

# KIC 005119143

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005119143-01	OBS	No	0.560421	131.810379	99.9	1.248	10.4	8.4	2.56	7921	2.59	84772.72
005119143-02	OBS	No	0.560414	132.034733	142.8	1.513	10.5	11.3	2.56	7921	3.62	84774.09
005119143-03	OBS	No	59.444062	162.350111	2291.8	2.987	9.1	8.9	2.56	7921	13.41	168.84
005119143-04	OBS	No	145.415419	187.482025	2445.7	3.736	9.1	8.8	2.56	7921	15.32	51.22
005119143-05	OBS	No	10.622508	133.043618	1096.5	2.337	8.9	9.1	2.56	7921	15.84	1677.41
005119143-06	OBS	No	171.991797	198.361610	3263.0	5.628	8.7	9.3	2.56	7921	16.77	40.95

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005119143-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005119143-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005119143-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
005119143-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
005119143-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—MOD_NONUNIQ_ALT
005119143-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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 005119143-01

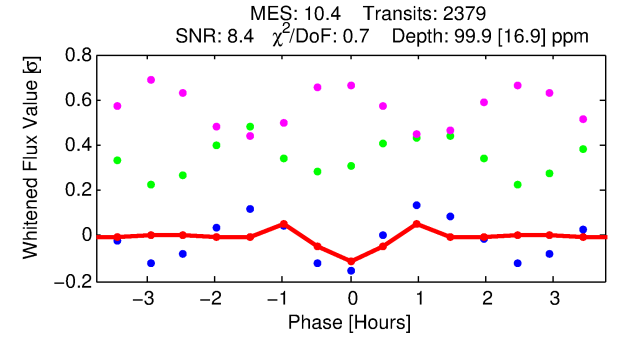
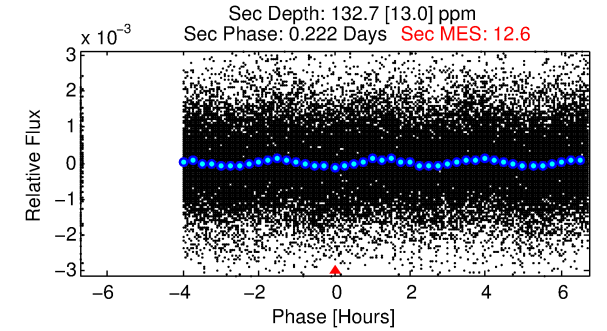
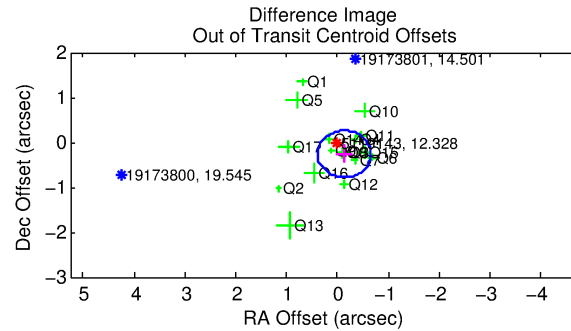
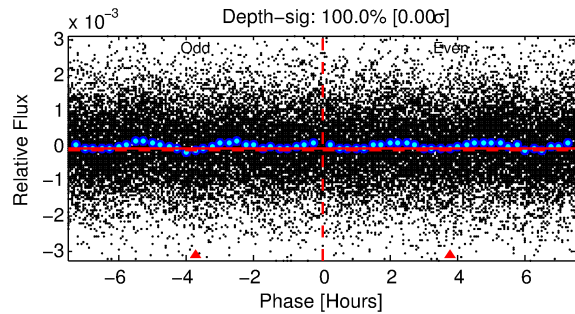
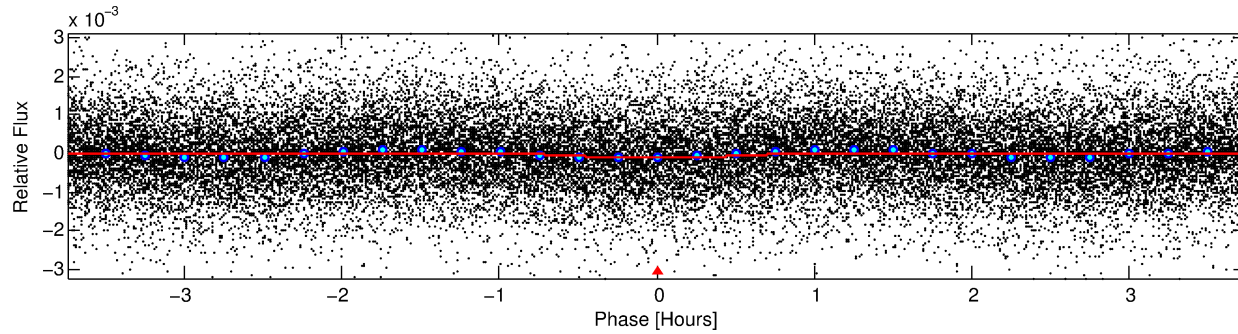
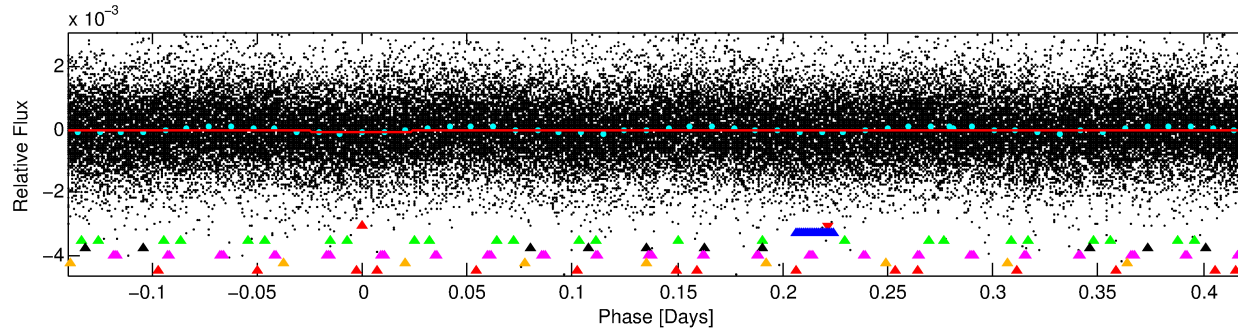
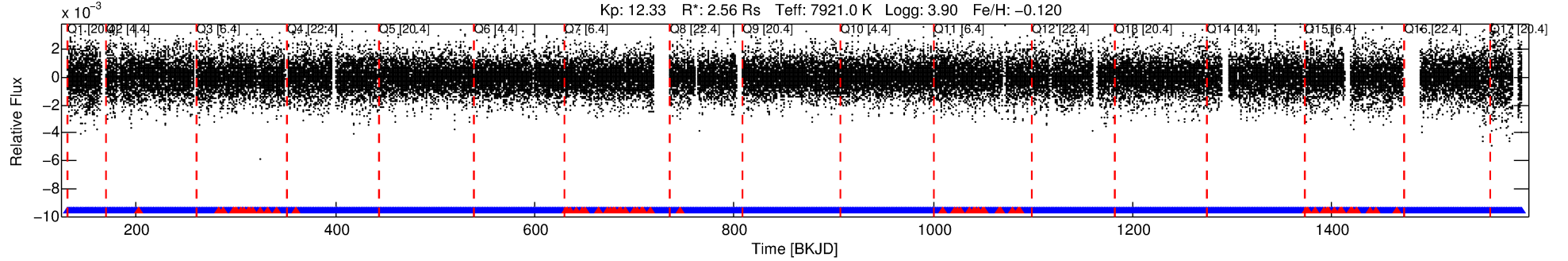
No Significant Match Found

# DV One-Page Summary

KIC: 5119143 Candidate: 1 of 7 Period: 0.560 d

KOI: K06527 Corr: No Ephemeris Match

Kp: 12.33 R\*: 2.56 Rs Teff: 7921.0 K Logg: 3.90 Fe/H: -0.120



## DV Fit Results:

Period = 0.56042 [0.00001] d  
Epoch = 131.8104 [0.0012] BKJD  
Rp/R\* = 0.0093 [0.0068]  
a/R\* = 3.51 [13.43]  
b = 0.00 [1415.63]  
Seff = 84772.72 [22960.55]  
Teq = 4351 [295] K  
Rp = 2.59 [1.96] Re  
a = 0.0165 [0.0028] AU  
Ag = 2.95 [4.40] [0.44σ]  
Teffp = 8816 [3233] K [1.38σ]

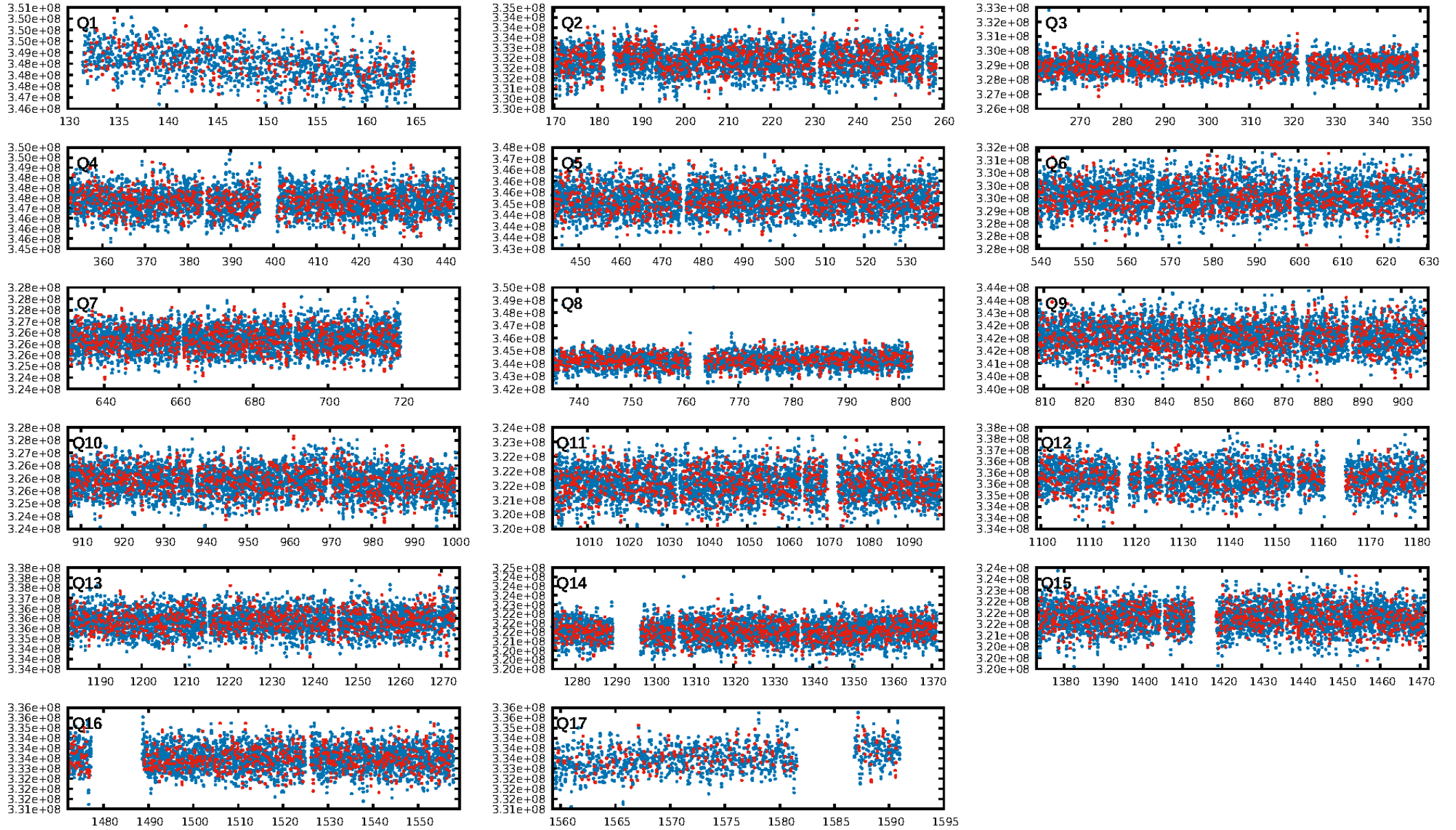
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: 100.0% [91.16σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.97 [2203/2273]  
GhostDiagnostic-chr: 0.59  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.295 arcsec [1.70σ]  
KicOffset-rm: 0.368 arcsec [2.20σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.76 [13/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:06:18 Z

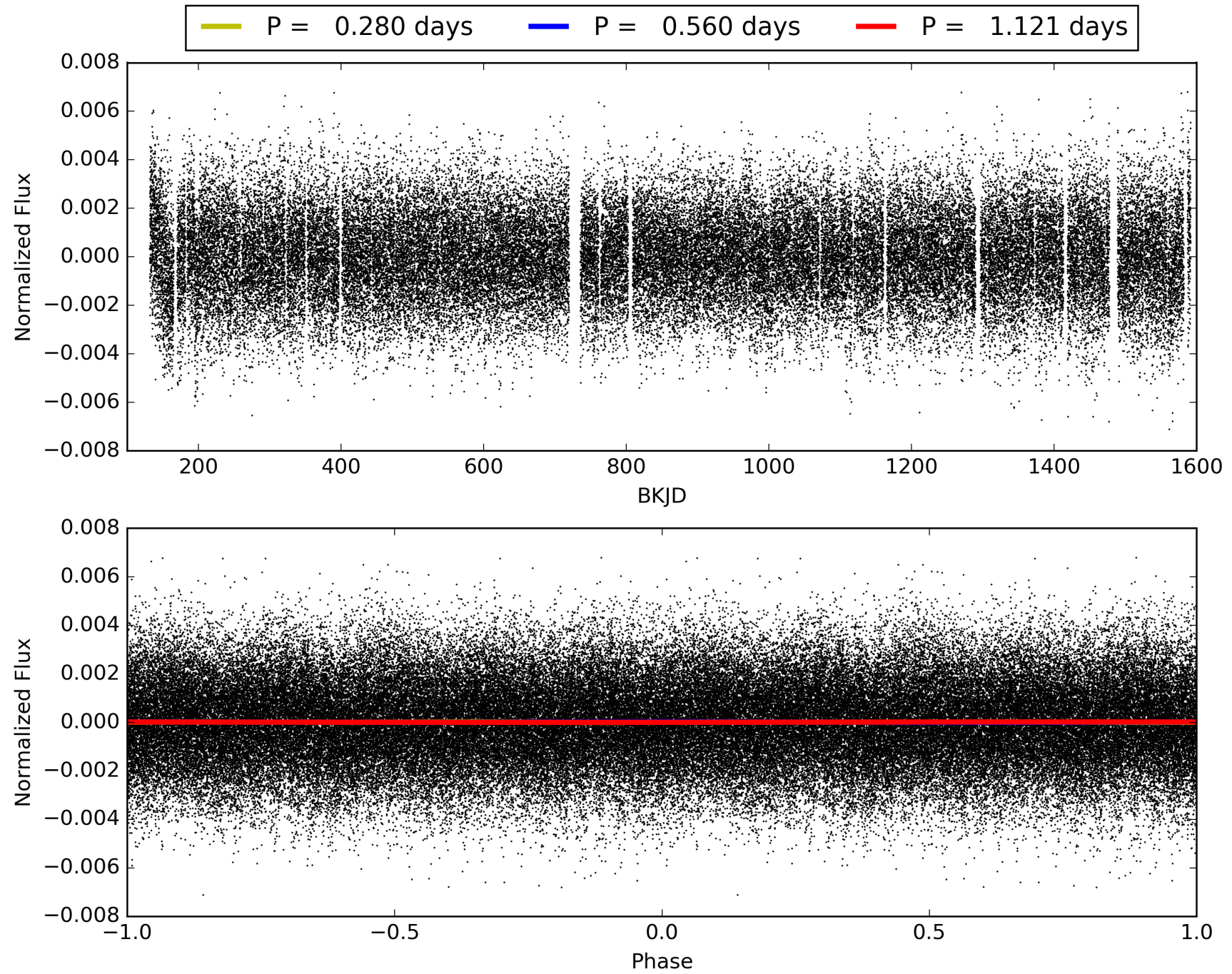
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005119143-01, PDC Light Curves





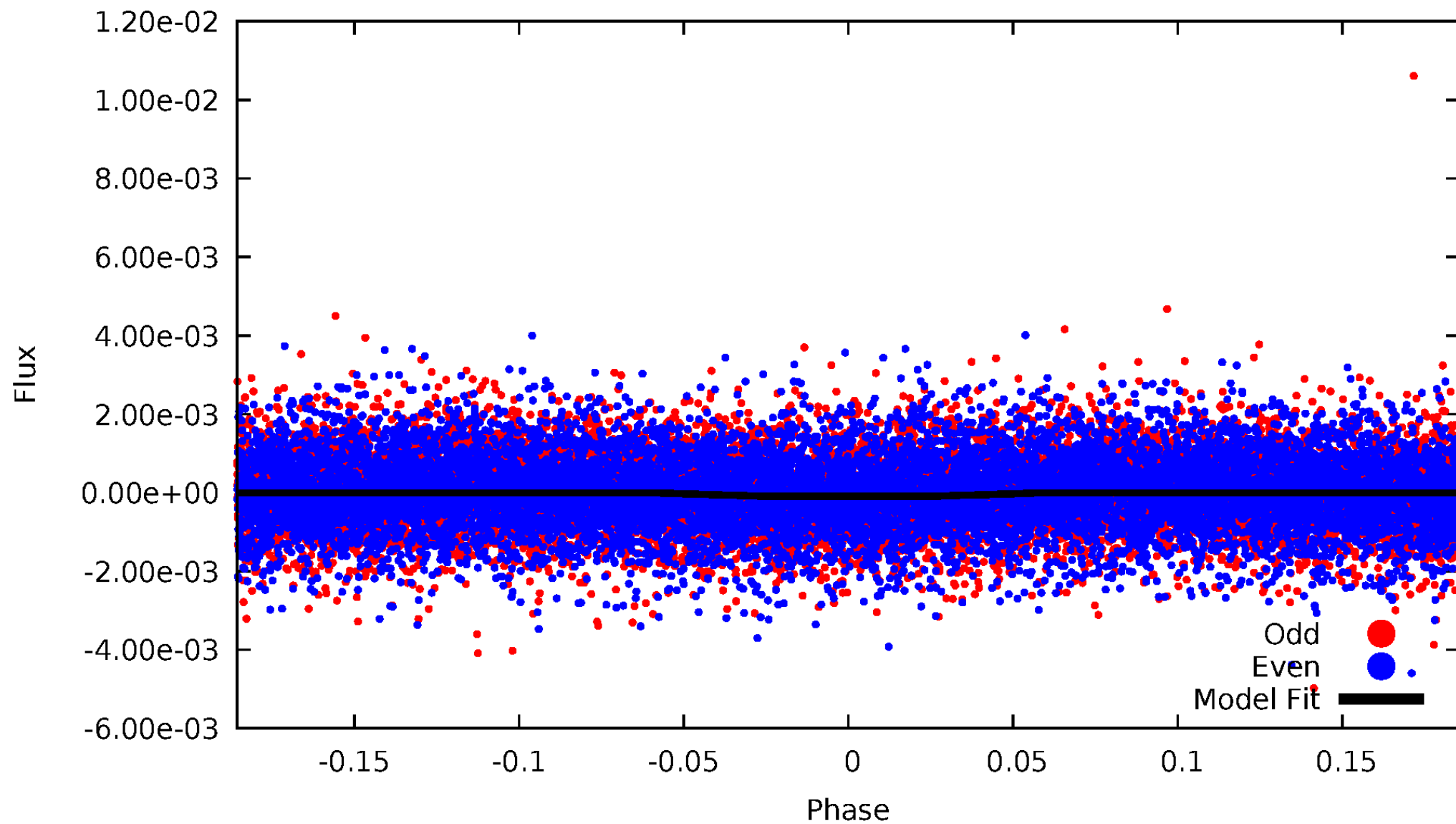
TCE 005119143-01





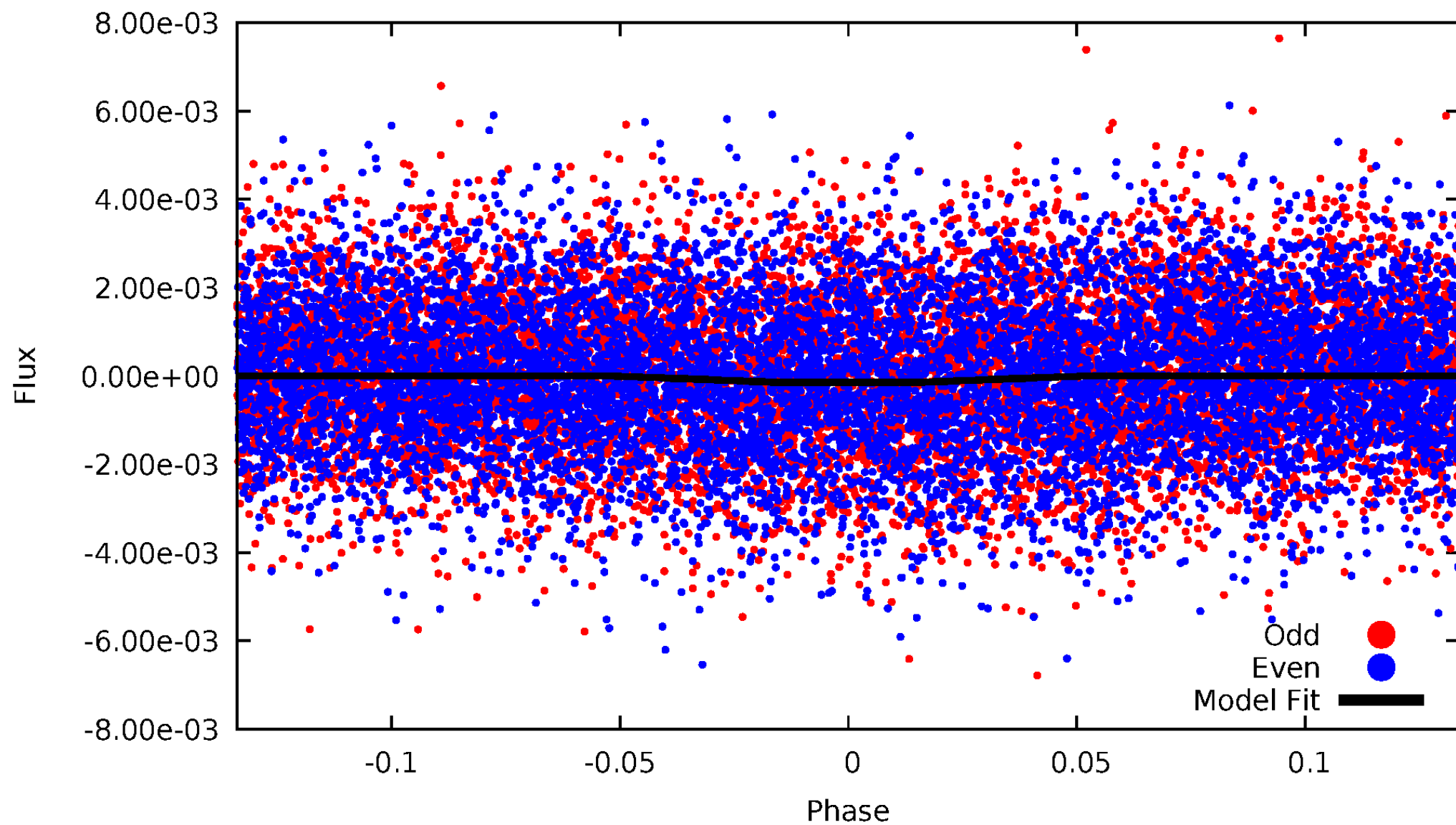
# DV Odd/Even

TCE 005119143-01



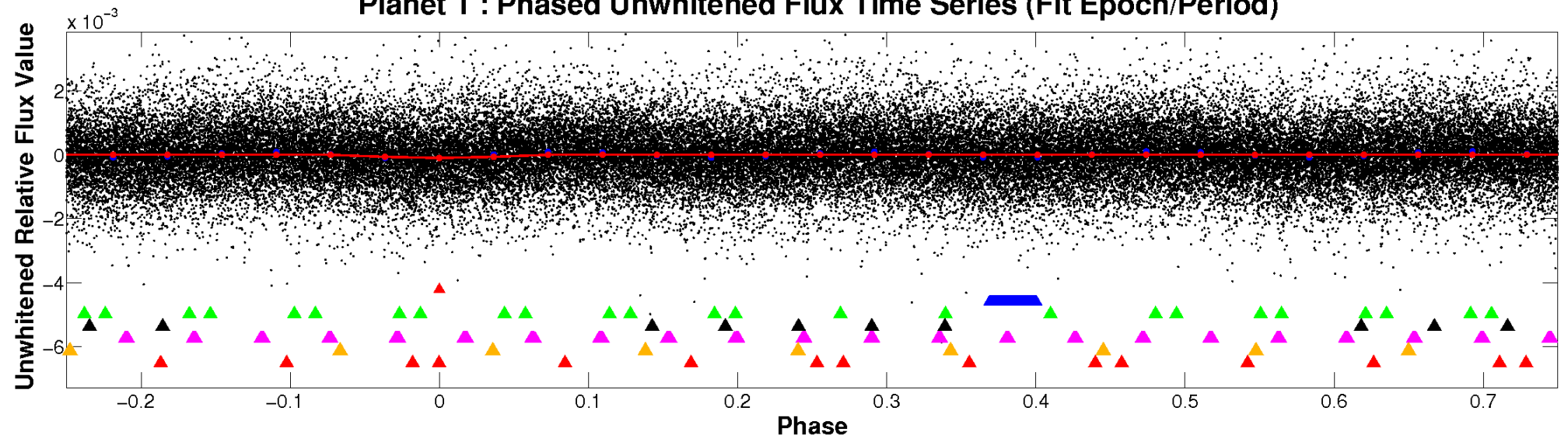
# ALT Odd/Even

TCE 005119143-01

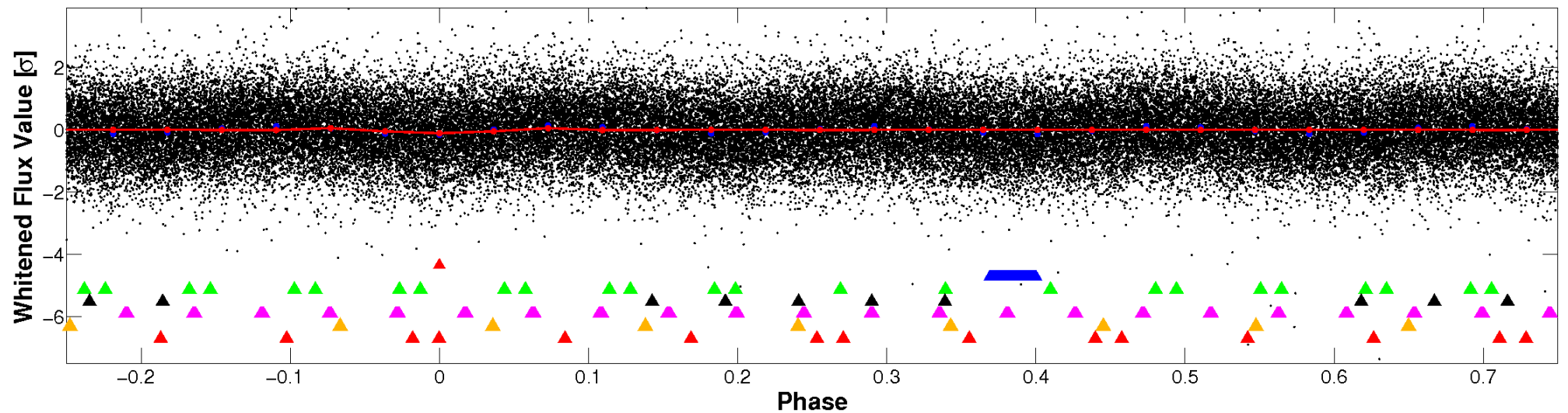


# Non-Whitened Vs. Whitened Light Curve

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



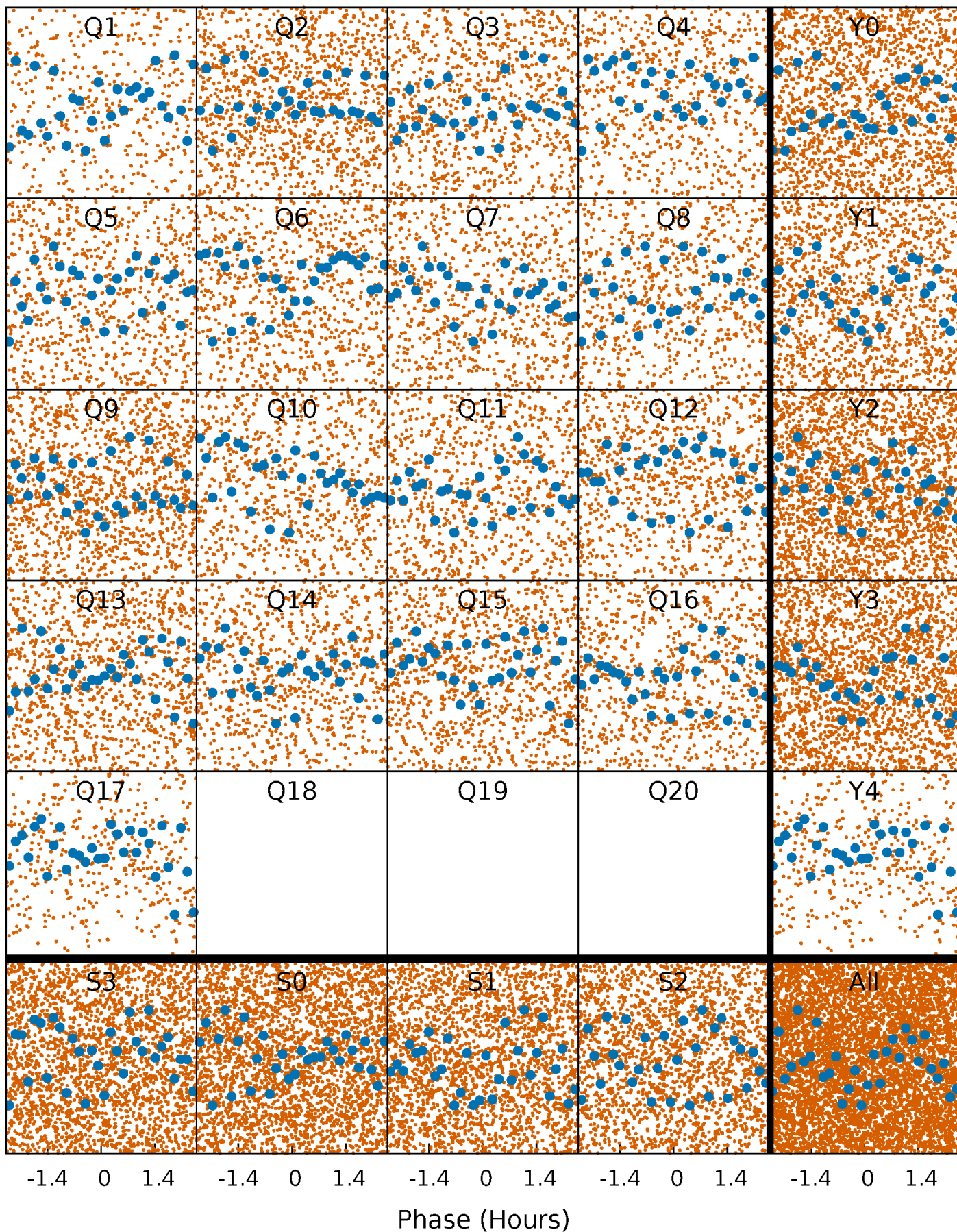
## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





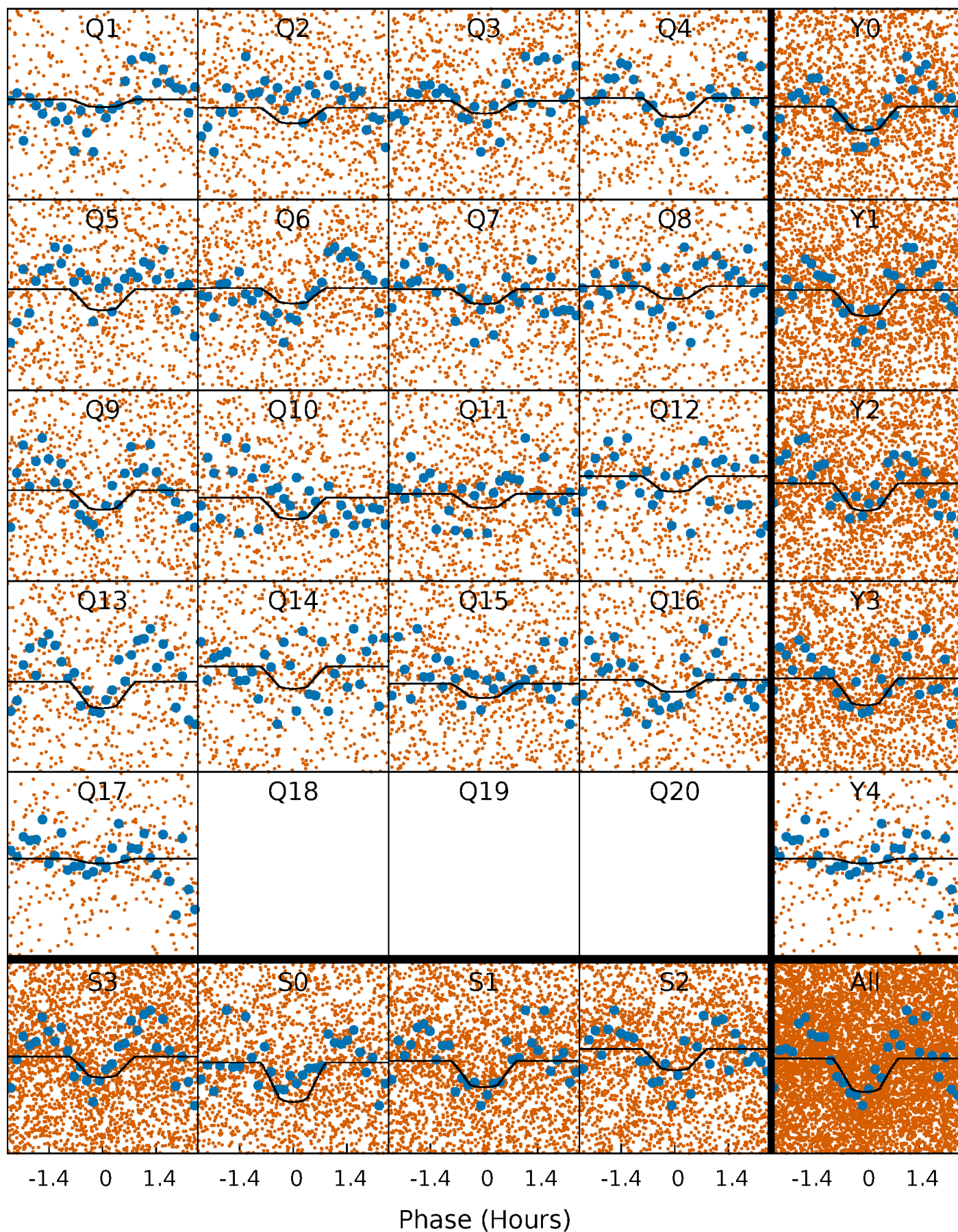
# PDC Quarter-Phased Transit Curves

TCE 005119143-01 P= 0.560421 Days  $T_0=131.810379$  (BKJD)



# DV Quarter-Phased Transit Curves

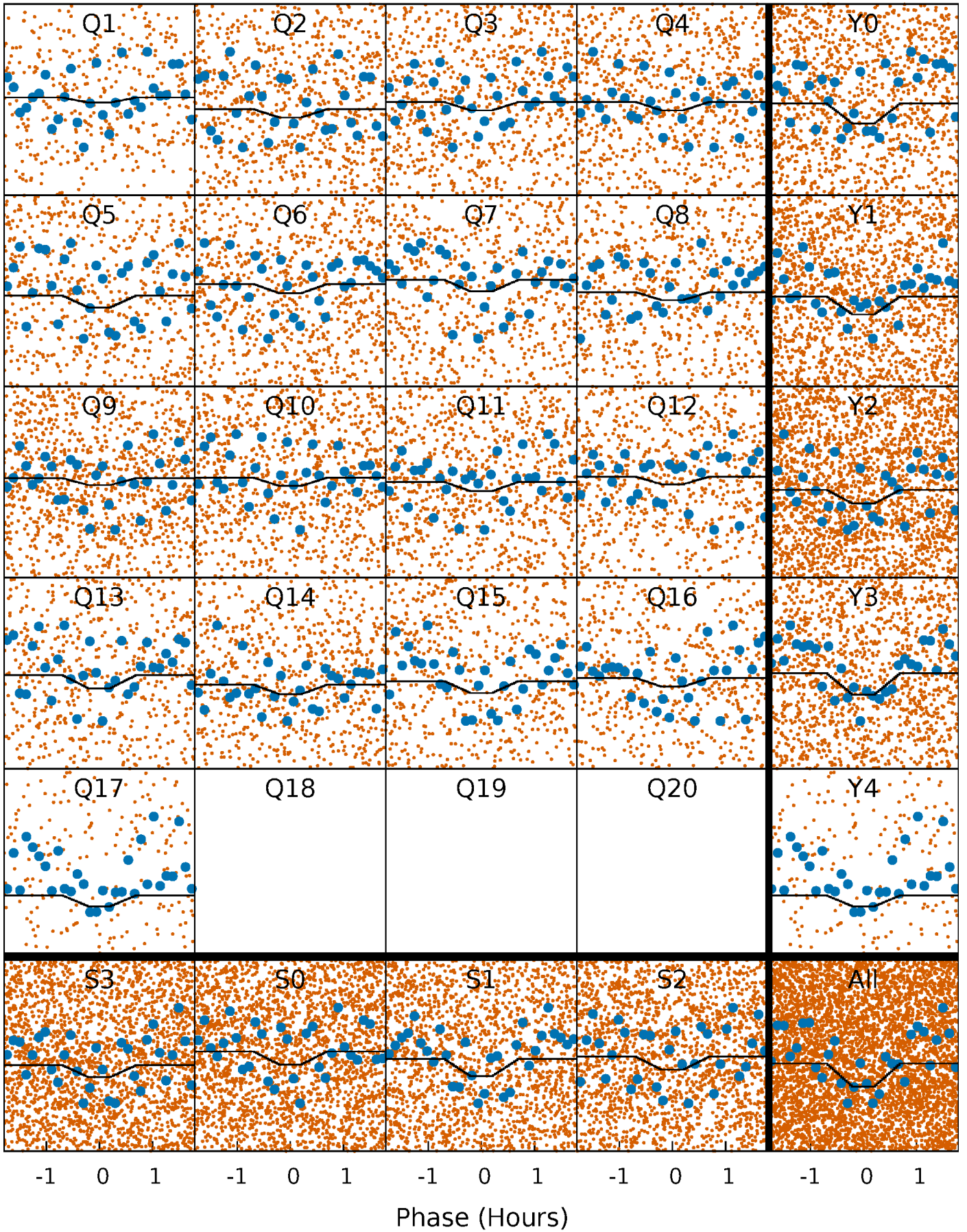
TCE 005119143-01 P= 0.560421 Days  $T_0=131.810379$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 005119143-01 P= 0.560414 Days  $T_0=131.808741$  (BKJD)

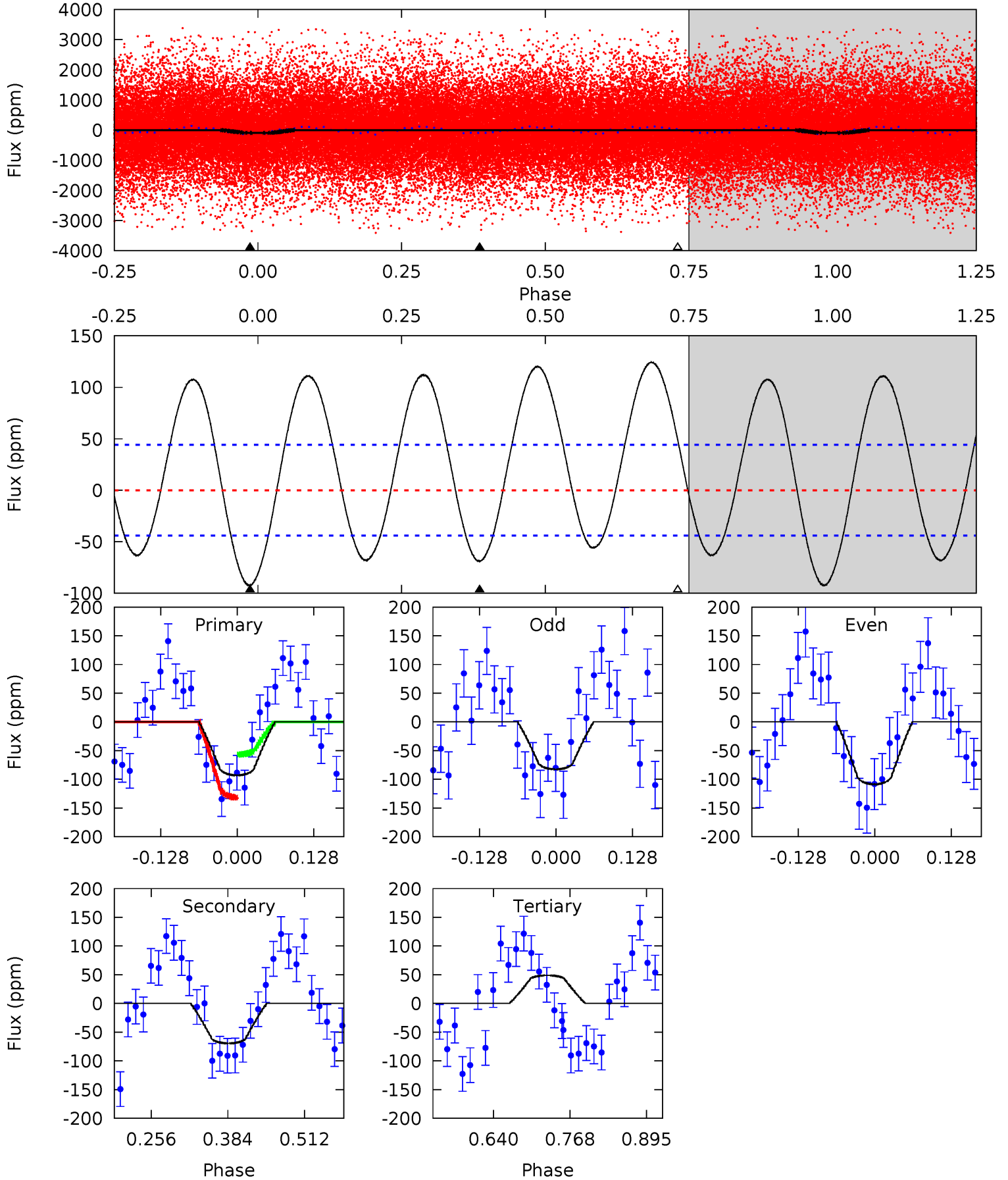




# DV Model-Shift Uniqueness Test

005119143-01, P = 0.560421 Days, E = 131.249958 Days

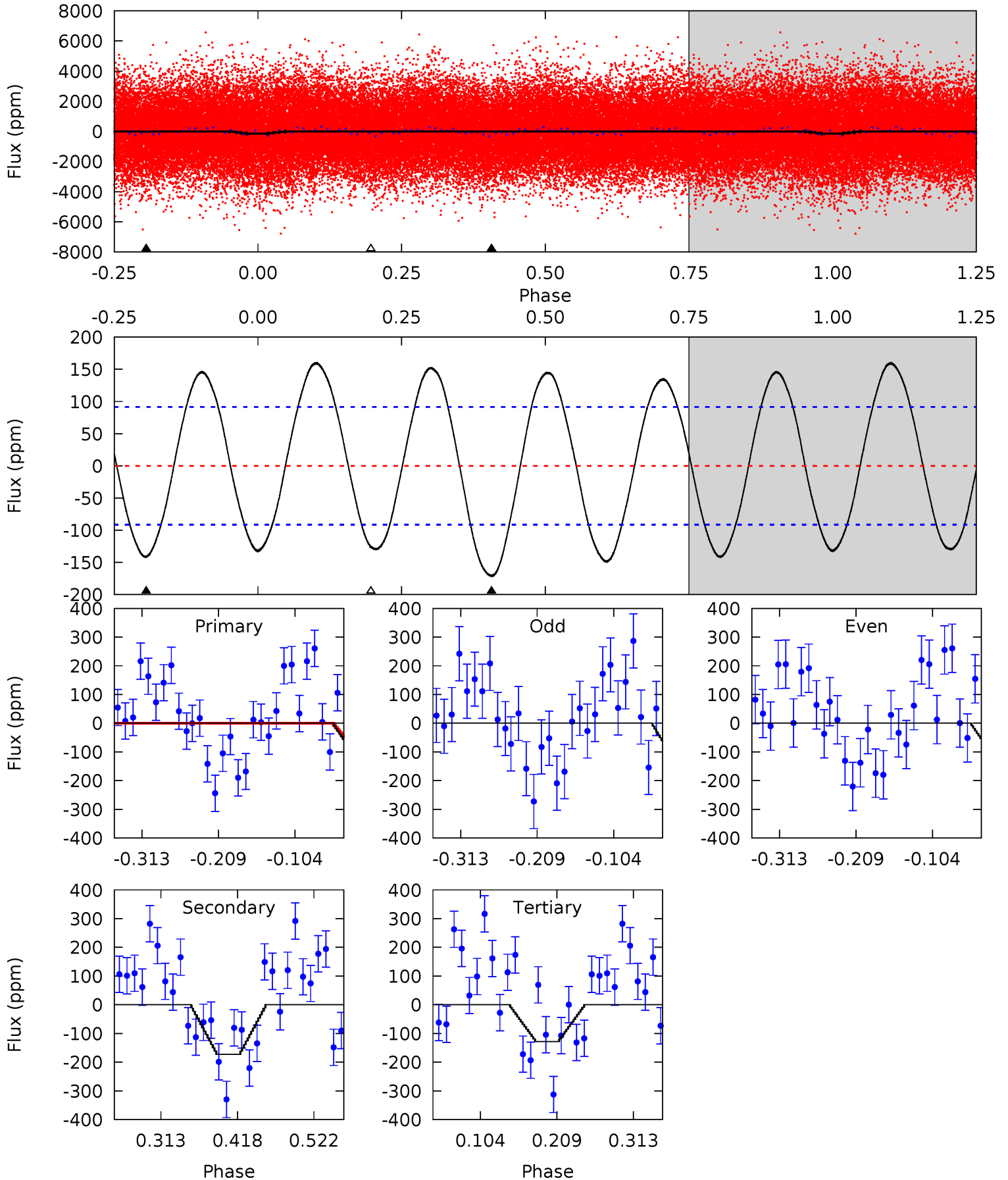
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.53	7.12	-5.01	0	4.51	1.52	5.95	14.5	9.53	12.1	7.12	1.34	0.90	0.57	3.80



# Alt Model-Shift Uniqueness Test

005119143-01, P = 0.560414 Days, E = 131.248327 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
7.12	8.62	6.37	0	4.56	1.62	4.97	0.75	7.12	2.25	8.62	0.47	0.91	0.48	1.26



### Stellar Parameters For KIC 005119143

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7921^{+71}_{-79}$	$3.902^{+0.154}_{-0.077}$	$-0.120^{+0.100}_{-0.150}$	$2.555^{+0.260}_{-0.483}$	$1.901^{+0.023}_{-0.193}$	$0.161^{+0.115}_{-0.041}$
	+1%/-1%	+4%/-2%	+83%/-125%	+10%/-19%	+1%/-10%	+72%/-25%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005119143-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-69 \pm 10$	$2.68^{+1.79}_{-1.54}$	$6069^{+207}_{-321}$	$6669^{+5855}_{-2117}$	$1.400^{+6.140}_{-0.899}$
Alt.	$-173 \pm 20$	$3.29^{+1.81}_{-1.69}$	$6056^{+206}_{-301}$	$7901^{+6628}_{-1944}$	$2.379^{+7.745}_{-1.391}$

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



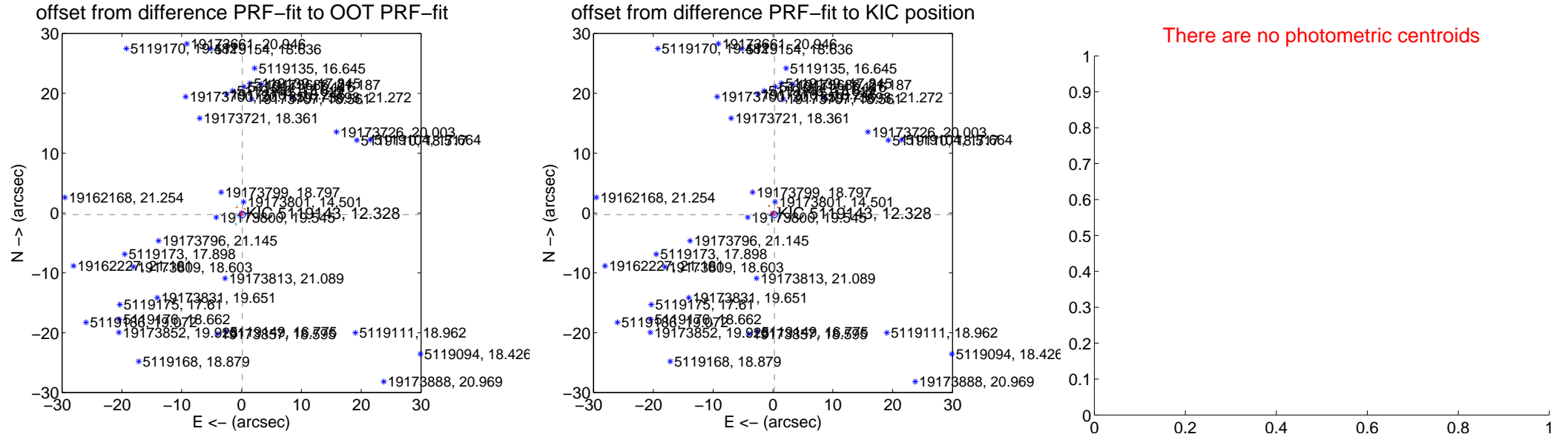
## DV Centroid Data

Supplemental centroid analysis for 005119143-01. Kepler magnitude: 12.33. Transit SNR 8.41

There are 13 quarters with good PRF difference image offsets

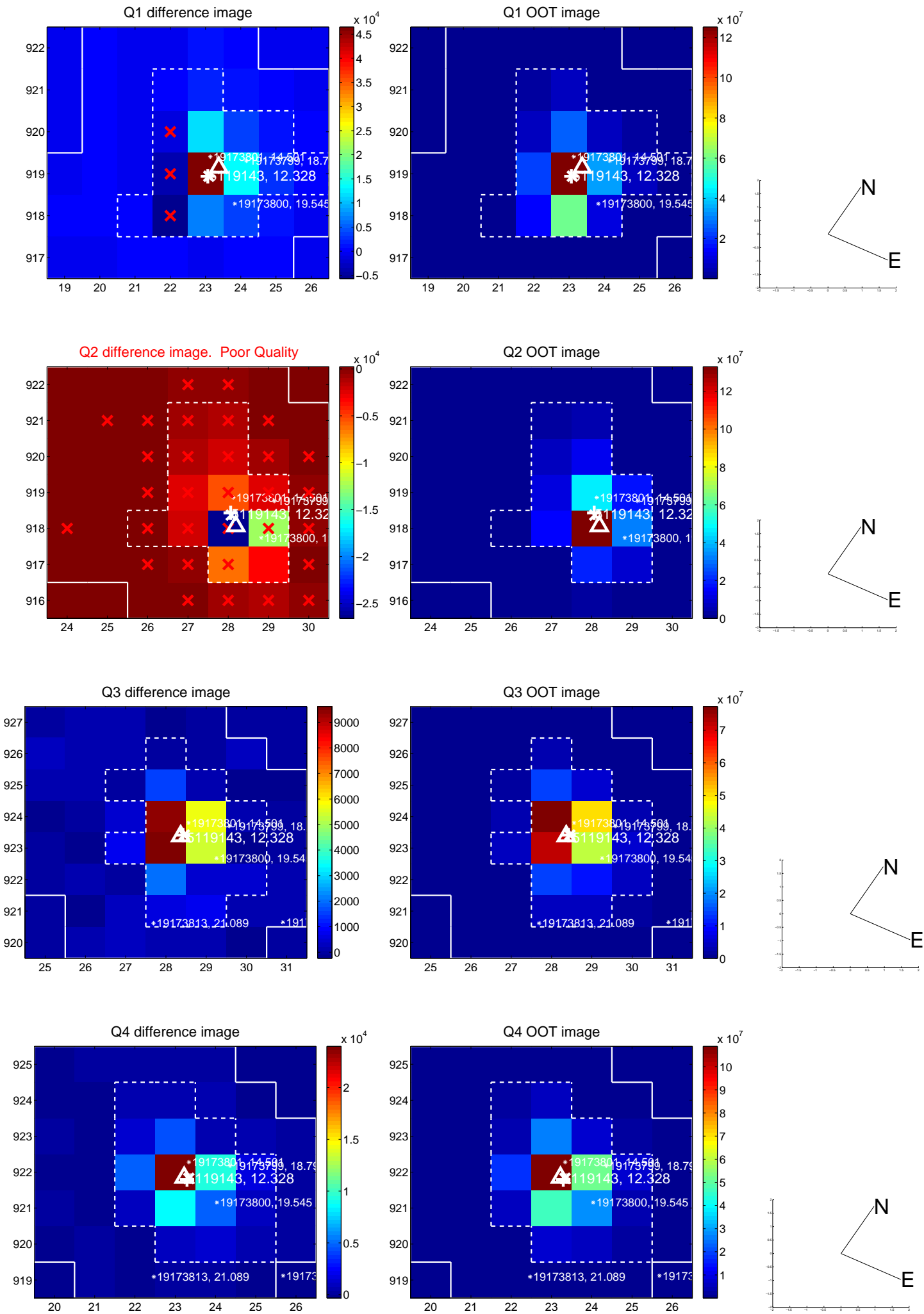
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.295 \pm 0.174$	1.70	$-0.132 \pm 0.152$	$-0.264 \pm 0.184$
PRF-fit source offset from KIC position	$0.368 \pm 0.167$	2.20	$-0.237 \pm 0.165$	$-0.282 \pm 0.194$
photometric centroid source offset	—	—	—	—

