

# KIC 005651829

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005651829-01	OBS	4778.01	0.772138	132.211337	29.1	1.398	10.4	10.4	2.08	5951	1.32	18324.70

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005651829-01	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.

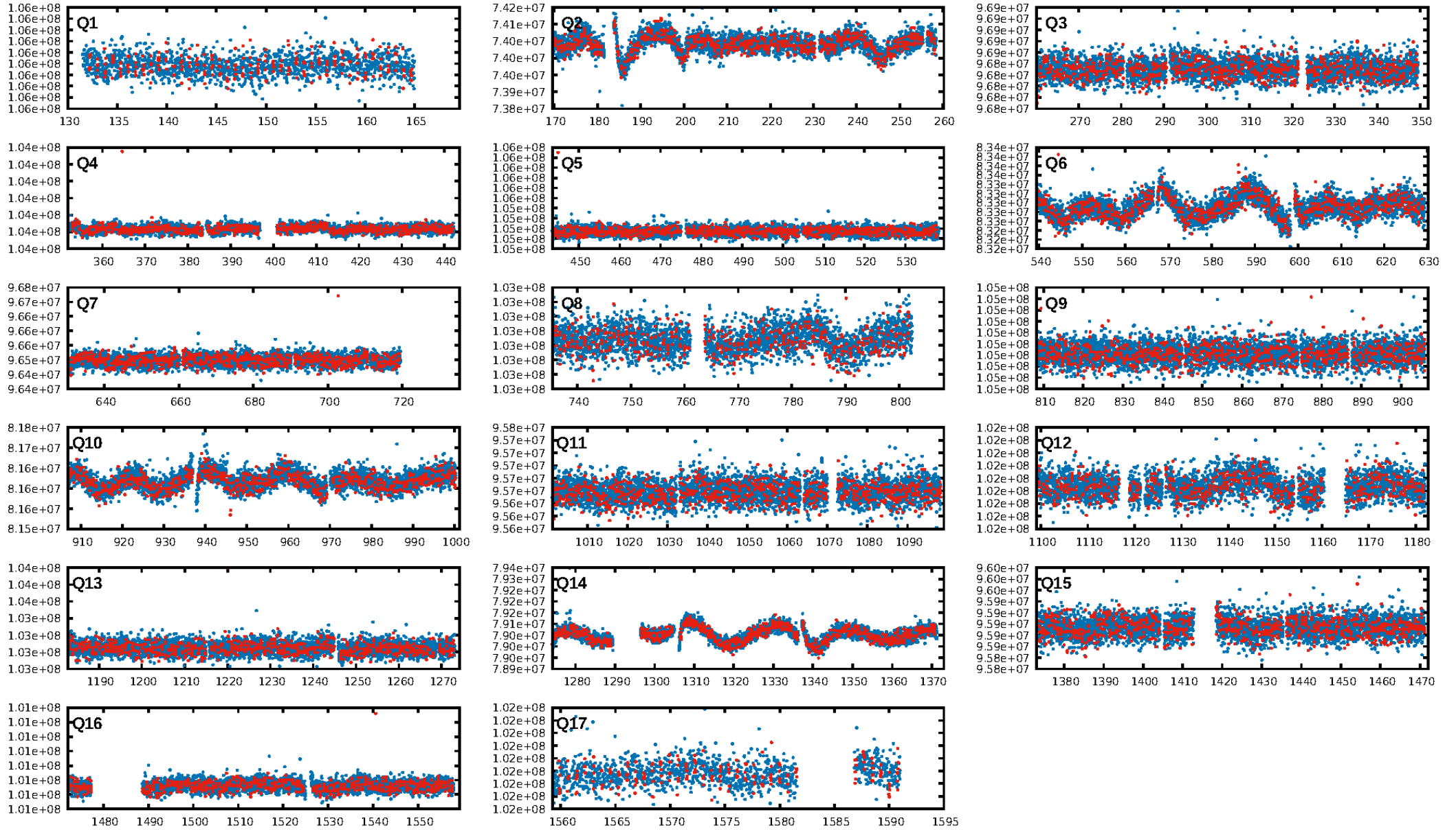
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005651829-01

