

# KIC 011612274

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011612274-01	OBS	No	0.680916	131.810806	30.8	2.945	9.6	8.6	3.71	7694	2.42	118581.63
011612274-02	OBS	No	0.680893	132.049704	41.5	3.790	10.3	7.5	3.71	7694	2.56	118587.04
011612274-03	OBS	No	6.821434	134.982332	409.4	1.731	9.7	5.9	3.71	7694	7.56	5490.87

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011612274-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011612274-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED
011612274-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_SATURATED—HALO_GHOST

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

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

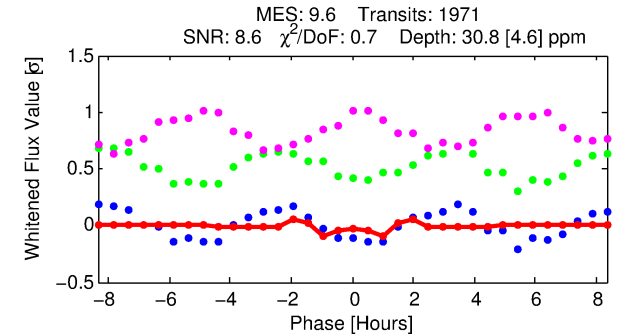
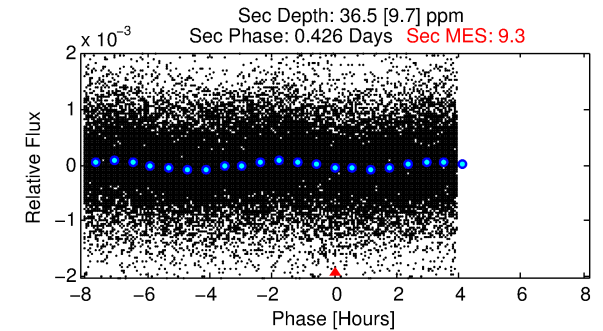
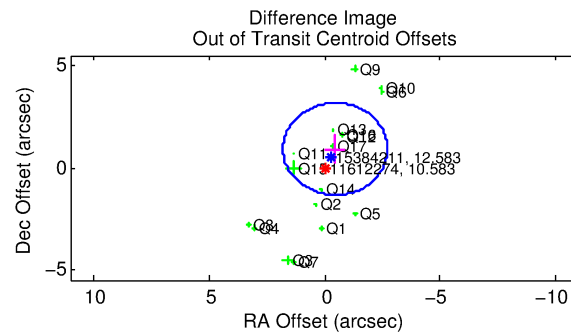
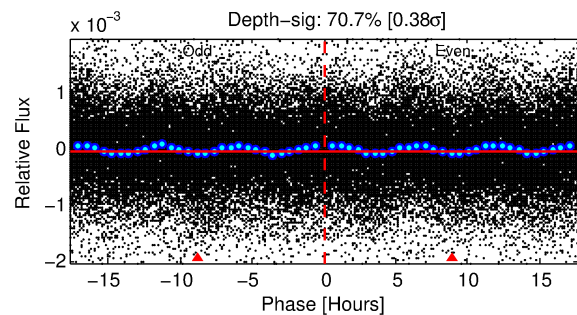
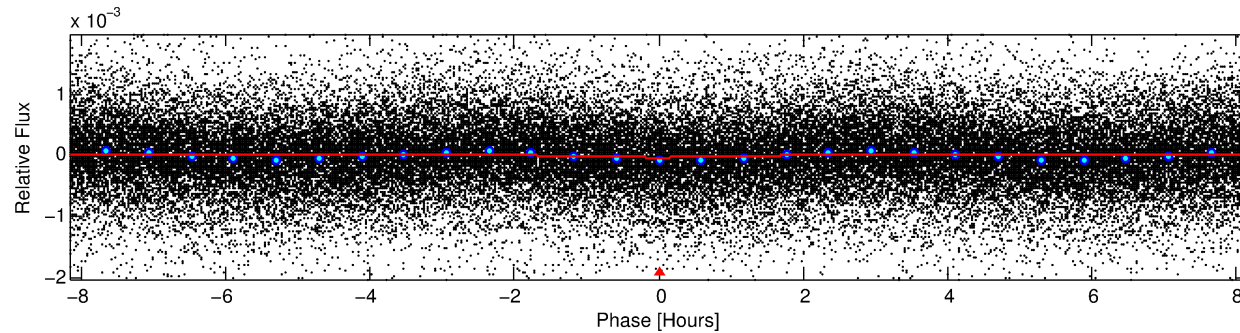
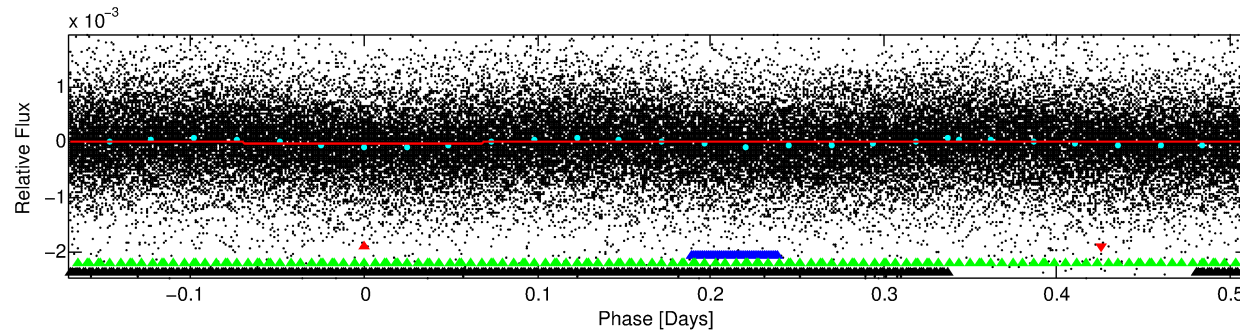
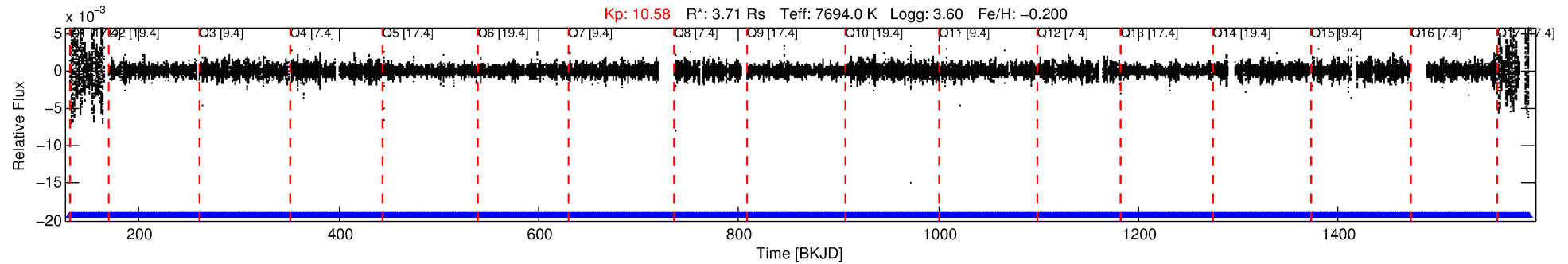
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 011612274-01

No Significant Match Found

# DV One-Page Summary

KIC: 11612274 Candidate: 1 of 4 Period: 0.681 d



## DV Fit Results:

Period = 0.68092 [0.00001] d  
Epoch = 131.8108 [0.0013] BKJD  
 $R_p/R^* = 0.0060$  [0.0011]  
 $a/R^* = 1.23$  [0.41]  
 $b = 0.90$  [0.21]  
 $\text{Seff} = 118581.63$  [109155.26]  
 $T_{\text{eq}} = 4732$  [1089] K  
 $R_p = 2.42$  [1.39]  $R_e$   
 $a = 0.0191$  [0.0105] AU  
 $A_g = 1.25$  [1.26] [0.20 $\sigma$ ]  
 $T_{\text{eff}} = 7734$  [928] K [2.10 $\sigma$ ]

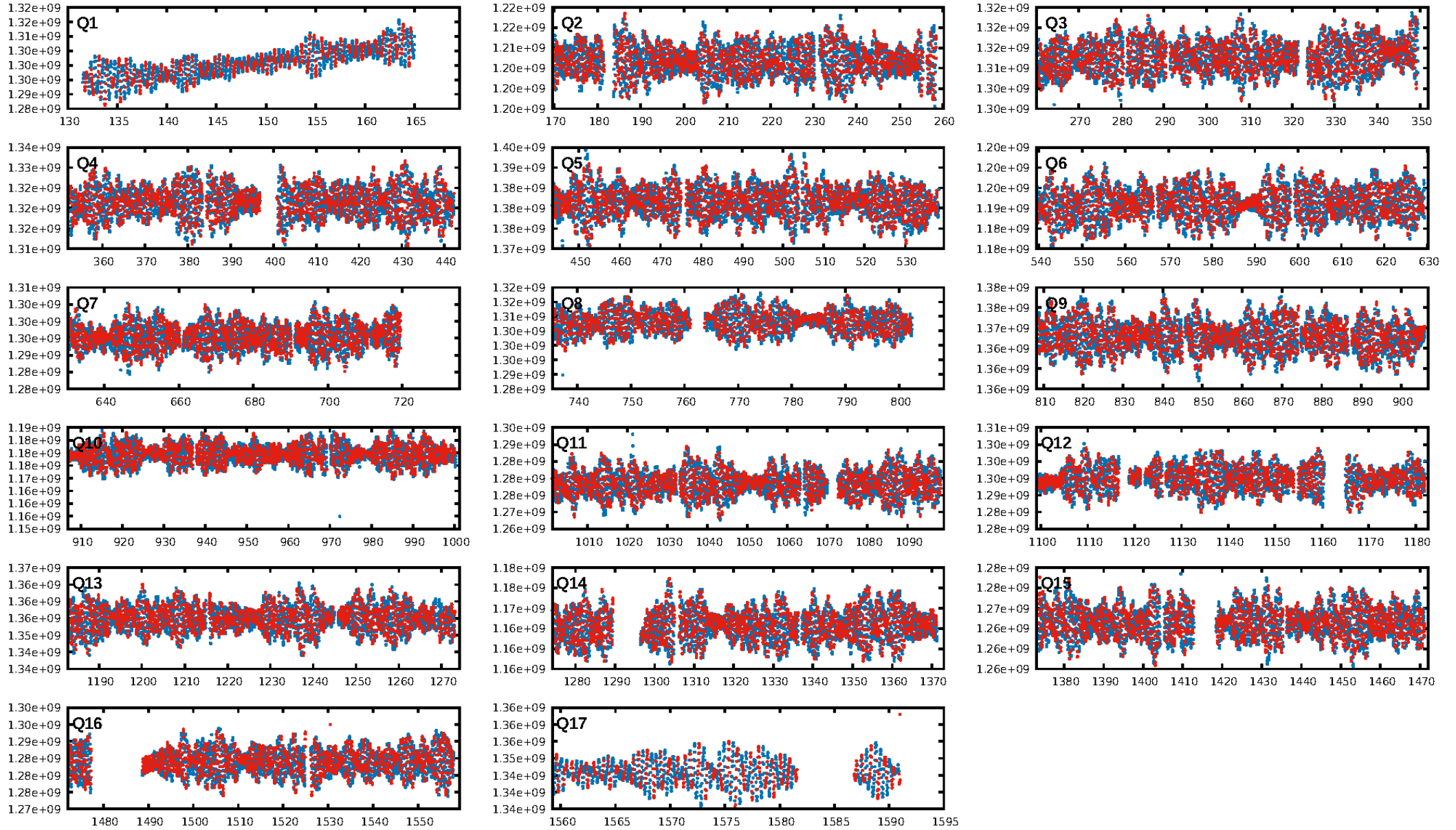
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 $\sigma$ ]  
LongPeriod-sig: 100.0% [14.08 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1882/1882]  
GhostDiagnostic-chr: 0.4583  
Centroid-sig: N/A  
Centroid-so: 0.977 arcsec [2.21 $\sigma$ ]  
OotOffset-rm: 1.017 arcsec [1.35 $\sigma$ ]  
KicOffset-rm: 1.730 arcsec [2.40 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.35 [6/17]  
DiffImageOverlap-fno: 0.00 [0/17]

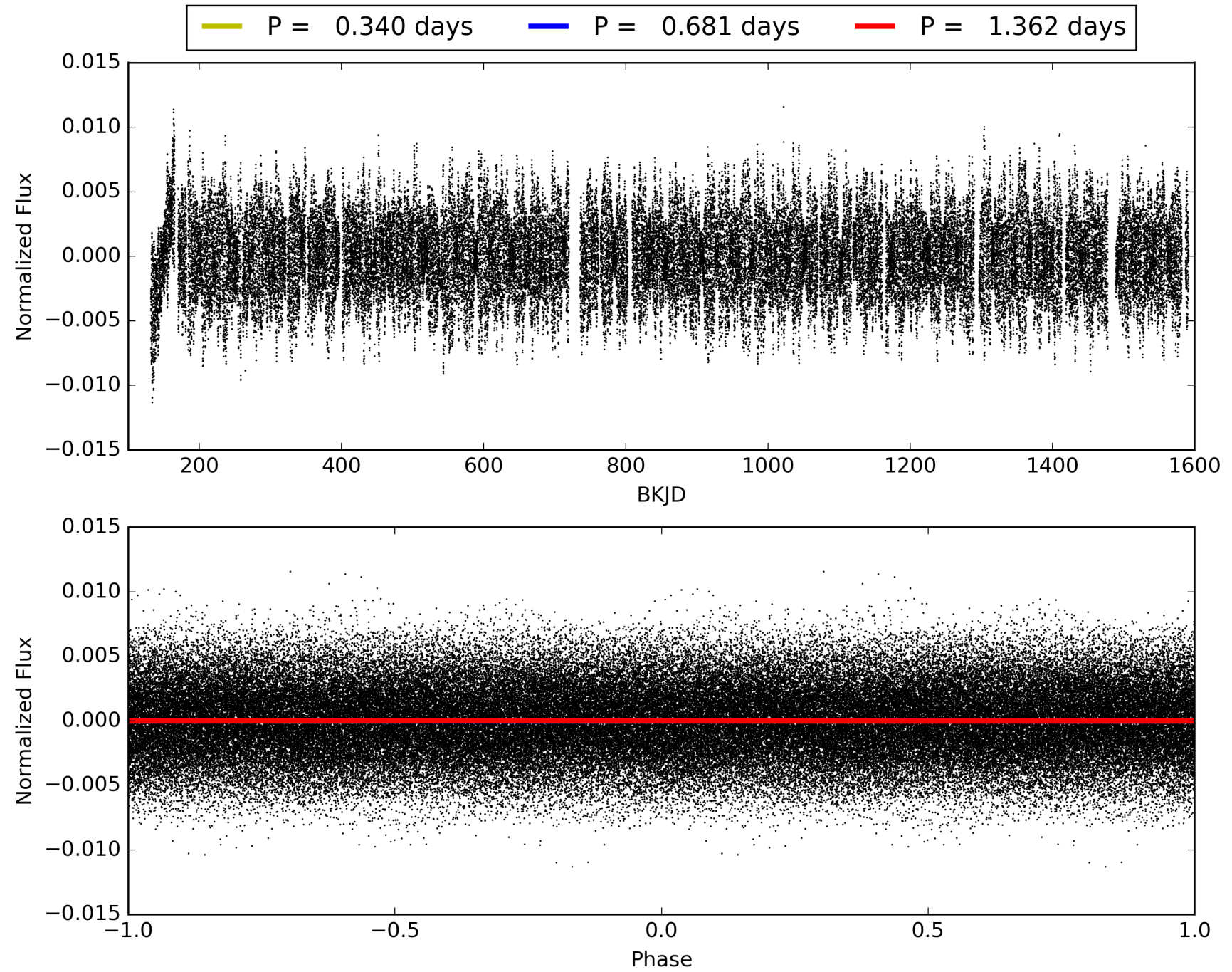
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:34:47 Z

