

# KIC 003752110

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003752110-01	OBS	3142.01	27.942273	136.883401	330.6	5.619	10.1	11.2	1.25	6468	2.57	62.84

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003752110-01	OBS	PC	0.96	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.

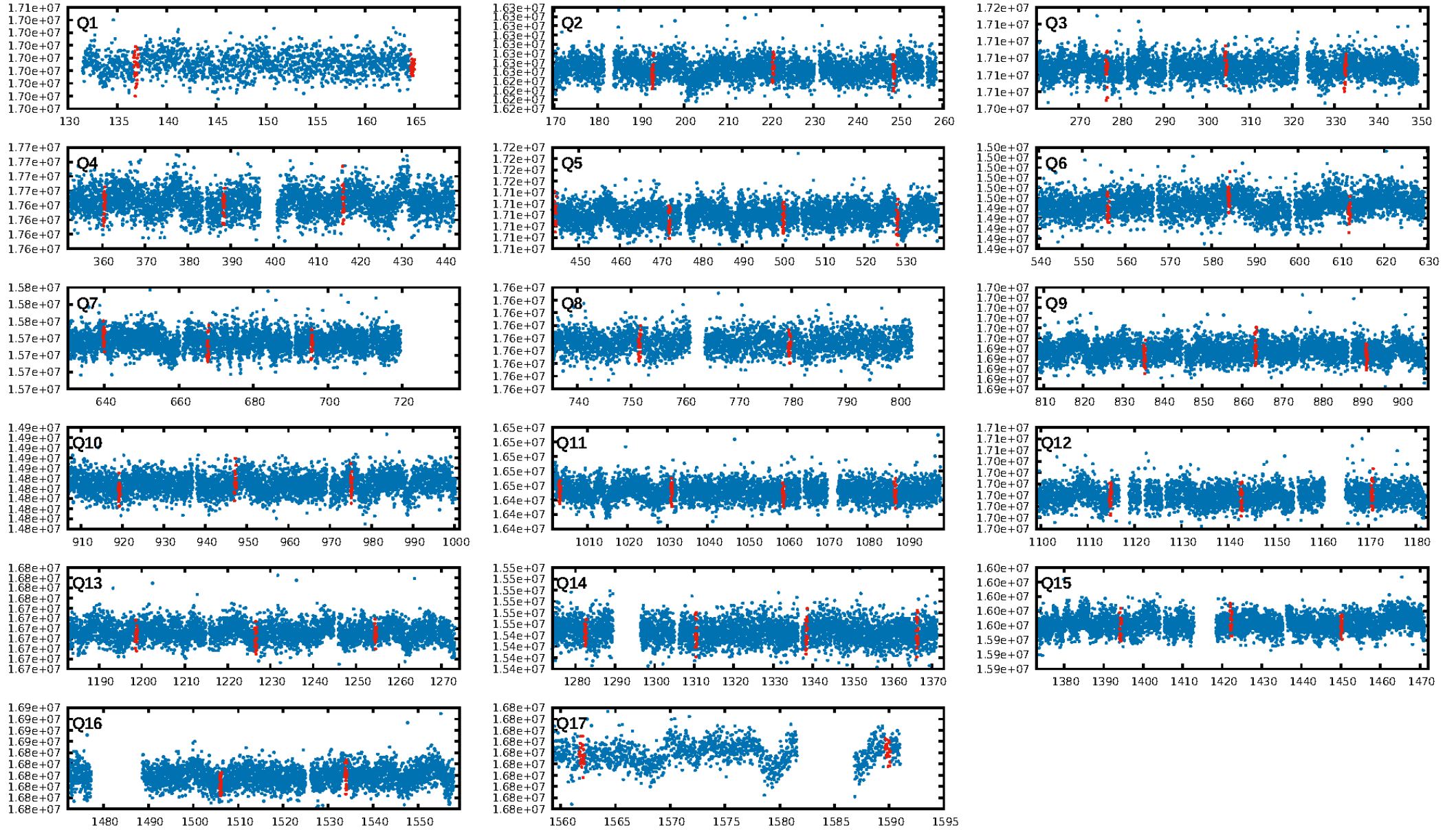
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003752110-01

