

# KIC 006466443

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006466443-01	OBS	No	0.647579	132.070199	0.0	4.765	10.8	0.0	3.41	6675	0.04	69739.51
006466443-02	OBS	No	10.892093	139.104250	80.8	1.289	13.3	6.4	3.41	6675	3.39	1618.28
006466443-03	OBS	No	8.799226	138.436663	102.9	0.658	12.0	4.4	3.41	6675	4.73	2150.85
006466443-04	OBS	No	12.842290	136.795782	128.8	2.047	11.0	6.5	3.41	6675	3.94	1299.21
006466443-05	OBS	No	16.721478	137.833472	262.3	1.045	11.5	13.3	3.41	6675	6.44	913.77
006466443-06	OBS	No	10.280990	134.541853	269.9	0.658	11.0	8.1	3.41	6675	5.76	1747.79
006466443-07	OBS	No	10.156096	133.940544	210.1	1.714	12.4	13.8	3.41	6675	5.04	1776.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006466443-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_FEW_DIFFS
006466443-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006466443-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006466443-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV
006466443-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
006466443-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006466443-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

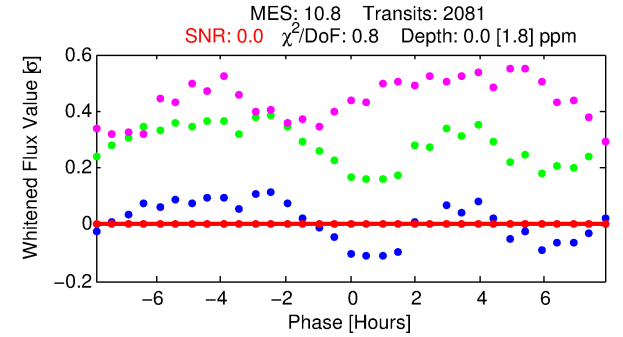
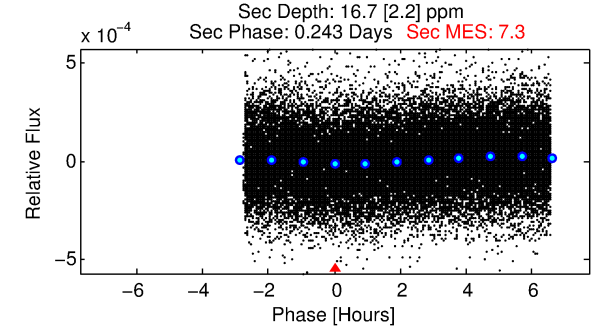
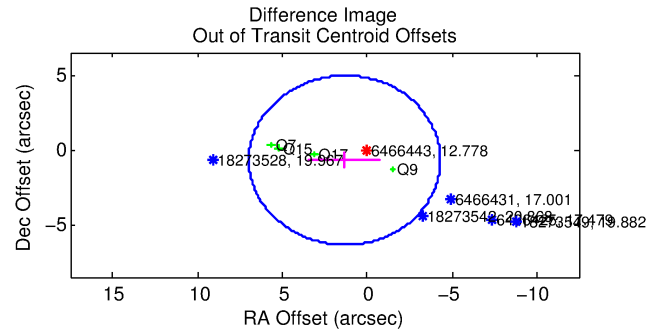
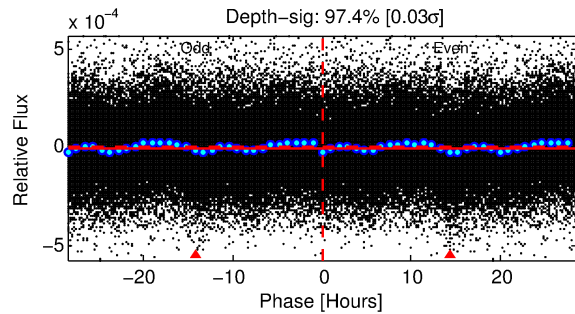
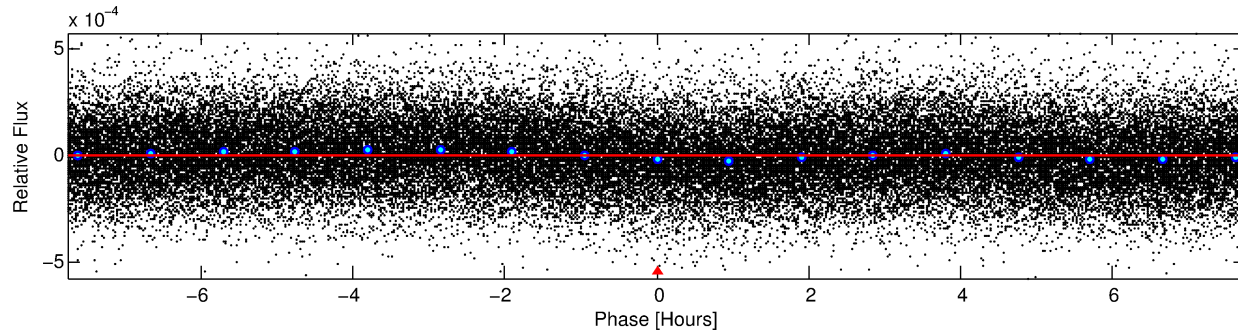
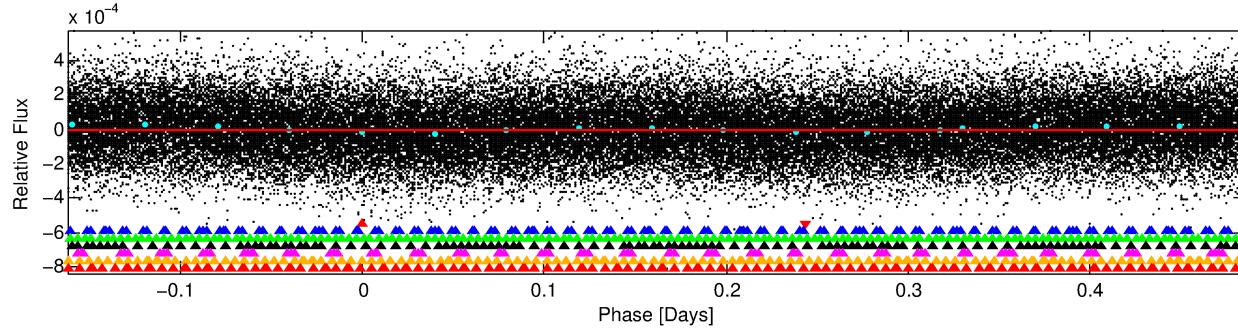
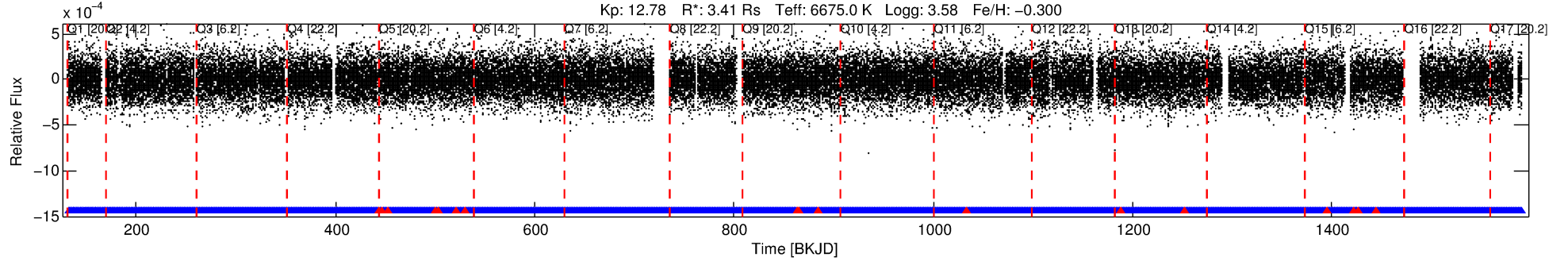
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006466443-01

No Significant Match Found

# DV One-Page Summary

KIC: 6466443 Candidate: 1 of 7 Period: 0.648 d



## DV Fit Results:

Period = 0.64758 [0.01182] d  
Epoch = 132.0702 [3.8822] BKJD  
Rp/R\* = 0.0001 [0.0068]  
a/R\* = 1.16 [15.63]  
b = 0.54 [74.34]  
Seff = 69739.51 [41254.31]  
Teq = 4144 [613] K  
Rp = 0.04 [2.53] Re  
a = 0.0172 [0.0062] AU  
Ag = 1364.55 [155028.42] [0.01σ]  
Teffp = 38939 [1106075] K [0.03σ]

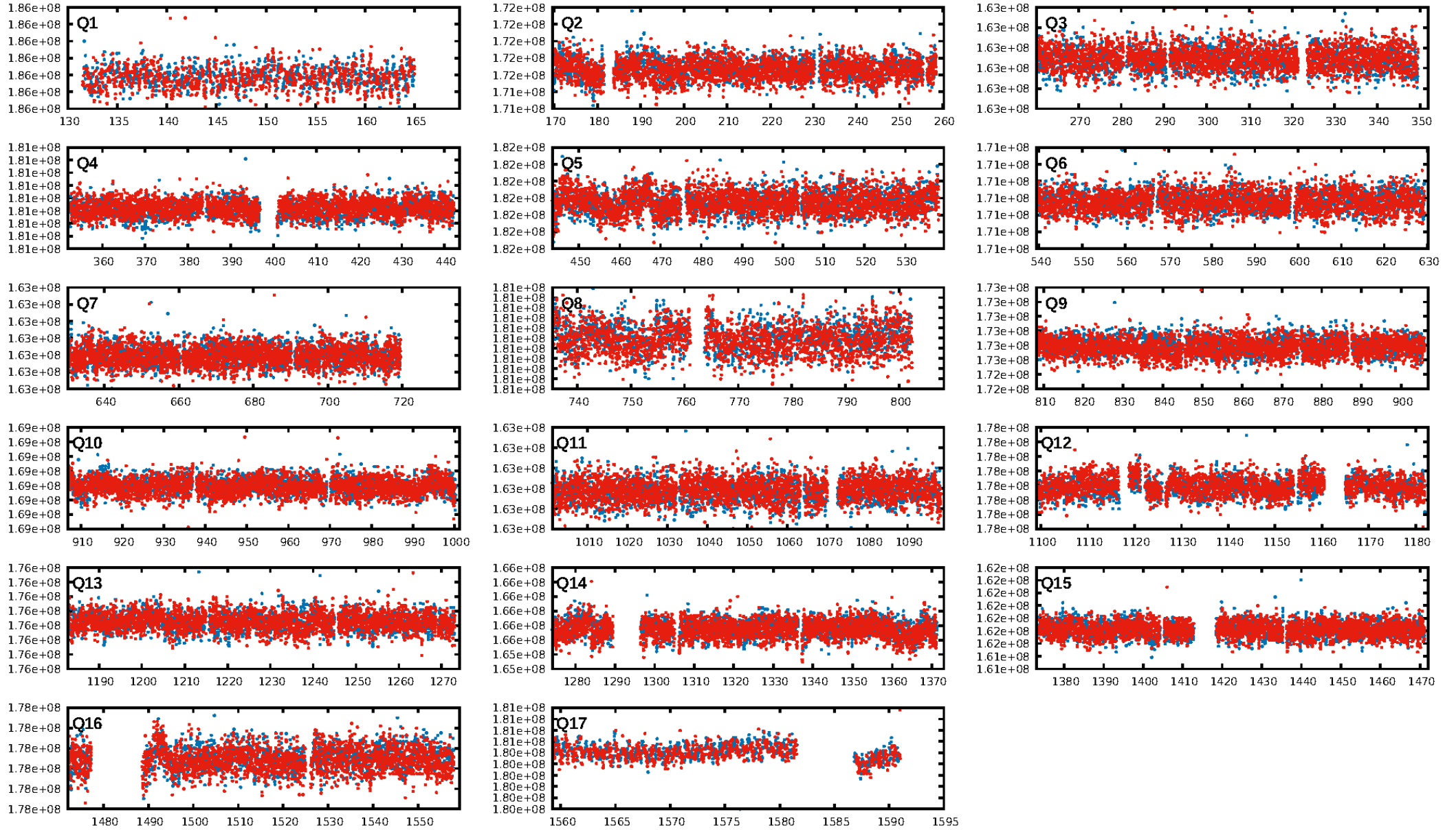
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [40.67σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.42e-18  
RollingBand-fgt: 0.99 [1970/1987]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 1.496 arcsec [0.80σ]  
KicOffset-rm: 1.336 arcsec [0.72σ]  
OotOffset-st: 0/2/0/2 [4]  
KicOffset-st: 0/2/0/2 [4]  
DiffImageQuality-fgm: 0.25 [1/4]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:13:35 Z

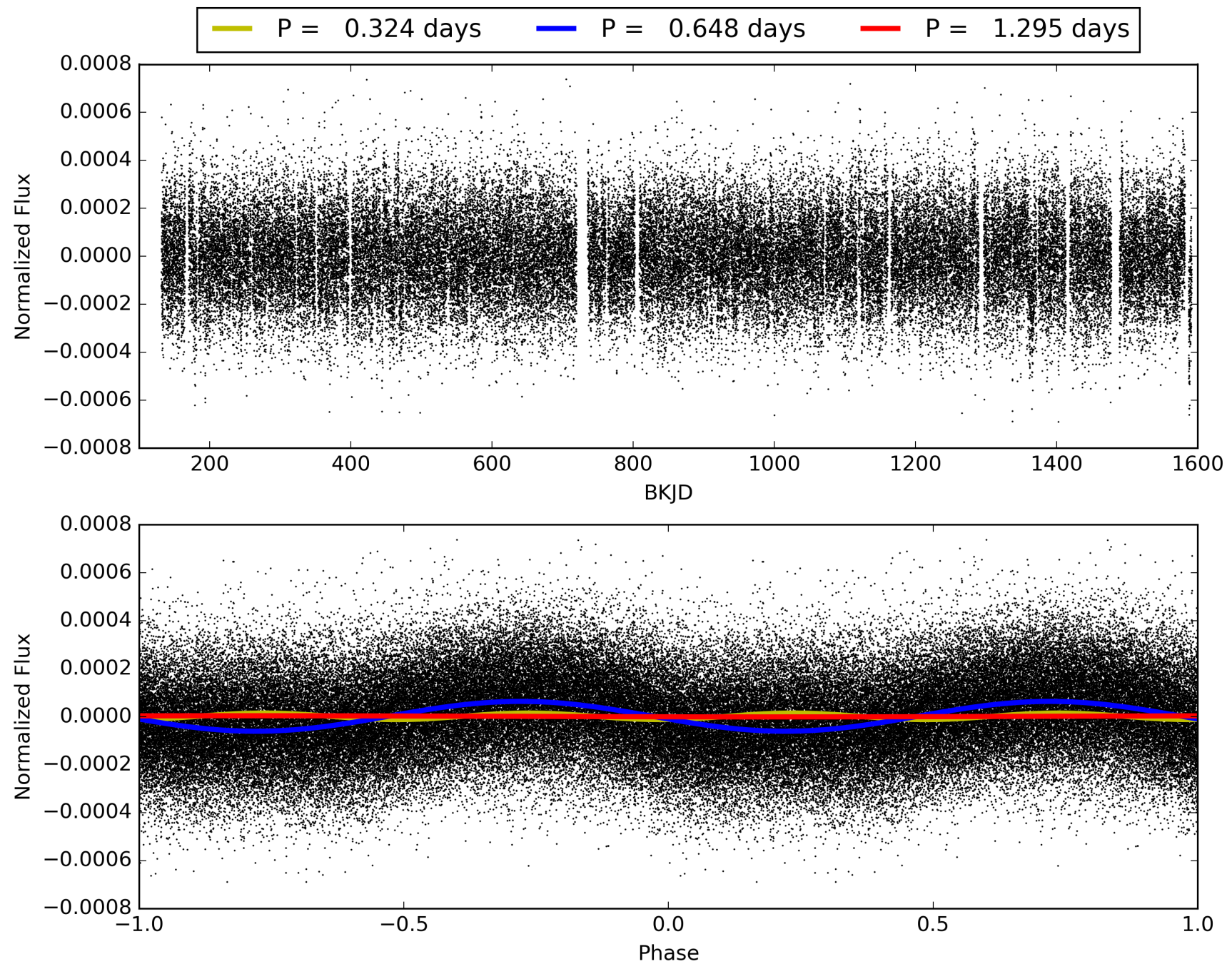
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006466443-01, PDC Light Curves





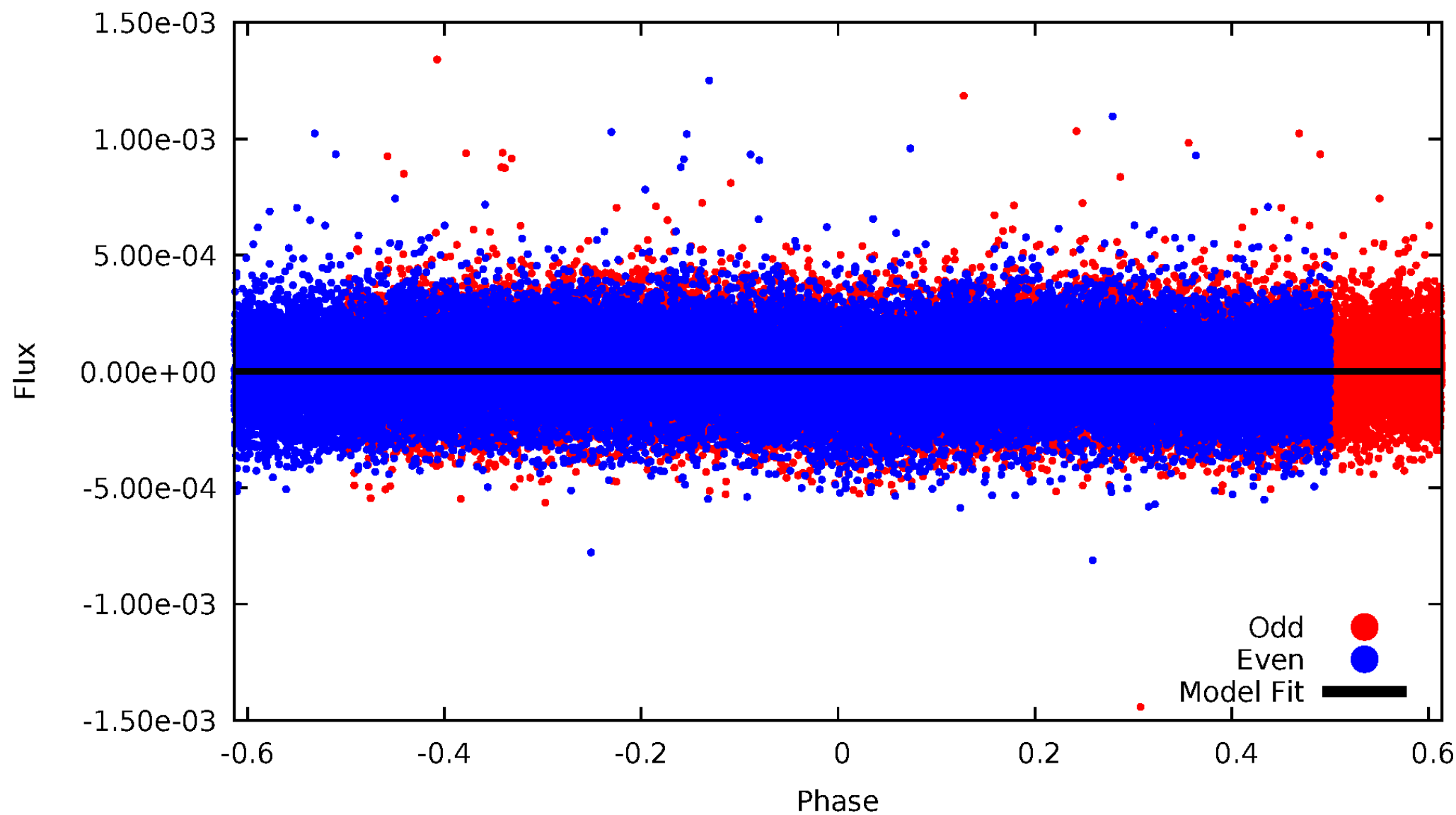
TCE 006466443-01





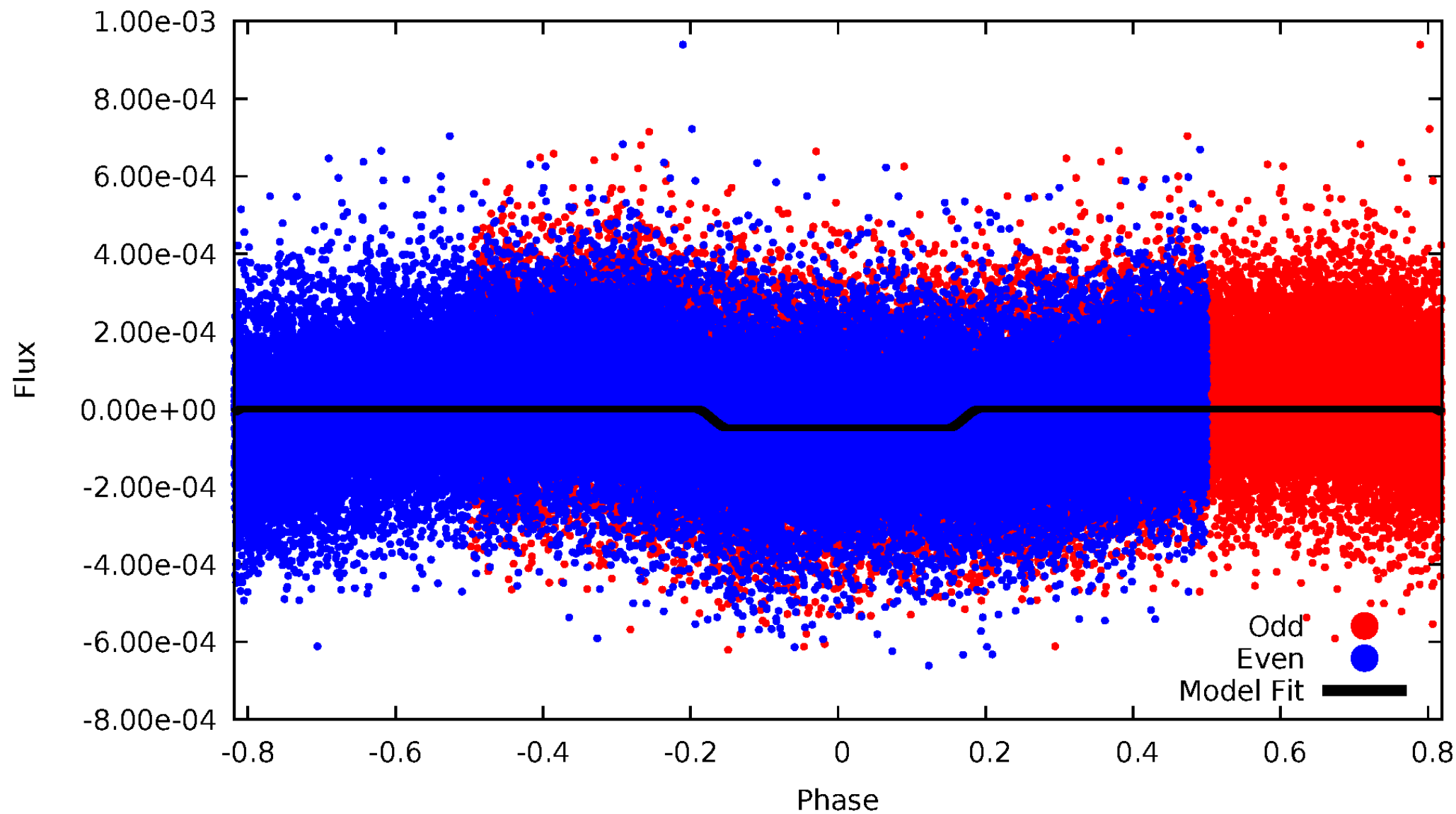
# DV Odd/Even

TCE 006466443-01

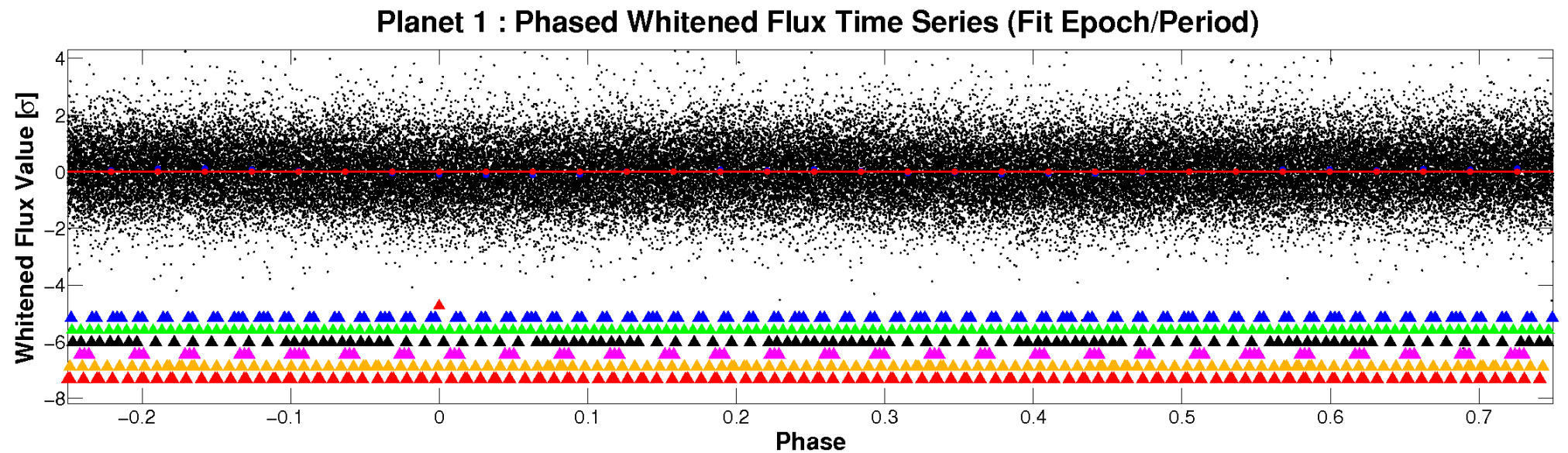
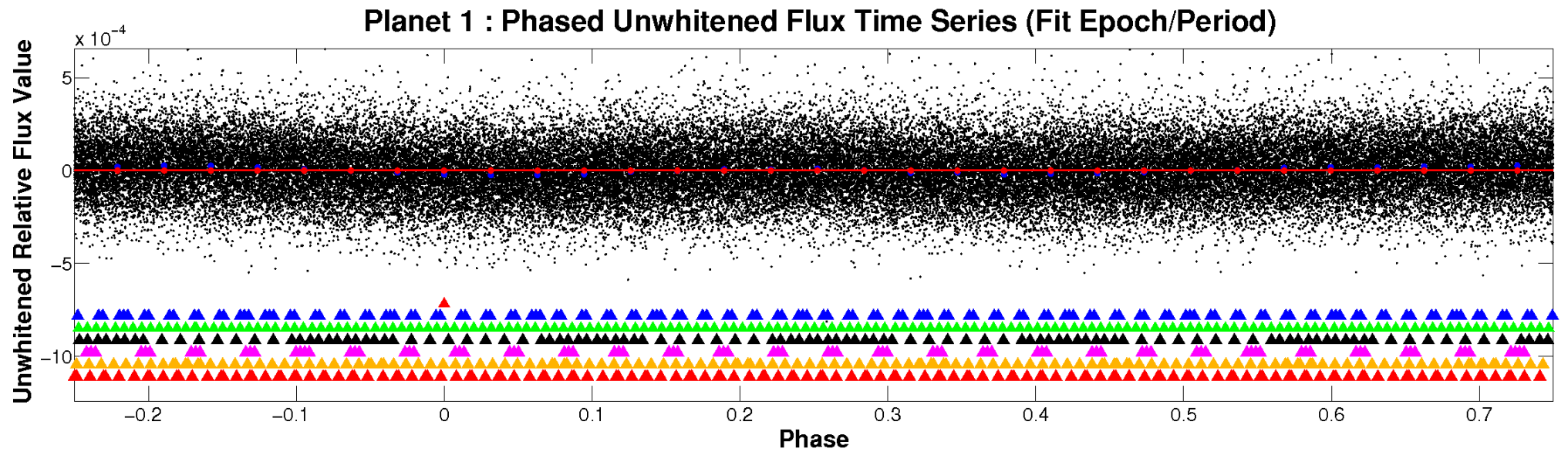


# ALT Odd/Even

TCE 006466443-01



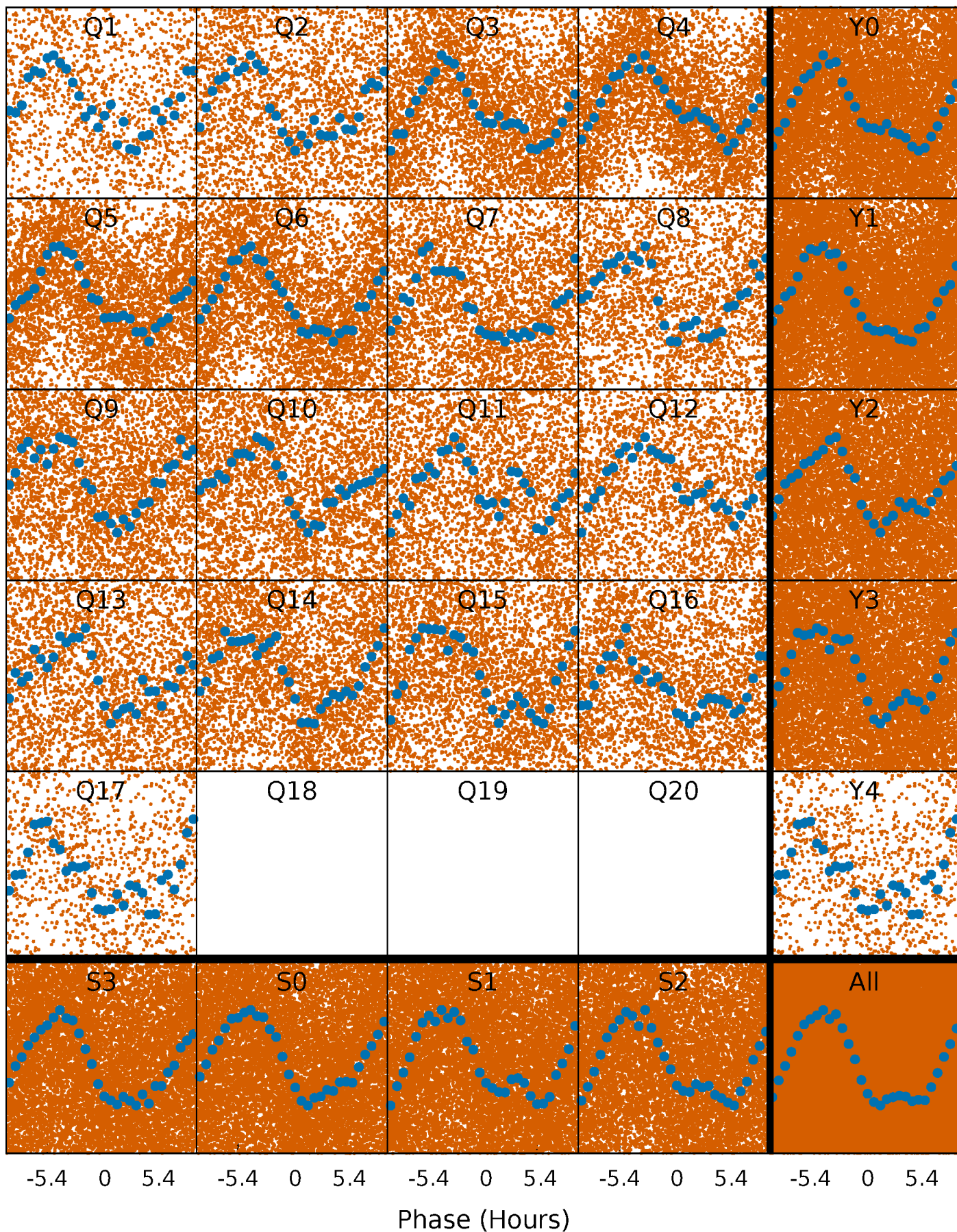
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

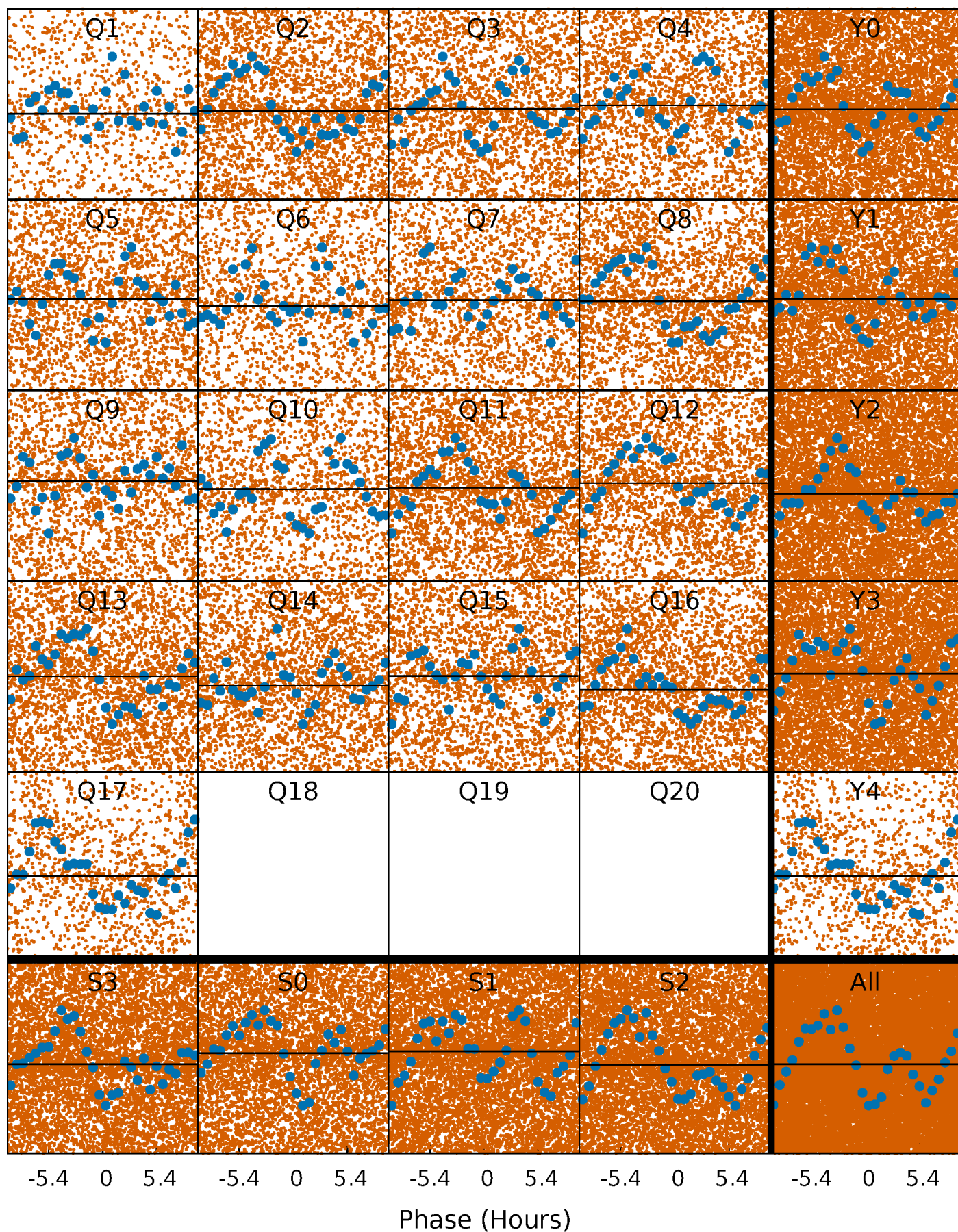
TCE 006466443-01   P= 0.647579 Days    $T_0=132.070199$  (BKJD)





# DV Quarter-Phased Transit Curves

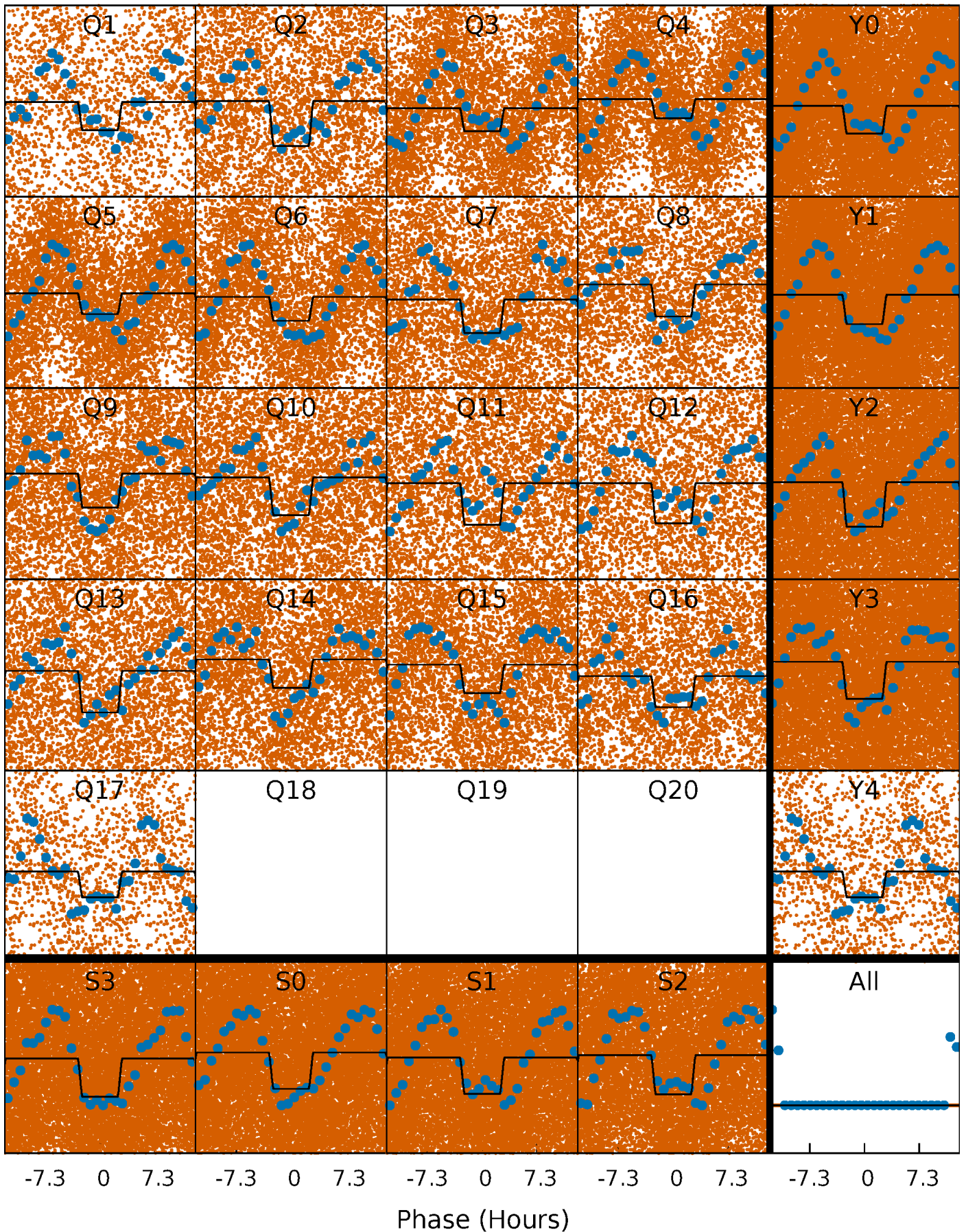
TCE 006466443-01 P= 0.647579 Days  $T_0=132.070199$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 006466443-01 P= 0.647618 Days  $T_0=132.117301$  (BKJD)

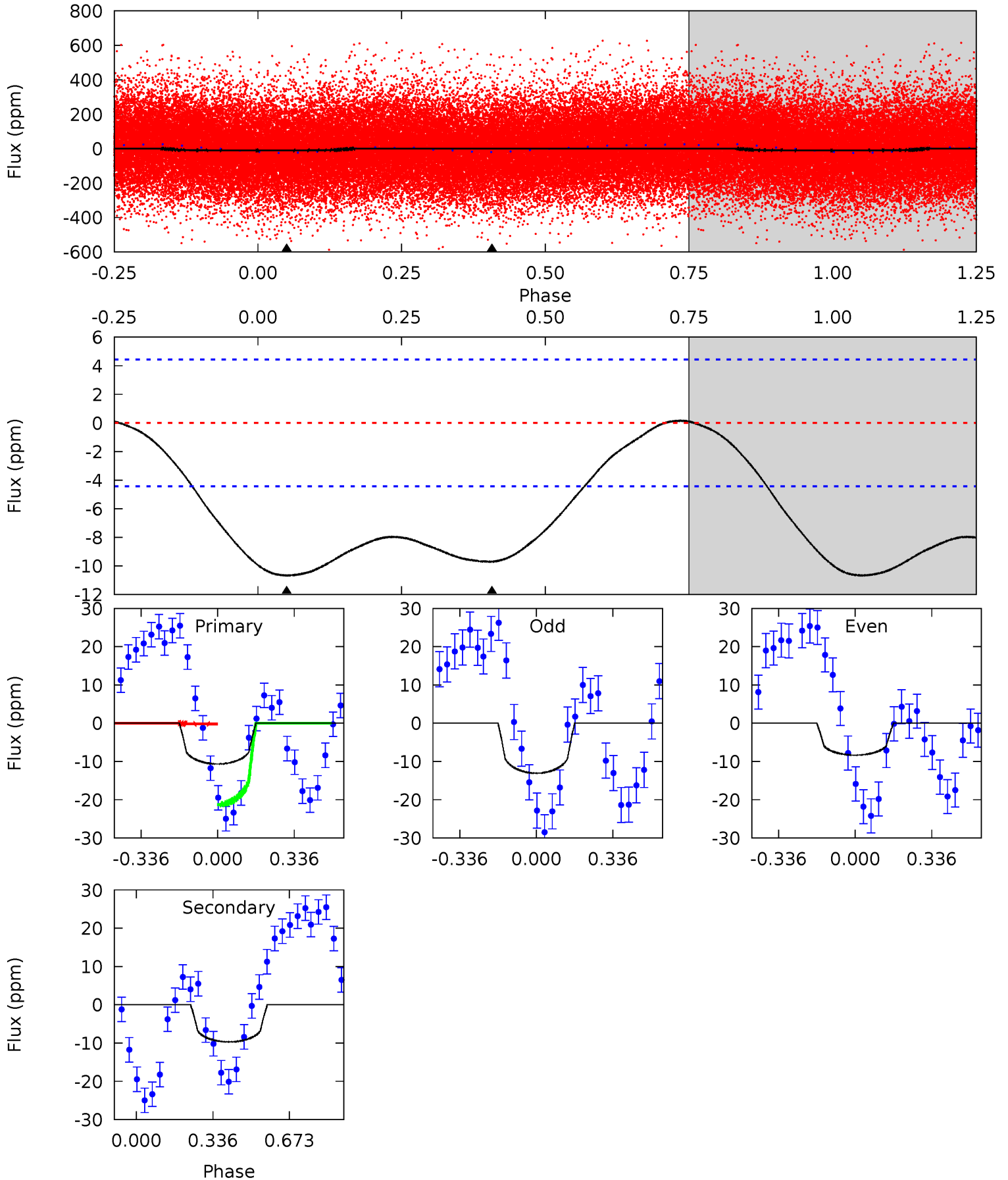




# DV Model-Shift Uniqueness Test

006466443-01, P = 0.647579 Days, E = 131.422620 Days

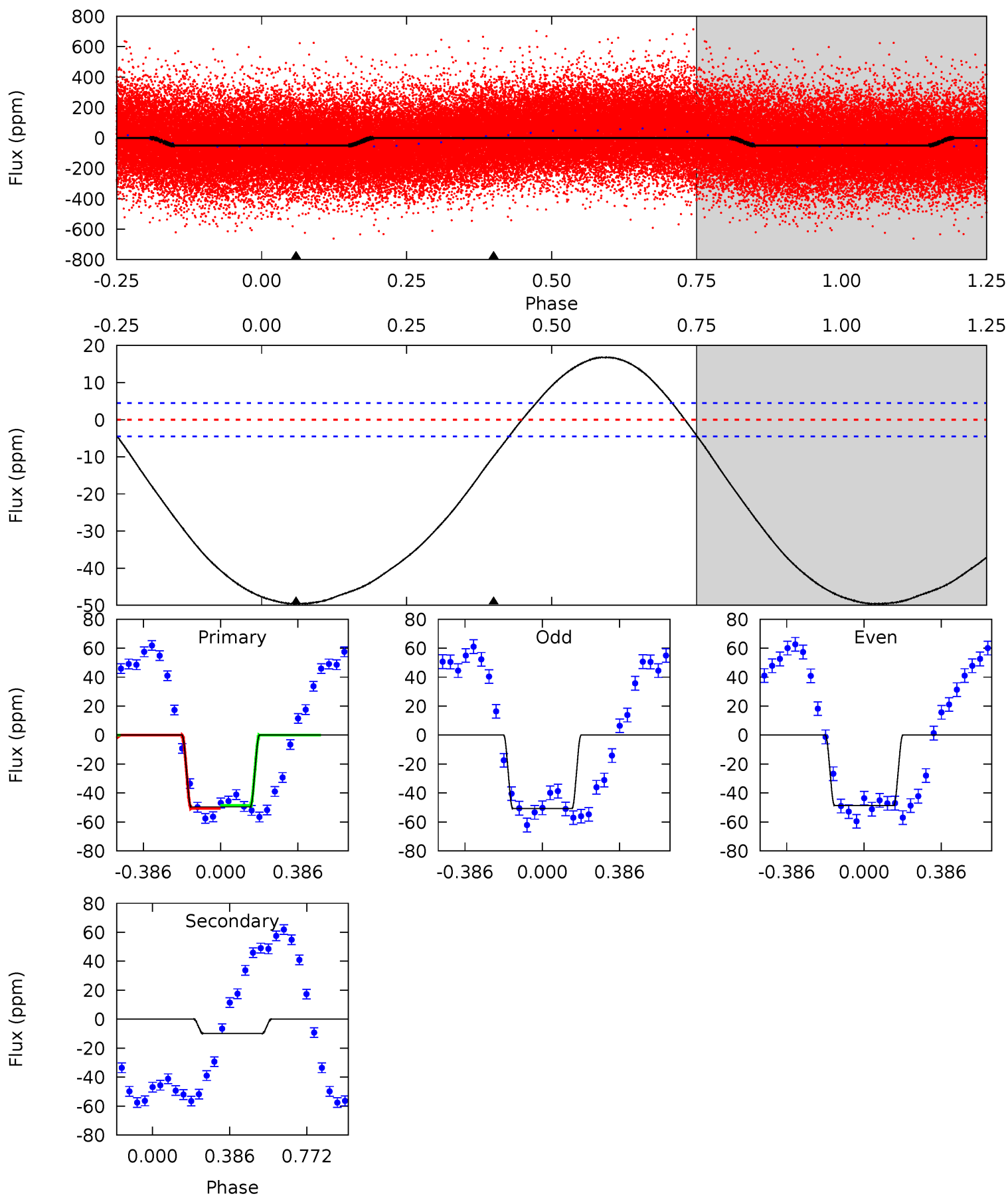
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	9.42	0	0	4.30	0.96	0.20	10.3	10.3	9.42	9.42	2.30	0.94	0.01	10.4



# Alt Model-Shift Uniqueness Test

006466443-01, P = 0.647618 Days, E = 131.469683 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
47.2	9.41	0	0	4.27	0.87	5.86	47.2	47.2	9.41	9.41	1.04	1.02	0.25	1.02



### Stellar Parameters For KIC 006466443

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6675^{+212}_{-236}$	$3.583^{+0.336}_{-0.105}$	$-0.300^{+0.350}_{-0.250}$	$3.410^{+0.429}_{-1.287}$	$1.626^{+0.243}_{-0.364}$	$0.058^{+0.139}_{-0.015}$
	+3%/-4%	+9%/-3%	+117%/-83%	+13%/-38%	+15%/-22%	+241%/-26%
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 006466443-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-10 \pm 1$	$1.58^{+1.75}_{-1.05}$	$5683^{+385}_{-555}$	$4762^{+5619}_{-8955}$	$0.628^{+5.607}_{-0.489}$
Alt.	$-10 \pm 1$	$2.73^{+2.32}_{-1.65}$	$5686^{+350}_{-493}$	$-3680^{+9898}_{-920}$	$0.215^{+1.172}_{-0.151}$

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



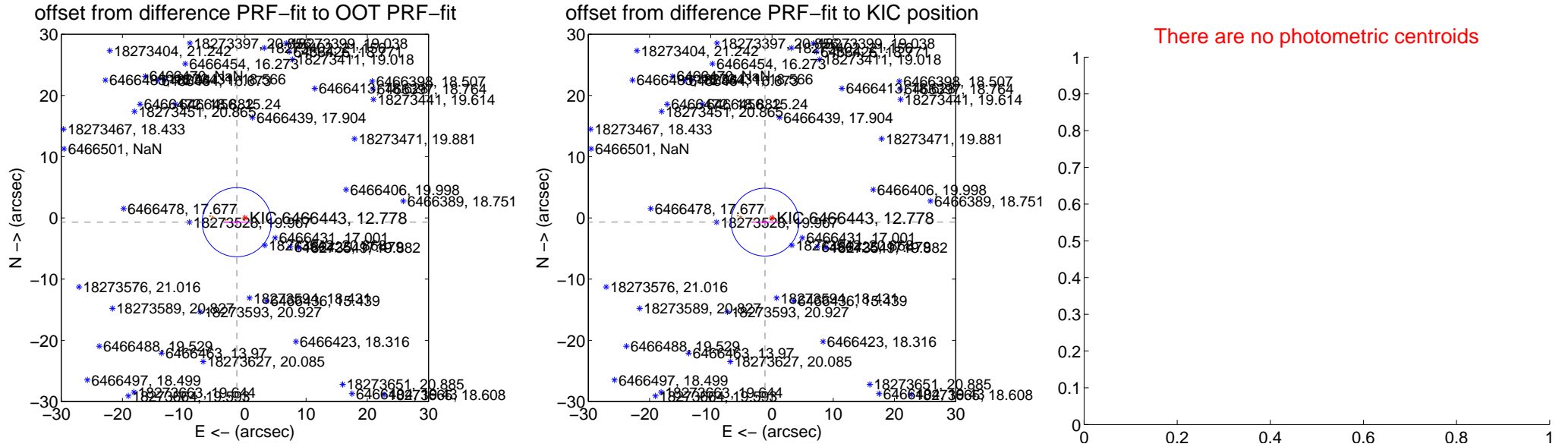
## DV Centroid Data

Supplemental centroid analysis for 006466443-01. Kepler magnitude: 12.78. Transit SNR 0.01

There are 1 quarters with good PRF difference image offsets

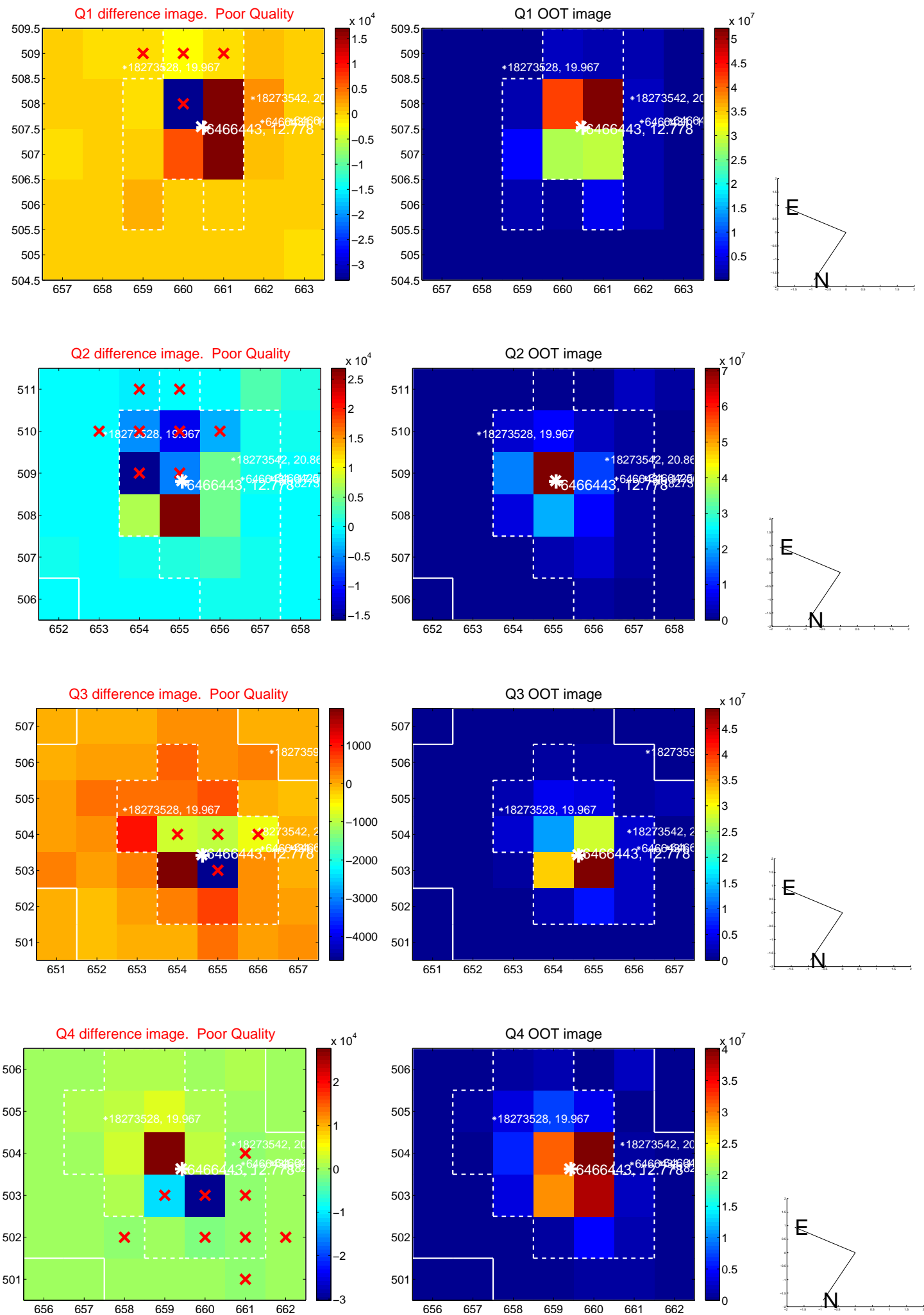
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.496 \pm 1.882$	0.80	$1.319 \pm 2.121$	$-0.706 \pm 0.467$
PRF-fit source offset from KIC position	$1.336 \pm 1.848$	0.72	$1.143 \pm 2.140$	$-0.691 \pm 0.478$
photometric centroid source offset	—	—	—	—

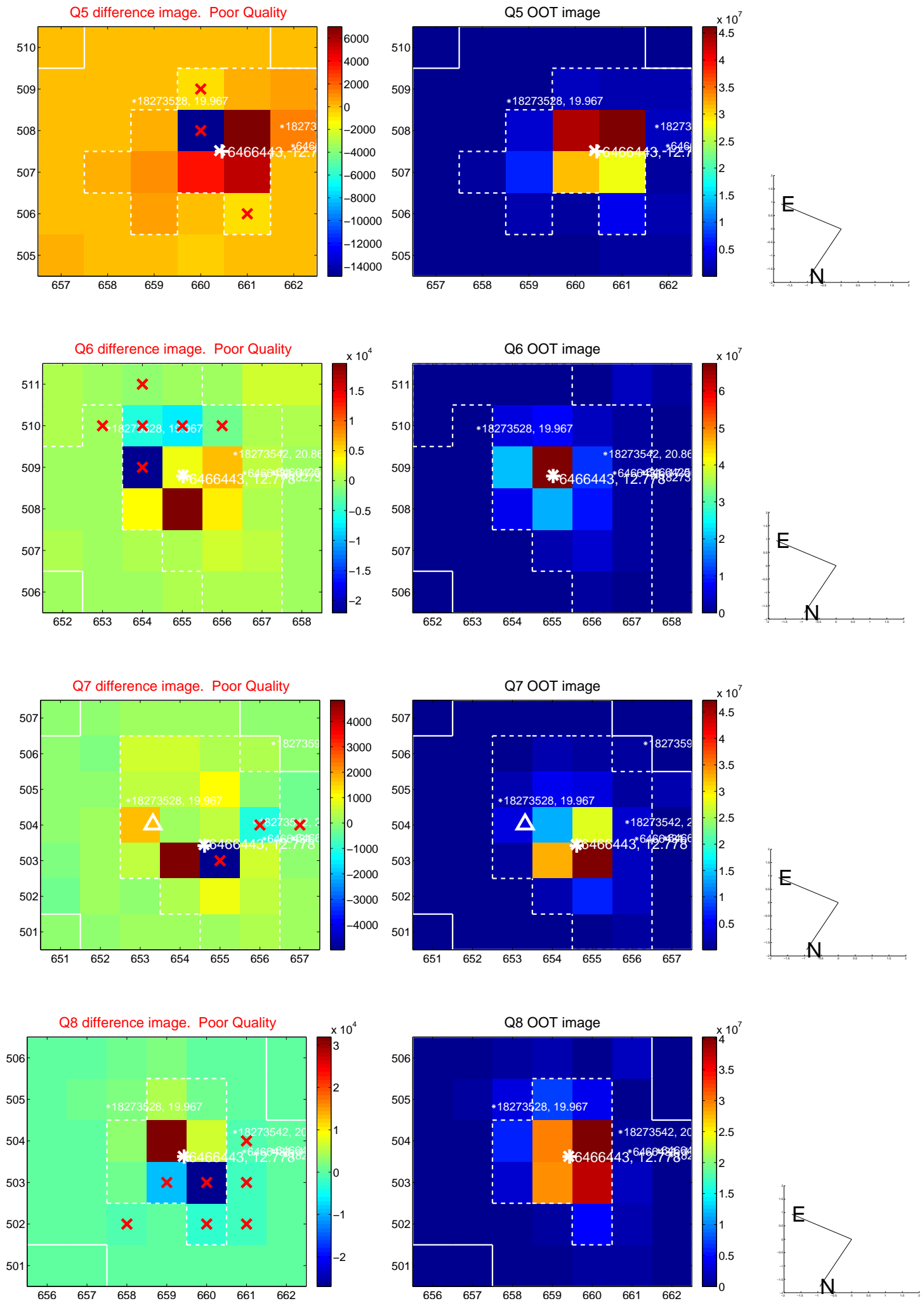


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

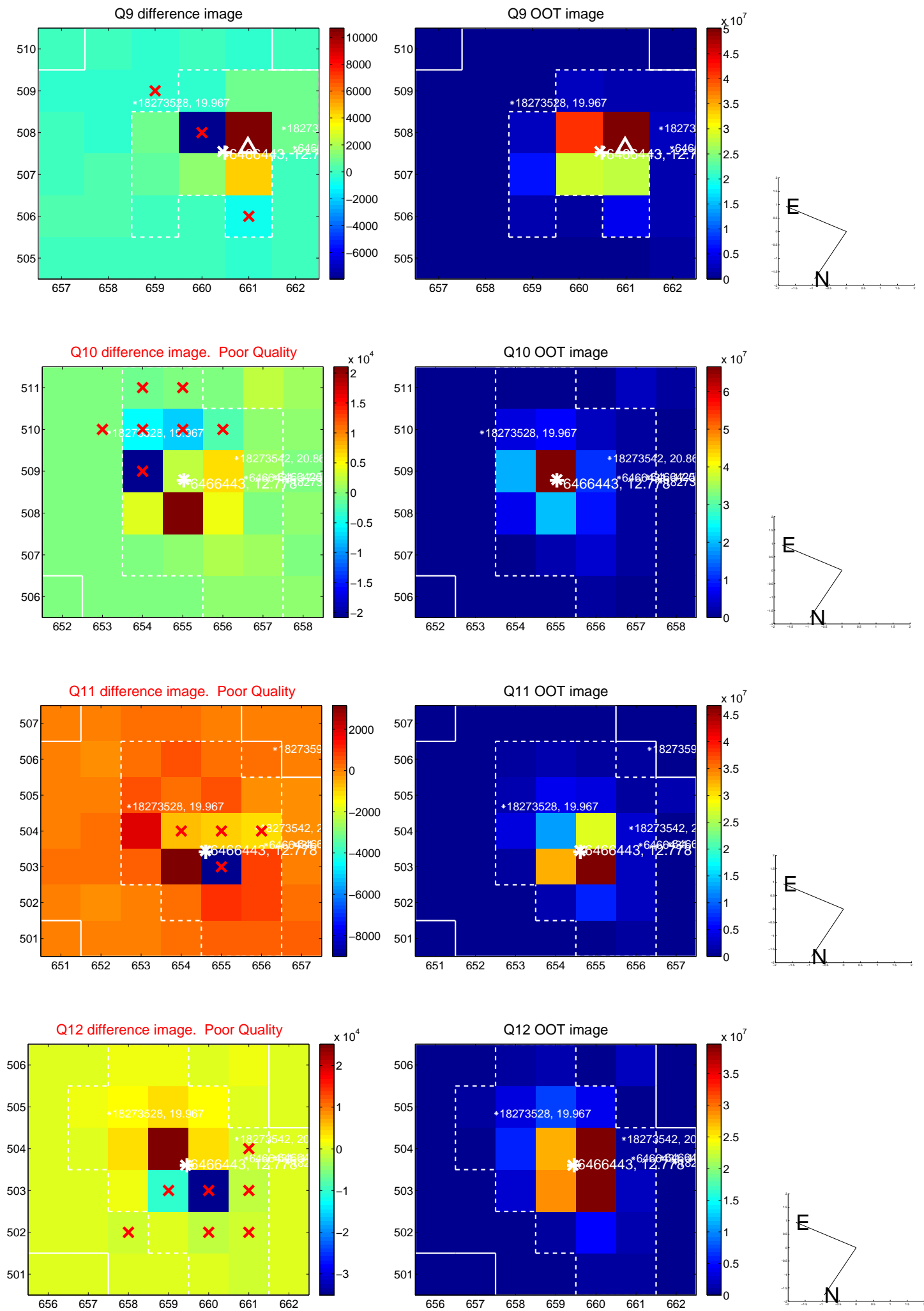


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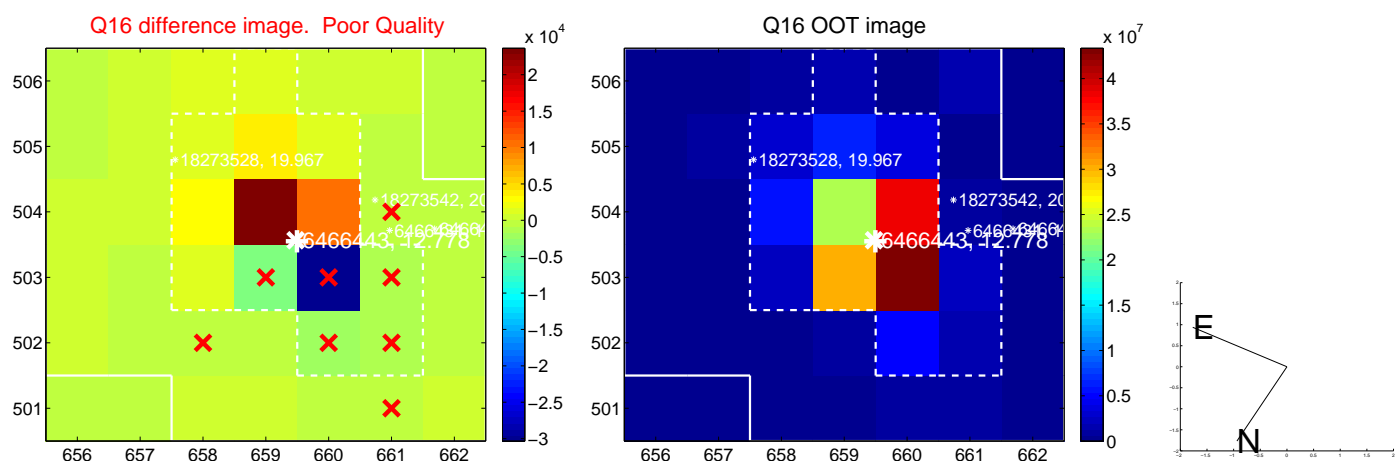
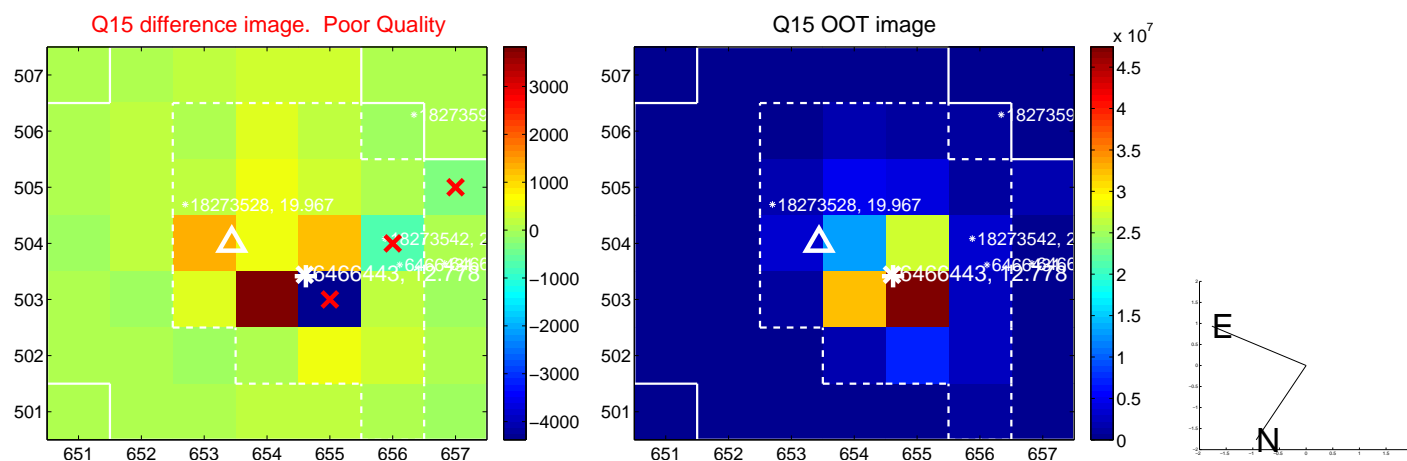
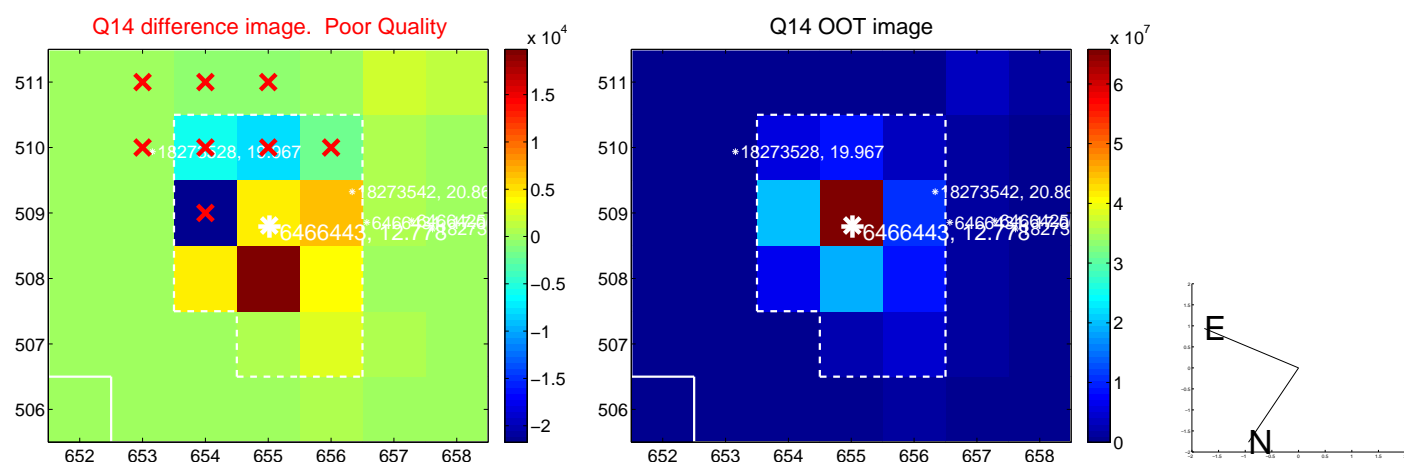
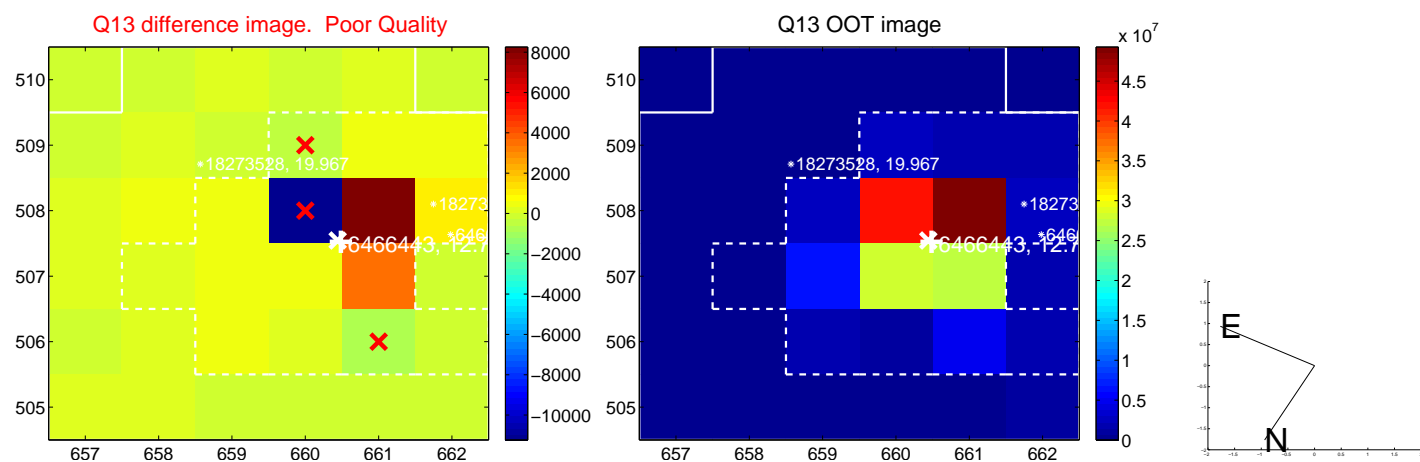




