

# KIC 005786005

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005786005-01	OBS	No	372.370710	304.726303	732.6	17.661	7.4	7.3	0.95	5671	2.62	0.80

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005786005-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

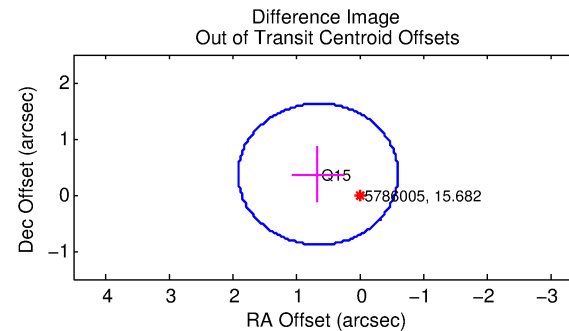
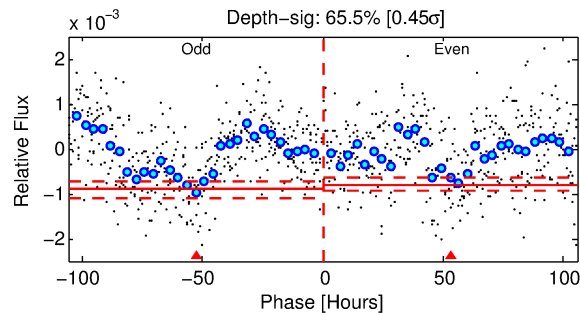
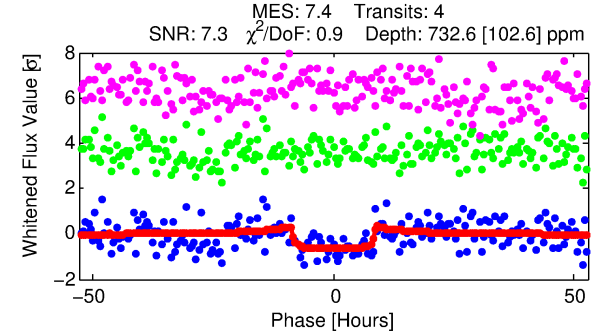
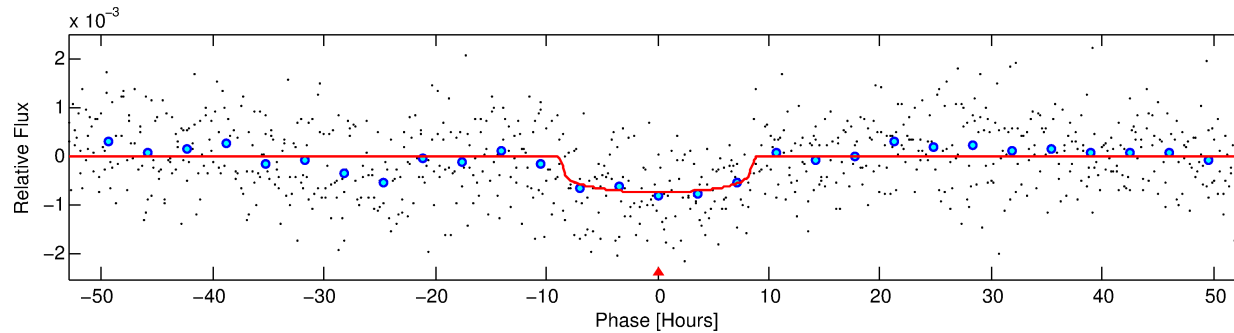
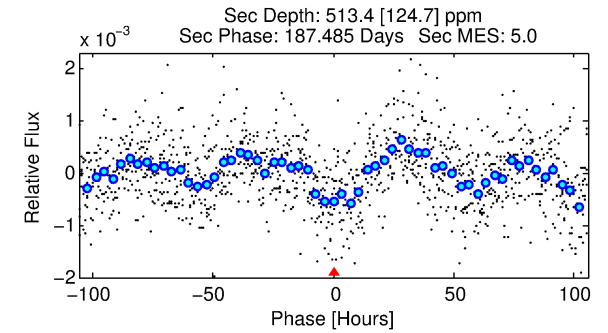
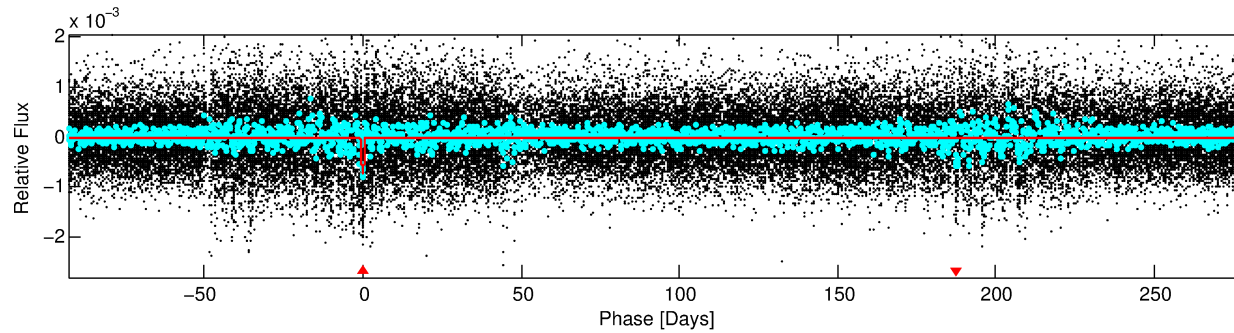
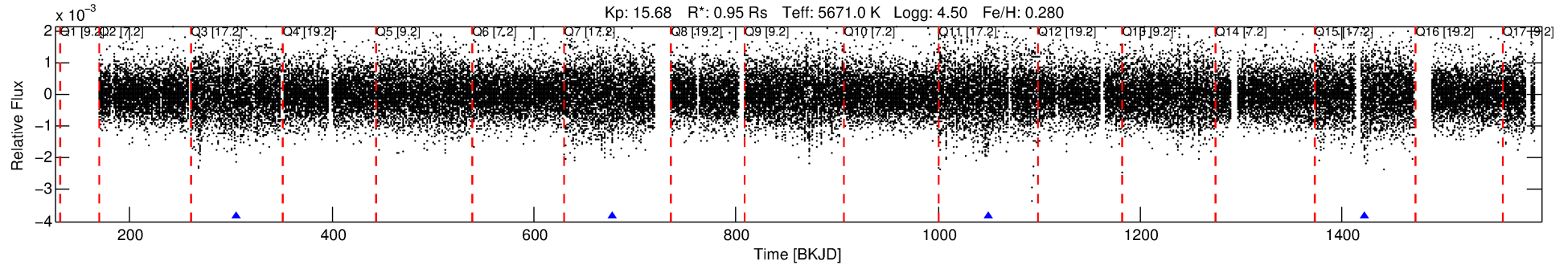
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005786005-01

No Significant Match Found

# DV One-Page Summary

KIC: 5786005 Candidate: 1 of 1 Period: 372.371 d



## DV Fit Results:

Period = 372.37071 [0.01218] d  
Epoch = 304.7263 [0.0223] BKJD  
Rp/R\* = 0.0252 [0.0132]  
a/R\* = 145.16 [303.85]  
b = 0.49 [3.28]  
Seff = 0.79 [0.30]  
Teq = 241 [23] K  
Rp = 2.63 [1.55] Re  
a = 1.0312 [0.2431] AU  
Ag = 43577.23 [49263.26] [0.88σ]  
Teffp = 5378 [1457] K [3.53σ]

