

# KIC 008364232

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008364232-01	OBS	7882.01	65.415411	140.223451	394.0	4.024	7.2	7.3	0.65	4348	1.34	1.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008364232-01	OBS	PC	0.53	0	0	0	0	NO_COMMENT

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

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

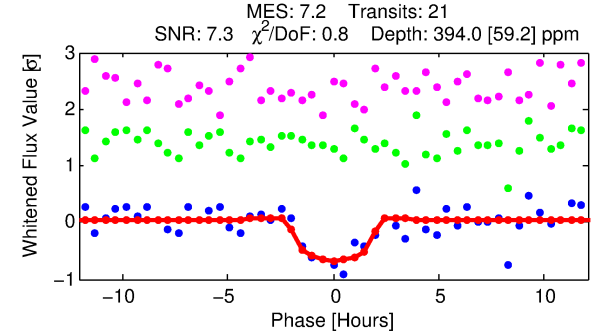
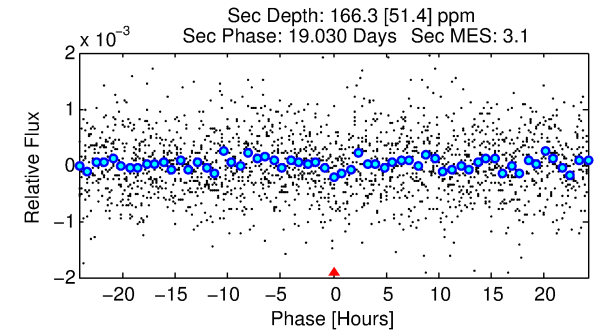
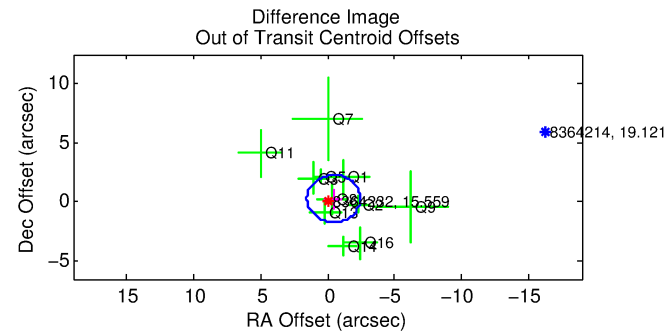
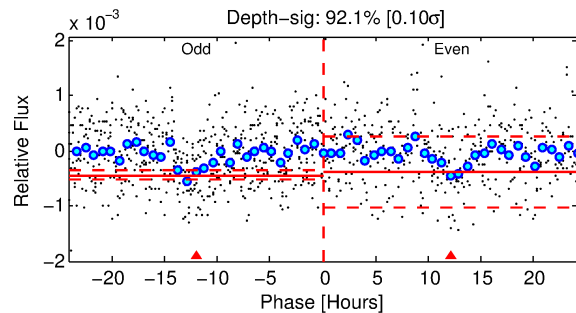
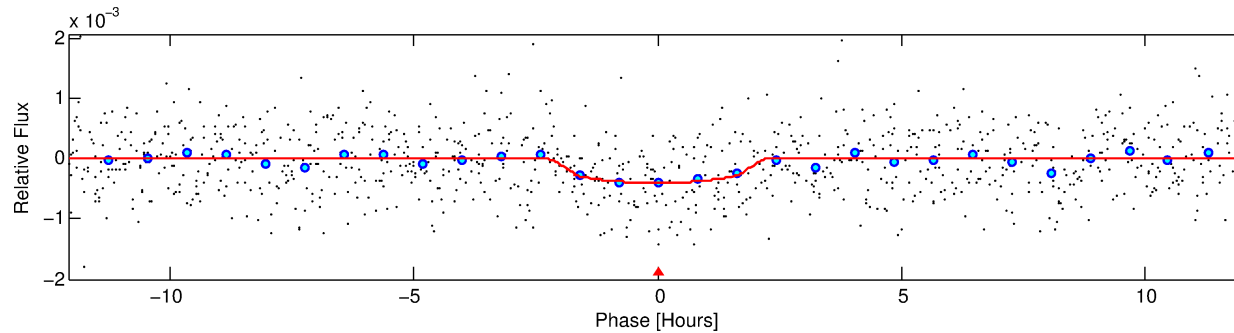
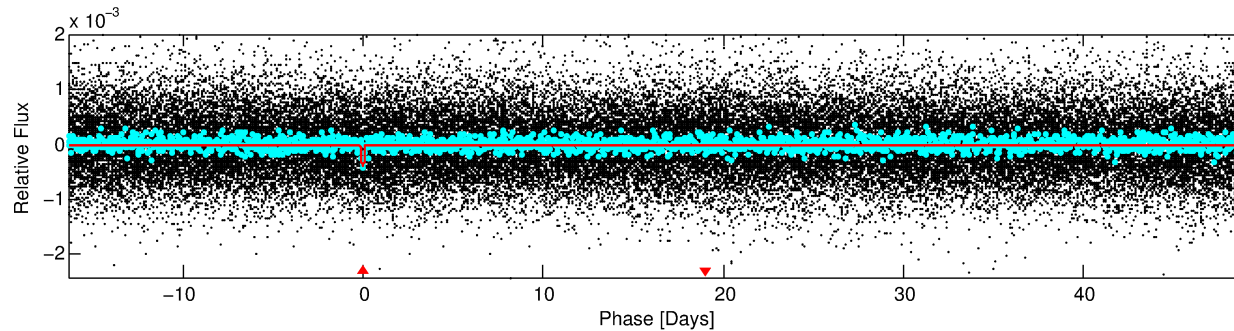
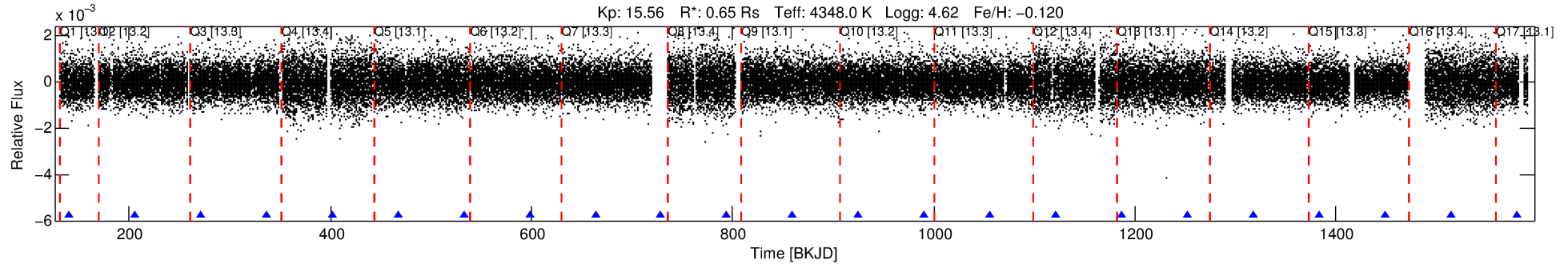
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008364232-01

No Significant Match Found

# DV One-Page Summary

KIC: 8364232 Candidate: 1 of 1 Period: 65.415 d



## DV Fit Results:

Period = 65.41541 [0.00084] d  
Epoch = 140.2235 [0.0109] BKJD  
Rp/R\* = 0.0190 [0.0264]  
a/R\* = 97.51 [421.32]  
b = 0.65 [3.95]  
Seff = 1.79 [0.27]  
Teq = 295 [11] K  
Rp = 1.34 [1.86] Re  
a = 0.2731 [0.0188] AU  
Ag = 3788.34 [10573.39] [0.36 $\sigma$ ]  
Teffp = 3579 [2498] K [1.31 $\sigma$ ]

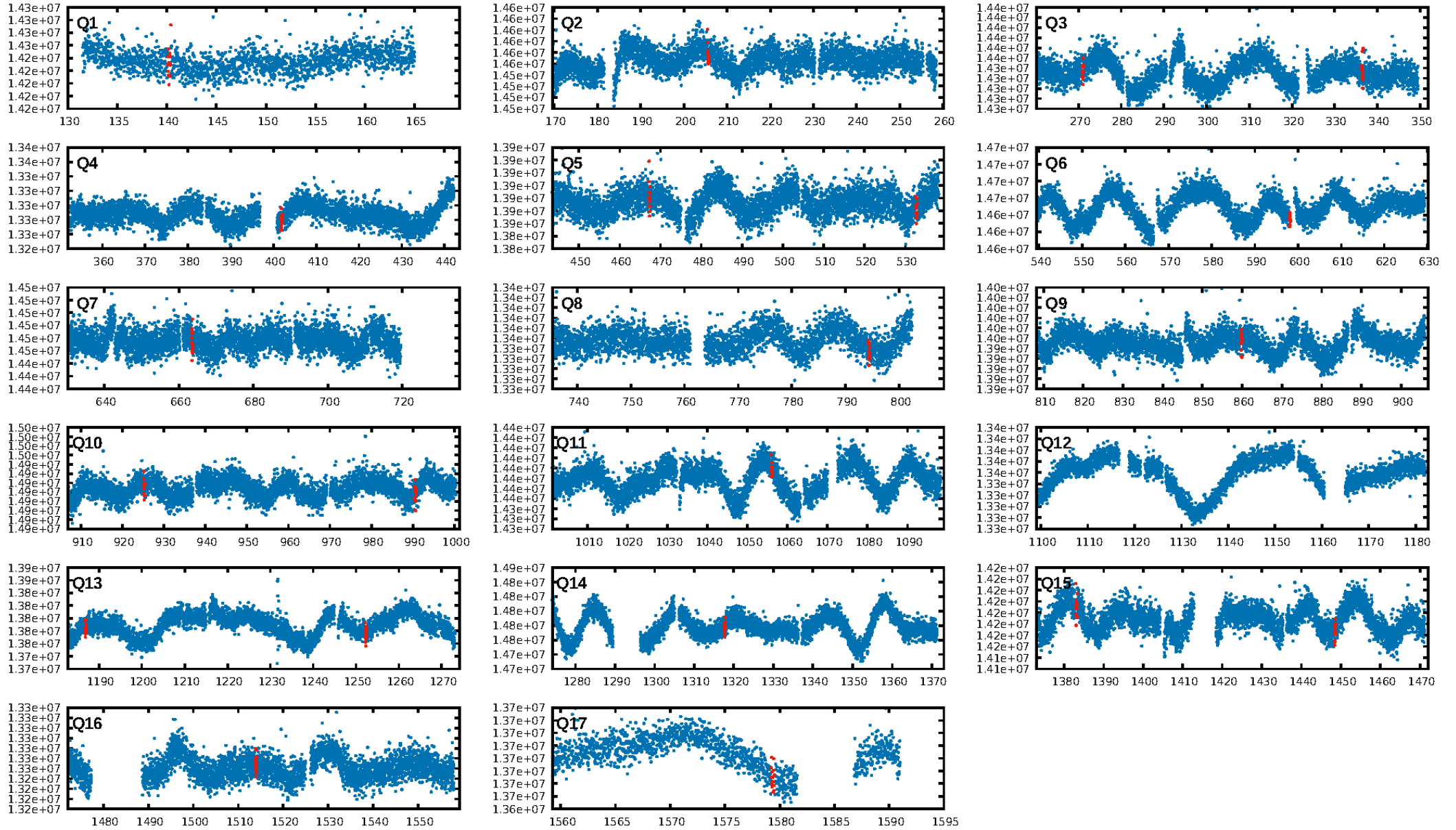
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 97.7%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 4.38e-13  
RollingBand-fgt: 1.00 [19/19]  
GhostDiagnostic-chr: -7.085  
Centroid-sig: 39.2%  
Centroid-so: 1.196 arcsec [0.69 $\sigma$ ]  
OotOffset-rm: 0.531 arcsec [0.80 $\sigma$ ]  
KicOffset-rm: 0.502 arcsec [0.76 $\sigma$ ]  
OotOffset-st: 2/3/2/4 [11]  
KicOffset-st: 2/3/2/4 [11]  
DiffImageQuality-fgm: 0.27 [3/11]  
DiffImageOverlap-fno: 1.00 [14/14]

