

# KIC 009462914

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009462914-01	OBS	No	0.877578	131.841695	6.4	6.515	7.5	7.7	2.38	8287	0.66	46494.06
009462914-02	OBS	No	13.610382	133.212316	75.9	1.788	10.2	7.4	2.38	8287	2.42	1202.13
009462914-03	OBS	No	9.329810	134.967337	92.4	2.015	11.1	12.0	2.38	8287	2.45	1988.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009462914-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS
009462914-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
009462914-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_UNCERTAIN

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

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

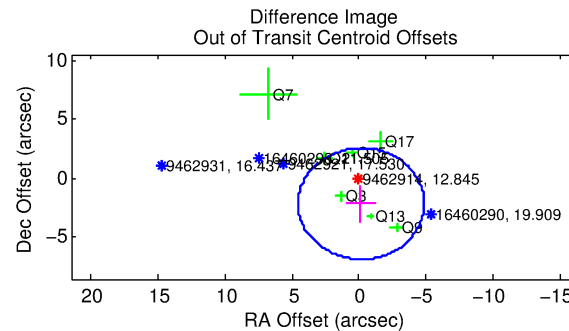
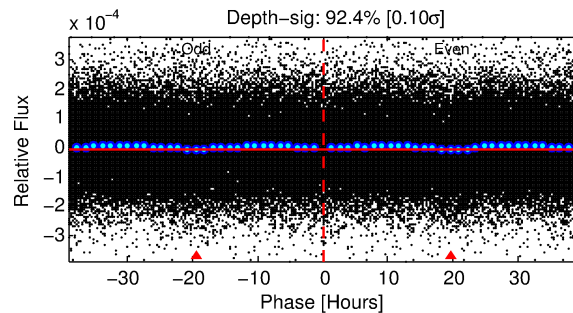
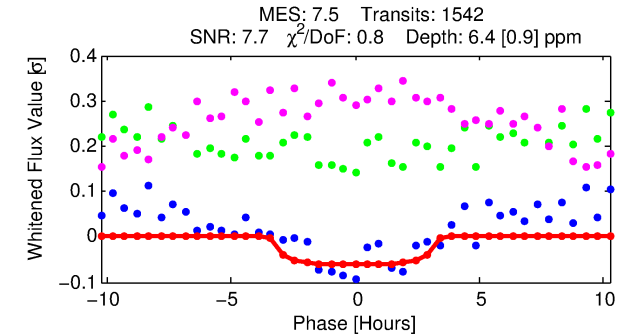
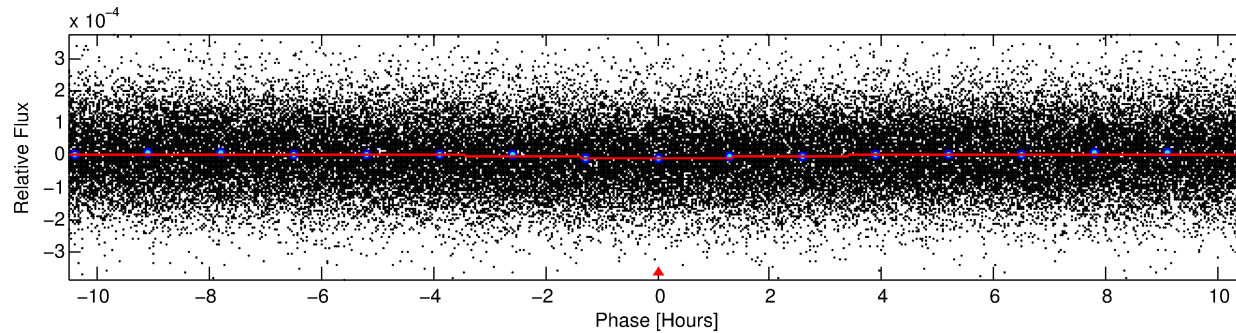
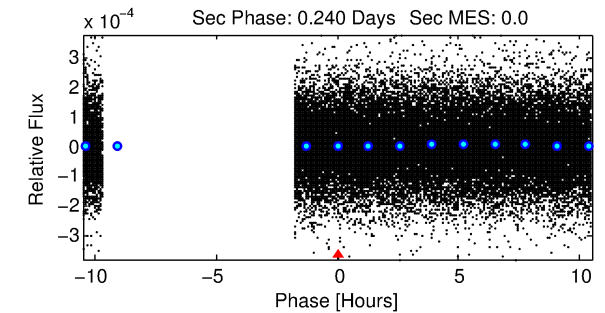
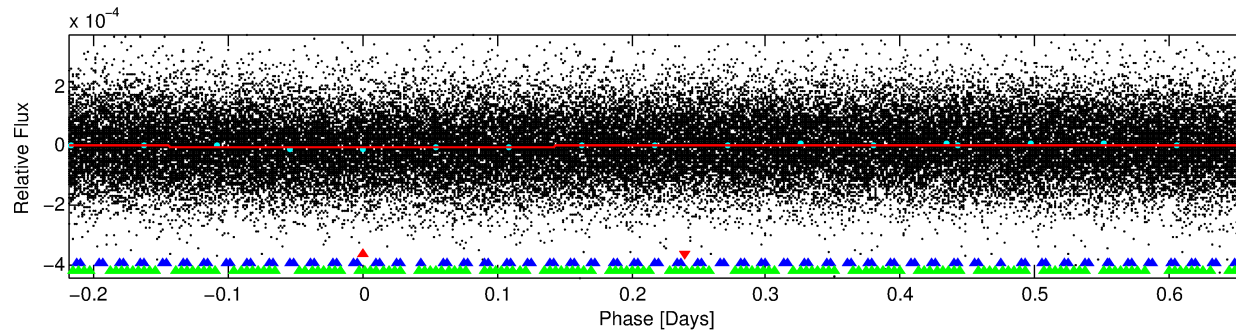
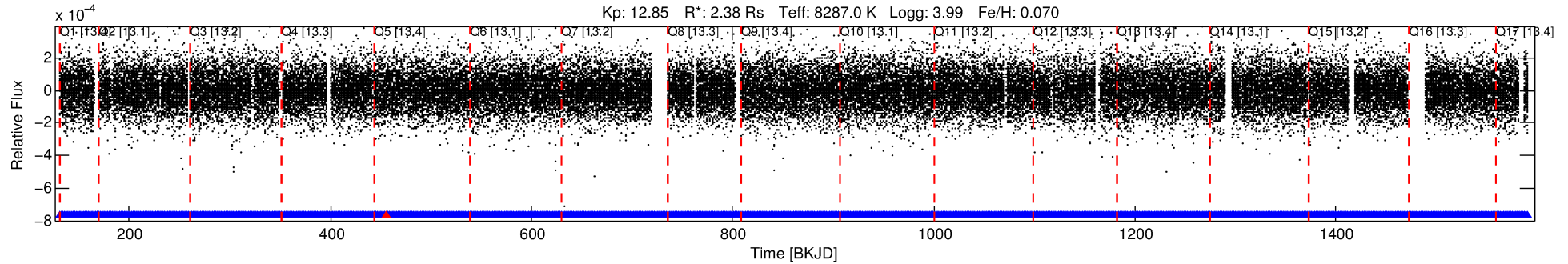
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009462914-01

No Significant Match Found

# DV One-Page Summary

KIC: 9462914 Candidate: 1 of 3 Period: 0.878 d



## DV Fit Results:

Period = 0.87758 [0.00002] d  
Epoch = 131.8417 [0.0086] BKJD  
Rp/R\* = 0.0025 [0.0018]  
a/R\* = 1.10 [0.80]  
b = 0.76 [2.41]  
Seff = 46494.06 [19427.91]  
Teq = 3744 [391] K  
Rp = 0.66 [0.51] Re  
a = 0.0227 [0.0058] AU  
Ag = N/A  
Teffp = N/A

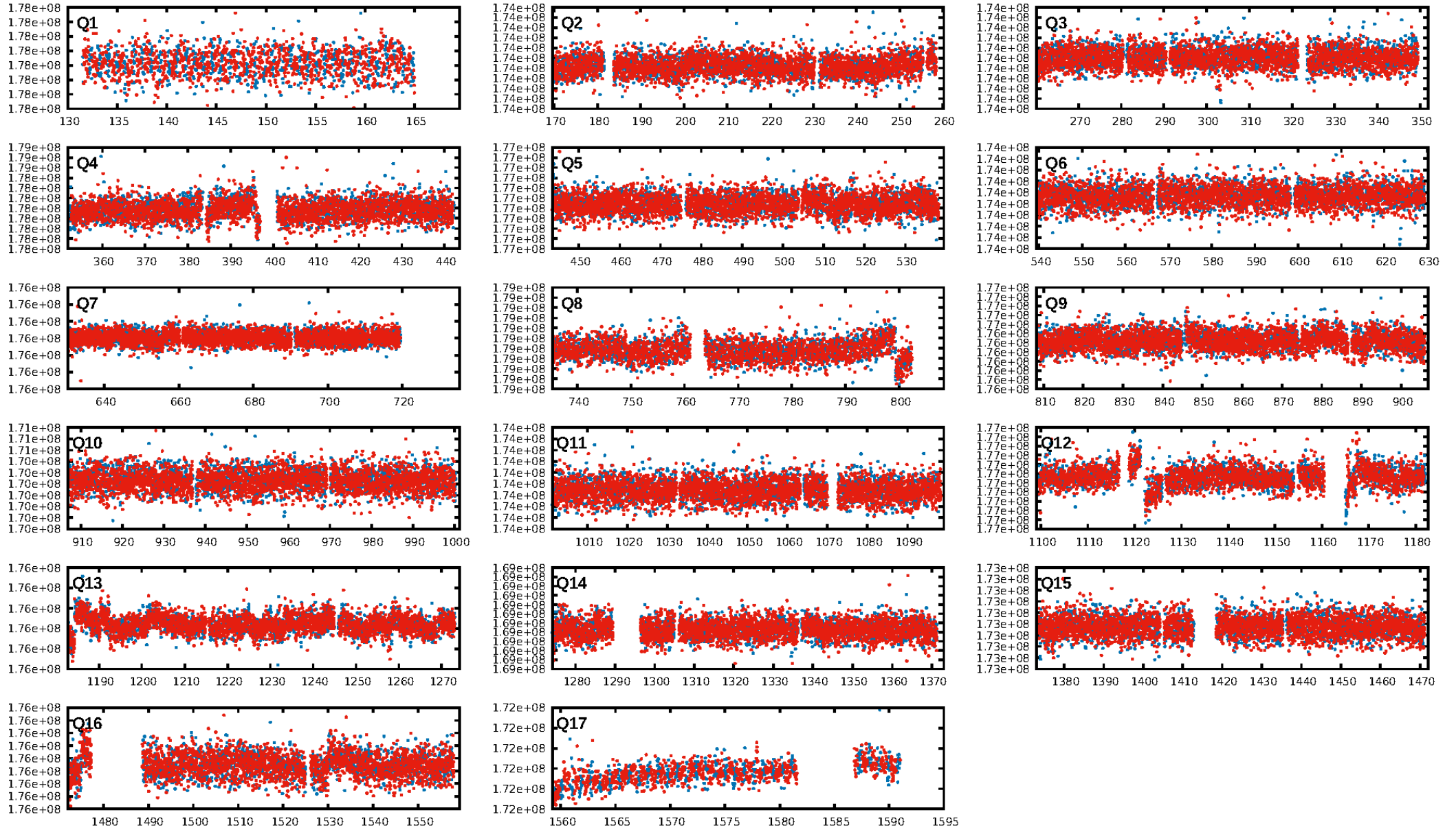
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [29.74σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
**Bootstrap-pfa: 2.02e-05**  
RollingBand-fgt: 1.00 [1472/1473]  
GhostDiagnostic-chr: 3.853  
Centroid-sig: 52.8%  
Centroid-so: 1.169 arcsec [0.56σ]  
OotOffset-rm: 2.142 arcsec [1.37σ]  
KicOffset-rm: 2.062 arcsec [1.30σ]  
OotOffset-st: 0/4/0/3 [7]  
KicOffset-st: 0/4/0/3 [7]  
DiffImageQuality-fgm: 0.43 [3/7]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:17:53 Z

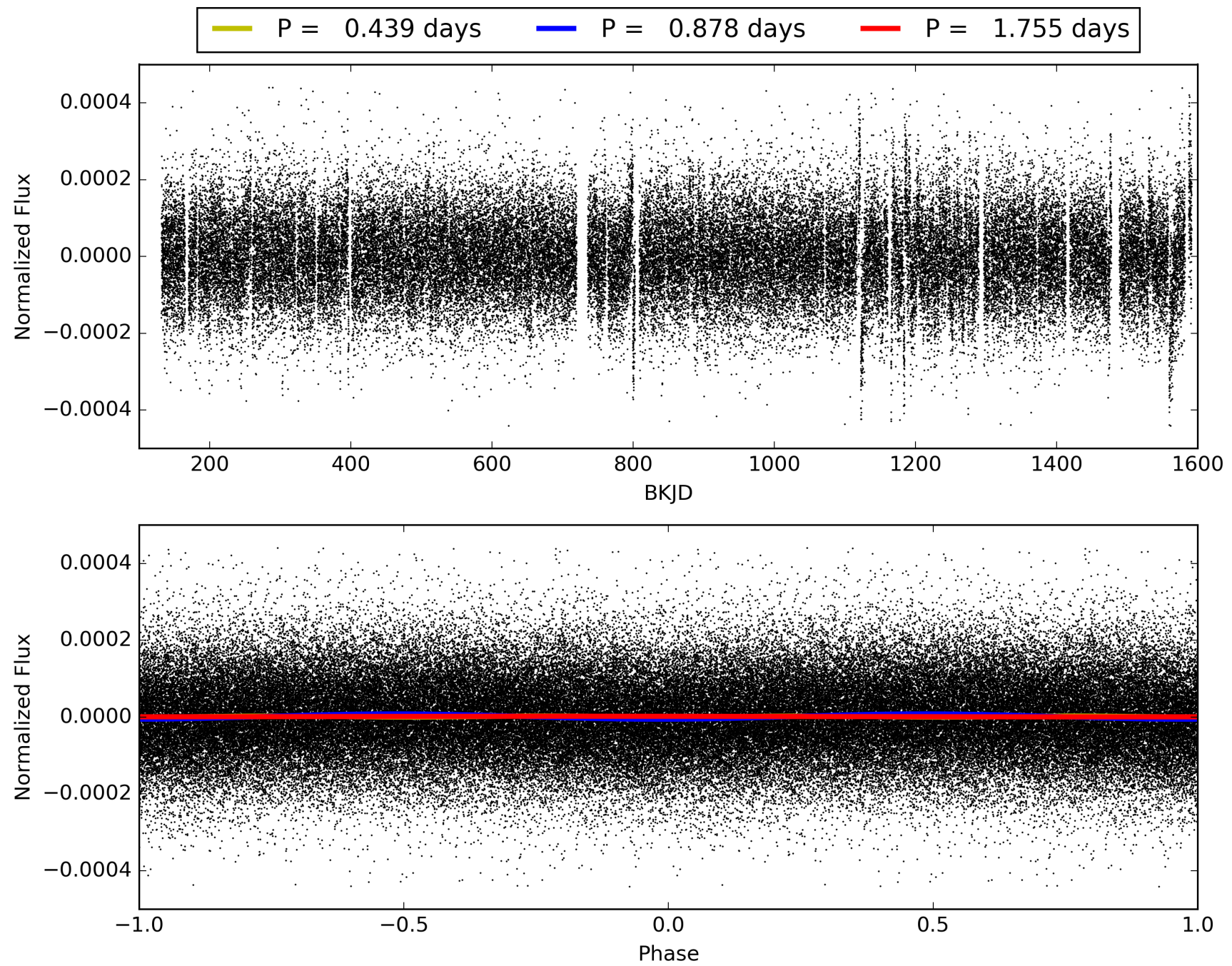
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 009462914-01, PDC Light Curves



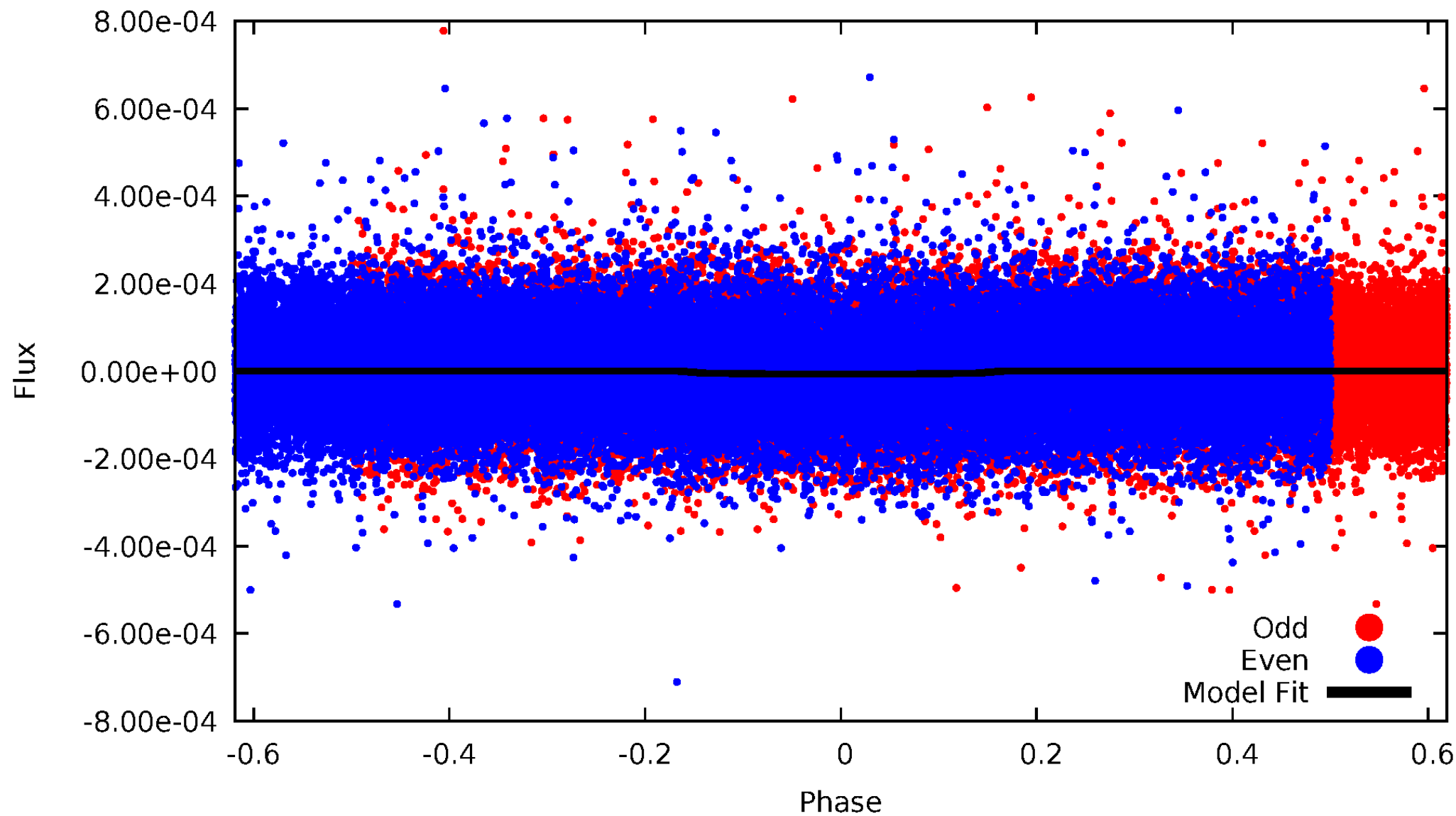


TCE 009462914-01



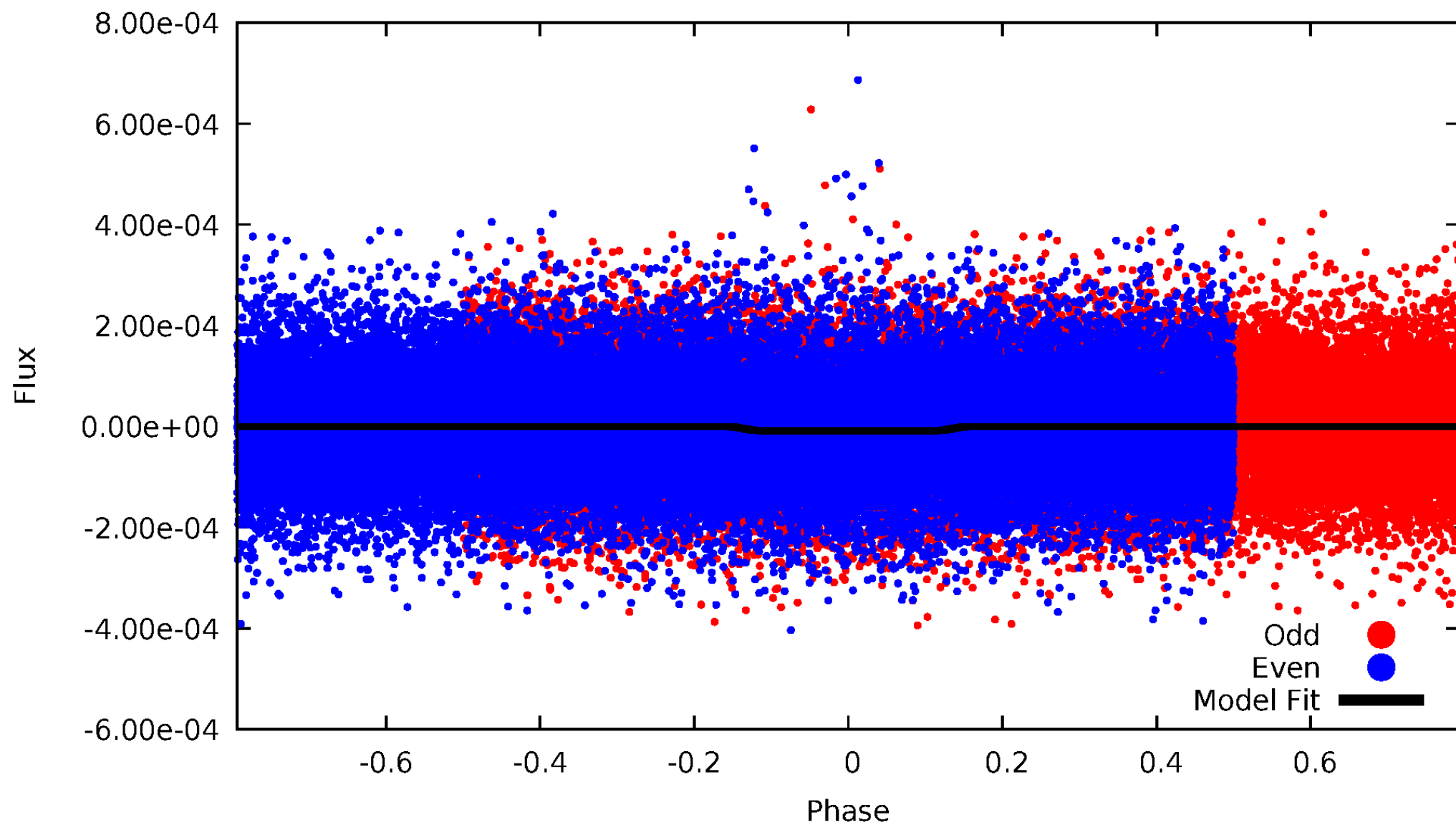
# DV Odd/Even

TCE 009462914-01



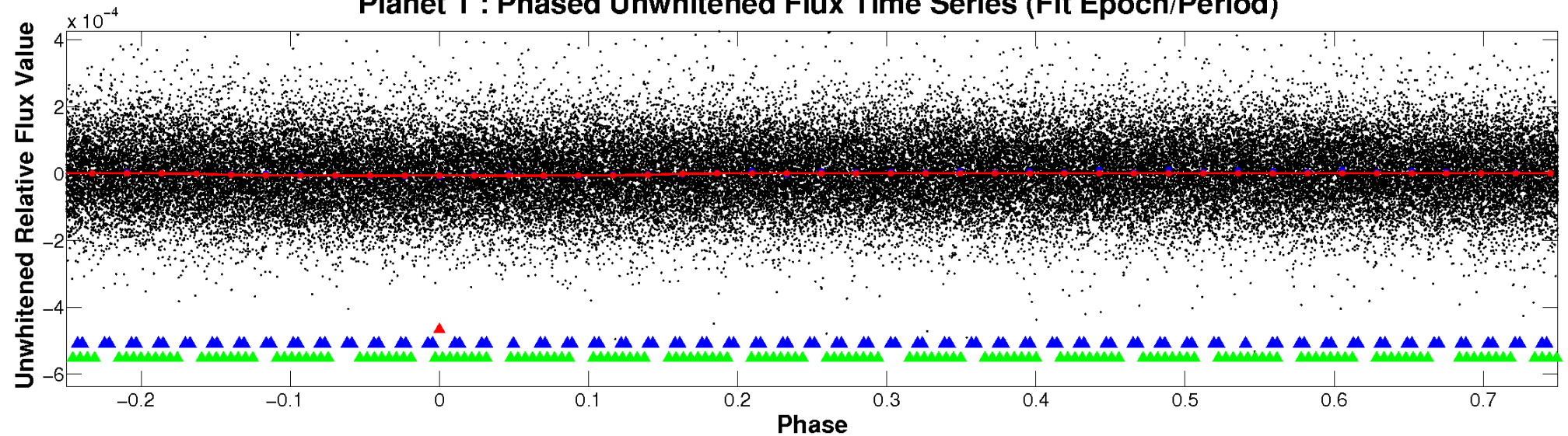
# ALT Odd/Even

TCE 009462914-01

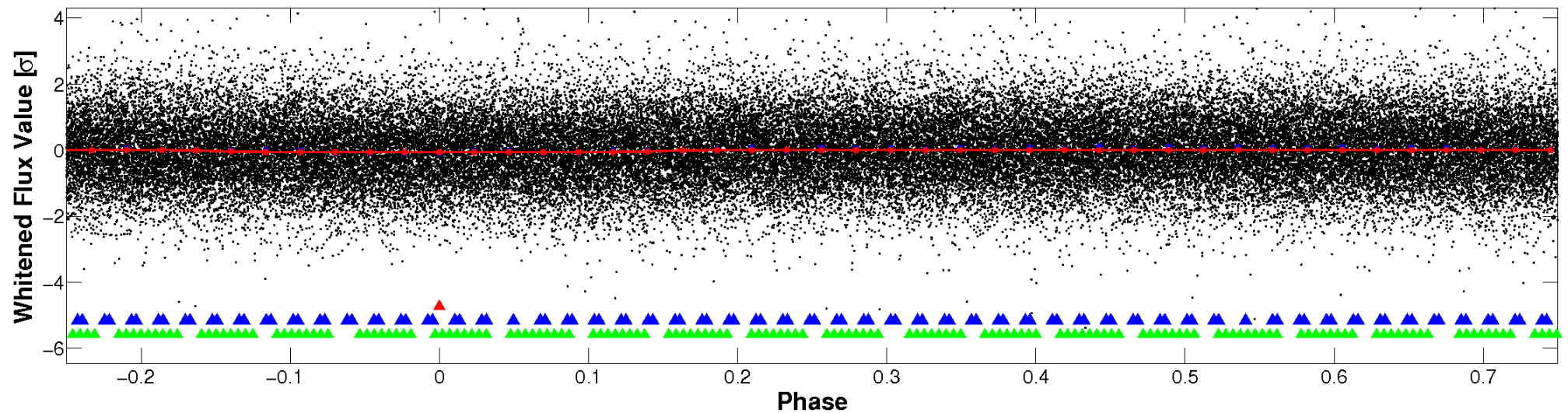


# Non-Whitened Vs. Whitened Light Curve

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



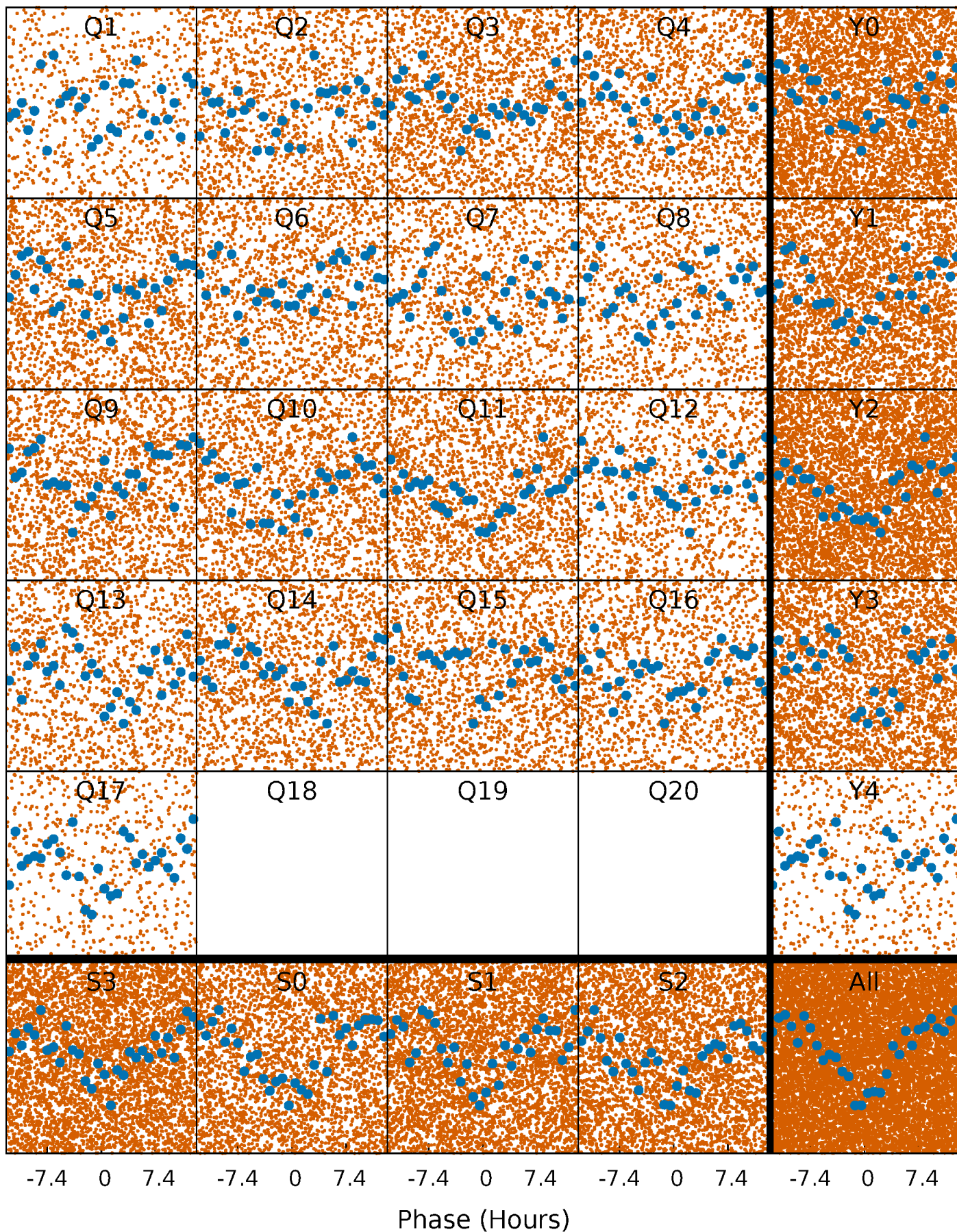
Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