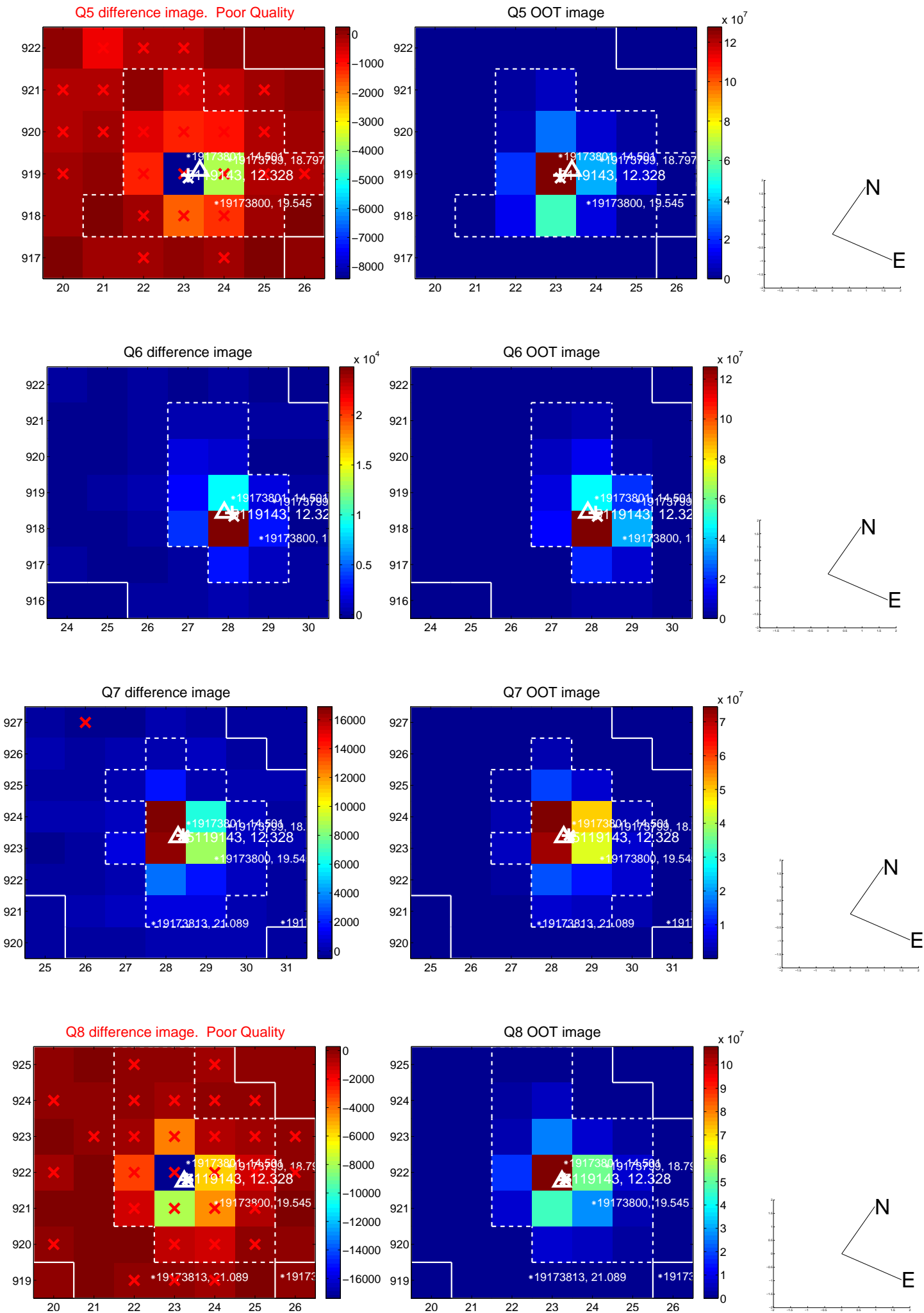


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

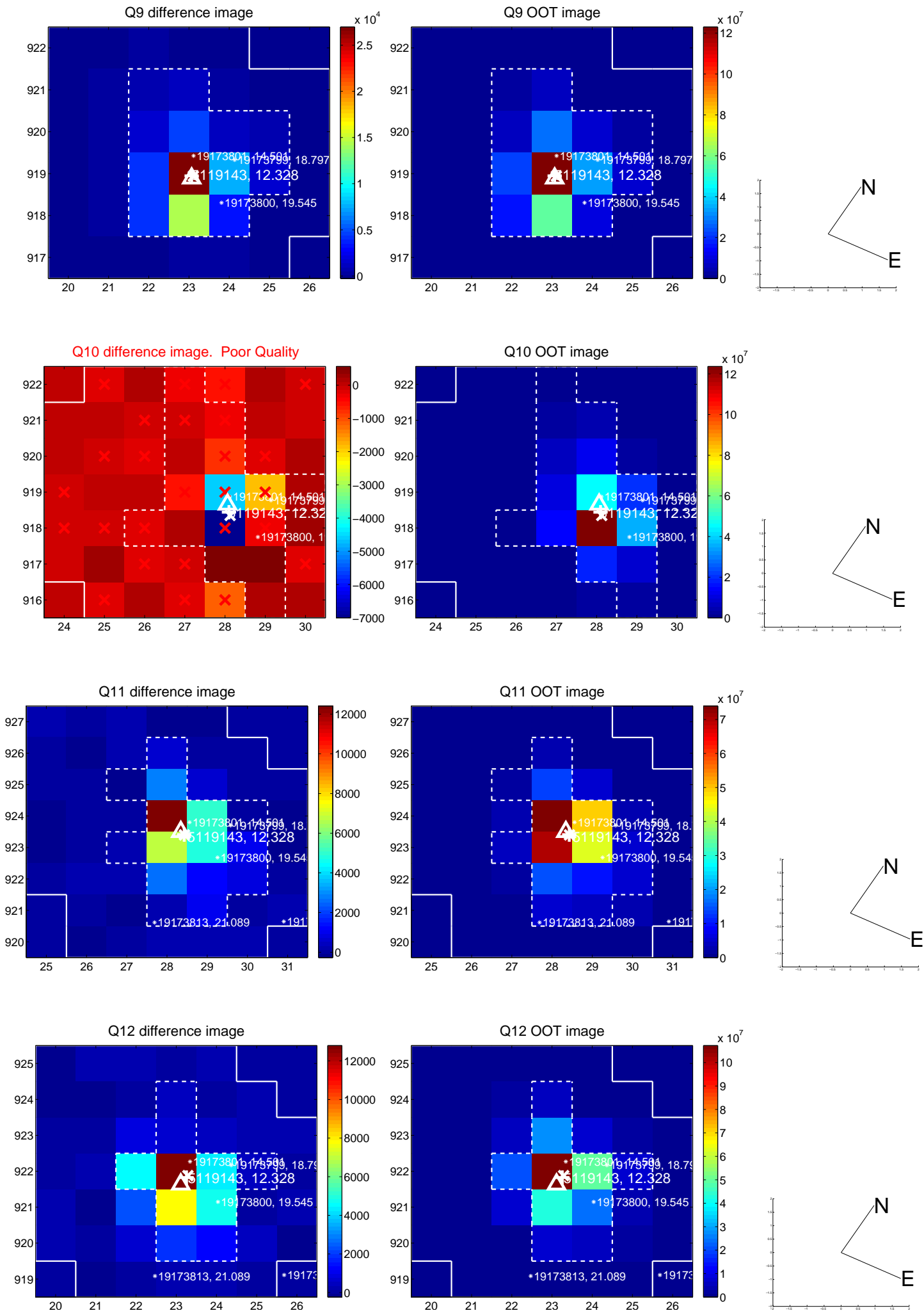


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

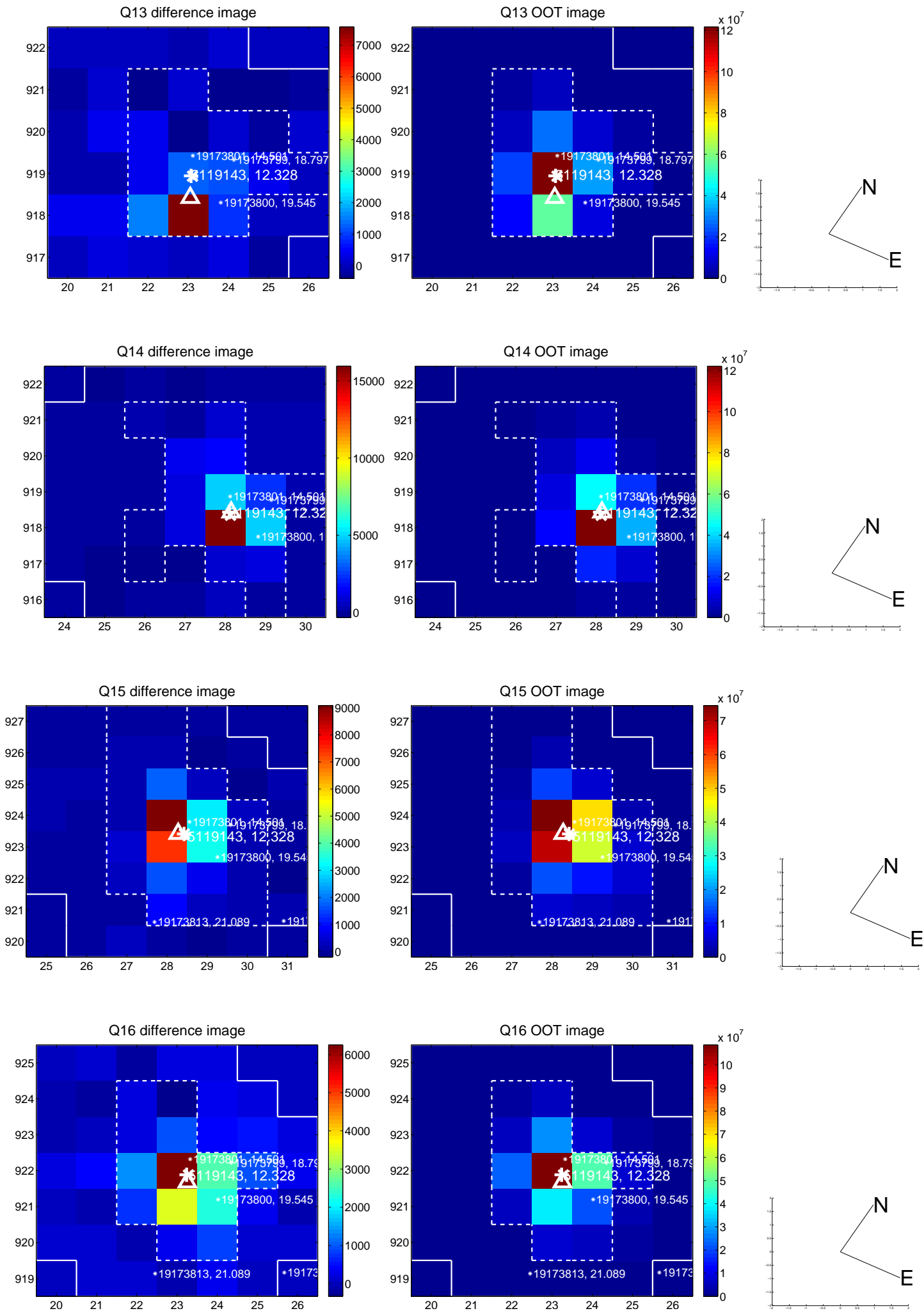




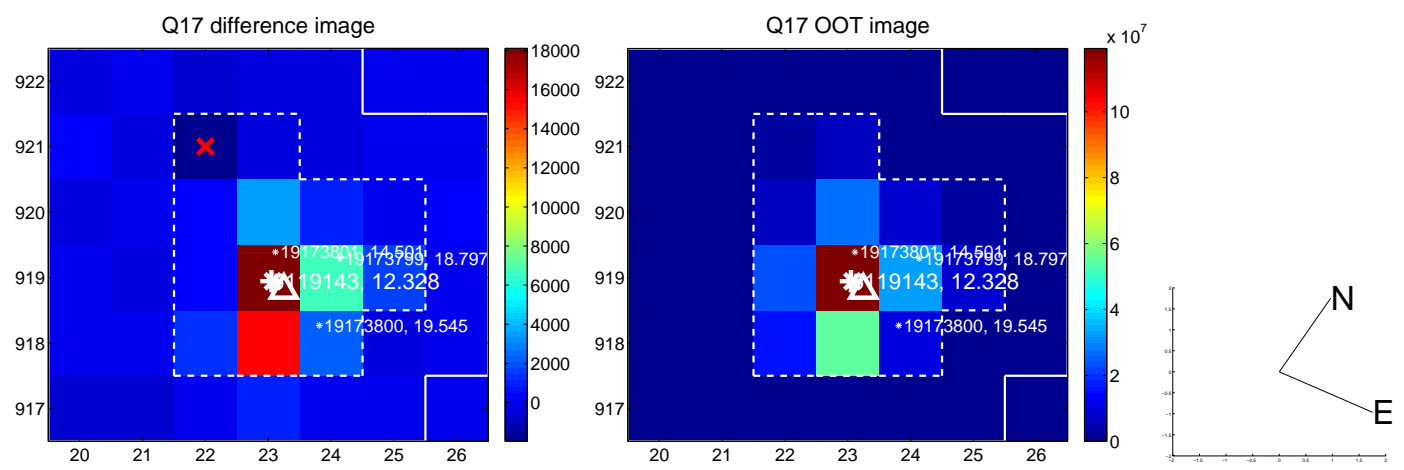
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



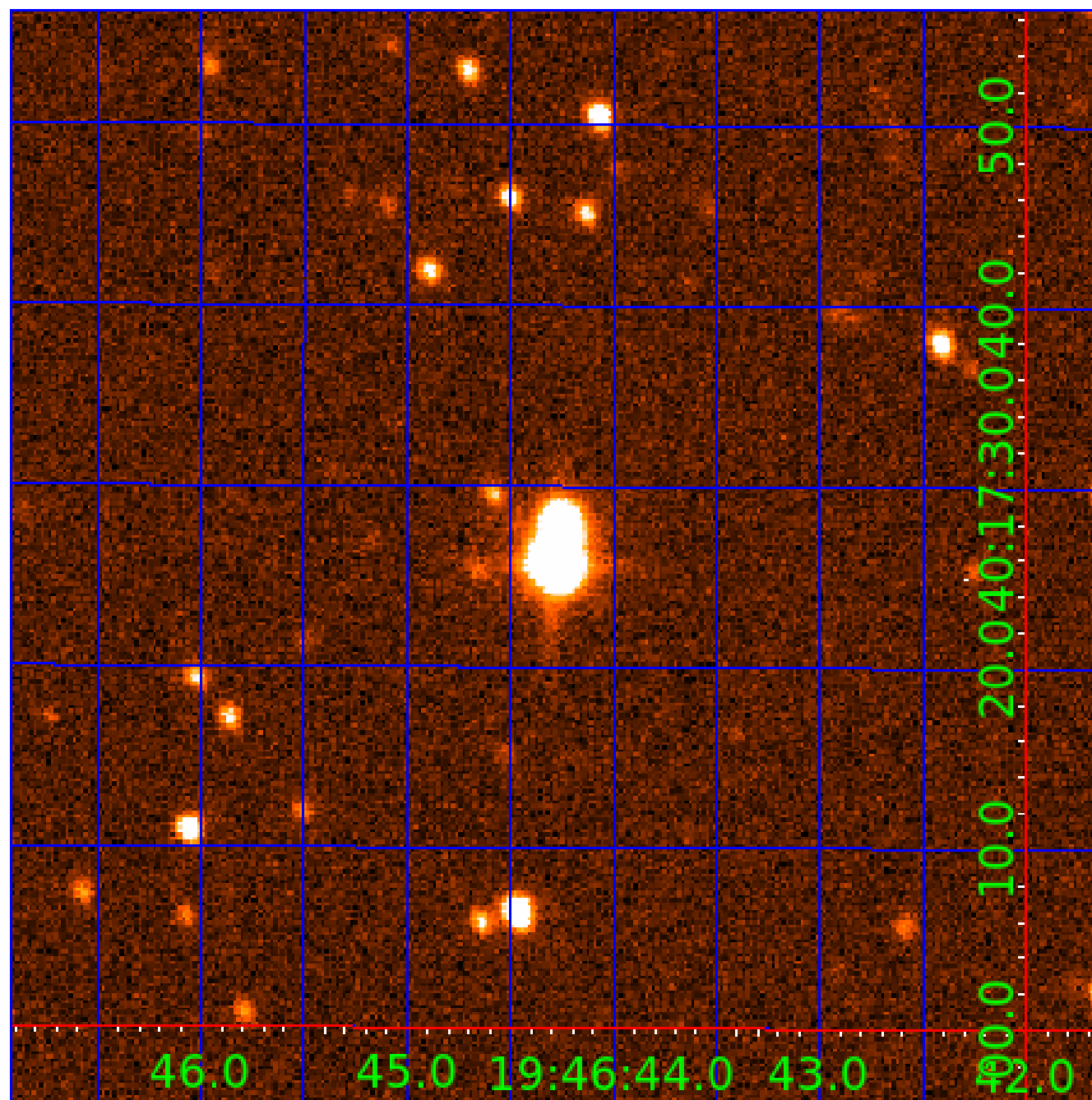
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



# KIC 005119143

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005119143-01	OBS	No	0.560421	131.810379	99.9	1.248	10.4	8.4	2.56	7921	2.59	84772.72
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005119143-05	OBS	No	10.622508	133.043618	1096.5	2.337	8.9	9.1	2.56	7921	15.84	1677.41
005119143-06	OBS	No	171.991797	198.361610	3263.0	5.628	8.7	9.3	2.56	7921	16.77	40.95

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005119143-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005119143-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005119143-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
005119143-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
005119143-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—MOD_NONUNIQ_ALT
005119143-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

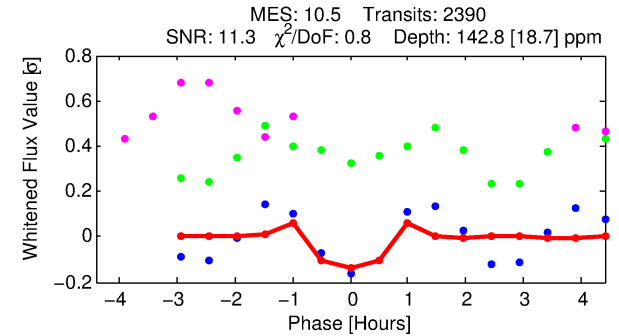
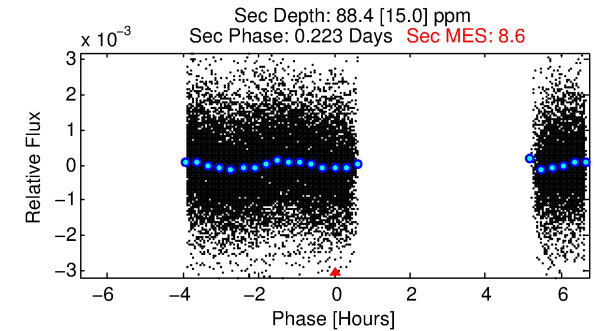
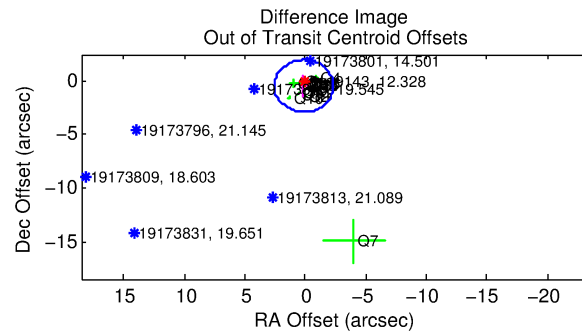
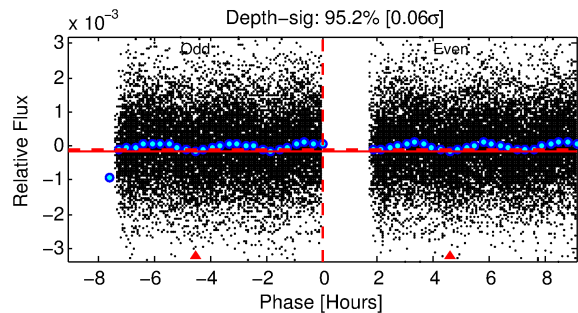
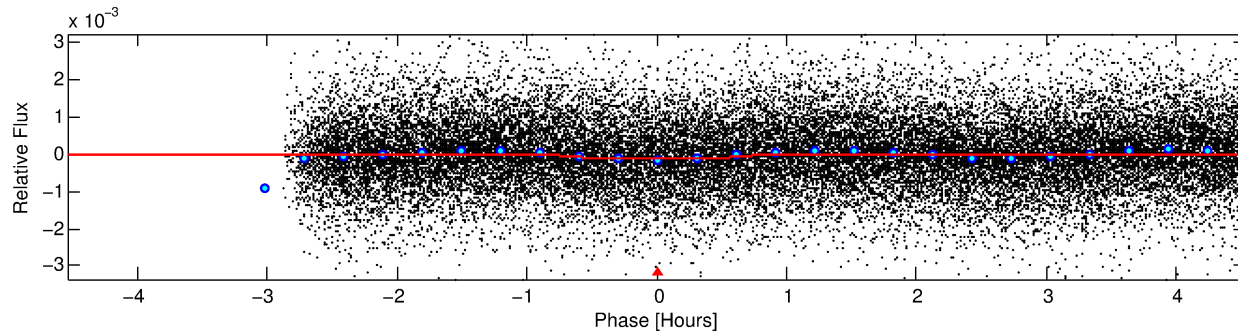
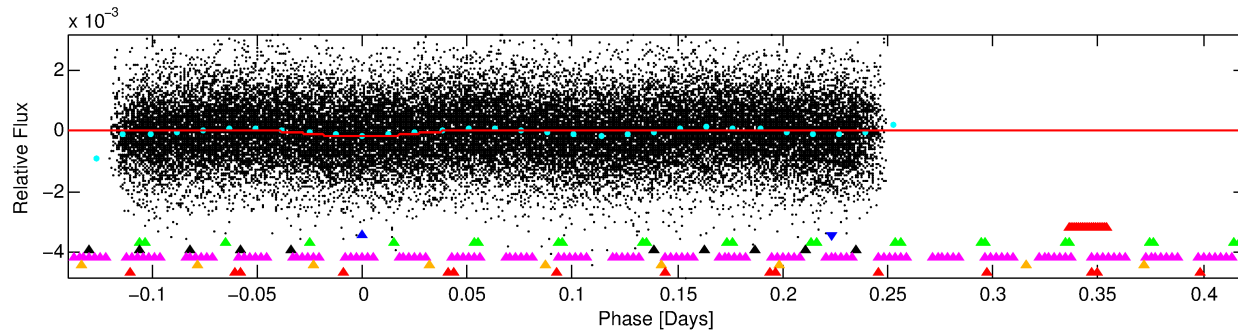
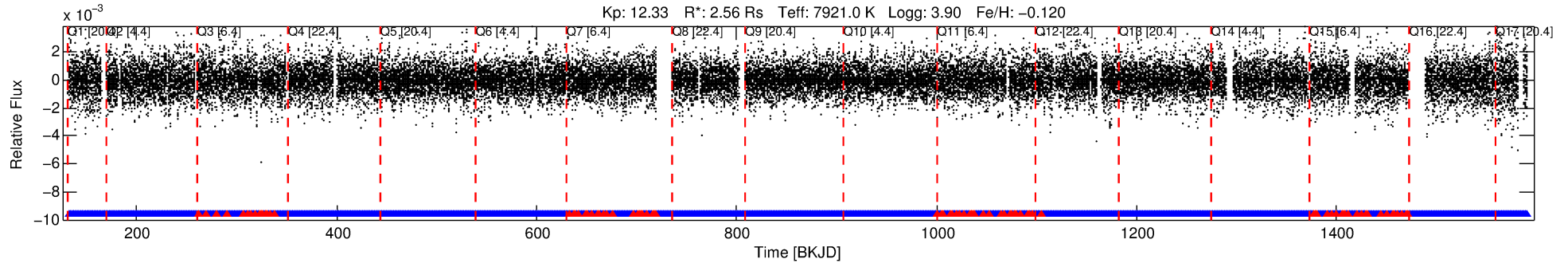
## Ephemeris Match Information For 005119143-02

No Significant Match Found



# DV One-Page Summary

KIC: 5119143 Candidate: 2 of 7 Period: 0.560 d  
KOI: K06527 Corr: No Ephemeris Match



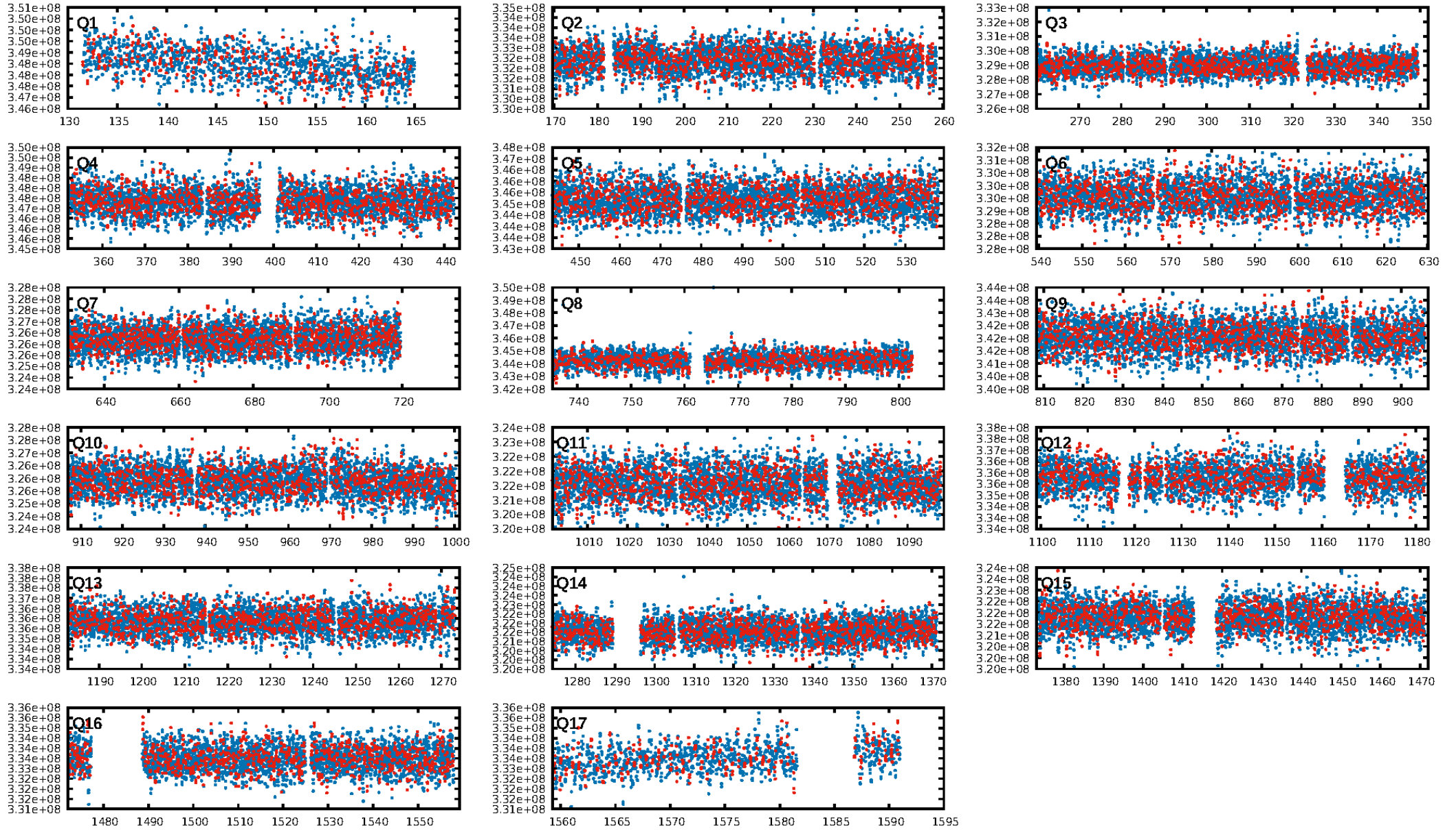
## DV Fit Results:

Period = 0.56041 [0.00001] d  
Epoch = 132.0347 [0.0011] BKJD  
Rp/R\* = 0.0130 [0.0030]  
a/R\* = 1.53 [1.18]  
b = 0.92 [0.23]  
Seff = 84774.09 [22960.92]  
Teq = 4351 [295] K  
Rp = 3.62 [1.08] Re  
a = 0.0165 [0.0028] AU  
Ag = 1.01 [0.56] [0.01 $\sigma$ ]  
Teffp = 6740 [826] K [2.72 $\sigma$ ]

## DV Diagnostic Results:

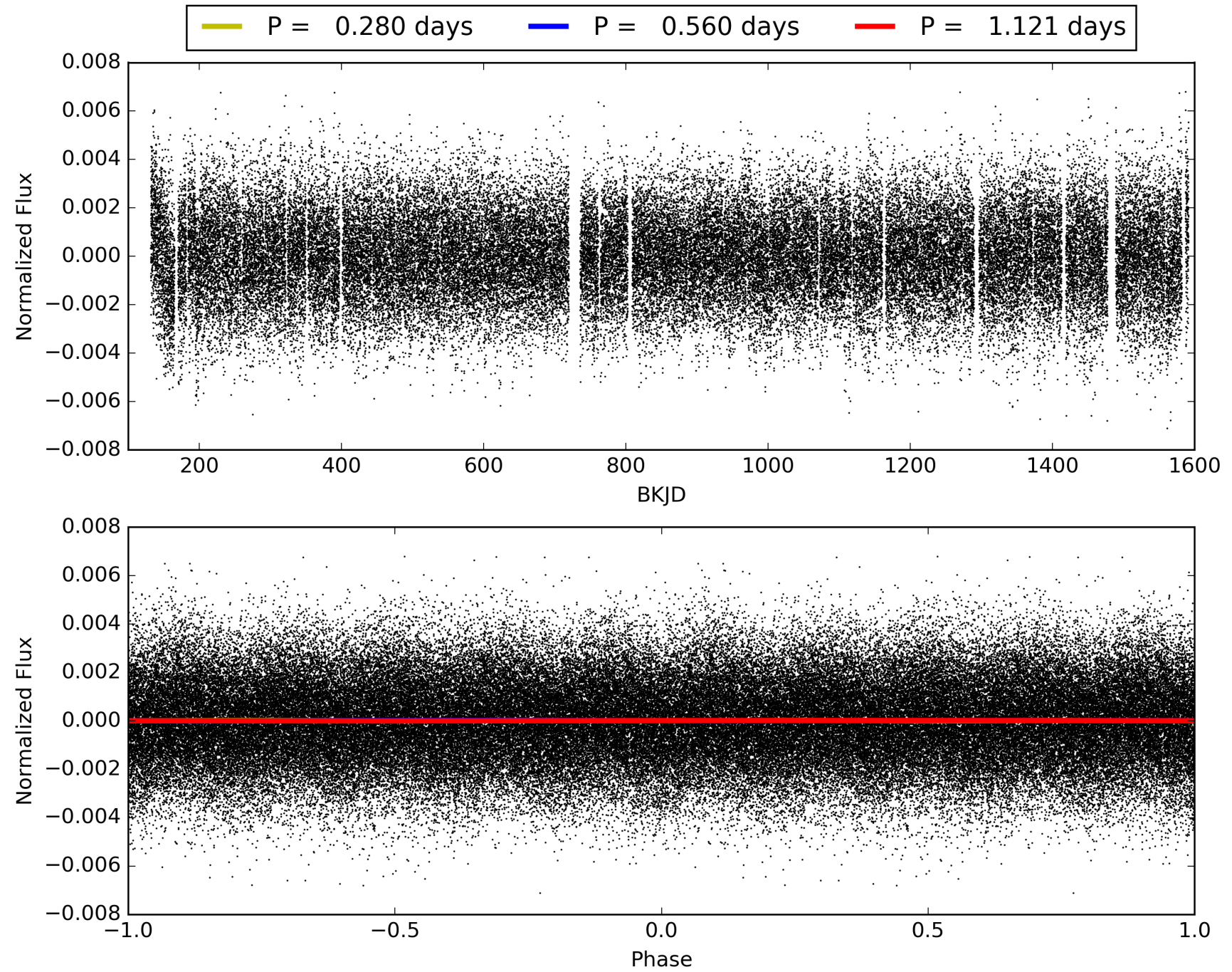
ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.96 [2186/2282]  
GhostDiagnostic-chr: 0.9734  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.475 arcsec [0.58 $\sigma$ ]  
KicOffset-rm: 0.492 arcsec [0.52 $\sigma$ ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 0.75 [12/16]  
DiffImageOverlap-fno: 0.00 [0/17]

# TCE 005119143-02, PDC Light Curves



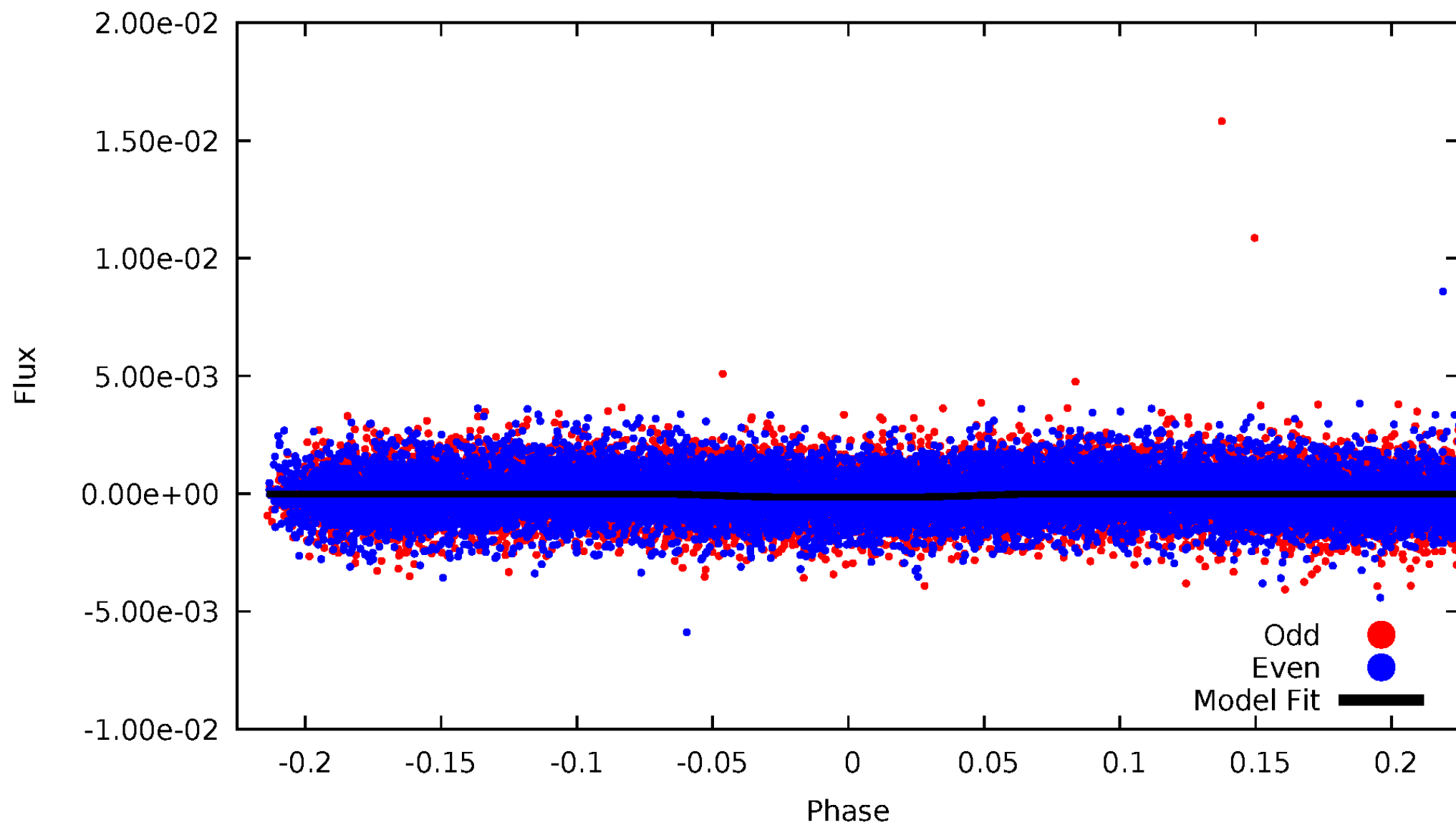


# TCE 005119143-02



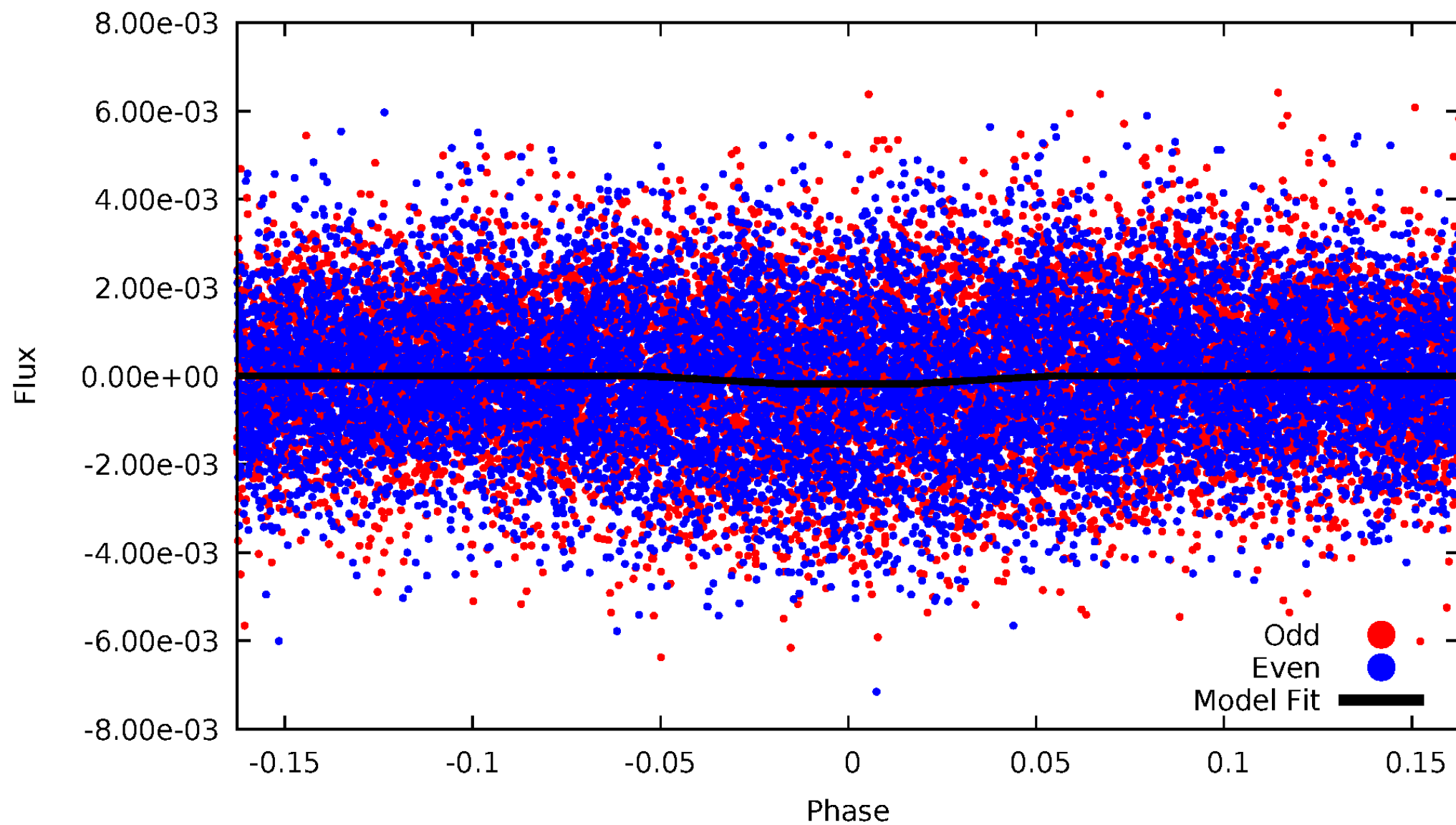
# DV Odd/Even

TCE 005119143-02



# ALT Odd/Even

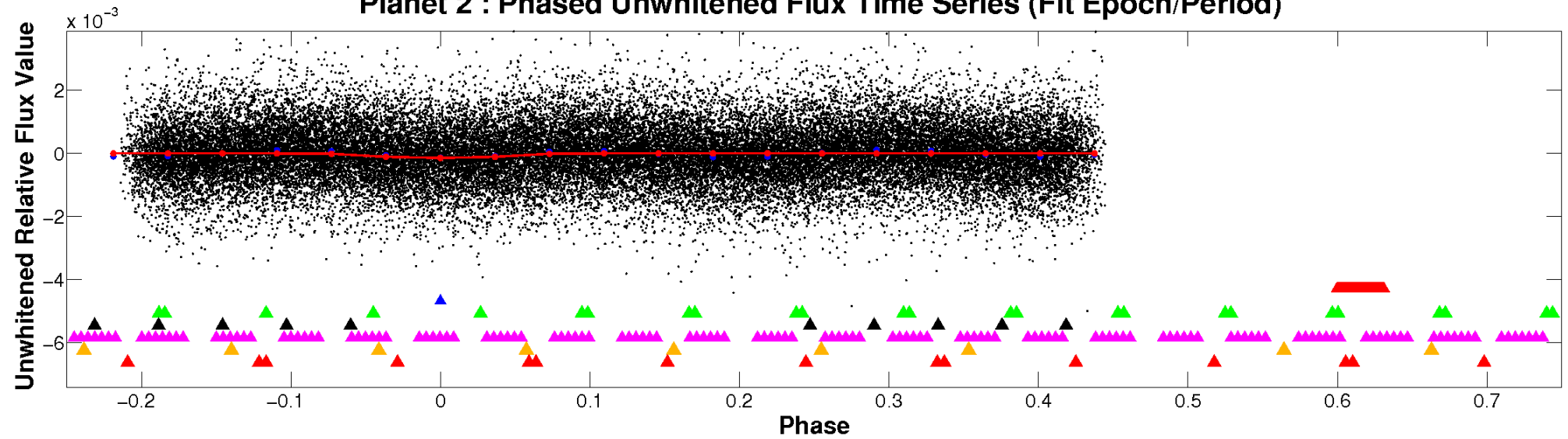
TCE 005119143-02



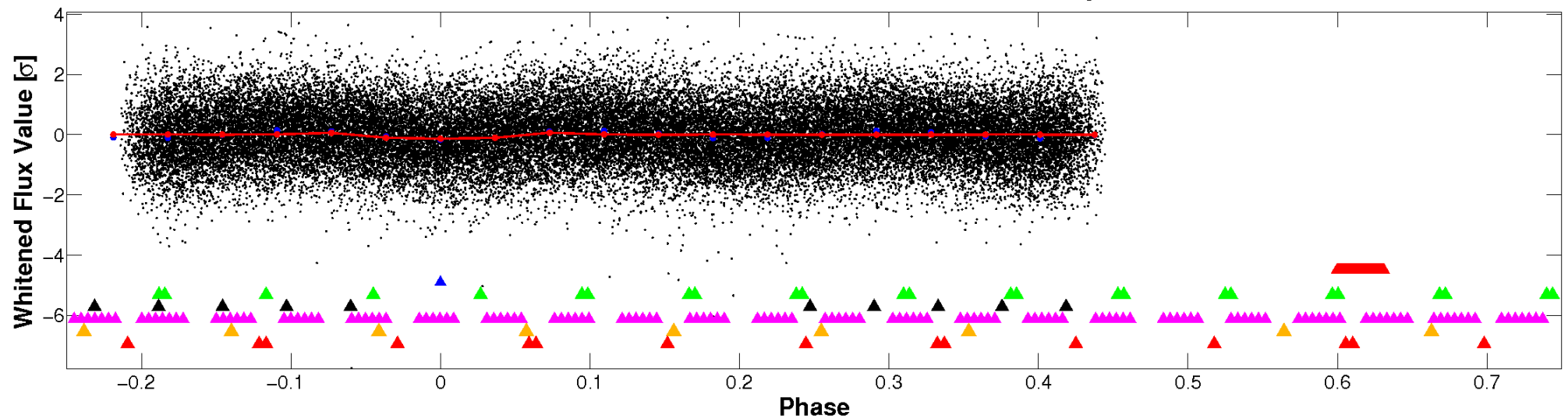


# Non-Whitened Vs. Whitened Light Curve

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

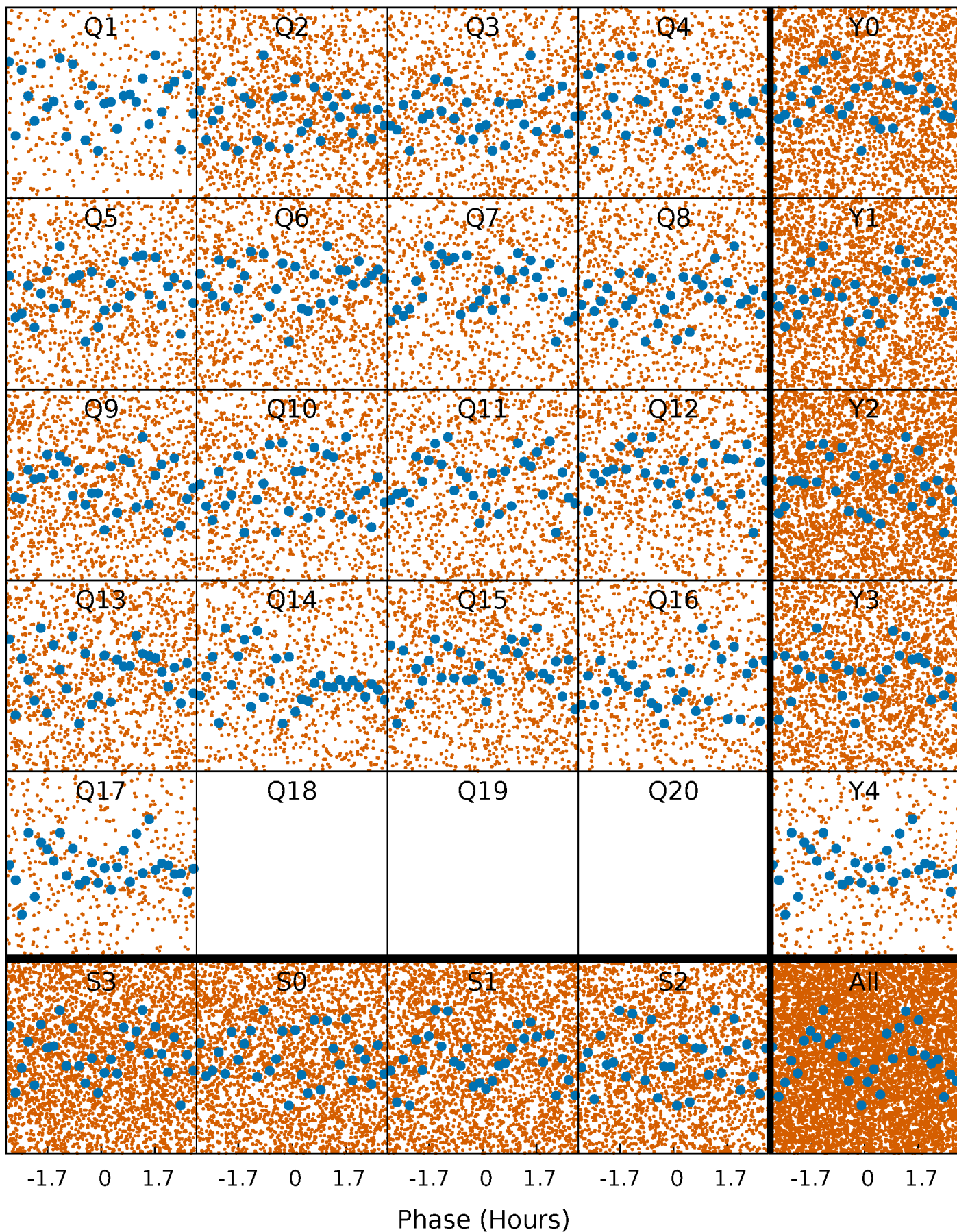


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

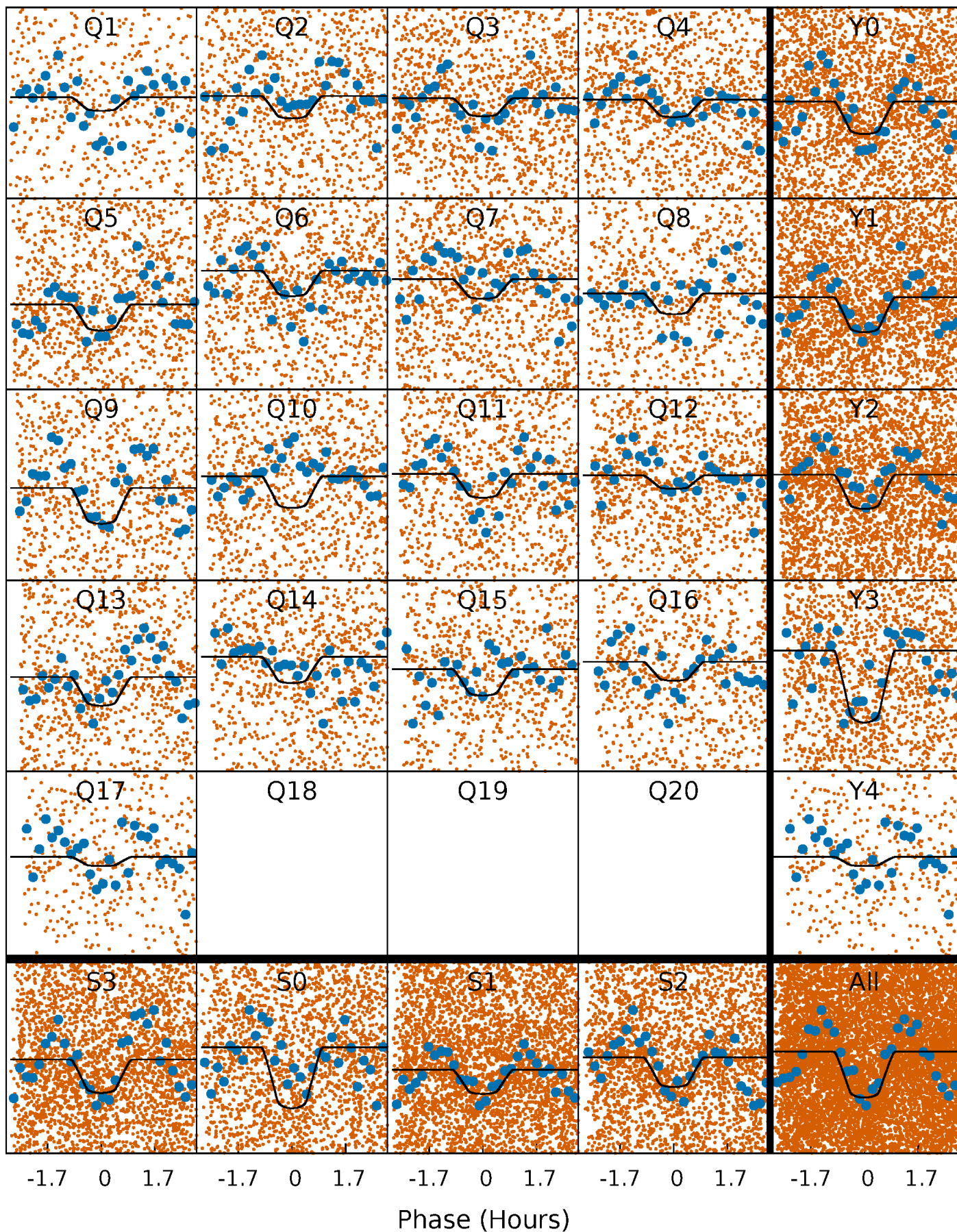
TCE 005119143-02 P= 0.560414 Days  $T_0=132.034733$  (BKJD)





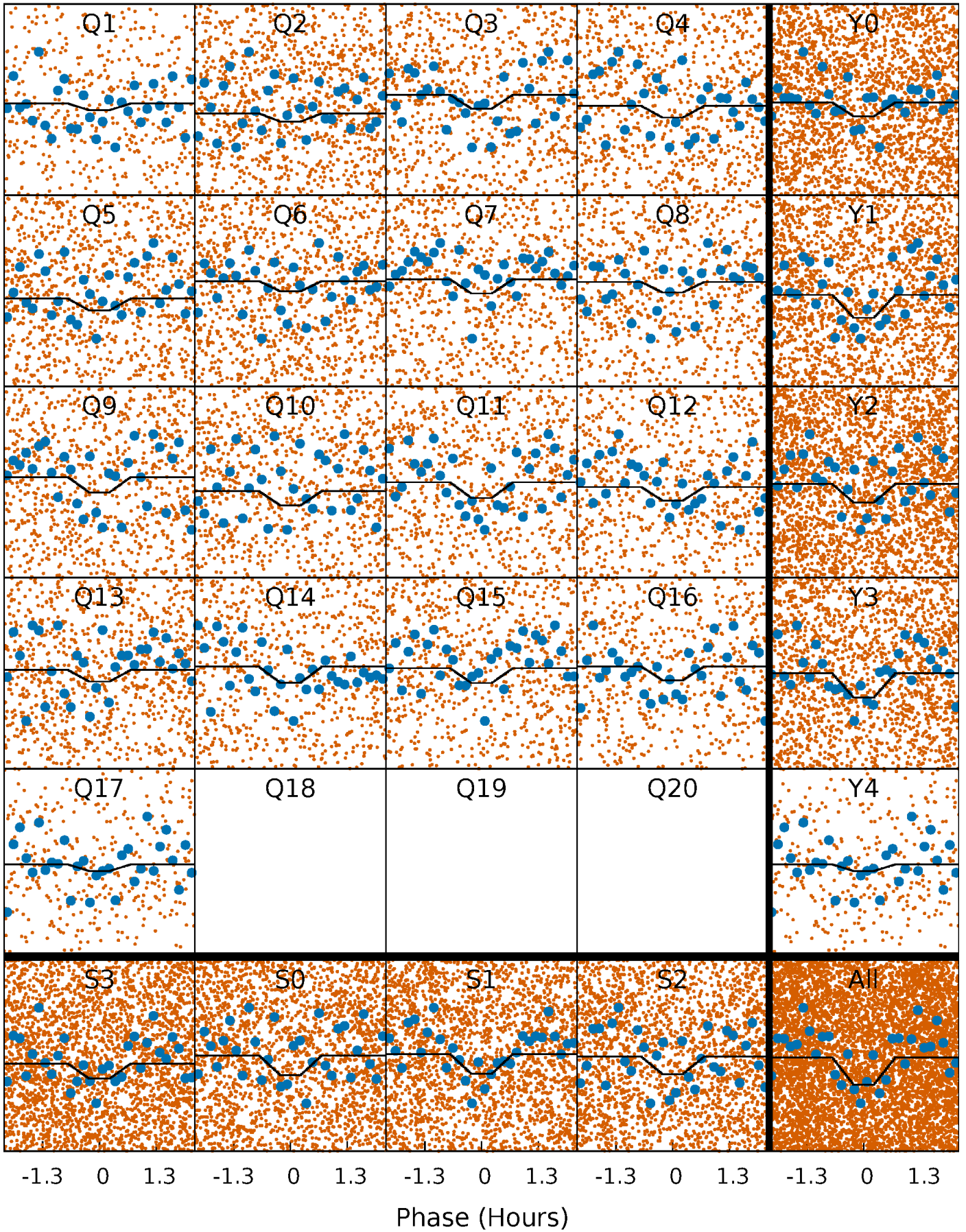
# DV Quarter-Phased Transit Curves

TCE 005119143-02 P= 0.560414 Days  $T_0=132.034733$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005119143-02 P= 0.560414 Days  $T_0=132.036039$  (BKJD)

