

# KIC 012258300

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
012258300-01	OBS	No	2.480056	131.568889	34.6	9.000	9.3	-1.0	1.79	7411	1.07	4981.32

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012258300-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_SATURATED

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

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

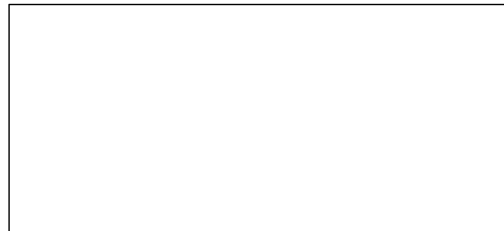
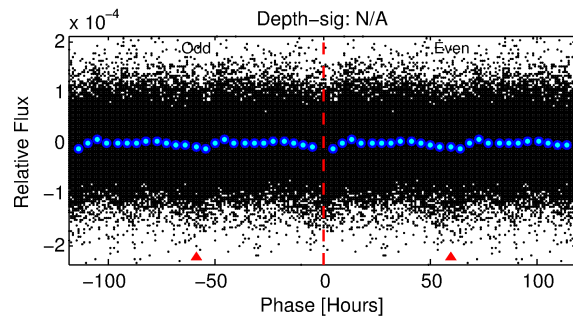
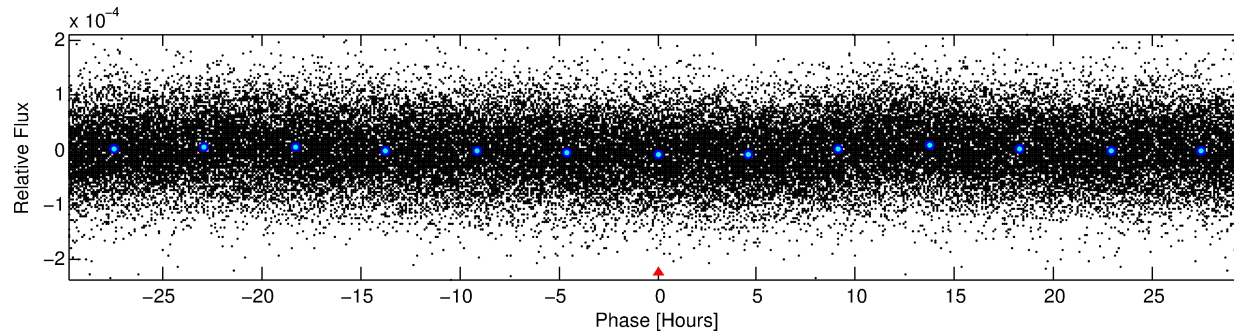
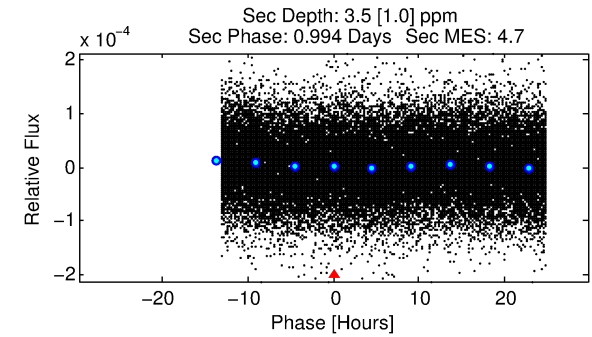
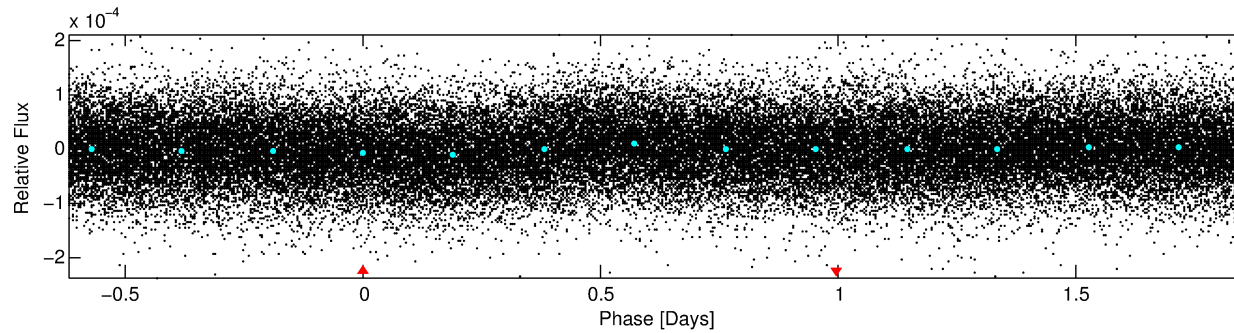
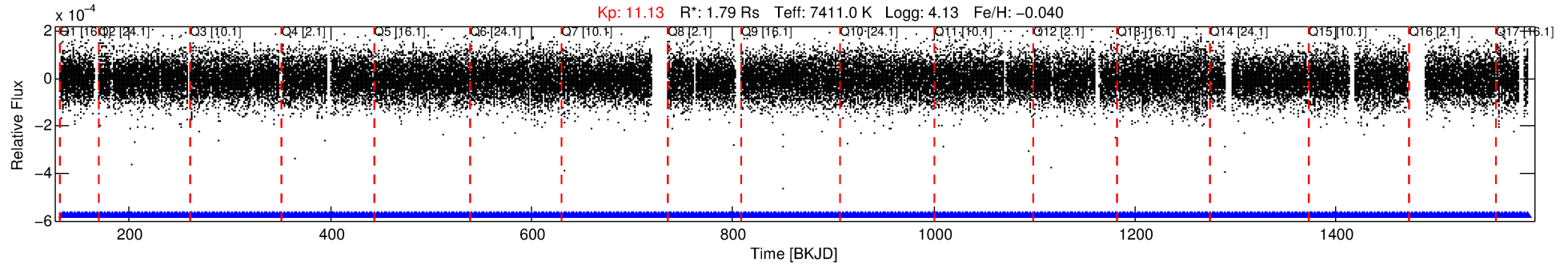
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 012258300-01

No Significant Match Found

# DV One-Page Summary

KIC: 12258300 Candidate: 1 of 1 Period: 2.480 d



## TPS TCE Results:

Period = 2.48006 d  
Epoch = 131.5689 BKJD

DV fit results are unavailable

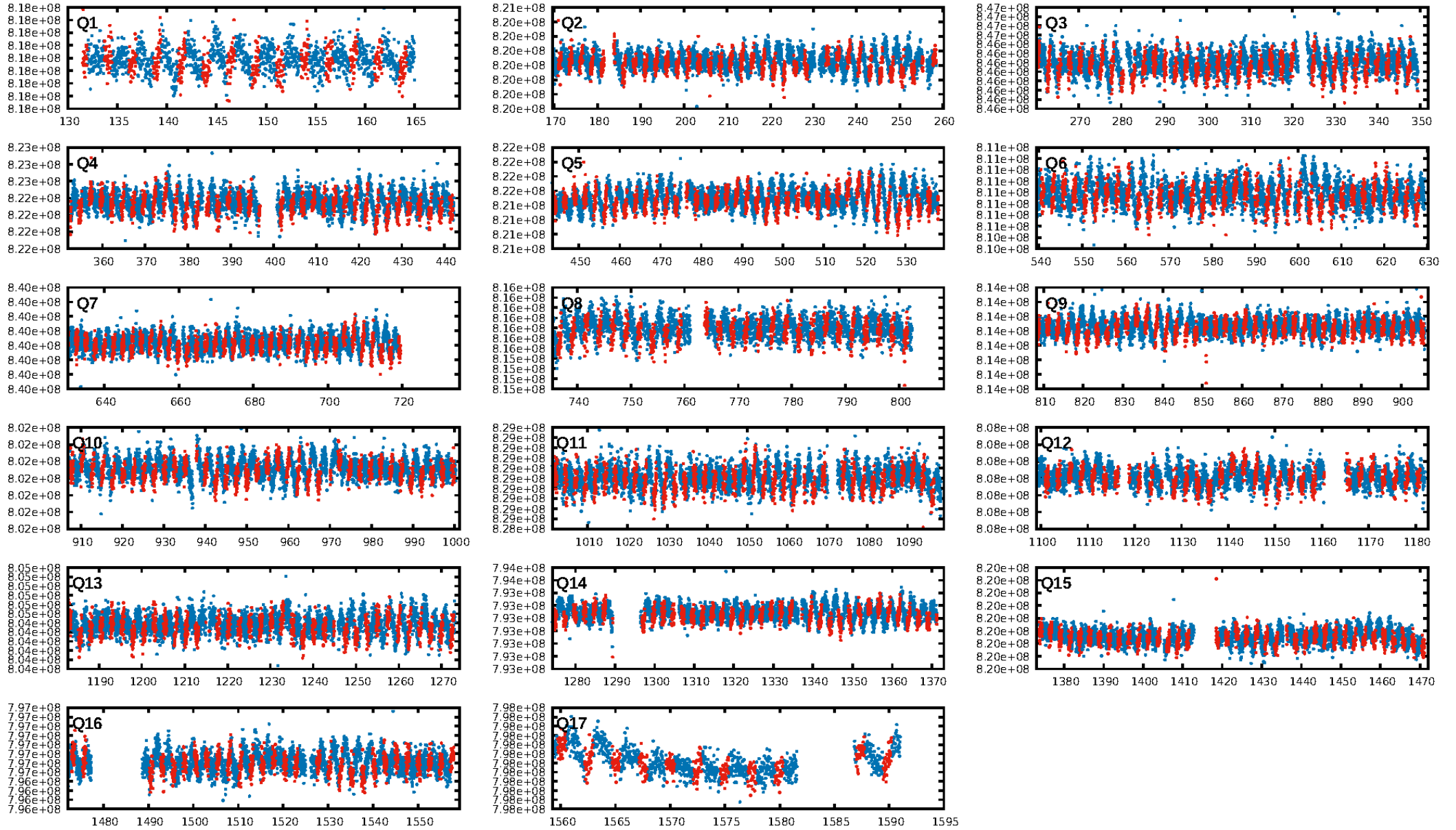
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.27e-15  
RollingBand-fgt: 1.00 [537/537]  
GhostDiagnostic-chr: 3.831  
Centroid-sig: 0.3%  
Centroid-so: 0.293 arcsec [1.07σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [17/17]