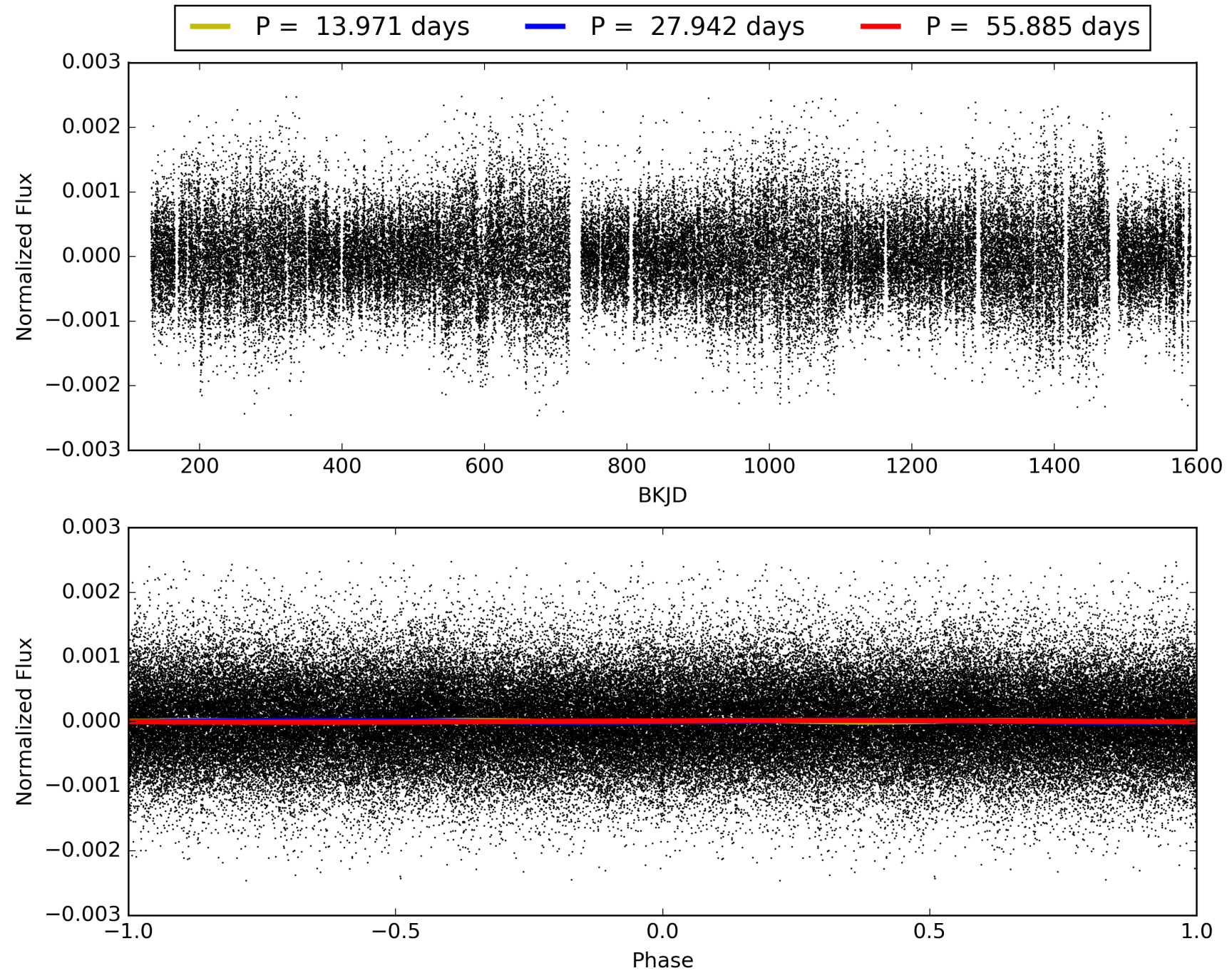
No Significant Match Found

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

# TCE 003752110-01, PDC Light Curves

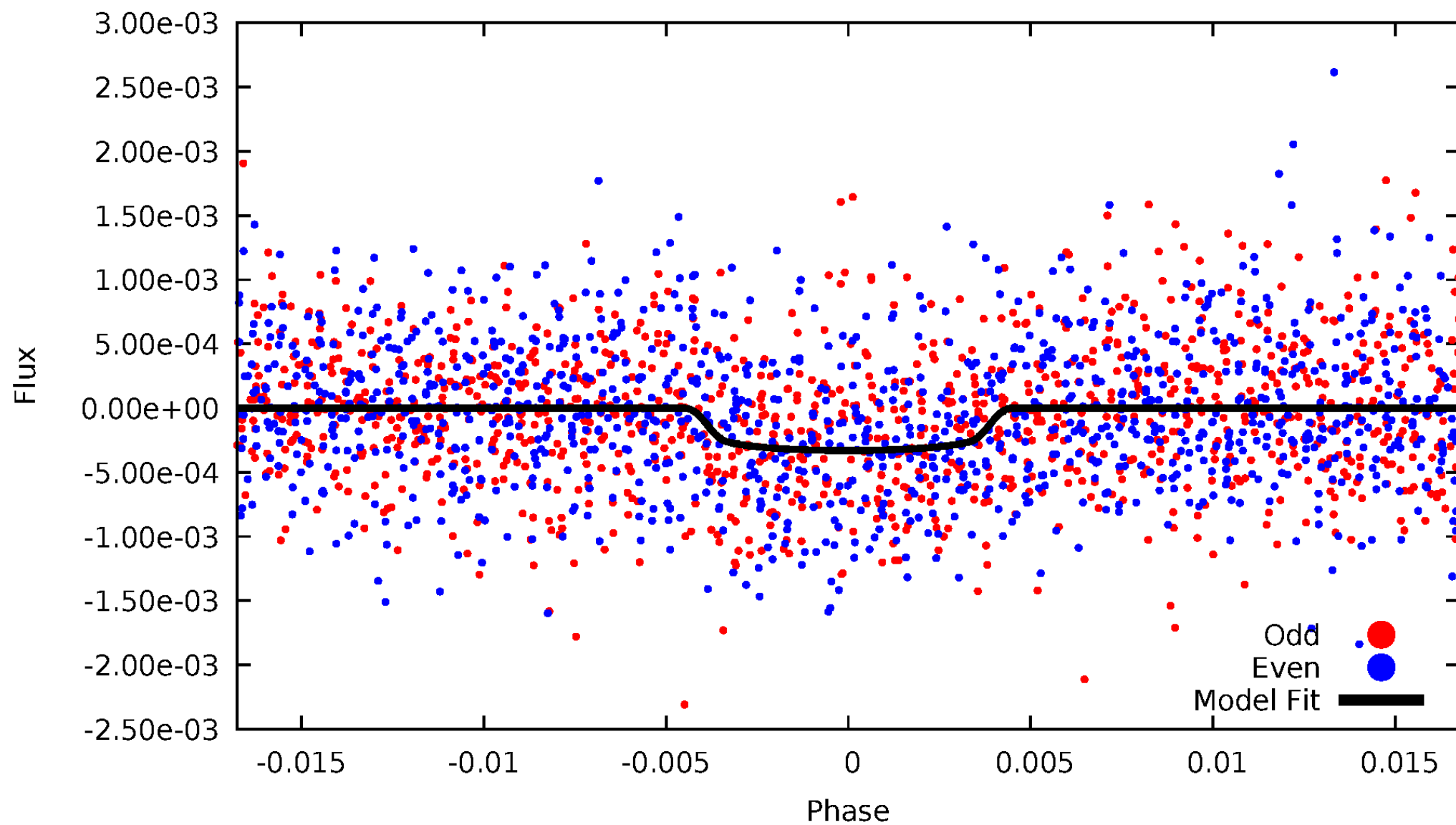


TCE 003752110-01



# DV Odd/Even

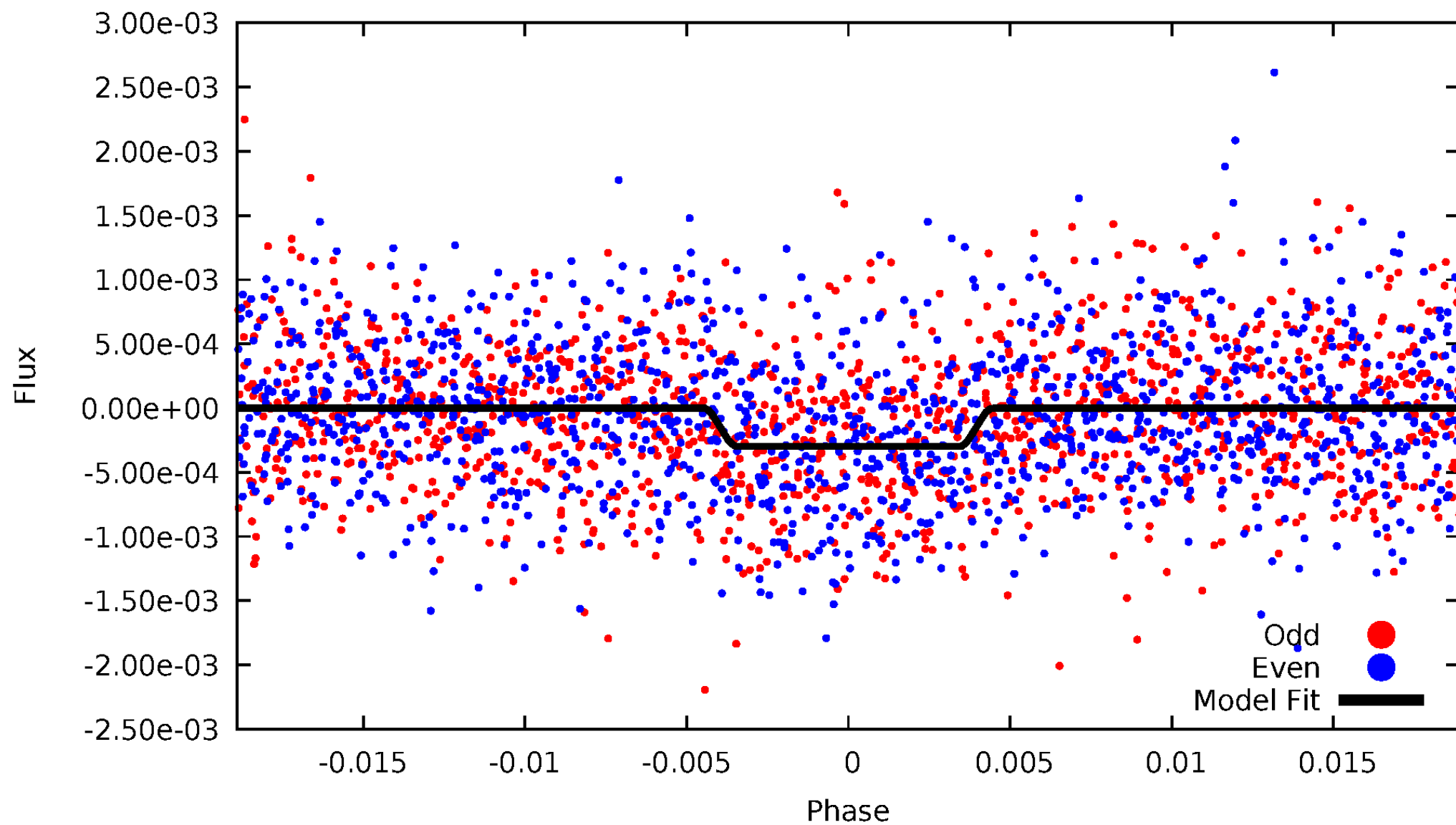
TCE 003752110-01



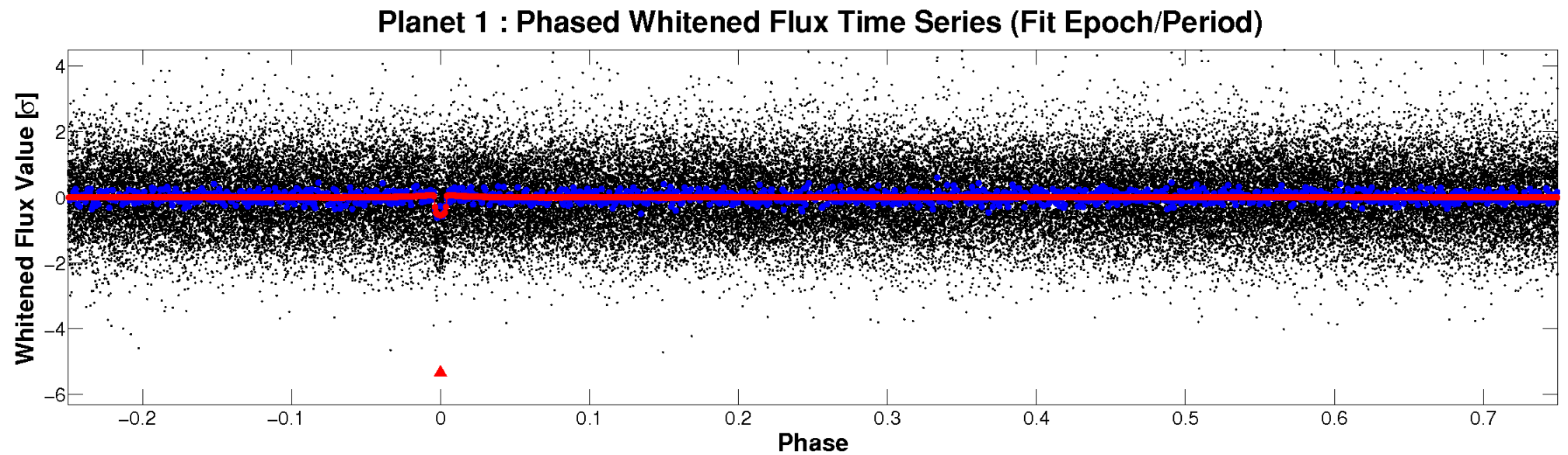
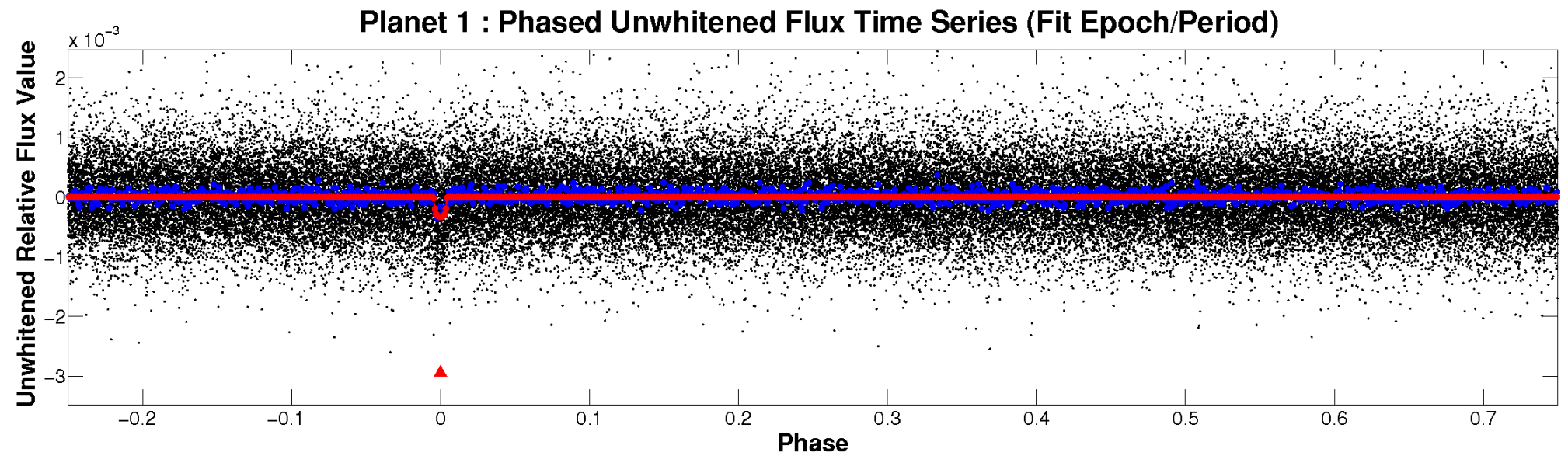