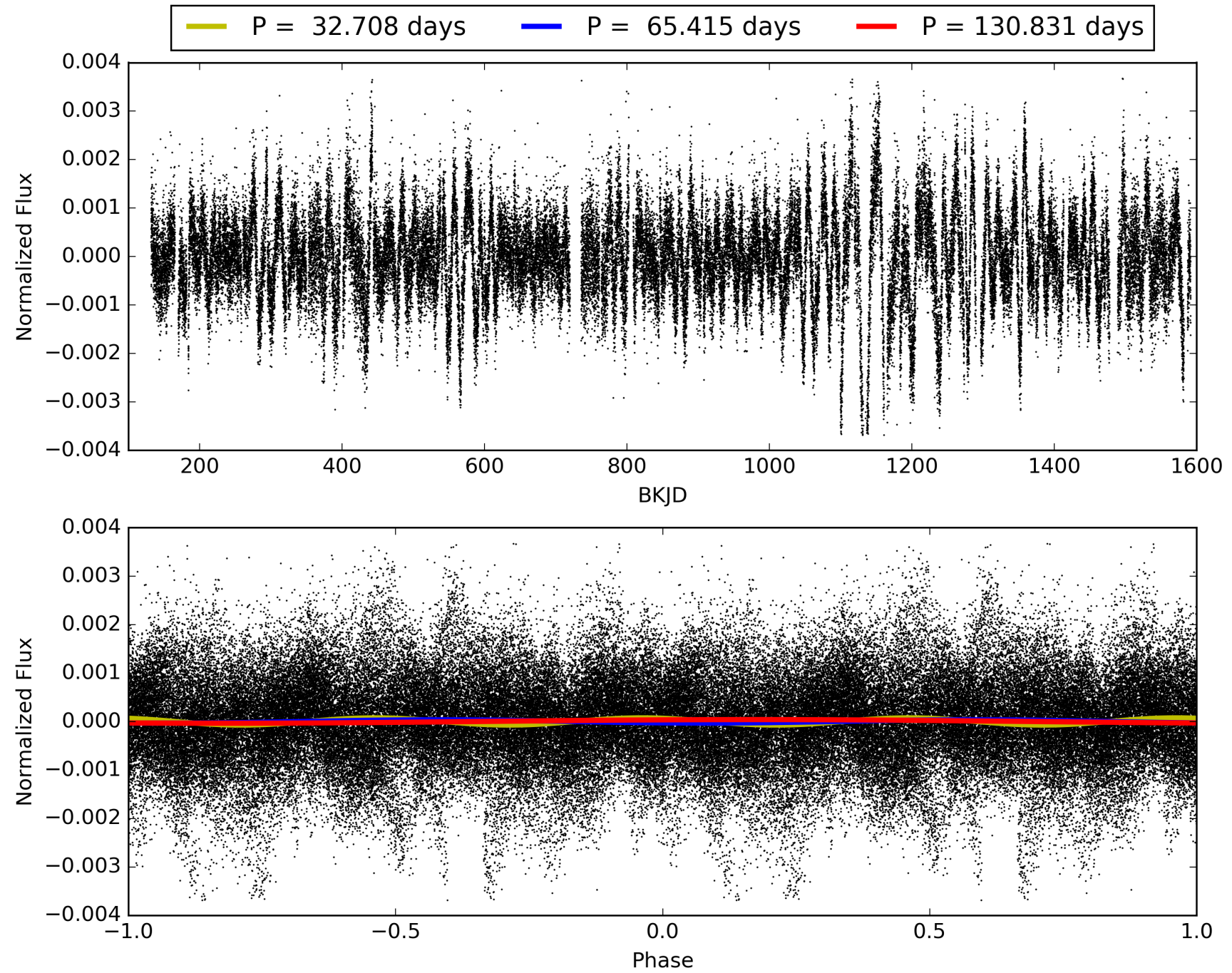
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:59:16 Z