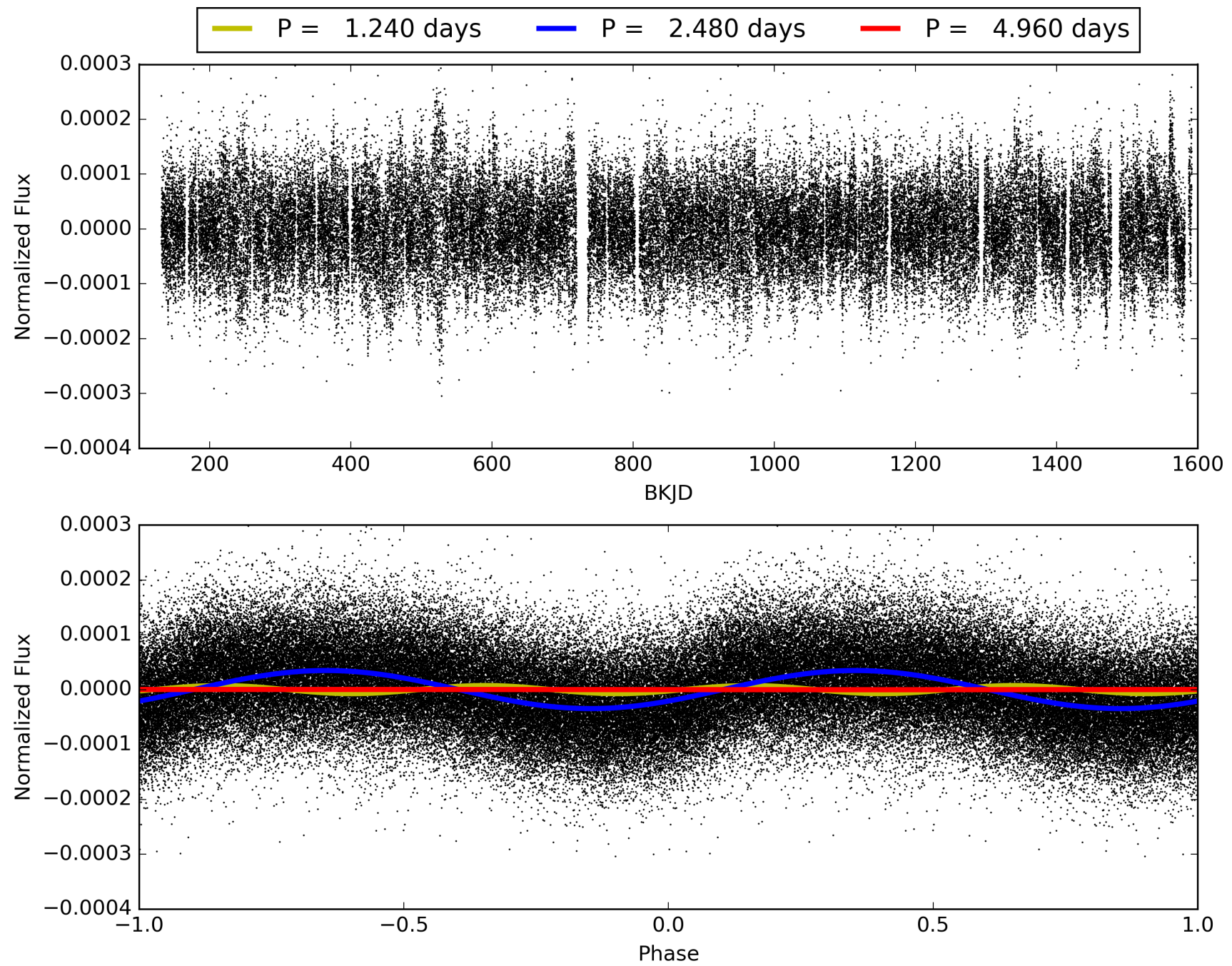
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 18:41:40 Z

