

# KIC 002571868

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
002571868-01	OBS	No	1.323570	132.684269	68.6	12.956	13.3	17.8	3.27	8132	2.73	47519.93

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002571868-01	OBS	FP	0.00	1	0	0	0	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.

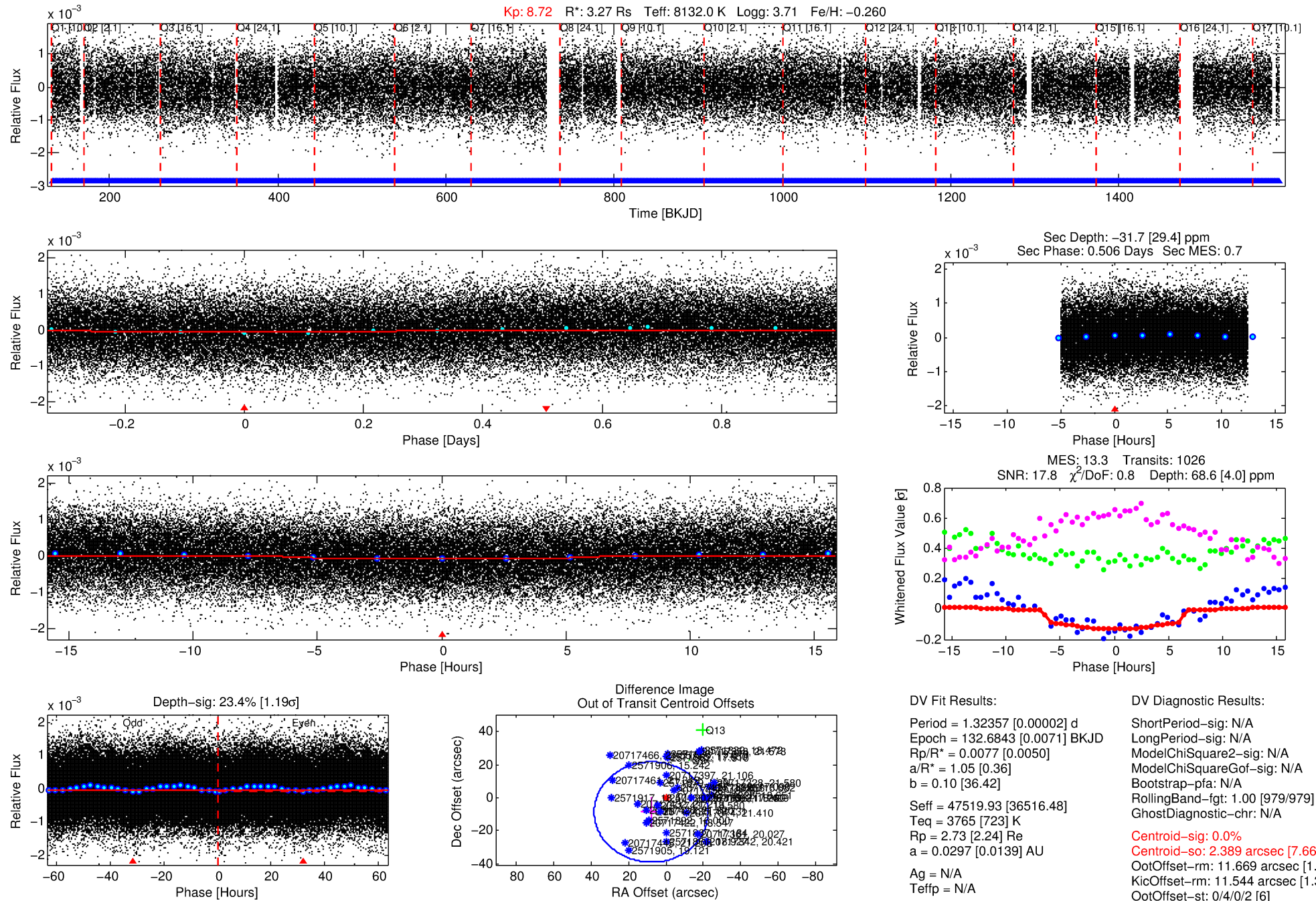
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 002571868-01

No Significant Match Found

# DV One-Page Summary

KIC: 2571868 Candidate: 1 of 1 Period: 1.324 d



## DV Fit Results:

Period = 1.32357 [0.00002] d  
Epoch = 132.6843 [0.0071] BKJD  
Rp/R\* = 0.0077 [0.0050]  
a/R\* = 1.05 [0.36]  
b = 0.10 [36.42]  
Seff = 47519.93 [36516.48]  
Teq = 3765 [723] K  
Rp = 2.73 [2.24] Re  
a = 0.0297 [0.0139] AU  
Ag = N/A  
Teffp = N/A

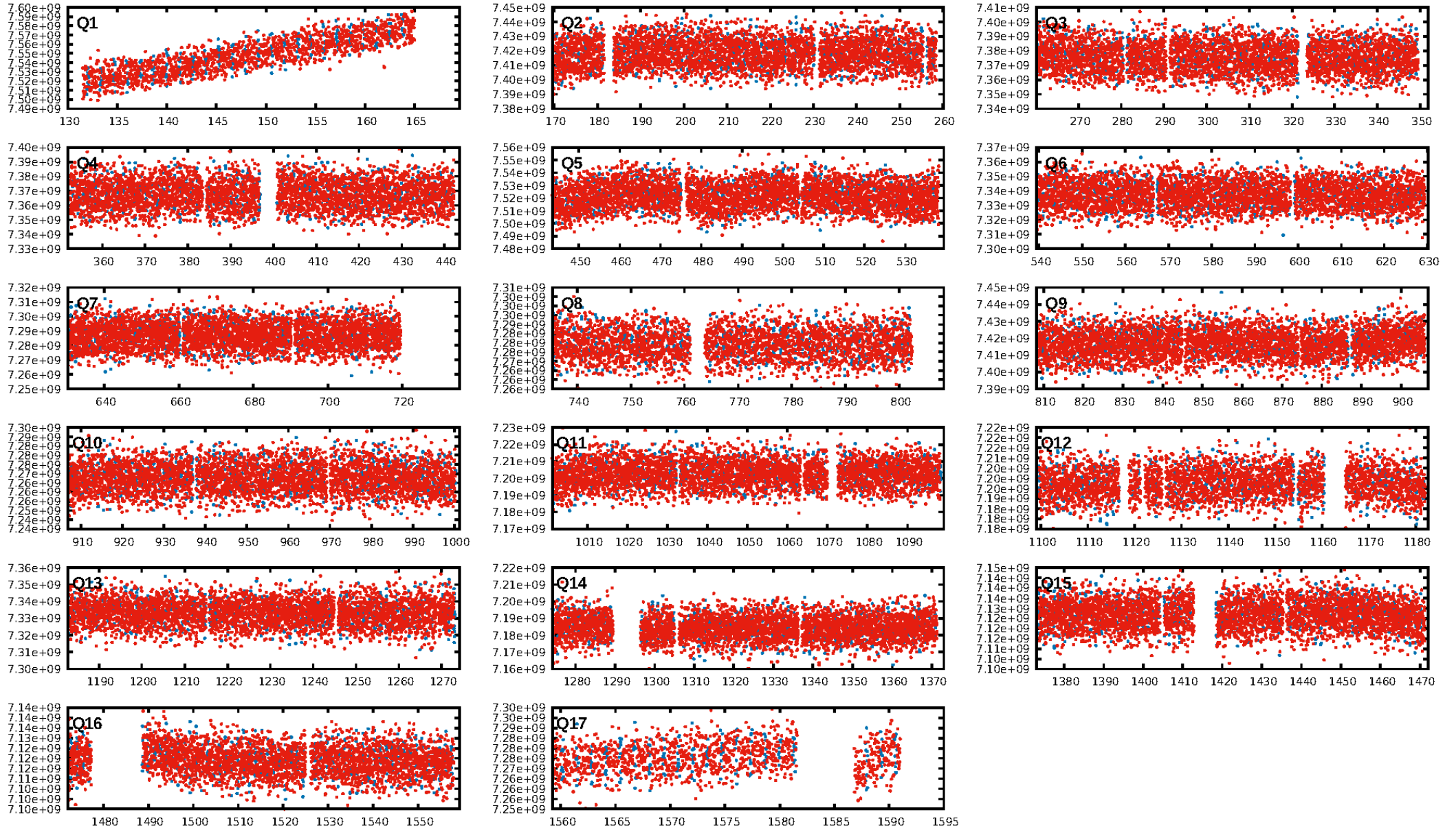
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [979/979]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 0.0%  
Centroid-so: 2.389 arcsec [7.66 $\sigma$ ]  
OotOffset-rm: 11.669 arcsec [1.15 $\sigma$ ]  
KicOffset-rm: 11.544 arcsec [1.38 $\sigma$ ]  
OotOffset-st: 0/4/0/2 [6]  
KicOffset-st: 0/4/0/2 [6]  
DiffImageQuality-fgm: 0.17 [1/6]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:50:49 Z

