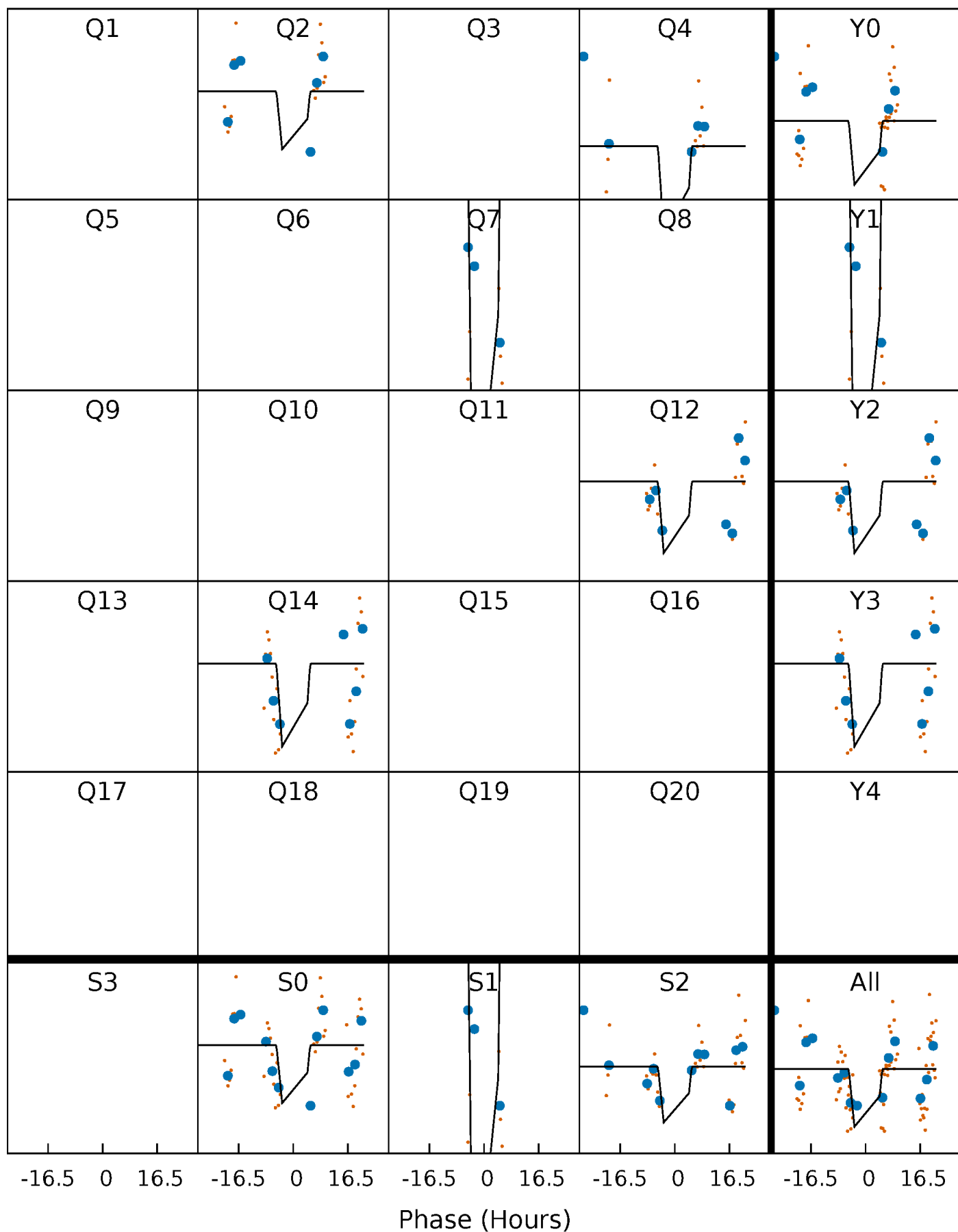
# DV Quarter-Phased Transit Curves

TCE 006756481-03 P=233.859925 Days  $T_0=173.747200$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006756481-03 P=233.857382 Days  $T_0=173.797535$  (BKJD)

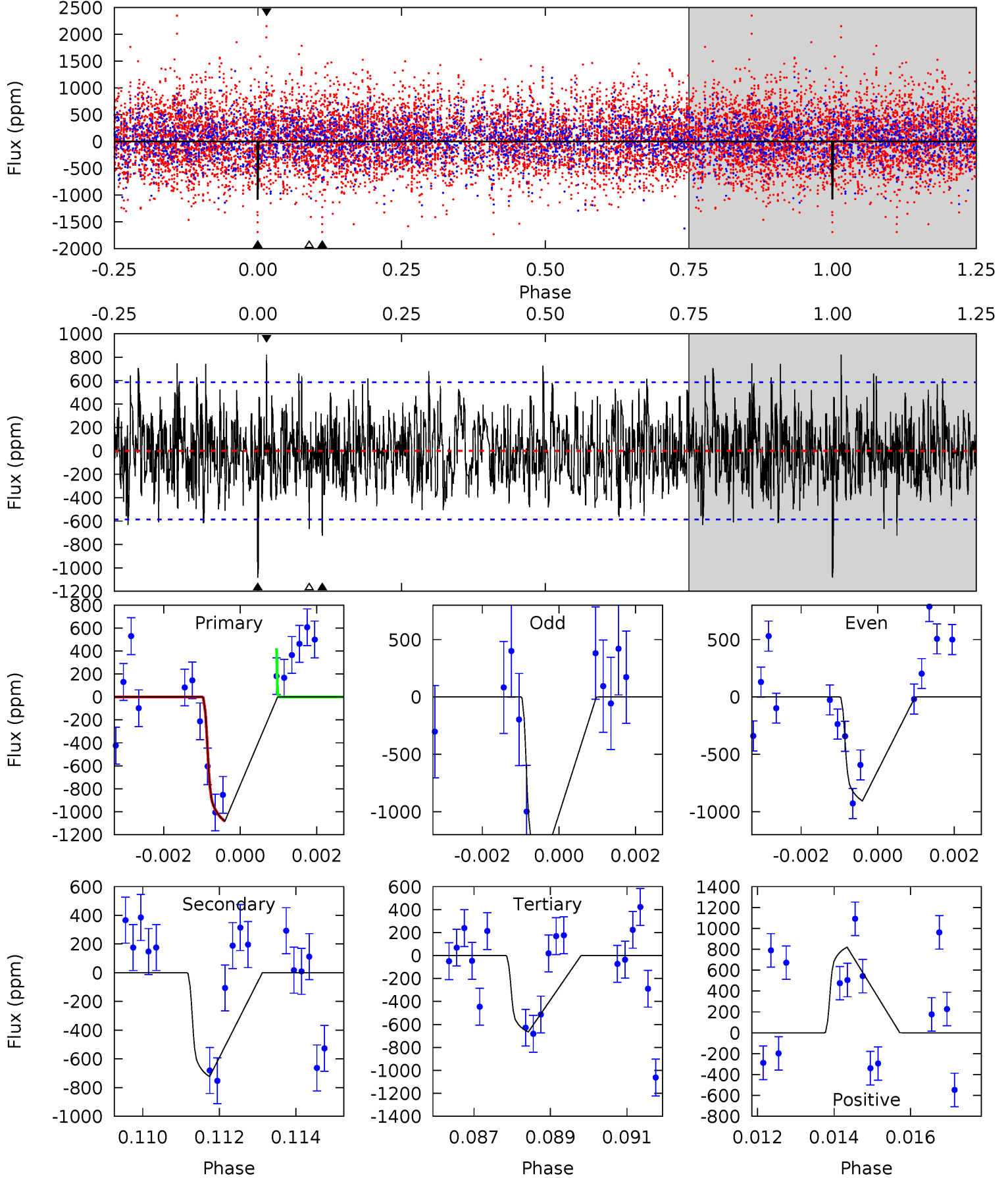




# DV Model-Shift Uniqueness Test

006756481-03, P = 233.859925 Days, E = 173.747200 Days

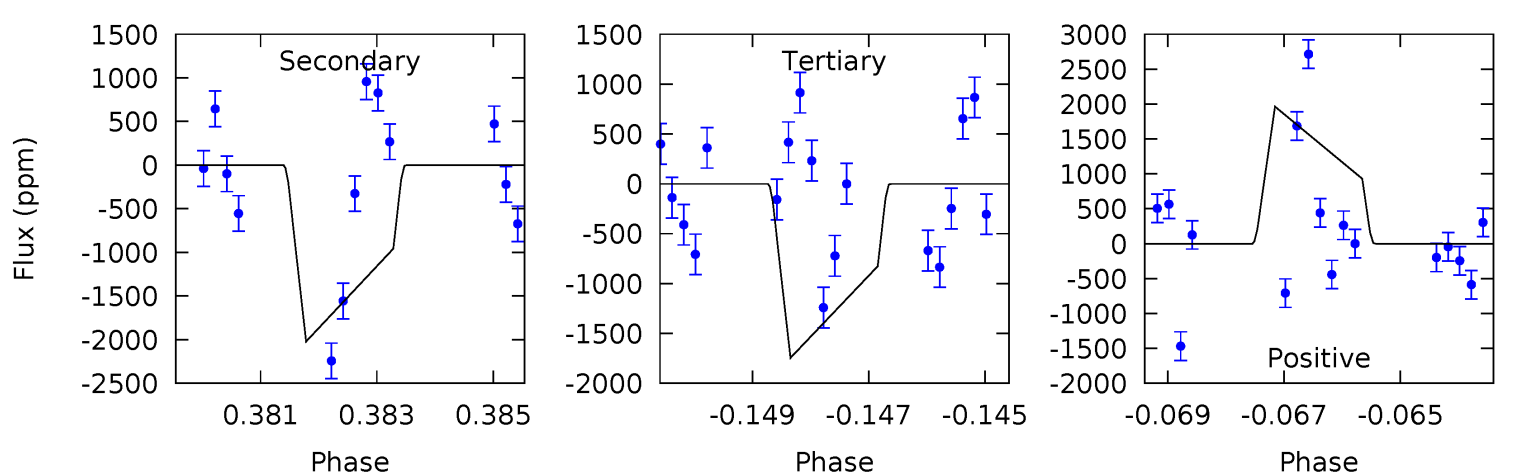
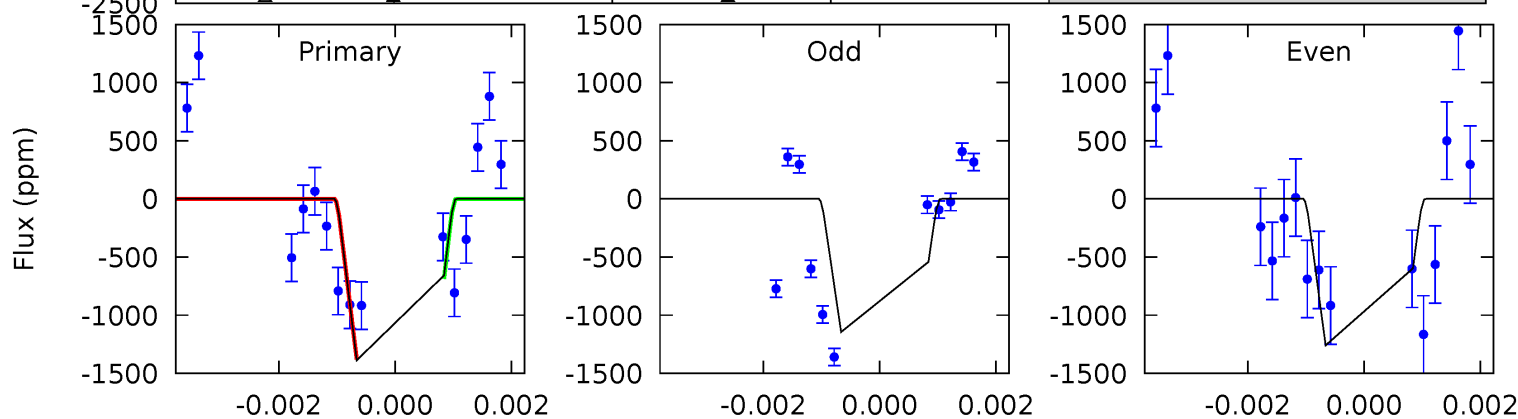
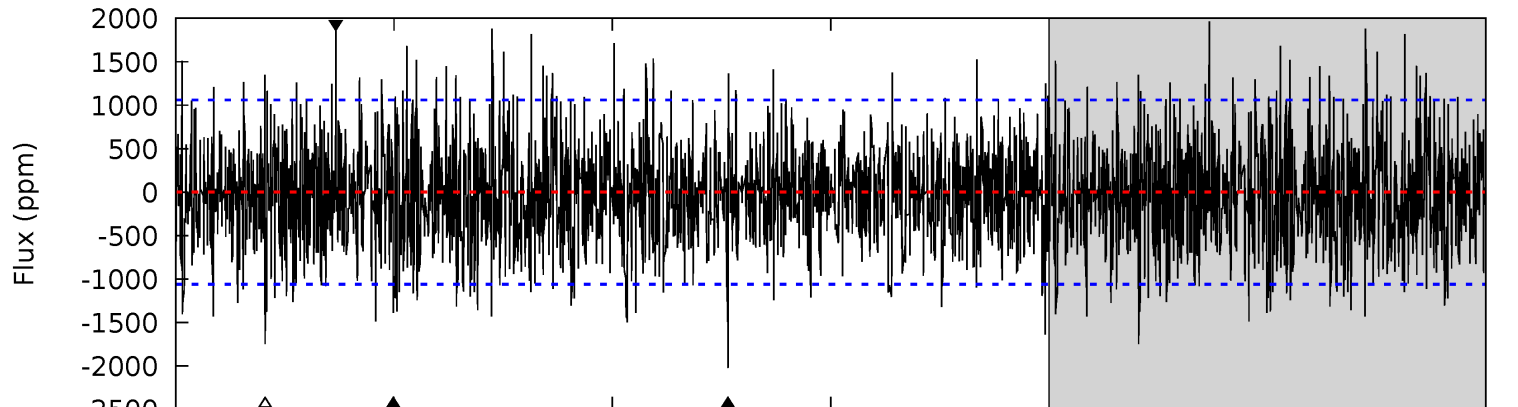
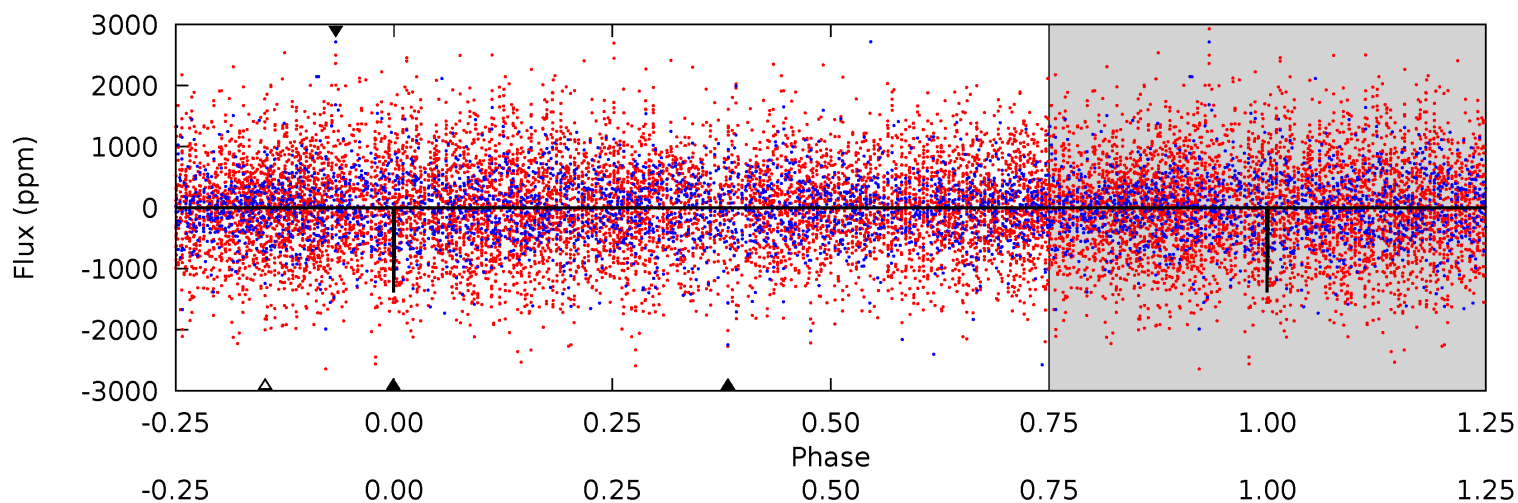
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.83	6.58	6.05	7.45	5.32	3.09	2.03	3.78	2.38	0.53	-0.87	2.29	1.05	0.43	1.91



# Alt Model-Shift Uniqueness Test

006756481-03, P = 233.857382 Days, E = 173.797535 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
6.99	10.2	8.79	9.89	5.34	3.12	2.52	-1.80	-2.90	1.39	0.30	0.26	1.19	0.49	1.72



### Stellar Parameters For KIC 006756481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7545^{+210}_{-341}$	$3.579^{+0.531}_{-0.059}$	$-0.120^{+0.200}_{-0.300}$	$3.838^{+0.513}_{-2.053}$	$2.040^{+0.201}_{-0.562}$	$0.051^{+0.331}_{-0.010}$
	+3%/-5%	+15%/-2%	+167%/-250%	+13%/-53%	+10%/-28%	+651%/-20%
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 006756481-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-724 \pm 110$	$12.95^{+2.79}_{-3.72}$	$893^{+67}_{-121}$	$6536^{+634}_{-482}$	$2122^{+1774}_{-714}$
Alt.	$-2023 \pm 199$	$16.13^{+3.15}_{-4.41}$	$896^{+64}_{-129}$	$7782^{+602}_{-568}$	$3806^{+3088}_{-1073}$

$T_{max}$  = 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

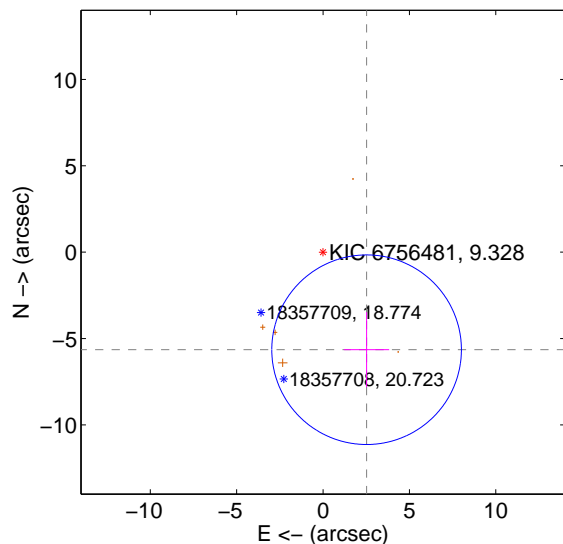
Supplemental centroid analysis for 006756481-03. **Kepler magnitude: 9.33.** Transit SNR 8.34

**There are 0 quarters with good PRF difference image offsets**

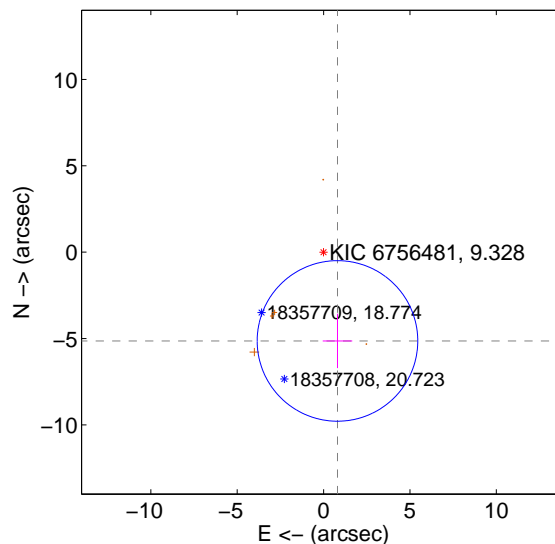
The direct PRF centroid is offset from the target star catalog position by about 1.93 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>6.183 \pm 1.829</math></b>	<b>3.38</b>	$-2.521 \pm 1.306$	$-5.646 \pm 2.175$
PRF-fit source offset from KIC position	<b><math>5.200 \pm 1.549</math></b>	<b>3.36</b>	$-0.804 \pm 0.857$	$-5.137 \pm 1.572$
photometric centroid source offset	$0.14 \pm 0.18$	0.77	$0.09 \pm 0.20$	$0.10 \pm 0.15$

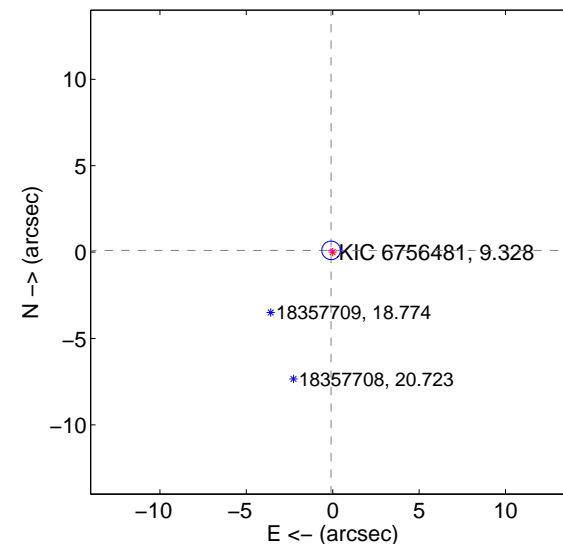
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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

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

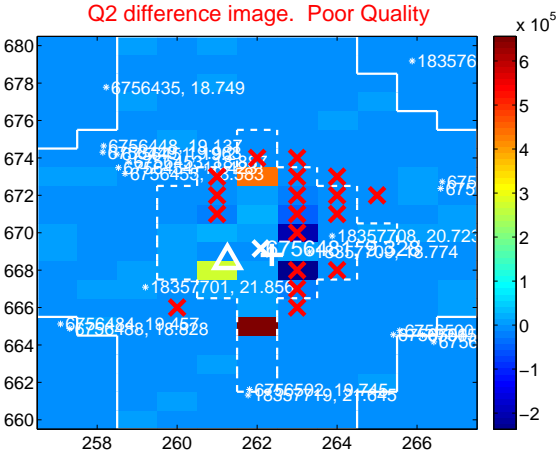
Q1 no difference image



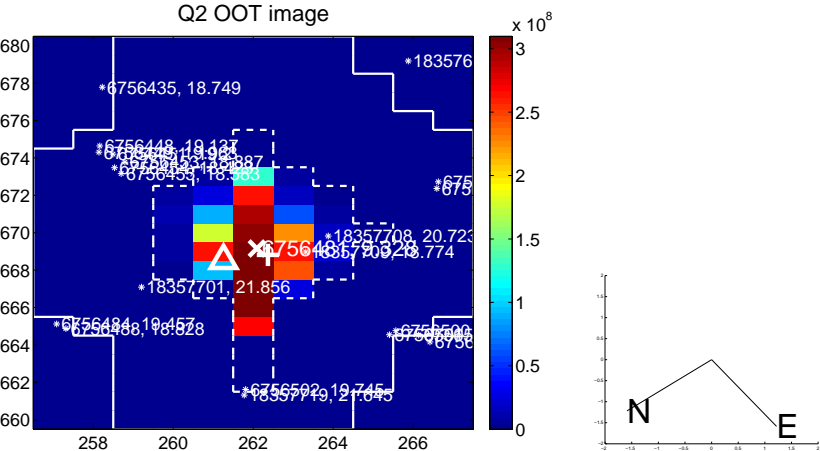
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



