

# KIC 005206767

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005206767-01	OBS	No	2.534025	132.182675	13.1	30.408	9.2	6.2	3.30	8089	1.34	18266.16

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005206767-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_MEAS

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

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

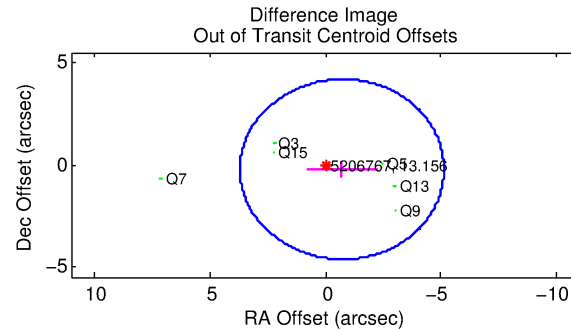
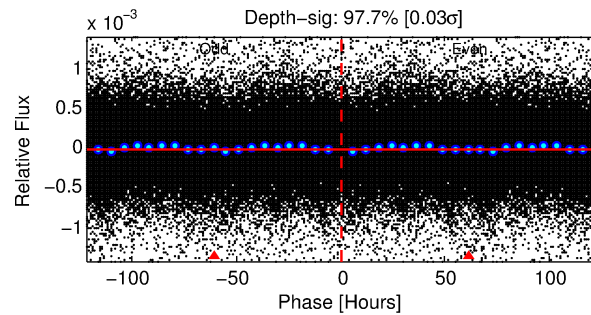
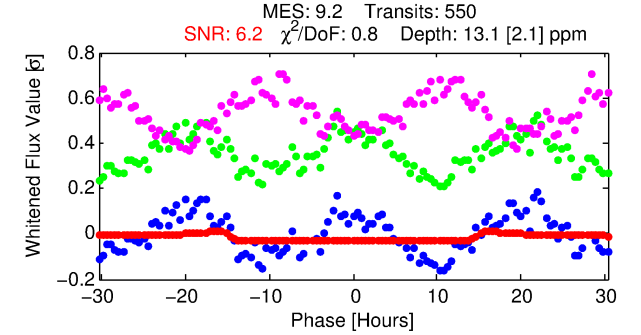
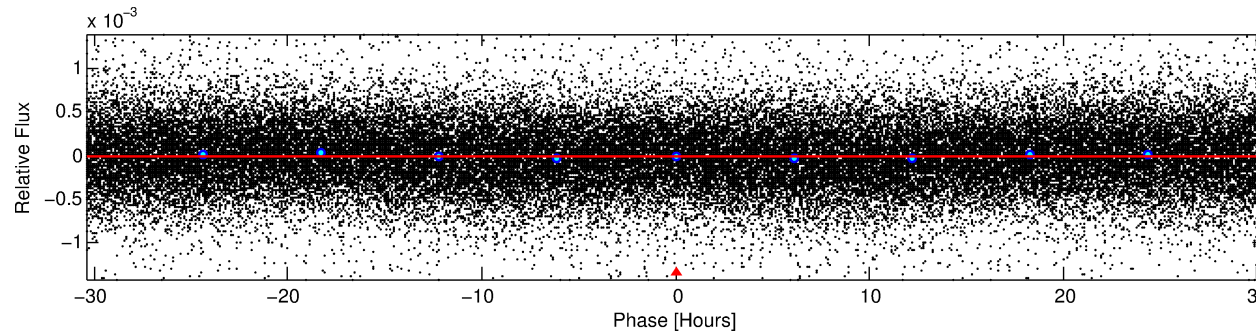
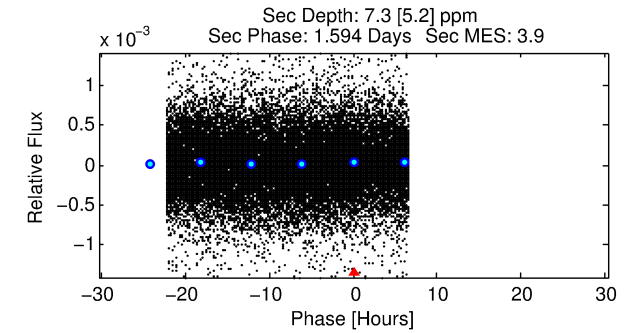
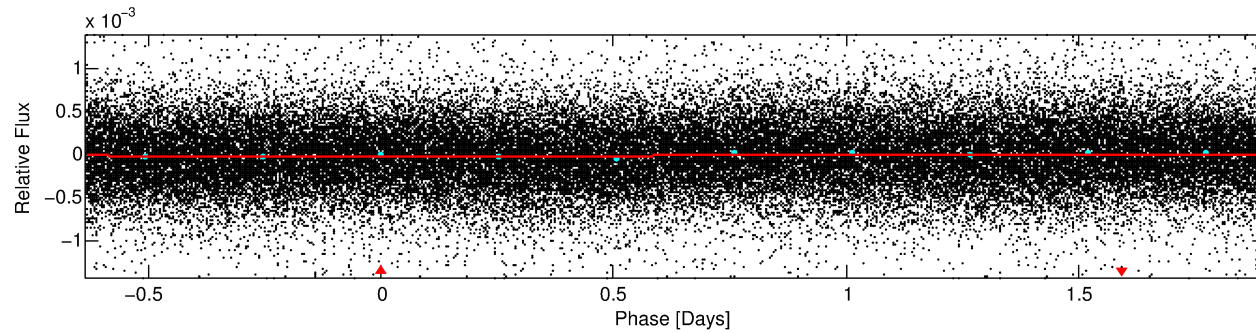
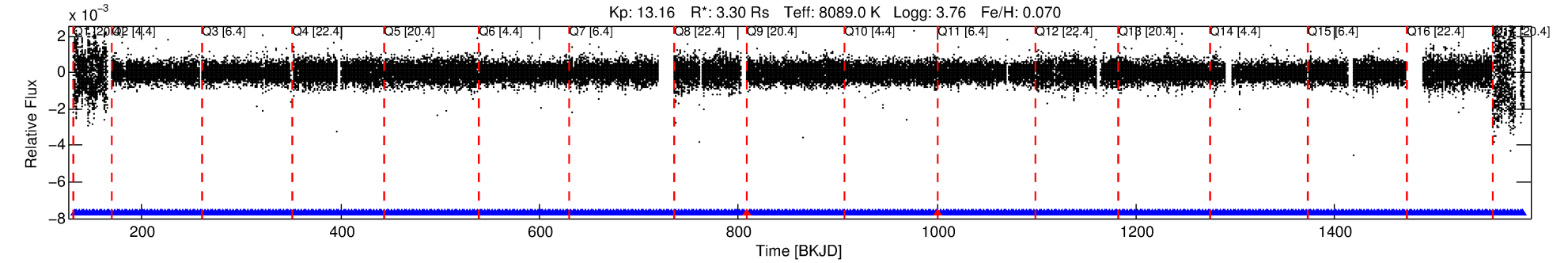
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005206767-01

No Significant Match Found

# DV One-Page Summary

KIC: 5206767 Candidate: 1 of 1 Period: 2.534 d



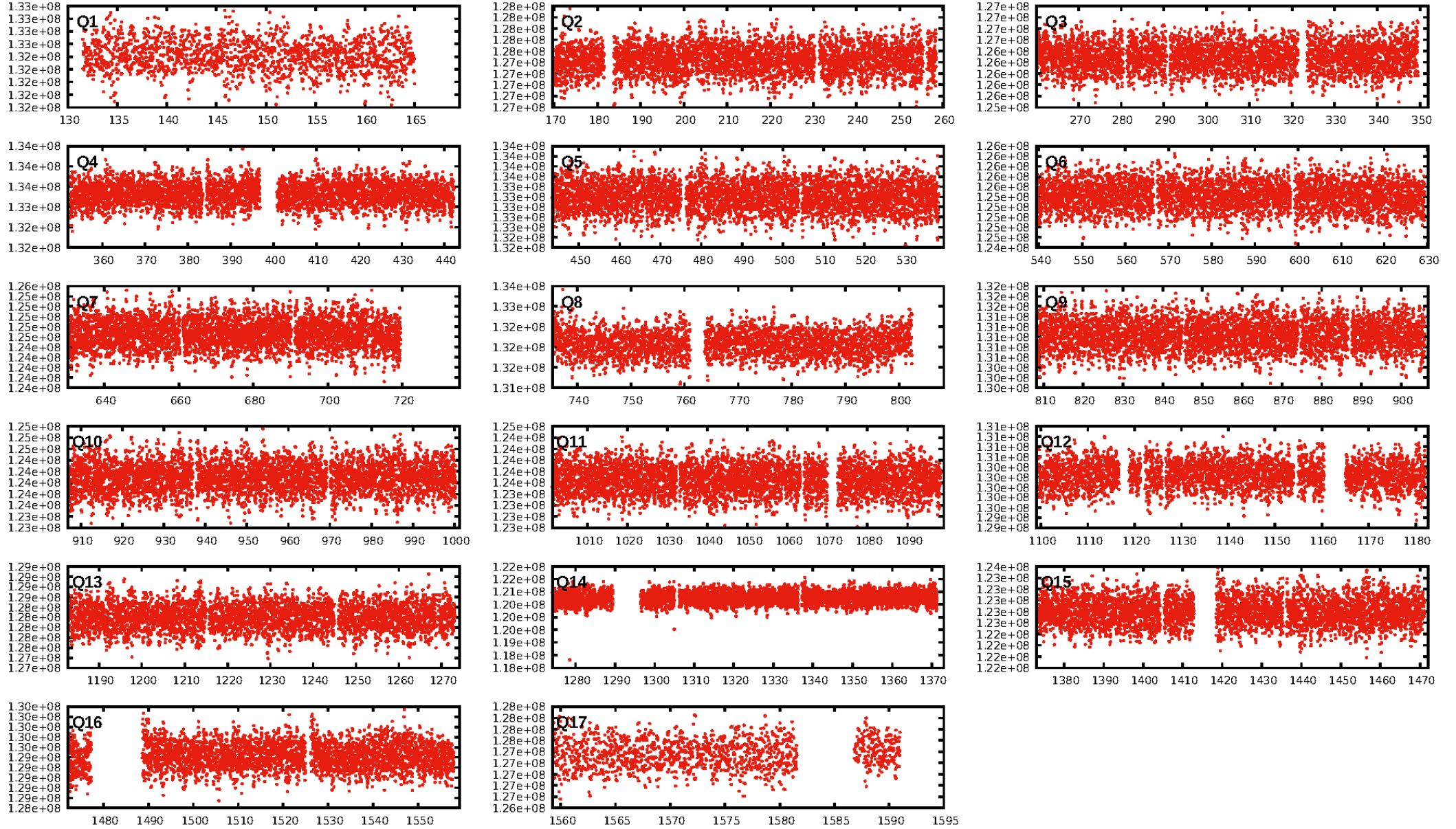
## DV Fit Results:

