

# KIC 005818706

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005818706-01	OBS	No	14.961622	140.207916	524.8	38.773	28.6	55.6	1.64	6375	7.24	261.86

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005818706-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

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

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

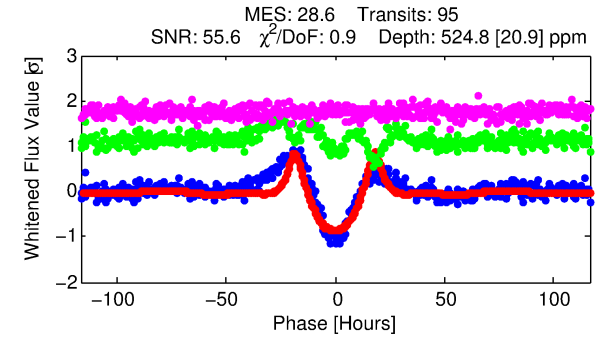
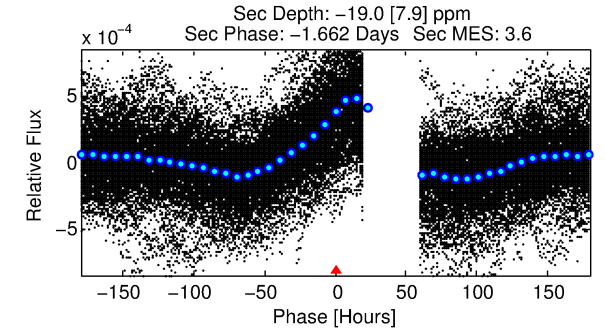
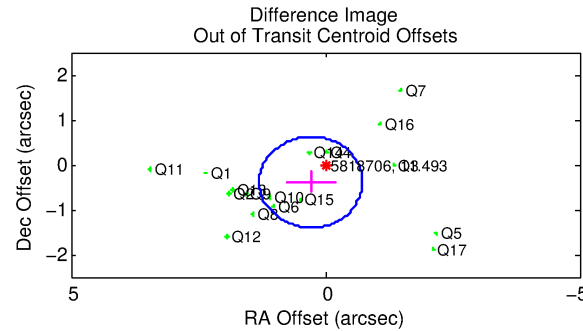
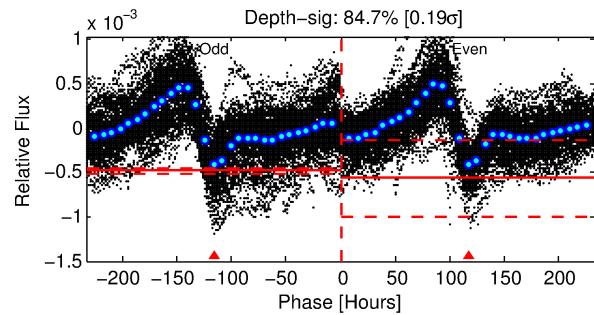
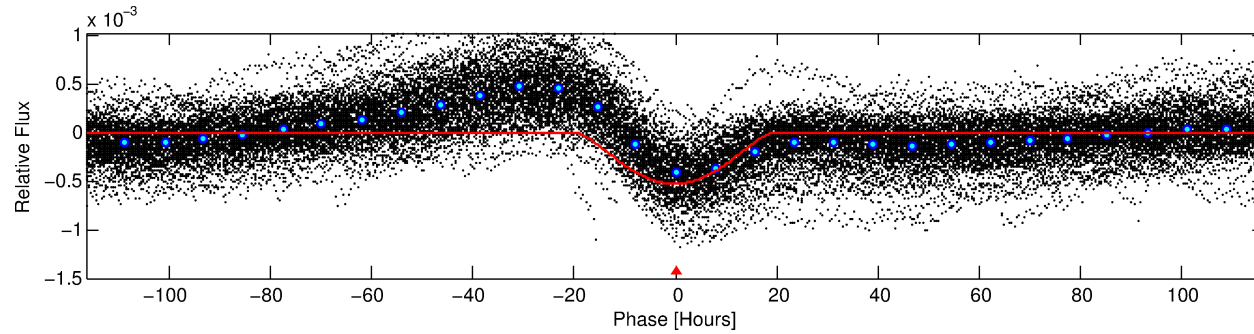
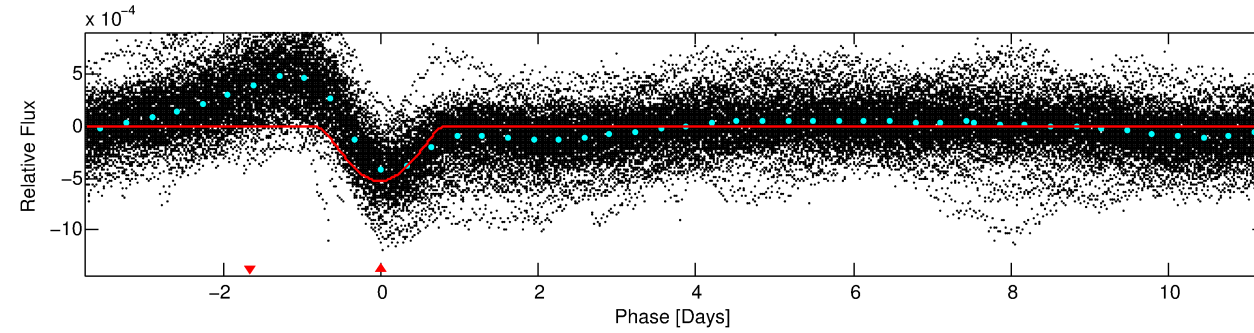
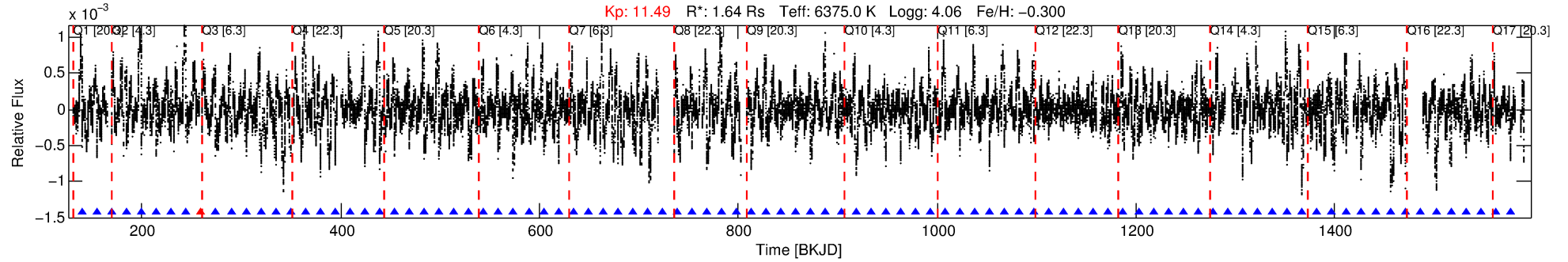
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005818706-01

No Significant Match Found

# DV One-Page Summary

KIC: 5818706 Candidate: 1 of 1 Period: 14.962 d



## DV Fit Results:

Period = 14.96162 [0.00014] d  
Epoch = 140.2079 [0.0076] BKJD  
Rp/R\* = 0.0404 [0.0055]  
a/R\* = 1.32 [0.01]  
b = 1.00 [0.01]  
Seff = 261.86 [116.30]  
Teq = 1026 [114] K  
Rp = 7.24 [2.26] Re  
a = 0.1233 [0.0332] AU  
Ag = N/A  
Teffp = N/A

