

# KIC 008302302

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008302302-01	OBS	3732.01	1.135936	132.391202	33199.6	2.500	2119.9	-1.0	0.95	6247	17.50	2692.41

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008302302-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—CENT_NOFITS

**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 008302302-01

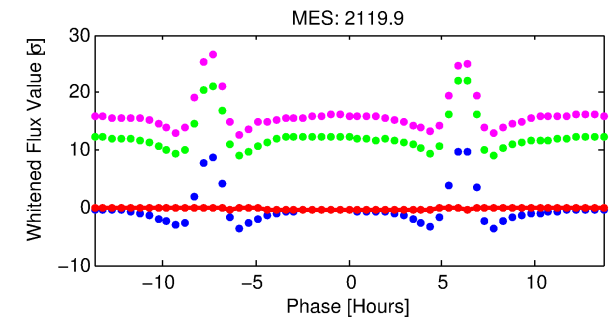
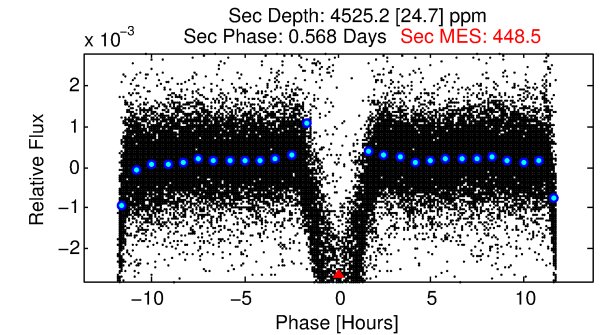
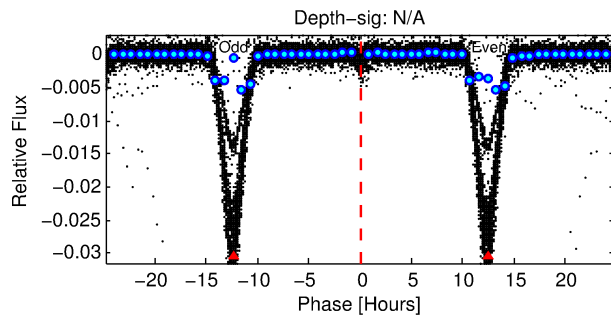
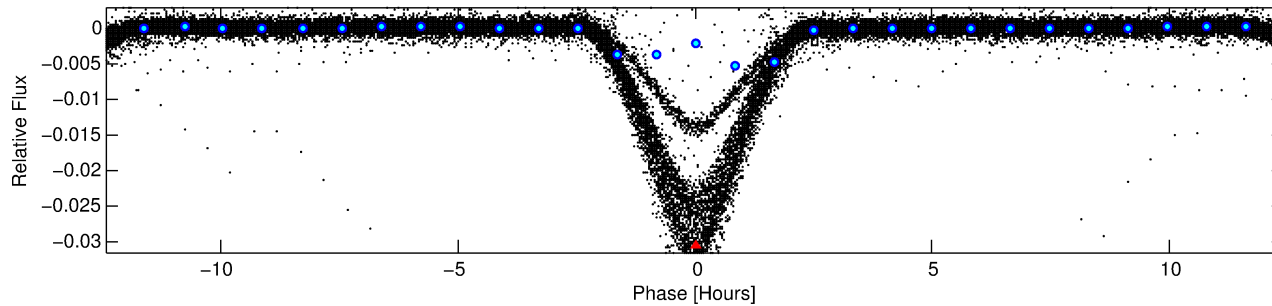
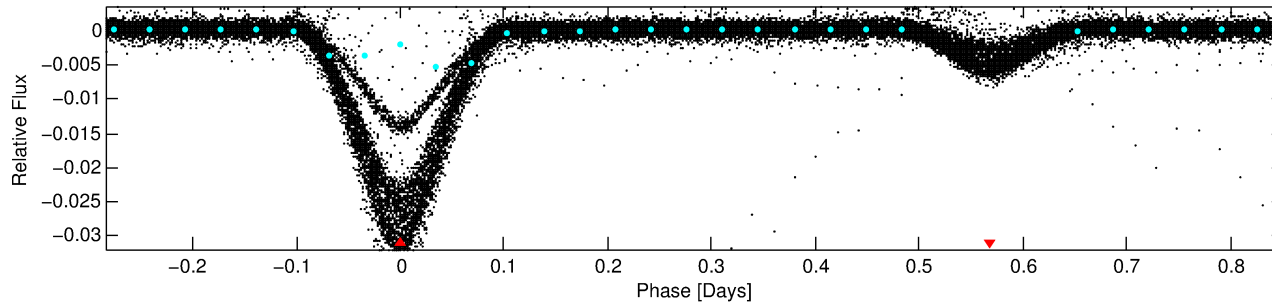
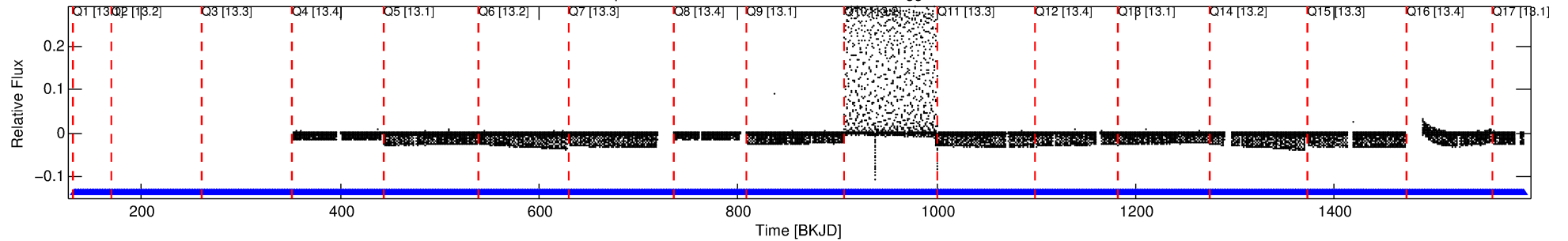
No Significant Match Found

# DV One-Page Summary

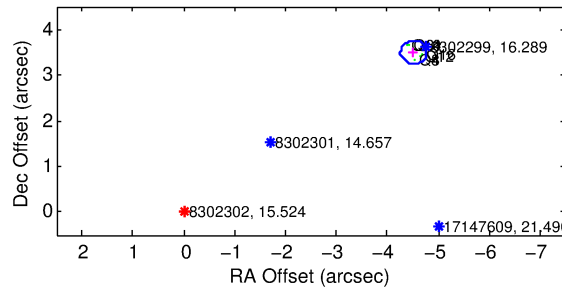
KIC: 8302302 Candidate: 1 of 1 Period: 1.136 d

KOI: K03732 Corr: No Ephemeris Match

Kp: 15.52 R\*: 0.95 Rs Teff: 6247.0 K Logg: 4.49 Fe/H: -0.340



Difference Image  
Out of Transit Centroid Offsets



## TPS TCE Results:

Period = 1.13594 d  
Epoch = 132.3912 BKJD

DV fit results are unavailable

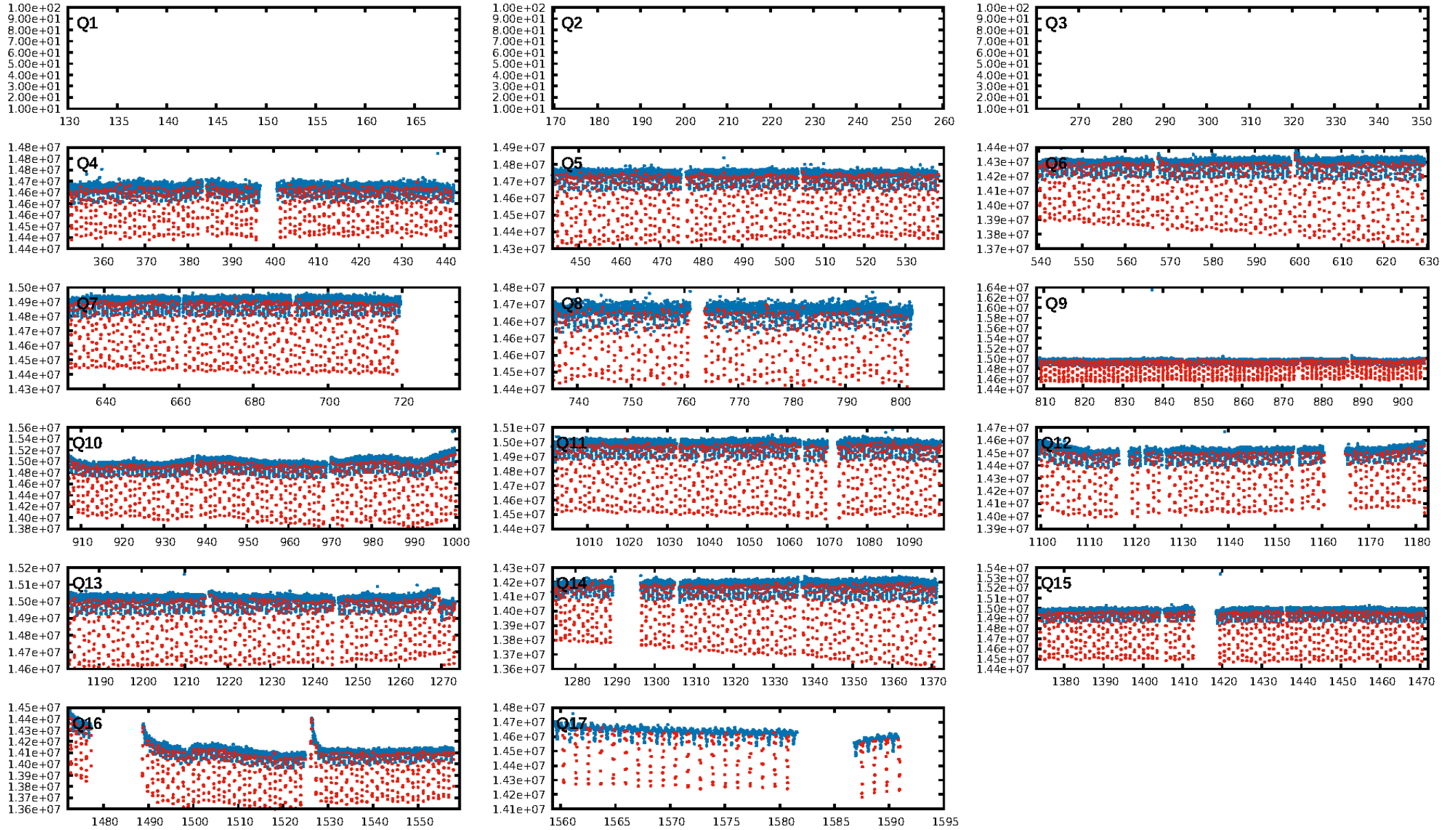
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [983/983]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 5.713 arcsec [67.48σ]  
KicOffset-rm: 5.881 arcsec [72.67σ]  
OotOffset-st: 3/0/4/0 [7]  
KicOffset-st: 3/0/4/0 [7]  
DiffImageQuality-fgm: 1.00 [7/7]  
DiffImageOverlap-fno: 1.00 [14/14]