Period = 2.53403 [0.00015] d  
Epoch = 132.1827 [0.0430] BKJD  
Rp/R\* = 0.0037 [0.0012]  
a/R\* = 1.00 [0.00]  
b = 0.84 [0.71]  
Seff = 18266.16 [6809.20]  
Teq = 2964 [276] K  
Rp = 1.34 [0.56] Re  
a = 0.0478 [0.0116] AU  
Ag = 5.13 [5.22] [0.79σ]  
Teffp = 6899 [1636] K [2.37σ]

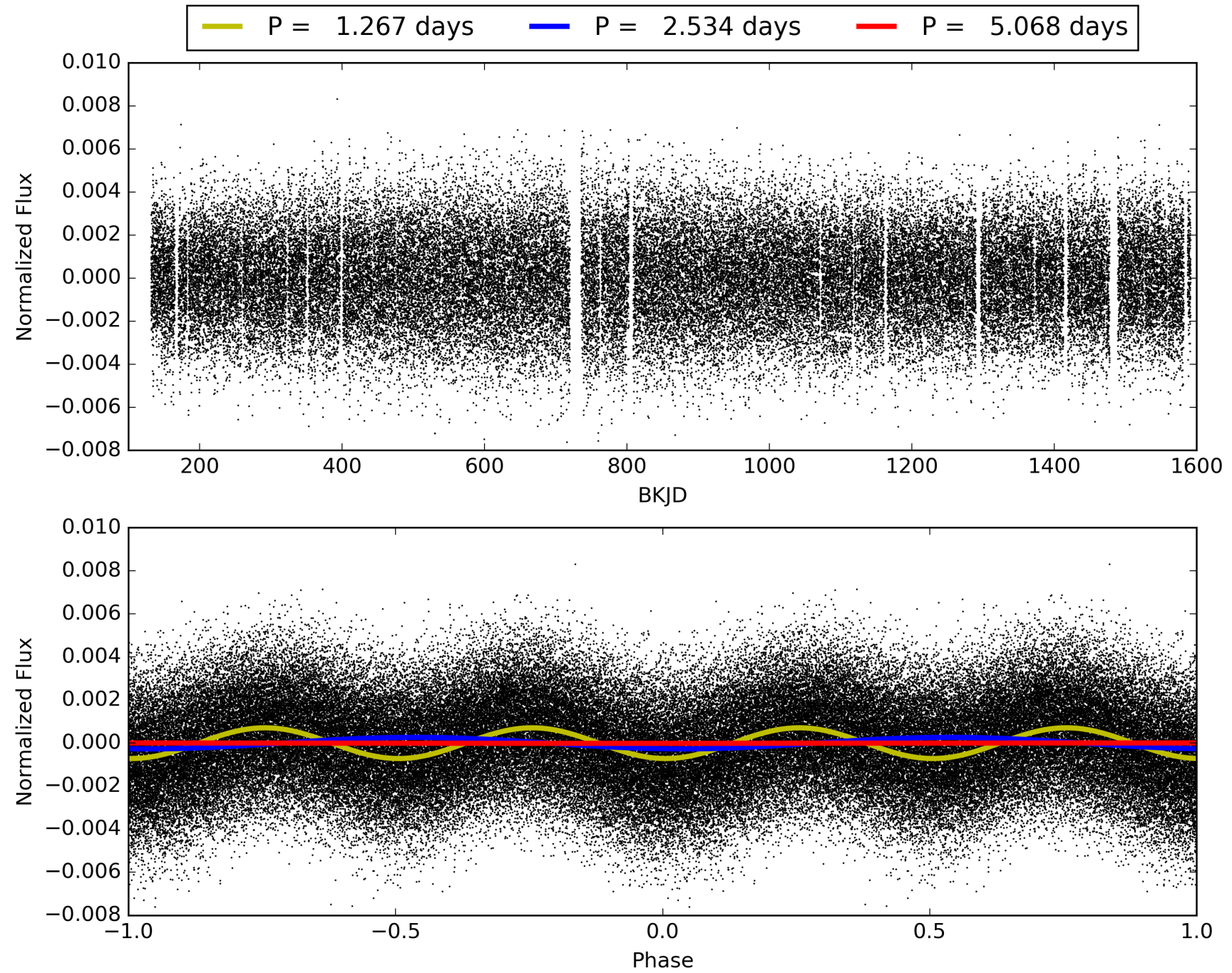
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [522/524]  
GhostDiagnostic-chr: 0.8332  
Centroid-sig: 0.0%  
Centroid-so: 9.783 arcsec [8.11σ]  
OotOffset-rm: 0.752 arcsec [0.51σ]  
KicOffset-rm: 0.829 arcsec [0.61σ]  
OotOffset-st: 0/3/0/3 [6]  
KicOffset-st: 0/3/0/3 [6]  
DiffImageQuality-fgm: 0.17 [1/6]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 005206767-01, PDC Light Curves



