

# KIC 009450392

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009450392-01	OBS	No	1.119643	131.670683	12.4	9.938	12.1	17.0	1.95	7970	0.83	20849.21

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009450392-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS

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

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

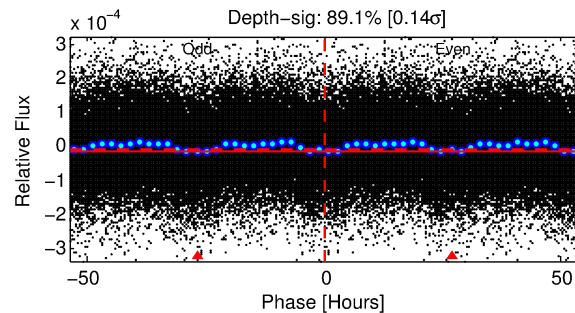
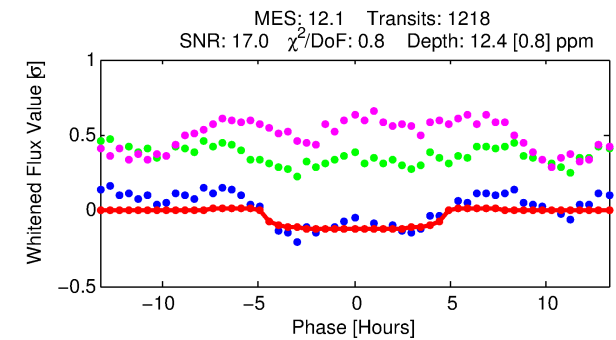
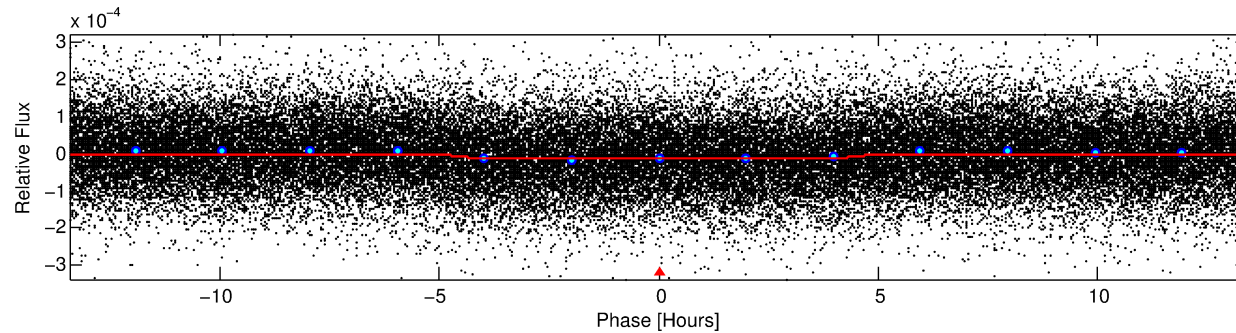
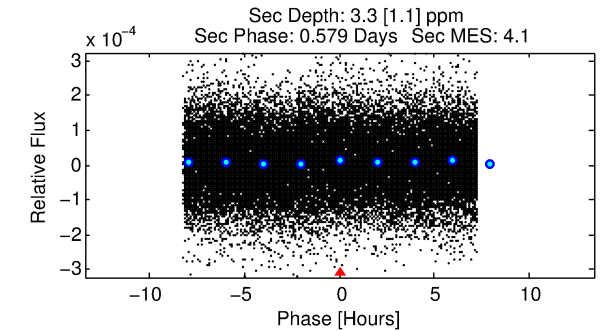
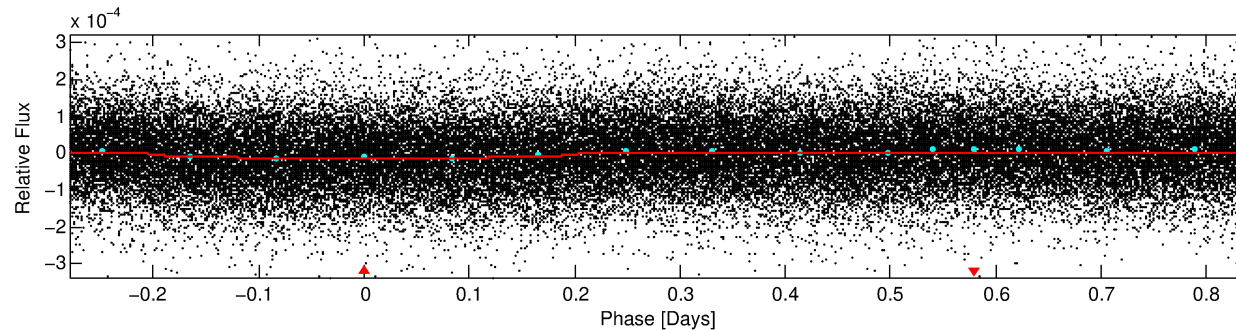
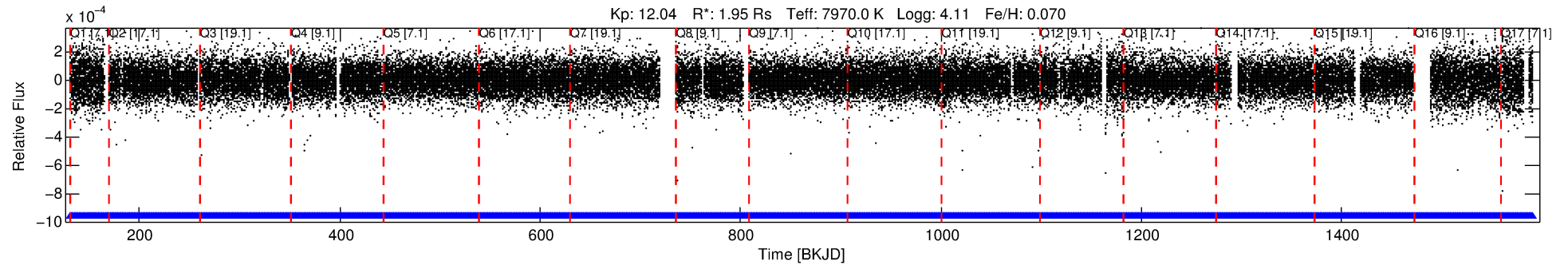
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009450392-01

No Significant Match Found

# DV One-Page Summary

KIC: 9450392 Candidate: 1 of 1 Period: 1.120 d



## DV Fit Results:

Period = 1.11964 [0.00001] d  
Epoch = 131.6707 [0.0051] BKJD  
Rp/R\* = 0.0039 [0.0004]  
a/R\* = 1.01 [0.02]  
b = 0.94 [0.09]  
Seff = 20849.21 [7224.29]  
Teq = 3064 [265] K  
Rp = 0.83 [0.22] Re  
a = 0.0257 [0.0053] AU  
Ag = 1.71 [0.87] [0.81σ]  
Teffp = 5418 [599] K [3.59σ]

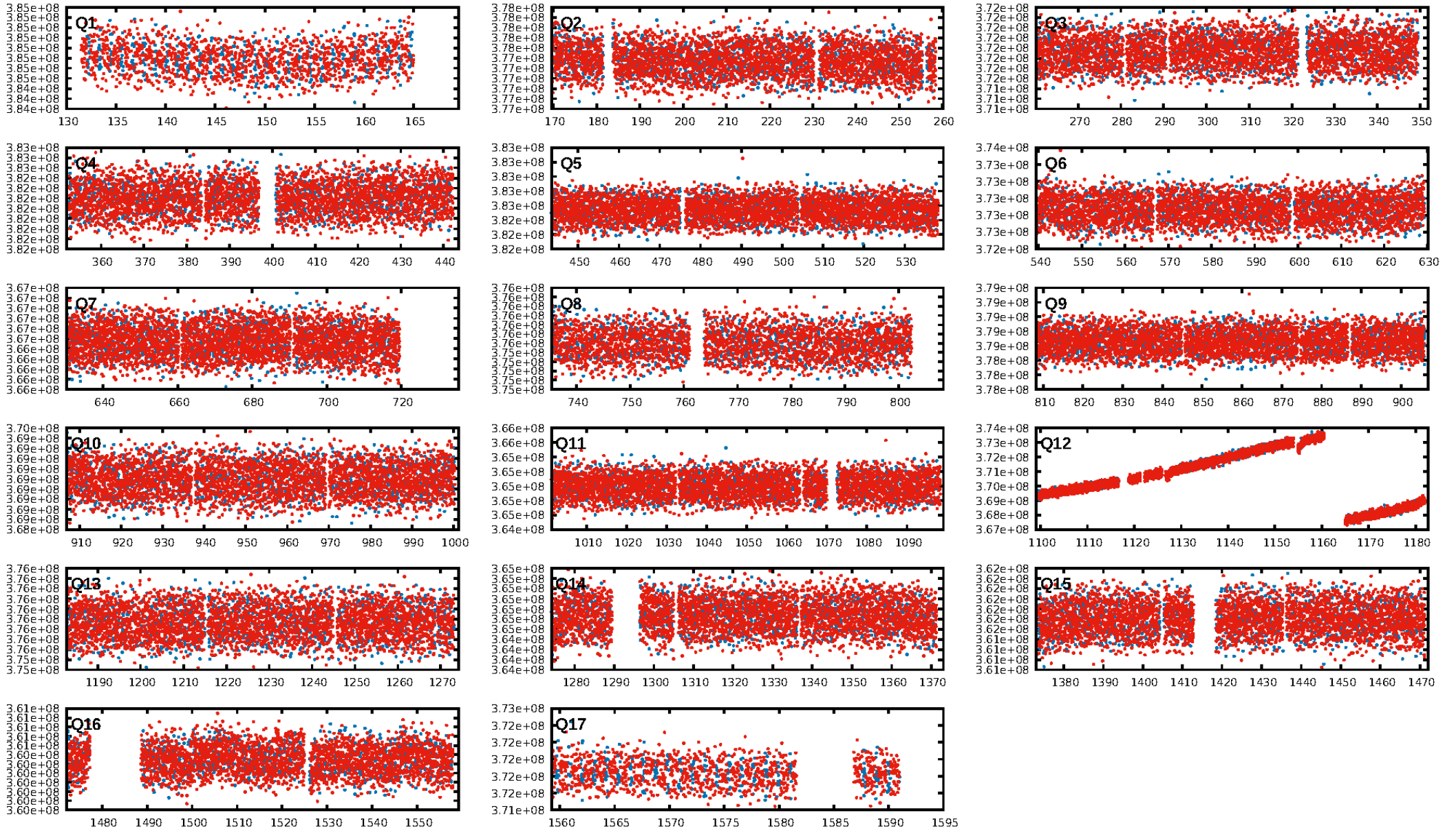
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1163/1163]  
GhostDiagnostic-chr: 3.191  
Centroid-sig: 0.4%  
Centroid-so: 1.125 arcsec [2.21σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [17/17]