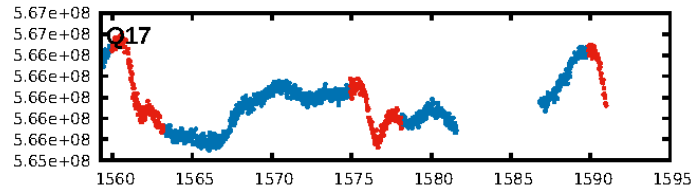
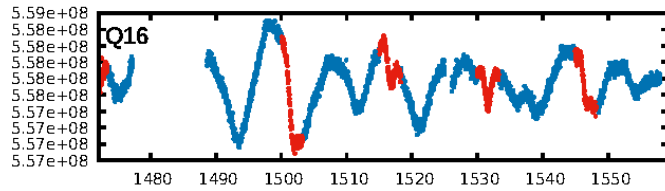
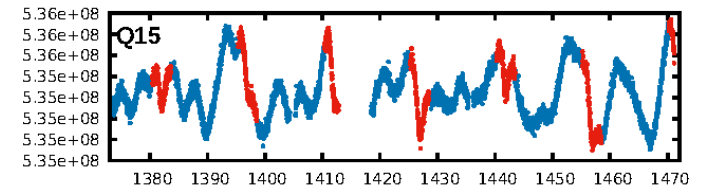
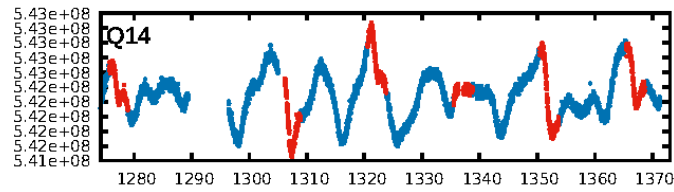
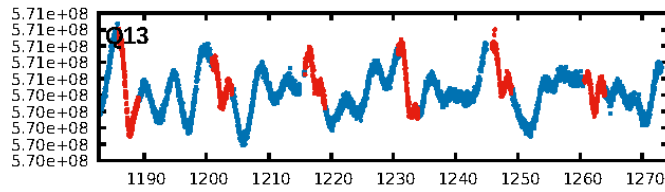
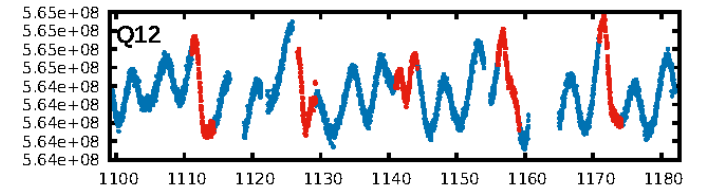
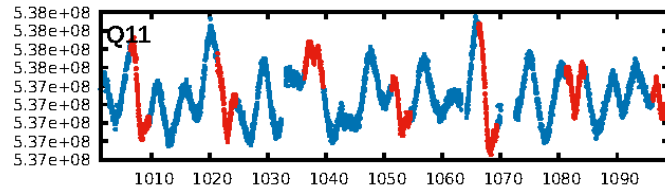
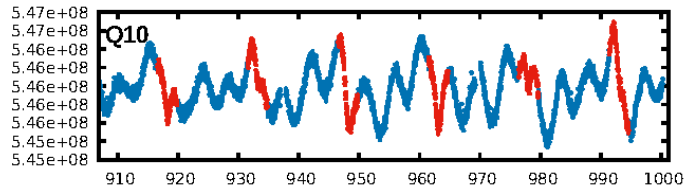
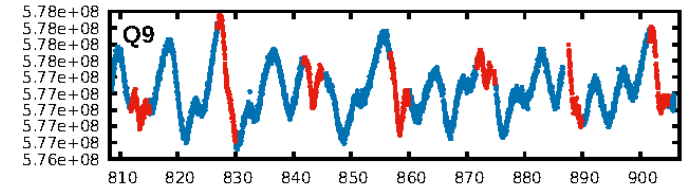
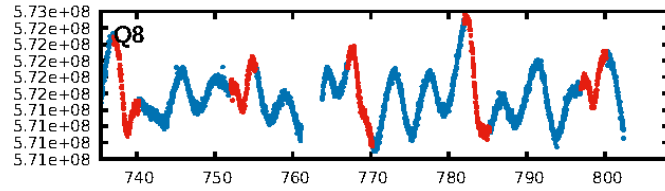
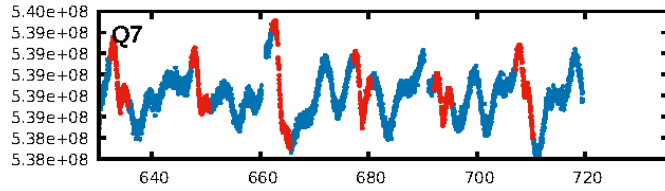
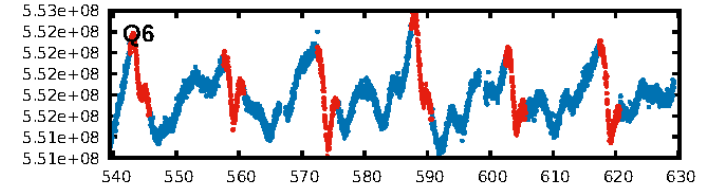
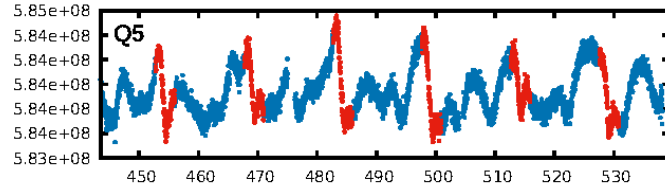
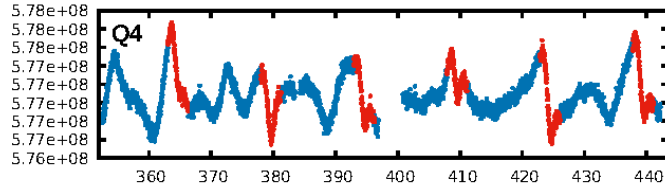
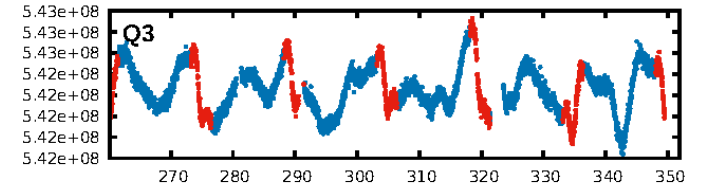
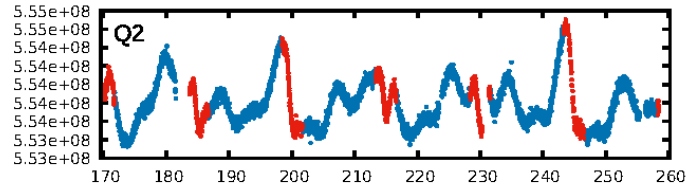
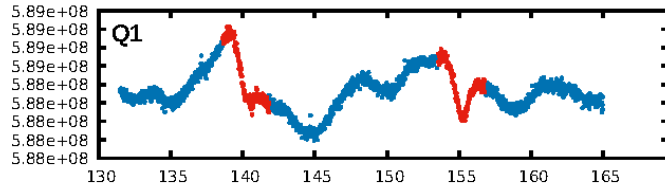
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 25.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.05e-190  
RollingBand-fgt: 0.99 [89/90]  
GhostDiagnostic-chr: 1.294  
Centroid-sig: 31.2%  
Centroid-so: 0.106 arcsec [1.52 $\sigma$ ]  
OotOffset-rm: 0.484 arcsec [1.43 $\sigma$ ]  
KicOffset-rm: 0.369 arcsec [1.21 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.82 [14/17]  
DiffImageOverlap-fno: 1.00 [17/17]

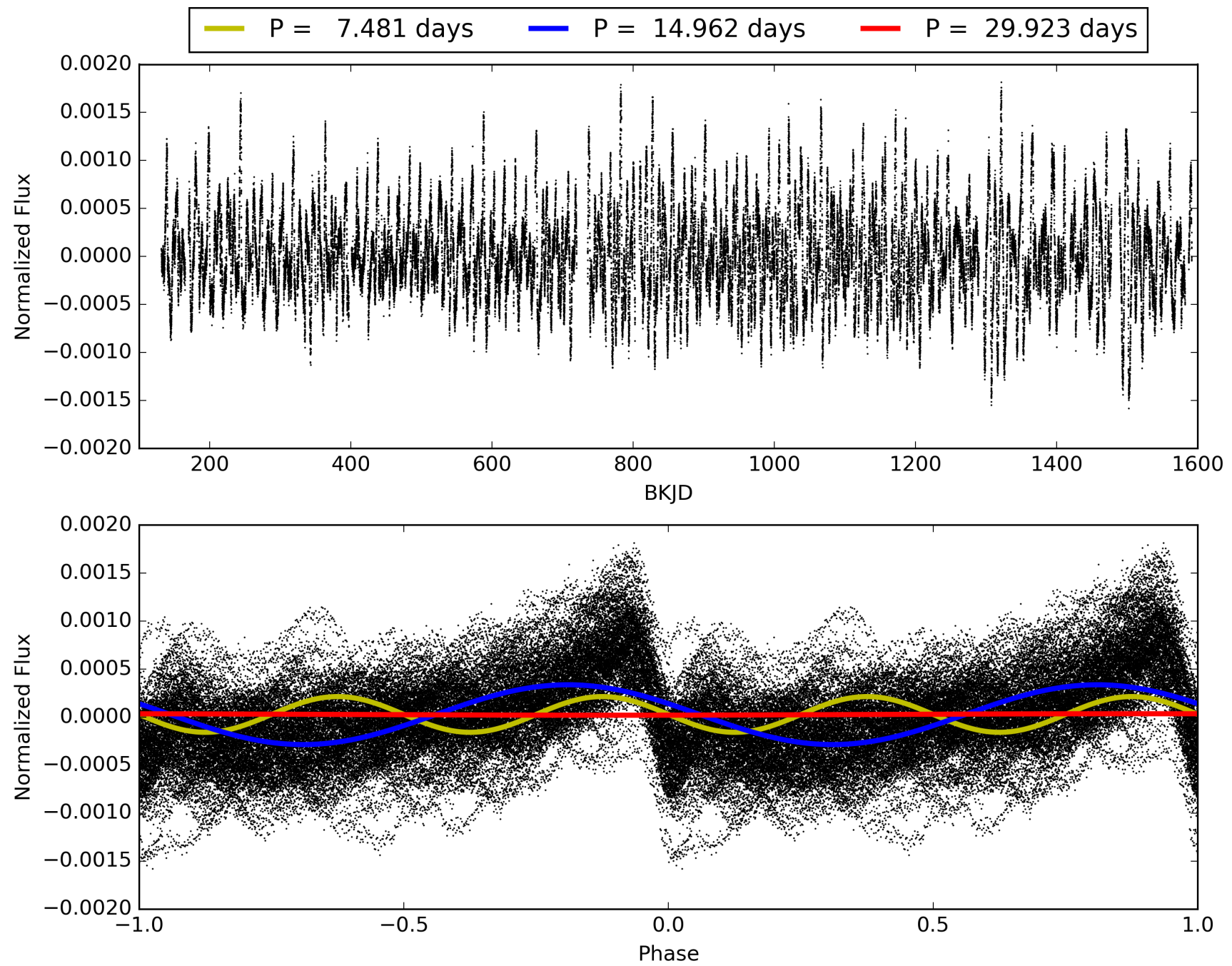
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:00:08 Z