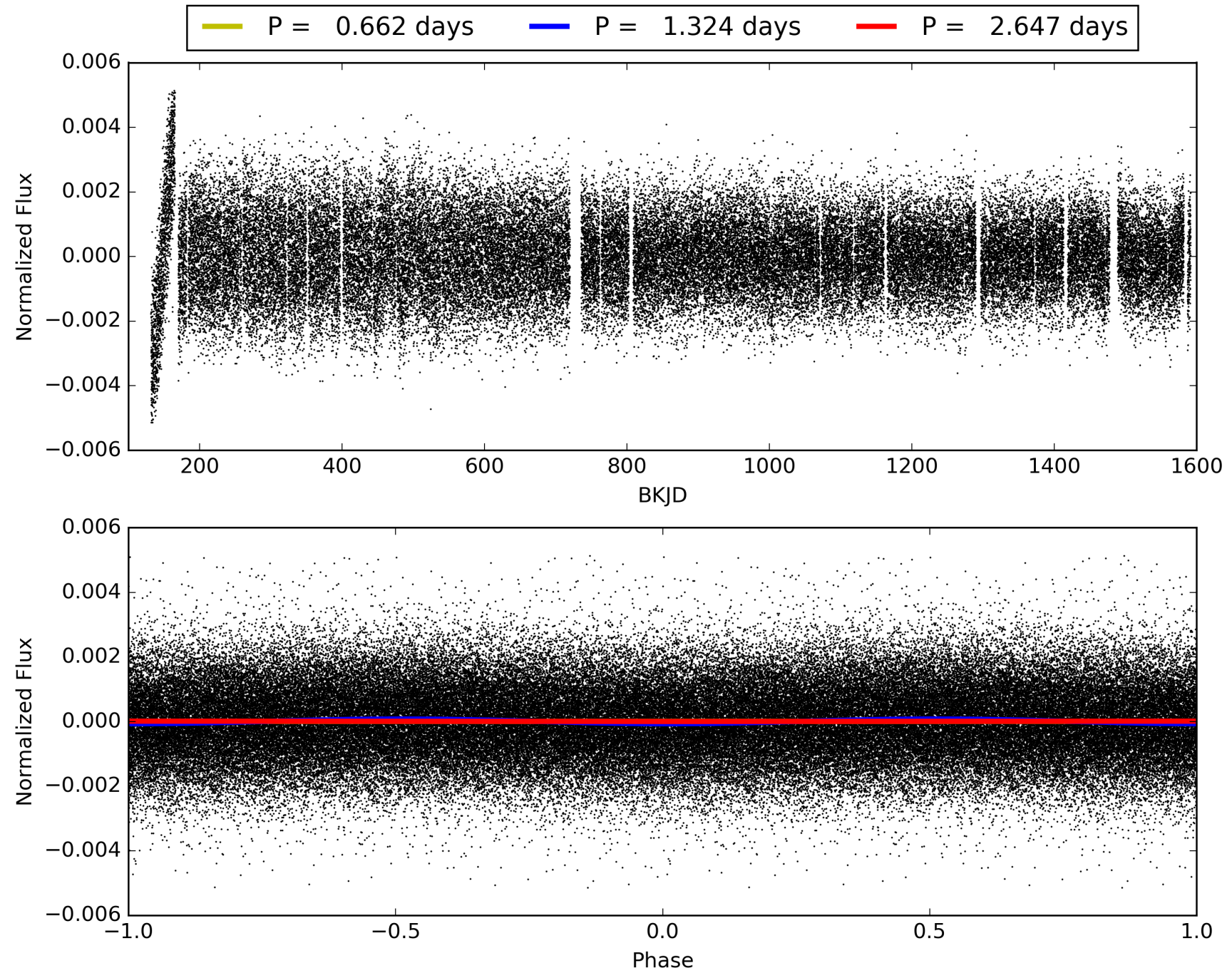
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 002571868-01, PDC Light Curves



