

# KIC 011250066

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011250066-01	OBS	No	525.553318	510.581292	500.2	5.904	7.1	6.9	0.95	6231	2.33	0.77

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011250066-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_MEAS

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

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

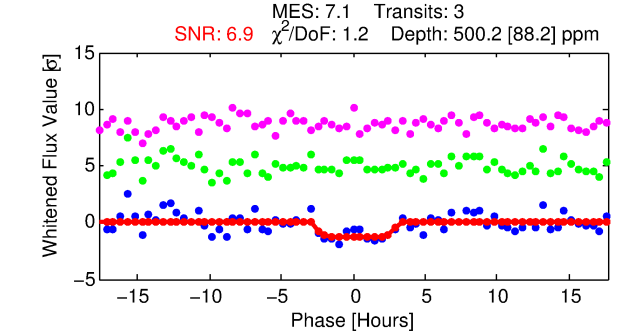
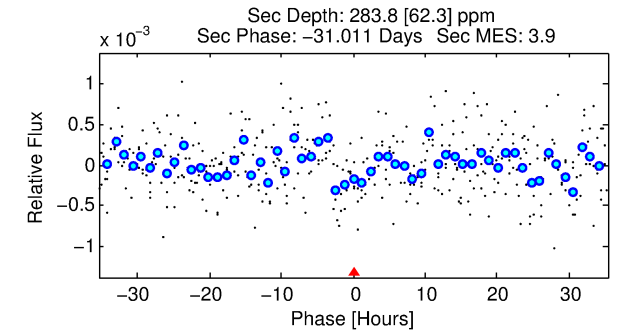
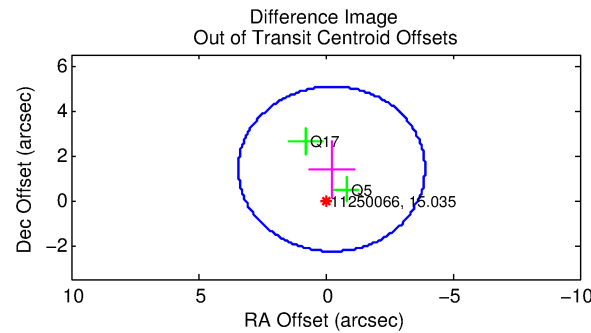
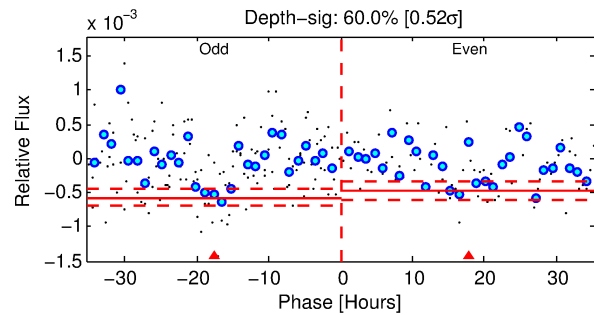
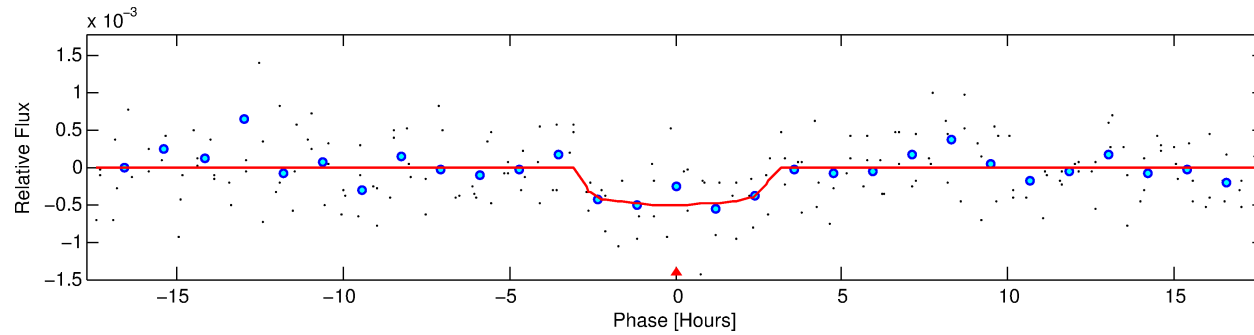
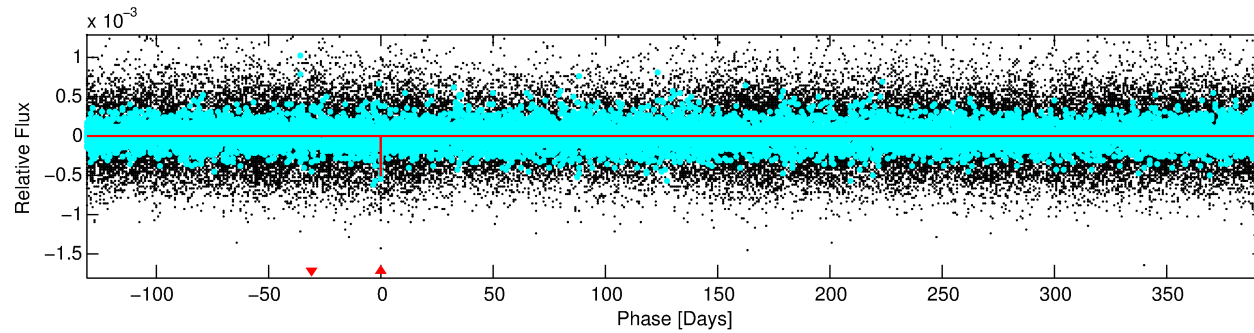
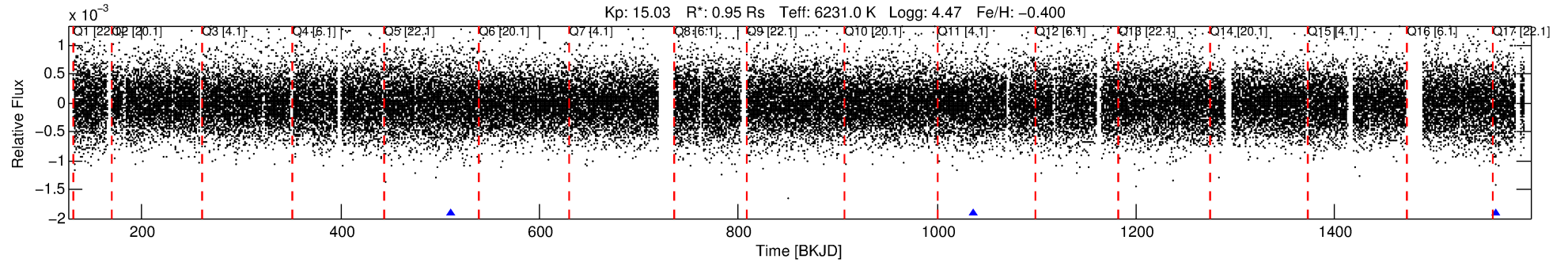
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011250066-01

