

# KIC 004920125

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004920125-01	OBS	No	0.875928	131.687411	59.1	2.806	12.4	12.6	3.59	7854	3.23	86835.34
004920125-02	OBS	No	0.875930	131.899065	73.5	2.760	11.5	12.4	3.59	7854	3.60	86835.10
004920125-03	OBS	No	0.875887	132.108627	87.9	5.369	9.9	16.1	3.59	7854	3.42	86840.70

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004920125-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
004920125-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
004920125-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED

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

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

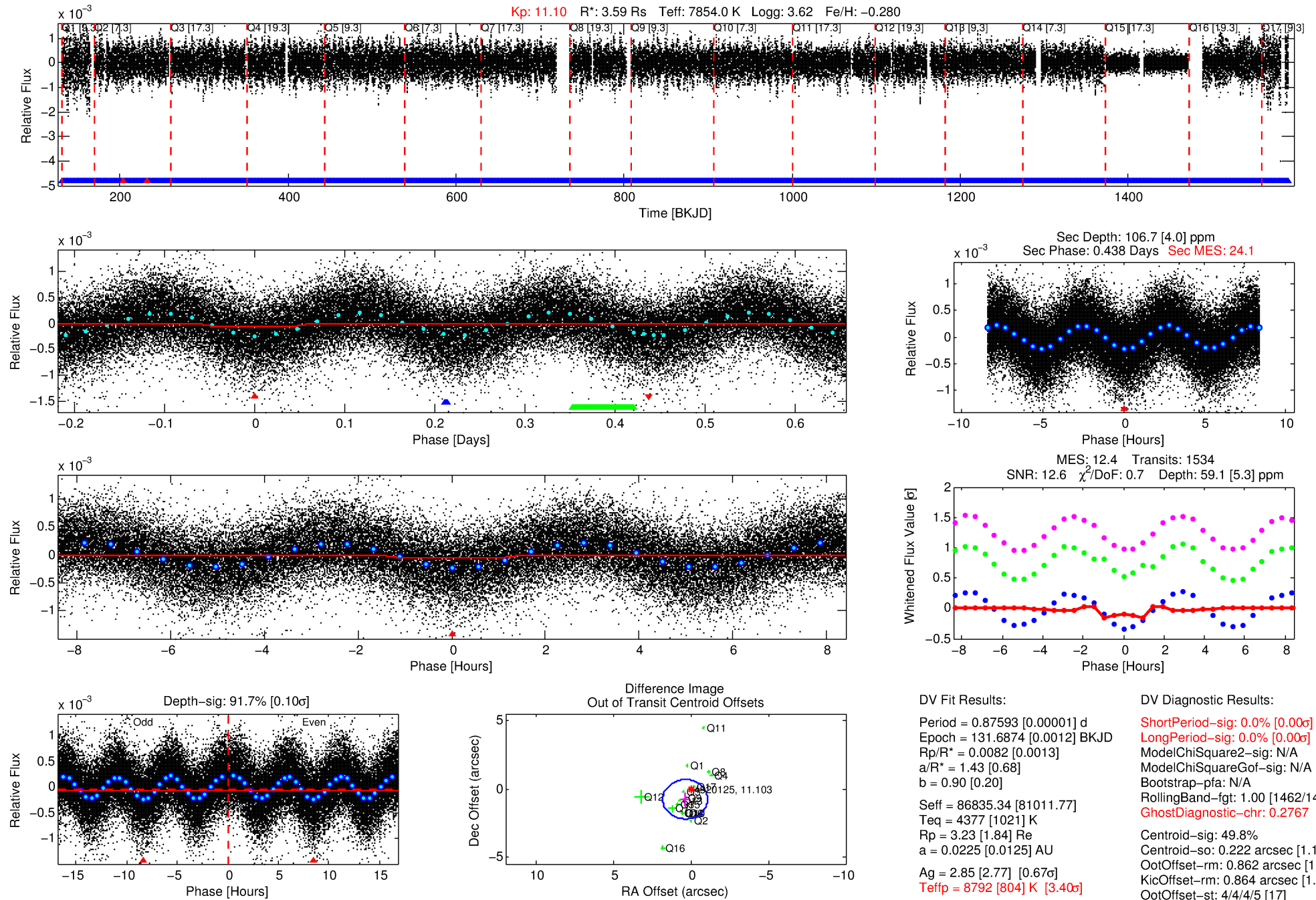
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 004920125-01

No Significant Match Found

# DV One-Page Summary

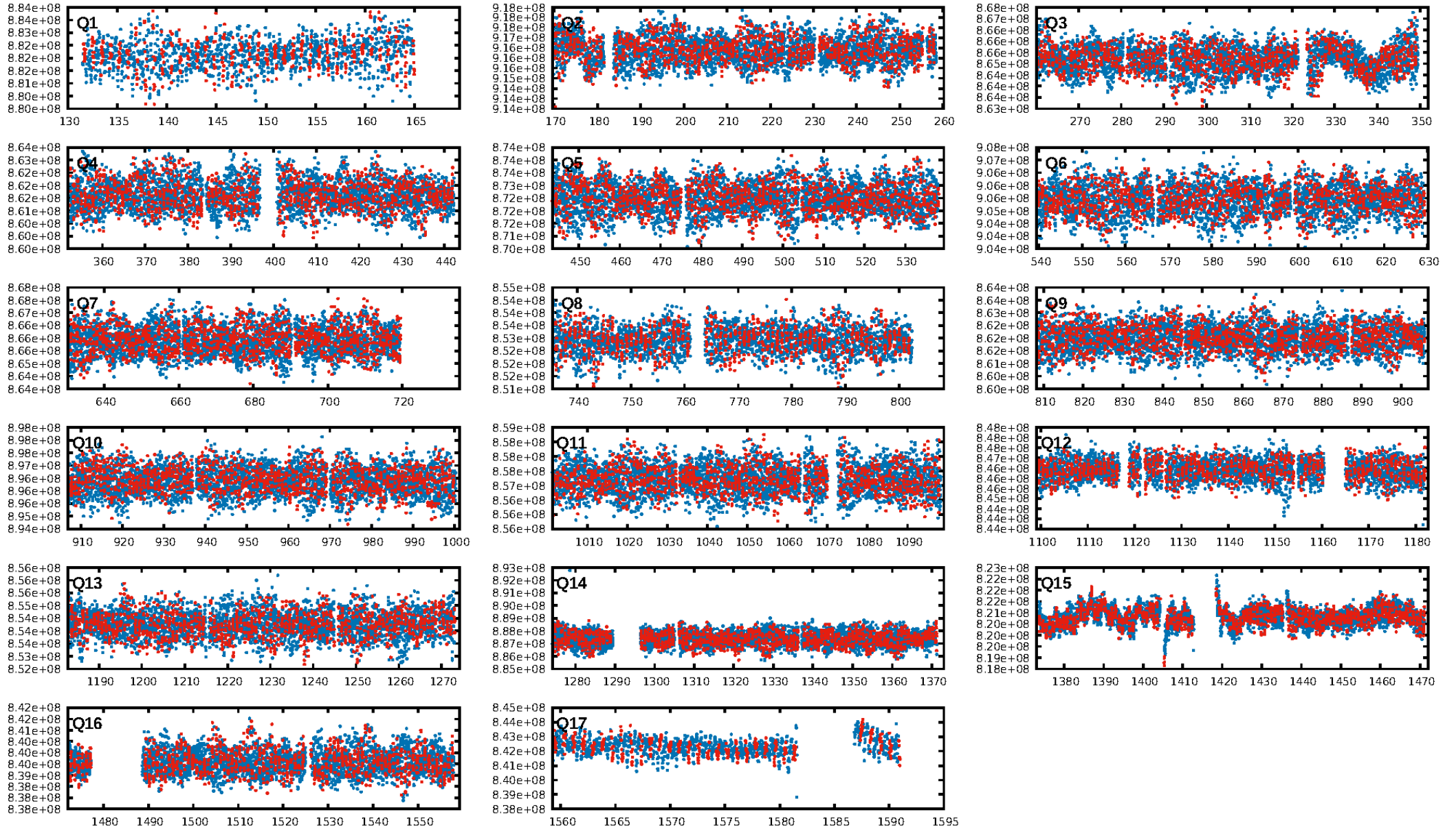
KIC: 4920125 Candidate: 1 of 3 Period: 0.876 d



Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:14:15 Z

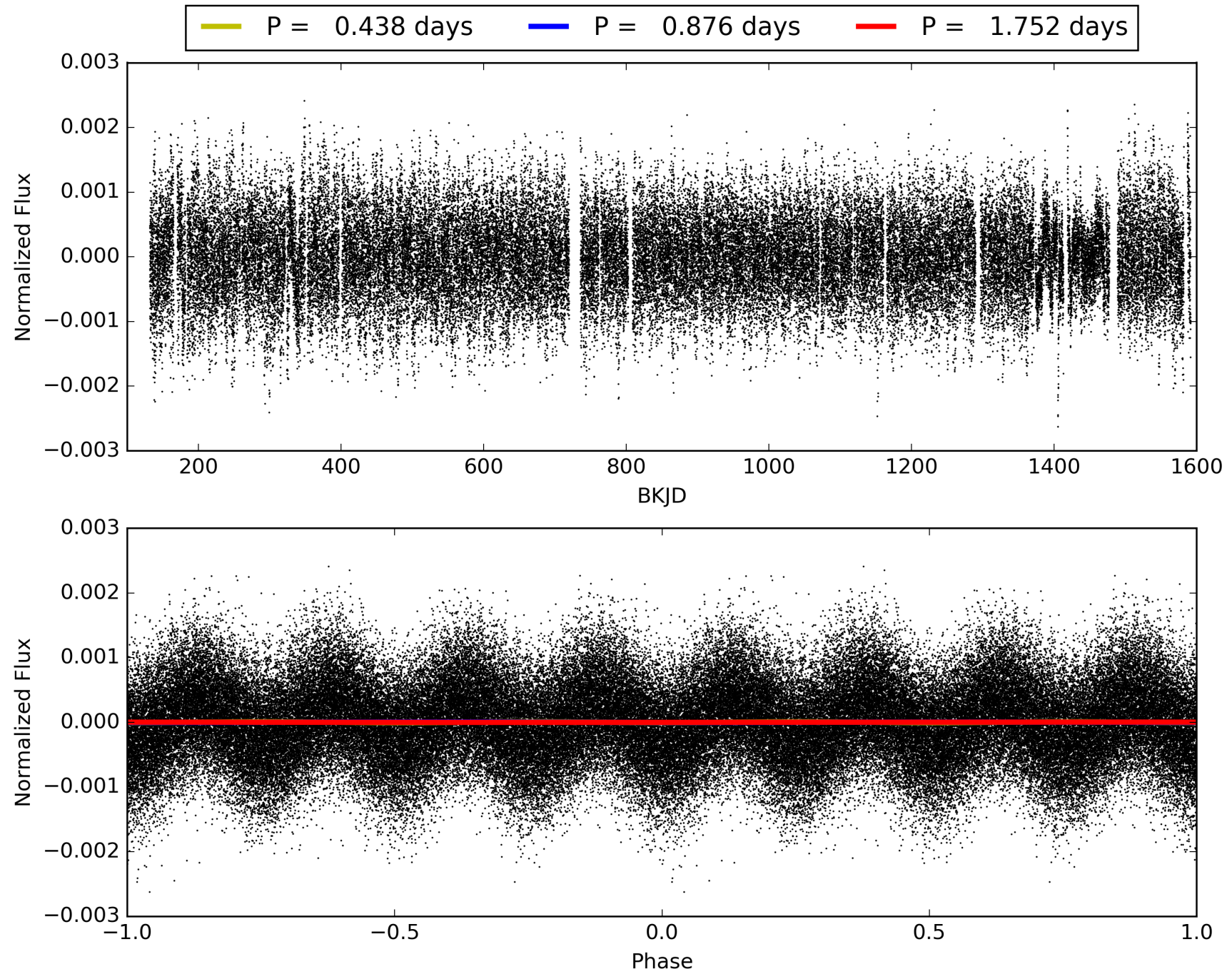
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 004920125-01, PDC Light Curves





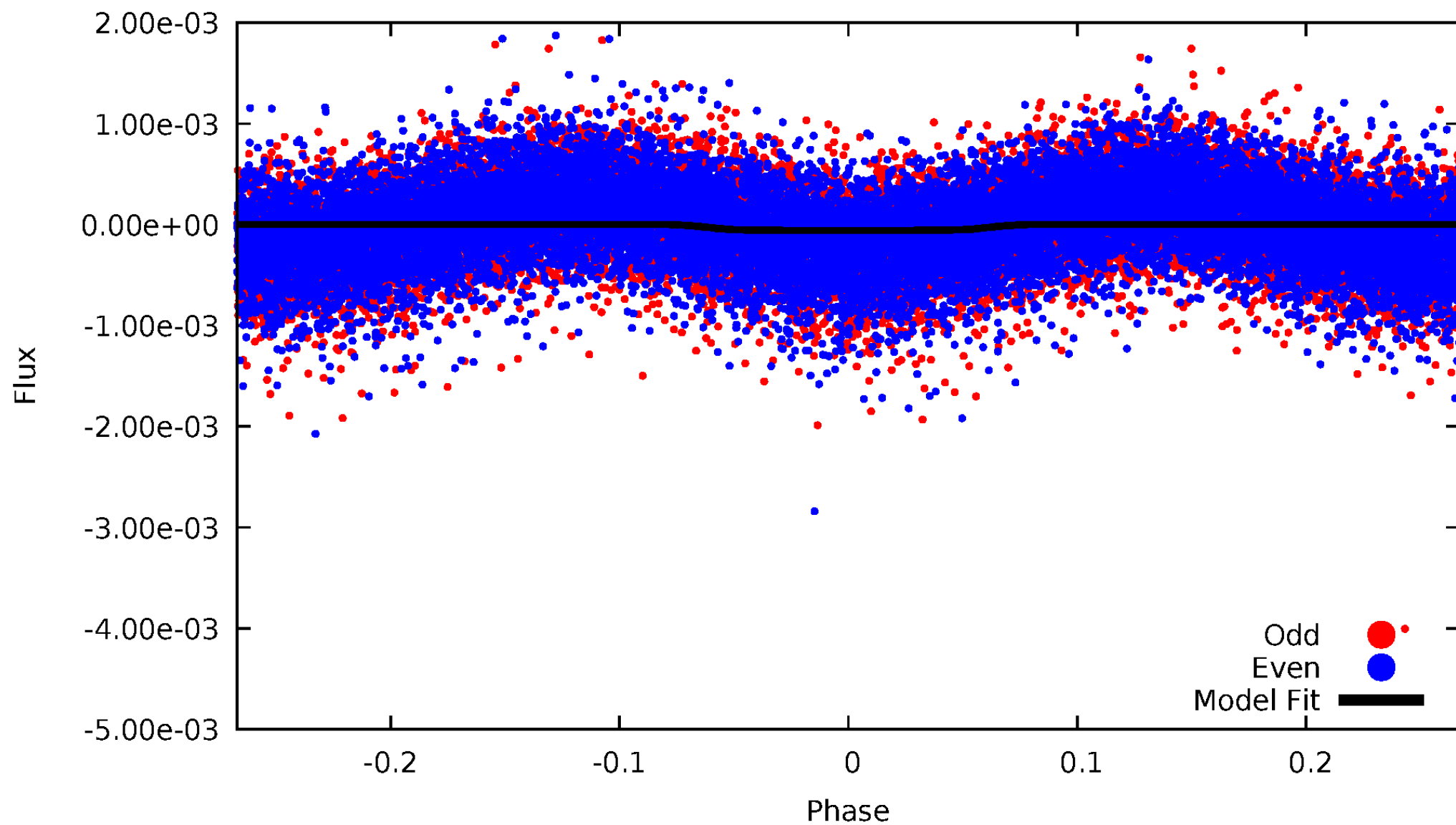
TCE 004920125-01





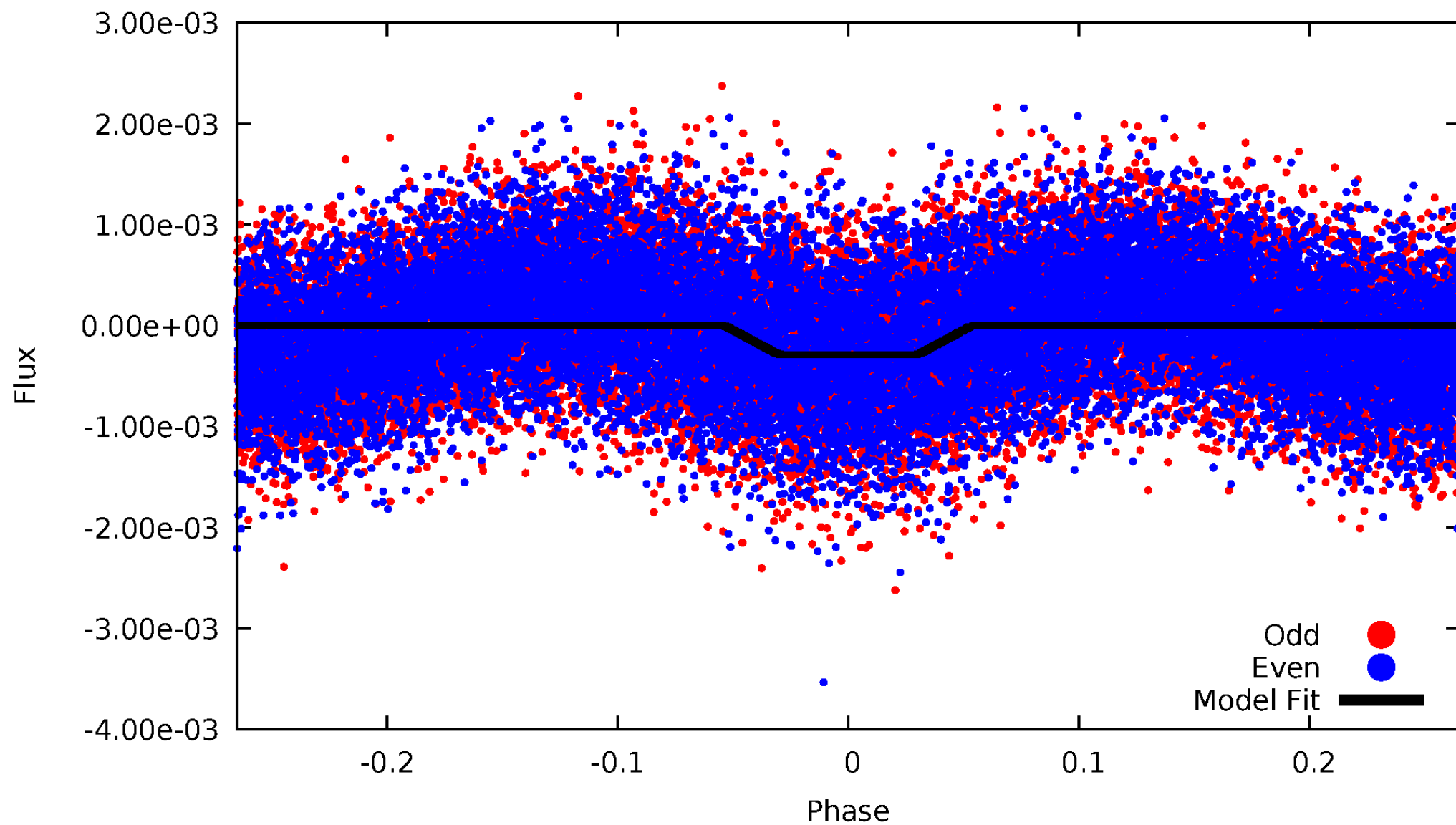
# DV Odd/Even

TCE 004920125-01



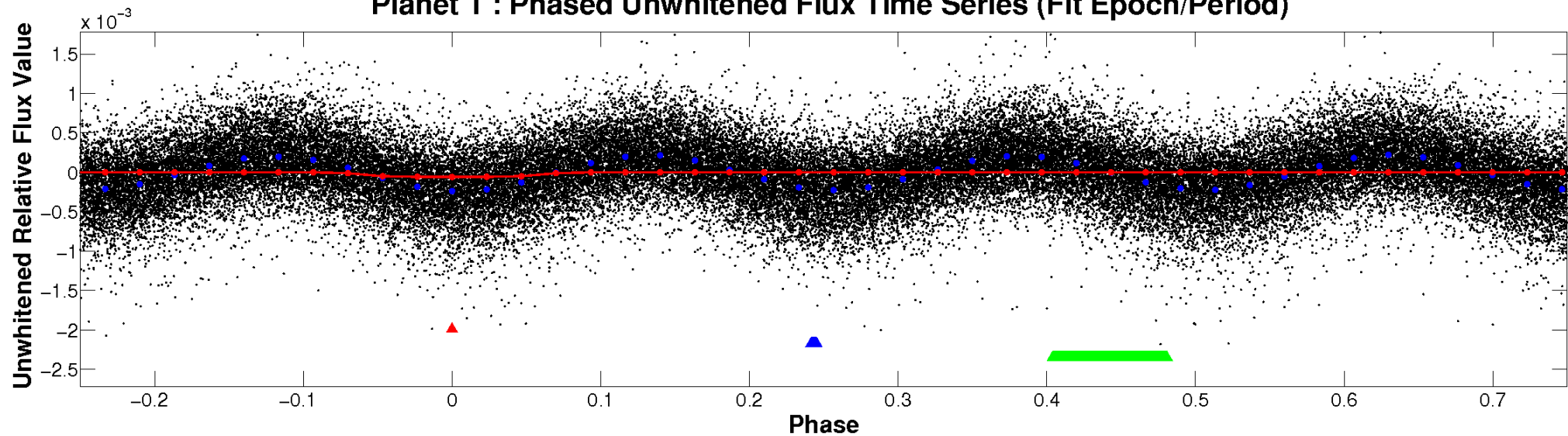
# ALT Odd/Even

TCE 004920125-01

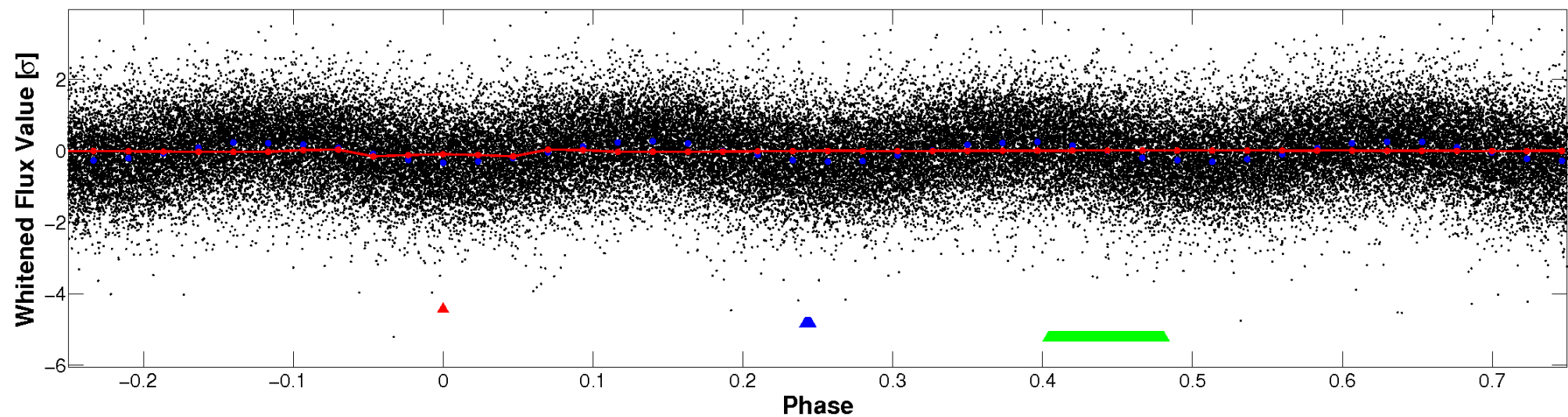


# Non-Whitened Vs. Whitened Light Curve

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



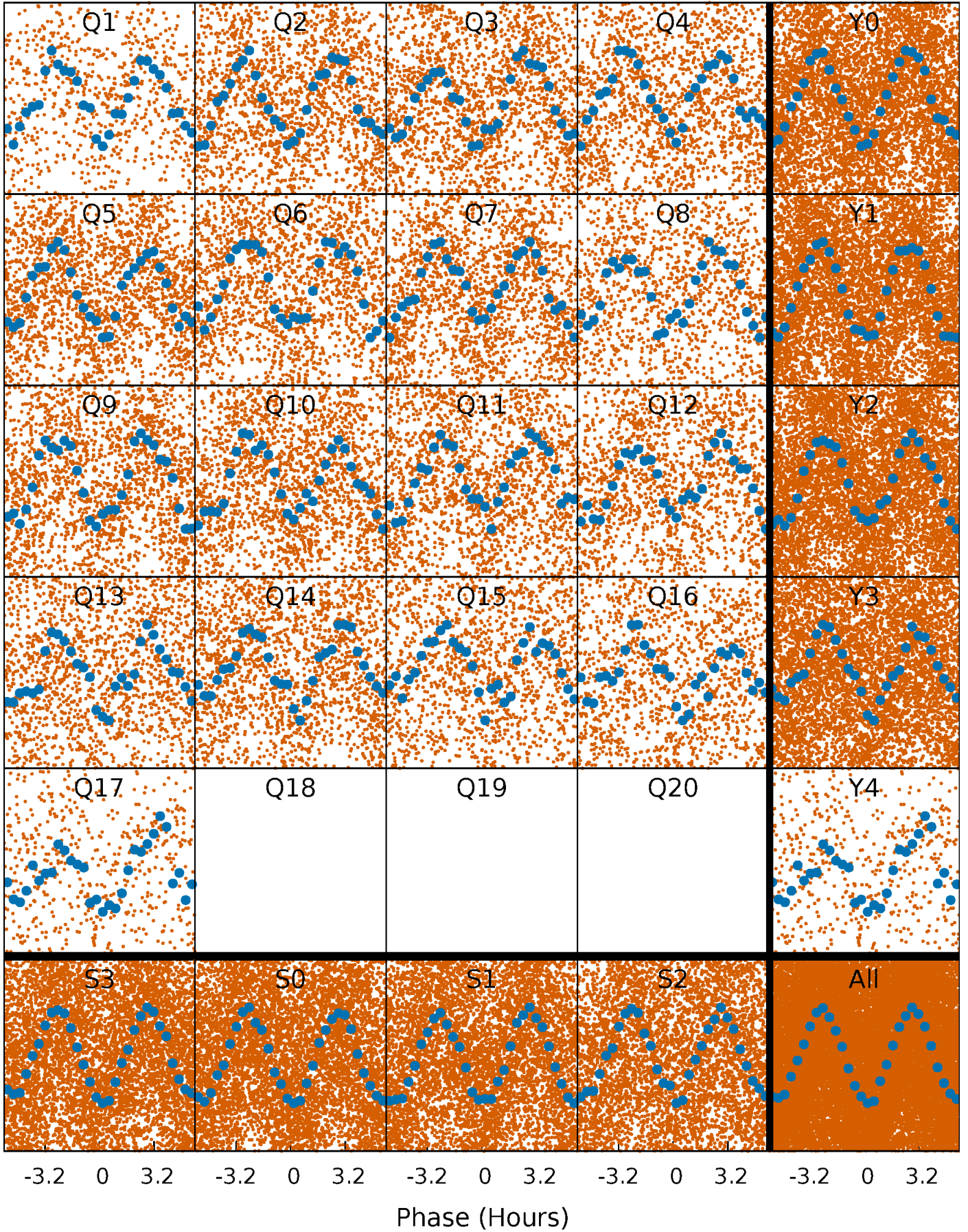
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