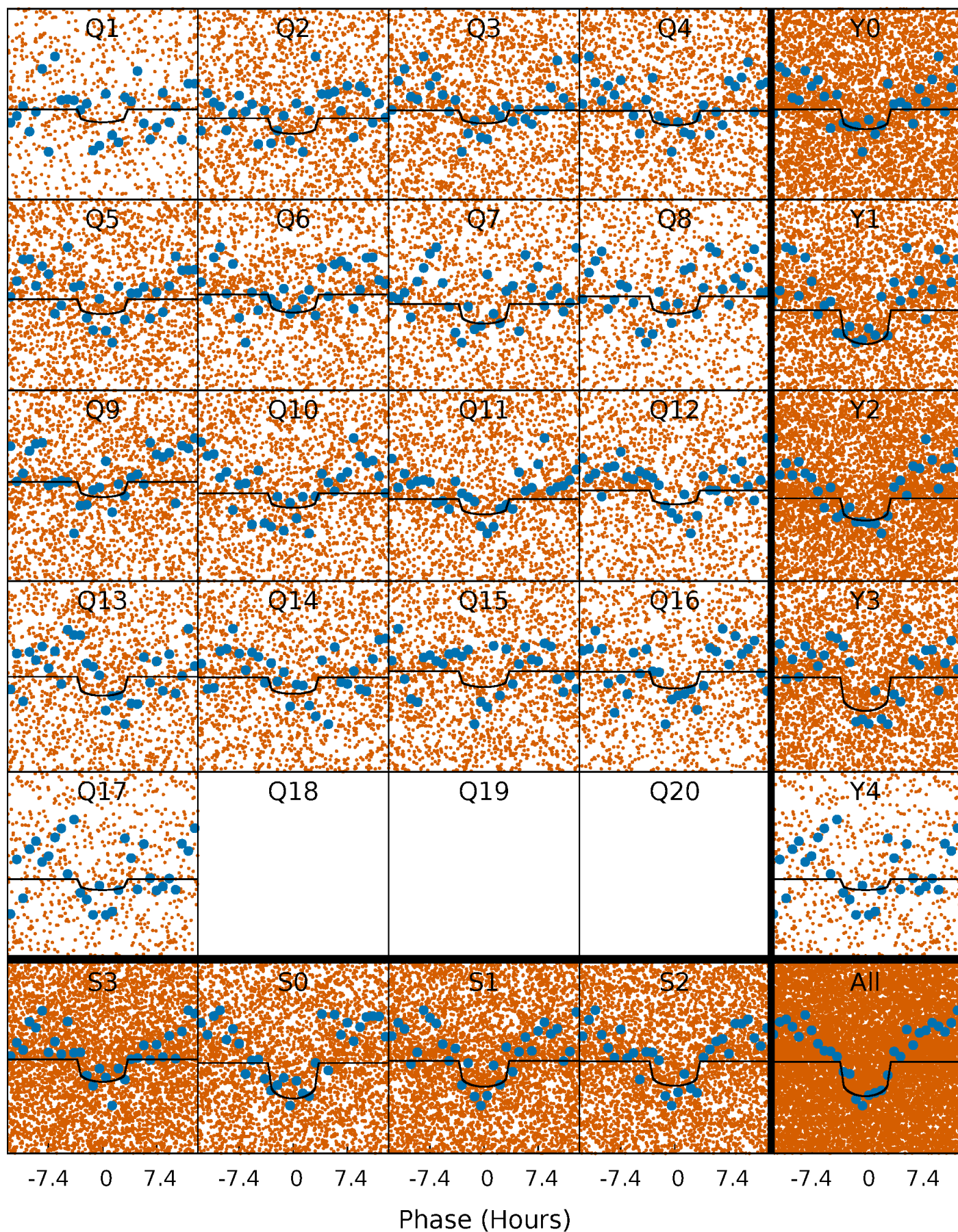
TCE 009462914-01 P= 0.877578 Days  $T_0=131.841695$  (BKJD)





# DV Quarter-Phased Transit Curves

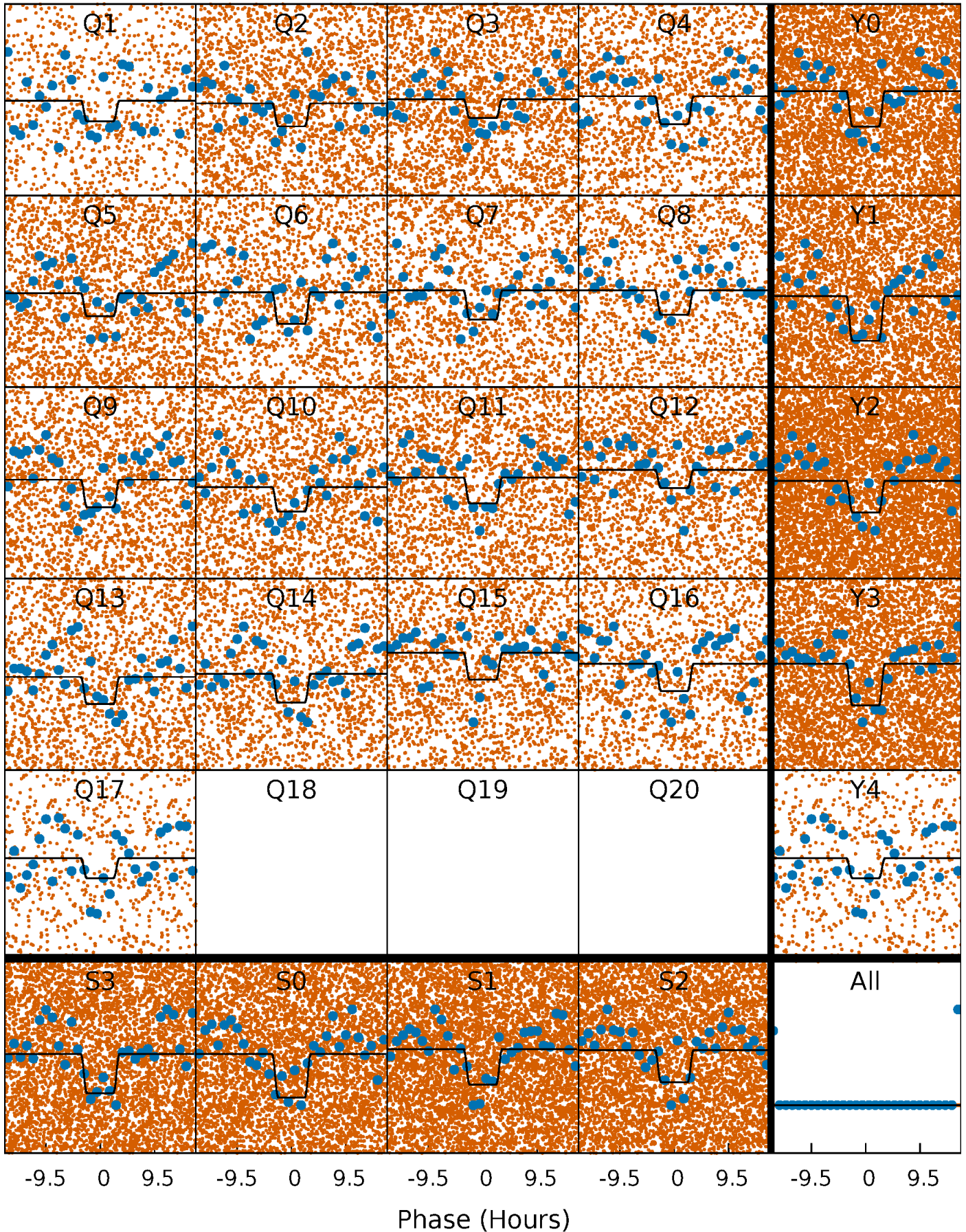
TCE 009462914-01 P= 0.877578 Days  $T_0=131.841695$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

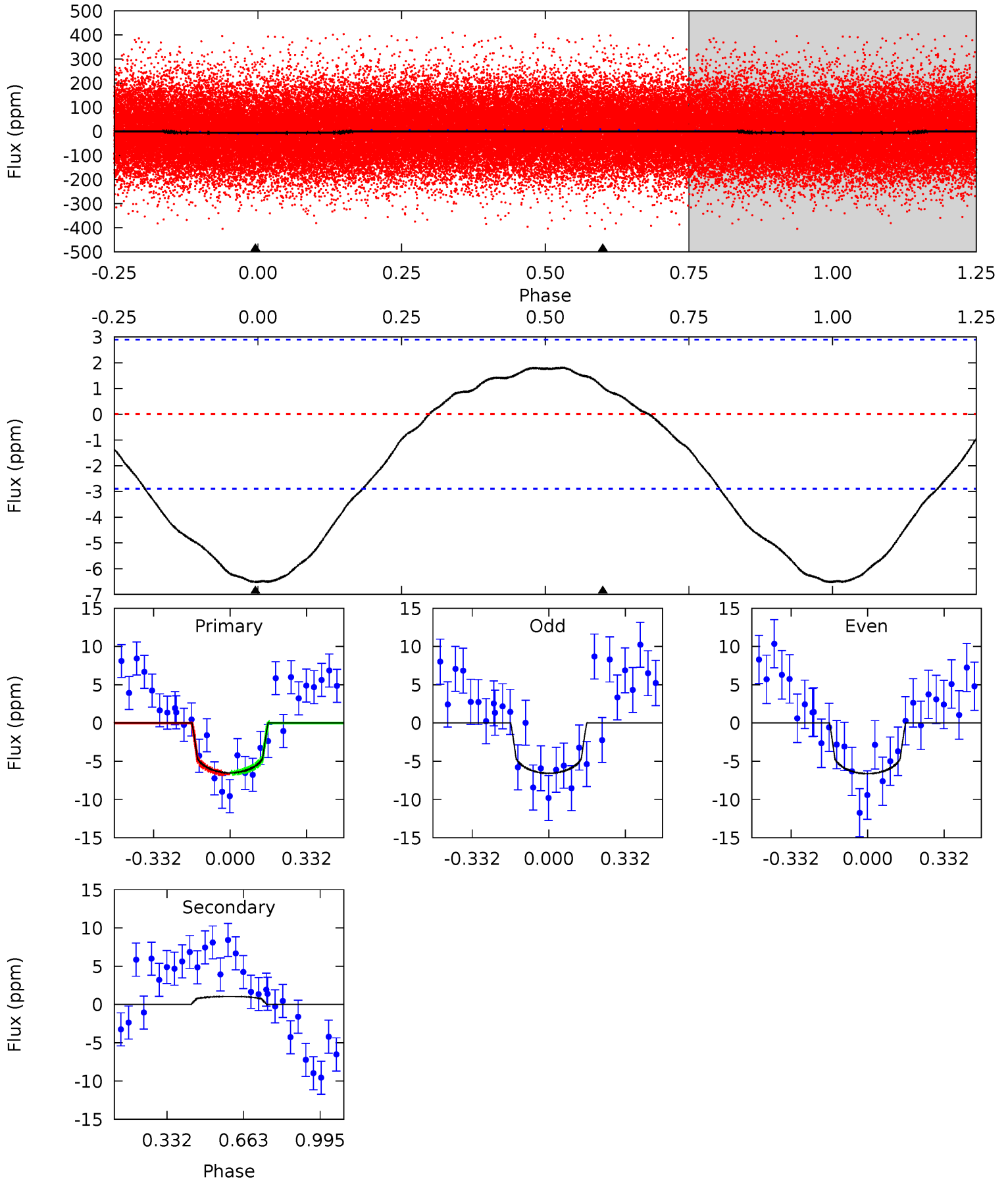
TCE 009462914-01 P= 0.877592 Days  $T_0=131.836157$  (BKJD)



# DV Model-Shift Uniqueness Test

009462914-01, P = 0.877578 Days, E = 130.964117 Days

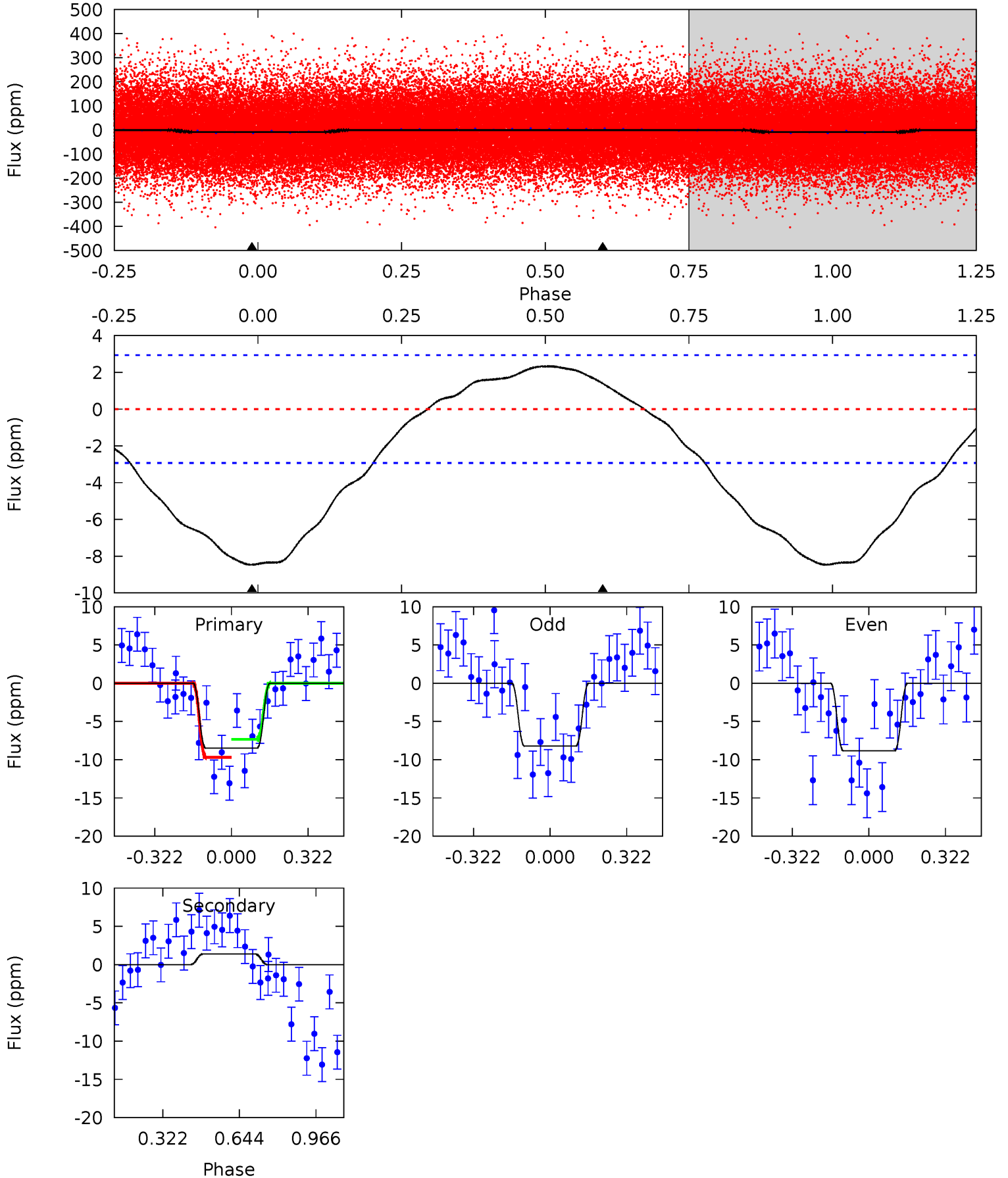
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.67	-1.56	0	0	4.31	0.97	0.83	9.67	9.67	-1.56	-1.56	0.04	0.95	0.22	0.09



# Alt Model-Shift Uniqueness Test

009462914-01, P = 0.877592 Days, E = 130.958565 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	-2.05	0	0	4.31	0.99	0.87	12.4	12.4	-2.05	-2.05	0.45	0.89	0.22	1.73





### Stellar Parameters For KIC 009462914

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8287^{+198}_{-397}$	$3.991^{+0.204}_{-0.136}$	$0.070^{+0.250}_{-0.500}$	$2.382^{+0.476}_{-0.713}$	$2.028^{+0.320}_{-0.480}$	$0.211^{+0.283}_{-0.078}$
	+2%/-5%	+5%/-3%	+357%/-714%	+20%/-30%	+16%/-24%	+134%/-37%
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 009462914-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$1 \pm 1$	$0.68^{+0.47}_{-0.35}$	$5174^{+311}_{-384}$	$-5401^{+785}_{-1800}$	$-0.609^{+0.483}_{-2.106}$
Alt.	$1 \pm 1$	$0.78^{+0.48}_{-0.41}$	$5185^{+340}_{-359}$	$-5434^{+620}_{-2163}$	$-0.610^{+0.414}_{-2.421}$

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

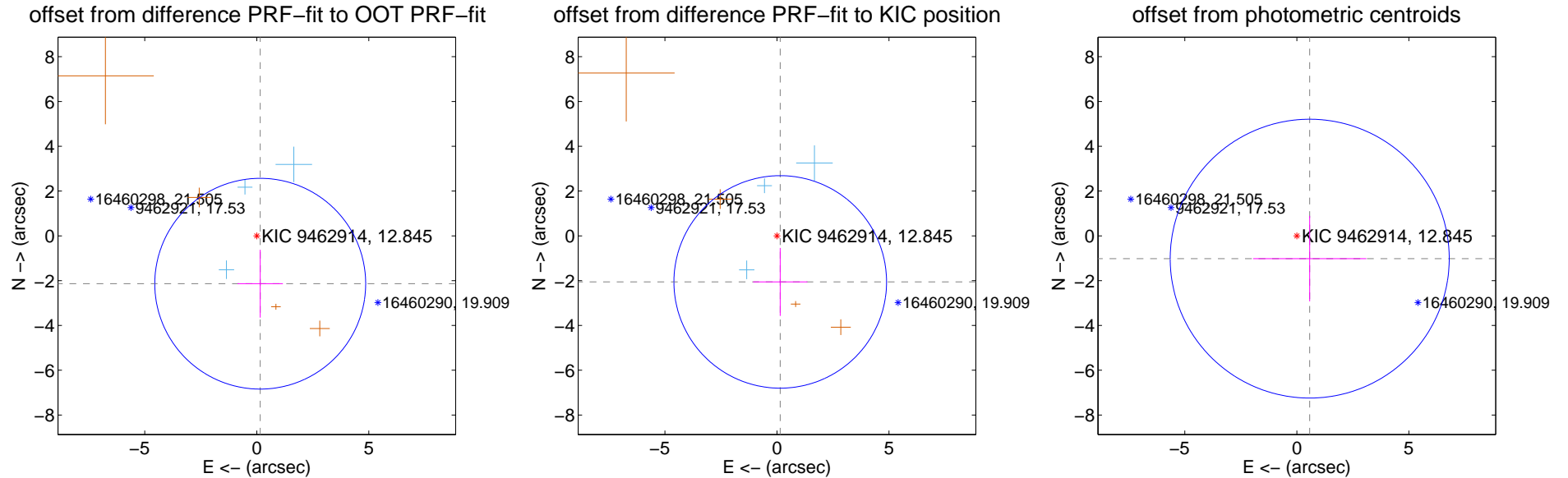
## DV Centroid Data

Supplemental centroid analysis for 009462914-01. Kepler magnitude: 12.85. Transit SNR 7.69

There are 3 quarters with good PRF difference image offsets

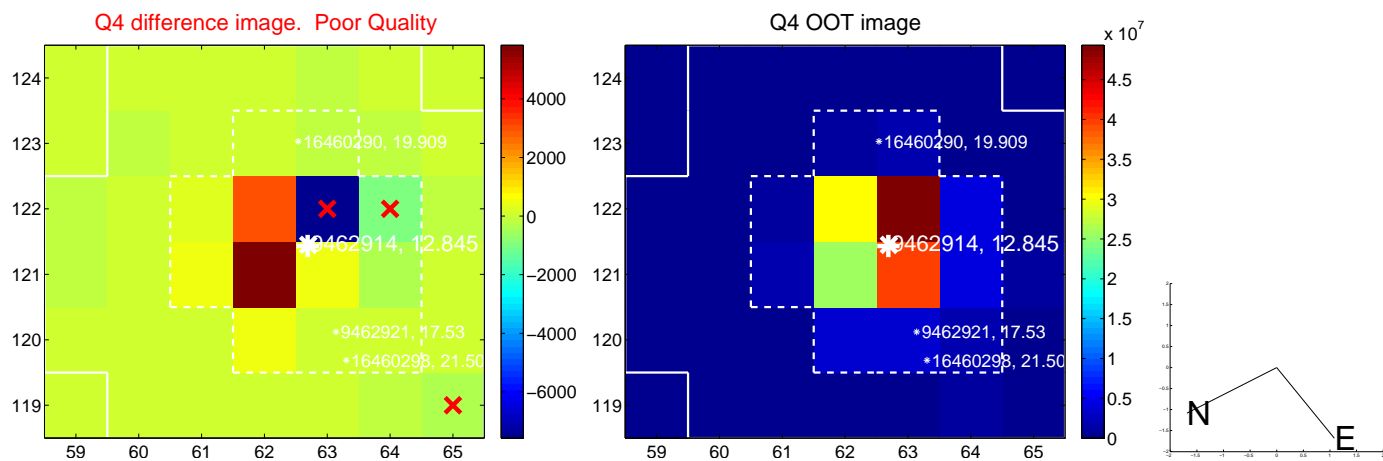
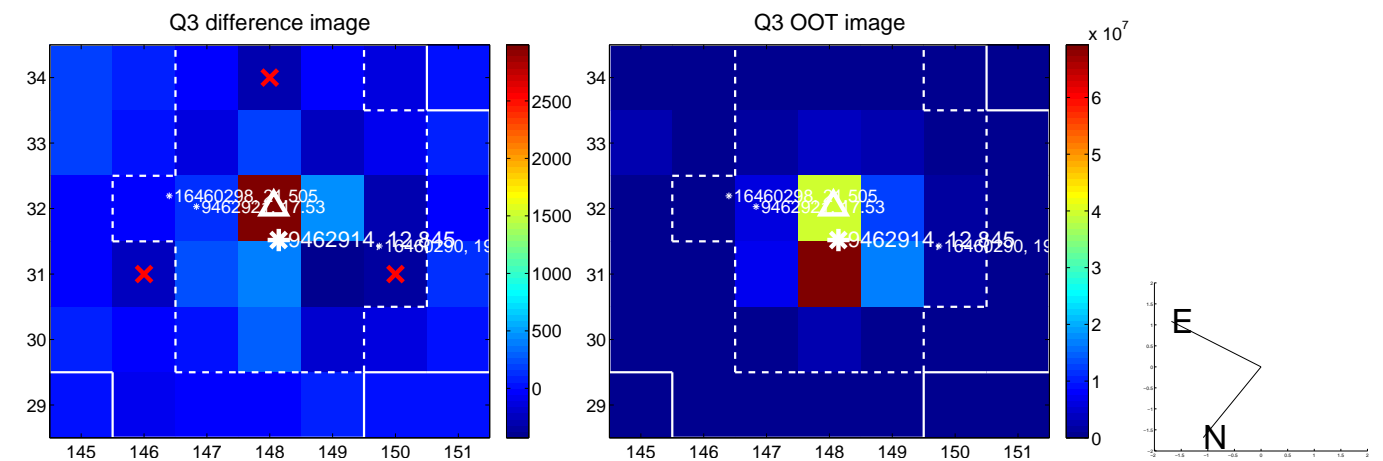
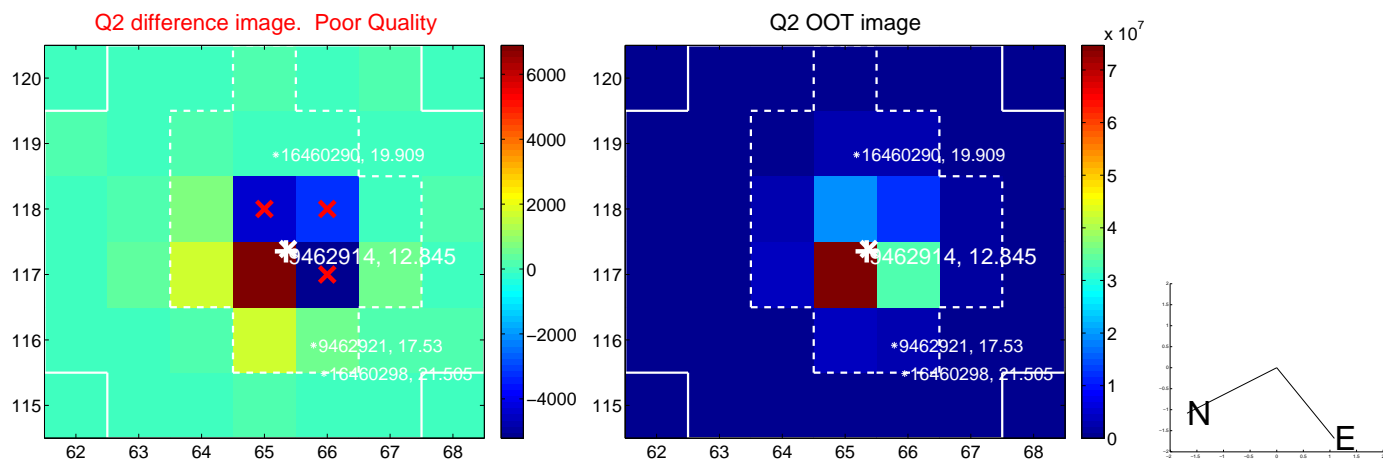
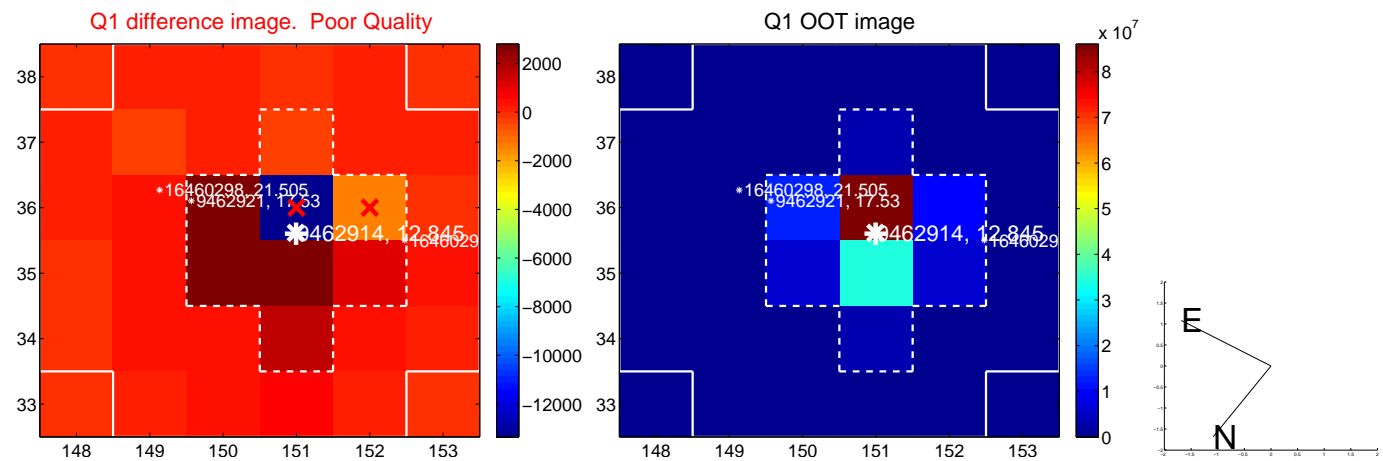
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.142 \pm 1.568$	1.37	$-0.154 \pm 1.011$	$-2.137 \pm 1.516$
PRF-fit source offset from KIC position	$2.062 \pm 1.581$	1.30	$-0.146 \pm 1.212$	$-2.057 \pm 1.518$
photometric centroid source offset	$1.17 \pm 2.07$	0.56	$-0.58 \pm 2.53$	$-1.02 \pm 1.91$