No Significant Match Found

# DV One-Page Summary

KIC: 11250066 Candidate: 1 of 1 Period: 525.553 d



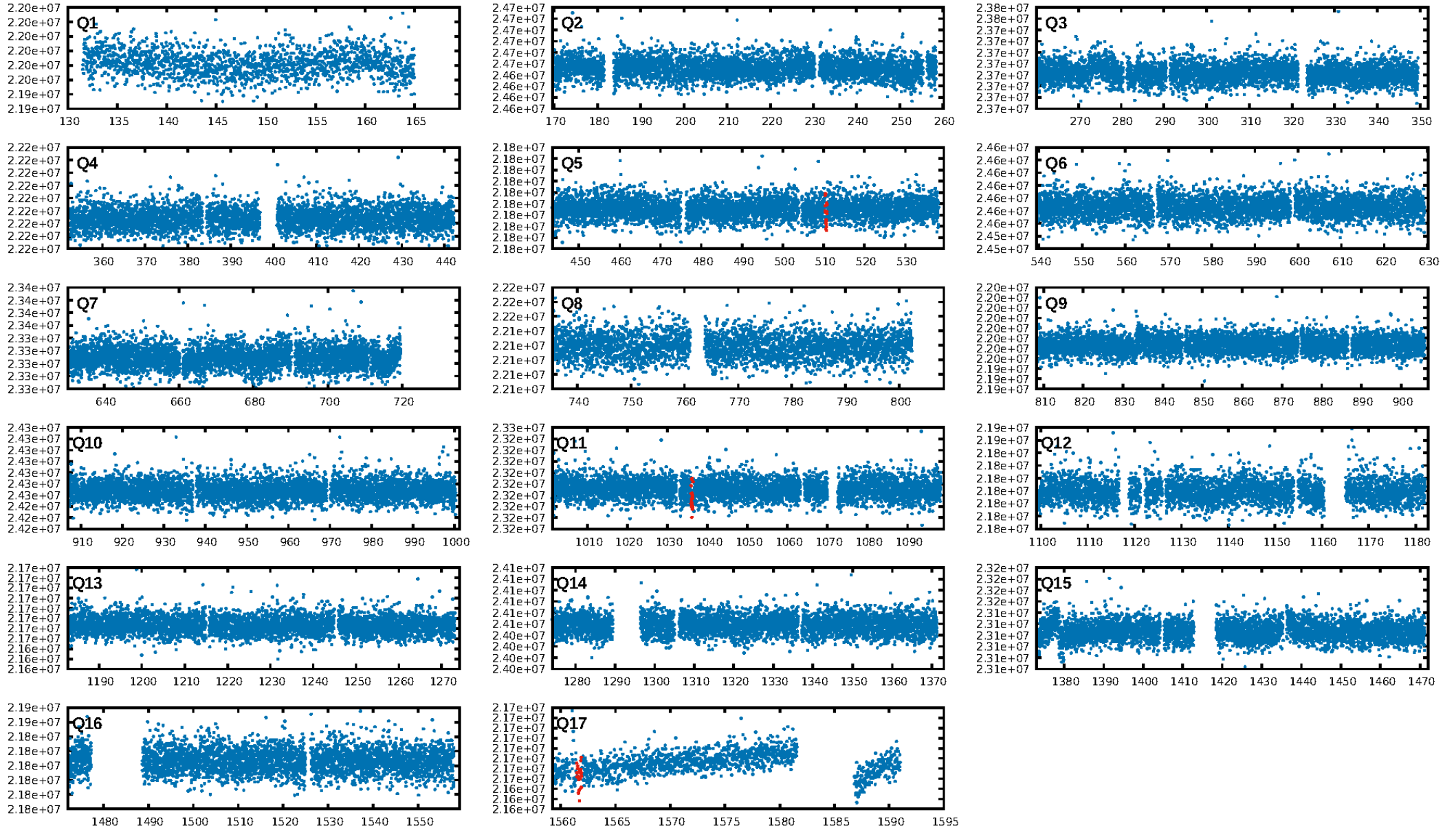
## DV Fit Results:

Period = 525.55332 [0.01300] d  
Epoch = 510.5813 [0.0177] BKJD  
Rp/R\* = 0.0223 [0.0255]  
a/R\* = 466.01 [2855.15]  
b = 0.76 [3.45]  
Seff = 0.77 [0.32]  
Teff = 239 [25] K  
Rp = 2.32 [2.76] Re  
a = 1.2660 [0.3416] AU  
Ag = 46293.45 [107828.57] [0.43 $\sigma$ ]  
Teffp = 5414 [3114] K [1.66 $\sigma$ ]

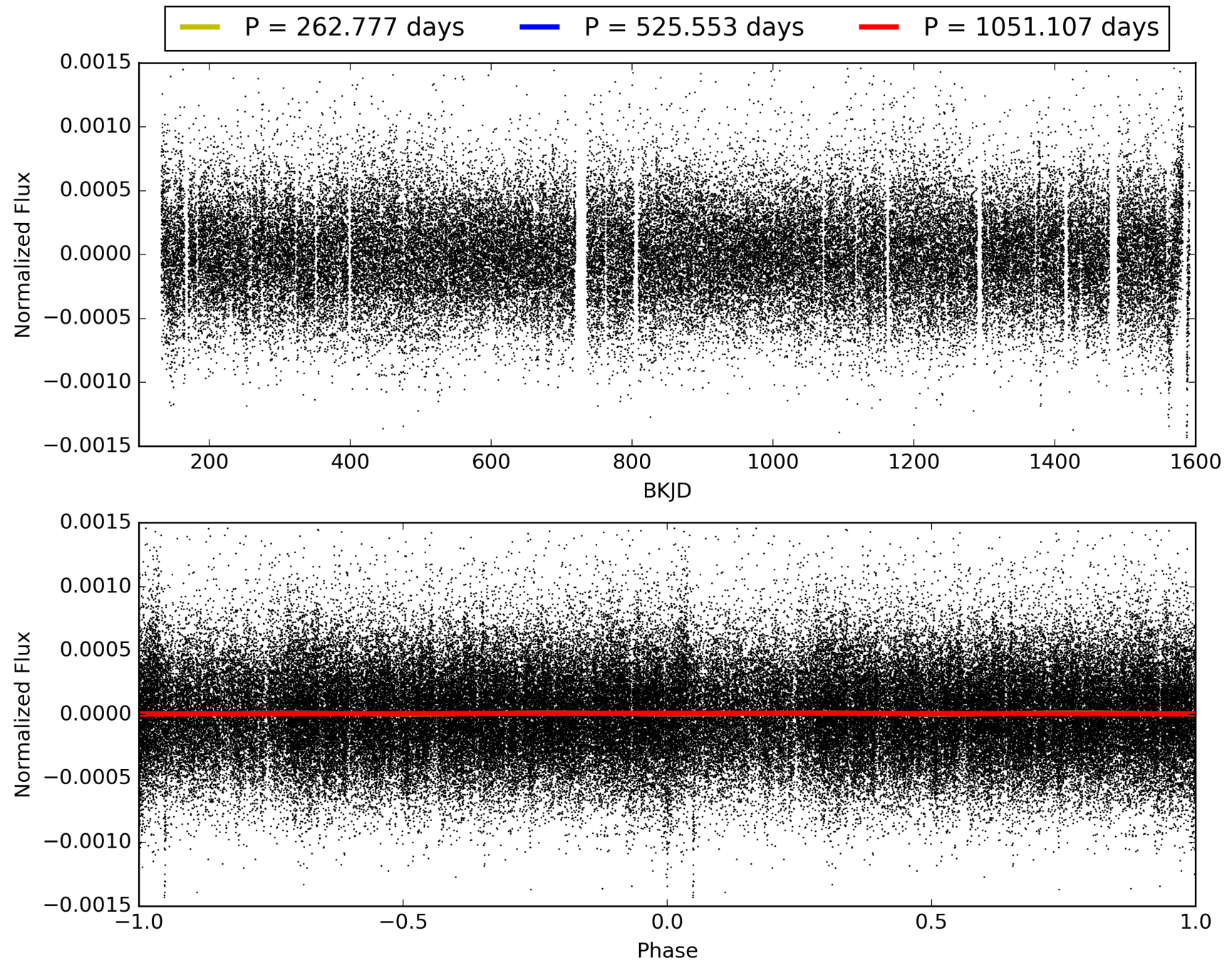
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 82.4%  
ModelChiSquareGof-sig: 88.5%  
Bootstrap-pfa: 6.45e-14  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: 115.7  
Centroid-sig: 33.6%  
Centroid-so: 1.453 arcsec [0.86 $\sigma$ ]  
OotOffset-rm: 1.417 arcsec [1.16 $\sigma$ ]  
OotOffset-st: 0/0/0/2 [2]  
KicOffset-rm: 1.635 arcsec [1.32 $\sigma$ ]  
KicOffset-st: 0/0/0/2 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [3/3]