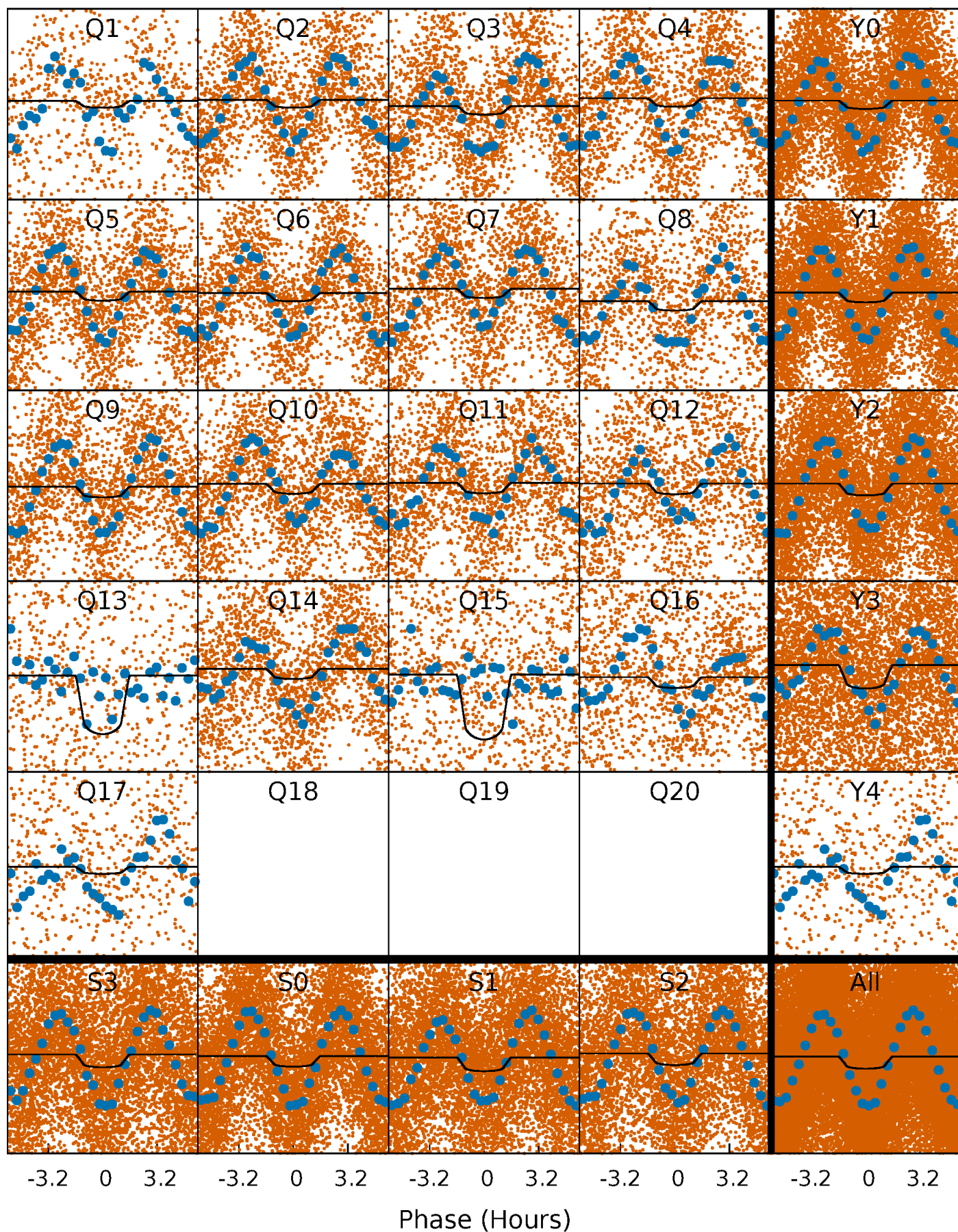
# PDC Quarter-Phased Transit Curves

TCE 004920125-01 P= 0.875928 Days  $T_0=131.687411$  (BKJD)



# DV Quarter-Phased Transit Curves

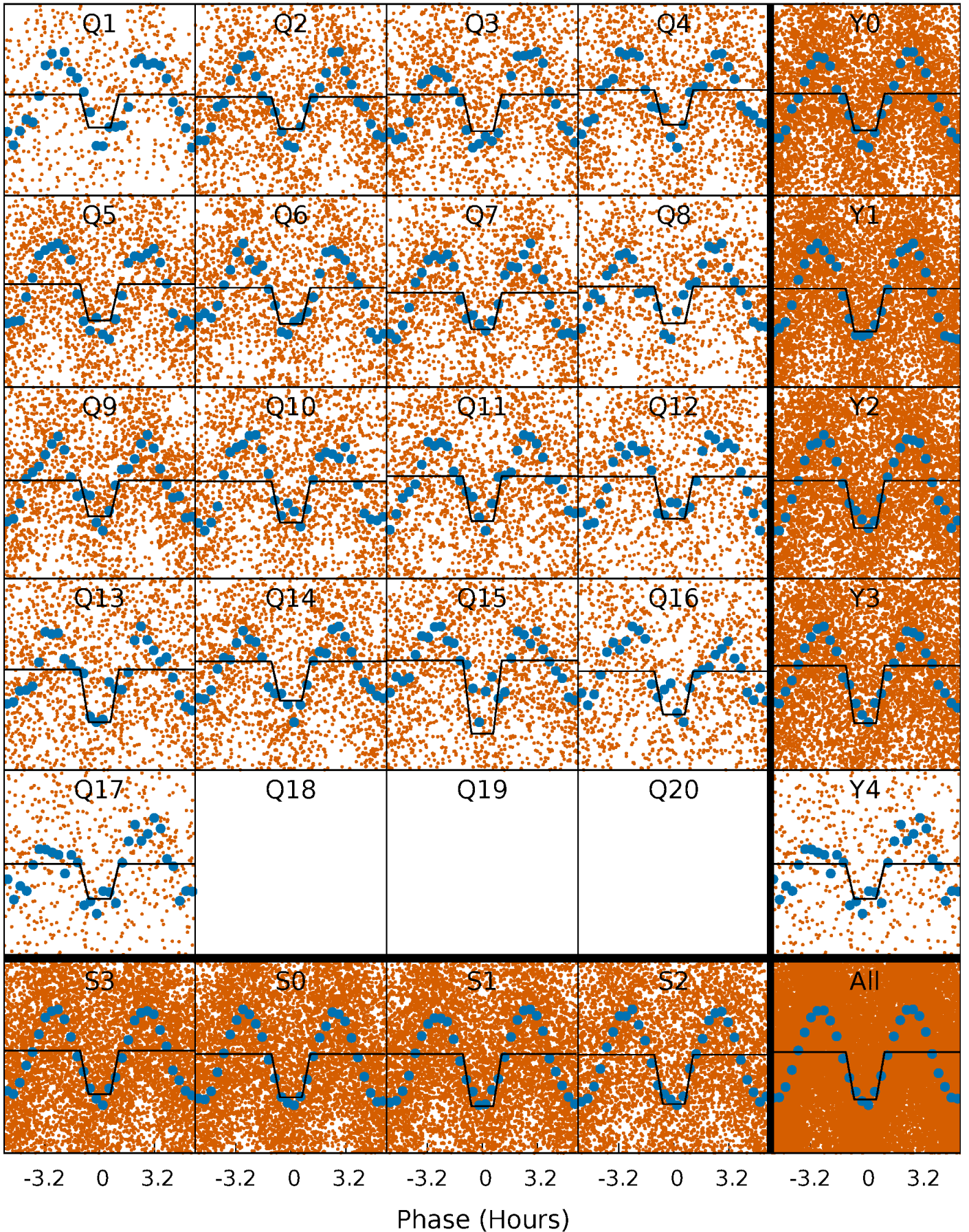
TCE 004920125-01 P= 0.875928 Days  $T_0=131.687411$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 004920125-01 P= 0.875943 Days  $T_0=131.683225$  (BKJD)

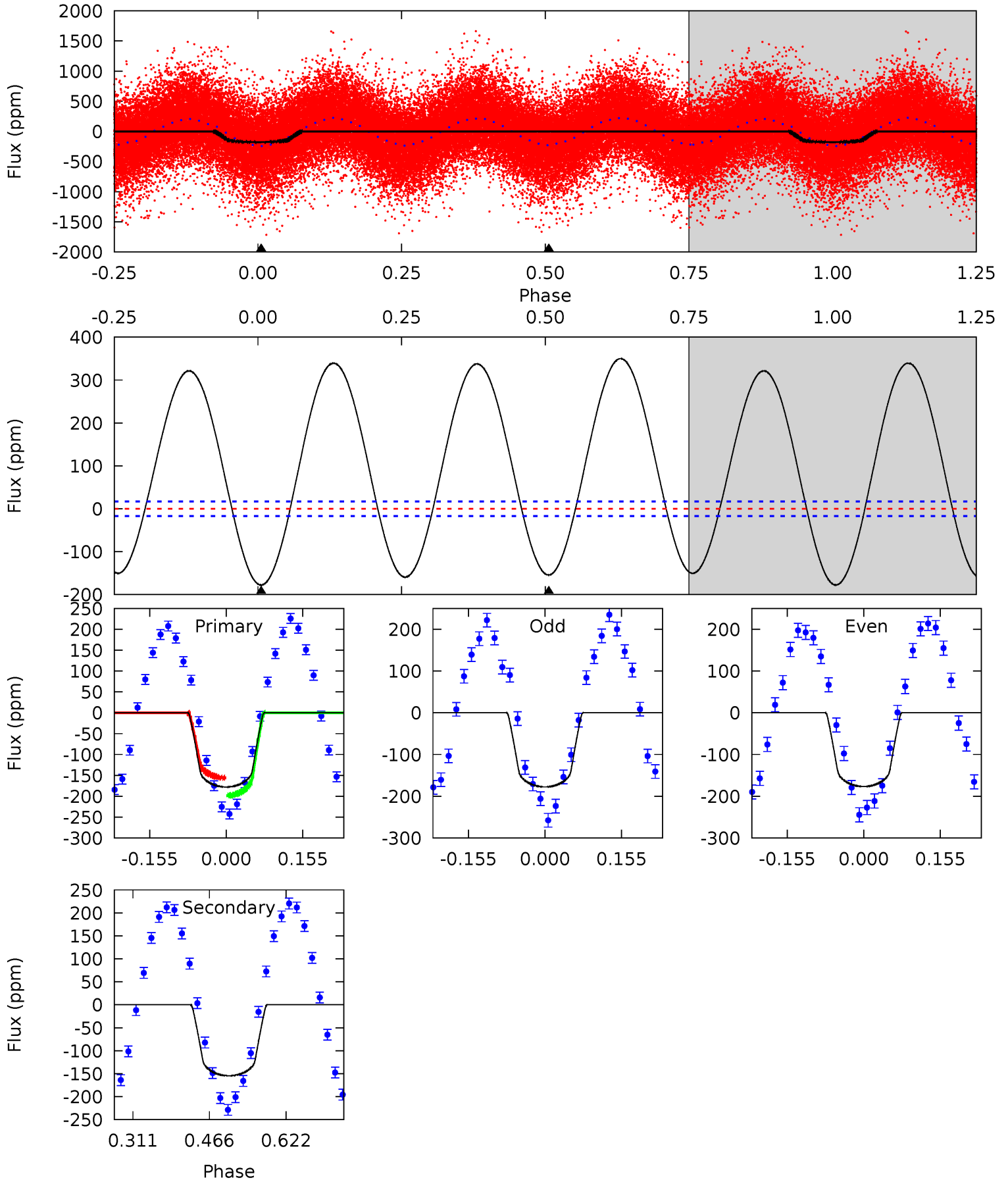




# DV Model-Shift Uniqueness Test

004920125-01, P = 0.875928 Days, E = 130.811483 Days

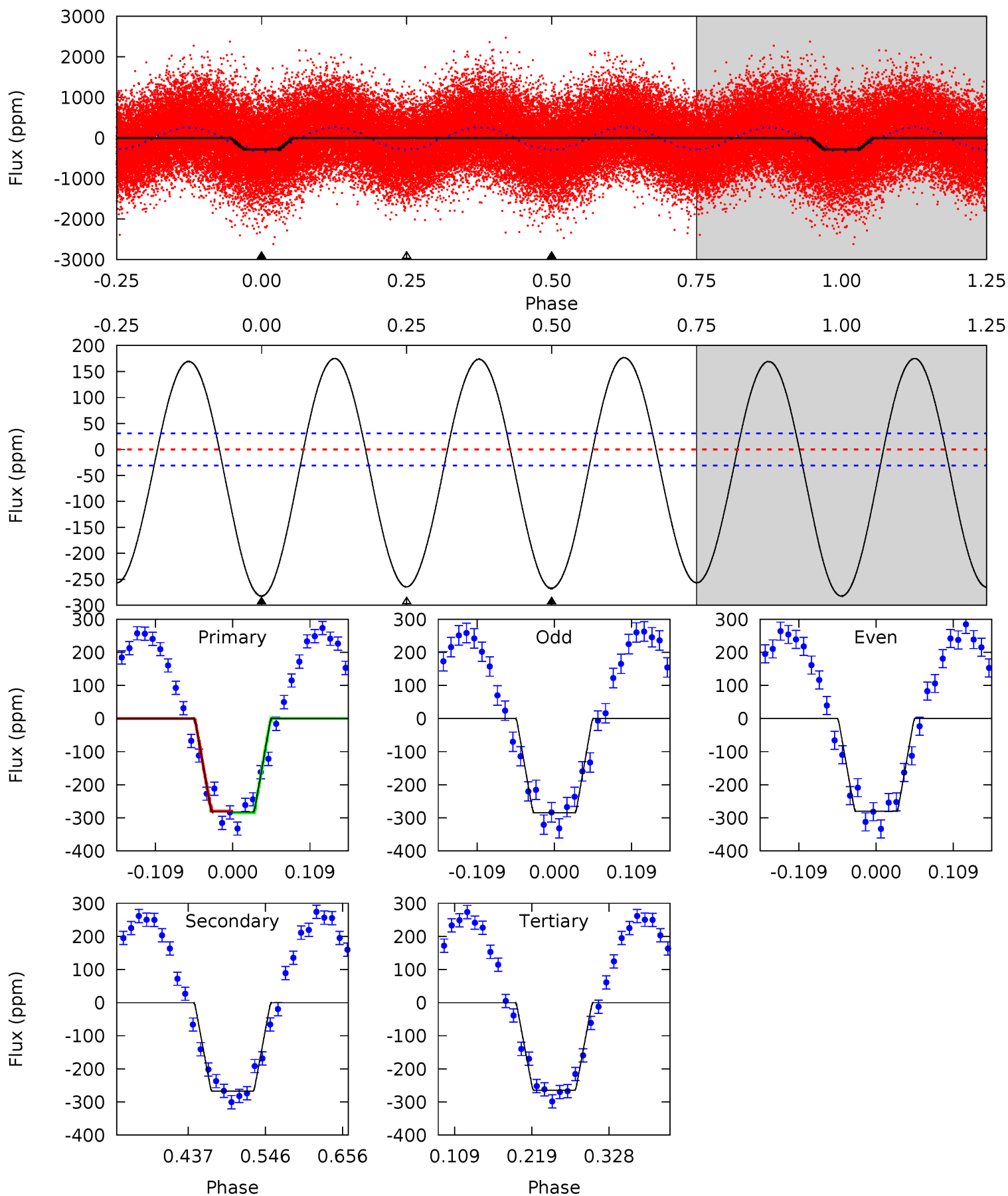
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.4	40.3	0	0	4.47	1.42	35.9	46.4	46.4	40.3	40.3	0.13	1.22	0.66	5.82



# Alt Model-Shift Uniqueness Test

004920125-01, P = 0.875943 Days, E = 130.807282 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
41.4	39.3	38.9	0	4.55	1.60	23.4	2.58	41.4	0.40	39.3	0.30	1.06	0.38	0.36



### Stellar Parameters For KIC 004920125

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7854^{+219}_{-329}$	$3.624^{+0.549}_{-0.061}$	$-0.280^{+0.200}_{-0.300}$	$3.590^{+0.612}_{-1.957}$	$1.980^{+0.162}_{-0.518}$	$0.060^{+0.355}_{-0.017}$
	+3%/-4%	+15%/-2%	+71%/-107%	+17%/-55%	+8%/-26%	+589%/-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 004920125-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-154 \pm 4$	$2.76^{+0.79}_{-0.77}$	$5774^{+491}_{-840}$	$10080^{+1538}_{-1143}$	$5.427^{+4.890}_{-1.978}$
Alt.	$-268 \pm 7$	$5.88^{+1.23}_{-1.60}$	$5761^{+468}_{-757}$	$7295^{+518}_{-466}$	$2.102^{+1.620}_{-0.606}$

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



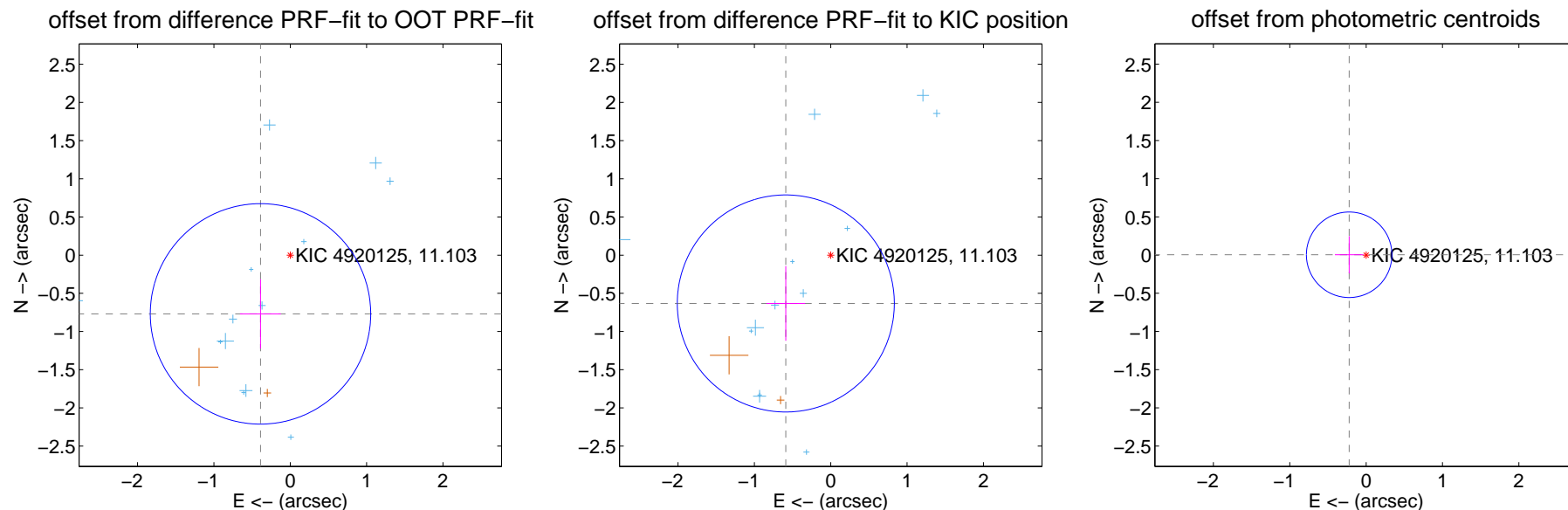
## DV Centroid Data

Supplemental centroid analysis for 004920125-01. **Kepler magnitude: 11.10.** Transit SNR 12.55

There are 15 quarters with good PRF difference image offsets

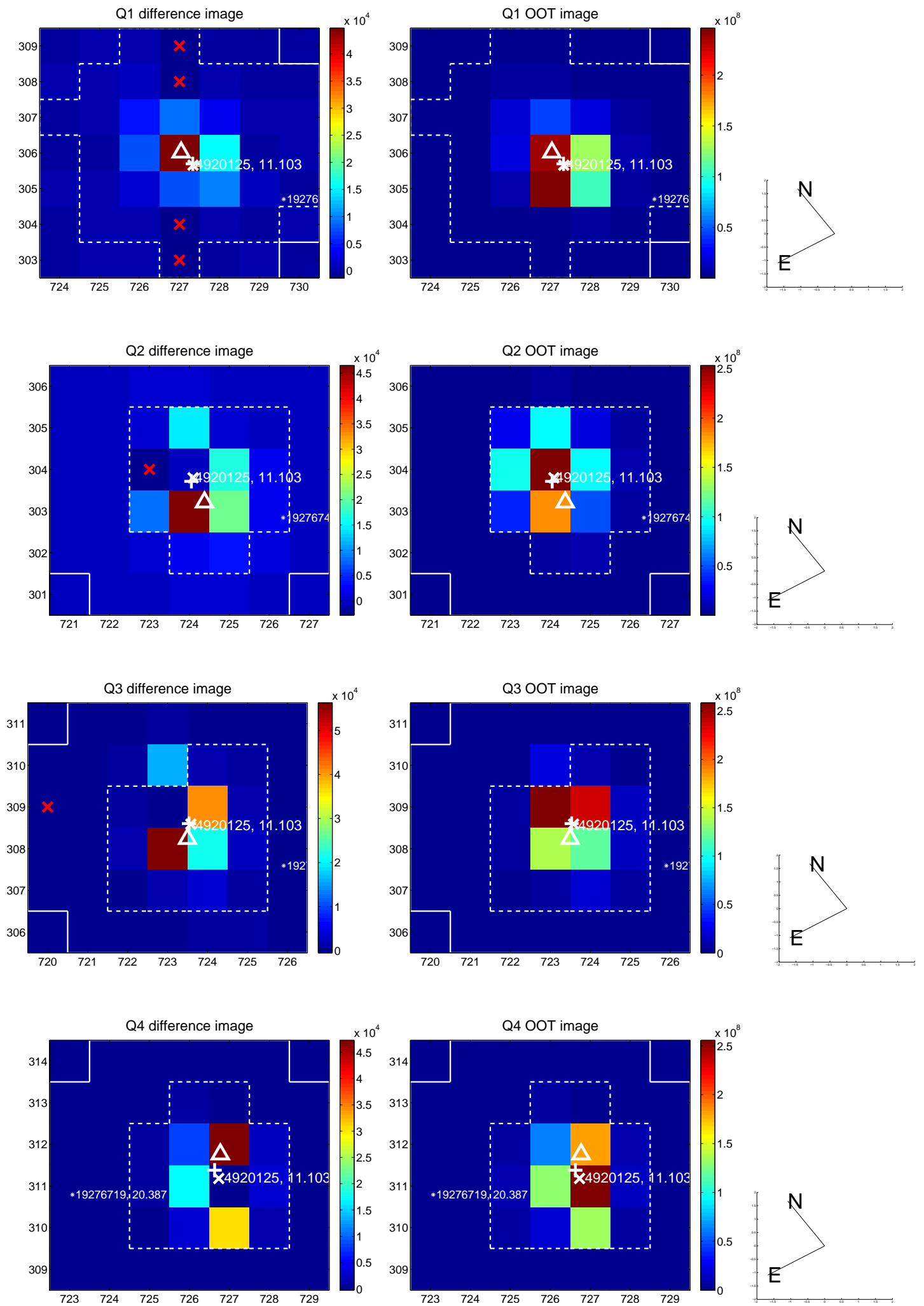
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.862 \pm 0.481$	1.79	$0.390 \pm 0.268$	$-0.769 \pm 0.454$
PRF-fit source offset from KIC position	$0.864 \pm 0.474$	1.82	$0.588 \pm 0.253$	$-0.632 \pm 0.489$
photometric centroid source offset	$0.22 \pm 0.19$	1.19	$0.22 \pm 0.19$	$0.00 \pm 0.24$

