

# KIC 006364327

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006364327-01	OBS	1744.01	5.243697	132.720369	208.7	16.243	29.6	36.0	0.87	5772	2.51	253.53

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006364327-01	OBS	FP	0.00	0	0	1	1	CENT_UNRESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

**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 006364327-01

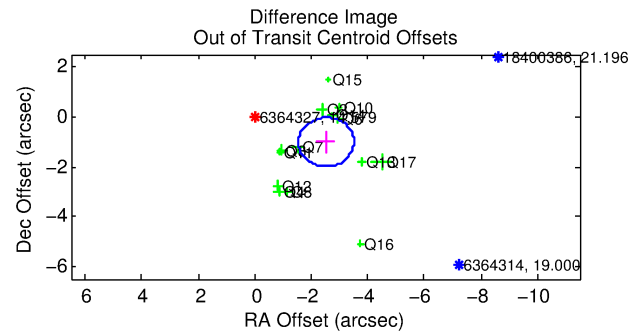
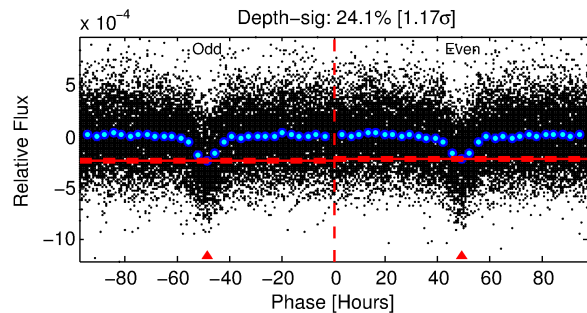
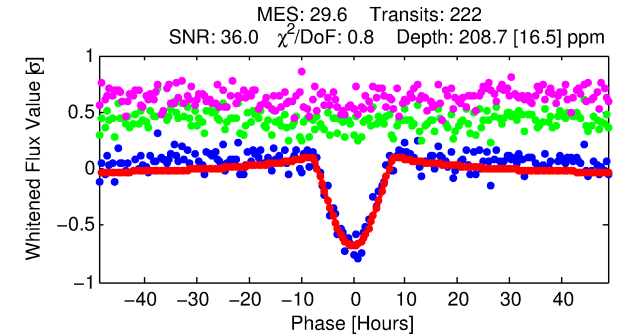
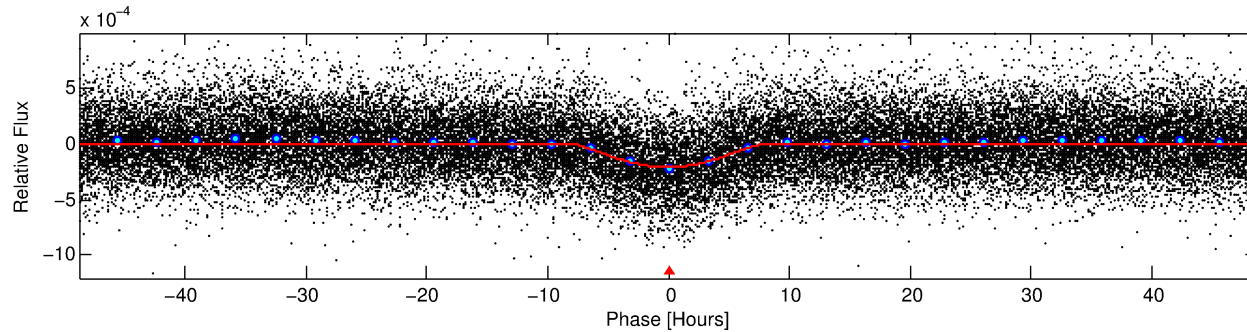
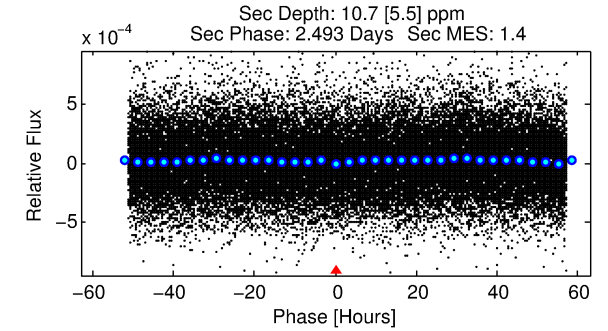
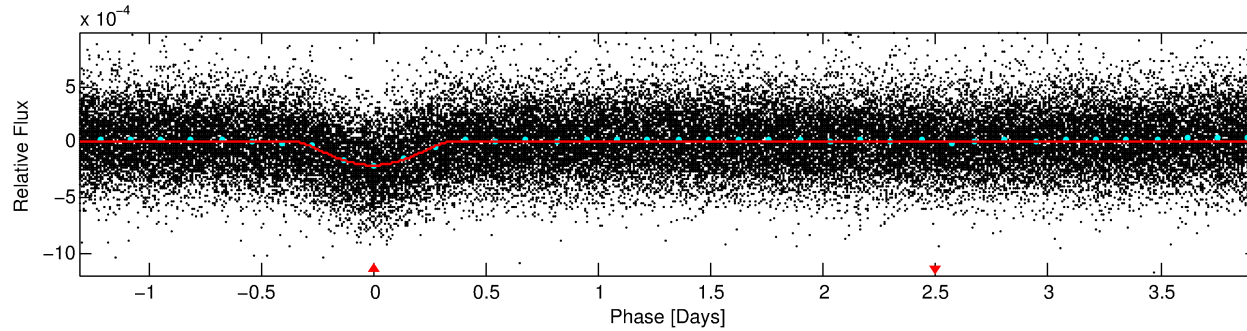
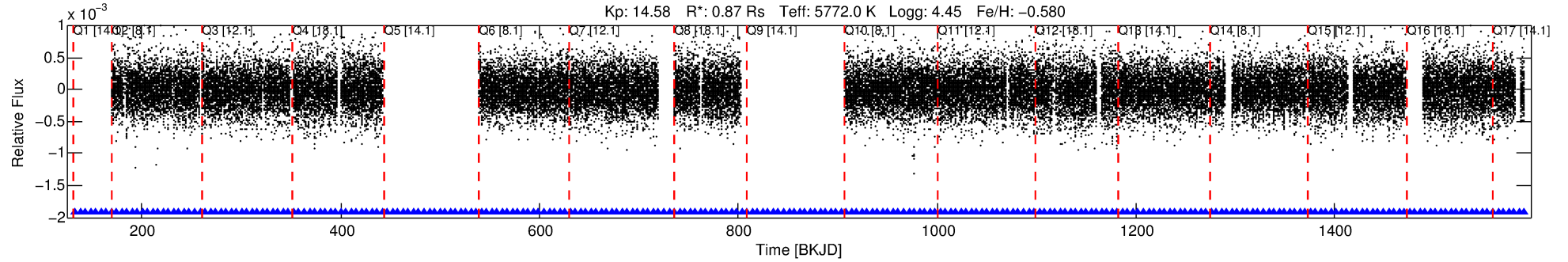
TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist (″)	$\Delta$ Row	$\Delta$ Col	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	$\sigma_P$	$\sigma_T$
006364327-01	6364327	TT-Lyr-pri	6364290	1:1	169.8	-30	30	9.49	14.58	4086.70	Direct-PRF	0	0.28	1.04

**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column. m<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 6364327 Candidate: 1 of 1 Period: 5.244 d  
KOI: K01744.01 Corr: 0.984

Kp: 14.58 R\*: 0.87 Rs Teff: 5772.0 K Logg: 4.45 Fe/H: -0.580



## DV Fit Results:

Period = 5.24370 [0.00006] d  
Epoch = 132.7204 [0.0096] BKJD  
Rp/R\* = 0.0265 [0.0211]  
a/R\* = 1.16 [0.04]  
b = 1.00 [0.03]  
Seff = 253.53 [80.88]  
Teff = 1017 [81] K  
Rp = 2.51 [2.08] Re  
a = 0.0543 [0.0109] AU  
Ag = 2.76 [4.69] [0.38σ]  
Teffp = 2028 [850] K [1.18σ]

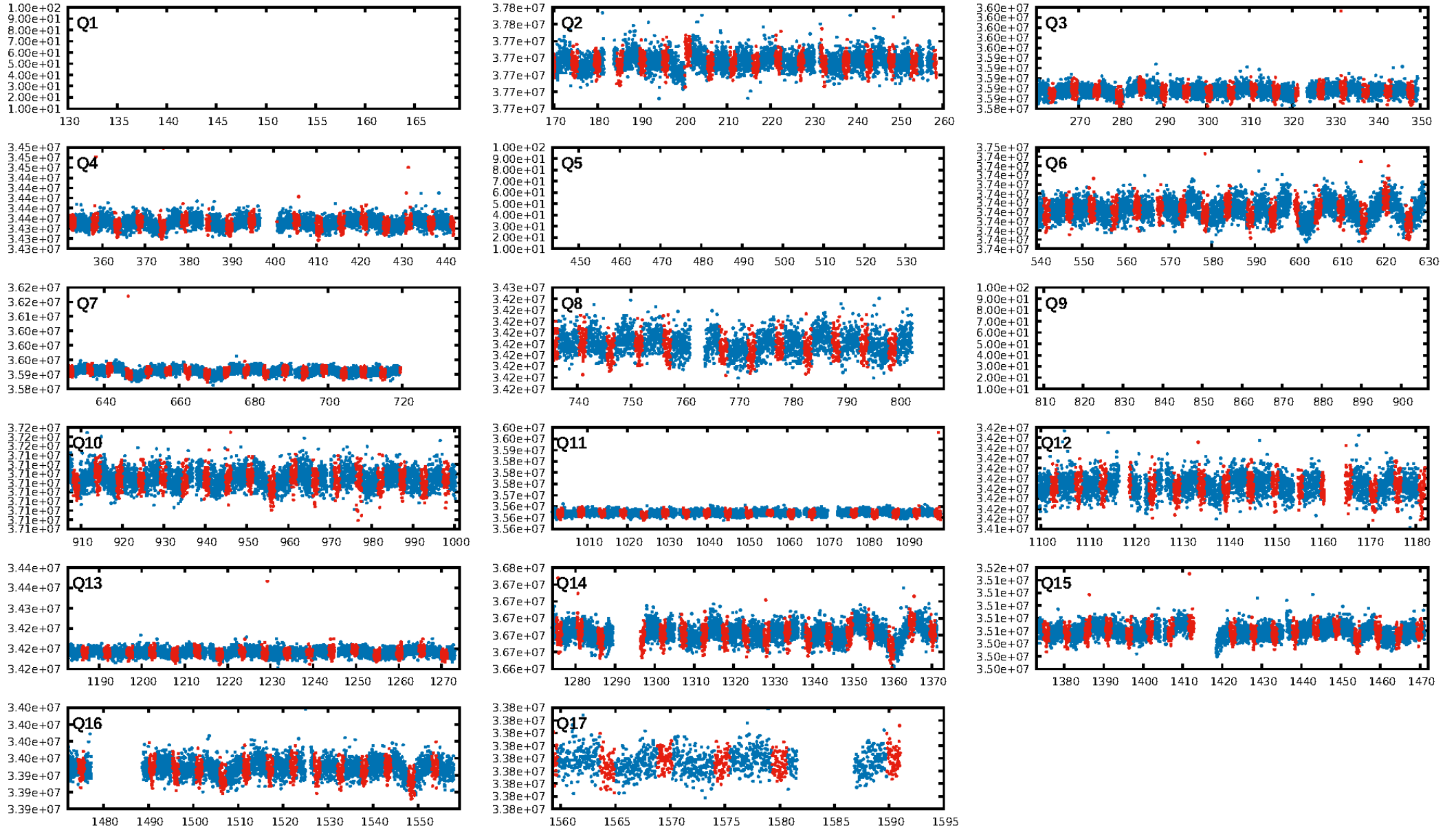
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.31e-169  
RollingBand-fgt: 1.00 [216/216]  
GhostDiagnostic-chr: 0.2421  
Centroid-sig: 0.0%  
Centroid-so: 3.213 arcsec [8.88σ]  
OotOffset-rm: 2.720 arcsec [8.31σ]  
KicOffset-rm: 2.730 arcsec [7.13σ]  
OotOffset-st: 4/4/4/2 [14]  
KicOffset-st: 4/4/4/2 [14]  
DiffImageQuality-fgm: 0.00 [0/14]  
DiffImageOverlap-fno: 1.00 [14/14]