# ALT Odd/Even

TCE 003752110-01

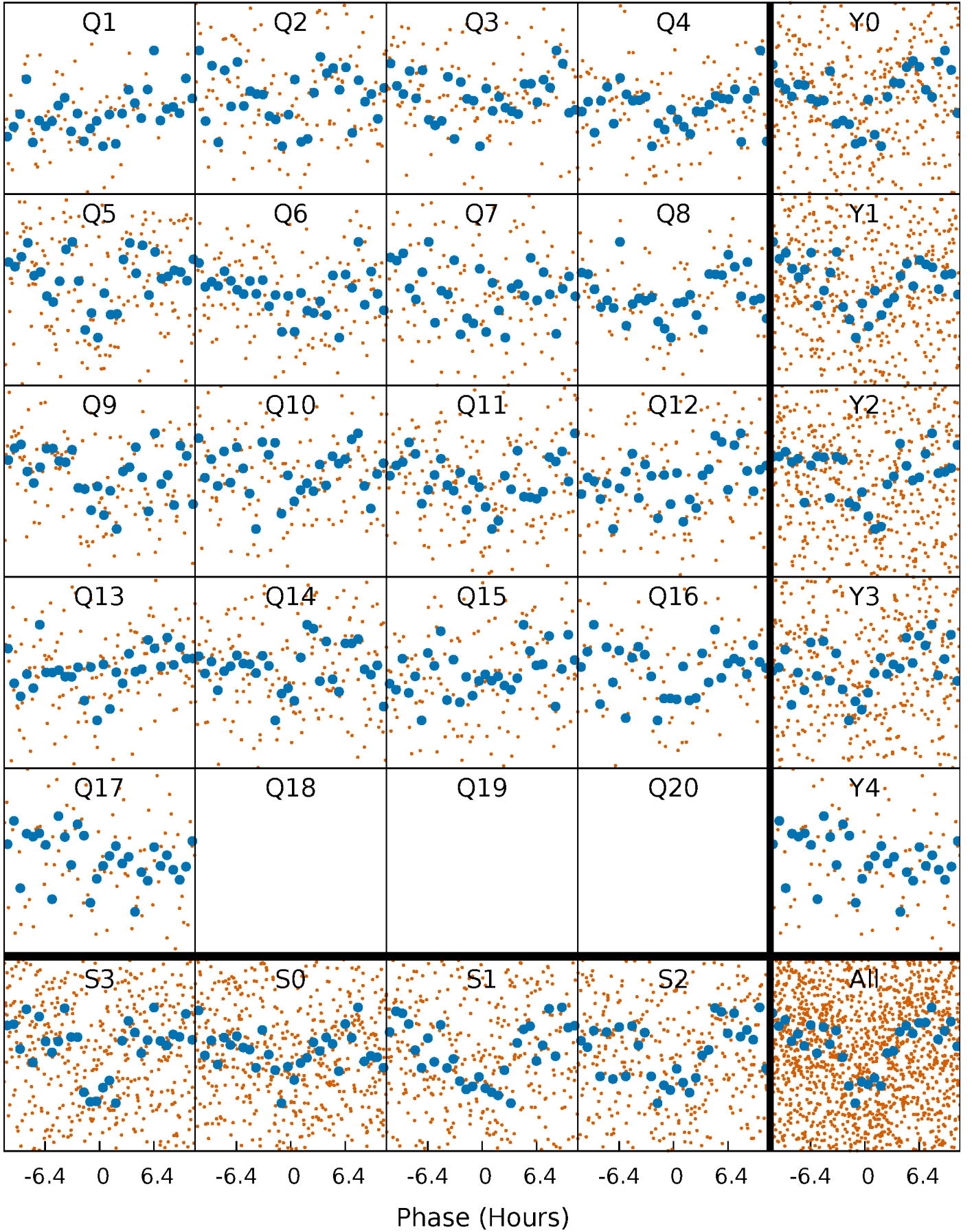


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

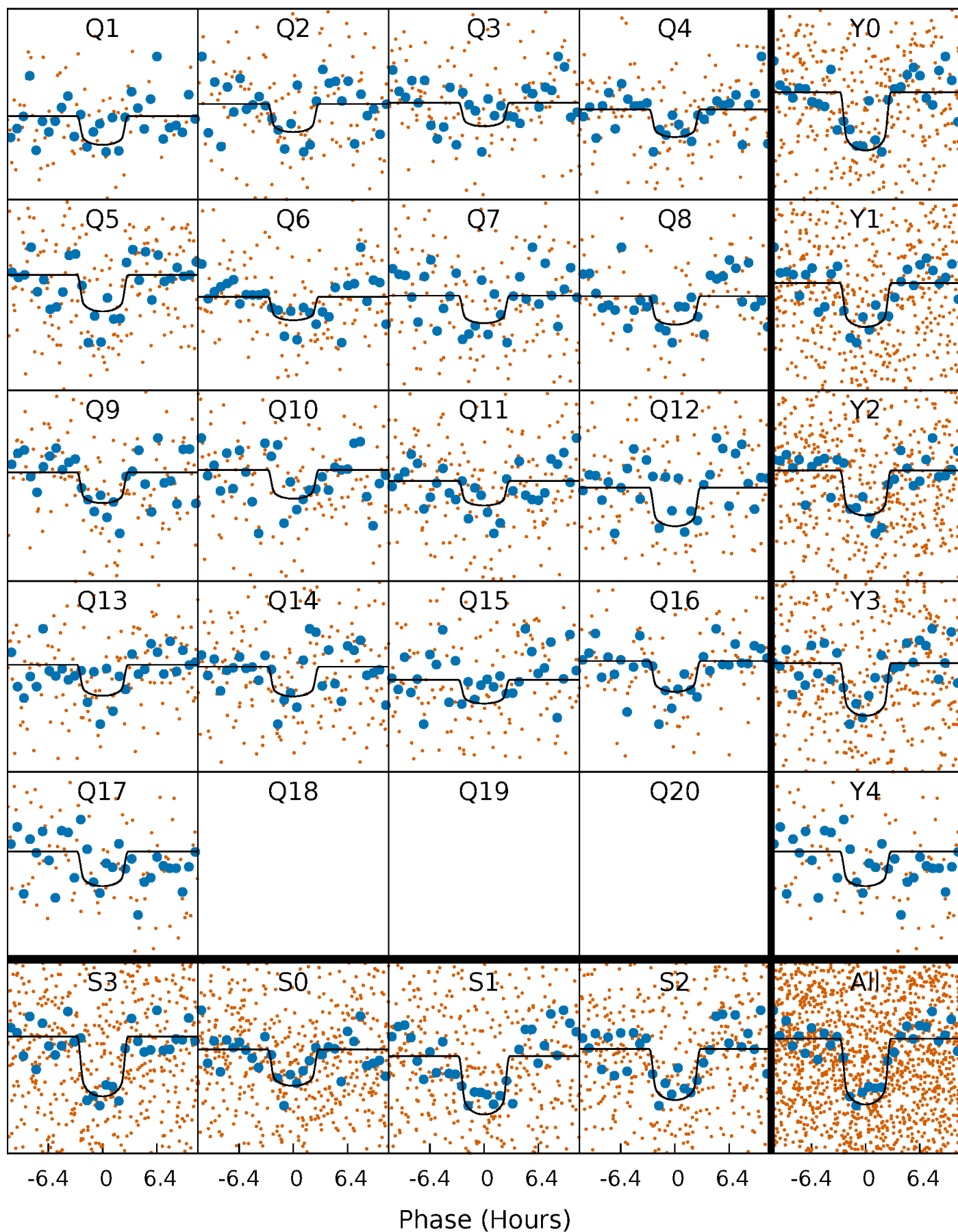
TCE 003752110-01   P= 27.942273 Days    $T_0=136.883401$  (BKJD)





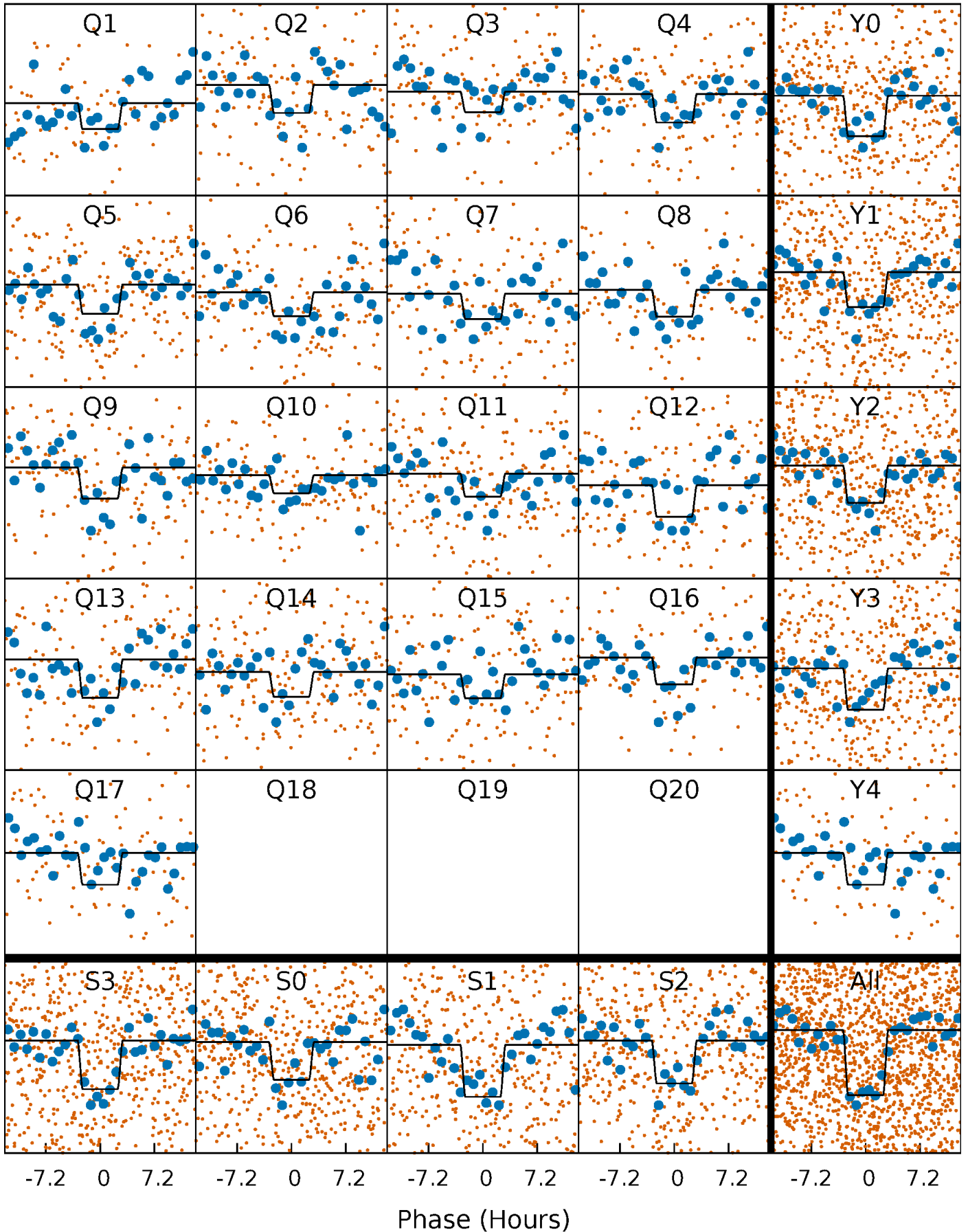
# DV Quarter-Phased Transit Curves

TCE 003752110-01 P= 27.942273 Days  $T_0=136.883401$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

