

# KIC 007100673

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007100673-01	OBS	4032.01	3.951190	134.219141	63.7	2.715	16.4	19.5	1.06	5574	1.03	428.70
007100673-02	OBS	4032.04	5.101138	132.426934	66.3	2.827	14.8	17.8	1.06	5574	1.04	304.96
007100673-03	OBS	4032.03	5.992709	131.754307	70.9	2.676	15.1	16.7	1.06	5574	1.09	246.02
007100673-04	OBS	4032.02	2.892211	132.870091	43.3	2.709	13.2	14.8	1.06	5574	0.81	649.86
007100673-05	OBS	4032.05	7.235231	135.236012	55.4	2.409	9.0	10.5	1.06	5574	0.88	191.36
007100673-06	OBS	No	273.562429	141.345920	104.4	15.266	8.2	5.2	1.06	5574	1.23	1.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007100673-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-04	OBS	PC	0.99	0	0	0	0	NO_COMMENT
007100673-05	OBS	PC	0.79	0	0	0	0	NO_COMMENT
007100673-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

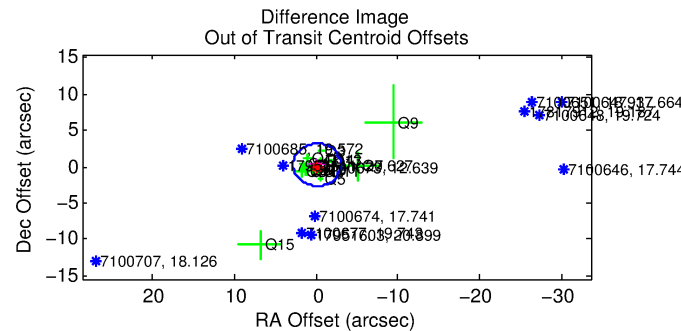
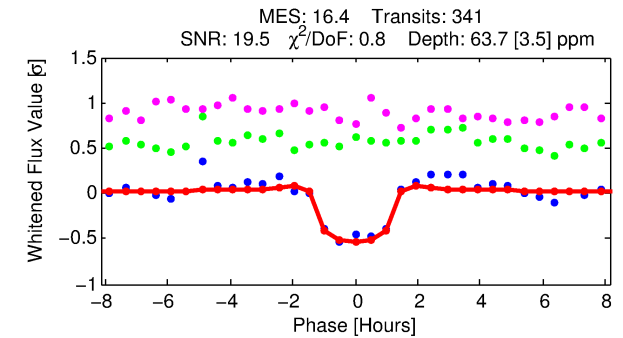
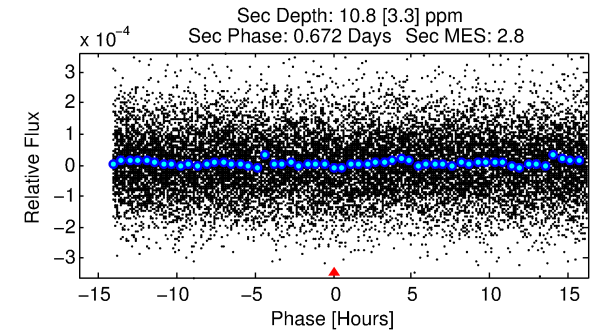
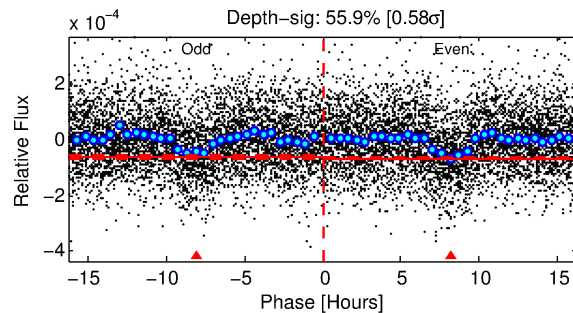
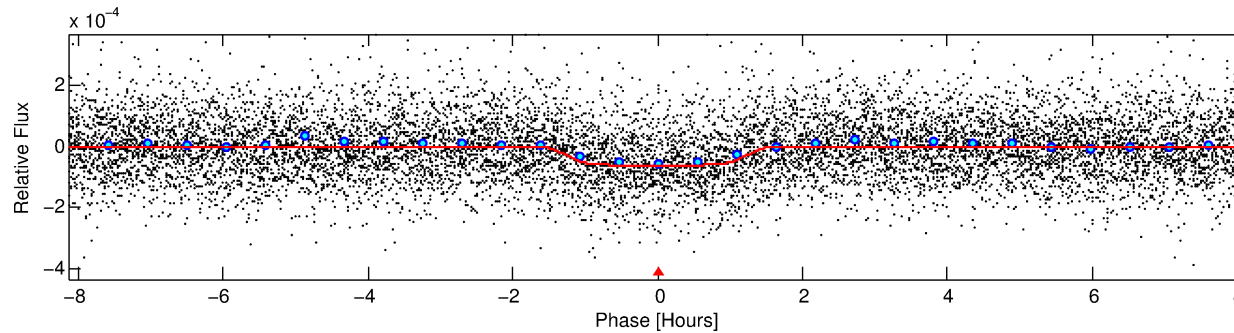
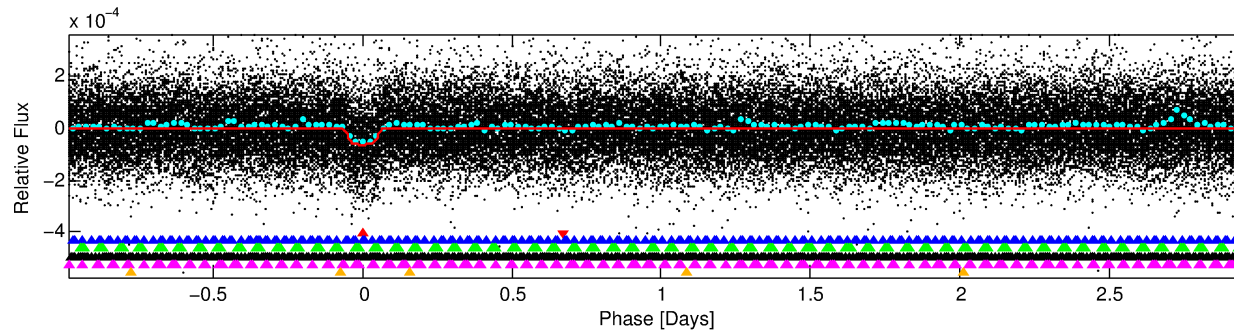
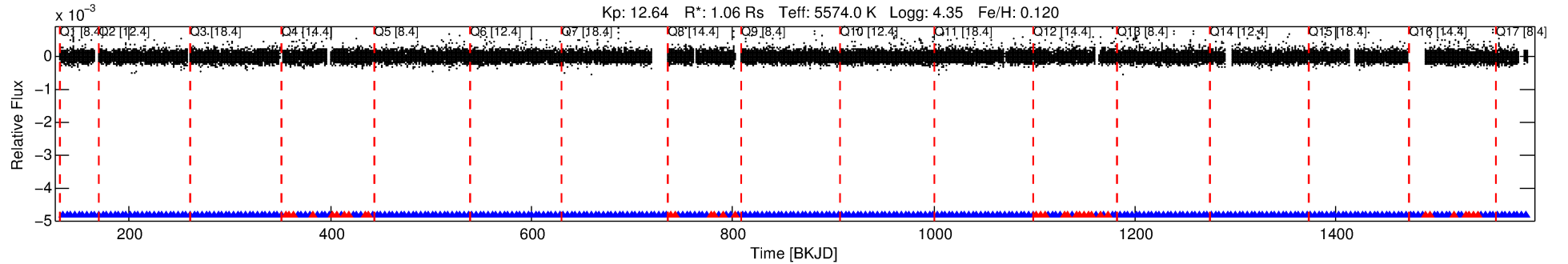
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007100673-01

No Significant Match Found

# DV One-Page Summary

KIC: 7100673 Candidate: 1 of 6 Period: 3.951 d  
KOI: K04032.01 Corr: 0.973



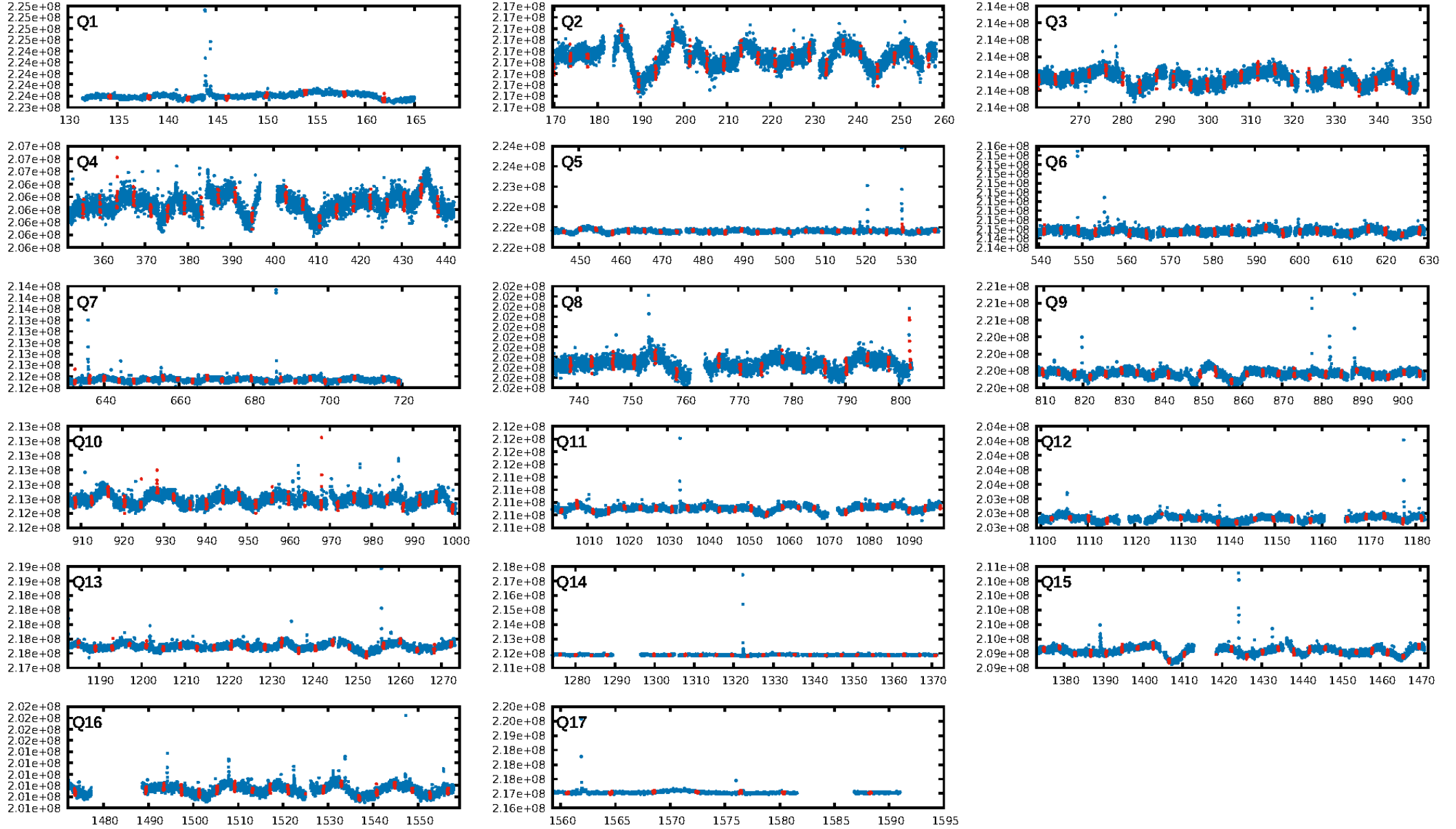
## DV Fit Results:

Period = 3.95119 [0.00001] d  
Epoch = 134.2191 [0.0020] BKJD  
Rp/R\* = 0.0089 [0.0025]  
a/R\* = 4.90 [6.00]  
b = 0.91 [0.24]  
Seff = 428.70 [103.42]  
Teq = 1160 [70] K  
Rp = 1.03 [0.33] Re  
a = 0.0478 [0.0069] AU  
Ag = 12.74 [8.59] [1.37 $\sigma$ ]  
Teffp = 3389 [542] K [4.08 $\sigma$ ]

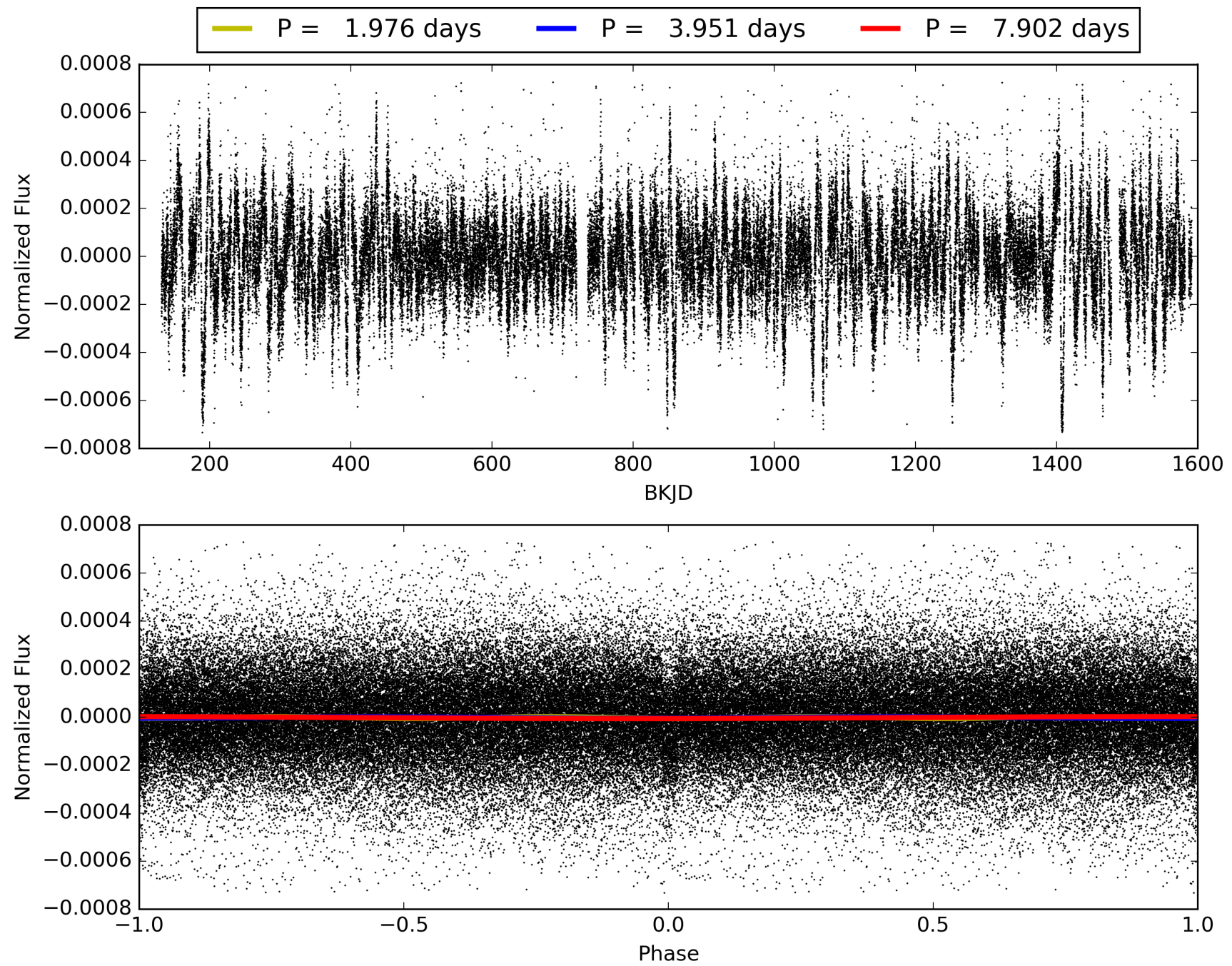
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.63 $\sigma$ ]  
LongPeriod-sig: 100.0% [7.04 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 7.86e-52  
RollingBand-fgt: 0.89 [291/326]  
GhostDiagnostic-chr: 5.635  
Centroid-sig: 15.9%  
Centroid-so: 0.749 arcsec [1.46 $\sigma$ ]  
OotOffset-rm: 0.279 arcsec [0.29 $\sigma$ ]  
KicOffset-rm: 0.187 arcsec [0.19 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.82 [14/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 007100673-01, PDC Light Curves



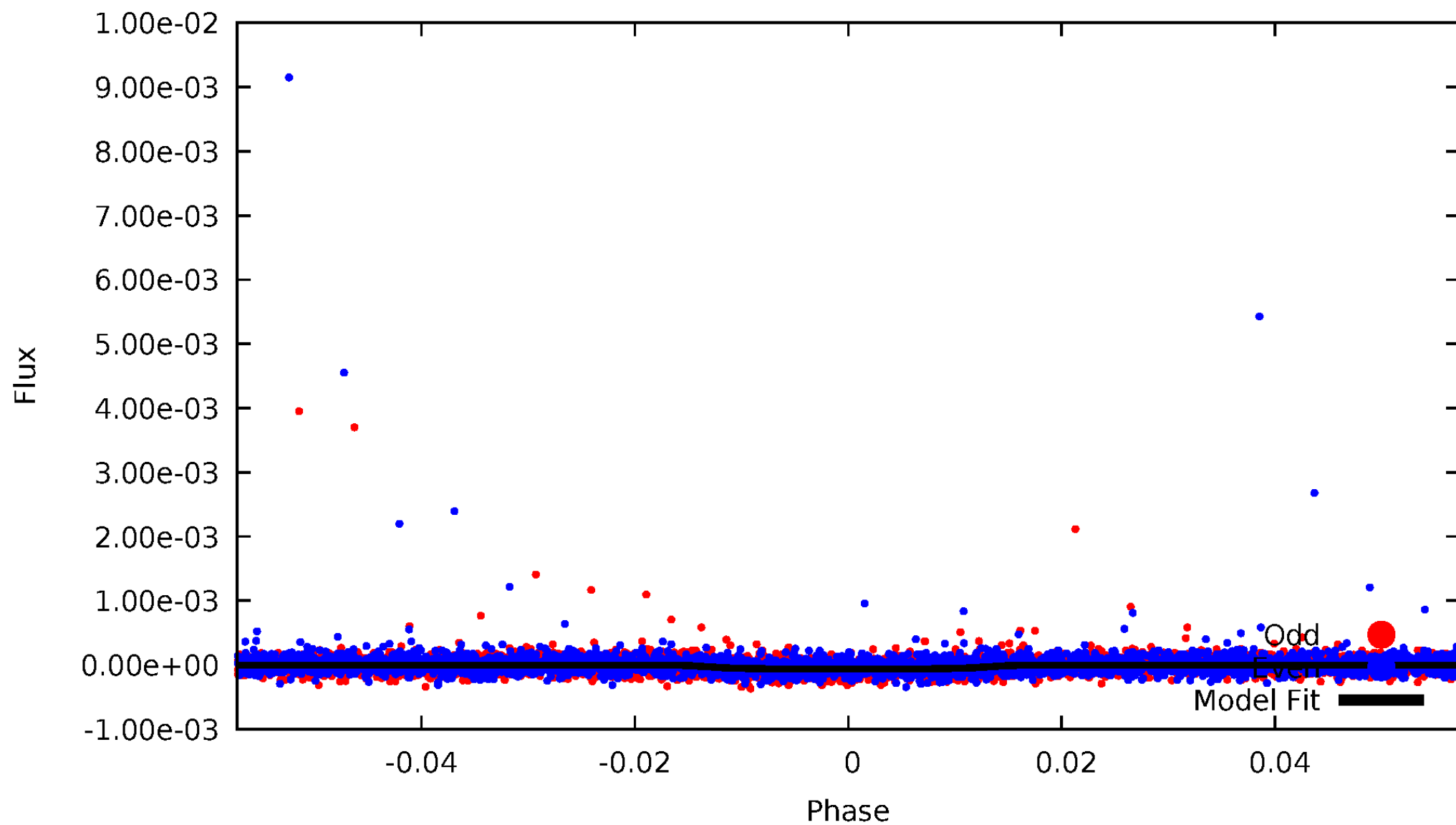
TCE 007100673-01





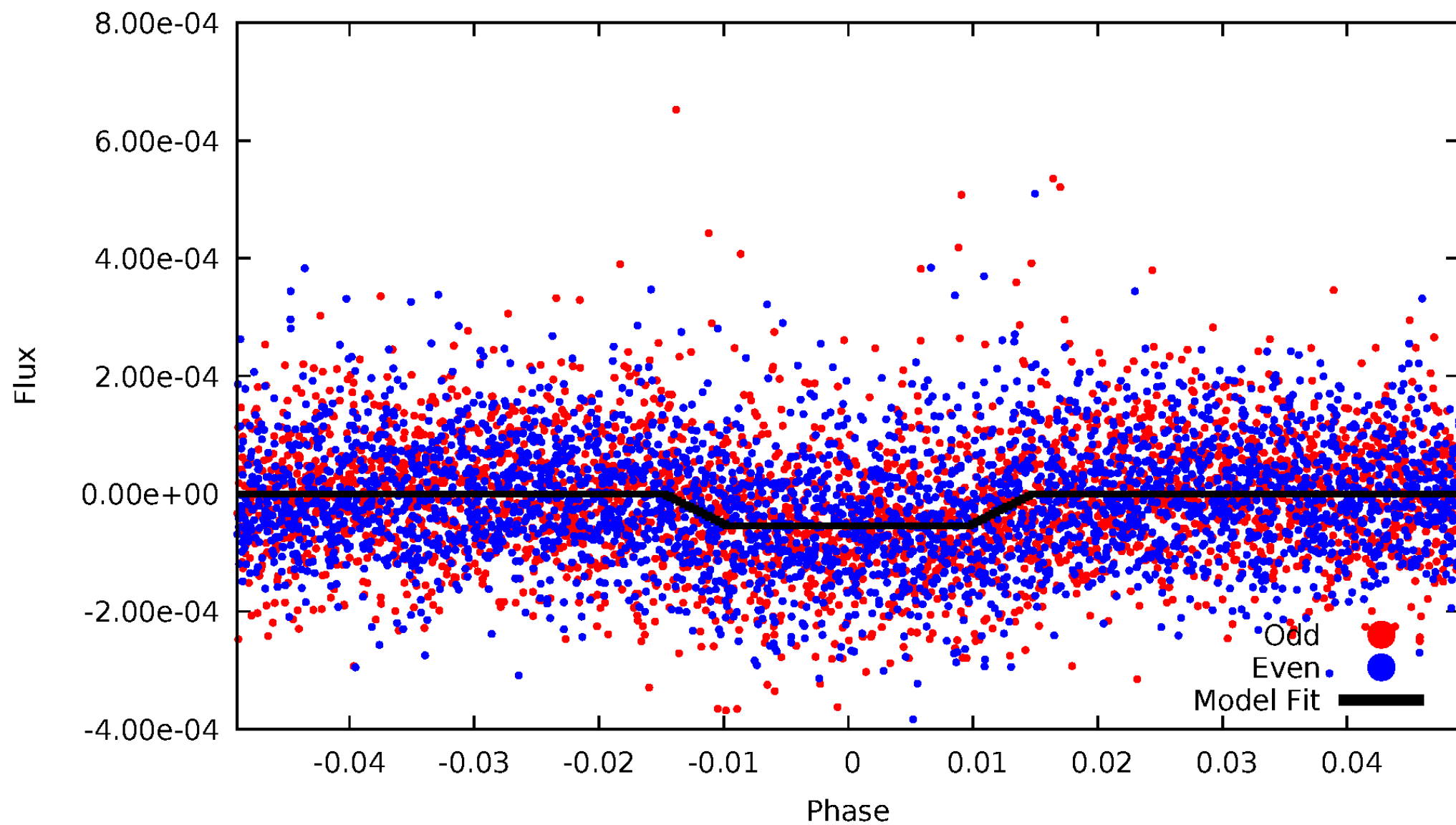
# DV Odd/Even

TCE 007100673-01



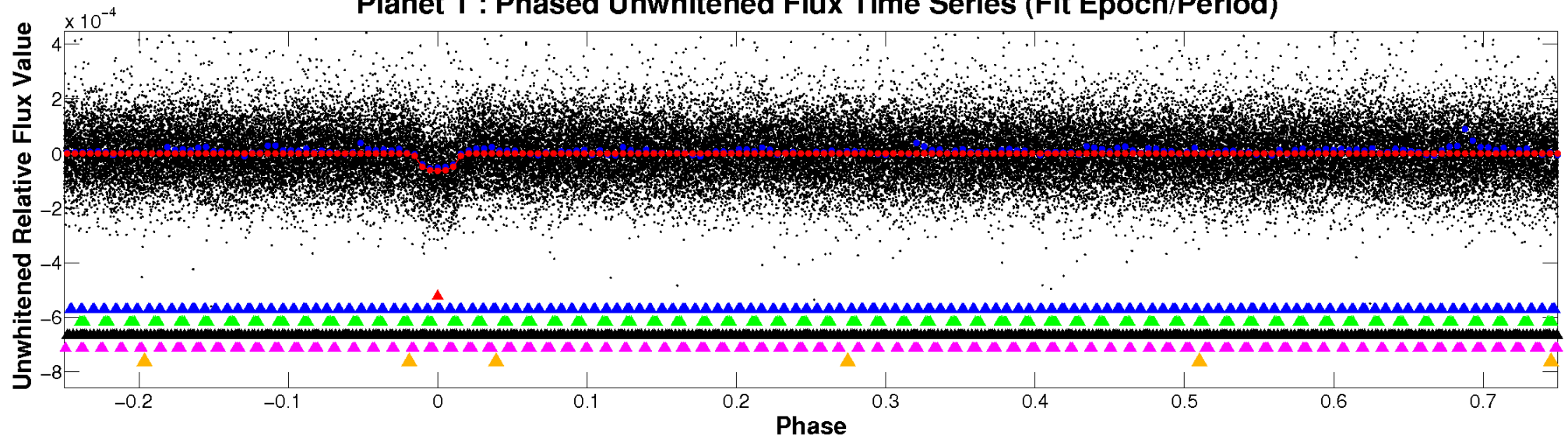
# ALT Odd/Even

TCE 007100673-01

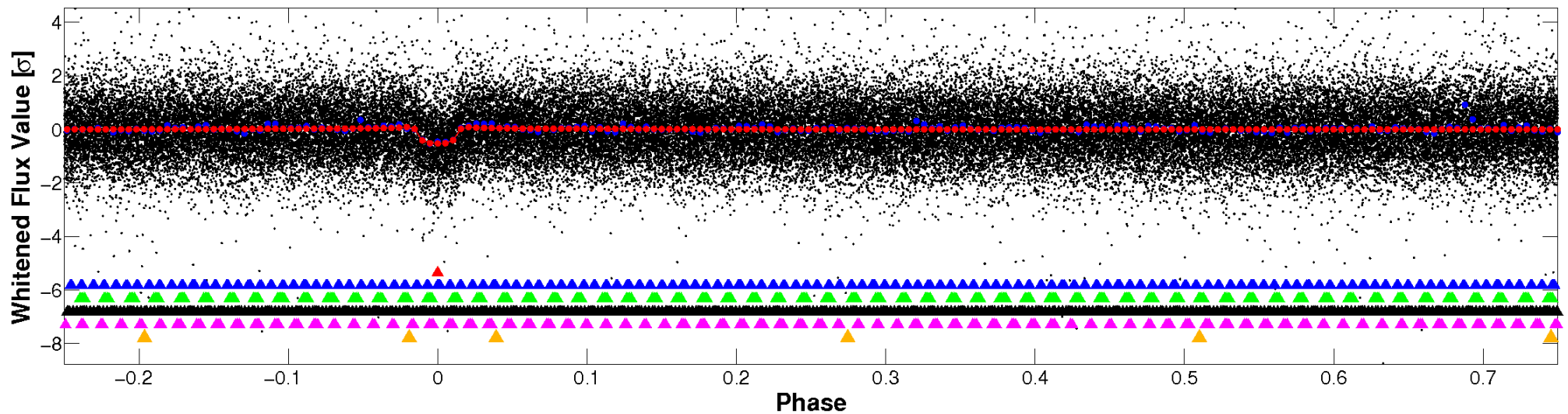


# Non-Whitened Vs. Whitened Light Curve

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

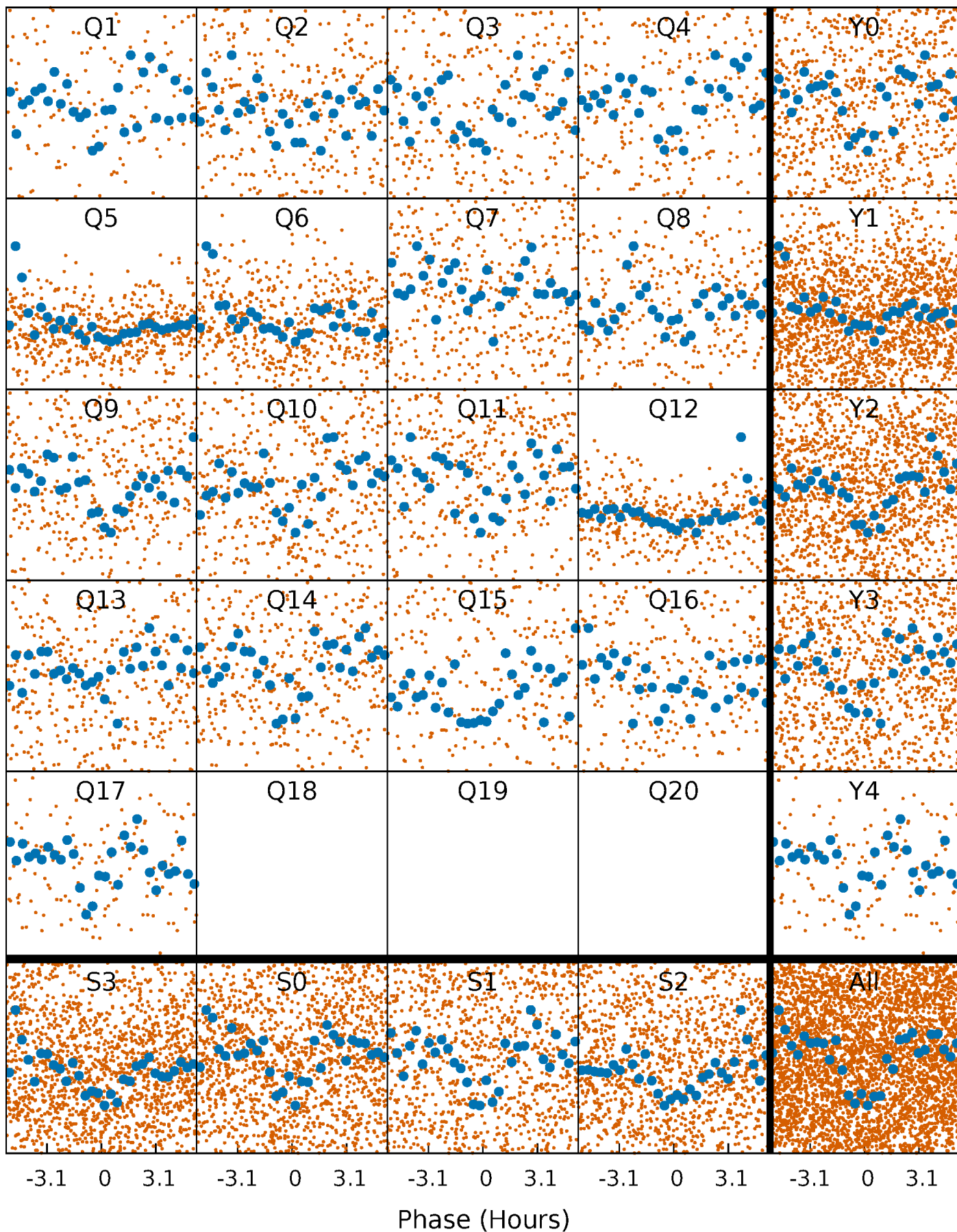


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

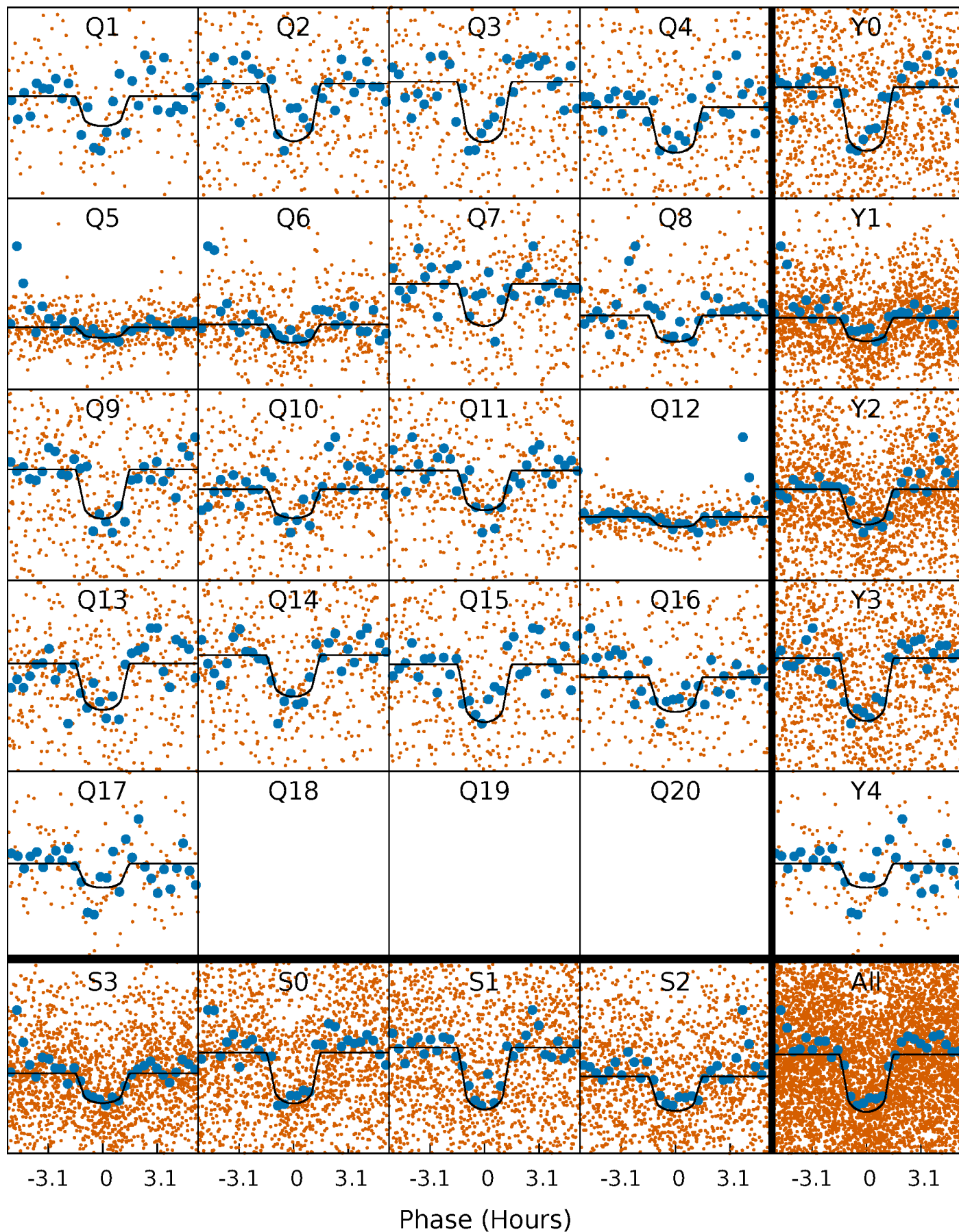
TCE 007100673-01 P= 3.951190 Days  $T_0=134.219141$  (BKJD)





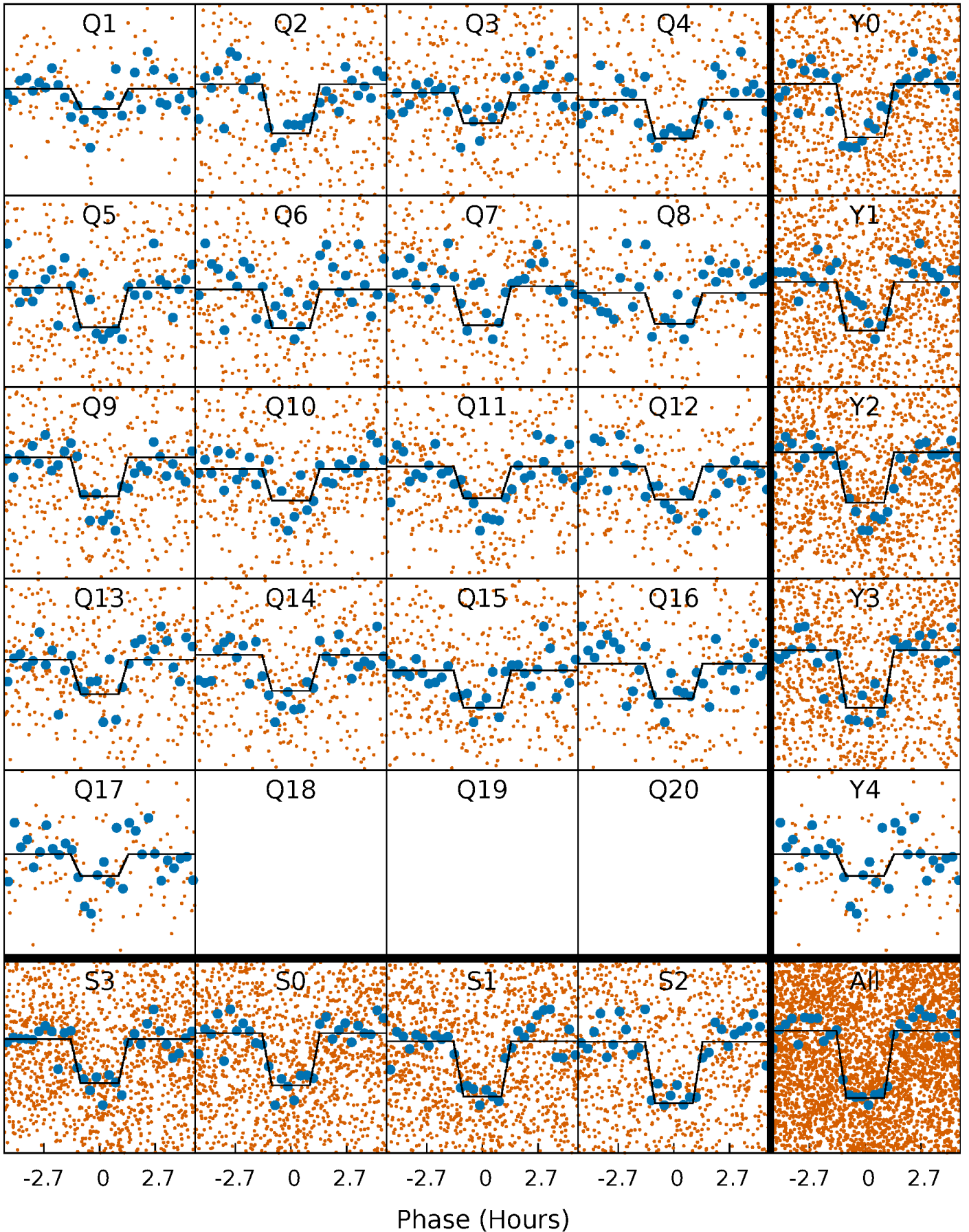
# DV Quarter-Phased Transit Curves

TCE 007100673-01 P= 3.951190 Days  $T_0=134.219141$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

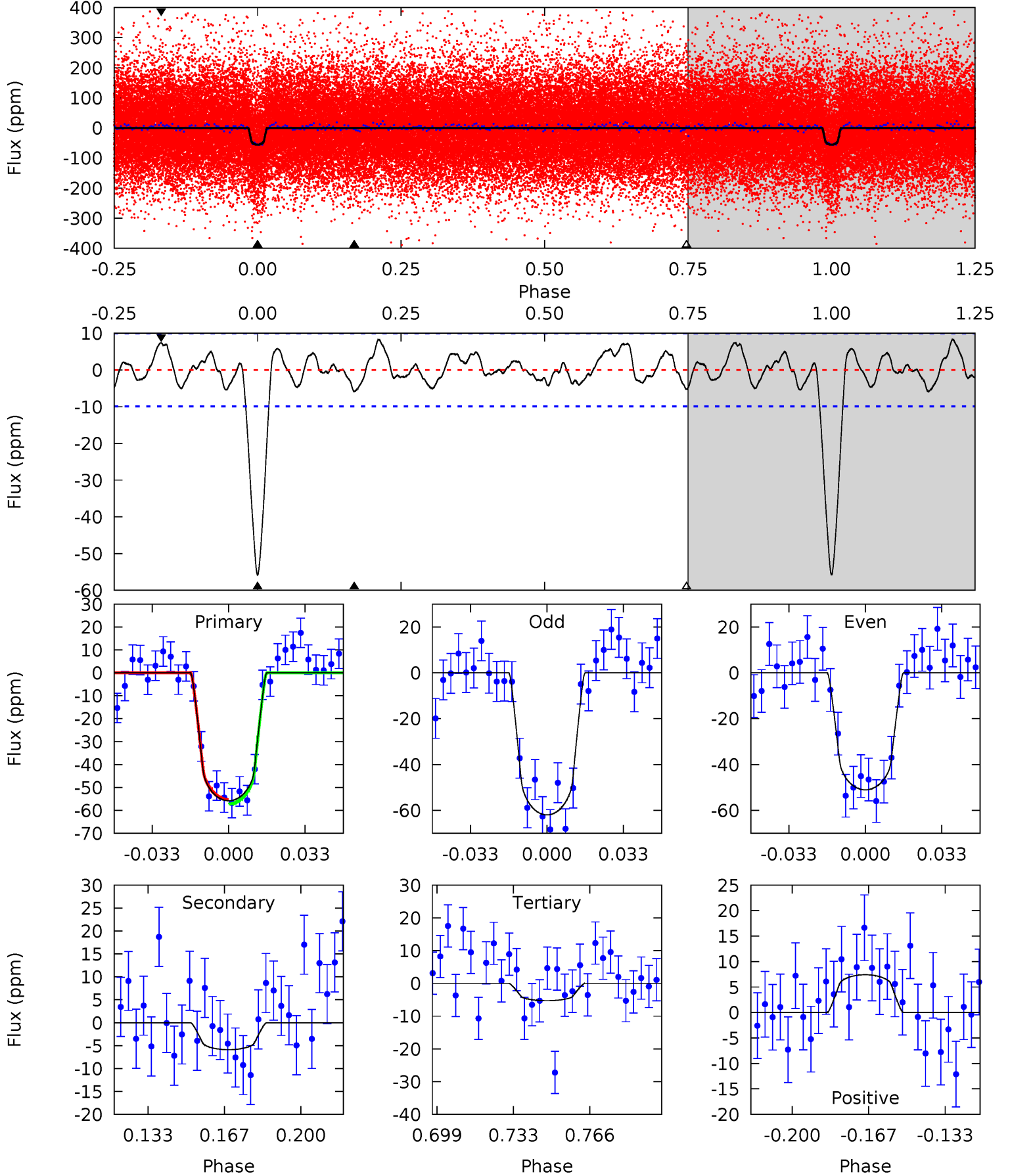
TCE 007100673-01 P= 3.951156 Days  $T_0=134.225025$  (BKJD)



# DV Model-Shift Uniqueness Test

007100673-01, P = 3.951190 Days, E = 130.267951 Days

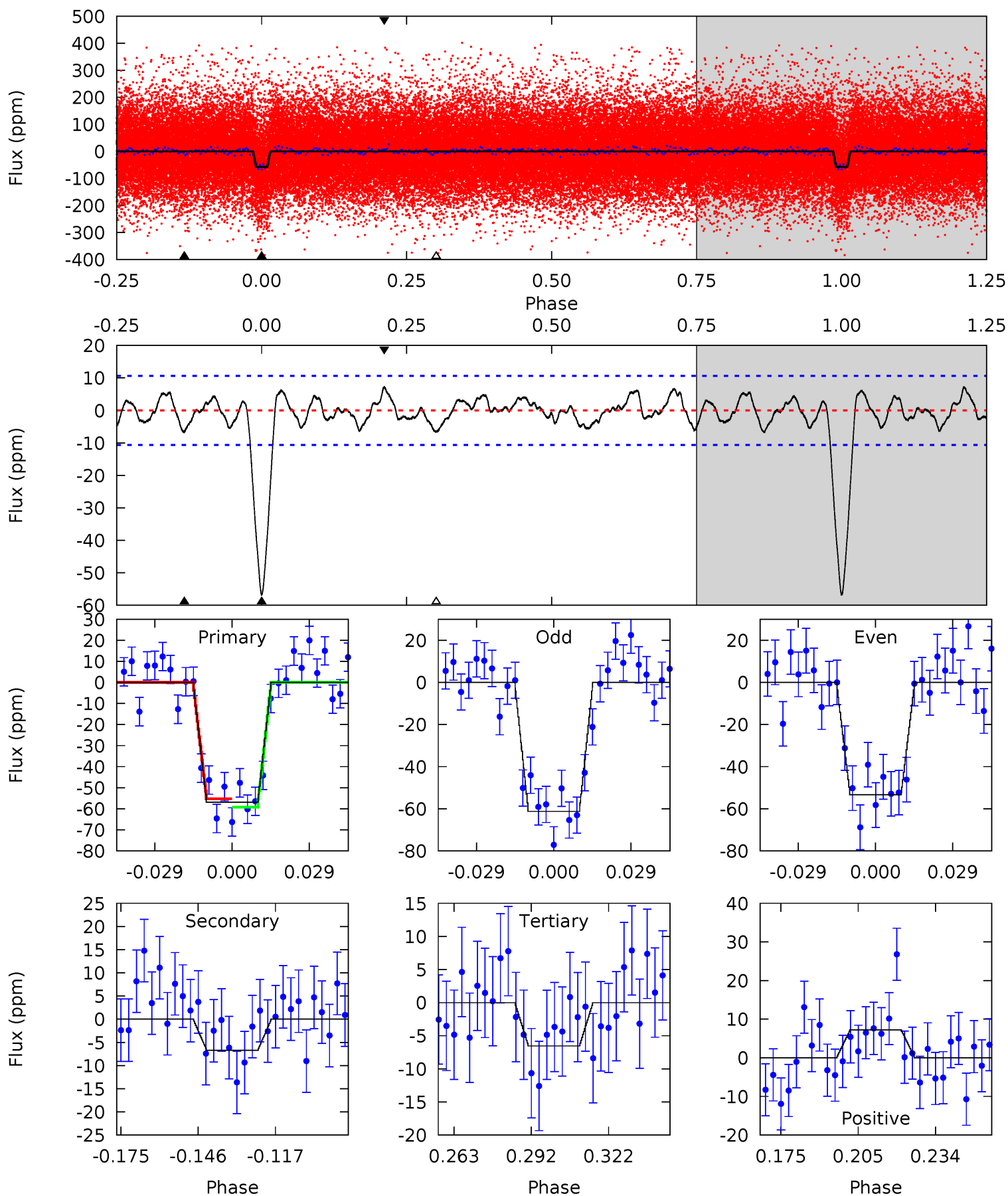
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.9	2.84	2.54	3.57	4.79	2.13	1.55	24.3	23.3	0.30	-0.73	2.64	0.89	0.13	0.45



# Alt Model-Shift Uniqueness Test

007100673-01, P = 3.951156 Days, E = 130.273869 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.8	3.04	2.96	3.28	4.82	2.18	1.40	22.8	22.5	0.08	-0.23	1.81	0.90	0.11	0.89





### Stellar Parameters For KIC 007100673

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5574^{+111}_{-100}$	$4.354^{+0.132}_{-0.108}$	$0.120^{+0.150}_{-0.150}$	$1.065^{+0.166}_{-0.150}$	$0.933^{+0.067}_{-0.053}$	$1.089^{+0.601}_{-0.328}$
	+2%/-2%	+3%/-2%	+125%/-125%	+16%/-14%	+7%/-6%	+55%/-30%
Source	SPE59	SPE59	SPE59	DSEP		

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

### Secondary Eclipse Parameters for KIC 007100673-01 / KOI 4032.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-6 \pm 2$	$1.03^{+0.30}_{-0.30}$	$1618^{+72}_{-72}$	$3380^{+438}_{-323}$	$6.961^{+7.866}_{-3.481}$
Alt.	$-7 \pm 2$	$0.84^{+0.32}_{-0.28}$	$1619^{+72}_{-72}$	$3653^{+628}_{-355}$	$11^{+17}_{-5}$

$T_{\text{max}}$  = 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

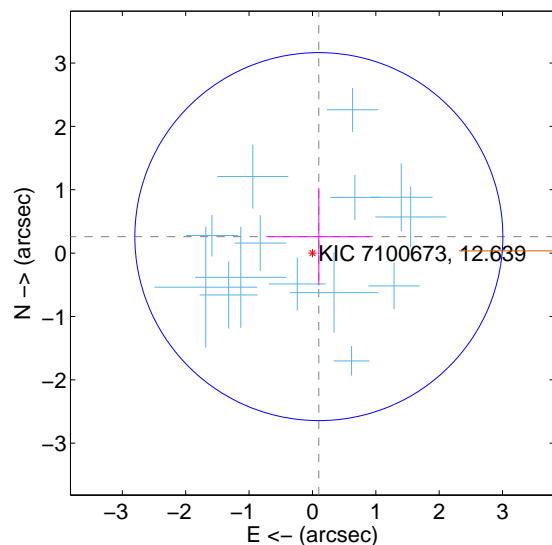
Supplemental centroid analysis for 007100673-01. Kepler magnitude: 12.64. Transit SNR 19.46

There are 14 quarters with good PRF difference image offsets

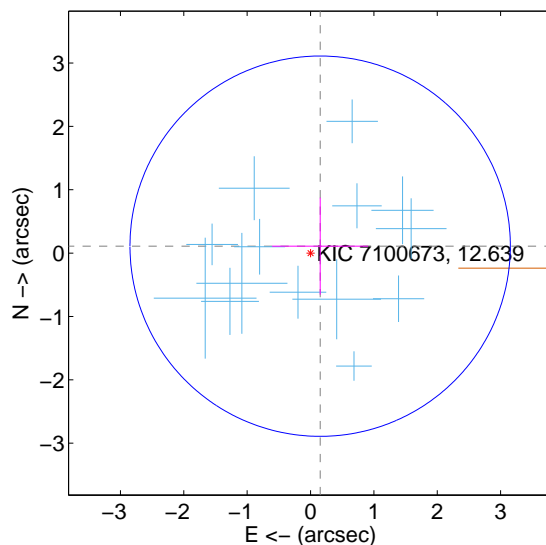
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.279 \pm 0.968$	0.29	$-0.101 \pm 0.809$	$0.260 \pm 0.769$
PRF-fit source offset from KIC position	$0.187 \pm 1.000$	0.19	$-0.152 \pm 0.758$	$0.109 \pm 0.765$
photometric centroid source offset	$0.75 \pm 0.51$	1.46	$-0.75 \pm 0.51$	$0.02 \pm 0.53$

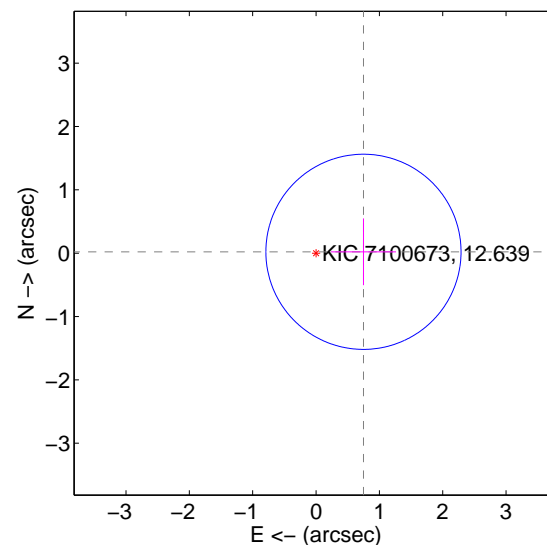
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

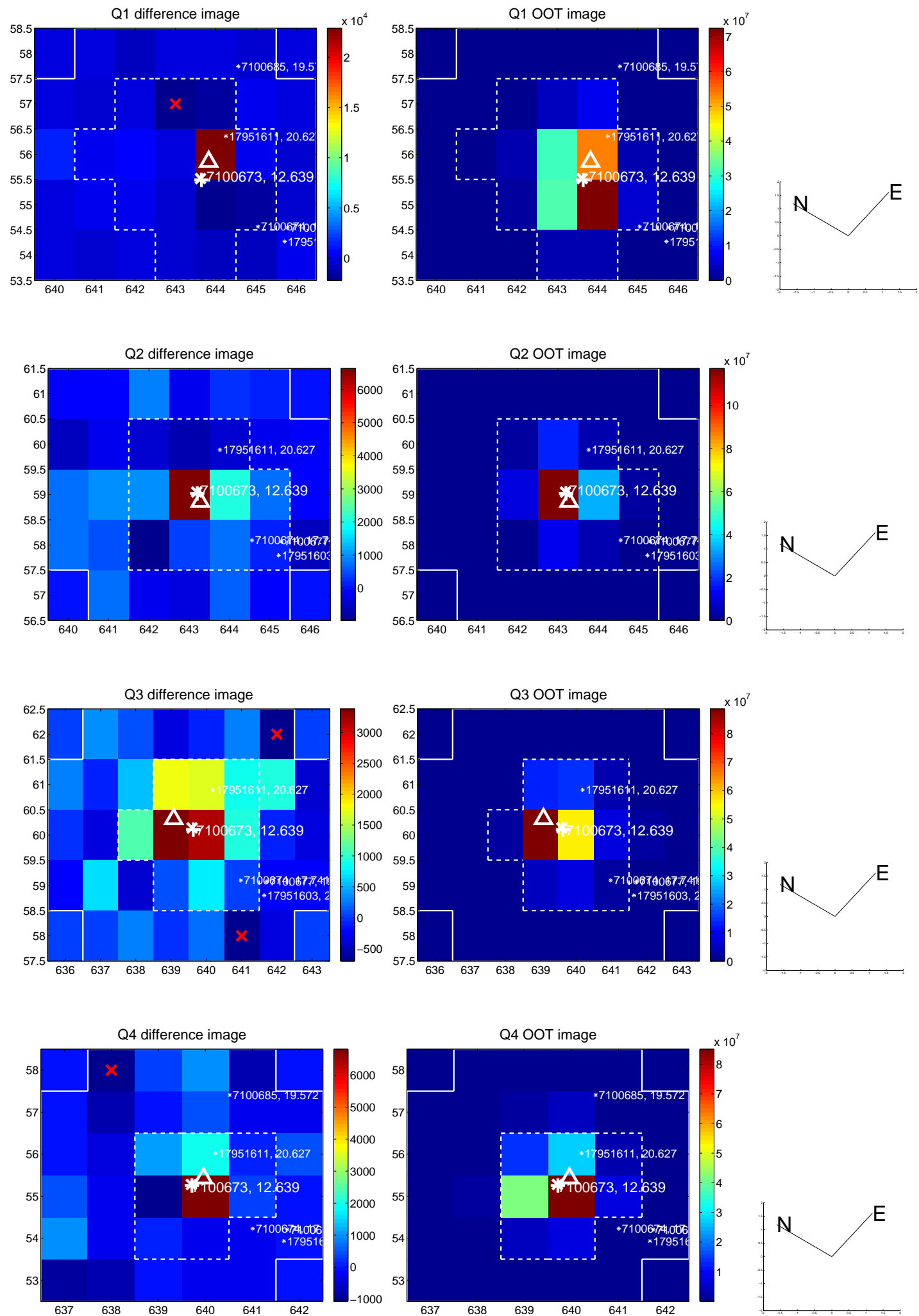


offset from photometric centroids

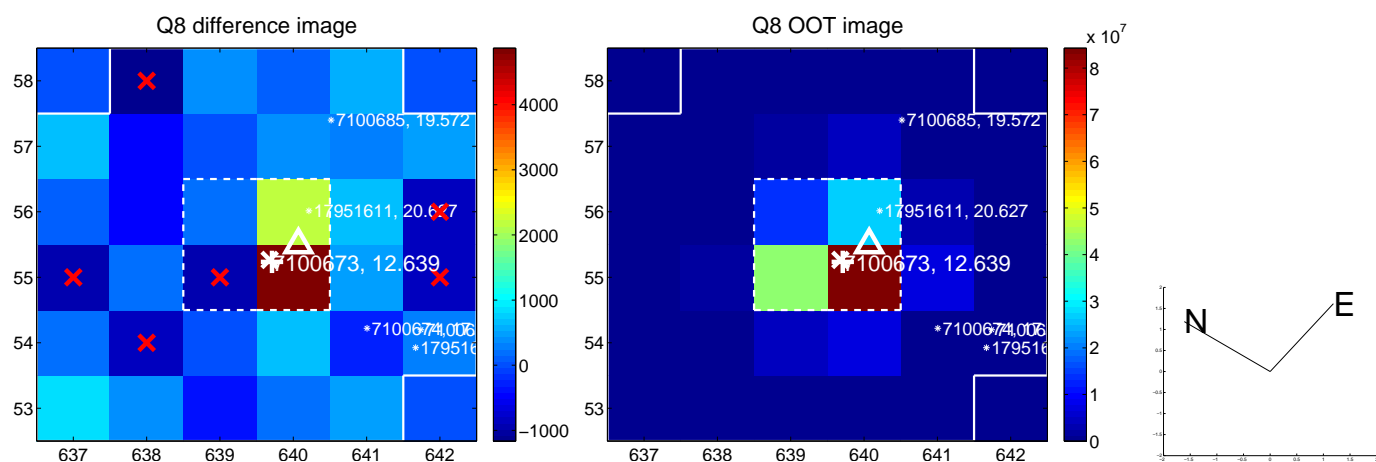
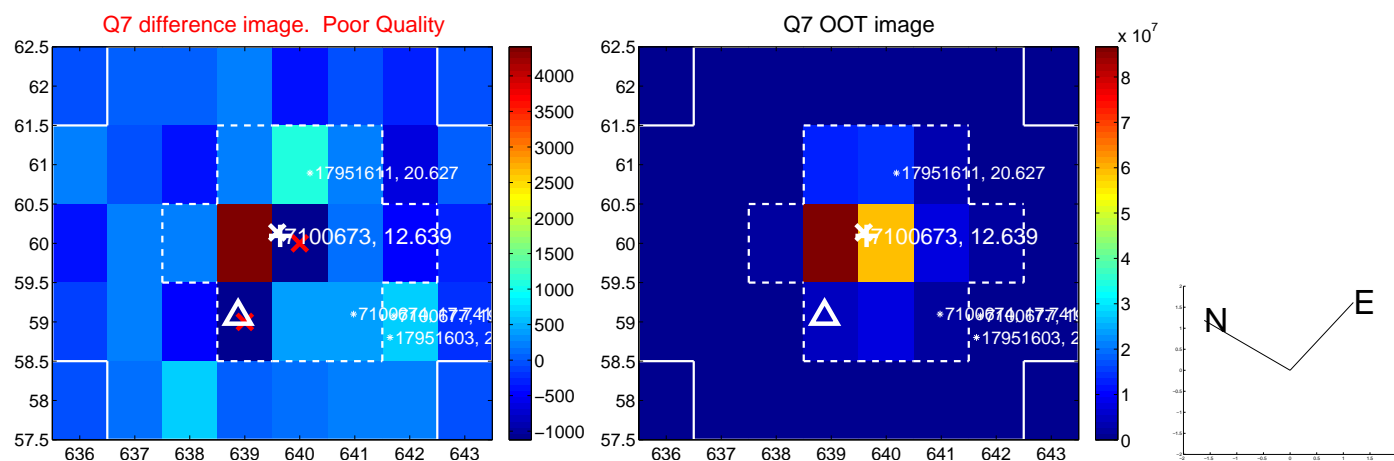
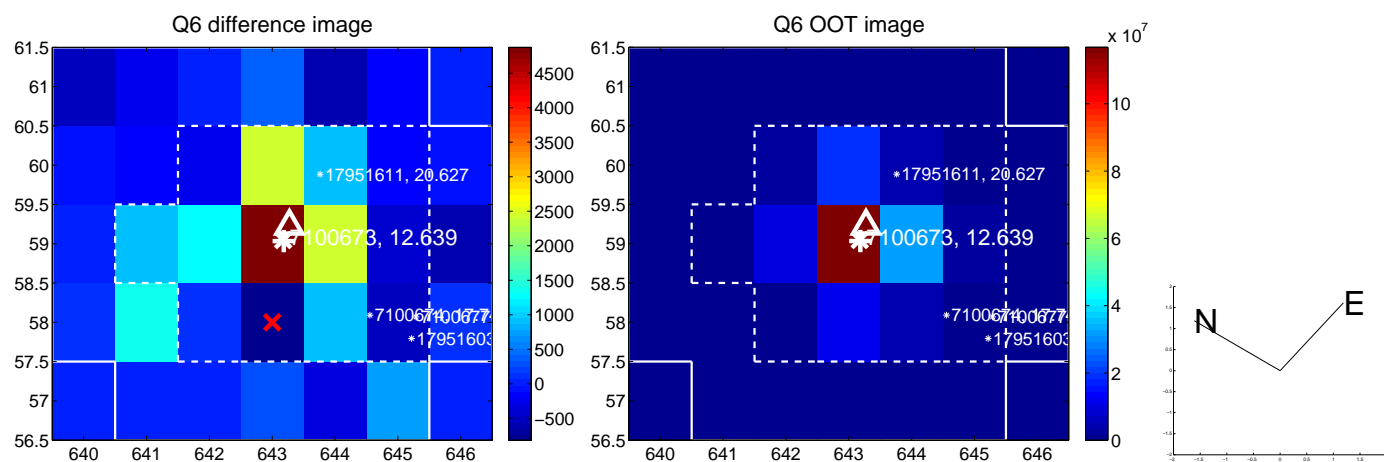
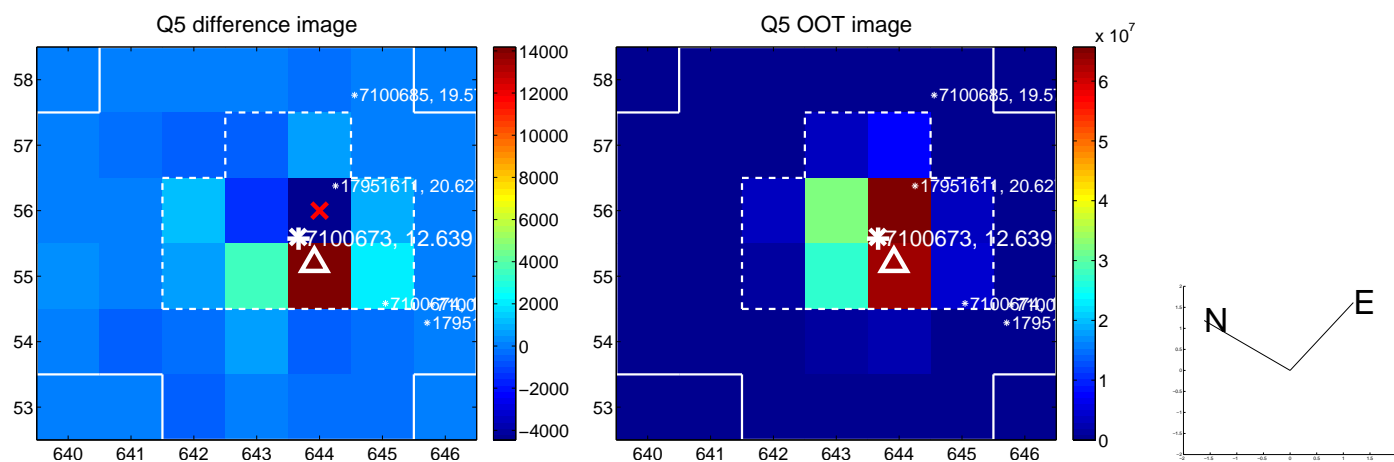