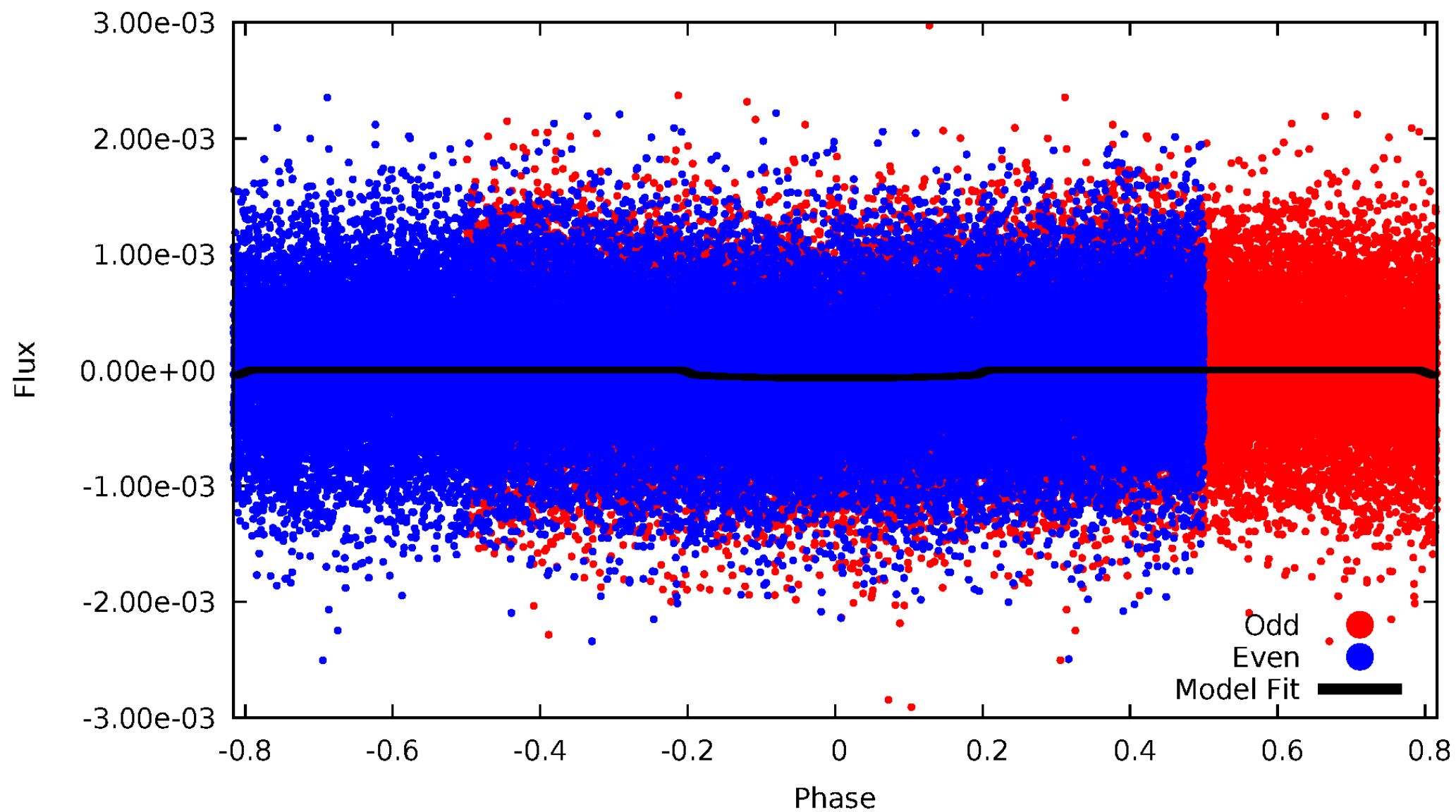


TCE 002571868-01



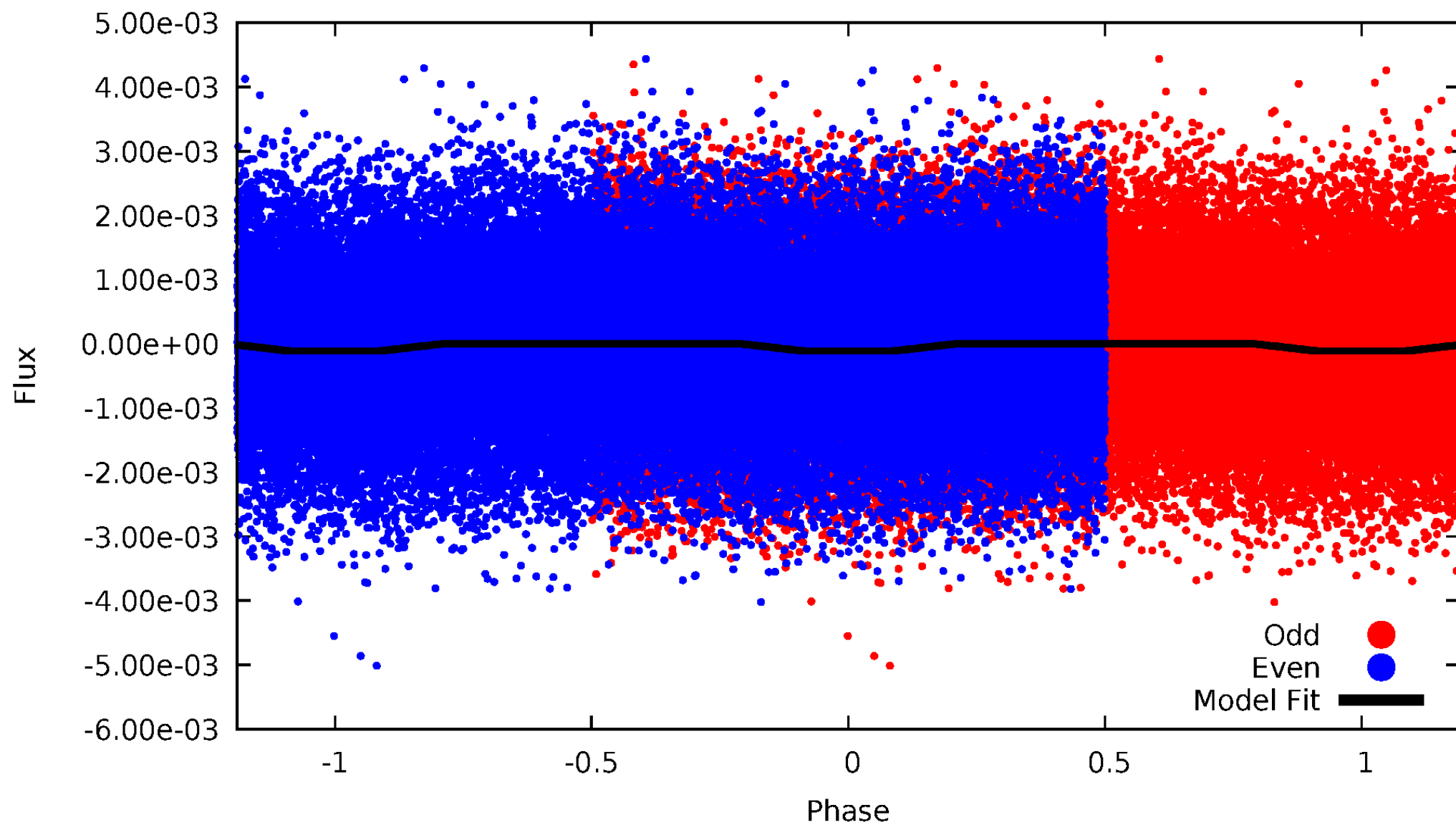
# DV Odd/Even

TCE 002571868-01

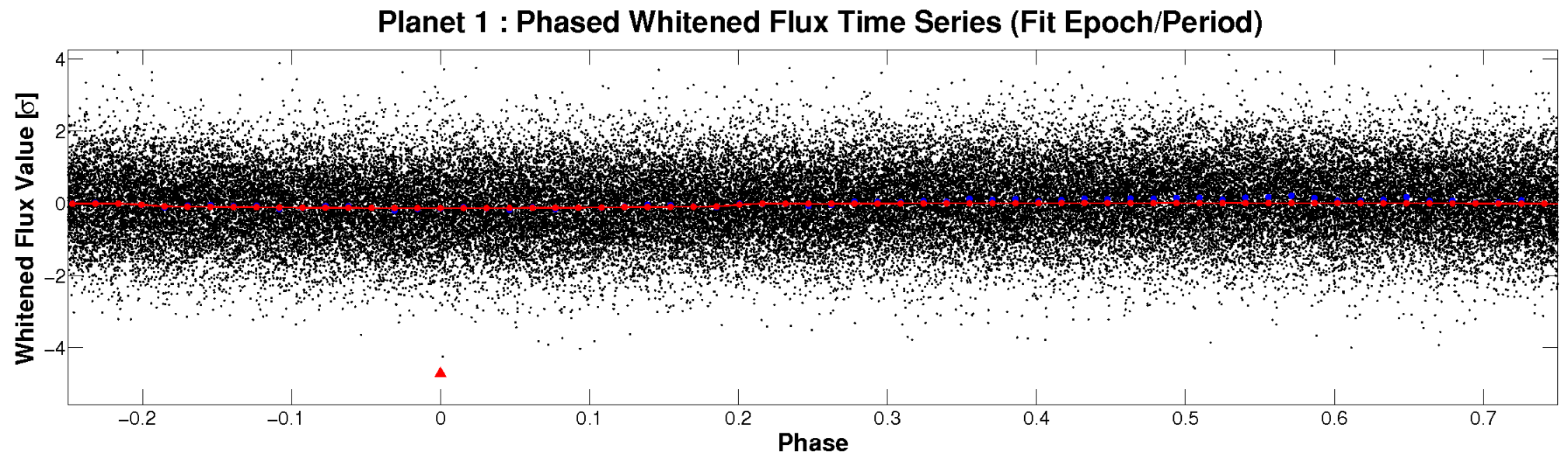
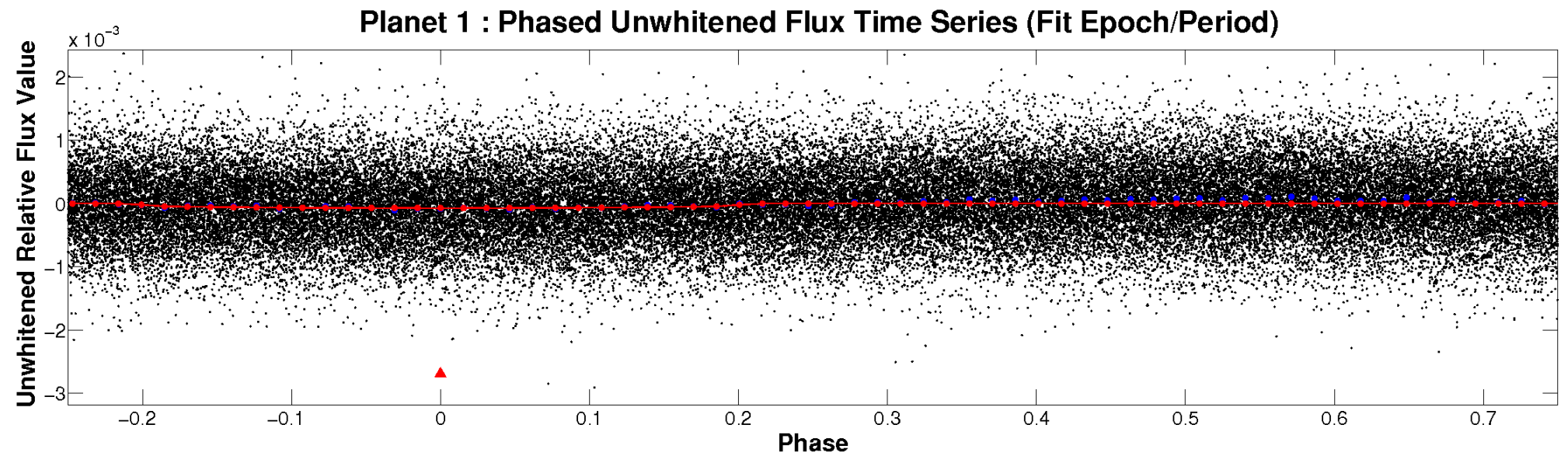


# ALT Odd/Even

TCE 002571868-01



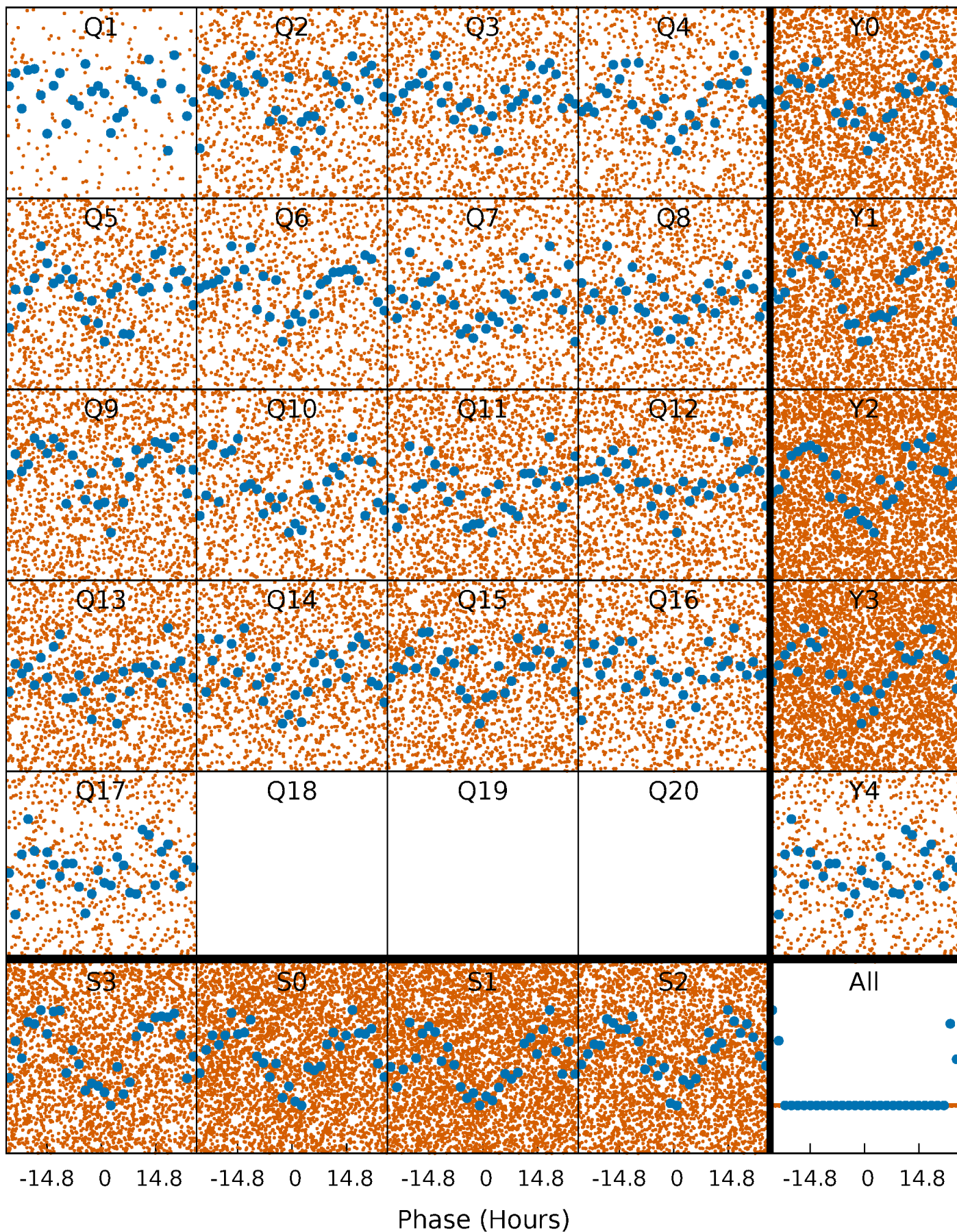
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

