

# KIC 011925968

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011925968-01	OBS	No	0.559074	131.919214	18.5	0.988	7.4	10.9	2.47	6461	1.25	46371.07
011925968-02	OBS	No	0.559082	131.638892	28.3	1.005	8.2	17.4	2.47	6461	1.54	46370.17

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011925968-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET
011925968-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_UNRESOLVED_OFFSET

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

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

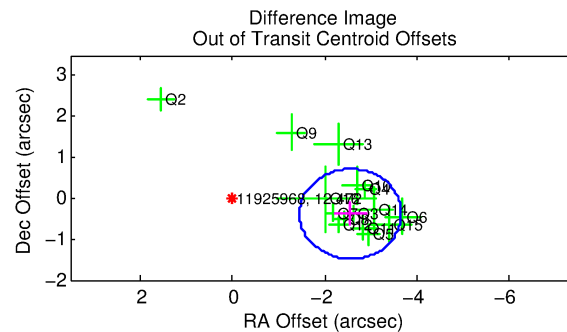
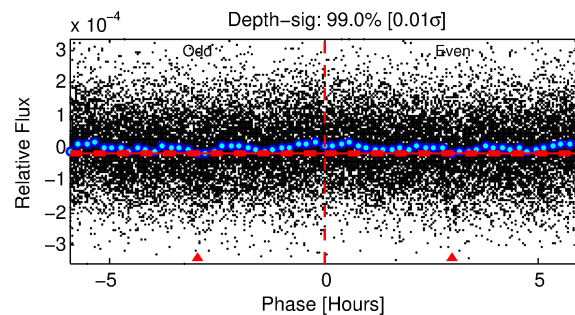
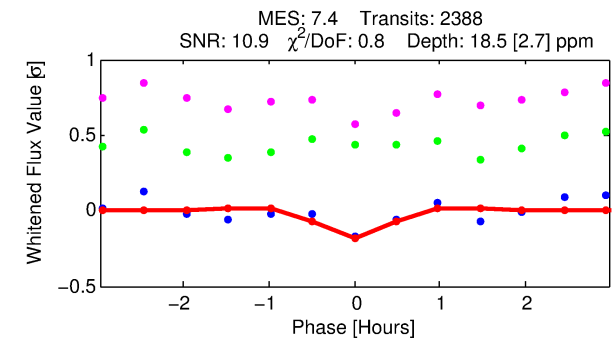
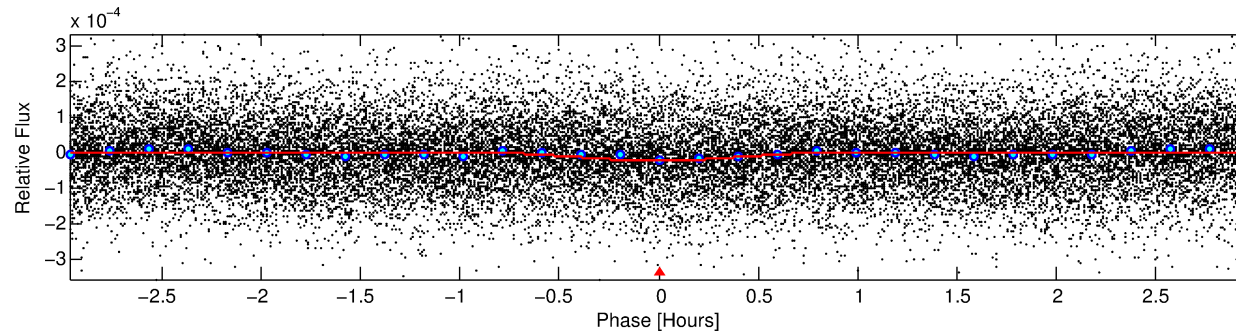
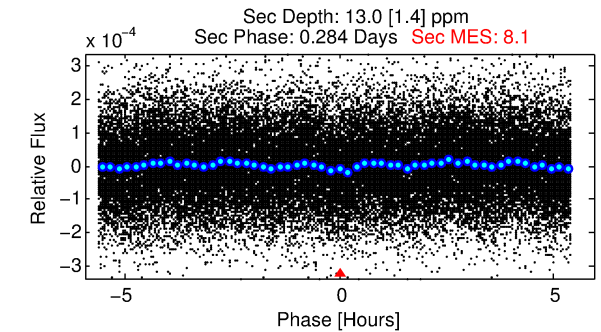
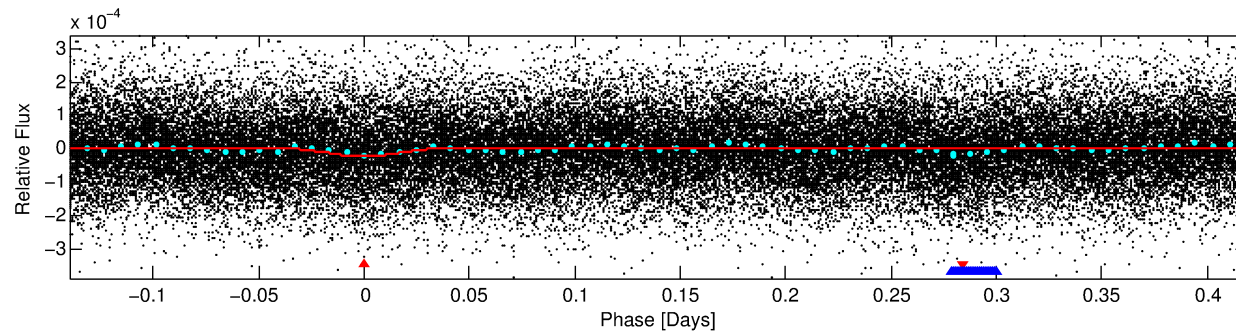
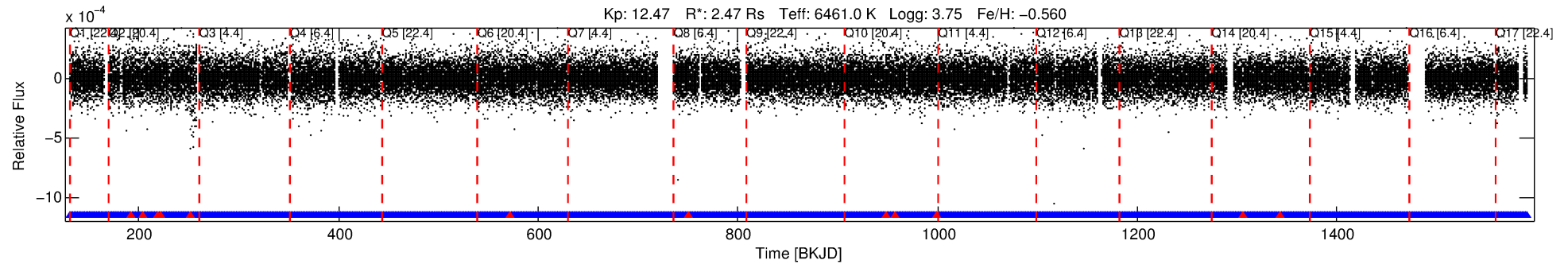
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011925968-01

No Significant Match Found

# DV One-Page Summary

KIC: 11925968 Candidate: 1 of 2 Period: 0.559 d



## DV Fit Results:

Period = 0.55907 [0.00001] d  
Epoch = 131.9192 [0.0016] BKJD  
Rp/R\* = 0.0046 [0.0009]  
a/R\* = 2.13 [1.70]  
b = 0.90 [0.21]  
Seff = 46371.07 [26700.43]  
Teff = 3742 [539] K  
Rp = 1.25 [0.49] Re  
a = 0.0143 [0.0050] AU  
Ag = 0.94 [0.64] [-0.10σ]  
Teffp = 5693 [576] K [2.48σ]

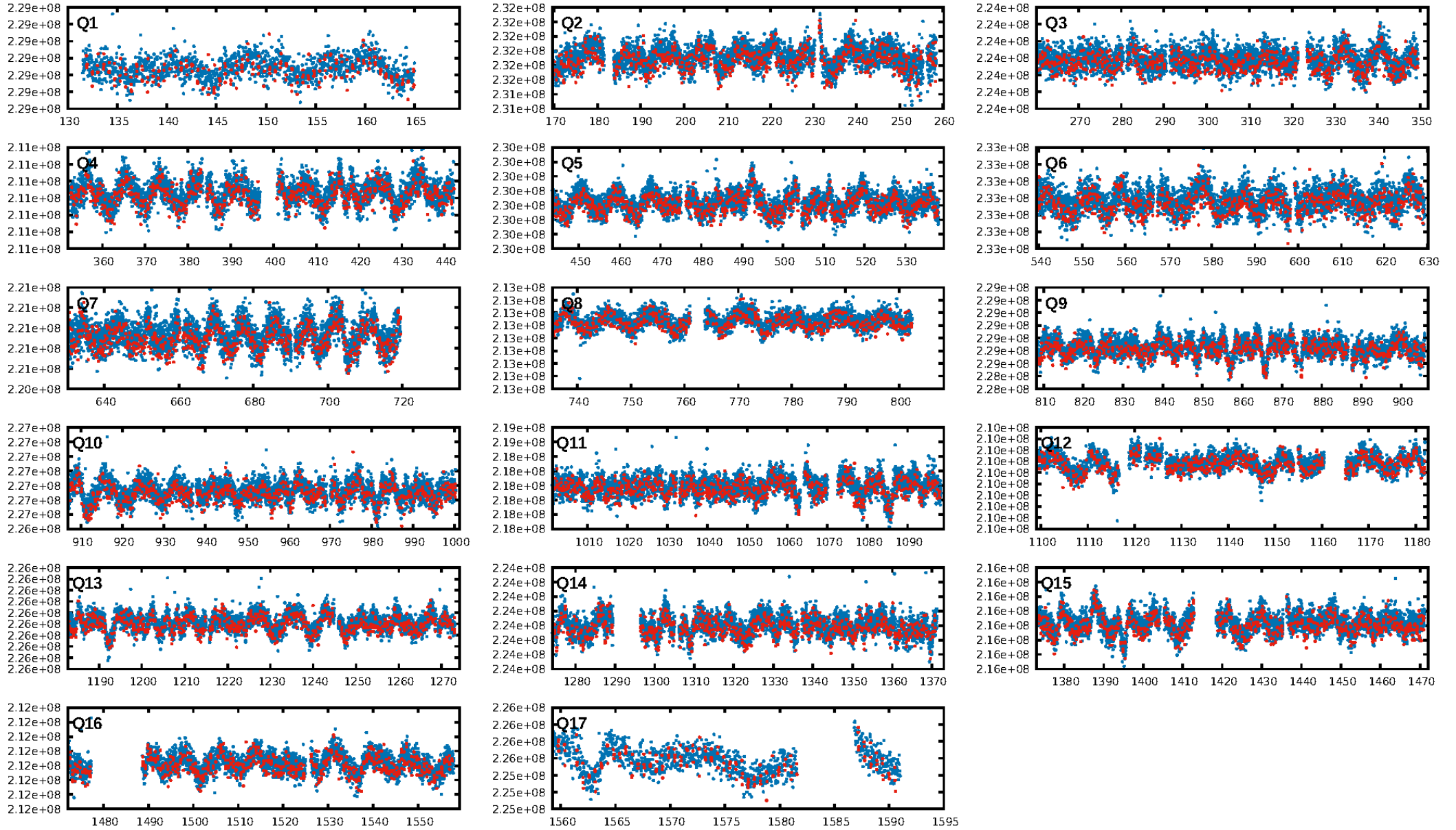
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 8.90e-15  
RollingBand-fgt: 0.99 [2269/2281]  
GhostDiagnostic-chr: 0.6426  
Centroid-sig: 0.0%  
Centroid-so: 6.147 arcsec [5.43σ]  
OotOffset-rm: 2.584 arcsec [7.04σ]  
KicOffset-rm: 2.749 arcsec [8.38σ]  
OotOffset-st: 4/4/4/3 [15]  
KicOffset-st: 4/4/4/3 [15]  
DiffImageQuality-fgm: 0.93 [14/15]  
DiffImageOverlap-fno: 1.00 [17/17]

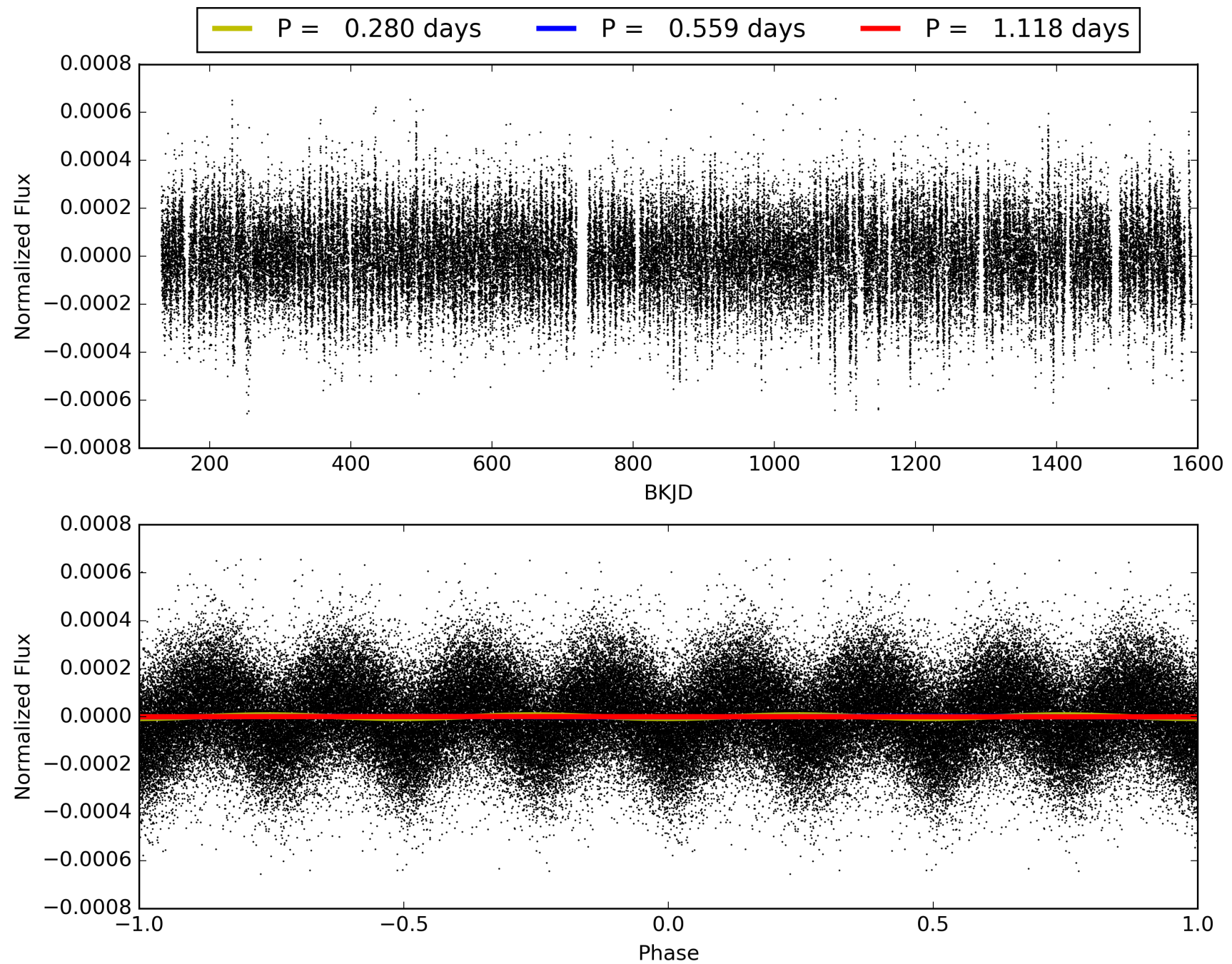
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:12:35 Z