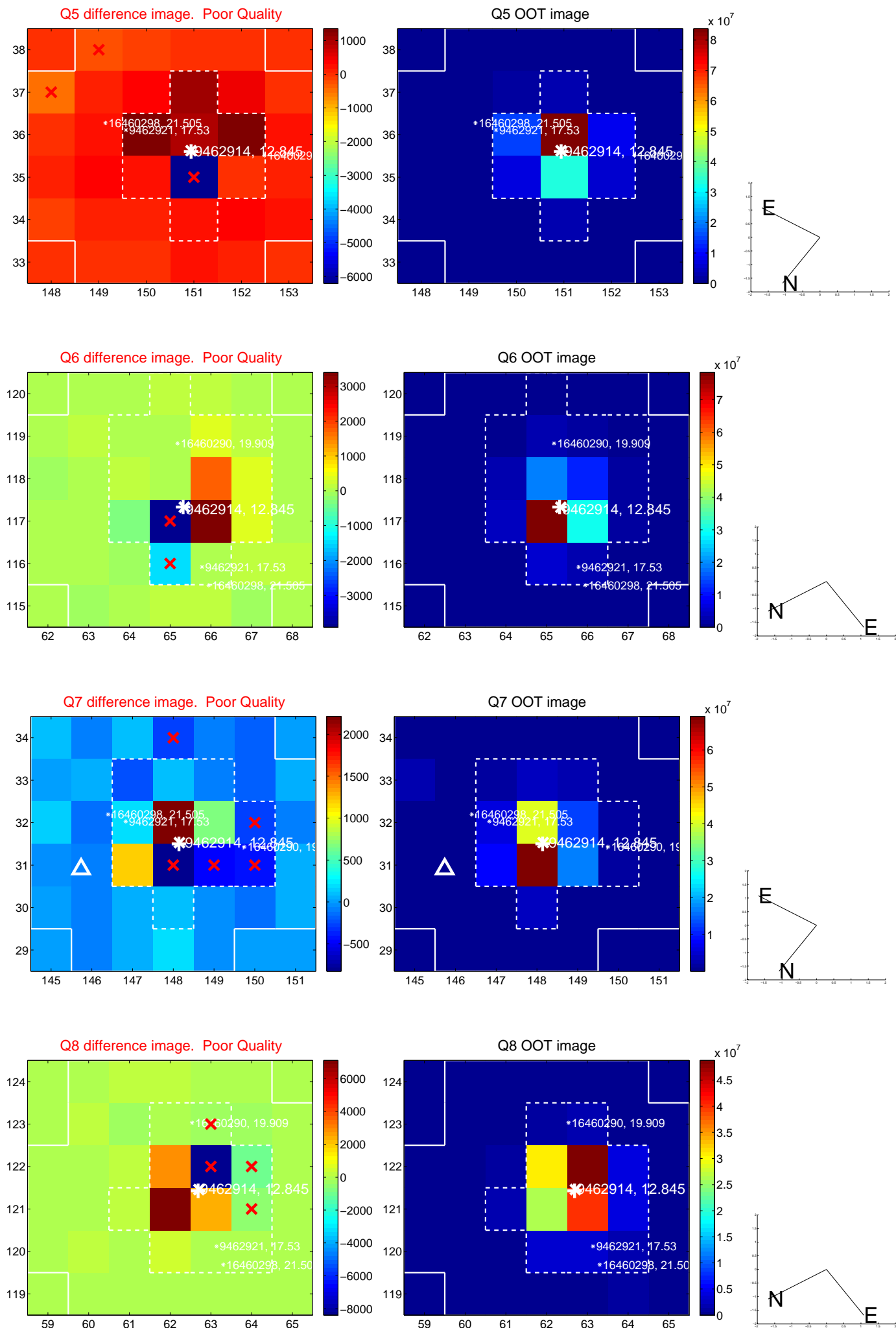


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

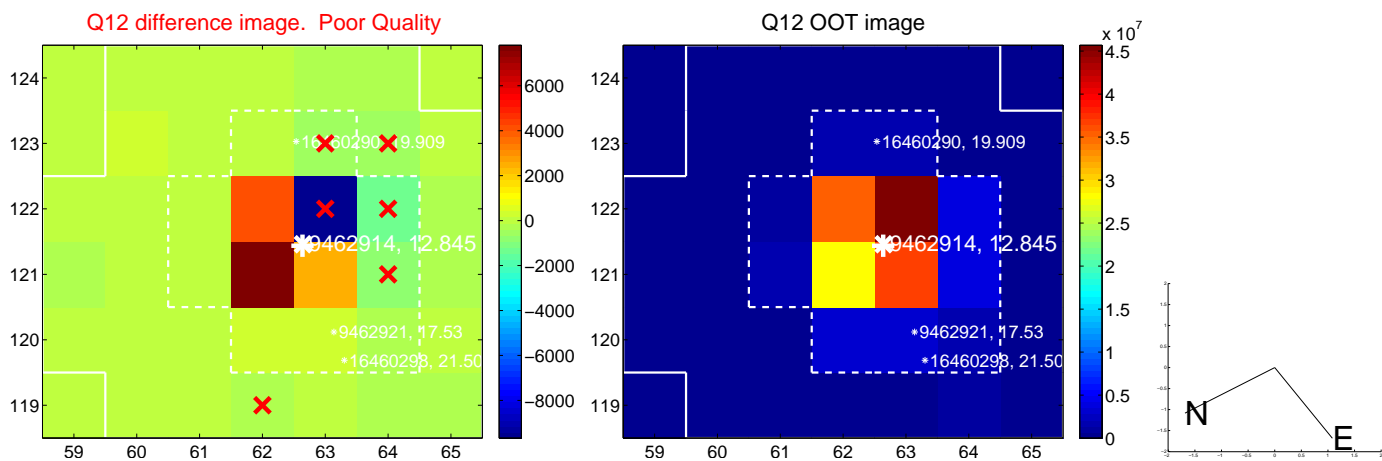
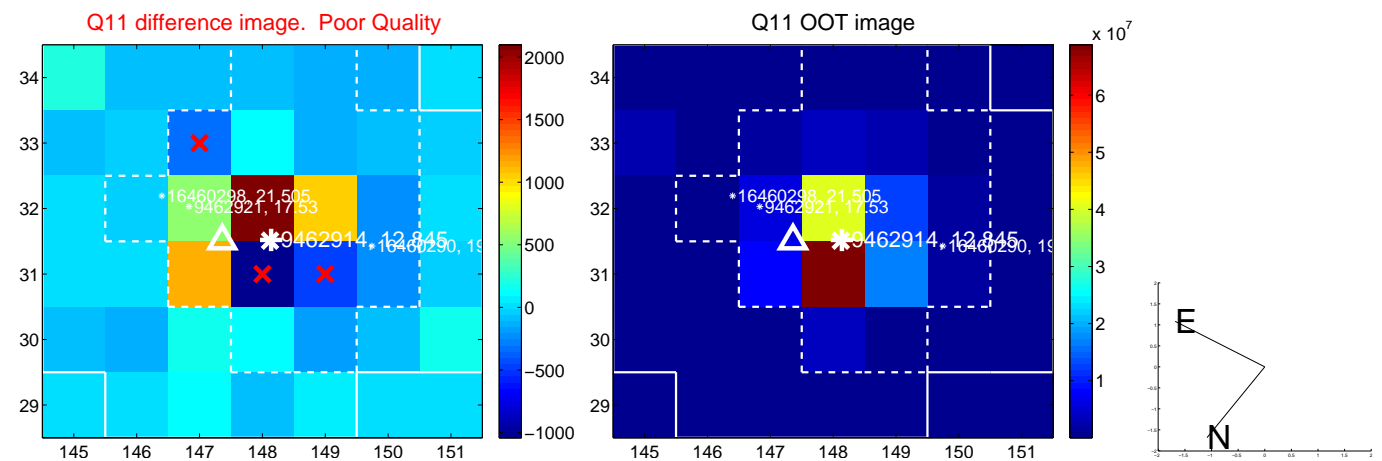
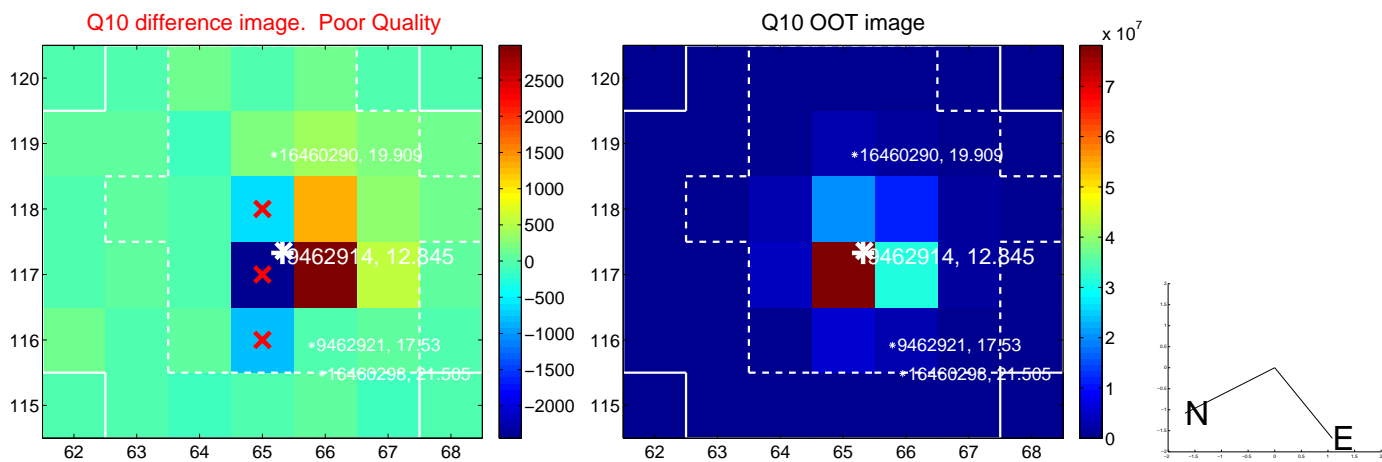
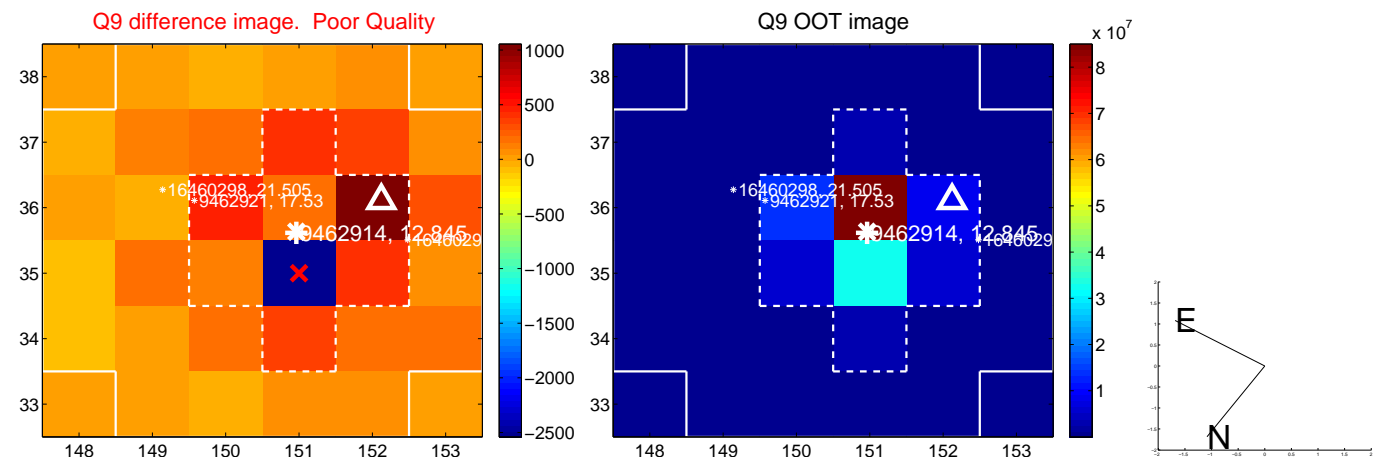


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

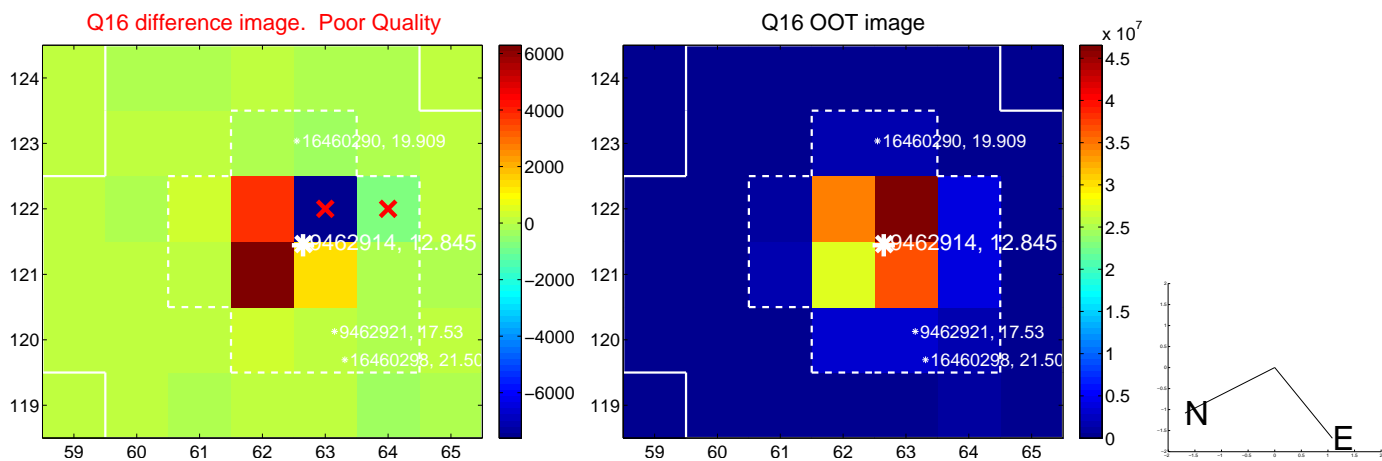
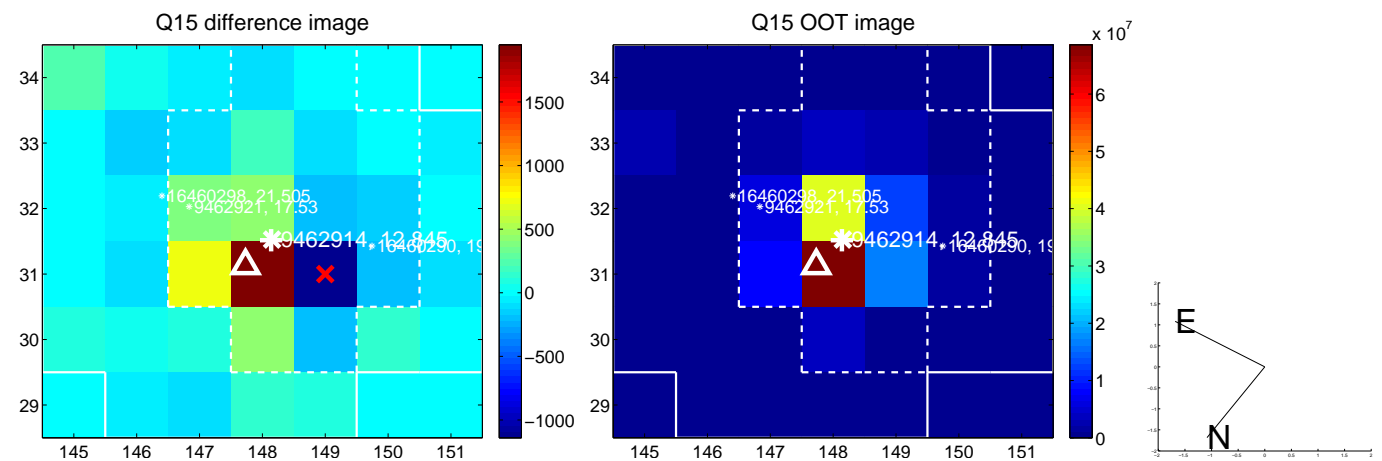
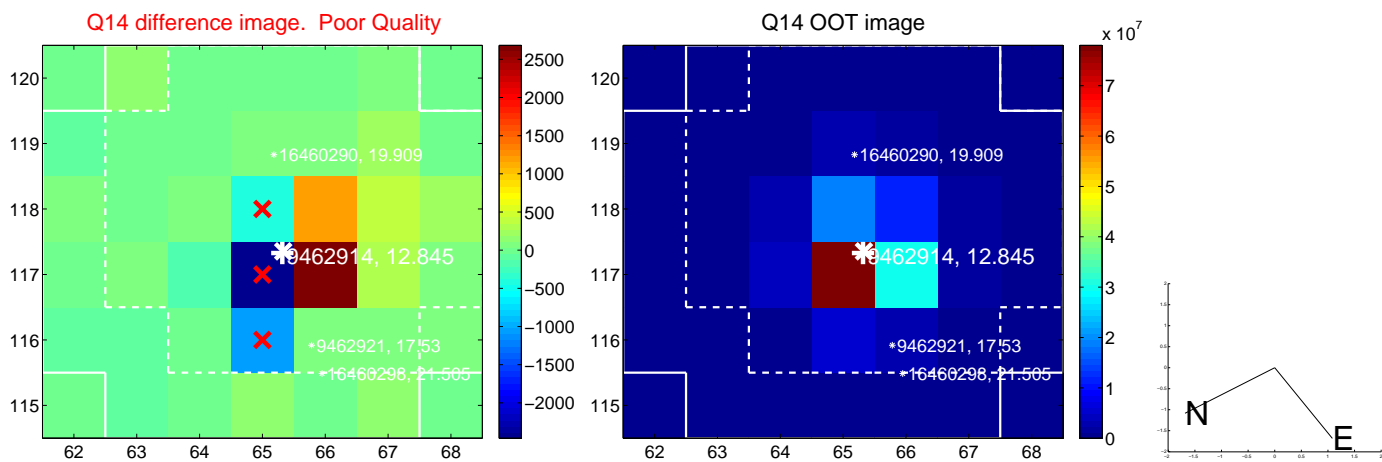
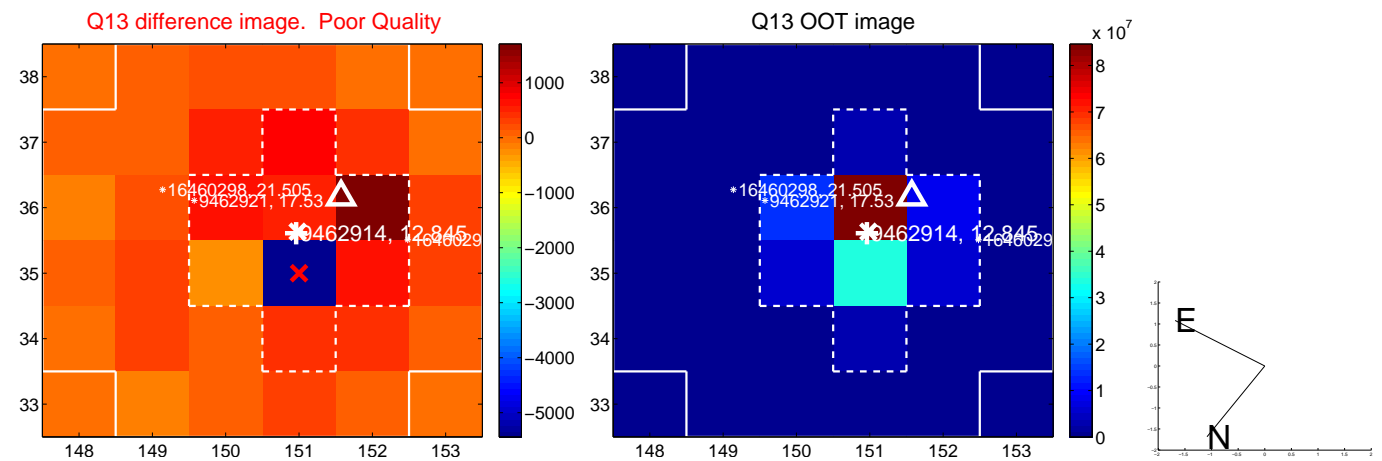




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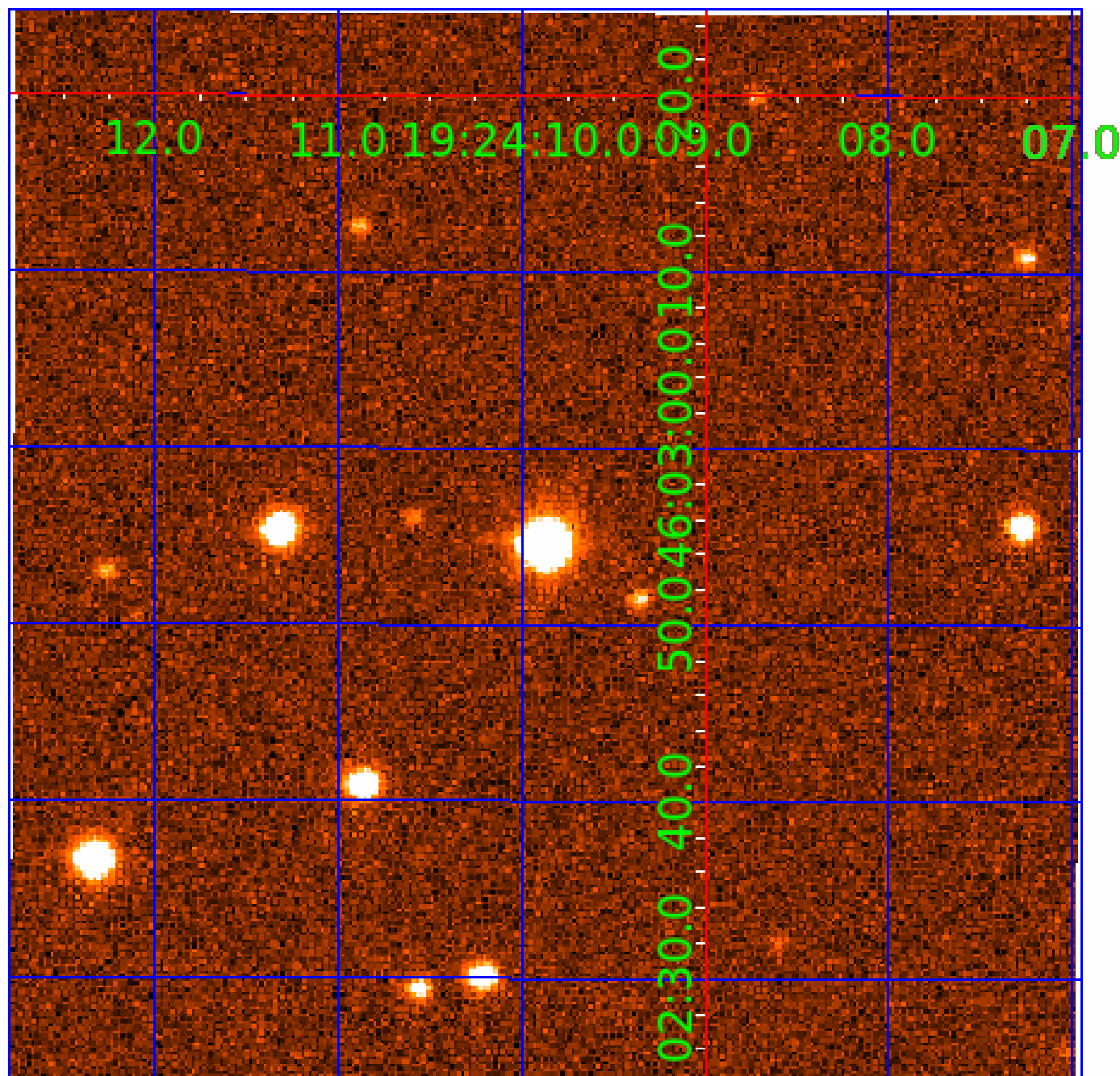
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination





# KIC 009462914

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009462914-01	OBS	No	0.877578	131.841695	6.4	6.515	7.5	7.7	2.38	8287	0.66	46494.06
009462914-02	OBS	No	13.610382	133.212316	75.9	1.788	10.2	7.4	2.38	8287	2.42	1202.13
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## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009462914-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS
009462914-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
009462914-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_UNCERTAIN

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

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

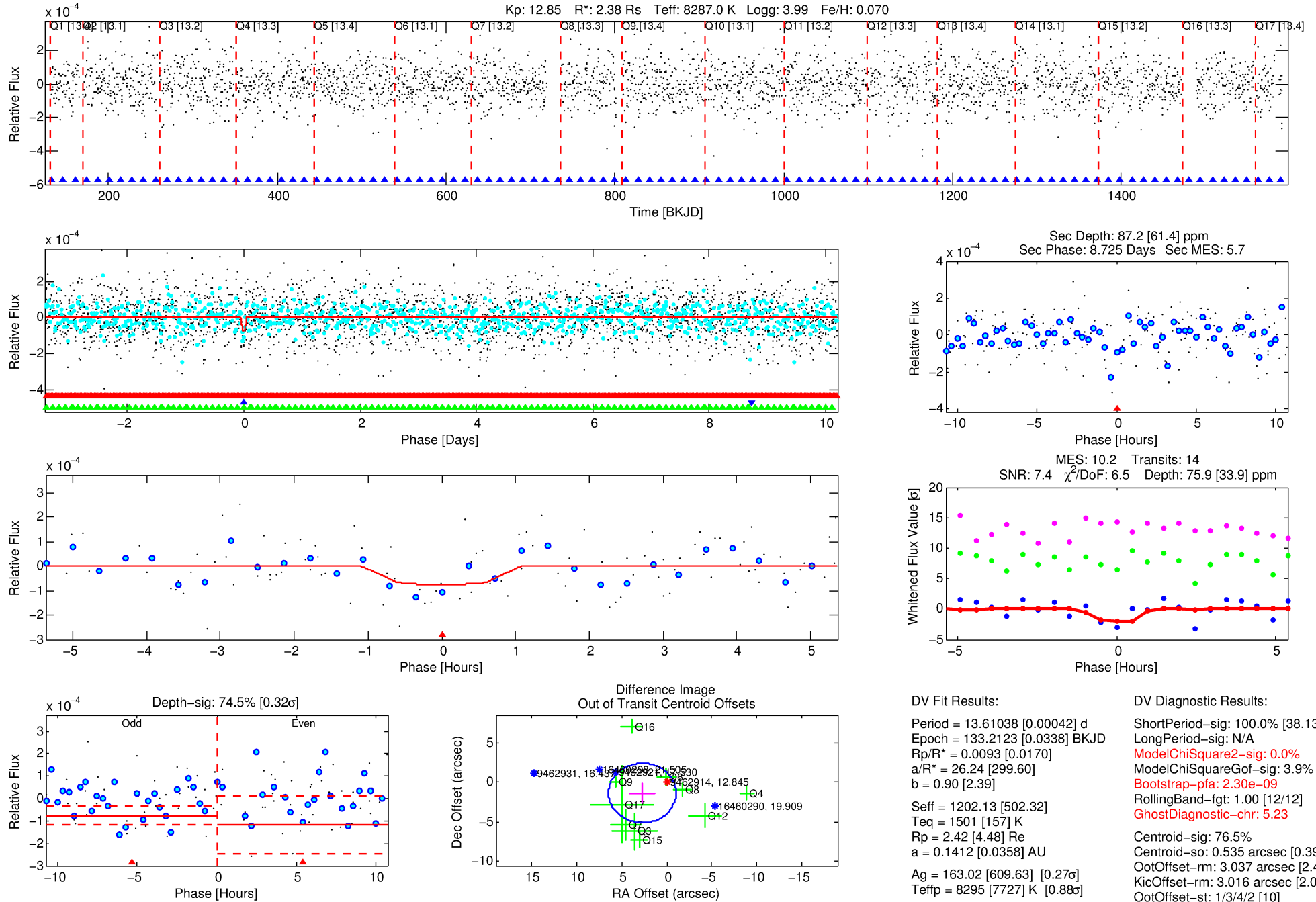
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009462914-02