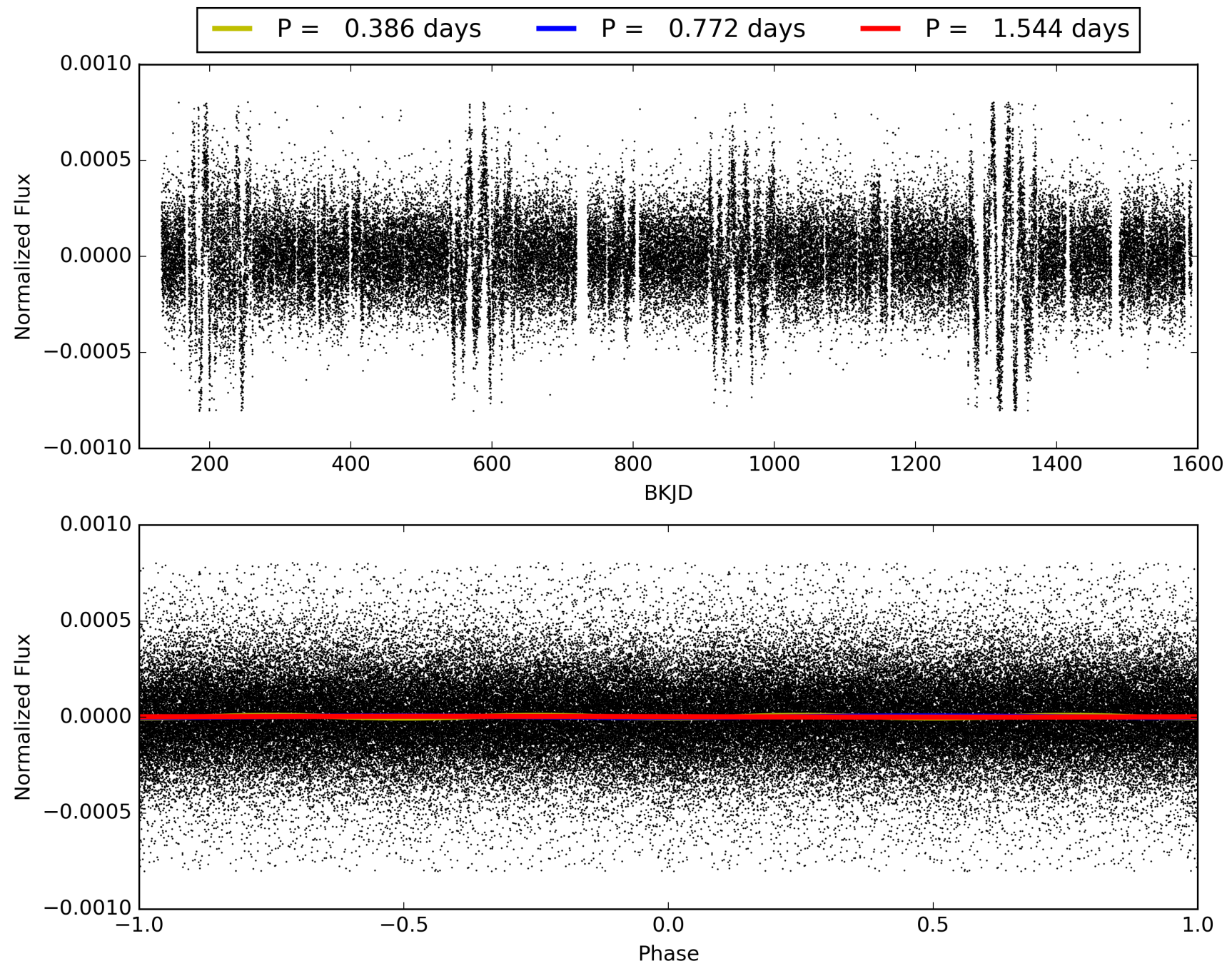
No Significant Match Found

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

# TCE 005651829-01, PDC Light Curves



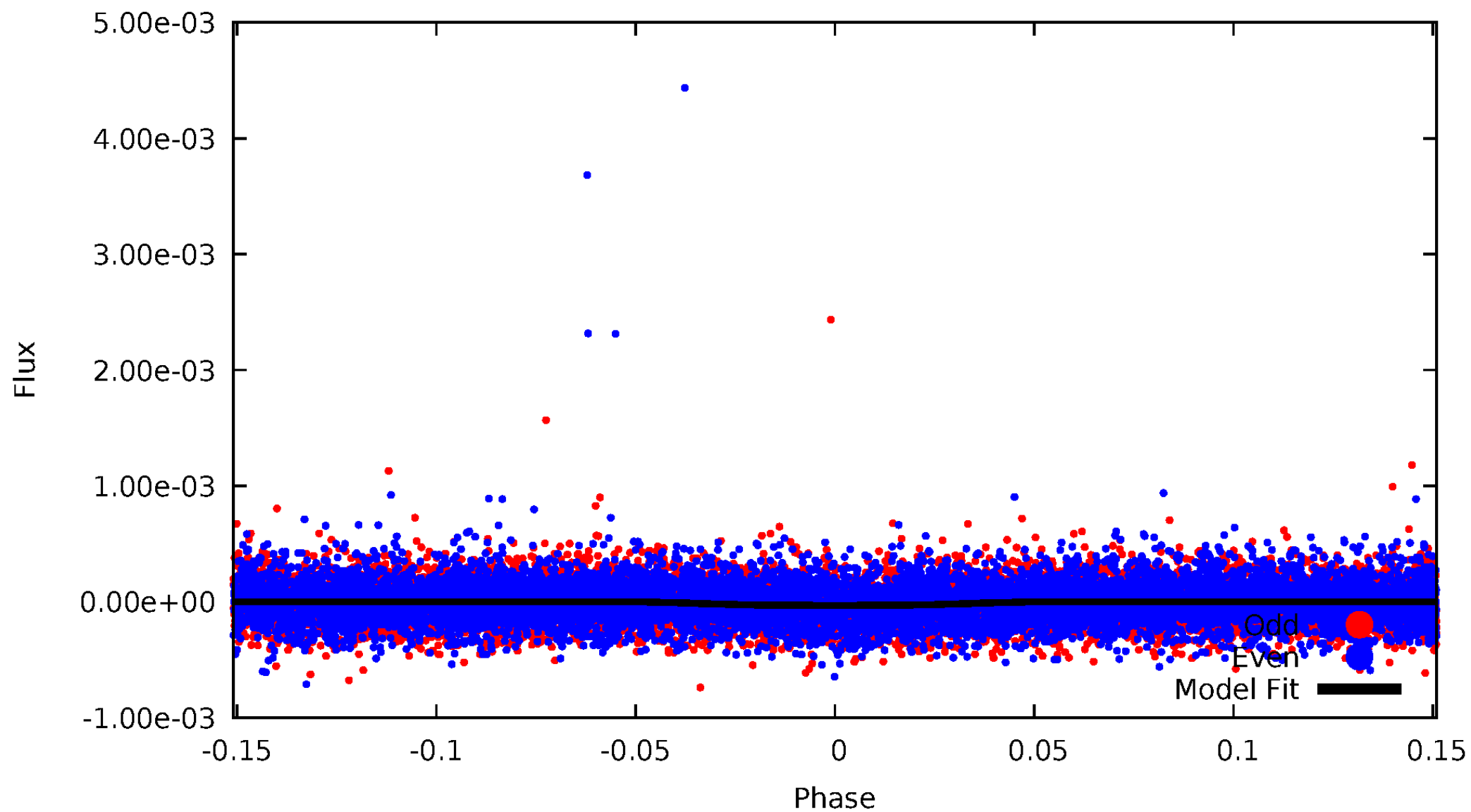
TCE 005651829-01





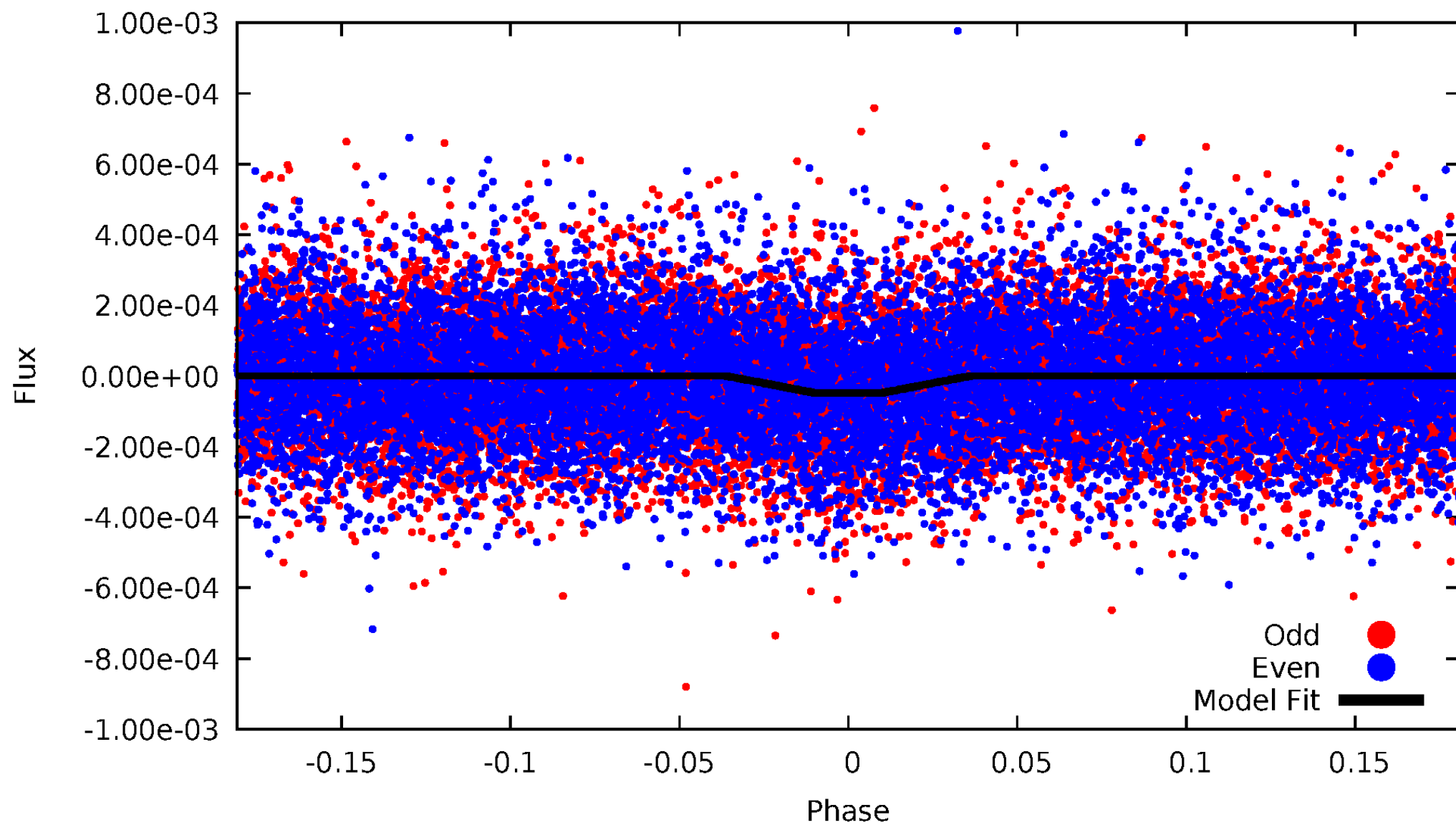
# DV Odd/Even

TCE 005651829-01



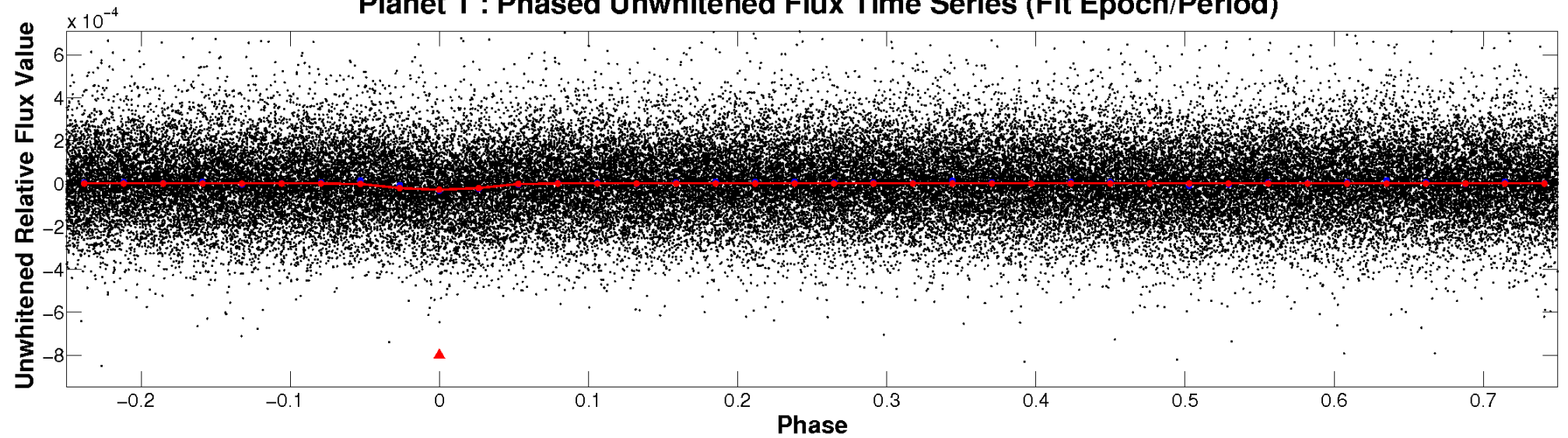