# TCE 011250066-01, PDC Light Curves

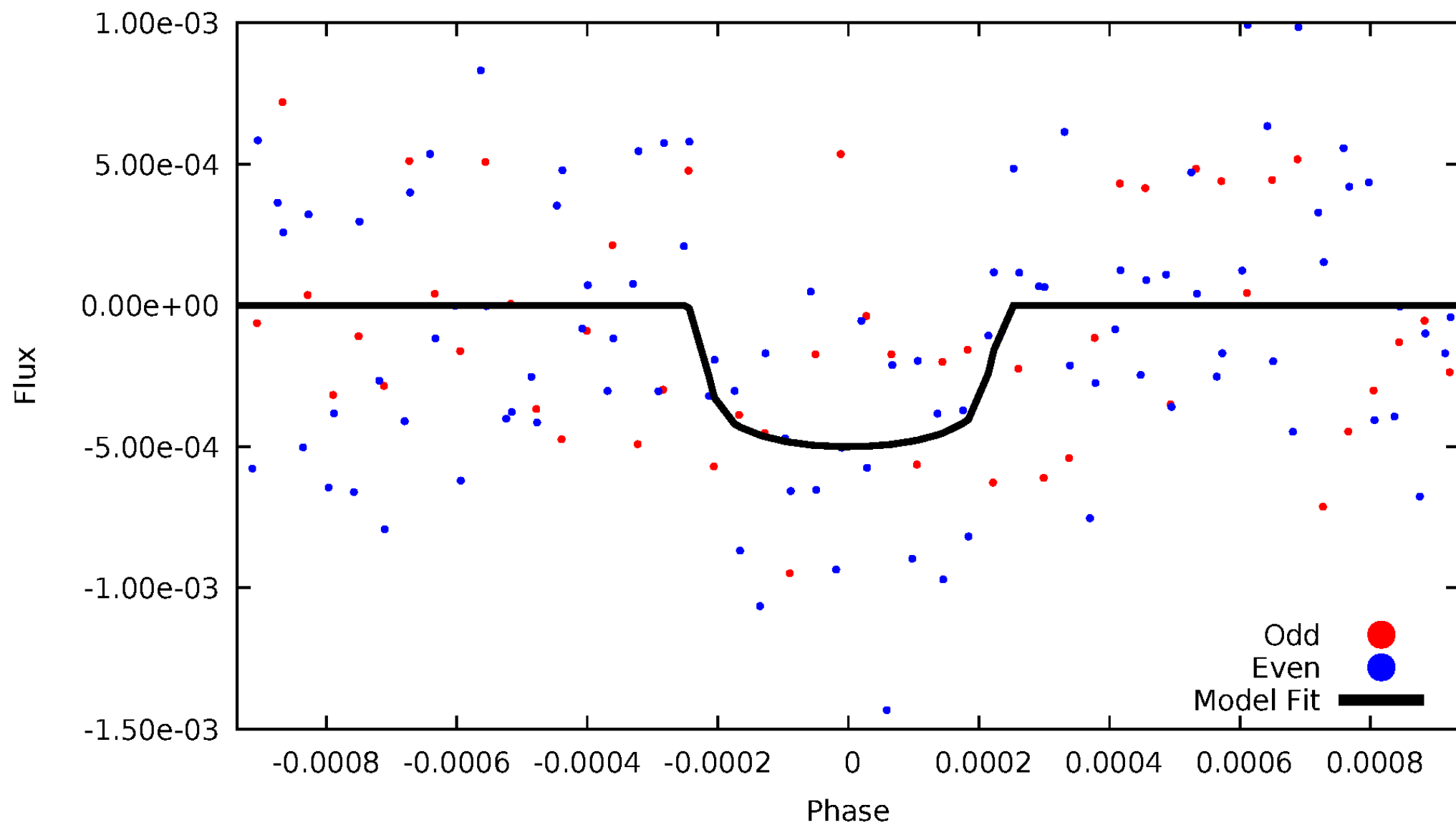


TCE 011250066-01



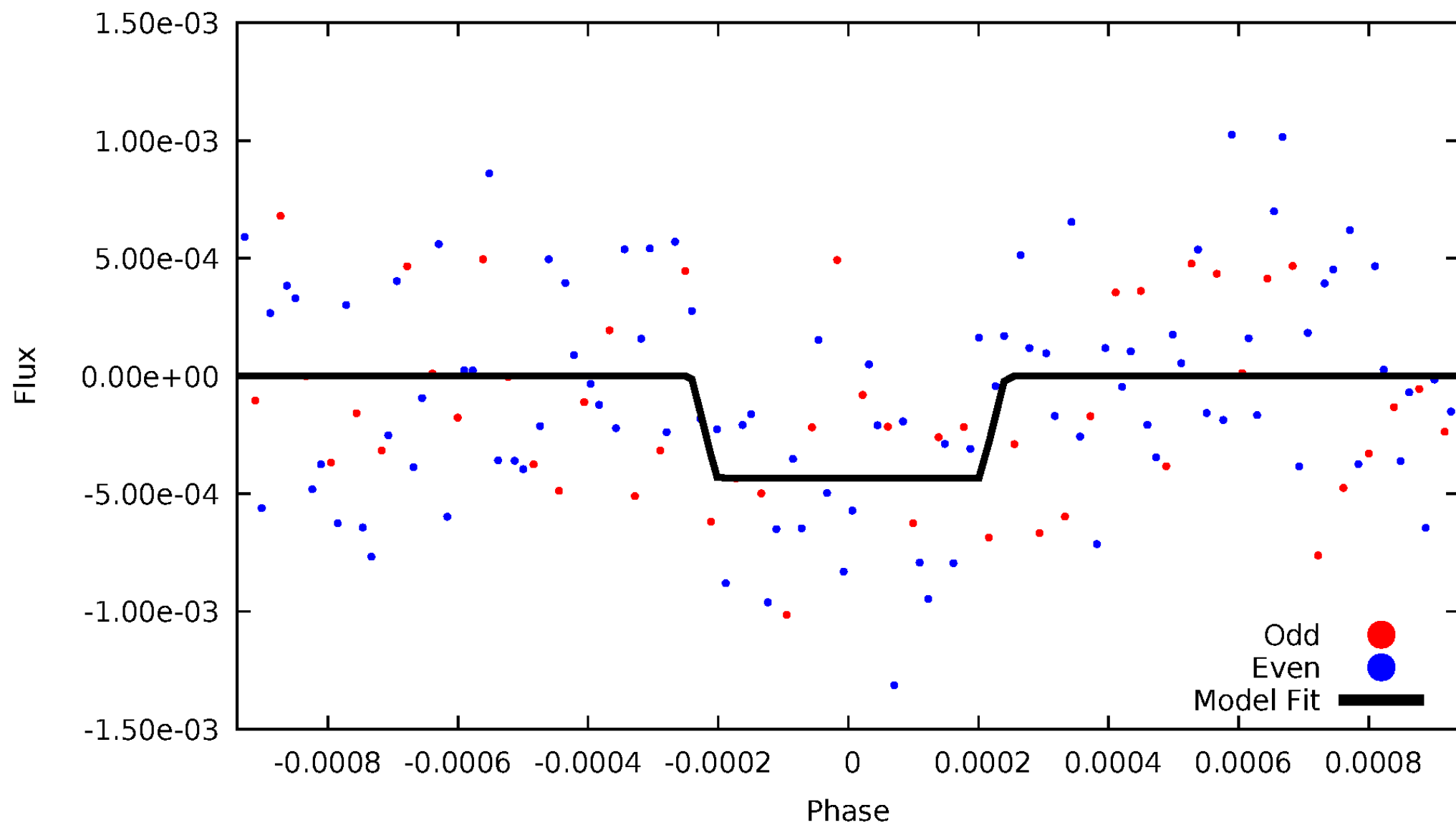
# DV Odd/Even

TCE 011250066-01



# ALT Odd/Even

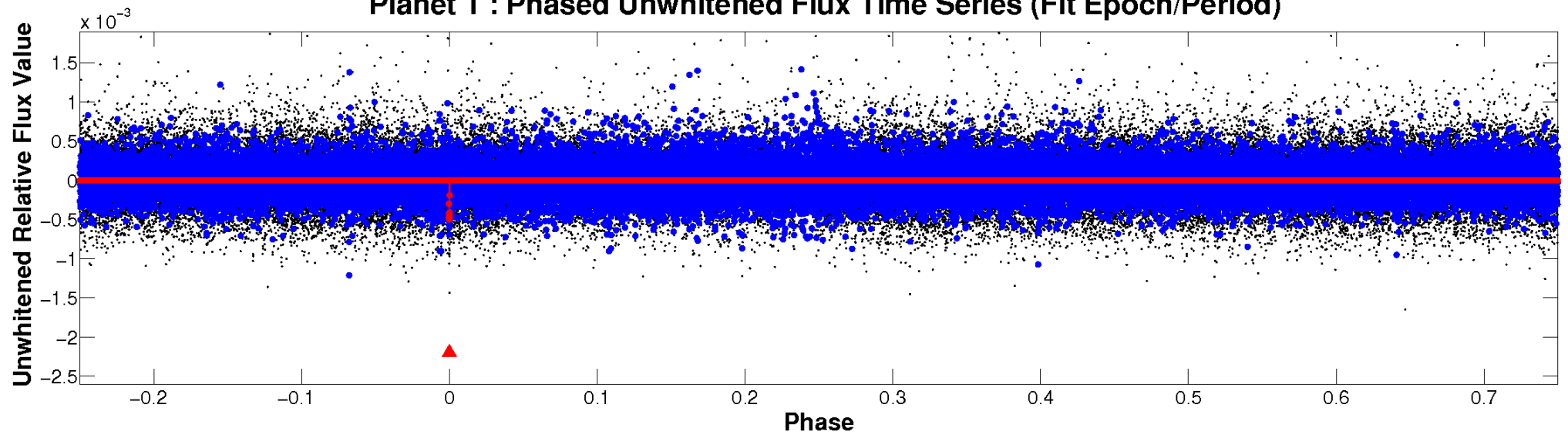
TCE 011250066-01