No Significant Match Found

# DV One-Page Summary

KIC: 9462914 Candidate: 2 of 3 Period: 13.610 d



## DV Fit Results:

Period = 13.61038 [0.00042] d  
Epoch = 133.2123 [0.0338] BKJD  
Rp/R\* = 0.0093 [0.0170]  
a/R\* = 26.24 [299.60]  
b = 0.90 [2.39]  
Seff = 1202.13 [502.32]  
Teq = 1501 [157] K  
Rp = 2.42 [4.48] Re  
a = 0.1412 [0.0358] AU  
Ag = 163.02 [609.63] [0.27 $\sigma$ ]  
Teffp = 8295 [7727] K [0.88 $\sigma$ ]

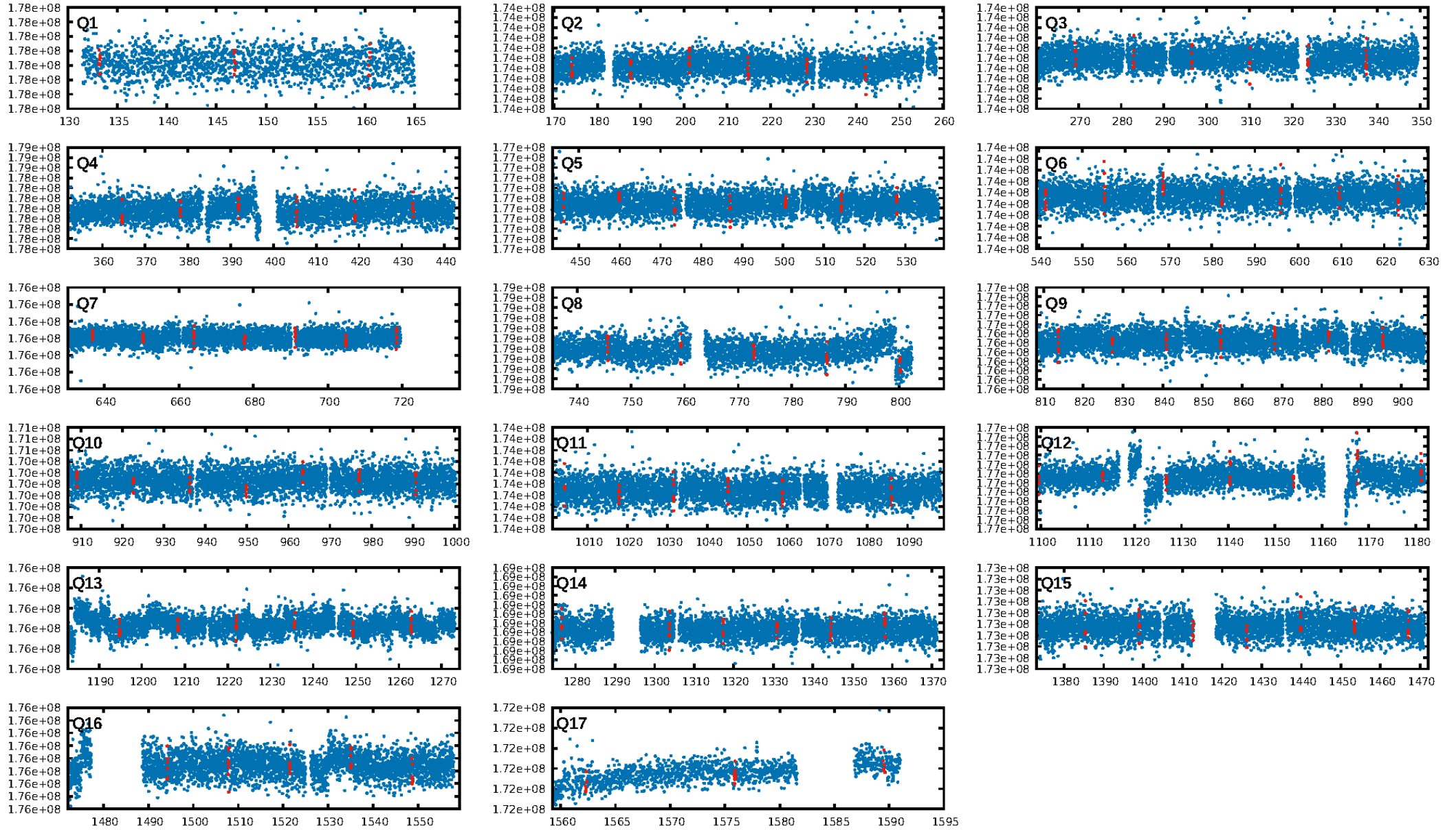
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [38.13 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 3.9%  
Bootstrap-pfa: 2.30e-09  
RollingBand-fgt: 1.00 [12/12]  
GhostDiagnostic-chr: 5.23  
Centroid-sig: 76.5%  
Centroid-so: 0.535 arcsec [0.39 $\sigma$ ]  
OotOffset-rm: 3.037 arcsec [2.43 $\sigma$ ]  
KicOffset-rm: 3.016 arcsec [2.03 $\sigma$ ]  
OotOffset-st: 1/3/4/2 [10]  
KicOffset-st: 1/3/4/2 [10]  
DiffImageQuality-fgm: 0.00 [0/10]  
DiffImageOverlap-fno: 0.35 [6/17]

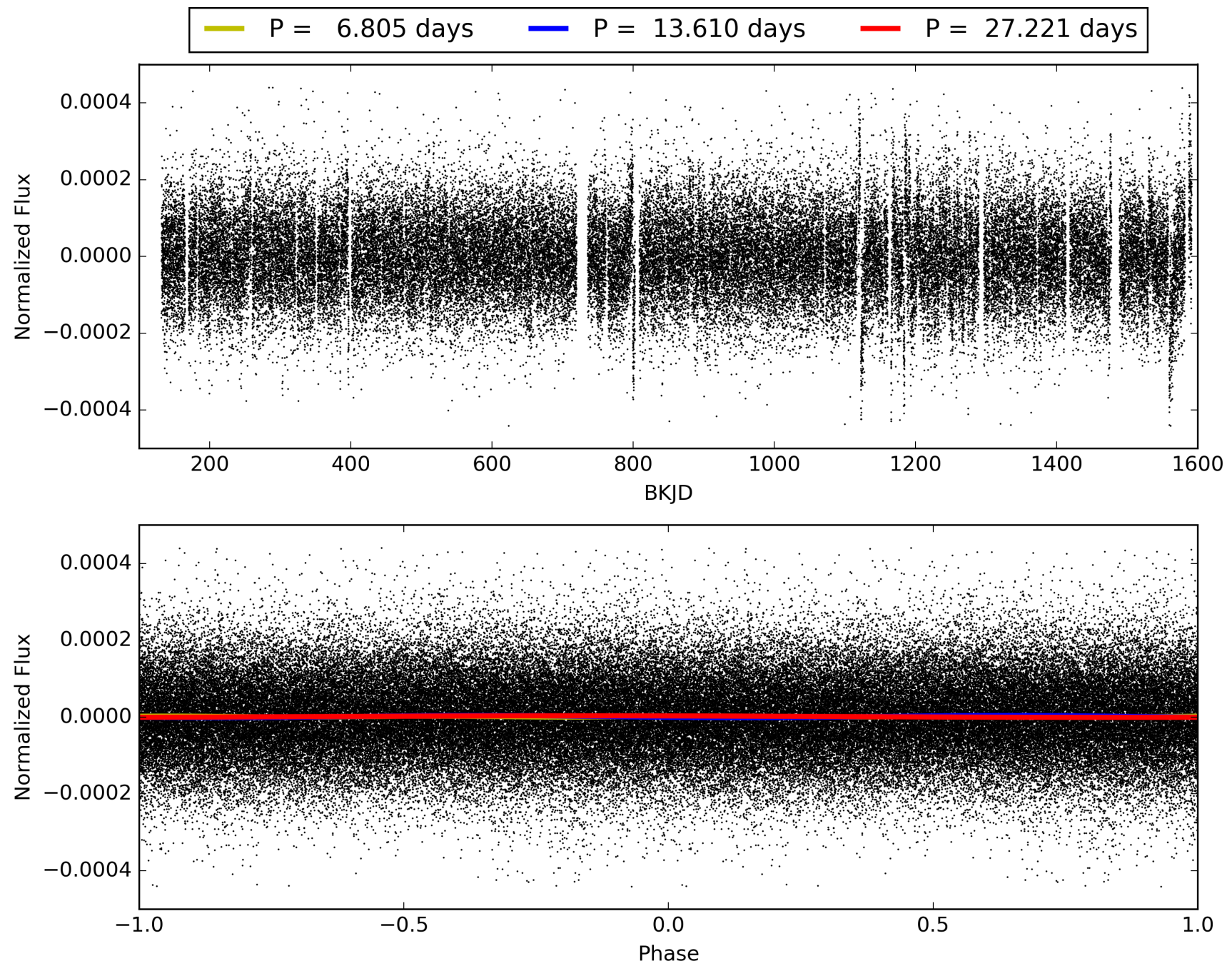
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:18:05 Z

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

# TCE 009462914-02, PDC Light Curves



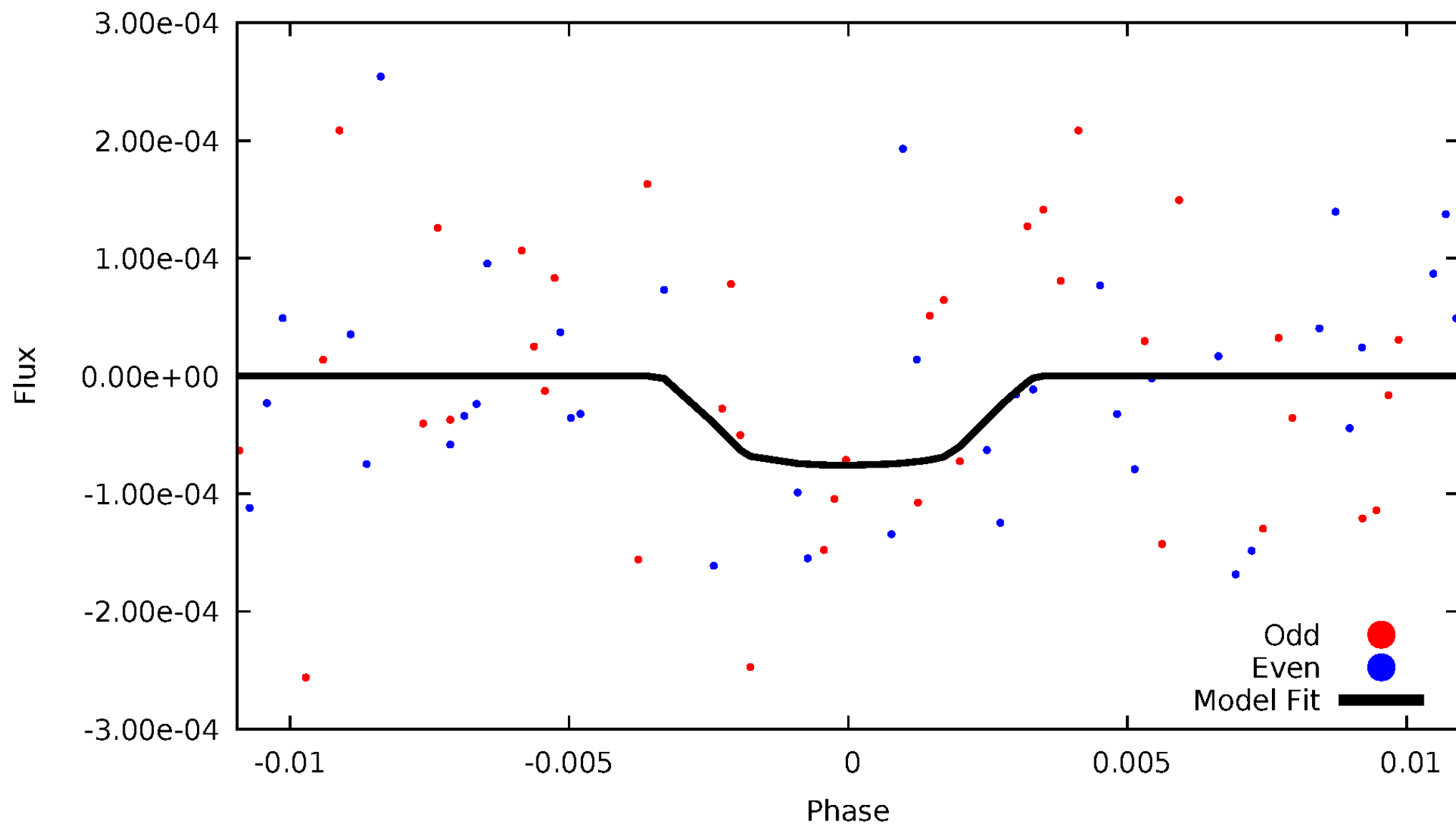
TCE 009462914-02





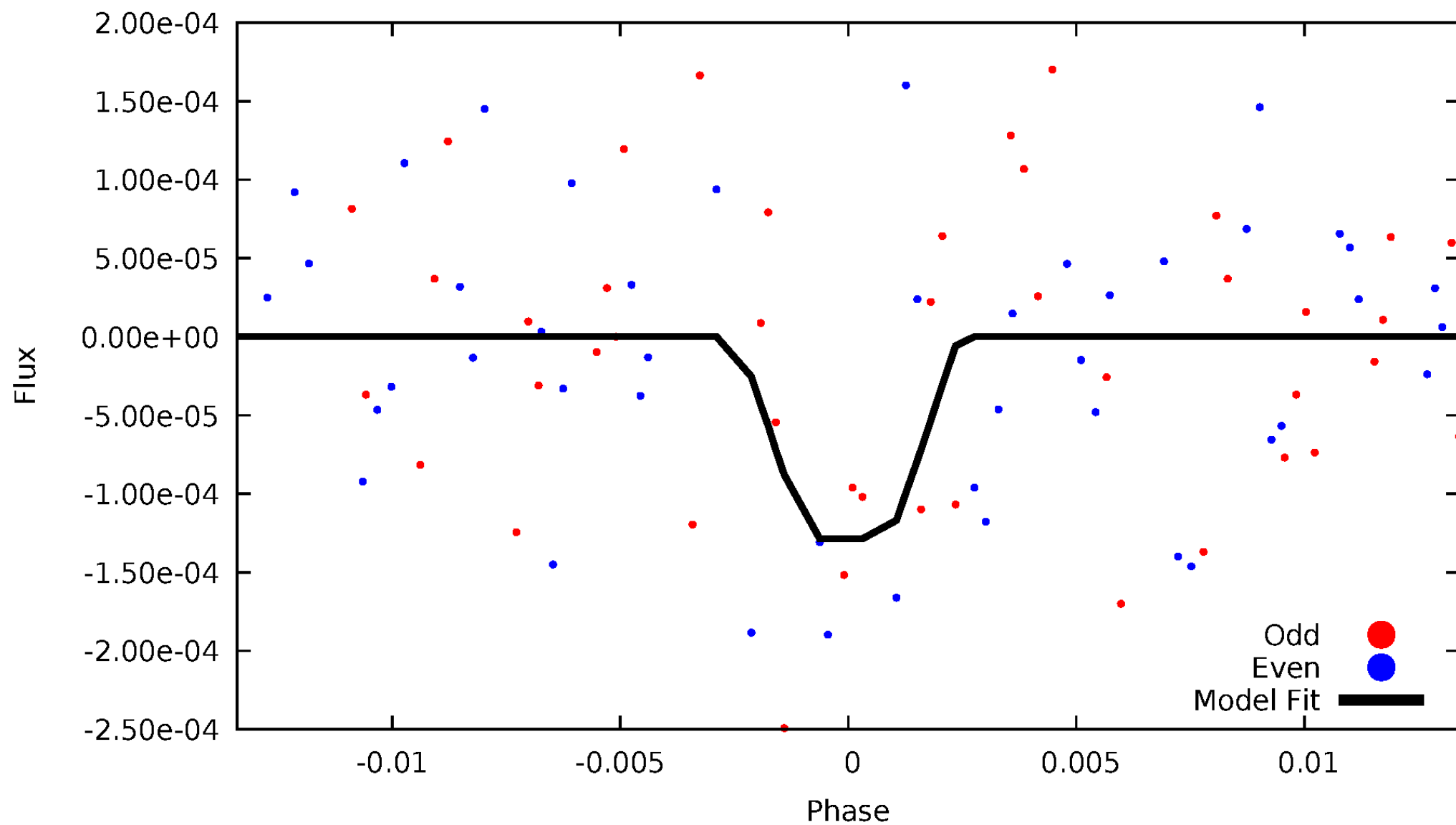
# DV Odd/Even

TCE 009462914-02



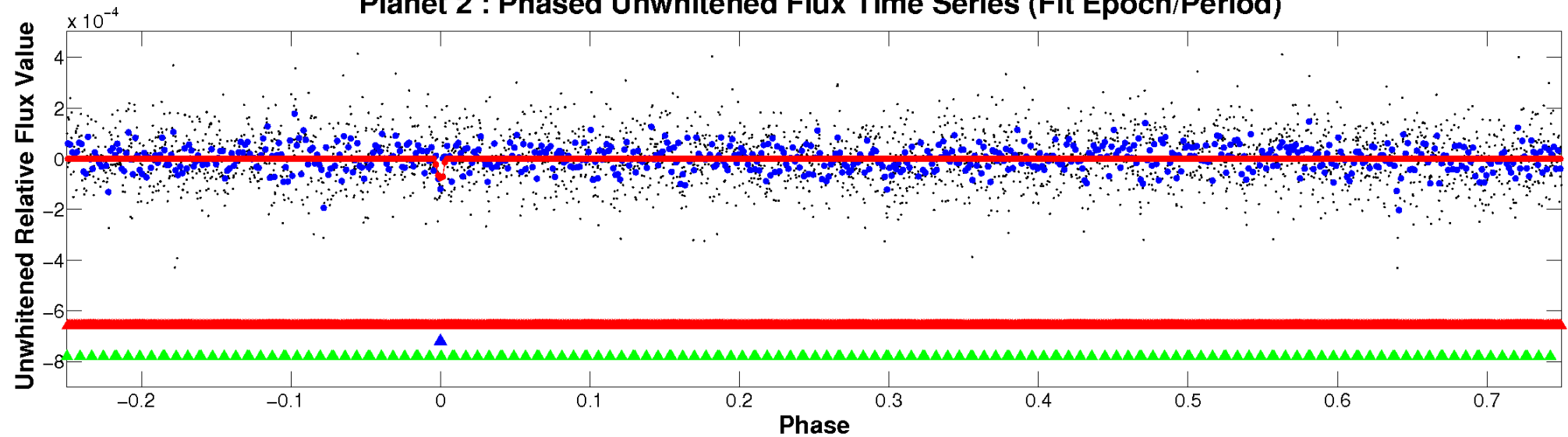
# ALT Odd/Even

TCE 009462914-02

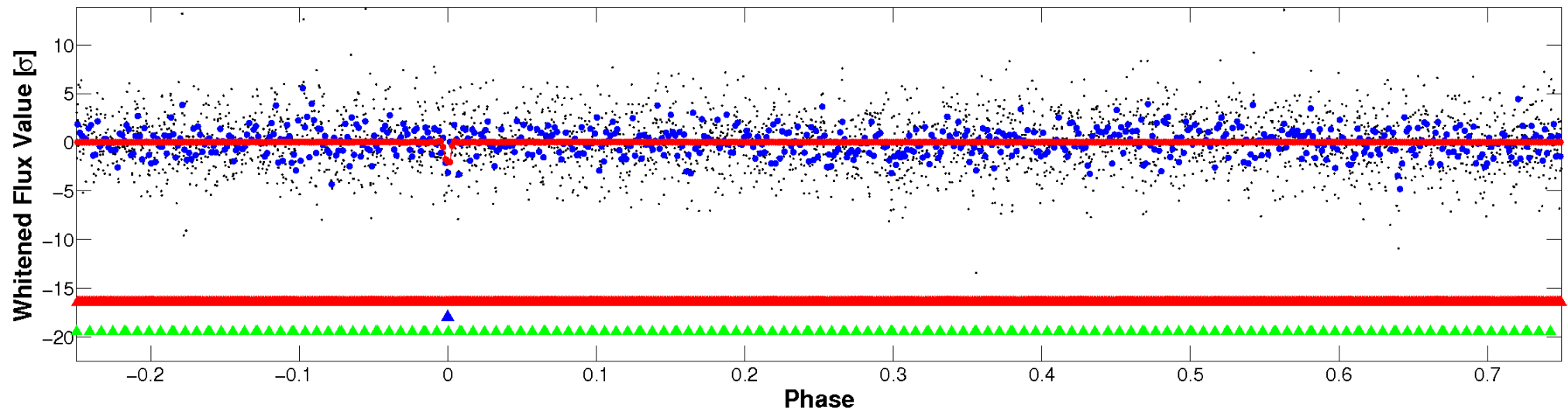


# Non-Whitened Vs. Whitened Light Curve

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

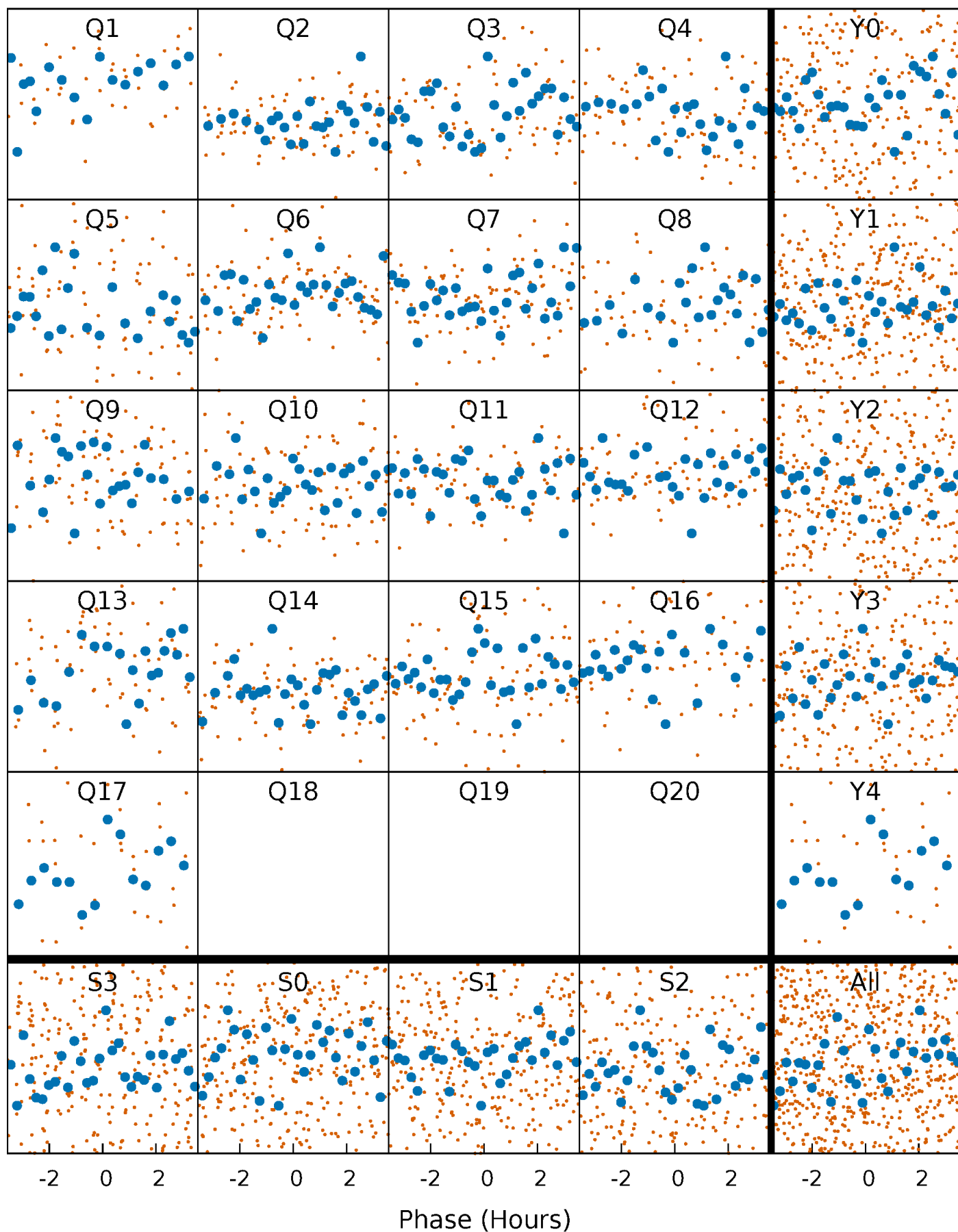


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



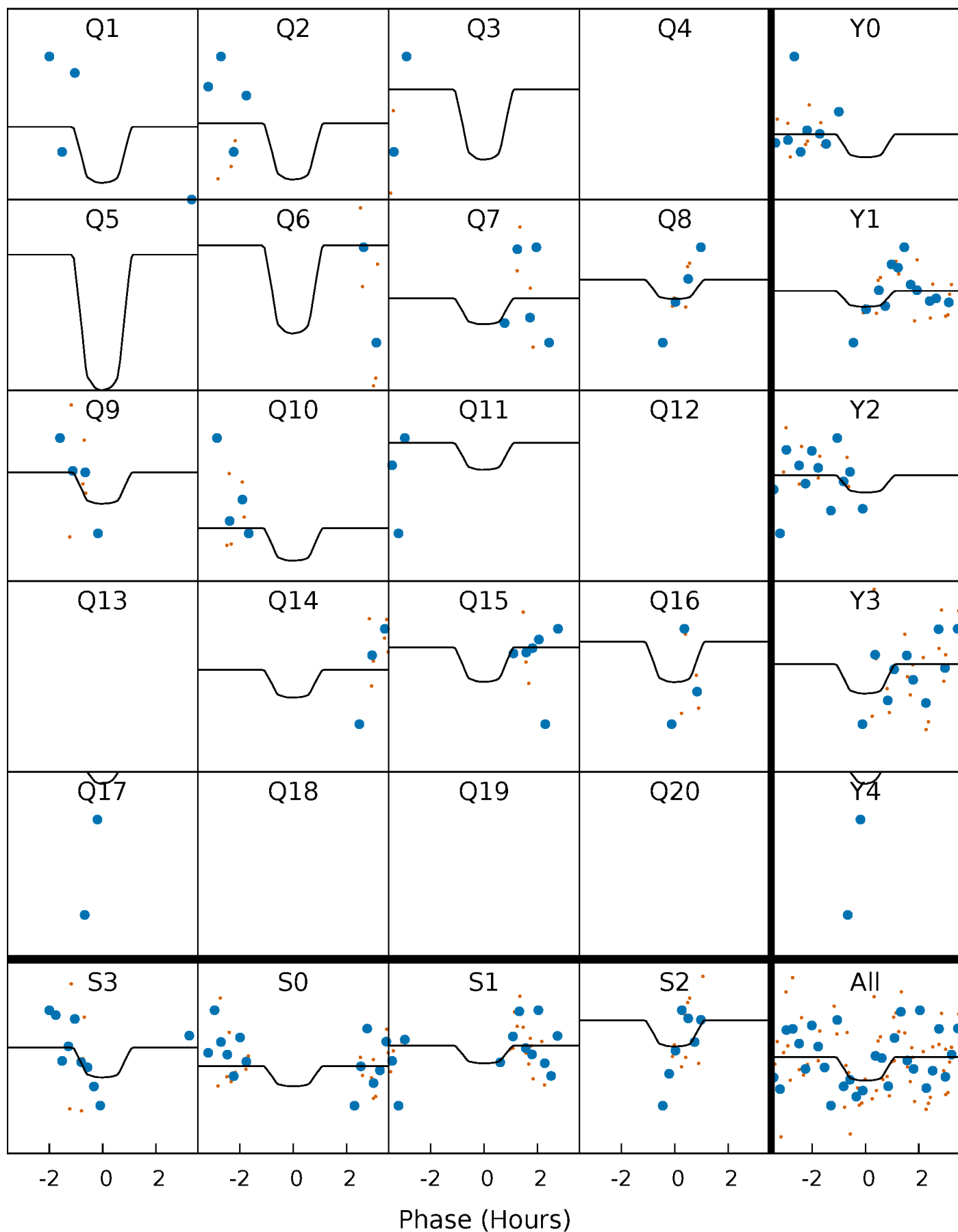
# PDC Quarter-Phased Transit Curves

TCE 009462914-02 P= 13.610382 Days  $T_0=133.212316$  (BKJD)