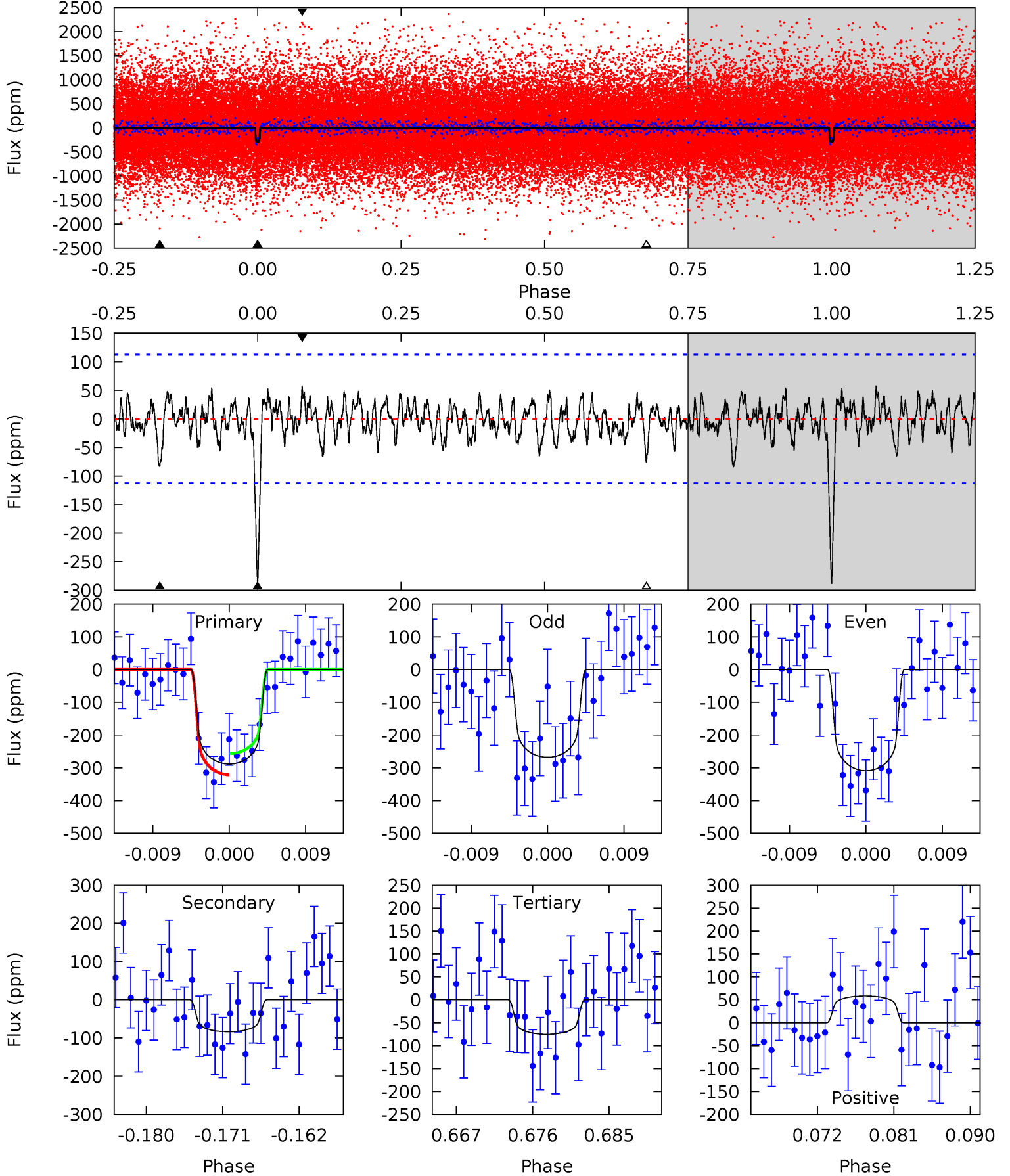
TCE 003752110-01 P= 27.942485 Days  $T_0=136.880730$  (BKJD)



# DV Model-Shift Uniqueness Test

003752110-01, P = 27.942273 Days, E = 108.941128 Days

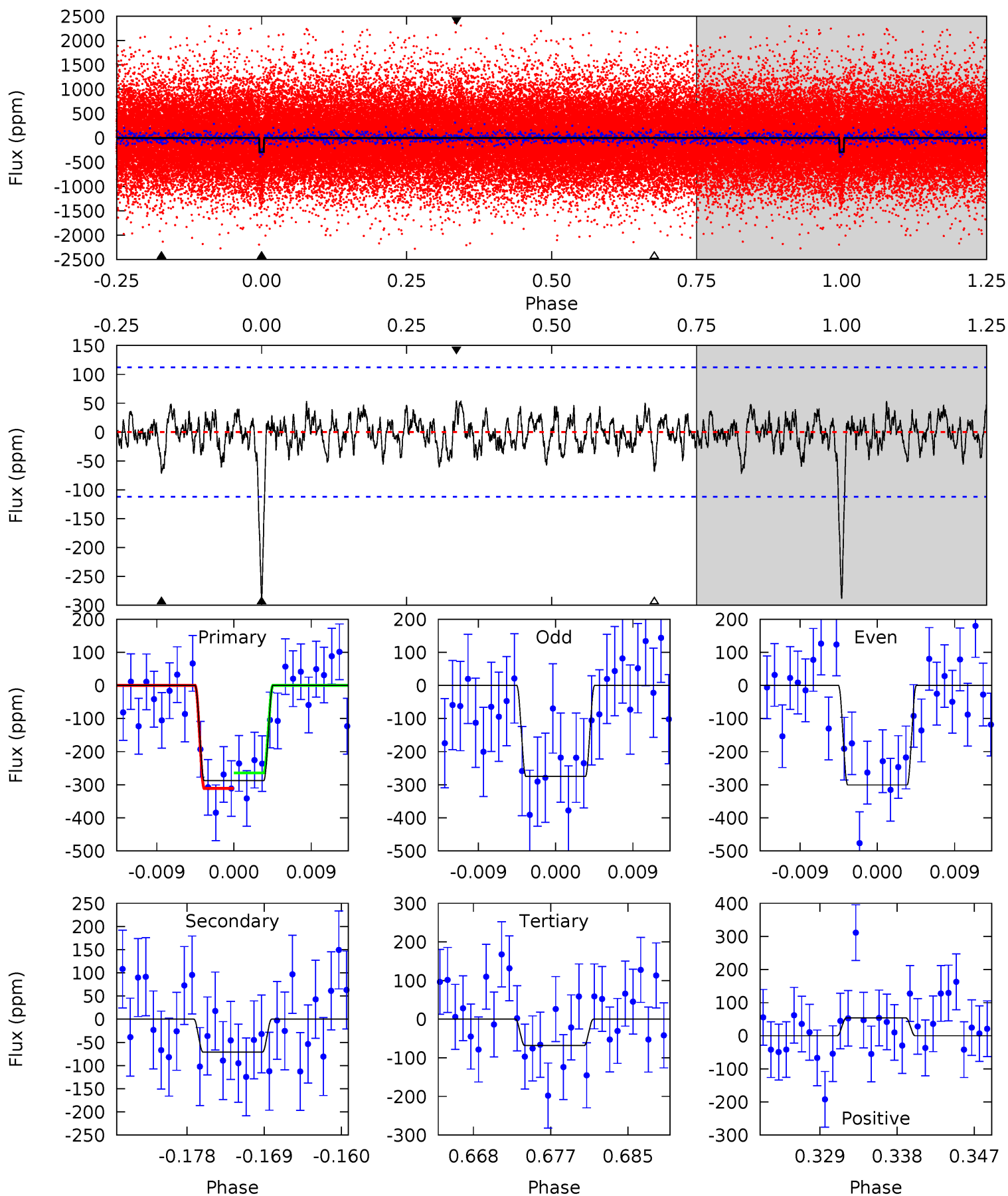
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	3.76	3.38	2.61	5.05	2.61	1.08	9.57	10.3	0.37	1.14	0.93	0.93	0.17	1.45



# Alt Model-Shift Uniqueness Test

003752110-01,  $P = 27.942485$  Days,  $E = 108.938245$  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
12.9	3.19	3.07	2.43	5.05	2.62	1.00	9.87	10.5	0.12	0.76	0.58	0.94	0.16	1.06



### Stellar Parameters For KIC 003752110

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6468^{+180}_{-225}$	$4.363^{+0.062}_{-0.200}$	$0.210^{+0.150}_{-0.350}$	$1.250^{+0.388}_{-0.139}$	$1.313^{+0.148}_{-0.185}$	$0.948^{+0.262}_{-0.495}$
	+3%/-3%	+1%/-5%	+71%/-167%	+31%/-11%	+11%/-14%	+28%/-52%
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 003752110-01 / KOI 3142.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-84 \pm 22$	$2.65^{+0.86}_{-0.76}$	$1022^{+72}_{-54}$	$4629^{+769}_{-499}$	$245^{+270}_{-113}$
Alt.	$-71 \pm 22$	$2.47^{+0.91}_{-0.85}$	$1021^{+72}_{-50}$	$4619^{+908}_{-552}$	$235^{+348}_{-116}$