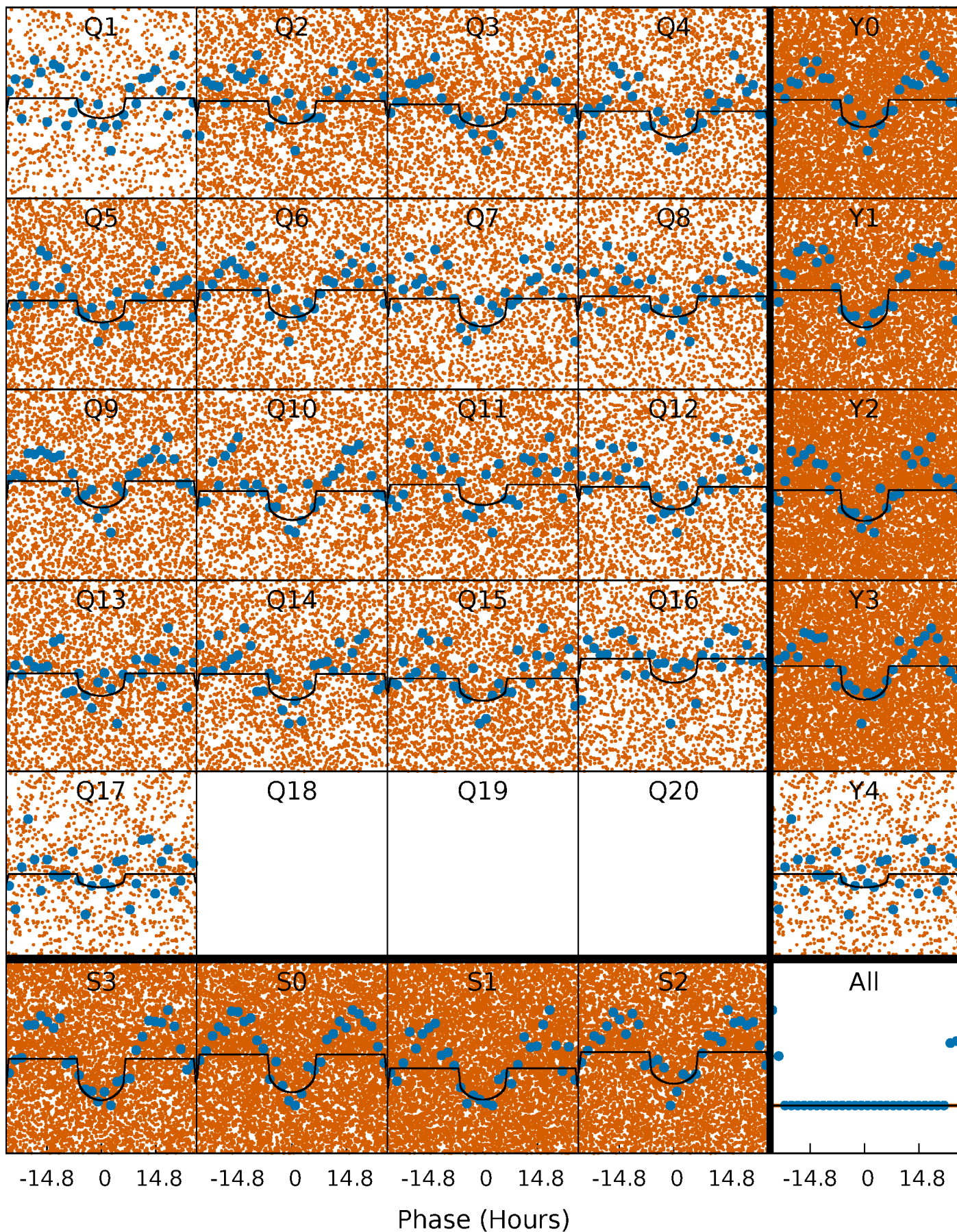
TCE 002571868-01 P= 1.323570 Days  $T_0=132.684269$  (BKJD)





# DV Quarter-Phased Transit Curves

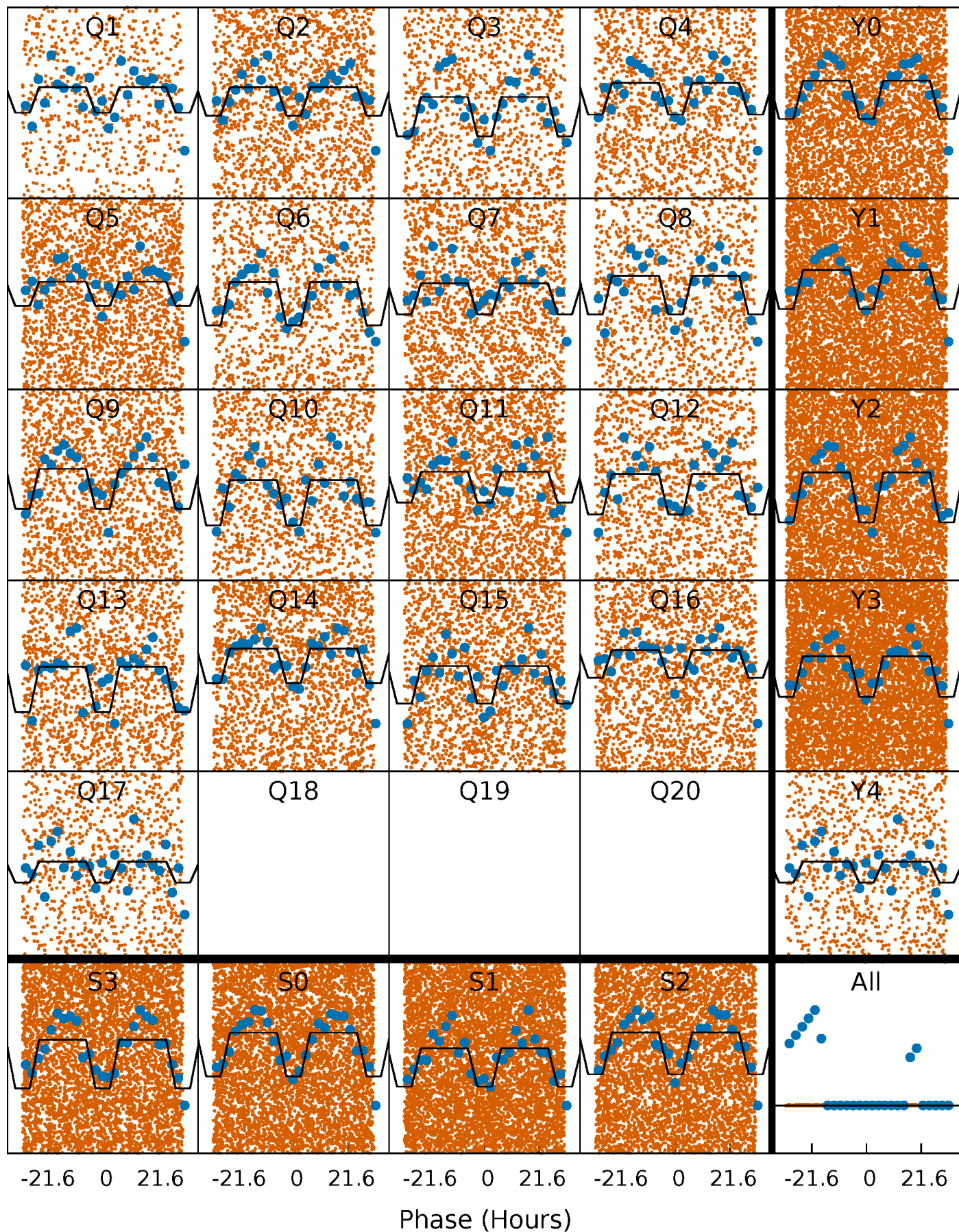
TCE 002571868-01 P= 1.323570 Days  $T_0=132.684269$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

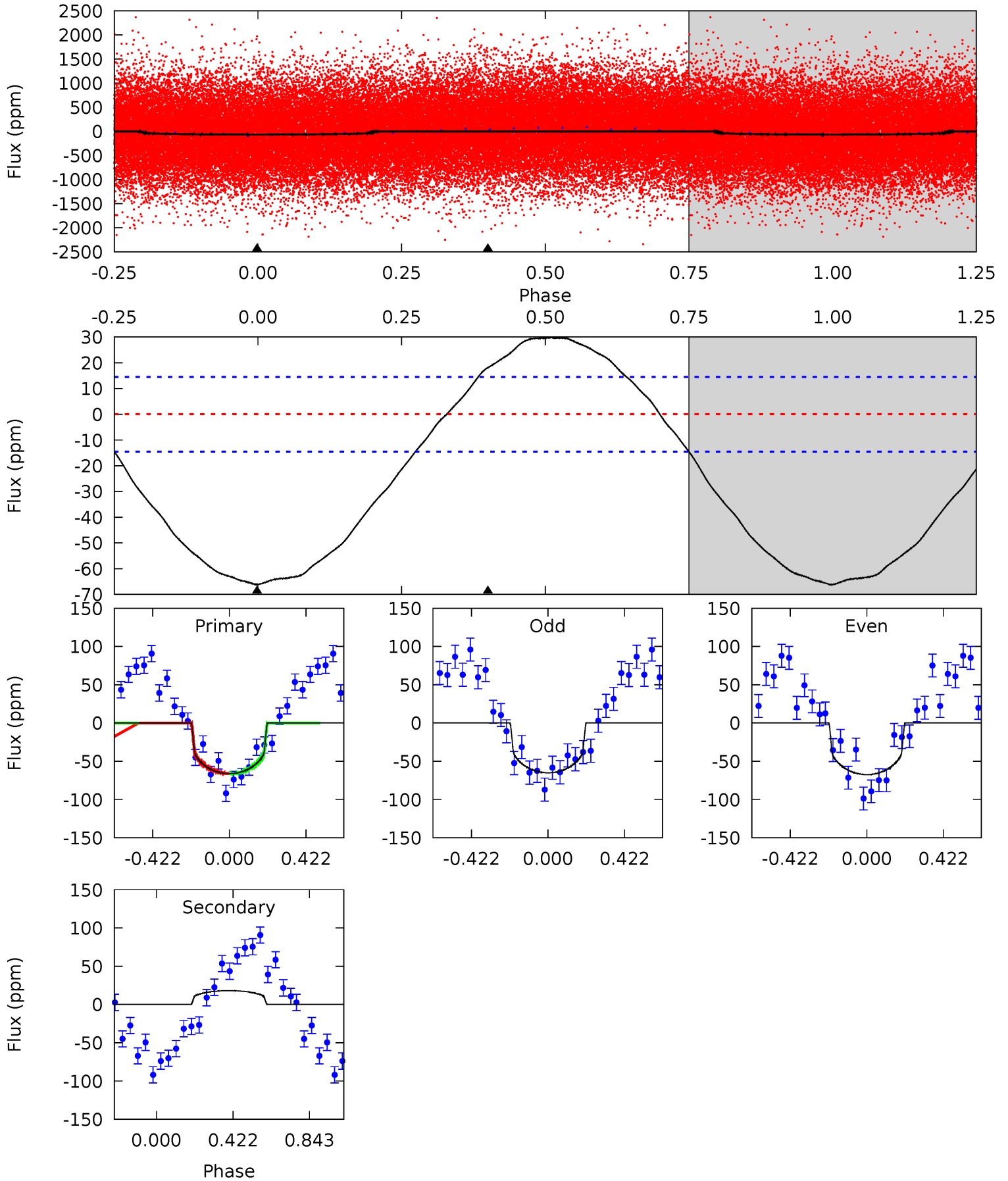
TCE 002571868-01 P= 1.323511 Days  $T_0=132.714962$  (BKJD)