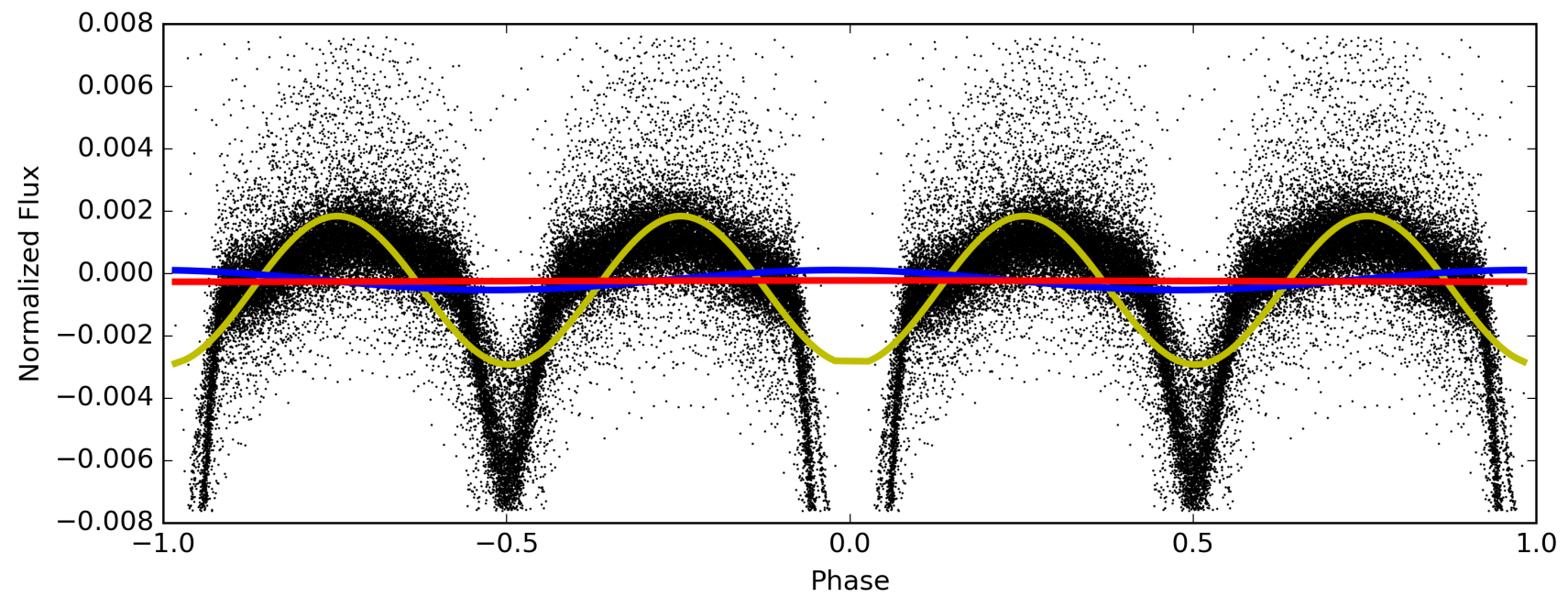
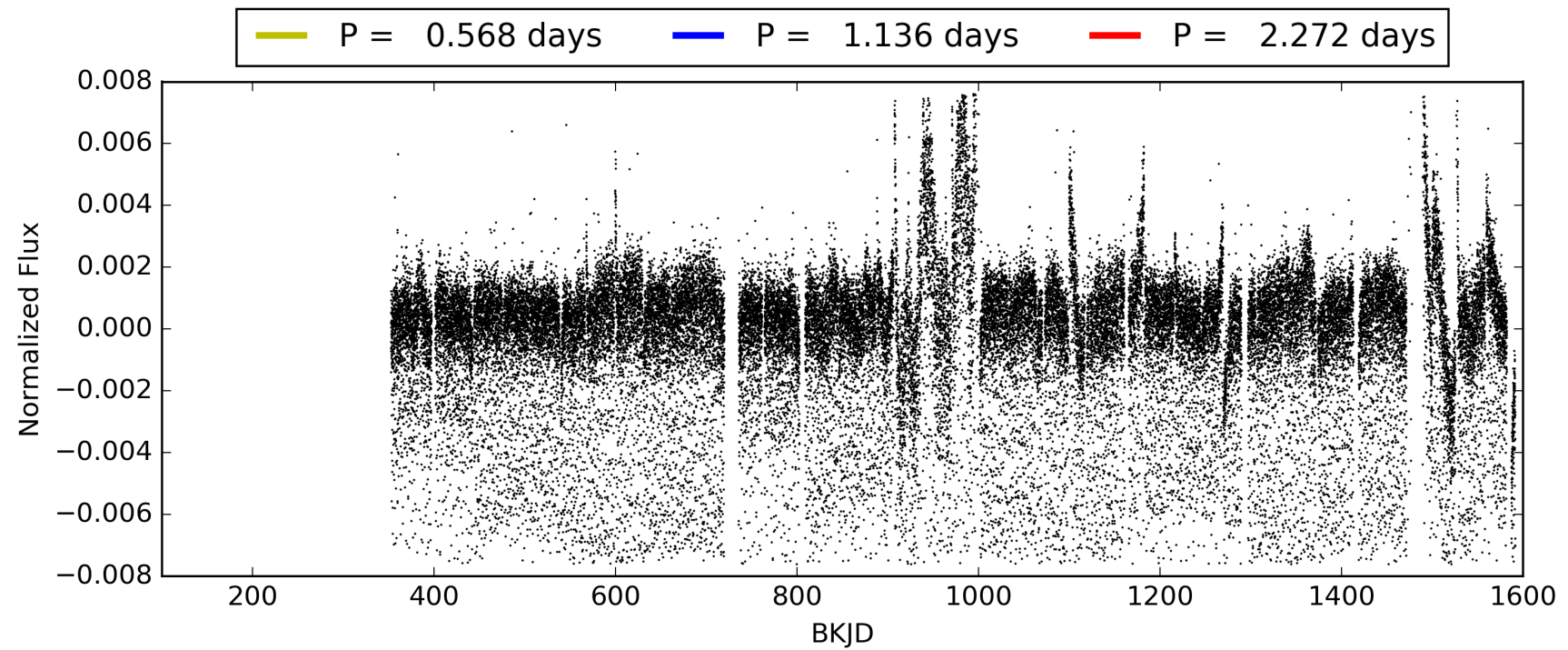
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 21:42:10 Z