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

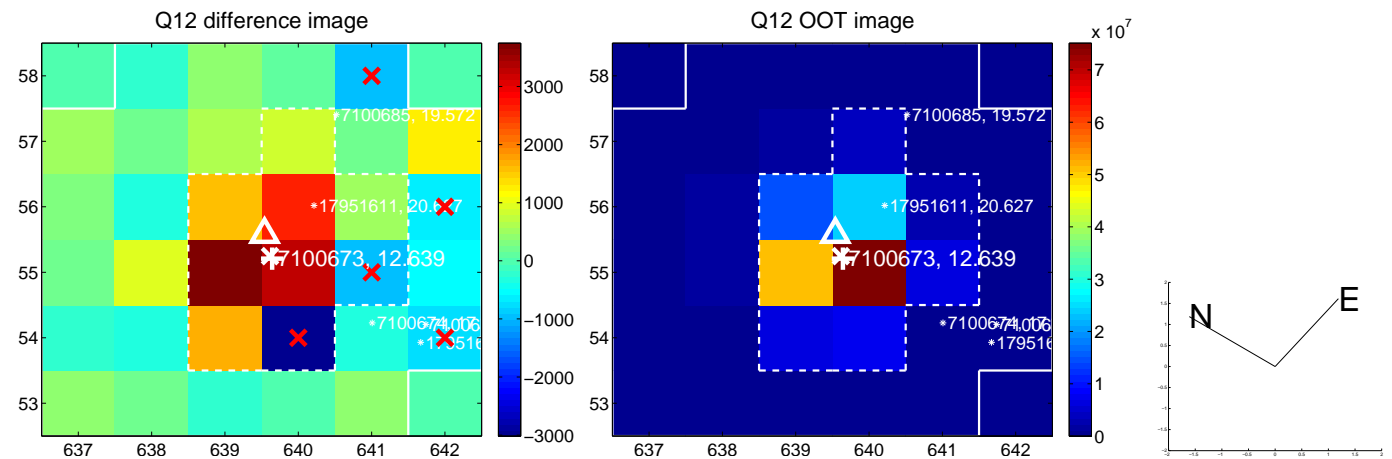
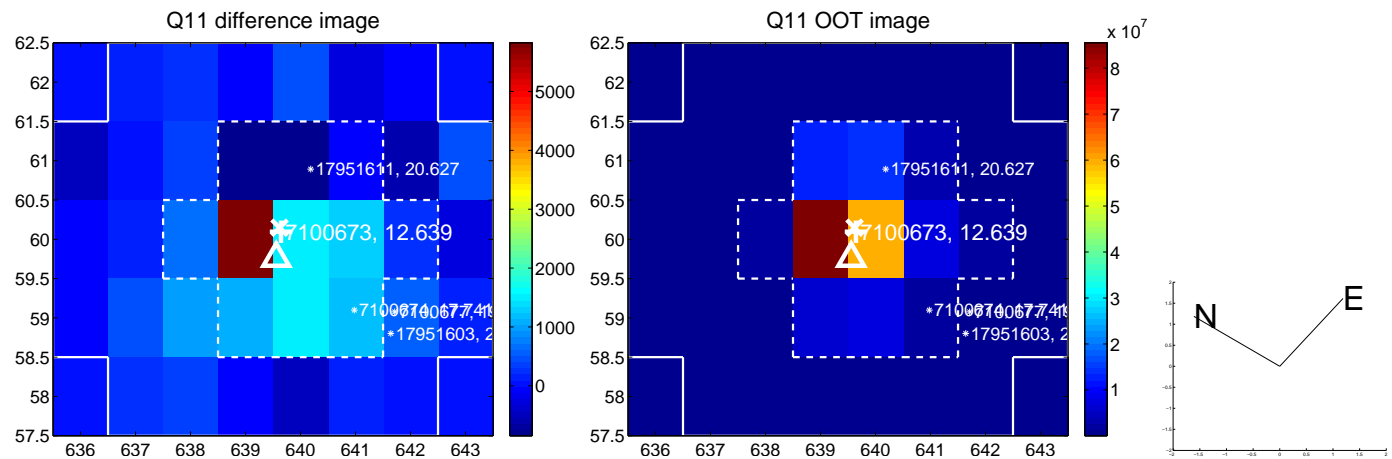
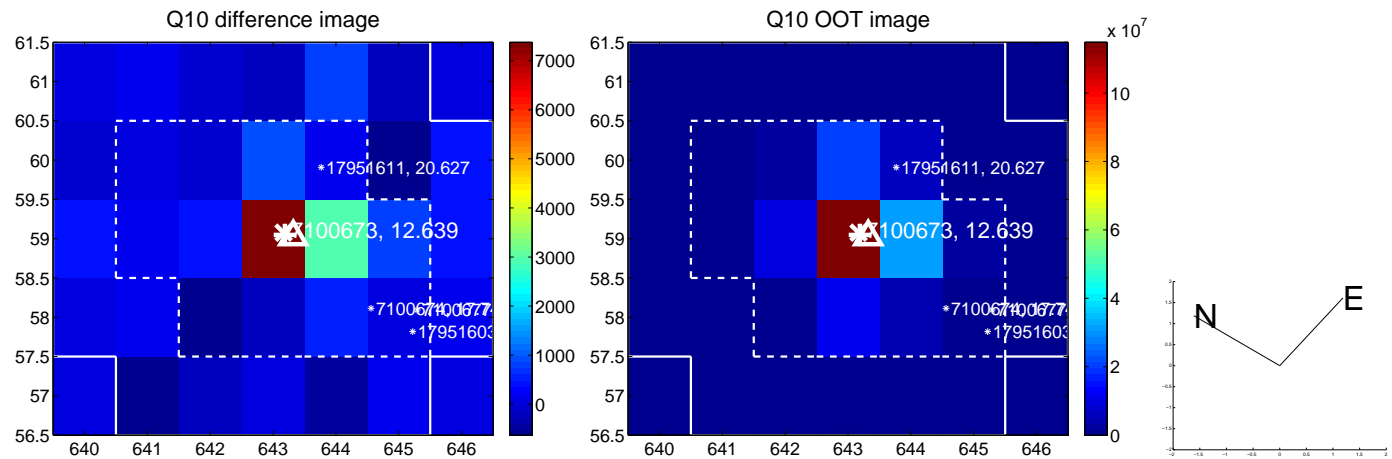
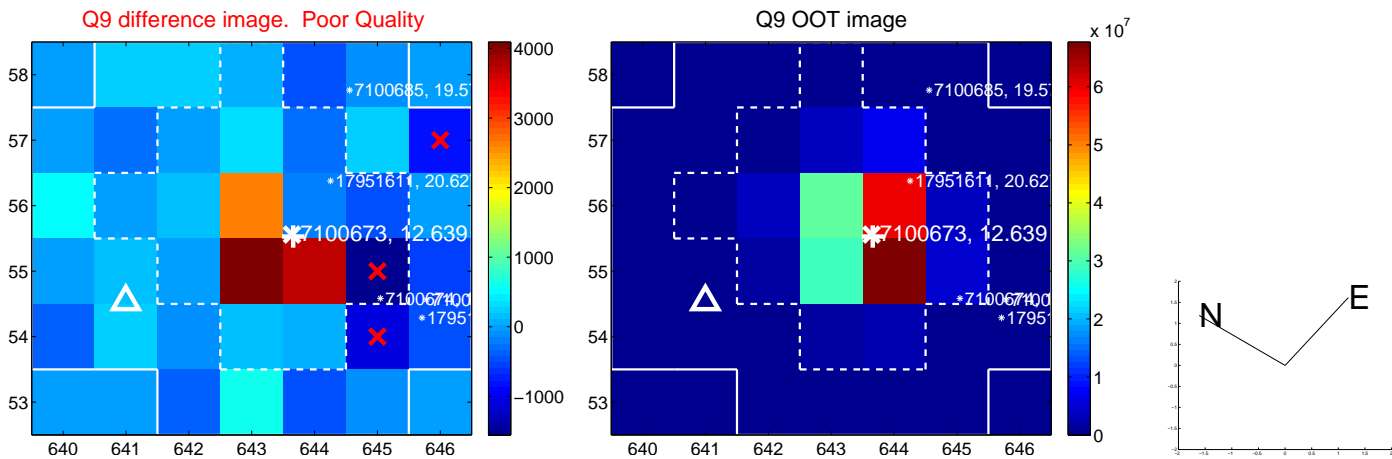


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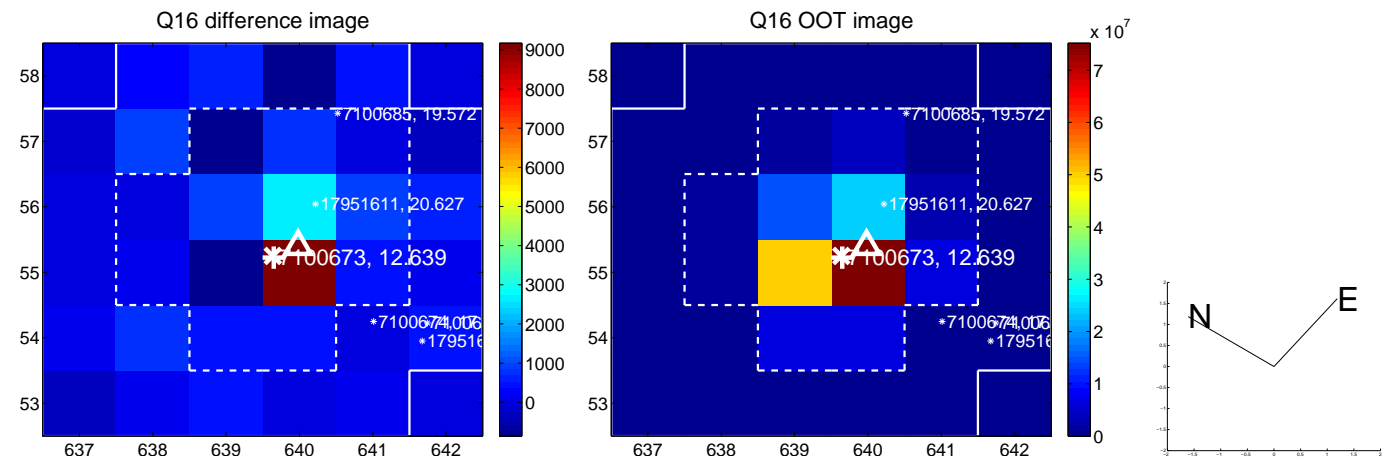
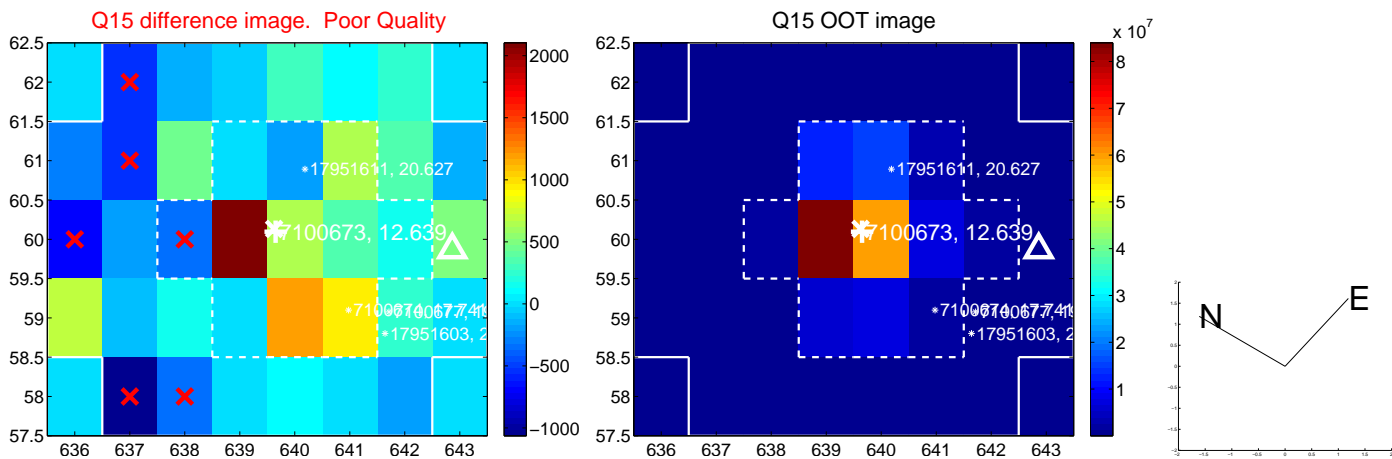
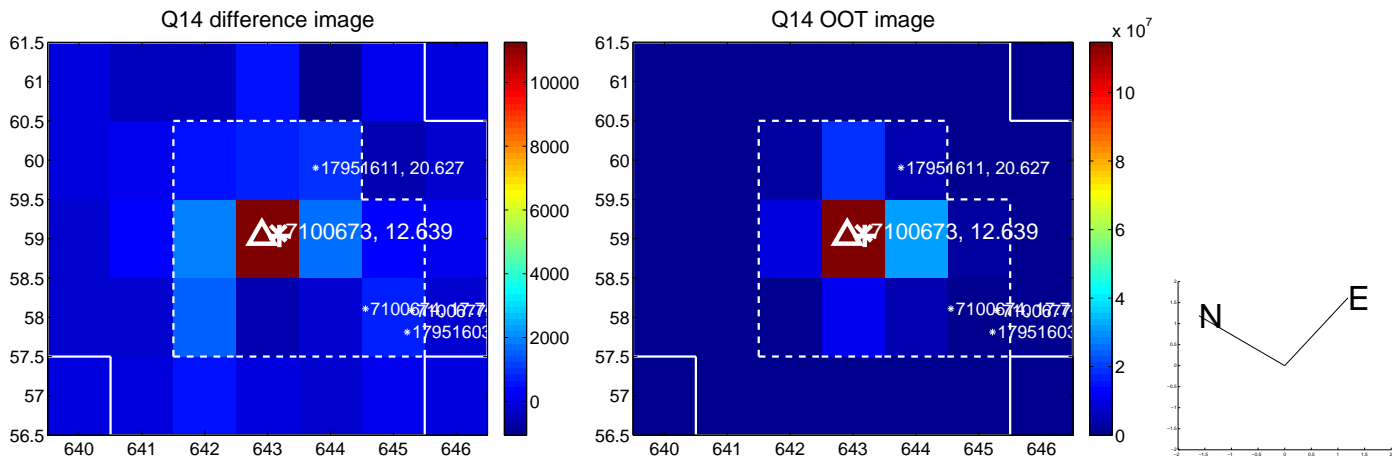
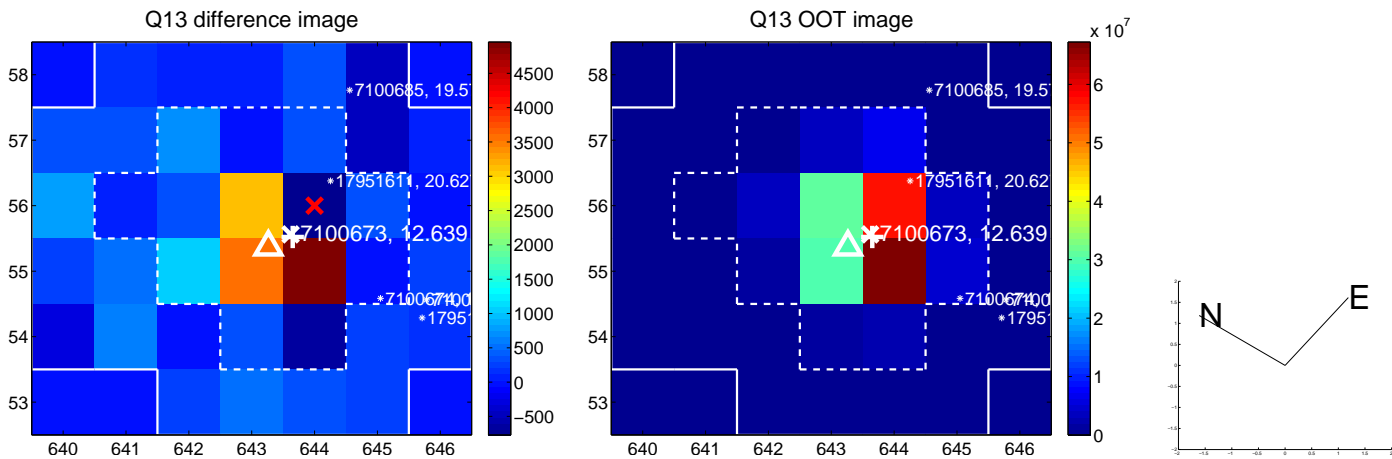




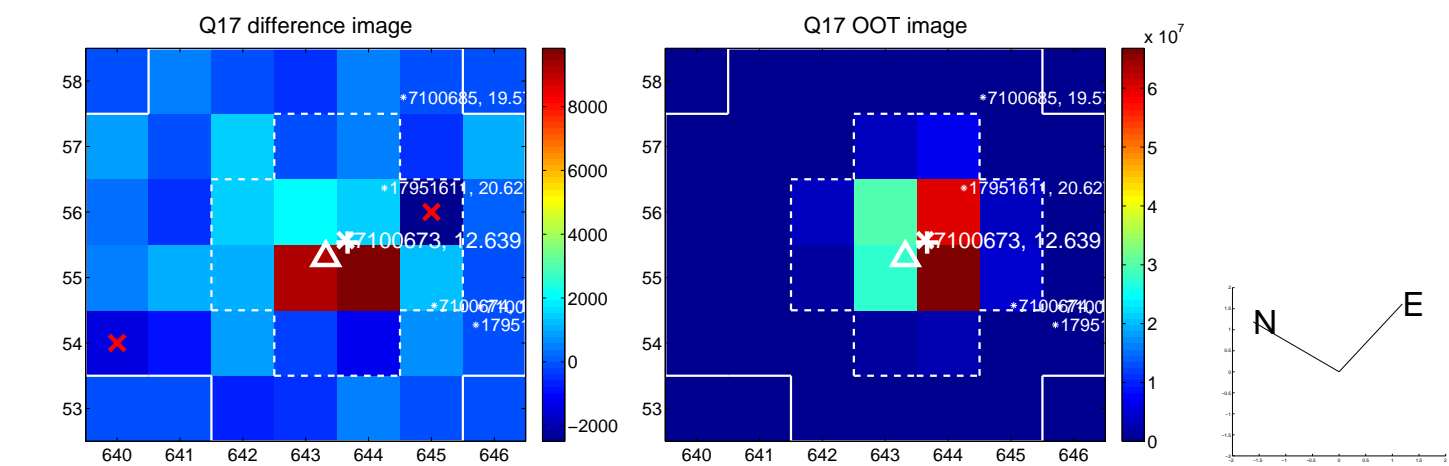
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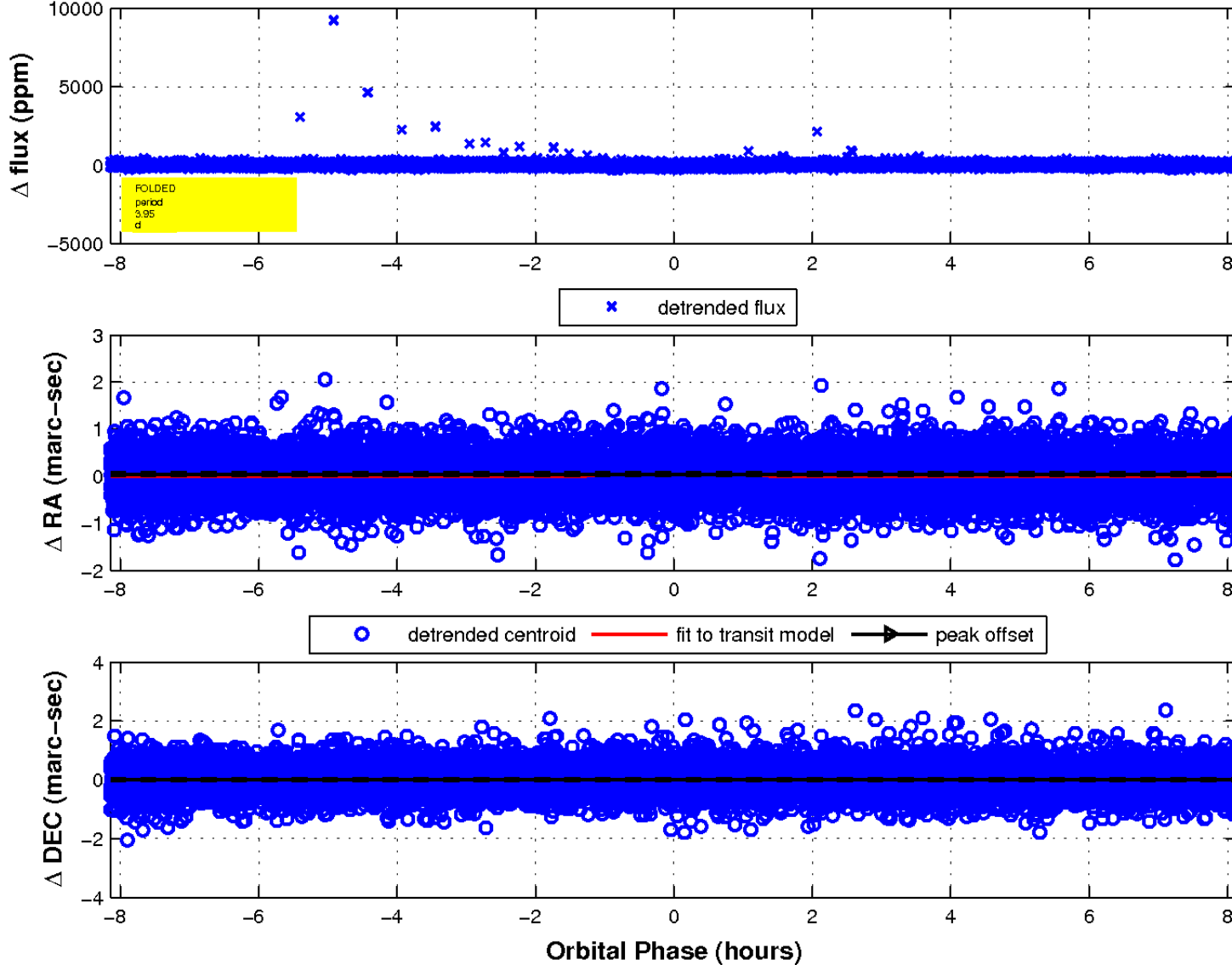
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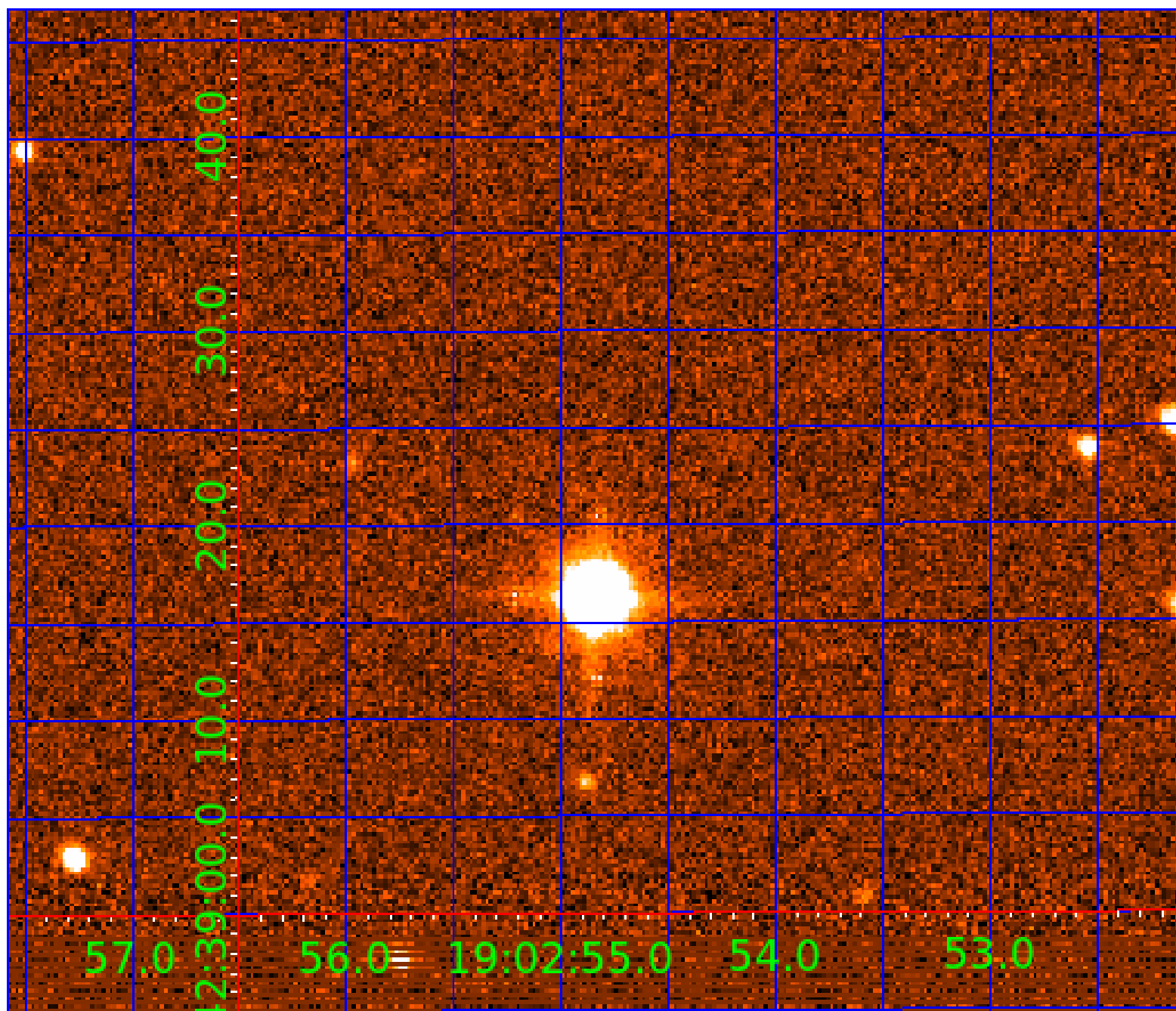


fluxWeightedCentroids, Planet 1 of 6



UKIRT Image

Declination





# KIC 007100673

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
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## Robovetter Results

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007100673-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-04	OBS	PC	0.99	0	0	0	0	NO_COMMENT
007100673-05	OBS	PC	0.79	0	0	0	0	NO_COMMENT
007100673-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

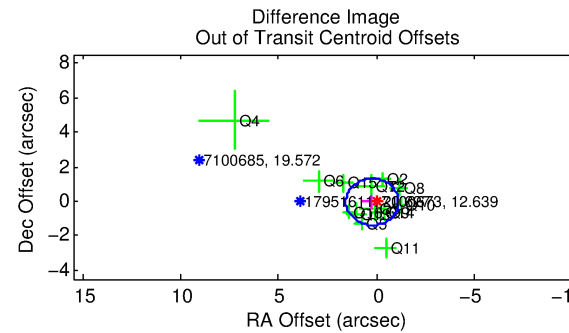
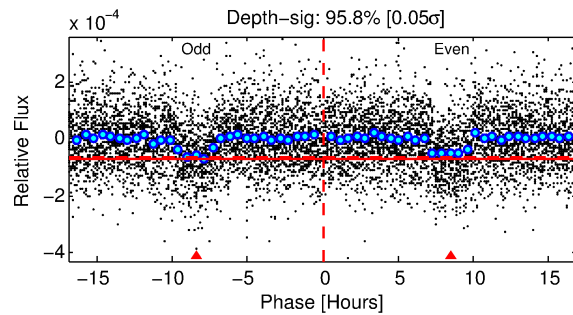
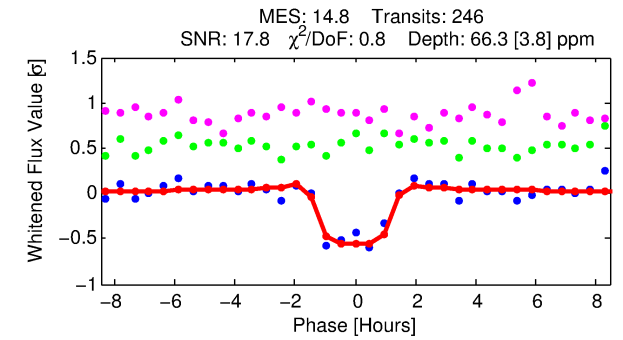
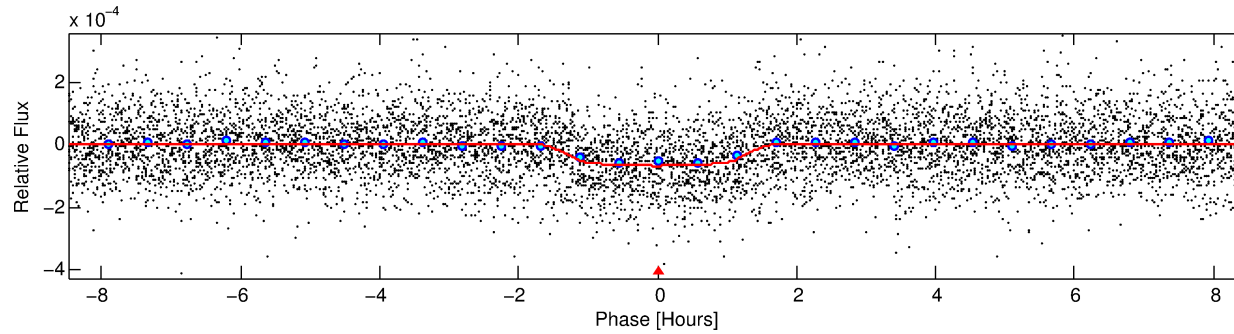
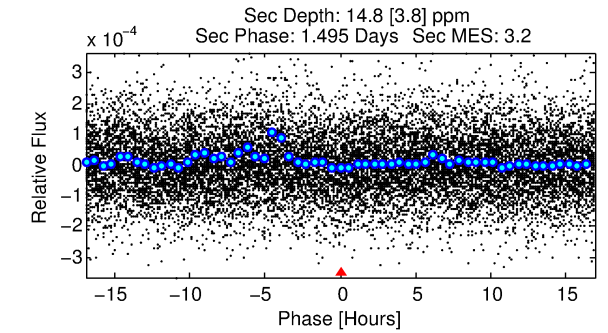
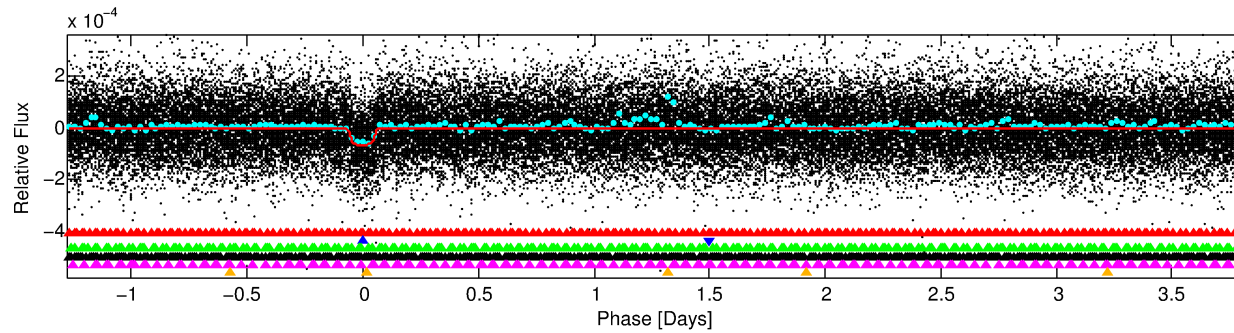
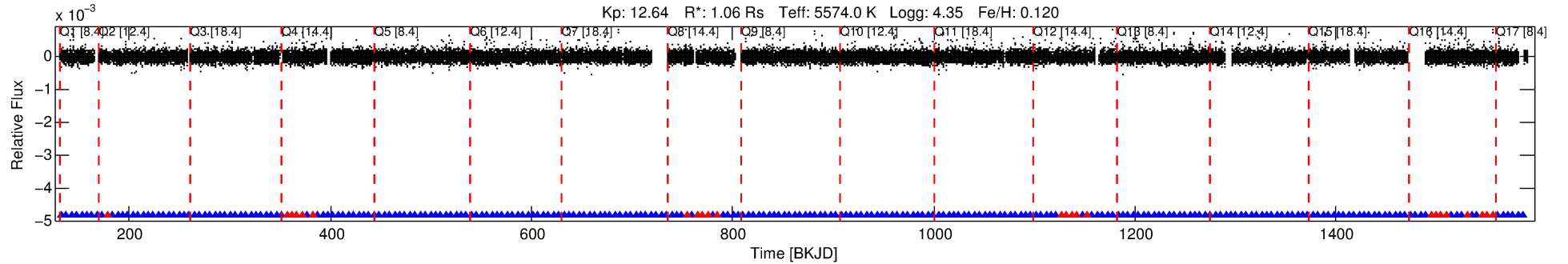
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007100673-02

No Significant Match Found

# DV One-Page Summary

KIC: 7100673 Candidate: 2 of 6 Period: 5.101 d  
KOI: K04032.04 Corr: 0.962



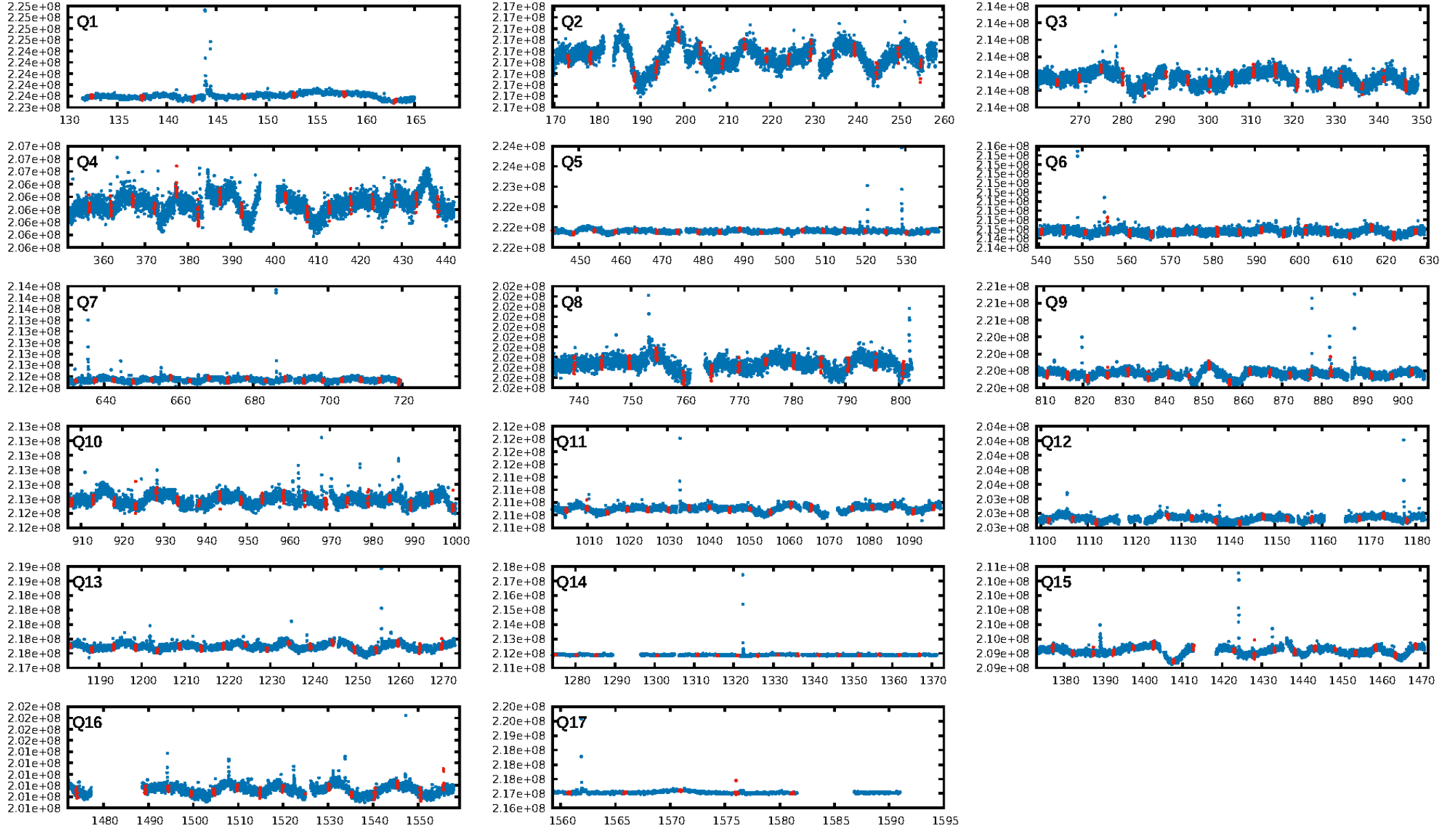
## DV Fit Results:

Period = 5.10114 [0.00002] d  
Epoch = 132.4269 [0.0024] BKJD  
Rp/R\* = 0.0090 [0.0026]  
a/R\* = 6.24 [8.14]  
b = 0.90 [0.28]  
Seff = 304.96 [73.57]  
Teq = 1066 [64] K  
Rp = 1.04 [0.35] Re  
a = 0.0567 [0.0082] AU  
Ag = 24.00 [16.31] [1.41σ]  
Teffp = 3647 [588] K [4.36σ]

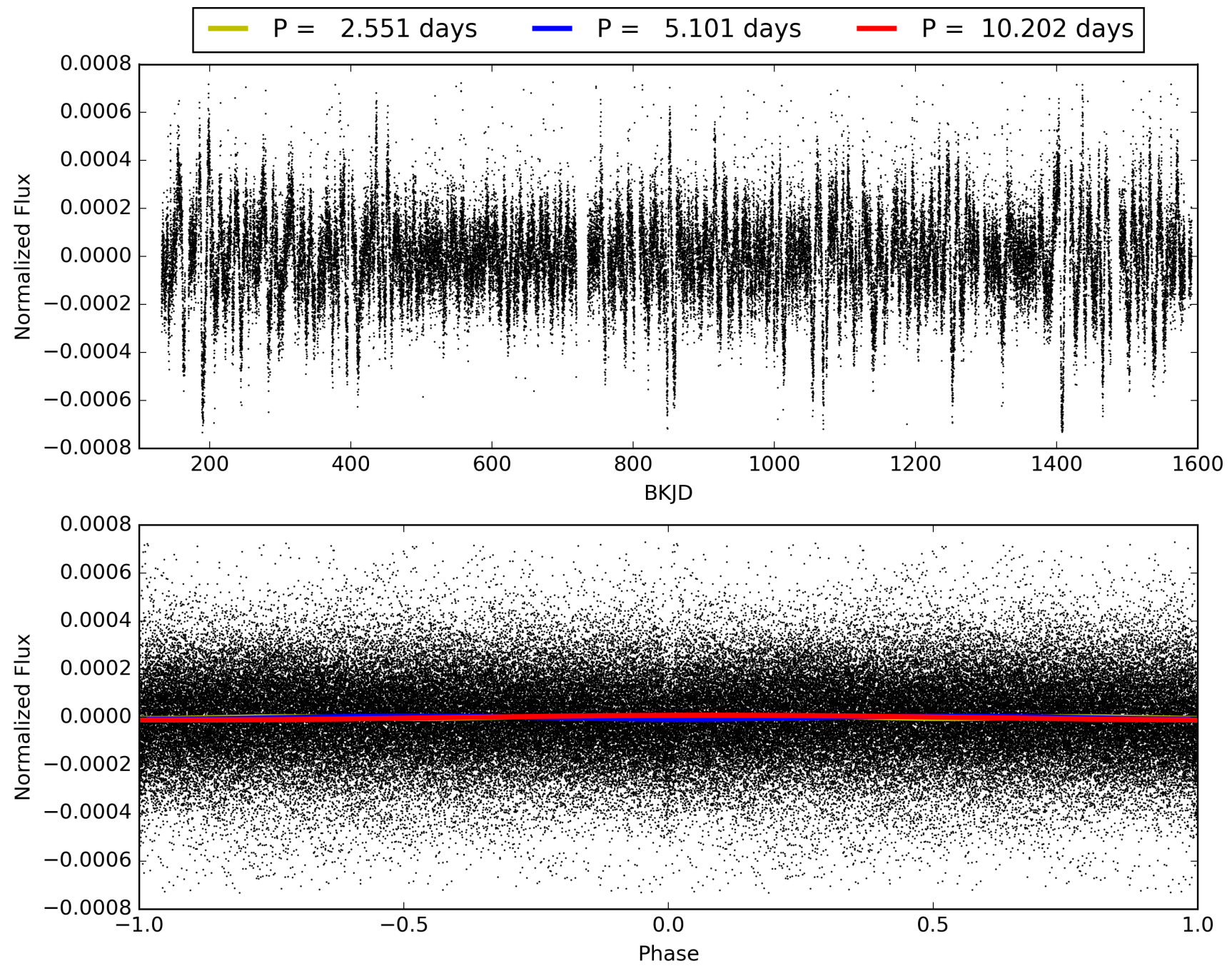
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.04σ]  
LongPeriod-sig: 100.0% [5.50σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 9.20e-43  
RollingBand-fgt: 0.90 [211/235]  
GhostDiagnostic-chr: 38.86  
Centroid-sig: 5.8%  
Centroid-so: 0.630 arcsec [1.12σ]  
OotOffset-rm: 0.232 arcsec [0.52σ]  
KicOffset-rm: 0.262 arcsec [0.79σ]  
OotOffset-st: 4/4/4/3 [15]  
KicOffset-st: 4/4/4/3 [15]  
DiffImageQuality-fgm: 0.87 [13/15]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 007100673-02, PDC Light Curves

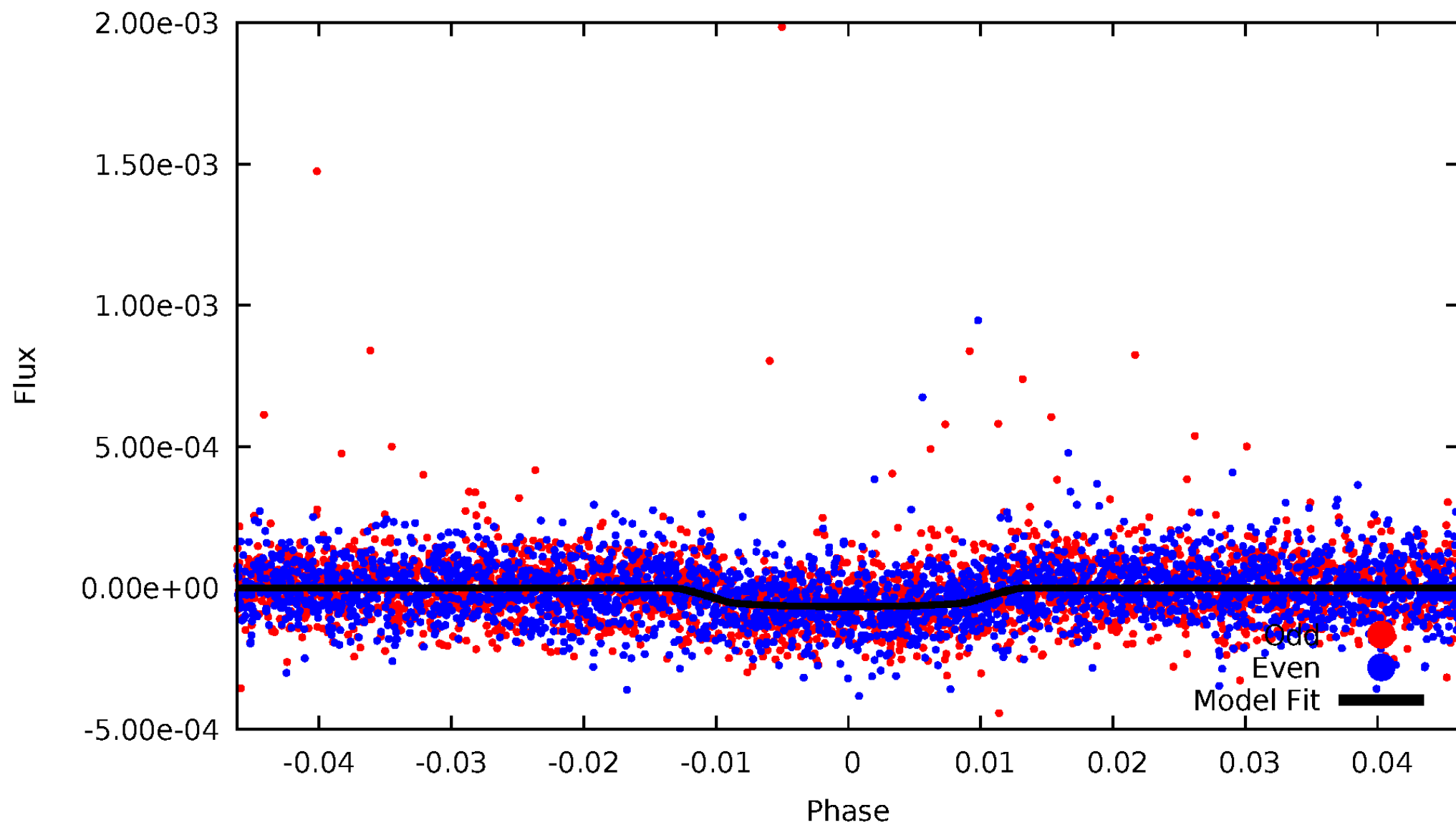


TCE 007100673-02



# DV Odd/Even

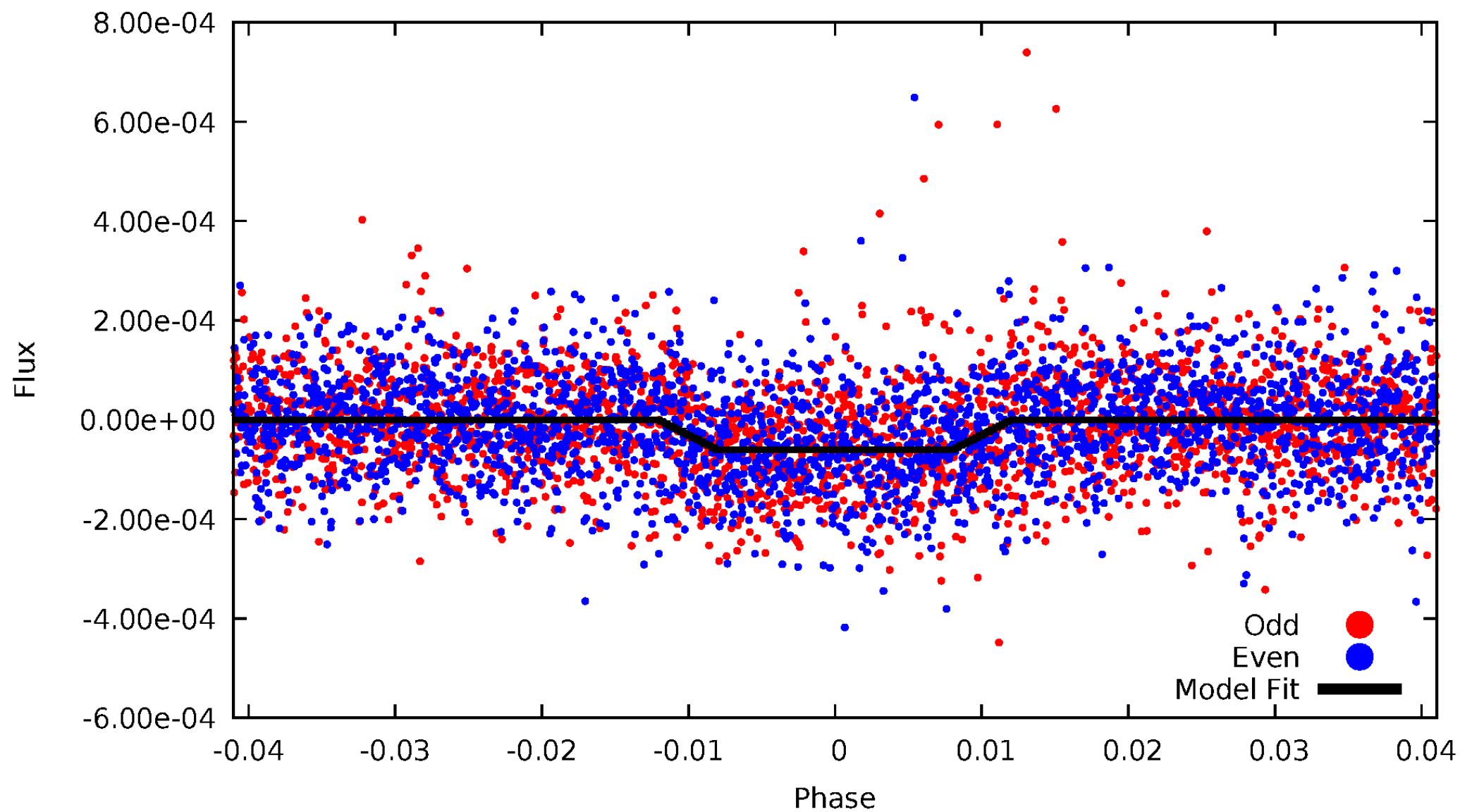
TCE 007100673-02





# ALT Odd/Even

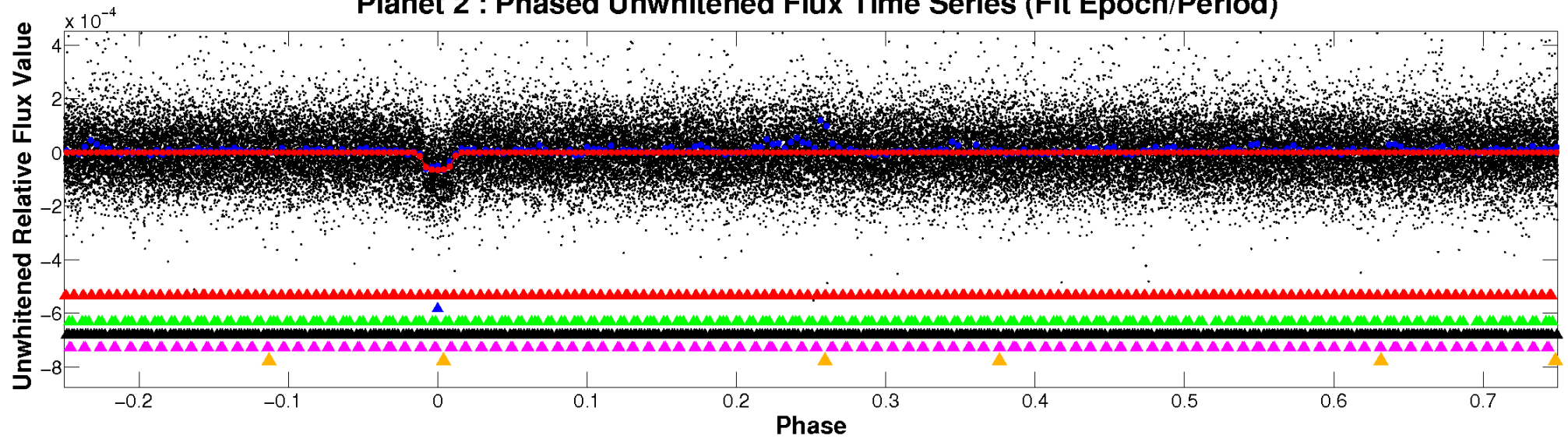
TCE 007100673-02



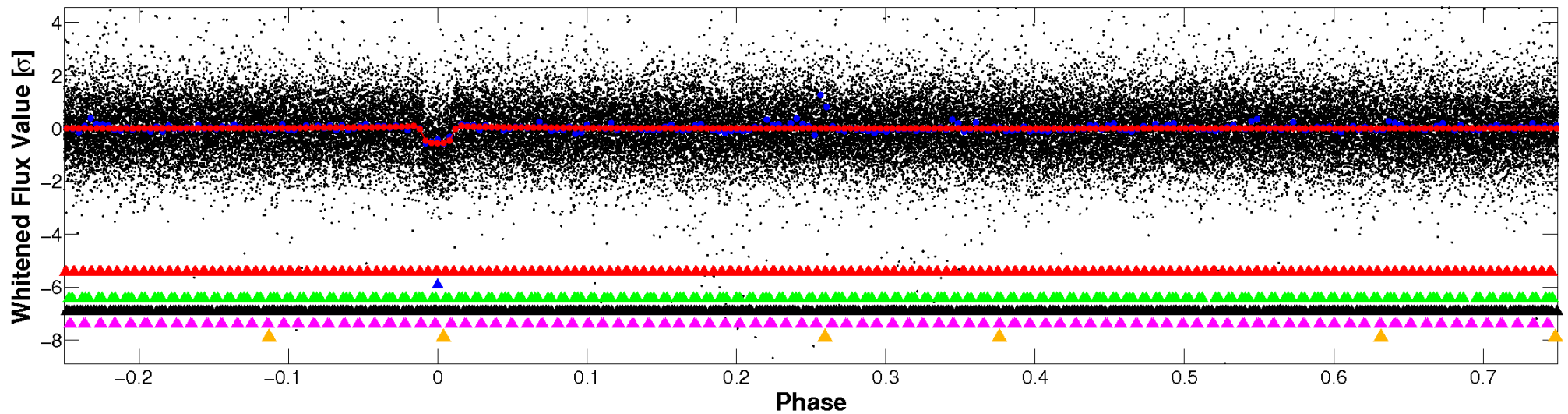


# Non-Whitened Vs. Whitened Light Curve

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

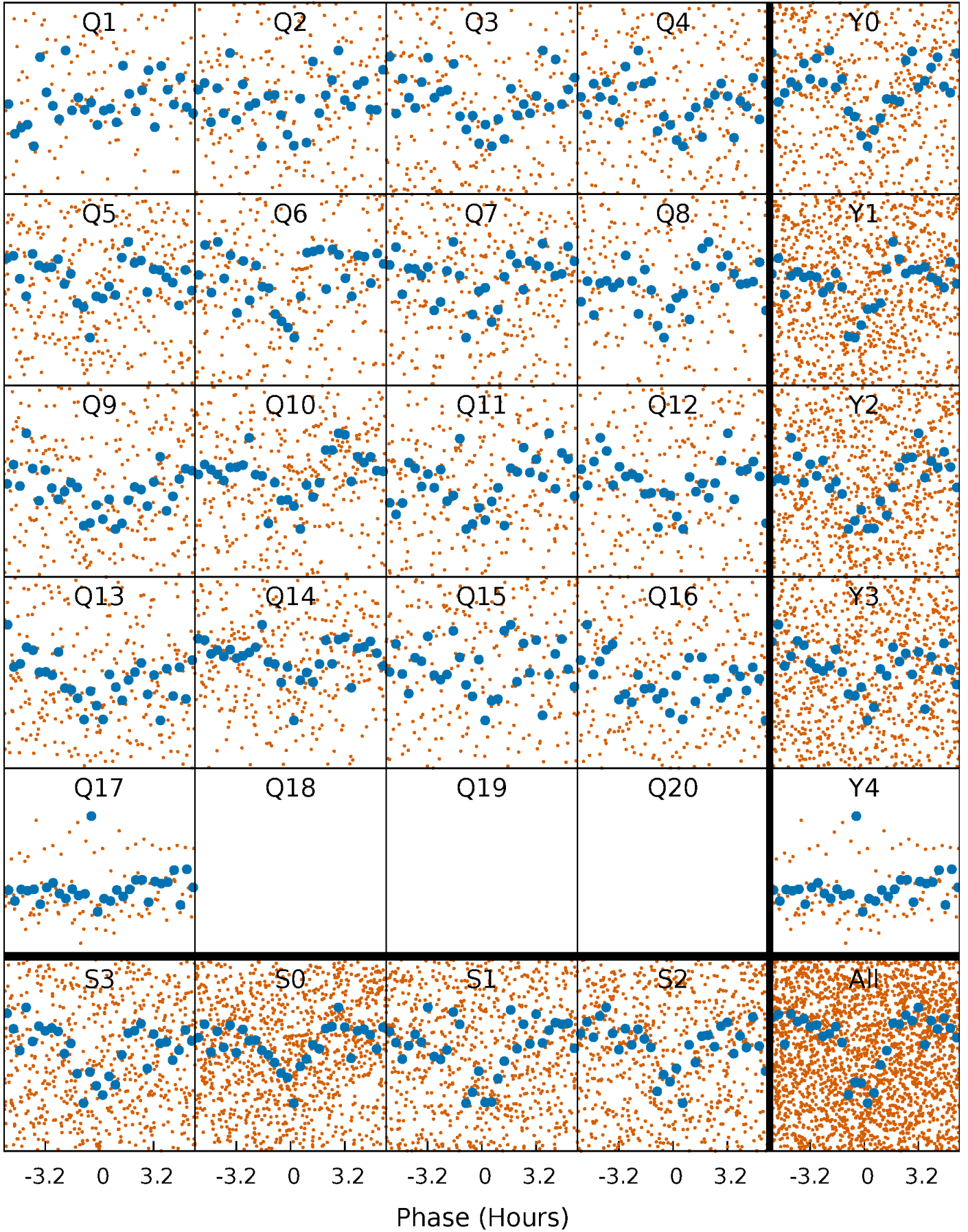


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



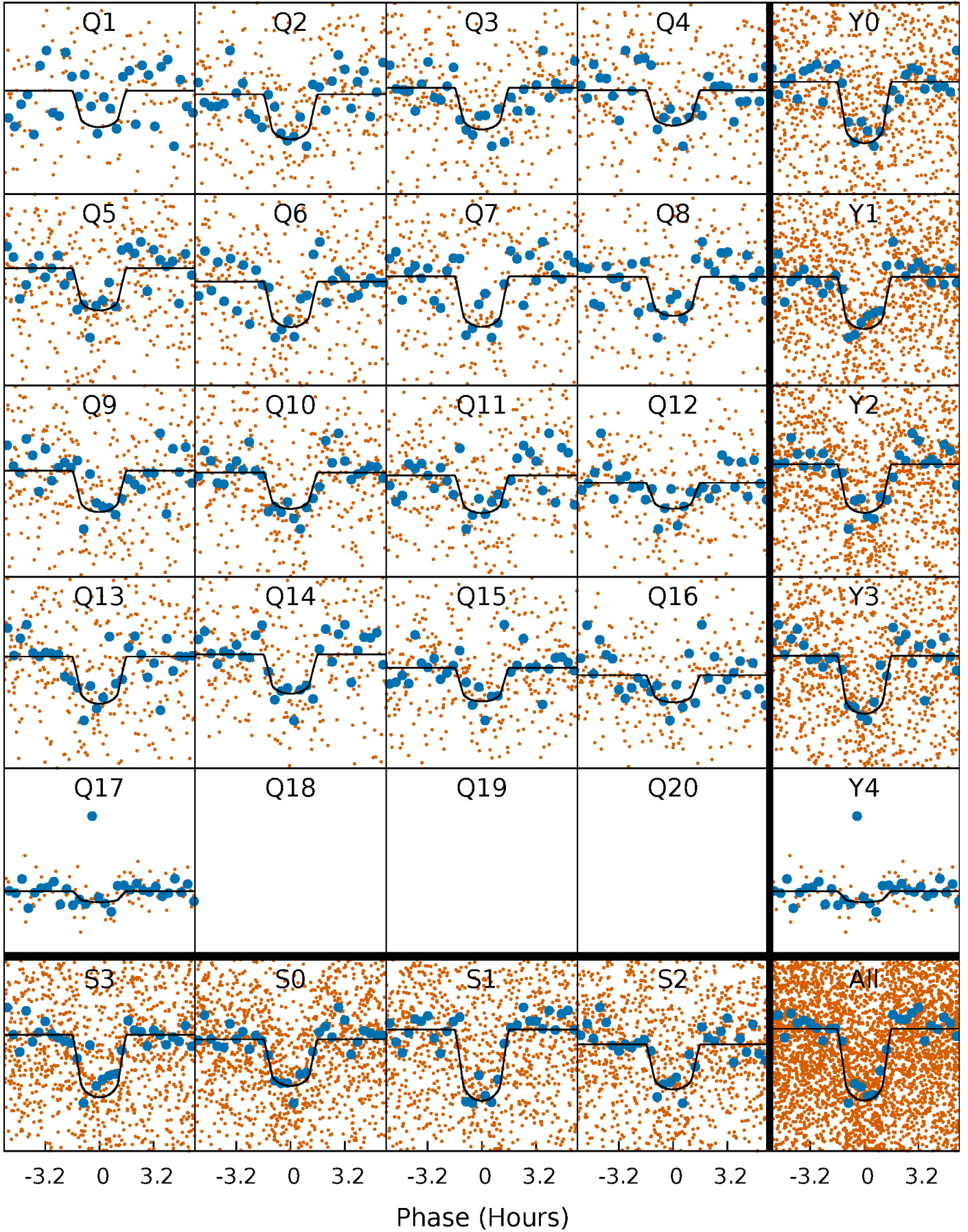
# PDC Quarter-Phased Transit Curves

TCE 007100673-02 P= 5.101138 Days  $T_0=132.426934$  (BKJD)



# DV Quarter-Phased Transit Curves

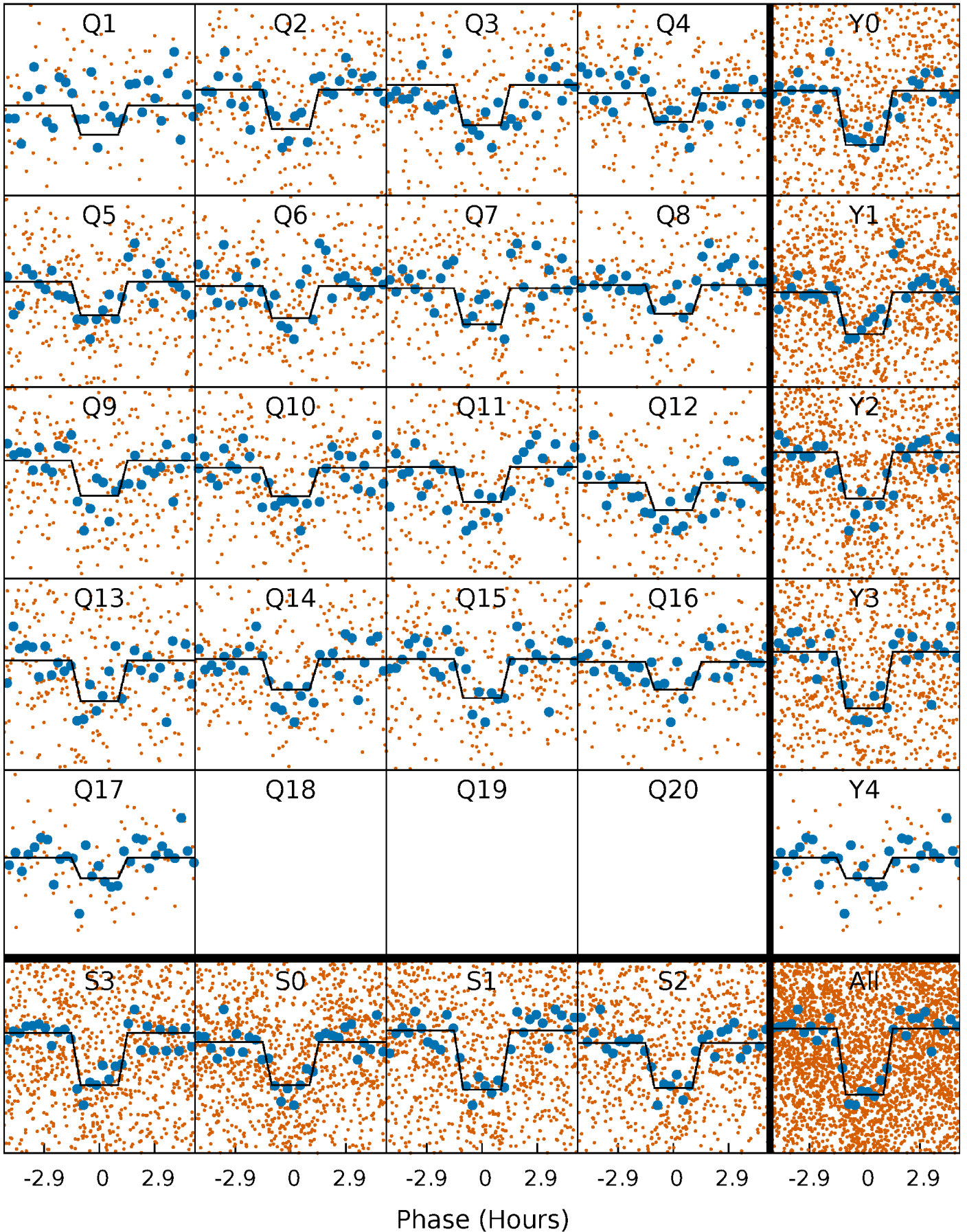
TCE 007100673-02   P= 5.101138 Days    $T_0=132.426934$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

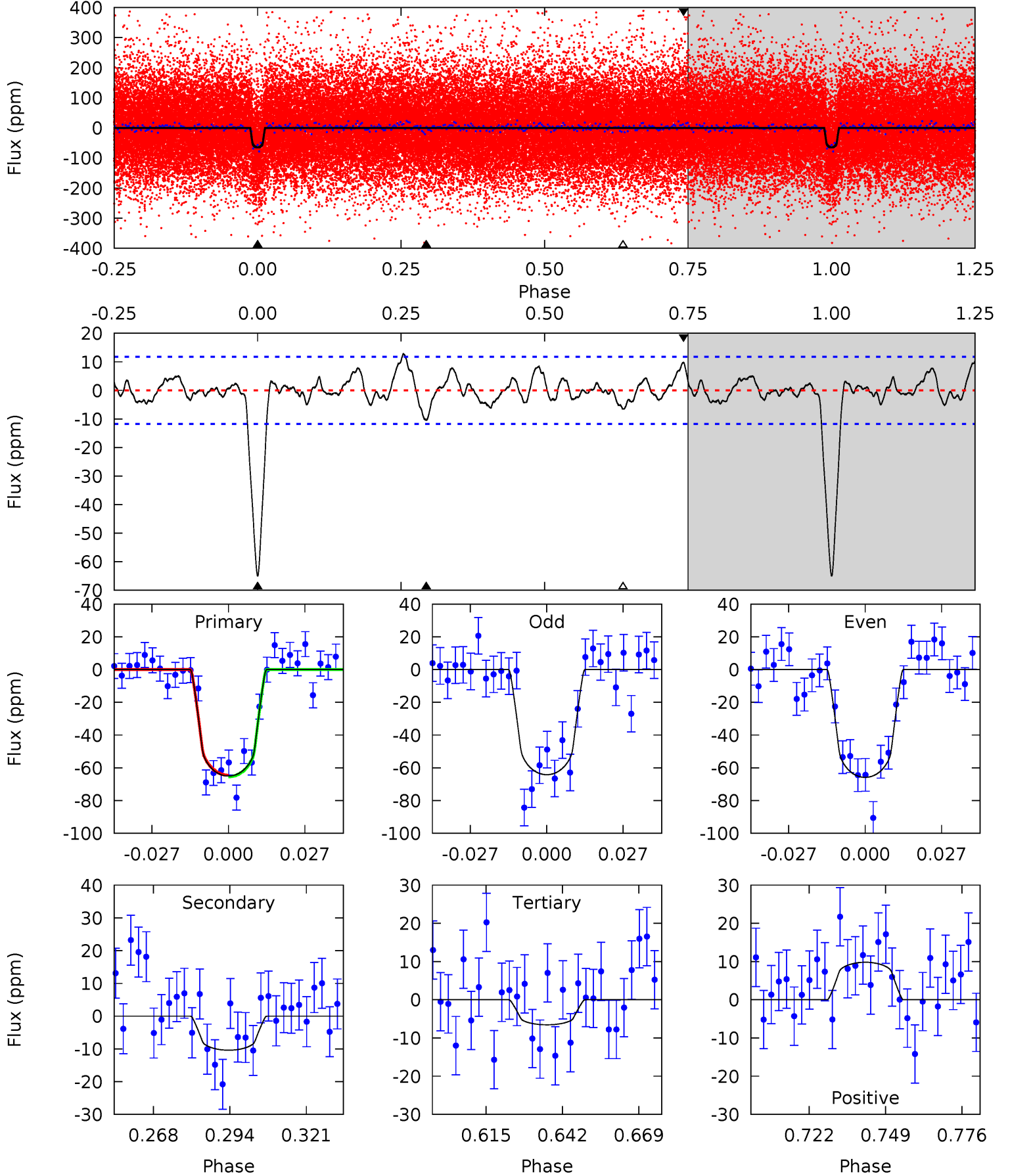
TCE 007100673-02 P= 5.101134 Days  $T_0=132.428585$  (BKJD)