# DV Model-Shift Uniqueness Test

002571868-01, P = 1.323570 Days, E = 131.360699 Days

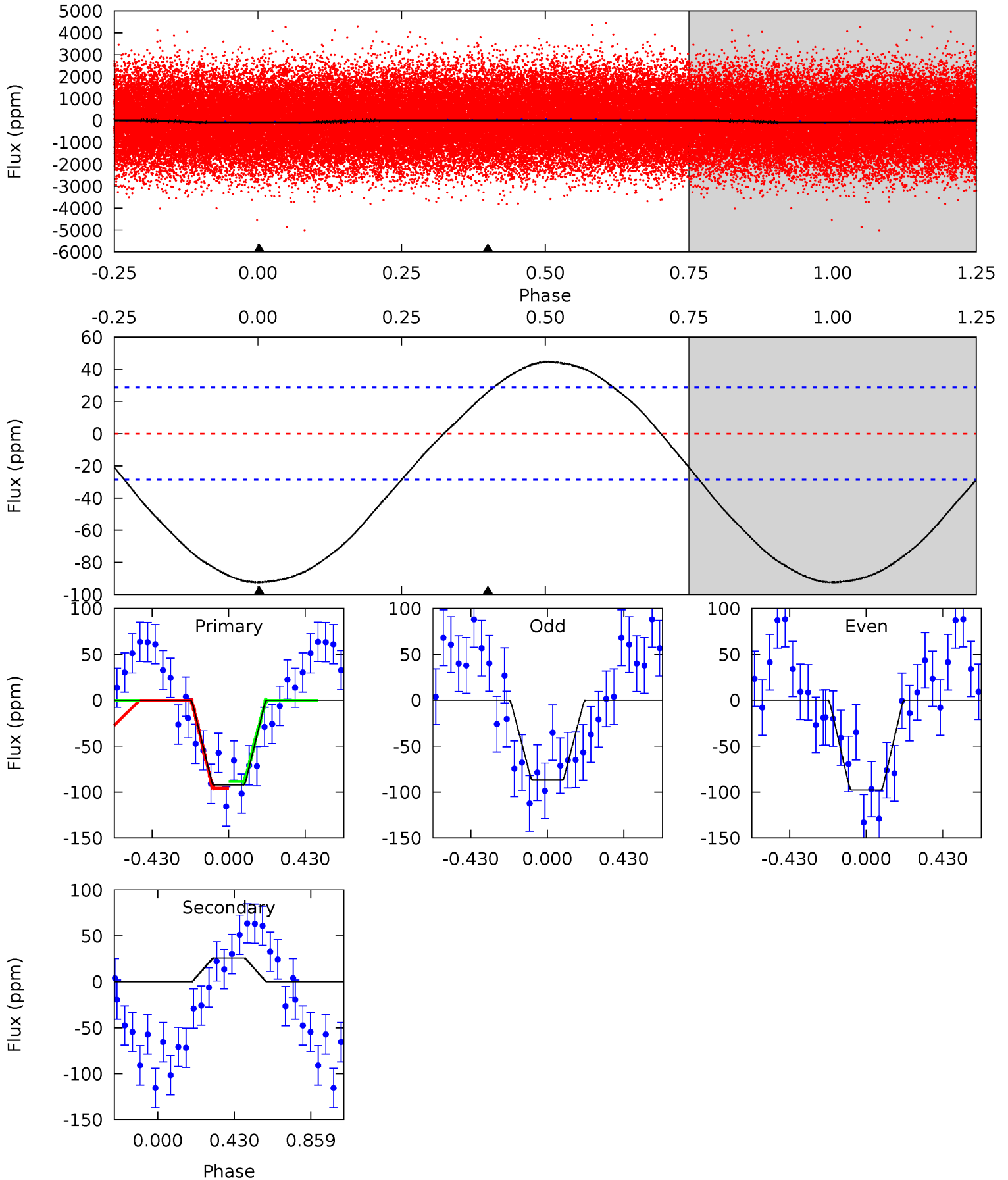
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	-5.30	0	0	4.25	0.80	2.39	19.4	19.4	-5.30	-5.30	0.35	0.96	0.31	0.07



# Alt Model-Shift Uniqueness Test

002571868-01, P = 1.323511 Days, E = 131.391451 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
13.7	-3.85	0	0	4.25	0.79	1.84	13.7	13.7	-3.85	-3.85	0.81	1.01	0.33	0.54





### Stellar Parameters For KIC 002571868

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8132^{+225}_{-338}$	$3.708^{+0.440}_{-0.110}$	$-0.260^{+0.200}_{-0.300}$	$3.268^{+0.801}_{-1.601}$	$1.987^{+0.401}_{-0.481}$	$0.080^{+0.334}_{-0.031}$
	+3%/-4%	+12%/-3%	+77%/-115%	+25%/-49%	+20%/-24%	+416%/-39%
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 002571868-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$18 \pm 3$	$2.50^{+1.91}_{-1.40}$	$5080^{+395}_{-642}$	$-6081^{+950}_{-3226}$	$-1.341^{+0.883}_{-5.967}$
Alt.	$26 \pm 7$	$3.36^{+1.72}_{-1.57}$	$5077^{+384}_{-651}$	$-5775^{+678}_{-2043}$	$-1.140^{+0.696}_{-3.111}$

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

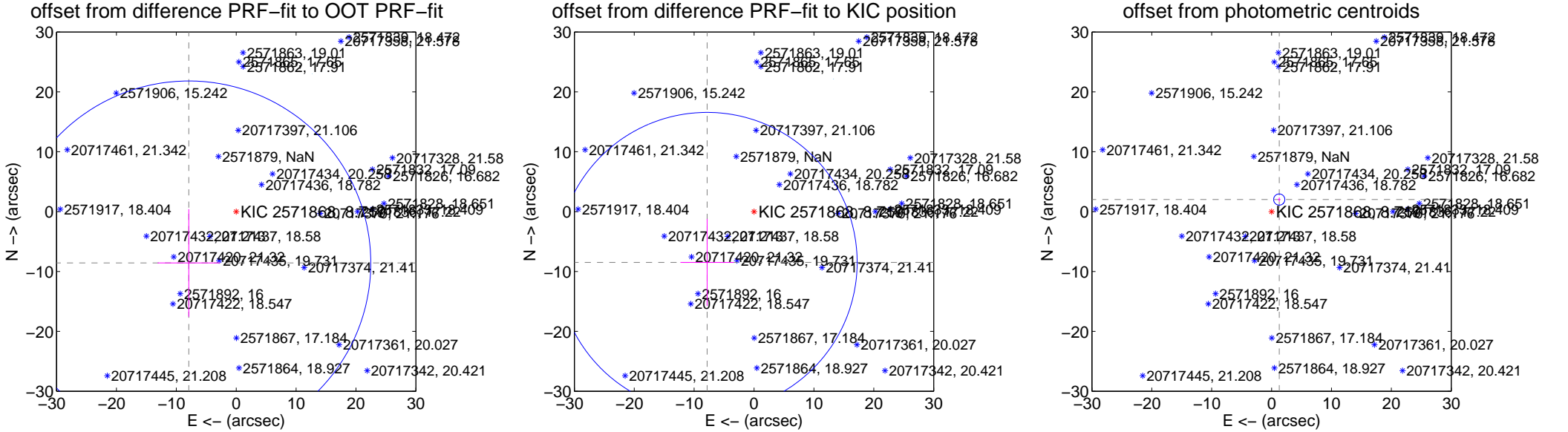
## DV Centroid Data

Supplemental centroid analysis for 002571868-01. **Kepler magnitude: 8.72.** Transit SNR 17.75

