

# KIC 011400413

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011400413-01	OBS	No	0.762167	132.258233	0.0	6.712	7.2	0.0	9.14	6799	0.10	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011400413-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

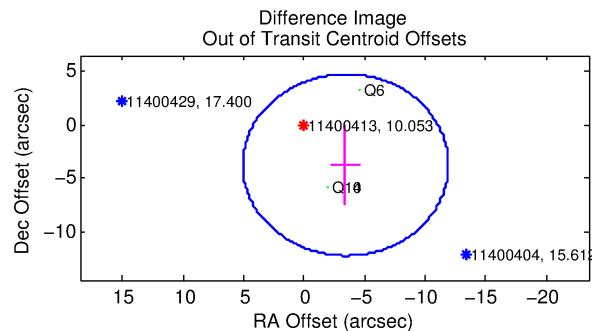
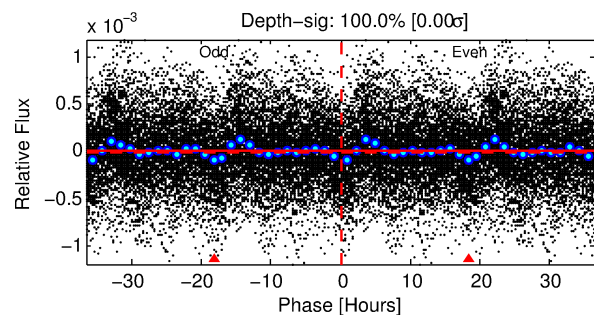
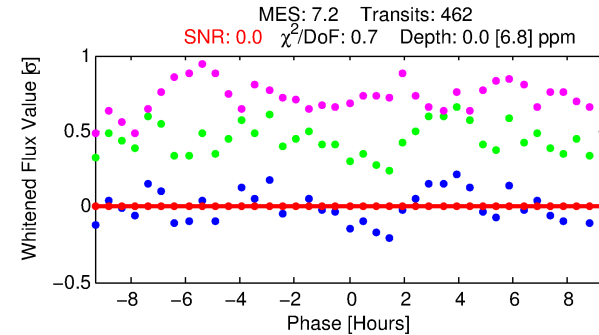
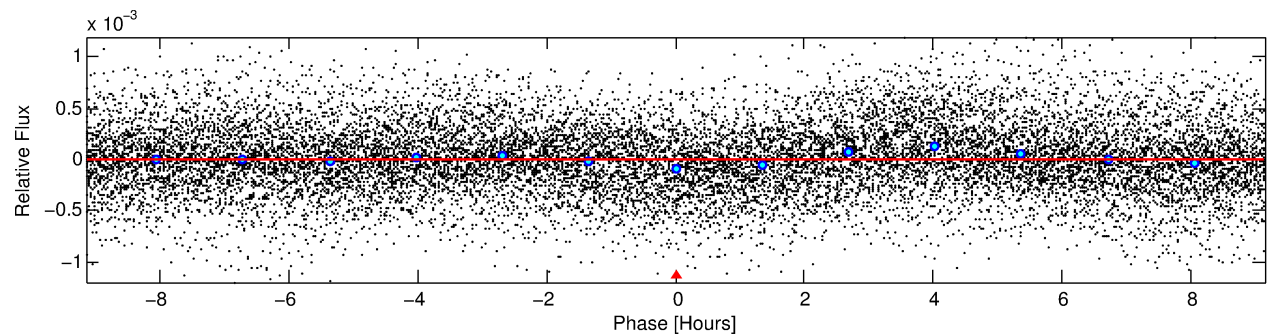
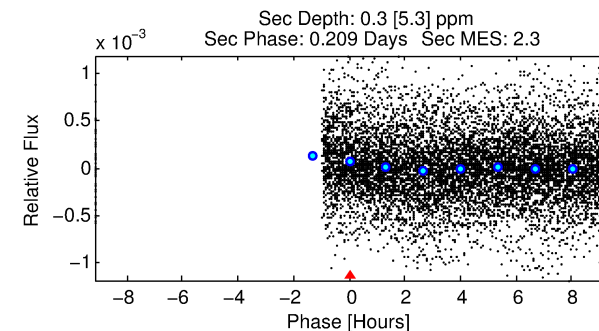
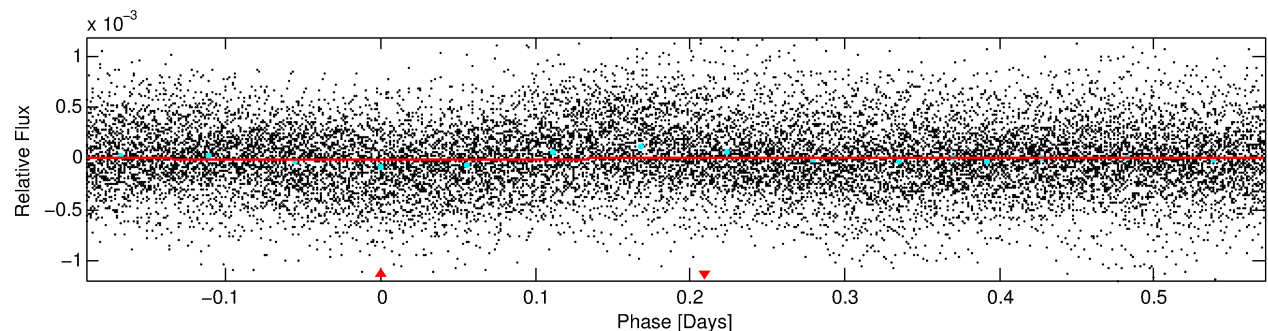
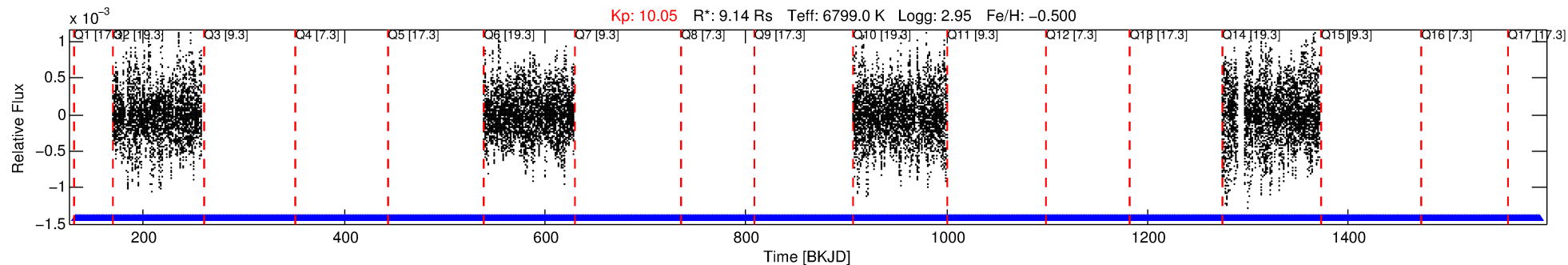
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011400413-01