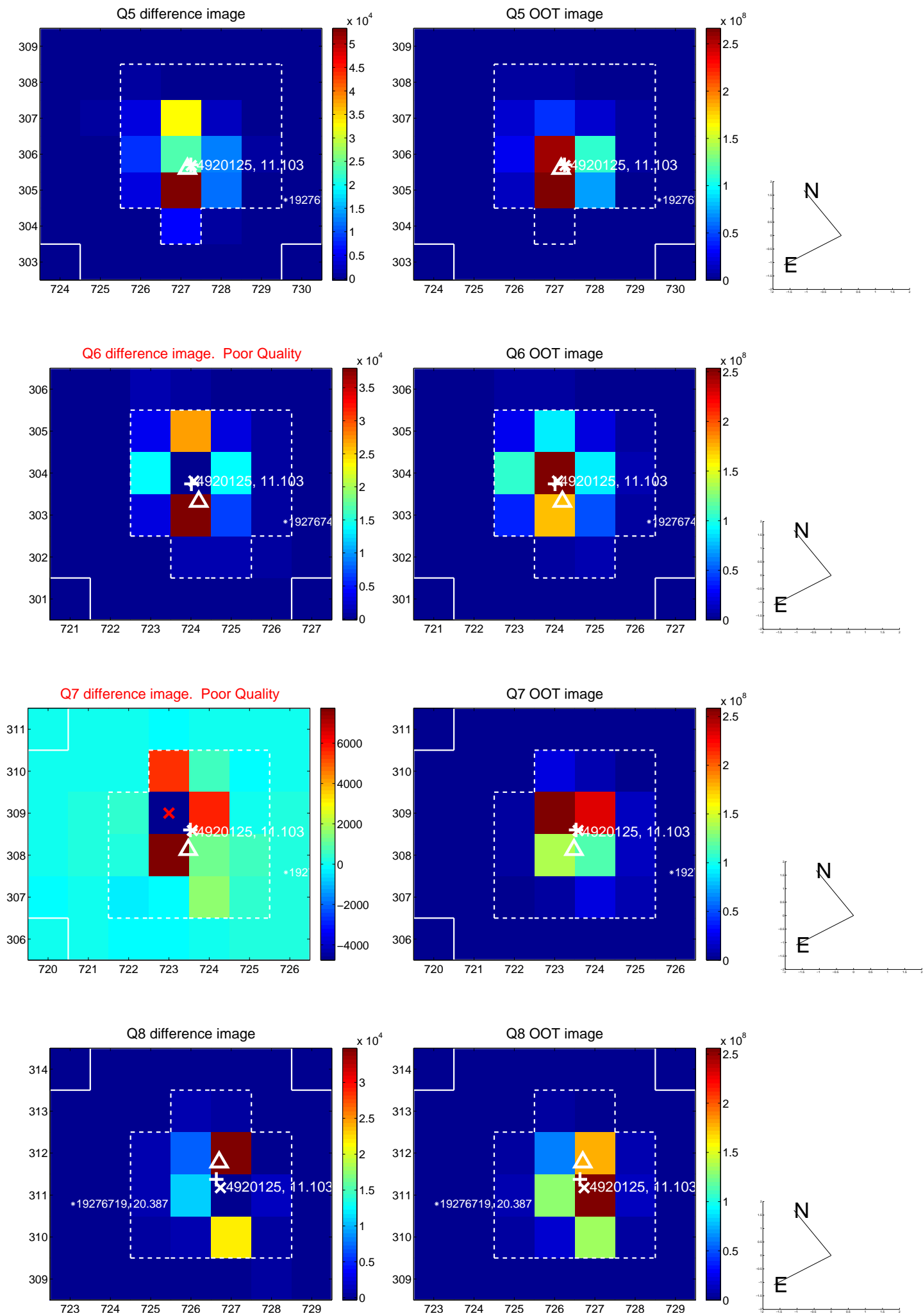


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

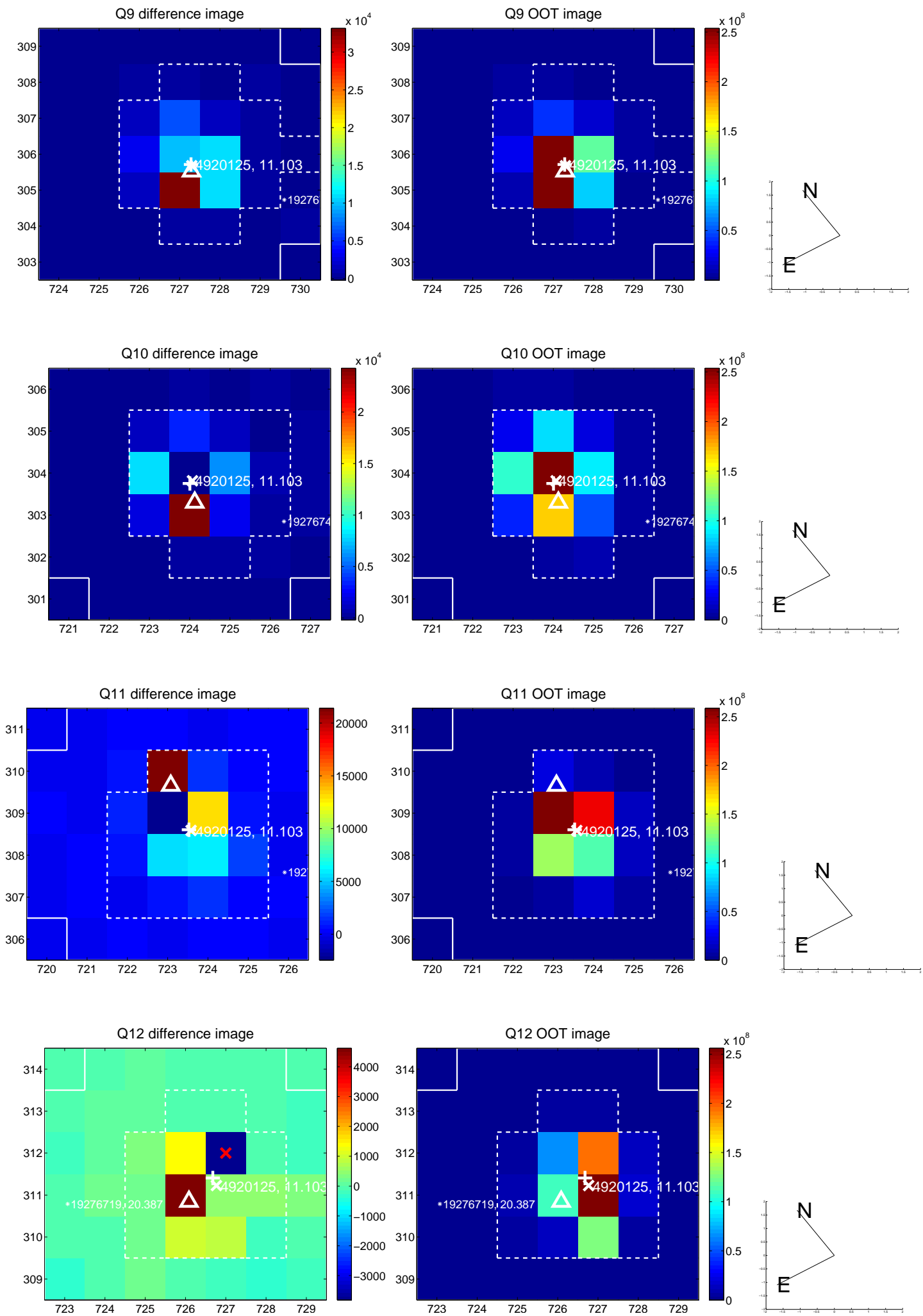


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

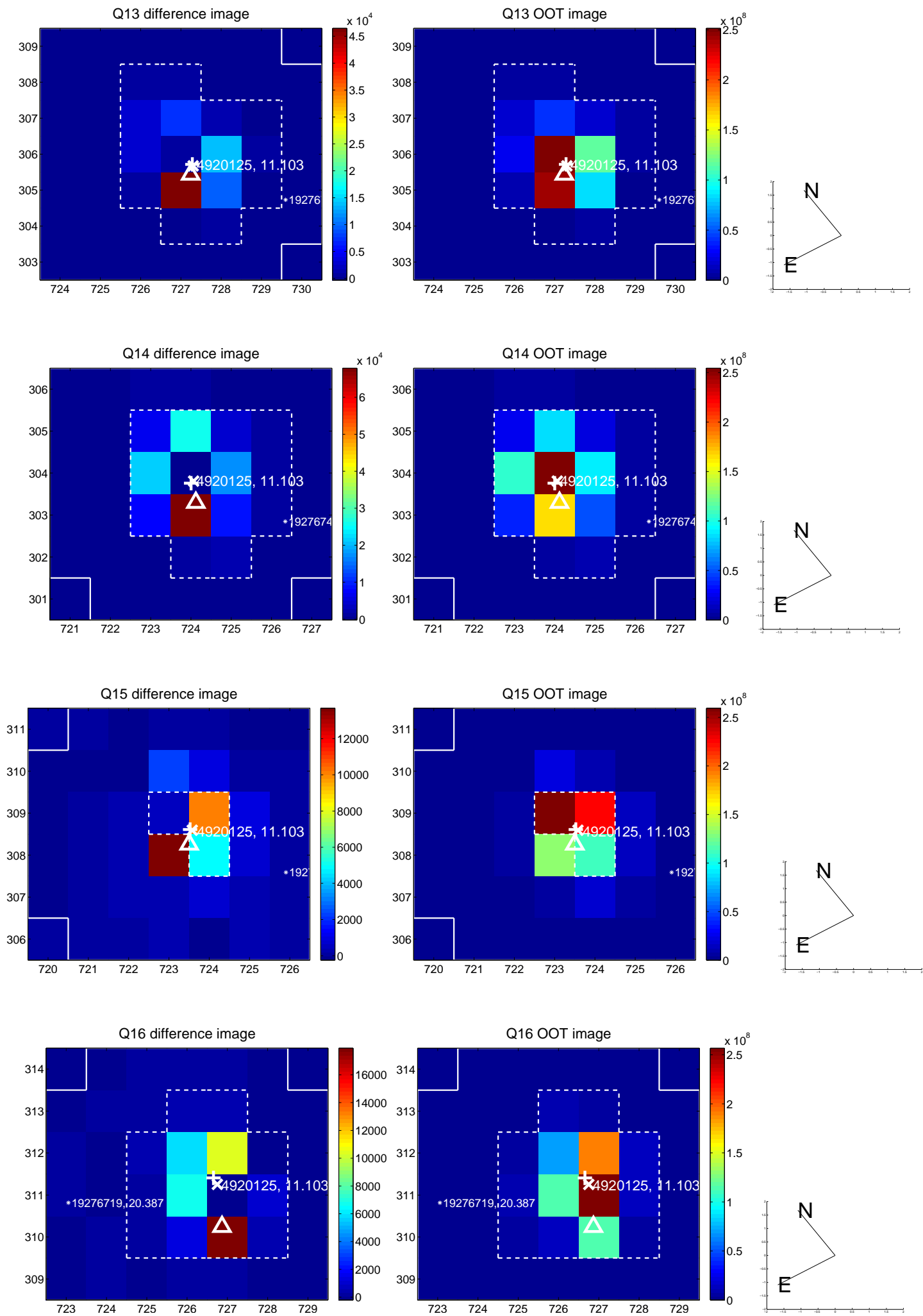




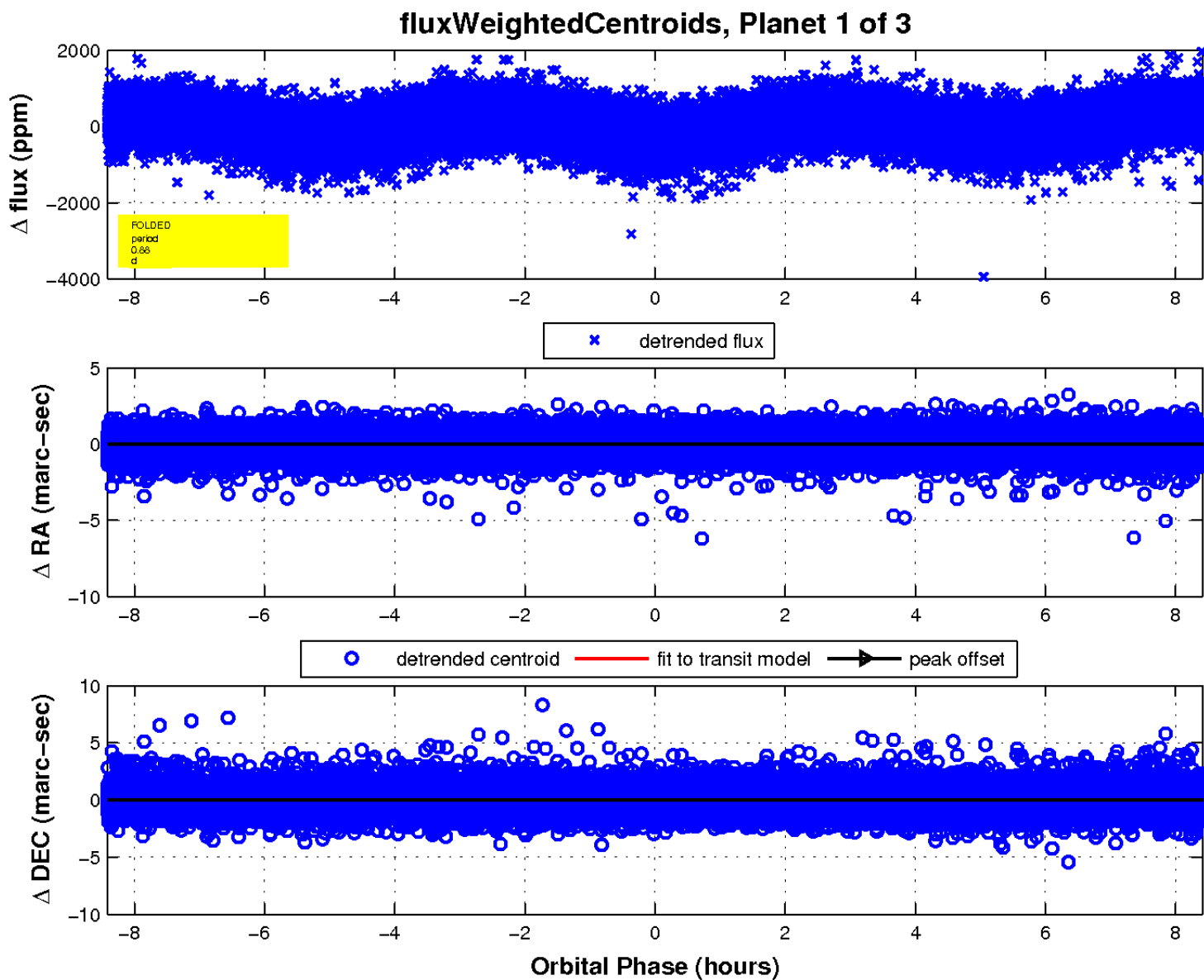
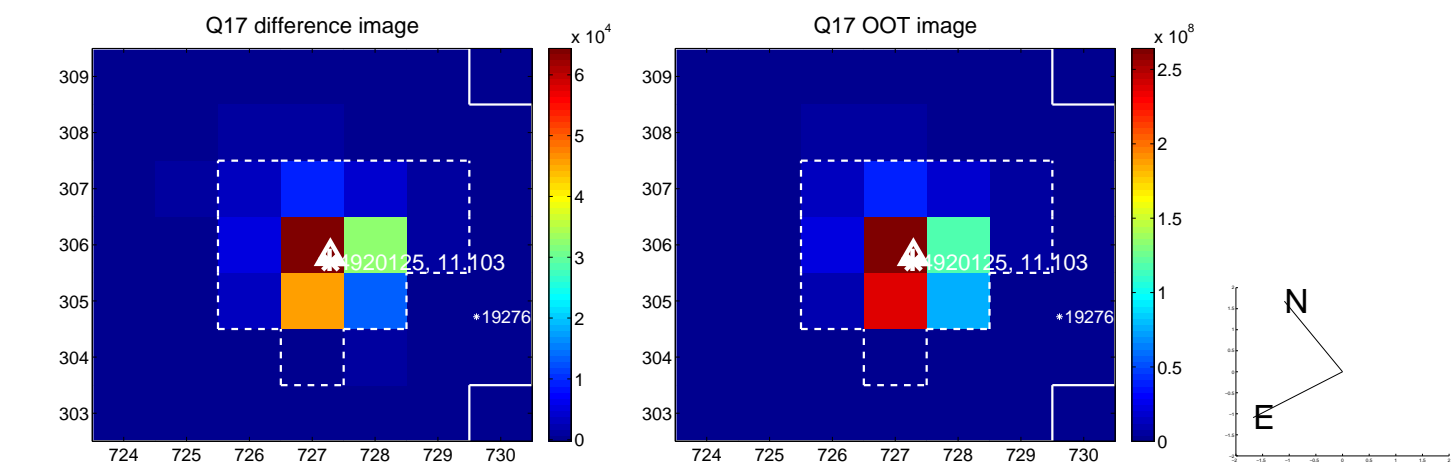
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

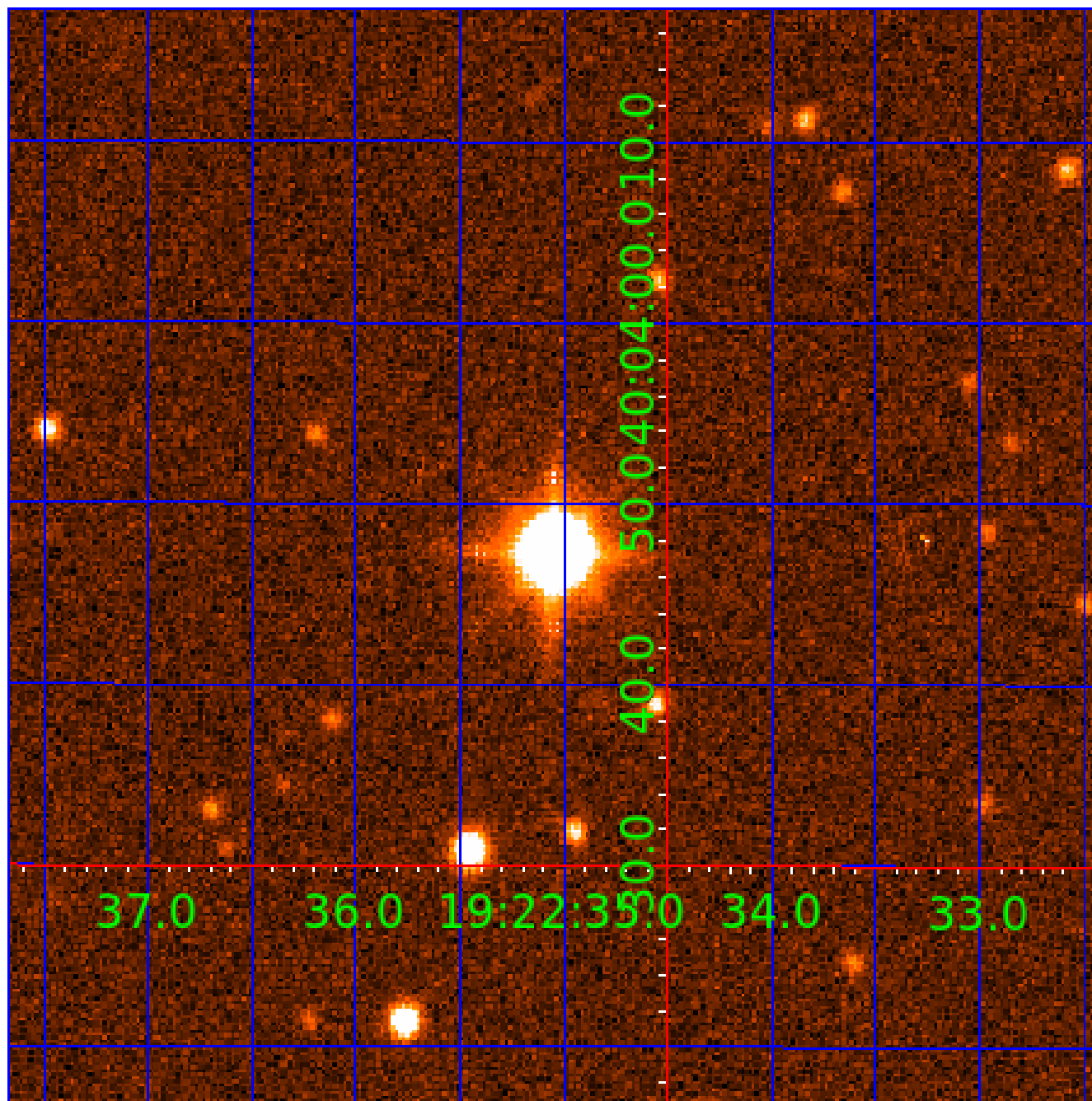


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination





# KIC 004920125

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004920125-01	OBS	No	0.875928	131.687411	59.1	2.806	12.4	12.6	3.59	7854	3.23	86835.34
004920125-02	OBS	No	0.875930	131.899065	73.5	2.760	11.5	12.4	3.59	7854	3.60	86835.10
004920125-03	OBS	No	0.875887	132.108627	87.9	5.369	9.9	16.1	3.59	7854	3.42	86840.70

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004920125-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
004920125-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
004920125-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED

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

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

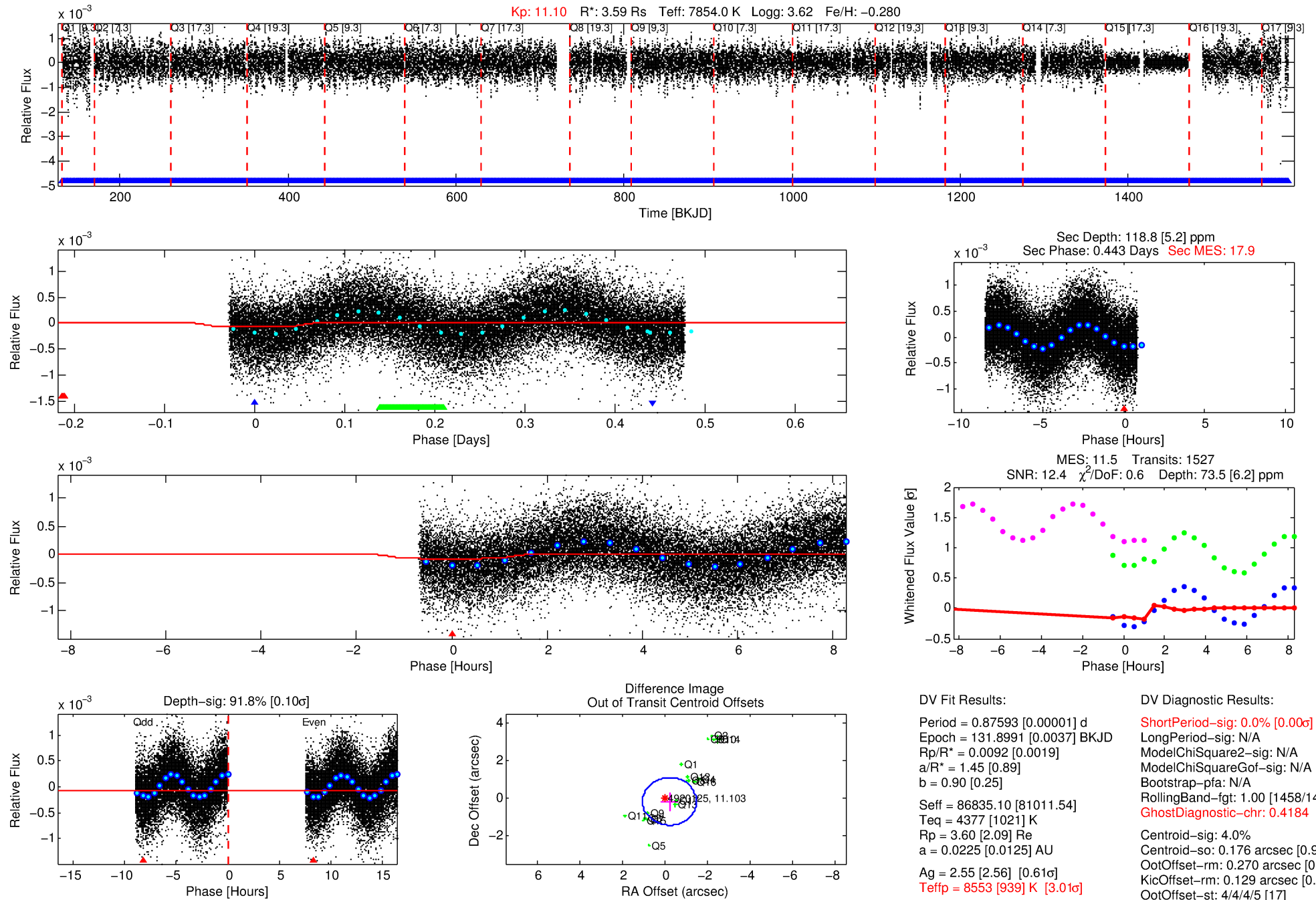
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004920125-02

No Significant Match Found

# DV One-Page Summary

KIC: 4920125 Candidate: 2 of 3 Period: 0.876 d



## DV Fit Results:

Period = 0.87593 [0.00001] d  
Epoch = 131.8991 [0.0037] BKJD  
Rp/R\* = 0.0092 [0.0019]  
a/R\* = 1.45 [0.89]  
b = 0.90 [0.25]  
Seff = 86835.10 [81011.54]  
Teff = 4377 [1021] K  
Rp = 3.60 [2.09] Re  
a = 0.0225 [0.0125] AU  
Ag = 2.55 [2.56] [0.61σ]  
Teffp = 8553 [939] K [3.01σ]

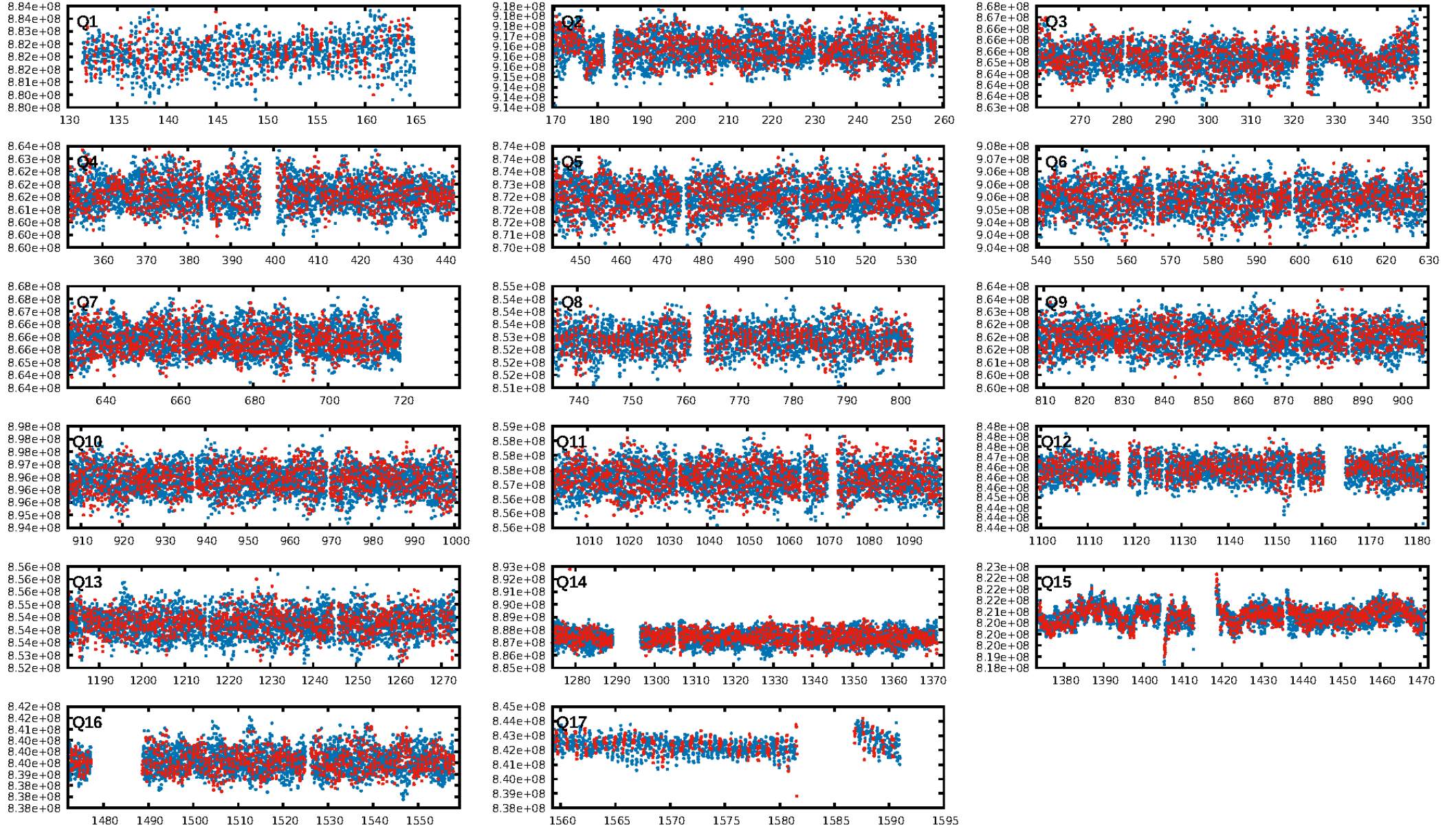
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1458/1458]  
GhostDiagnostic-chr: 0.4184  
Centroid-sig: 4.0%  
Centroid-so: 0.176 arcsec [0.95σ]  
OotOffset-rm: 0.270 arcsec [0.64σ]  
KicOffset-rm: 0.129 arcsec [0.29σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.88 [15/17]  
DiffImageOverlap-fno: 0.00 [0/17]