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

# TCE 008364232-01, PDC Light Curves

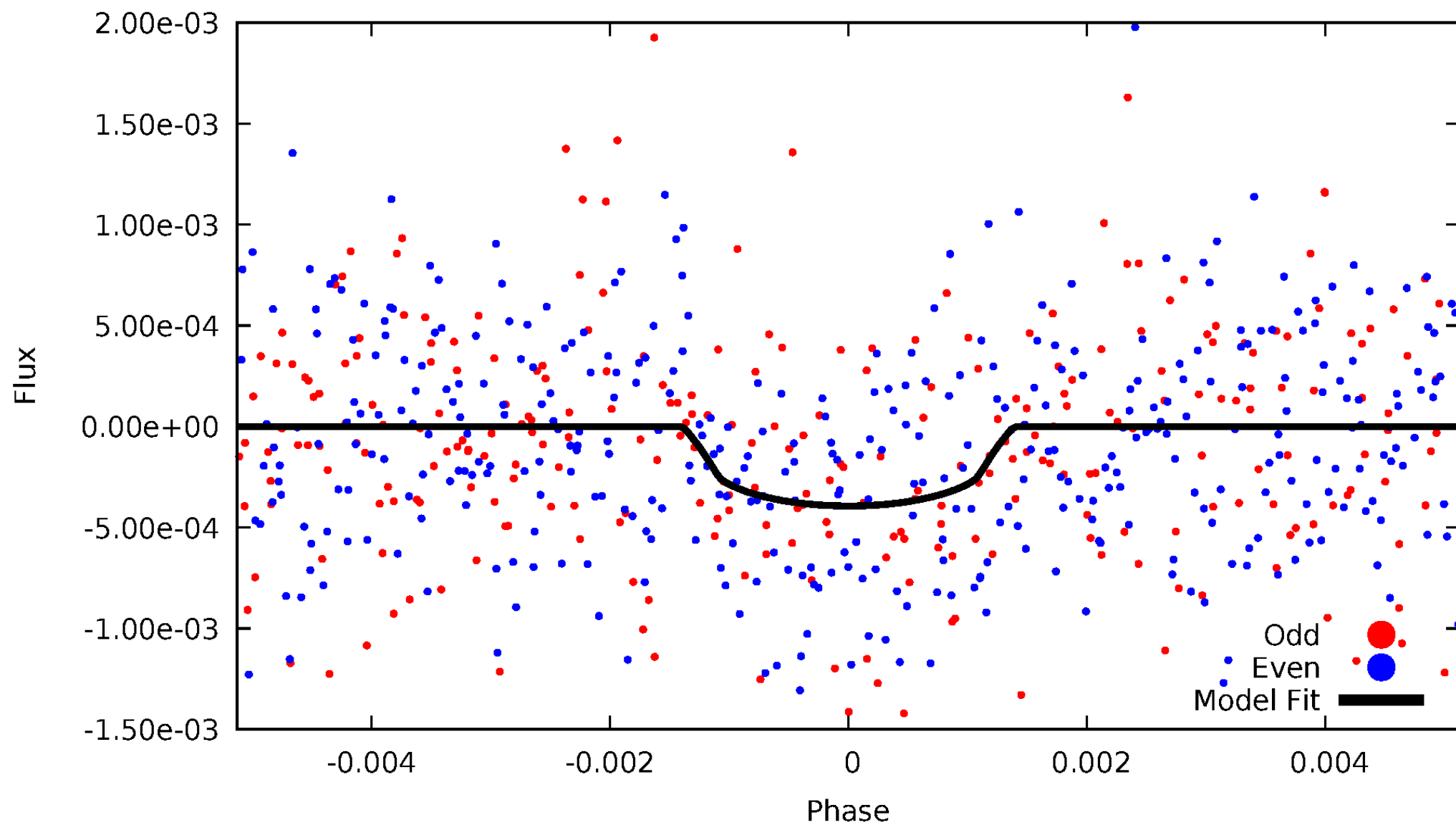


TCE 008364232-01



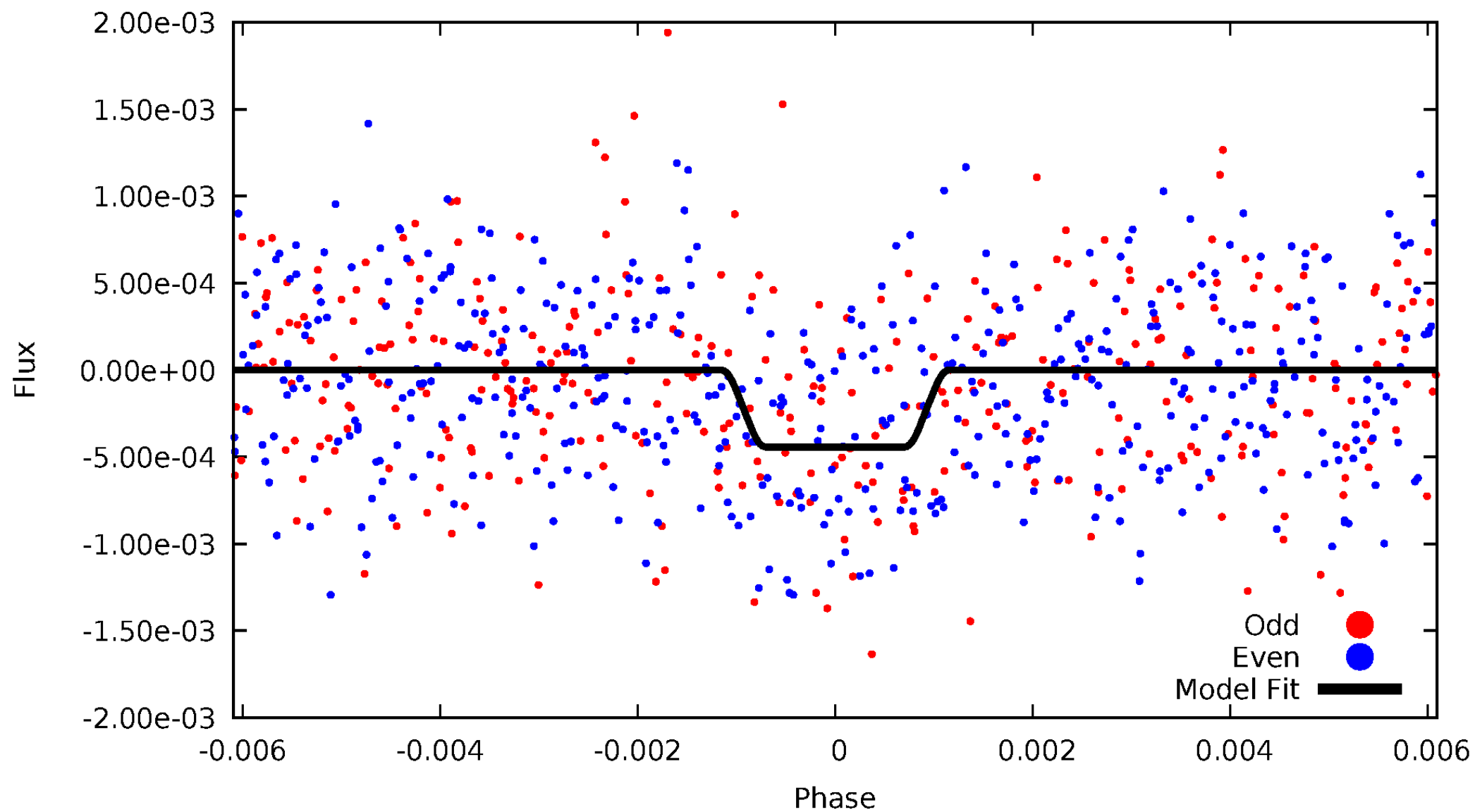
# DV Odd/Even

TCE 008364232-01



# ALT Odd/Even

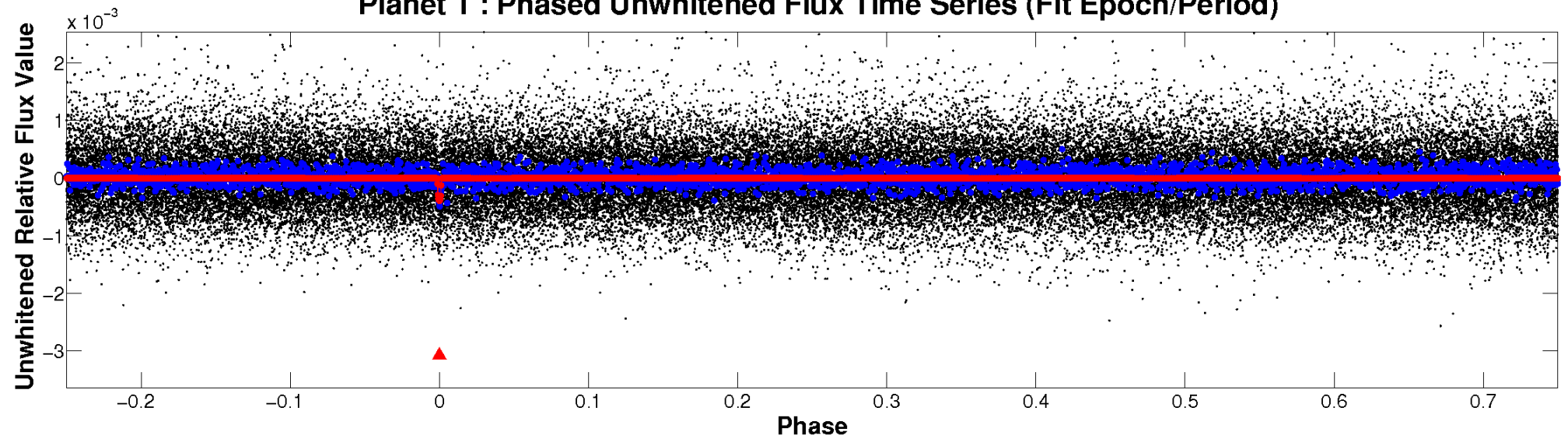
TCE 008364232-01



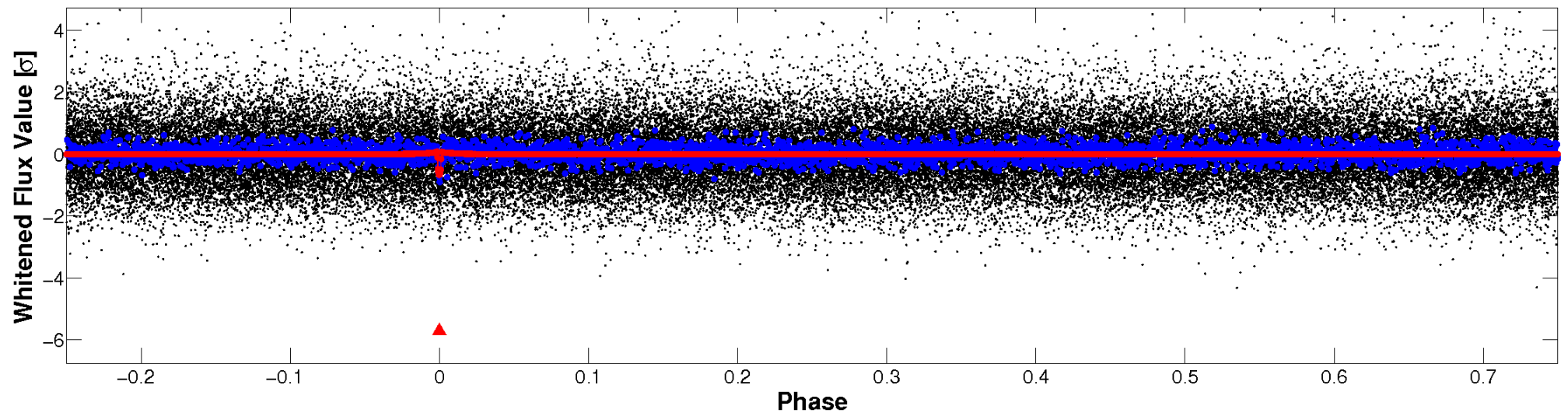


# Non-Whitened Vs. Whitened Light Curve

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

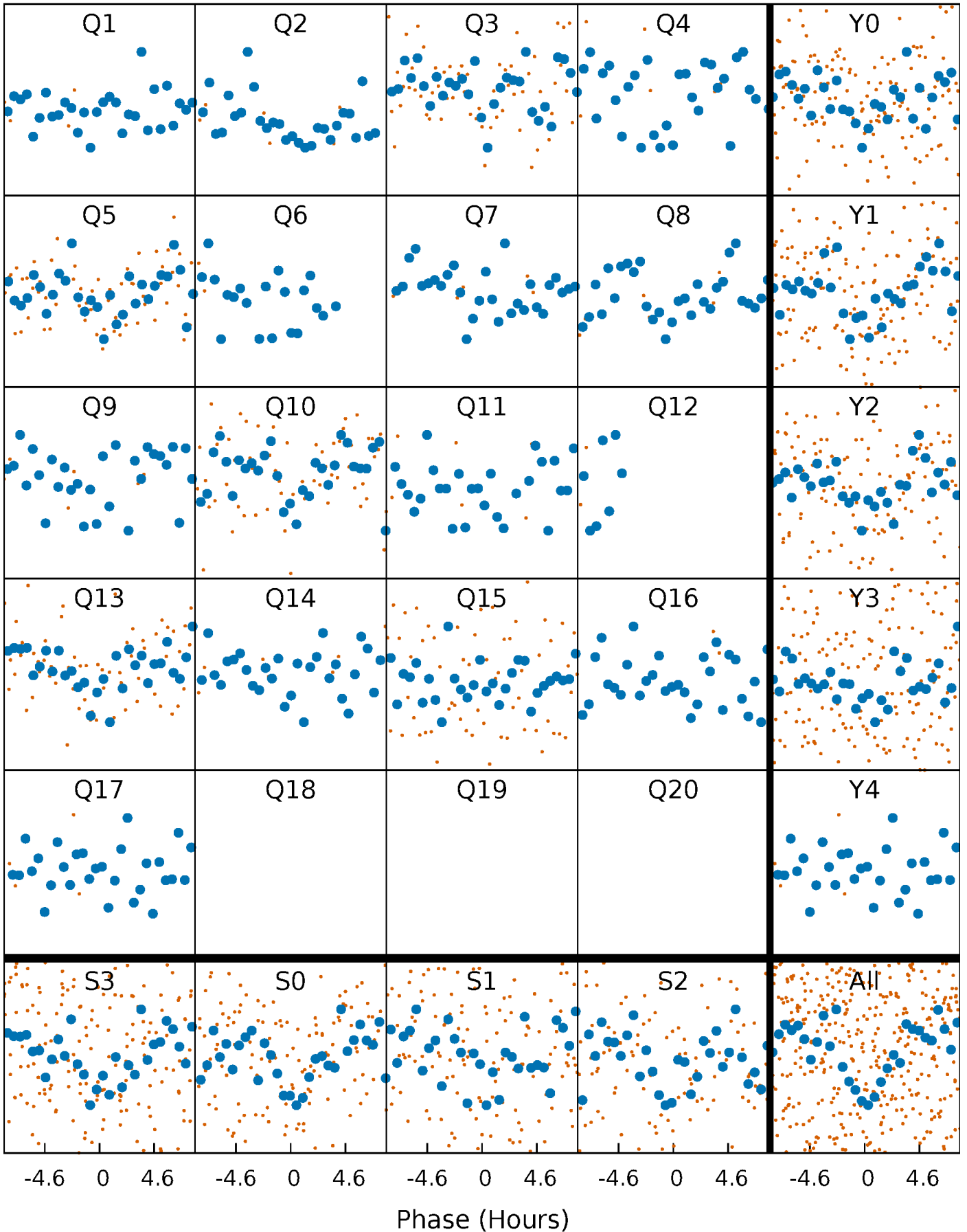