# DV Quarter-Phased Transit Curves

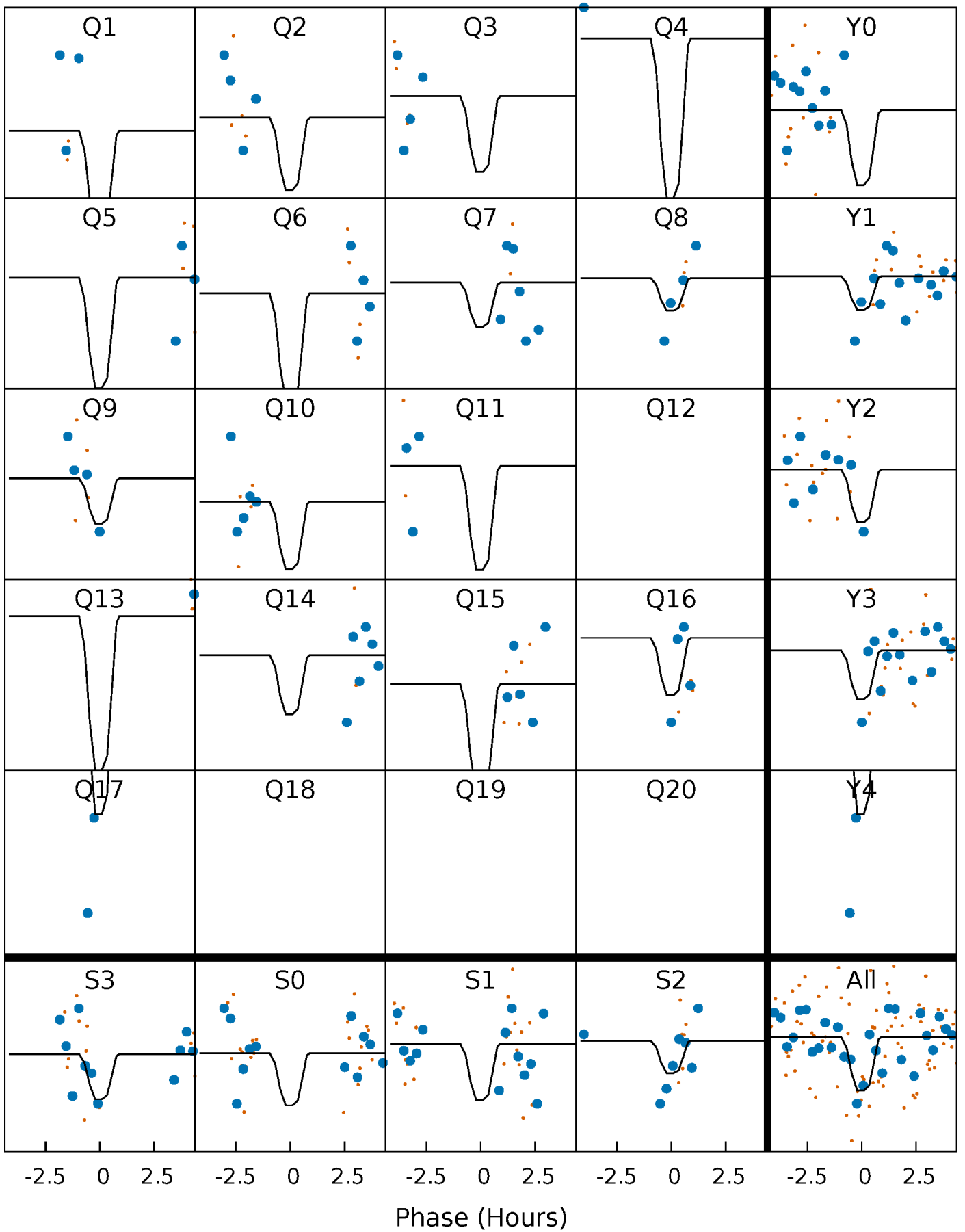
TCE 009462914-02 P= 13.610382 Days  $T_0=133.212316$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

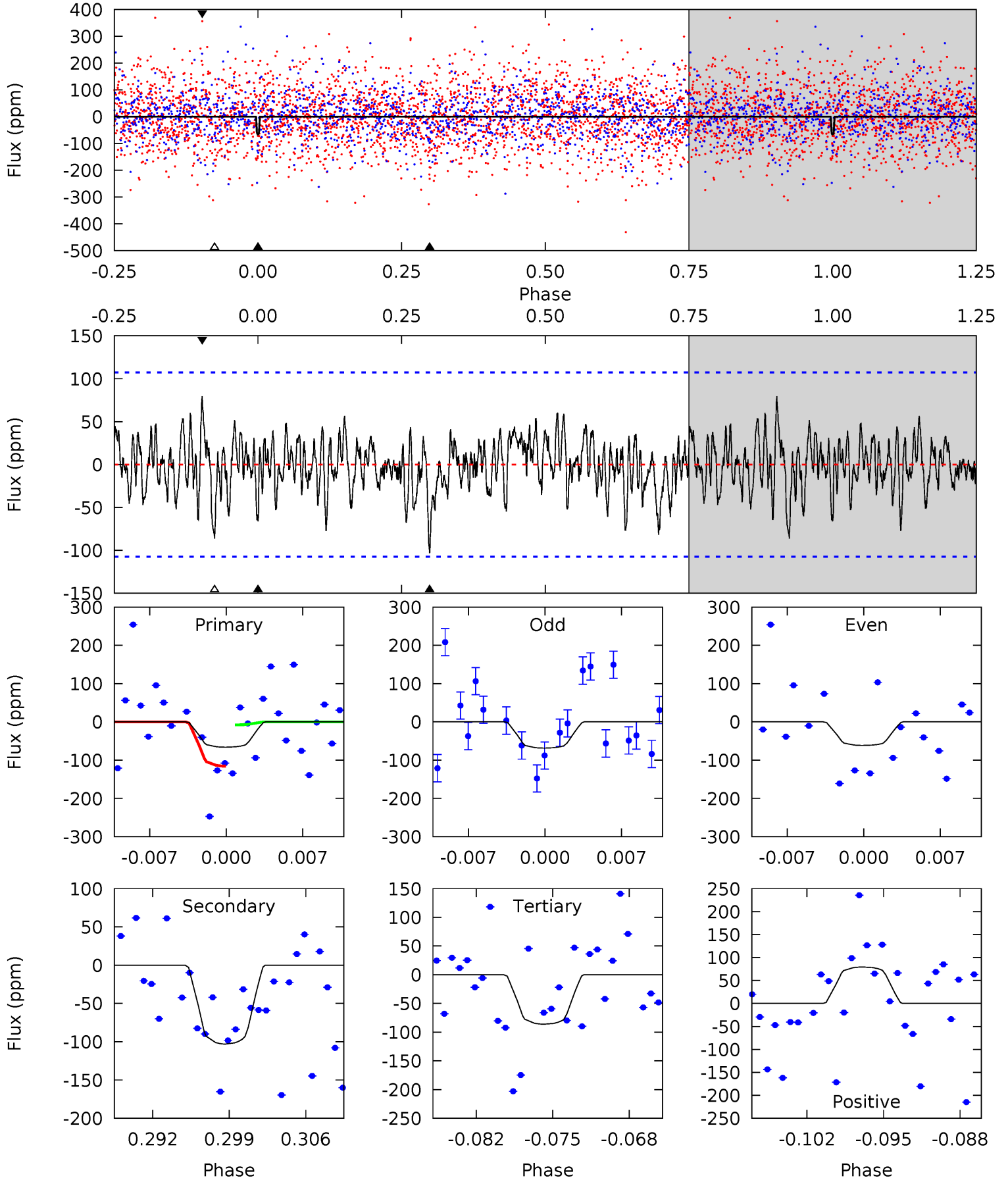
TCE 009462914-02 P= 13.610398 Days  $T_0=133.206787$  (BKJD)



# DV Model-Shift Uniqueness Test

009462914-02, P = 13.610382 Days, E = 119.601934 Days

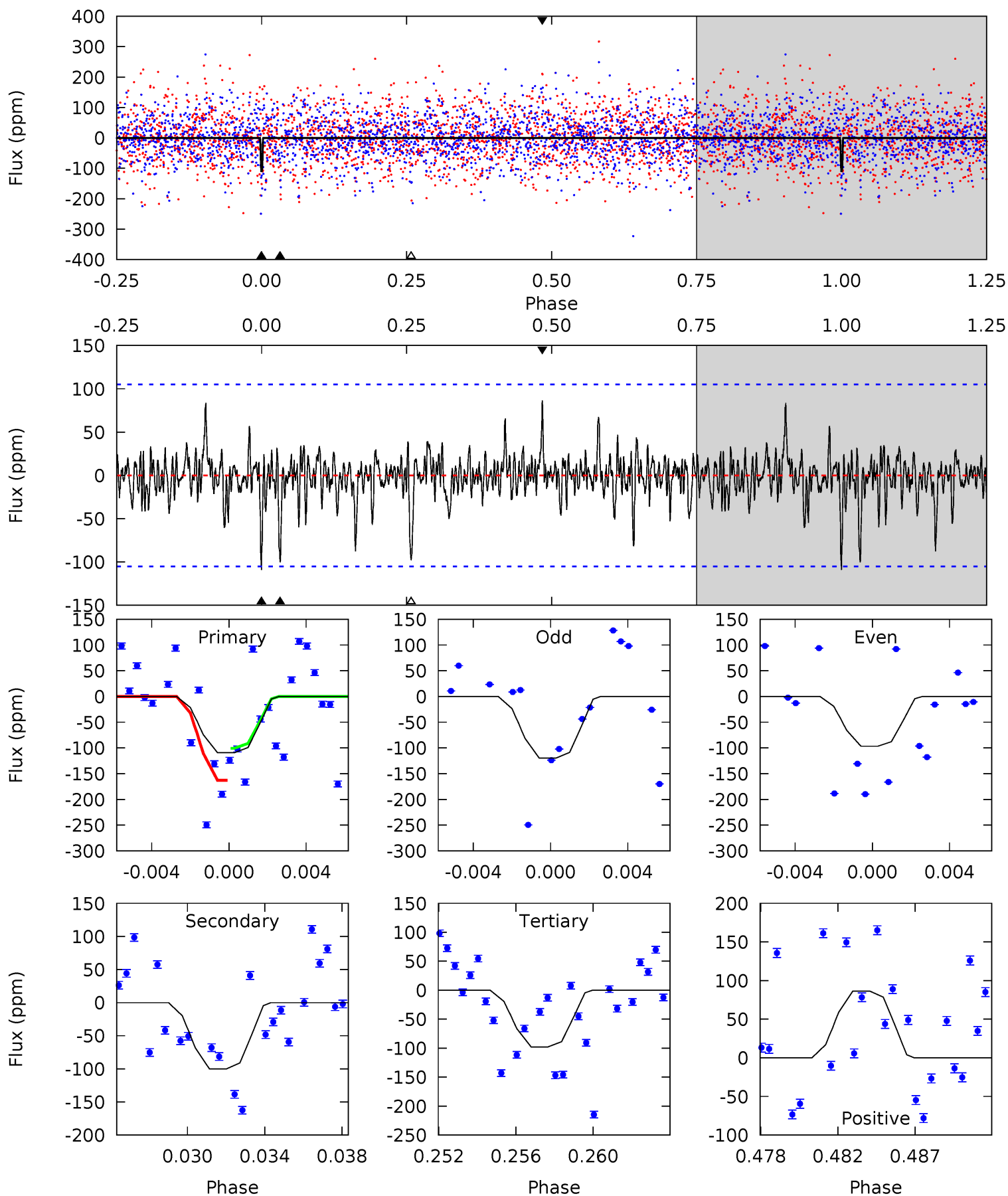
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.15	4.90	4.09	3.78	5.10	2.71	1.26	-0.95	-0.63	0.81	1.12	0.17	0.70	0.44	2.59



# Alt Model-Shift Uniqueness Test

009462914-02, P = 13.610398 Days, E = 119.596389 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.39	4.94	4.83	4.26	5.19	2.86	0.99	0.56	1.13	0.12	0.68	0.56	0.93	0.44	1.49



### Stellar Parameters For KIC 009462914

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8287^{+198}_{-397}$	$3.991^{+0.204}_{-0.136}$	$0.070^{+0.250}_{-0.500}$	$2.382^{+0.476}_{-0.713}$	$2.028^{+0.320}_{-0.480}$	$0.211^{+0.283}_{-0.078}$
	+2%/-5%	+5%/-3%	+357%/-714%	+20%/-30%	+16%/-24%	+134%/-37%
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 009462914-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-103 \pm 21$	$4.00^{+3.83}_{-2.65}$	$2076^{+139}_{-175}$	$6329^{+6304}_{-1652}$	$70^{+522}_{-52}$
Alt.	$-100 \pm 20$	$4.08^{+3.83}_{-2.62}$	$2079^{+146}_{-170}$	$6135^{+6121}_{-1461}$	$62^{+444}_{-44}$

$T_{\text{max}}$  = 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

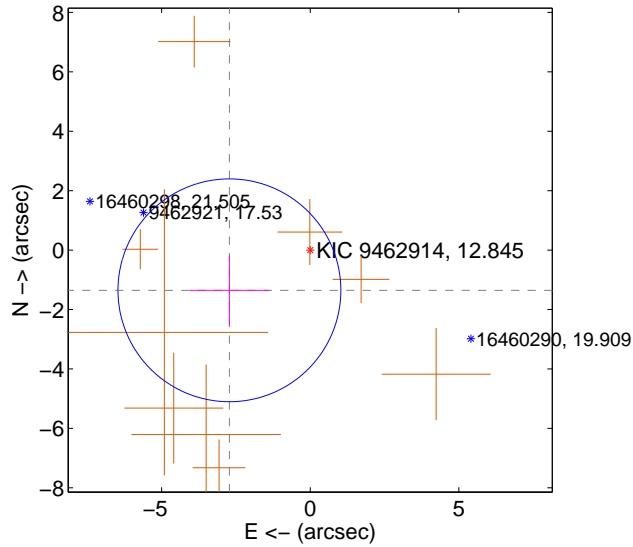
Supplemental centroid analysis for 009462914-02. Kepler magnitude: 12.85. Transit SNR 7.38

There are 0 quarters with good PRF difference image offsets

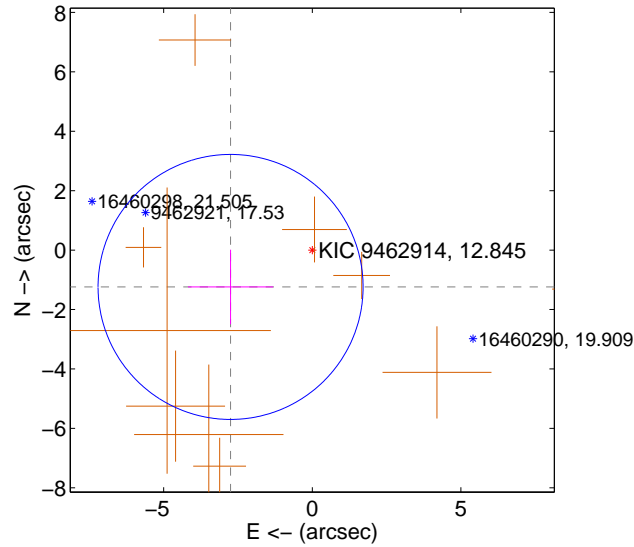
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.037 \pm 1.250$	2.43	$2.719 \pm 1.336$	$-1.353 \pm 1.175$
PRF-fit source offset from KIC position	$3.016 \pm 1.486$	2.03	$2.749 \pm 1.433$	$-1.240 \pm 1.254$
photometric centroid source offset	$0.53 \pm 1.36$	0.39	$0.42 \pm 1.46$	$-0.33 \pm 1.18$

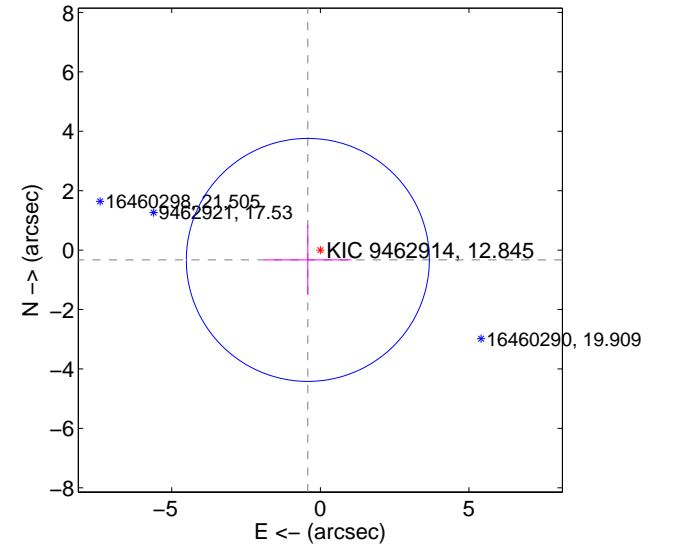
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

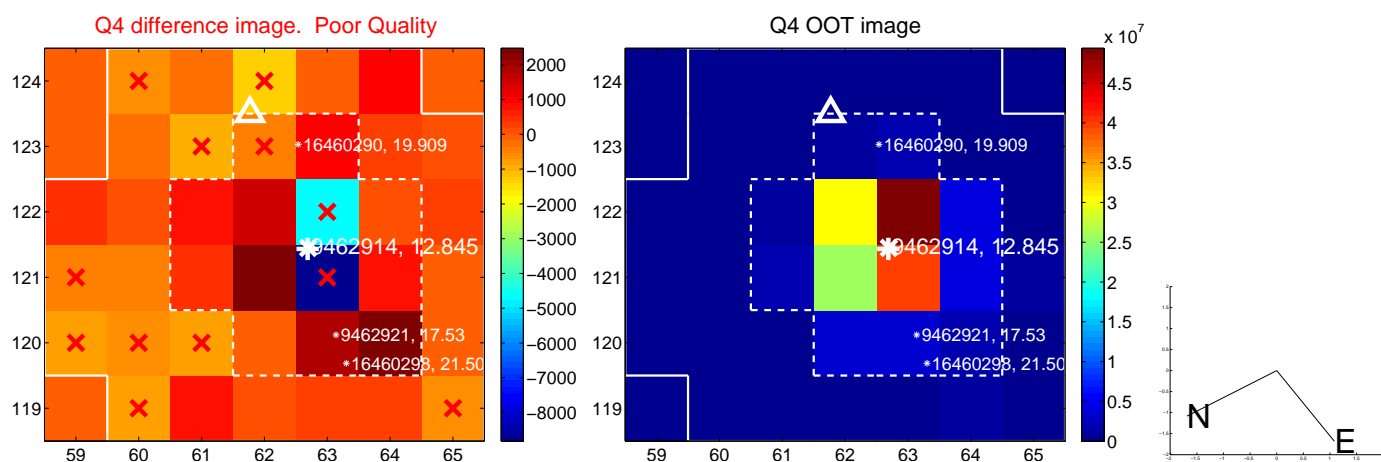
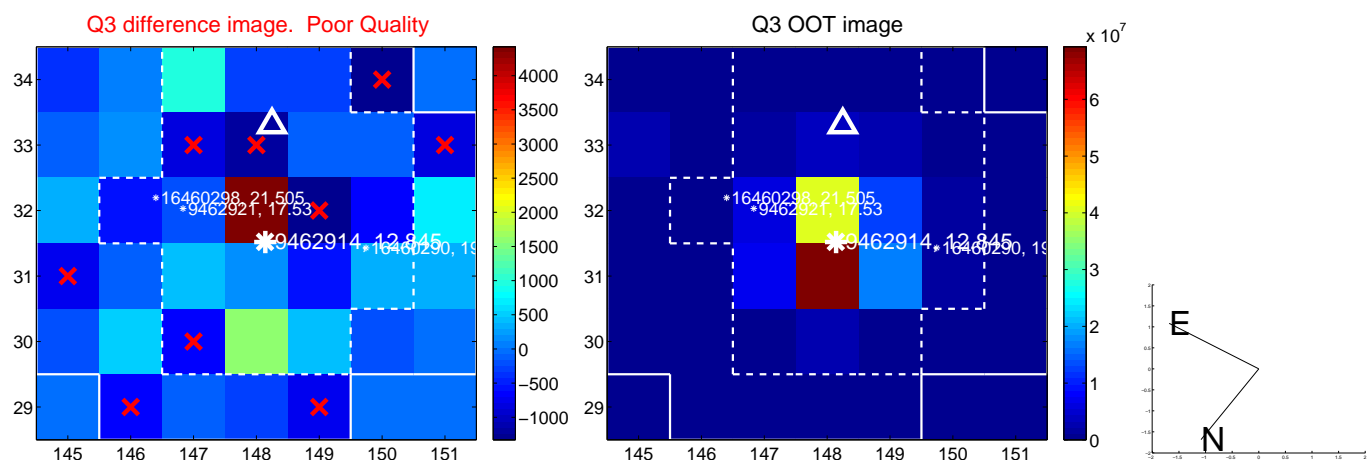
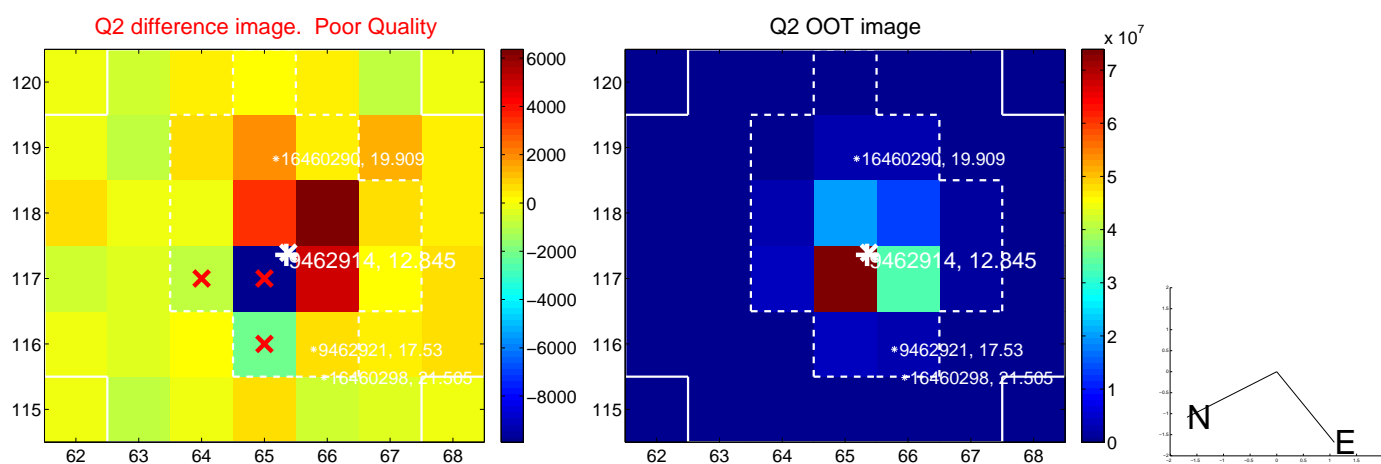
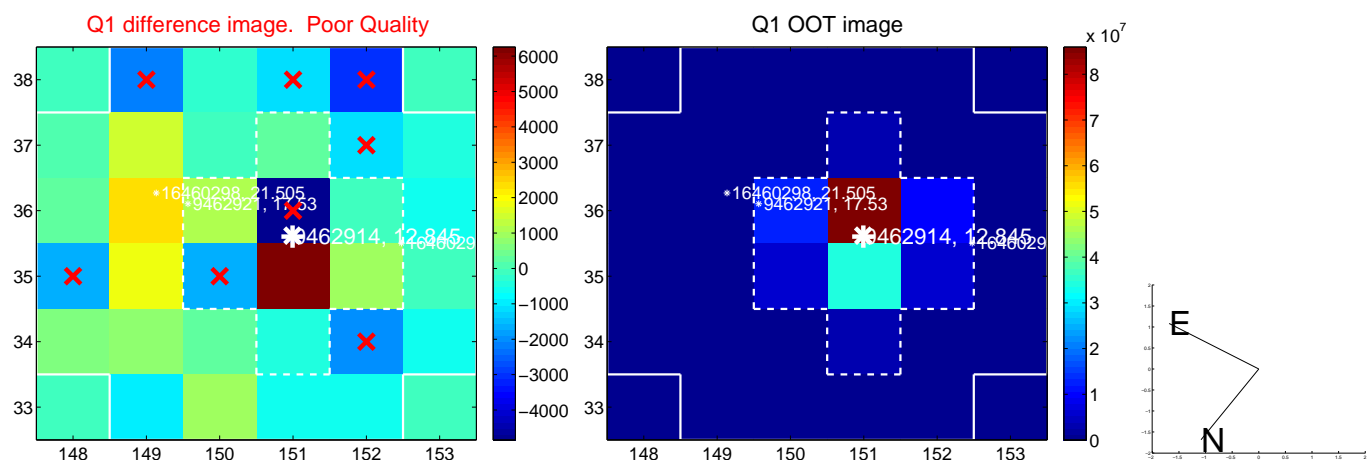


offset from photometric centroids



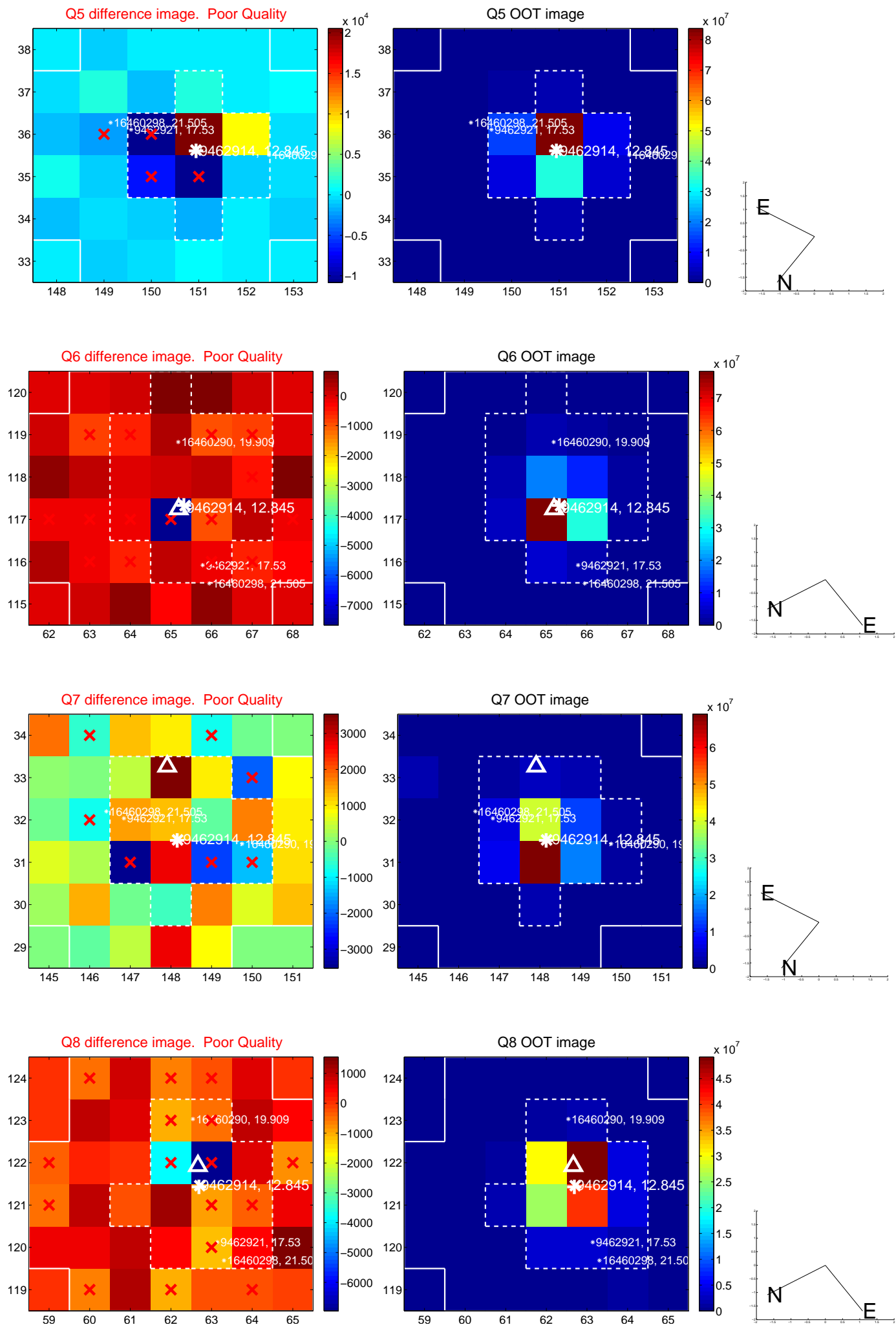
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