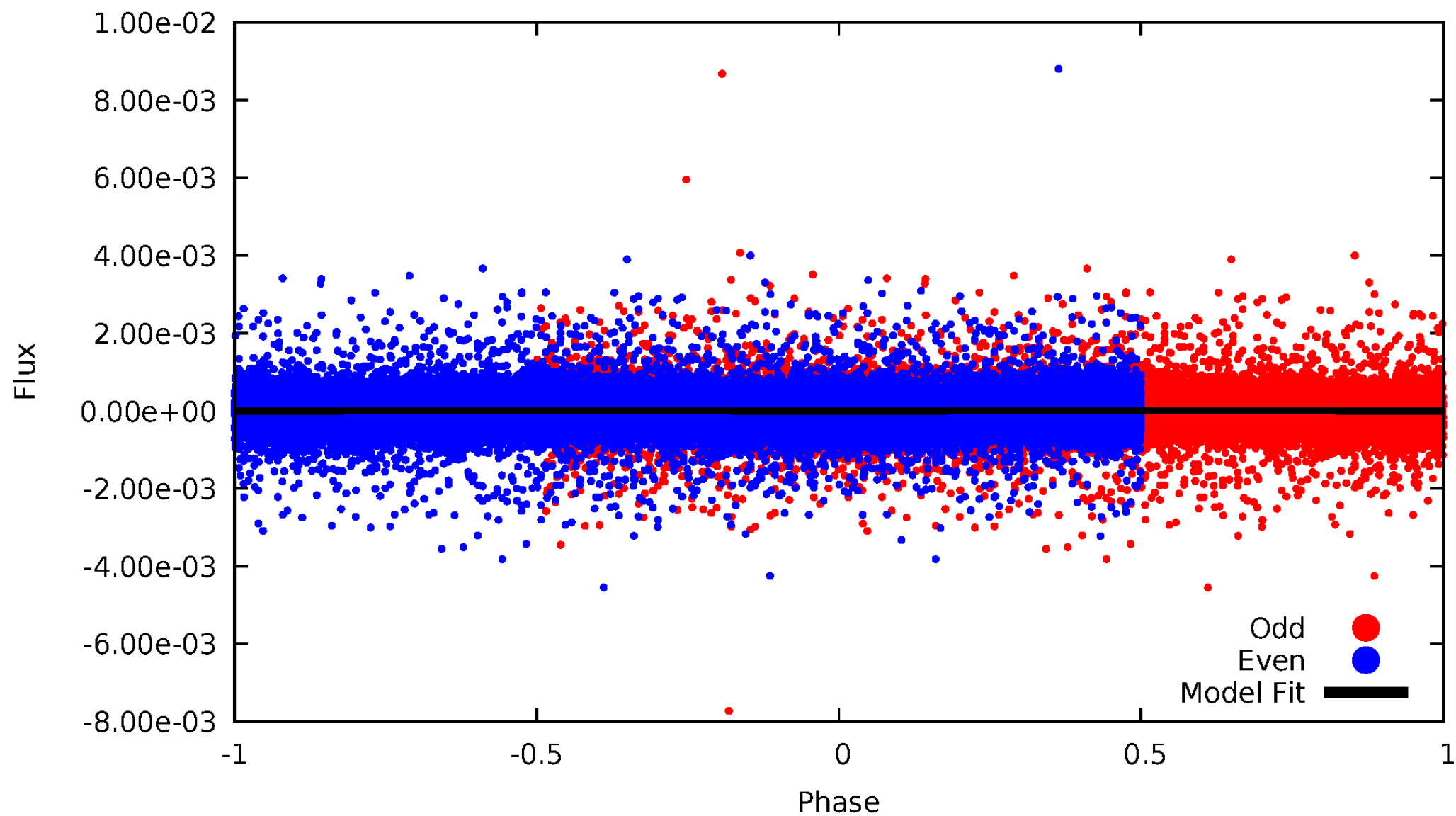
TCE 005206767-01





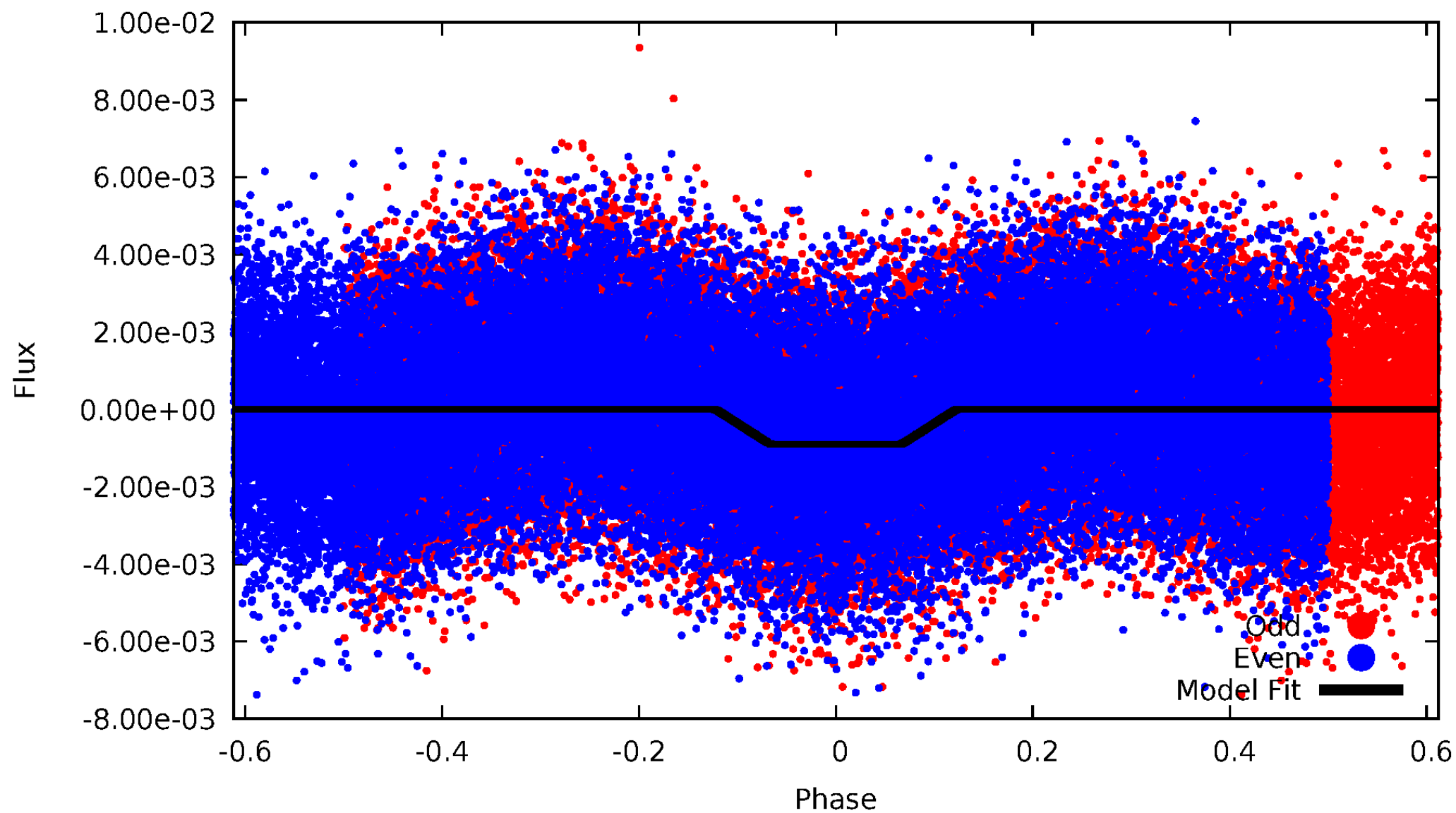
# DV Odd/Even

TCE 005206767-01



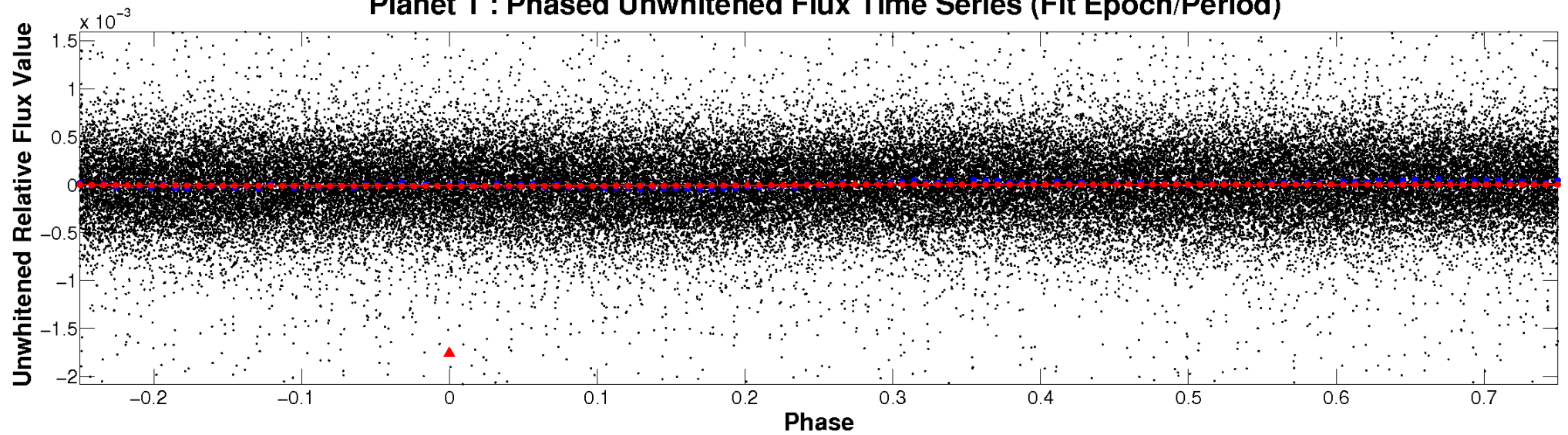
# ALT Odd/Even

TCE 005206767-01

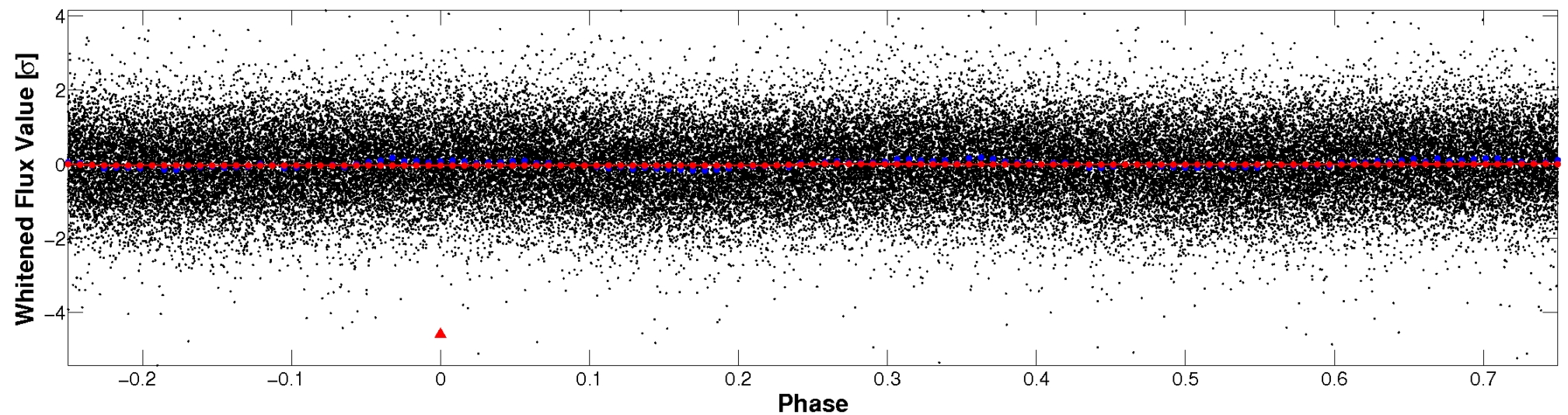