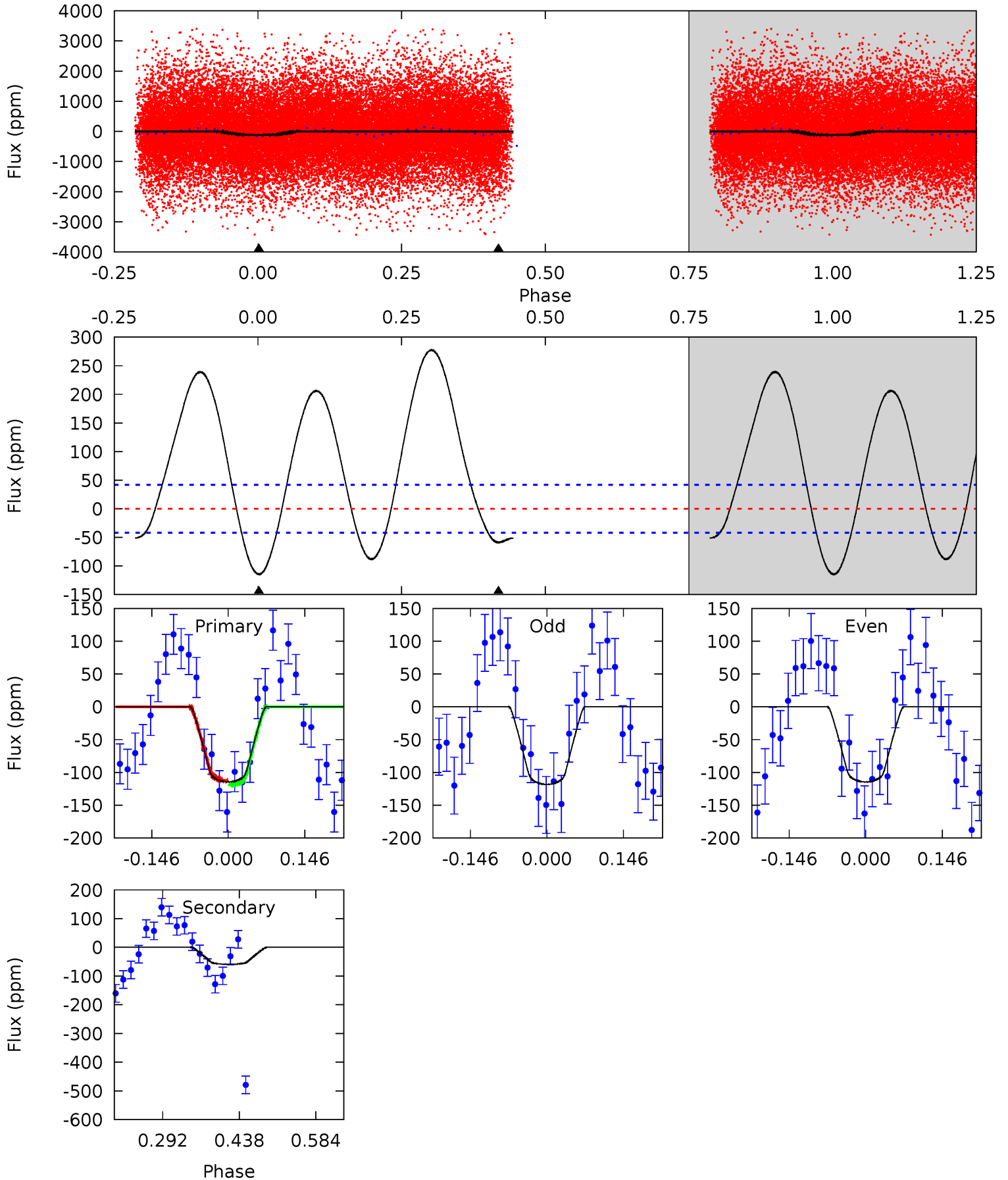




# DV Model-Shift Uniqueness Test

005119143-02, P = 0.560414 Days, E = 131.474319 Days

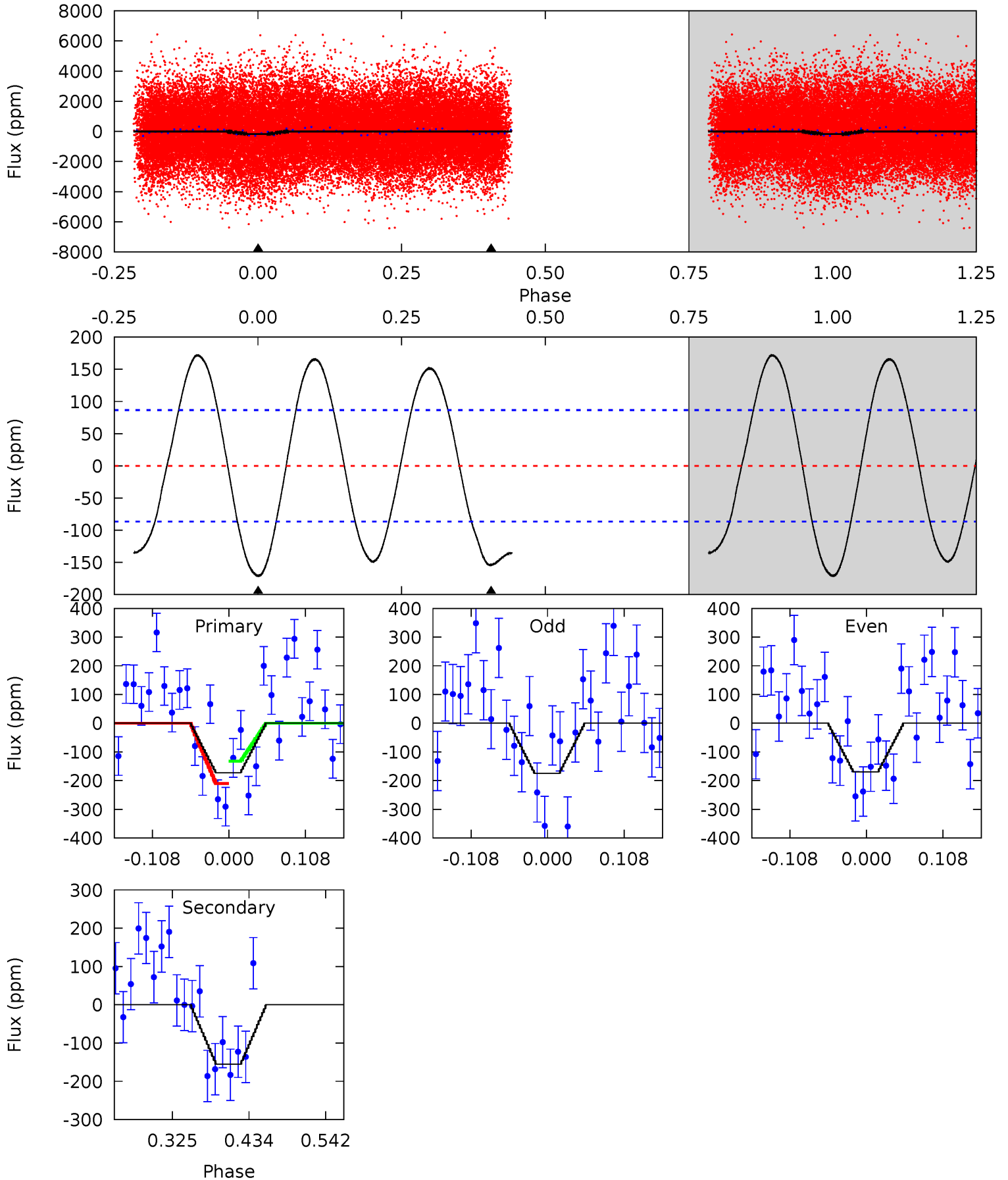
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	6.33	0	0	4.48	1.45	8.35	12.3	12.3	6.33	6.33	0.20	1.07	0.71	0.34



# Alt Model-Shift Uniqueness Test

005119143-02, P = 0.560414 Days, E = 131.475625 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
9.06	8.17	0	0	4.55	1.60	5.44	9.06	9.06	8.17	8.17	0.13	1.48	0.50	1.89



### Stellar Parameters For KIC 005119143

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7921^{+71}_{-79}$	$3.902^{+0.154}_{-0.077}$	$-0.120^{+0.100}_{-0.150}$	$2.555^{+0.260}_{-0.483}$	$1.901^{+0.023}_{-0.193}$	$0.161^{+0.115}_{-0.041}$
	+1%/-1%	+4%/-2%	+83%/-125%	+10%/-19%	+1%/-10%	+72%/-25%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005119143-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-59 \pm 9$	$3.46^{+0.92}_{-0.84}$	$6048^{+203}_{-304}$	$5224^{+1066}_{-1001}$	$0.700^{+0.544}_{-0.265}$
Alt.	$-156 \pm 19$	$3.59^{+0.83}_{-0.84}$	$6060^{+204}_{-294}$	$7162^{+1435}_{-898}$	$1.744^{+1.307}_{-0.610}$

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

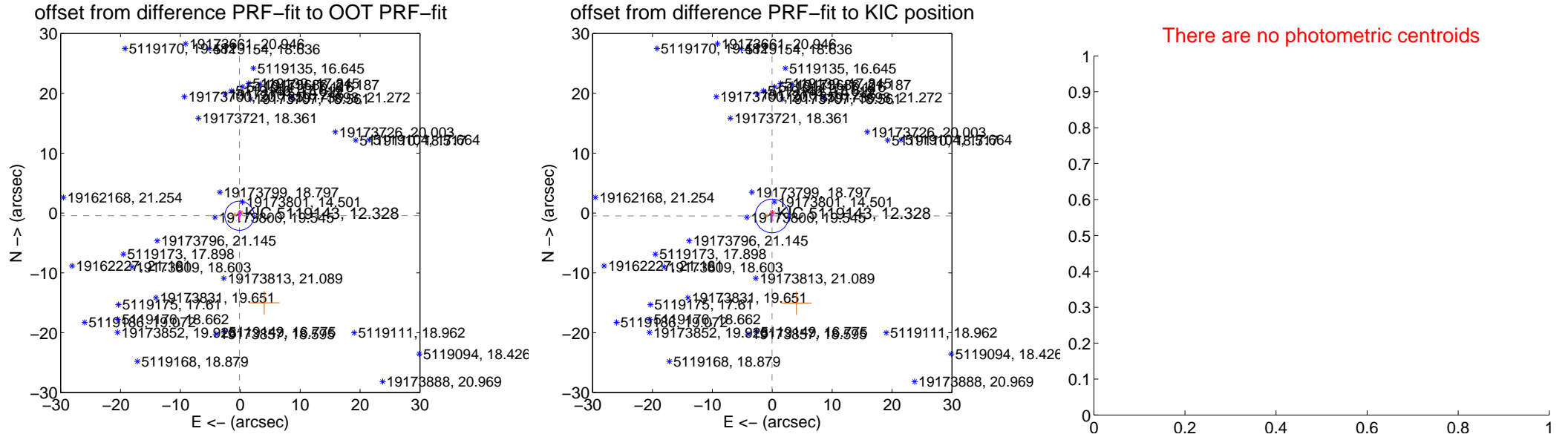
## DV Centroid Data

Supplemental centroid analysis for 005119143-02. Kepler magnitude: 12.33. Transit SNR 11.27

There are 12 quarters with good PRF difference image offsets

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

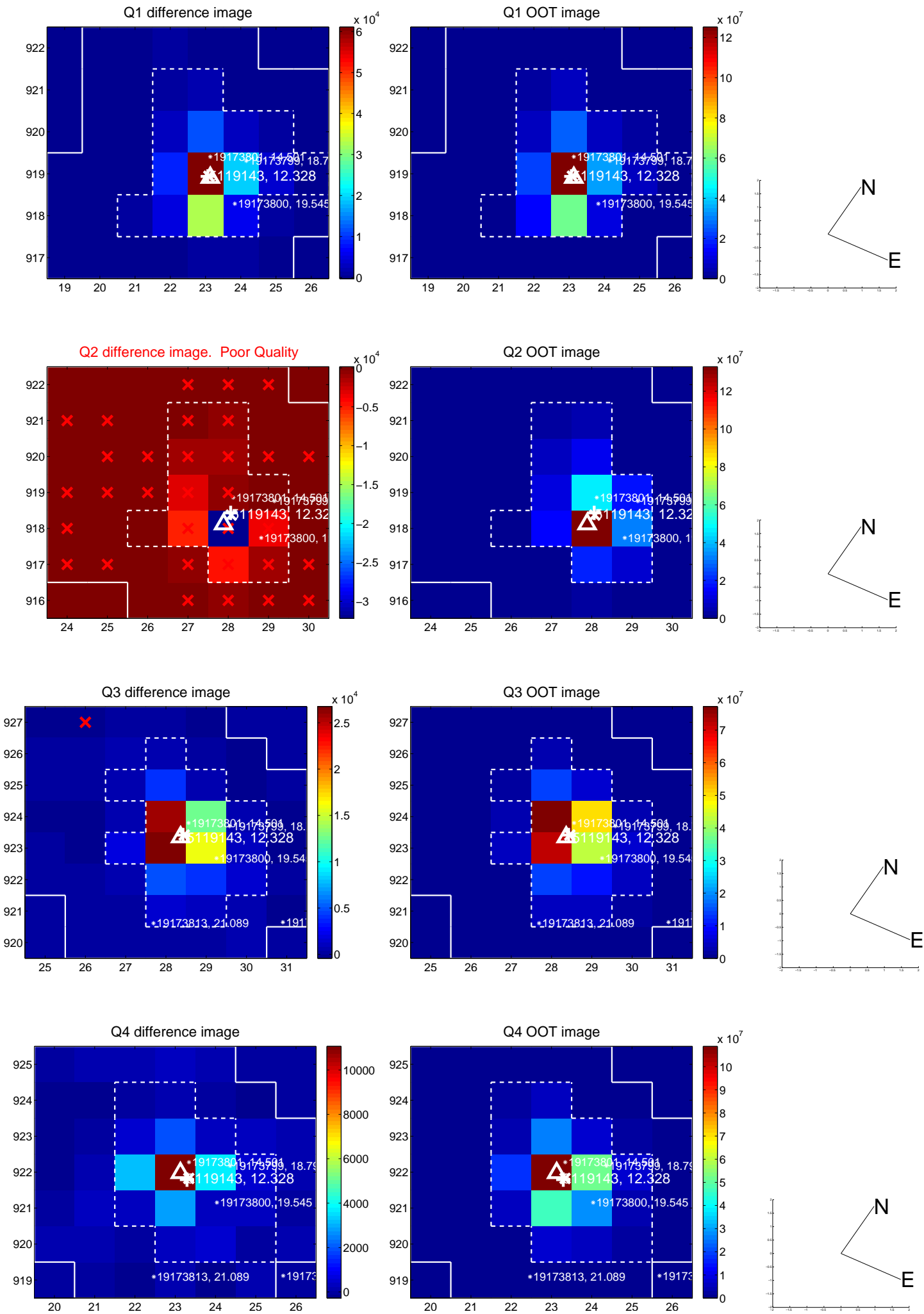
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.475 \pm 0.812$	0.58	$0.138 \pm 0.291$	$-0.454 \pm 0.919$
PRF-fit source offset from KIC position	$0.492 \pm 0.938$	0.52	$0.034 \pm 0.294$	$-0.491 \pm 0.957$
photometric centroid source offset	—	—	—	—



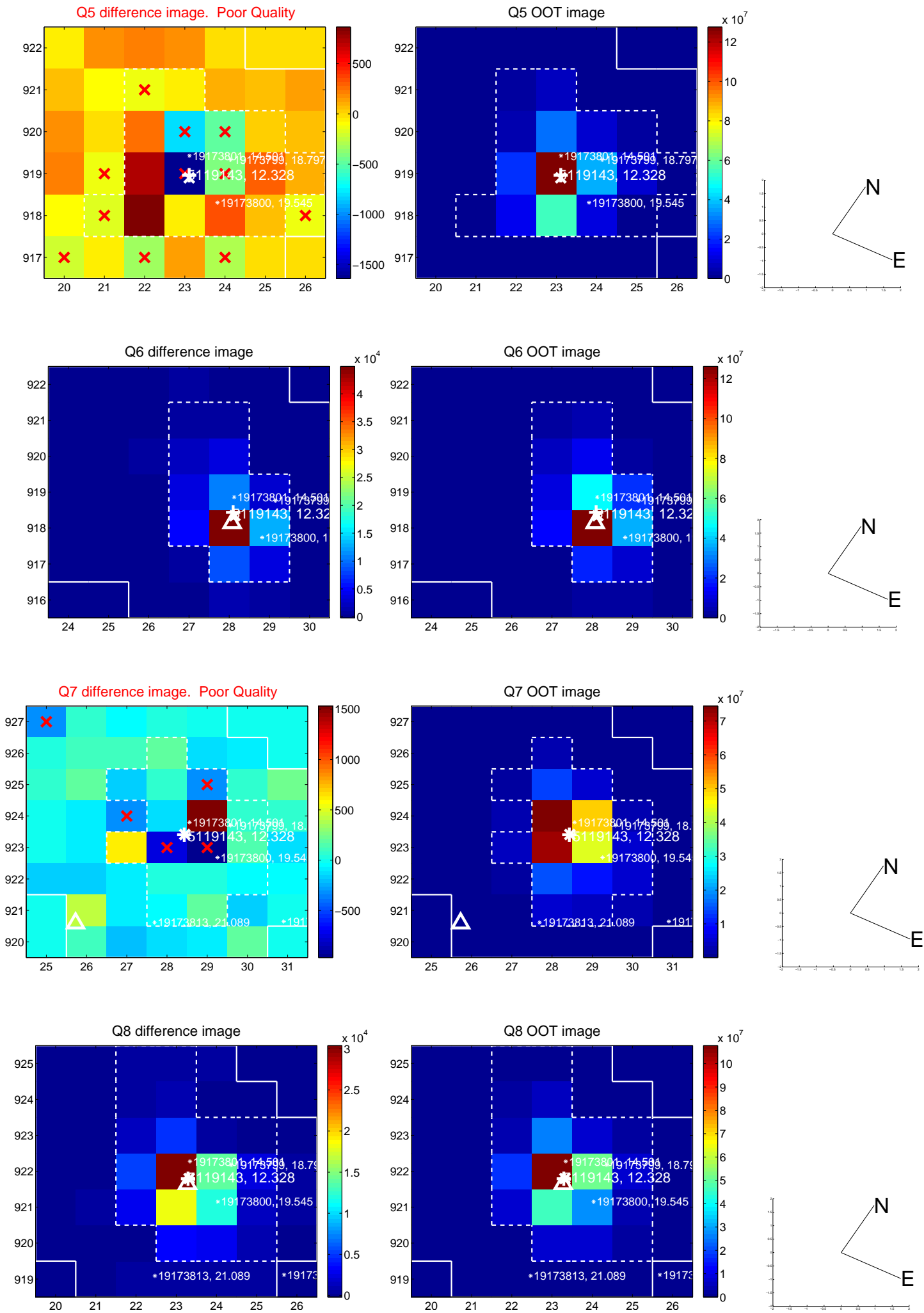
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



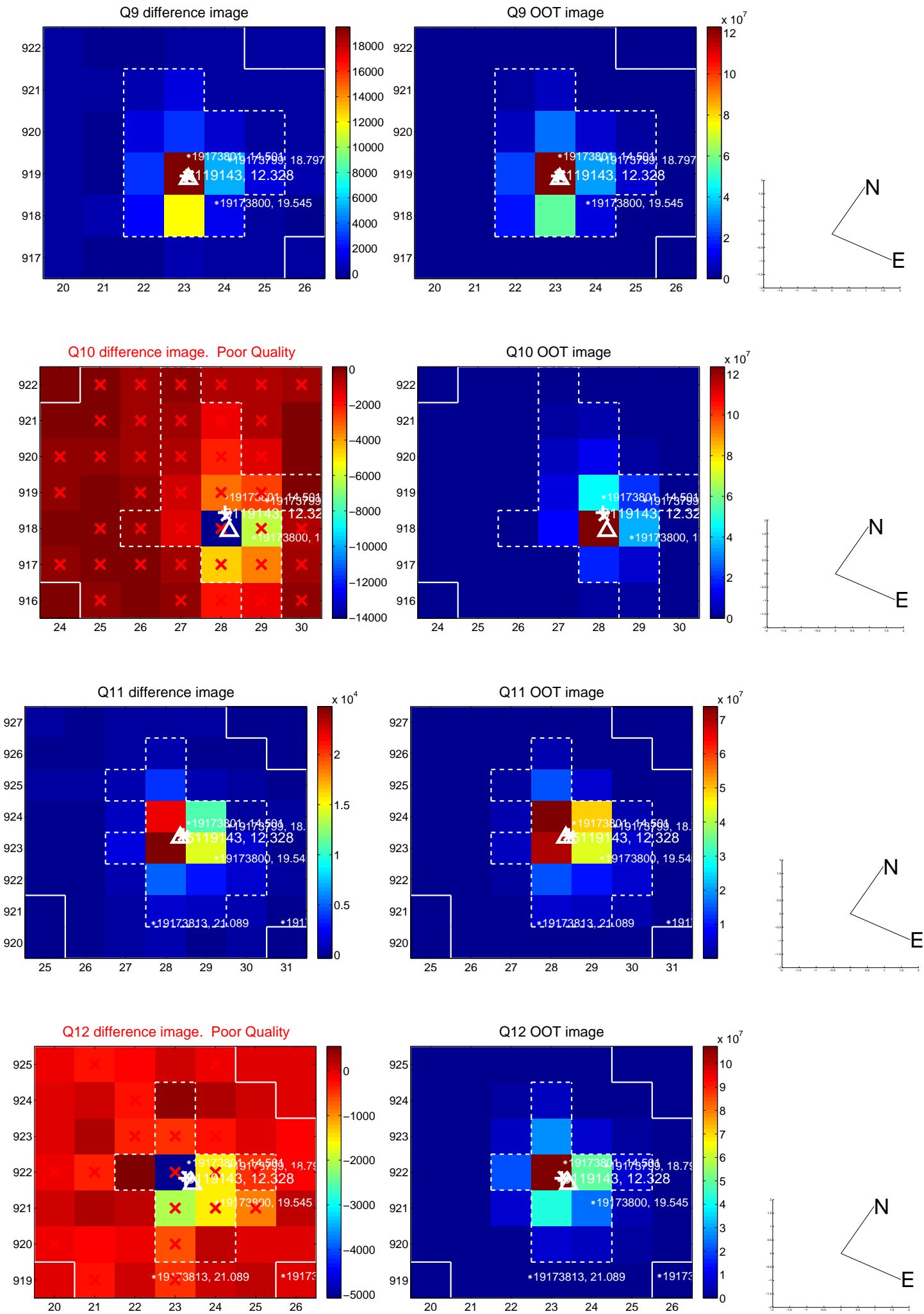
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



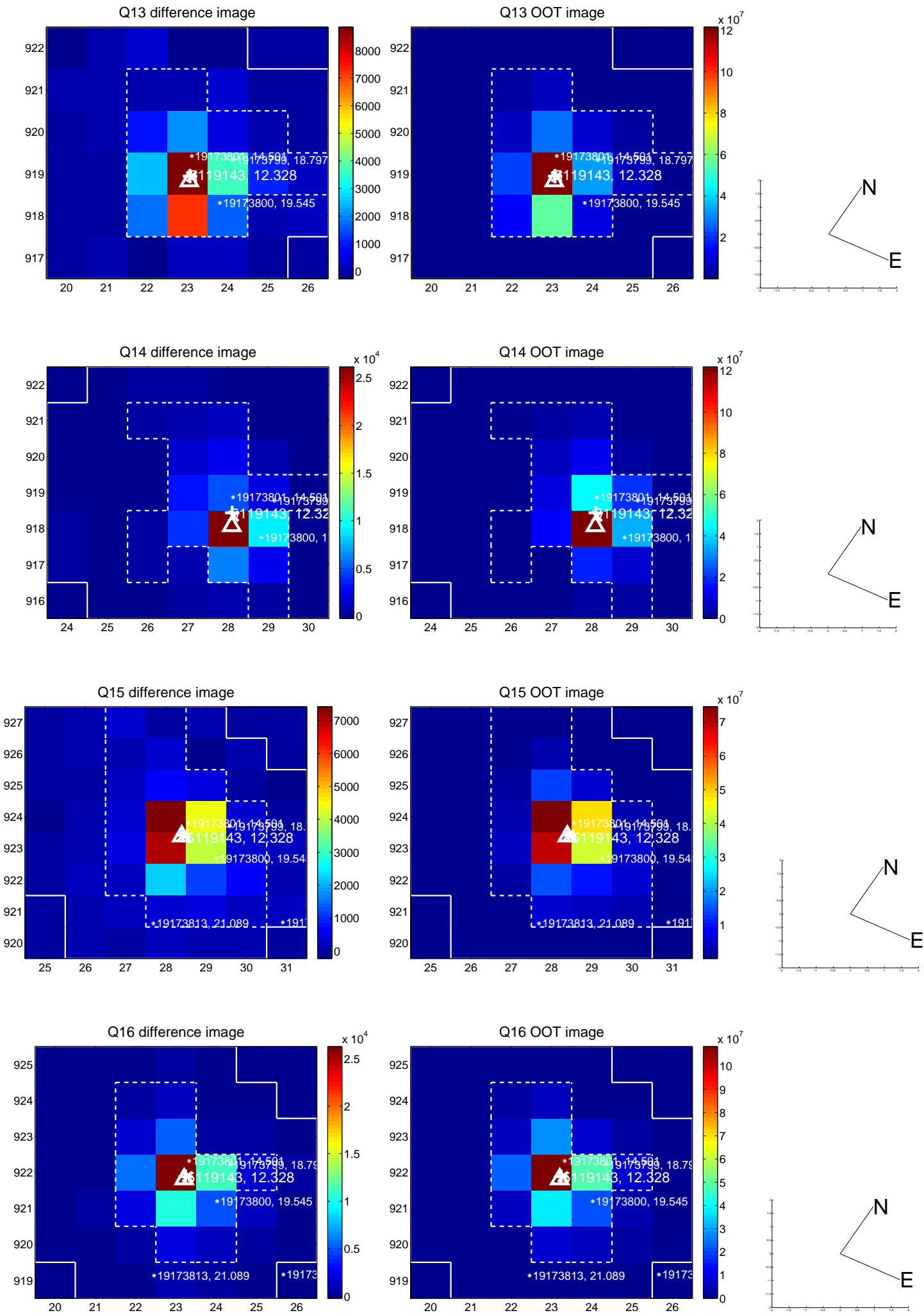
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



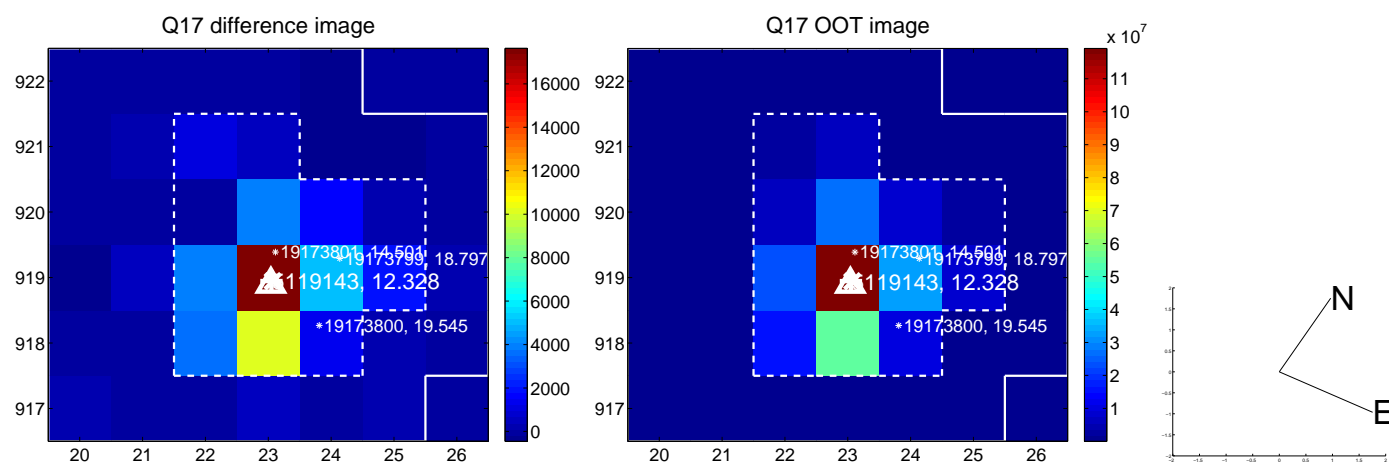
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



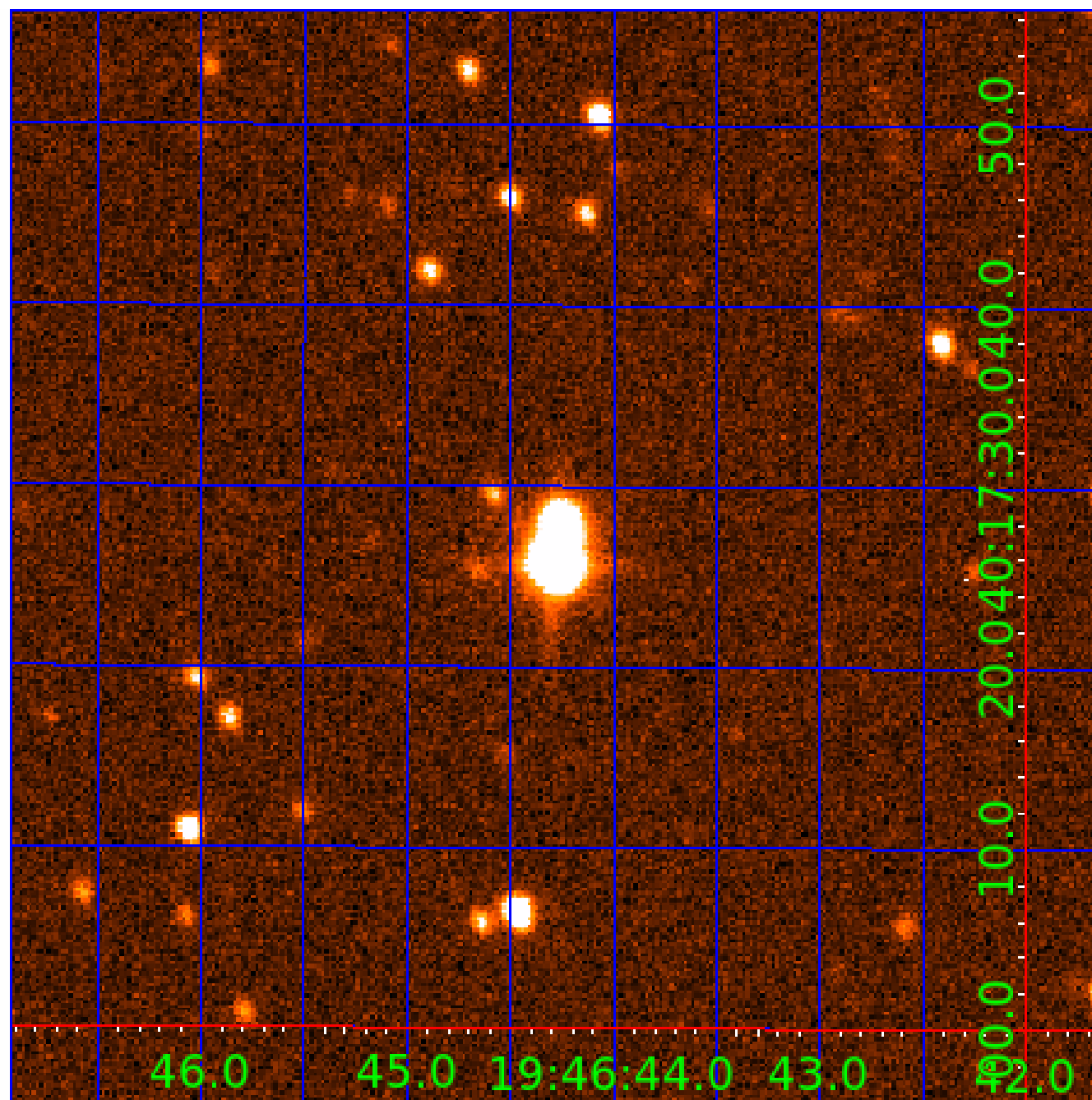
folded centroid time series figure for this object.





UKIRT Image

Declination



# KIC 005119143

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005119143-01	OBS	No	0.560421	131.810379	99.9	1.248	10.4	8.4	2.56	7921	2.59	84772.72
005119143-02	OBS	No	0.560414	132.034733	142.8	1.513	10.5	11.3	2.56	7921	3.62	84774.09
005119143-03	OBS	No	59.444062	162.350111	2291.8	2.987	9.1	8.9	2.56	7921	13.41	168.84
005119143-04	OBS	No	145.415419	187.482025	2445.7	3.736	9.1	8.8	2.56	7921	15.32	51.22
005119143-05	OBS	No	10.622508	133.043618	1096.5	2.337	8.9	9.1	2.56	7921	15.84	1677.41
005119143-06	OBS	No	171.991797	198.361610	3263.0	5.628	8.7	9.3	2.56	7921	16.77	40.95

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005119143-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005119143-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005119143-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
005119143-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
005119143-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—MOD_NONUNIQ_ALT
005119143-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

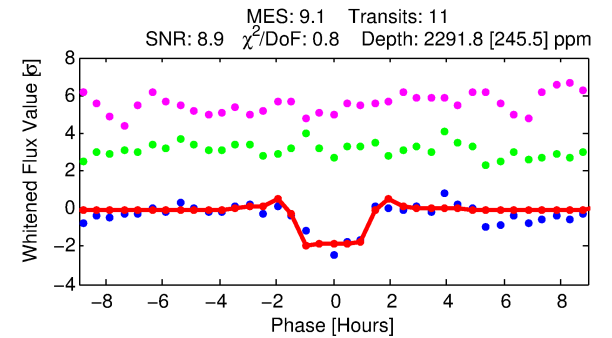
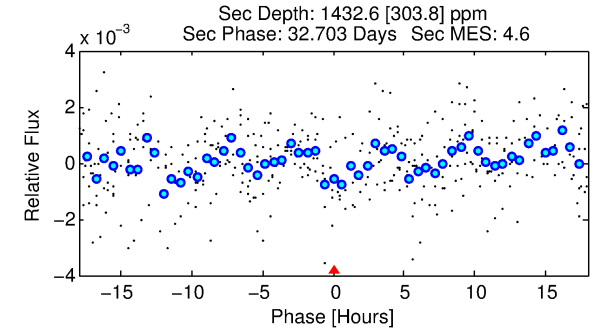
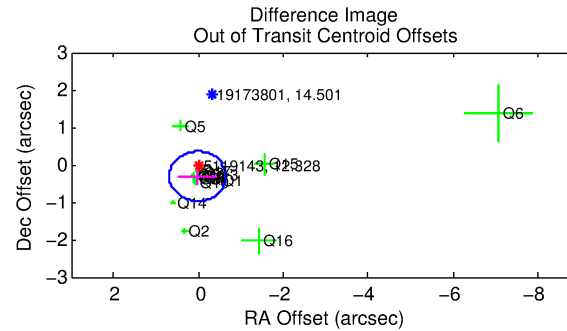
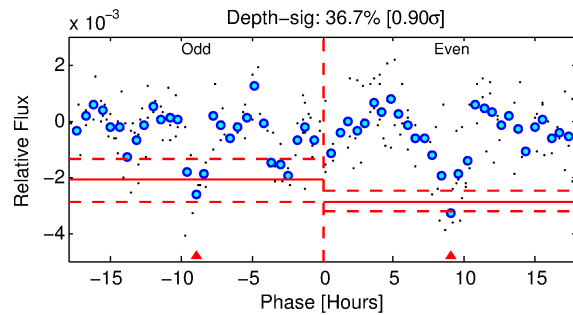
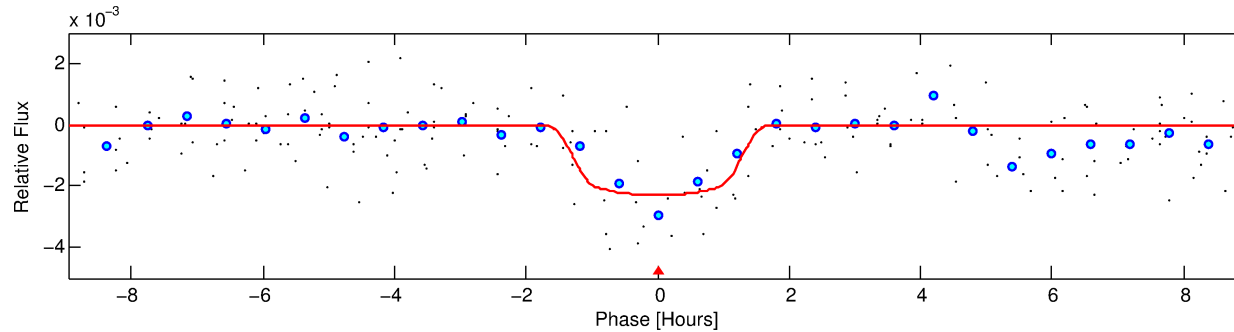
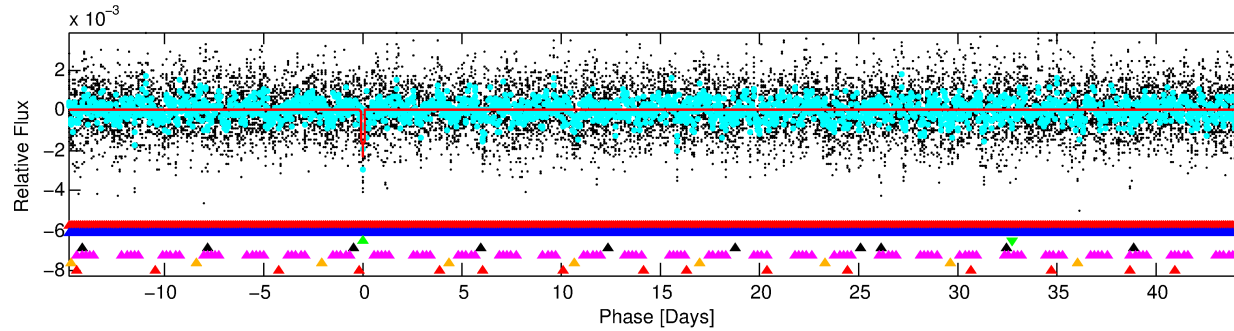
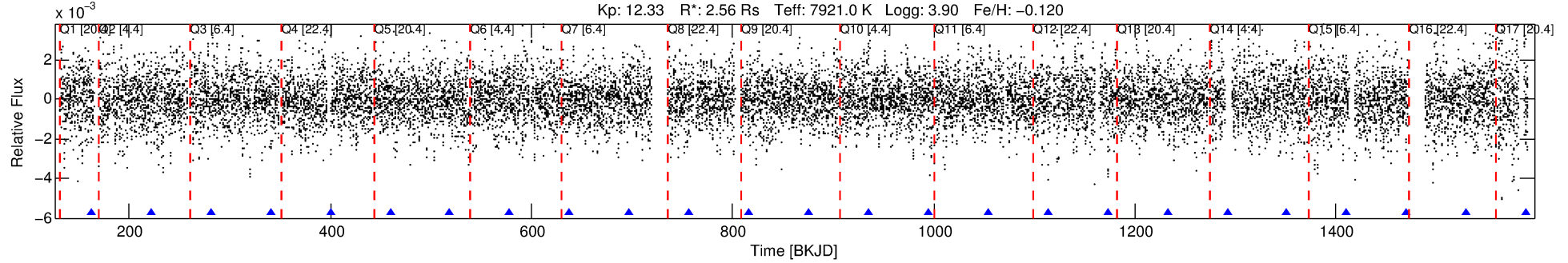
## Ephemeris Match Information For 005119143-03

No Significant Match Found

# DV One-Page Summary

KIC: 5119143 Candidate: 3 of 7 Period: 59.444 d  
KOI: K06527 Corr: No Ephemeris Match

Kp: 12.33 R\*: 2.56 Rs Teff: 7921.0 K Logg: 3.90 Fe/H: -0.120



## DV Fit Results:

Period = 59.44406 [0.00030] d  
Epoch = 162.3501 [0.0040] BKJD  
Rp/R\* = 0.0481 [0.0131]  
a/R\* = 106.52 [159.15]  
b = 0.78 [0.76]  
Seff = 168.84 [45.73]  
Teq = 919 [62] K  
Rp = 13.41 [4.44] Re  
a = 0.3693 [0.0638] AU  
Ag = 597.25 [382.89] [1.56σ]  
Teffp = 7025 [1025] K [5.94σ]

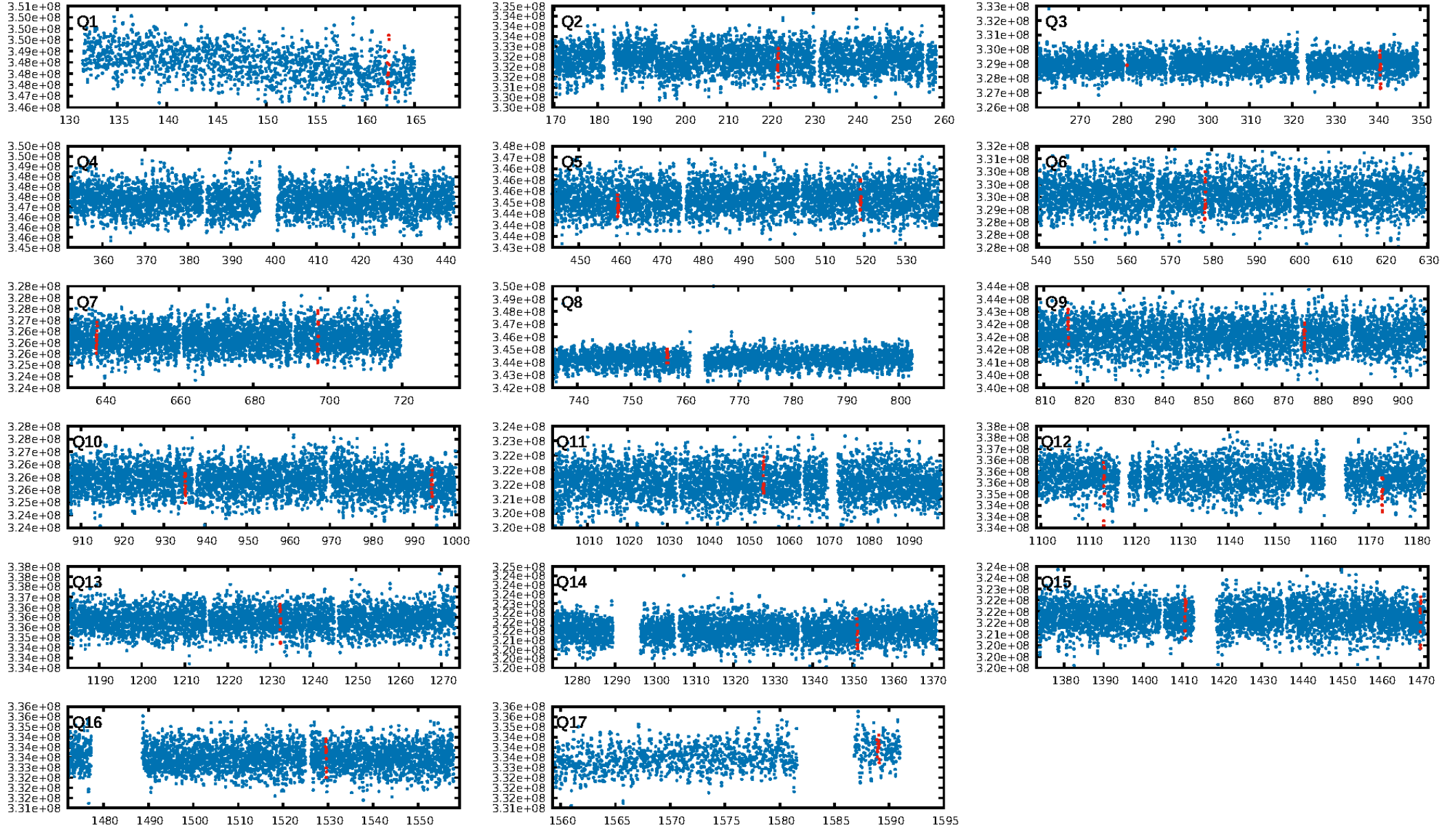
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [308.95σ]  
LongPeriod-sig: 100.0% [197.61σ]  
ModelChiSquare2-sig: 2.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [10/10]  
**GhostDiagnostic-chr: 0.8708**  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.313 arcsec [1.41σ]  
Centroid-so: N/A  
KicOffset-rm: 0.382 arcsec [2.01σ]  
OotOffset-st: 4/4/3/5 [16]  
KicOffset-st: 4/4/3/5 [16]  
DiffImageQuality-fgm: 0.50 [8/16]  
DiffImageOverlap-fno: 0.00 [0/16]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:06:36 Z

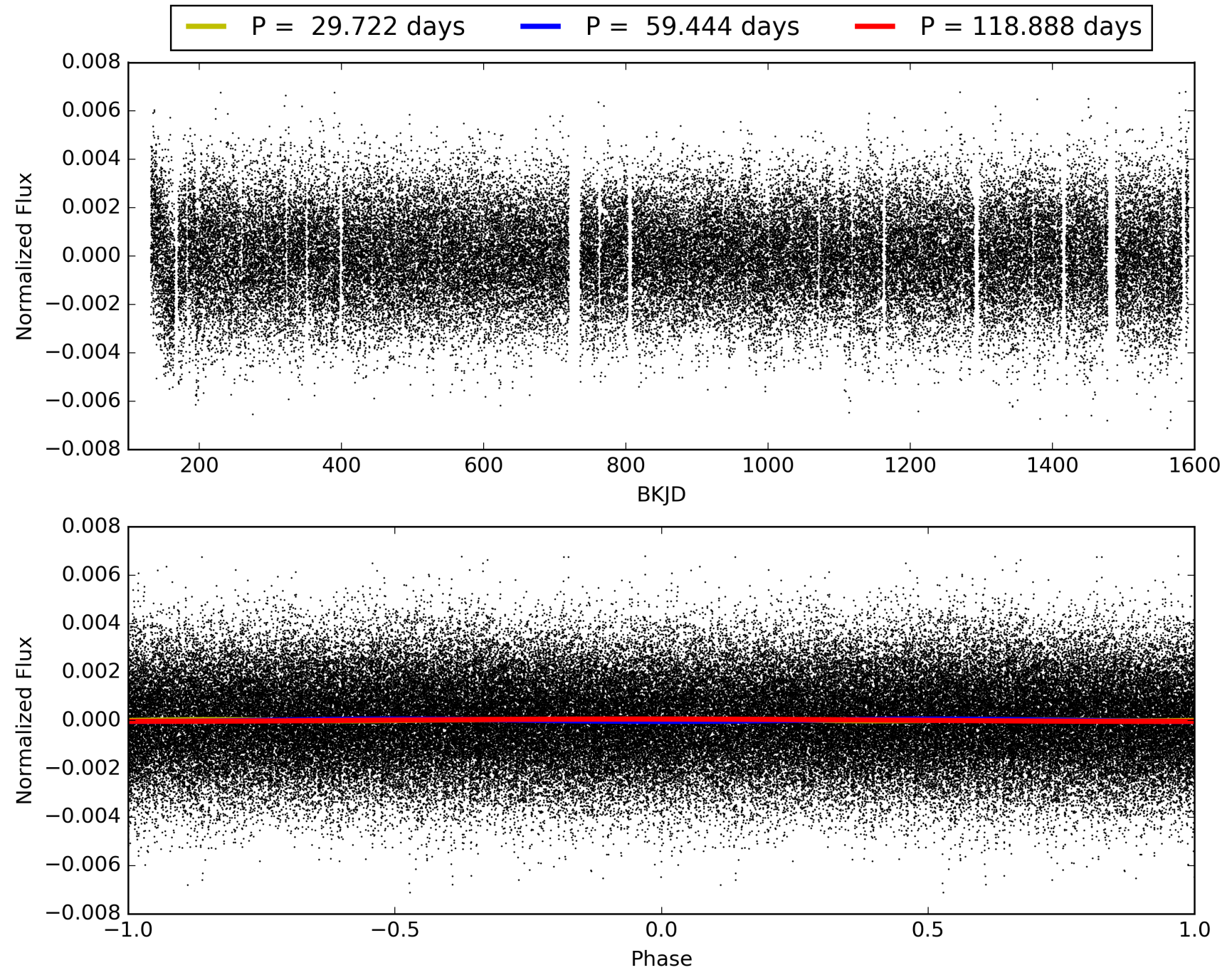
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005119143-03, PDC Light Curves