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



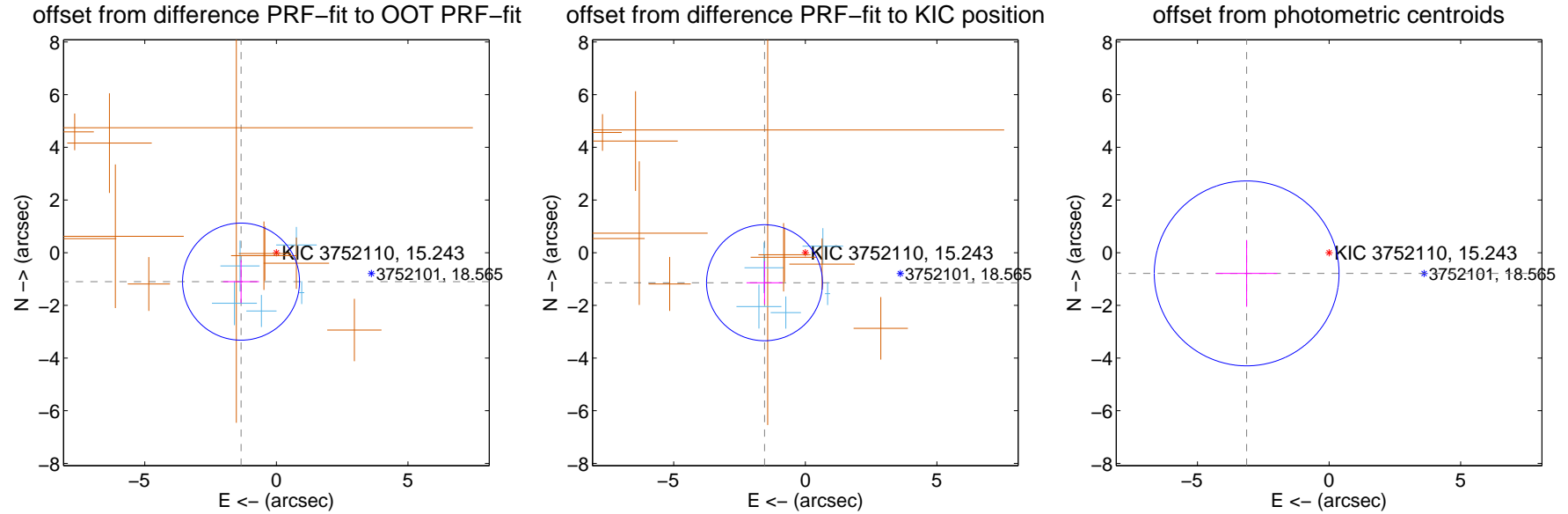
## DV Centroid Data

Supplemental centroid analysis for 003752110-01. Kepler magnitude: 15.24. Transit SNR 11.15

There are 5 quarters with good PRF difference image offsets

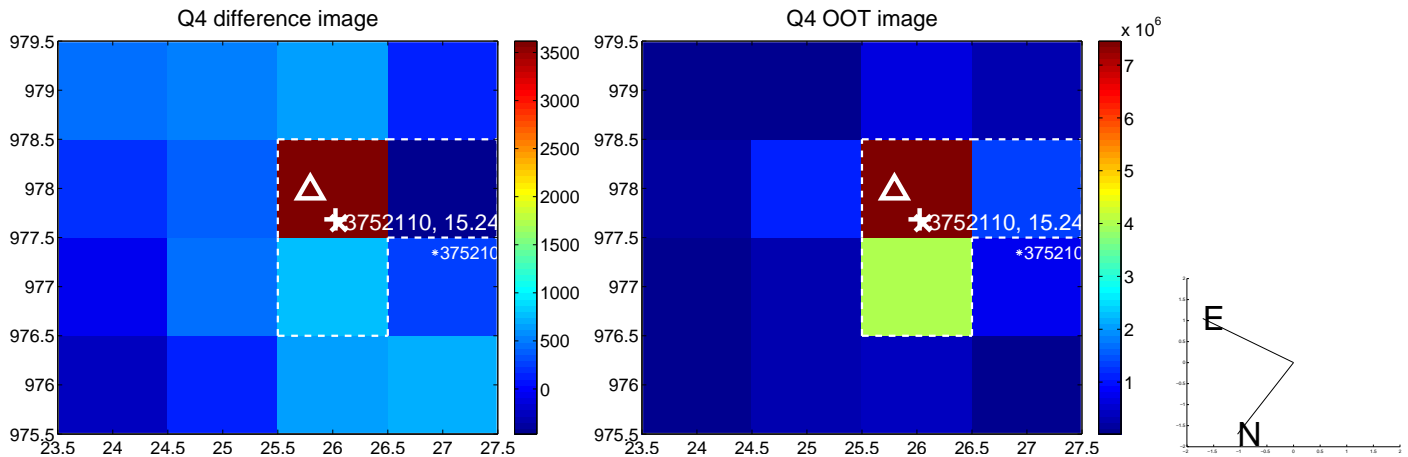
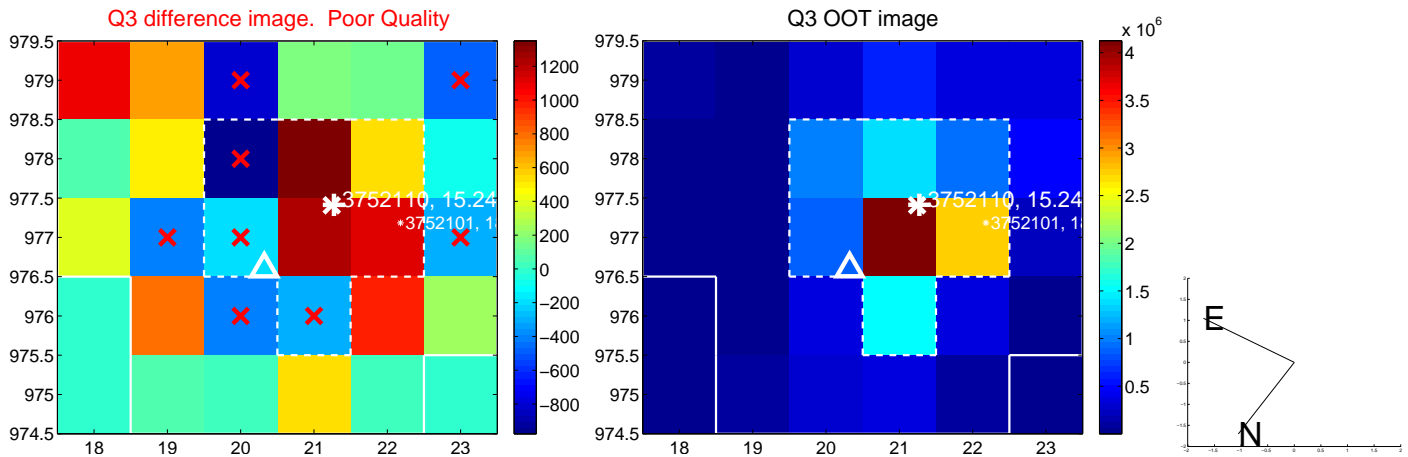
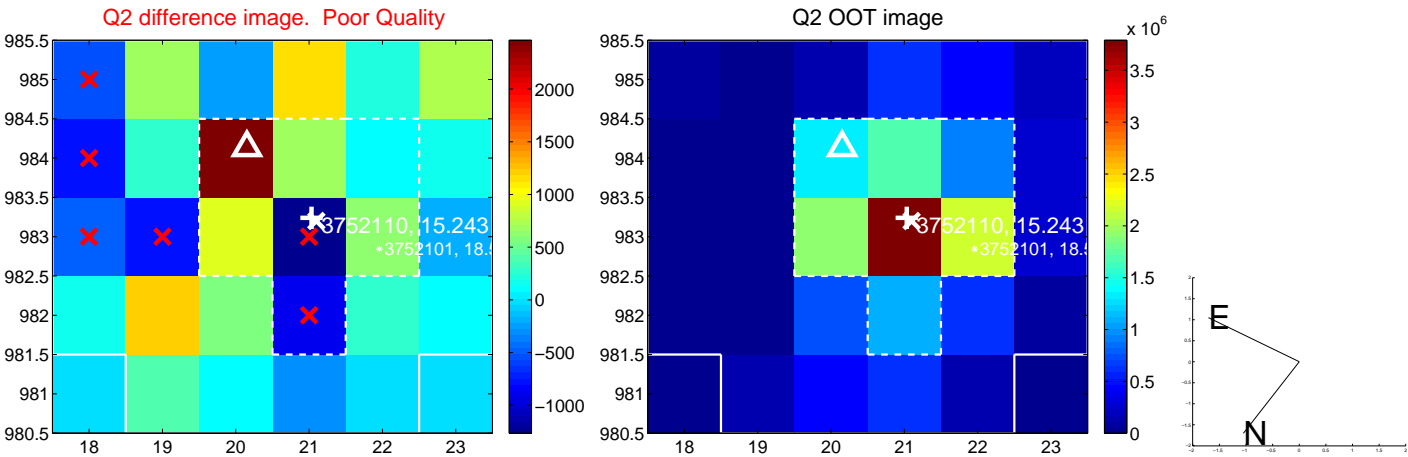
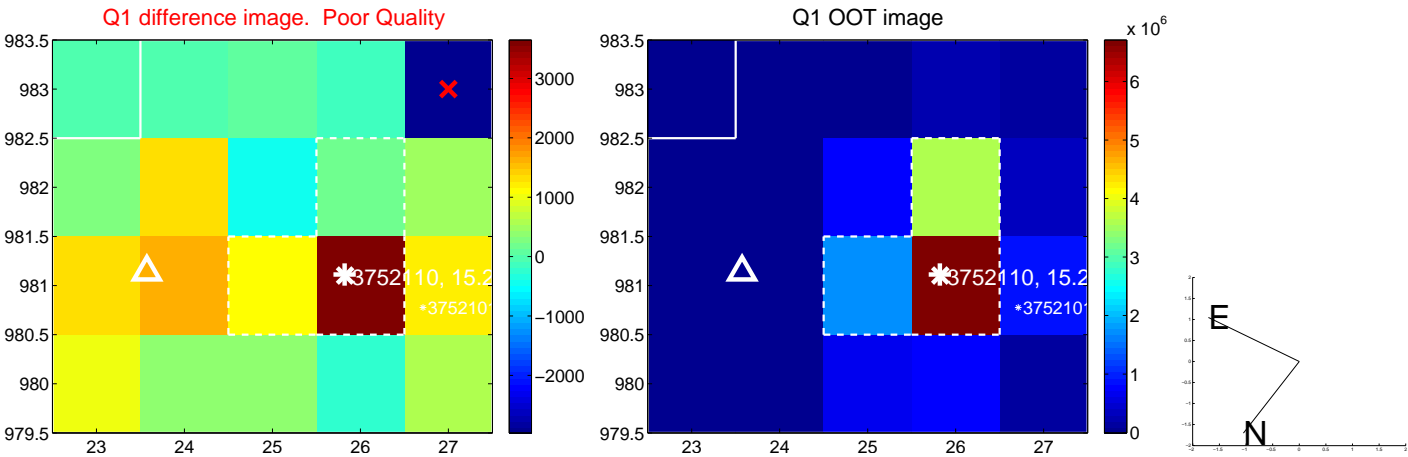
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.735 \pm 0.741$	2.34	$1.343 \pm 0.684$	$-1.099 \pm 0.818$
PRF-fit source offset from KIC position	$1.924 \pm 0.734$	2.62	$1.550 \pm 0.684$	$-1.141 \pm 0.818$
photometric centroid source offset	$3.23 \pm 1.17$	2.76	$3.13 \pm 1.16$	$-0.79 \pm 1.27$