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

# TCE 011612274-01, PDC Light Curves



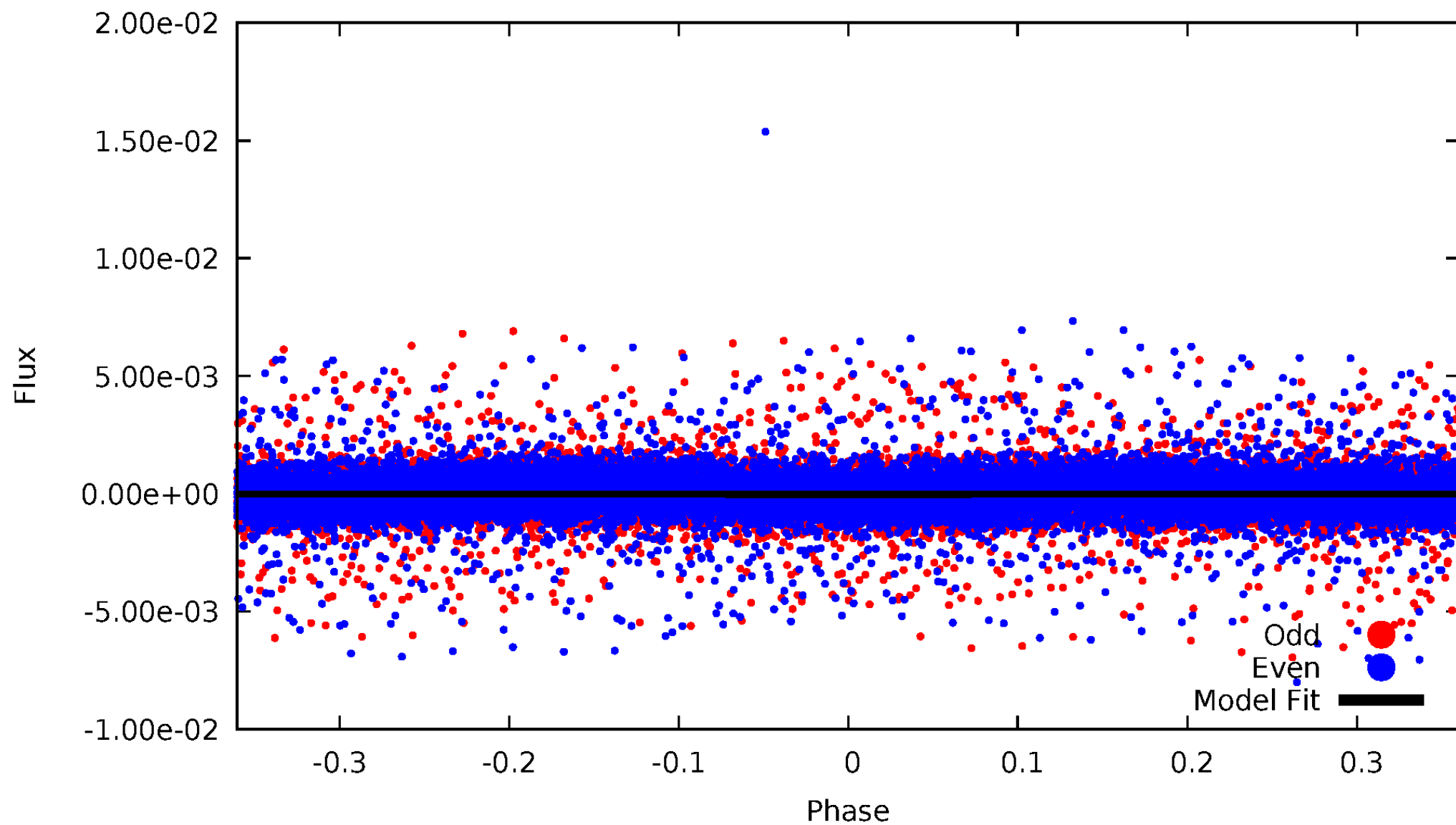
# TCE 011612274-01





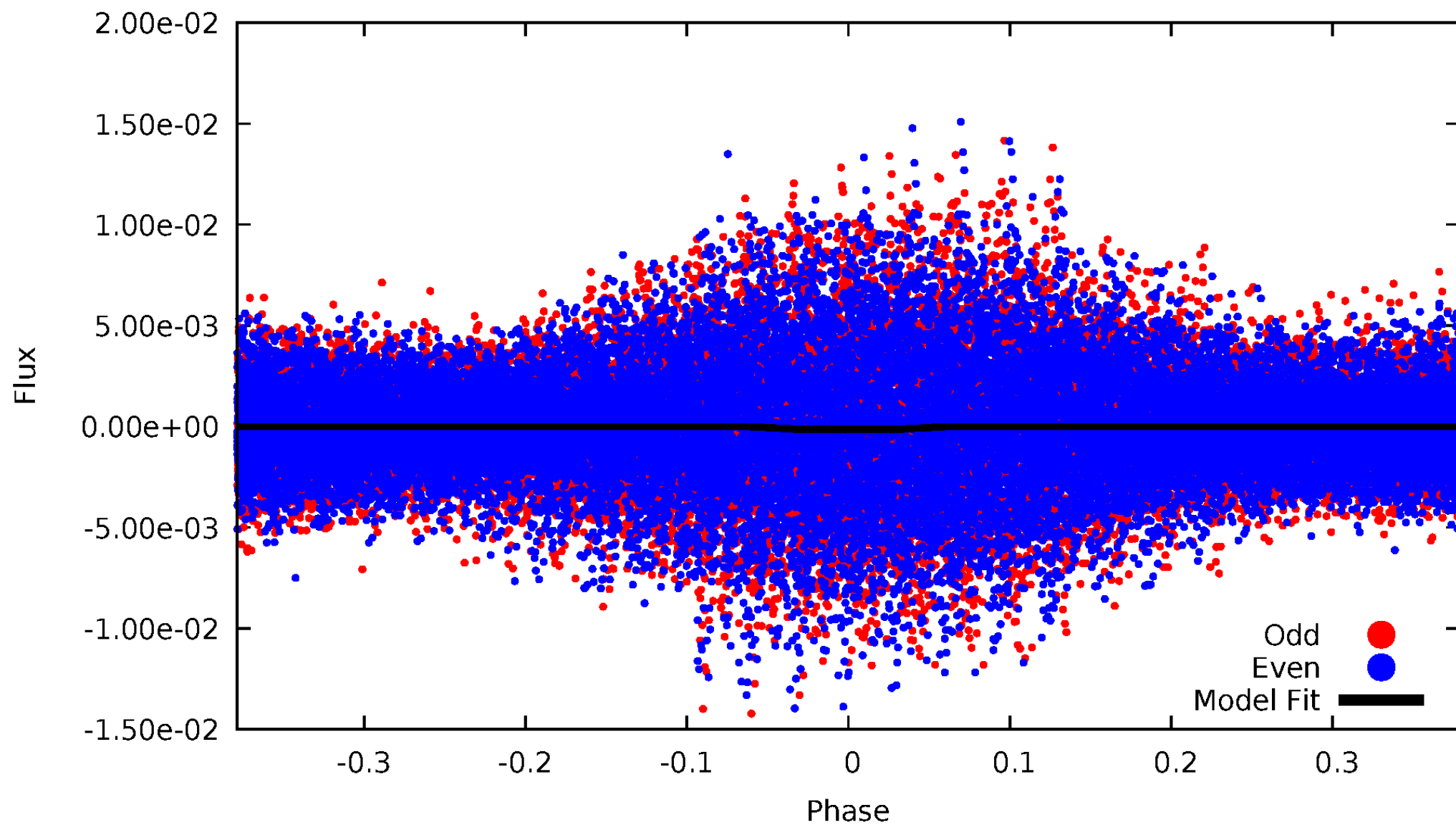
# DV Odd/Even

TCE 011612274-01



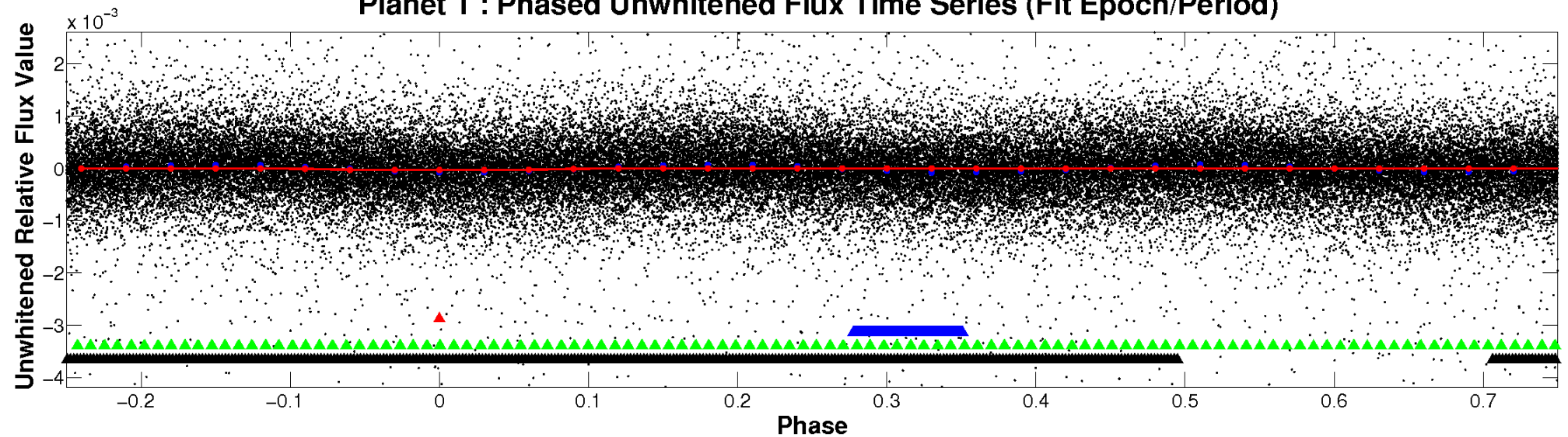
# ALT Odd/Even

TCE 011612274-01

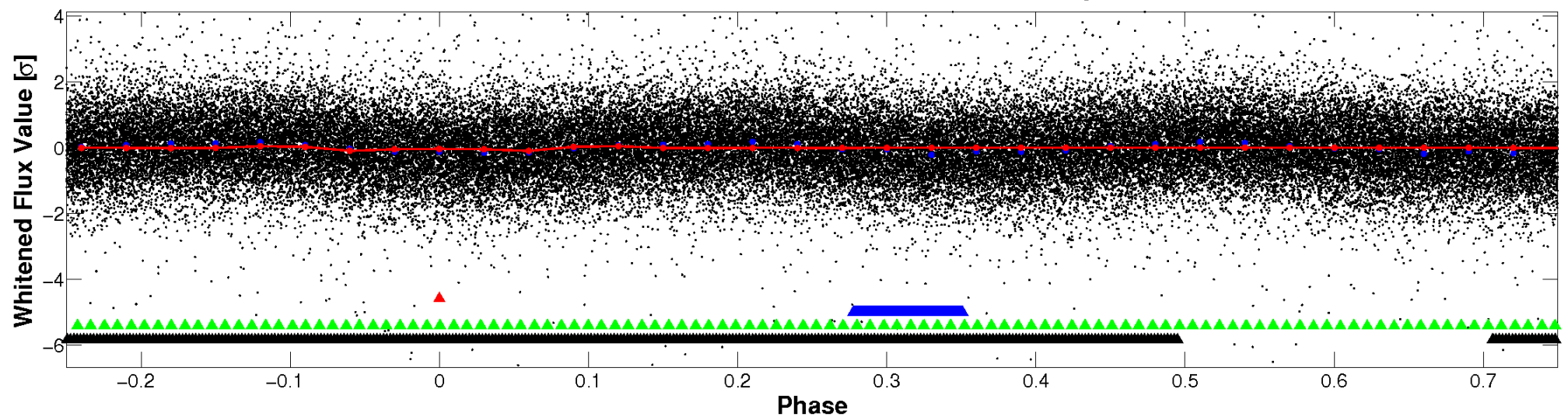


# Non-Whitened Vs. Whitened Light Curve

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

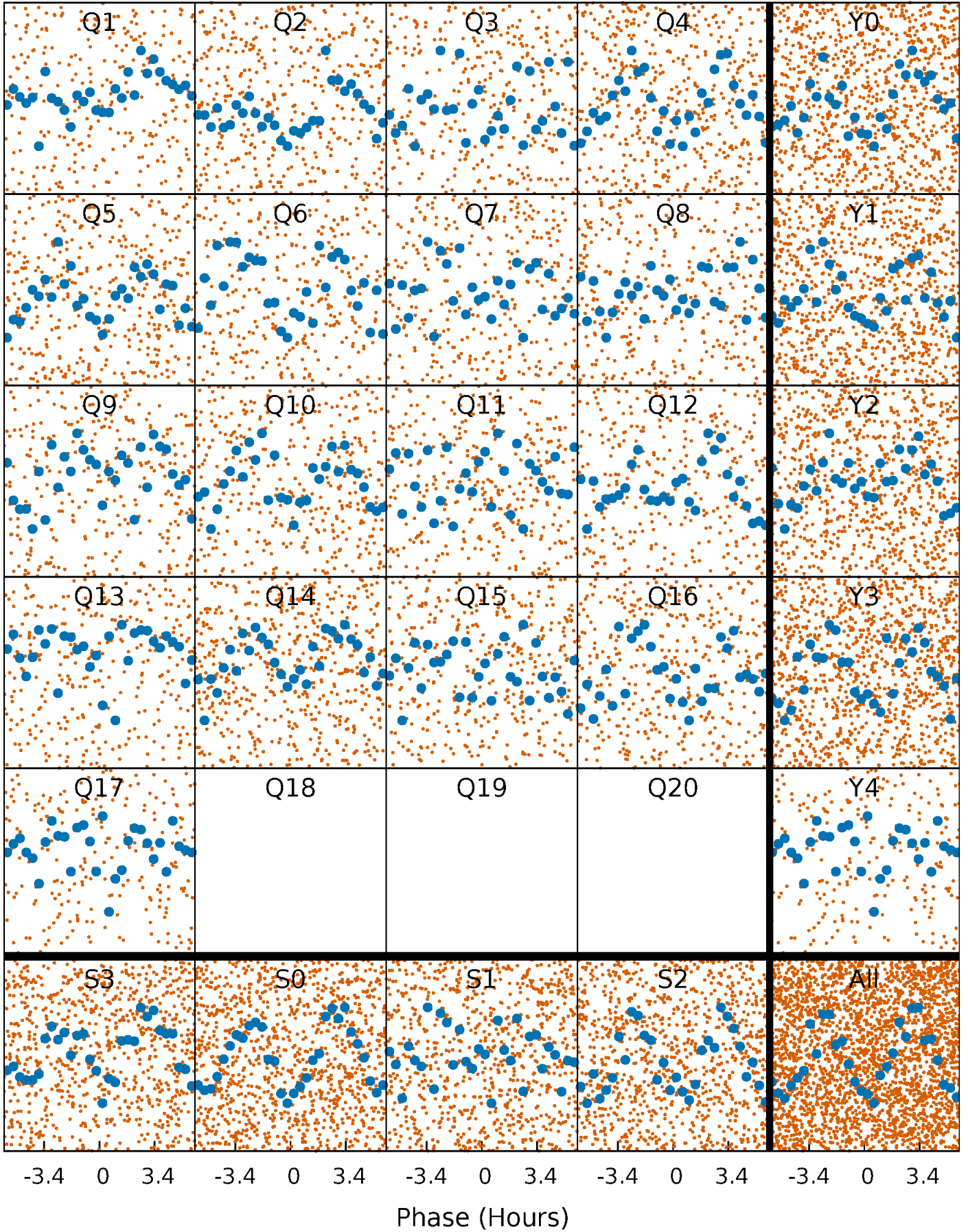


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

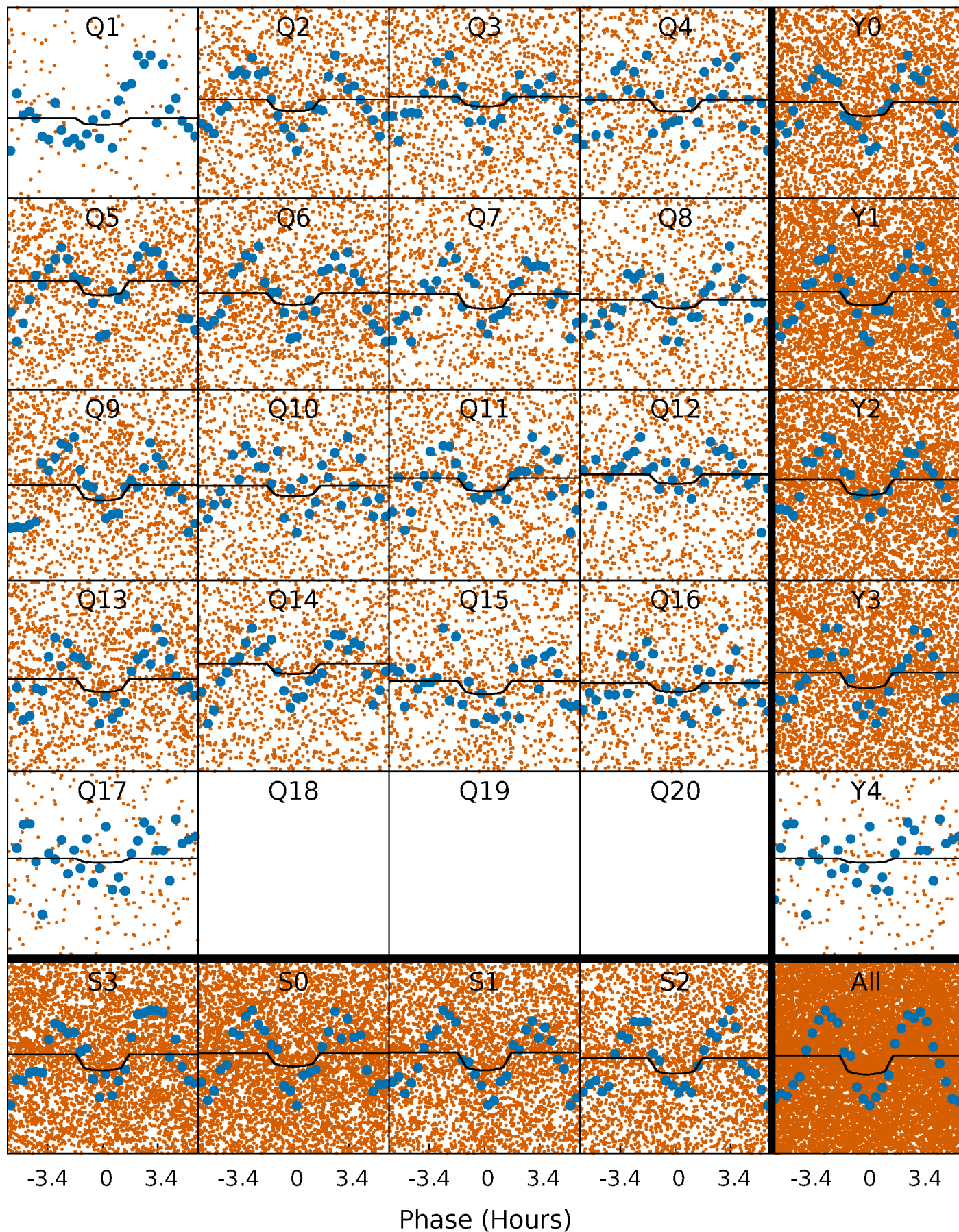
TCE 011612274-01 P= 0.680916 Days  $T_0=131.810806$  (BKJD)





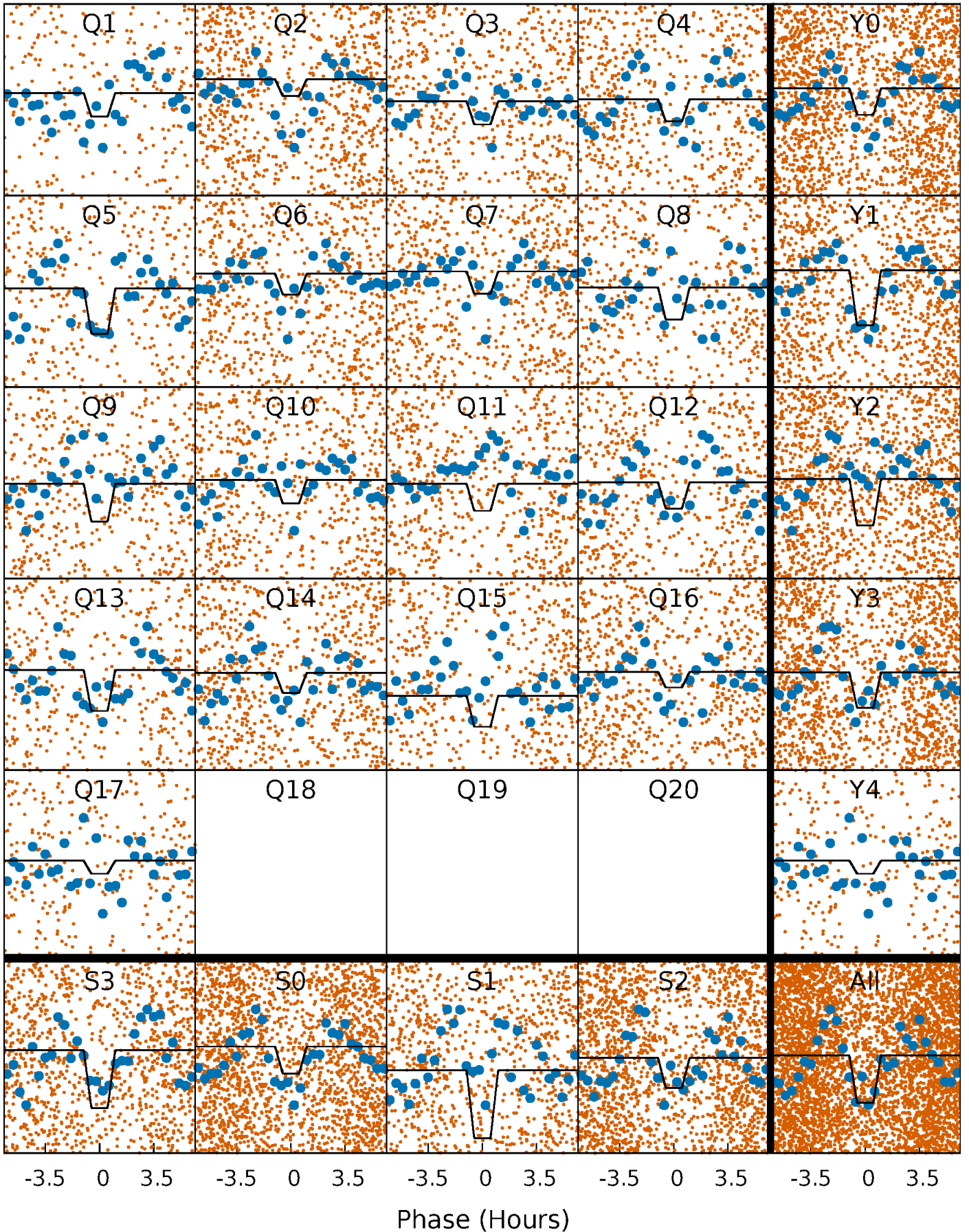
# DV Quarter-Phased Transit Curves

TCE 011612274-01 P= 0.680916 Days  $T_0=131.810806$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

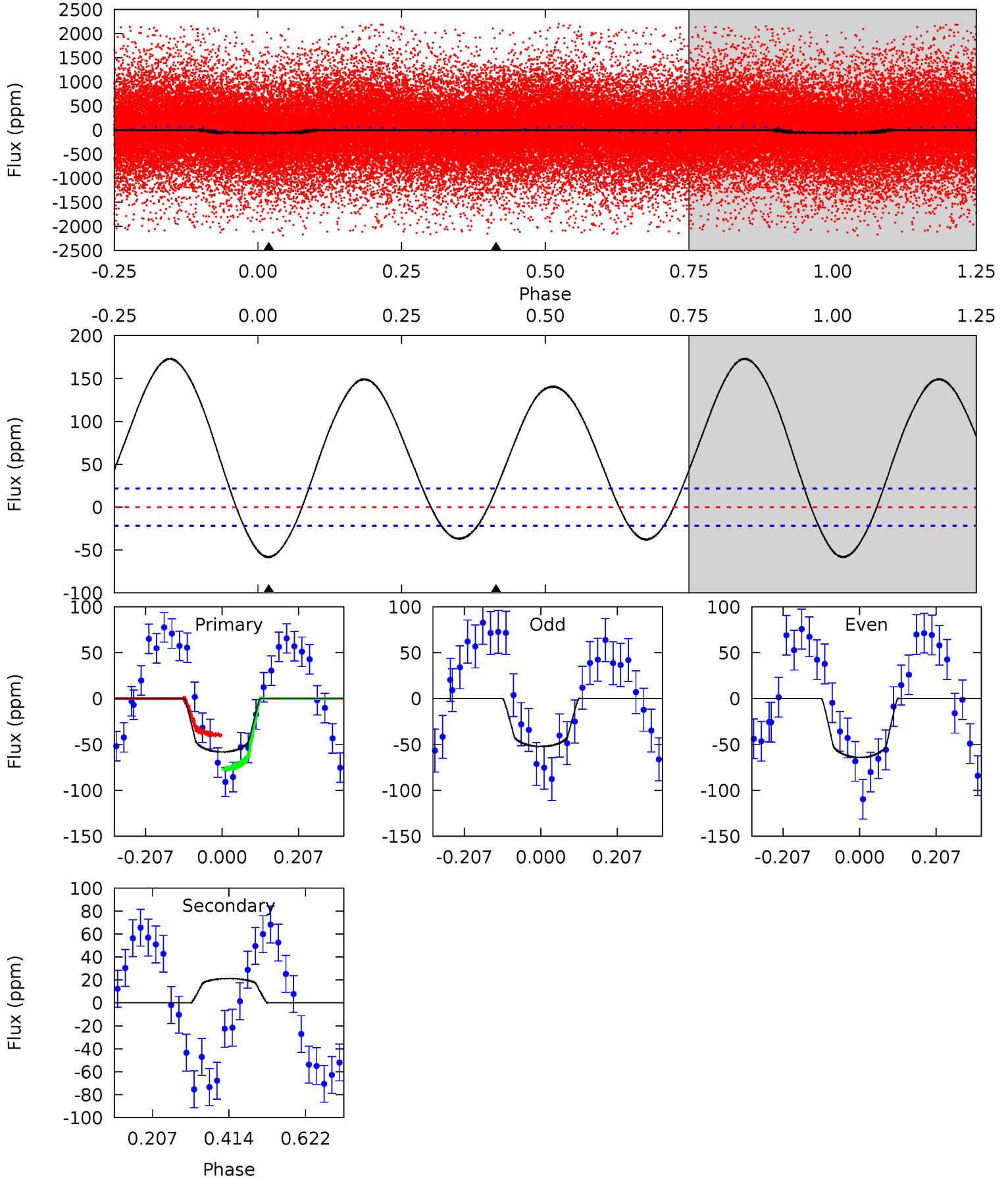
TCE 011612274-01 P= 0.680927 Days  $T_0=131.804438$  (BKJD)



# DV Model-Shift Uniqueness Test

011612274-01, P = 0.680916 Days, E = 131.129890 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	-4.32	0	0	4.41	1.26	11.8	11.9	11.9	-4.32	-4.32	1.22	1.41	0.75	3.78

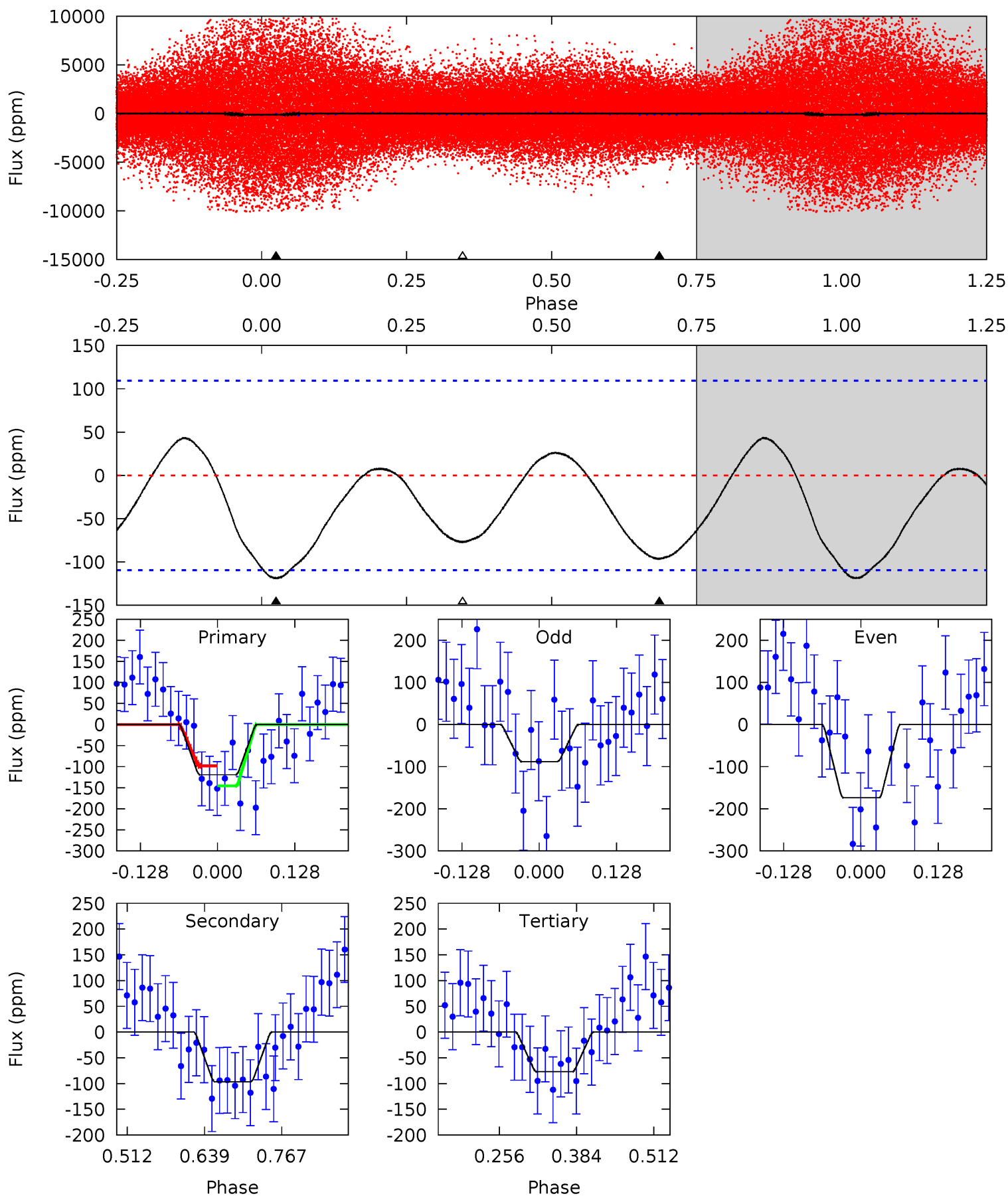




# Alt Model-Shift Uniqueness Test

011612274-01, P = 0.680927 Days, E = 131.123511 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
4.92	3.99	3.18	0	4.51	1.52	1.53	1.74	4.92	0.81	3.99	1.77	0.62	0.27	0.98





### Stellar Parameters For KIC 011612274

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7694^{+214}_{-322}$	$3.601^{+0.540}_{-0.060}$	$-0.200^{+0.250}_{-0.300}$	$3.715^{+0.506}_{-2.026}$	$2.010^{+0.173}_{-0.518}$	$0.055^{+0.372}_{-0.016}$
	+3%/-4%	+15%/-2%	+125%/-150%	+14%/-55%	+9%/-26%	+674%/-29%
Source	KIC0	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 011612274-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$21 \pm 5$	$2.13^{+0.60}_{-0.66}$	$6281^{+508}_{-939}$	$-7131^{+627}_{-788}$	$-0.909^{+0.383}_{-0.996}$
Alt.	$-97 \pm 24$	$4.31^{+0.80}_{-1.22}$	$6324^{+453}_{-892}$	$6343^{+785}_{-807}$	$1.069^{+0.859}_{-0.385}$

$T_{\text{max}}$  = 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

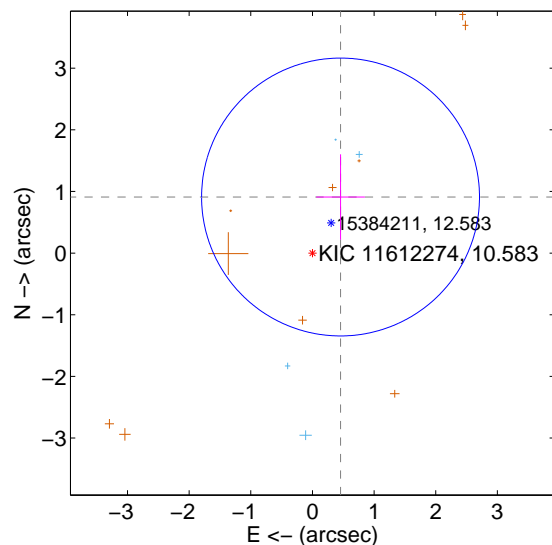
Supplemental centroid analysis for 011612274-01. **Kepler magnitude: 10.58.** Transit SNR 8.60

There are 6 quarters with good PRF difference image offsets

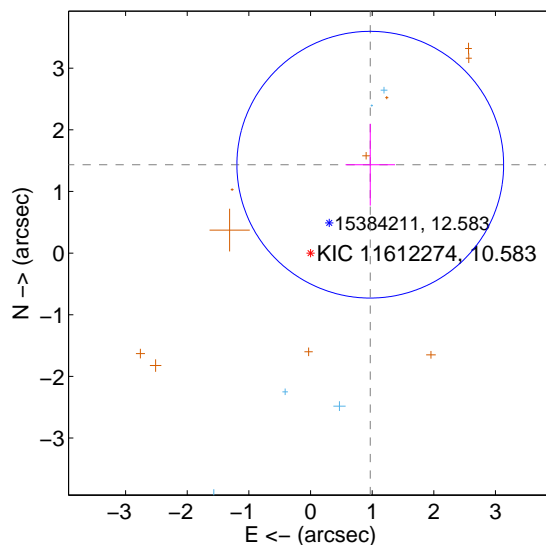
The direct PRF centroid is offset from the target star catalog position by about 0.77 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.017 \pm 0.751$	1.35	$-0.456 \pm 0.395$	$0.910 \pm 0.693$
PRF-fit source offset from KIC position	$1.730 \pm 0.721$	2.40	$-0.969 \pm 0.402$	$1.434 \pm 0.664$
photometric centroid source offset	$0.98 \pm 0.44$	2.21	$-0.40 \pm 0.31$	$-0.89 \pm 0.46$

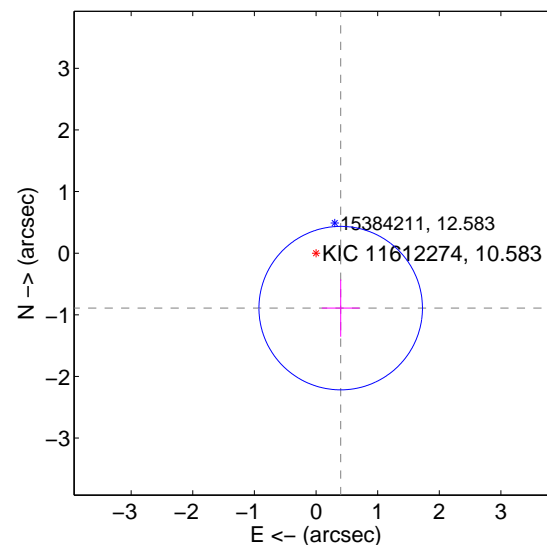
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

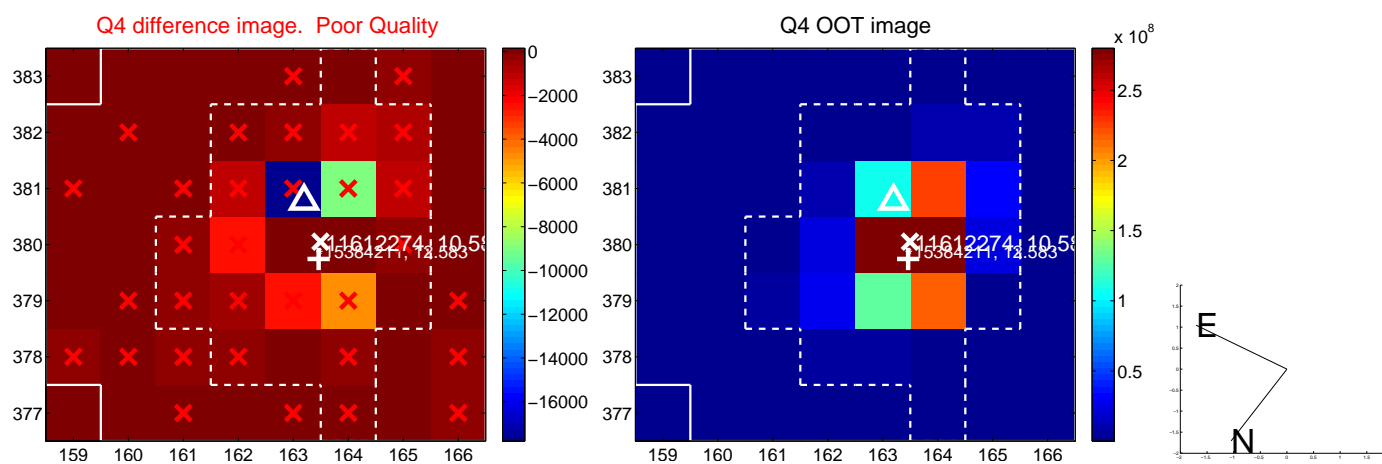
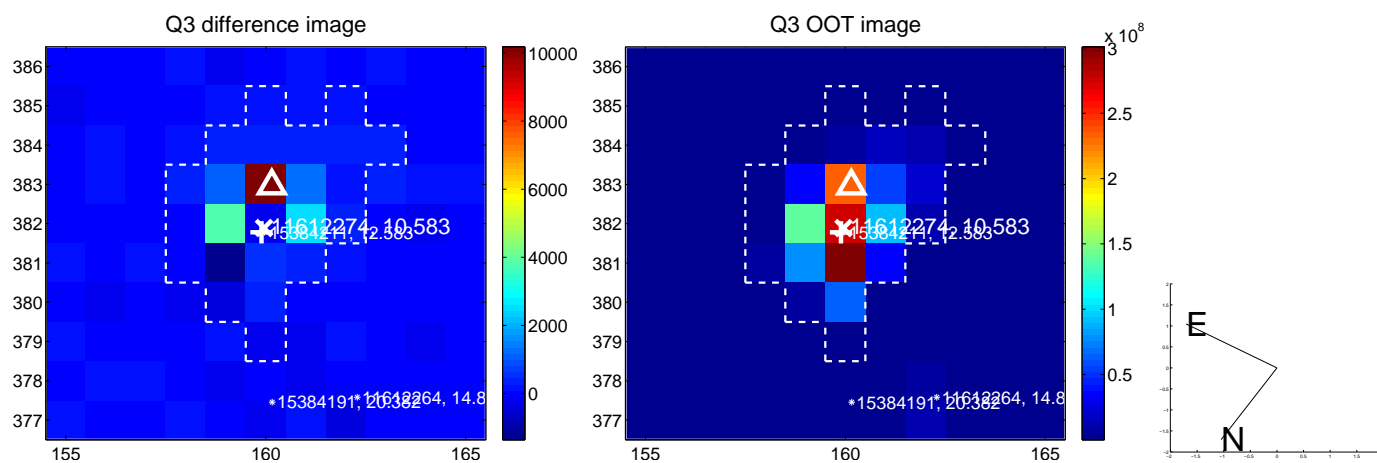
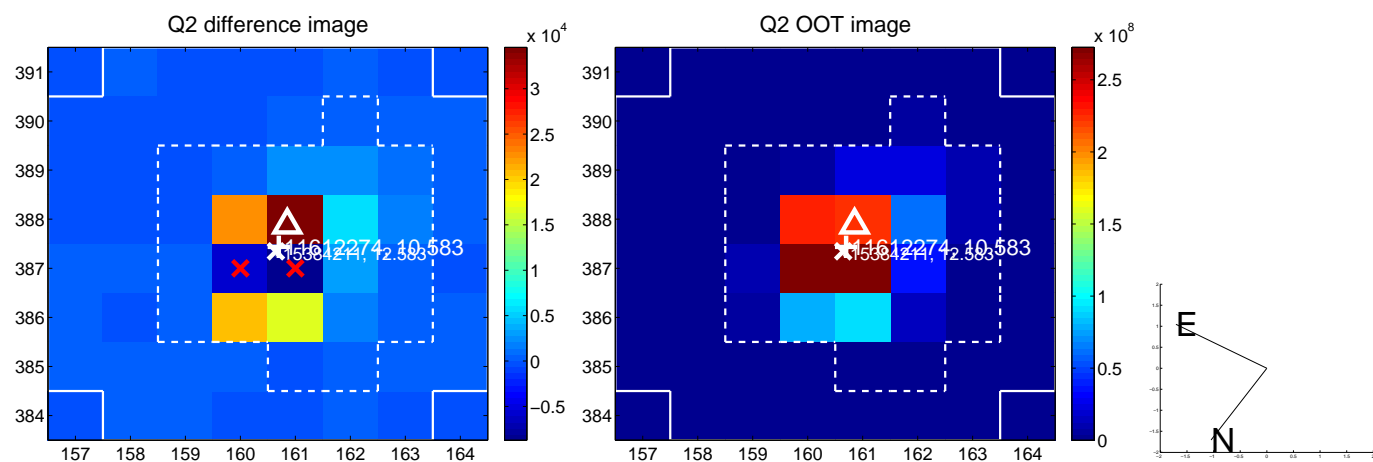
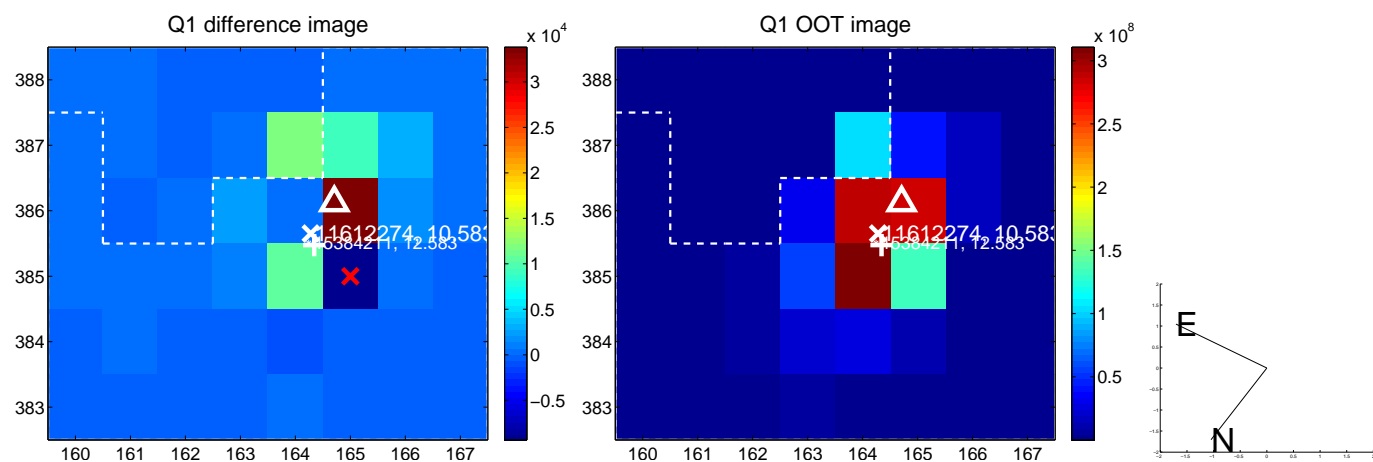