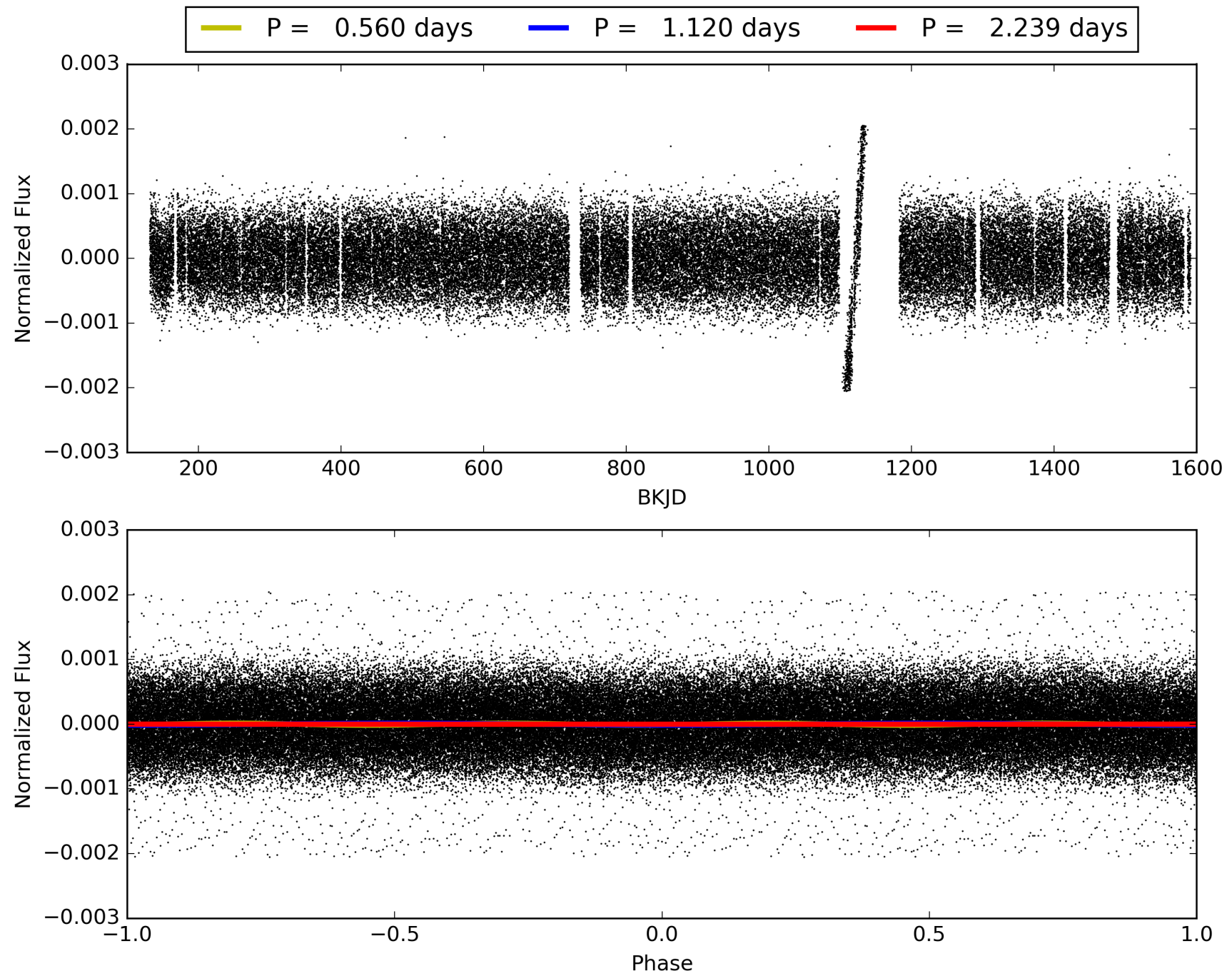
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:28:47 Z