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

# TCE 012258300-01, PDC Light Curves

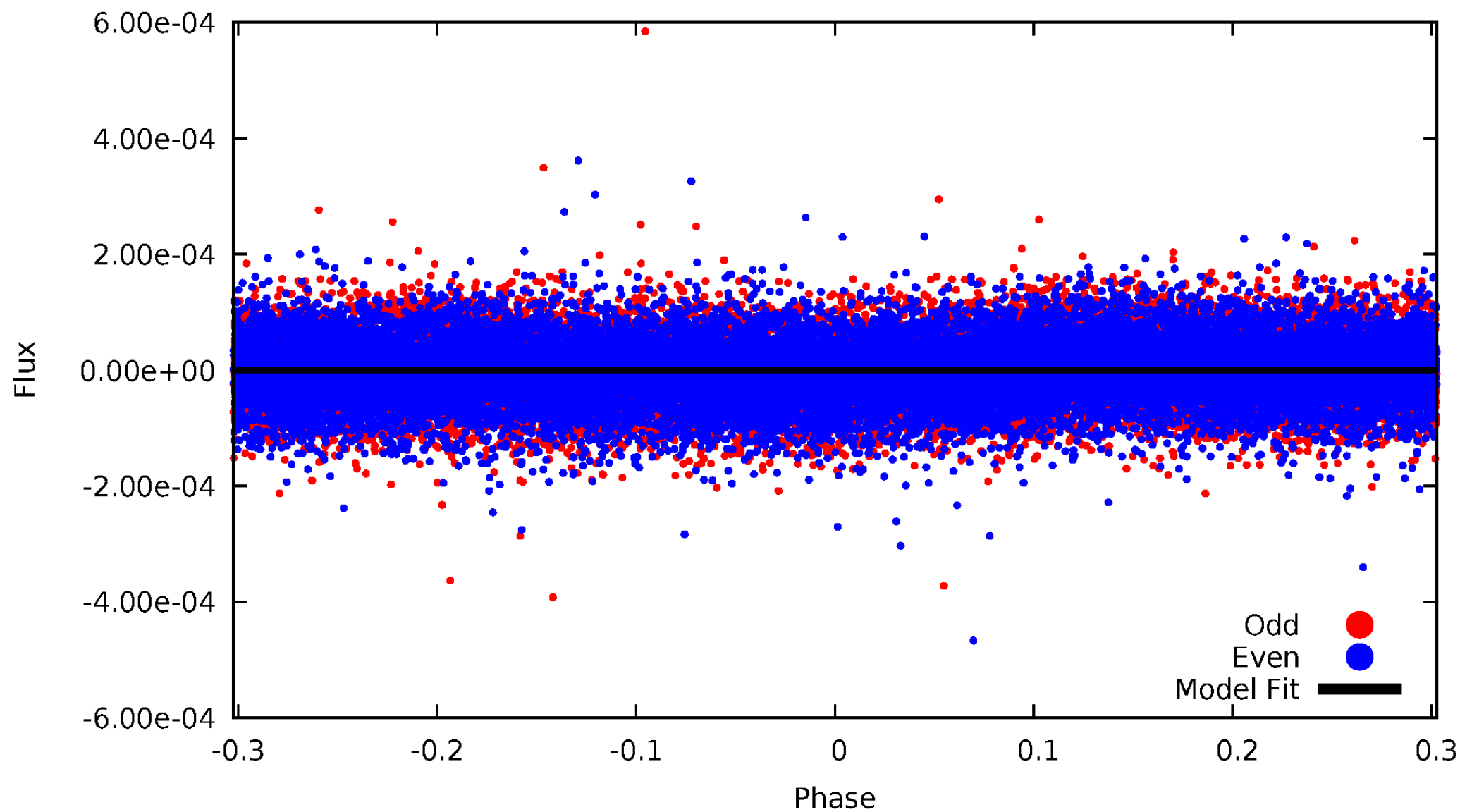


# TCE 012258300-01



# DV Odd/Even

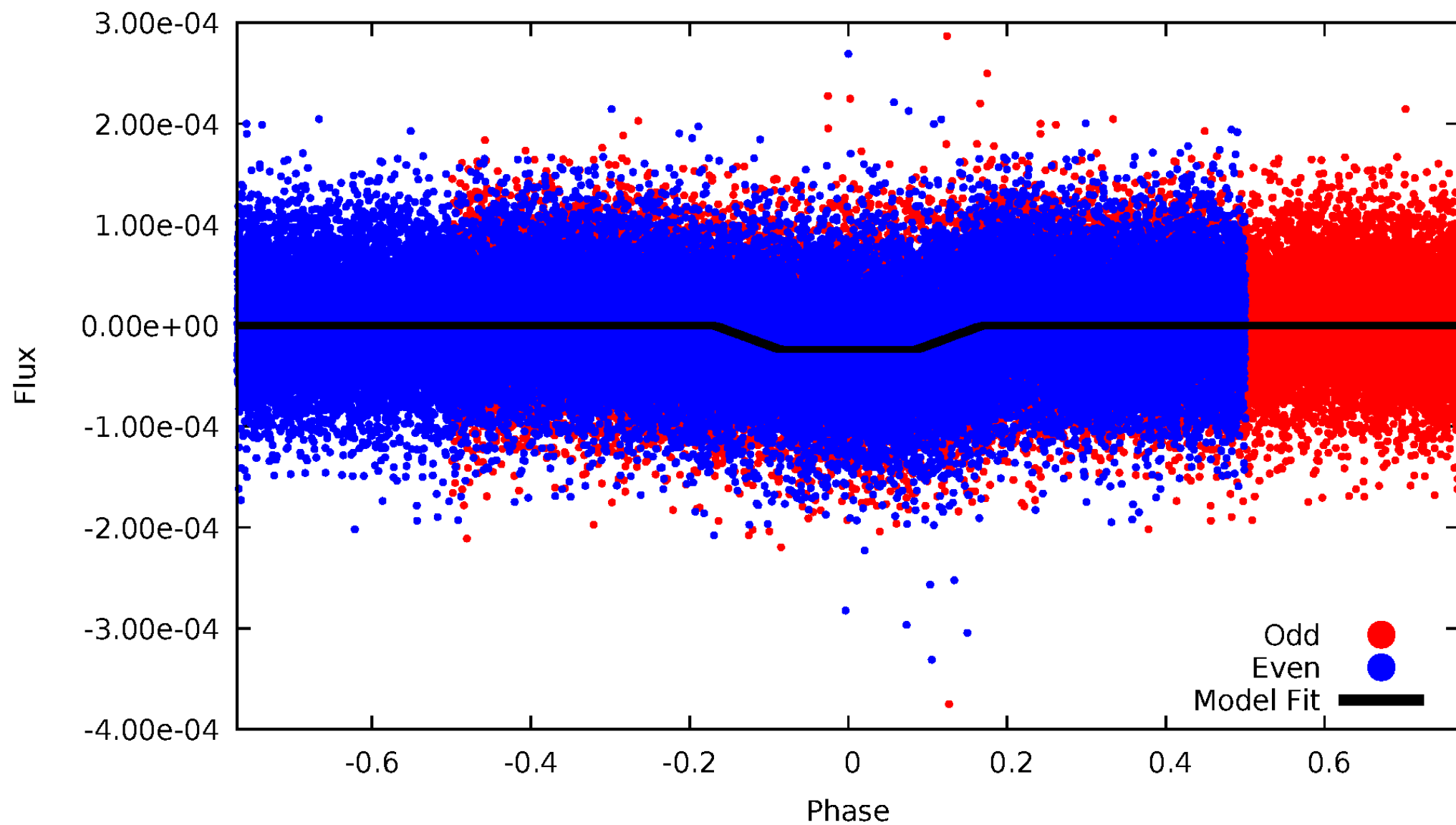
TCE 012258300-01





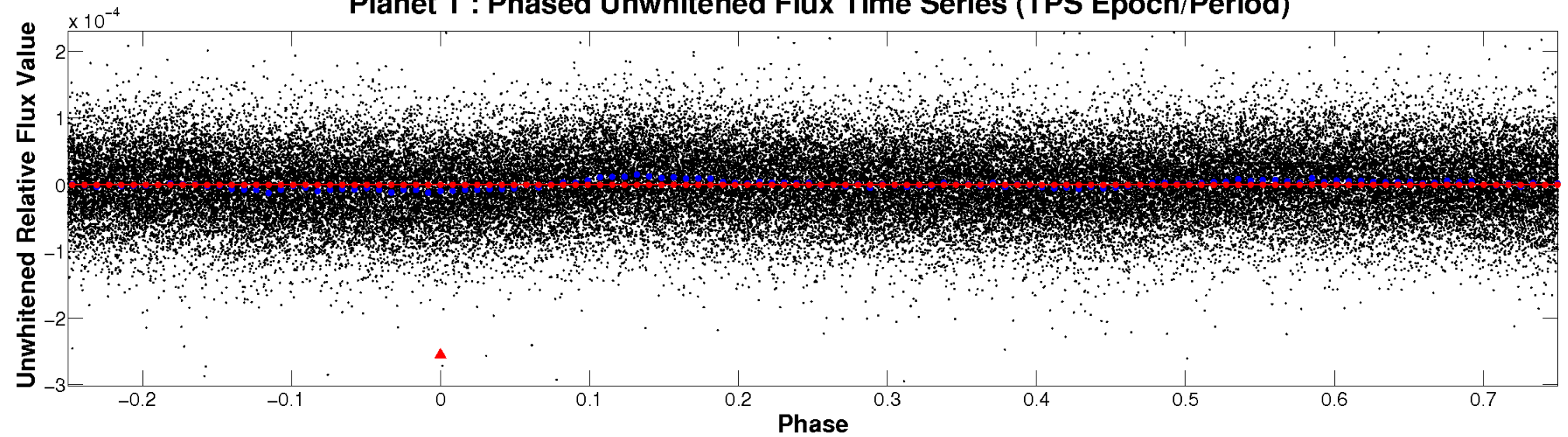
# ALT Odd/Even

TCE 012258300-01

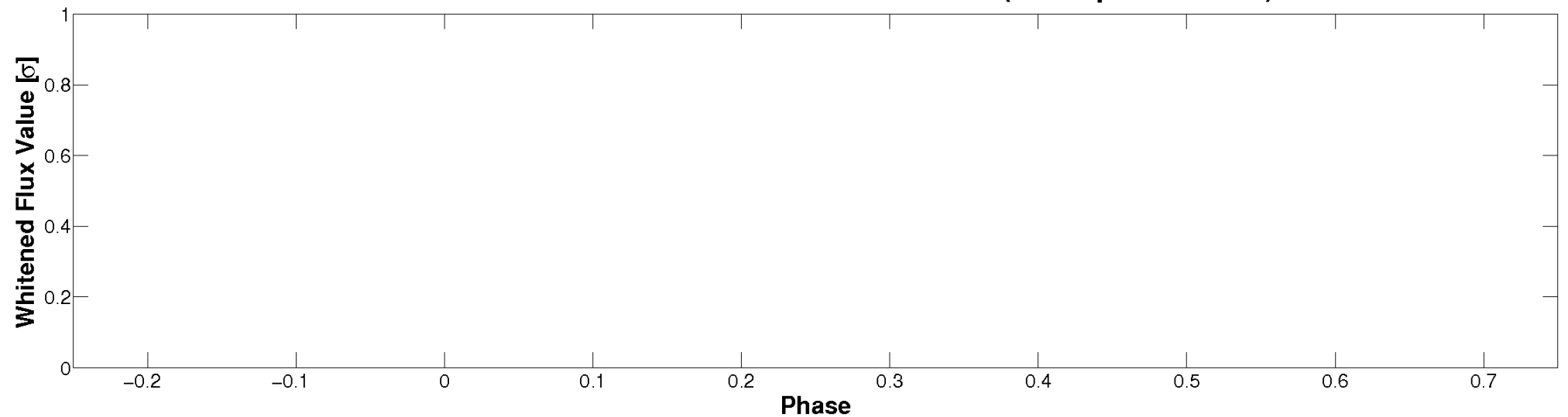


# Non-Whitened Vs. Whitened Light Curve

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