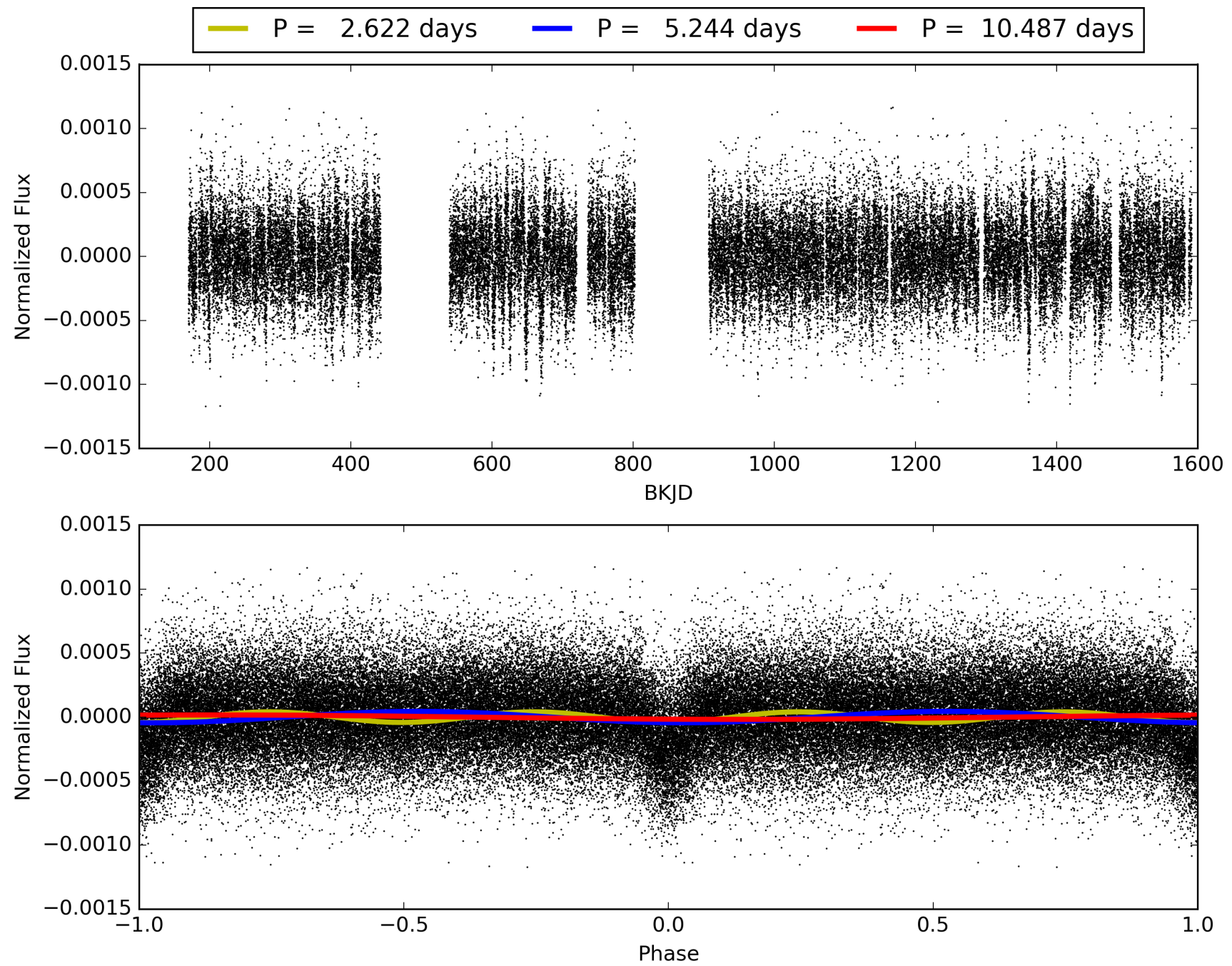
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:03:38 Z