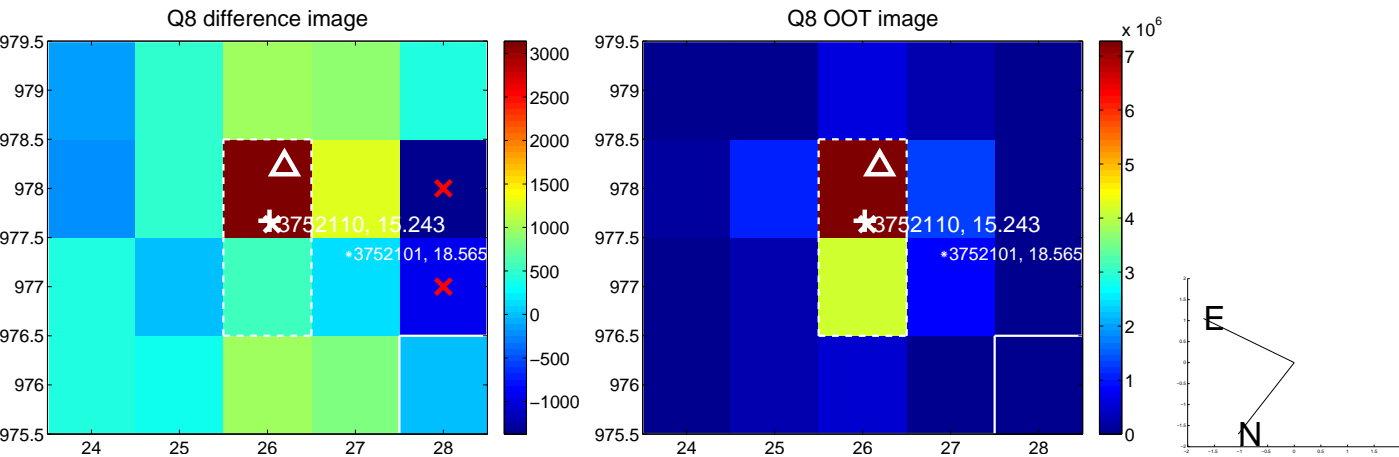
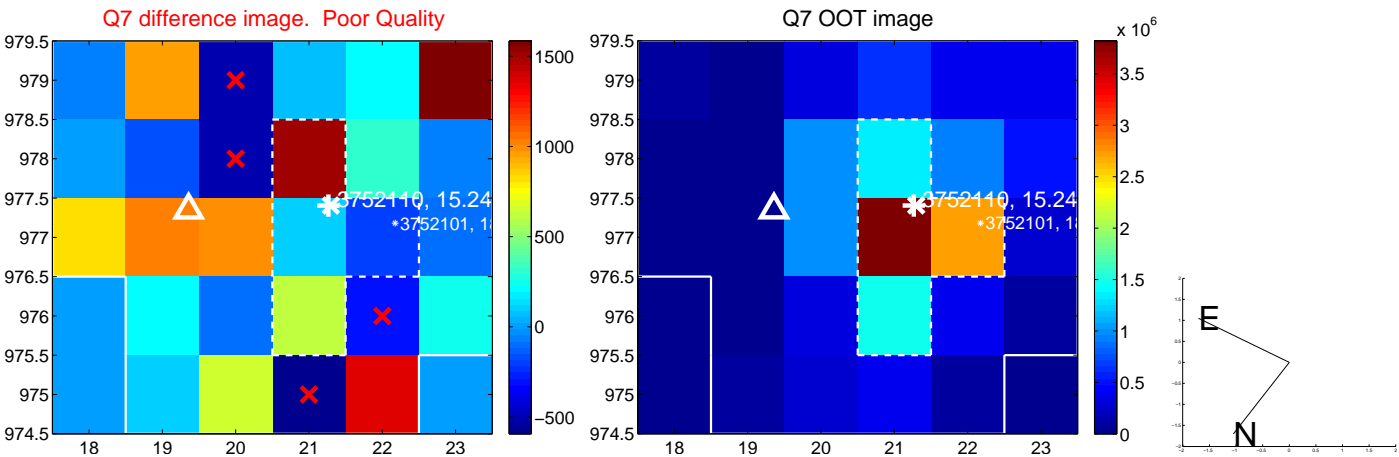
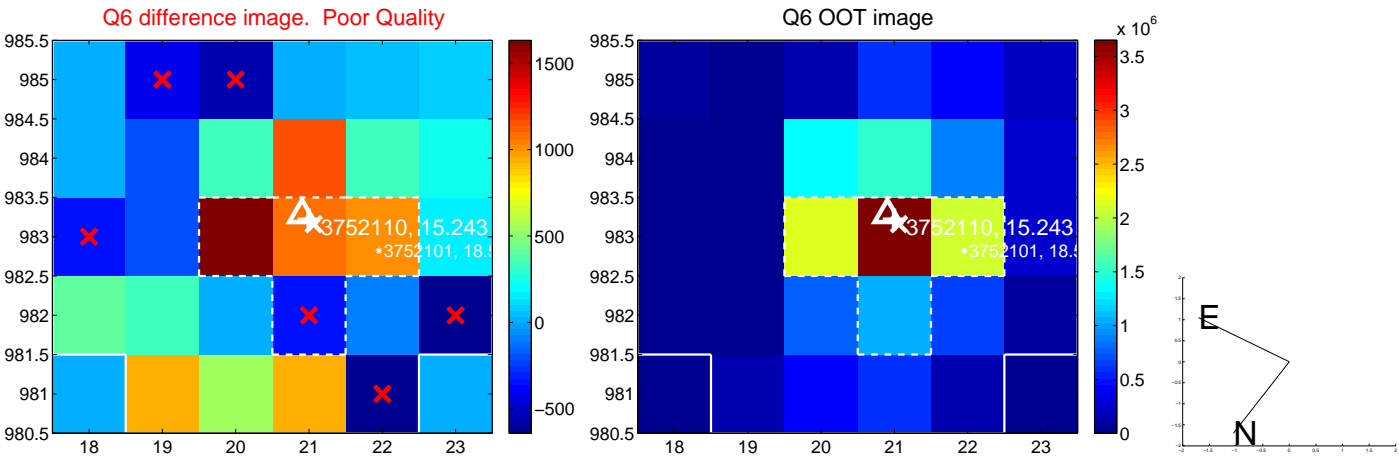
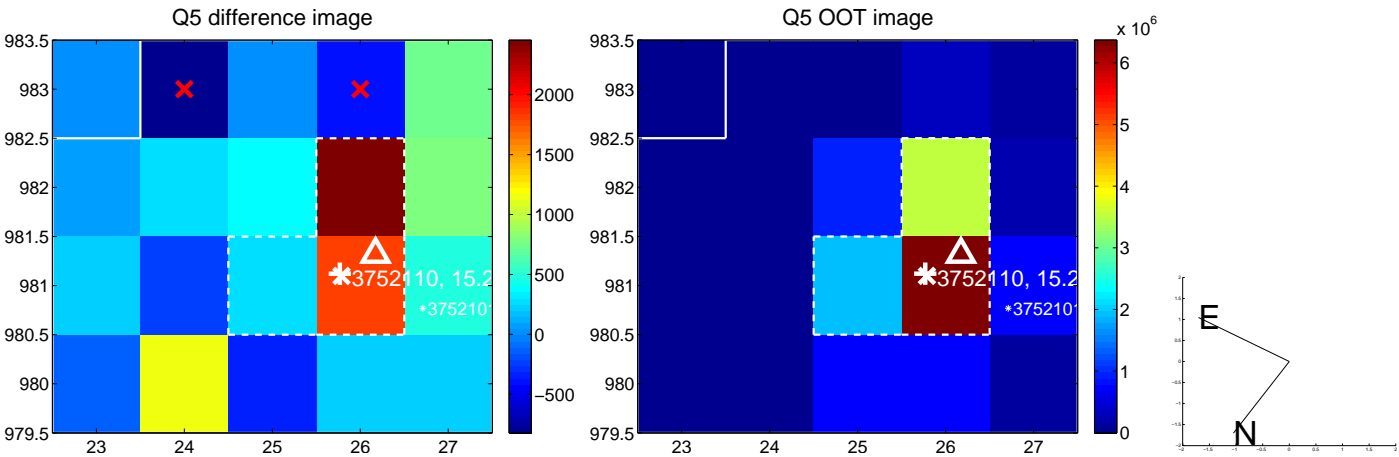