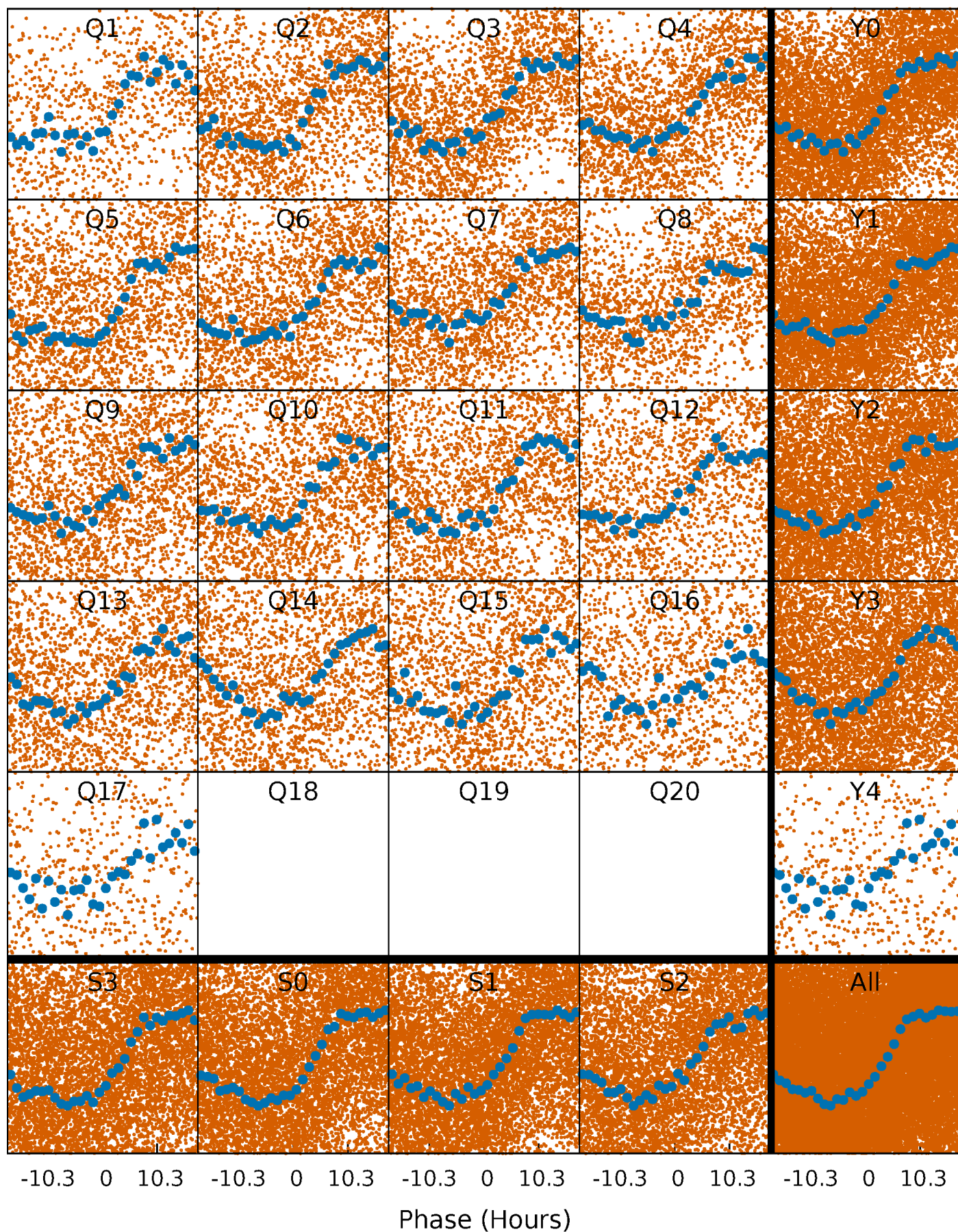


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



# PDC Quarter-Phased Transit Curves

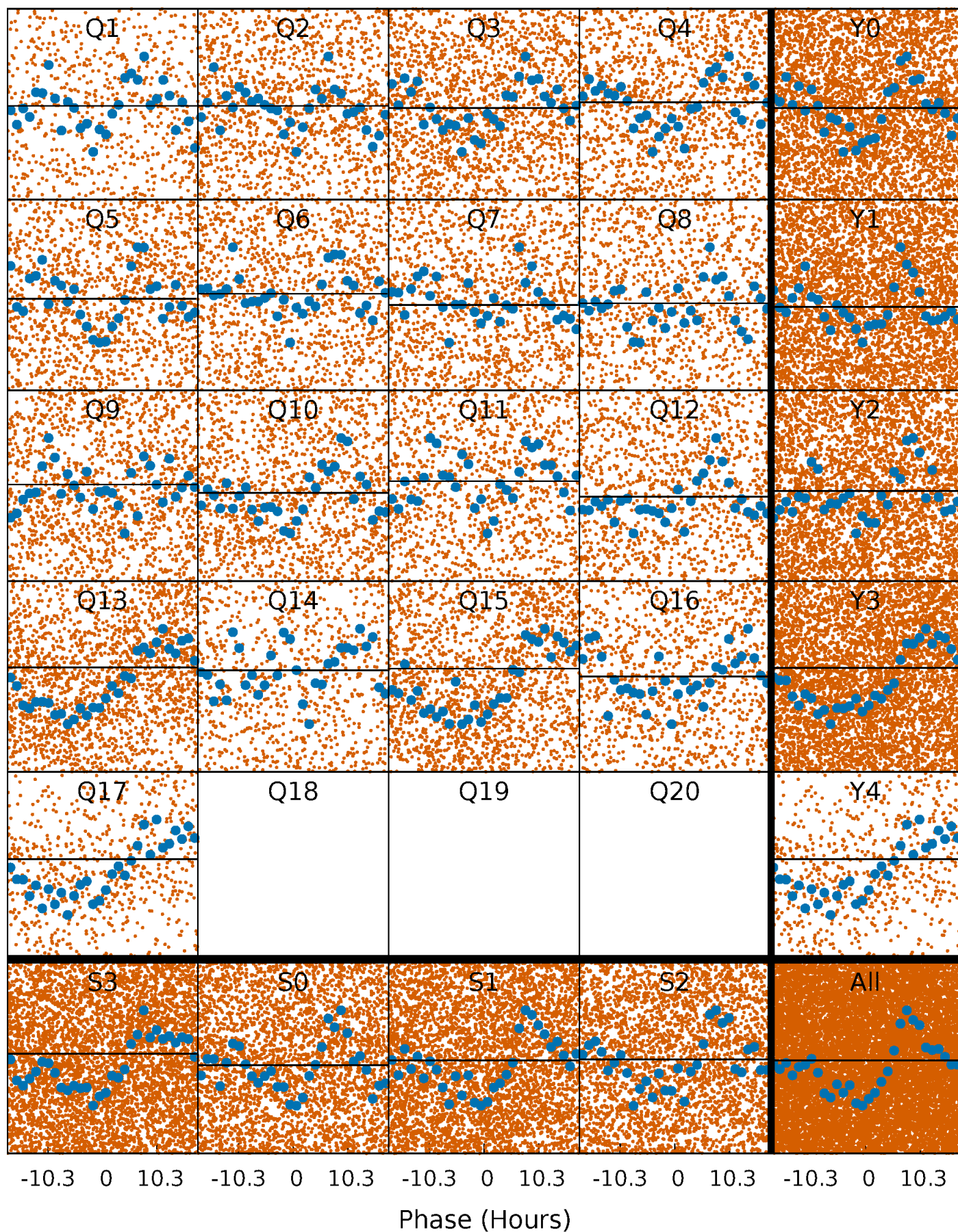
TCE 012258300-01 P= 2.480056 Days  $T_0=131.568889$  (BKJD)





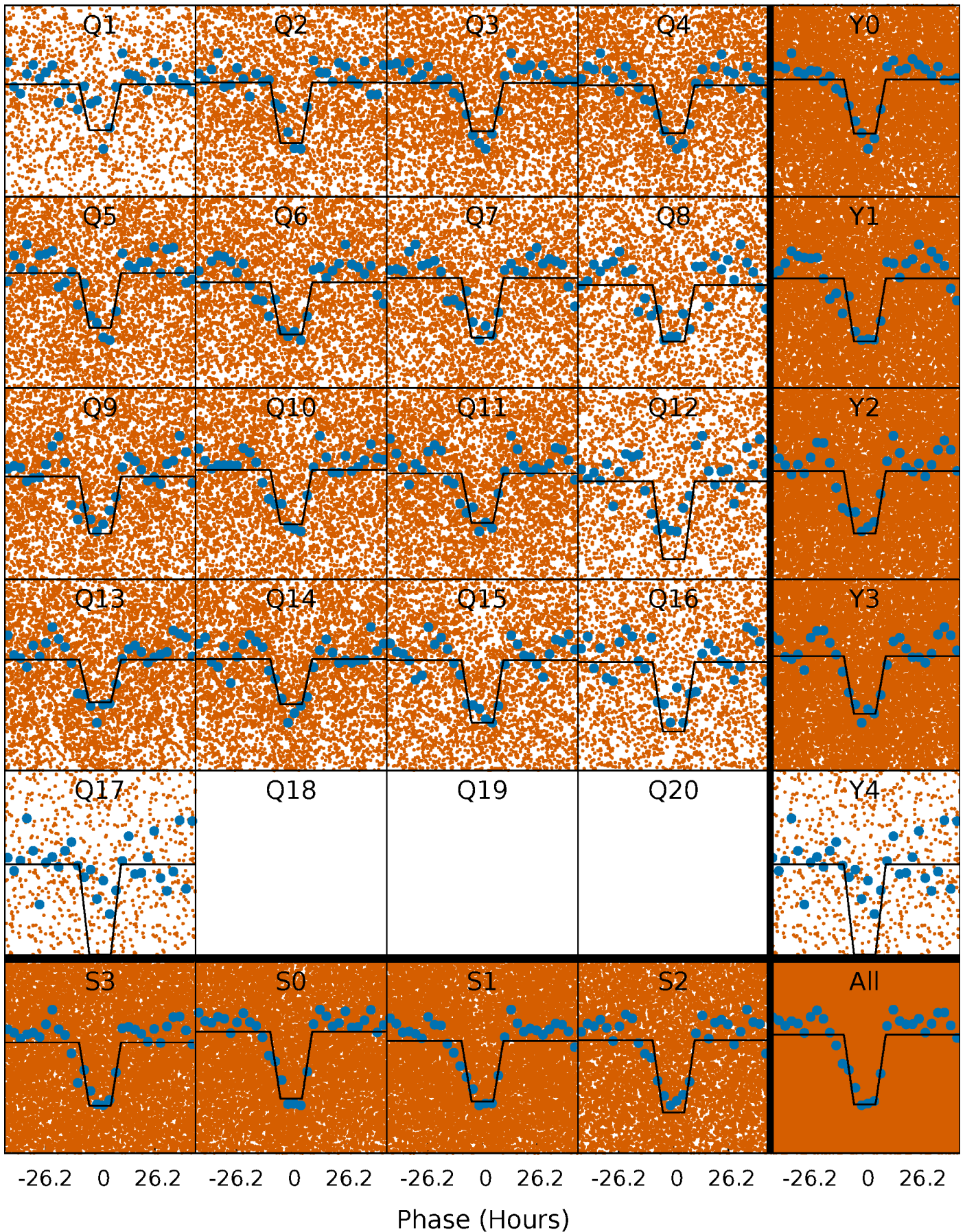
# DV Quarter-Phased Transit Curves

TCE 012258300-01 P= 2.480056 Days  $T_0=131.568889$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 012258300-01   P= 2.480056 Days    $T_0=133.869997$  (BKJD)