offset from photometric centroids

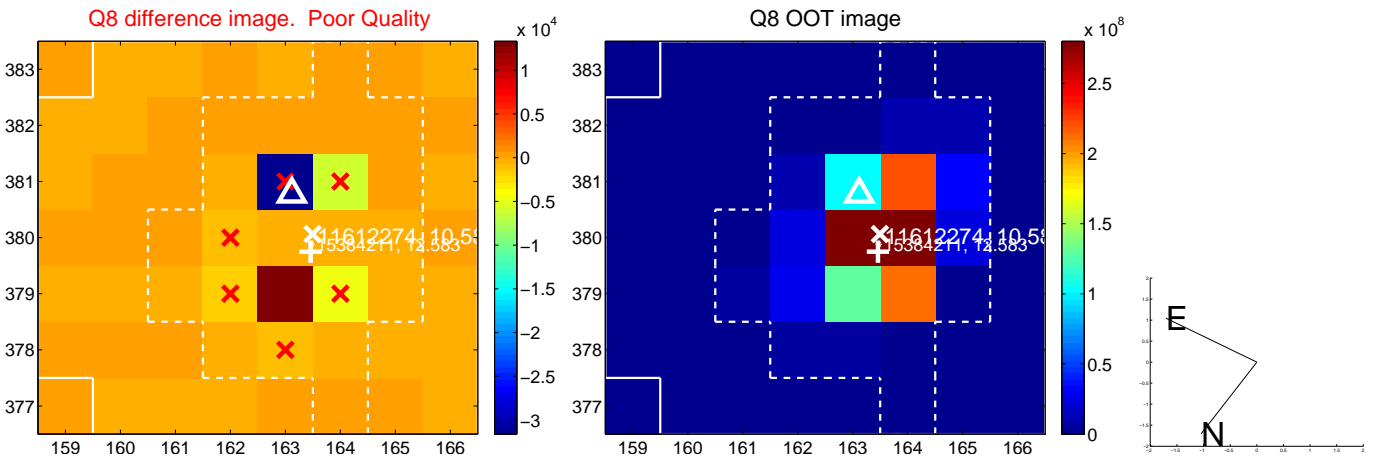
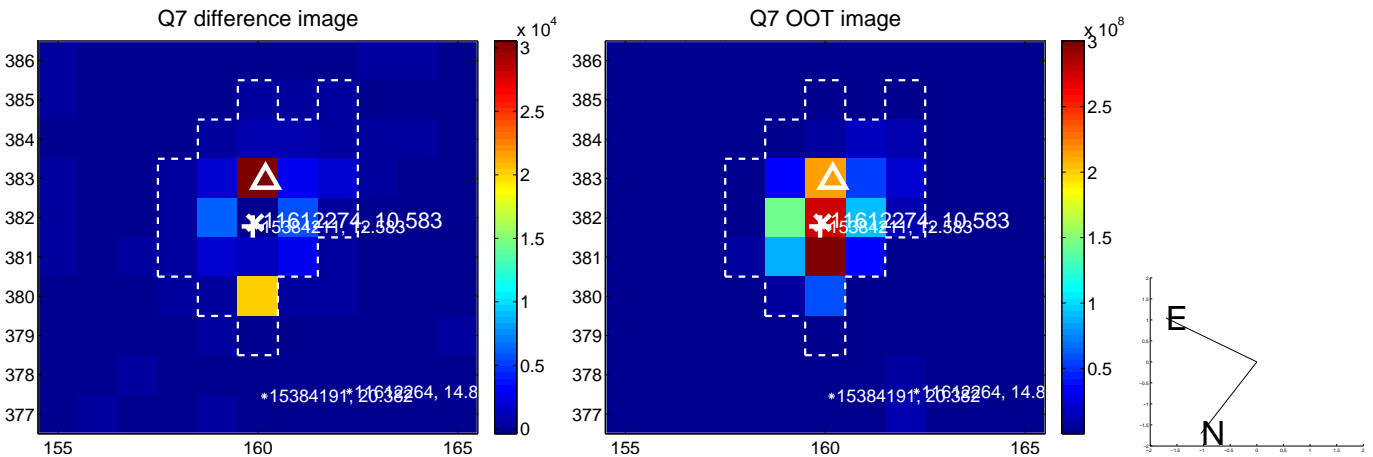
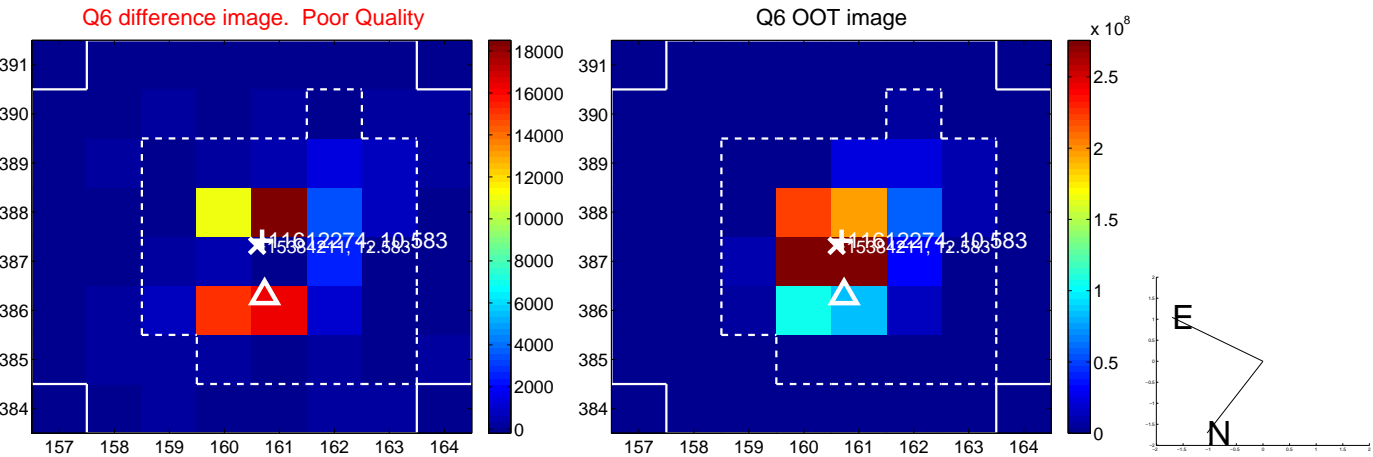
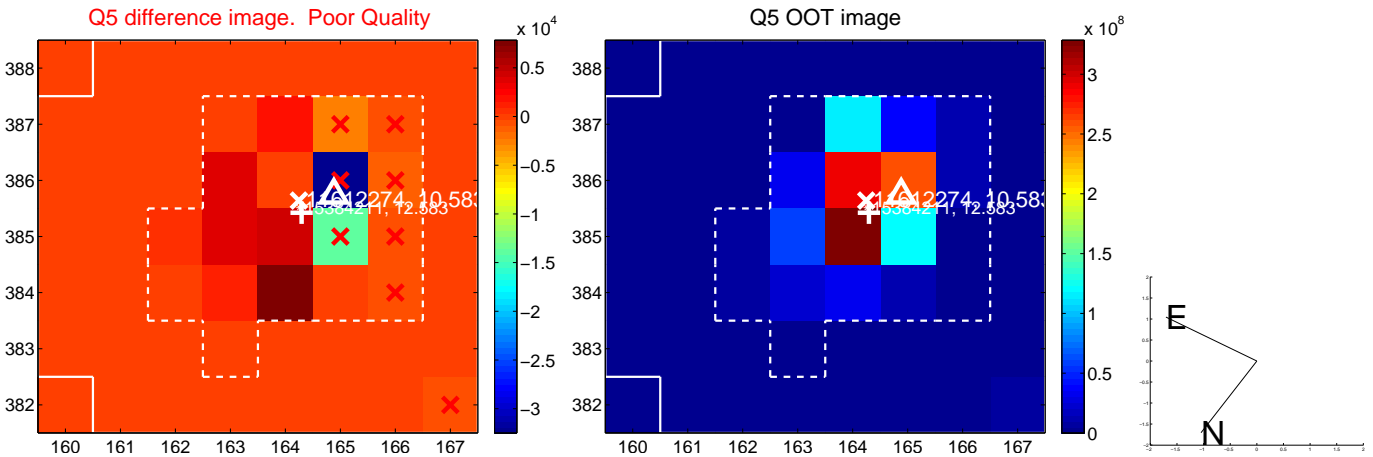


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

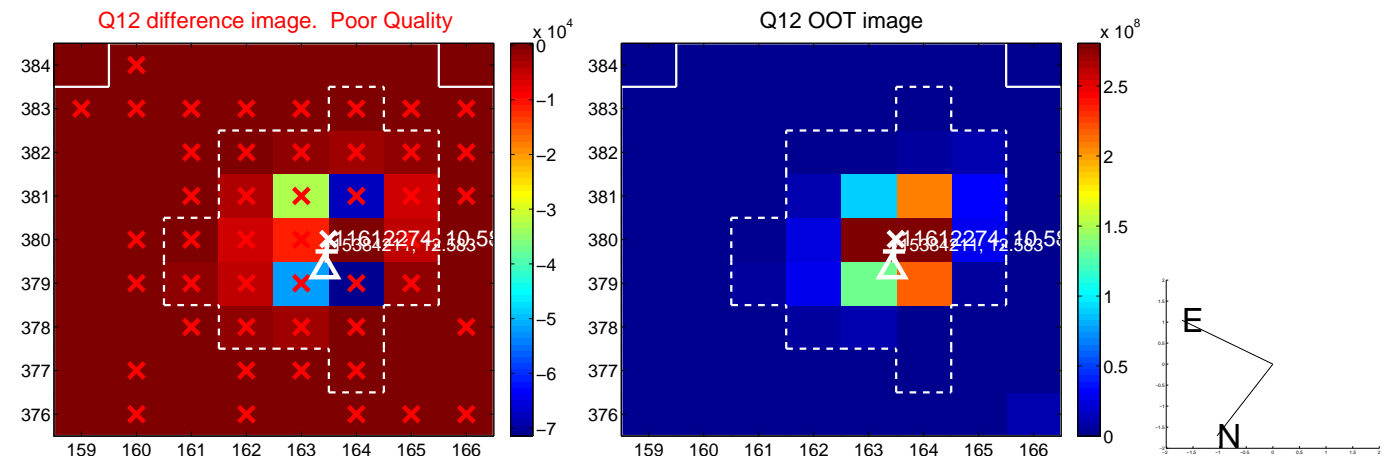
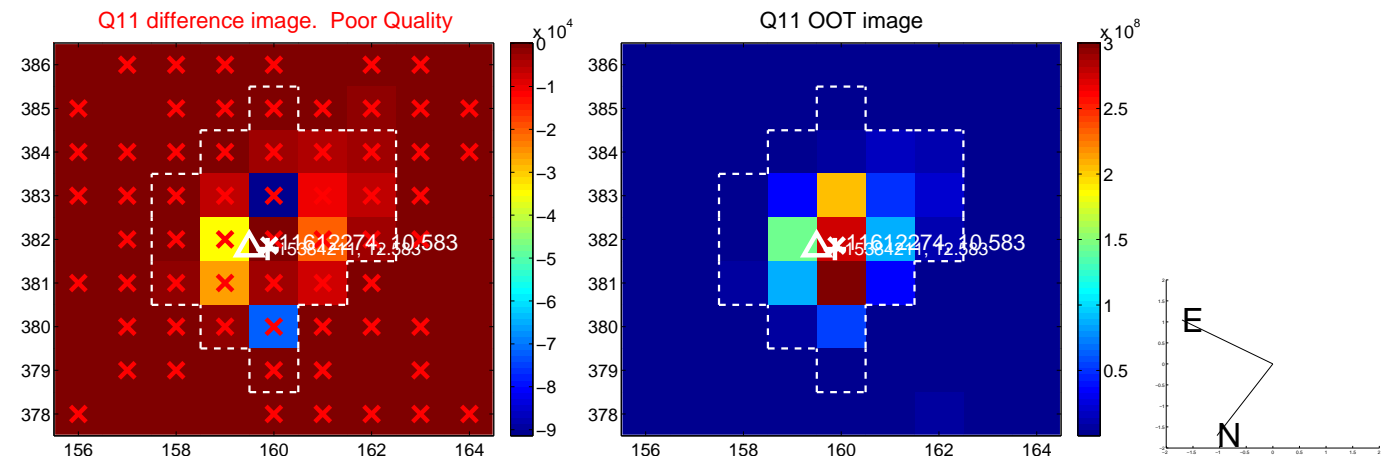
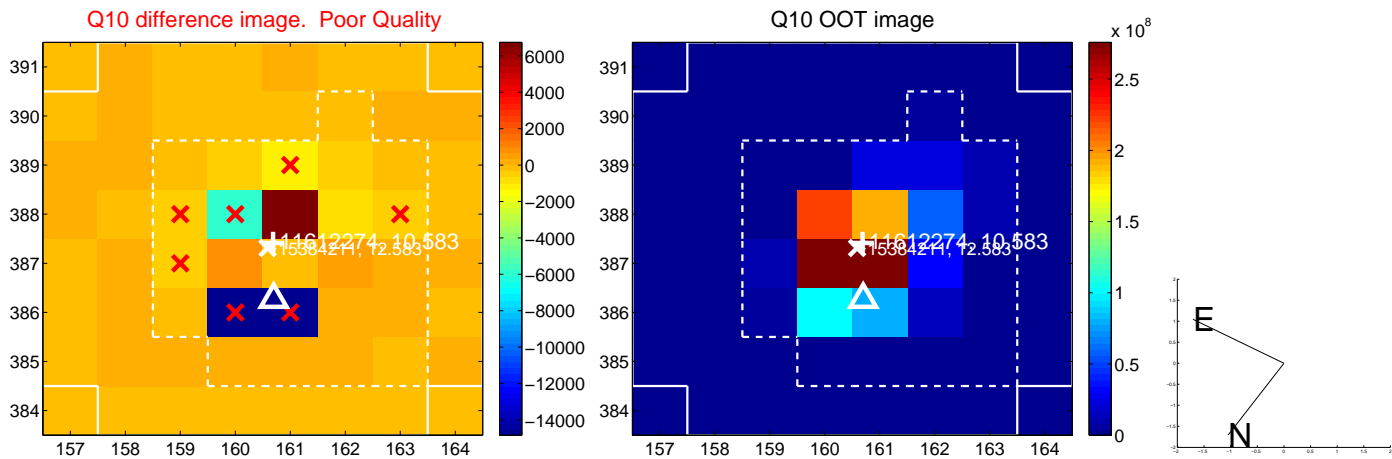
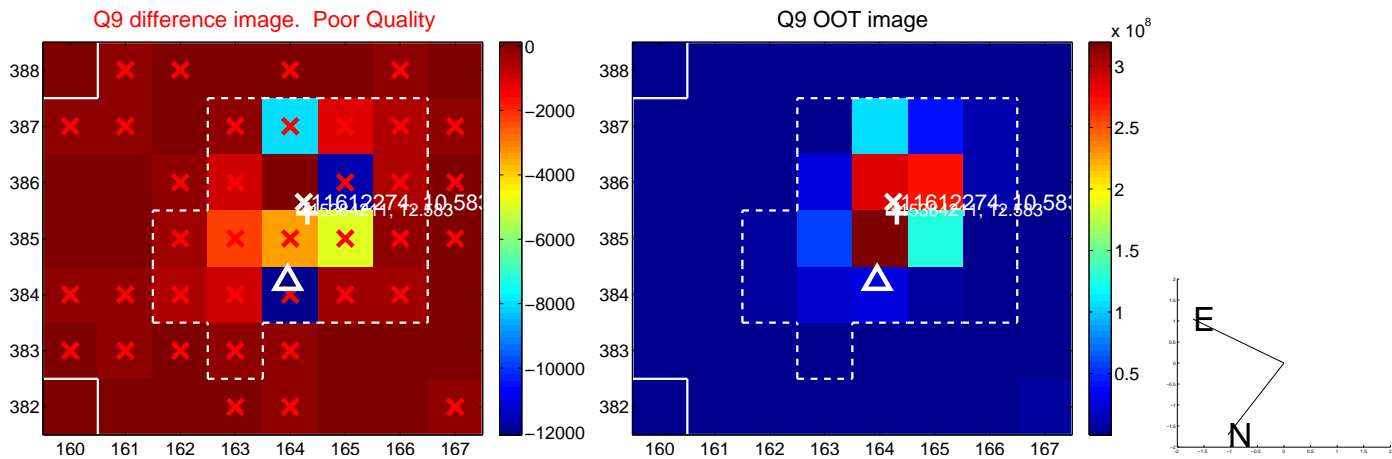


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

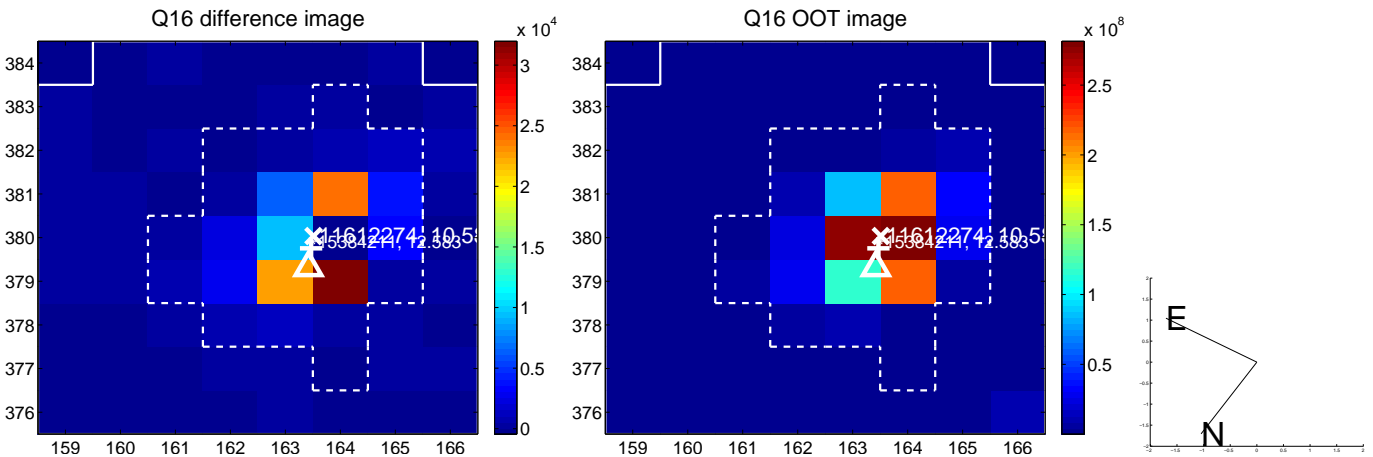
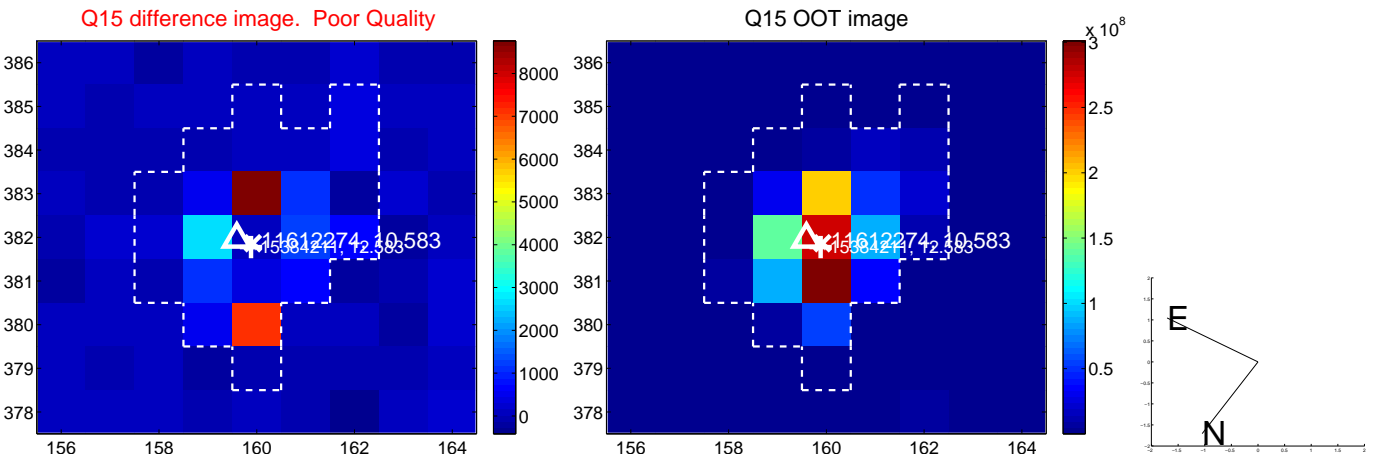
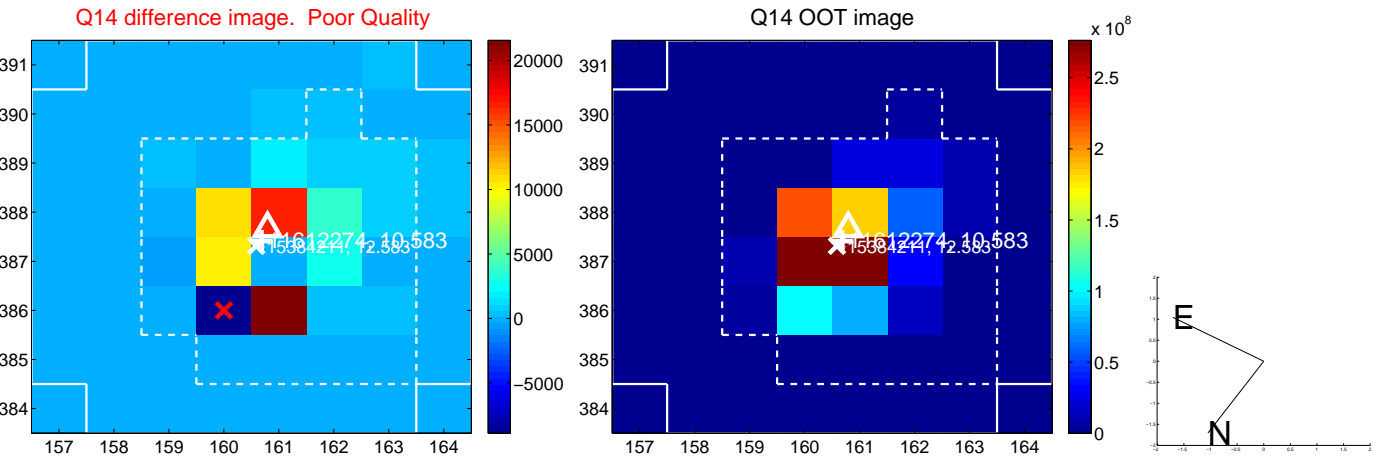
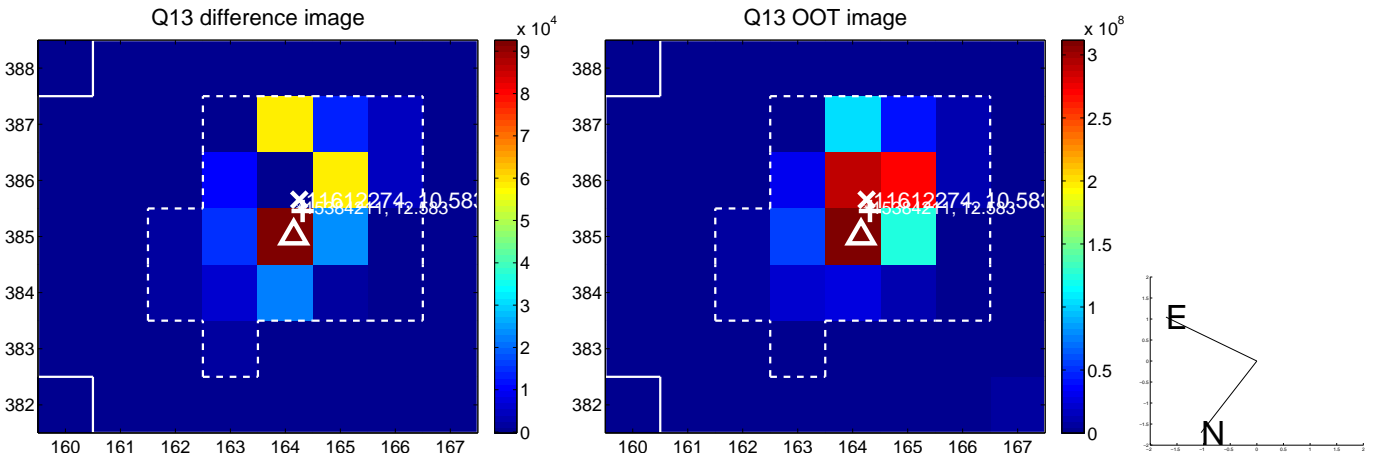