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

# TCE 005818706-01, PDC Light Curves

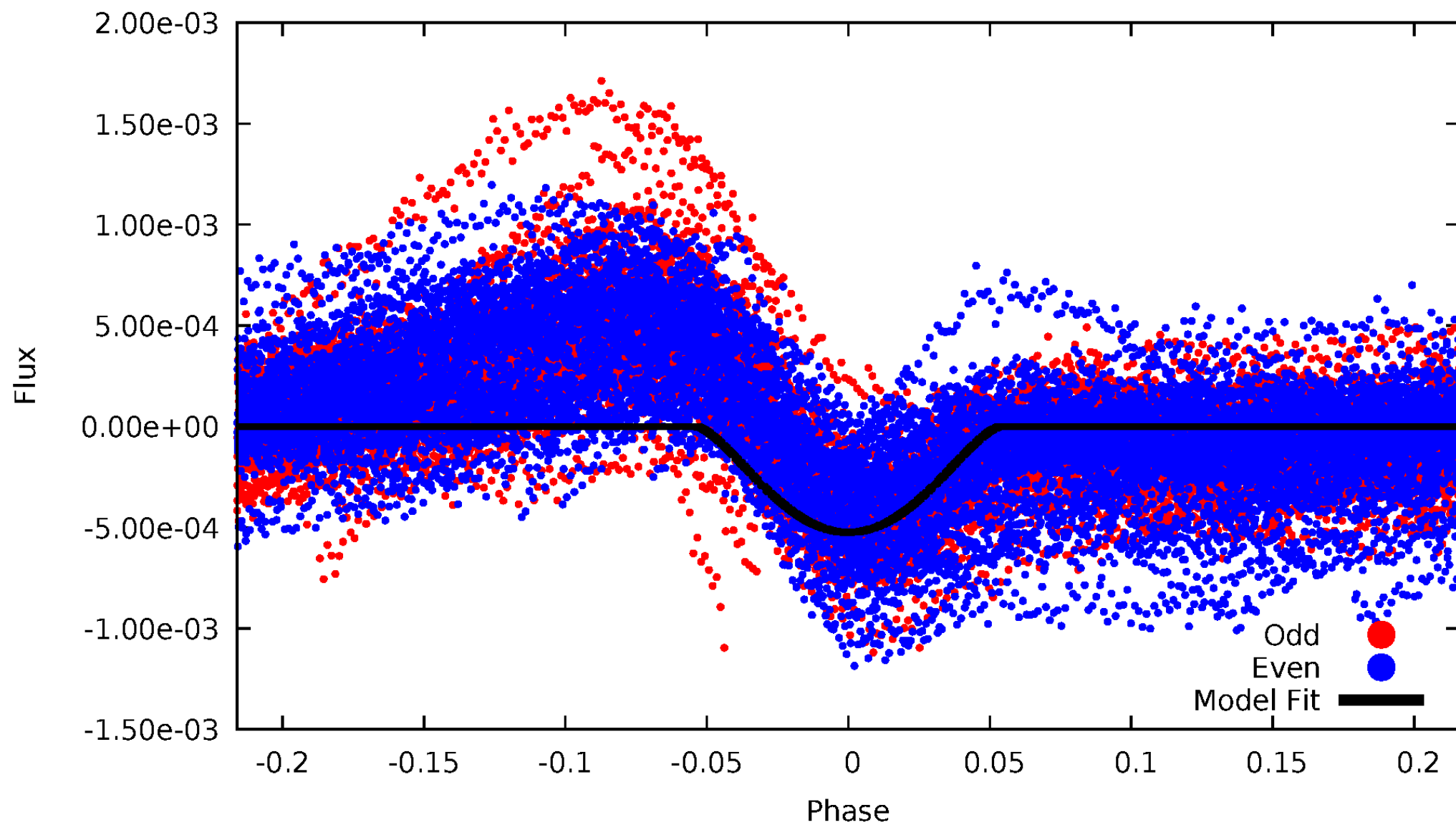


TCE 005818706-01



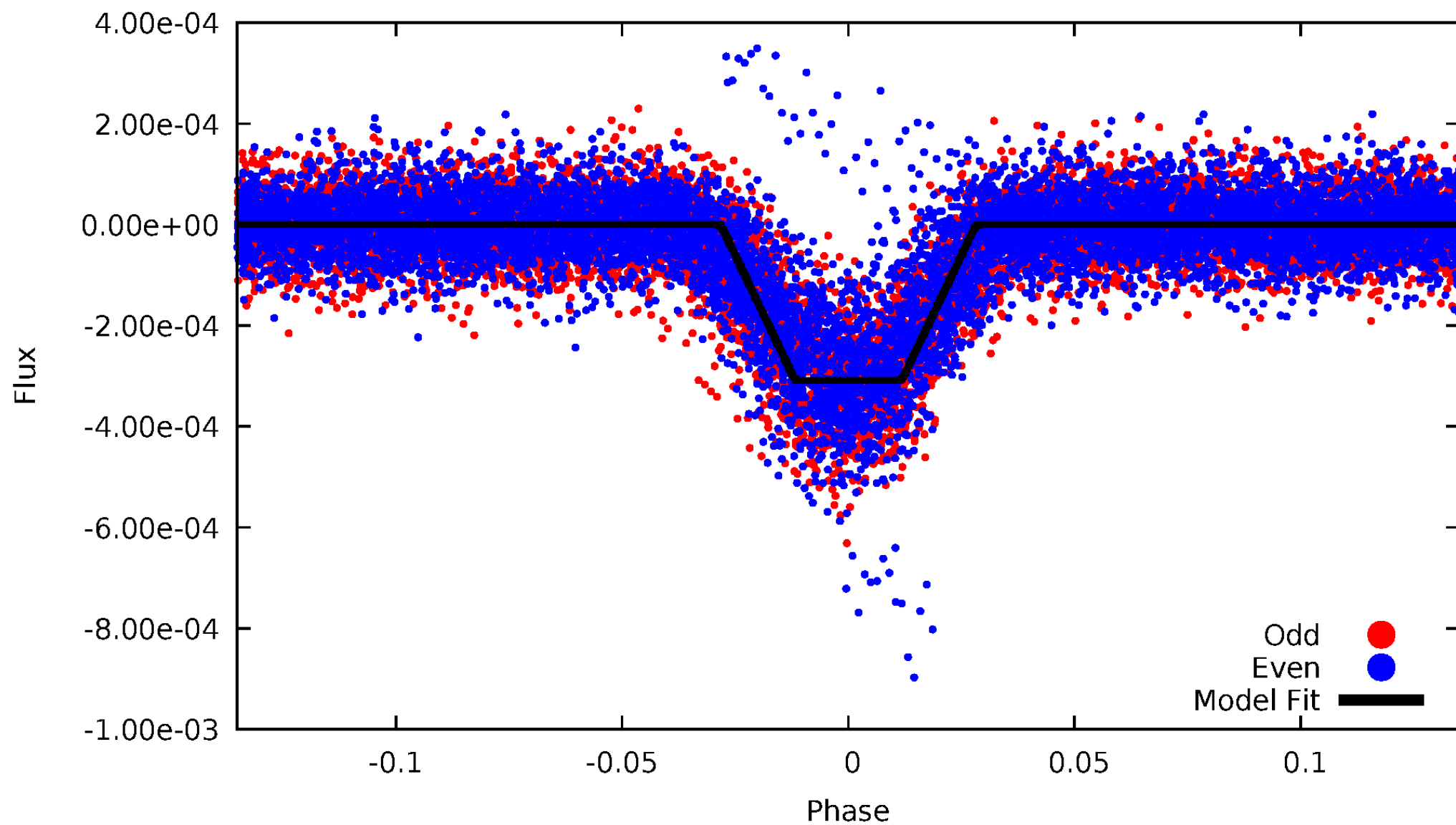
# DV Odd/Even

TCE 005818706-01



# ALT Odd/Even

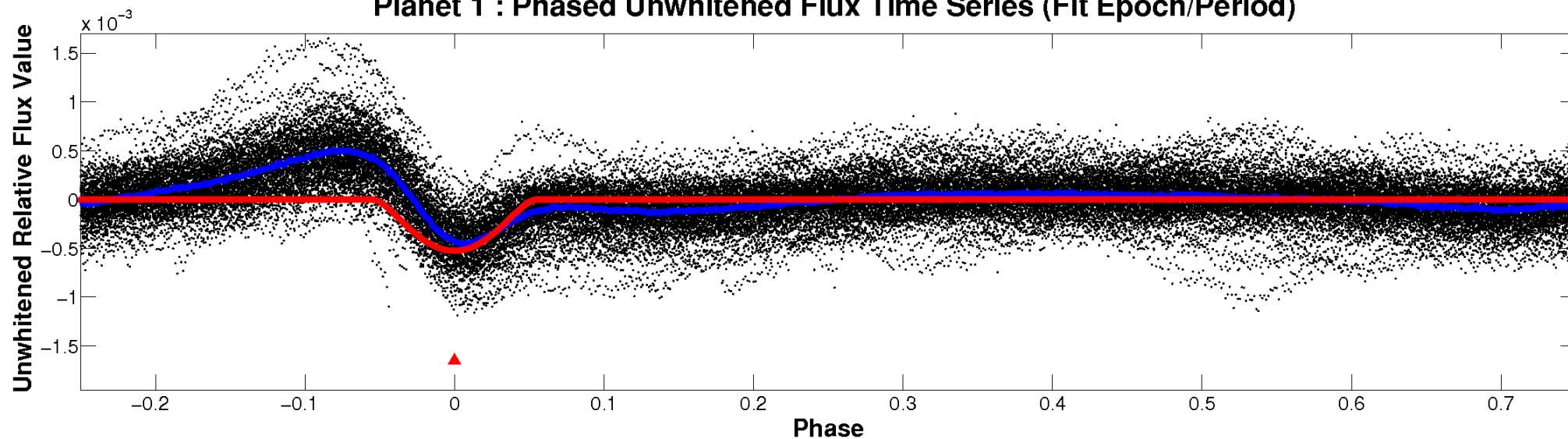
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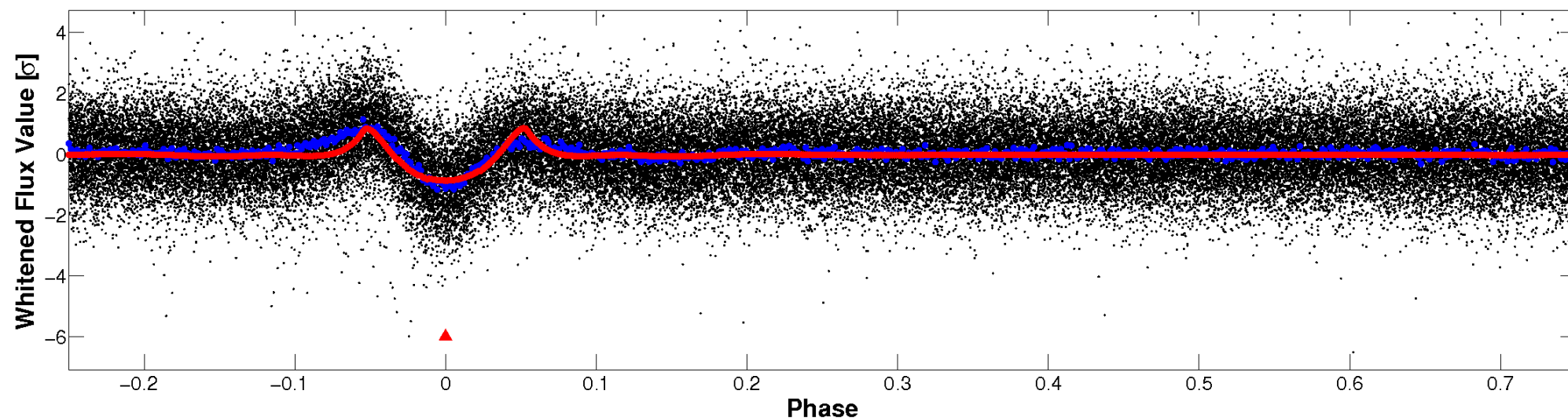