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

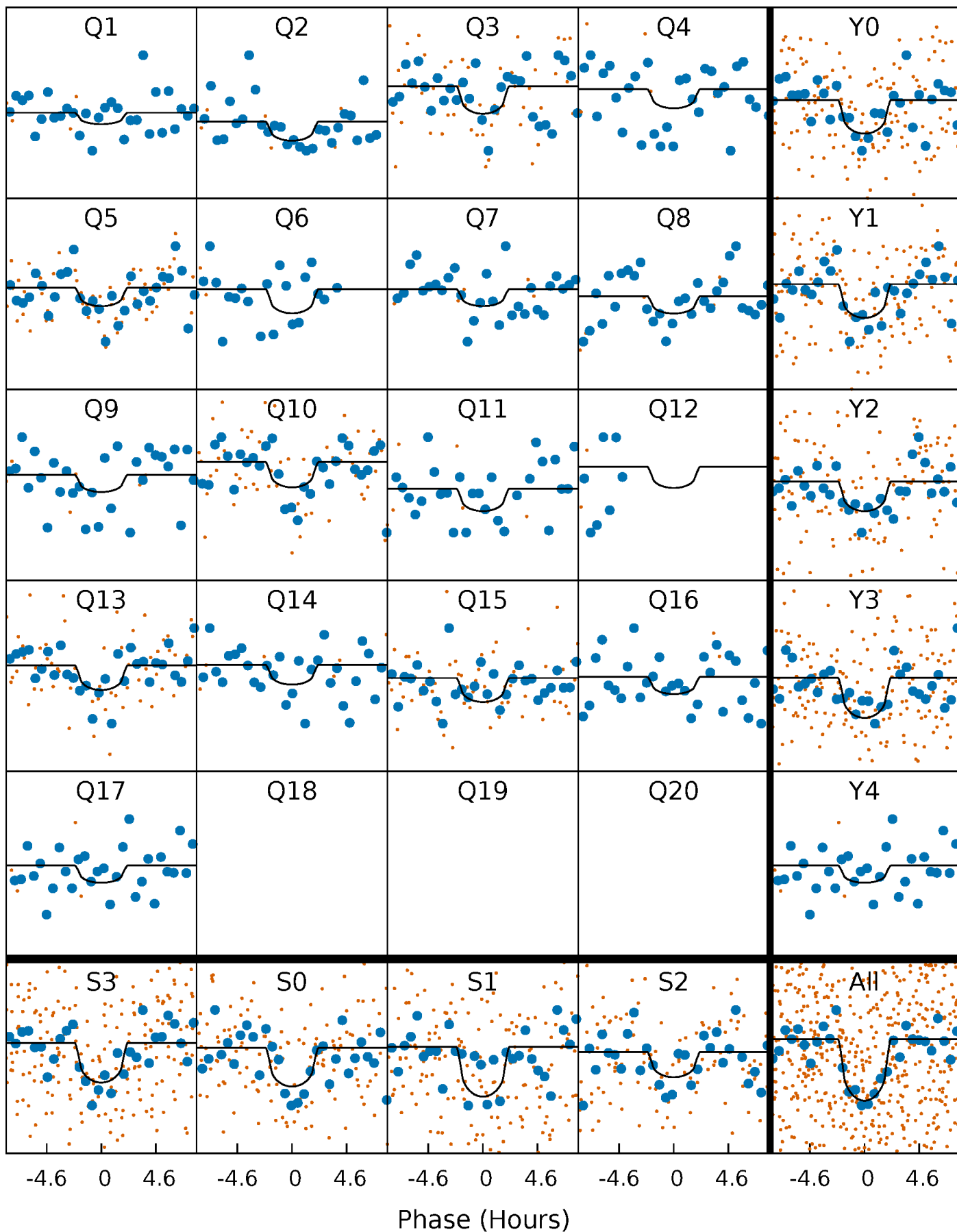
TCE 008364232-01   P= 65.415411 Days    $T_0=140.223451$  (BKJD)





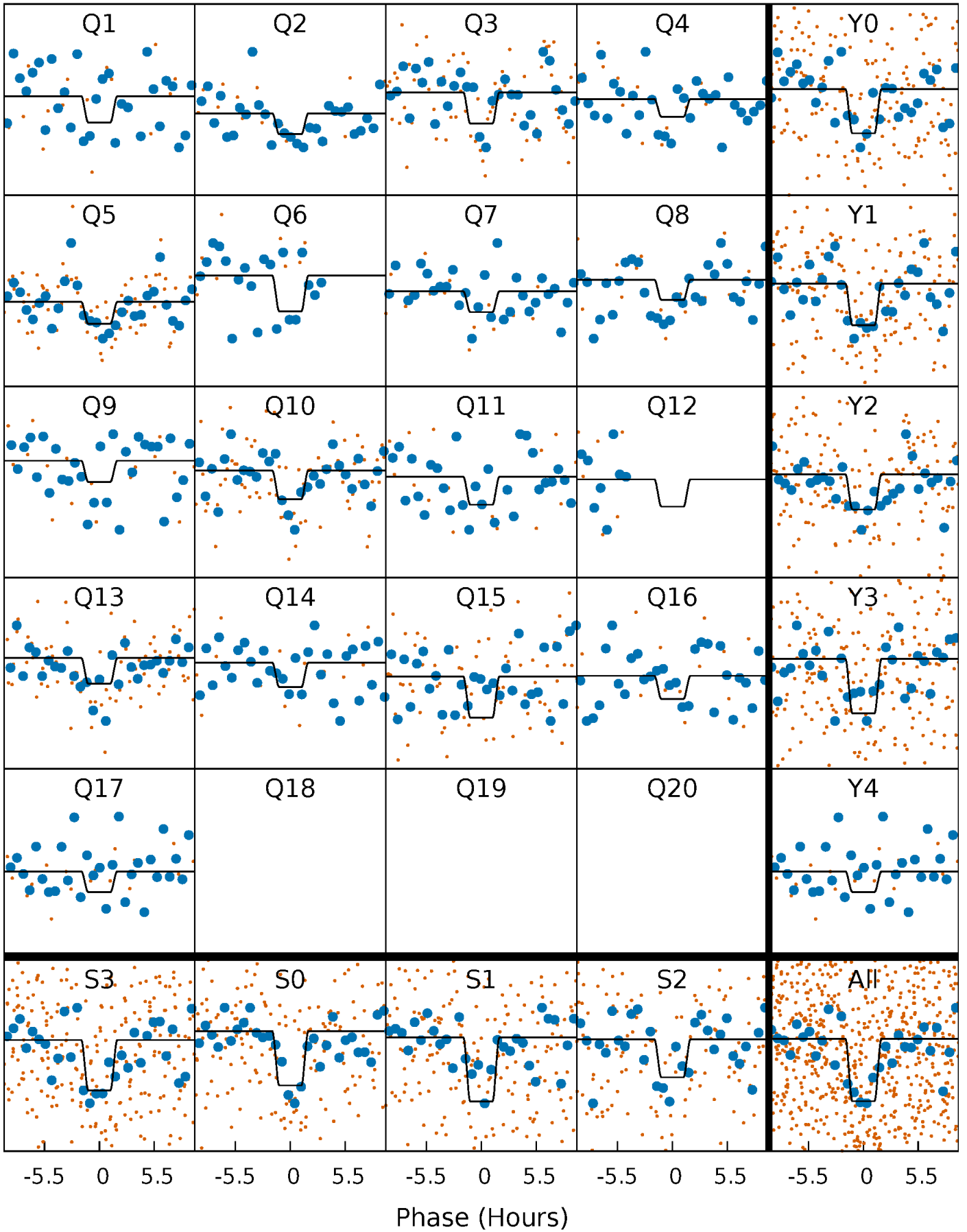
# DV Quarter-Phased Transit Curves

TCE 008364232-01 P= 65.415411 Days  $T_0=140.223451$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

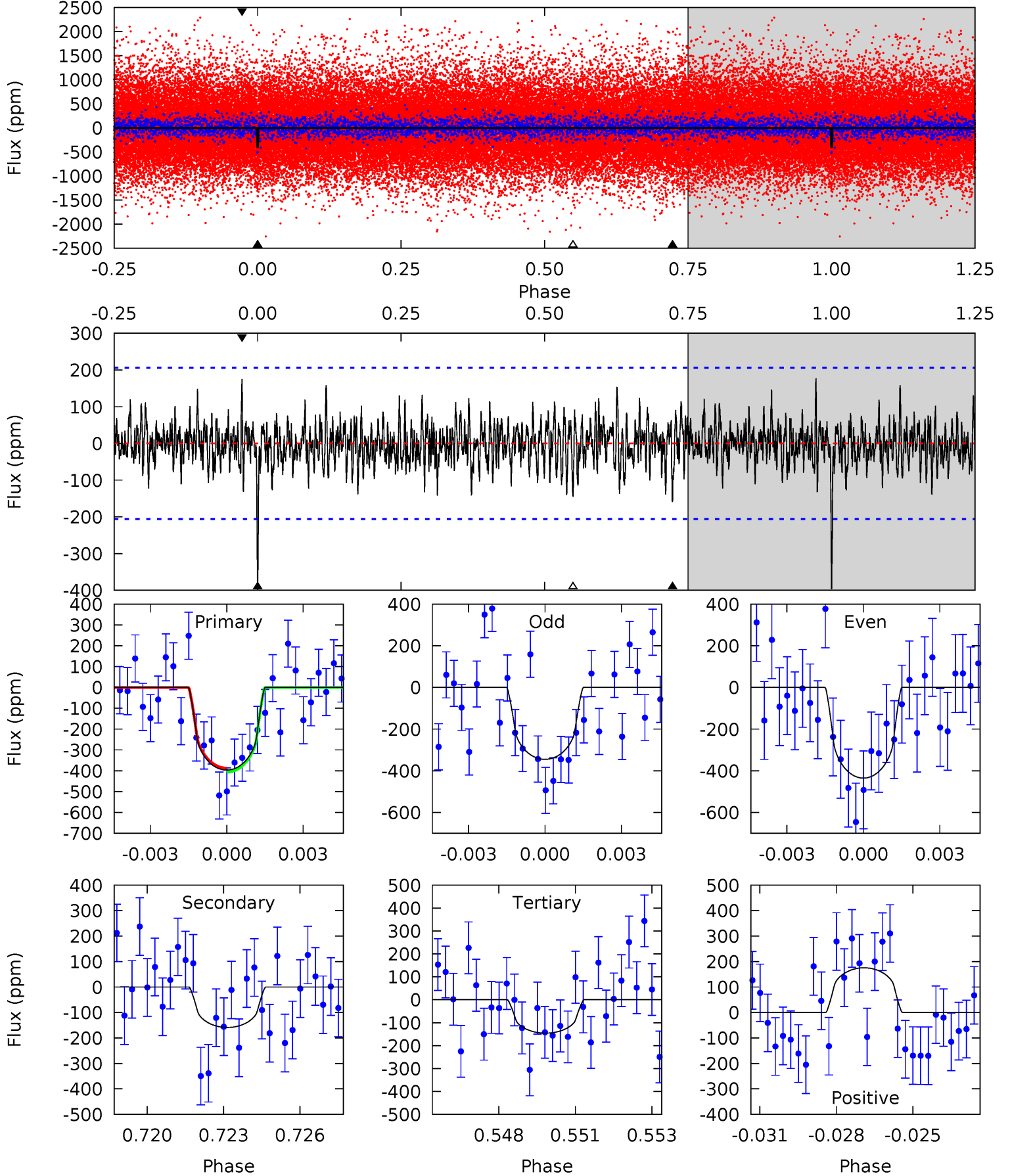
TCE 008364232-01 P= 65.415556 Days  $T_0=140.227181$  (BKJD)