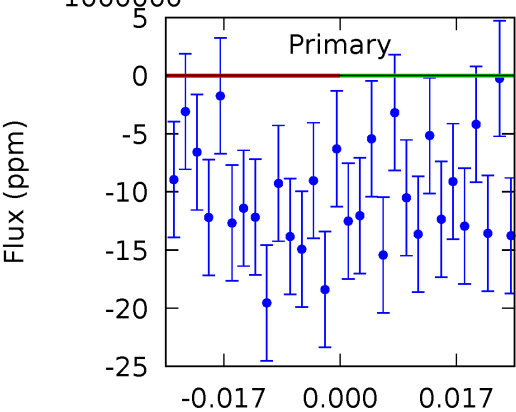
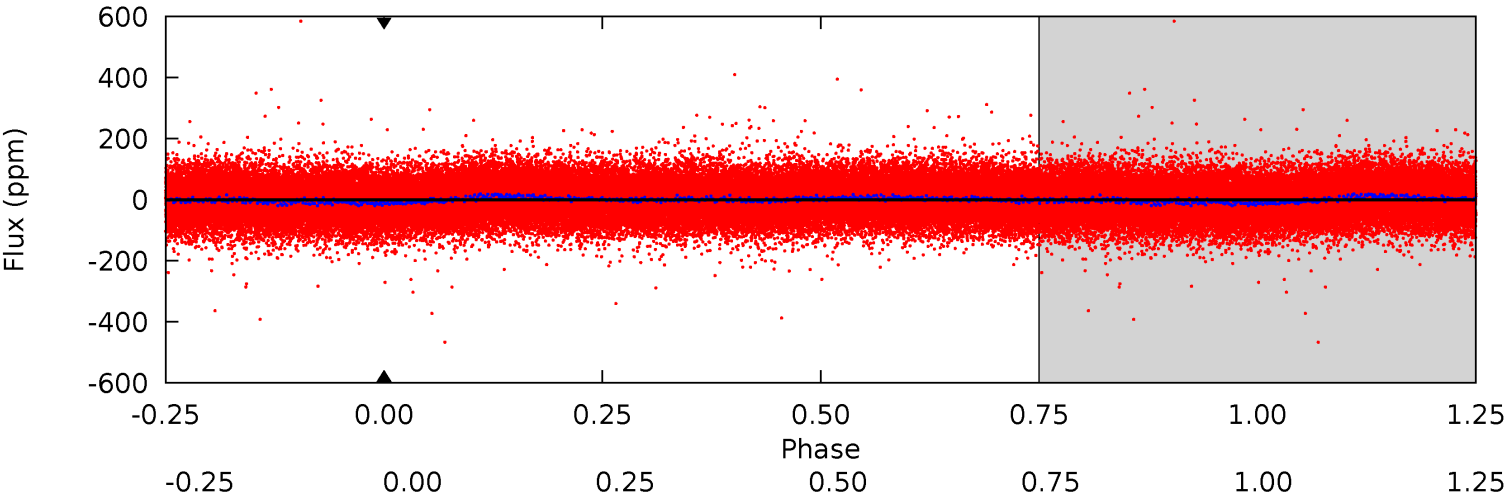




DV Model-Shift Uniqueness Test

012258300-01, P = 2.480056 Days, E = 129.088833 Days

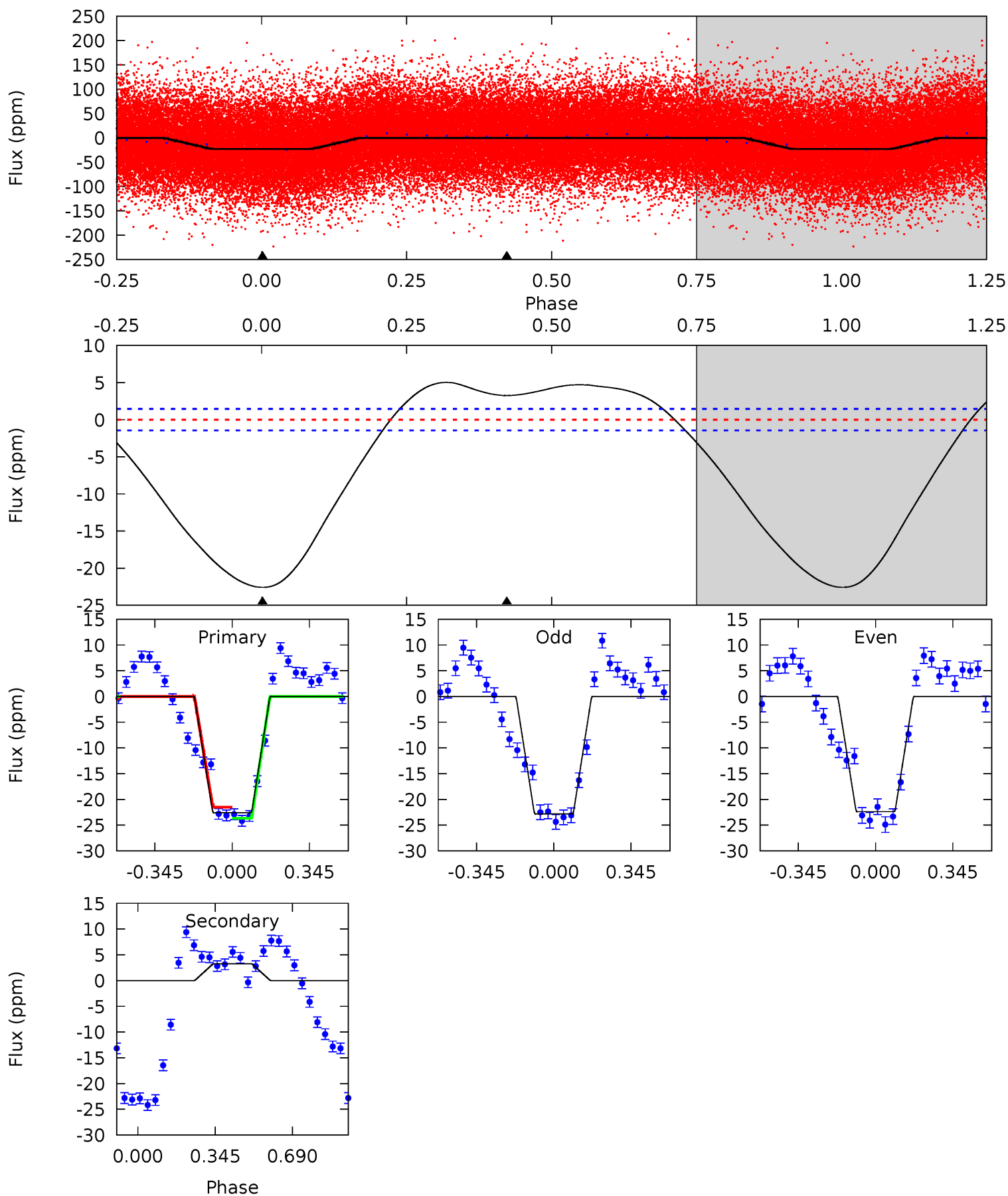
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

012258300-01, P = 2.480056 Days, E = 131.389941 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
67.2	-9.70	0	0	4.30	0.94	6.46	67.2	67.2	-9.70	-9.70	0.65	0.99	0.18	3.13





### Stellar Parameters For KIC 012258300

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7411^{+207}_{-337}$	$4.129^{+0.128}_{-0.192}$	$-0.040^{+0.200}_{-0.350}$	$1.792^{+0.572}_{-0.352}$	$1.573^{+0.200}_{-0.244}$	$0.385^{+0.275}_{-0.197}$
	+3%/-5%	+3%/-5%	+500%/-875%	+32%/-20%	+13%/-16%	+71%/-51%
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 012258300-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 10000000$	$13.88^{+13.64}_{-9.67}$	$3007^{+218}_{-214}$	$-6331^{+41715}_{-37755}$	$-14.150^{+752.147}_{-919.985}$
Alt.	$3 \pm 0$	$13.74^{+16.51}_{-9.38}$	$3000^{+244}_{-192}$	$-3144^{+135}_{-253}$	$-0.015^{+0.012}_{-0.153}$