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

# TCE 009450392-01, PDC Light Curves

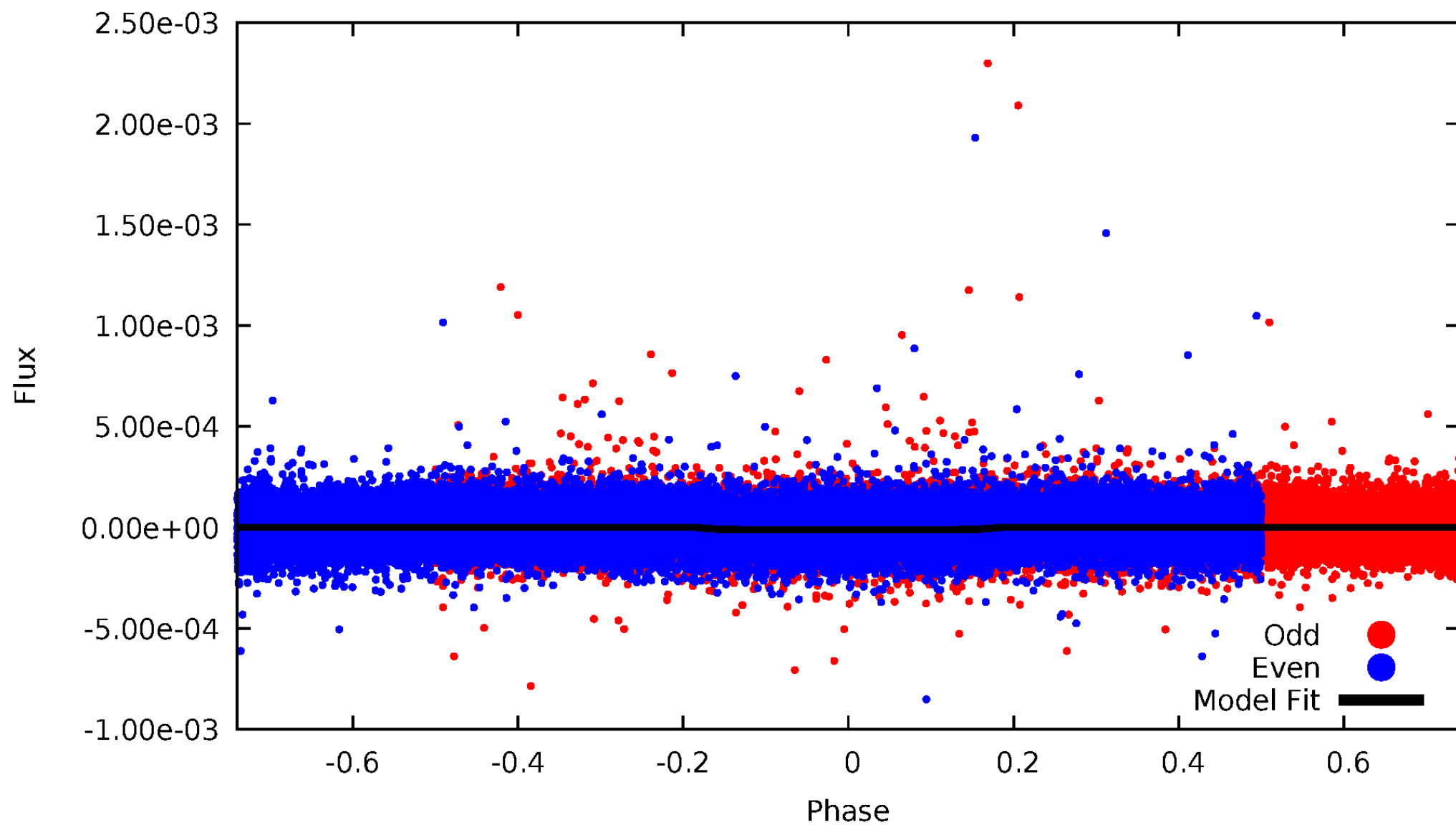


TCE 009450392-01



# DV Odd/Even

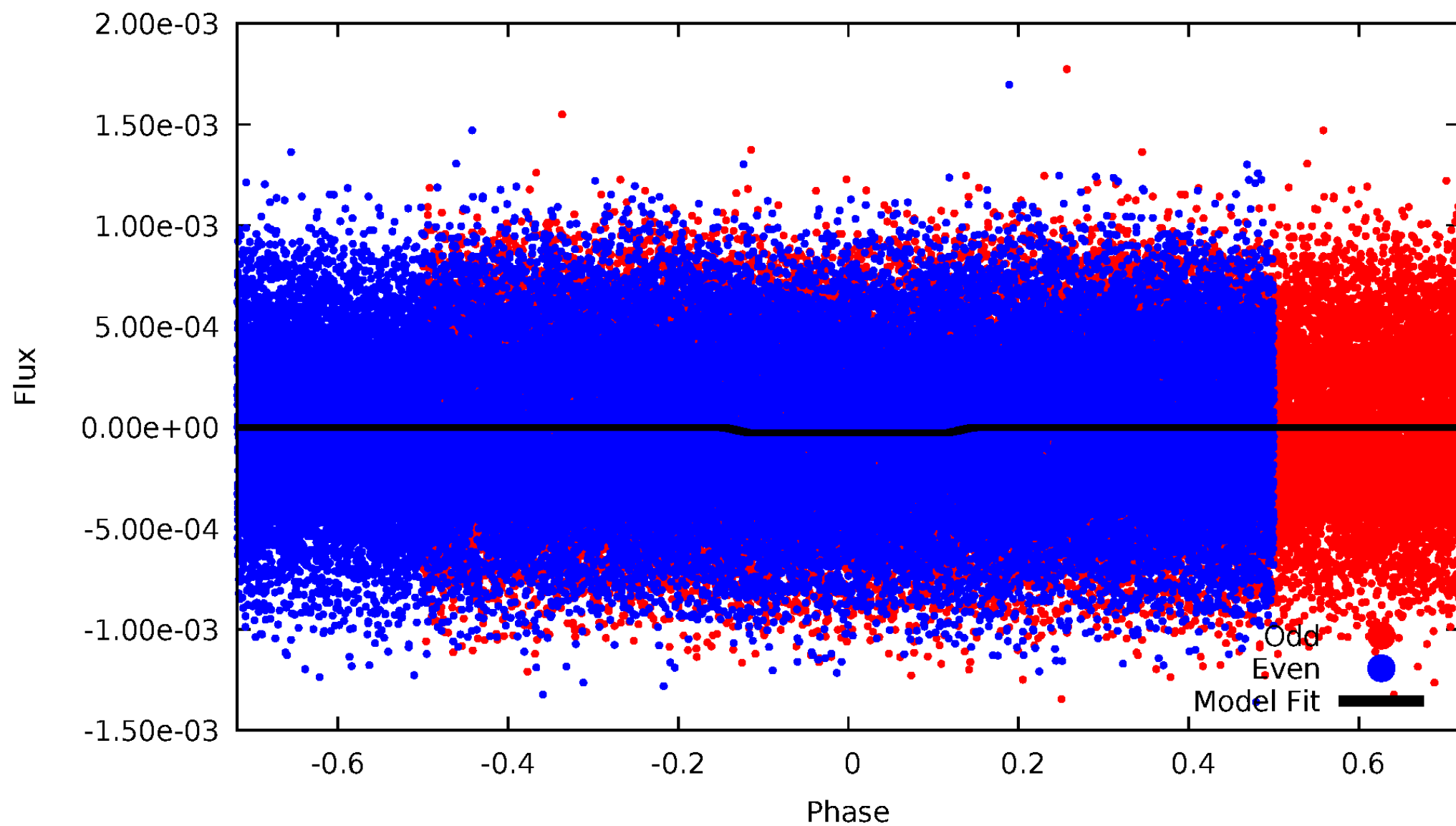
TCE 009450392-01





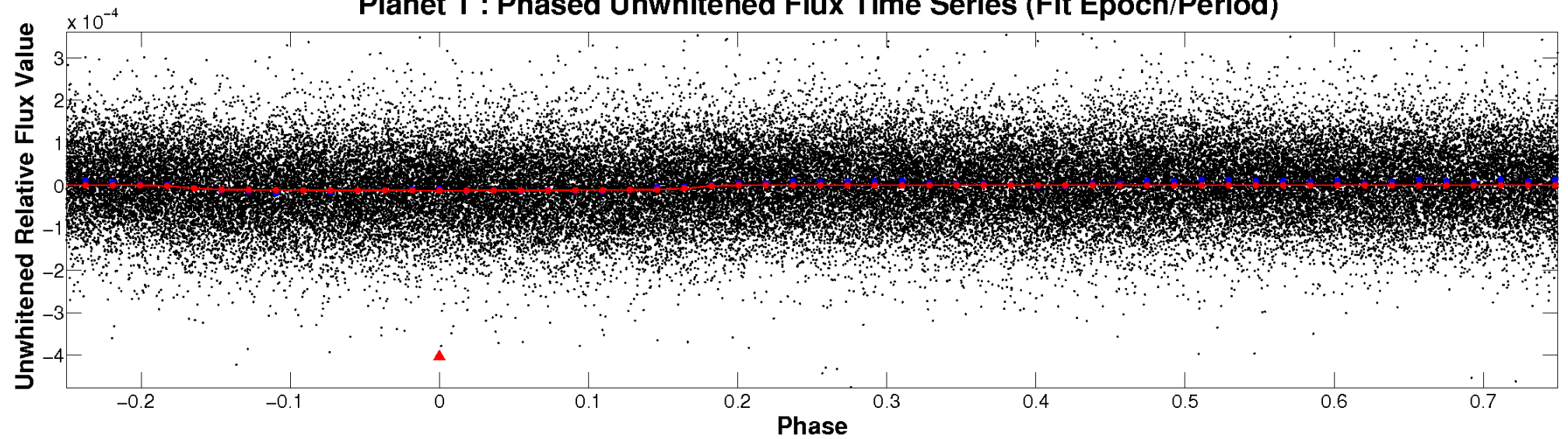
# ALT Odd/Even

TCE 009450392-01

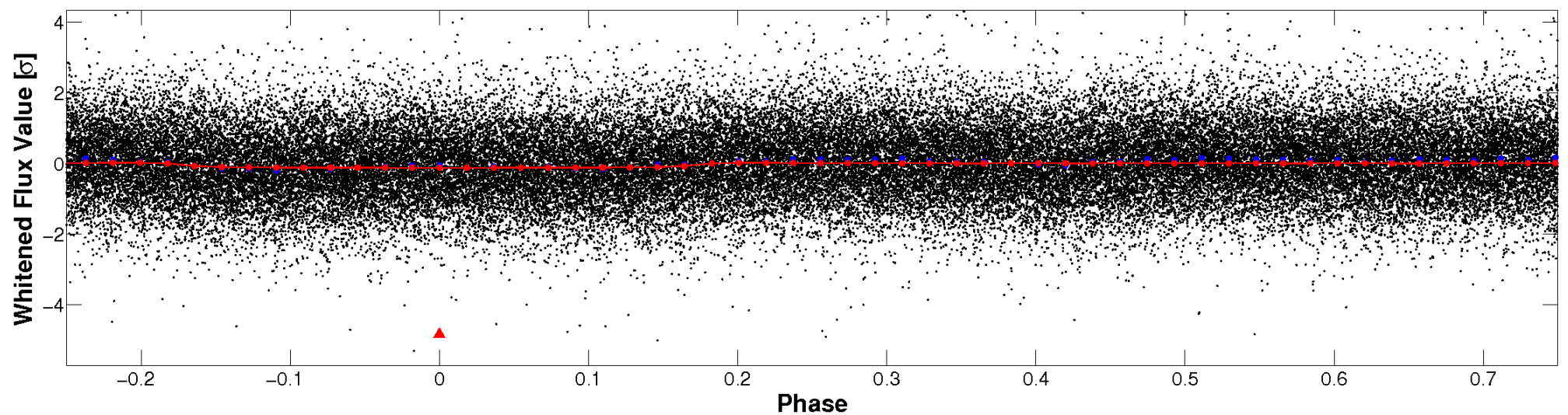


# Non-Whitened Vs. Whitened Light Curve

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

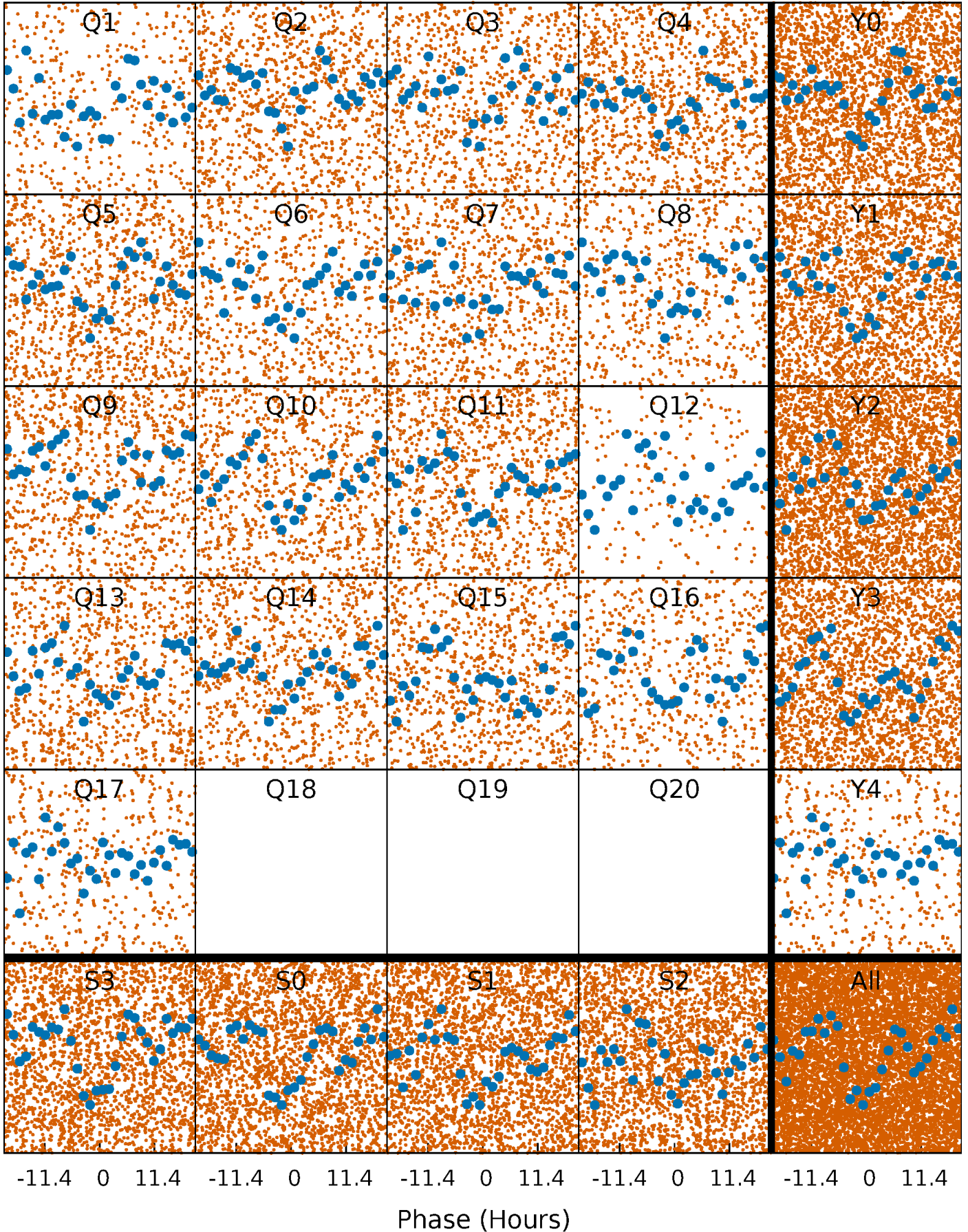


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

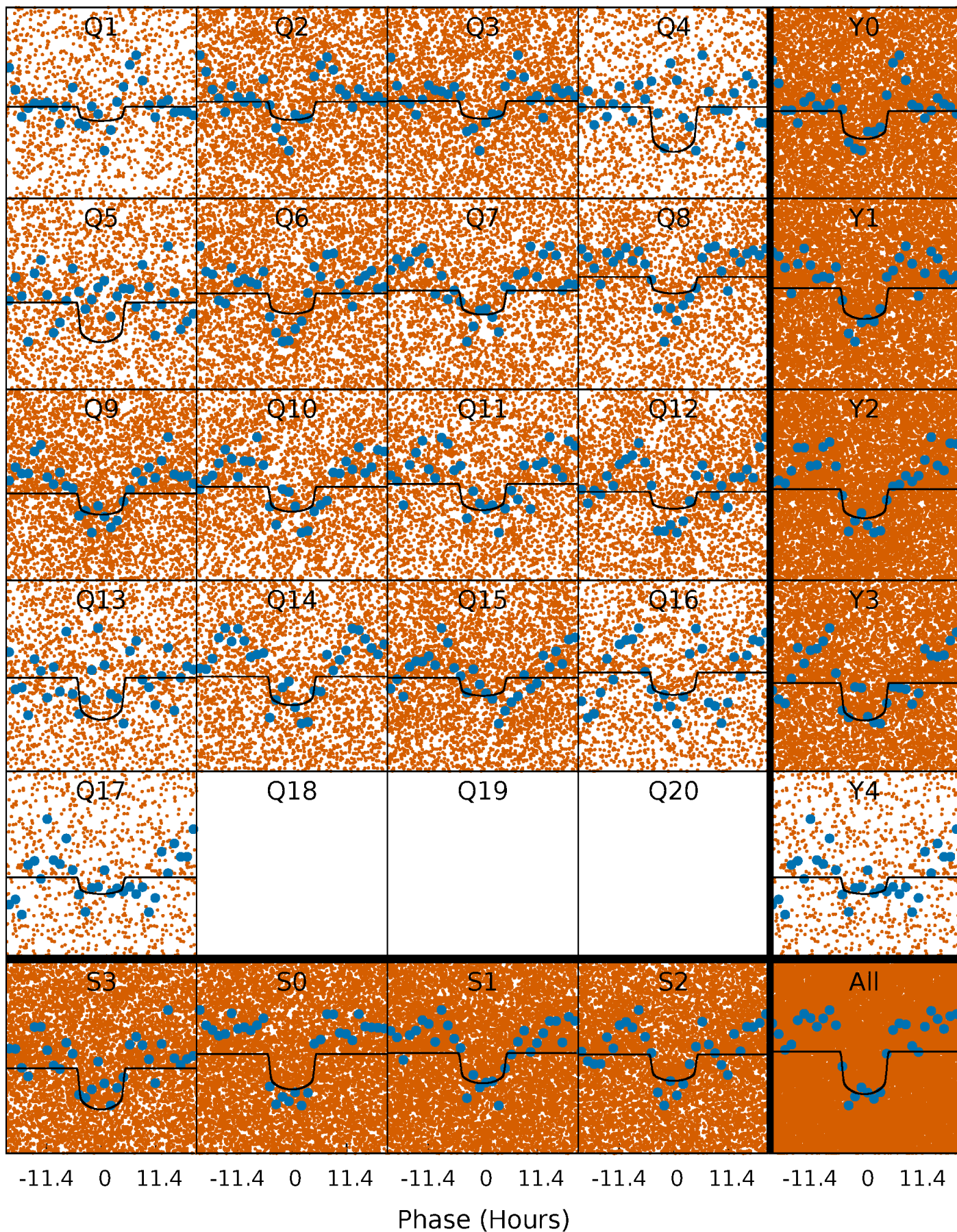
TCE 009450392-01   P= 1.119643 Days    $T_0=131.670683$  (BKJD)