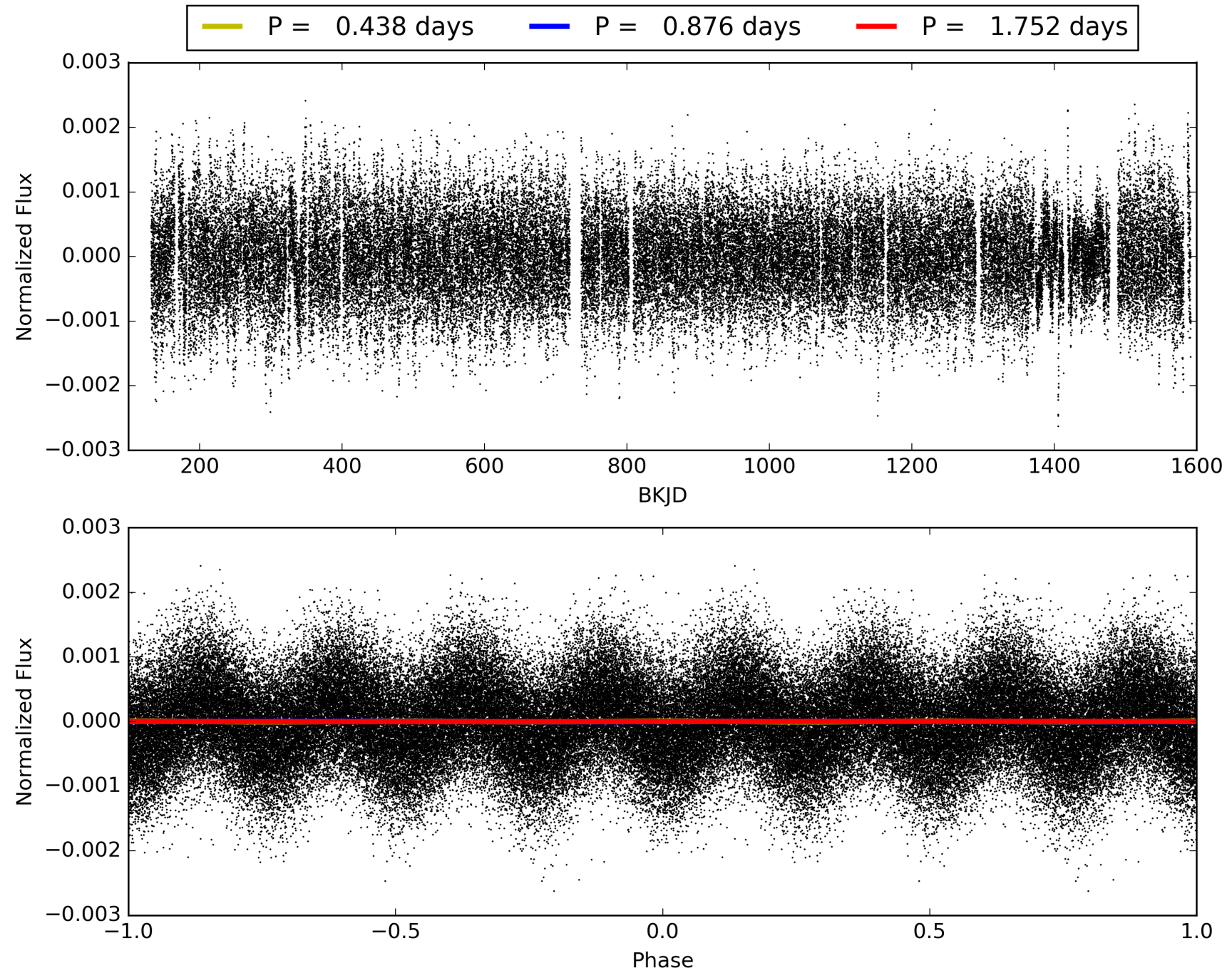
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:14:27 Z

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

# TCE 004920125-02, PDC Light Curves



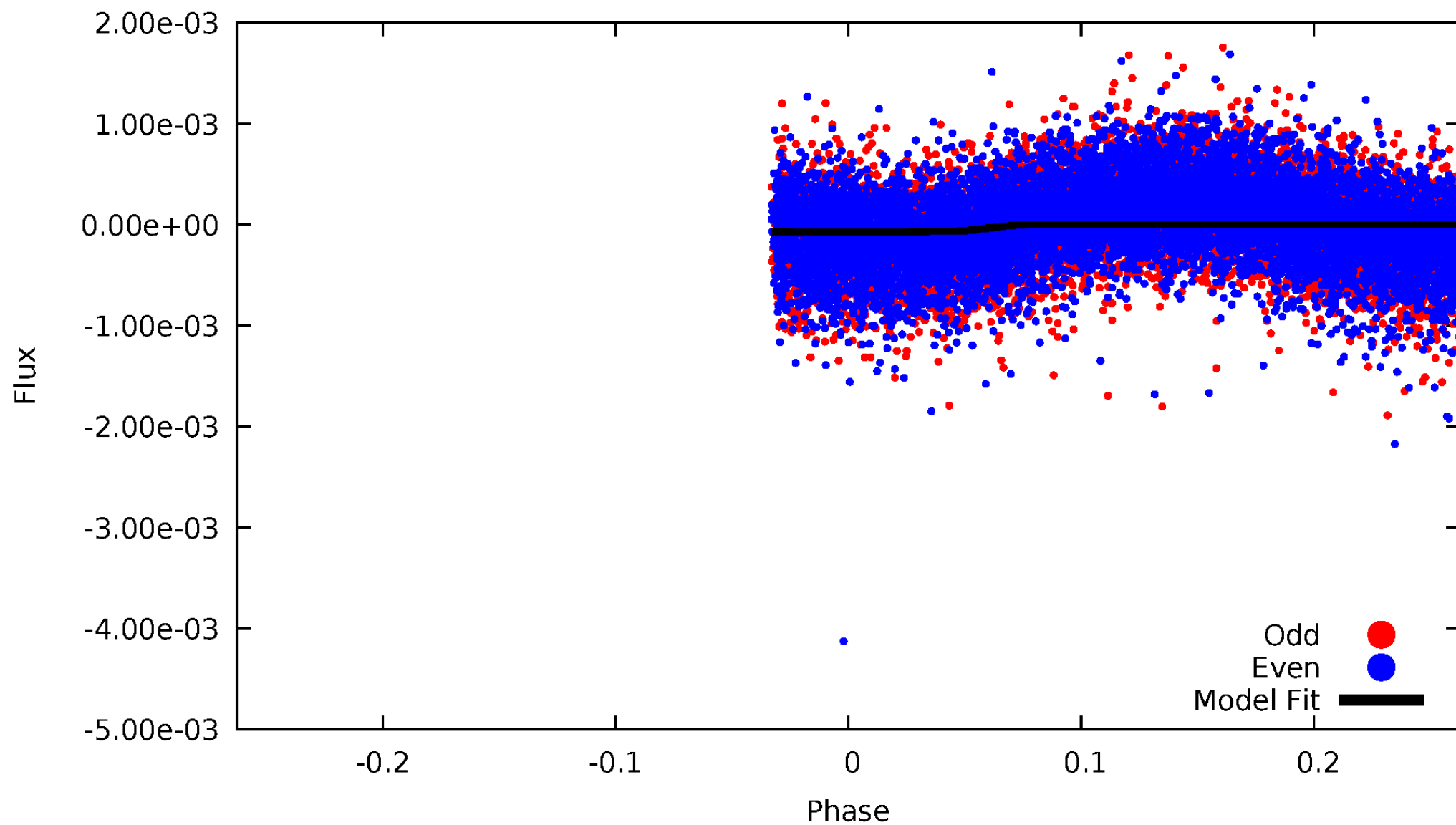
TCE 004920125-02





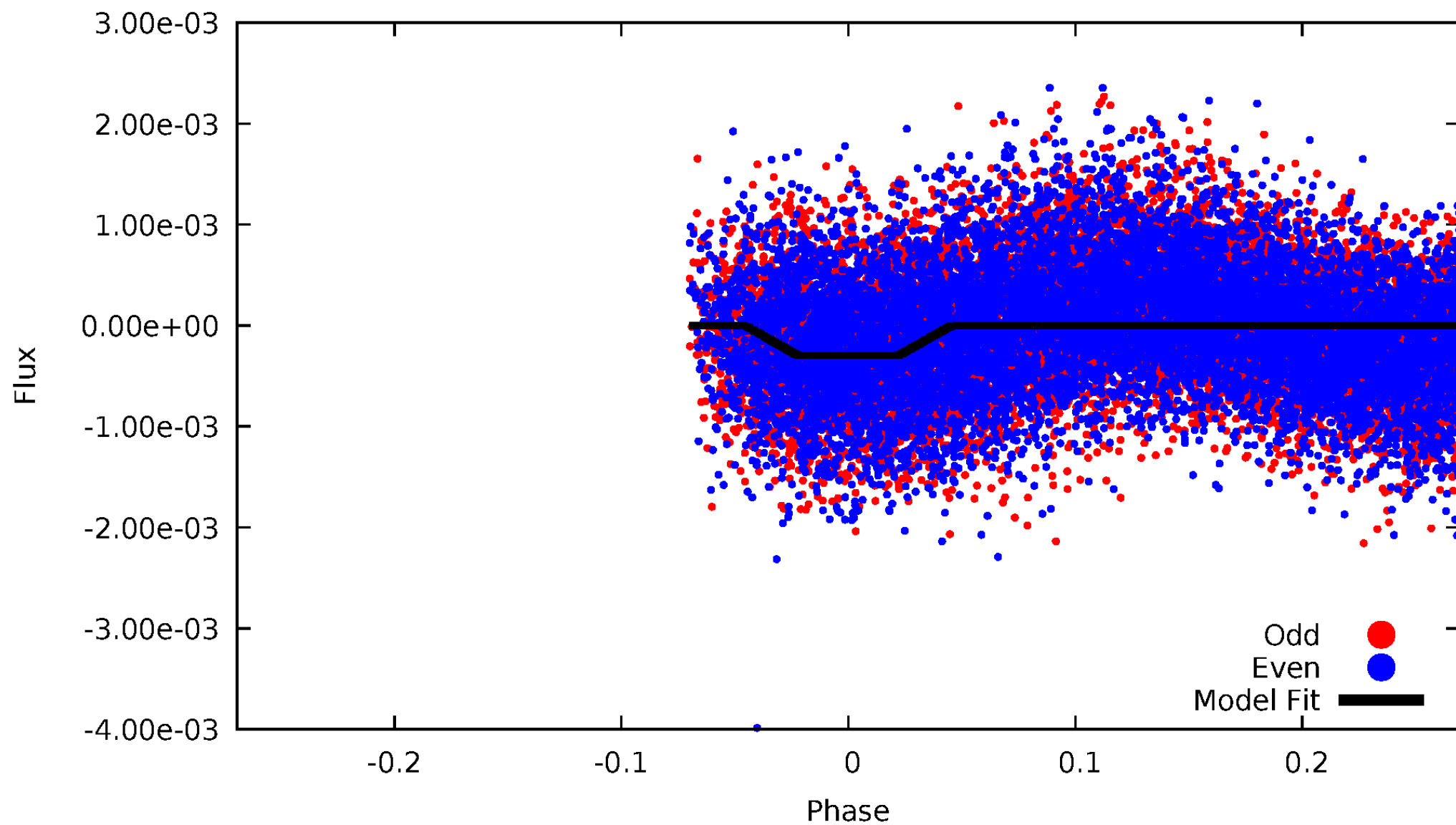
DV Odd/Even

TCE 004920125-02



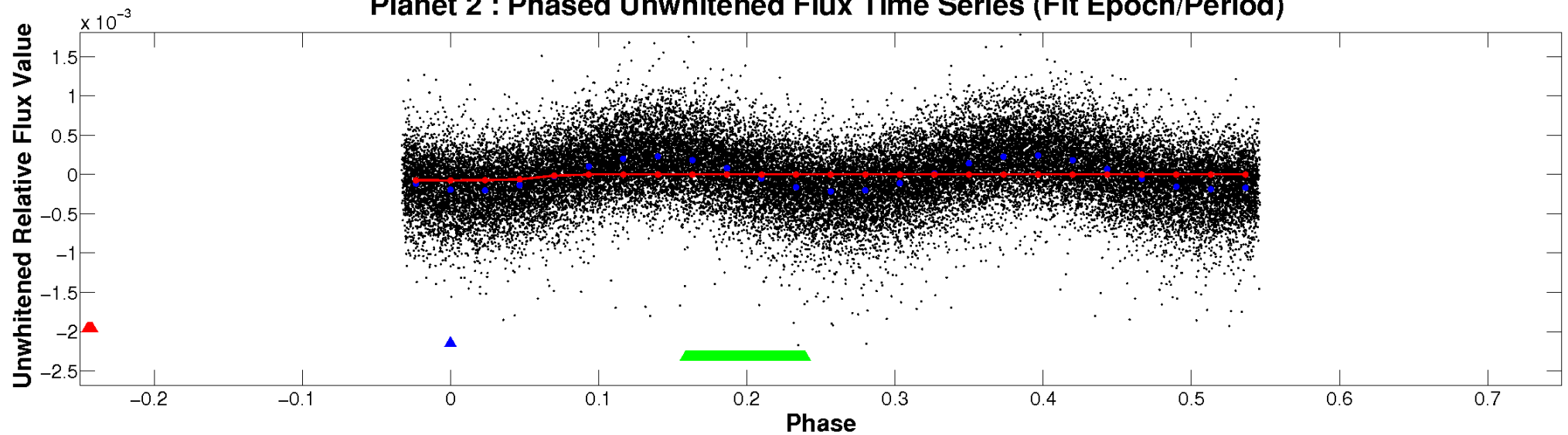
# ALT Odd/Even

TCE 004920125-02

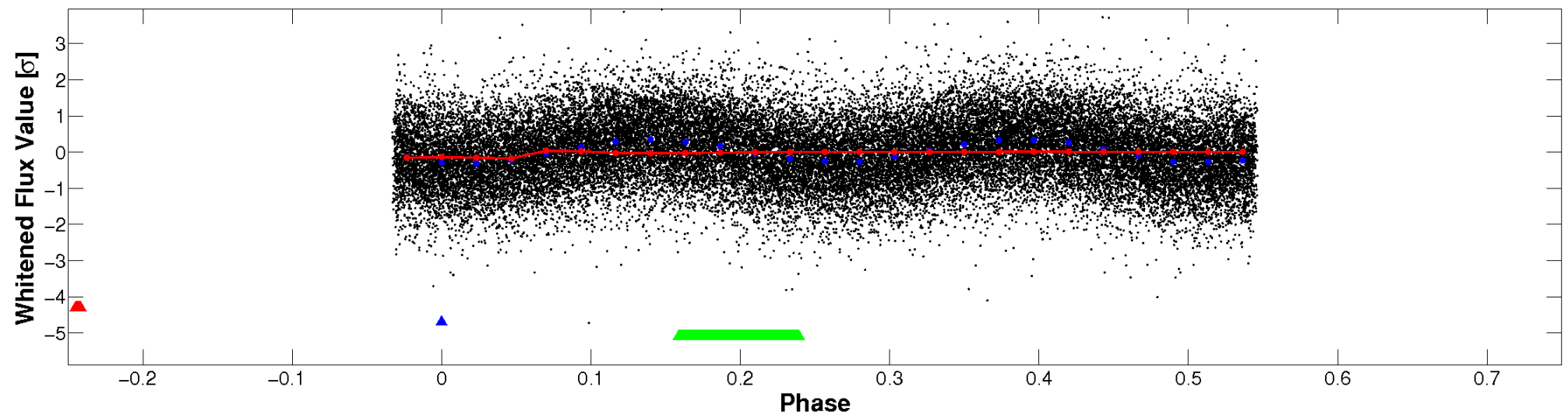


# Non-Whitened Vs. Whitened Light Curve

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

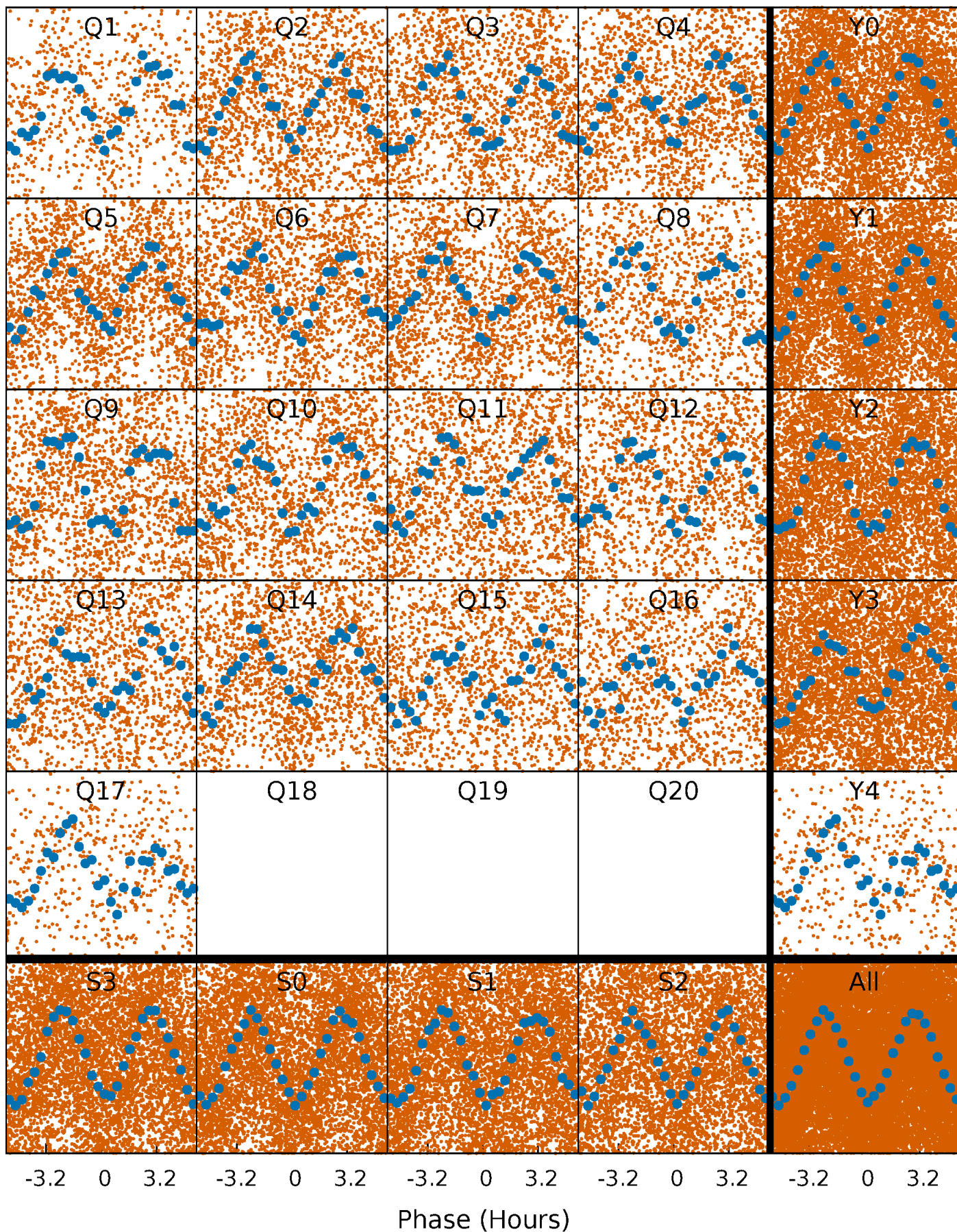


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

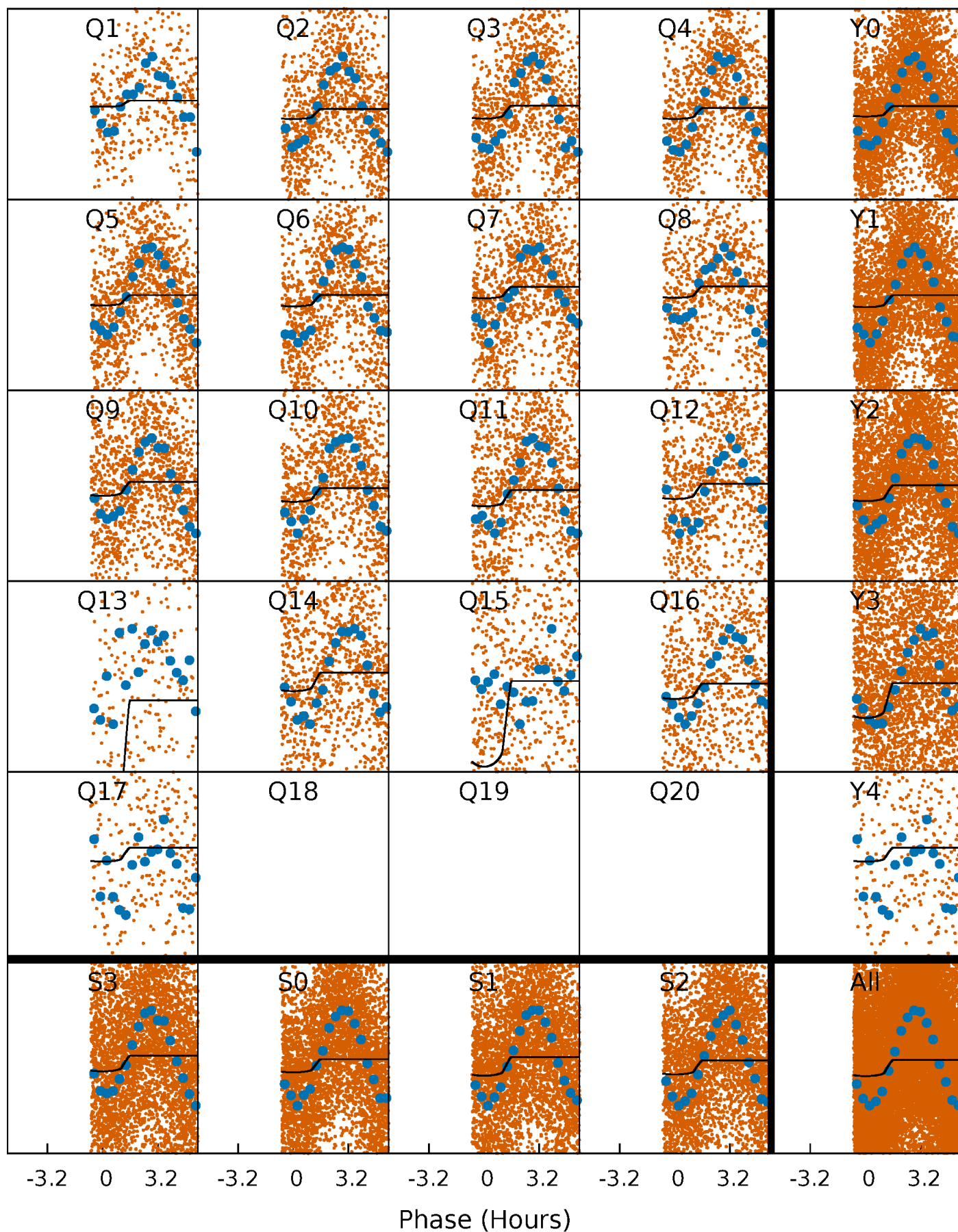
TCE 004920125-02   P= 0.875930 Days    $T_0=131.899065$  (BKJD)





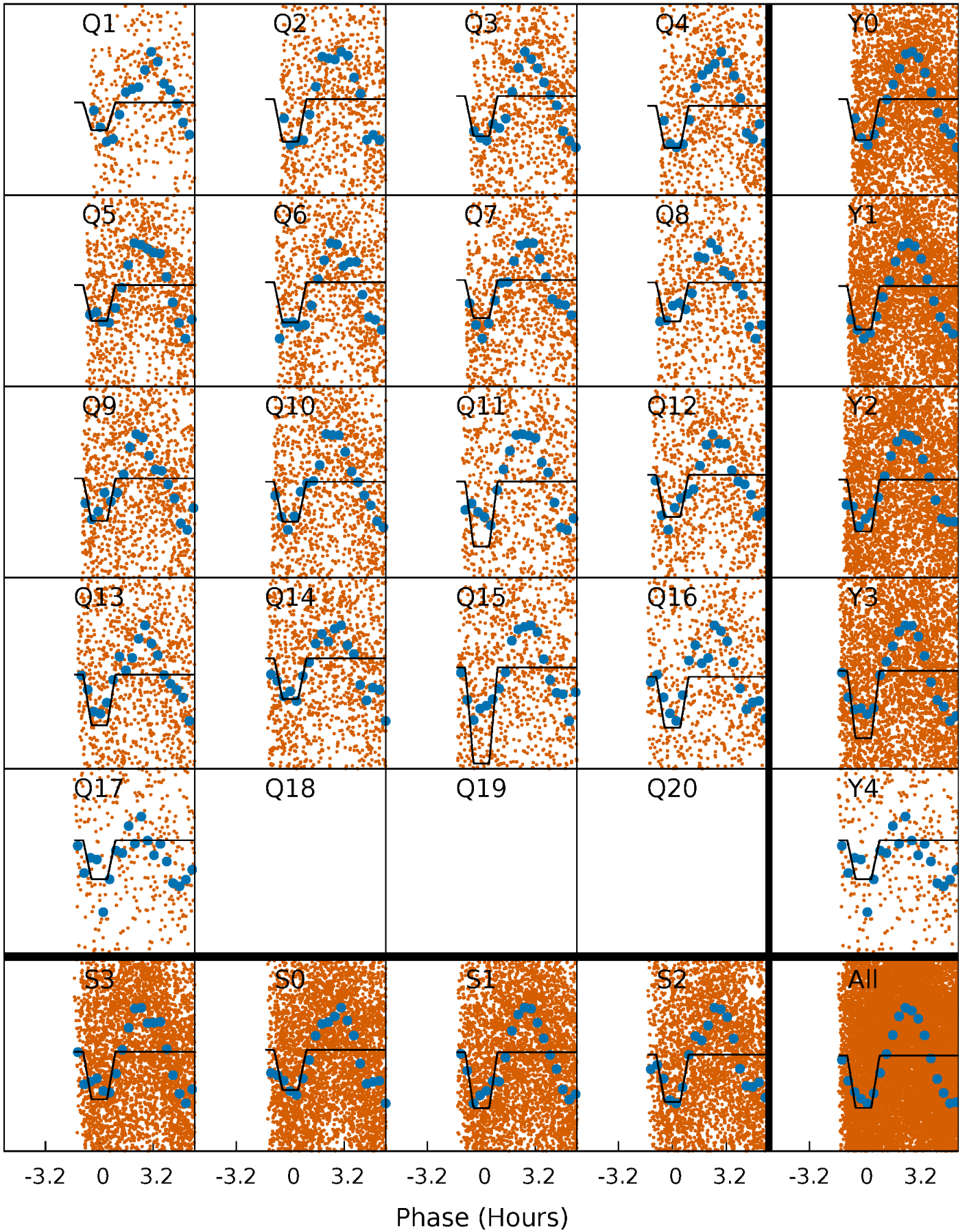
# DV Quarter-Phased Transit Curves

TCE 004920125-02     $P = 0.875930$  Days     $T_0 = 131.899065$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