# ALT Odd/Even

TCE 005651829-01

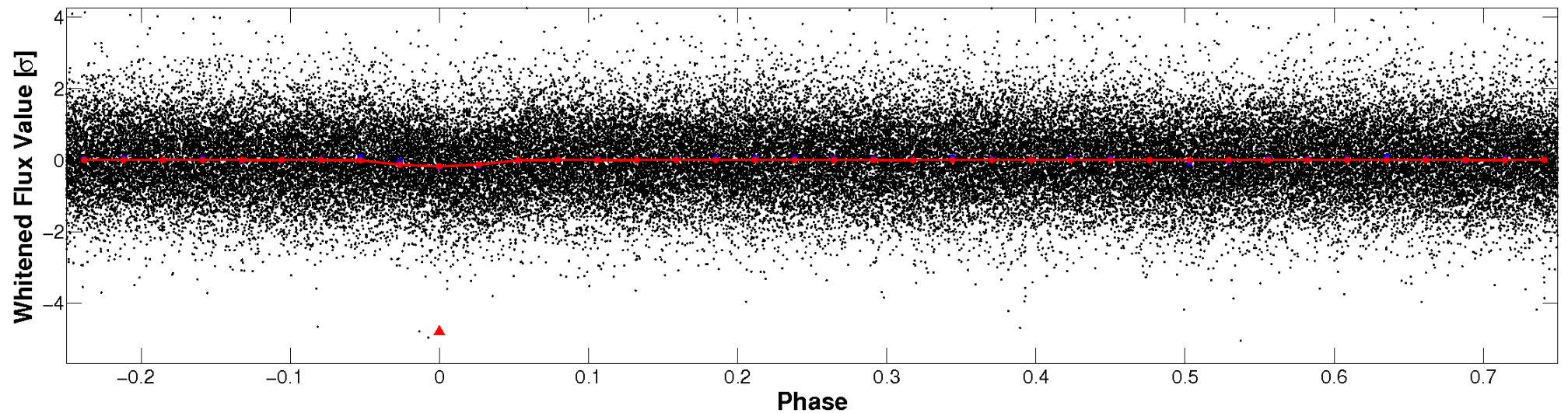


# Non-Whitened Vs. Whitened Light Curve

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

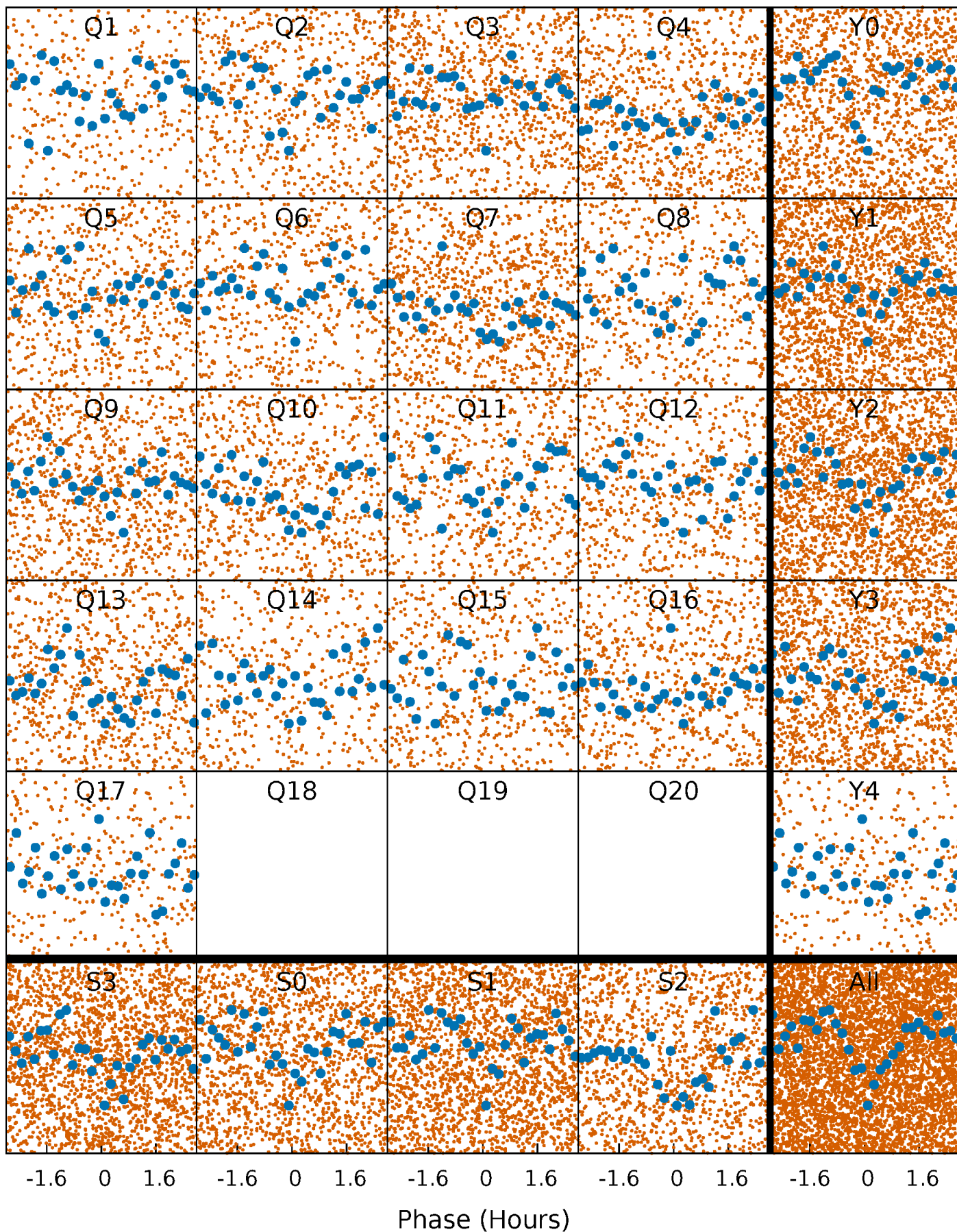


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

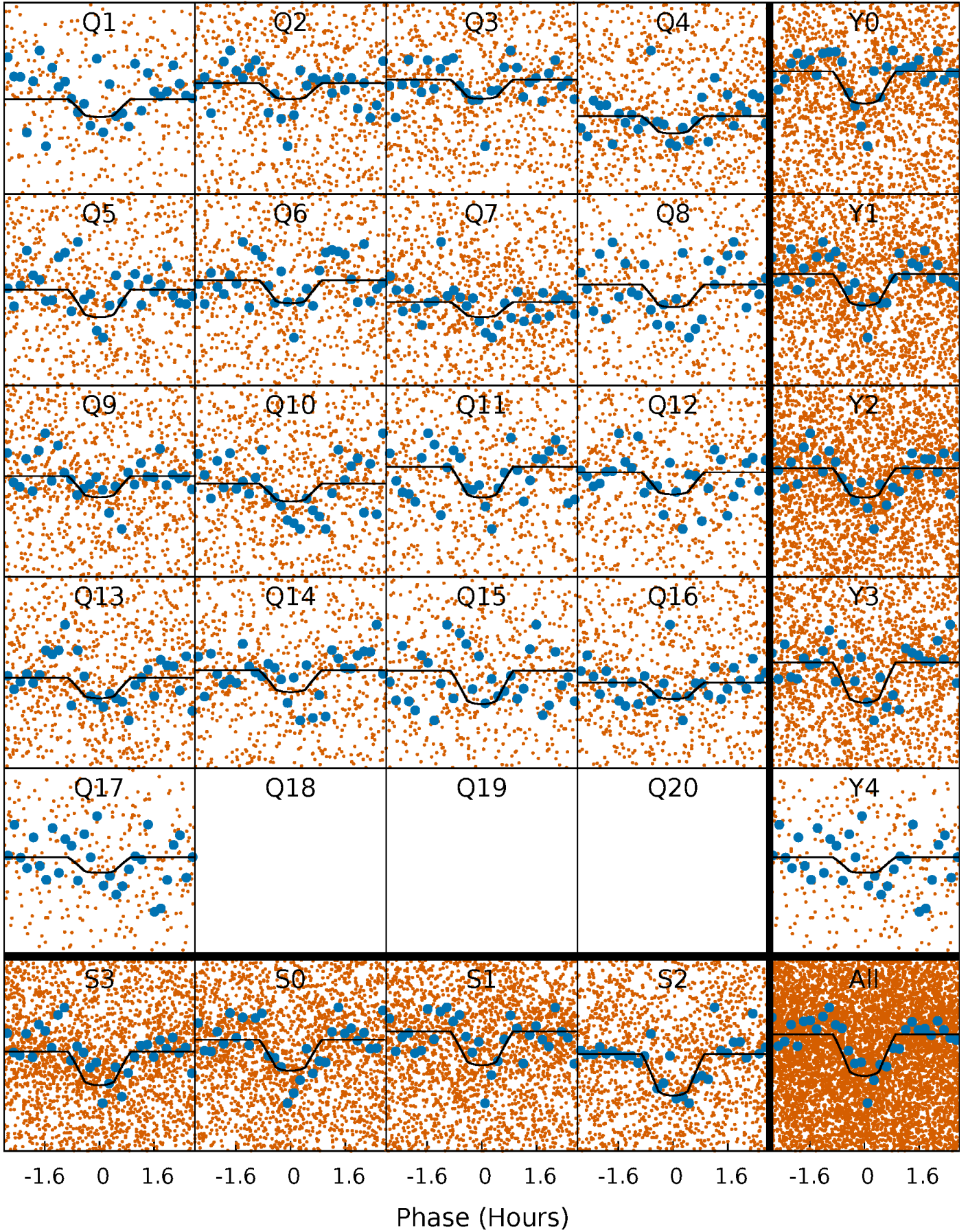
TCE 005651829-01 P= 0.772138 Days  $T_0=132.211337$  (BKJD)