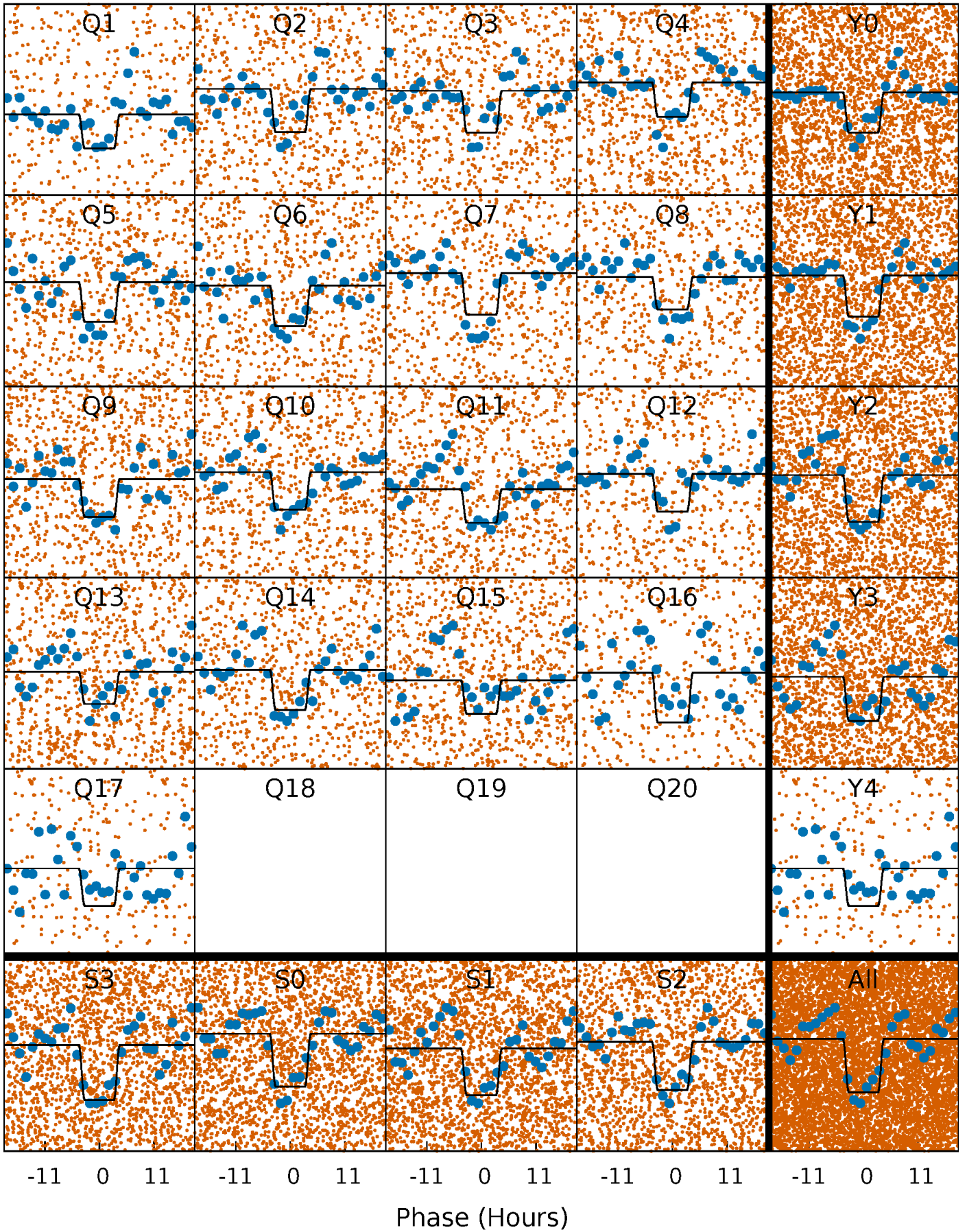
# DV Quarter-Phased Transit Curves

TCE 009450392-01 P= 1.119643 Days  $T_0=131.670683$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 009450392-01 P= 1.119555 Days  $T_0=131.688042$  (BKJD)