No Significant Match Found

# DV One-Page Summary

KIC: 11400413 Candidate: 1 of 1 Period: 0.762 d



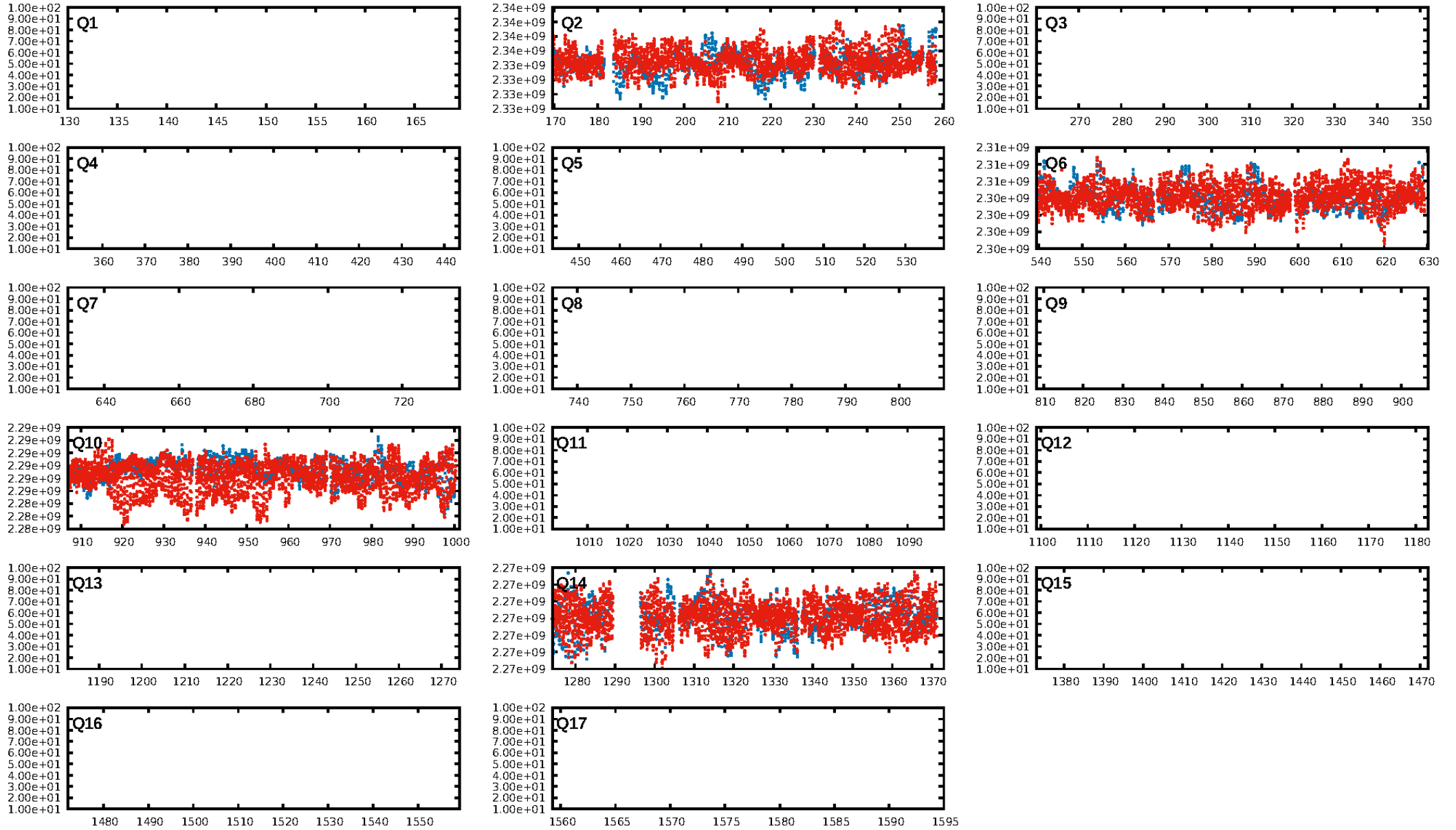
## DV Fit Results:

Period = 0.76217 [0.03832] d  
Epoch = 132.2582 [4.1976] BKJD  
Rp/R\* = 0.0001 [0.0706]  
a/R\* = 1.09 [688.25]  
b = 0.24 [15979.00]  
Seff = N/A  
Teq = N/A  
Rp = 0.11 [70.38] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

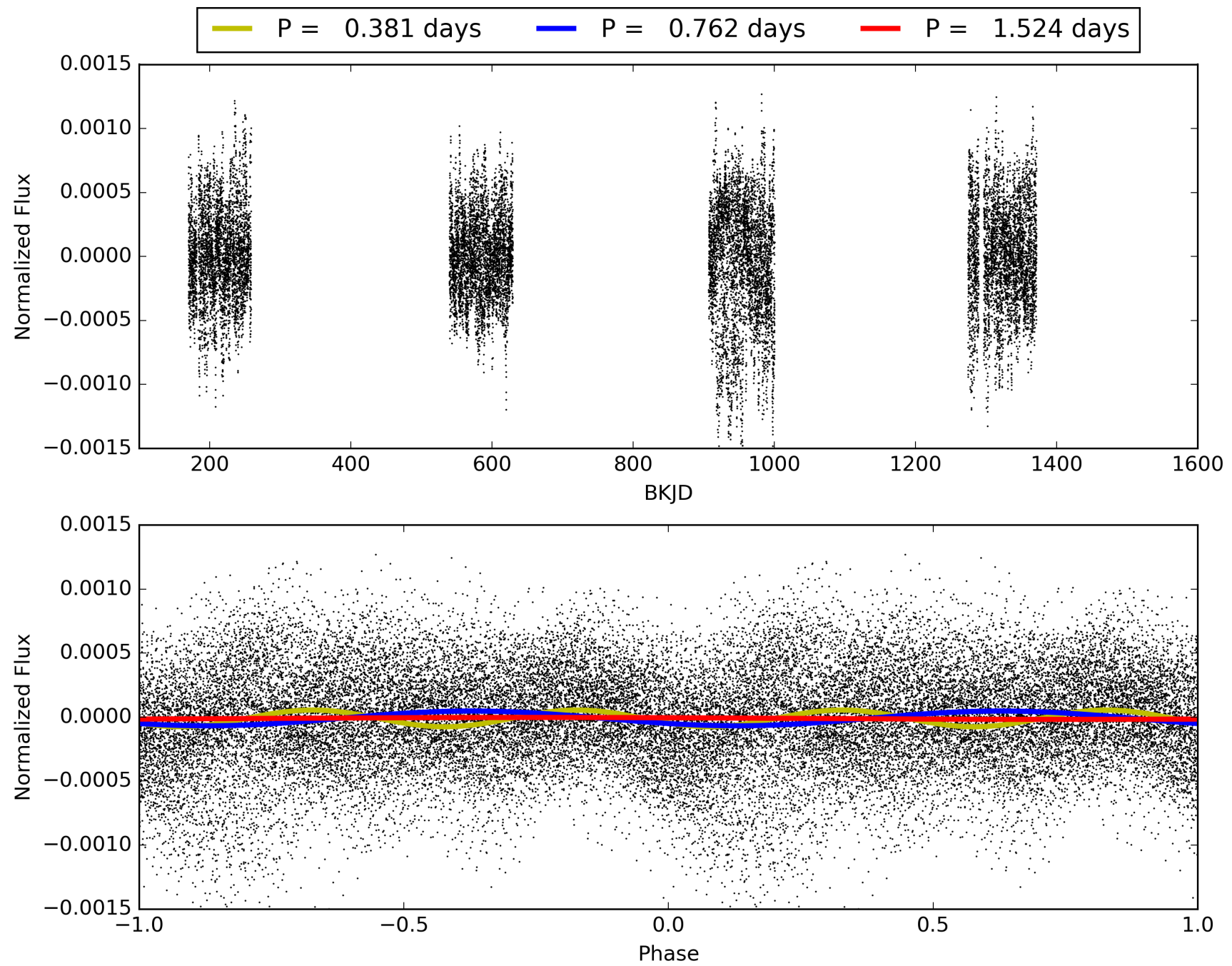
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [462/462]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 5.072 arcsec [1.79σ]  
KicOffset-rm: 5.059 arcsec [2.82σ]  
OotOffset-st: 3/0/0/0 [3]  
KicOffset-st: 3/0/0/0 [3]  
DiffImageQuality-fgm: 0.00 [0/3]  
DiffImageOverlap-fno: 1.00 [4/4]