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

# TCE 011925968-01, PDC Light Curves



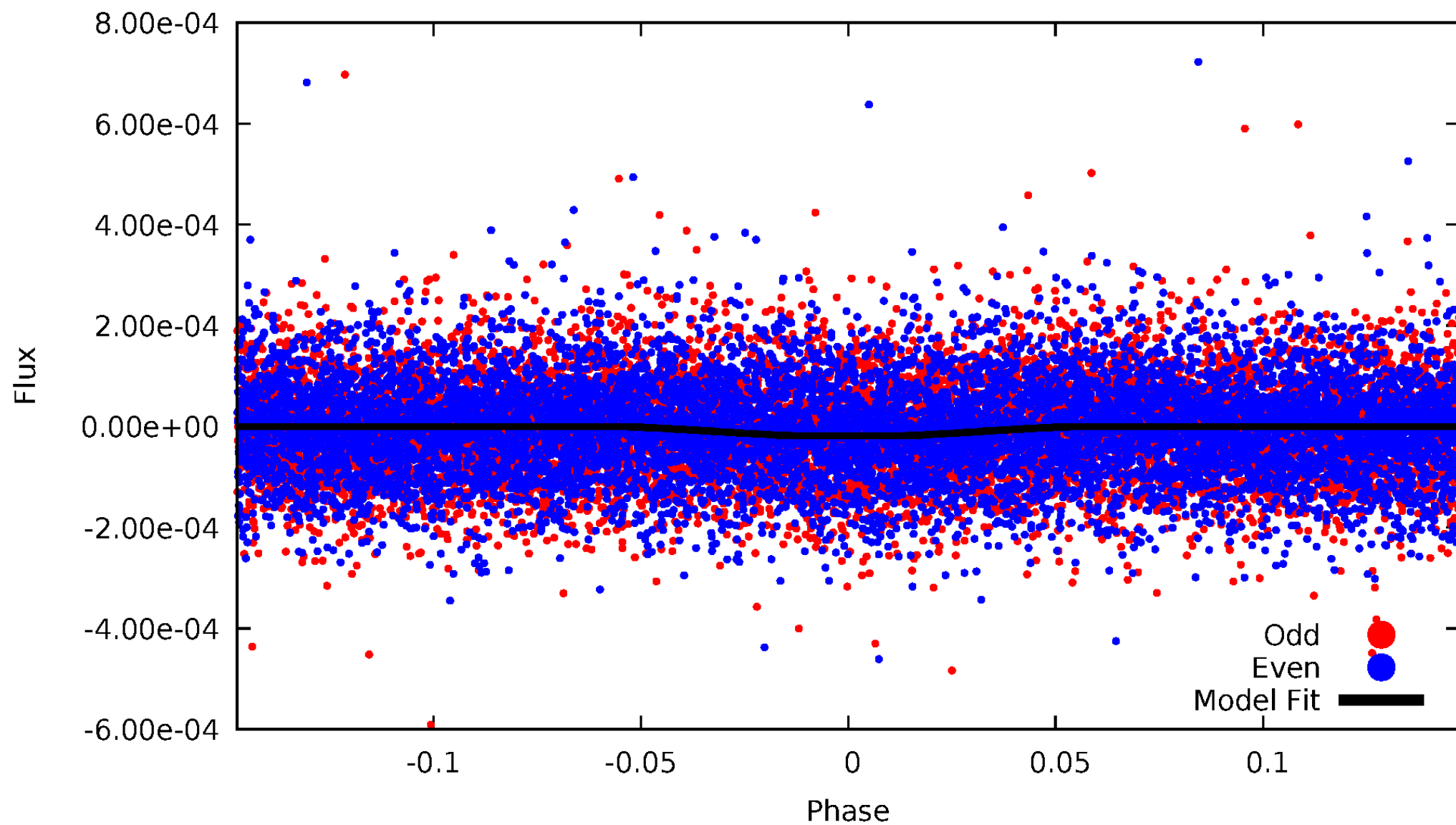
# TCE 011925968-01





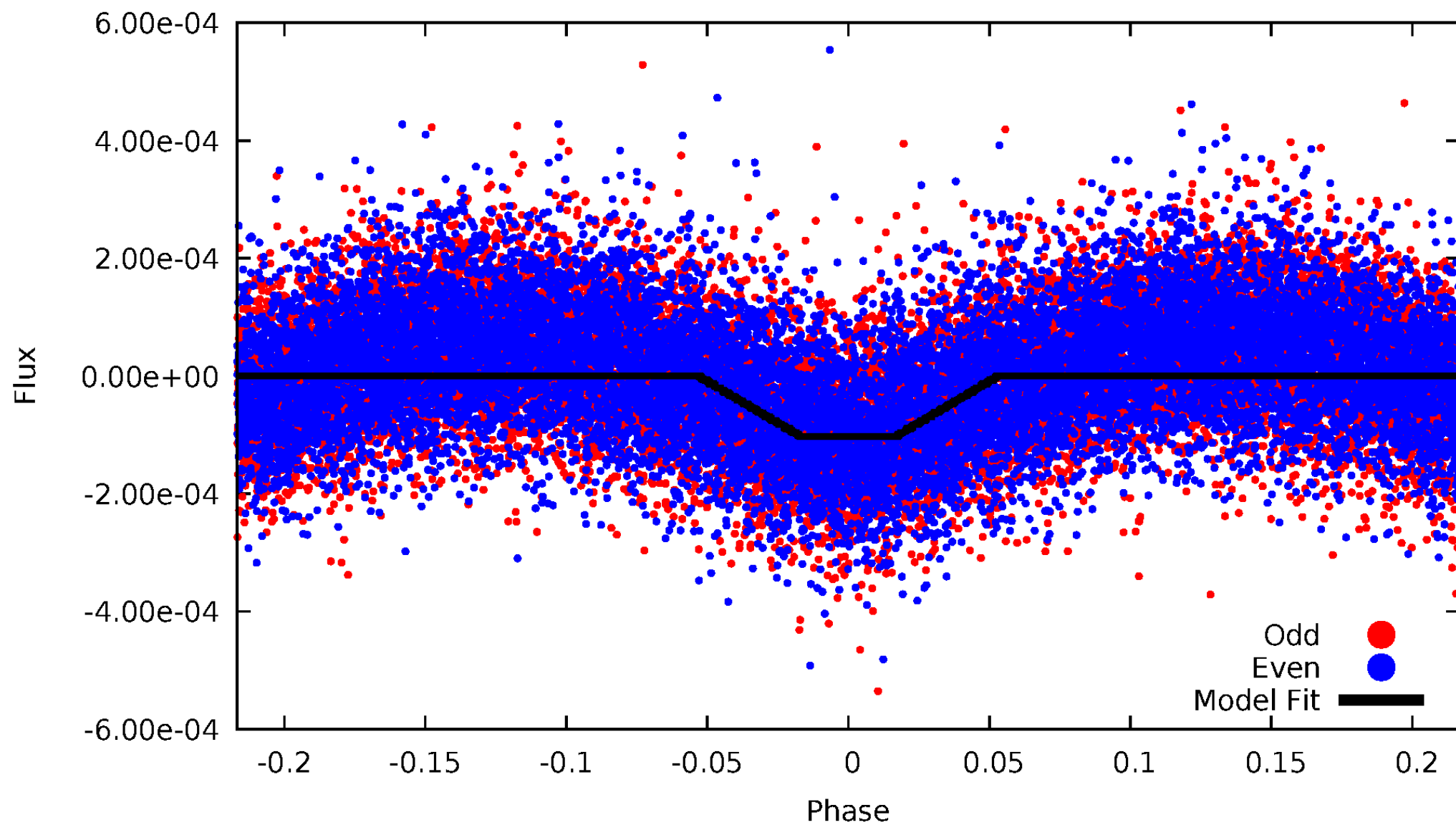
# DV Odd/Even

TCE 011925968-01



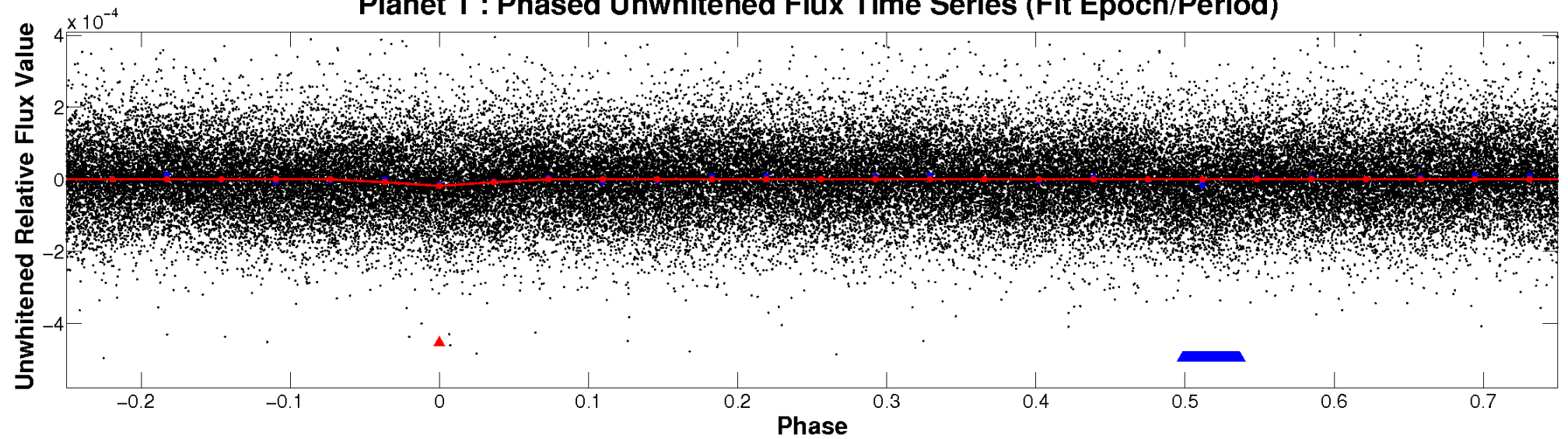
# ALT Odd/Even

TCE 011925968-01

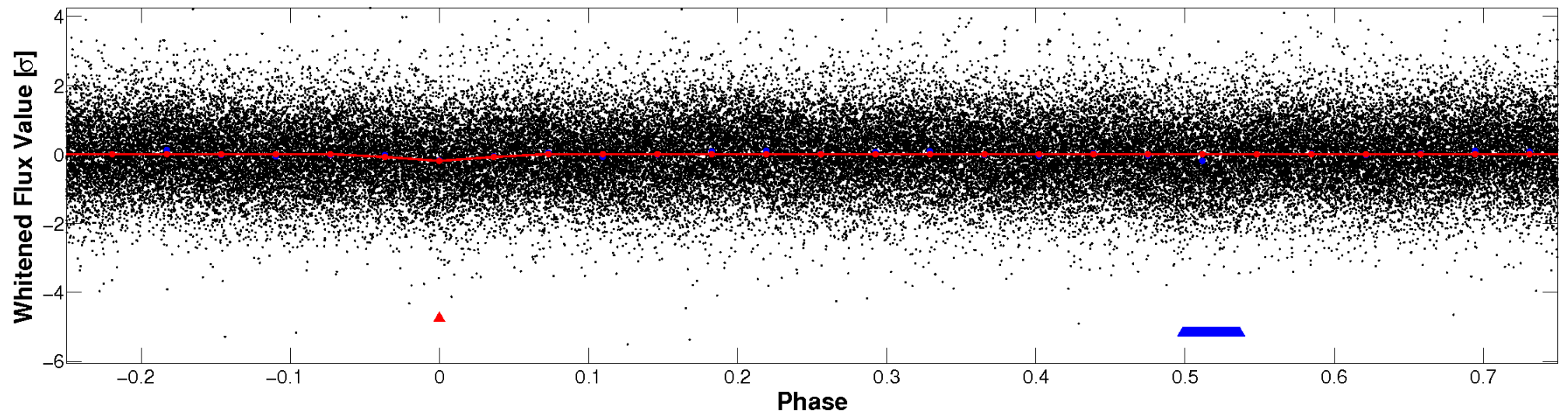


# Non-Whitened Vs. Whitened Light Curve

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

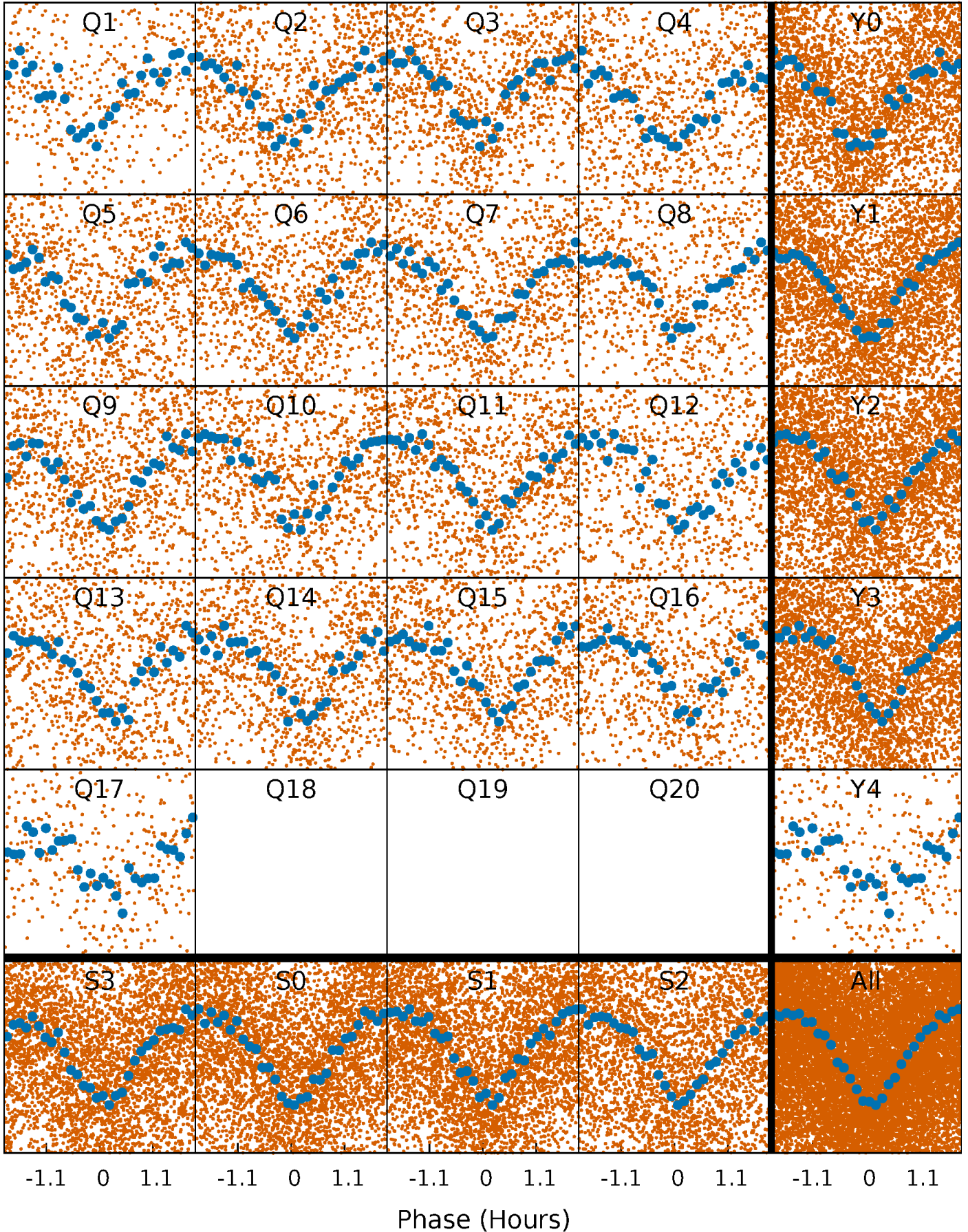


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

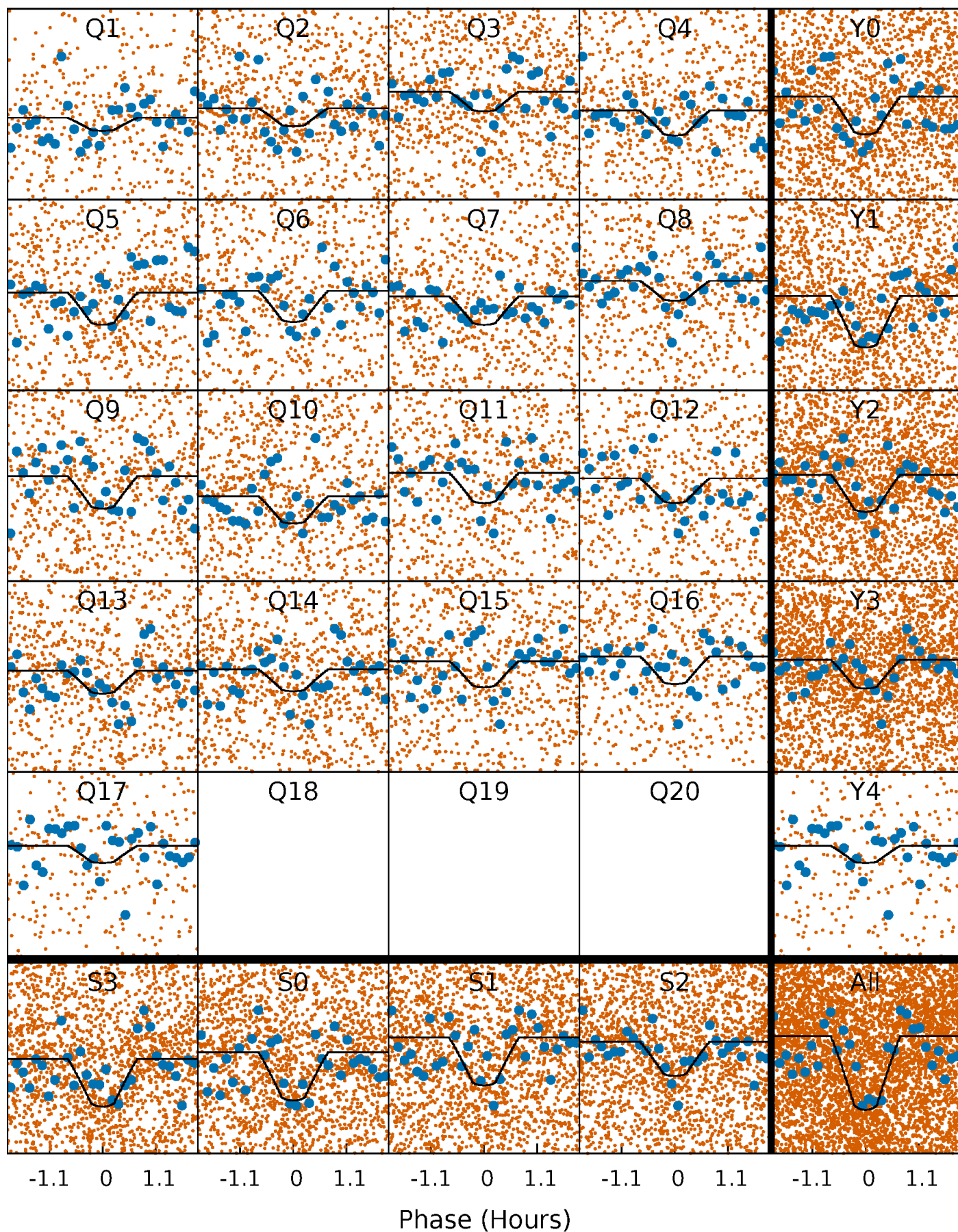
TCE 011925968-01 P= 0.559074 Days  $T_0=131.919214$  (BKJD)