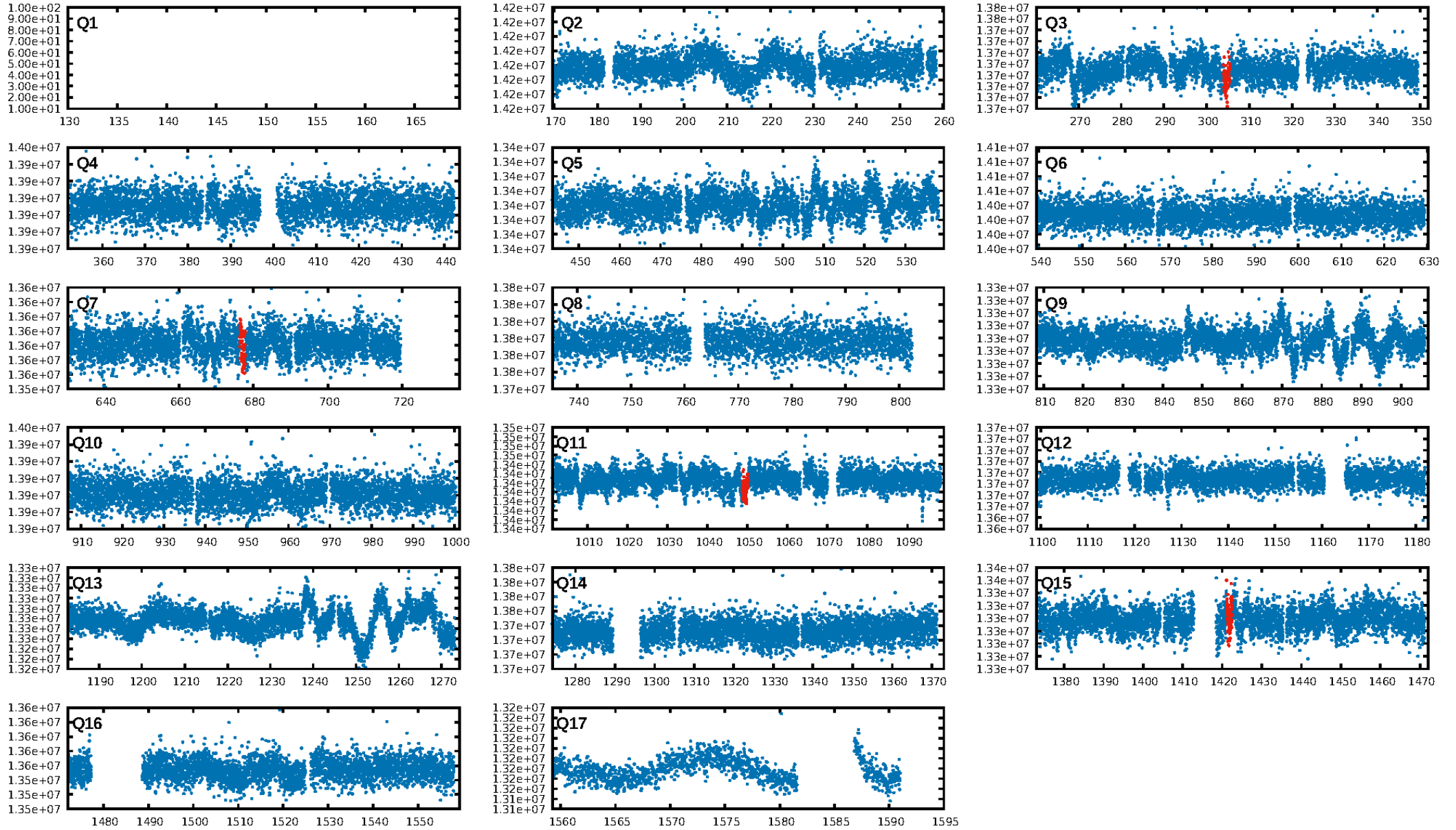
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 60.4%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.39e-08**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 1.368  
Centroid-sig: 69.6%  
Centroid-so: 1.225 arcsec [0.49σ]  
OotOffset-rm: 0.744 arcsec [1.77σ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-rm: 0.717 arcsec [1.69σ]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [4/4]

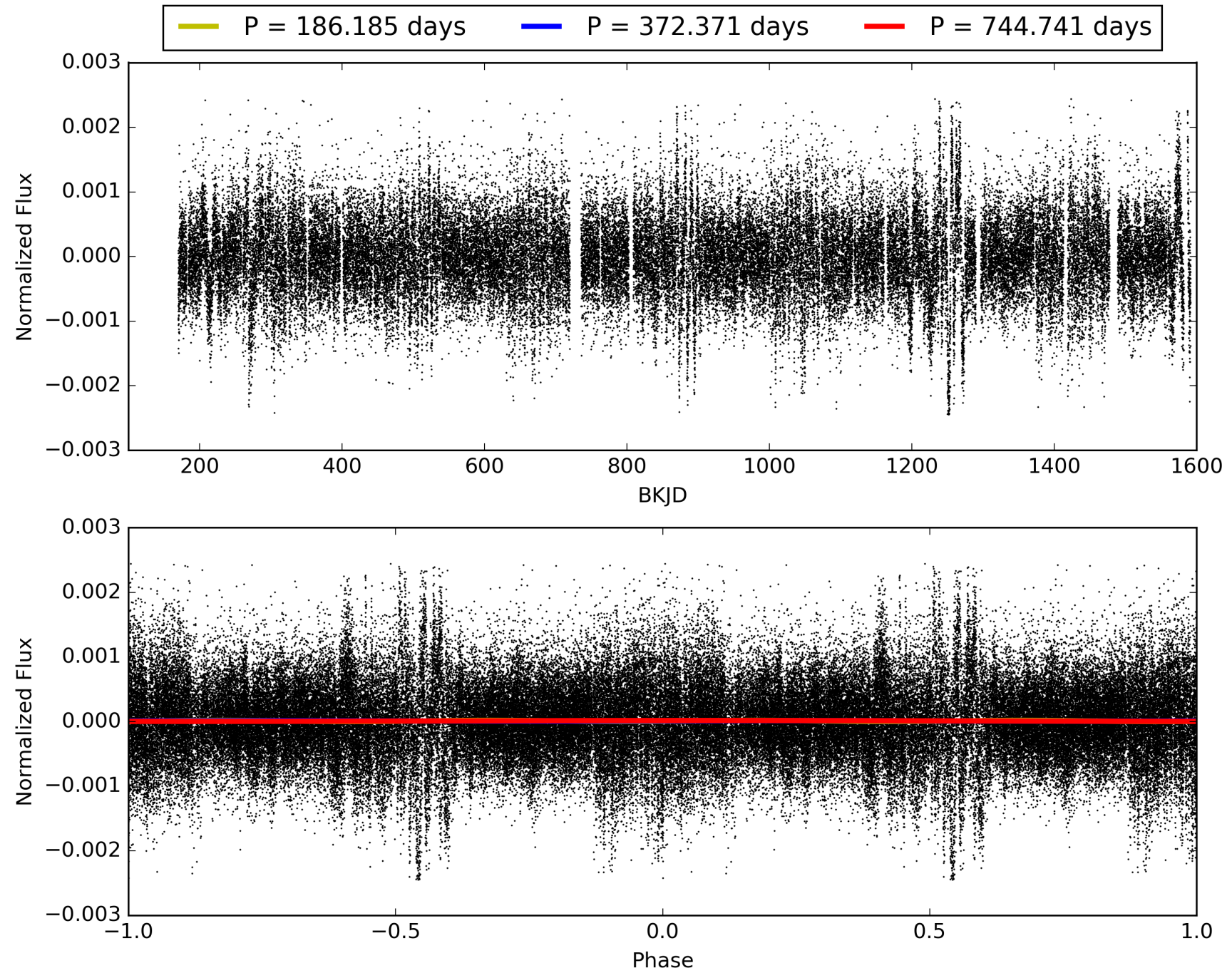
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:04:58 Z