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

# TCE 008302302-01, PDC Light Curves

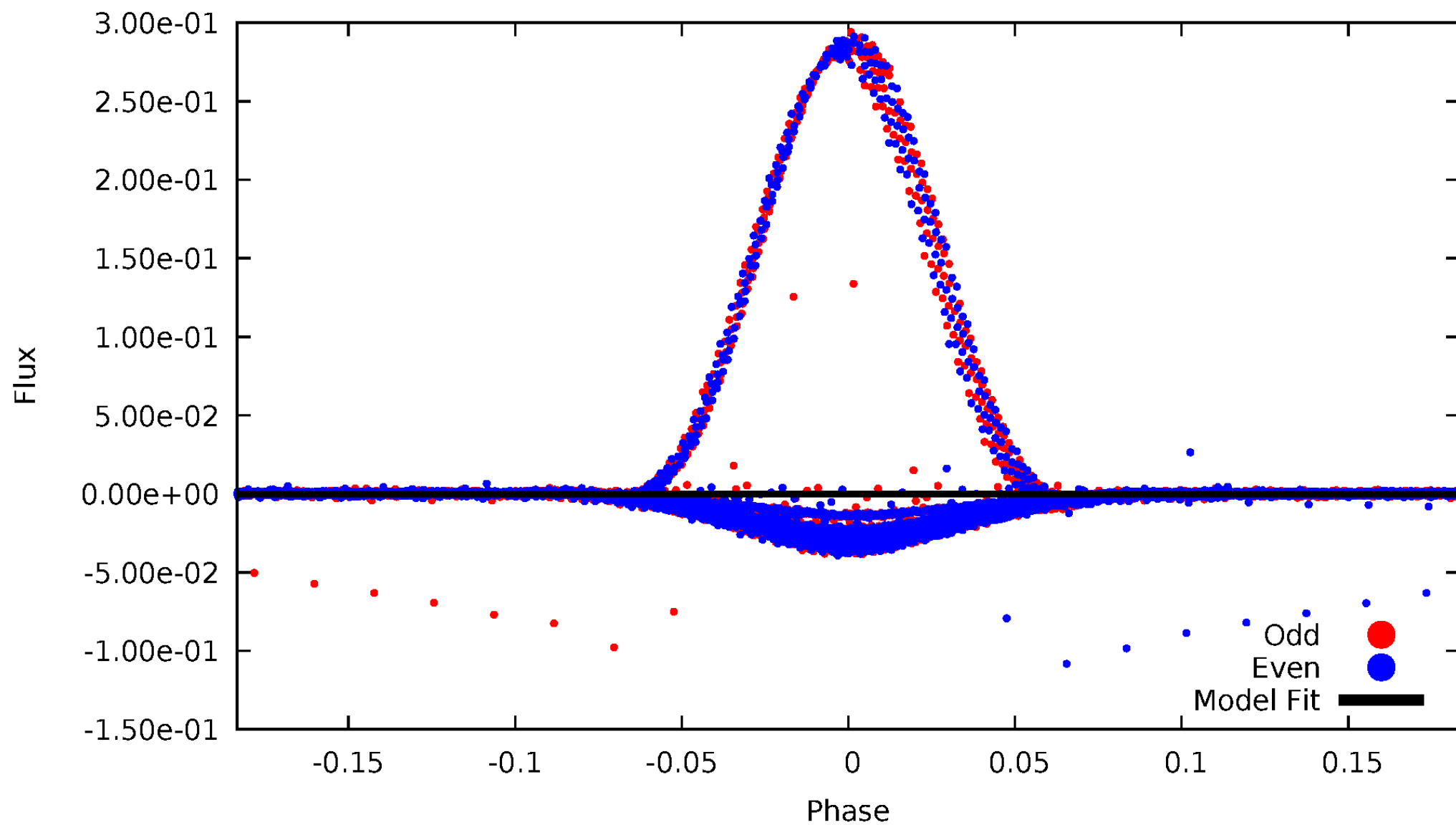


TCE 008302302-01



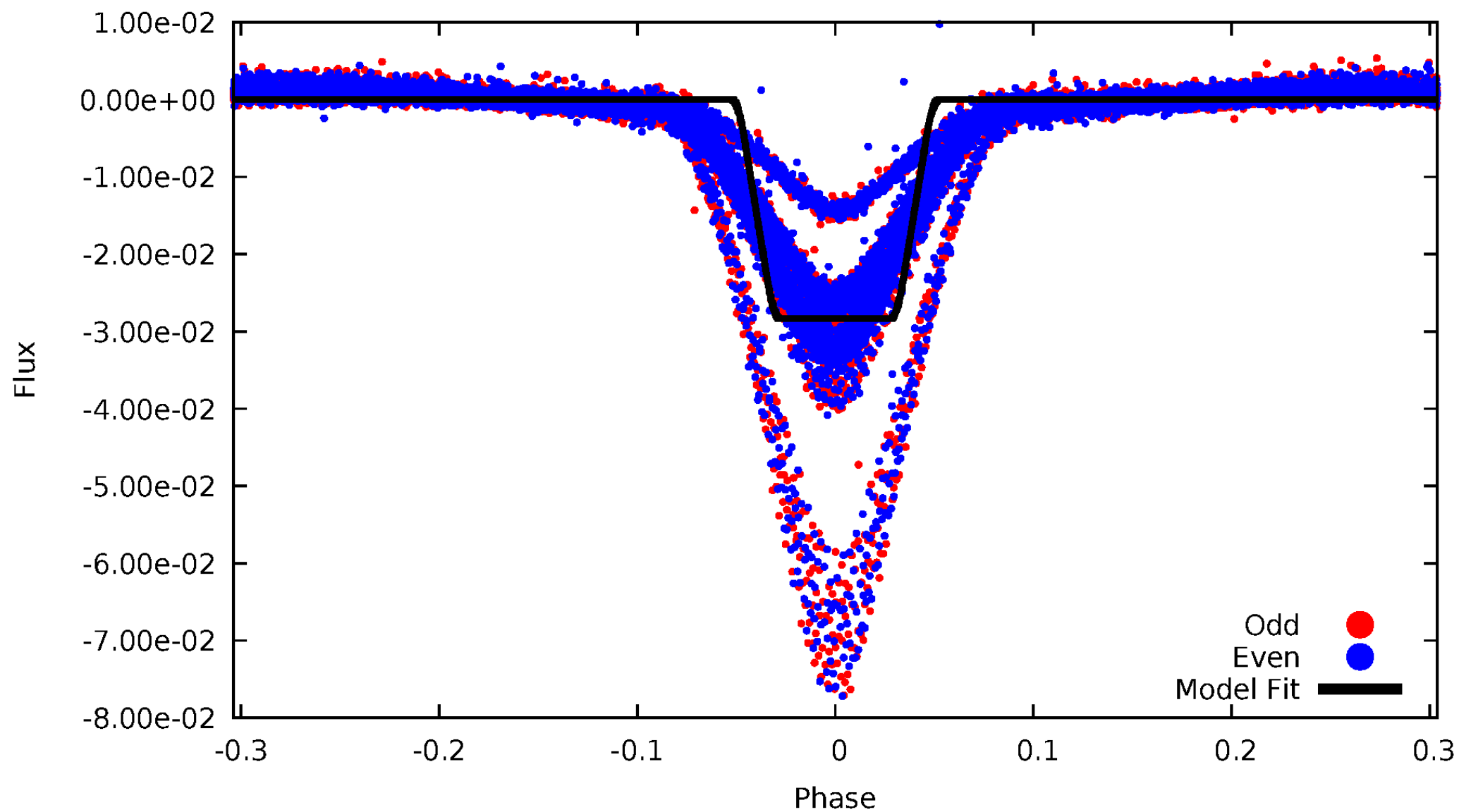
# DV Odd/Even

TCE 008302302-01



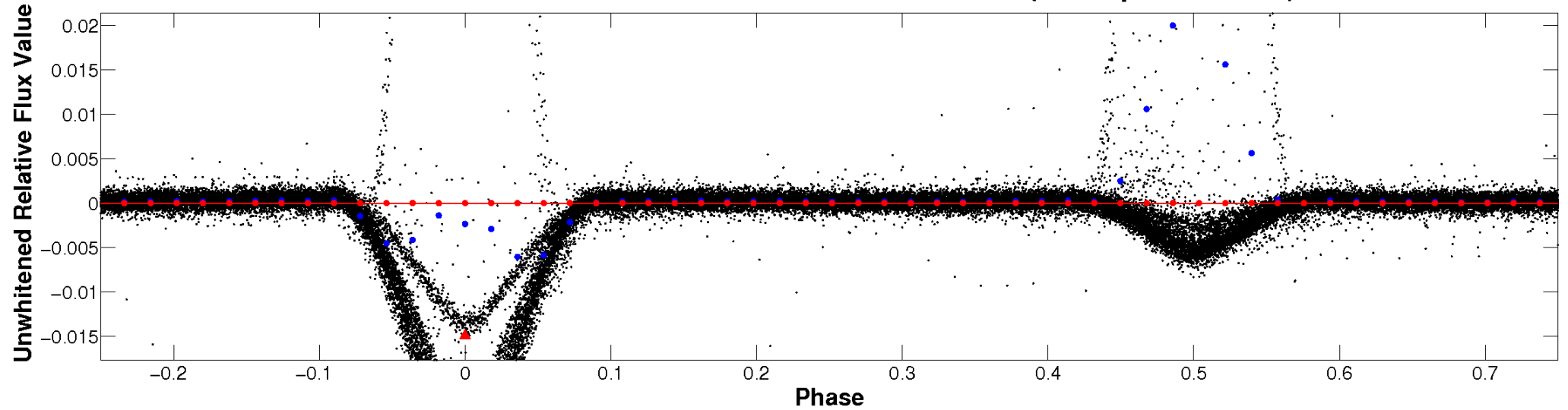
# ALT Odd/Even

TCE 008302302-01



# Non-Whitened Vs. Whitened Light Curve

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



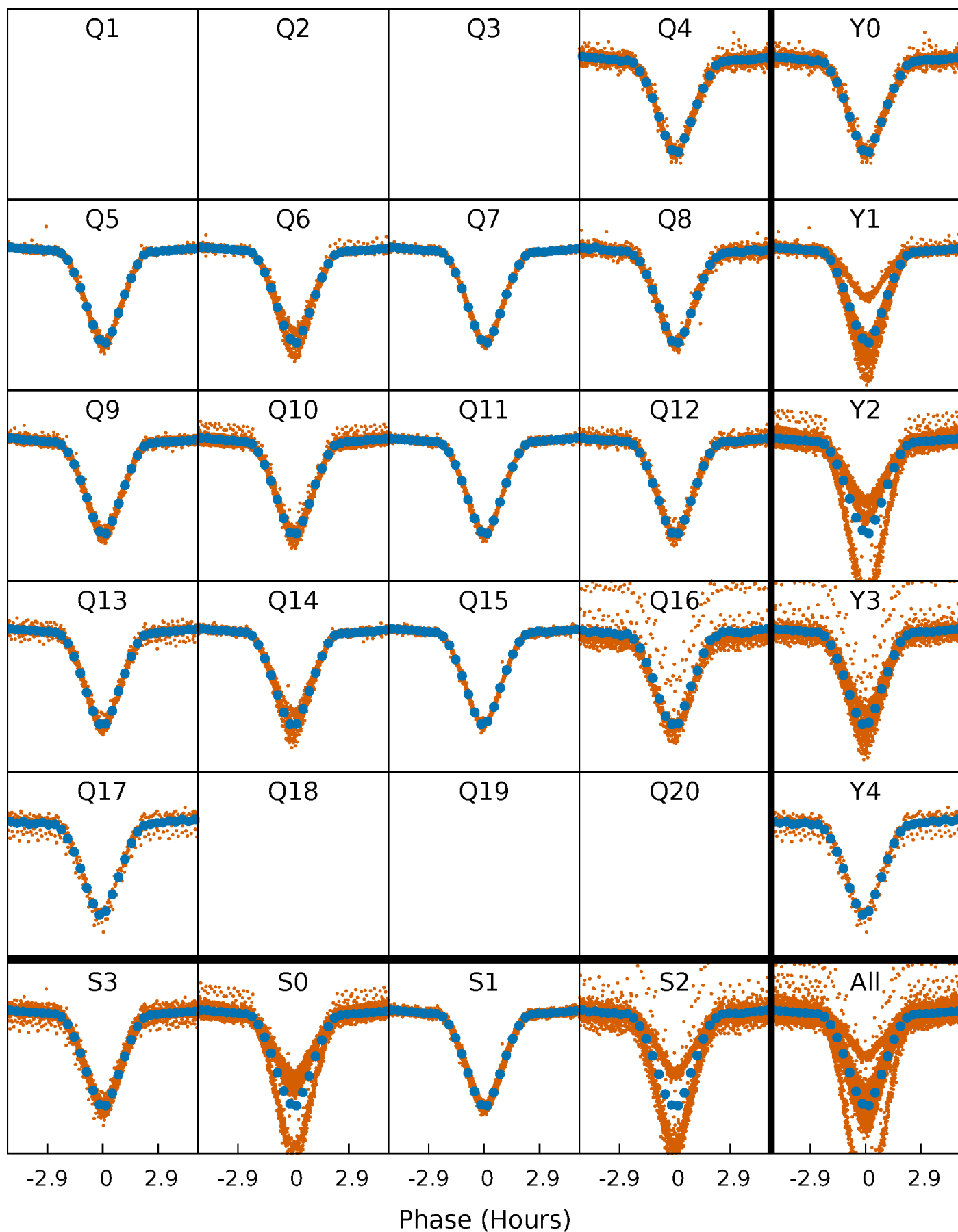
**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**