# DV Model-Shift Uniqueness Test

007100673-02, P = 5.101138 Days, E = 127.325796 Days

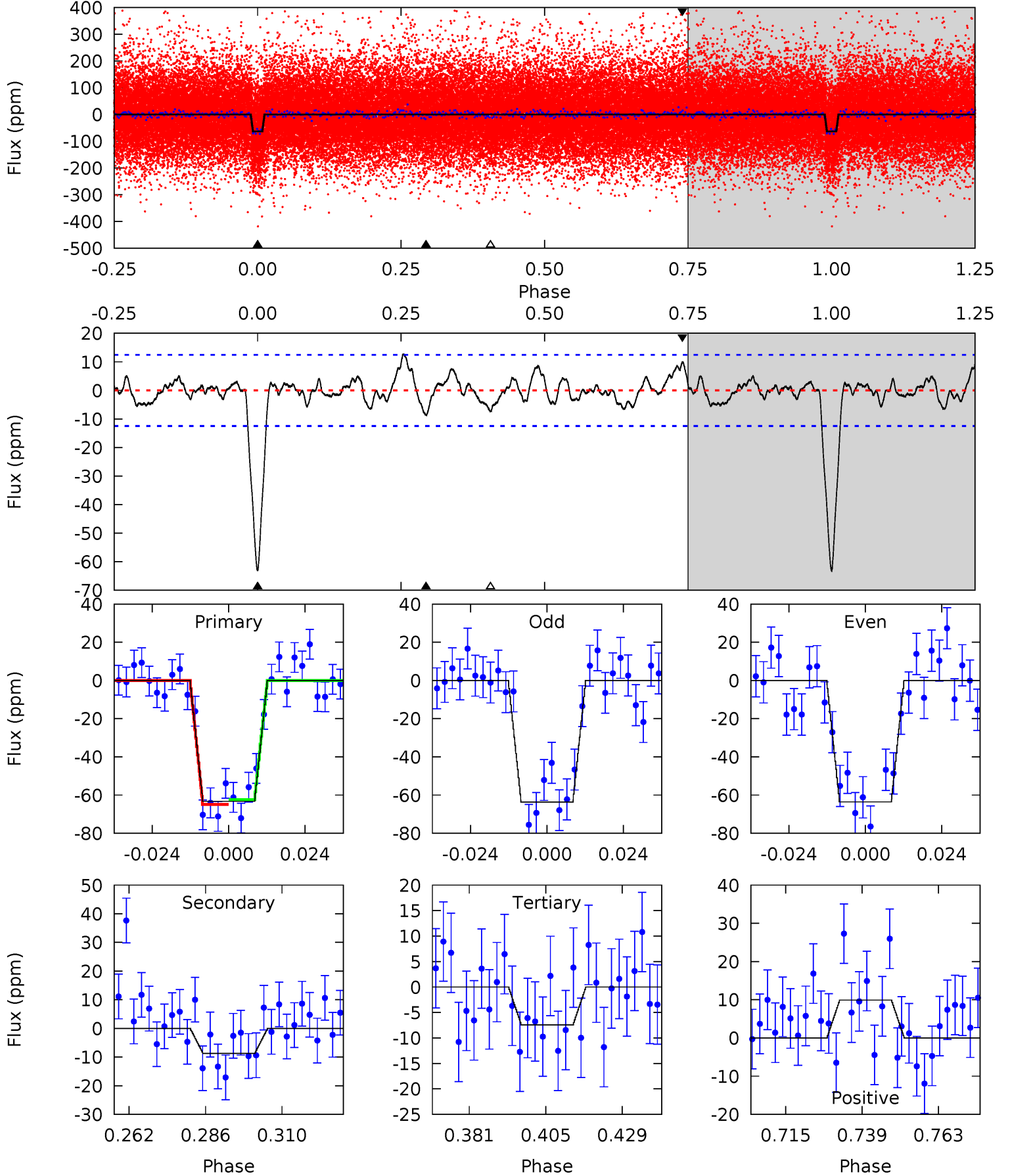
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.7	4.27	2.70	4.03	4.83	2.22	1.48	24.0	22.7	1.58	0.24	0.34	0.87	0.16	0.19



# Alt Model-Shift Uniqueness Test

007100673-02, P = 5.101134 Days, E = 127.327451 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
24.7	3.41	2.90	3.87	4.86	2.26	1.41	21.8	20.8	0.52	-0.46	0.02	0.94	0.17	0.50





### Stellar Parameters For KIC 007100673

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5574^{+111}_{-100}$	$4.354^{+0.132}_{-0.108}$	$0.120^{+0.150}_{-0.150}$	$1.065^{+0.166}_{-0.150}$	$0.933^{+0.067}_{-0.053}$	$1.089^{+0.601}_{-0.328}$
	+2%/-2%	+3%/-2%	+125%/-125%	+16%/-14%	+7%/-6%	+55%/-30%
Source	SPE59	SPE59	SPE59	DSEP		

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

### Secondary Eclipse Parameters for KIC 007100673-02 / KOI 4032.04

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-10 \pm 2$	$1.02^{+0.34}_{-0.30}$	$1489^{+67}_{-67}$	$3751^{+513}_{-363}$	$18^{+18}_{-8}$
Alt.	$-9 \pm 3$	$0.90^{+0.34}_{-0.30}$	$1486^{+63}_{-63}$	$3804^{+614}_{-400}$	$19^{+27}_{-9}$

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

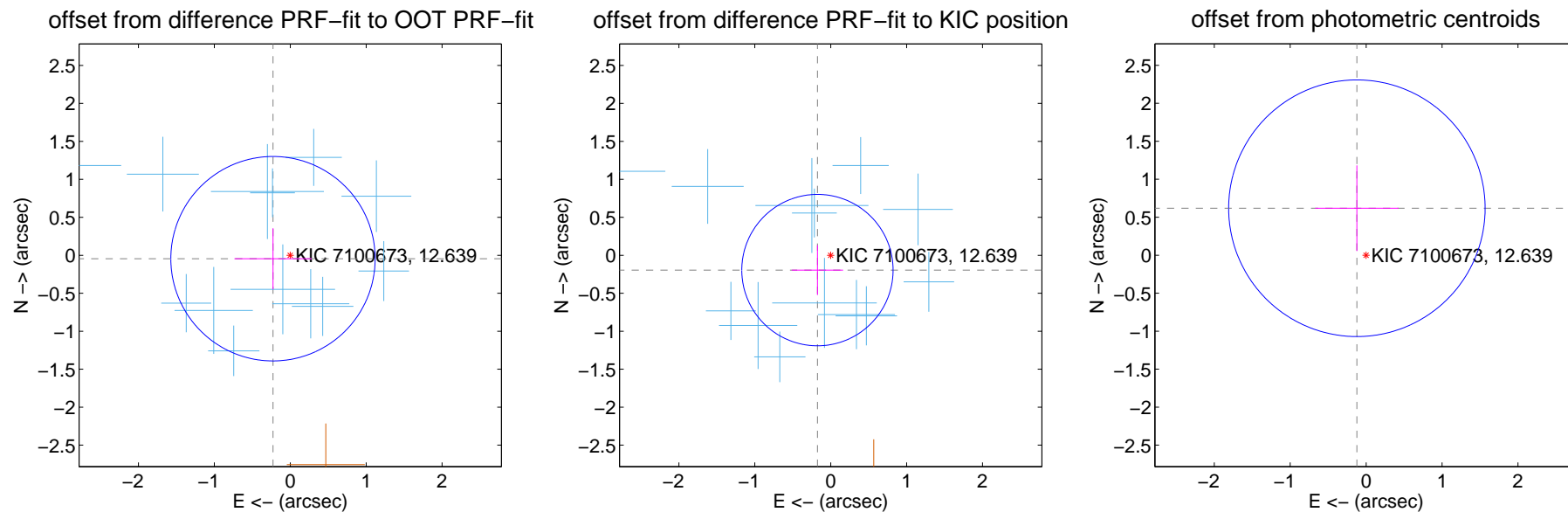
## DV Centroid Data

Supplemental centroid analysis for 007100673-02. Kepler magnitude: 12.64. Transit SNR 17.75

There are 13 quarters with good PRF difference image offsets

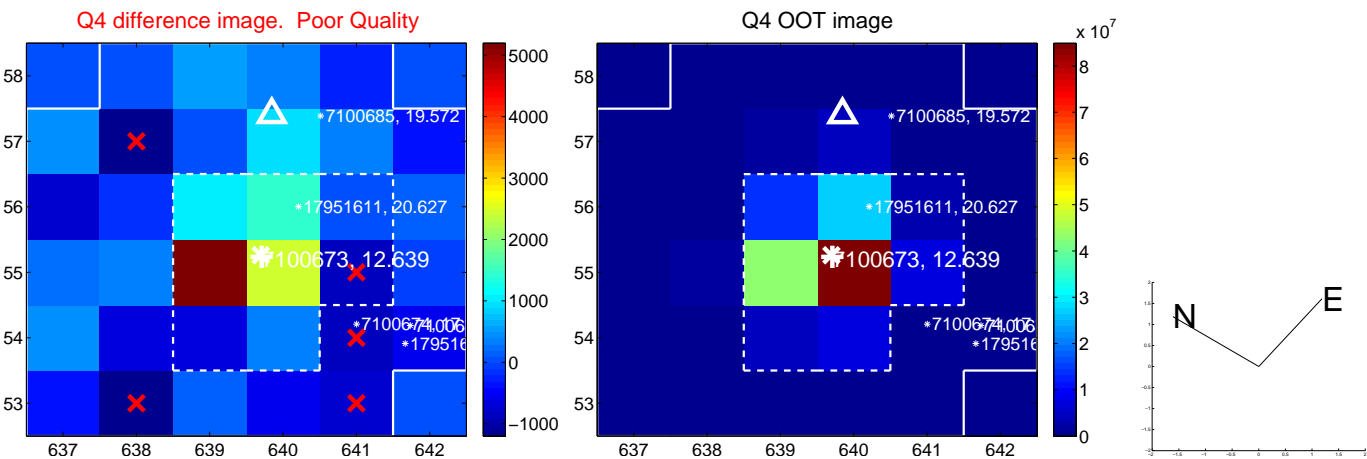
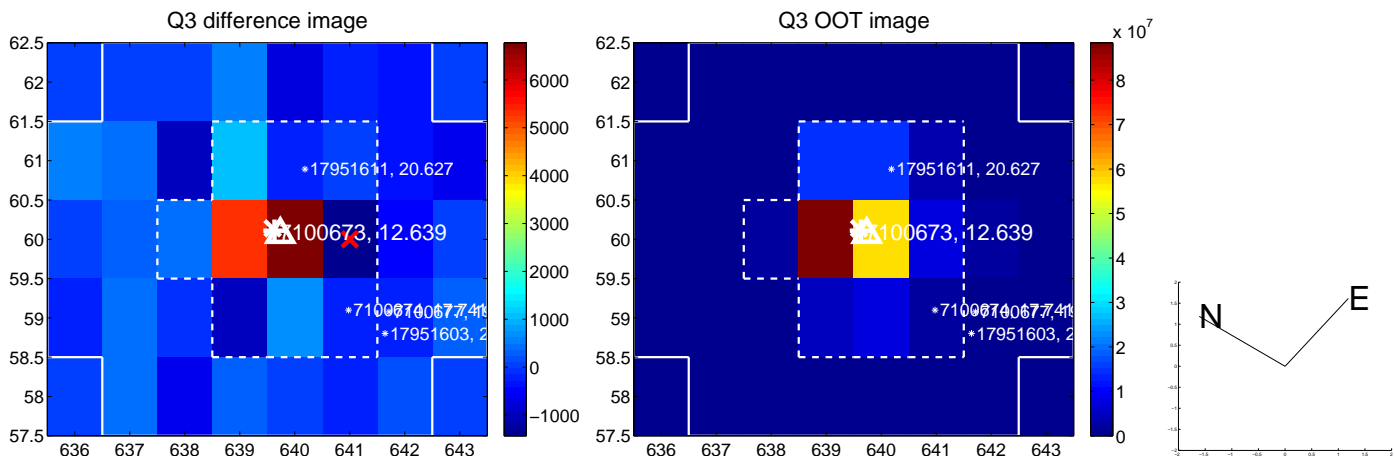
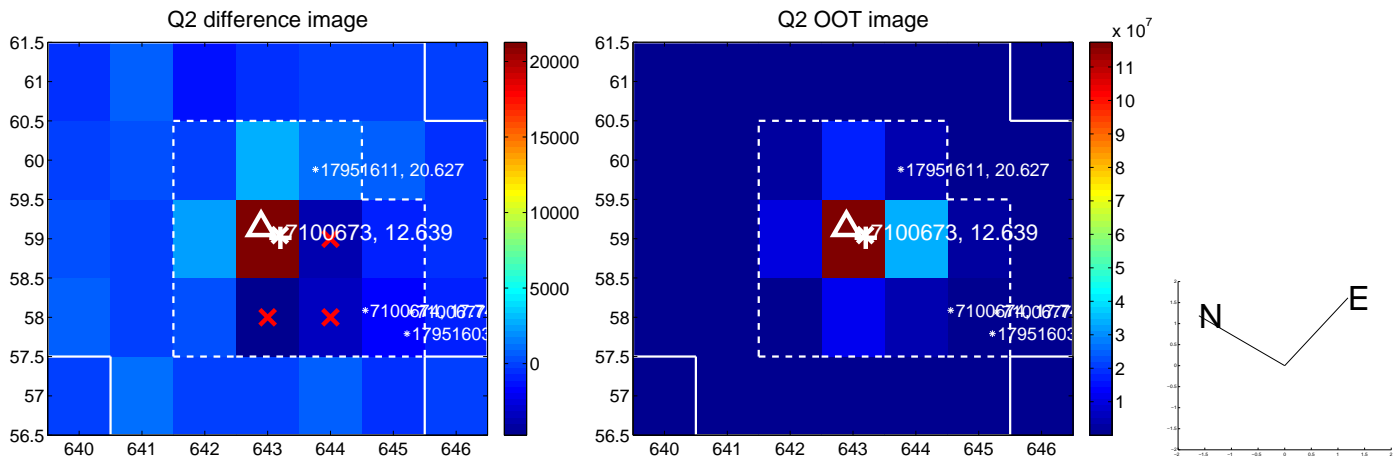
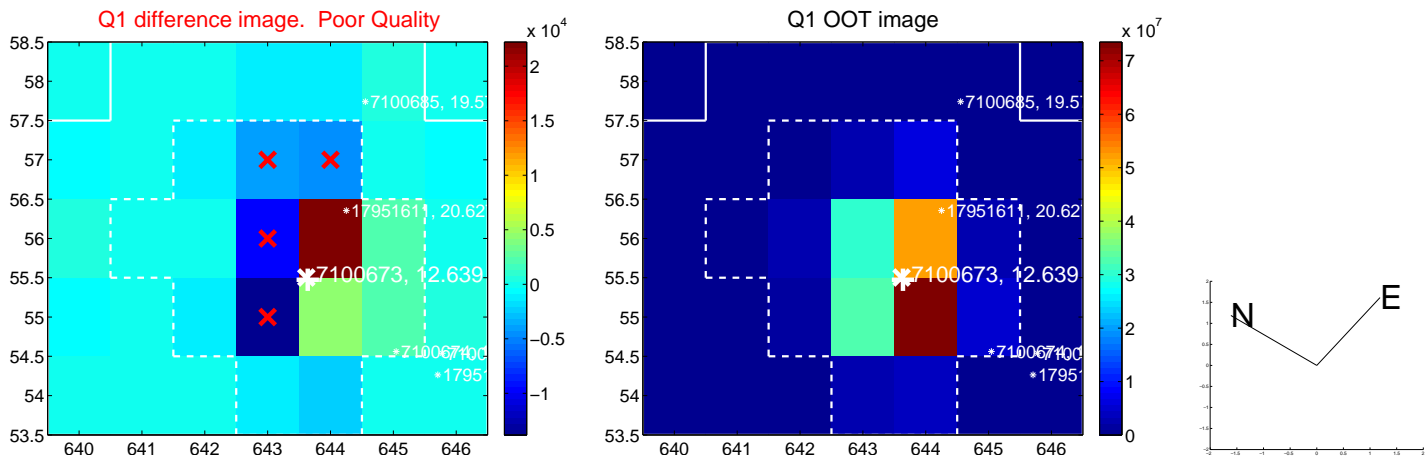
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.232 \pm 0.449$	0.52	$0.228 \pm 0.508$	$-0.045 \pm 0.401$
PRF-fit source offset from KIC position	$0.262 \pm 0.332$	0.79	$0.175 \pm 0.337$	$-0.195 \pm 0.328$
photometric centroid source offset	$0.63 \pm 0.56$	1.12	$0.12 \pm 0.55$	$0.62 \pm 0.56$



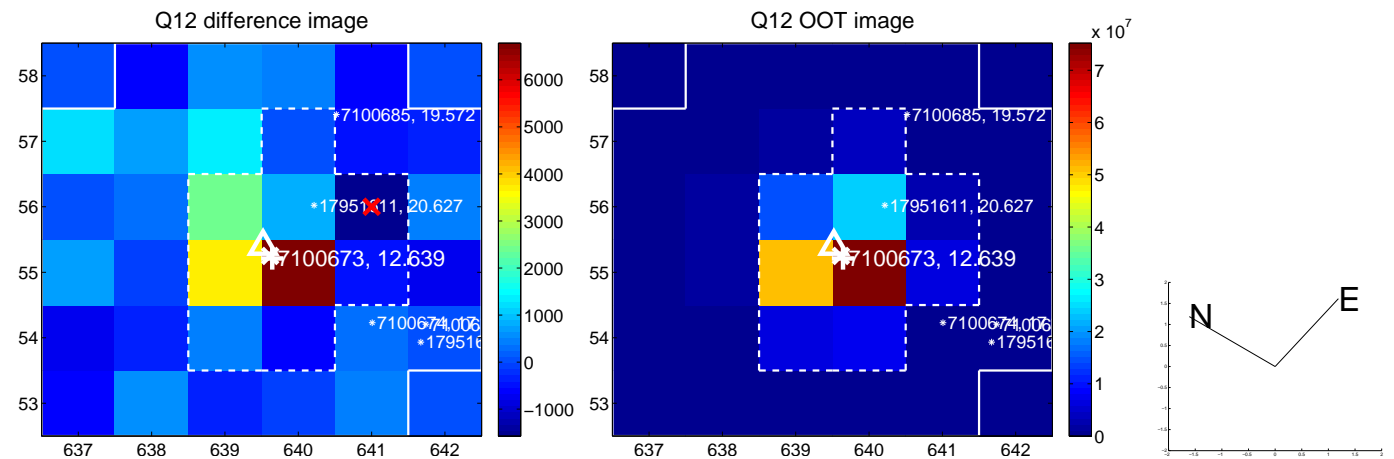
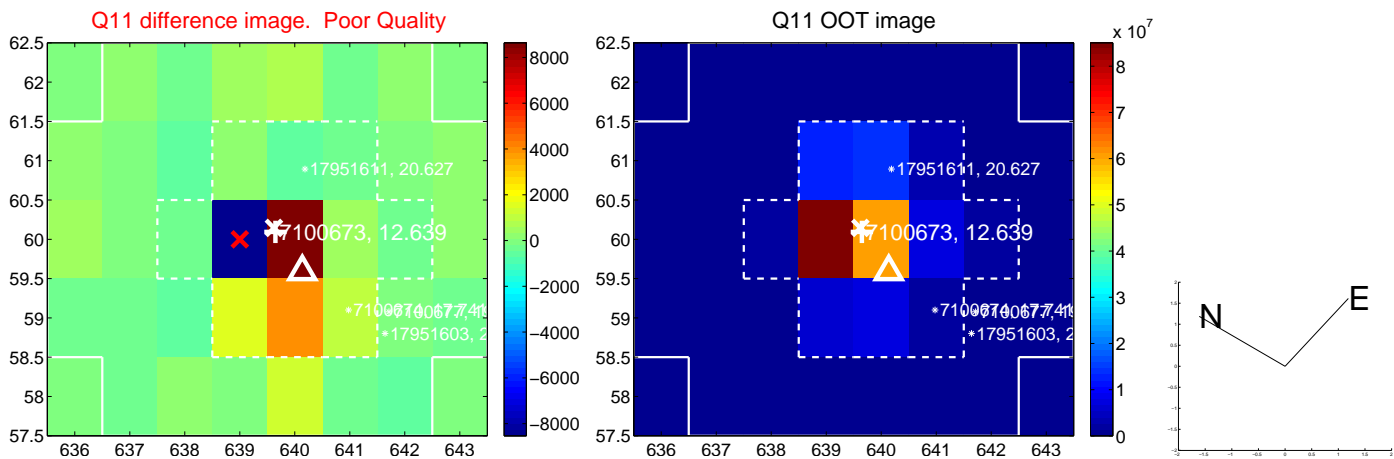
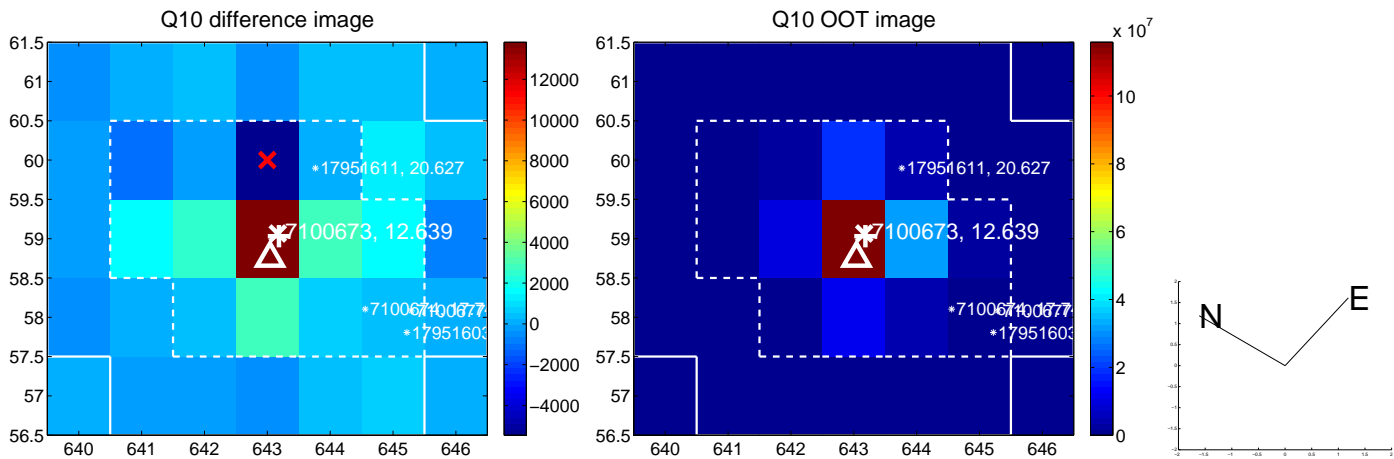
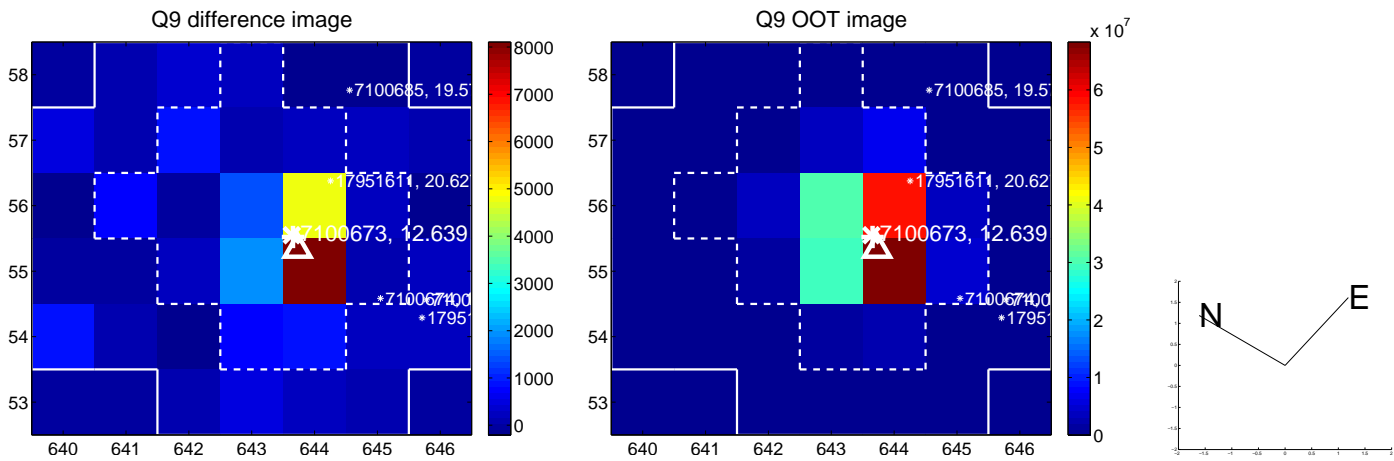
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

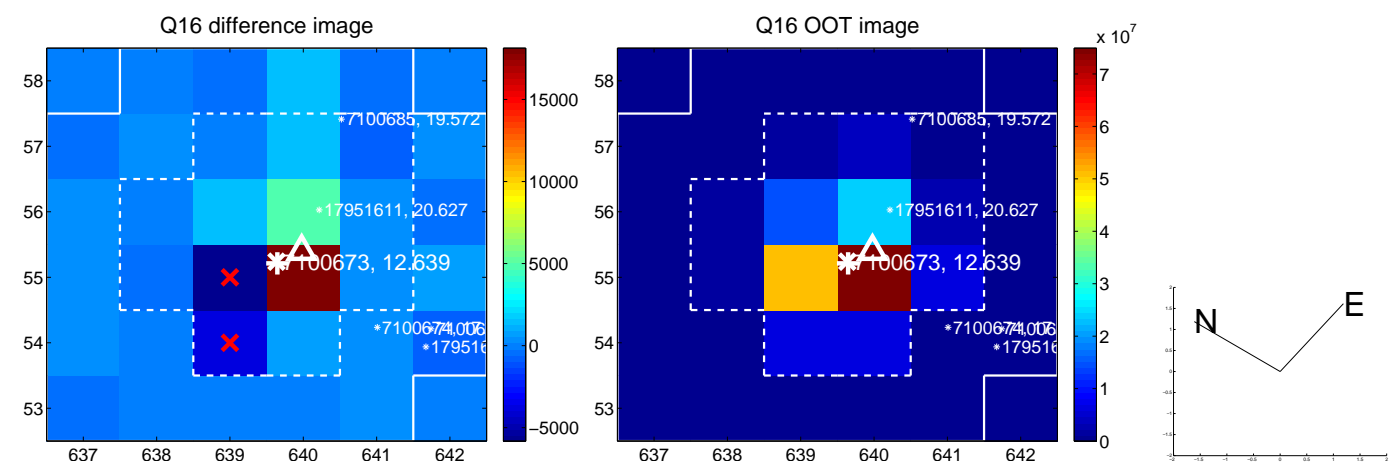
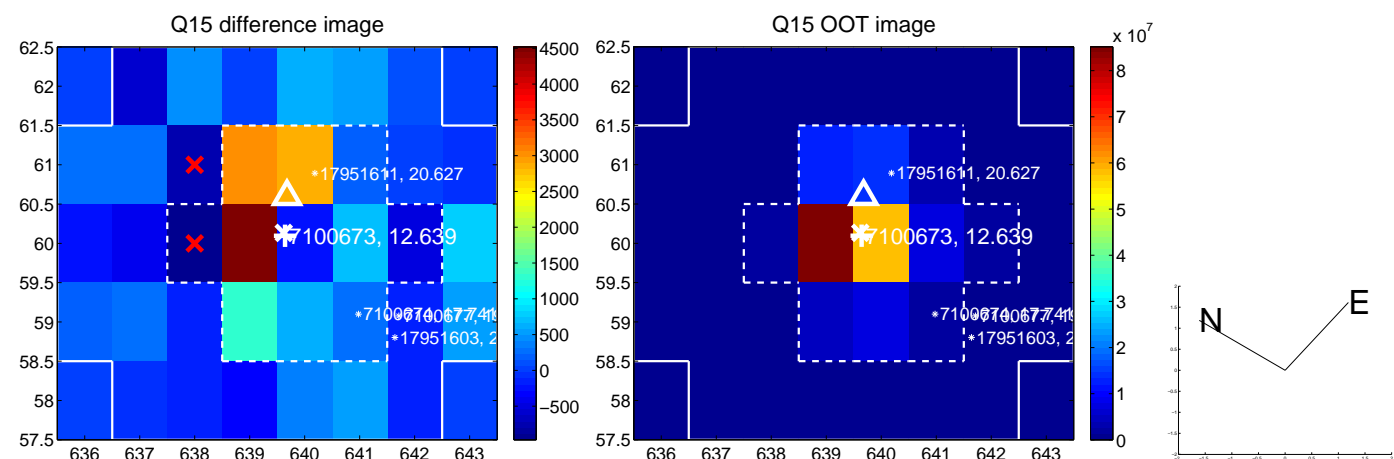
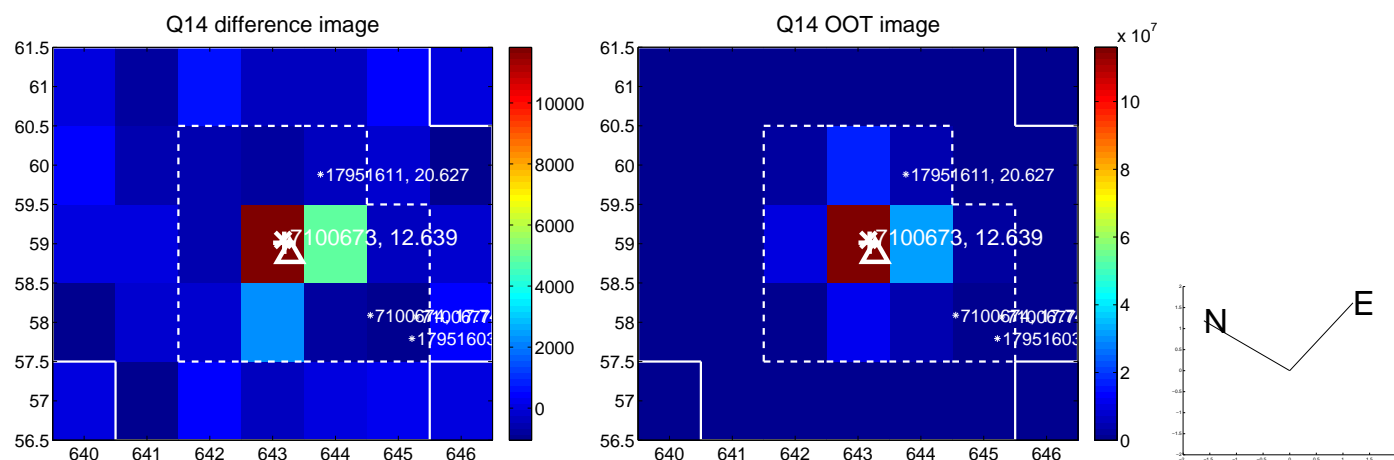
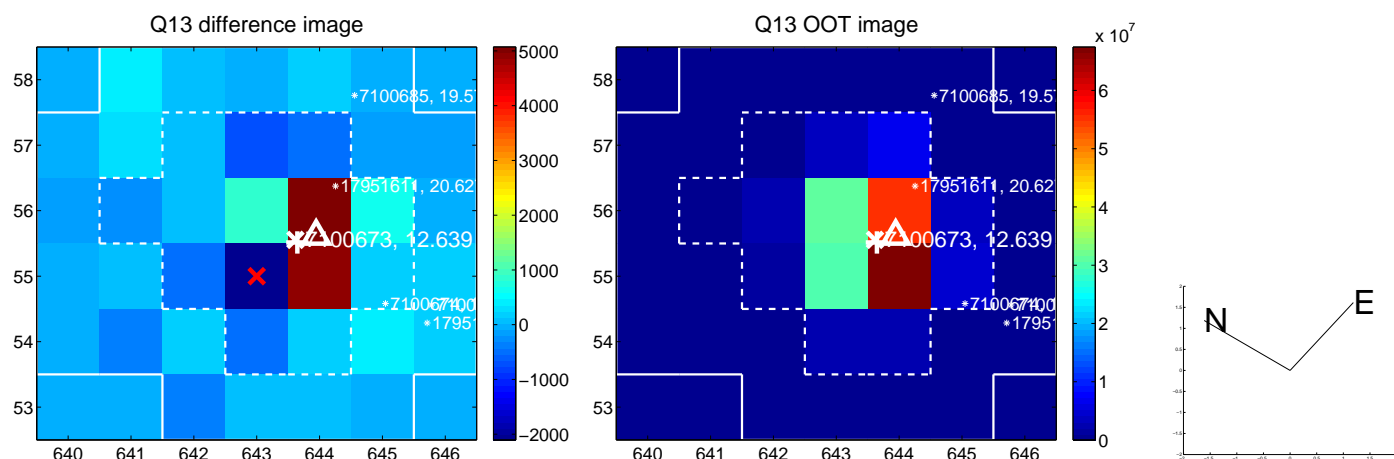




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

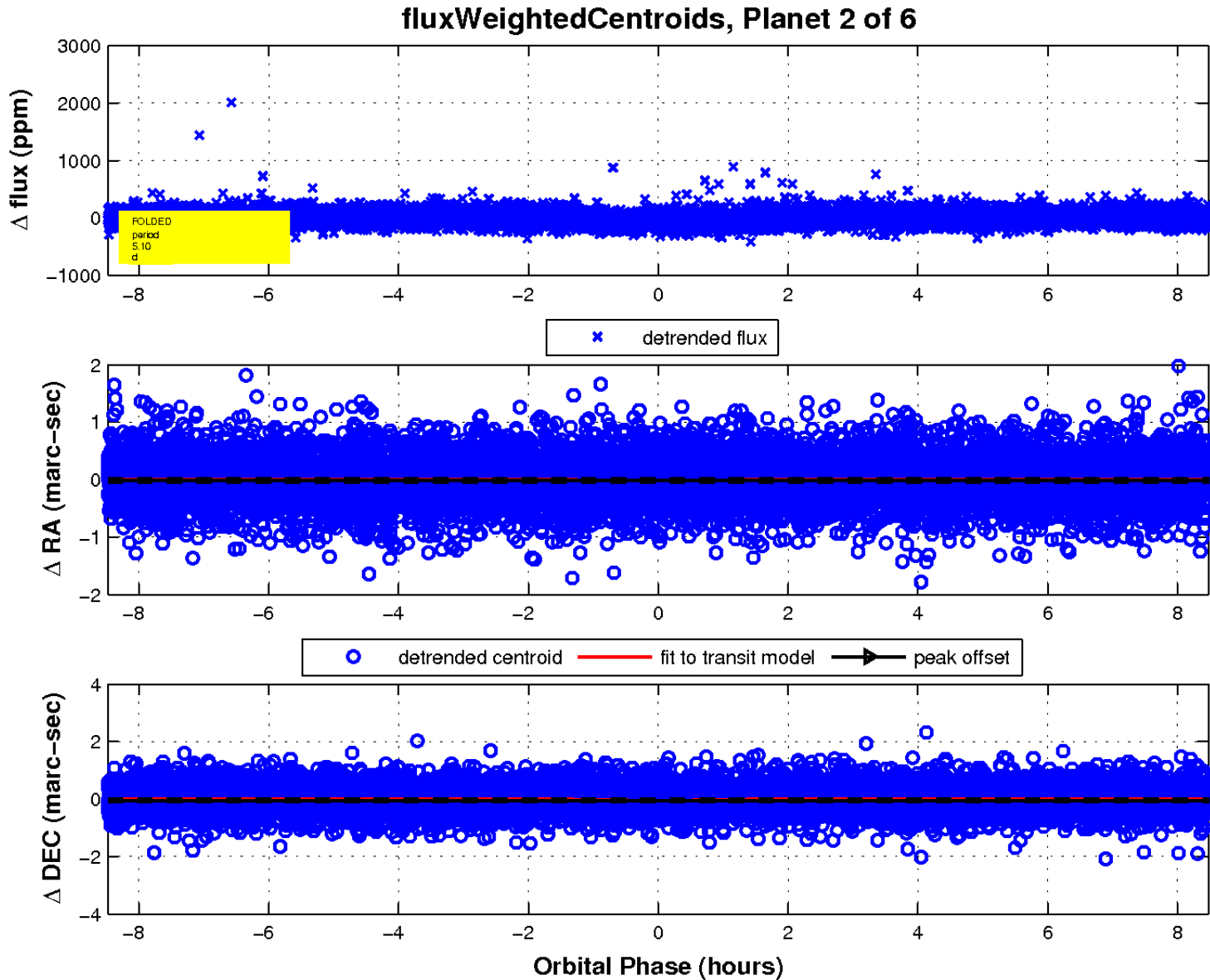
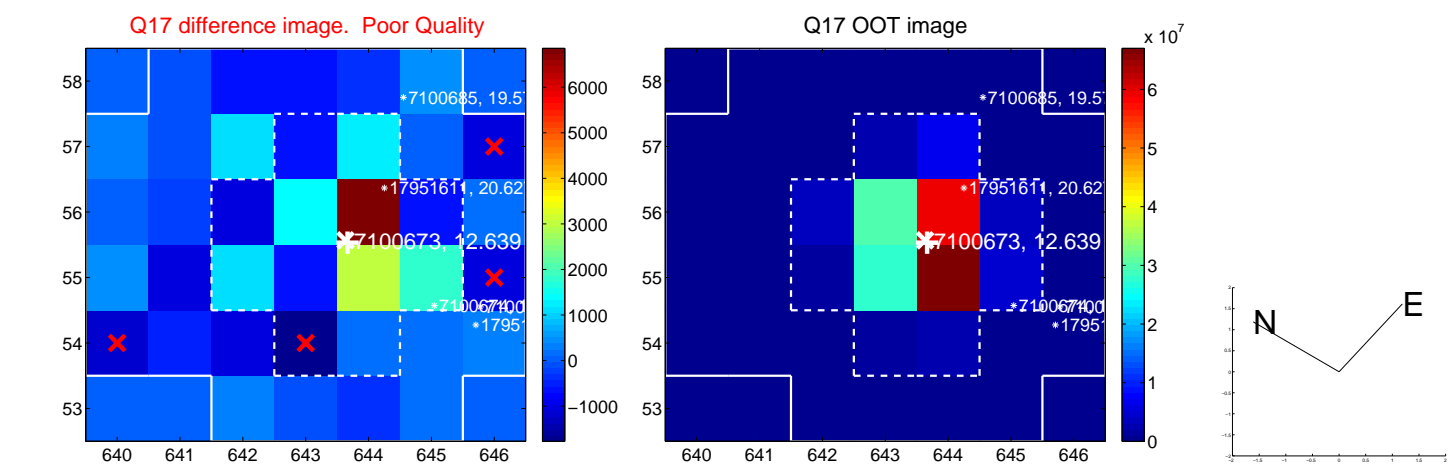


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



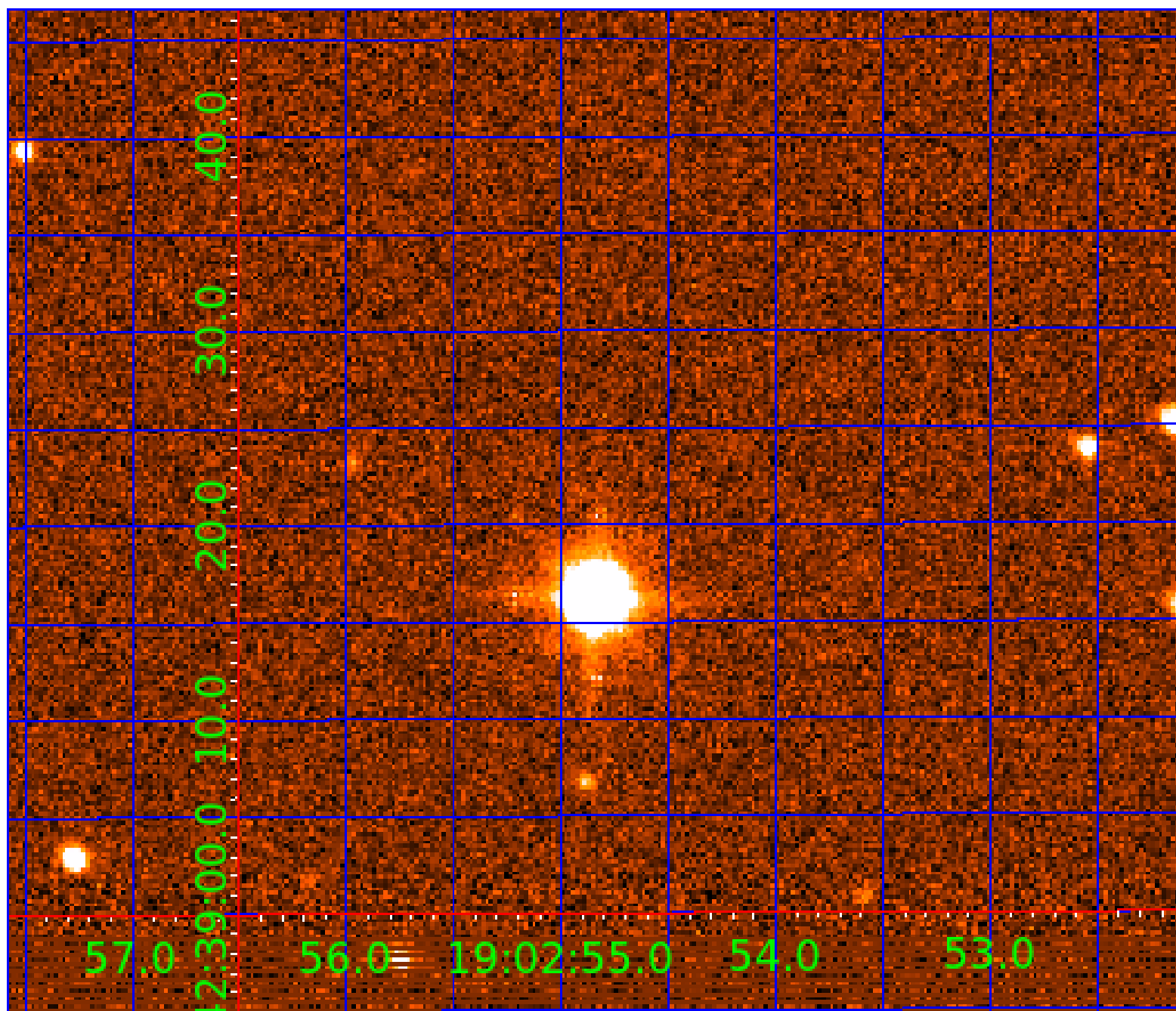


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007100673

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007100673-01	OBS	4032.01	3.951190	134.219141	63.7	2.715	16.4	19.5	1.06	5574	1.03	428.70
007100673-02	OBS	4032.04	5.101138	132.426934	66.3	2.827	14.8	17.8	1.06	5574	1.04	304.96
007100673-03	OBS	4032.03	5.992709	131.754307	70.9	2.676	15.1	16.7	1.06	5574	1.09	246.02
007100673-04	OBS	4032.02	2.892211	132.870091	43.3	2.709	13.2	14.8	1.06	5574	0.81	649.86
007100673-05	OBS	4032.05	7.235231	135.236012	55.4	2.409	9.0	10.5	1.06	5574	0.88	191.36
007100673-06	OBS	No	273.562429	141.345920	104.4	15.266	8.2	5.2	1.06	5574	1.23	1.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007100673-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-04	OBS	PC	0.99	0	0	0	0	NO_COMMENT
007100673-05	OBS	PC	0.79	0	0	0	0	NO_COMMENT
007100673-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNI_Q_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

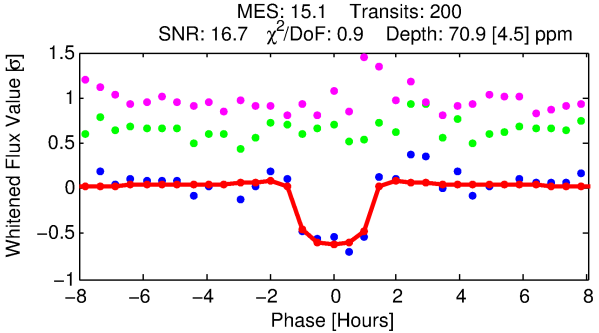
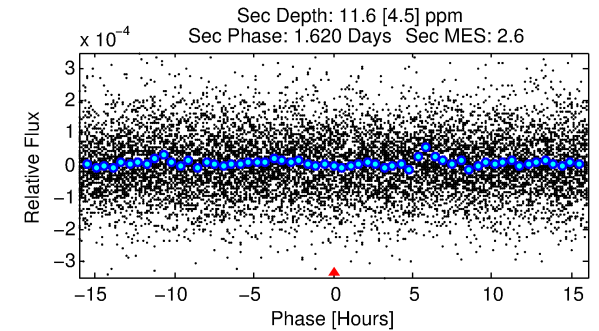
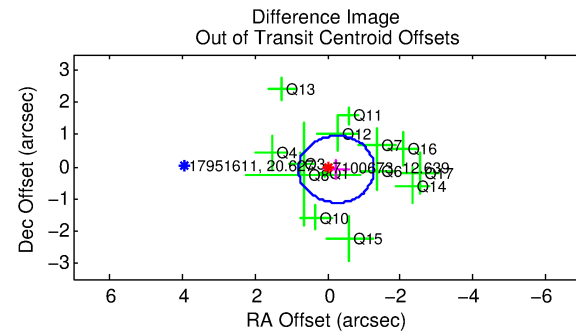
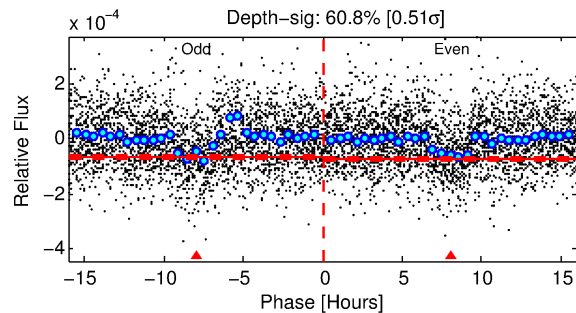
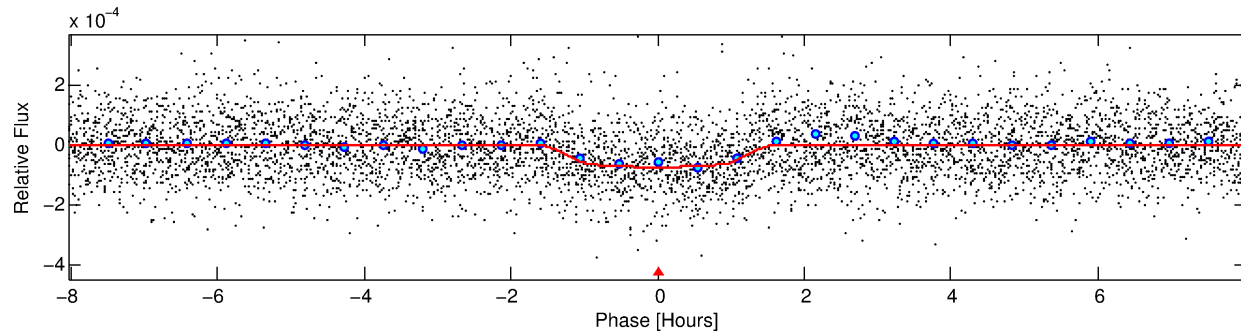
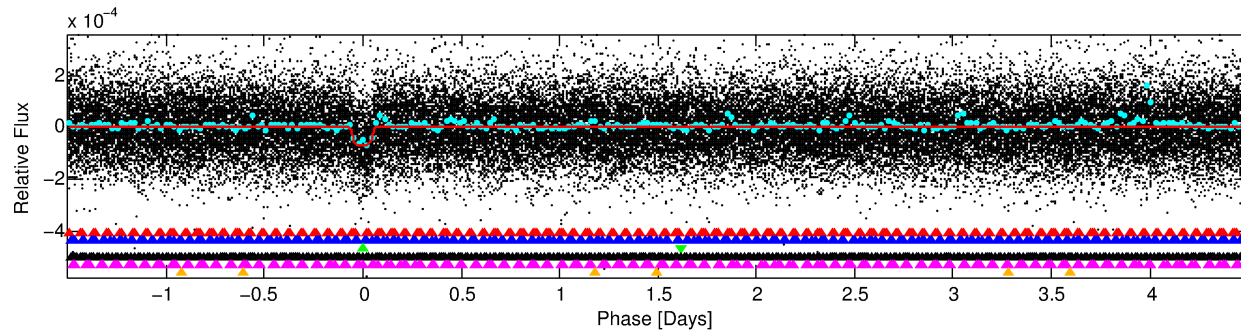
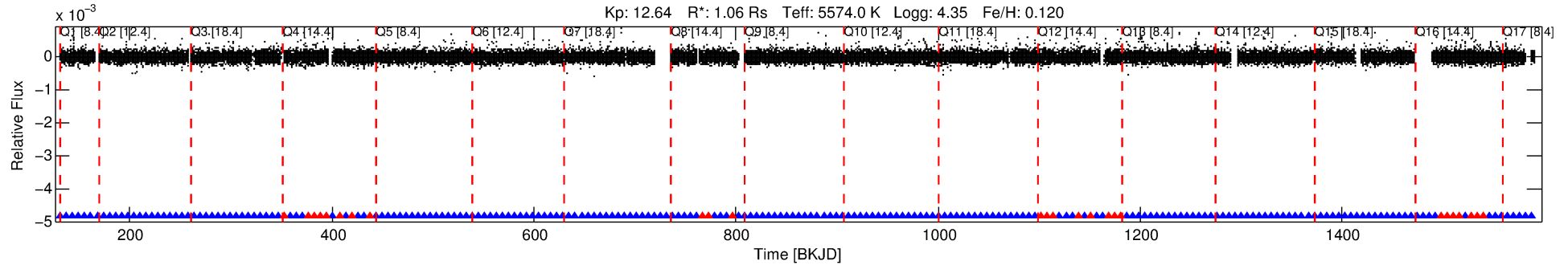
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007100673-03

No Significant Match Found

# DV One-Page Summary

KIC: 7100673 Candidate: 3 of 6 Period: 5.993 d  
KOI: K04032.03 Corr: 0.970



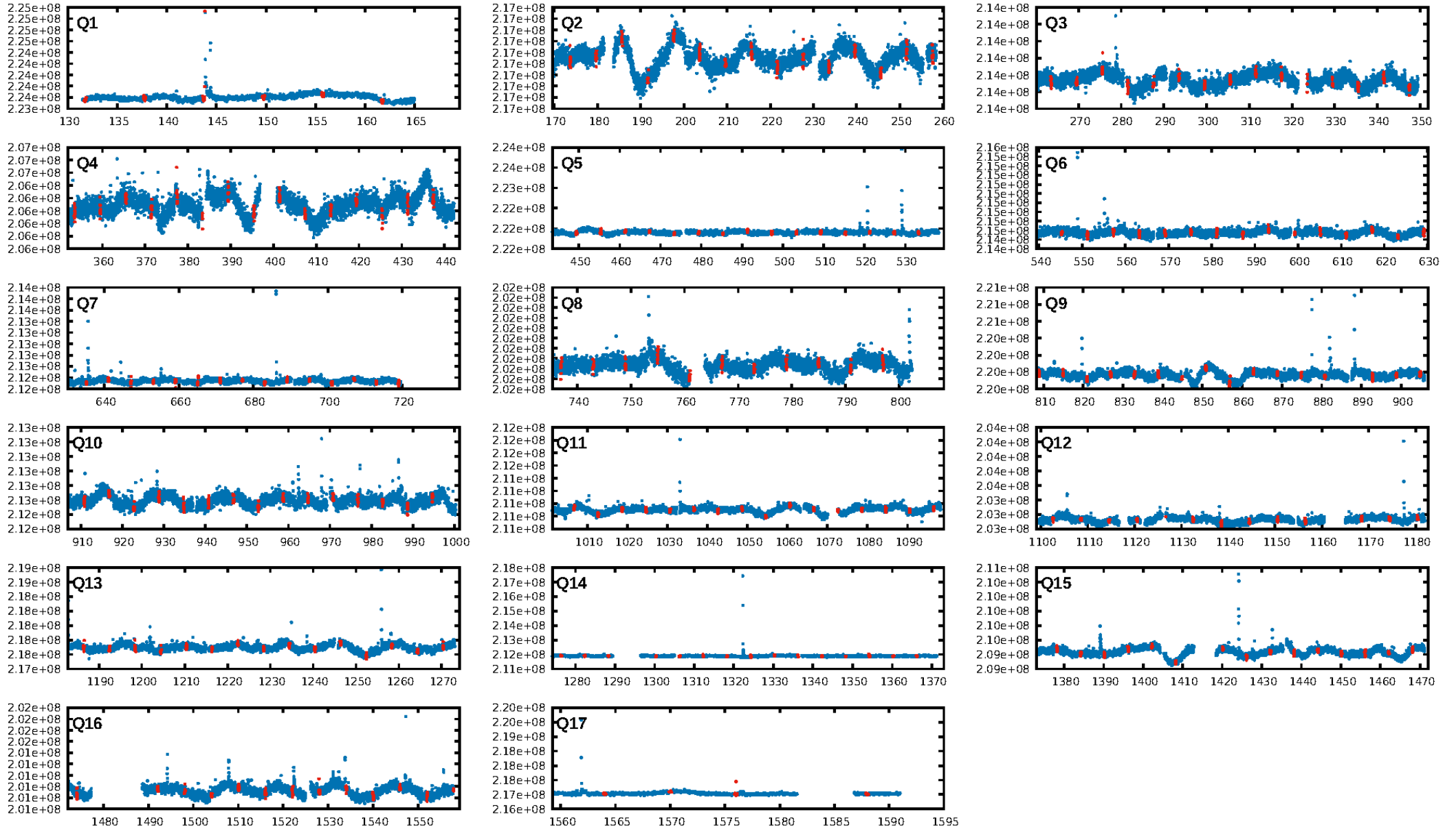
## DV Fit Results:

Period = 5.99271 [0.00002] d  
Epoch = 131.7543 [0.0027] BKJD  
Rp/R\* = 0.0093 [0.0029]  
a/R\* = 7.52 [10.67]  
b = 0.91 [0.28]  
Seff = 246.02 [59.35]  
Teq = 1010 [61] K  
Rp = 1.09 [0.38] Re  
a = 0.0631 [0.0092] AU  
Ag = 21.63 [16.63] [1.24 $\sigma$ ]  
Teffp = 3367 [622] K [3.77 $\sigma$ ]

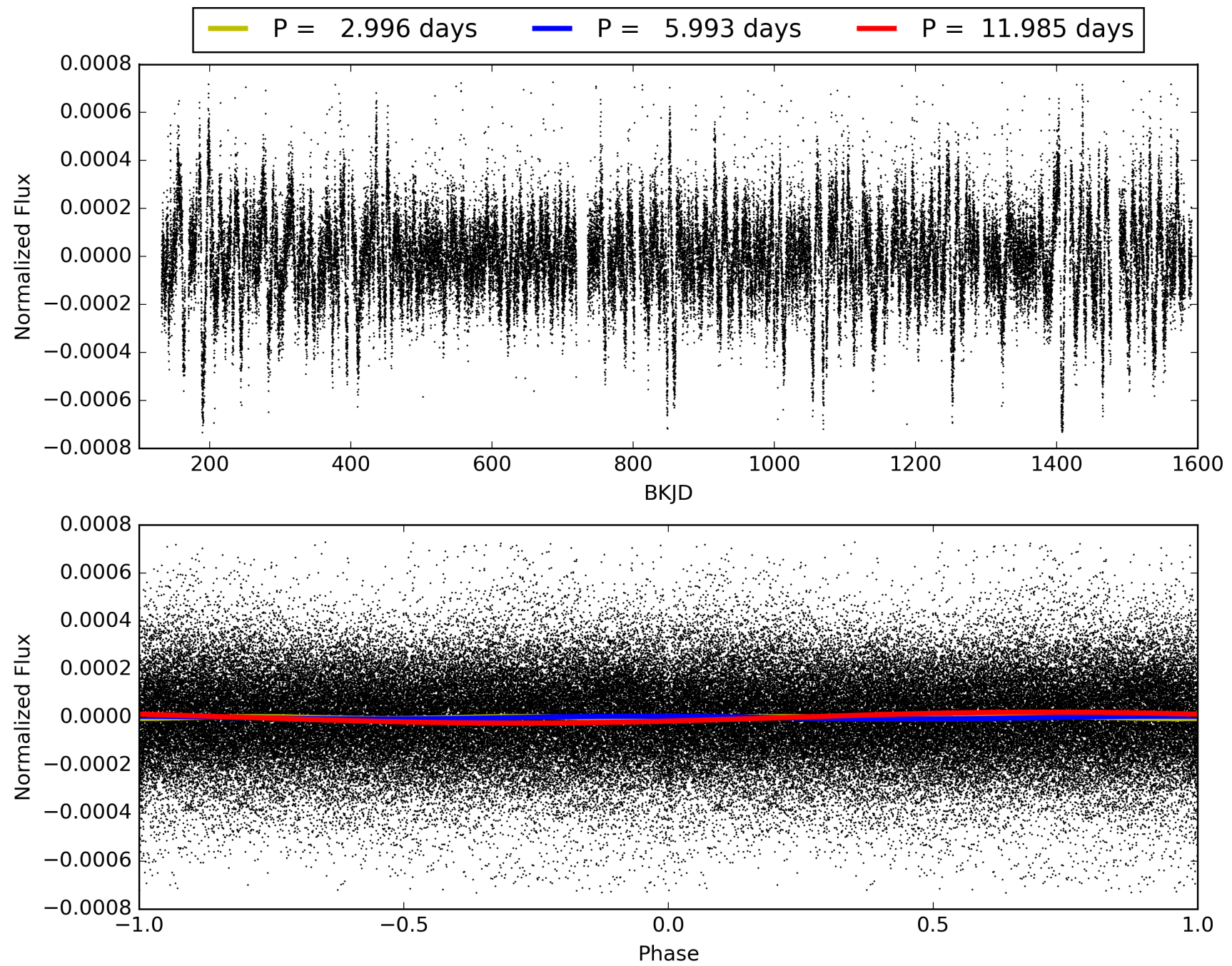
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.50 $\sigma$ ]  
LongPeriod-sig: 100.0% [8.28 $\sigma$ ]  
ModelChiSquare2-sig: 99.5%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.91e-44  
RollingBand-fgt: 0.86 [165/191]  
GhostDiagnostic-chr: 3.813  
Centroid-sig: 85.5%  
Centroid-so: 0.322 arcsec [0.55 $\sigma$ ]  
OotOffset-rm: 0.256 arcsec [0.74 $\sigma$ ]  
KicOffset-rm: 0.361 arcsec [0.99 $\sigma$ ]  
OotOffset-st: 3/4/4/3 [14]  
KicOffset-st: 3/4/4/3 [14]  
DiffImageQuality-fgm: 0.93 [13/14]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 007100673-03, PDC Light Curves