# Non-Whitened Vs. Whitened Light Curve

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

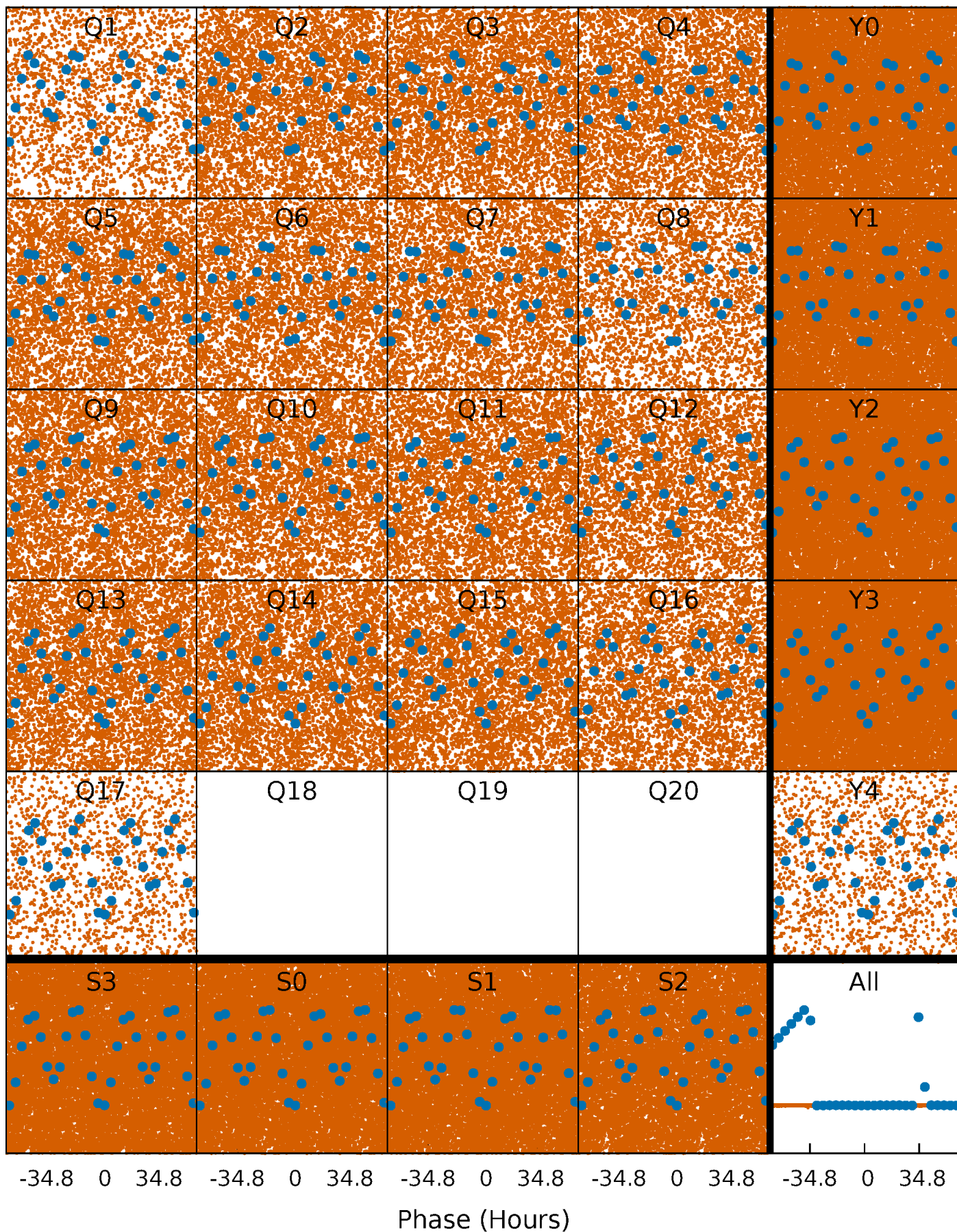


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

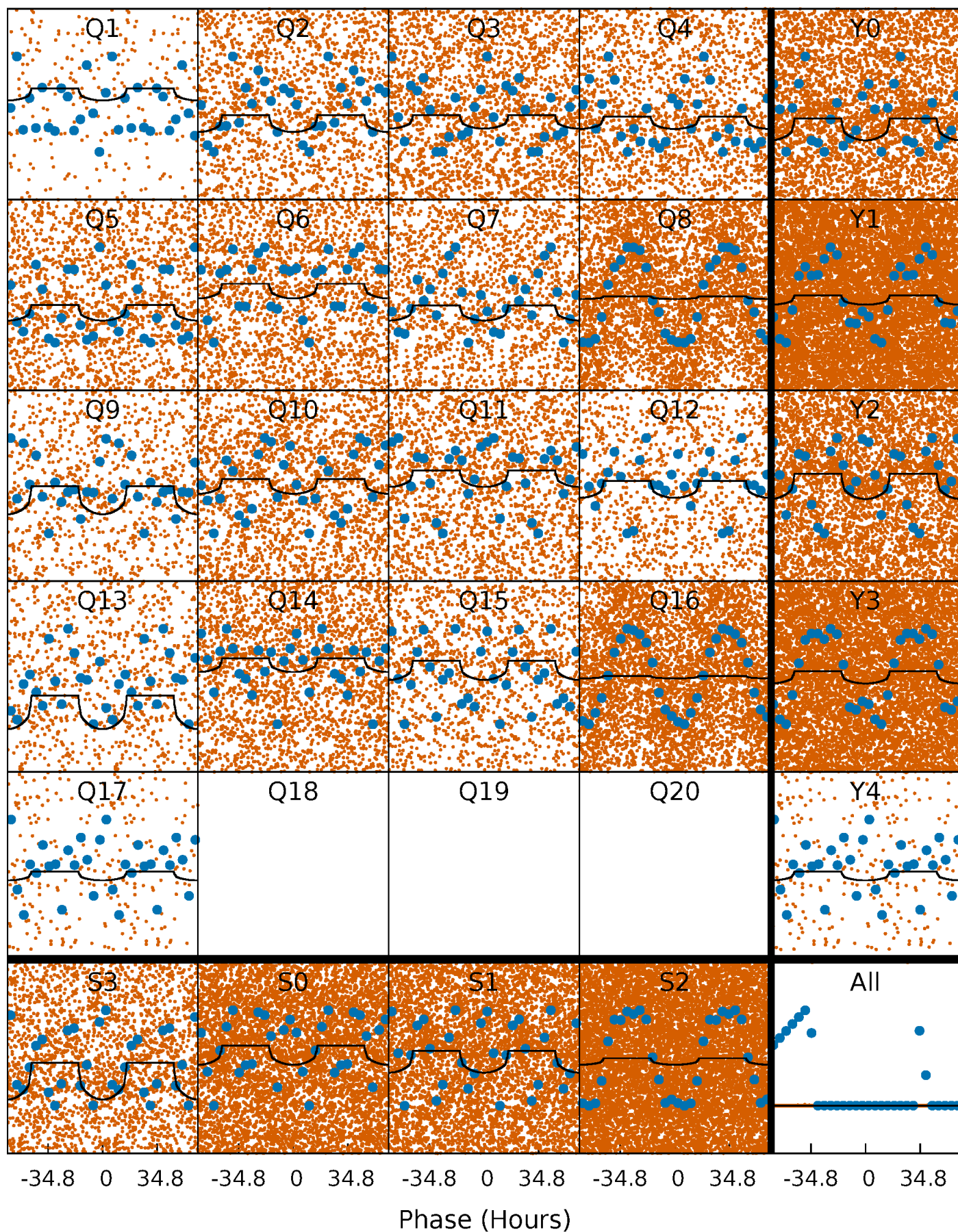
TCE 005206767-01 P= 2.534025 Days  $T_0=132.182675$  (BKJD)