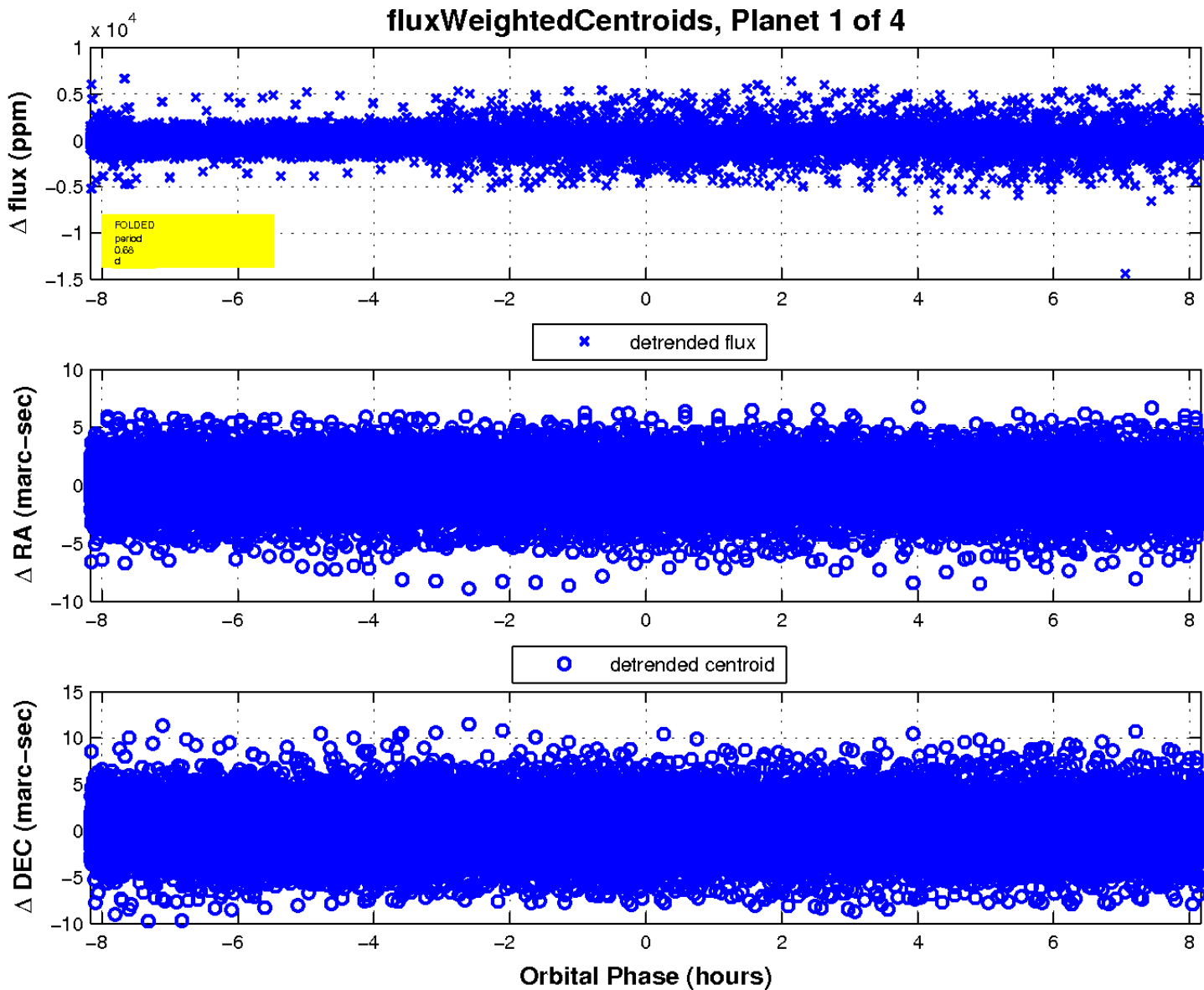
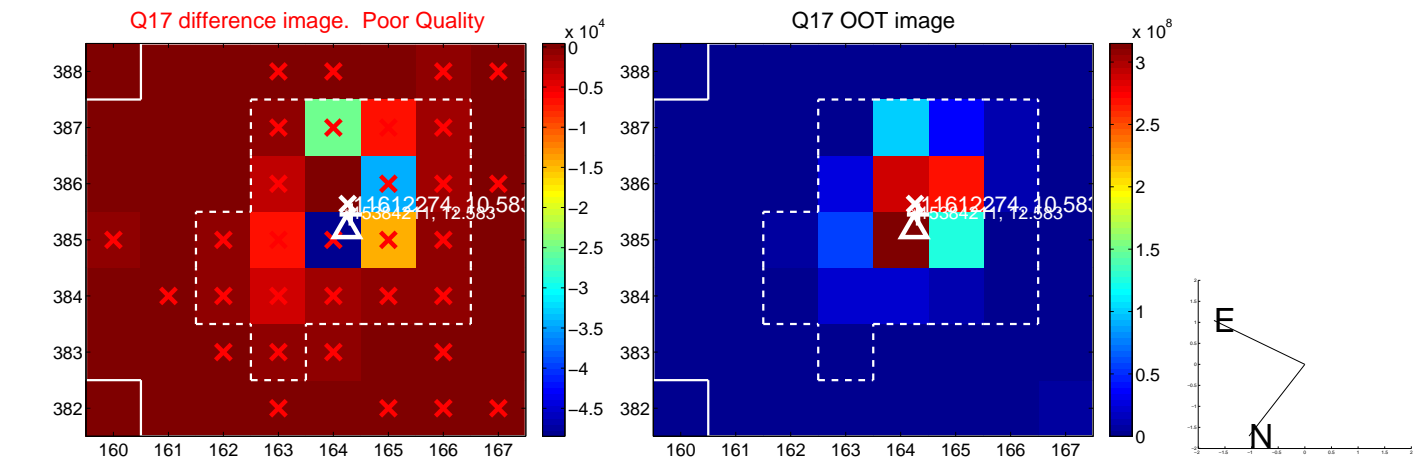
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

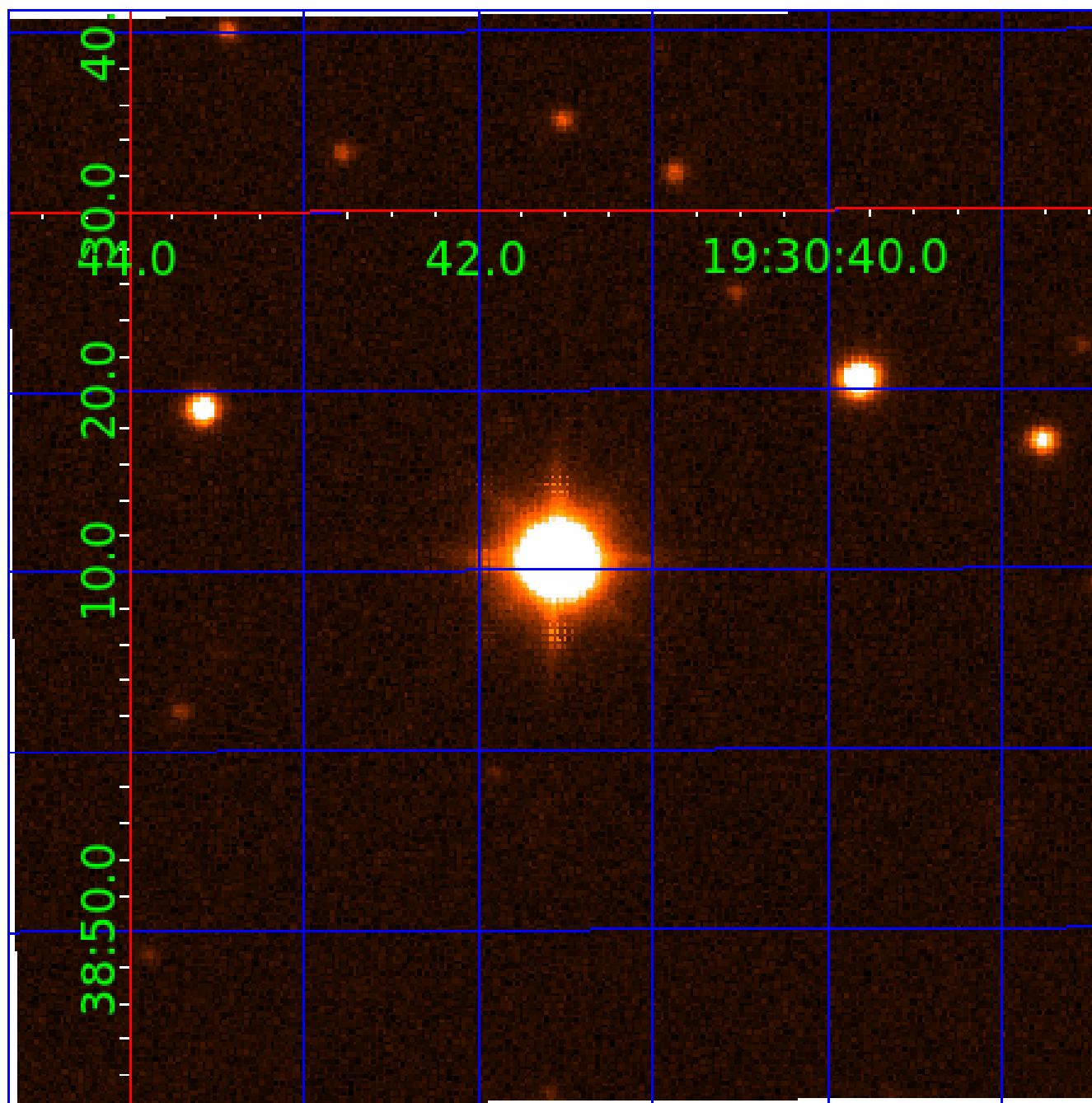


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 011612274

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011612274-01	OBS	No	0.680916	131.810806	30.8	2.945	9.6	8.6	3.71	7694	2.42	118581.63
011612274-02	OBS	No	0.680893	132.049704	41.5	3.790	10.3	7.5	3.71	7694	2.56	118587.04
011612274-03	OBS	No	6.821434	134.982332	409.4	1.731	9.7	5.9	3.71	7694	7.56	5490.87

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011612274-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011612274-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED
011612274-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_SATURATED—HALO_GHOST

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

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

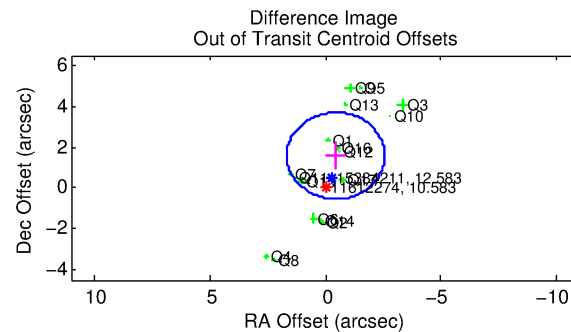
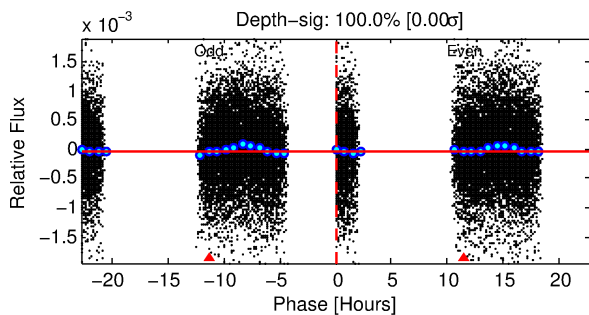
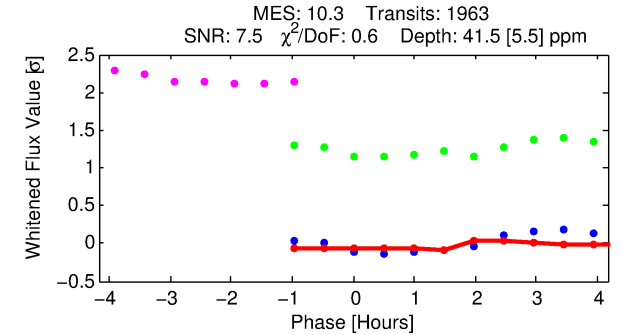
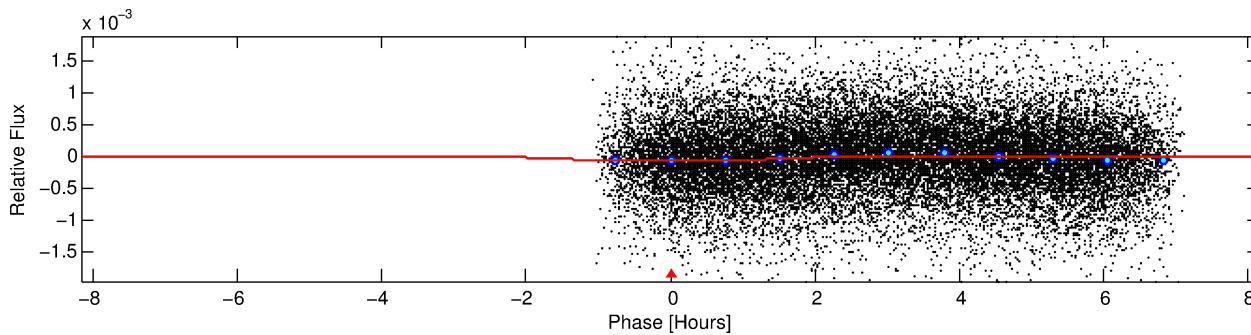
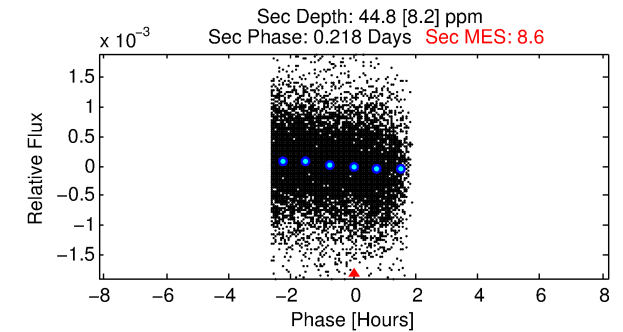
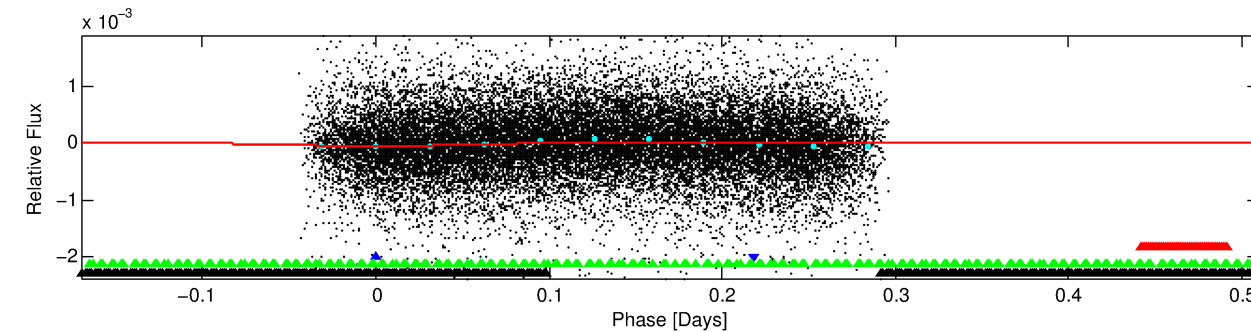
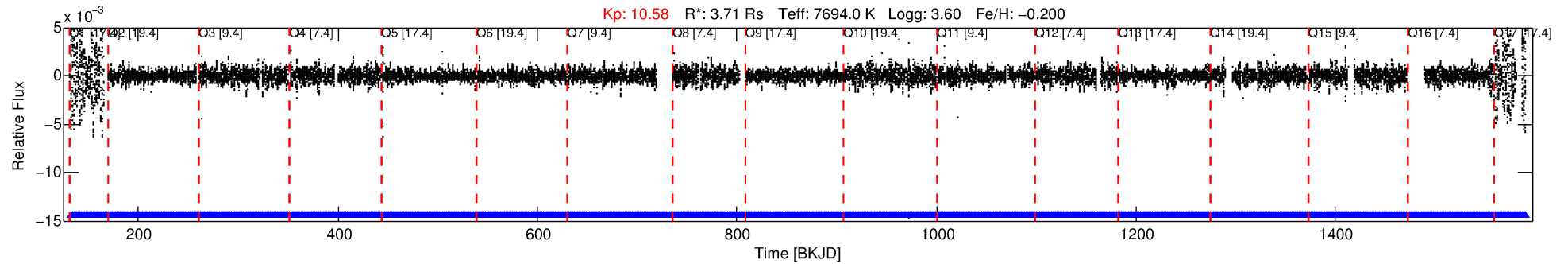
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011612274-02

No Significant Match Found

# DV One-Page Summary

KIC: 11612274 Candidate: 2 of 4 Period: 0.681 d



## DV Fit Results:

Period = 0.68089 [0.00001] d  
Epoch = 132.0497 [0.0055] BKJD  
Rp/R\* = 0.0063 [0.0020]  
a/R\* = 1.29 [0.84]  
b = 0.70 [1.21]  
Seff = 118587.04 [109160.24]  
Teq = 4732 [1089] K  
Rp = 2.56 [1.61] Re  
a = 0.0191 [0.0105] AU  
Ag = 1.38 [1.53] [0.24σ]  
Teffp = 7923 [1333] K [1.85σ]

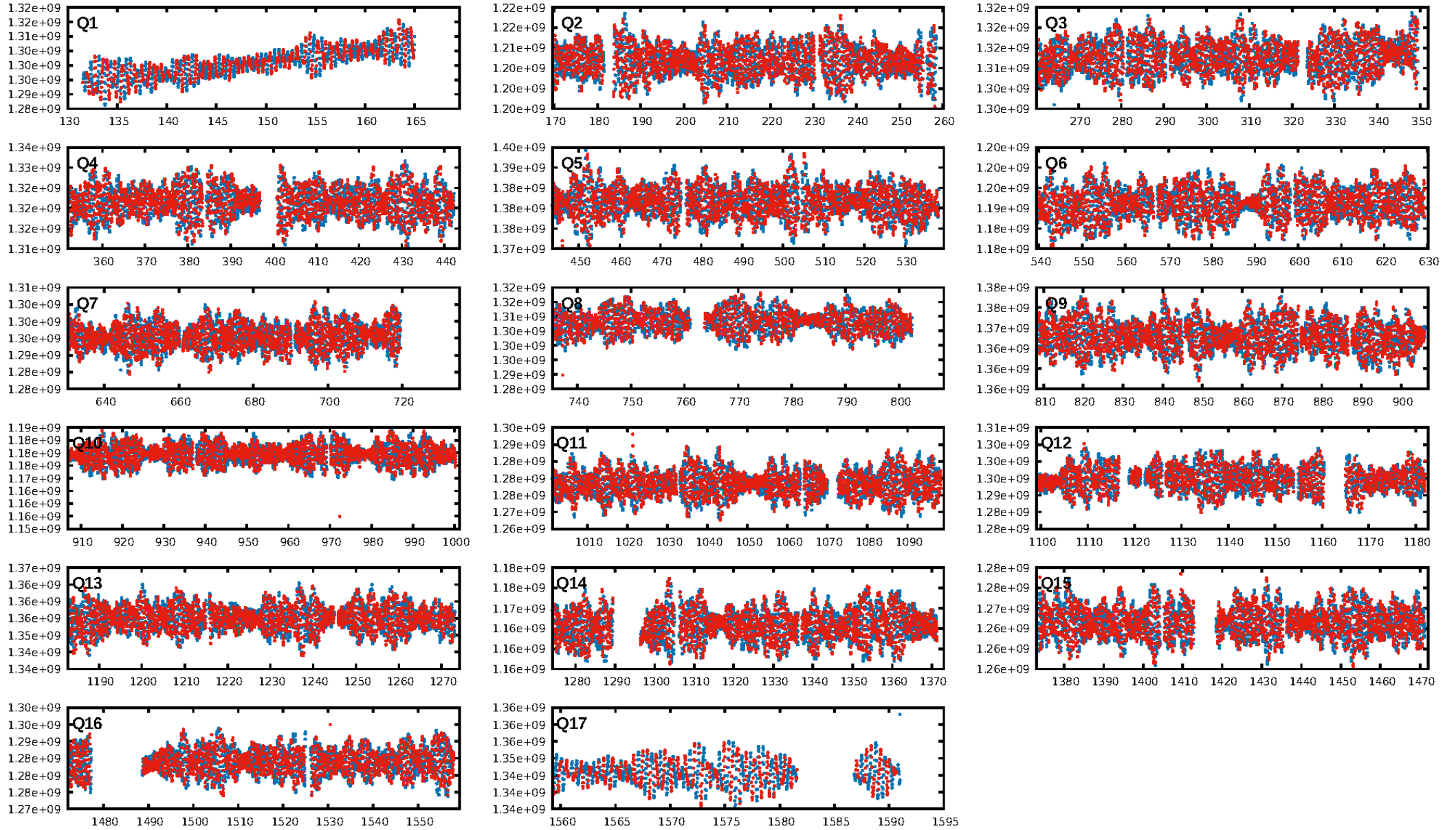
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1875/1875]  
GhostDiagnostic-chr: 0.5073  
Centroid-sig: N/A  
Centroid-so: 0.476 arcsec [2.05σ]  
OotOffset-rm: 1.640 arcsec [2.32σ]  
KicOffset-rm: 2.683 arcsec [3.77σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.41 [7/17]  
DiffImageOverlap-fno: 0.00 [0/17]

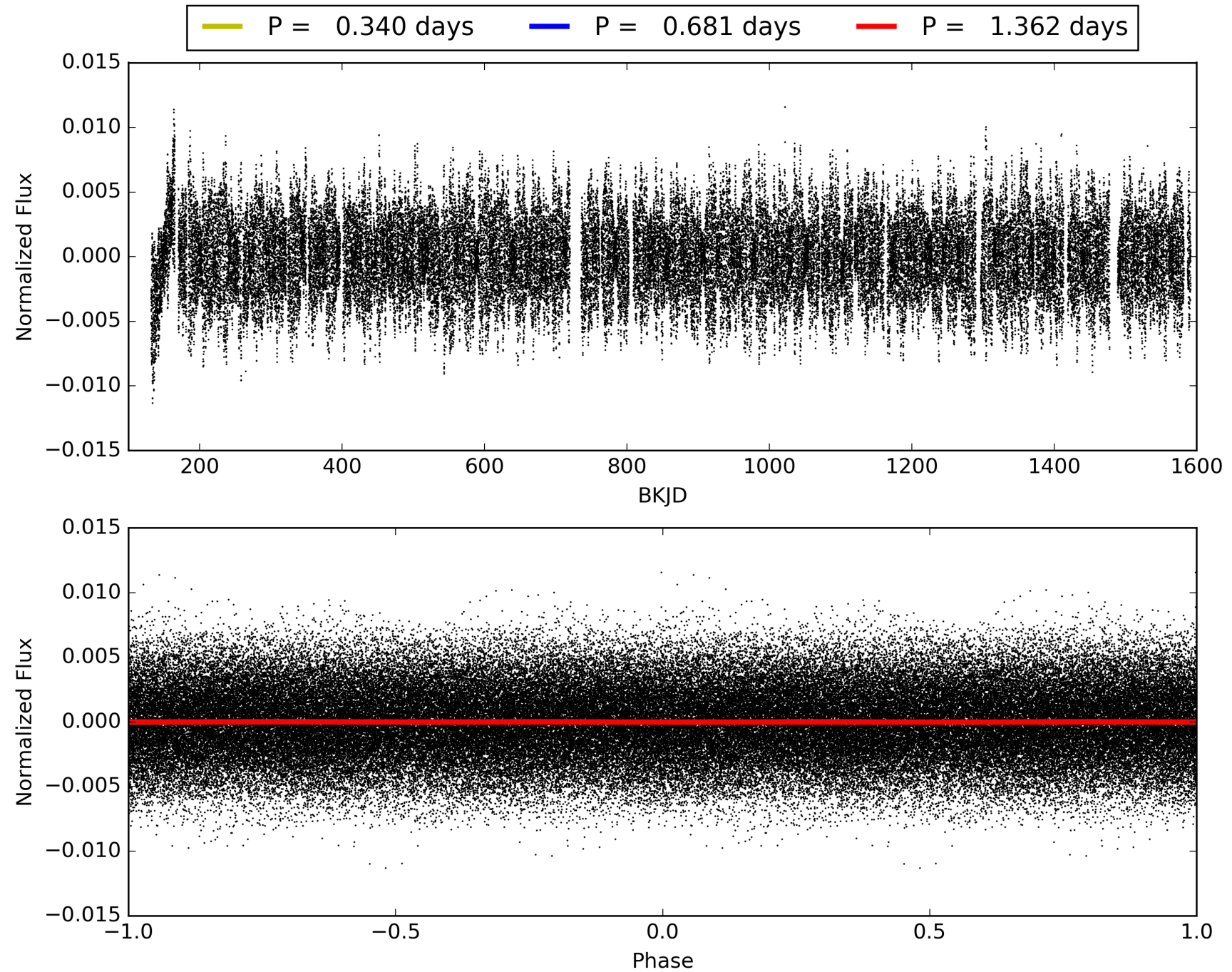
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:35:01 Z