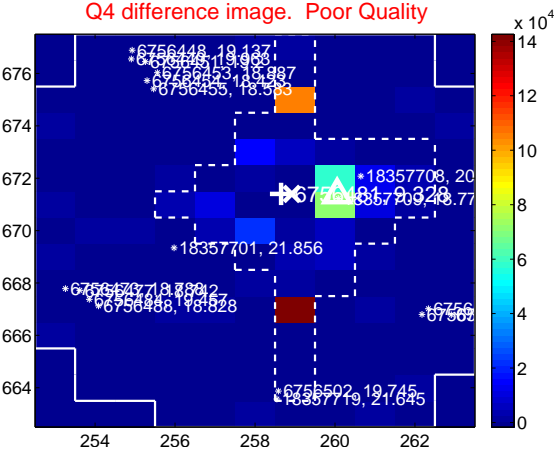
Q3 no difference image



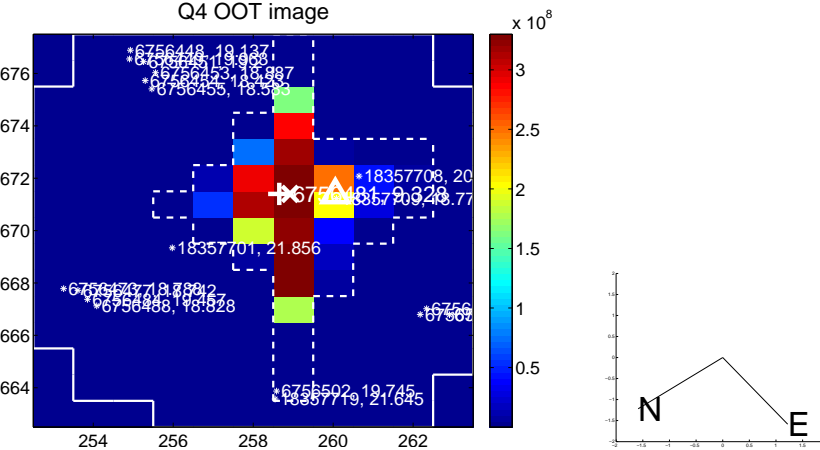
Q3 no OOT image



Q4 difference image. Poor Quality

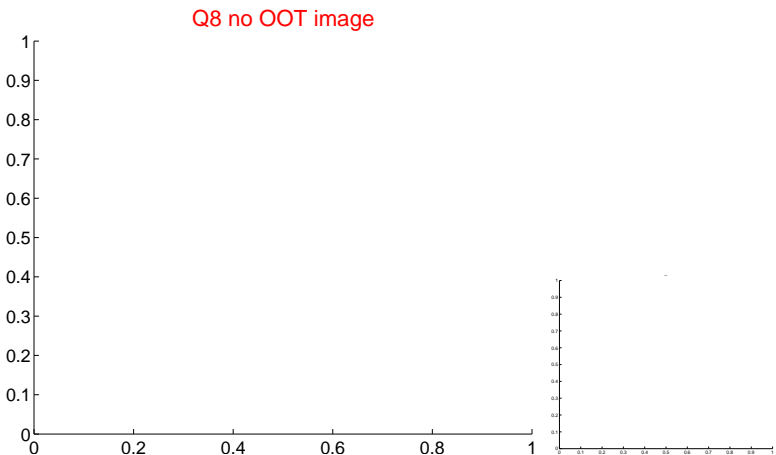
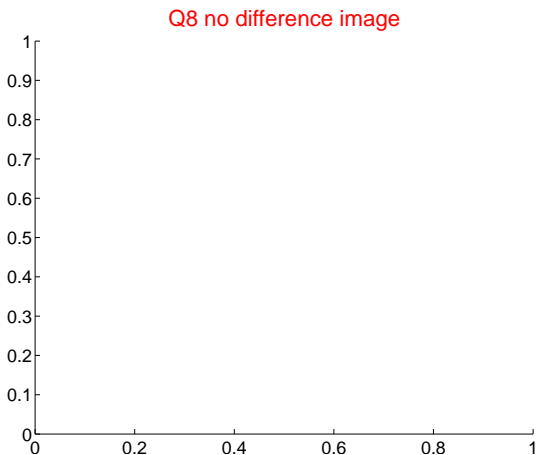
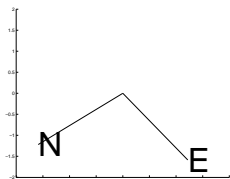
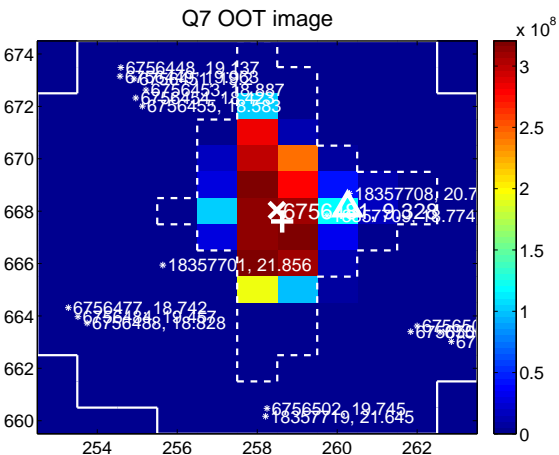
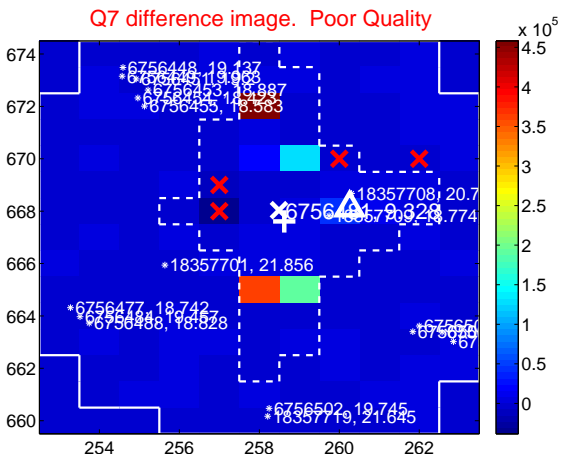
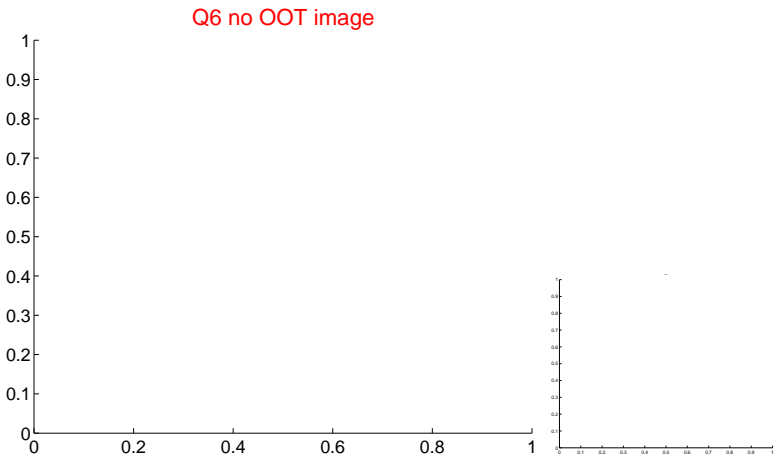
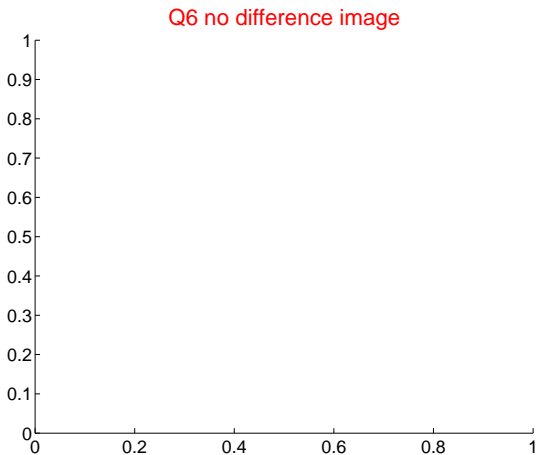
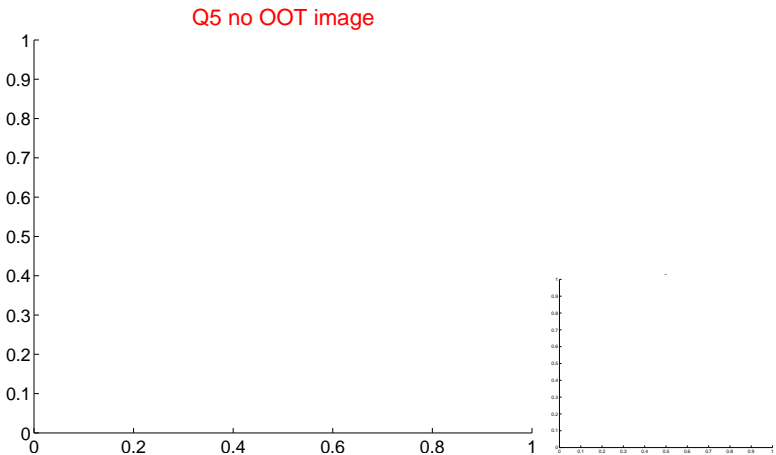
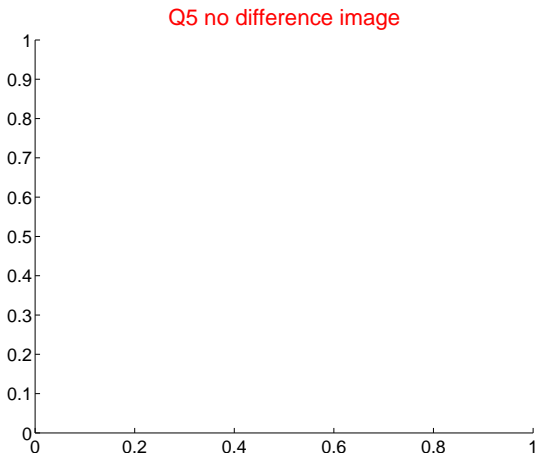


Q4 OOT image





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.

Q9 no difference image



Q9 no OOT image



Q10 no difference image



Q10 no OOT image



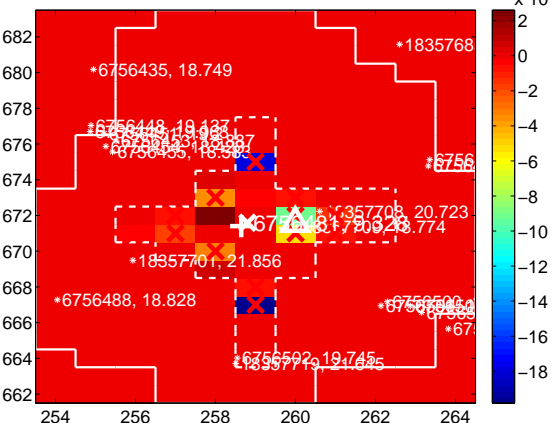
Q11 no difference image



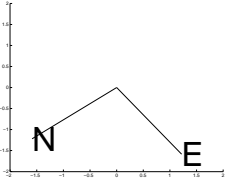
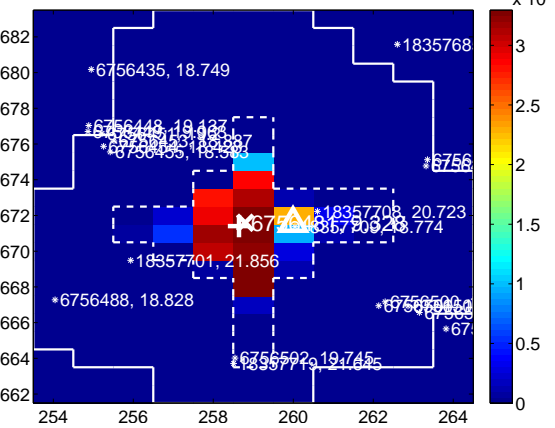
Q11 no OOT image



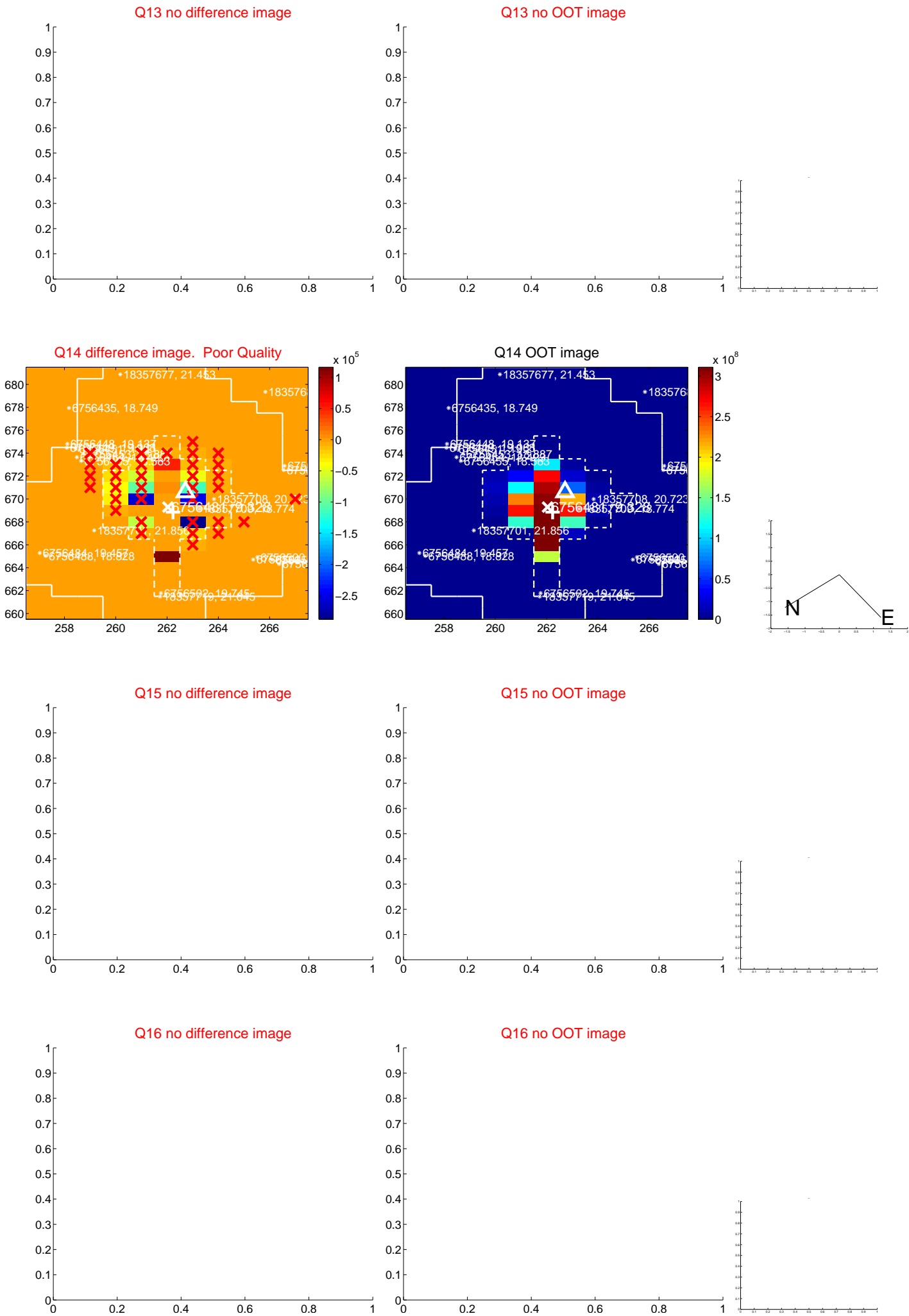
Q12 difference image. Poor Quality



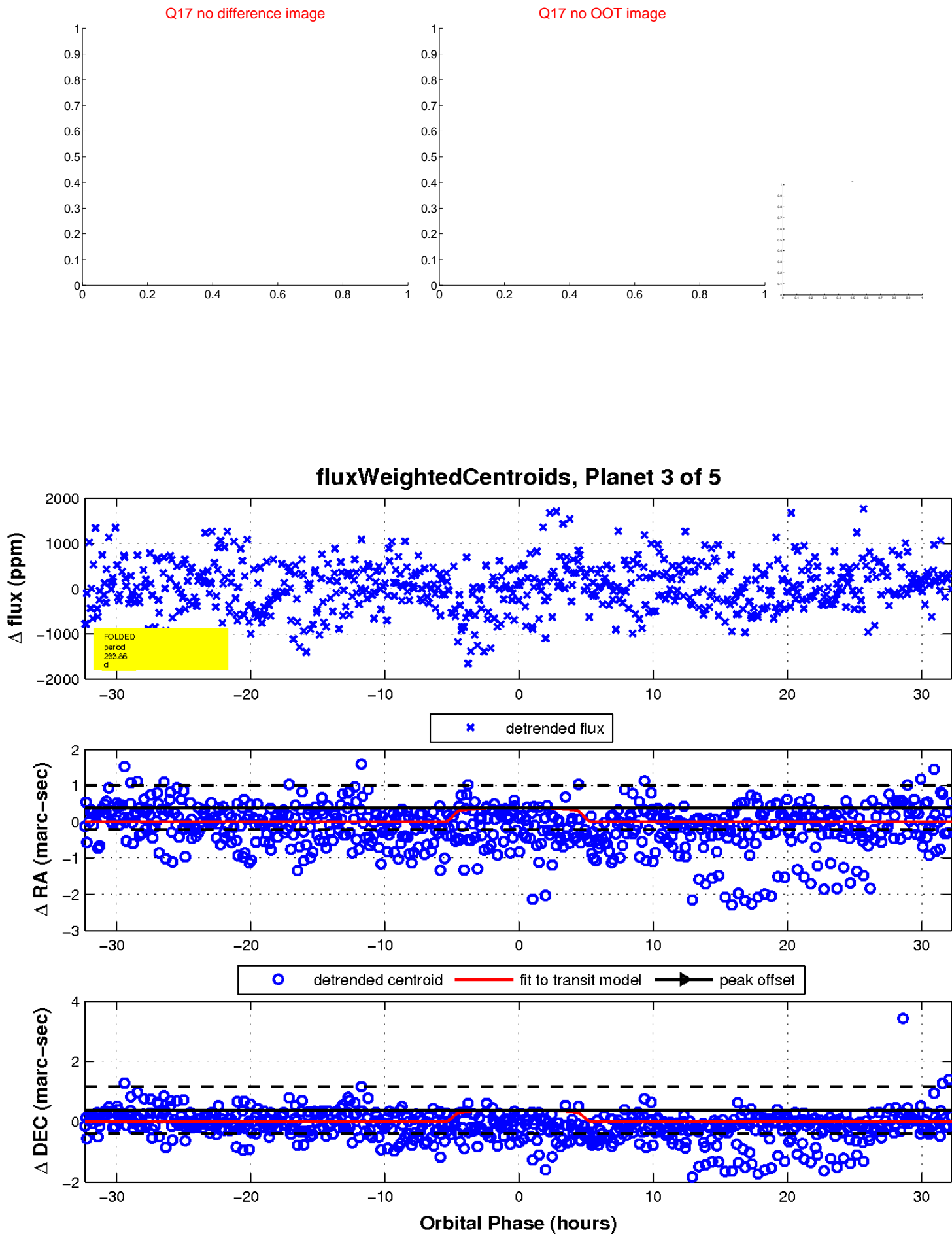
Q12 OOT image



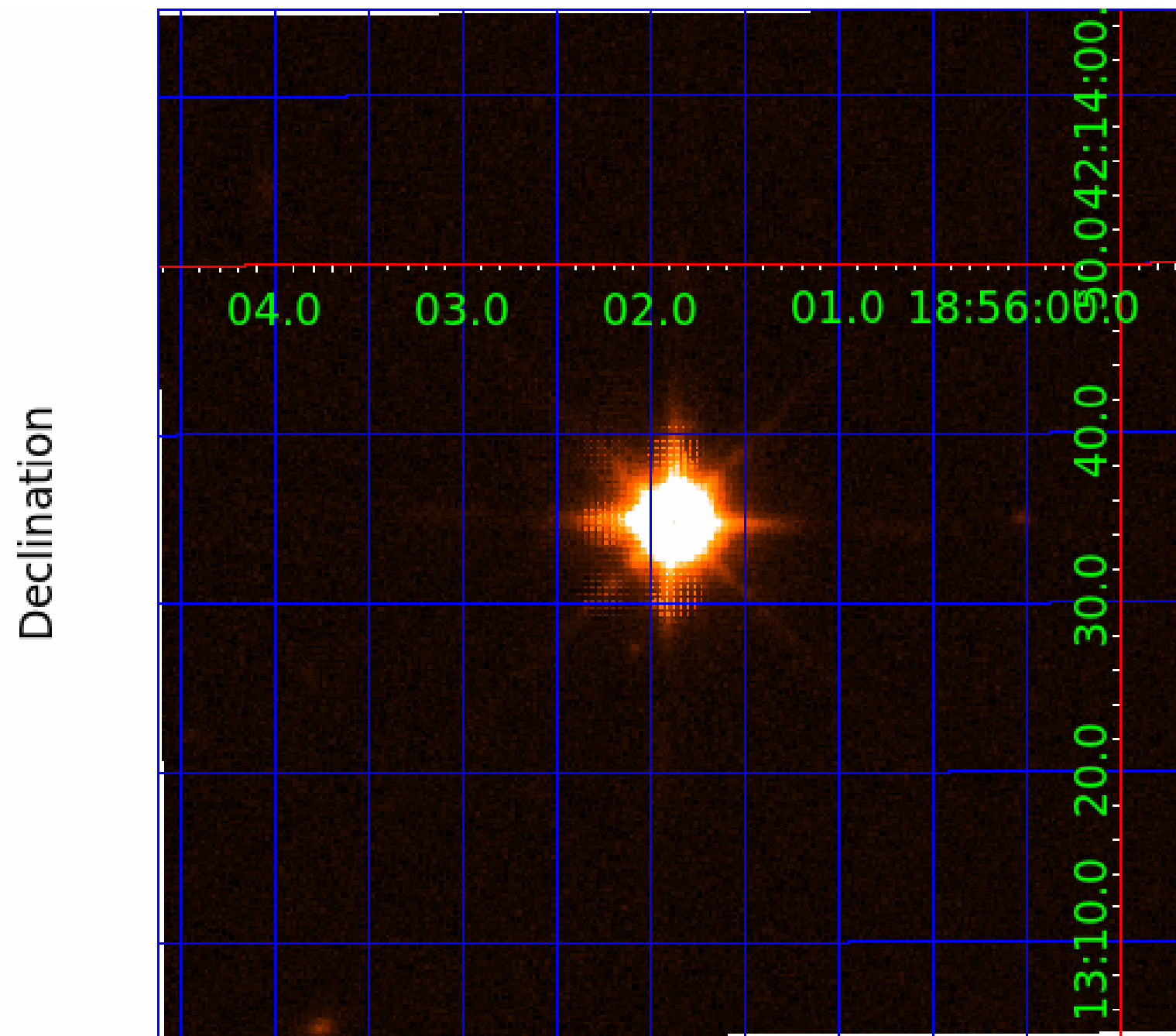
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image





# KIC 006756481

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006756481-01	OBS	No	0.527878	131.596582	102.8	2.290	13.6	15.0	3.84	7545	4.54	0.00
006756481-02	OBS	No	1.180451	132.143459	197.4	5.431	11.1	14.7	3.84	7545	7.65	55659.28
006756481-03	OBS	No	233.859925	173.747200	1169.2	10.784	8.6	8.3	3.84	7545	14.48	48.19
006756481-04	OBS	No	71.640752	178.918017	1333.4	1.635	8.6	9.9	3.84	7545	16.57	233.38
006756481-05	OBS	No	49.893201	132.145318	851.2	1.863	8.4	8.5	3.84	7545	11.32	378.05

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006756481-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006756481-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
006756481-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006756481-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006756481-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