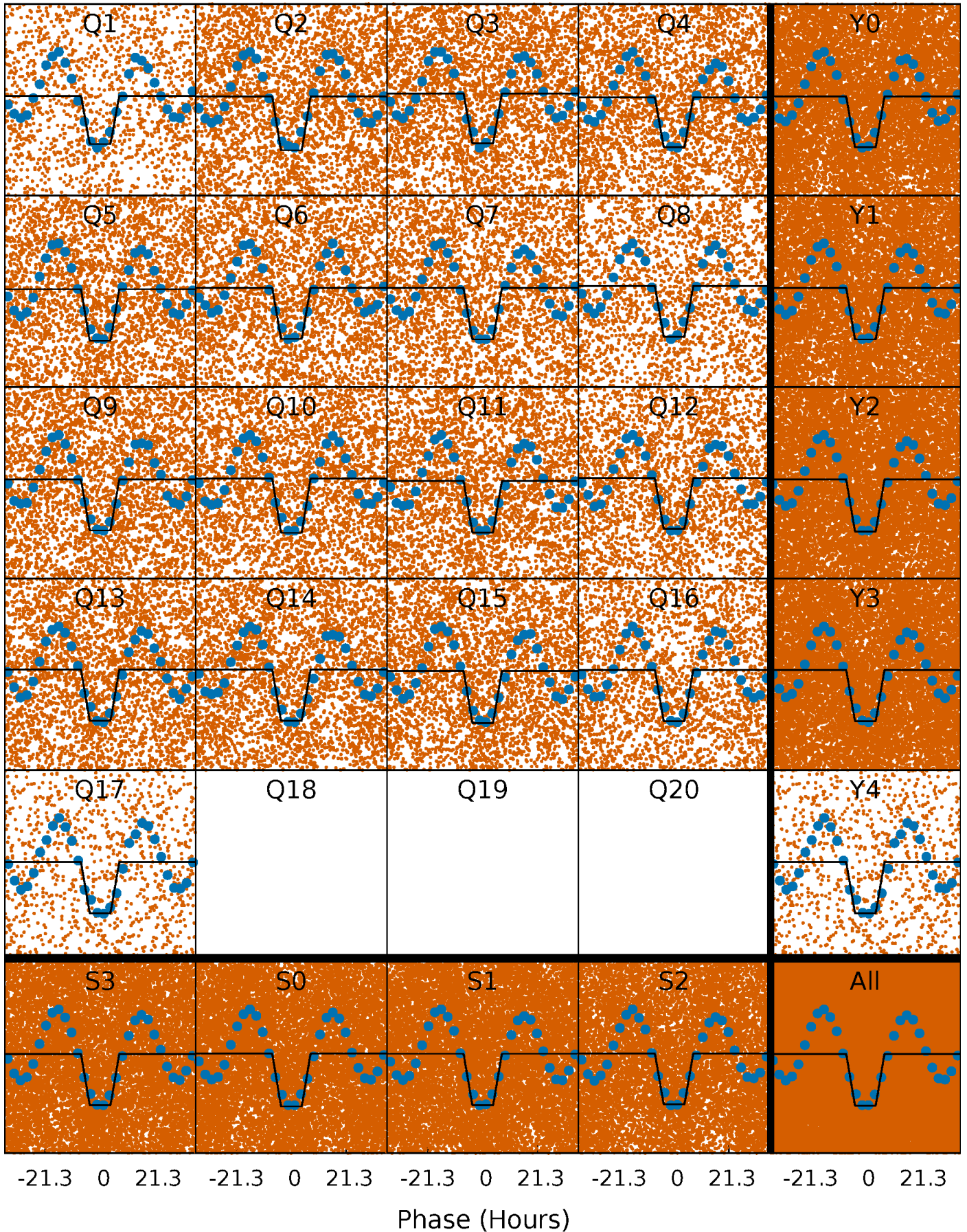
# DV Quarter-Phased Transit Curves

TCE 005206767-01 P= 2.534025 Days  $T_0=132.182675$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005206767-01 P= 2.534115 Days  $T_0=132.177092$  (BKJD)

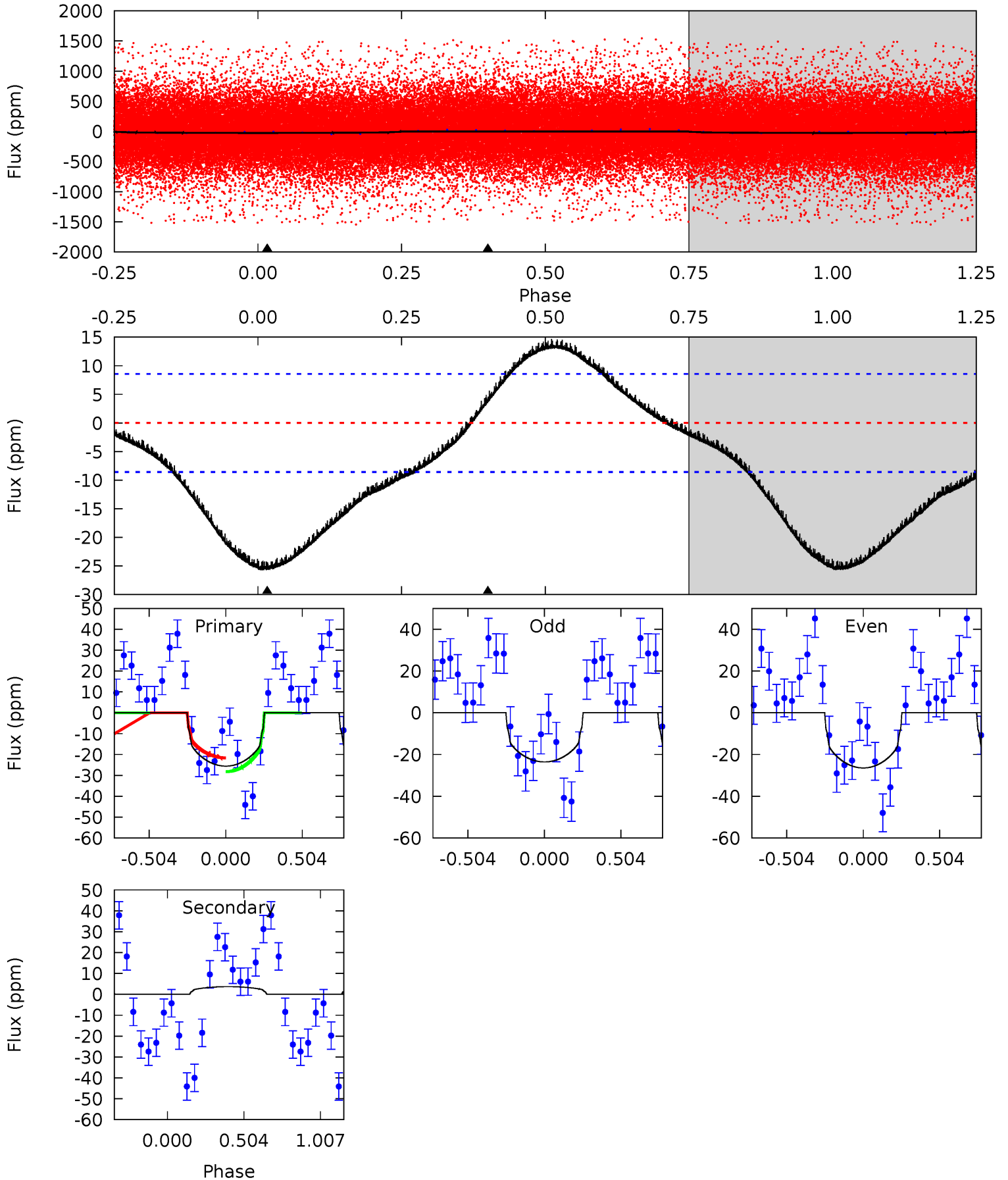




# DV Model-Shift Uniqueness Test

005206767-01, P = 2.534025 Days, E = 129.648650 Days

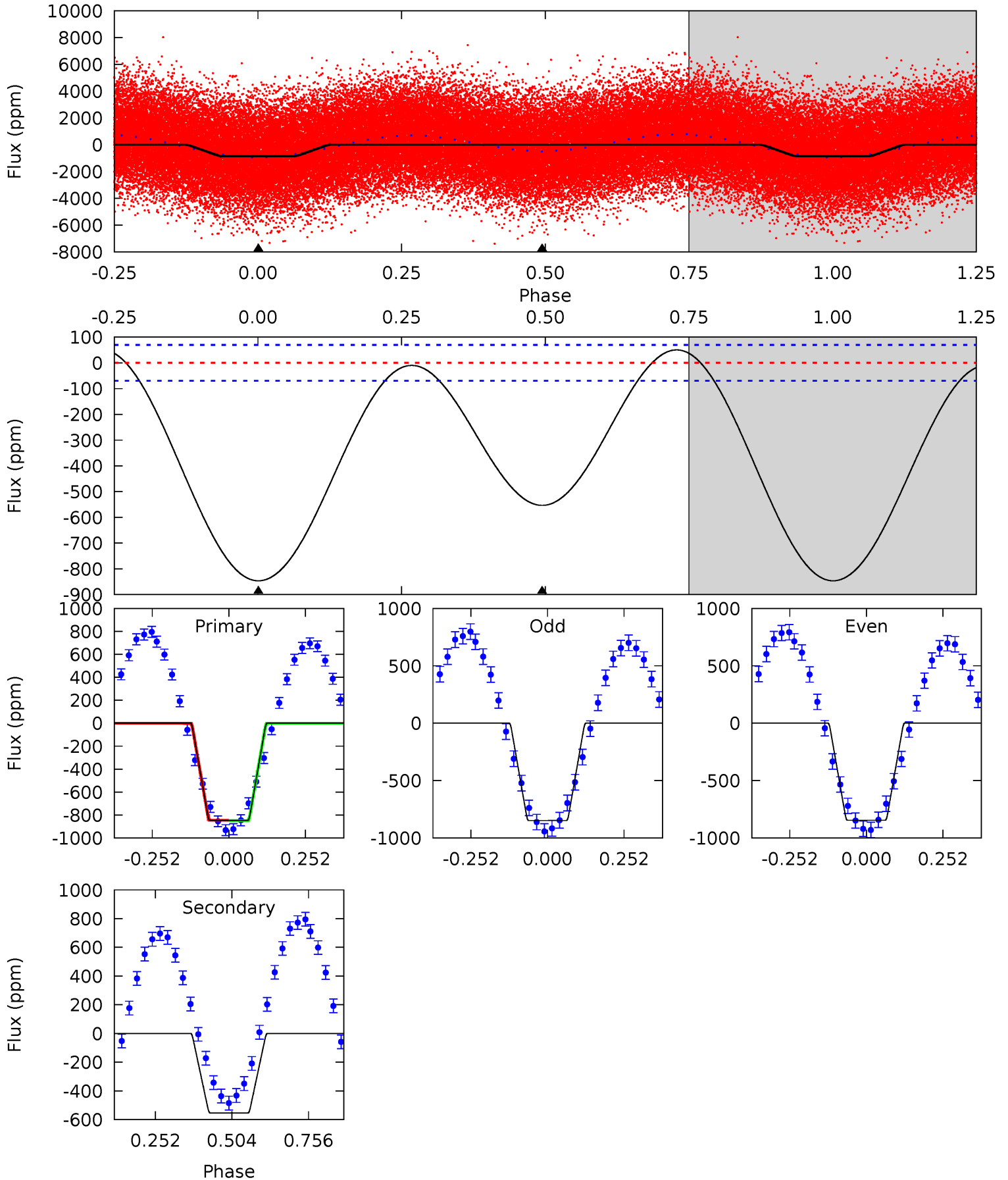
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	-1.81	0	0	4.21	0.67	0.85	12.6	12.6	-1.81	-1.81	0.71	2.69	0.37	1.66