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

# TCE 006364327-01, PDC Light Curves

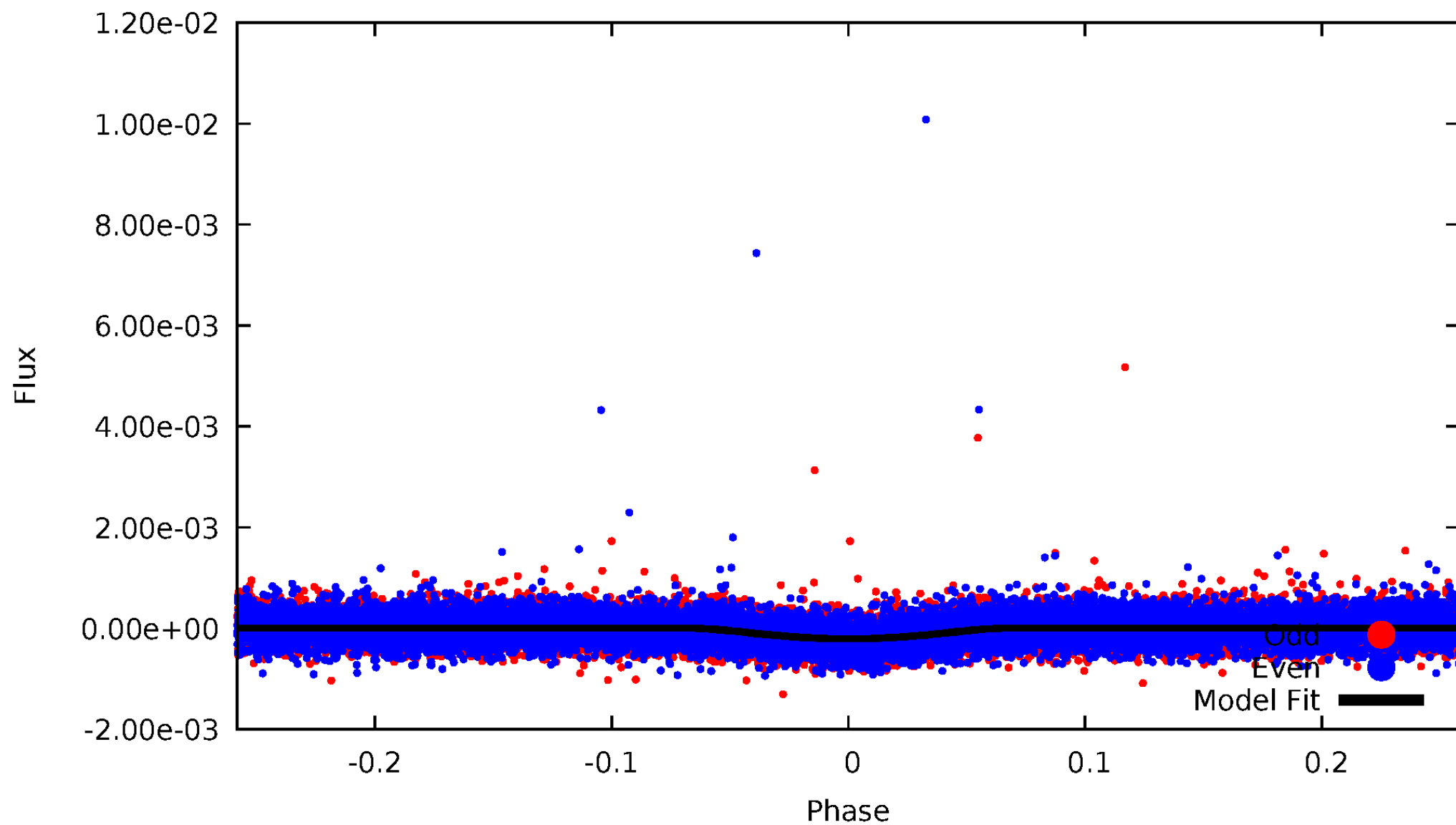


TCE 006364327-01



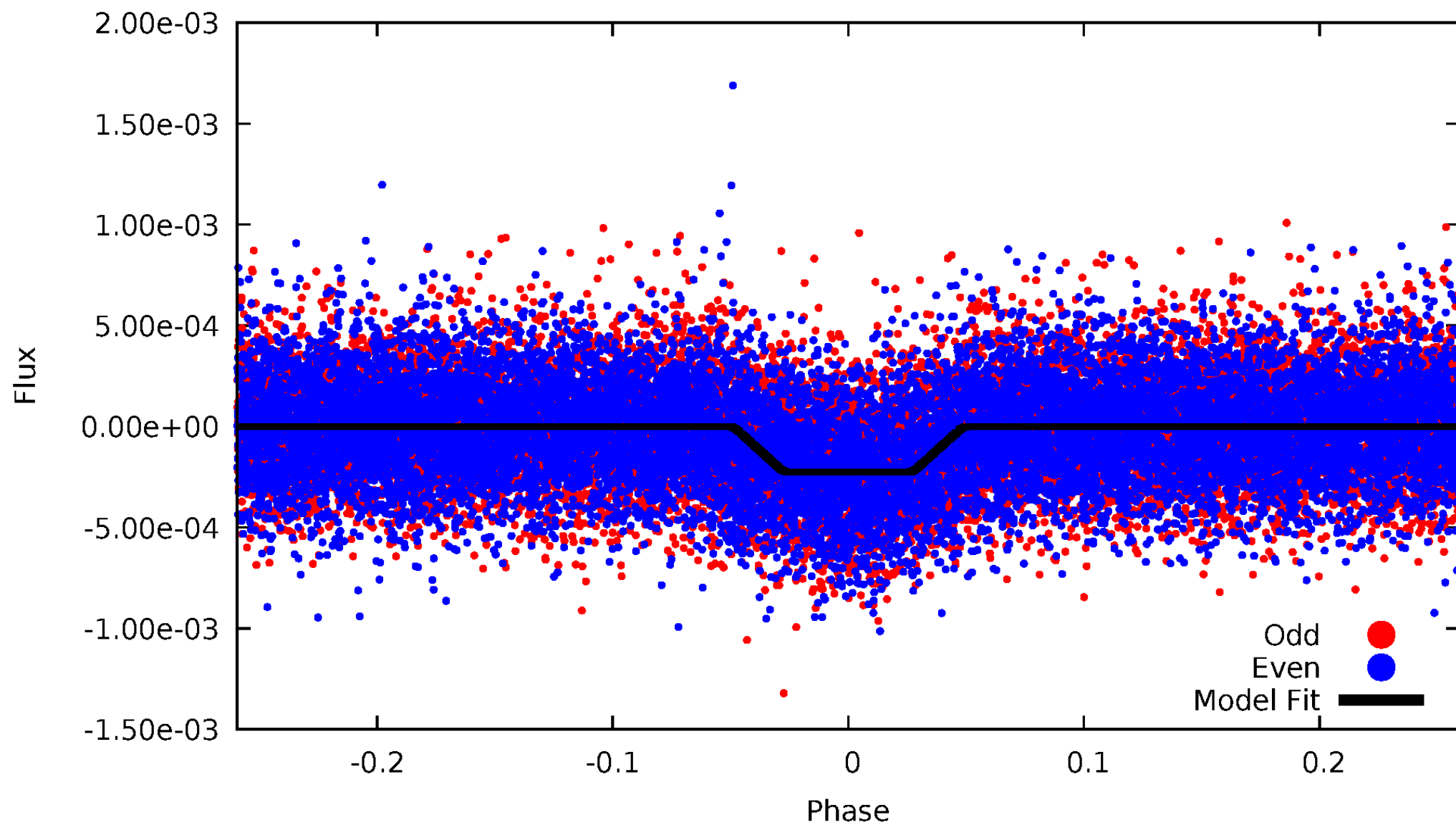
# DV Odd/Even

TCE 006364327-01



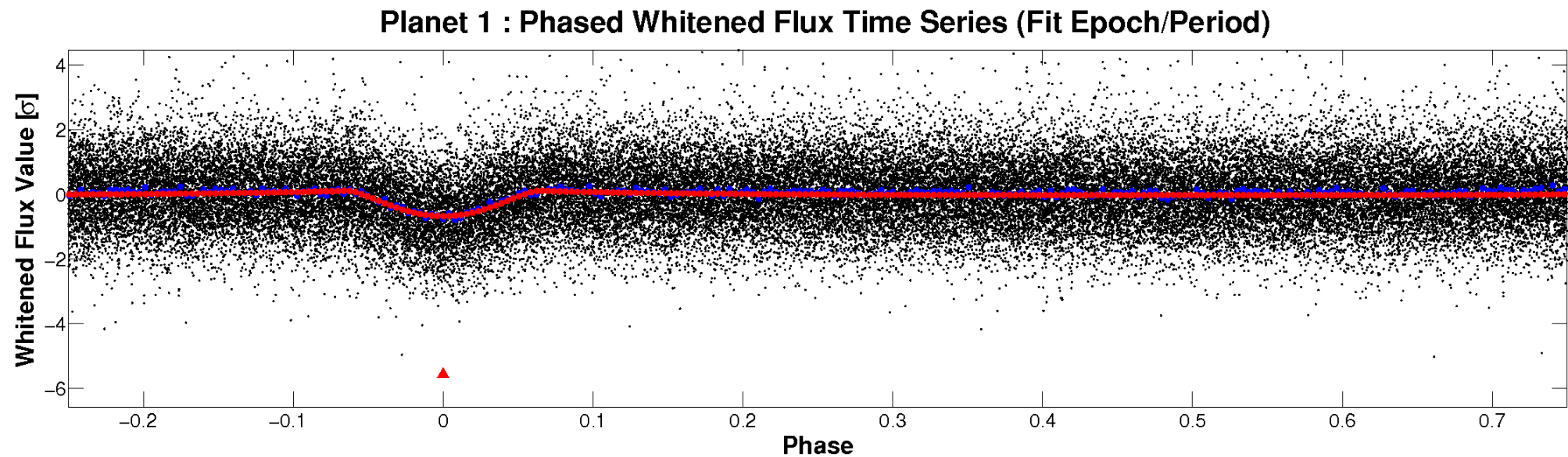
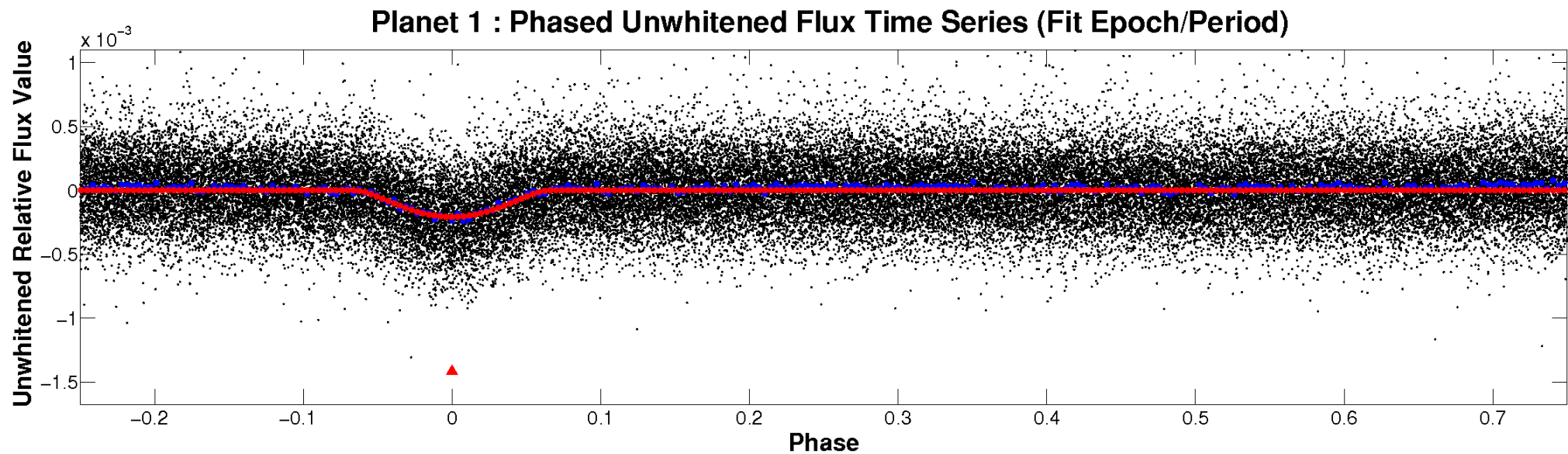
# ALT Odd/Even