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

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

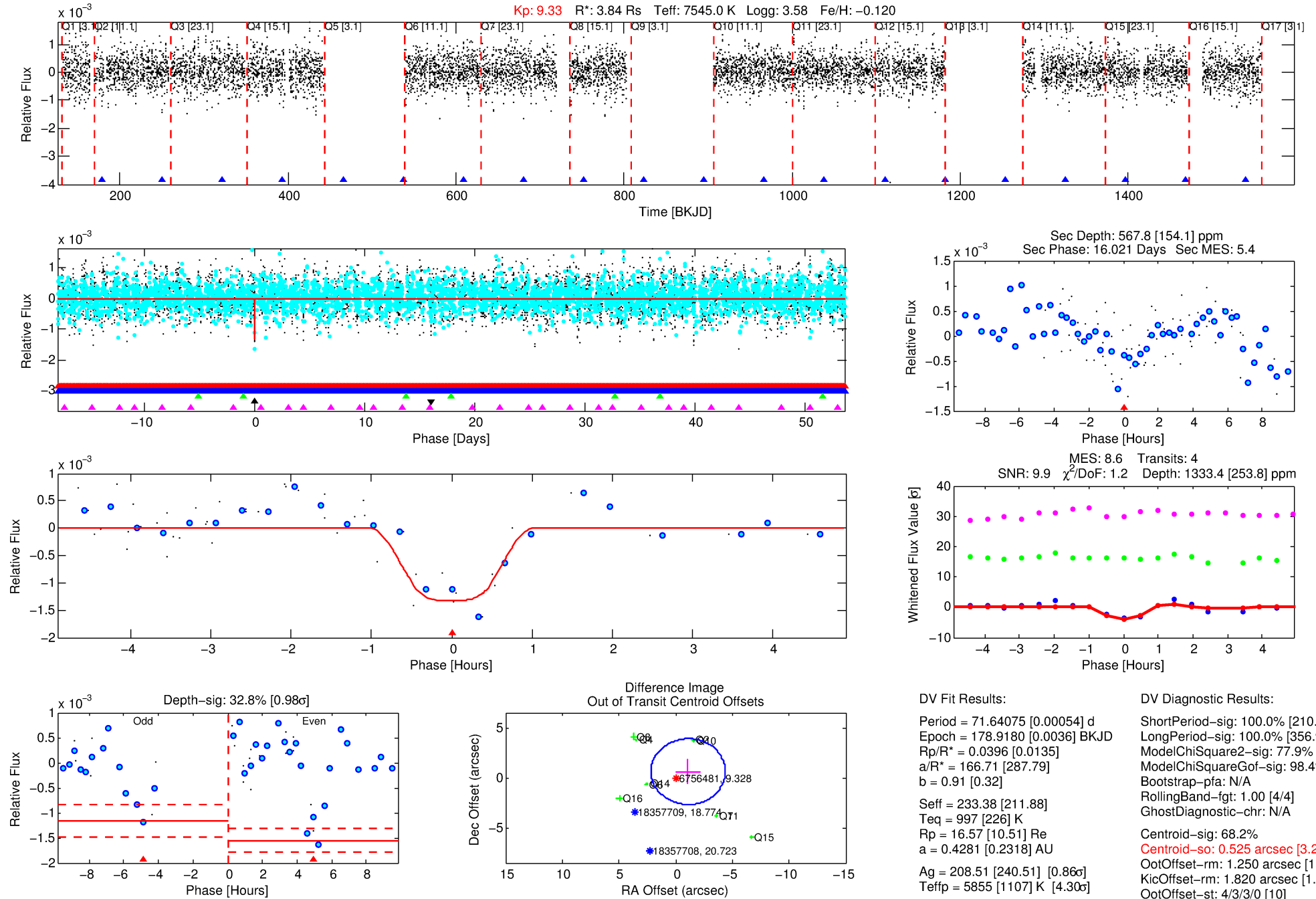
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006756481-04

No Significant Match Found

# DV One-Page Summary

KIC: 6756481 Candidate: 4 of 5 Period: 71.641 d



## DV Fit Results:

Period = 71.64075 [0.00054] d  
Epoch = 178.9180 [0.0036] BKJD  
Rp/R\* = 0.0396 [0.0135]  
a/R\* = 166.71 [287.79]  
b = 0.91 [0.32]  
Seff = 233.38 [211.88]  
Teq = 997 [226] K  
Rp = 16.57 [10.51] Re  
a = 0.4281 [0.2318] AU  
Ag = 208.51 [240.51] [0.86σ]  
Teffp = 5855 [1107] K [4.30σ]

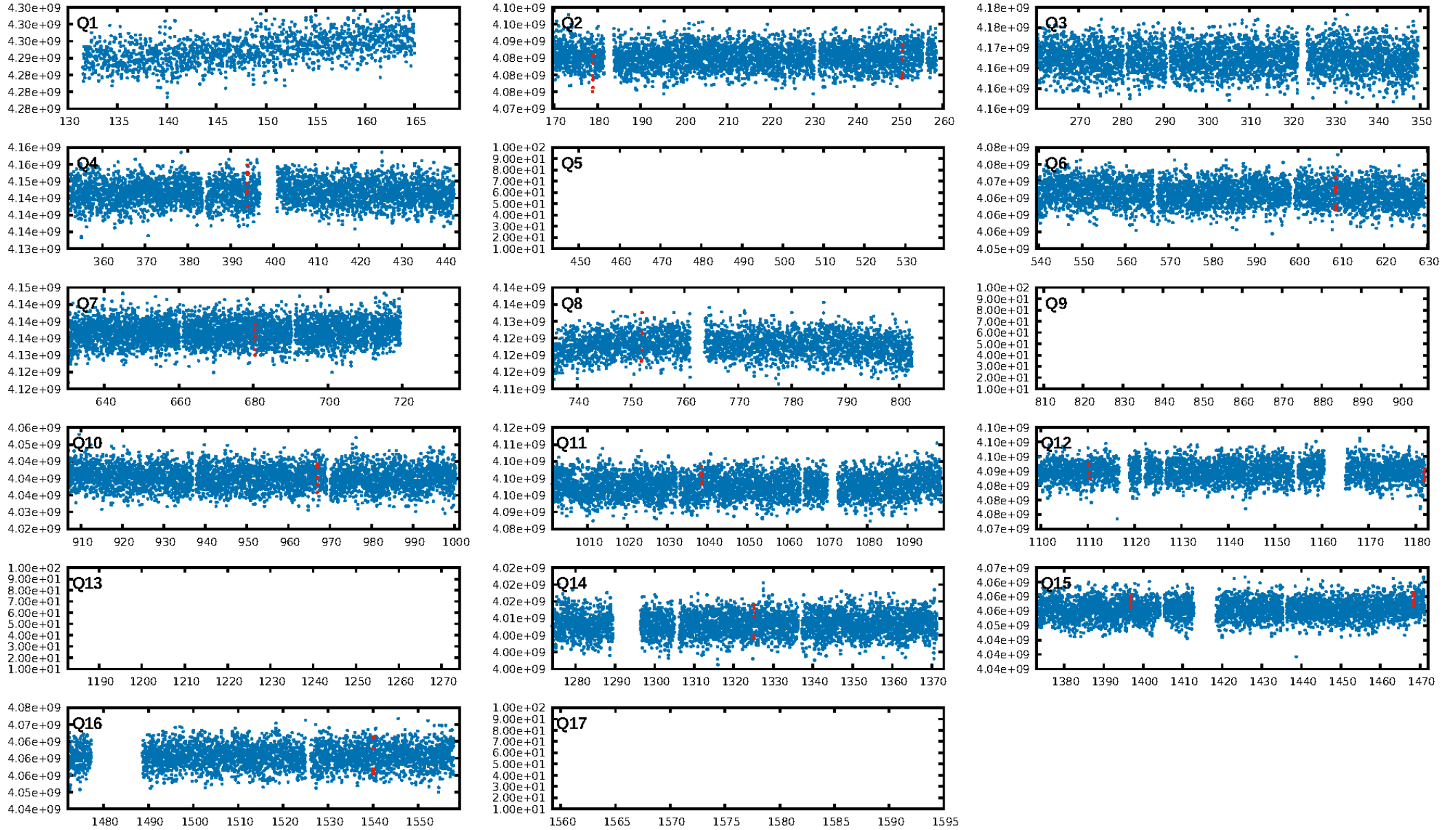
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [210.58σ]  
LongPeriod-sig: 100.0% [356.94σ]  
ModelChiSquare2-sig: 77.9%  
ModelChiSquareGof-sig: 98.4%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 68.2%  
Centroid-so: 0.525 arcsec [3.24σ]  
OotOffset-rm: 1.250 arcsec [1.14σ]  
KicOffset-rm: 1.820 arcsec [1.27σ]  
OotOffset-st: 4/3/0 [10]  
KicOffset-st: 4/3/0 [10]  
DiffImageQuality-fgm: 0.00 [0/10]  
DiffImageOverlap-fno: 0.00 [0/10]

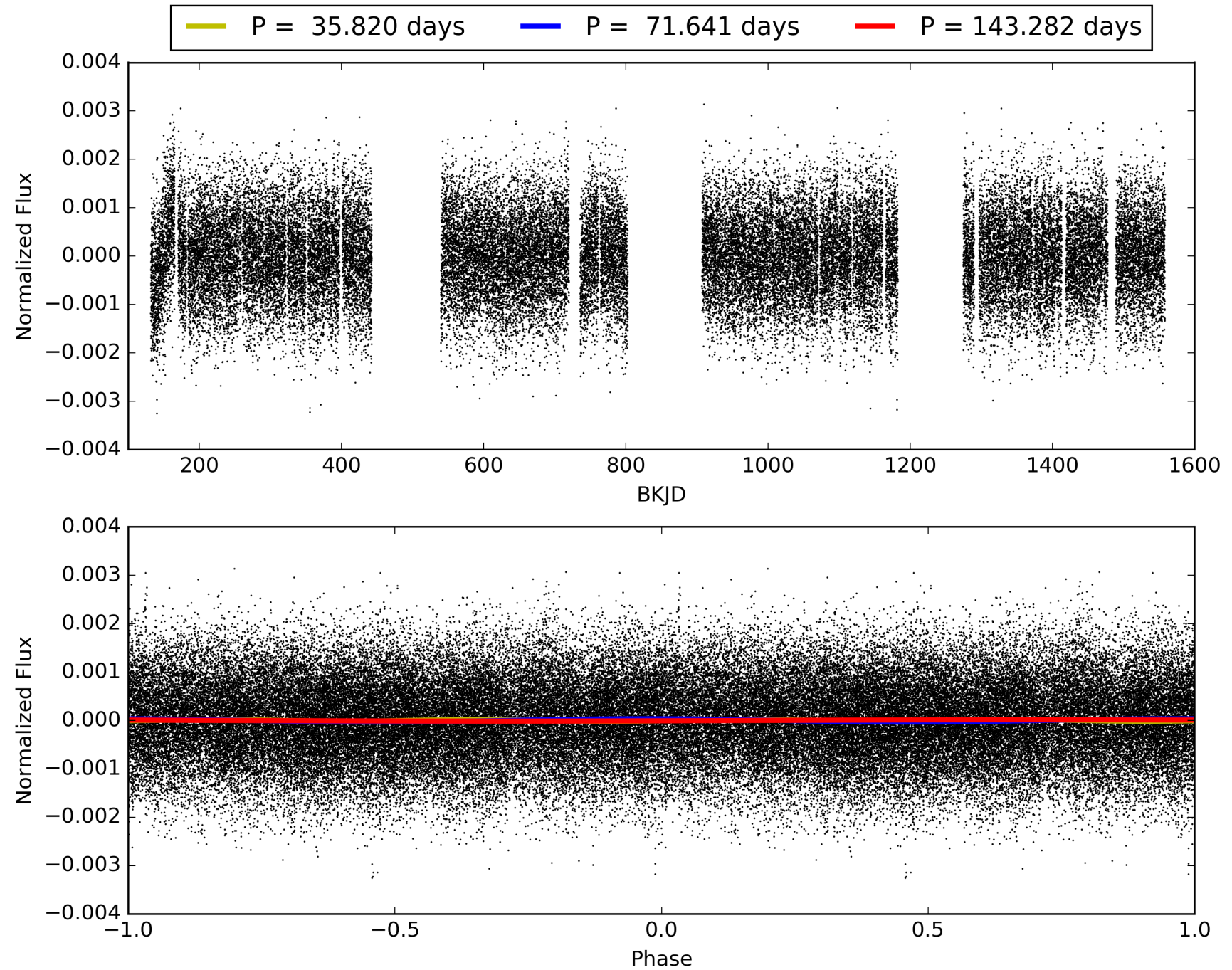
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:23:56 Z