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

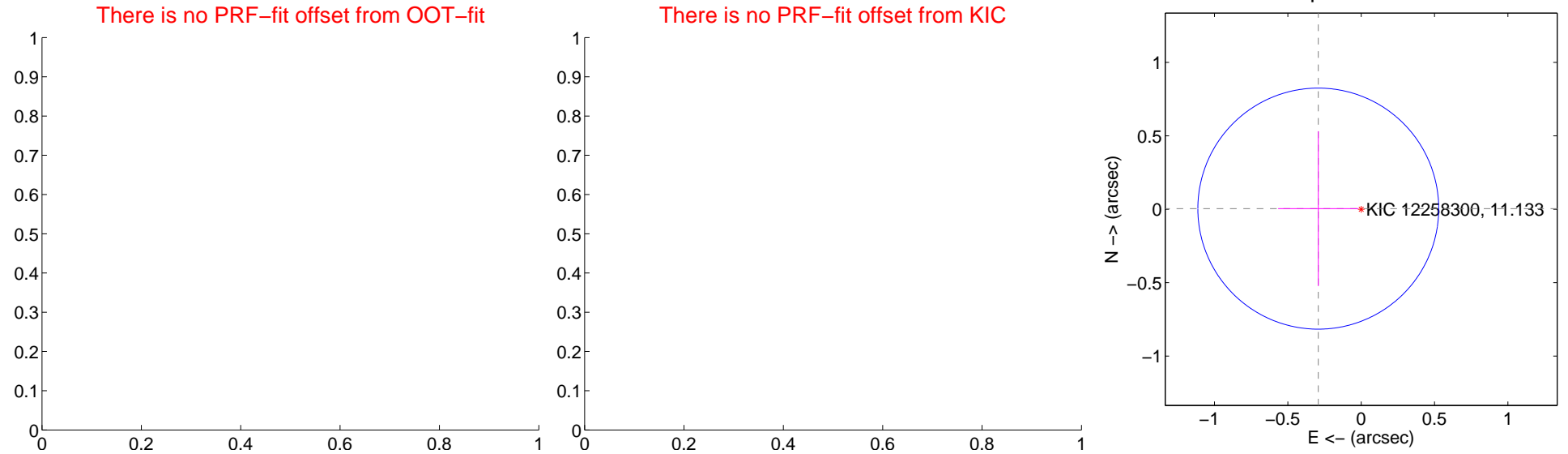
## DV Centroid Data

Supplemental centroid analysis for 012258300-01. **Kepler magnitude: 11.13.** Transit SNR -1.00

**There are 0 quarters with good PRF difference image offsets**

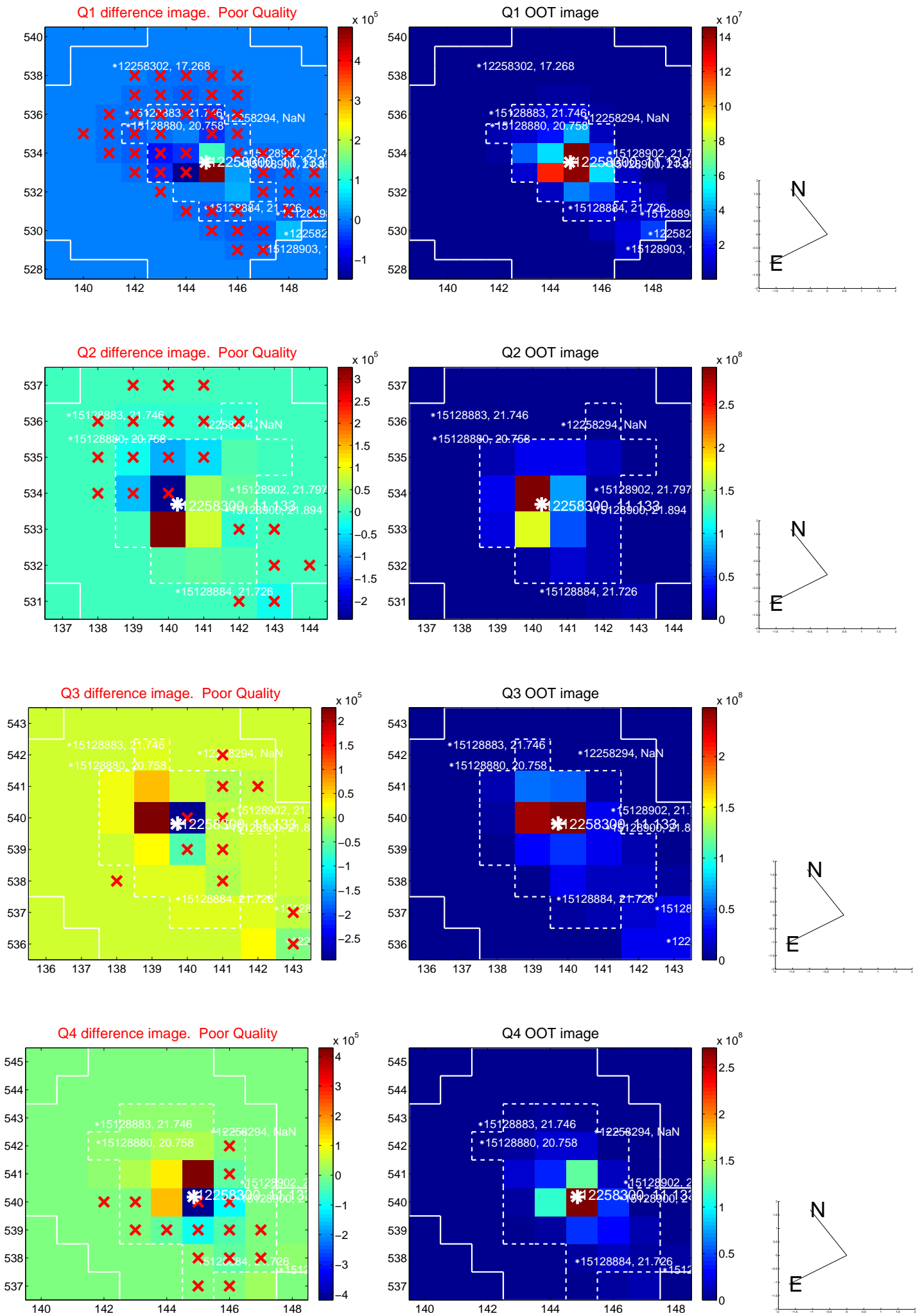
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$0.29 \pm 0.27$	1.07	$0.29 \pm 0.27$	$0.00 \pm 0.53$