**There are 1 quarters with good PRF difference image offsets**

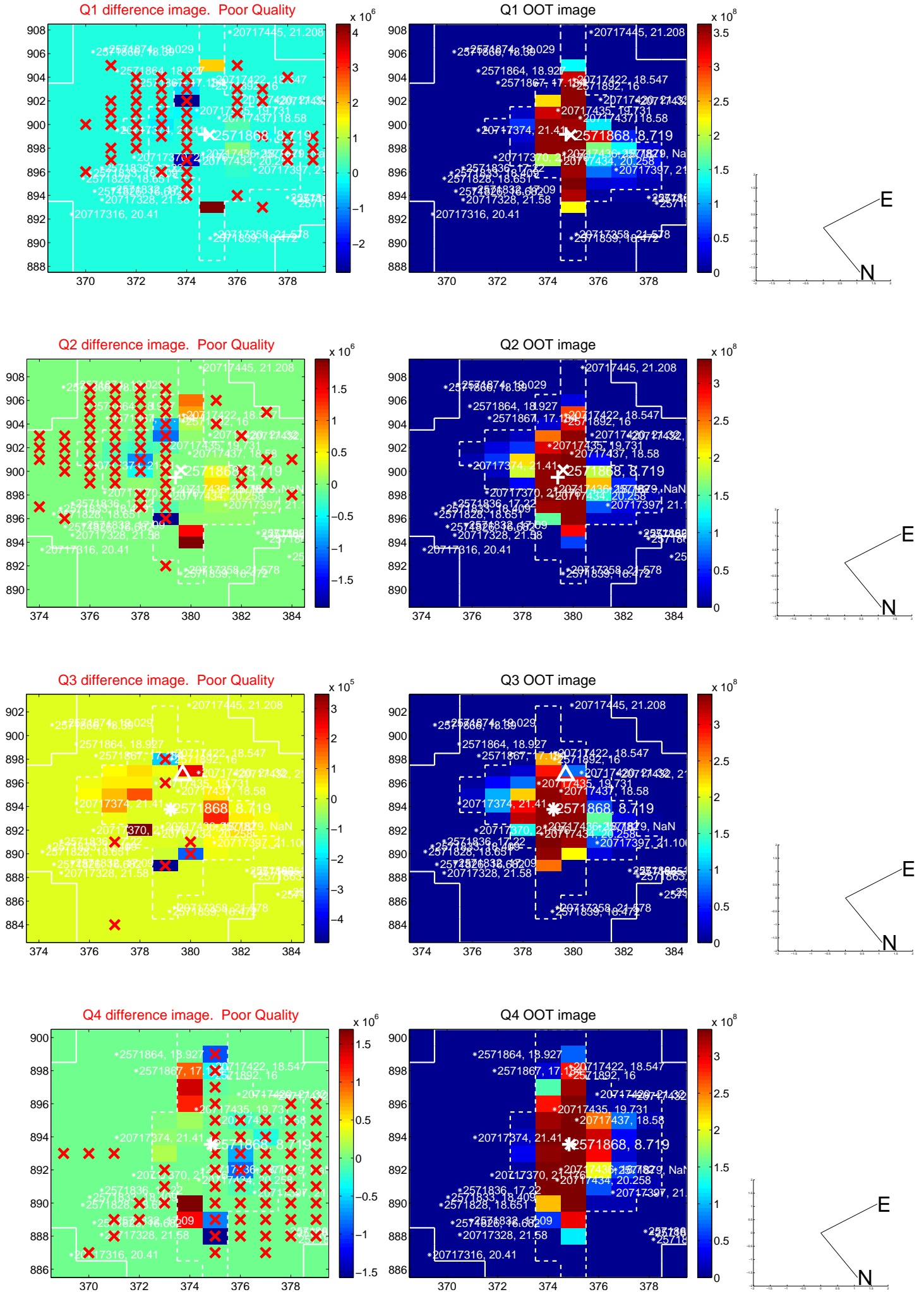
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$11.669 \pm 10.130$	1.15	$7.917 \pm 5.207$	$-8.572 \pm 8.987$
PRF-fit source offset from KIC position	$11.544 \pm 8.350$	1.38	$7.833 \pm 4.460$	$-8.479 \pm 7.269$
photometric centroid source offset	<b><math>2.39 \pm 0.31</math></b>	<b>7.66</b>	$-1.28 \pm 0.22$	$2.02 \pm 0.34$

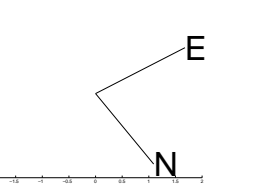
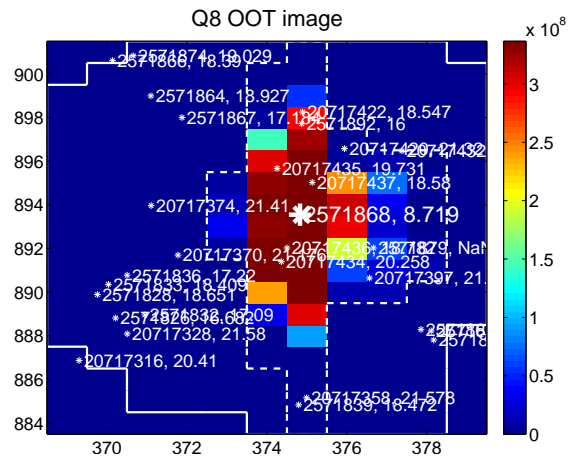
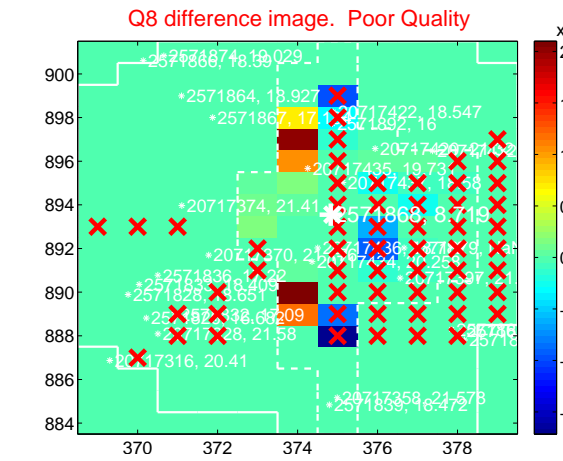
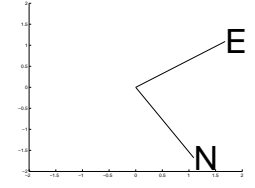
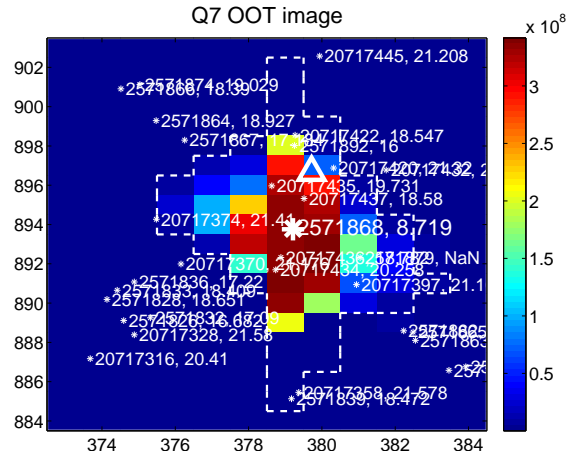
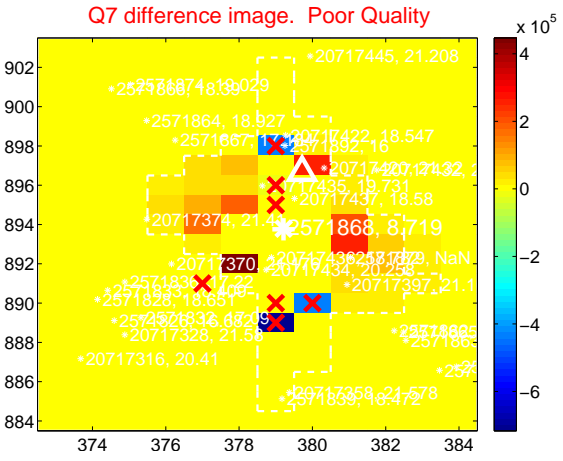
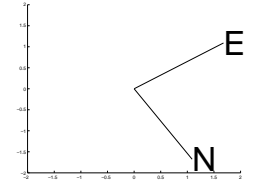
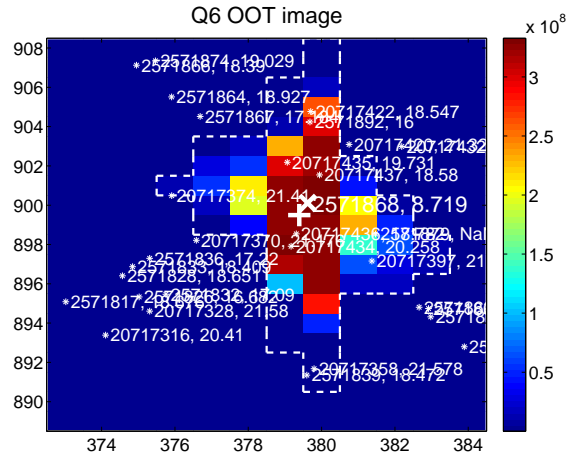
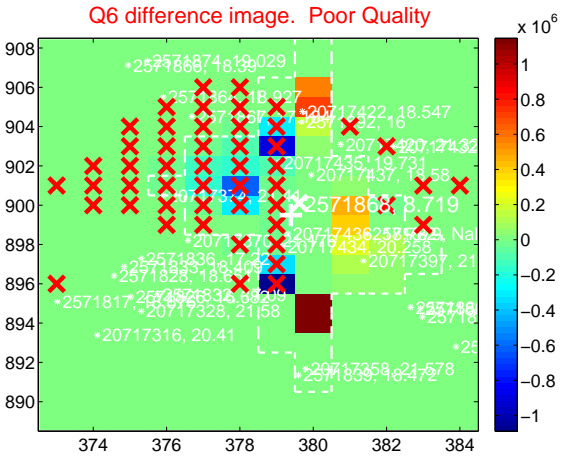
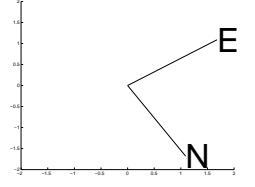
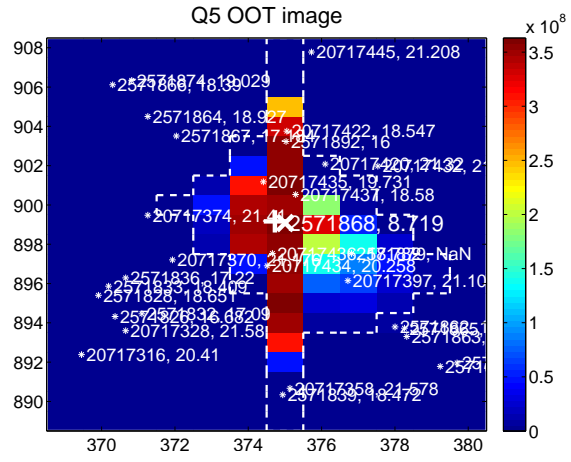
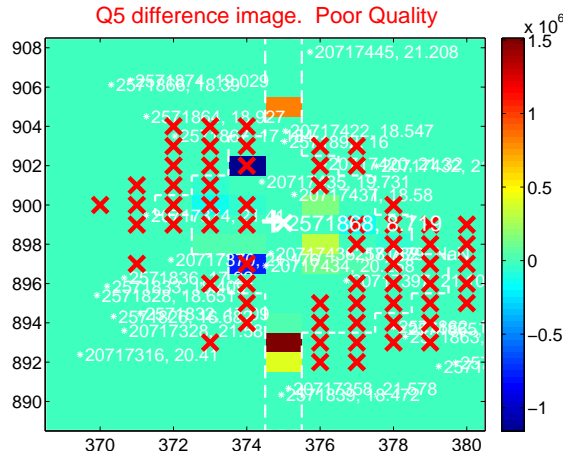