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

# TCE 006756481-04, PDC Light Curves

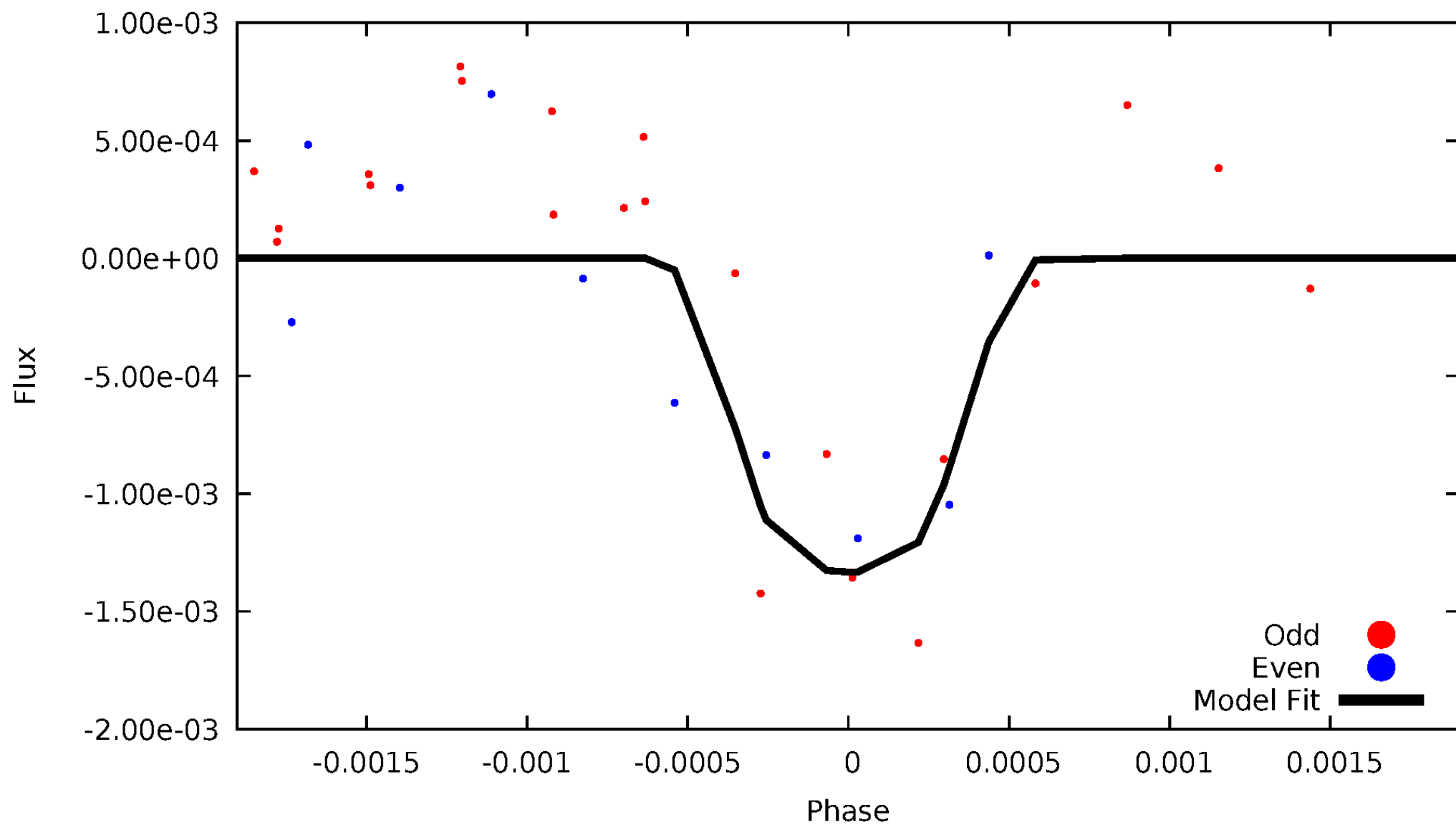


# TCE 006756481-04



# DV Odd/Even

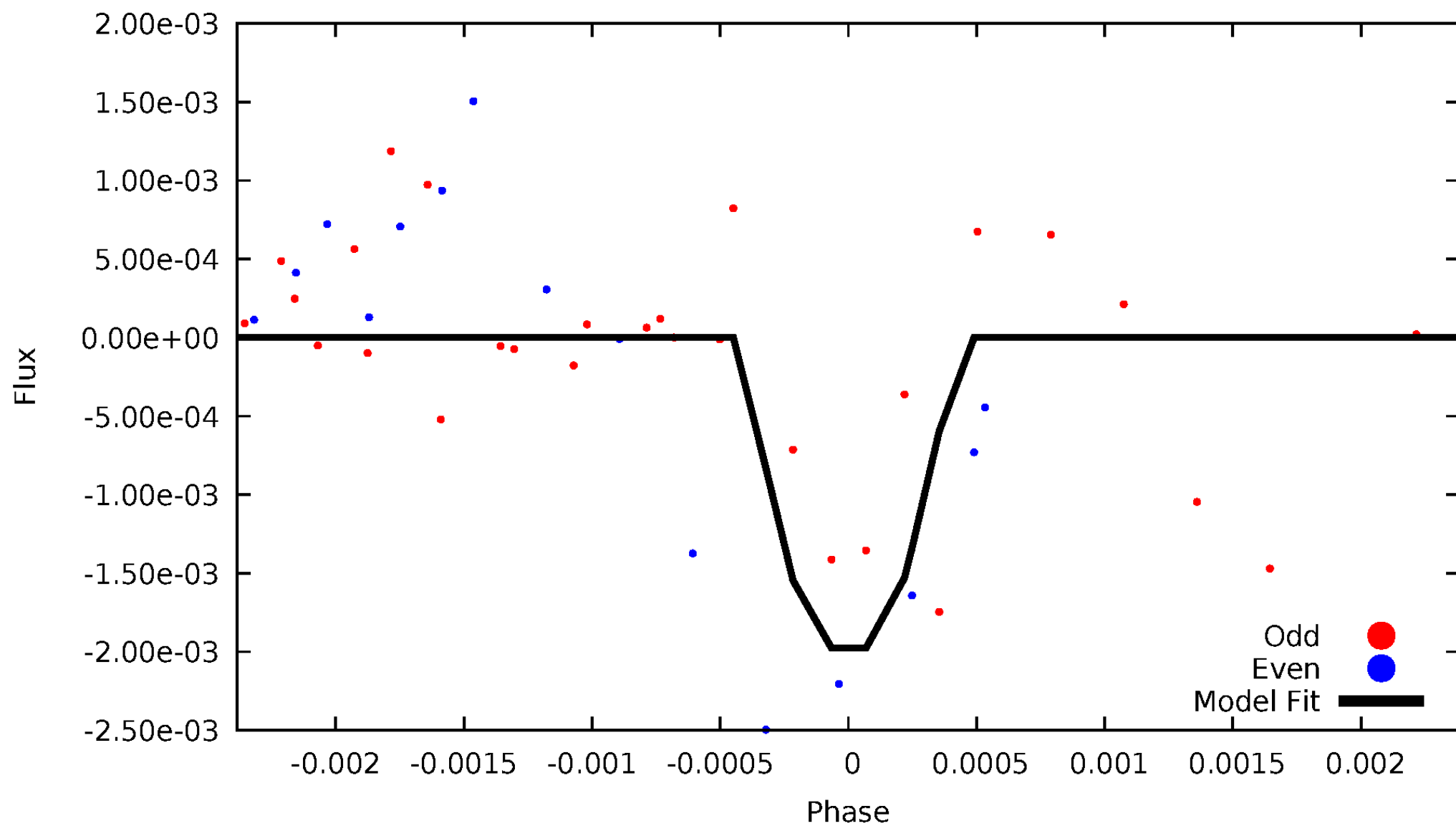
TCE 006756481-04





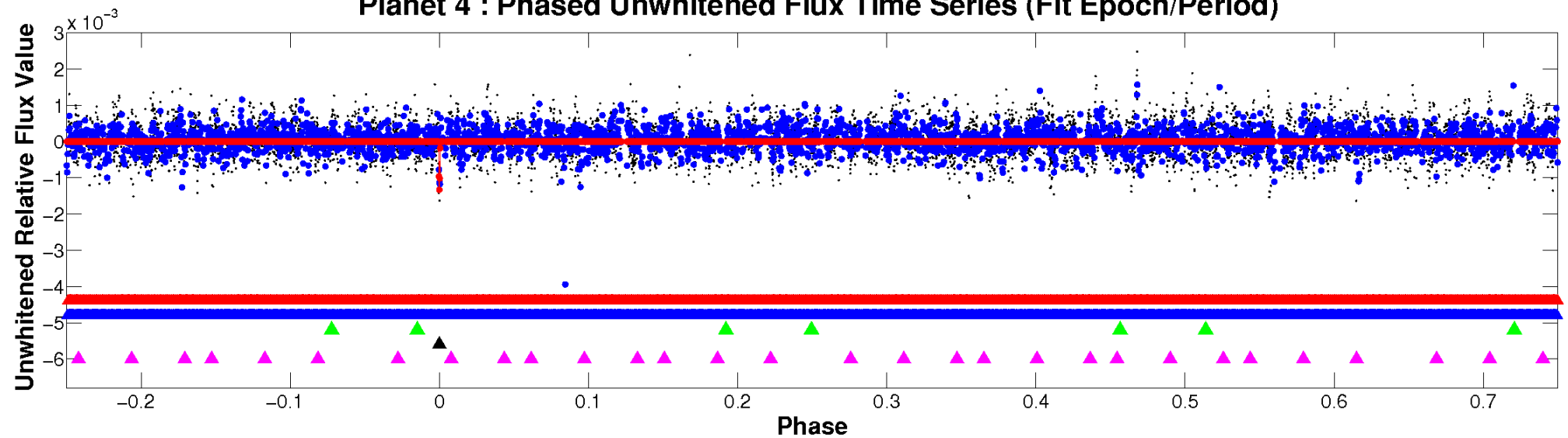
# ALT Odd/Even

TCE 006756481-04

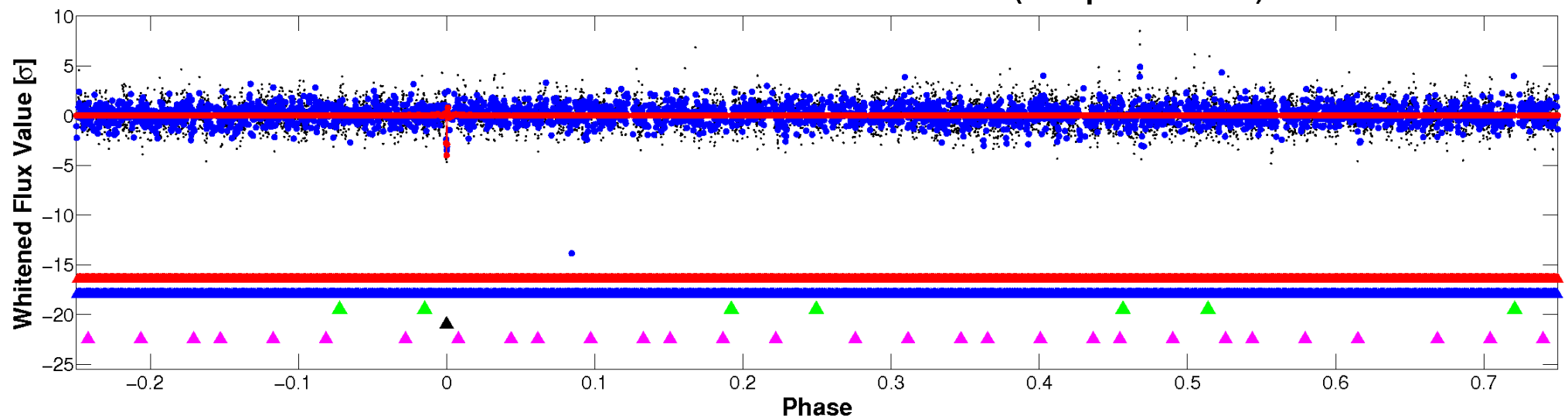


# Non-Whitened Vs. Whitened Light Curve

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

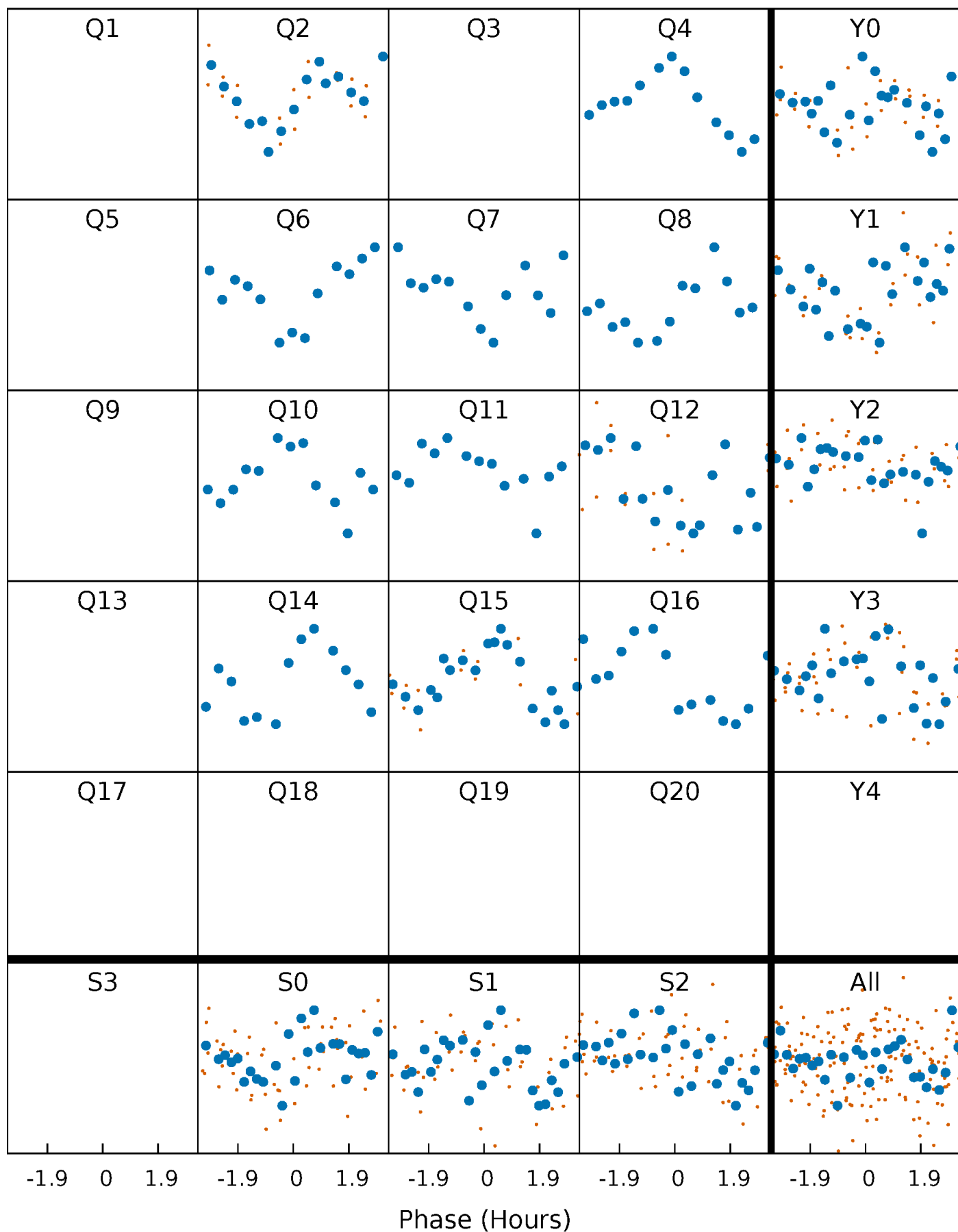


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



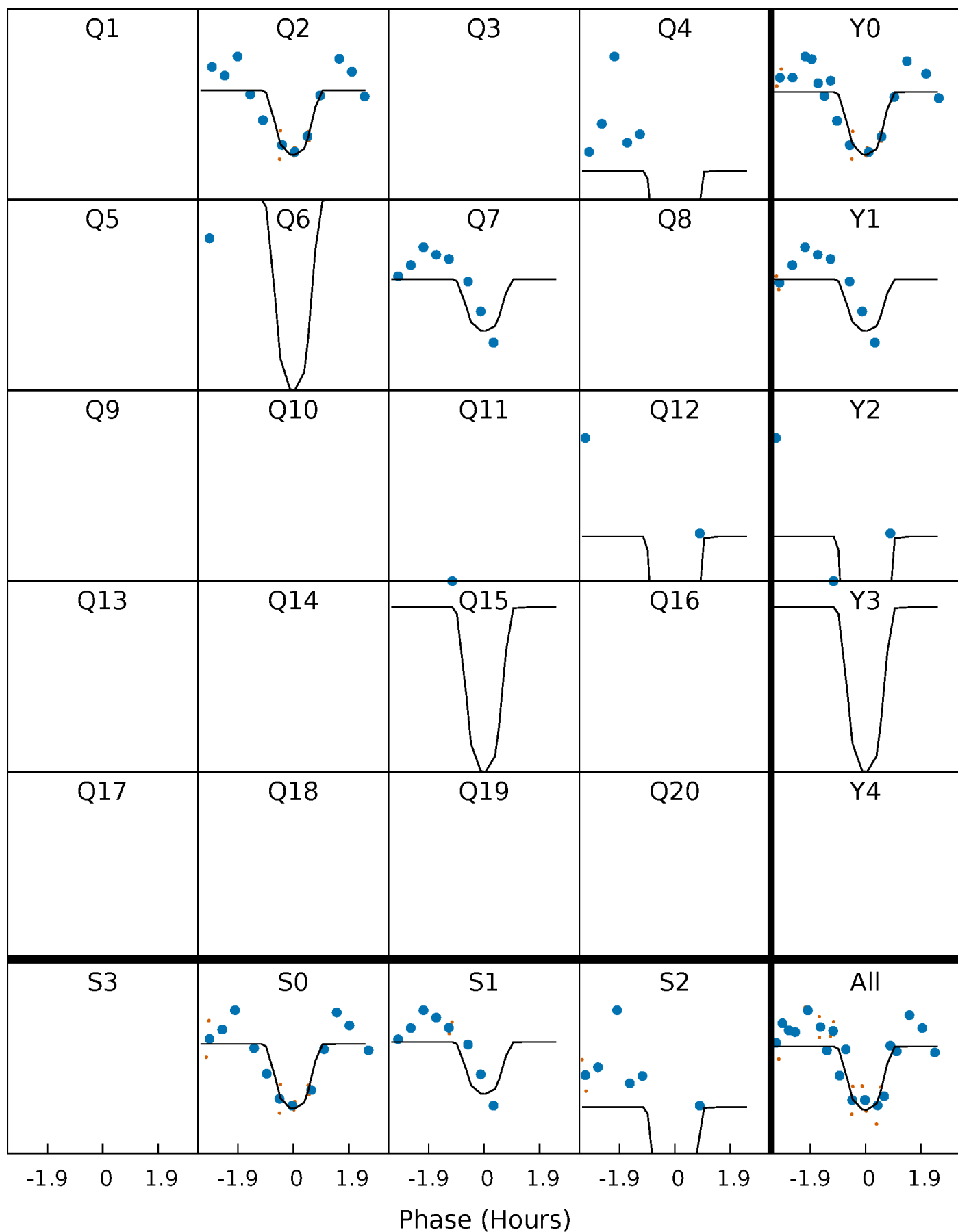
# PDC Quarter-Phased Transit Curves

TCE 006756481-04 P= 71.640752 Days  $T_0=178.918017$  (BKJD)



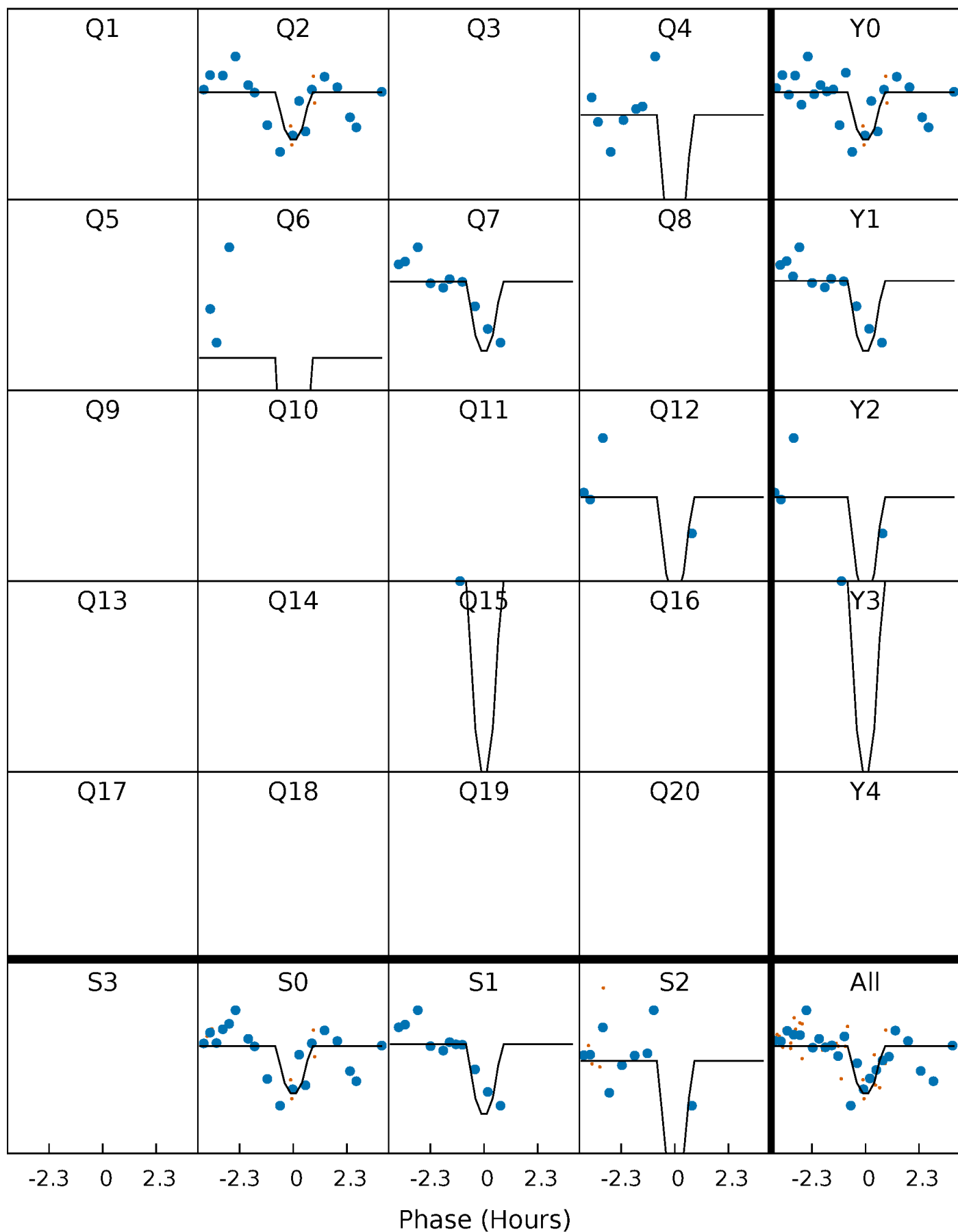
# DV Quarter-Phased Transit Curves

TCE 006756481-04 P= 71.640752 Days  $T_0=178.918017$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006756481-04     $P = 71.641599$  Days     $T_0 = 178.902334$  (BKJD)

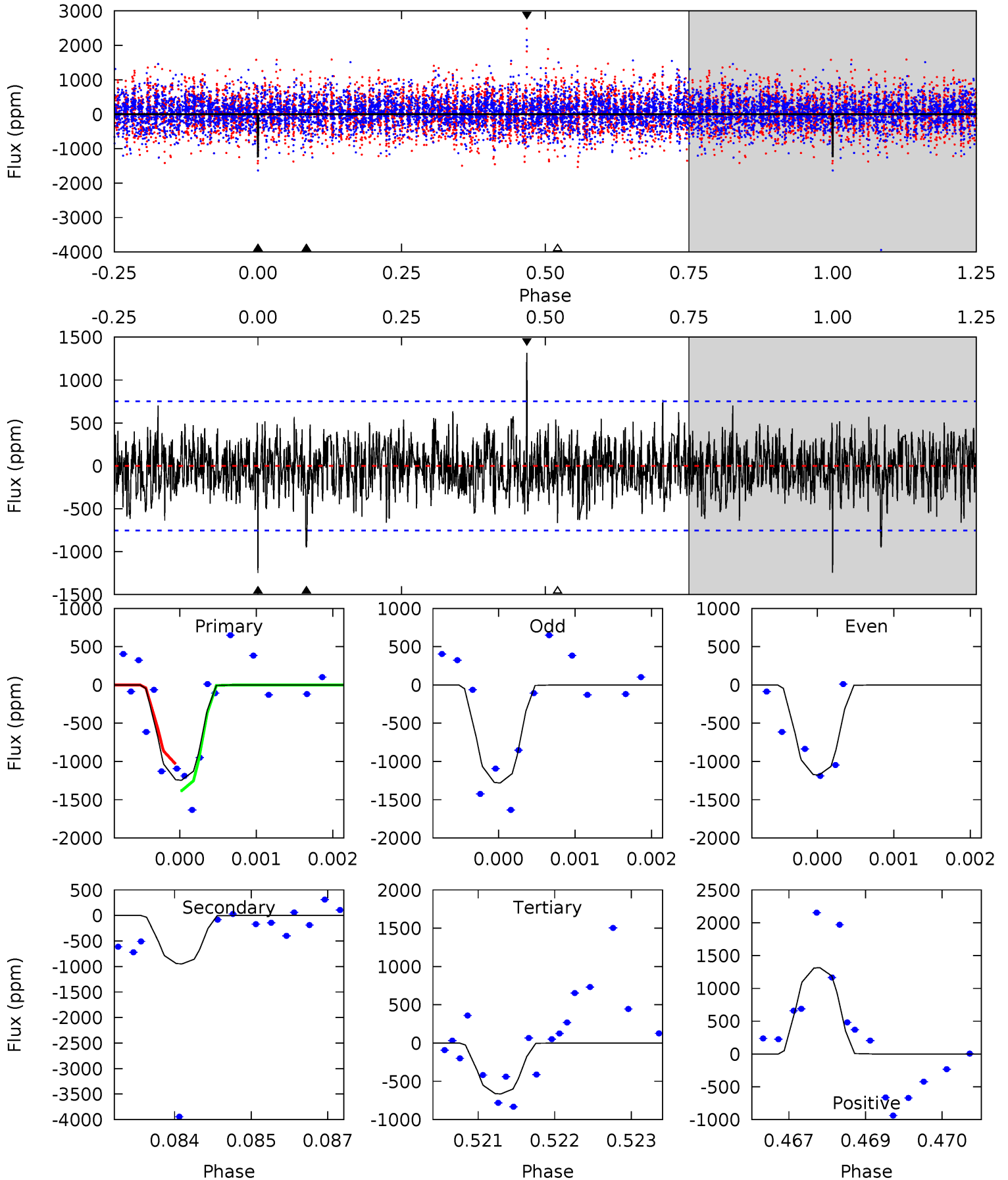




# DV Model-Shift Uniqueness Test

006756481-04, P = 71.640752 Days, E = 107.277265 Days

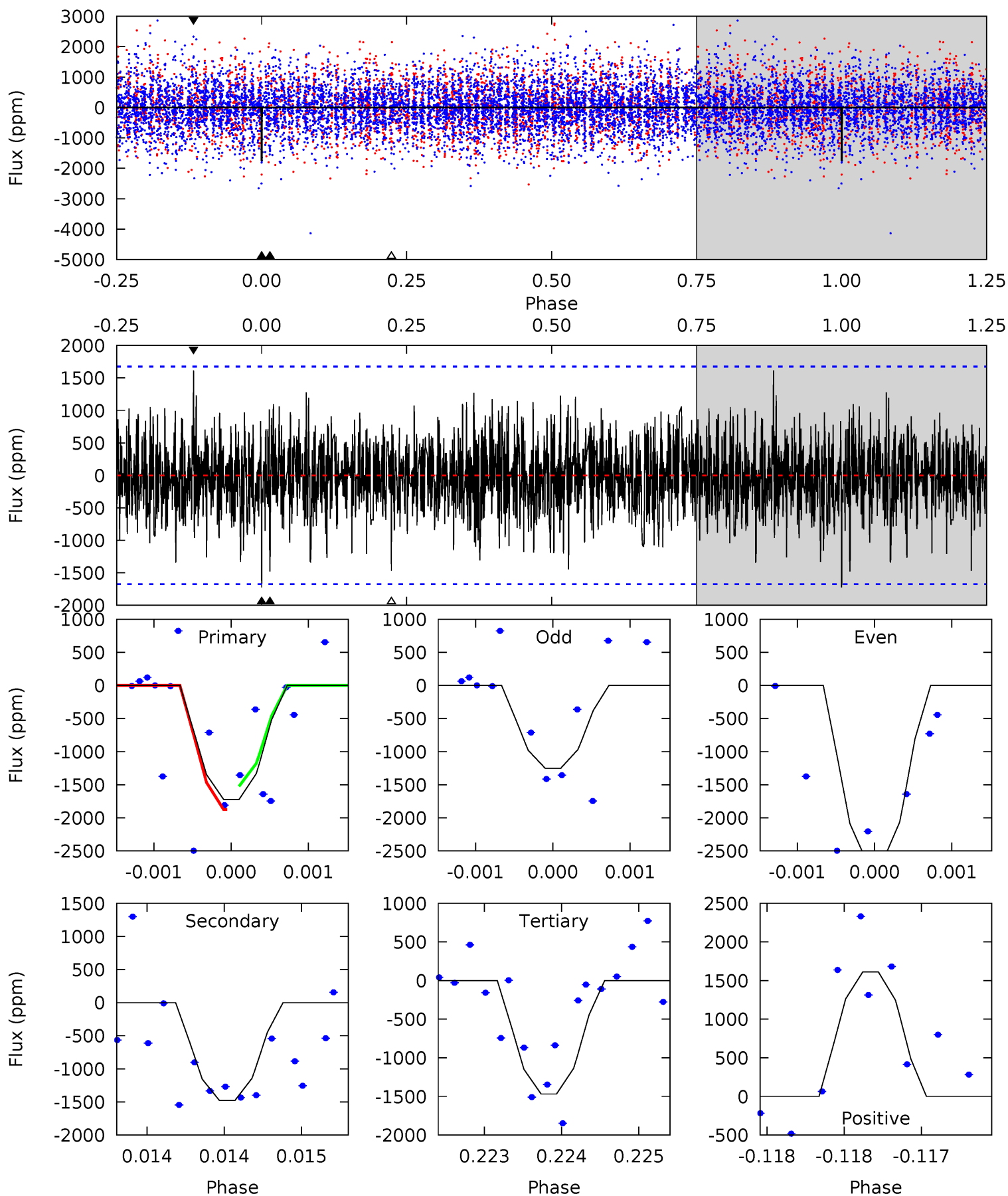
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.96	6.82	4.78	9.46	5.42	3.23	1.57	4.18	-0.50	2.04	-2.64	0.36	1.03	0.51	1.14



# Alt Model-Shift Uniqueness Test

006756481-04, P = 71.641599 Days, E = 107.260735 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
5.68	4.87	4.84	5.32	5.52	3.40	1.36	0.84	0.36	0.03	-0.45	2.21	1.20	0.48	0.58



### Stellar Parameters For KIC 006756481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7545^{+210}_{-341}$	$3.579^{+0.531}_{-0.059}$	$-0.120^{+0.200}_{-0.300}$	$3.838^{+0.513}_{-2.053}$	$2.040^{+0.201}_{-0.562}$	$0.051^{+0.331}_{-0.010}$
	+3%/-5%	+15%/-2%	+167%/-250%	+13%/-53%	+10%/-28%	+651%/-20%
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 006756481-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-948 \pm 139$	$14.37^{+6.71}_{-5.44}$	$1325^{+99}_{-184}$	$6423^{+1635}_{-824}$	$451^{+760}_{-233}$
Alt.	$-1478 \pm 303$	$16.20^{+6.19}_{-6.19}$	$1331^{+98}_{-189}$	$6871^{+1694}_{-963}$	$552^{+840}_{-273}$

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

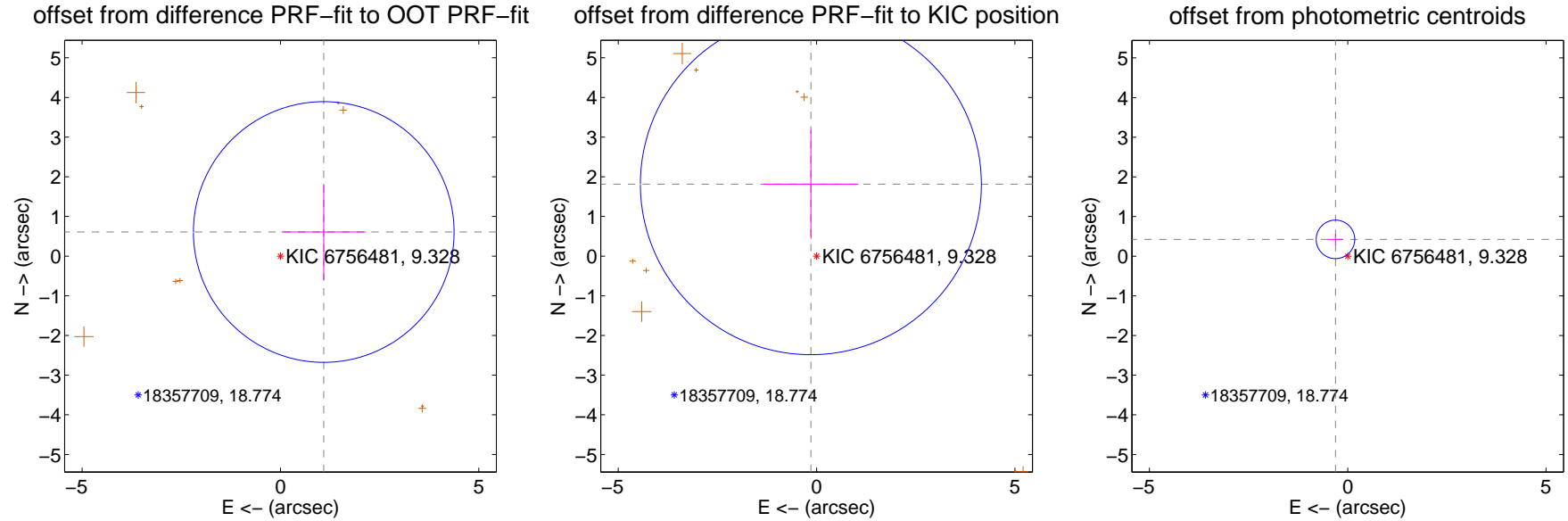
## DV Centroid Data

Supplemental centroid analysis for 006756481-04. **Kepler magnitude: 9.33.** Transit SNR 9.86

**There are 0 quarters with good PRF difference image offsets**

The direct PRF centroid is offset from the target star catalog position by about 0.83 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.250 \pm 1.095$	1.14	$-1.092 \pm 1.058$	$0.608 \pm 1.207$
PRF-fit source offset from KIC position	$1.820 \pm 1.433$	1.27	$0.144 \pm 1.193$	$1.814 \pm 1.375$
photometric centroid source offset	<b><math>0.53 \pm 0.16</math></b>	<b>3.24</b>	$0.31 \pm 0.19$	$0.42 \pm 0.14$



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.