# Non-Whitened Vs. Whitened Light Curve

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

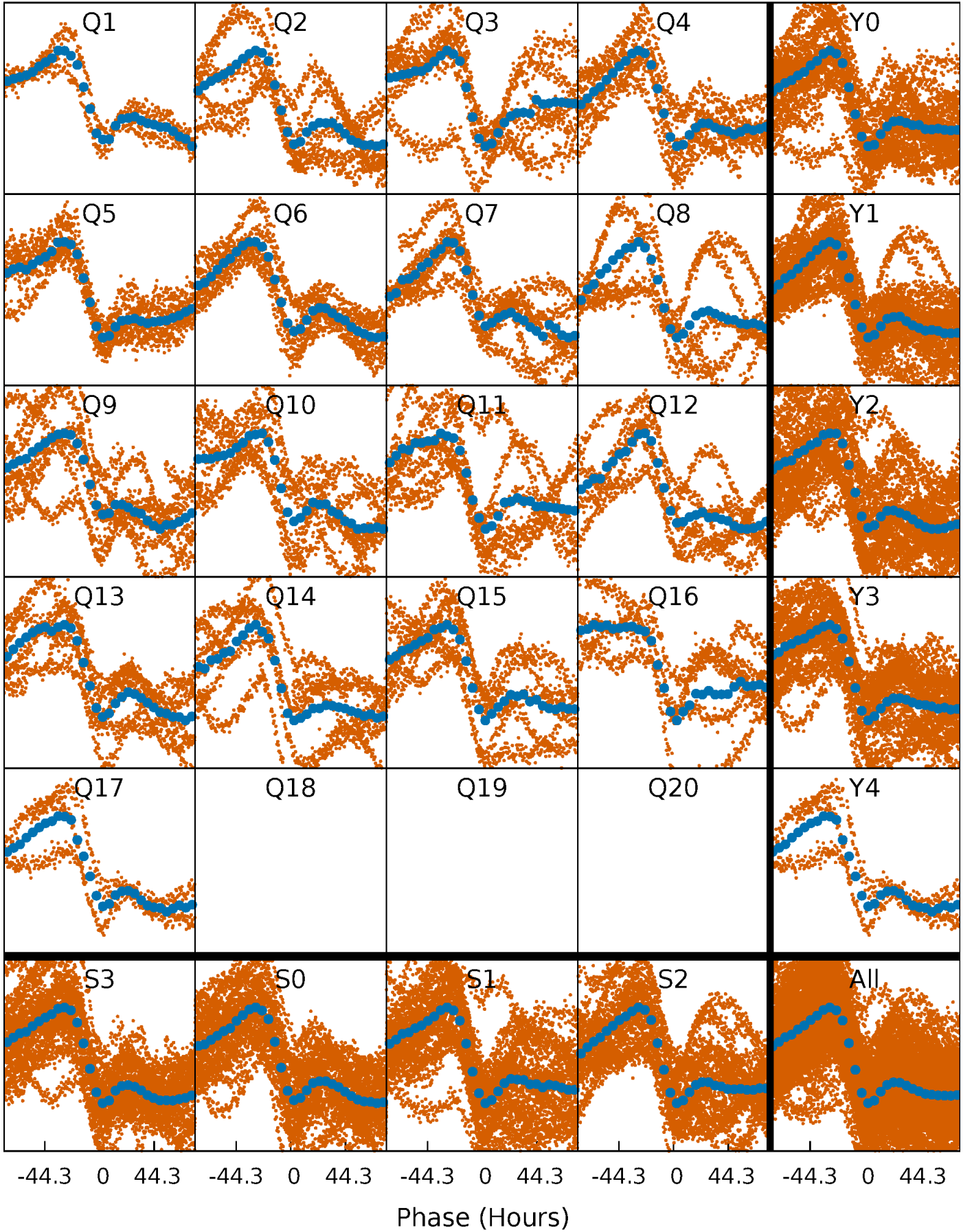


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

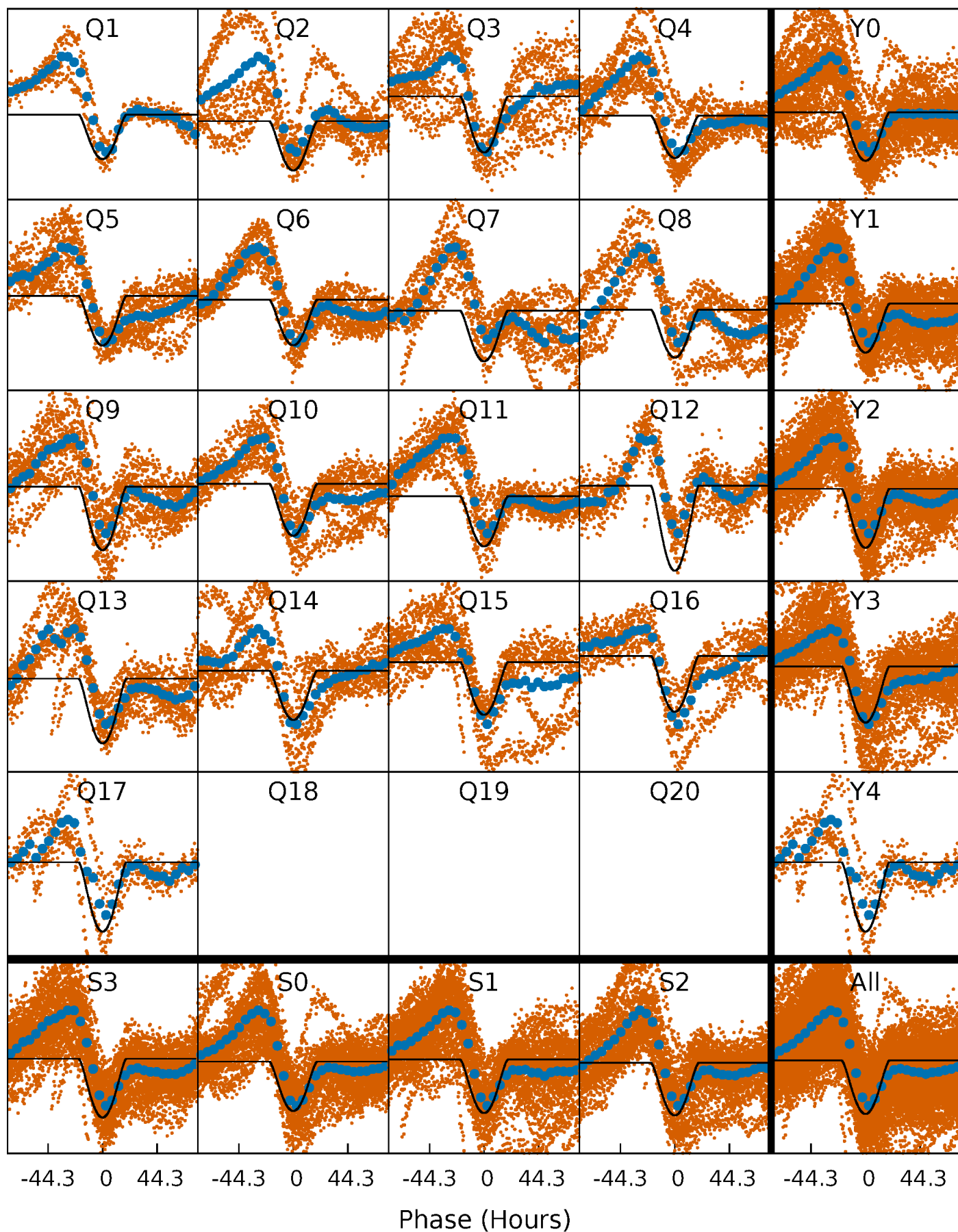
TCE 005818706-01 P= 14.961622 Days  $T_0=140.207916$  (BKJD)