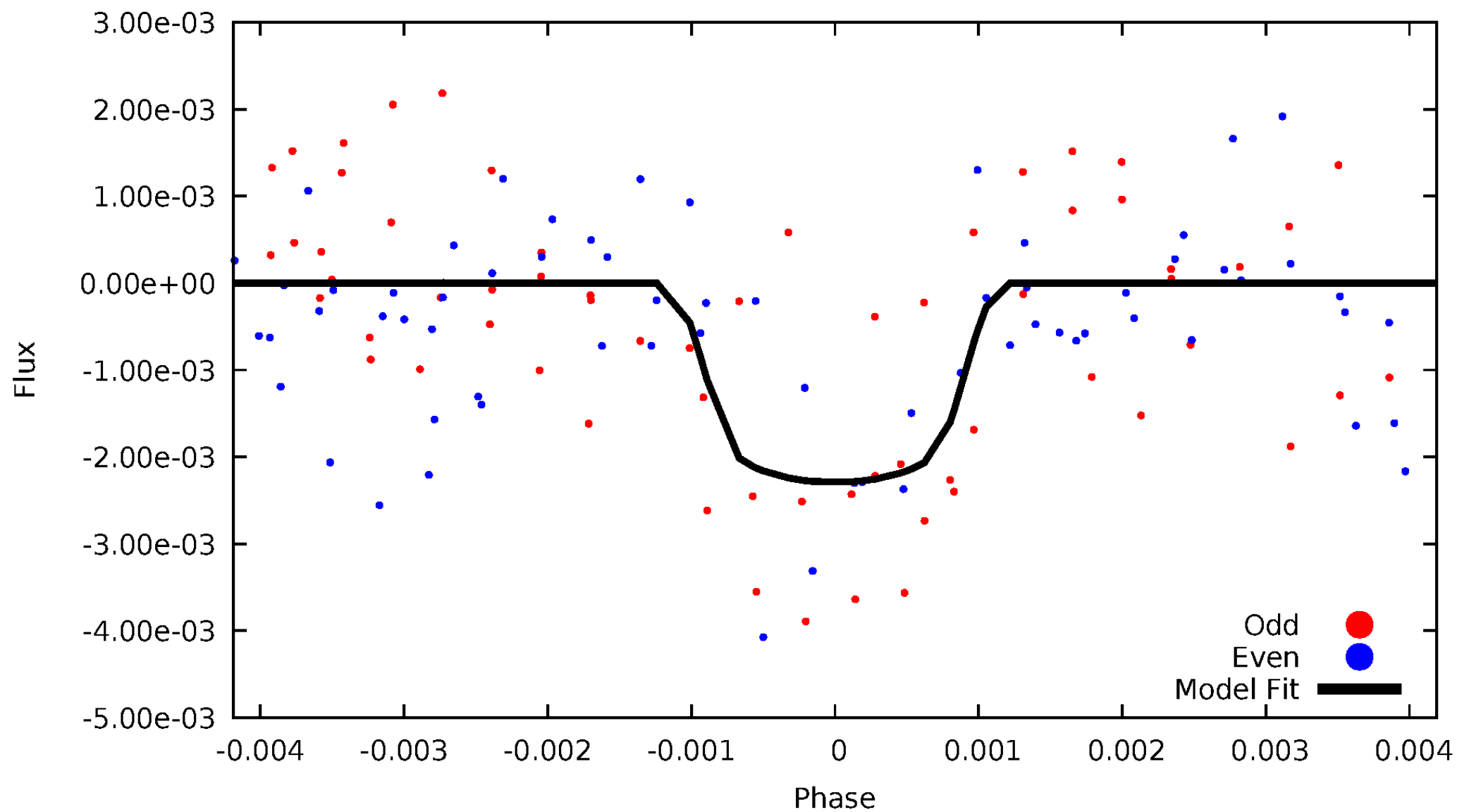
# TCE 005119143-03





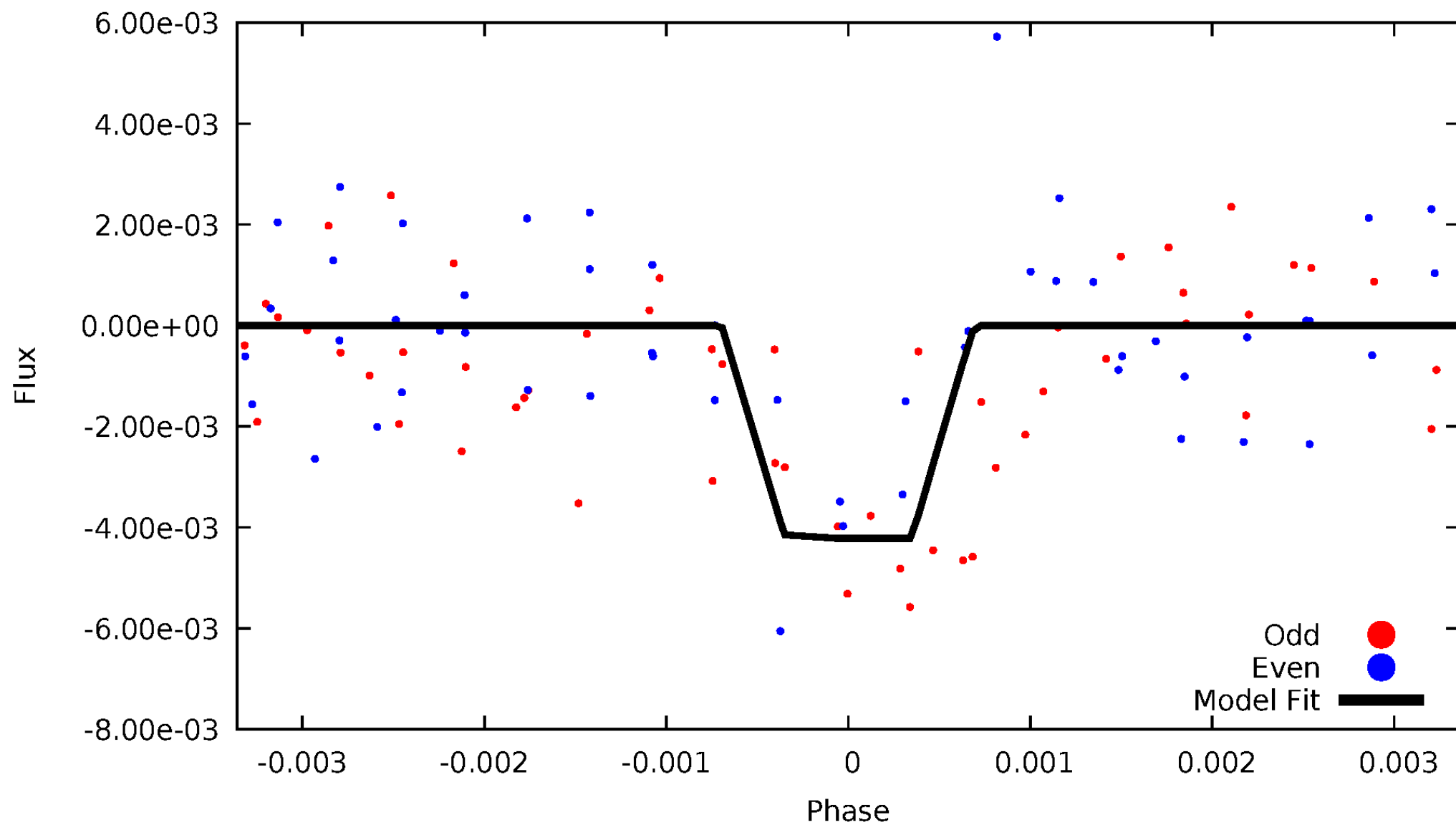
# DV Odd/Even

TCE 005119143-03



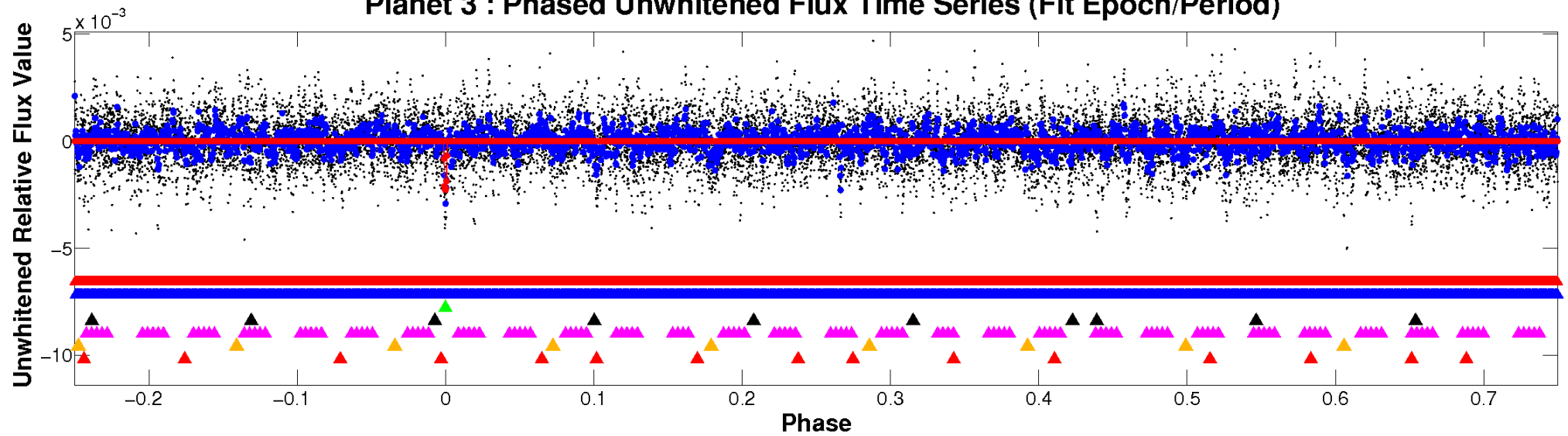
# ALT Odd/Even

TCE 005119143-03

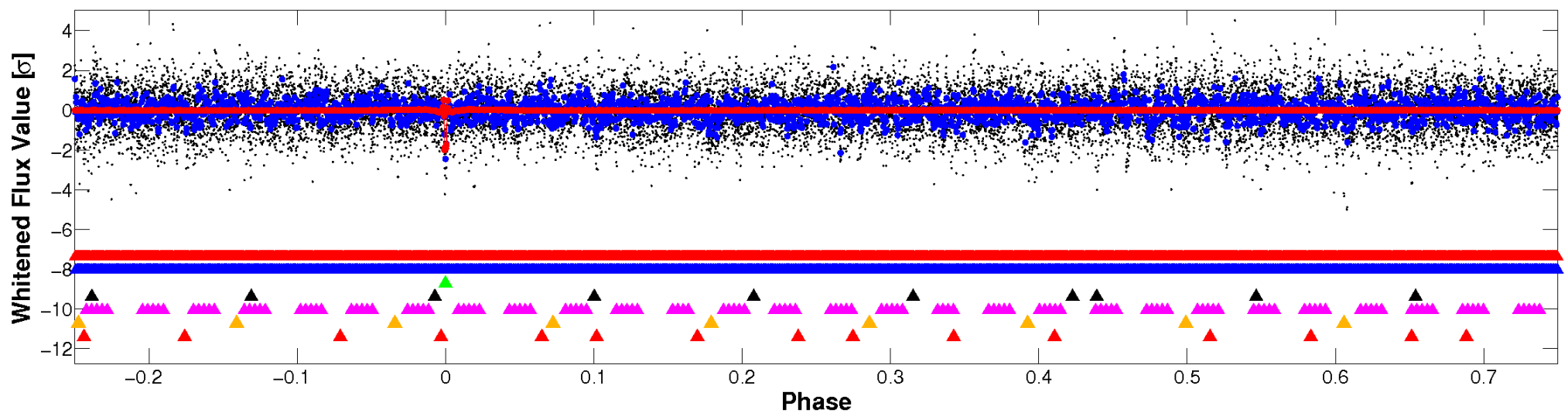


# Non-Whitened Vs. Whitened Light Curve

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

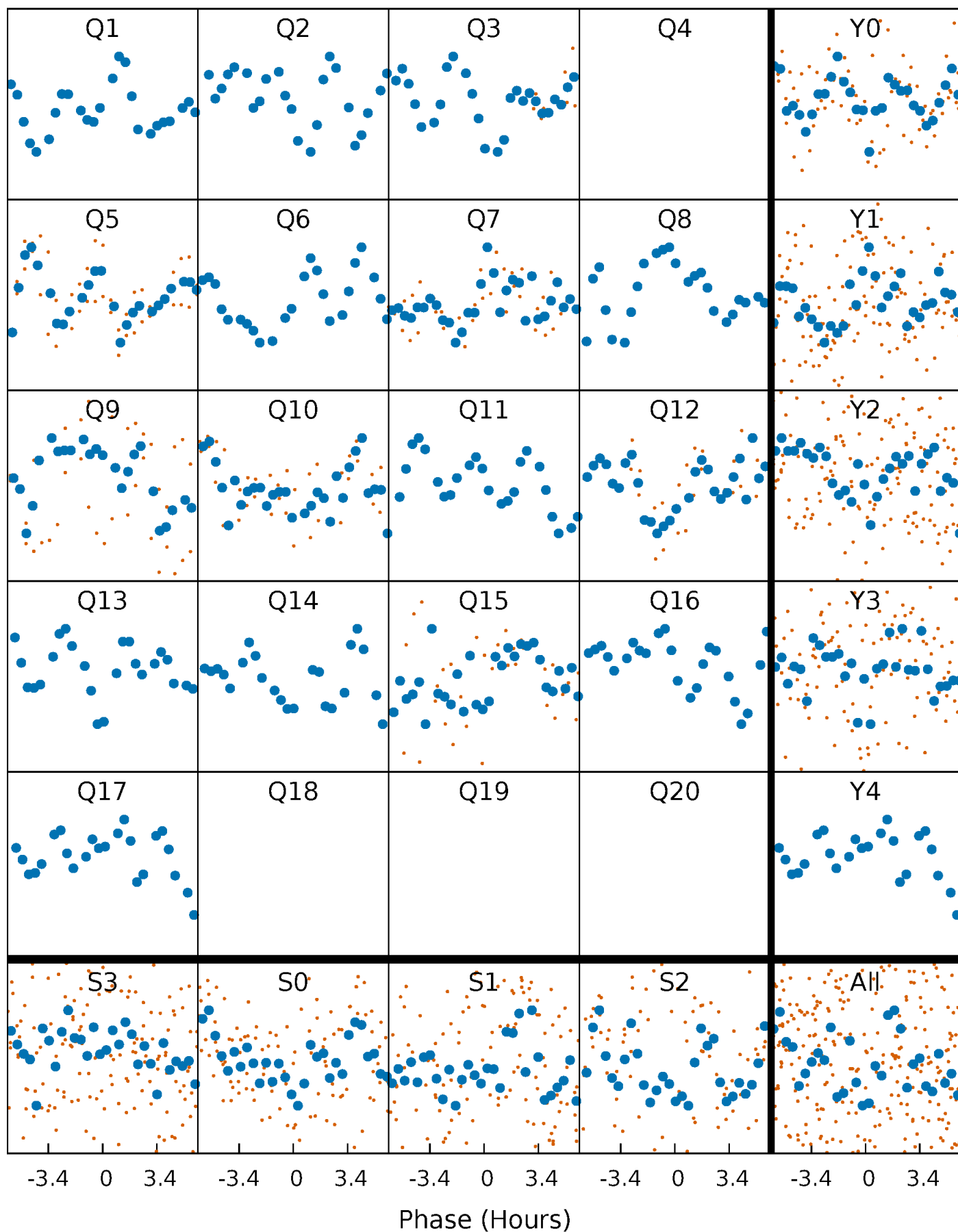


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

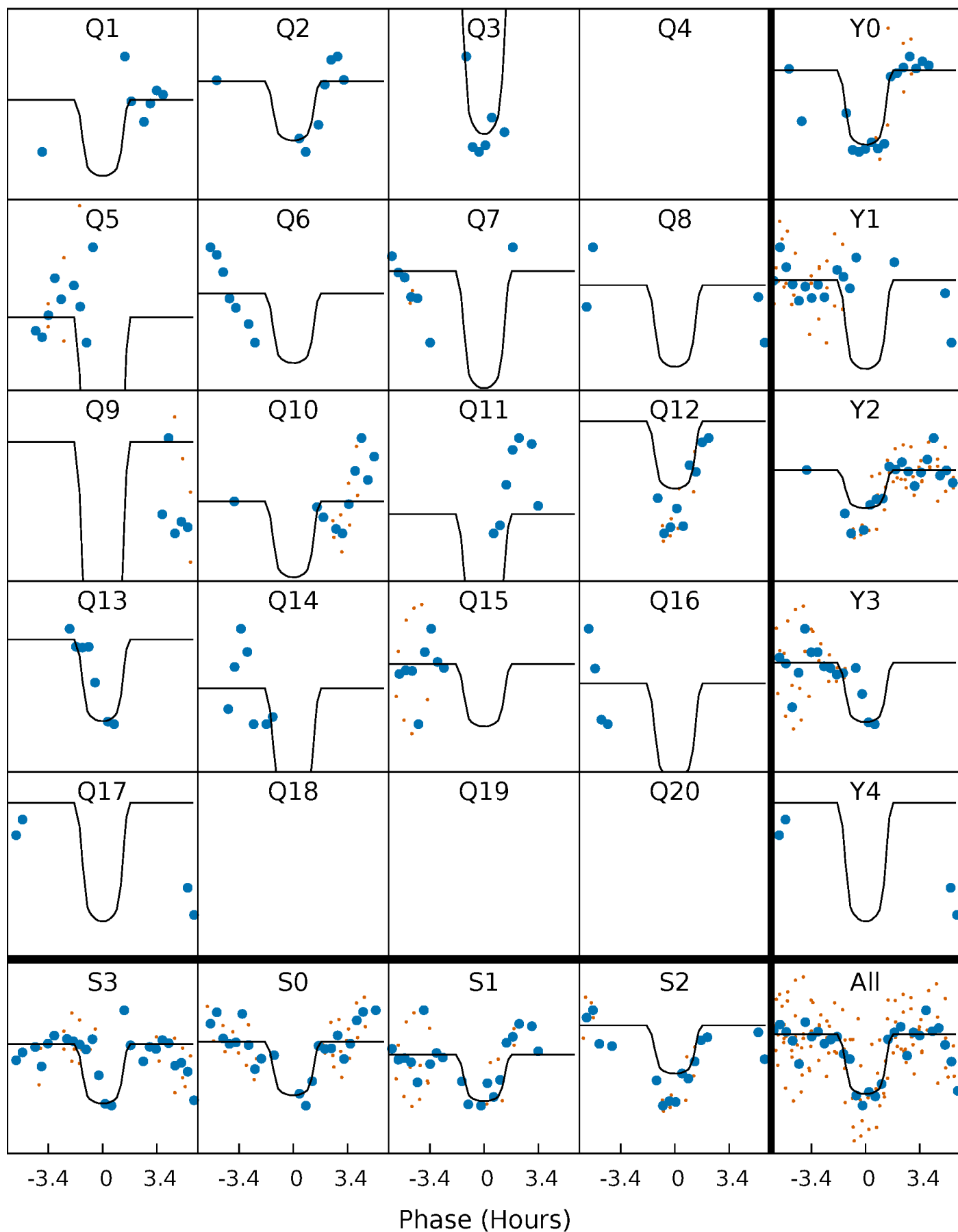
TCE 005119143-03 P= 59.444062 Days  $T_0=162.350110$  (BKJD)





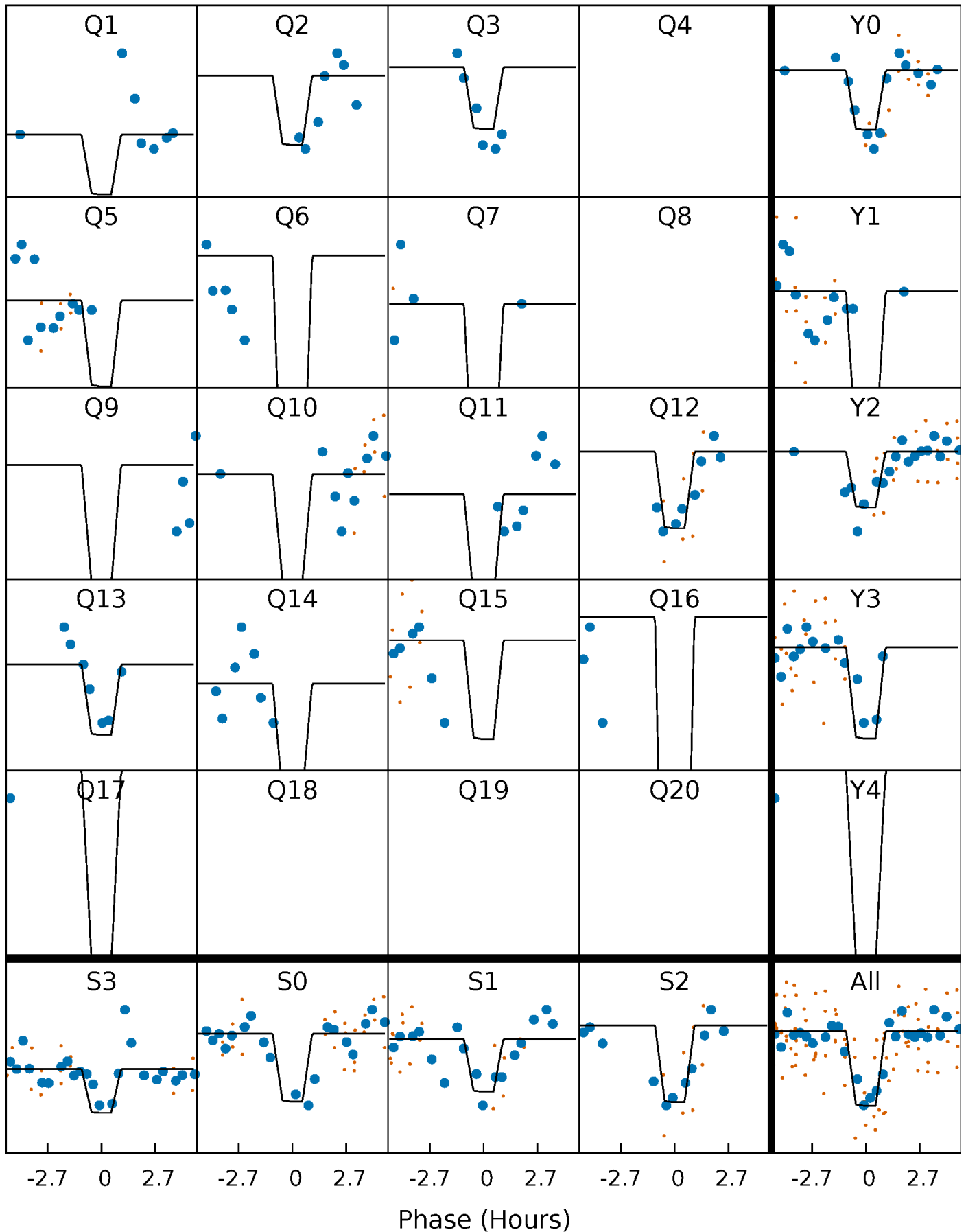
# DV Quarter-Phased Transit Curves

TCE 005119143-03 P= 59.444062 Days  $T_0=162.350110$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

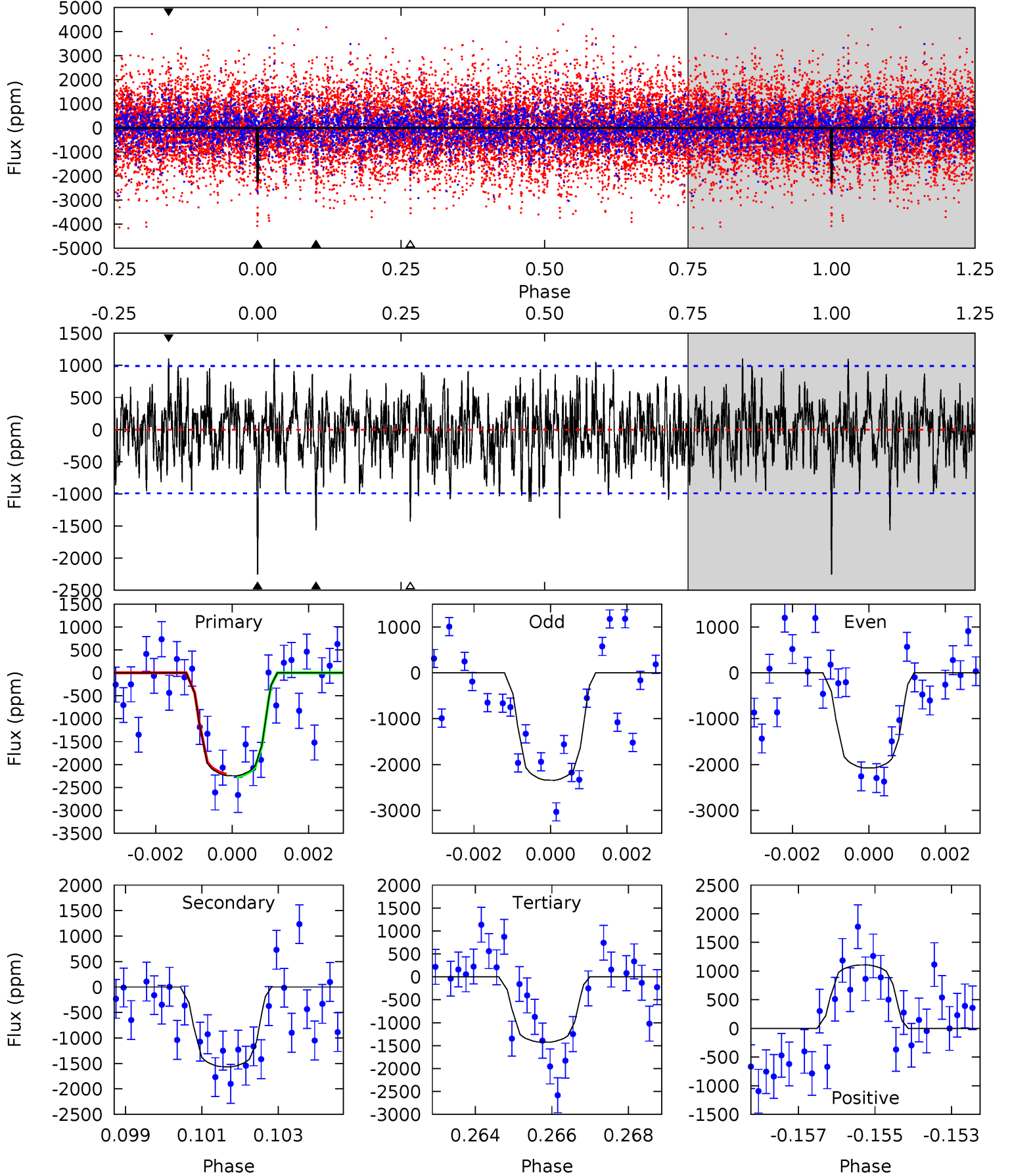
TCE 005119143-03 P= 59.442938 Days  $T_0=162.360590$  (BKJD)



# DV Model-Shift Uniqueness Test

005119143-03, P = 59.444062 Days, E = 102.906048 Days

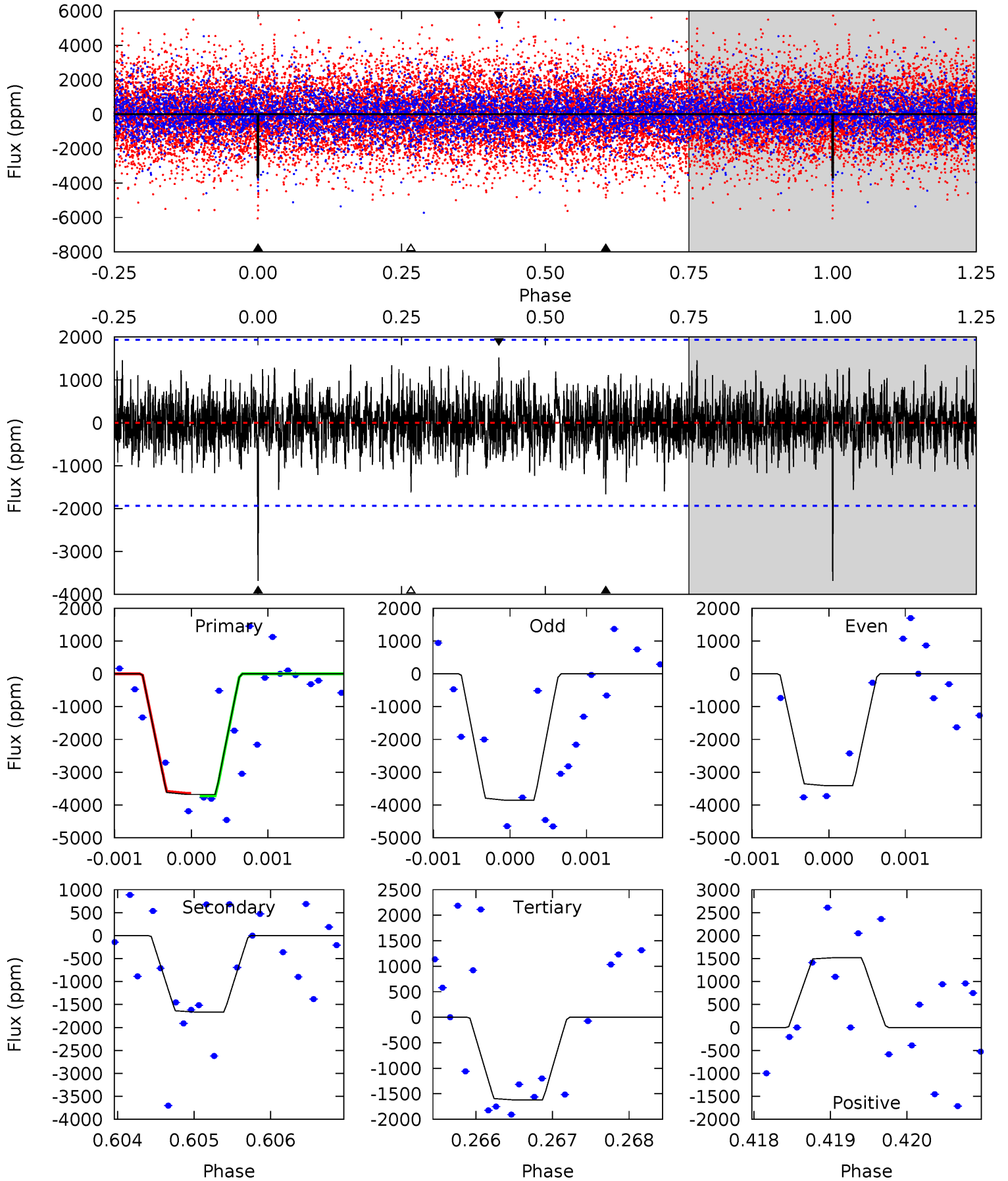
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	8.40	7.65	5.94	5.32	3.08	2.06	4.40	6.12	0.75	2.46	0.71	0.76	0.33	0.17



# Alt Model-Shift Uniqueness Test

005119143-03, P = 59.442938 Days, E = 102.917652 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	4.68	4.55	4.27	5.44	3.27	1.22	5.79	6.07	0.12	0.41	0.62	0.94	0.29	0.11





### Stellar Parameters For KIC 005119143

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7921^{+71}_{-79}$	$3.902^{+0.154}_{-0.077}$	$-0.120^{+0.100}_{-0.150}$	$2.555^{+0.260}_{-0.483}$	$1.901^{+0.023}_{-0.193}$	$0.161^{+0.115}_{-0.041}$
	+1%/-1%	+4%/-2%	+83%/-125%	+10%/-19%	+1%/-10%	+72%/-25%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005119143-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1566 \pm 186$	$12.73^{+4.27}_{-3.66}$	$1281^{+44}_{-63}$	$7113^{+1624}_{-900}$	$711^{+719}_{-312}$
Alt.	$-1665 \pm 356$	$17.65^{+3.66}_{-3.61}$	$1285^{+43}_{-64}$	$6156^{+787}_{-635}$	$390^{+265}_{-144}$

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

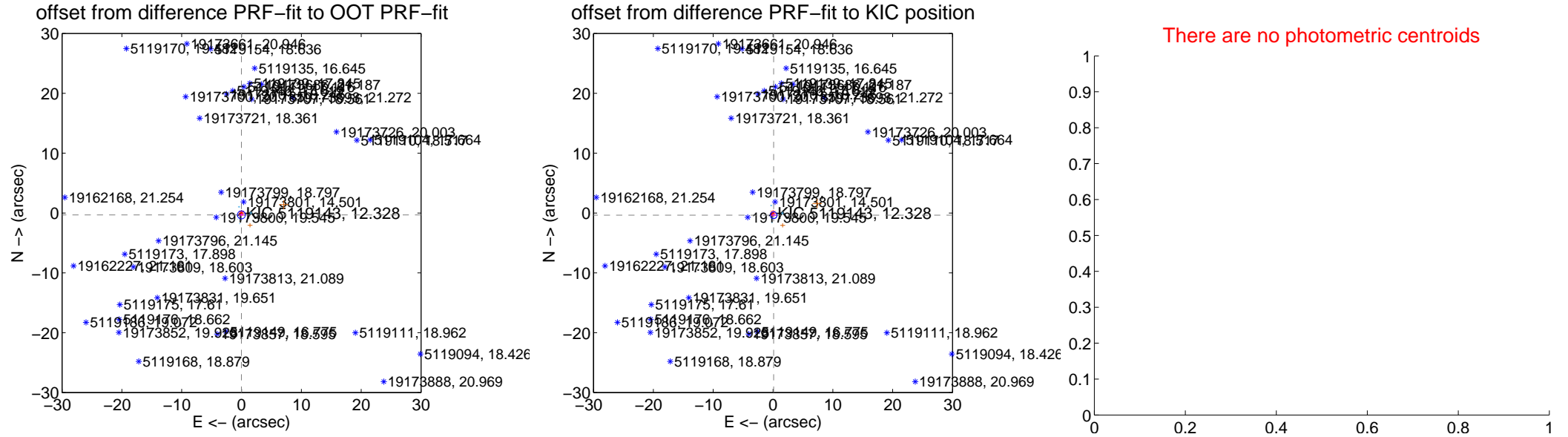
## DV Centroid Data

Supplemental centroid analysis for 005119143-03. Kepler magnitude: 12.33. Transit SNR 8.90

There are 8 quarters with good PRF difference image offsets

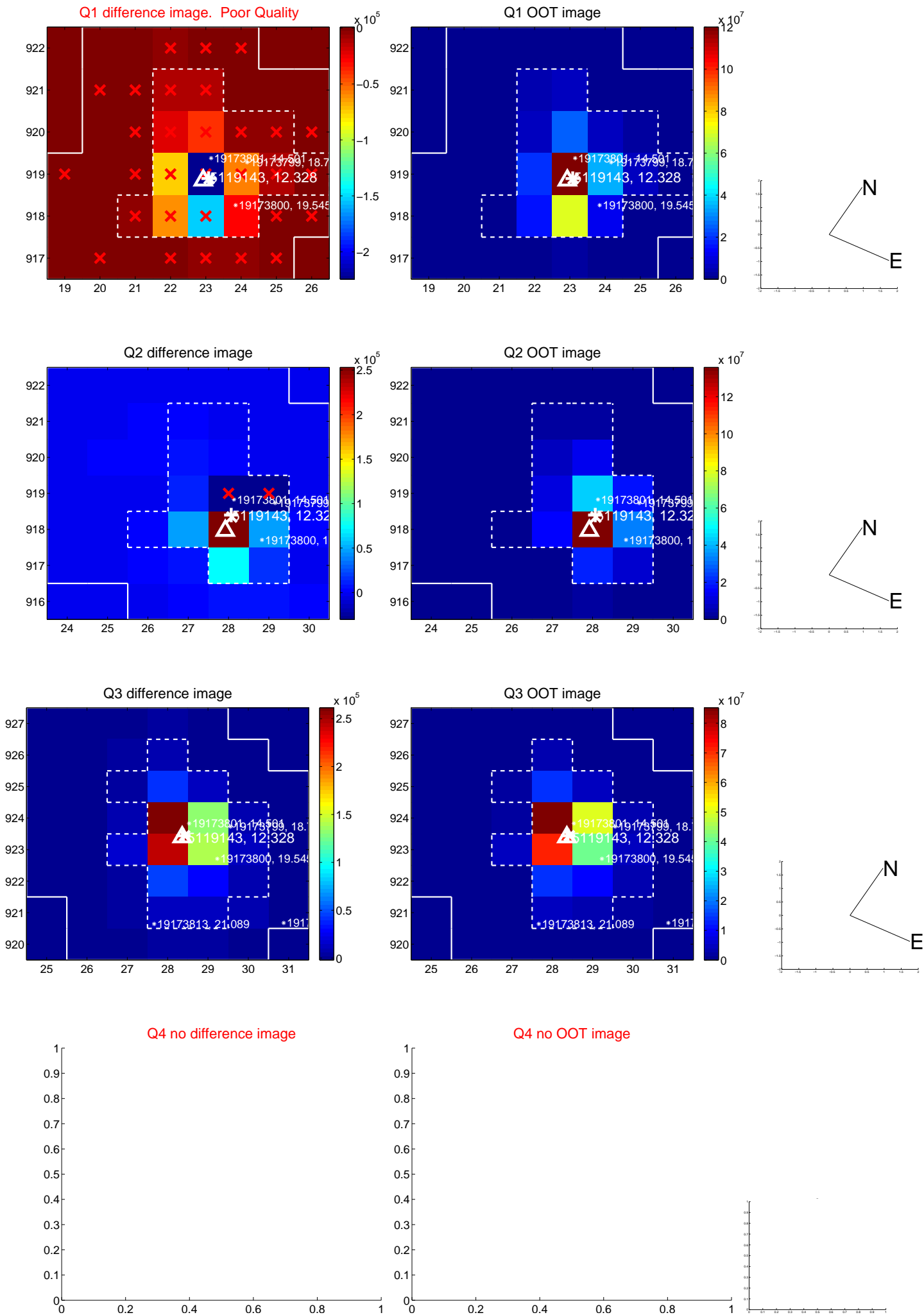
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.313 \pm 0.222$	1.41	$0.022 \pm 0.430$	$-0.313 \pm 0.209$
PRF-fit source offset from KIC position	$0.382 \pm 0.190$	2.01	$-0.109 \pm 0.413$	$-0.366 \pm 0.208$
photometric centroid source offset	—	—	—	—

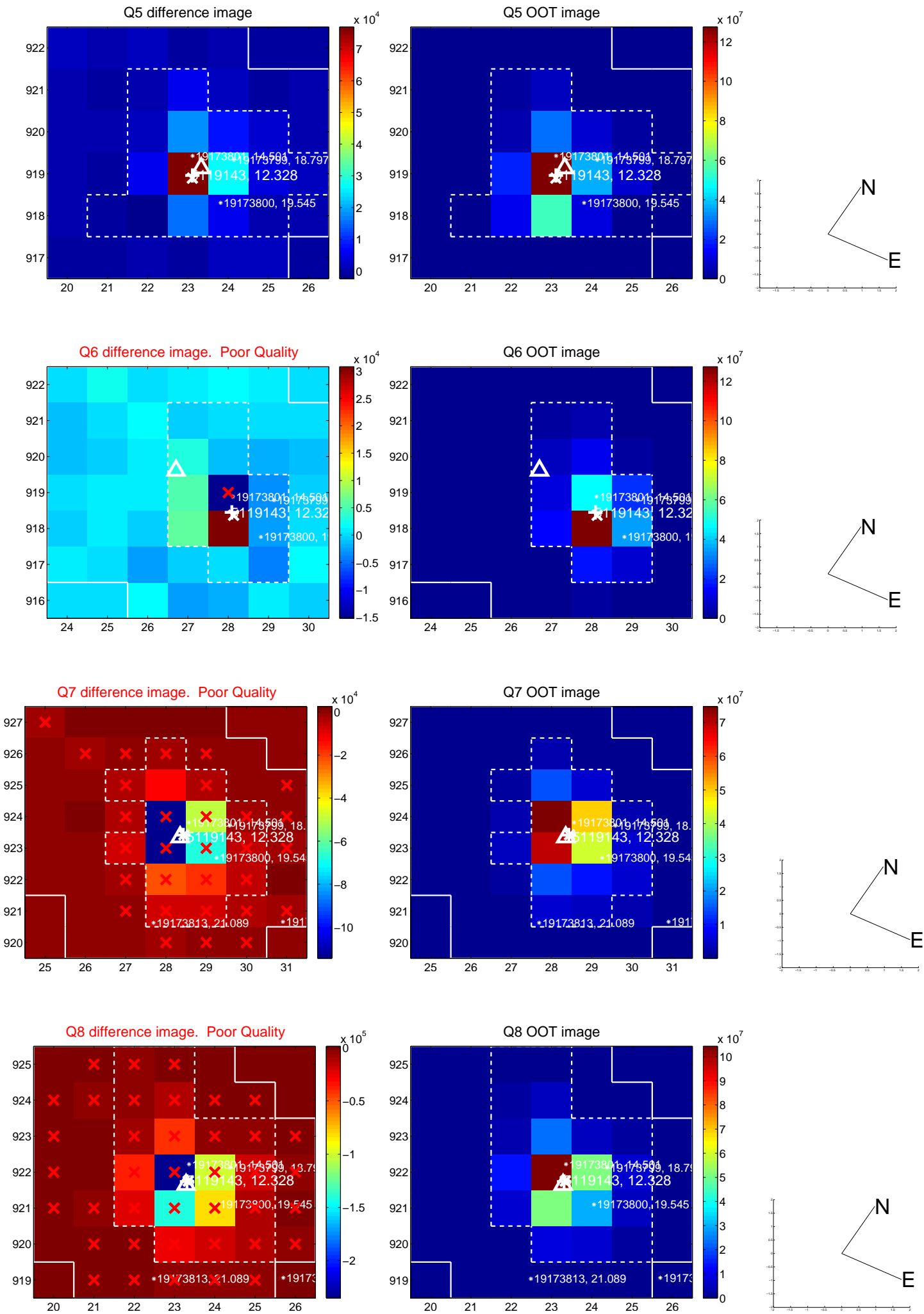


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

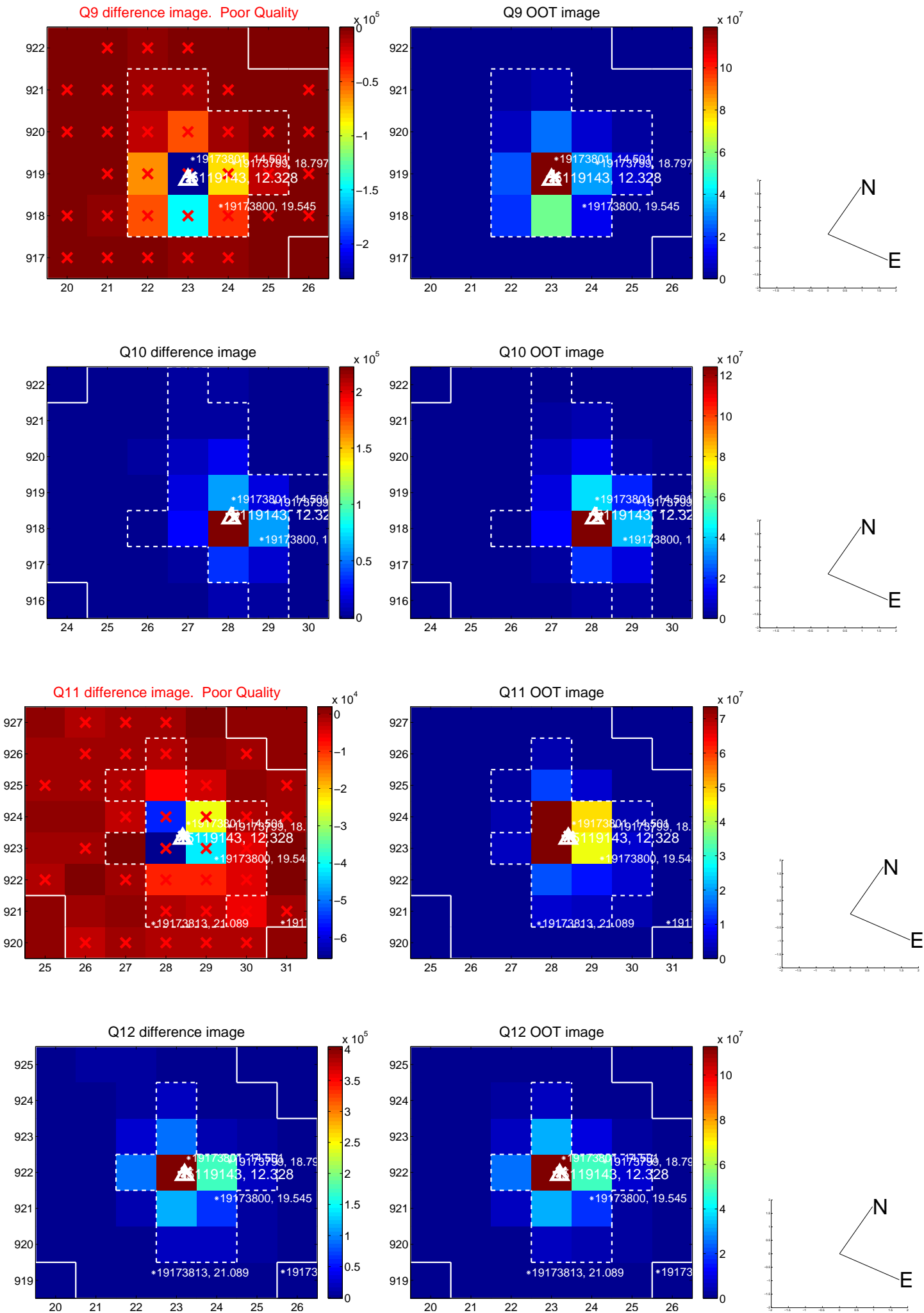
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

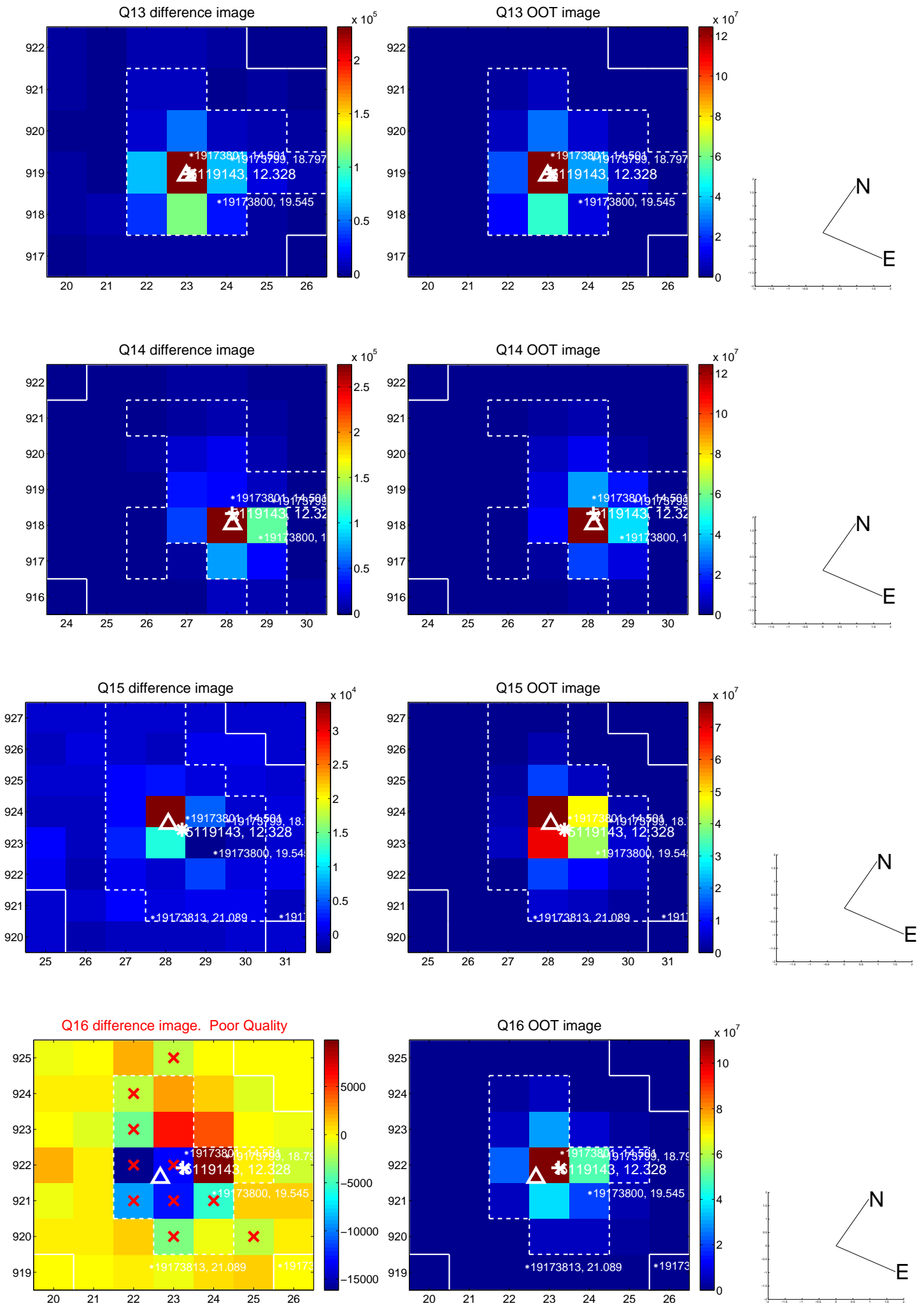


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

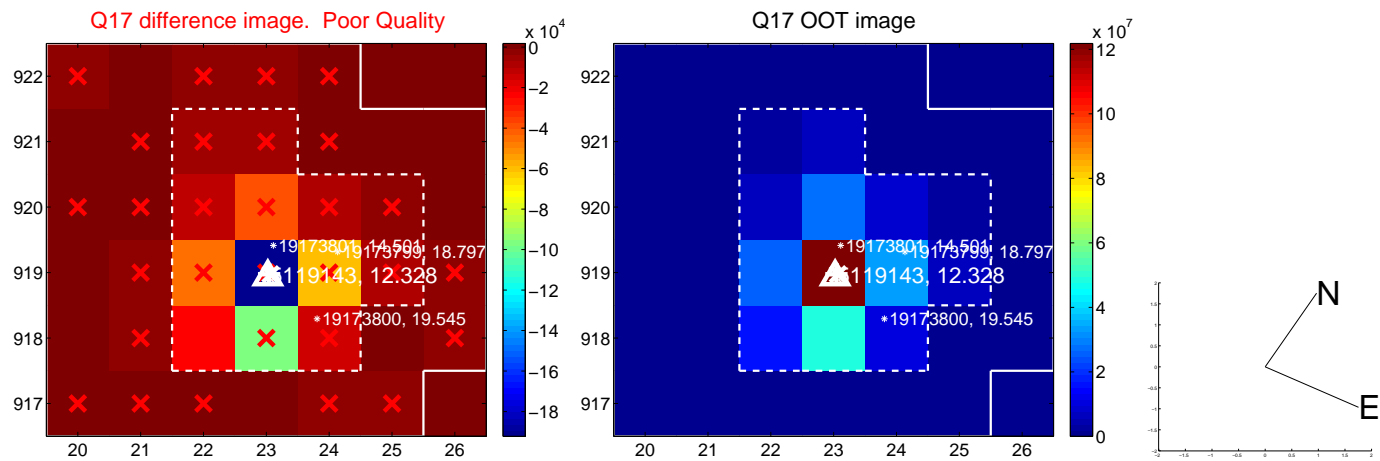




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



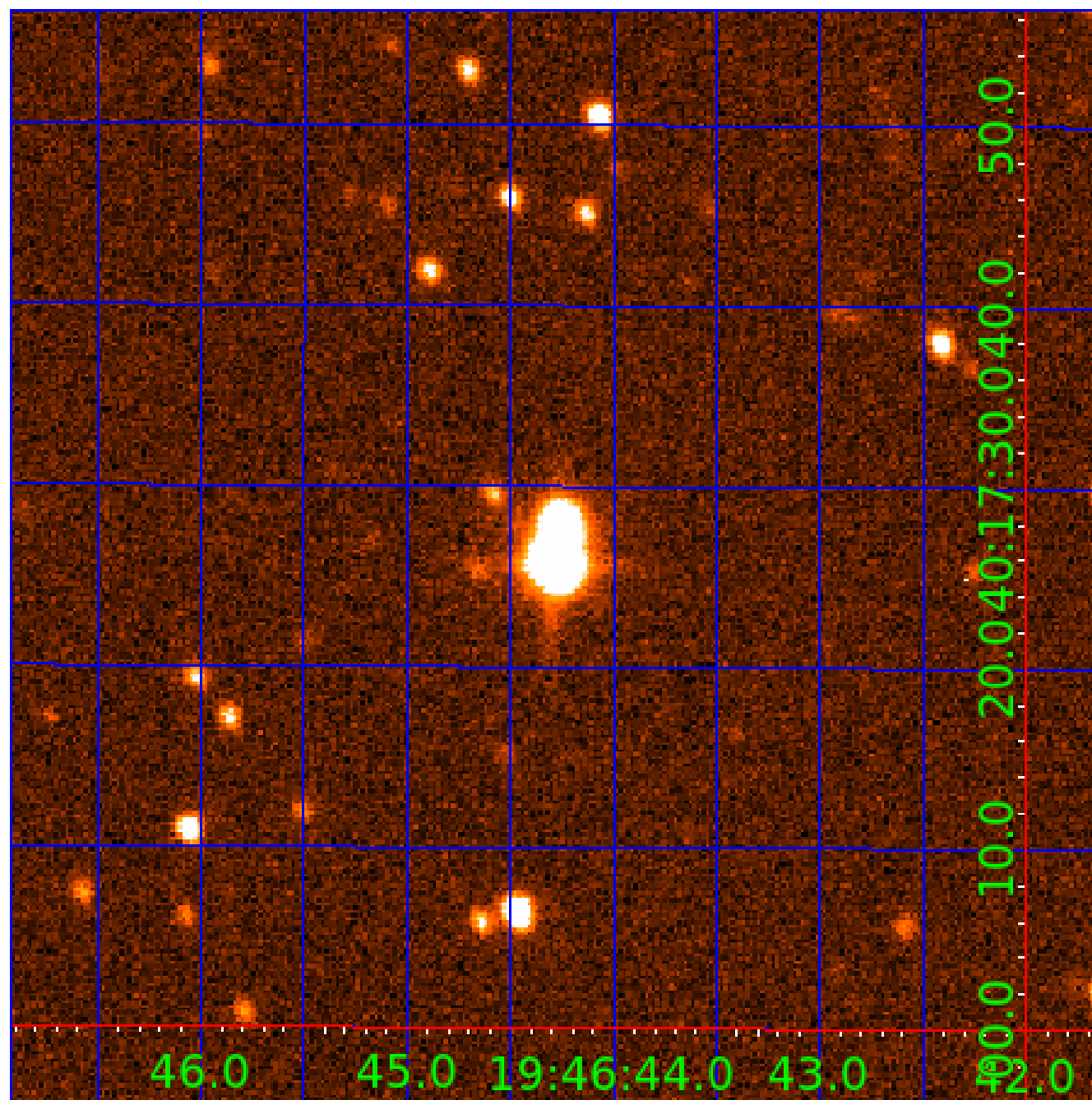
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



# KIC 005119143

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005119143-01	OBS	No	0.560421	131.810379	99.9	1.248	10.4	8.4	2.56	7921	2.59	84772.72
005119143-02	OBS	No	0.560414	132.034733	142.8	1.513	10.5	11.3	2.56	7921	3.62	84774.09
005119143-03	OBS	No	59.444062	162.350111	2291.8	2.987	9.1	8.9	2.56	7921	13.41	168.84
005119143-04	OBS	No	145.415419	187.482025	2445.7	3.736	9.1	8.8	2.56	7921	15.32	51.22
005119143-05	OBS	No	10.622508	133.043618	1096.5	2.337	8.9	9.1	2.56	7921	15.84	1677.41
005119143-06	OBS	No	171.991797	198.361610	3263.0	5.628	8.7	9.3	2.56	7921	16.77	40.95

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005119143-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005119143-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005119143-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
005119143-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
005119143-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—MOD_NONUNIQ_ALT
005119143-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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 005119143-04