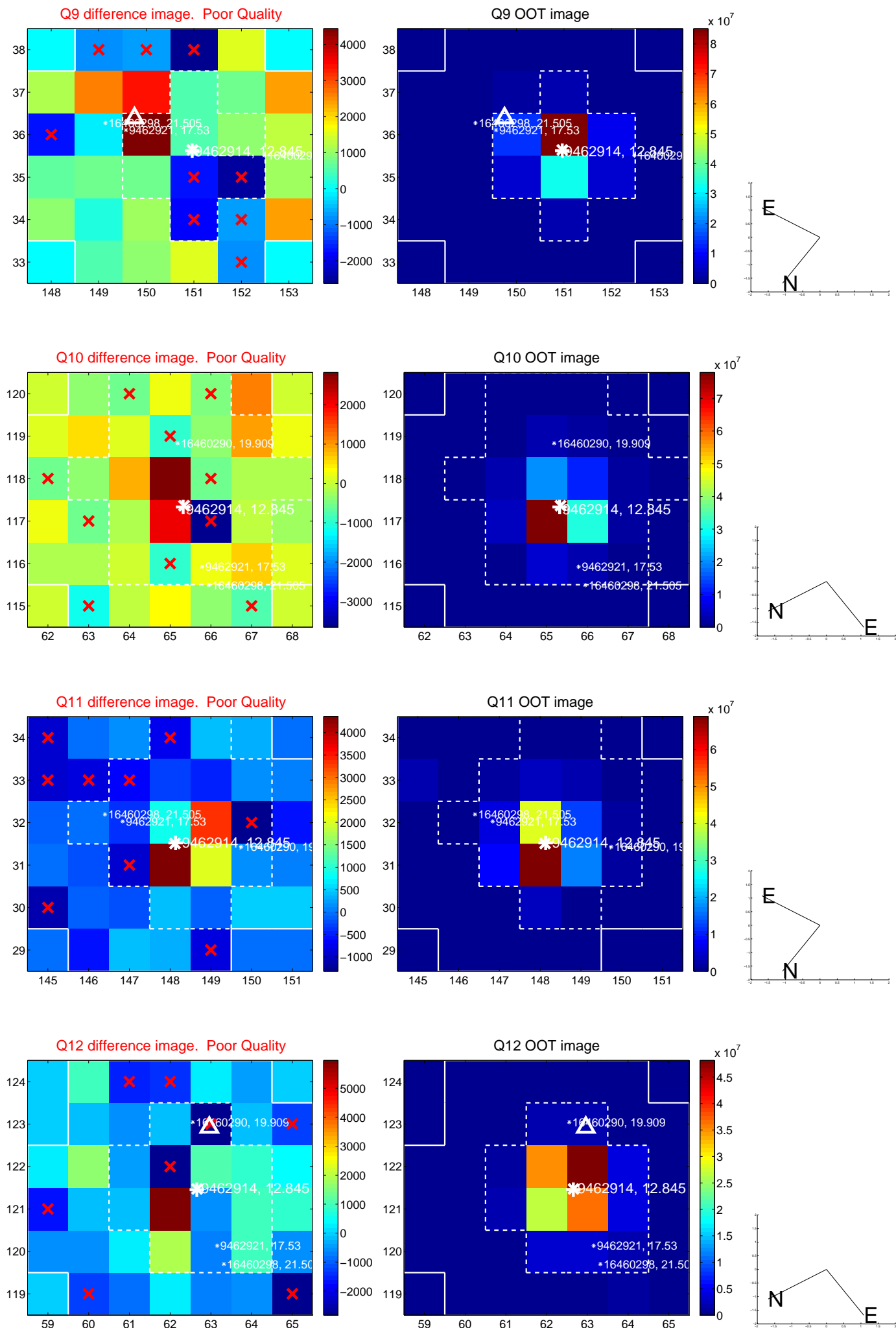




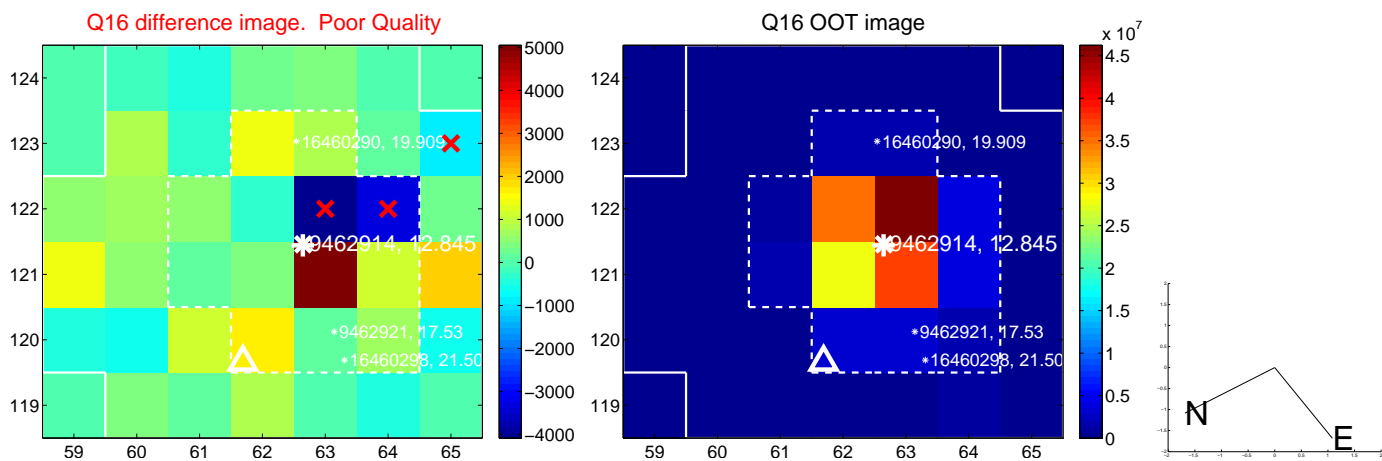
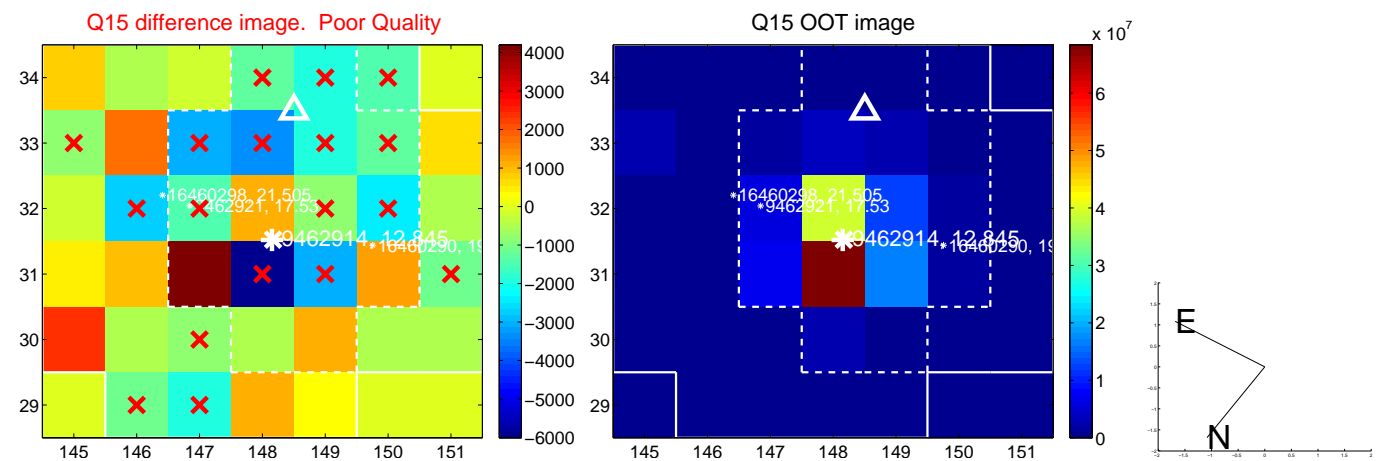
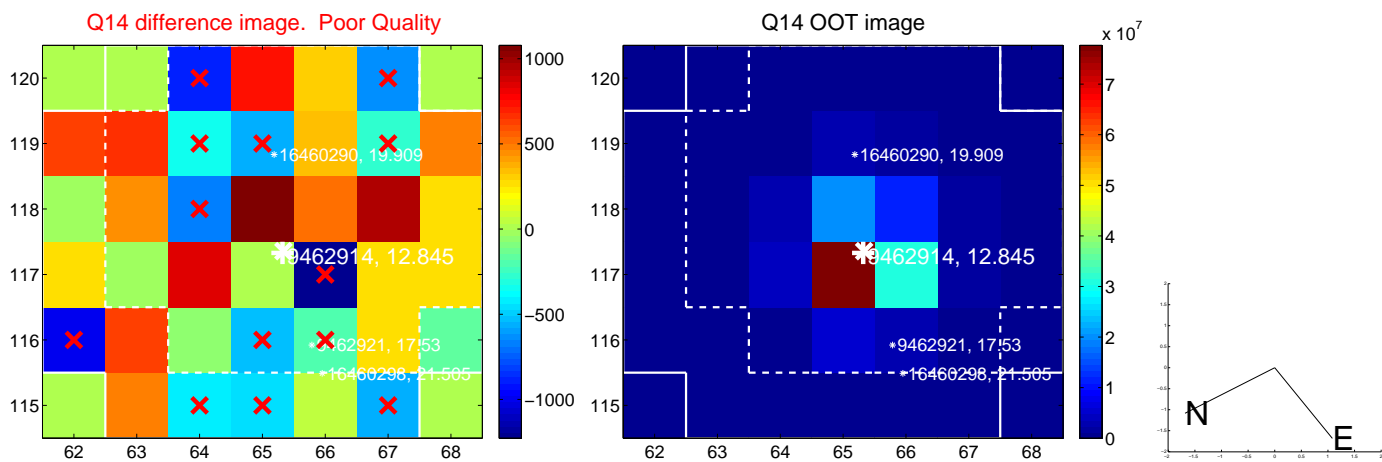
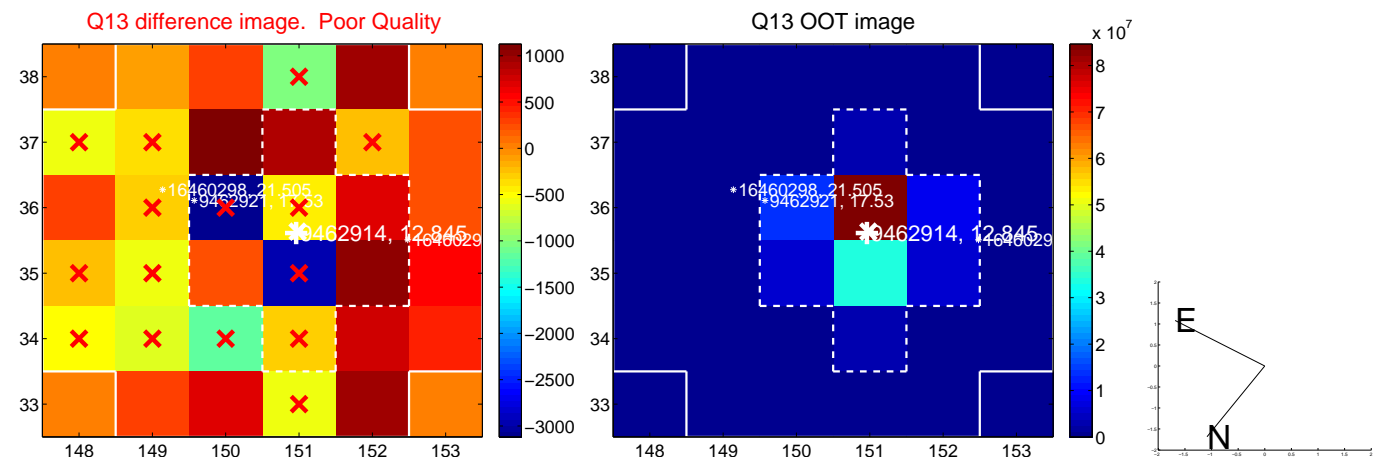
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



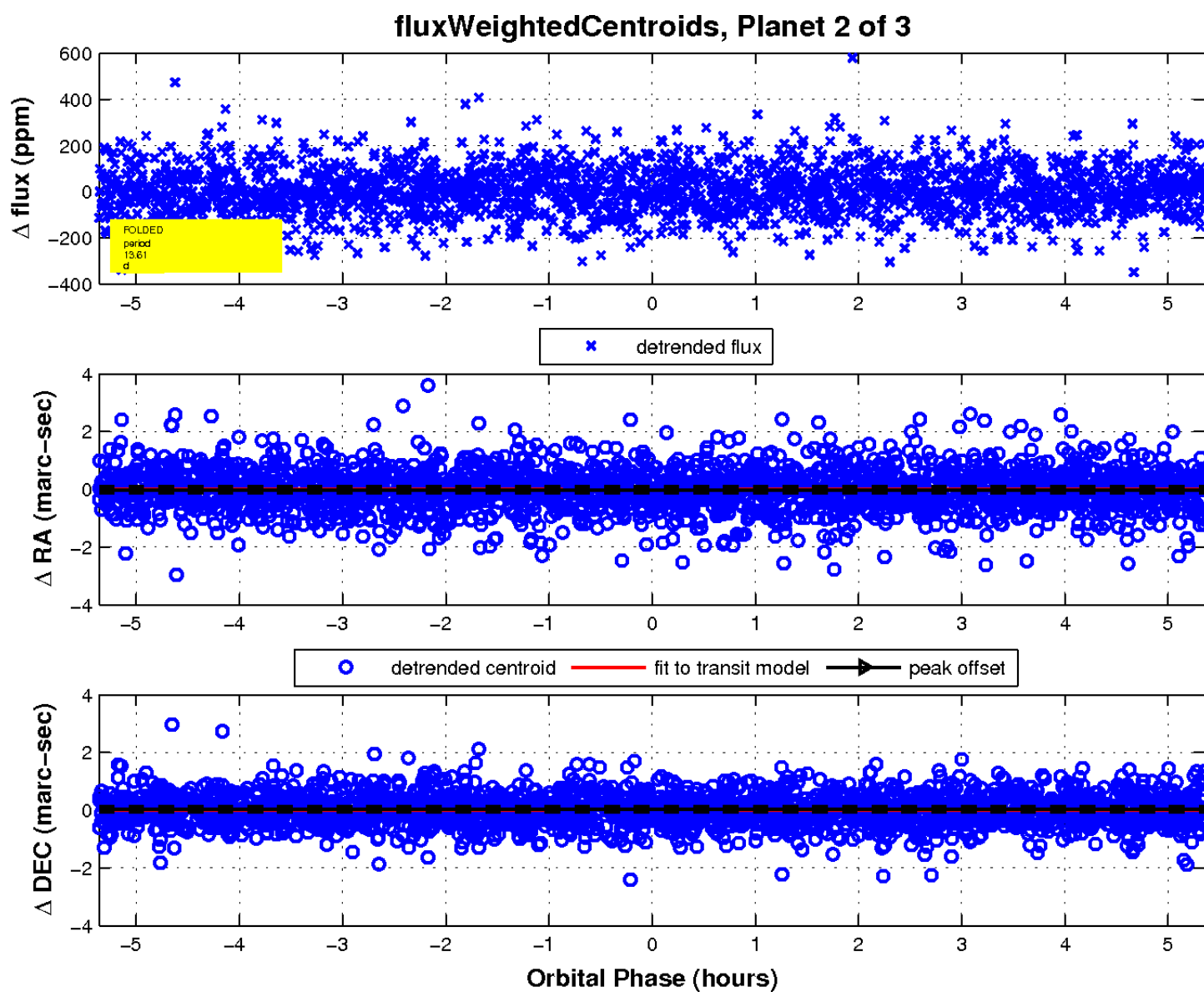
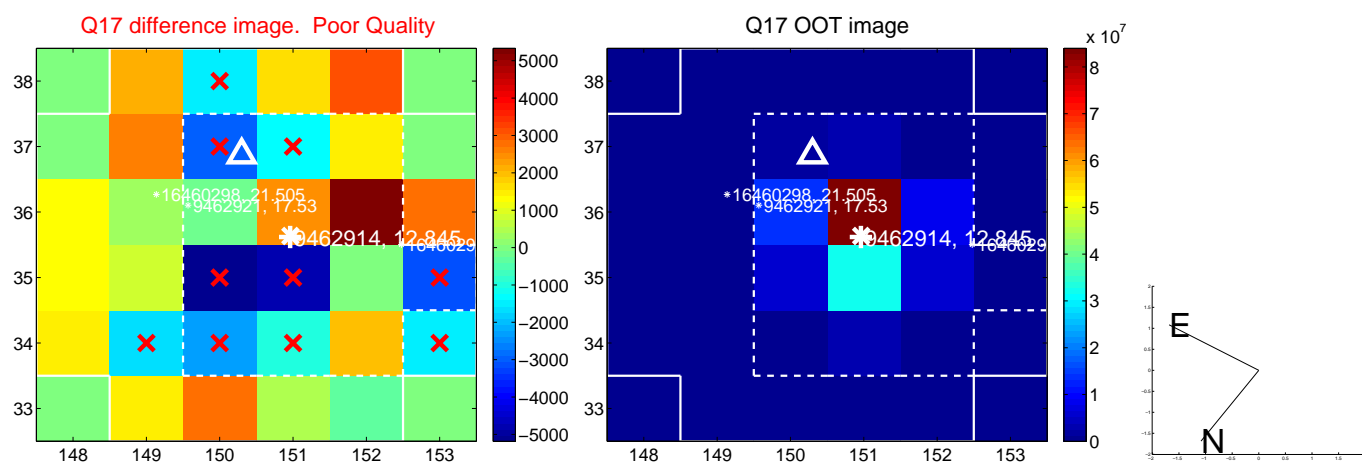
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

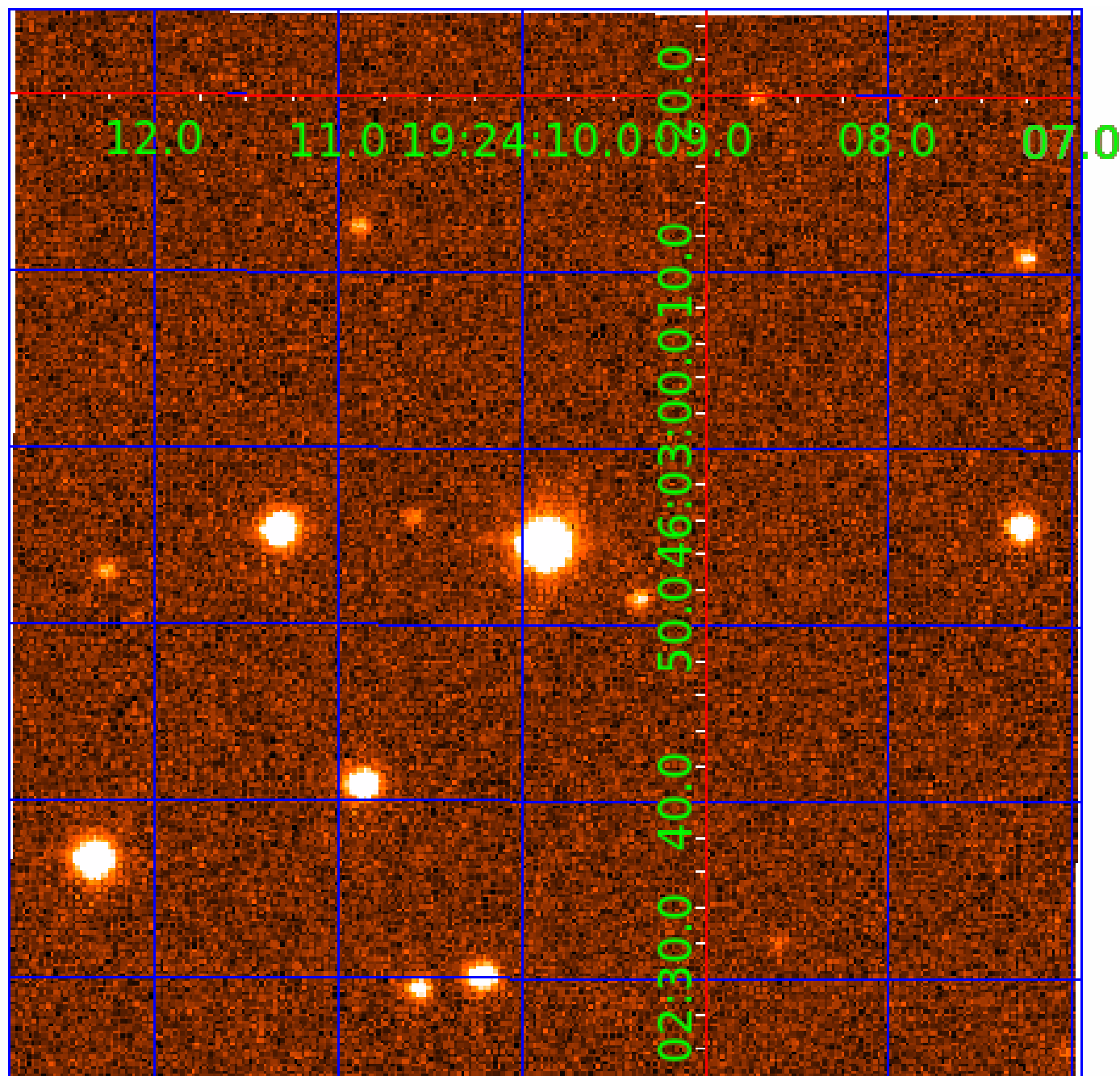


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 009462914

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009462914-01	OBS	No	0.877578	131.841695	6.4	6.515	7.5	7.7	2.38	8287	0.66	46494.06
009462914-02	OBS	No	13.610382	133.212316	75.9	1.788	10.2	7.4	2.38	8287	2.42	1202.13
009462914-03	OBS	No	9.329810	134.967337	92.4	2.015	11.1	12.0	2.38	8287	2.45	1988.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009462914-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS
009462914-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
009462914-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_UNCERTAIN

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

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

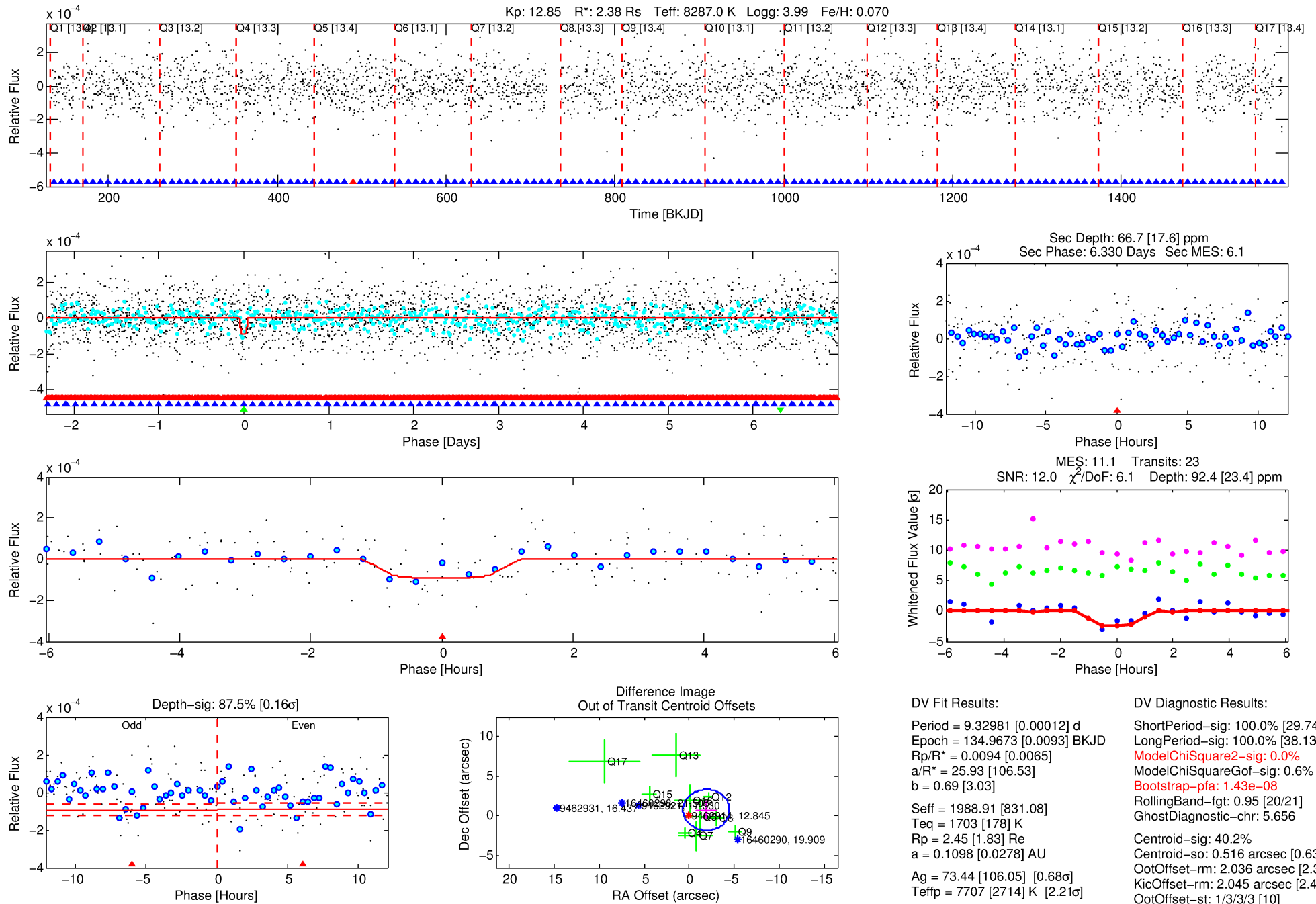
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009462914-03

No Significant Match Found

# DV One-Page Summary

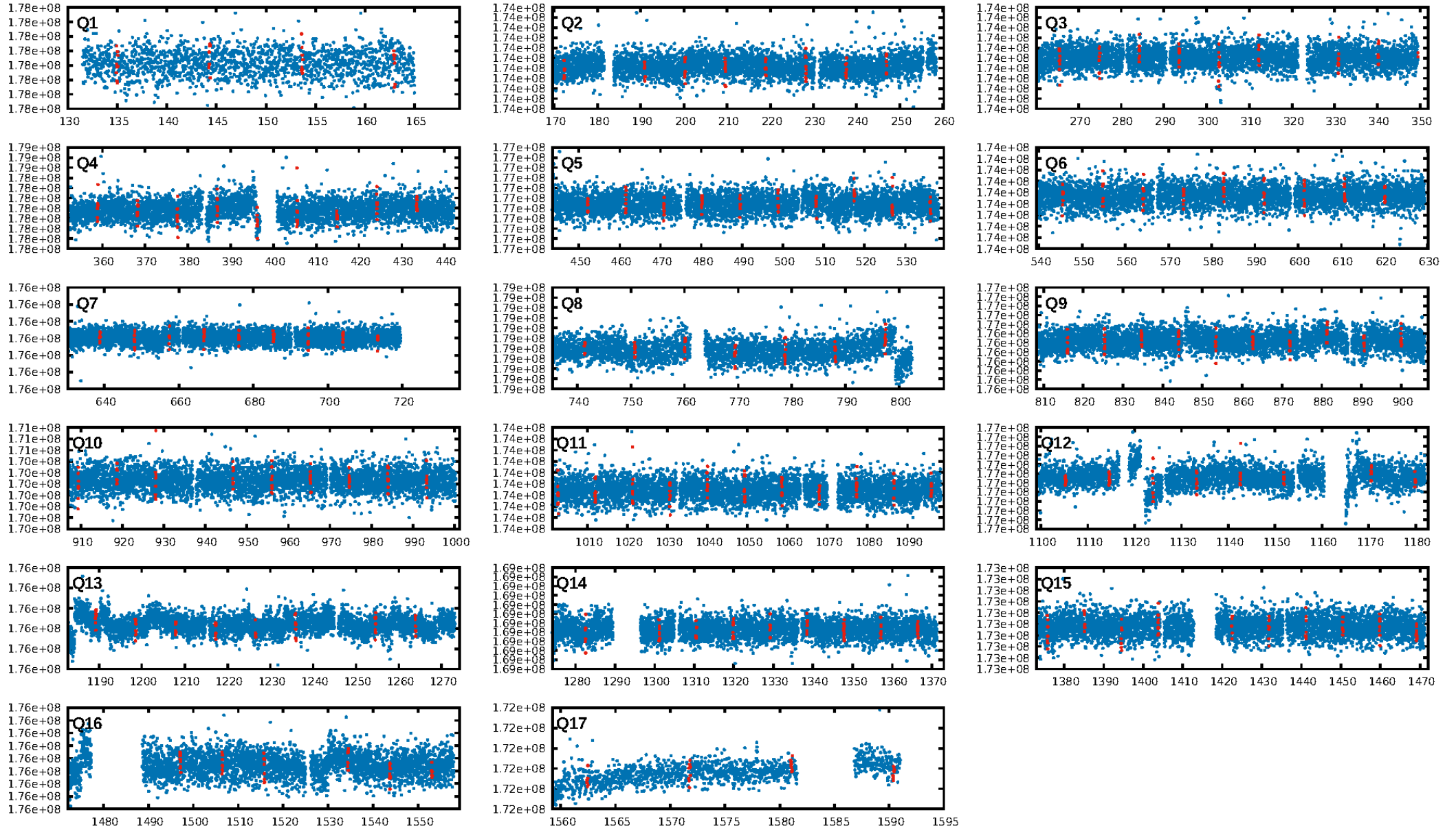
KIC: 9462914 Candidate: 3 of 3 Period: 9.330 d