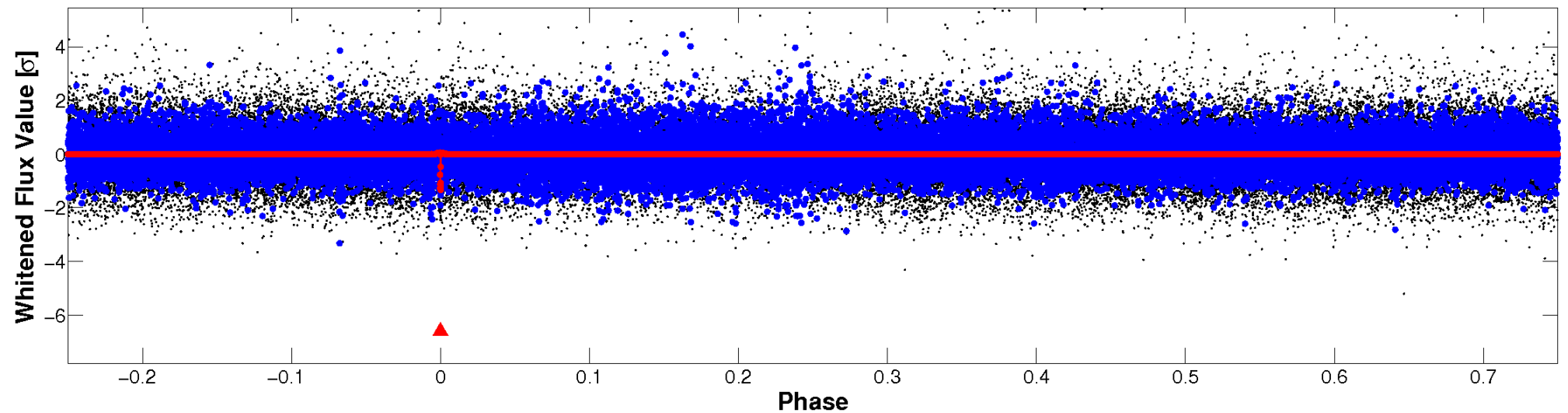


# Non-Whitened Vs. Whitened Light Curve

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

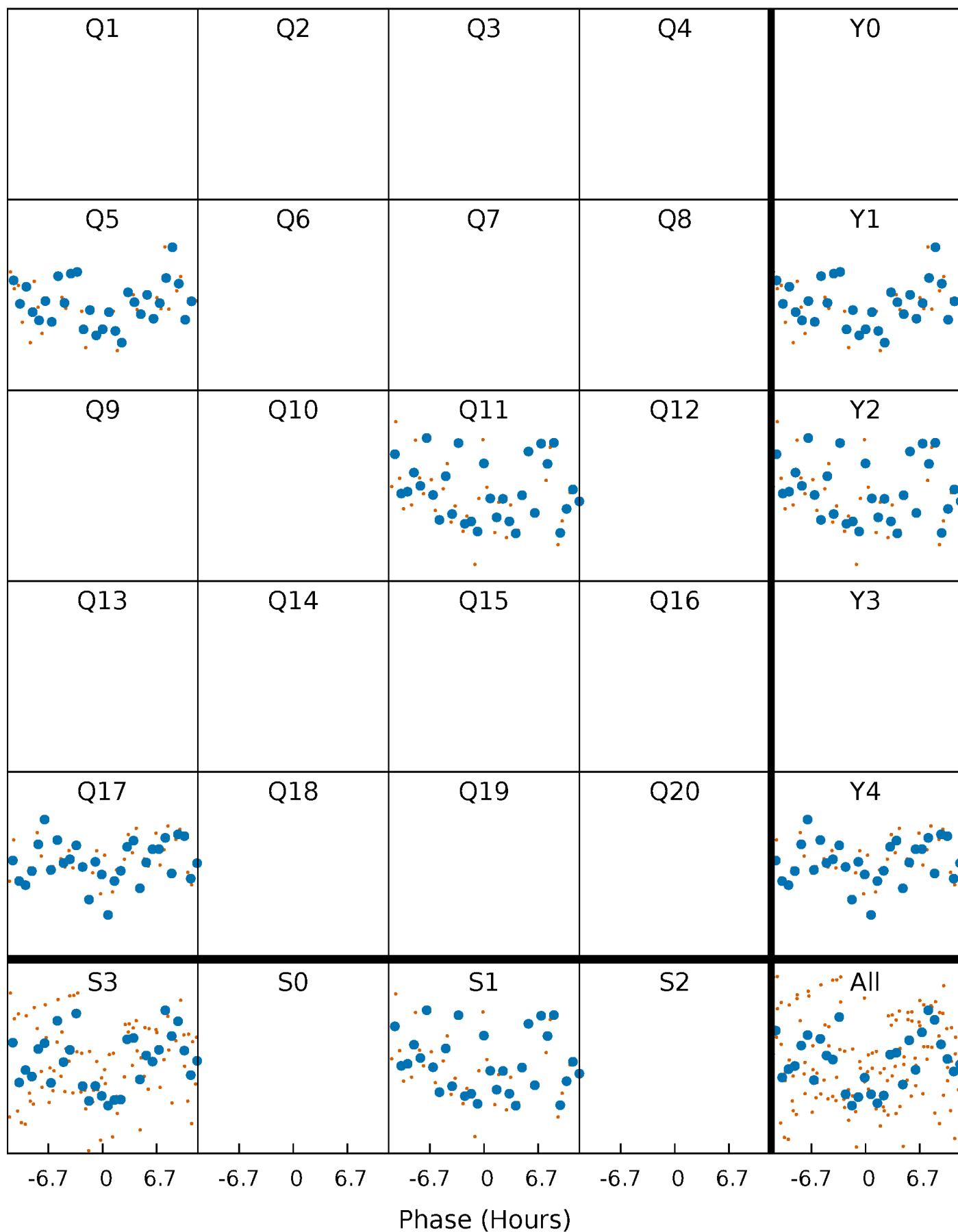


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 011250066-01 P=525.553318 Days  $T_0=510.581292$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 011250066-01 P=525.553318 Days  $T_0=510.581292$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

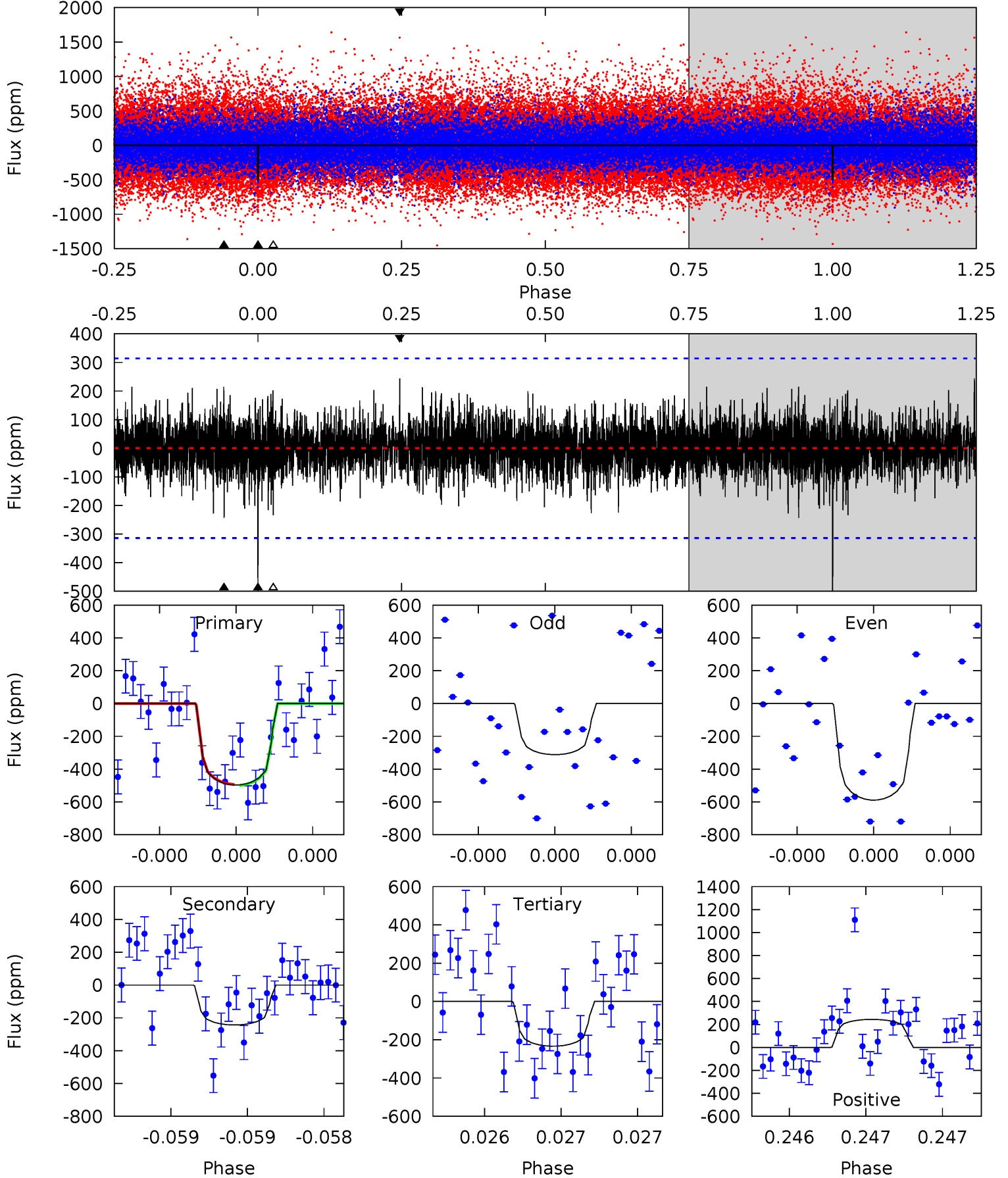
TCE 011250066-01 P=525.544352 Days  $T_0=510.593078$  (BKJD)