TCE 006364327-01



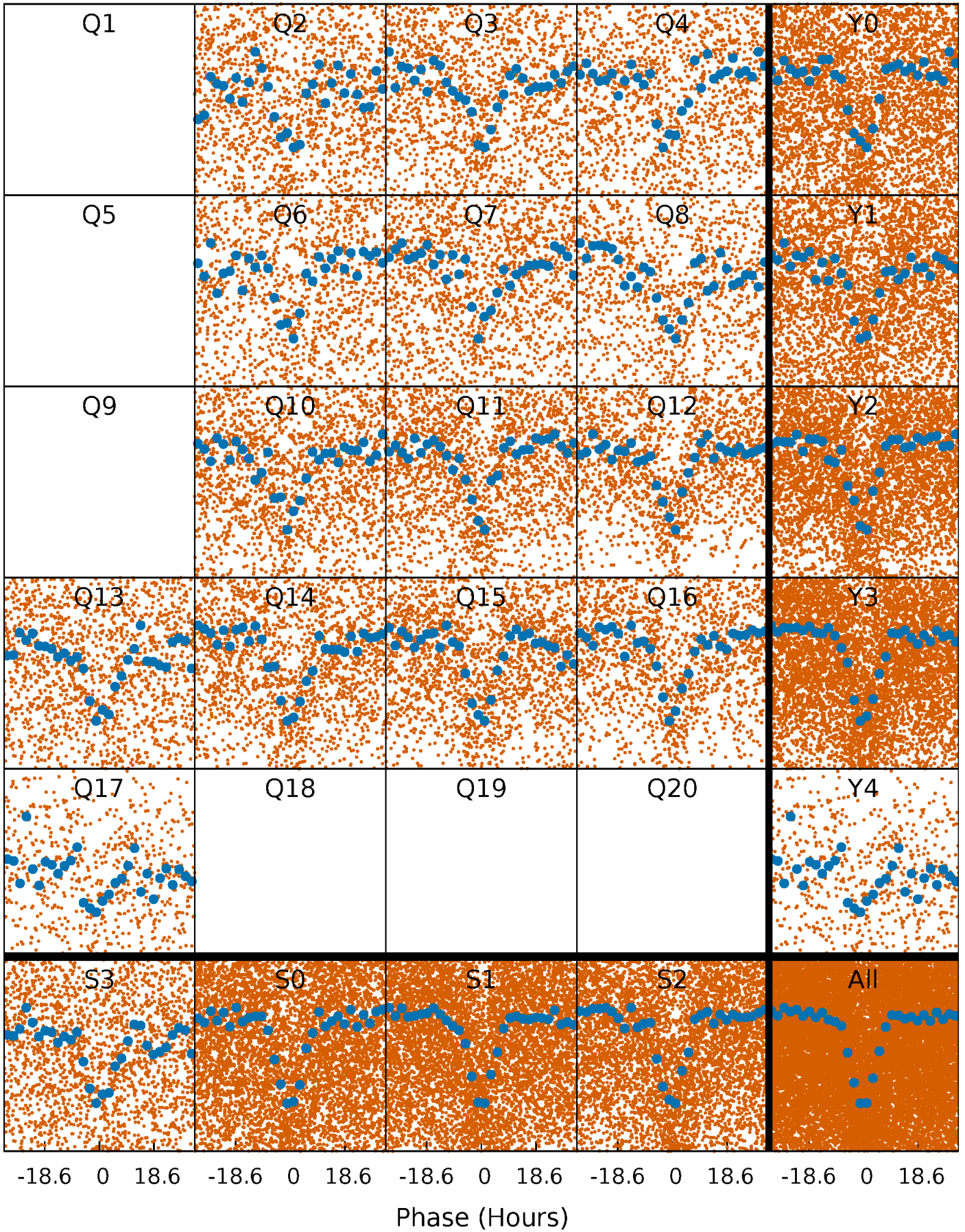


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

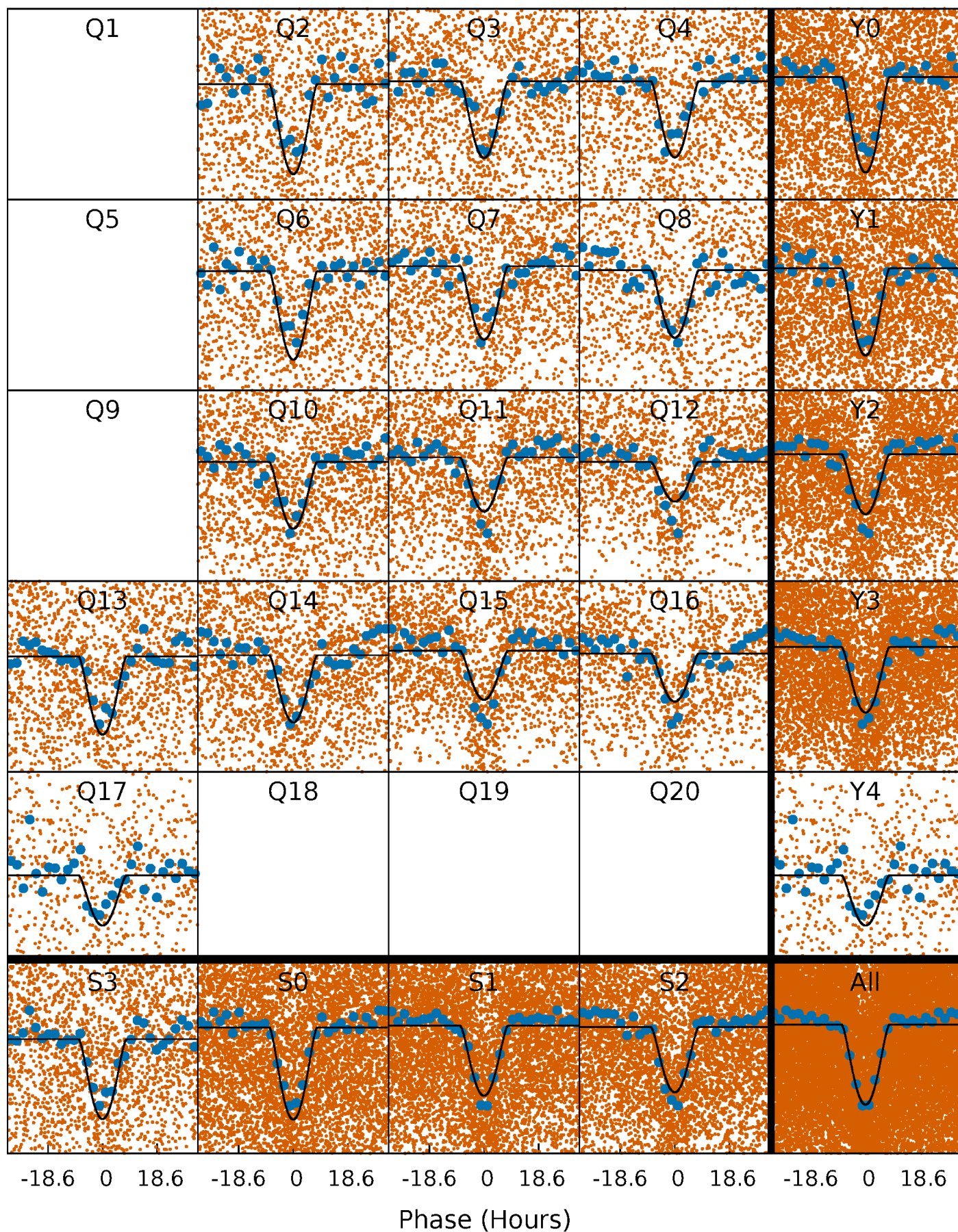
TCE 006364327-01 P= 5.243697 Days  $T_0=132.720369$  (BKJD)





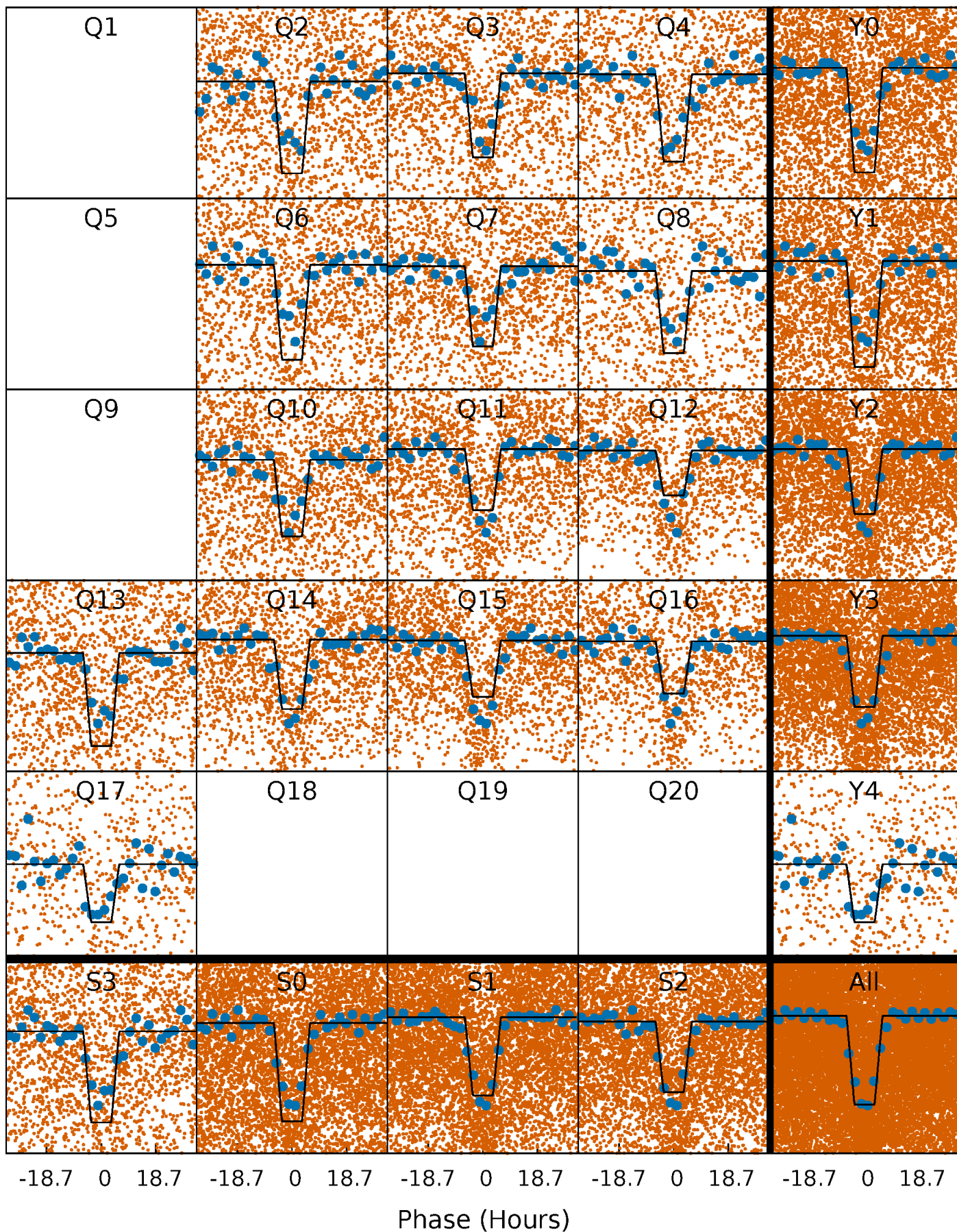
# DV Quarter-Phased Transit Curves

TCE 006364327-01 P= 5.243697 Days  $T_0=132.720369$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006364327-01 P= 5.243719 Days  $T_0=132.716537$  (BKJD)