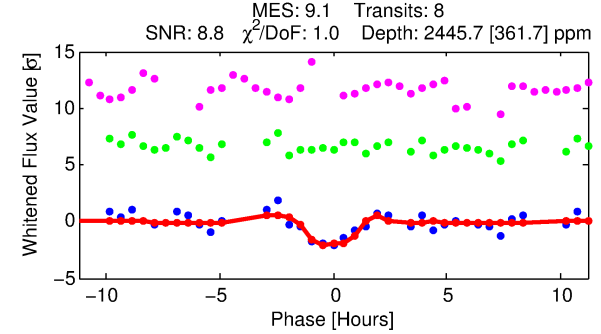
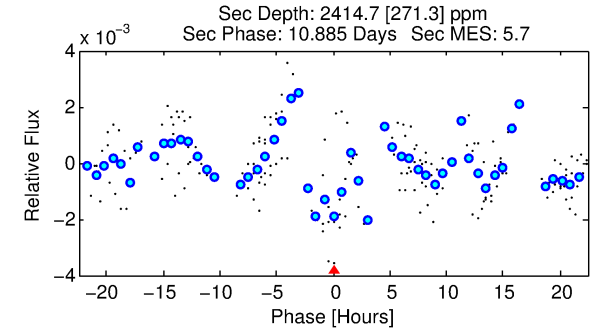
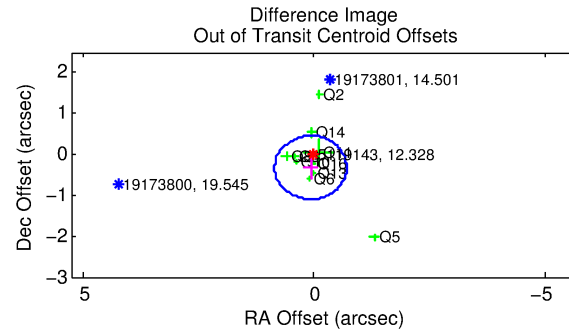
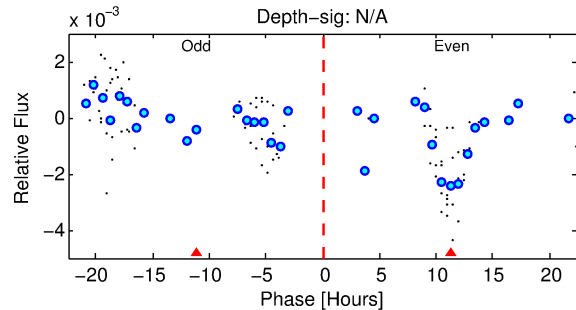
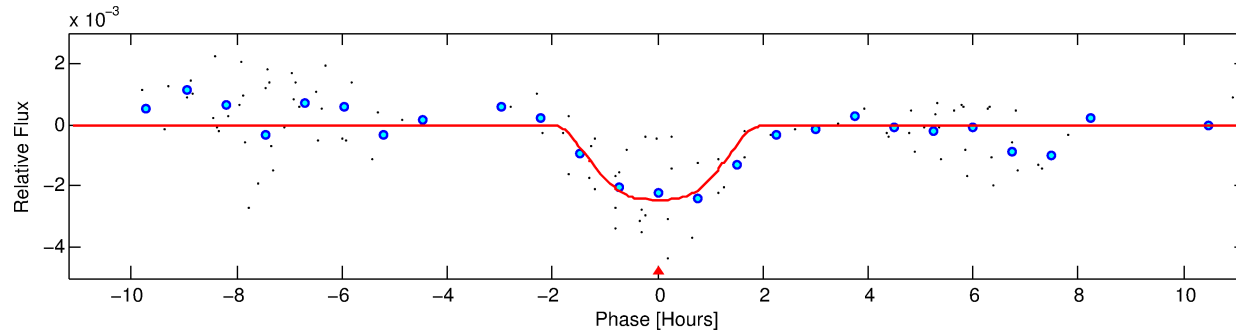
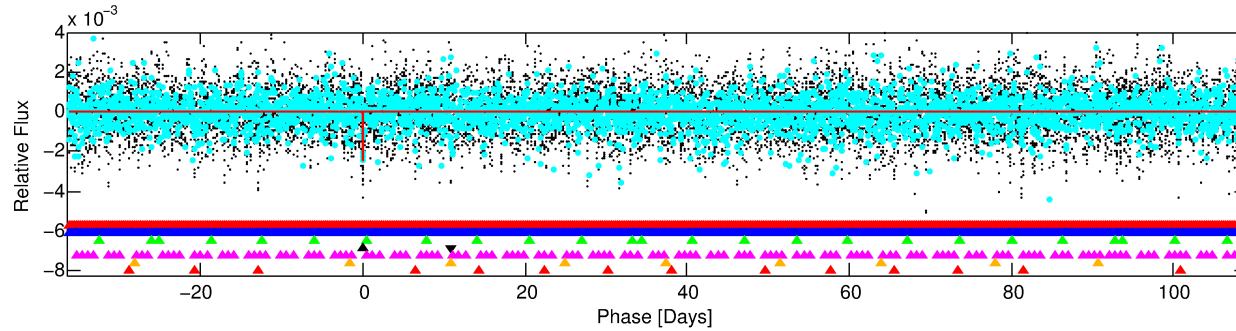
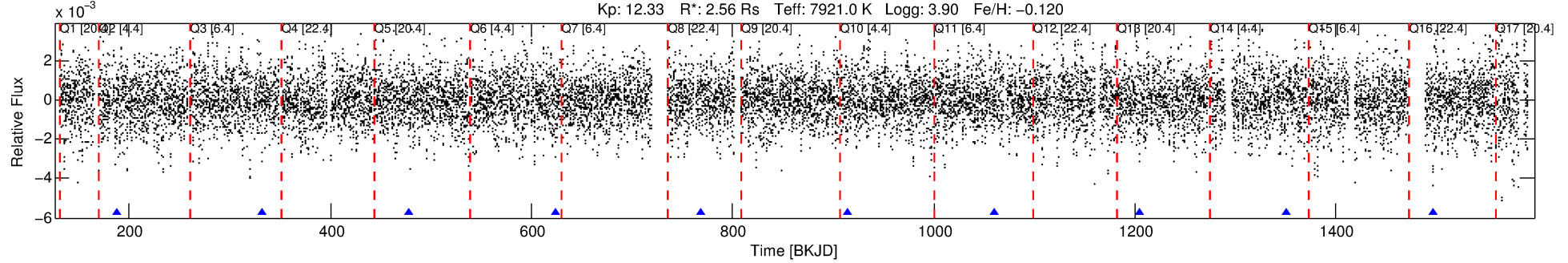
No Significant Match Found

# DV One-Page Summary

KIC: 5119143 Candidate: 4 of 7 Period: 145.415 d

KOI: K06527 Corr: No Ephemeris Match

Kp: 12.33 R\*: 2.56 Rs Teff: 7921.0 K Logg: 3.90 Fe/H: -0.120



## DV Fit Results:

Period = 145.41542 [0.00231] d  
Epoch = 187.4820 [0.0139] BKJD  
Rp/R\* = 0.0550 [0.0049]  
a/R\* = 143.91 [25.15]  
b = 0.94 [0.02]  
Seff = 51.22 [13.87]  
Teq = 682 [46] K  
Rp = 15.32 [3.20] Re  
a = 0.6704 [0.1158] AU  
Ag = 2543.47 [866.96] [2.93σ]  
Teffp = 7490 [402] K [16.84σ]

## DV Diagnostic Results:

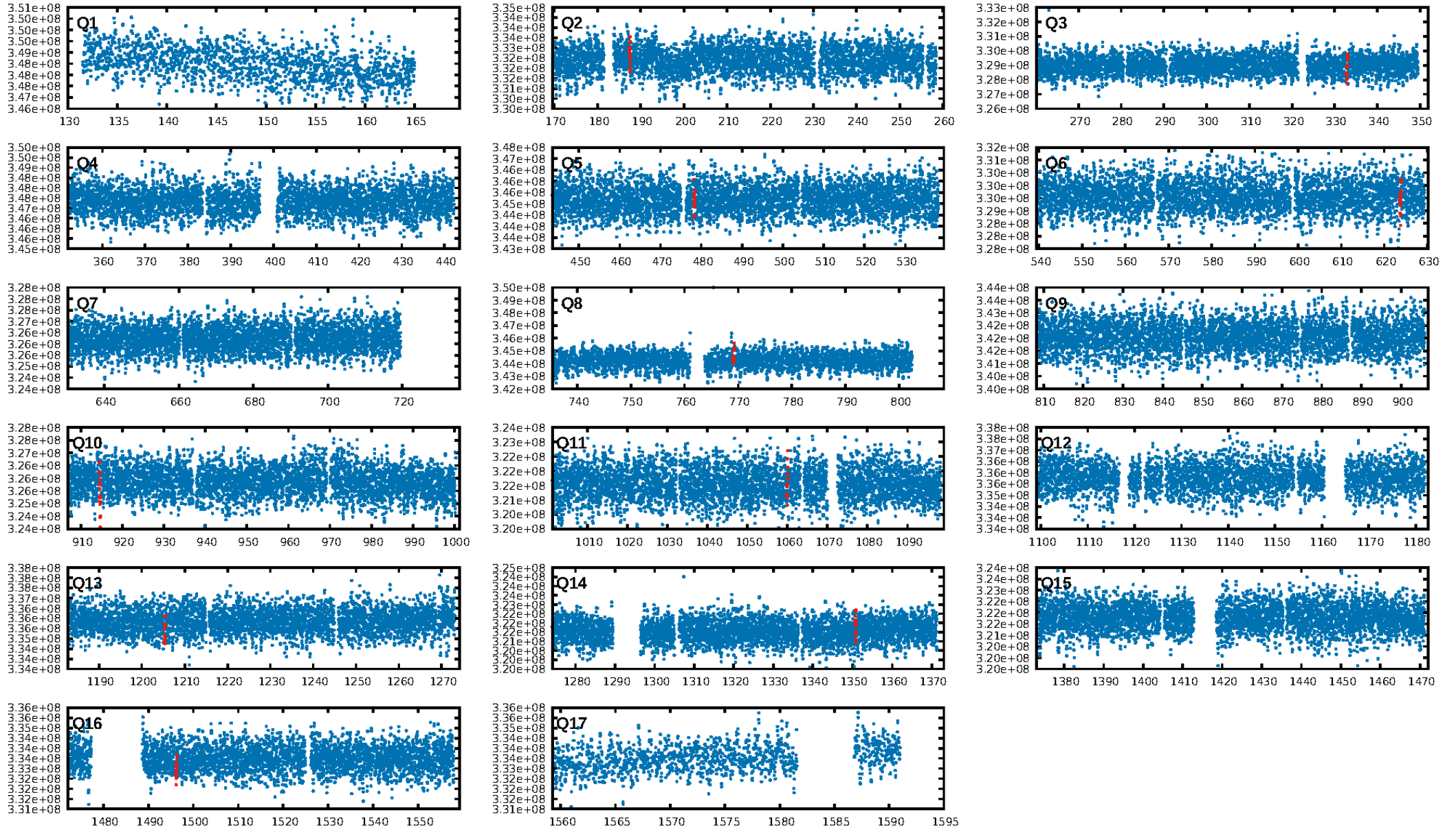
ShortPeriod-sig: 100.0% [256.01σ]  
LongPeriod-sig: 100.0% [94.42σ]  
ModelChiSquare2-sig: 22.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [8/8]  
**GhostDiagnostic-chr: 0.05372**  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.328 arcsec [1.27σ]  
KicOffset-rm: 0.373 arcsec [1.21σ]  
OotOffset-st: 4/2/2/2 [10]  
KicOffset-st: 4/2/2/2 [10]  
DiffImageQuality-fgm: 0.70 [7/10]  
DiffImageOverlap-fno: 0.00 [0/10]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:06:41 Z

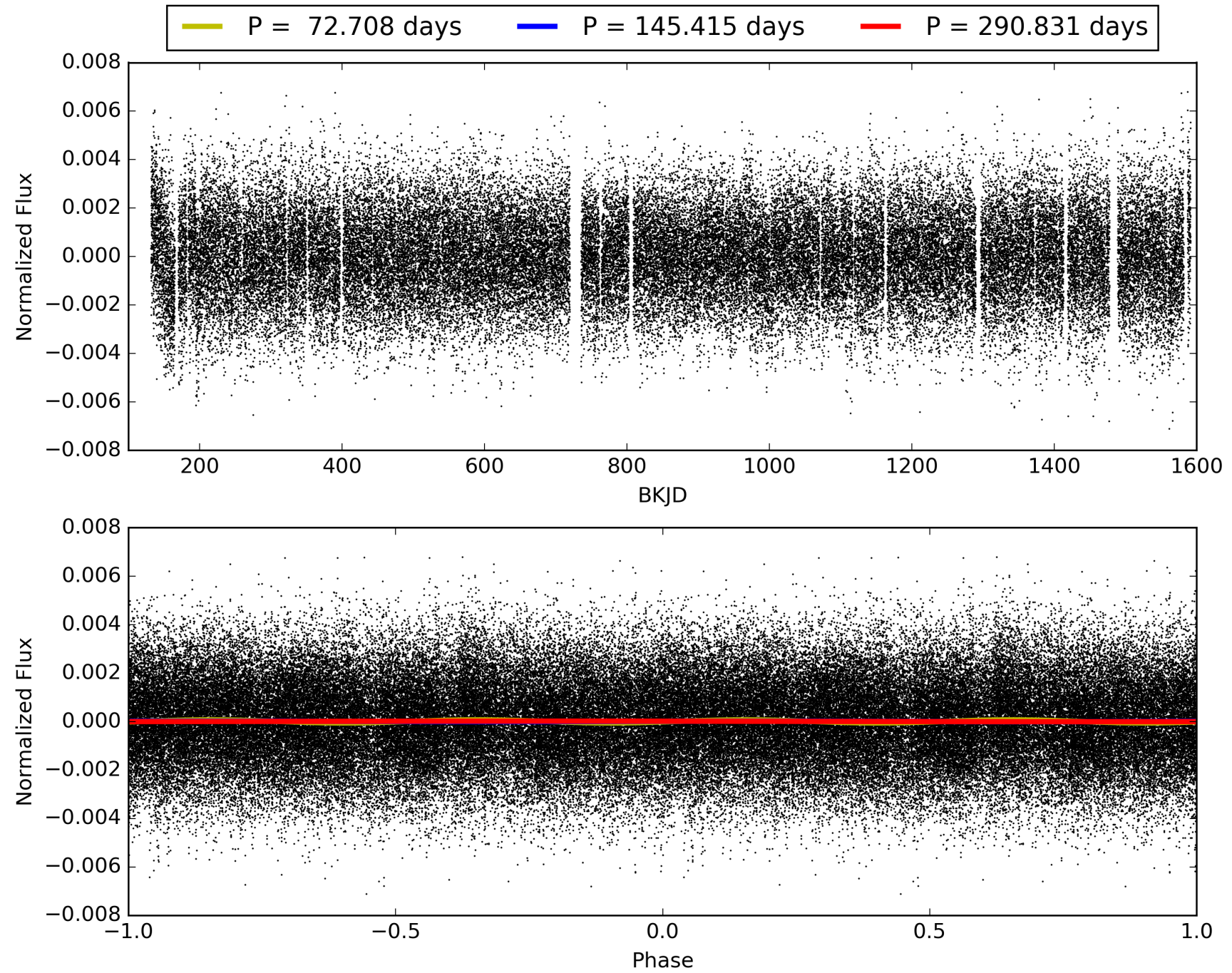
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 005119143-04, PDC Light Curves

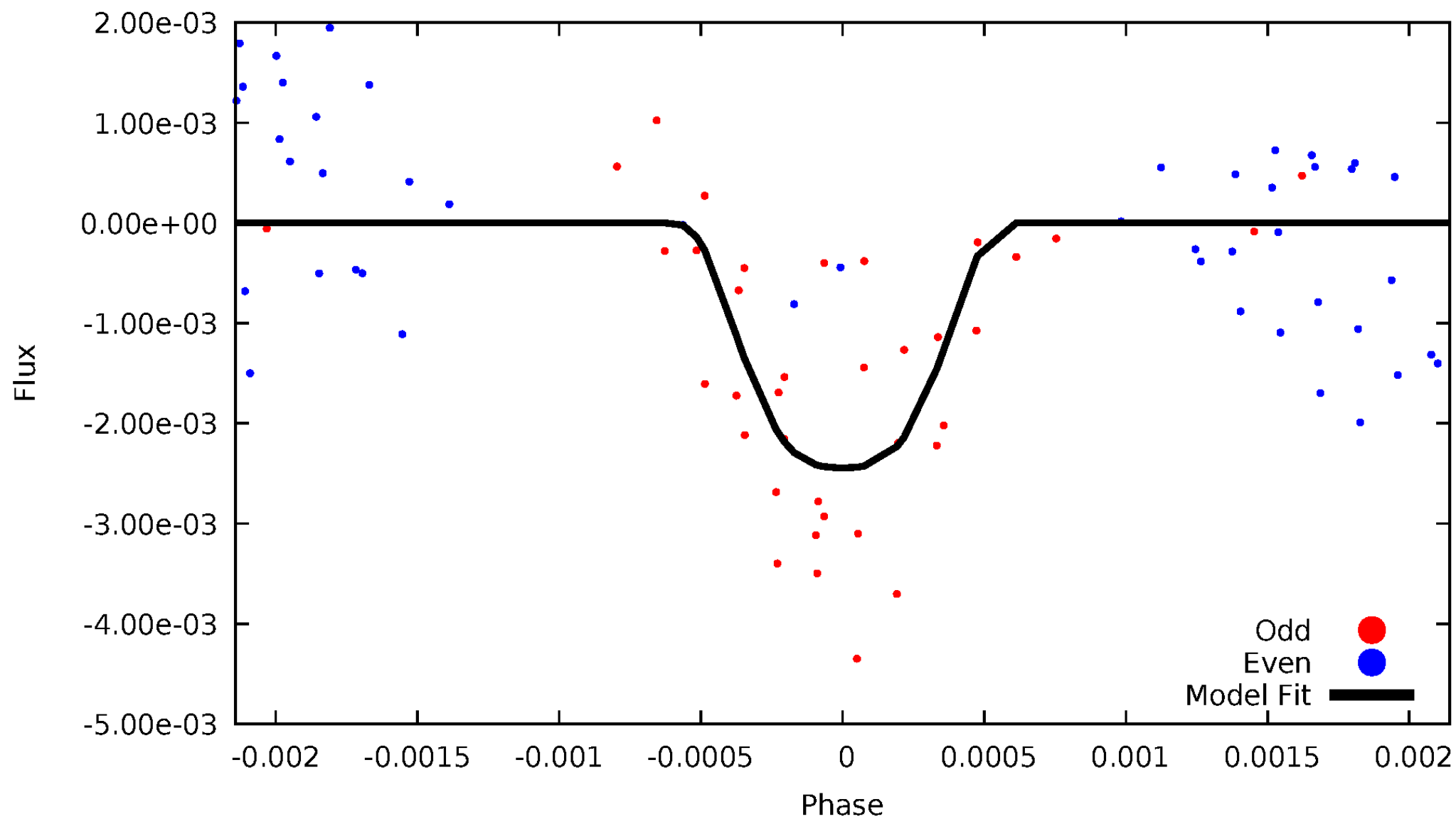


TCE 005119143-04



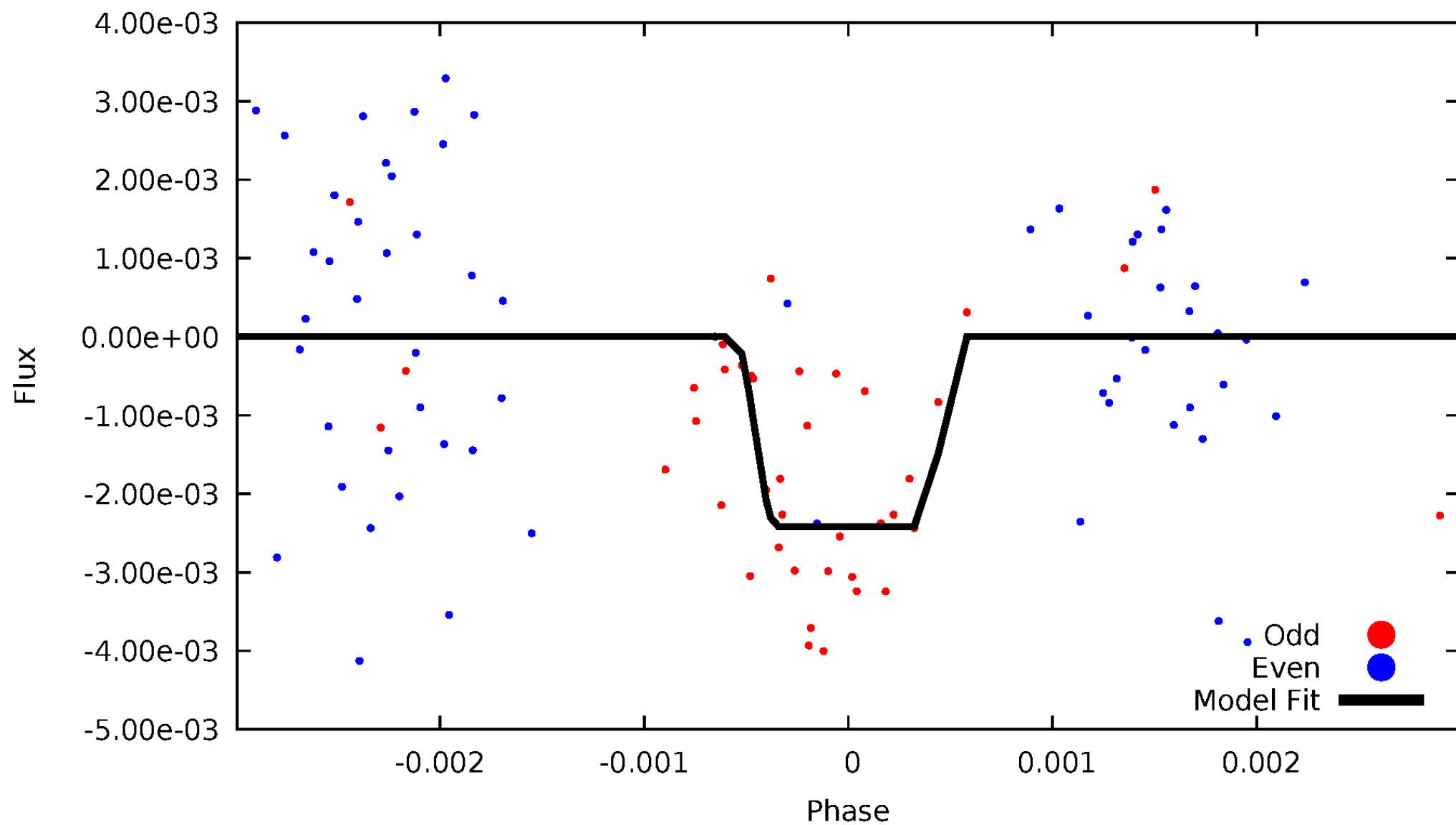
# DV Odd/Even

TCE 005119143-04



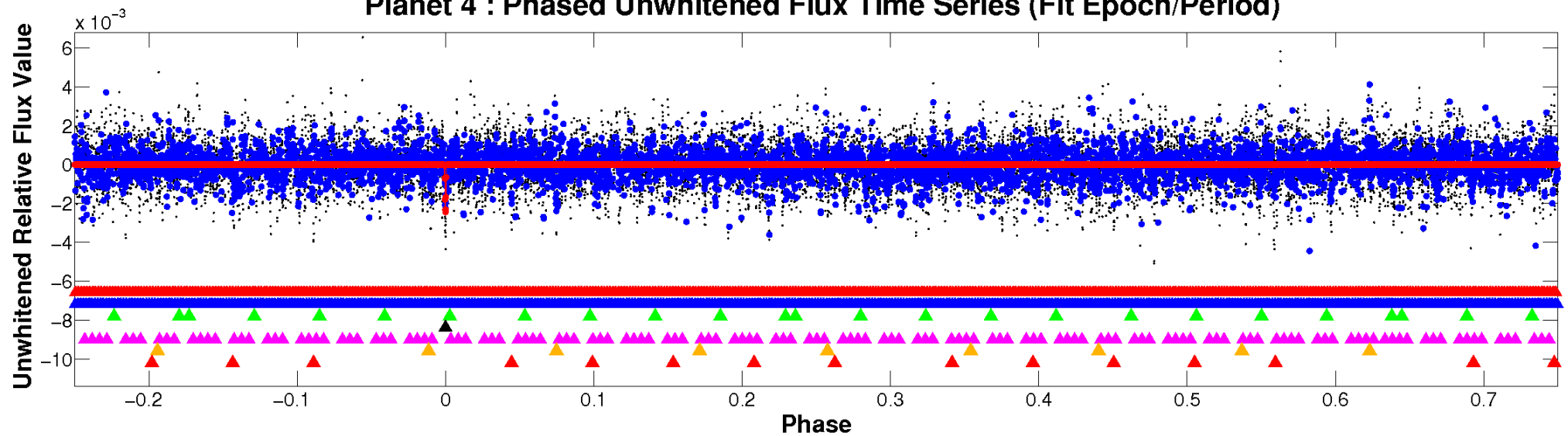
# ALT Odd/Even

TCE 005119143-04

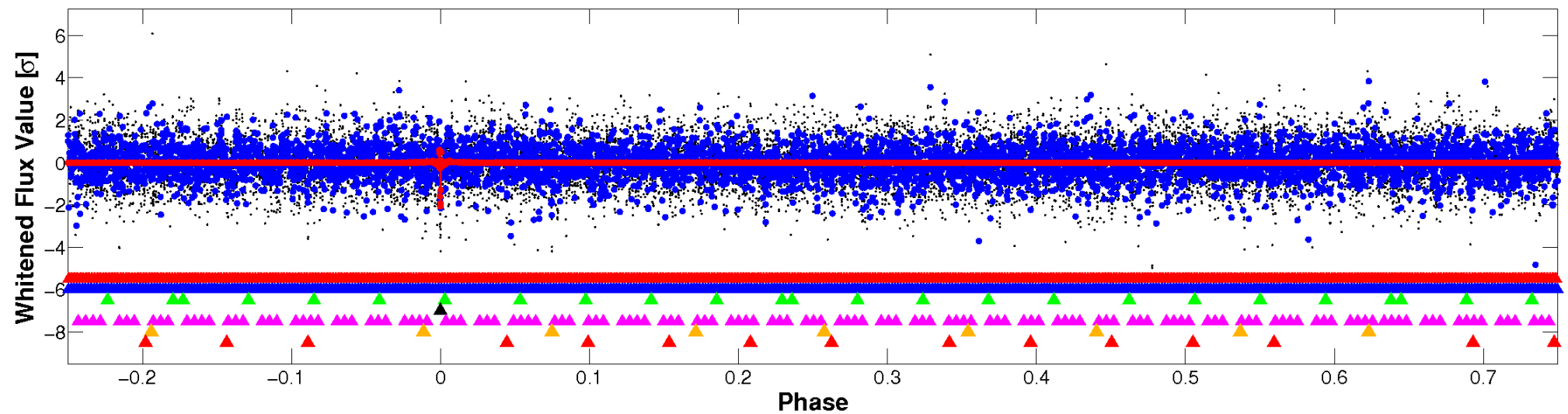


# Non-Whitened Vs. Whitened Light Curve

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



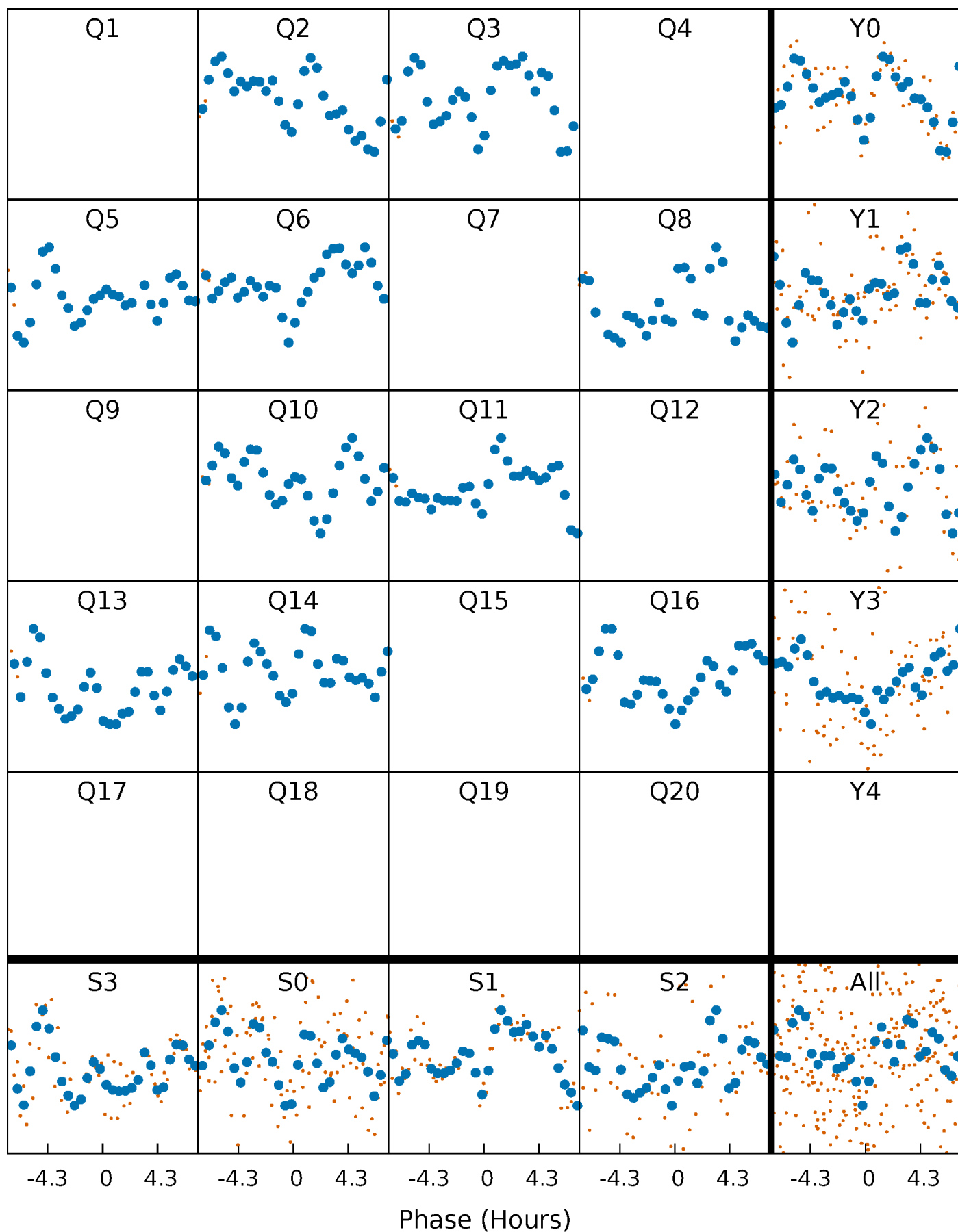
## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)





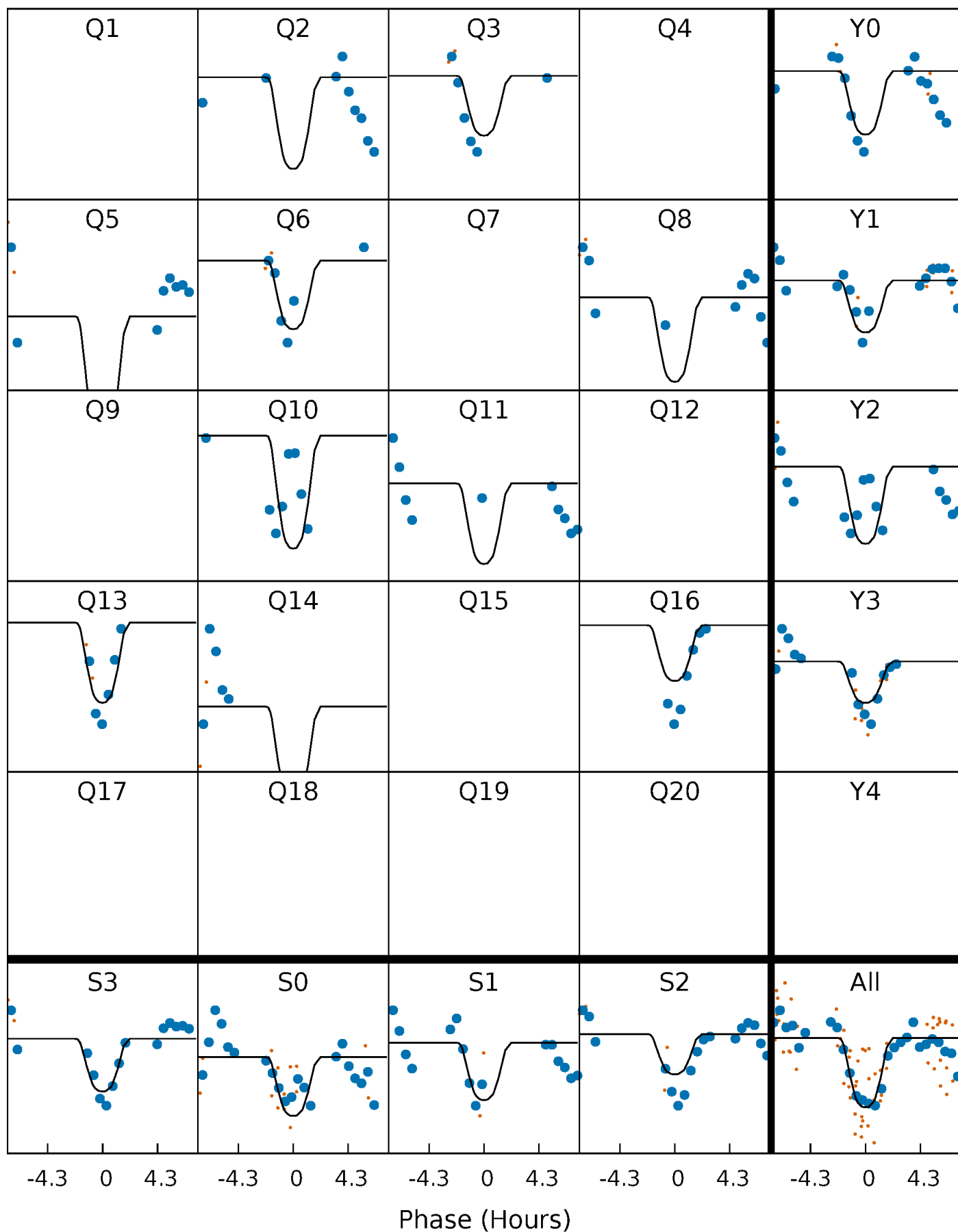
# PDC Quarter-Phased Transit Curves

TCE 005119143-04 P=145.415419 Days  $T_0=187.482025$  (BKJD)



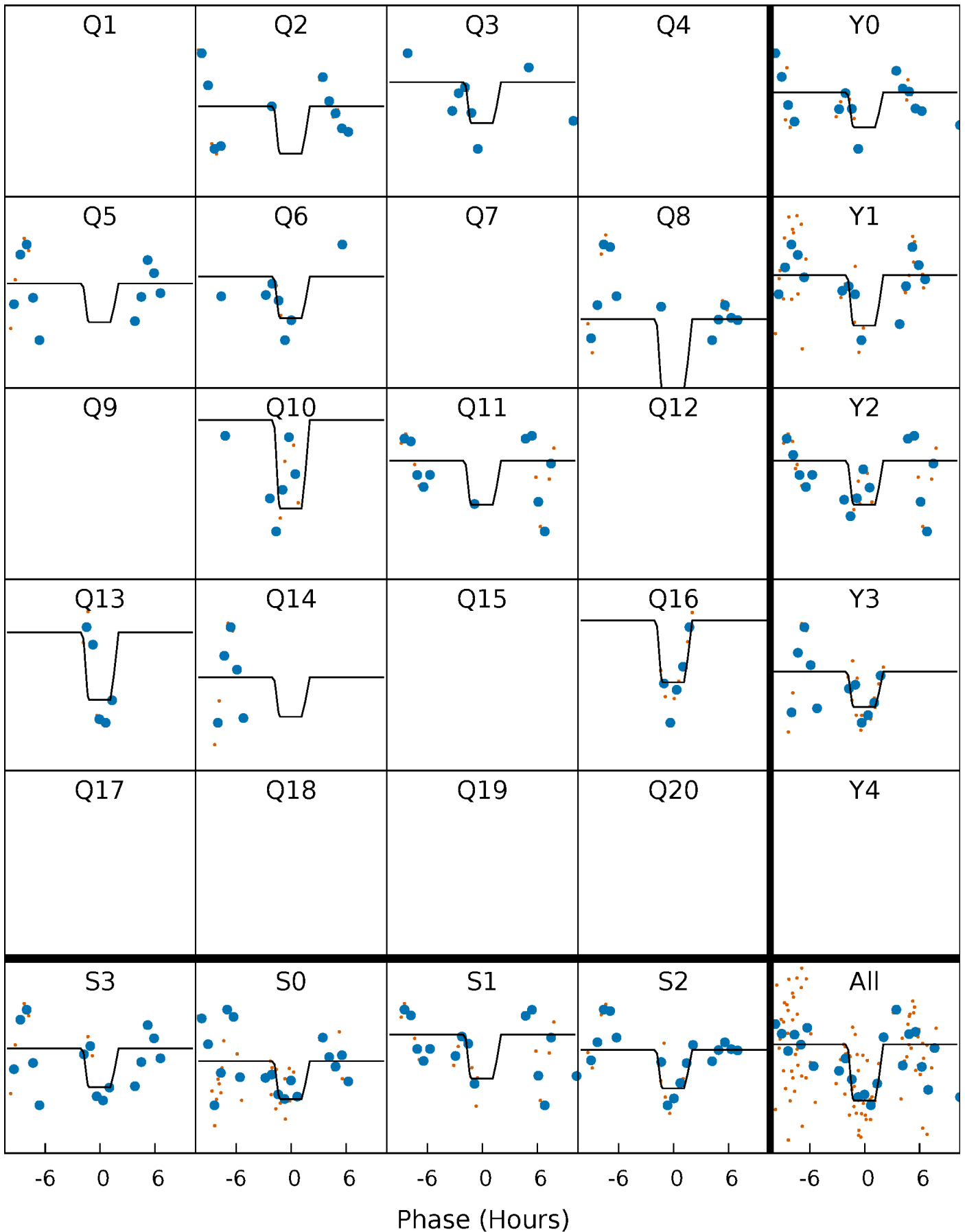
# DV Quarter-Phased Transit Curves

TCE 005119143-04 P=145.415419 Days  $T_0=187.482025$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

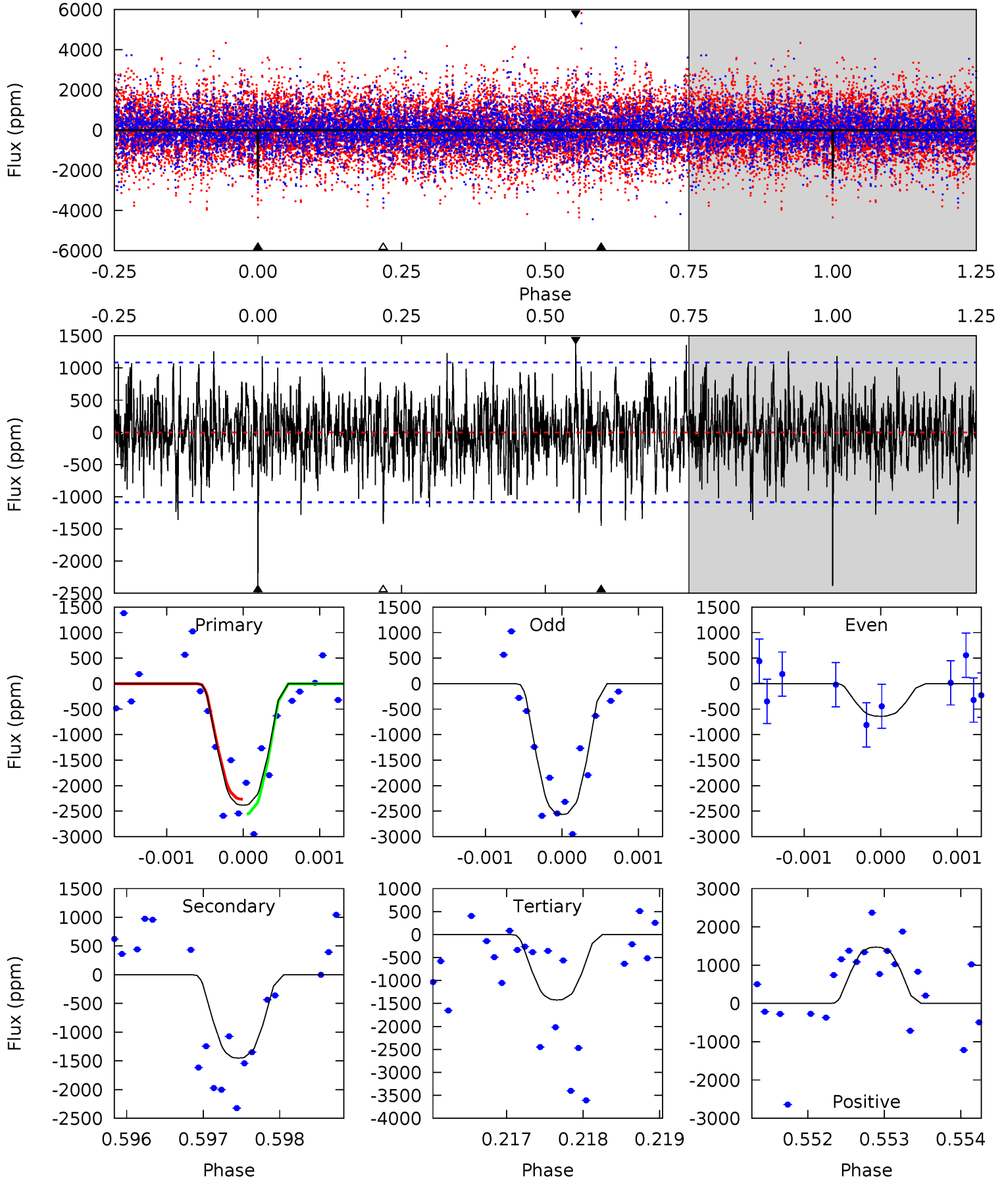
TCE 005119143-04 P=145.416742 Days  $T_0=187.495238$  (BKJD)



# DV Model-Shift Uniqueness Test

005119143-04, P = 145.415419 Days, E = 42.066606 Days

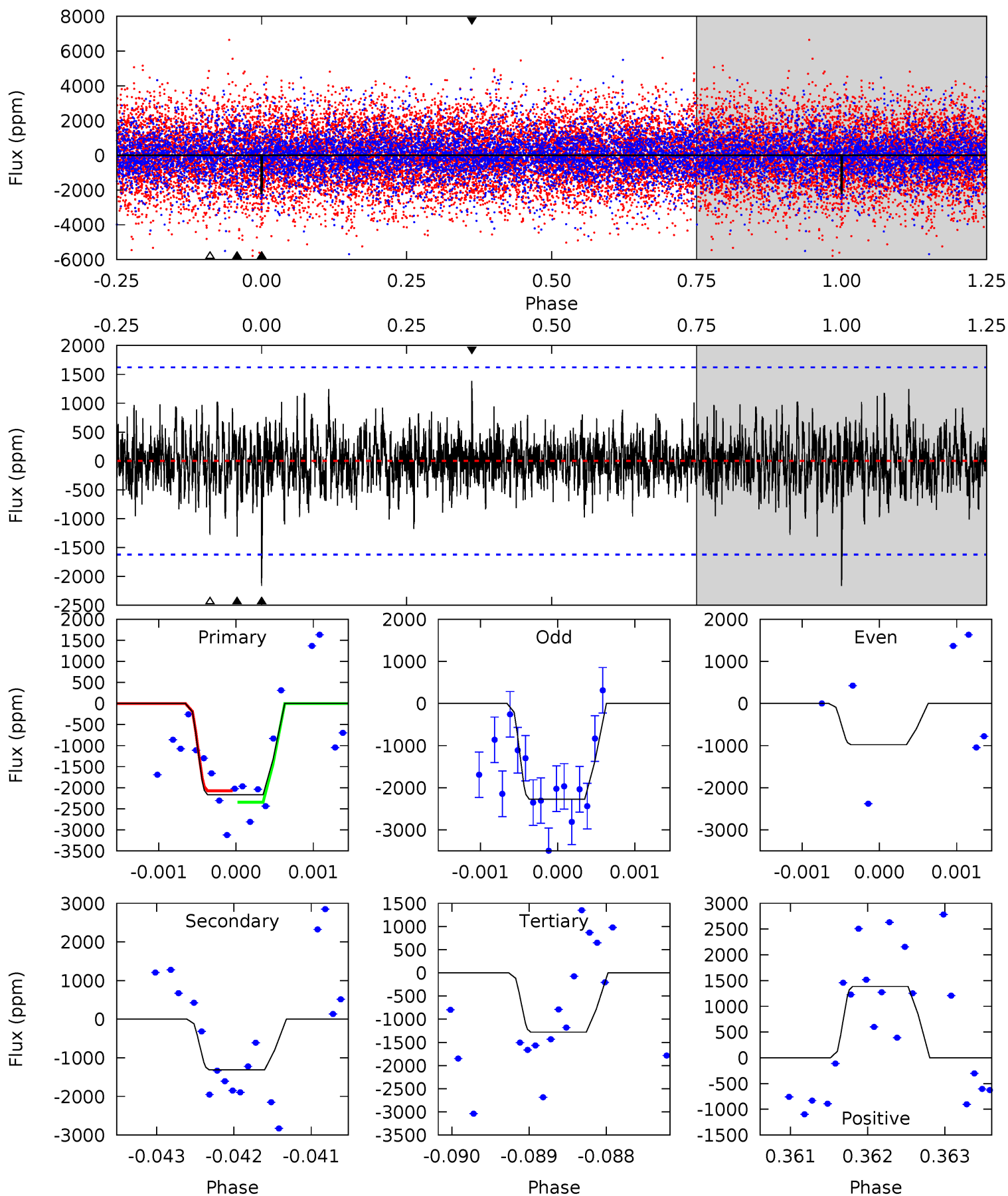
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	7.29	7.15	7.38	5.44	3.28	2.06	4.82	4.58	0.14	-0.09	2.39	1.06	0.38	0.70



# Alt Model-Shift Uniqueness Test

005119143-04,  $P = 145.416742$  Days,  $E = 42.078496$  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
7.30	4.41	4.31	4.67	5.47	3.31	1.12	2.99	2.63	0.10	-0.26	1.20	0.88	0.39	0.43





### Stellar Parameters For KIC 005119143

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7921^{+71}_{-79}$	$3.902^{+0.154}_{-0.077}$	$-0.120^{+0.100}_{-0.150}$	$2.555^{+0.260}_{-0.483}$	$1.901^{+0.023}_{-0.193}$	$0.161^{+0.115}_{-0.041}$
	+1%/-1%	+4%/-2%	+83%/-125%	+10%/-19%	+1%/-10%	+72%/-25%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005119143-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-1452 \pm 199$	$14.88^{+1.70}_{-1.78}$	$948^{+34}_{-48}$	$6437^{+375}_{-359}$	$1592^{+504}_{-381}$
Alt.	$-1309 \pm 297$	$13.33^{+1.85}_{-1.71}$	$948^{+33}_{-45}$	$6588^{+609}_{-529}$	$1748^{+744}_{-525}$

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

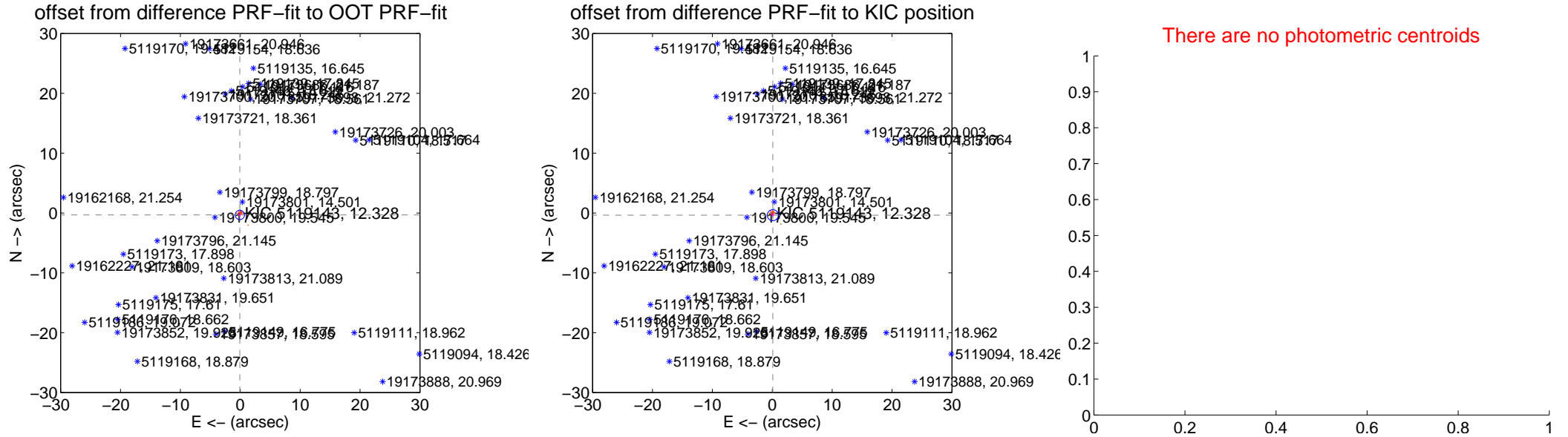
## DV Centroid Data

Supplemental centroid analysis for 005119143-04. Kepler magnitude: 12.33. Transit SNR 8.77

There are 7 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.328 \pm 0.259$	1.27	$0.073 \pm 0.152$	$-0.320 \pm 0.280$
PRF-fit source offset from KIC position	$0.373 \pm 0.309$	1.21	$-0.090 \pm 0.166$	$-0.362 \pm 0.301$
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.