# DV Model-Shift Uniqueness Test

008364232-01, P = 65.415411 Days, E = 74.808040 Days

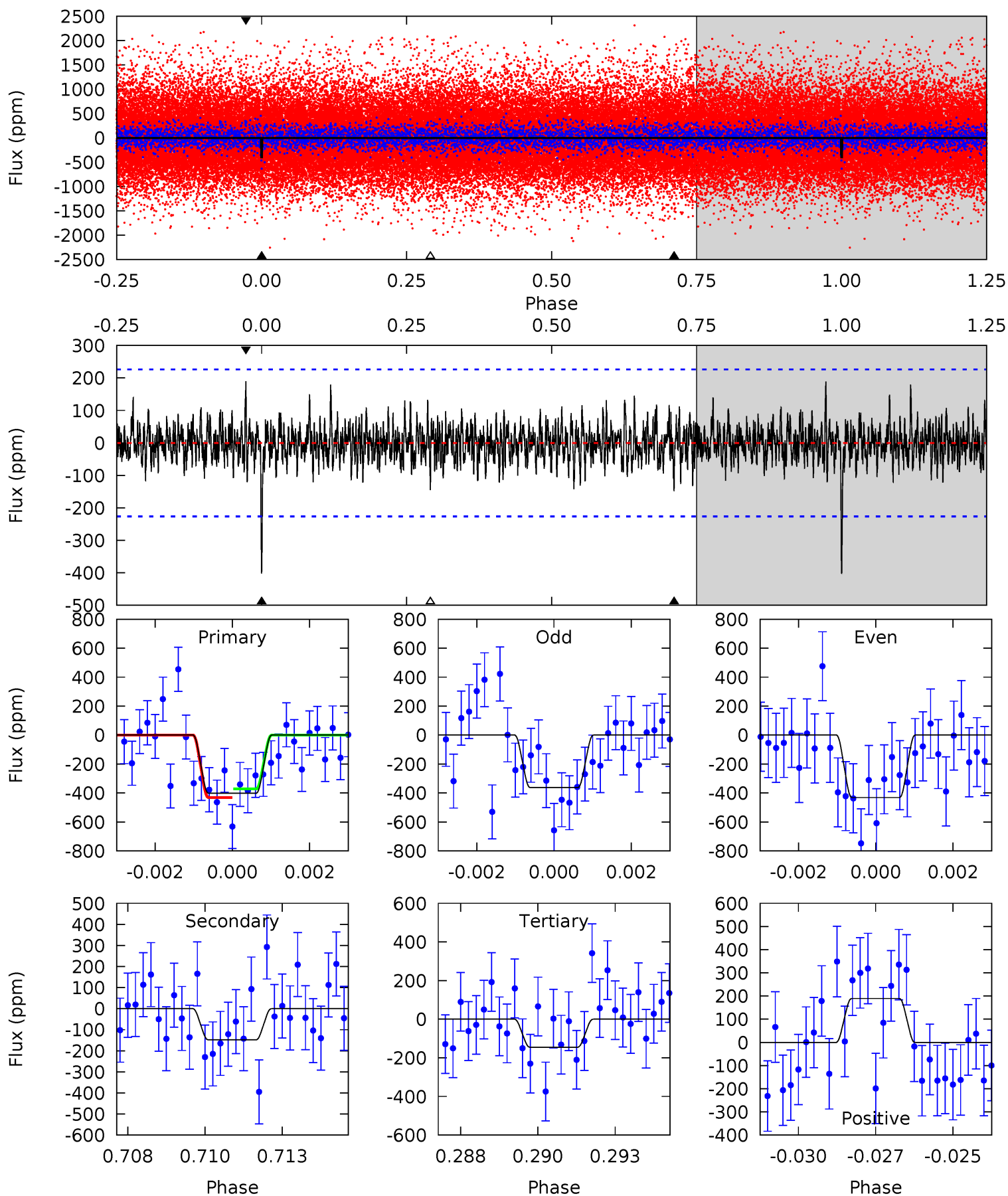
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	4.06	3.72	4.49	5.26	2.99	1.22	6.42	5.66	0.34	-0.43	1.14	0.95	0.31	0.24



# Alt Model-Shift Uniqueness Test

008364232-01, P = 65.415556 Days, E = 74.811625 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
9.42	3.47	3.40	4.44	5.30	3.05	1.08	6.02	4.98	0.07	-0.96	0.80	0.85	0.32	0.71



### Stellar Parameters For KIC 008364232

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$4348^{+130}_{-130}$	$4.620^{+0.049}_{-0.021}$	$-0.120^{+0.300}_{-0.300}$	$0.646^{+0.041}_{-0.056}$	$0.636^{+0.063}_{-0.052}$	$3.318^{+0.772}_{-0.305}$
	+3%/-3%	+1%/-0%	+250%/-250%	+6%/-9%	+10%/-8%	+23%/-9%
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 008364232-01 / KOI 7882.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-159 \pm 39$	$1.91^{+1.57}_{-1.33}$	$409^{+14}_{-14}$	$3321^{+1768}_{-541}$	$1737^{+16825}_{-1221}$
Alt.	$-148 \pm 43$	$1.95^{+1.58}_{-1.23}$	$409^{+14}_{-13}$	$3261^{+1416}_{-498}$	$1524^{+10010}_{-1040}$

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

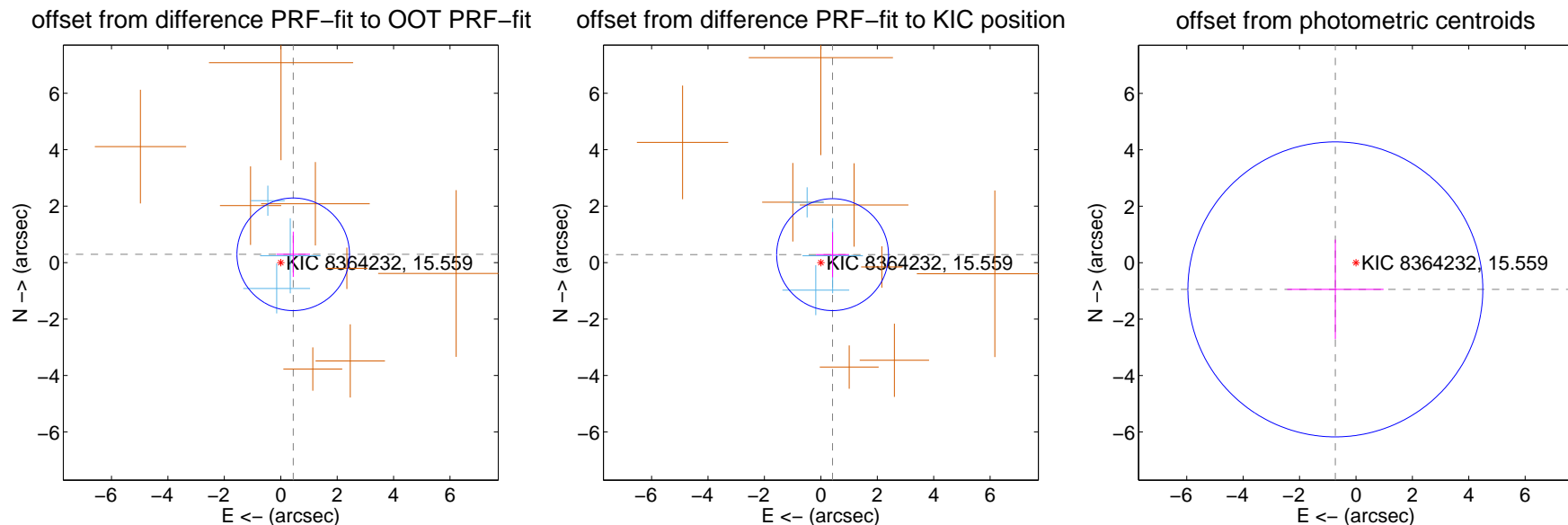
## DV Centroid Data

Supplemental centroid analysis for 008364232-01. Kepler magnitude: 15.56. Transit SNR 7.31