# DV Model-Shift Uniqueness Test

011250066-01, P = 525.553318 Days, E = 510.581292 Days

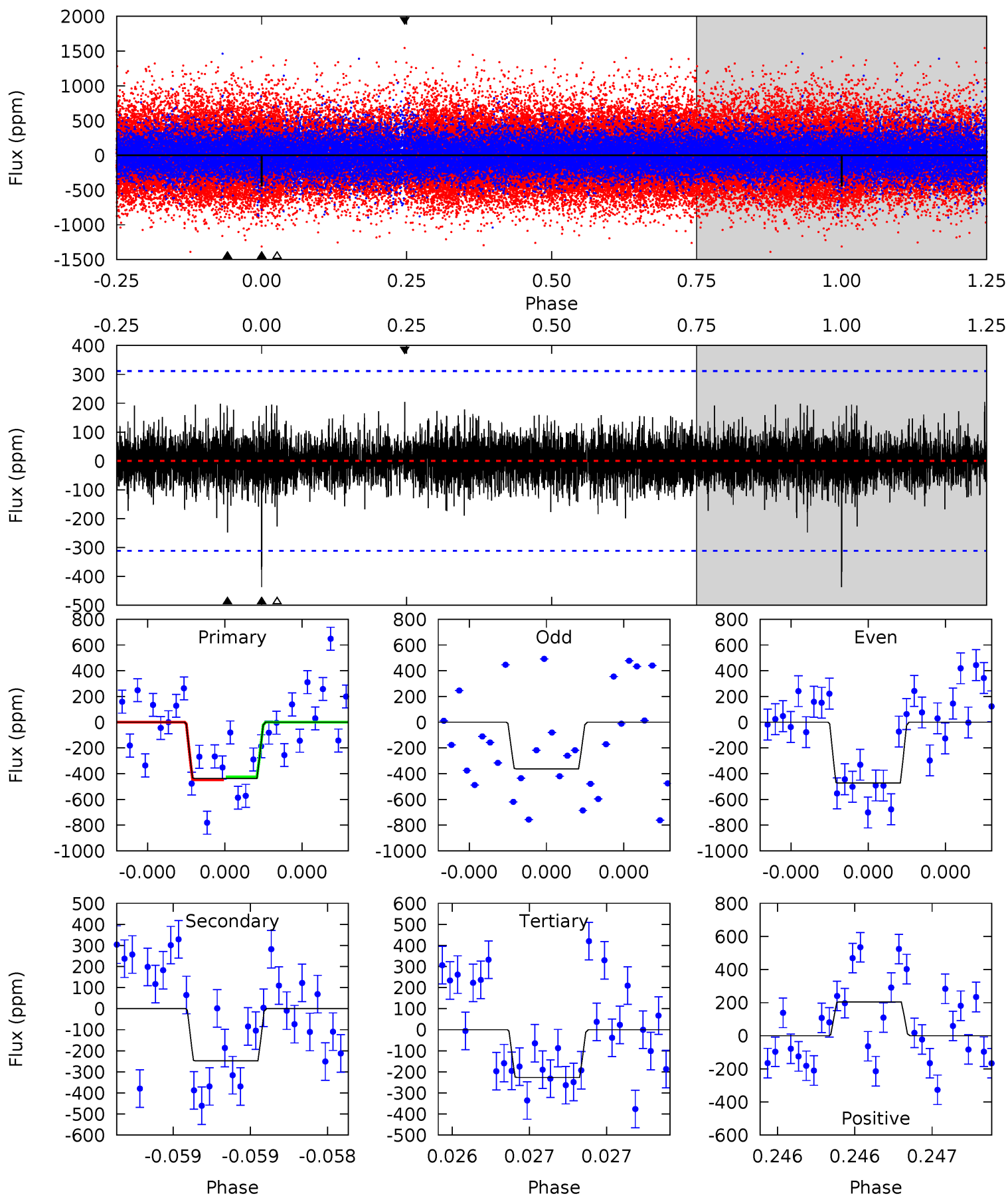
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.84	4.33	4.16	4.34	5.58	3.50	1.06	4.68	4.50	0.17	-0.01	2.31	0.88	0.33	0.05



# Alt Model-Shift Uniqueness Test

011250066-01, P = 525.544352 Days, E = 510.593078 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
7.82	4.44	4.06	3.65	5.58	3.49	0.92	3.76	4.17	0.38	0.79	0.93	0.95	0.32	0.19



### Stellar Parameters For KIC 011250066

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6231^{+169}_{-226}$	$4.469^{+0.067}_{-0.216}$	$-0.400^{+0.300}_{-0.300}$	$0.955^{+0.305}_{-0.102}$	$0.978^{+0.133}_{-0.120}$	$1.580^{+0.449}_{-0.837}$
	+3%/-4%	+1%/-5%	+75%/-75%	+32%/-11%	+14%/-12%	+28%/-53%
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 011250066-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-243 \pm 56$	$3.24^{+2.30}_{-2.11}$	$341^{+25}_{-18}$	$4675^{+3174}_{-882}$	$19729^{+145944}_{-13183}$
Alt.	$-248 \pm 56$	$2.94^{+2.72}_{-1.90}$	$339^{+24}_{-19}$	$4866^{+3239}_{-1076}$	$24544^{+159257}_{-18061}$

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

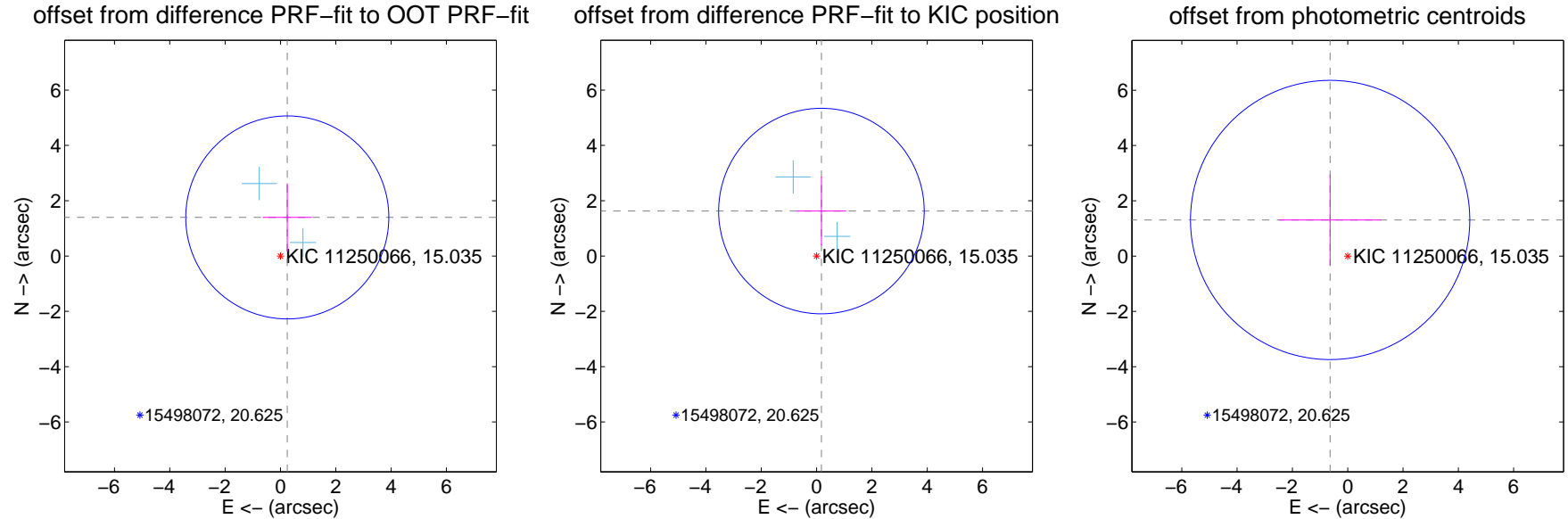
## DV Centroid Data

Supplemental centroid analysis for 011250066-01. Kepler magnitude: 15.04. Transit SNR 6.86

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.417 \pm 1.223$	1.16	$-0.247 \pm 0.889$	$1.396 \pm 1.232$
PRF-fit source offset from KIC position	$1.635 \pm 1.238$	1.32	$-0.175 \pm 0.894$	$1.625 \pm 1.242$
photometric centroid source offset	$1.45 \pm 1.68$	0.86	$0.64 \pm 1.85$	$1.31 \pm 1.64$



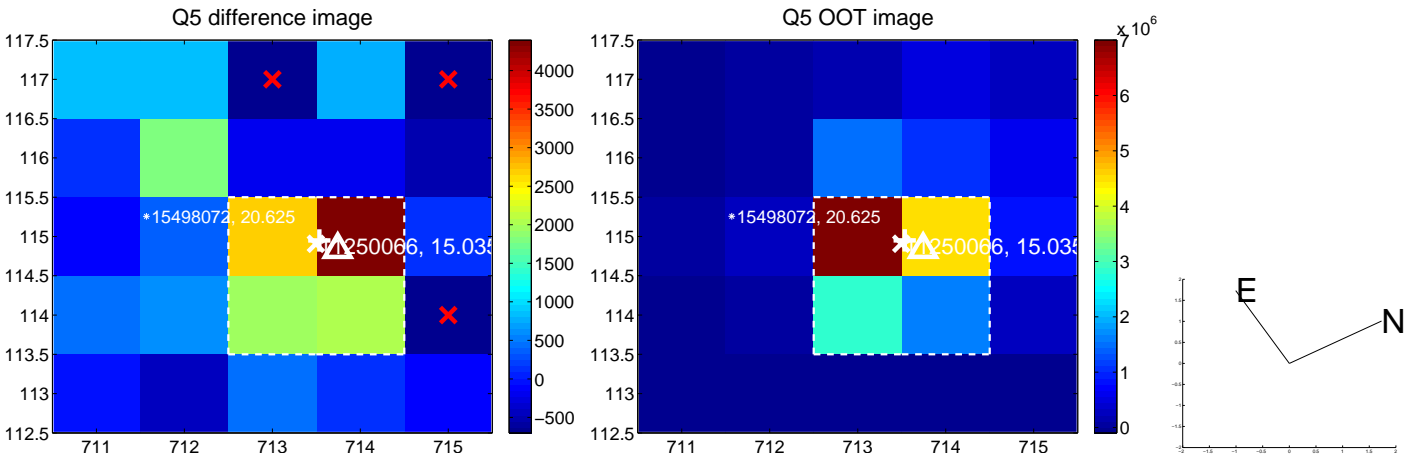
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