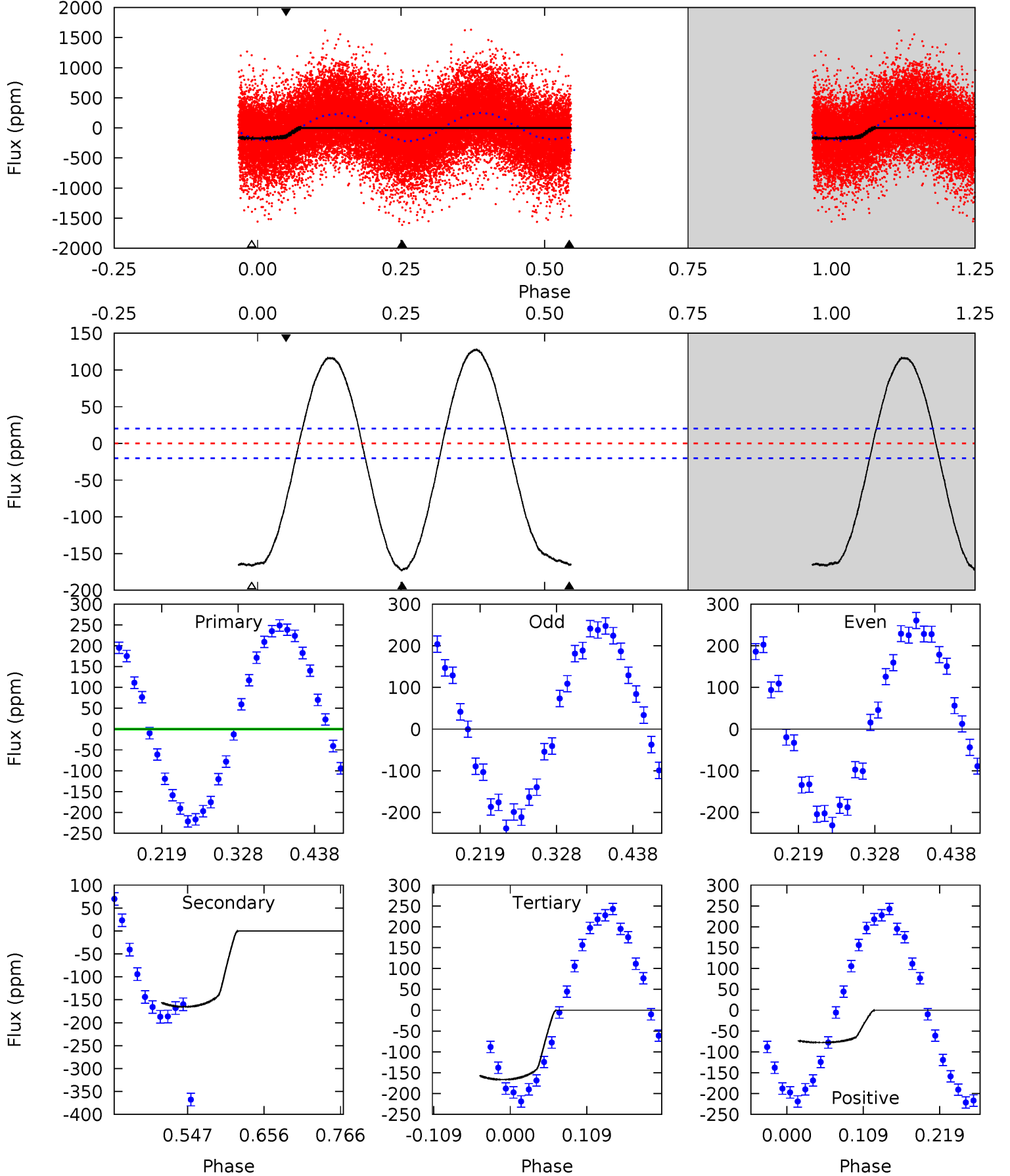
TCE 004920125-02   P= 0.875953 Days    $T_0=131.893320$  (BKJD)



# DV Model-Shift Uniqueness Test

004920125-02, P = 0.875930 Days, E = 131.023135 Days

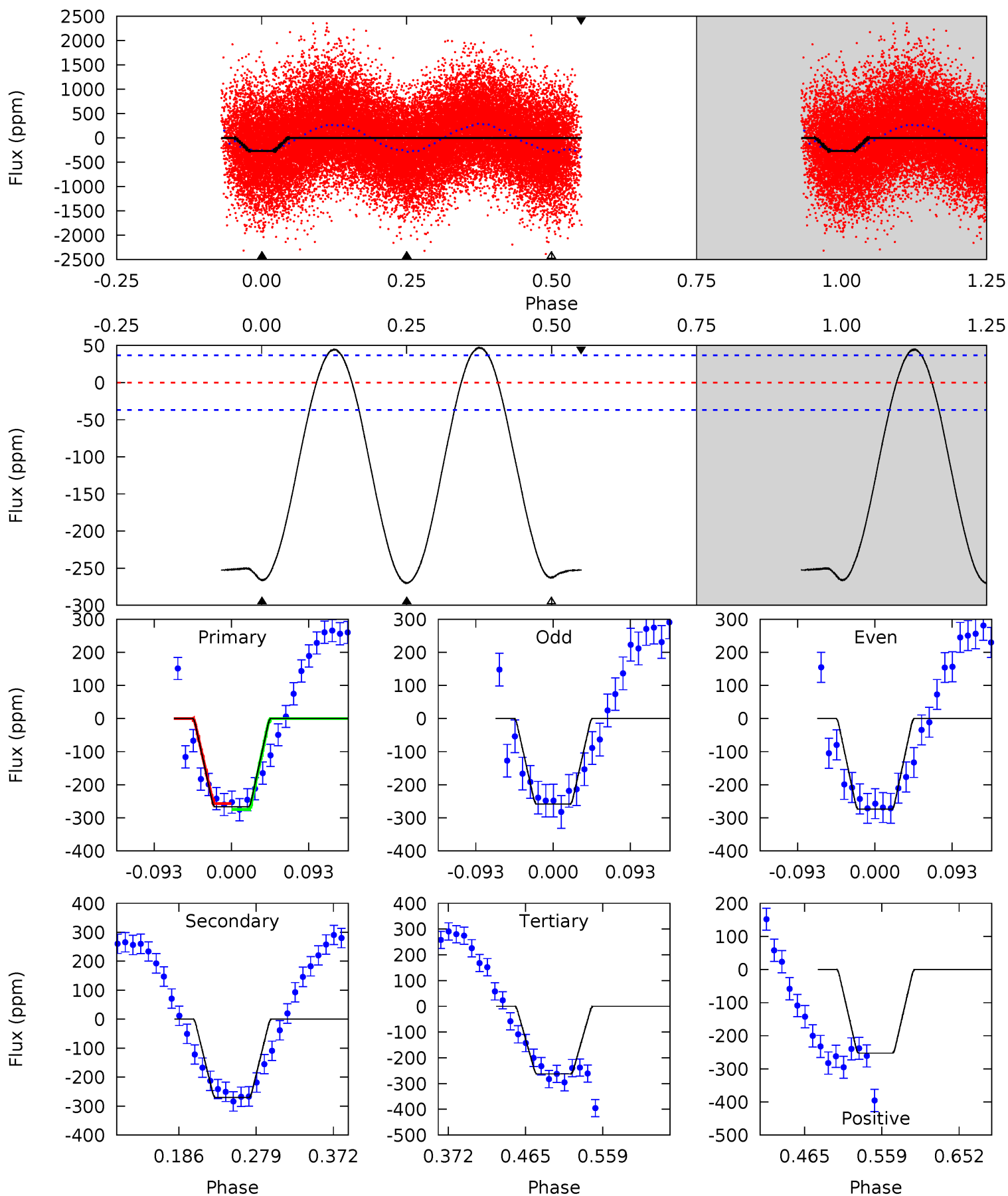
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.0	37.4	37.6	-17.5	4.55	1.60	22.5	1.39	56.6	-0.29	54.9	1.17	1.21	0.43	4.42



# Alt Model-Shift Uniqueness Test

004920125-02, P = 0.875953 Days, E = 131.017367 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
33.0	33.5	32.6	-31.3	4.58	1.68	15.0	0.42	64.4	0.93	64.9	0.99	1.02	0.15	1.10





### Stellar Parameters For KIC 004920125

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7854^{+219}_{-329}$	$3.624^{+0.549}_{-0.061}$	$-0.280^{+0.200}_{-0.300}$	$3.590^{+0.612}_{-1.957}$	$1.980^{+0.162}_{-0.518}$	$0.060^{+0.355}_{-0.017}$
	+3%/-4%	+15%/-2%	+71%/-107%	+17%/-55%	+8%/-26%	+589%/-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 004920125-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-165 \pm 4$	$3.14^{+0.93}_{-1.01}$	$5778^{+473}_{-838}$	$9517^{+1852}_{-1321}$	$4.570^{+4.776}_{-1.745}$
Alt.	$-270 \pm 8$	$5.94^{+1.41}_{-1.63}$	$5796^{+446}_{-808}$	$7211^{+671}_{-518}$	$2.080^{+1.719}_{-0.660}$

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

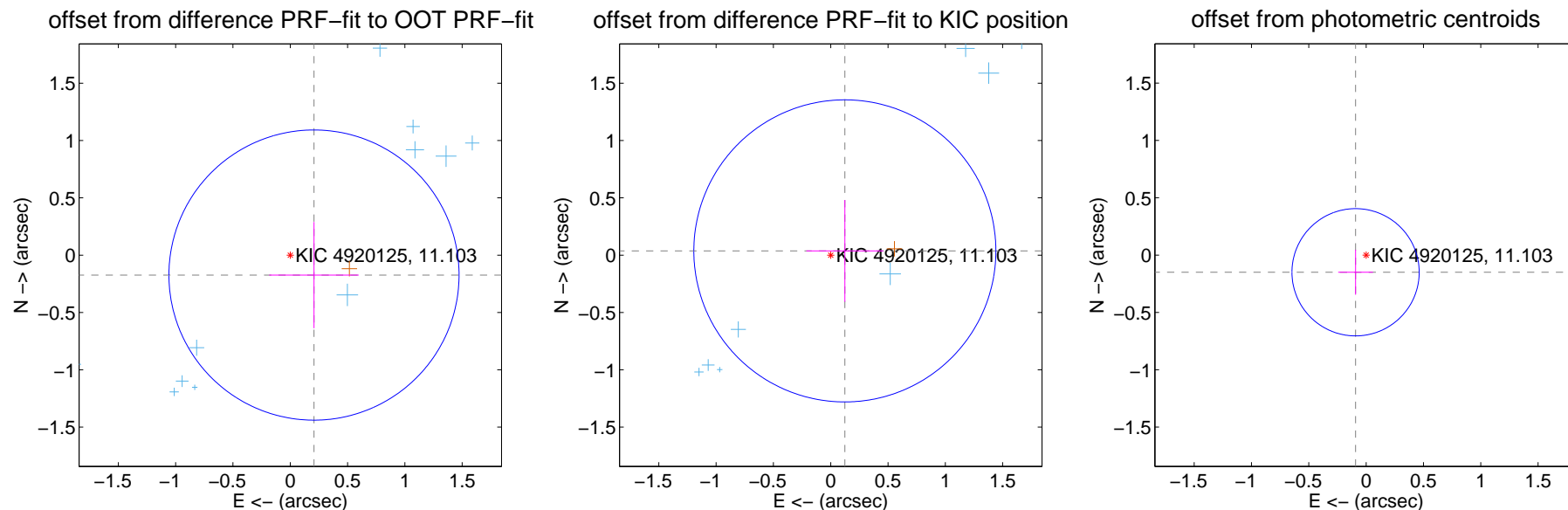
## DV Centroid Data

Supplemental centroid analysis for 004920125-02. **Kepler magnitude: 11.10.** Transit SNR 12.45

There are 15 quarters with good PRF difference image offsets

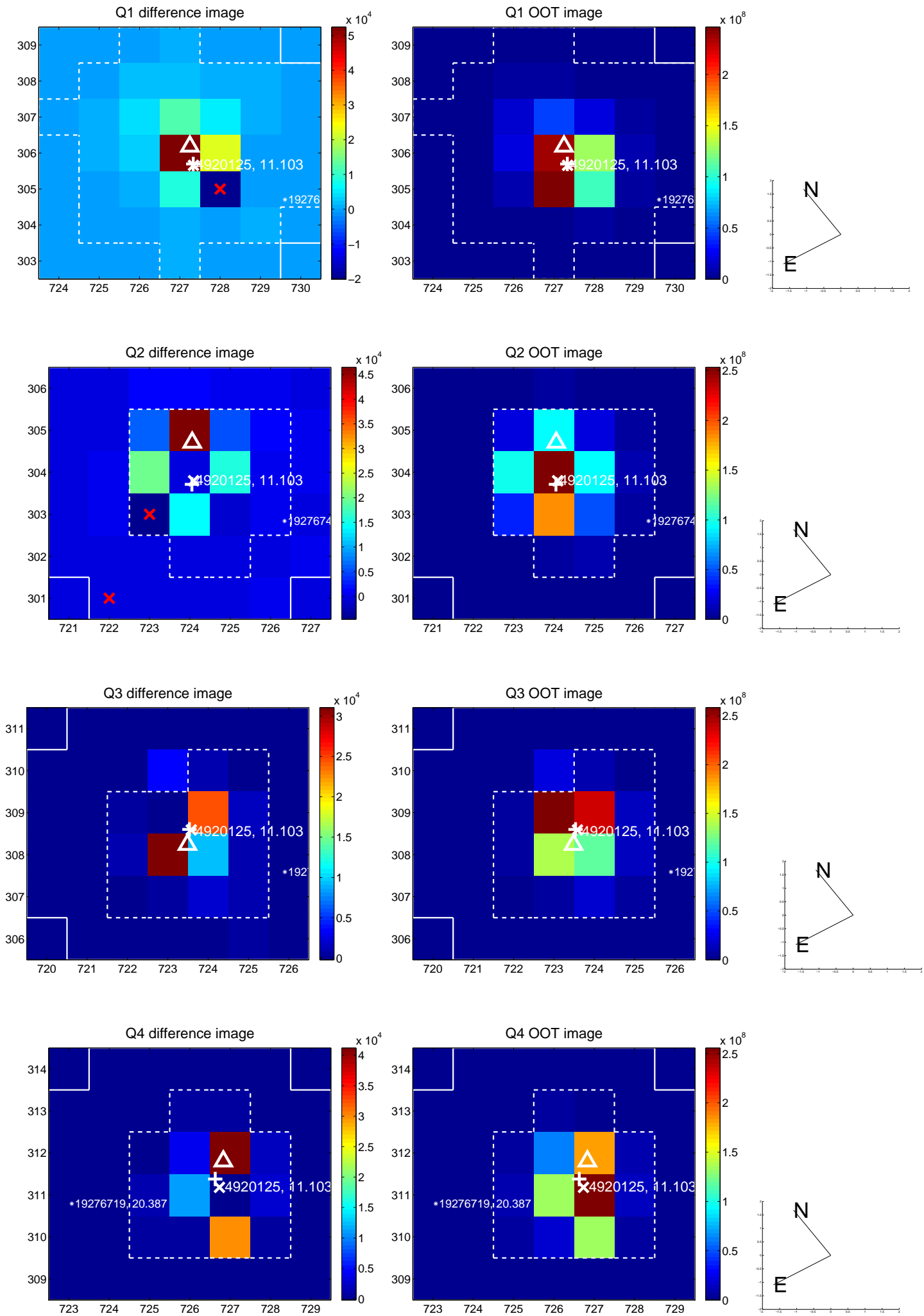
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.270 \pm 0.422$	0.64	$-0.207 \pm 0.390$	$-0.174 \pm 0.463$
PRF-fit source offset from KIC position	$0.129 \pm 0.439$	0.29	$-0.123 \pm 0.336$	$0.037 \pm 0.444$
photometric centroid source offset	$0.18 \pm 0.18$	0.95	$0.09 \pm 0.15$	$-0.15 \pm 0.20$

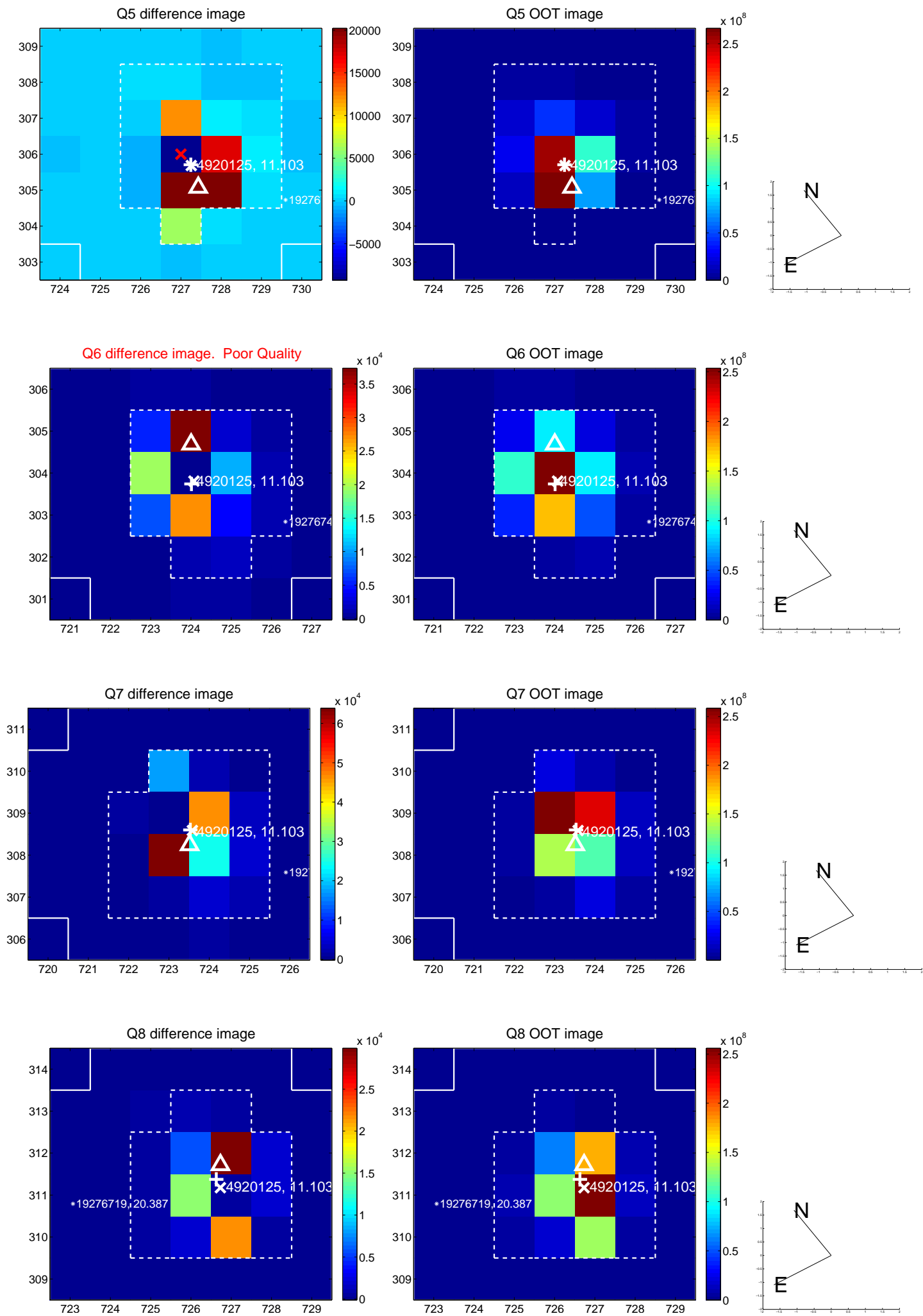


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

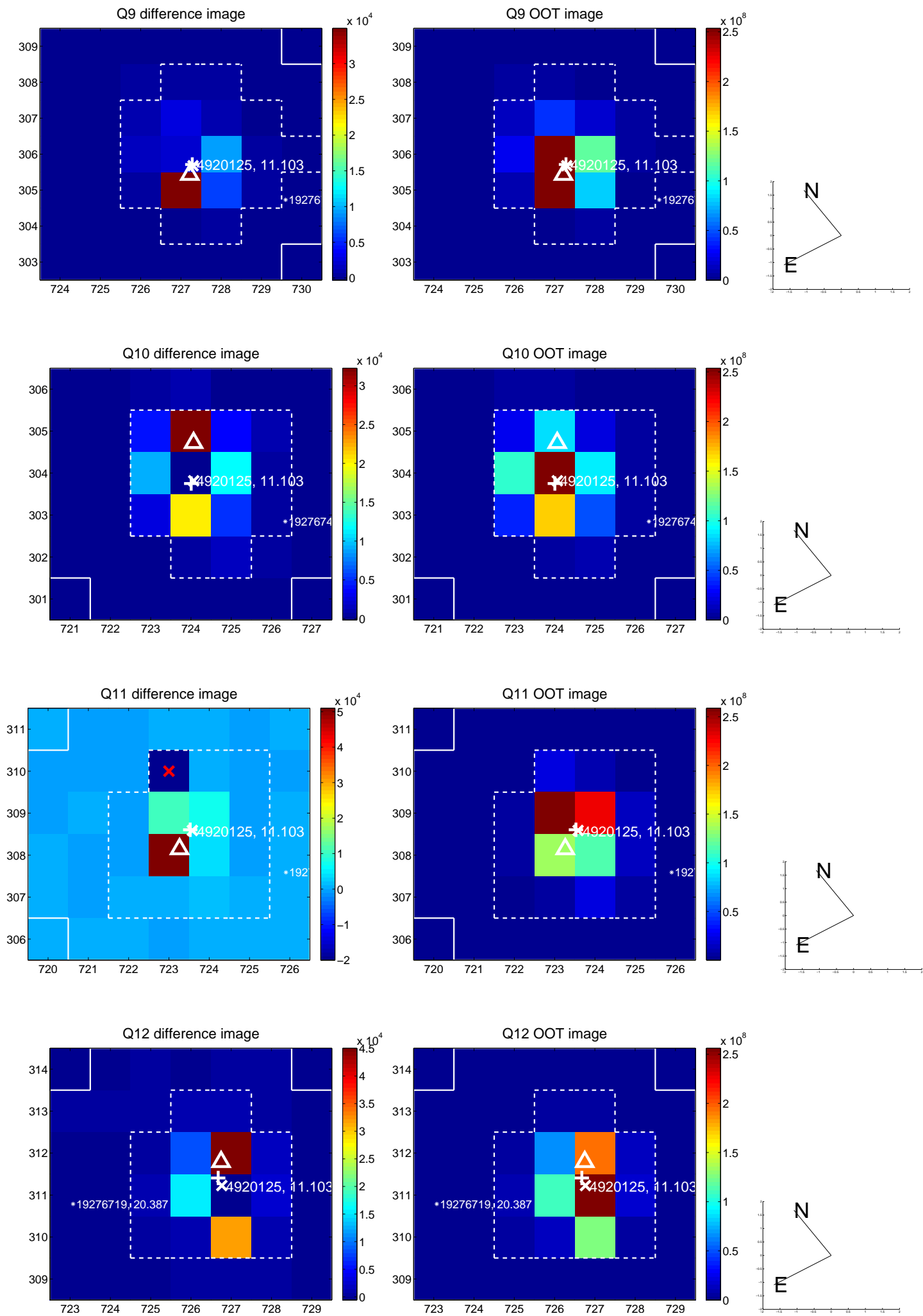
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