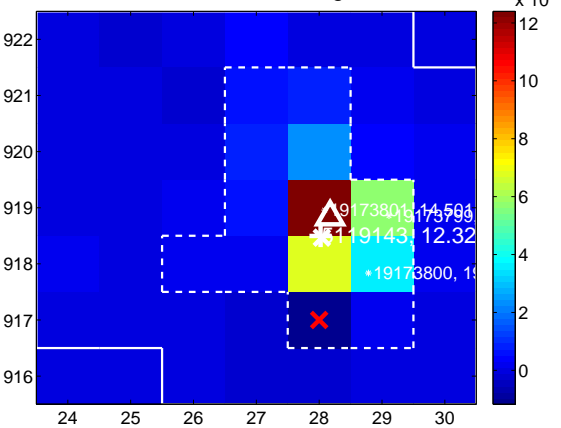
Q1 no difference image



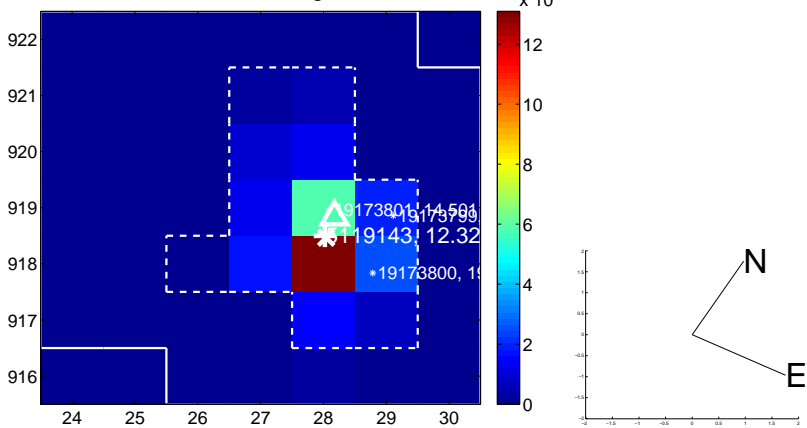
Q1 no OOT image



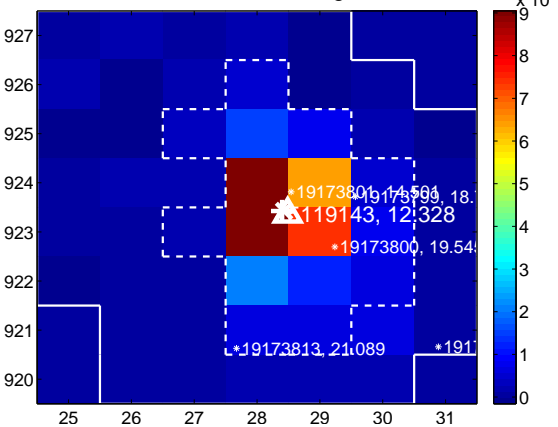
Q2 difference image



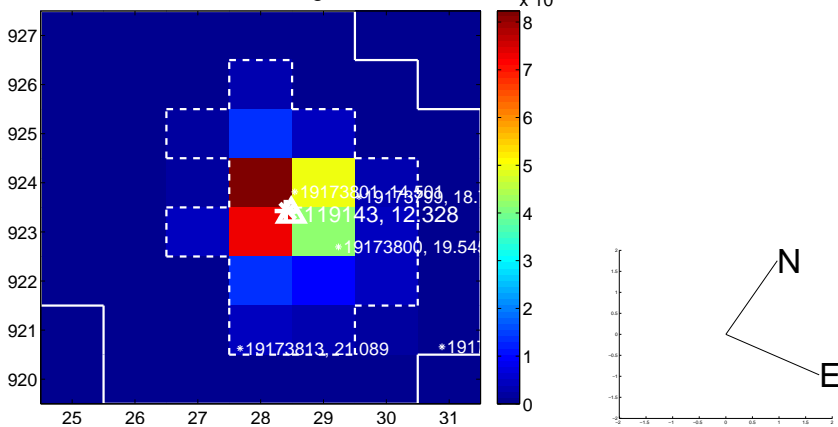
Q2 OOT image



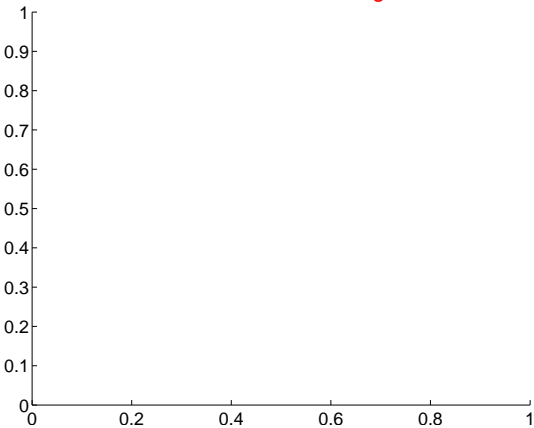
Q3 difference image



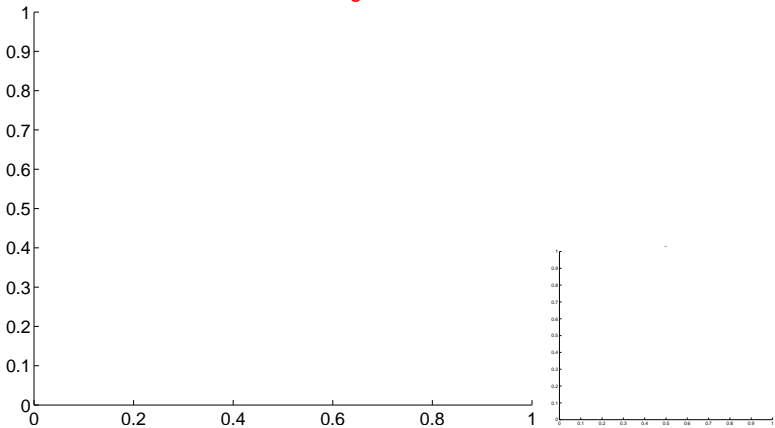
Q3 OOT image



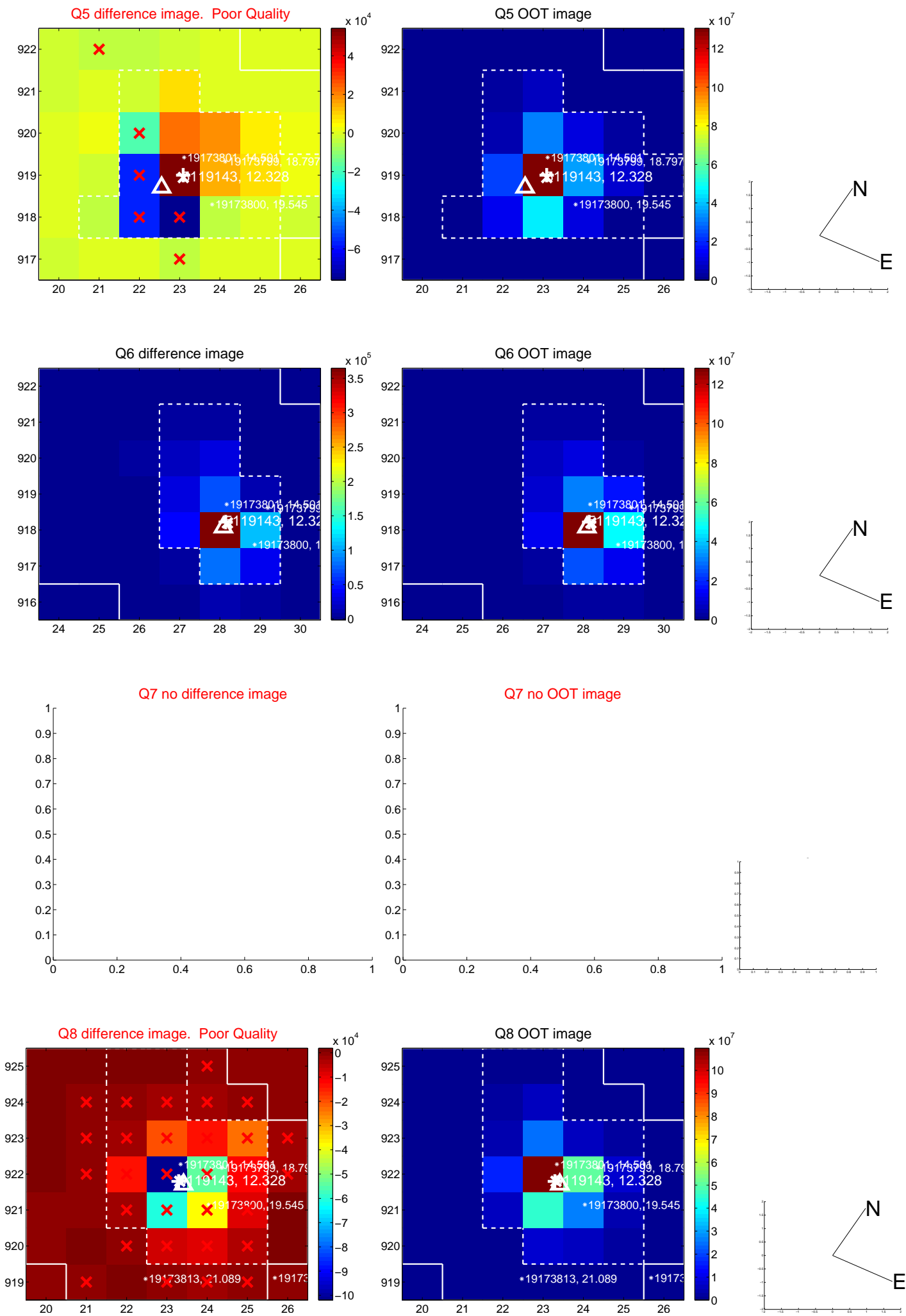
Q4 no difference image



Q4 no OOT image



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



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

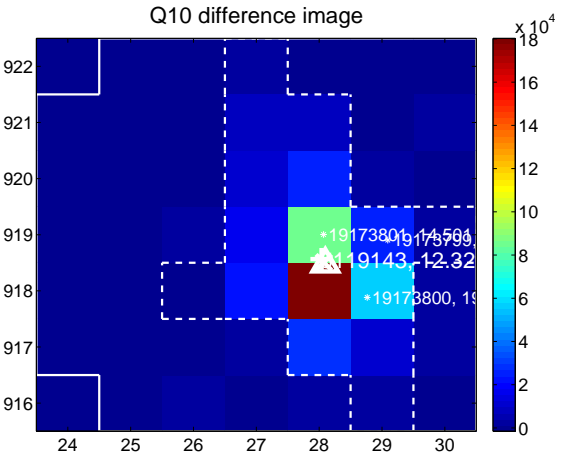
Q9 no difference image



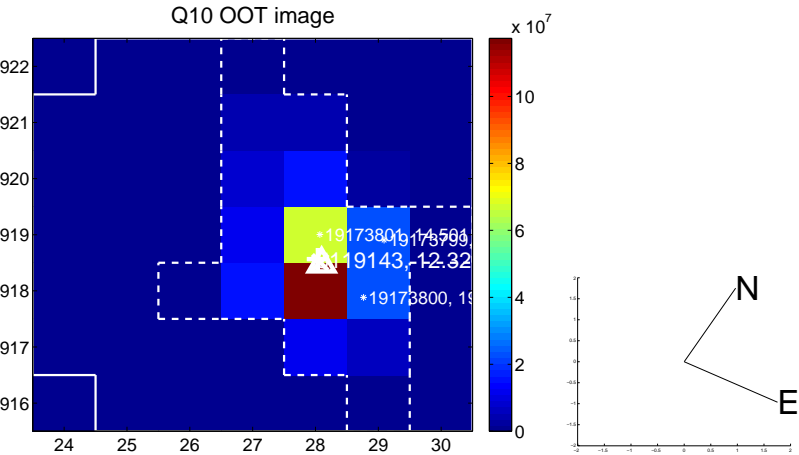
Q9 no OOT image



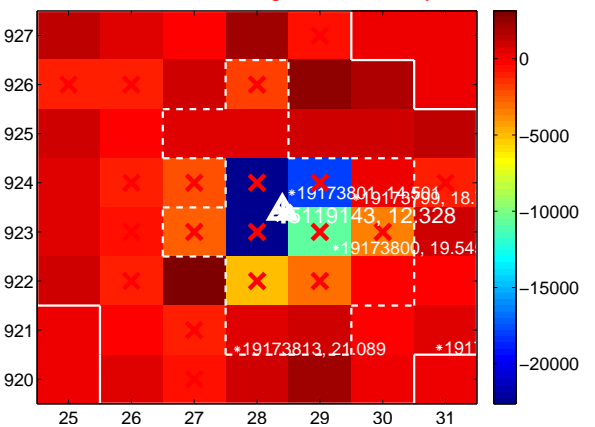
Q10 difference image



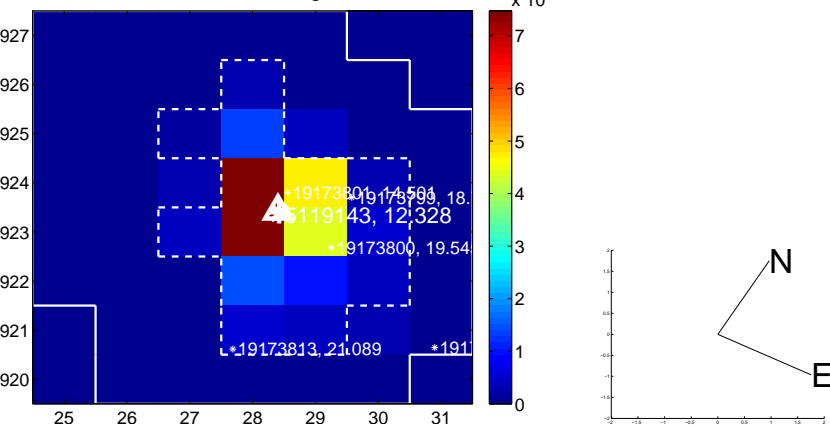
Q10 OOT image



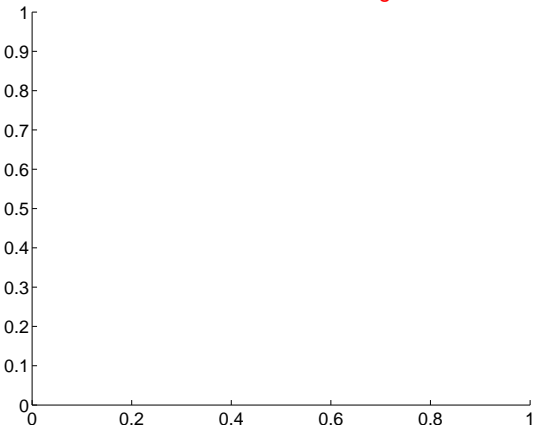
Q11 difference image. Poor Quality



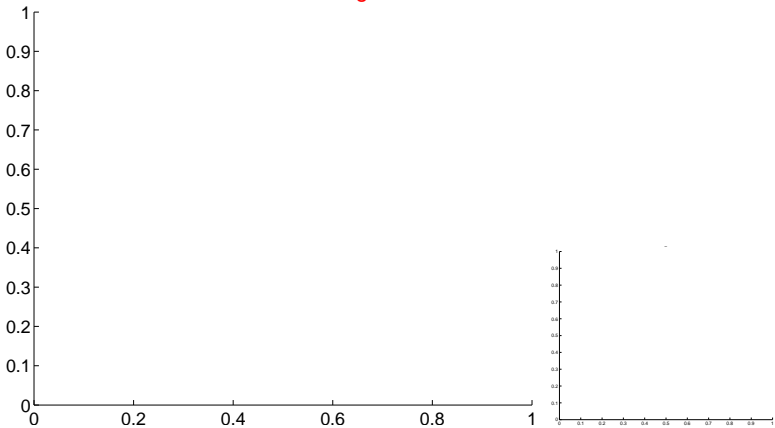
Q11 OOT image



Q12 no difference image

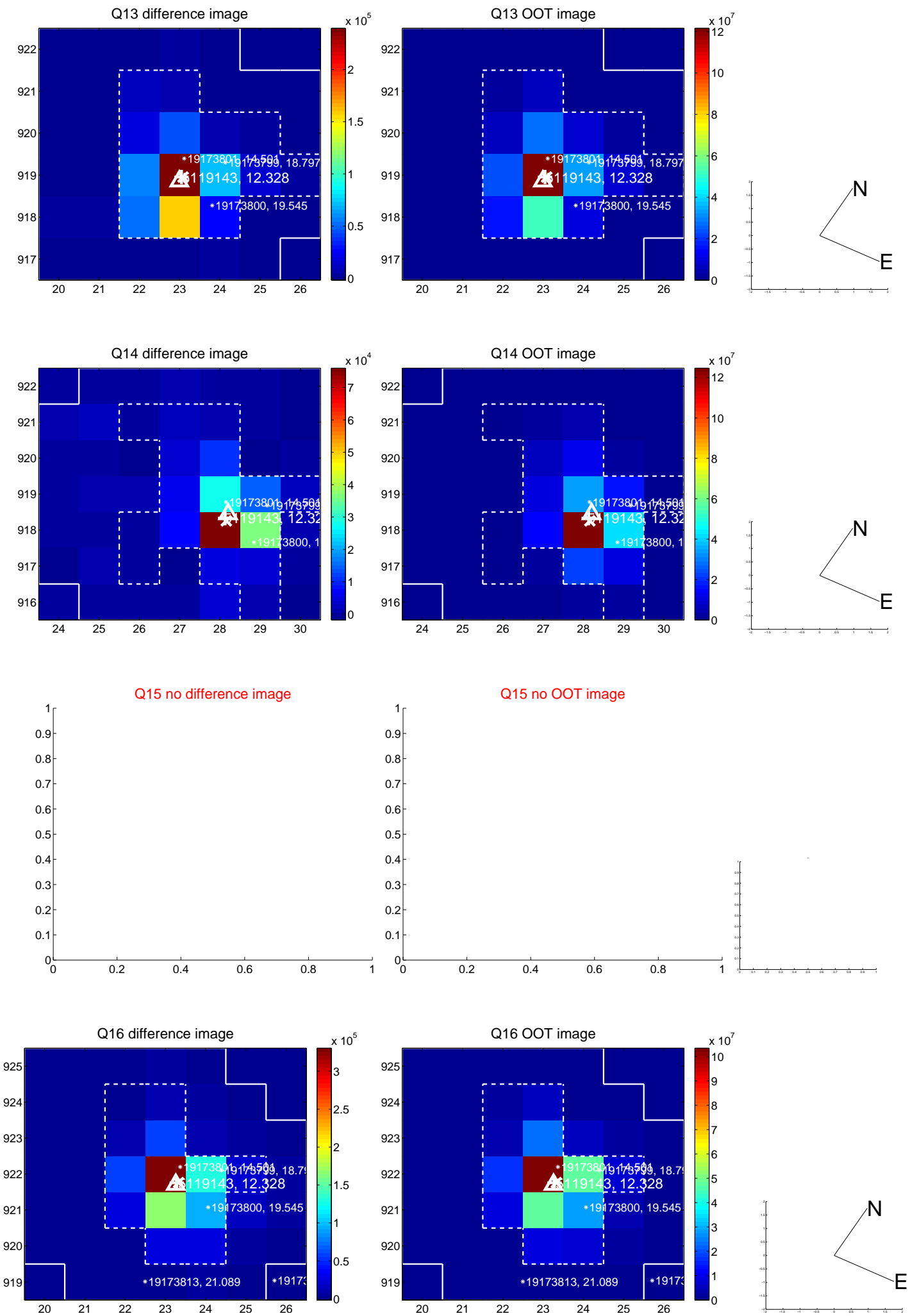


Q12 no OOT image

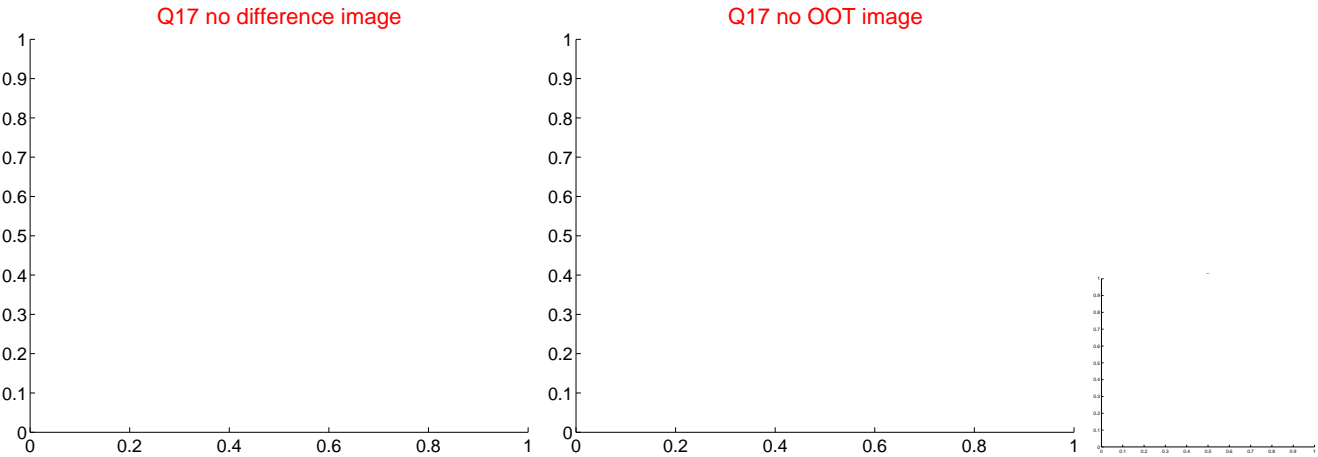




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



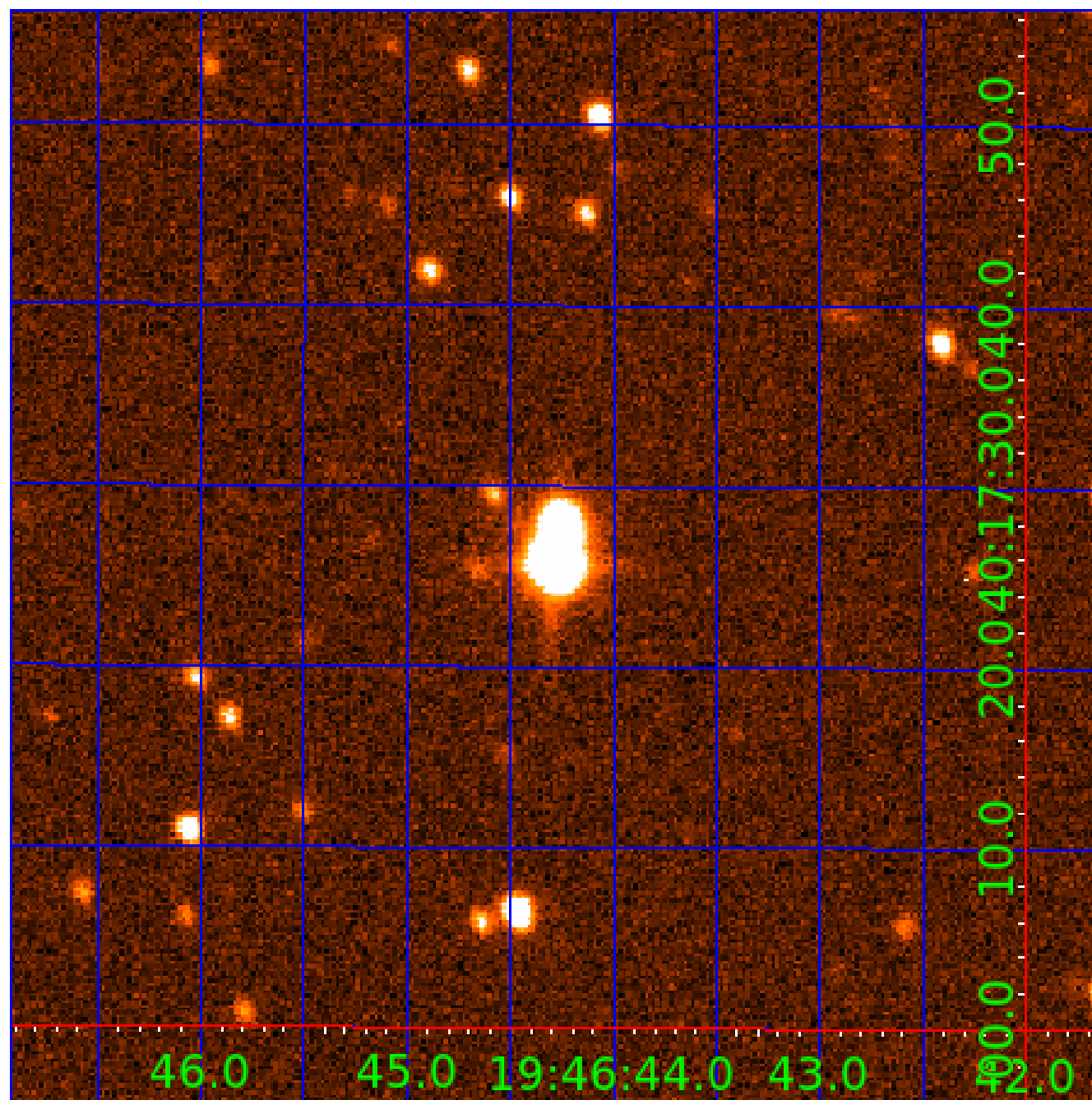
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



# KIC 005119143

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005119143-01	OBS	No	0.560421	131.810379	99.9	1.248	10.4	8.4	2.56	7921	2.59	84772.72
005119143-02	OBS	No	0.560414	132.034733	142.8	1.513	10.5	11.3	2.56	7921	3.62	84774.09
005119143-03	OBS	No	59.444062	162.350111	2291.8	2.987	9.1	8.9	2.56	7921	13.41	168.84
005119143-04	OBS	No	145.415419	187.482025	2445.7	3.736	9.1	8.8	2.56	7921	15.32	51.22
005119143-05	OBS	No	10.622508	133.043618	1096.5	2.337	8.9	9.1	2.56	7921	15.84	1677.41
005119143-06	OBS	No	171.991797	198.361610	3263.0	5.628	8.7	9.3	2.56	7921	16.77	40.95

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005119143-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005119143-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005119143-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
005119143-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
005119143-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—MOD_NONUNIQ_ALT
005119143-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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.

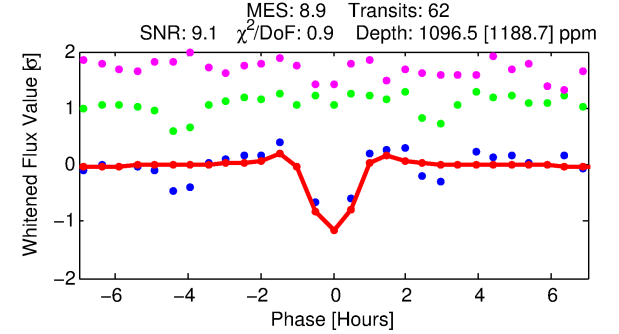
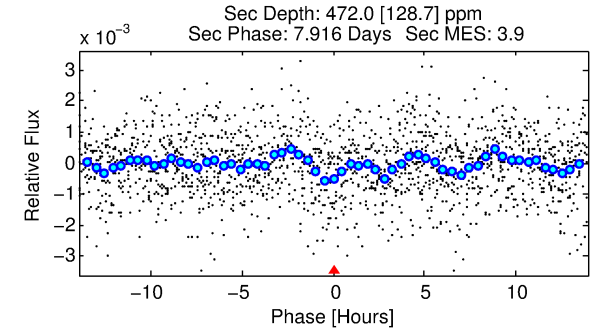
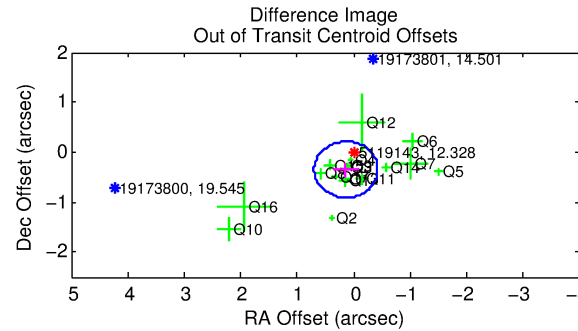
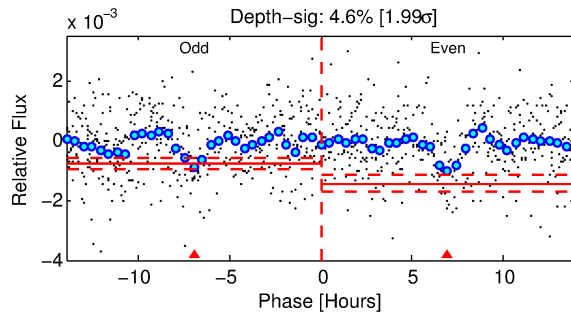
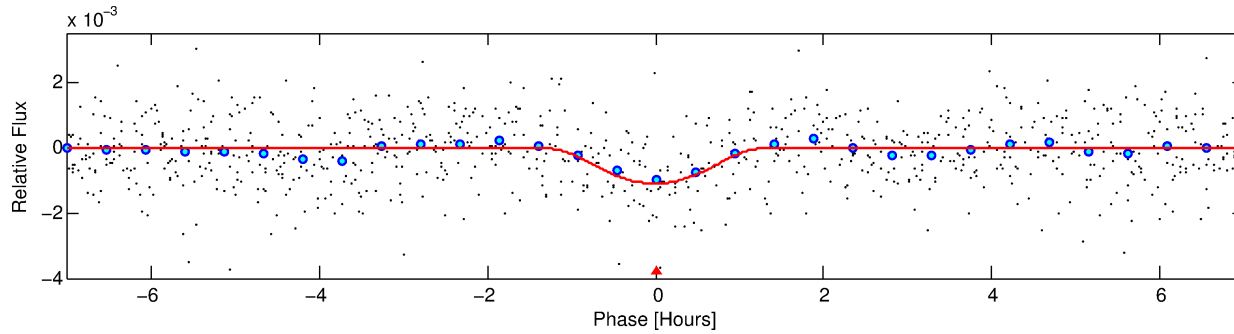
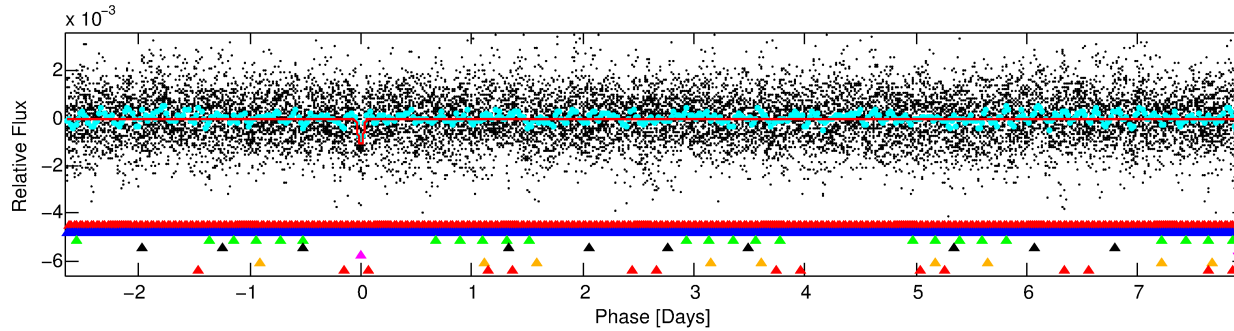
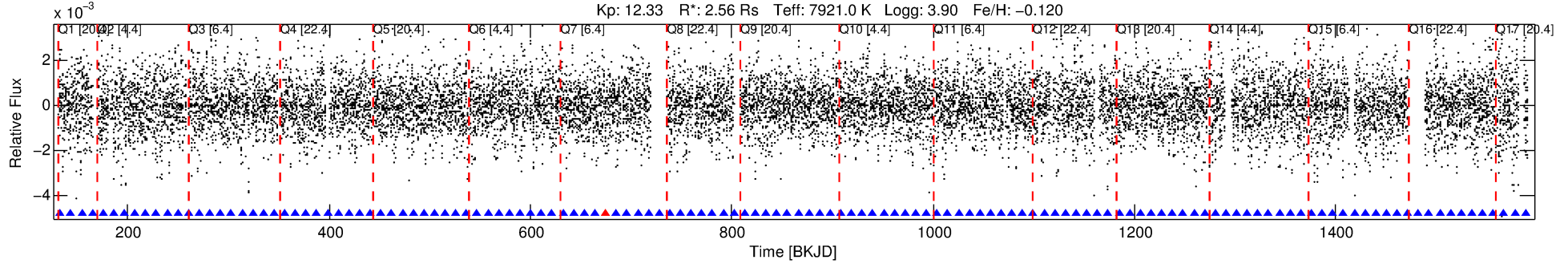
## Ephemeris Match Information For 005119143-05

No Significant Match Found

# DV One-Page Summary

KIC: 5119143 Candidate: 5 of 7 Period: 10.623 d  
KOI: K06527 Corr: No Ephemeris Match

Kp: 12.33 R\*: 2.56 Rs Teff: 7921.0 K Logg: 3.90 Fe/H: -0.120



## DV Fit Results:

Period = 10.62251 [0.00007] d  
Epoch = 133.0436 [0.0049] BKJD  
Rp/R\* = 0.0568 [0.2213]  
a/R\* = 11.92 [11.43]  
b = 1.00 [0.28]  
Seff = 1677.41 [454.32]  
Teq = 1632 [110] K  
Rp = 15.84 [61.78] Re  
a = 0.1172 [0.0202] AU  
Ag = 14.20 [110.77] [0.12σ]  
Teff = 4898 [9545] K [0.34σ]

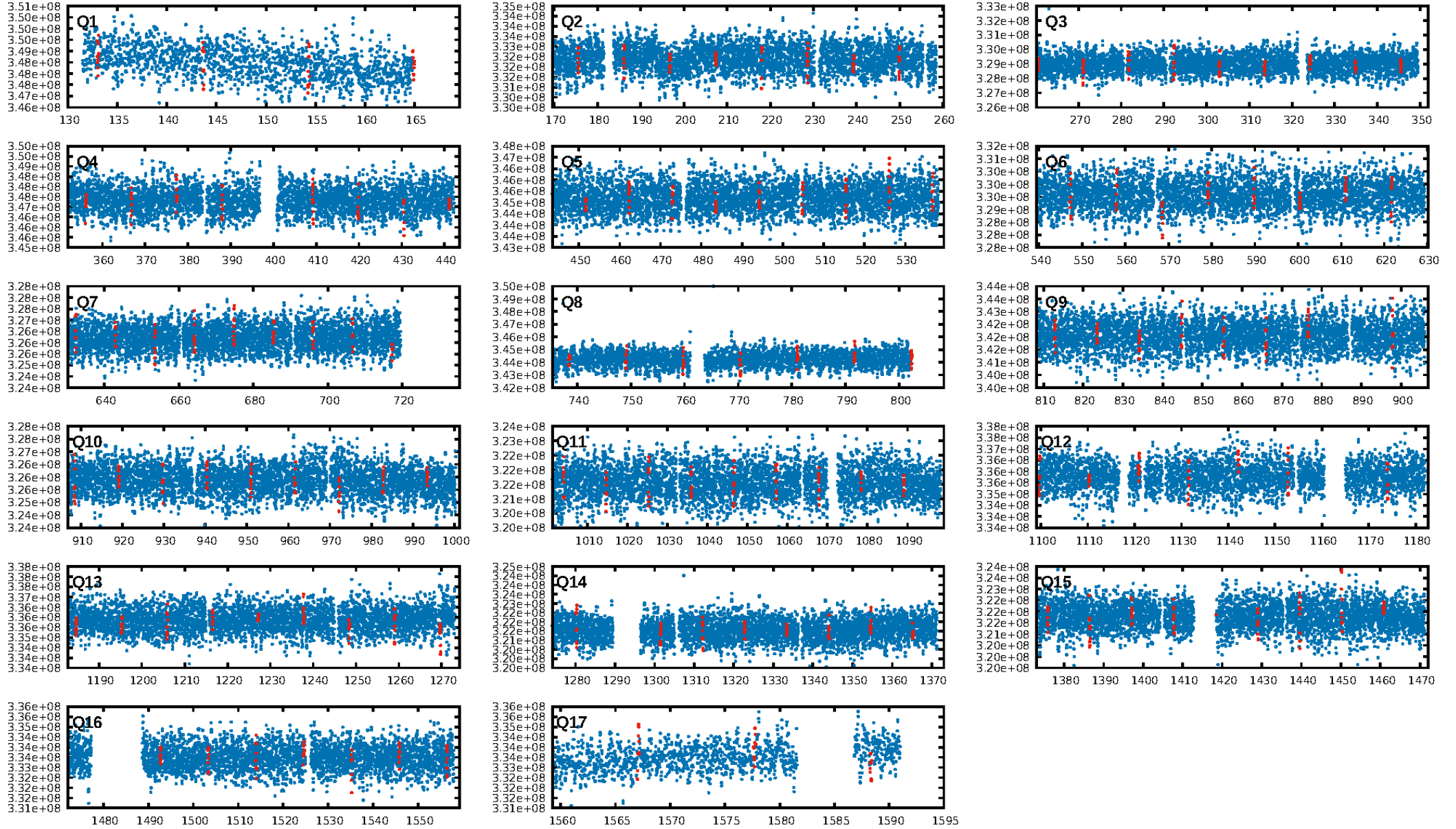
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [91.16σ]  
LongPeriod-sig: 100.0% [308.95σ]  
ModelChiSquare2-sig: 31.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.98 [58/59]  
**GhostDiagnostic-chr: -0.3823**  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.376 arcsec [2.00σ]  
KicOffset-rm: 0.391 arcsec [2.66σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.59 [10/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:06:45 Z

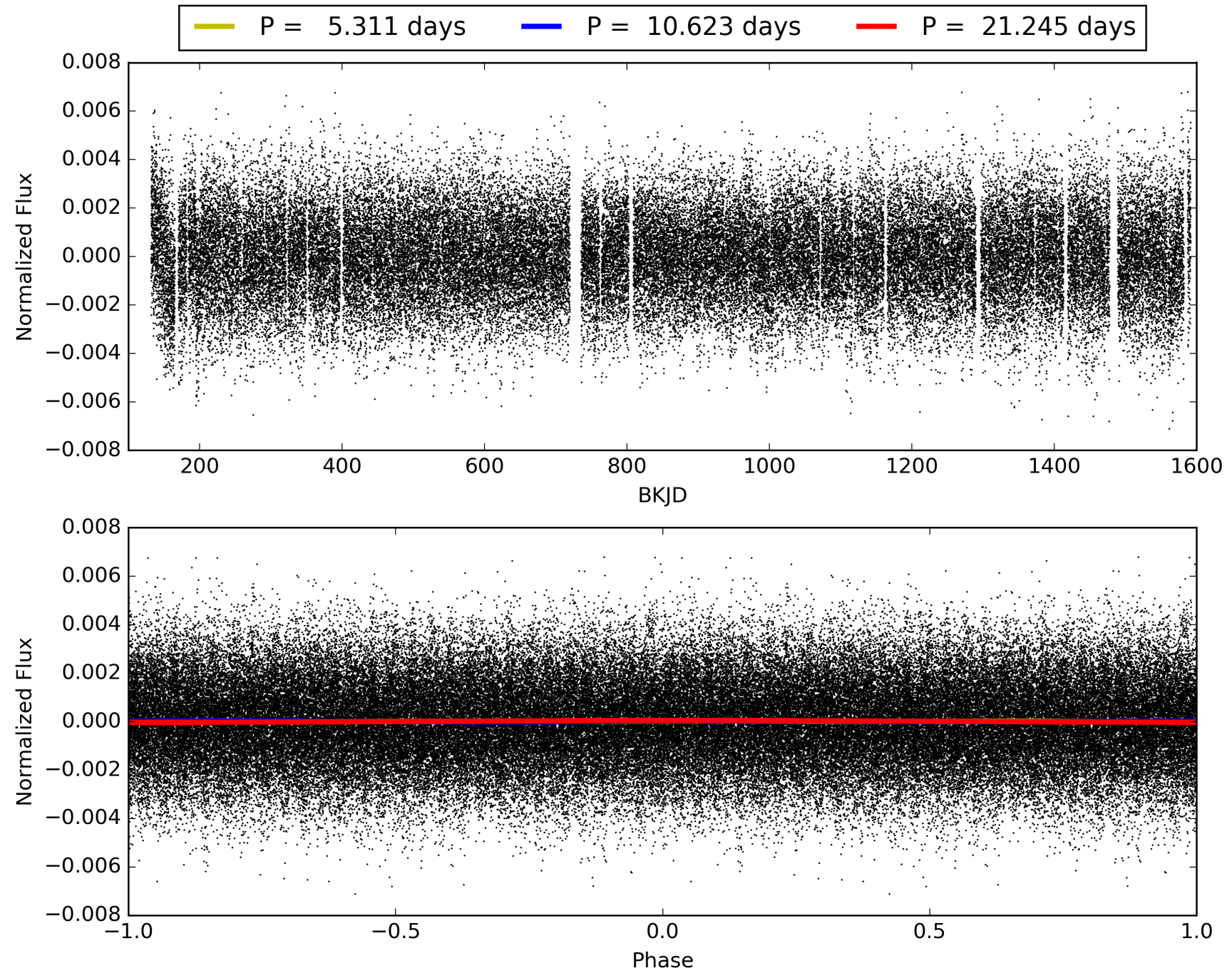
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005119143-05, PDC Light Curves



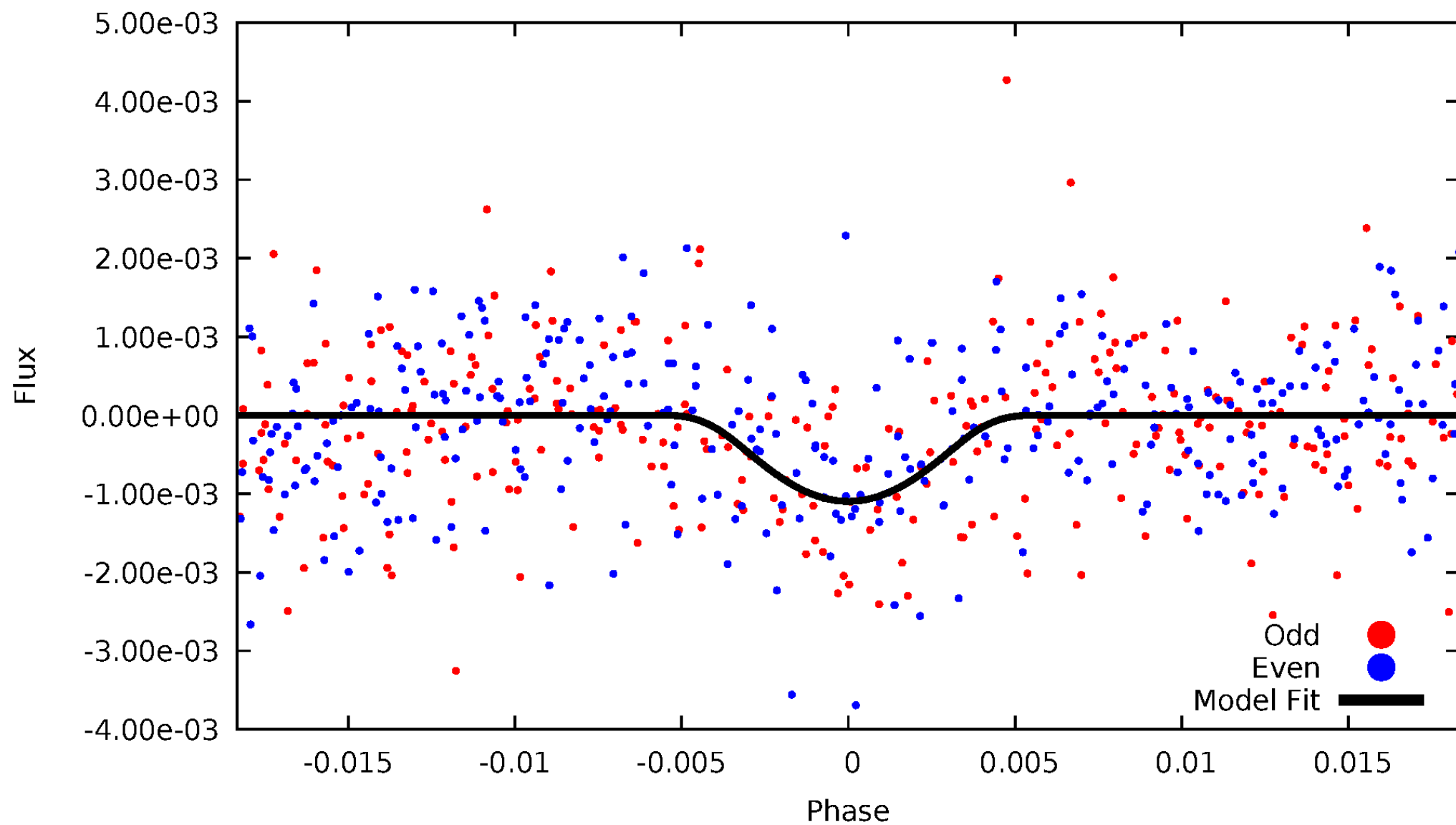


TCE 005119143-05



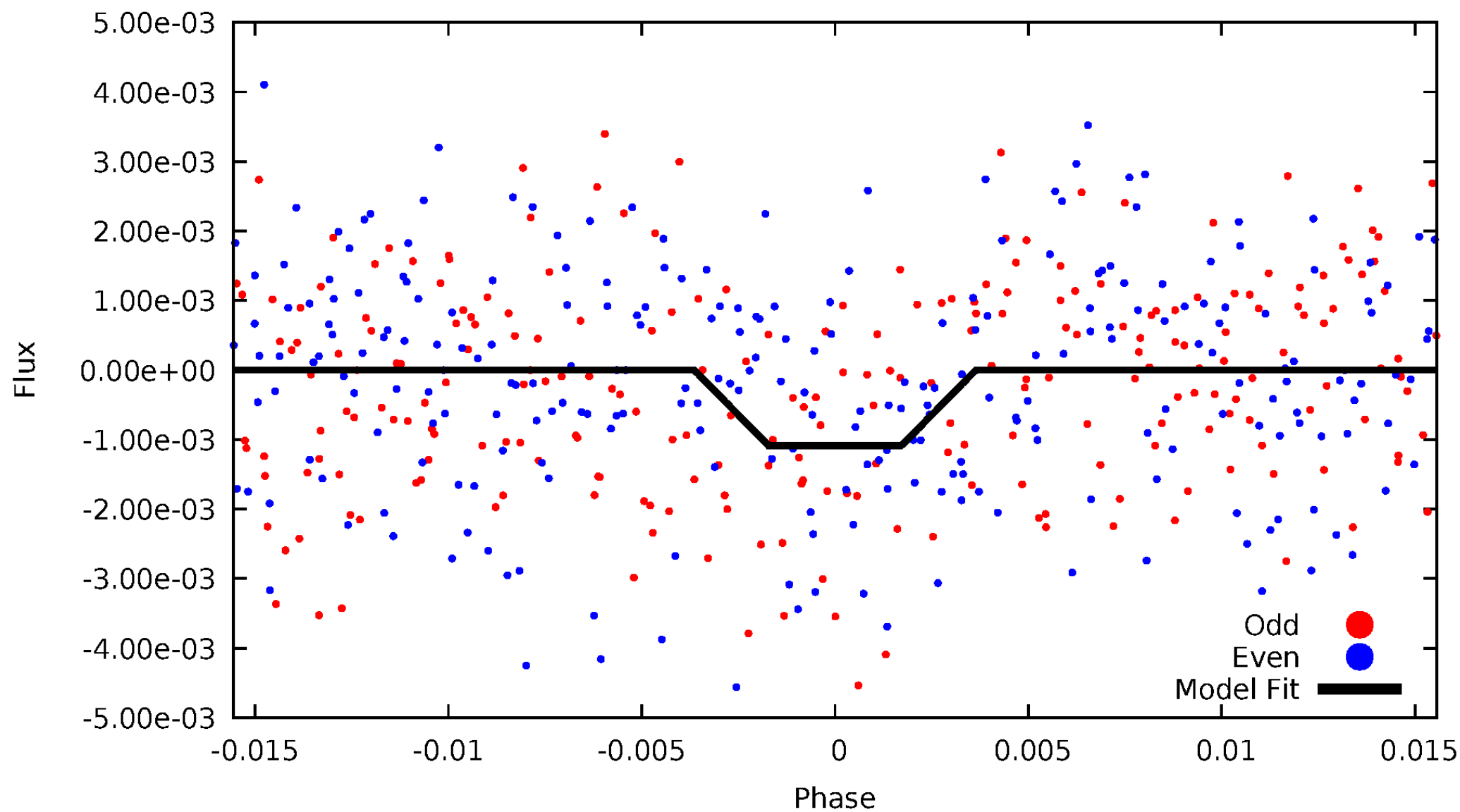
# DV Odd/Even

TCE 005119143-05



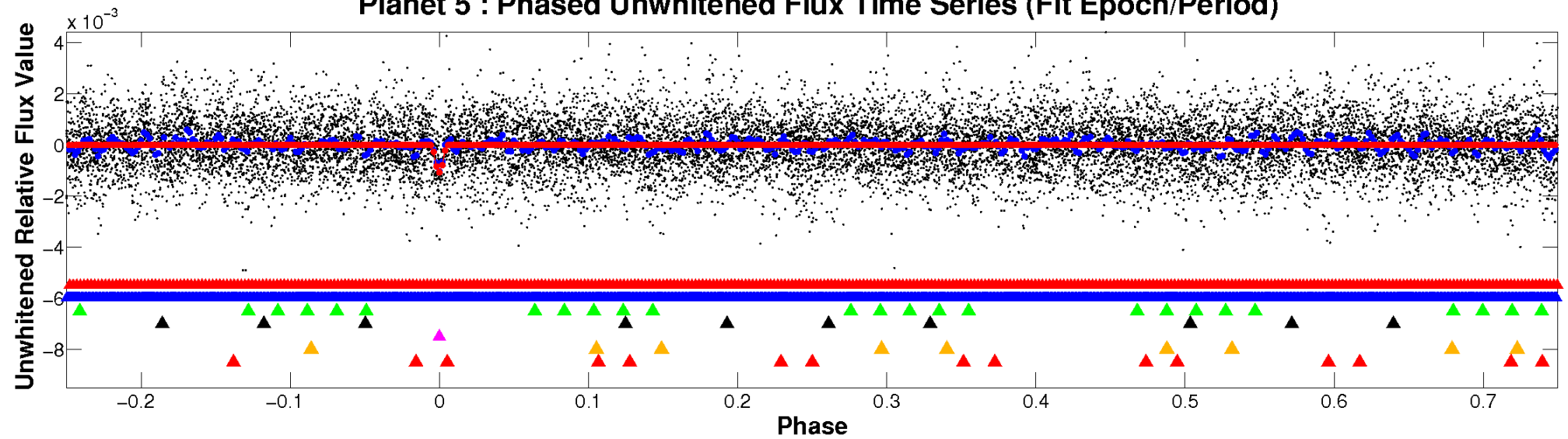
# ALT Odd/Even

TCE 005119143-05

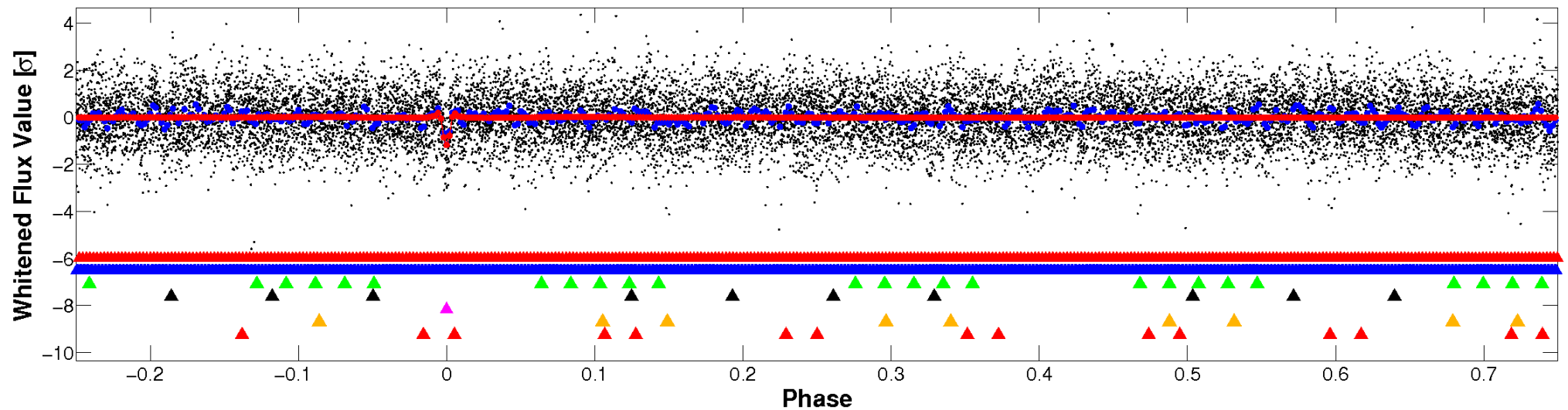


# Non-Whitened Vs. Whitened Light Curve

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

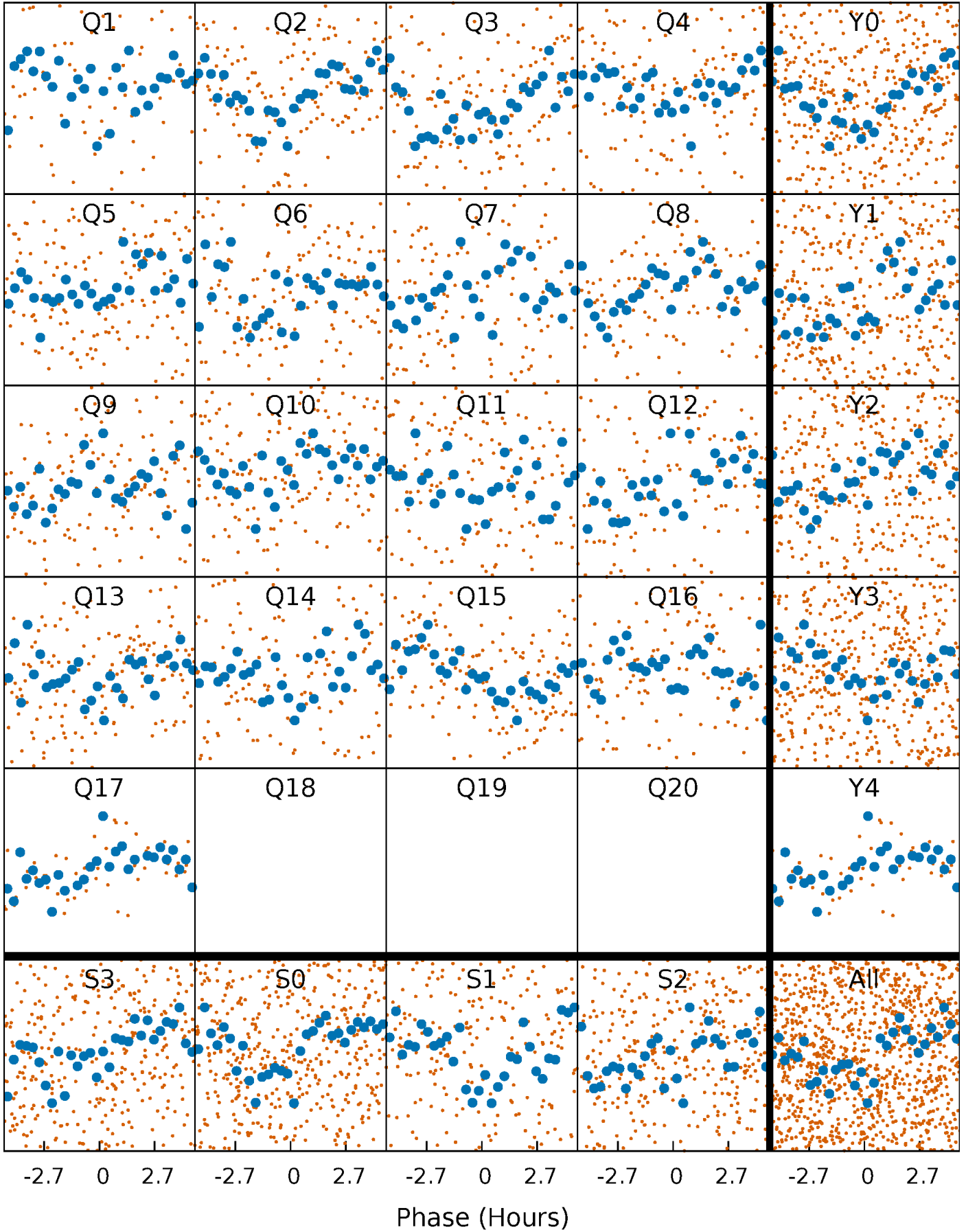


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



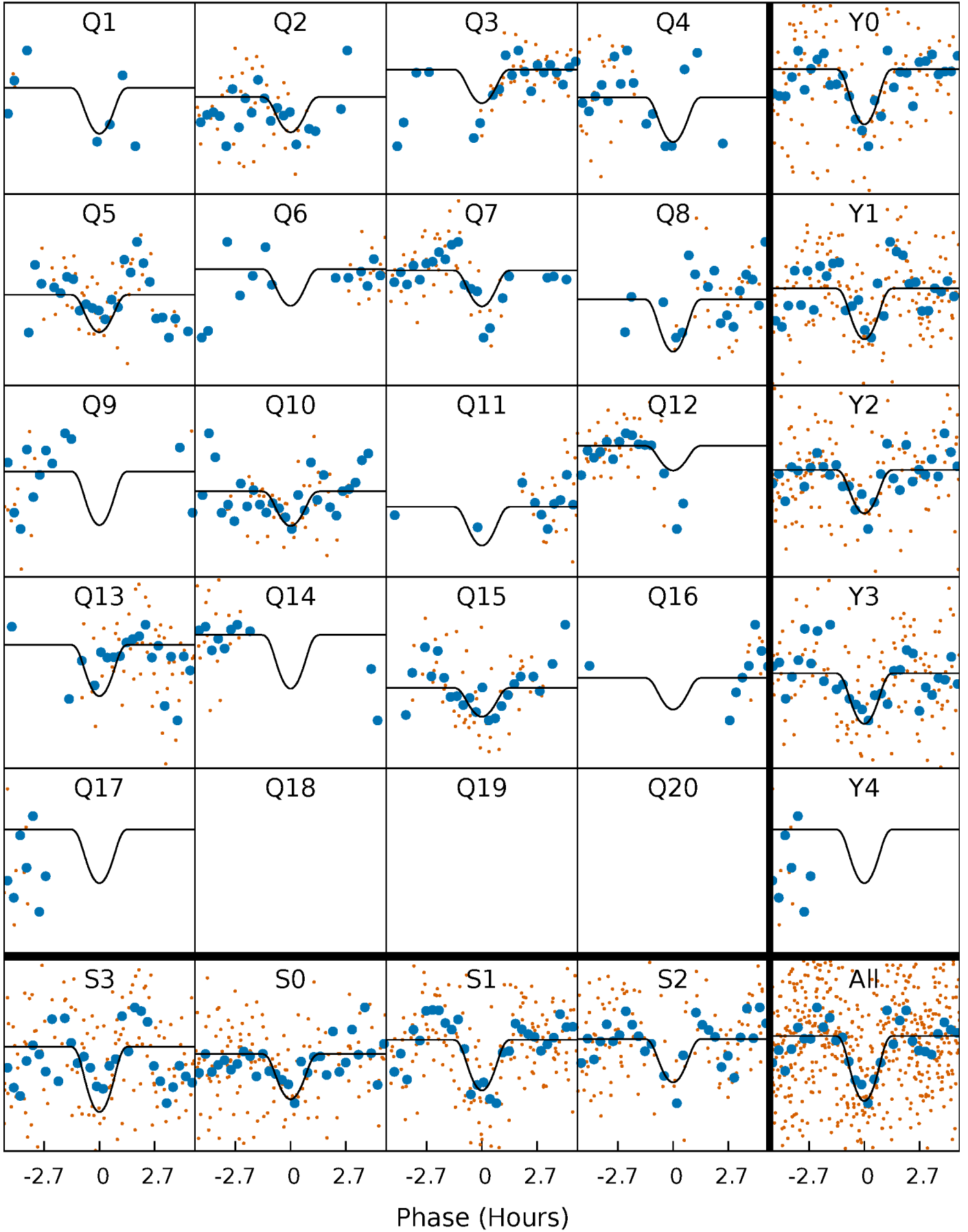
# PDC Quarter-Phased Transit Curves

TCE 005119143-05   P= 10.622508 Days    $T_0=133.043618$  (BKJD)