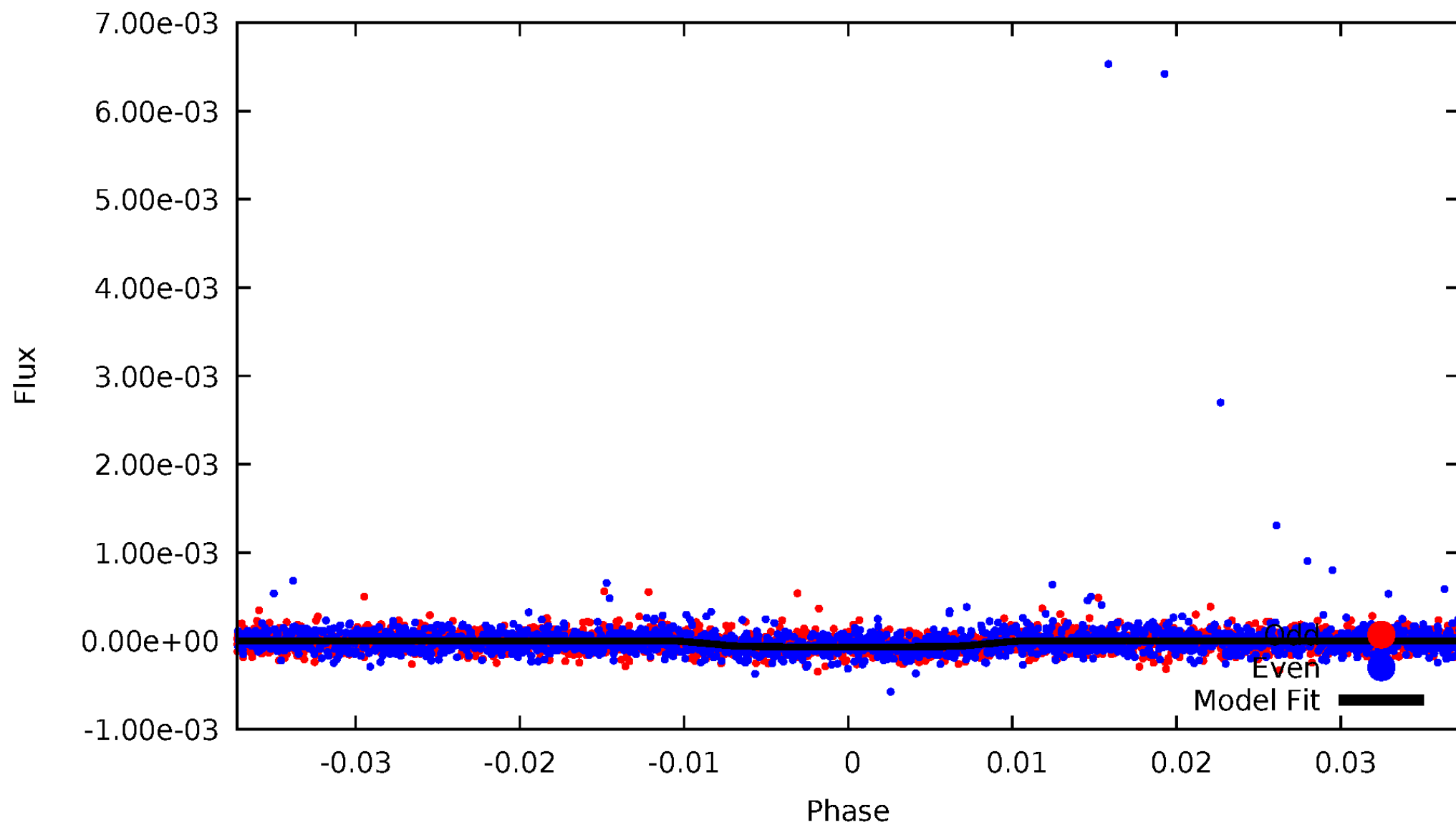
TCE 007100673-03





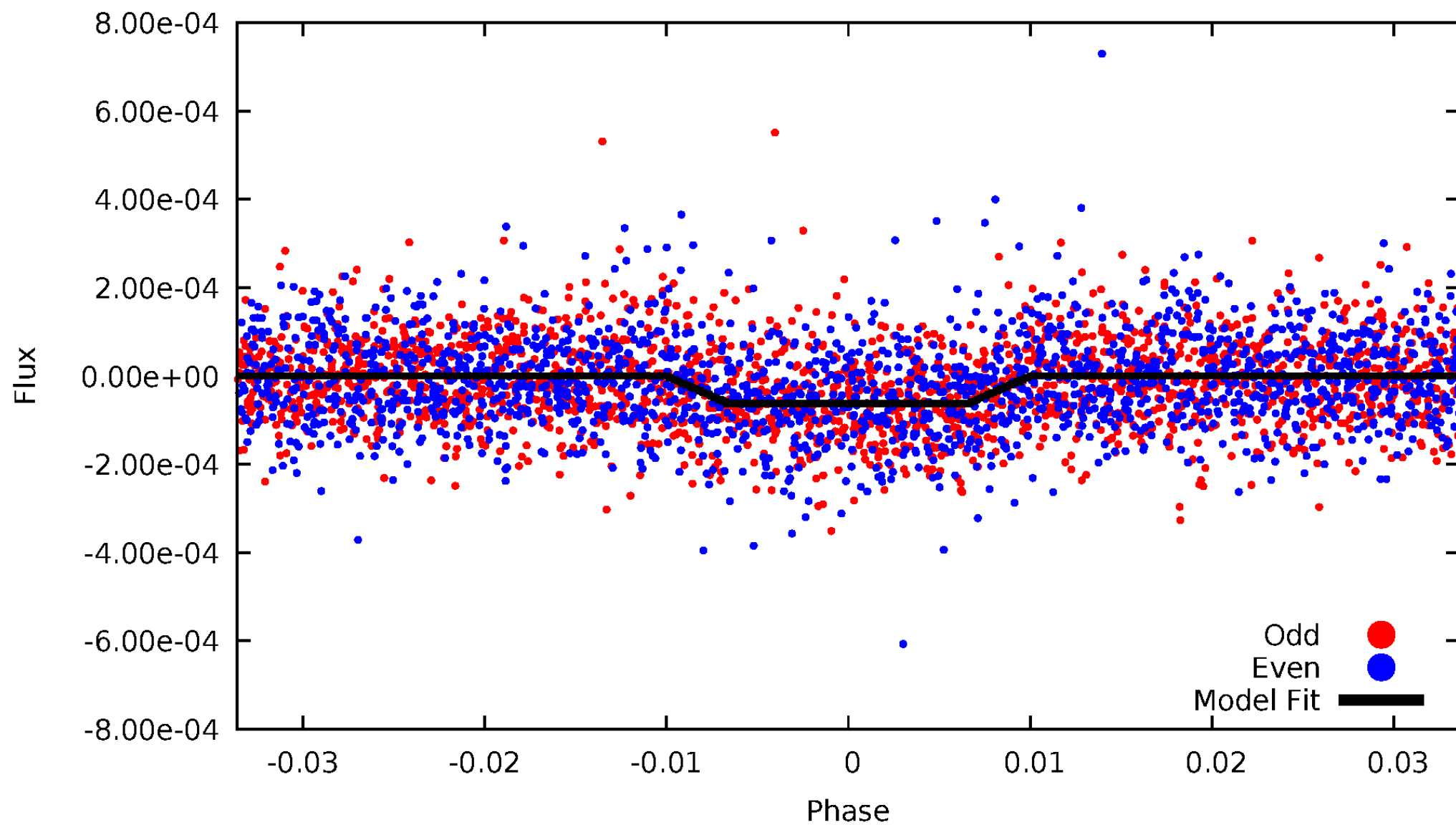
# DV Odd/Even

TCE 007100673-03



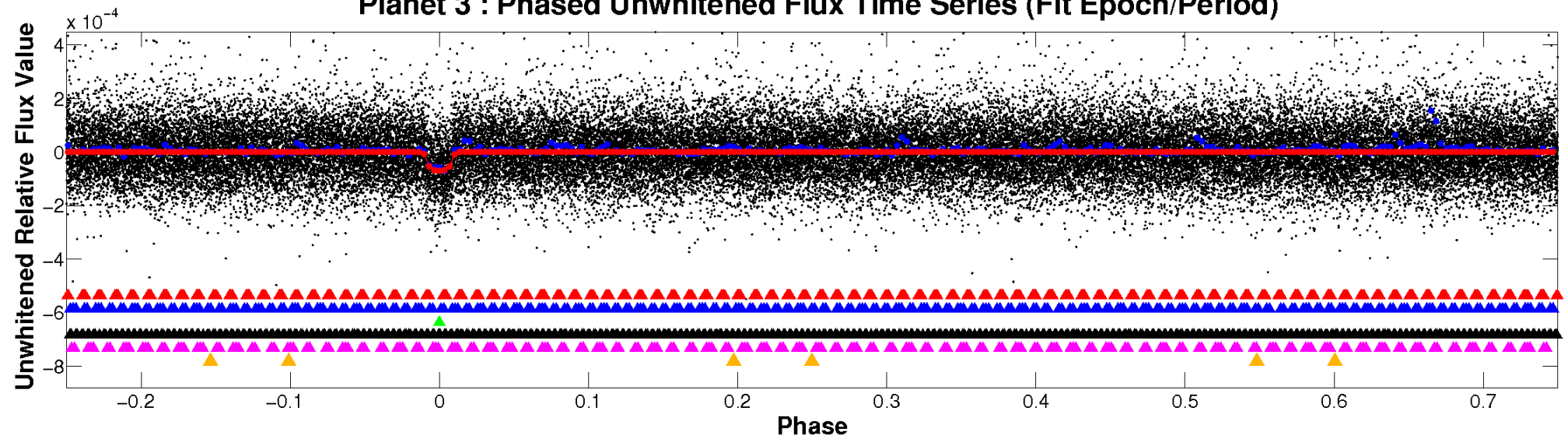
# ALT Odd/Even

TCE 007100673-03

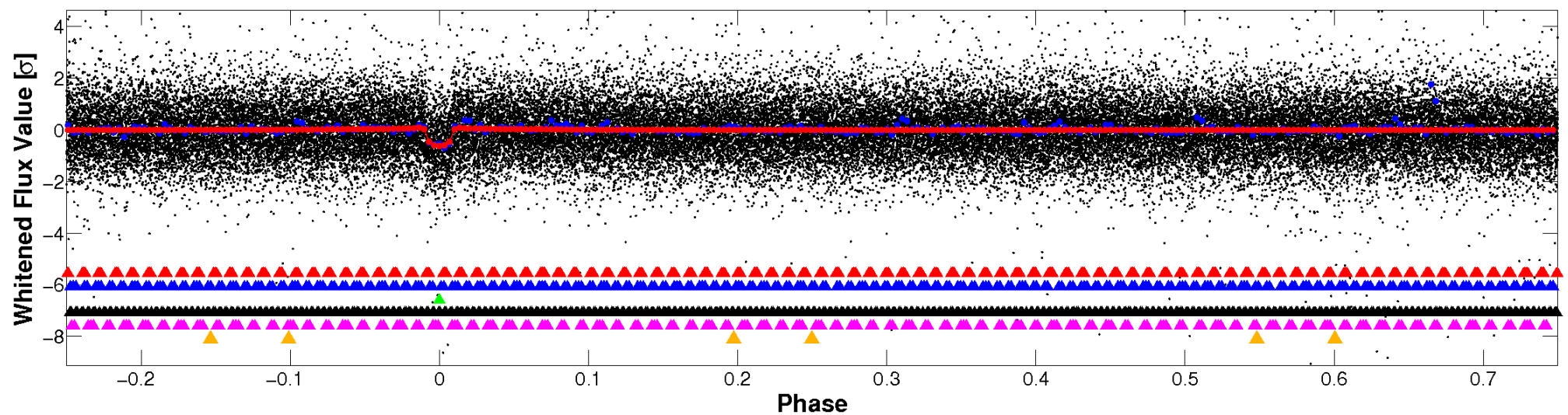


# Non-Whitened Vs. Whitened Light Curve

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

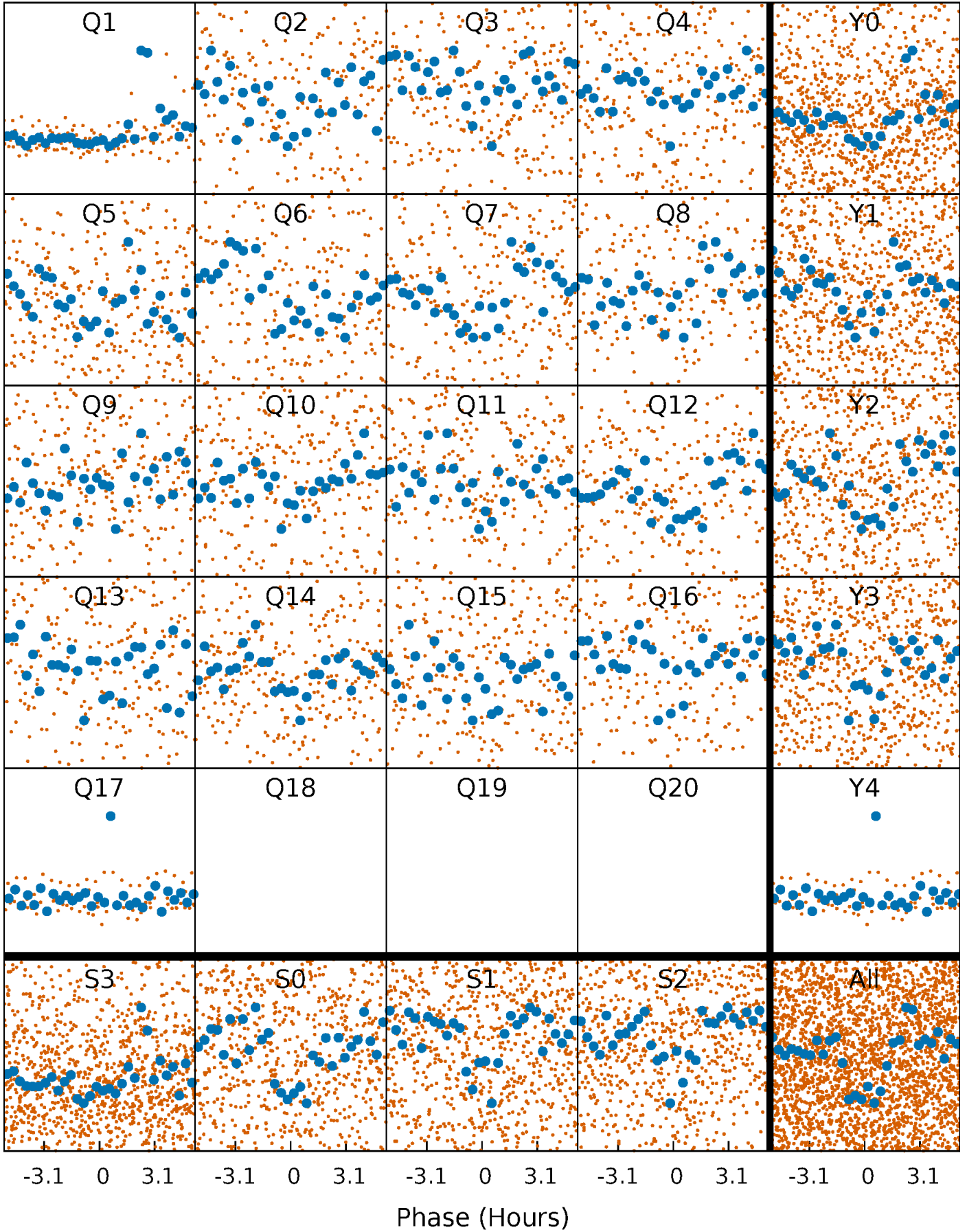


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



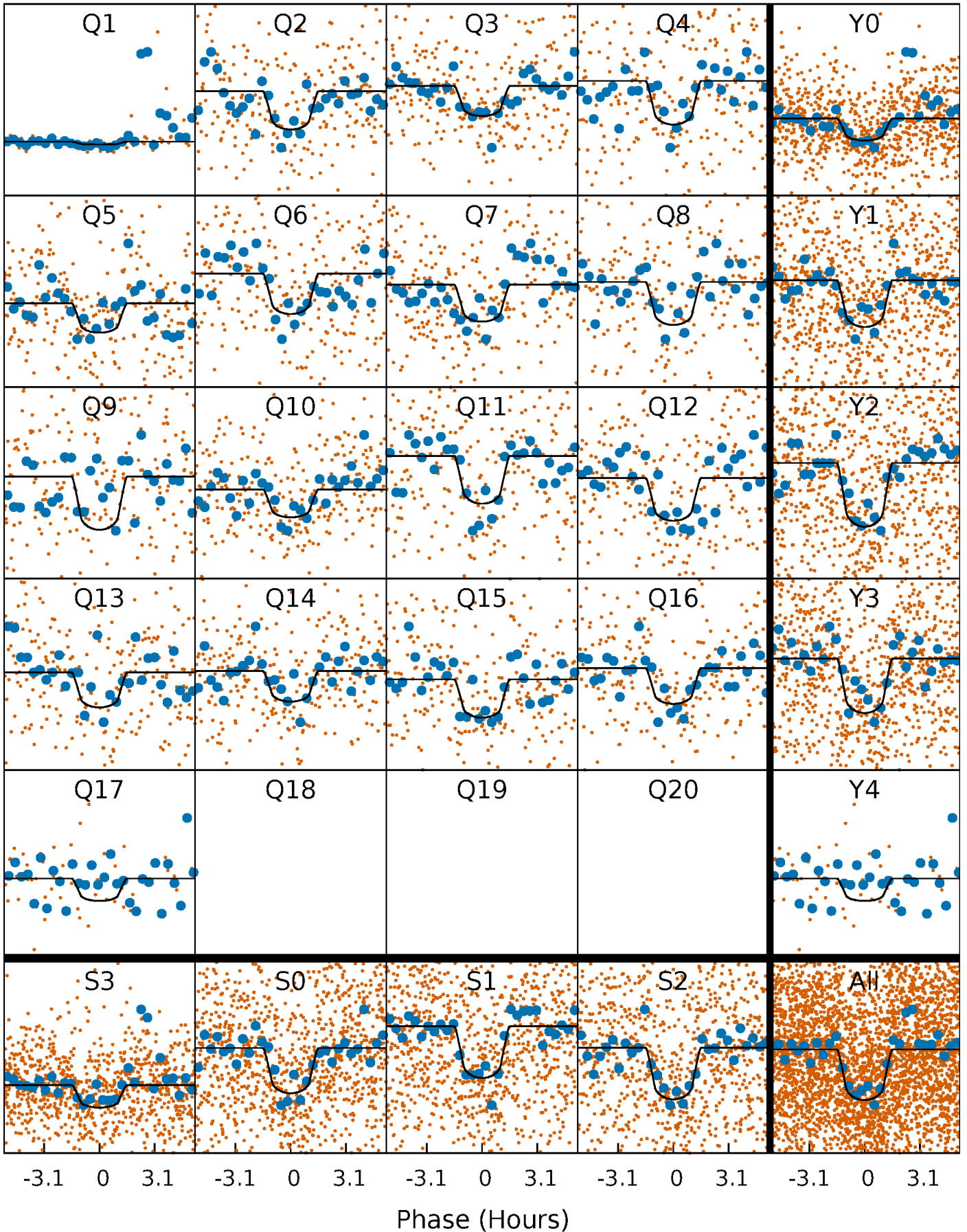
# PDC Quarter-Phased Transit Curves

TCE 007100673-03 P= 5.992709 Days  $T_0=131.754307$  (BKJD)



# DV Quarter-Phased Transit Curves

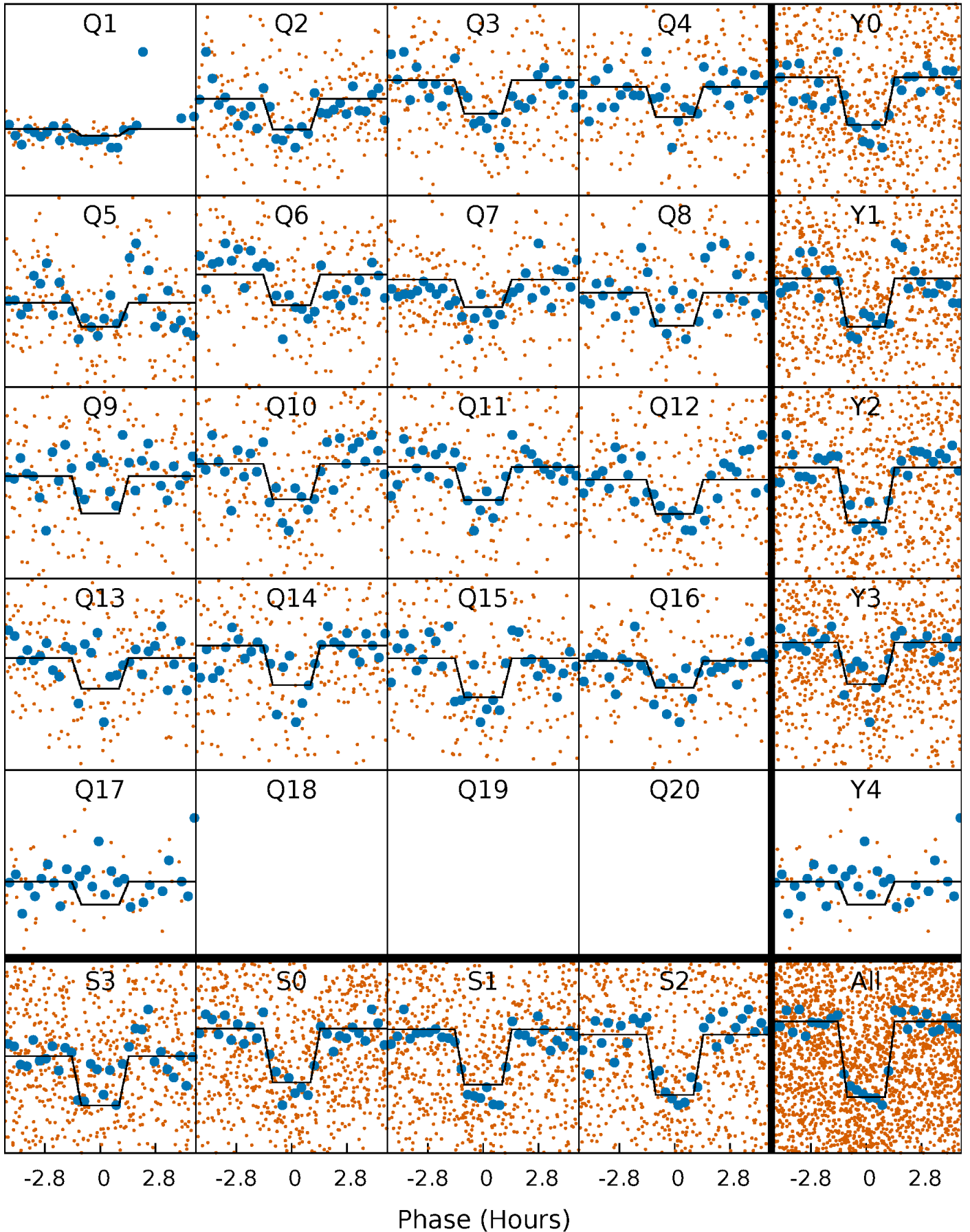
TCE 007100673-03 P= 5.992709 Days  $T_0=131.754307$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 007100673-03 P= 5.992783 Days  $T_0=131.745074$  (BKJD)

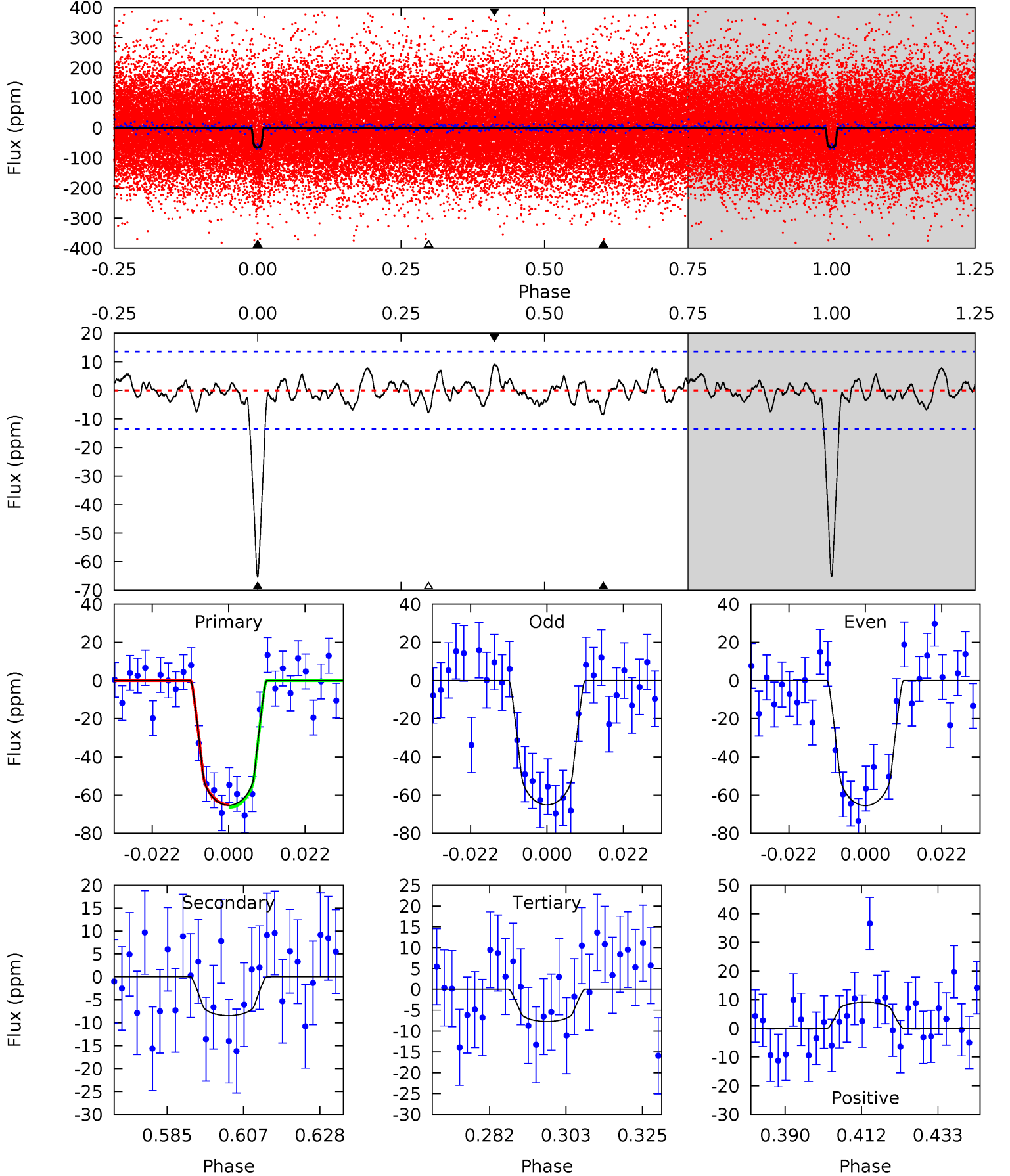




# DV Model-Shift Uniqueness Test

007100673-03, P = 5.992709 Days, E = 125.761598 Days

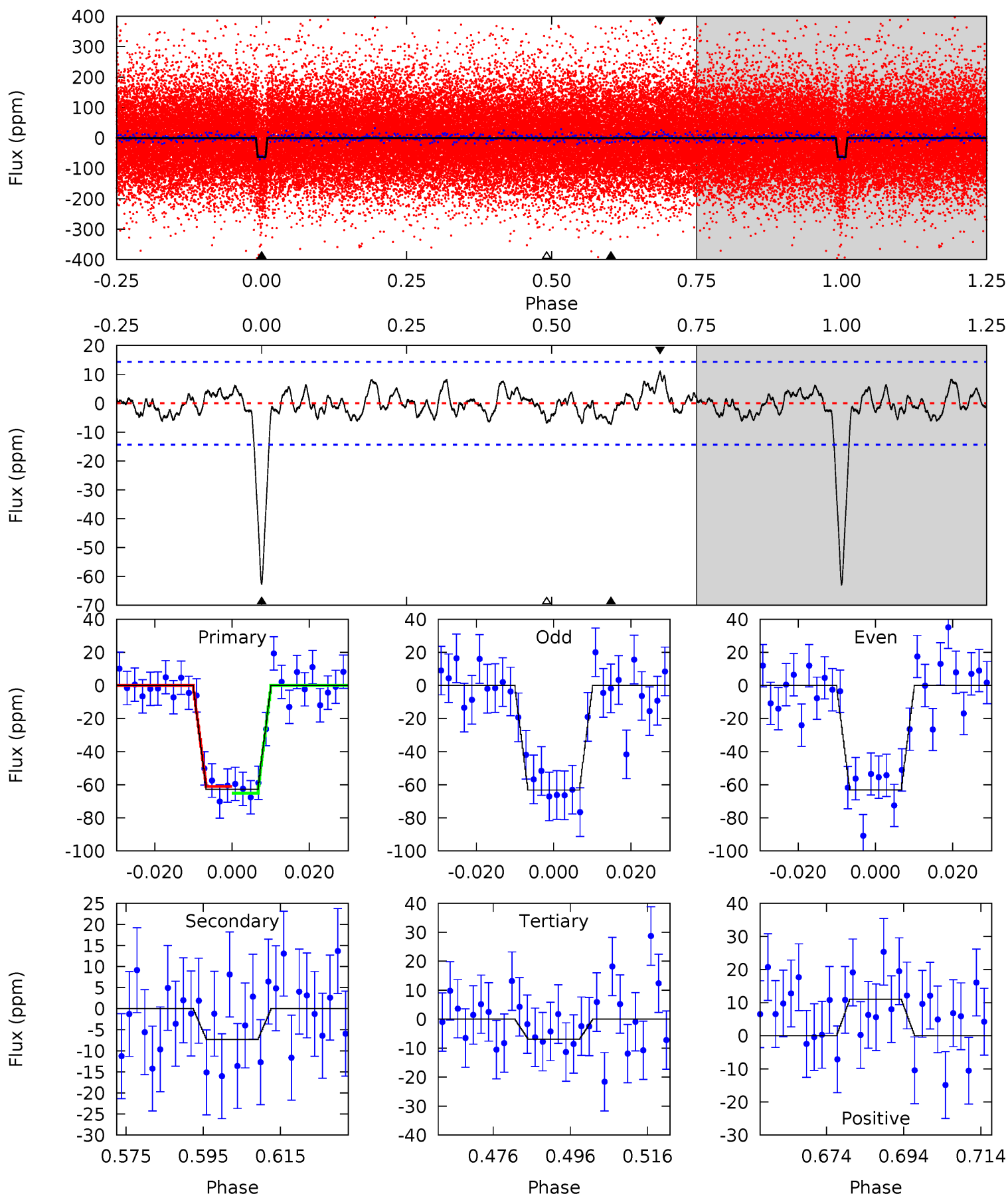
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.5	3.04	2.78	3.28	4.88	2.30	1.14	20.7	20.2	0.26	-0.24	0.07	0.93	0.12	0.26



# Alt Model-Shift Uniqueness Test

007100673-03, P = 5.992783 Days, E = 125.752291 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
21.4	2.50	2.35	3.76	4.89	2.33	1.18	19.1	17.7	0.15	-1.26	0.01	1.03	0.15	0.69



### Stellar Parameters For KIC 007100673

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5574^{+111}_{-100}$	$4.354^{+0.132}_{-0.108}$	$0.120^{+0.150}_{-0.150}$	$1.065^{+0.166}_{-0.150}$	$0.933^{+0.067}_{-0.053}$	$1.089^{+0.601}_{-0.328}$
	+2%/-2%	+3%/-2%	+125%/-125%	+16%/-14%	+7%/-6%	+55%/-30%
Source	SPE59	SPE59	SPE59	DSEP		

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

### Secondary Eclipse Parameters for KIC 007100673-03 / KOI 4032.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-8 \pm 3$	$1.05^{+0.37}_{-0.35}$	$1407^{+64}_{-61}$	$3580^{+562}_{-389}$	$17^{+22}_{-9}$
Alt.	$-7 \pm 3$	$0.89^{+0.35}_{-0.30}$	$1411^{+63}_{-63}$	$3669^{+632}_{-465}$	$19^{+28}_{-11}$

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

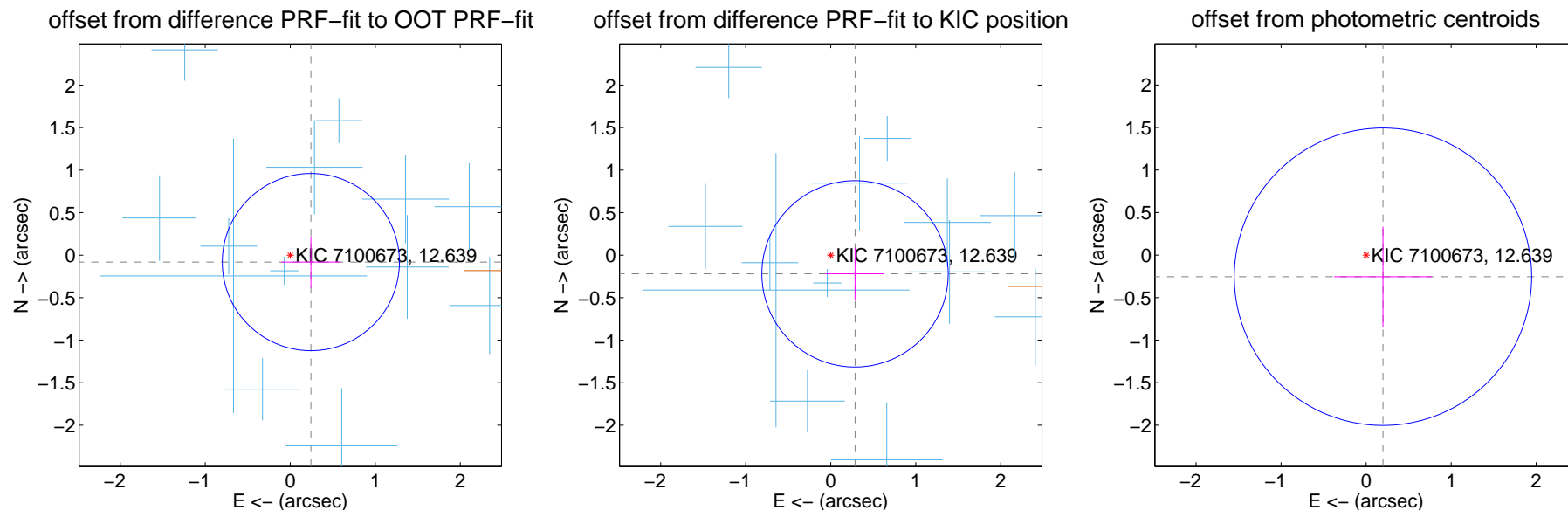
## DV Centroid Data

Supplemental centroid analysis for 007100673-03. Kepler magnitude: 12.64. Transit SNR 16.65

There are 13 quarters with good PRF difference image offsets

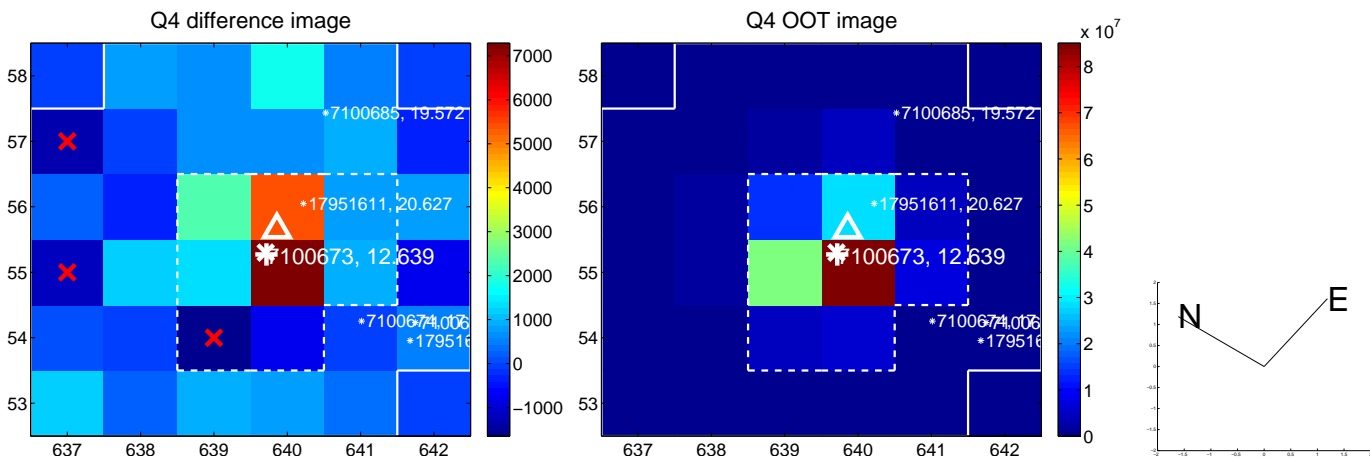
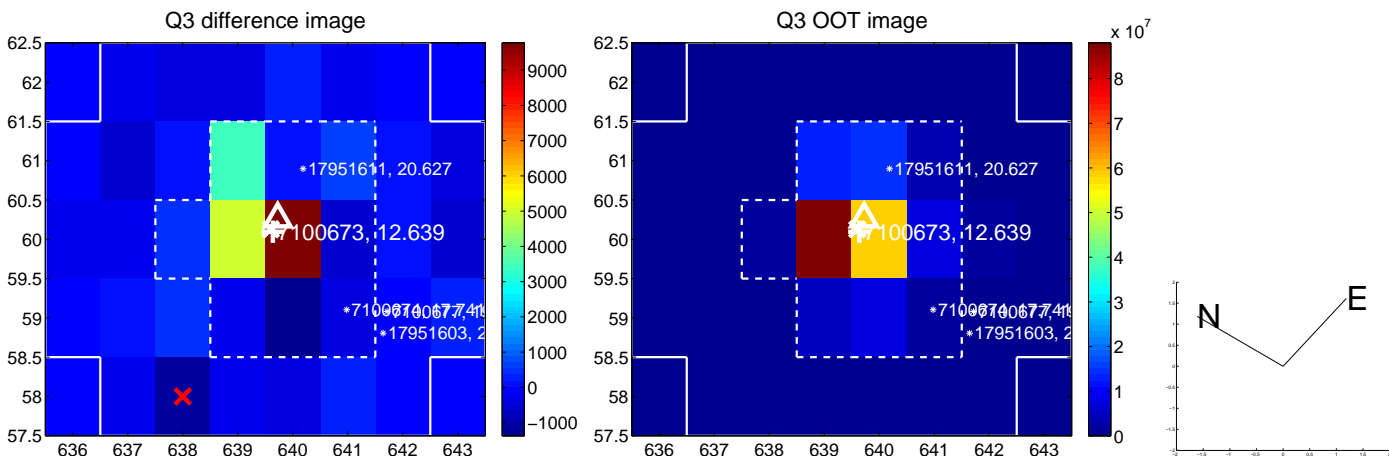
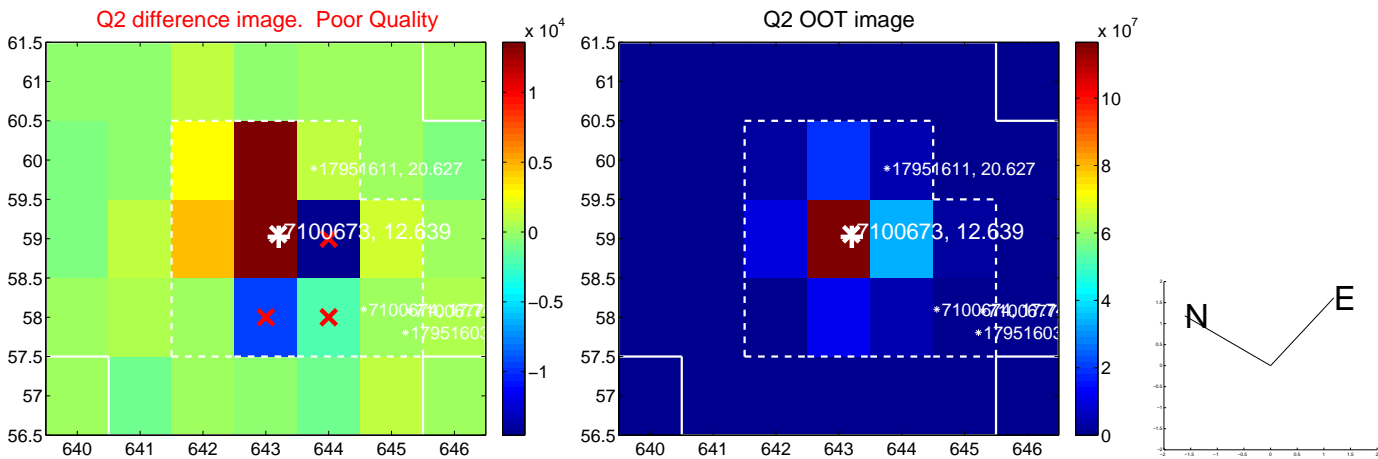
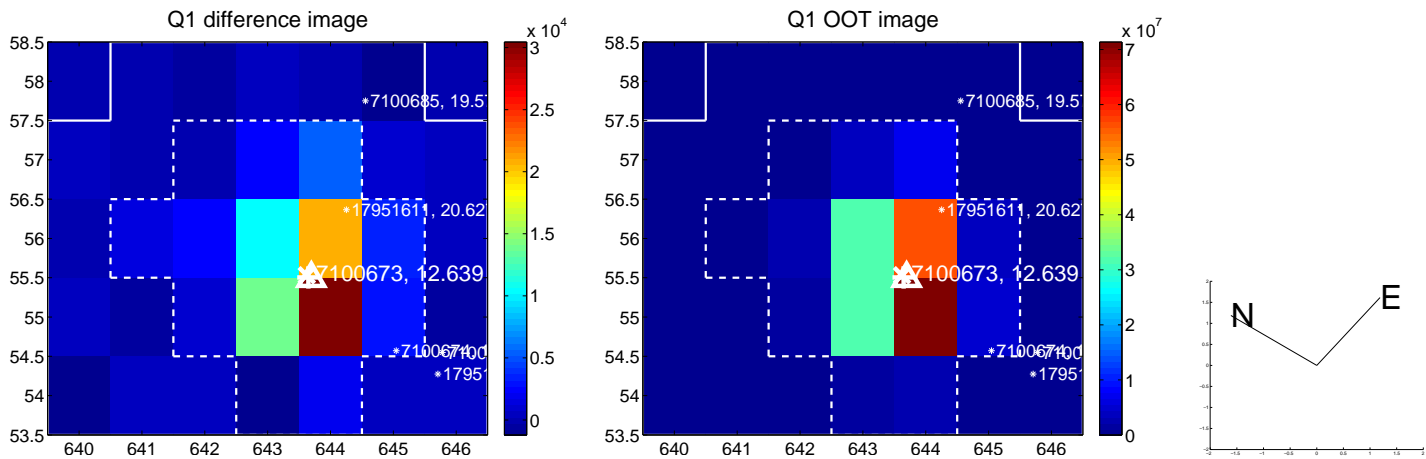
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.256 \pm 0.347$	0.74	$-0.242 \pm 0.343$	$-0.082 \pm 0.302$
PRF-fit source offset from KIC position	$0.361 \pm 0.365$	0.99	$-0.286 \pm 0.346$	$-0.220 \pm 0.308$
photometric centroid source offset	$0.32 \pm 0.58$	0.55	$-0.20 \pm 0.57$	$-0.25 \pm 0.59$

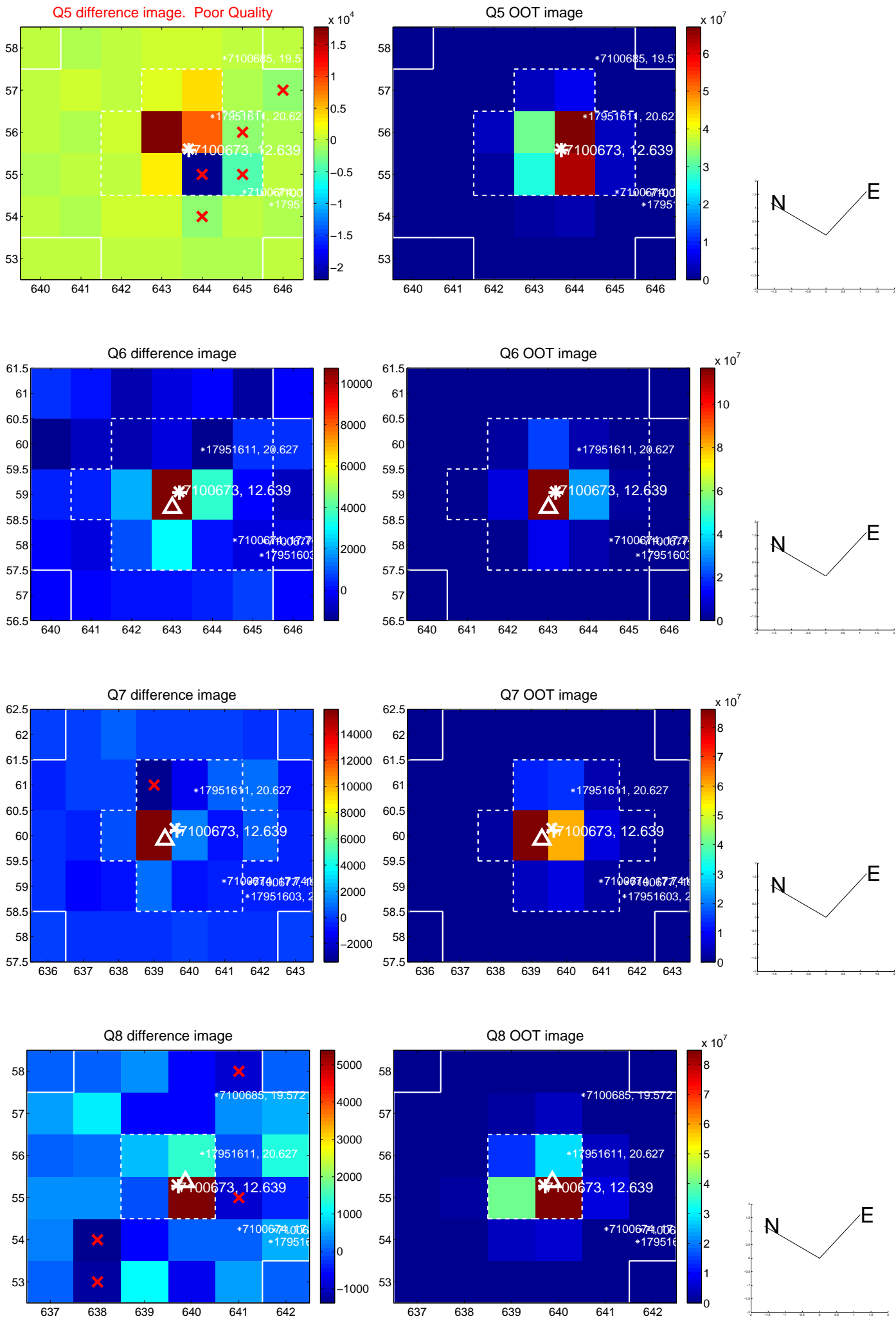


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

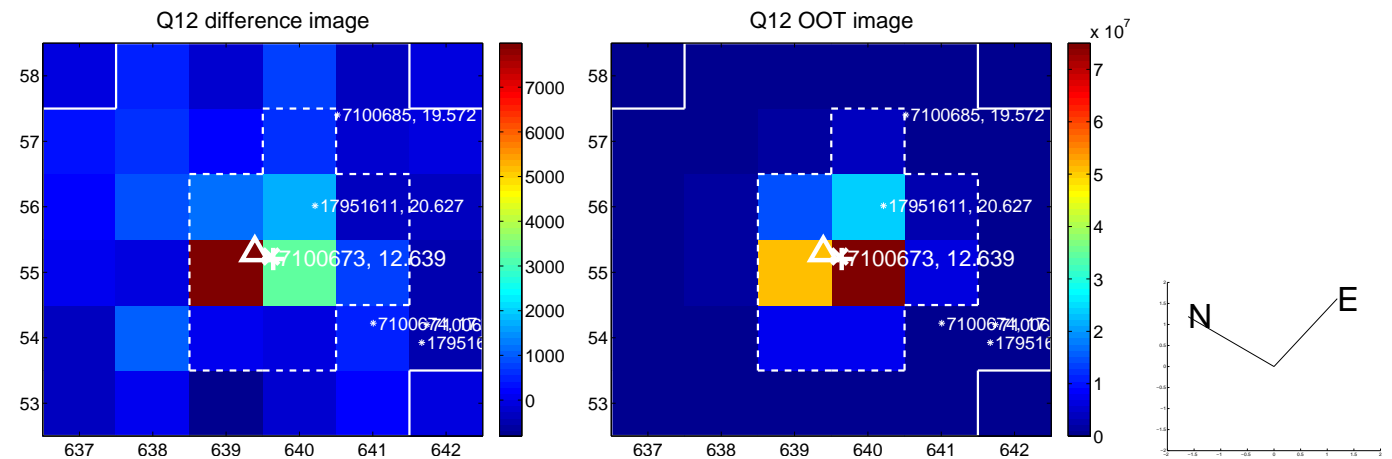
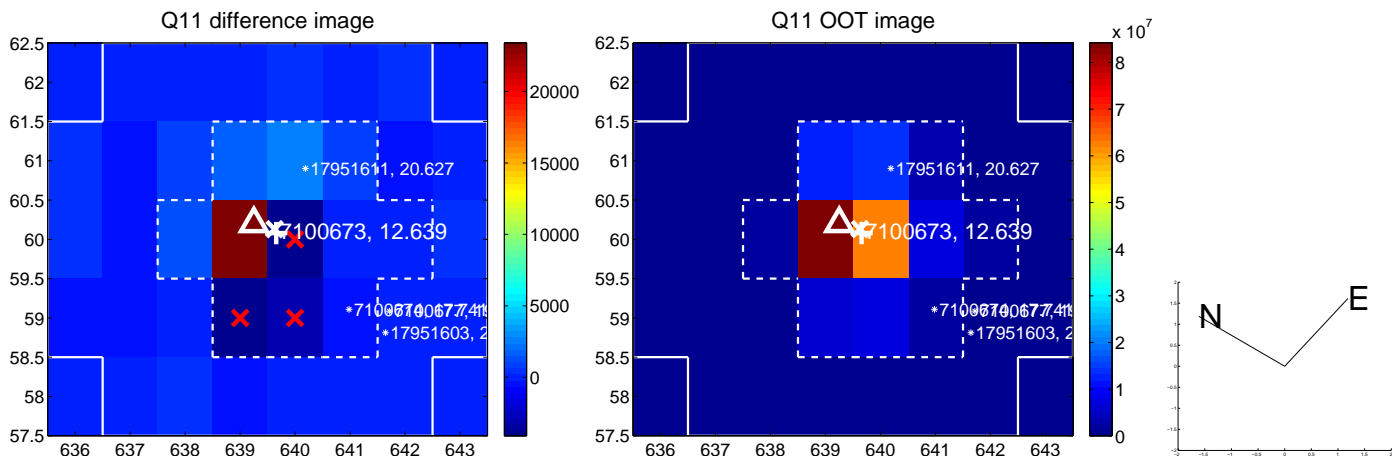
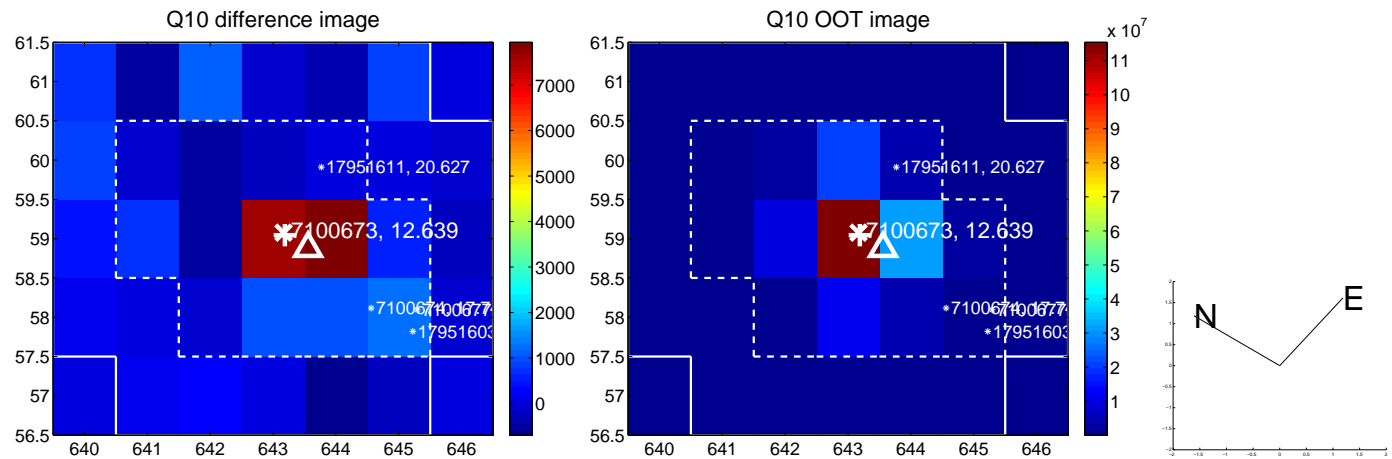
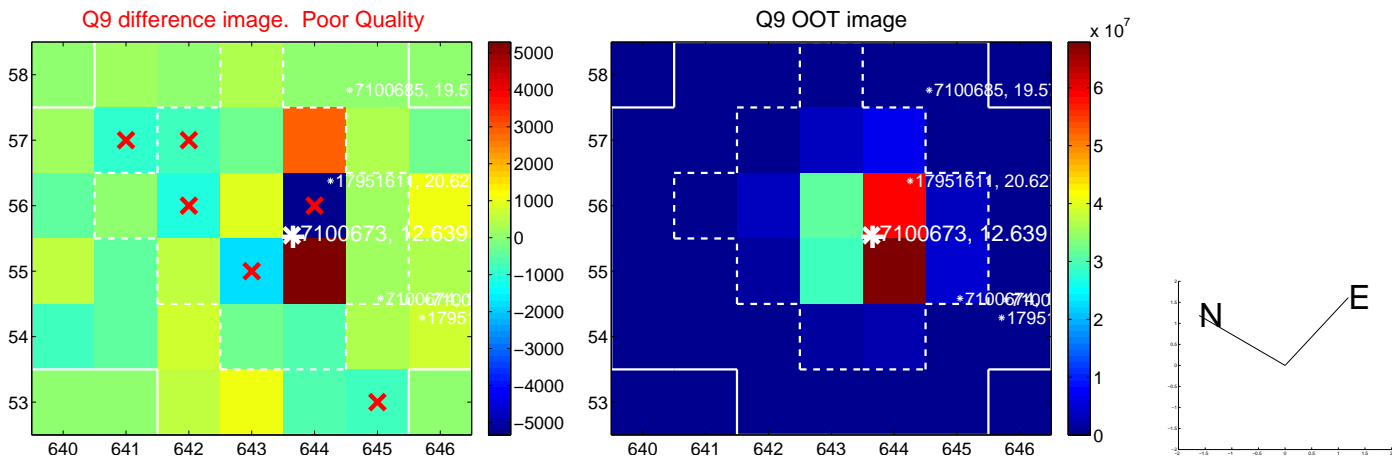


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

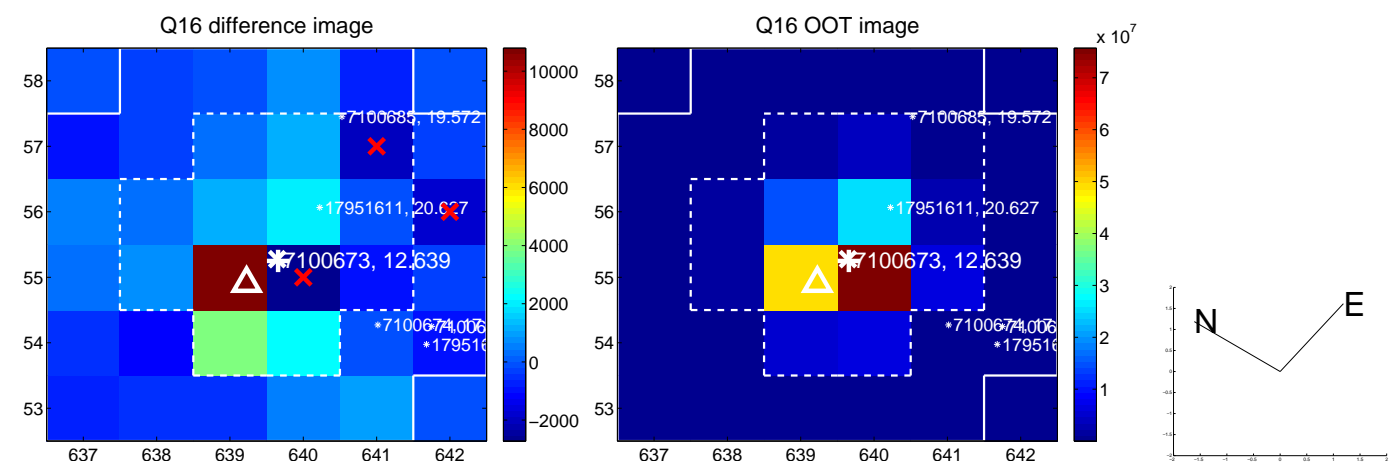
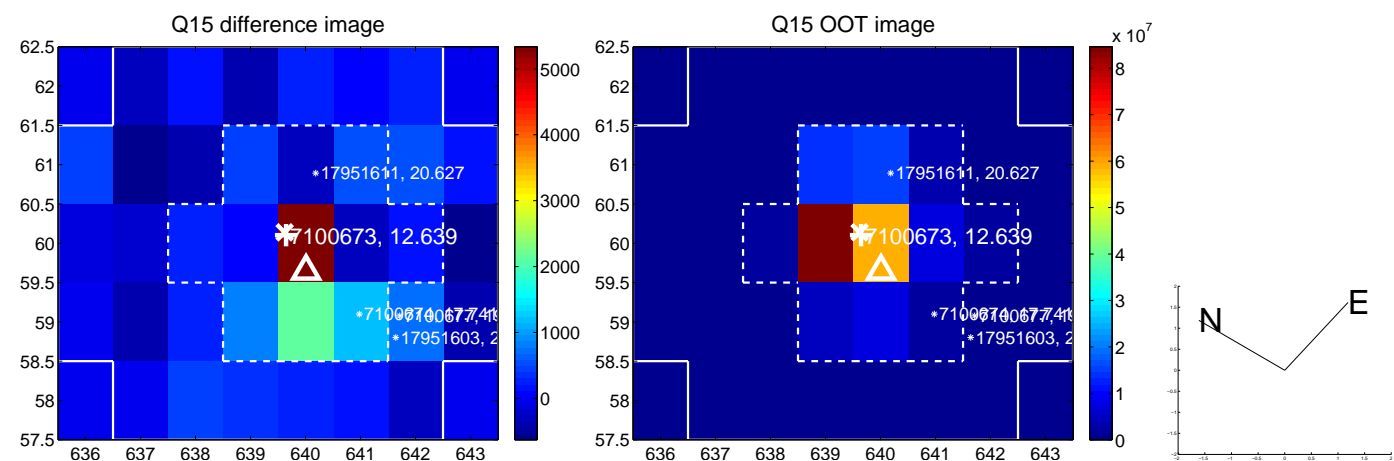
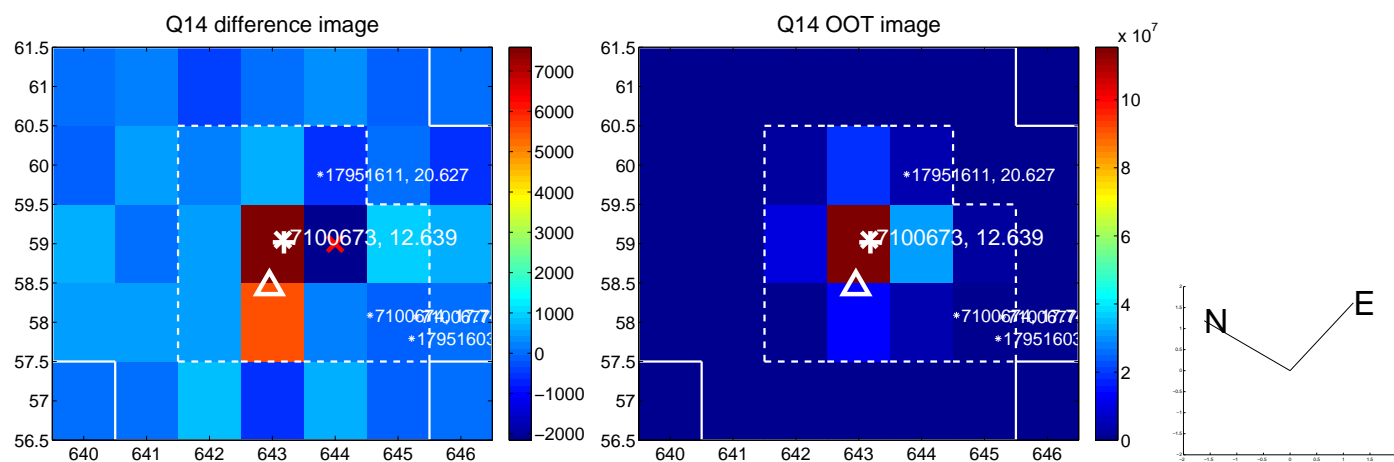
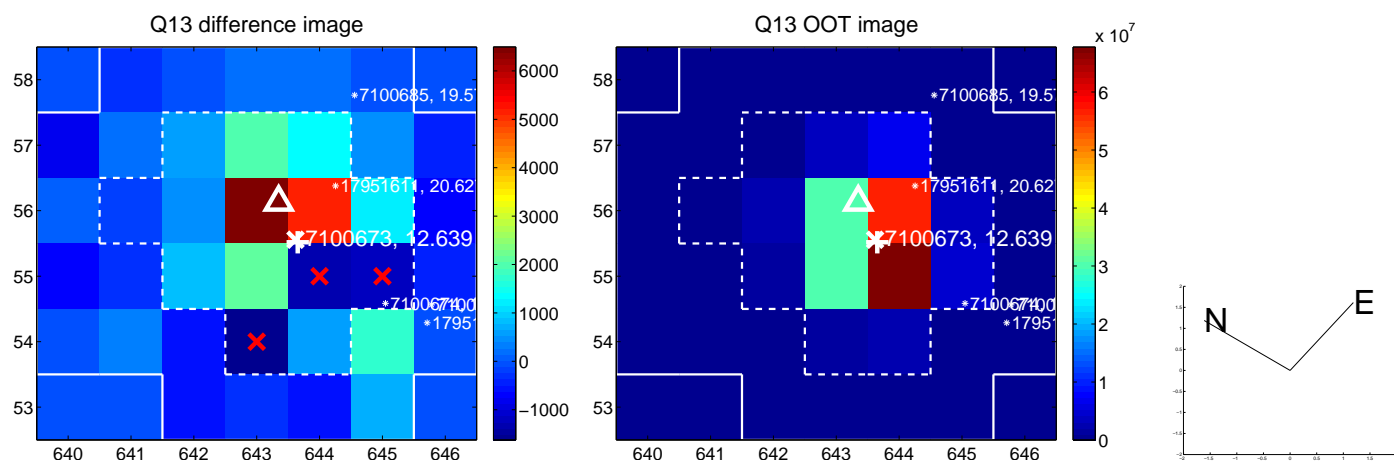




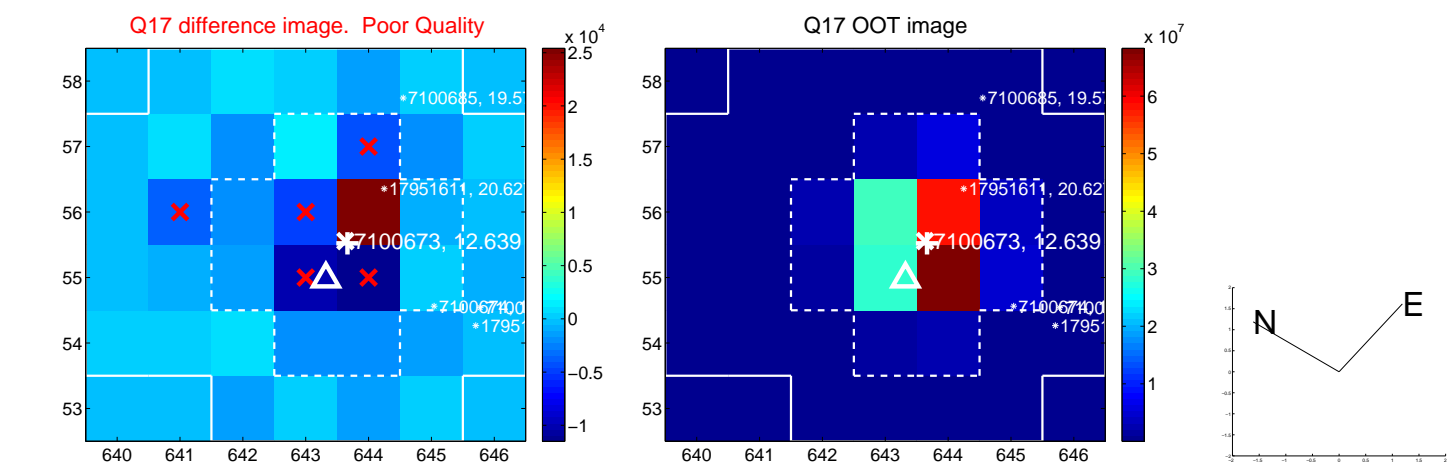
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



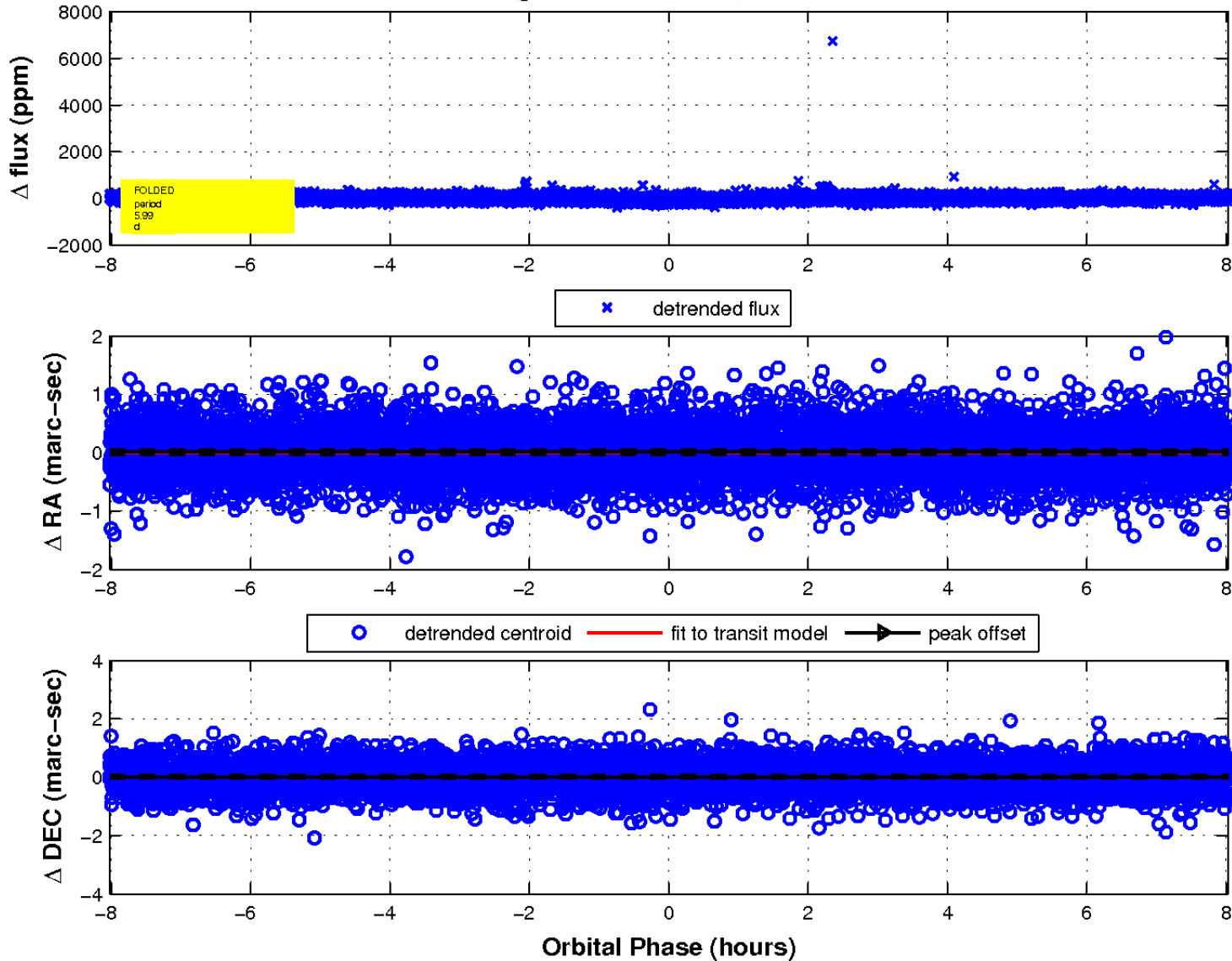
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

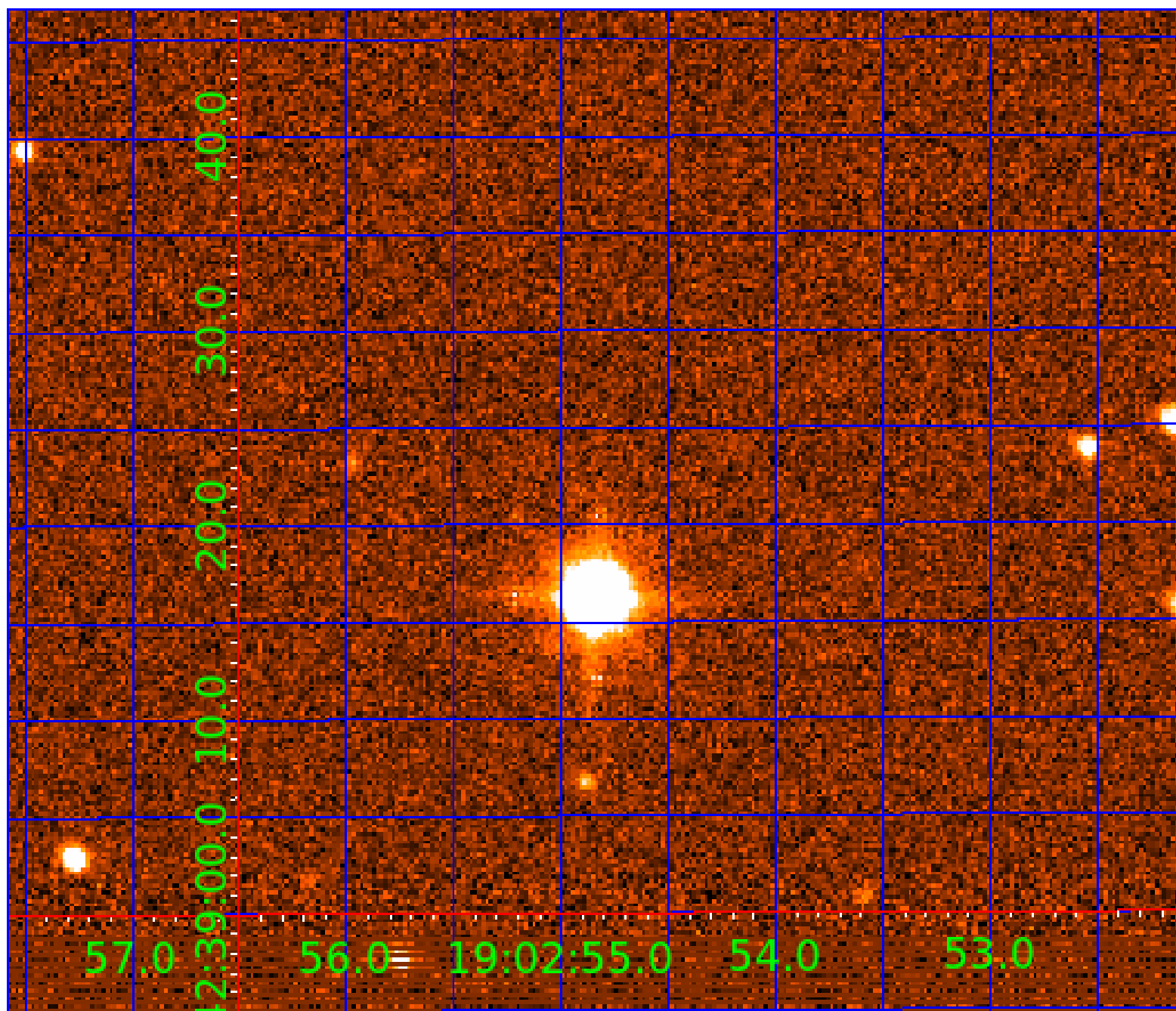


fluxWeightedCentroids, Planet 3 of 6



UKIRT Image

Declination



# KIC 007100673

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007100673-01	OBS	4032.01	3.951190	134.219141	63.7	2.715	16.4	19.5	1.06	5574	1.03	428.70
007100673-02	OBS	4032.04	5.101138	132.426934	66.3	2.827	14.8	17.8	1.06	5574	1.04	304.96
007100673-03	OBS	4032.03	5.992709	131.754307	70.9	2.676	15.1	16.7	1.06	5574	1.09	246.02
007100673-04	OBS	4032.02	2.892211	132.870091	43.3	2.709	13.2	14.8	1.06	5574	0.81	649.86
007100673-05	OBS	4032.05	7.235231	135.236012	55.4	2.409	9.0	10.5	1.06	5574	0.88	191.36
007100673-06	OBS	No	273.562429	141.345920	104.4	15.266	8.2	5.2	1.06	5574	1.23	1.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007100673-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-04	OBS	PC	0.99	0	0	0	0	NO_COMMENT
007100673-05	OBS	PC	0.79	0	0	0	0	NO_COMMENT
007100673-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