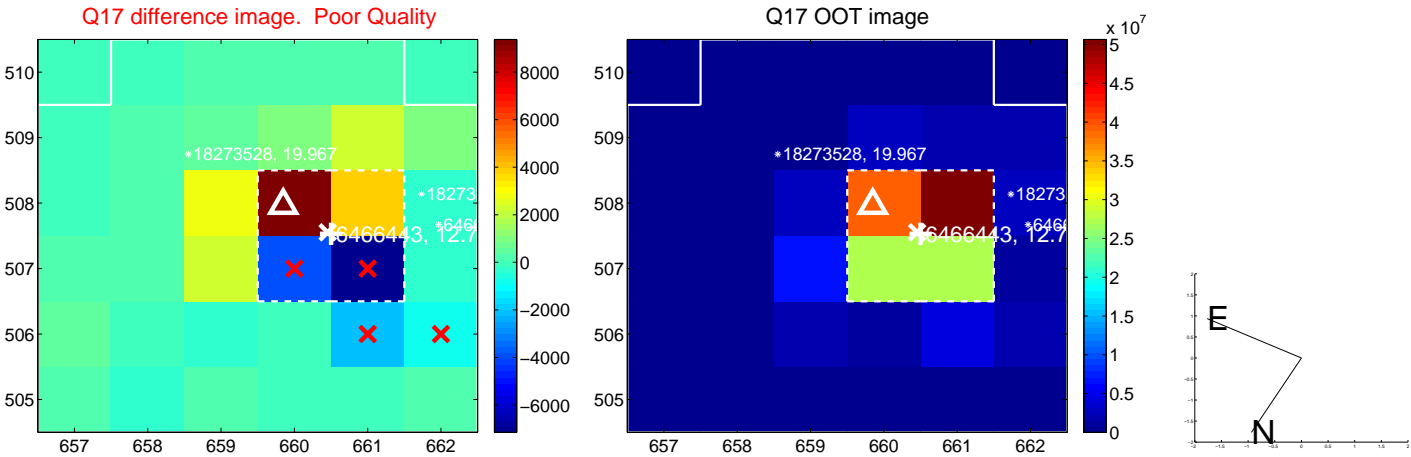
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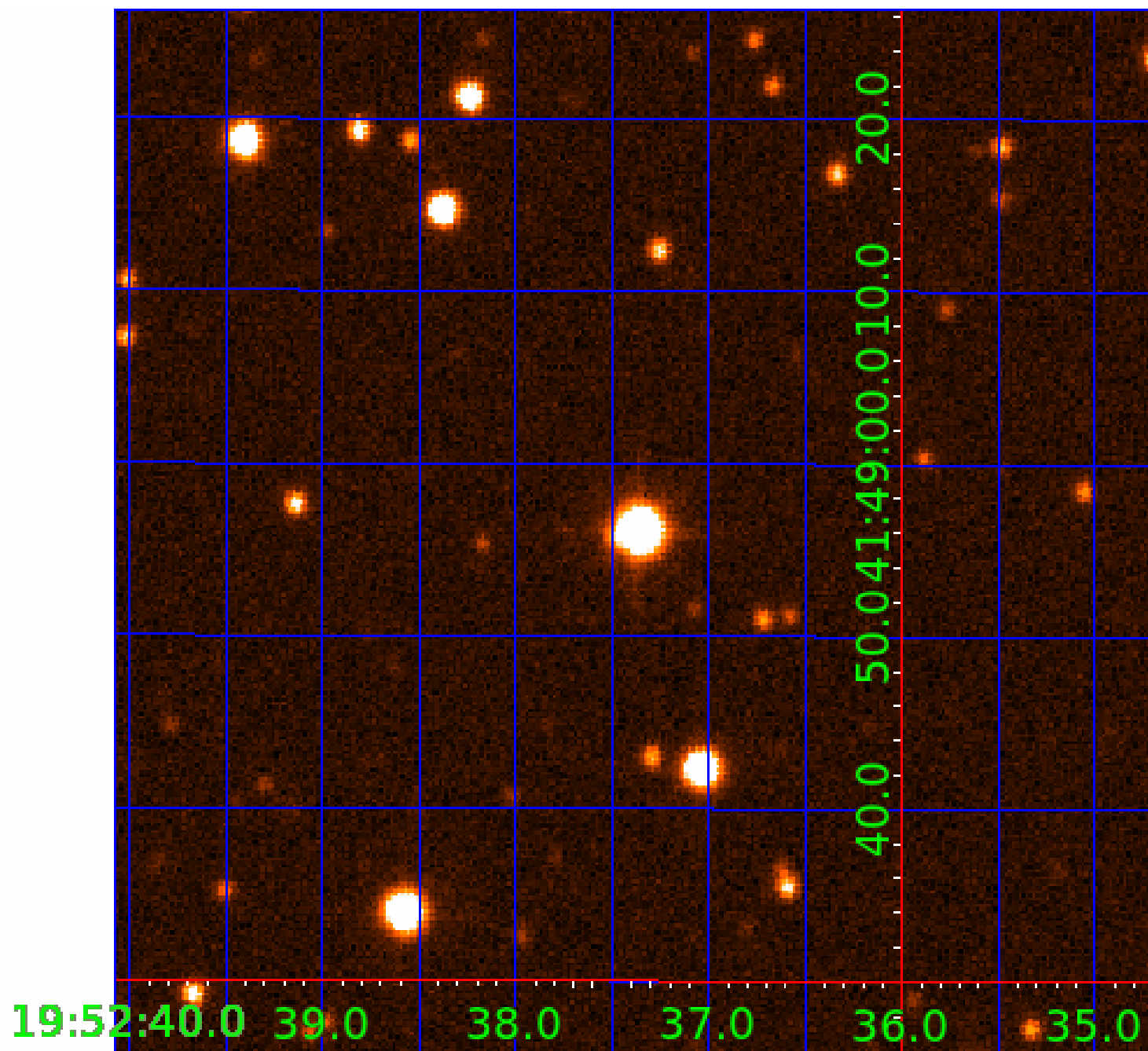
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination





# KIC 006466443

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006466443-01	OBS	No	0.647579	132.070199	0.0	4.765	10.8	0.0	3.41	6675	0.04	69739.51
006466443-02	OBS	No	10.892093	139.104250	80.8	1.289	13.3	6.4	3.41	6675	3.39	1618.28
006466443-03	OBS	No	8.799226	138.436663	102.9	0.658	12.0	4.4	3.41	6675	4.73	2150.85
006466443-04	OBS	No	12.842290	136.795782	128.8	2.047	11.0	6.5	3.41	6675	3.94	1299.21
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006466443-06	OBS	No	10.280990	134.541853	269.9	0.658	11.0	8.1	3.41	6675	5.76	1747.79
006466443-07	OBS	No	10.156096	133.940544	210.1	1.714	12.4	13.8	3.41	6675	5.04	1776.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006466443-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_FEW_DIFFS
006466443-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006466443-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006466443-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV
006466443-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
006466443-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006466443-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

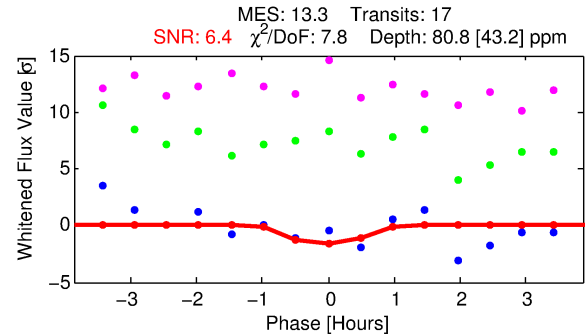
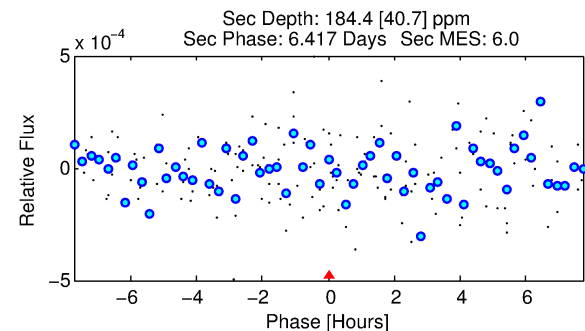
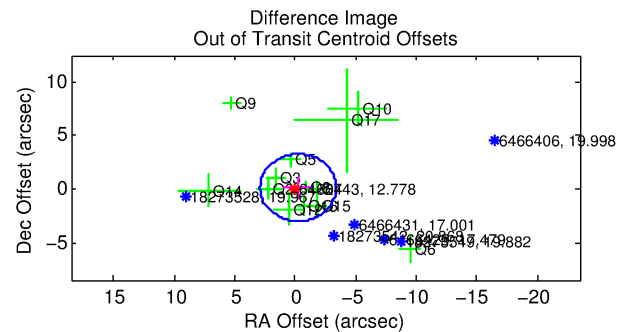
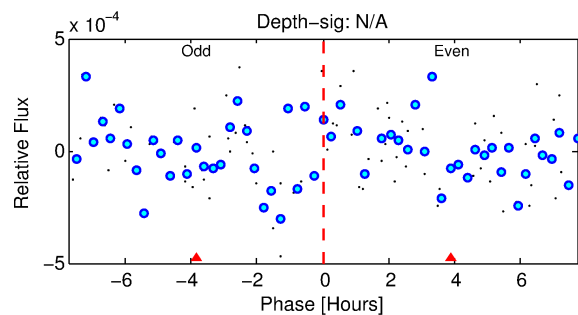
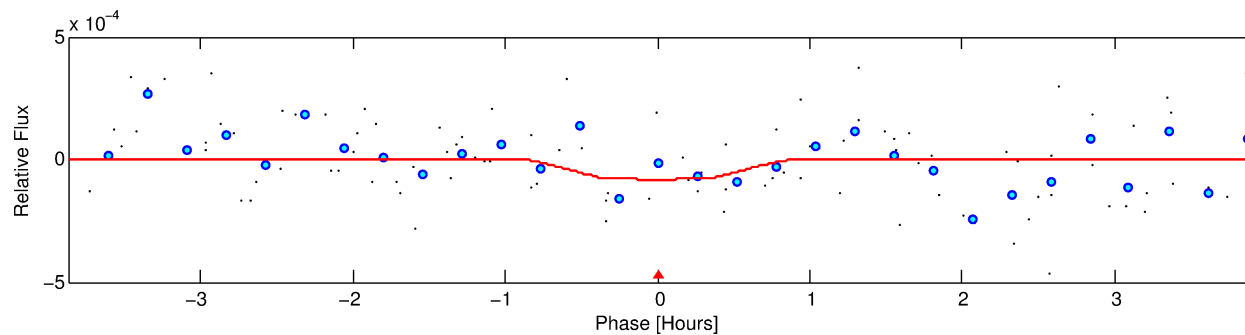
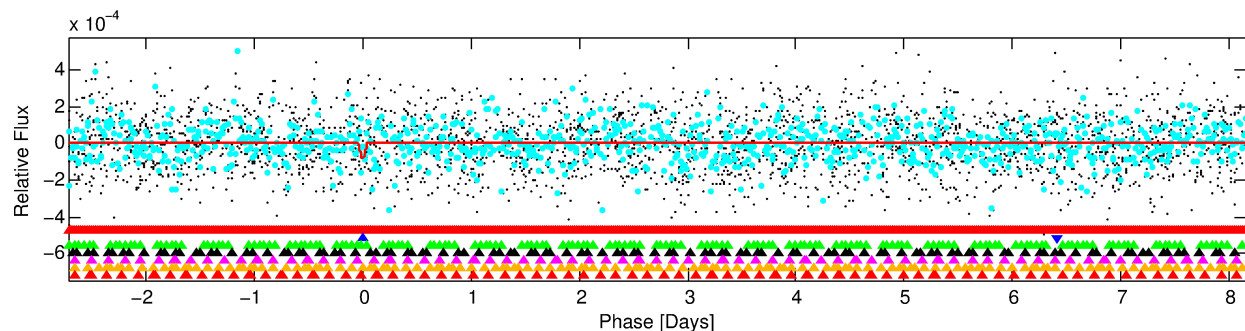
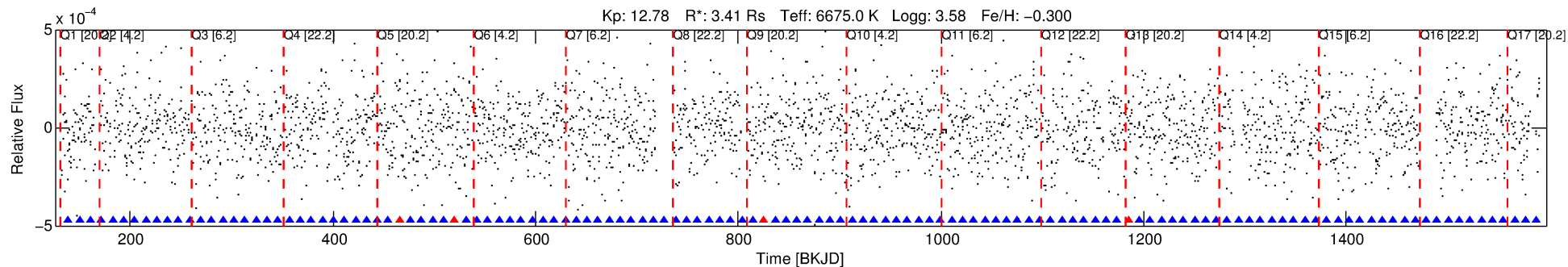
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006466443-02

No Significant Match Found

# DV One-Page Summary

KIC: 6466443 Candidate: 2 of 7 Period: 10.892 d



## DV Fit Results:

Period = 10.89209 [0.00032] d  
Epoch = 139.1043 [0.0255] BKJD  
Rp/R\* = 0.0091 [0.0279]  
a/R\* = 40.48 [723.65]  
b = 0.79 [8.50]  
Seff = 1618.28 [956.48]  
Teq = 1617 [239] K  
Rp = 3.39 [10.47] Re  
a = 0.1131 [0.0407] AU  
Ag = 113.06 [697.27] [0.16 $\sigma$ ]  
Teffp = 8154 [12520] K [0.52 $\sigma$ ]

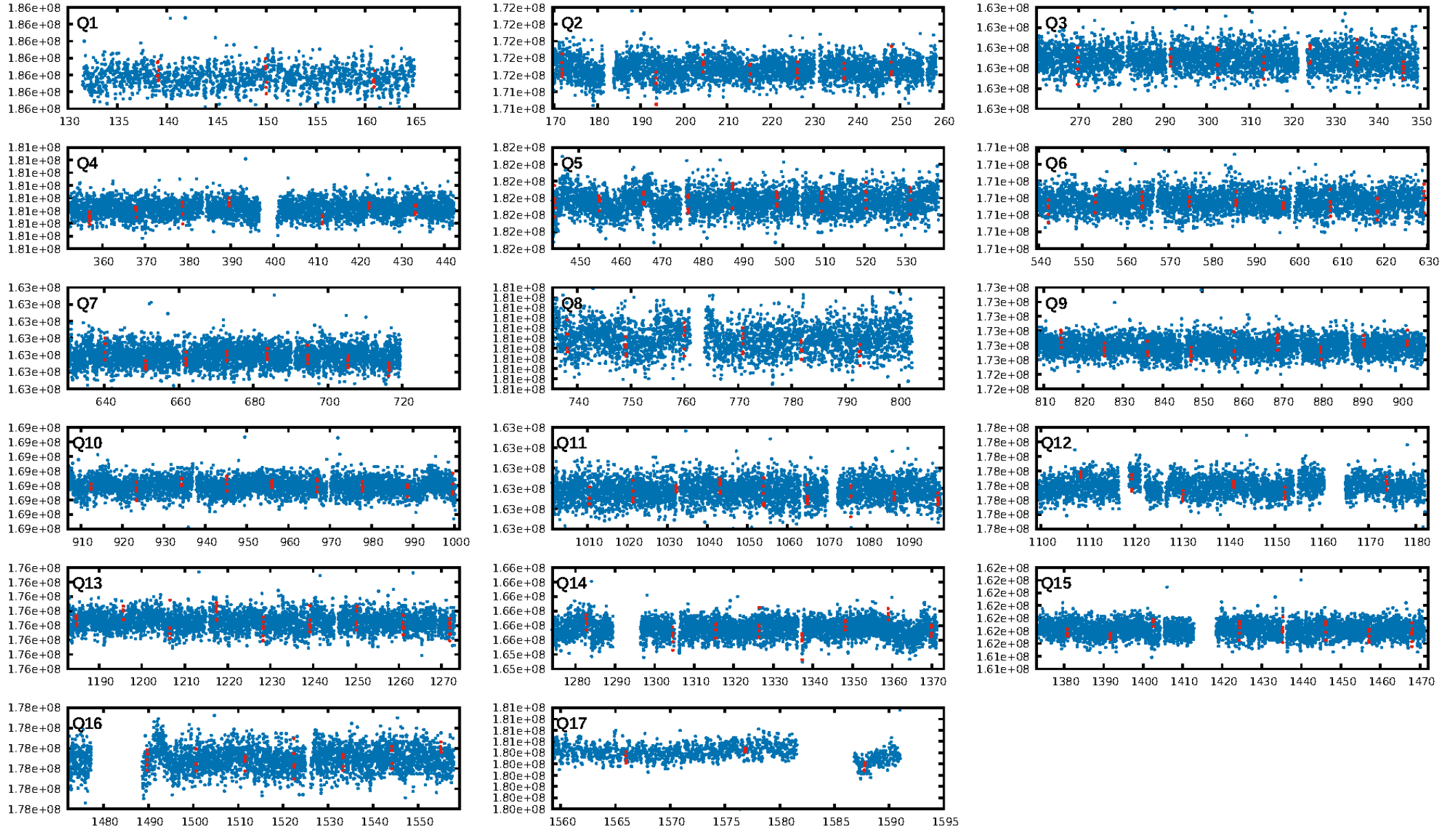
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [10.13 $\sigma$ ]  
LongPeriod-sig: 100.0% [19.35 $\sigma$ ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 2.1%  
Bootstrap-pfa: 3.23e-17  
RollingBand-fgt: 0.75 [12/16]  
GhostDiagnostic-chr: -5.13  
Centroid-sig: 12.0%  
Centroid-so: 1.240 arcsec [1.03 $\sigma$ ]  
OotOffset-rm: 0.268 arcsec [0.26 $\sigma$ ]  
OotOffset-st: 4/3/3/3 [13]  
KicOffset-rm: 0.397 arcsec [0.44 $\sigma$ ]  
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DiffImageOverlap-fno: 0.00 [0/17]

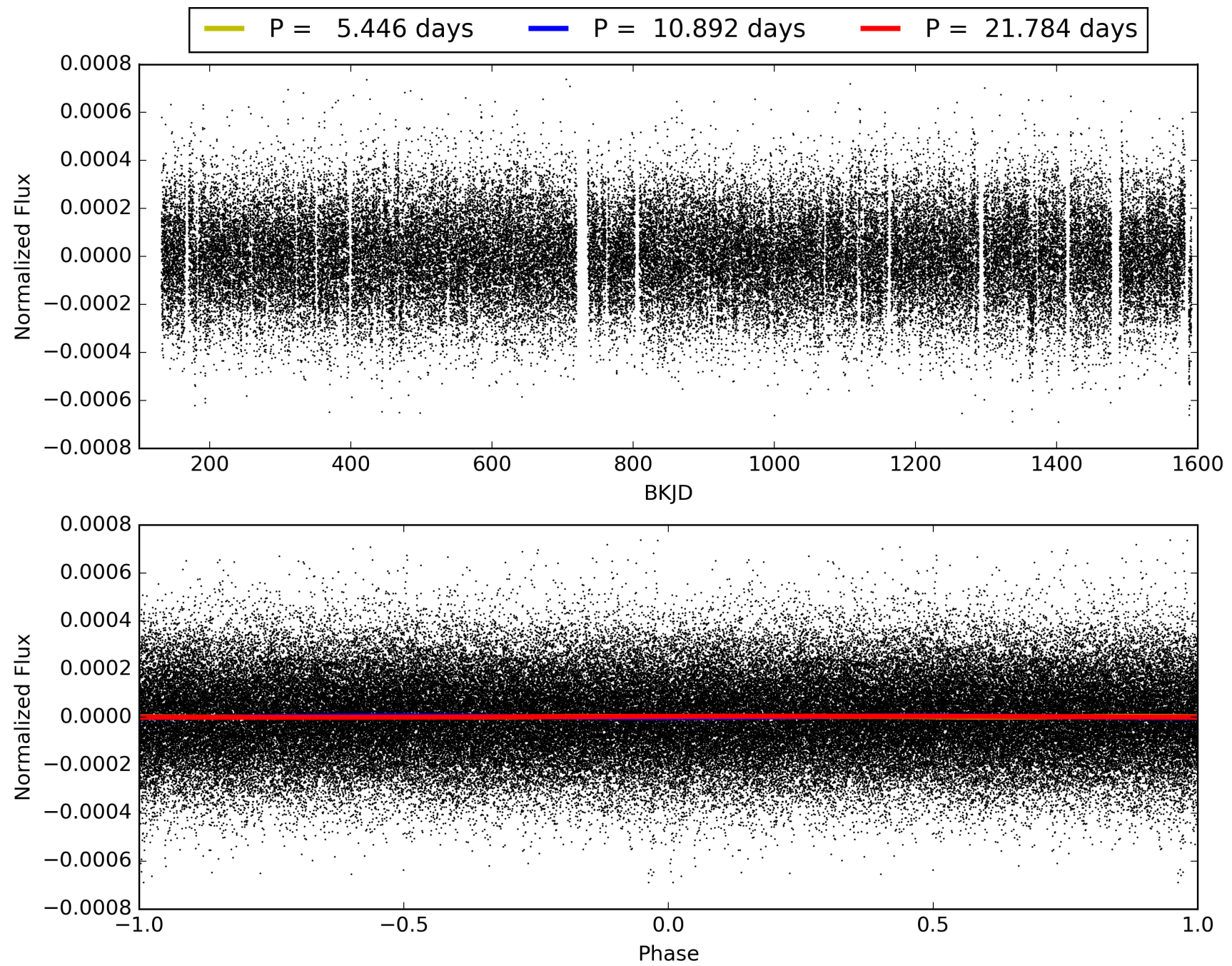
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:13:46 Z

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

# TCE 006466443-02, PDC Light Curves



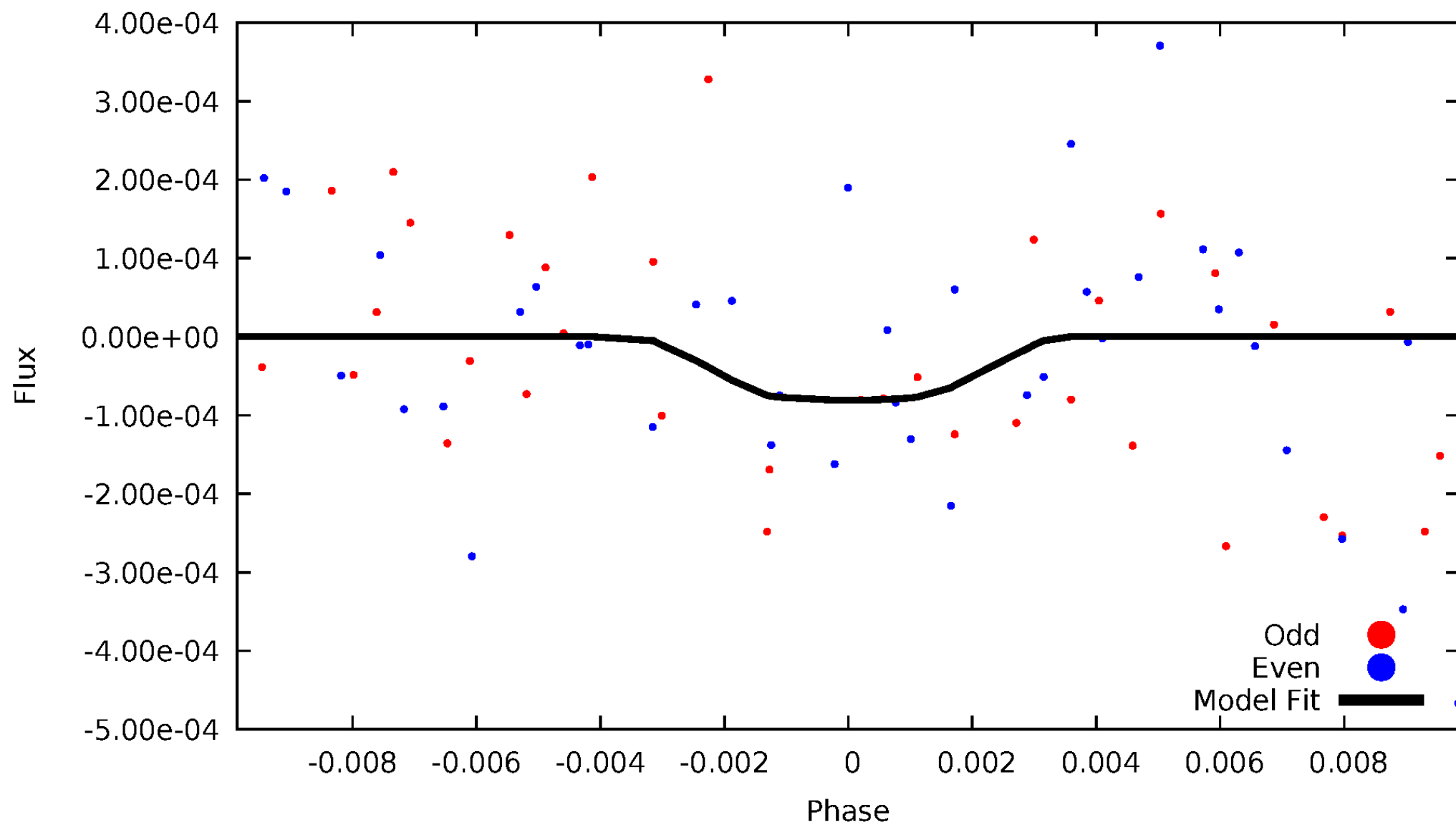
TCE 006466443-02





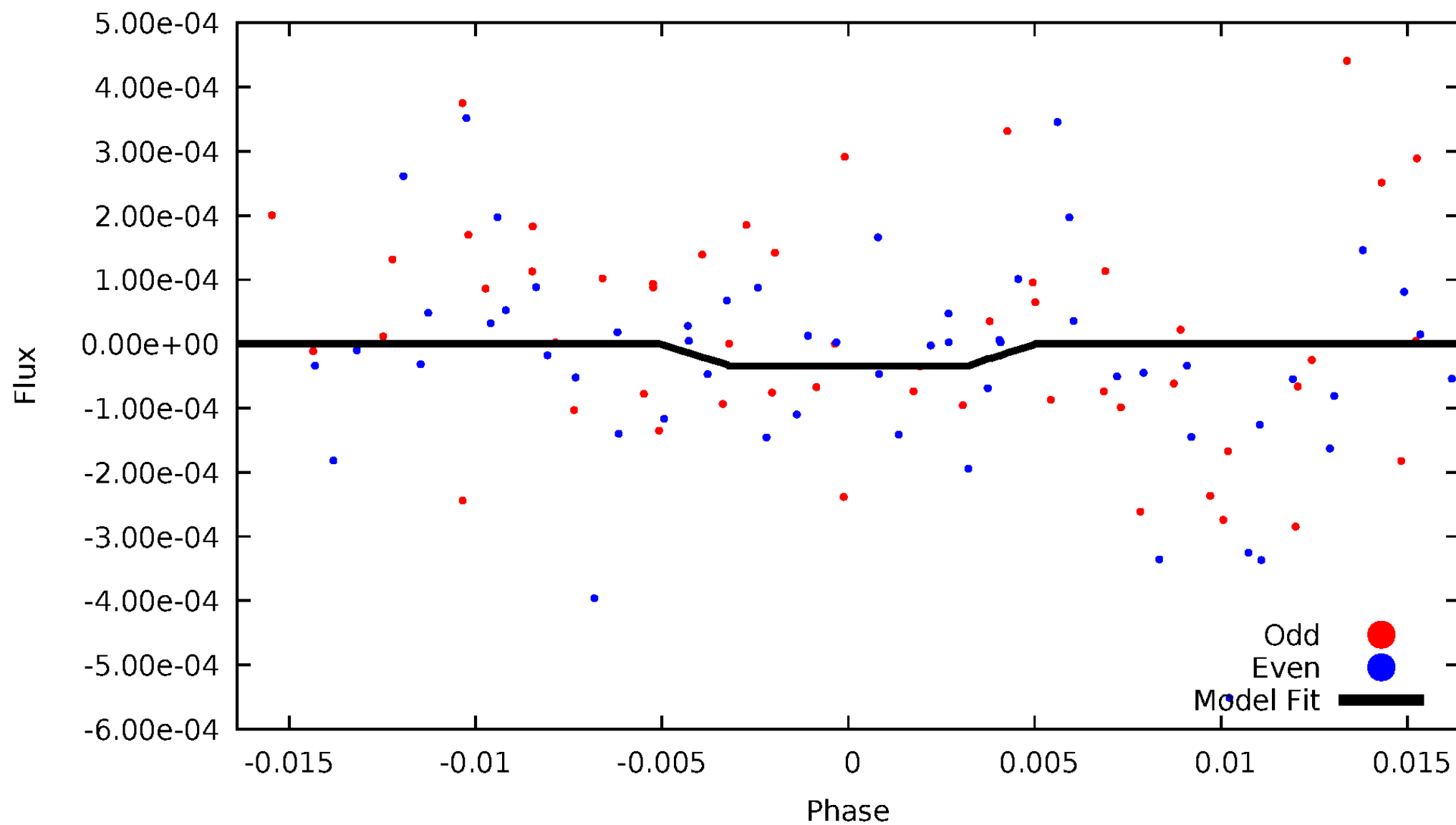
# DV Odd/Even

TCE 006466443-02



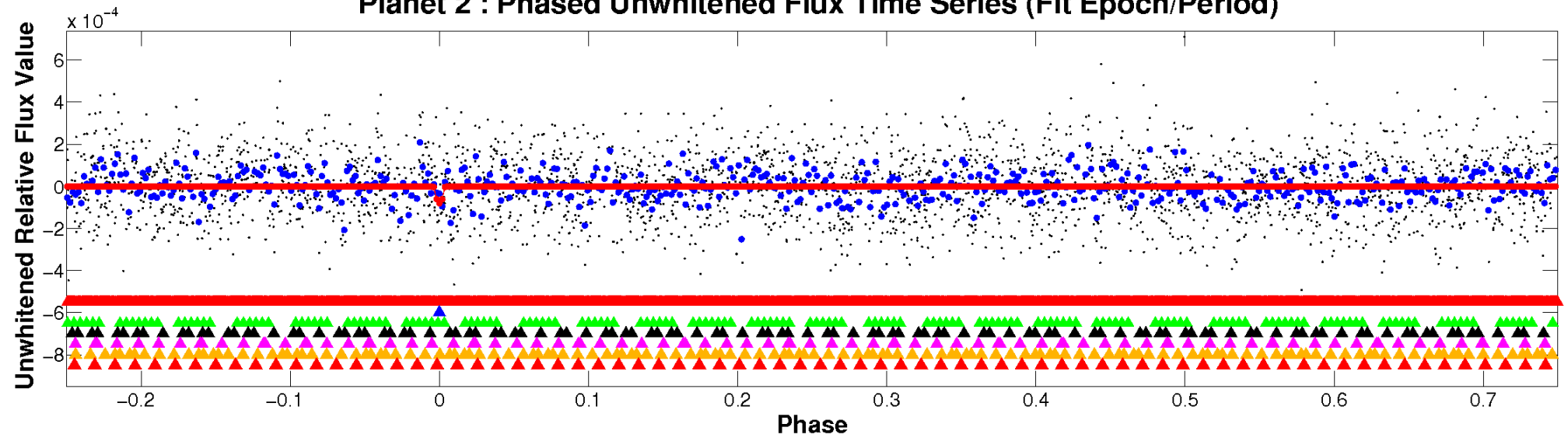
# ALT Odd/Even

TCE 006466443-02

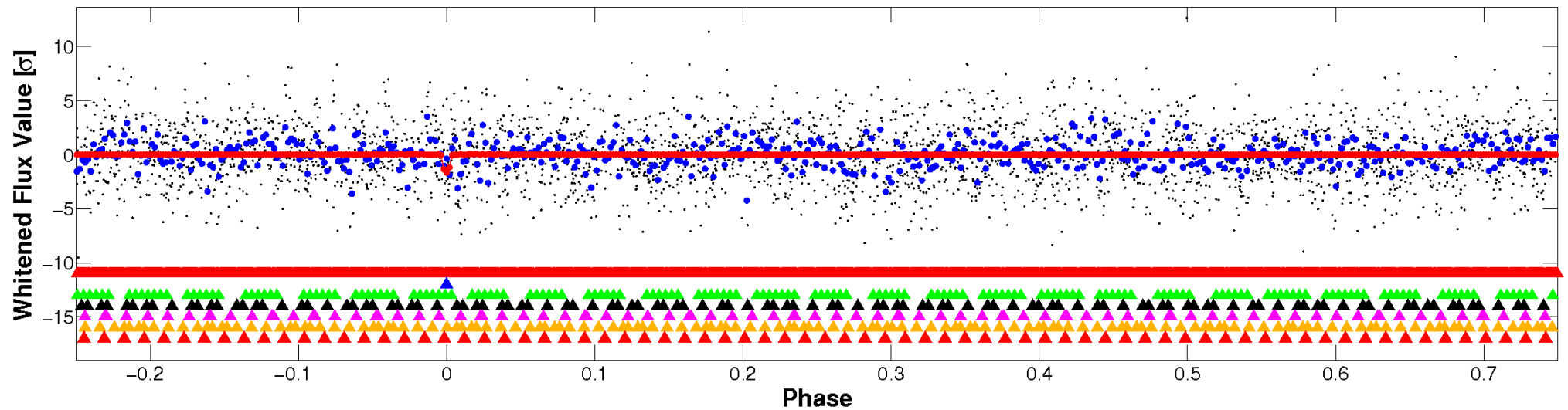


# Non-Whitened Vs. Whitened Light Curve

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

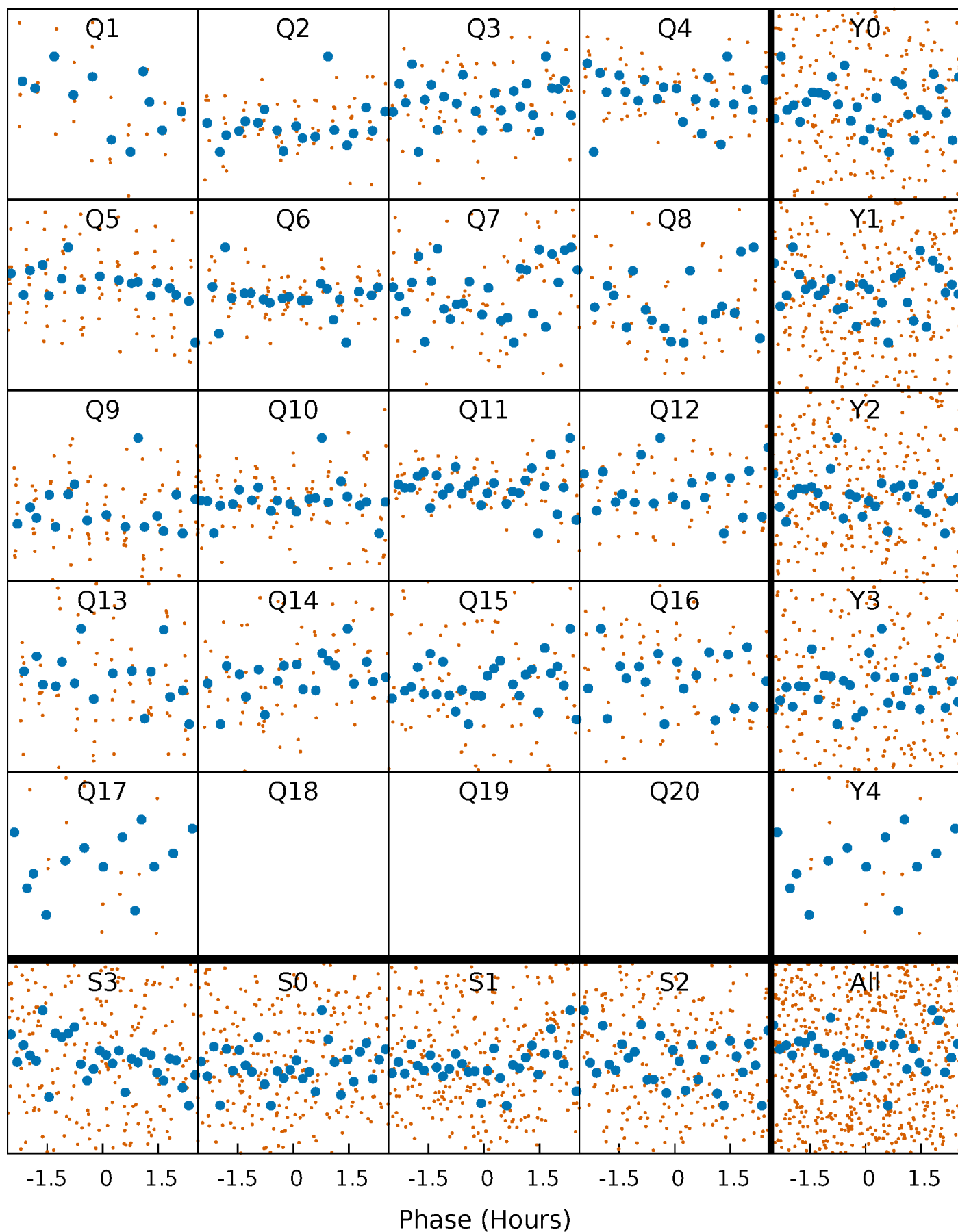


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

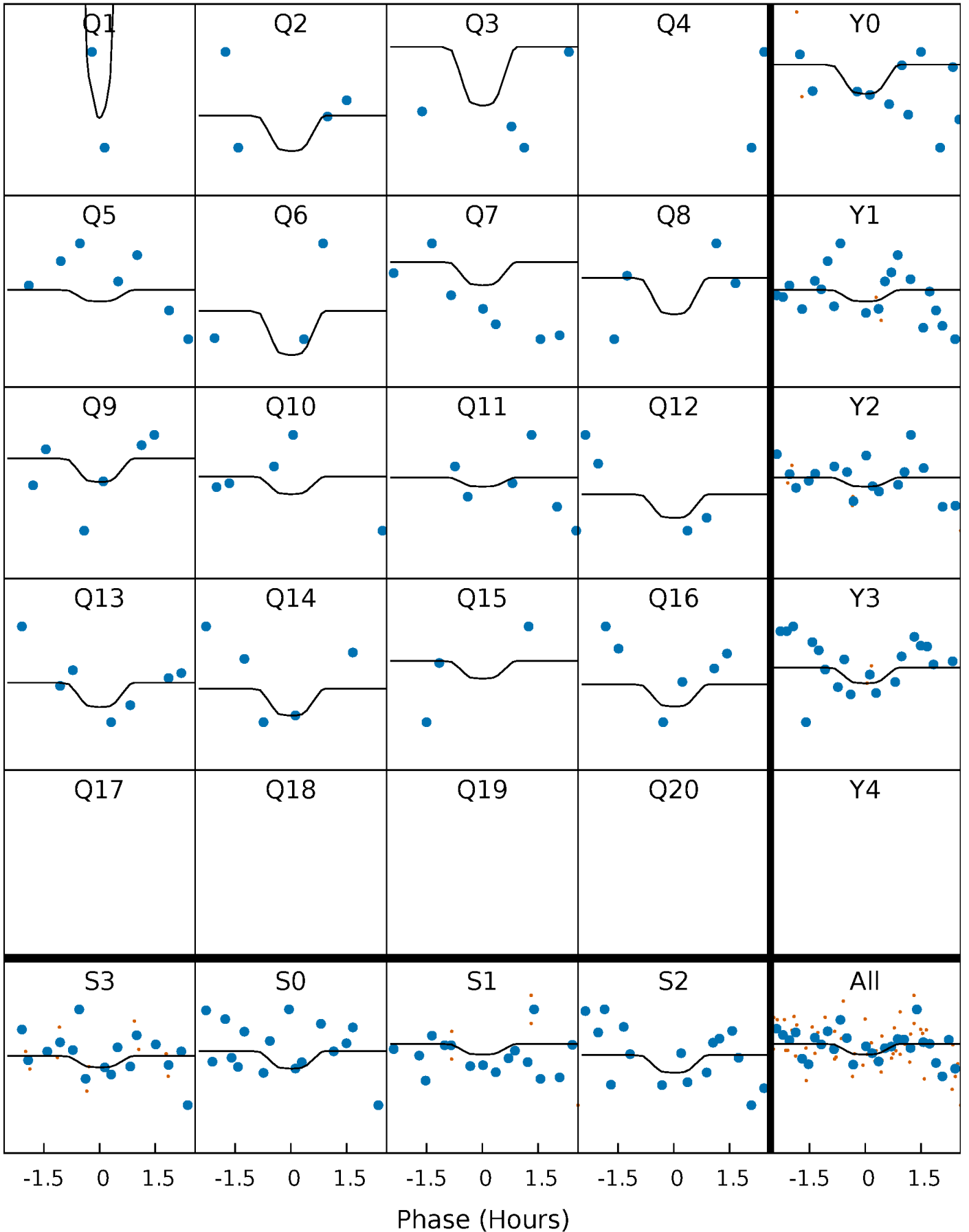
TCE 006466443-02 P= 10.892093 Days  $T_0=139.104250$  (BKJD)





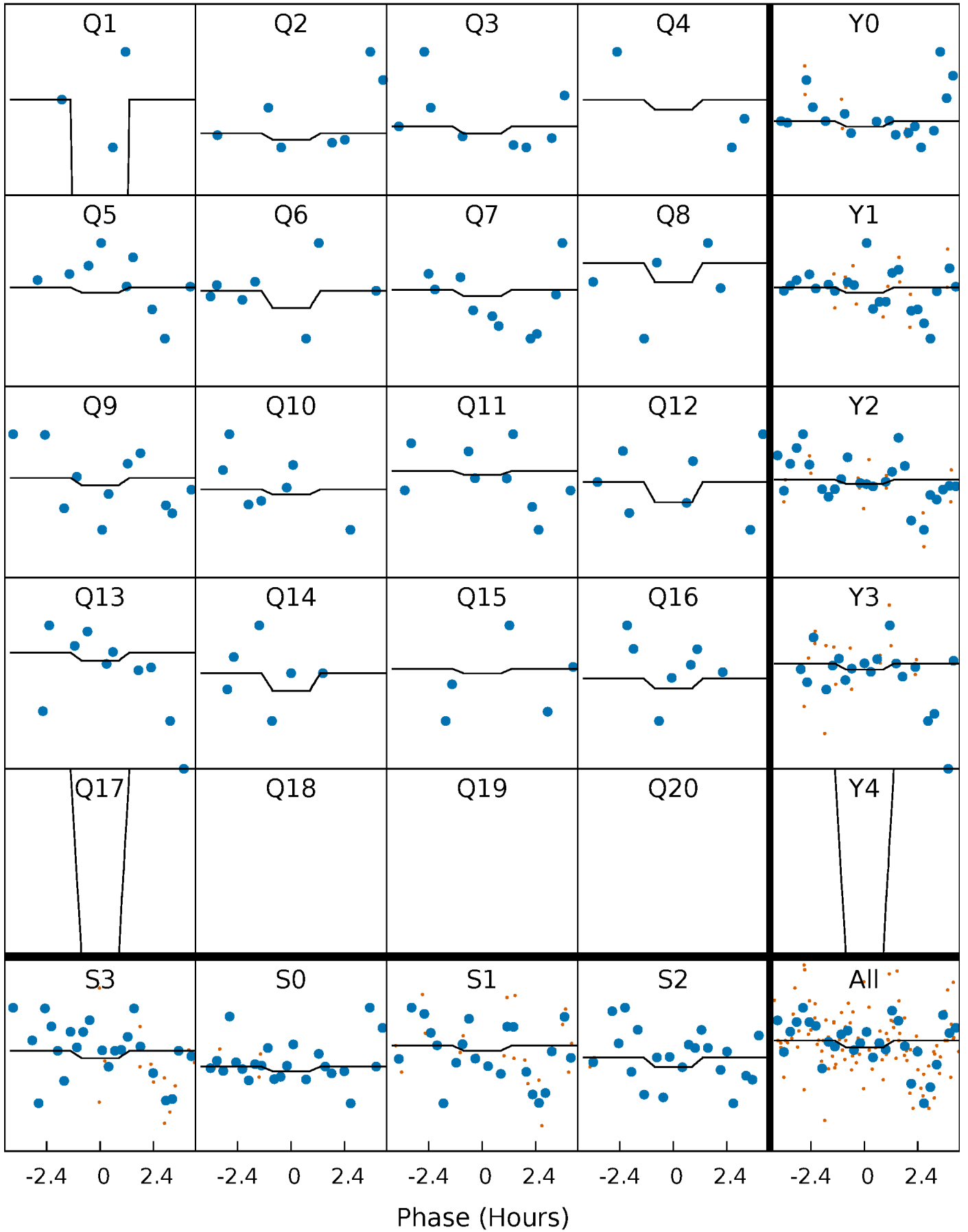
# DV Quarter-Phased Transit Curves

TCE 006466443-02 P= 10.892093 Days  $T_0=139.104250$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

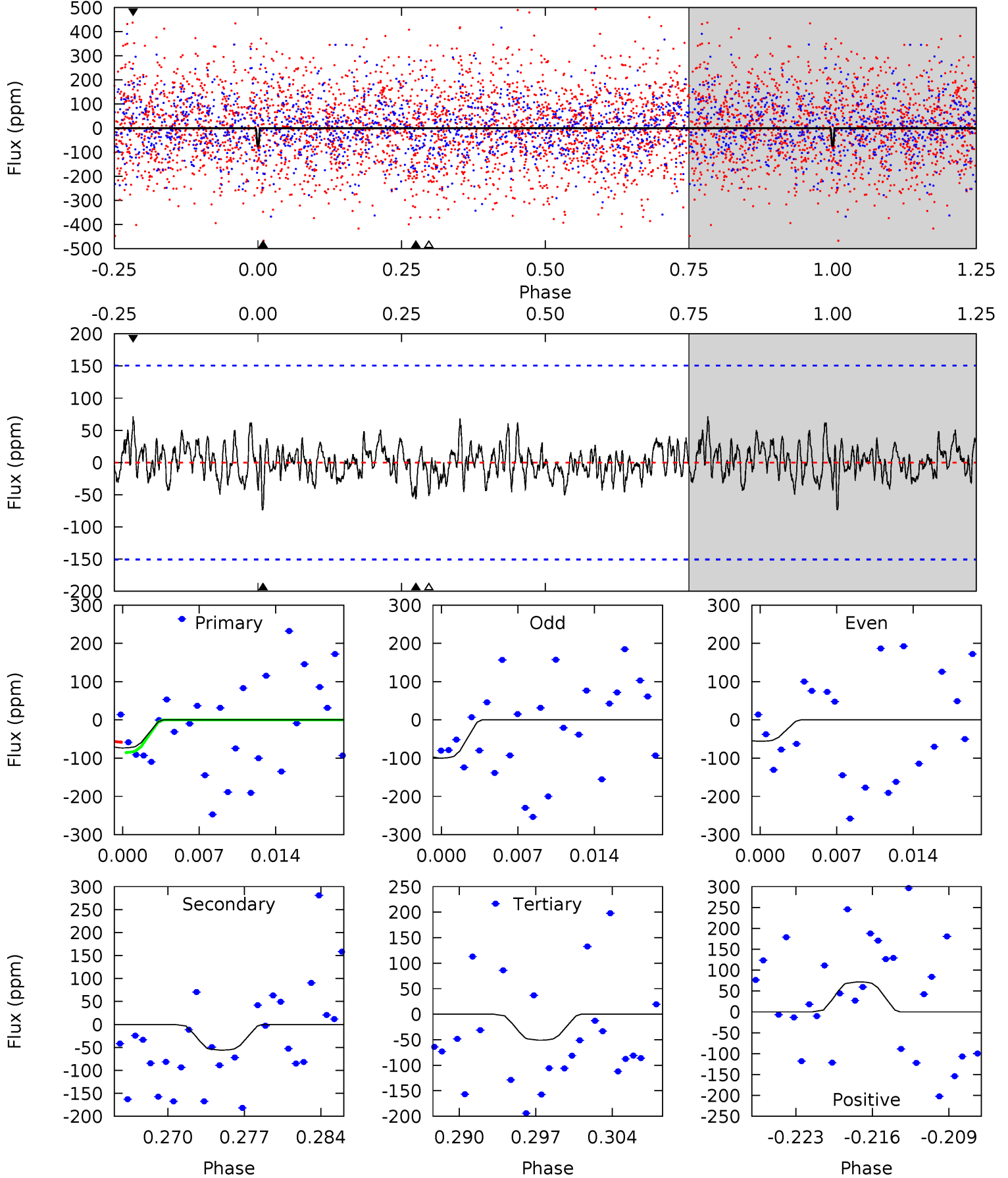
TCE 006466443-02 P= 10.892474 Days  $T_0=139.067334$  (BKJD)



# DV Model-Shift Uniqueness Test

006466443-02, P = 10.892093 Days, E = 128.212157 Days

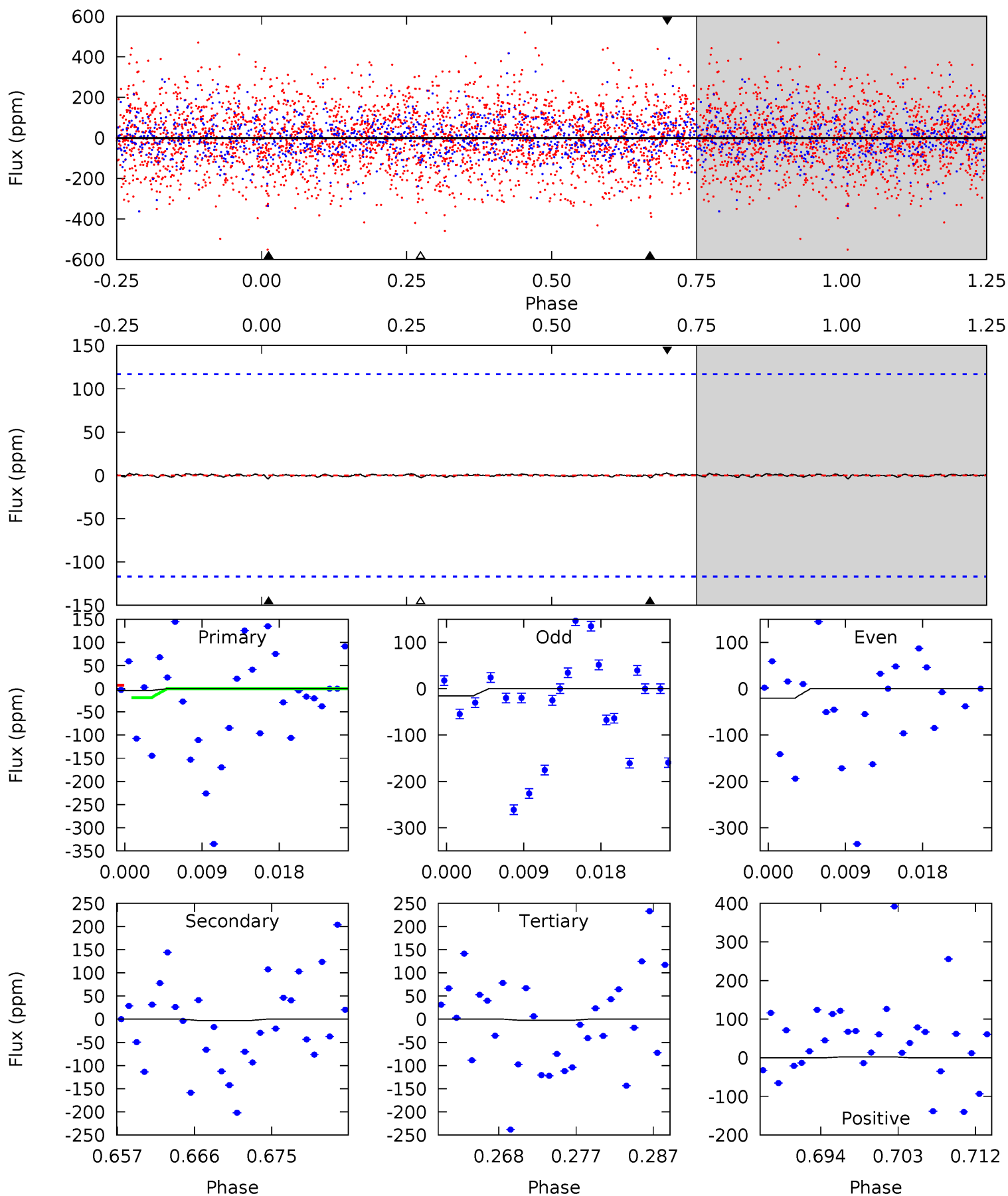
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.48	1.89	1.72	2.43	5.10	2.71	0.73	0.76	0.05	0.17	-0.54	0.74	0.79	0.50	0.46



# Alt Model-Shift Uniqueness Test

006466443-02, P = 10.892474 Days, E = 128.174860 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.16	0.12	0.11	0.11	5.04	2.60	0.04	0.05	0.05	0.01	0.01	0.11	0.25	0.42	0.25





### Stellar Parameters For KIC 006466443

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6675^{+212}_{-236}$	$3.583^{+0.336}_{-0.105}$	$-0.300^{+0.350}_{-0.250}$	$3.410^{+0.429}_{-1.287}$	$1.626^{+0.243}_{-0.364}$	$0.058^{+0.139}_{-0.015}$
	+3%/-4%	+9%/-3%	+117%/-83%	+13%/-38%	+15%/-22%	+241%/-26%
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 006466443-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-56 \pm 30$	$8.12^{+7.77}_{-5.59}$	$2213^{+141}_{-202}$	$4010^{+2628}_{-990}$	$6.055^{+49.152}_{-4.867}$
Alt.	$-3 \pm 23$	$7.12^{+7.57}_{-4.88}$	$2230^{+131}_{-221}$	$-2243^{+6369}_{-1746}$	$0.214^{+6.861}_{-5.215}$

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

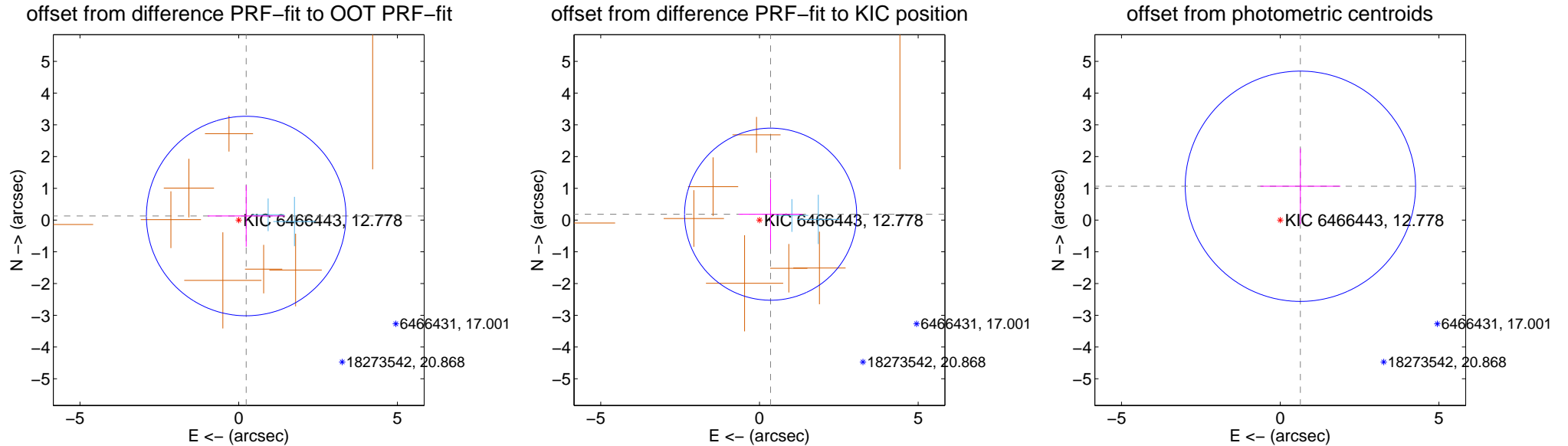
## DV Centroid Data

Supplemental centroid analysis for 006466443-02. Kepler magnitude: 12.78. Transit SNR 6.41