# DV Quarter-Phased Transit Curves

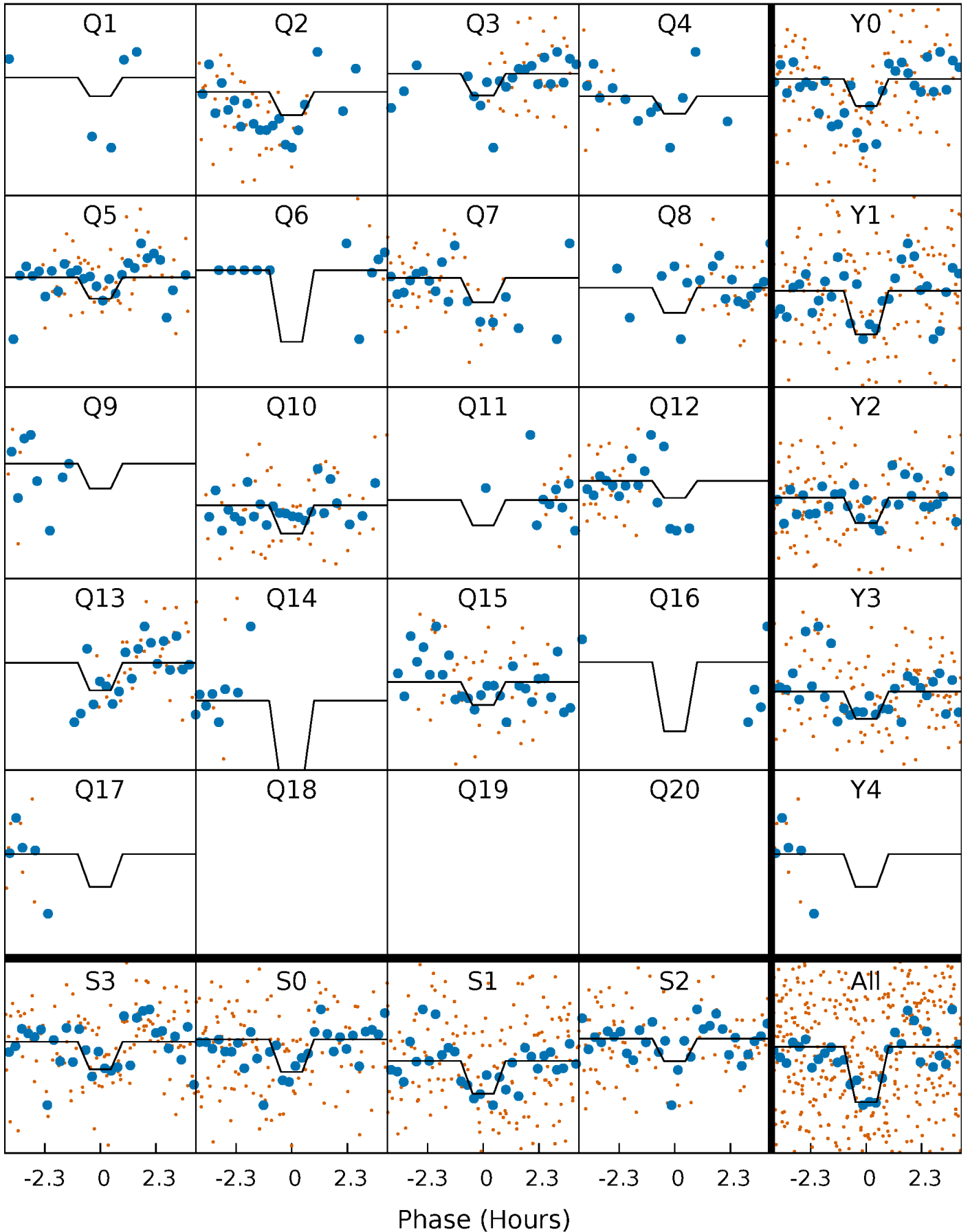
TCE 005119143-05   P= 10.622508 Days    $T_0=133.043618$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

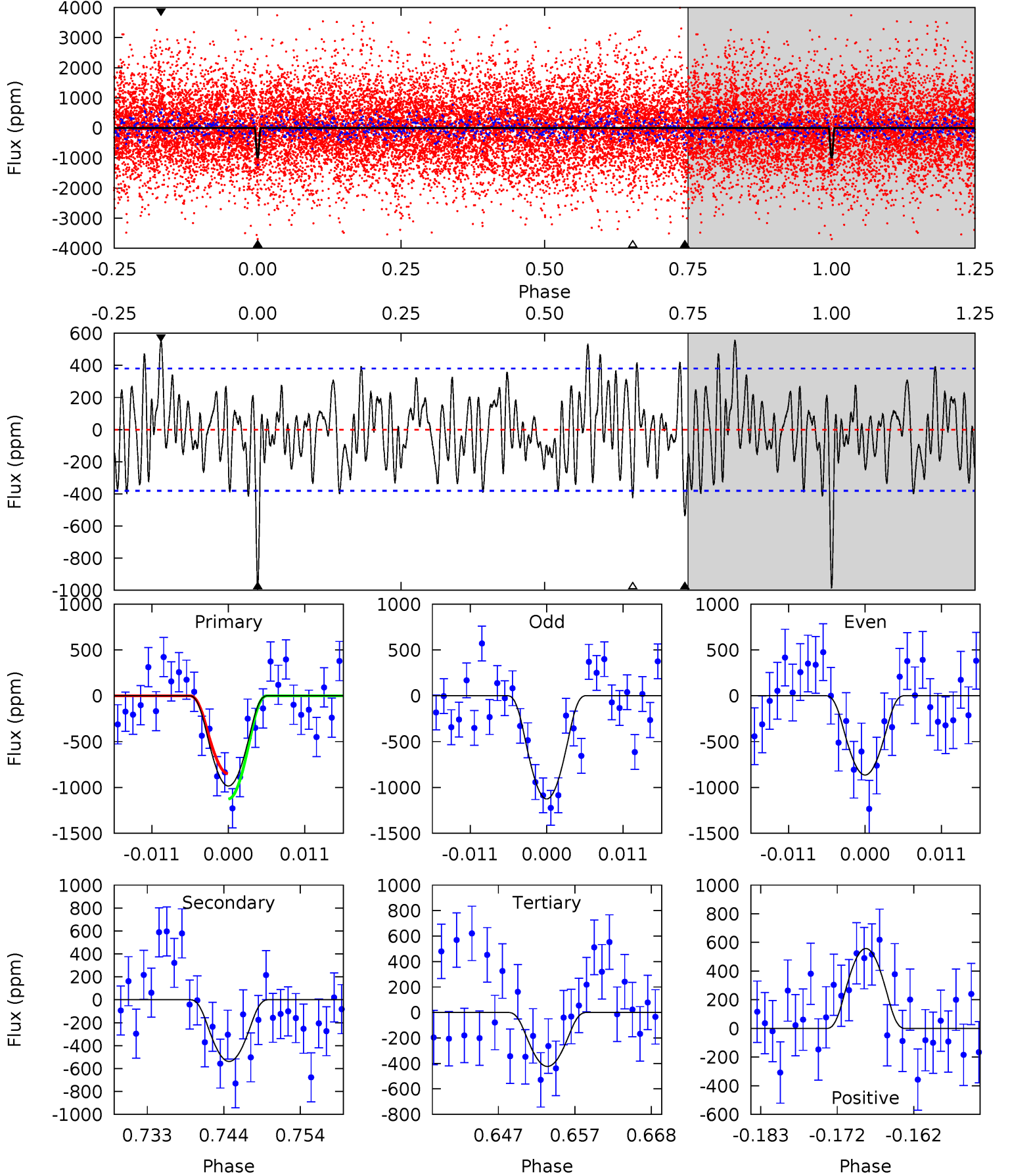
TCE 005119143-05     $P = 10.622338$  Days     $T_0 = 133.054904$  (BKJD)



# DV Model-Shift Uniqueness Test

005119143-05, P = 10.622508 Days, E = 122.421110 Days

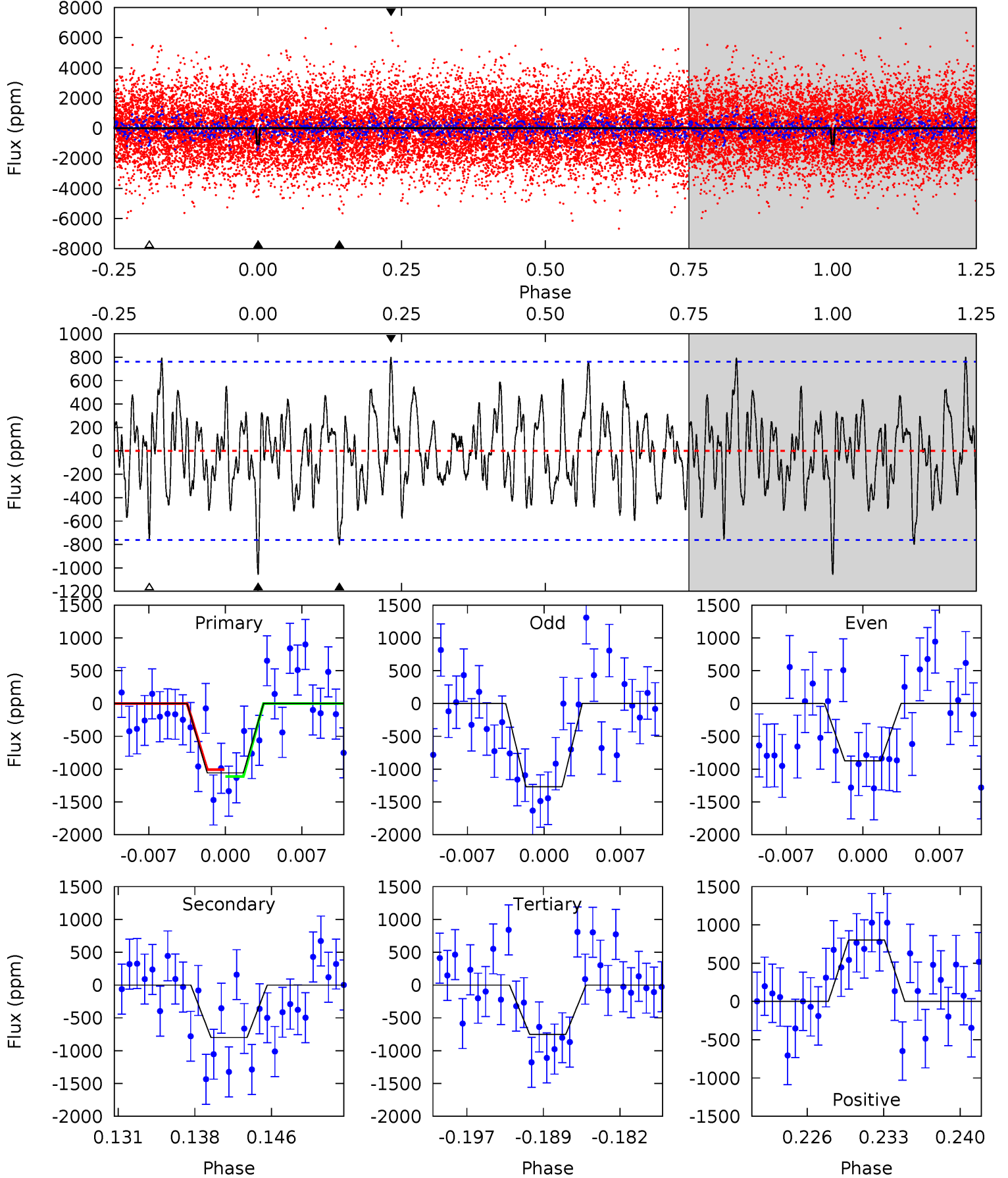
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	7.09	5.58	7.34	5.01	2.55	2.39	7.38	5.62	1.51	-0.25	1.72	0.92	0.36	1.82



# Alt Model-Shift Uniqueness Test

005119143-05, P = 10.622338 Days, E = 122.432566 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
7.07	5.34	5.03	5.35	5.09	2.68	1.81	2.04	1.72	0.31	-0.01	1.31	1.37	0.43	0.36



### Stellar Parameters For KIC 005119143

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$7921^{+71}_{-79}$	$3.902^{+0.154}_{-0.077}$	$-0.120^{+0.100}_{-0.150}$	$2.555^{+0.260}_{-0.483}$	$1.901^{+0.023}_{-0.193}$	$0.161^{+0.115}_{-0.041}$
	+1%/-1%	+4%/-2%	+83%/-125%	+10%/-19%	+1%/-10%	+72%/-25%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005119143-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-538 \pm 76$	$49.78^{+45.93}_{-36.34}$	$2276^{+74}_{-119}$	$3197^{+2104}_{-842}$	$1.622^{+20.999}_{-1.200}$
Alt.	$-800 \pm 150$	$44.47^{+46.91}_{-29.05}$	$2273^{+75}_{-114}$	$3543^{+1838}_{-818}$	$2.894^{+21.435}_{-2.184}$

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

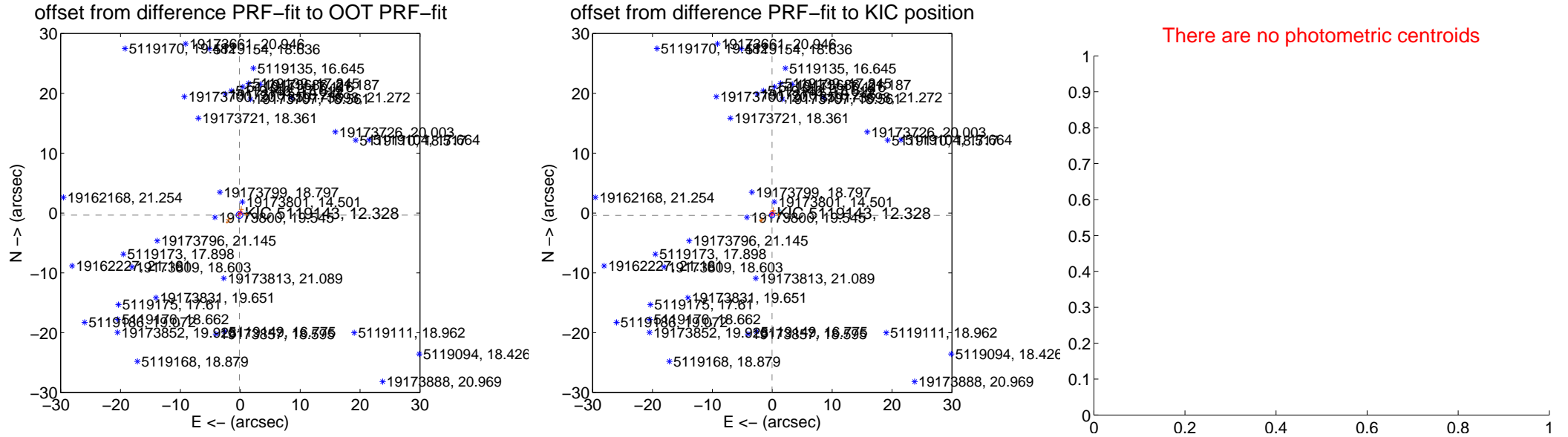
## DV Centroid Data

Supplemental centroid analysis for 005119143-05. Kepler magnitude: 12.33. Transit SNR 9.13

There are 10 quarters with good PRF difference image offsets

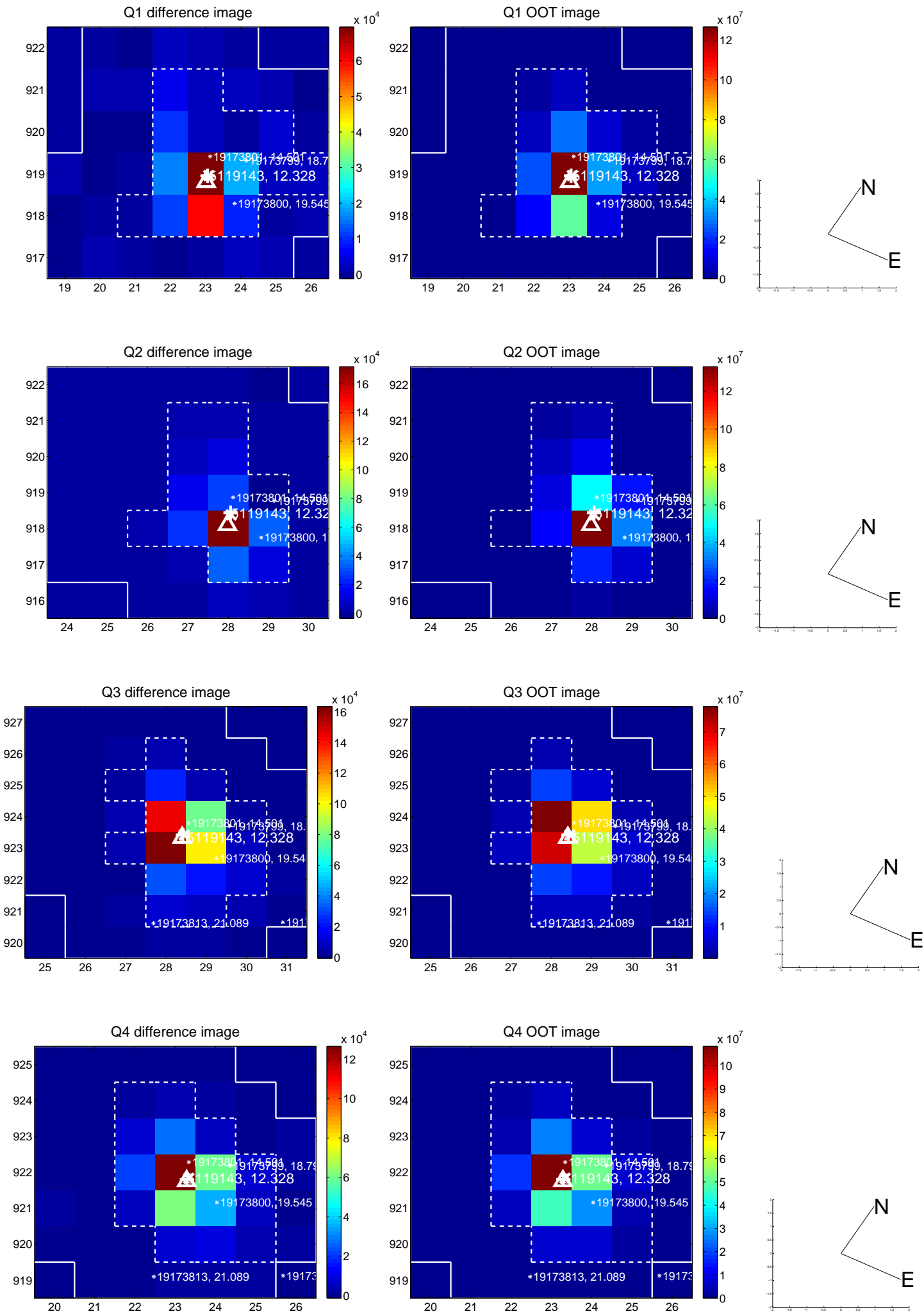
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.376 \pm 0.188$	2.00	$0.141 \pm 0.225$	$-0.349 \pm 0.136$
PRF-fit source offset from KIC position	$0.391 \pm 0.147$	2.66	$0.029 \pm 0.244$	$-0.390 \pm 0.134$
photometric centroid source offset	—	—	—	—



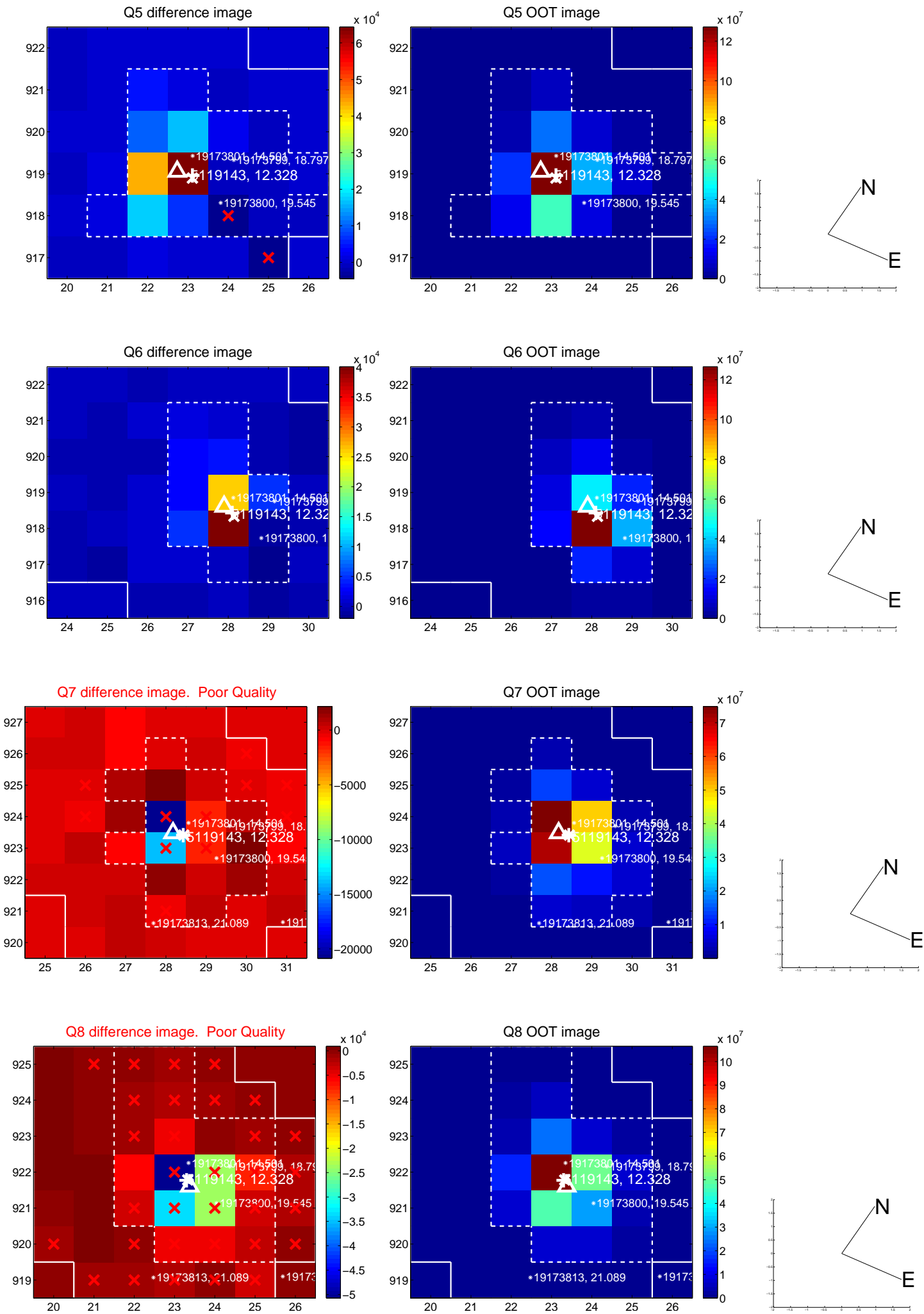
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

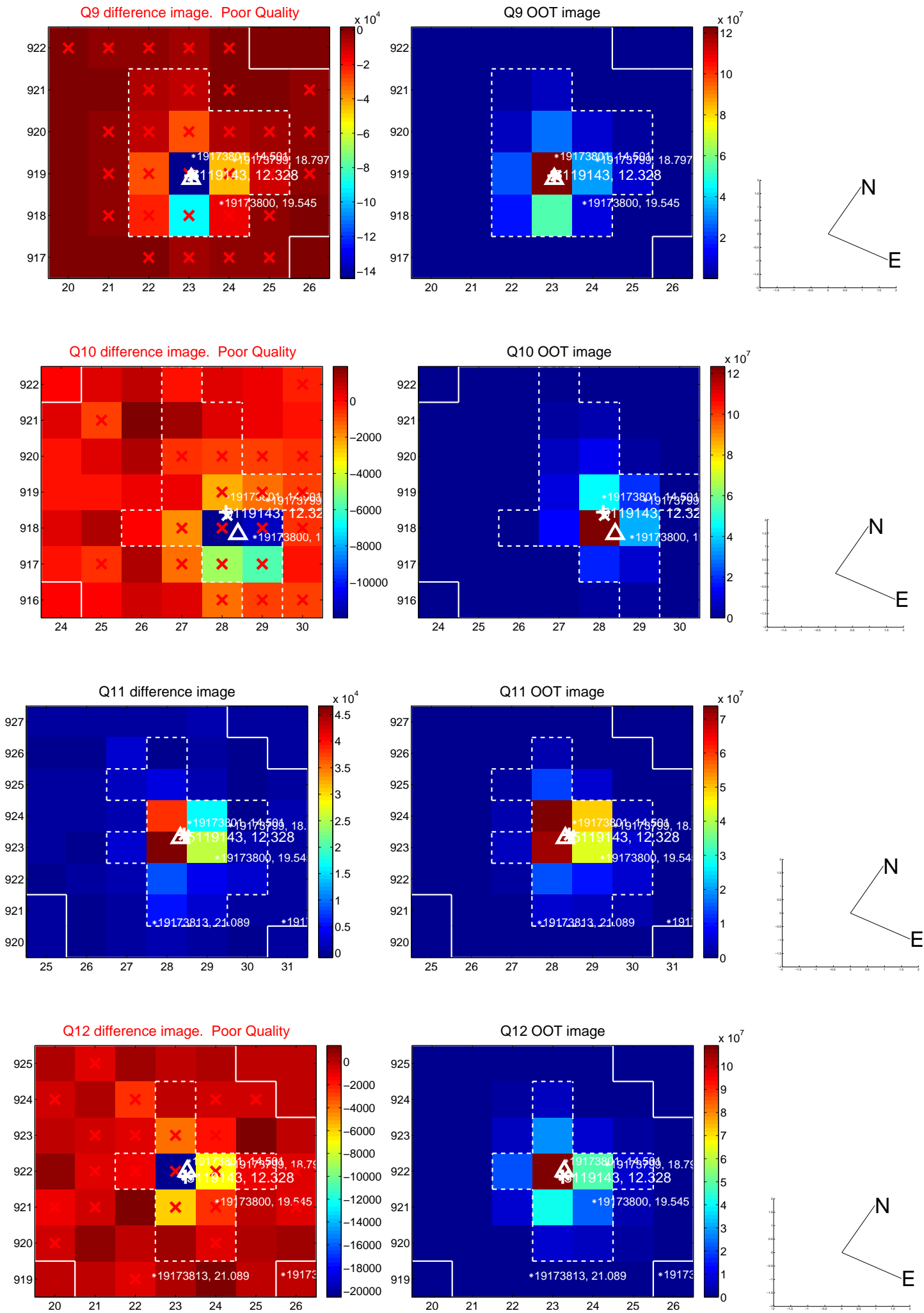




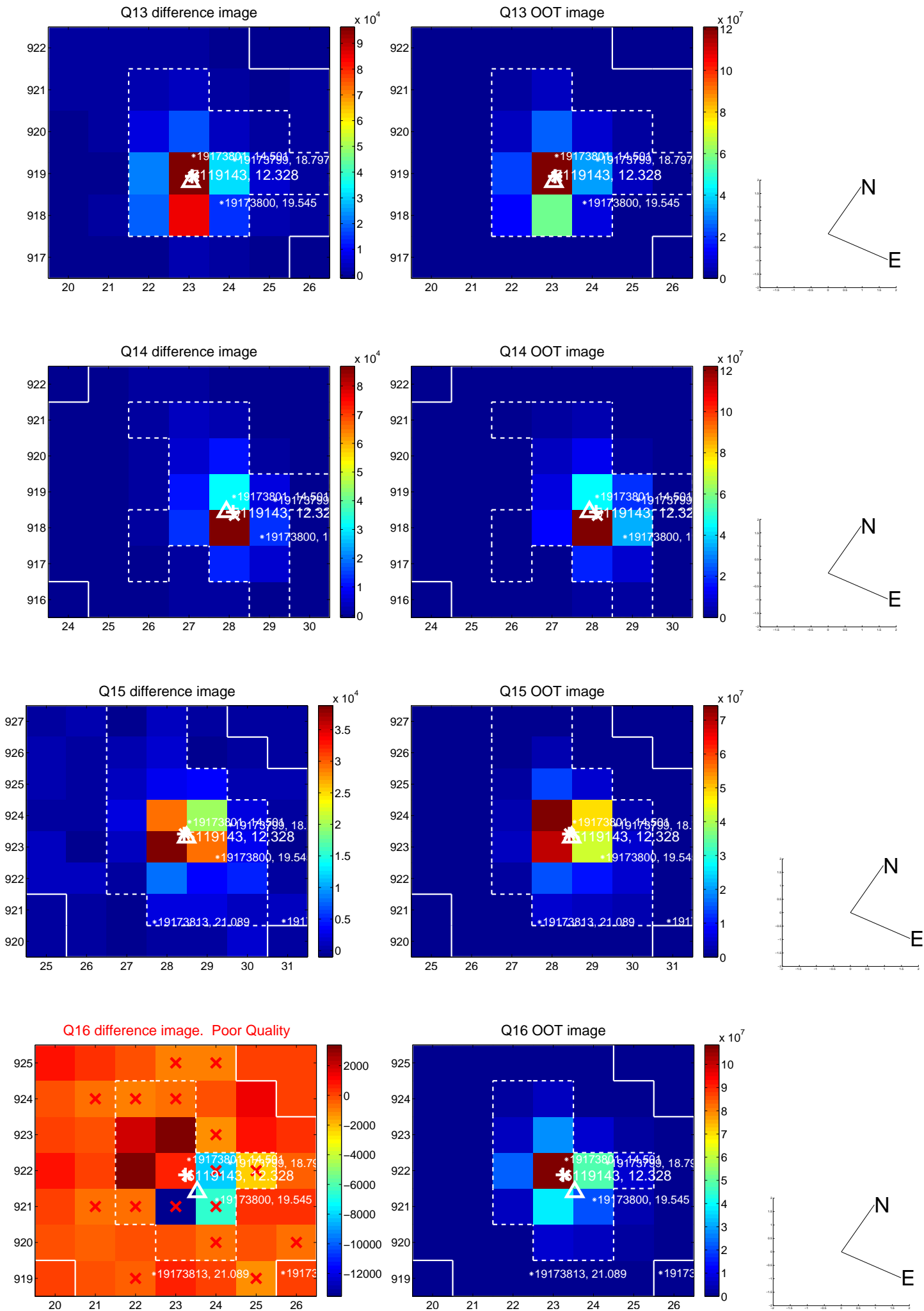
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



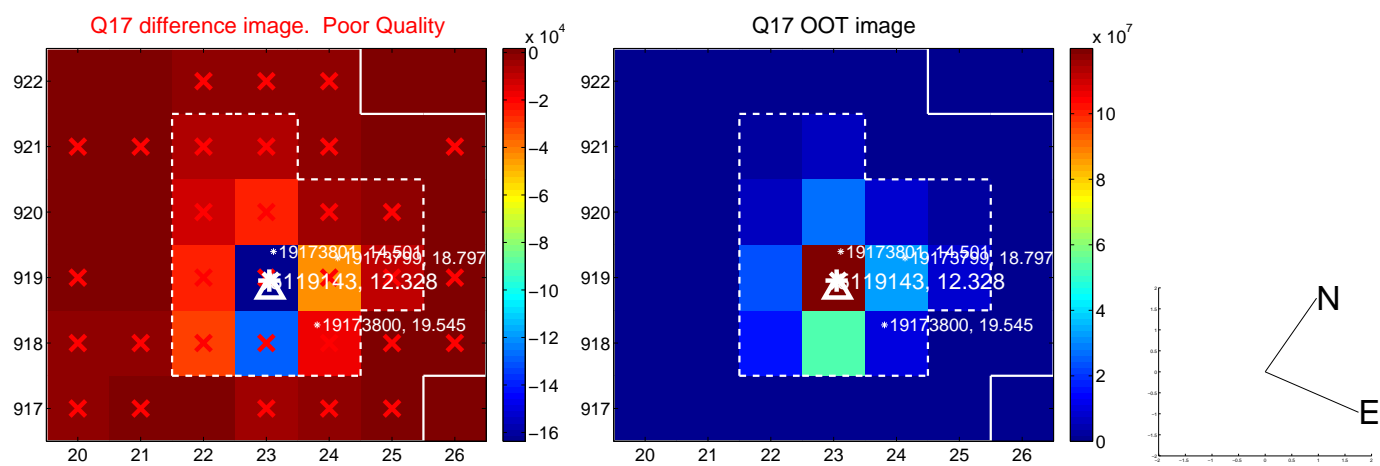
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



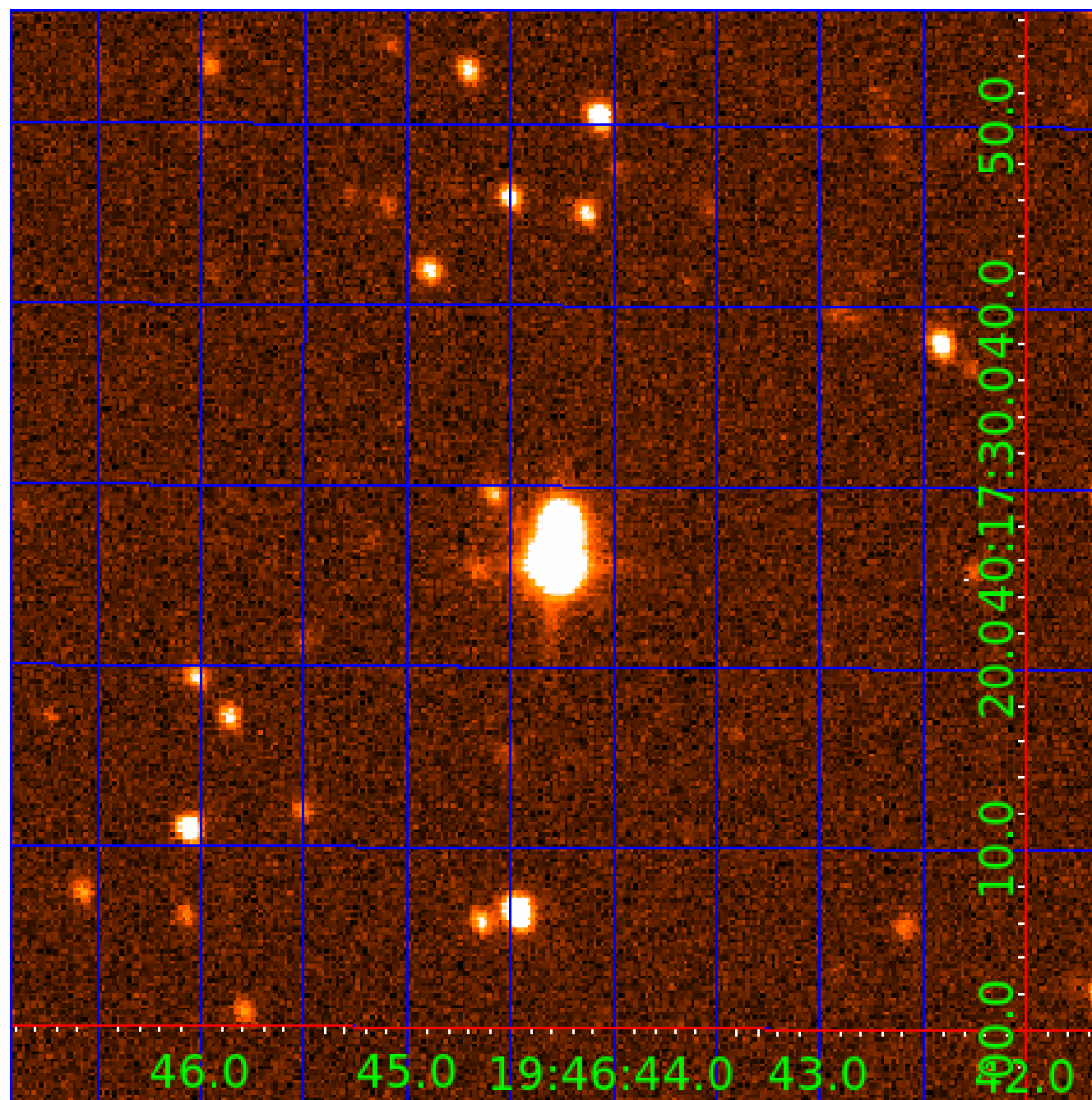
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



# KIC 005119143

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005119143-01	OBS	No	0.560421	131.810379	99.9	1.248	10.4	8.4	2.56	7921	2.59	84772.72
005119143-02	OBS	No	0.560414	132.034733	142.8	1.513	10.5	11.3	2.56	7921	3.62	84774.09
005119143-03	OBS	No	59.444062	162.350111	2291.8	2.987	9.1	8.9	2.56	7921	13.41	168.84
005119143-04	OBS	No	145.415419	187.482025	2445.7	3.736	9.1	8.8	2.56	7921	15.32	51.22
005119143-05	OBS	No	10.622508	133.043618	1096.5	2.337	8.9	9.1	2.56	7921	15.84	1677.41
005119143-06	OBS	No	171.991797	198.361610	3263.0	5.628	8.7	9.3	2.56	7921	16.77	40.95

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005119143-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005119143-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
005119143-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES
005119143-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—LPP_ALT—MOD_NONUNIQ_ALT—HALO_GHOST
005119143-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—MOD_NONUNIQ_ALT
005119143-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_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 005119143-06

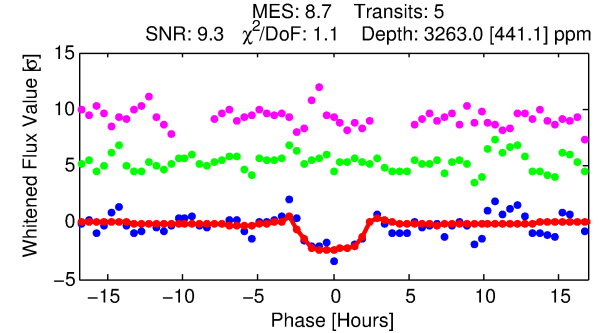
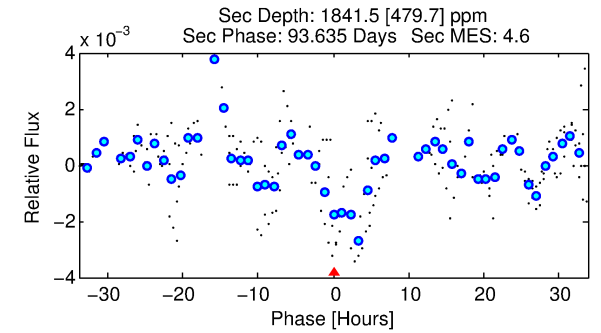
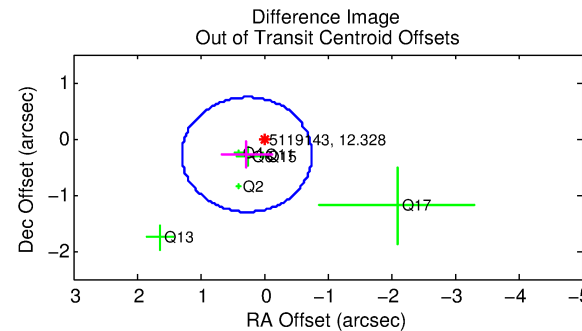
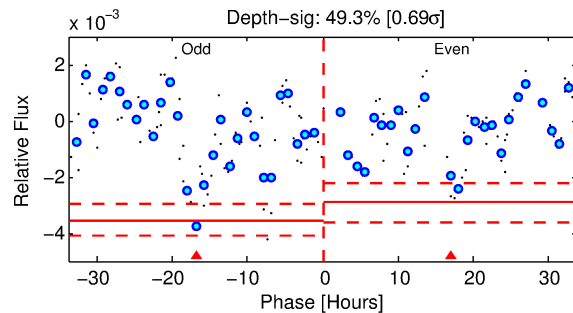
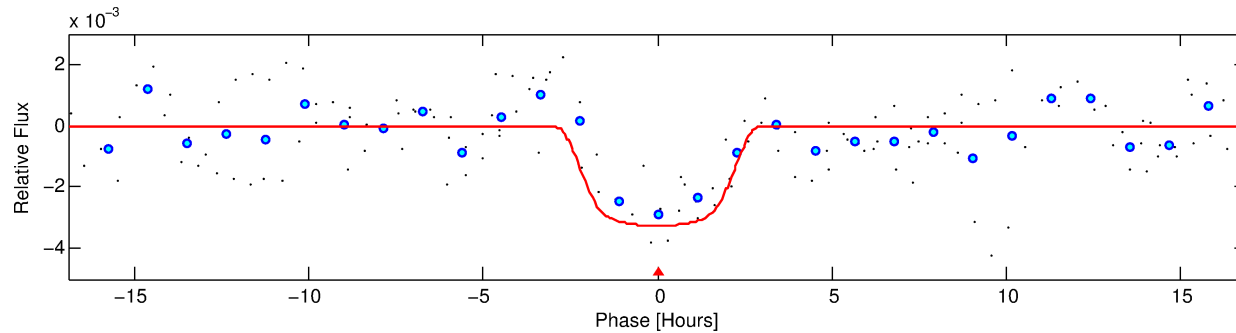
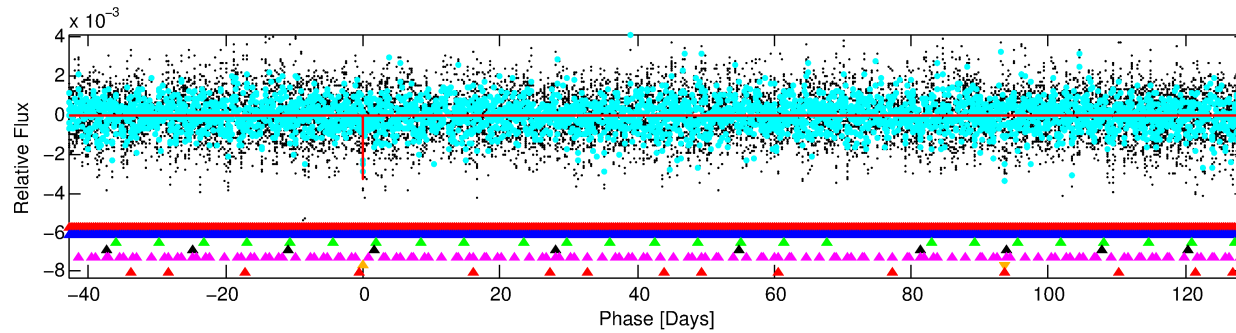
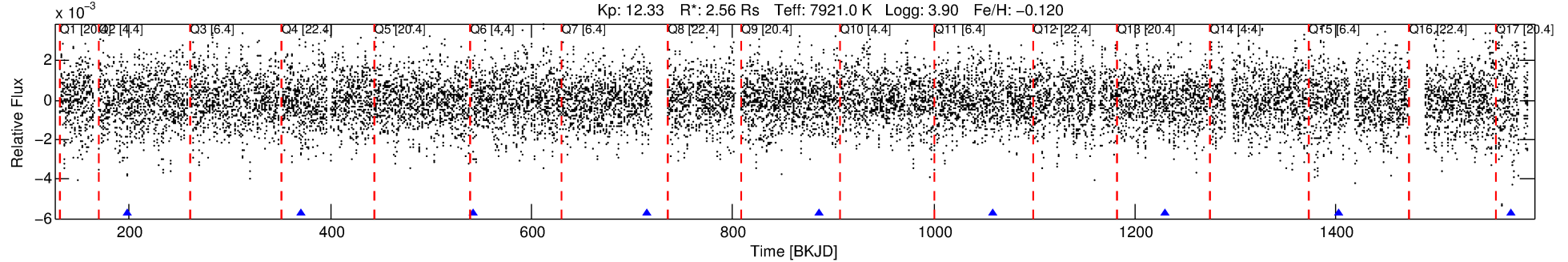
No Significant Match Found



# DV One-Page Summary

KIC: 5119143 Candidate: 6 of 7 Period: 171.992 d  
KOI: K06527 Corr: No Ephemeris Match

Kp: 12.33 R\*: 2.56 Rs Teff: 7921.0 K Logg: 3.90 Fe/H: -0.120



## DV Fit Results:

Period = 171.99180 [0.00226] d  
Epoch = 198.3616 [0.0093] BKJD  
Rp/R\* = 0.0602 [0.0052]  
a/R\* = 138.11 [32.72]  
b = 0.88 [0.06]  
Seff = 40.95 [11.09]  
Teq = 645 [44] K  
Rp = 16.77 [3.49] Re  
a = 0.7498 [0.1296] AU  
Ag = 2025.04 [833.83] [2.43σ]  
Teffp = 6690 [527] K [11.43σ]

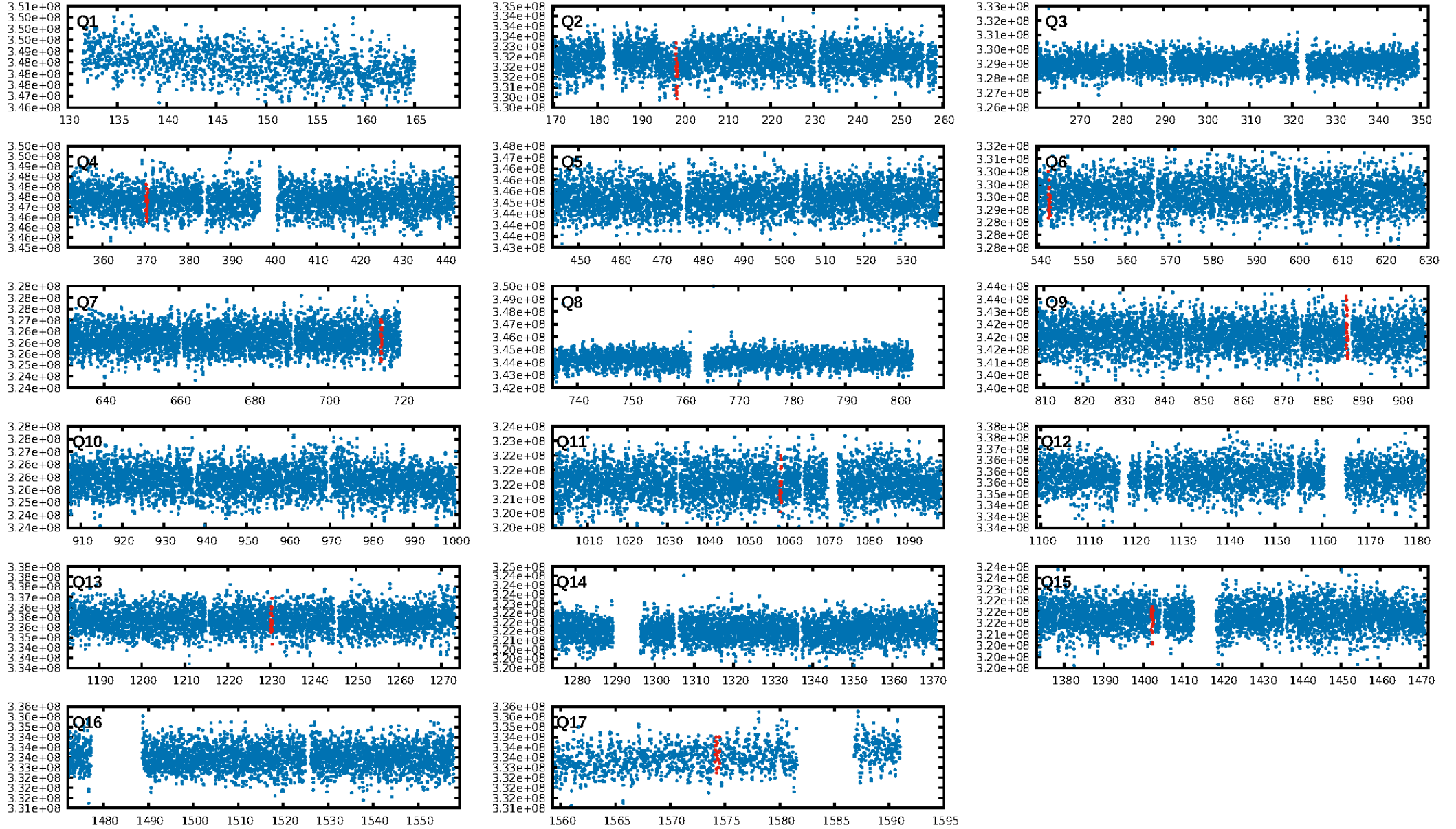
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [94.42σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 64.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
**GhostDiagnostic-chr: 3.736**  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.391 arcsec [1.15σ]  
KicOffset-rm: 0.397 arcsec [1.45σ]  
OotOffset-st: 2/2/1/2 [7]  
KicOffset-st: 2/2/1/2 [7]  
DiffImageQuality-fgm: 0.57 [4/7]  
DiffImageOverlap-fno: 0.00 [0/7]

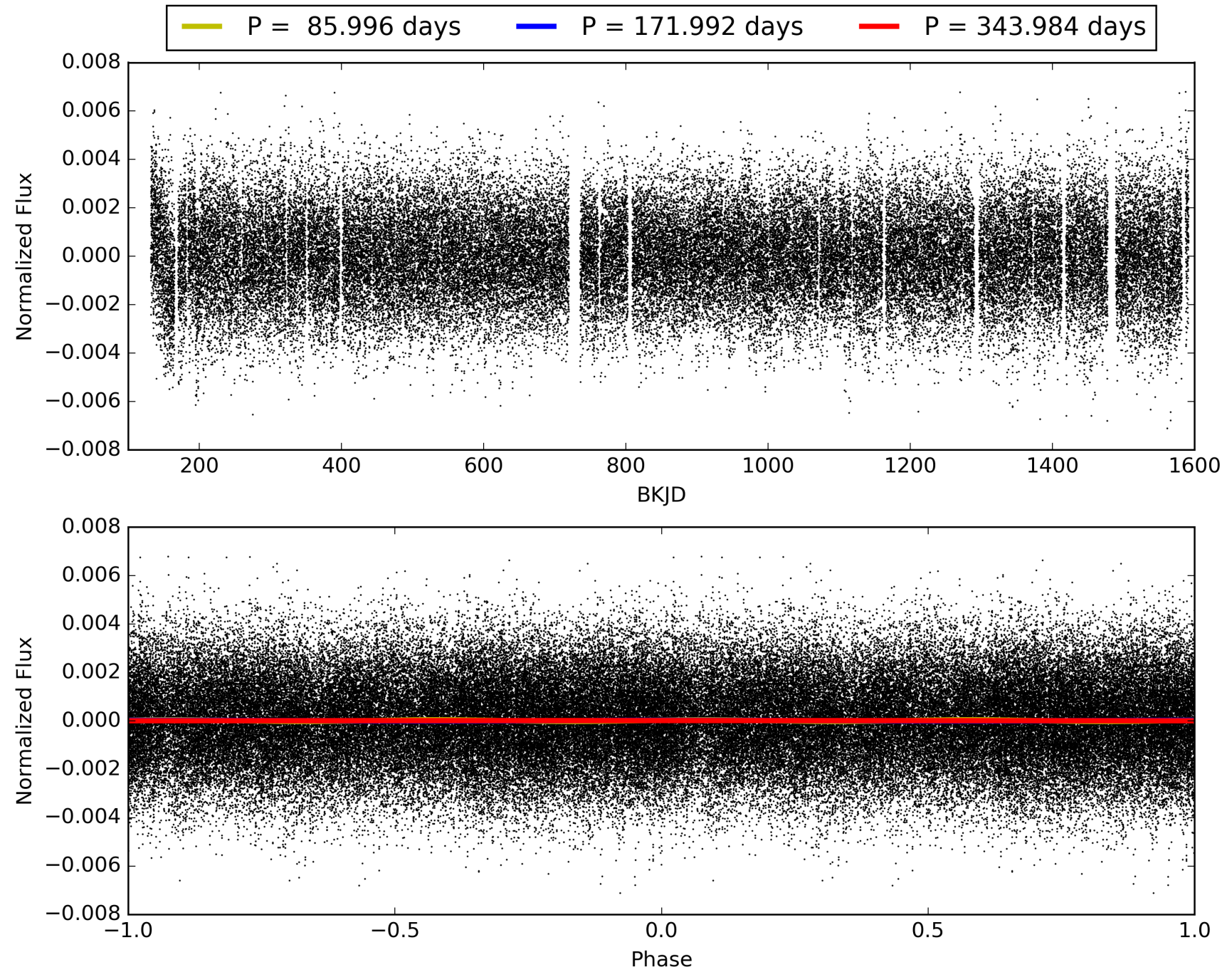
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:06:50 Z