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

# TCE 005786005-01, PDC Light Curves

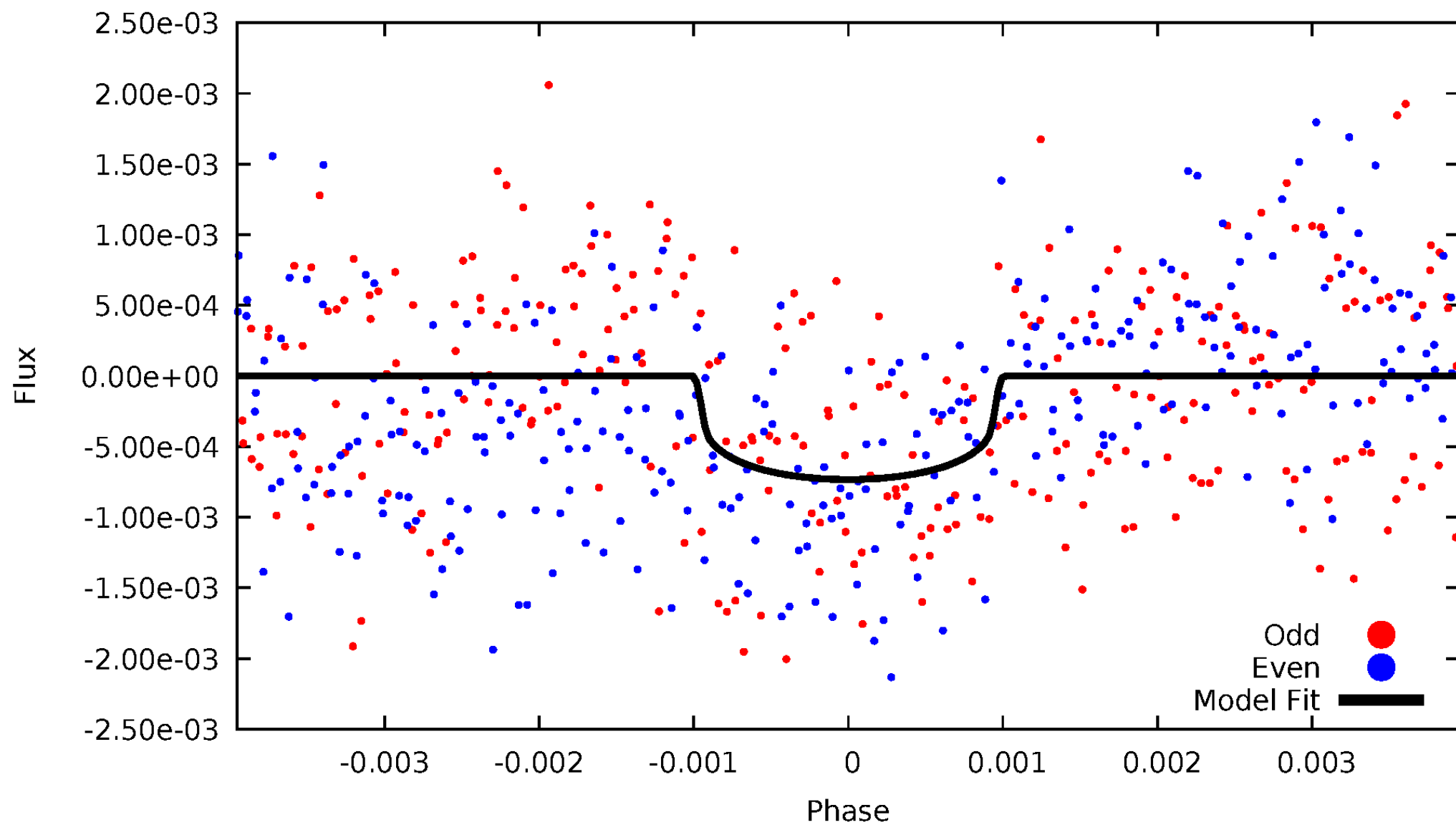


TCE 005786005-01



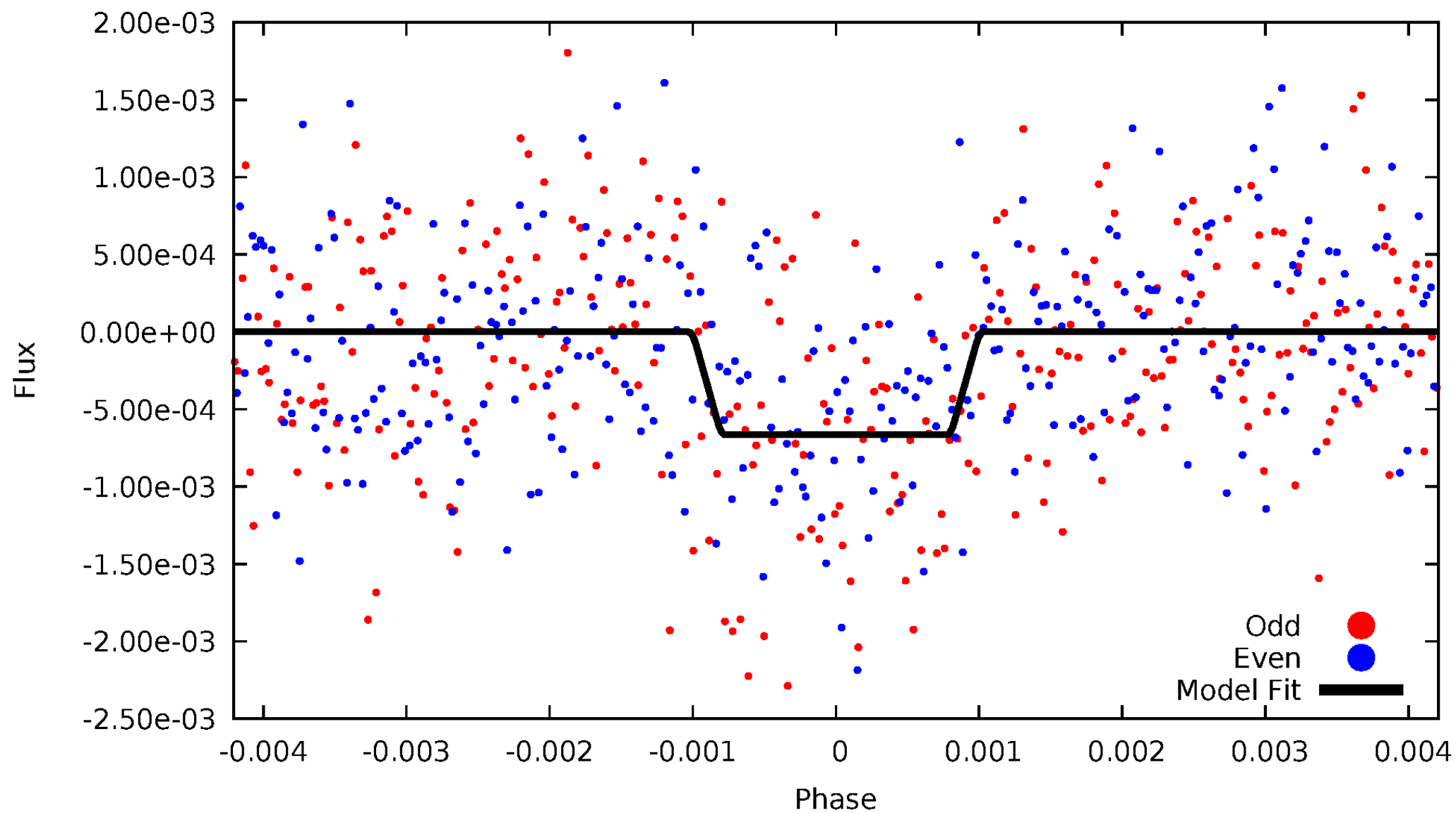
# DV Odd/Even

TCE 005786005-01



# ALT Odd/Even

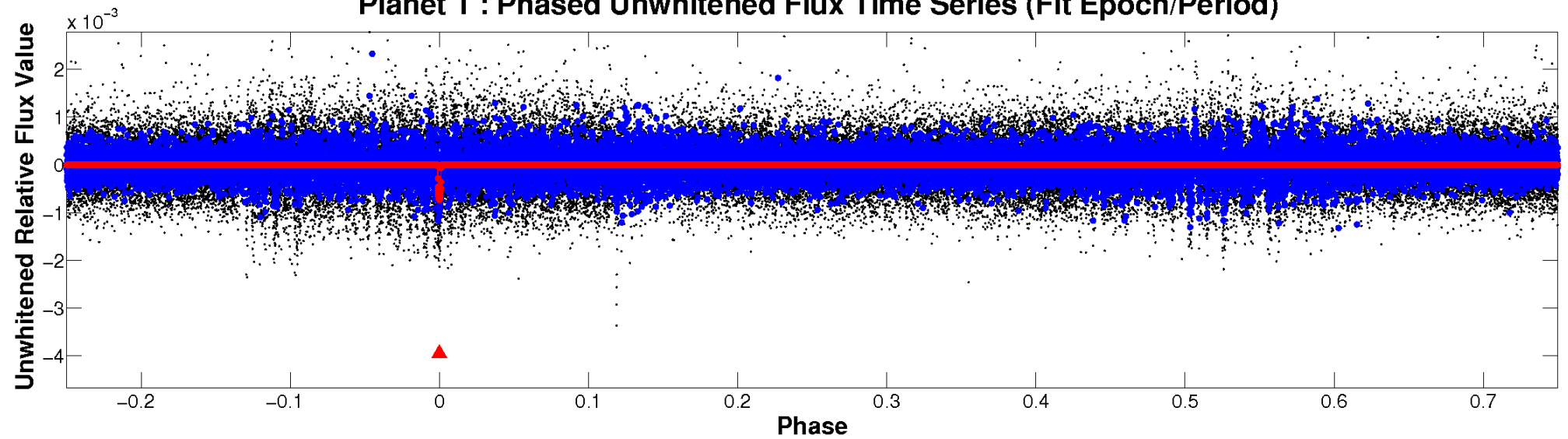
TCE 005786005-01