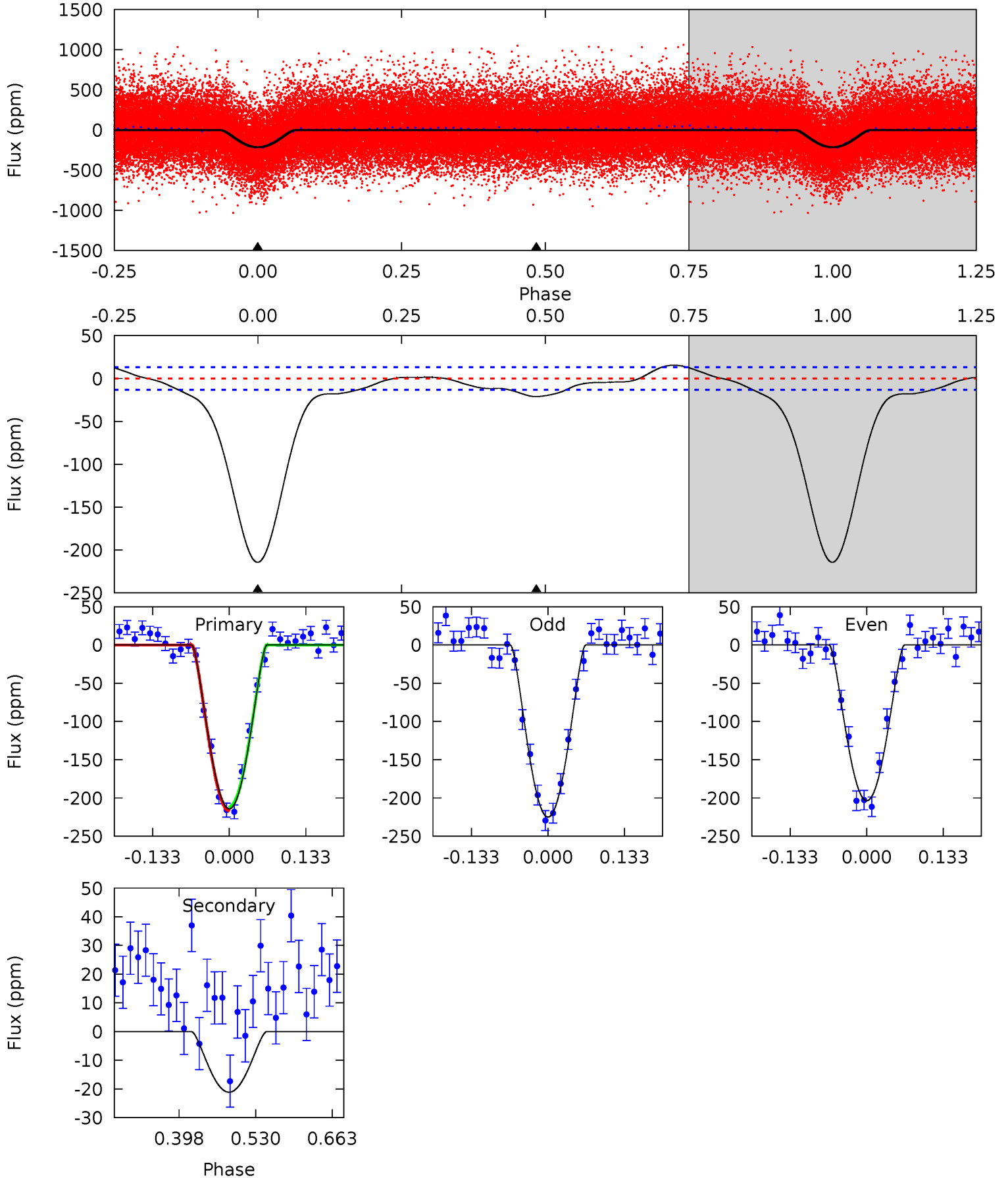




# DV Model-Shift Uniqueness Test

006364327-01, P = 5.243697 Days, E = 132.720369 Days

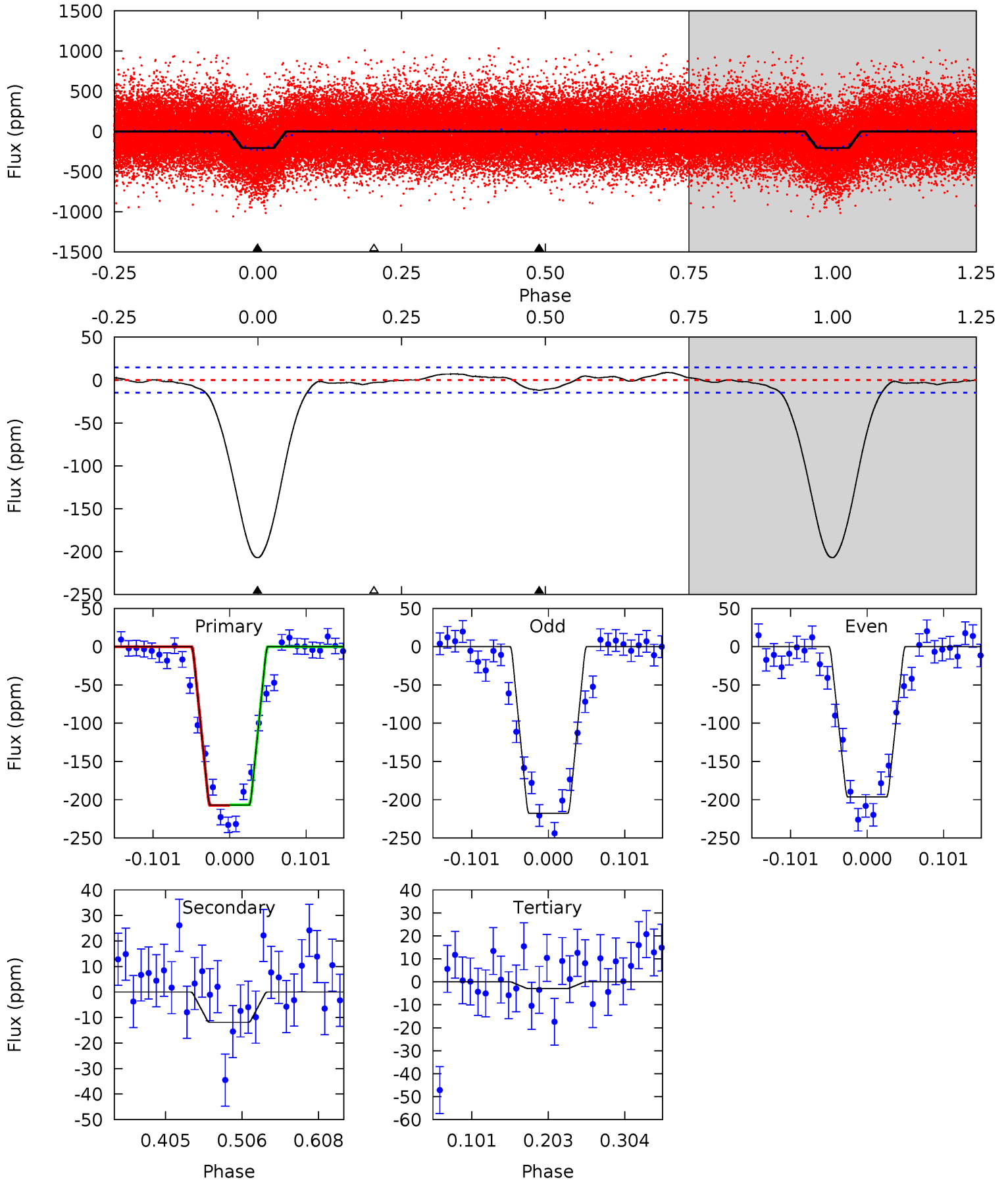
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.7	7.27	0	0	4.51	1.50	2.94	73.7	73.7	7.27	7.27	3.69	1.00	0.07	0.76



# Alt Model-Shift Uniqueness Test

006364327-01, P = 5.243719 Days, E = 132.716537 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
64.1	3.69	0.91	0	4.56	1.64	1.26	63.2	64.1	2.78	3.69	3.29	1.01	0.04	0.10





### Stellar Parameters For KIC 006364327

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5772^{+157}_{-157}$	$4.452^{+0.126}_{-0.168}$	$-0.580^{+0.300}_{-0.300}$	$0.867^{+0.199}_{-0.132}$	$0.777^{+0.108}_{-0.046}$	$1.677^{+0.986}_{-0.778}$
	+3%/-3%	+3%/-4%	+52%/-52%	+23%/-15%	+14%/-6%	+59%/-46%
Source	PHO1	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 006364327-01 / KOI 1744.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-21 \pm 3$	$2.84^{+2.10}_{-1.61}$	$1426^{+90}_{-69}$	$2923^{+951}_{-405}$	$4.231^{+20.913}_{-2.817}$
Alt.	$-12 \pm 3$	$2.11^{+1.87}_{-1.29}$	$1427^{+95}_{-81}$	$2897^{+1041}_{-485}$	$3.982^{+25.122}_{-2.802}$

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

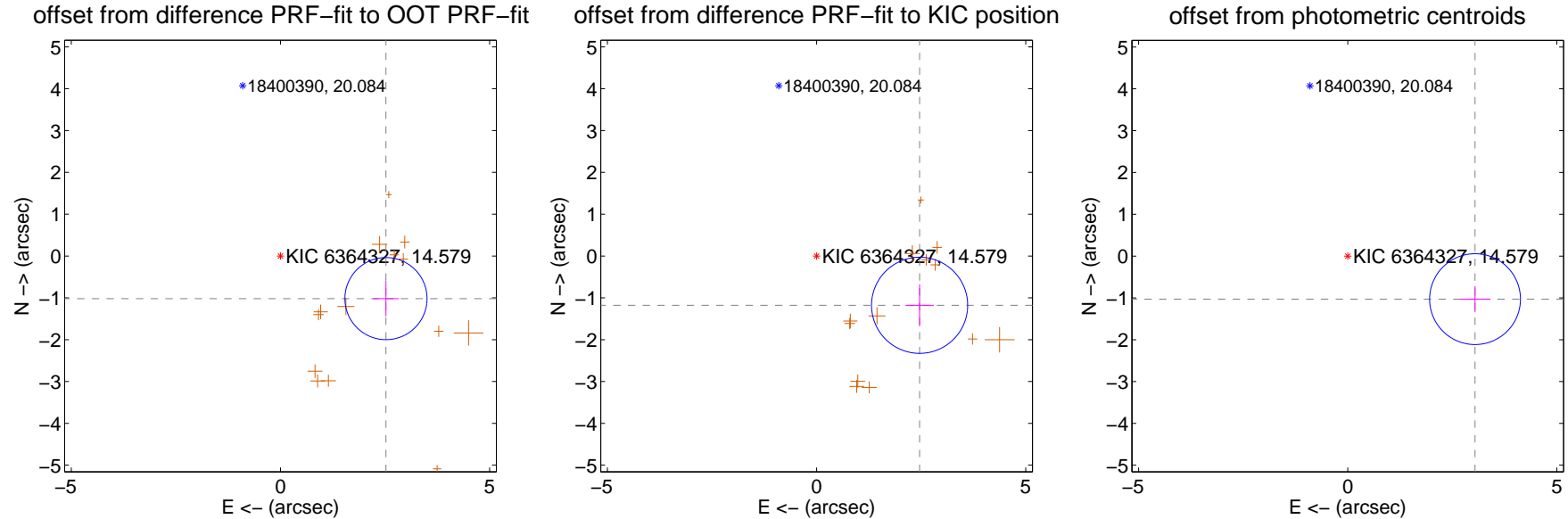
## DV Centroid Data

Supplemental centroid analysis for 006364327-01. Kepler magnitude: 14.58. Transit SNR 36.01

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.720 \pm 0.327$	8.31	$-2.522 \pm 0.308$	$-1.018 \pm 0.424$
PRF-fit source offset from KIC position	$2.730 \pm 0.383$	7.13	$-2.462 \pm 0.342$	$-1.178 \pm 0.502$
photometric centroid source offset	$3.21 \pm 0.36$	8.88	$-3.04 \pm 0.37$	$-1.03 \pm 0.31$



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.