There are 2 quarters with good PRF difference image offsets

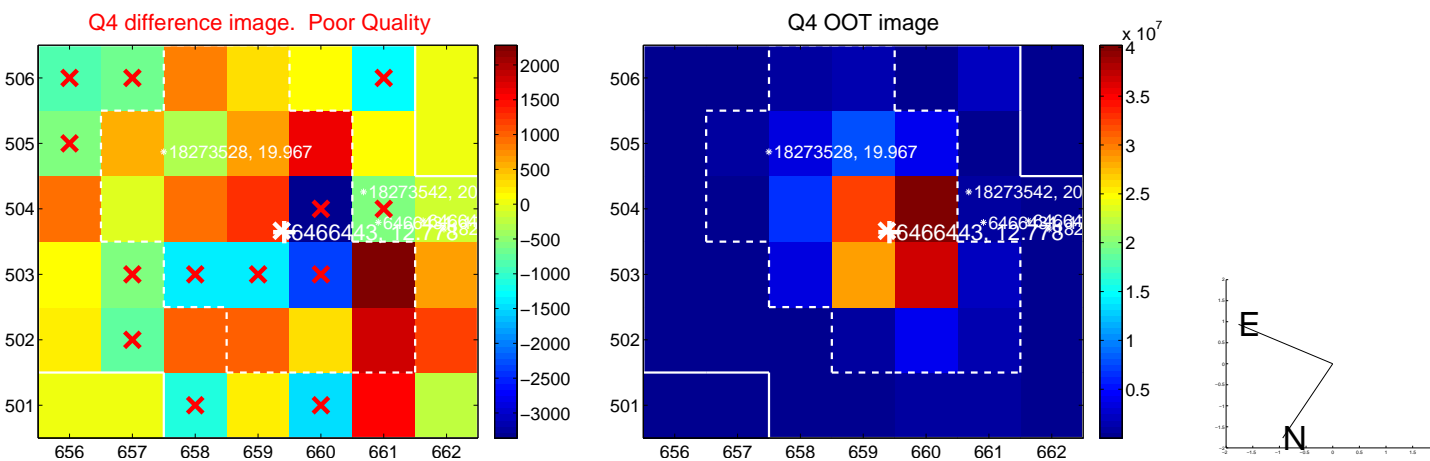
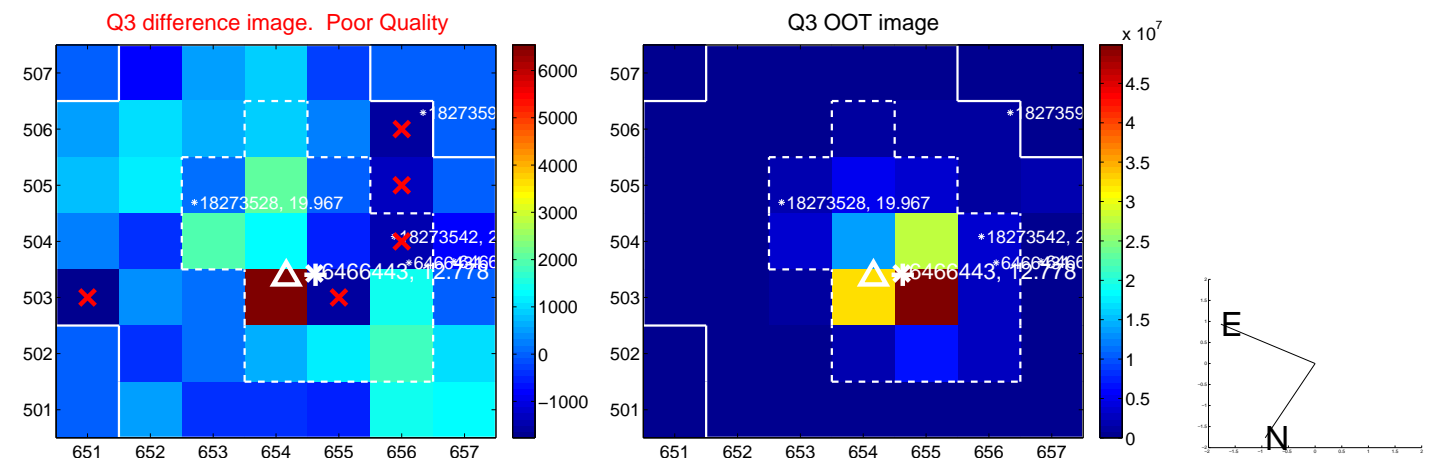
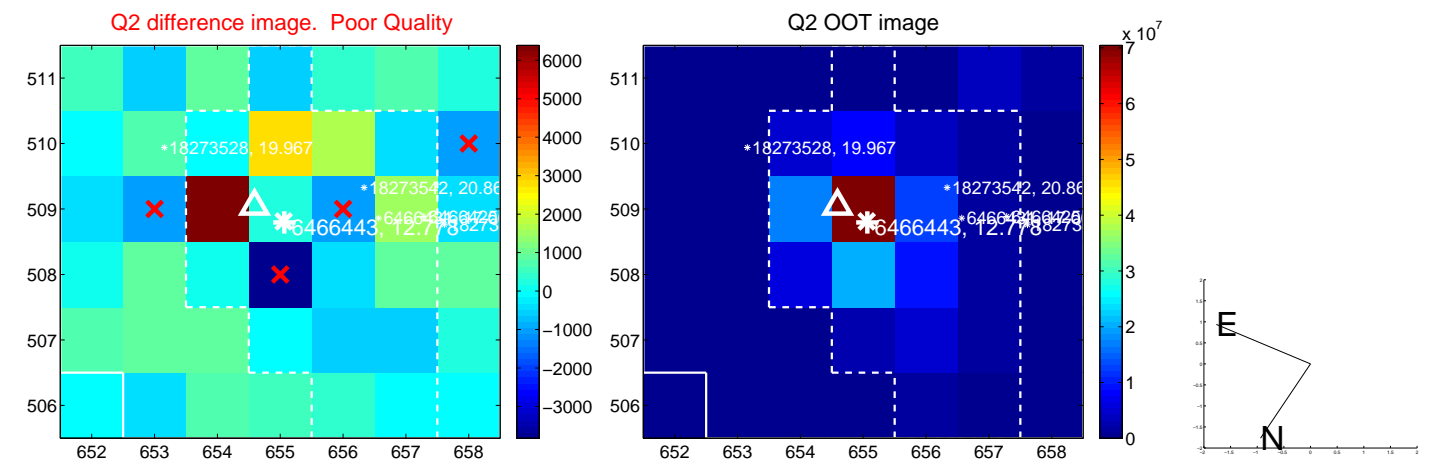
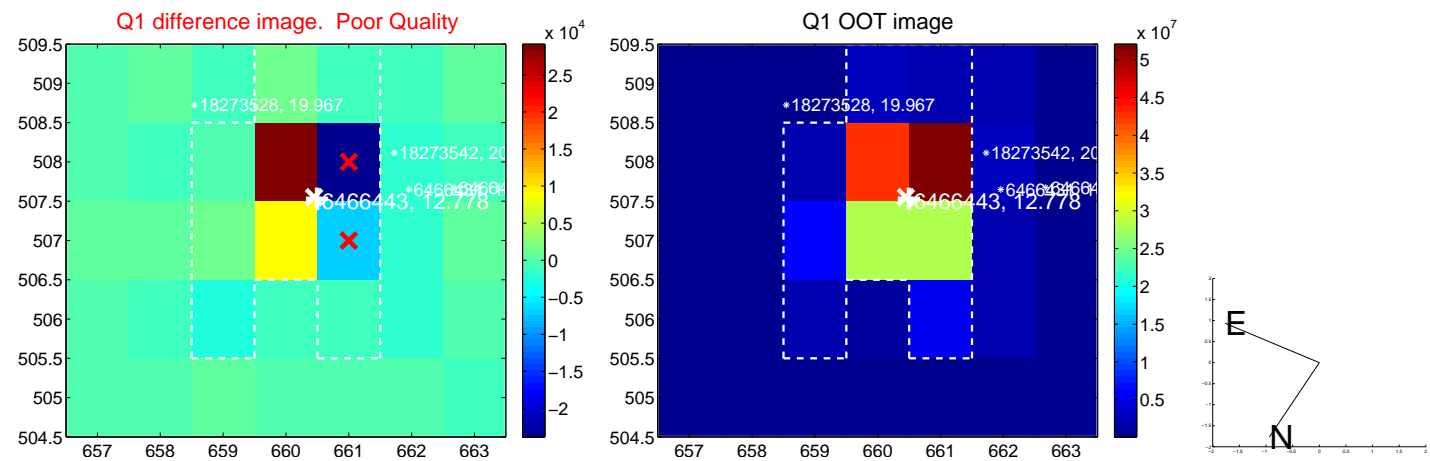
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.268 \pm 1.048$	0.26	$-0.236 \pm 1.213$	$0.127 \pm 0.969$
PRF-fit source offset from KIC position	$0.397 \pm 0.904$	0.44	$-0.351 \pm 1.008$	$0.185 \pm 1.109$
photometric centroid source offset	$1.24 \pm 1.21$	1.03	$-0.64 \pm 1.26$	$1.07 \pm 1.19$

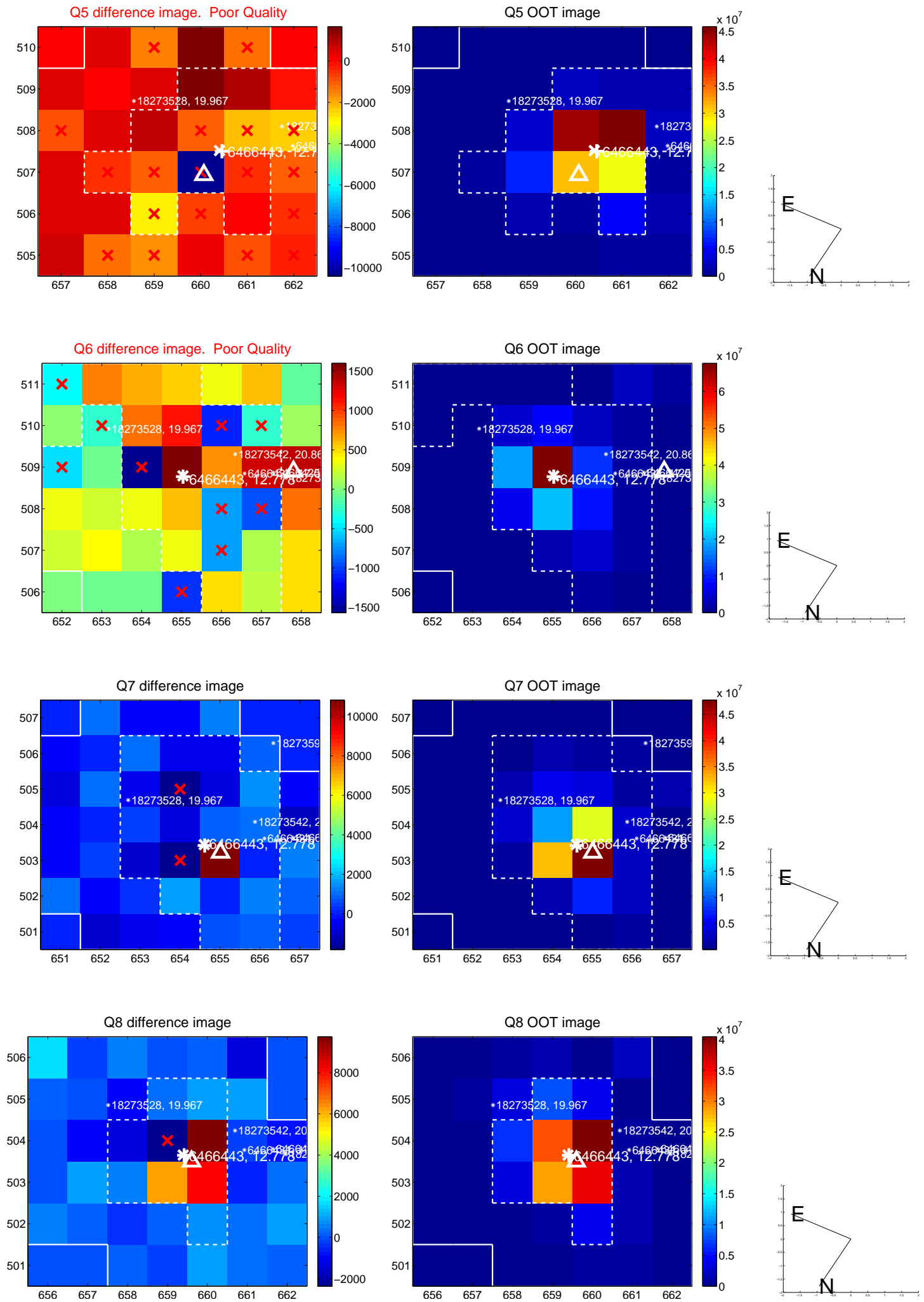


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

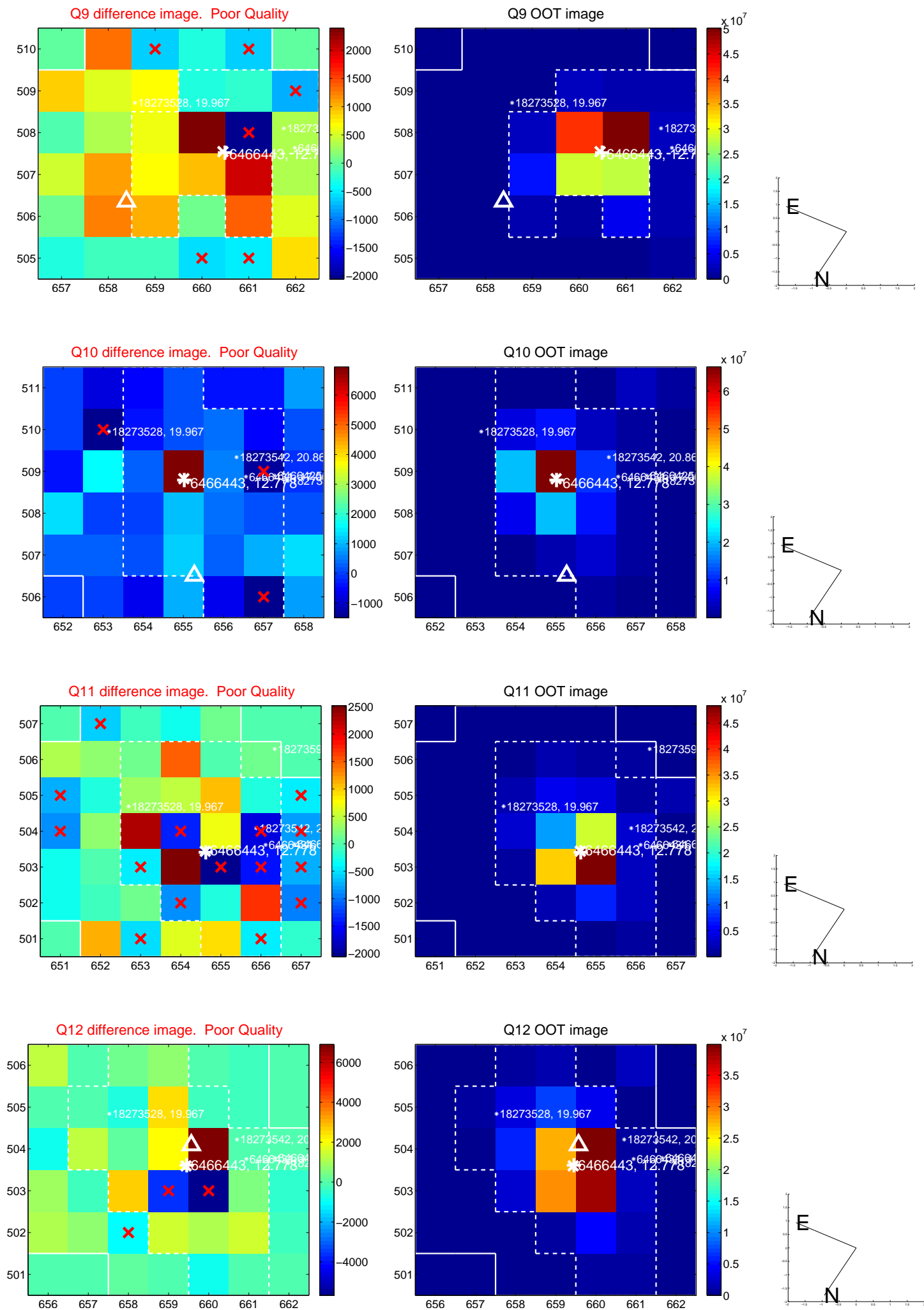
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



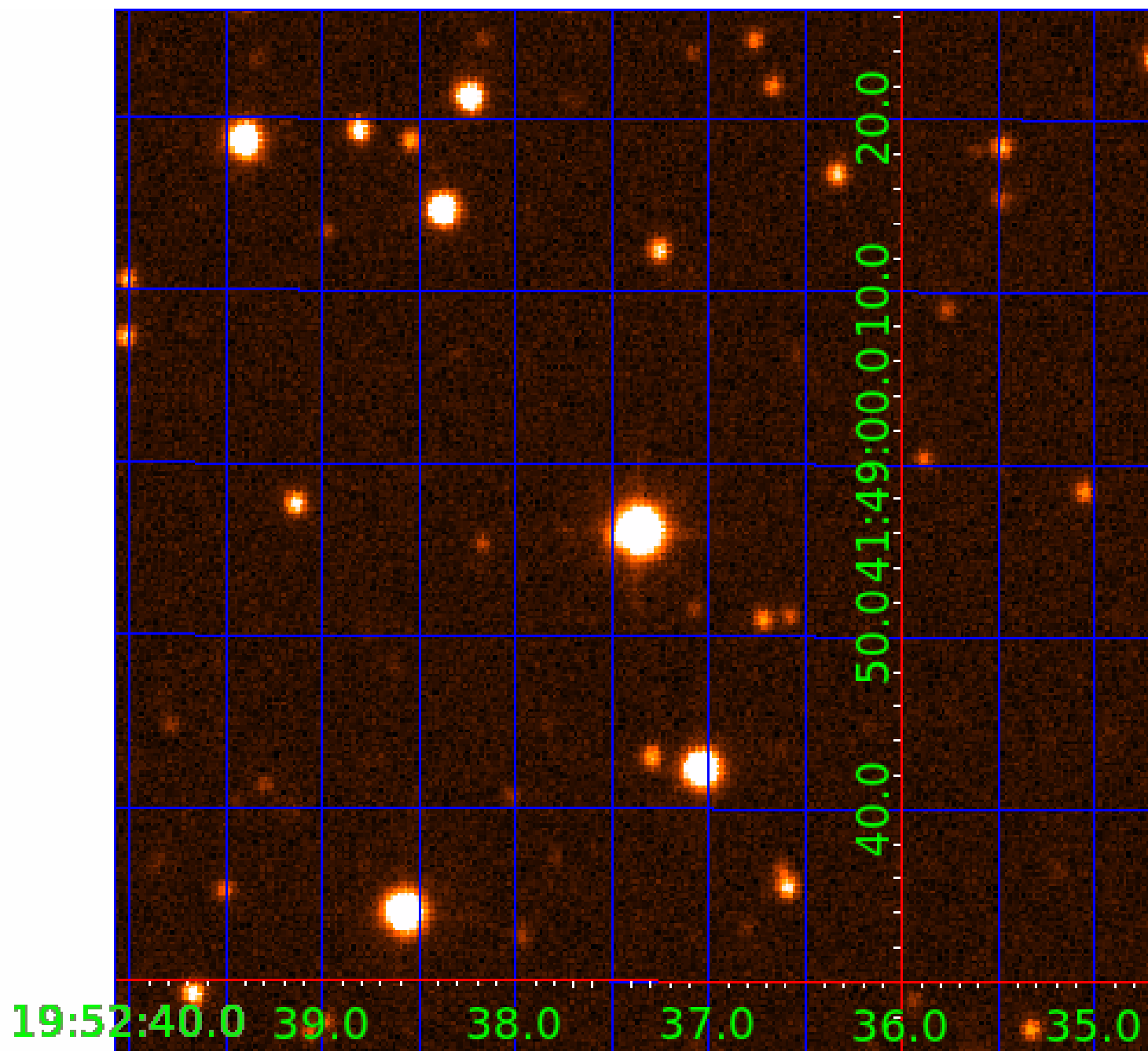






UKIRT Image

Declination



# KIC 006466443

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006466443-01	OBS	No	0.647579	132.070199	0.0	4.765	10.8	0.0	3.41	6675	0.04	69739.51
006466443-02	OBS	No	10.892093	139.104250	80.8	1.289	13.3	6.4	3.41	6675	3.39	1618.28
006466443-03	OBS	No	8.799226	138.436663	102.9	0.658	12.0	4.4	3.41	6675	4.73	2150.85
006466443-04	OBS	No	12.842290	136.795782	128.8	2.047	11.0	6.5	3.41	6675	3.94	1299.21
006466443-05	OBS	No	16.721478	137.833472	262.3	1.045	11.5	13.3	3.41	6675	6.44	913.77
006466443-06	OBS	No	10.280990	134.541853	269.9	0.658	11.0	8.1	3.41	6675	5.76	1747.79
006466443-07	OBS	No	10.156096	133.940544	210.1	1.714	12.4	13.8	3.41	6675	5.04	1776.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006466443-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_FEW_DIFFS
006466443-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006466443-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006466443-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV
006466443-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
006466443-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006466443-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

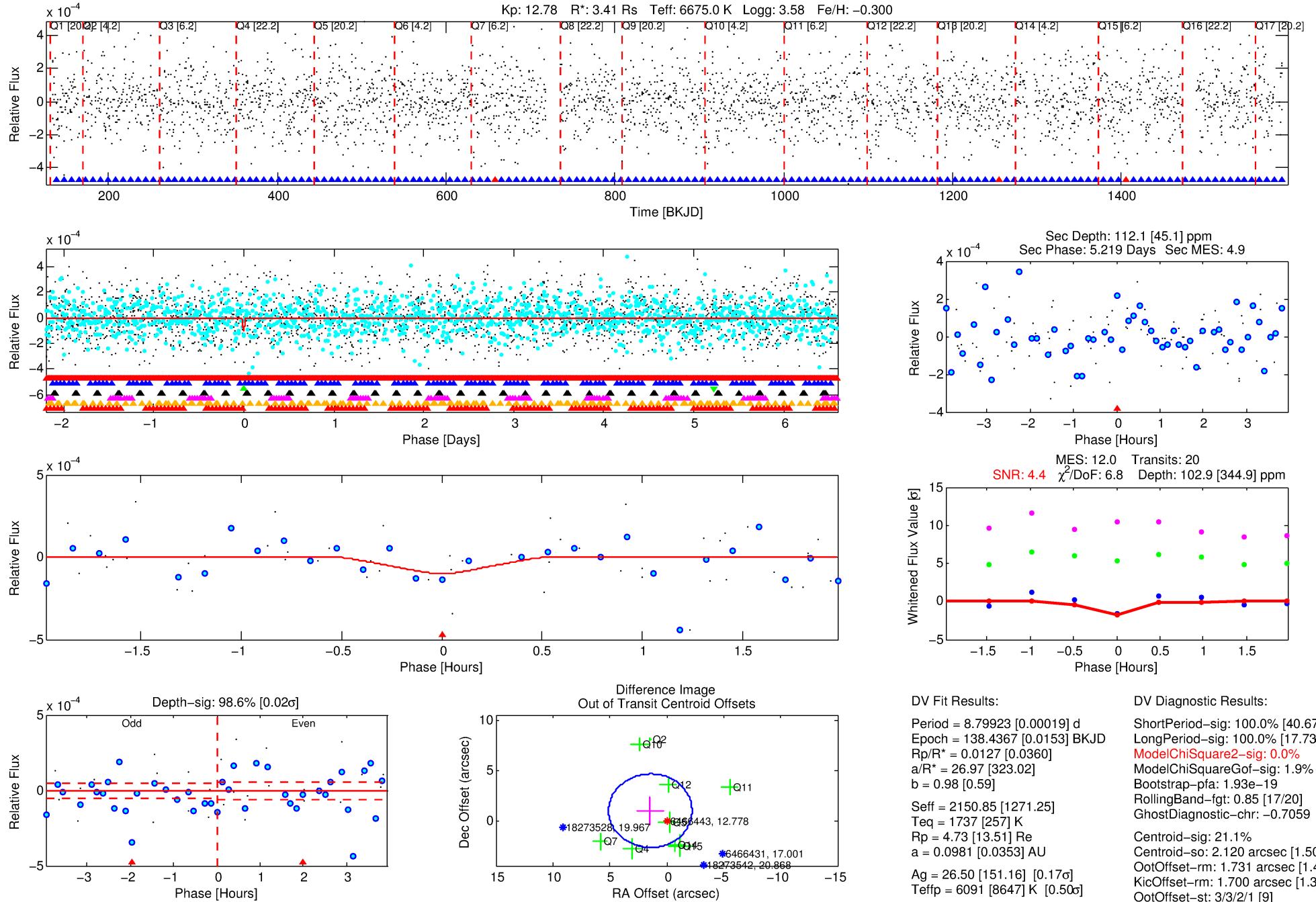
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006466443-03

No Significant Match Found

# DV One-Page Summary

KIC: 6466443 Candidate: 3 of 7 Period: 8.799 d



## DV Fit Results:

Period = 8.79923 [0.00019] d  
Epoch = 138.4367 [0.0153] BKJD  
Rp/R\* = 0.0127 [0.0360]  
a/R\* = 26.97 [323.02]  
b = 0.98 [0.59]  
Seff = 2150.85 [1271.25]  
Teq = 1737 [257] K  
Rp = 4.73 [13.51] Re  
a = 0.0981 [0.0353] AU  
Ag = 26.50 [151.16] [0.17σ]  
Teffp = 6091 [8647] K [0.50σ]

## DV Diagnostic Results:

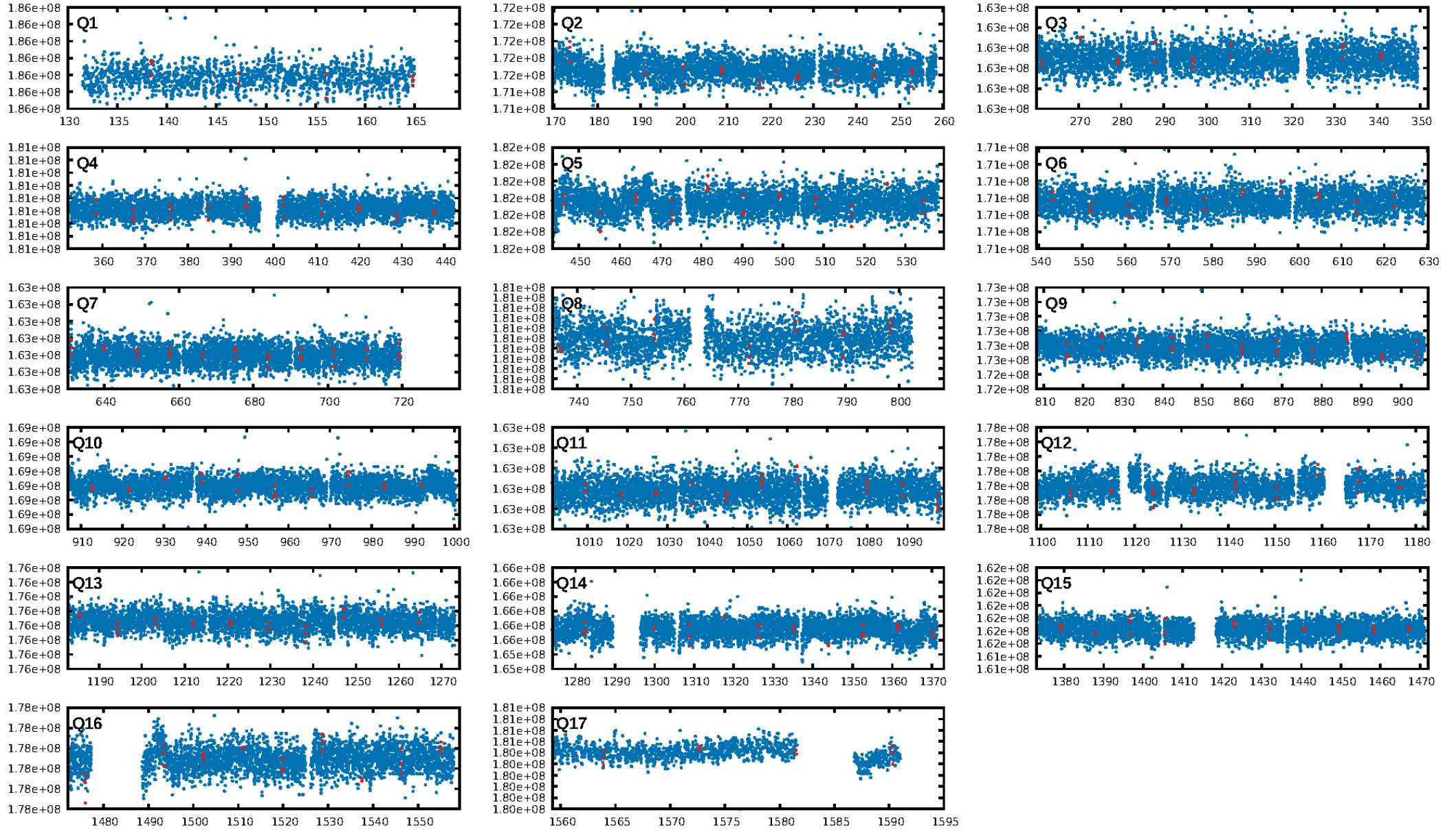
ShortPeriod-sig: 100.0% [40.67σ]  
LongPeriod-sig: 100.0% [17.73σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 1.9%  
Bootstrap-pfa: 1.93e-19  
RollingBand-fgt: 0.85 [17/20]  
GhostDiagnostic-chr: -0.7059  
Centroid-sig: 21.1%  
Centroid-so: 2.120 arcsec [1.50σ]  
OotOffset-rm: 1.731 arcsec [1.42σ]  
KicOffset-rm: 1.700 arcsec [1.35σ]  
OotOffset-st: 3/3/2/1 [9]  
KicOffset-st: 3/3/2/1 [9]  
DiffImageQuality-fgm: 0.22 [2/9]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:13:49 Z

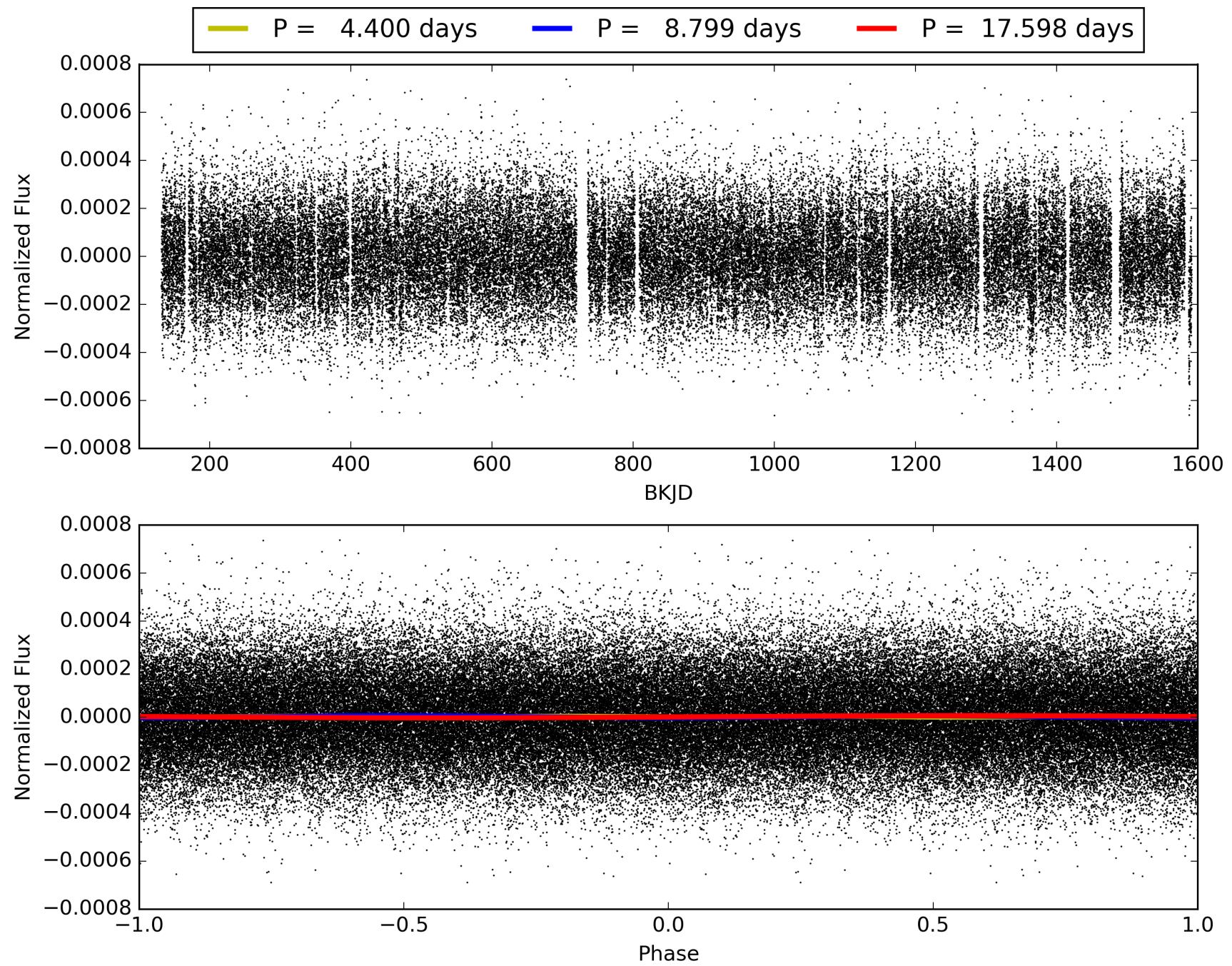
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 006466443-03, PDC Light Curves

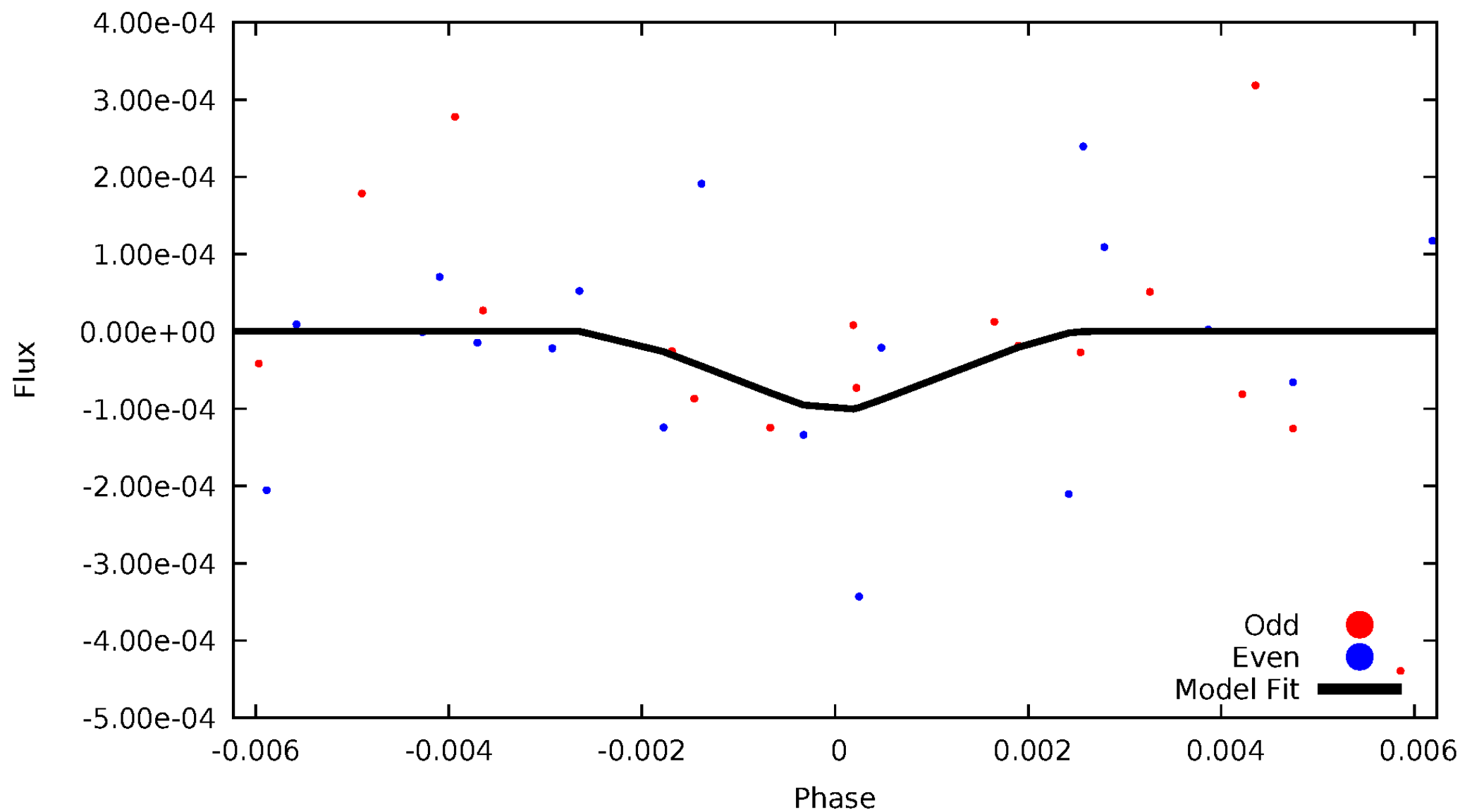


TCE 006466443-03



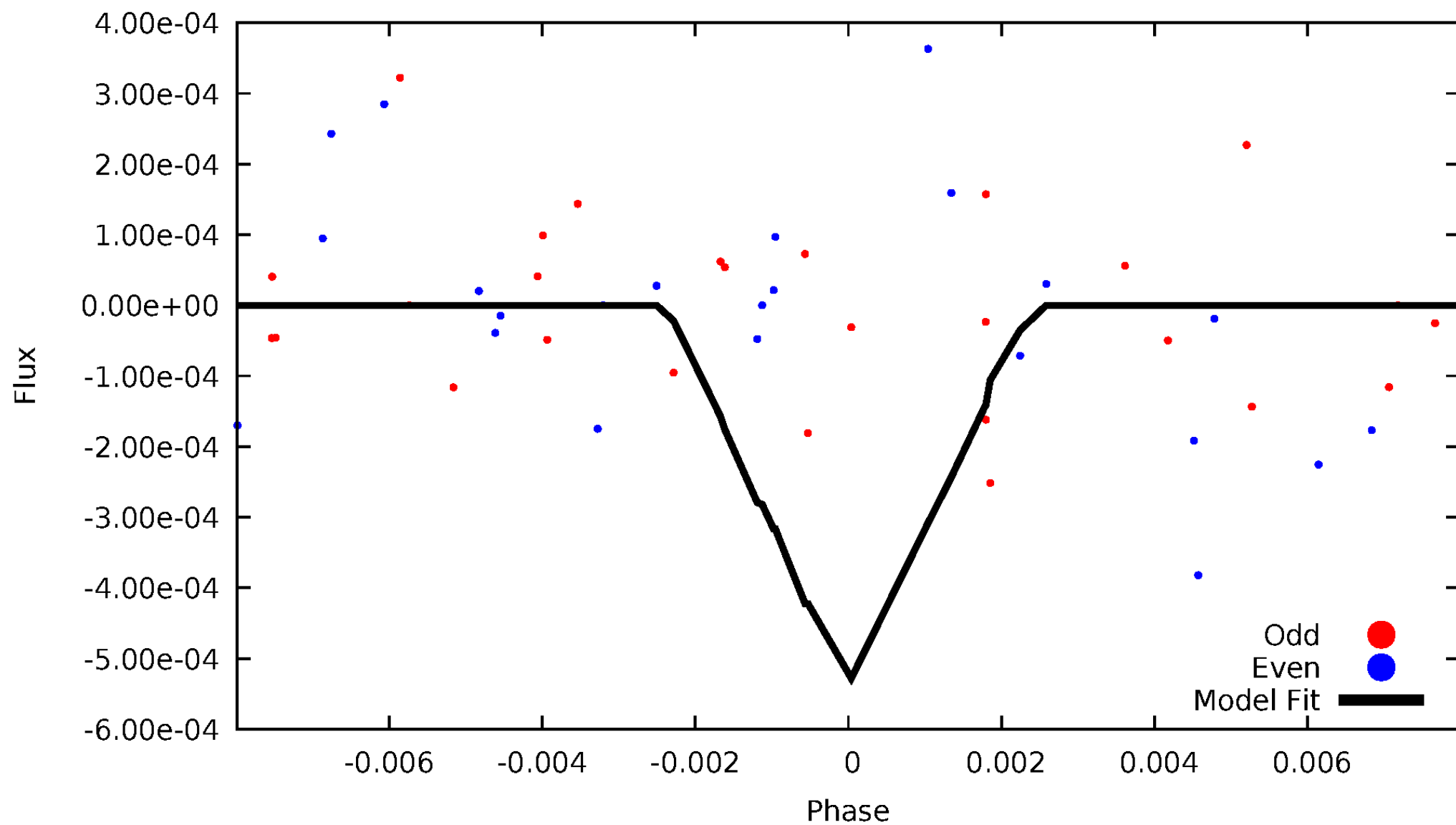
# DV Odd/Even

TCE 006466443-03



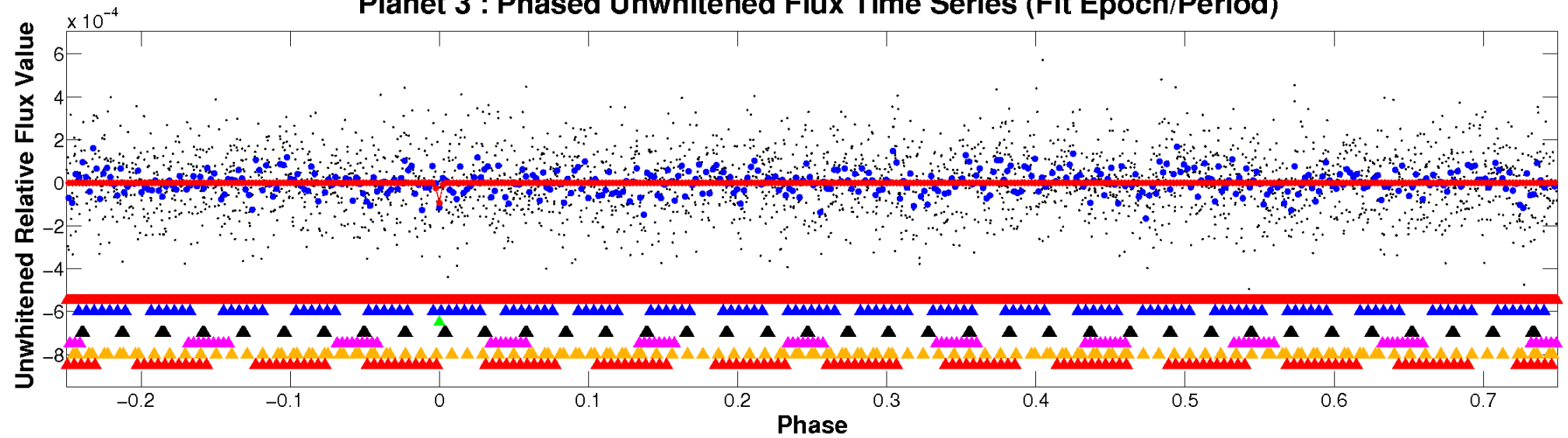
# ALT Odd/Even

TCE 006466443-03

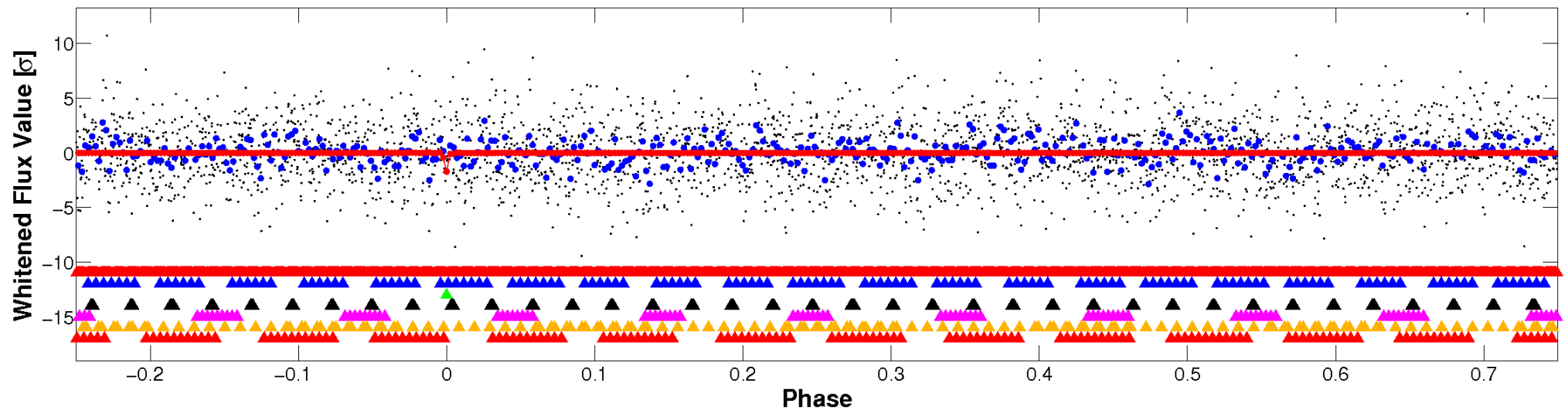


# Non-Whitened Vs. Whitened Light Curve

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



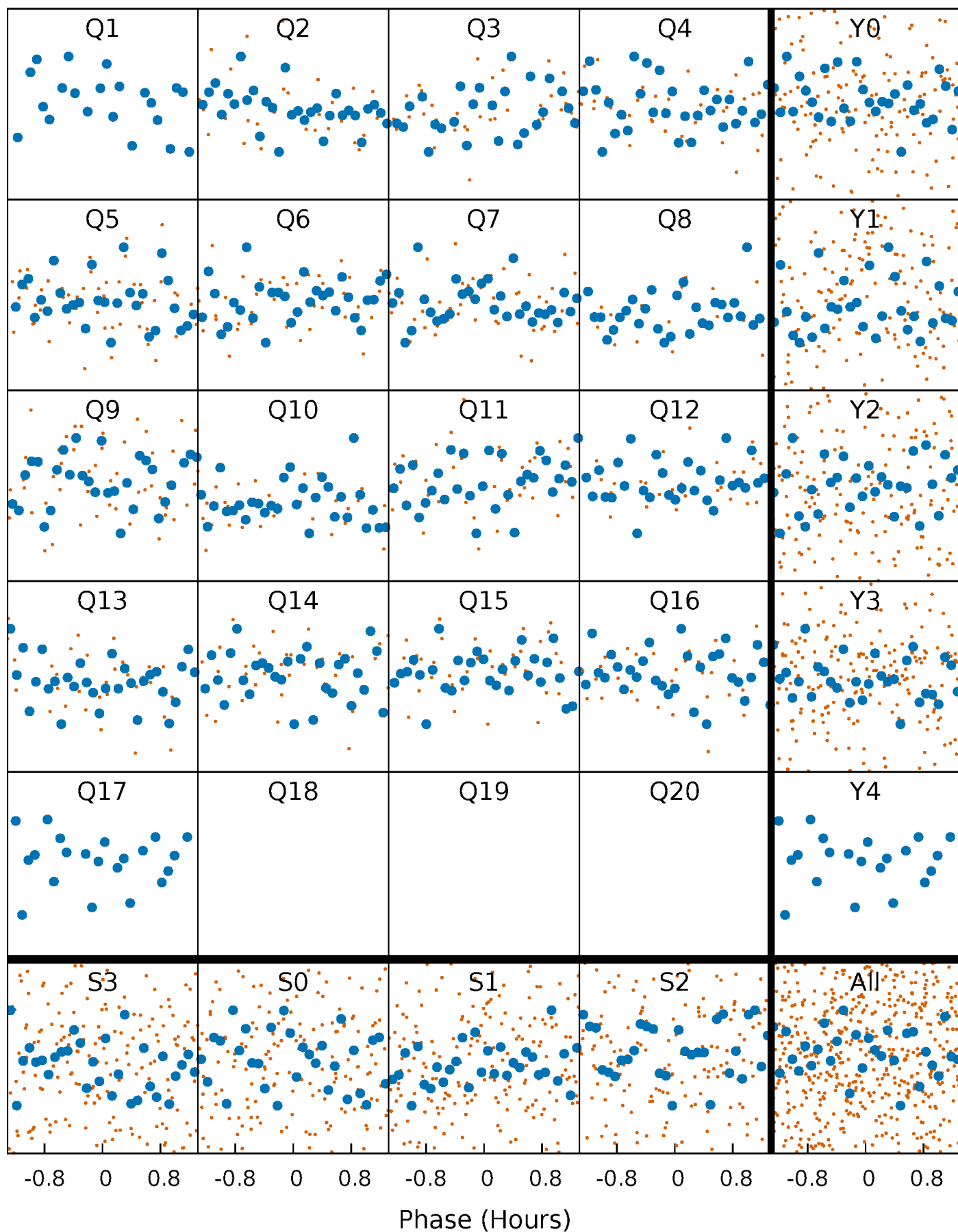
## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)





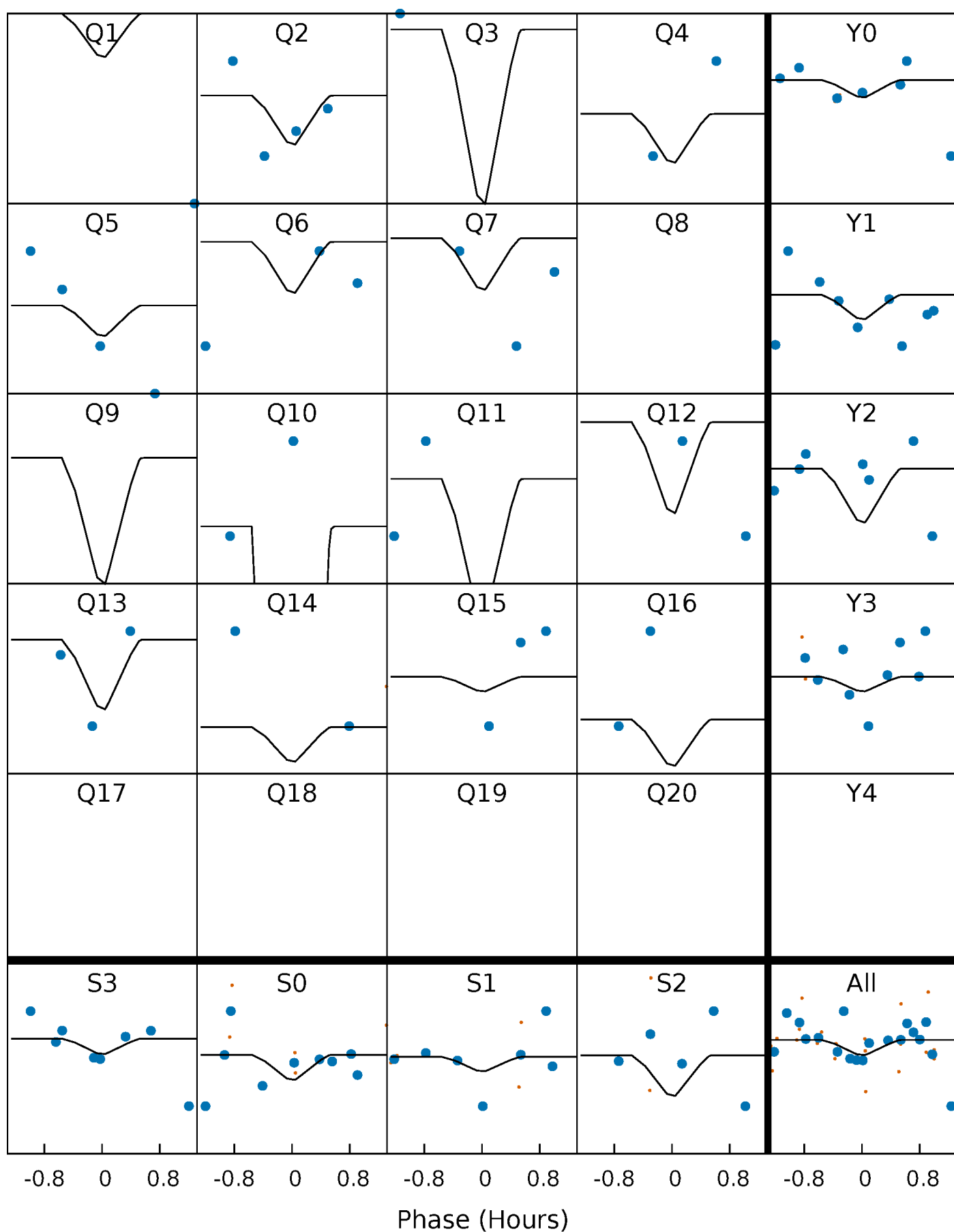
# PDC Quarter-Phased Transit Curves

TCE 006466443-03 P= 8.799226 Days  $T_0=138.436663$  (BKJD)



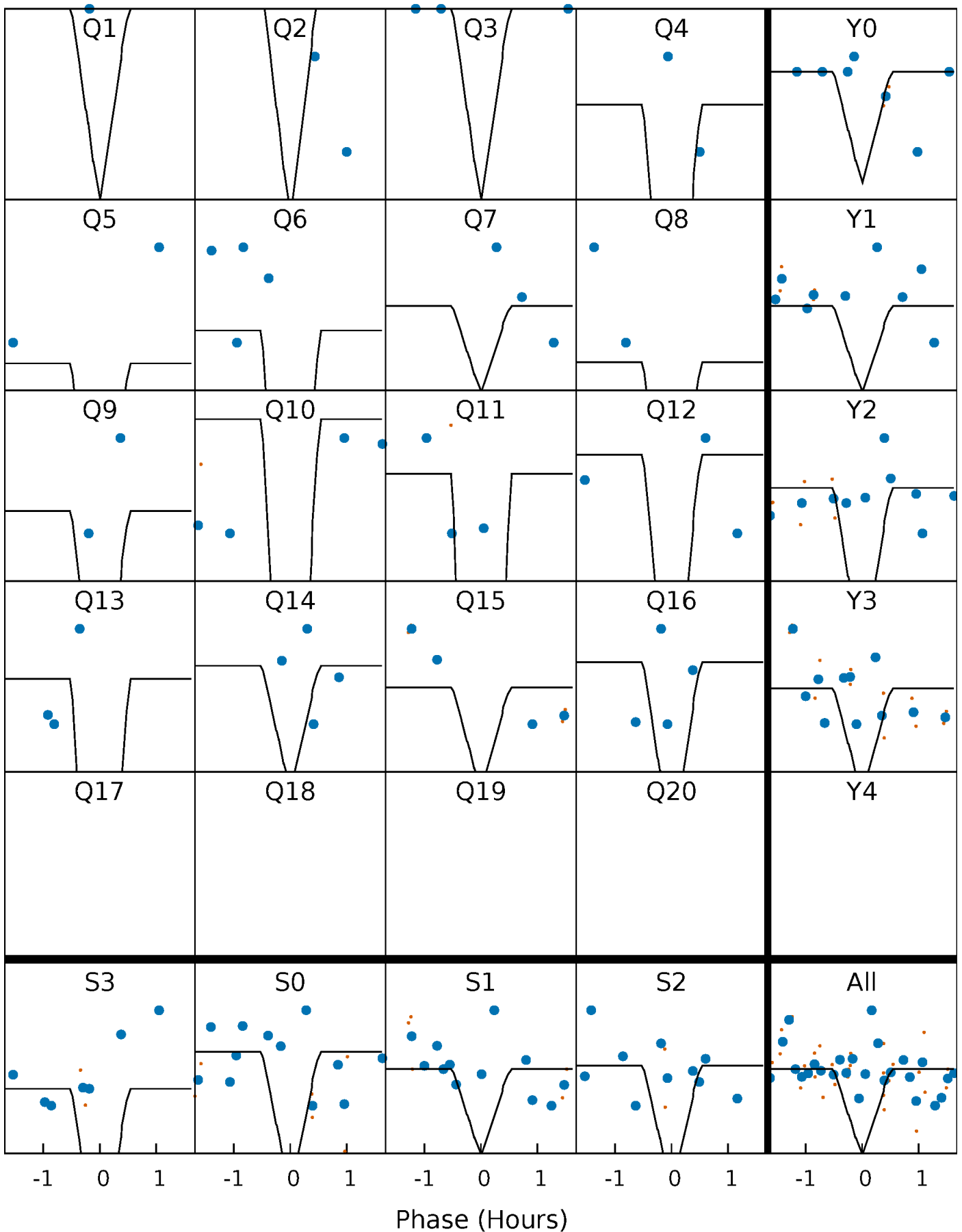
# DV Quarter-Phased Transit Curves

TCE 006466443-03 P= 8.799226 Days  $T_0=138.436663$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

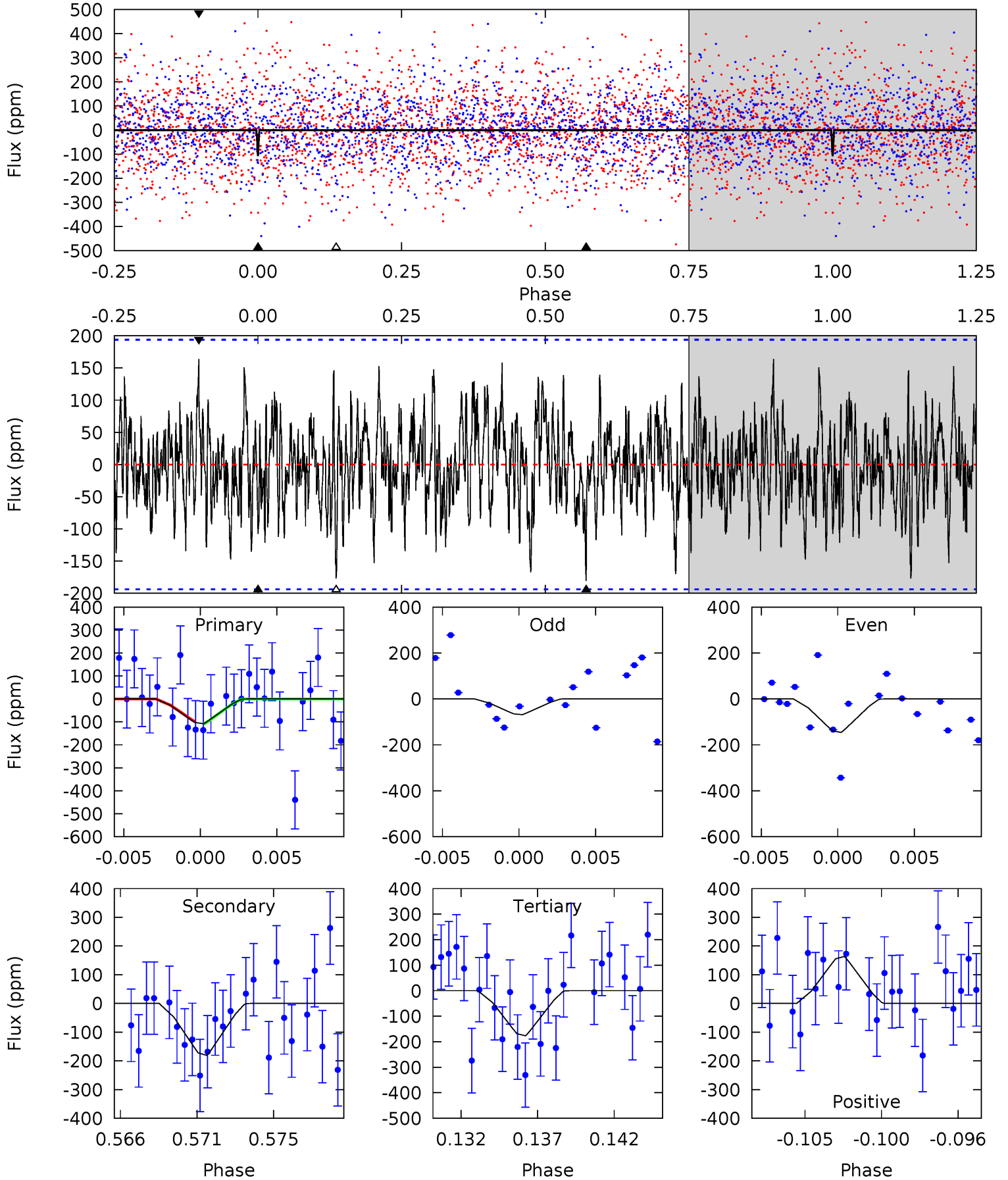
TCE 006466443-03   P= 8.802006 Days    $T_0=138.112348$  (BKJD)



# DV Model-Shift Uniqueness Test

006466443-03, P = 8.799226 Days, E = 129.637437 Days

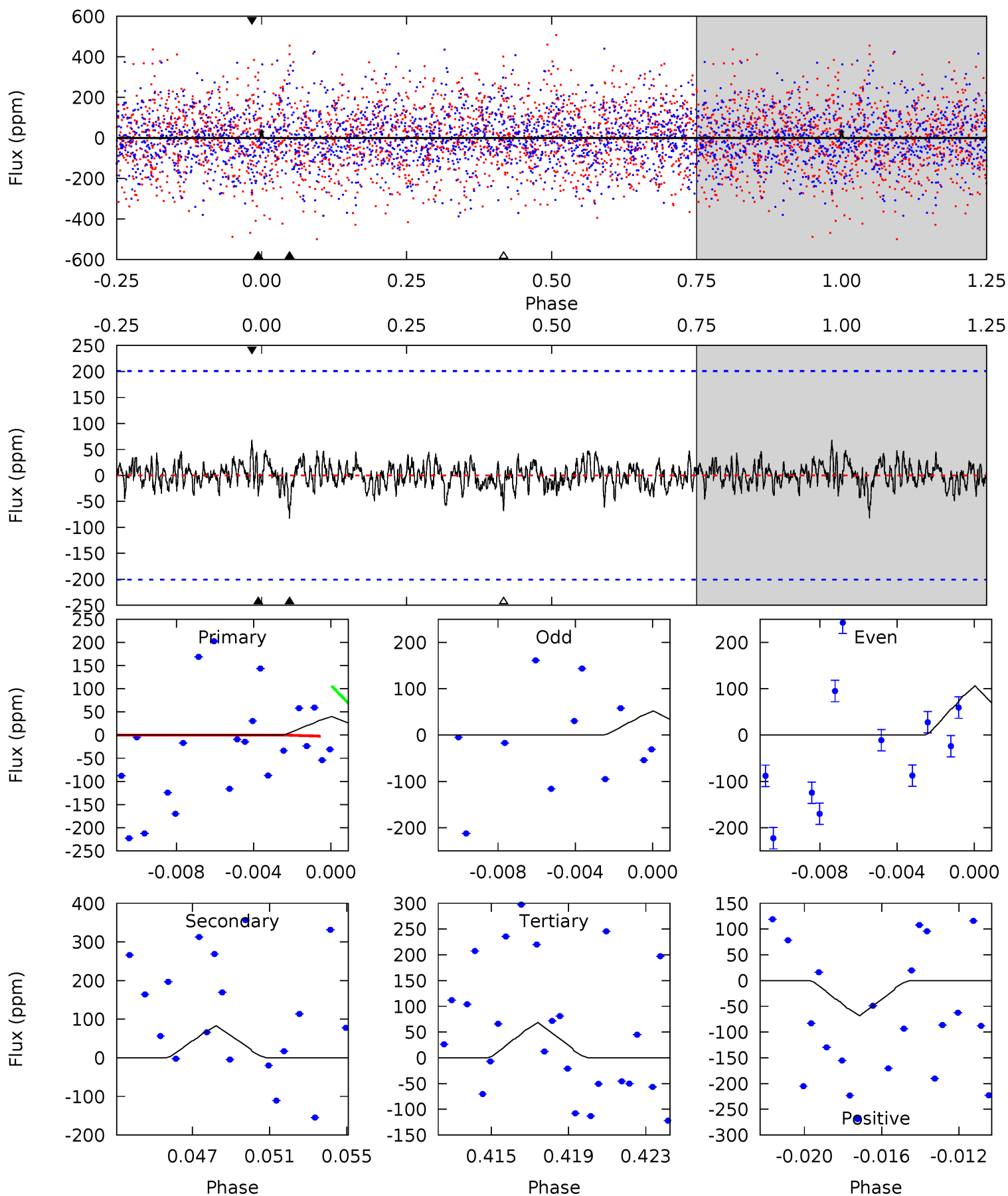
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.88	4.83	4.72	4.37	5.17	2.84	1.55	-1.84	-1.49	0.11	0.46	1.03	1.42	0.47	0.13



# Alt Model-Shift Uniqueness Test

006466443-03, P = 8.802006 Days, E = 129.310342 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
1.04	2.15	1.78	1.77	5.20	2.89	0.50	-0.73	-0.73	0.38	0.38	0.69	0.93	0.45	1.35





### Stellar Parameters For KIC 006466443

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6675^{+212}_{-236}$	$3.583^{+0.336}_{-0.105}$	$-0.300^{+0.350}_{-0.250}$	$3.410^{+0.429}_{-1.287}$	$1.626^{+0.243}_{-0.364}$	$0.058^{+0.139}_{-0.015}$
	+3%/-4%	+9%/-3%	+117%/-83%	+13%/-38%	+15%/-22%	+241%/-26%
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 006466443-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-181 \pm 37$	$10.14^{+10.71}_{-7.12}$	$2405^{+144}_{-228}$	$4578^{+4061}_{-1057}$	$8.641^{+99.098}_{-6.508}$
Alt.	$-83 \pm 39$	$11.97^{+11.53}_{-7.88}$	$2386^{+141}_{-204}$	$3686^{+2194}_{-902}$	$2.814^{+24.436}_{-2.155}$