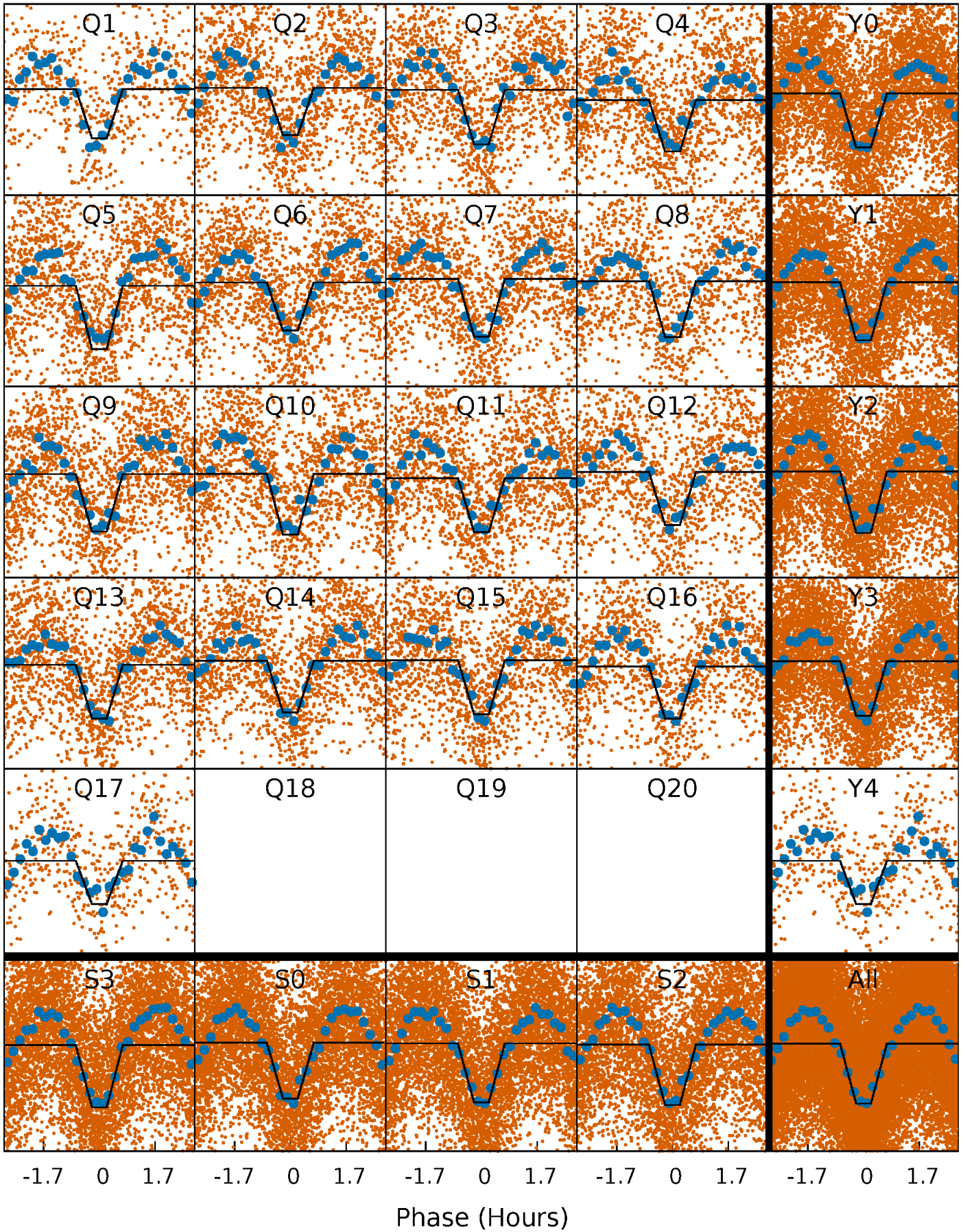
# DV Quarter-Phased Transit Curves

TCE 011925968-01 P= 0.559074 Days  $T_0=131.919214$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 011925968-01 P= 0.559081 Days  $T_0=131.914801$  (BKJD)

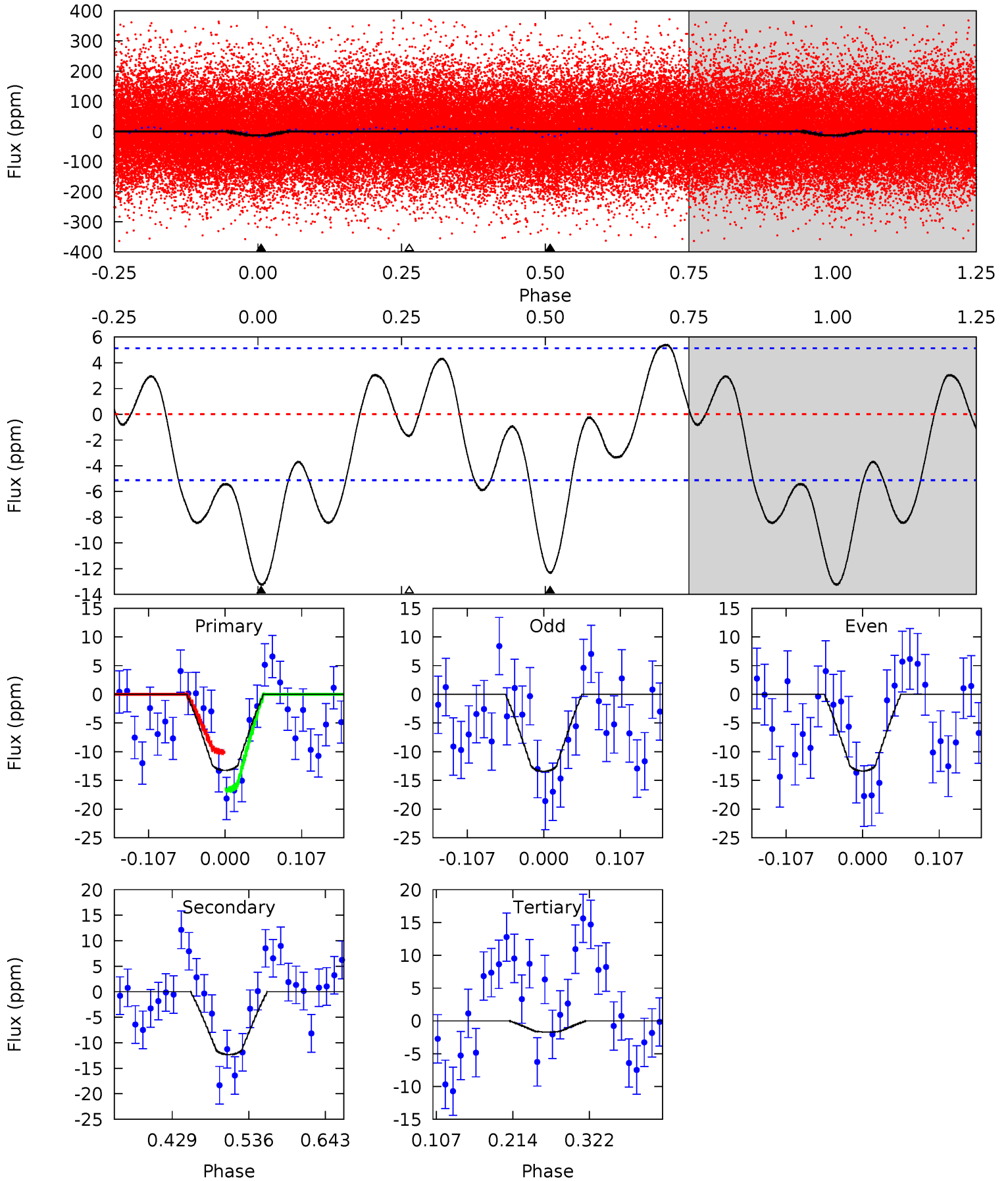




# DV Model-Shift Uniqueness Test

011925968-01, P = 0.559074 Days, E = 131.360140 Days

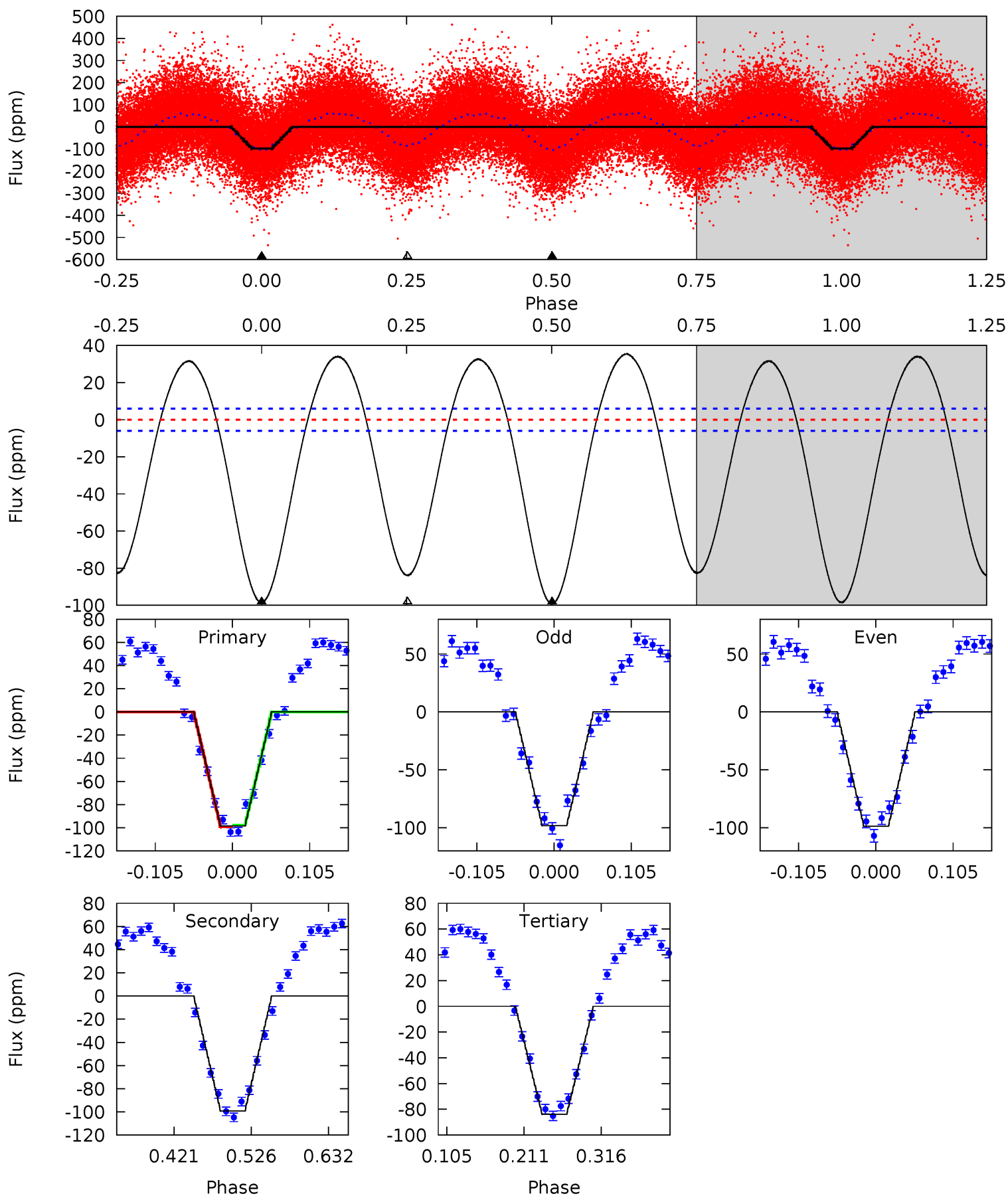
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	10.9	1.51	0	4.55	1.61	3.43	10.3	11.8	9.43	10.9	0.03	0.84	0.29	2.95



# Alt Model-Shift Uniqueness Test

011925968-01, P = 0.559081 Days, E = 131.355720 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
74.4	74.9	63.4	0	4.55	1.62	31.8	11.0	74.4	11.5	74.9	0.21	1.00	0.26	0.42





### Stellar Parameters For KIC 011925968

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6461^{+177}_{-177}$	$3.751^{+0.336}_{-0.105}$	$-0.560^{+0.350}_{-0.300}$	$2.467^{+0.395}_{-0.856}$	$1.250^{+0.217}_{-0.241}$	$0.117^{+0.286}_{-0.037}$
	+3%/-3%	+9%/-3%	+62%/-54%	+16%/-35%	+17%/-19%	+244%/-32%
Source	PHO1	FLK73	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 011925968-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-12 \pm 1$	$1.19^{+0.29}_{-0.26}$	$5107^{+336}_{-422}$	$5147^{+667}_{-594}$	$0.986^{+0.652}_{-0.360}$
Alt.	$-99 \pm 1$	$2.63^{+0.45}_{-0.51}$	$5159^{+291}_{-507}$	$6099^{+376}_{-355}$	$1.629^{+0.717}_{-0.382}$

$T_{\text{max}}$  = 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

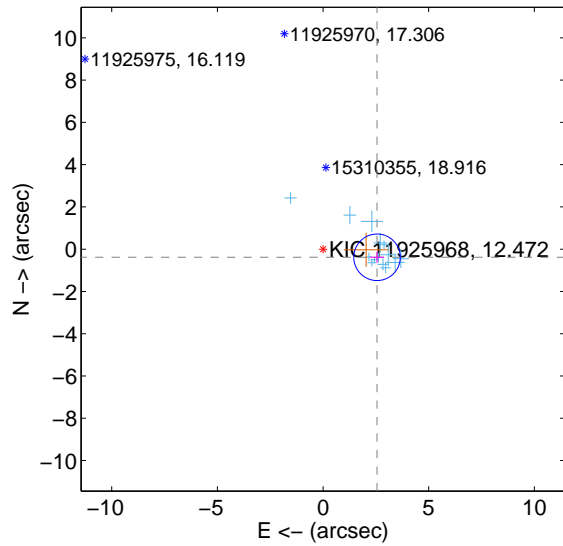
Supplemental centroid analysis for 011925968-01. Kepler magnitude: 12.47. Transit SNR 10.86

There are 14 quarters with good PRF difference image offsets

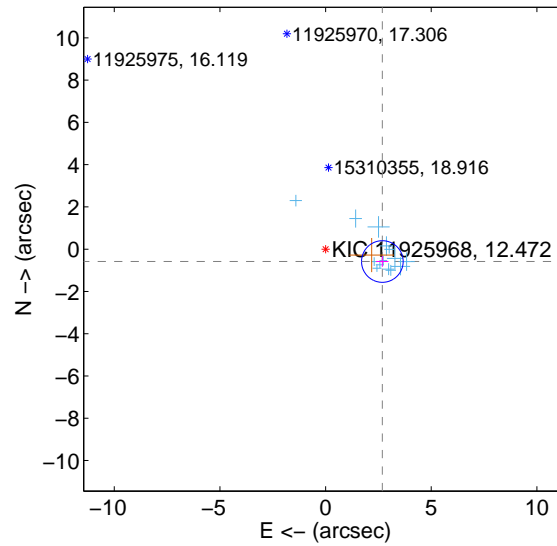
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.584 \pm 0.367$	7.04	$-2.556 \pm 0.338$	$-0.383 \pm 0.271$
PRF-fit source offset from KIC position	$2.749 \pm 0.328$	8.38	$-2.687 \pm 0.292$	$-0.584 \pm 0.254$
photometric centroid source offset	$6.15 \pm 1.13$	5.43	$-5.25 \pm 1.12$	$-3.20 \pm 1.16$

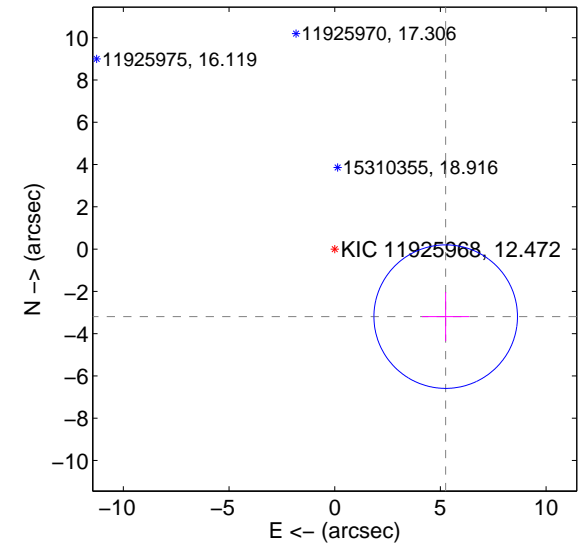
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