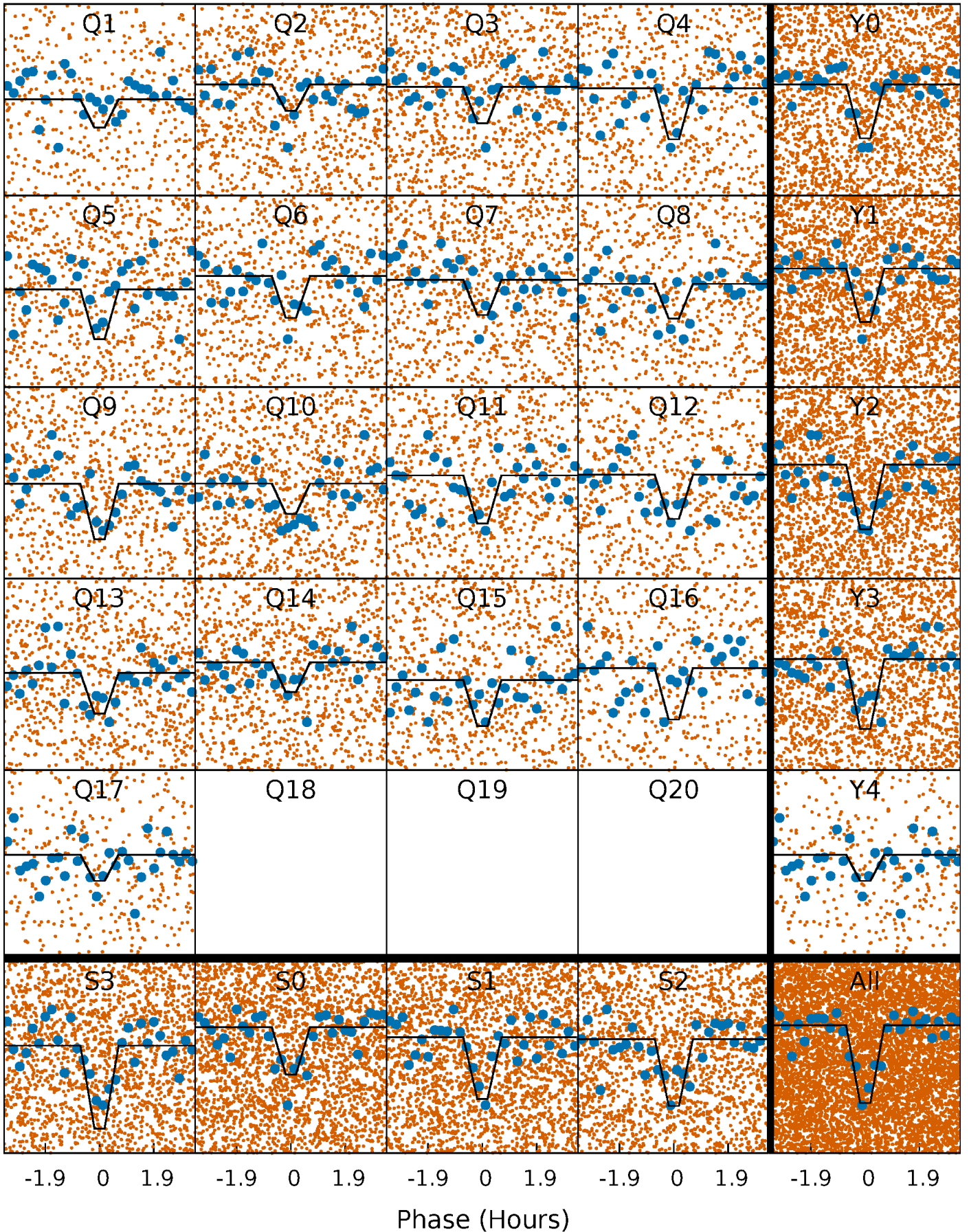
# DV Quarter-Phased Transit Curves

TCE 005651829-01 P= 0.772138 Days  $T_0=132.211337$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

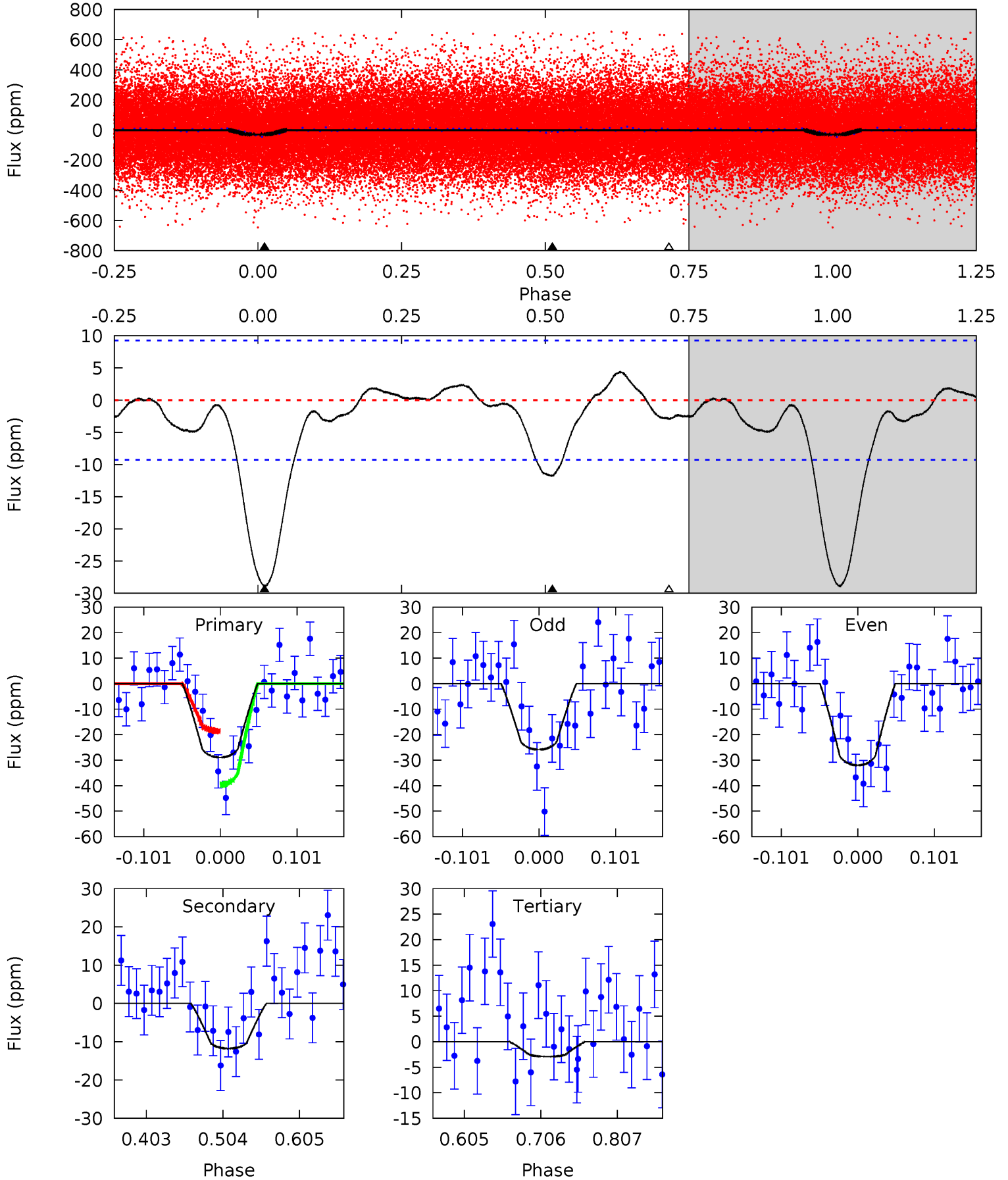
TCE 005651829-01 P= 0.772151 Days  $T_0=132.208135$  (BKJD)



# DV Model-Shift Uniqueness Test

005651829-01, P = 0.772138 Days, E = 131.439199 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
14.2	5.79	1.43	0	4.56	1.64	1.11	12.8	14.2	4.36	5.79	1.52	0.93	0.13	5.20

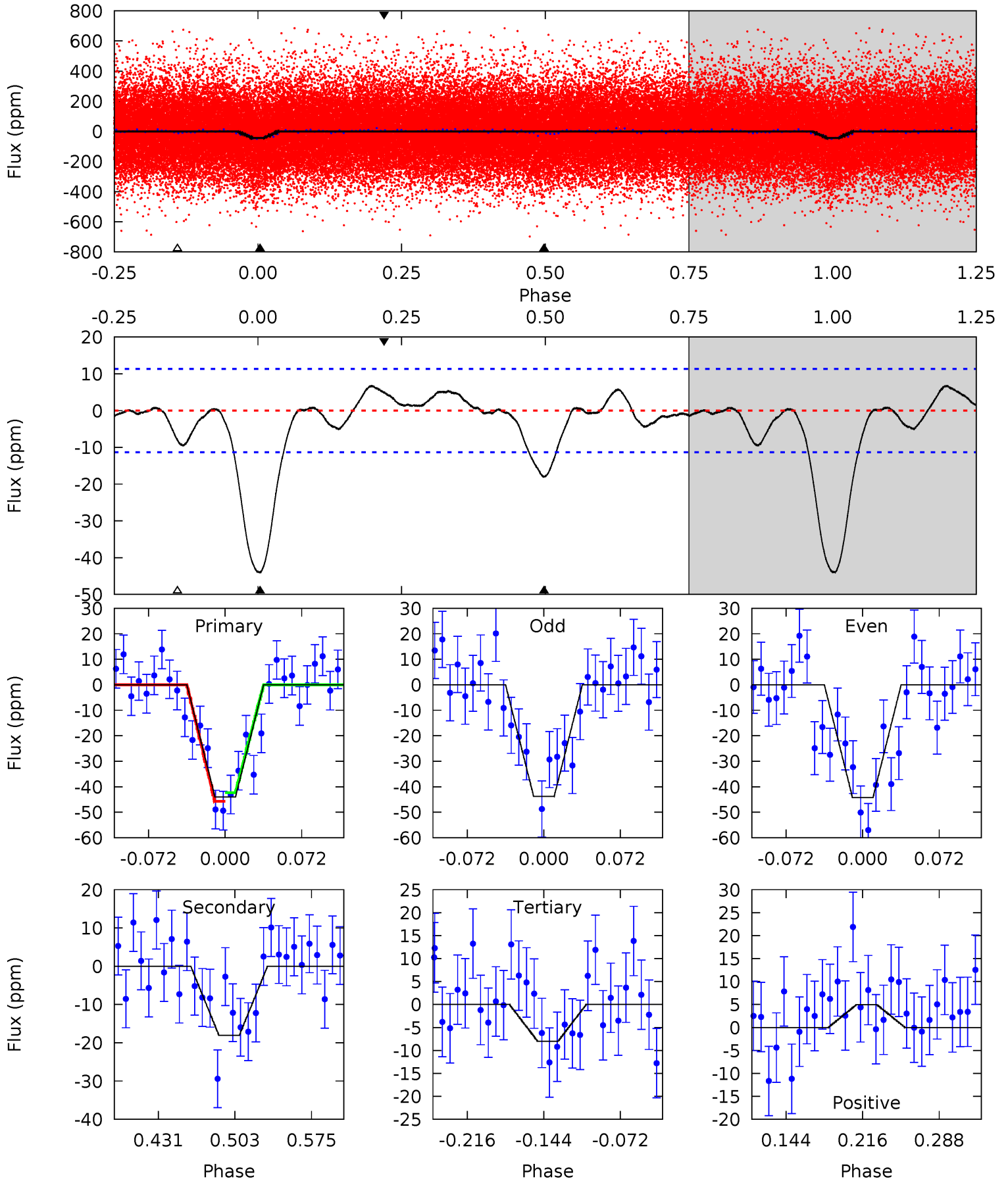




# Alt Model-Shift Uniqueness Test

005651829-01, P = 0.772151 Days, E = 131.435984 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
18.0	7.37	3.27	2.02	4.63	1.80	1.36	14.7	16.0	4.10	5.35	0.09	1.05	0.13	0.70