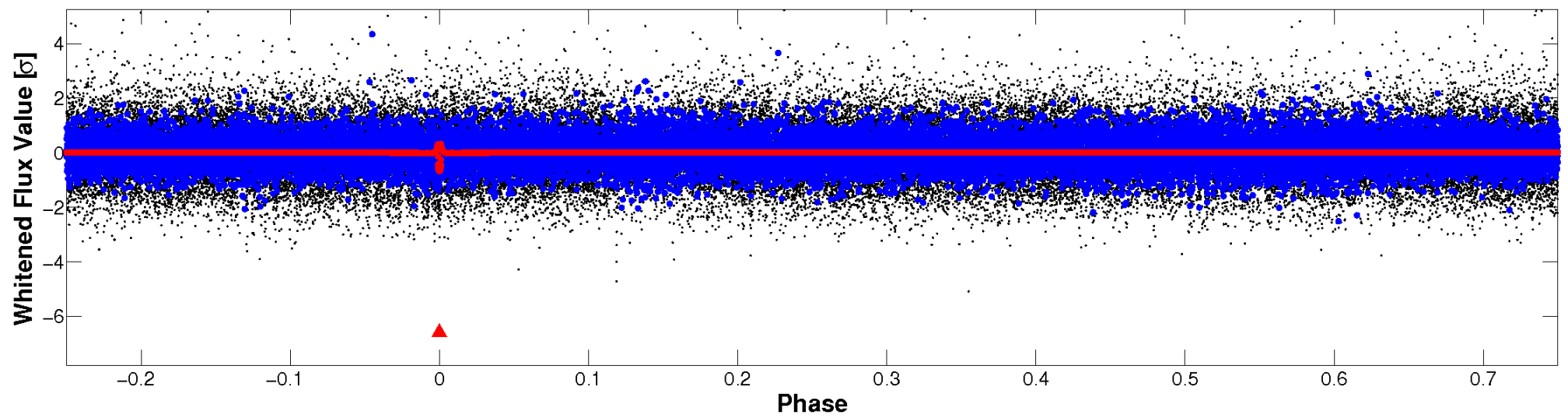


# Non-Whitened Vs. Whitened Light Curve

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

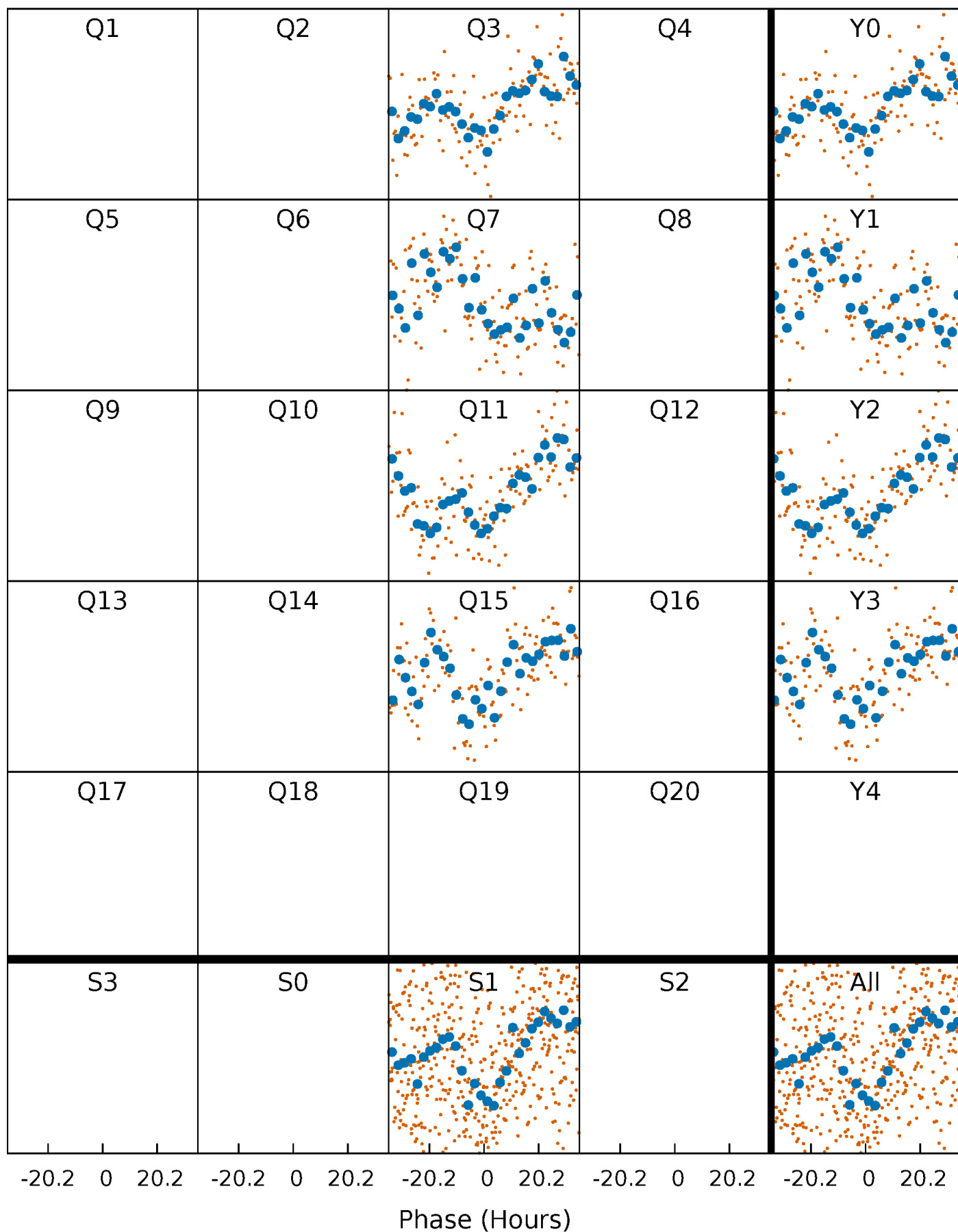


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

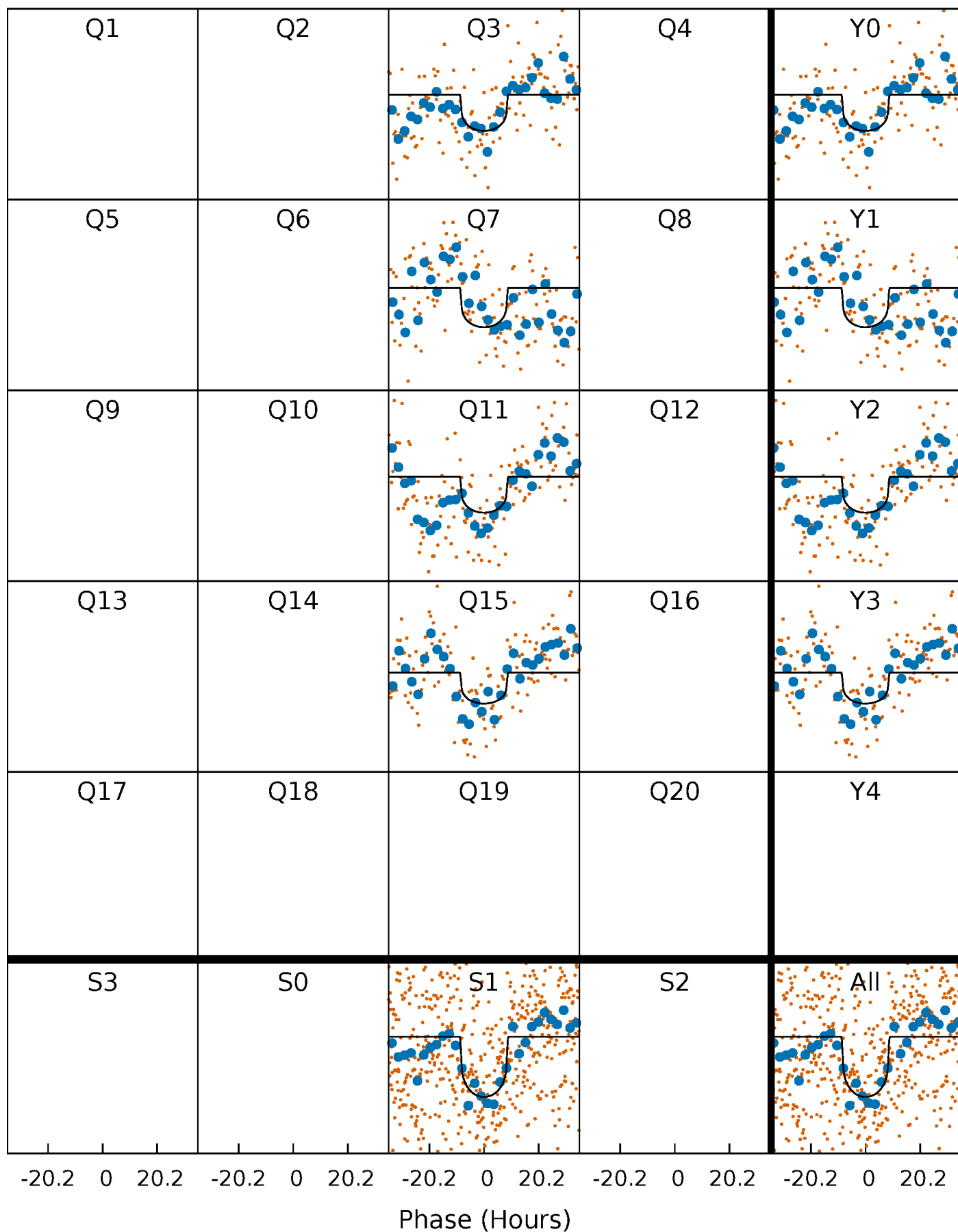
TCE 005786005-01 P=372.370710 Days  $T_0=304.726302$  (BKJD)