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

# TCE 011612274-02, PDC Light Curves



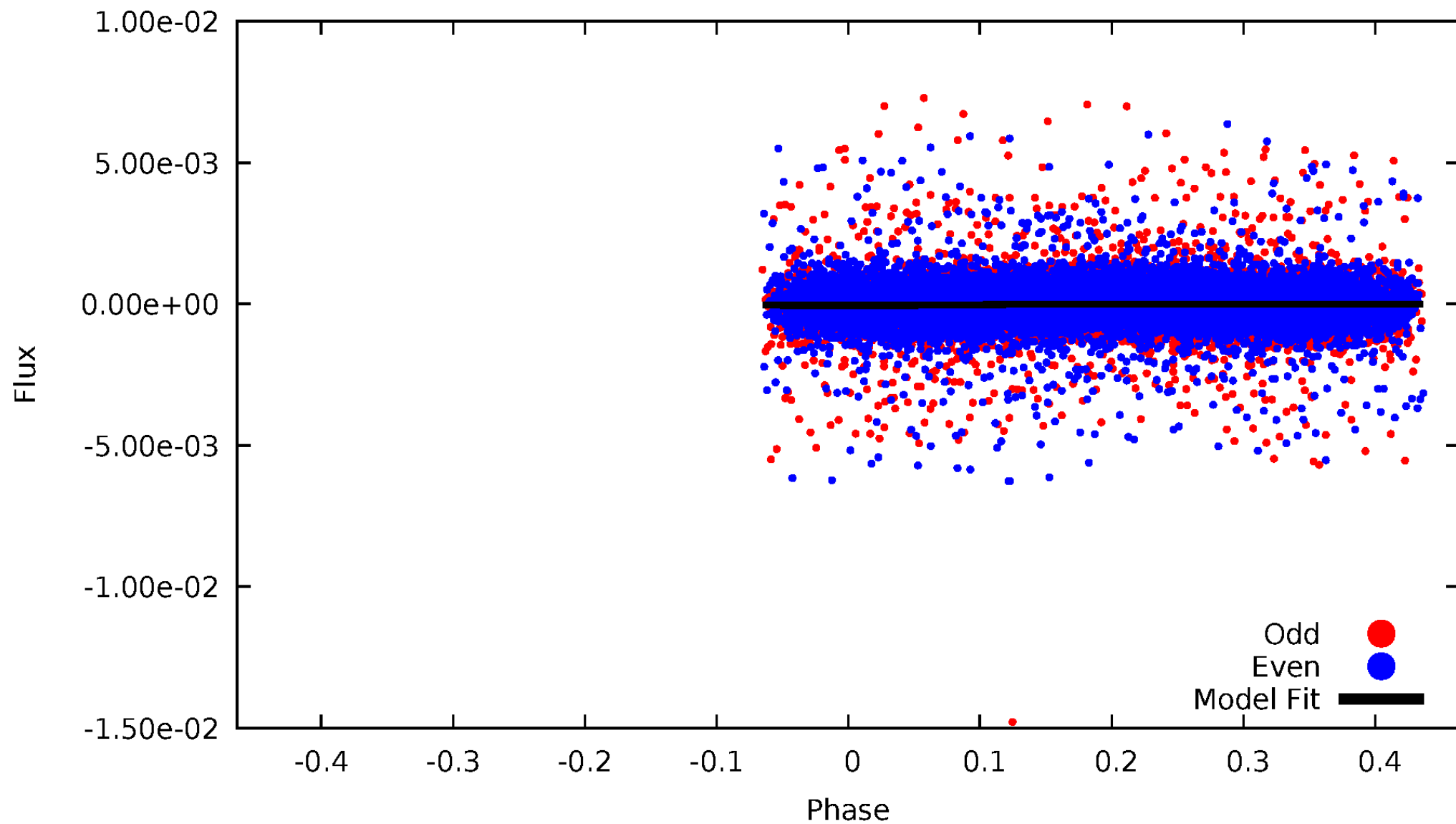
# TCE 011612274-02





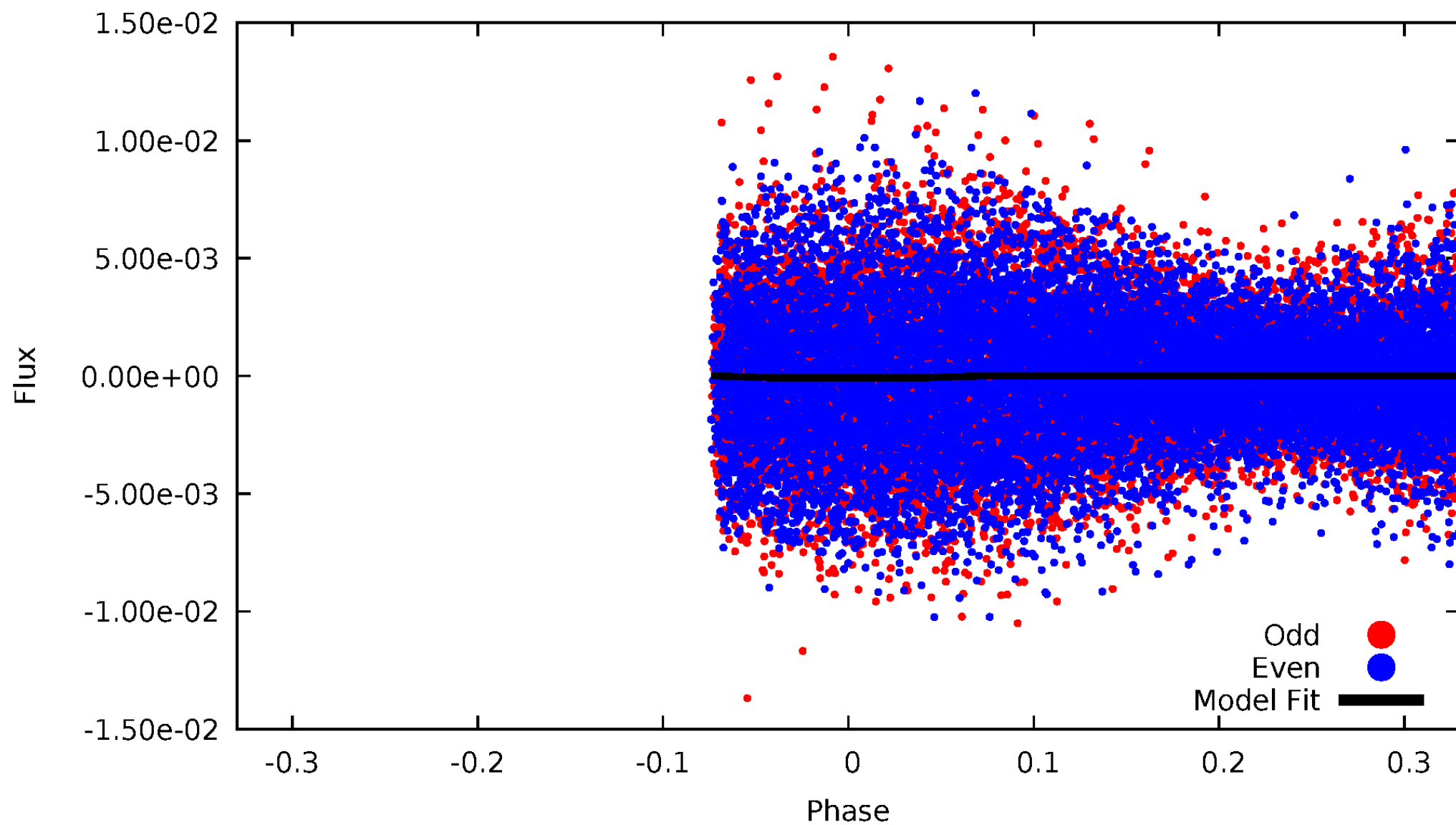
DV Odd/Even

TCE 011612274-02



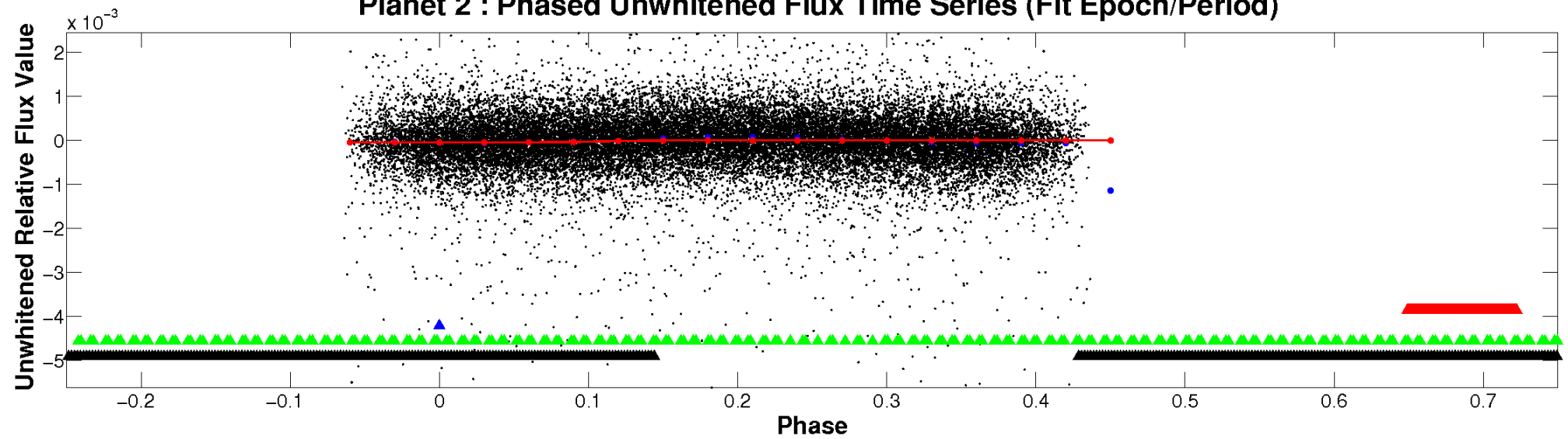
# ALT Odd/Even

TCE 011612274-02

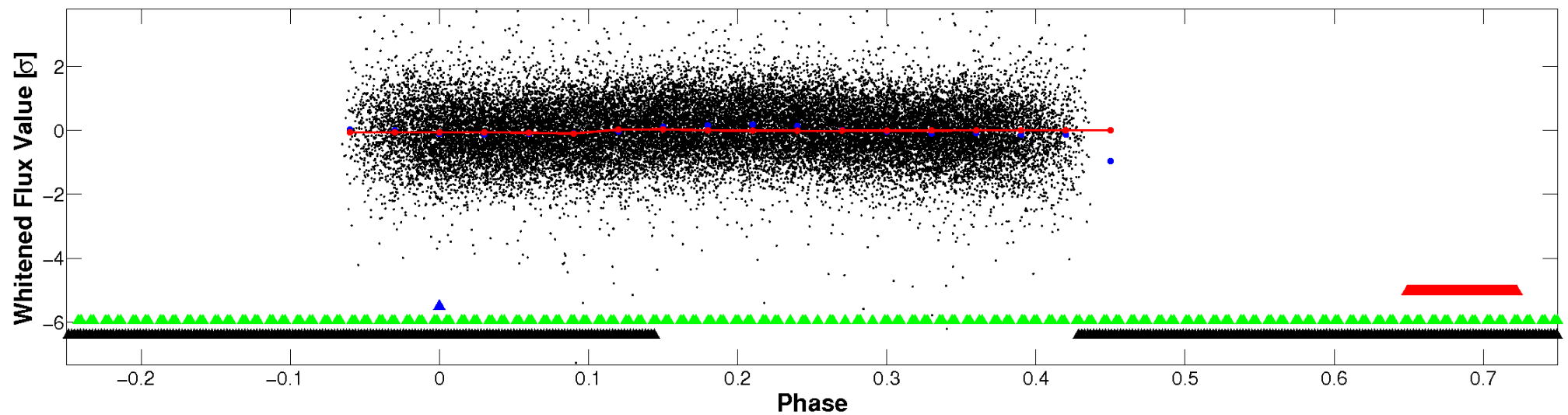


# Non-Whitened Vs. Whitened Light Curve

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

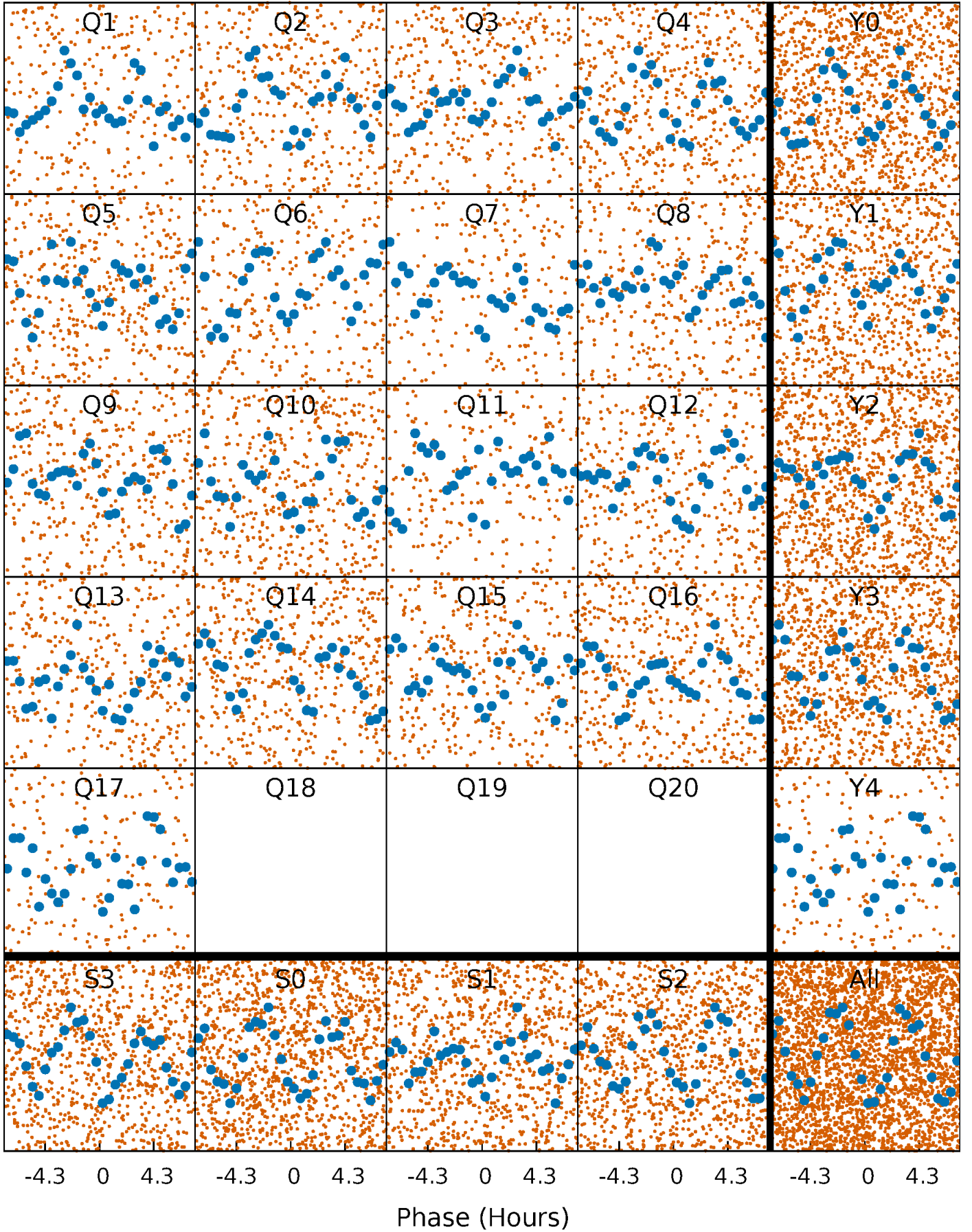


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



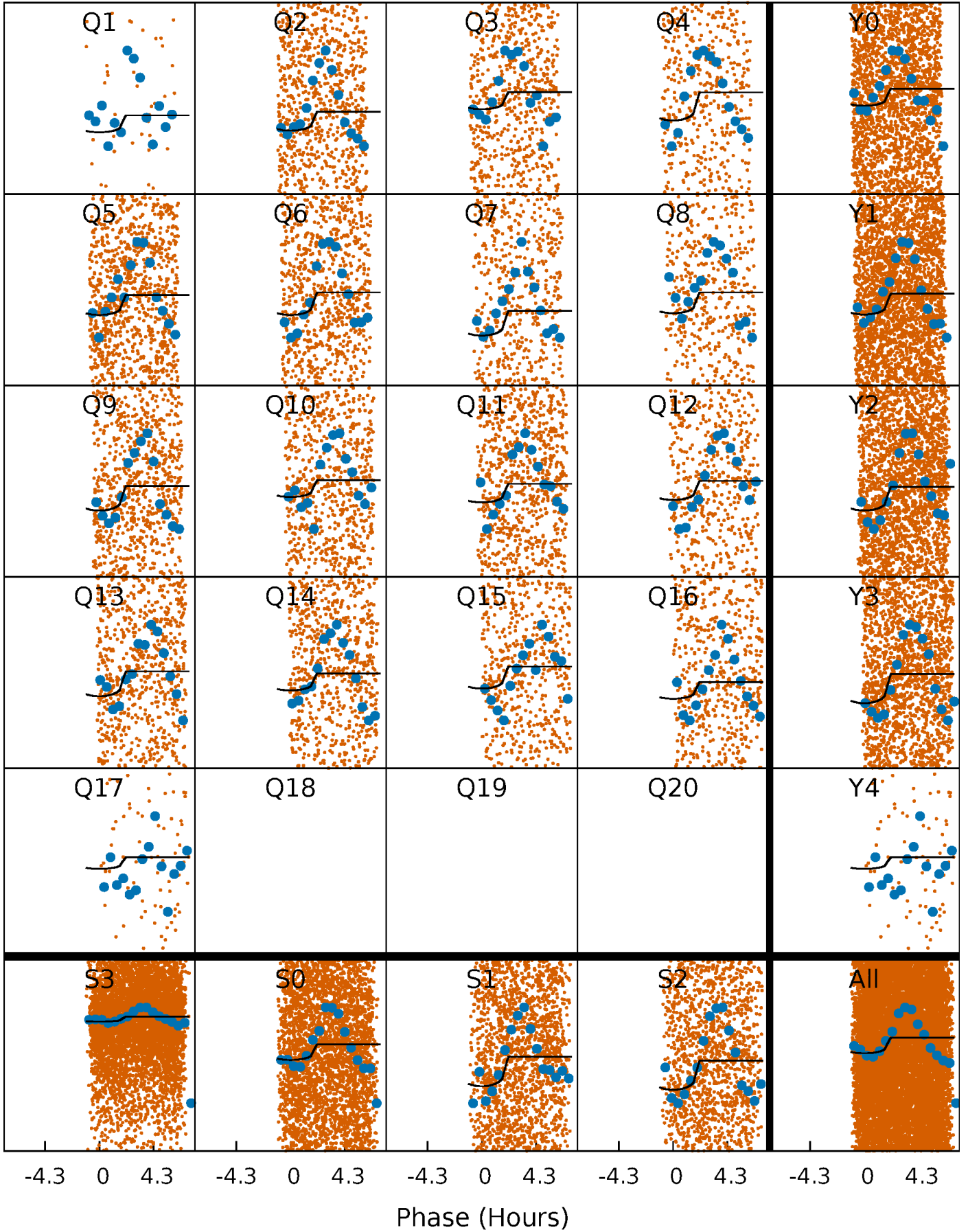
# PDC Quarter-Phased Transit Curves

TCE 011612274-02   P= 0.680893 Days    $T_0=132.049704$  (BKJD)



# DV Quarter-Phased Transit Curves

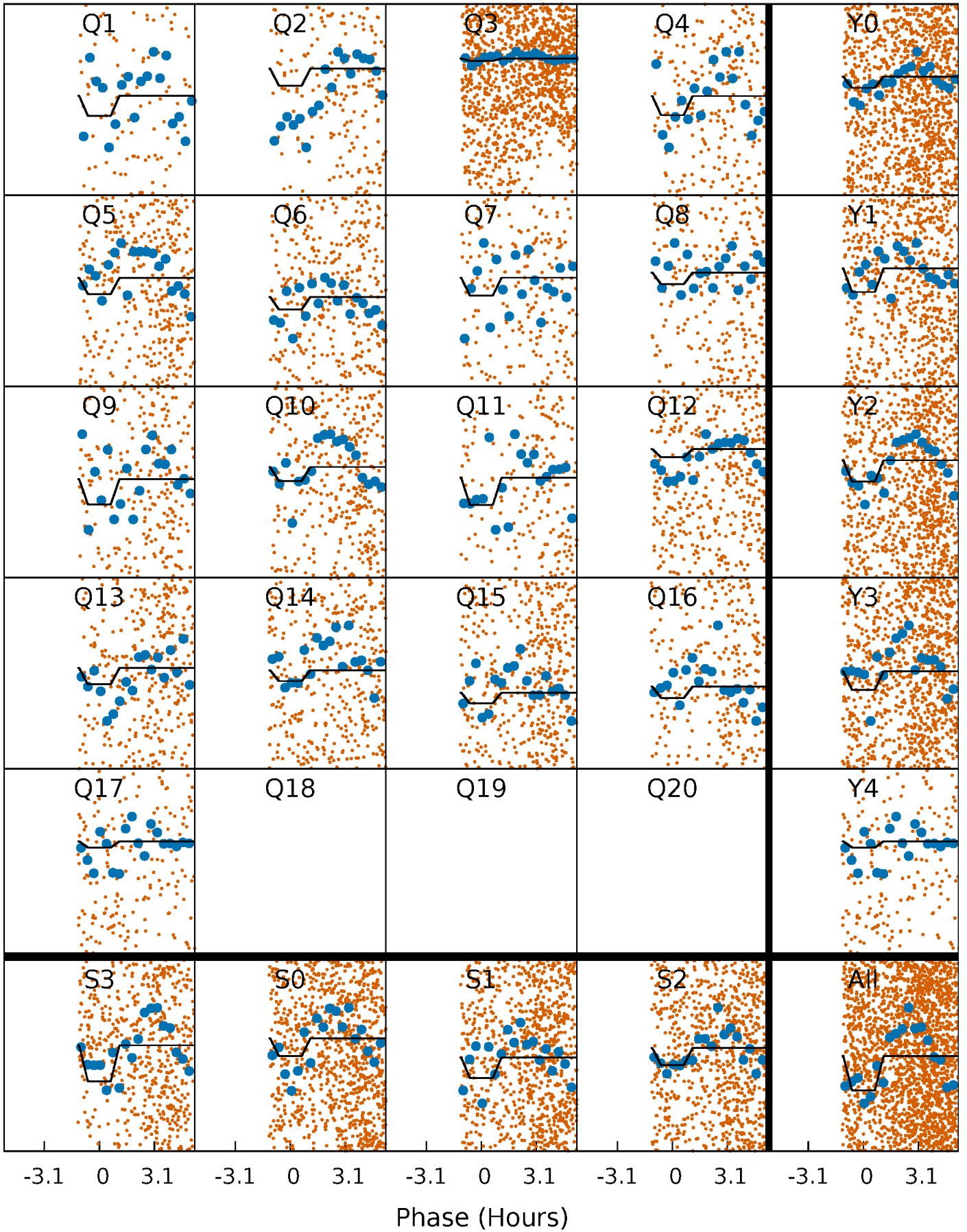
TCE 011612274-02   P= 0.680893 Days    $T_0=132.049704$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 011612274-02   P= 0.680919 Days    $T_0=132.049441$  (BKJD)

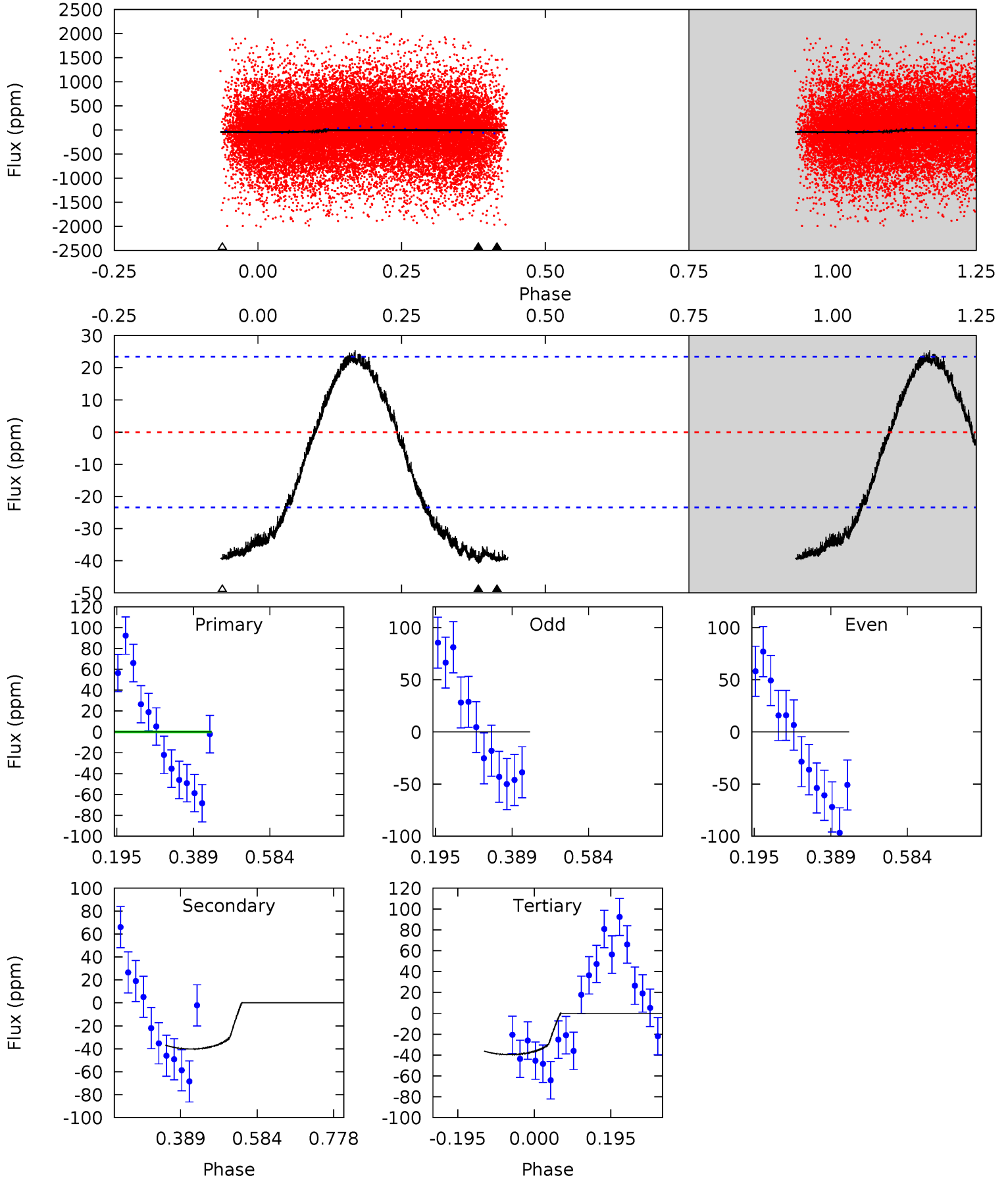




# DV Model-Shift Uniqueness Test

011612274-02, P = 0.680893 Days, E = 131.368811 Days

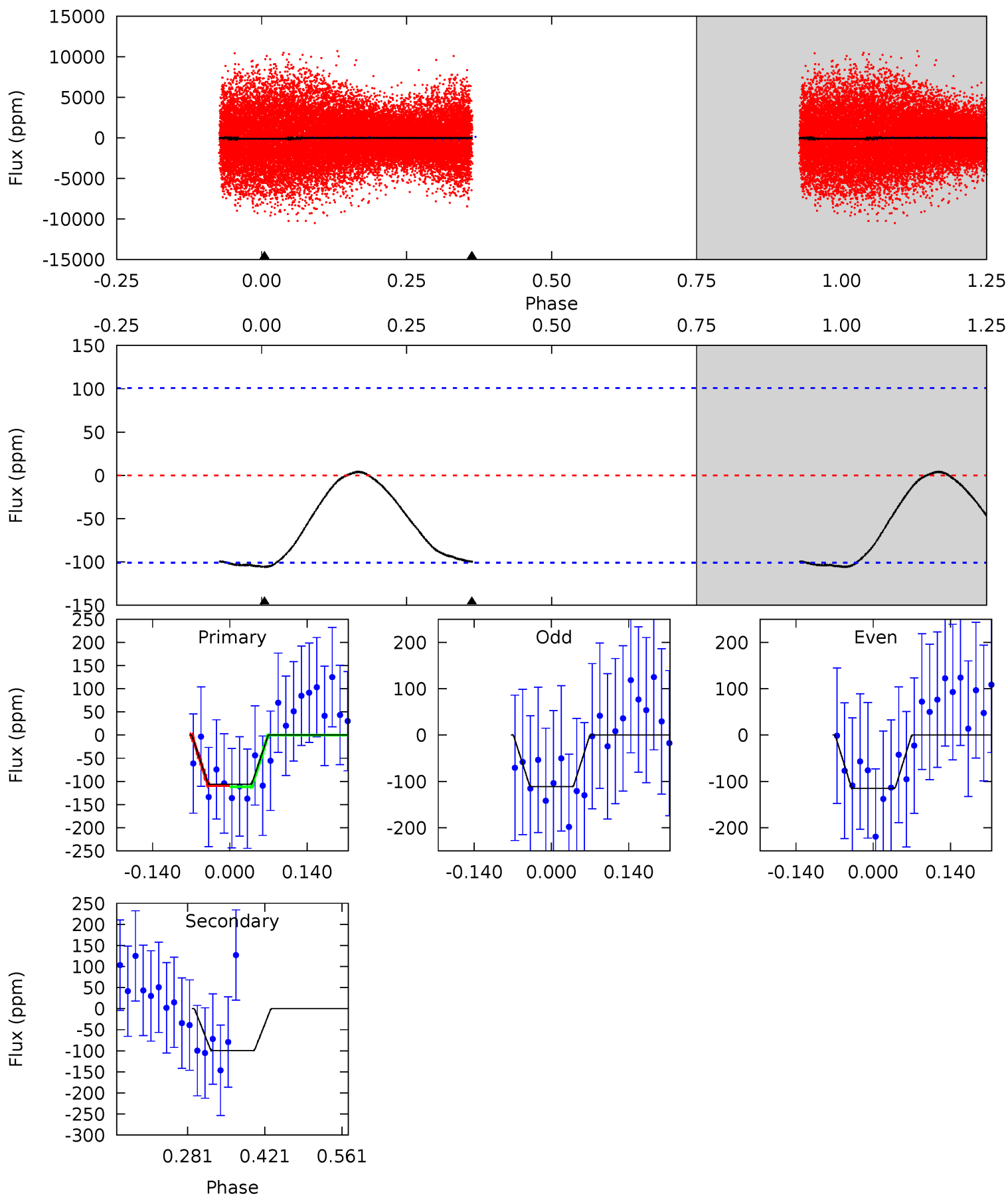
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.71	7.58	7.47	0	4.42	1.30	4.03	0.24	7.71	0.11	7.58	0.81	1.27	0.38	0.91



# Alt Model-Shift Uniqueness Test

011612274-02, P = 0.680919 Days, E = 131.368522 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
4.71	4.44	0	0	4.49	1.47	0.35	4.71	4.71	4.44	4.44	0.09	0.48	0.04	0.05



### Stellar Parameters For KIC 011612274

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7694^{+214}_{-322}$	$3.601^{+0.540}_{-0.060}$	$-0.200^{+0.250}_{-0.300}$	$3.715^{+0.506}_{-2.026}$	$2.010^{+0.173}_{-0.518}$	$0.055^{+0.372}_{-0.016}$
	+3%/-4%	+15%/-2%	+125%/-150%	+14%/-55%	+9%/-26%	+674%/-29%
Source	KIC0	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 011612274-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-40 \pm 5$	$2.18^{+0.91}_{-0.83}$	$6290^{+472}_{-864}$	$7136^{+2304}_{-1259}$	$1.665^{+2.565}_{-0.835}$
Alt.	$-100 \pm 22$	$3.28^{+0.98}_{-1.07}$	$6295^{+449}_{-814}$	$7641^{+1526}_{-1194}$	$1.856^{+1.930}_{-0.793}$