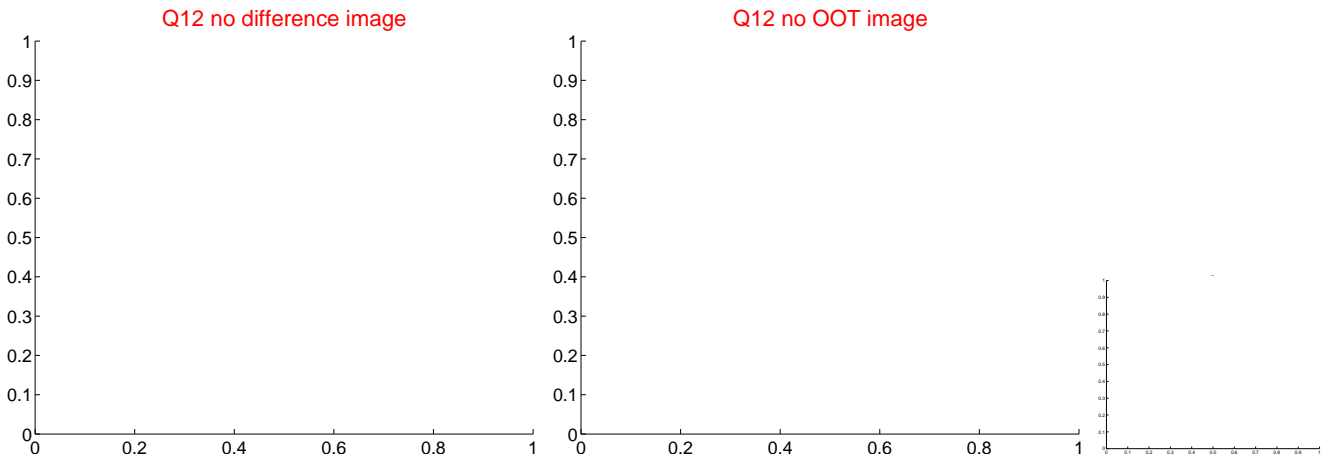
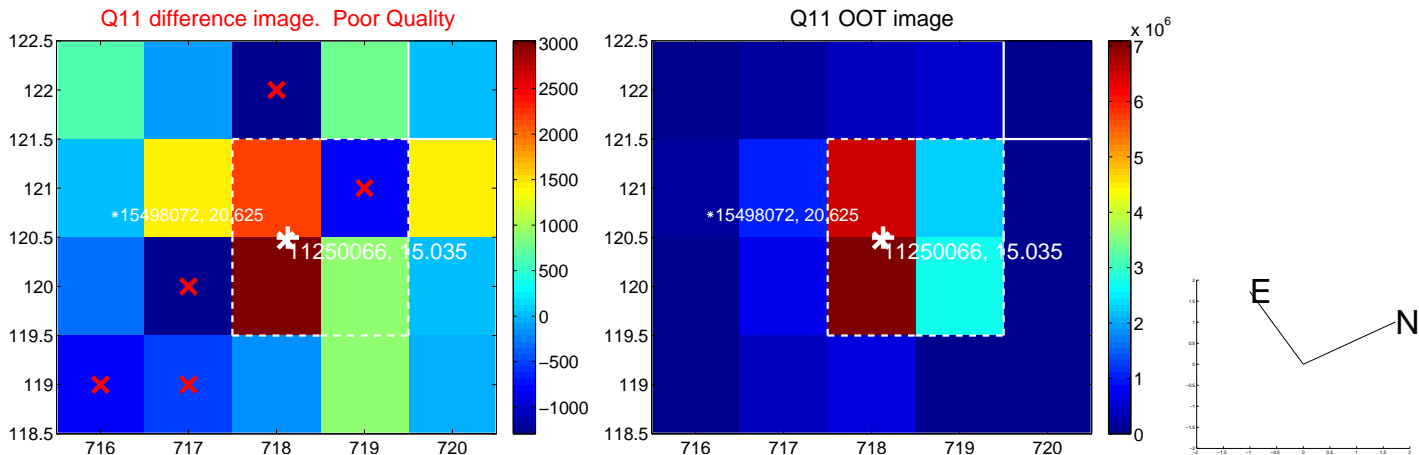
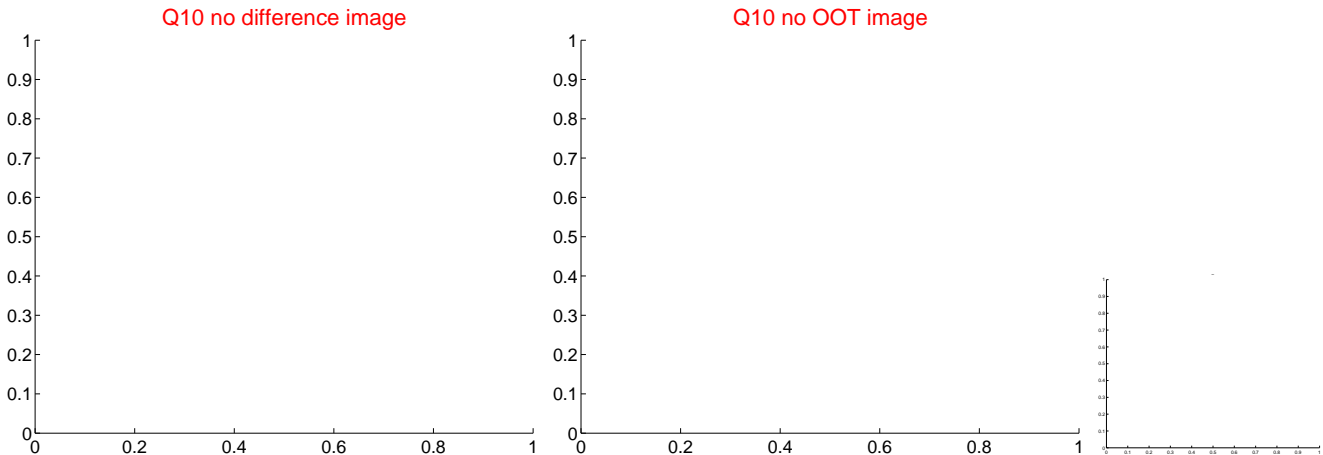
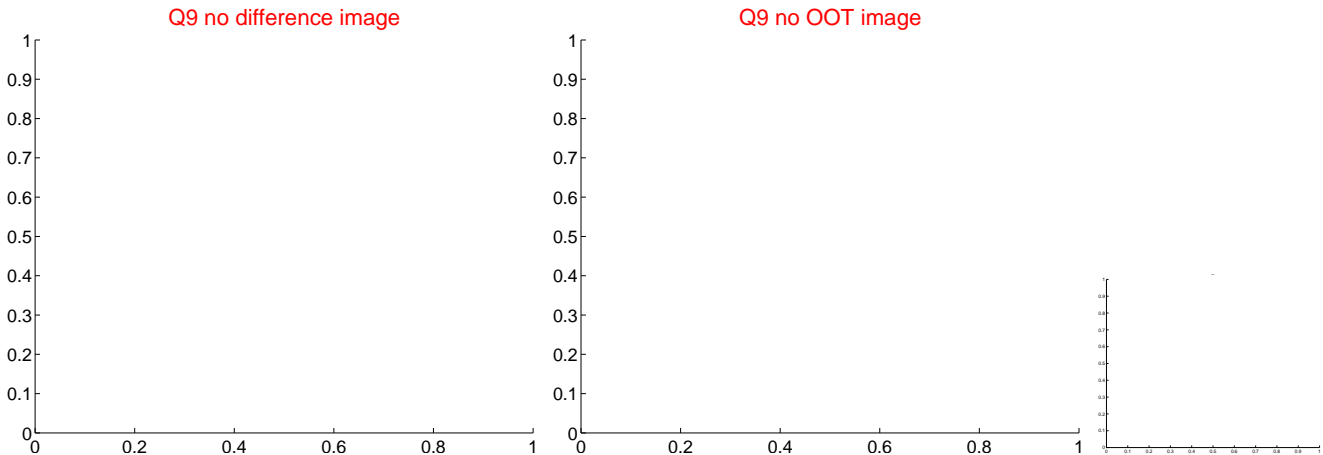
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