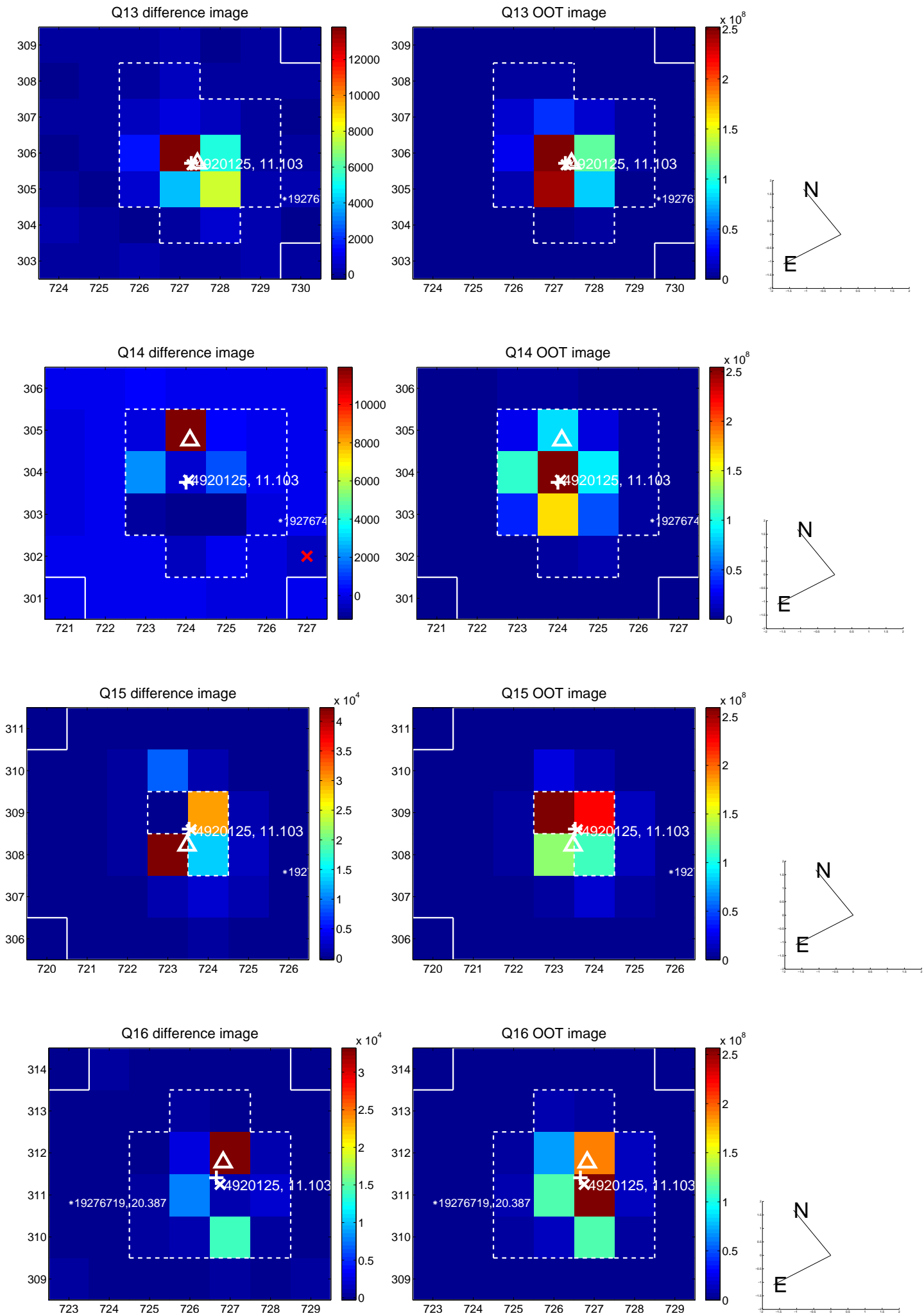


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

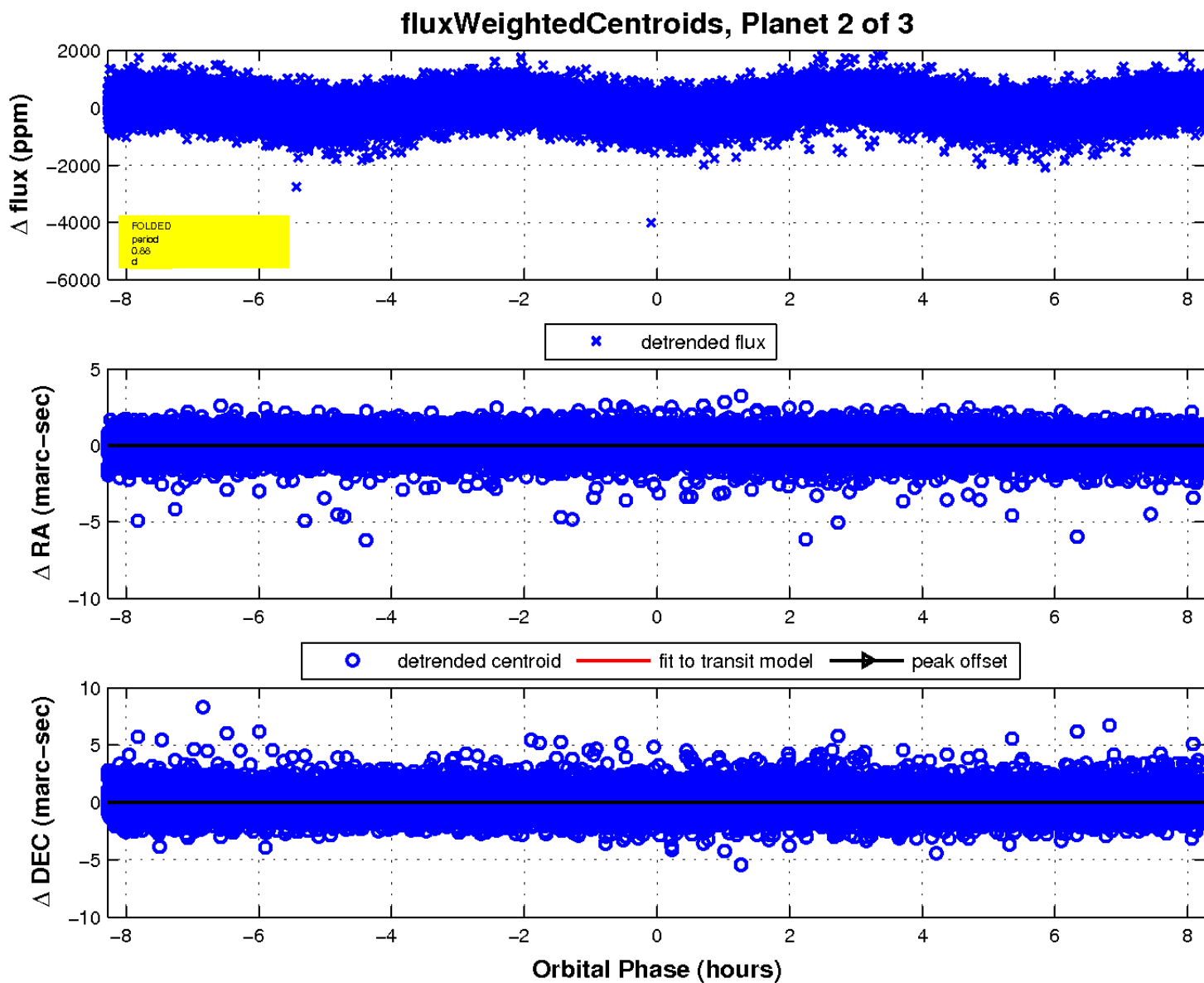
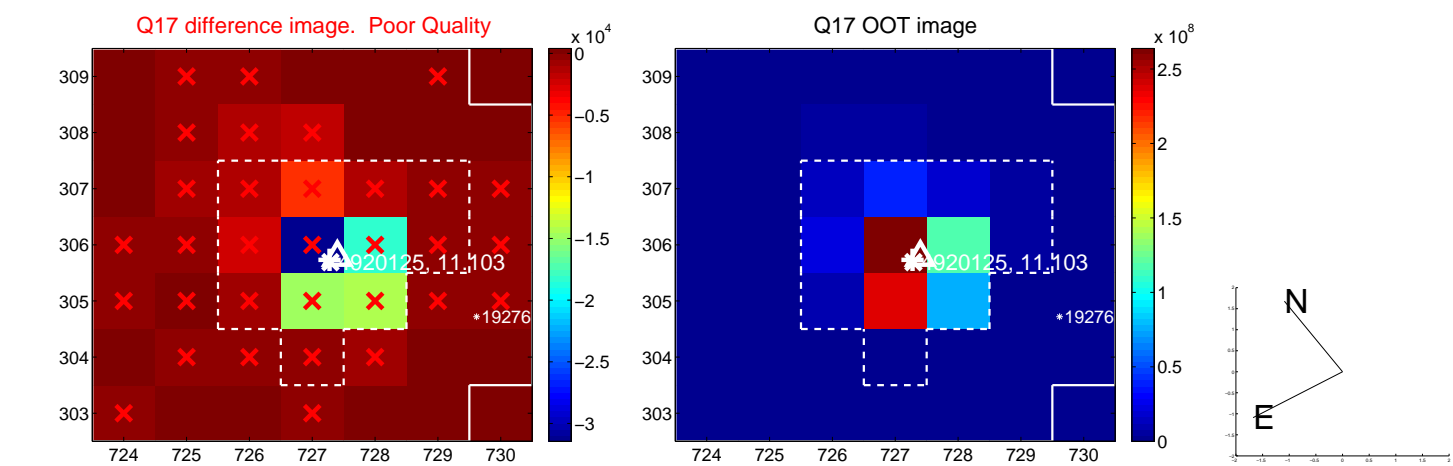




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

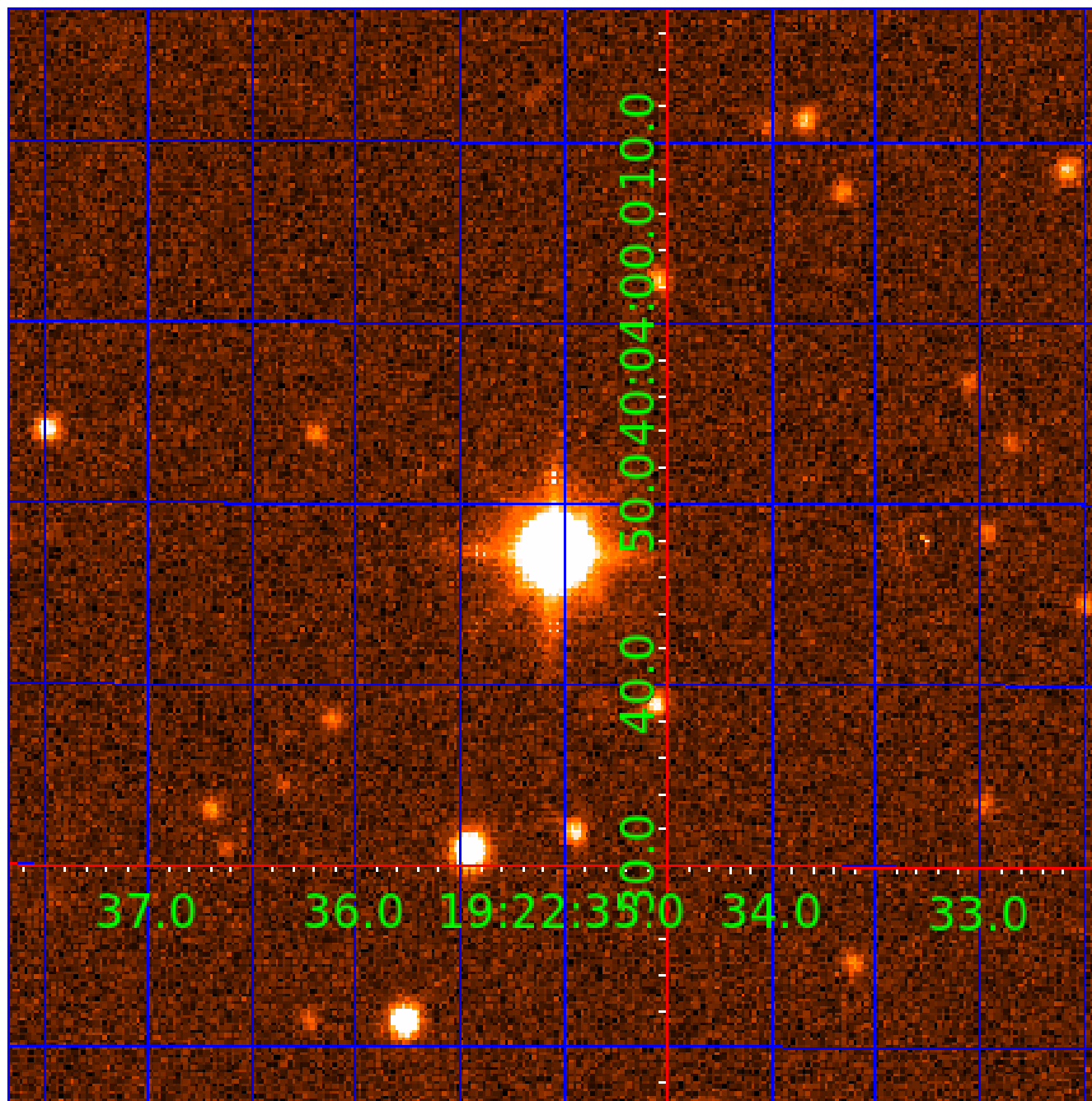


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 004920125

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004920125-01	OBS	No	0.875928	131.687411	59.1	2.806	12.4	12.6	3.59	7854	3.23	86835.34
004920125-02	OBS	No	0.875930	131.899065	73.5	2.760	11.5	12.4	3.59	7854	3.60	86835.10
004920125-03	OBS	No	0.875887	132.108627	87.9	5.369	9.9	16.1	3.59	7854	3.42	86840.70

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004920125-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
004920125-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
004920125-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED

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

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

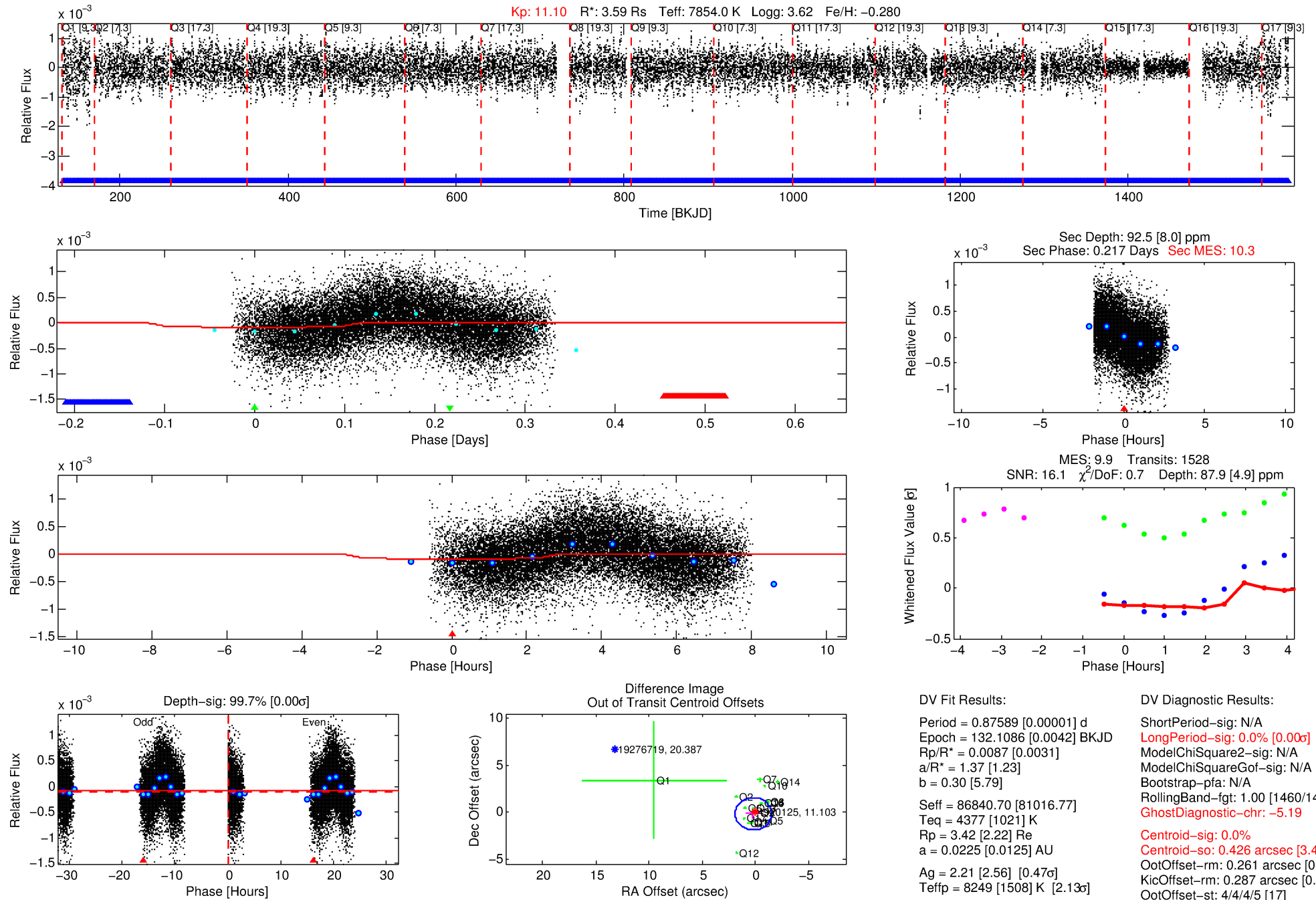
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 004920125-03

No Significant Match Found

# DV One-Page Summary

KIC: 4920125 Candidate: 3 of 3 Period: 0.876 d

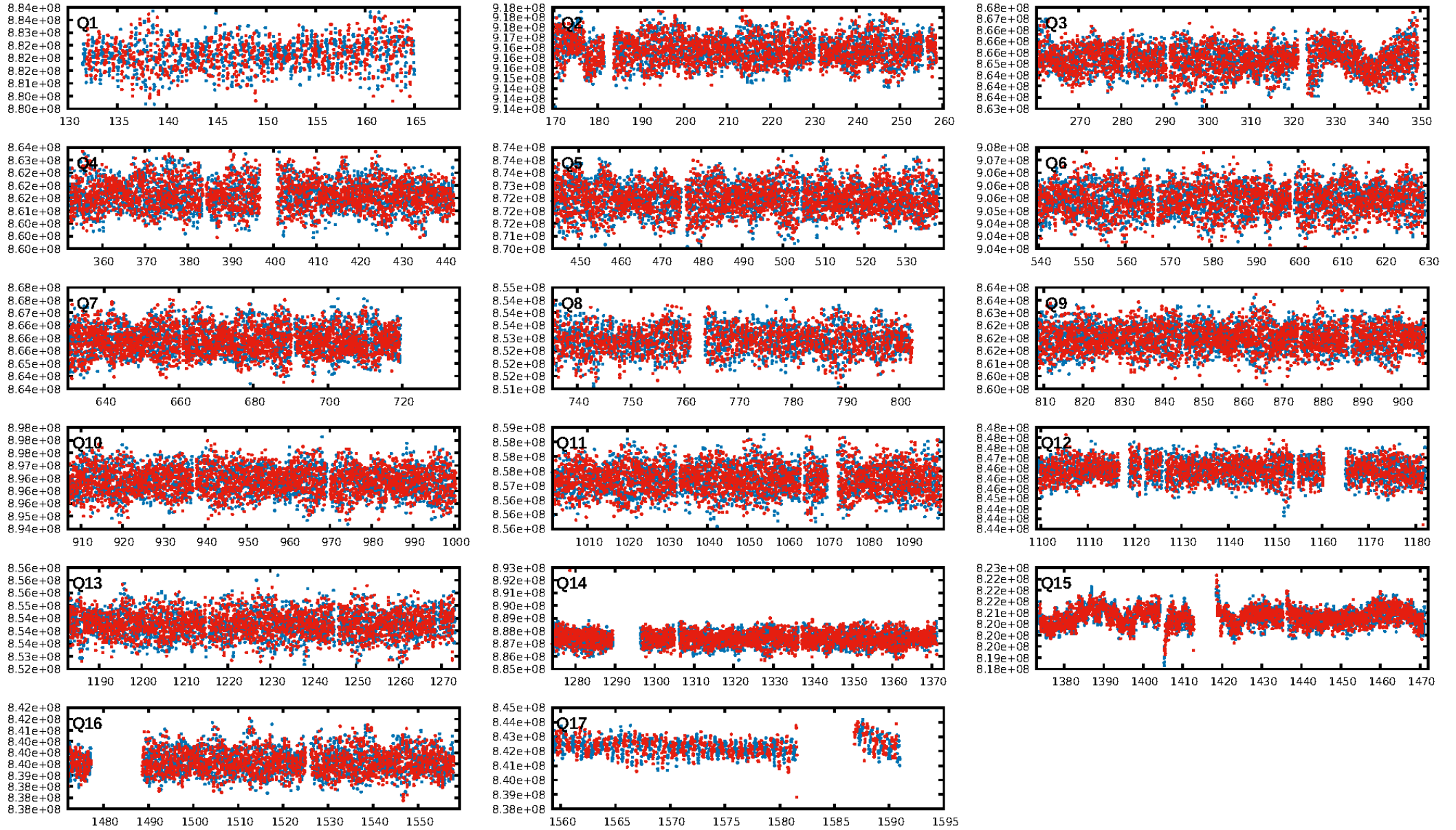


Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:14:37 Z

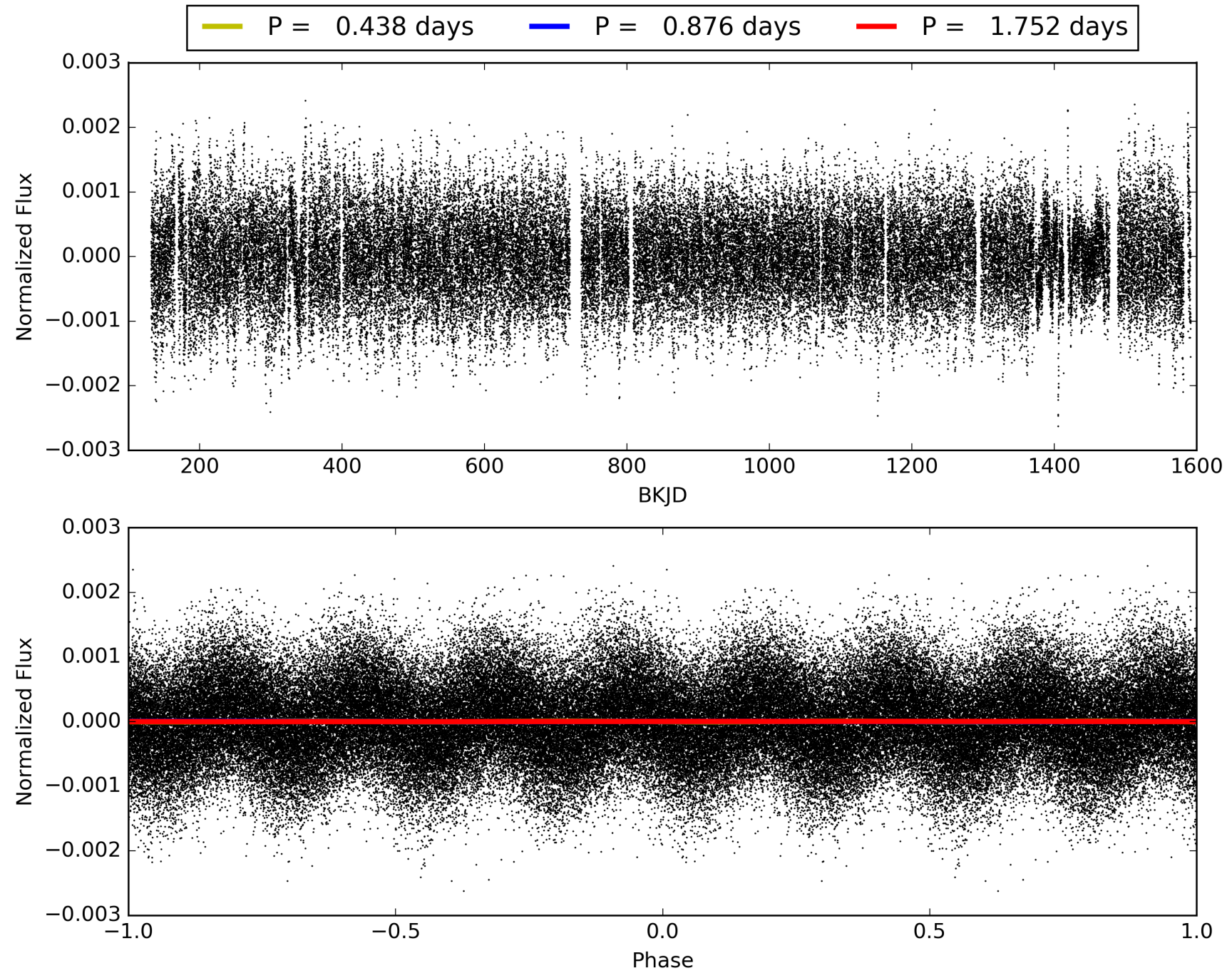
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 004920125-03, PDC Light Curves