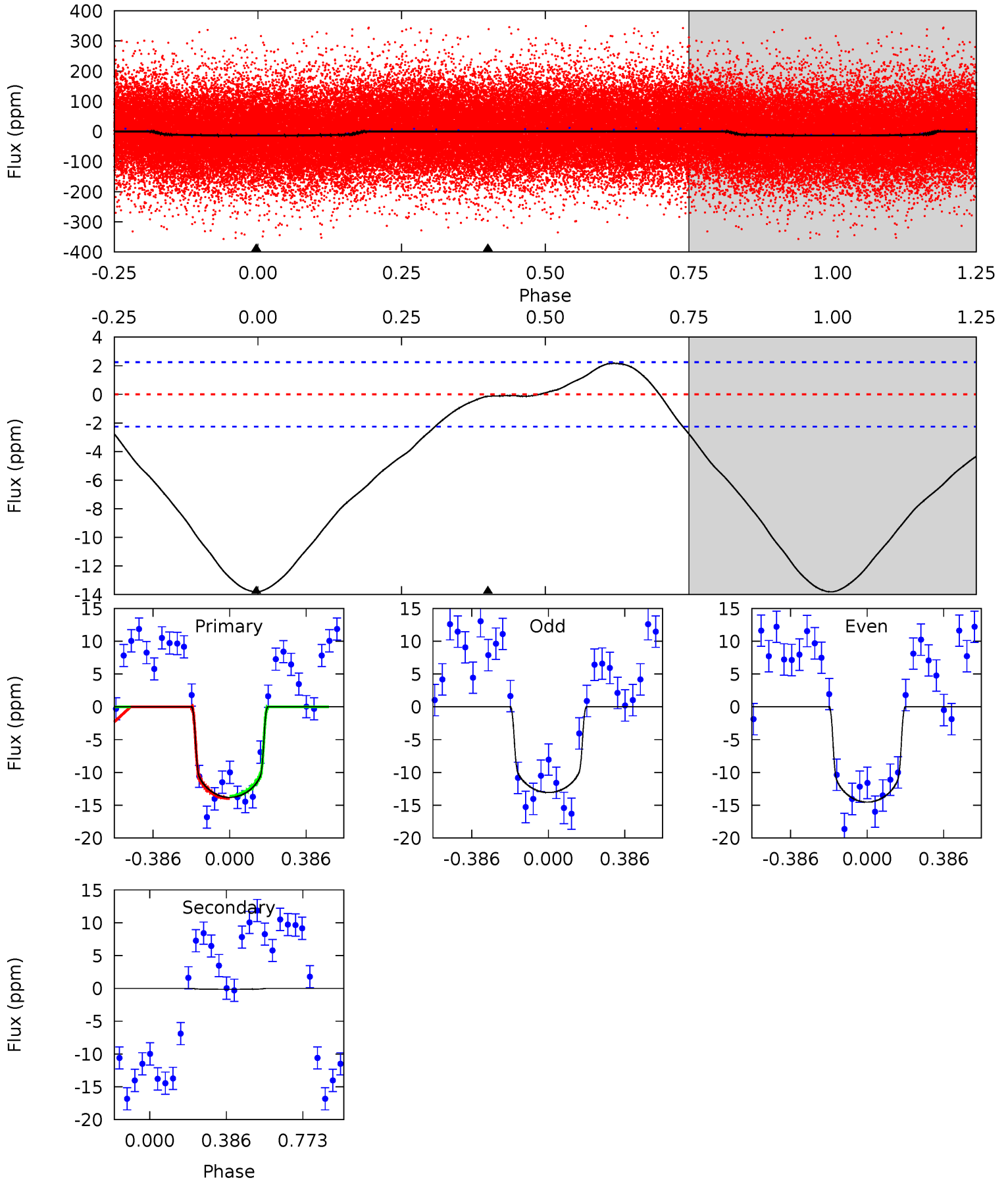




# DV Model-Shift Uniqueness Test

009450392-01, P = 1.119643 Days, E = 130.551040 Days

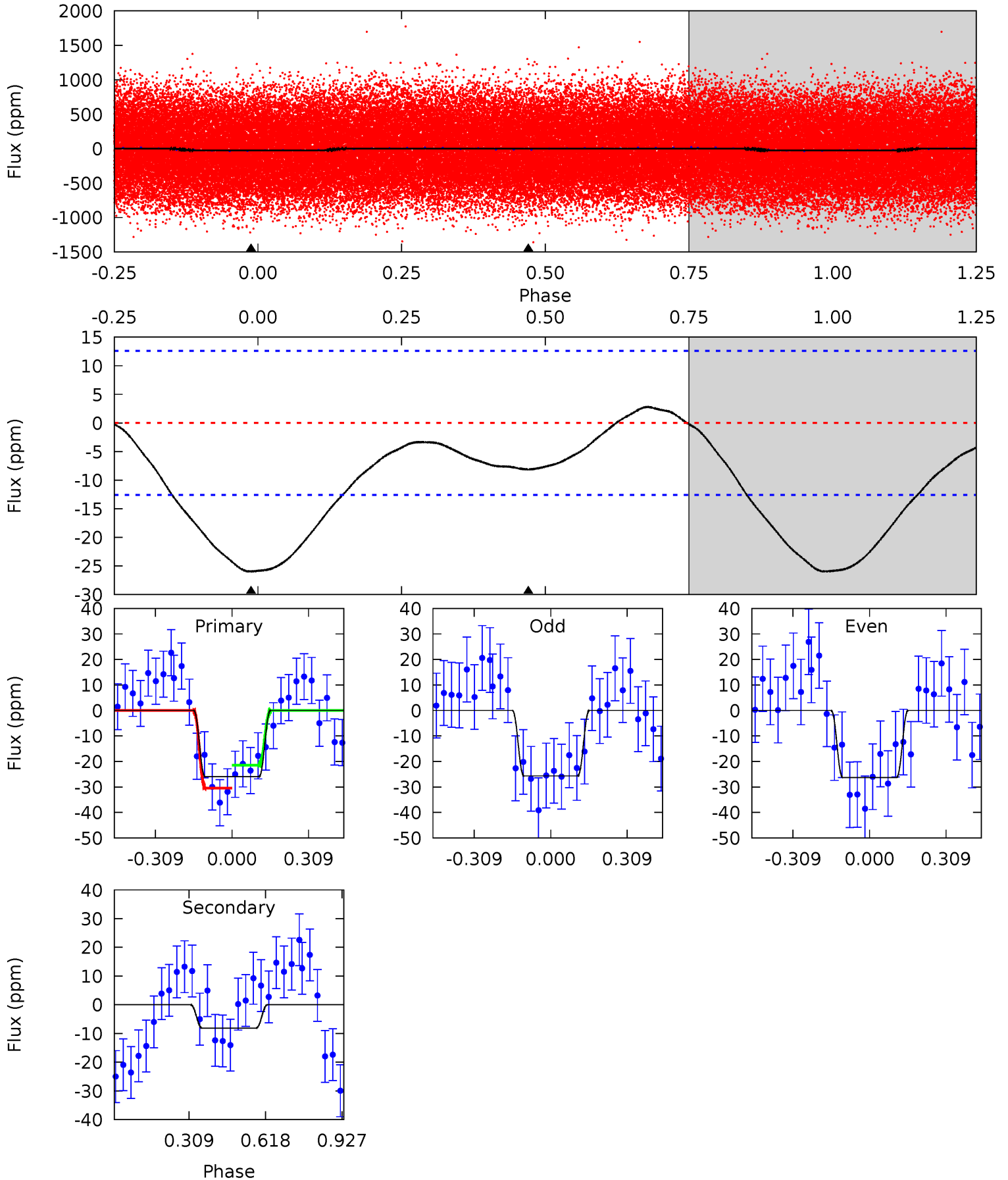
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.2	0.27	0	0	4.27	0.87	2.76	26.2	26.2	0.27	0.27	1.38	0.96	0.14	0.31



# Alt Model-Shift Uniqueness Test

009450392-01, P = 1.119555 Days, E = 130.568487 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
8.92	2.79	0	0	4.32	1.02	1.09	8.92	8.92	2.79	2.79	0.11	0.98	0.10	1.55





### Stellar Parameters For KIC 009450392

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7970^{+221}_{-331}$	$4.114^{+0.126}_{-0.168}$	$0.070^{+0.250}_{-0.450}$	$1.953^{+0.472}_{-0.386}$	$1.810^{+0.159}_{-0.318}$	$0.342^{+0.216}_{-0.153}$
	+3%/-4%	+3%/-4%	+357%/-643%	+24%/-20%	+9%/-18%	+63%/-45%
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 009450392-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-0 \pm 1$	$0.85^{+0.14}_{-0.13}$	$4299^{+302}_{-269}$	$-3665^{+6693}_{-562}$	$0.069^{+0.302}_{-0.275}$
Alt.	$-8 \pm 3$	$1.12^{+0.18}_{-0.16}$	$4292^{+304}_{-254}$	$5524^{+599}_{-692}$	$2.281^{+1.256}_{-1.006}$

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

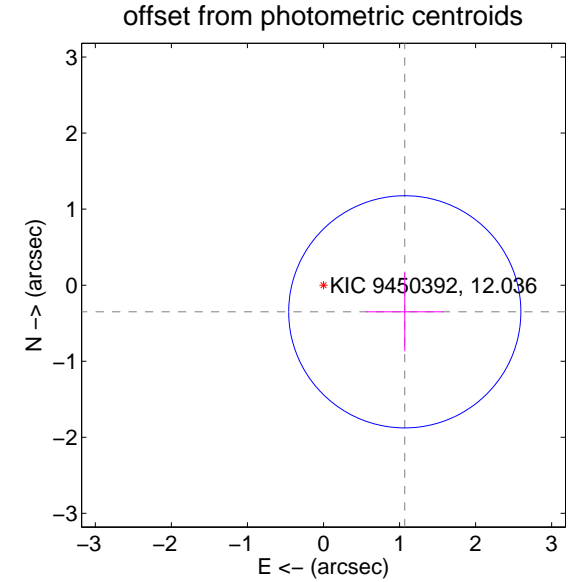
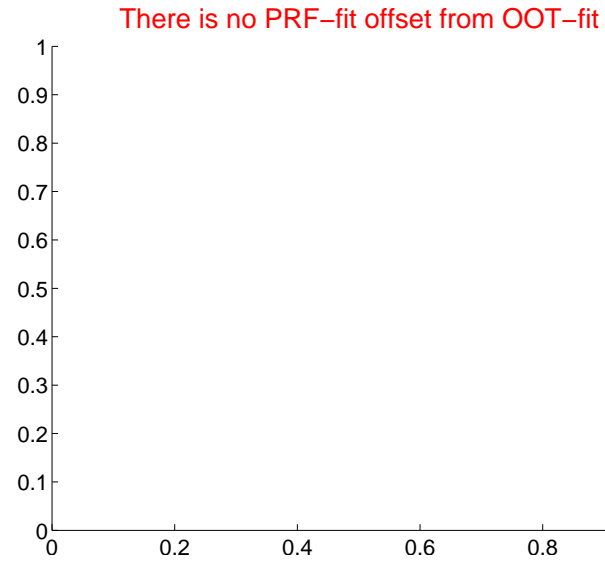
## DV Centroid Data

Supplemental centroid analysis for 009450392-01. Kepler magnitude: 12.04. Transit SNR 16.99

There are 0 quarters with good PRF difference image offsets

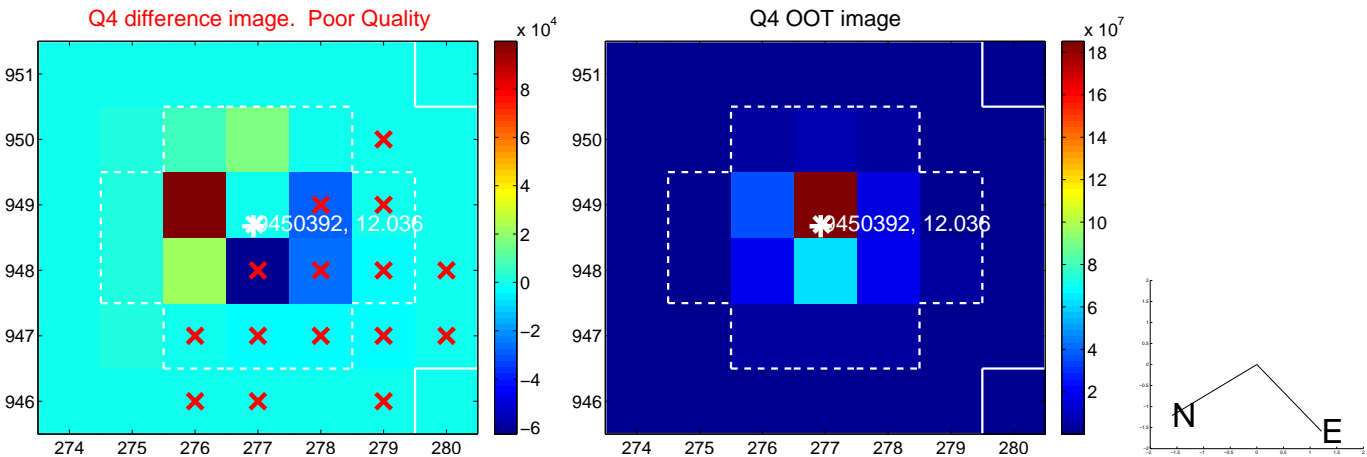
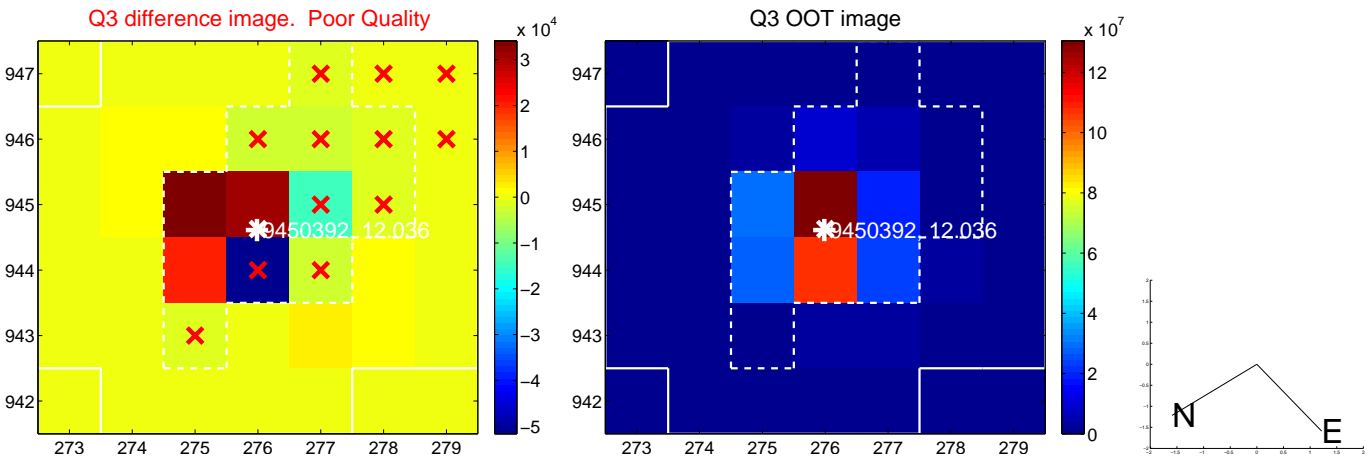
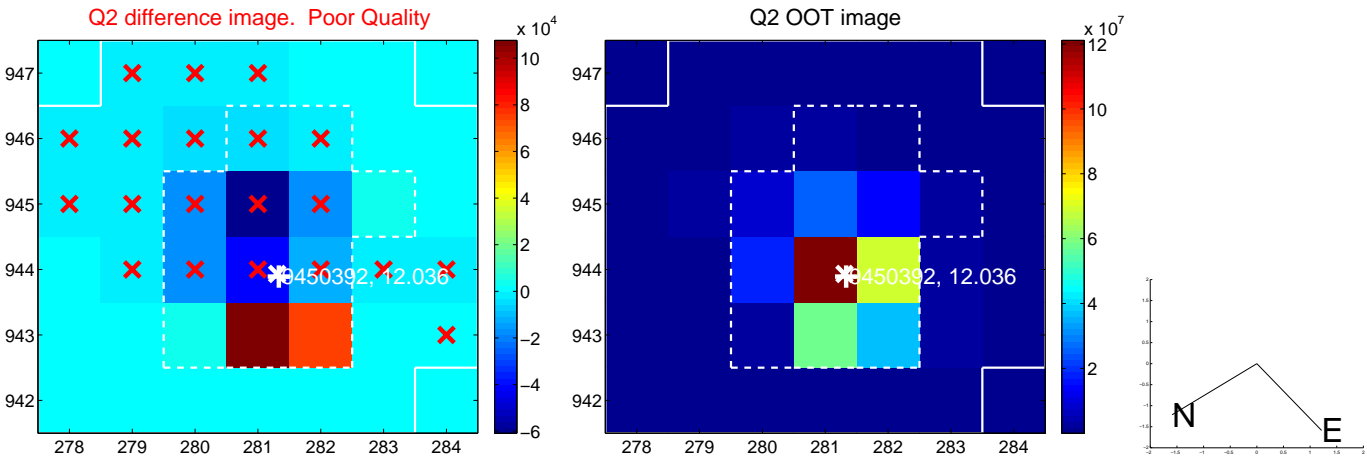
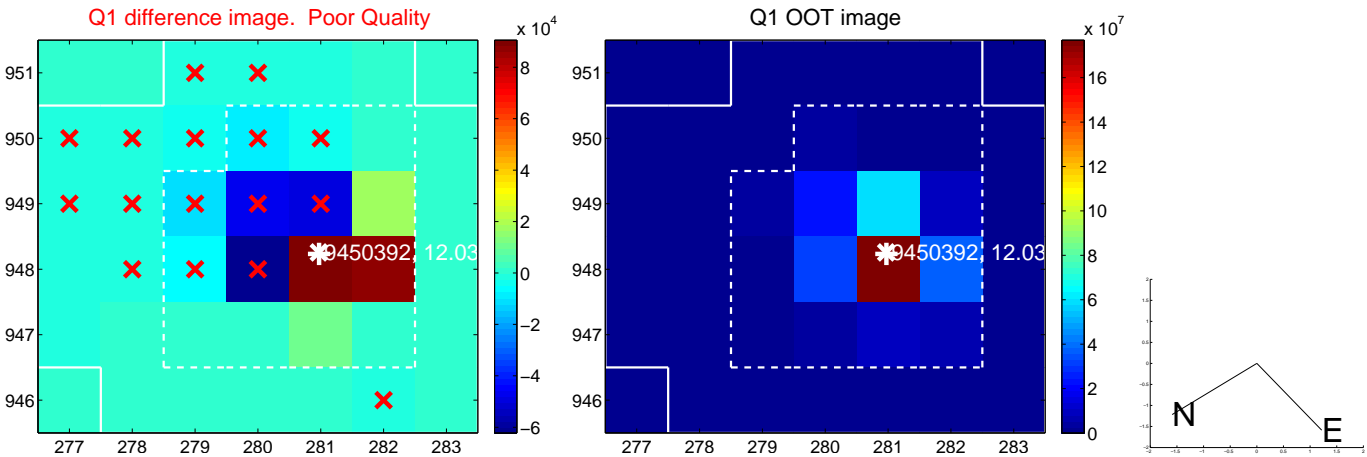
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	$1.12 \pm 0.51$	2.21	$-1.07 \pm 0.51$	$-0.35 \pm 0.52$