# PDC Quarter-Phased Transit Curves

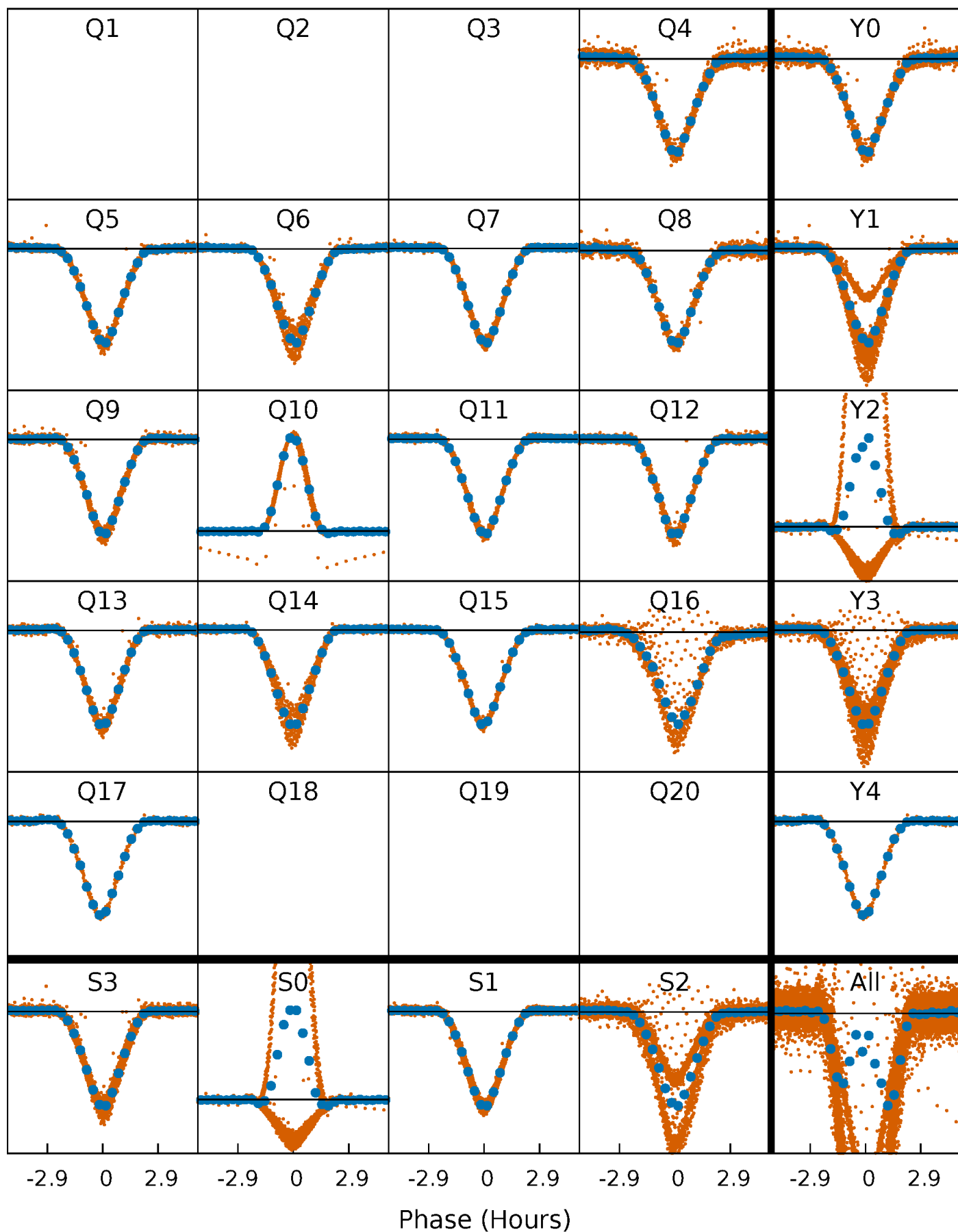
TCE 008302302-01 P= 1.135936 Days  $T_0=132.391202$  (BKJD)





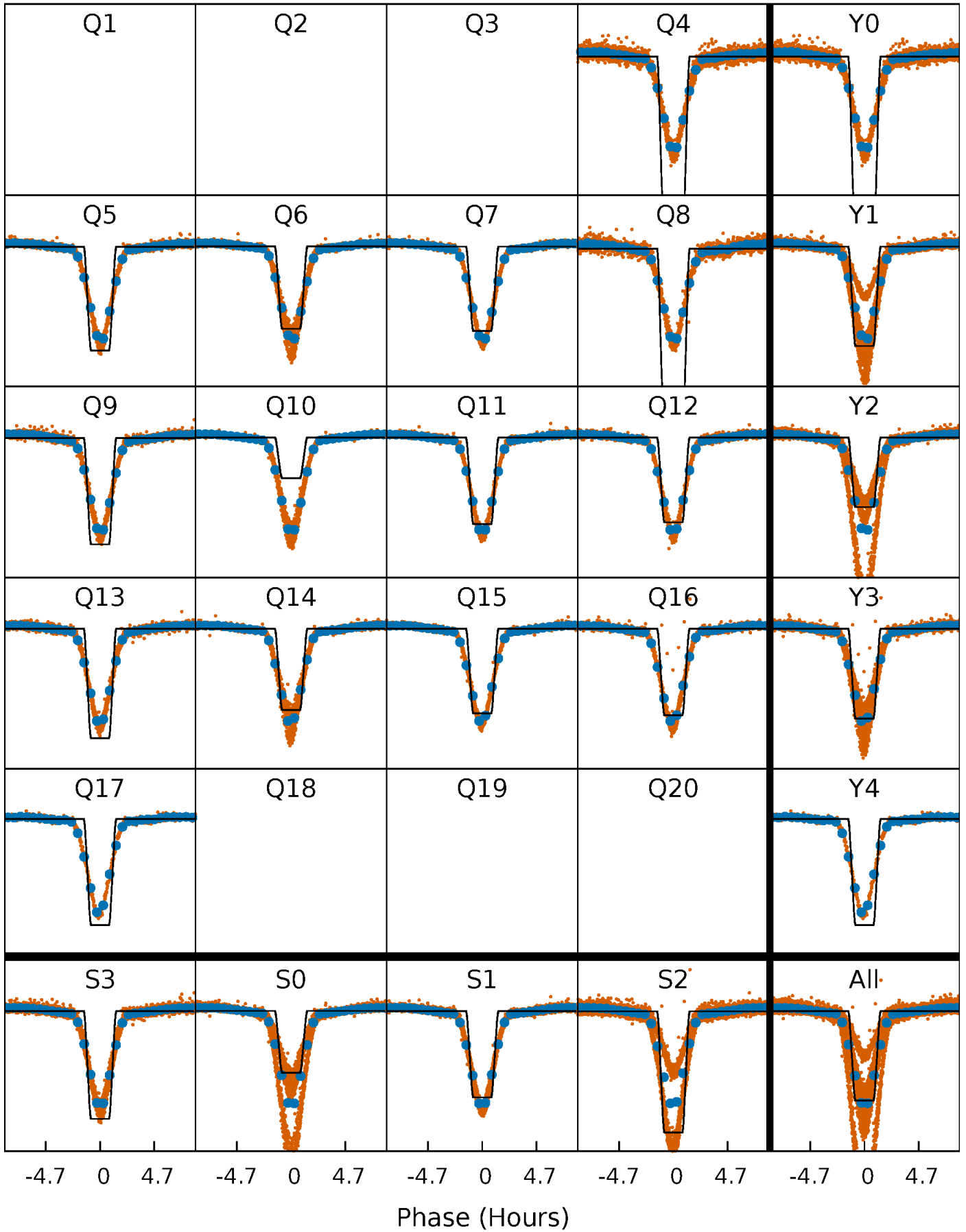
# DV Quarter-Phased Transit Curves

TCE 008302302-01 P= 1.135936 Days  $T_0=132.391202$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