### Stellar Parameters For KIC 005651829

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5951^{+197}_{-179}$	$3.787^{+0.667}_{-0.178}$	$-0.800^{+0.300}_{-0.250}$	$2.080^{+0.677}_{-1.258}$	$0.967^{+0.143}_{-0.175}$	$0.151^{+1.621}_{-0.088}$
	+3%/-3%	+18%/-5%	+37%/-31%	+33%/-60%	+15%/-18%	+1071%/-58%
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 005651829-01 / KOI 4778.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-12 \pm 2$	$1.20^{+0.49}_{-0.43}$	$4088^{+369}_{-681}$	$4444^{+798}_{-620}$	$1.203^{+1.633}_{-0.600}$
Alt.	$-18 \pm 2$	$1.46^{+0.51}_{-0.51}$	$4065^{+412}_{-648}$	$4518^{+668}_{-551}$	$1.249^{+1.740}_{-0.583}$

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

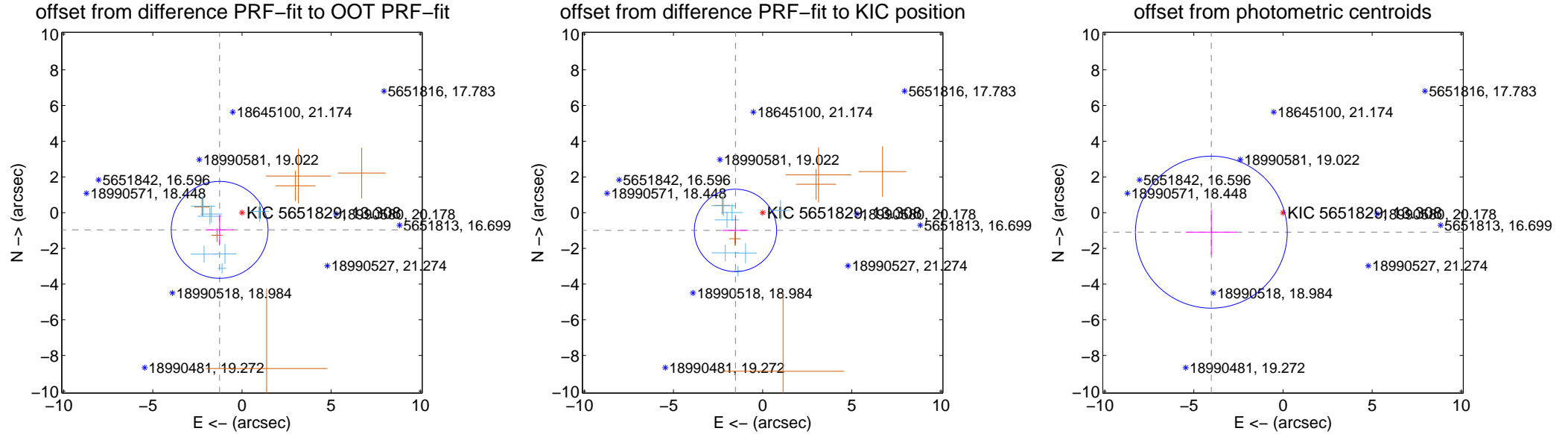
## DV Centroid Data

Supplemental centroid analysis for 005651829-01. Kepler magnitude: 13.31. Transit SNR 10.36

There are 7 quarters with good PRF difference image offsets

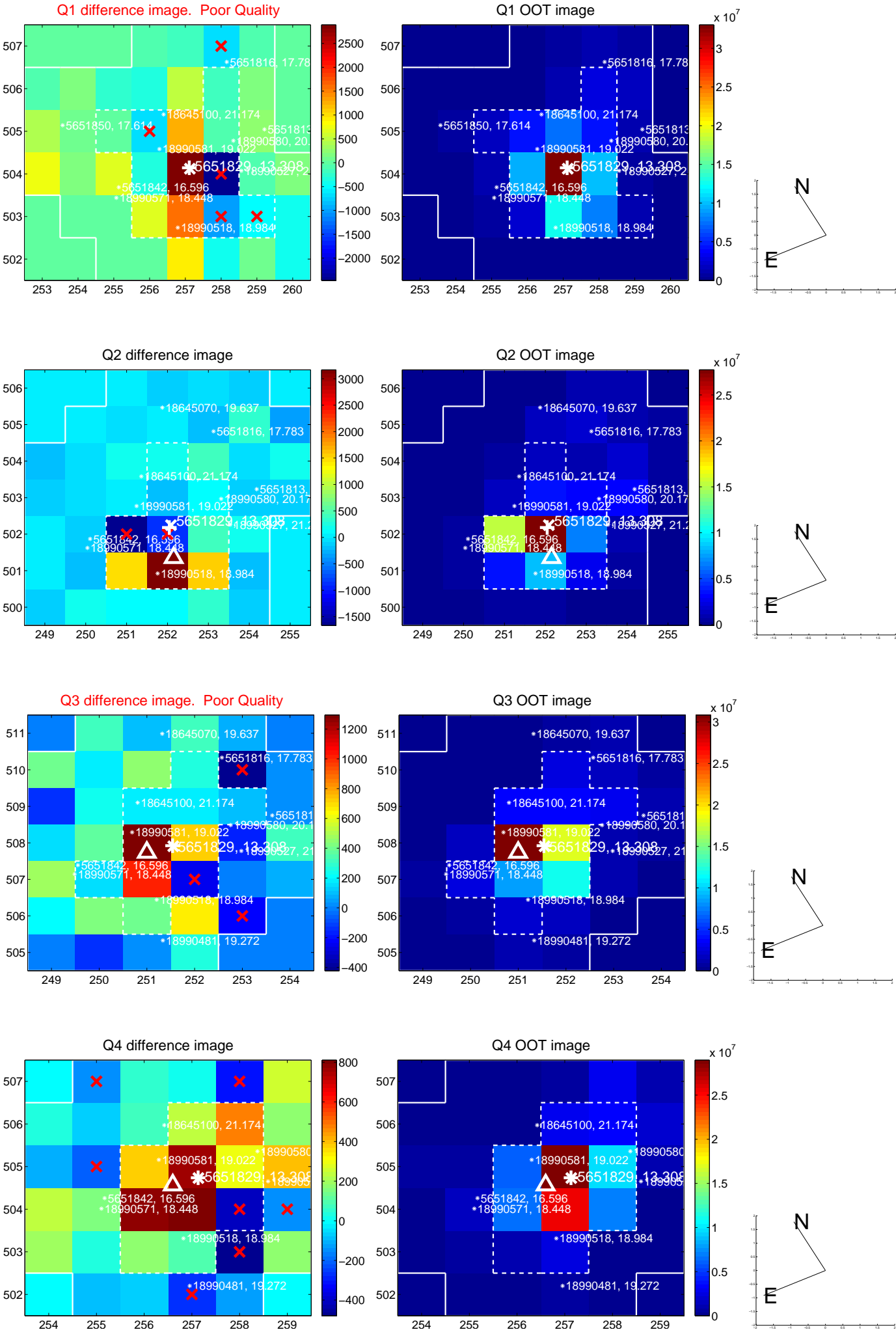
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.582 \pm 0.905$	1.75	$1.254 \pm 0.799$	$-0.964 \pm 0.820$
PRF-fit source offset from KIC position	$1.819 \pm 0.770$	2.36	$1.523 \pm 0.726$	$-0.994 \pm 0.731$
photometric centroid source offset	$4.17 \pm 1.42$	2.94	$4.02 \pm 1.43$	$-1.09 \pm 1.25$