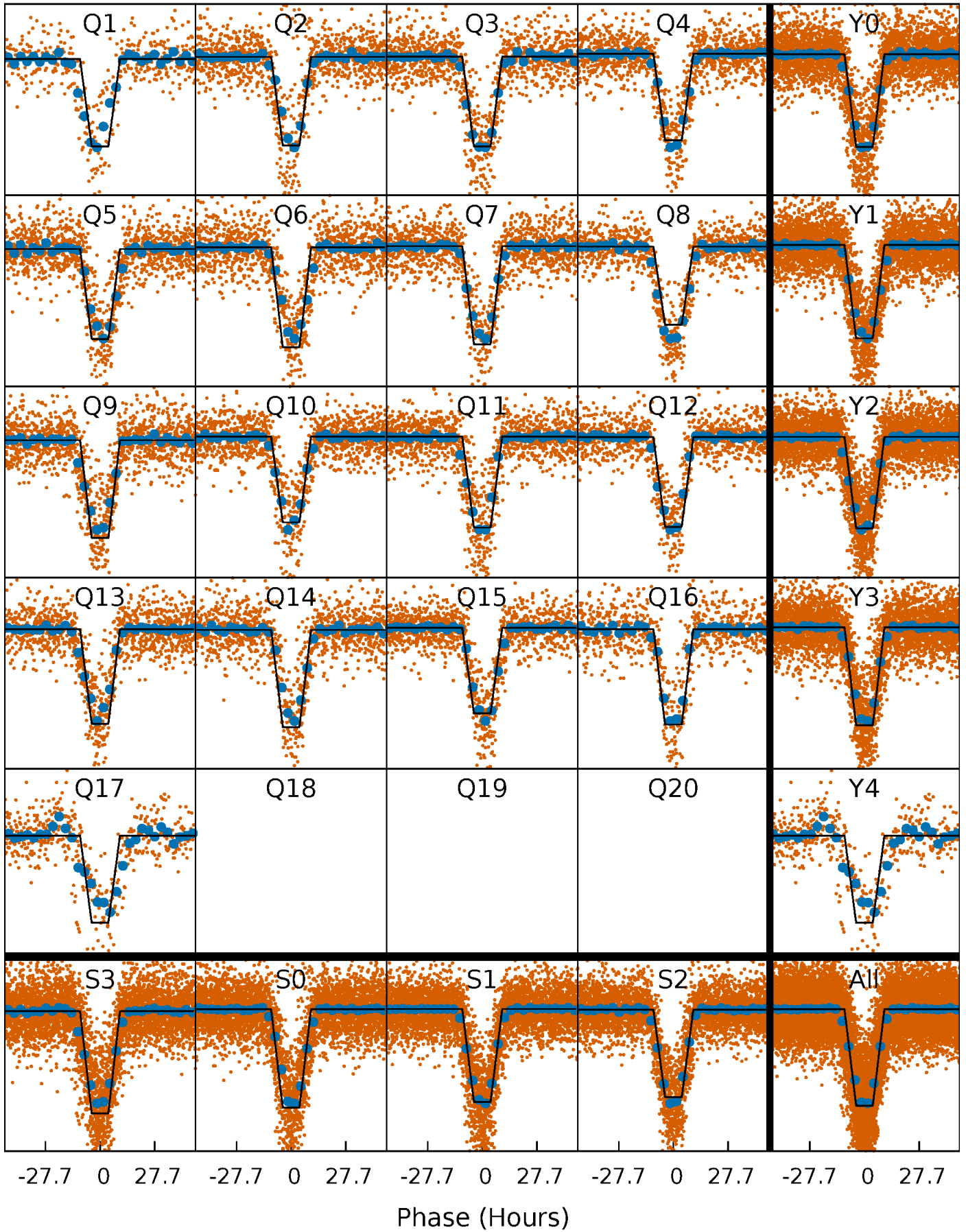
# DV Quarter-Phased Transit Curves

TCE 005818706-01 P= 14.961622 Days  $T_0=140.207916$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

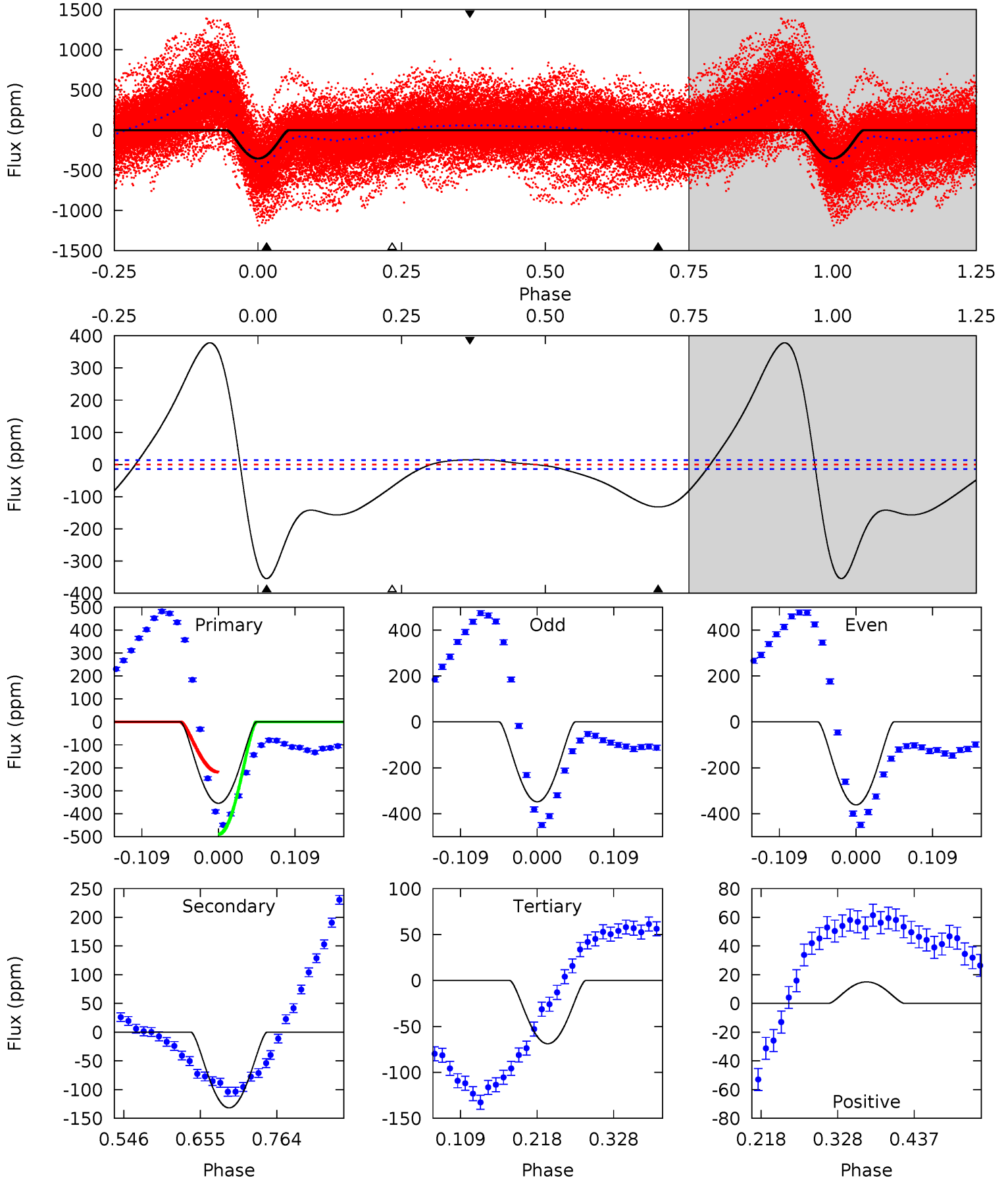
TCE 005818706-01   P= 14.960688 Days    $T_0=140.247691$  (BKJD)