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

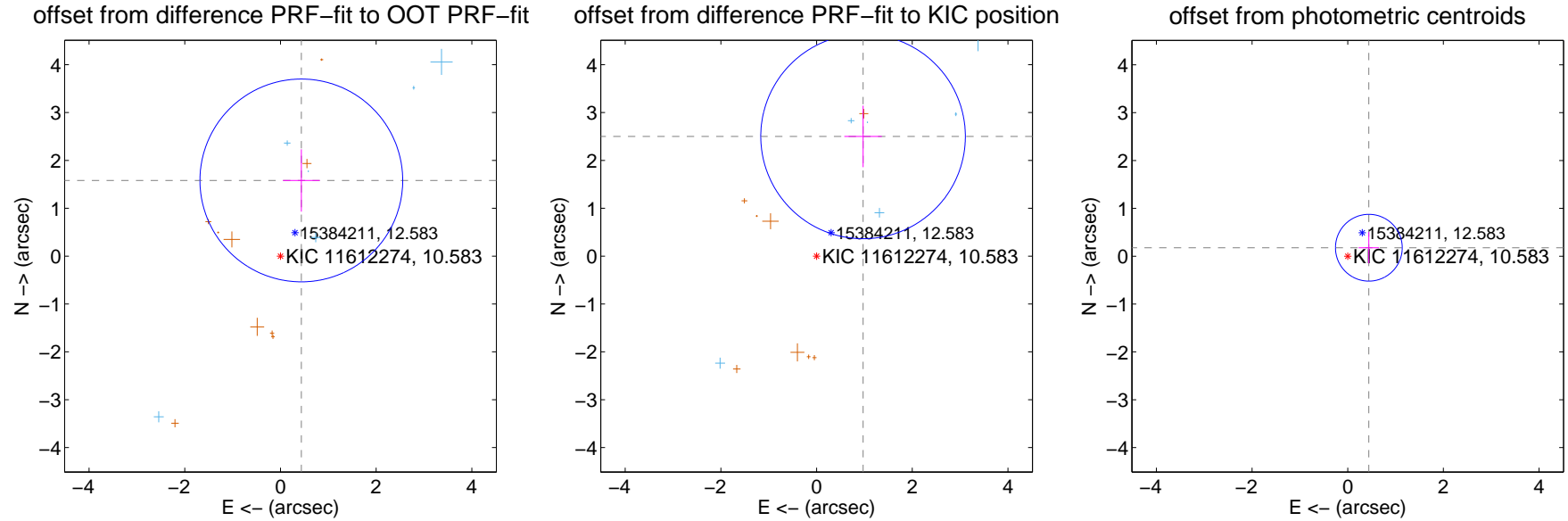
## DV Centroid Data

Supplemental centroid analysis for 011612274-02. **Kepler magnitude: 10.58.** Transit SNR 7.52

There are 7 quarters with good PRF difference image offsets

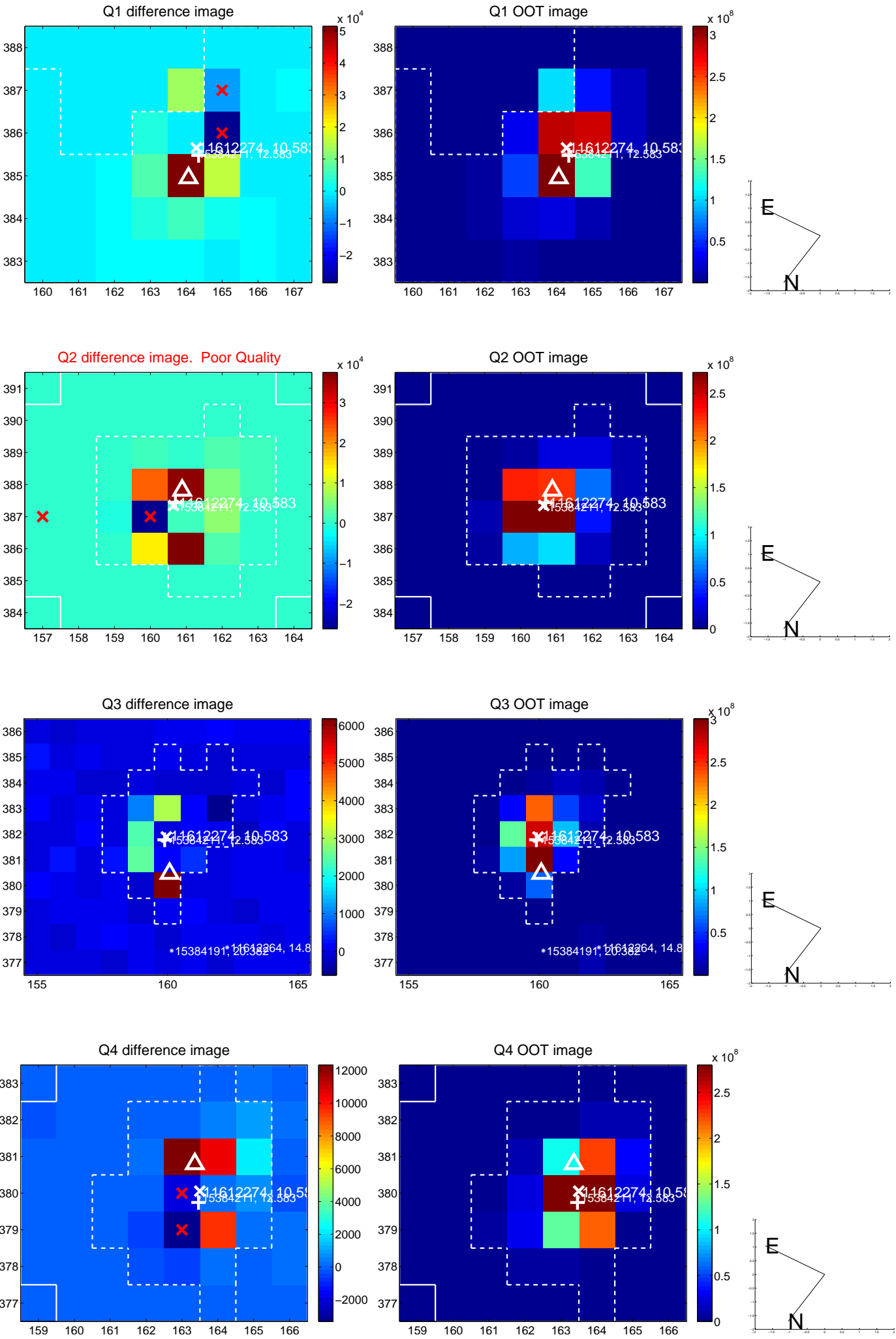
The direct PRF centroid is offset from the target star catalog position by about 0.77 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.640 \pm 0.706$	2.32	$-0.436 \pm 0.385$	$1.581 \pm 0.651$
PRF-fit source offset from KIC position	<b><math>2.683 \pm 0.713</math></b>	<b>3.77</b>	$-0.971 \pm 0.393$	$2.501 \pm 0.642$
photometric centroid source offset	$0.48 \pm 0.23$	2.05	$-0.44 \pm 0.21$	$0.18 \pm 0.33$

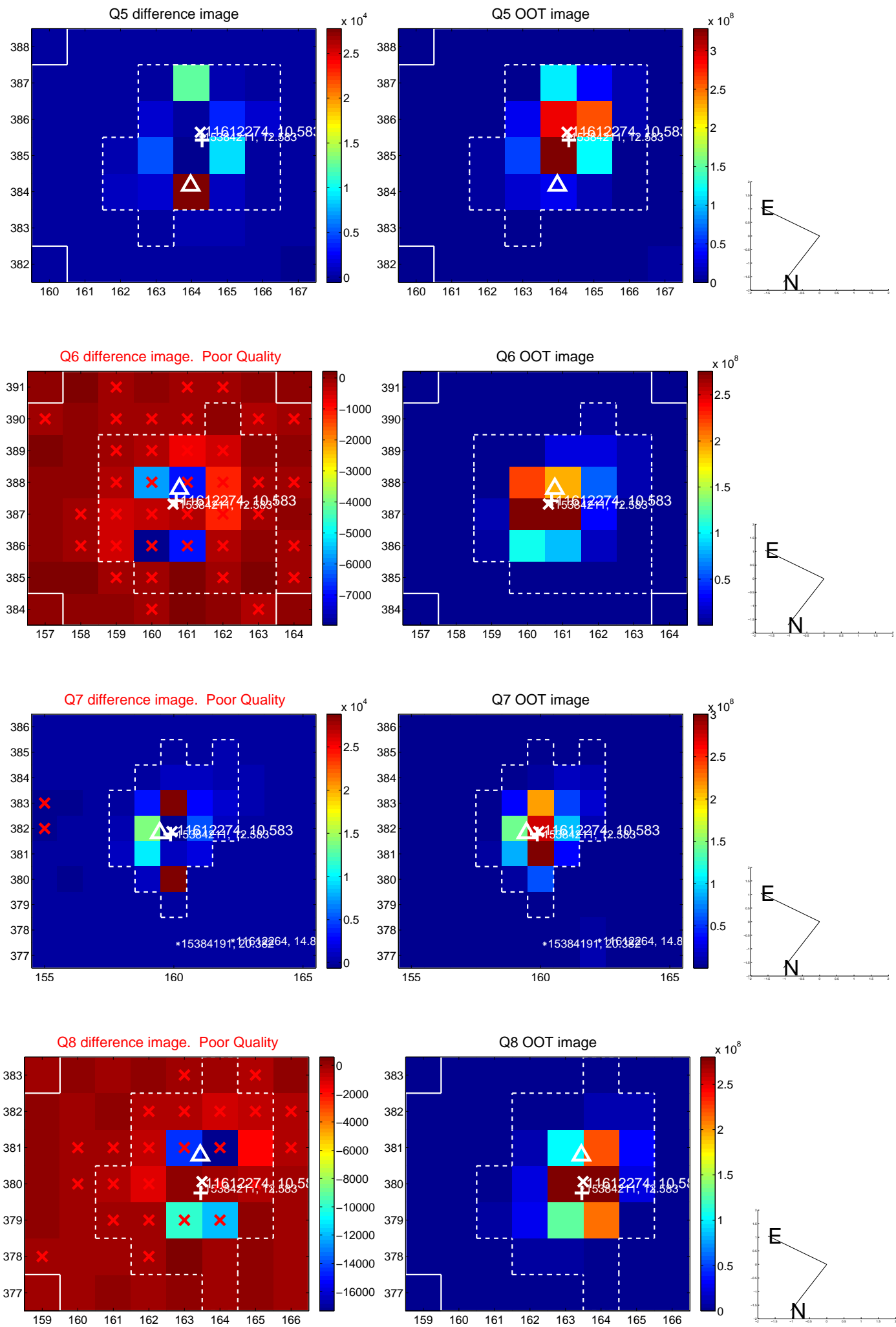


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

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

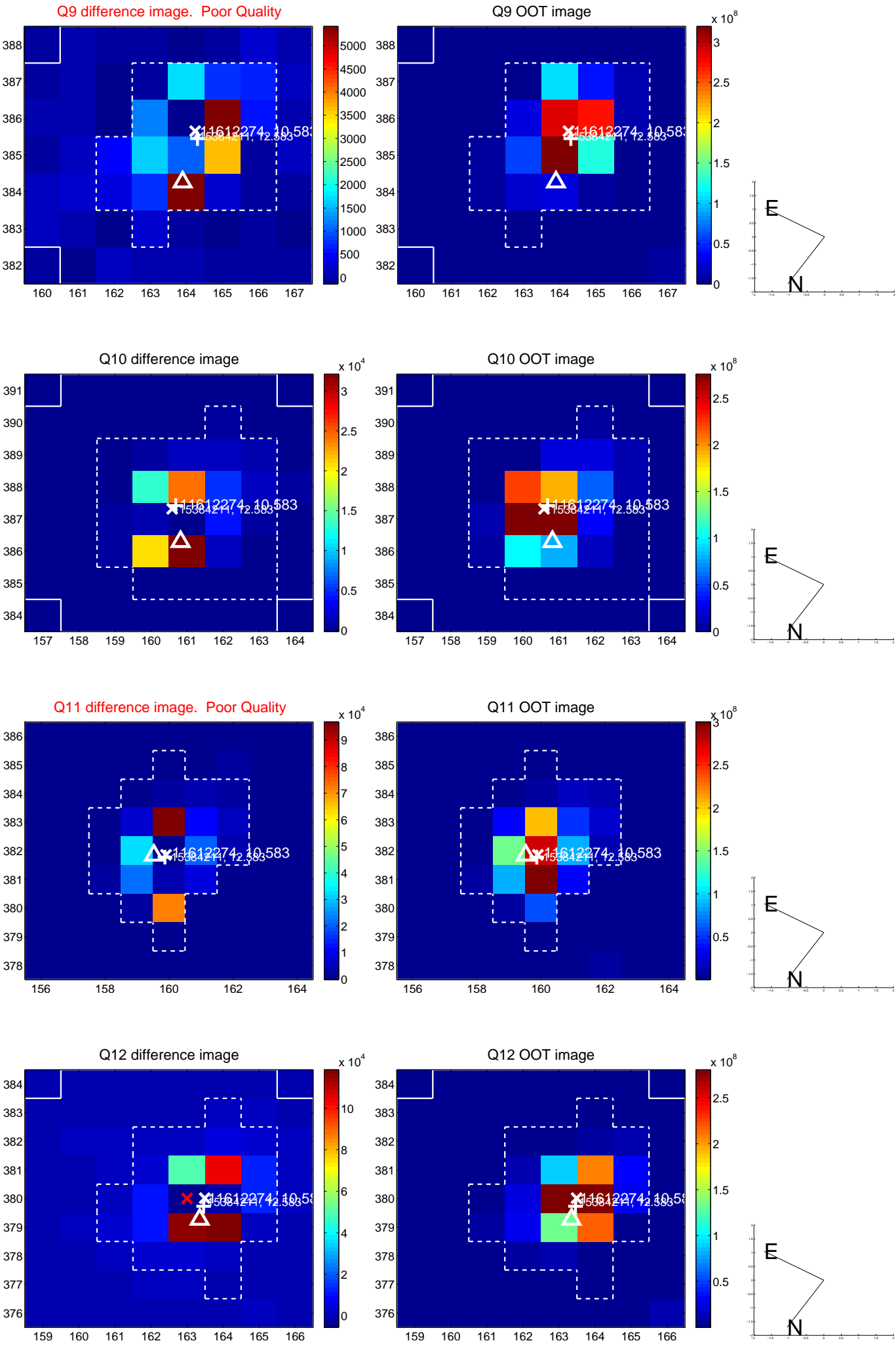


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

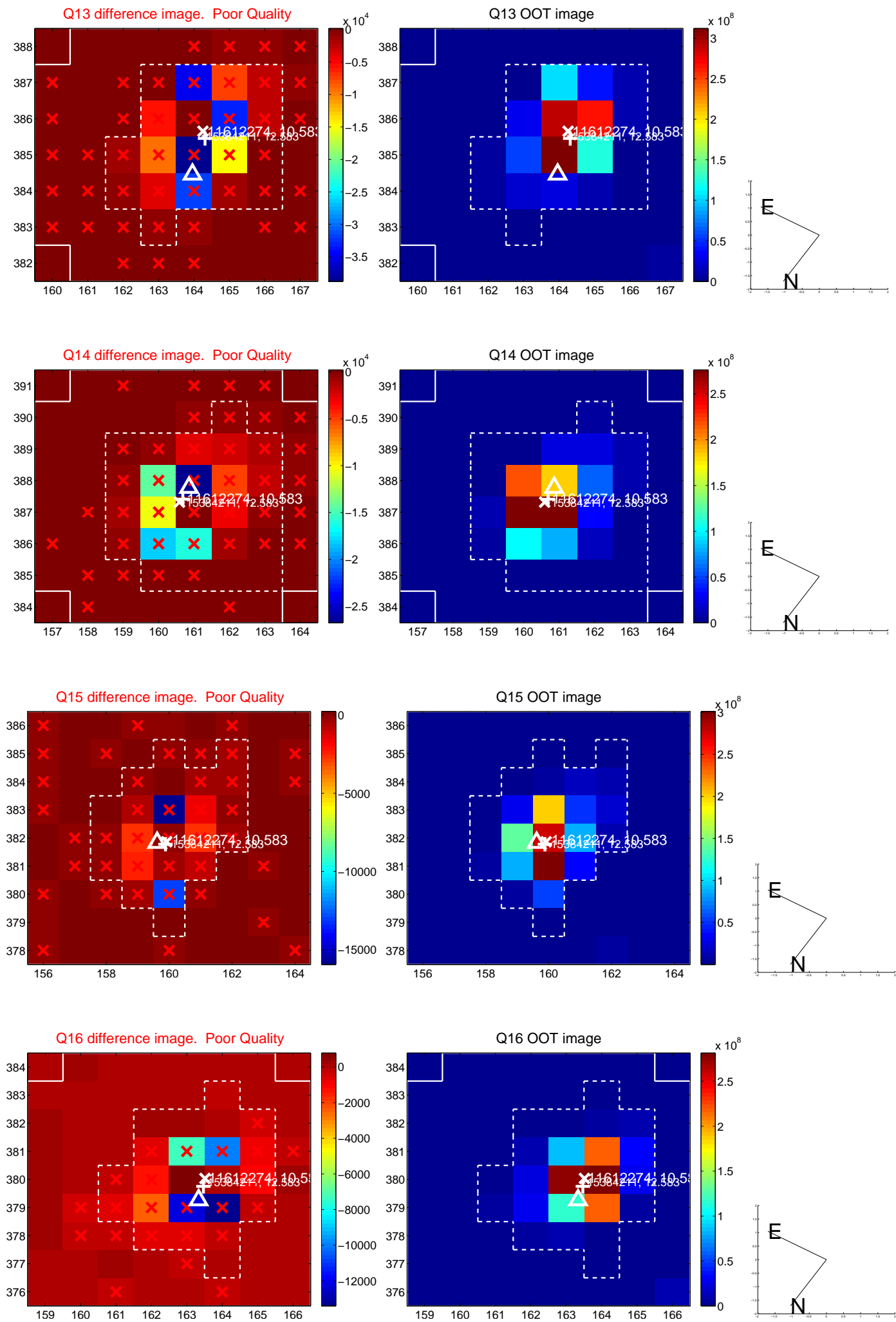




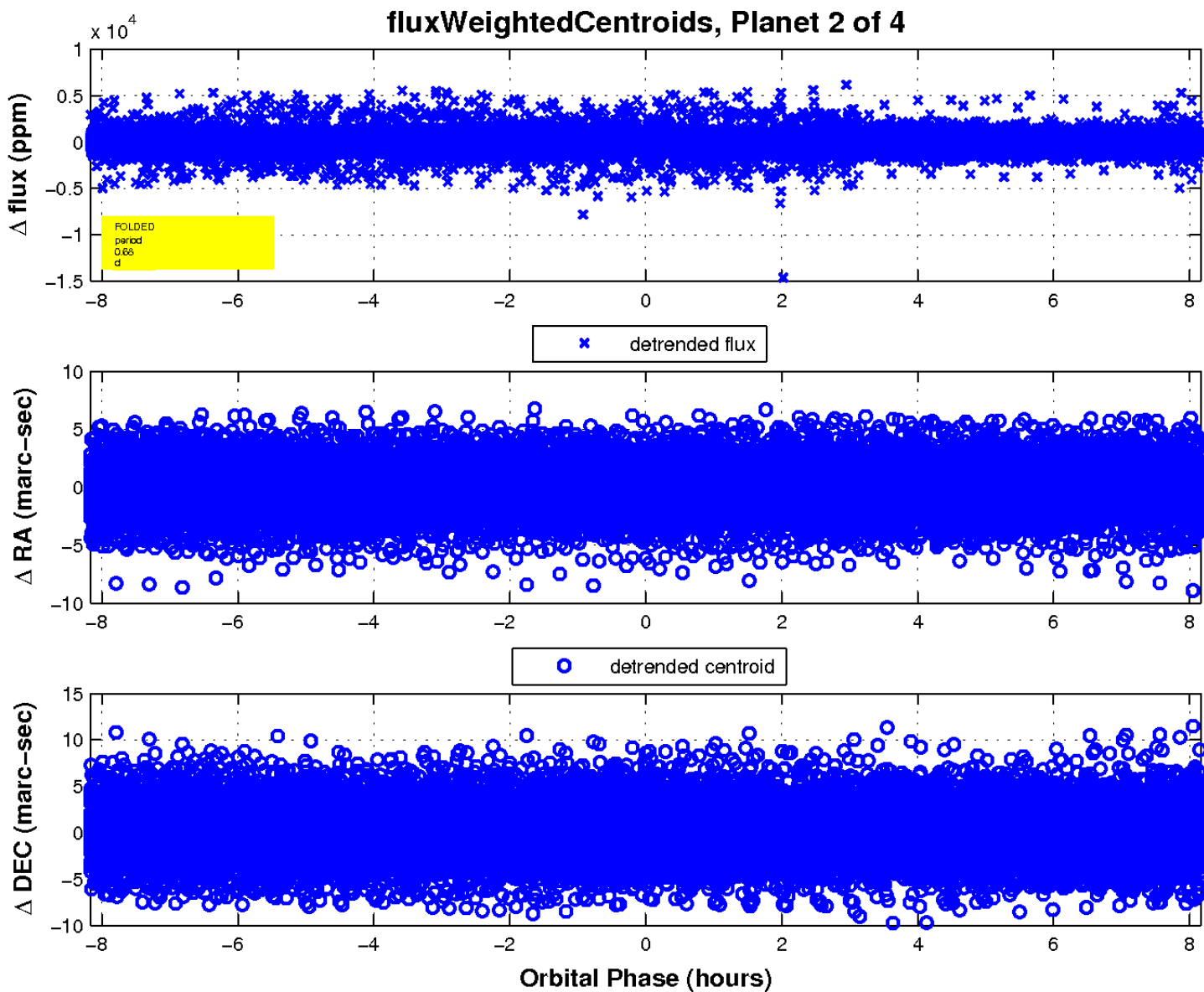
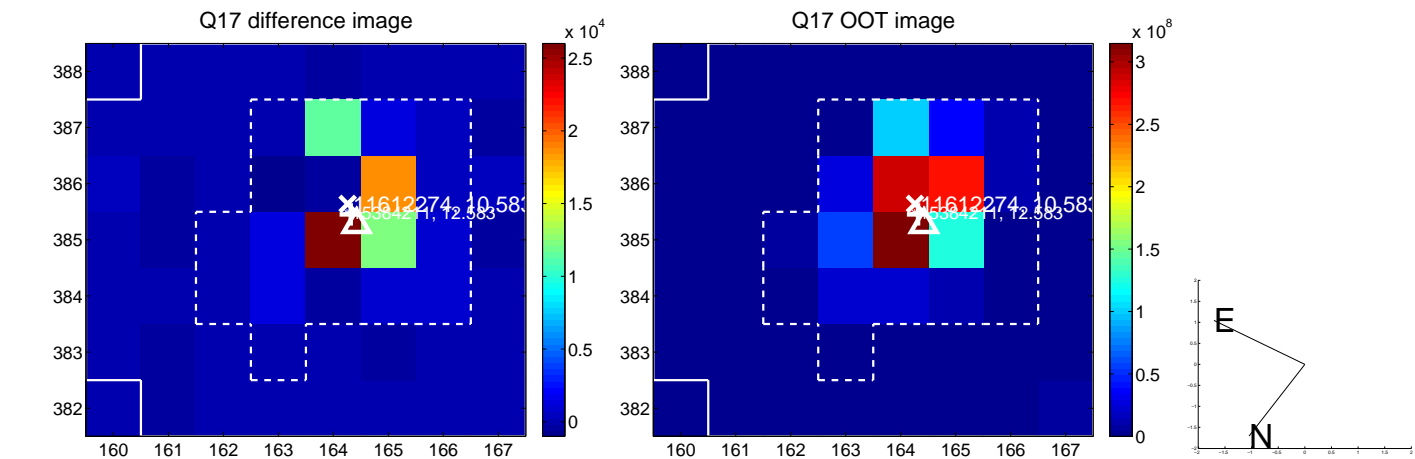
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

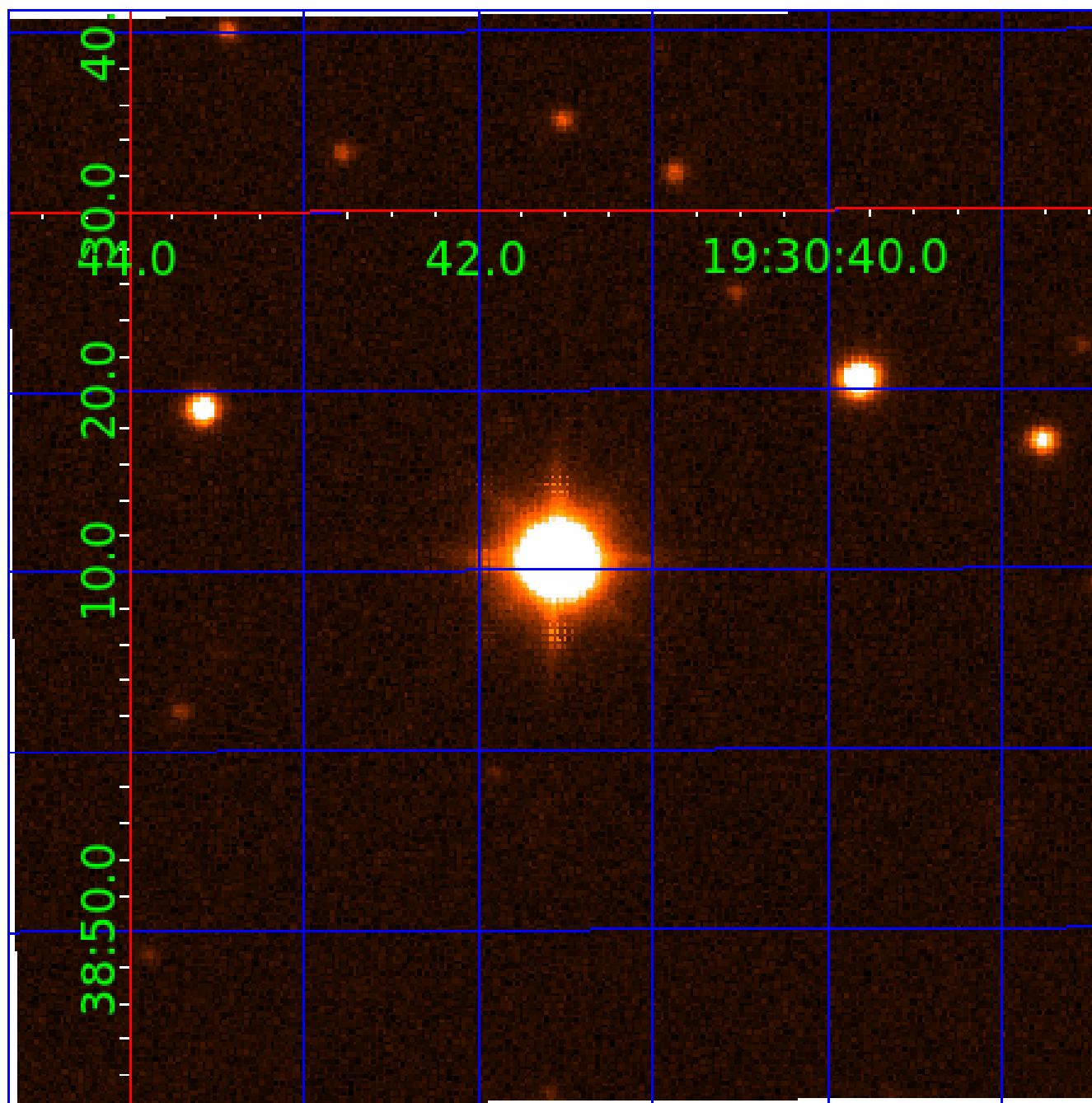


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 011612274

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011612274-01	OBS	No	0.680916	131.810806	30.8	2.945	9.6	8.6	3.71	7694	2.42	118581.63
011612274-02	OBS	No	0.680893	132.049704	41.5	3.790	10.3	7.5	3.71	7694	2.56	118587.04
011612274-03	OBS	No	6.821434	134.982332	409.4	1.731	9.7	5.9	3.71	7694	7.56	5490.87

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011612274-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011612274-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED
011612274-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—CENT_SATURATED—HALO_GHOST