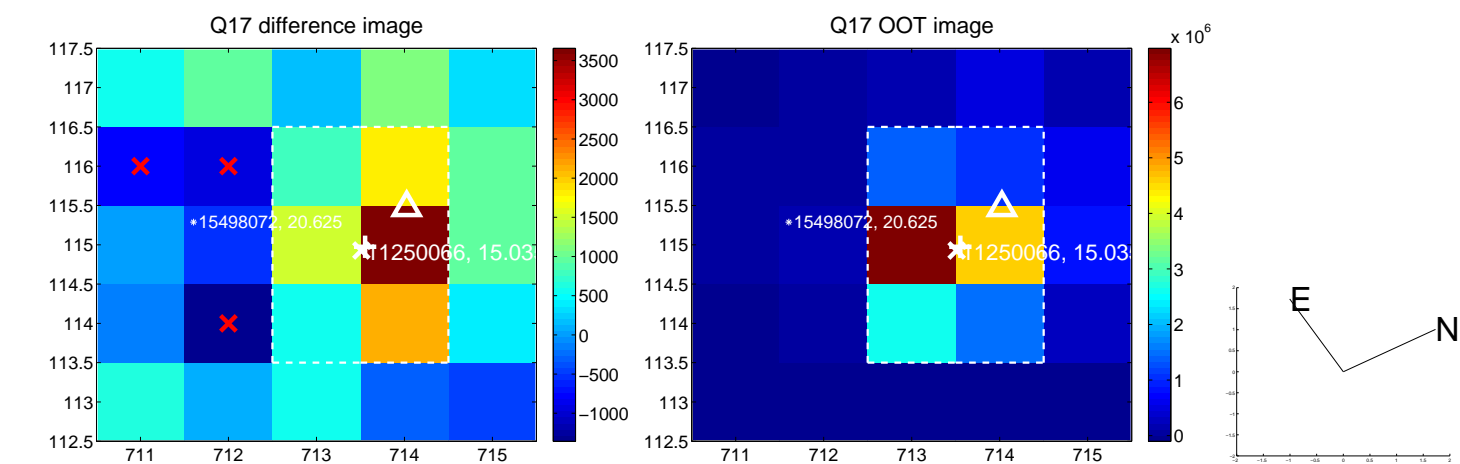
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



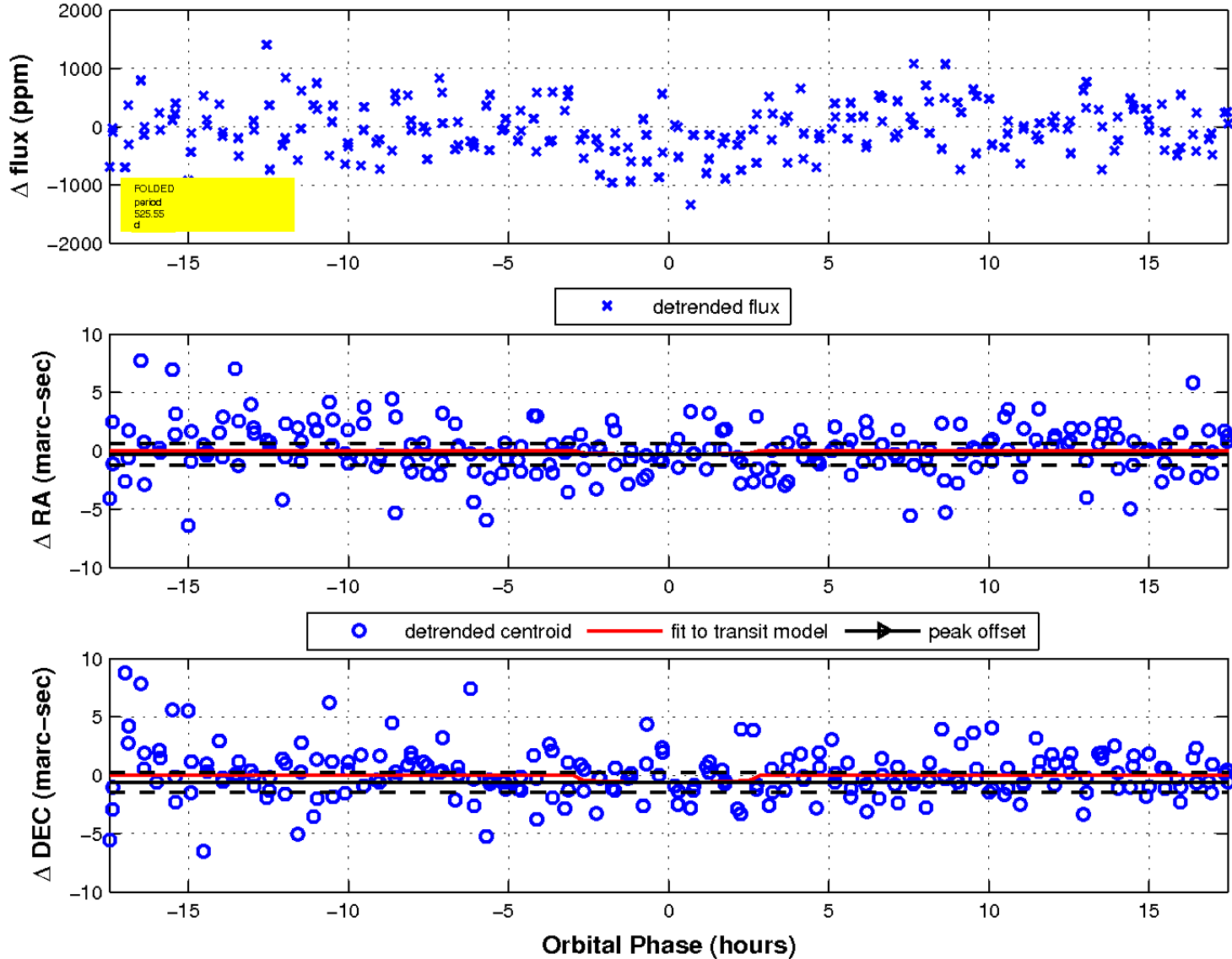
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