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

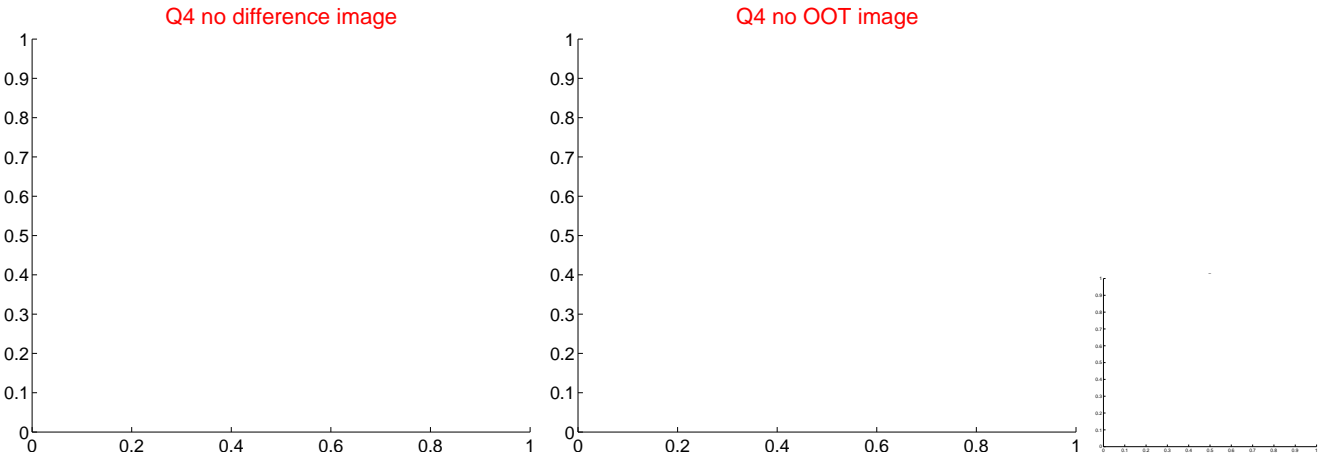
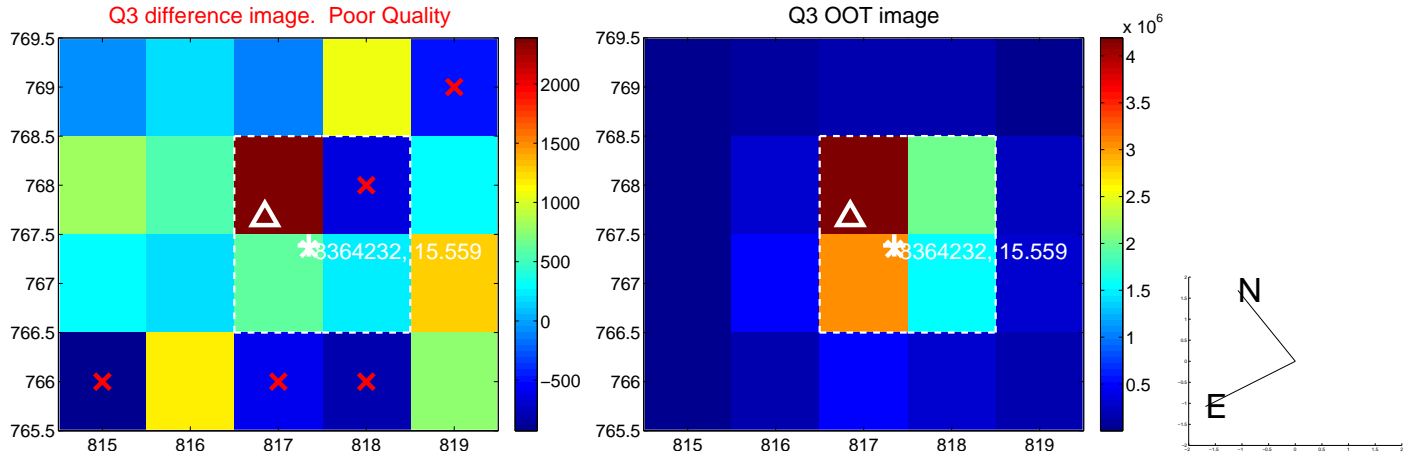
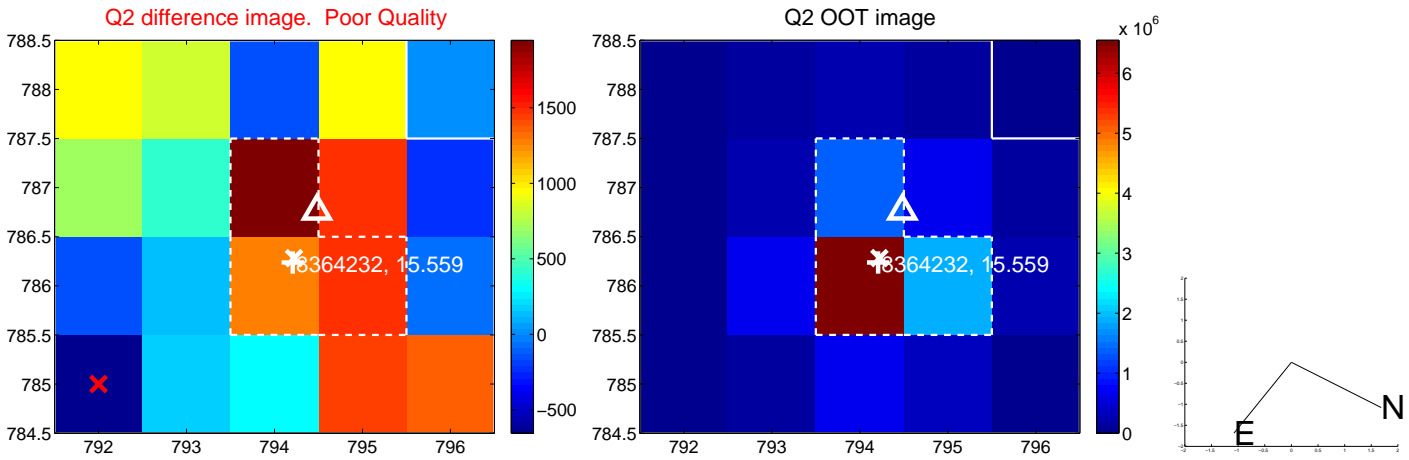
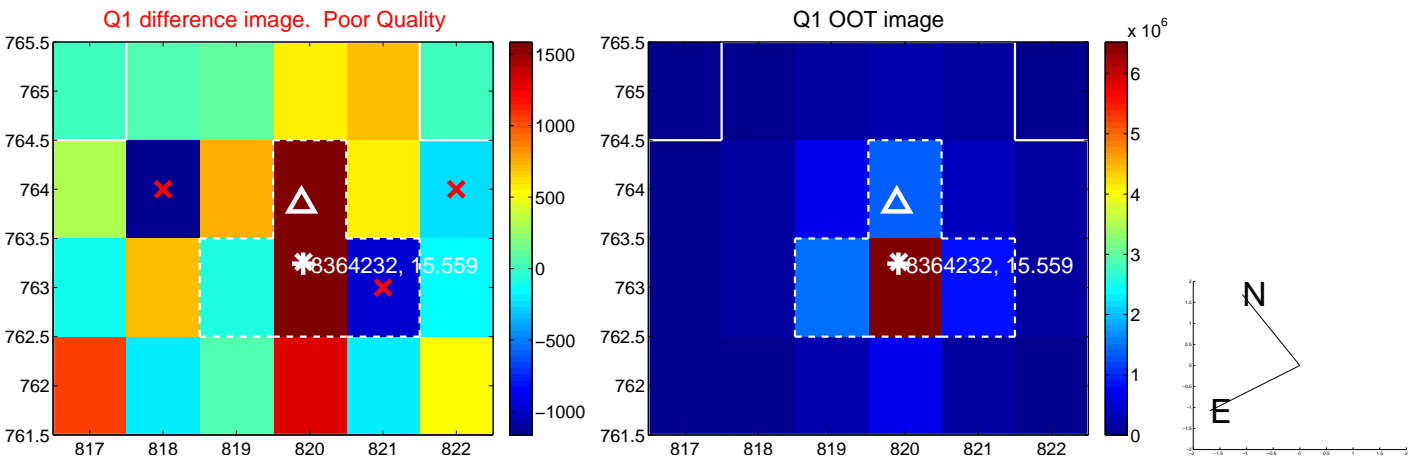
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.531 \pm 0.665$	0.80	$-0.442 \pm 0.595$	$0.294 \pm 0.801$
PRF-fit source offset from KIC position	$0.502 \pm 0.661$	0.76	$-0.415 \pm 0.586$	$0.282 \pm 0.800$
photometric centroid source offset	$1.20 \pm 1.74$	0.69	$0.73 \pm 1.71$	$-0.95 \pm 1.76$



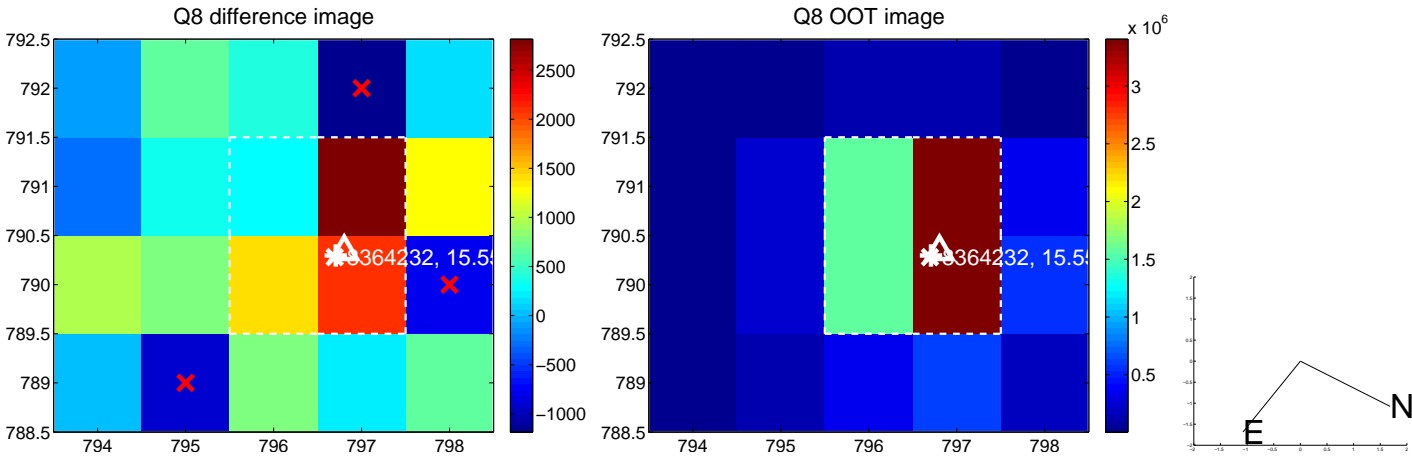
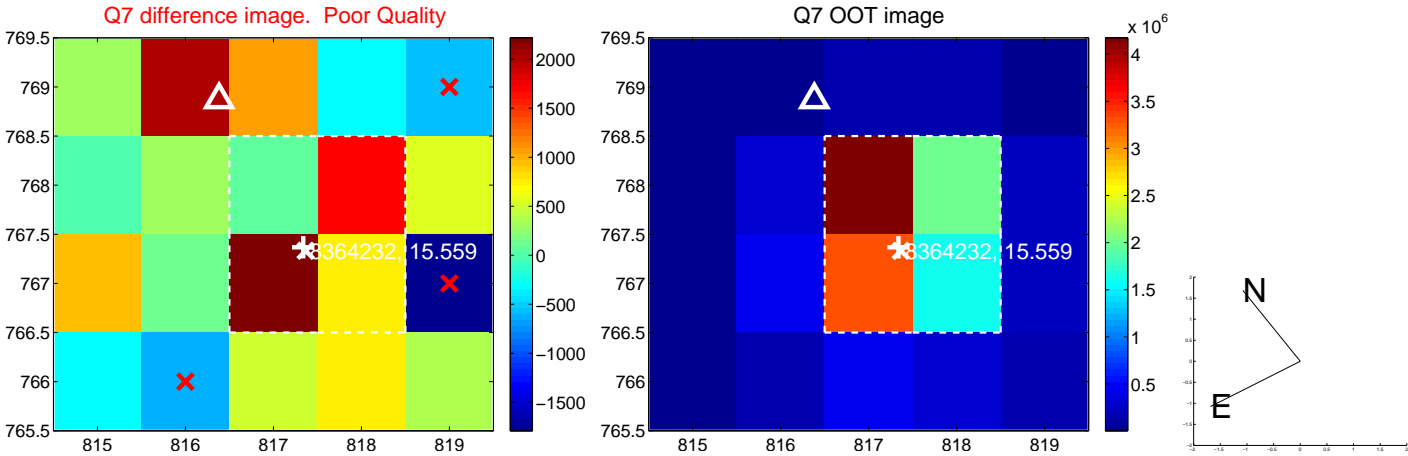
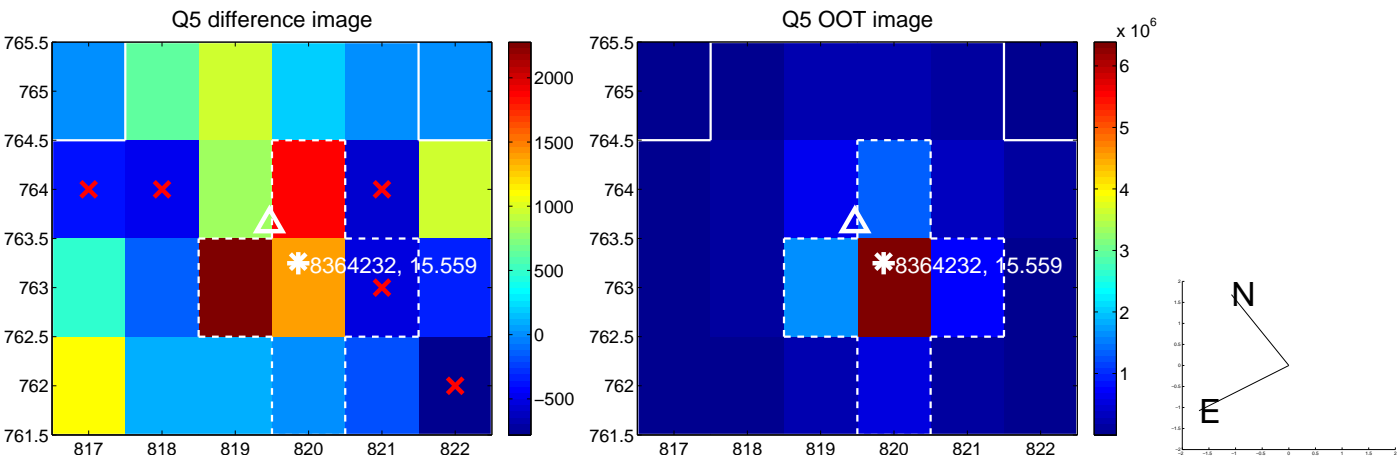
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