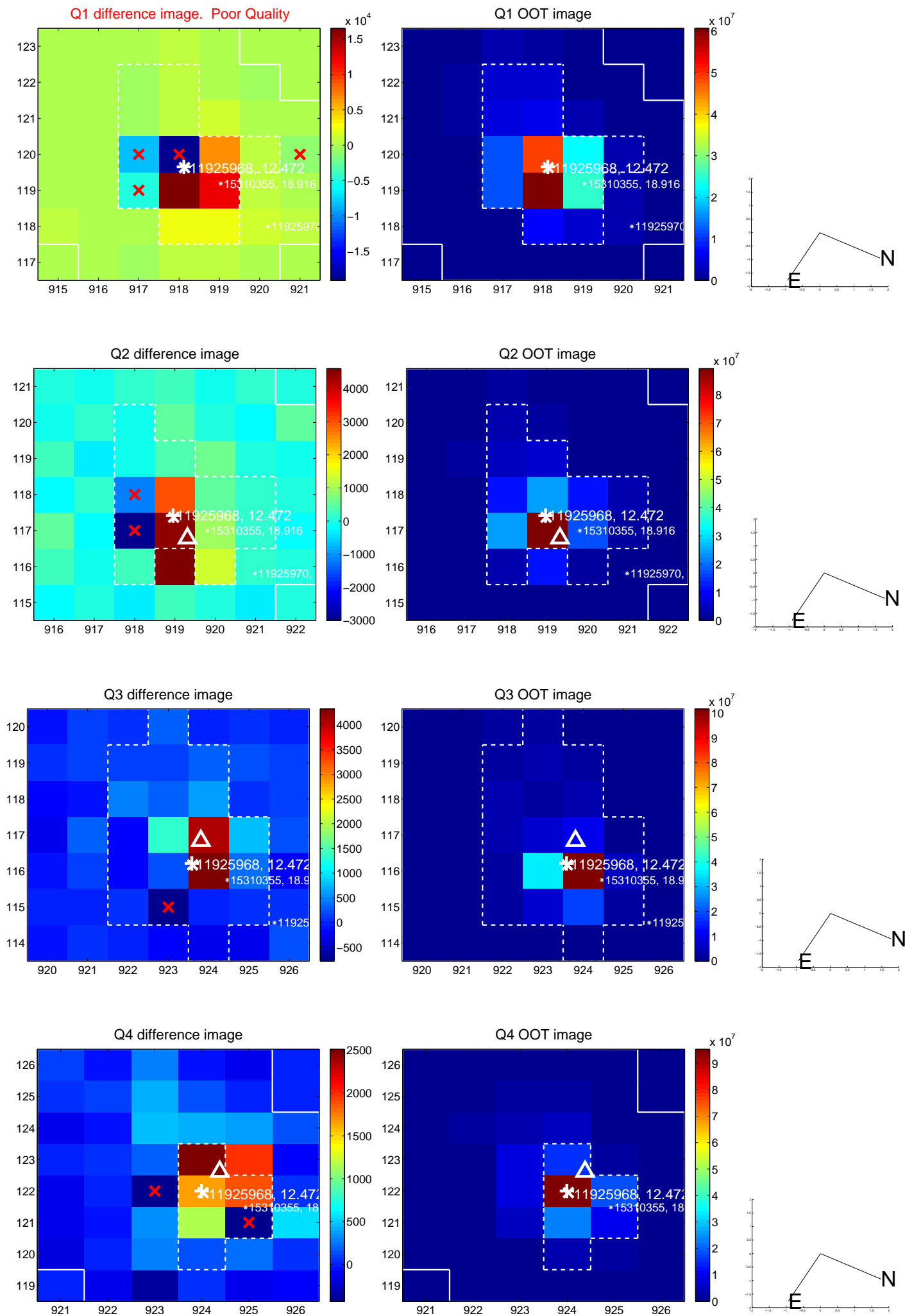


offset from photometric centroids

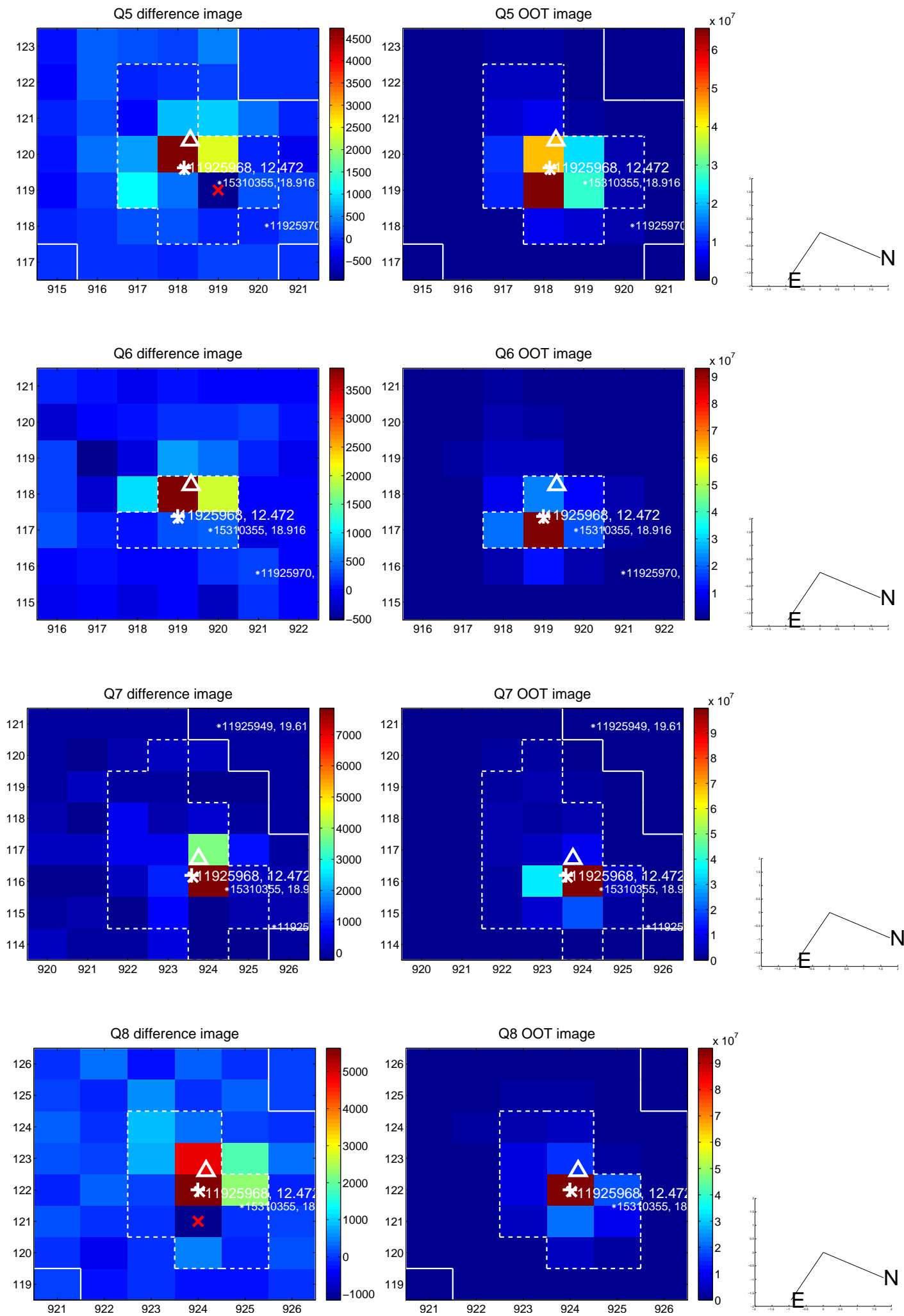


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

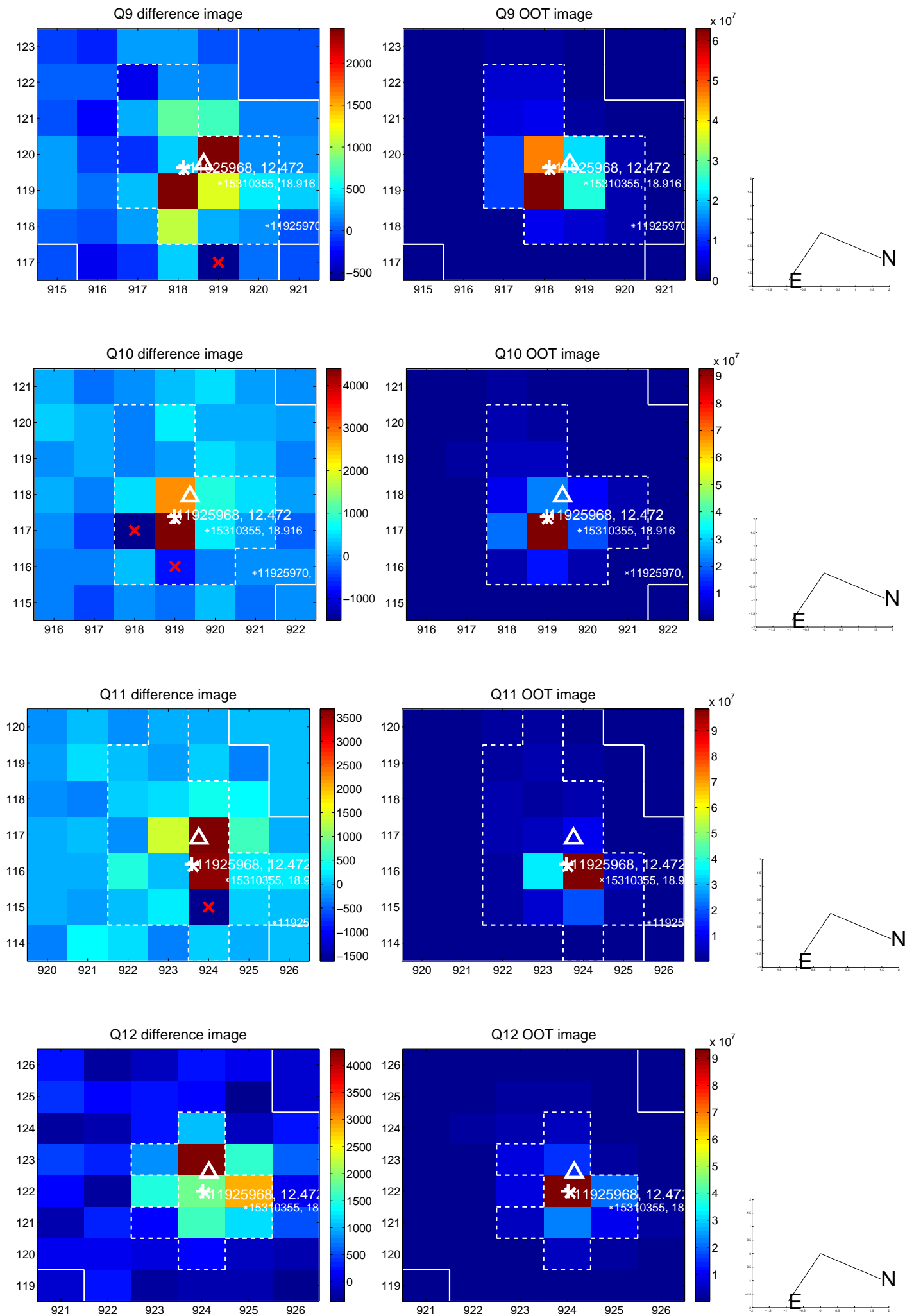


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

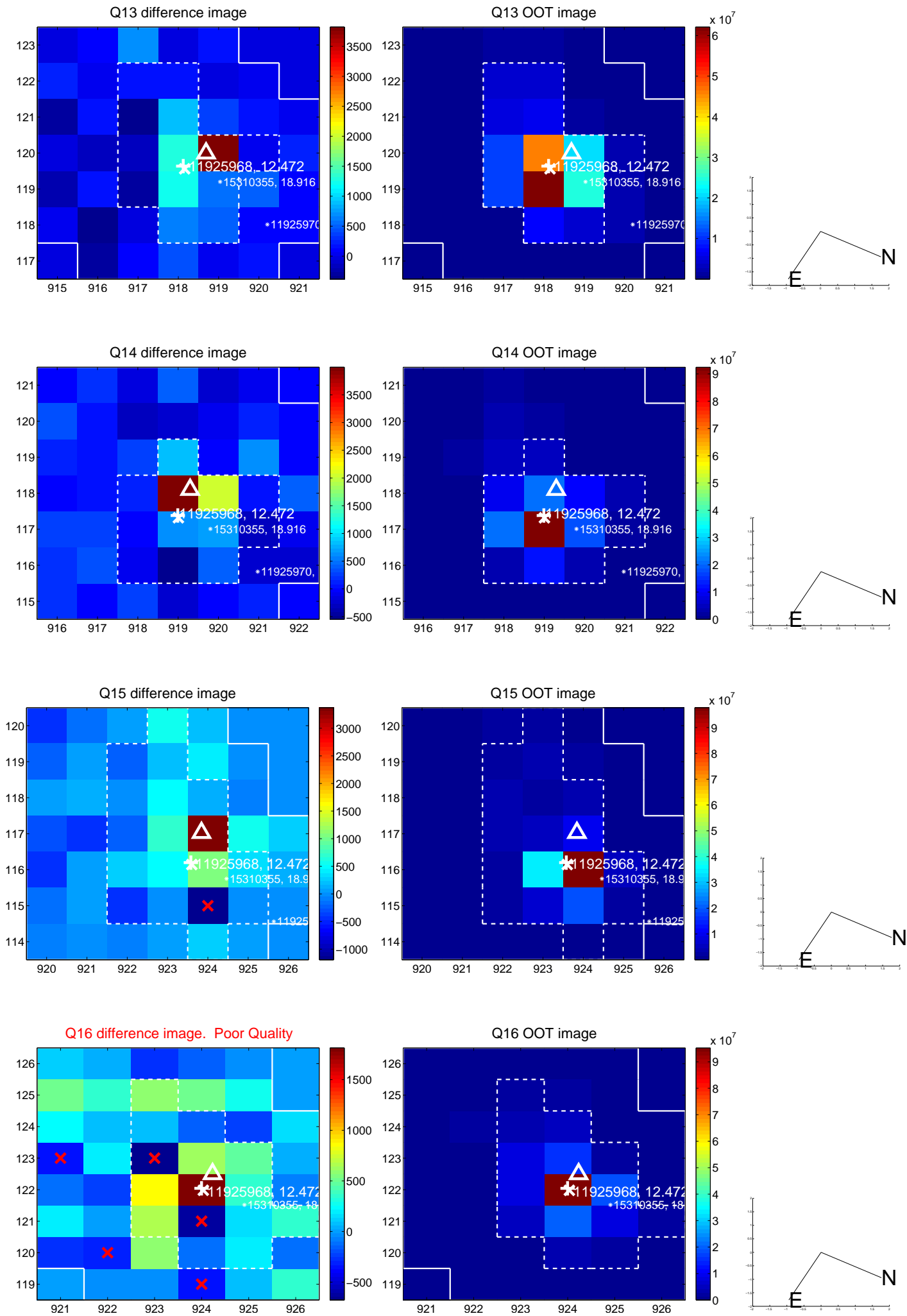




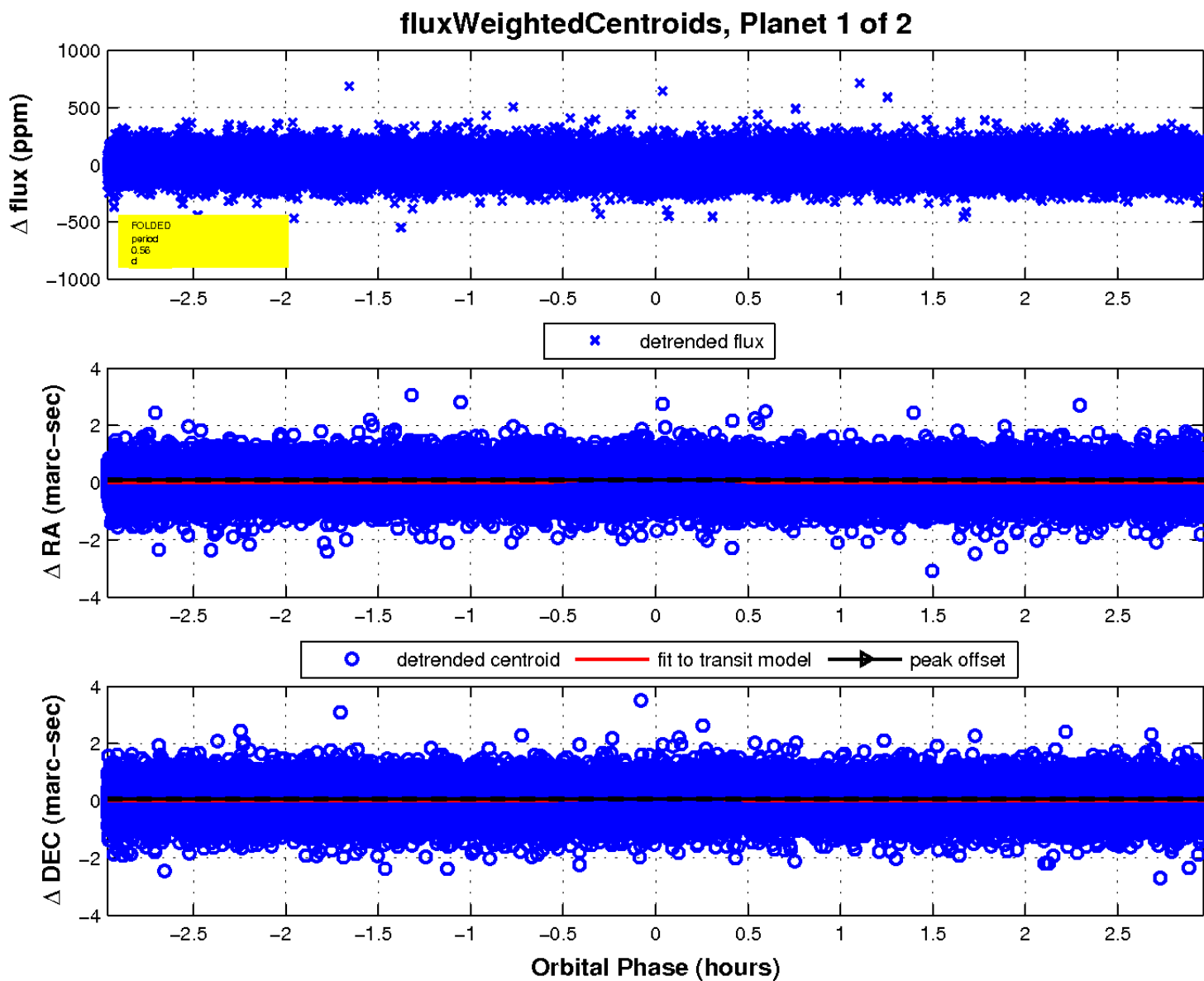
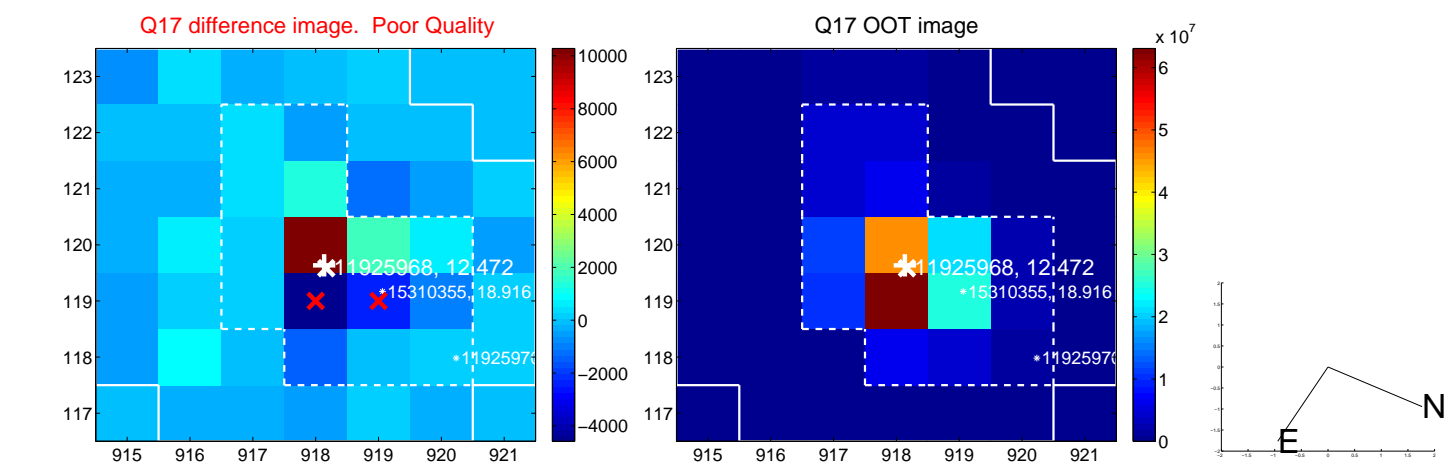
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