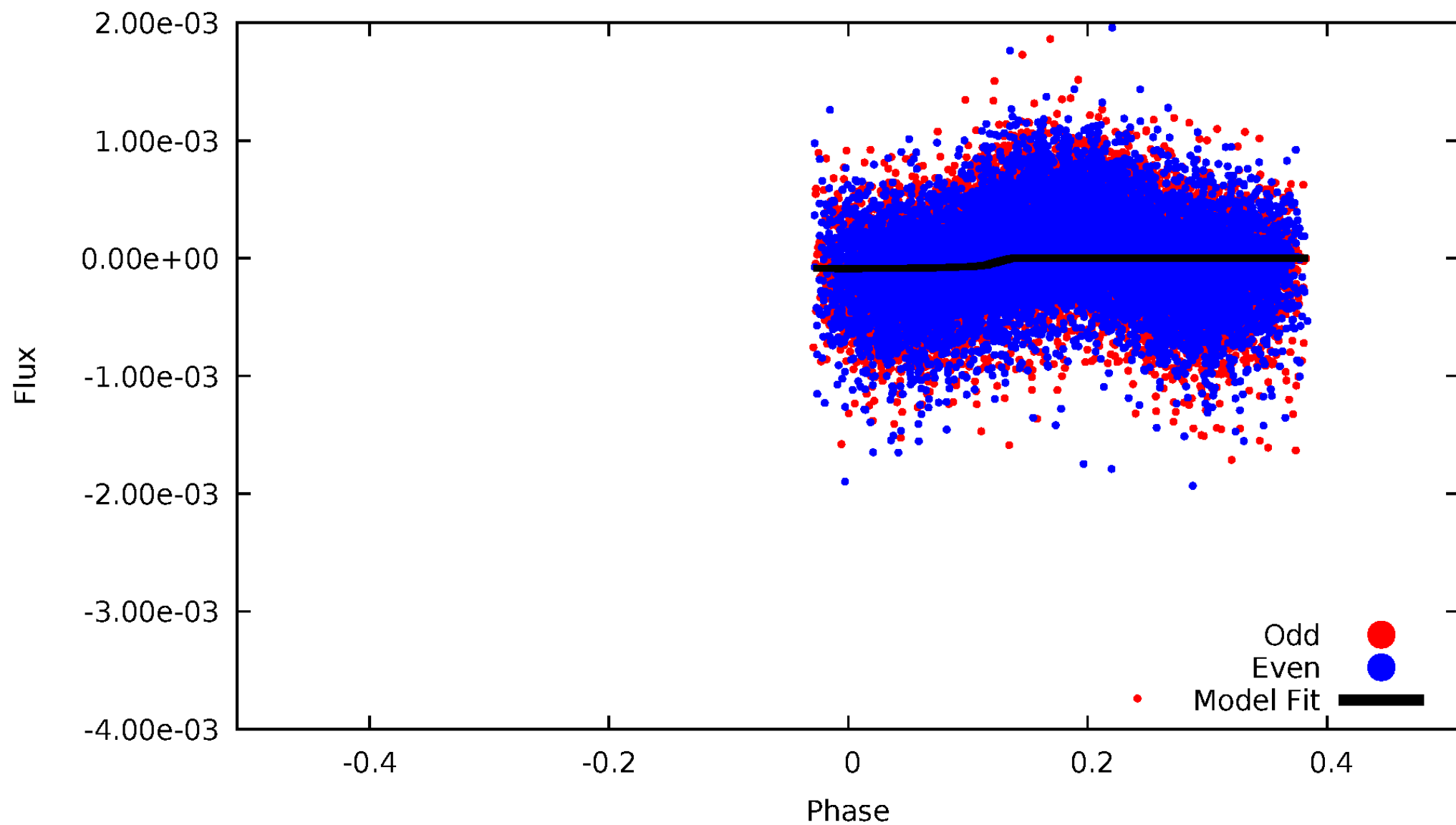


TCE 004920125-03



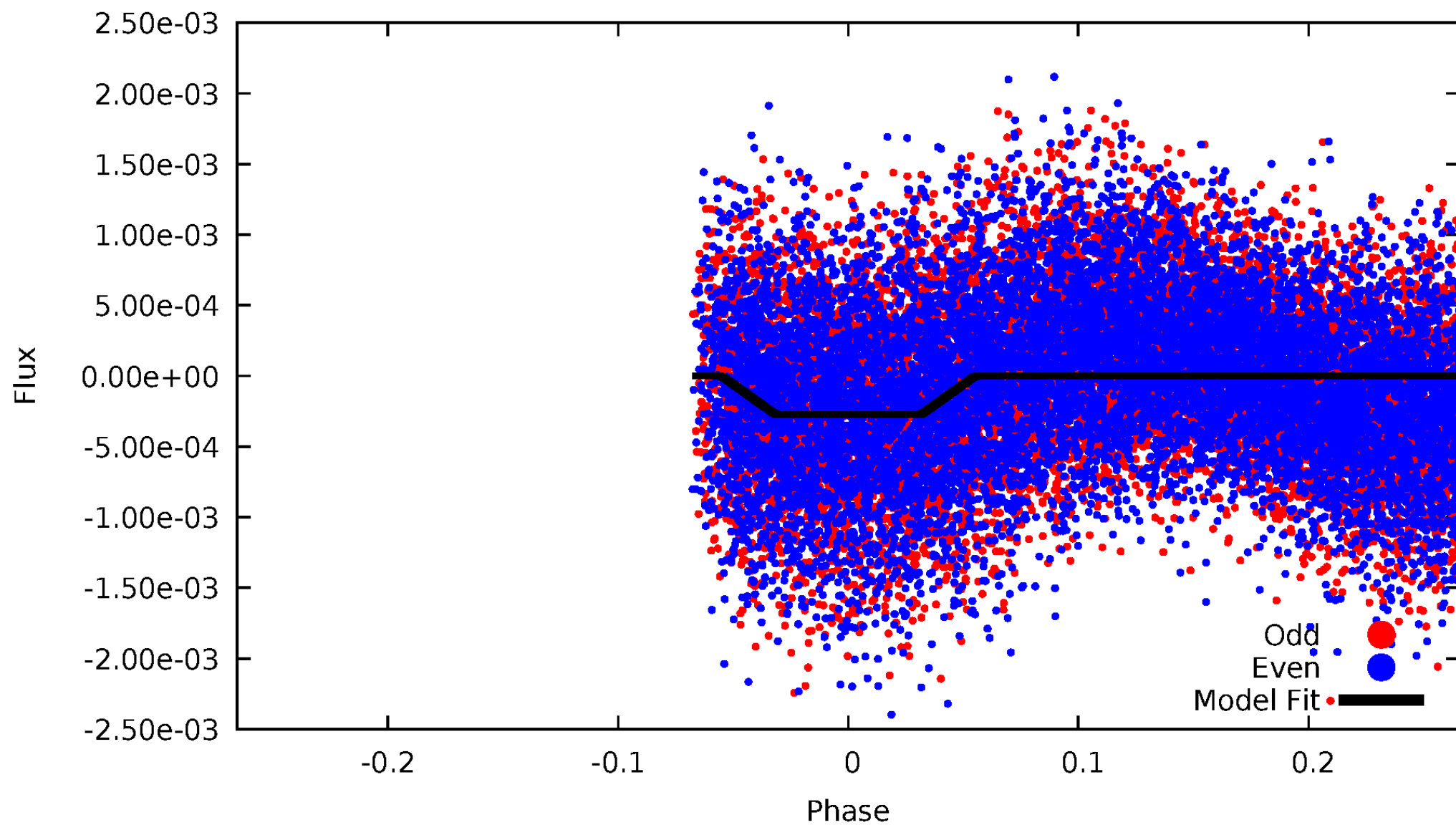
DV Odd/Even

TCE 004920125-03



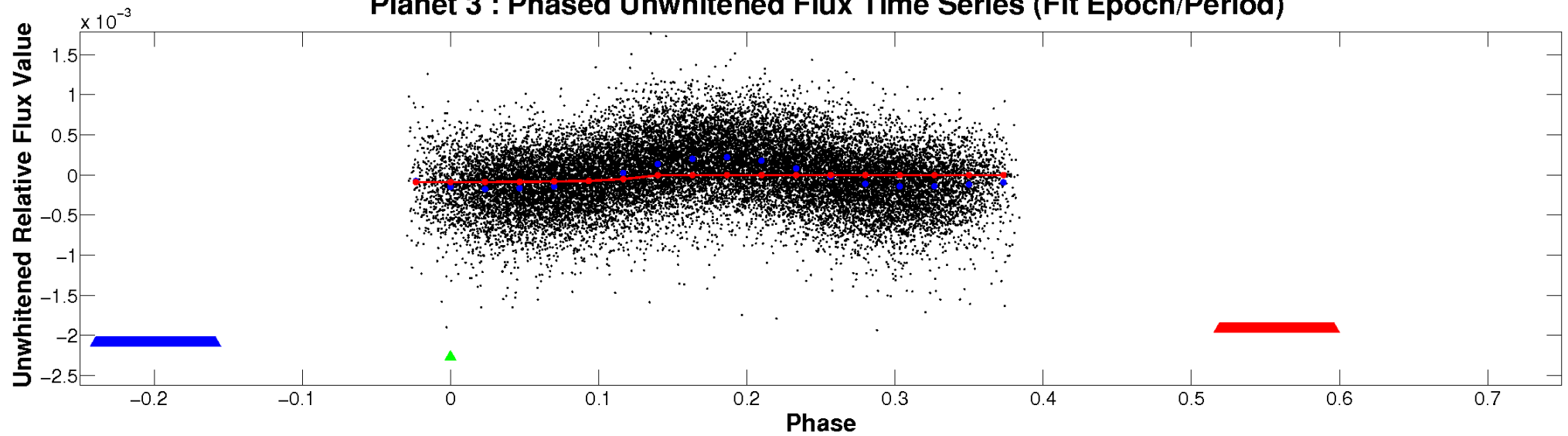
# ALT Odd/Even

TCE 004920125-03

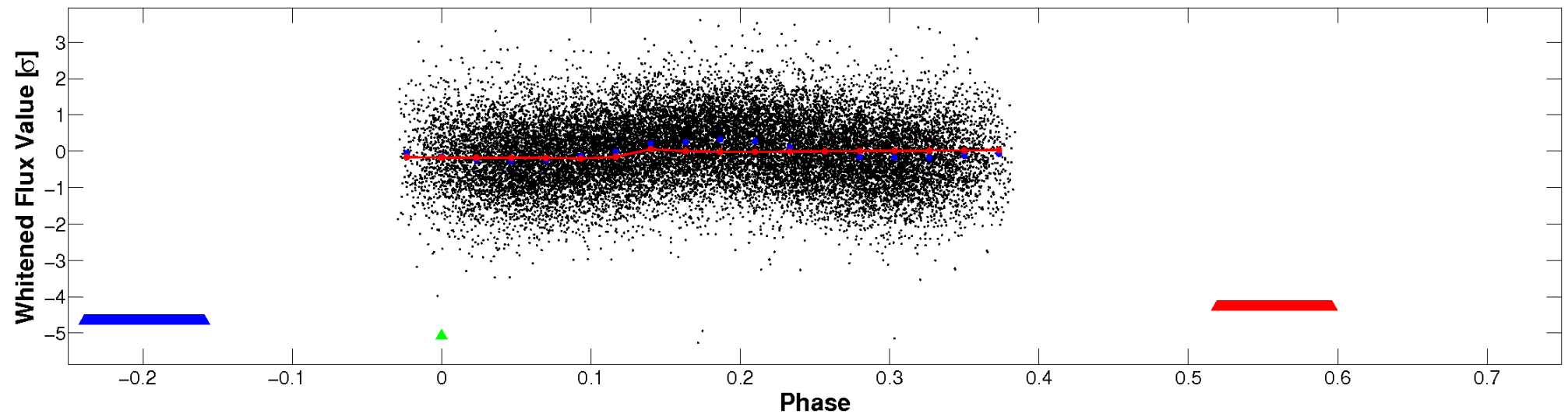


# Non-Whitened Vs. Whitened Light Curve

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



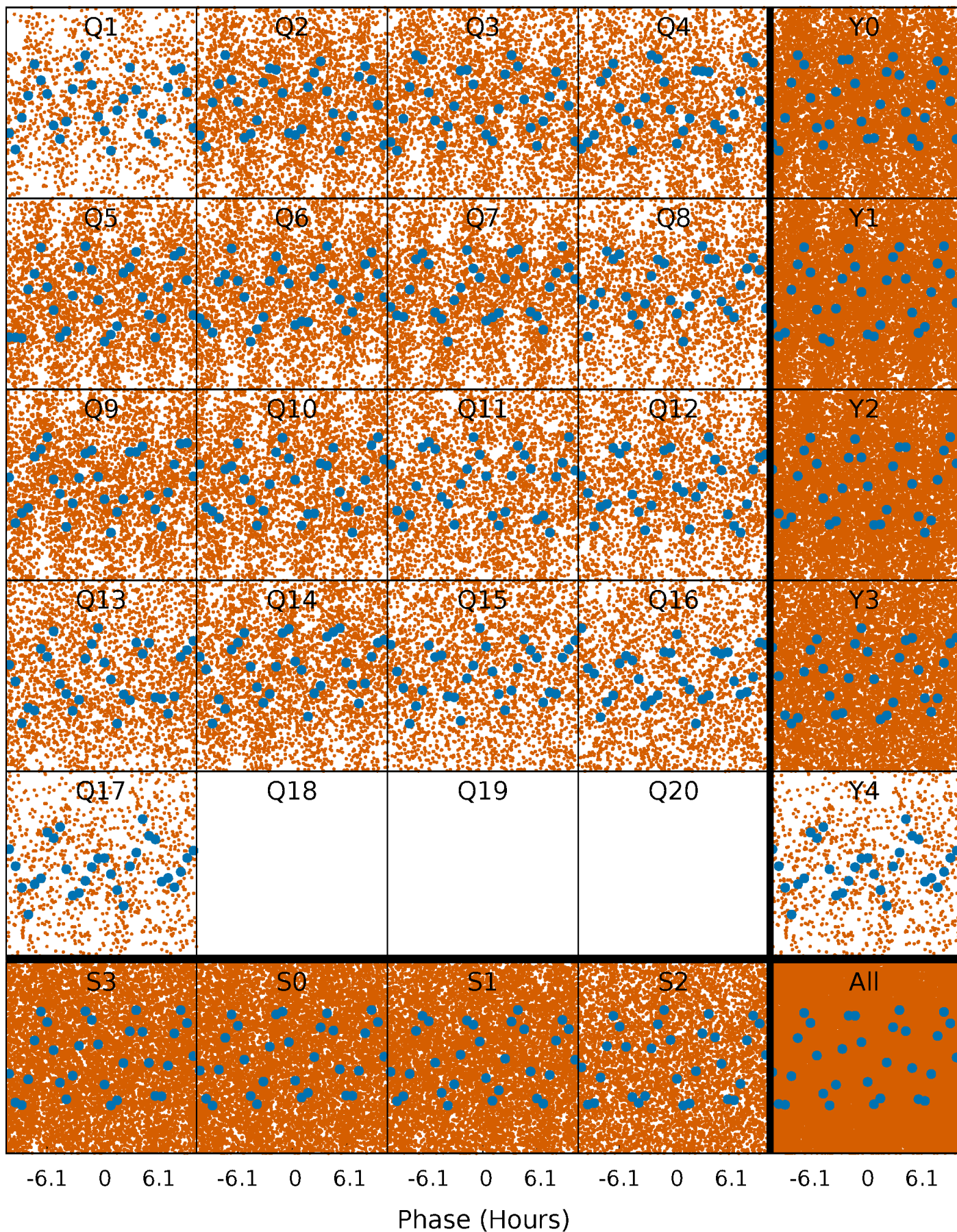
## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)





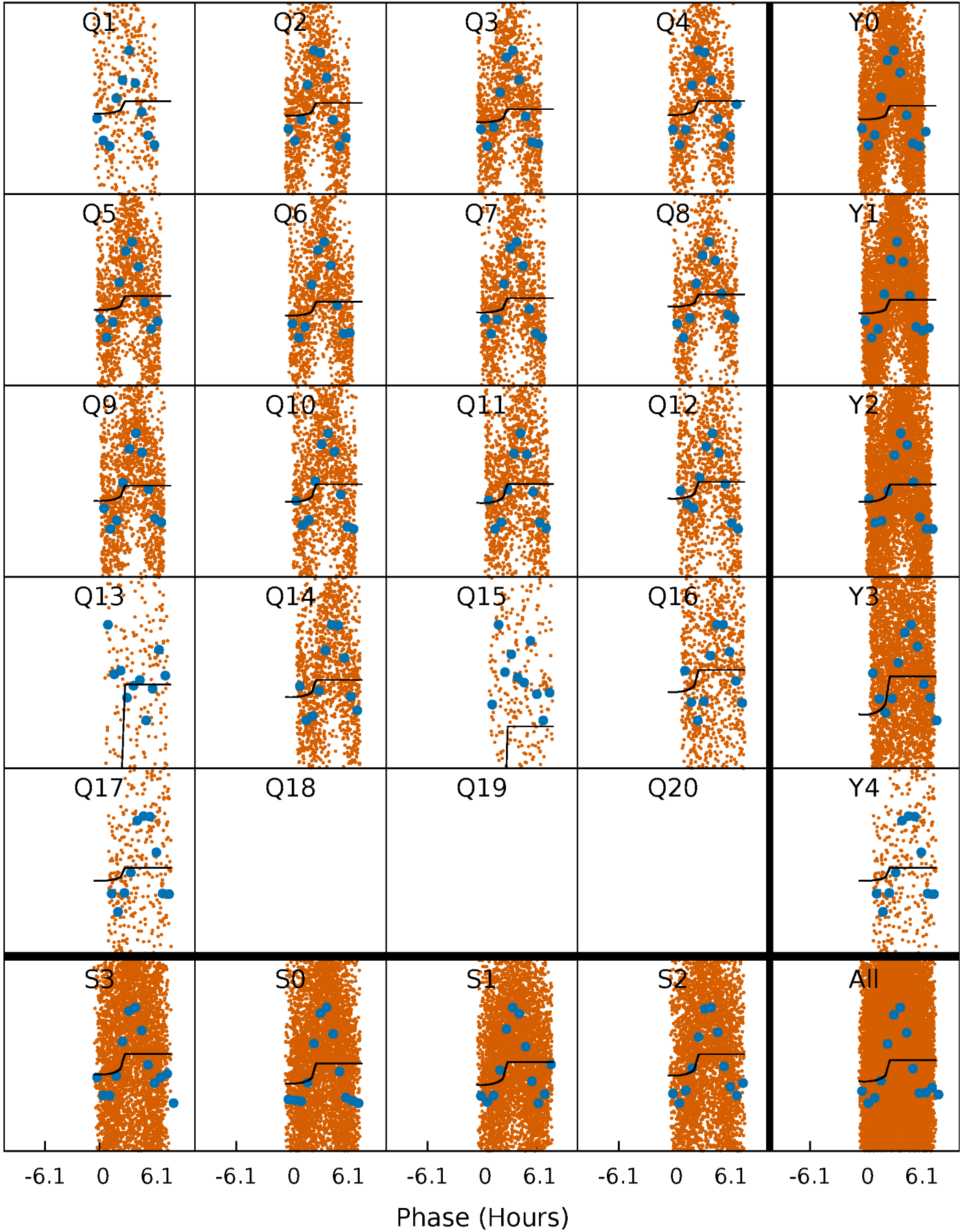
# PDC Quarter-Phased Transit Curves

TCE 004920125-03 P= 0.875887 Days  $T_0=132.108627$  (BKJD)



# DV Quarter-Phased Transit Curves

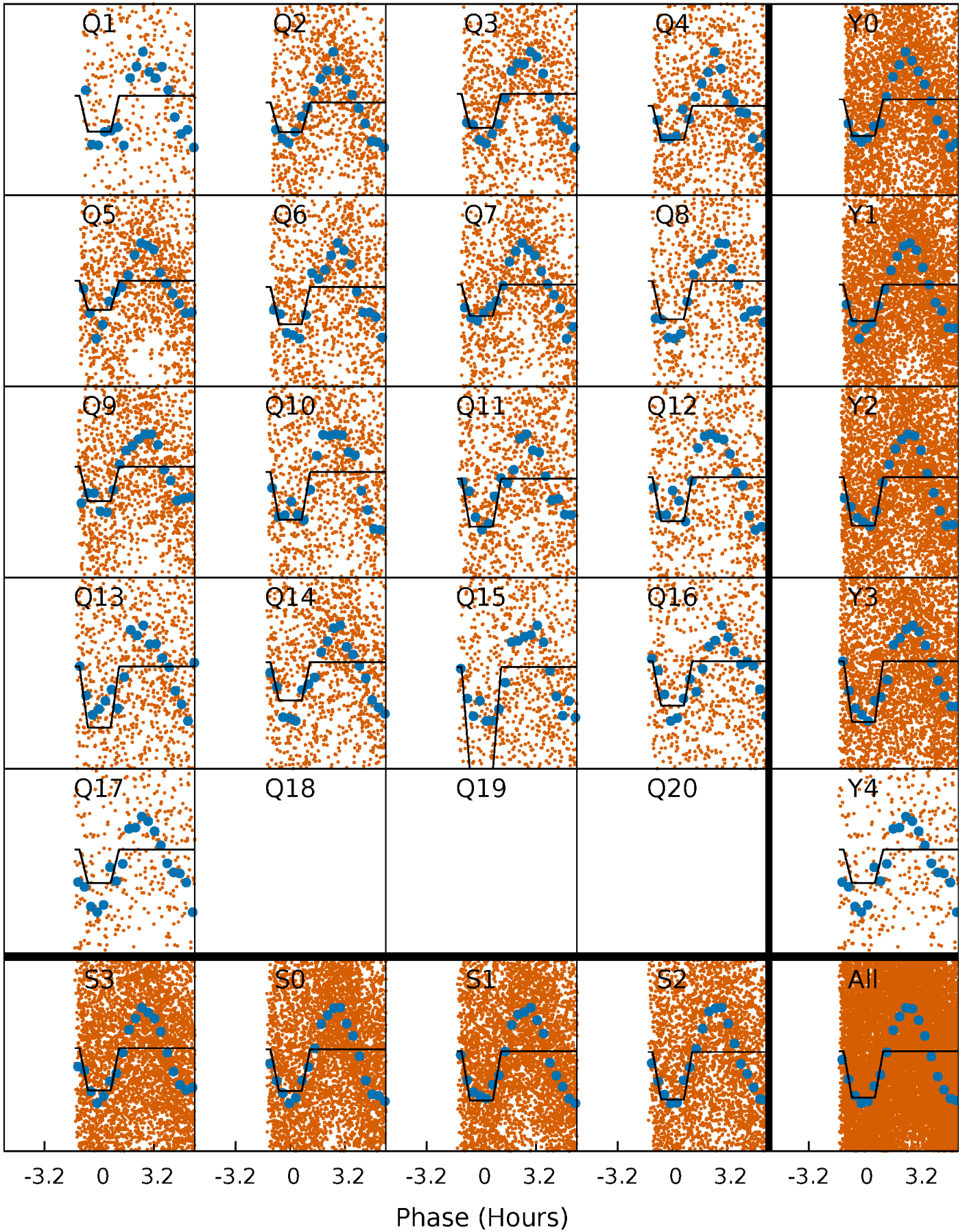
TCE 004920125-03   P= 0.875887 Days    $T_0=132.108627$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

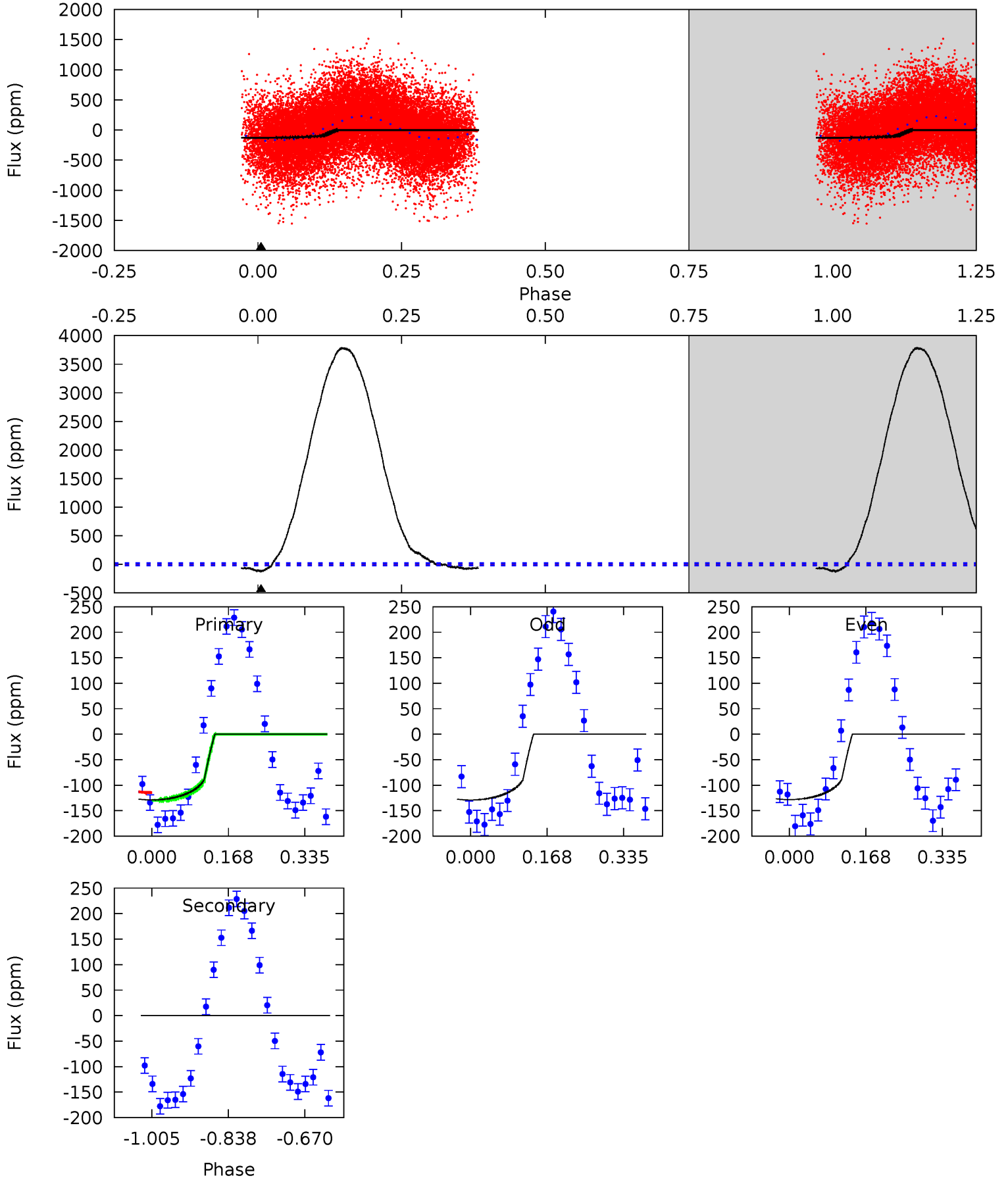
TCE 004920125-03 P= 0.875941 Days  $T_0=132.123314$  (BKJD)



# DV Model-Shift Uniqueness Test

004920125-03, P = 0.875887 Days, E = 131.232740 Days

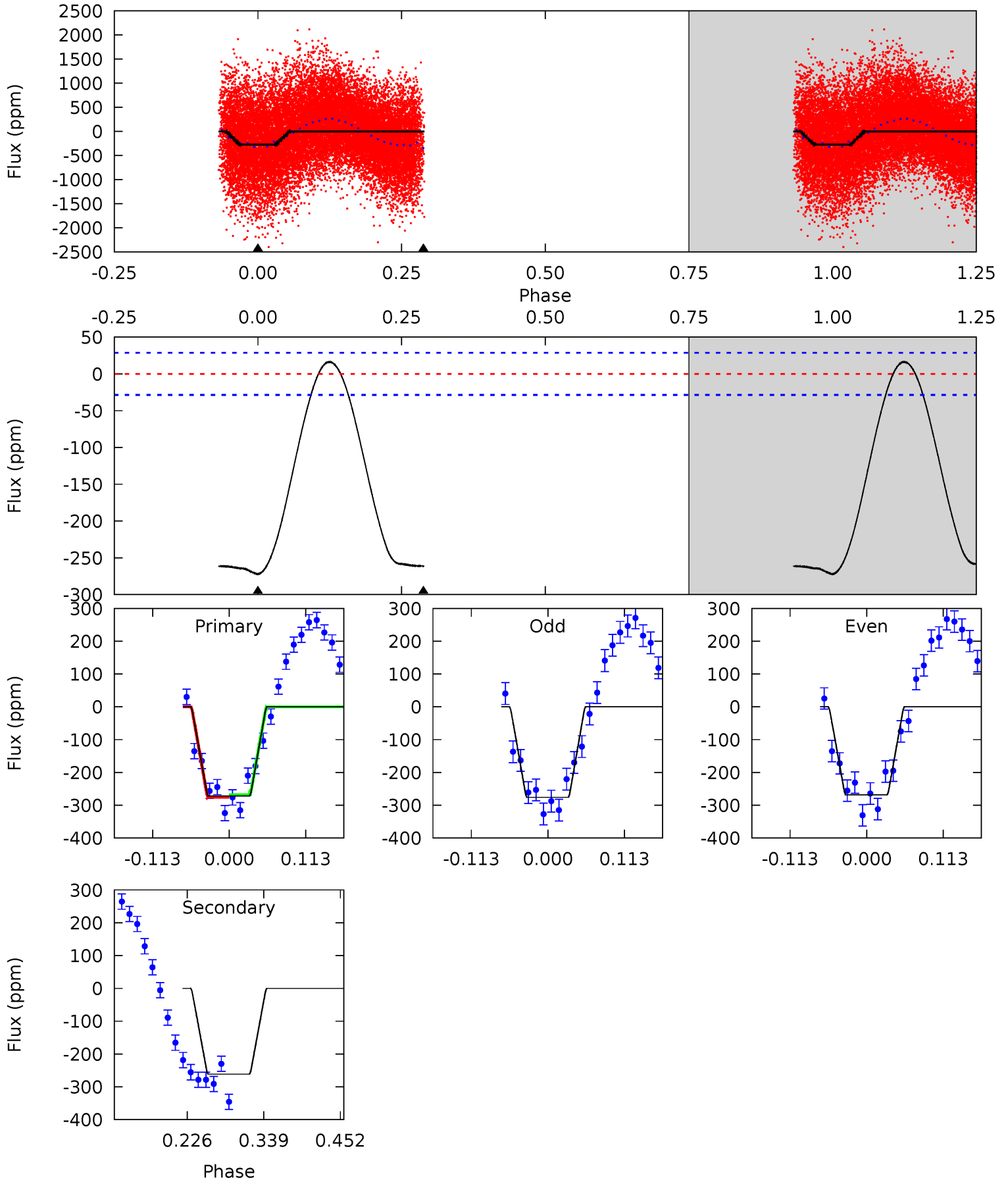
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.3	0	0	0	4.46	1.38	16.8	31.3	31.3	0	0	0.10	1.24	0.97	0.65