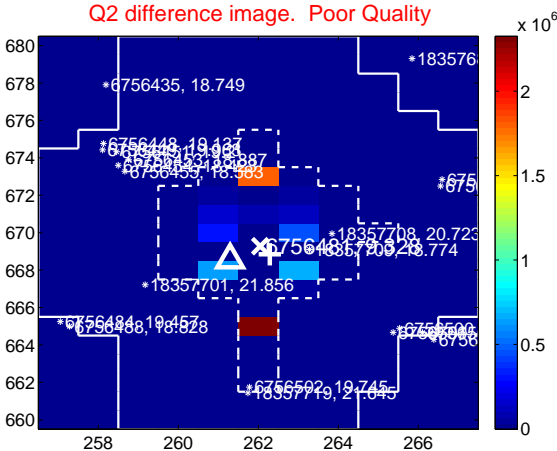
Q1 no difference image



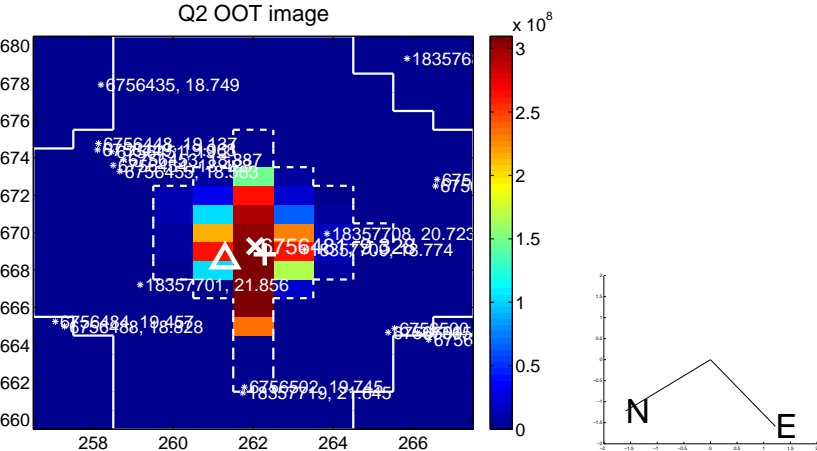
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



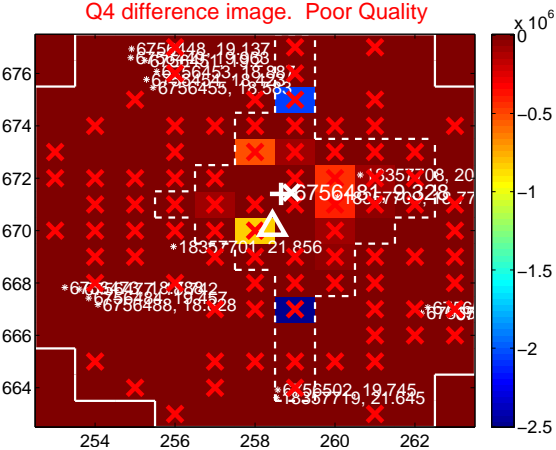
Q3 no difference image



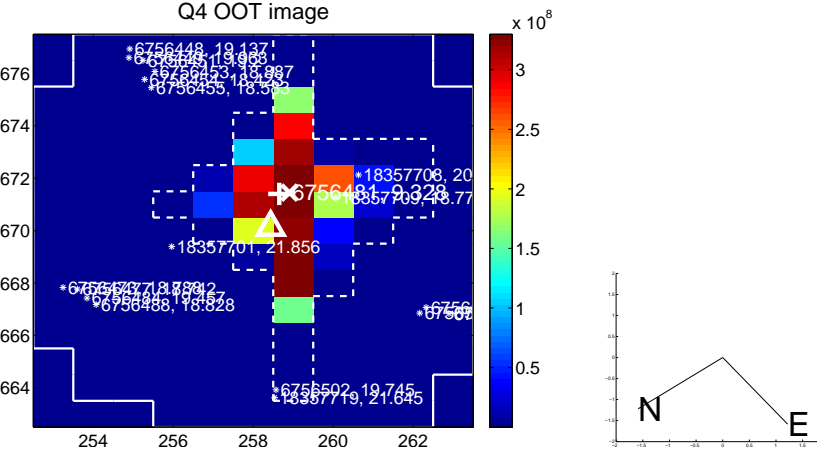
Q3 no OOT image



Q4 difference image. Poor Quality



Q4 OOT image



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

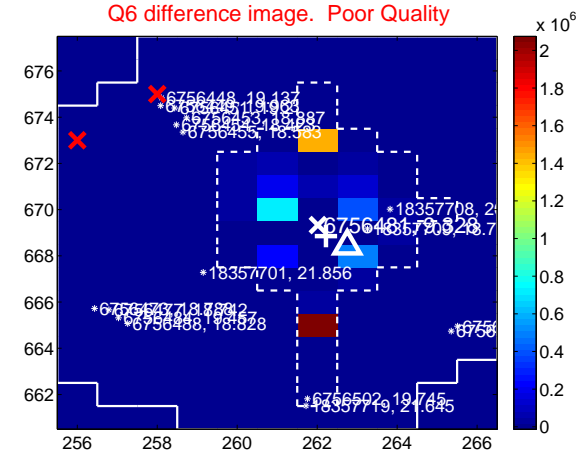
Q5 no difference image



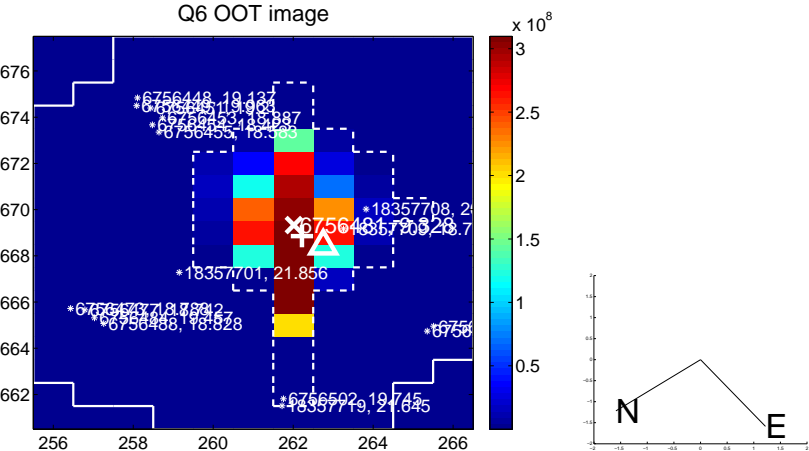
Q5 no OOT image



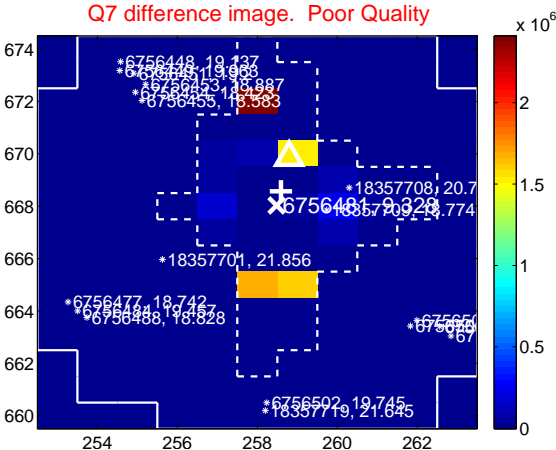
Q6 difference image. Poor Quality



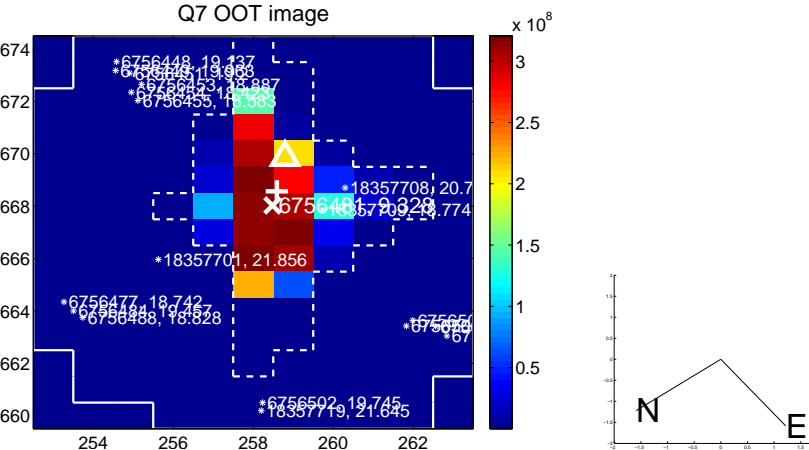
Q6 OOT image



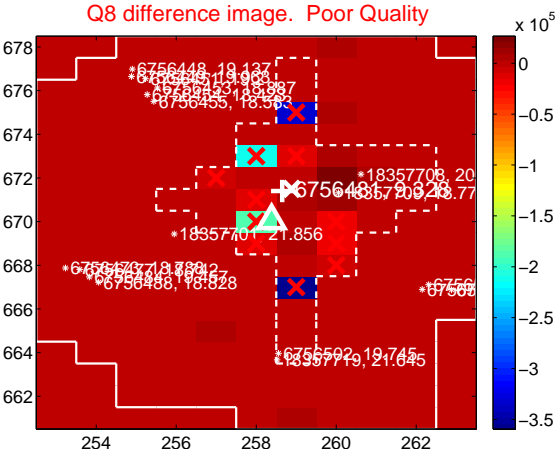
Q7 difference image. Poor Quality



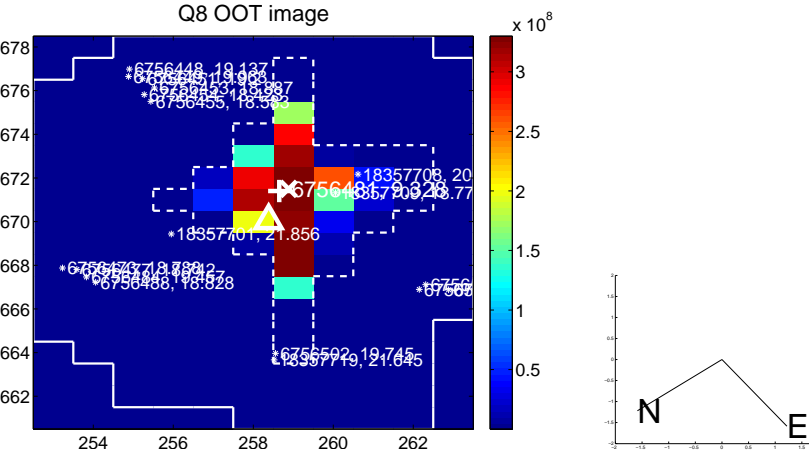
Q7 OOT image



Q8 difference image. Poor Quality



Q8 OOT image





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

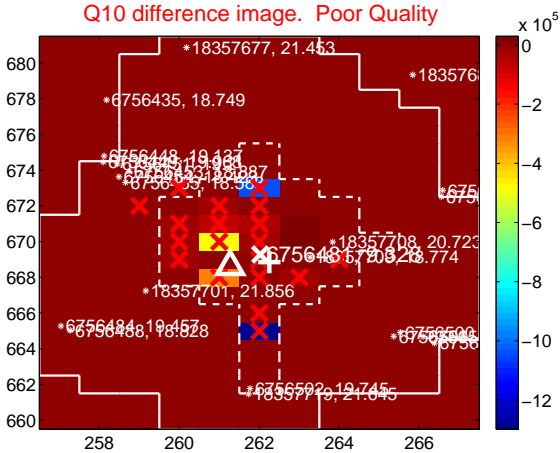
Q9 no difference image



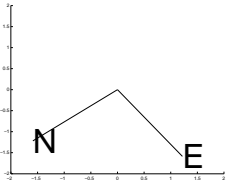
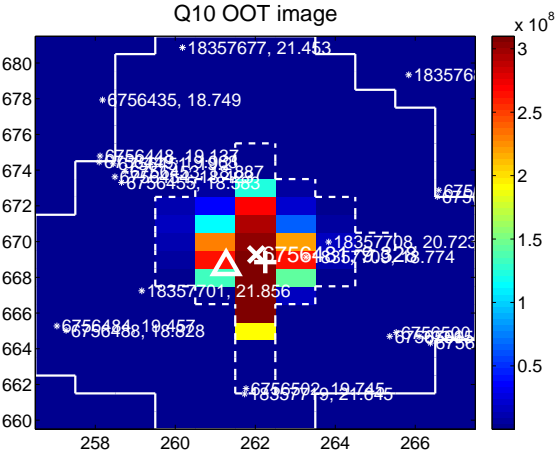
Q9 no OOT image



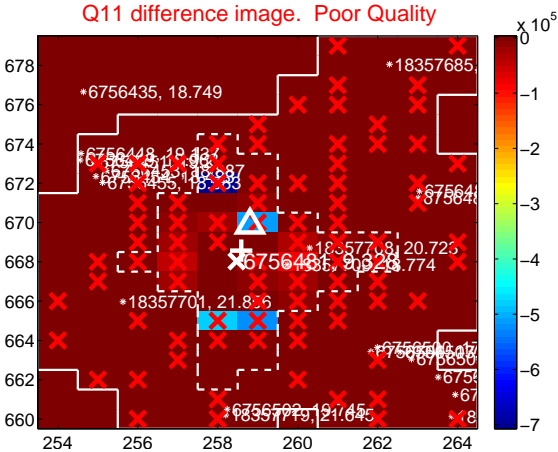
Q10 difference image. Poor Quality



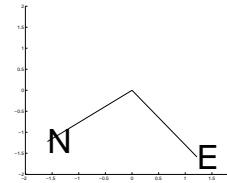
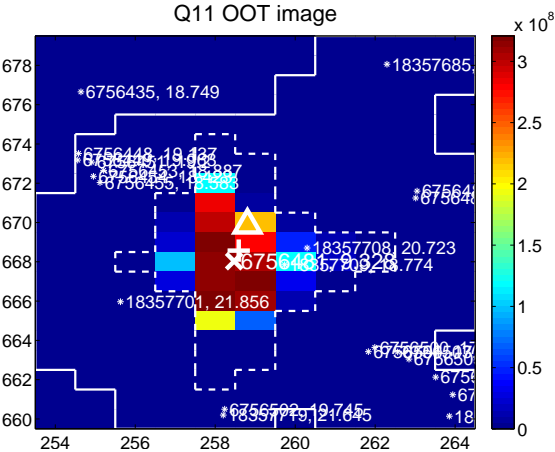
Q10 OOT image