# DV Model-Shift Uniqueness Test

005818706-01, P = 14.961622 Days, E = 125.246294 Days

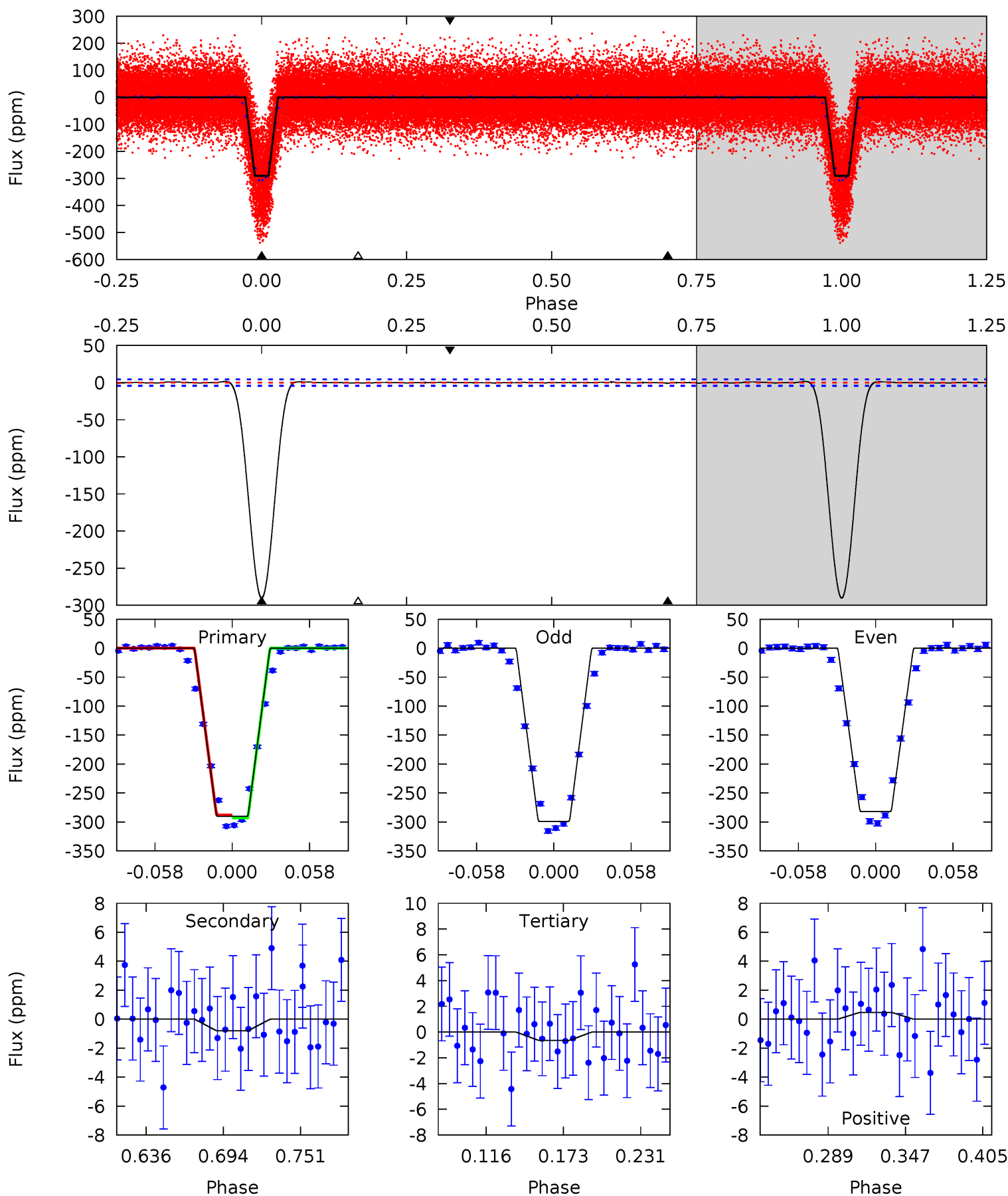
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
116.0	43.2	22.5	4.92	4.55	1.60	36.8	93.5	111.1	20.6	38.2	2.23	1.20	0.52	46.3



# Alt Model-Shift Uniqueness Test

005818706-01, P = 14.960688 Days, E = 125.287003 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
307.6	0.85	0.68	0.50	4.68	1.90	0.43	307.0	307.1	0.17	0.35	9.00	1.03	0.01	2.51



### Stellar Parameters For KIC 005818706

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6375^{+162}_{-178}$	$4.056^{+0.252}_{-0.126}$	$-0.300^{+0.250}_{-0.300}$	$1.640^{+0.346}_{-0.461}$	$1.116^{+0.193}_{-0.145}$	$0.356^{+0.497}_{-0.134}$
	+3%/-3%	+6%/-3%	+83%/-100%	+21%/-28%	+17%/-13%	+140%/-38%
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 005818706-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-132 \pm 3$	$7.15^{+1.48}_{-1.38}$	$1418^{+91}_{-107}$	$3766^{+229}_{-176}$	$22^{+11}_{-7}$
Alt.	$-1 \pm 1$	$2.91^{+1.18}_{-0.96}$	$1419^{+89}_{-112}$	$2195^{+405}_{-4439}$	$0.727^{+1.582}_{-0.890}$

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



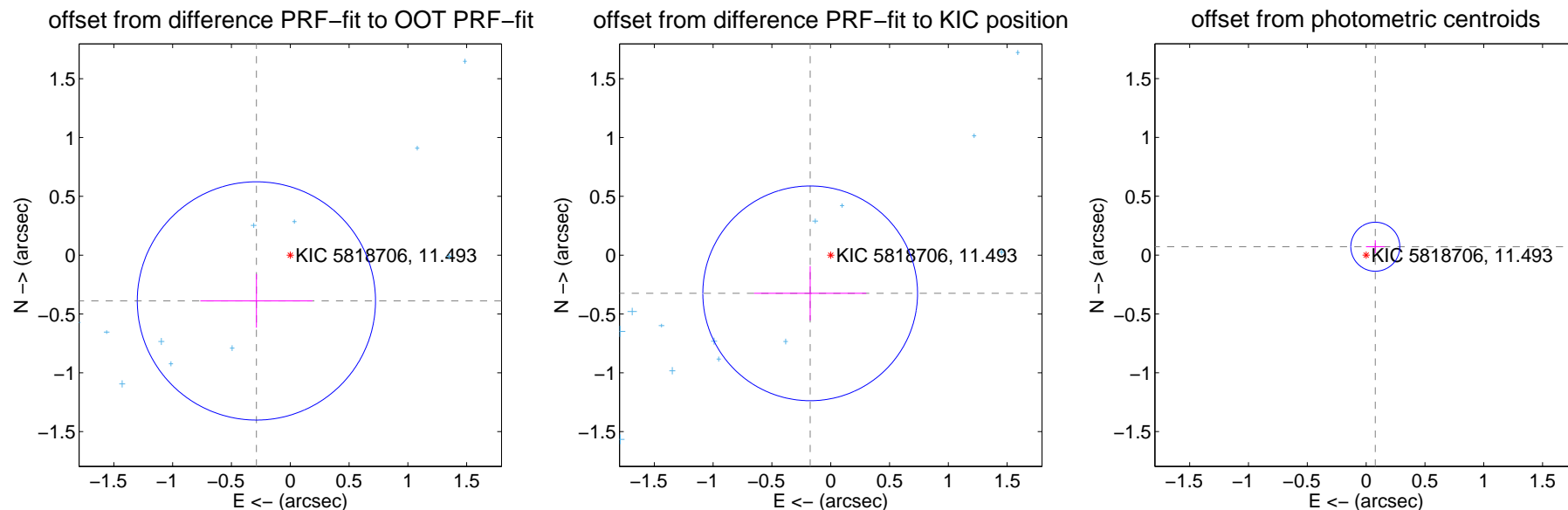
## DV Centroid Data

Supplemental centroid analysis for 005818706-01. **Kepler magnitude: 11.49.** Transit SNR 55.64

There are 14 quarters with good PRF difference image offsets

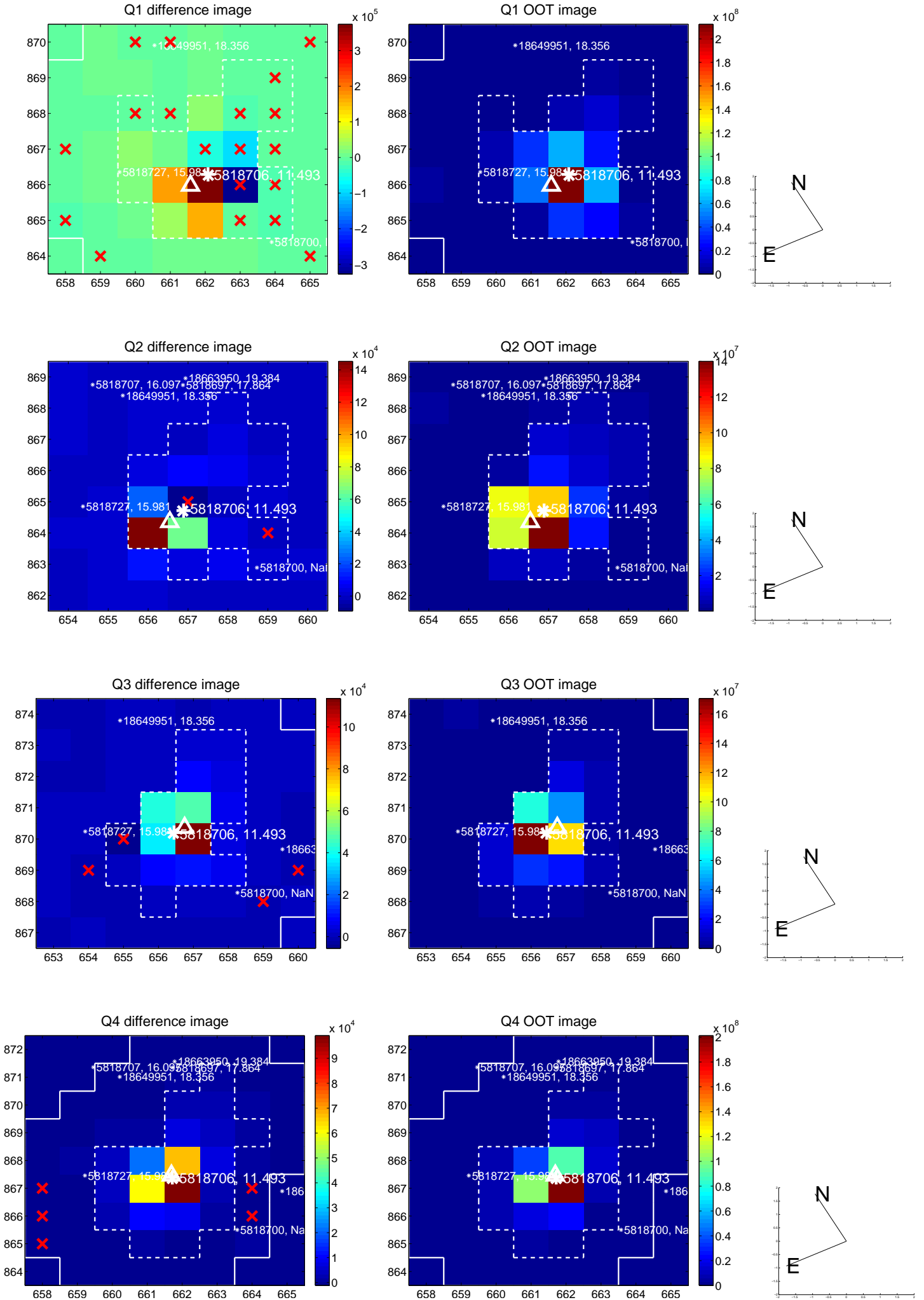
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.484 \pm 0.338$	1.43	$0.288 \pm 0.477$	$-0.389 \pm 0.228$
PRF-fit source offset from KIC position	$0.369 \pm 0.304$	1.21	$0.175 \pm 0.477$	$-0.325 \pm 0.232$
photometric centroid source offset	$0.11 \pm 0.07$	1.52	$-0.08 \pm 0.08$	$0.07 \pm 0.06$