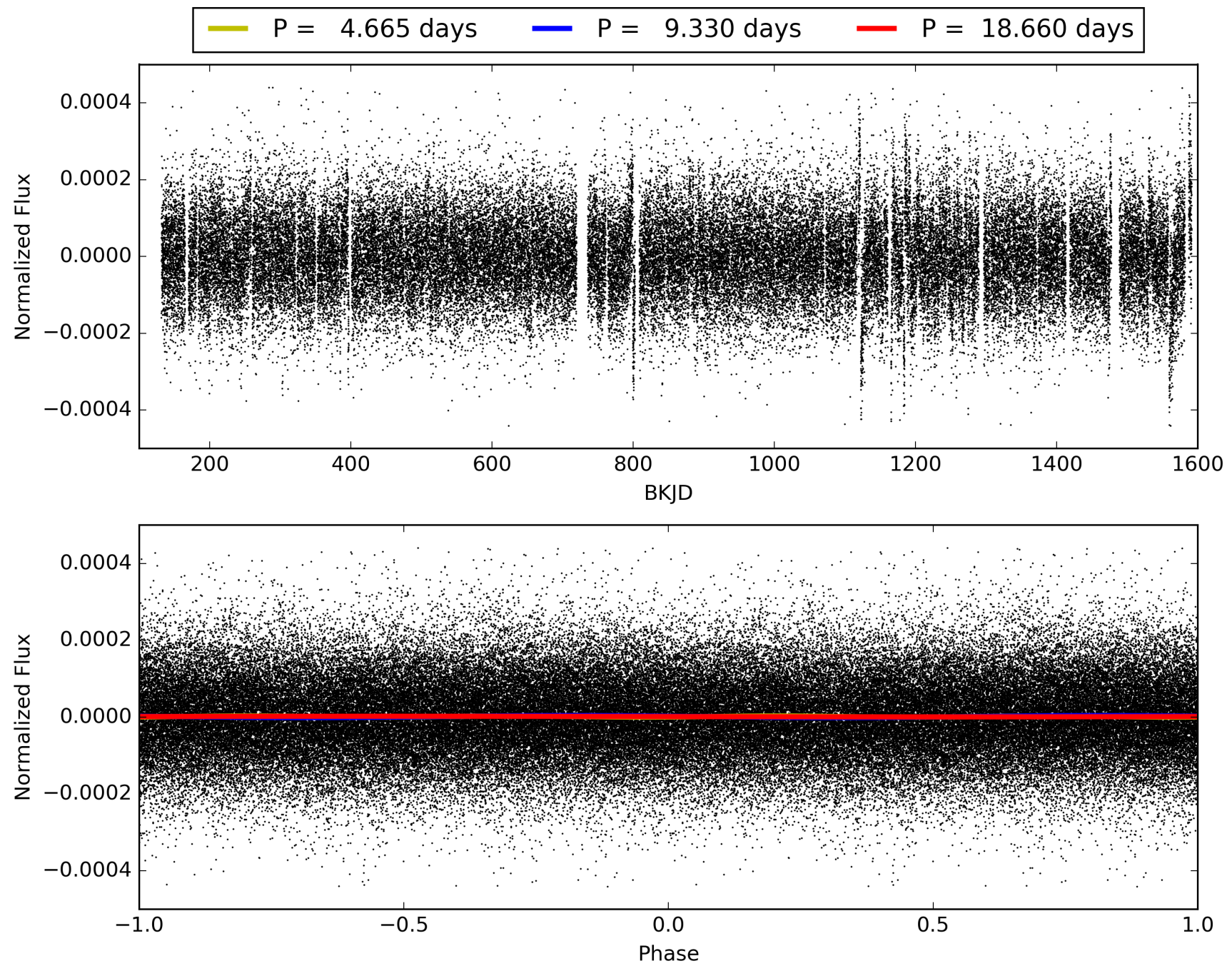
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:18:08 Z

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

# TCE 009462914-03, PDC Light Curves

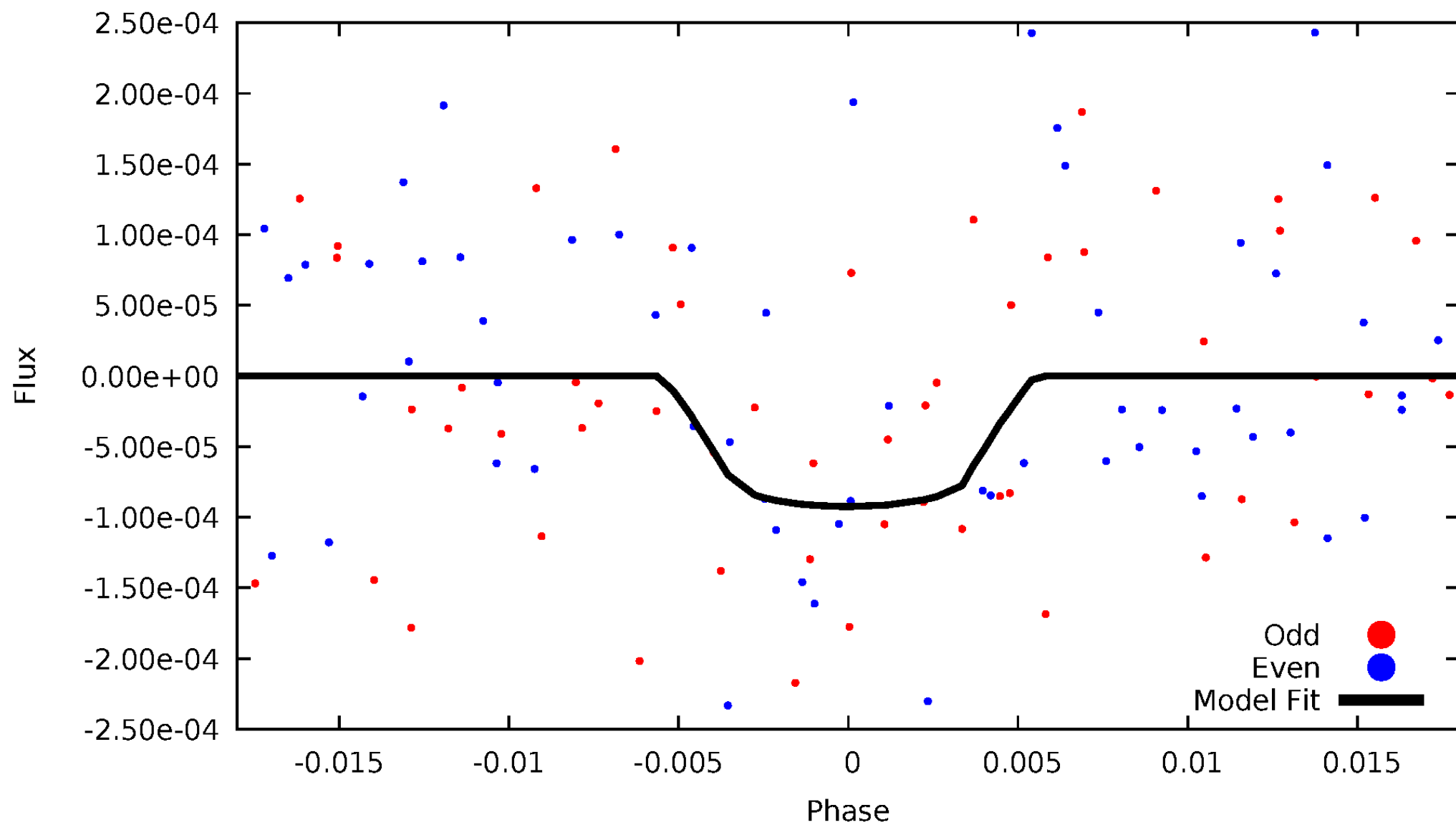


TCE 009462914-03



# DV Odd/Even

TCE 009462914-03





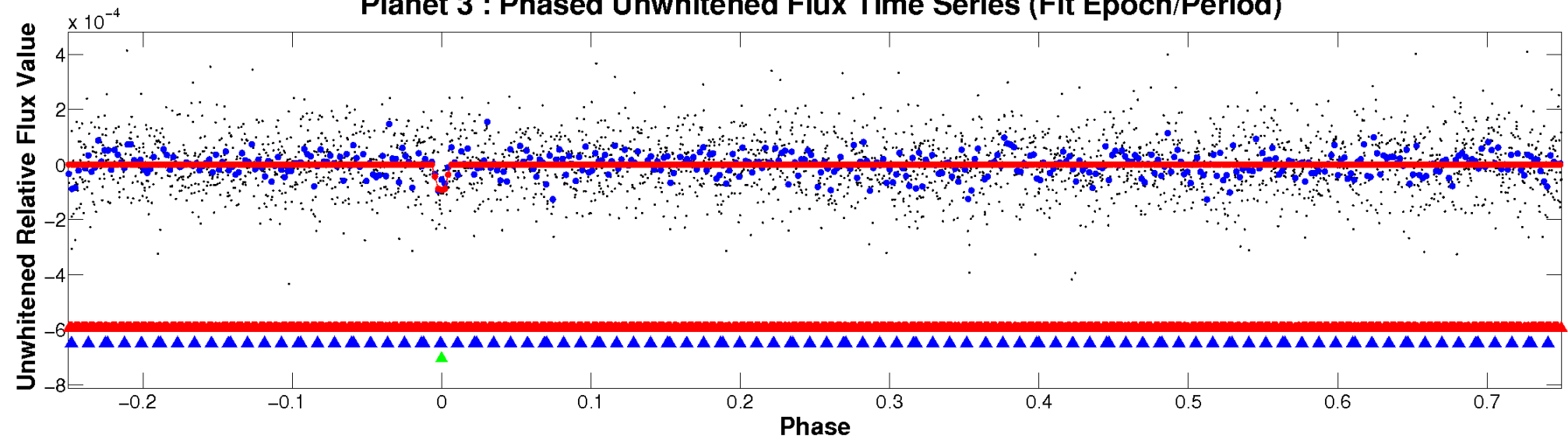


ALT Odd/Even

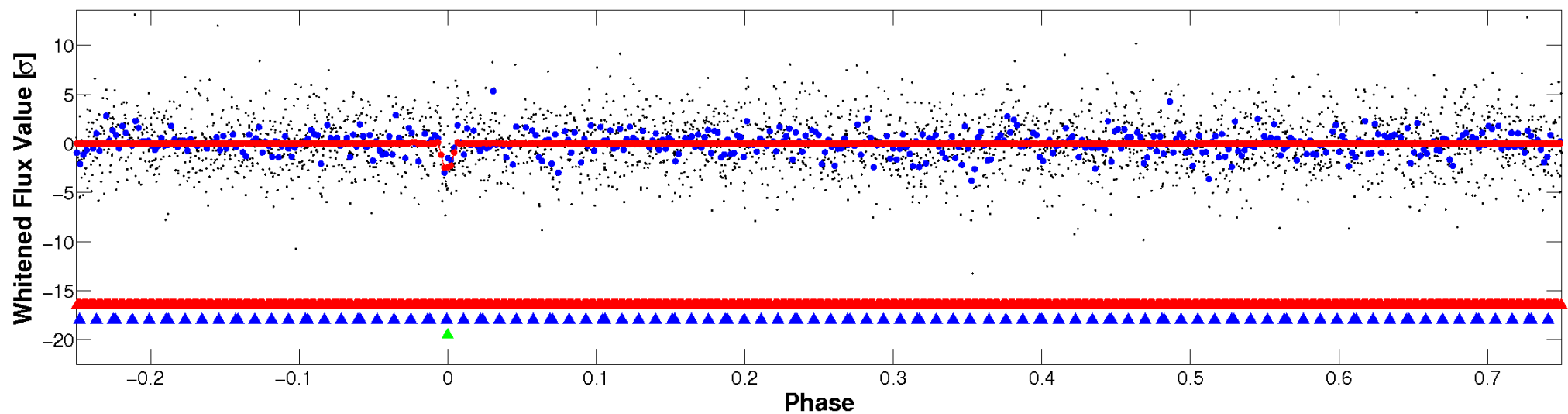
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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

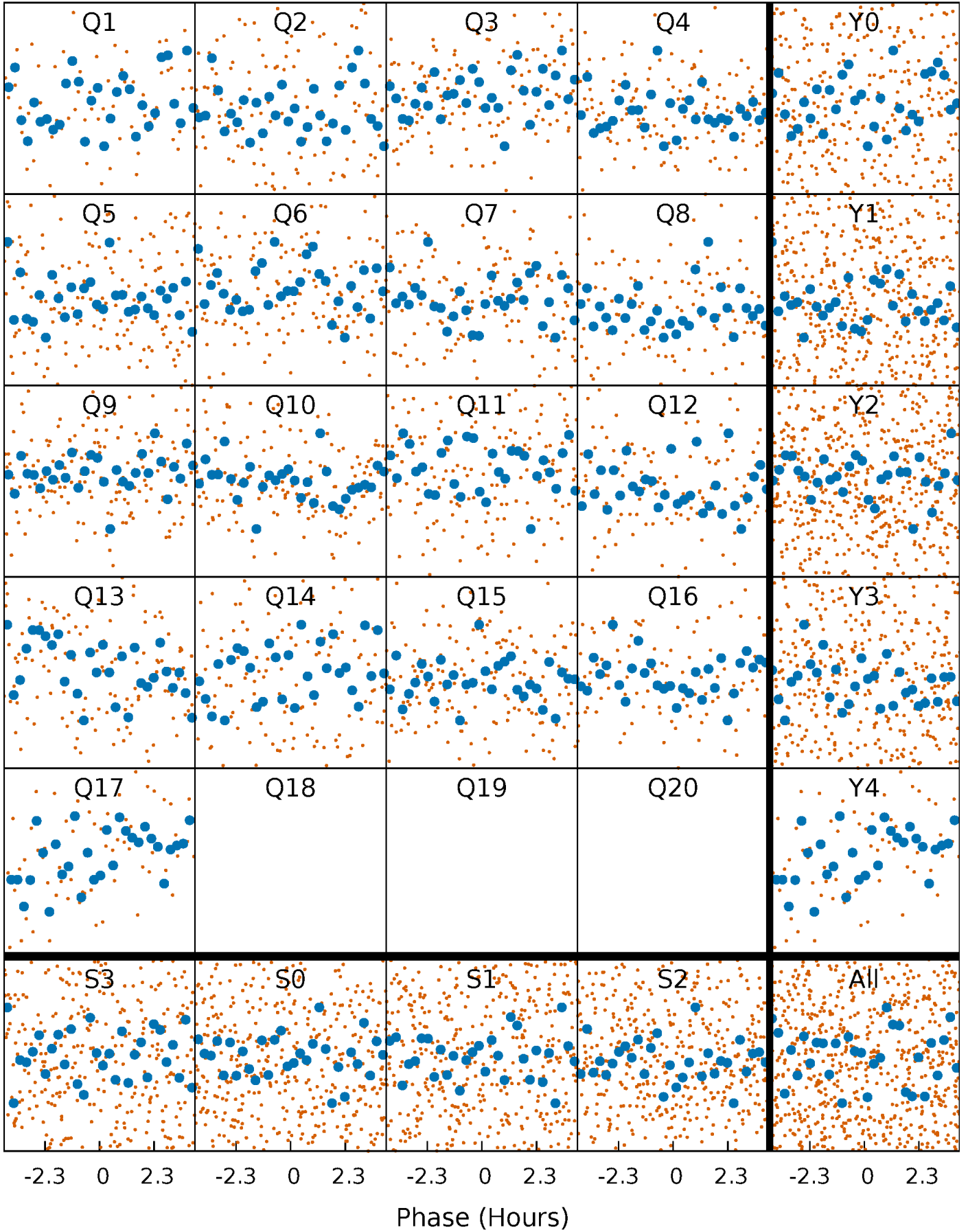


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



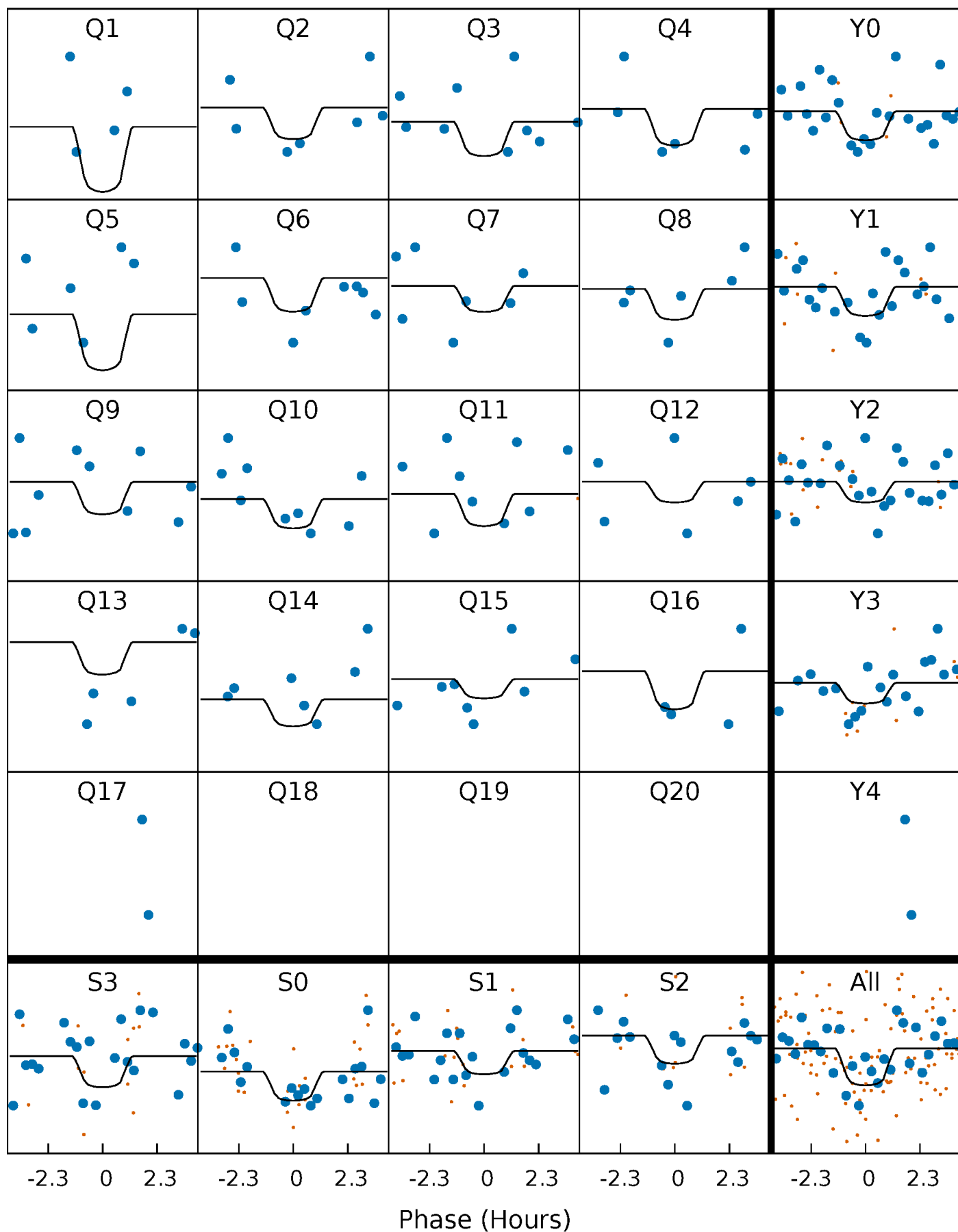
# PDC Quarter-Phased Transit Curves

TCE 009462914-03 P= 9.329810 Days  $T_0=134.967337$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 009462914-03 P= 9.329810 Days  $T_0=134.967337$  (BKJD)



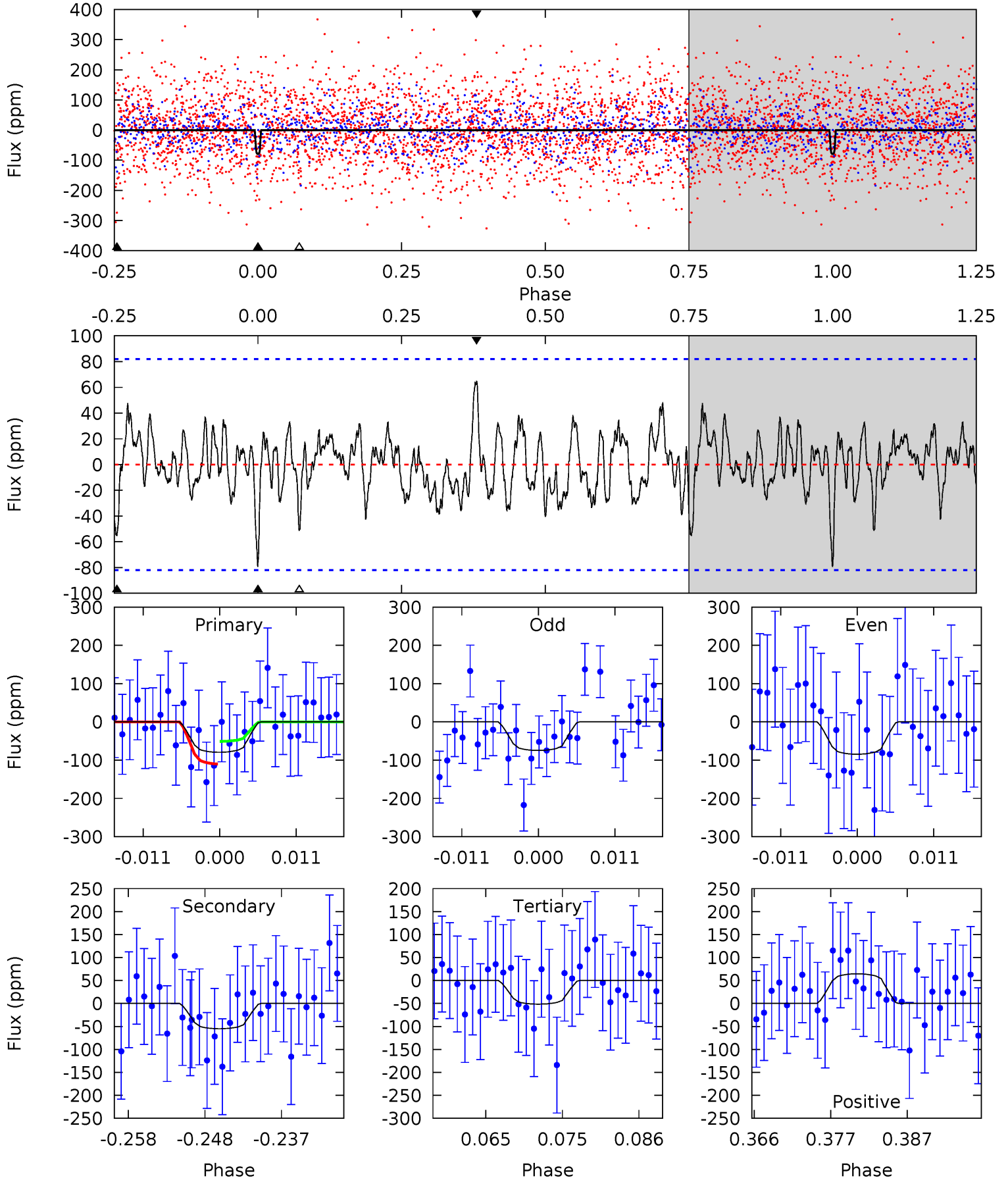
This plot does not exist for this TCE.



# DV Model-Shift Uniqueness Test

009462914-03, P = 9.329810 Days, E = 125.637527 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
4.86	3.37	3.15	3.95	5.01	2.55	1.21	1.71	0.91	0.21	-0.59	0.31	0.82	0.45	1.81



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 009462914

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8287^{+198}_{-397}$	$3.991^{+0.204}_{-0.136}$	$0.070^{+0.250}_{-0.500}$	$2.382^{+0.476}_{-0.713}$	$2.028^{+0.320}_{-0.480}$	$0.211^{+0.283}_{-0.078}$
	+2%/-5%	+5%/-3%	+357%/-714%	+20%/-30%	+16%/-24%	+134%/-37%
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 009462914-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-55 \pm 16$	$2.52^{+1.87}_{-1.44}$	$2355^{+160}_{-185}$	$6897^{+4982}_{-1627}$	$56^{+246}_{-37}$
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  $A_{\text{obs}} \gg 1.0$

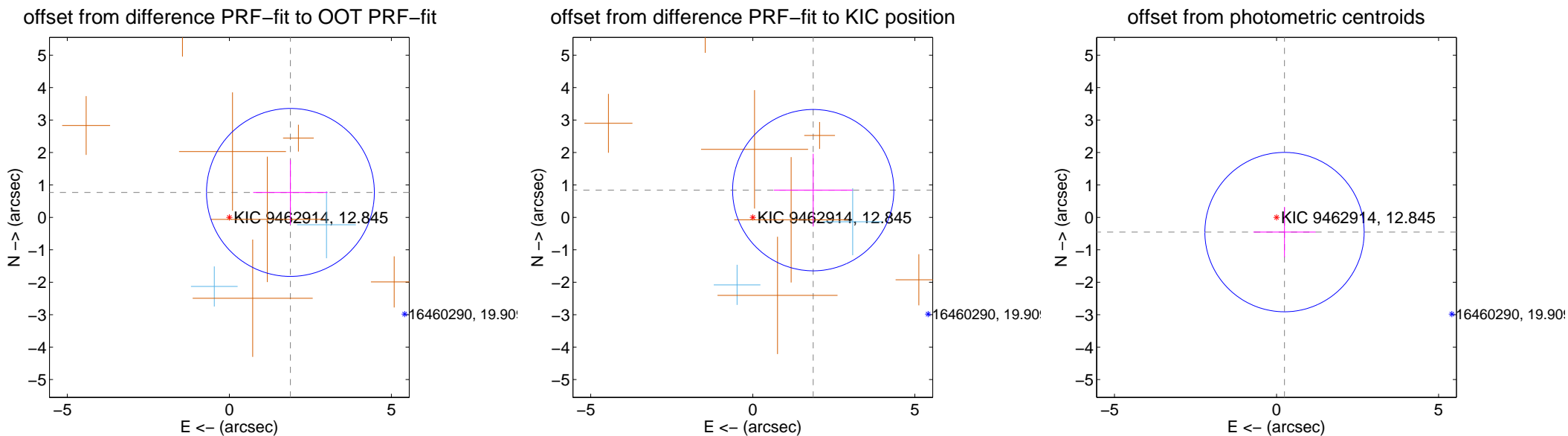
## DV Centroid Data

Supplemental centroid analysis for 009462914-03. Kepler magnitude: 12.85. Transit SNR 11.97