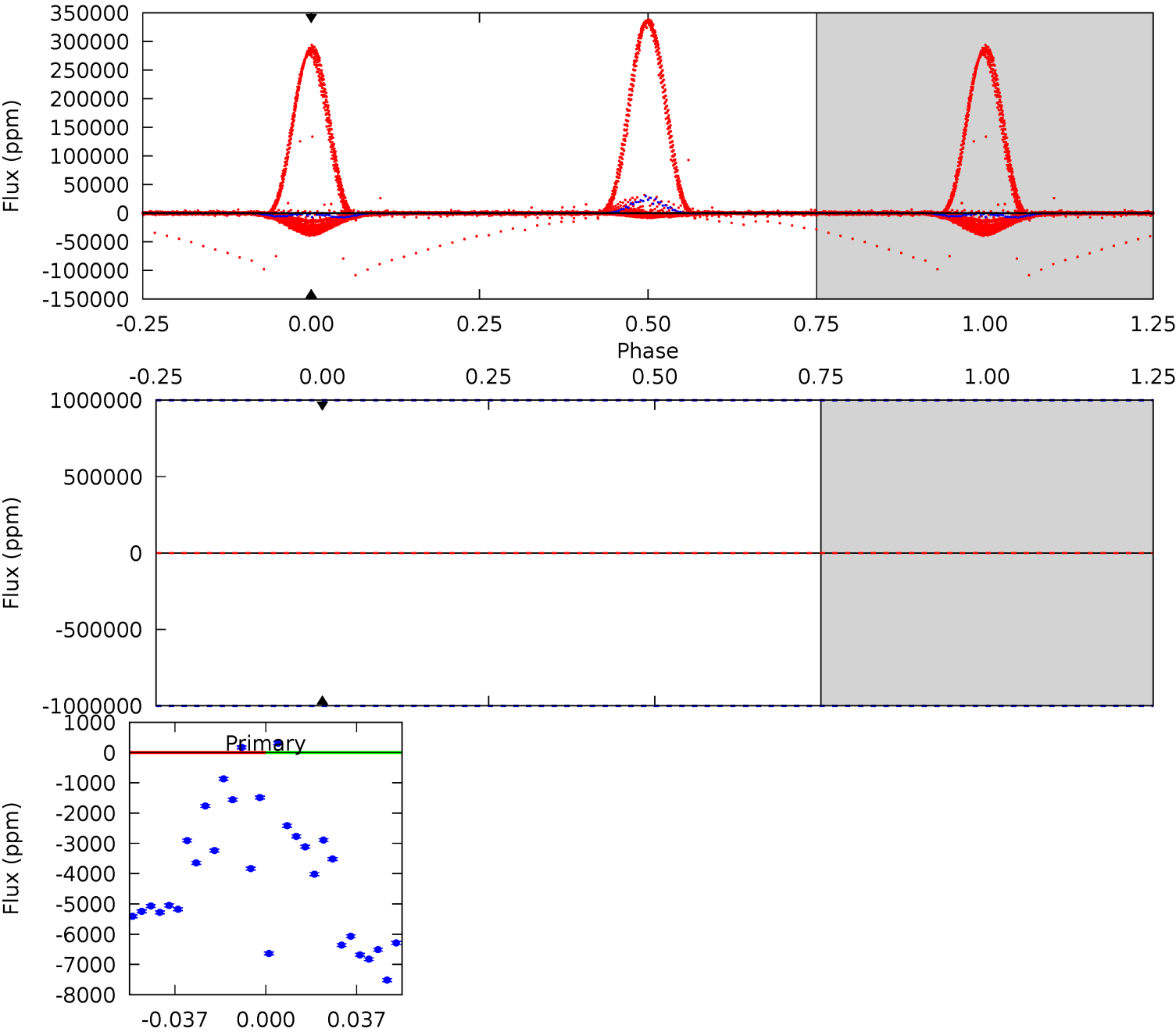
TCE 008302302-01 P= 1.135936 Days  $T_0=132.391966$  (BKJD)



# DV Model-Shift Uniqueness Test

008302302-01, P = 1.135936 Days, E = 132.391202 Days

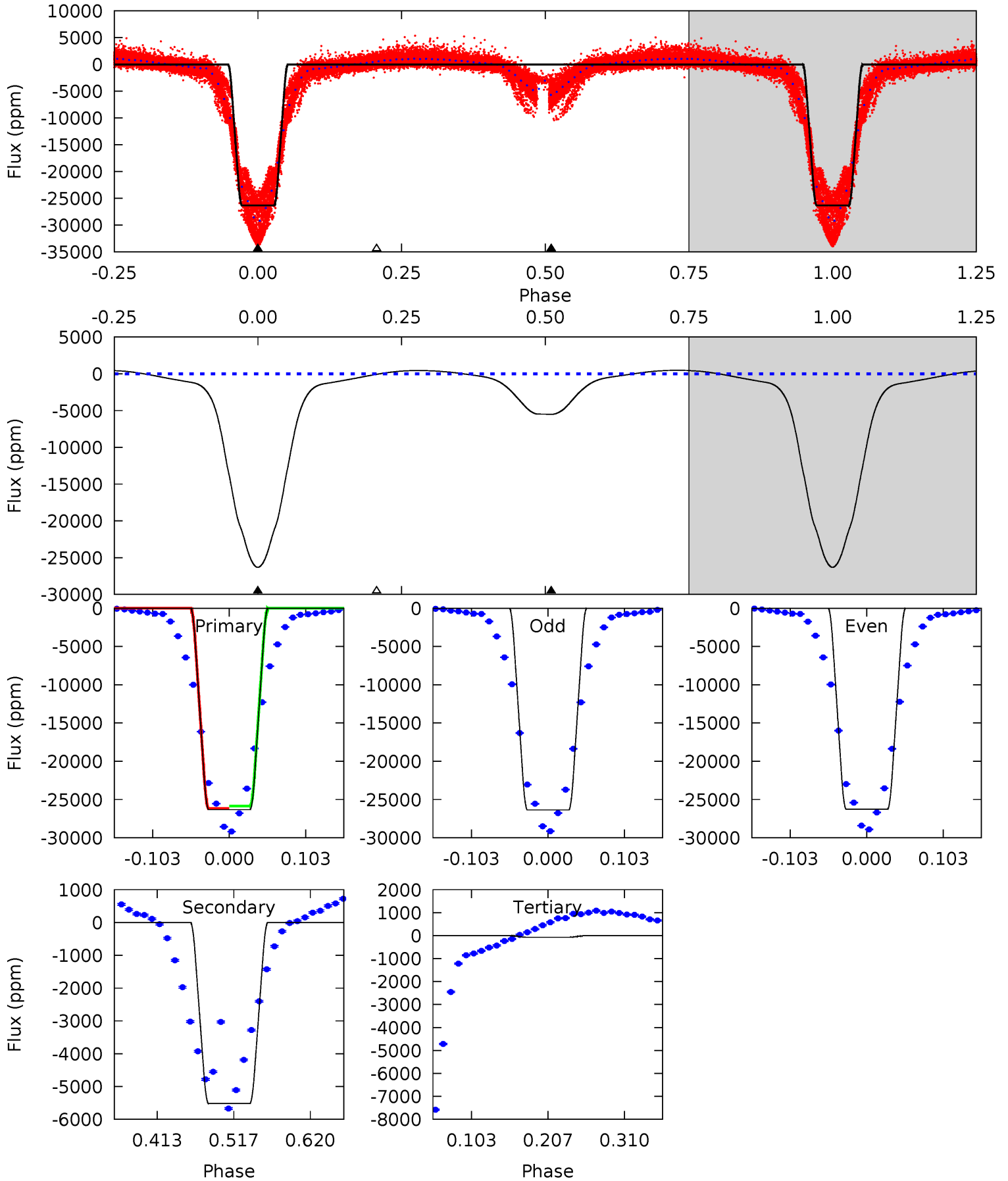
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

008302302-01, P = 1.135936 Days, E = 132.391966 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
1742	365.2	4.87	0	4.56	1.63	36.3	1737	1742	360.4	365.2	3.35	1.01	0.02	10.2



### Stellar Parameters For KIC 008302302

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6247^{+198}_{-242}$	$4.489^{+0.052}_{-0.208}$	$-0.340^{+0.300}_{-0.300}$	$0.954^{+0.290}_{-0.097}$	$1.022^{+0.129}_{-0.143}$	$1.657^{+0.453}_{-0.854}$
	+3%/-4%	+1%/-5%	+88%/-88%	+30%/-10%	+13%/-14%	+27%/-52%
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 008302302-01 / KOI 3732.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$18.34^{+11.57}_{-9.58}$	$2624^{+194}_{-142}$	$3640^{+7052}_{-13108}$	$1.674^{+116.707}_{-86.952}$
Alt.	$-5516 \pm 15$	$18.54^{+11.63}_{-9.92}$	$2631^{+183}_{-142}$	$4248^{+1772}_{-673}$	$4.015^{+14.895}_{-2.465}$

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

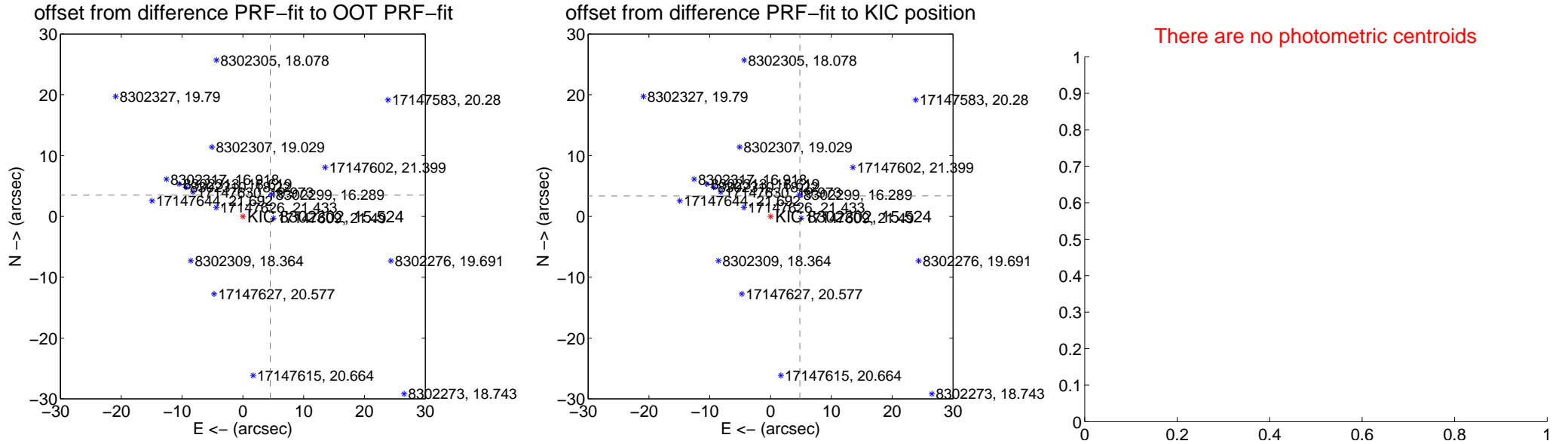
## DV Centroid Data

Supplemental centroid analysis for 008302302-01. Kepler magnitude: 15.52. Transit SNR -1.00

There are 7 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$5.713 \pm 0.085$	67.48	$-4.514 \pm 0.081$	$3.502 \pm 0.091$
PRF-fit source offset from KIC position	$5.881 \pm 0.081$	72.67	$-4.815 \pm 0.072$	$3.377 \pm 0.081$
photometric centroid source offset	—	—	—	—



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.