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

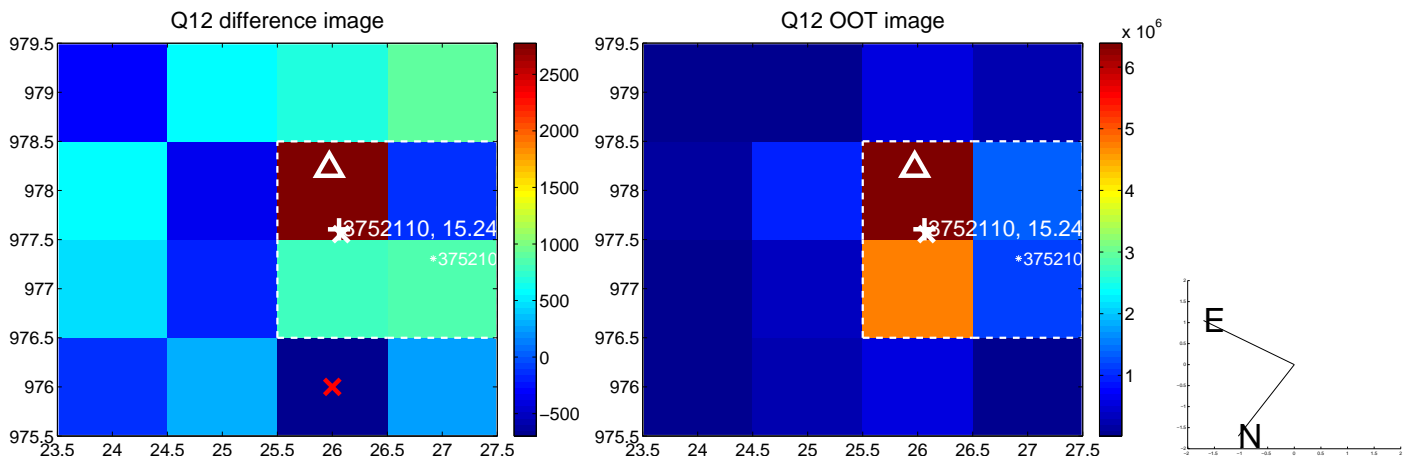
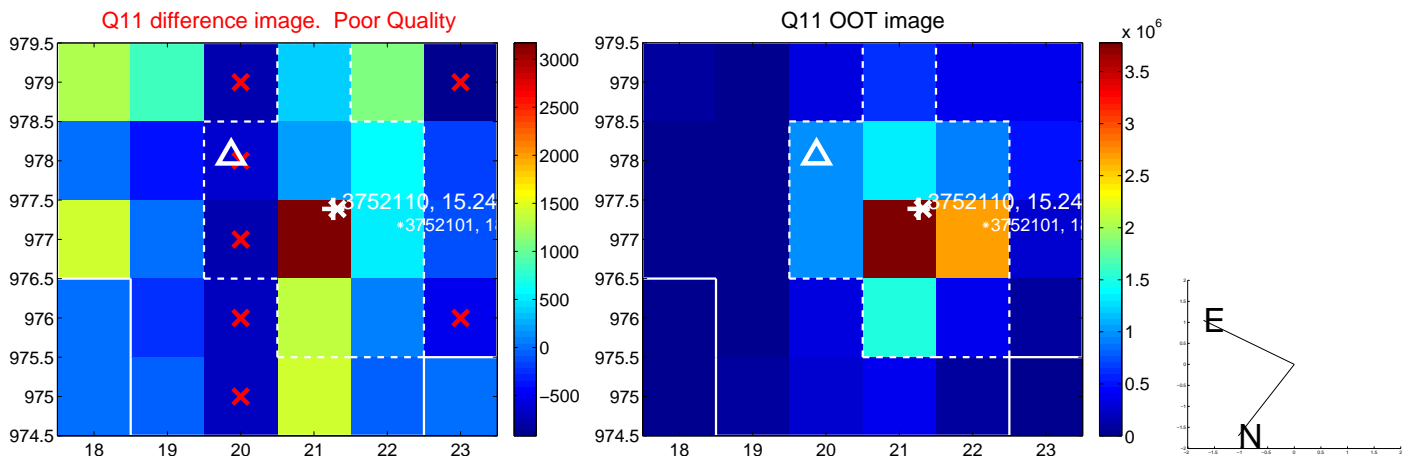
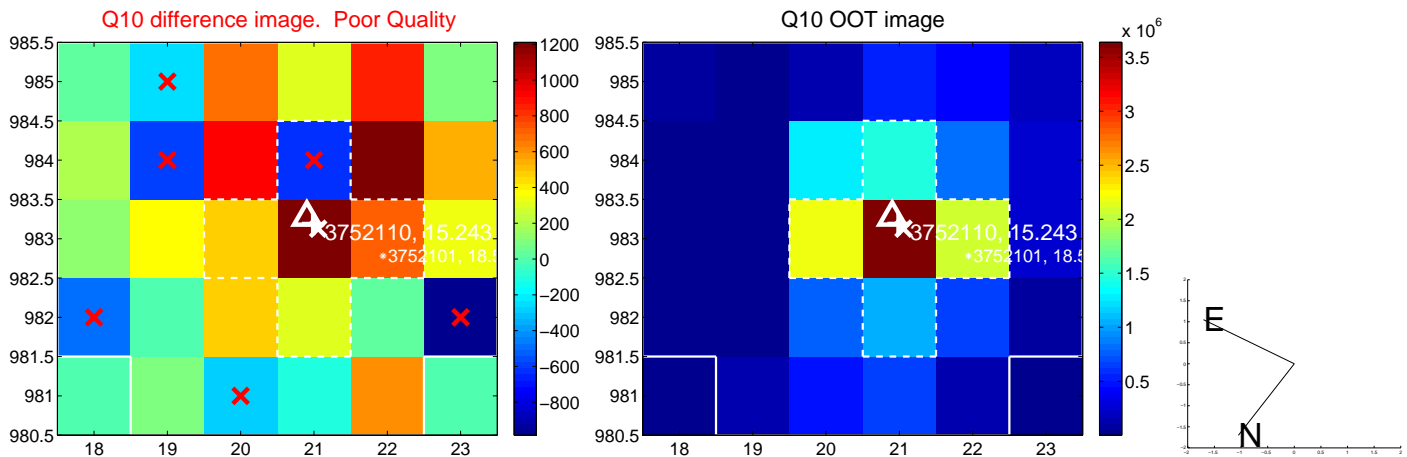
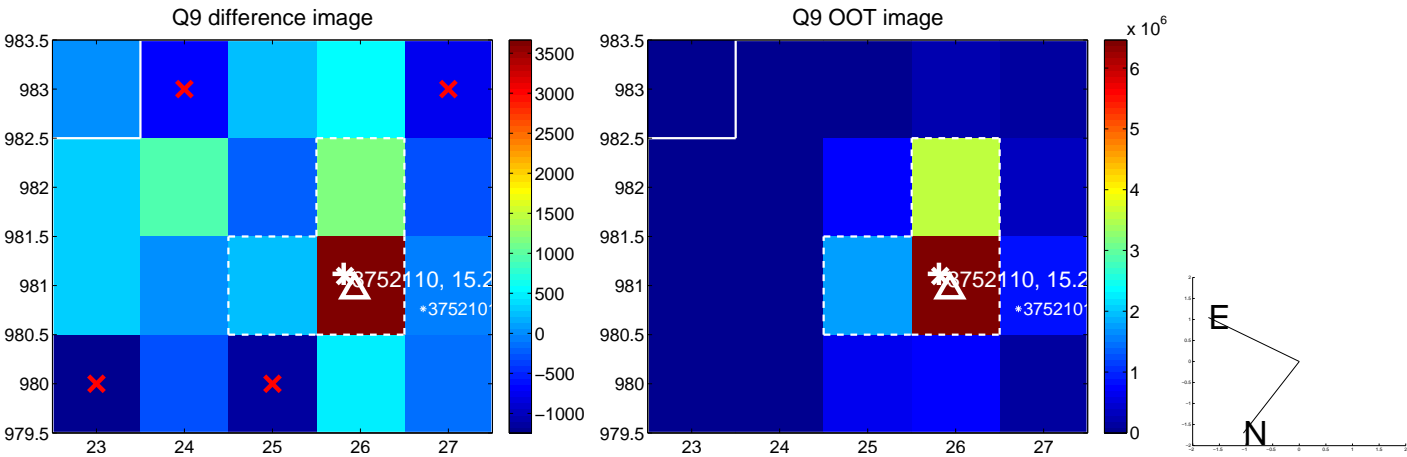
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