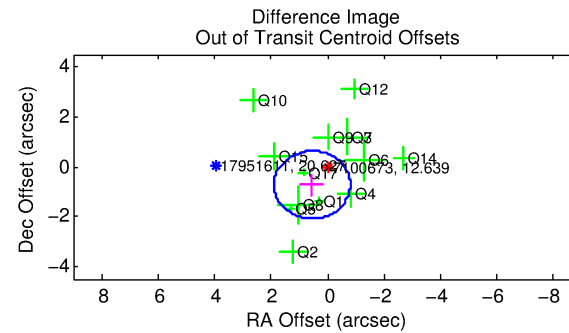
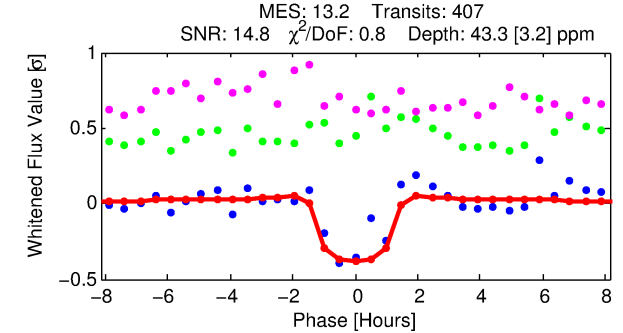
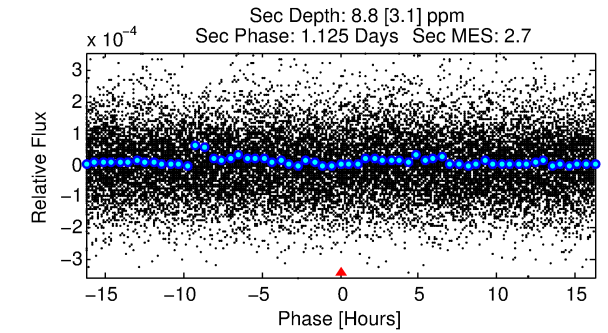
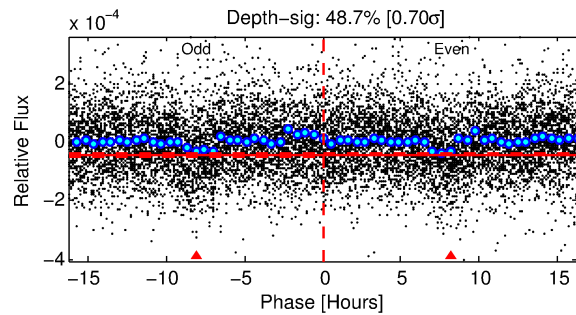
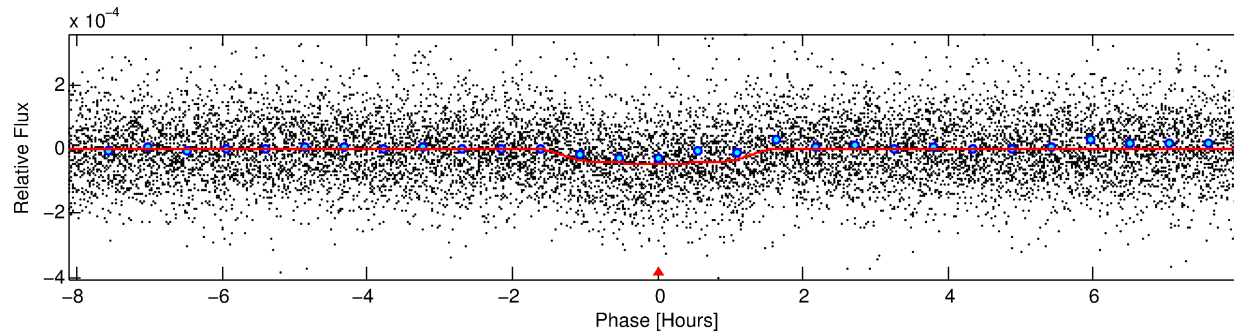
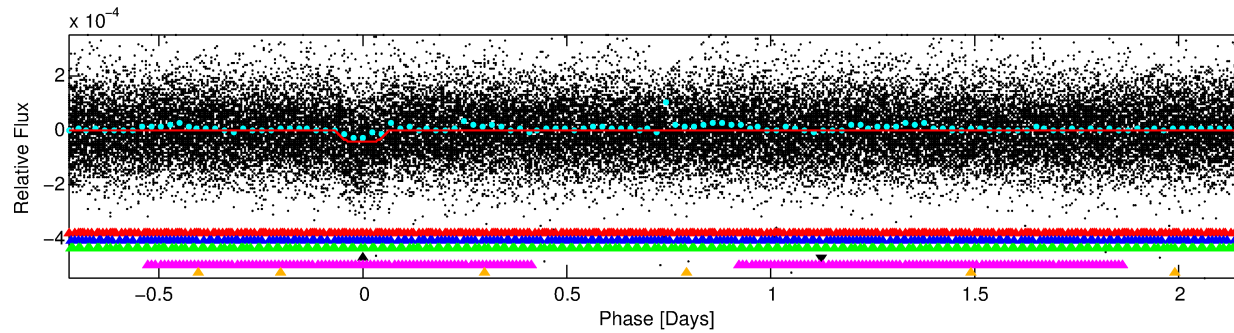
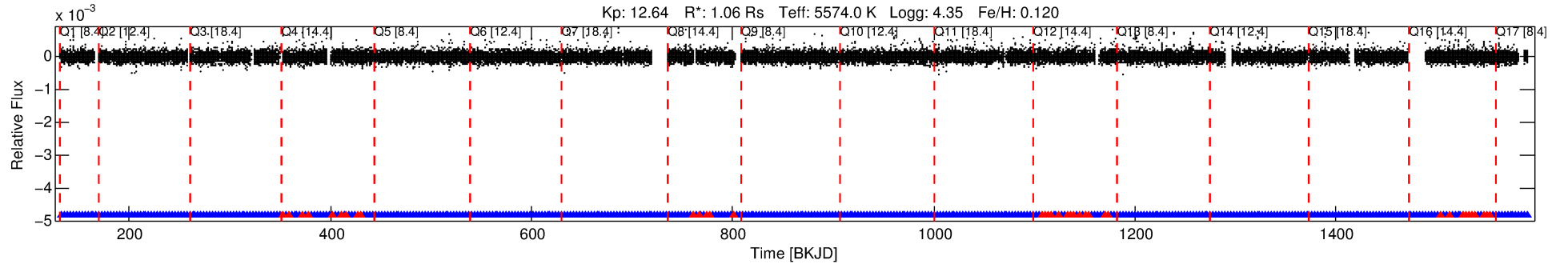
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007100673-04

No Significant Match Found

# DV One-Page Summary

KIC: 7100673 Candidate: 4 of 6 Period: 2.892 d  
KOI: K04032.02 Corr: 0.973



## DV Fit Results:

Period = 2.89221 [0.00001] d  
Epoch = 132.8701 [0.0026] BKJD  
Rp/R\* = 0.0070 [0.0021]  
a/R\* = 4.36 [5.50]  
b = 0.86 [0.41]  
Seff = 649.86 [156.78]  
Teq = 1287 [78] K  
Rp = 0.81 [0.28] Re  
a = 0.0389 [0.0056] AU  
Ag = 11.12 [8.26] [1.23 $\sigma$ ]  
Teffp = 3635 [646] K [3.61 $\sigma$ ]

## DV Diagnostic Results:

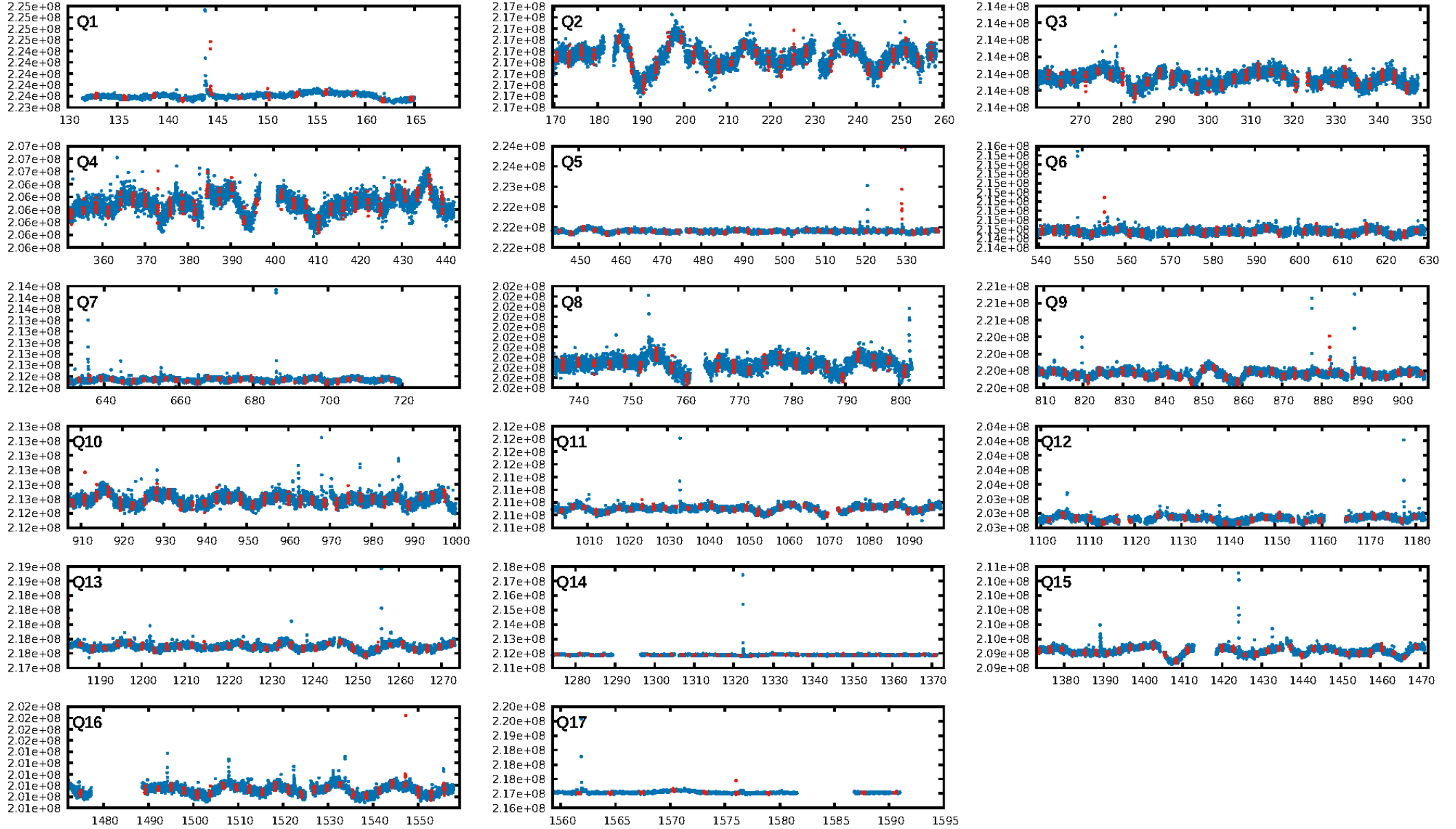
ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [6.63 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.97e-34  
RollingBand-fgt: 0.90 [352/389]  
GhostDiagnostic-chr: 12.05  
Centroid-sig: 1.5%  
Centroid-so: 1.051 arcsec [1.62 $\sigma$ ]  
OotOffset-rm: 0.916 arcsec [2.03 $\sigma$ ]  
KicOffset-rm: 1.011 arcsec [2.26 $\sigma$ ]  
OotOffset-st: 4/3/3/4 [14]  
KicOffset-st: 4/3/3/4 [14]  
DiffImageQuality-fgm: 0.93 [13/14]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:43:47 Z

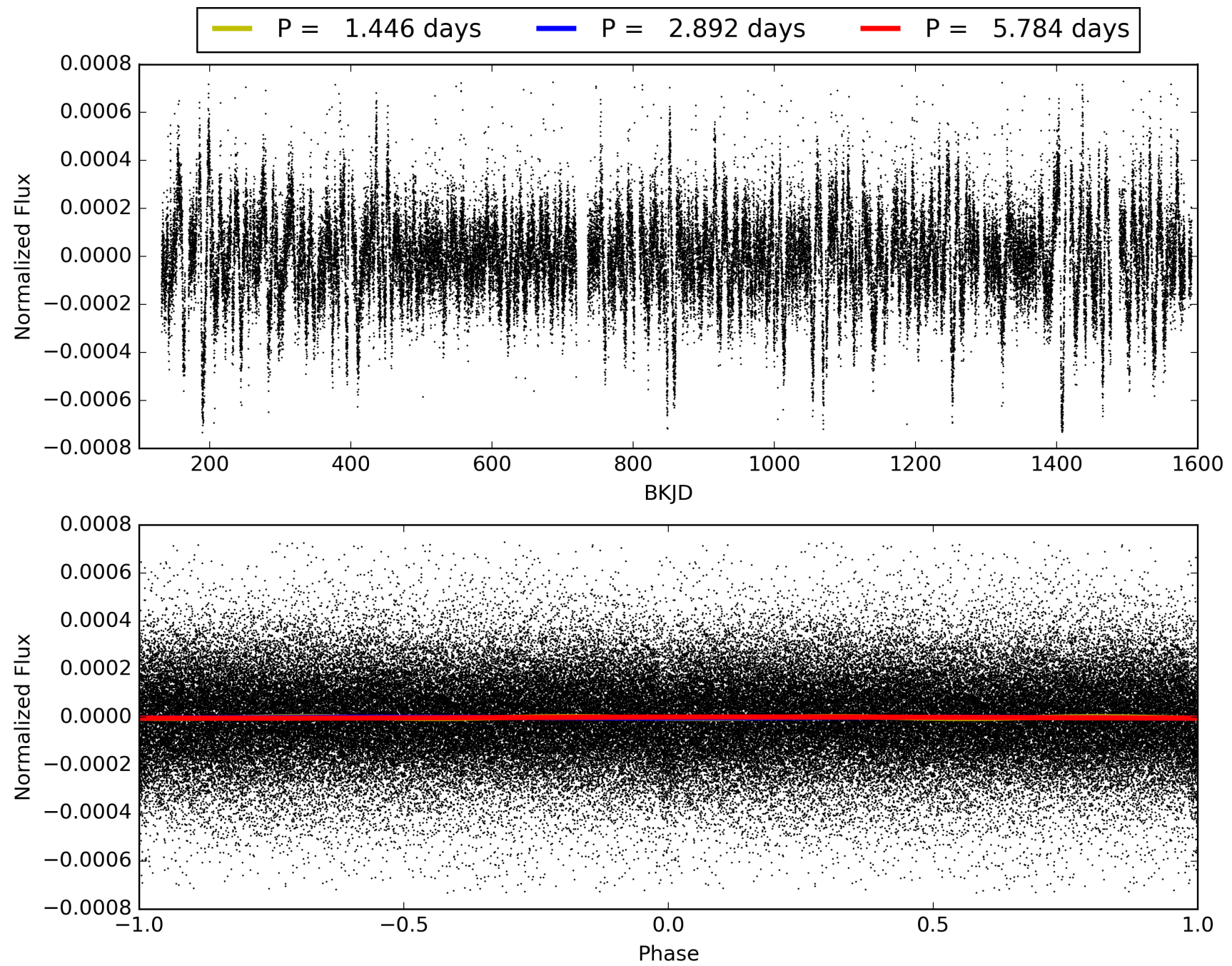
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 007100673-04, PDC Light Curves

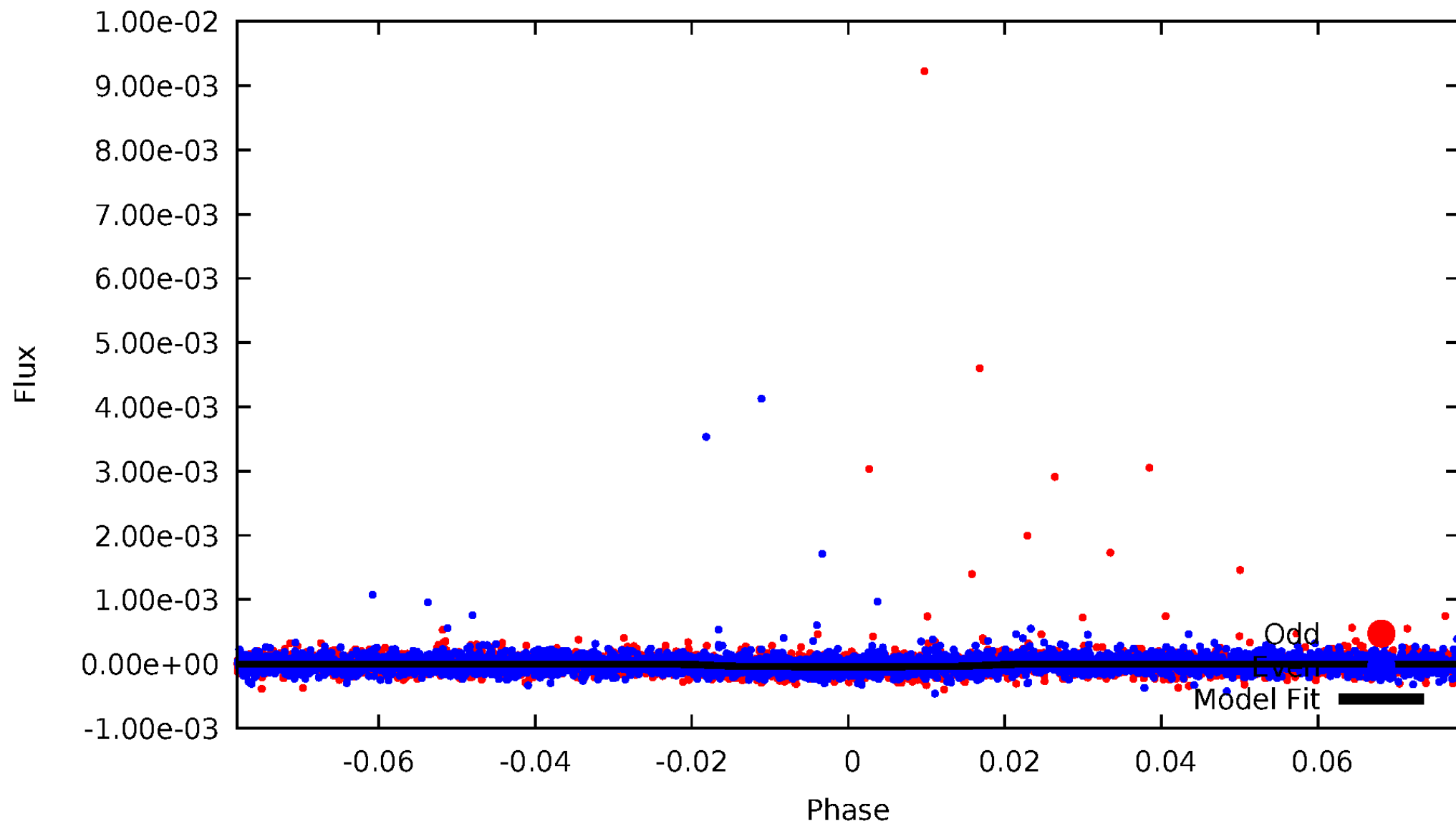


TCE 007100673-04



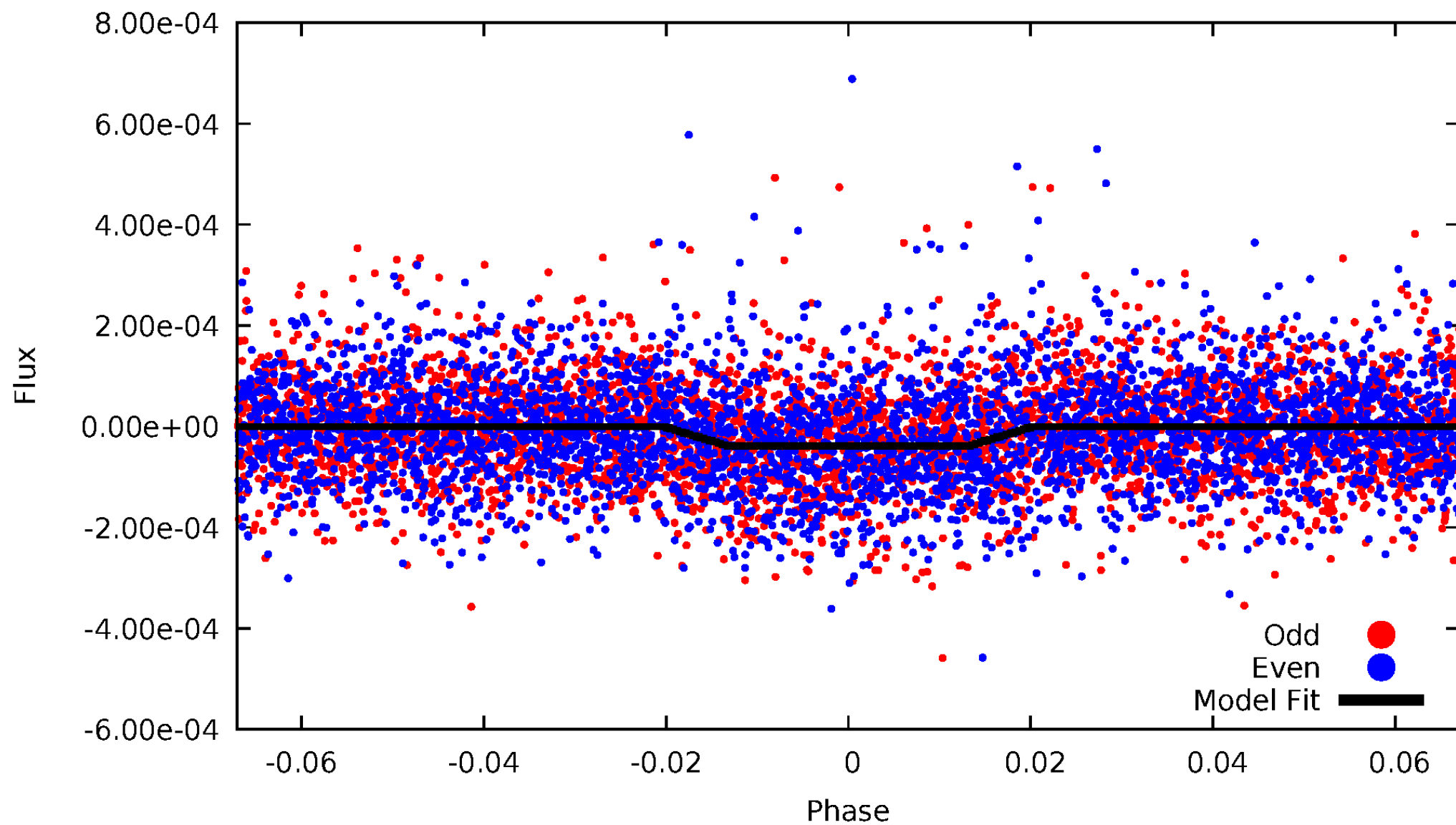
# DV Odd/Even

TCE 007100673-04



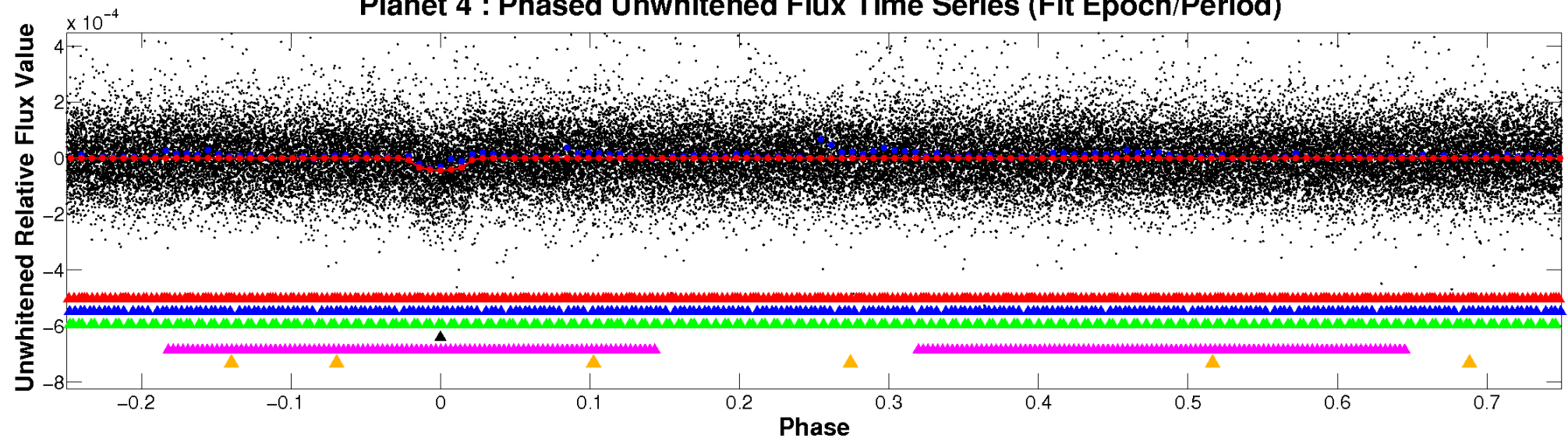
# ALT Odd/Even

TCE 007100673-04

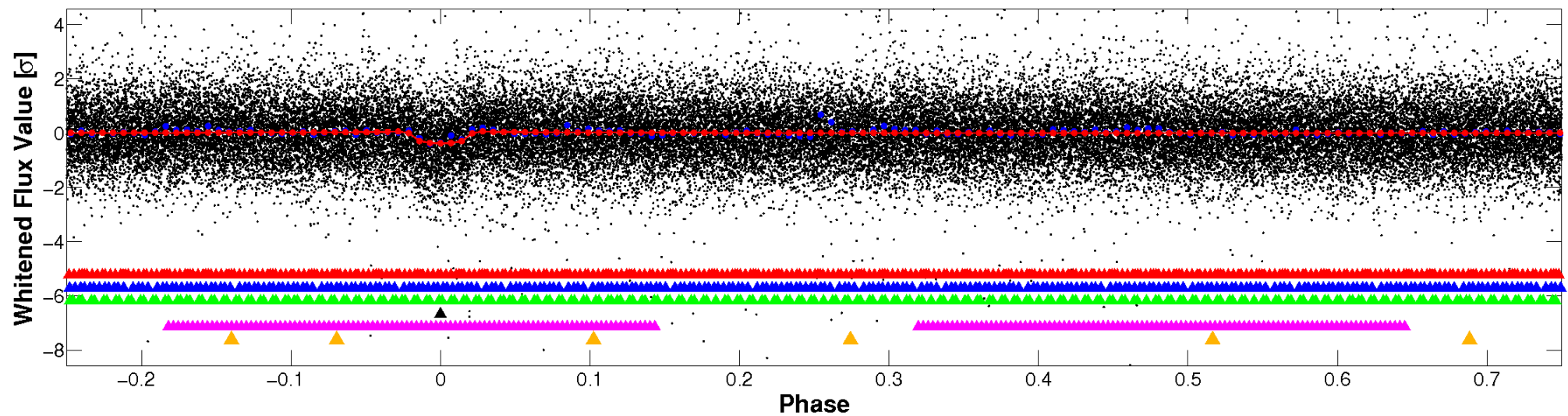


# Non-Whitened Vs. Whitened Light Curve

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



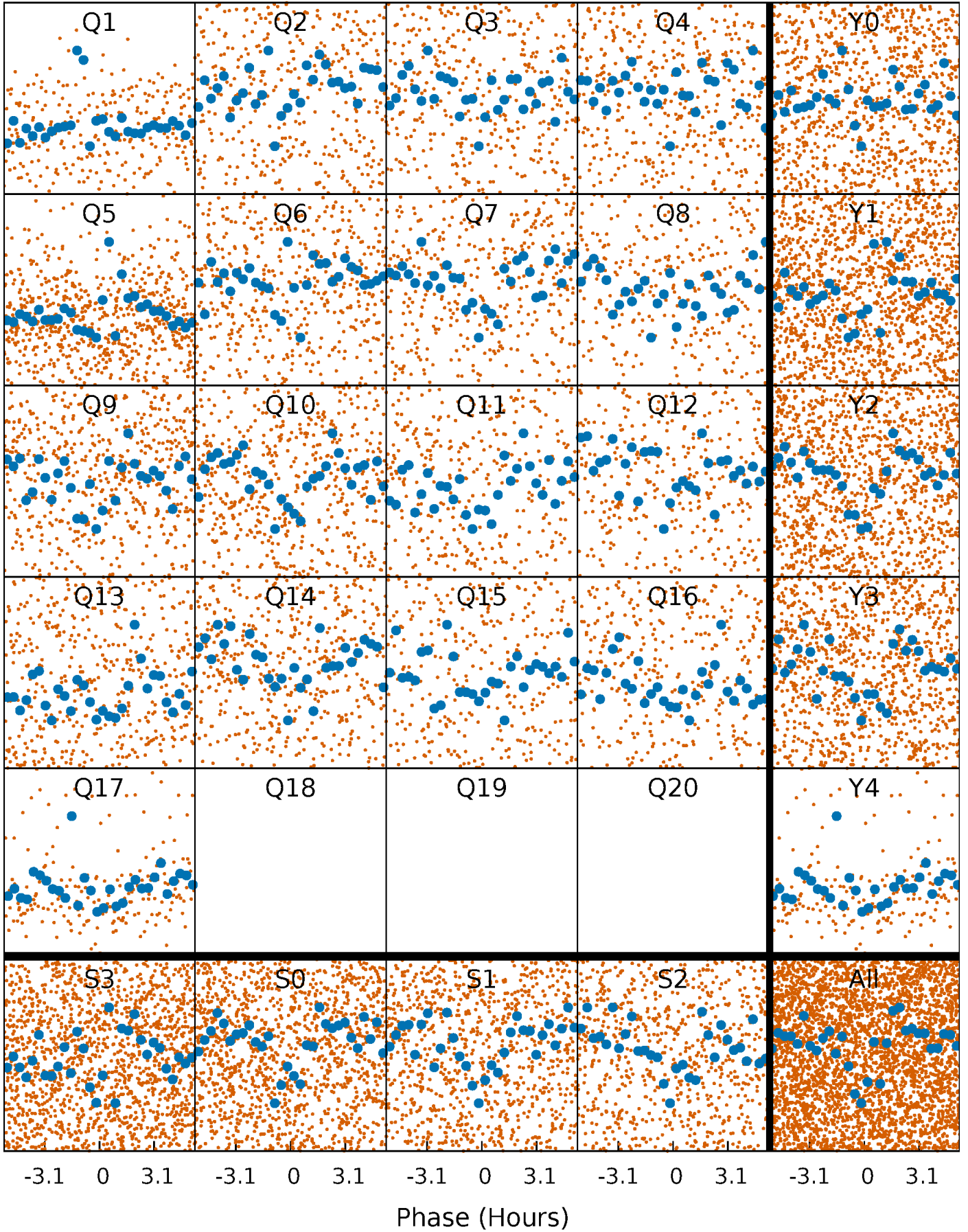
## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

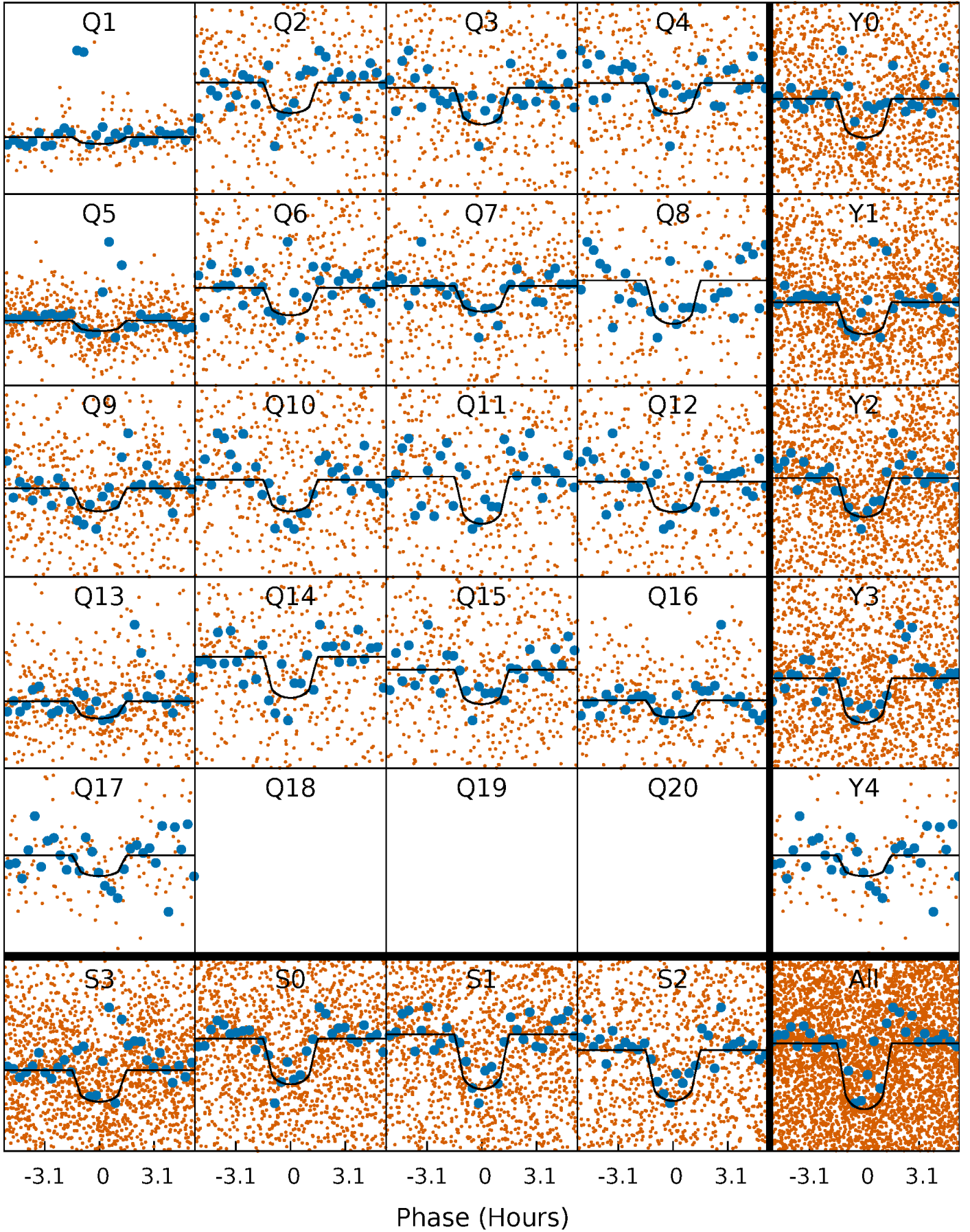
TCE 007100673-04   P= 2.892211 Days    $T_0=132.870091$  (BKJD)





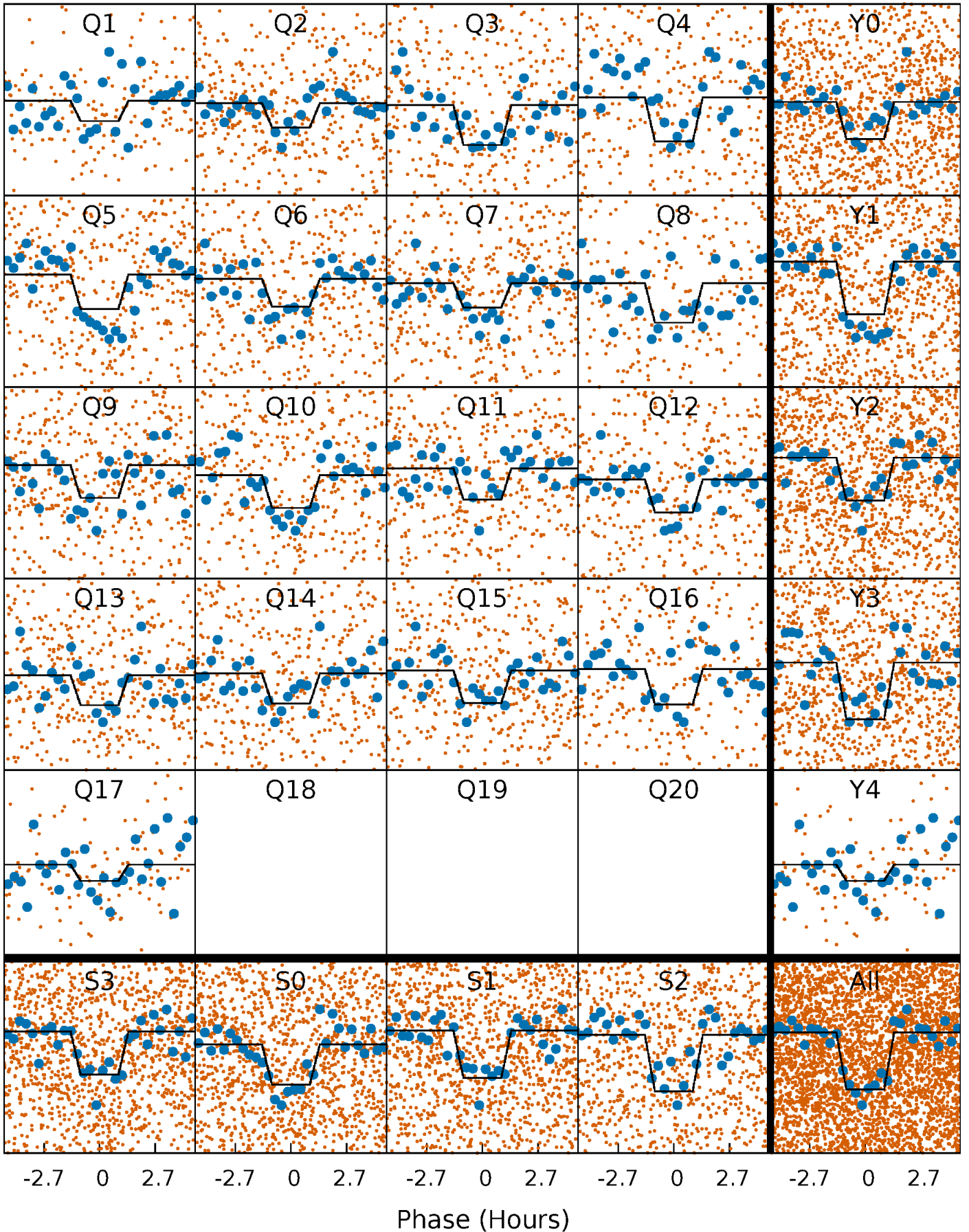
# DV Quarter-Phased Transit Curves

TCE 007100673-04 P= 2.892211 Days  $T_0=132.870091$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

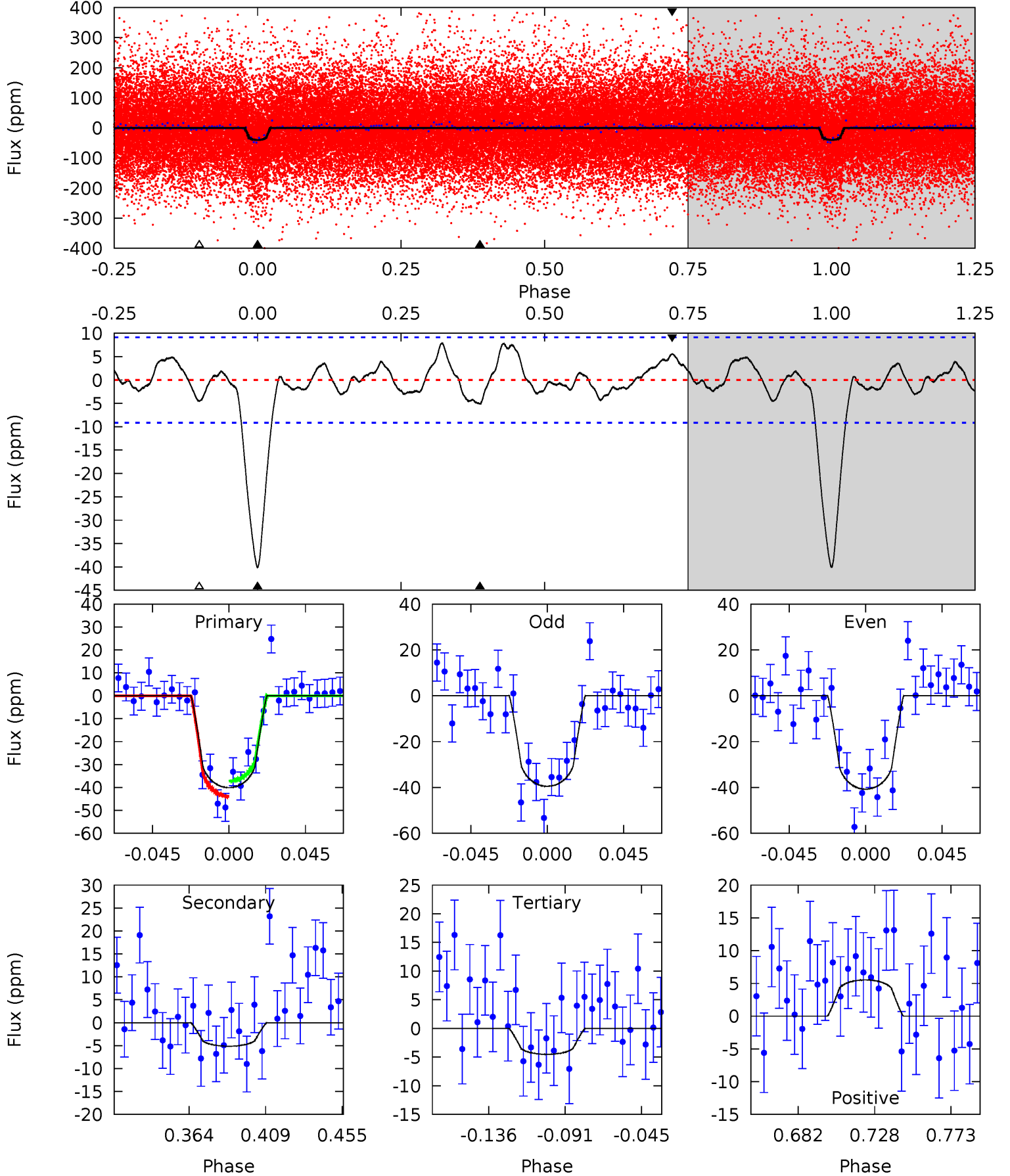
TCE 007100673-04 P= 2.892262 Days  $T_0=132.856993$  (BKJD)



# DV Model-Shift Uniqueness Test

007100673-04, P = 2.892211 Days, E = 129.977880 Days

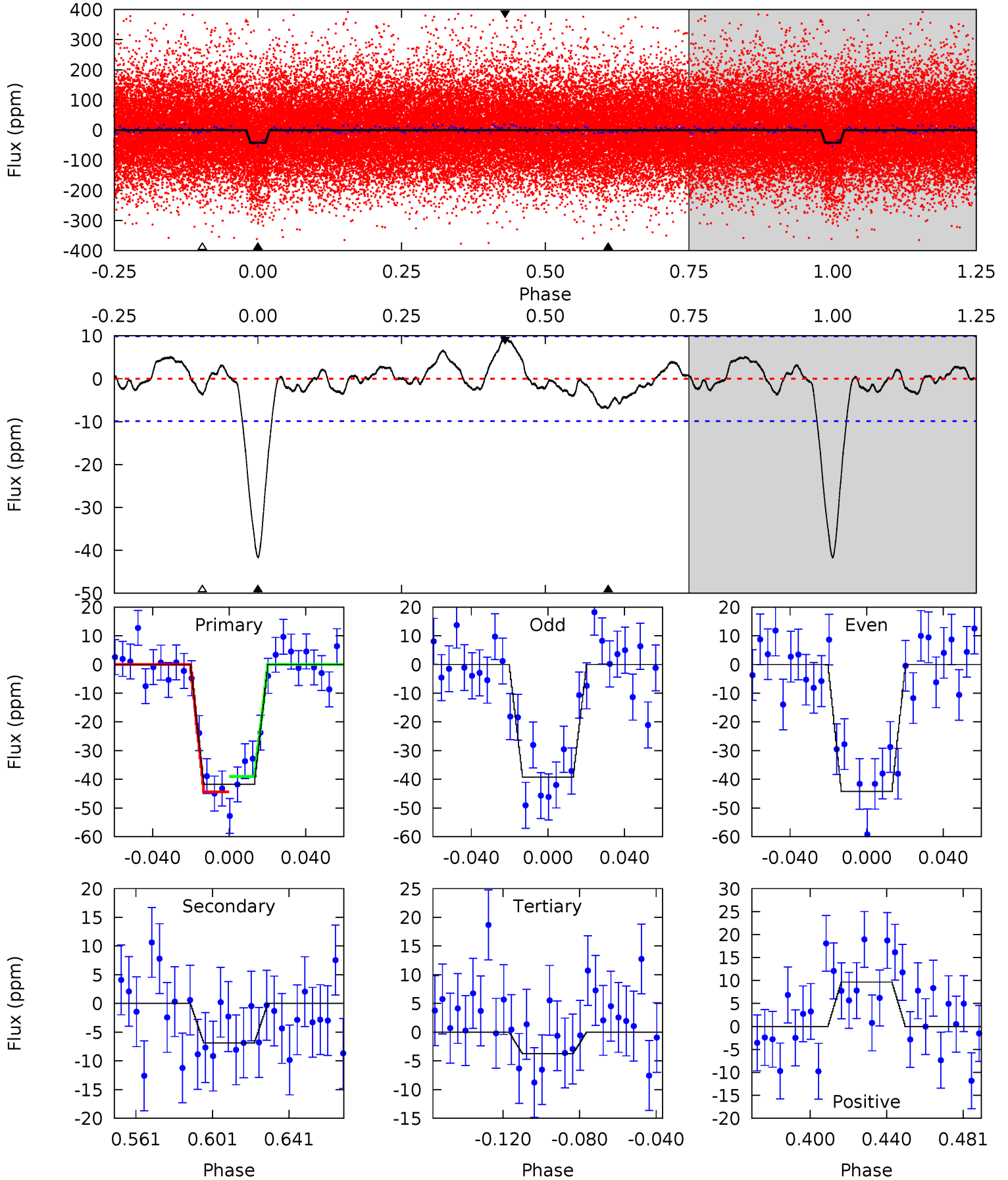
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	2.66	2.34	2.86	4.73	2.00	1.41	18.4	17.9	0.31	-0.21	0.33	0.61	0.16	1.72



# Alt Model-Shift Uniqueness Test

007100673-04, P = 2.892262 Days, E = 129.964731 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
20.0	3.31	1.80	4.64	4.75	2.05	1.39	18.2	15.4	1.51	-1.34	1.19	0.84	0.19	1.28



### Stellar Parameters For KIC 007100673

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5574^{+111}_{-100}$	$4.354^{+0.132}_{-0.108}$	$0.120^{+0.150}_{-0.150}$	$1.065^{+0.166}_{-0.150}$	$0.933^{+0.067}_{-0.053}$	$1.089^{+0.601}_{-0.328}$
	+2%/-2%	+3%/-2%	+125%/-125%	+16%/-14%	+7%/-6%	+55%/-30%
Source	SPE59	SPE59	SPE59	DSEP		

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

### Secondary Eclipse Parameters for KIC 007100673-04 / KOI 4032.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-5 \pm 2$	$0.80^{+0.24}_{-0.24}$	$1794^{+83}_{-78}$	$3586^{+585}_{-394}$	$6.622^{+8.471}_{-3.416}$
Alt.	$-7 \pm 2$	$0.71^{+0.26}_{-0.24}$	$1791^{+86}_{-78}$	$3923^{+637}_{-437}$	$11^{+15}_{-6}$

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



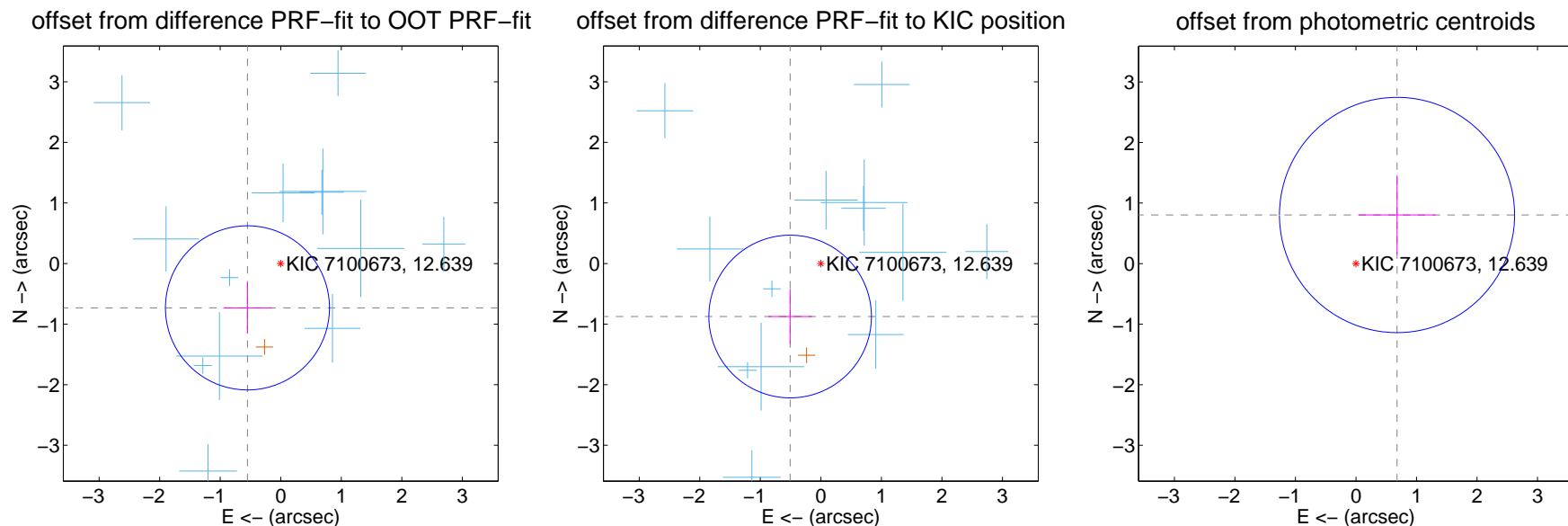
## DV Centroid Data

Supplemental centroid analysis for 007100673-04. Kepler magnitude: 12.64. Transit SNR 14.76

There are 13 quarters with good PRF difference image offsets

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

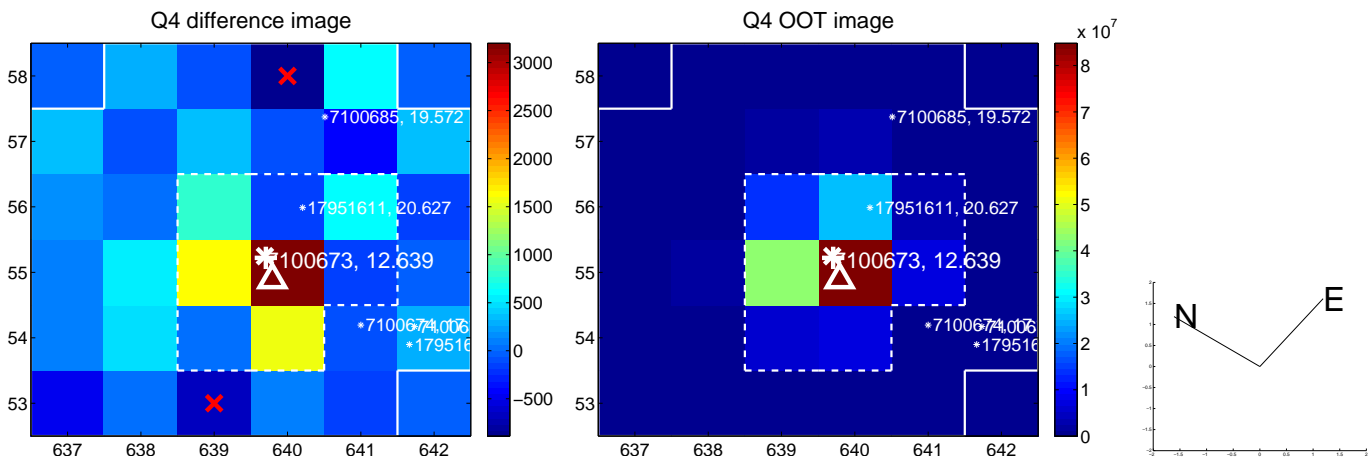
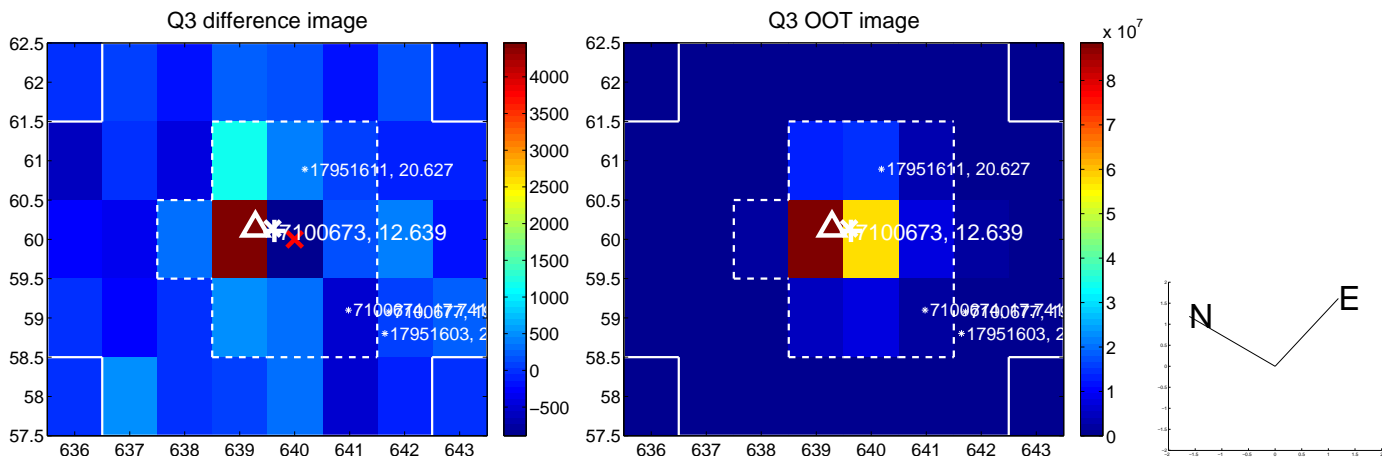
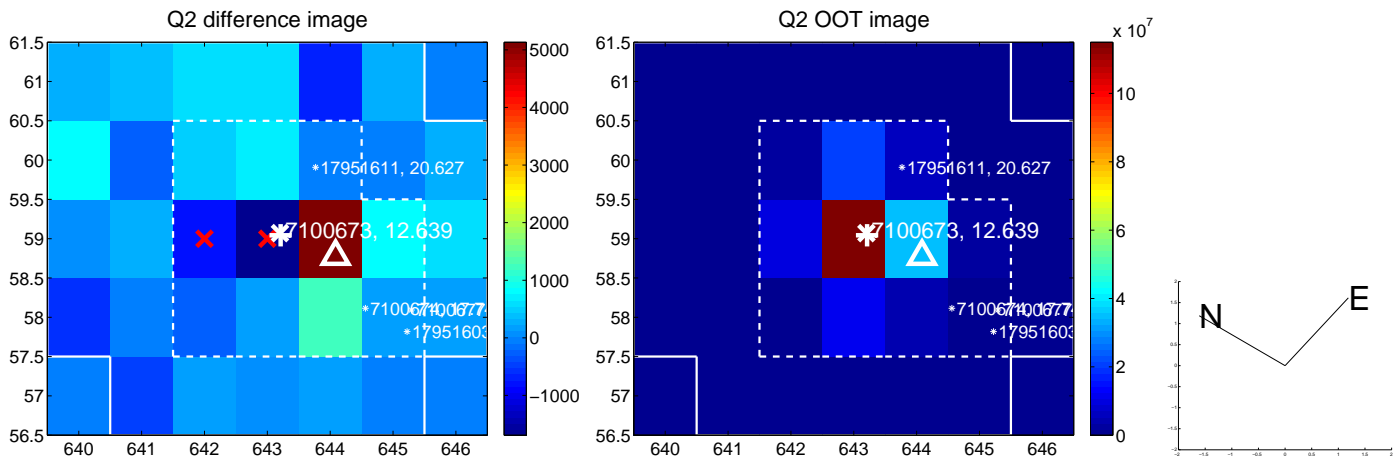
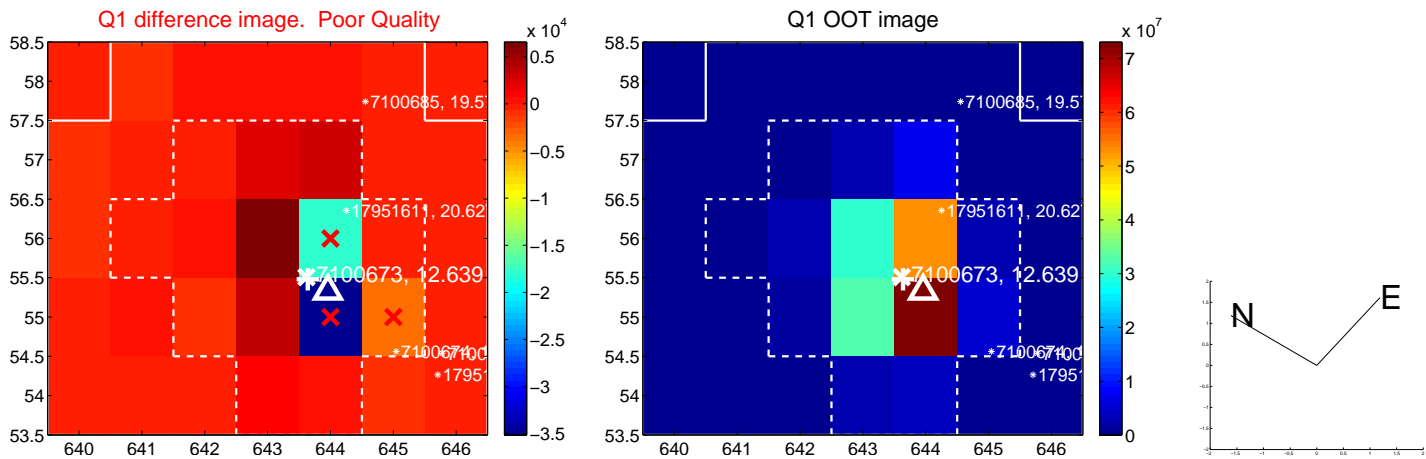
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.916 \pm 0.452$	2.03	$0.550 \pm 0.396$	$-0.732 \pm 0.426$
PRF-fit source offset from KIC position	$1.011 \pm 0.448$	2.26	$0.507 \pm 0.359$	$-0.875 \pm 0.453$
photometric centroid source offset	$1.05 \pm 0.65$	1.62	$-0.68 \pm 0.64$	$0.80 \pm 0.65$



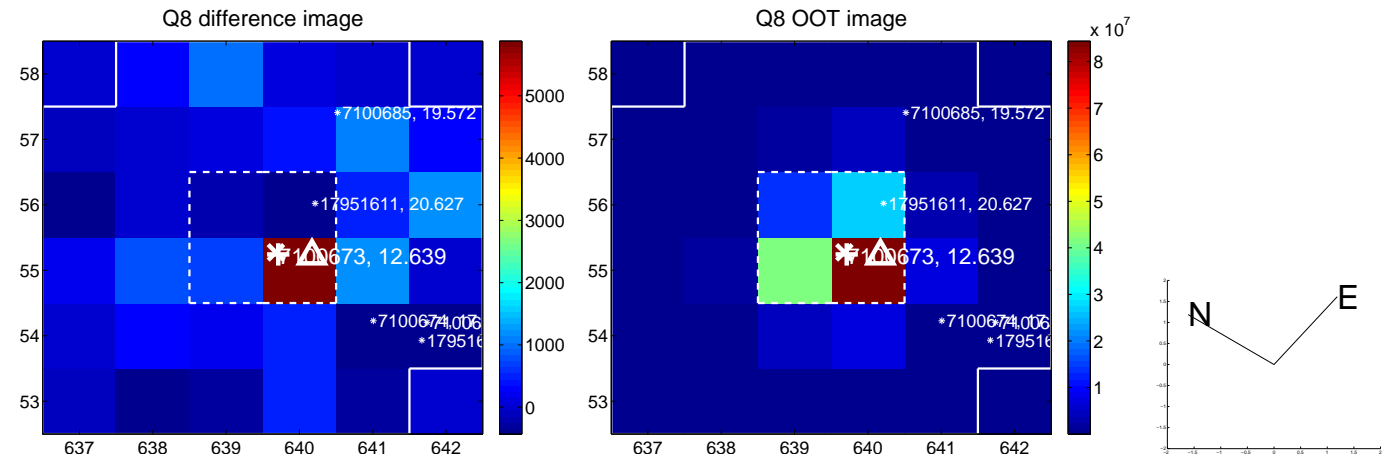
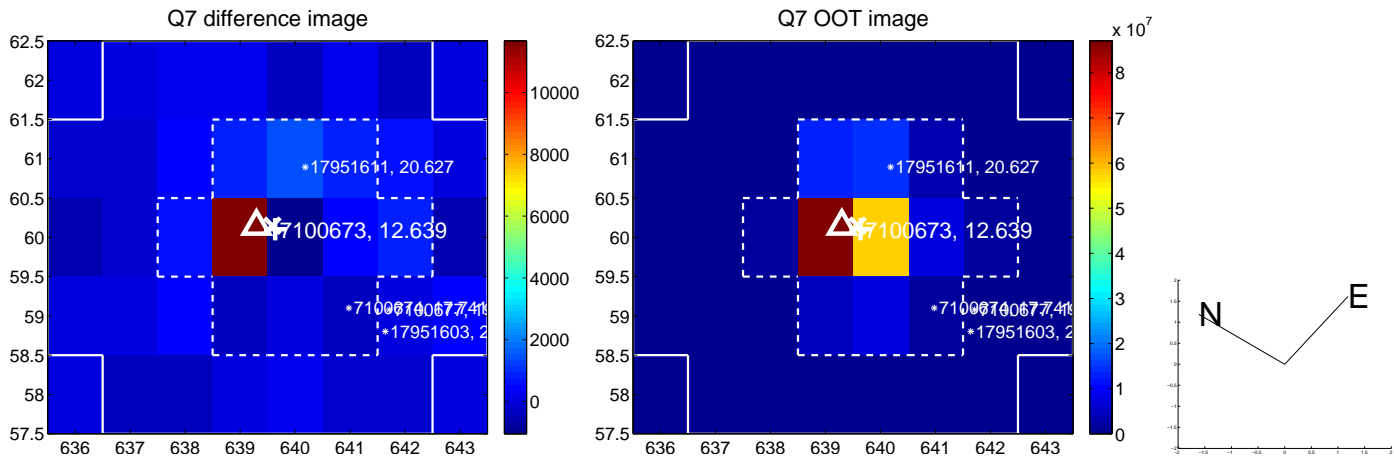
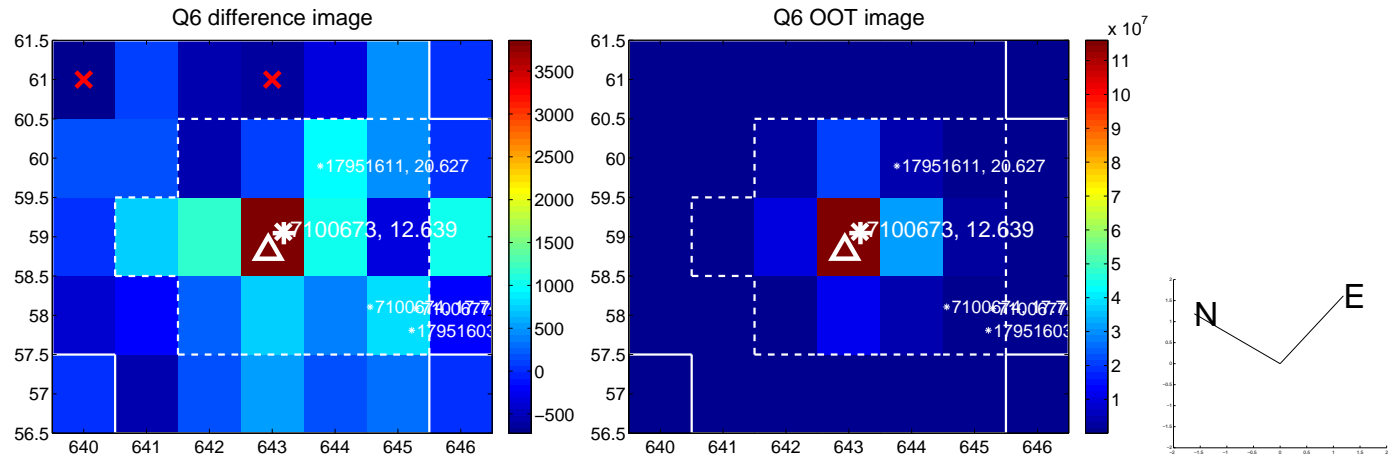
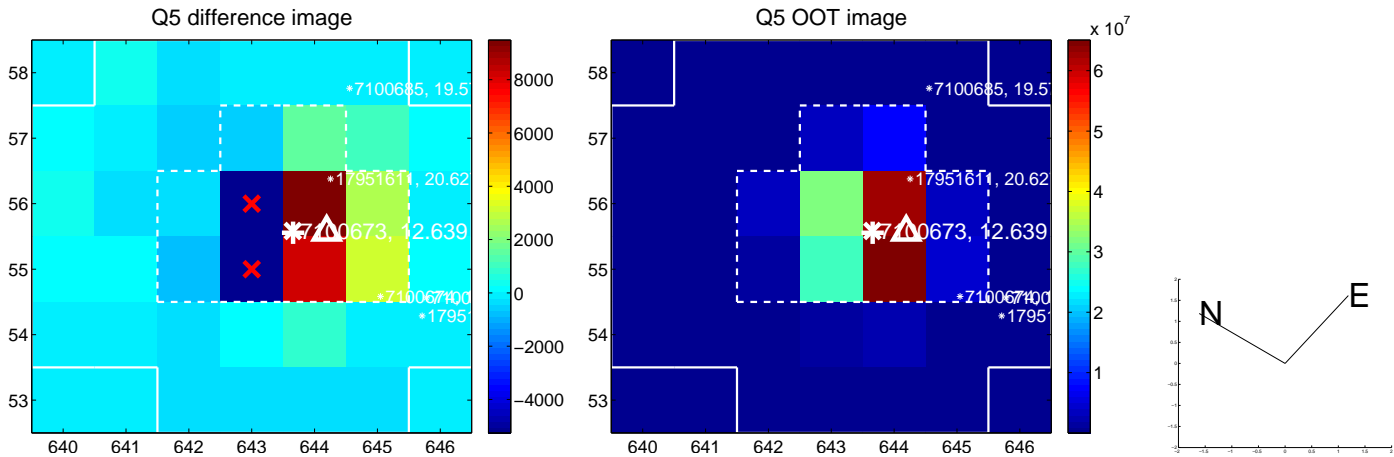
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