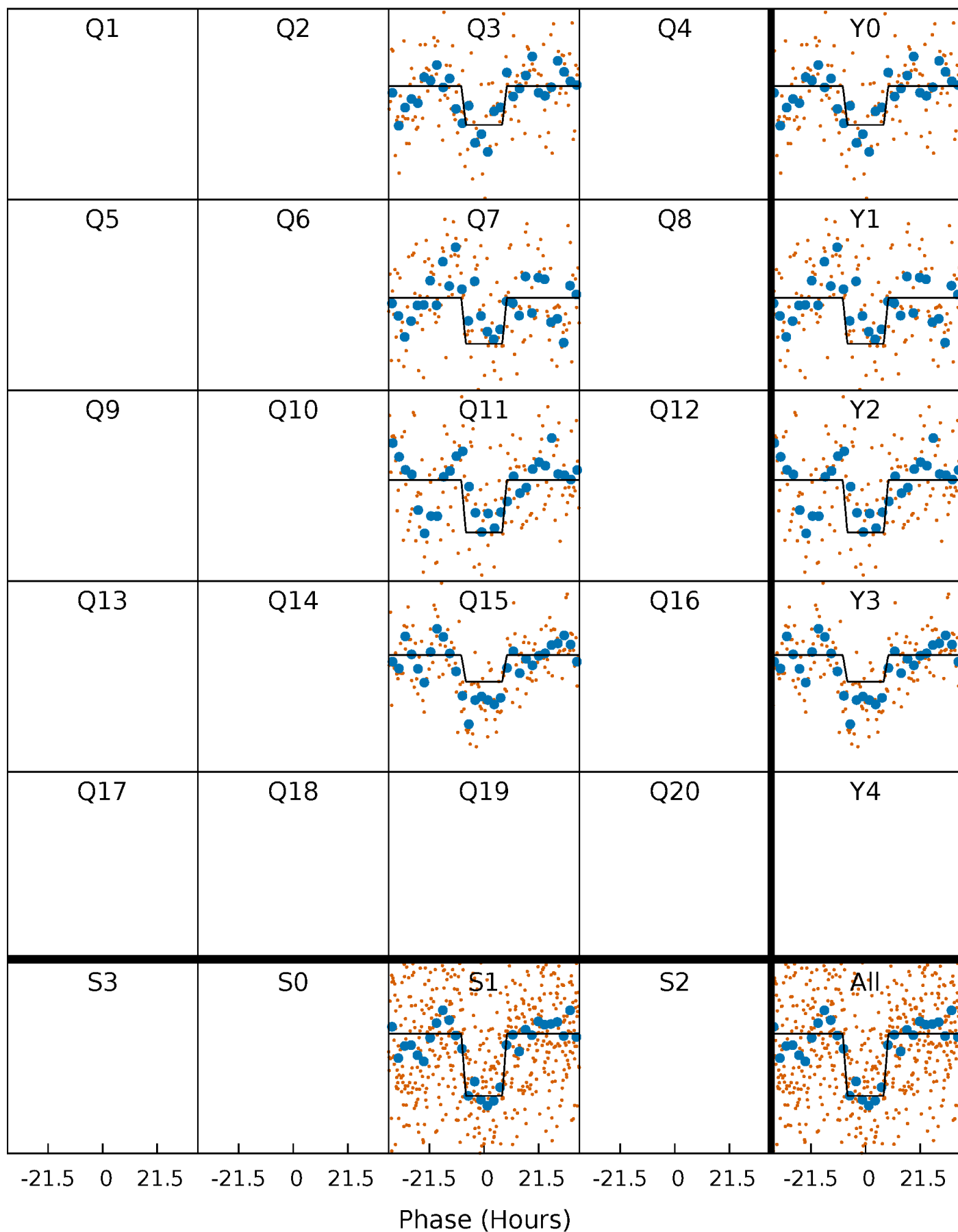
# DV Quarter-Phased Transit Curves

TCE 005786005-01 P=372.370710 Days  $T_0=304.726302$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

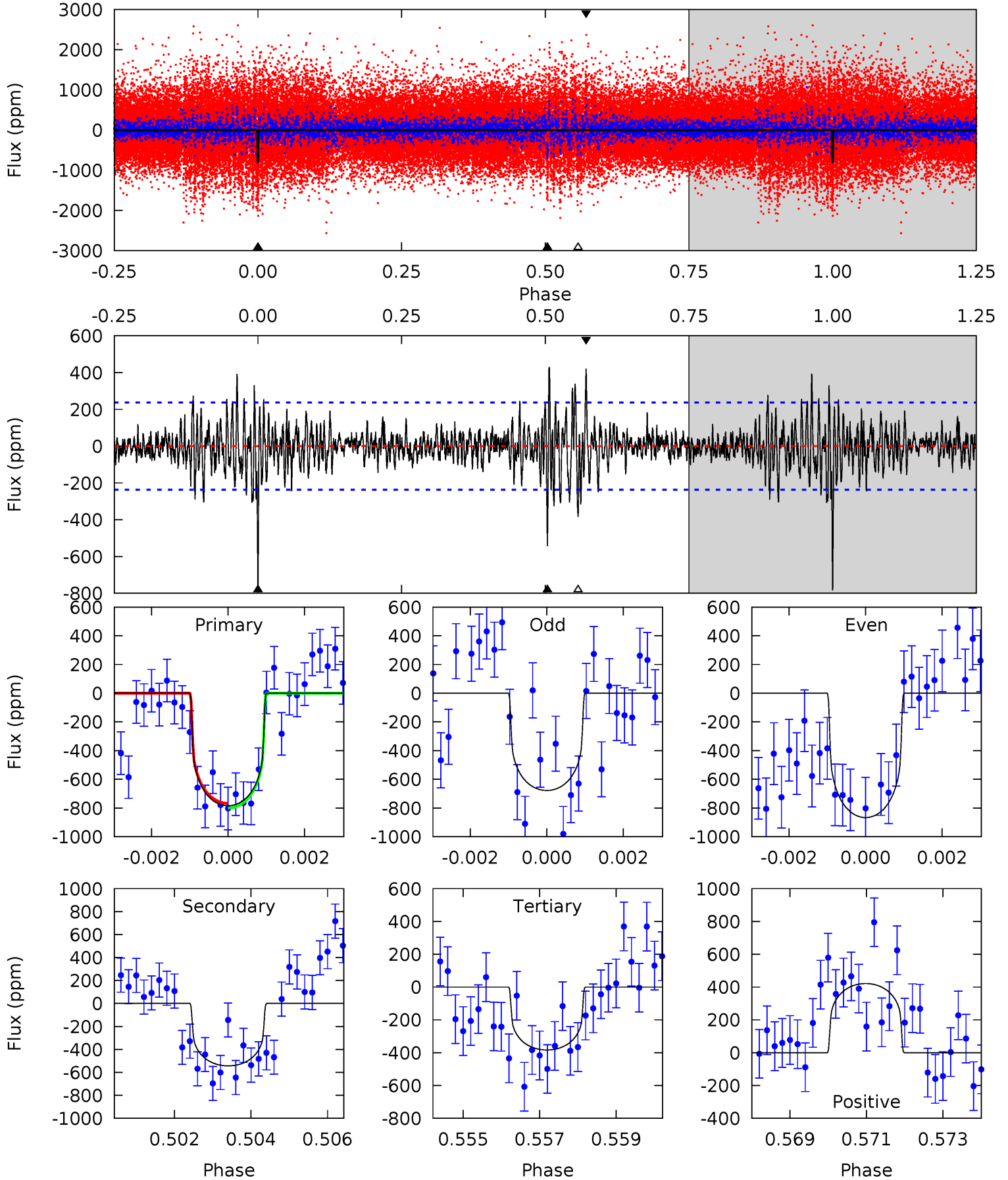
TCE 005786005-01 P=372.347142 Days  $T_0=304.773252$  (BKJD)



# DV Model-Shift Uniqueness Test

005786005-01, P = 372.370710 Days, E = 304.726302 Days

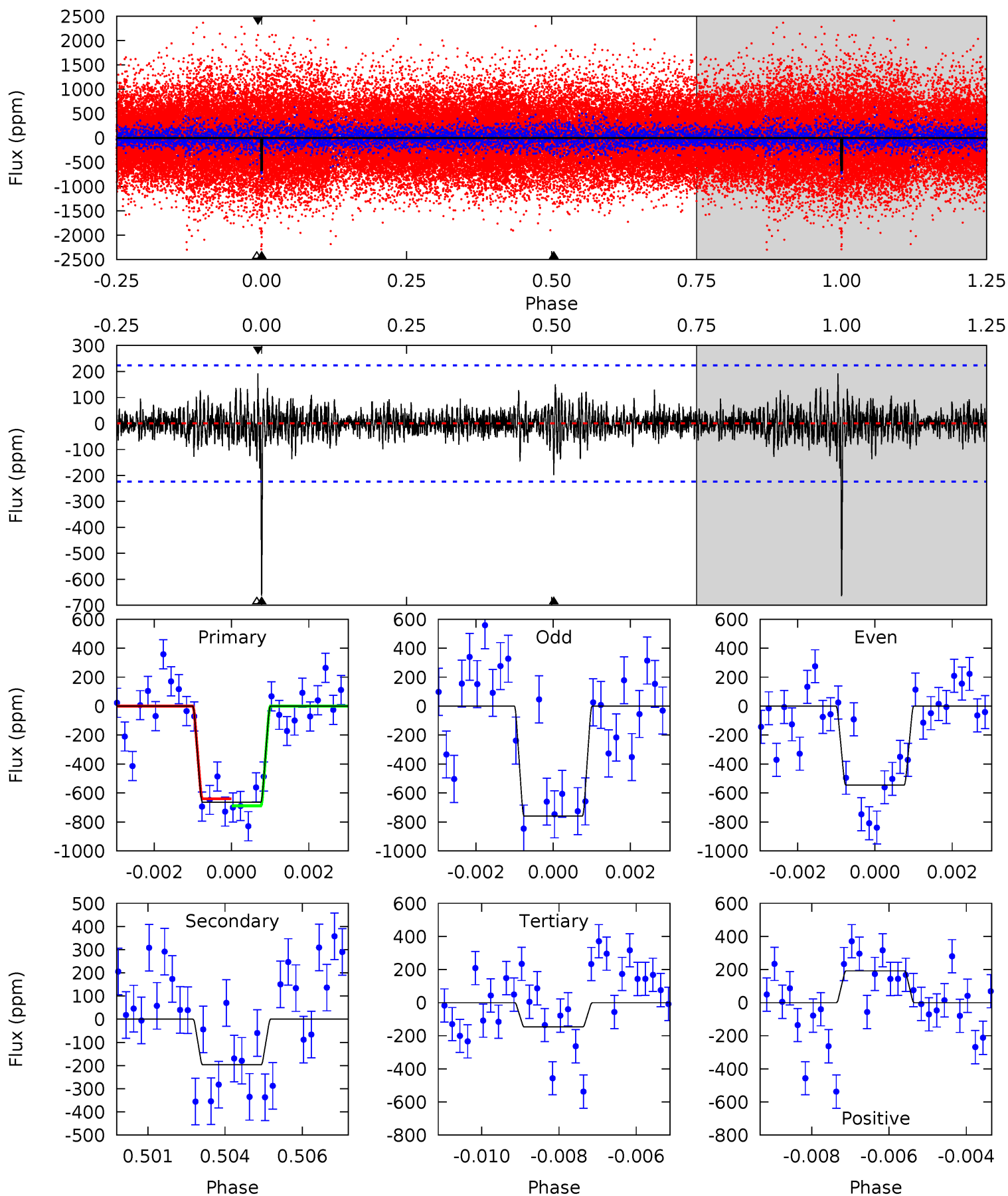
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	12.2	8.61	9.46	5.32	3.09	2.02	8.99	8.14	3.59	2.74	2.11	0.92	0.35	0.36