# Alt Model-Shift Uniqueness Test

005206767-01, P = 2.534115 Days, E = 129.642977 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
53.1	34.7	0	0	4.37	1.15	2.10	53.1	53.1	34.7	34.7	0.09	1.00	0.06	0.10





### Stellar Parameters For KIC 005206767

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8089^{+72}_{-88}$	$3.757^{+0.210}_{-0.122}$	$0.070^{+0.200}_{-0.200}$	$3.299^{+0.737}_{-0.901}$	$2.267^{+0.248}_{-0.372}$	$0.089^{+0.120}_{-0.033}$
	+1%/-1%	+6%/-3%	+286%/-286%	+22%/-27%	+11%/-16%	+135%/-37%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 005206767-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$4 \pm 2$	$1.28^{+0.48}_{-0.40}$	$4119^{+240}_{-277}$	$-5784^{+944}_{-1424}$	$-2.676^{+1.732}_{-4.075}$
Alt.	$-553 \pm 16$	$10.71^{+1.43}_{-1.51}$	$4121^{+214}_{-286}$	$6889^{+170}_{-182}$	$6.013^{+1.916}_{-1.189}$

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

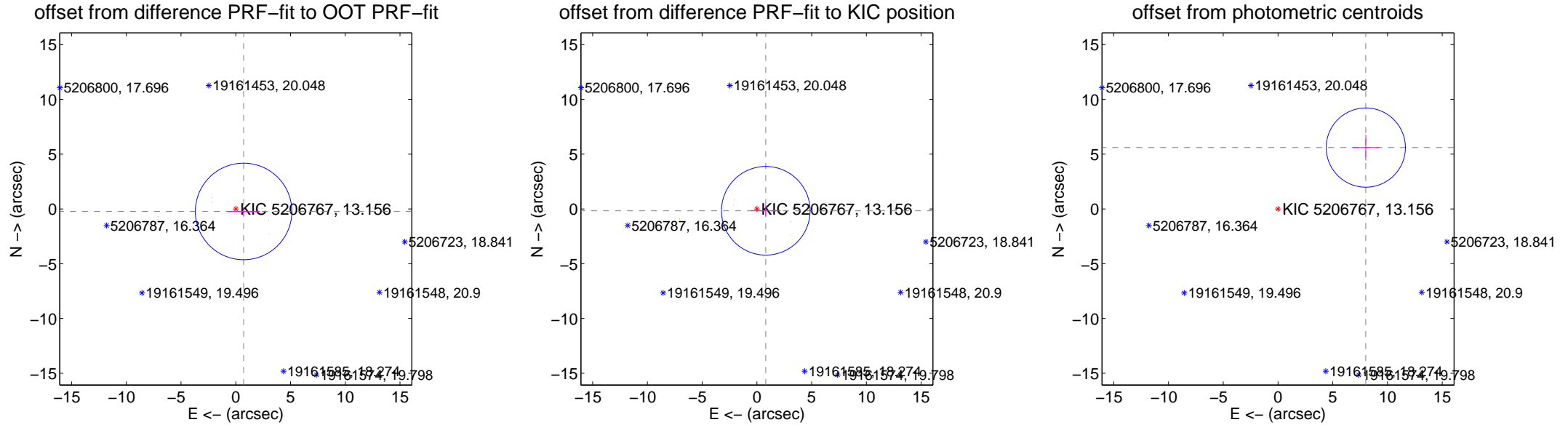
## DV Centroid Data

Supplemental centroid analysis for 005206767-01. Kepler magnitude: 13.16. Transit SNR 6.16

There are 1 quarters with good PRF difference image offsets

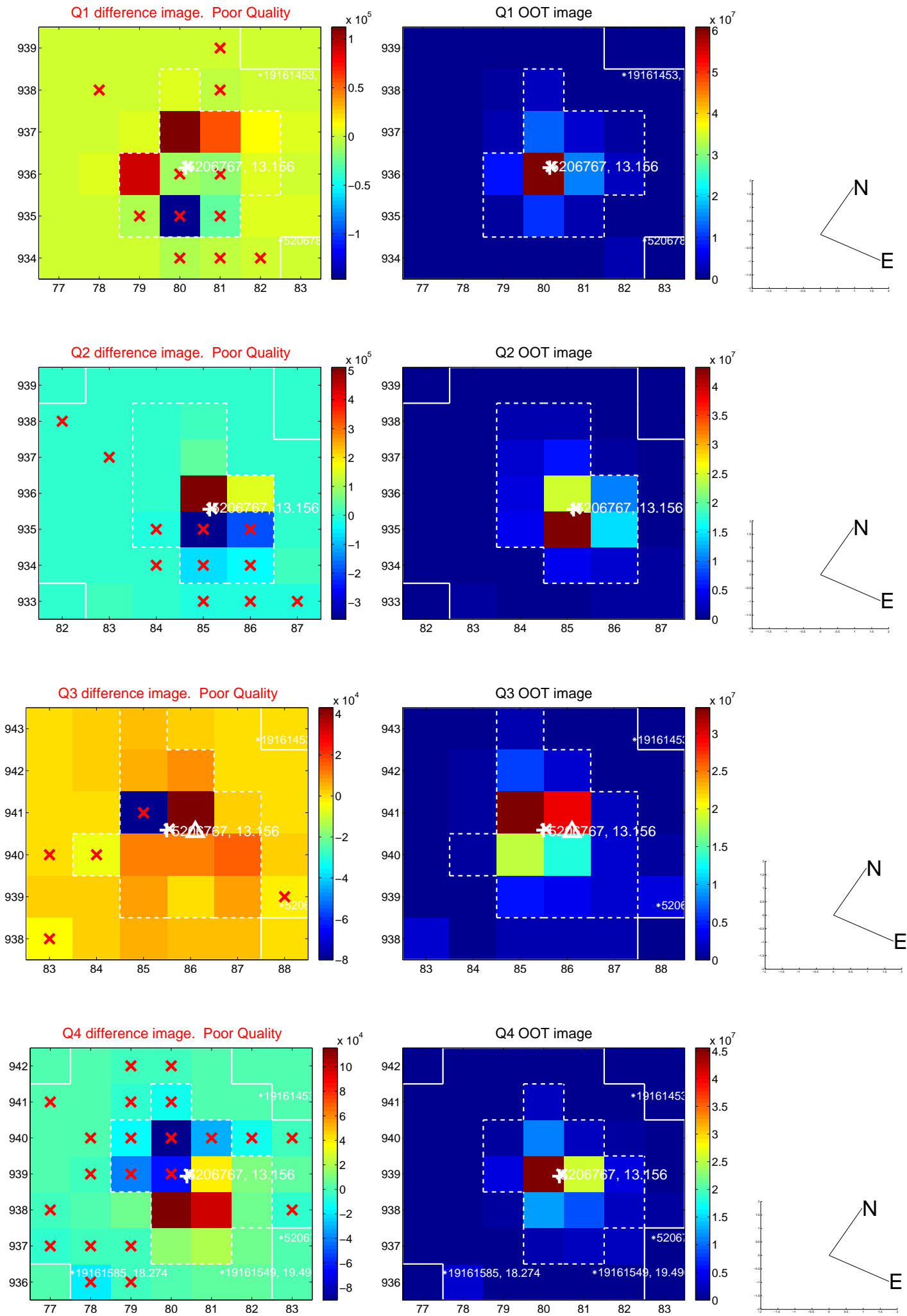
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.752 \pm 1.470$	0.51	$-0.716 \pm 1.495$	$-0.229 \pm 0.402$
PRF-fit source offset from KIC position	$0.829 \pm 1.349$	0.61	$-0.812 \pm 1.373$	$-0.168 \pm 0.522$
photometric centroid source offset	$9.78 \pm 1.21$	8.11	$-8.02 \pm 1.22$	$5.60 \pm 1.17$