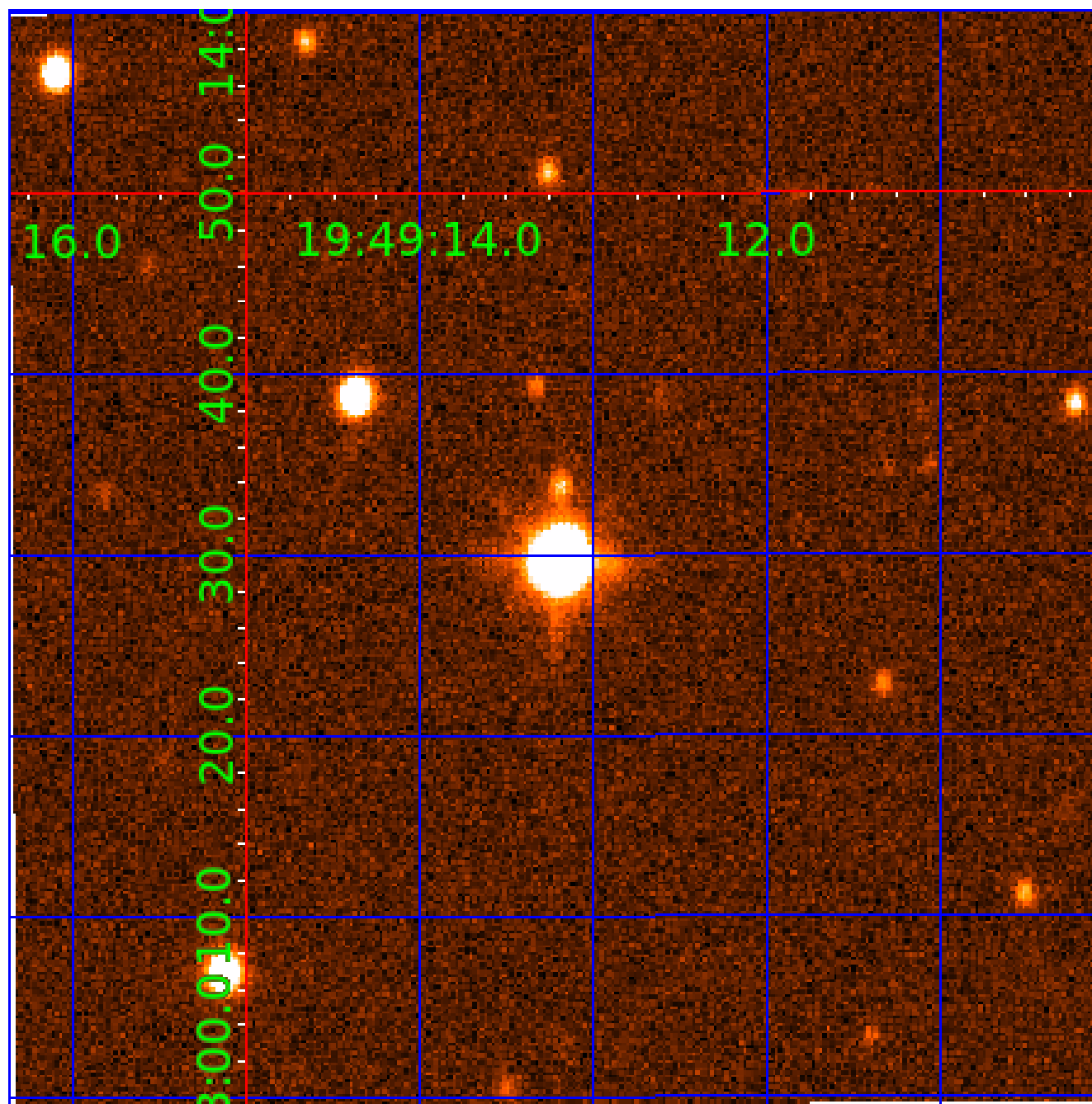


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 011925968

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011925968-01	OBS	No	0.559074	131.919214	18.5	0.988	7.4	10.9	2.47	6461	1.25	46371.07
011925968-02	OBS	No	0.559082	131.638892	28.3	1.005	8.2	17.4	2.47	6461	1.54	46370.17

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011925968-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET
011925968-02	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_UNRESOLVED_OFFSET

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

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

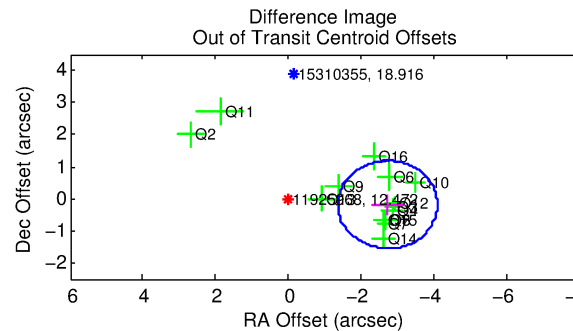
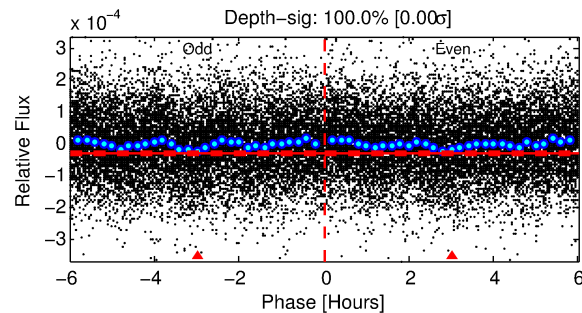
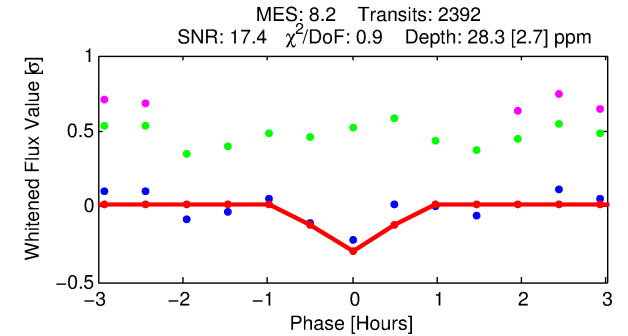
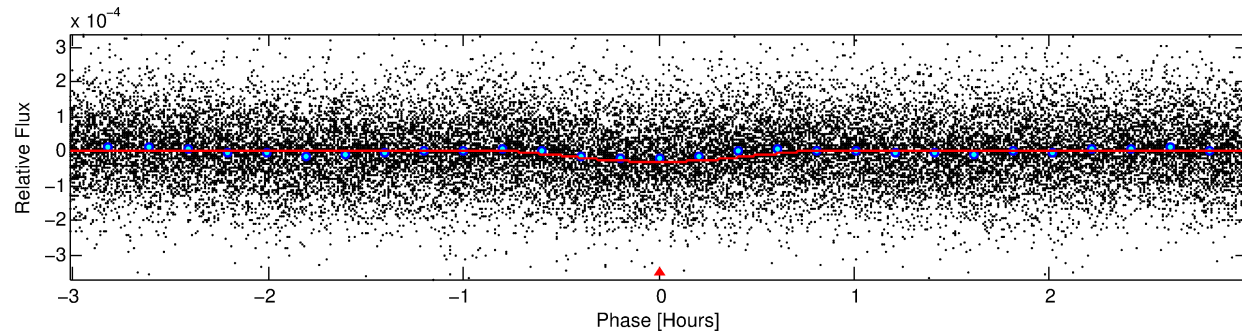
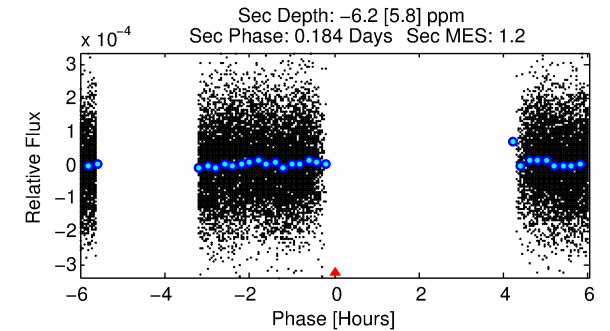
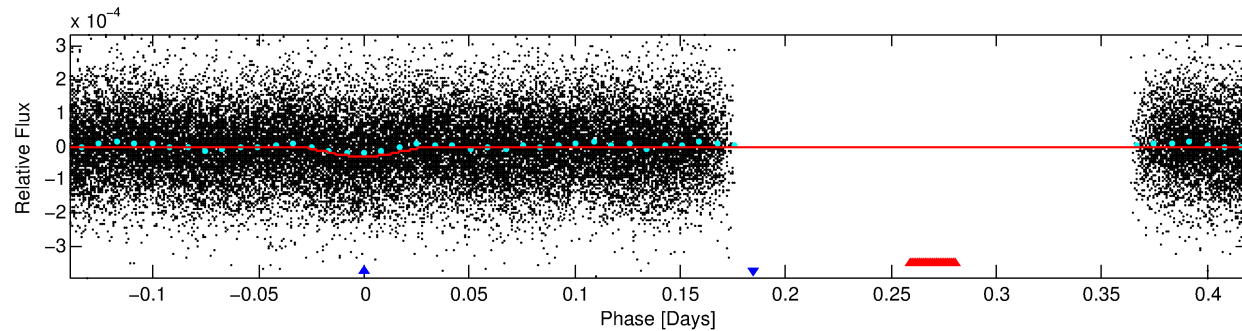
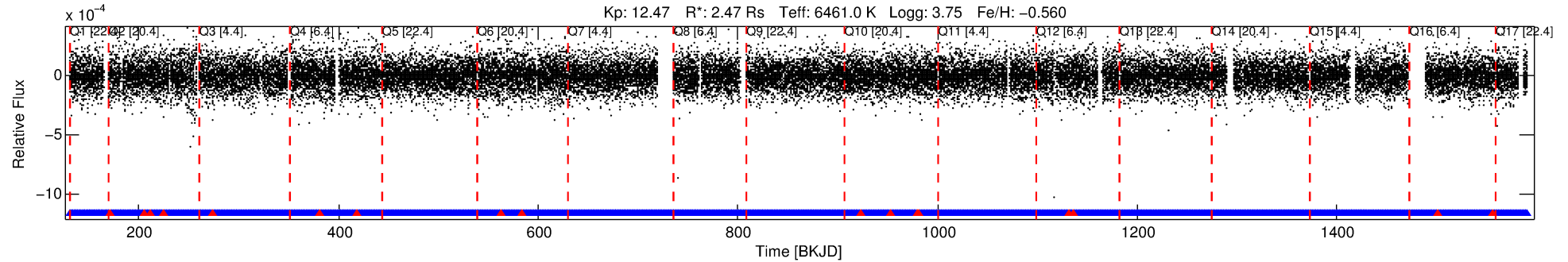
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011925968-02

No Significant Match Found

# DV One-Page Summary

KIC: 11925968 Candidate: 2 of 2 Period: 0.559 d



## DV Fit Results:

Period = 0.55908 [0.00001] d  
Epoch = 131.6389 [0.0010] BKJD  
Rp/R\* = 0.0057 [0.0008]  
a/R\* = 2.12 [1.28]  
b = 0.90 [0.17]  
Seff = 46370.17 [26699.91]  
Teff = 3742 [539] K  
Rp = 1.54 [0.58] Re  
a = 0.0143 [0.0050] AU  
Ag = N/A  
Teffp = N/A

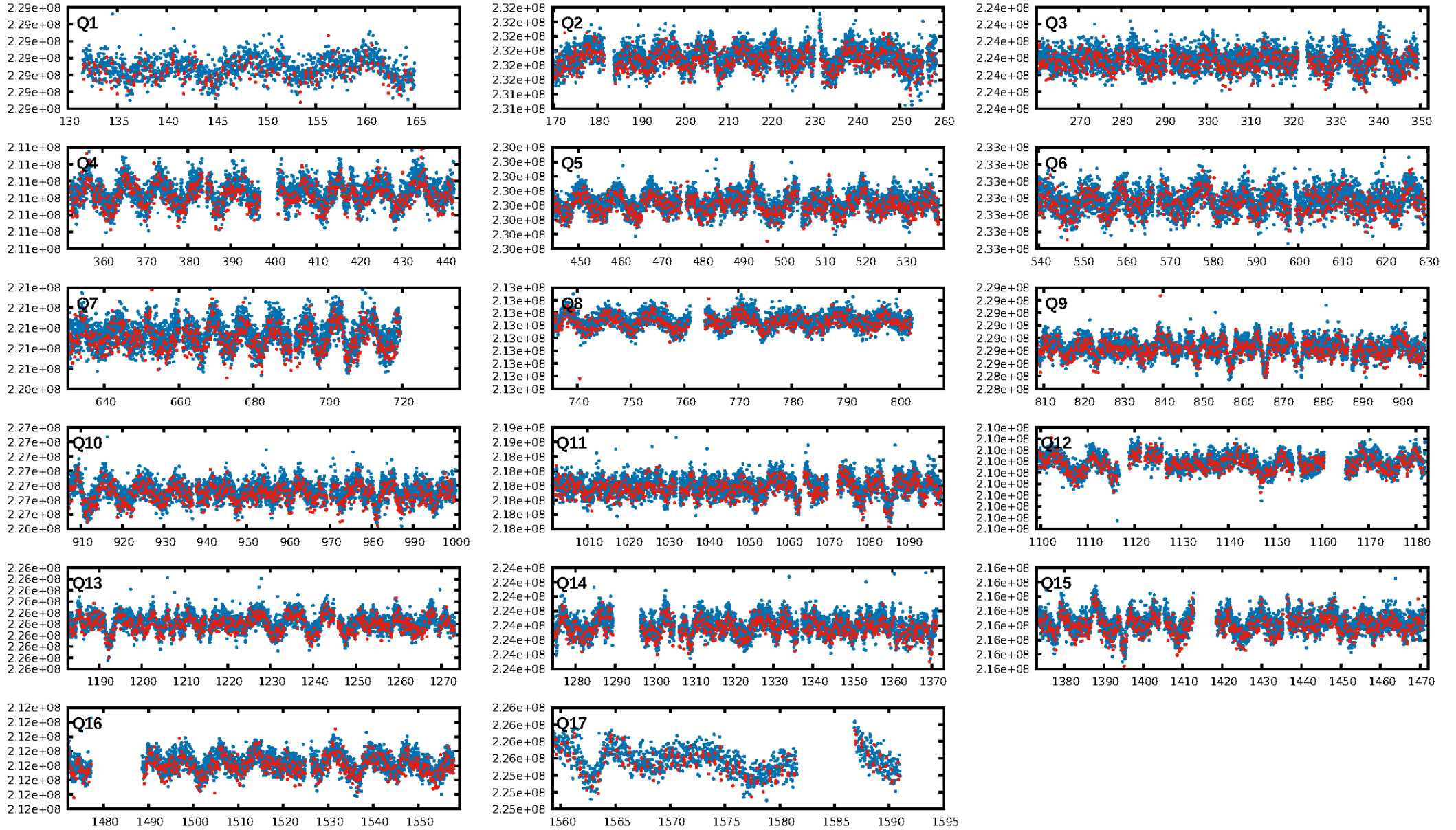
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.29e-17  
RollingBand-fgt: 0.99 [2267/2284]  
GhostDiagnostic-chr: 2.893  
Centroid-sig: 0.0%  
Centroid-so: 2.419 arcsec [3.26σ]  
OotOffset-rm: 2.738 arcsec [6.00σ]  
KicOffset-rm: 2.887 arcsec [6.22σ]  
OotOffset-st: 4/4/4/3 [15]  
KicOffset-st: 4/4/4/3 [15]  
DiffImageQuality-fgm: 0.93 [14/15]  
DiffImageOverlap-fno: 1.00 [17/17]

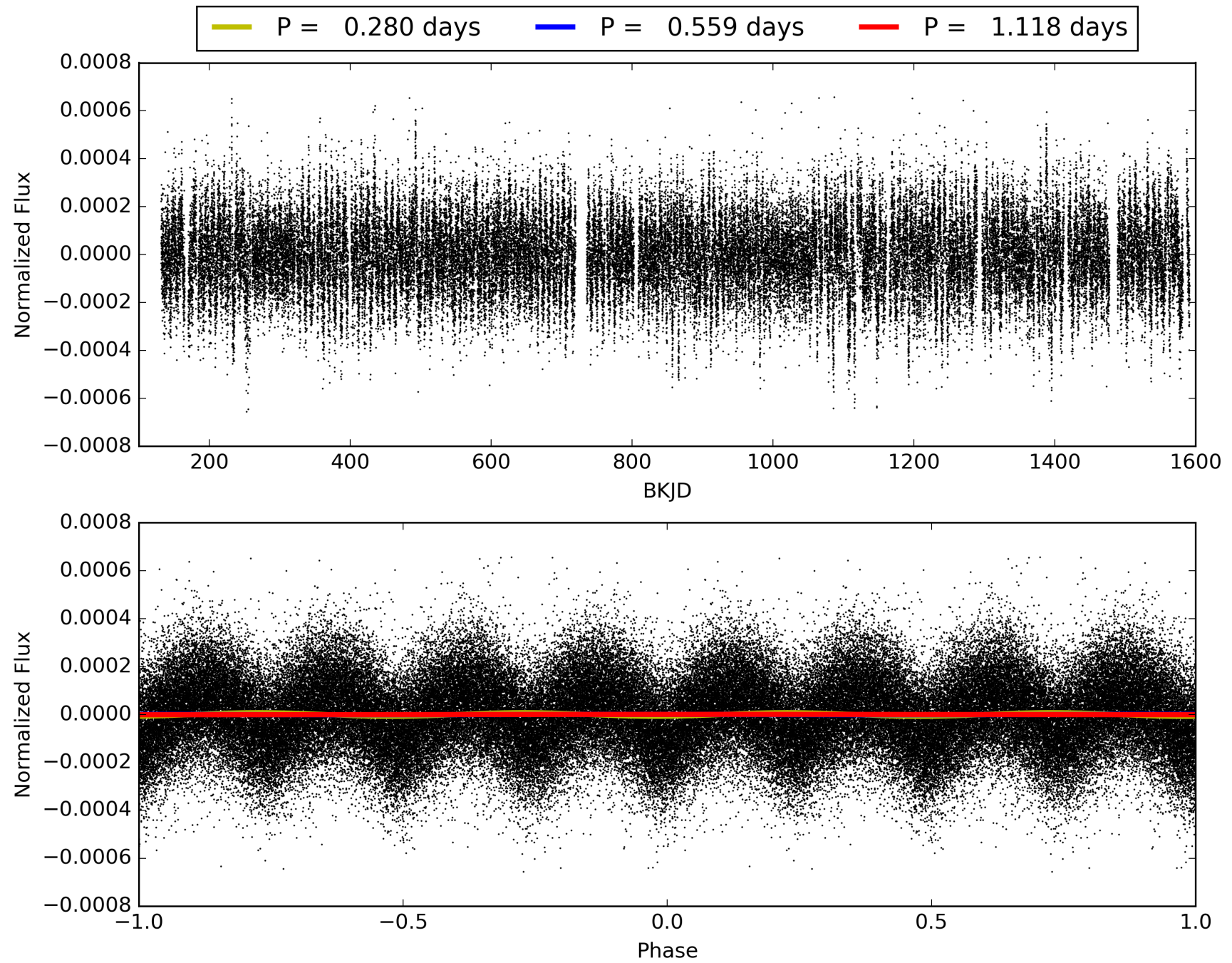
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:12:45 Z