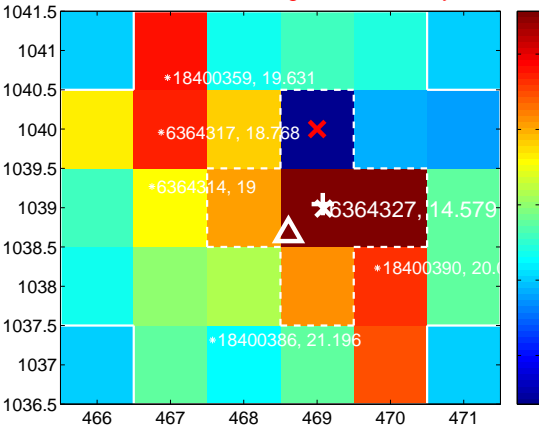
Q1 no difference image



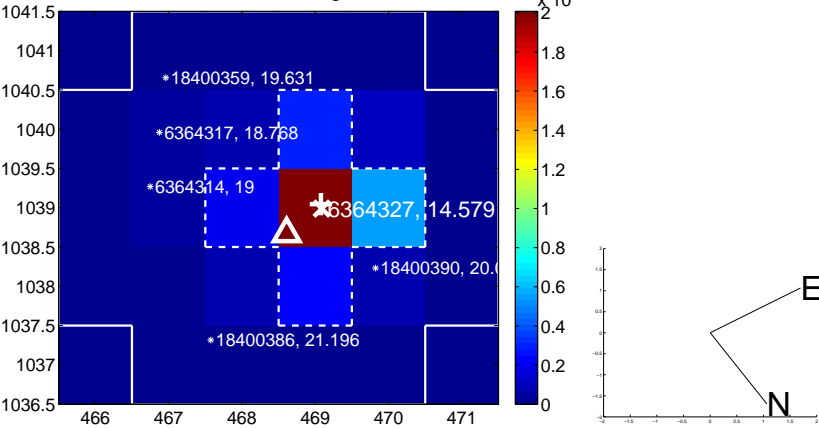
Q1 no OOT image



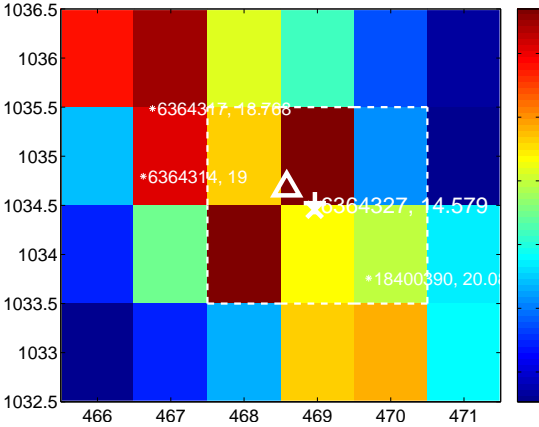
Q2 difference image. Poor Quality



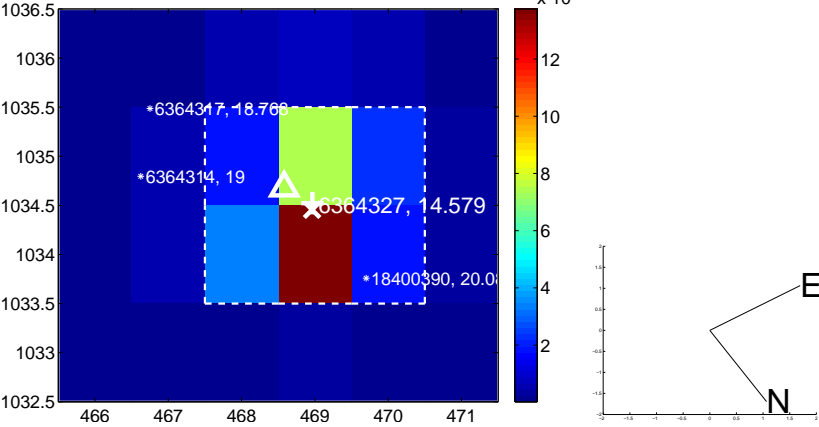
Q2 OOT image



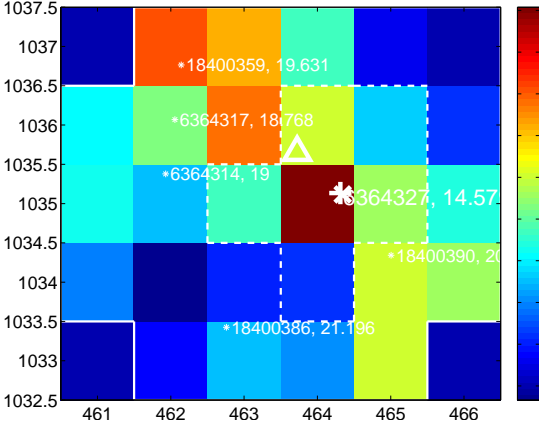
Q3 difference image. Poor Quality



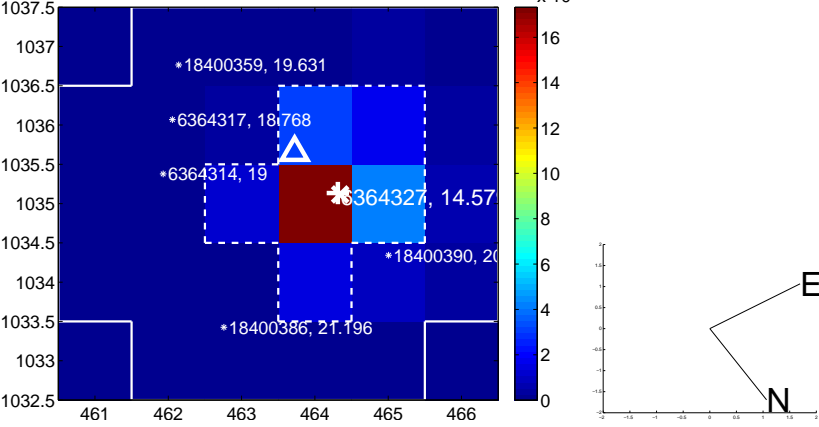
Q3 OOT image



Q4 difference image. Poor Quality



Q4 OOT image



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

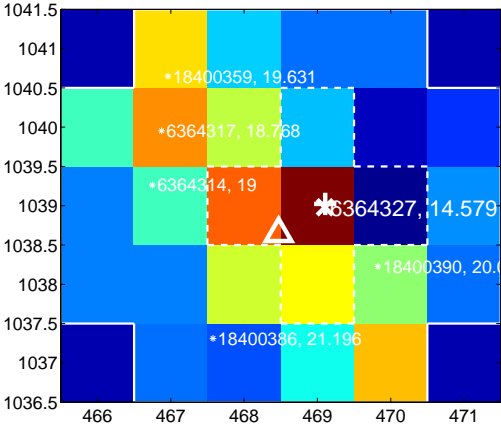
Q5 no difference image



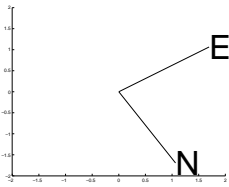
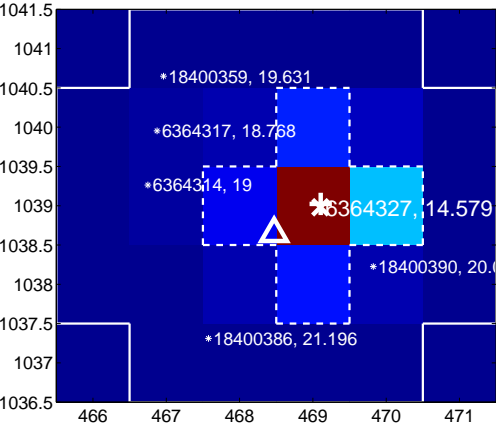
Q5 no OOT image



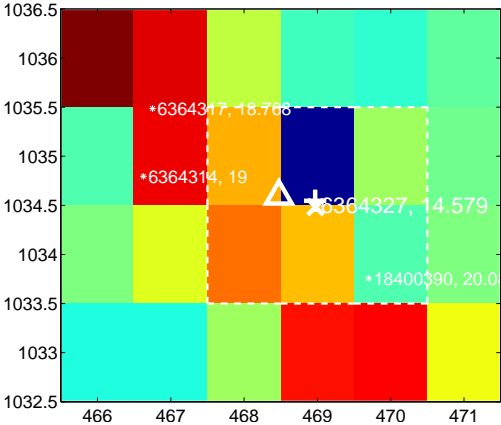
Q6 difference image. Poor Quality



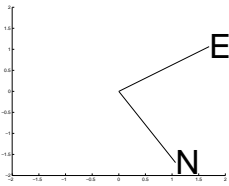
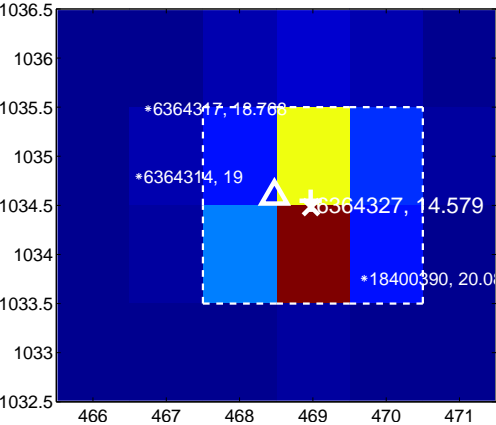
Q6 OOT image