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

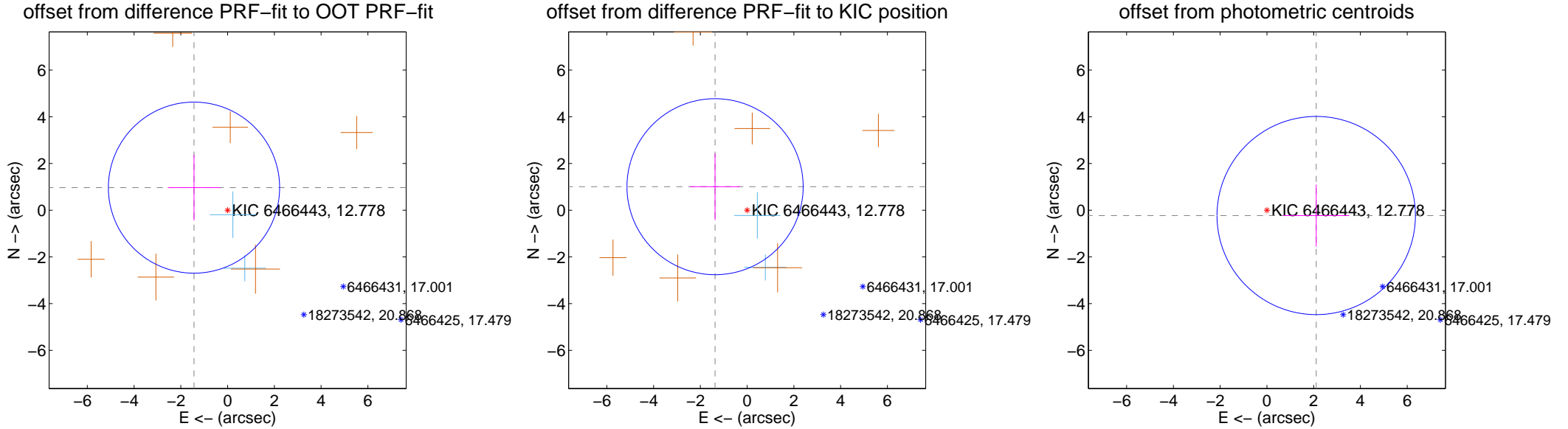
## DV Centroid Data

Supplemental centroid analysis for 006466443-03. Kepler magnitude: 12.78. Transit SNR 4.42

There are 2 quarters with good PRF difference image offsets

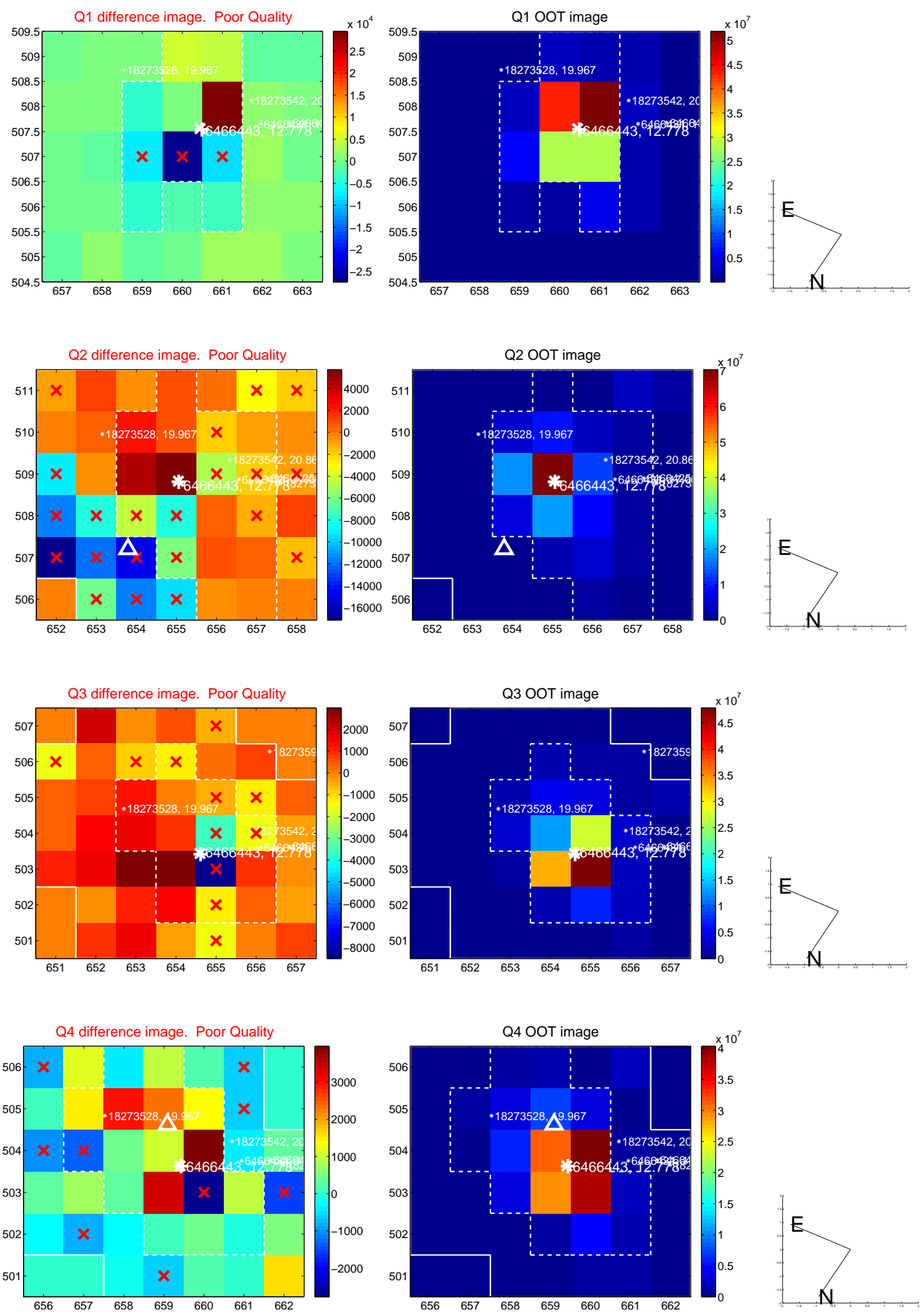
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.731 \pm 1.221$	1.42	$1.436 \pm 1.119$	$0.966 \pm 1.407$
PRF-fit source offset from KIC position	$1.700 \pm 1.256$	1.35	$1.371 \pm 1.069$	$1.006 \pm 1.425$
photometric centroid source offset	$2.12 \pm 1.41$	1.50	$-2.11 \pm 1.42$	$-0.23 \pm 1.33$

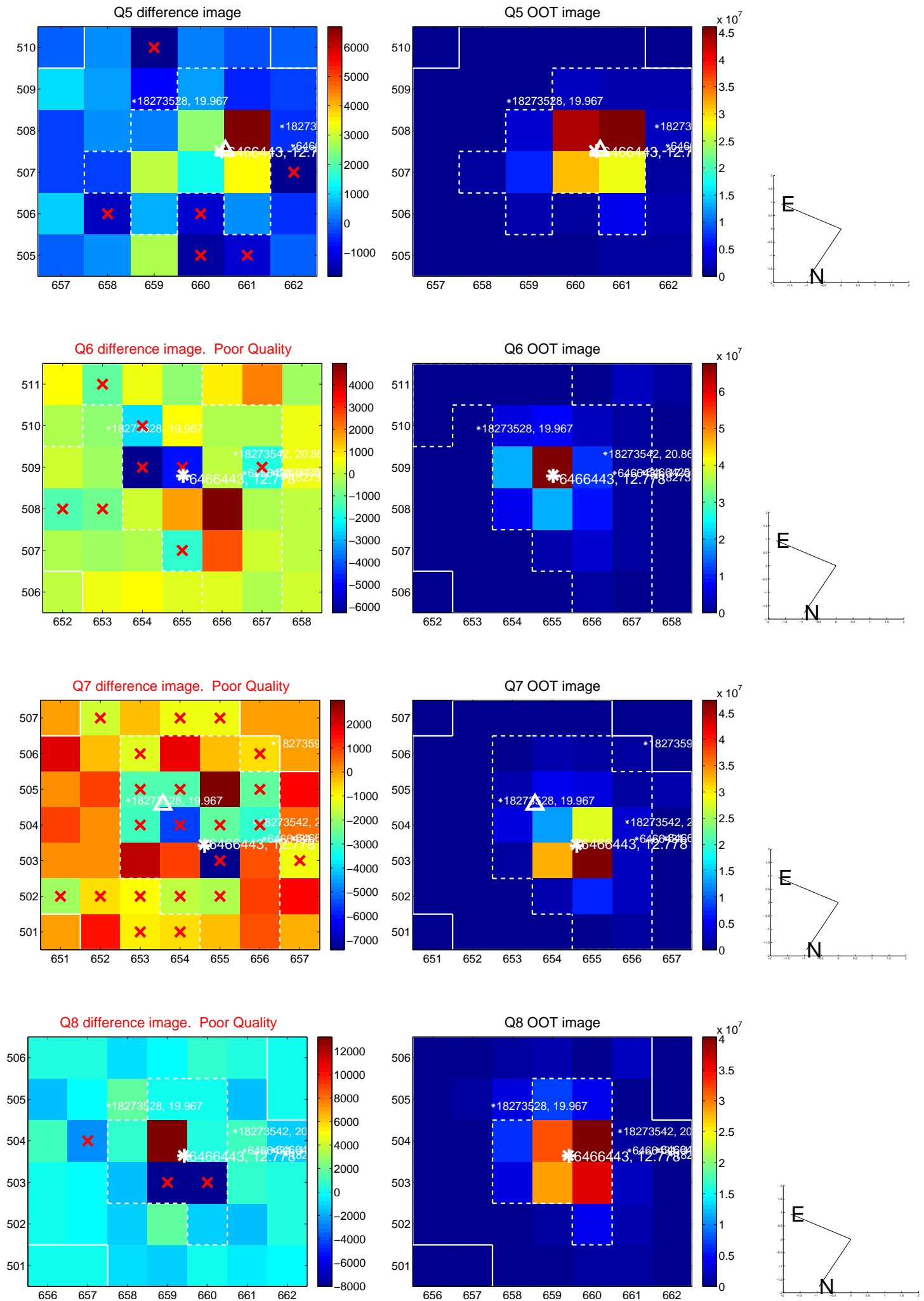


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

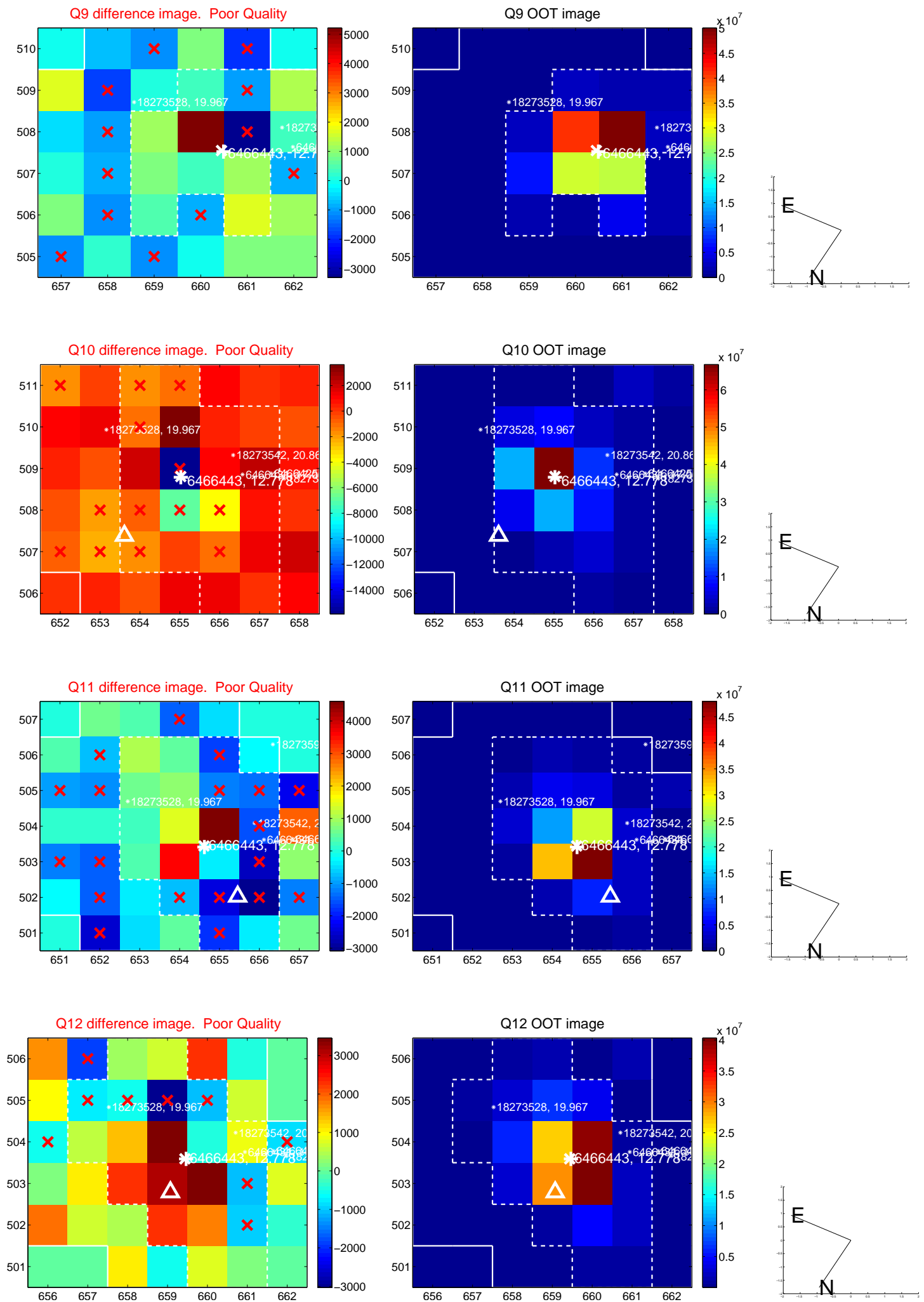
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



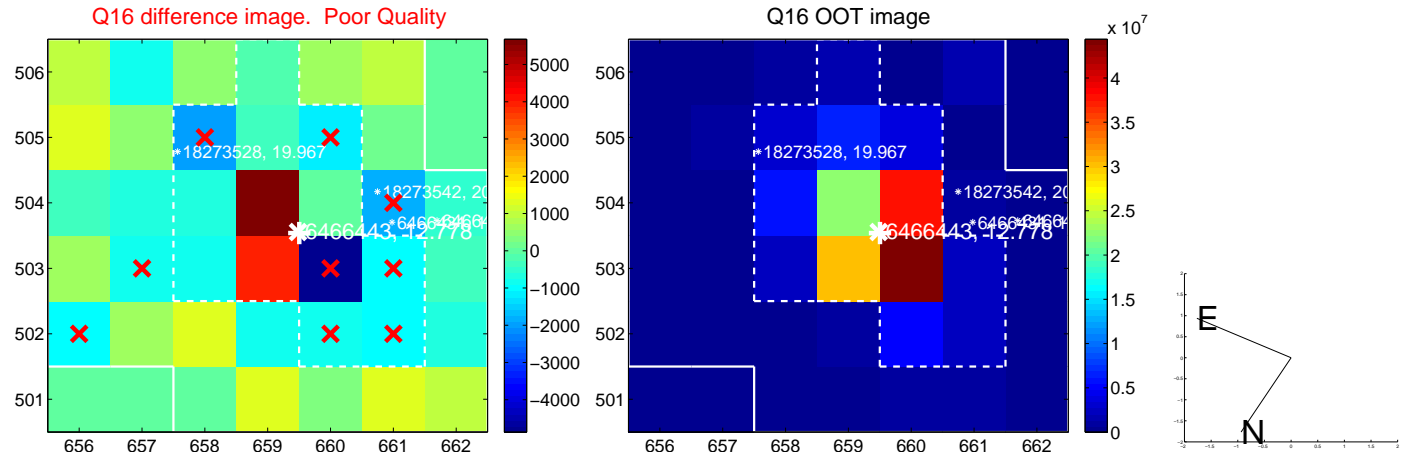
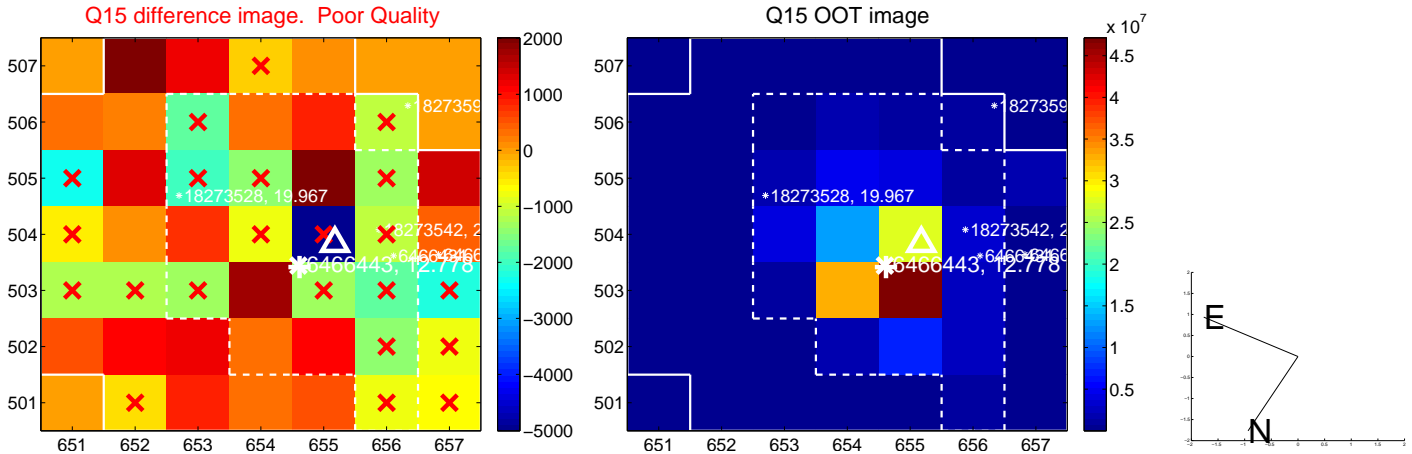
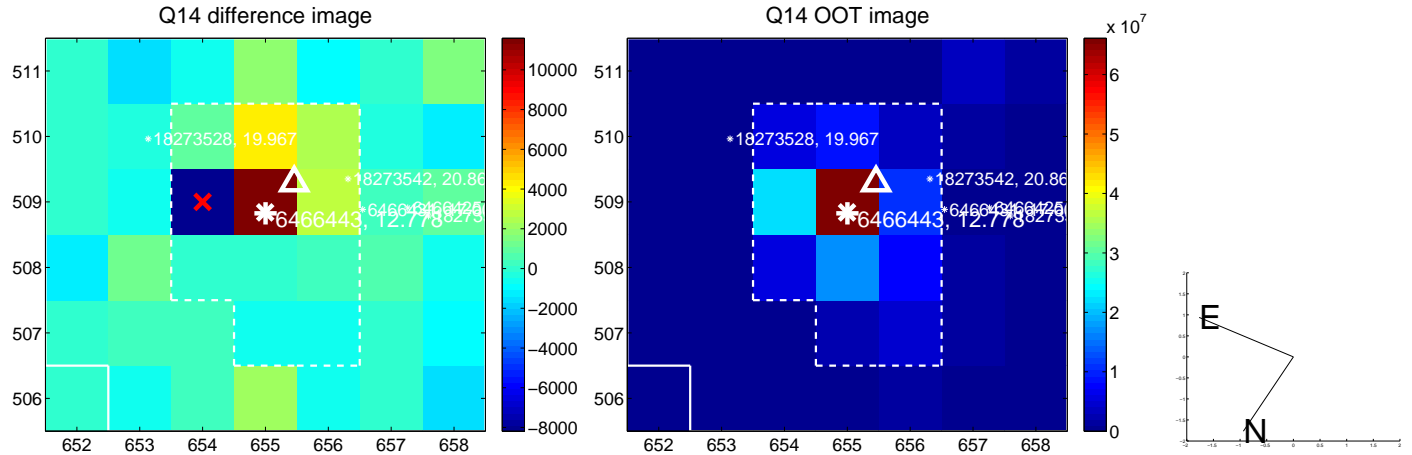
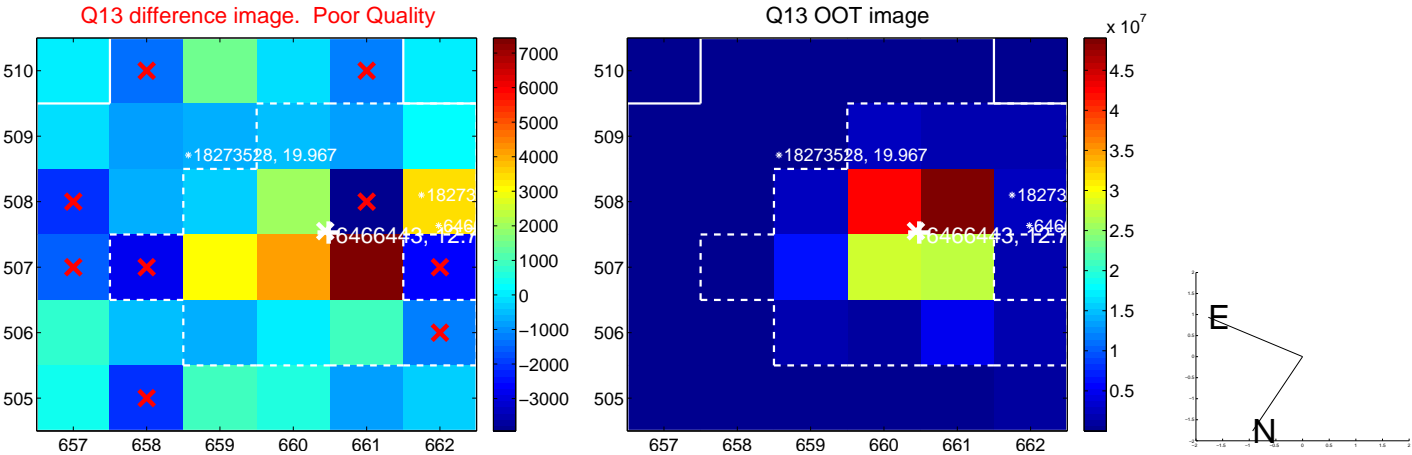
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

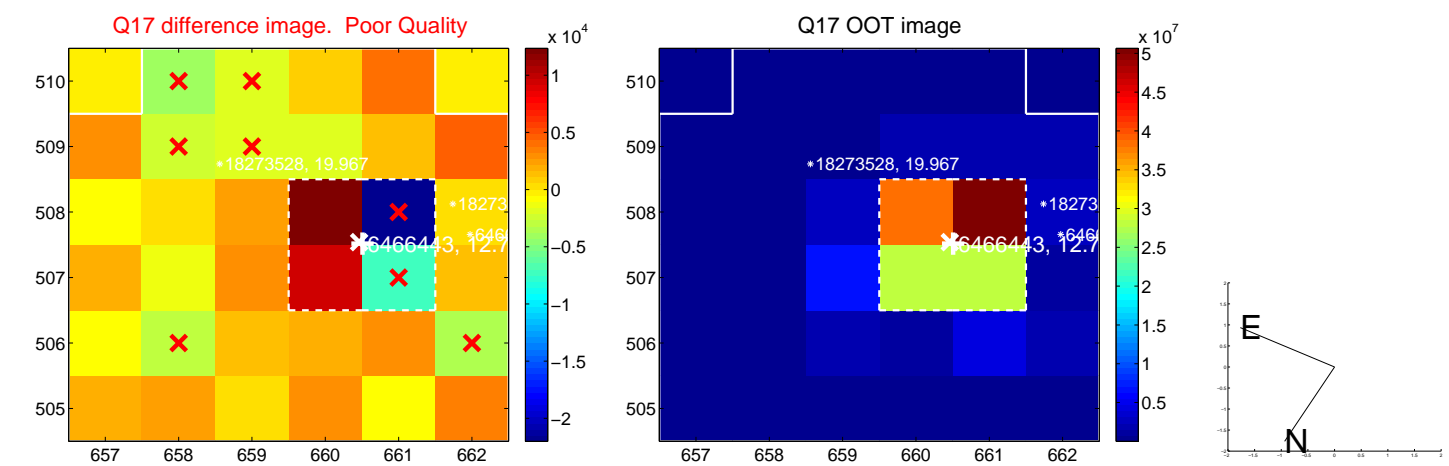


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

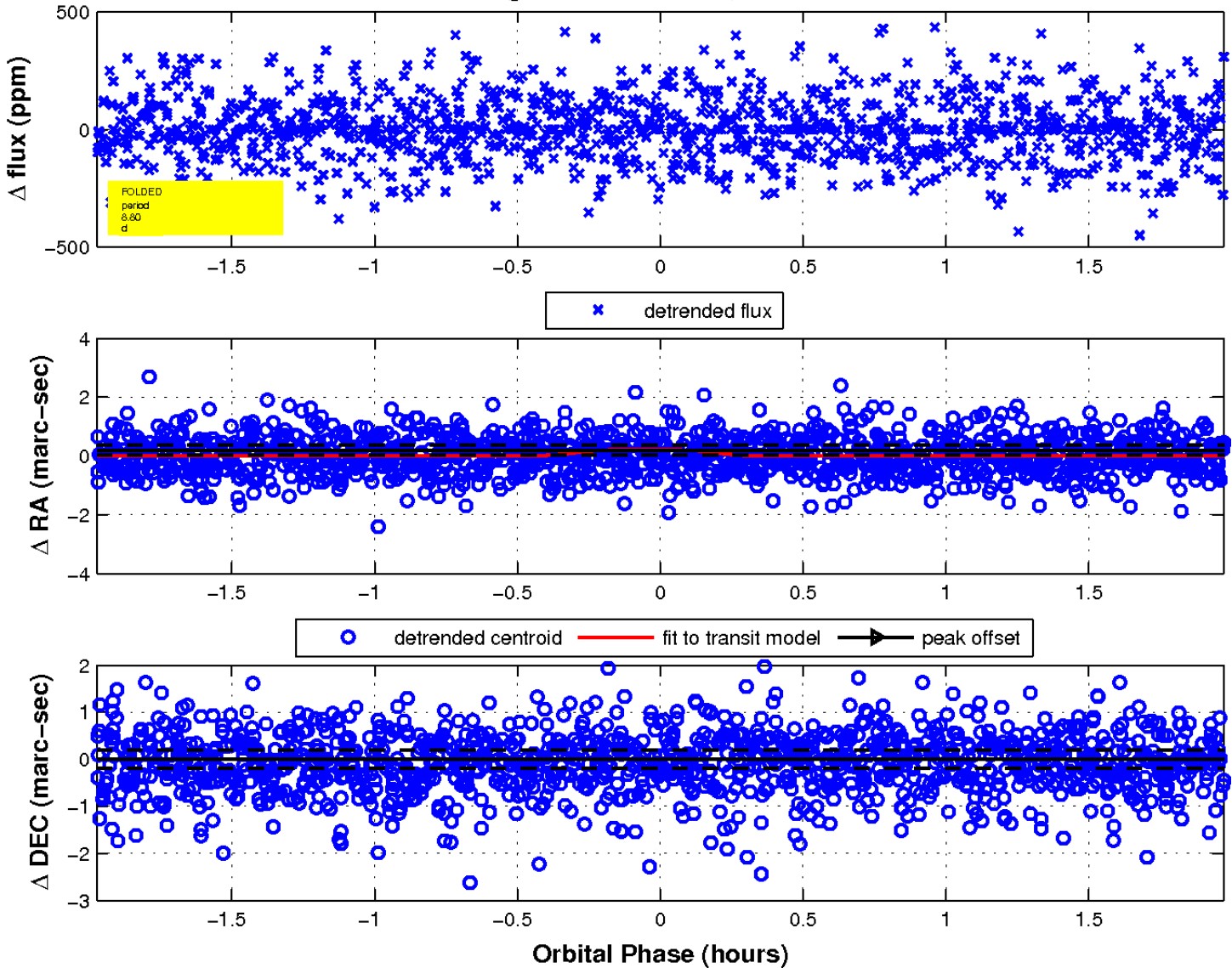




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

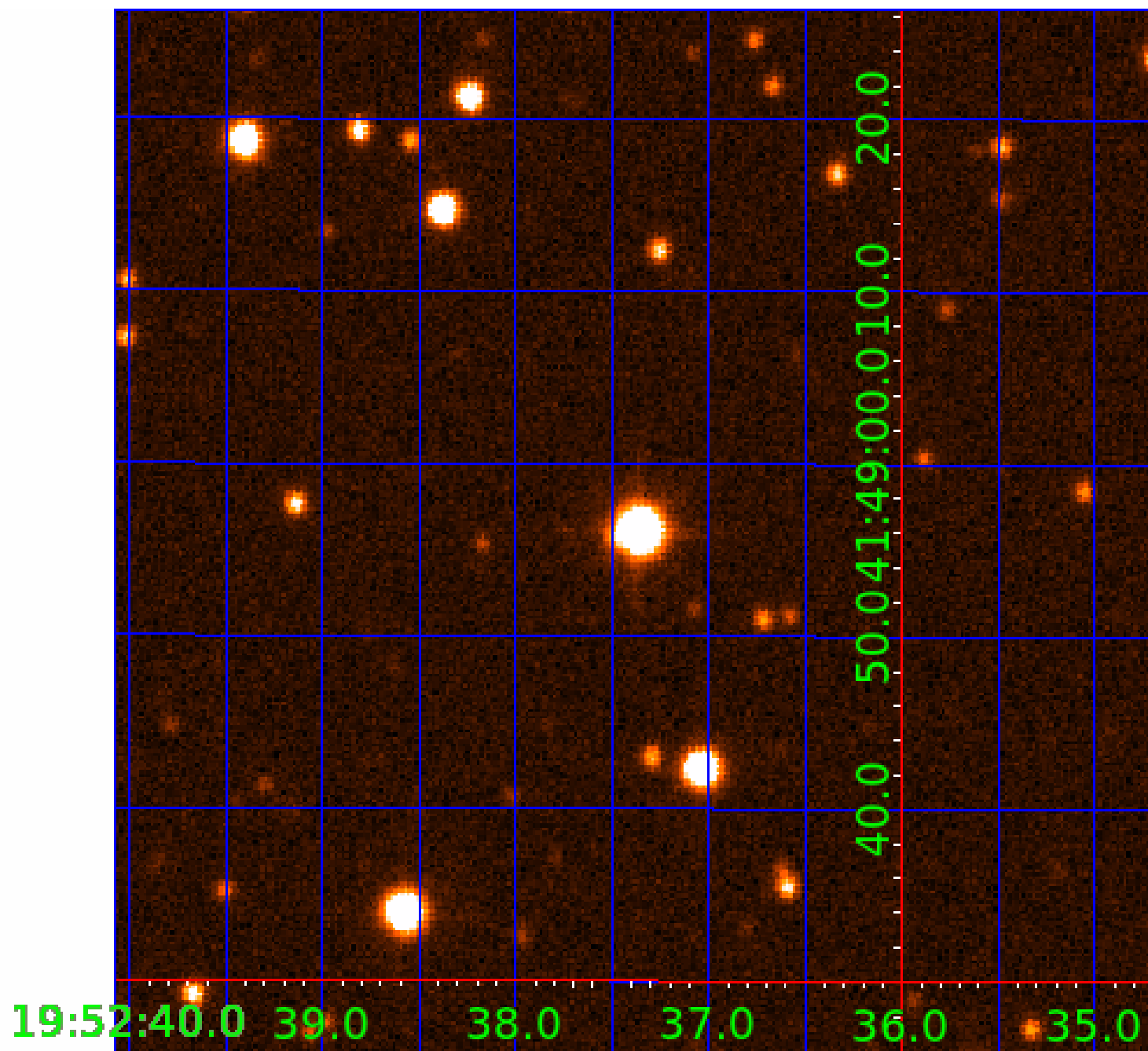


fluxWeightedCentroids, Planet 3 of 7



UKIRT Image

Declination



# KIC 006466443

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006466443-01	OBS	No	0.647579	132.070199	0.0	4.765	10.8	0.0	3.41	6675	0.04	69739.51
006466443-02	OBS	No	10.892093	139.104250	80.8	1.289	13.3	6.4	3.41	6675	3.39	1618.28
006466443-03	OBS	No	8.799226	138.436663	102.9	0.658	12.0	4.4	3.41	6675	4.73	2150.85
006466443-04	OBS	No	12.842290	136.795782	128.8	2.047	11.0	6.5	3.41	6675	3.94	1299.21
006466443-05	OBS	No	16.721478	137.833472	262.3	1.045	11.5	13.3	3.41	6675	6.44	913.77
006466443-06	OBS	No	10.280990	134.541853	269.9	0.658	11.0	8.1	3.41	6675	5.76	1747.79
006466443-07	OBS	No	10.156096	133.940544	210.1	1.714	12.4	13.8	3.41	6675	5.04	1776.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006466443-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_FEW_DIFFS
006466443-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006466443-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006466443-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV
006466443-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
006466443-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006466443-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

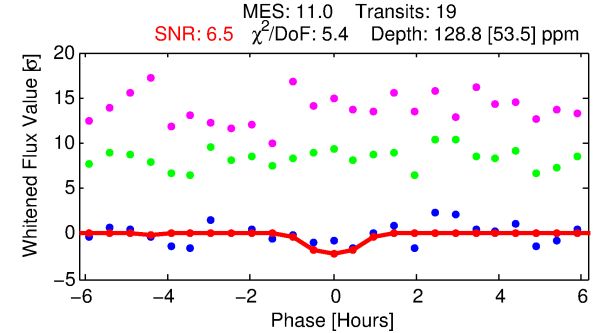
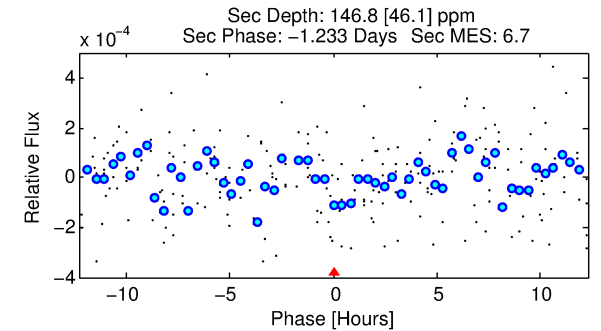
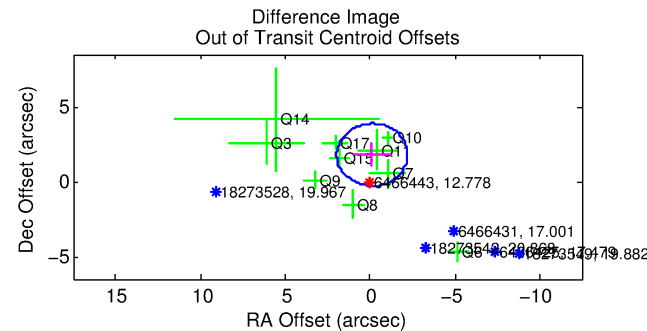
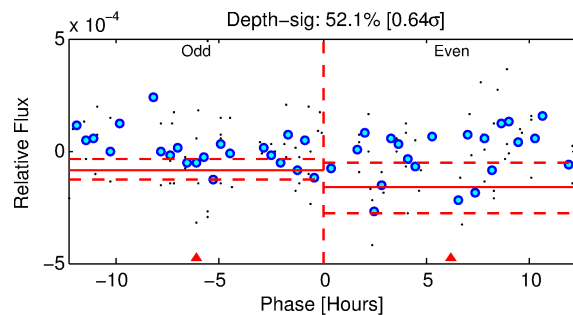
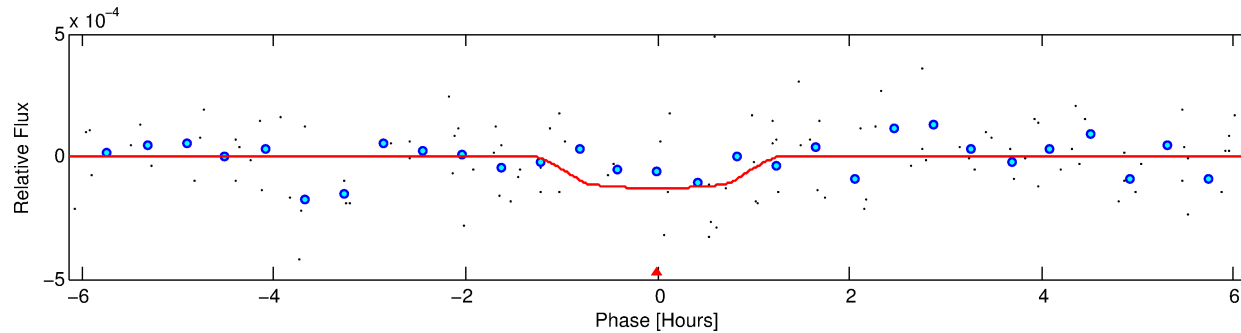
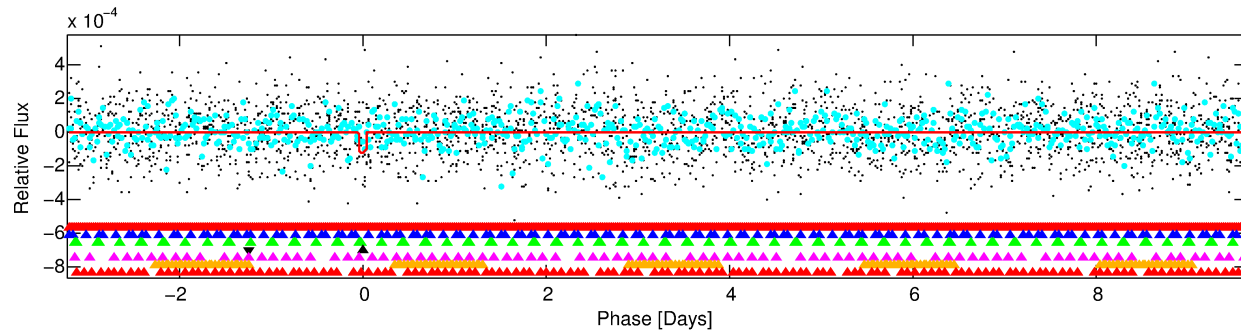
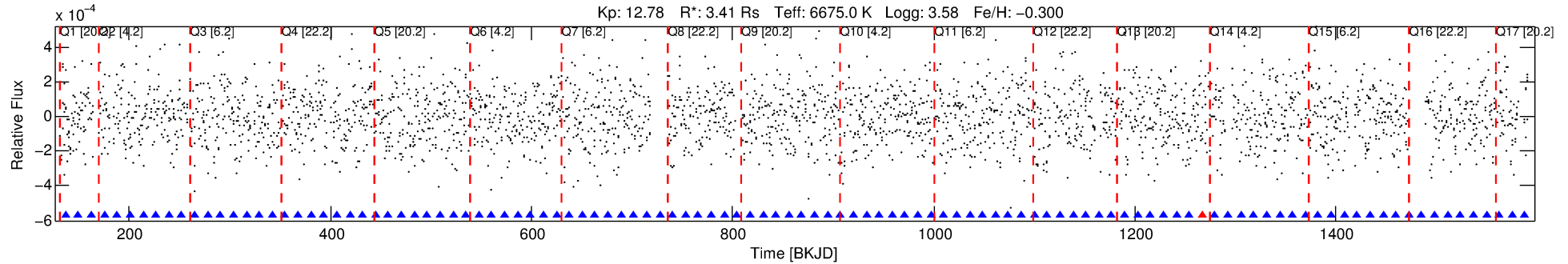
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006466443-04

No Significant Match Found

# DV One-Page Summary

KIC: 6466443 Candidate: 4 of 7 Period: 12.842 d



## DV Fit Results:

Period = 12.84229 [0.00020] d  
Epoch = 136.7958 [0.0151] BKJD  
Rp/R\* = 0.0106 [0.0394]  
a/R\* = 46.02 [923.37]  
b = 0.32 [57.95]  
Seff = 1299.21 [767.89]  
Teq = 1531 [226] K  
Rp = 3.94 [14.74] Re  
a = 0.1262 [0.0455] AU  
Ag = 82.68 [617.54] [0.13 $\sigma$ ]  
Teffp = 7137 [13291] K [0.42 $\sigma$ ]

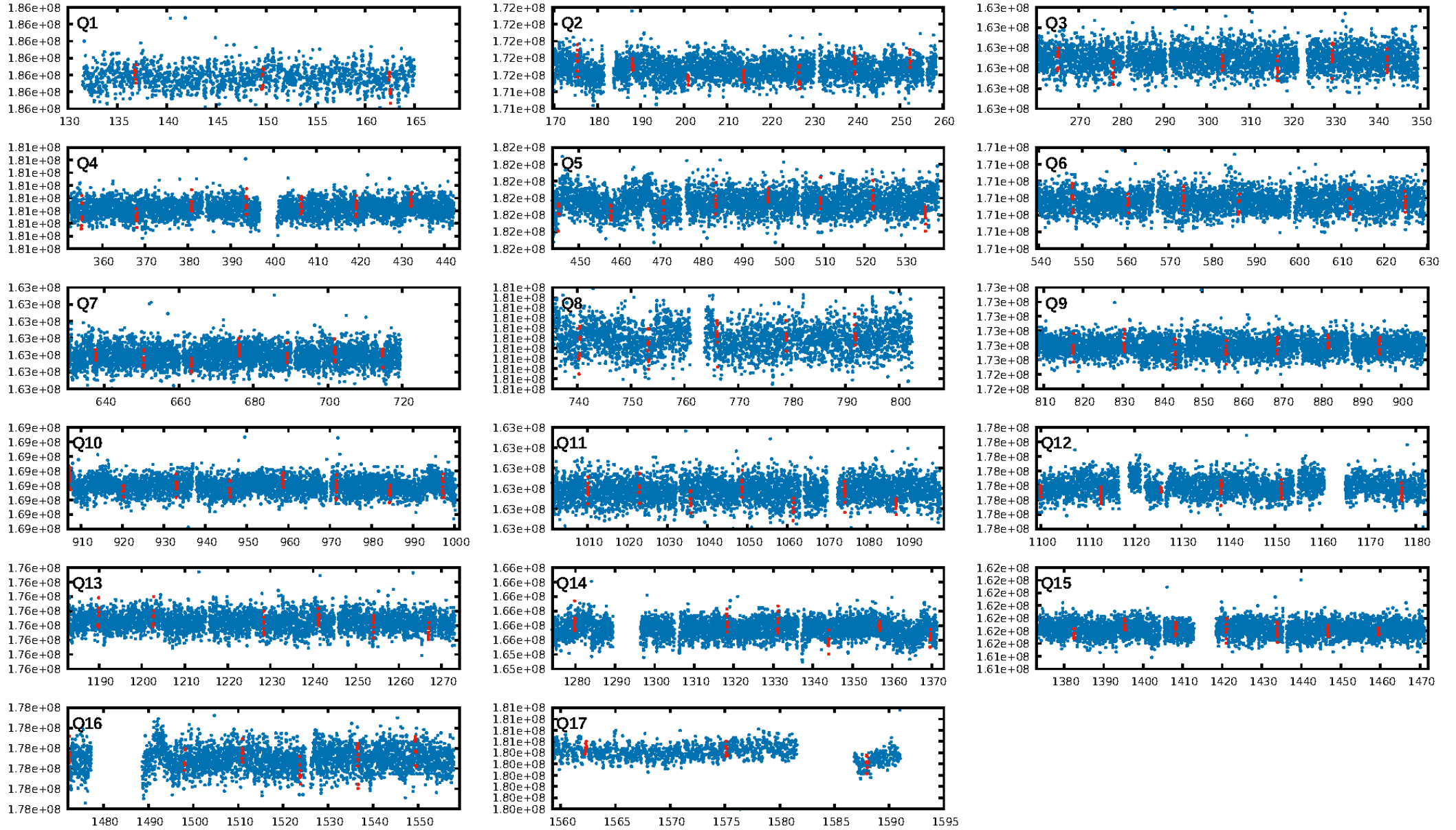
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [19.35 $\sigma$ ]  
LongPeriod-sig: 100.0% [40.51 $\sigma$ ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 13.0%  
Bootstrap-pfa: 1.77e-12  
RollingBand-fgt: 0.94 [16/17]  
GhostDiagnostic-chr: -10.29  
Centroid-sig: 79.5%  
Centroid-so: 0.571 arcsec [0.84 $\sigma$ ]  
OotOffset-rm: 1.799 arcsec [2.59 $\sigma$ ]  
OotOffset-st: 3/4/1/2 [10]  
KicOffset-rm: 1.860 arcsec [2.65 $\sigma$ ]  
KicOffset-st: 3/4/1/2 [10]  
DiffImageQuality-fgm: 0.30 [3/10]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:13:52 Z

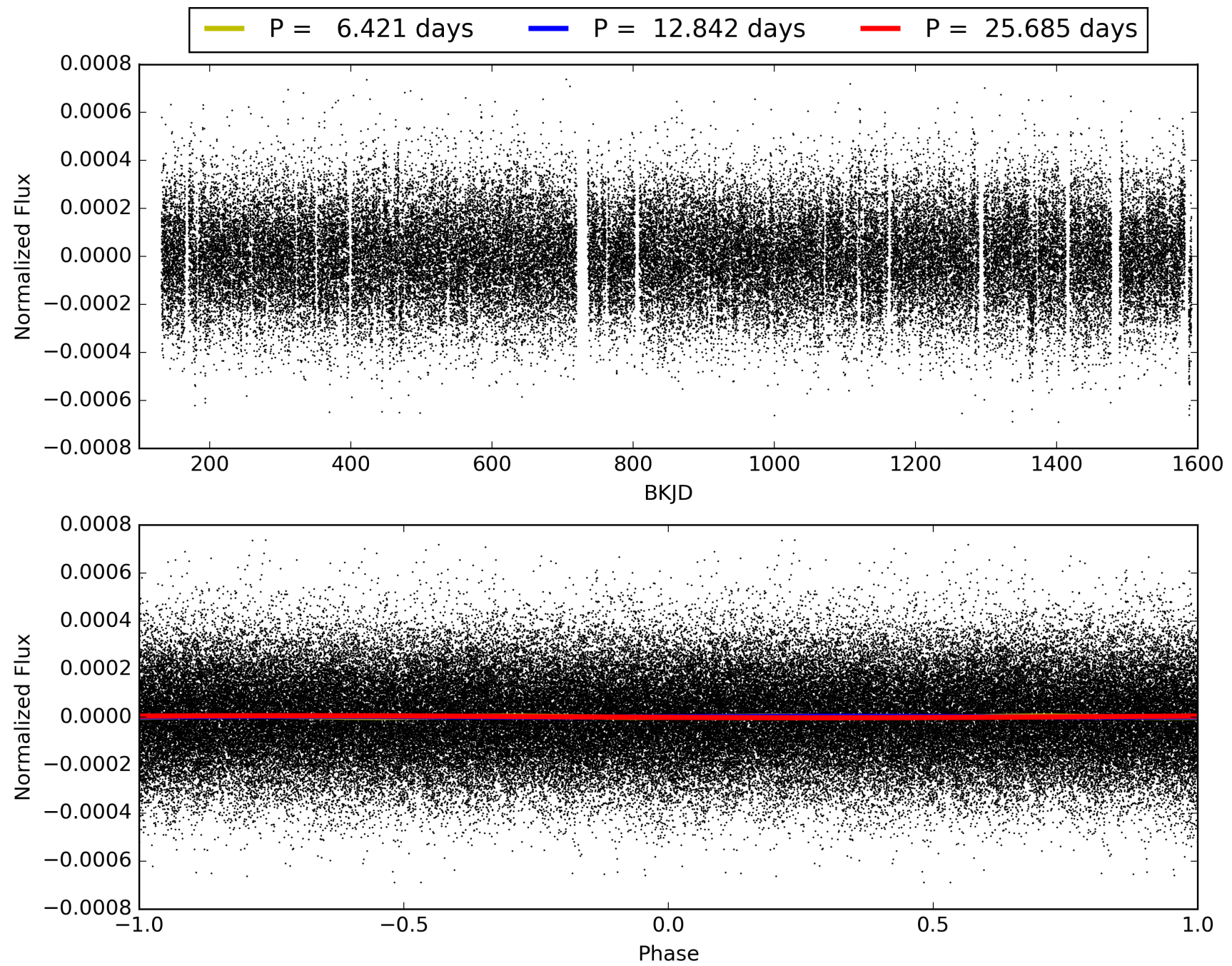
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006466443-04, PDC Light Curves





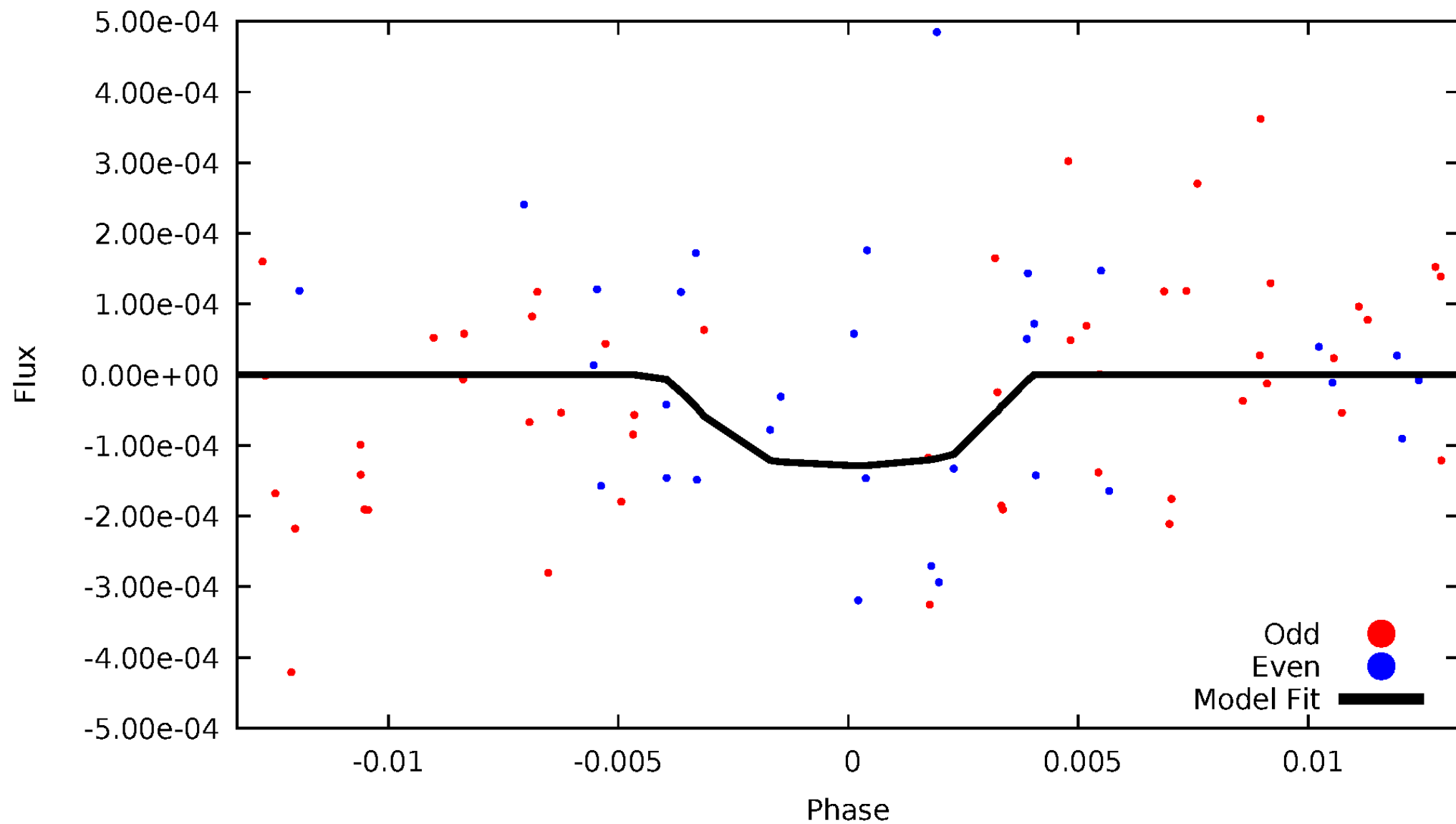
TCE 006466443-04





# DV Odd/Even

TCE 006466443-04



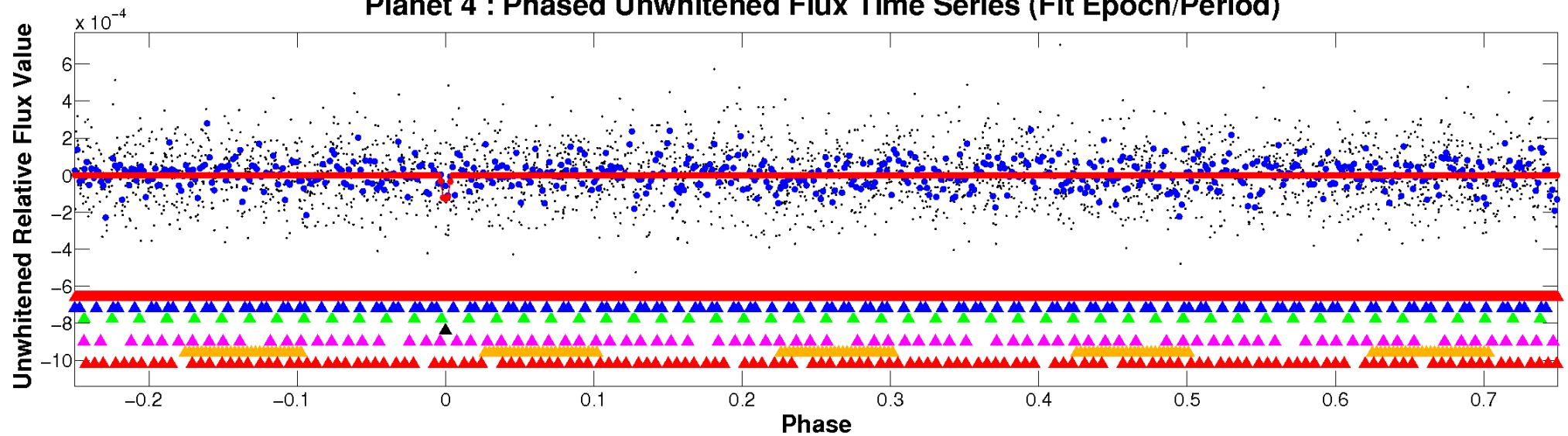


ALT Odd/Even

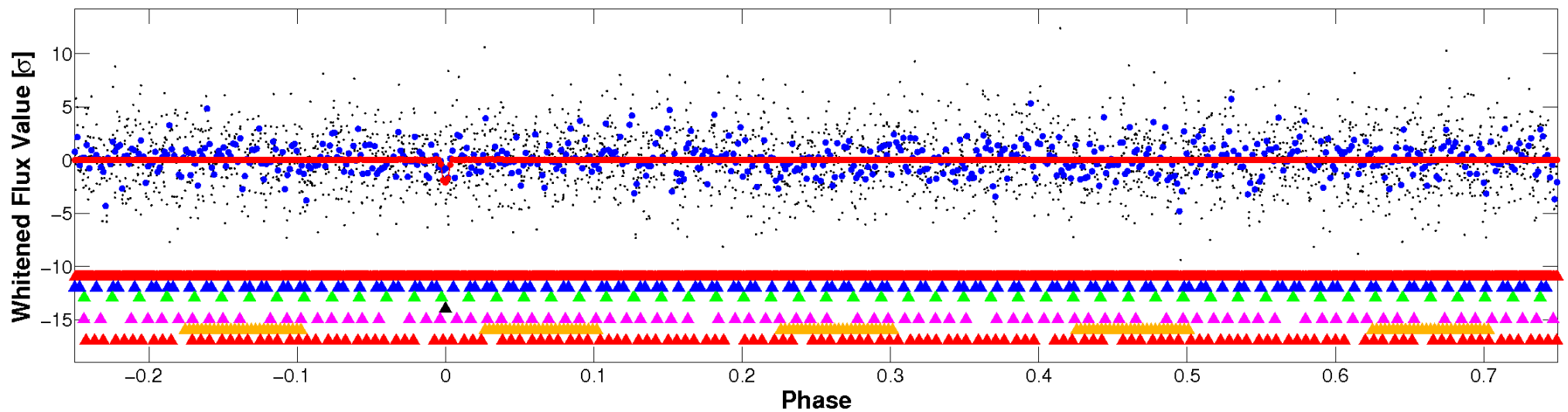
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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

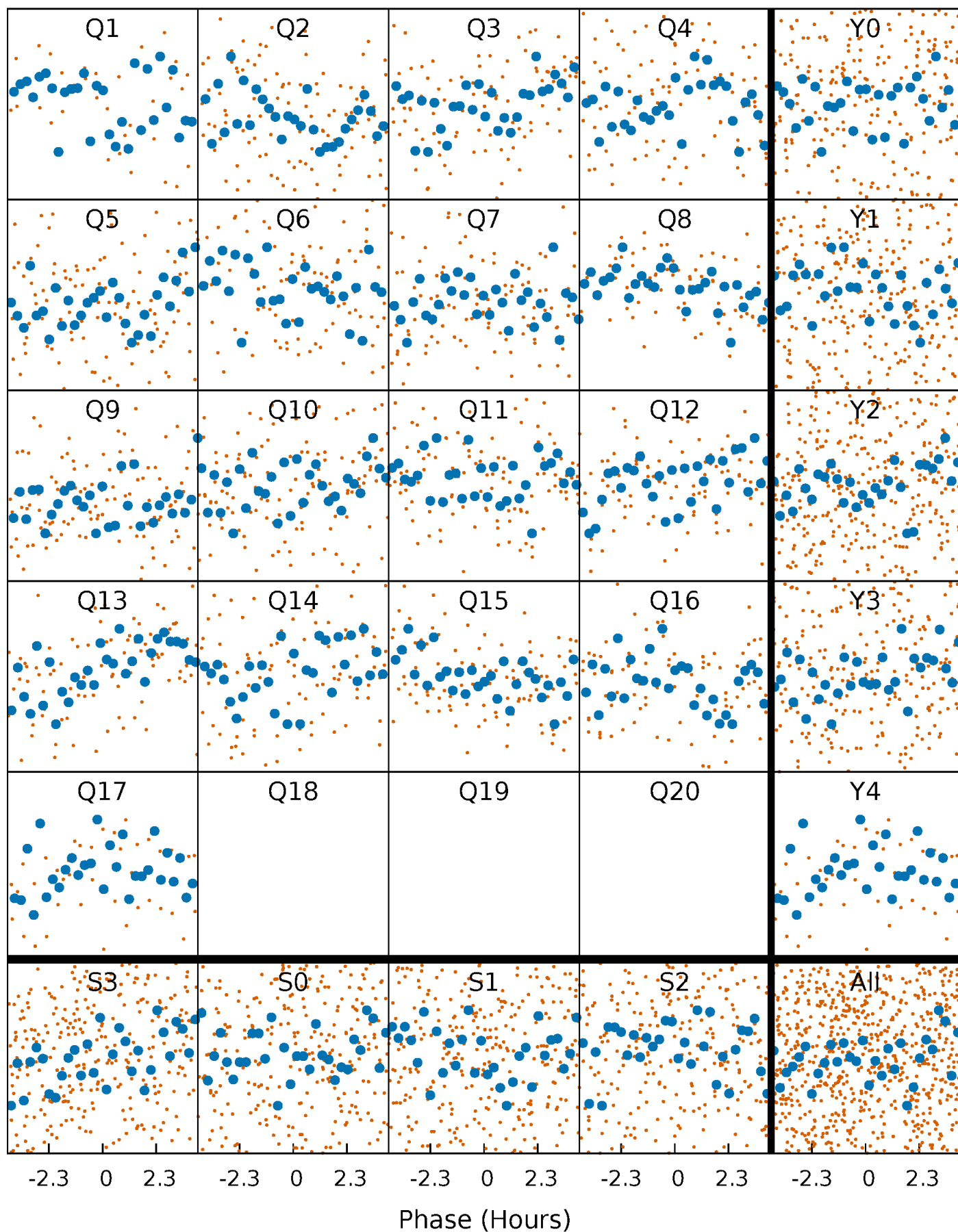


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



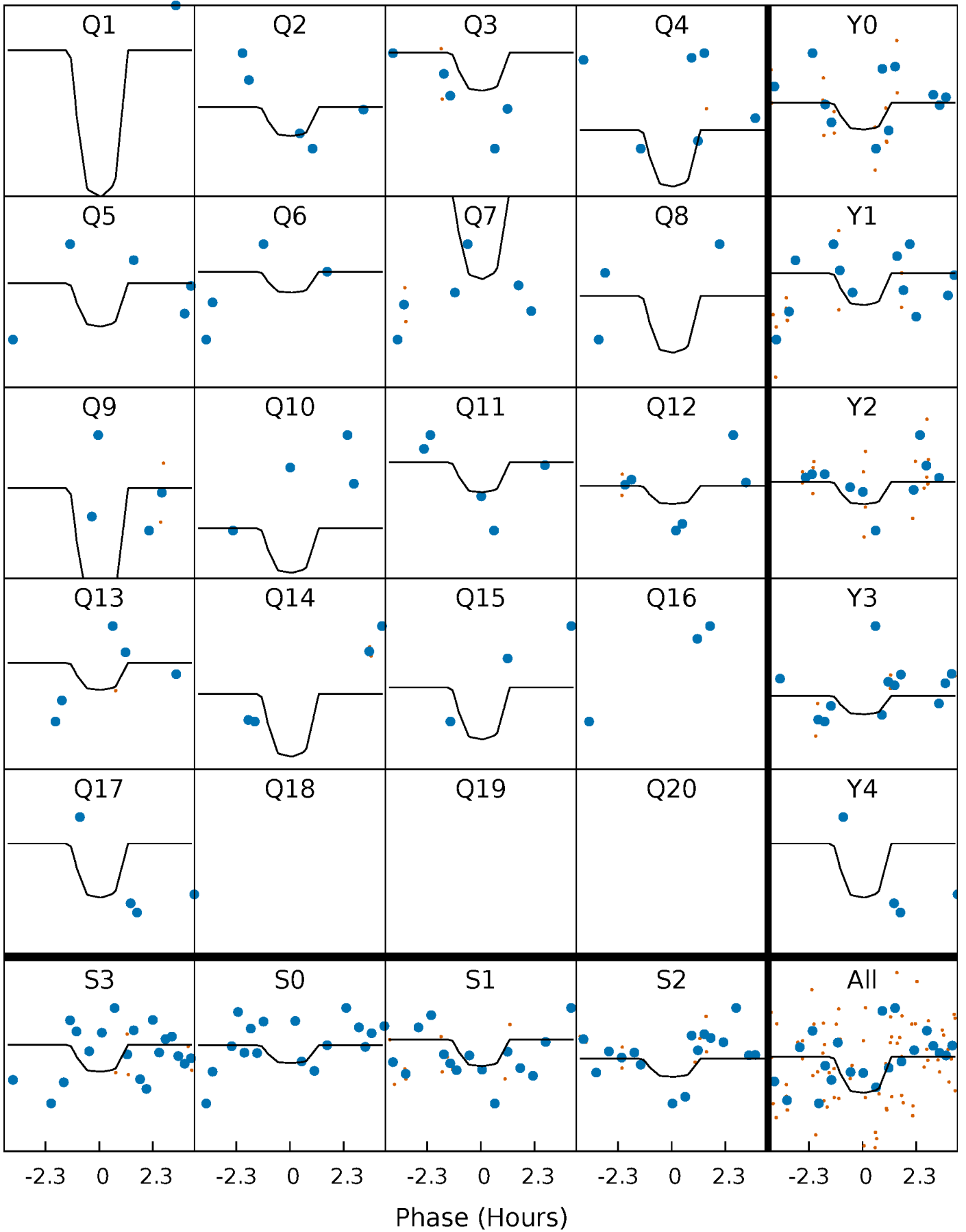
# PDC Quarter-Phased Transit Curves

TCE 006466443-04 P= 12.842290 Days  $T_0=136.795782$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 006466443-04 P= 12.842290 Days  $T_0=136.795782$  (BKJD)