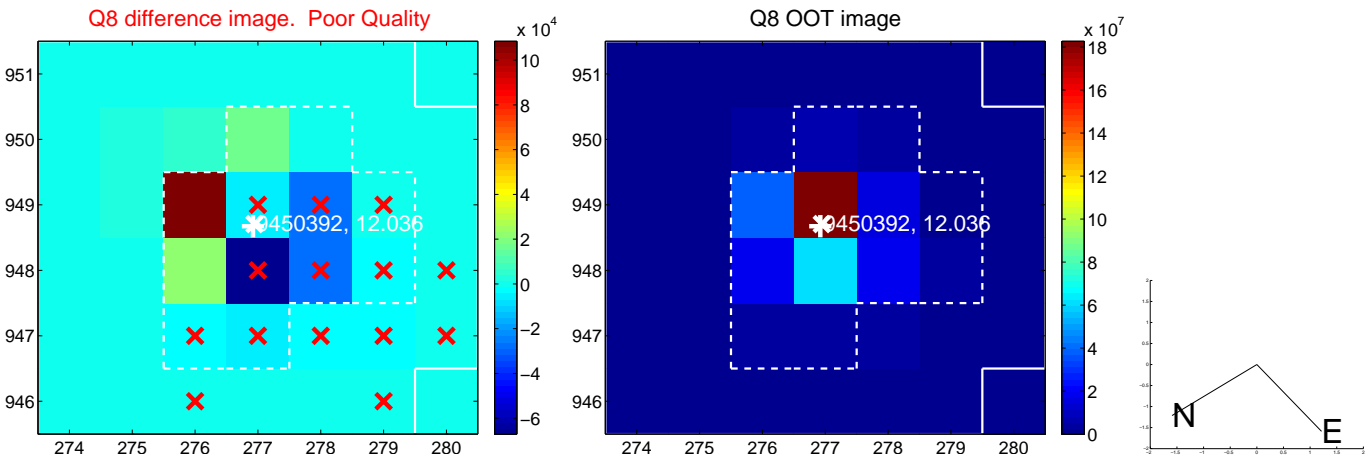
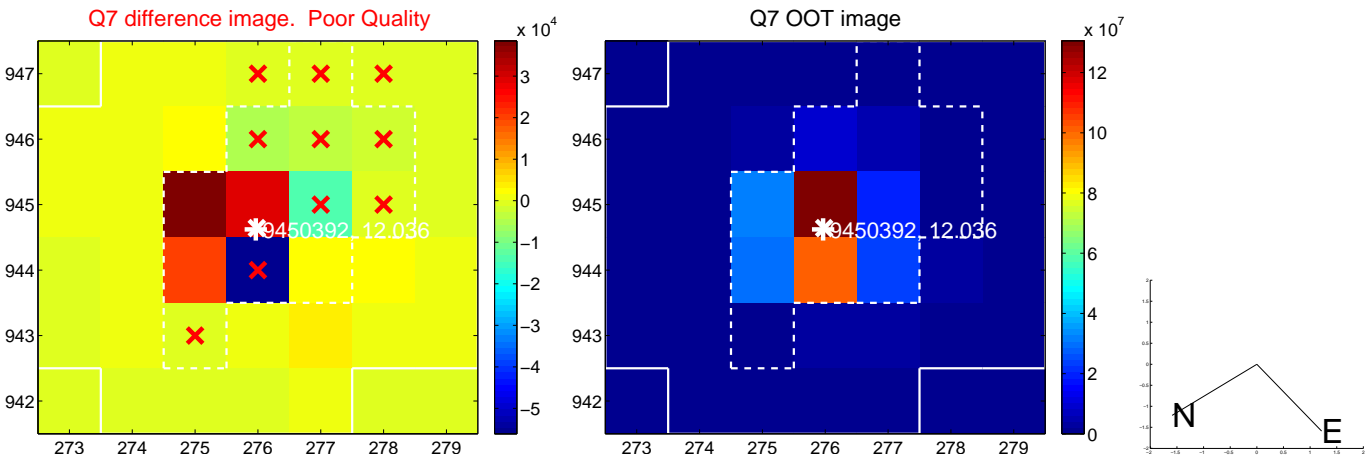
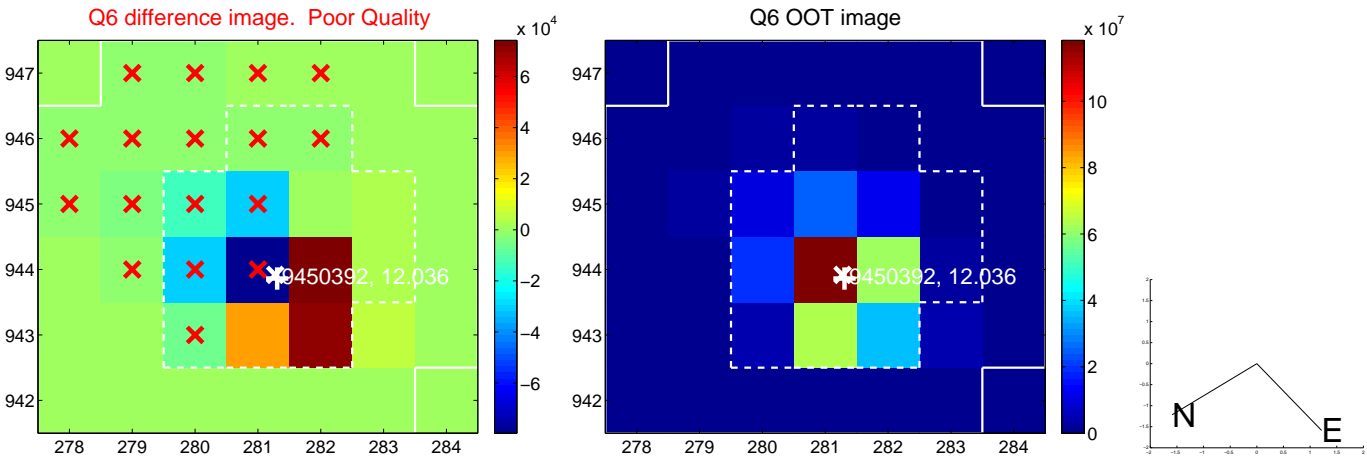
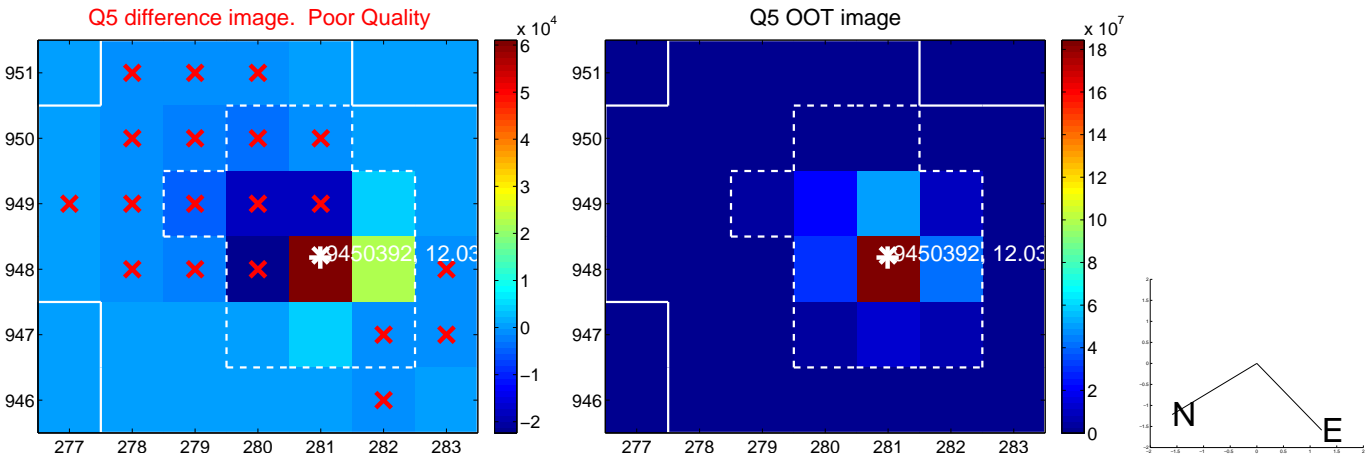