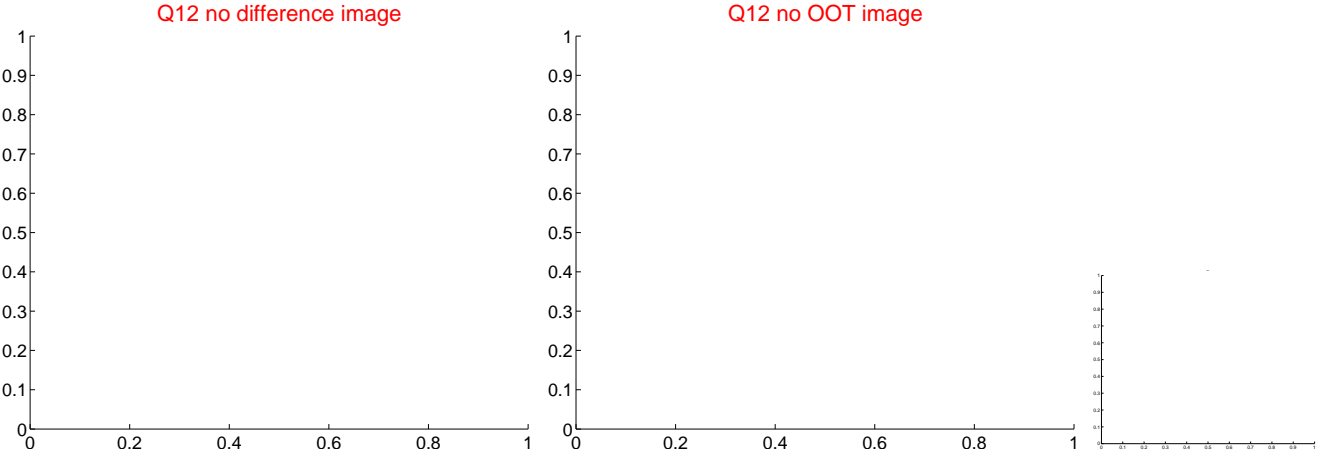
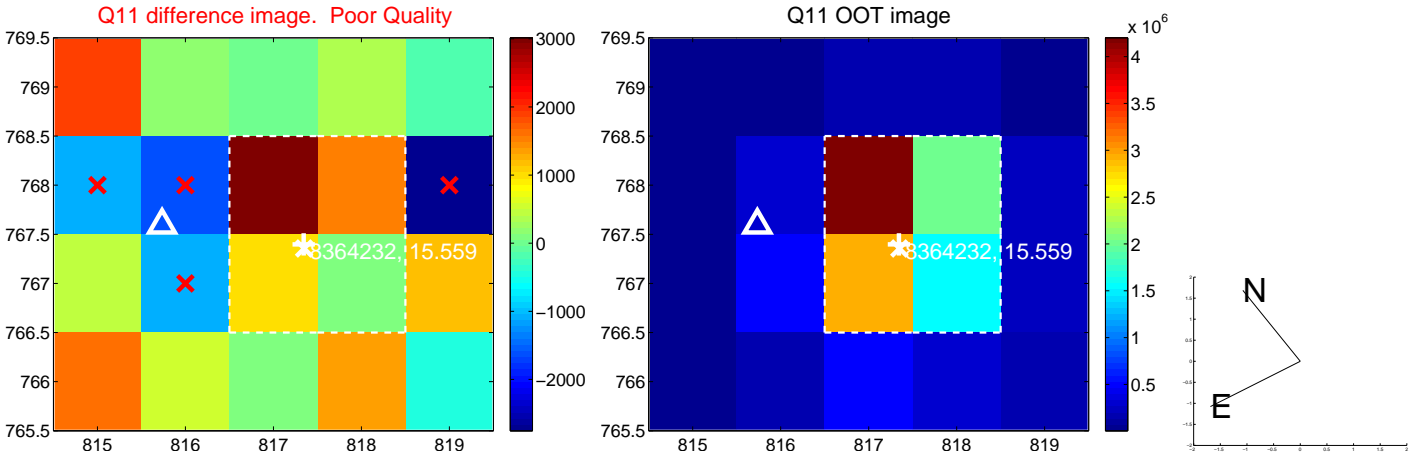
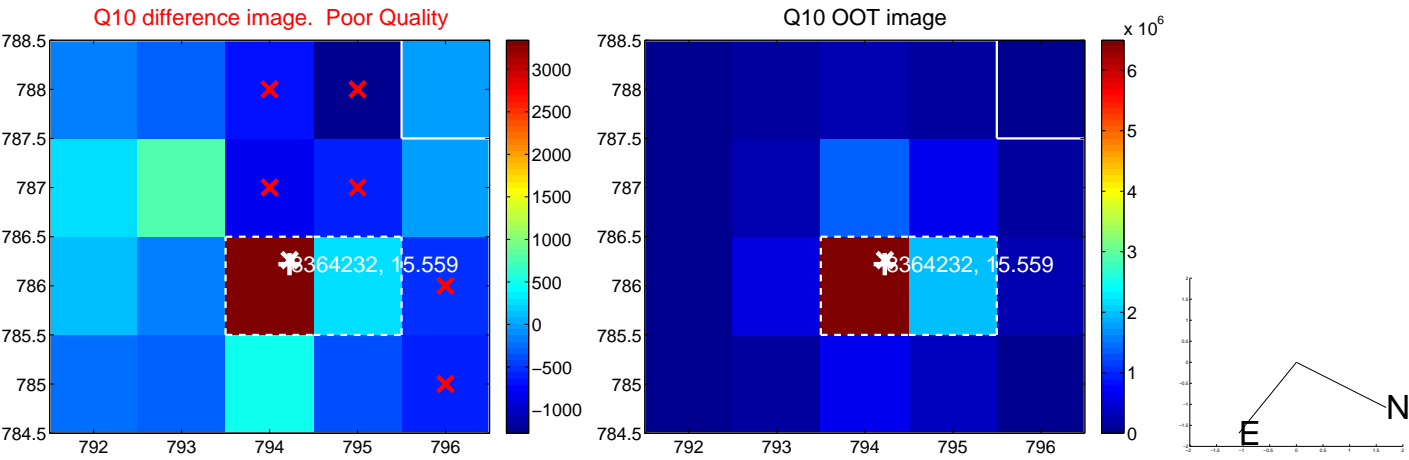
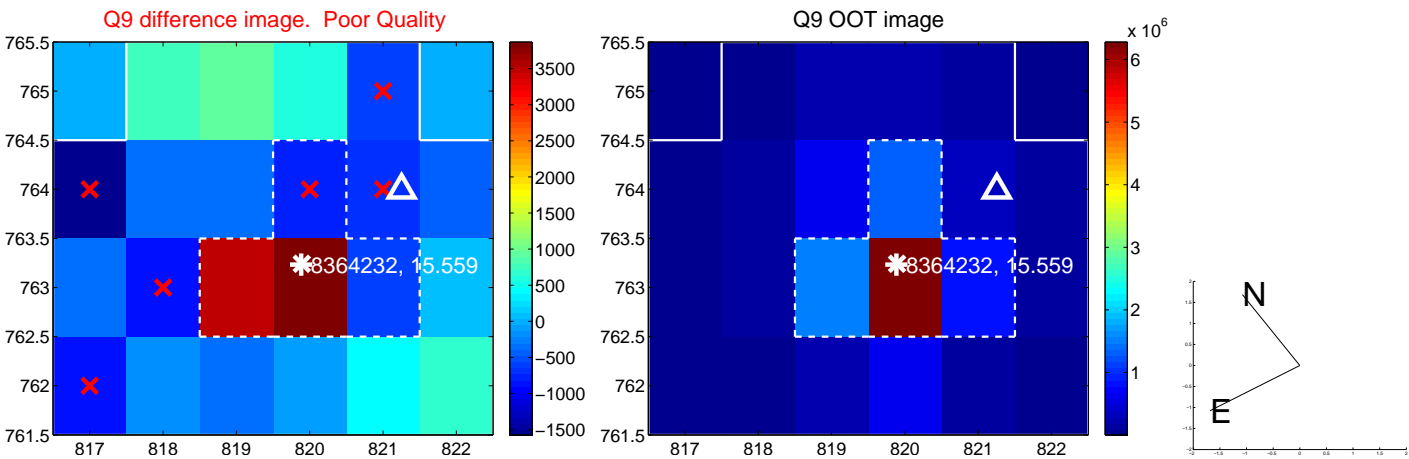
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