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

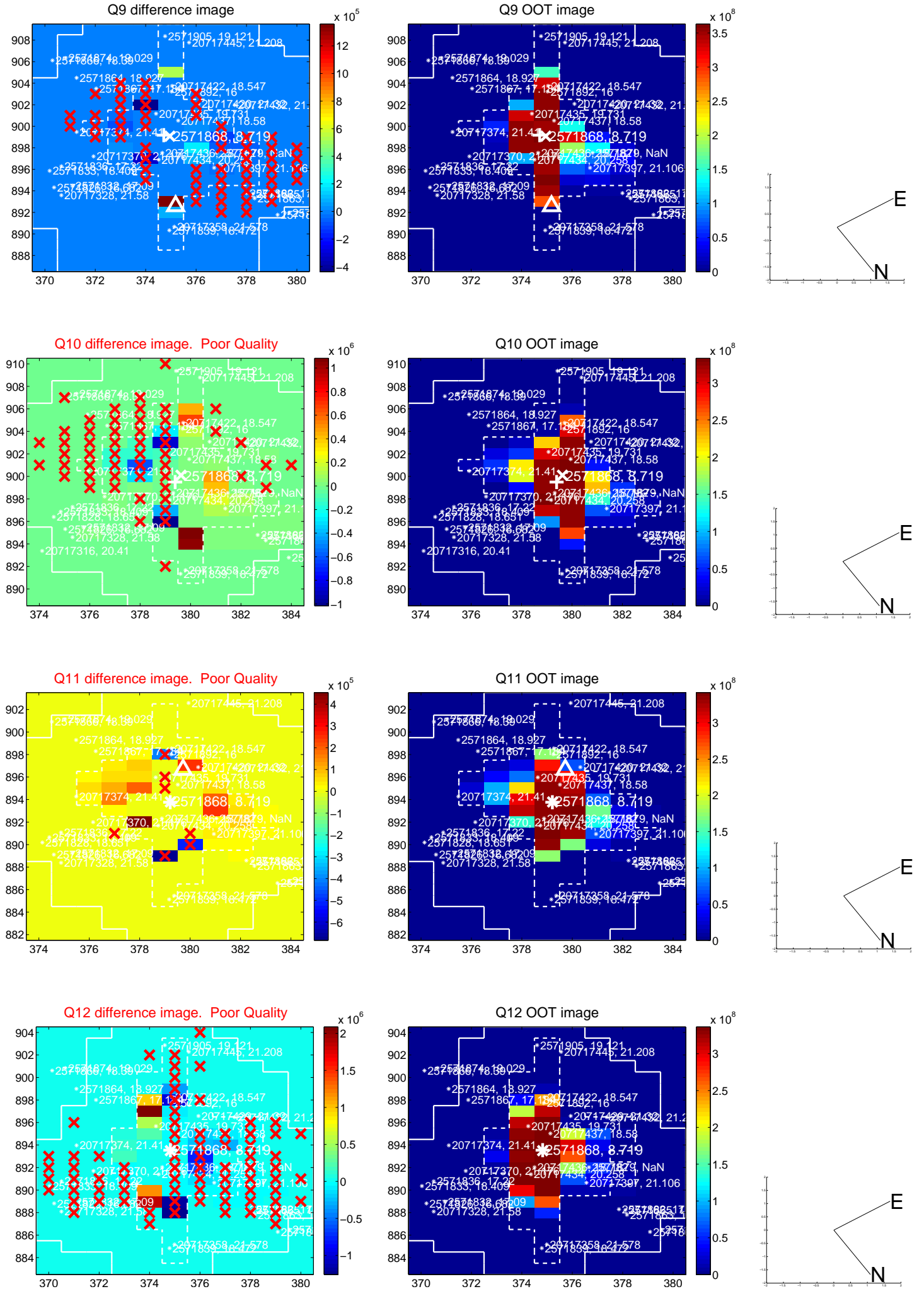


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

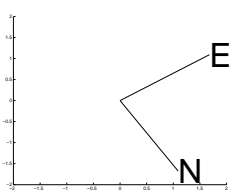
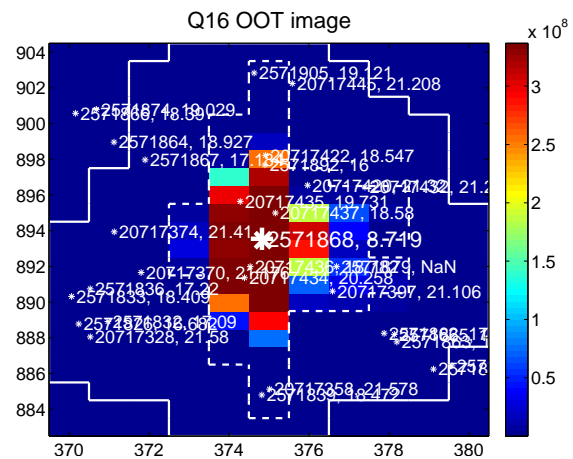
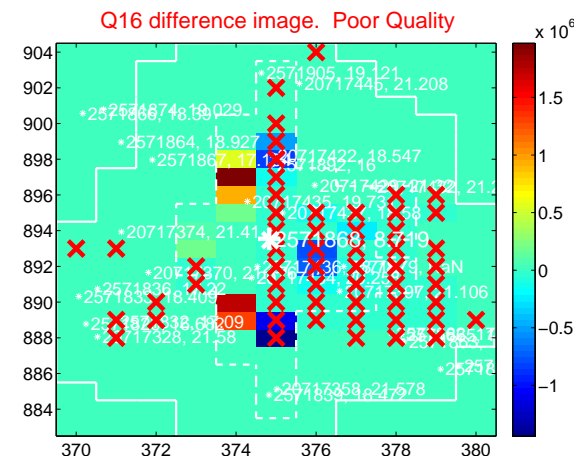
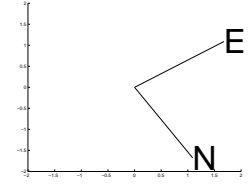
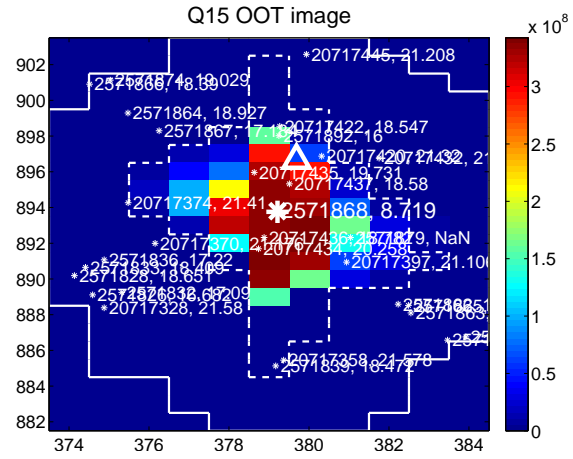
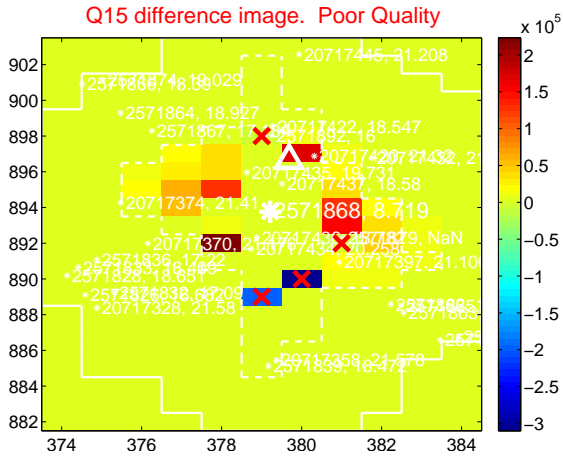
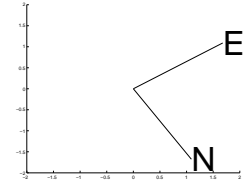
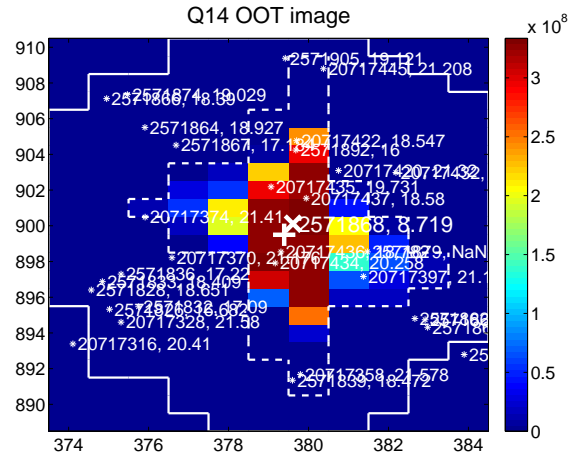
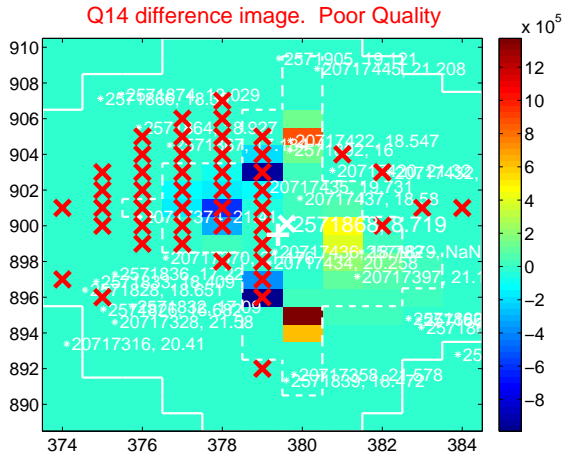
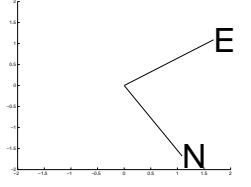
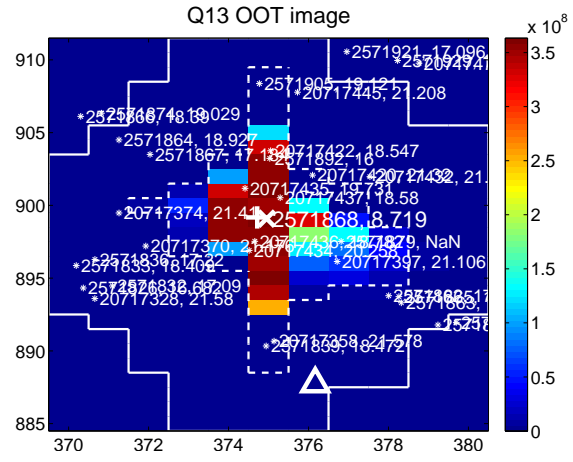
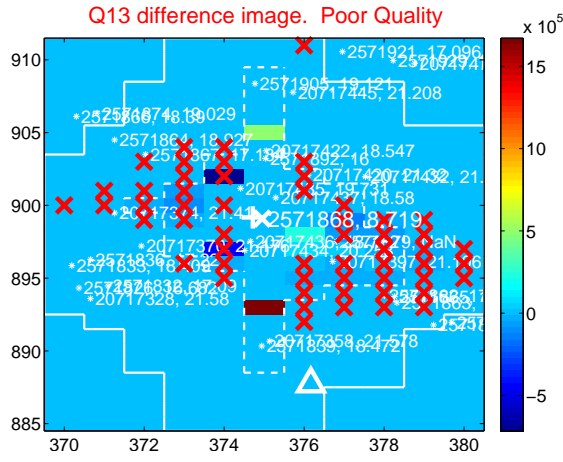