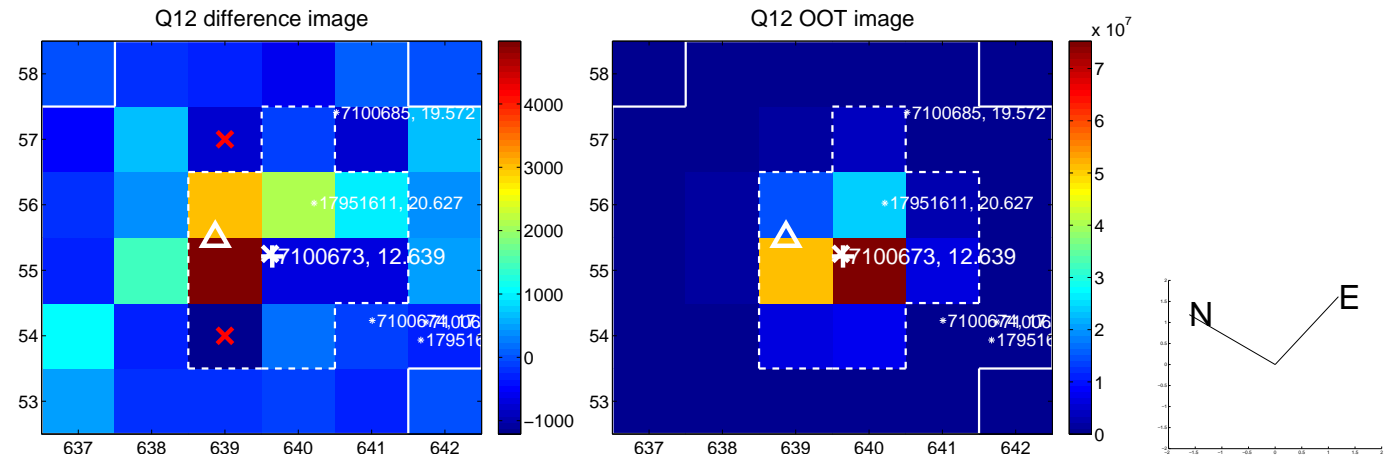
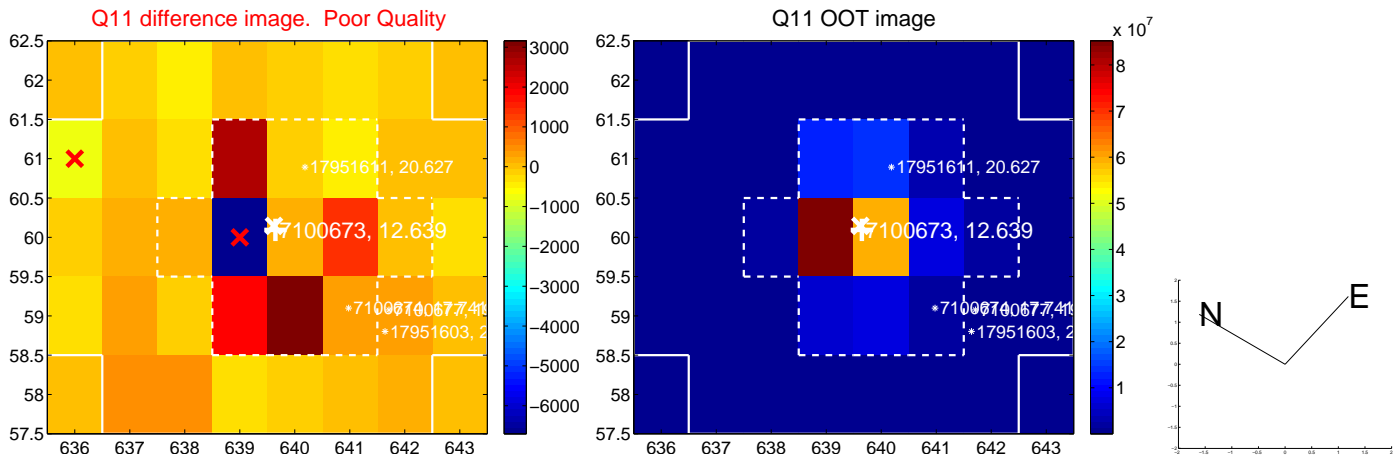
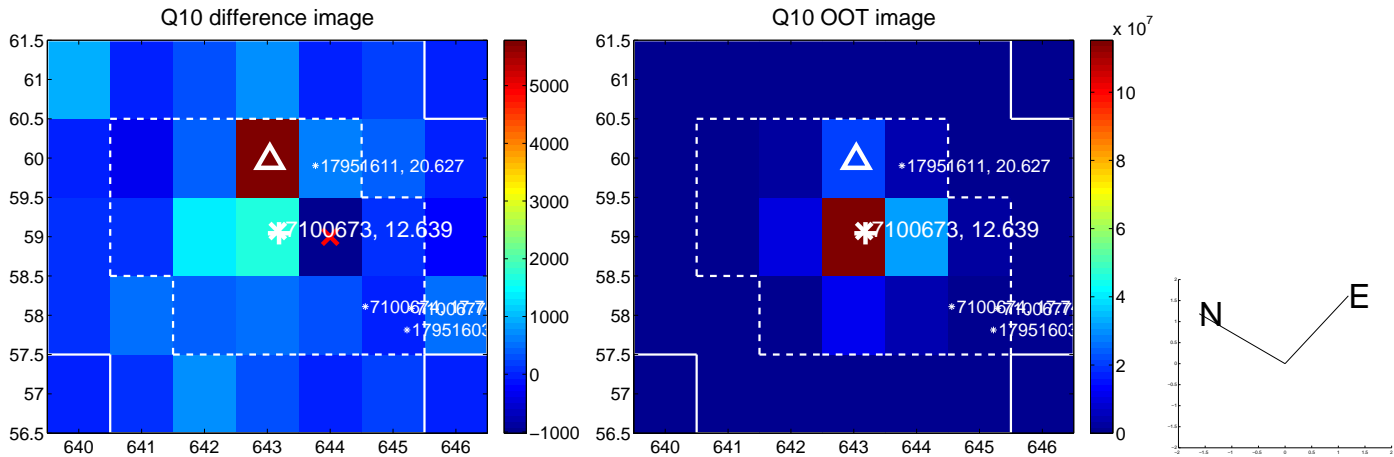
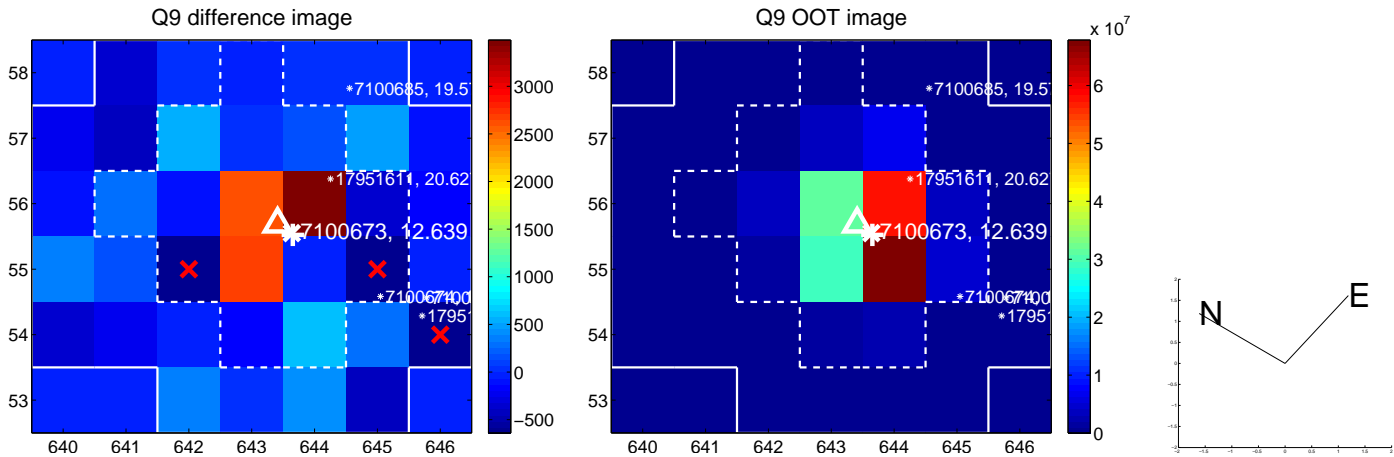
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



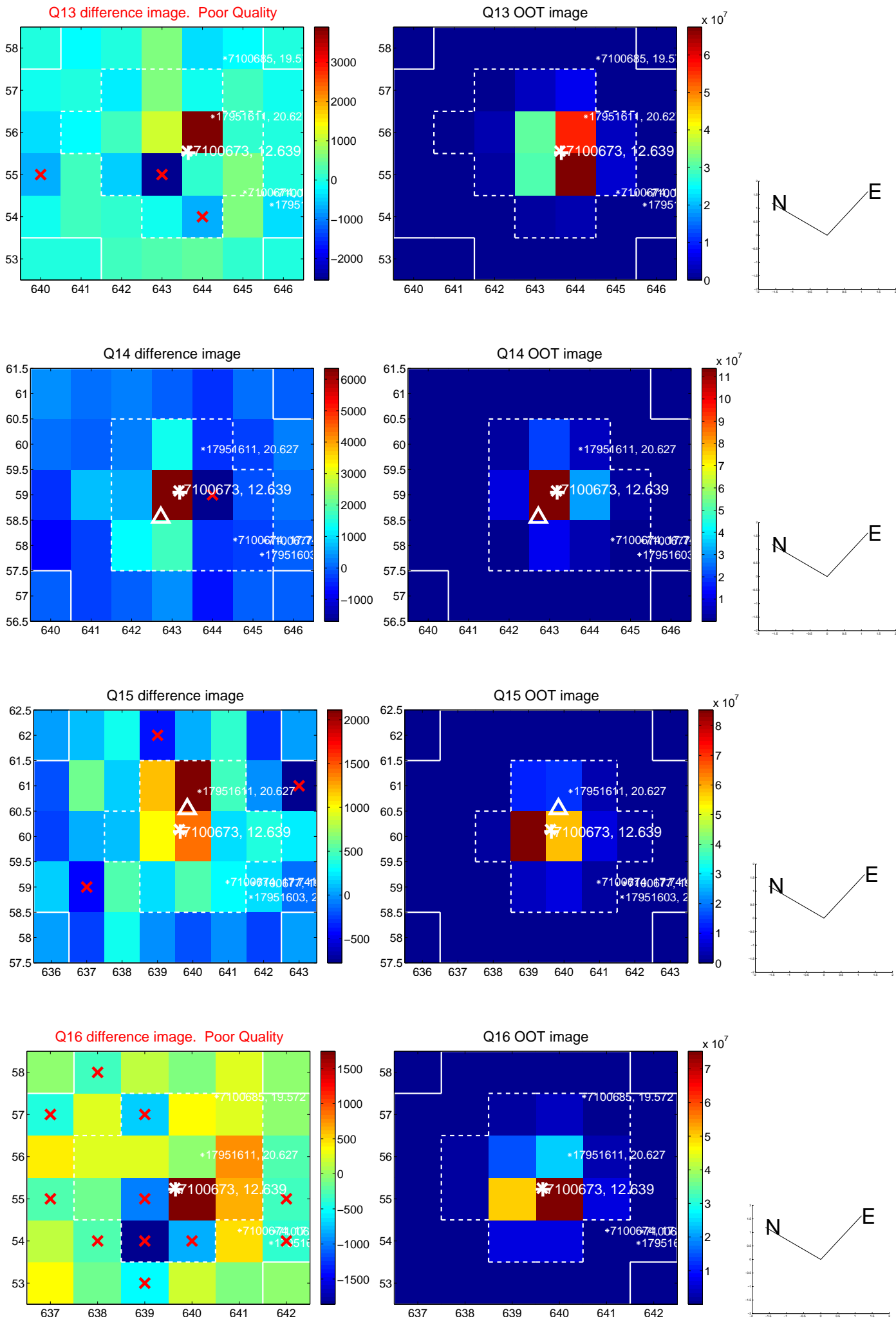
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



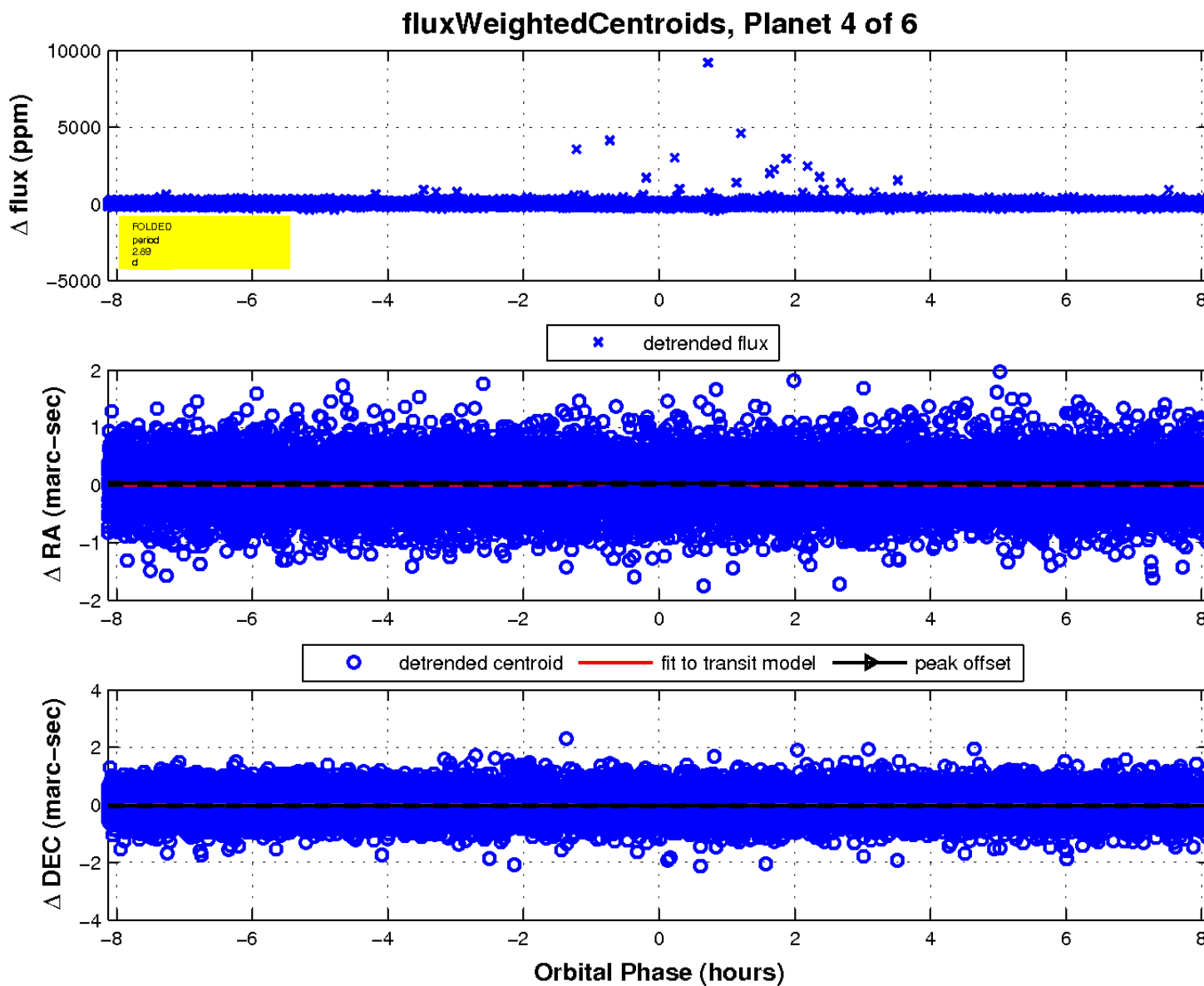
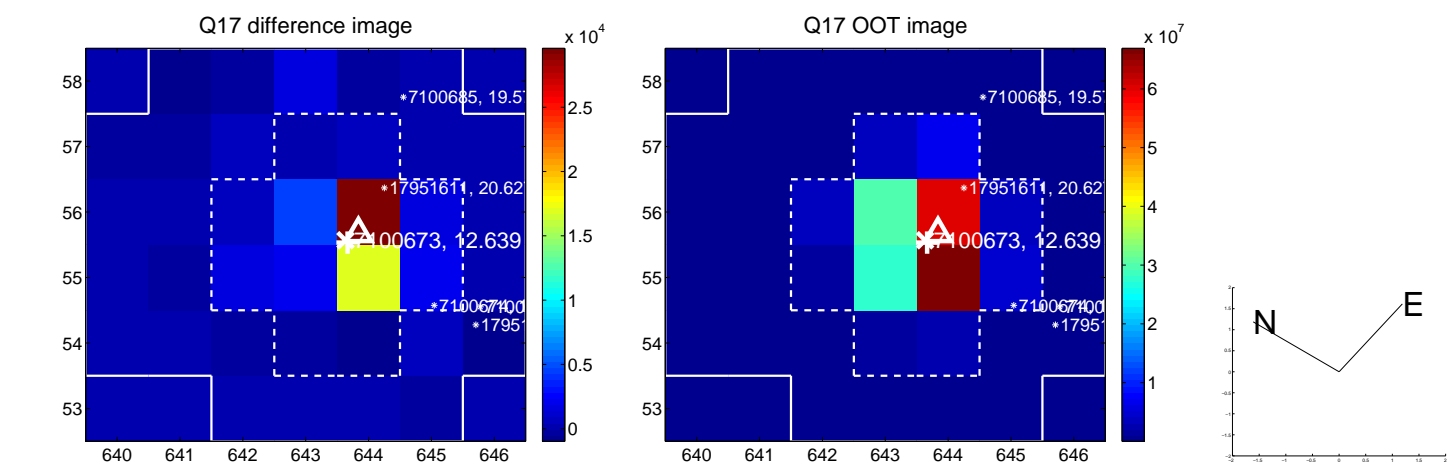
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

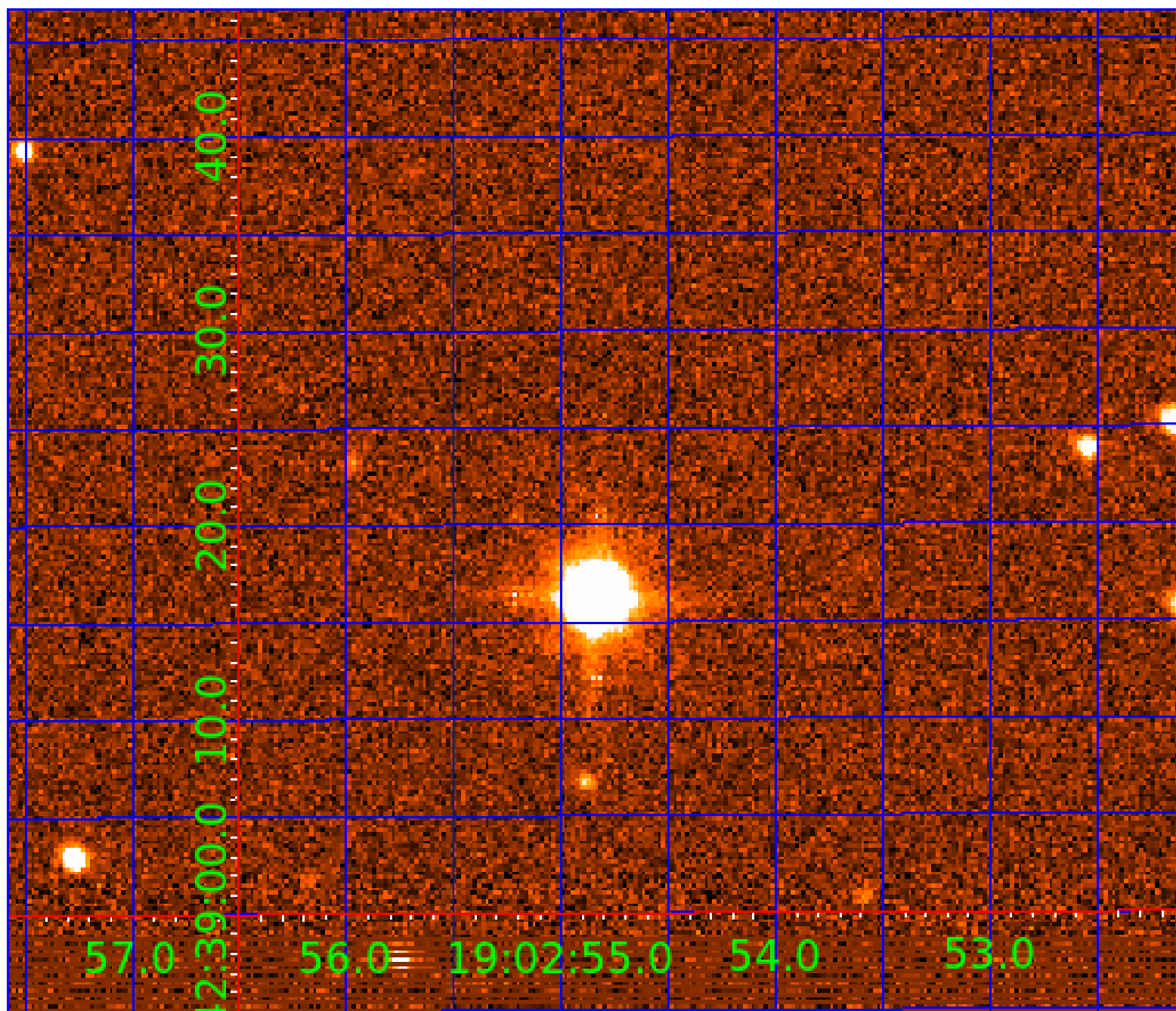


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 007100673

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007100673-01	OBS	4032.01	3.951190	134.219141	63.7	2.715	16.4	19.5	1.06	5574	1.03	428.70
007100673-02	OBS	4032.04	5.101138	132.426934	66.3	2.827	14.8	17.8	1.06	5574	1.04	304.96
007100673-03	OBS	4032.03	5.992709	131.754307	70.9	2.676	15.1	16.7	1.06	5574	1.09	246.02
007100673-04	OBS	4032.02	2.892211	132.870091	43.3	2.709	13.2	14.8	1.06	5574	0.81	649.86
007100673-05	OBS	4032.05	7.235231	135.236012	55.4	2.409	9.0	10.5	1.06	5574	0.88	191.36
007100673-06	OBS	No	273.562429	141.345920	104.4	15.266	8.2	5.2	1.06	5574	1.23	1.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007100673-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-04	OBS	PC	0.99	0	0	0	0	NO_COMMENT
007100673-05	OBS	PC	0.79	0	0	0	0	NO_COMMENT
007100673-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

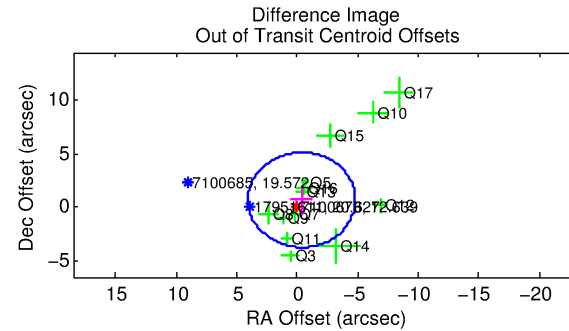
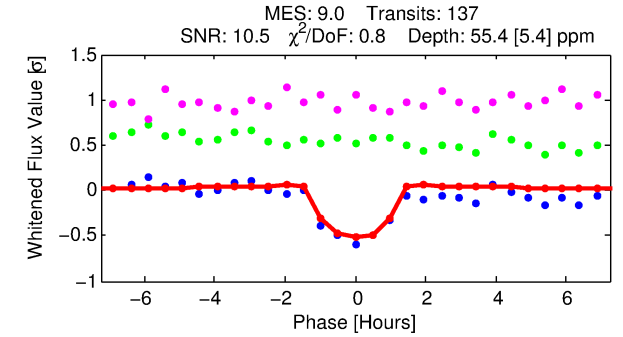
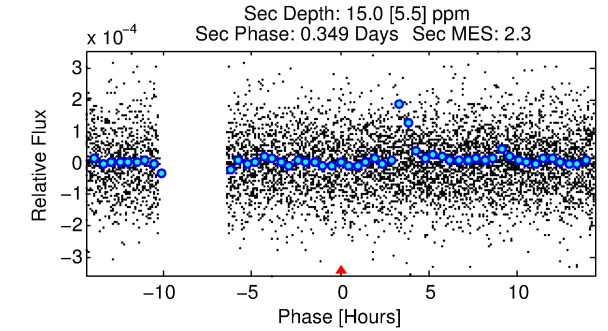
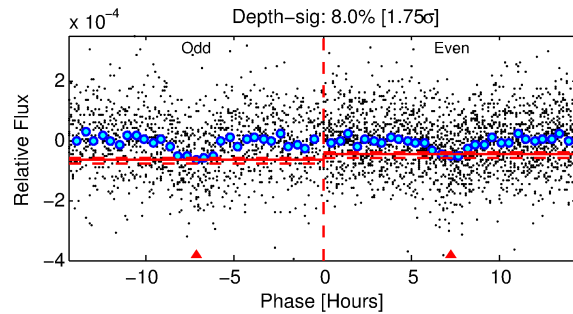
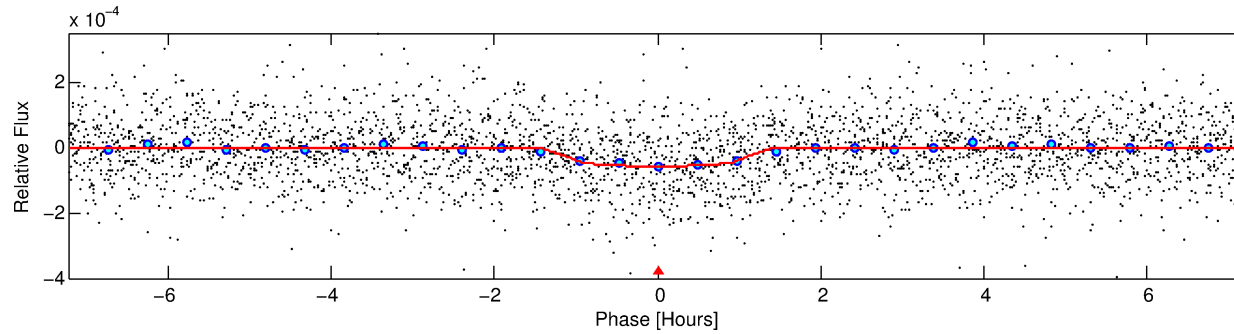
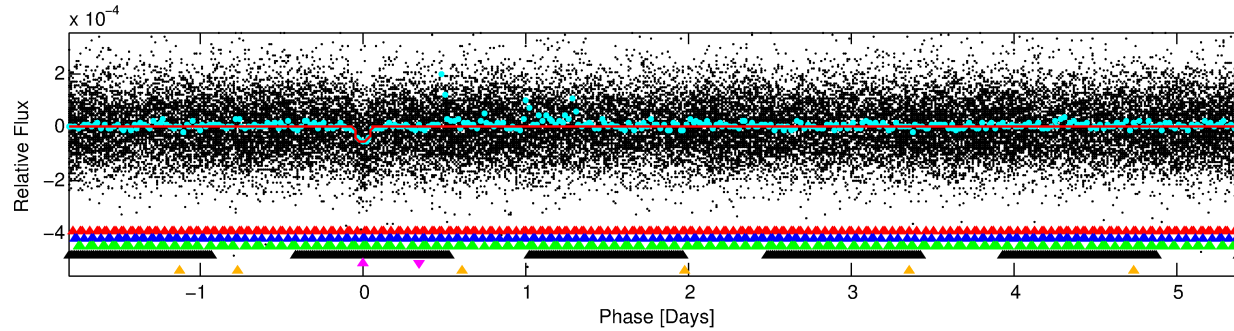
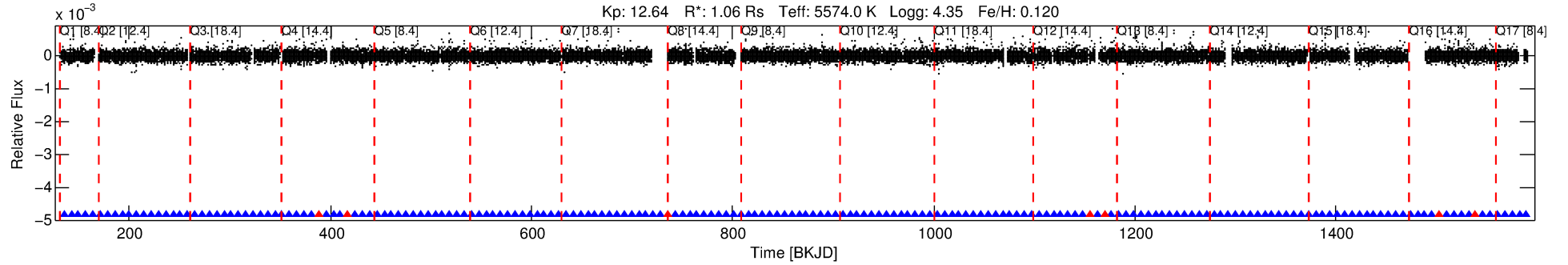
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007100673-05

No Significant Match Found

# DV One-Page Summary

KIC: 7100673 Candidate: 5 of 6 Period: 7.235 d  
KOI: K04032.05 Corr: 0.956



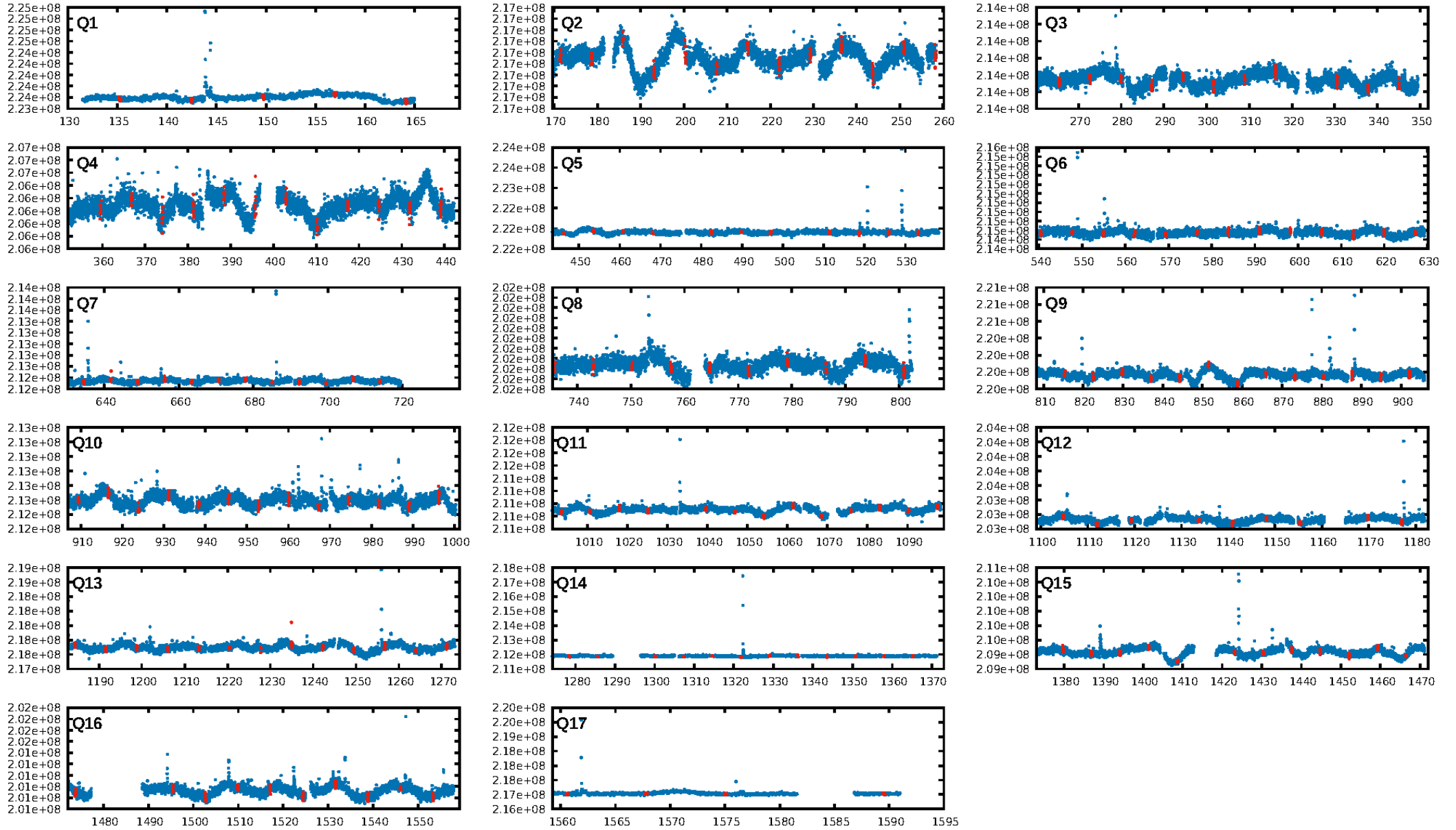
## DV Fit Results:

Period = 7.23523 [0.00004] d  
Epoch = 135.2360 [0.0043] BKJD  
Rp/R\* = 0.0076 [0.0035]  
a/R\* = 14.29 [27.18]  
b = 0.79 [0.91]  
Seff = 191.36 [46.17]  
Teq = 948 [57] K  
Rp = 0.88 [0.43] Re  
a = 0.0716 [0.0104] AU  
Ag = 54.81 [55.54] [0.97 $\sigma$ ]  
Teffp = 3990 [988] K [3.07 $\sigma$ ]

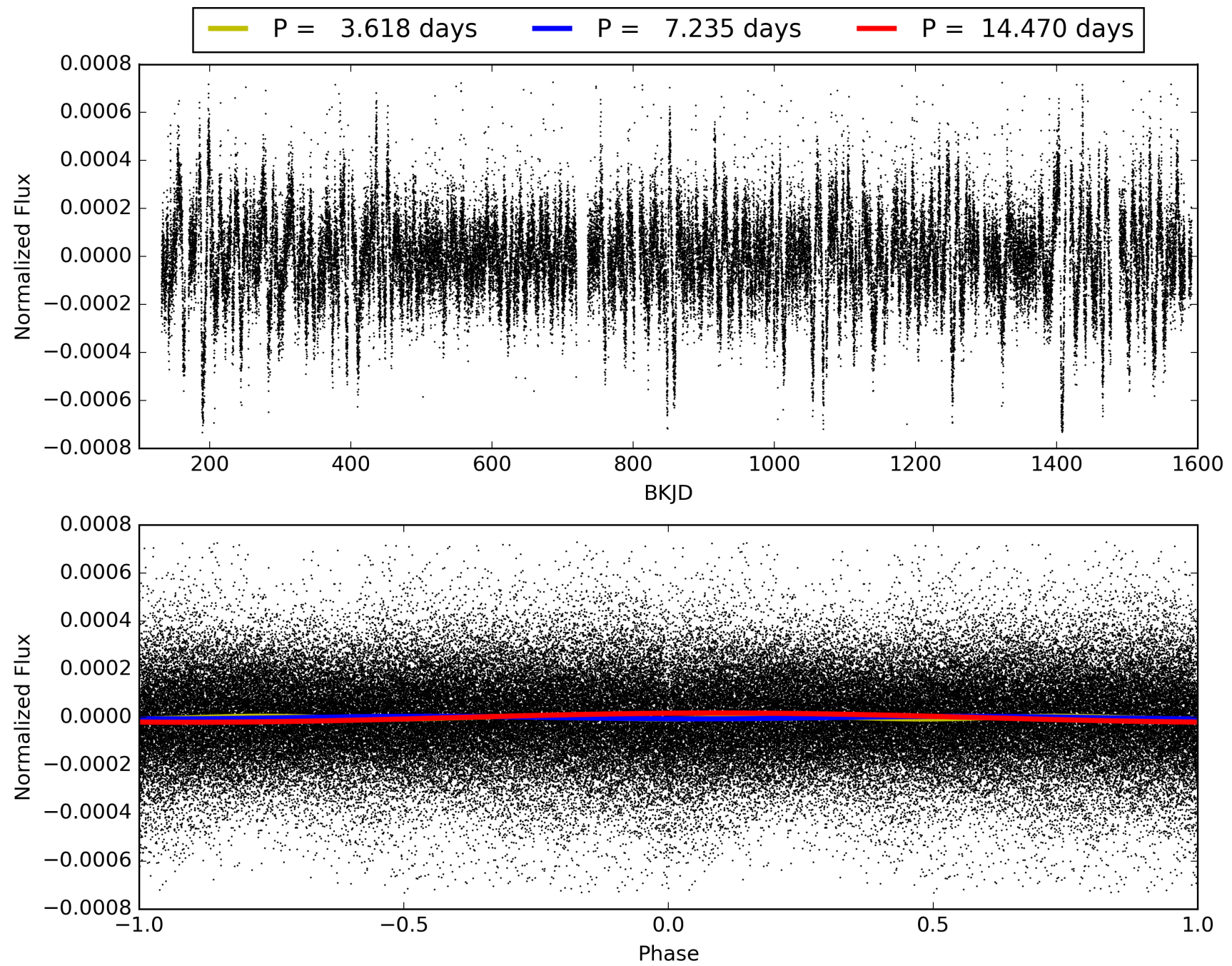
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.28 $\sigma$ ]  
LongPeriod-sig: 100.0% [413.58 $\sigma$ ]  
ModelChiSquare2-sig: 53.4%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 3.16e-17  
RollingBand-fgt: 0.95 [123/130]  
GhostDiagnostic-chr: 4.601  
Centroid-sig: 15.3%  
Centroid-so: 0.844 arcsec [0.97 $\sigma$ ]  
OotOffset-rm: 0.789 arcsec [0.53 $\sigma$ ]  
KicOffset-rm: 0.687 arcsec [0.46 $\sigma$ ]  
OotOffset-st: 2/4/3/4 [13]  
KicOffset-st: 2/4/3/4 [13]  
DiffImageQuality-fgm: 0.54 [7/13]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 007100673-05, PDC Light Curves

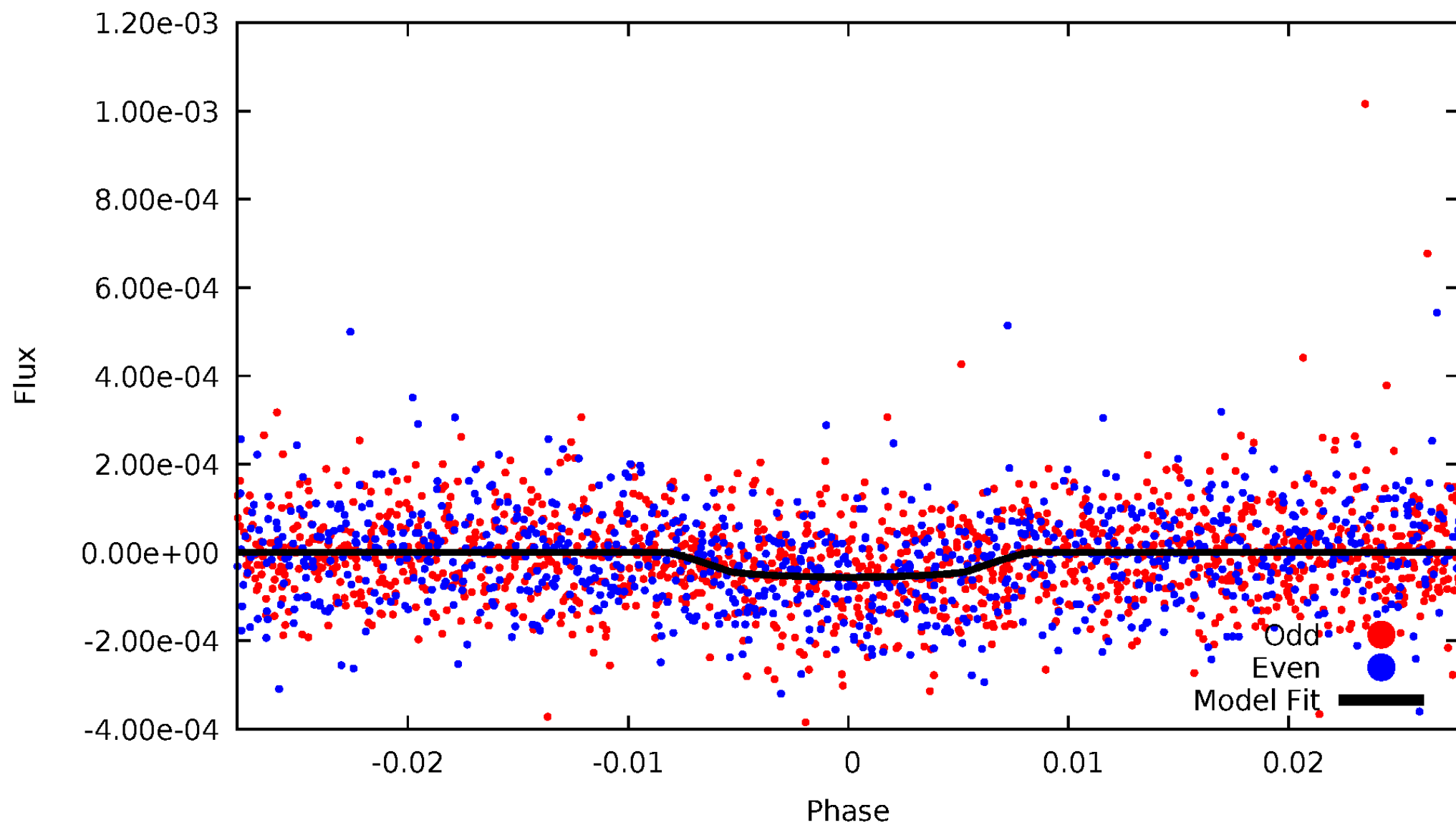


TCE 007100673-05



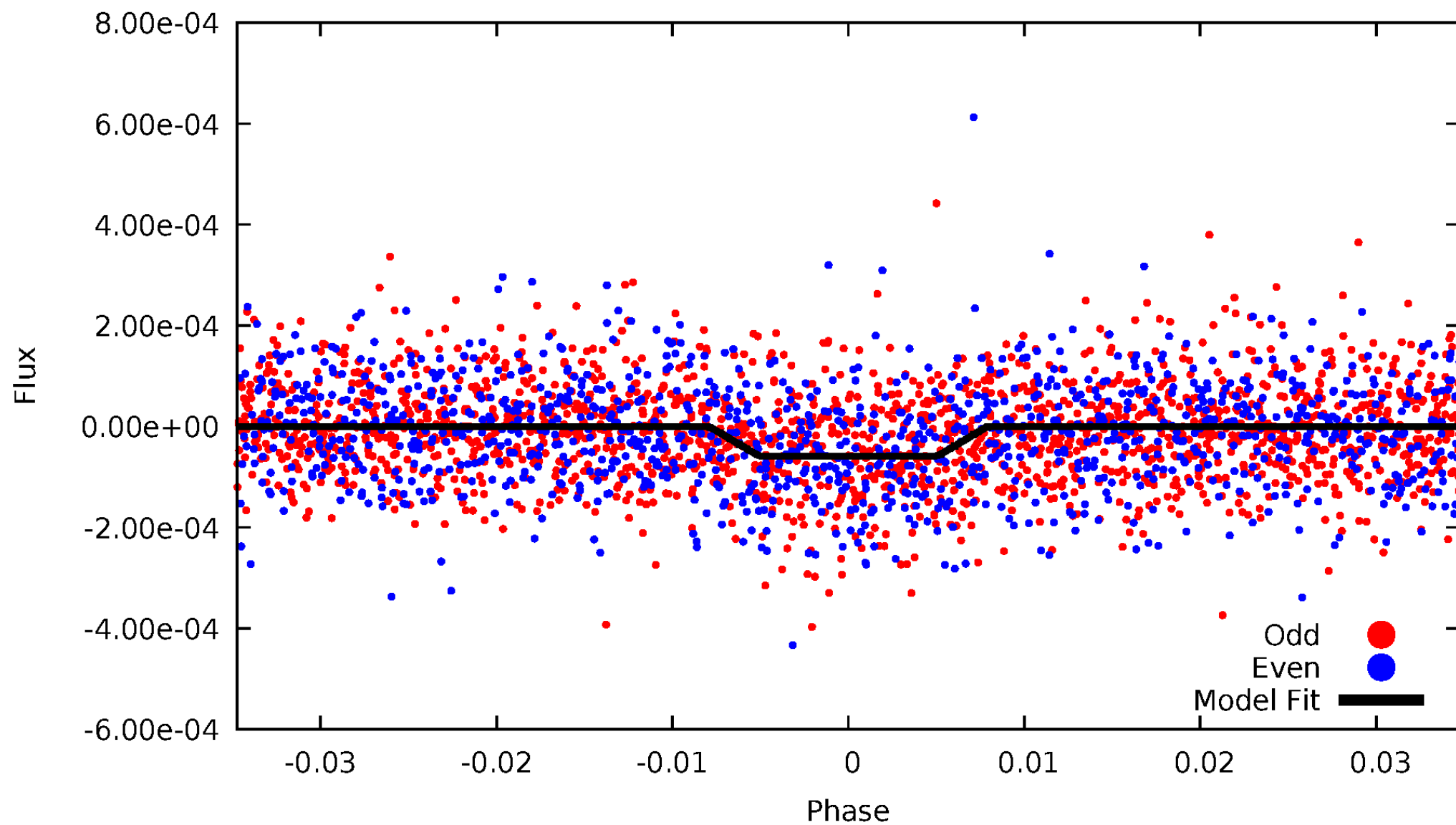
# DV Odd/Even

TCE 007100673-05



# ALT Odd/Even

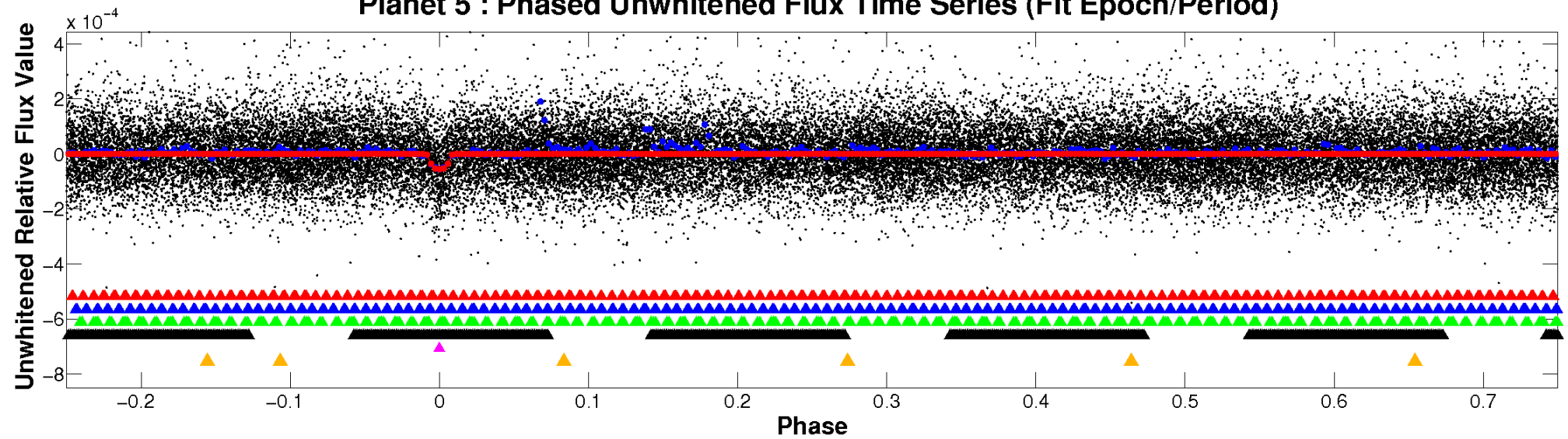
TCE 007100673-05



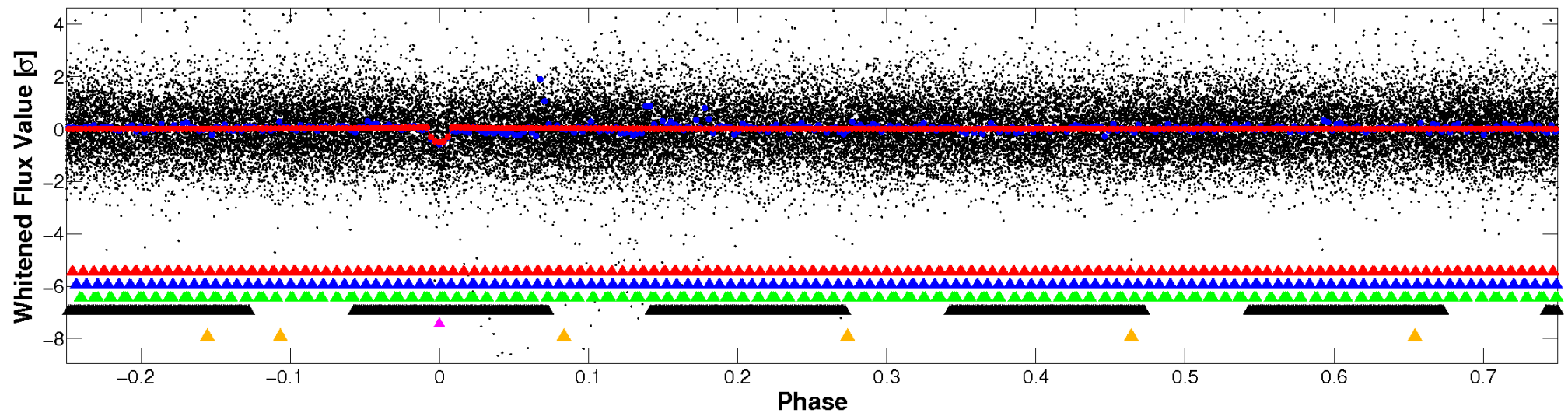


# Non-Whitened Vs. Whitened Light Curve

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

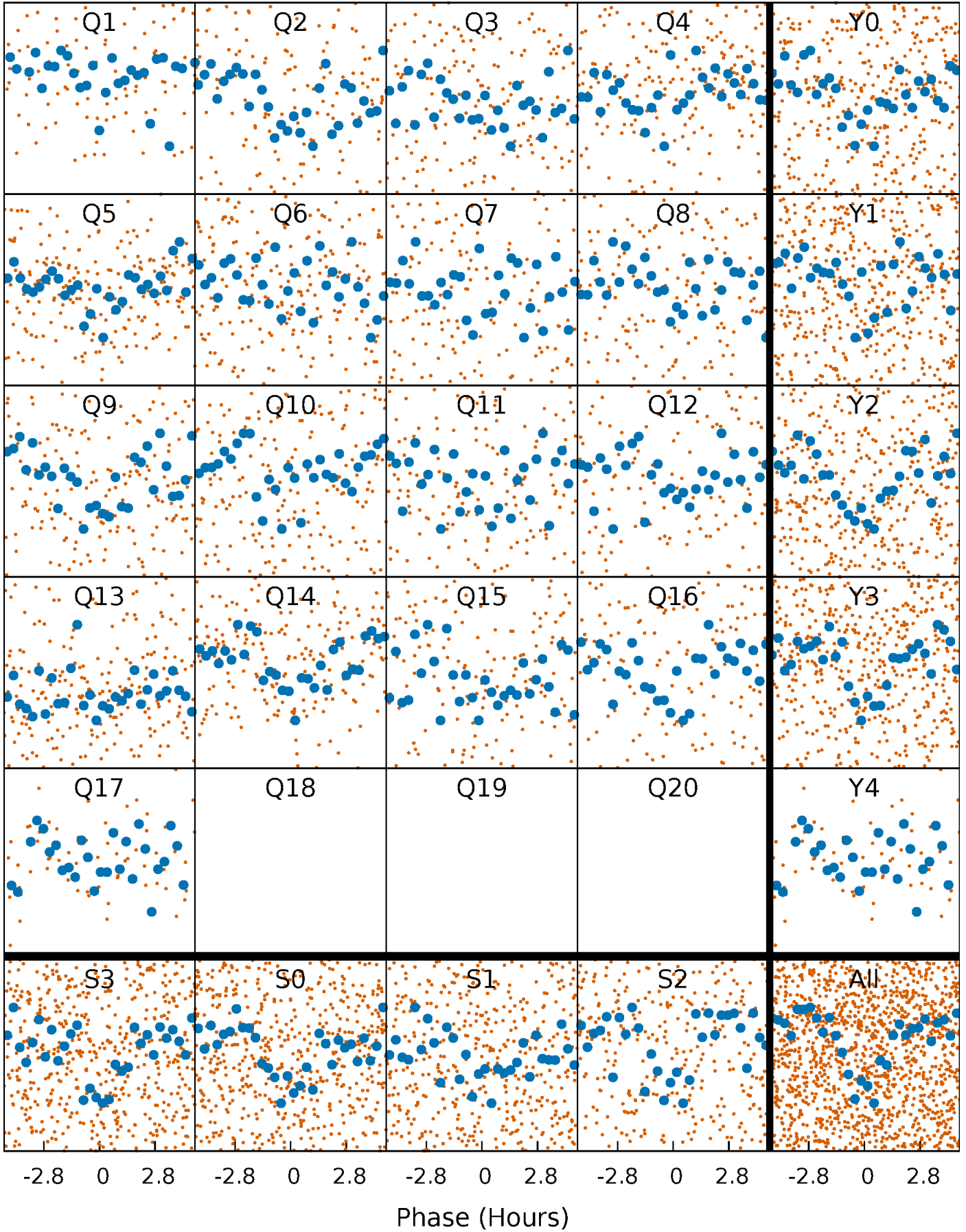


## Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



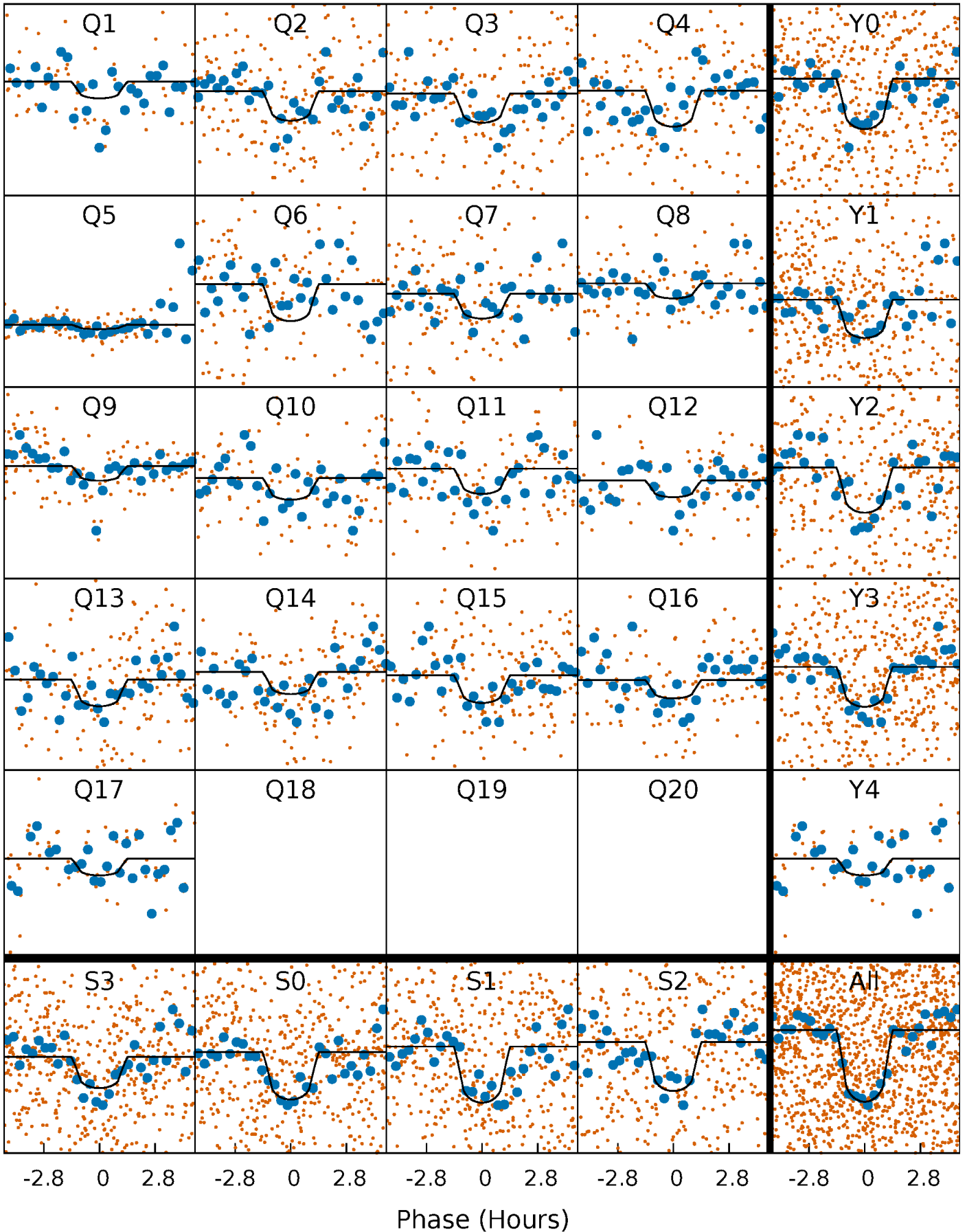
# PDC Quarter-Phased Transit Curves

TCE 007100673-05     $P = 7.235231$  Days     $T_0 = 135.236012$  (BKJD)



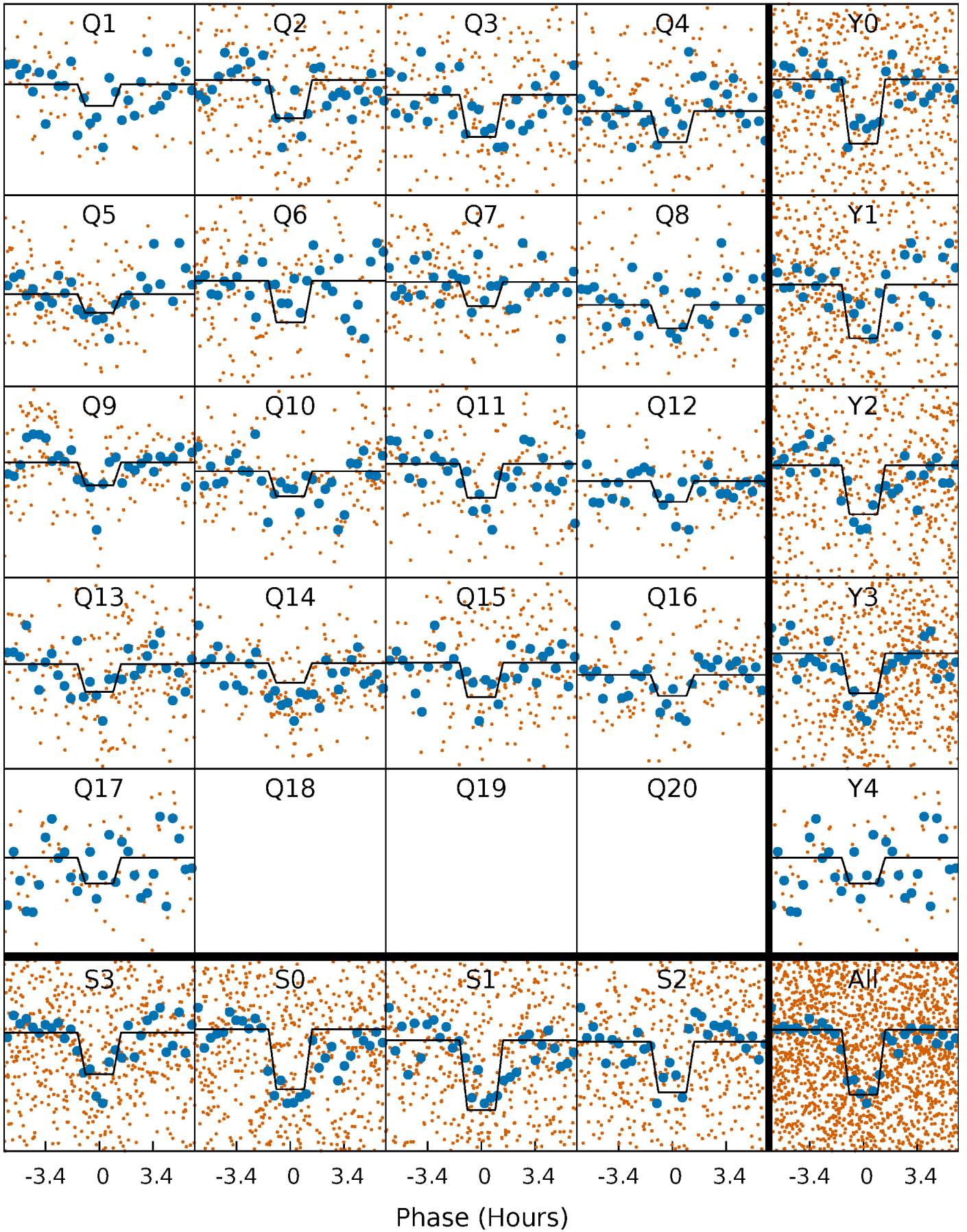
# DV Quarter-Phased Transit Curves

TCE 007100673-05     $P = 7.235231$  Days     $T_0 = 135.236012$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

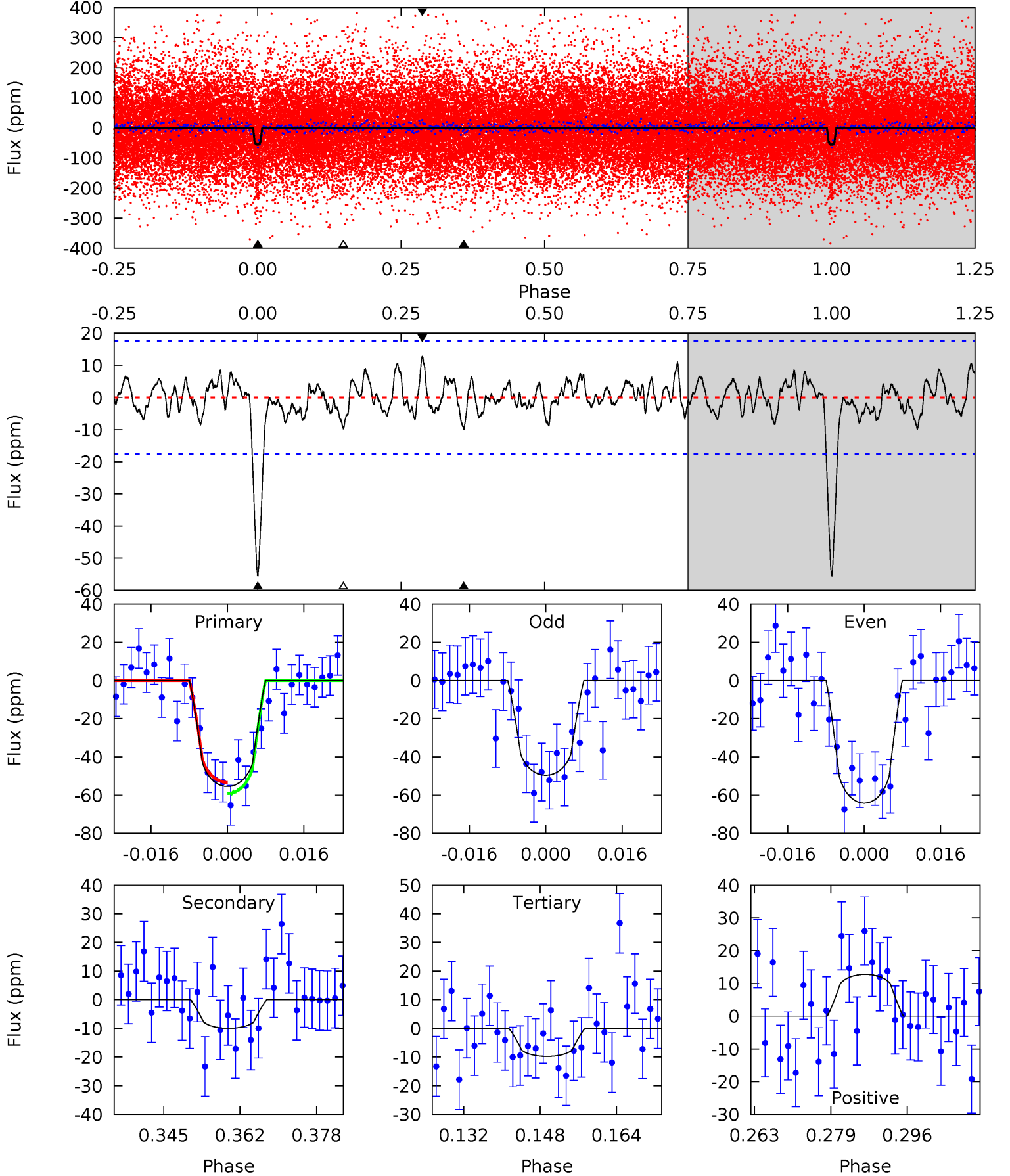
TCE 007100673-05     $P = 7.235231$  Days     $T_0 = 135.236848$  (BKJD)



# DV Model-Shift Uniqueness Test

007100673-05, P = 7.235231 Days, E = 128.000781 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
15.5	2.79	2.73	3.57	4.93	2.40	1.12	12.8	12.0	0.06	-0.78	2.01	0.91	0.19	0.81