There are 2 quarters with good PRF difference image offsets

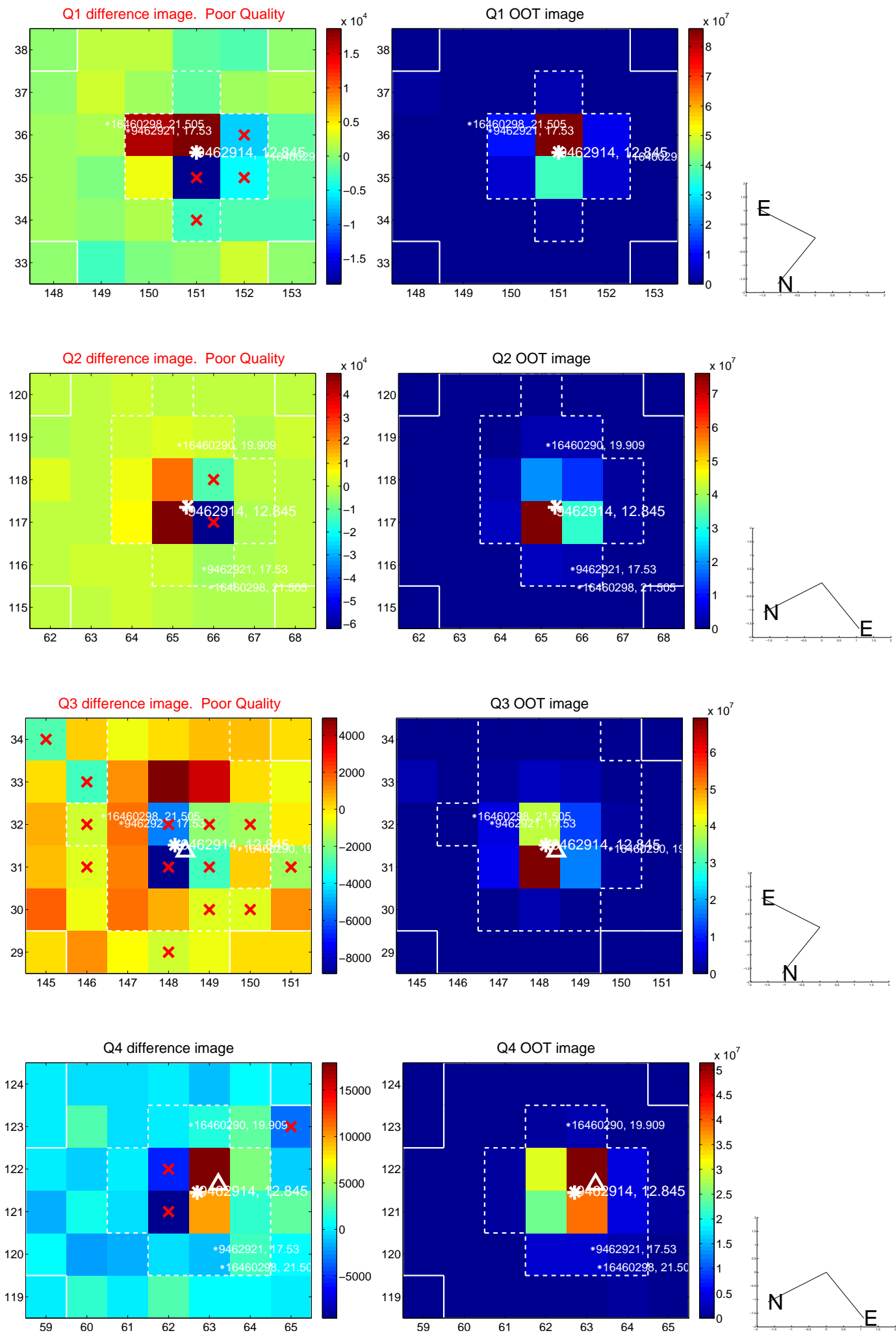
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.036 \pm 0.863$	2.36	$-1.885 \pm 1.147$	$0.769 \pm 0.992$
PRF-fit source offset from KIC position	$2.045 \pm 0.829$	2.47	$-1.864 \pm 1.214$	$0.839 \pm 1.121$
photometric centroid source offset	$0.52 \pm 0.82$	0.63	$-0.25 \pm 0.96$	$-0.45 \pm 0.77$

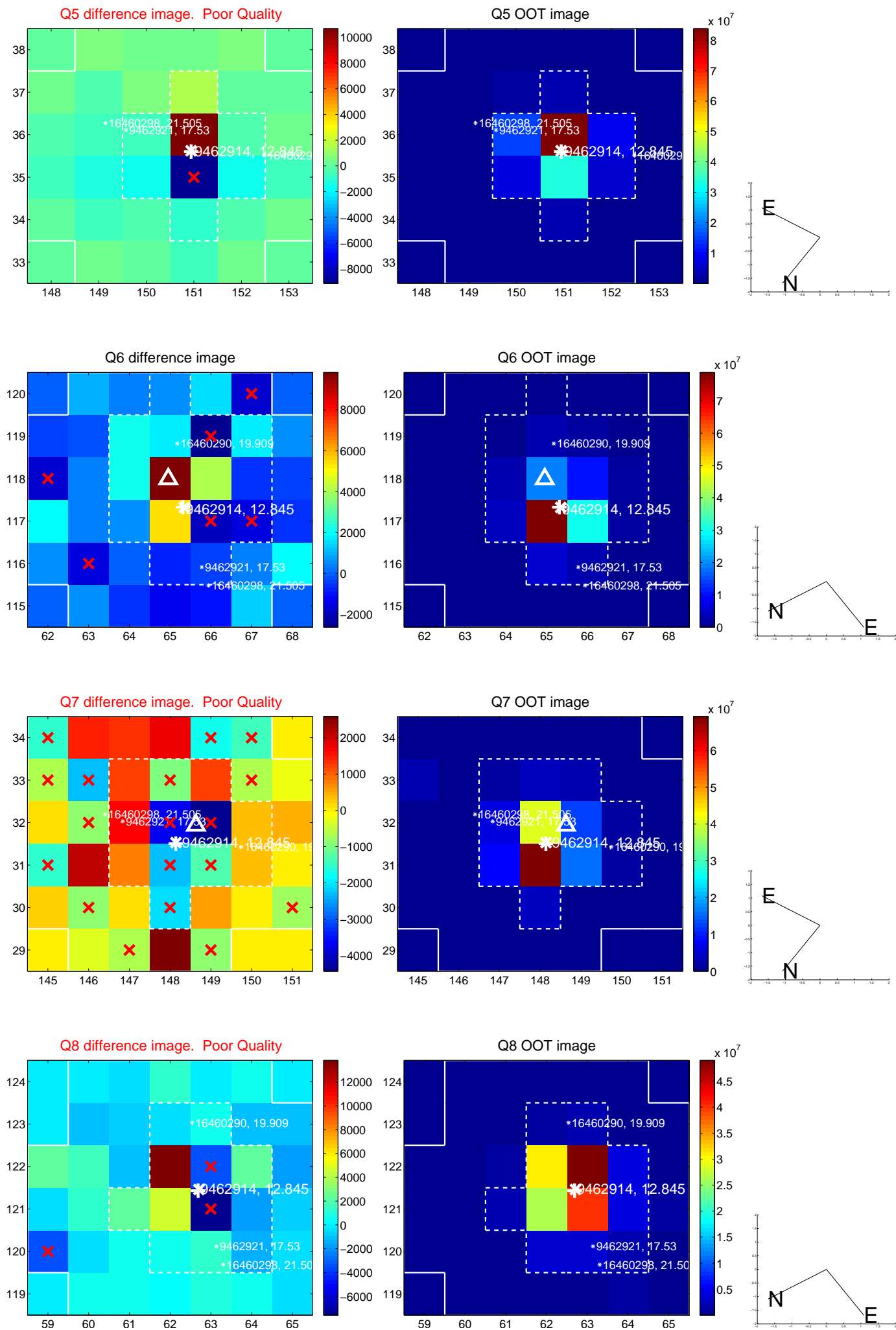


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

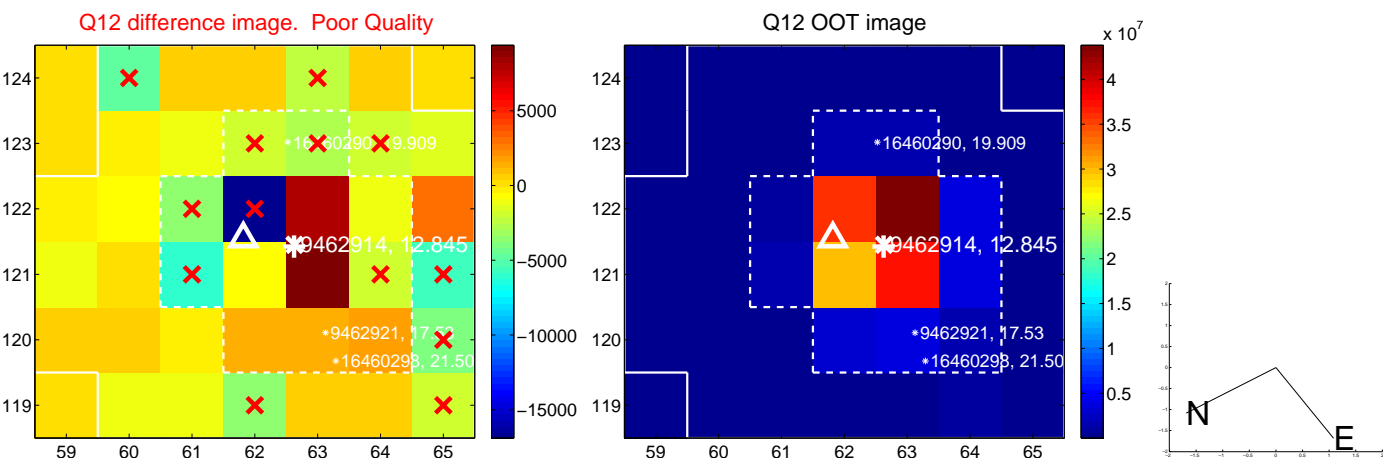
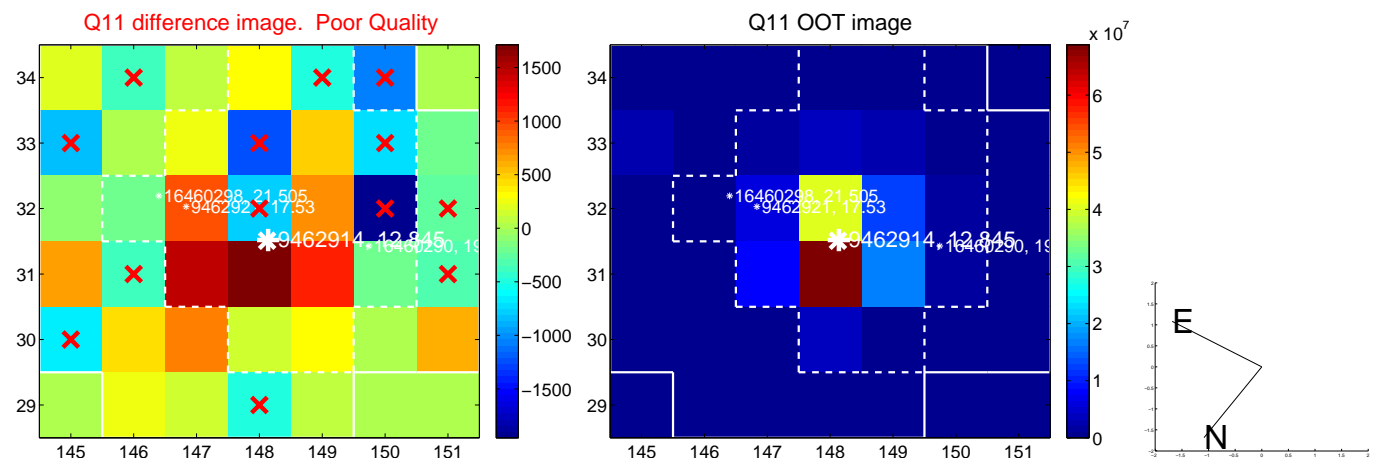
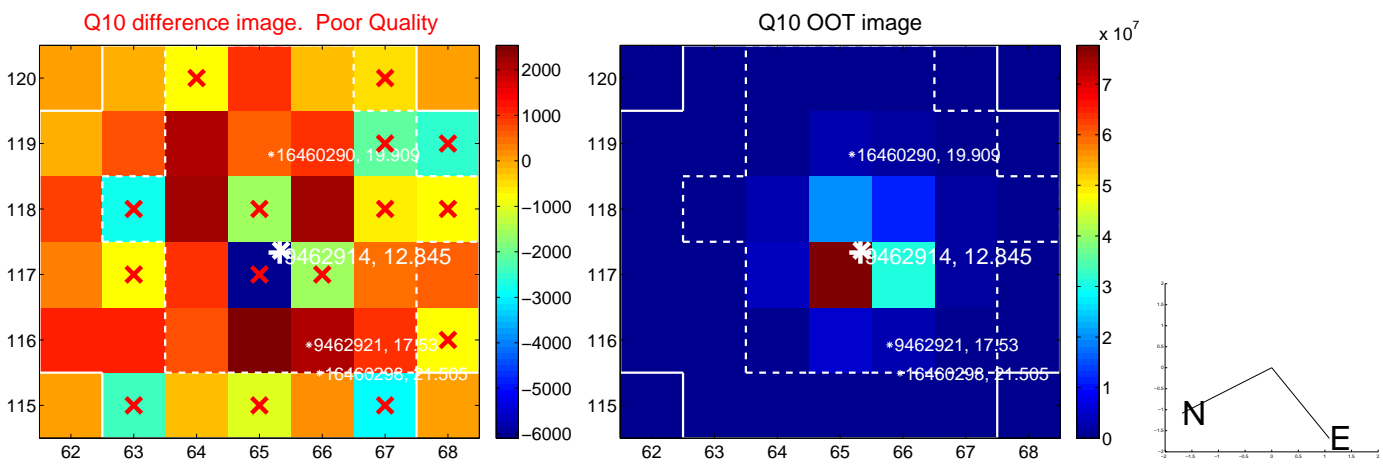
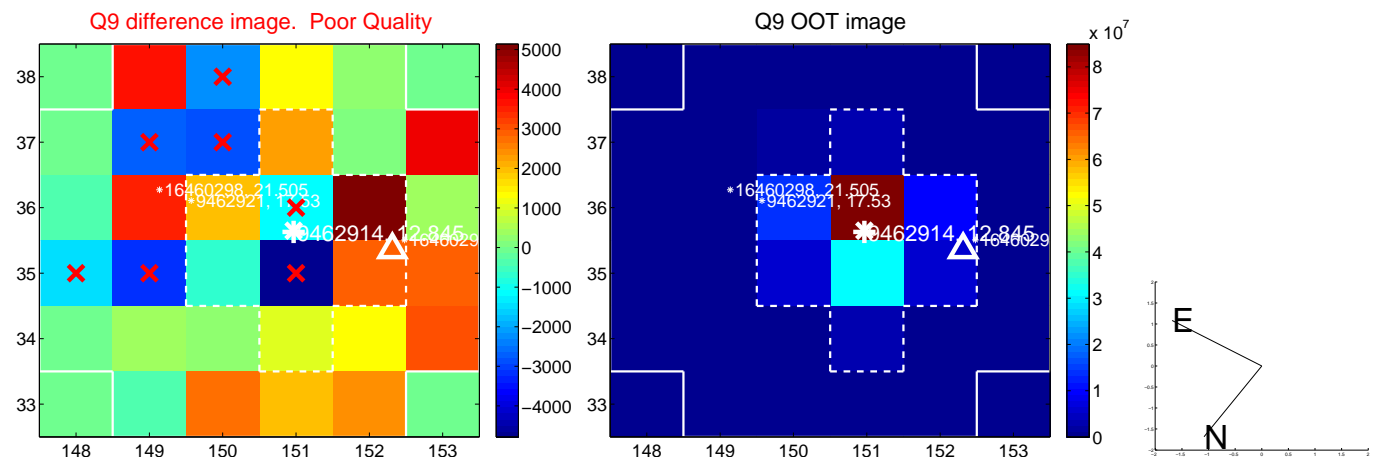


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

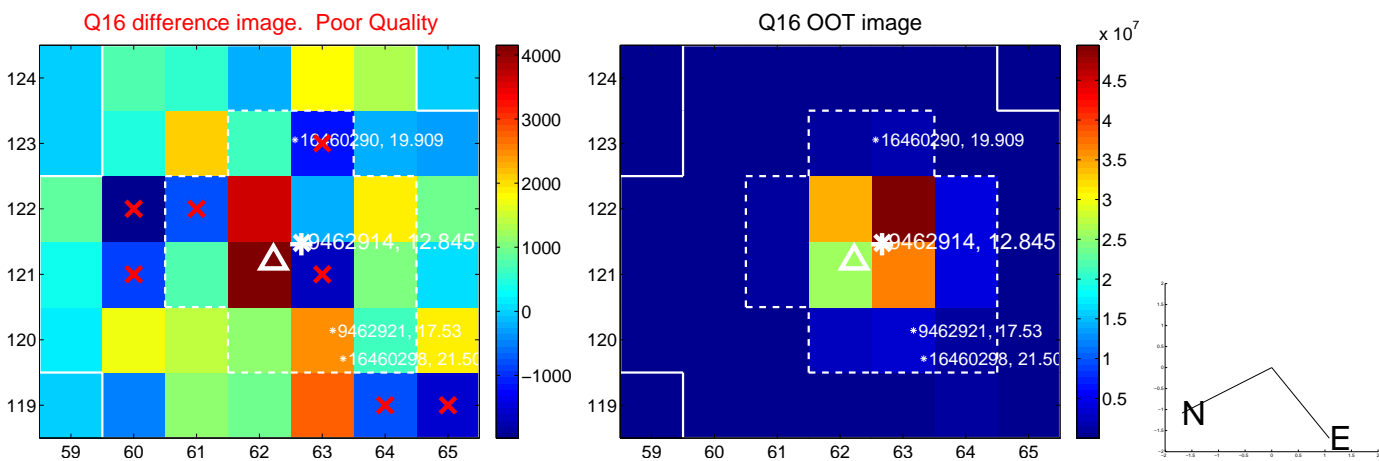
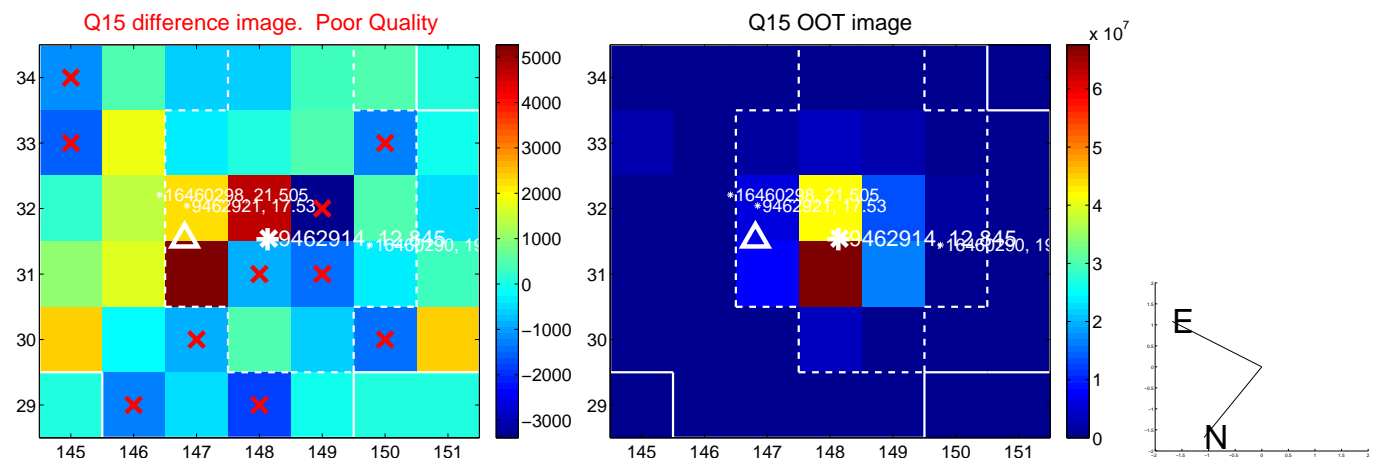
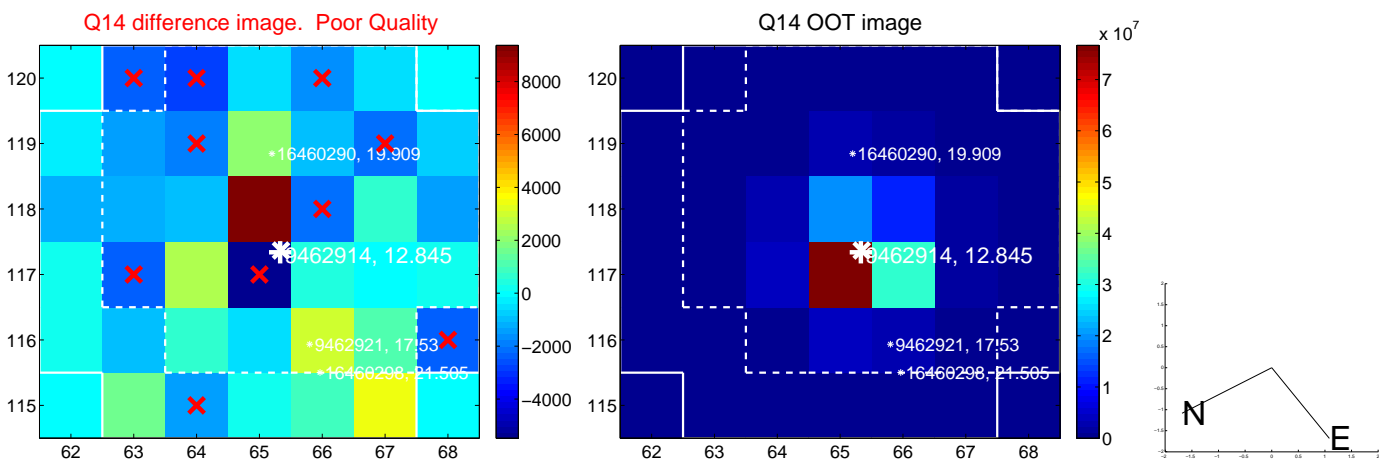
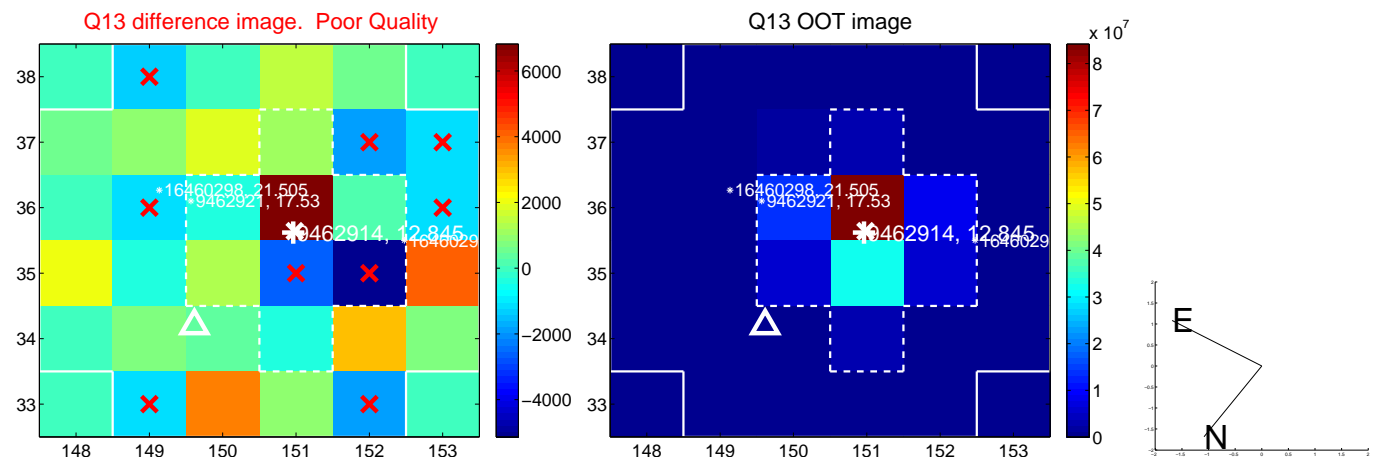




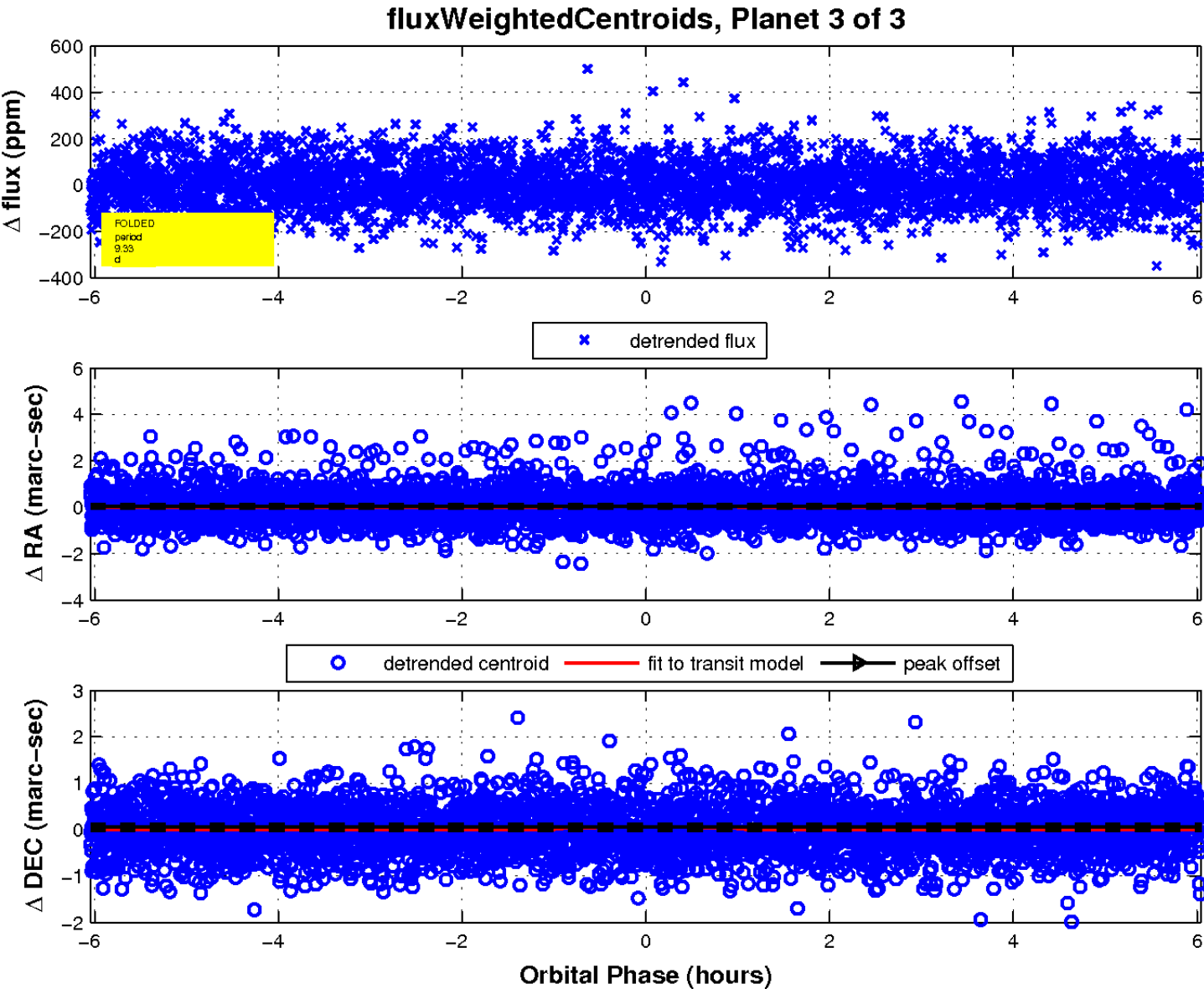
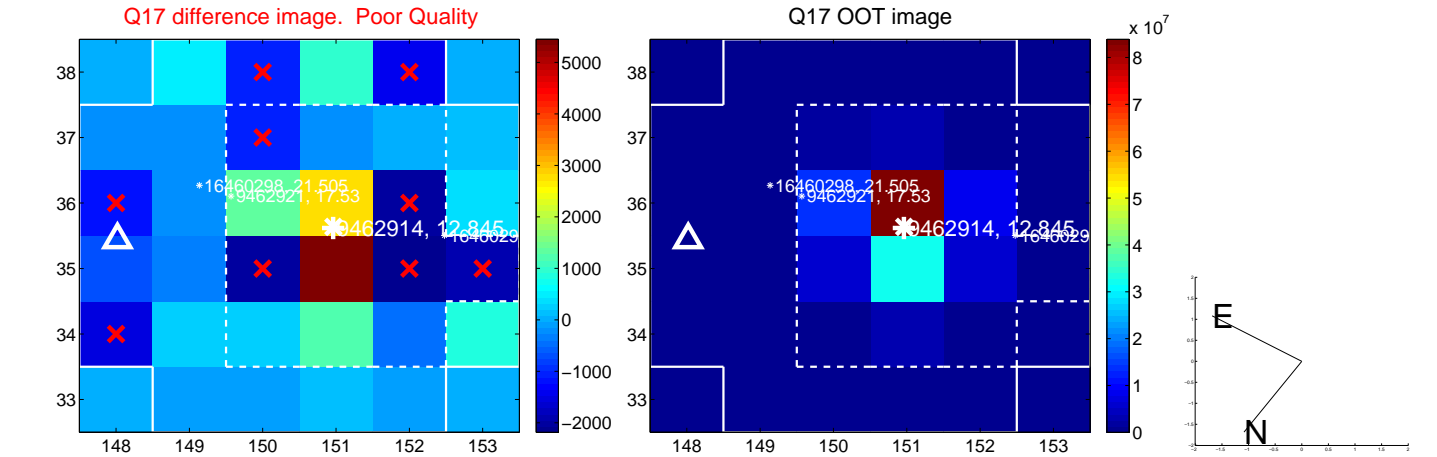
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