# Alt Model-Shift Uniqueness Test

005786005-01,  $P = 372.347142$  Days,  $E = 304.773252$  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
15.8	4.68	3.49	4.56	5.32	3.08	0.92	12.3	11.2	1.20	0.12	2.54	1.22	0.22	0.59



### Stellar Parameters For KIC 005786005

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5671^{+160}_{-200}$	$4.501^{+0.046}_{-0.196}$	$0.280^{+0.150}_{-0.300}$	$0.955^{+0.260}_{-0.093}$	$1.054^{+0.089}_{-0.133}$	$1.705^{+0.410}_{-0.845}$
	+3%/-4%	+1%/-4%	+54%/-107%	+27%/-10%	+8%/-13%	+24%/-50%
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 005786005-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-544 \pm 45$	$2.79^{+1.60}_{-1.38}$	$344^{+25}_{-16}$	$5428^{+2261}_{-919}$	$40494^{+118335}_{-24254}$
Alt.	$-197 \pm 42$	$2.82^{+1.63}_{-1.28}$	$345^{+24}_{-17}$	$4349^{+1171}_{-647}$	$13819^{+31391}_{-8301}$

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

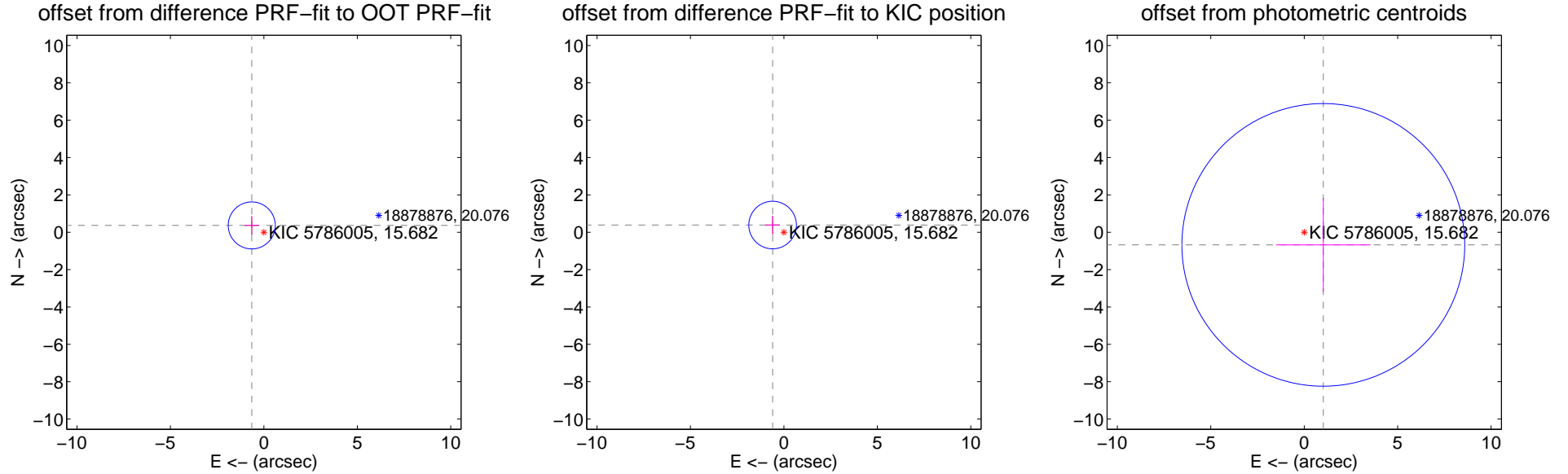
## DV Centroid Data

Supplemental centroid analysis for 005786005-01. Kepler magnitude: 15.68. Transit SNR 7.34

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

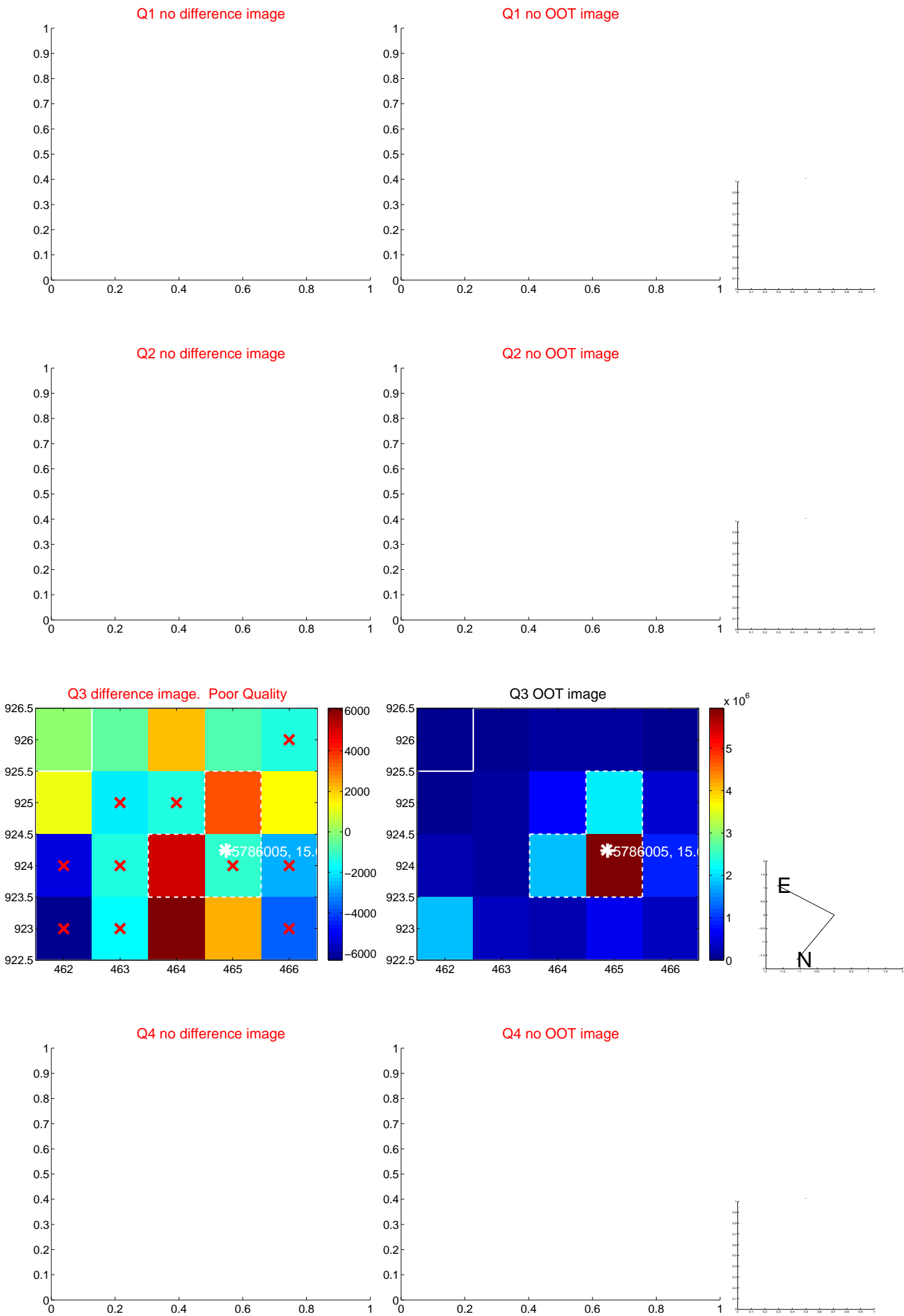
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.744 \pm 0.419$	1.77	$0.647 \pm 0.392$	$0.366 \pm 0.495$
PRF-fit source offset from KIC position	$0.717 \pm 0.425$	1.69	$0.604 \pm 0.392$	$0.386 \pm 0.495$
photometric centroid source offset	$1.23 \pm 2.52$	0.49	$-1.02 \pm 2.53$	$-0.68 \pm 2.51$