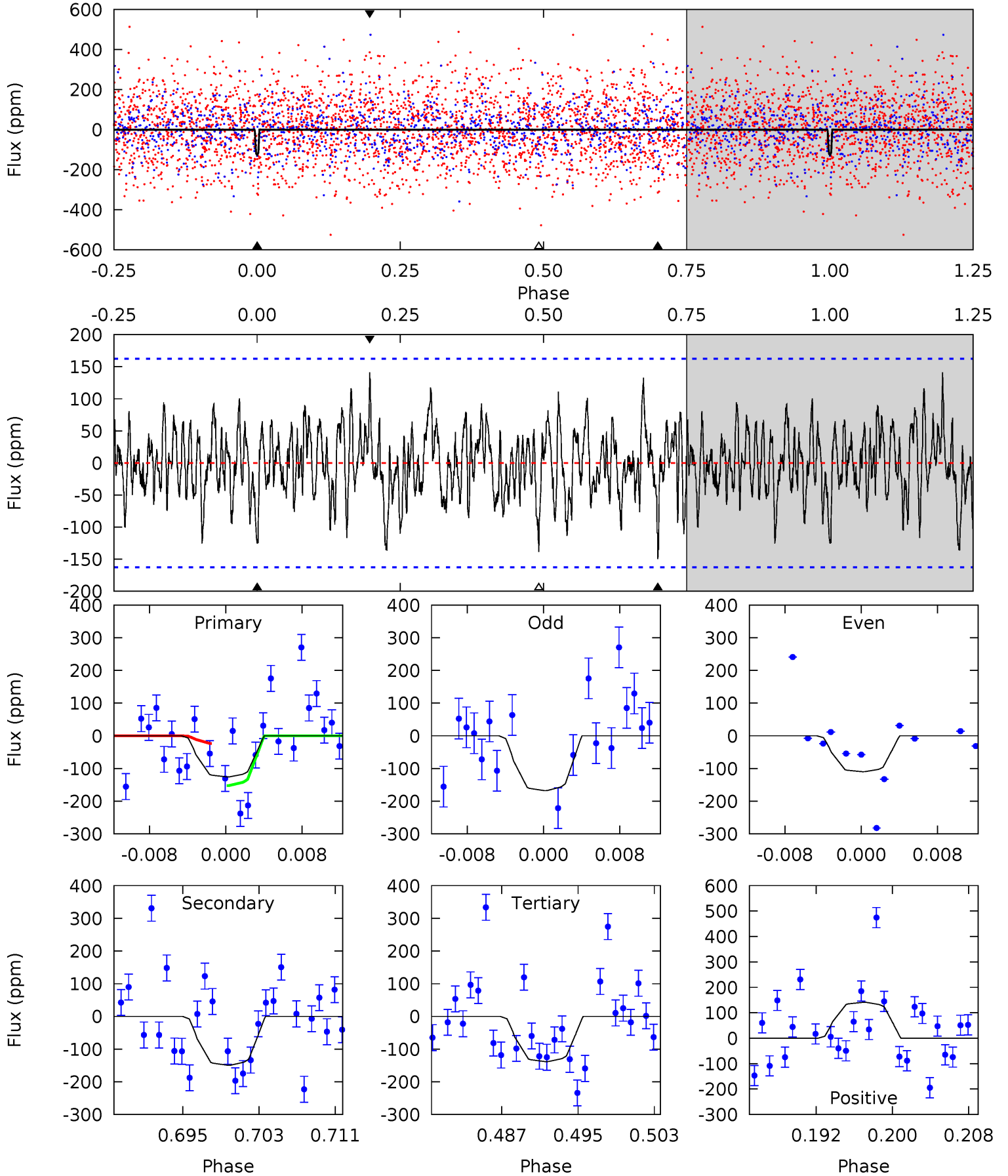


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

006466443-04, P = 12.842290 Days, E = 123.953492 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
3.93	4.66	4.32	4.41	5.07	2.65	1.46	-0.39	-0.48	0.35	0.26	0.86	1.10	0.49	1.82



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 006466443

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6675^{+212}_{-236}$	$3.583^{+0.336}_{-0.105}$	$-0.300^{+0.350}_{-0.250}$	$3.410^{+0.429}_{-1.287}$	$1.626^{+0.243}_{-0.364}$	$0.058^{+0.139}_{-0.015}$
	+3%/-4%	+9%/-3%	+117%/-83%	+13%/-38%	+15%/-22%	+241%/-26%
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 006466443-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-149 \pm 32$	$10.30^{+10.85}_{-7.16}$	$2096^{+136}_{-211}$	$4394^{+3229}_{-995}$	$12^{+118}_{-9}$
Alt.	N/A	N/A	N/A	N/A	N/A

$T_{\text{max}}$  = 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

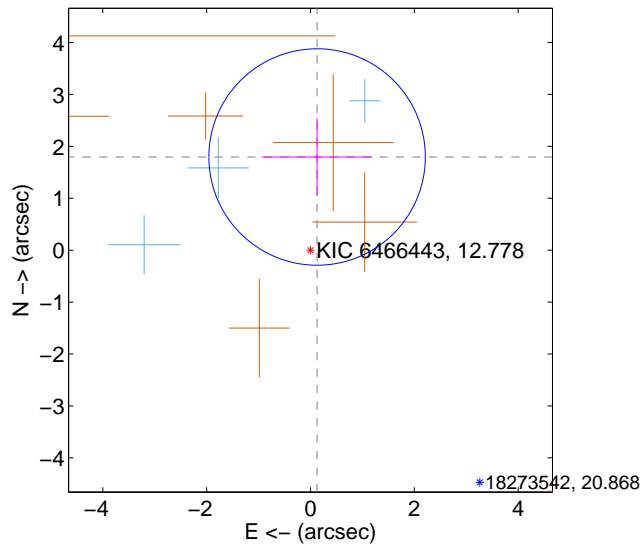
Supplemental centroid analysis for 006466443-04. Kepler magnitude: 12.78. Transit SNR 6.49

There are 3 quarters with good PRF difference image offsets

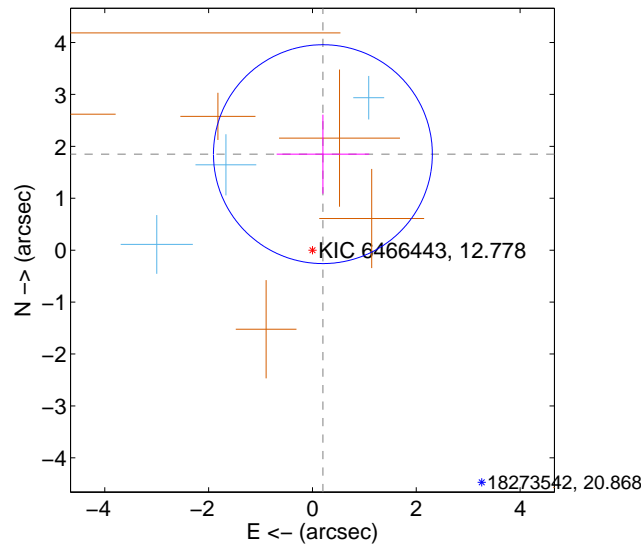
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.799 \pm 0.695$	2.59	$-0.128 \pm 1.062$	$1.795 \pm 0.749$
PRF-fit source offset from KIC position	$1.860 \pm 0.703$	2.65	$-0.202 \pm 0.890$	$1.849 \pm 0.760$
photometric centroid source offset	$0.57 \pm 0.68$	0.84	$-0.45 \pm 0.69$	$-0.36 \pm 0.65$

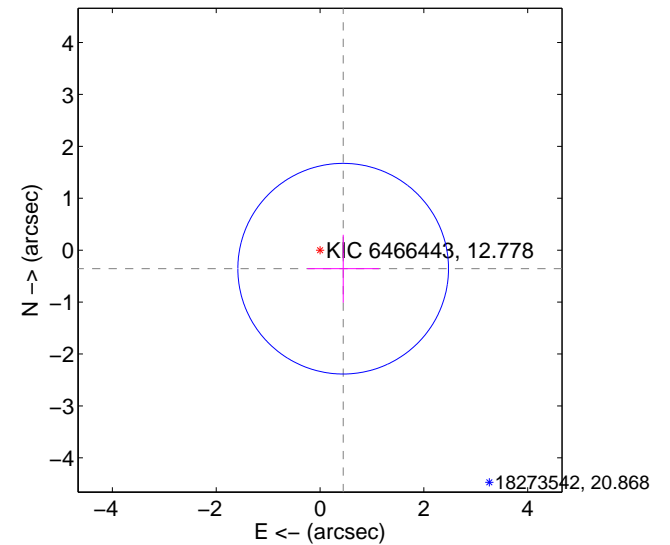
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

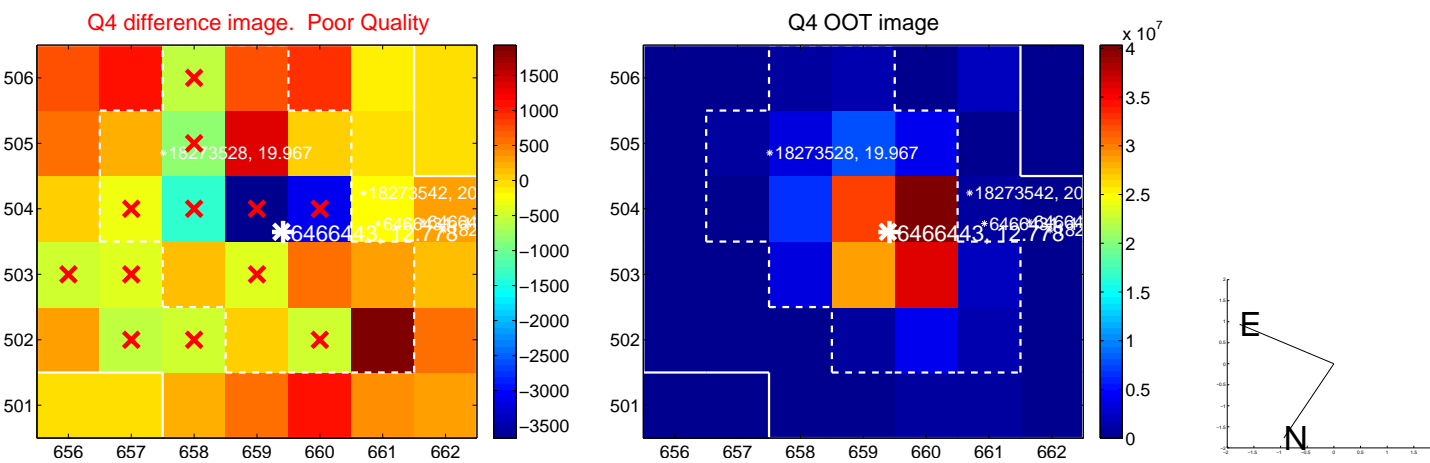
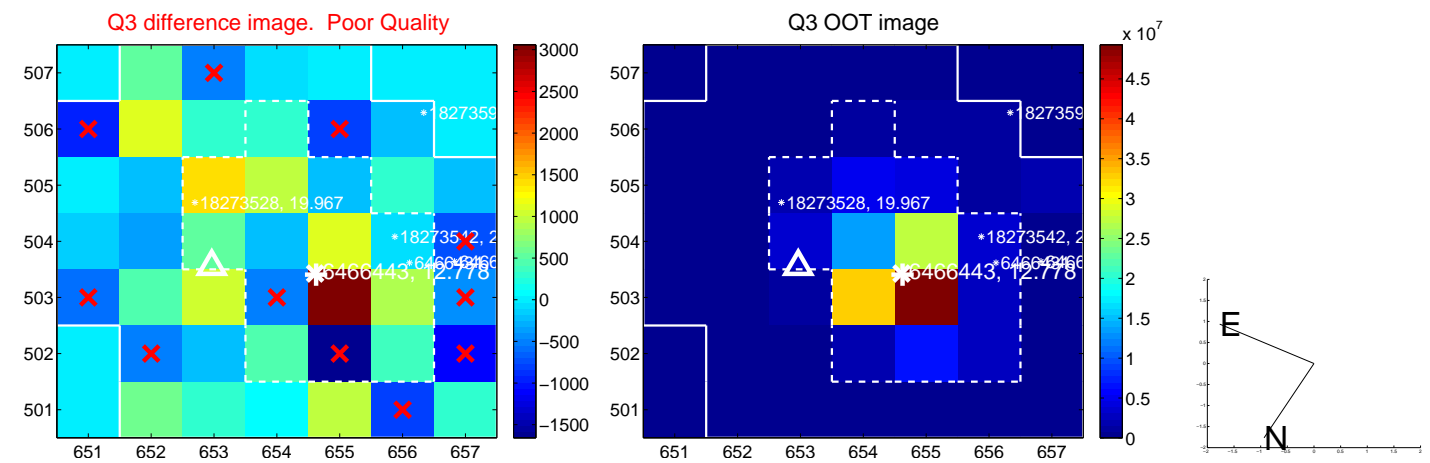
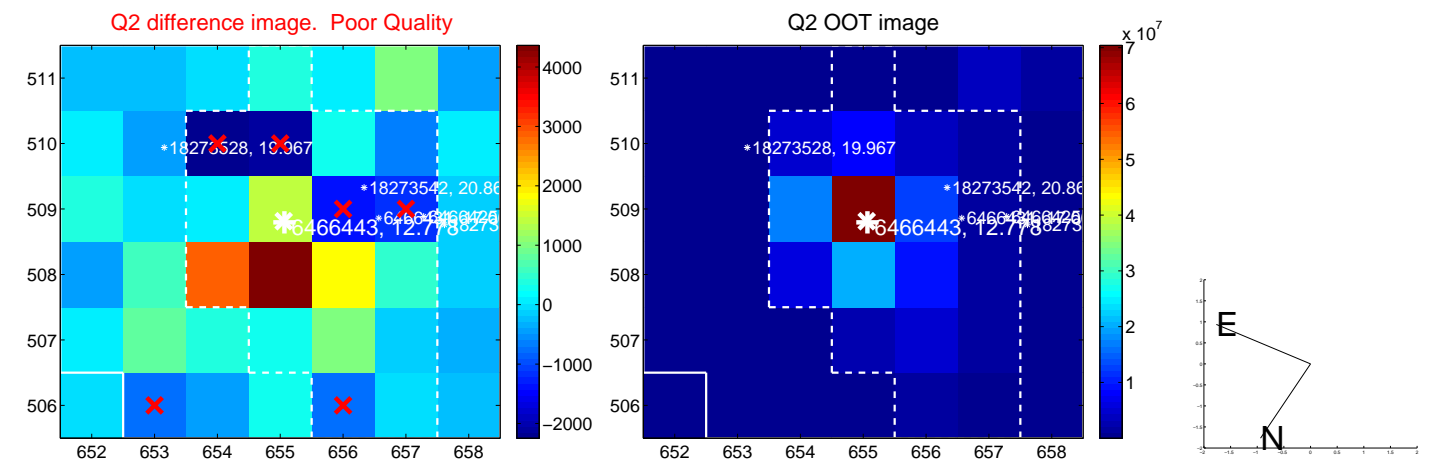
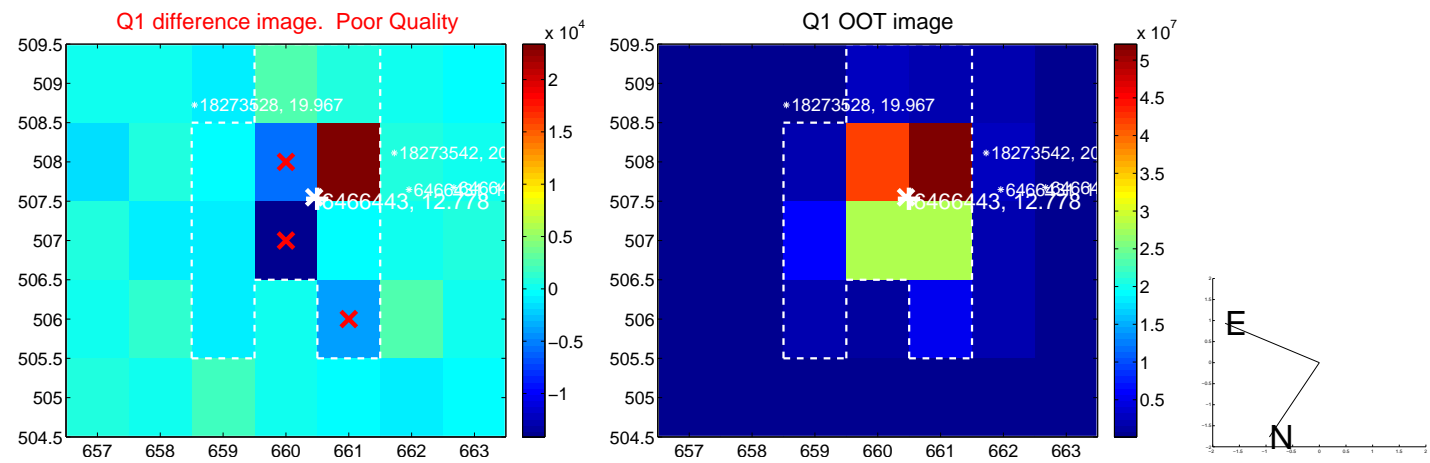


offset from photometric centroids

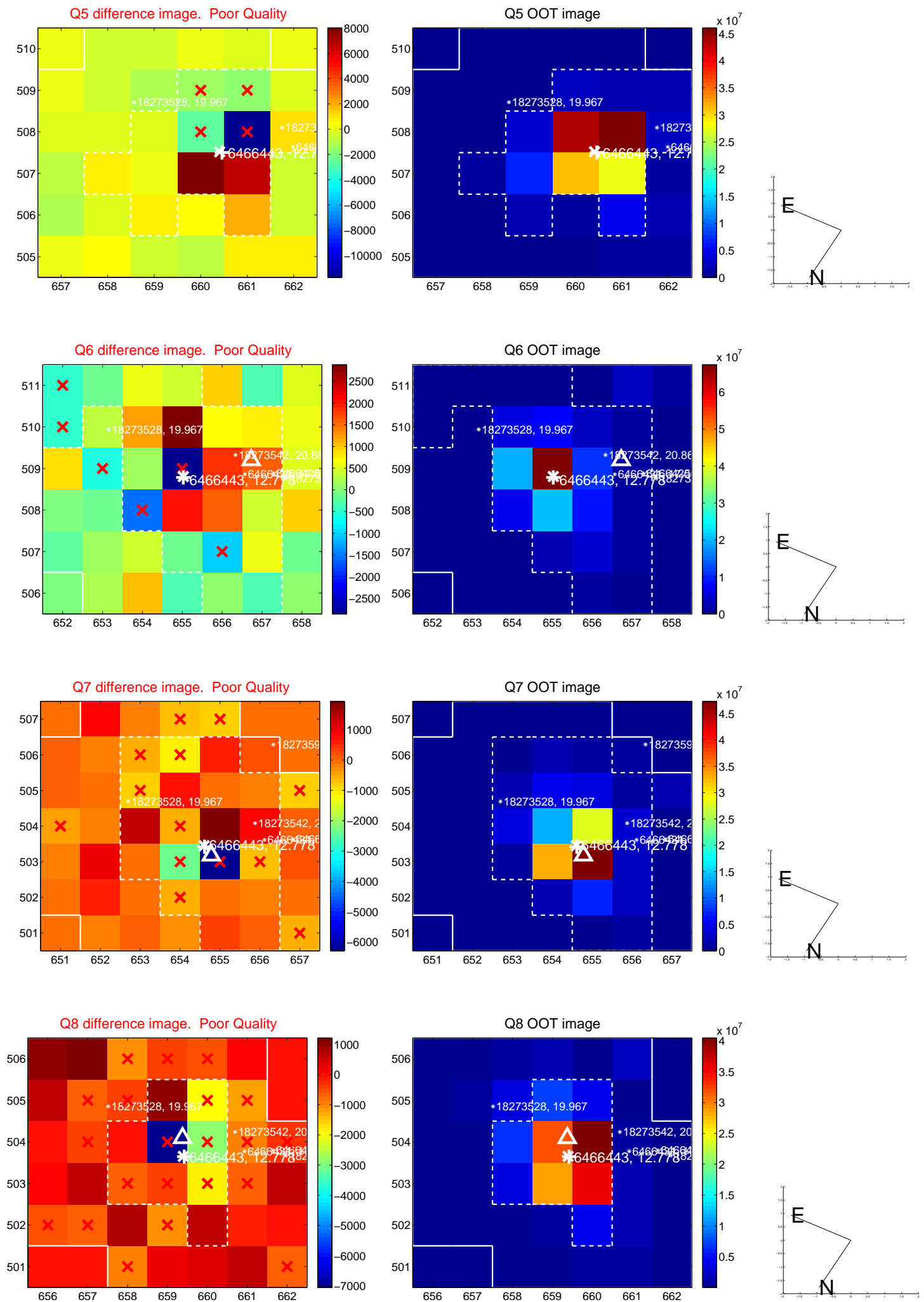


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

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

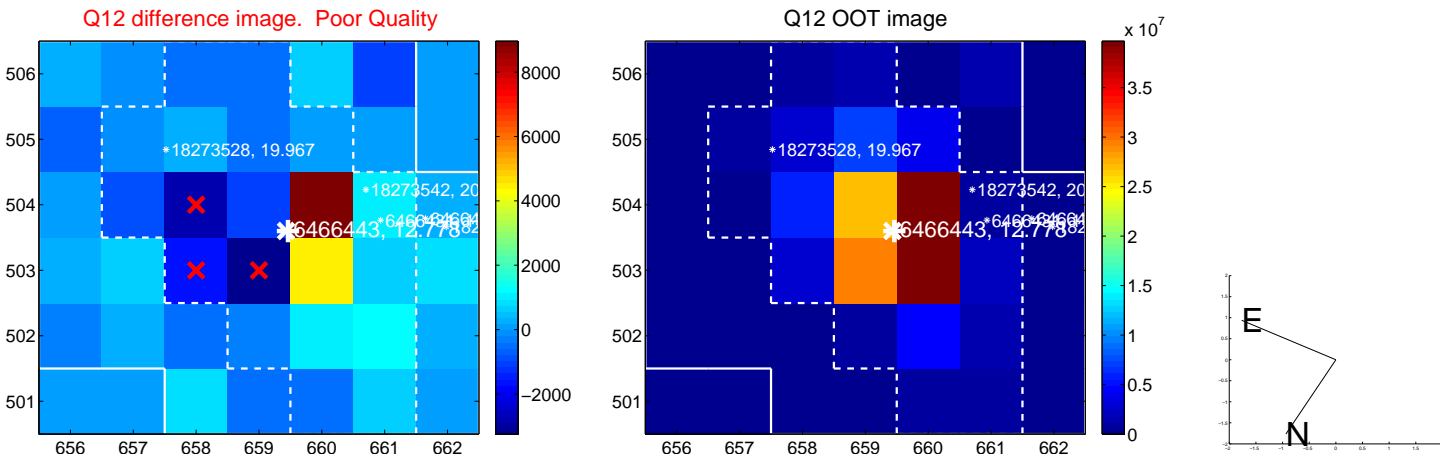
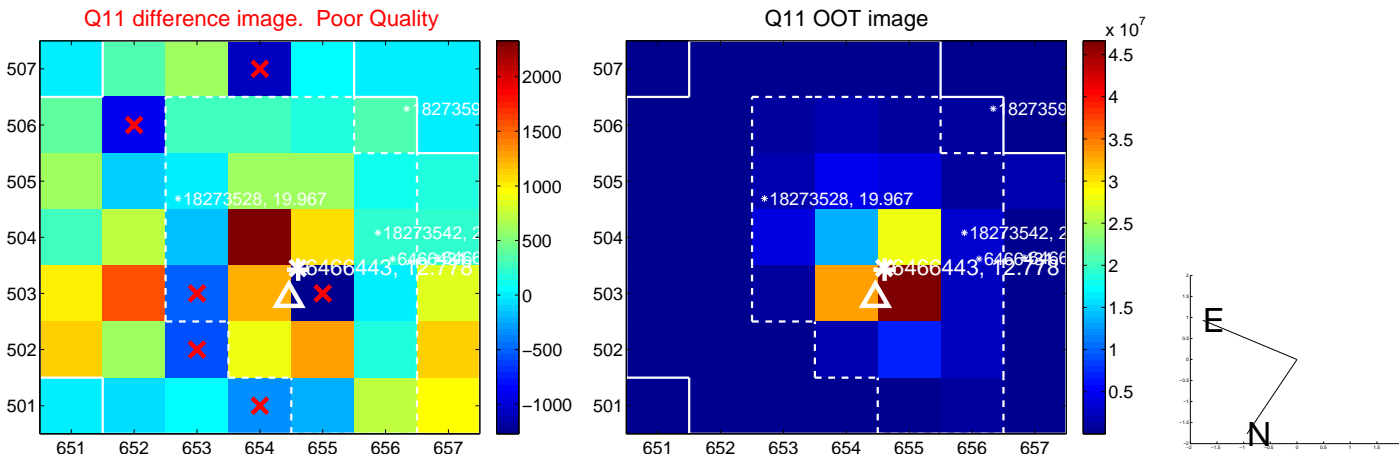
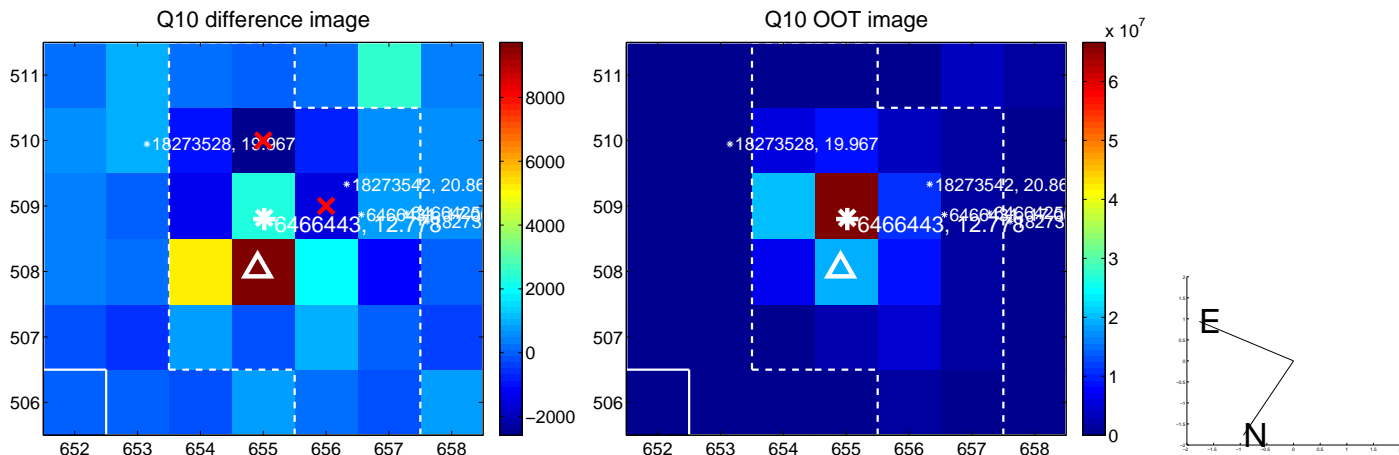
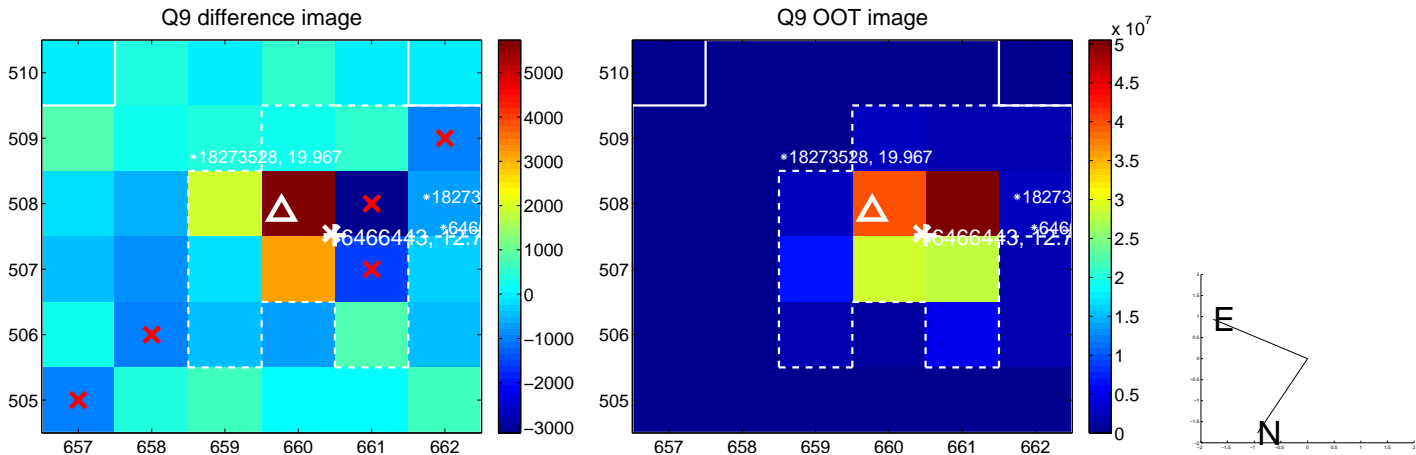


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

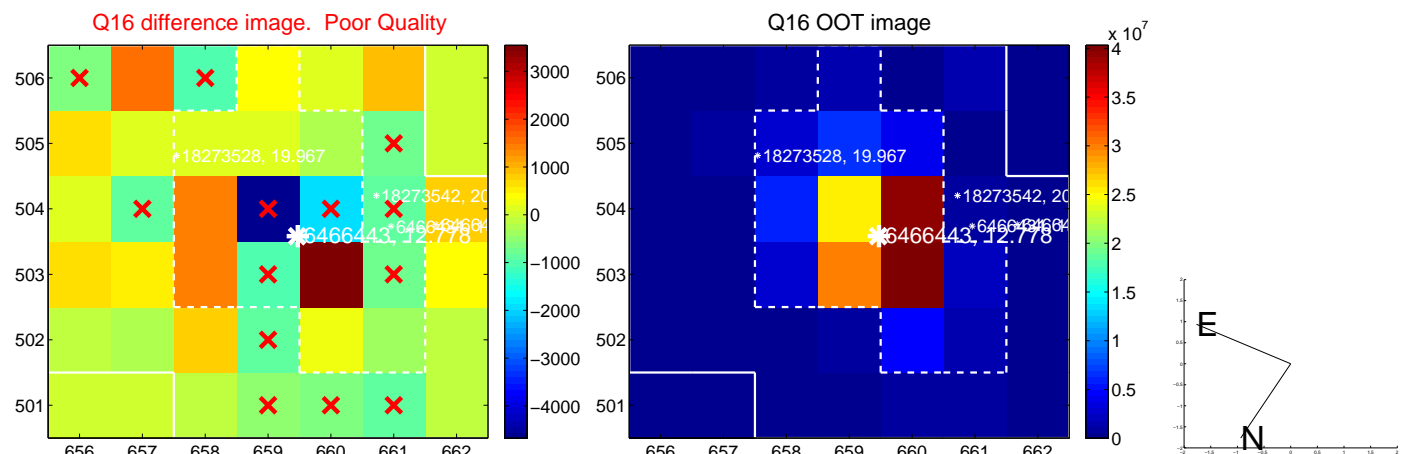
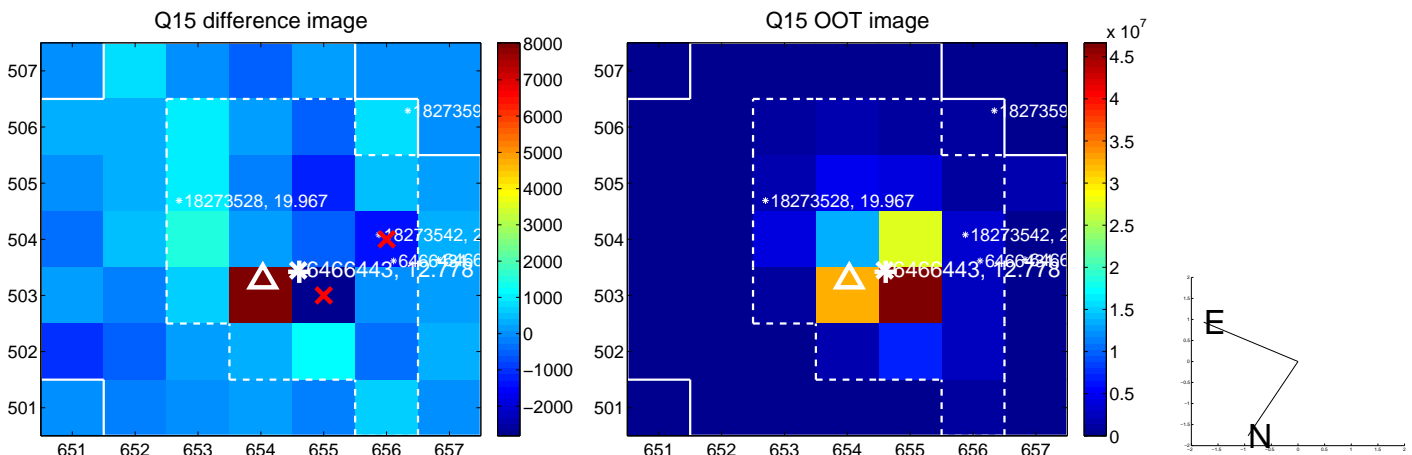
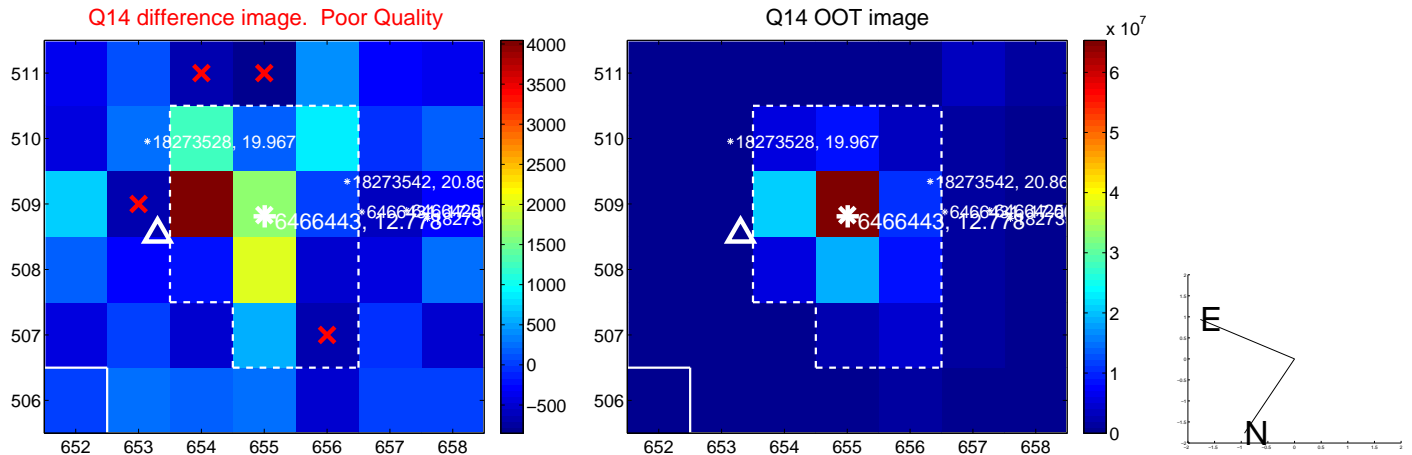
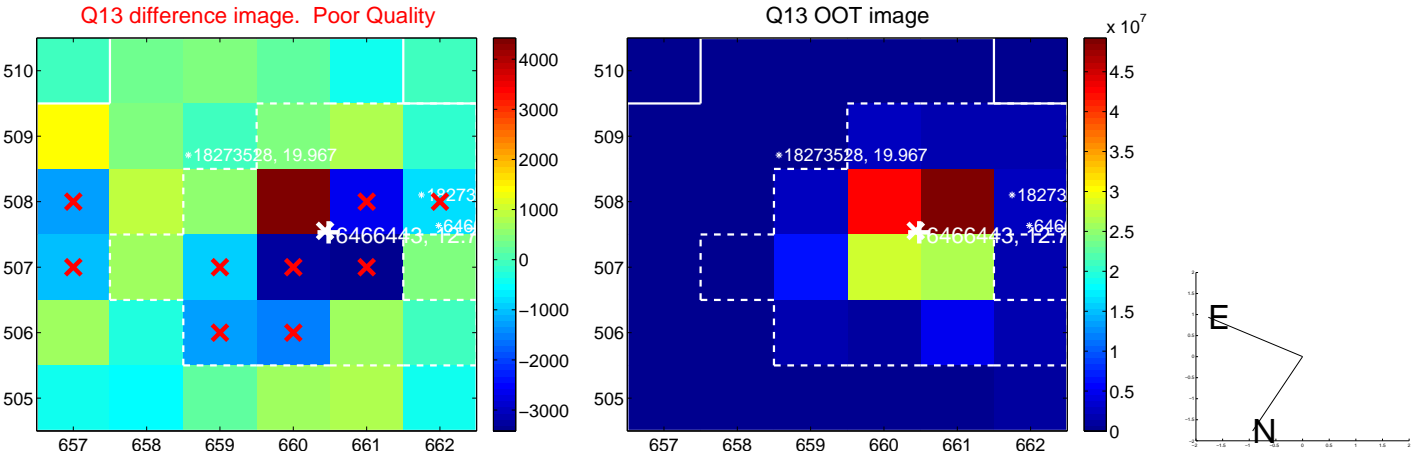




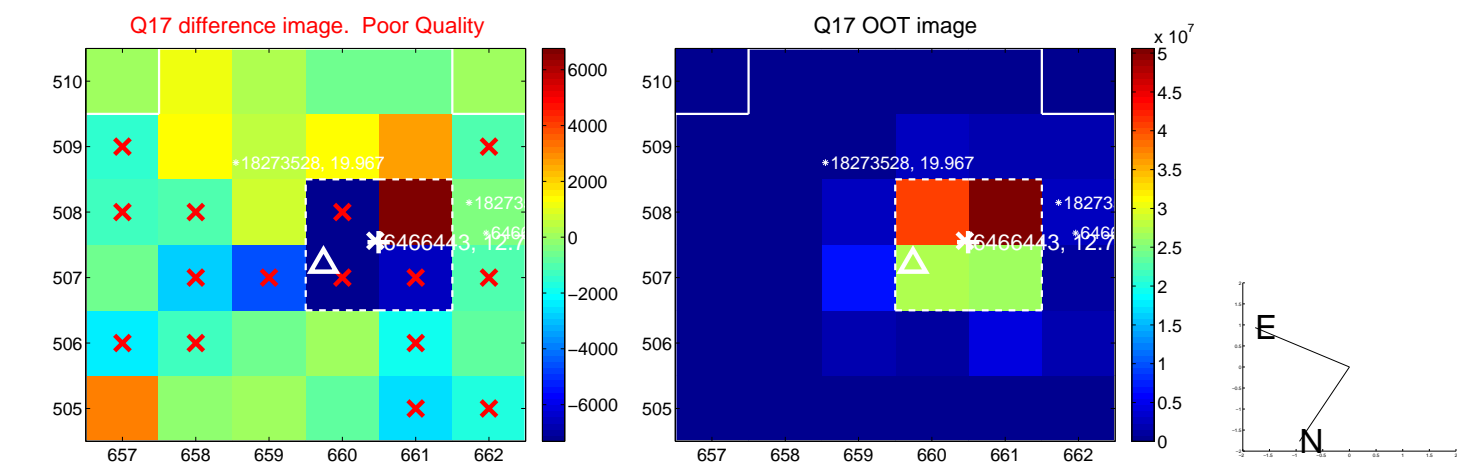
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



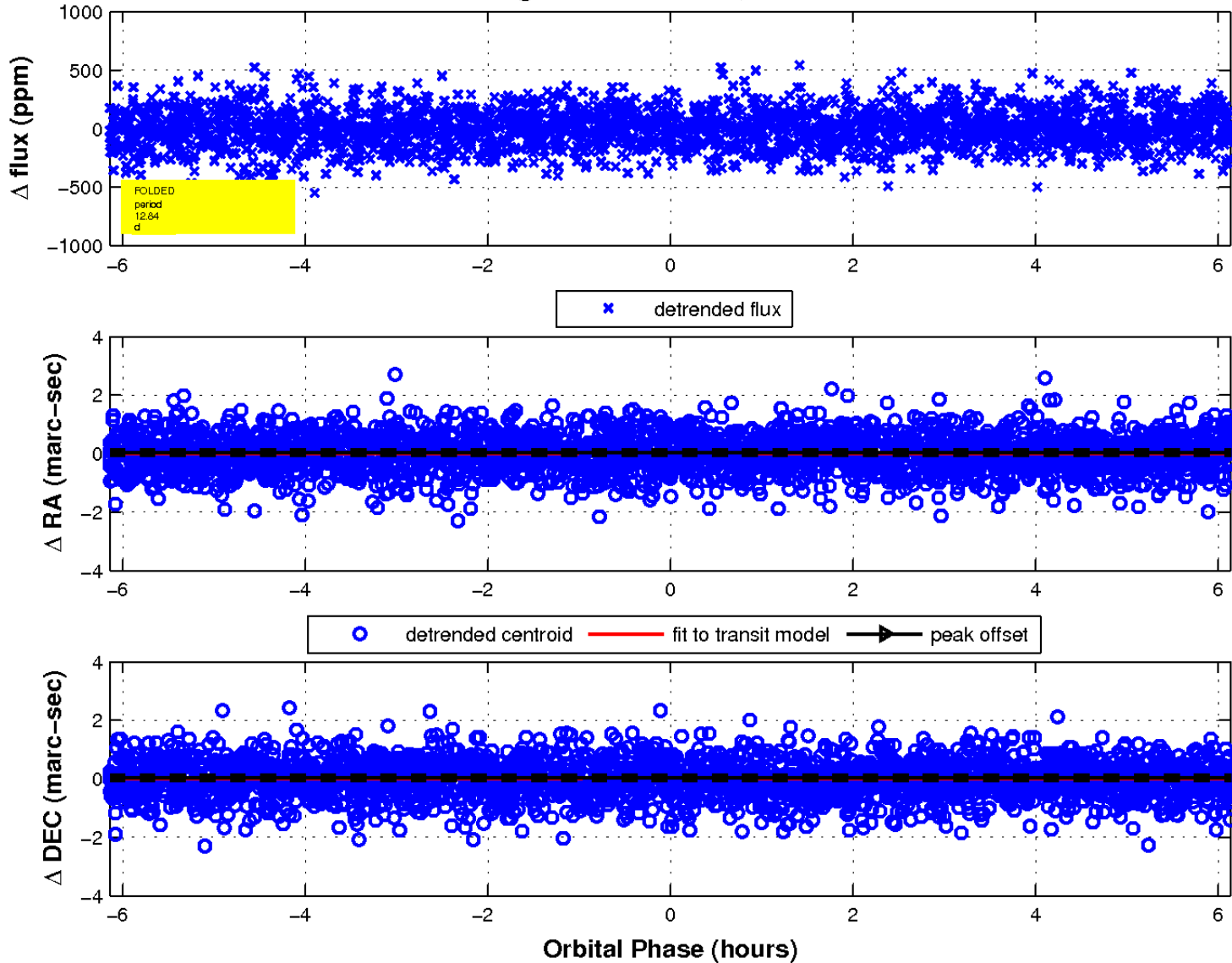
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

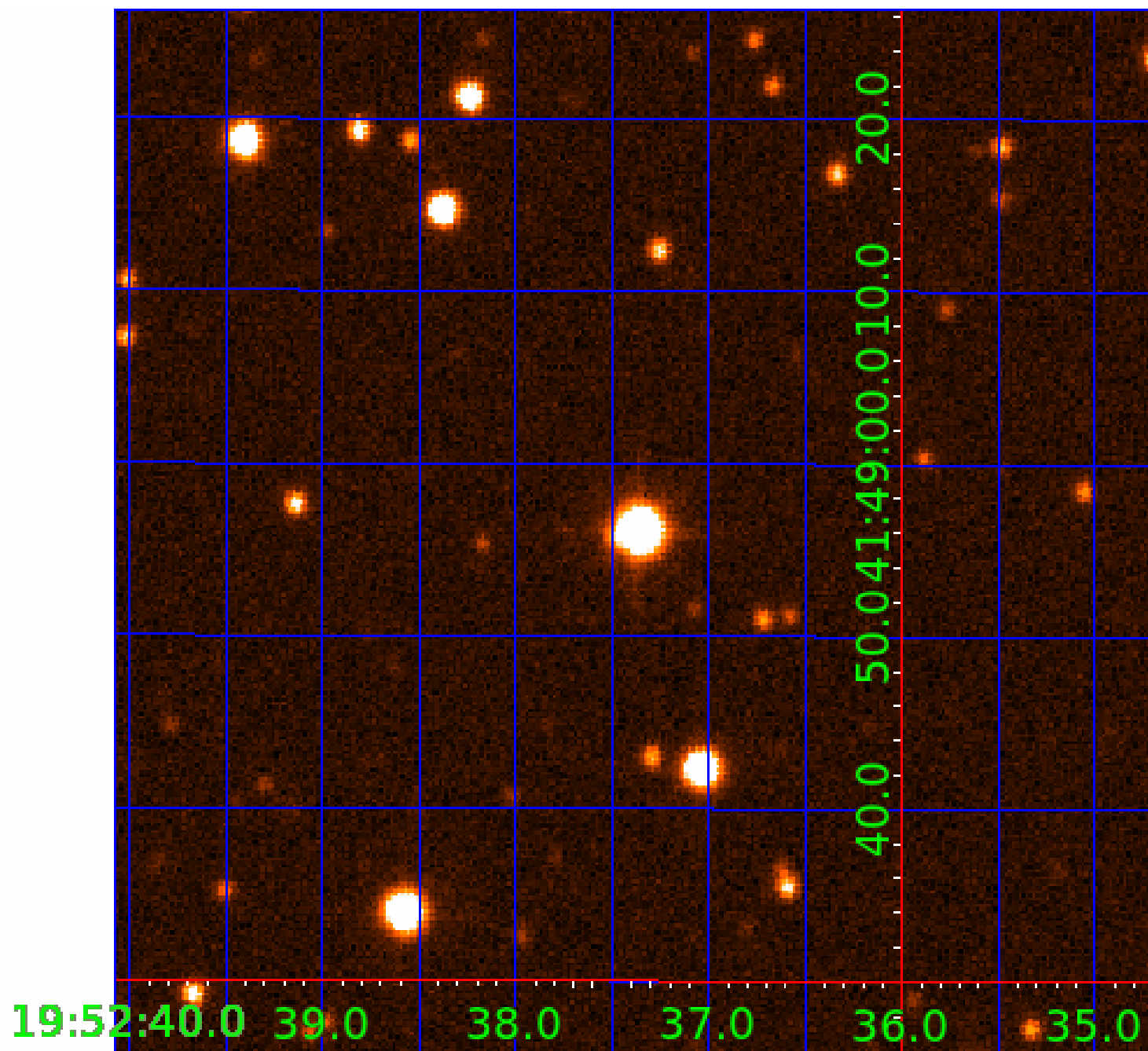


fluxWeightedCentroids, Planet 4 of 7



UKIRT Image

Declination



# KIC 006466443

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006466443-01	OBS	No	0.647579	132.070199	0.0	4.765	10.8	0.0	3.41	6675	0.04	69739.51
006466443-02	OBS	No	10.892093	139.104250	80.8	1.289	13.3	6.4	3.41	6675	3.39	1618.28
006466443-03	OBS	No	8.799226	138.436663	102.9	0.658	12.0	4.4	3.41	6675	4.73	2150.85
006466443-04	OBS	No	12.842290	136.795782	128.8	2.047	11.0	6.5	3.41	6675	3.94	1299.21
006466443-05	OBS	No	16.721478	137.833472	262.3	1.045	11.5	13.3	3.41	6675	6.44	913.77
006466443-06	OBS	No	10.280990	134.541853	269.9	0.658	11.0	8.1	3.41	6675	5.76	1747.79
006466443-07	OBS	No	10.156096	133.940544	210.1	1.714	12.4	13.8	3.41	6675	5.04	1776.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006466443-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_FEW_DIFFS
006466443-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006466443-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006466443-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV
006466443-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
006466443-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006466443-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

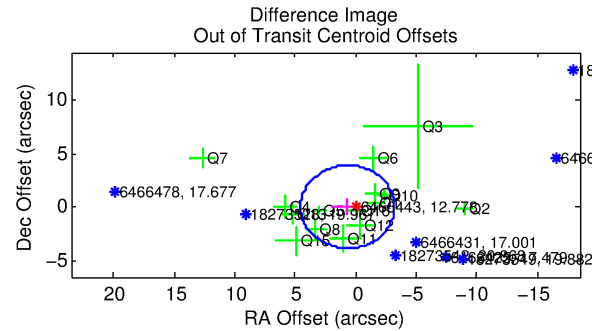
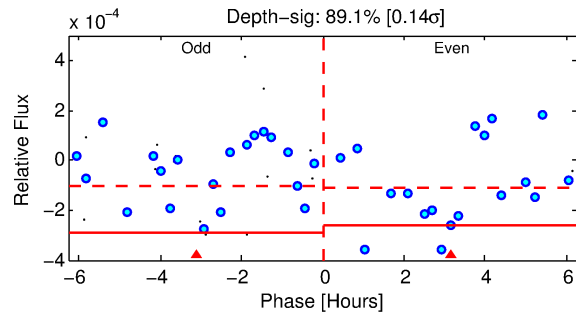
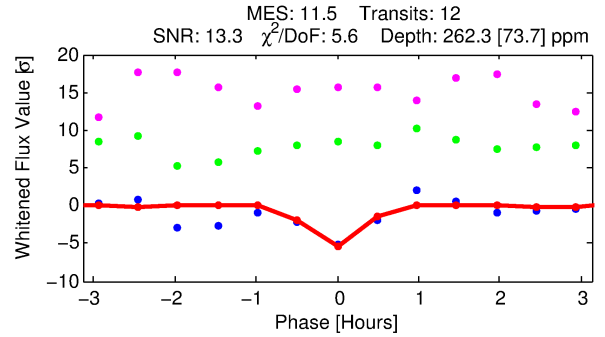
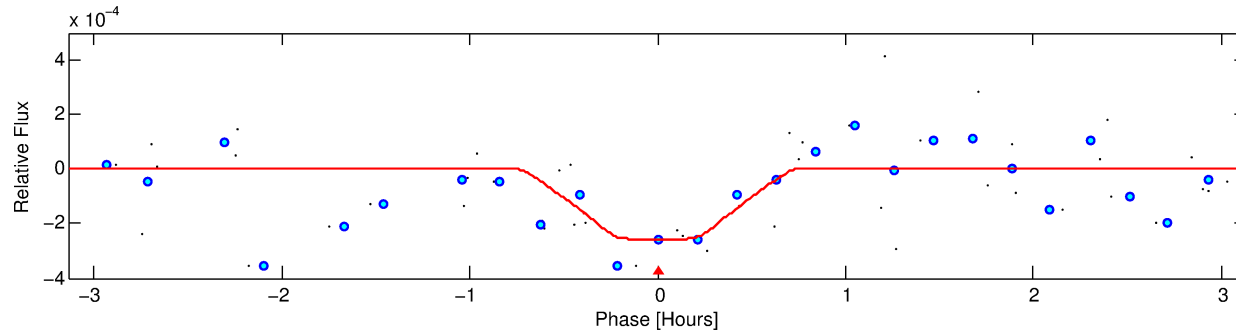
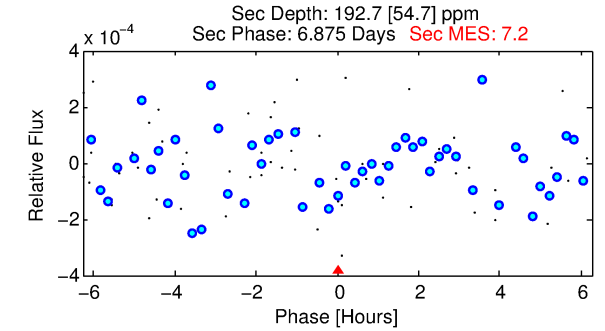
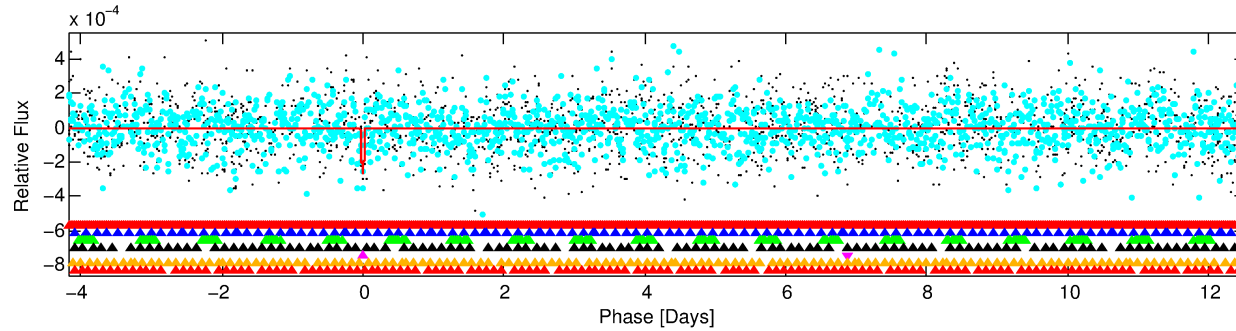
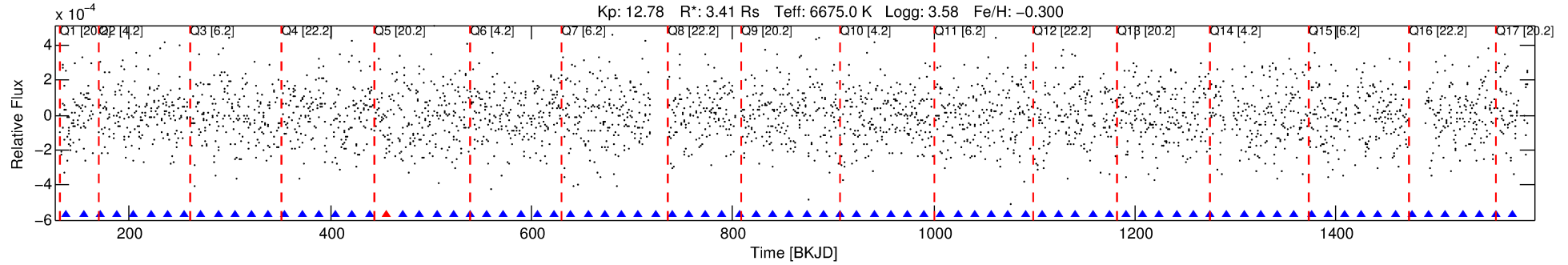
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006466443-05

No Significant Match Found

# DV One-Page Summary

KIC: 6466443 Candidate: 5 of 7 Period: 16.721 d



## DV Fit Results:

Period = 16.72148 [0.00013] d  
Epoch = 137.8335 [0.0069] BKJD  
Rp/R\* = 0.0173 [0.0205]  
a/R\* = 59.76 [403.09]  
b = 0.89 [1.58]  
Seff = 913.77 [540.08]  
Teq = 1402 [207] K  
Rp = 6.44 [8.01] Re  
a = 0.1504 [0.0542] AU  
Ag = 57.82 [141.90] [0.40σ]  
Teffp = 5977 [3572] K [1.28σ]

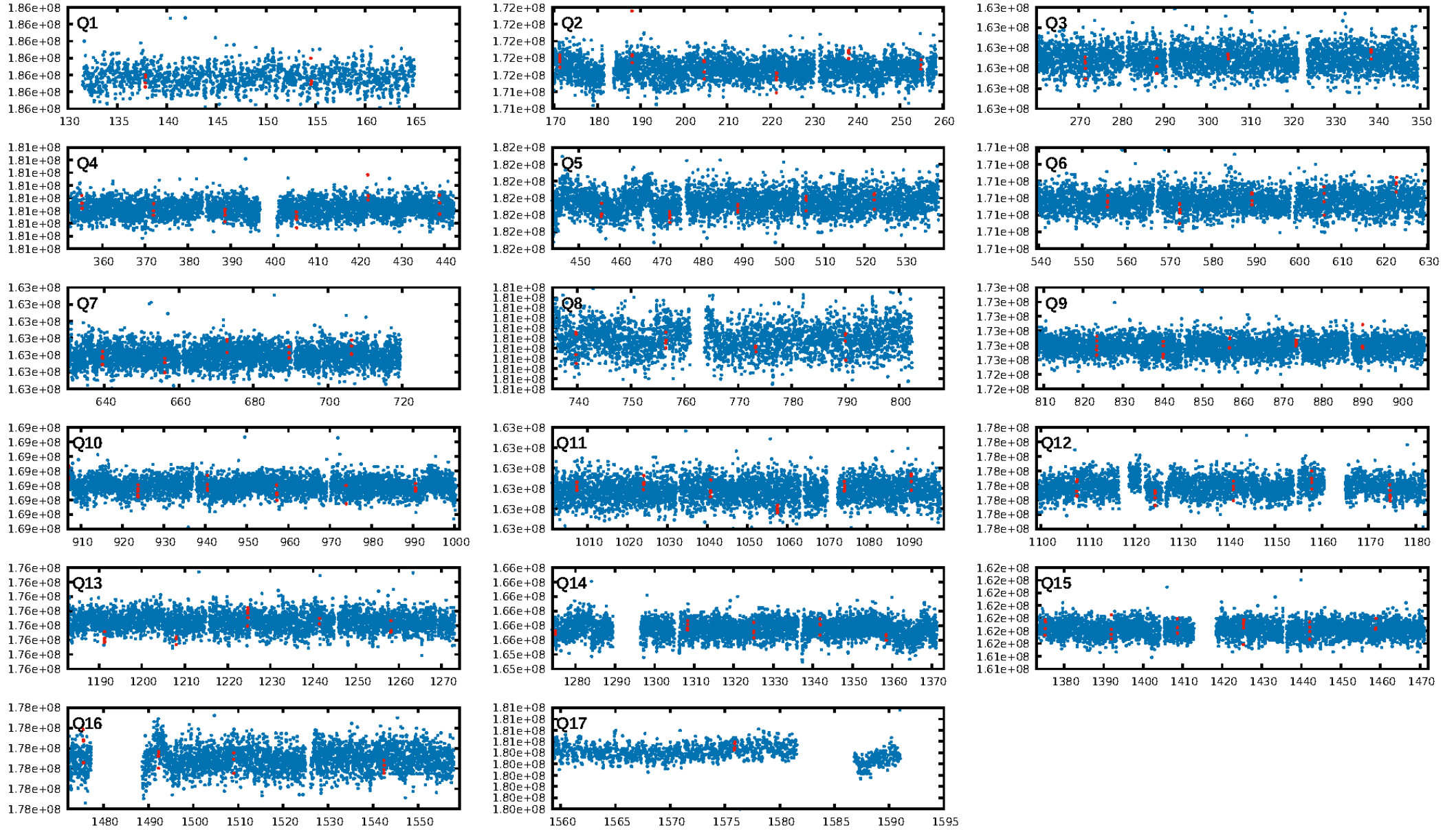
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [40.51σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 2.3%  
ModelChiSquareGof-sig: 48.2%  
Bootstrap-pfa: 2.03e-14  
RollingBand-fgt: 0.91 [10/11]  
**GhostDiagnostic-chr: 0.01128**  
Centroid-sig: 75.3%  
Centroid-so: 0.096 arcsec [0.18σ]  
OotOffset-rm: 0.695 arcsec [0.54σ]  
OotOffset-st: 3/4/4/4 [15]  
KicOffset-rm: 0.542 arcsec [0.45σ]  
KicOffset-st: 3/4/4/4 [15]  
DiffImageQuality-fgm: 0.33 [5/15]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:13:54 Z

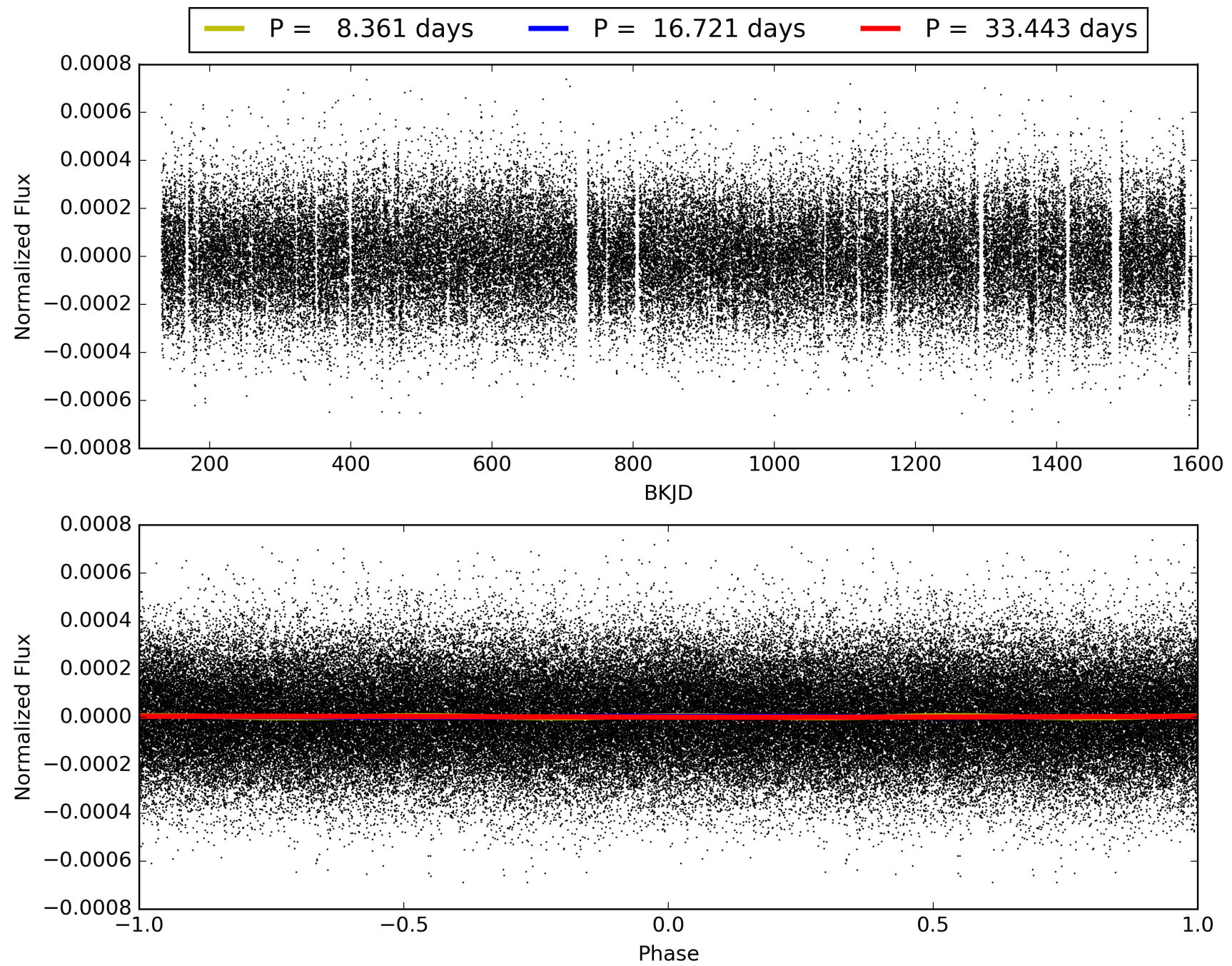
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006466443-05, PDC Light Curves