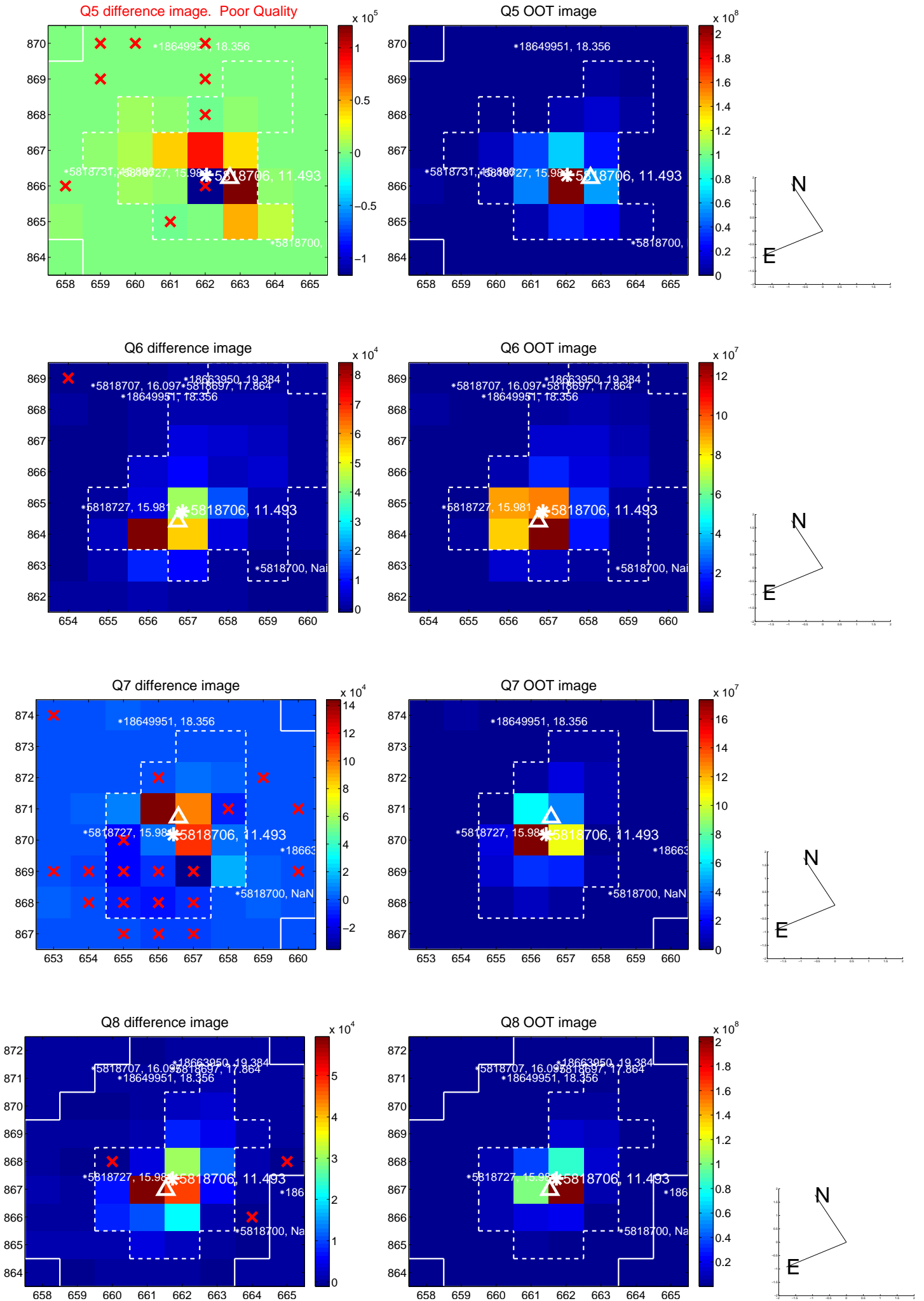


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

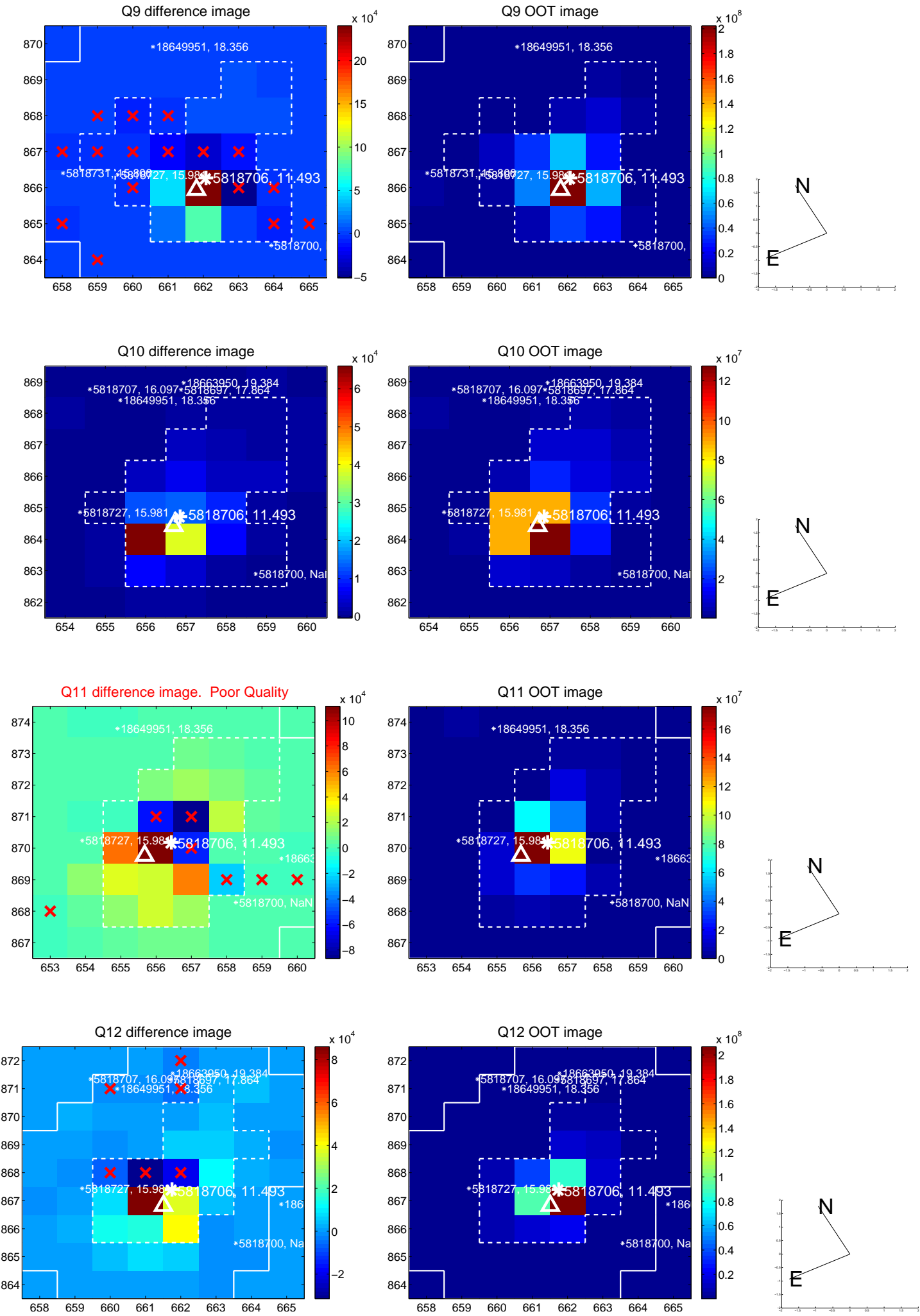
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