# TCE 011400413-01, PDC Light Curves

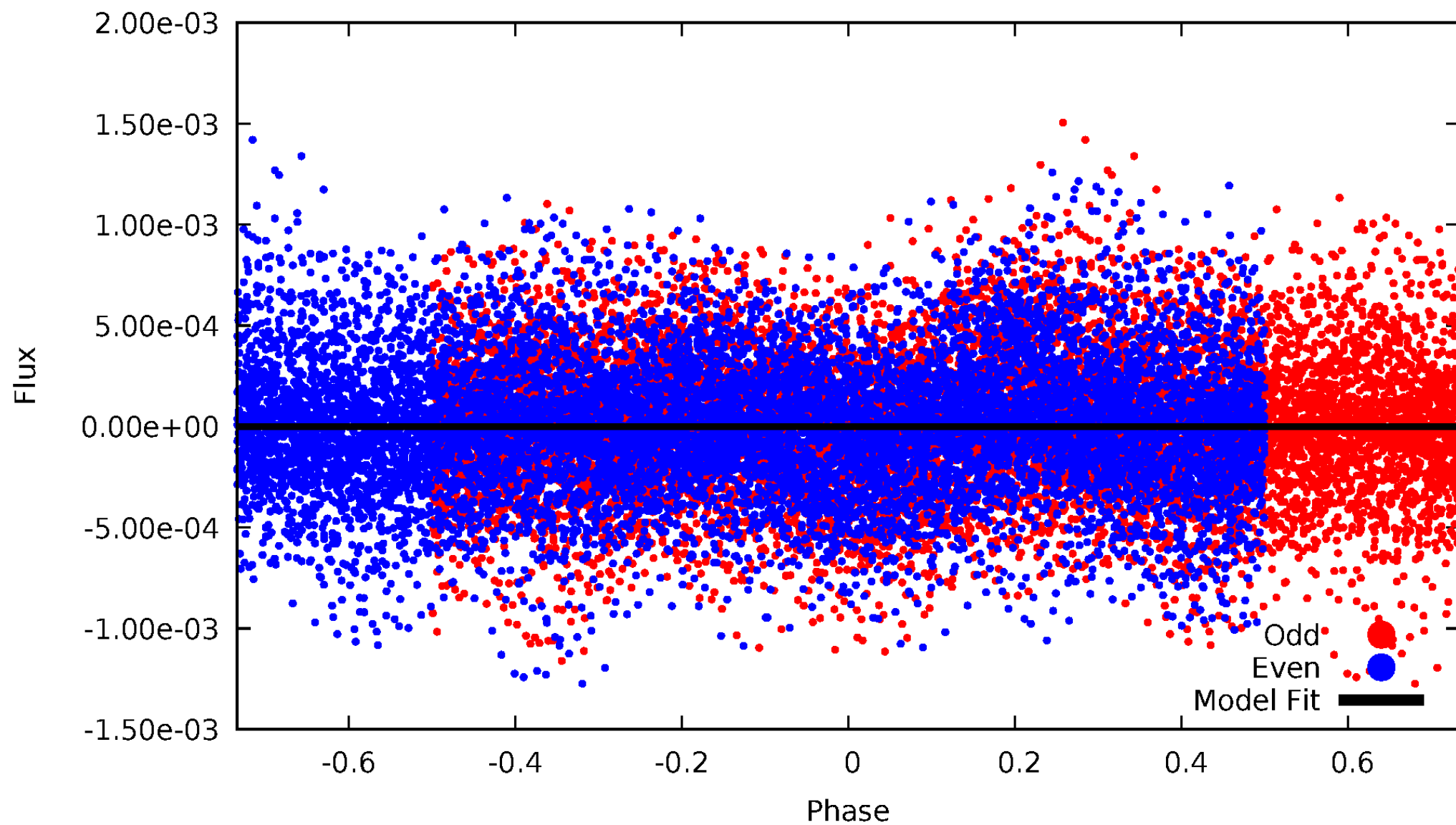


TCE 011400413-01



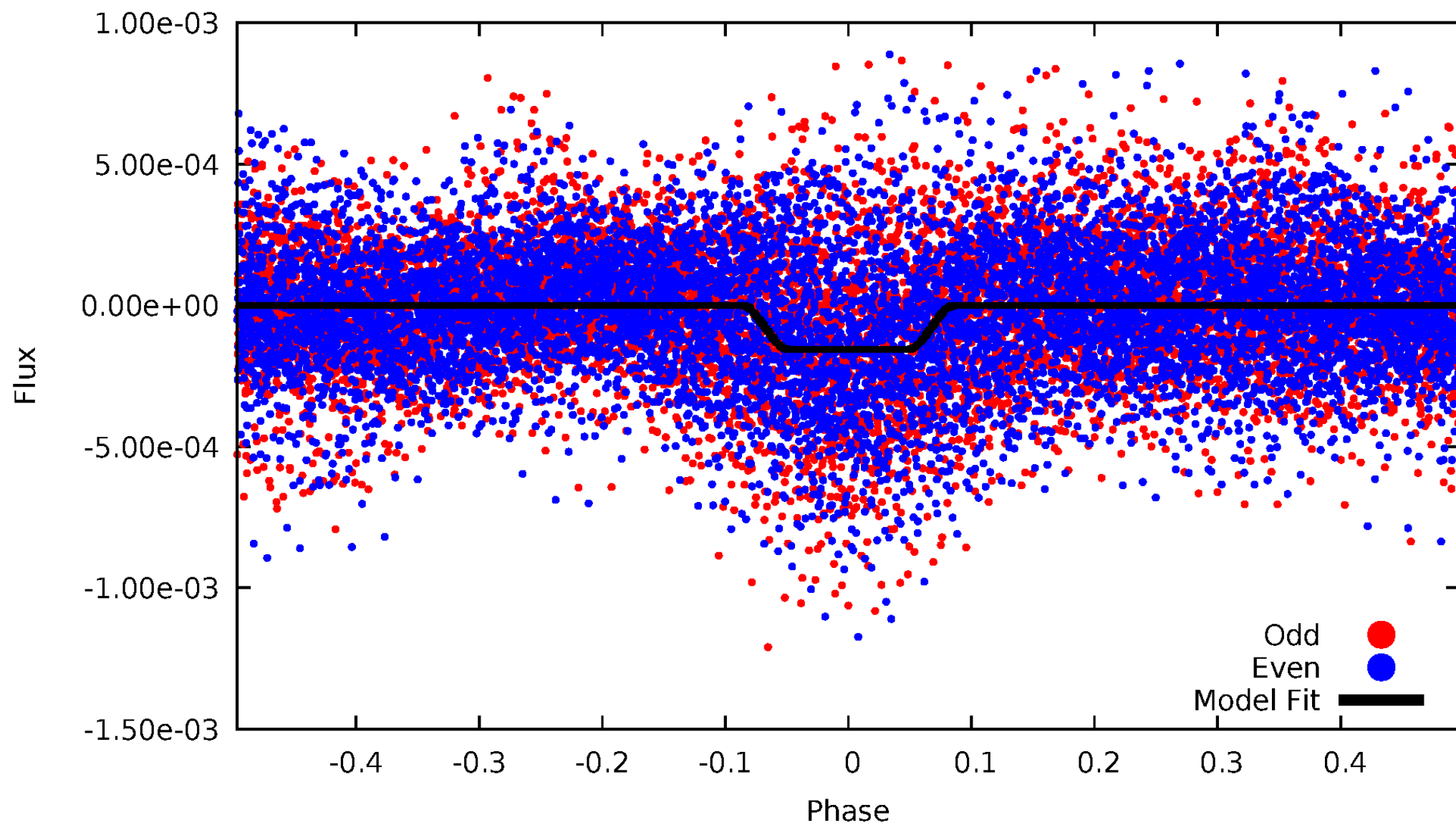