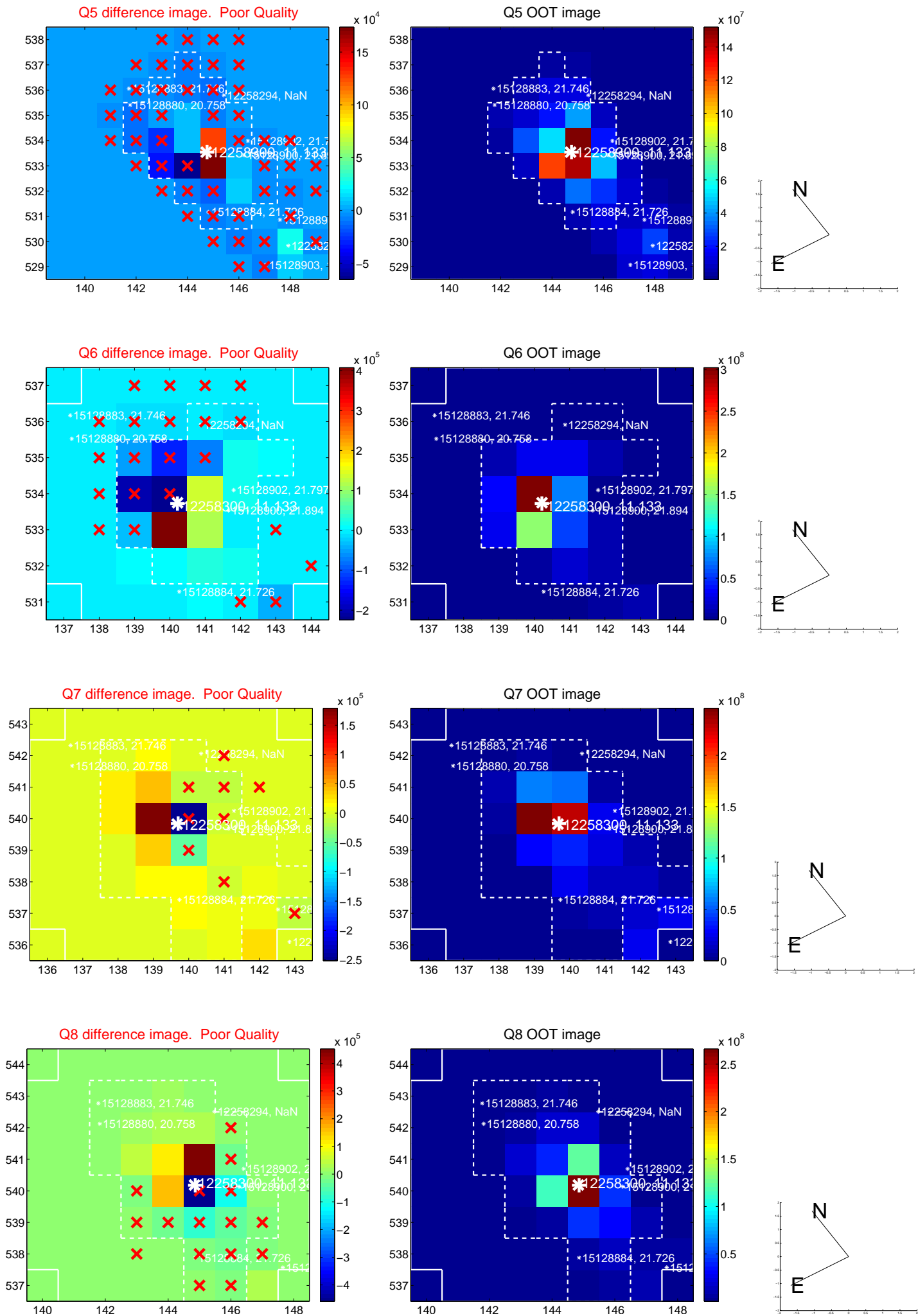


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

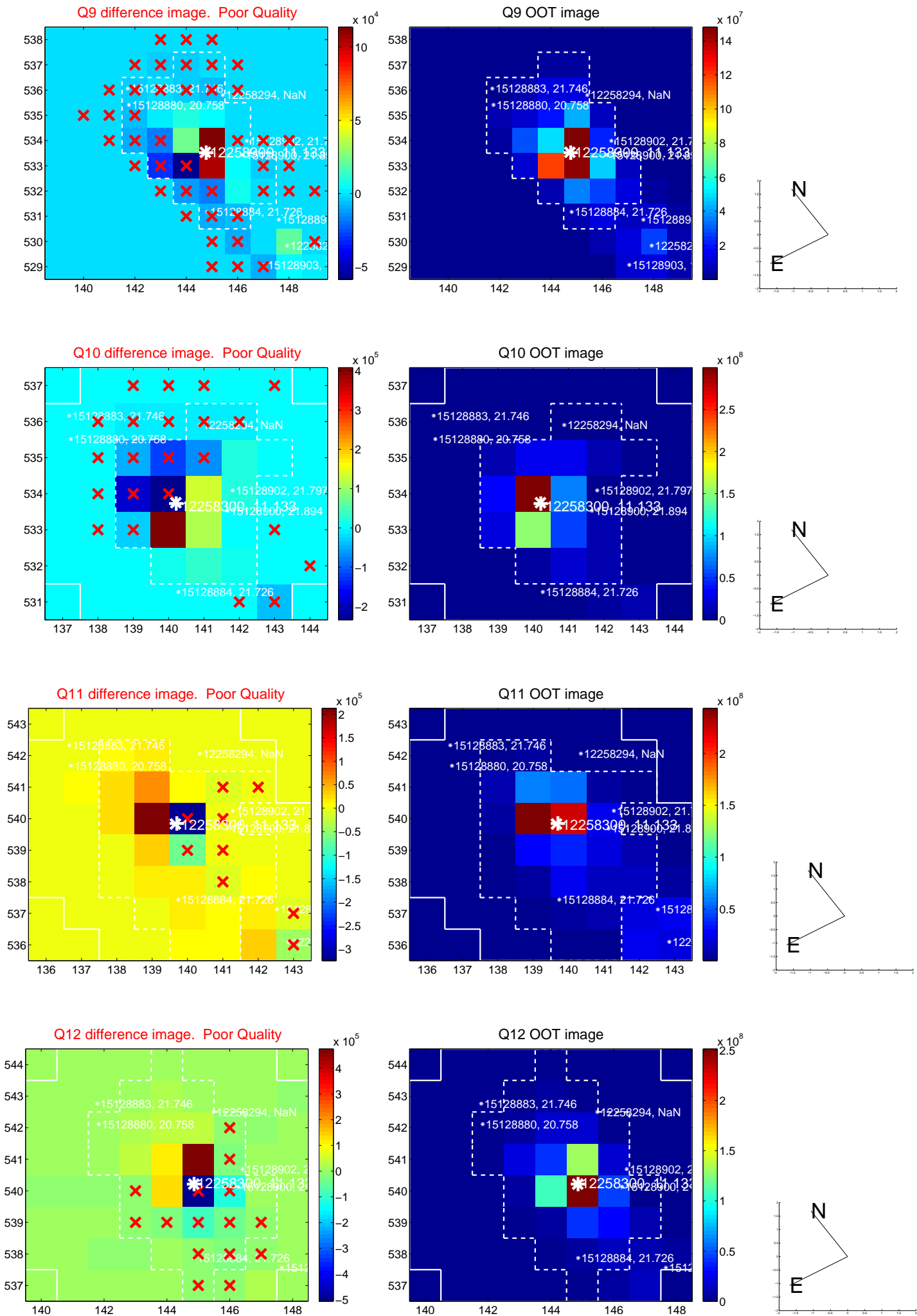


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

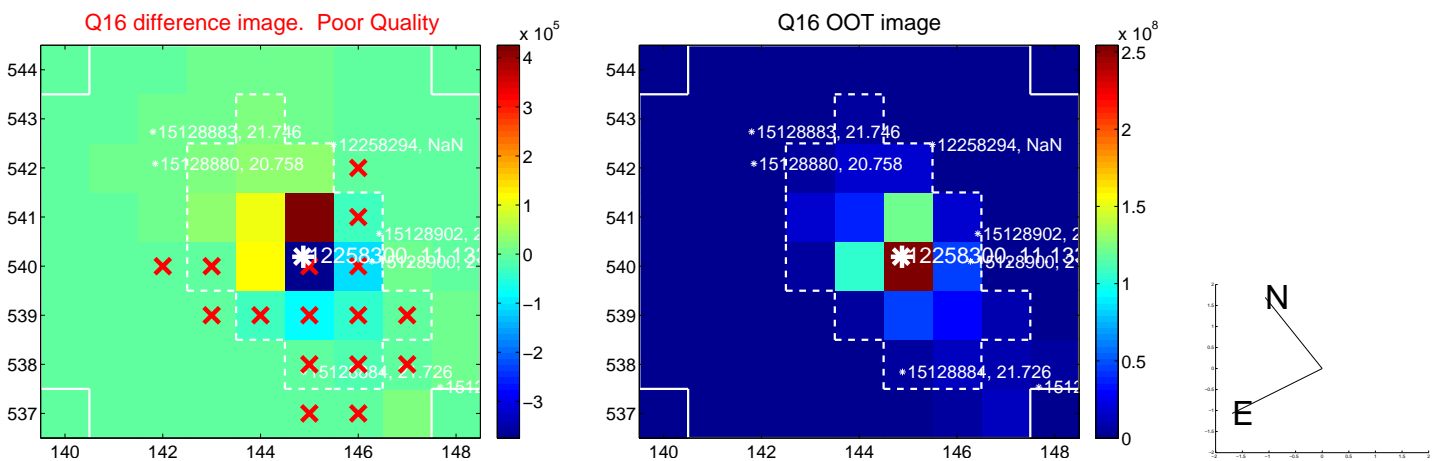
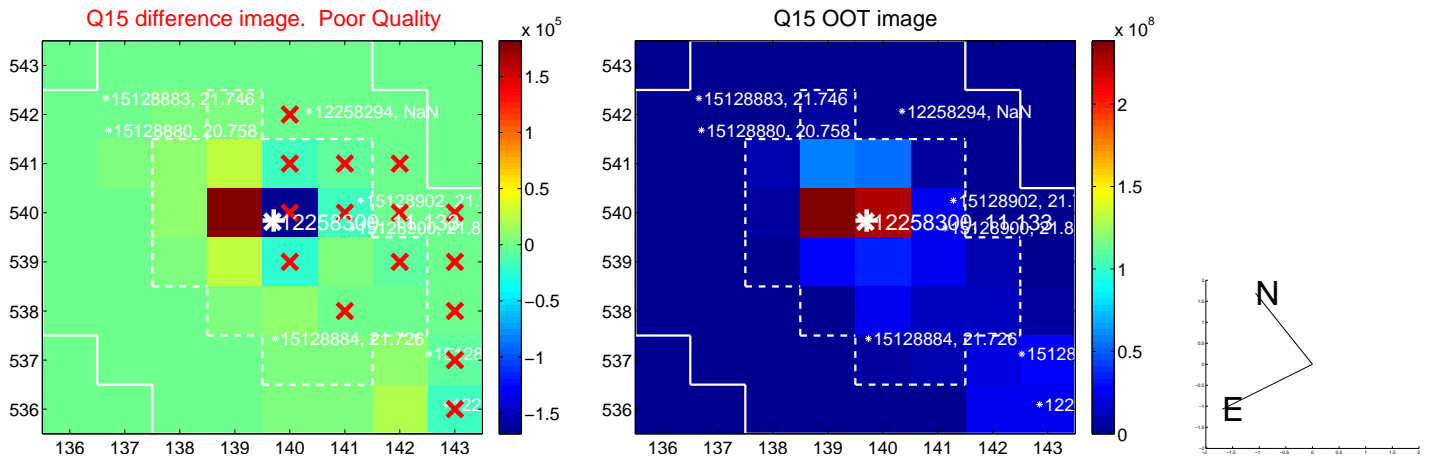
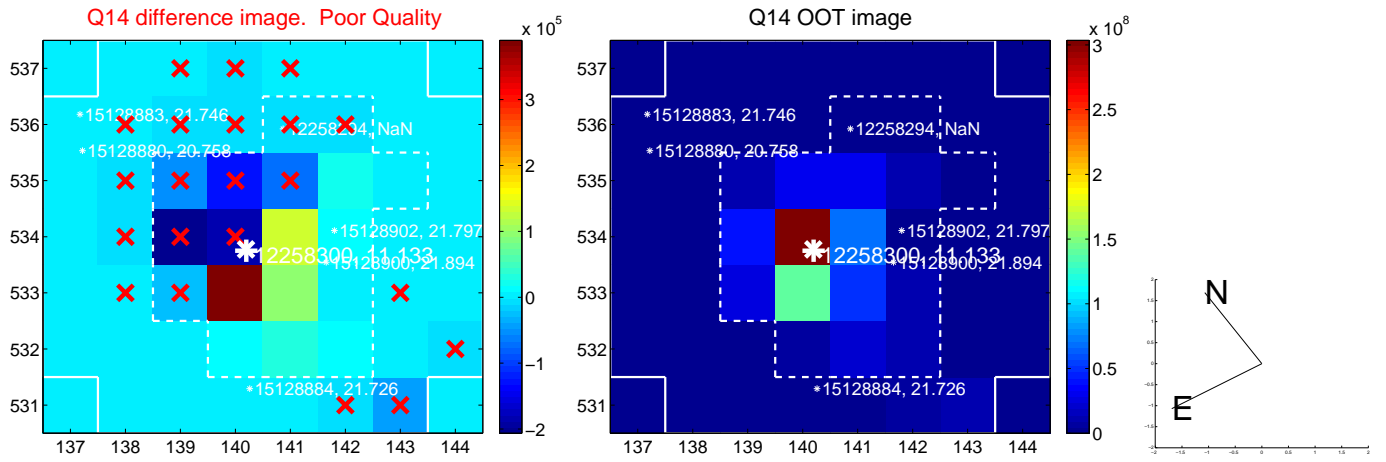
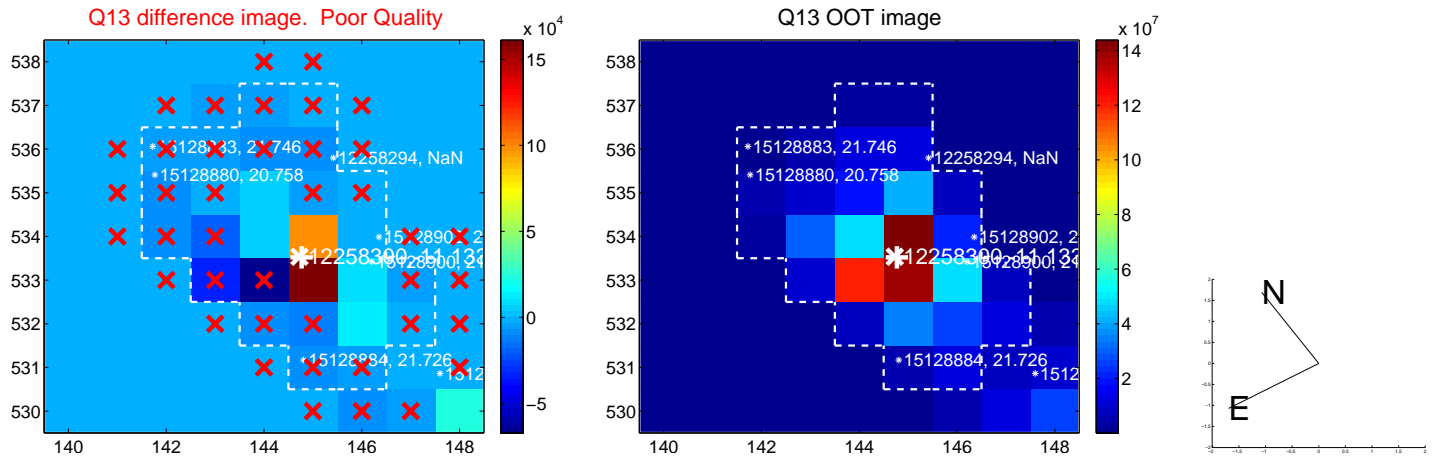