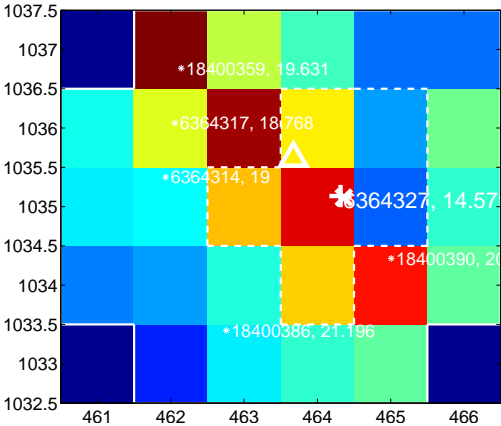
Q7 difference image. Poor Quality



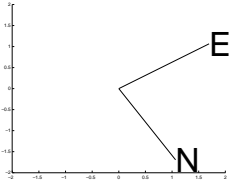
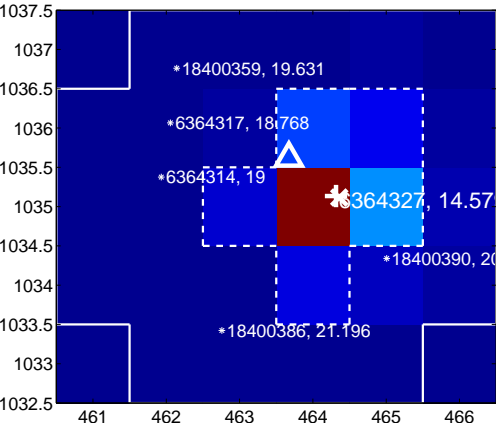
Q7 OOT image



Q8 difference image. Poor Quality

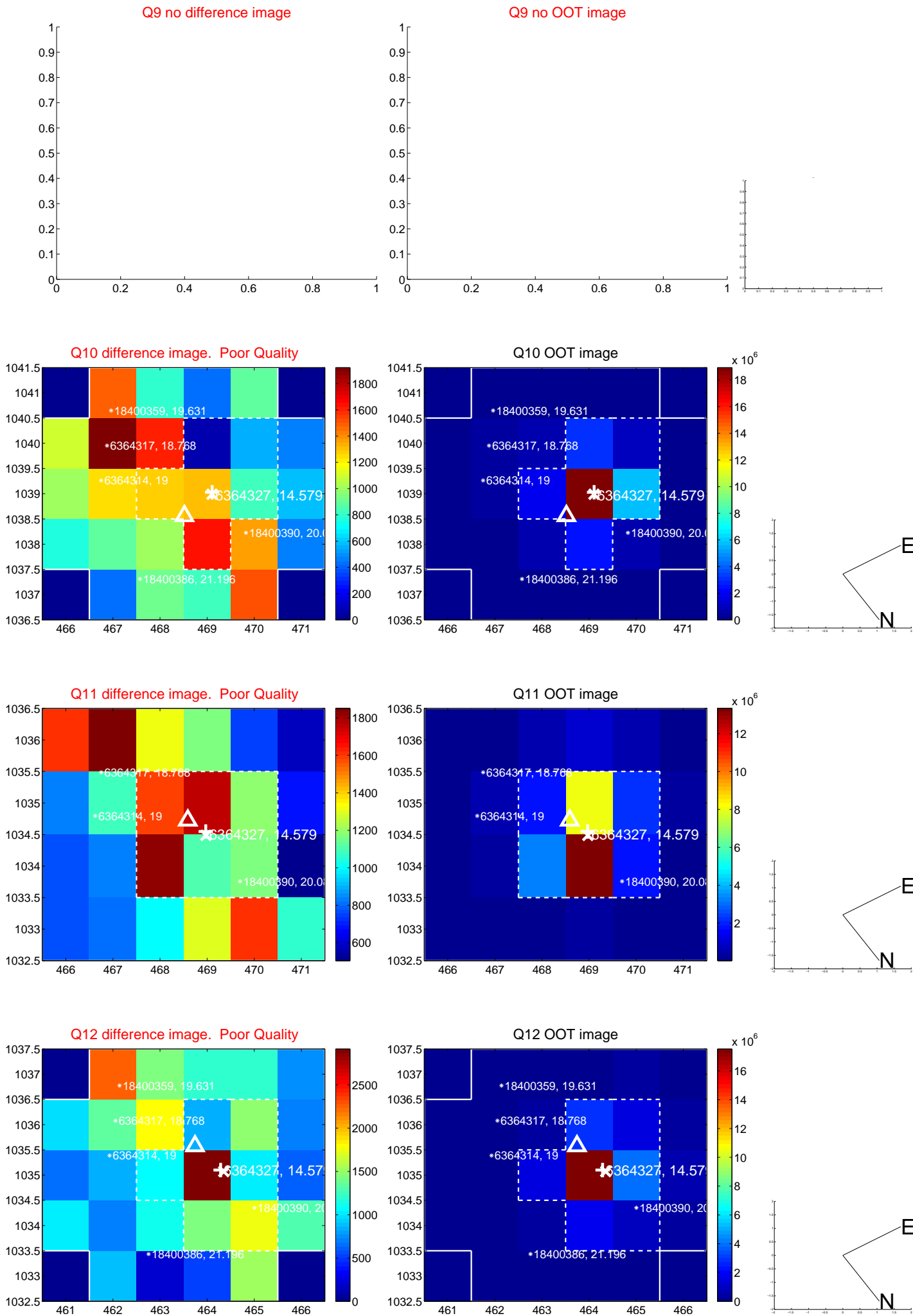


Q8 OOT image

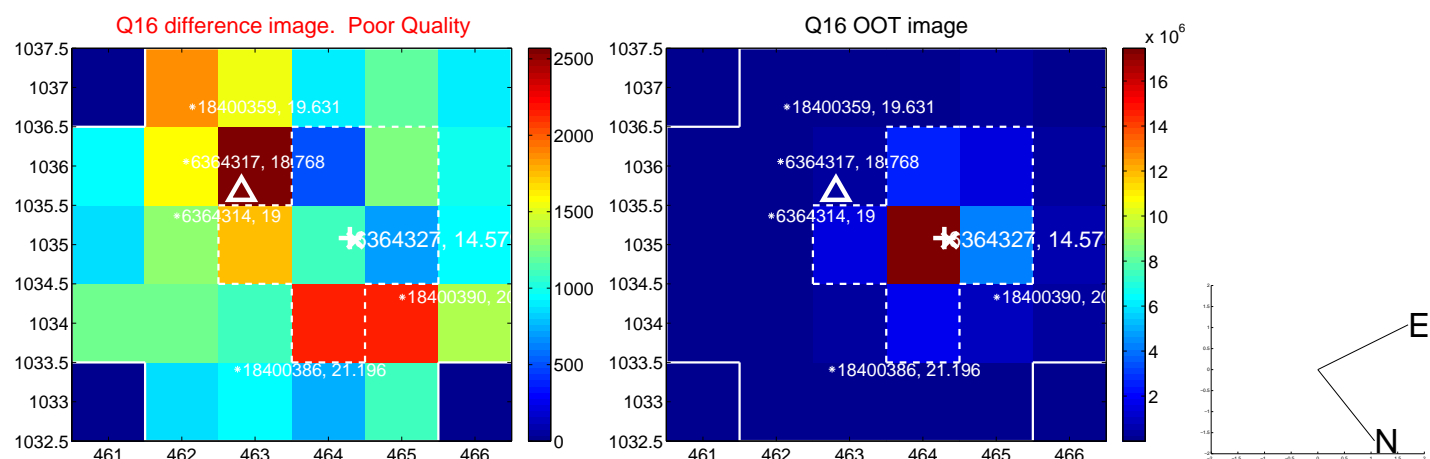
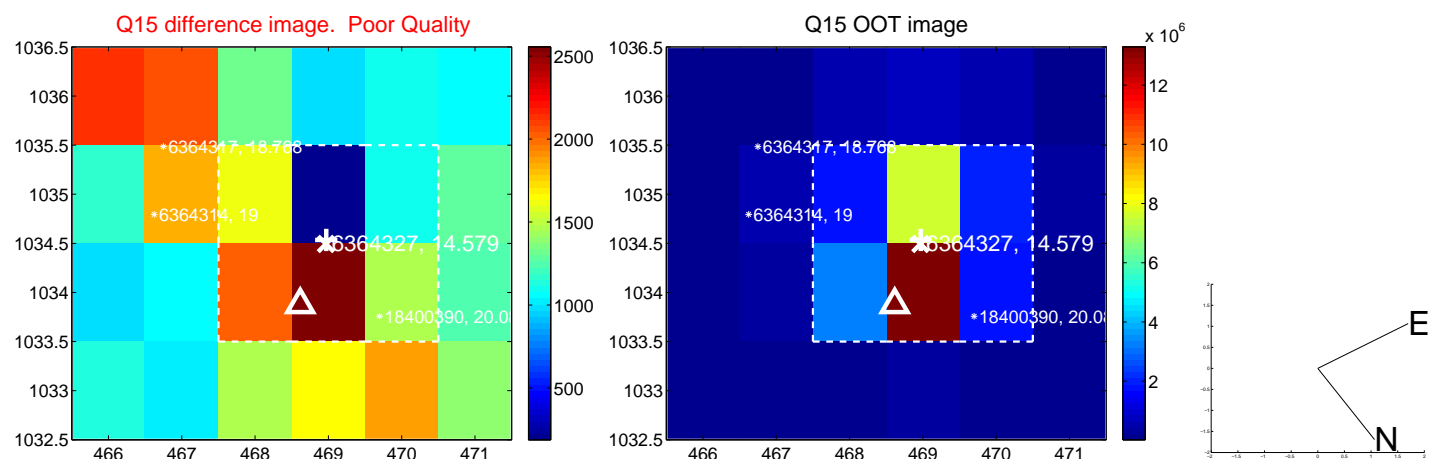
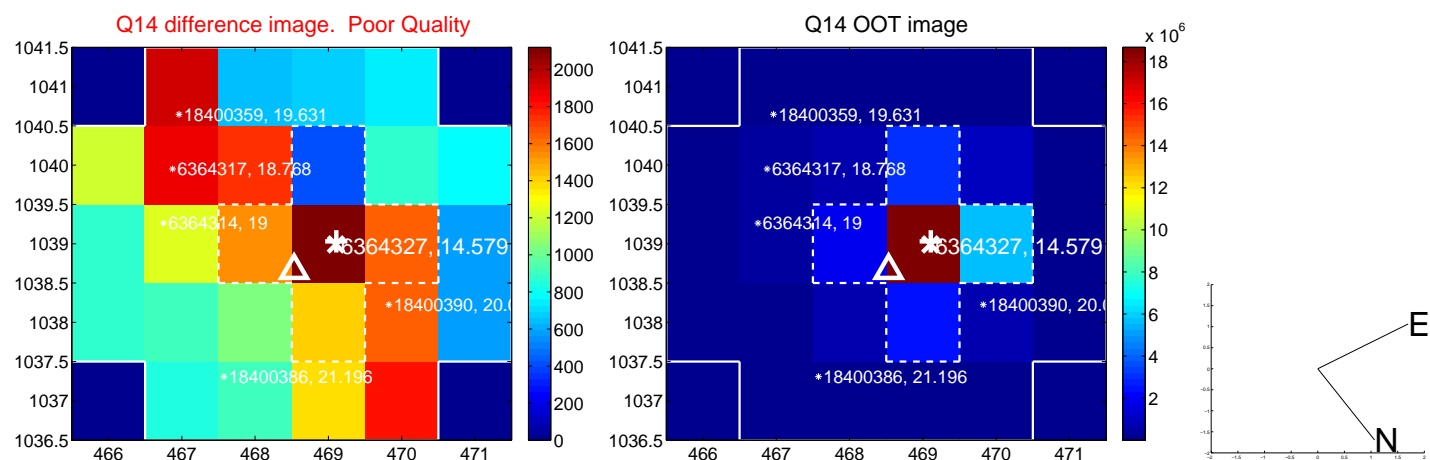
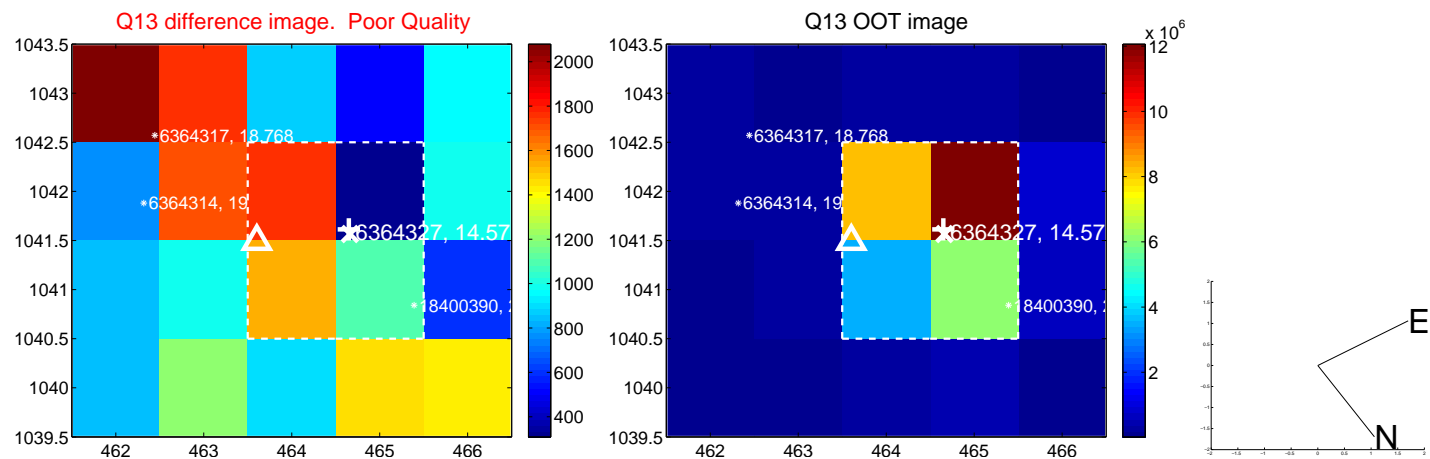