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

# TCE 011925968-02, PDC Light Curves



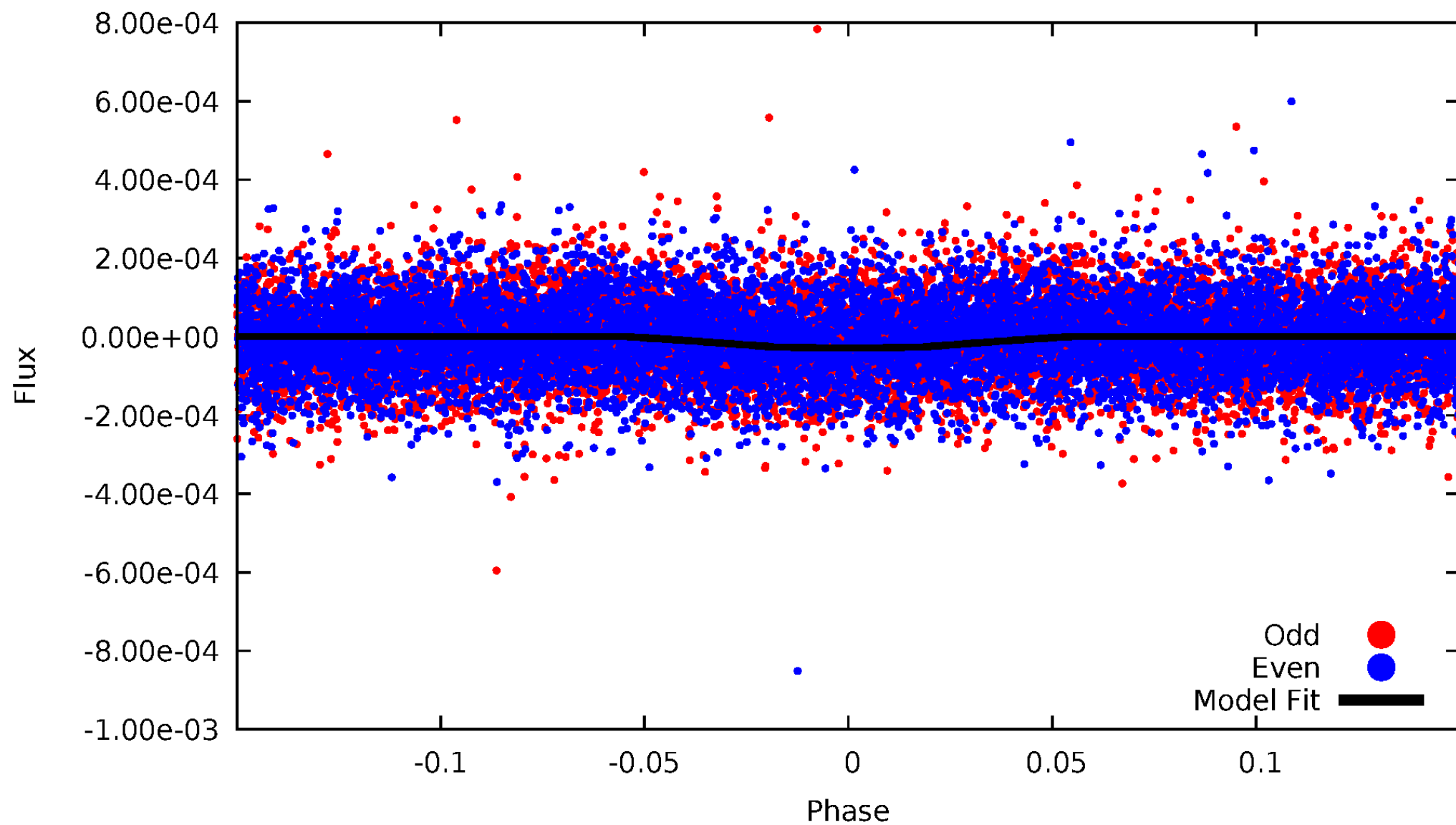
TCE 011925968-02





# DV Odd/Even

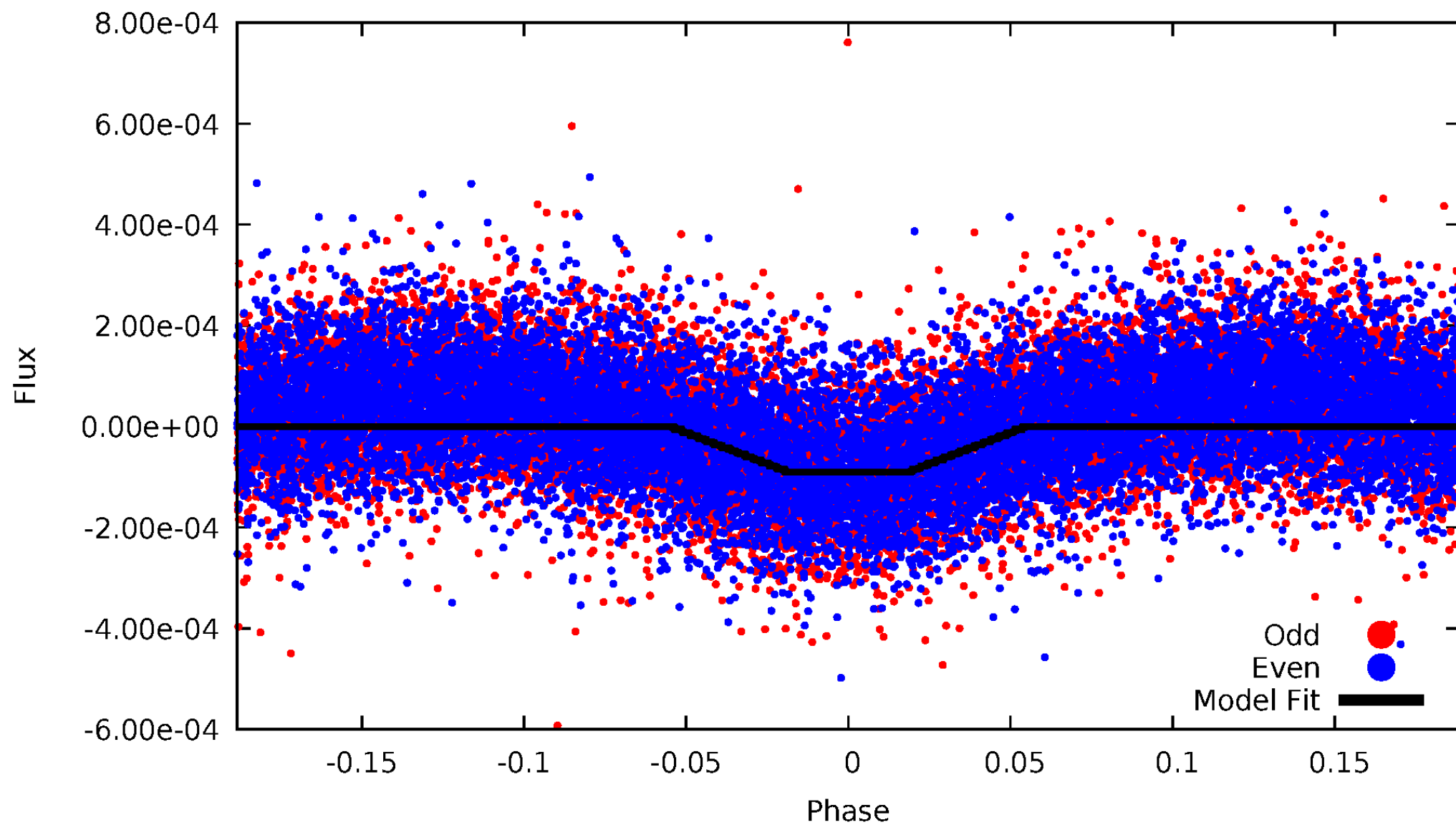
TCE 011925968-02





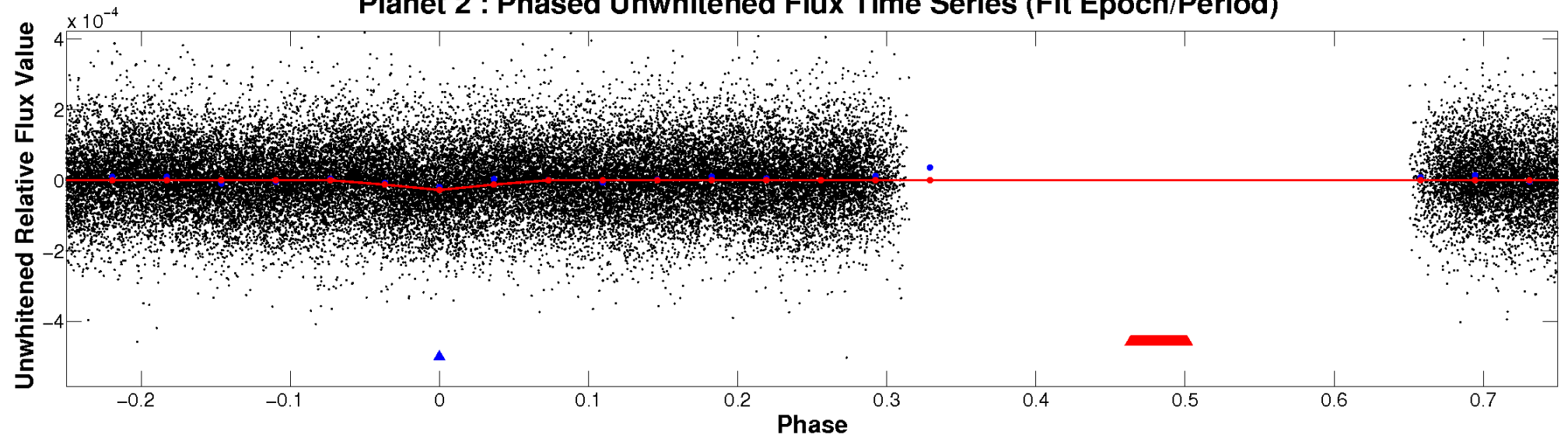
# ALT Odd/Even

TCE 011925968-02

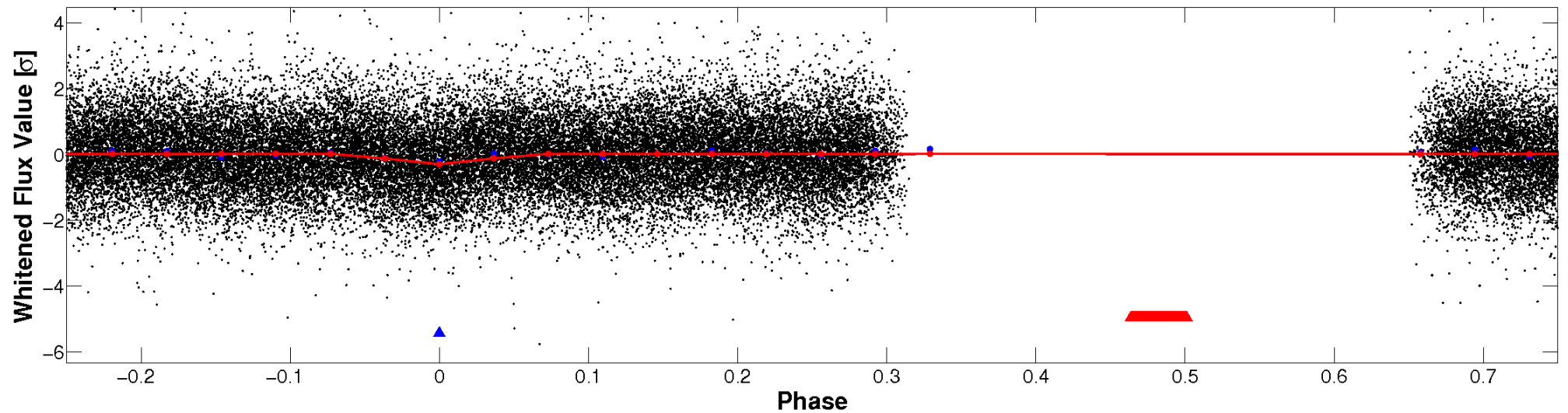


# Non-Whitened Vs. Whitened Light Curve

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

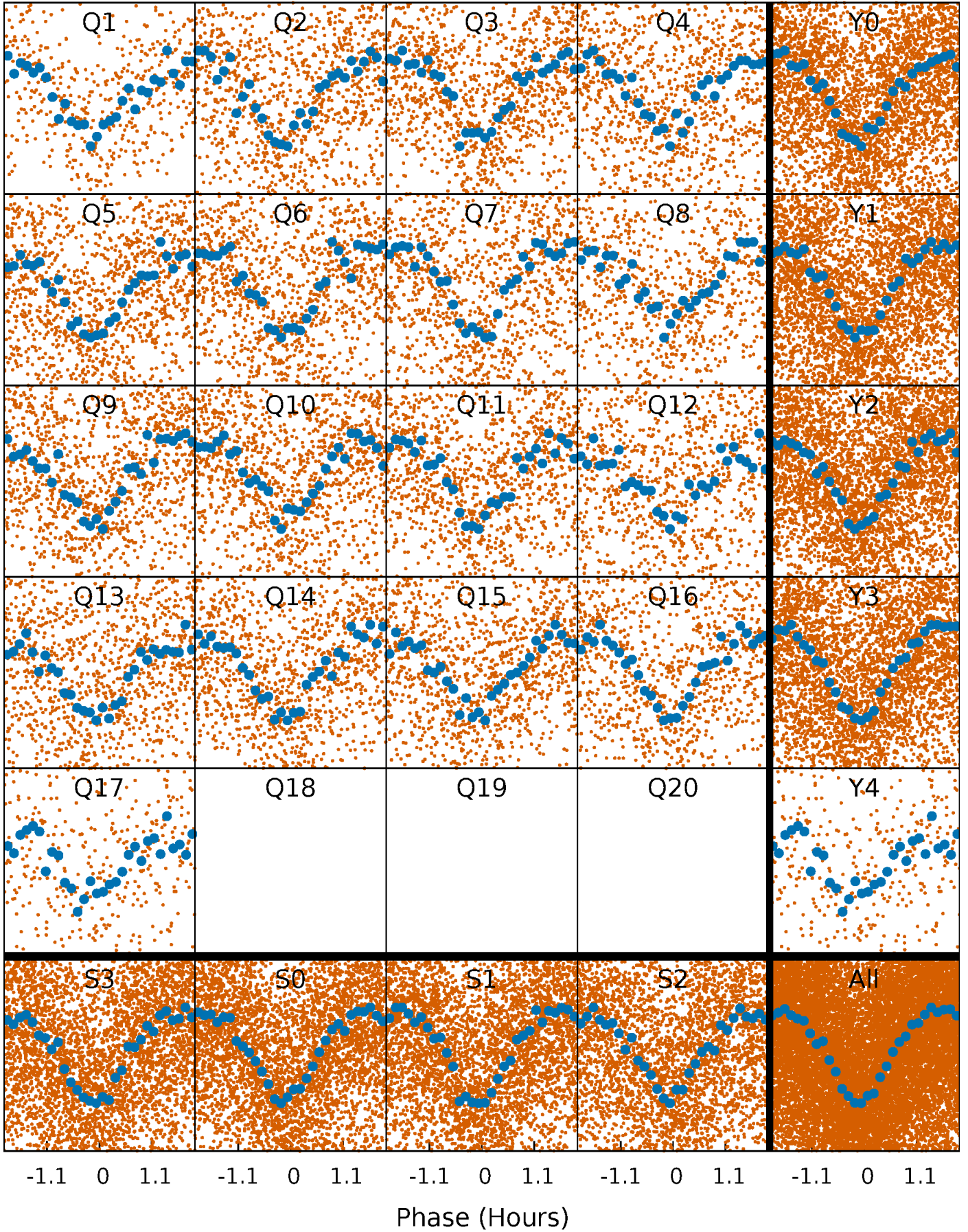


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

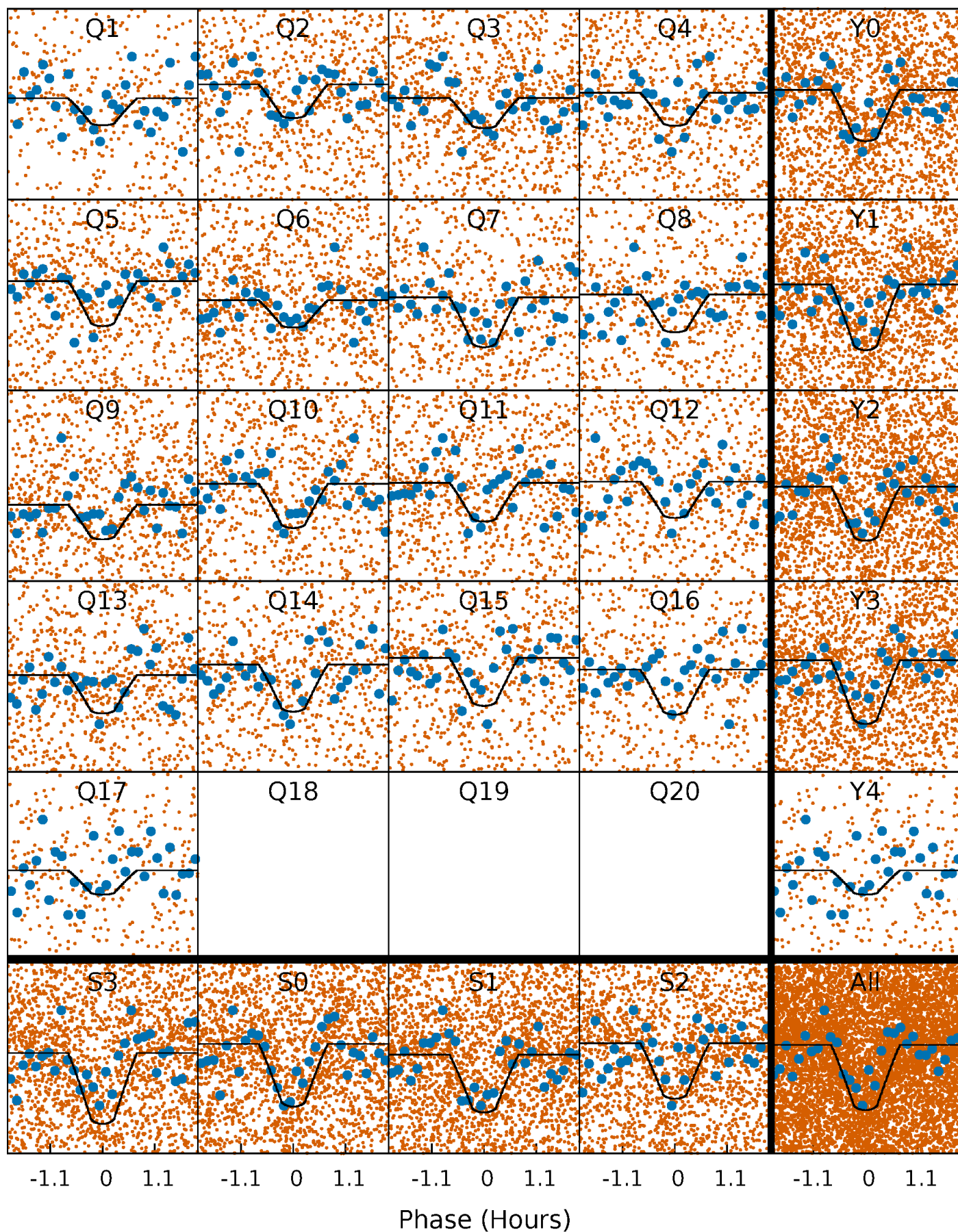
TCE 011925968-02   P= 0.559082 Days    $T_0=131.638892$  (BKJD)