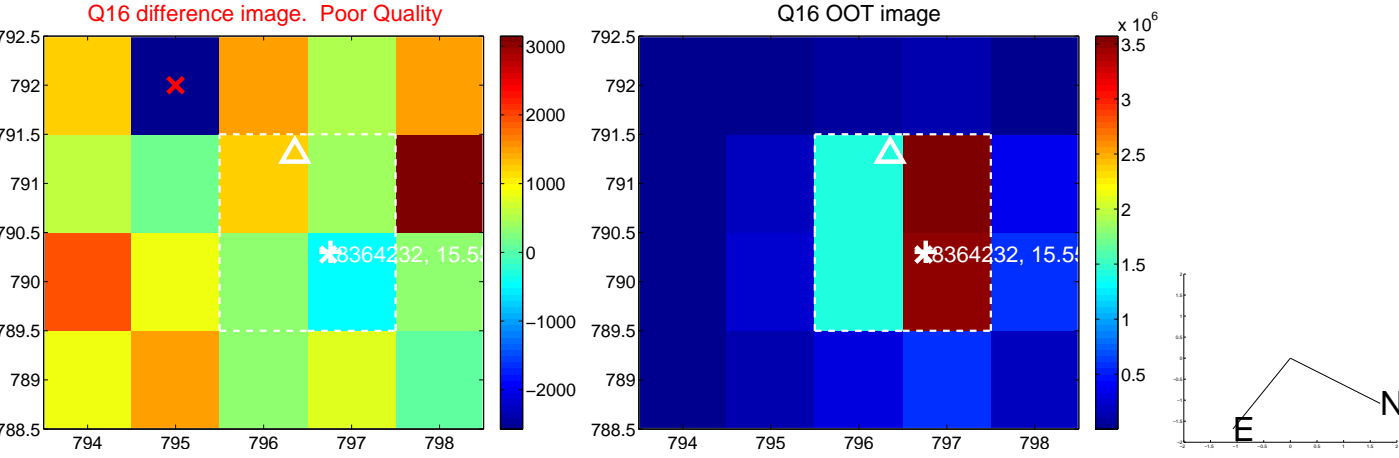
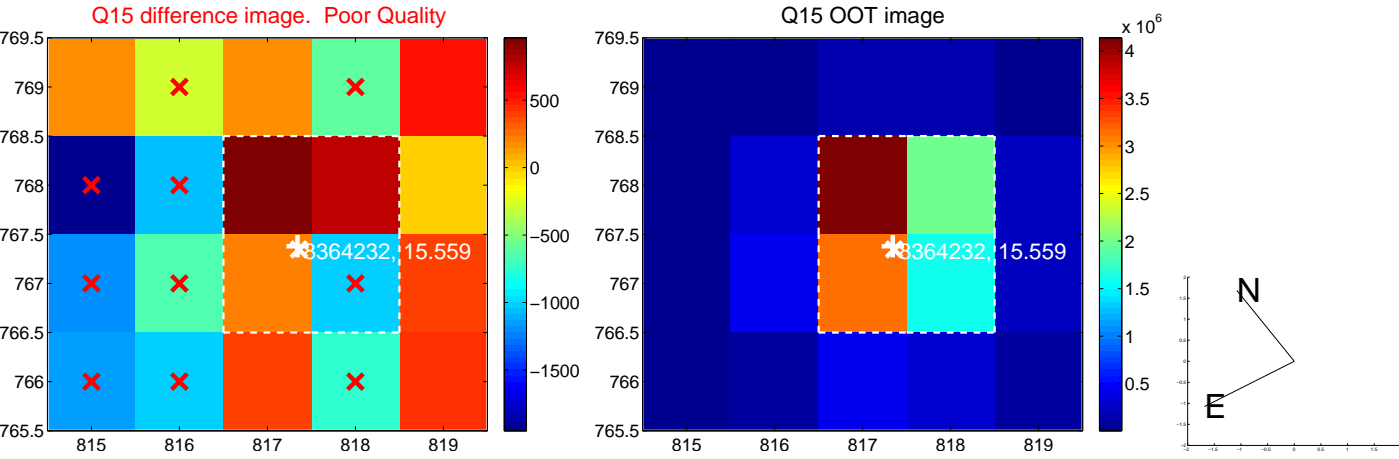
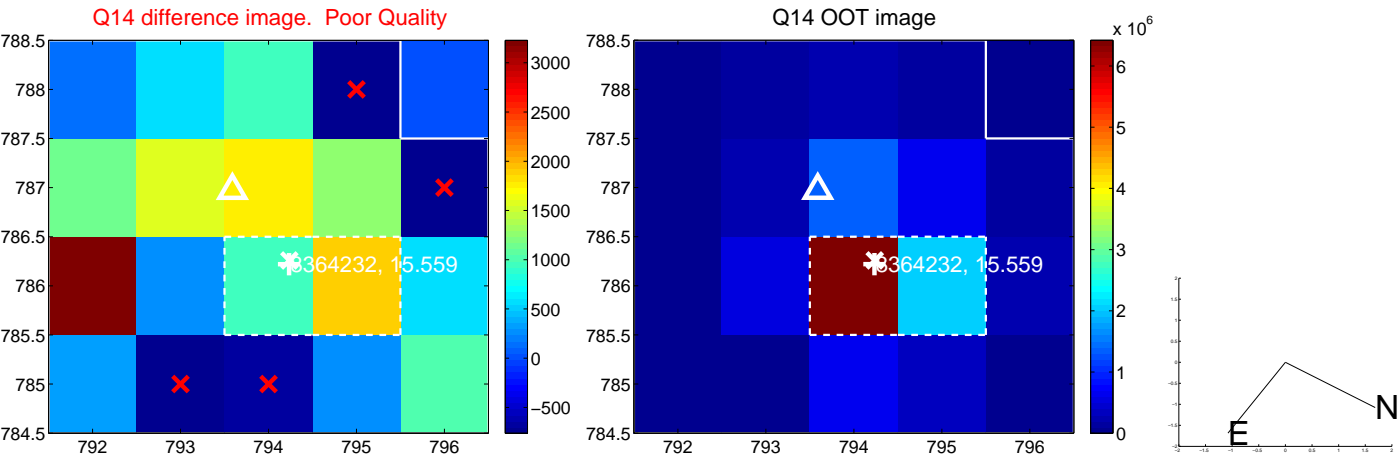
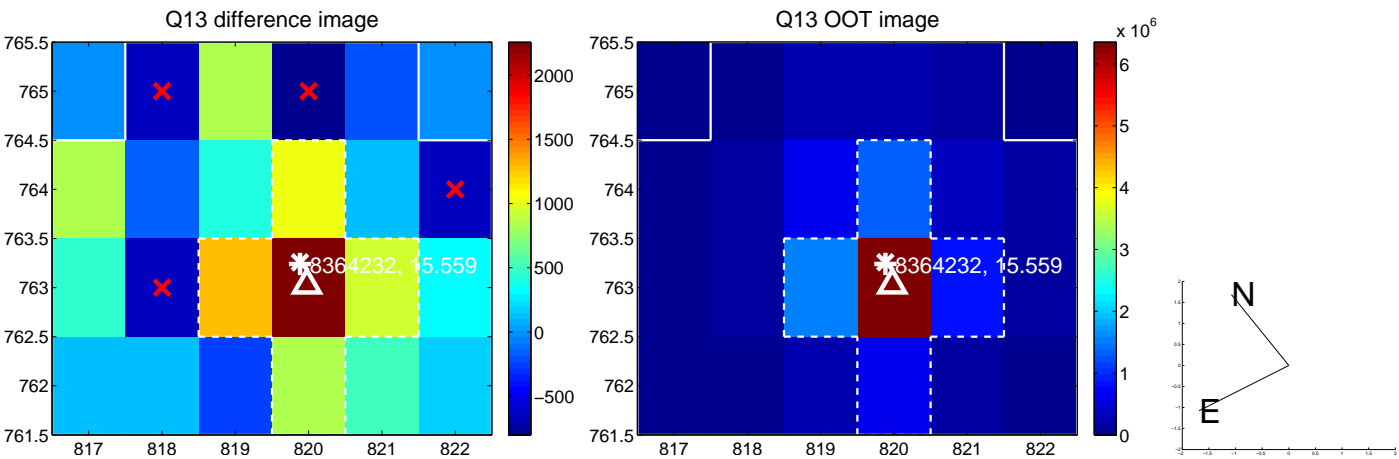
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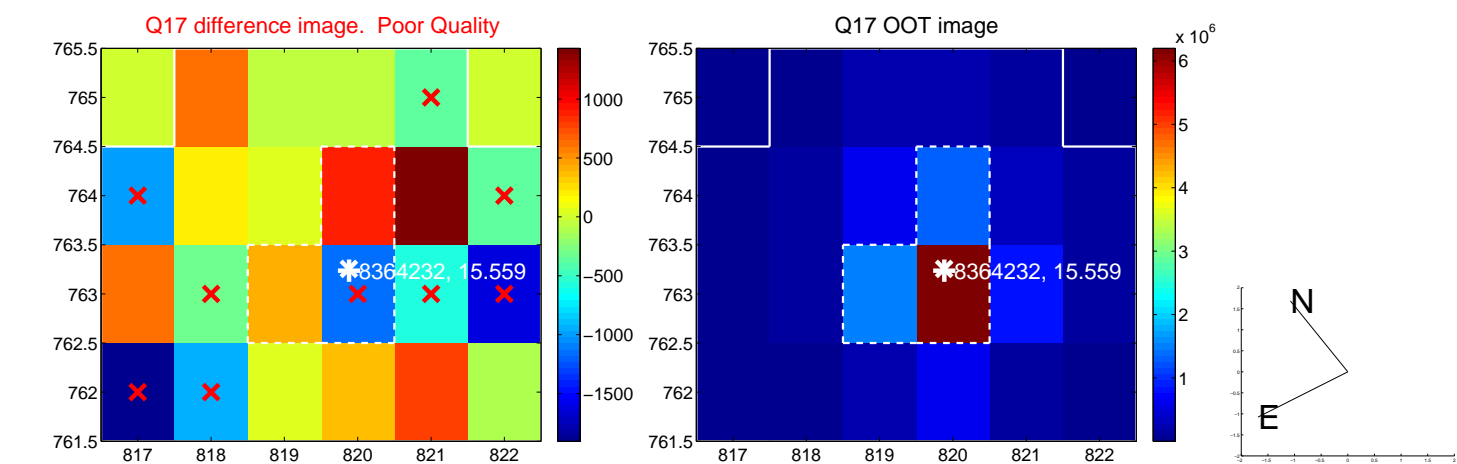
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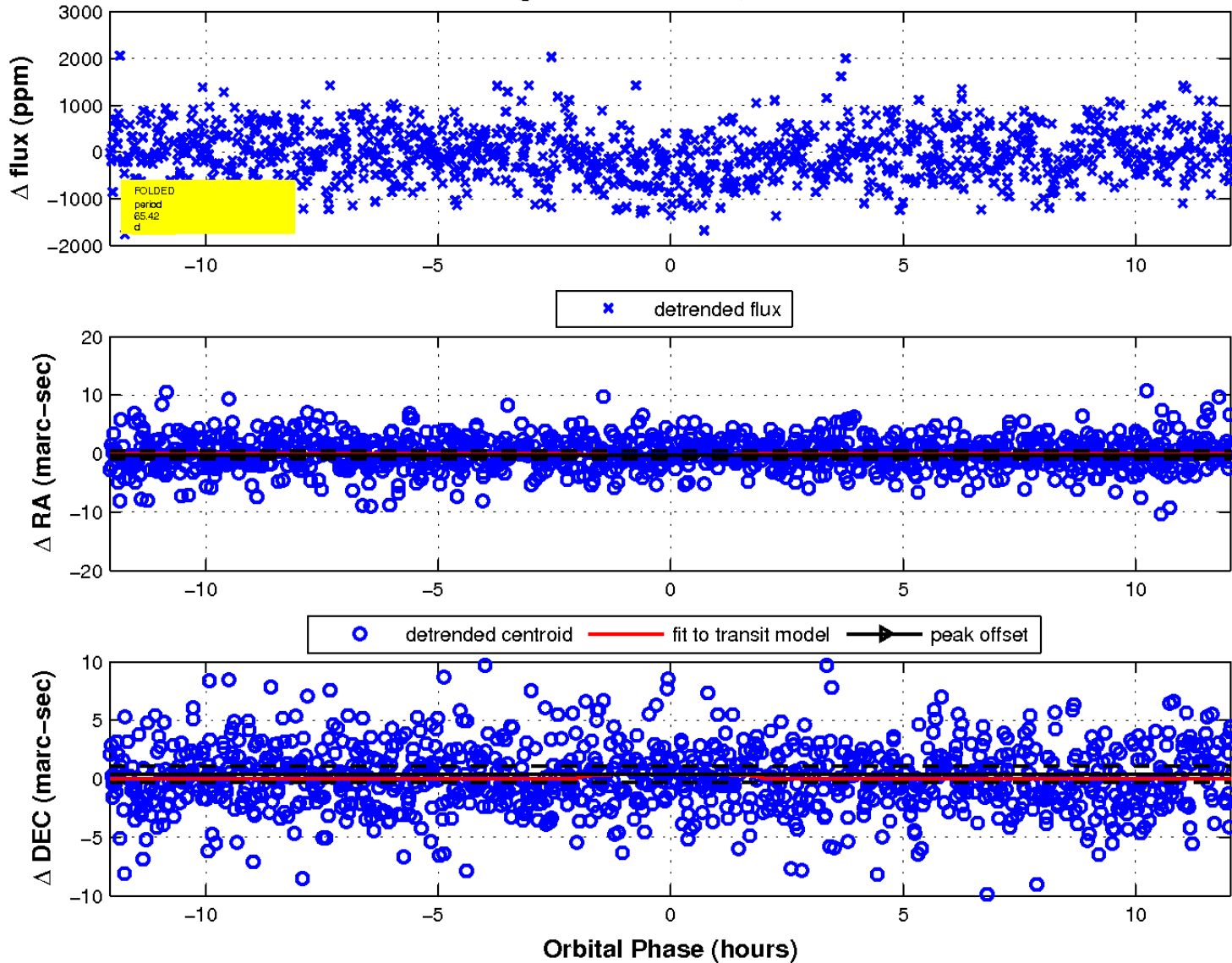
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