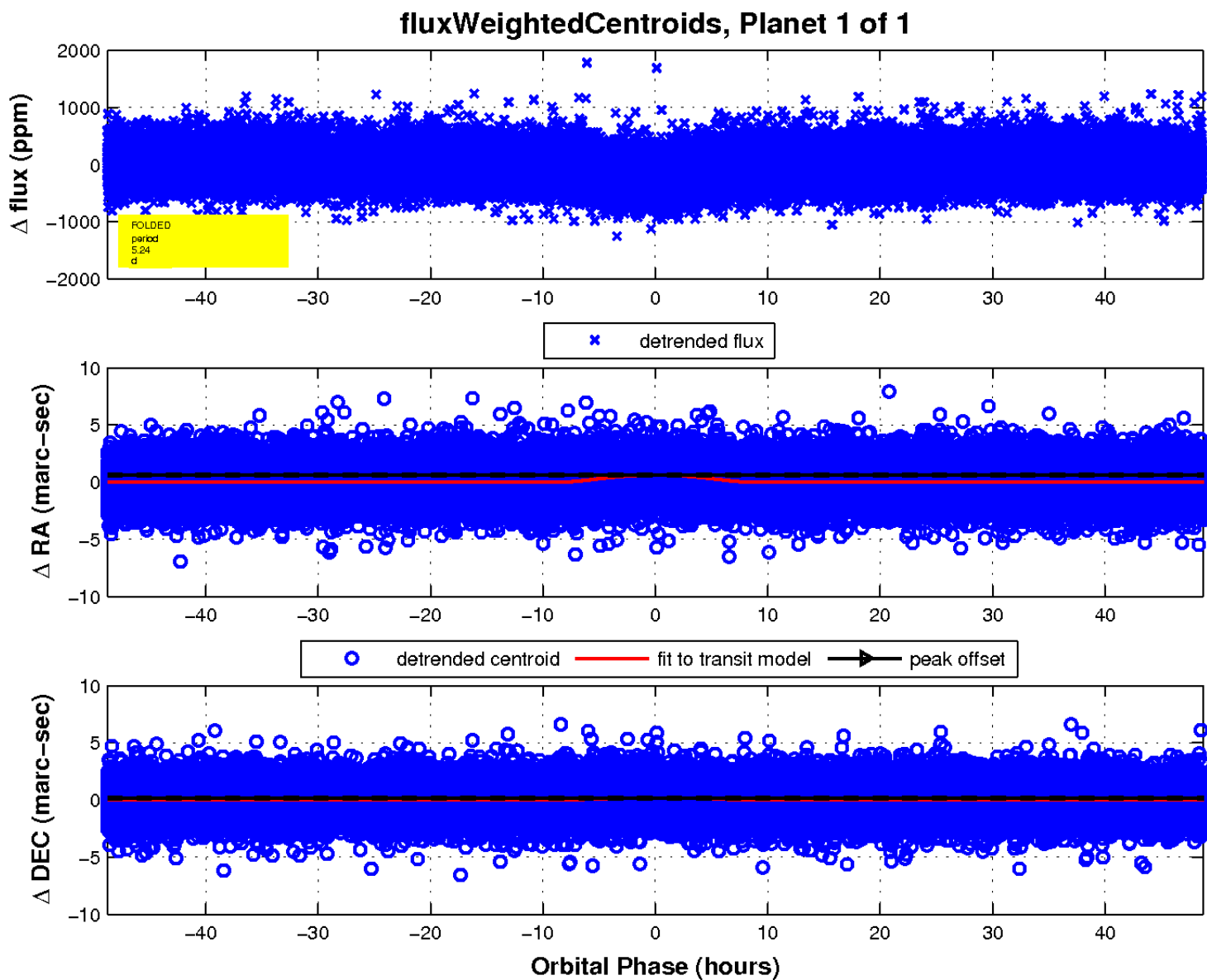
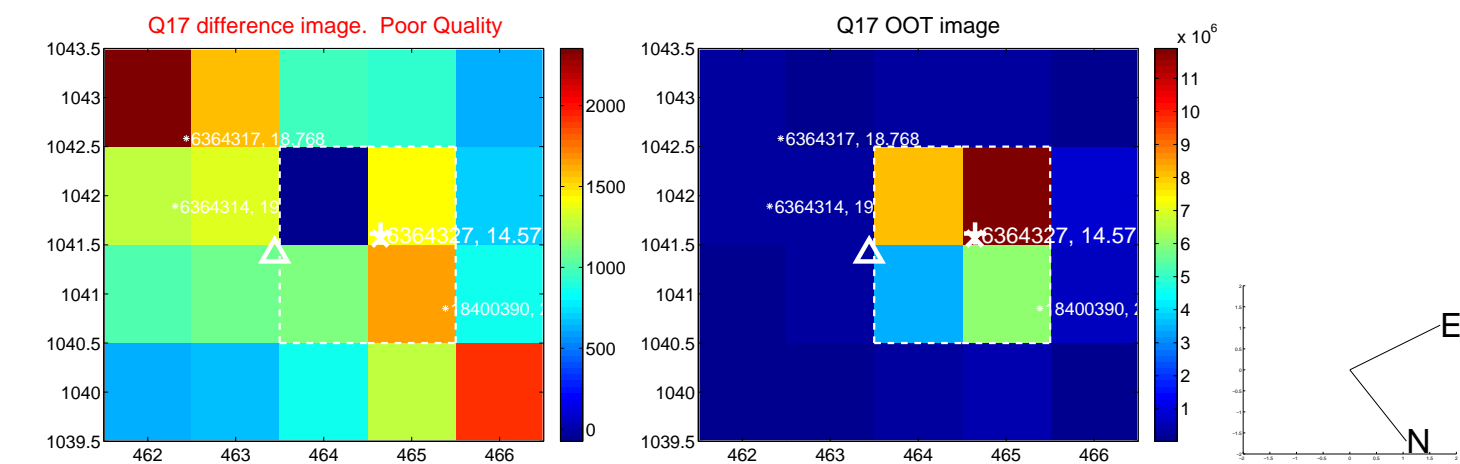
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