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



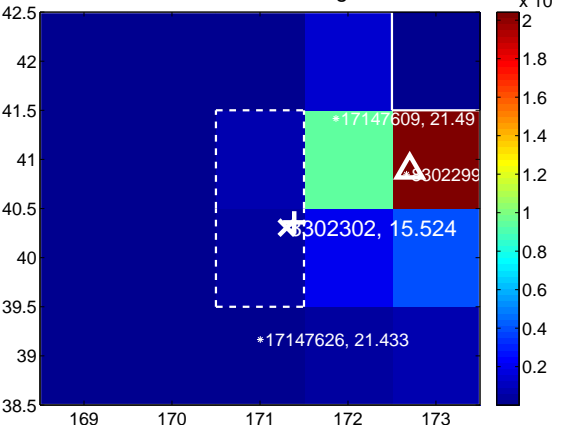
Q3 no difference image



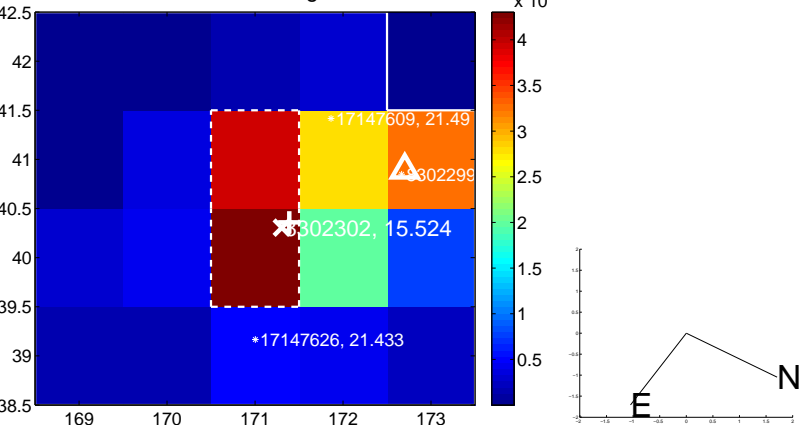
Q3 no OOT image



Q4 difference image

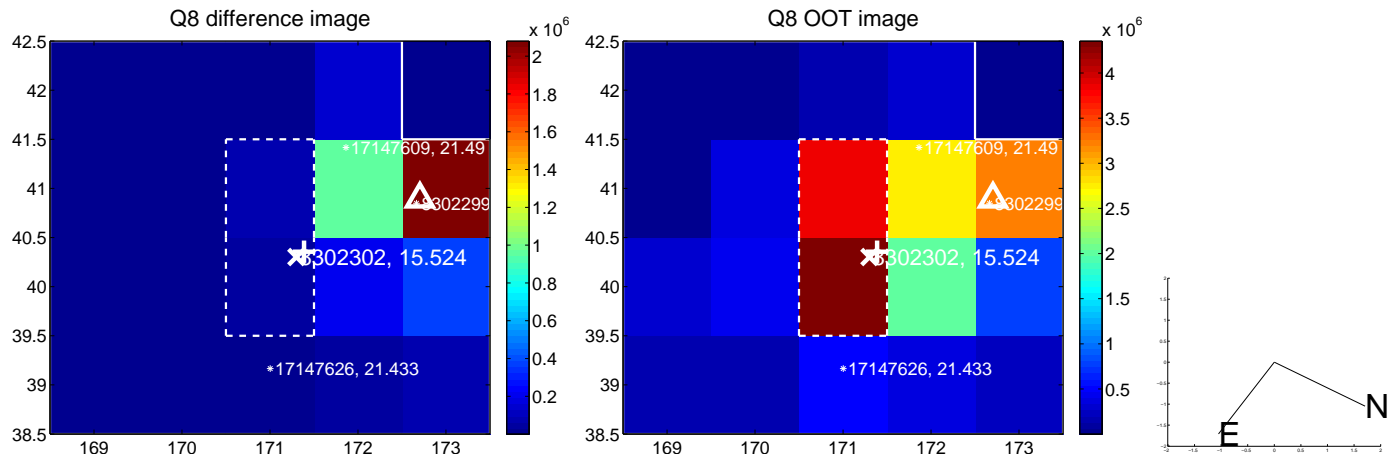
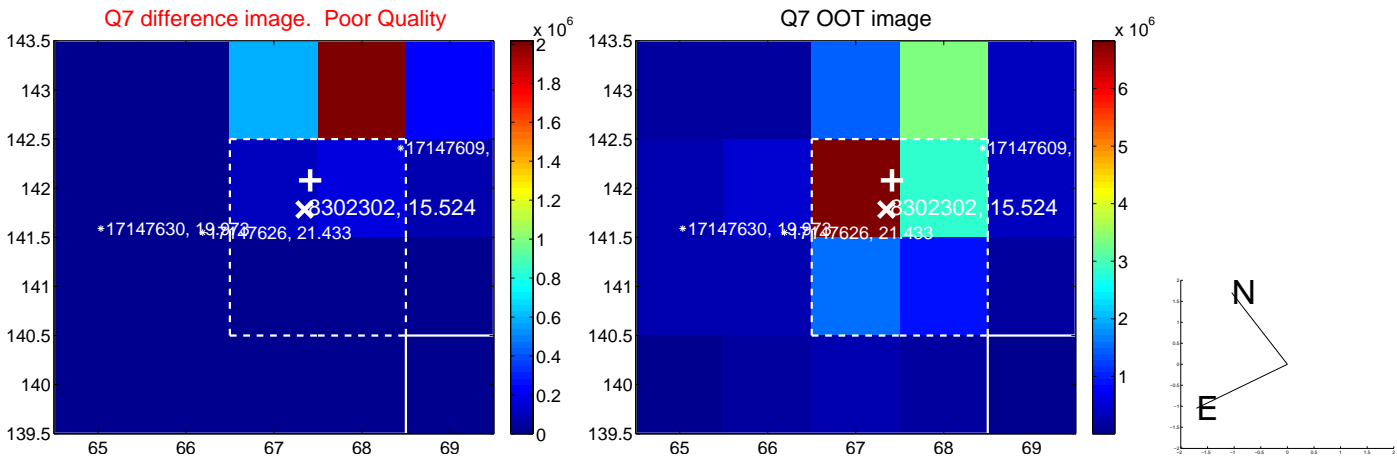
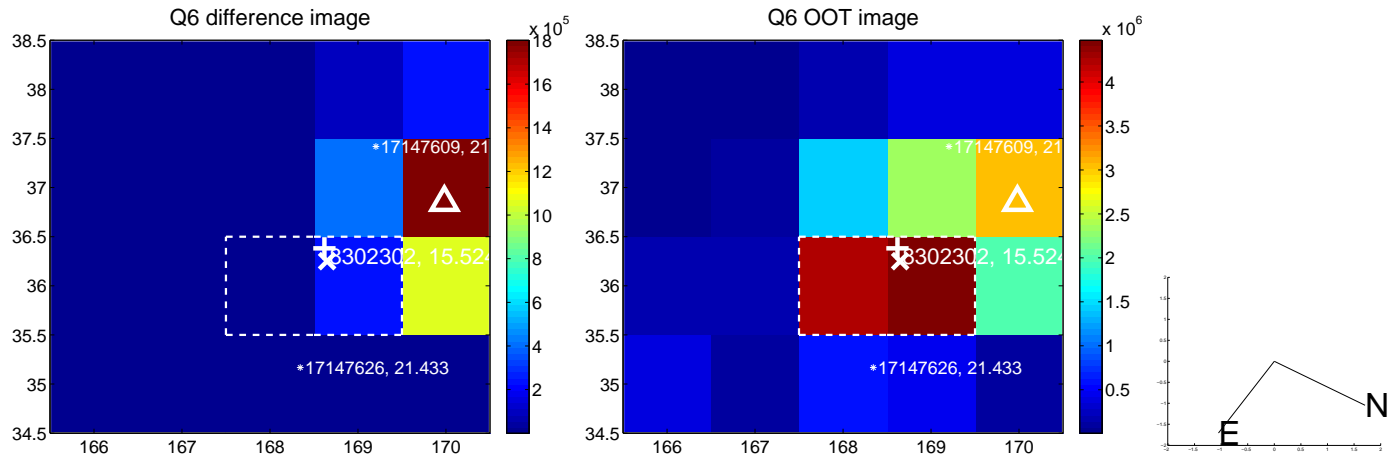
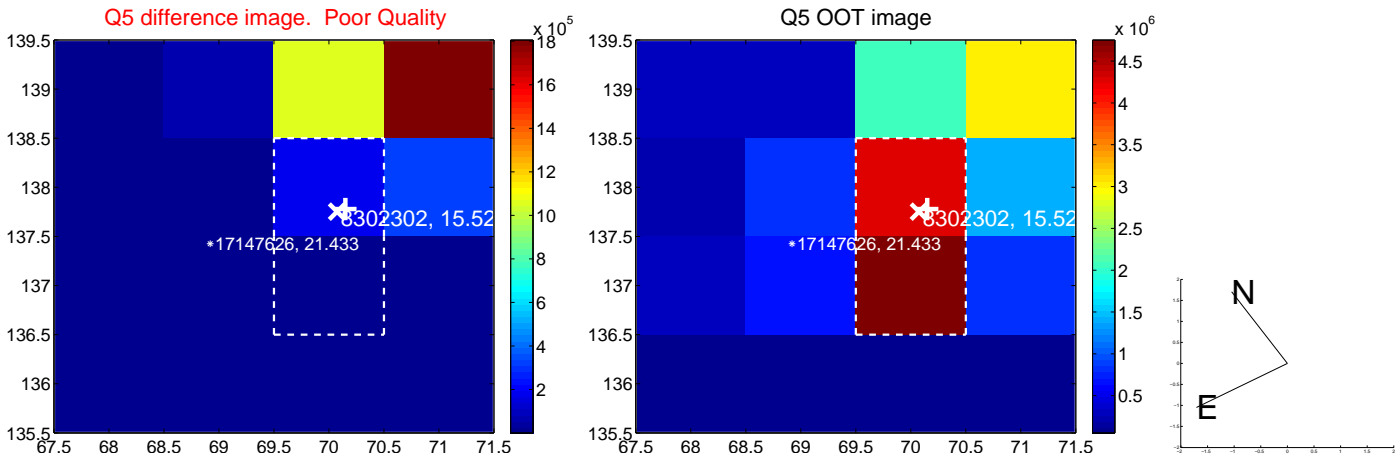