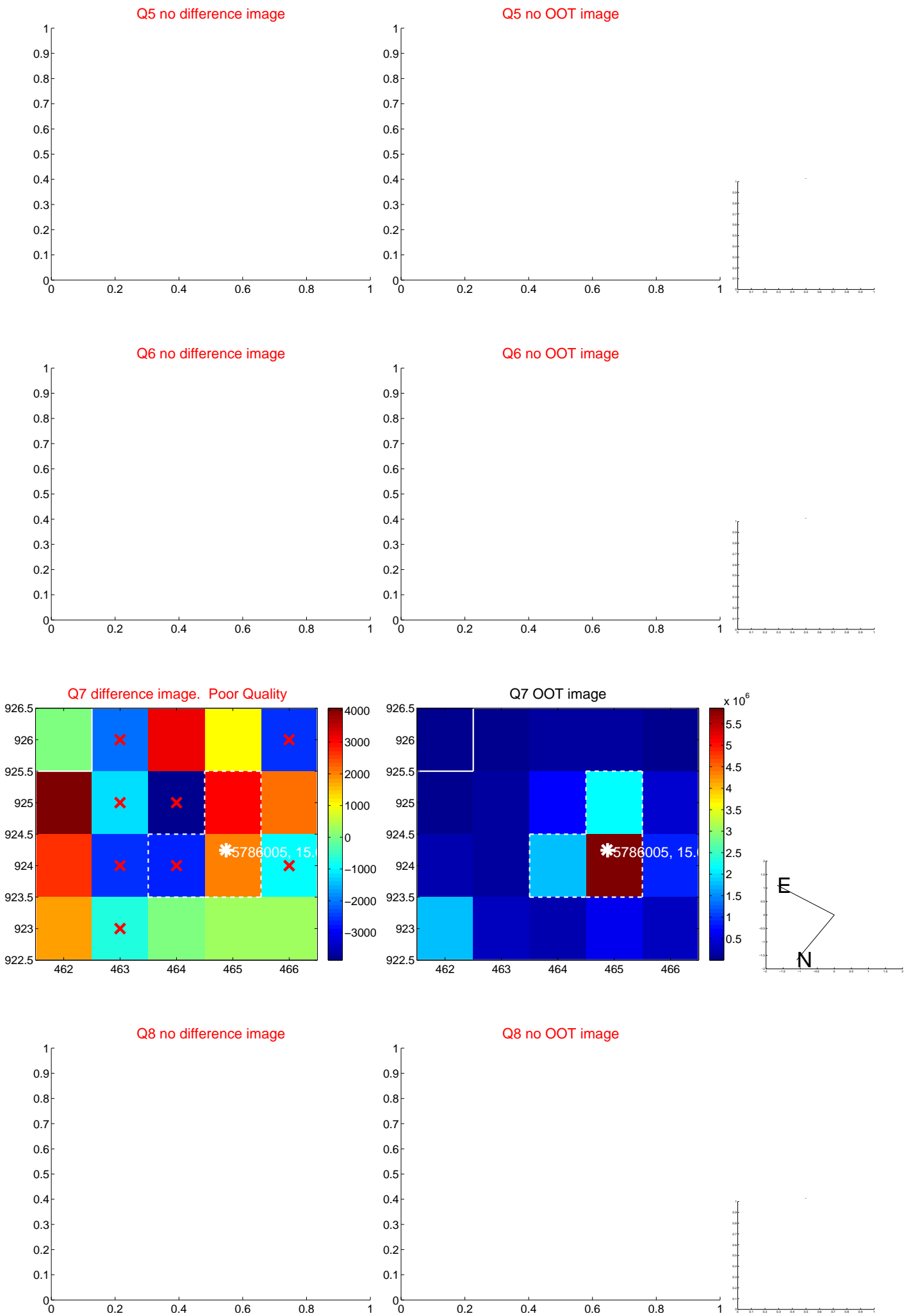
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



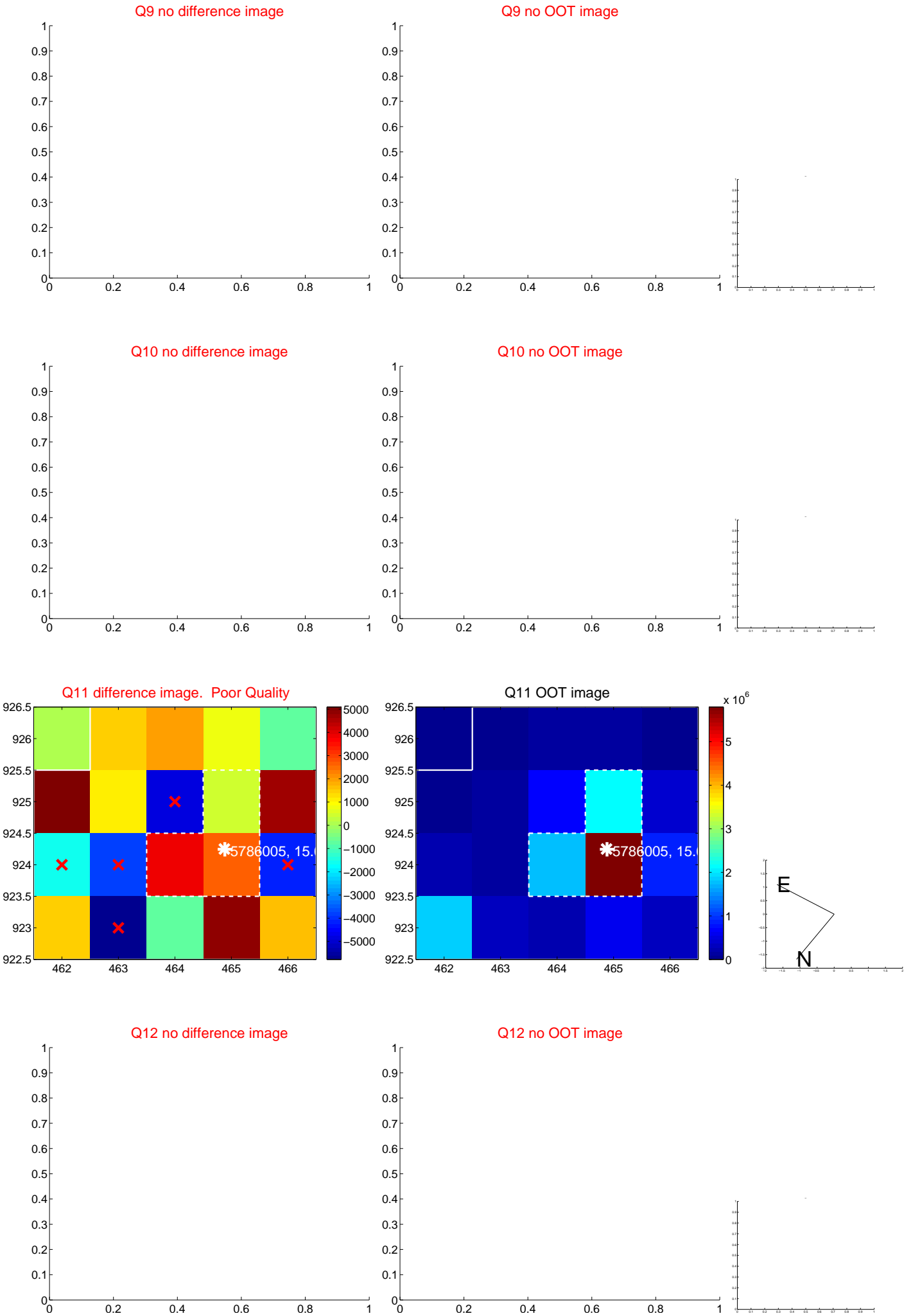
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