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

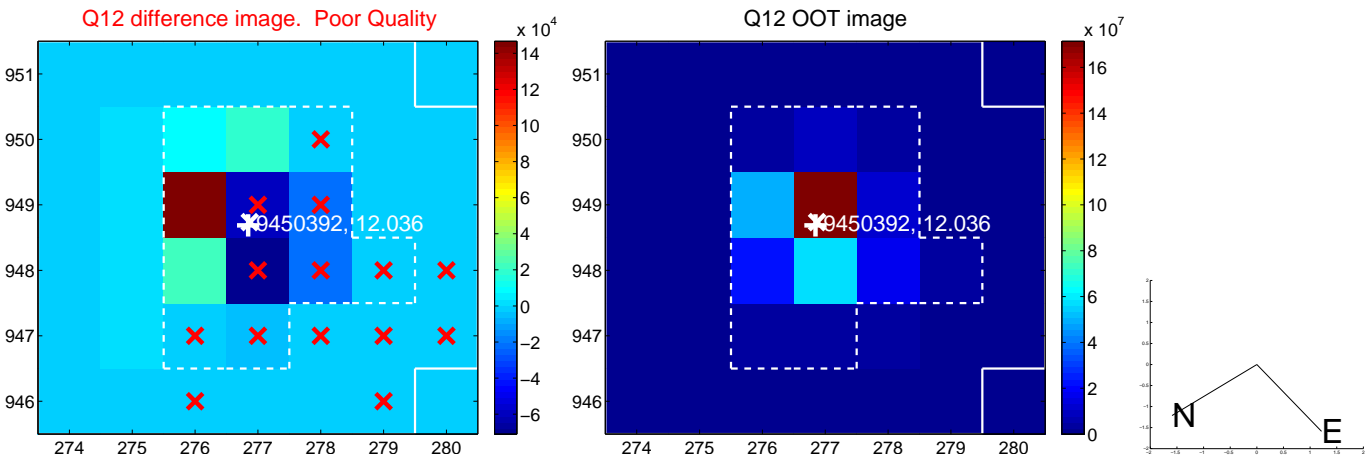
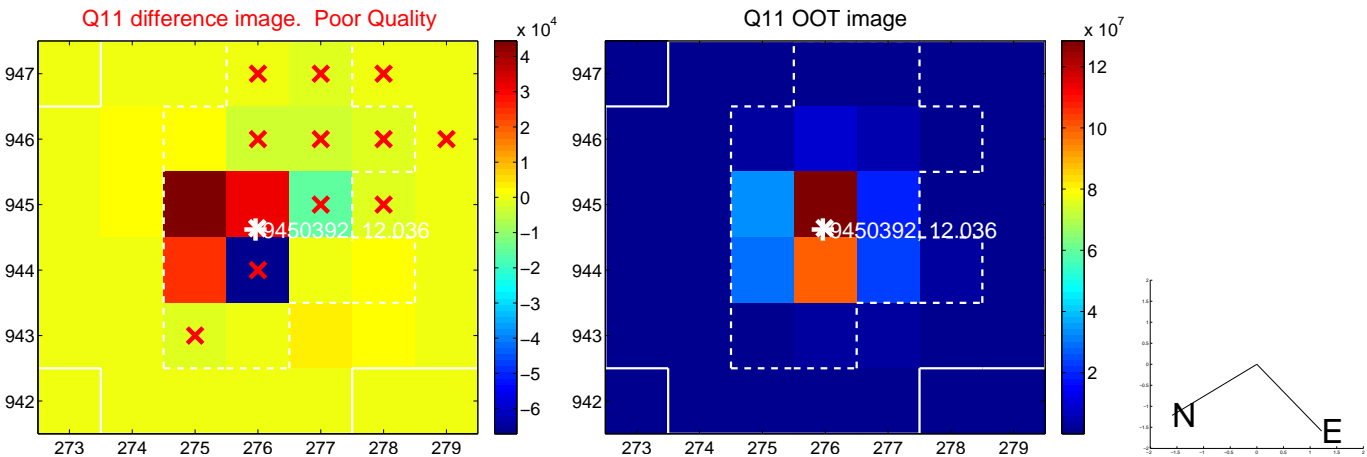
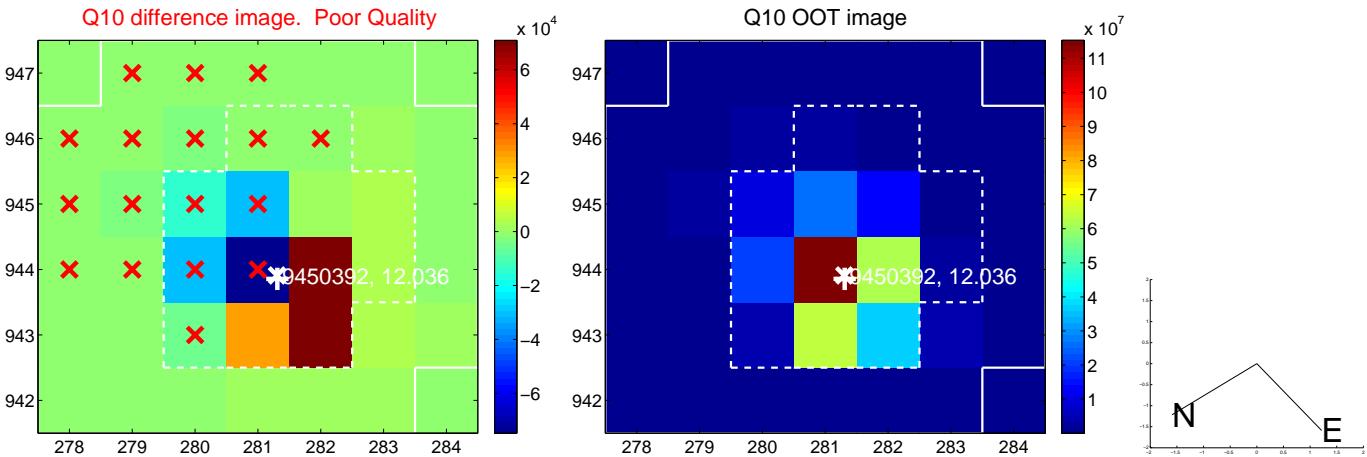
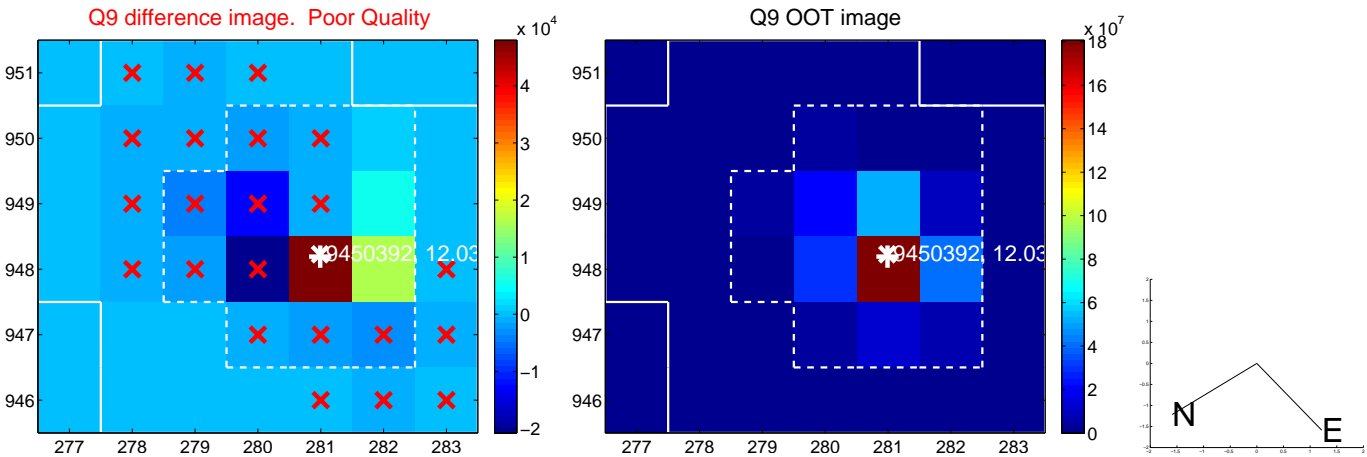