**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.

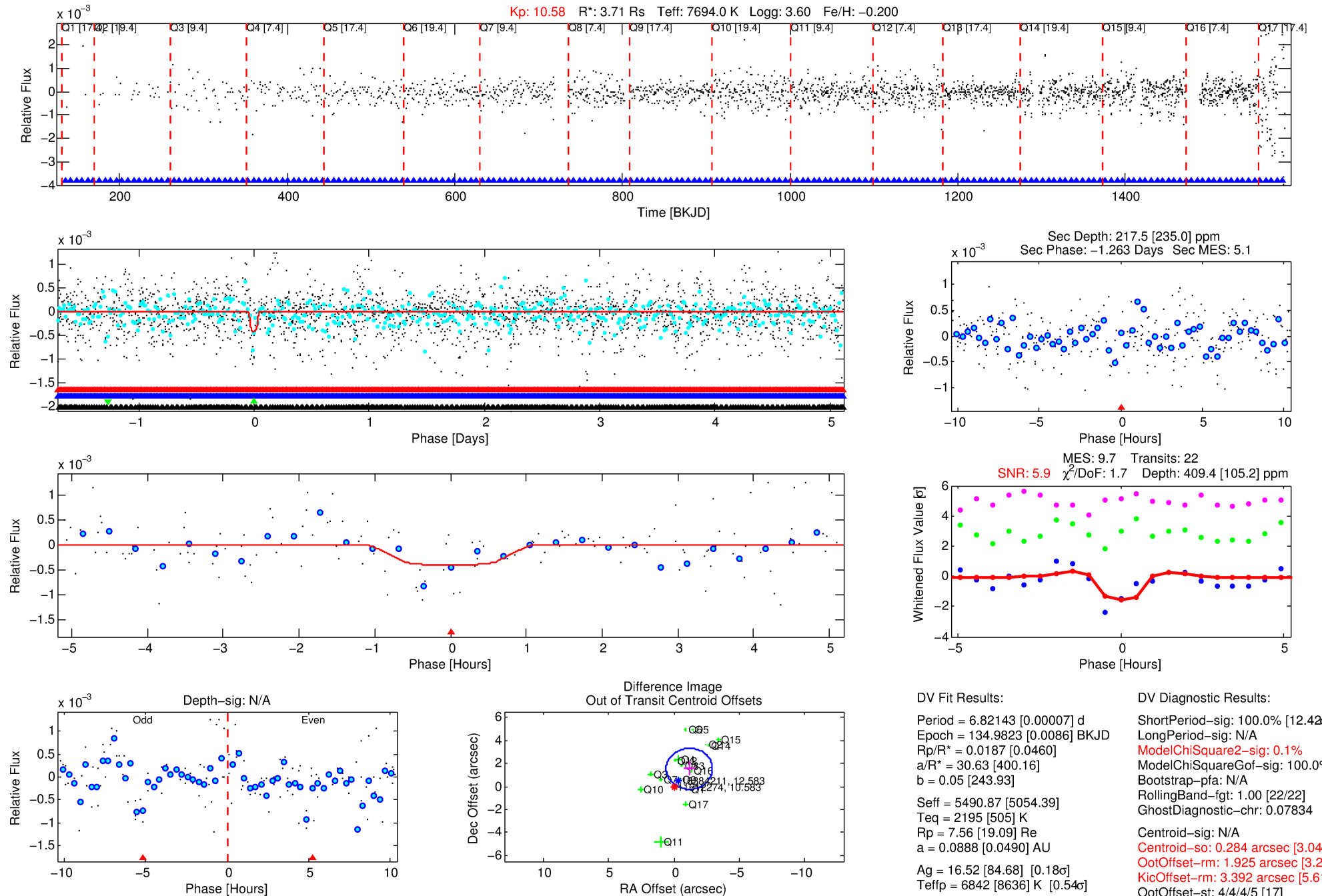
Ephemeris Match Information For 011612274-03

No Significant Match Found



# DV One-Page Summary

KIC: 11612274 Candidate: 3 of 4 Period: 6.821 d



## DV Fit Results:

Period = 6.82143 [0.00007] d  
 Epoch = 134.9823 [0.0086] BKJD  
 Rp/R\* = 0.0187 [0.0460]  
 a/R\* = 30.63 [400.16]  
 b = 0.05 [243.93]  
 Seff = 5490.87 [5054.39]  
 Teq = 2195 [505] K  
 Rp = 7.56 [19.09] Re  
 a = 0.0888 [0.0490] AU  
 Ag = 16.52 [84.68] [0.18 $\sigma$ ]  
 Tefp = 6842 [8636] K [0.54 $\sigma$ ]

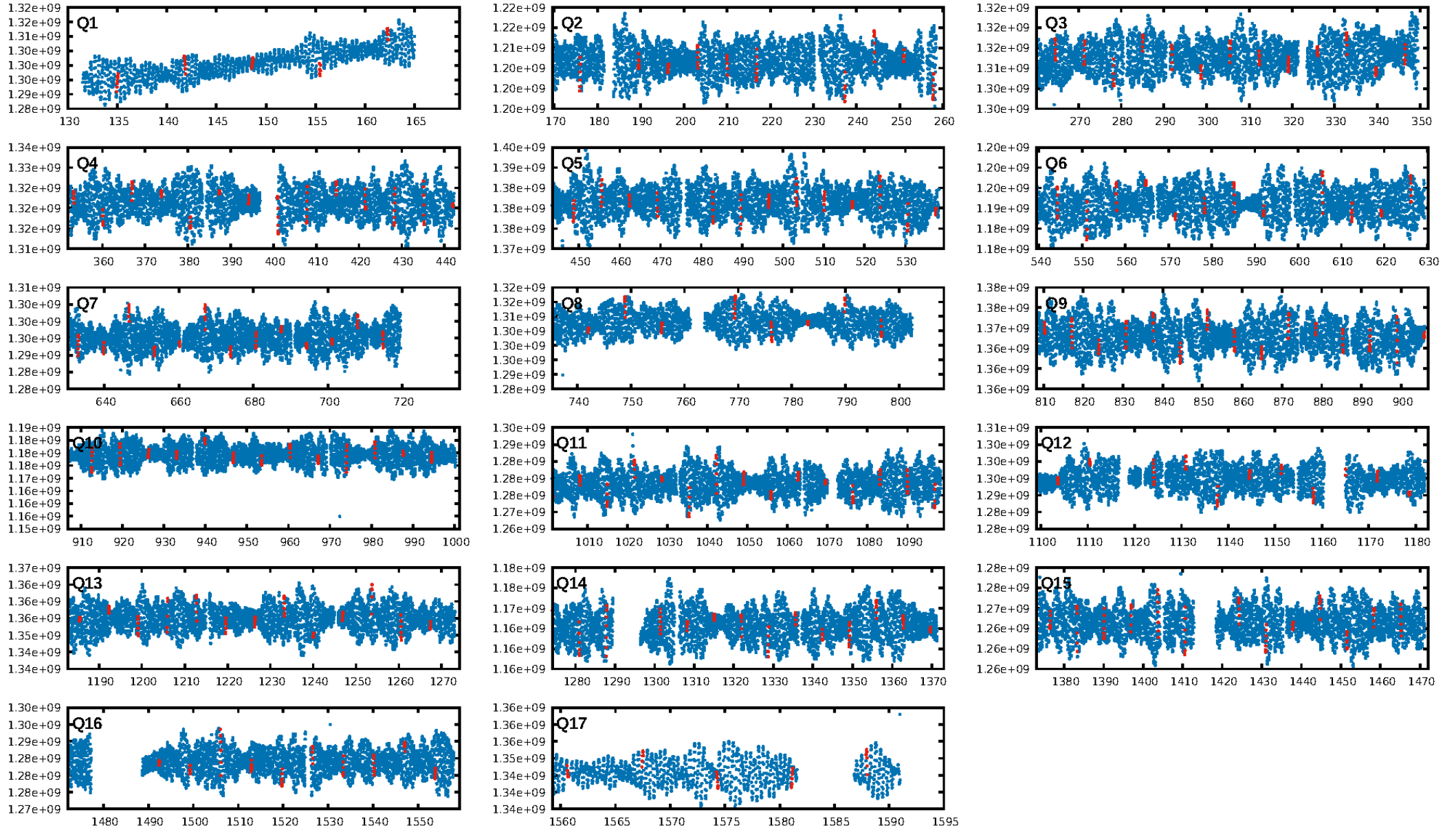
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.42 $\sigma$ ]  
 LongPeriod-sig: N/A  
 ModelChiSquare2-sig: 0.1%  
 ModelChiSquareGof-sig: 100.0%  
 Bootstrap-pfa: N/A  
 RollingBand-fgt: 1.00 [22/22]  
 GhostDiagnostic-chr: 0.07834  
 Centroid-sig: N/A  
 Centroid-so: 0.284 arcsec [3.04 $\sigma$ ]  
 OutOffset-rm: 1.925 arcsec [3.26 $\sigma$ ]  
 KicOffset-rm: 3.392 arcsec [5.61 $\sigma$ ]  
 OutOffset-st: 4/4/4/5 [17]  
 KicOffset-st: 4/4/4/5 [17]  
 DiffImageQuality-fgm: 0.35 [6/17]  
 DiffImageOverlap-fno: 0.00 [0/17]

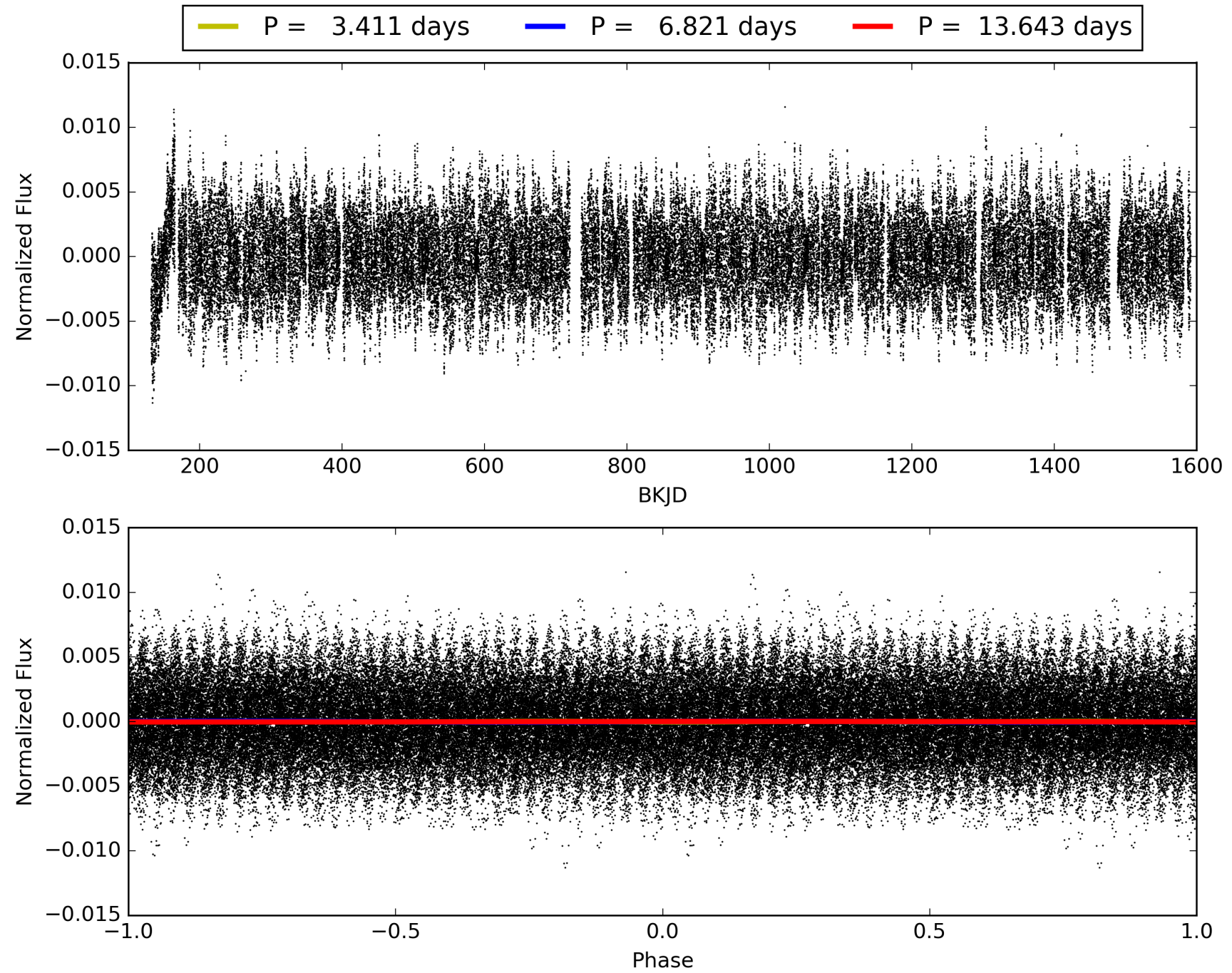
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:35:06 Z

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

# TCE 011612274-03, PDC Light Curves

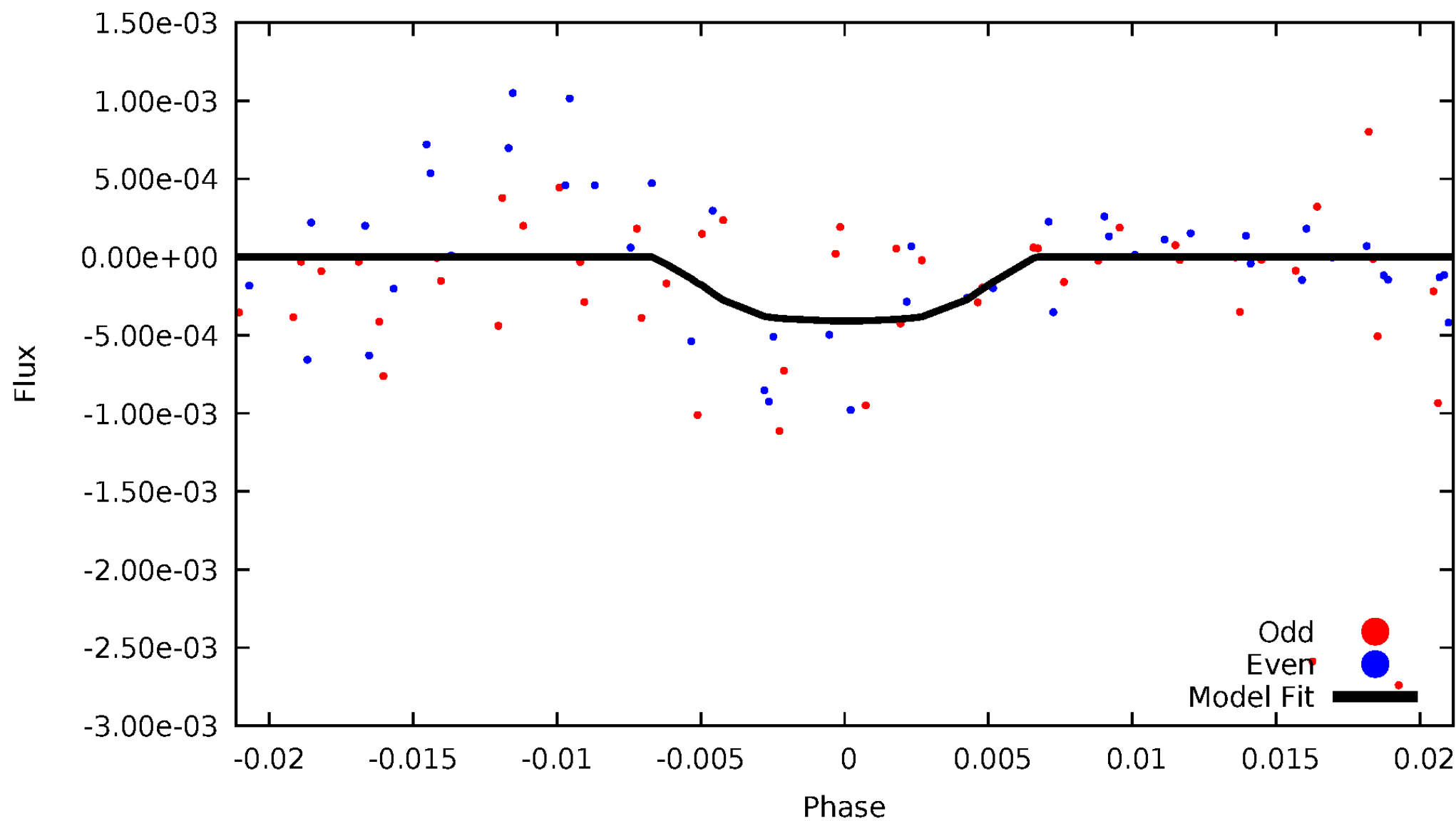


# TCE 011612274-03



# DV Odd/Even

TCE 011612274-03





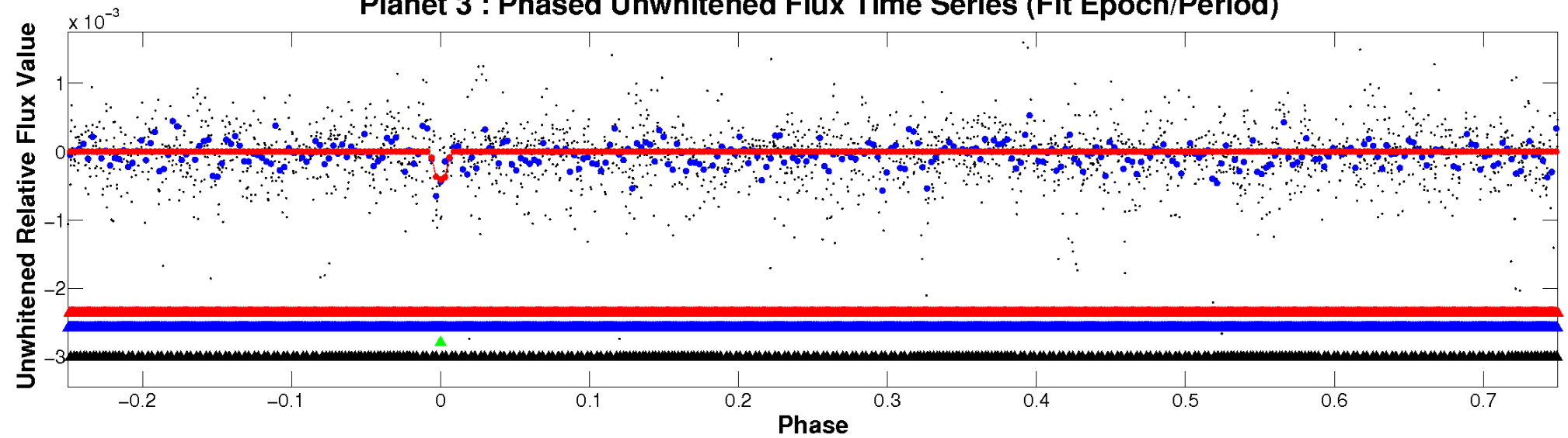


ALT Odd/Even

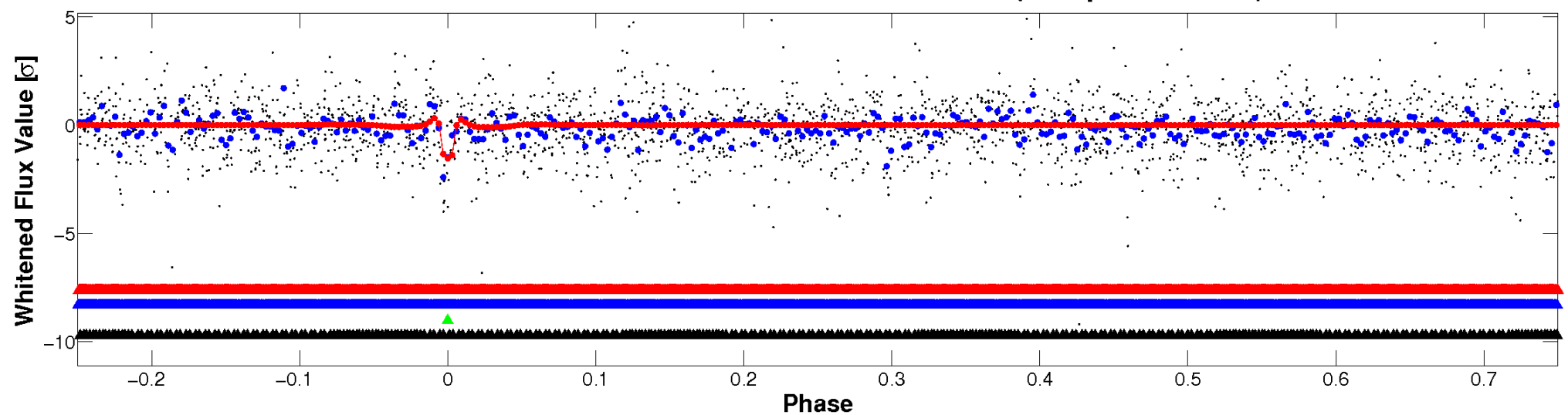
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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

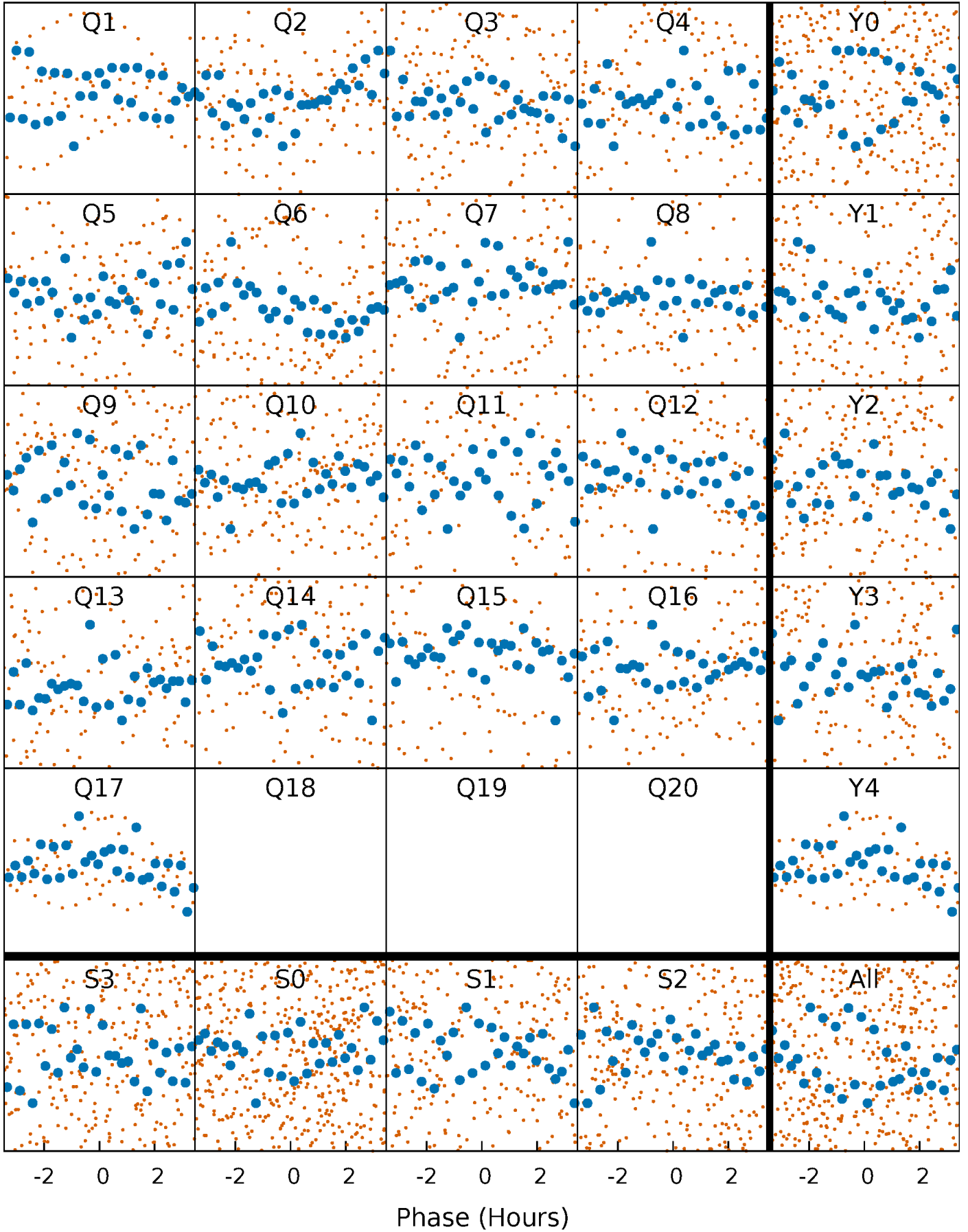


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



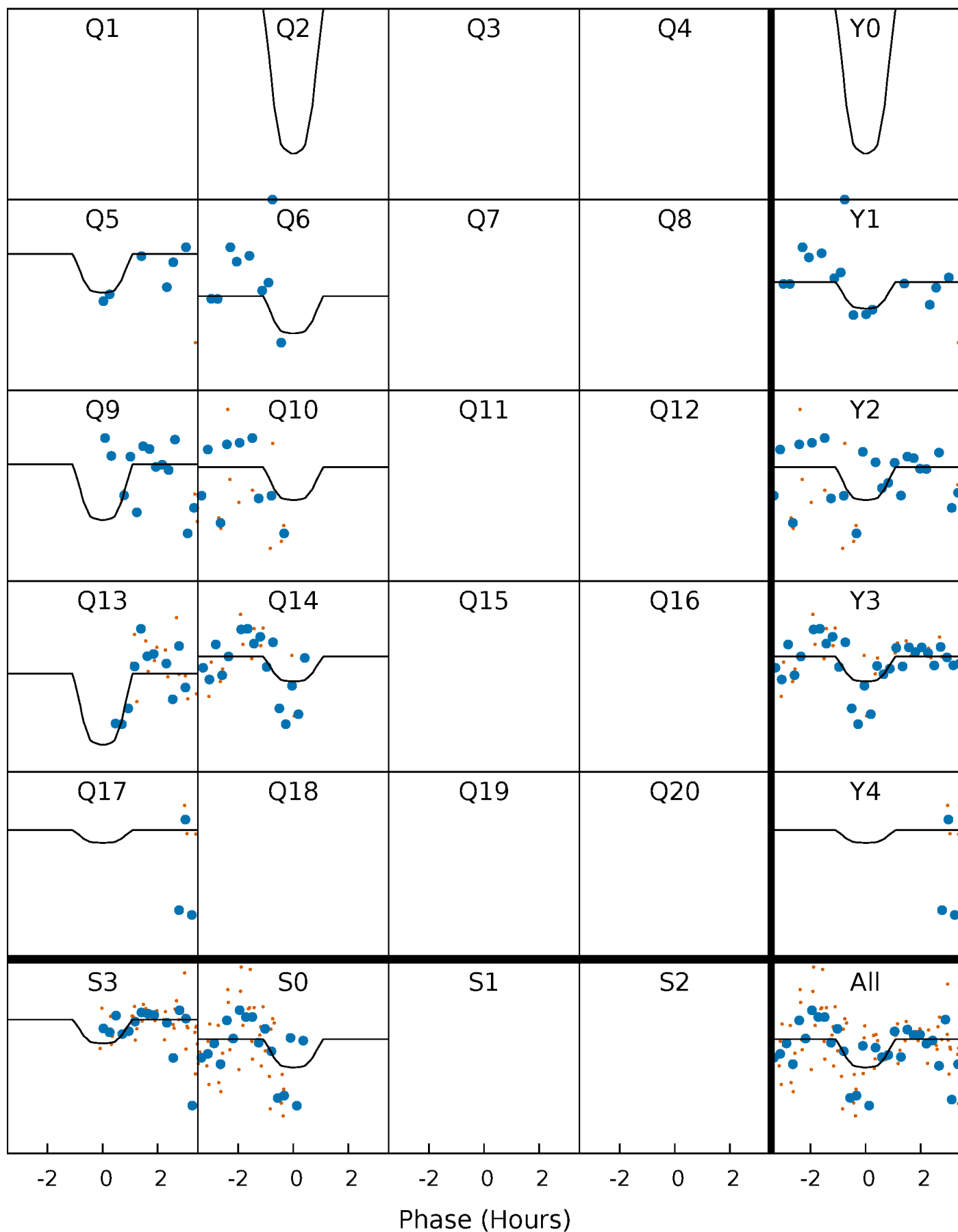
# PDC Quarter-Phased Transit Curves

TCE 011612274-03 P= 6.821434 Days  $T_0=134.982332$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 011612274-03 P= 6.821434 Days  $T_0=134.982332$  (BKJD)