# DV Odd/Even

TCE 011400413-01



# ALT Odd/Even

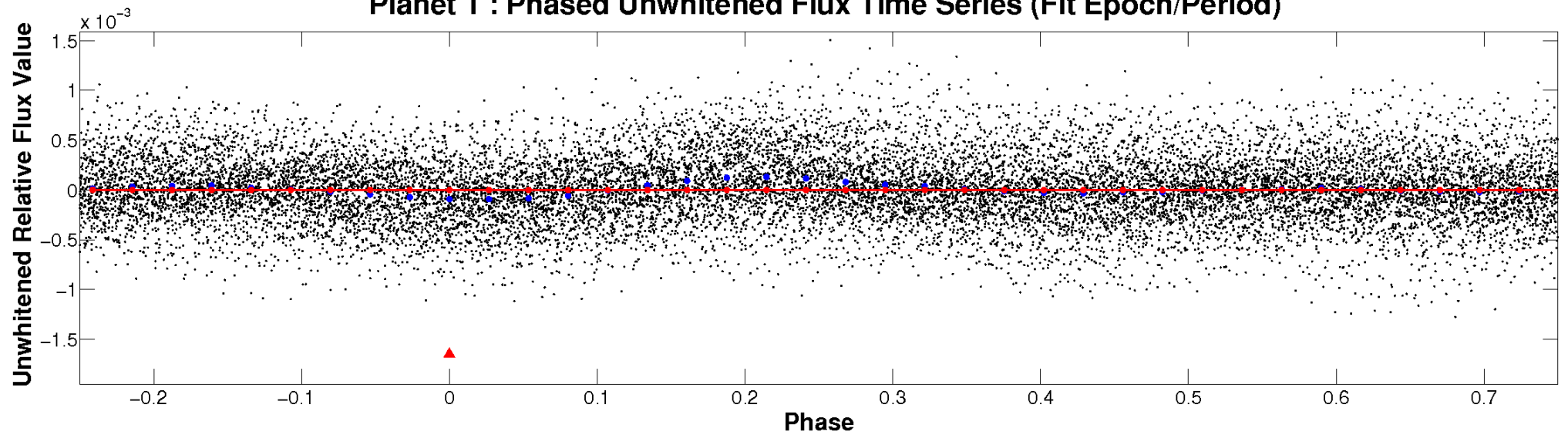
TCE 011400413-01



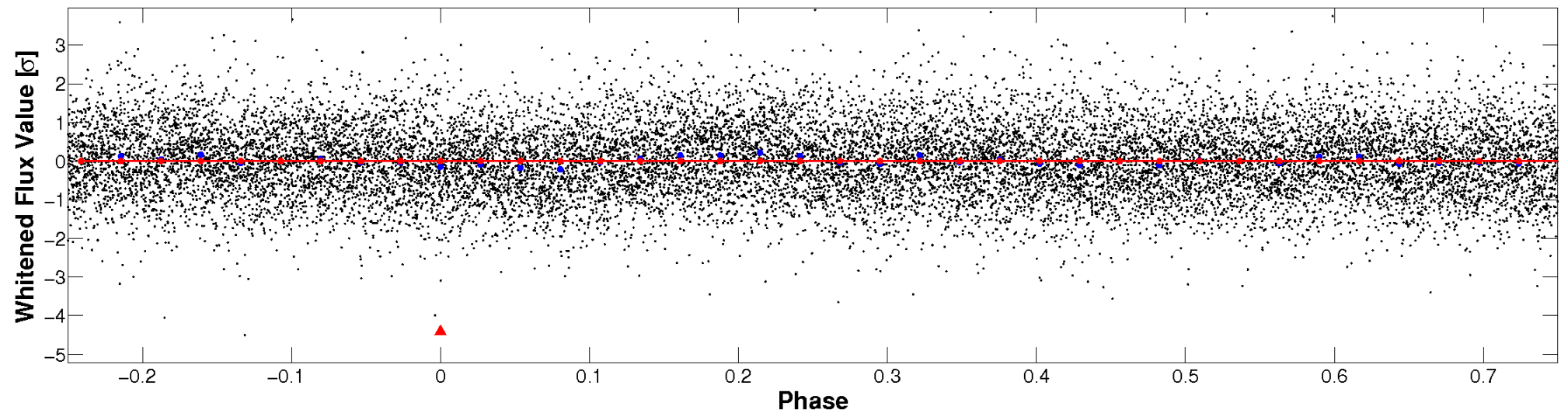