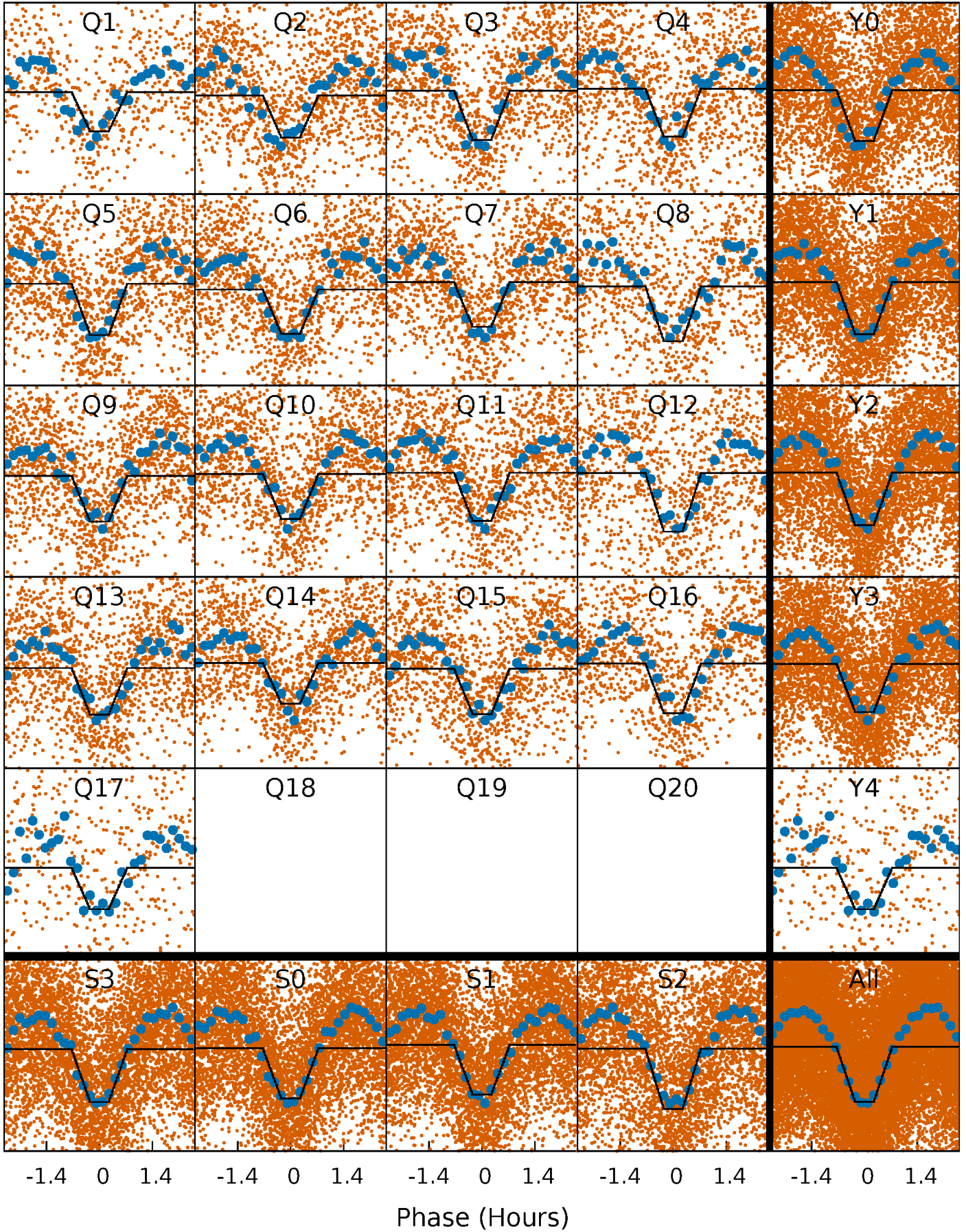
# DV Quarter-Phased Transit Curves

TCE 011925968-02   P= 0.559082 Days    $T_0=131.638892$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 011925968-02   P= 0.559076 Days    $T_0=131.642001$  (BKJD)

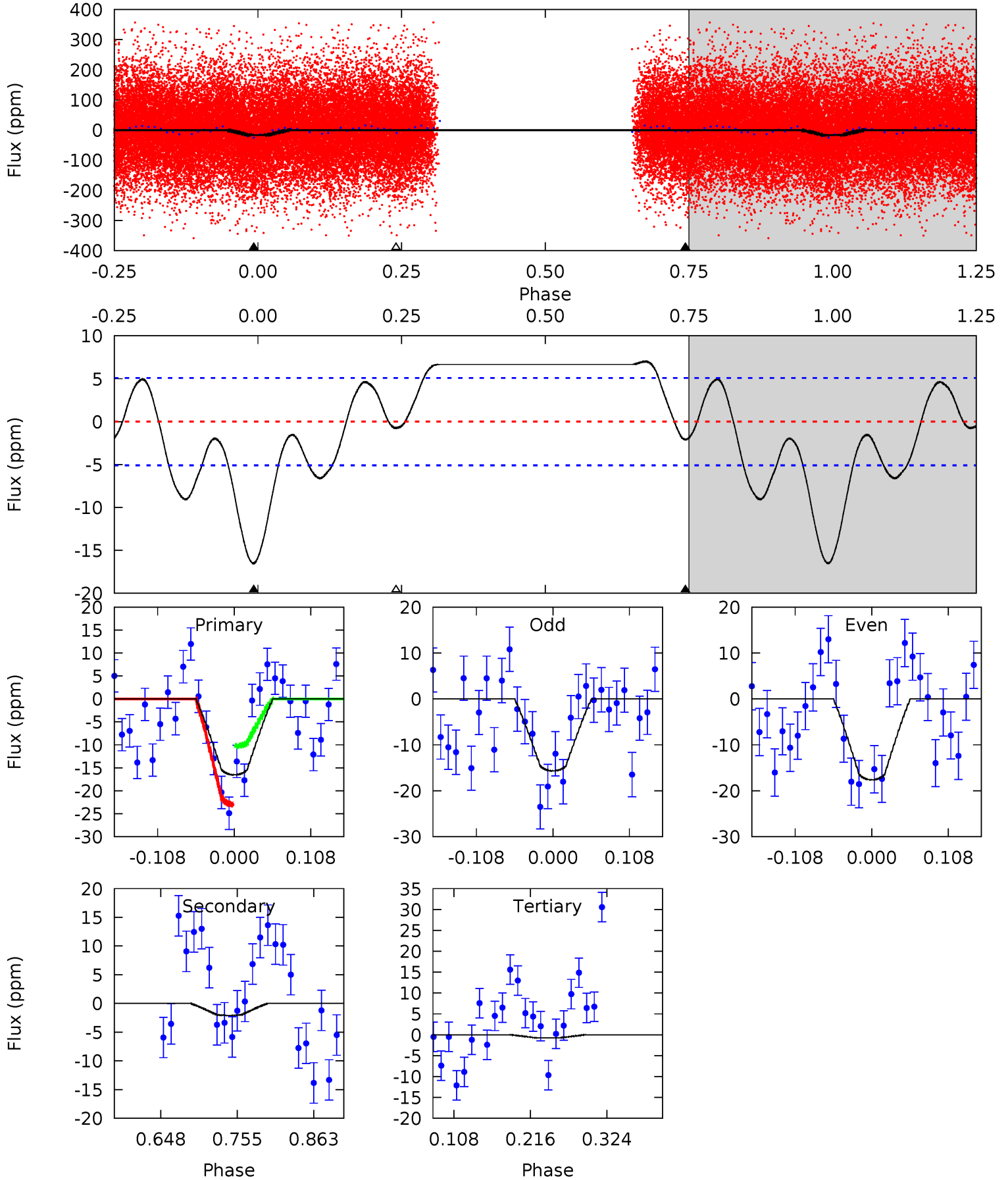




# DV Model-Shift Uniqueness Test

011925968-02, P = 0.559082 Days, E = 131.079810 Days

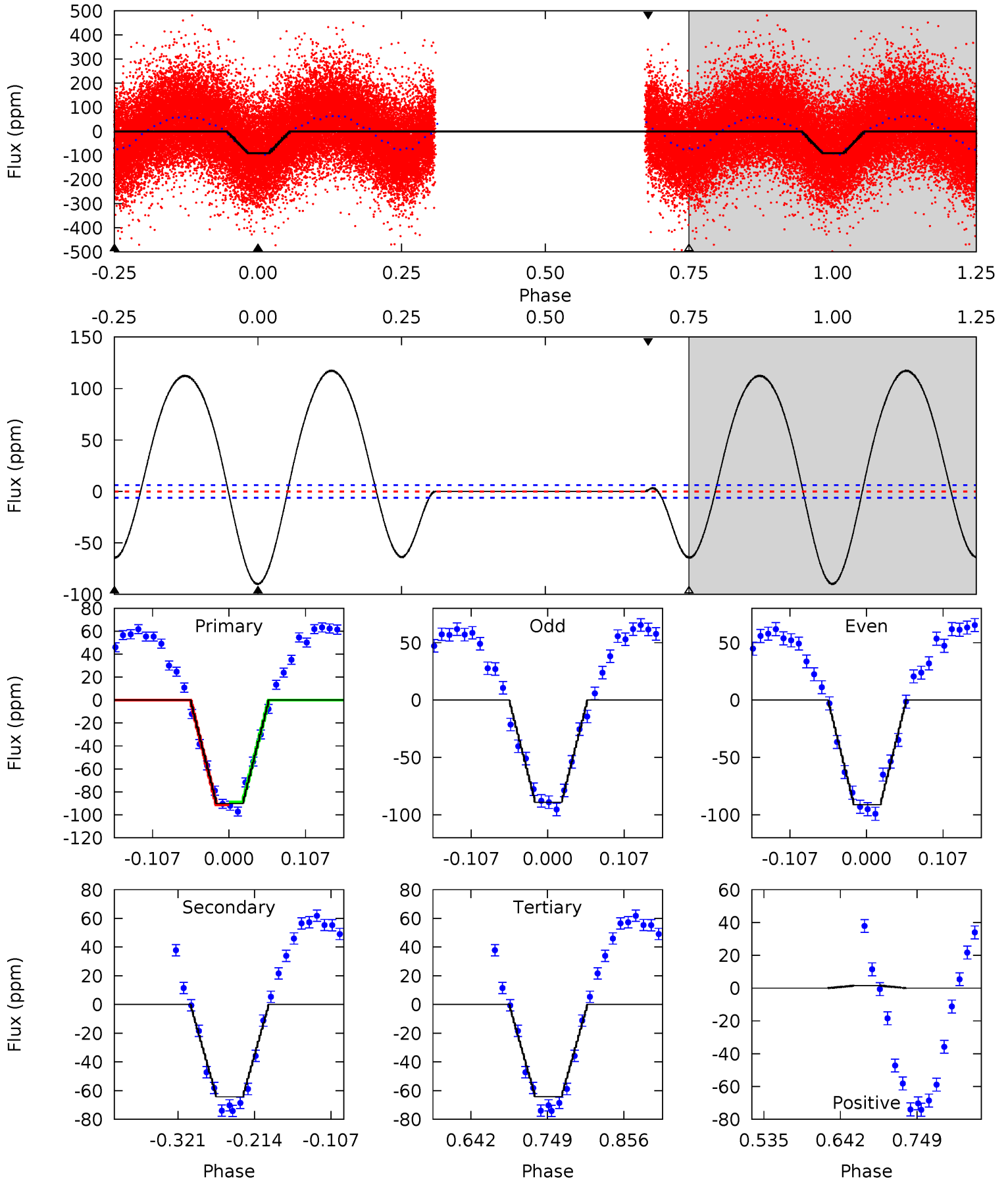
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	1.87	0.68	0	4.55	1.61	4.13	14.1	14.8	1.18	1.87	0.88	0.89	0.30	5.75



# Alt Model-Shift Uniqueness Test

011925968-02, P = 0.559076 Days, E = 131.082925 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
66.6	47.5	47.4	1.08	4.55	1.61	49.4	19.1	65.5	0.05	46.4	0.81	0.99	0.57	0.97



### Stellar Parameters For KIC 011925968

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6461^{+177}_{-177}$	$3.751^{+0.336}_{-0.105}$	$-0.560^{+0.350}_{-0.300}$	$2.467^{+0.395}_{-0.856}$	$1.250^{+0.217}_{-0.241}$	$0.117^{+0.286}_{-0.037}$
	+3%/-3%	+9%/-3%	+62%/-54%	+16%/-35%	+17%/-19%	+244%/-32%
Source	PHO1	FLK73	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 011925968-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-2\pm 1$	$1.49^{+0.31}_{-0.35}$	$5134^{+342}_{-425}$	$-4068^{+545}_{-331}$	$0.103^{+0.092}_{-0.058}$
Alt.	$-64\pm 1$	$2.50^{+0.40}_{-0.49}$	$5144^{+305}_{-491}$	$5519^{+351}_{-326}$	$1.205^{+0.547}_{-0.312}$

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

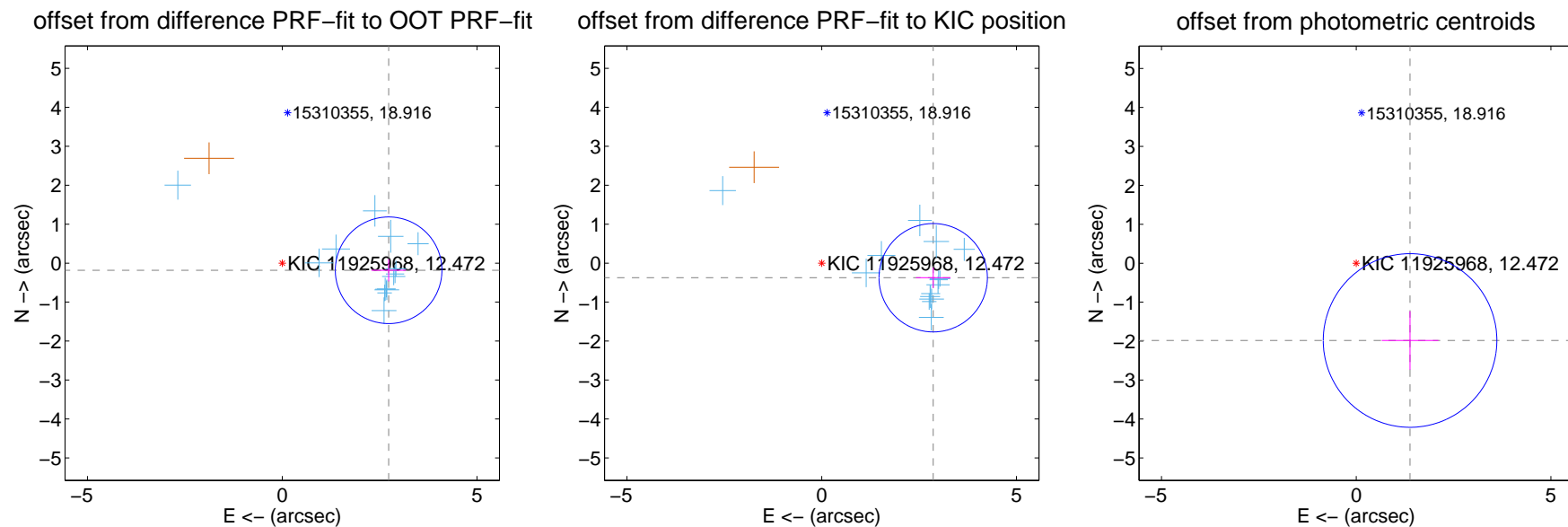
## DV Centroid Data

Supplemental centroid analysis for 011925968-02. Kepler magnitude: 12.47. Transit SNR 17.36

There are 14 quarters with good PRF difference image offsets

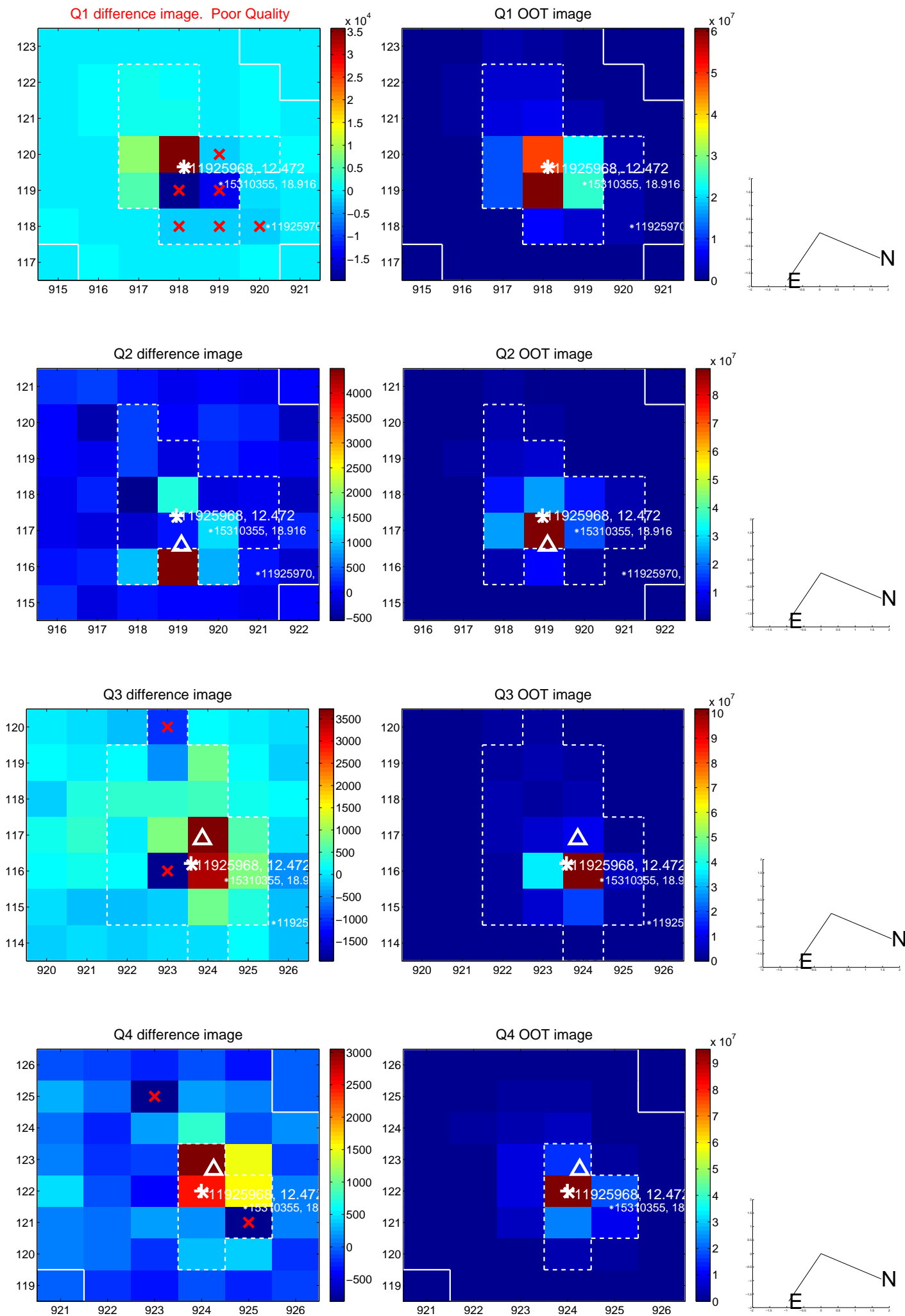
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.738 \pm 0.456$	6.00	$-2.732 \pm 0.443$	$-0.183 \pm 0.285$
PRF-fit source offset from KIC position	$2.887 \pm 0.464$	6.22	$-2.862 \pm 0.443$	$-0.375 \pm 0.262$
photometric centroid source offset	$2.42 \pm 0.74$	3.26	$-1.38 \pm 0.73$	$-1.98 \pm 0.75$