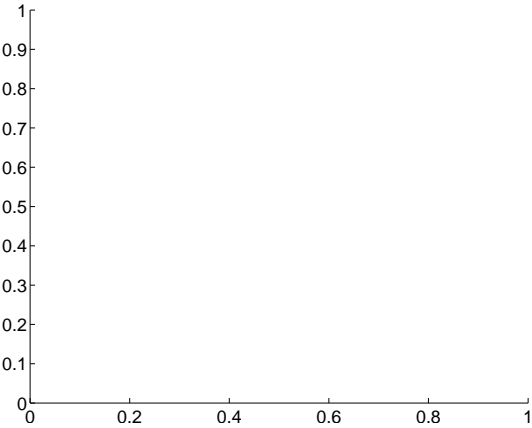
Q11 difference image. Poor Quality



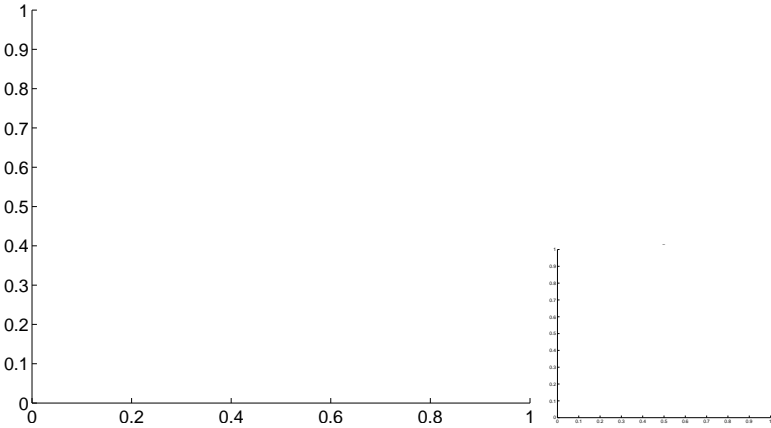
Q11 OOT image



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

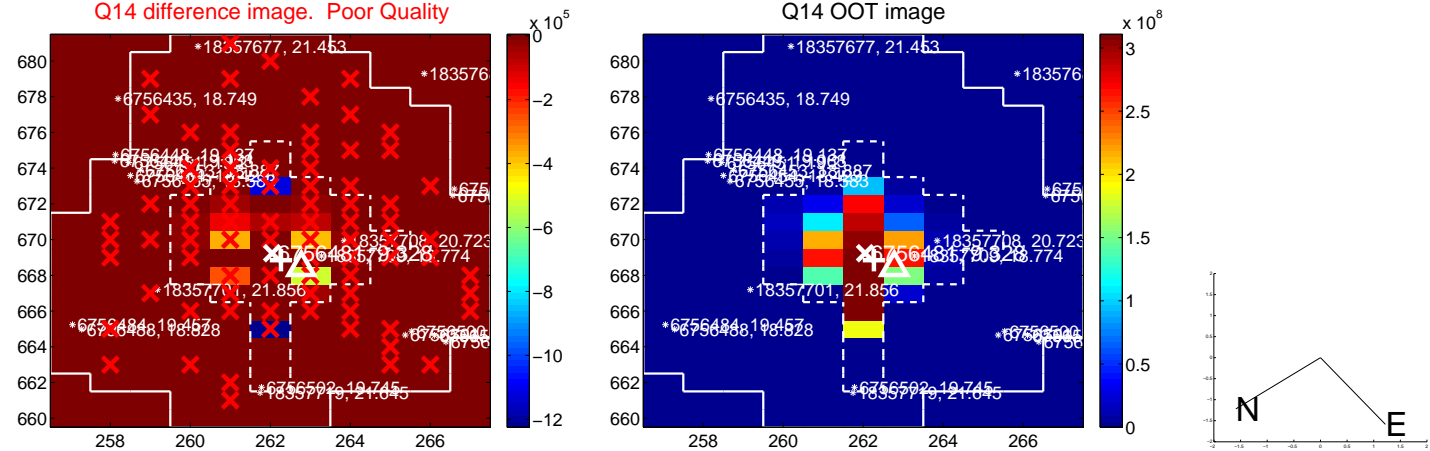


Q13 no OOT image



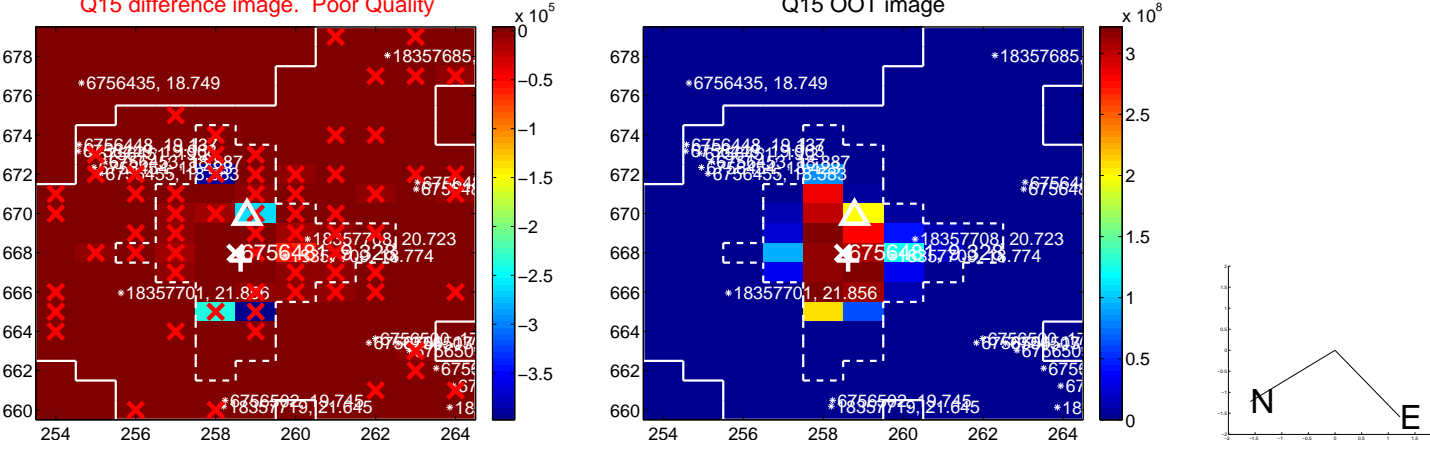
Q14 difference image. Poor Quality

Q14 OOT image



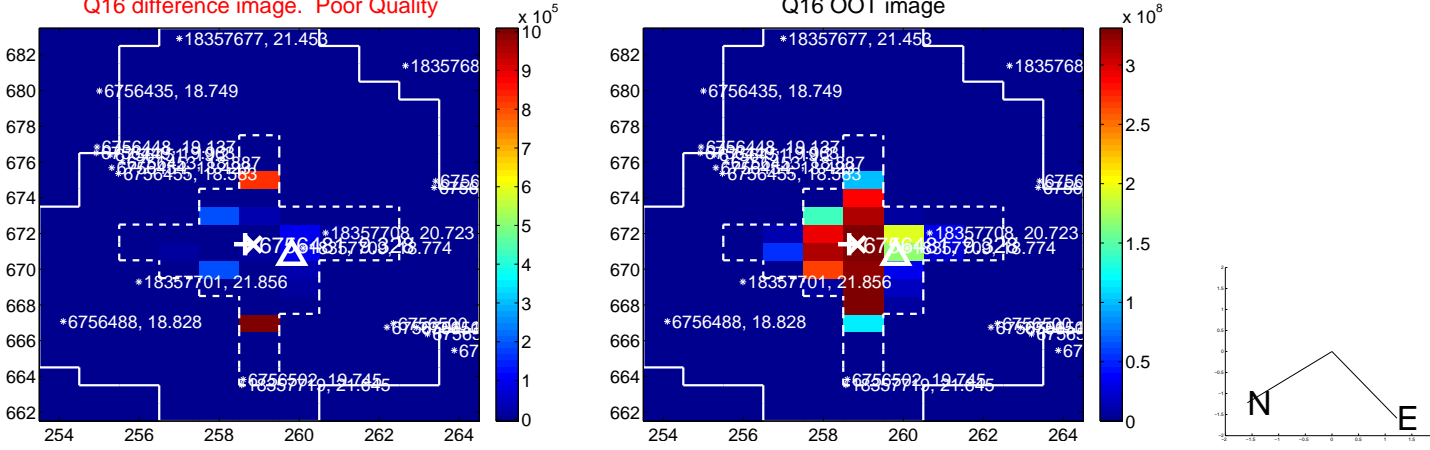
Q15 difference image. Poor Quality

Q15 OOT image

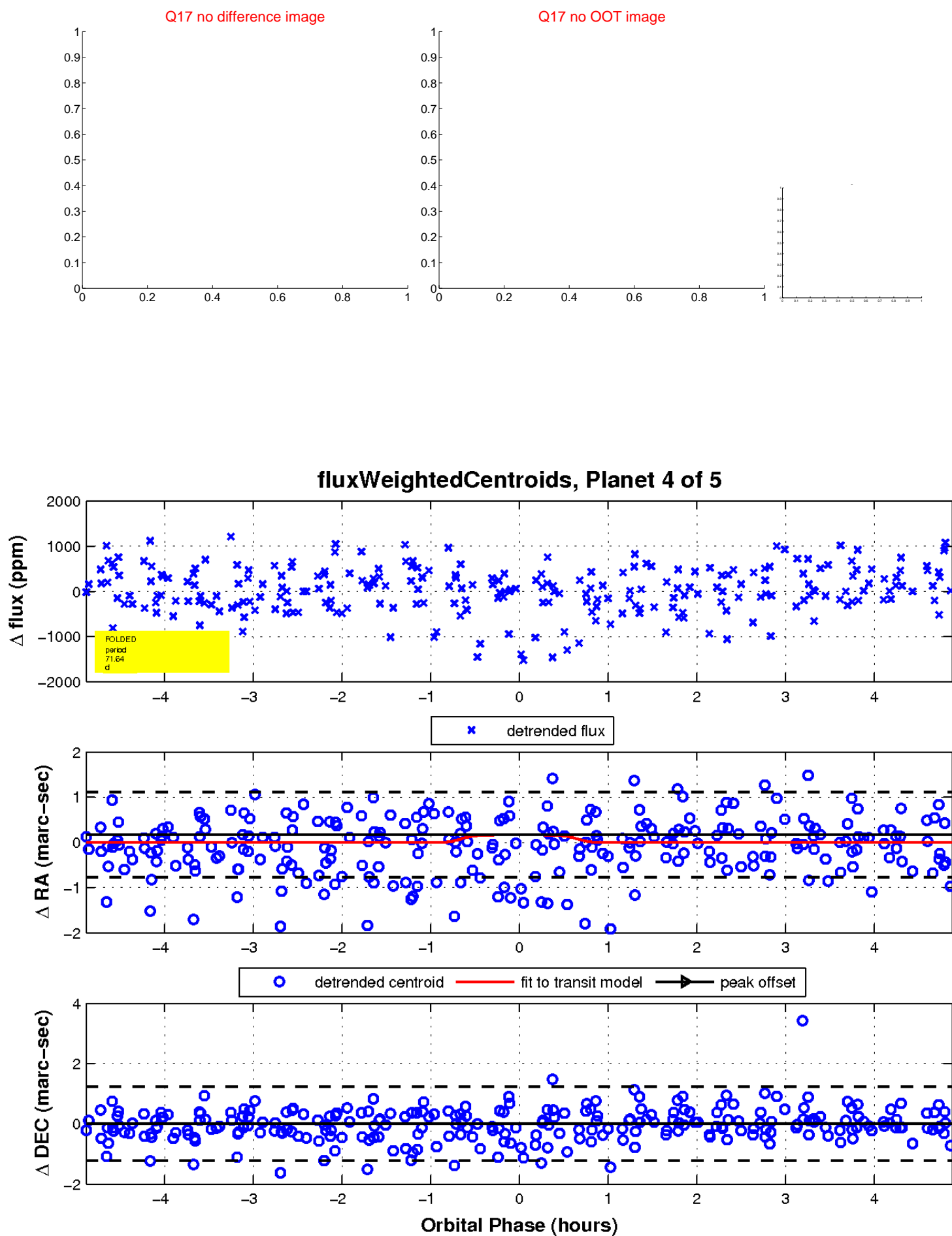


Q16 difference image. Poor Quality

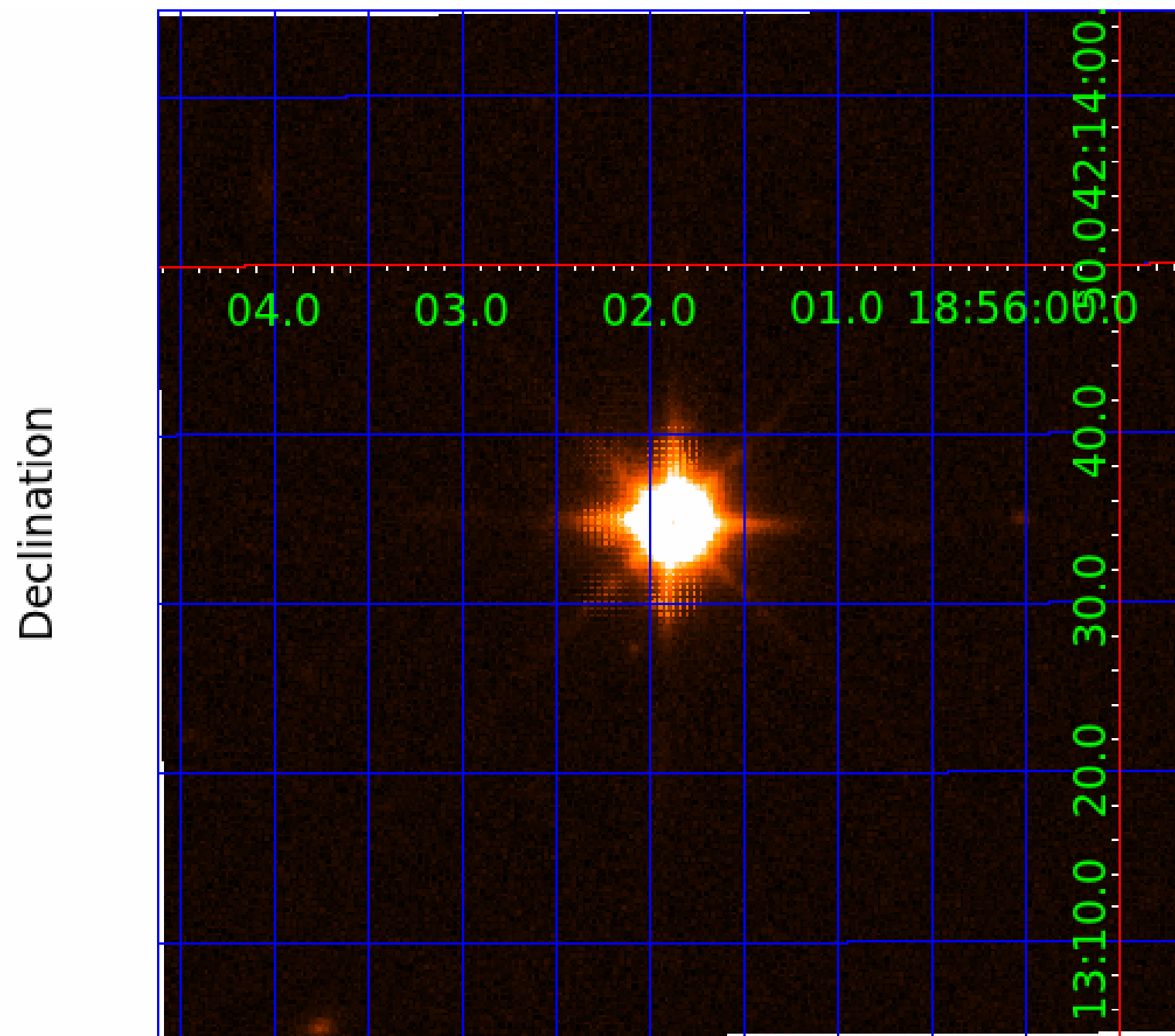
Q16 OOT image



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



UKIRT Image



# KIC 006756481

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006756481-01	OBS	No	0.527878	131.596582	102.8	2.290	13.6	15.0	3.84	7545	4.54	0.00
006756481-02	OBS	No	1.180451	132.143459	197.4	5.431	11.1	14.7	3.84	7545	7.65	55659.28
006756481-03	OBS	No	233.859925	173.747200	1169.2	10.784	8.6	8.3	3.84	7545	14.48	48.19
006756481-04	OBS	No	71.640752	178.918017	1333.4	1.635	8.6	9.9	3.84	7545	16.57	233.38
006756481-05	OBS	No	49.893201	132.145318	851.2	1.863	8.4	8.5	3.84	7545	11.32	378.05

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006756481-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
006756481-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
006756481-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006756481-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006756481-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

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

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

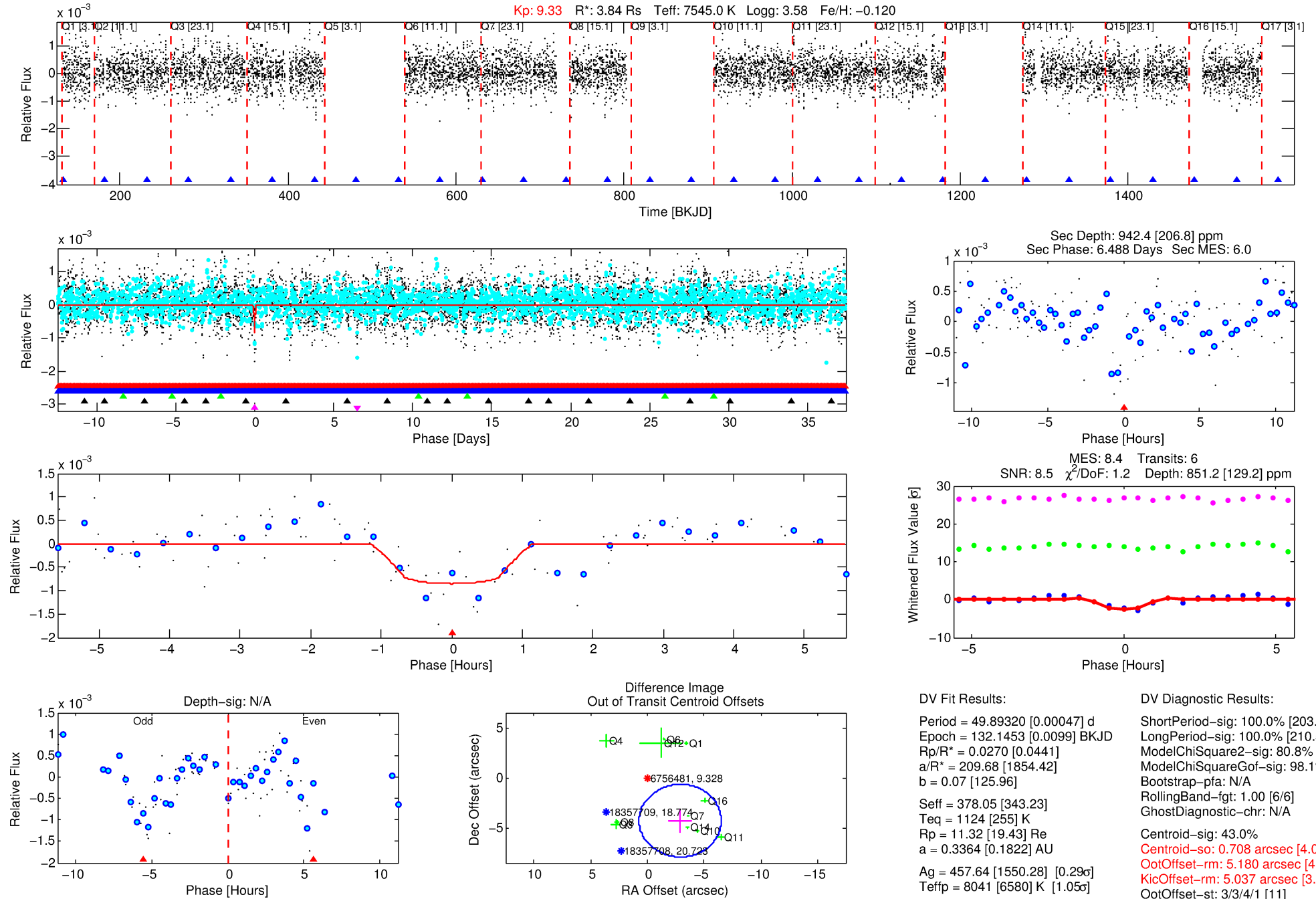
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006756481-05

No Significant Match Found

# DV One-Page Summary

KIC: 6756481 Candidate: 5 of 5 Period: 49.893 d



## DV Fit Results:

Period = 49.89320 [0.00047] d  
Epoch = 132.1453 [0.0099] BKJD  
Rp/R\* = 0.0270 [0.0441]  
a/R\* = 209.68 [1854.42]  
b = 0.07 [125.96]  
Seff = 378.05 [343.23]  
Teq = 1124 [255] K  
Rp = 11.32 [19.43] Re  
a = 0.3364 [0.1822] AU  
Ag = 457.64 [1550.28] [0.29σ]  
Teff = 8041 [6580] K [1.05σ]

## DV Diagnostic Results:

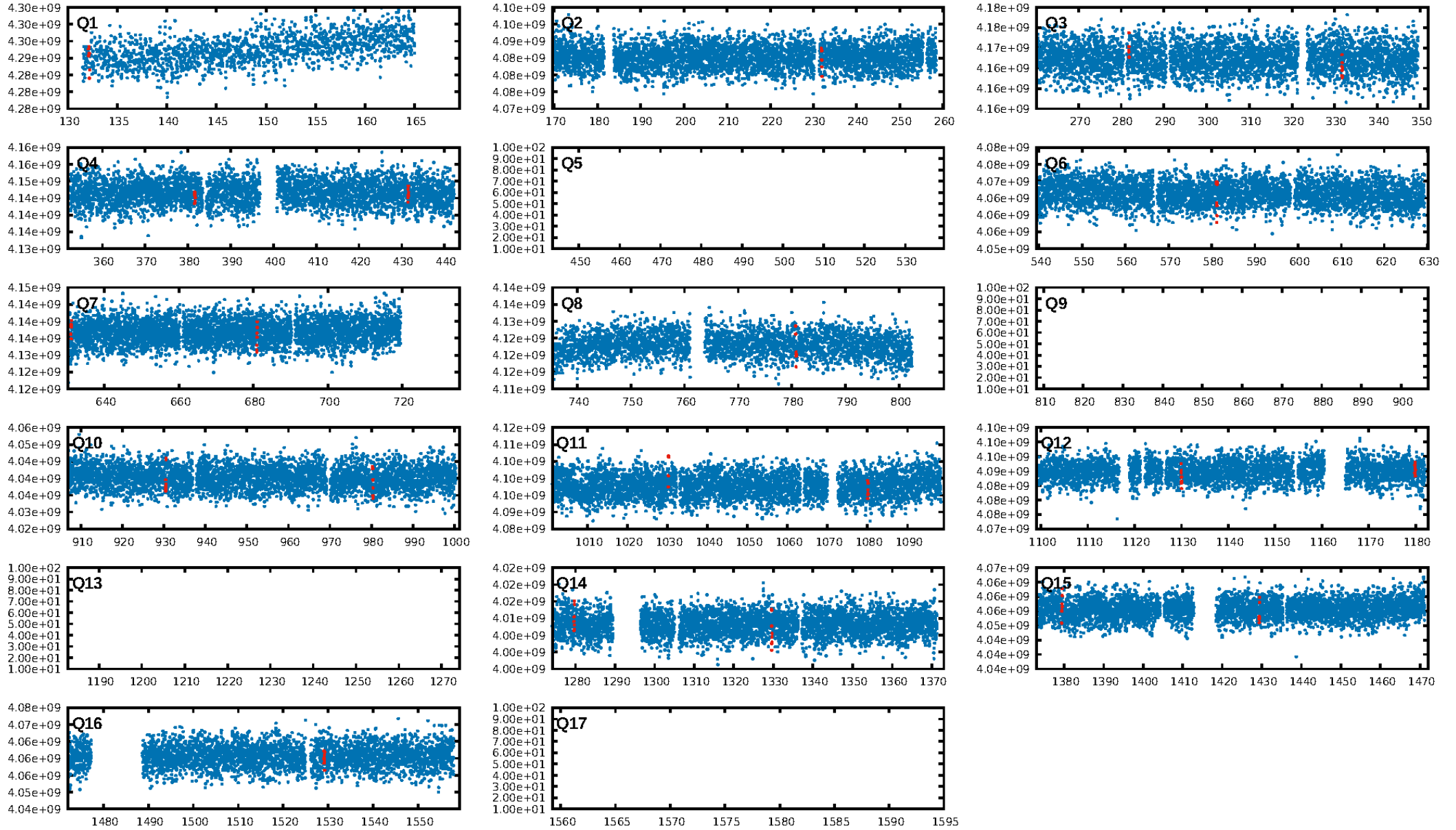
ShortPeriod-sig: 100.0% [203.62σ]  
LongPeriod-sig: 100.0% [210.58σ]  
ModelChiSquare2-sig: 80.8%  
ModelChiSquareGof-sig: 98.1%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 43.0%  
Centroid-so: 0.708 arcsec [4.05σ]  
OotOffset-rm: 5.180 arcsec [4.29σ]  
KicOffset-rm: 5.037 arcsec [3.84σ]  
OotOffset-st: 3/3/4/1 [11]  
KicOffset-st: 3/3/4/1 [11]  
DiffImageQuality-fgm: 0.00 [0/11]  
DiffImageOverlap-fno: 0.00 [0/12]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:24:00 Z

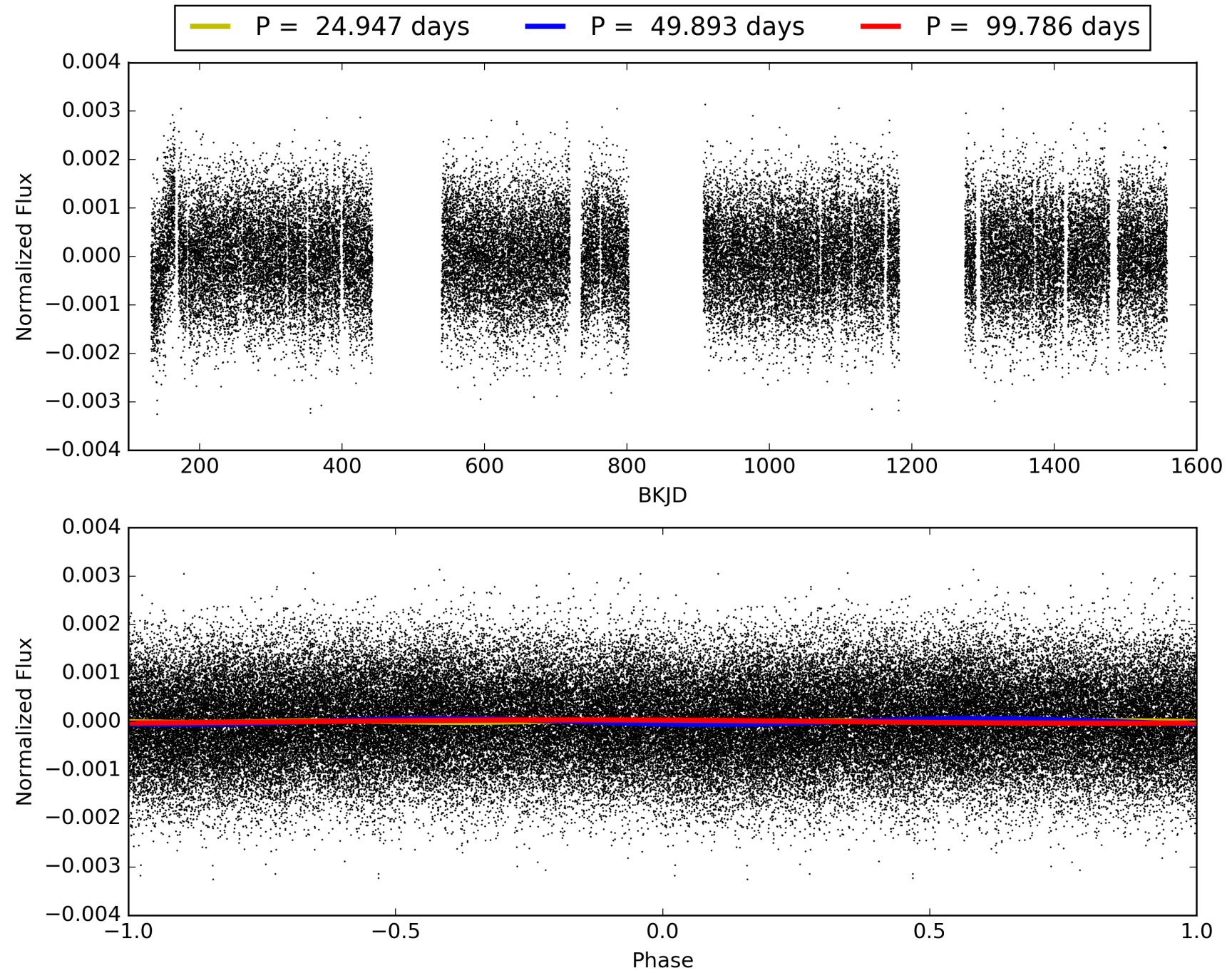
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 006756481-05, PDC Light Curves

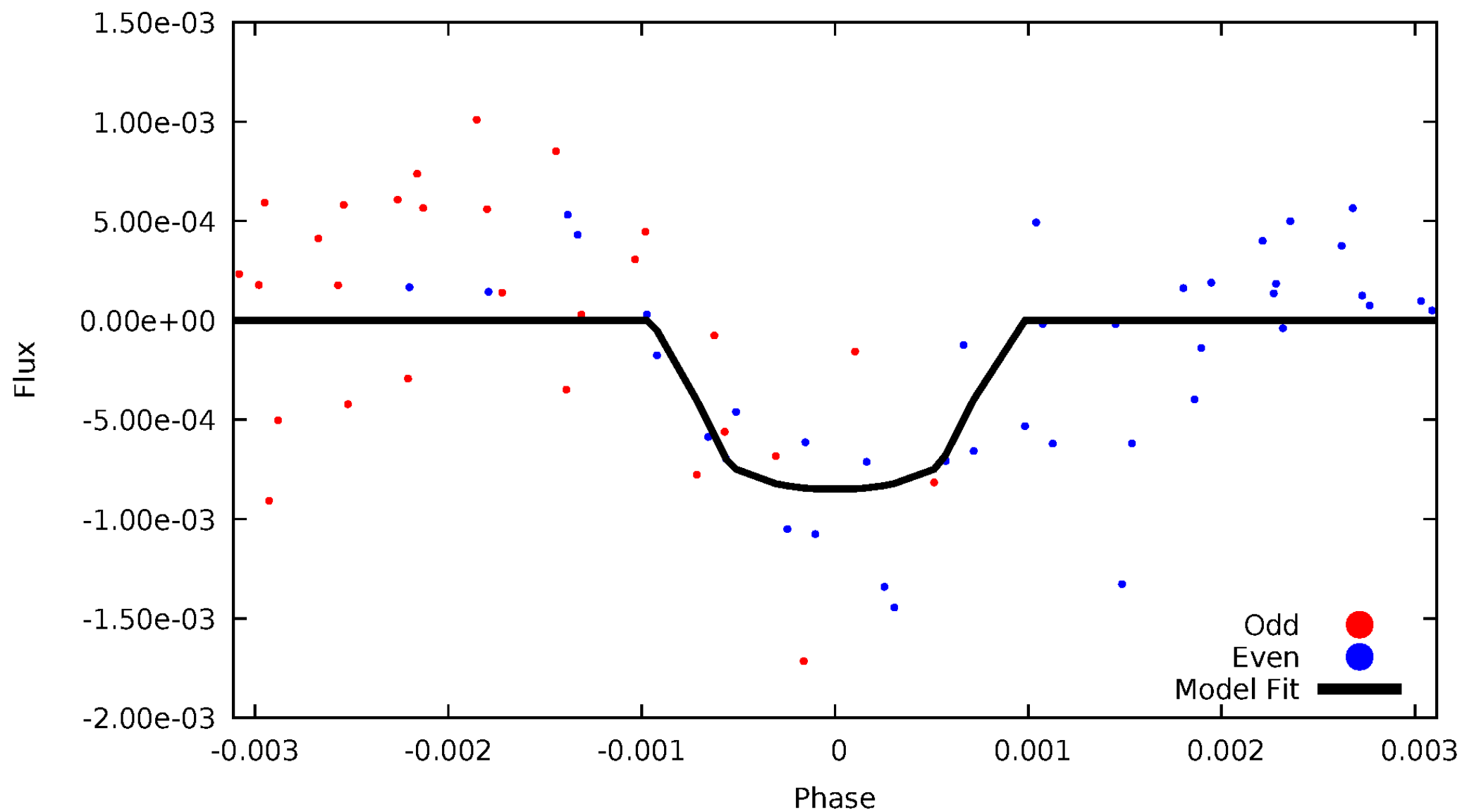


TCE 006756481-05



# DV Odd/Even

TCE 006756481-05



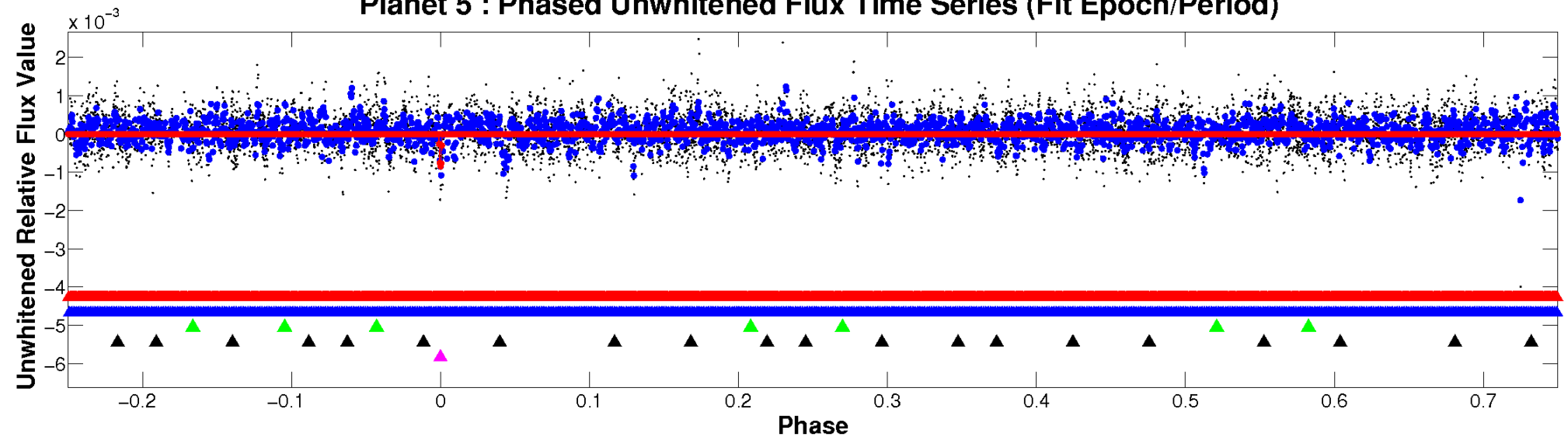


ALT Odd/Even

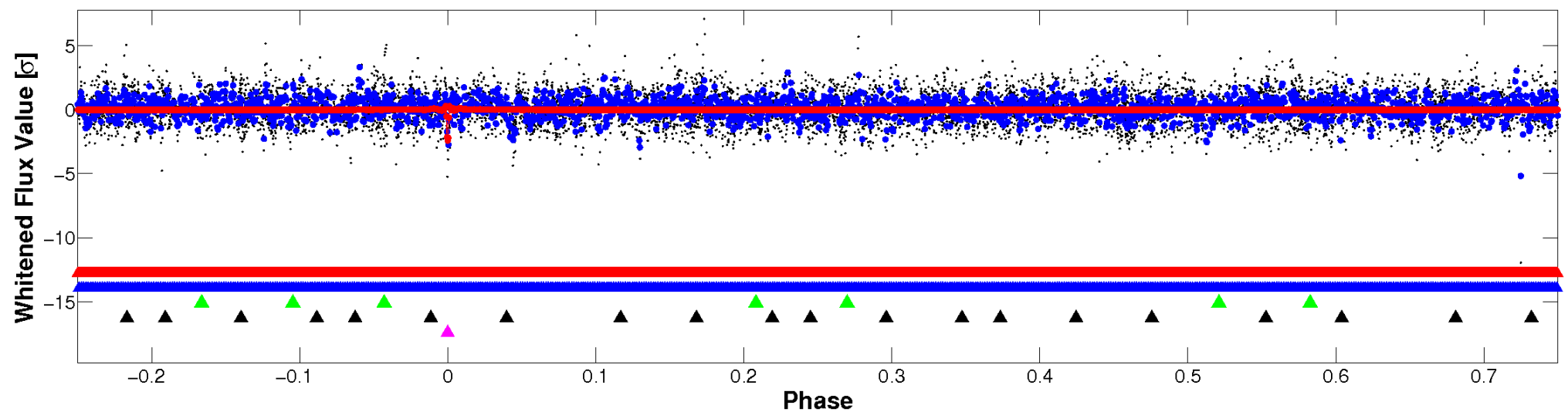
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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