# Non-Whitened Vs. Whitened Light Curve

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

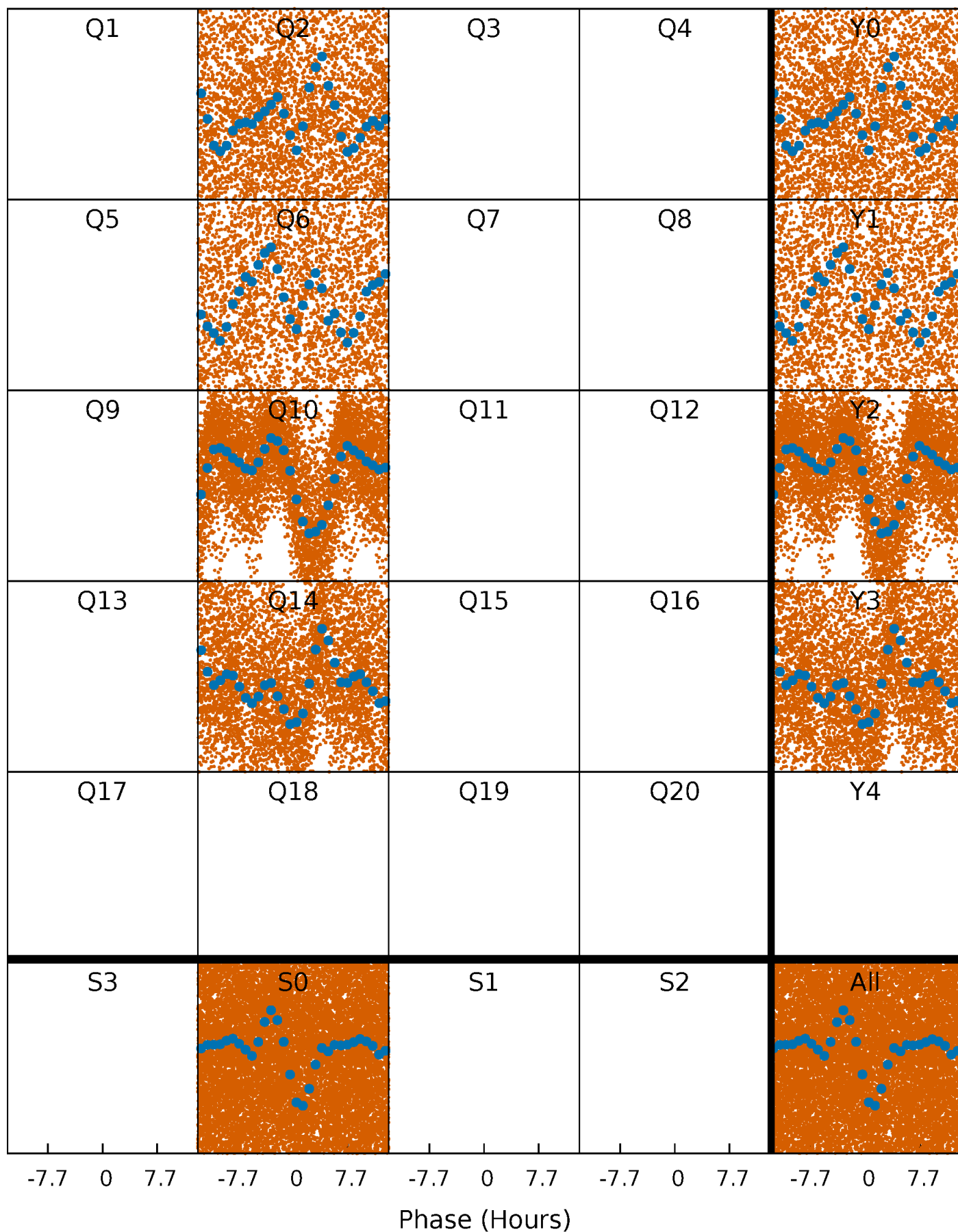