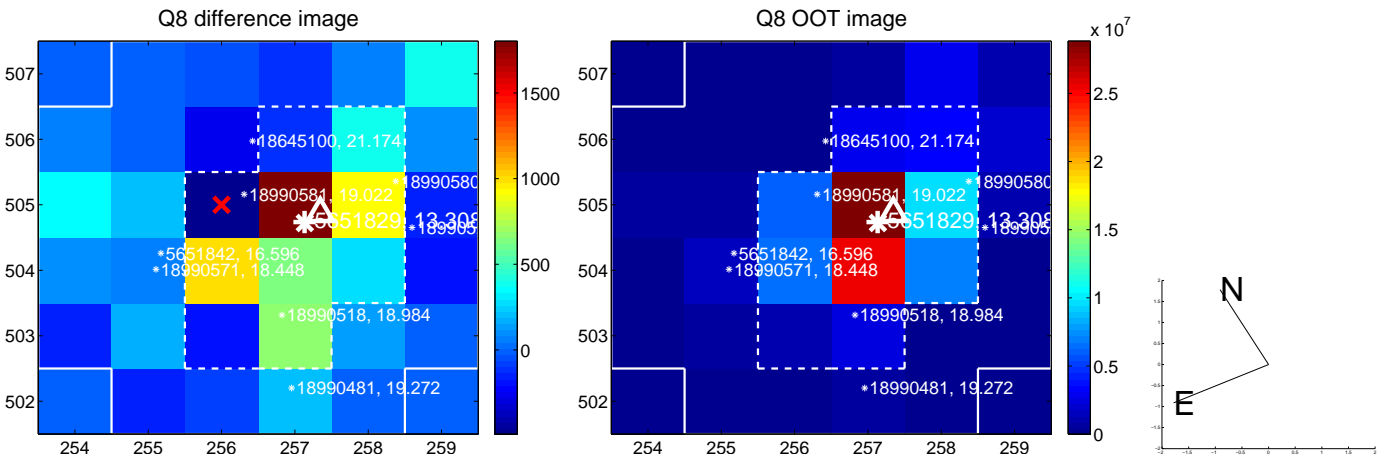
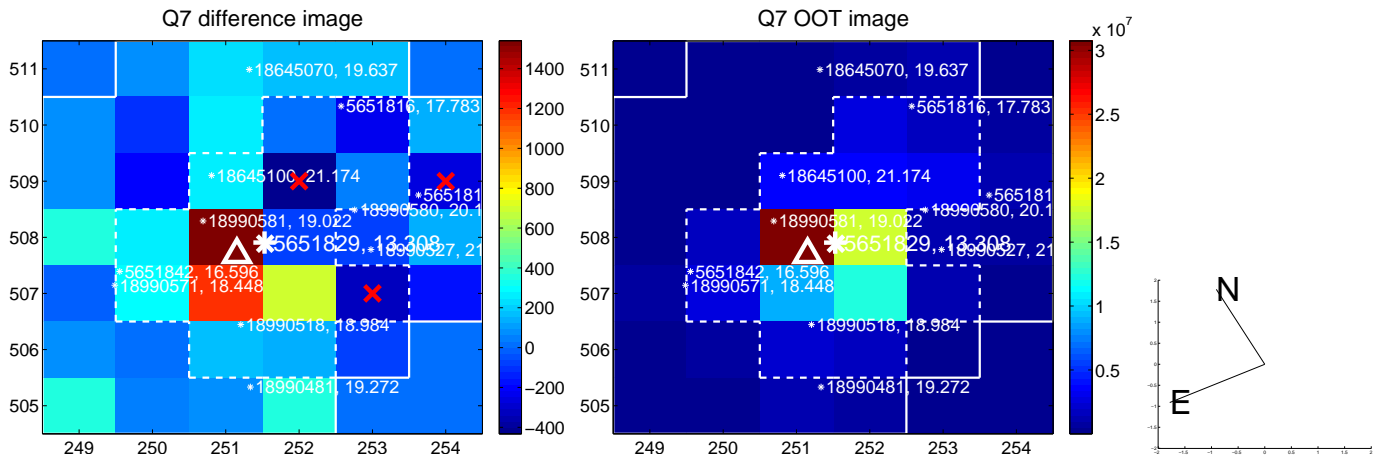
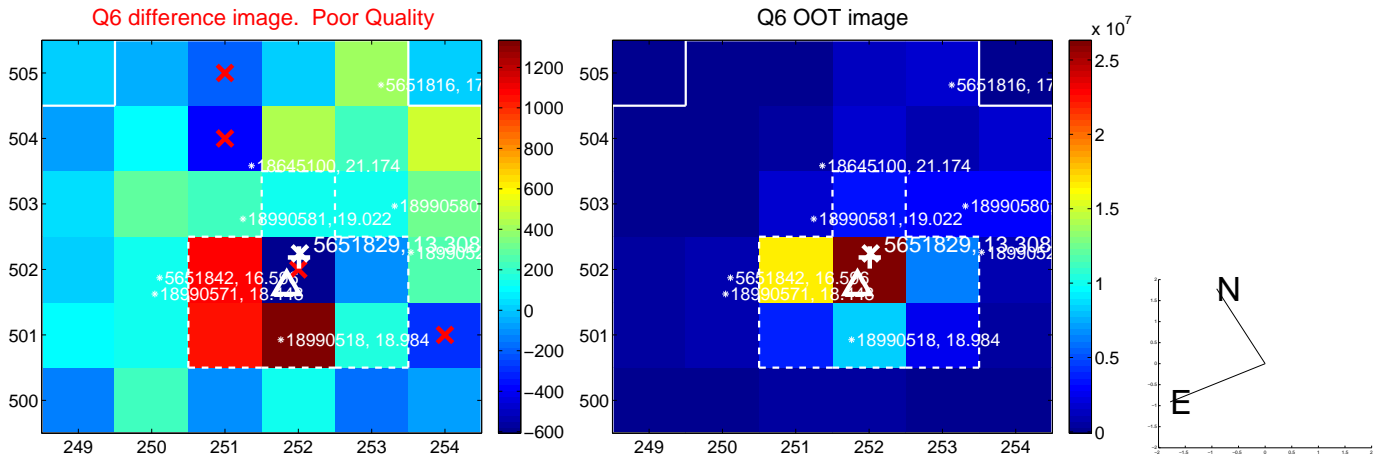
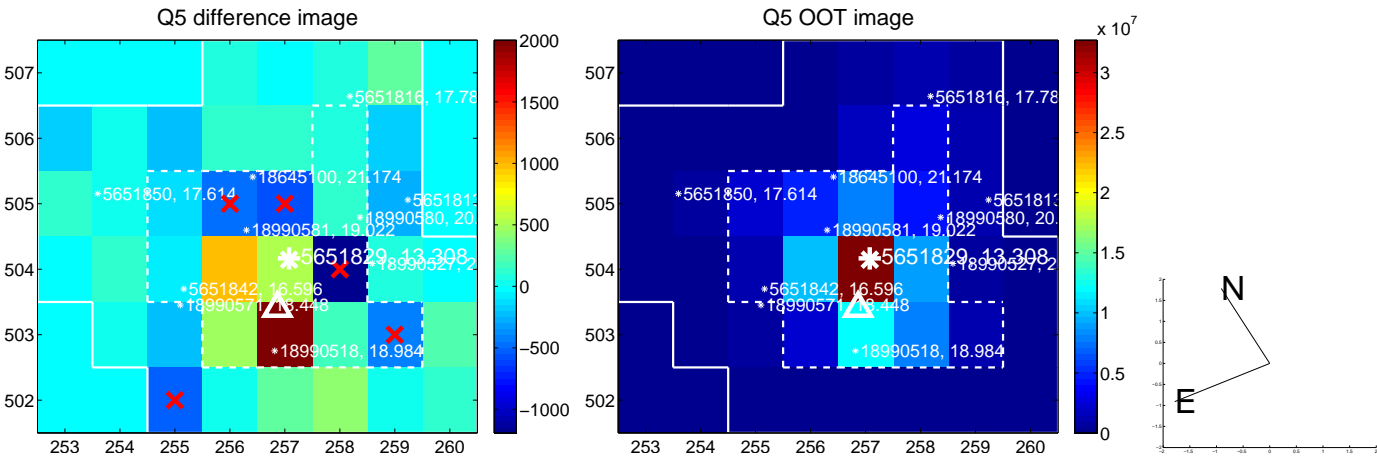