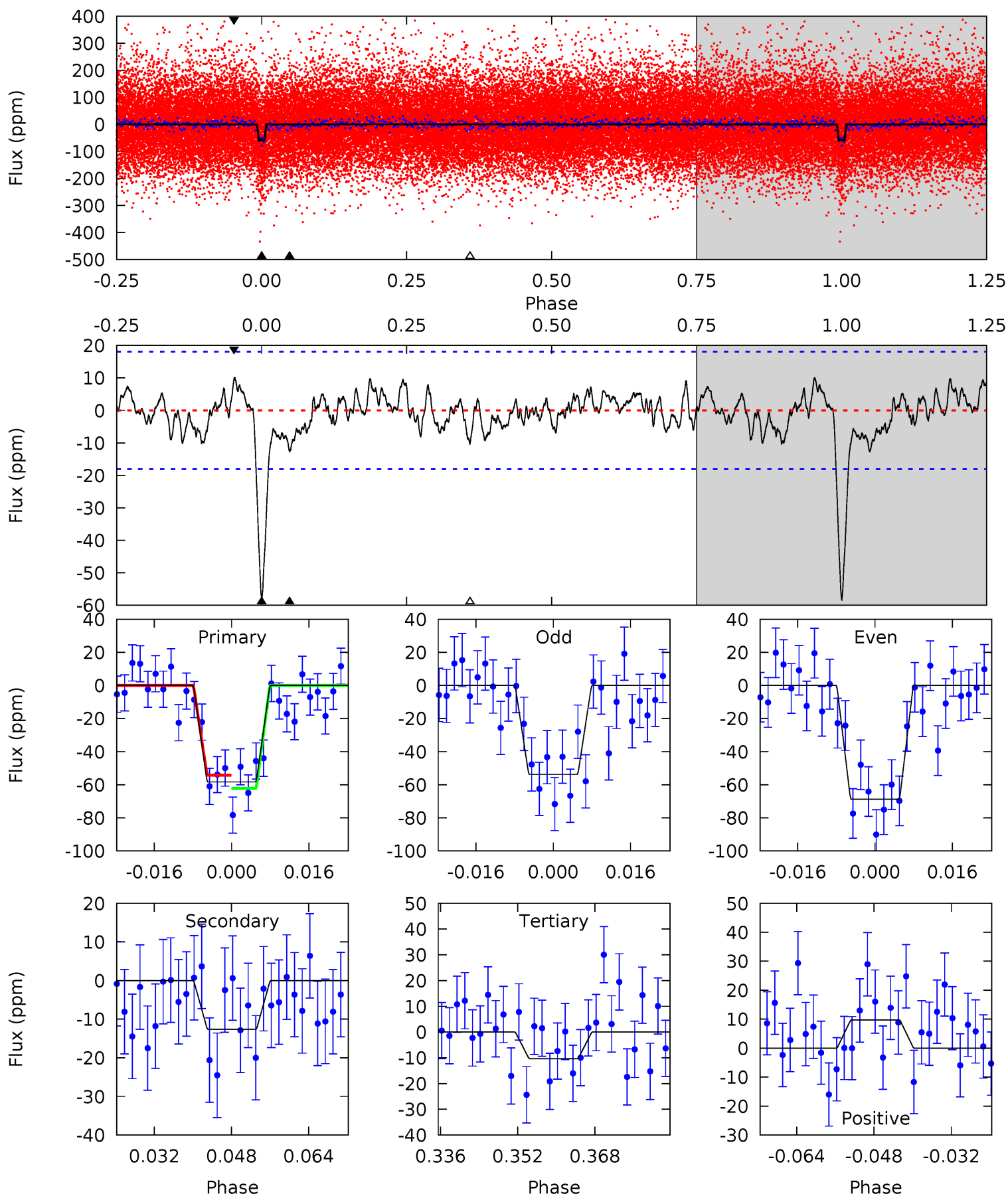




# Alt Model-Shift Uniqueness Test

007100673-05, P = 7.235231 Days, E = 128.001617 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
15.9	3.45	2.82	2.66	4.94	2.41	1.15	13.1	13.3	0.63	0.79	2.00	1.02	0.15	1.09





### Stellar Parameters For KIC 007100673

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5574^{+111}_{-100}$	$4.354^{+0.132}_{-0.108}$	$0.120^{+0.150}_{-0.150}$	$1.065^{+0.166}_{-0.150}$	$0.933^{+0.067}_{-0.053}$	$1.089^{+0.601}_{-0.328}$
	+2%/-2%	+3%/-2%	+125%/-125%	+16%/-14%	+7%/-6%	+55%/-30%
Source	SPE59	SPE59	SPE59	DSEP		

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

### Secondary Eclipse Parameters for KIC 007100673-05 / KOI 4032.05

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-10 \pm 4$	$0.87^{+0.41}_{-0.38}$	$1323^{+66}_{-54}$	$3911^{+1013}_{-530}$	$35^{+84}_{-21}$
Alt.	$-13 \pm 4$	$0.89^{+0.43}_{-0.38}$	$1323^{+58}_{-56}$	$4051^{+1014}_{-565}$	$45^{+92}_{-27}$

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

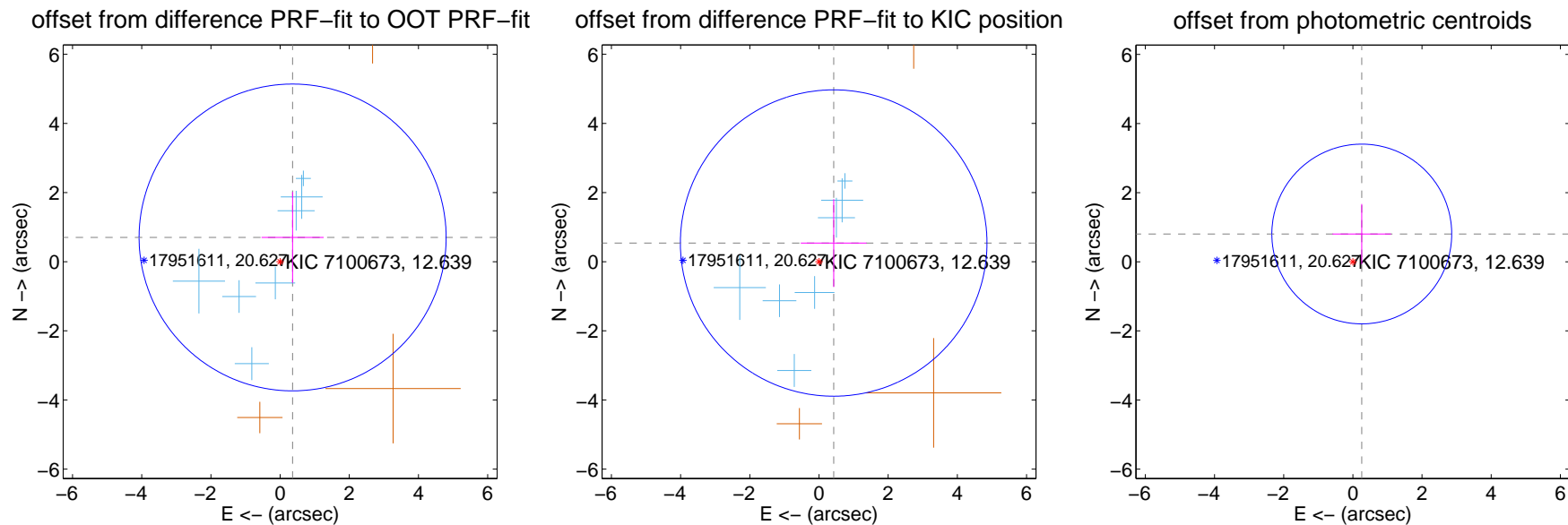
## DV Centroid Data

Supplemental centroid analysis for 007100673-05. Kepler magnitude: 12.64. Transit SNR 10.46

There are 7 quarters with good PRF difference image offsets

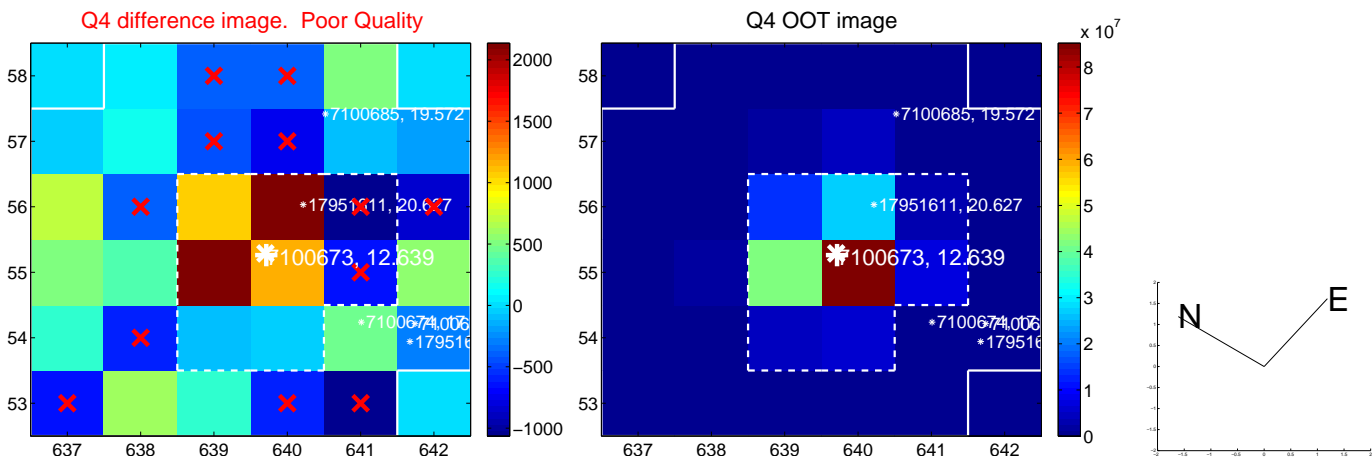
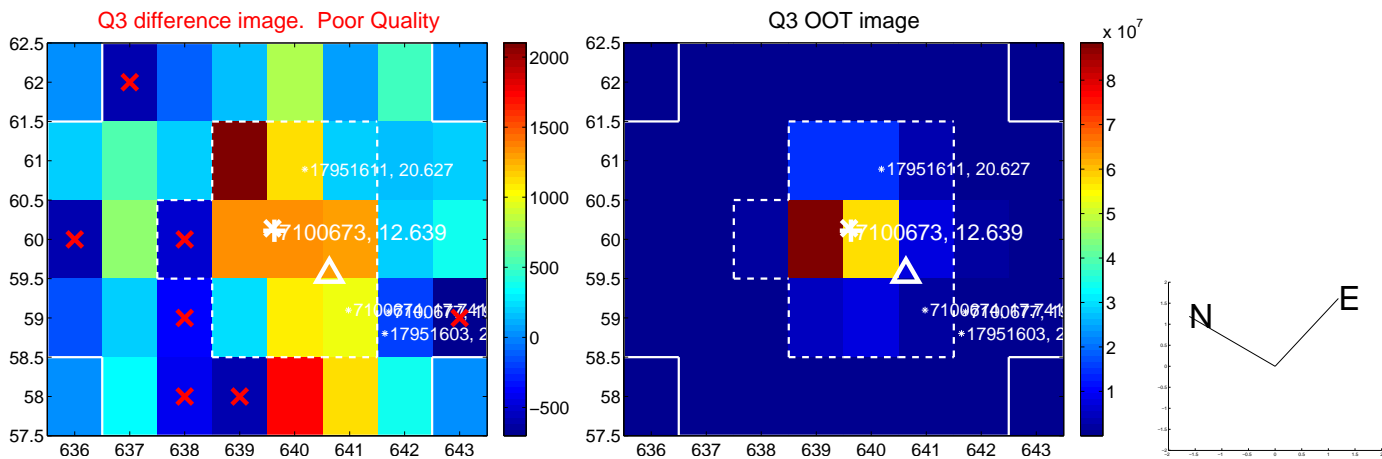
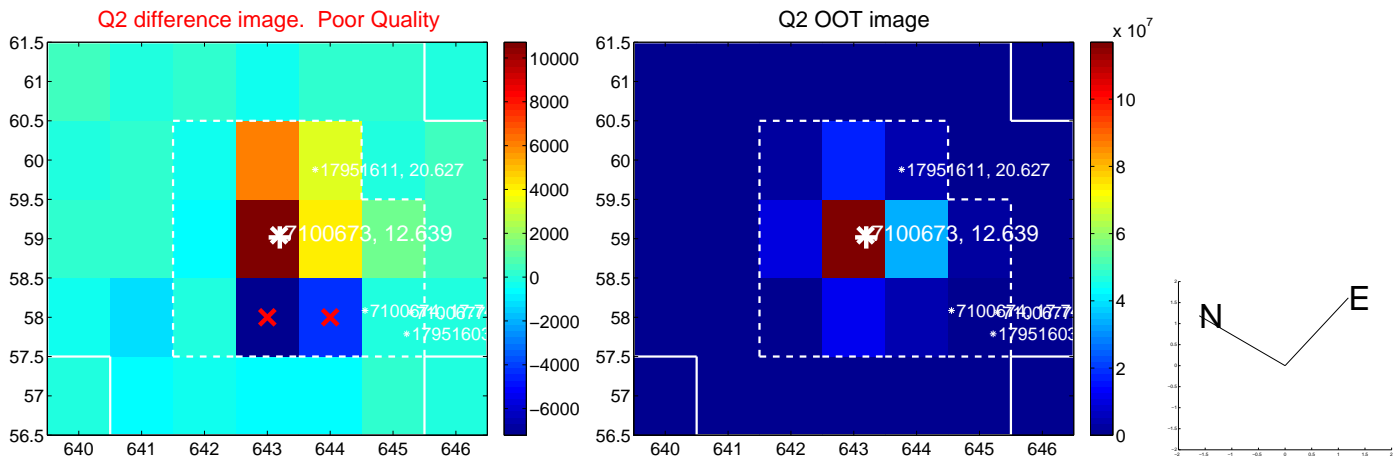
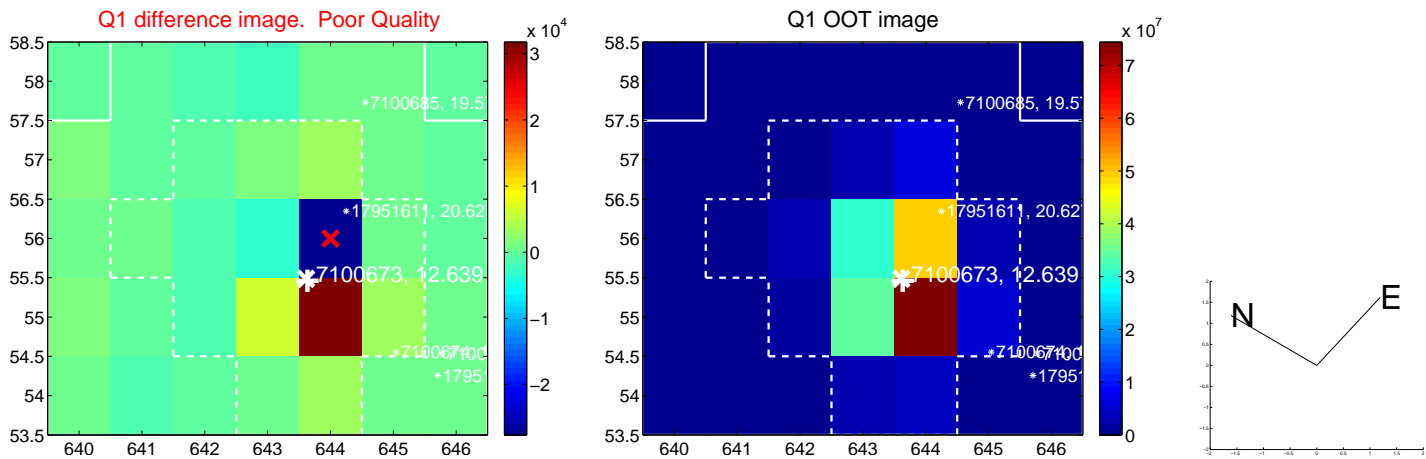
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.789 \pm 1.479$	0.53	$-0.362 \pm 0.898$	$0.701 \pm 1.315$
PRF-fit source offset from KIC position	$0.687 \pm 1.477$	0.46	$-0.424 \pm 0.951$	$0.540 \pm 1.270$
photometric centroid source offset	$0.84 \pm 0.87$	0.97	$-0.26 \pm 0.85$	$0.80 \pm 0.87$

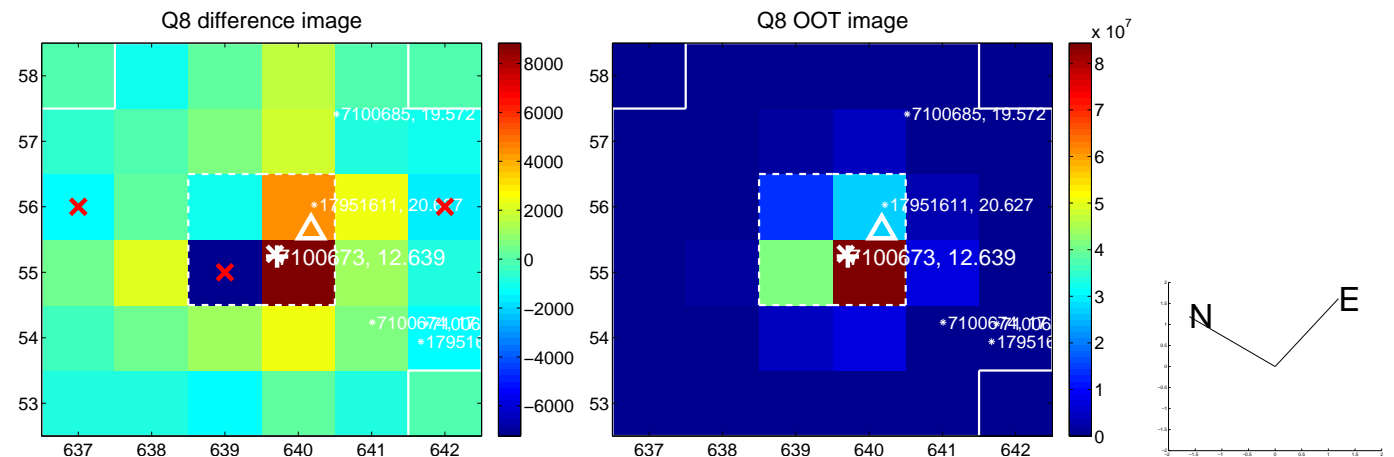
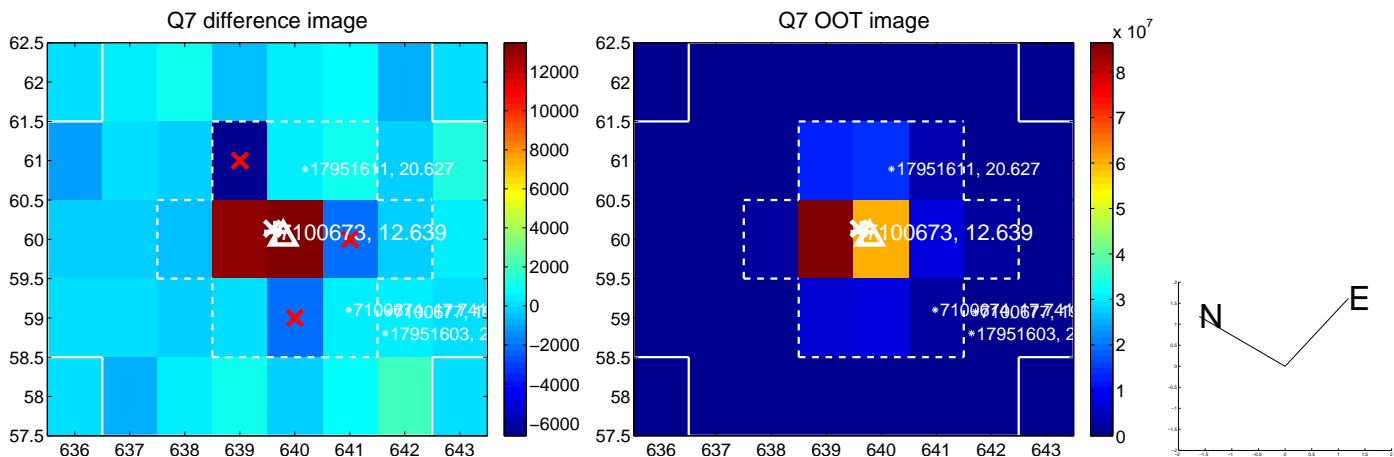
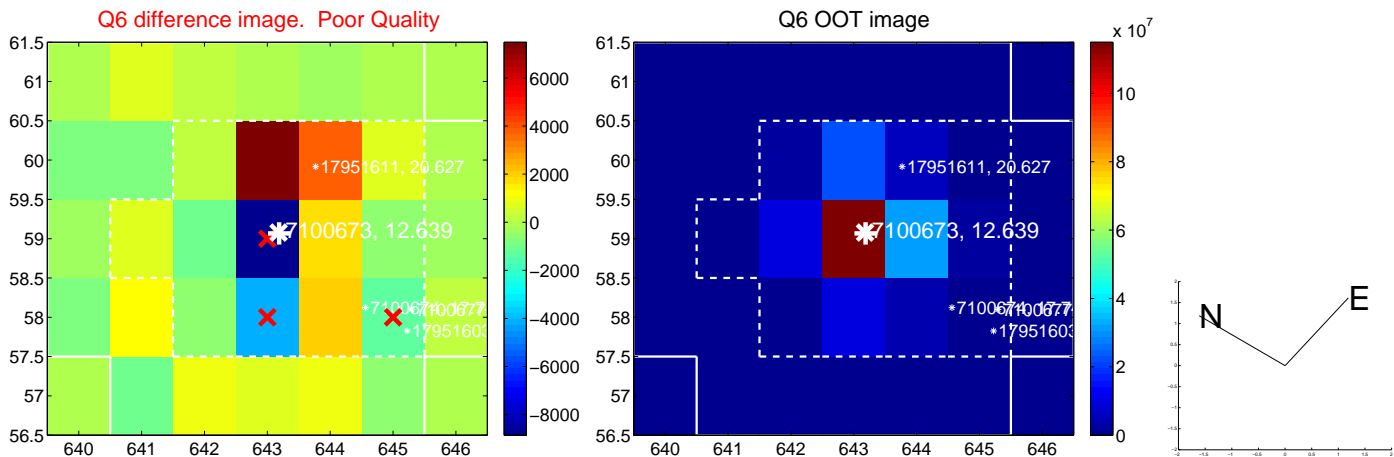
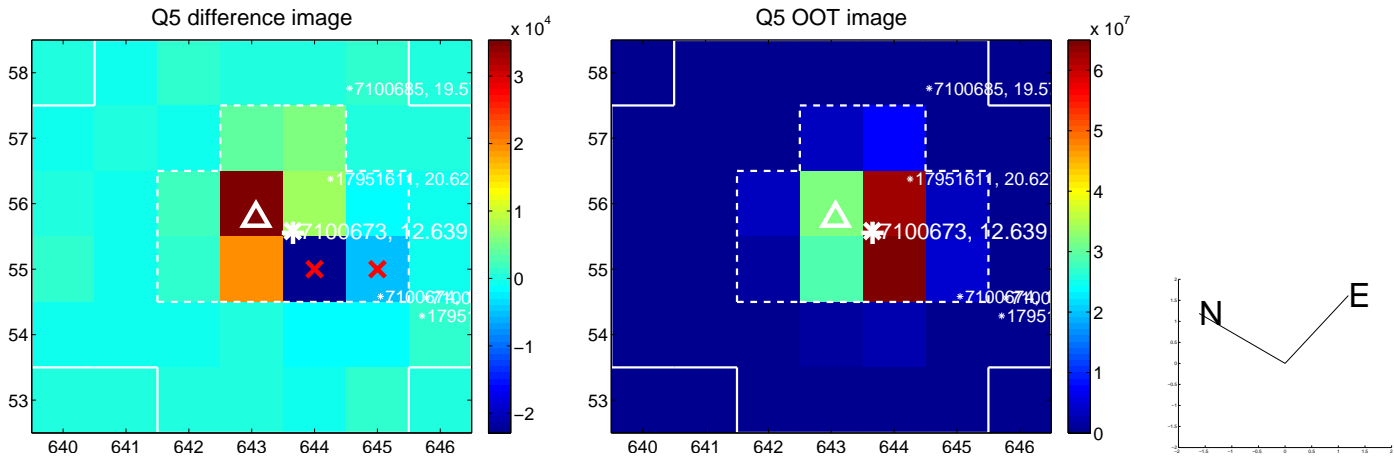


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

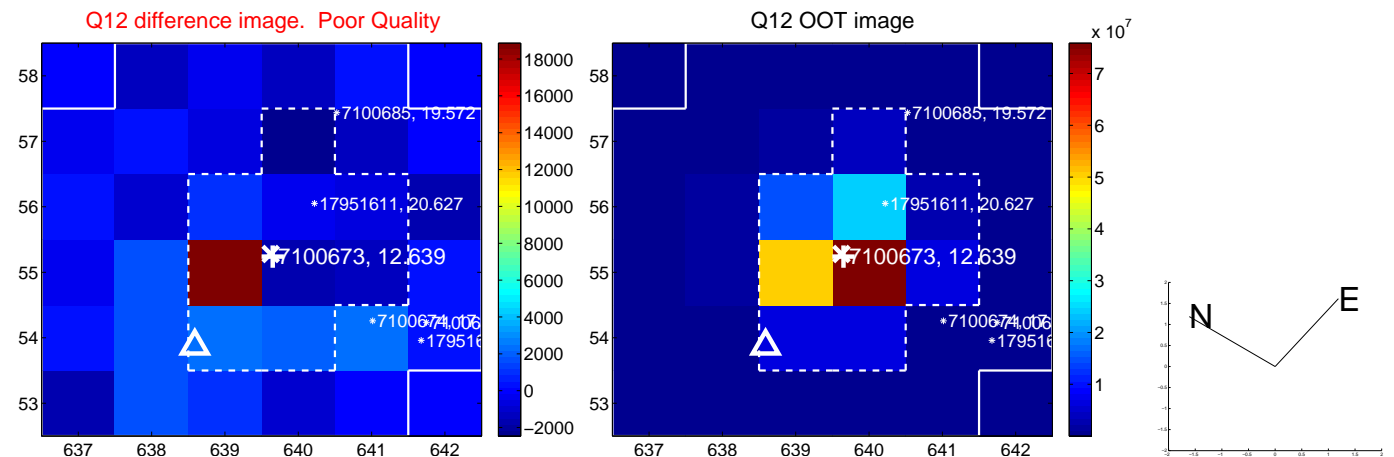
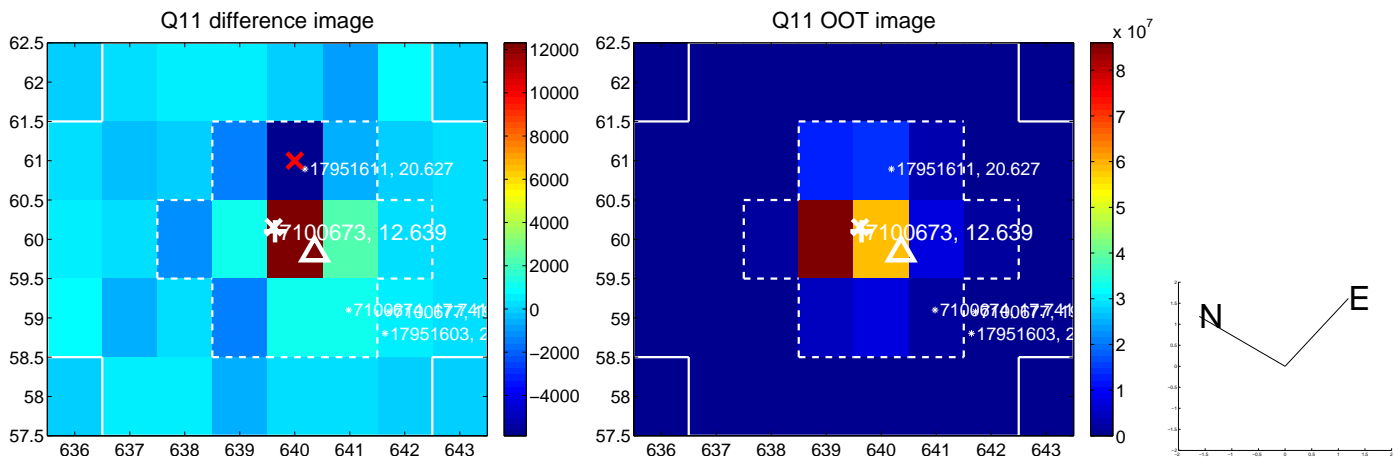
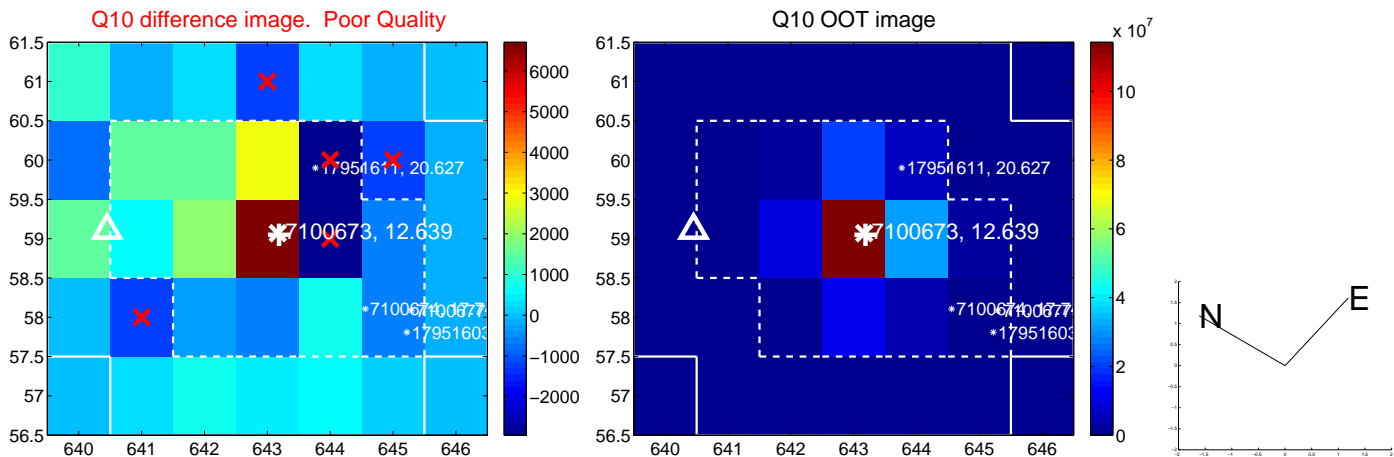
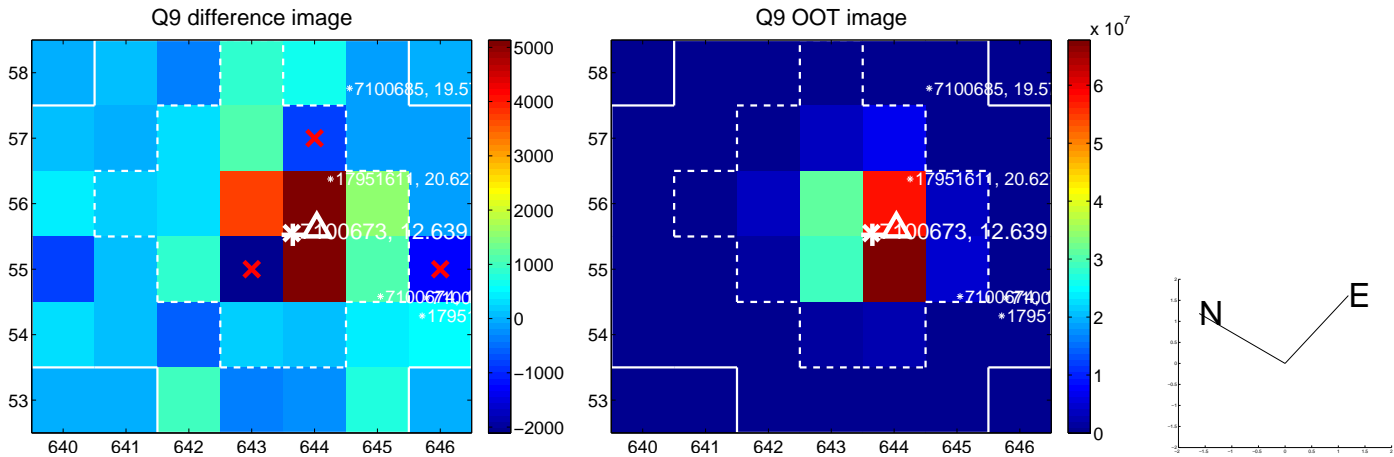
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



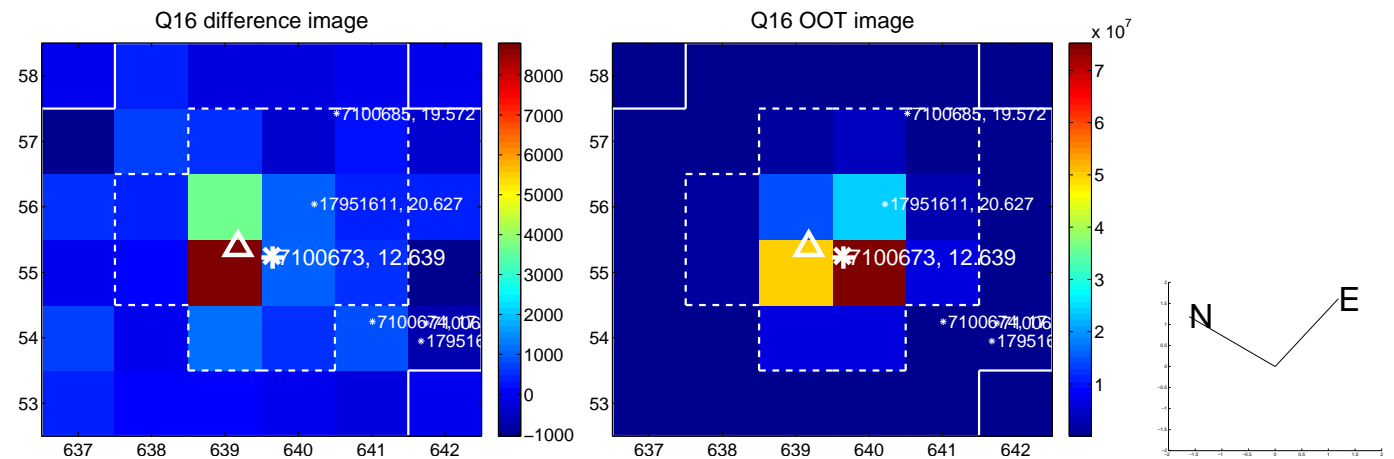
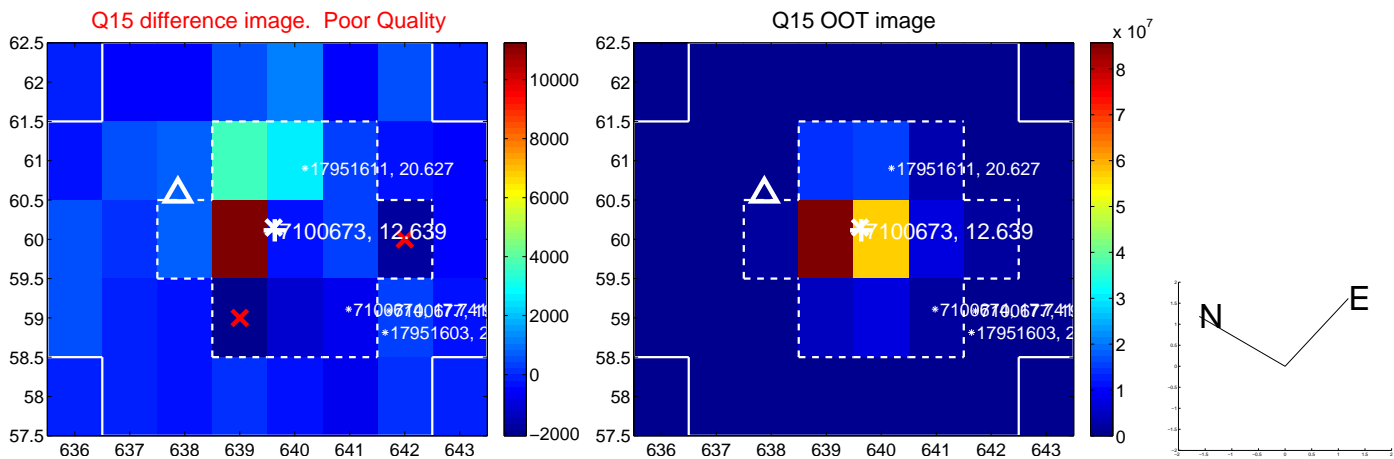
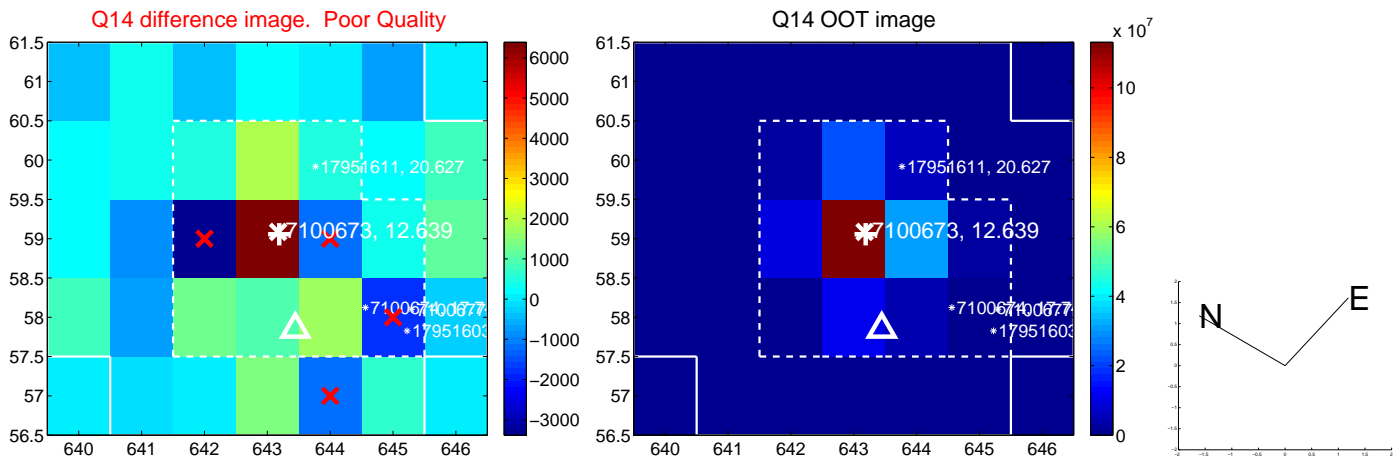
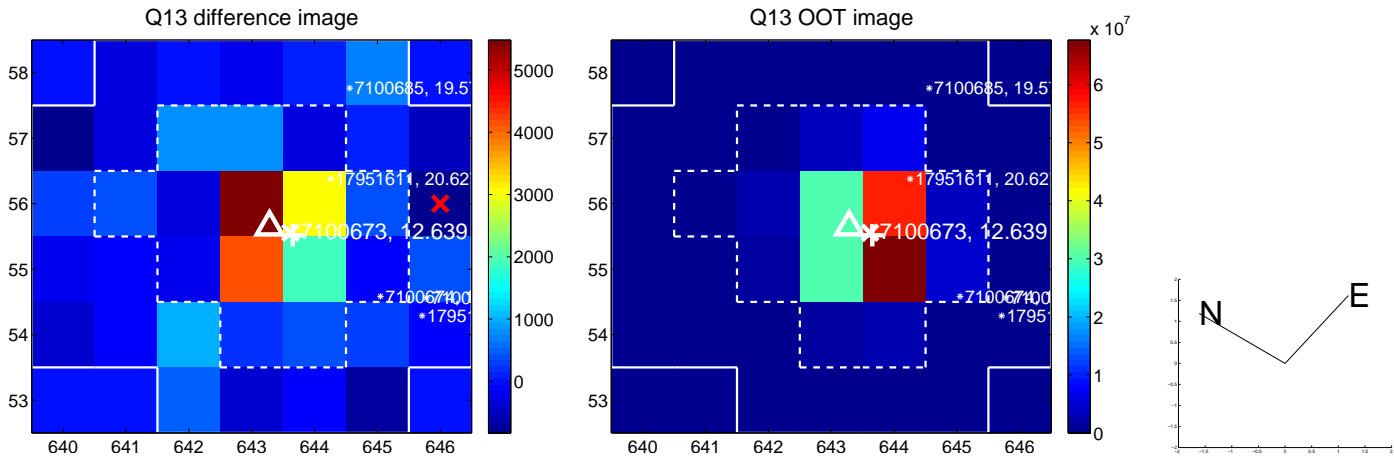
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

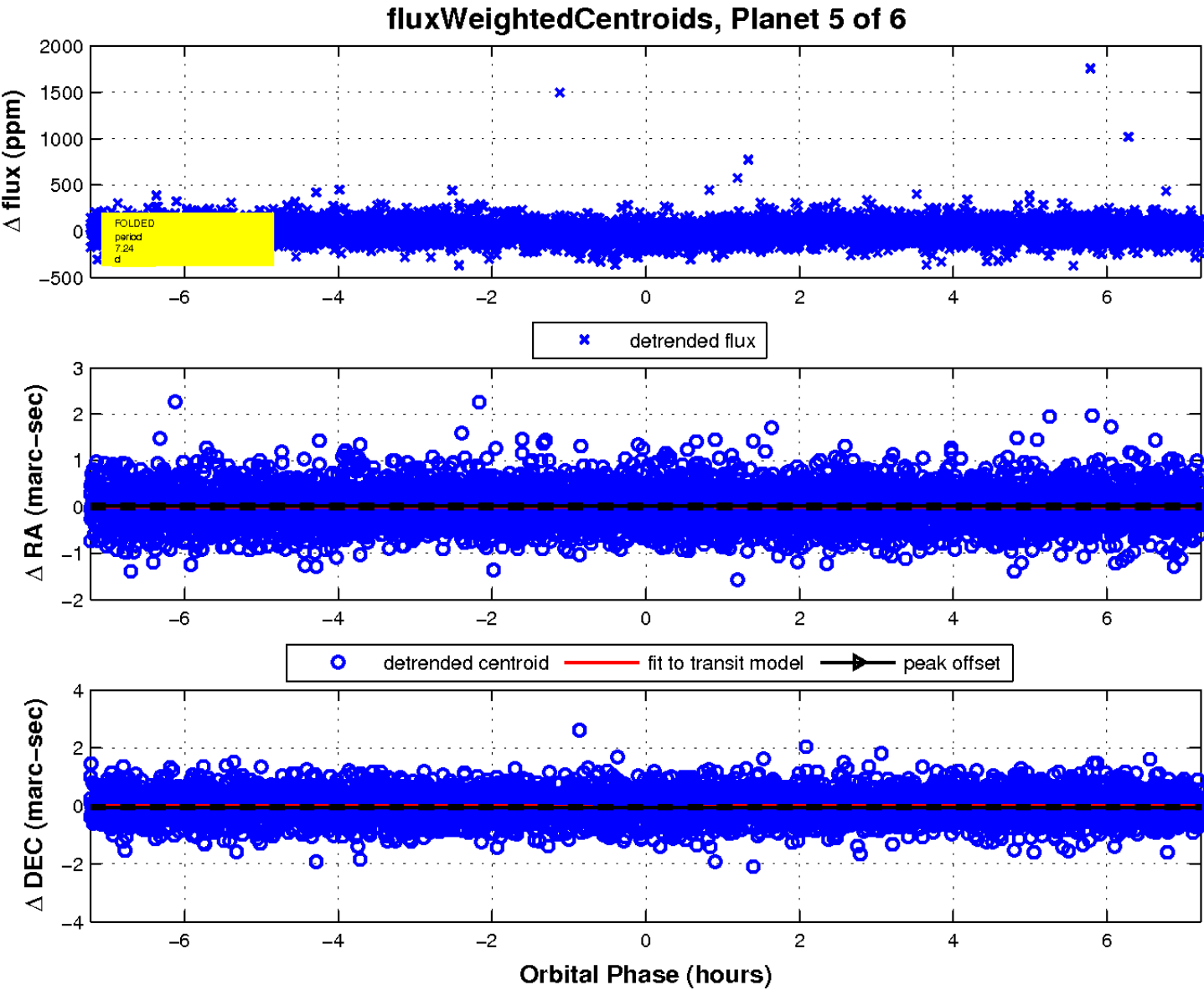
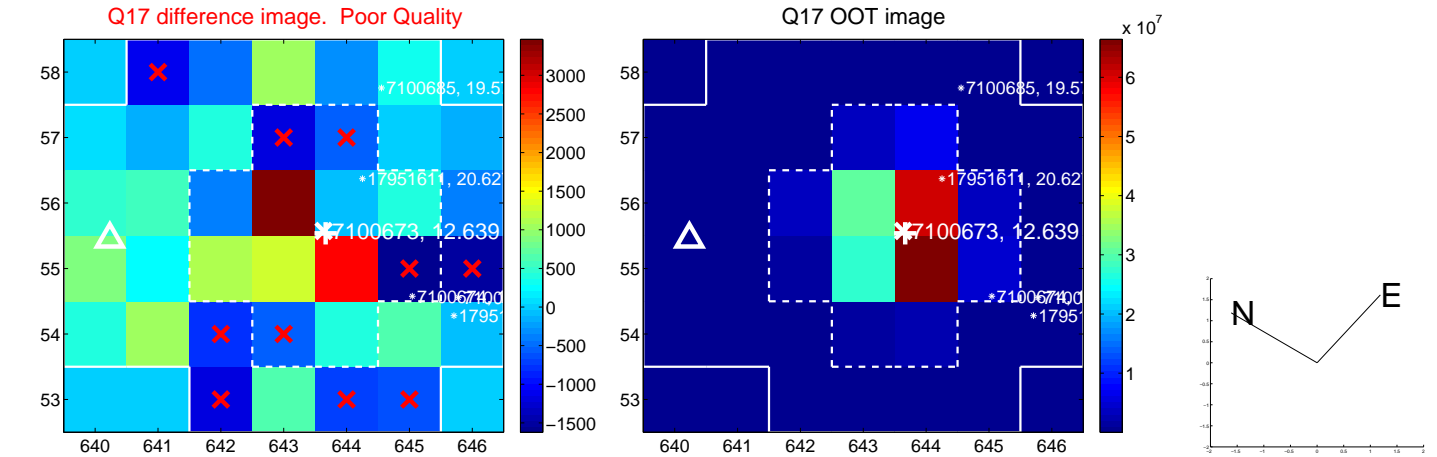


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



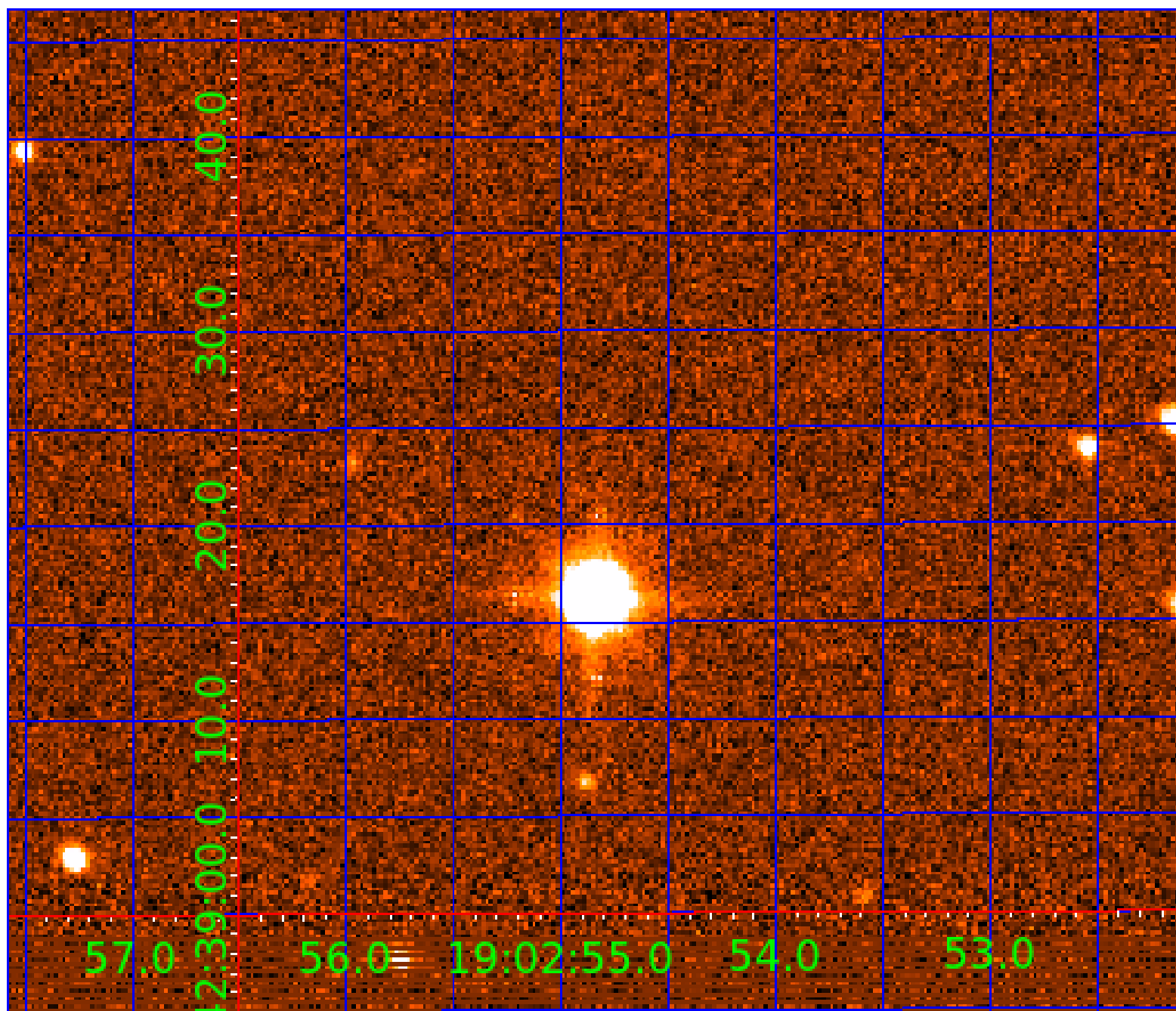


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007100673

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007100673-01	OBS	4032.01	3.951190	134.219141	63.7	2.715	16.4	19.5	1.06	5574	1.03	428.70
007100673-02	OBS	4032.04	5.101138	132.426934	66.3	2.827	14.8	17.8	1.06	5574	1.04	304.96
007100673-03	OBS	4032.03	5.992709	131.754307	70.9	2.676	15.1	16.7	1.06	5574	1.09	246.02
007100673-04	OBS	4032.02	2.892211	132.870091	43.3	2.709	13.2	14.8	1.06	5574	0.81	649.86
007100673-05	OBS	4032.05	7.235231	135.236012	55.4	2.409	9.0	10.5	1.06	5574	0.88	191.36
007100673-06	OBS	No	273.562429	141.345920	104.4	15.266	8.2	5.2	1.06	5574	1.23	1.51

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007100673-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-03	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007100673-04	OBS	PC	0.99	0	0	0	0	NO_COMMENT
007100673-05	OBS	PC	0.79	0	0	0	0	NO_COMMENT
007100673-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

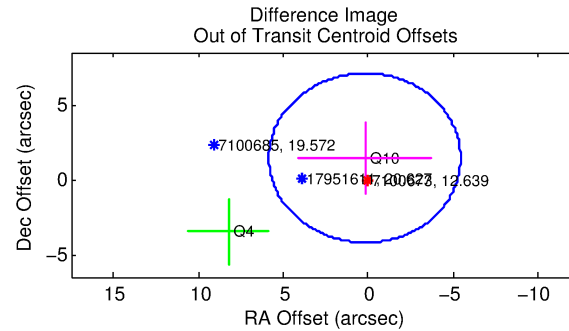
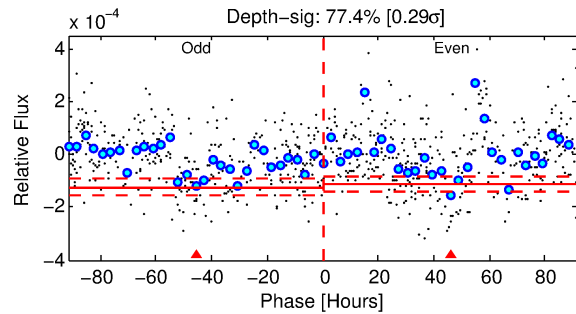
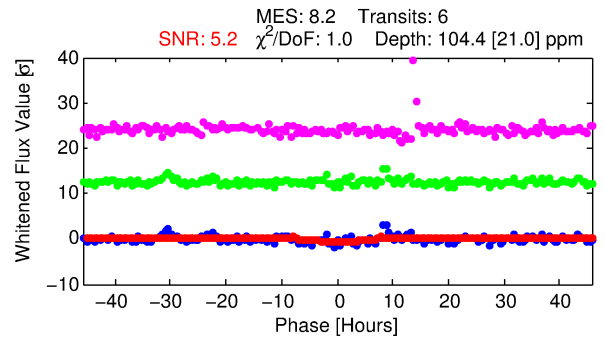
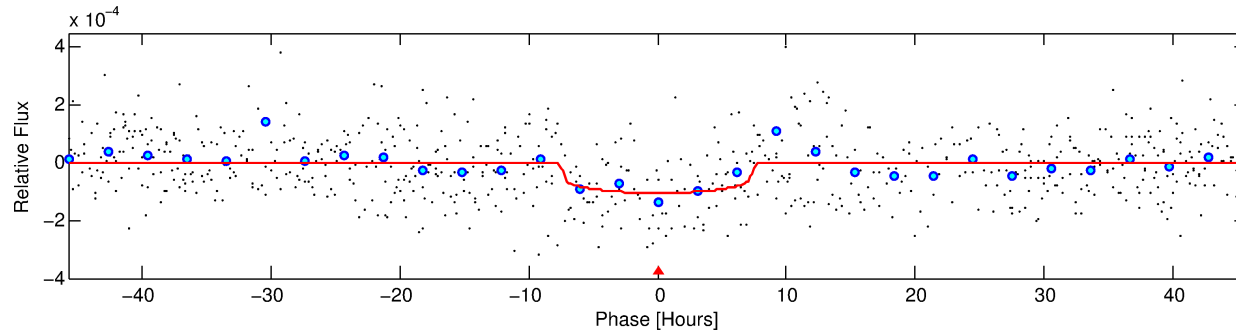
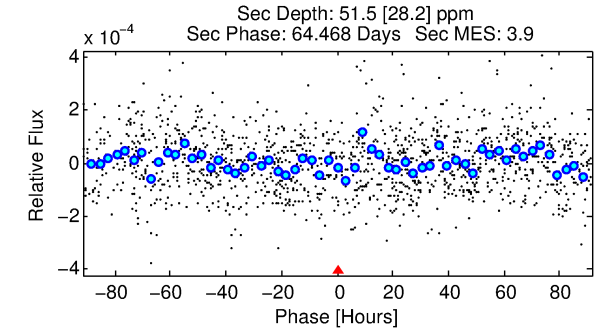
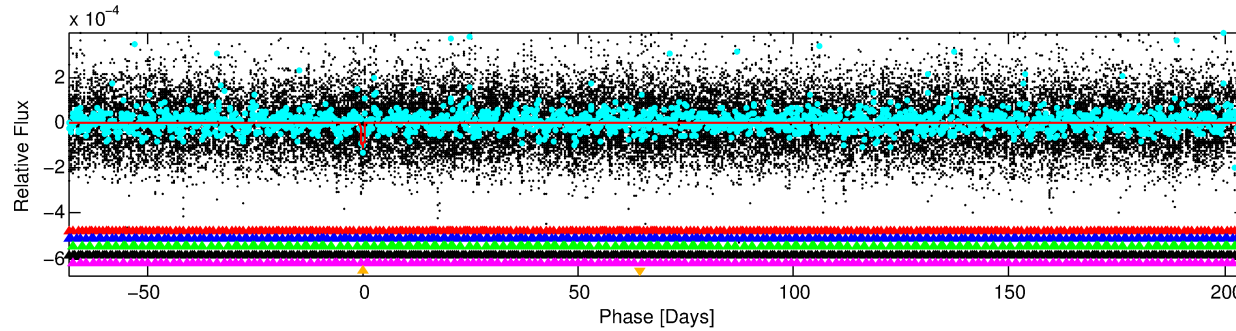
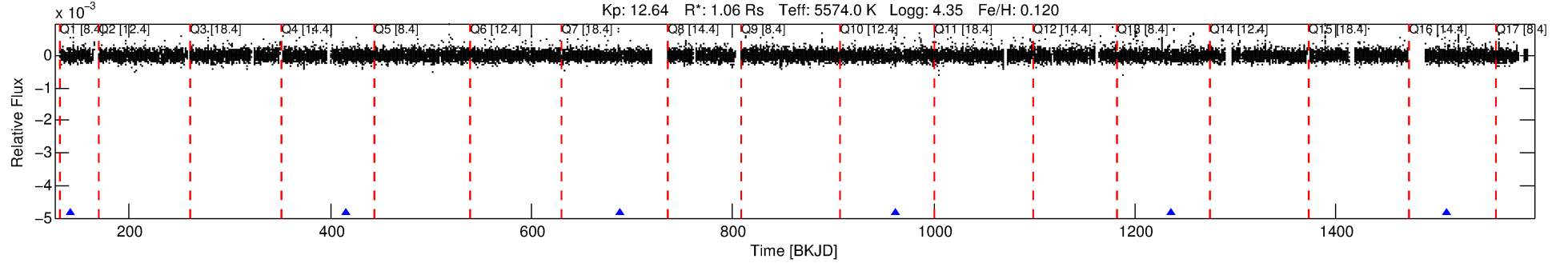
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007100673-06

No Significant Match Found

# DV One-Page Summary

KIC: 7100673 Candidate: 6 of 6 Period: 273.562 d  
KOI: K04032 Corr: No Ephemeris Match



## DV Fit Results:

Period = 273.56243 [0.01030] d  
Epoch = 141.3459 [0.0295] BKJD  
Rp/R\* = 0.0106 [0.0050]  
a/R\* = 79.37 [159.28]  
b = 0.83 [0.77]  
Seff = 1.51 [0.36]  
Teq = 283 [17] K  
Rp = 1.23 [0.61] Re  
a = 0.8066 [0.1171] AU  
Ag = 12179.74 [13613.53] [0.89σ]  
Teffp = 4590 [1259] K [3.42σ]

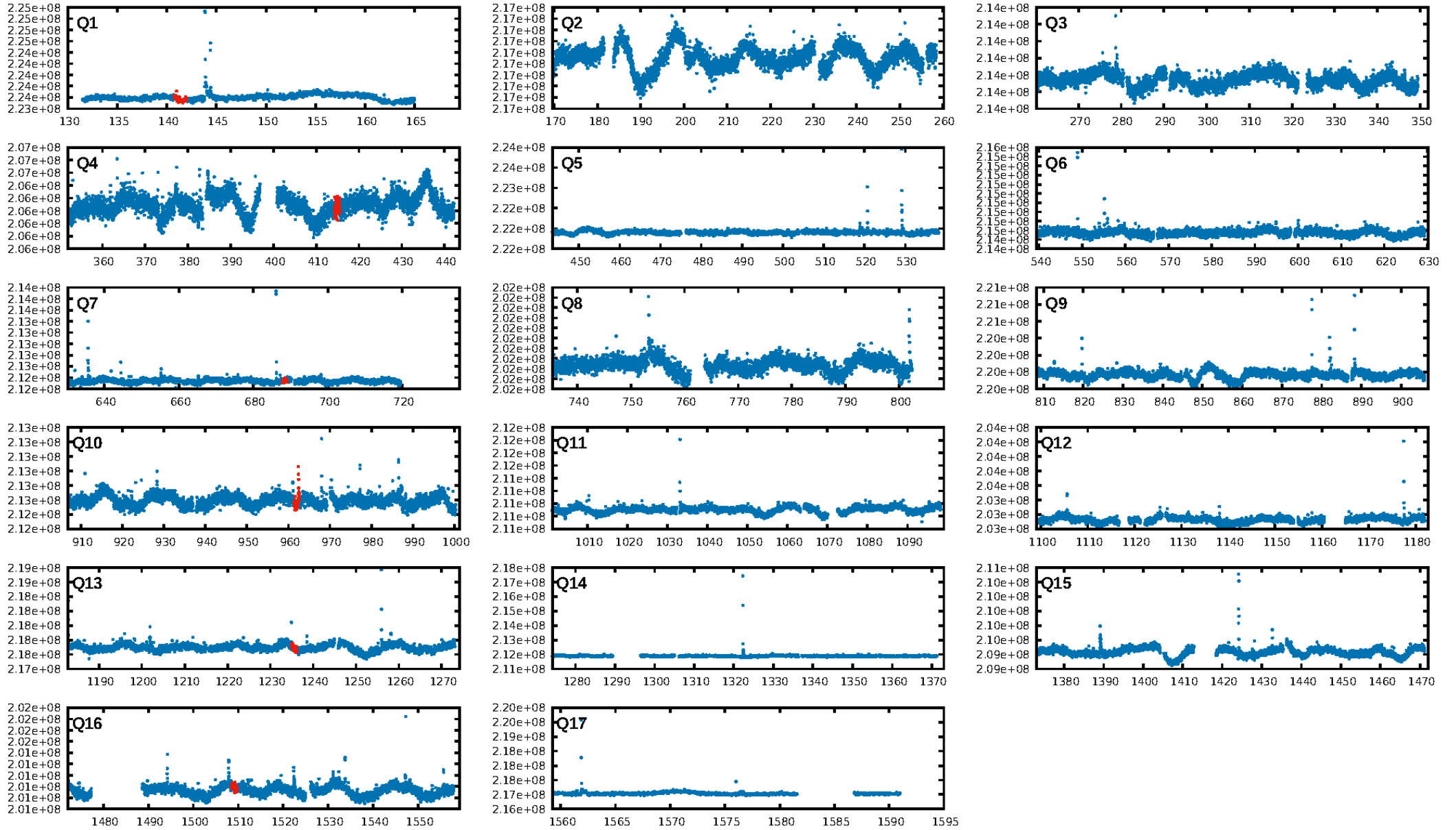
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [413.58σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 3.4%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.23e-11  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: -0.6285  
Centroid-sig: 29.9%  
Centroid-so: 1.104 arcsec [0.91σ]  
OotOffset-rm: 1.457 arcsec [0.77σ]  
KicOffset-rm: 1.303 arcsec [1.09σ]  
OotOffset-st: 1/0/1/0 [2]  
KicOffset-st: 1/0/1/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 0.00 [0/5]

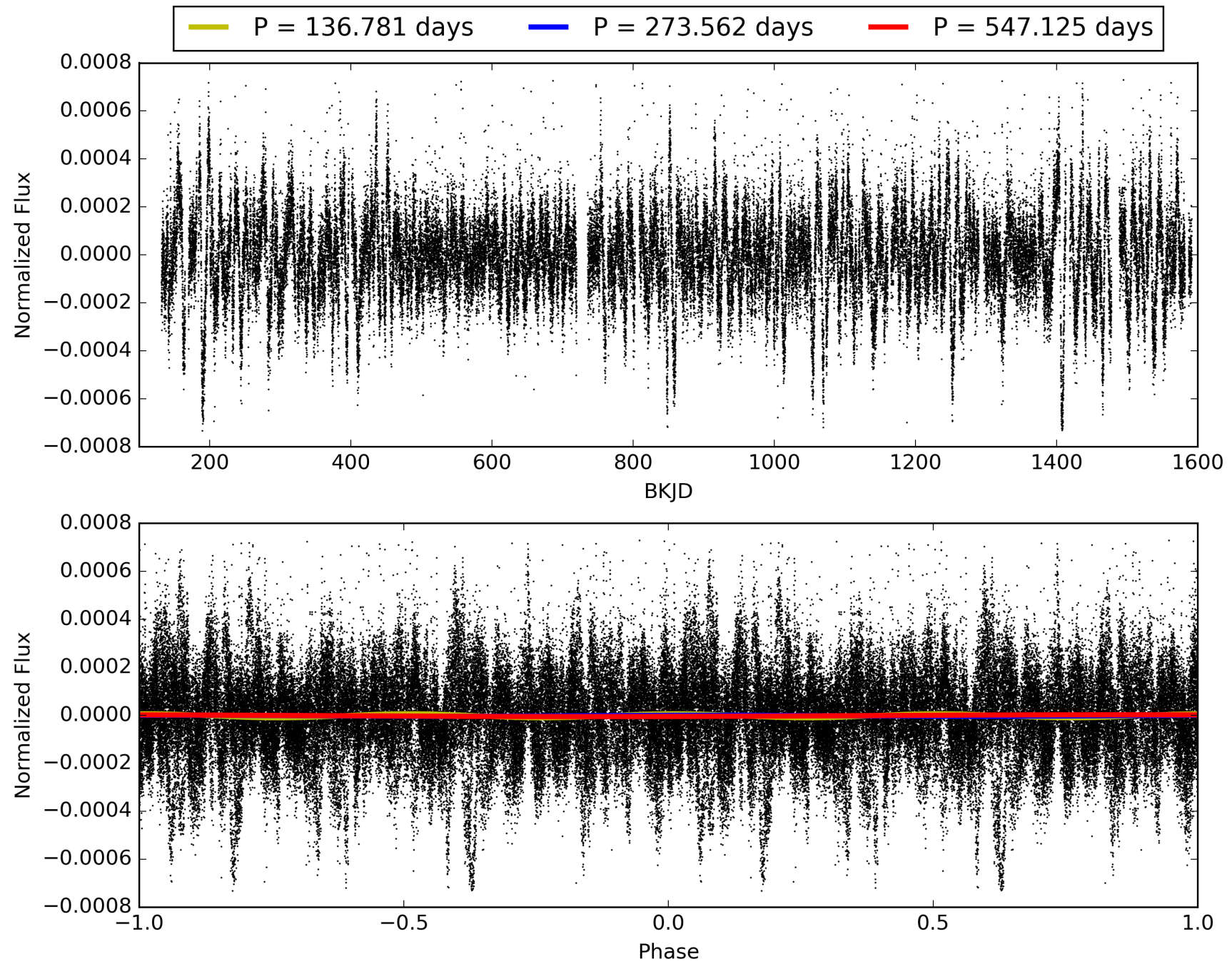
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:44:06 Z