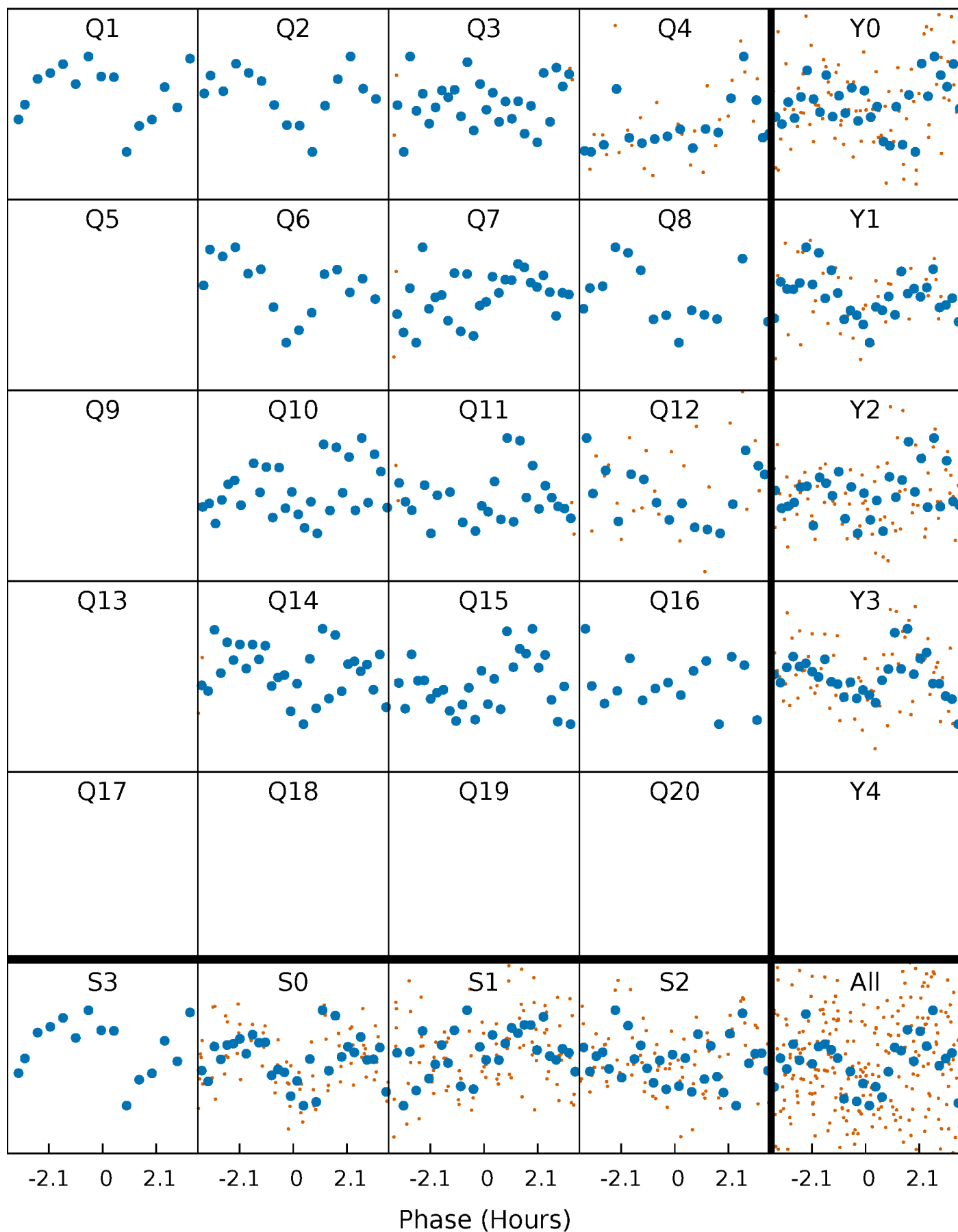
Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)





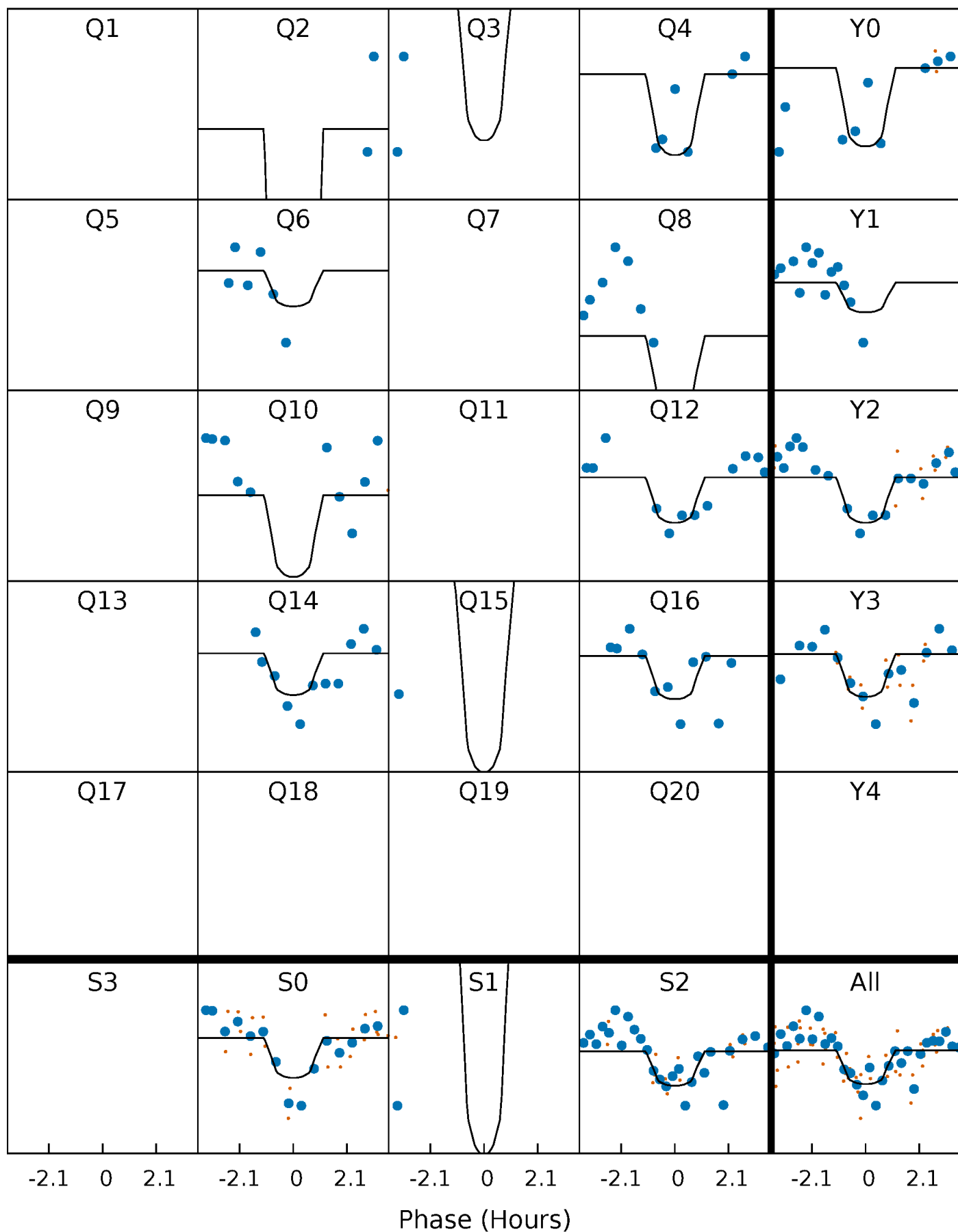
# PDC Quarter-Phased Transit Curves

TCE 006756481-05   P= 49.893201 Days    $T_0=132.145318$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 006756481-05   P= 49.893201 Days    $T_0=132.145318$  (BKJD)

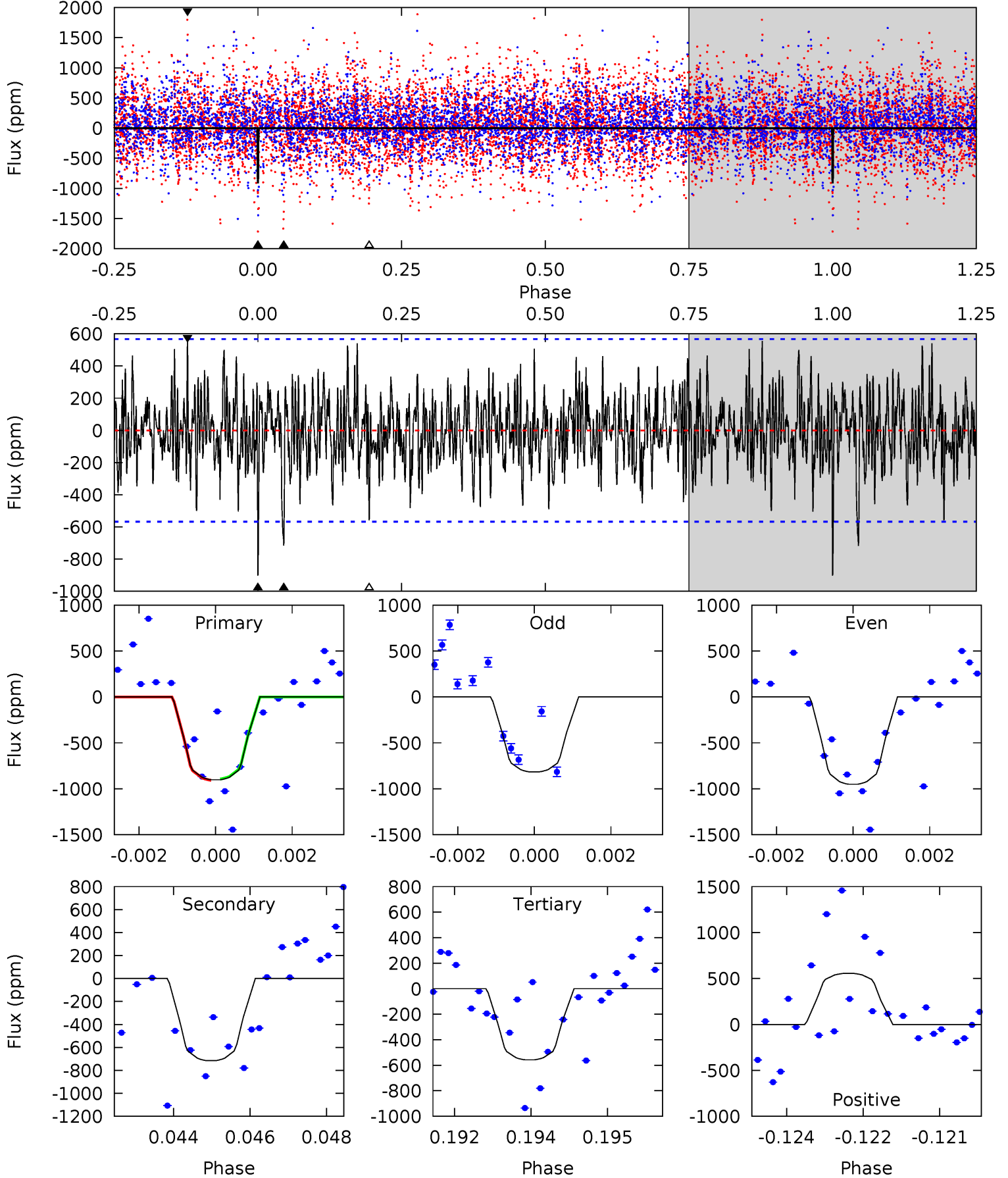


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

006756481-05, P = 49.893201 Days, E = 82.252117 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
8.51	6.75	5.26	5.24	5.36	3.14	1.72	3.25	3.27	1.49	1.51	0.60	1.07	0.38	0.06



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 006756481

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7545^{+210}_{-341}$	$3.579^{+0.531}_{-0.059}$	$-0.120^{+0.200}_{-0.300}$	$3.838^{+0.513}_{-2.053}$	$2.040^{+0.201}_{-0.562}$	$0.051^{+0.331}_{-0.010}$
	+3%/-5%	+15%/-2%	+167%/-250%	+13%/-53%	+10%/-28%	+651%/-20%
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 006756481-05 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-715 \pm 106$	$14.81^{+15.17}_{-10.29}$	$1487^{+120}_{-186}$	$5897^{+6104}_{-1463}$	$203^{+1907}_{-157}$
Alt.	N/A	N/A	N/A	N/A	N/A

$T_{max}$  = 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

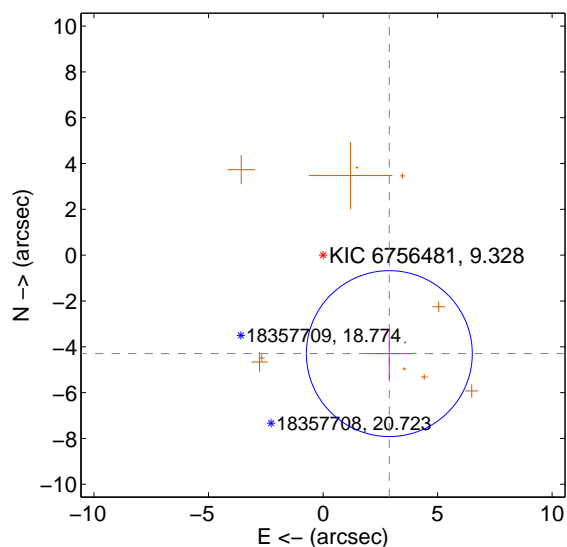
Supplemental centroid analysis for 006756481-05. **Kepler magnitude: 9.33.** Transit SNR 8.52

**There are 0 quarters with good PRF difference image offsets**

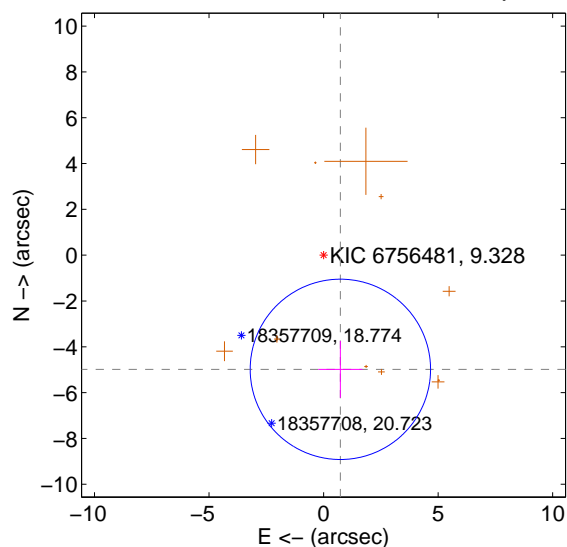
The direct PRF centroid is offset from the target star catalog position by about 0.80 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>5.180 \pm 1.207</math></b>	<b>4.29</b>	$-2.894 \pm 0.985$	$-4.297 \pm 1.113$
PRF-fit source offset from KIC position	<b><math>5.037 \pm 1.312</math></b>	<b>3.84</b>	$-0.733 \pm 0.965$	$-4.984 \pm 1.242$
photometric centroid source offset	<b><math>0.71 \pm 0.17</math></b>	<b>4.05</b>	$0.47 \pm 0.20$	$0.53 \pm 0.15$

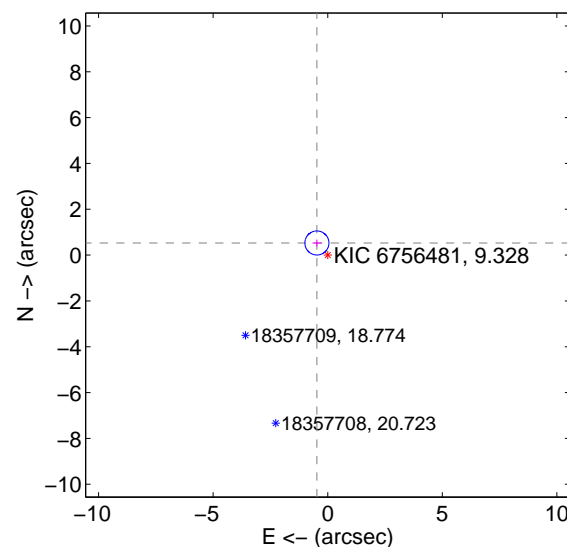
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

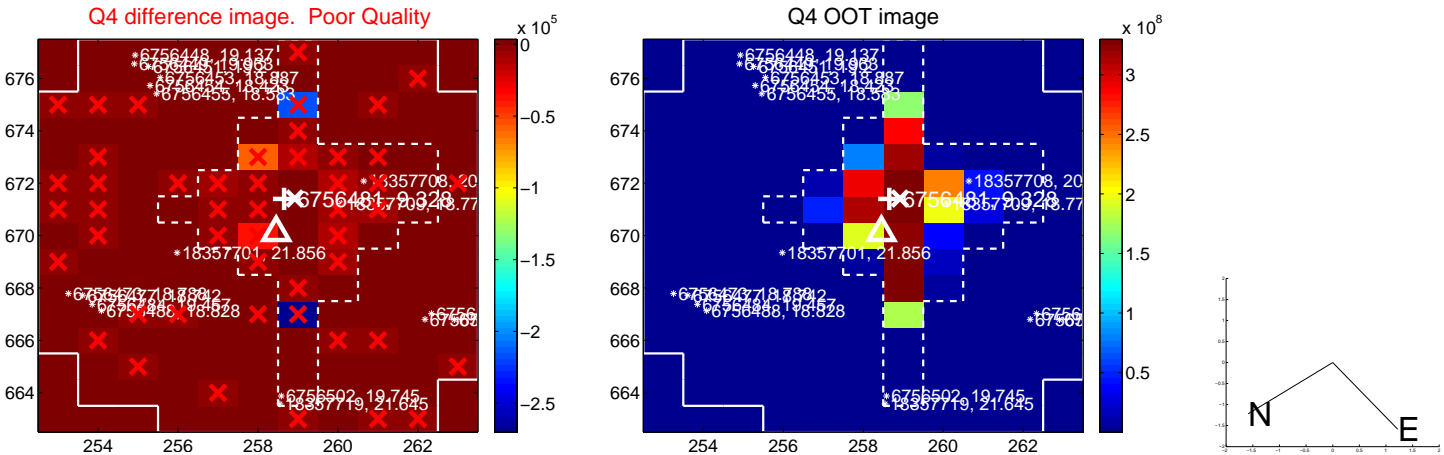
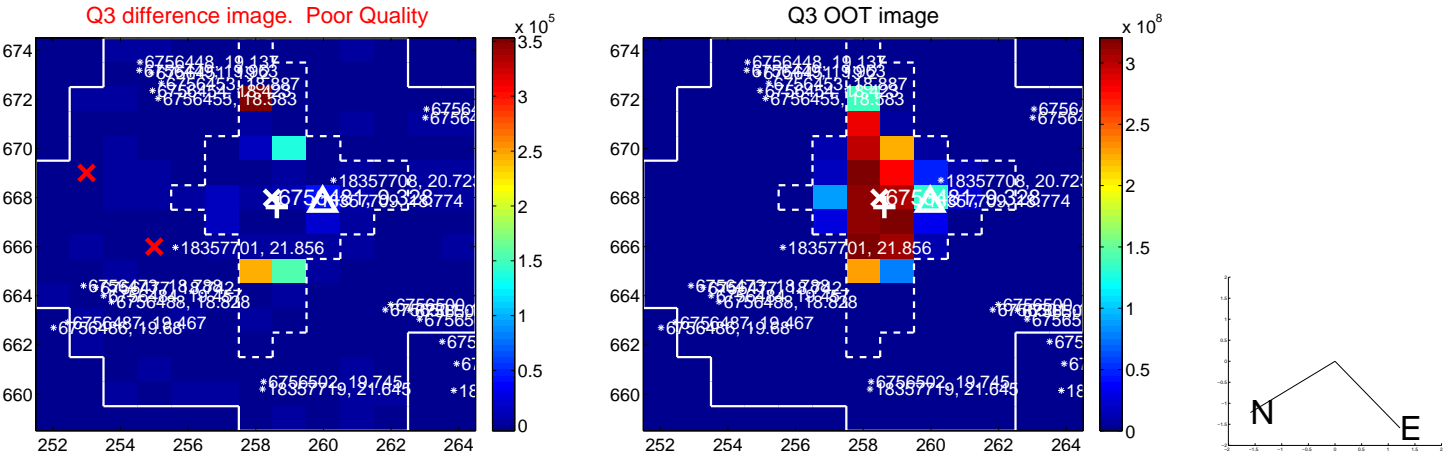
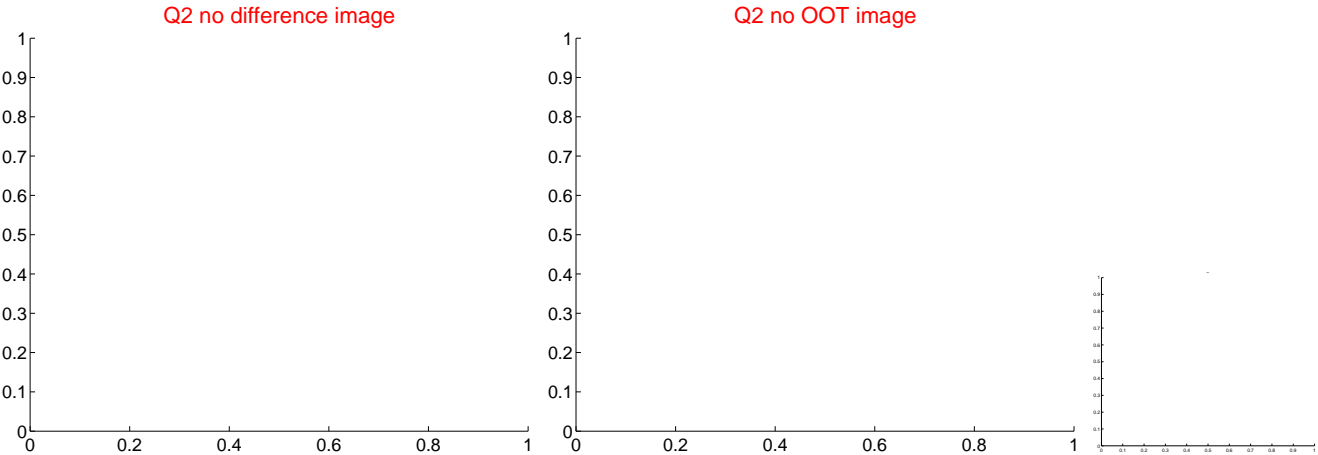
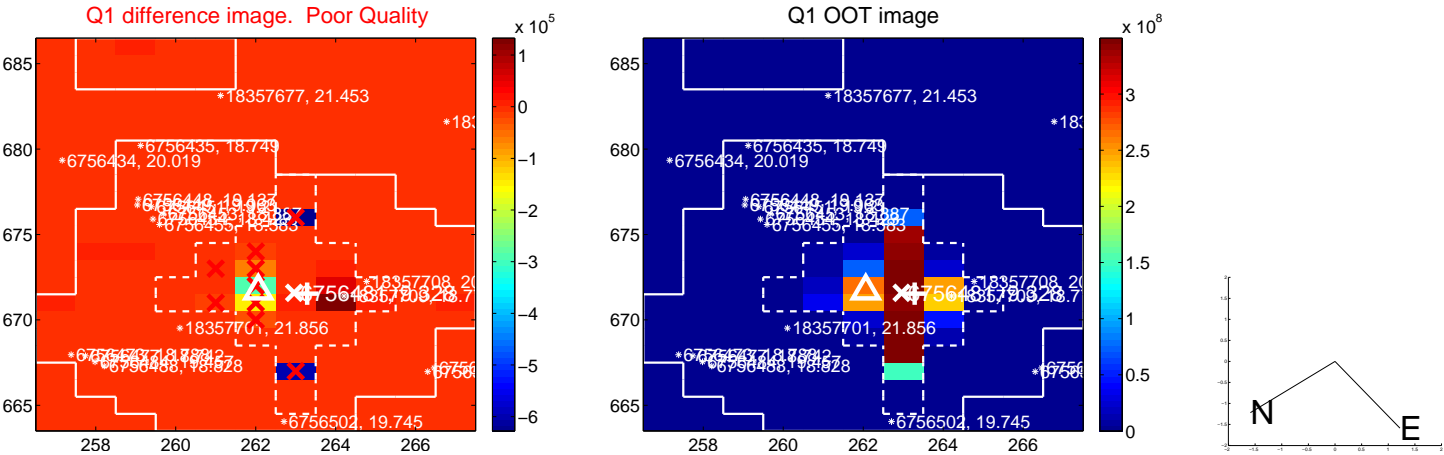


offset from photometric centroids



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

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



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

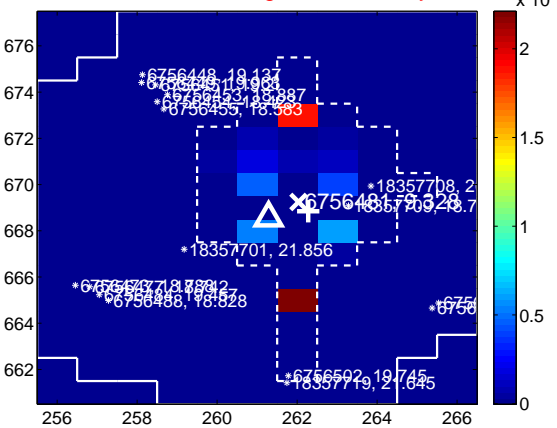
Q5 no difference image



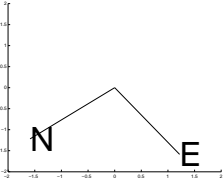
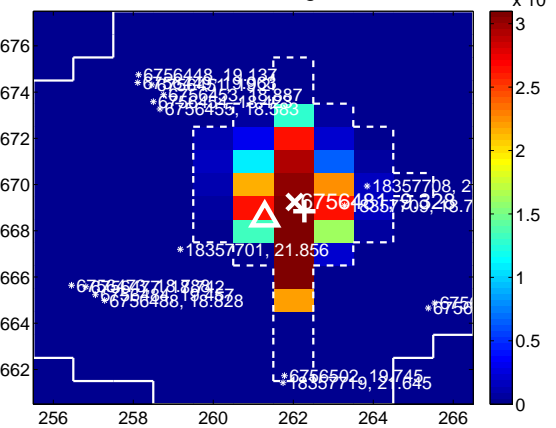
Q5 no OOT image