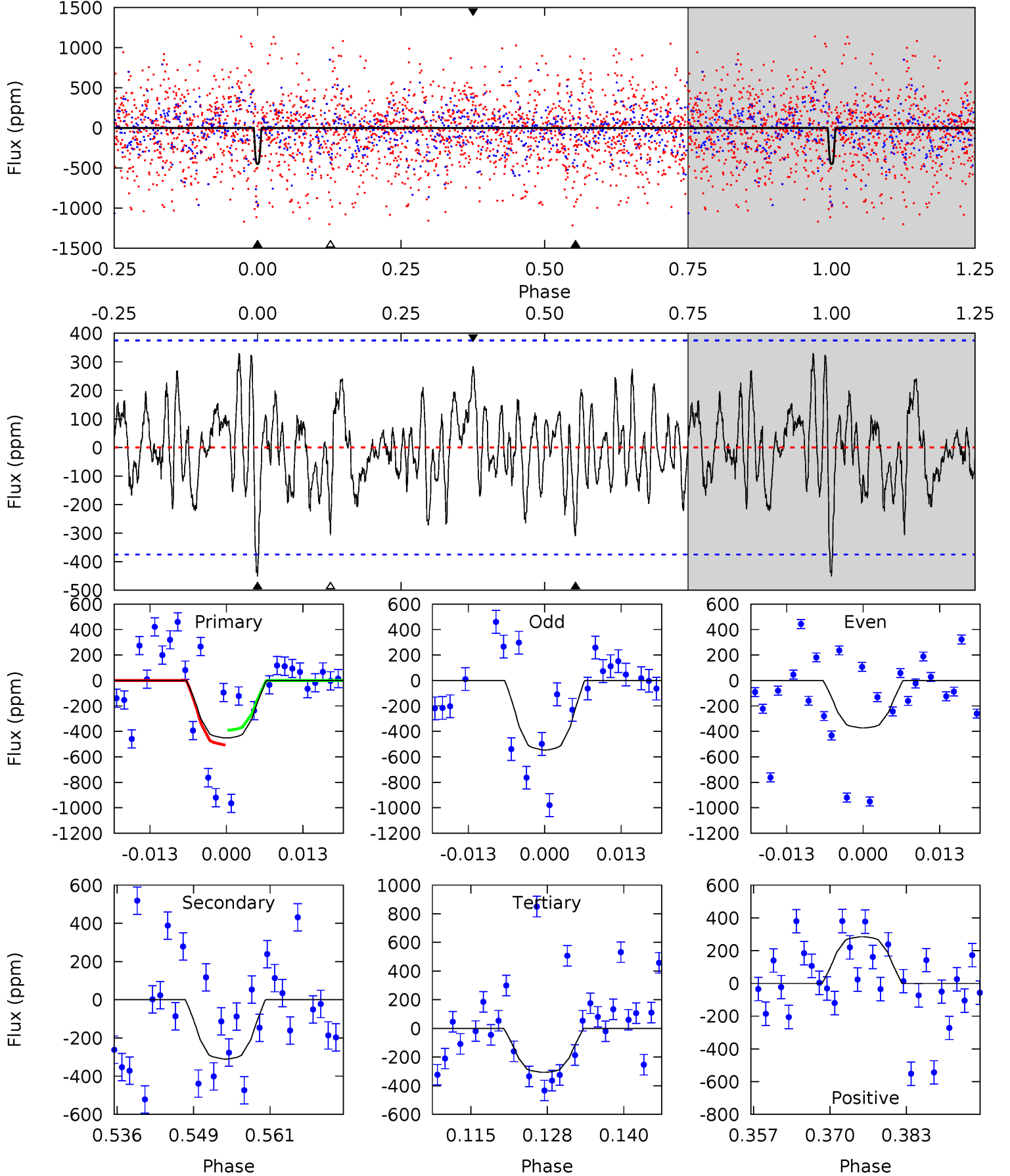


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

011612274-03, P = 6.821434 Days, E = 134.982332 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.00	4.12	4.07	3.78	4.98	2.49	1.51	1.93	2.22	0.05	0.34	1.16	0.88	0.42	0.77





## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 011612274

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7694^{+214}_{-322}$	$3.601^{+0.540}_{-0.060}$	$-0.200^{+0.250}_{-0.300}$	$3.715^{+0.506}_{-2.026}$	$2.010^{+0.173}_{-0.518}$	$0.055^{+0.372}_{-0.016}$
	+3%/-4%	+15%/-2%	+125%/-150%	+14%/-55%	+9%/-26%	+674%/-29%
Source	KIC0	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 011612274-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-310 \pm 75$	$13.88^{+13.15}_{-9.28}$	$2926^{+215}_{-434}$	$4977^{+3710}_{-1186}$	$6.984^{+52.074}_{-5.308}$
Alt.	N/A	N/A	N/A	N/A	N/A

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )  
 $A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

## DV Centroid Data

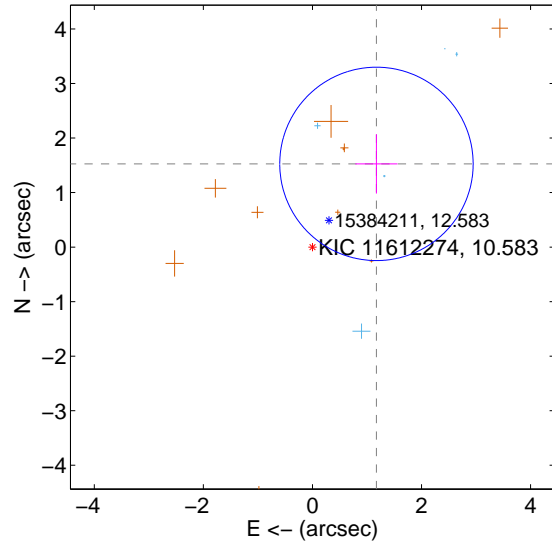
Supplemental centroid analysis for 011612274-03. **Kepler magnitude: 10.58.** Transit SNR 5.94

There are 6 quarters with good PRF difference image offsets

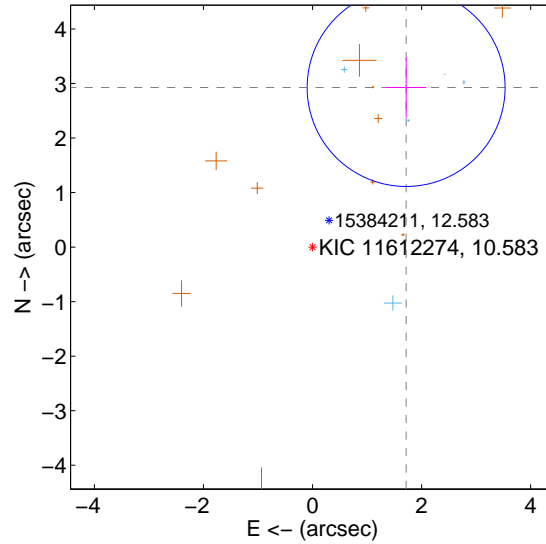
The direct PRF centroid is offset from the target star catalog position by about 0.77 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>1.925 <math>\pm</math> 0.591</b>	<b>3.26</b>	-1.174 $\pm$ 0.386	1.526 $\pm$ 0.545
PRF-fit source offset from KIC position	<b>3.392 <math>\pm</math> 0.605</b>	<b>5.61</b>	-1.716 $\pm$ 0.368	2.926 $\pm$ 0.550
photometric centroid source offset	<b>0.28 <math>\pm</math> 0.09</b>	<b>3.04</b>	-0.24 $\pm$ 0.08	-0.15 $\pm$ 0.12

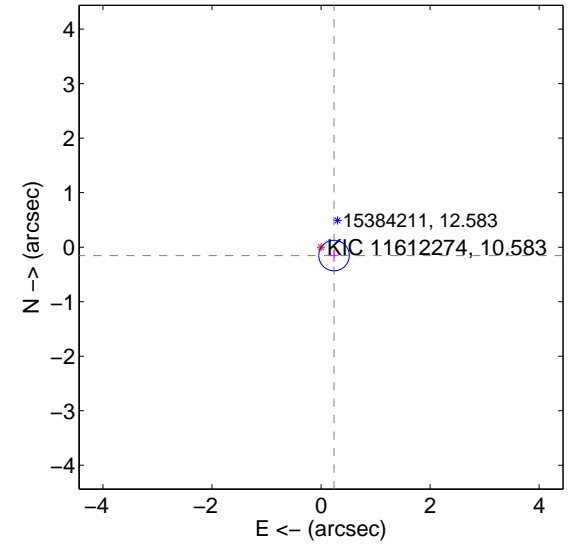
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

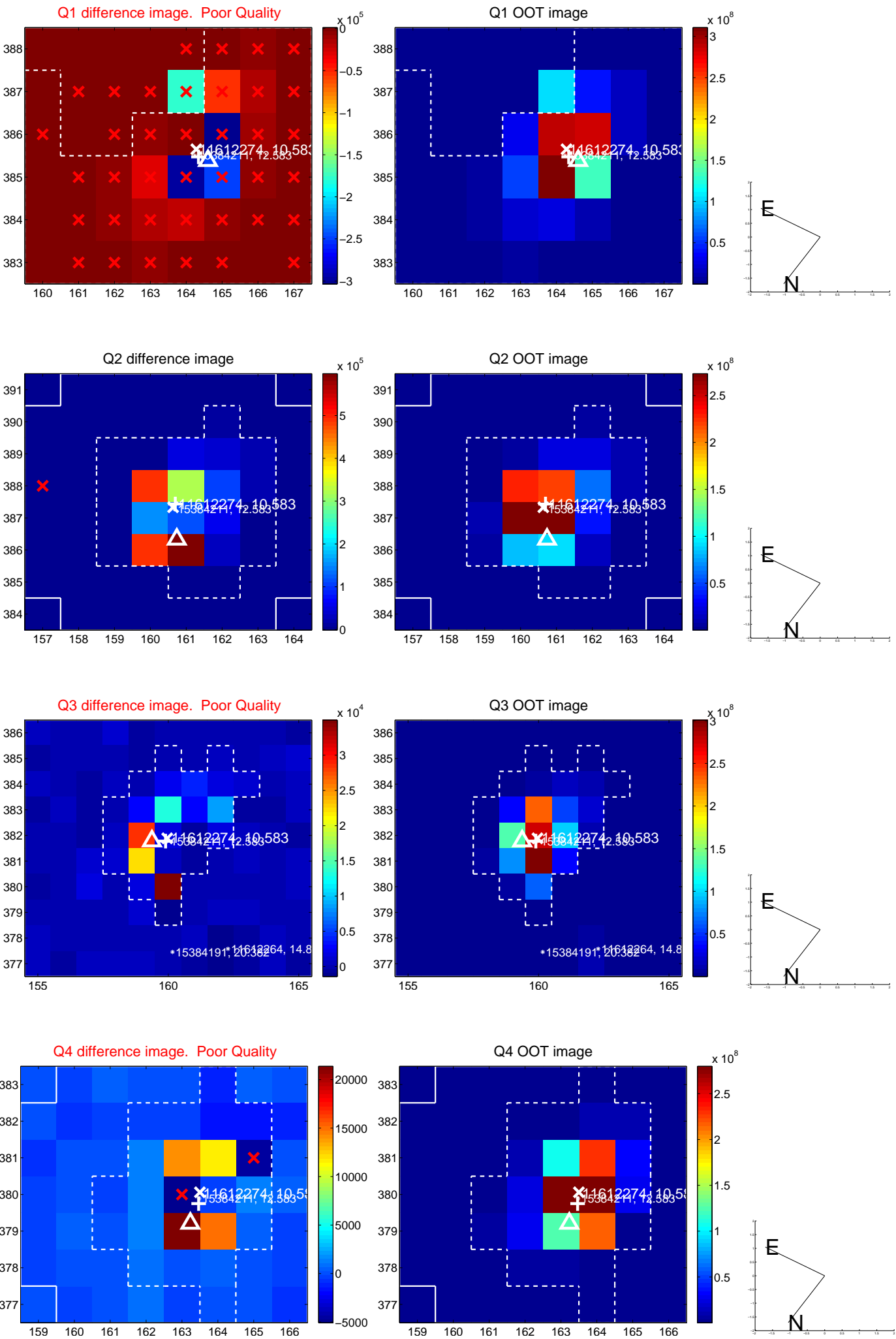


offset from photometric centroids

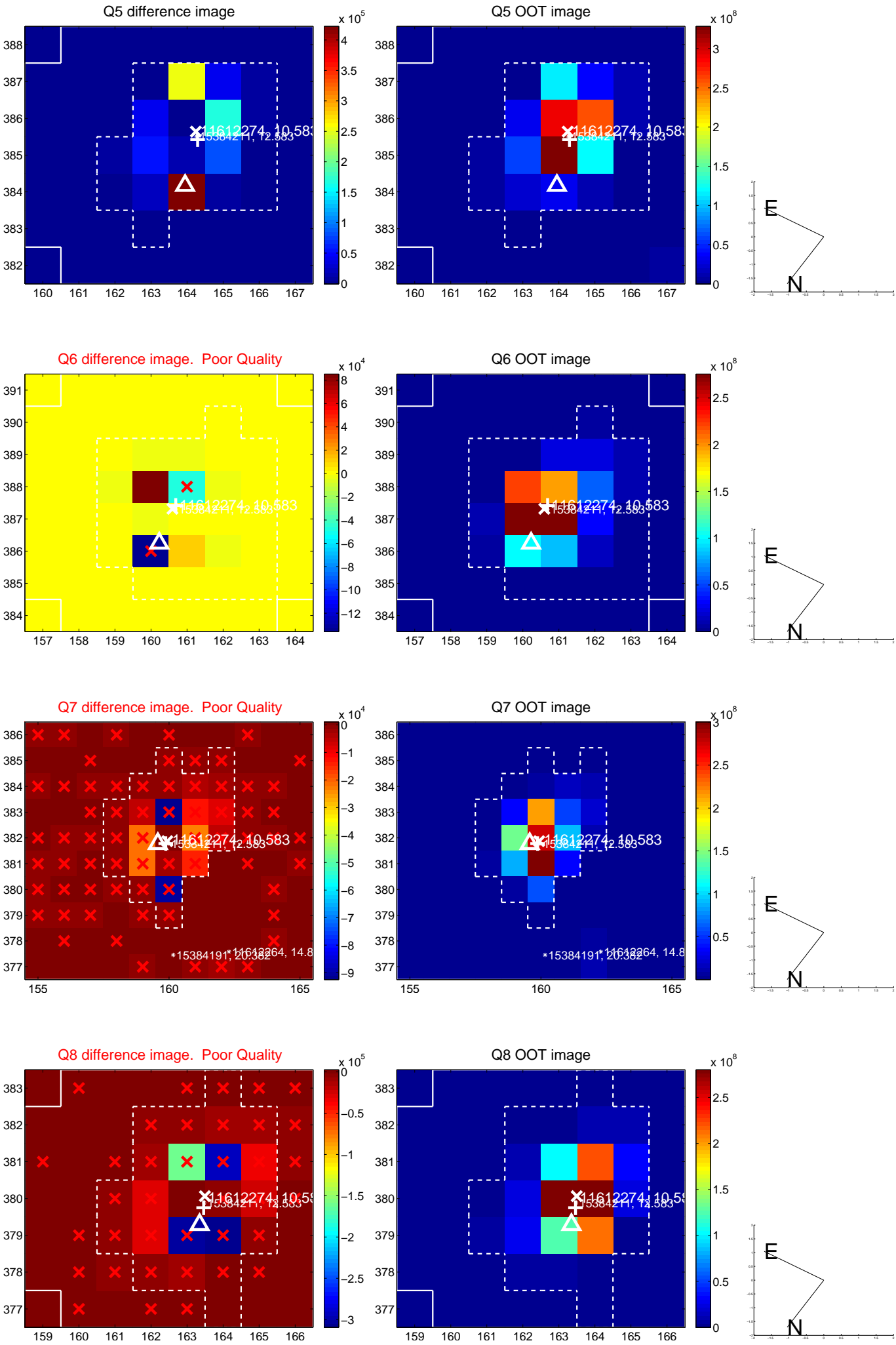


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

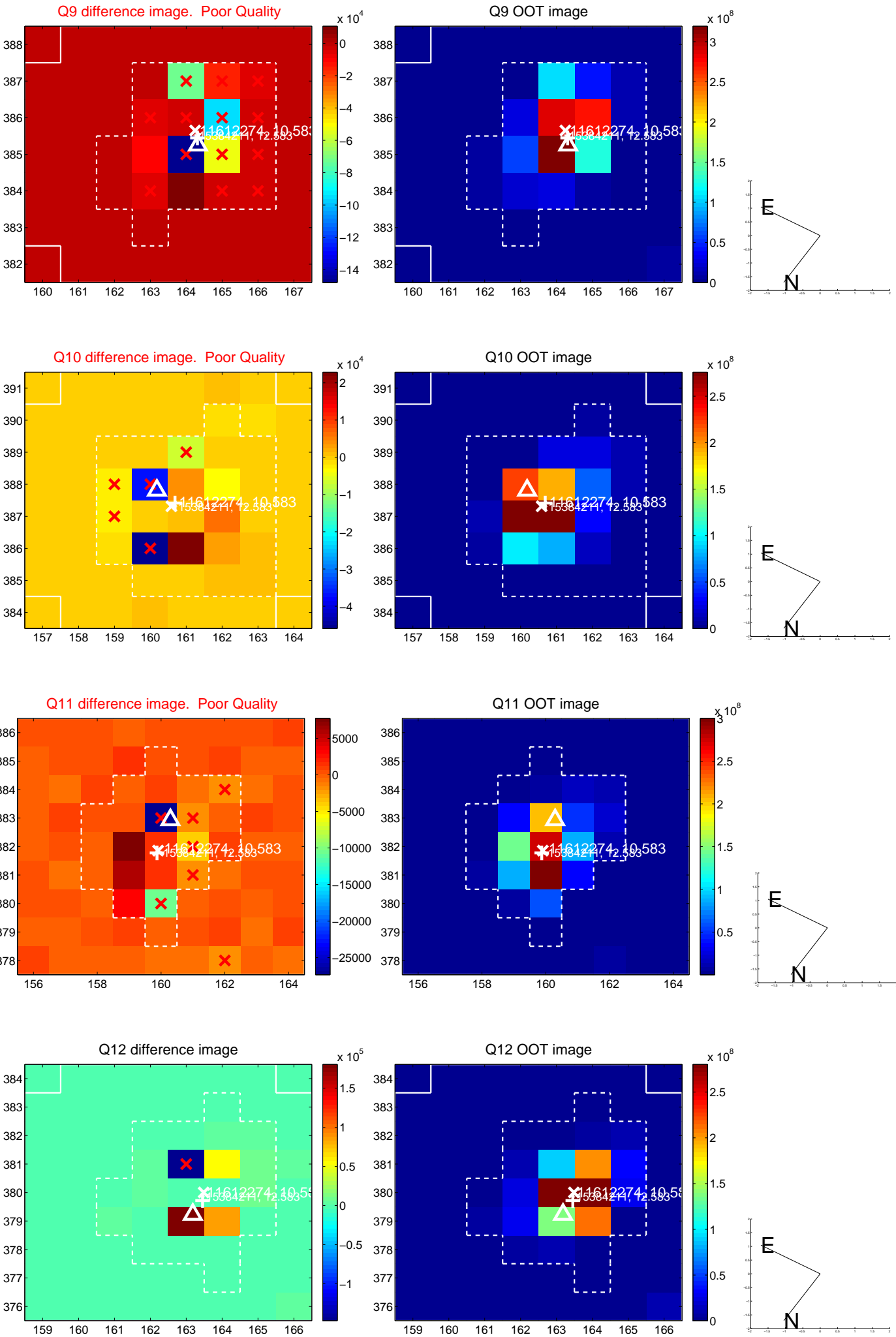
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

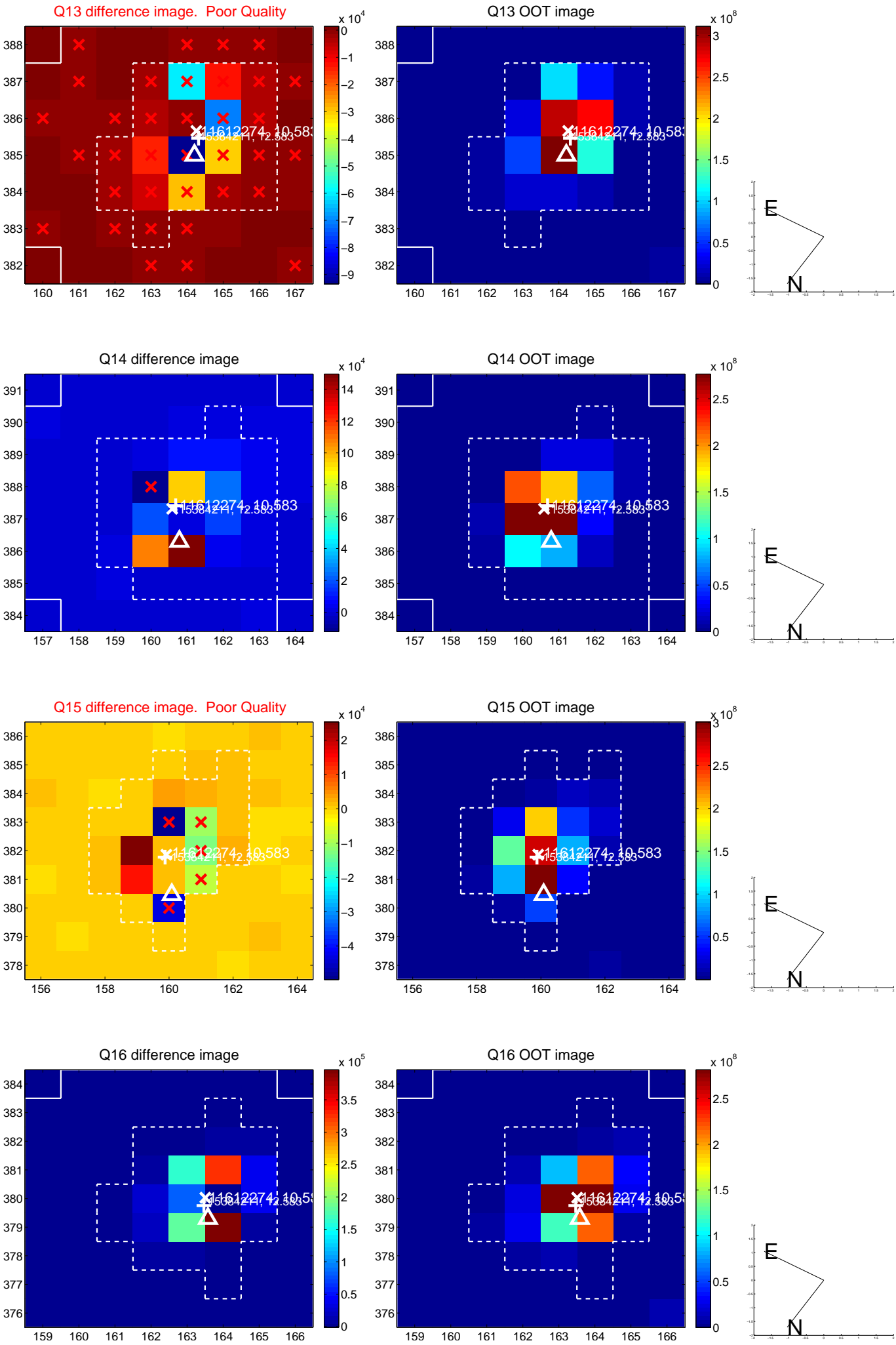


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

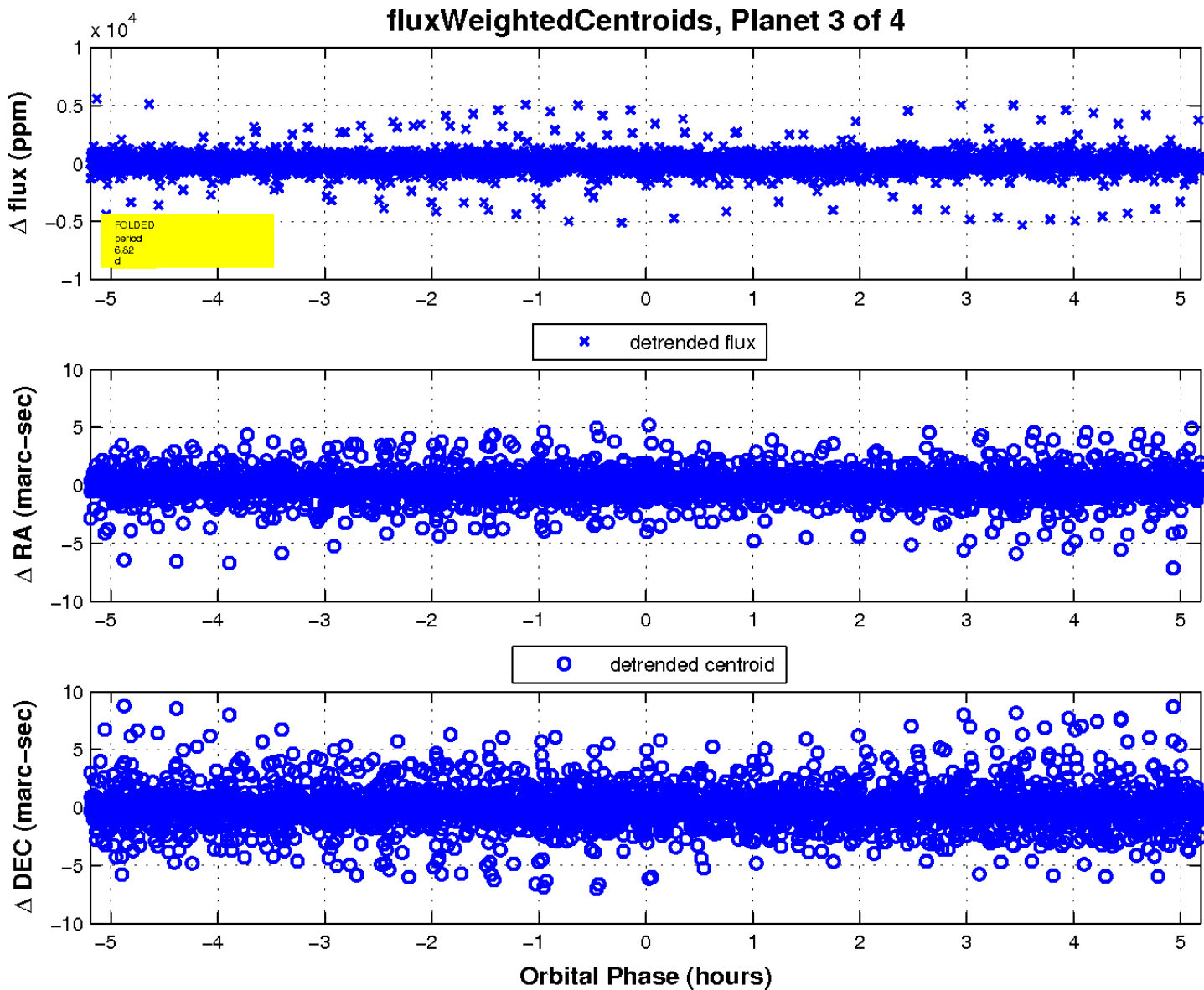
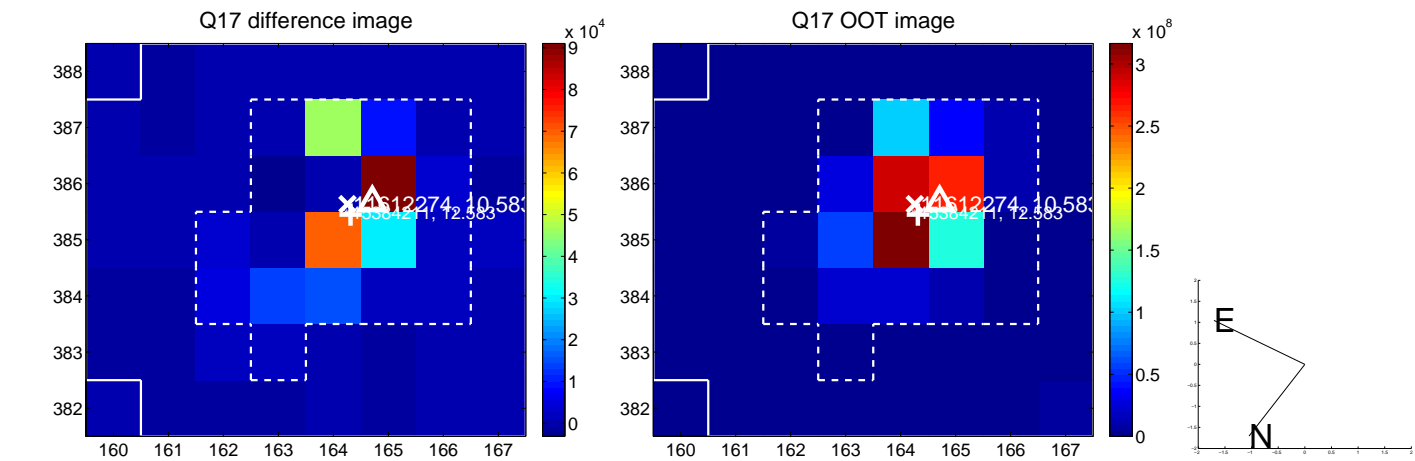




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