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

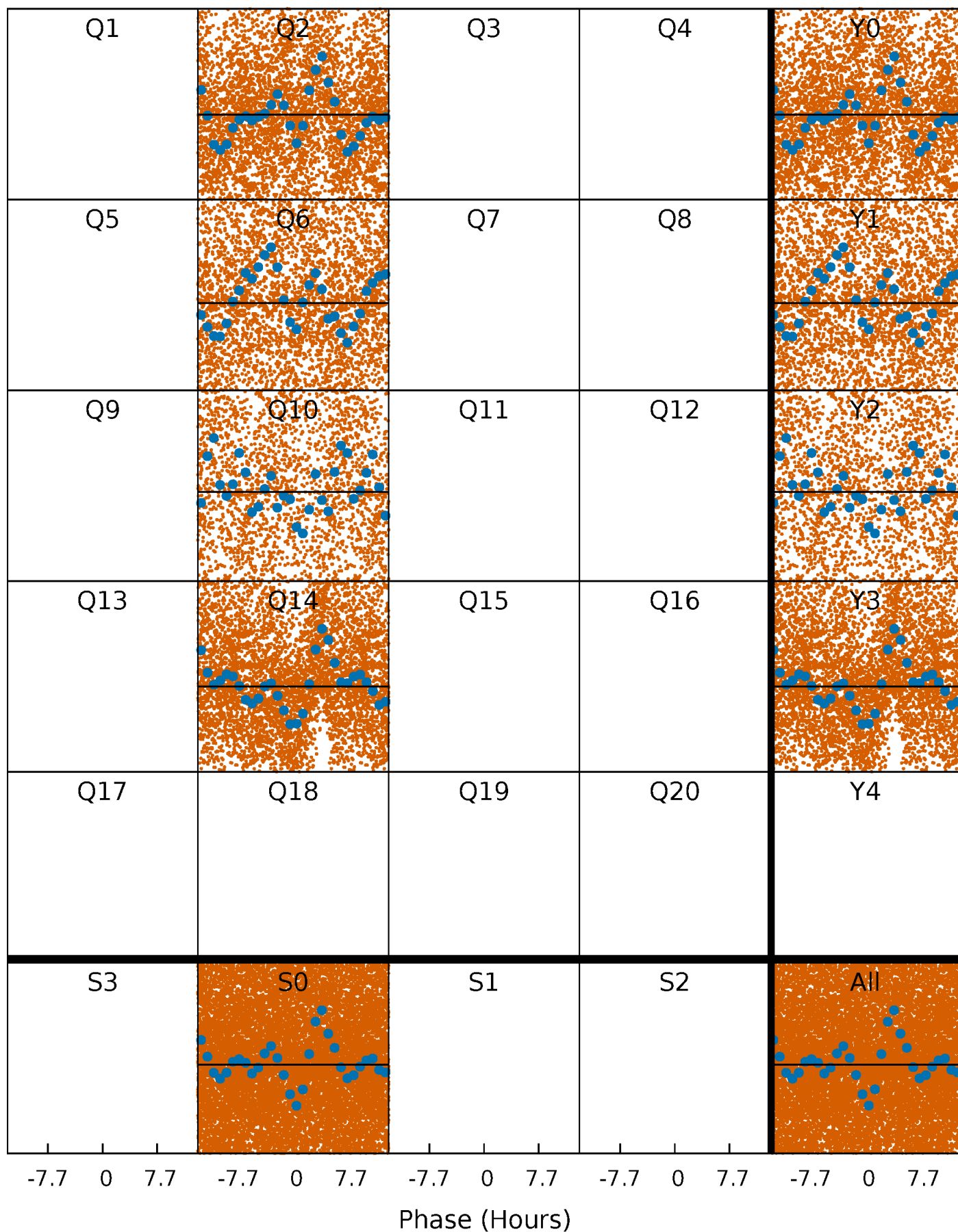
TCE 011400413-01 P= 0.762167 Days  $T_0=132.258233$  (BKJD)