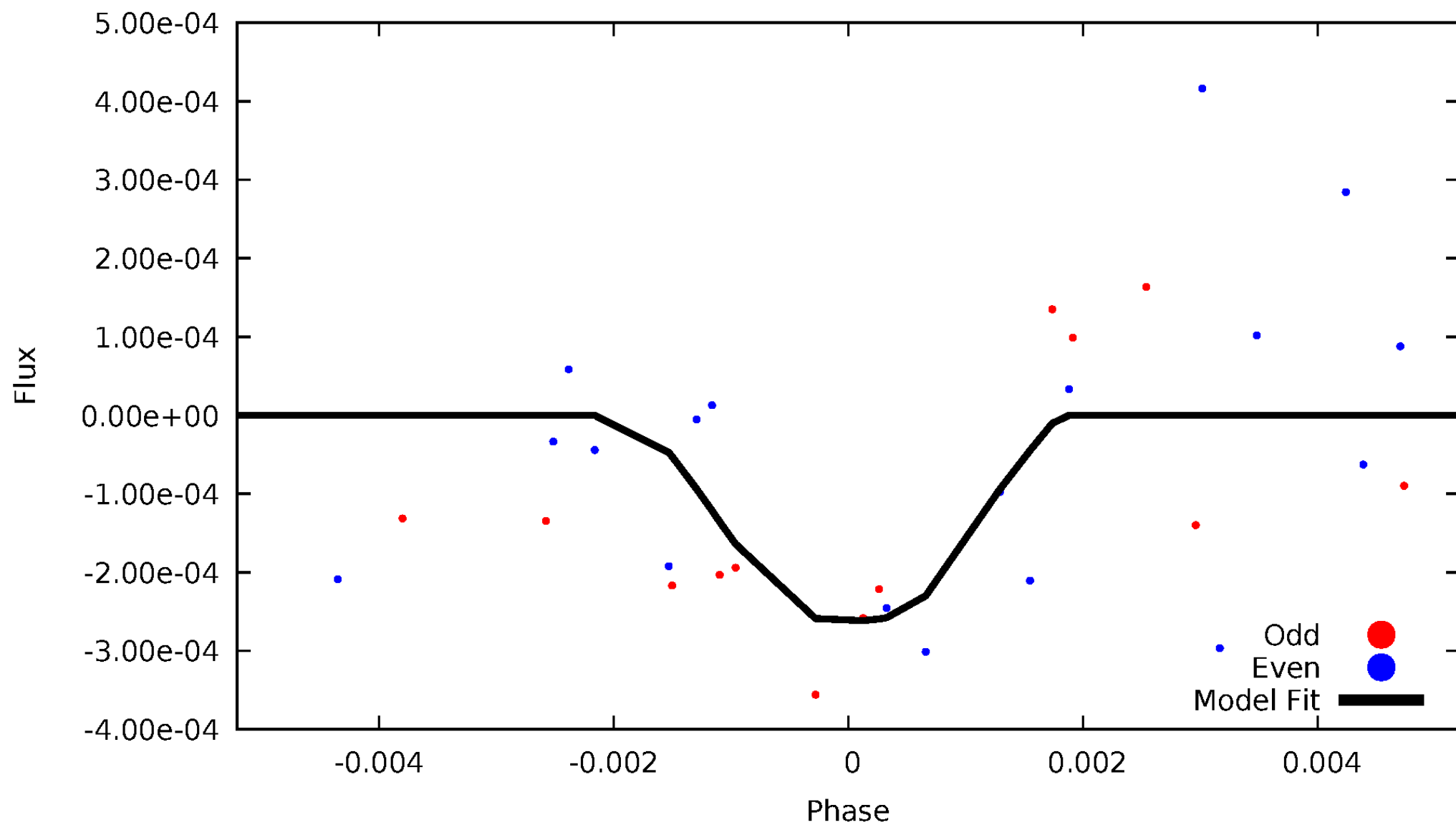


TCE 006466443-05



# DV Odd/Even

TCE 006466443-05



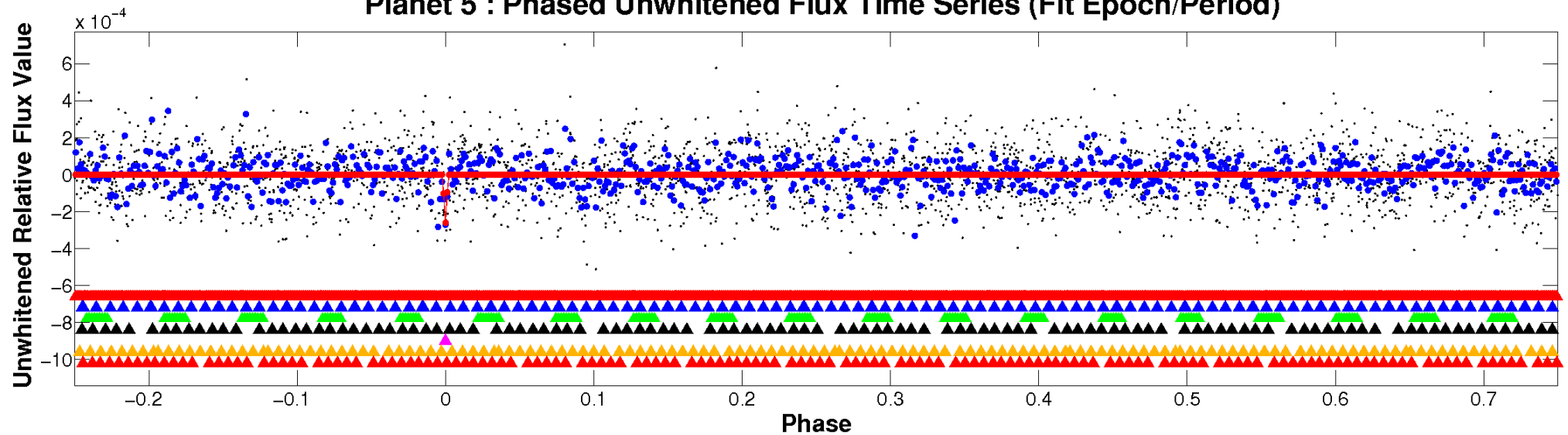


ALT Odd/Even

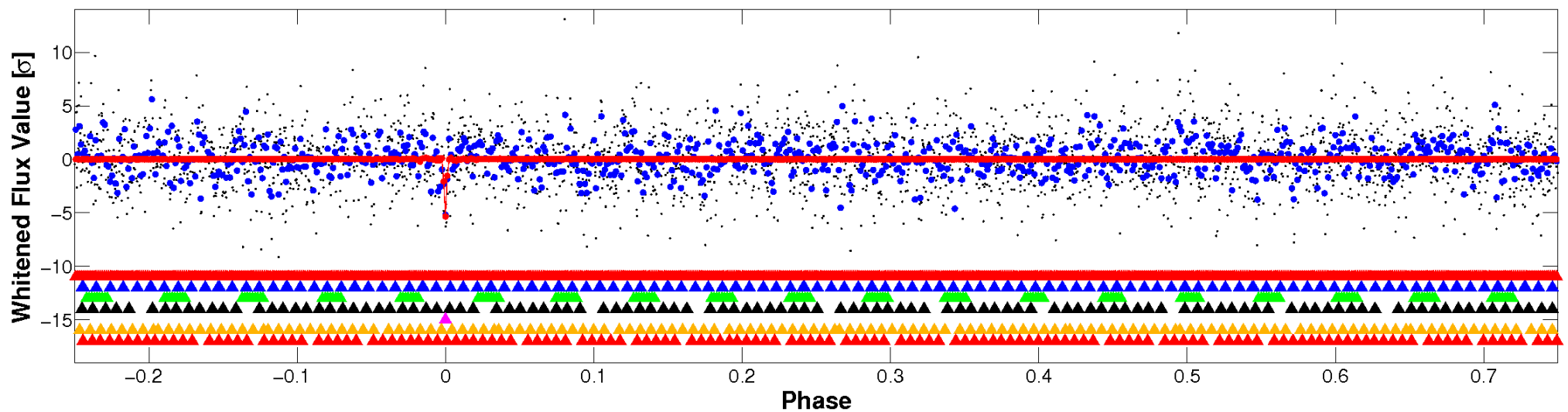
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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

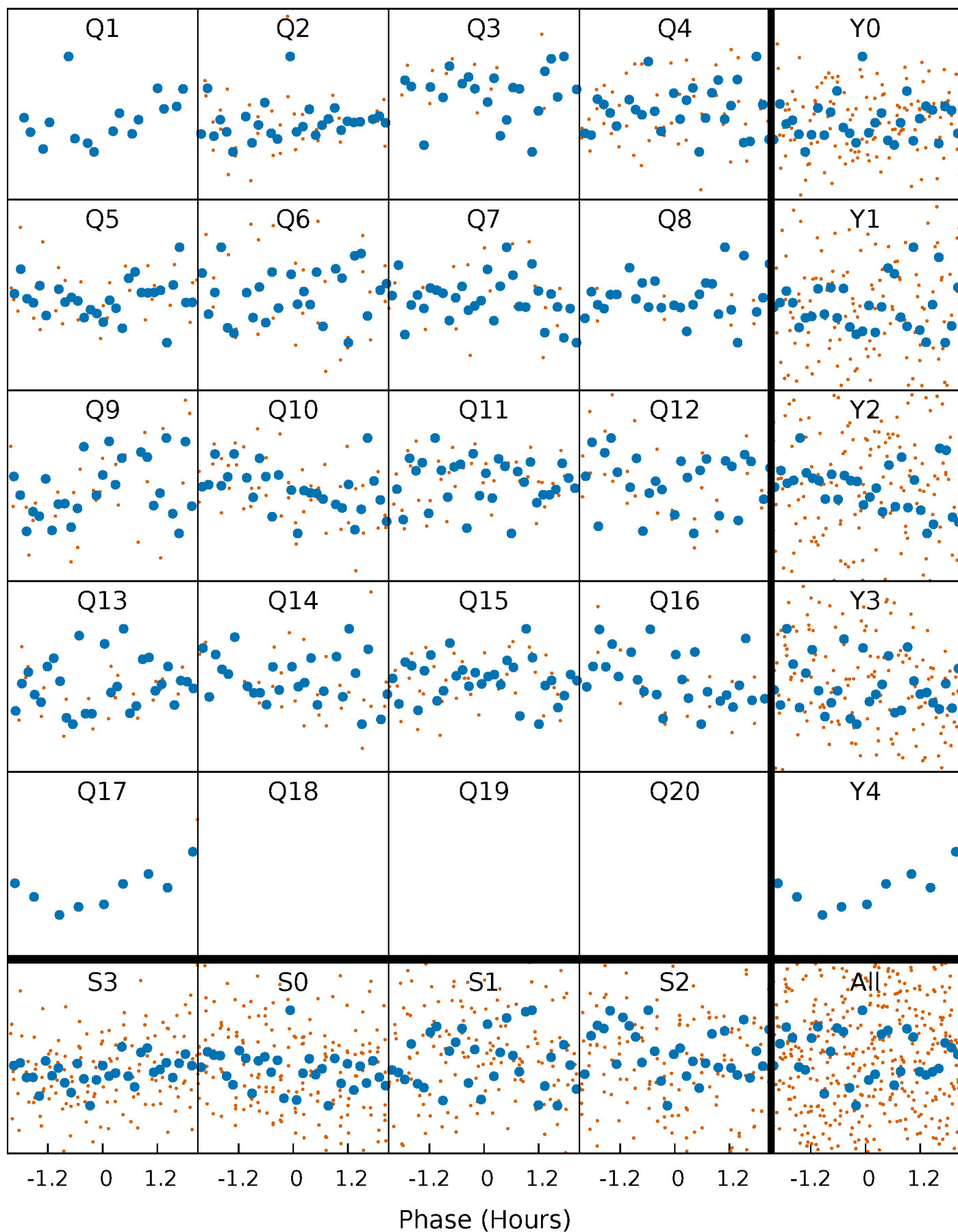


## Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



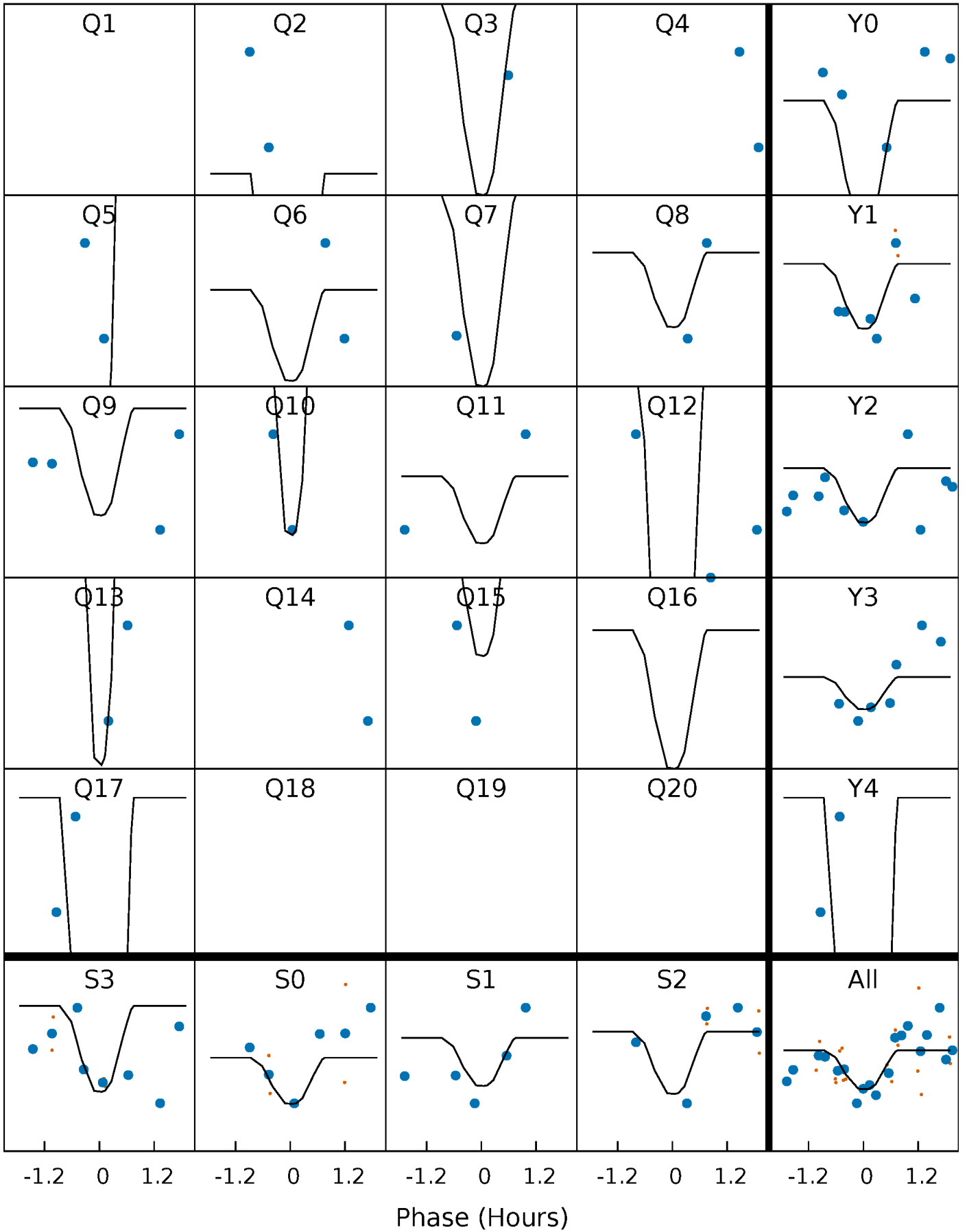
# PDC Quarter-Phased Transit Curves

TCE 006466443-05     $P = 16.721478$  Days     $T_0 = 137.833472$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 006466443-05     $P = 16.721478$  Days     $T_0 = 137.833472$  (BKJD)



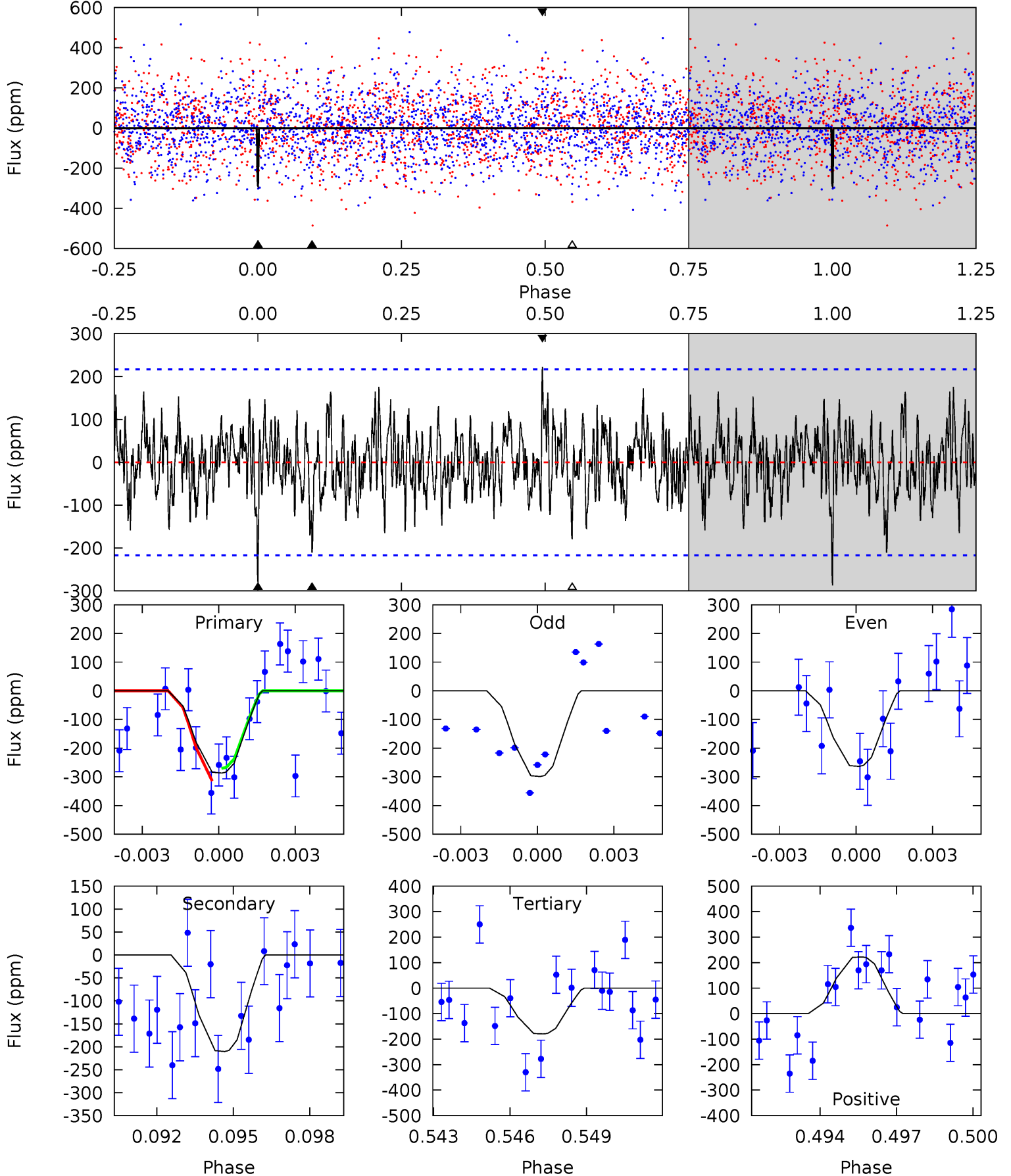


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

006466443-05, P = 16.721478 Days, E = 121.111994 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
6.93	5.08	4.34	5.37	5.24	2.94	1.54	2.59	1.55	0.74	-0.29	0.45	1.06	0.44	0.53



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 006466443

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6675^{+212}_{-236}$	$3.583^{+0.336}_{-0.105}$	$-0.300^{+0.350}_{-0.250}$	$3.410^{+0.429}_{-1.287}$	$1.626^{+0.243}_{-0.364}$	$0.058^{+0.139}_{-0.015}$
	+3%/-4%	+9%/-3%	+117%/-83%	+13%/-38%	+15%/-22%	+241%/-26%
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 006466443-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-210 \pm 41$	$7.82^{+6.46}_{-4.94}$	$1927^{+119}_{-174}$	$5319^{+4112}_{-1129}$	$41^{+297}_{-28}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

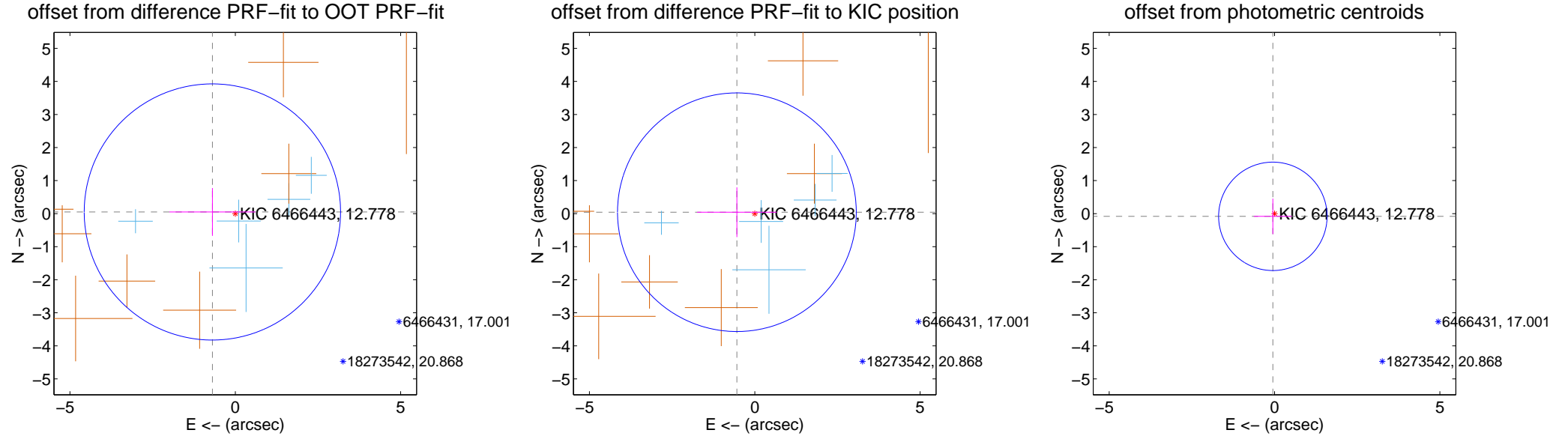
## DV Centroid Data

Supplemental centroid analysis for 006466443-05. Kepler magnitude: 12.78. Transit SNR 13.30

There are 5 quarters with good PRF difference image offsets

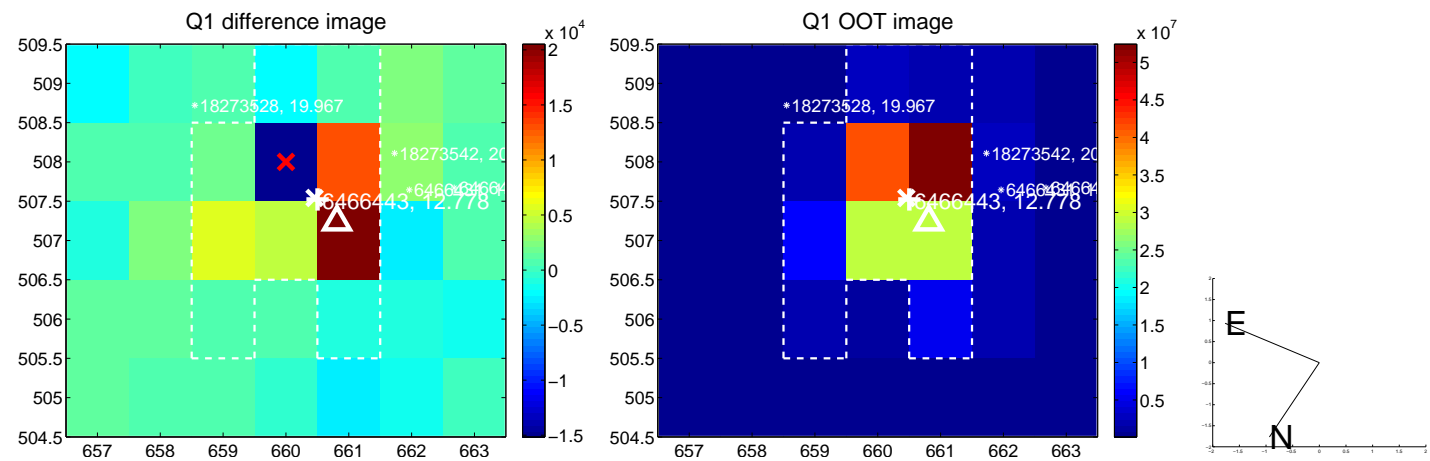
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.695 \pm 1.292$	0.54	$0.693 \pm 1.302$	$0.050 \pm 0.724$
PRF-fit source offset from KIC position	$0.542 \pm 1.203$	0.45	$0.541 \pm 1.203$	$0.043 \pm 0.752$
photometric centroid source offset	$0.10 \pm 0.55$	0.18	$0.05 \pm 0.57$	$-0.08 \pm 0.54$

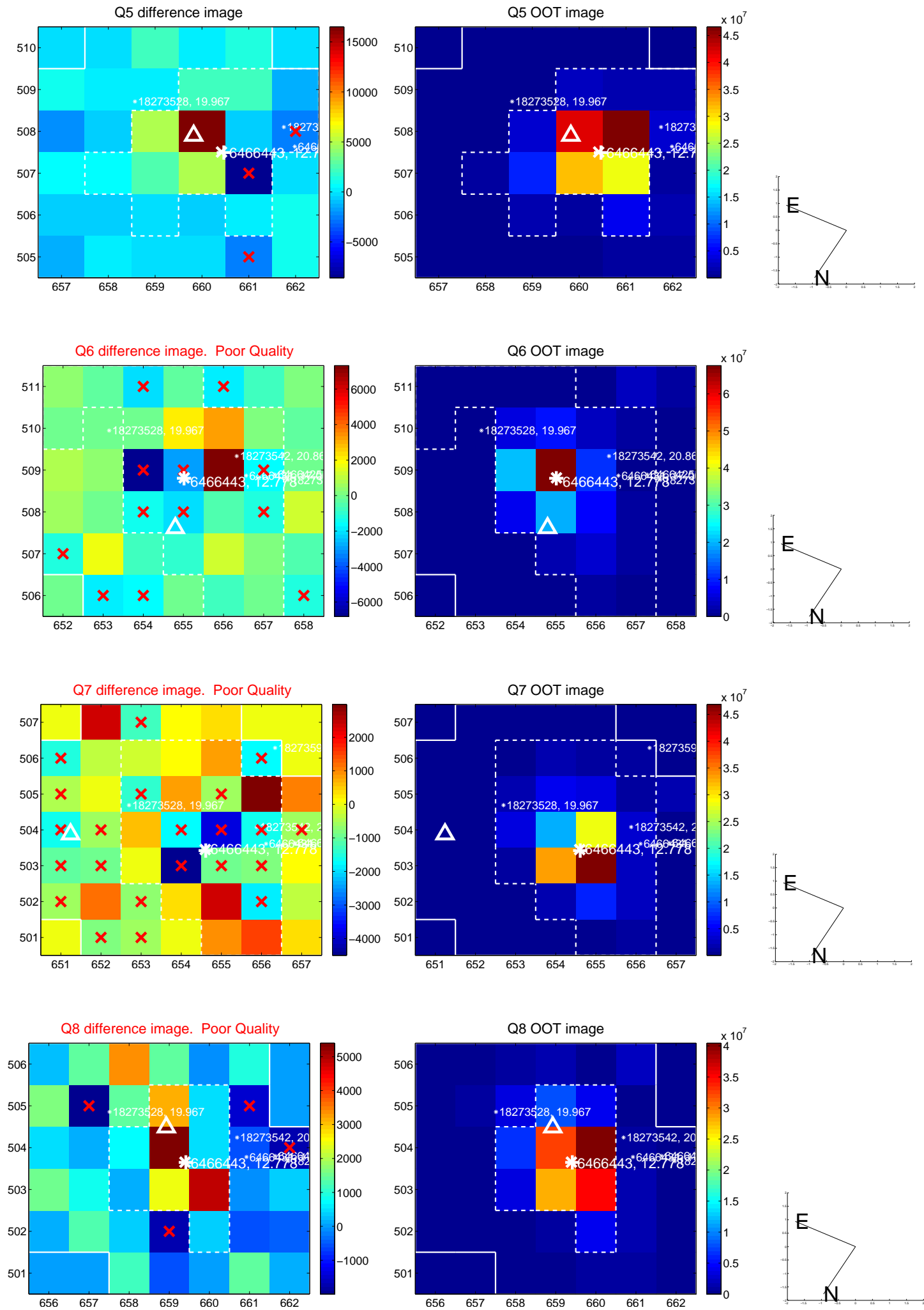


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

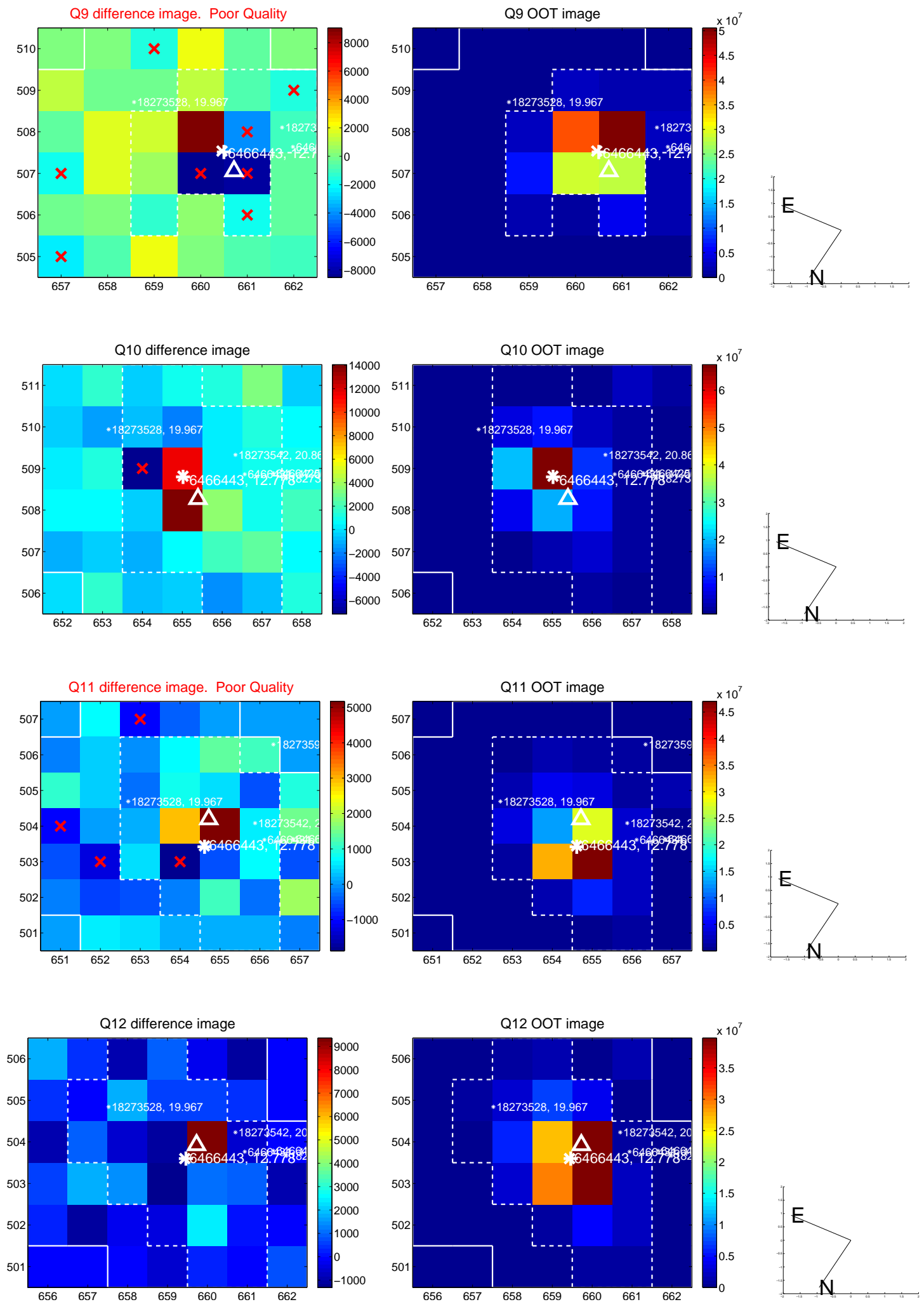


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

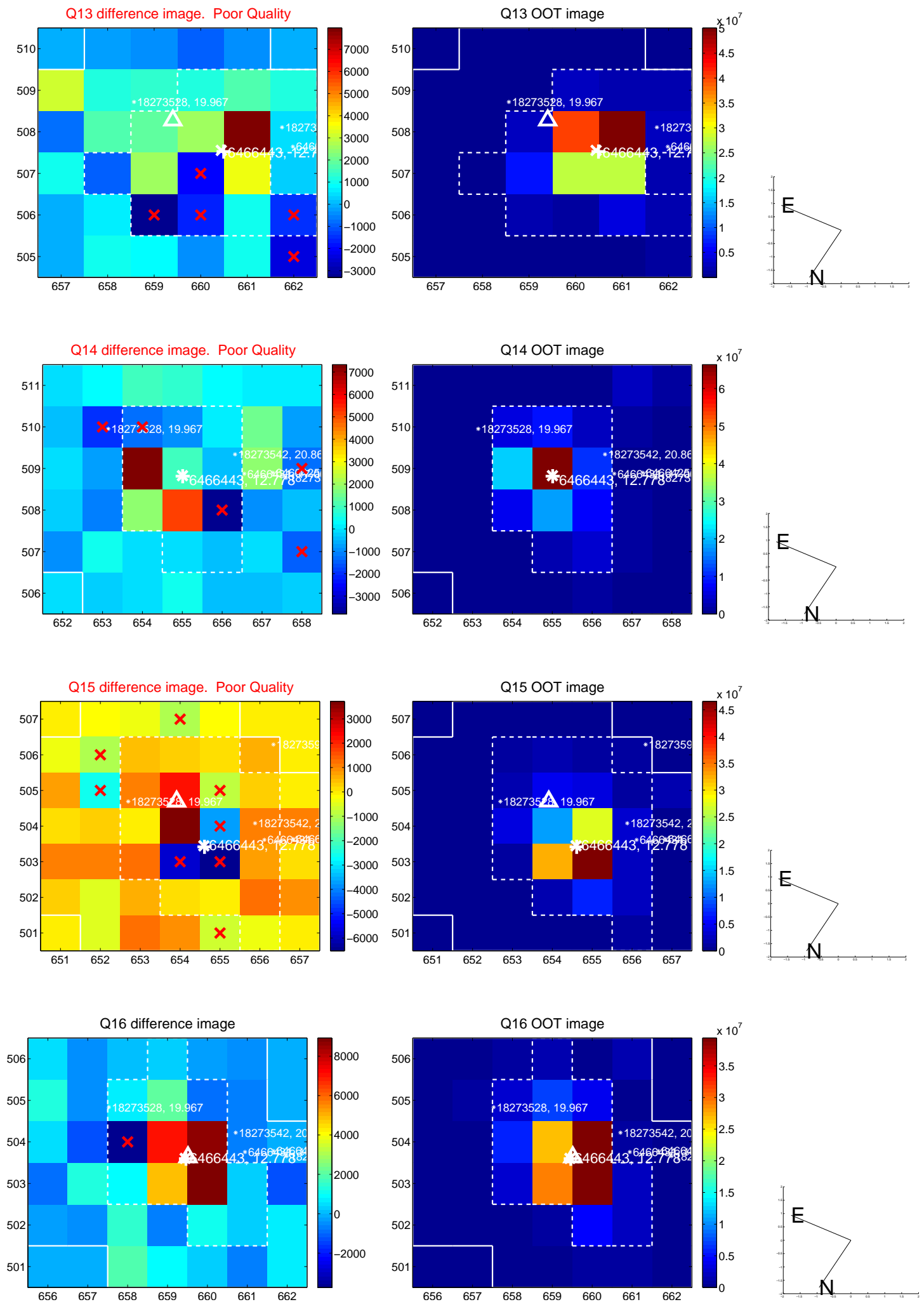




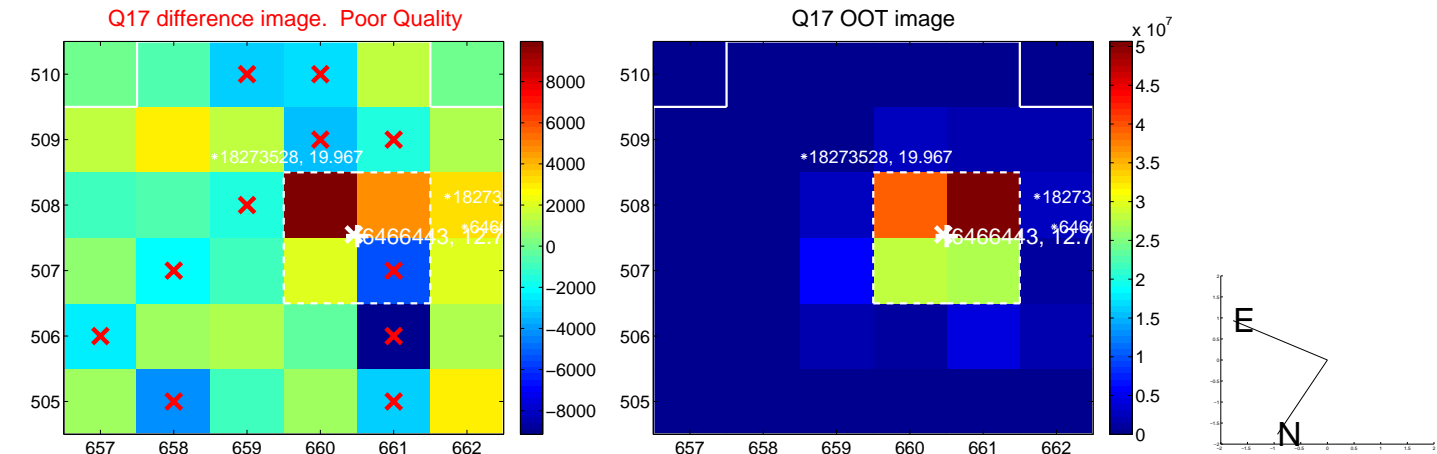
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



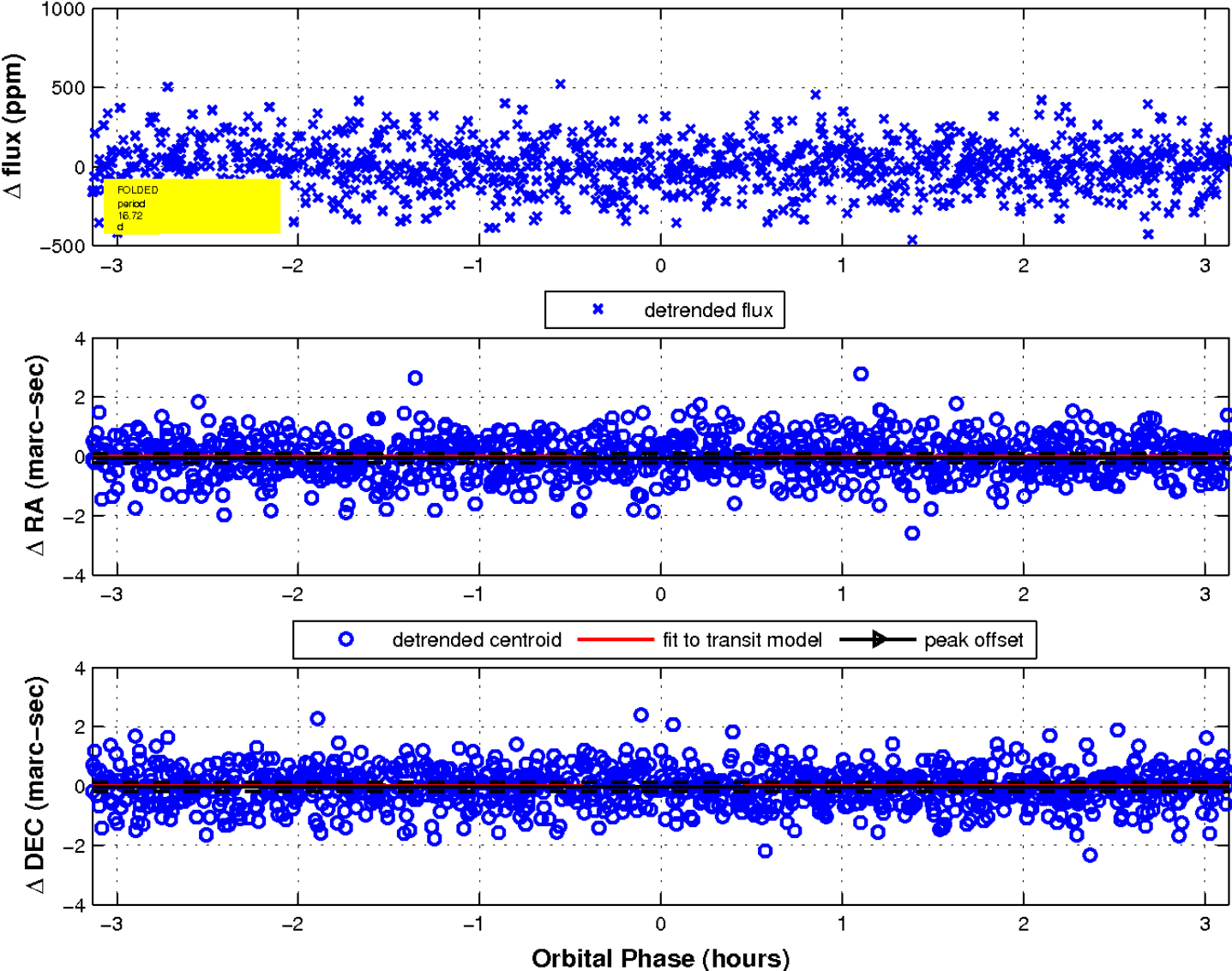
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

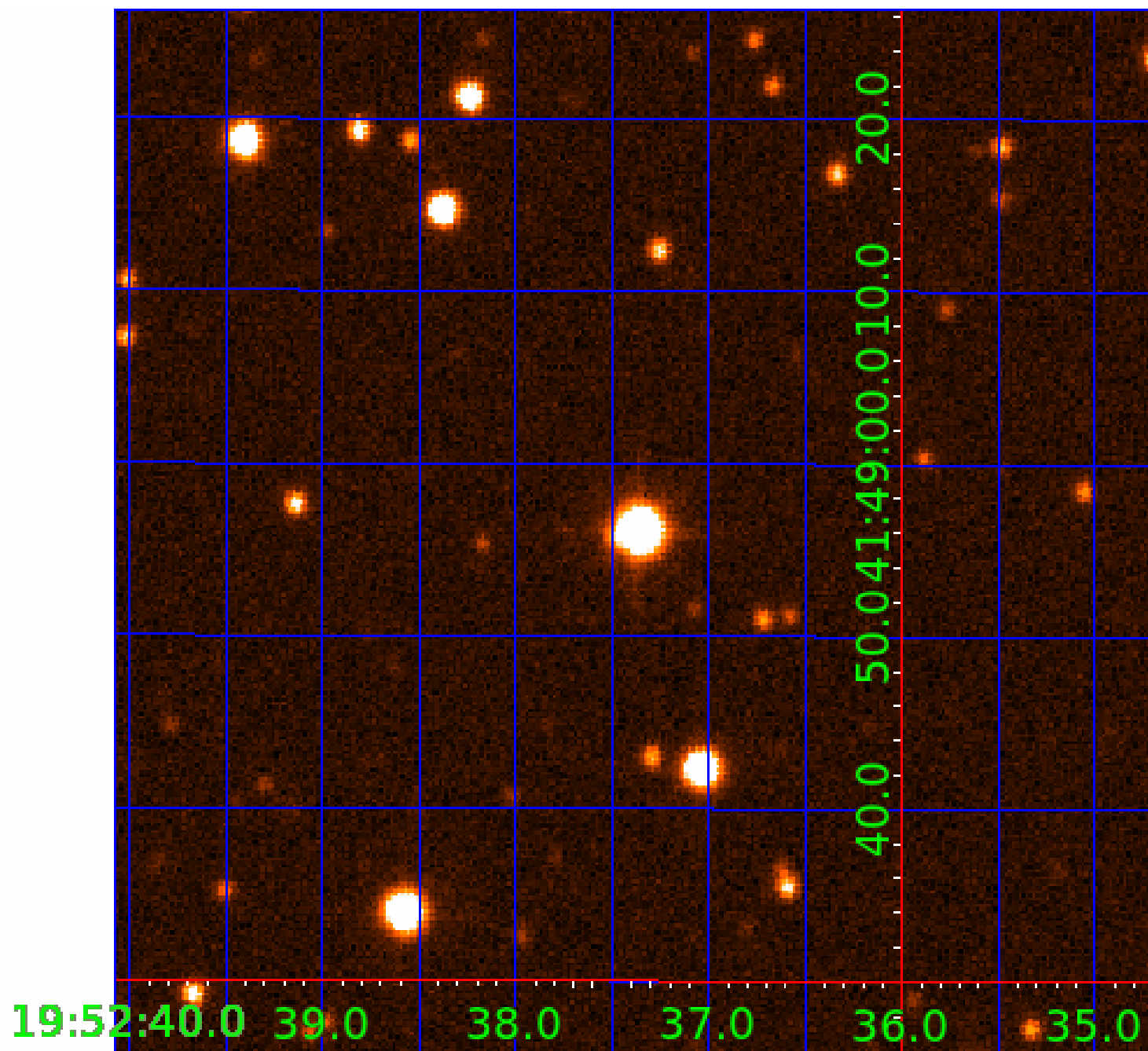


fluxWeightedCentroids, Planet 5 of 7



UKIRT Image

Declination



# KIC 006466443

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006466443-01	OBS	No	0.647579	132.070199	0.0	4.765	10.8	0.0	3.41	6675	0.04	69739.51
006466443-02	OBS	No	10.892093	139.104250	80.8	1.289	13.3	6.4	3.41	6675	3.39	1618.28
006466443-03	OBS	No	8.799226	138.436663	102.9	0.658	12.0	4.4	3.41	6675	4.73	2150.85
006466443-04	OBS	No	12.842290	136.795782	128.8	2.047	11.0	6.5	3.41	6675	3.94	1299.21
006466443-05	OBS	No	16.721478	137.833472	262.3	1.045	11.5	13.3	3.41	6675	6.44	913.77
006466443-06	OBS	No	10.280990	134.541853	269.9	0.658	11.0	8.1	3.41	6675	5.76	1747.79
006466443-07	OBS	No	10.156096	133.940544	210.1	1.714	12.4	13.8	3.41	6675	5.04	1776.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006466443-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_FEW_DIFFS
006466443-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006466443-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006466443-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV
006466443-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
006466443-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006466443-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

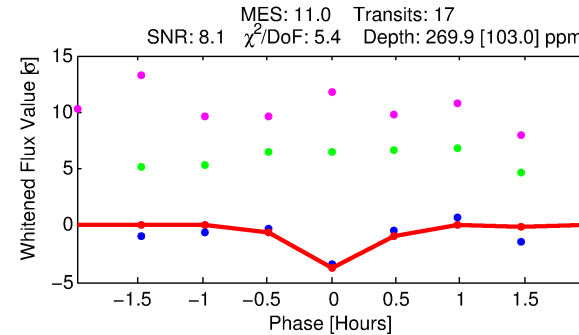
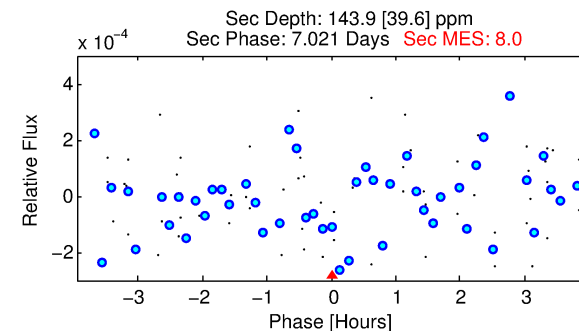
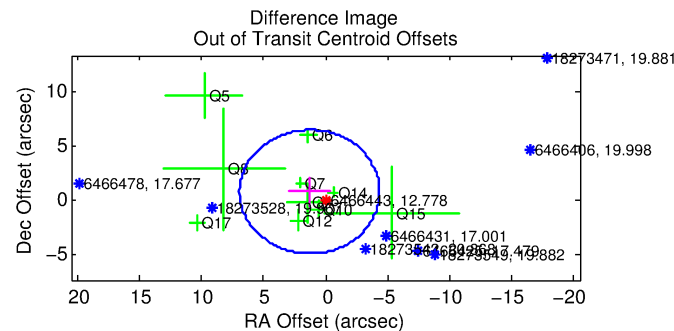
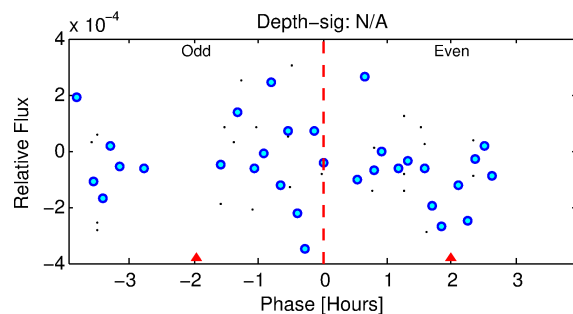
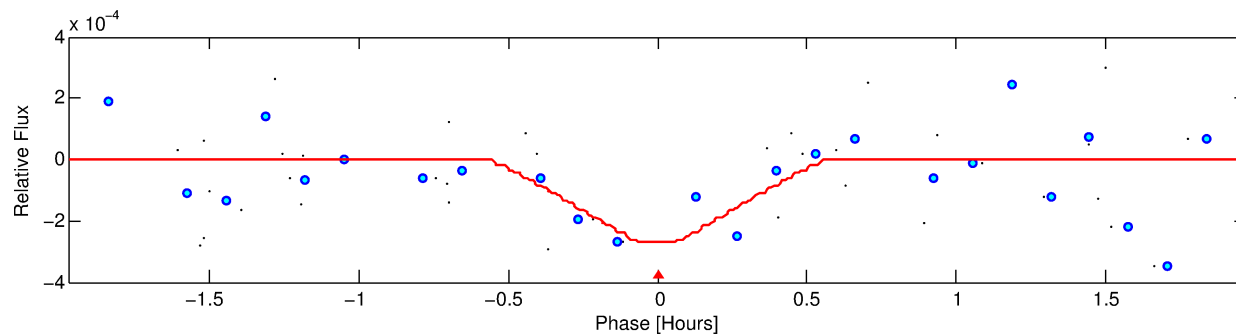
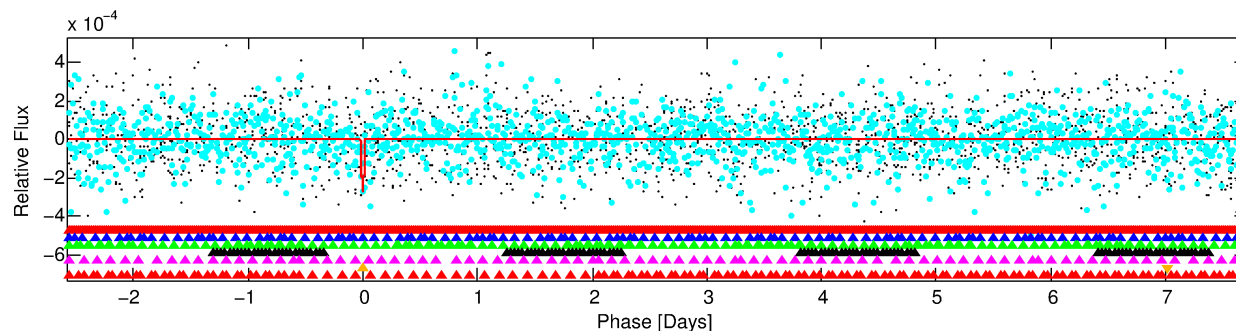
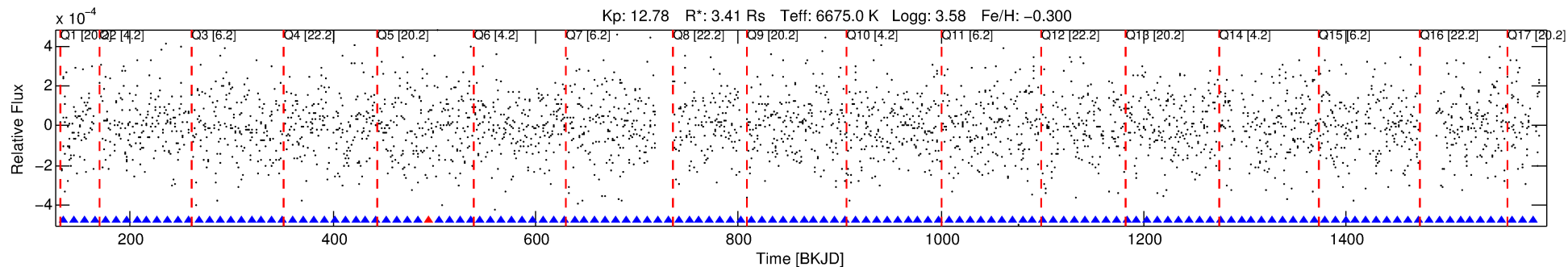
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006466443-06

No Significant Match Found

# DV One-Page Summary

KIC: 6466443 Candidate: 6 of 7 Period: 10.281 d



## DV Fit Results:

Period = 10.28099 [0.00007] d  
Epoch = 134.5419 [0.0053] BKJD  
Rp/R\* = 0.0155 [0.0425]  
a/R\* = 120.85 [1819.35]  
b = 0.07 [211.57]  
Seff = 1747.79 [1033.03]  
Teq = 1649 [244] K  
Rp = 5.76 [15.97] Re  
a = 0.1088 [0.0392] AU  
Ag = 28.19 [155.75] [0.17σ]  
Teffp = 5874 [8071] K [0.52σ]

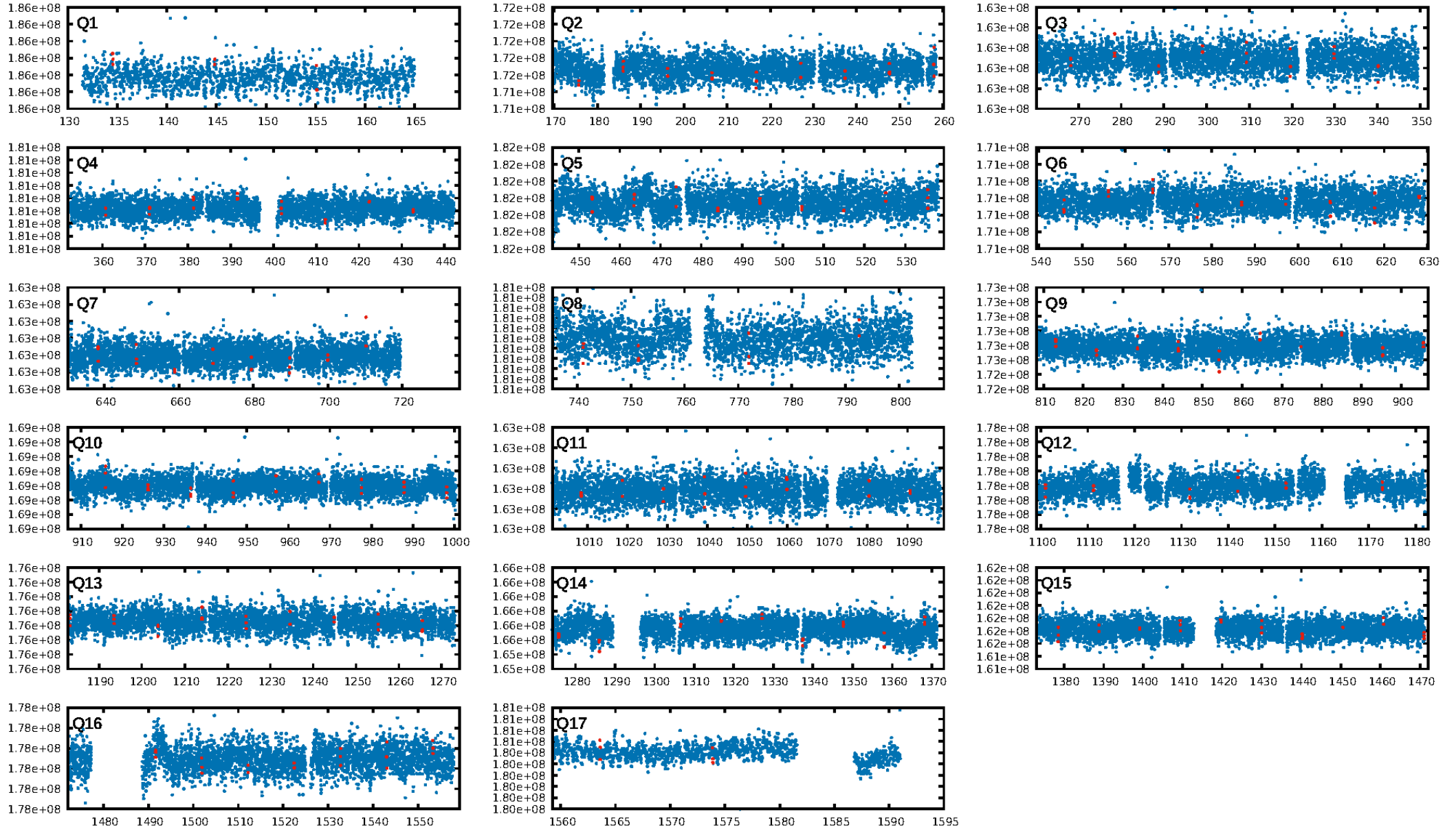
## DV Diagnostic Results:

ShortPeriod-sig: 89.7% [1.63σ]  
LongPeriod-sig: 100.0% [10.13σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.3%  
Bootstrap-pfa: 9.84e-13  
RollingBand-fgt: 0.93 [14/15]  
GhostDiagnostic-chr: 6.557  
Centroid-sig: 29.2%  
Centroid-so: 0.348 arcsec [0.66σ]  
OotOffset-rm: 1.512 arcsec [0.80σ]  
OotOffset-st: 3/2/3/2 [10]  
KicOffset-rm: 1.488 arcsec [0.88σ]  
KicOffset-st: 3/2/3/2 [10]  
DiffImageQuality-fgm: 0.30 [3/10]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:13:57 Z

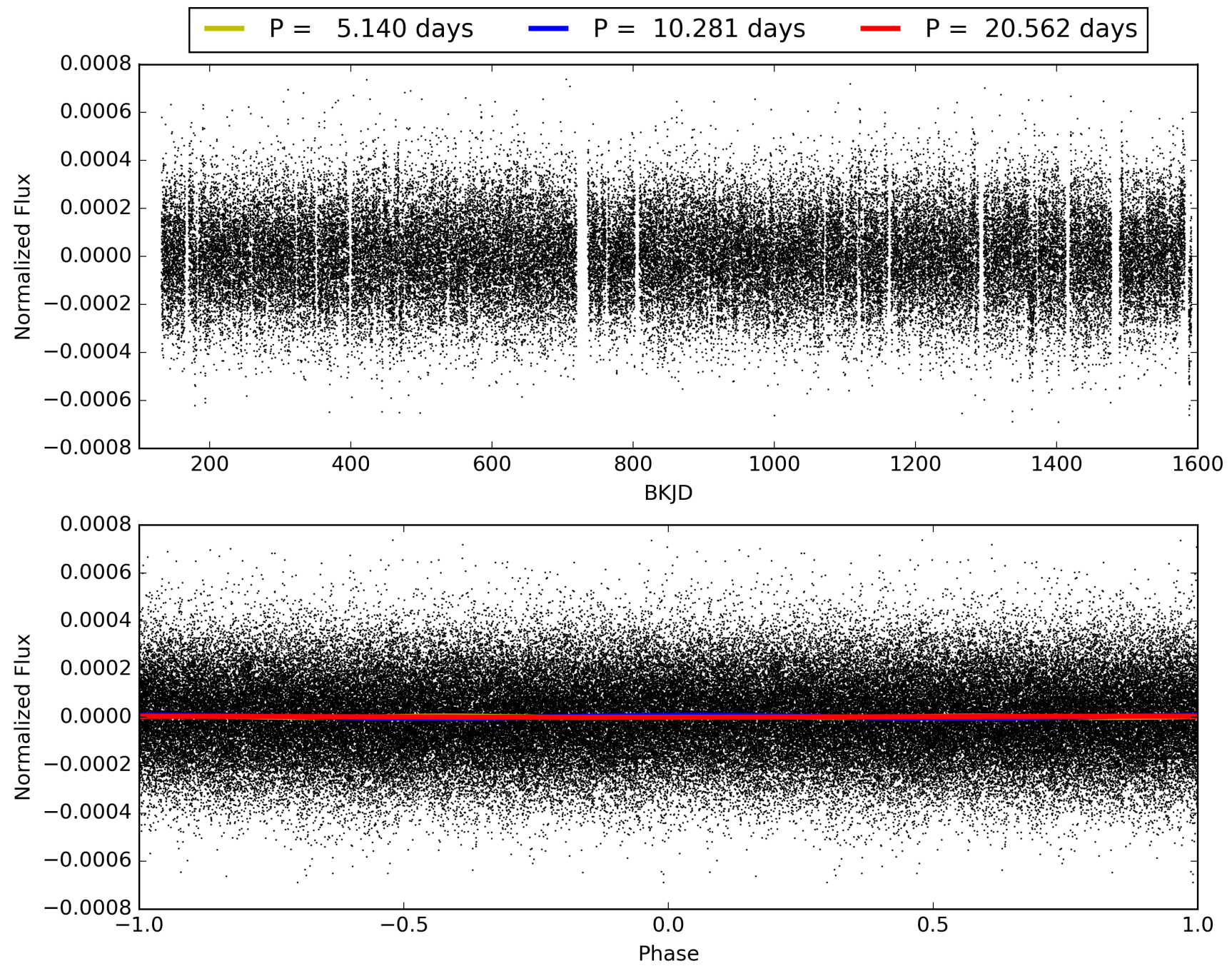
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006466443-06, PDC Light Curves





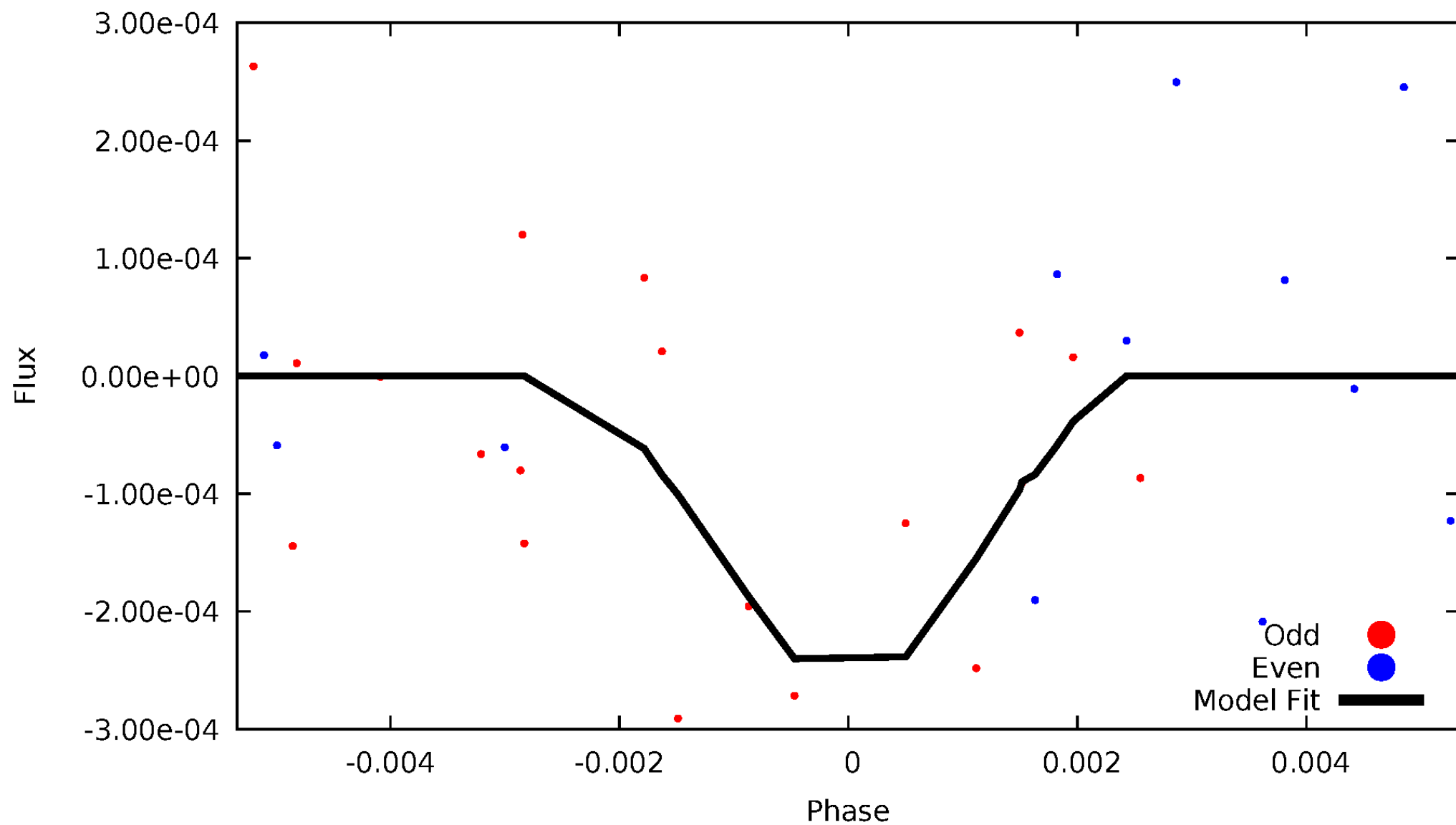
TCE 006466443-06





# DV Odd/Even

TCE 006466443-06



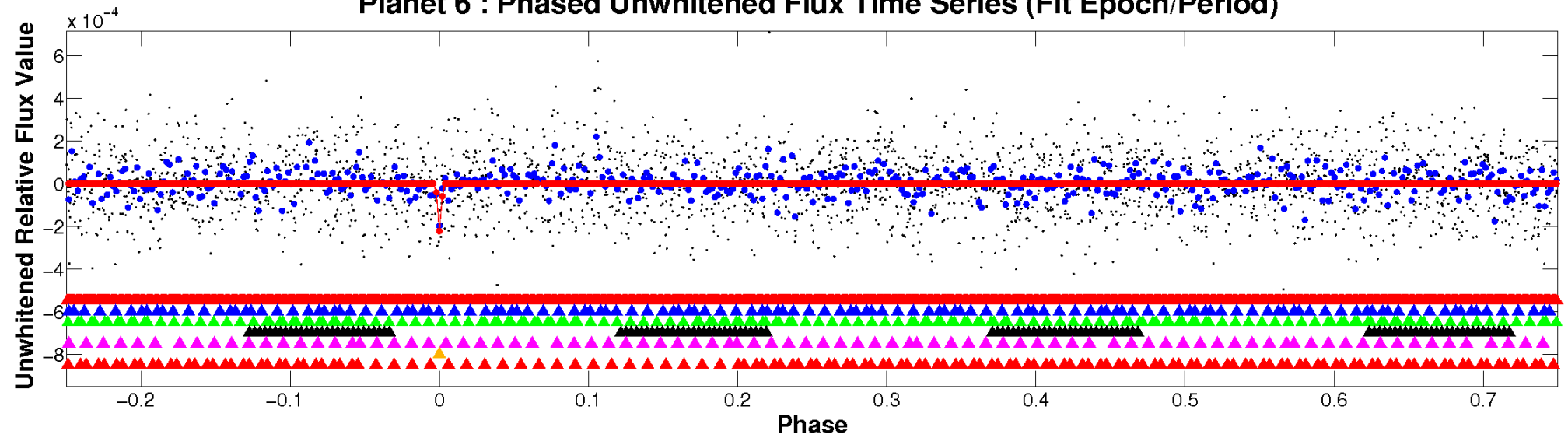


ALT Odd/Even

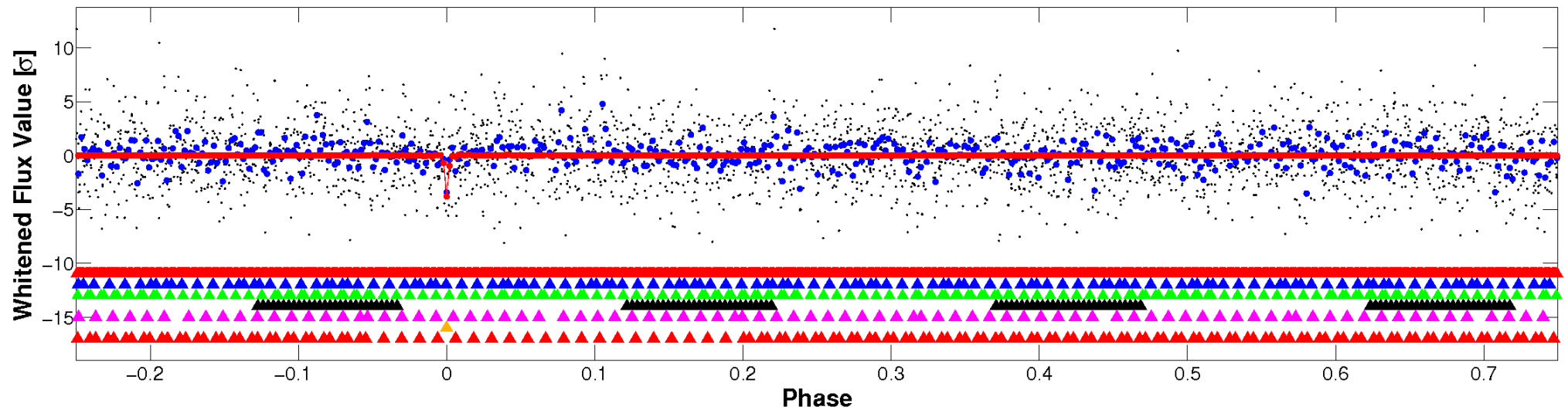
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

## Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

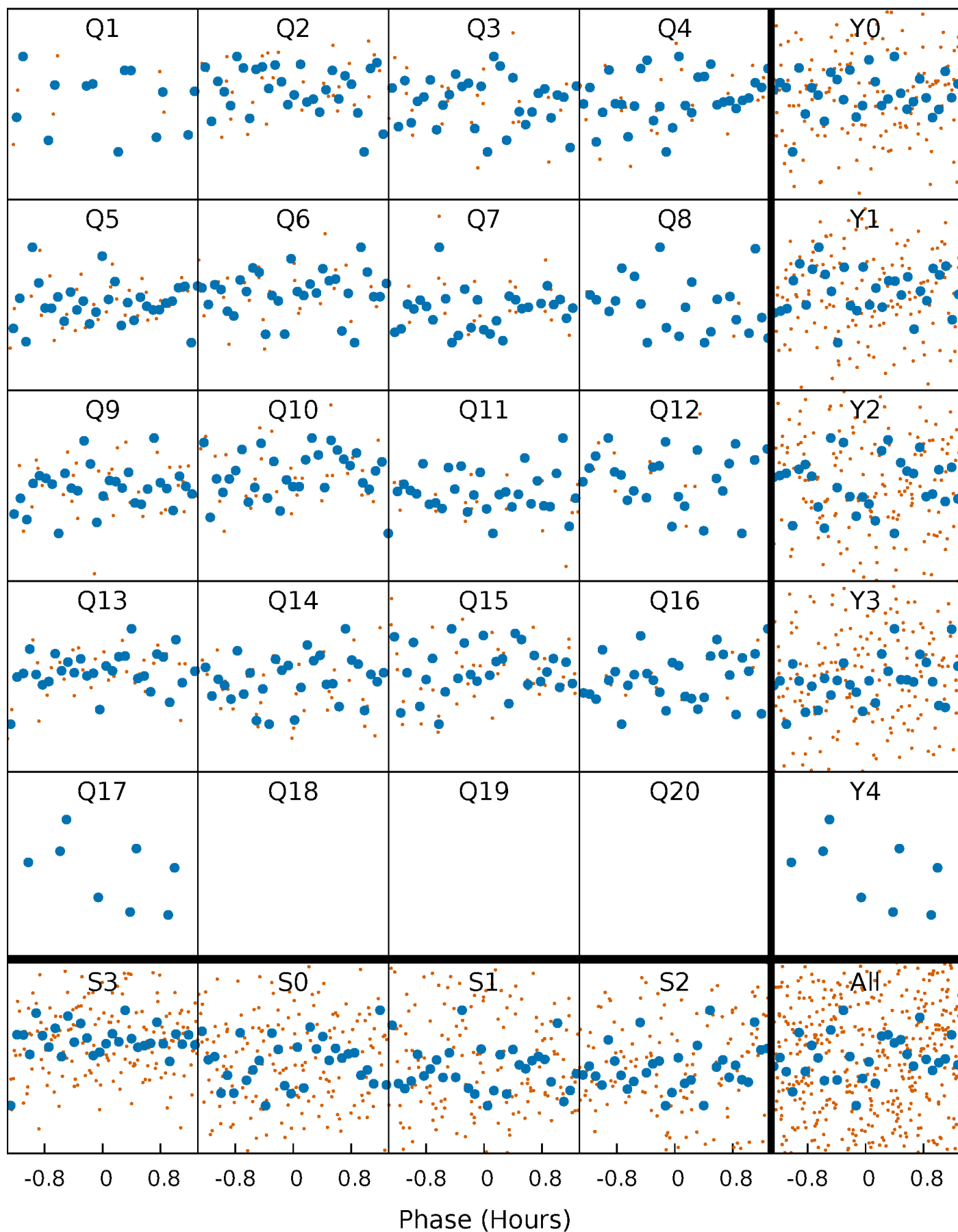


## Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



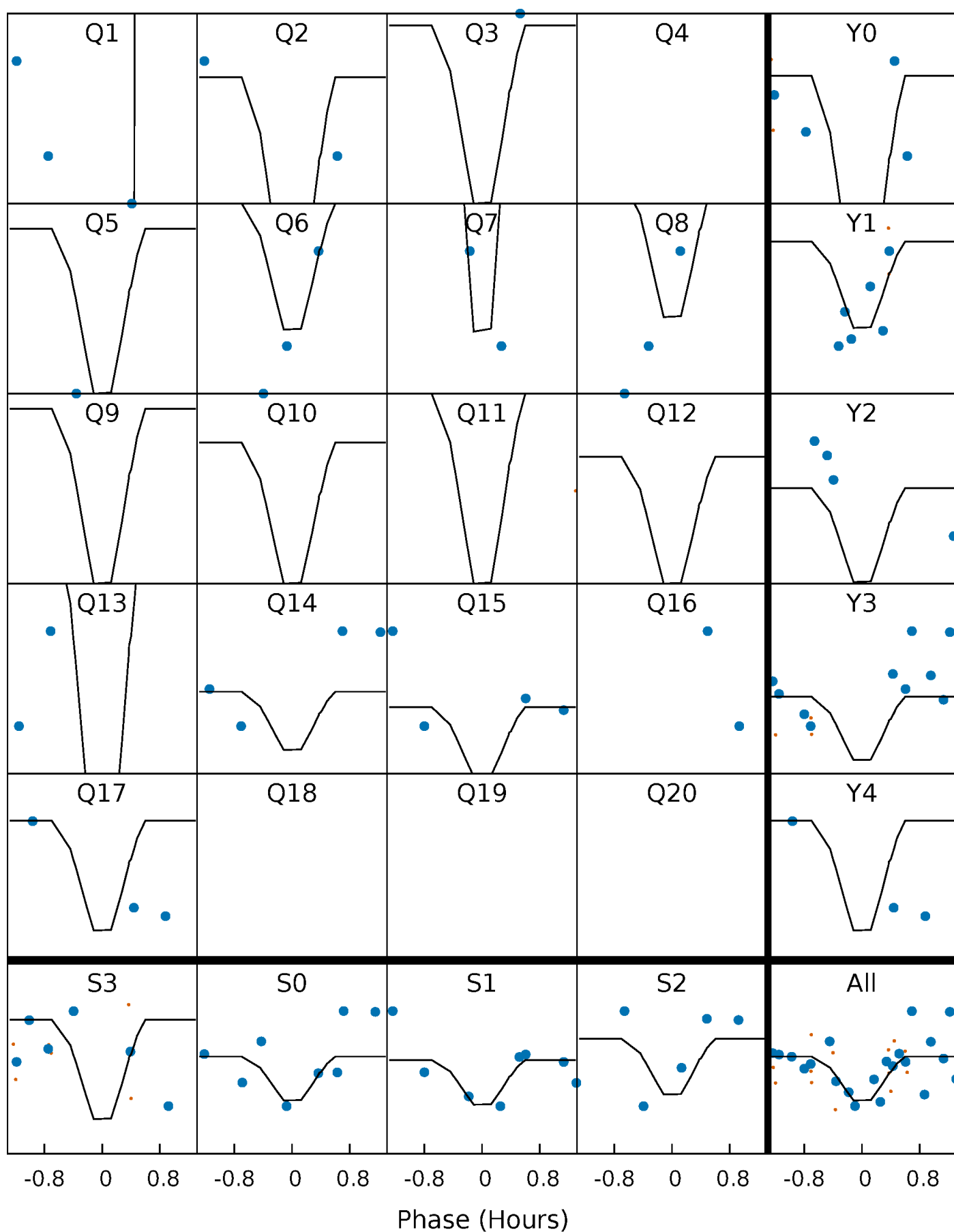
# PDC Quarter-Phased Transit Curves

TCE 006466443-06   P= 10.280990 Days    $T_0=134.541853$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 006466443-06 P= 10.280990 Days  $T_0=134.541853$  (BKJD)

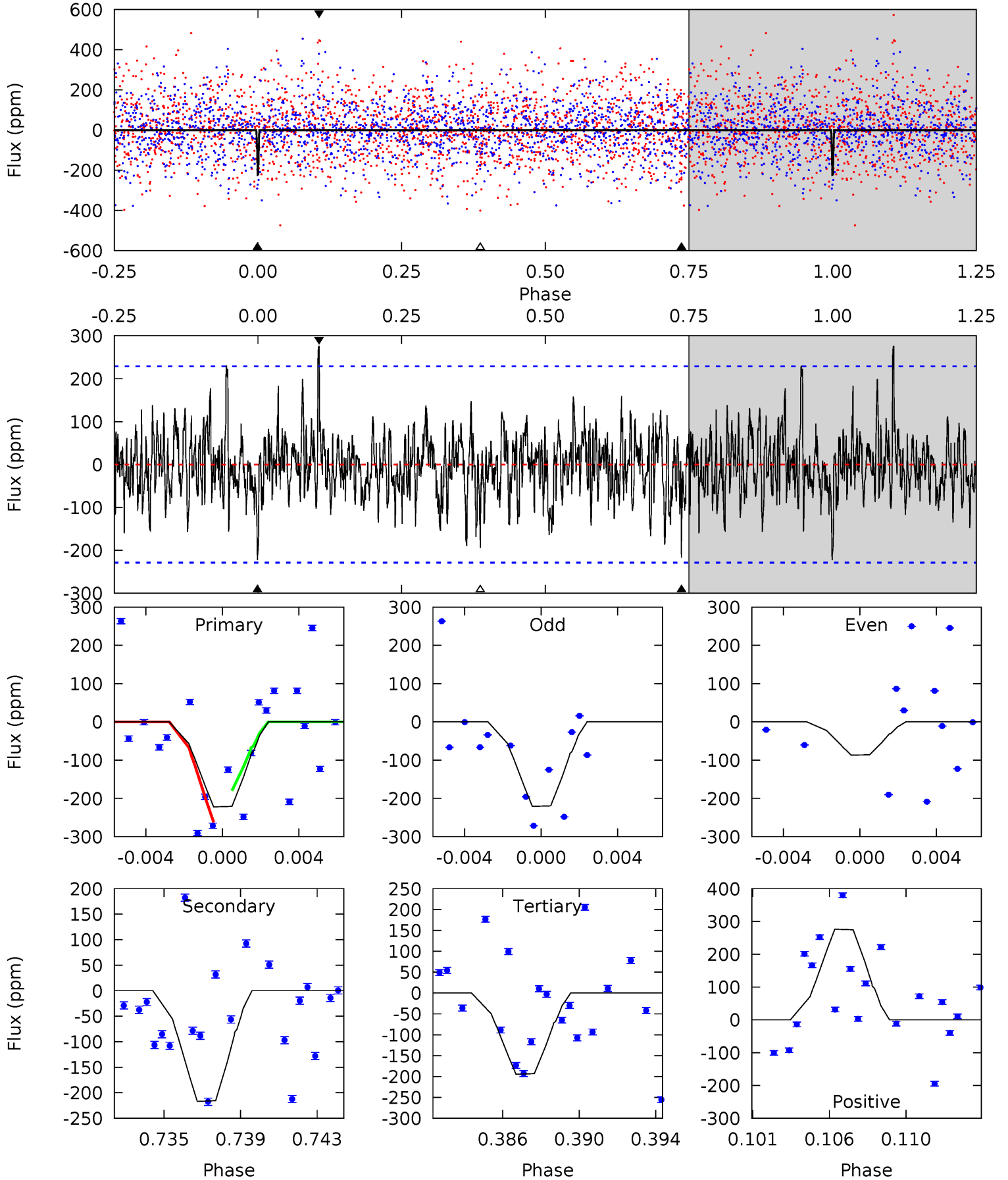


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

006466443-06, P = 10.280990 Days, E = 124.260863 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
5.05	4.93	4.42	6.28	5.20	2.87	1.46	0.63	-1.23	0.51	-1.35	1.24	0.98	0.55	0.86





## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 006466443

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6675^{+212}_{-236}$	$3.583^{+0.336}_{-0.105}$	$-0.300^{+0.350}_{-0.250}$	$3.410^{+0.429}_{-1.287}$	$1.626^{+0.243}_{-0.364}$	$0.058^{+0.139}_{-0.015}$
	+3%/-4%	+9%/-3%	+117%/-83%	+13%/-38%	+15%/-22%	+241%/-26%
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 006466443-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-217 \pm 44$	$12.27^{+12.45}_{-8.67}$	$2268^{+139}_{-222}$	$4468^{+3426}_{-1044}$	$9.629^{+95.391}_{-7.399}$
Alt.	N/A	N/A	N/A	N/A	N/A

$T_{\text{max}}$  = 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

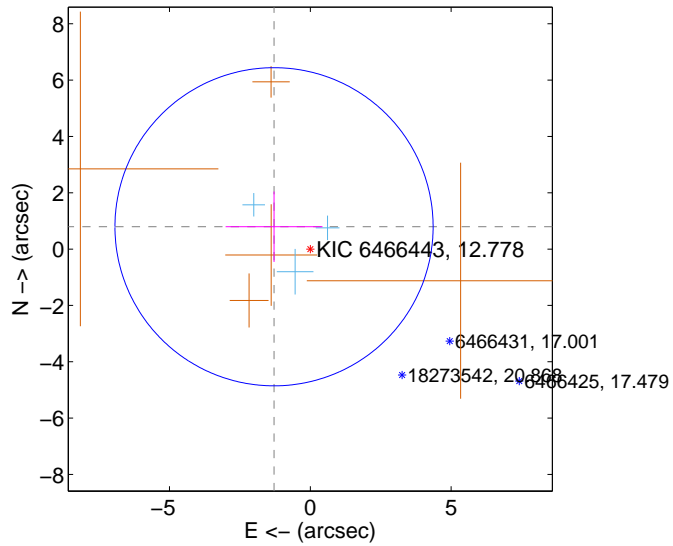
Supplemental centroid analysis for 006466443-06. Kepler magnitude: 12.78. Transit SNR 8.06

There are 3 quarters with good PRF difference image offsets

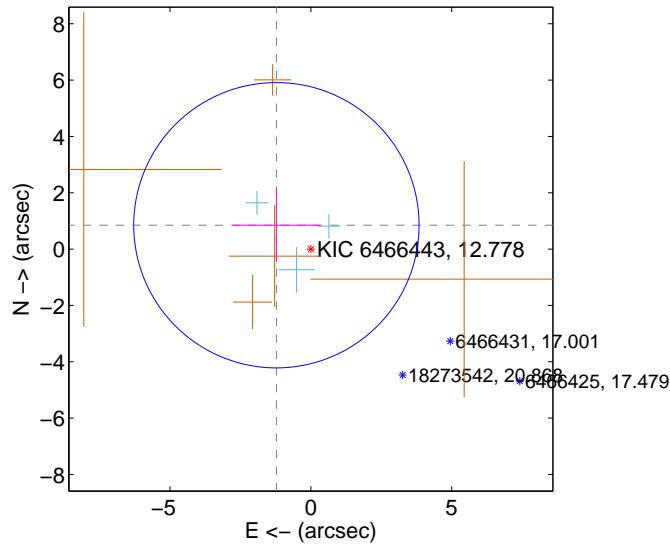
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.512 \pm 1.882$	0.80	$1.288 \pm 1.721$	$0.793 \pm 1.251$
PRF-fit source offset from KIC position	$1.488 \pm 1.688$	0.88	$1.223 \pm 1.555$	$0.847 \pm 1.301$
photometric centroid source offset	$0.35 \pm 0.53$	0.66	$-0.26 \pm 0.55$	$0.23 \pm 0.50$

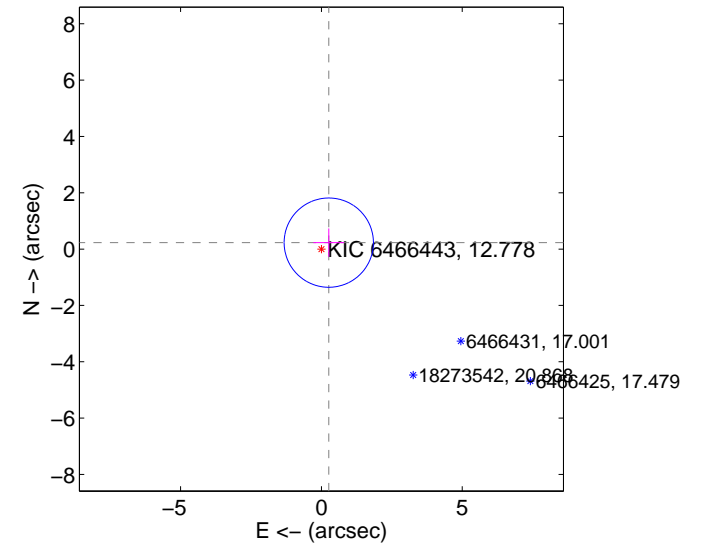
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

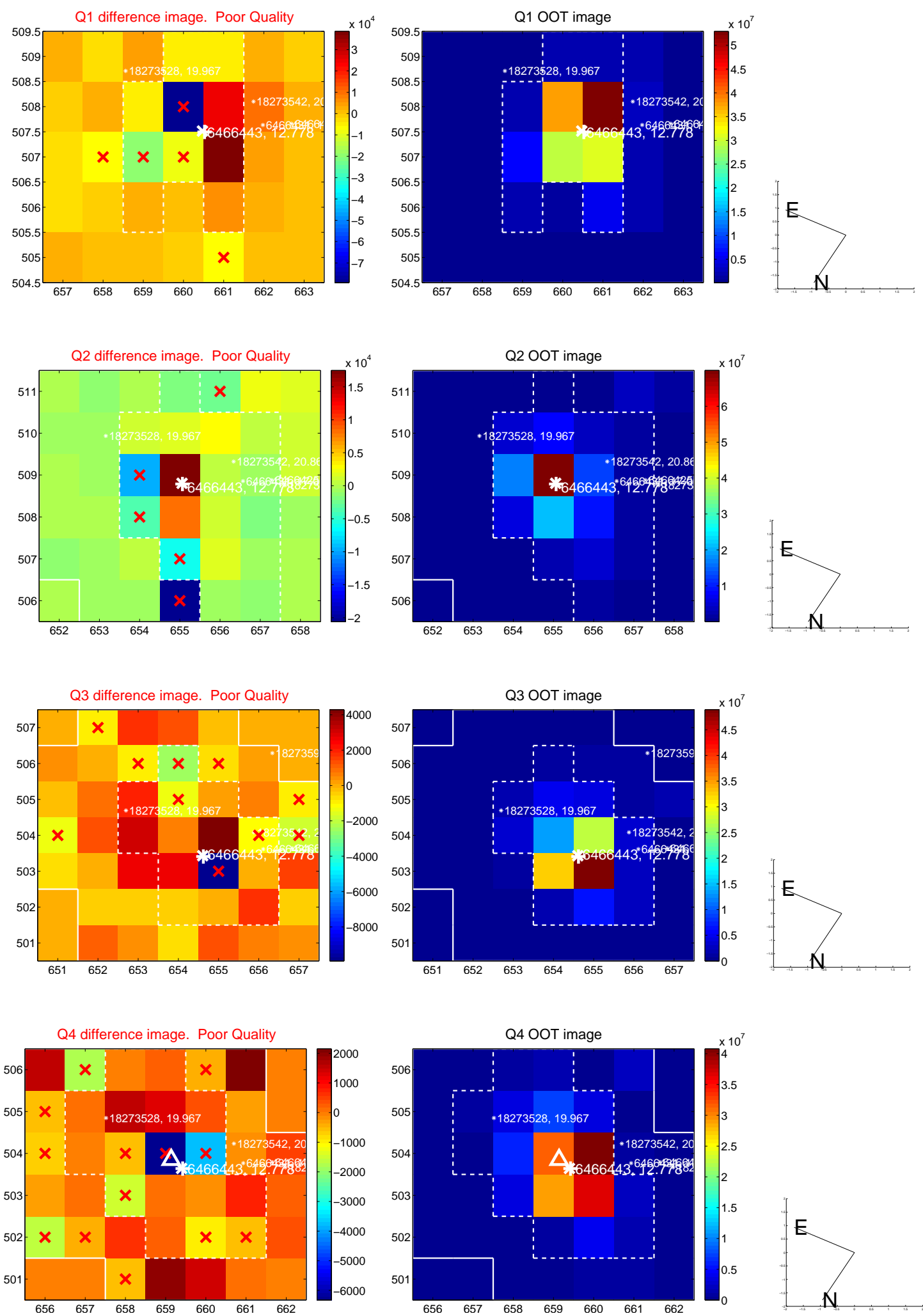


offset from photometric centroids

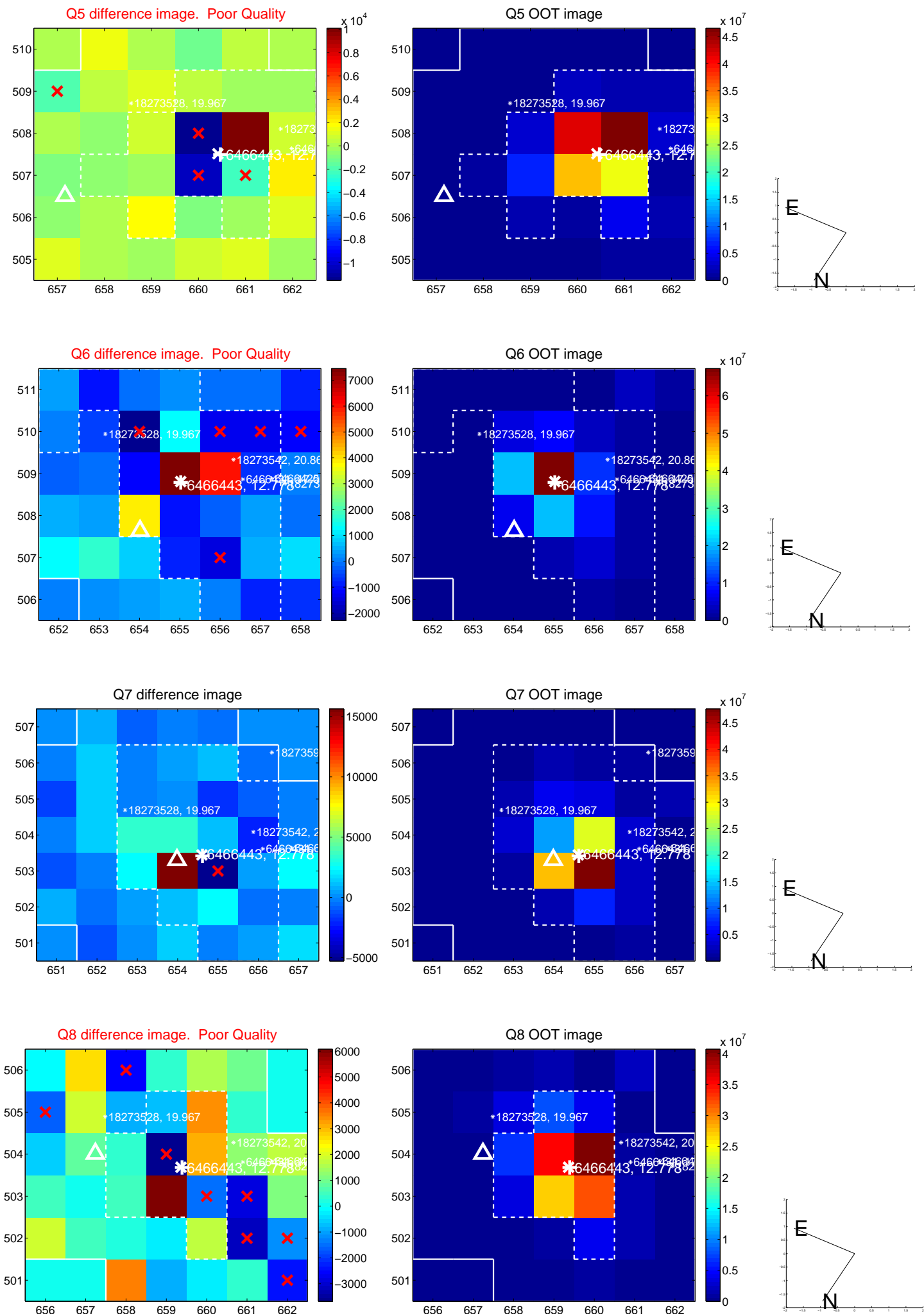


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

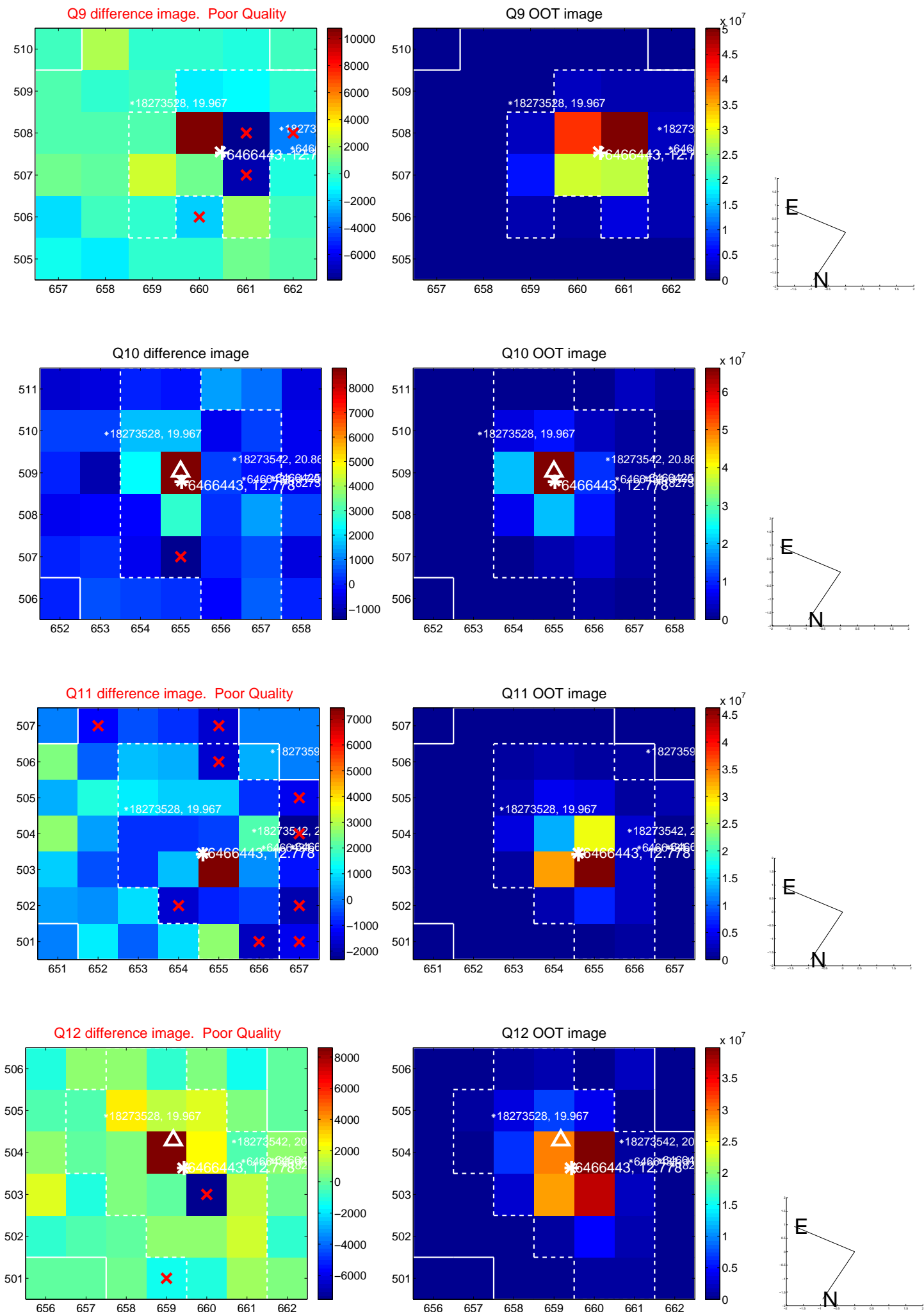
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



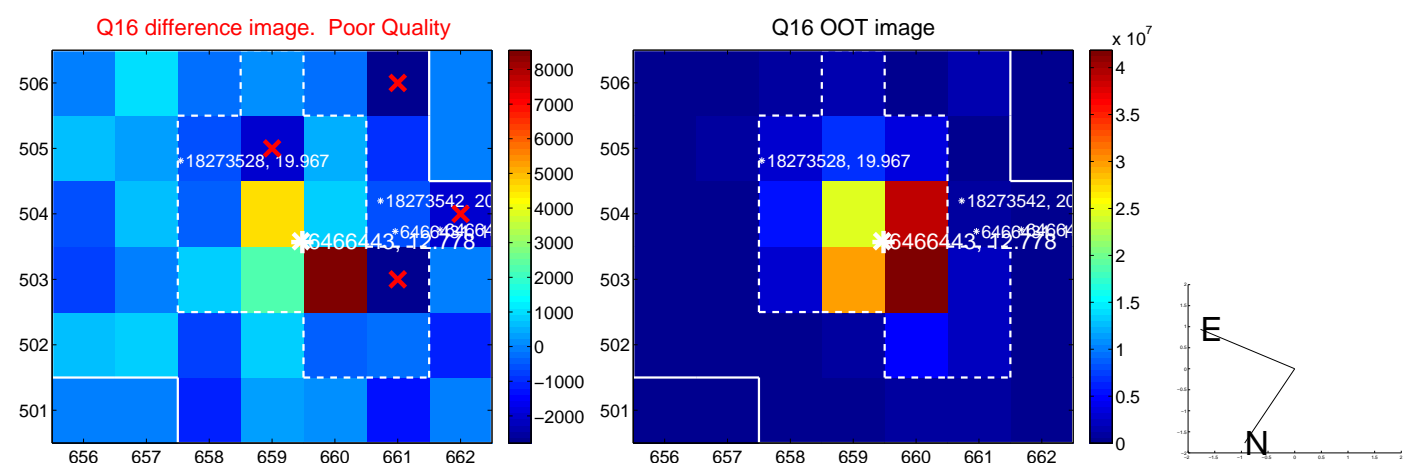
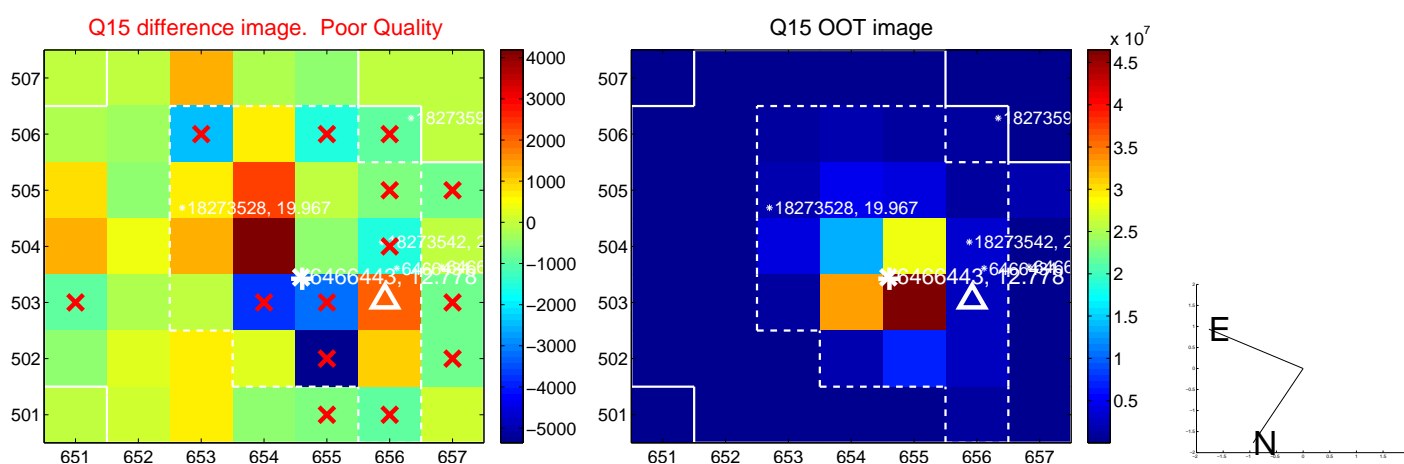
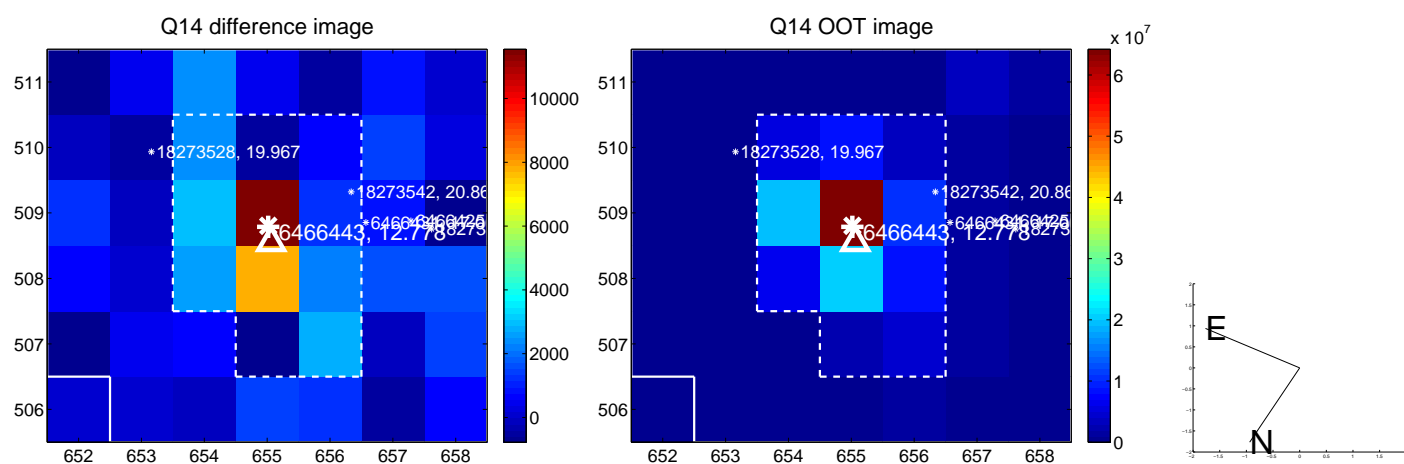
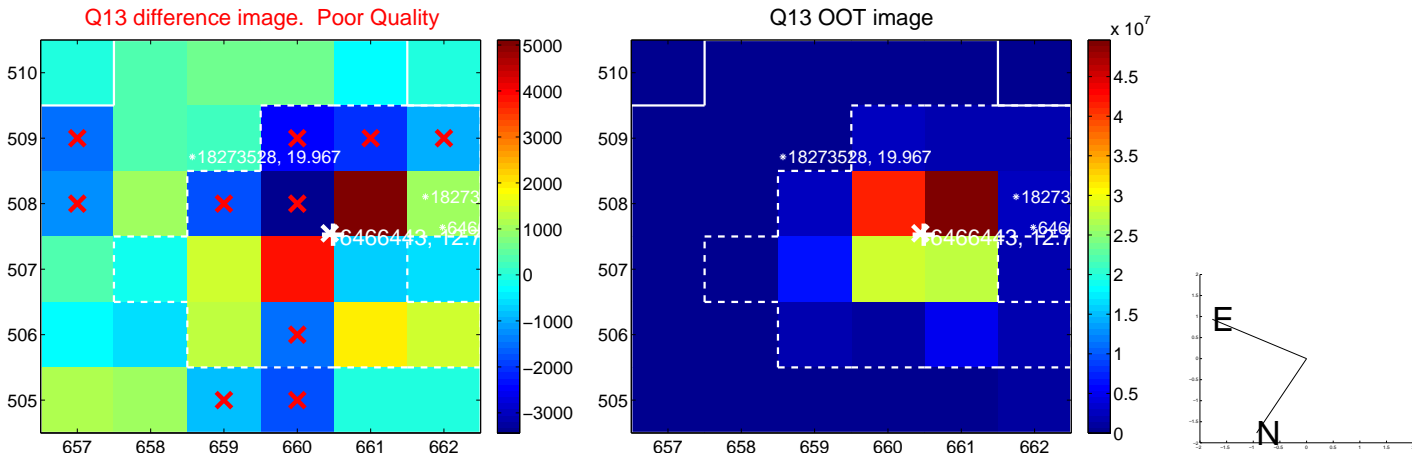
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



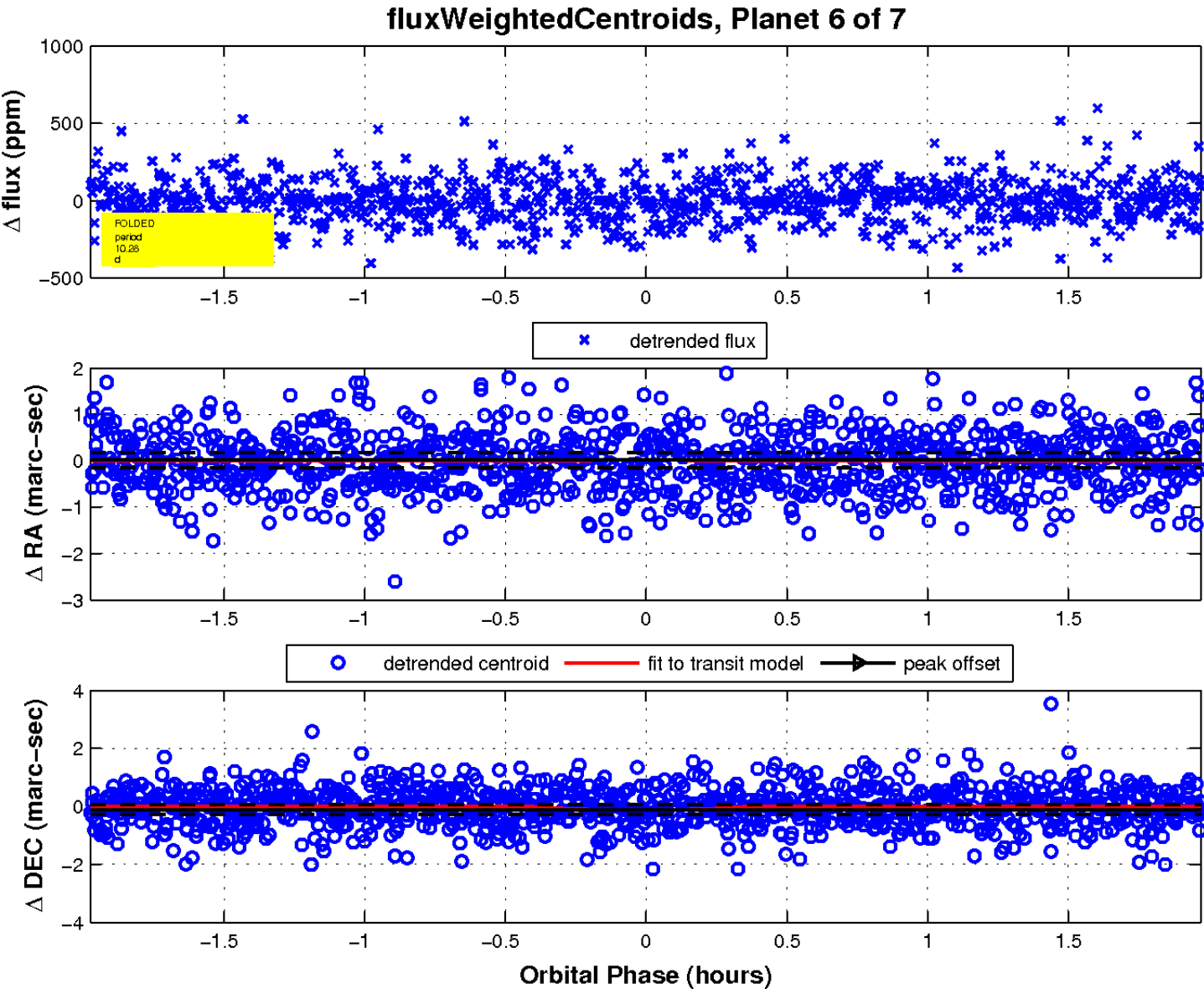
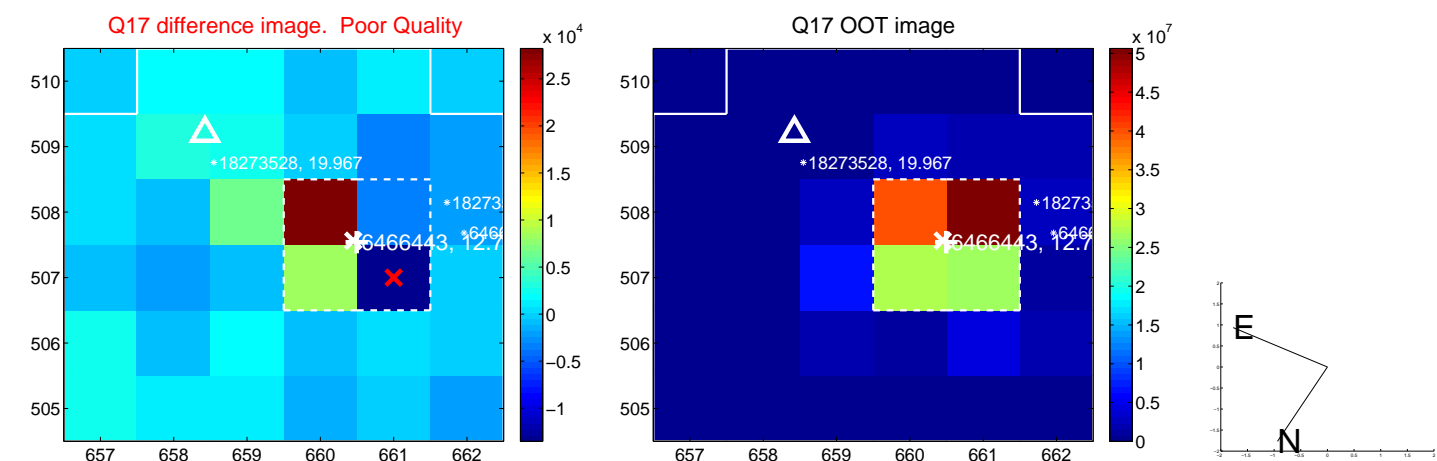
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



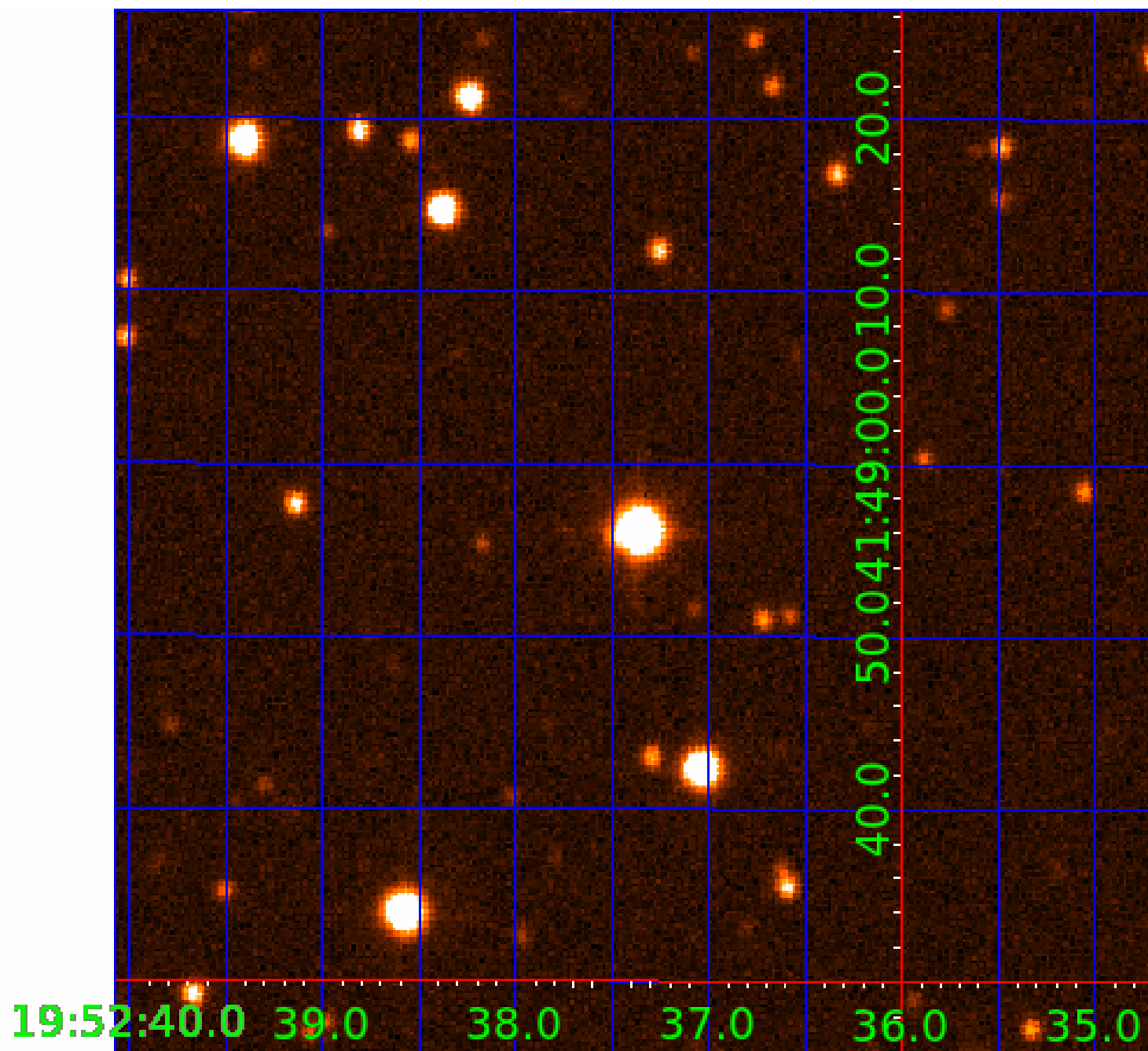
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\Delta$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 006466443

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006466443-01	OBS	No	0.647579	132.070199	0.0	4.765	10.8	0.0	3.41	6675	0.04	69739.51
006466443-02	OBS	No	10.892093	139.104250	80.8	1.289	13.3	6.4	3.41	6675	3.39	1618.28
006466443-03	OBS	No	8.799226	138.436663	102.9	0.658	12.0	4.4	3.41	6675	4.73	2150.85
006466443-04	OBS	No	12.842290	136.795782	128.8	2.047	11.0	6.5	3.41	6675	3.94	1299.21
006466443-05	OBS	No	16.721478	137.833472	262.3	1.045	11.5	13.3	3.41	6675	6.44	913.77
006466443-06	OBS	No	10.280990	134.541853	269.9	0.658	11.0	8.1	3.41	6675	5.76	1747.79
006466443-07	OBS	No	10.156096	133.940544	210.1	1.714	12.4	13.8	3.41	6675	5.04	1776.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006466443-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_FEW_DIFFS
006466443-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006466443-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006466443-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV
006466443-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
006466443-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
006466443-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

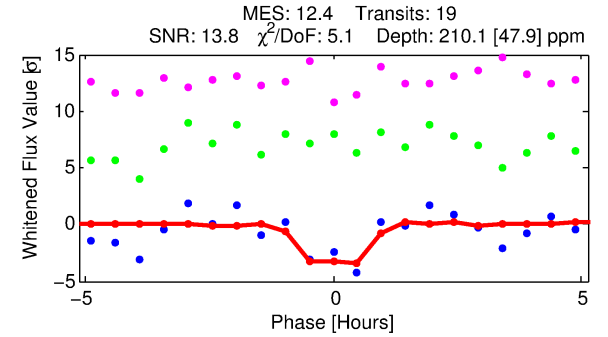
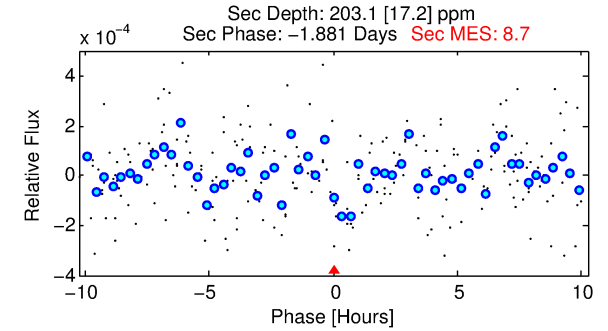
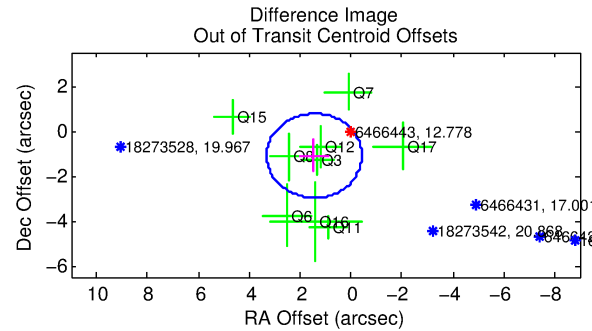
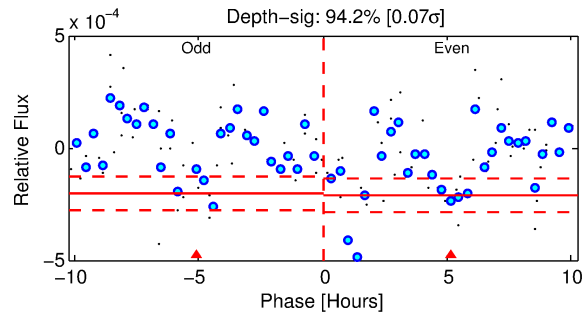
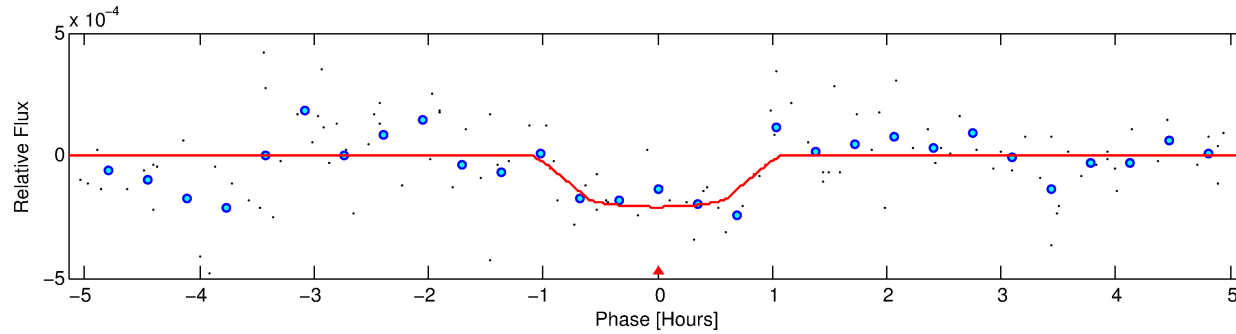
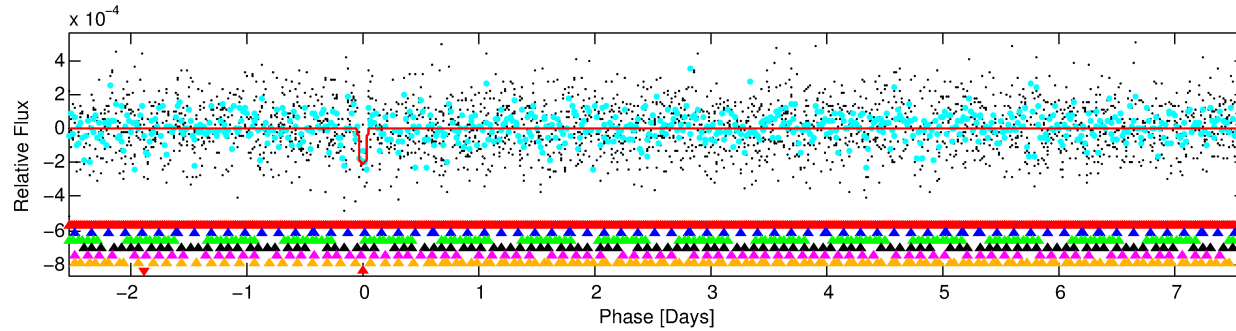
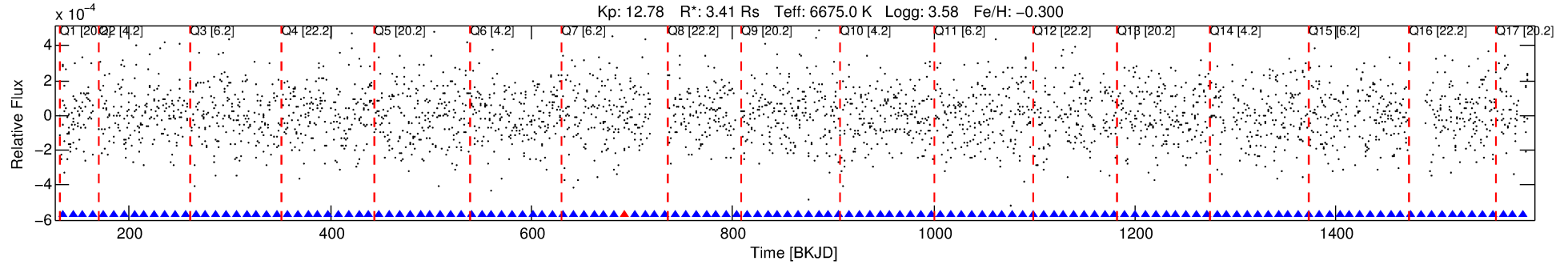
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006466443-07

No Significant Match Found

# DV One-Page Summary

KIC: 6466443 Candidate: 7 of 7 Period: 10.156 d



## DV Fit Results:

Period = 10.15610 [0.00009] d  
Epoch = 133.9405 [0.0081] BKJD  
Rp/R\* = 0.0135 [0.0206]  
a/R\* = 43.83 [365.95]  
b = 0.30 [25.53]  
Seff = 1776.51 [1050.00]  
Teff = 1655 [245] K  
Bo = 5.04 [7.89] Re  
a = 0.1079 [0.0389] AU  
Ag = 51.31 [158.88] [0.32 $\sigma$ ]  
Teffp = 6850 [5217] K [0.99 $\sigma$ ]

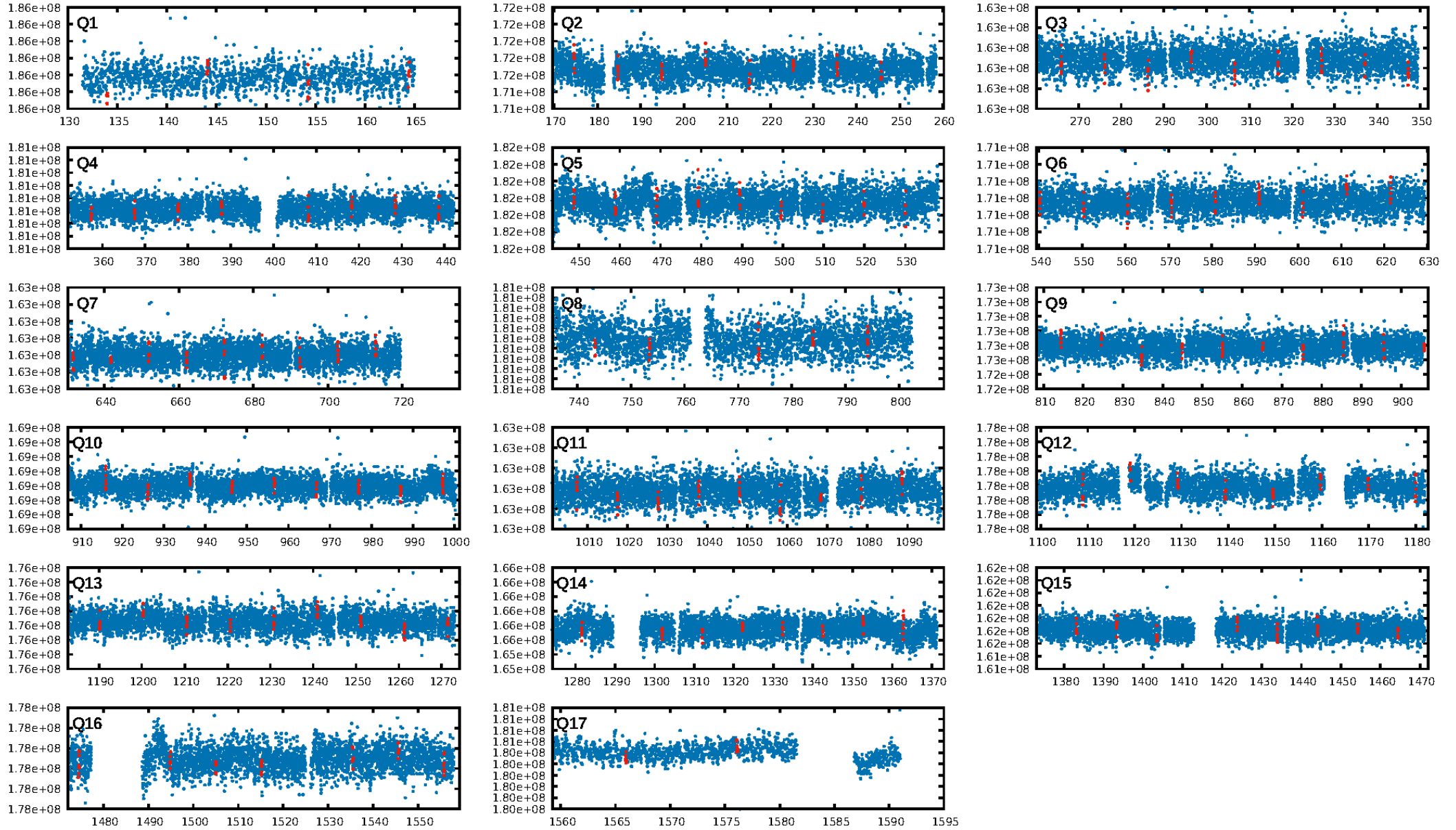
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.73 $\sigma$ ]  
LongPeriod-sig: 89.7% [1.63 $\sigma$ ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 99.7%  
Bootstrap-pfa: 1.32e-17  
RollingBand-fgt: 0.94 [17/18]  
GhostDiagnostic-chr: 1.264  
Centroid-sig: 6.5%  
Centroid-so: 0.656 arcsec [1.65 $\sigma$ ]  
OotOffset-rm: 1.820 arcsec [2.91 $\sigma$ ]  
OotOffset-st: 1/4/3/1 [9]  
KicOffset-rm: 1.765 arcsec [2.76 $\sigma$ ]  
KicOffset-st: 1/4/3/1 [9]  
DiffImageQuality-fgm: 0.33 [3/9]  
DiffImageOverlap-fno: 0.00 [0/17]

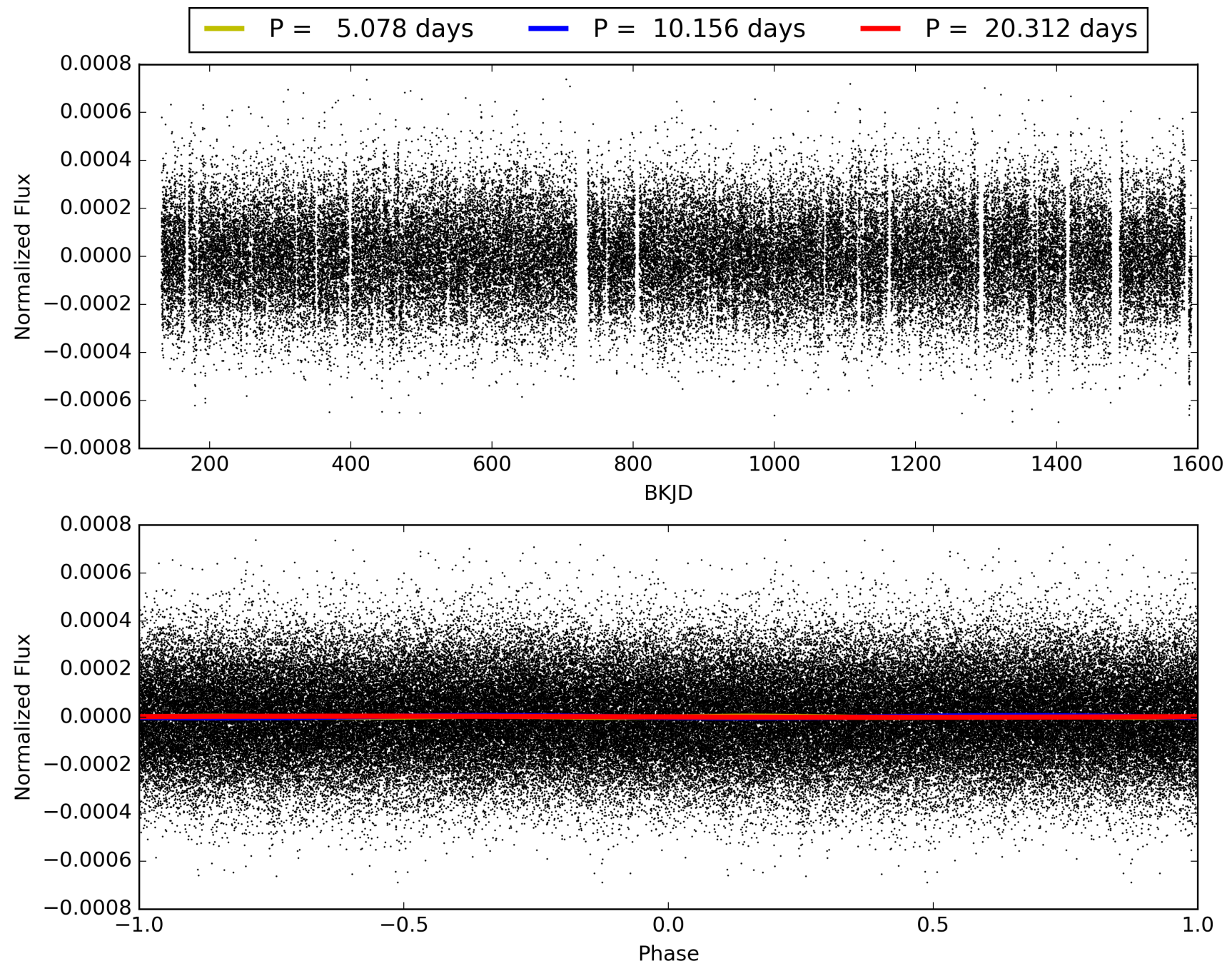
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:14:00 Z