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

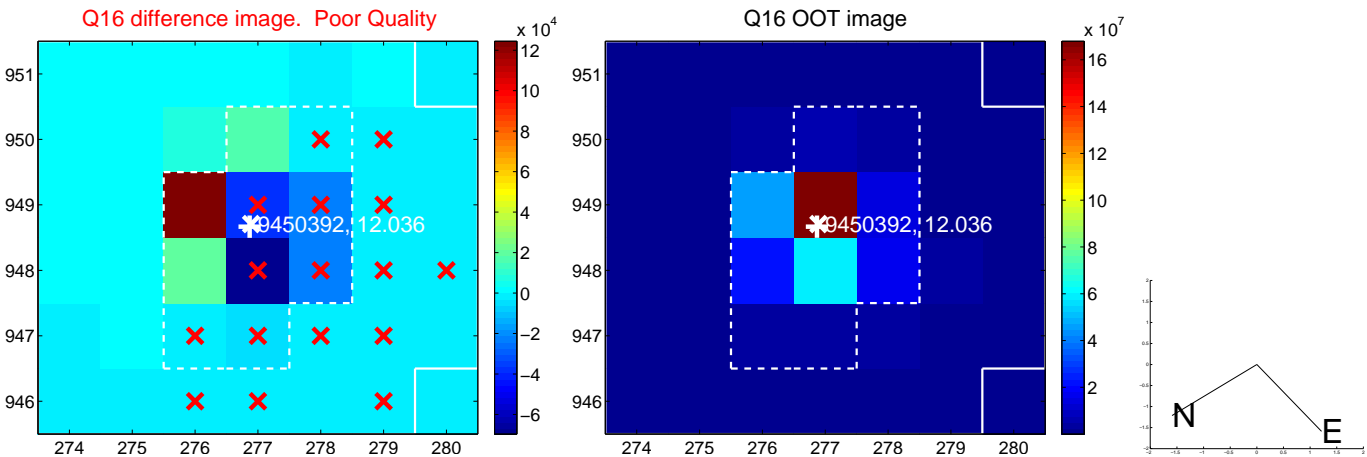
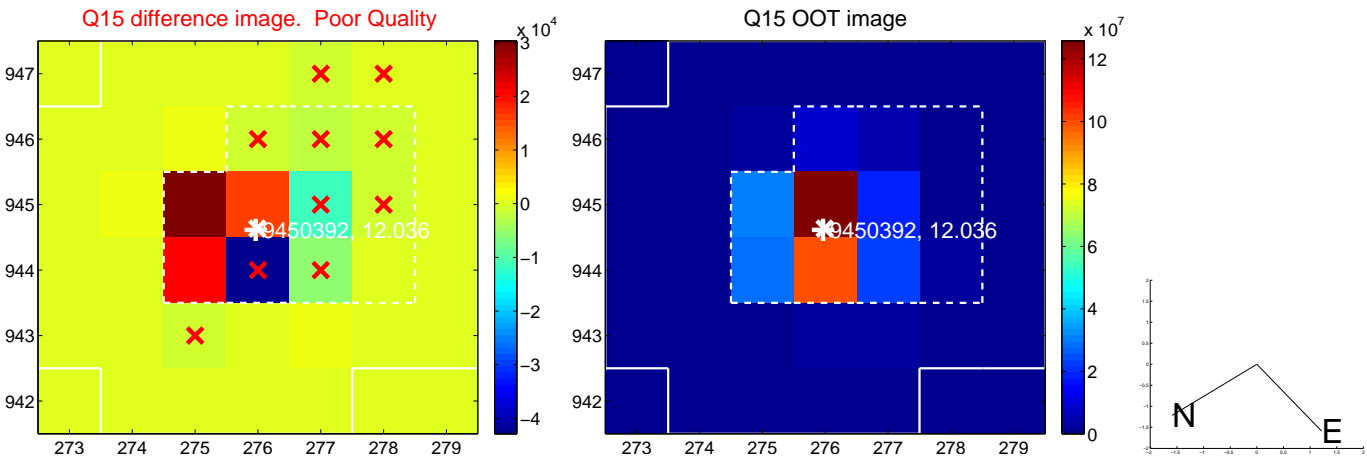
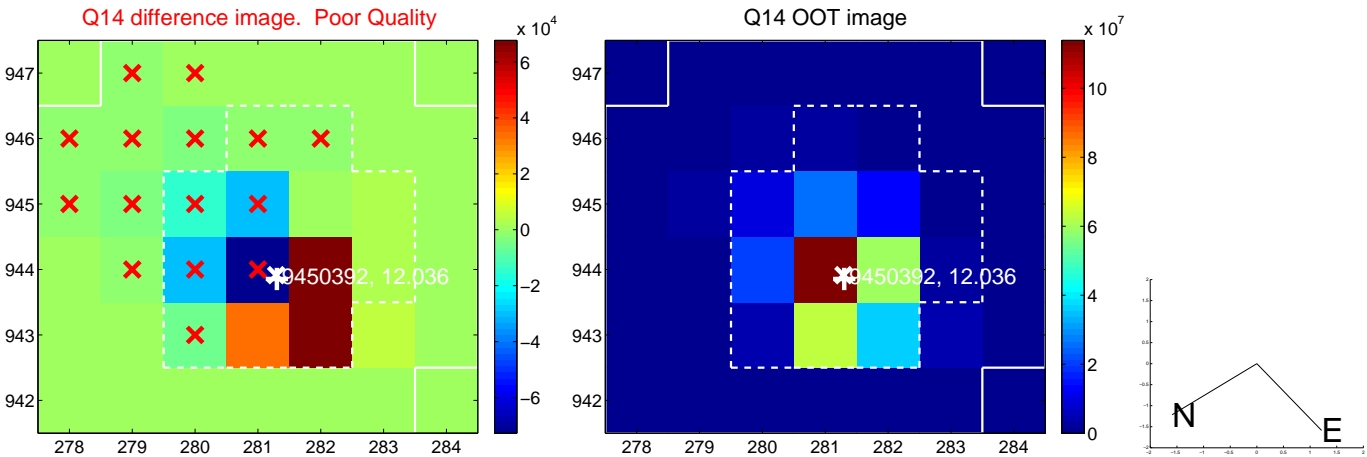
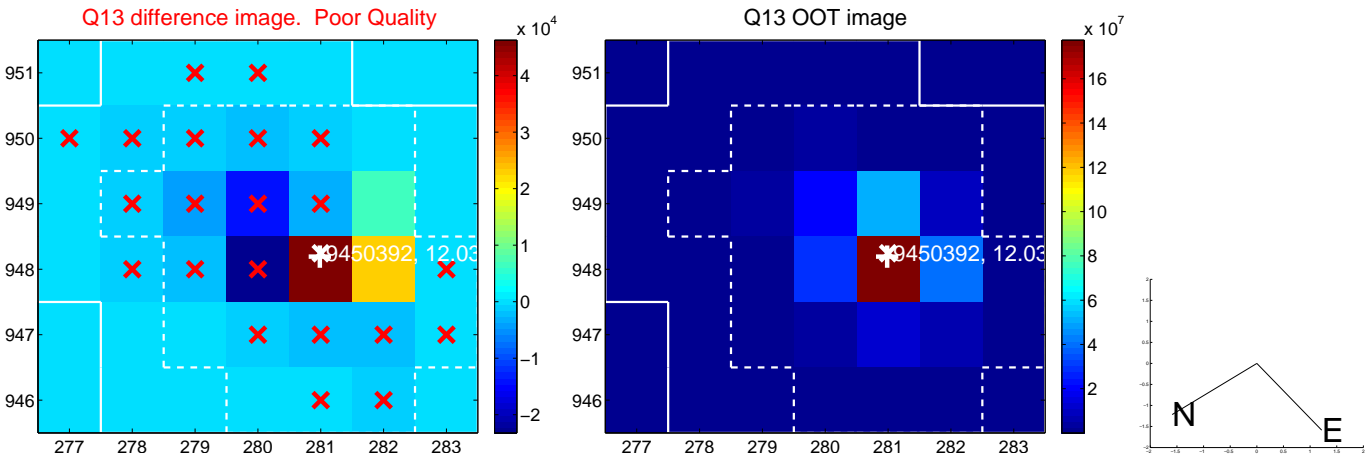




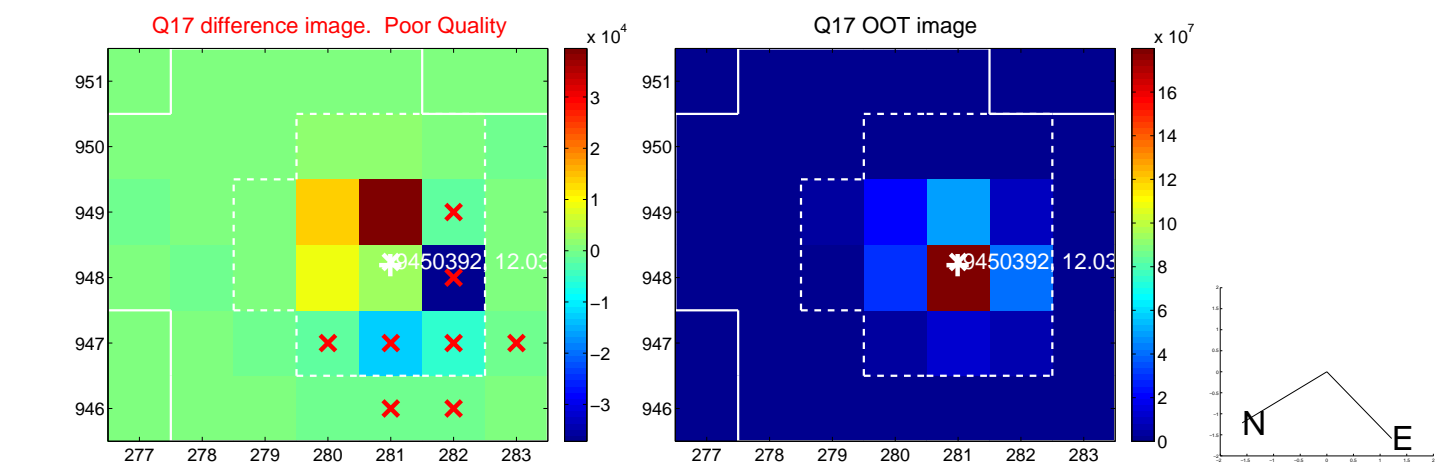
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



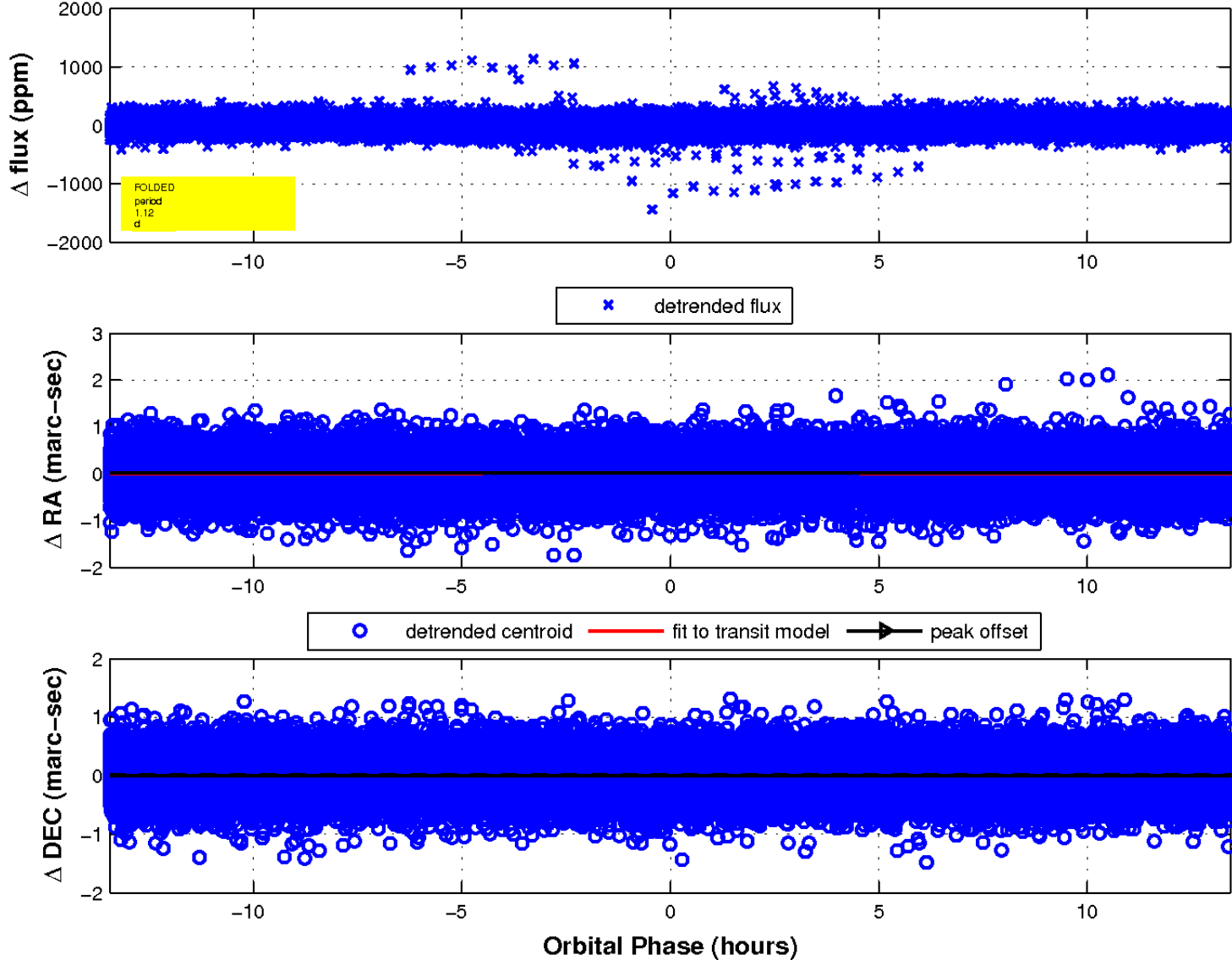
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