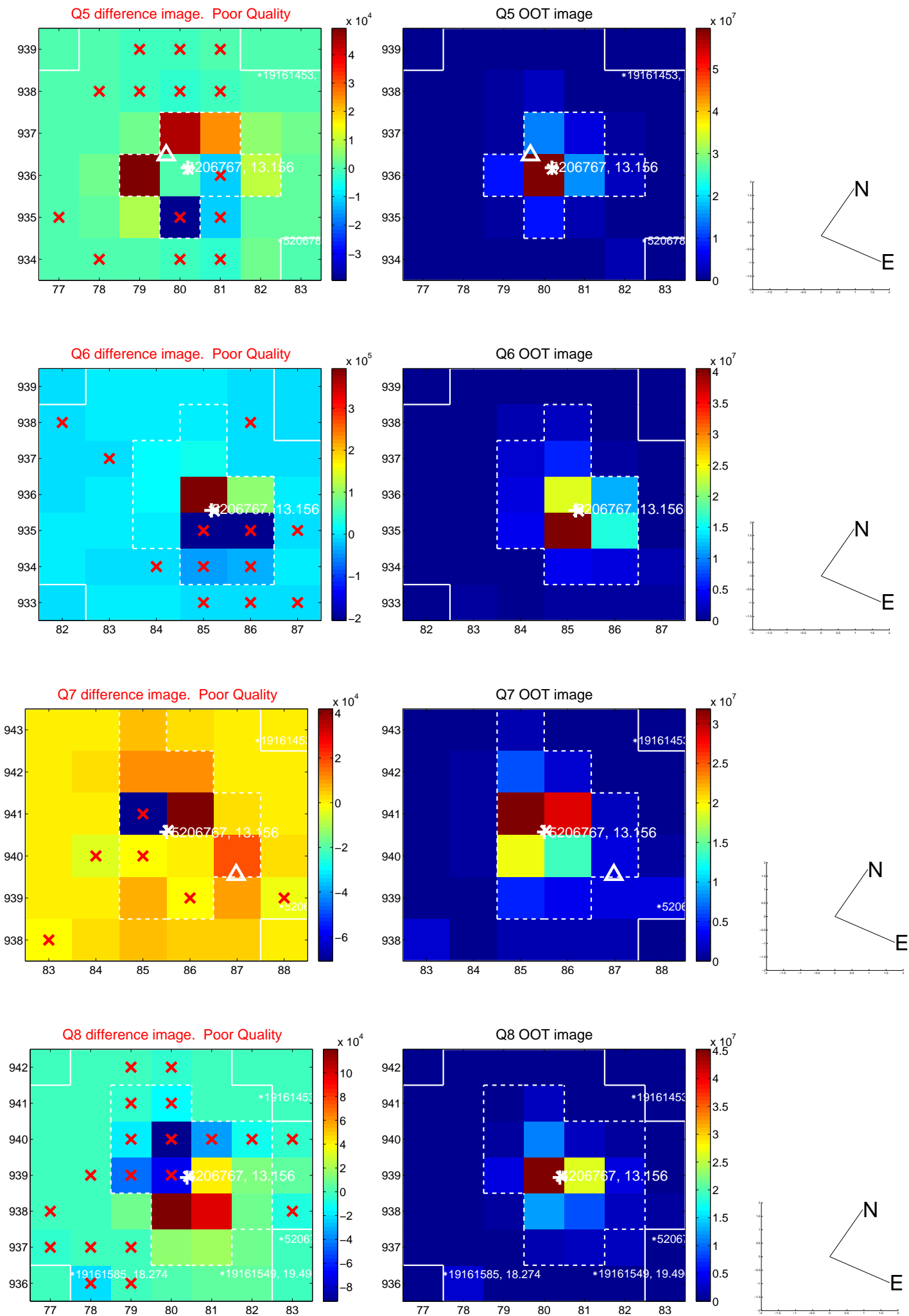


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

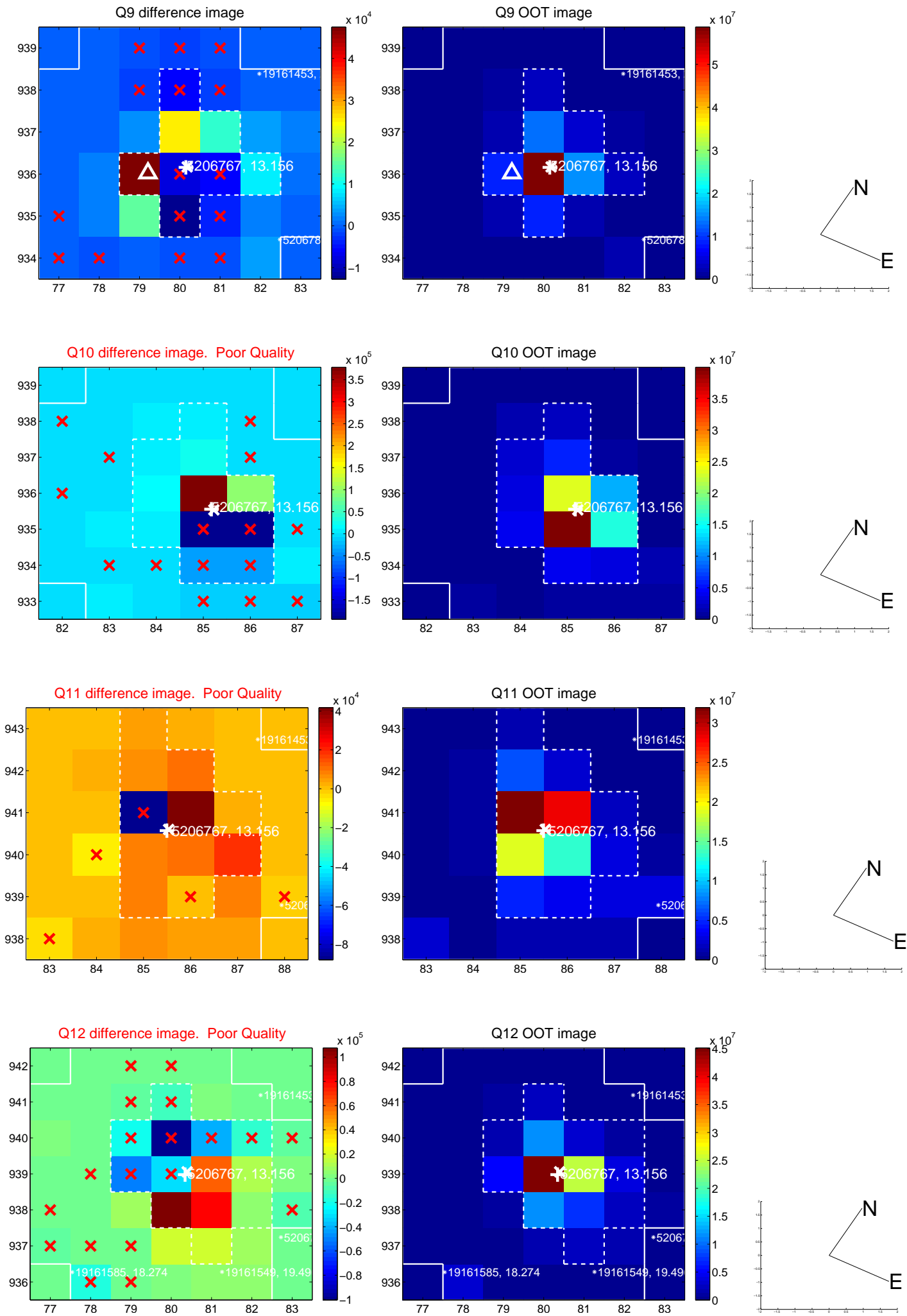


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

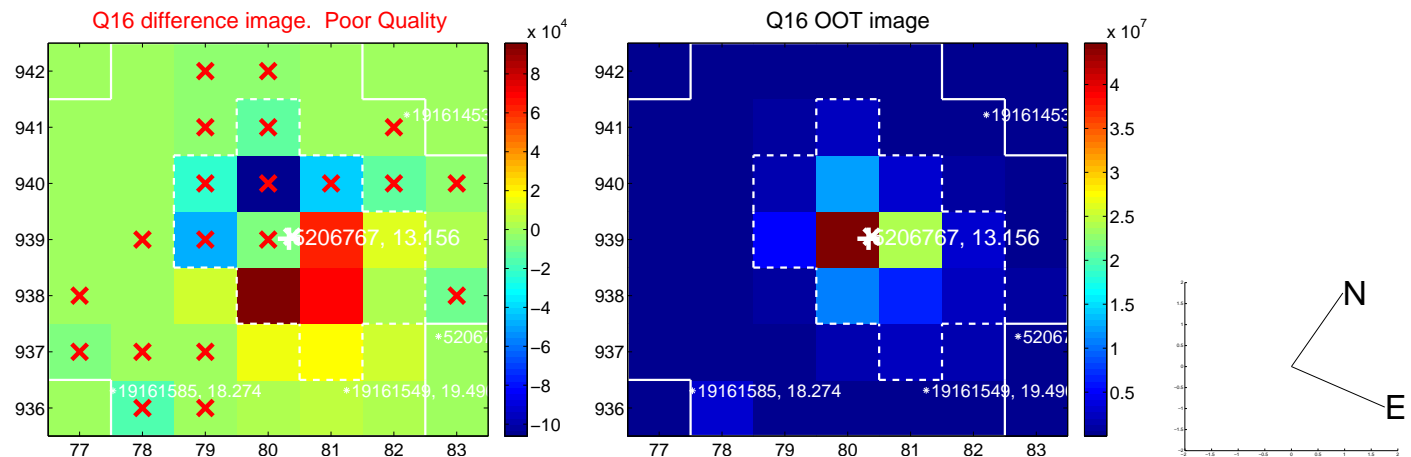