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

# TCE 007100673-06, PDC Light Curves



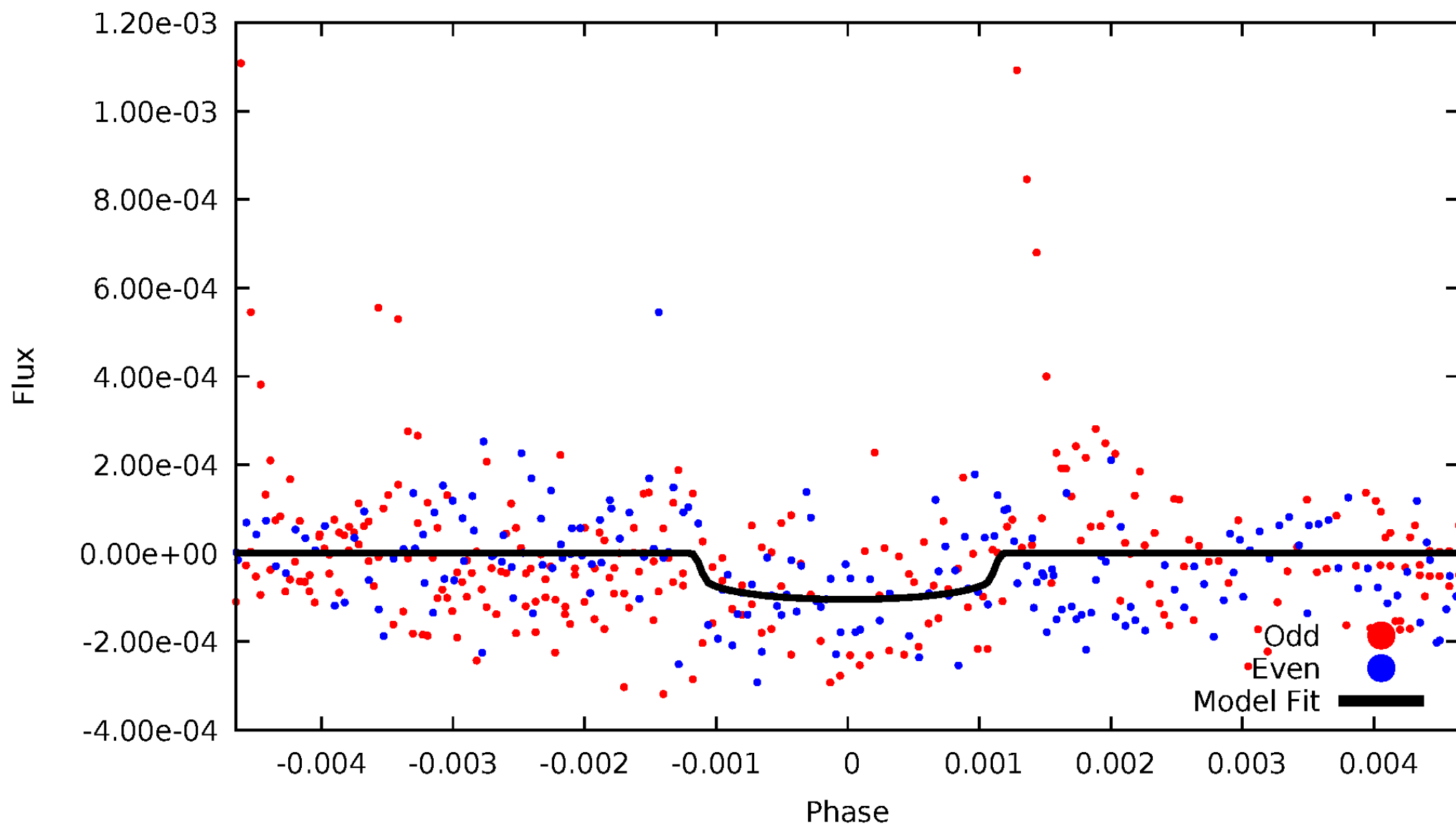
TCE 007100673-06





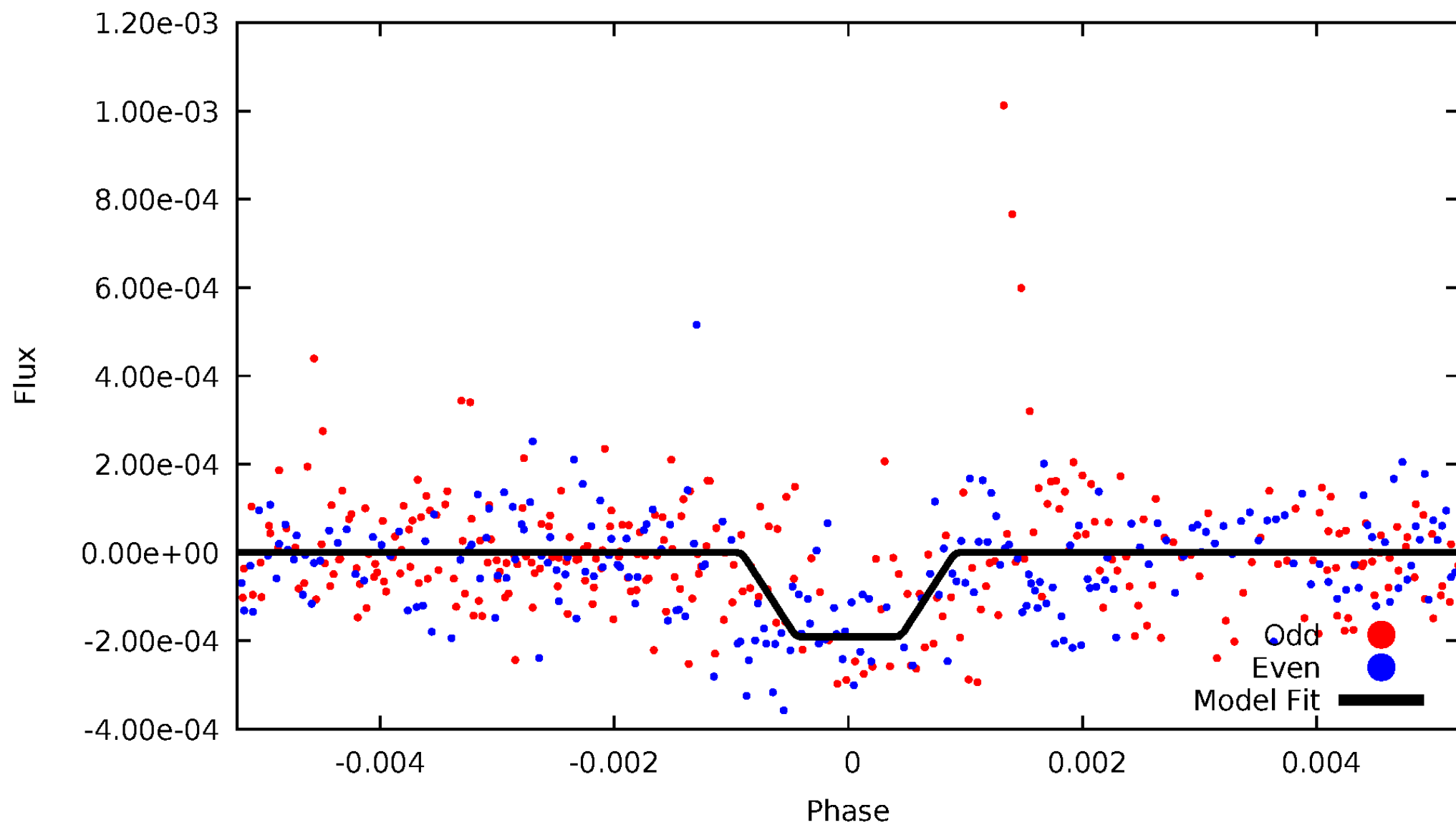
# DV Odd/Even

TCE 007100673-06



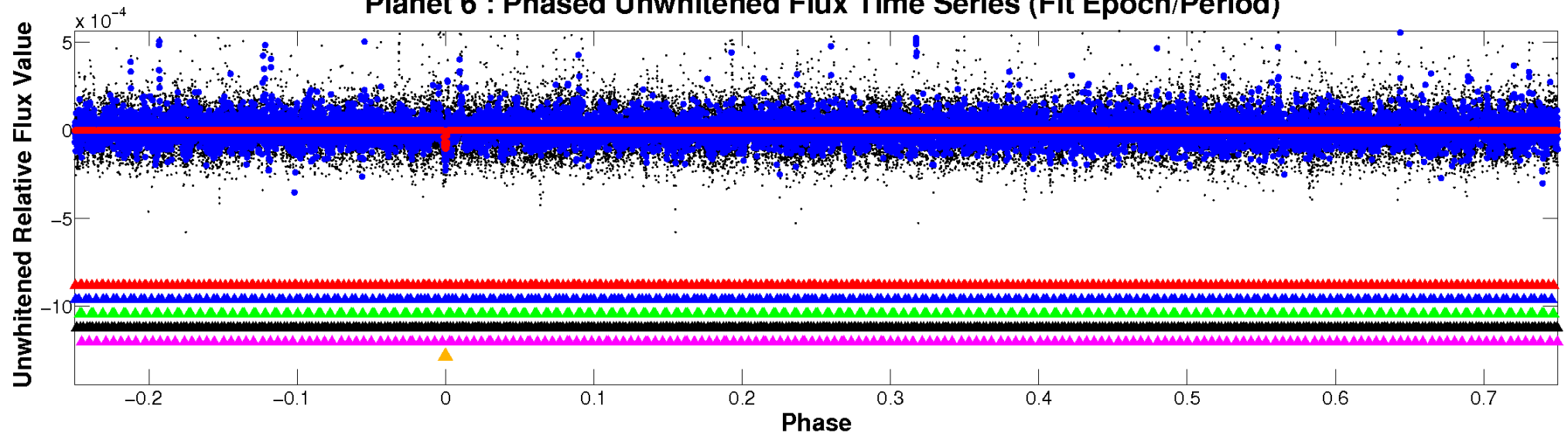
# ALT Odd/Even

TCE 007100673-06

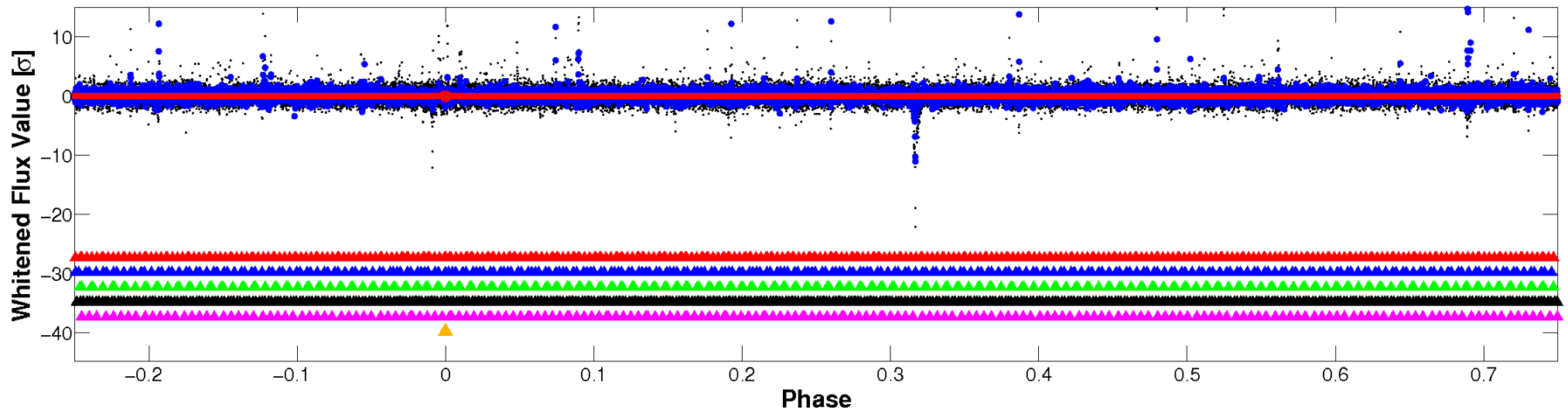


# Non-Whitened Vs. Whitened Light Curve

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

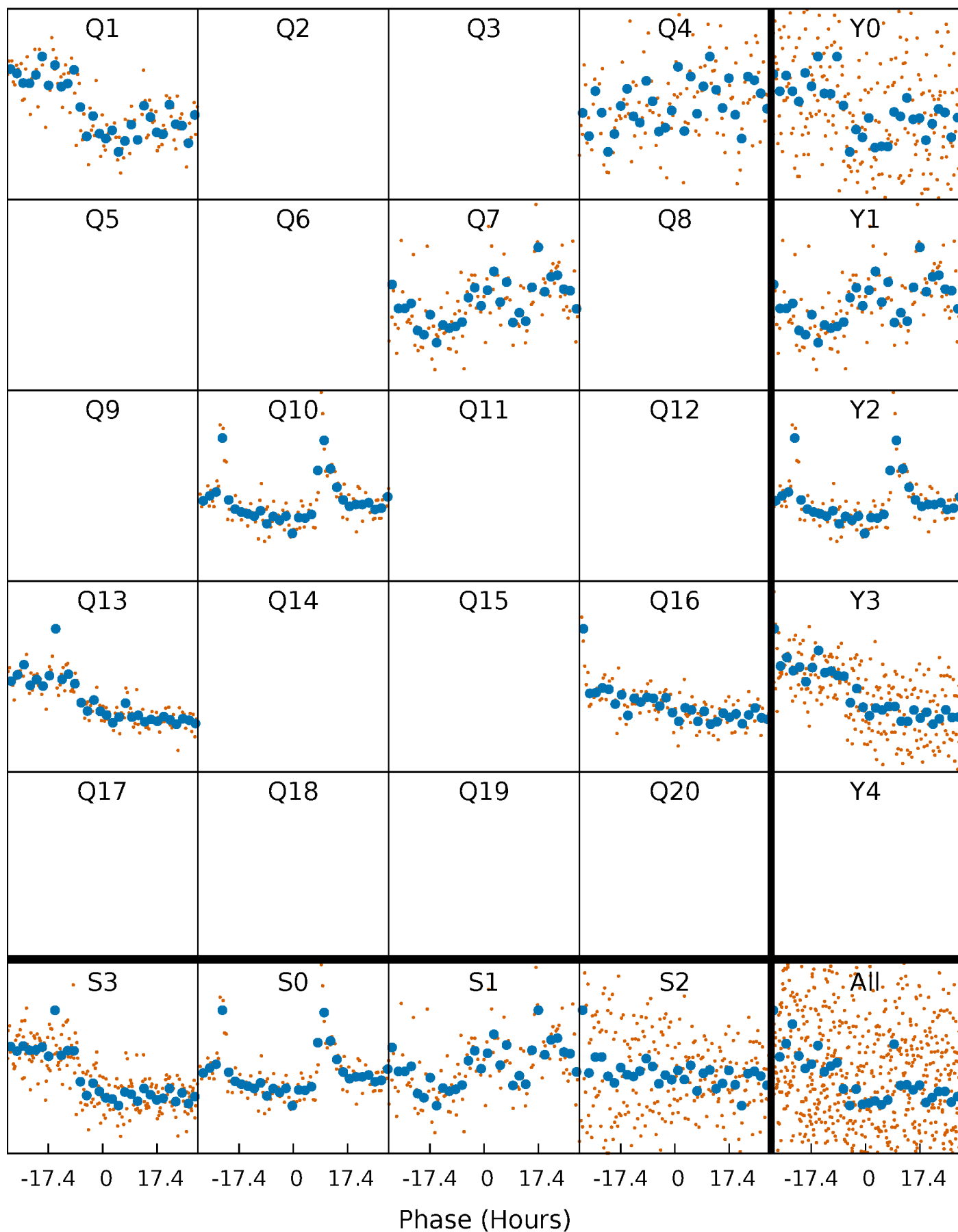


## Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



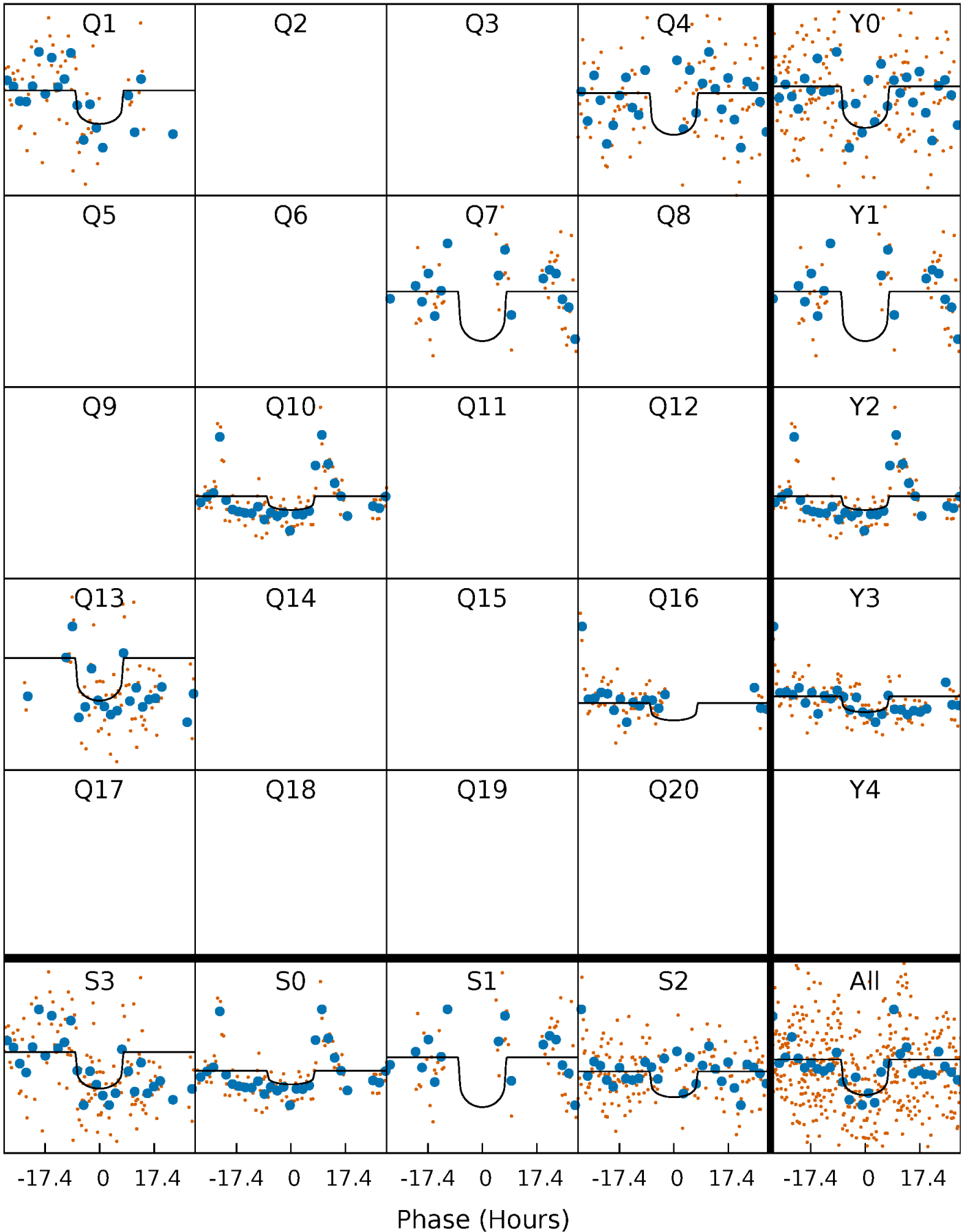
# PDC Quarter-Phased Transit Curves

TCE 007100673-06 P=273.562429 Days  $T_0=141.345920$  (BKJD)



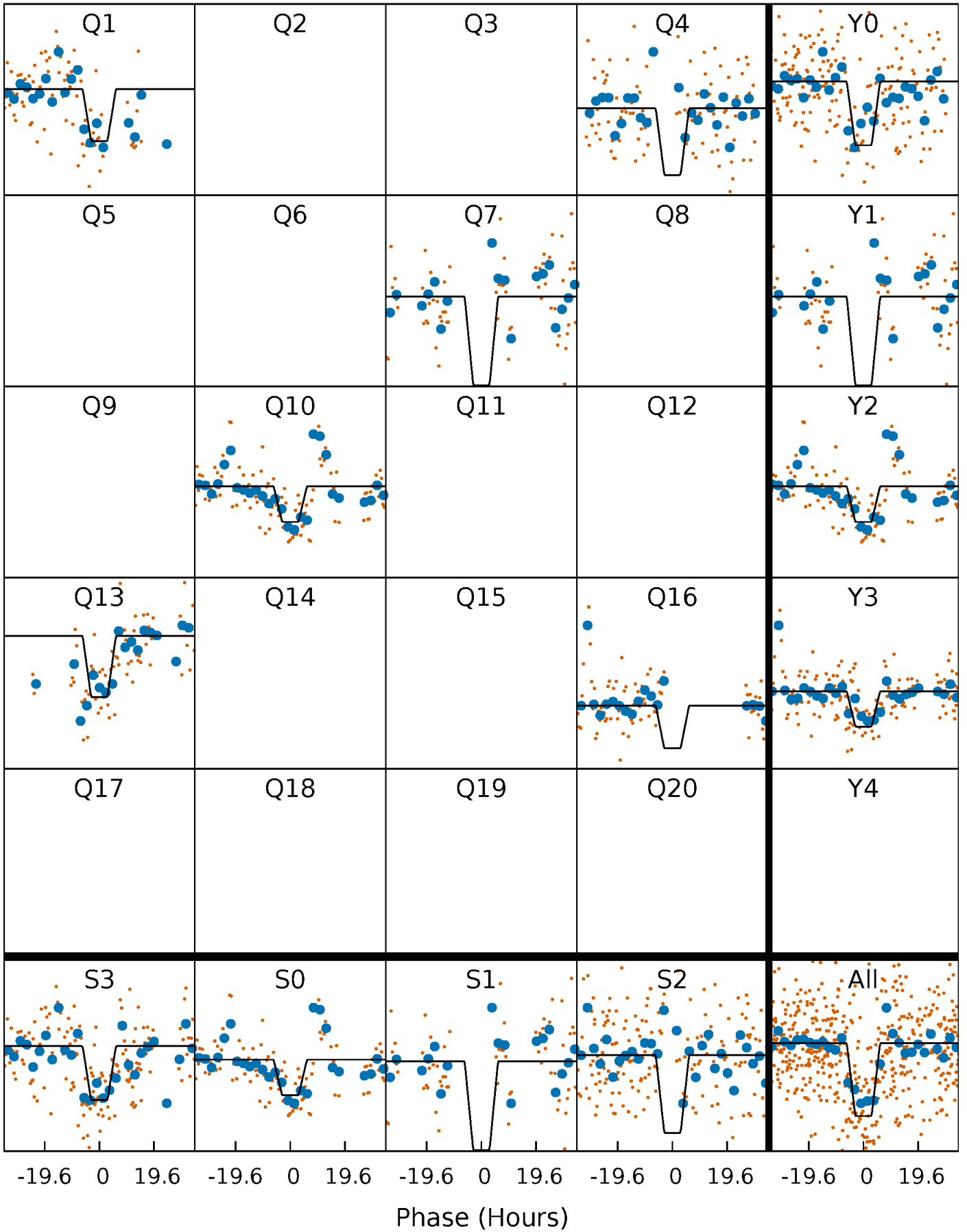
# DV Quarter-Phased Transit Curves

TCE 007100673-06 P=273.562429 Days  $T_0=141.345920$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007100673-06 P=273.571312 Days  $T_0=141.308371$  (BKJD)

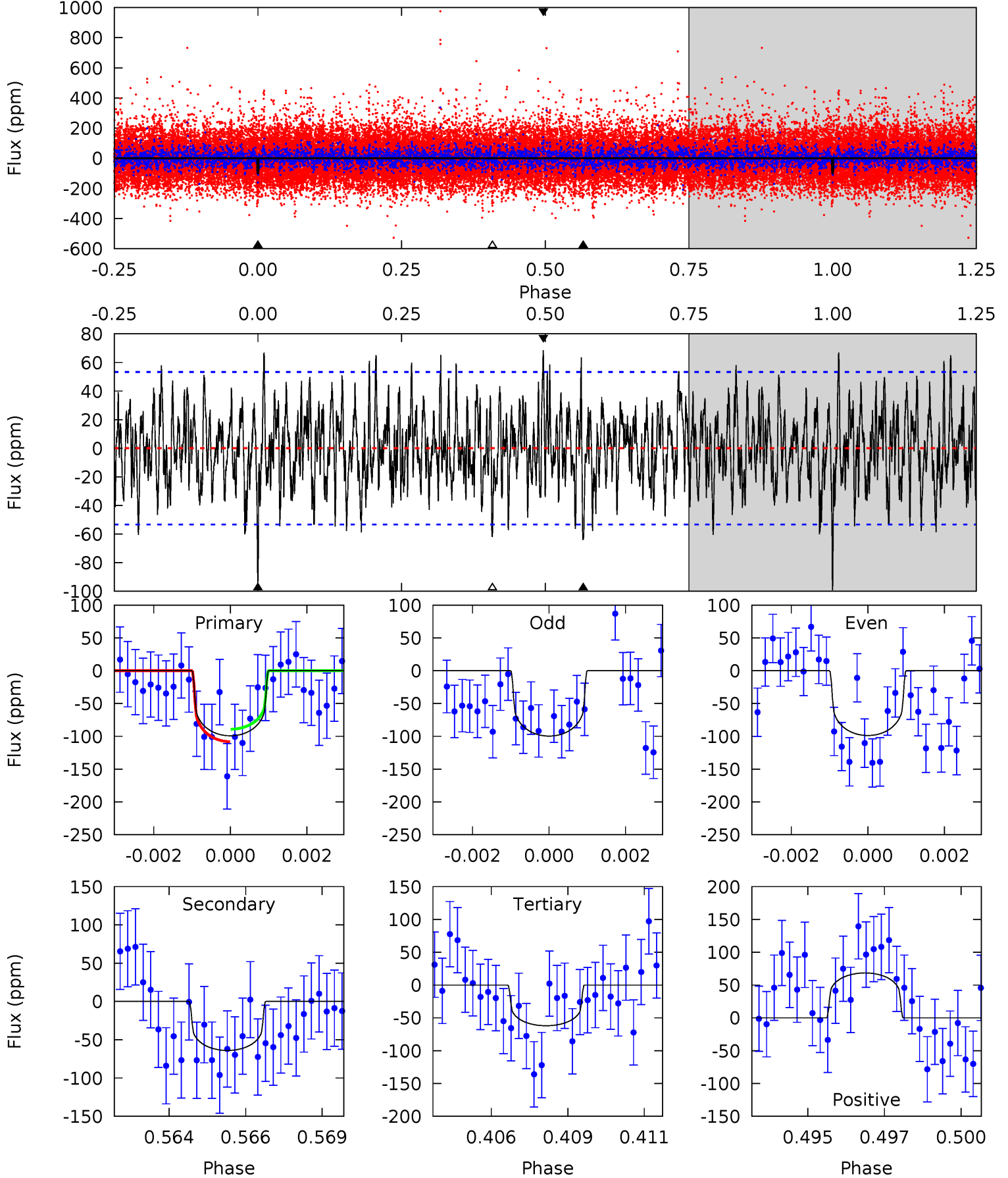




# DV Model-Shift Uniqueness Test

007100673-06, P = 273.562429 Days, E = 141.345920 Days

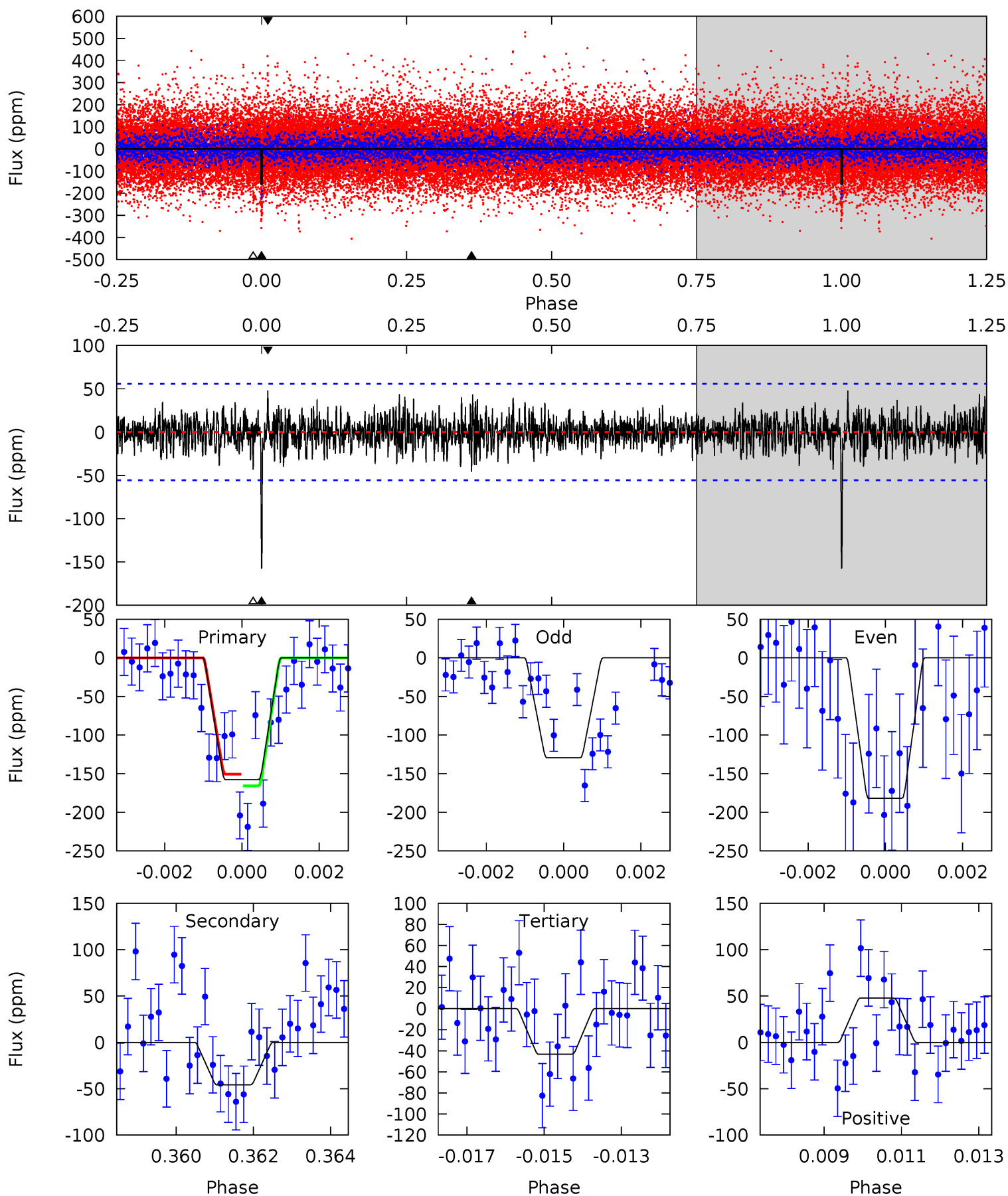
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.85	6.35	6.15	6.79	5.29	3.04	2.20	3.69	3.06	0.20	-0.44	0.04	0.94	0.41	0.94



# Alt Model-Shift Uniqueness Test

007100673-06, P = 273.571312 Days, E = 141.308371 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
15.1	4.40	4.15	4.58	5.34	3.11	1.24	11.0	10.5	0.25	-0.18	2.48	0.36	0.23	0.72



### Stellar Parameters For KIC 007100673

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5574^{+111}_{-100}$	$4.354^{+0.132}_{-0.108}$	$0.120^{+0.150}_{-0.150}$	$1.065^{+0.166}_{-0.150}$	$0.933^{+0.067}_{-0.053}$	$1.089^{+0.601}_{-0.328}$
	+2%/-2%	+3%/-2%	+125%/-125%	+16%/-14%	+7%/-6%	+55%/-30%
Source	SPE59	SPE59	SPE59	DSEP		

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

### Secondary Eclipse Parameters for KIC 007100673-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-64 \pm 10$	$1.28^{+0.56}_{-0.57}$	$393^{+17}_{-17}$	$4813^{+1540}_{-622}$	$13731^{+30609}_{-7087}$
Alt.	$-46 \pm 10$	$1.59^{+0.61}_{-0.59}$	$394^{+18}_{-18}$	$4175^{+796}_{-489}$	$6598^{+9888}_{-3404}$

$T_{\text{max}}$  = 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

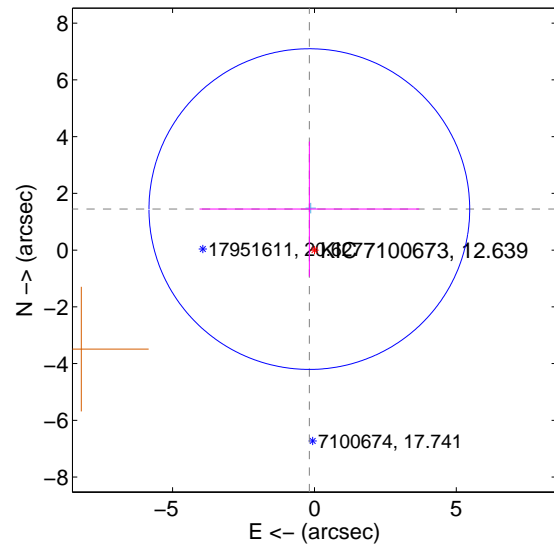
Supplemental centroid analysis for 007100673-06. Kepler magnitude: 12.64. Transit SNR 5.25

There are 1 quarters with good PRF difference image offsets

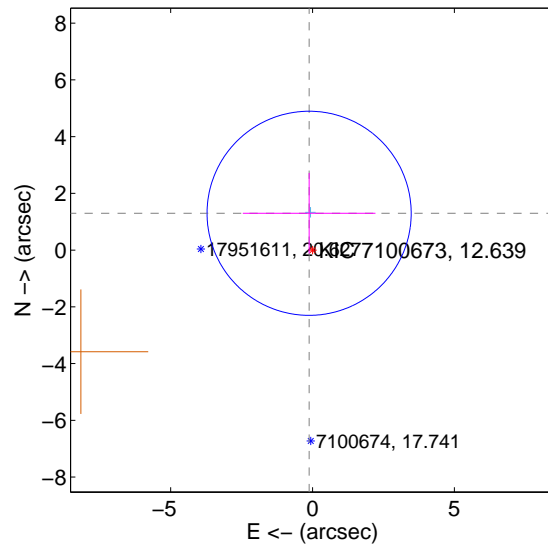
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.457 \pm 1.884$	0.77	$0.180 \pm 3.871$	$1.445 \pm 2.380$
PRF-fit source offset from KIC position	$1.303 \pm 1.199$	1.09	$0.120 \pm 2.336$	$1.297 \pm 1.420$
photometric centroid source offset	$1.10 \pm 1.21$	0.91	$0.48 \pm 1.12$	$-0.99 \pm 1.23$

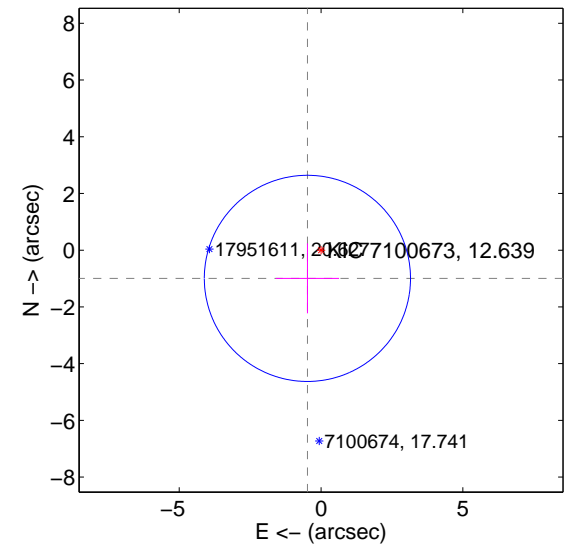
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

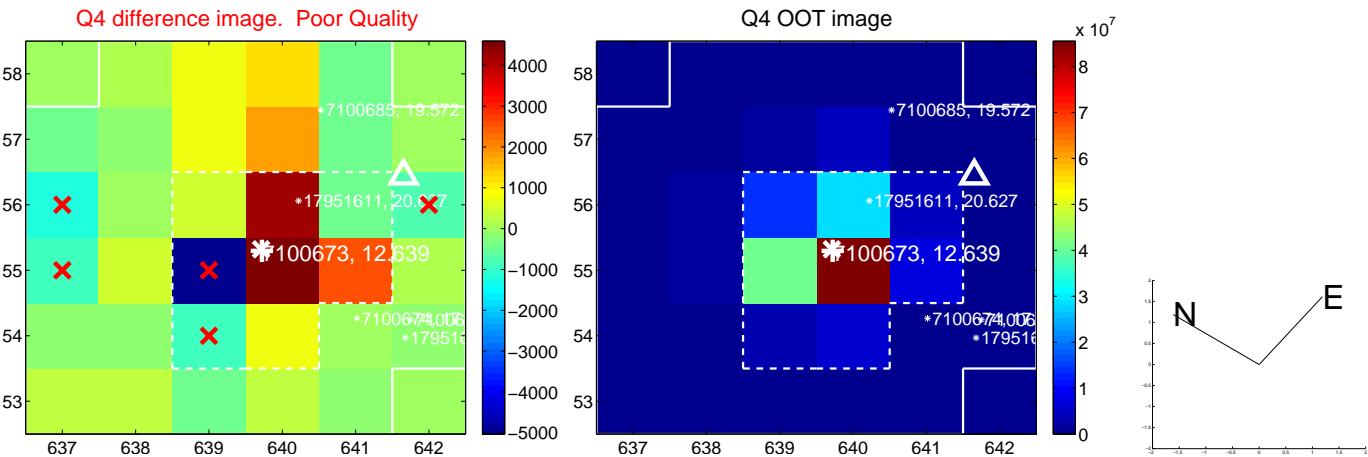
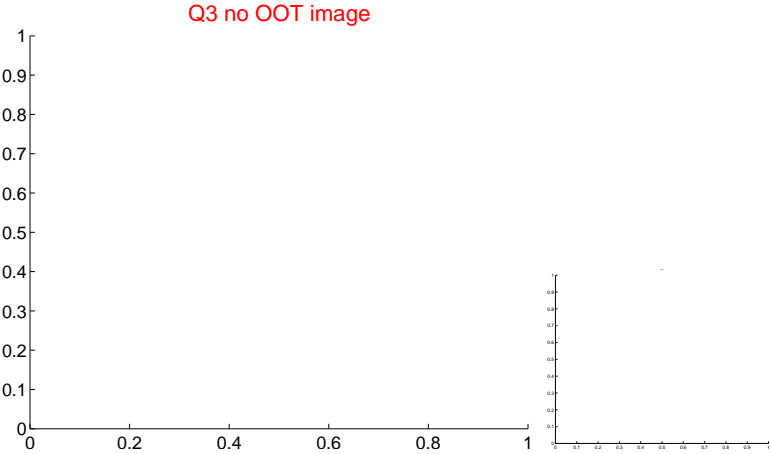
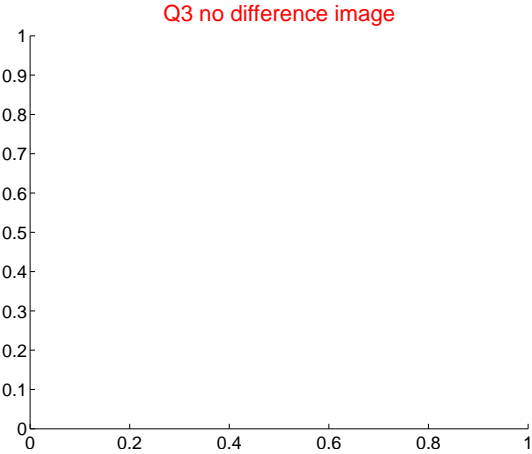
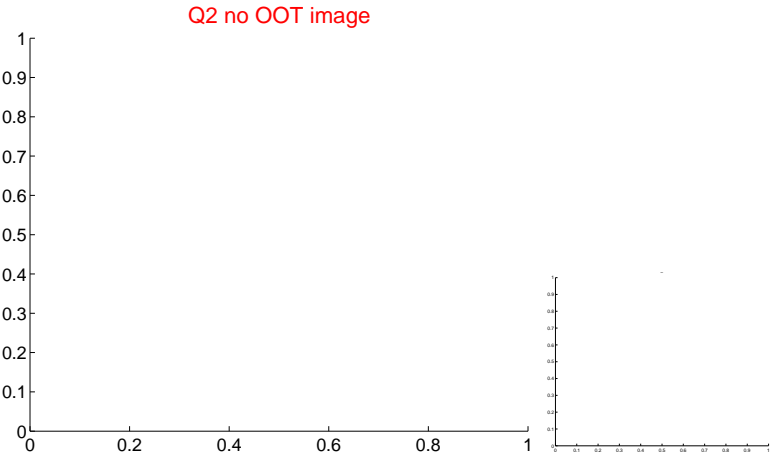
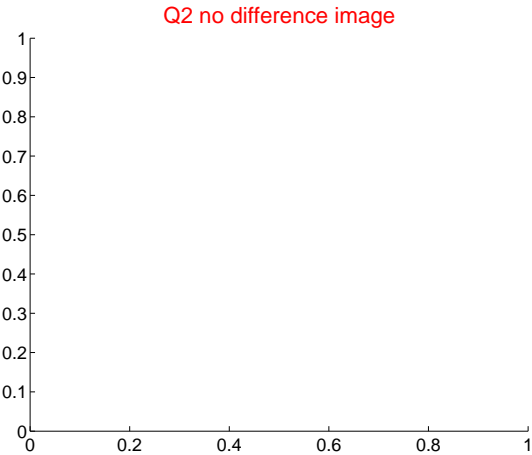
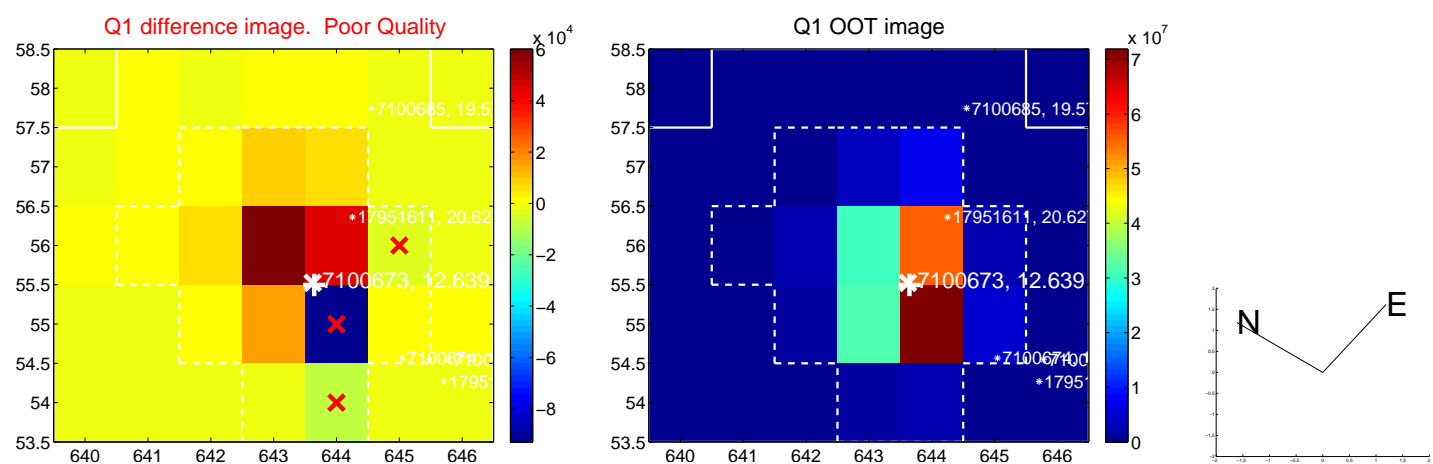


offset from photometric centroids

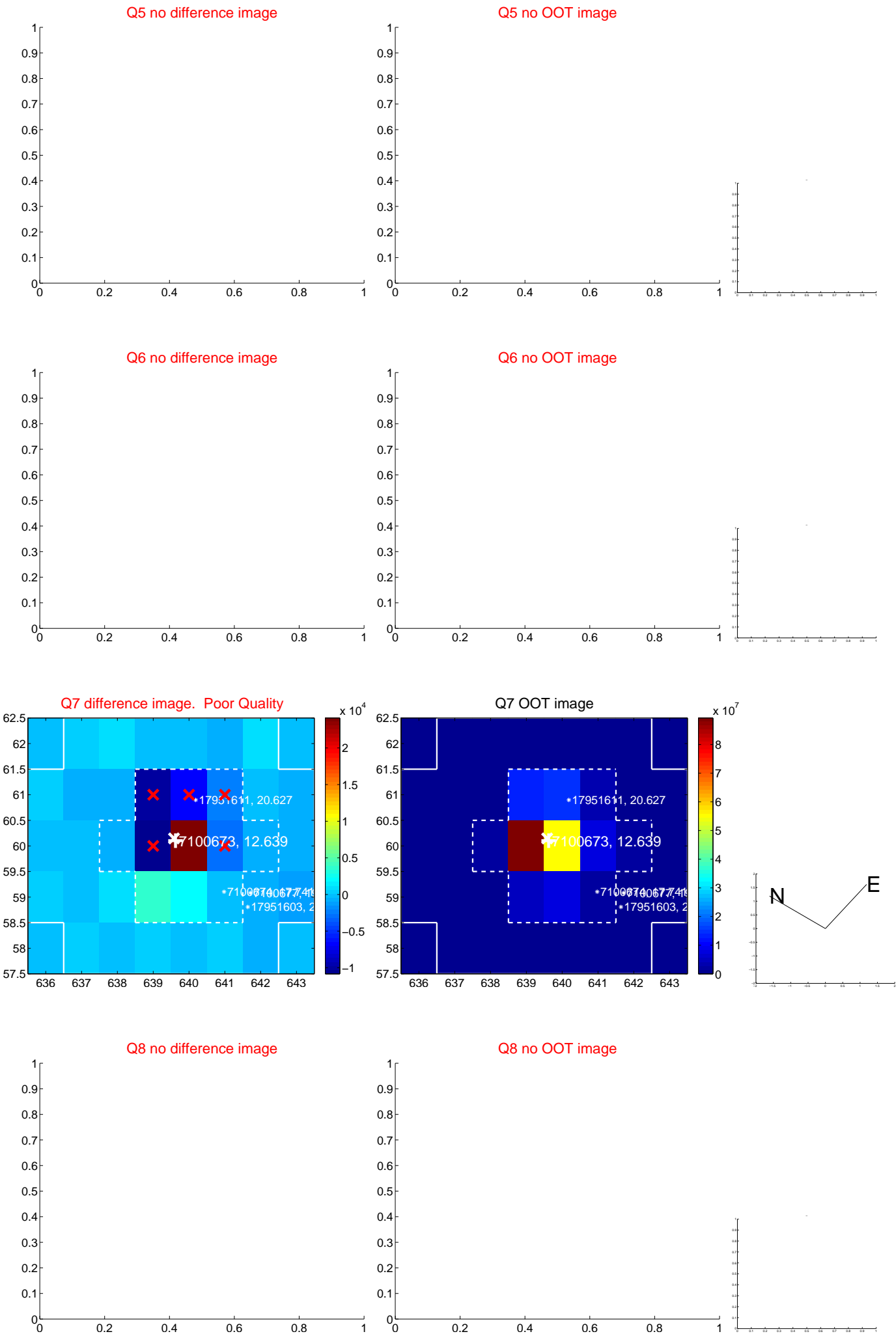


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

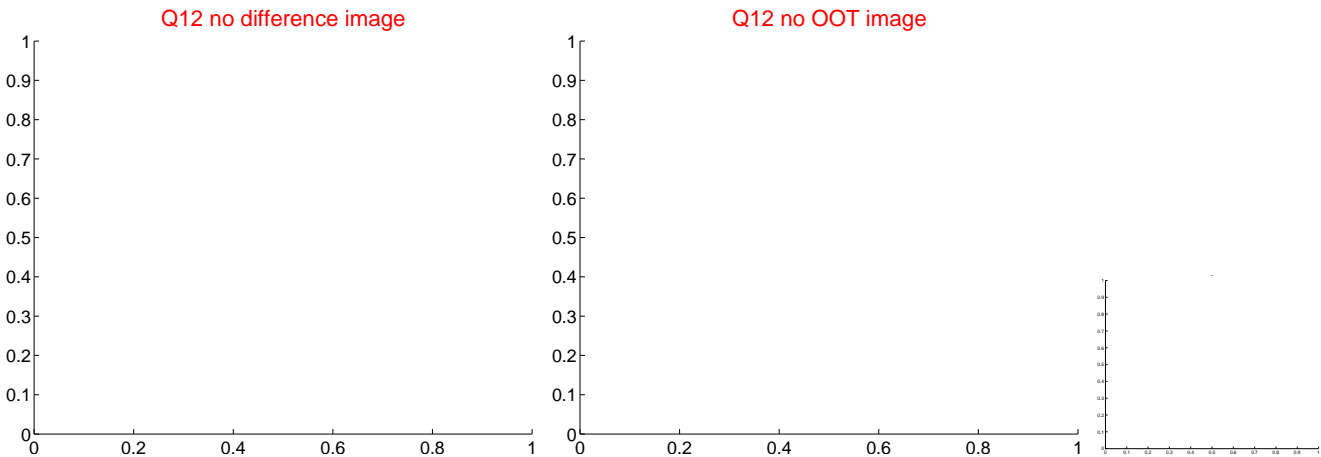
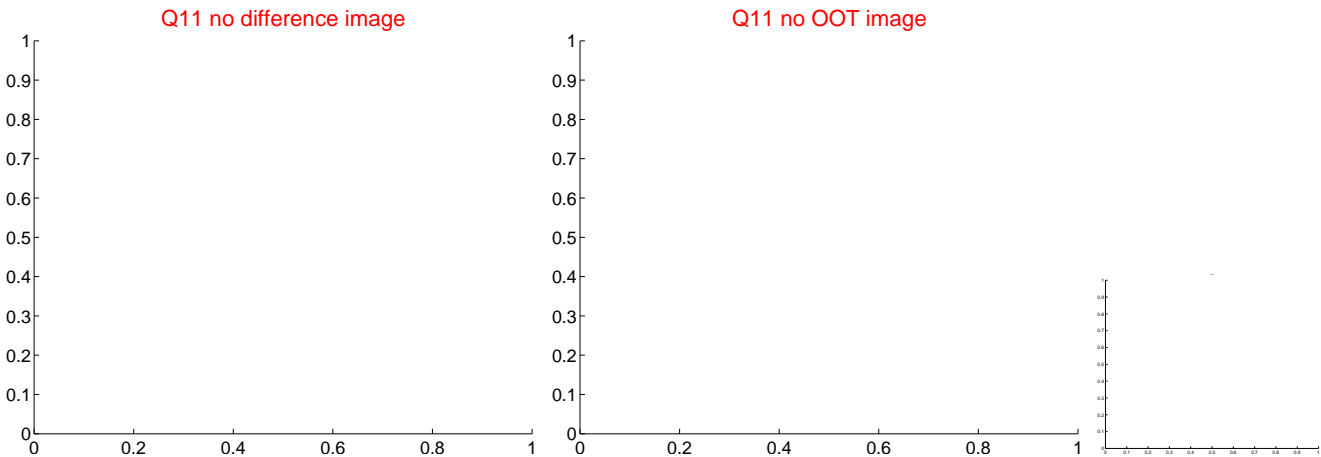
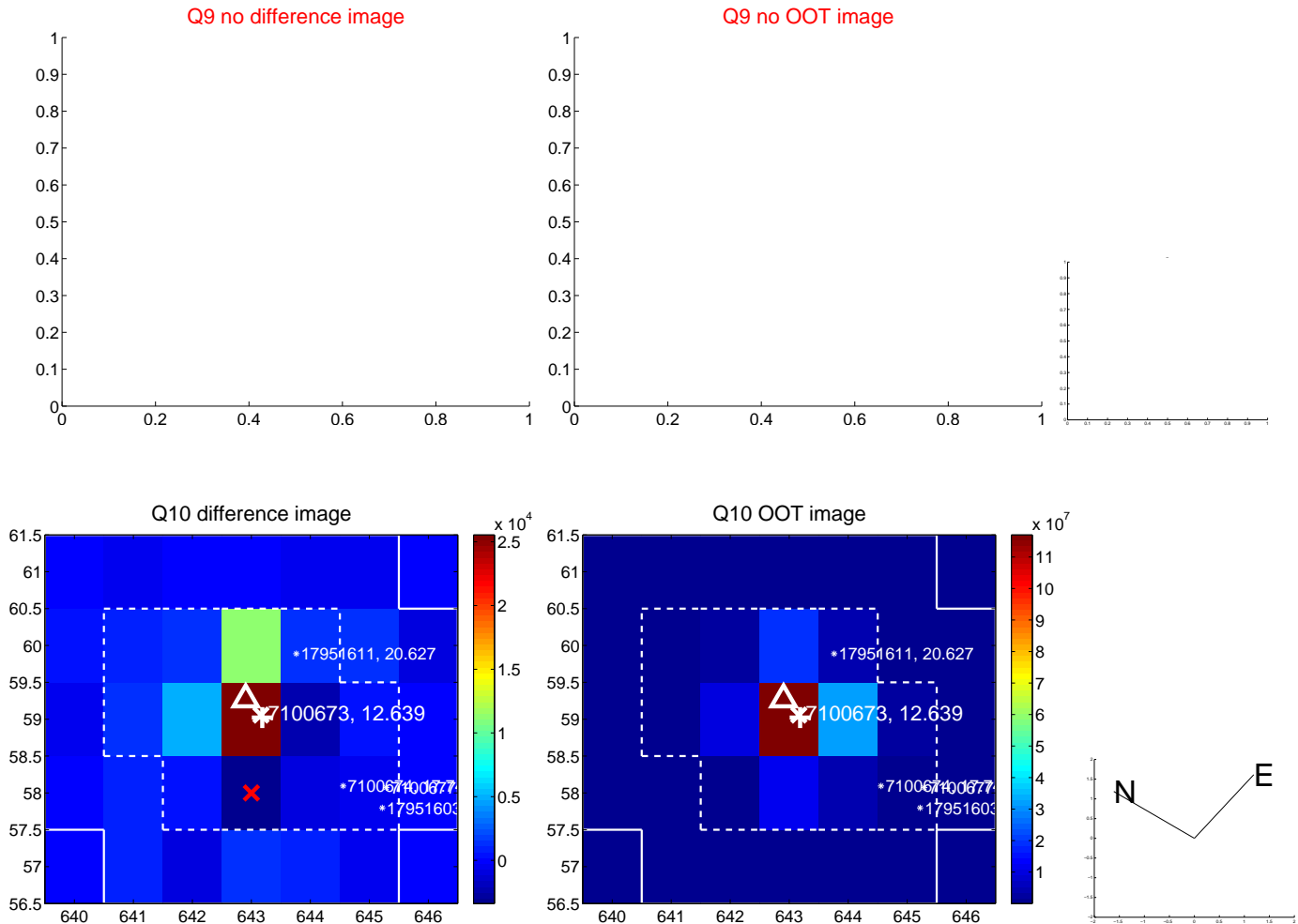


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

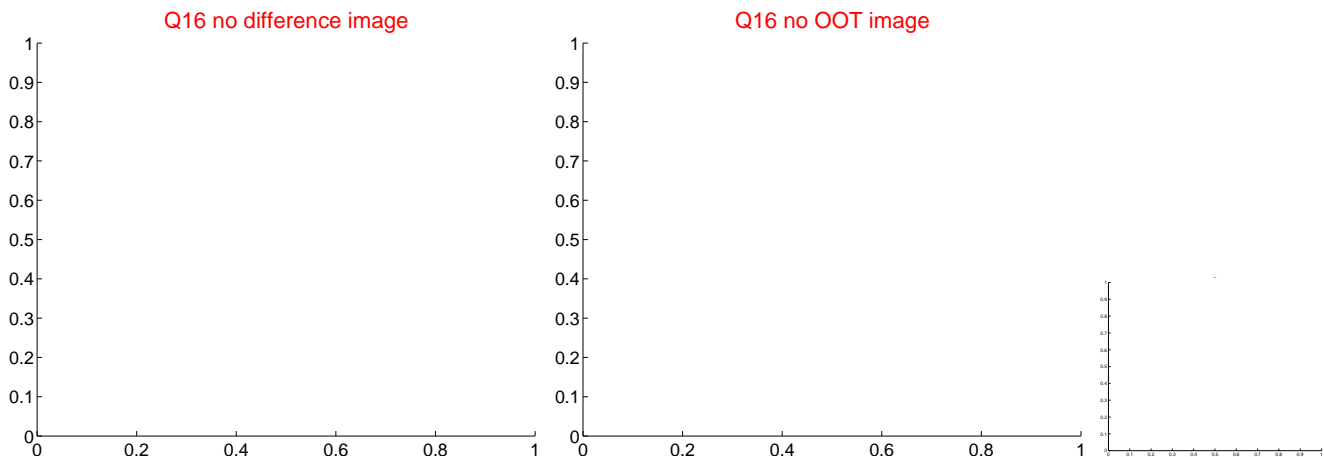
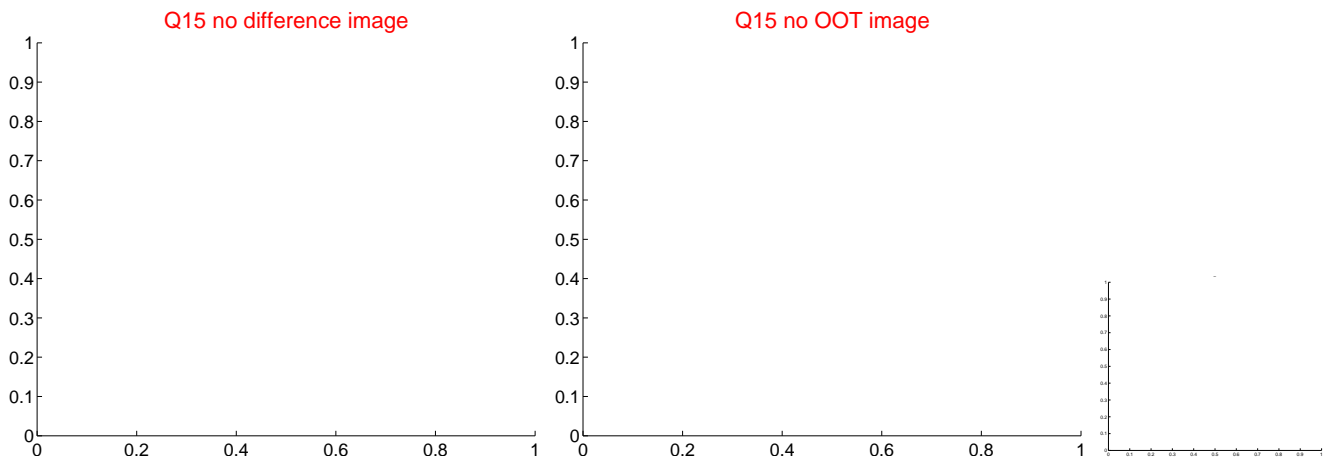
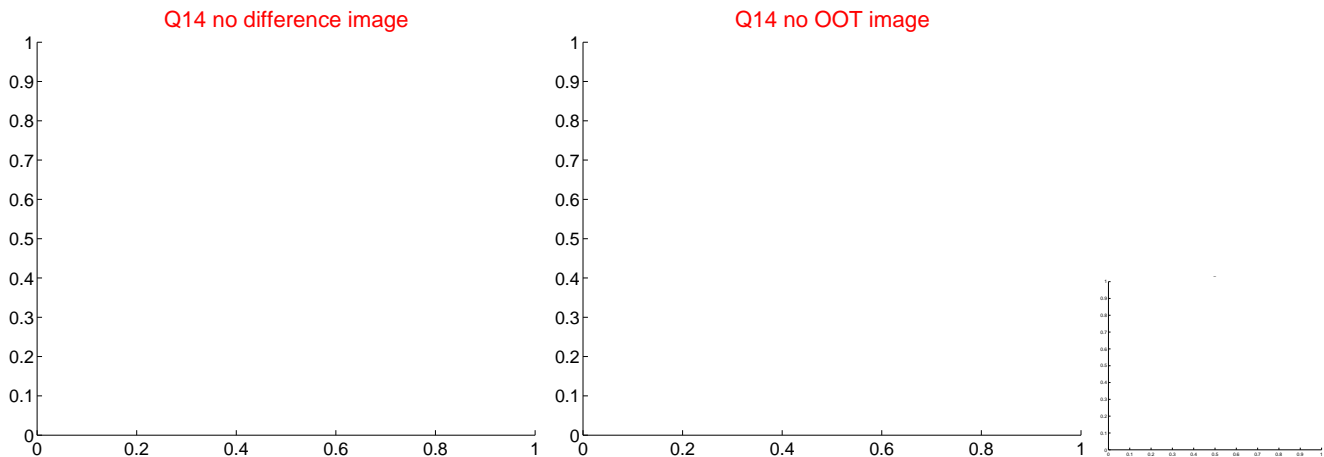
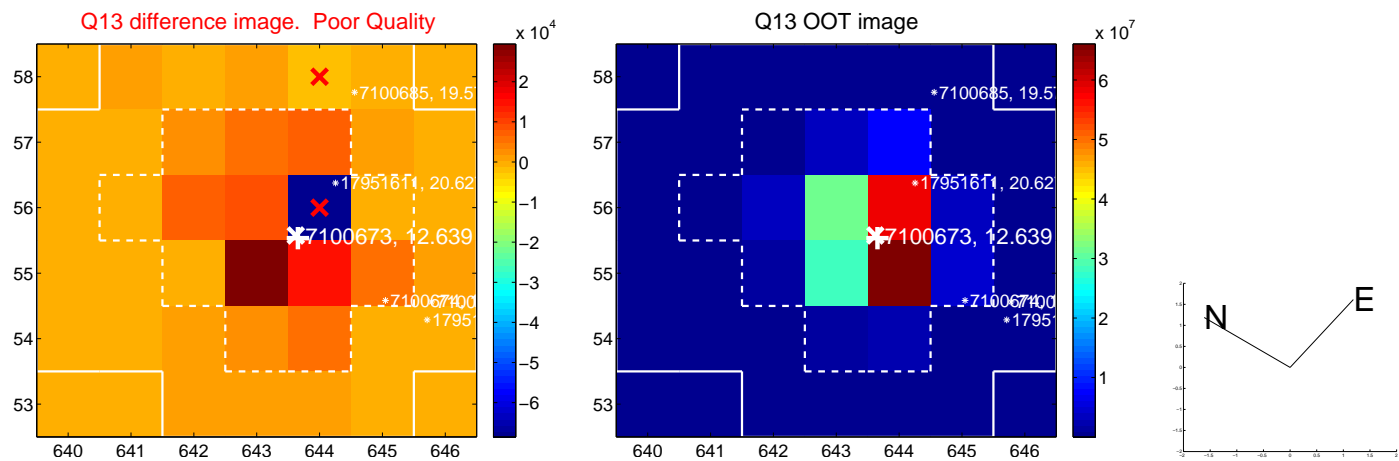




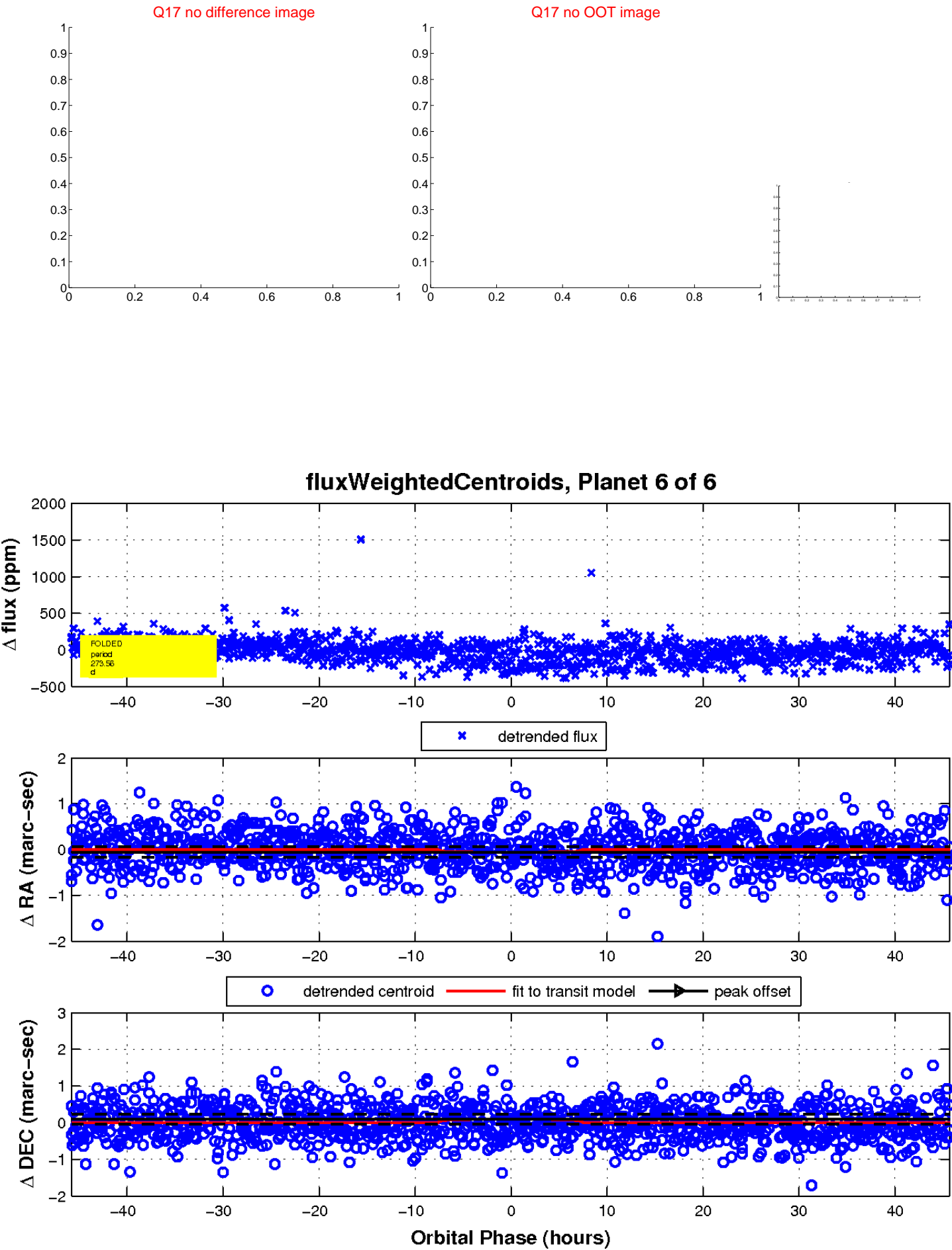
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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.



UKIRT Image

Declination