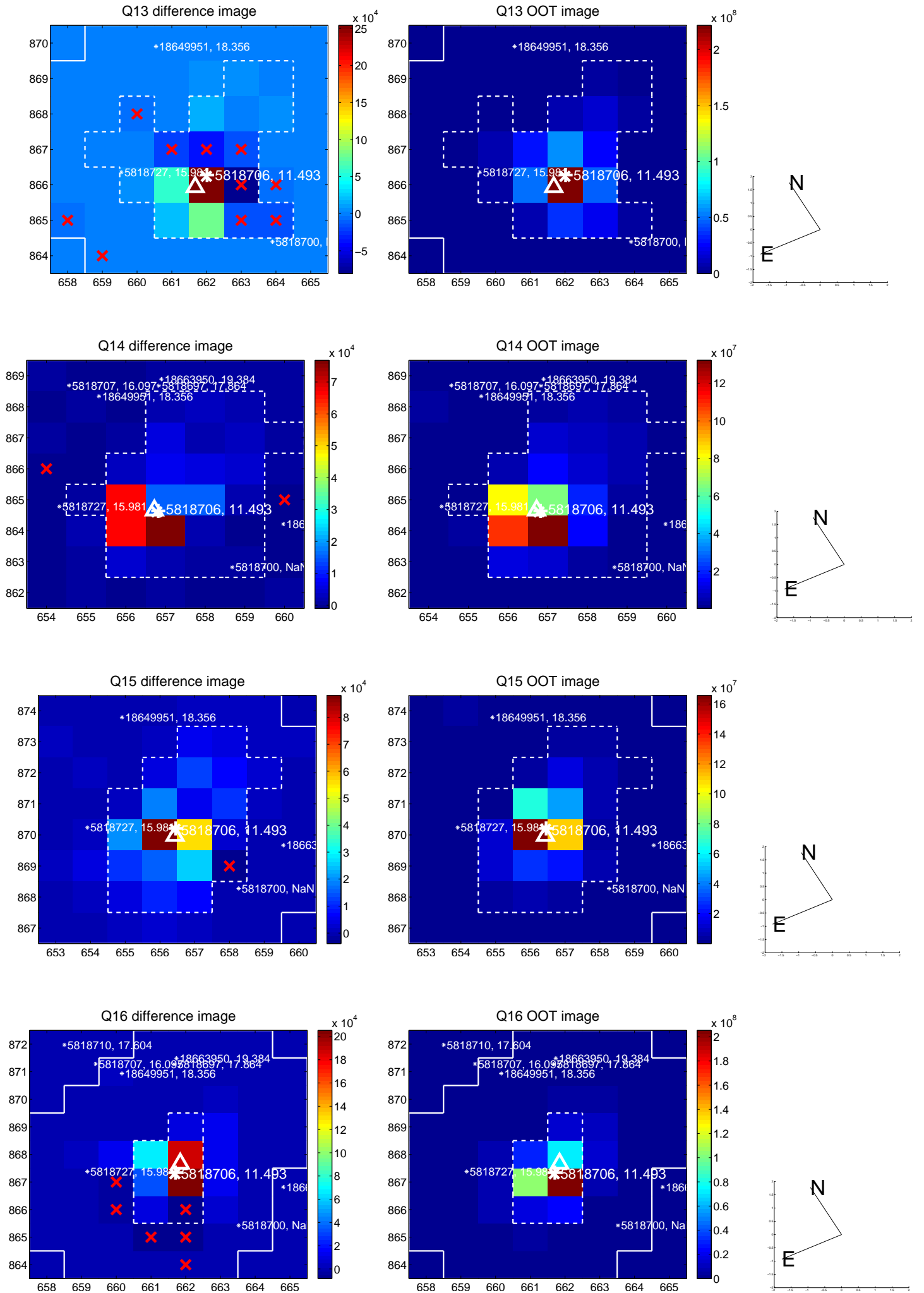
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

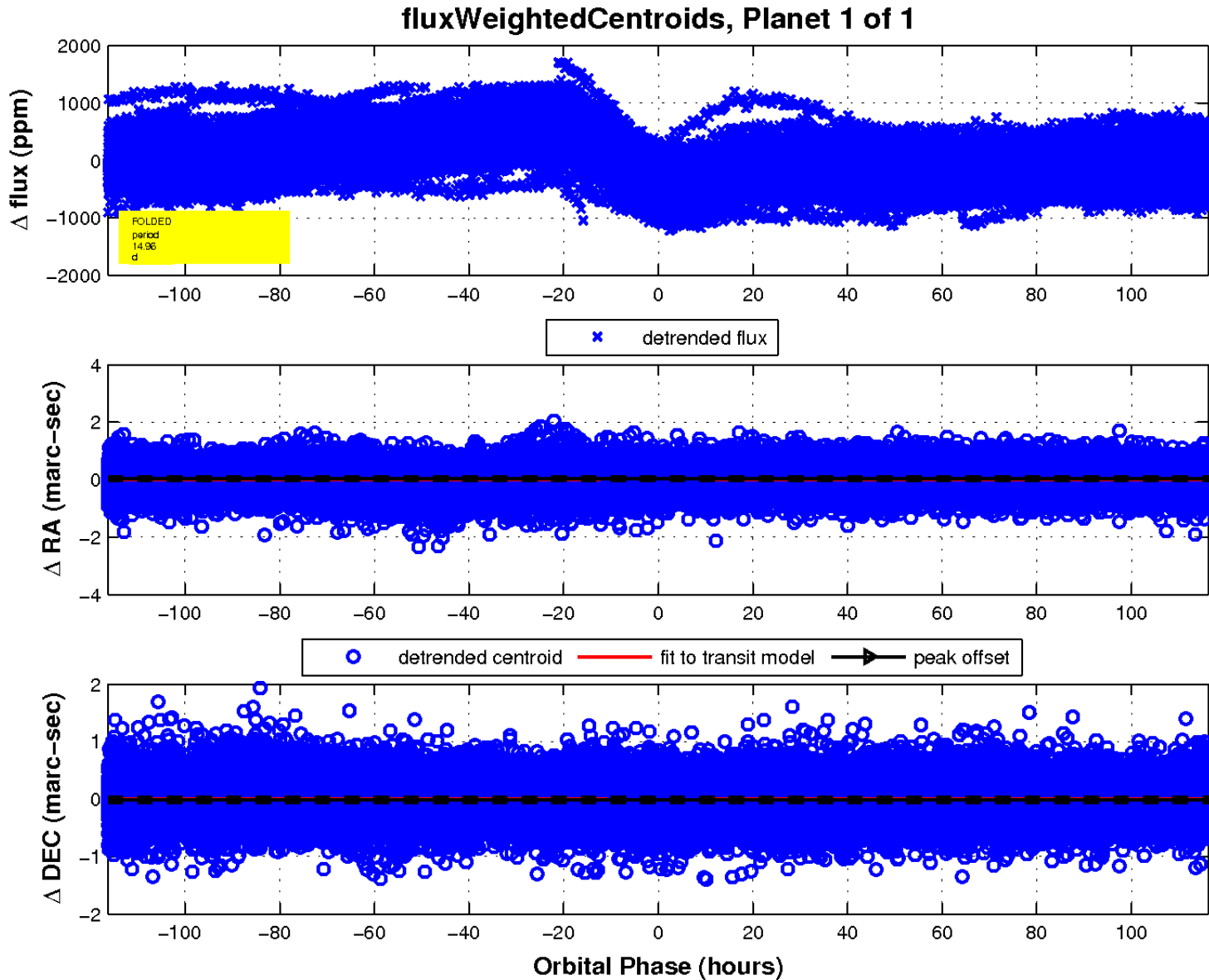
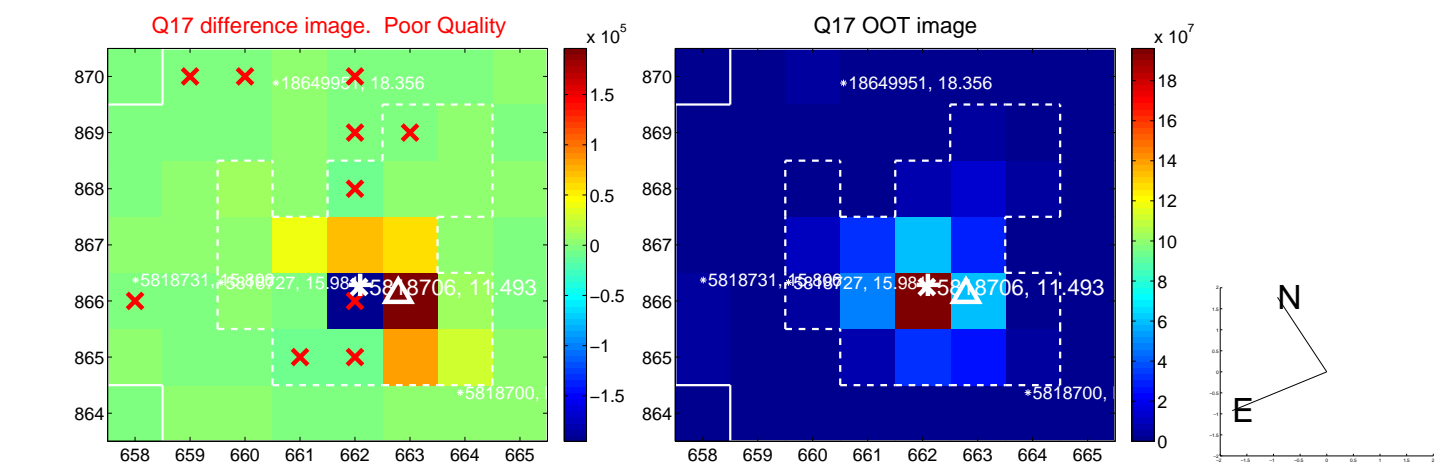


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