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

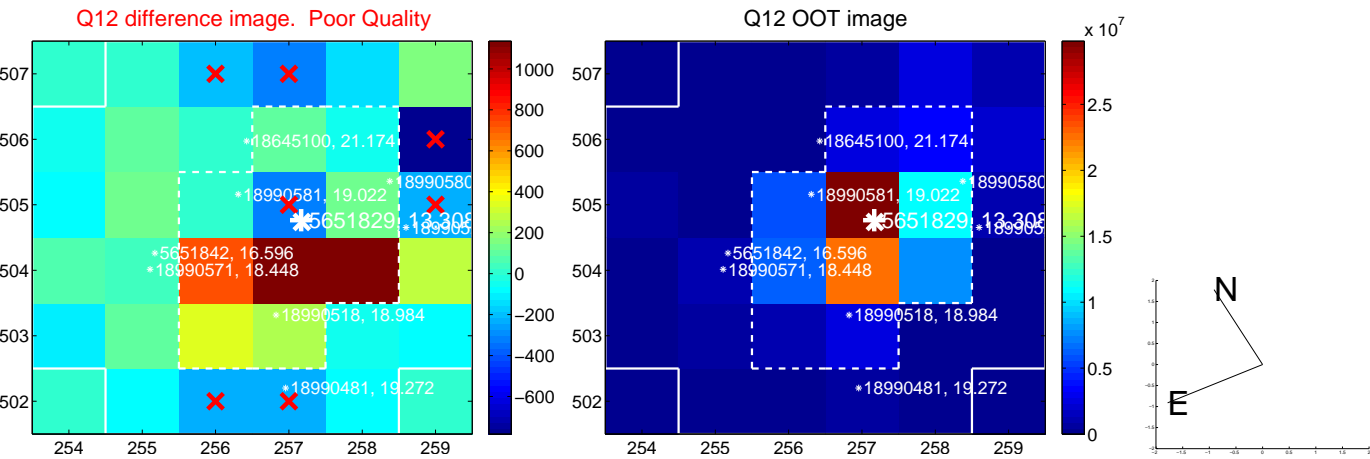
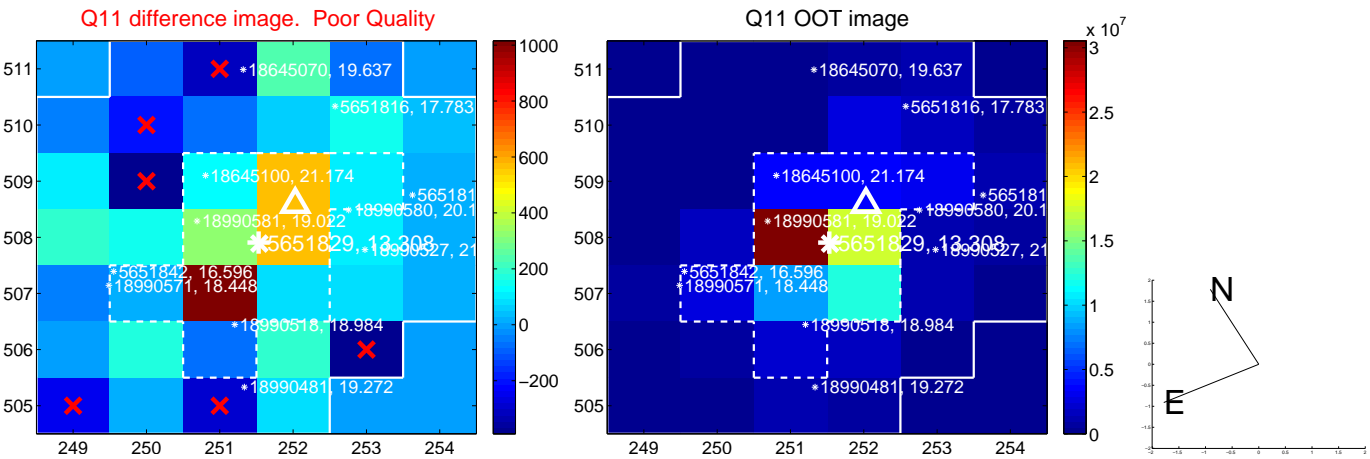
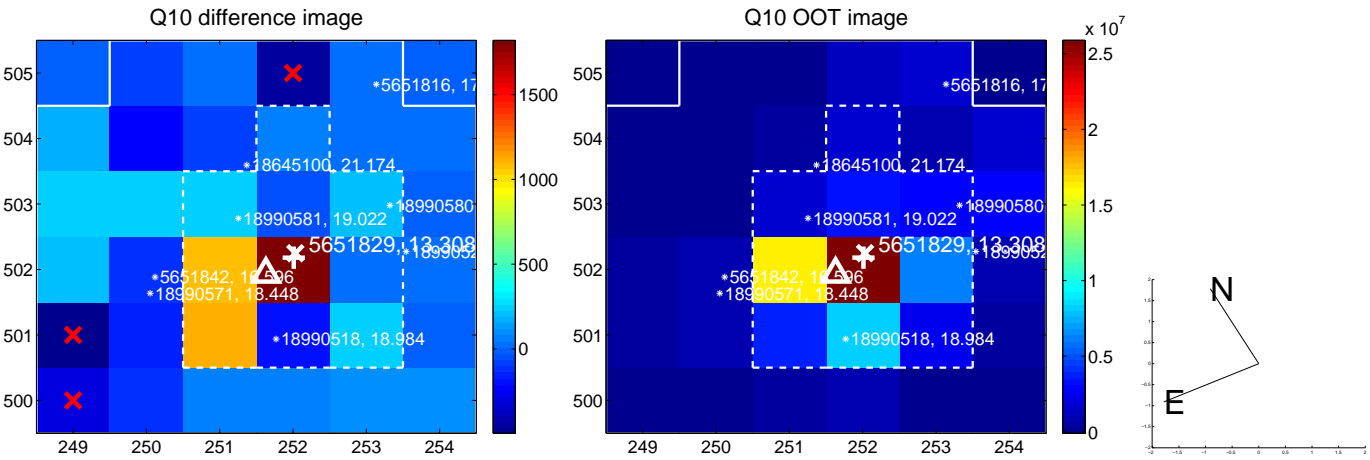
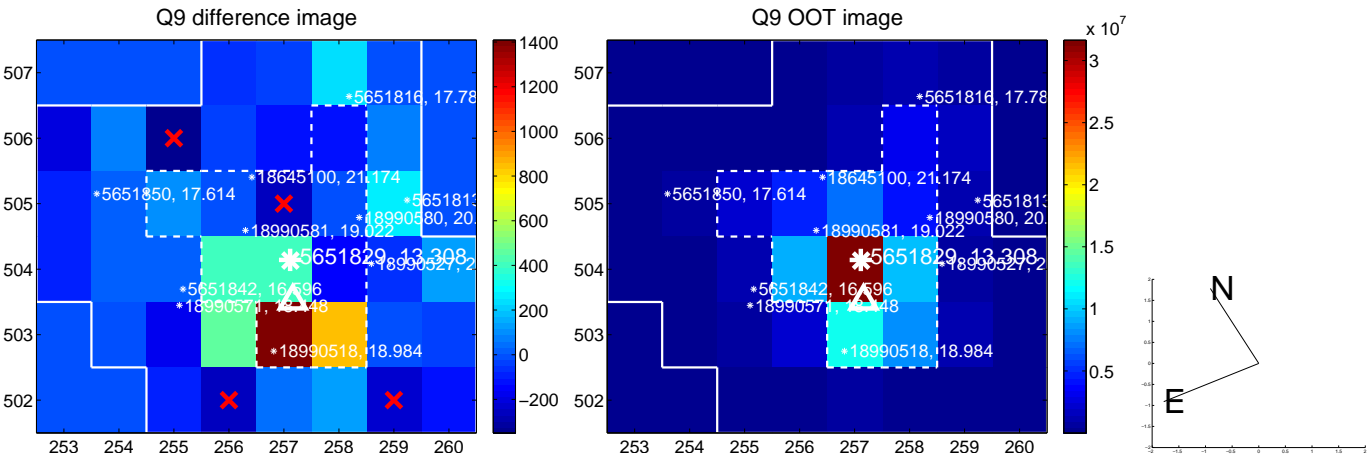


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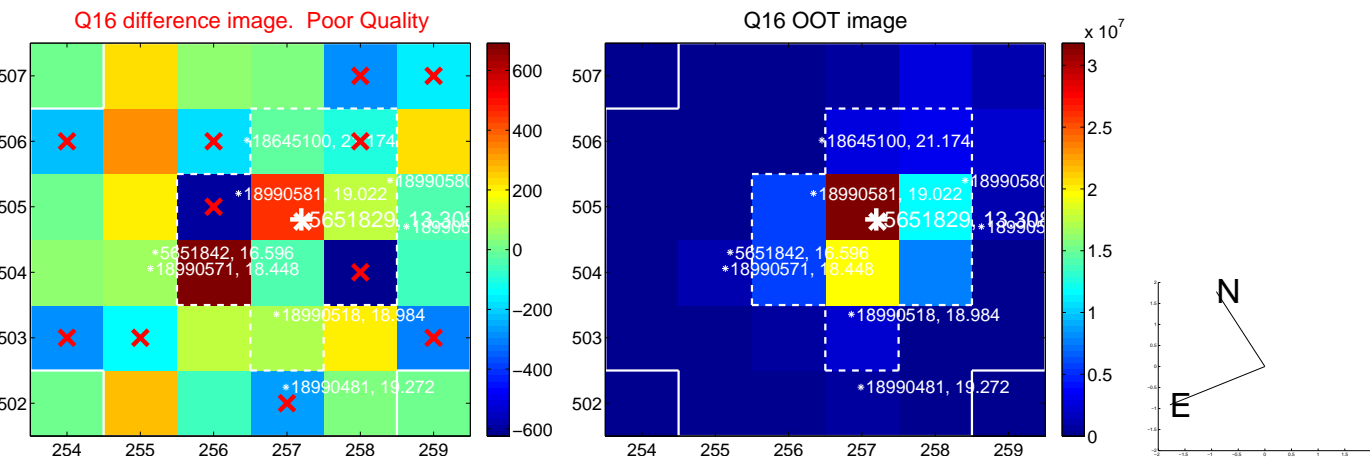
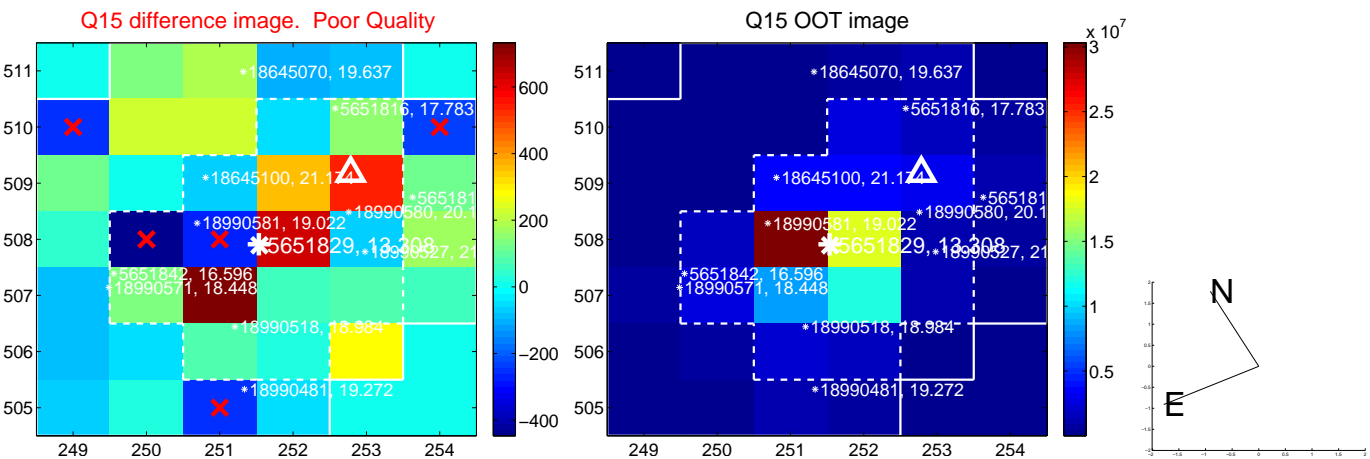
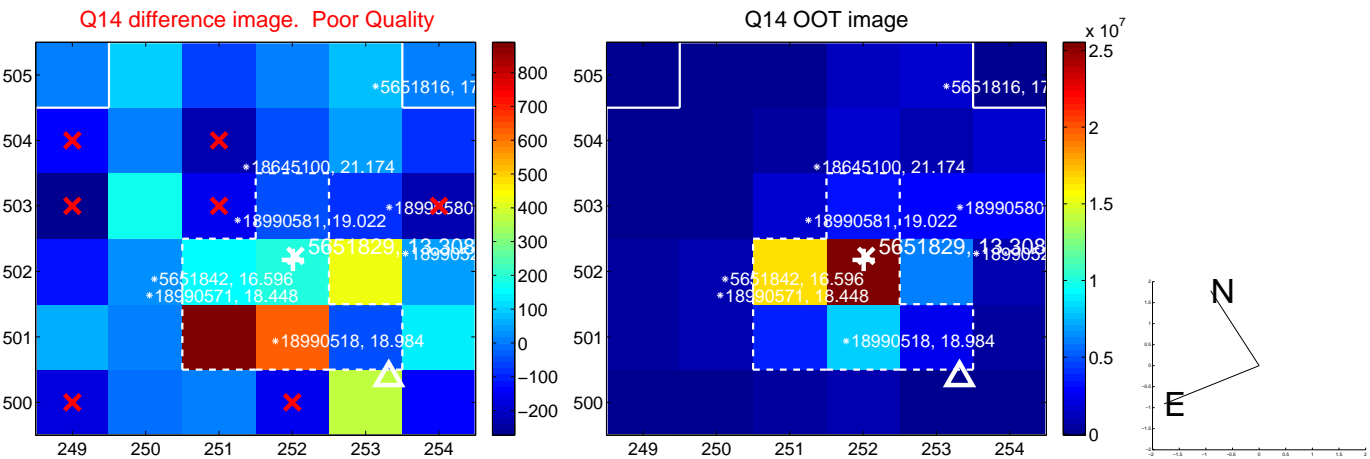
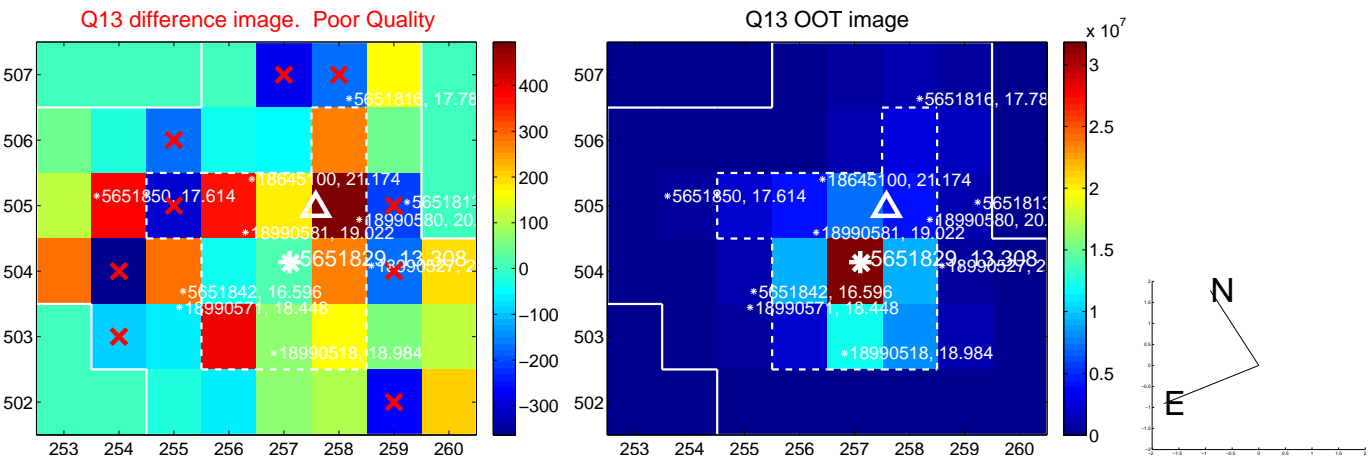