Q4 OOT image

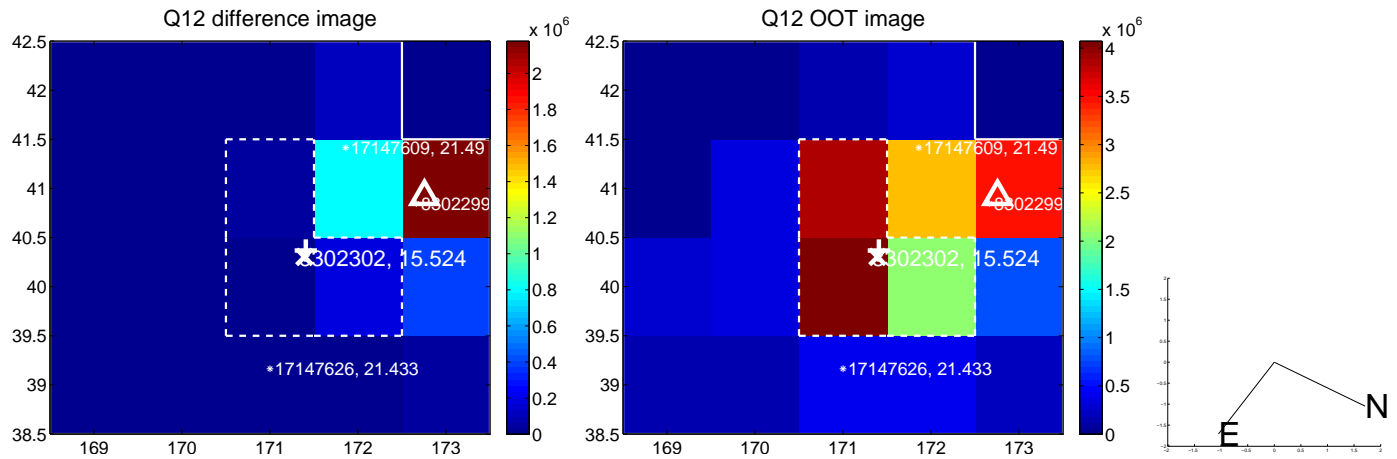
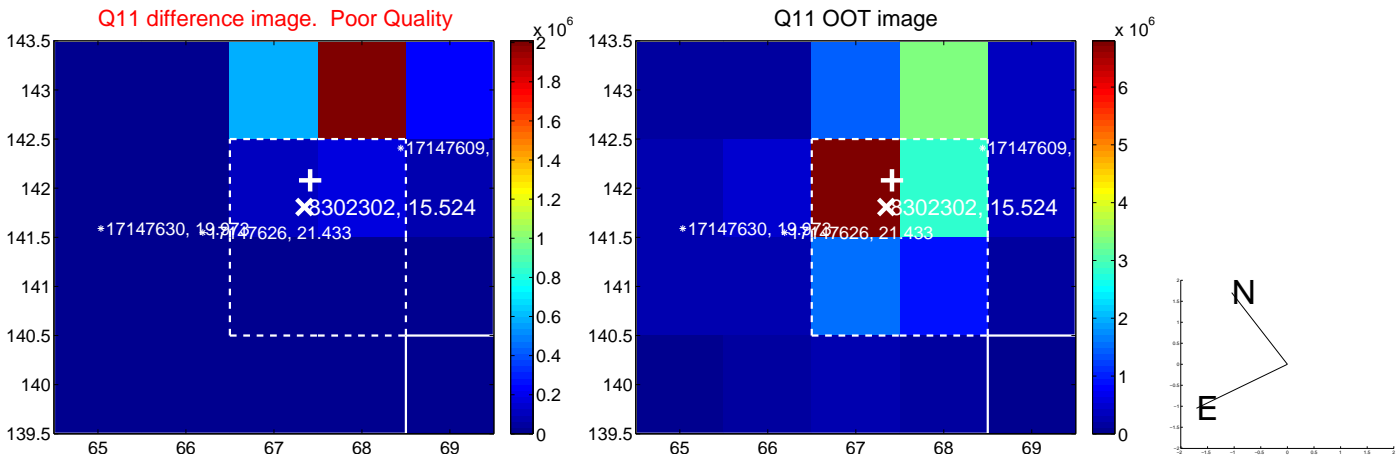
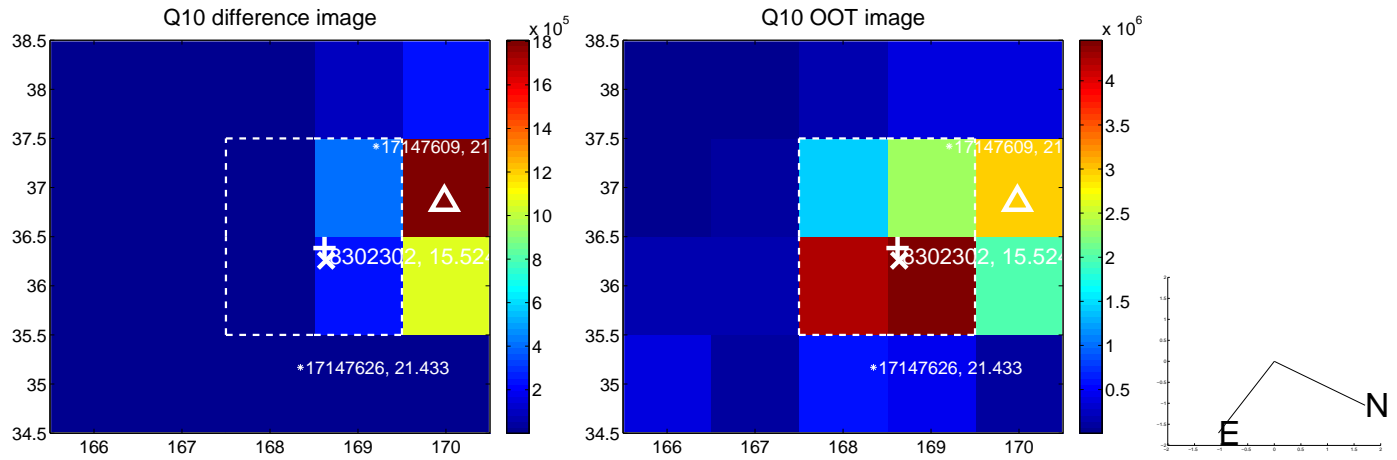
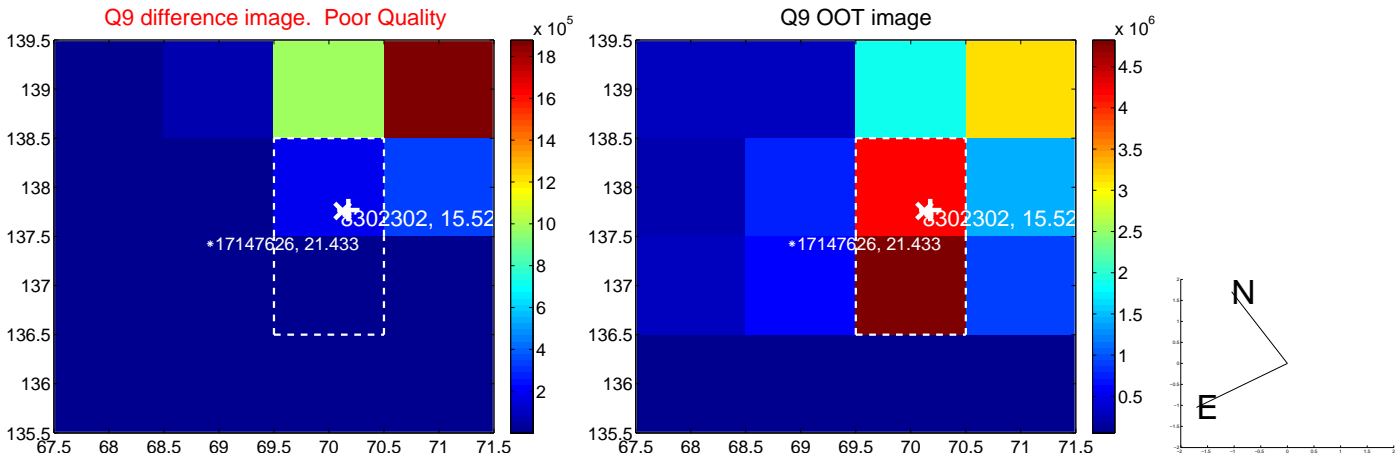