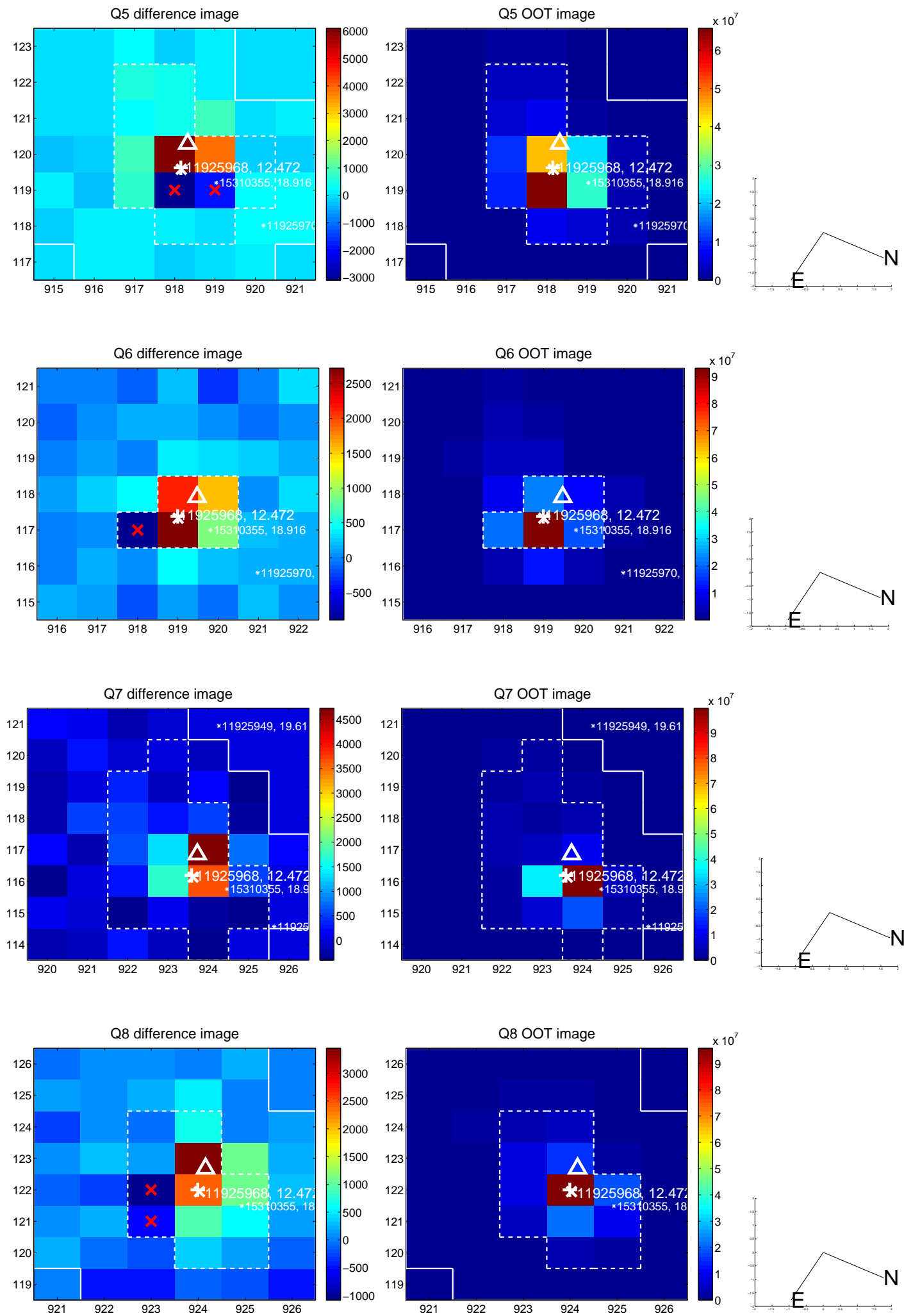
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

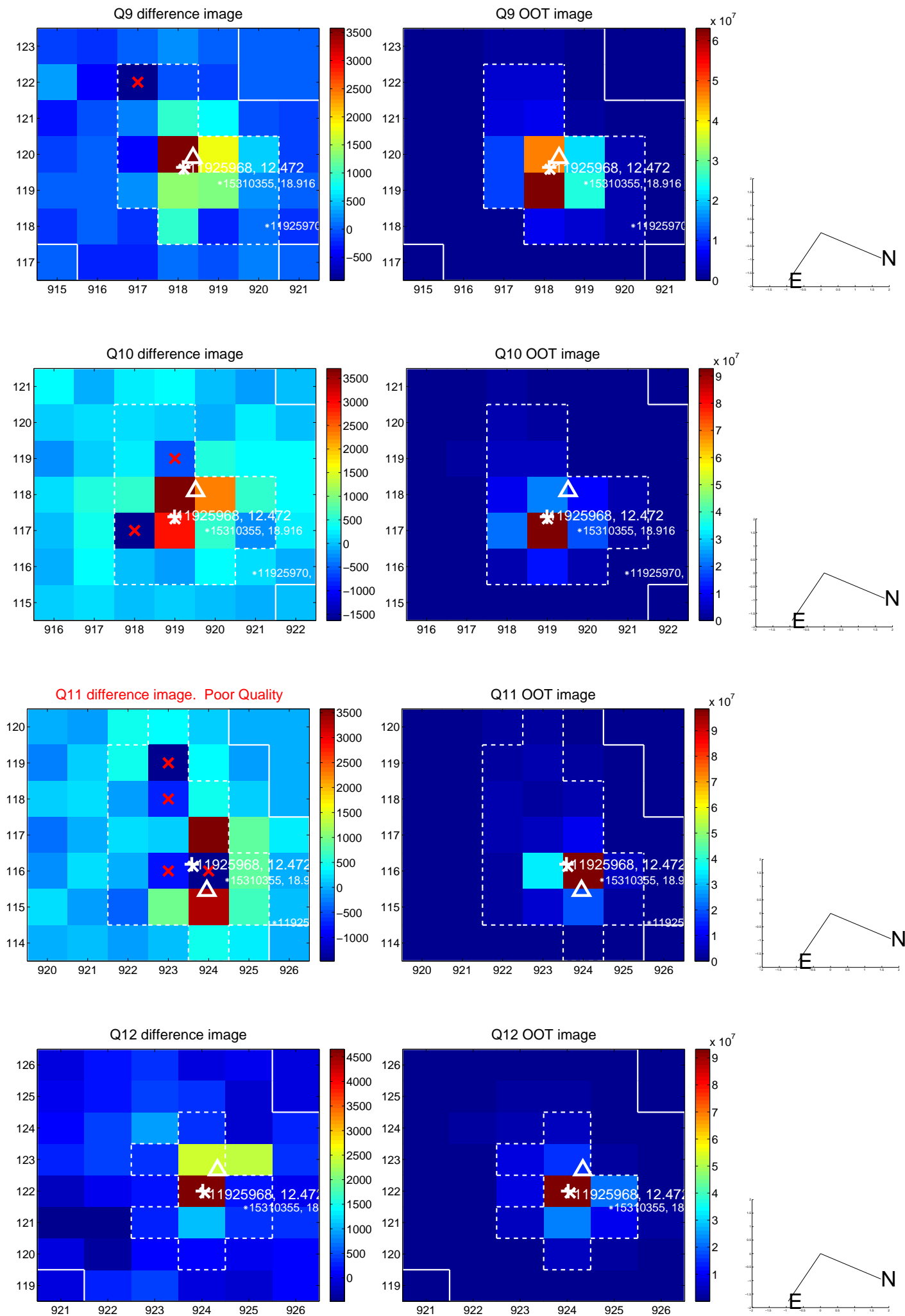




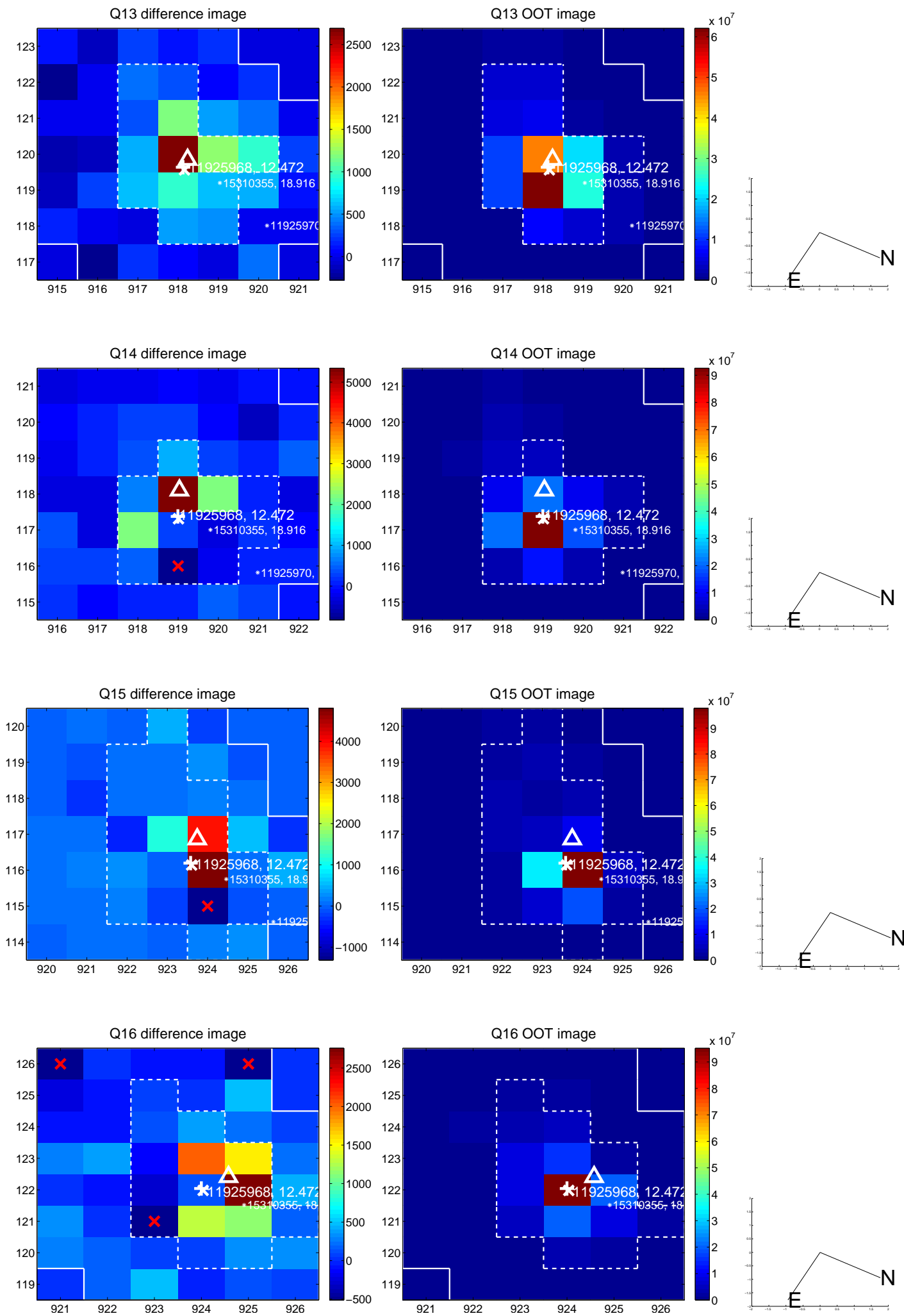
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



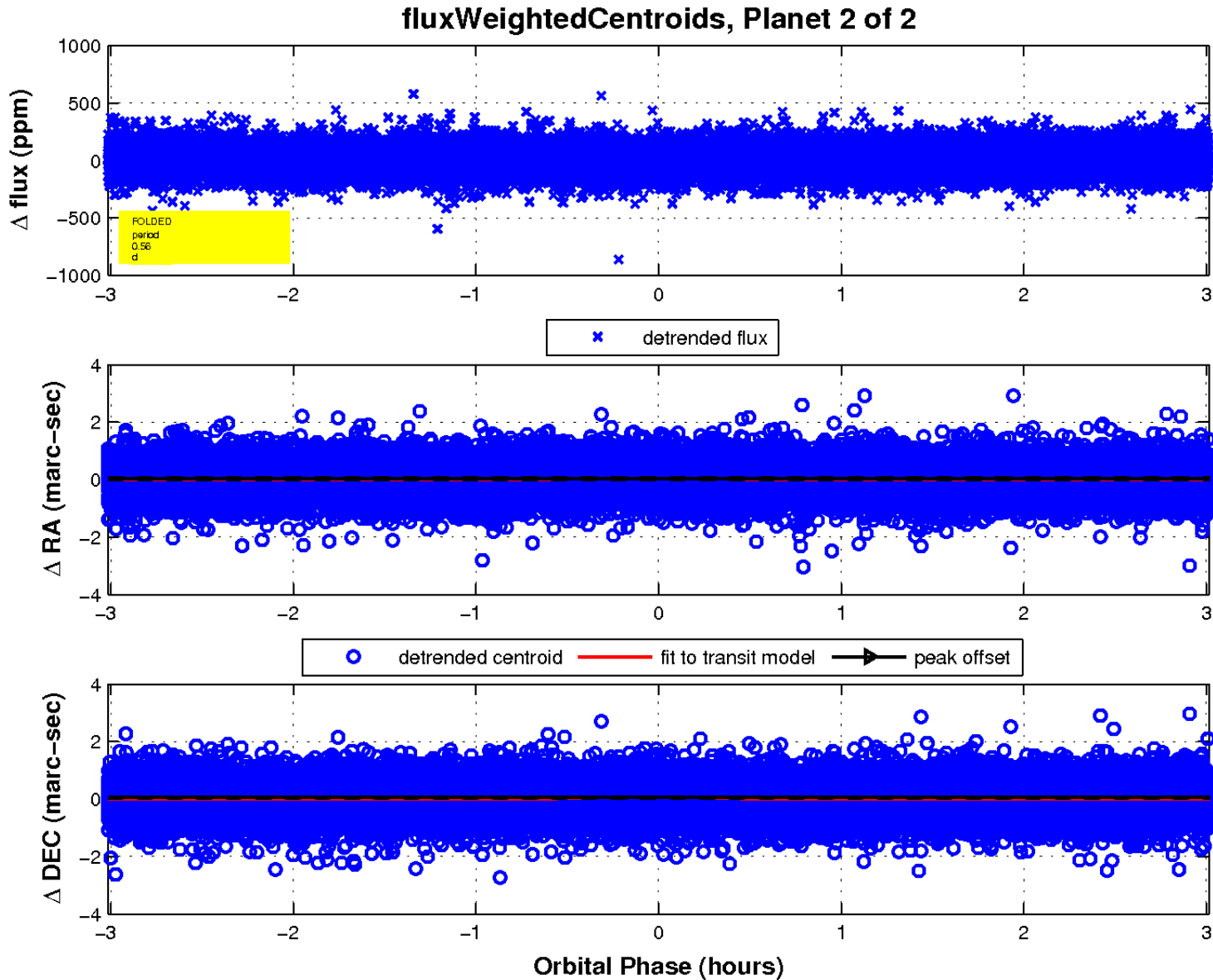
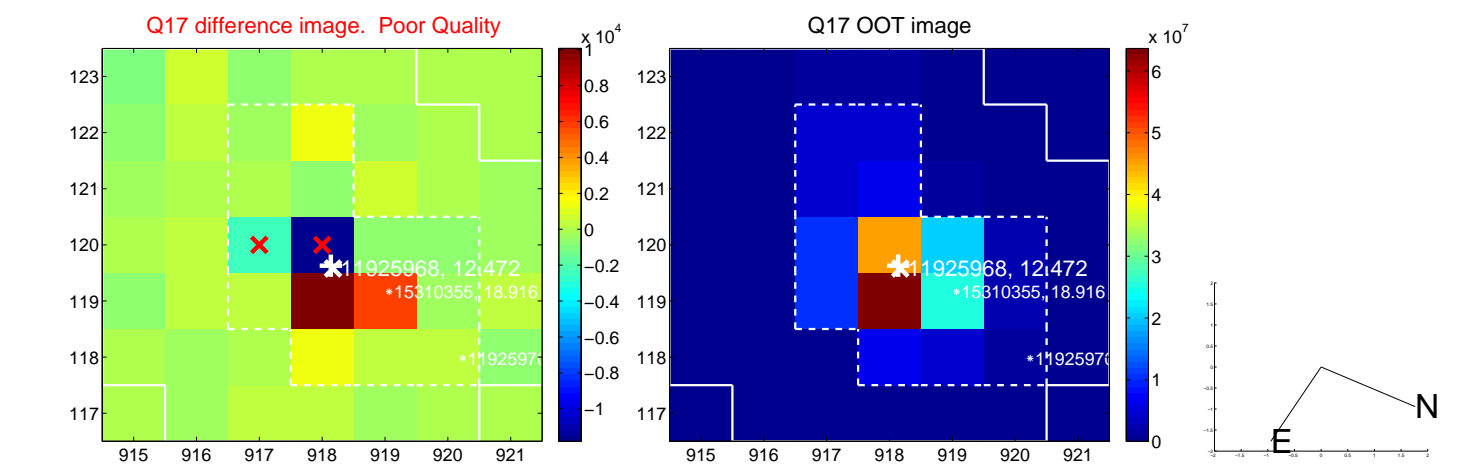
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