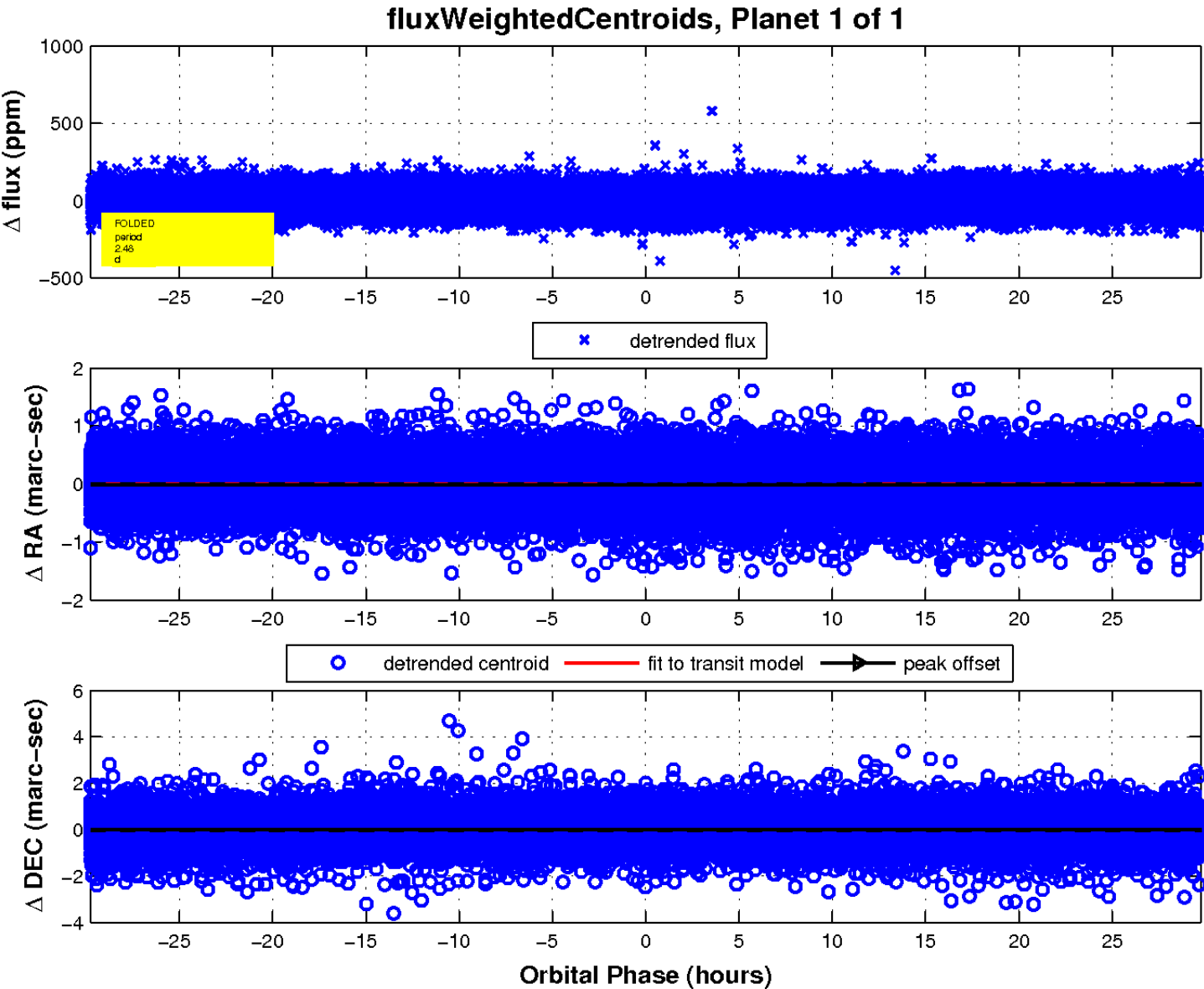
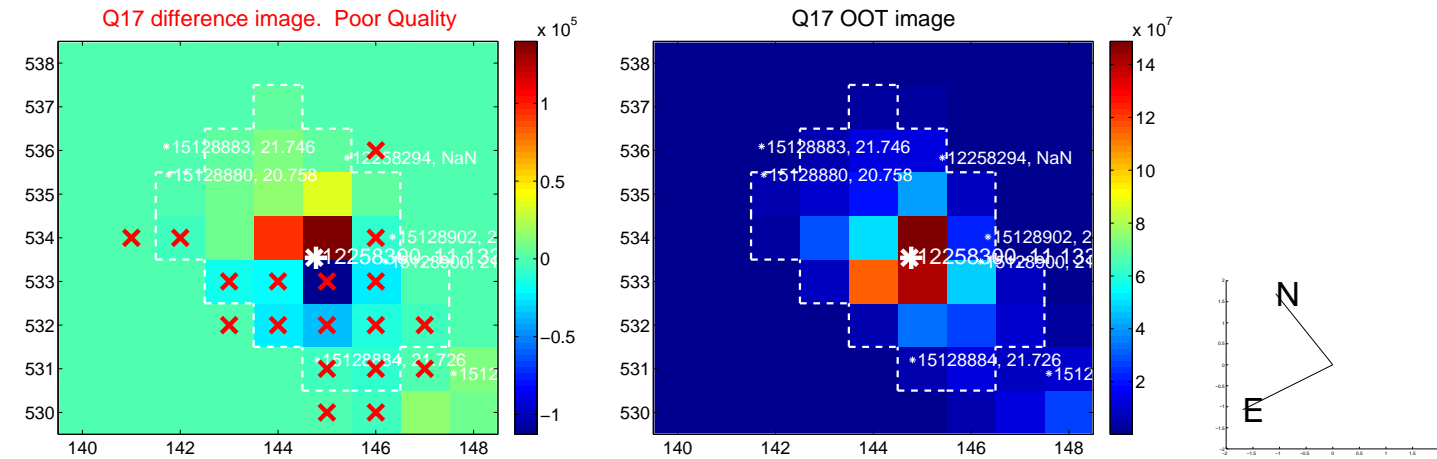
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