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

# TCE 006466443-07, PDC Light Curves

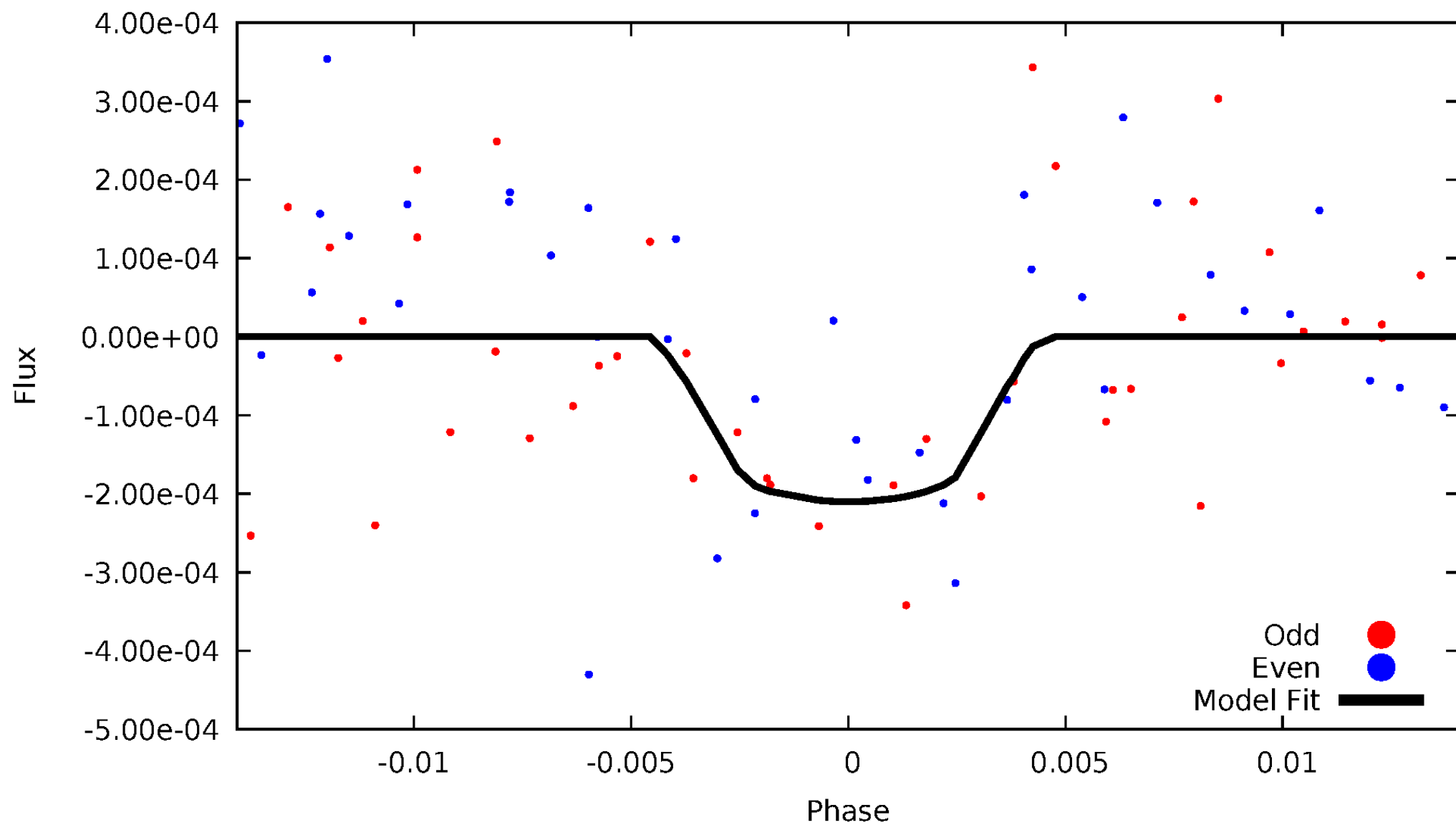


TCE 006466443-07



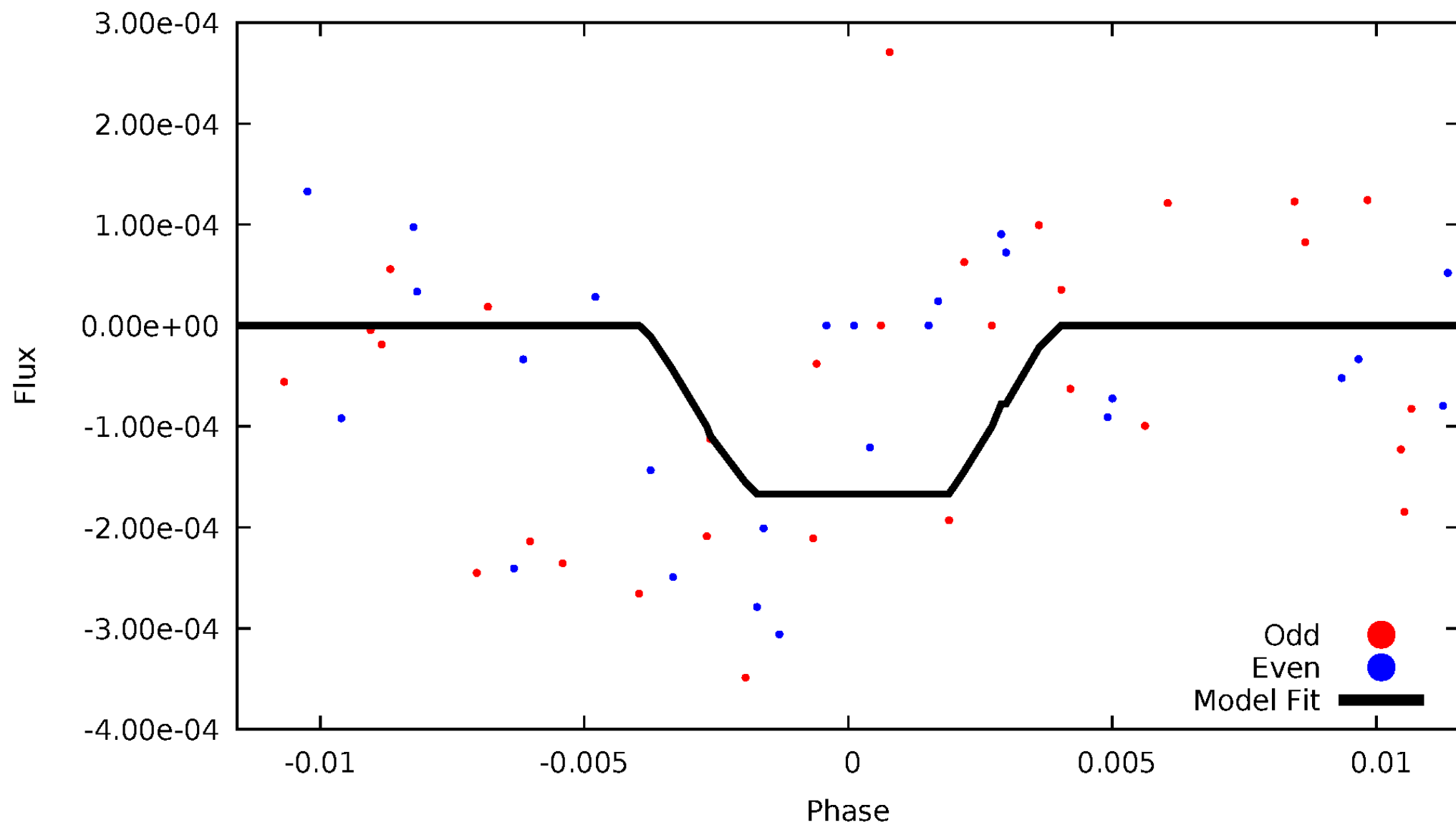
# DV Odd/Even

TCE 006466443-07



# ALT Odd/Even

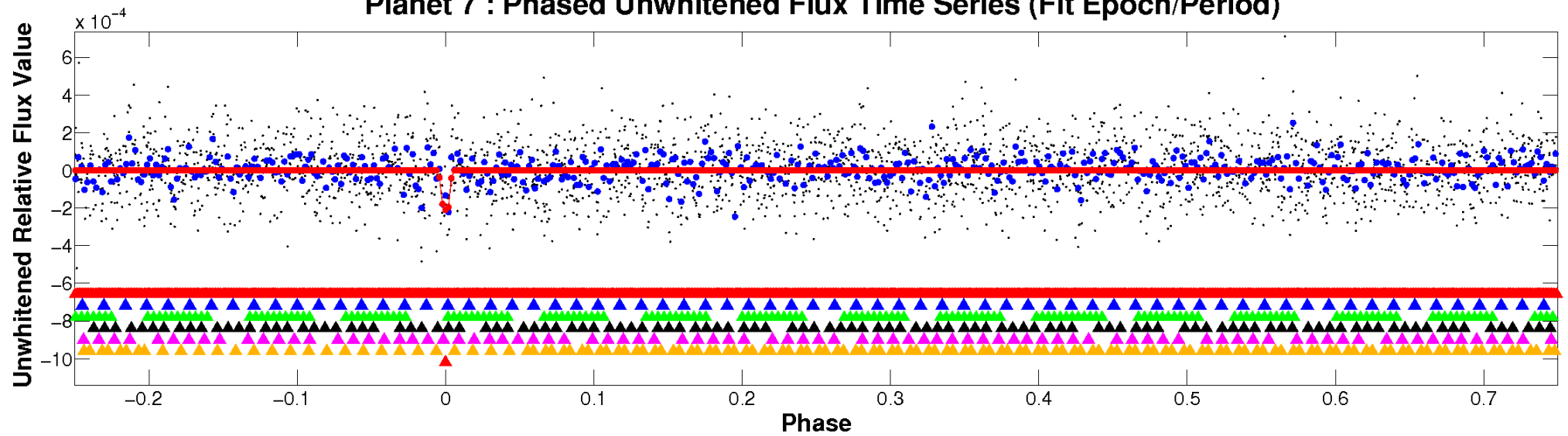
TCE 006466443-07



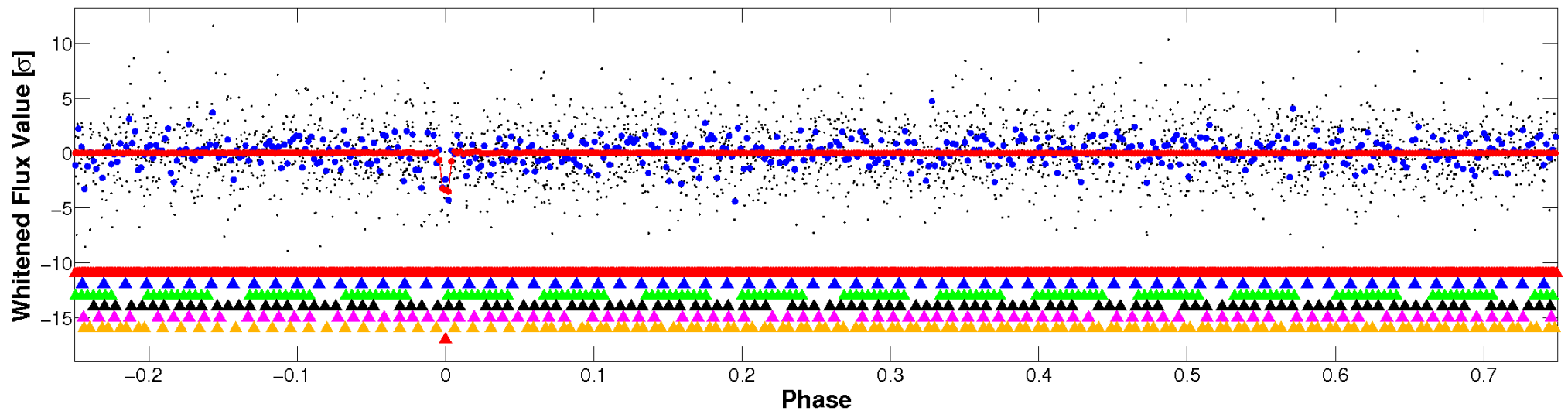


# Non-Whitened Vs. Whitened Light Curve

## Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



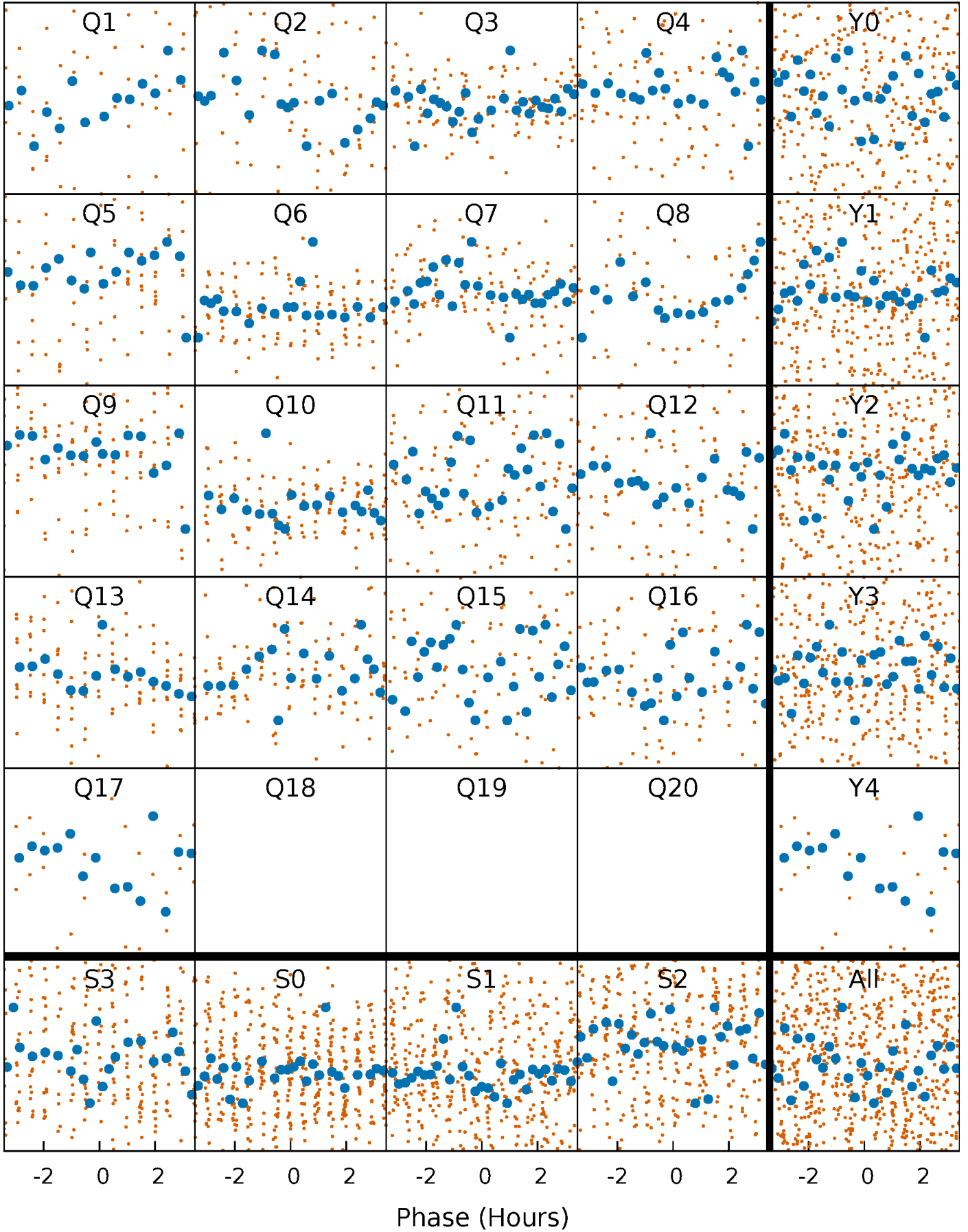
## Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)





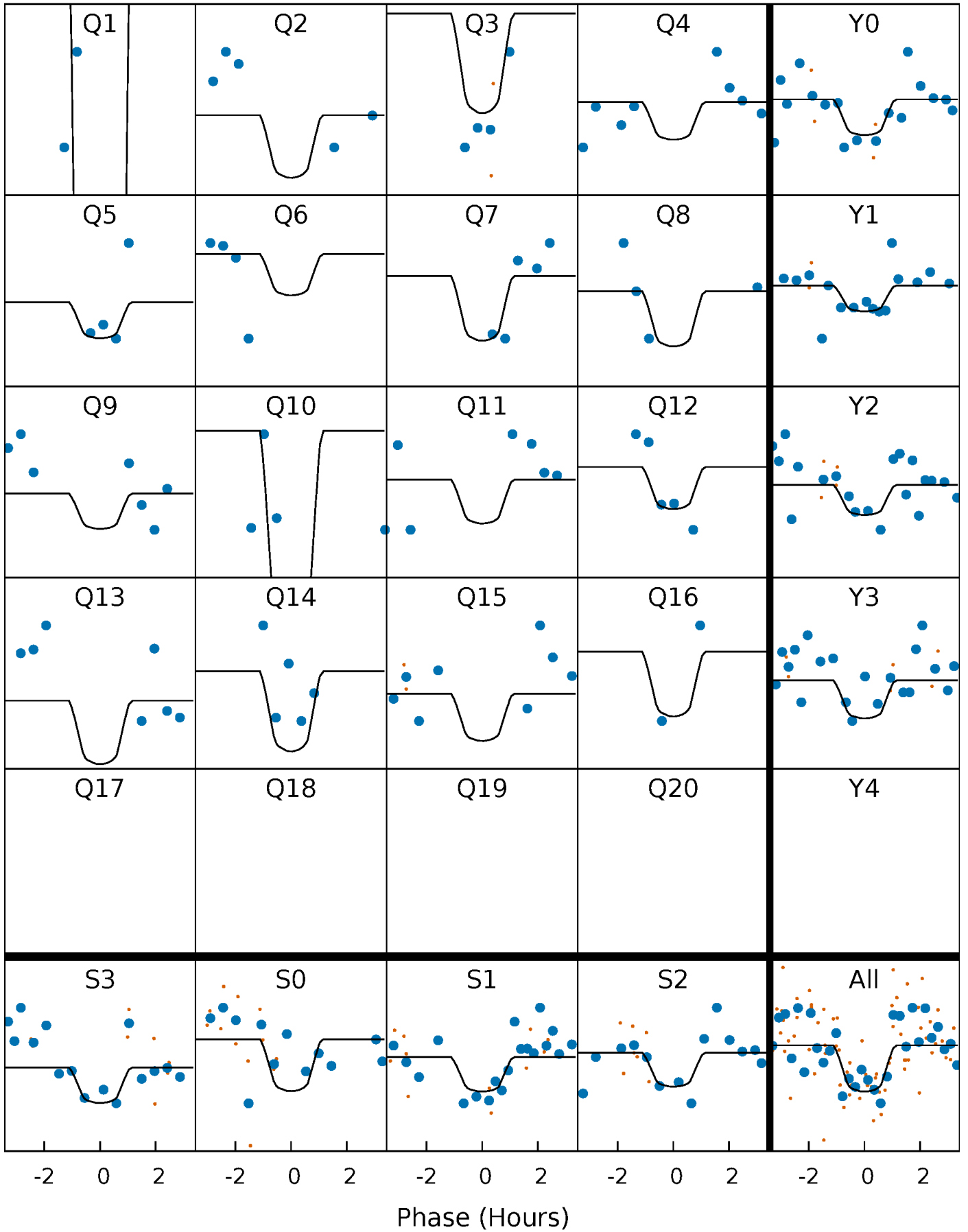
# PDC Quarter-Phased Transit Curves

TCE 006466443-07 P= 10.156096 Days  $T_0=133.940544$  (BKJD)



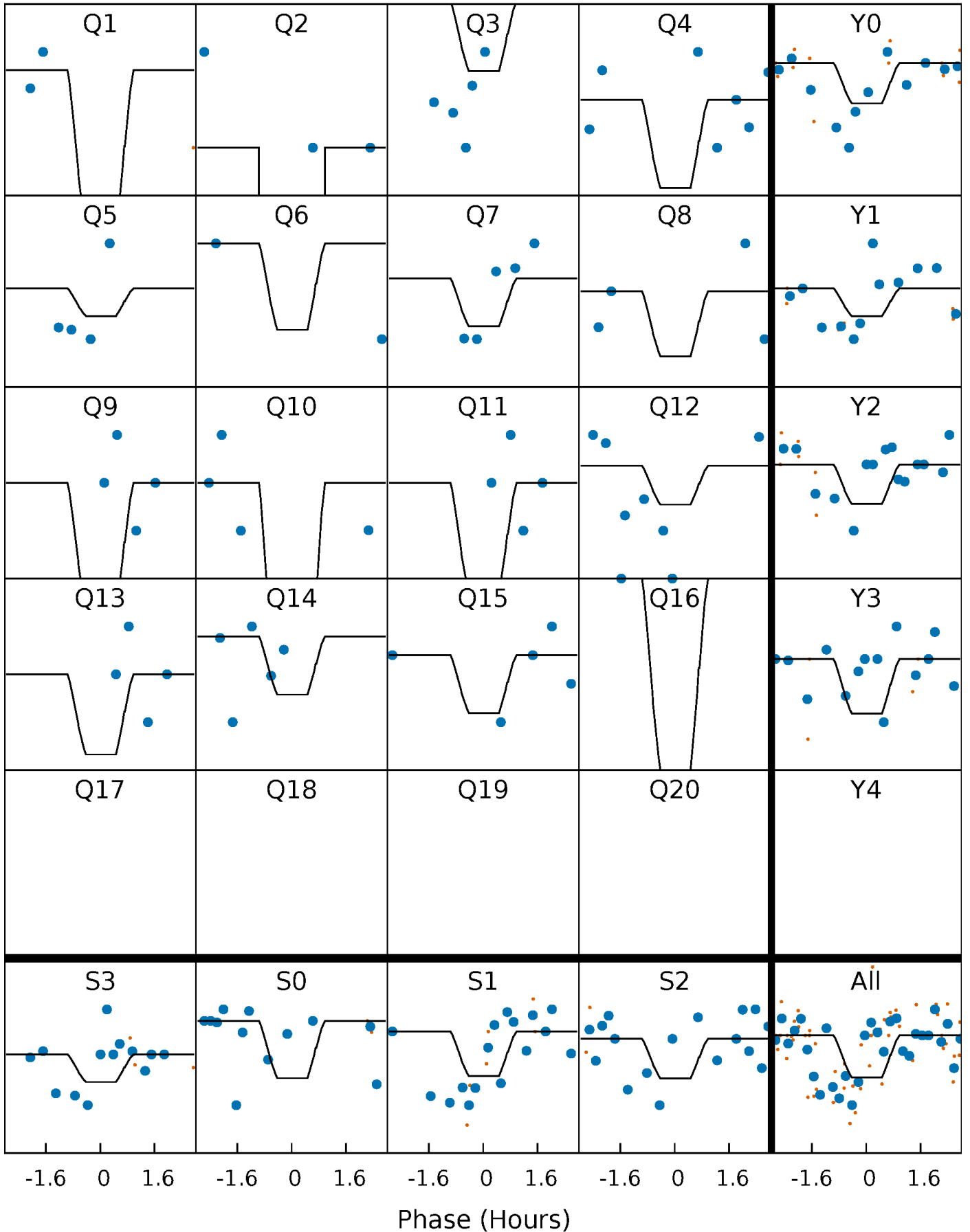
# DV Quarter-Phased Transit Curves

TCE 006466443-07 P= 10.156096 Days  $T_0=133.940544$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

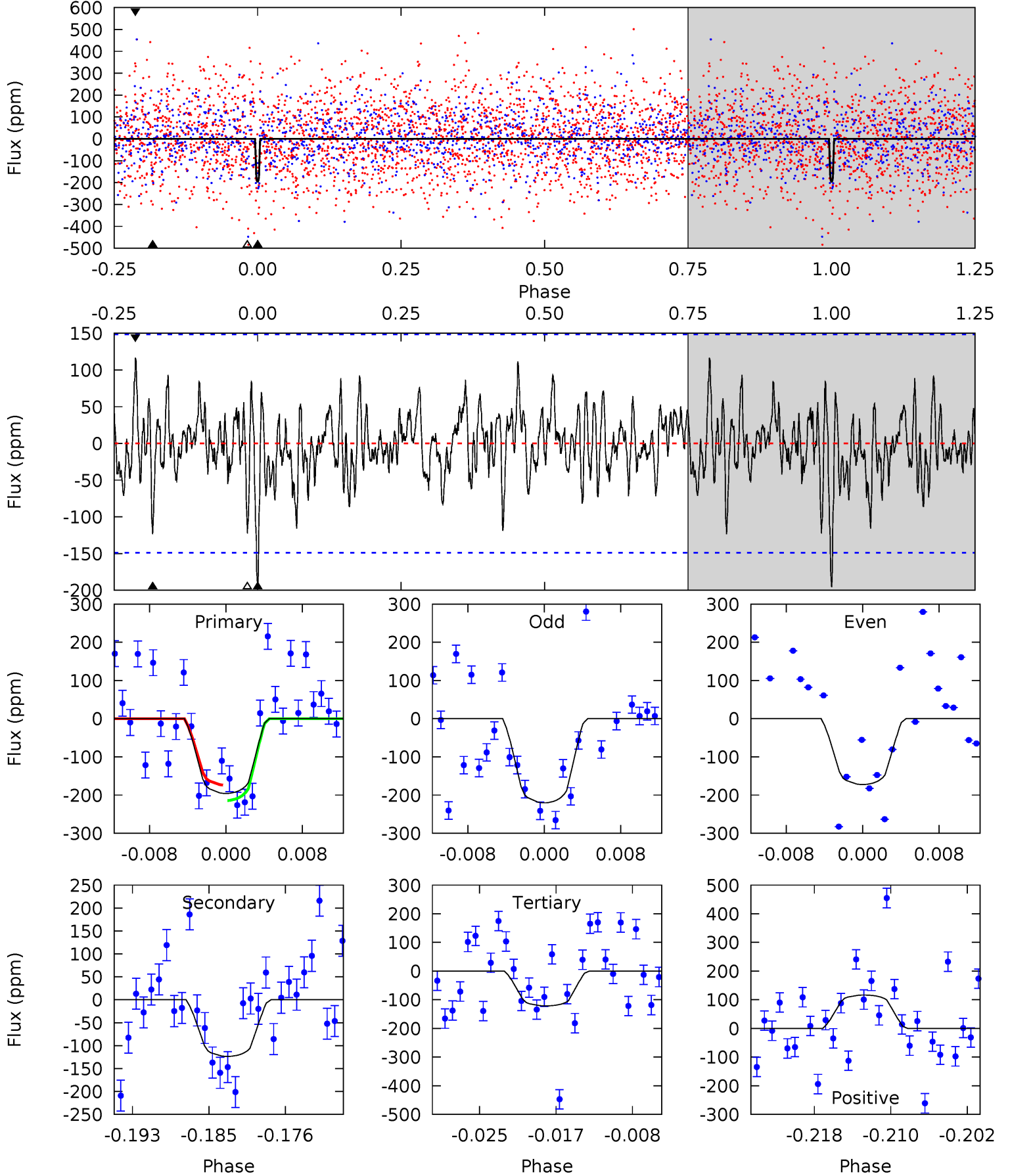
TCE 006466443-07 P= 10.156213 Days  $T_0=133.971866$  (BKJD)



# DV Model-Shift Uniqueness Test

006466443-07, P = 10.156096 Days, E = 123.784448 Days

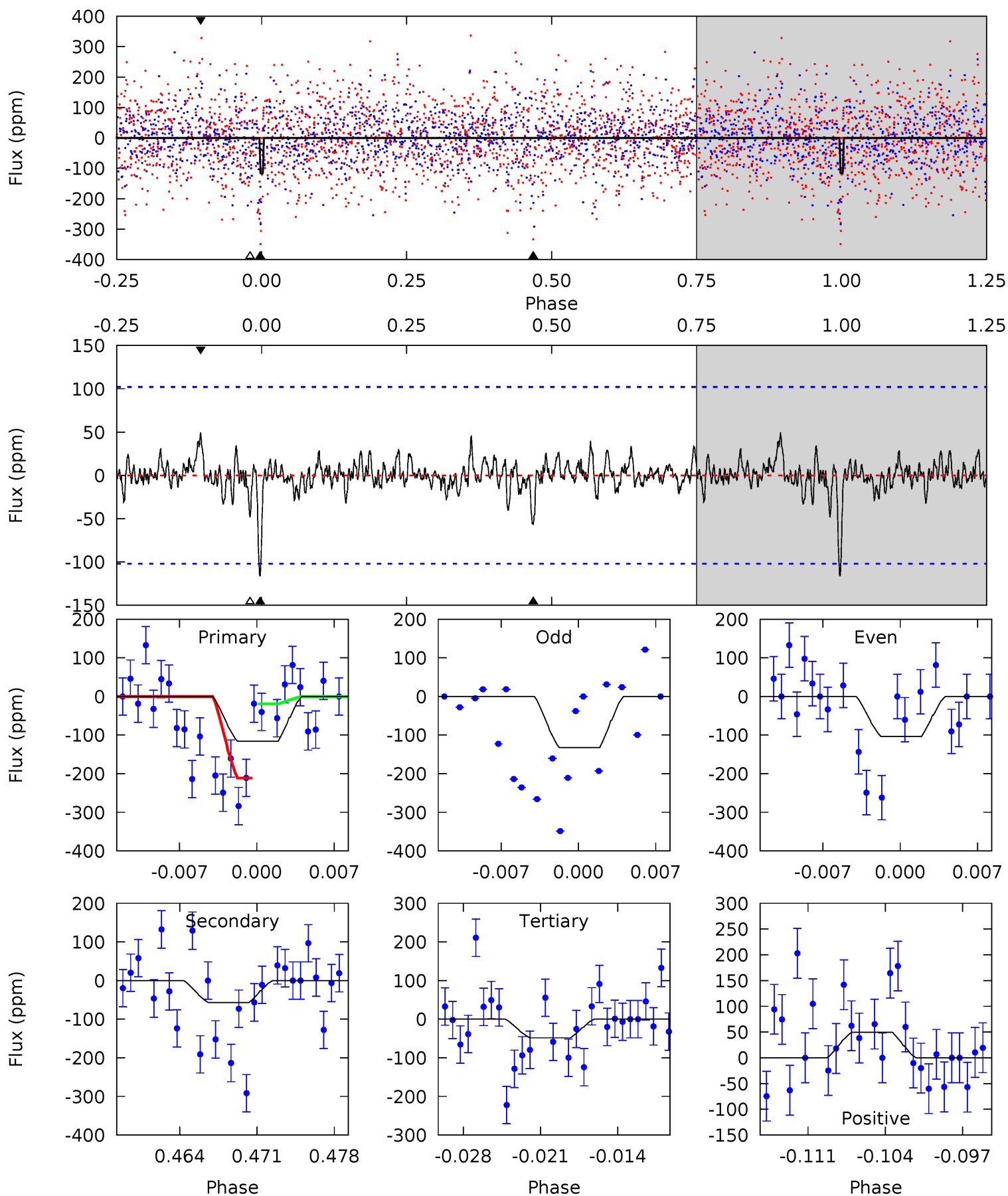
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.65	4.20	4.13	3.96	5.06	2.64	1.27	2.53	2.69	0.07	0.24	0.83	1.10	0.37	0.70



# Alt Model-Shift Uniqueness Test

006466443-07, P = 10.156213 Days, E = 123.815653 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
5.82	2.85	2.42	2.47	5.10	2.70	0.63	3.40	3.34	0.43	0.38	0.70	0.91	0.30	4.95



### Stellar Parameters For KIC 006466443

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6675^{+212}_{-236}$	$3.583^{+0.336}_{-0.105}$	$-0.300^{+0.350}_{-0.250}$	$3.410^{+0.429}_{-1.287}$	$1.626^{+0.243}_{-0.364}$	$0.058^{+0.139}_{-0.015}$
	+3%/-4%	+9%/-3%	+117%/-83%	+13%/-38%	+15%/-22%	+241%/-26%
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 006466443-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-124 \pm 29$	$6.89^{+6.60}_{-4.49}$	$2275^{+145}_{-196}$	$5029^{+3886}_{-1174}$	$17^{+128}_{-12}$
Alt.	$-57 \pm 20$	$7.00^{+6.47}_{-4.55}$	$2285^{+136}_{-215}$	$4191^{+2705}_{-875}$	$6.745^{+52.367}_{-4.934}$

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

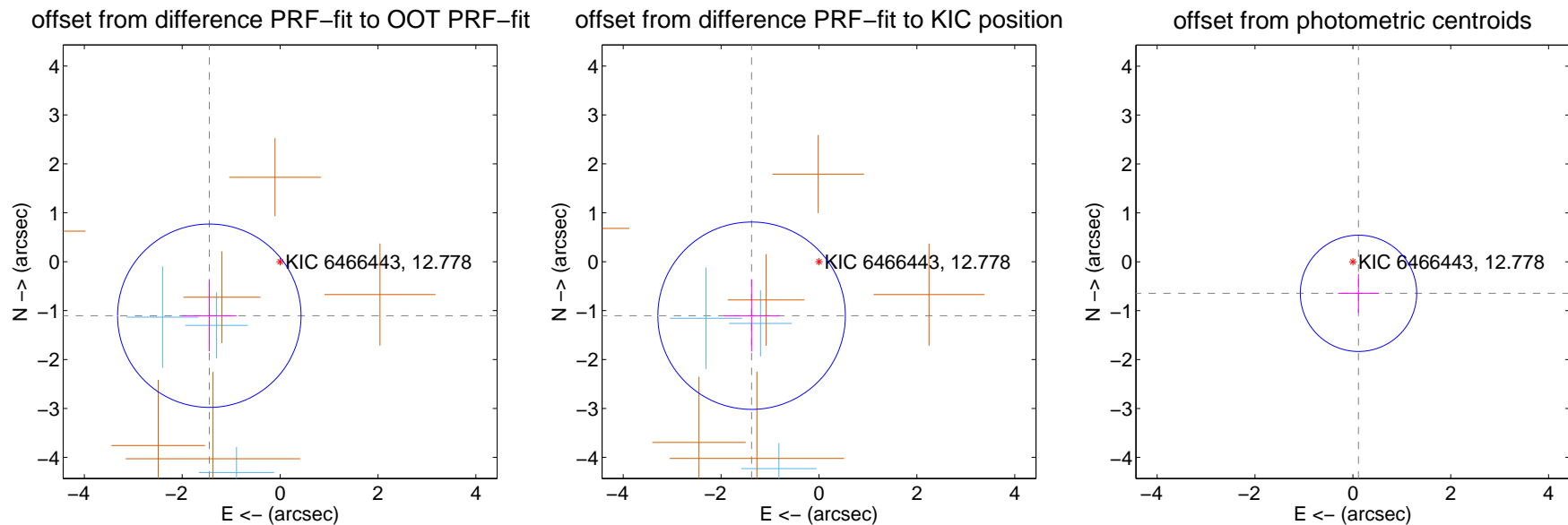
## DV Centroid Data

Supplemental centroid analysis for 006466443-07. Kepler magnitude: 12.78. Transit SNR 13.82

There are 3 quarters with good PRF difference image offsets

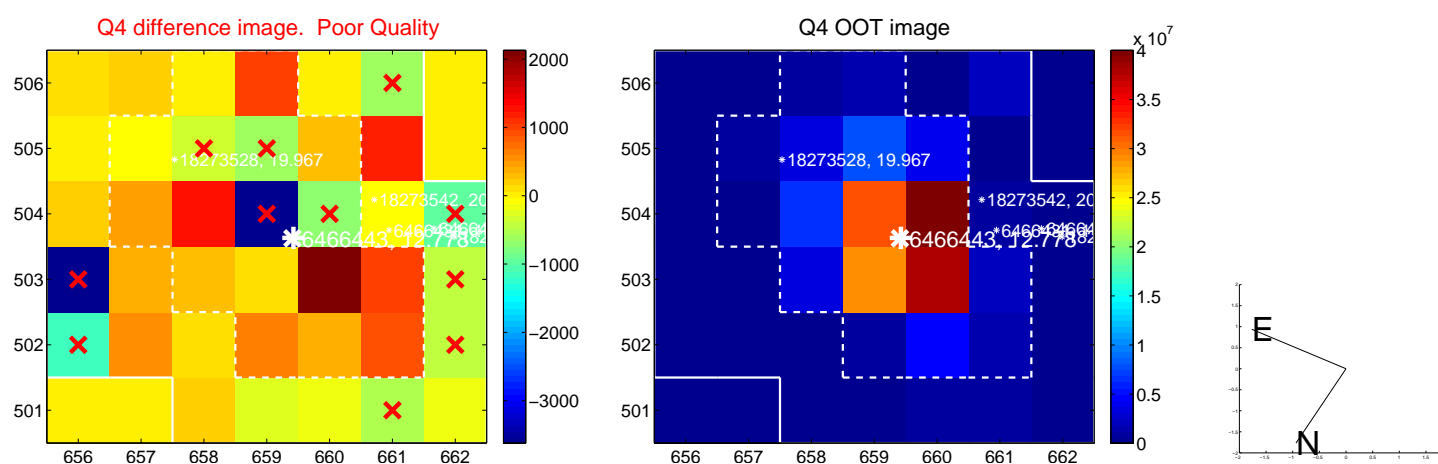
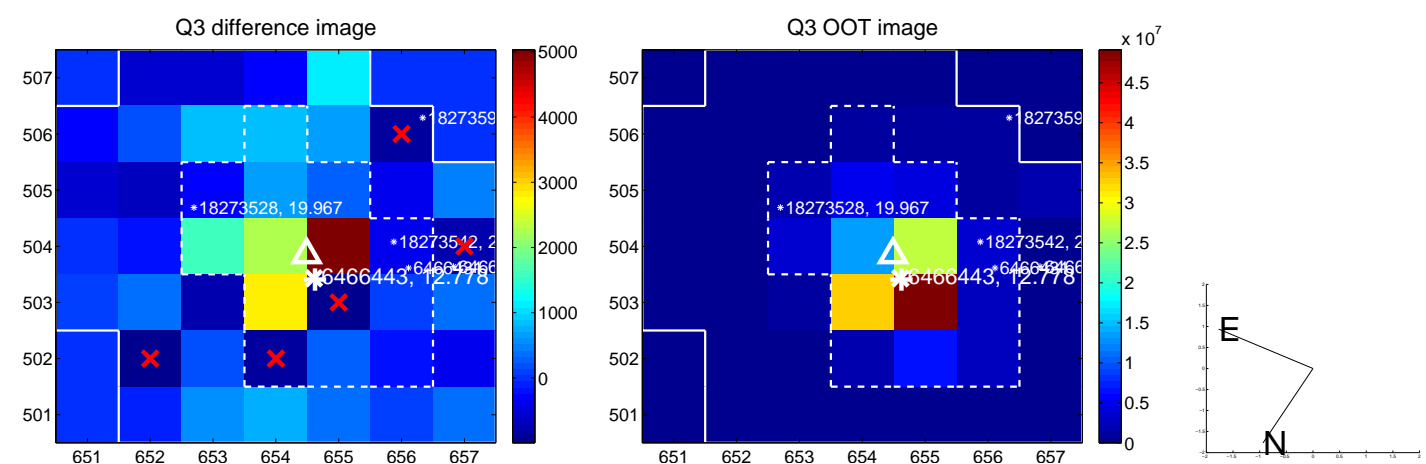
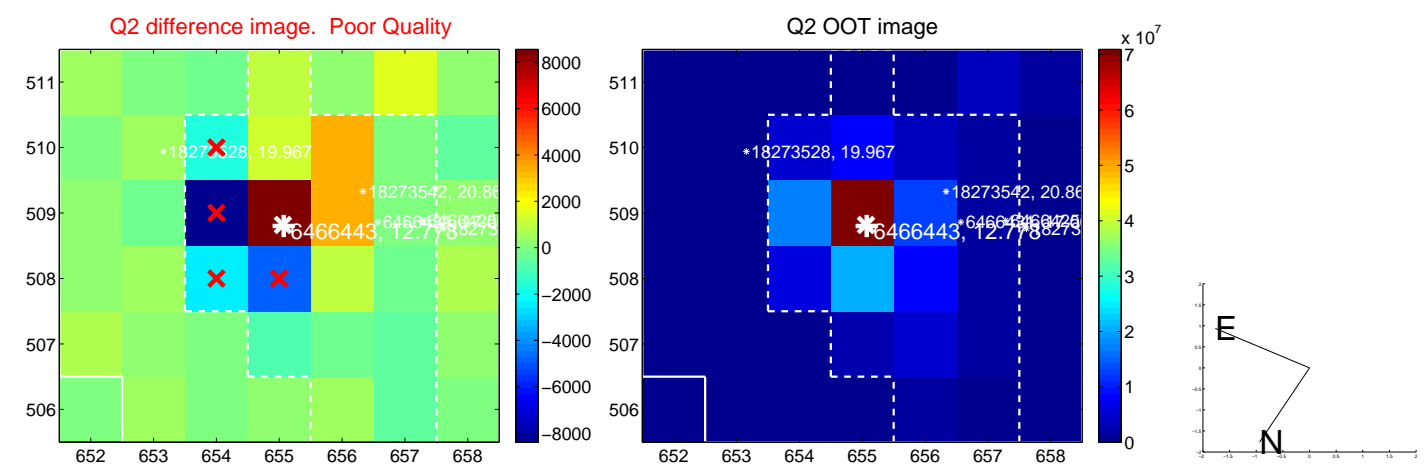
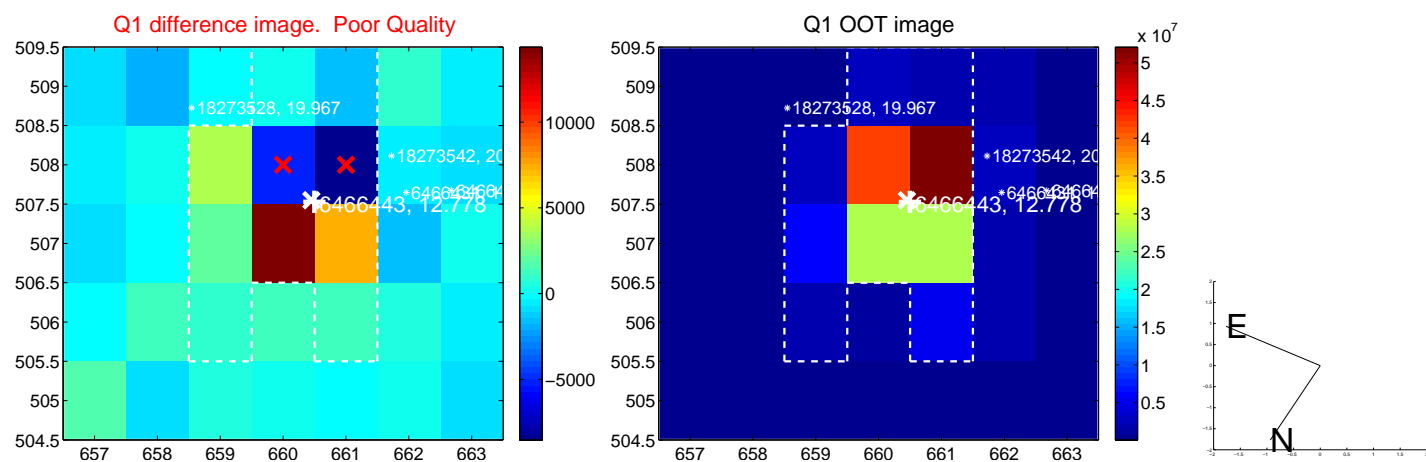
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.820 \pm 0.625$	2.91	$1.446 \pm 0.556$	$-1.104 \pm 0.728$
PRF-fit source offset from KIC position	$1.765 \pm 0.638$	2.76	$1.376 \pm 0.569$	$-1.104 \pm 0.734$
photometric centroid source offset	$0.66 \pm 0.40$	1.65	$-0.12 \pm 0.42$	$-0.65 \pm 0.40$



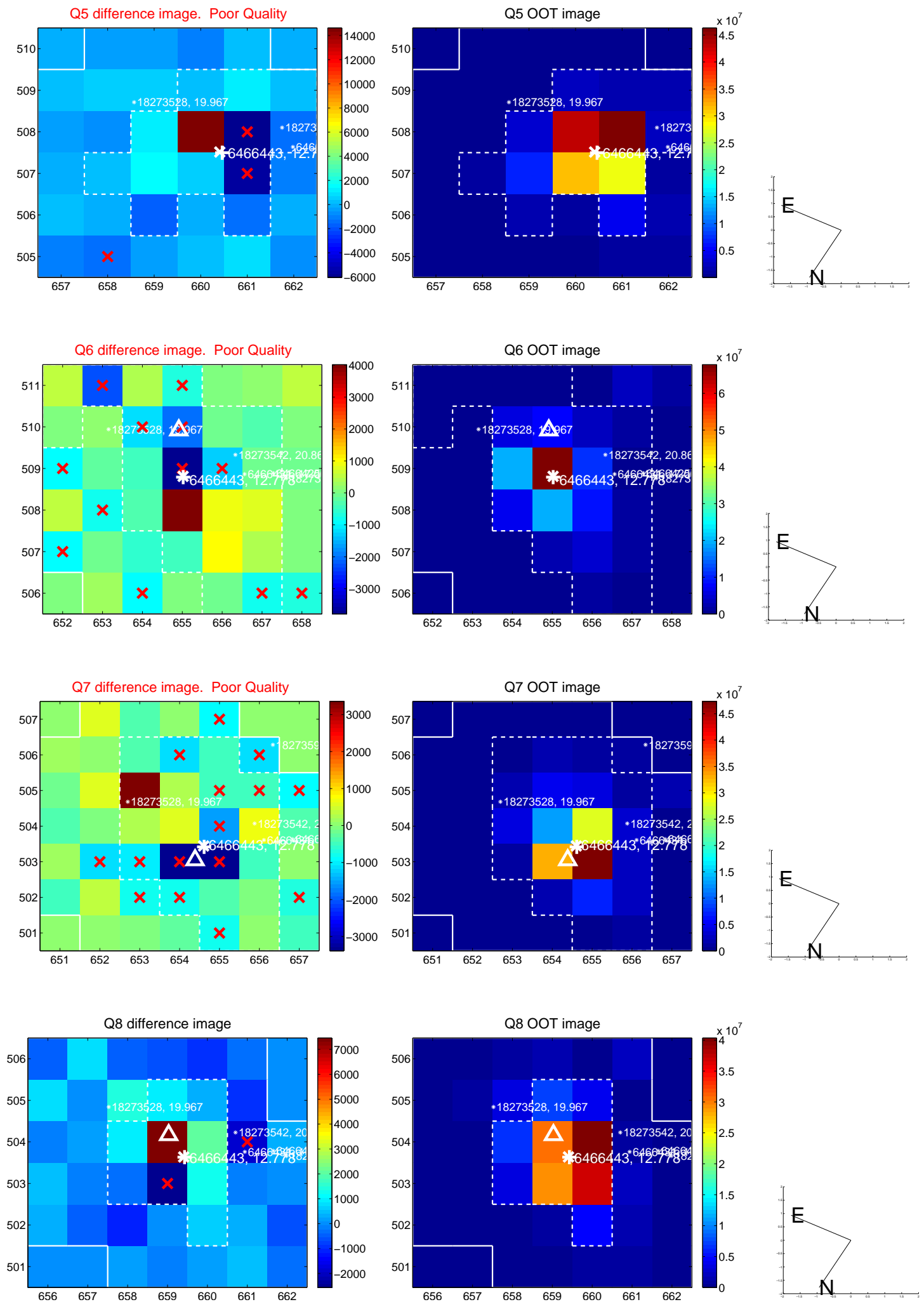
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

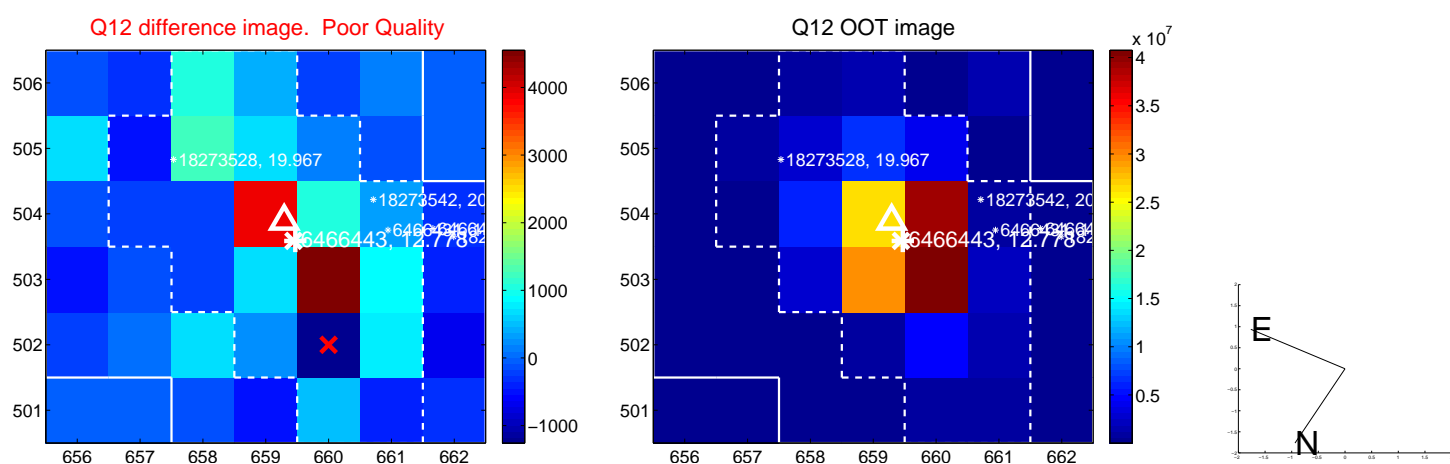
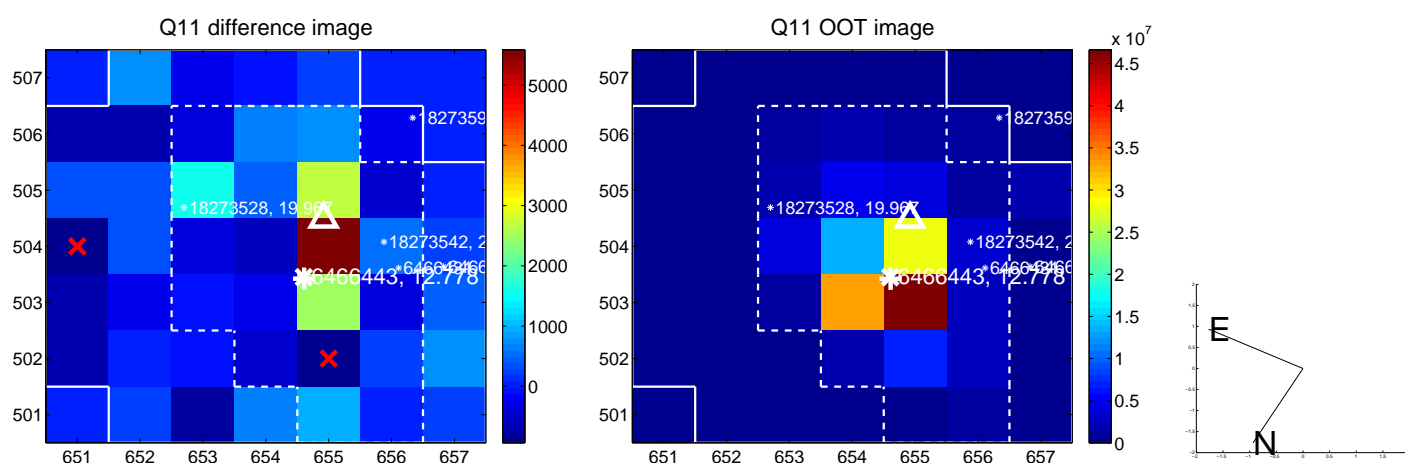
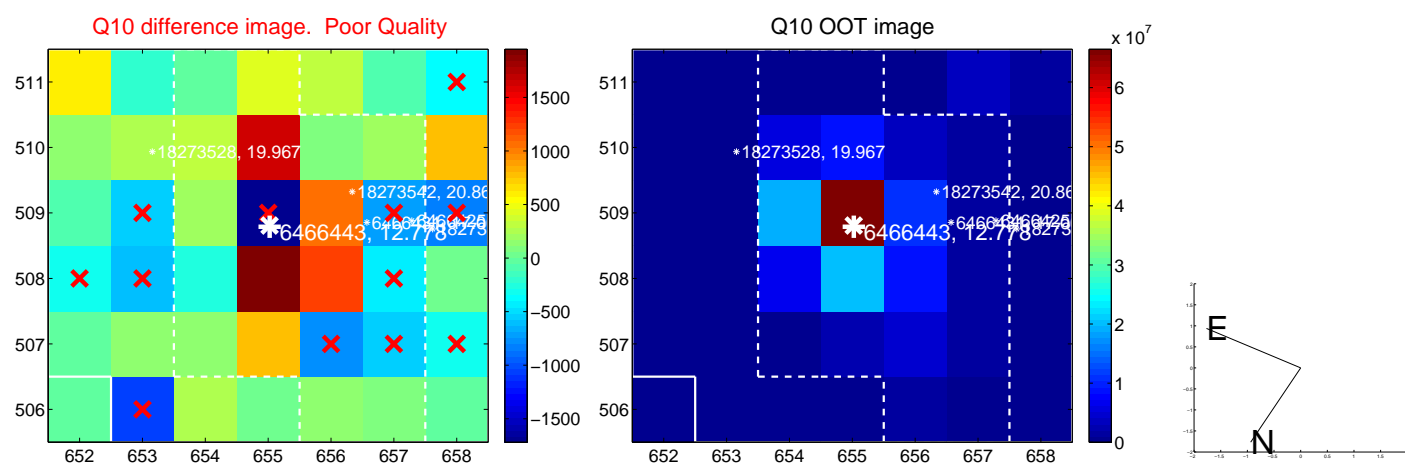
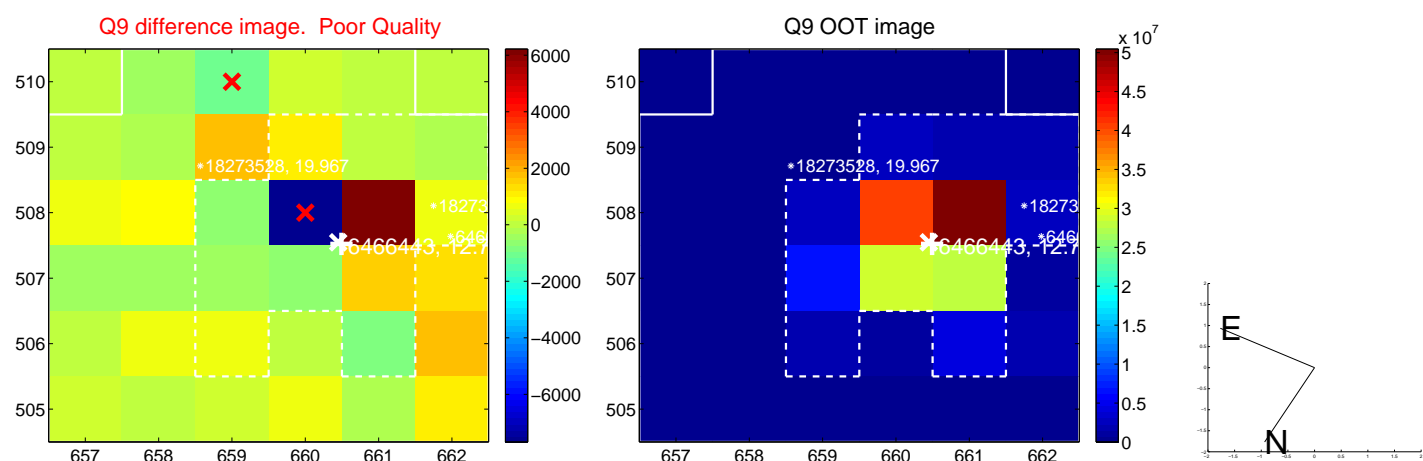




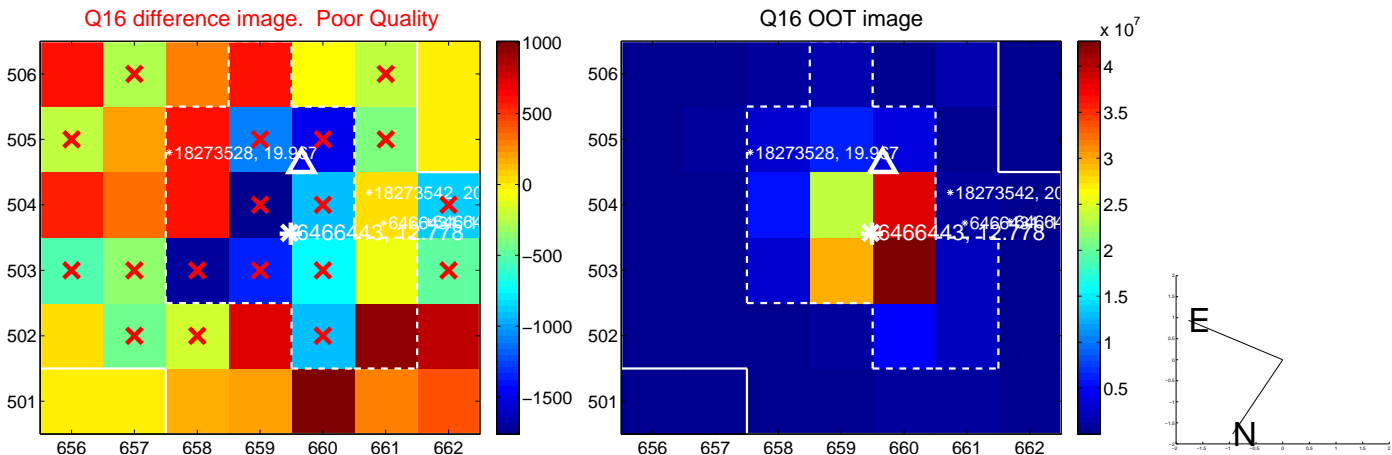
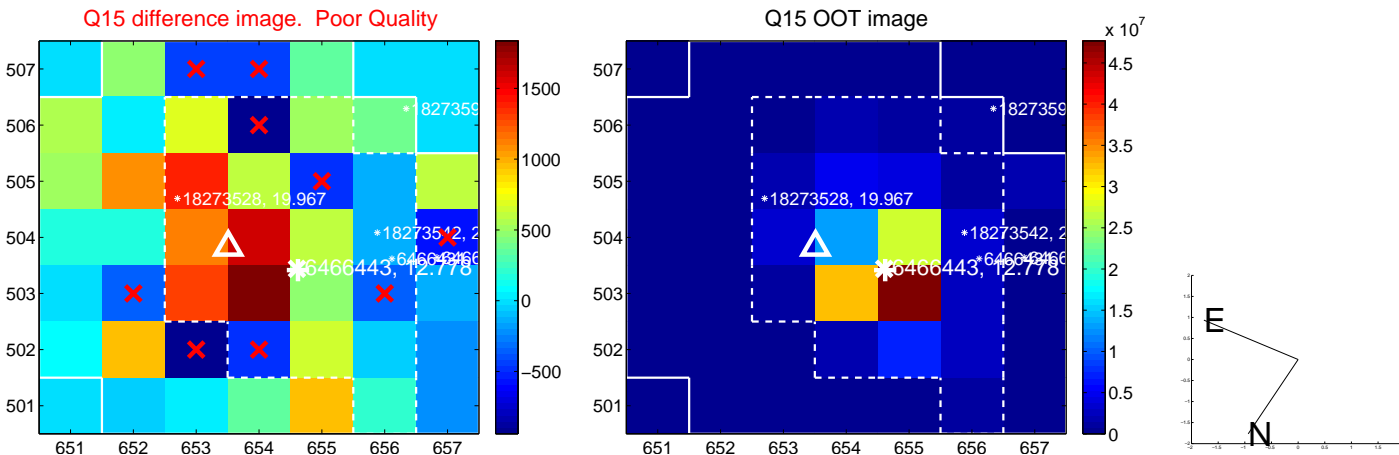
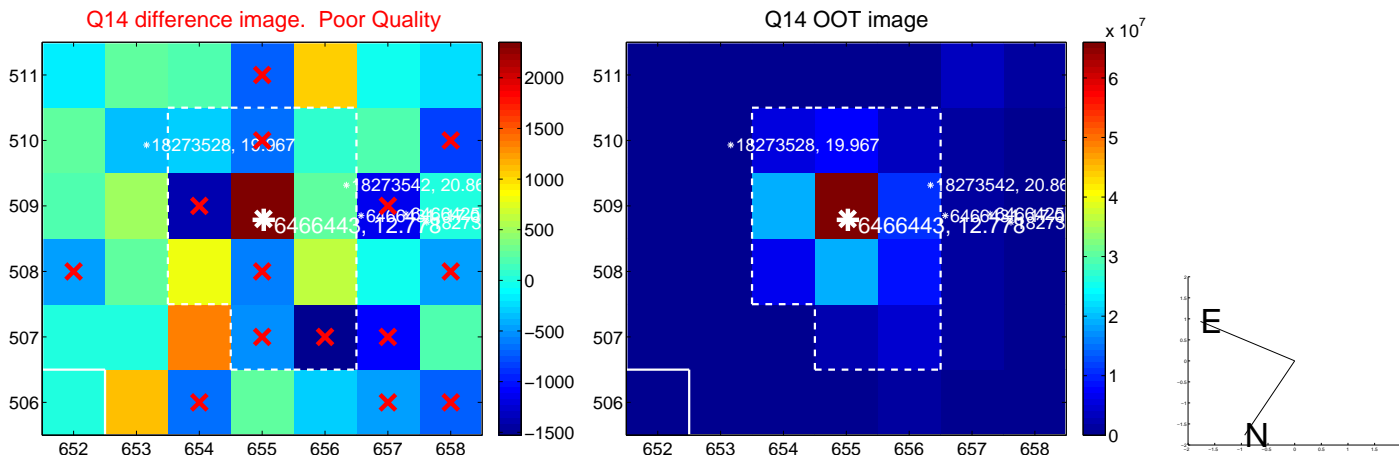
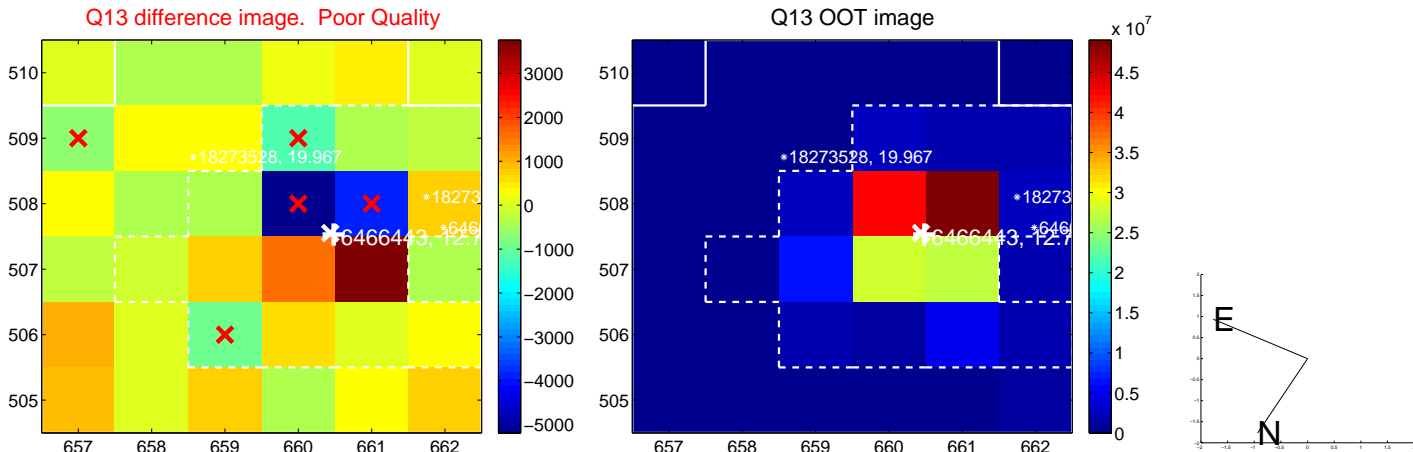
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.





UKIRT Image

Declination