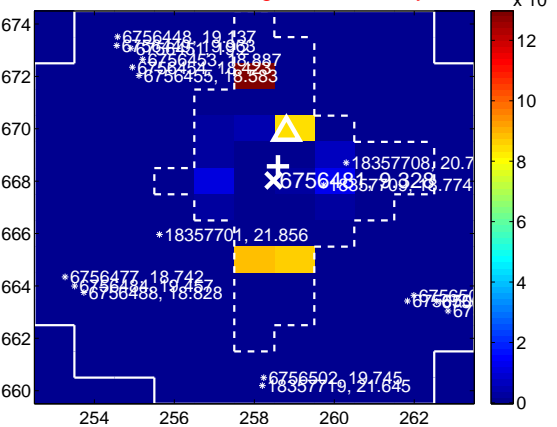
Q6 difference image. Poor Quality



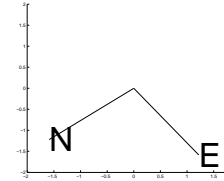
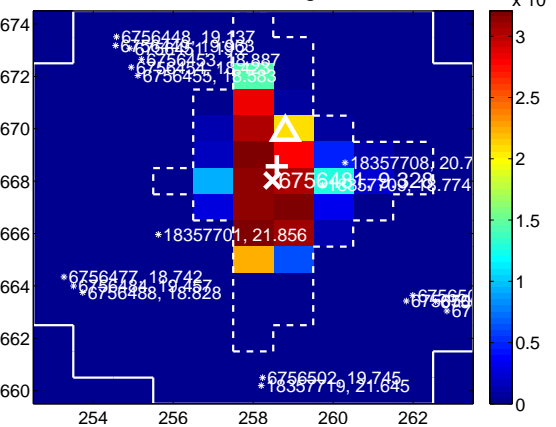
Q6 OOT image



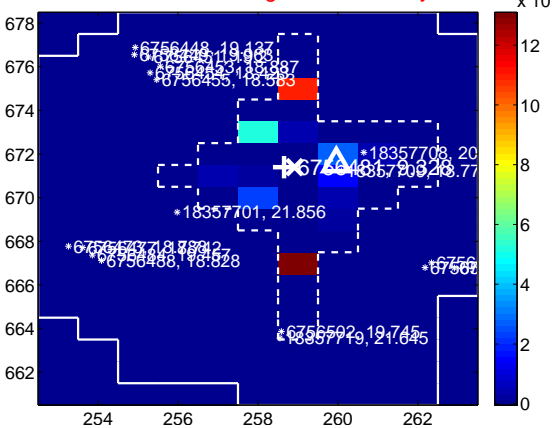
Q7 difference image. Poor Quality



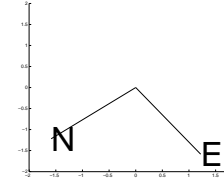
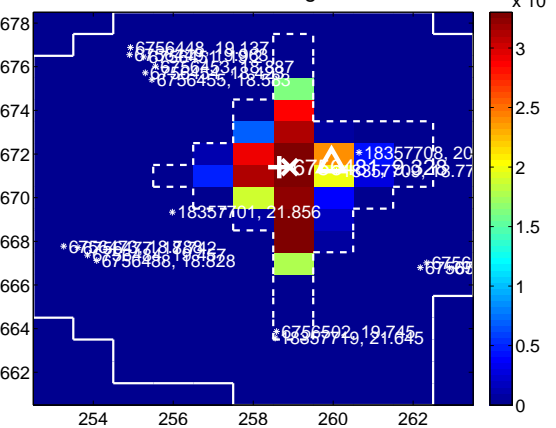
Q7 OOT image



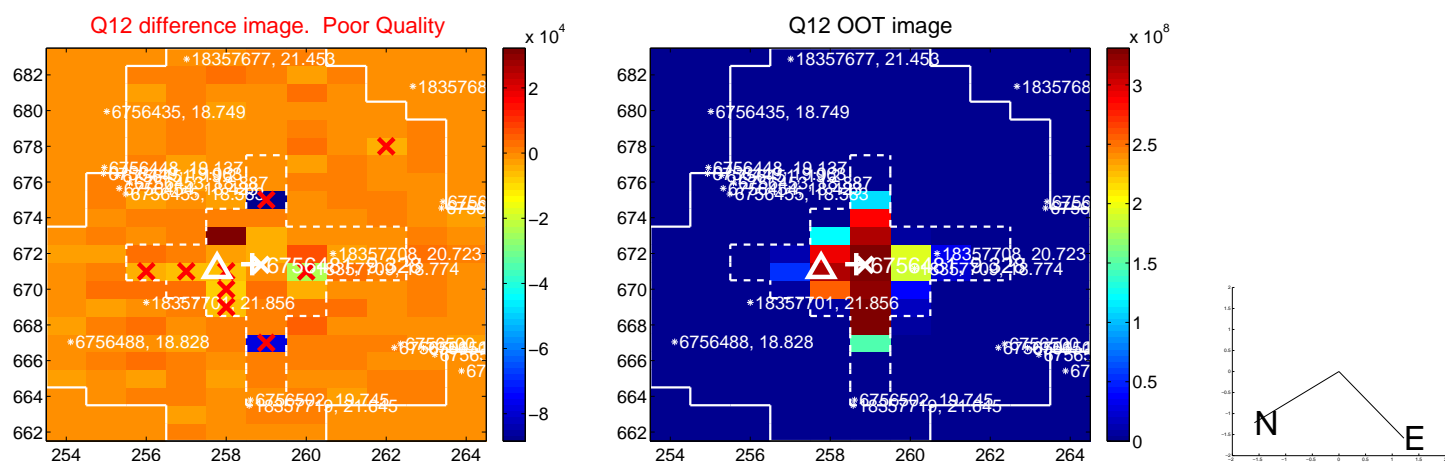
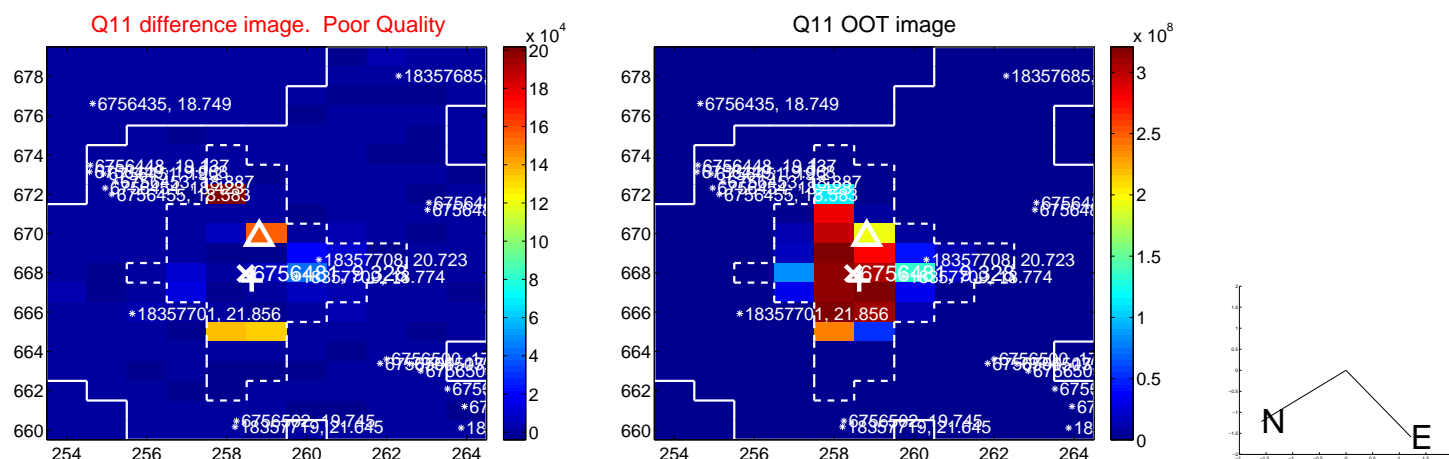
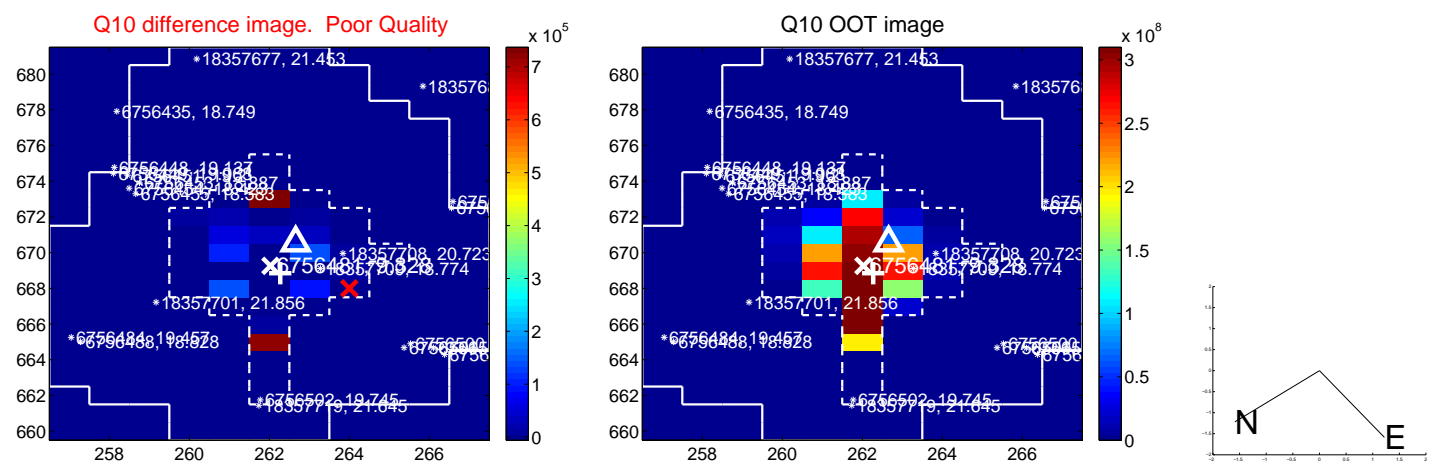
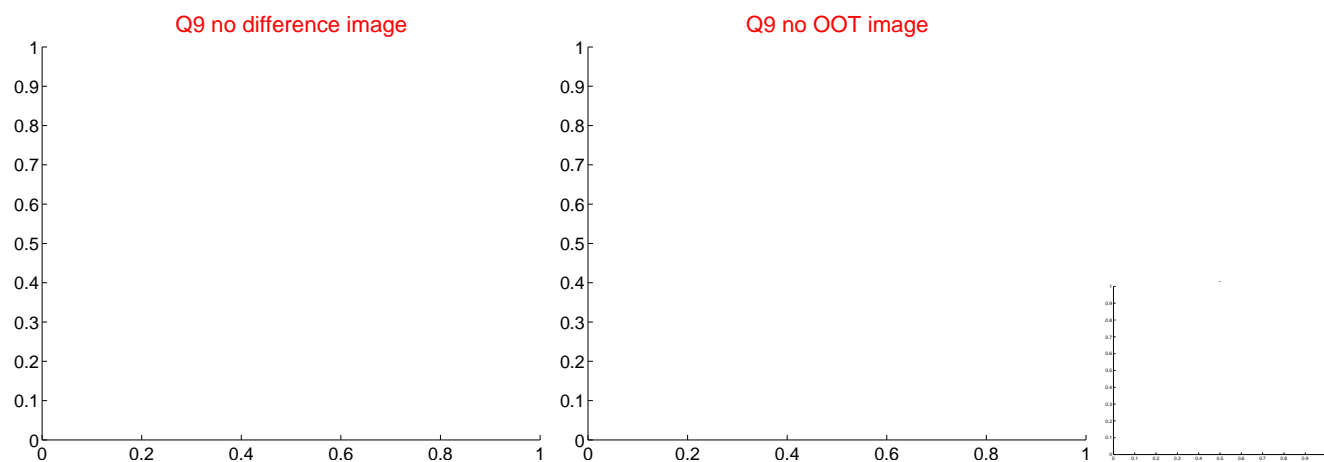
Q8 difference image. Poor Quality



Q8 OOT image



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

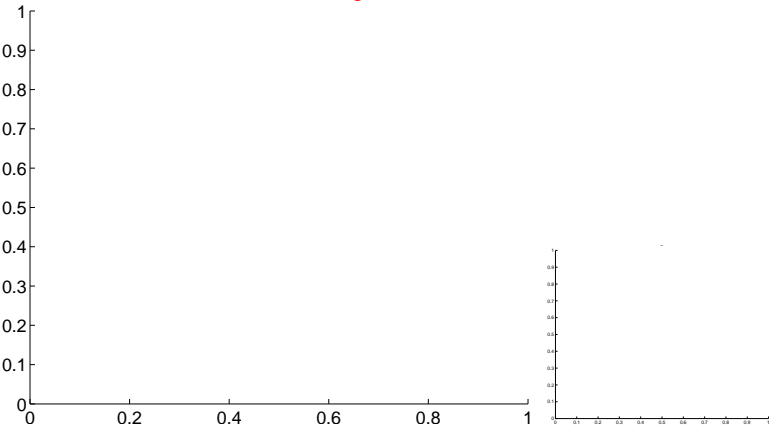


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

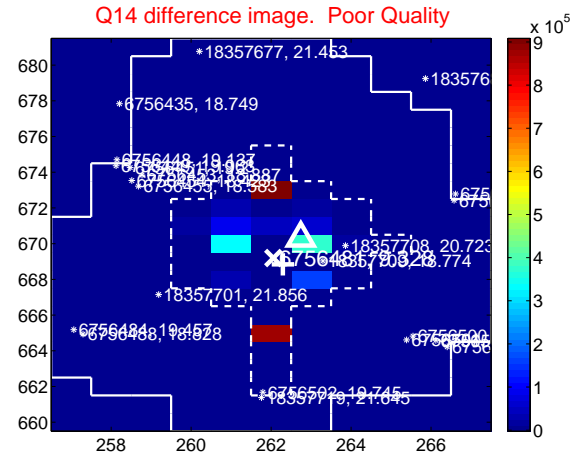
Q13 no difference image



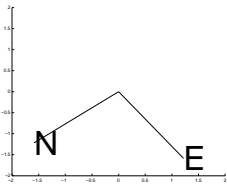
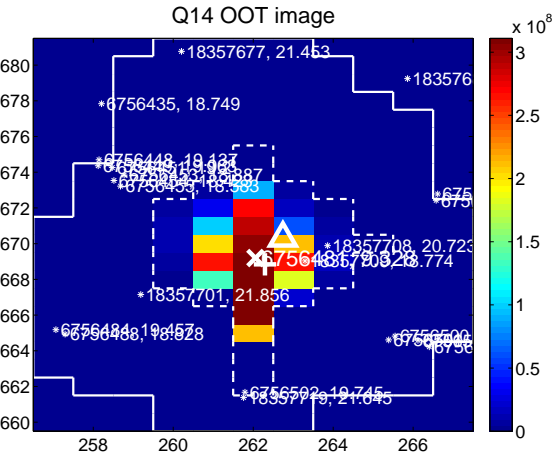
Q13 no OOT image



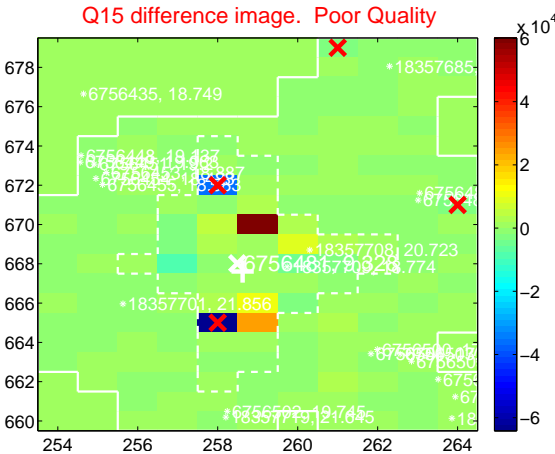
Q14 difference image. Poor Quality



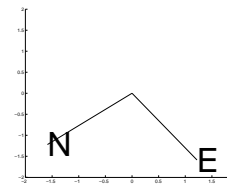
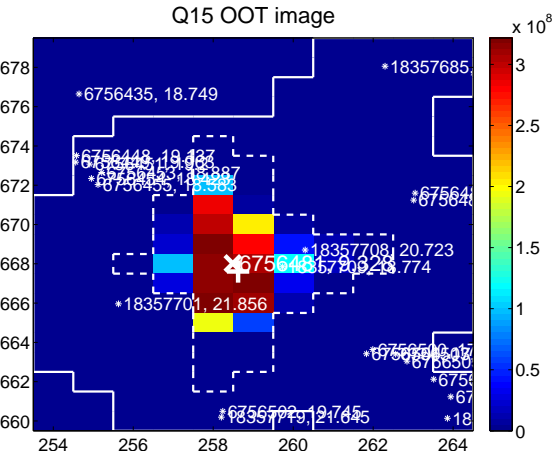
Q14 OOT image



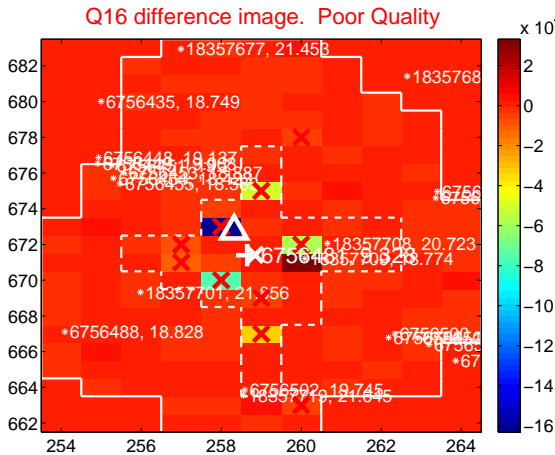
Q15 difference image. Poor Quality



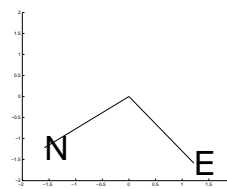
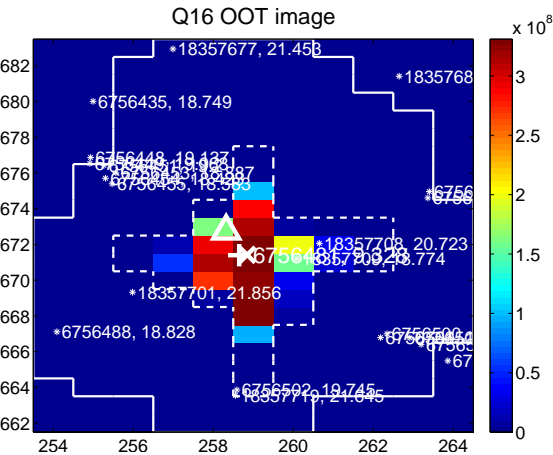
Q15 OOT image



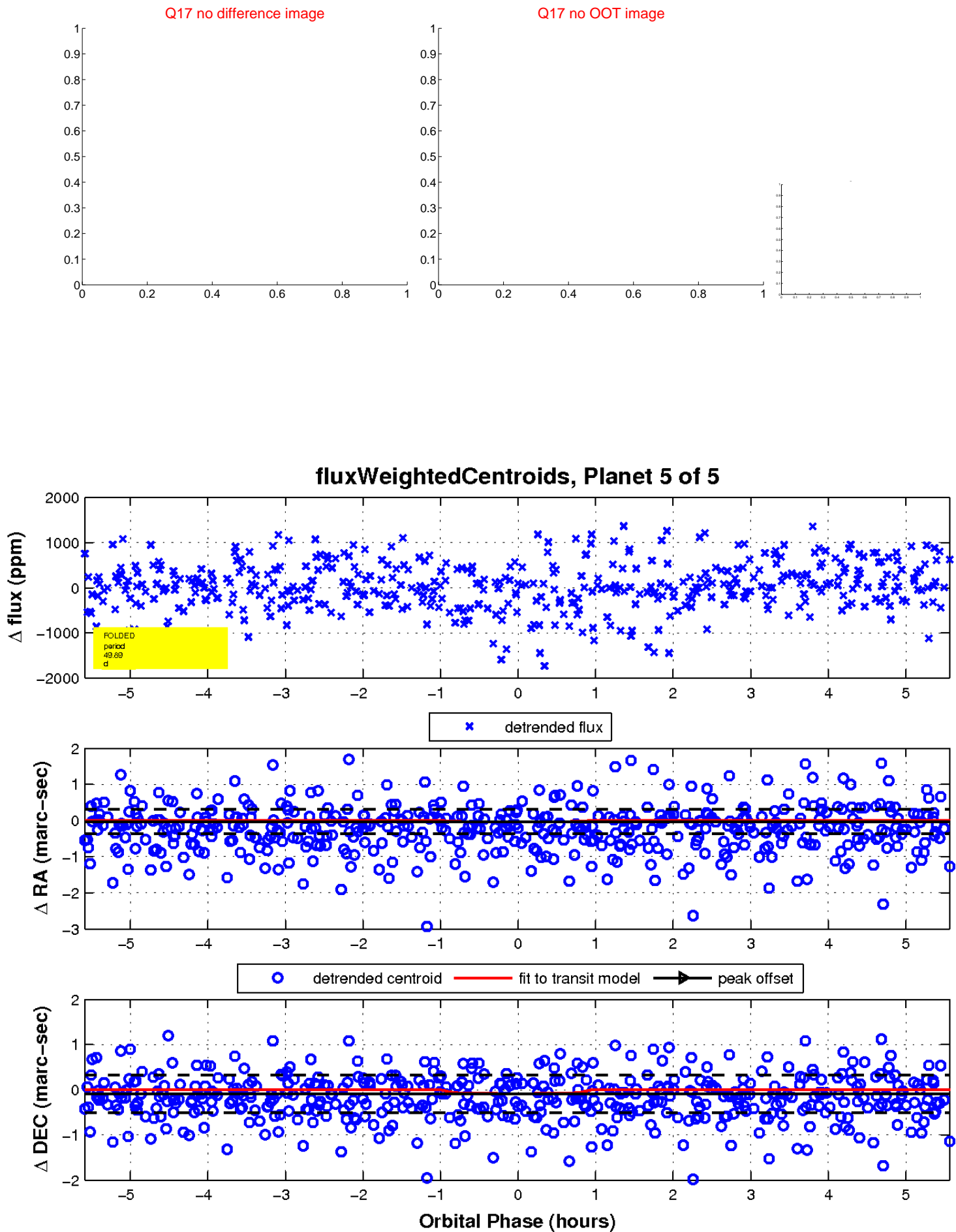
Q16 difference image. Poor Quality



Q16 OOT image



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





UKIRT Image