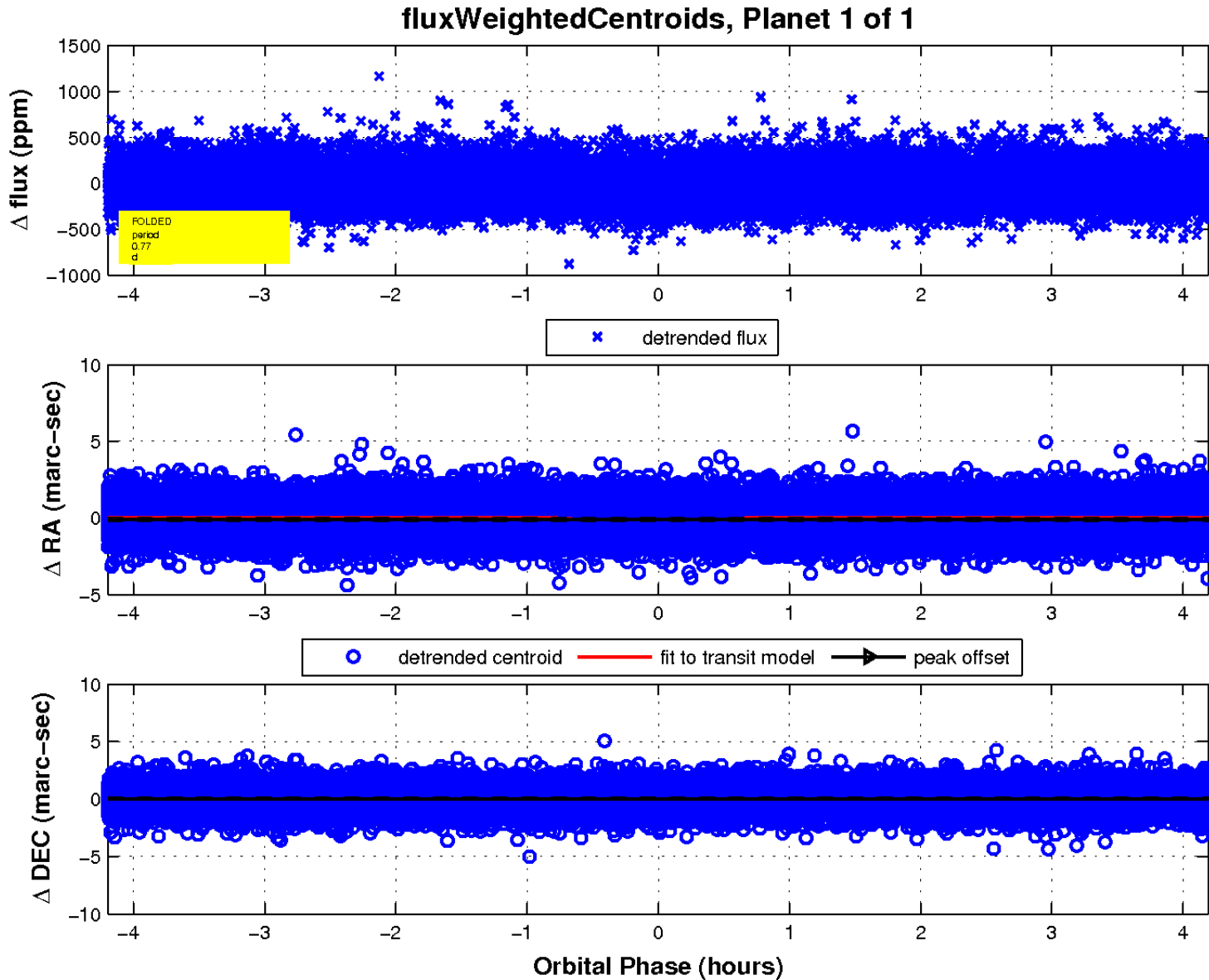
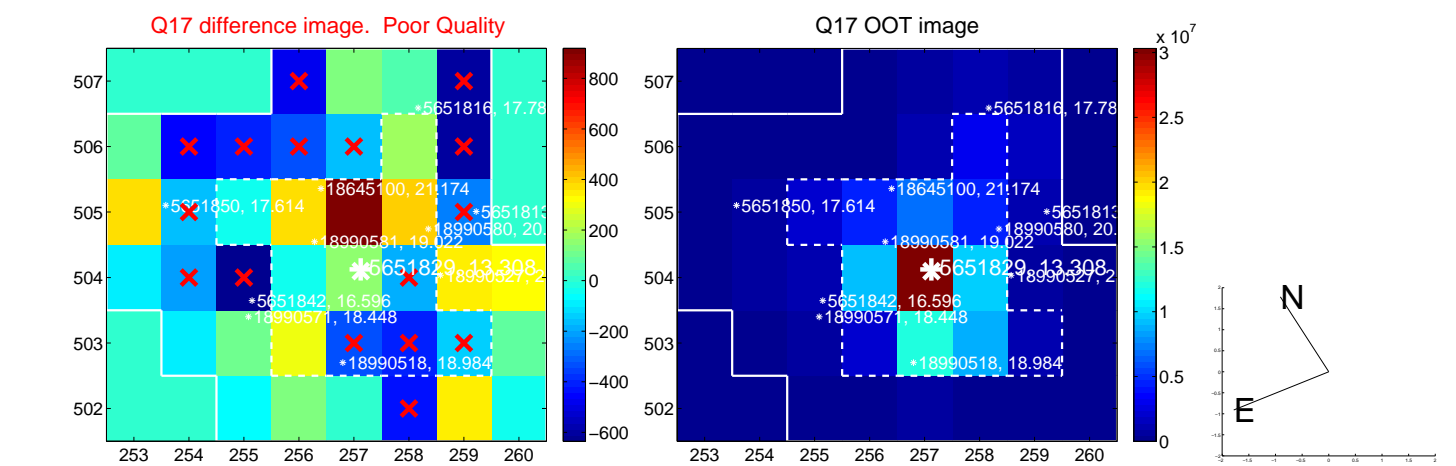
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UKIRT Image

Declination