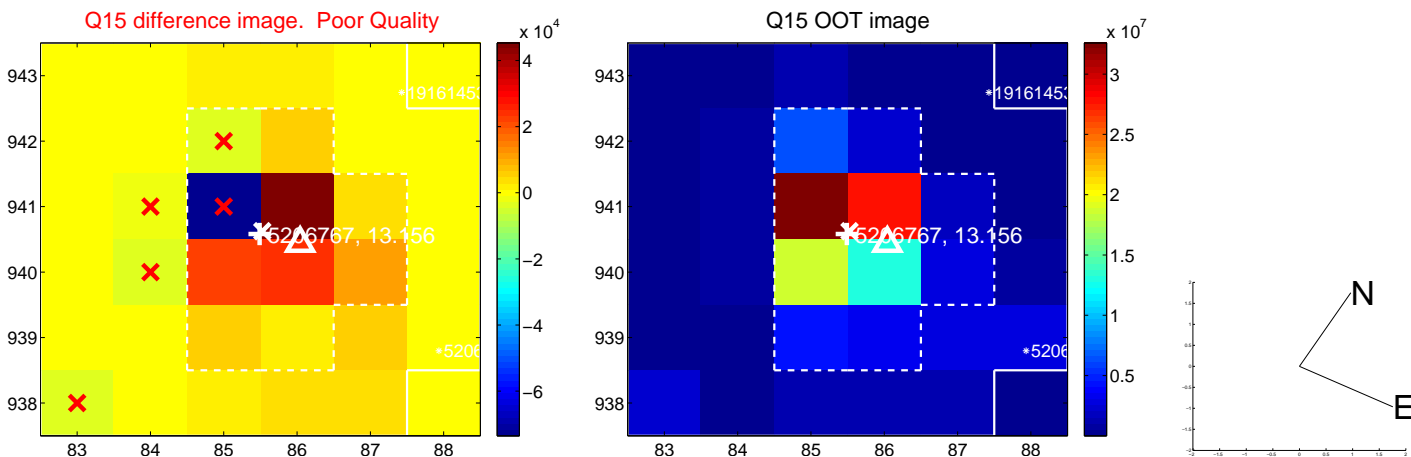
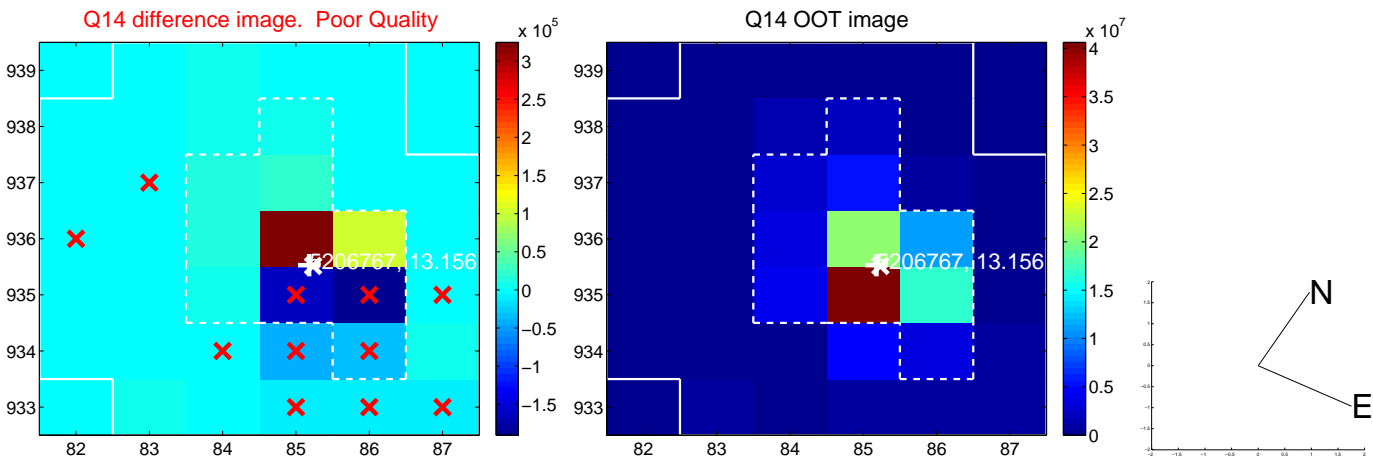
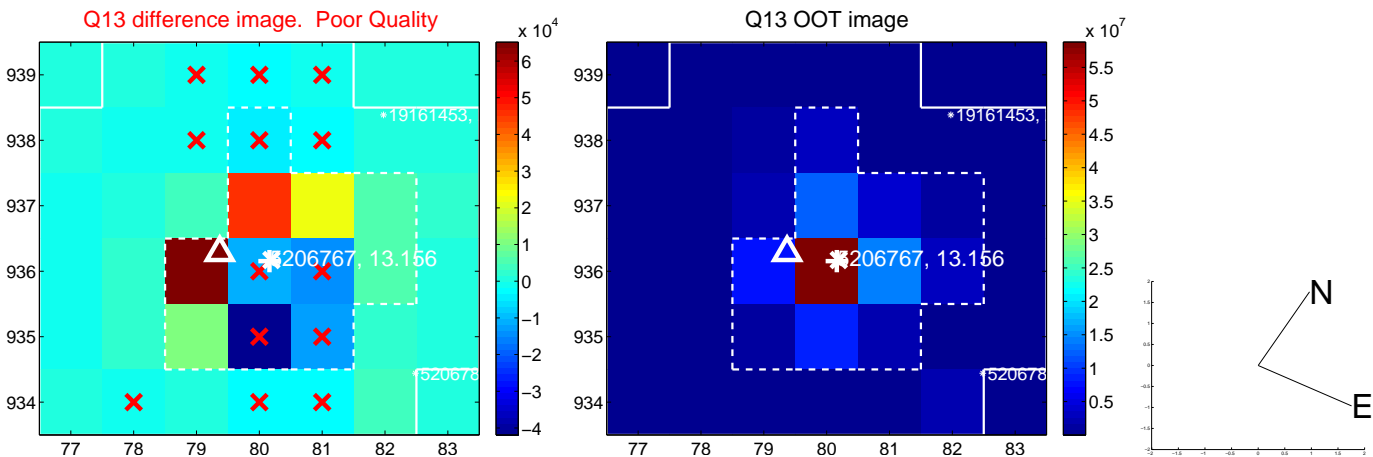




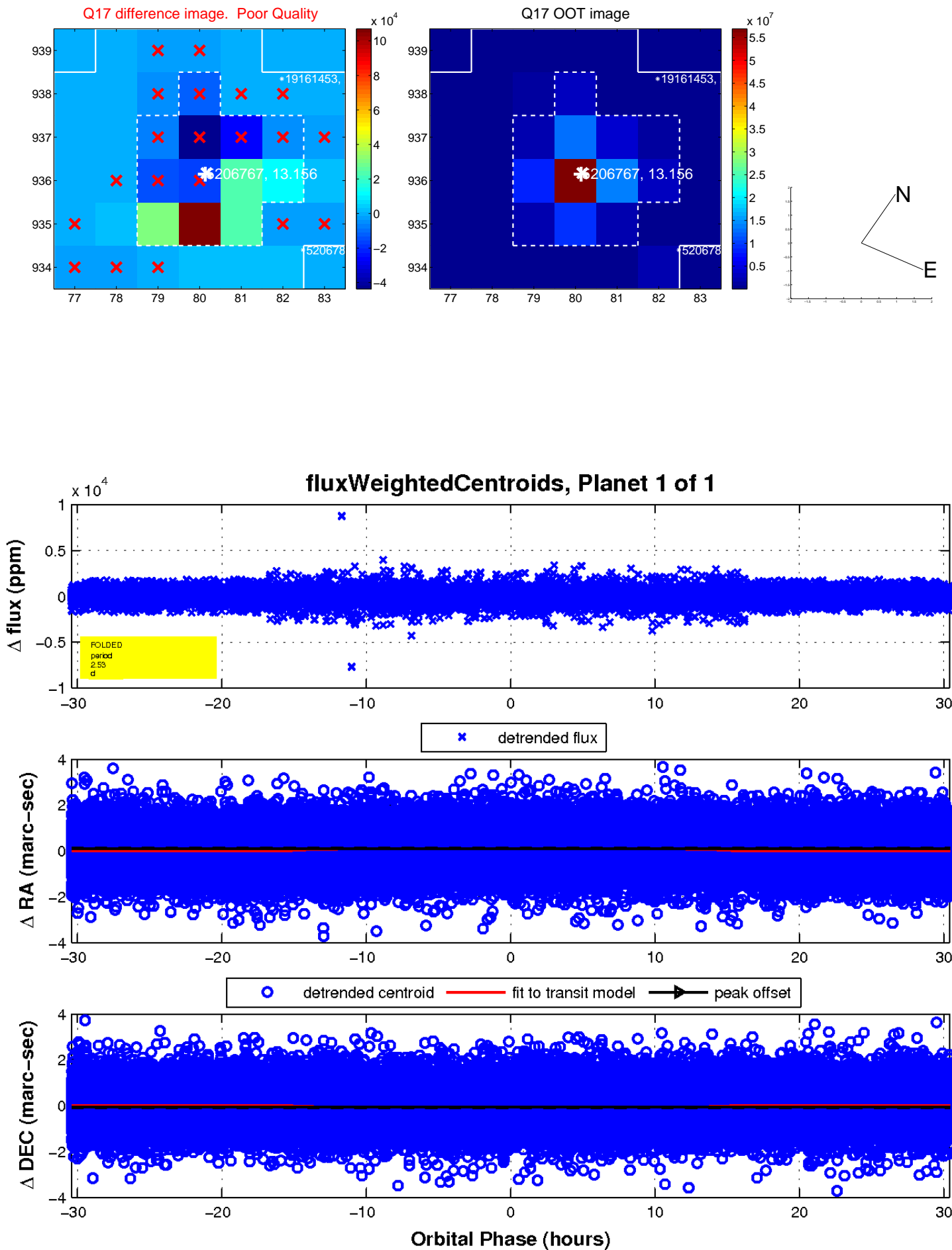
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