# Alt Model-Shift Uniqueness Test

004920125-03, P = 0.875941 Days, E = 131.247373 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
43.1	41.4	0	0	4.54	1.58	4.73	43.1	43.1	41.4	41.4	0.61	1.02	0.06	0.57





### Stellar Parameters For KIC 004920125

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7854^{+219}_{-329}$	$3.624^{+0.549}_{-0.061}$	$-0.280^{+0.200}_{-0.300}$	$3.590^{+0.612}_{-1.957}$	$1.980^{+0.162}_{-0.518}$	$0.060^{+0.355}_{-0.017}$
	+3%/-4%	+15%/-2%	+71%/-107%	+17%/-55%	+8%/-26%	+589%/-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 004920125-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 4$	$2.82^{+1.34}_{-1.21}$	$5784^{+451}_{-865}$	$-4764^{+909}_{-538}$	$-0.001^{+0.162}_{-0.185}$
Alt.	$-261 \pm 6$	$5.62^{+1.71}_{-1.66}$	$5782^{+474}_{-814}$	$7299^{+1249}_{-814}$	$2.243^{+2.258}_{-0.858}$

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

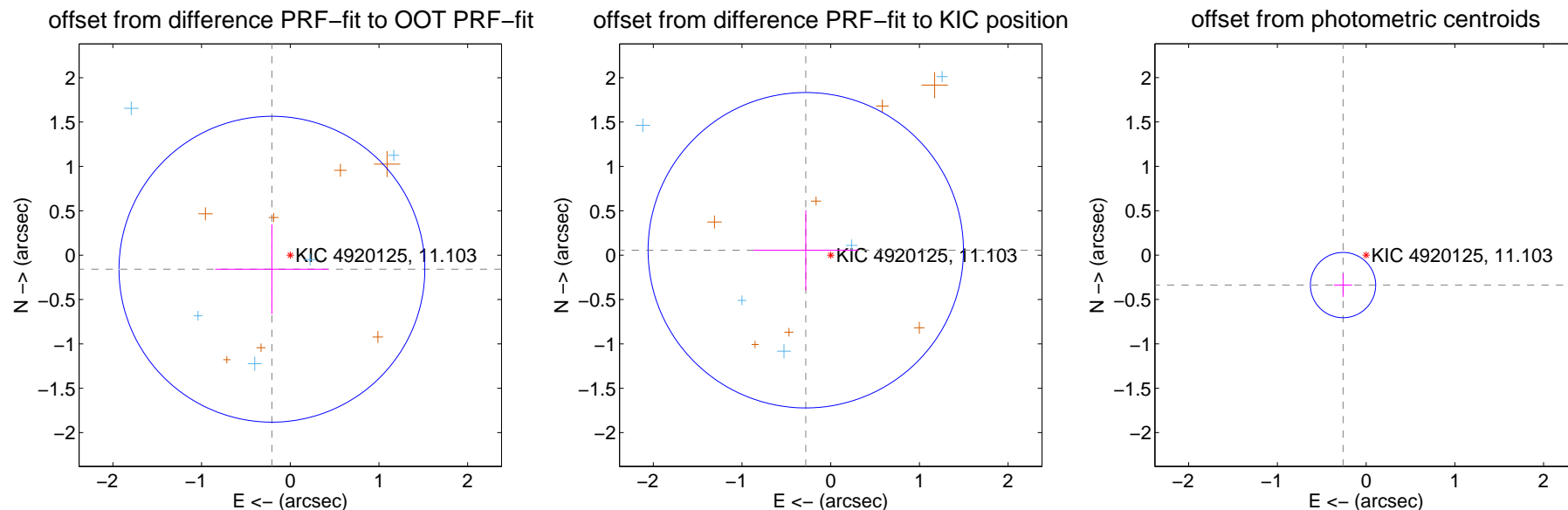
## DV Centroid Data

Supplemental centroid analysis for 004920125-03. **Kepler magnitude: 11.10.** Transit SNR 16.13

There are 5 quarters with good PRF difference image offsets

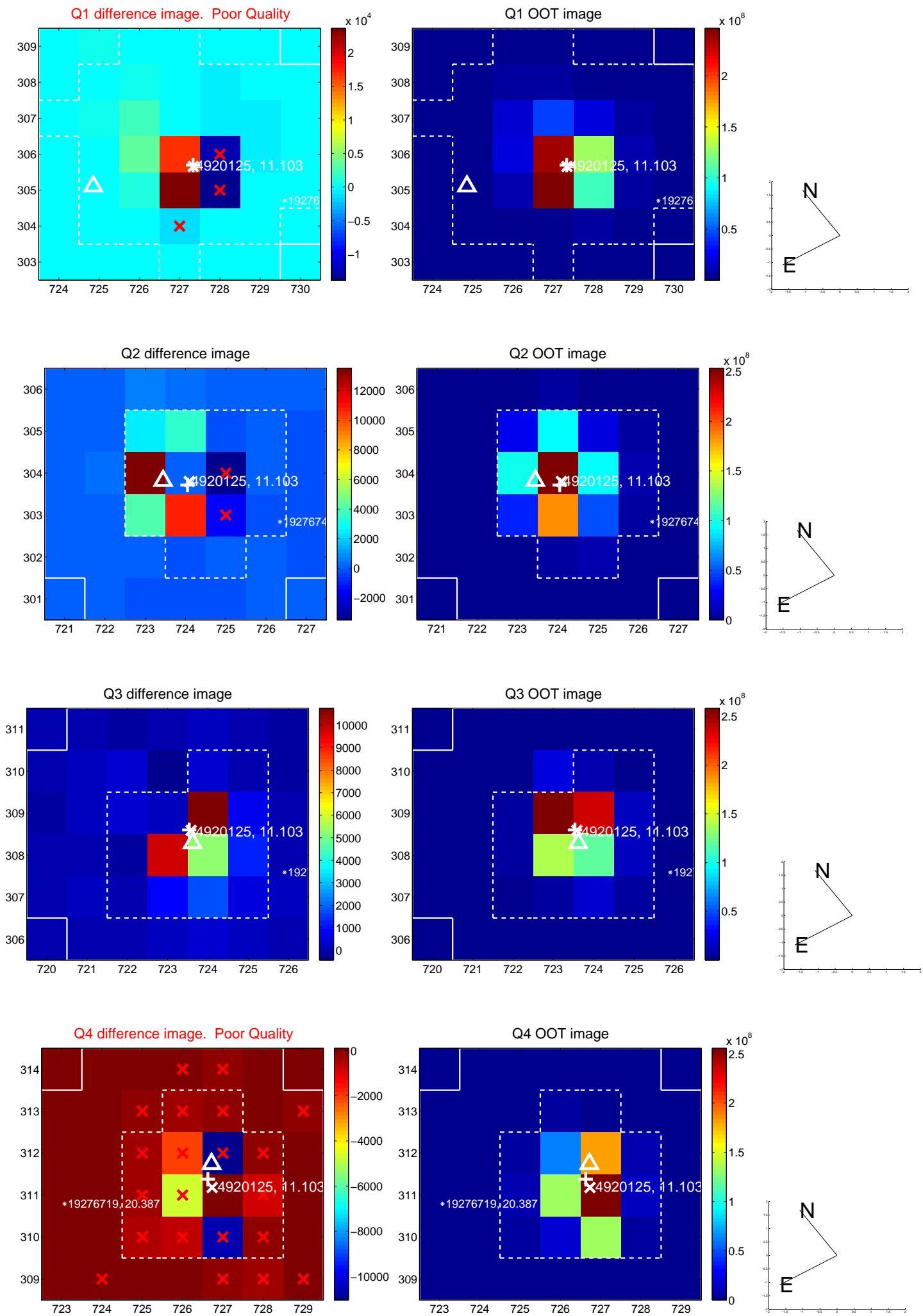
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.261 \pm 0.575$	0.45	$0.207 \pm 0.639$	$-0.159 \pm 0.505$
PRF-fit source offset from KIC position	$0.287 \pm 0.592$	0.48	$0.281 \pm 0.590$	$0.056 \pm 0.450$
photometric centroid source offset	<b><math>0.43 \pm 0.12</math></b>	<b>3.48</b>	$0.26 \pm 0.10$	$-0.34 \pm 0.13$

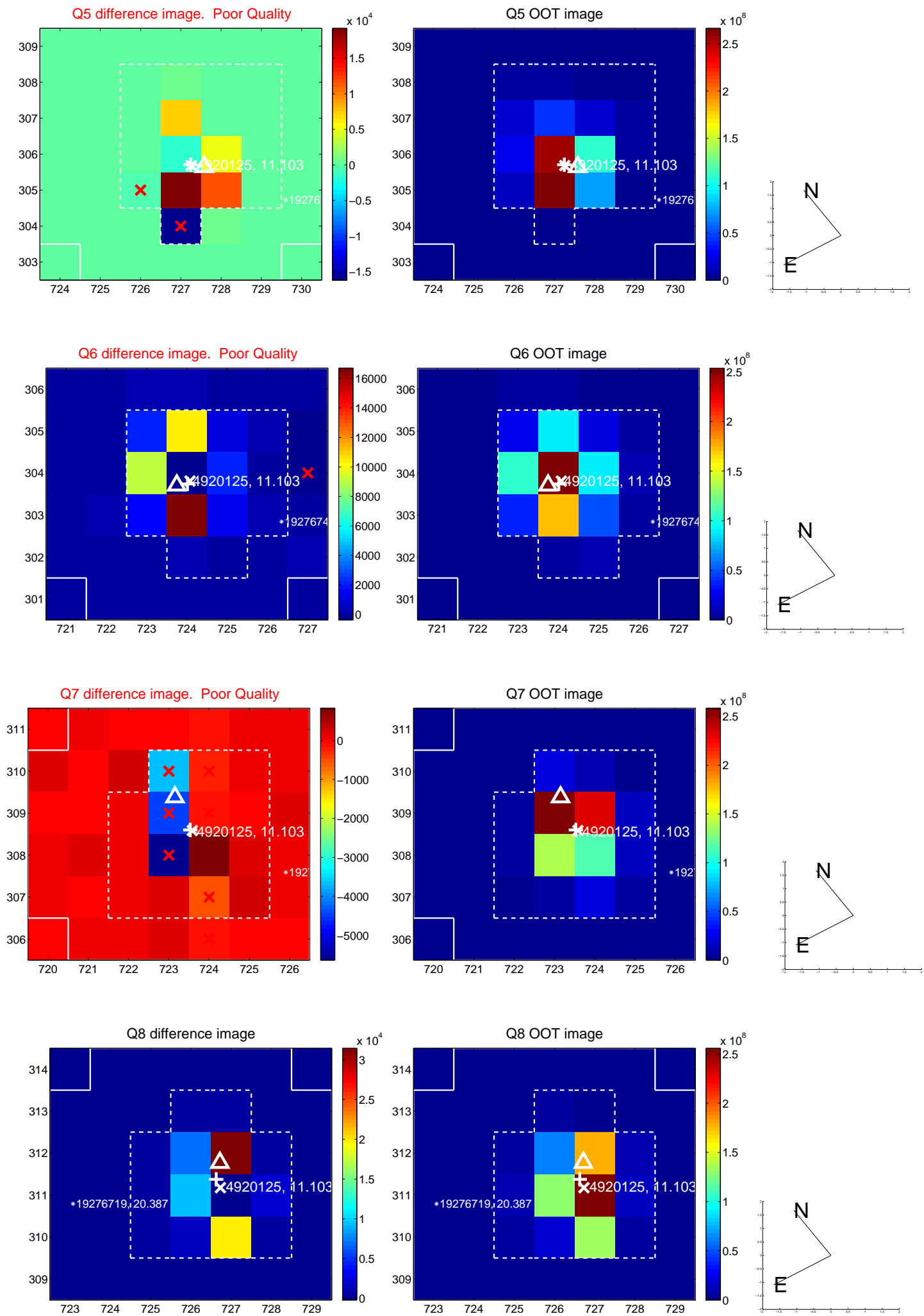


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

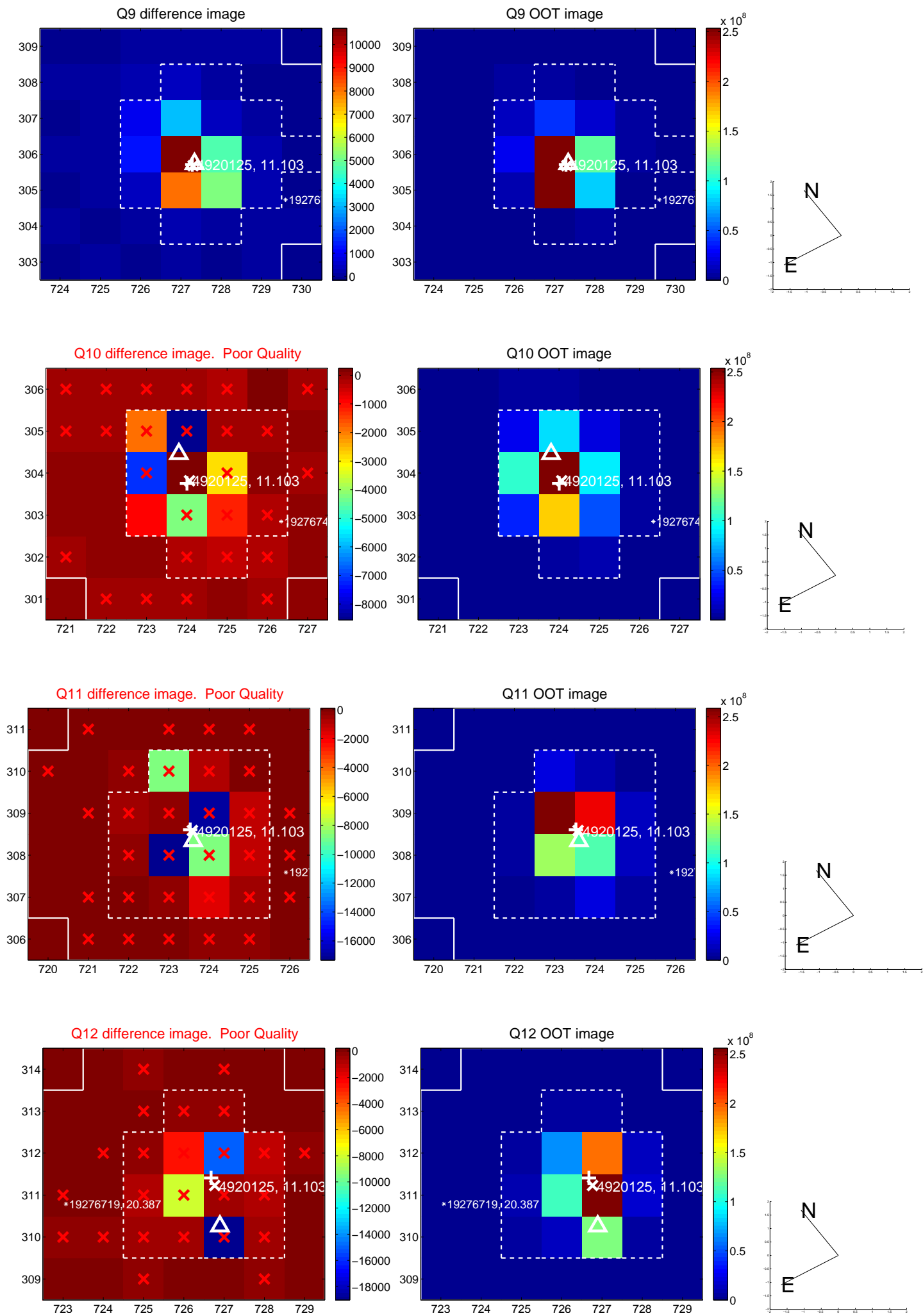
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

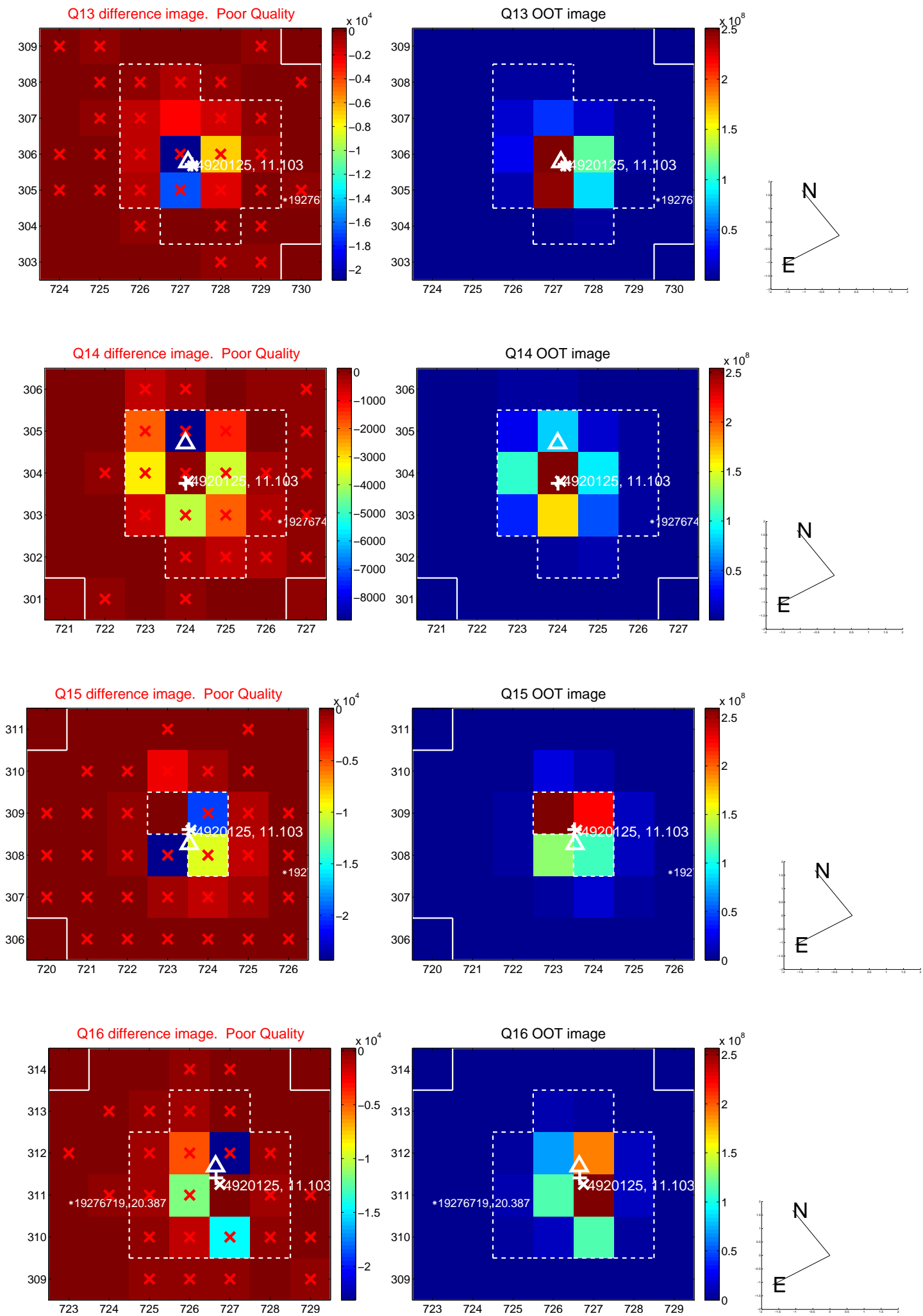


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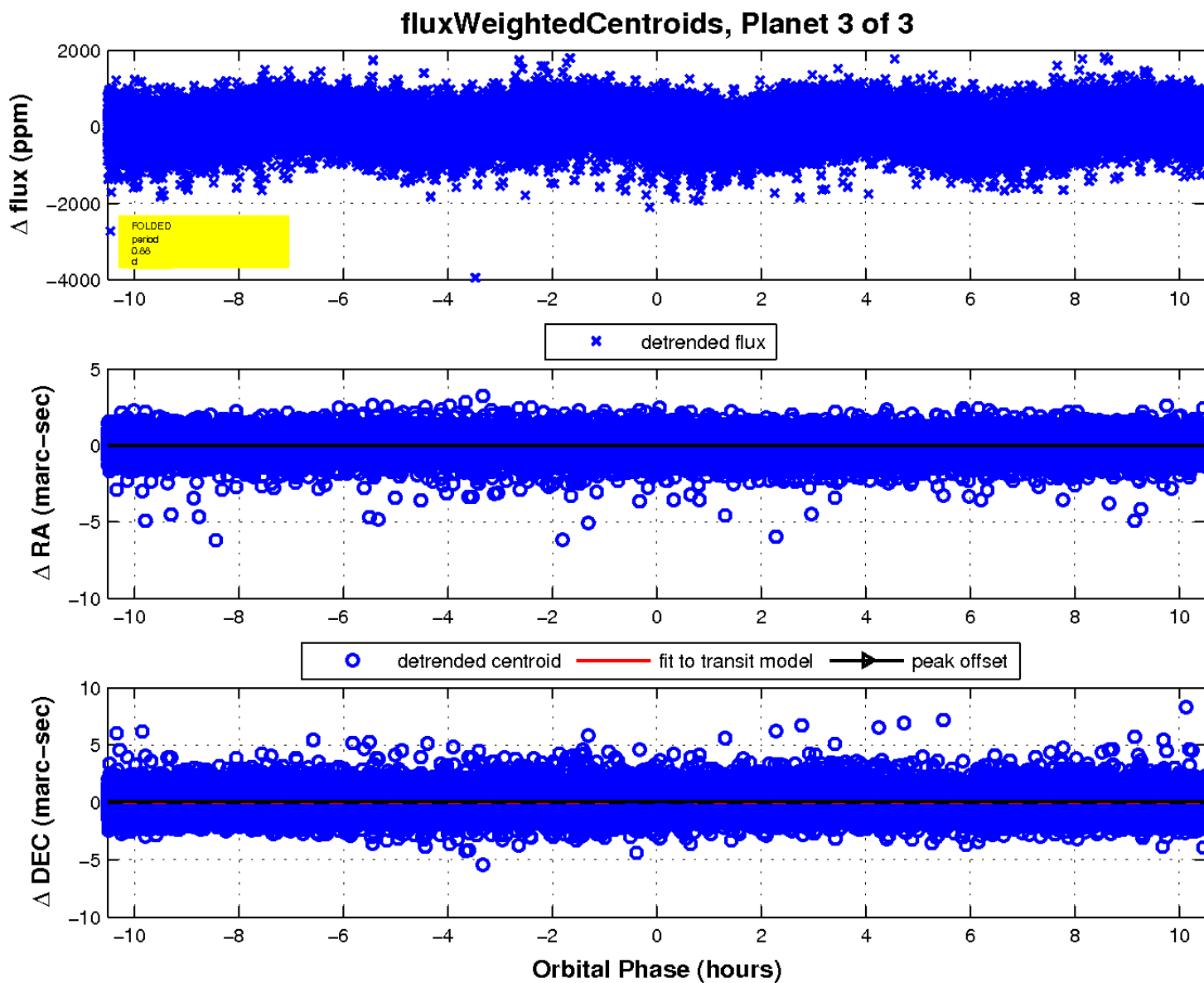
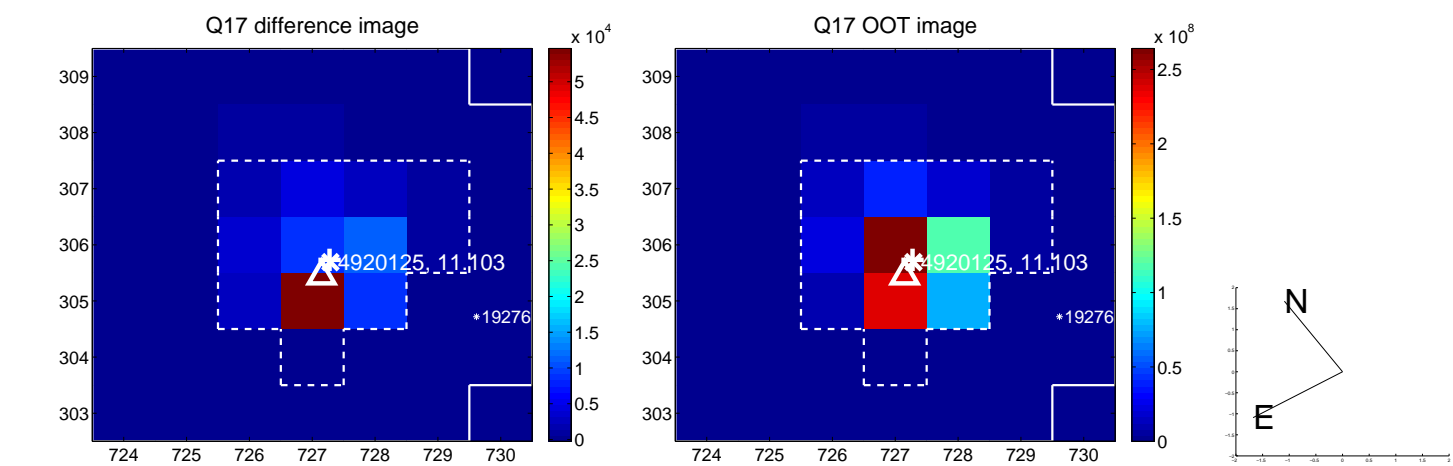




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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination