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

# TCE 005119143-06, PDC Light Curves

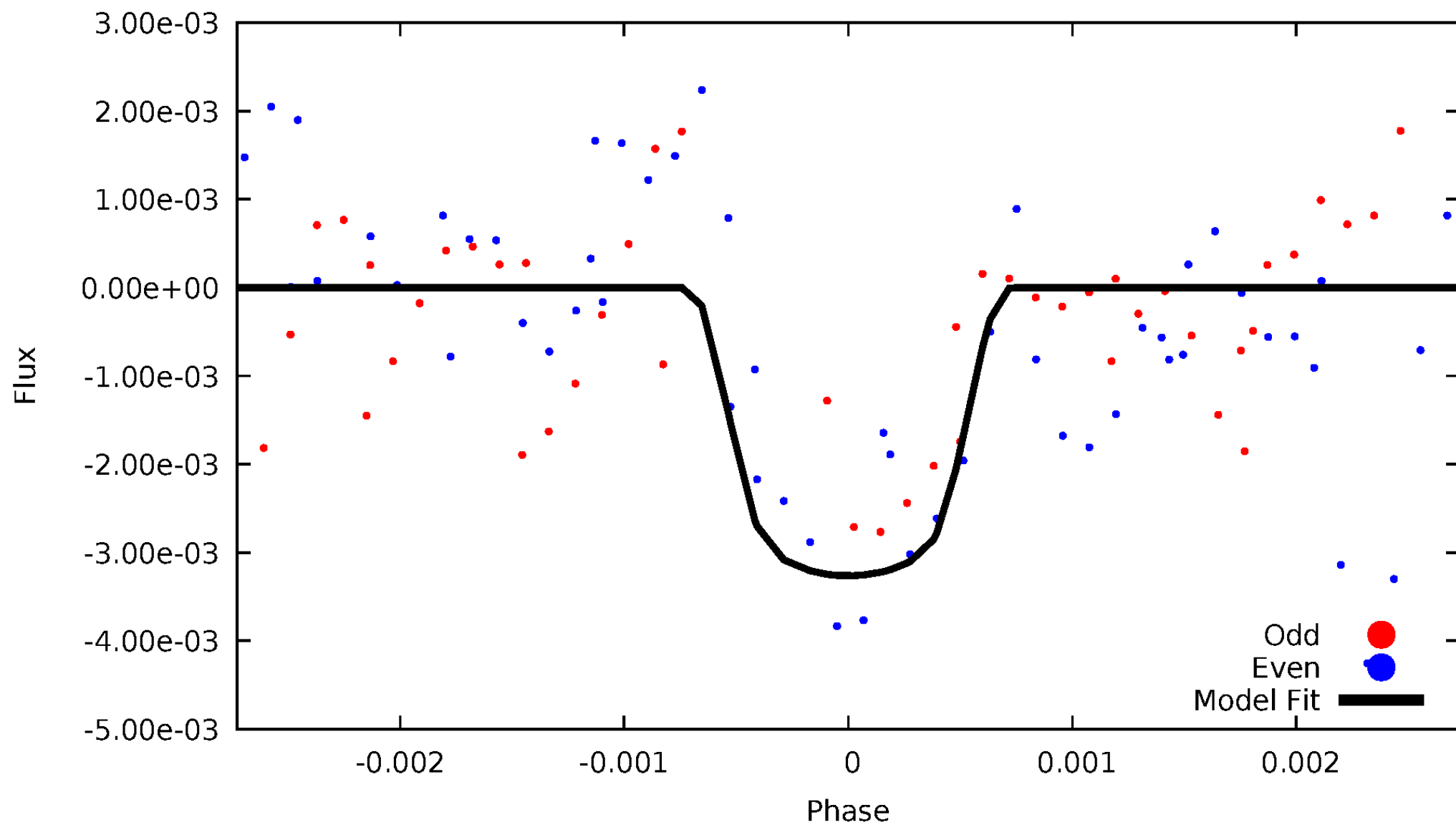


# TCE 005119143-06



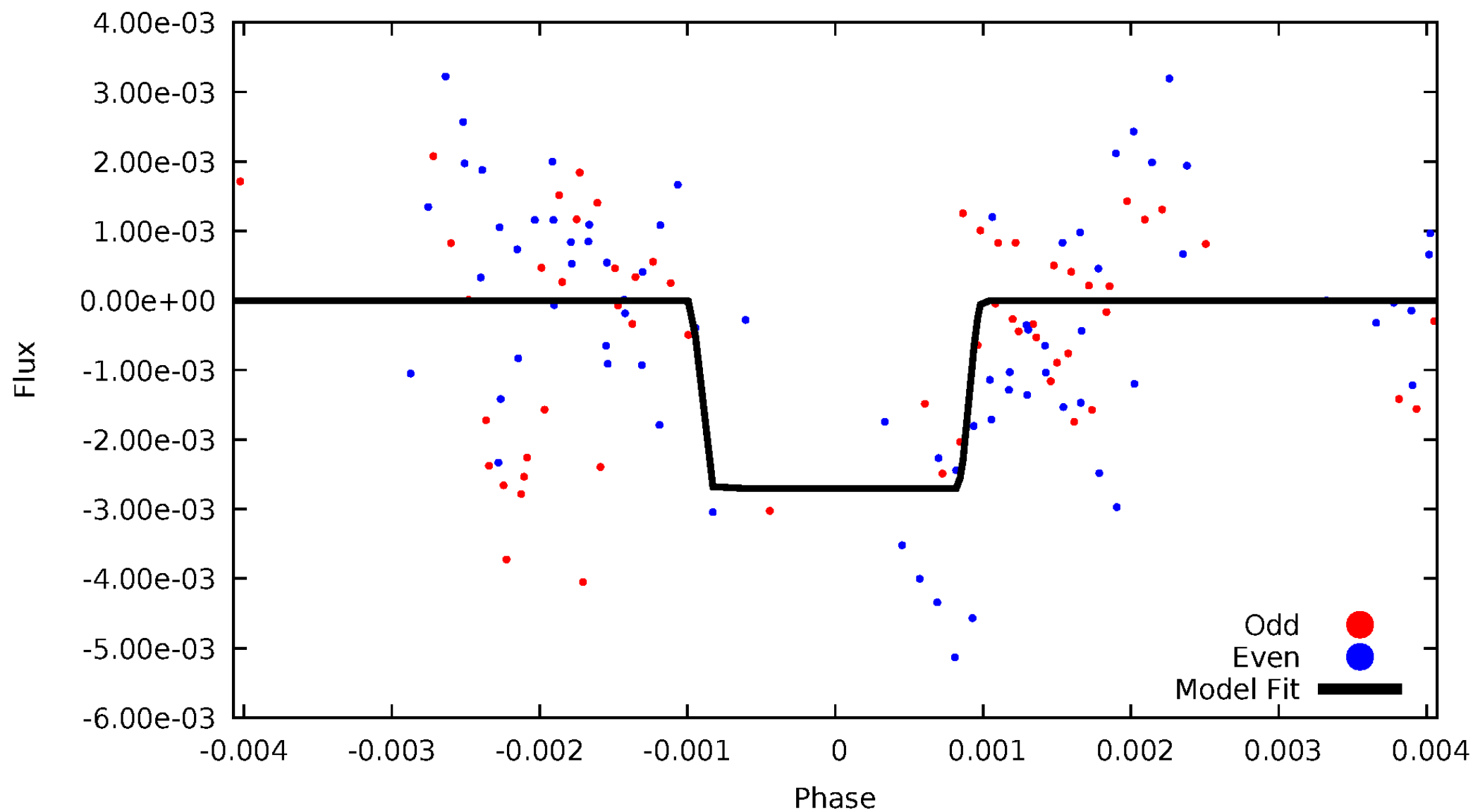
# DV Odd/Even

TCE 005119143-06



# ALT Odd/Even

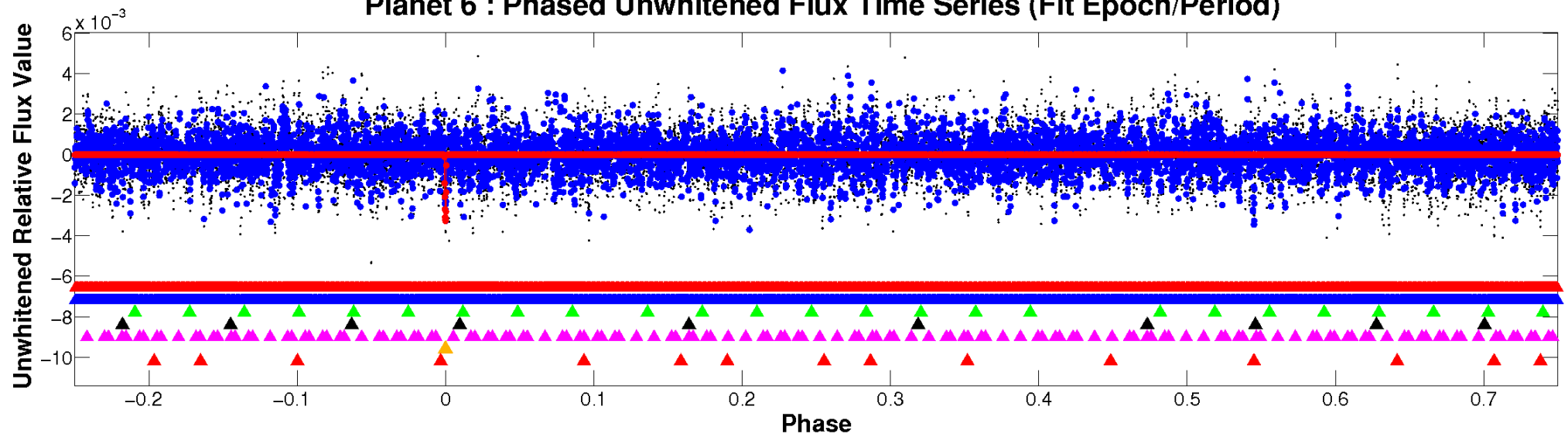
TCE 005119143-06



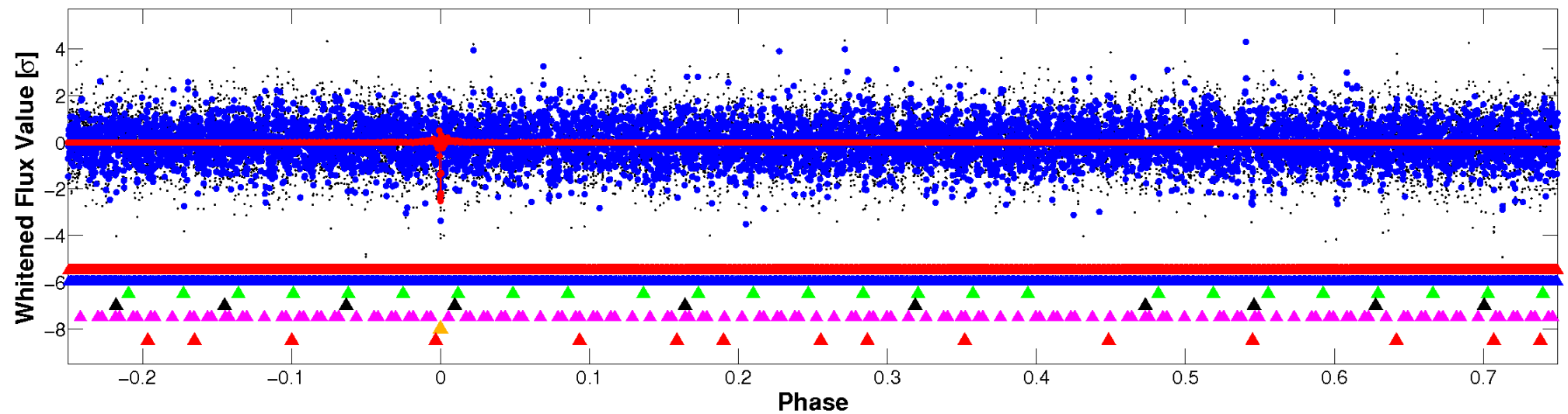


# Non-Whitened Vs. Whitened Light Curve

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



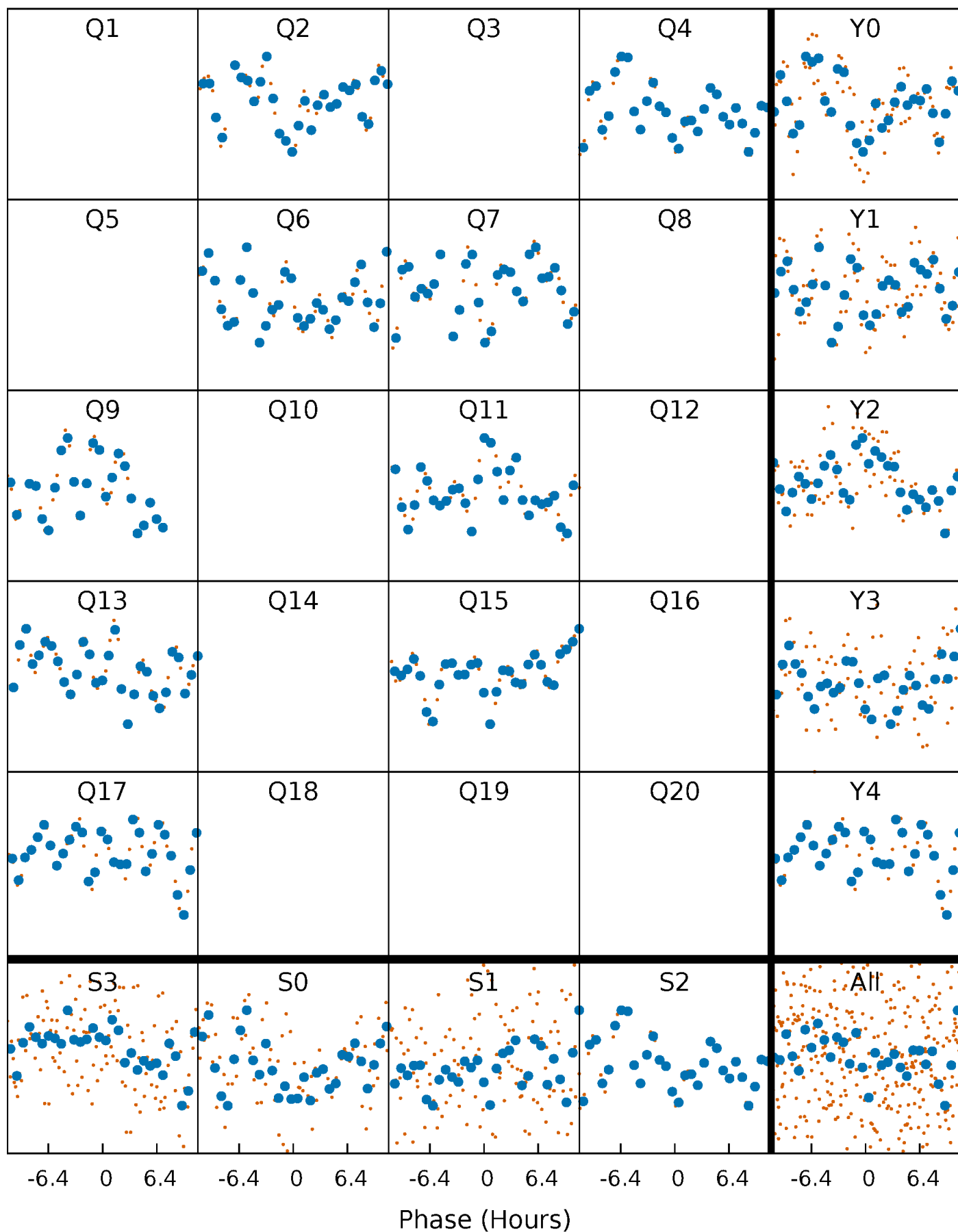
## Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)





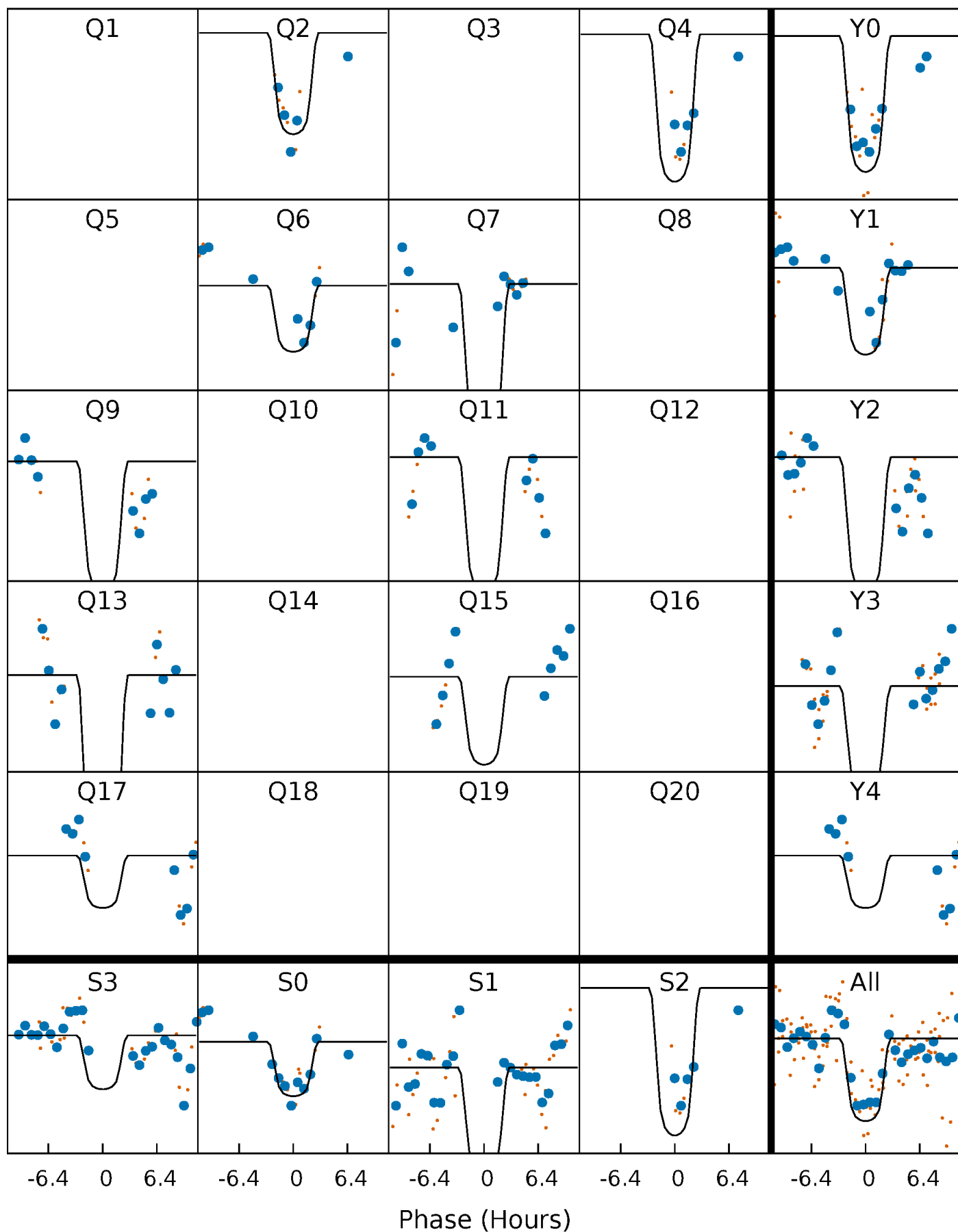
# PDC Quarter-Phased Transit Curves

TCE 005119143-06 P=171.991797 Days  $T_0=198.361610$  (BKJD)



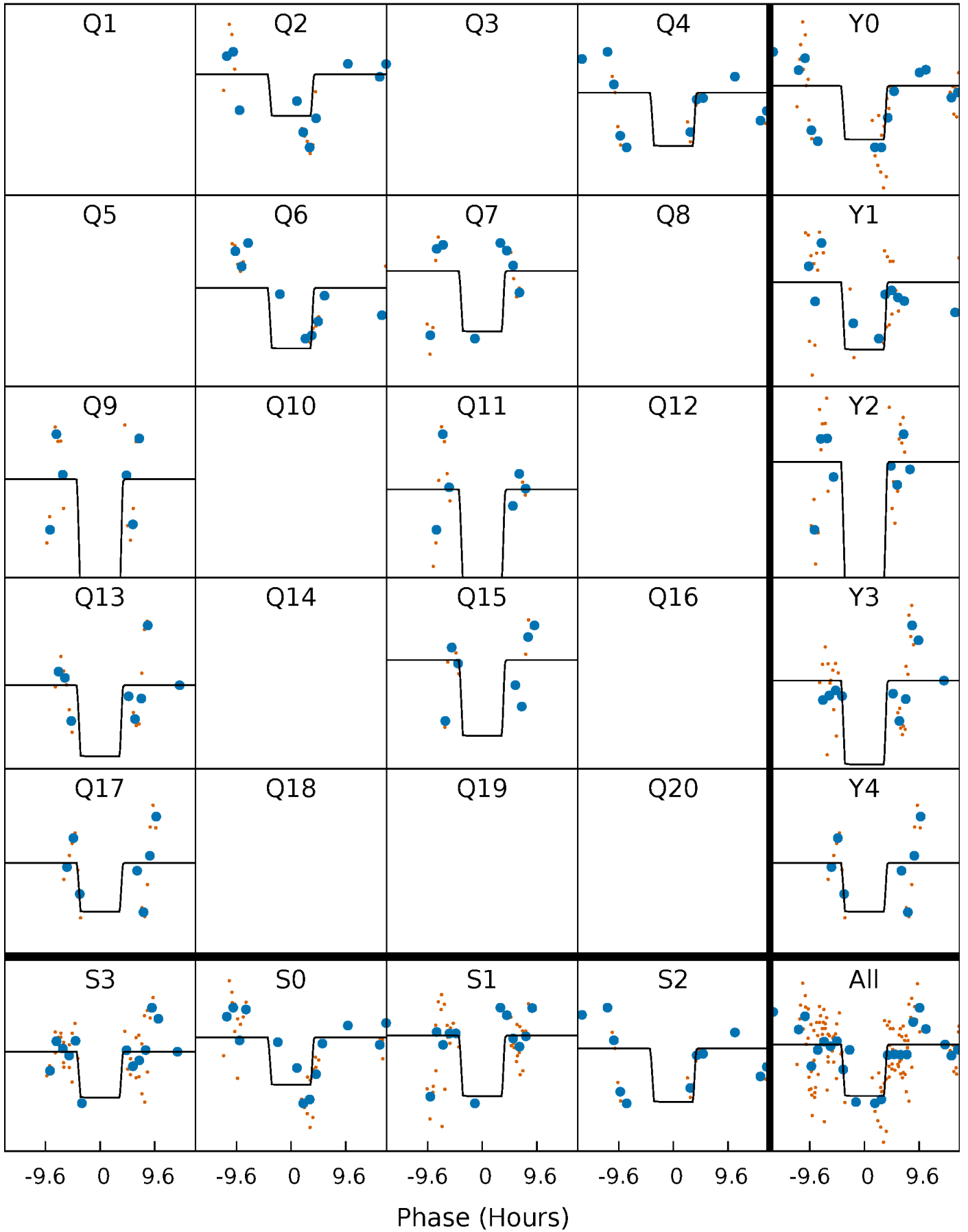
# DV Quarter-Phased Transit Curves

TCE 005119143-06 P=171.991797 Days  $T_0=198.361610$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

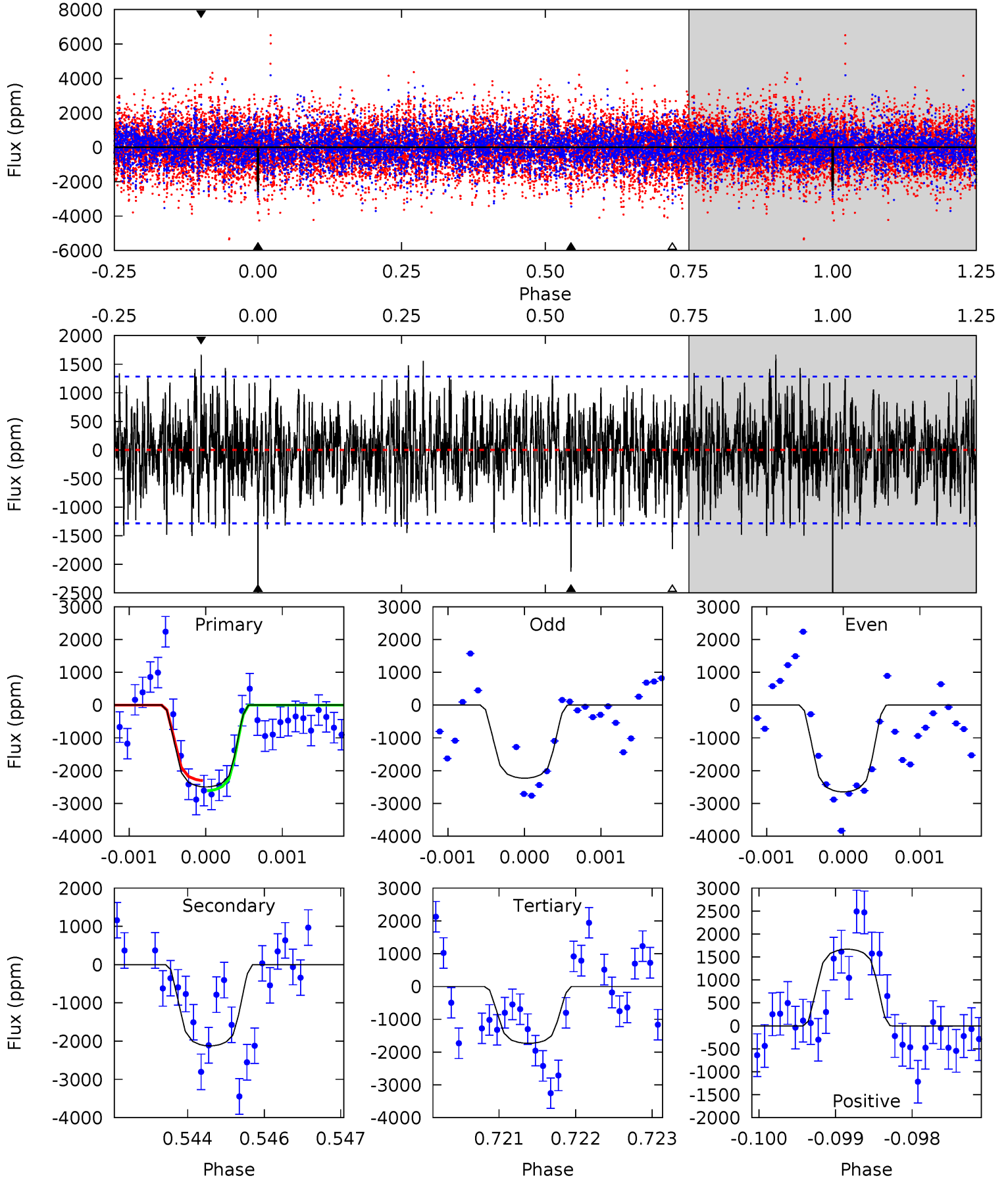
TCE 005119143-06 P=172.019126 Days  $T_0=198.213622$  (BKJD)



# DV Model-Shift Uniqueness Test

005119143-06, P = 171.991797 Days, E = 26.369813 Days

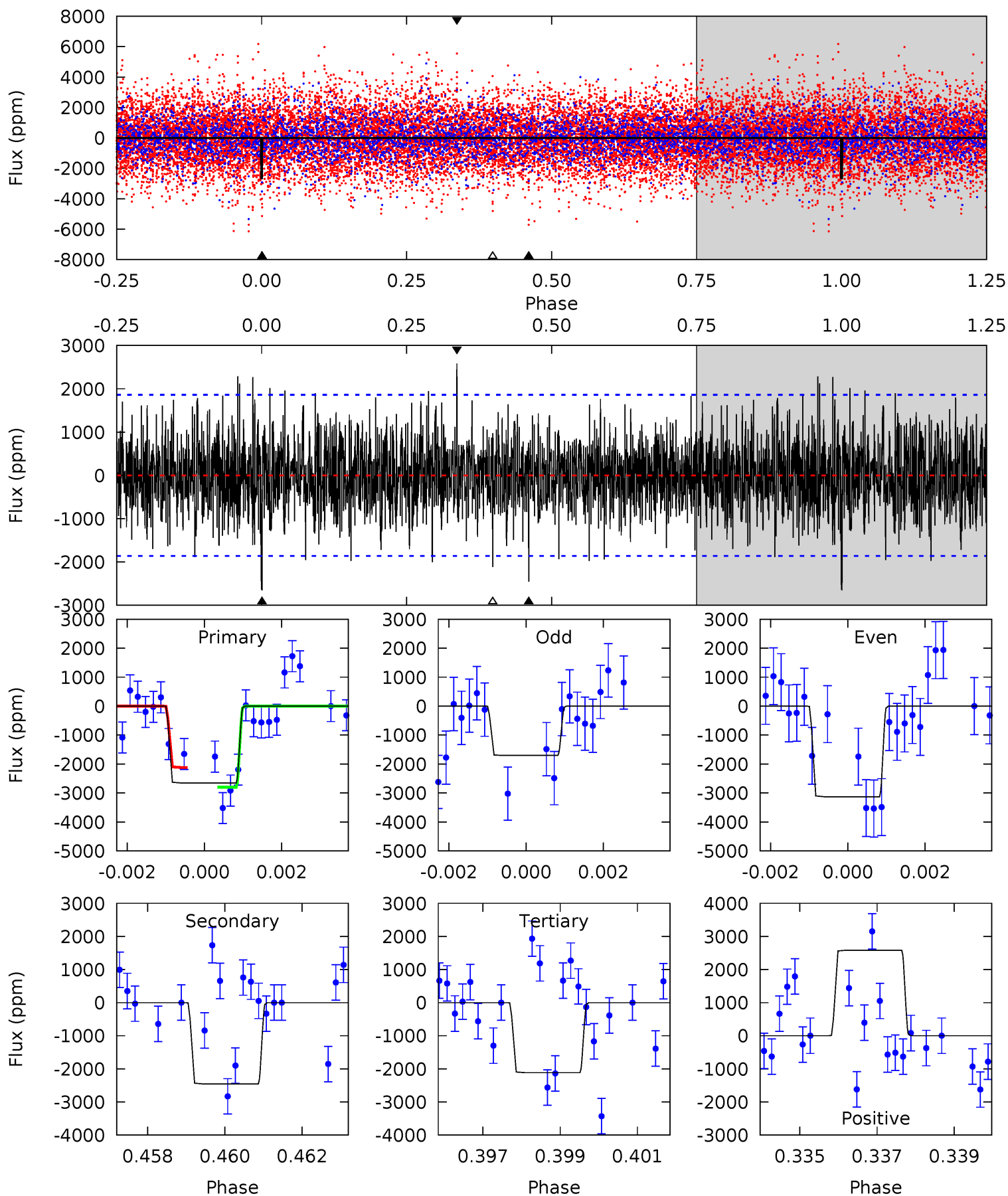
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	8.95	7.30	7.03	5.41	3.22	2.12	3.22	3.50	1.65	1.92	0.87	0.75	0.40	0.61



# Alt Model-Shift Uniqueness Test

005119143-06,  $P = 172.019126$  Days,  $E = 26.194496$  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
7.60	7.03	6.06	7.40	5.33	3.09	1.73	1.54	0.20	0.97	-0.37	2.03	1.16	0.49	0.74



### Stellar Parameters For KIC 005119143

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$7921^{+71}_{-79}$	$3.902^{+0.154}_{-0.077}$	$-0.120^{+0.100}_{-0.150}$	$2.555^{+0.260}_{-0.483}$	$1.901^{+0.023}_{-0.193}$	$0.161^{+0.115}_{-0.041}$
	+1%/-1%	+4%/-2%	+83%/-125%	+10%/-19%	+1%/-10%	+72%/-25%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005119143-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-2124 \pm 237$	$16.40^{+2.00}_{-2.11}$	$899^{+31}_{-43}$	$6805^{+412}_{-367}$	$2429^{+791}_{-548}$
Alt.	$-2455 \pm 349$	$14.10^{+1.78}_{-2.08}$	$898^{+30}_{-47}$	$7687^{+657}_{-534}$	$3752^{+1489}_{-1019}$

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



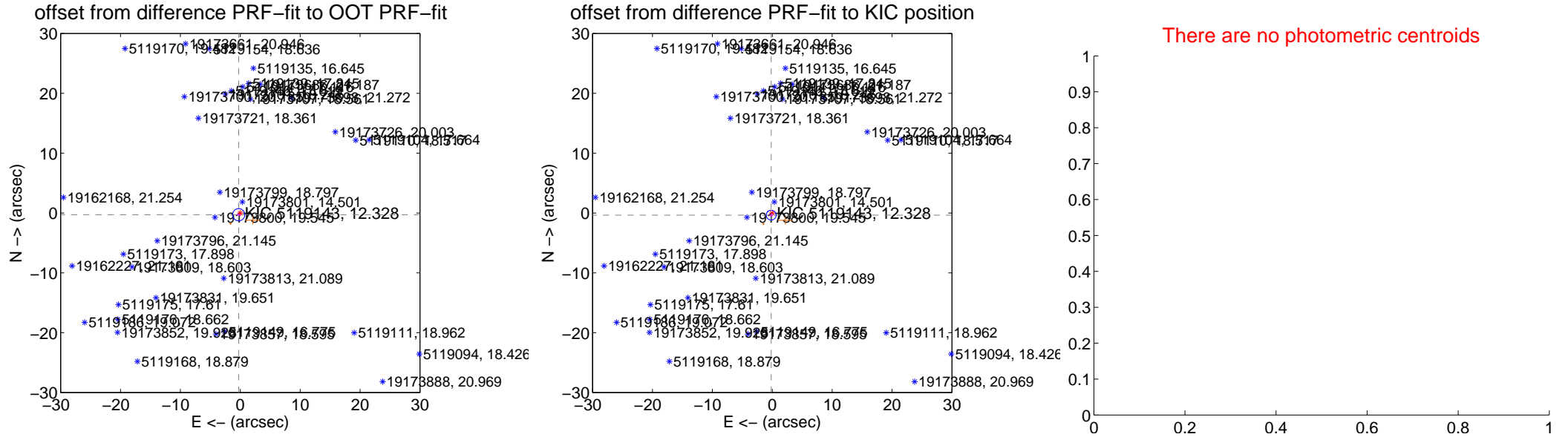
## DV Centroid Data

Supplemental centroid analysis for 005119143-06. Kepler magnitude: 12.33. Transit SNR 9.25

There are 4 quarters with good PRF difference image offsets

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

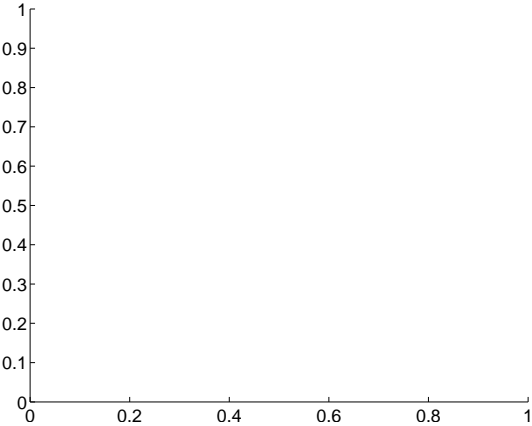
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.391 \pm 0.340$	1.15	$0.267 \pm 0.405$	$-0.286 \pm 0.231$
PRF-fit source offset from KIC position	$0.397 \pm 0.274$	1.45	$0.176 \pm 0.338$	$-0.356 \pm 0.233$
photometric centroid source offset	—	—	—	—



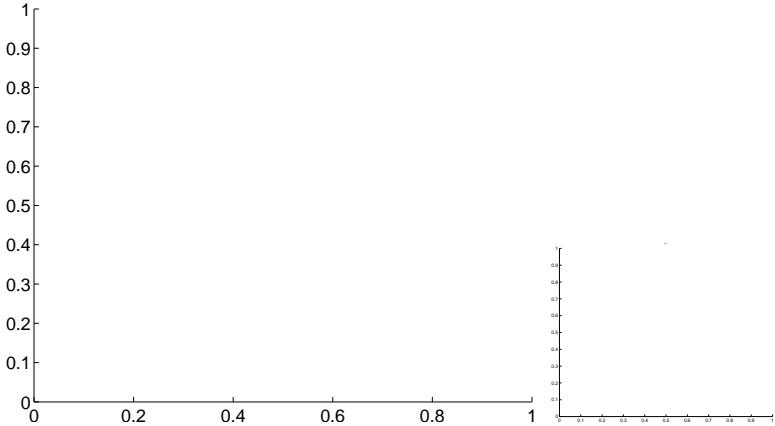
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

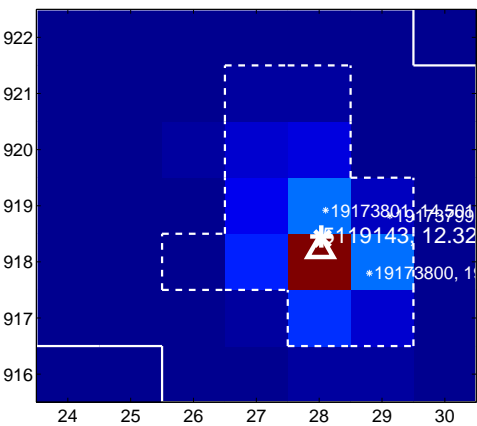
Q1 no difference image



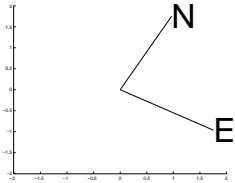
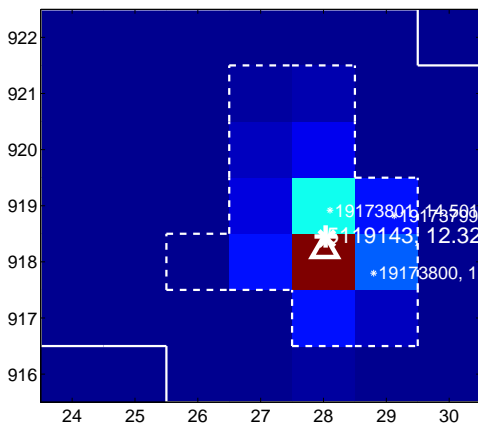
Q1 no OOT image



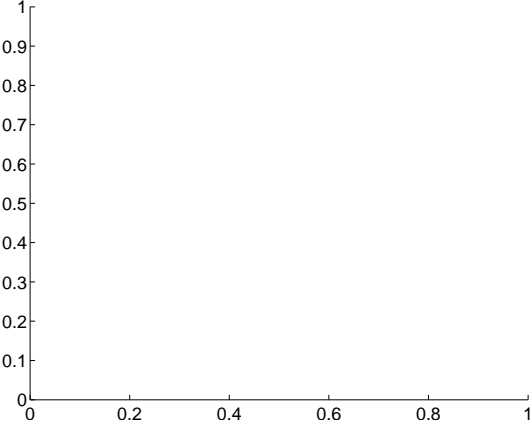
Q2 difference image



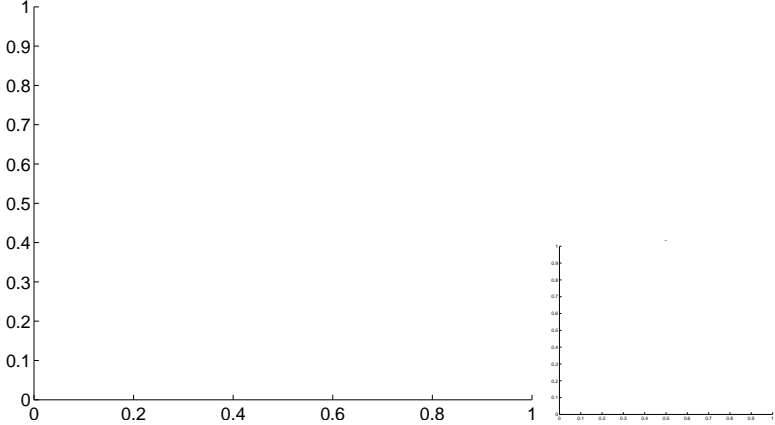
Q2 OOT image



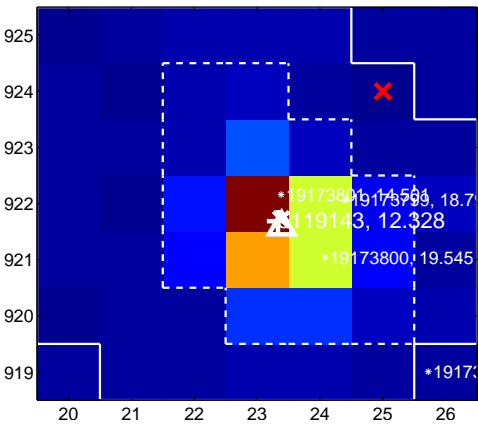
Q3 no difference image



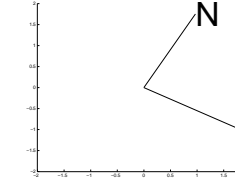
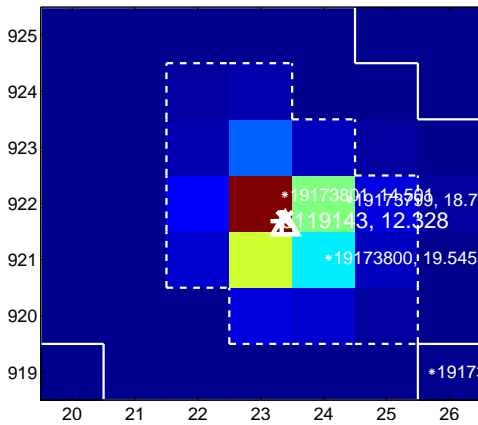
Q3 no OOT image



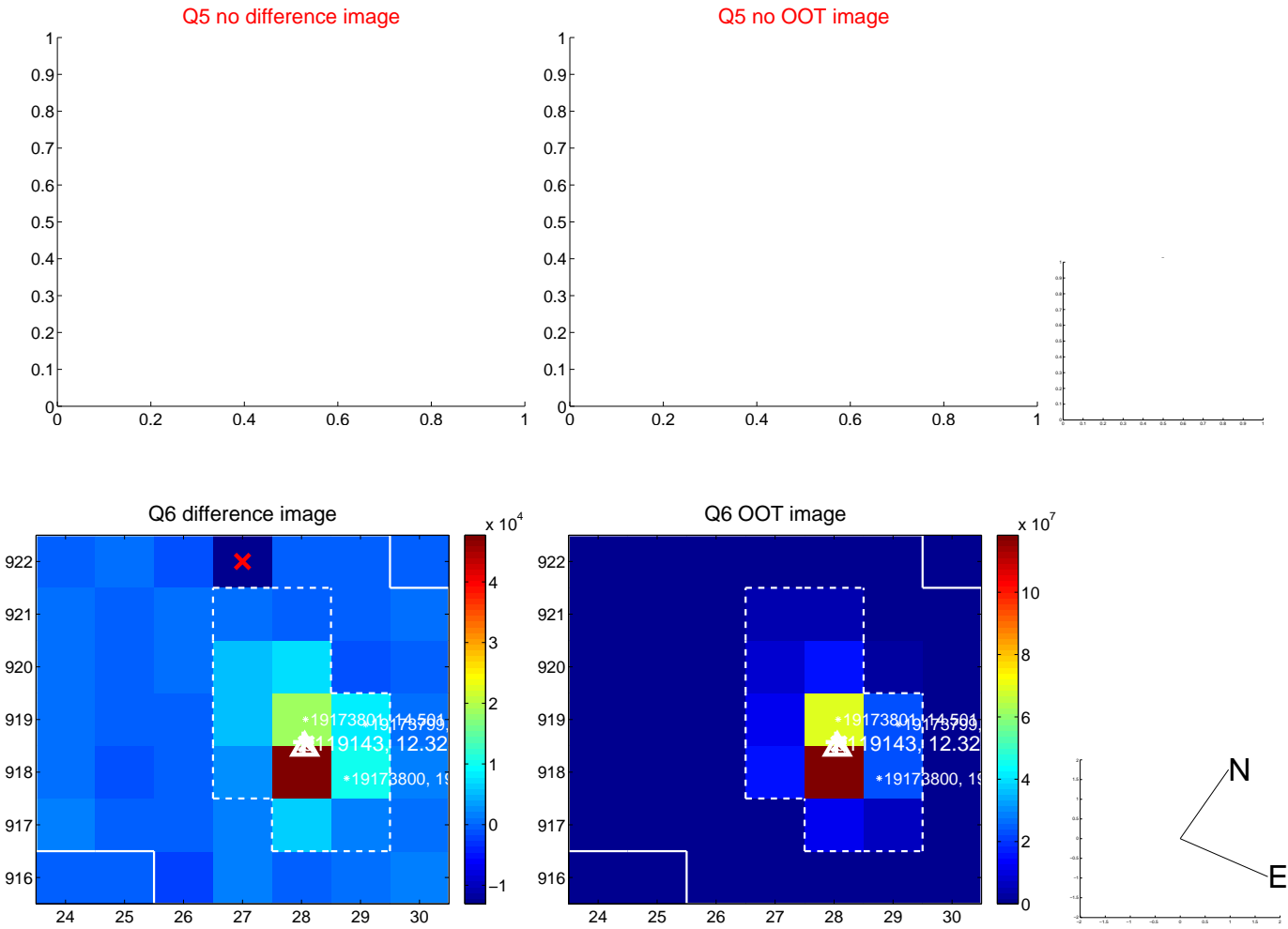
Q4 difference image



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



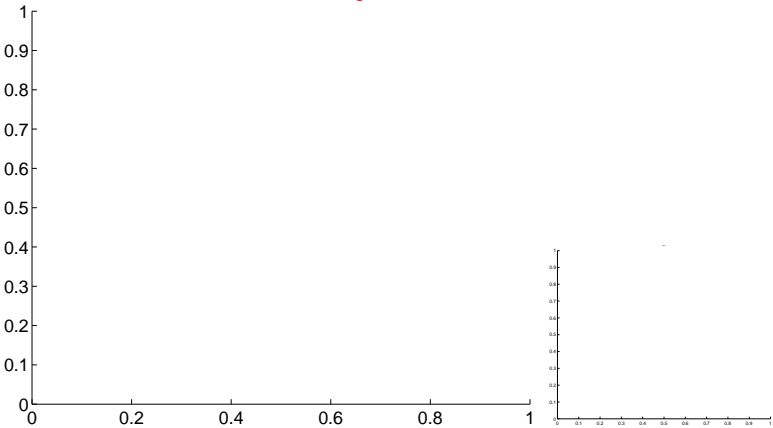
Q9 no OOT image



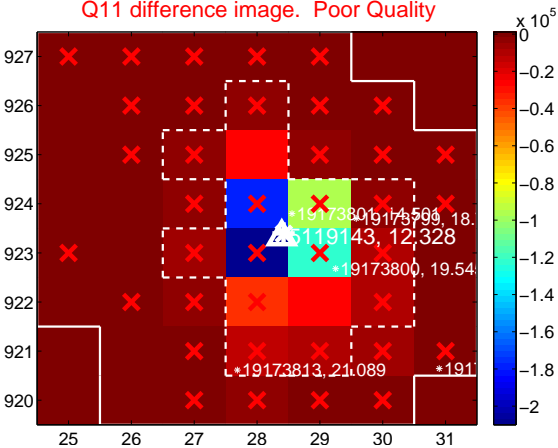
Q10 no difference image



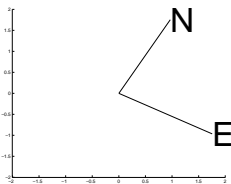
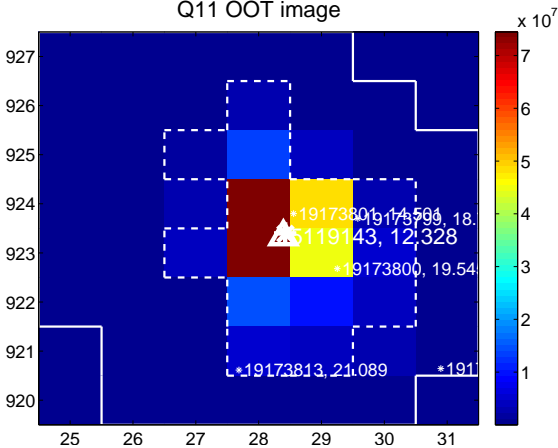
Q10 no OOT image



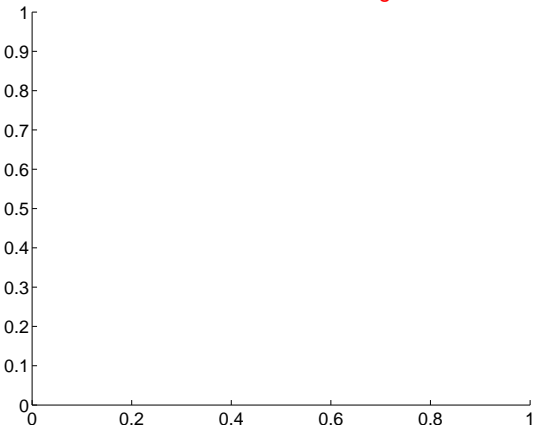
Q11 difference image. Poor Quality



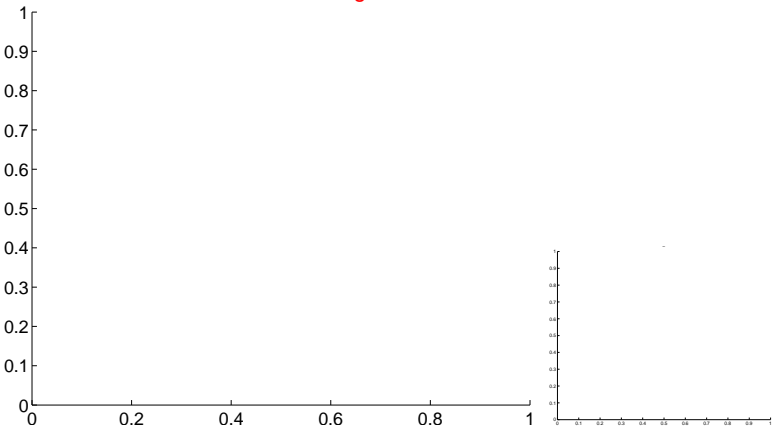
Q11 OOT image



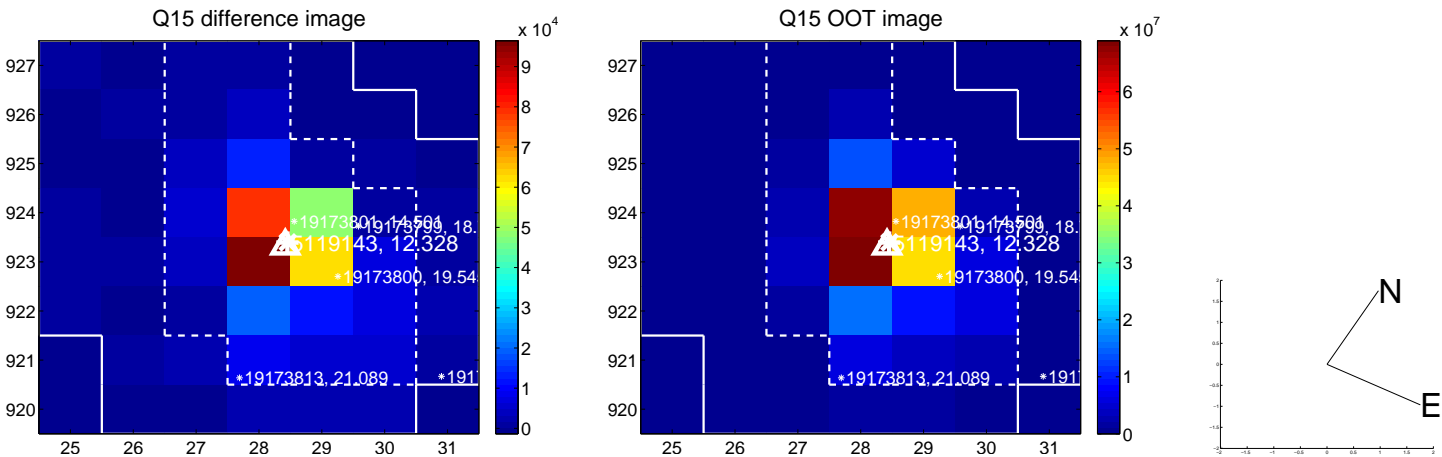
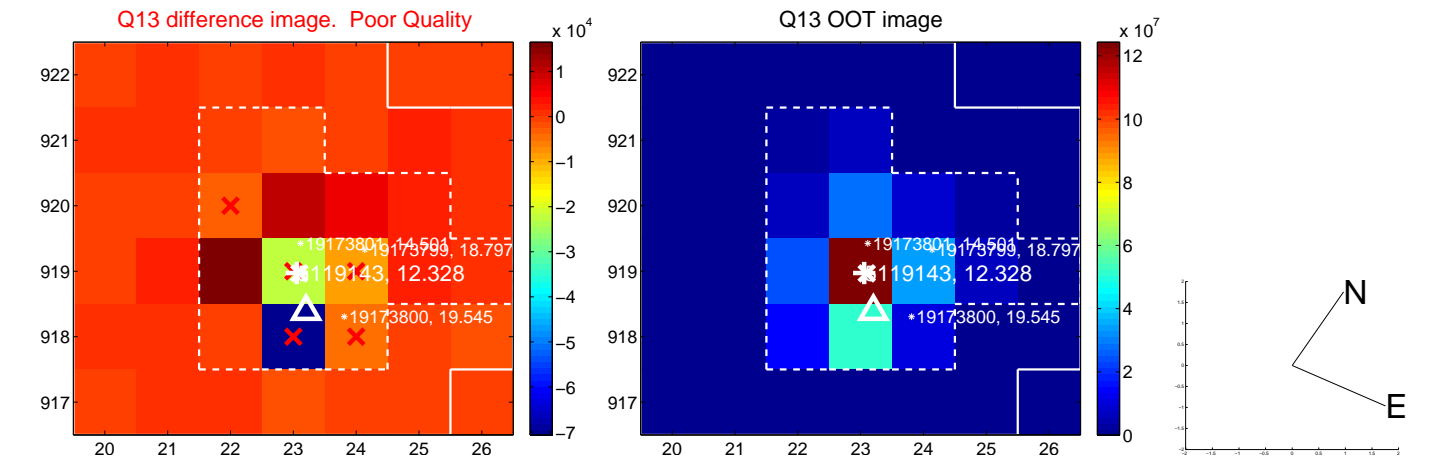
Q12 no difference image



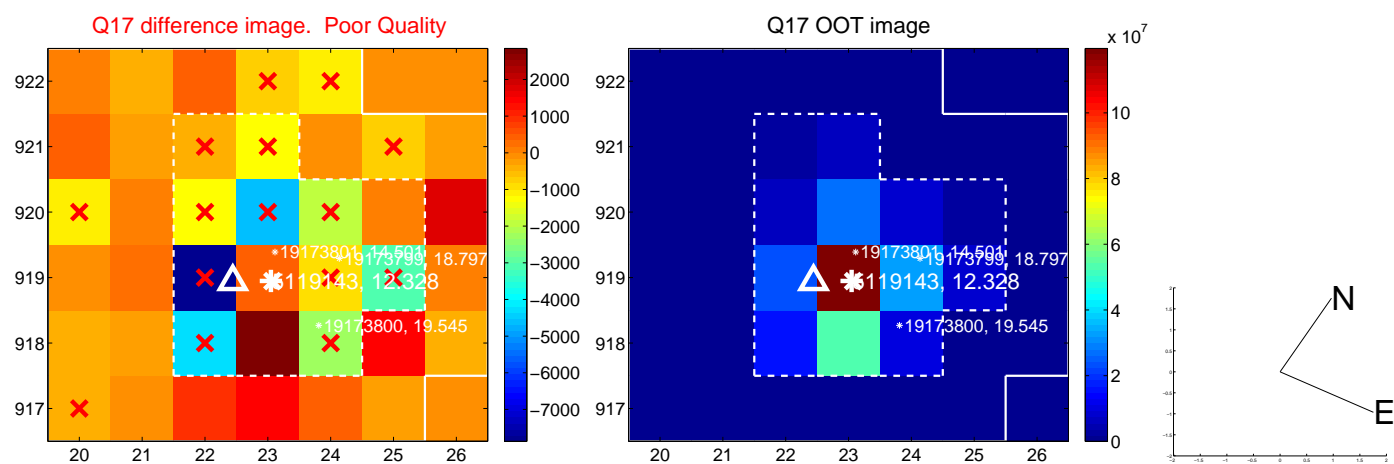
Q12 no OOT image



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



folded centroid time series figure for this object.





UKIRT Image

Declination