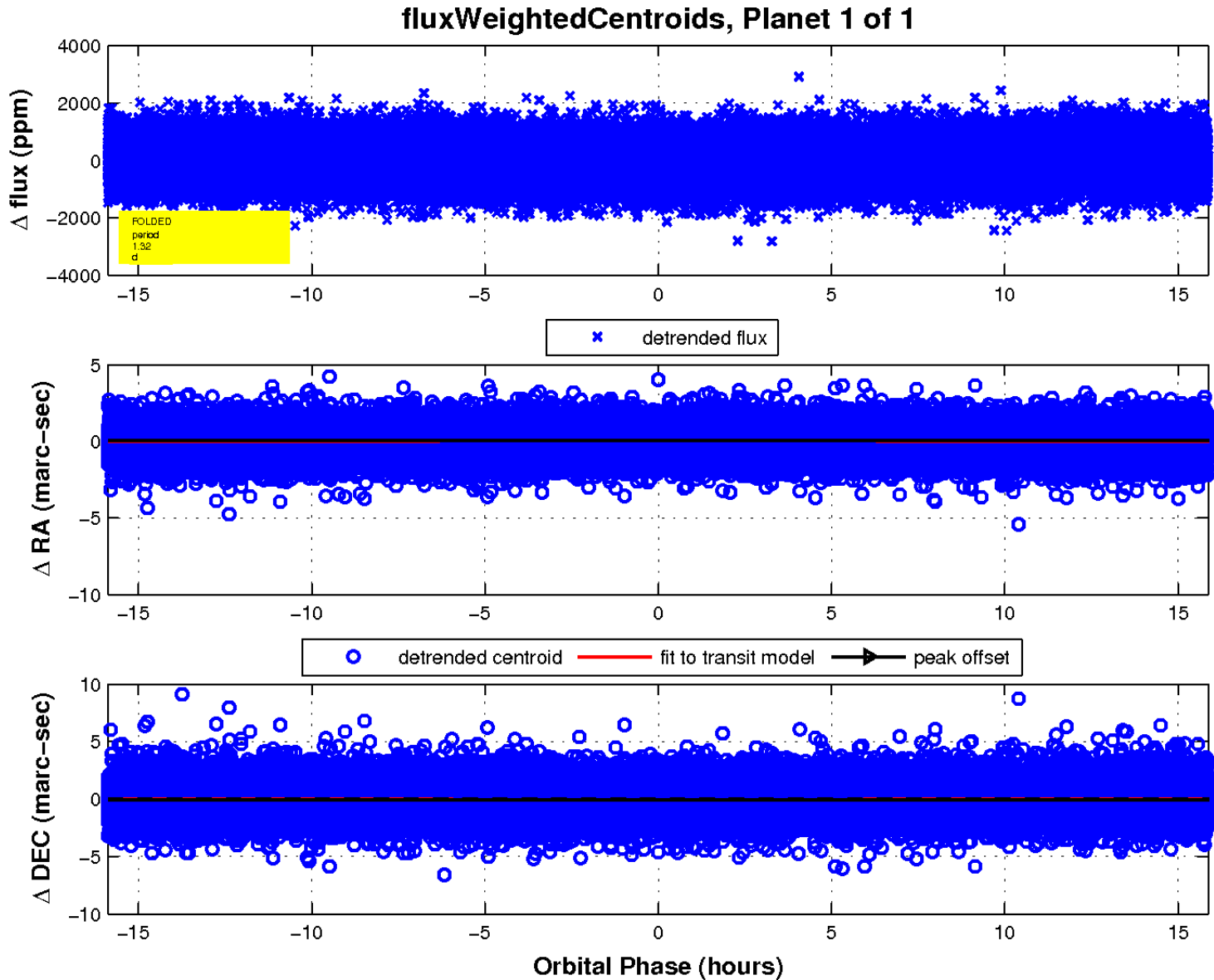
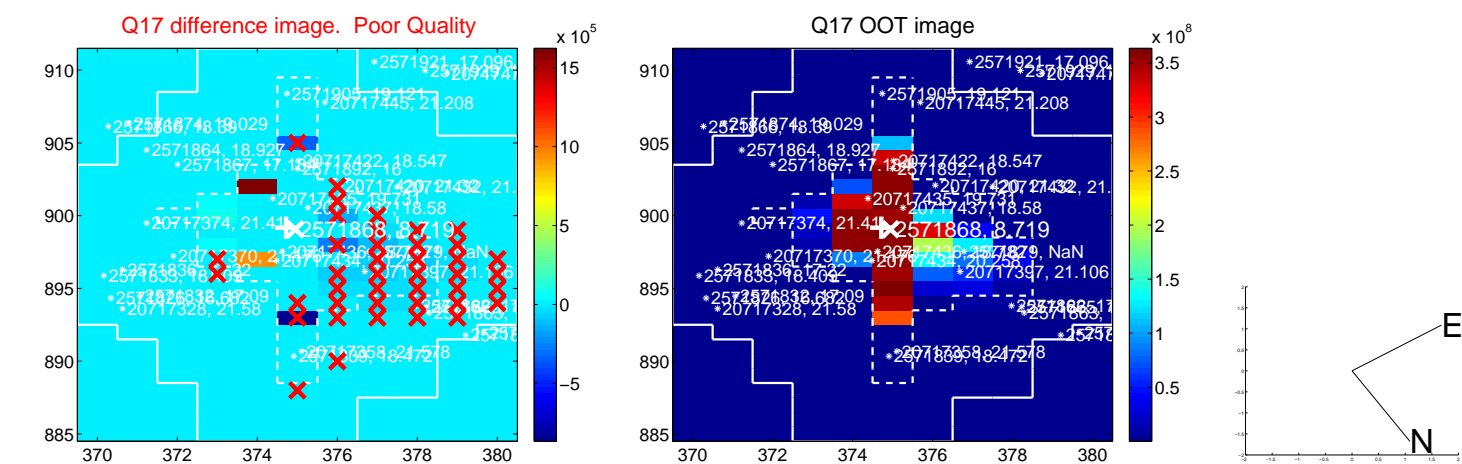
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