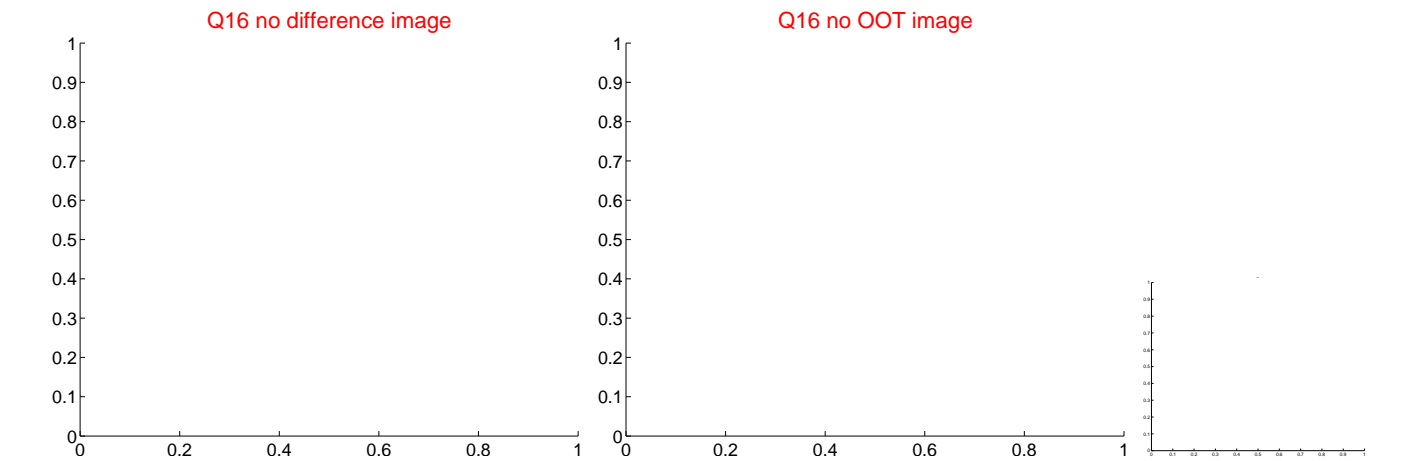
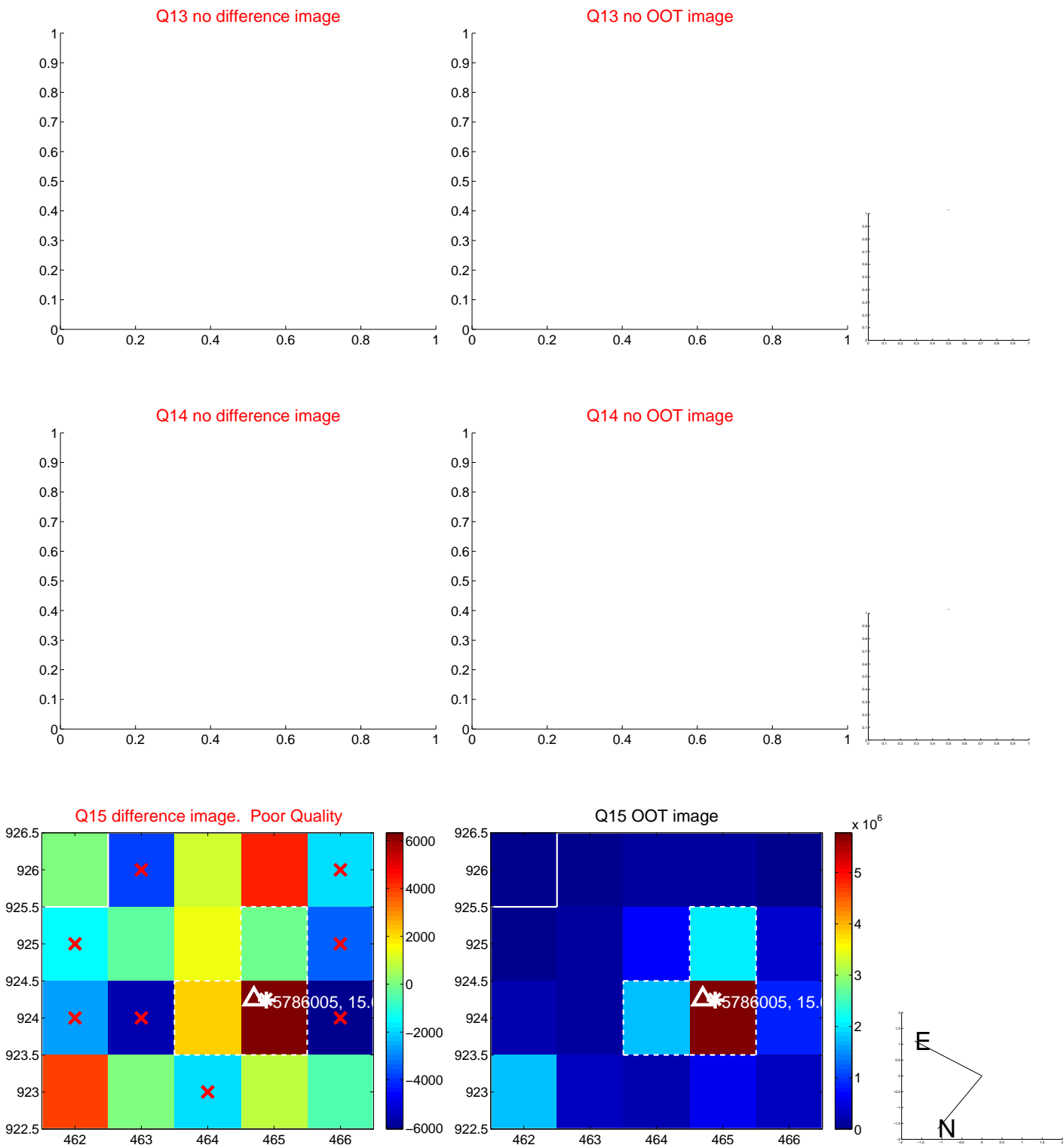
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



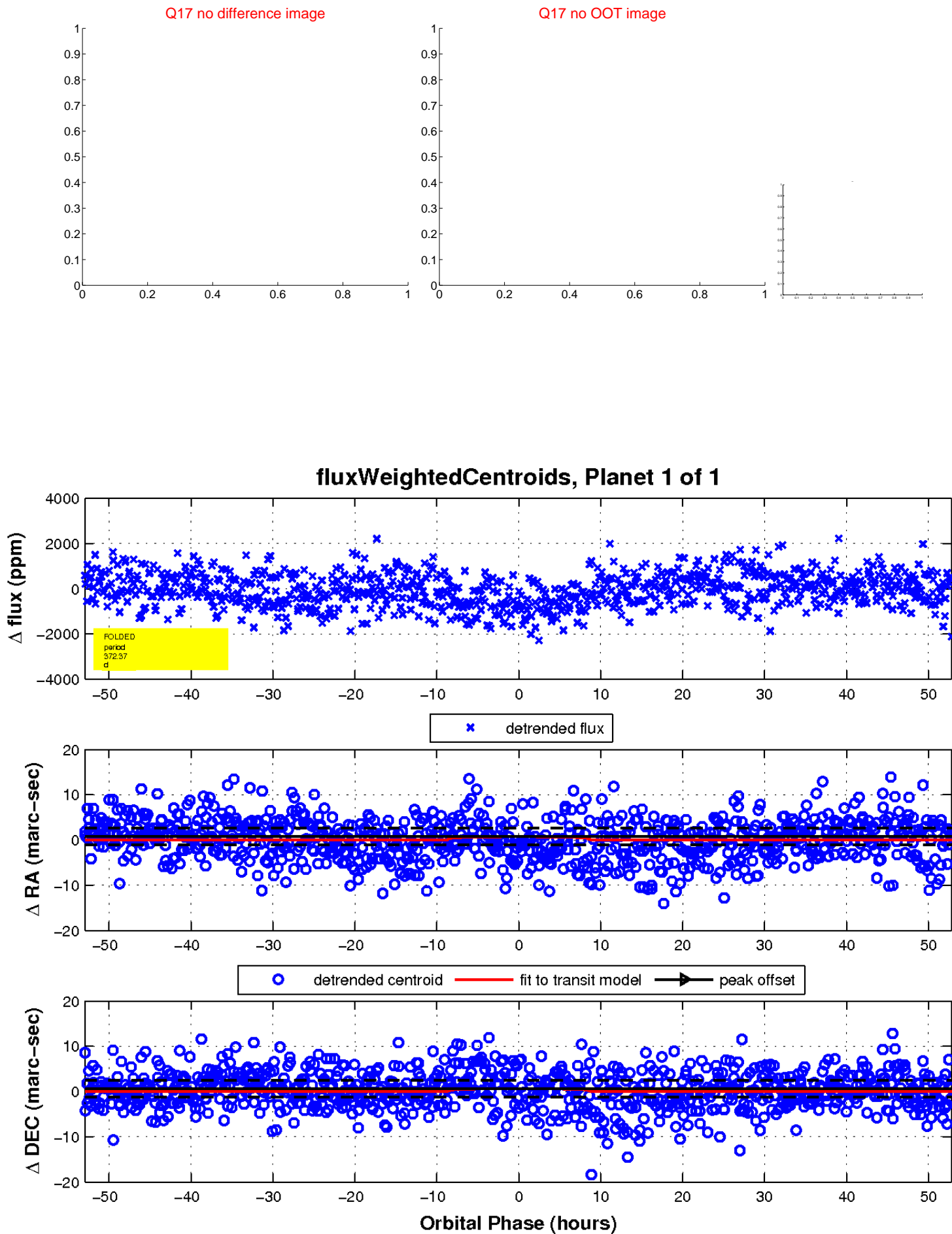
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