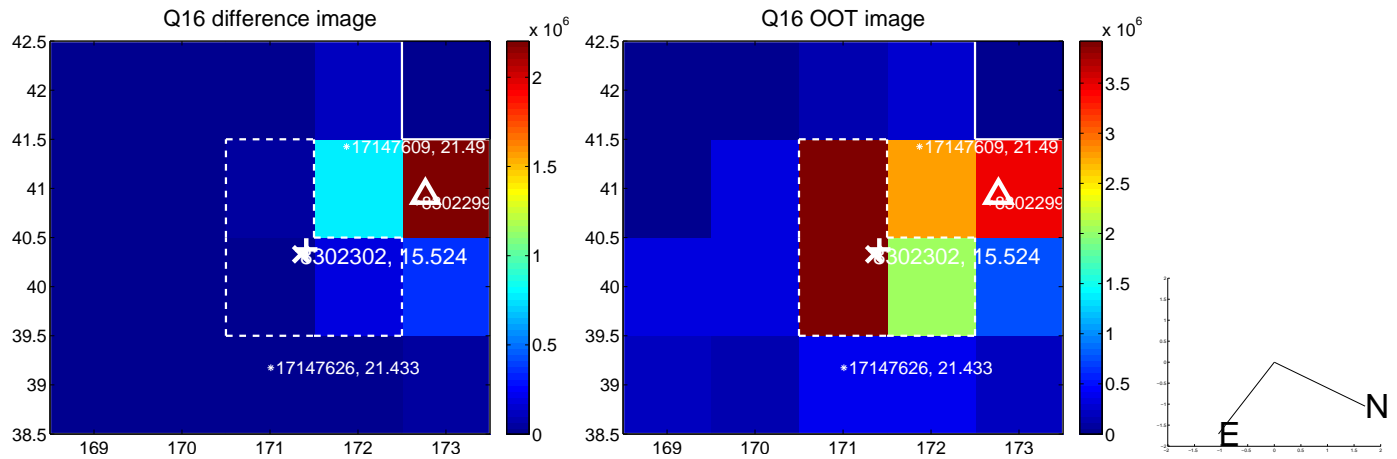
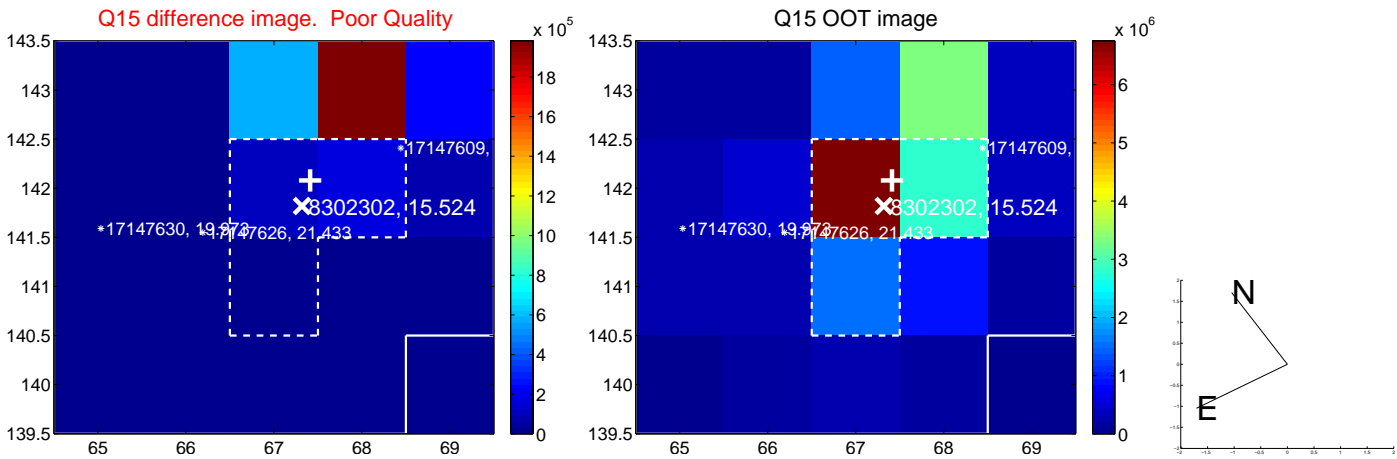
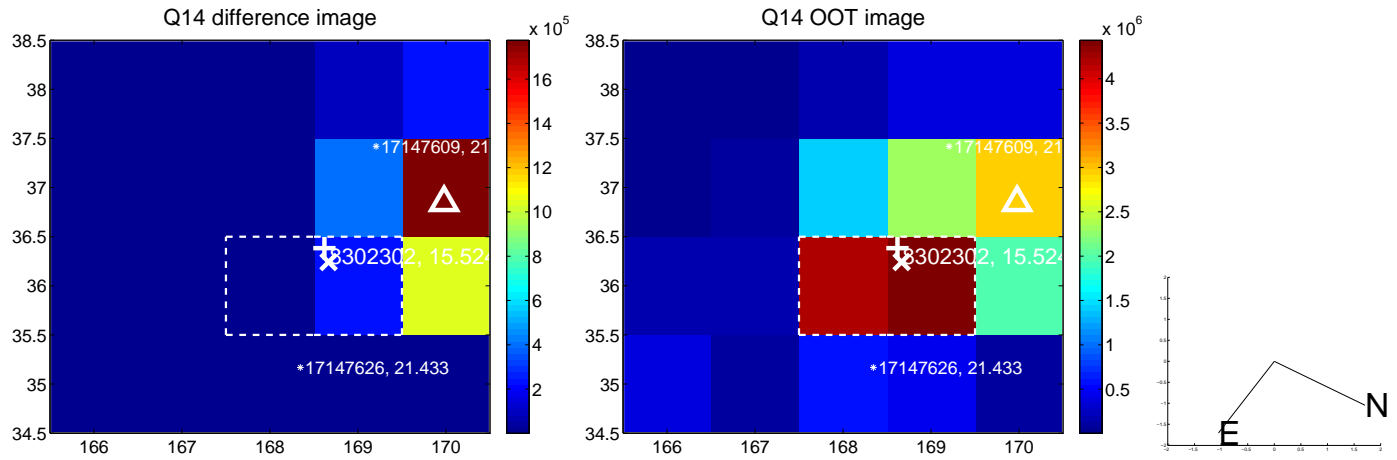
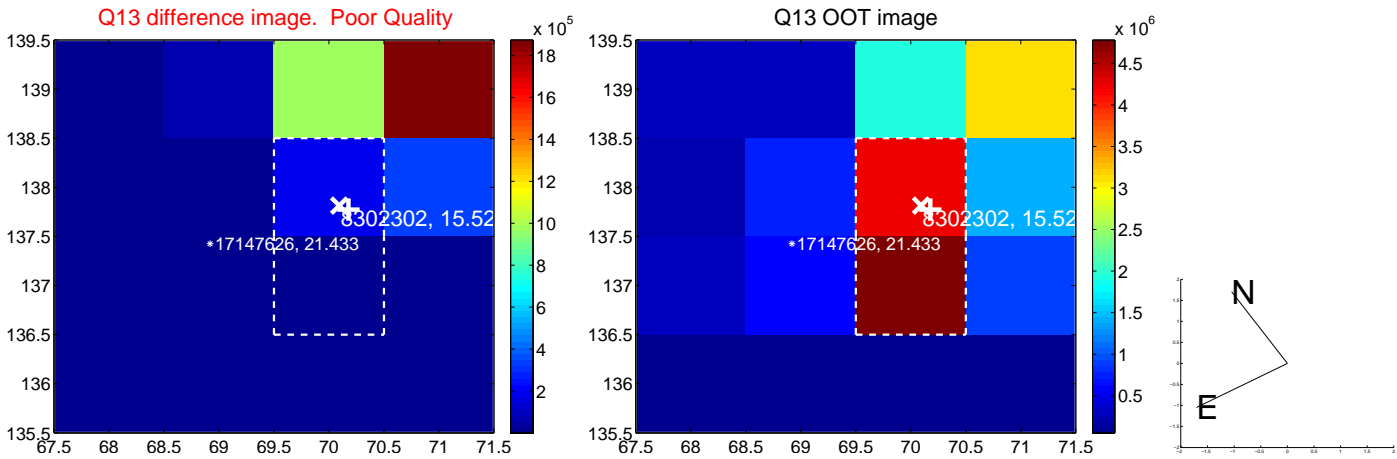
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



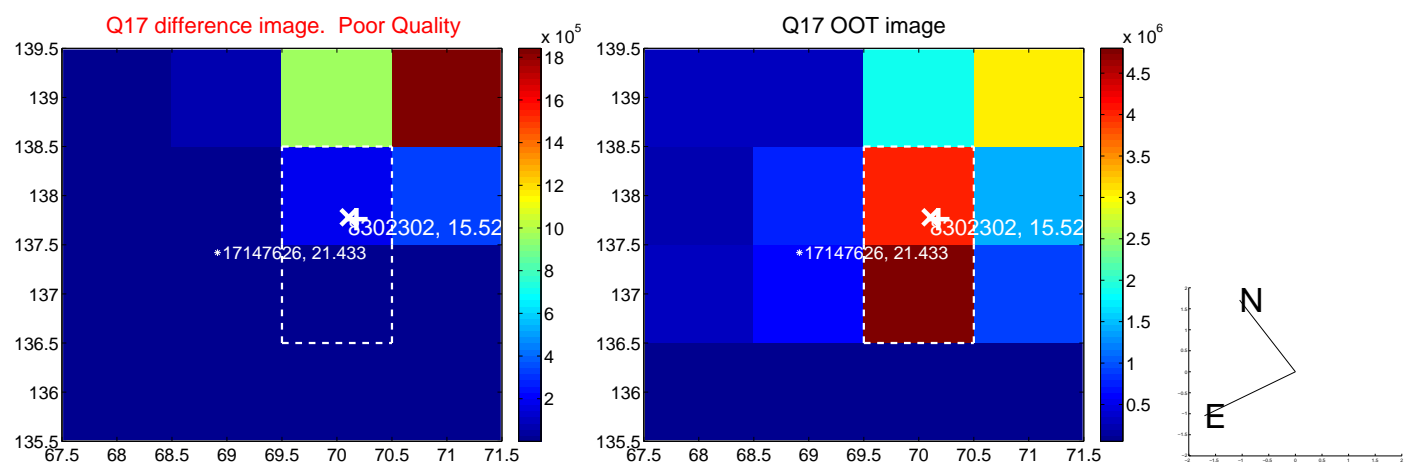
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



folded centroid time series figure for this object.

# UKIRT Image

Declination