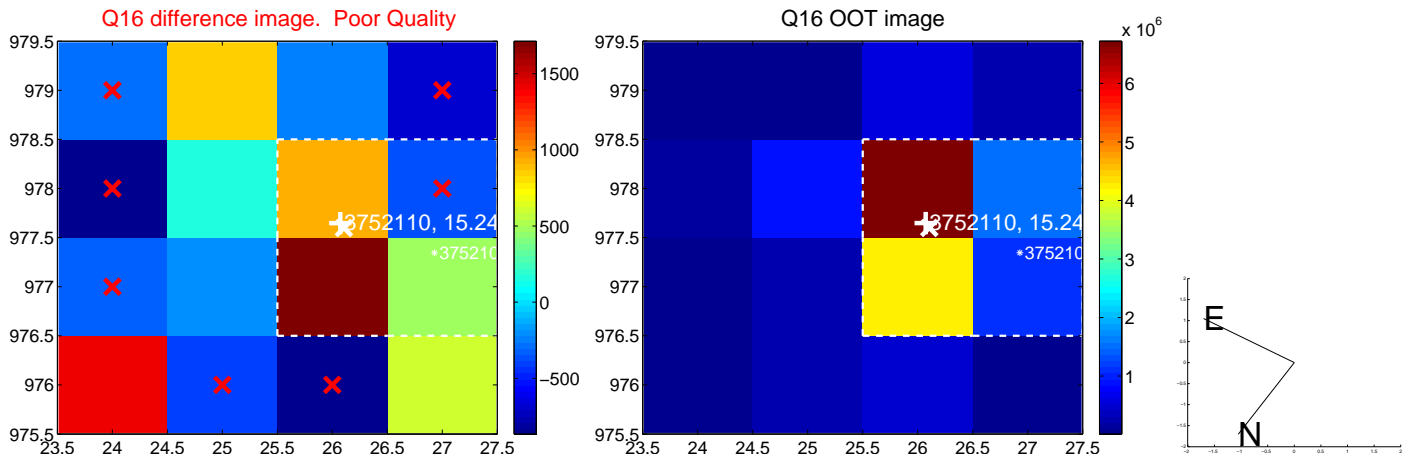
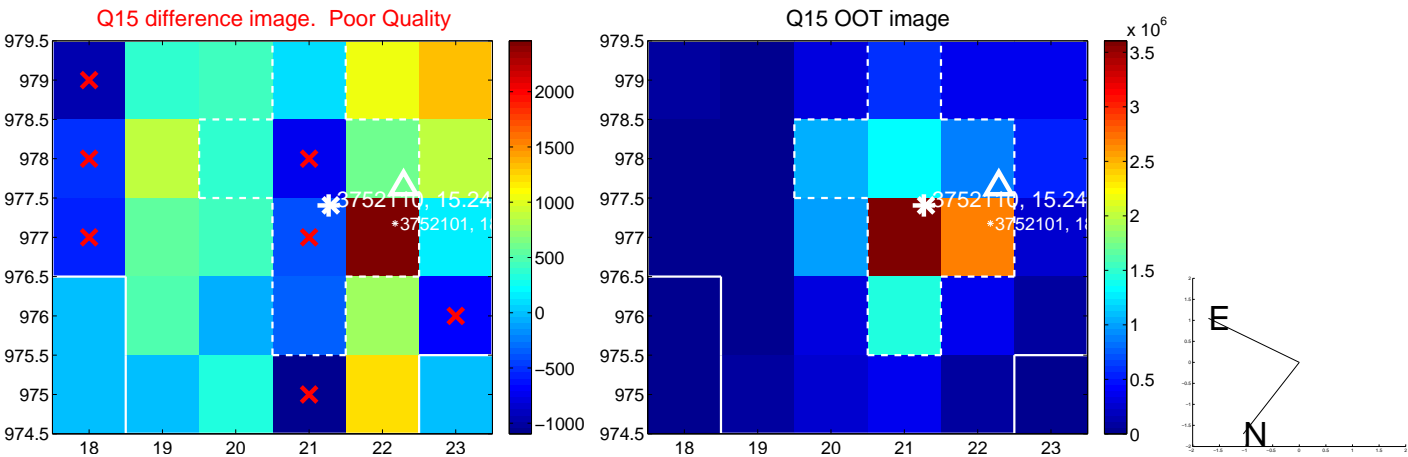
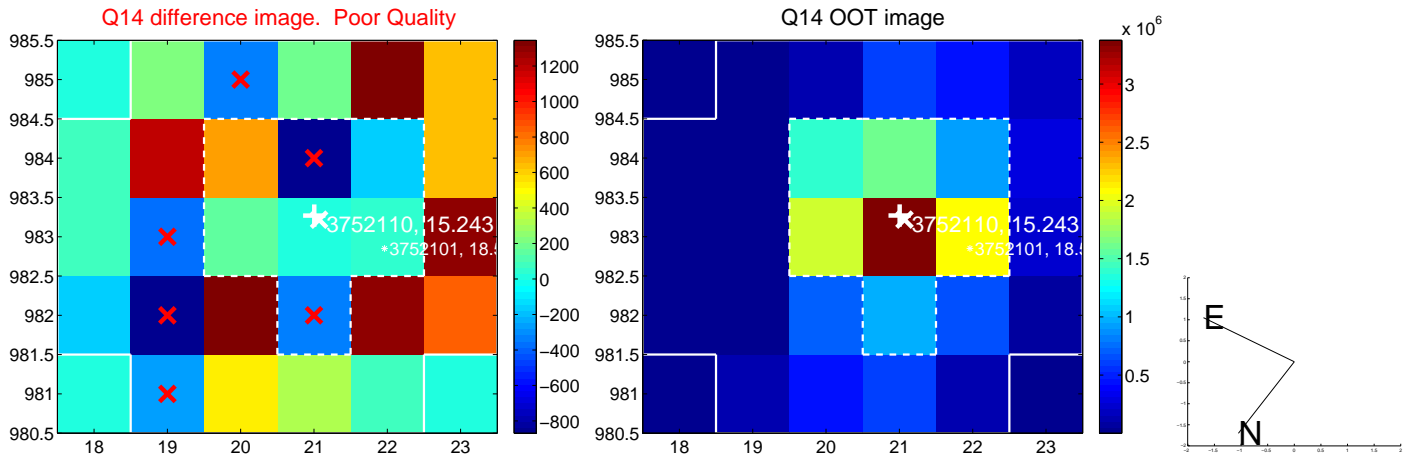
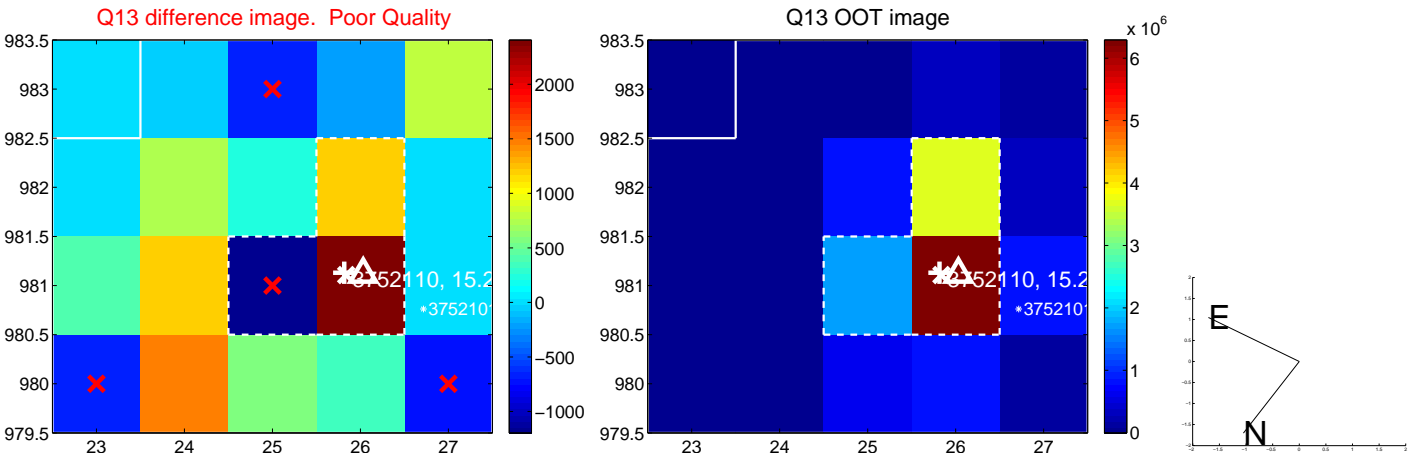
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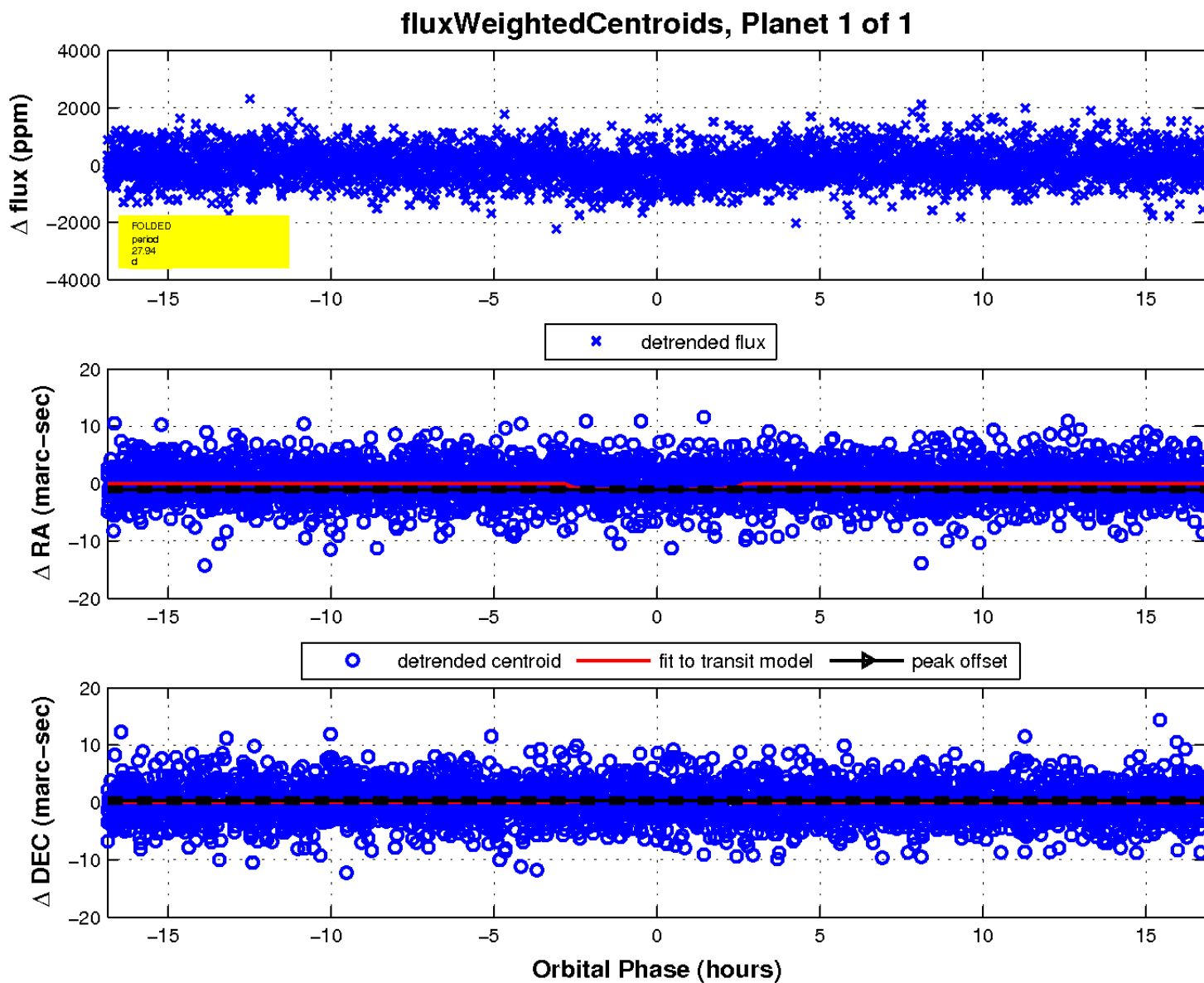
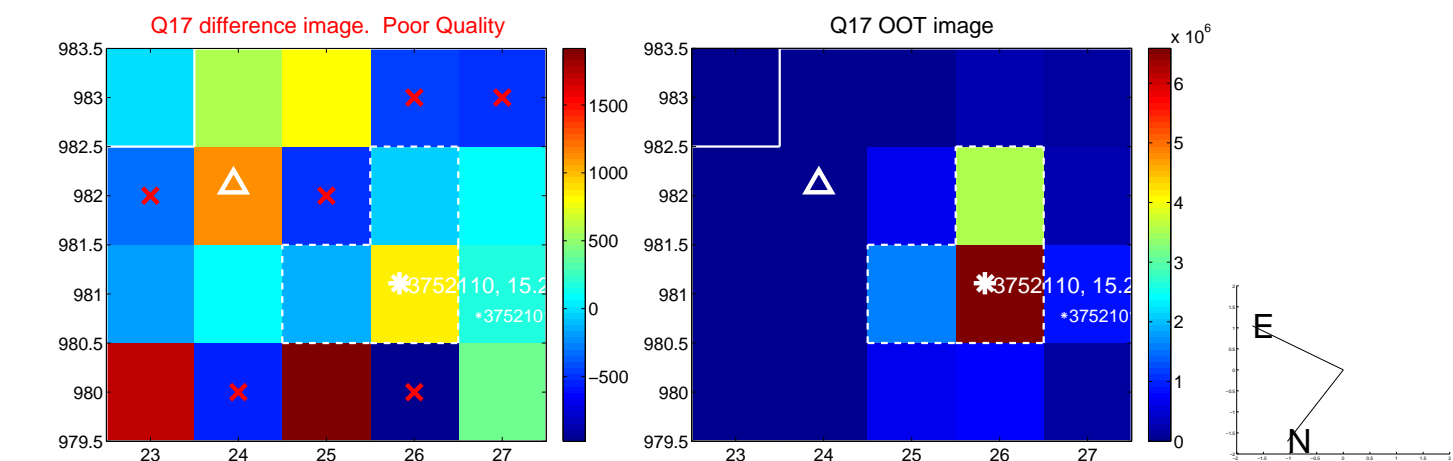


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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