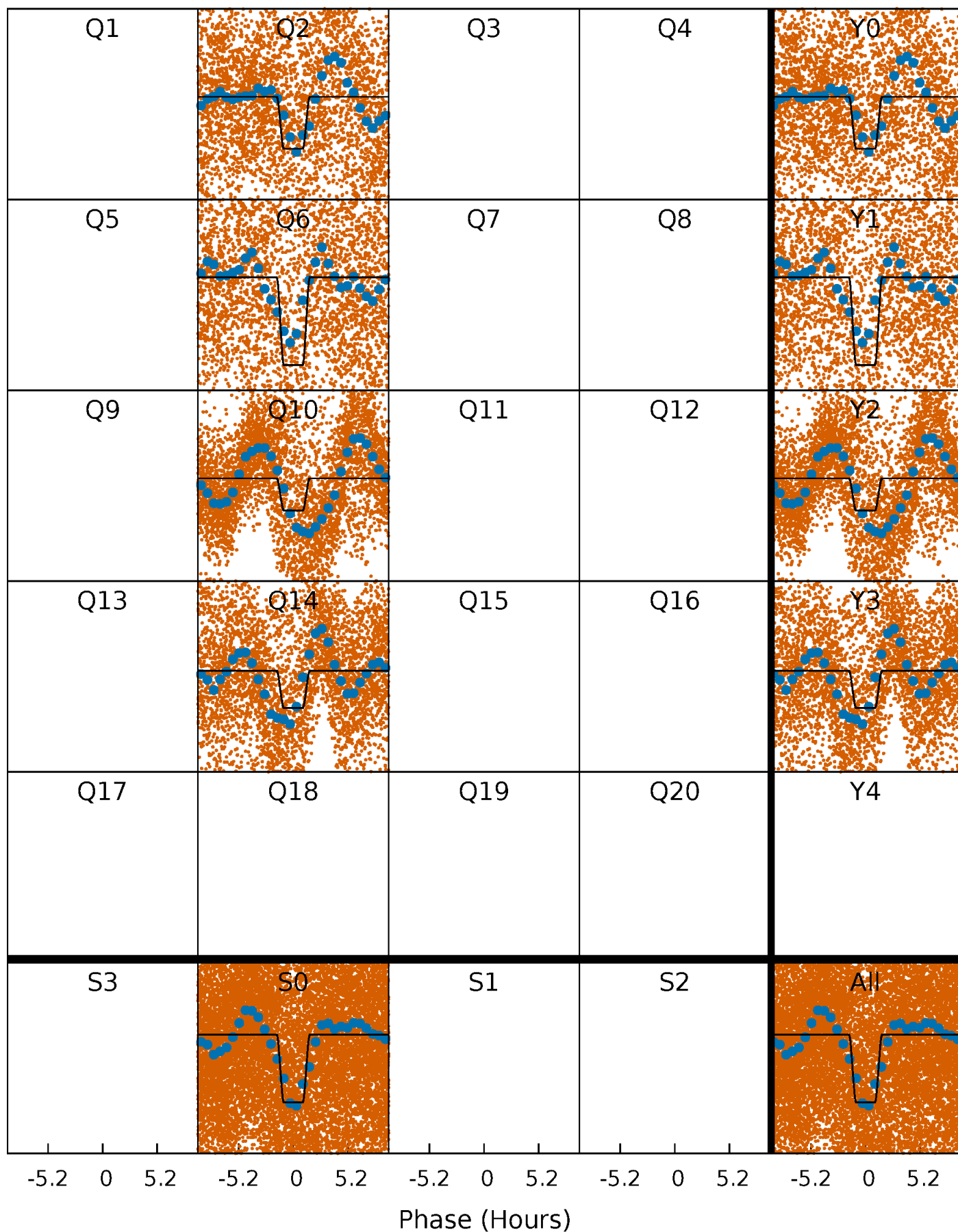
# DV Quarter-Phased Transit Curves

TCE 011400413-01 P= 0.762167 Days  $T_0=132.258233$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

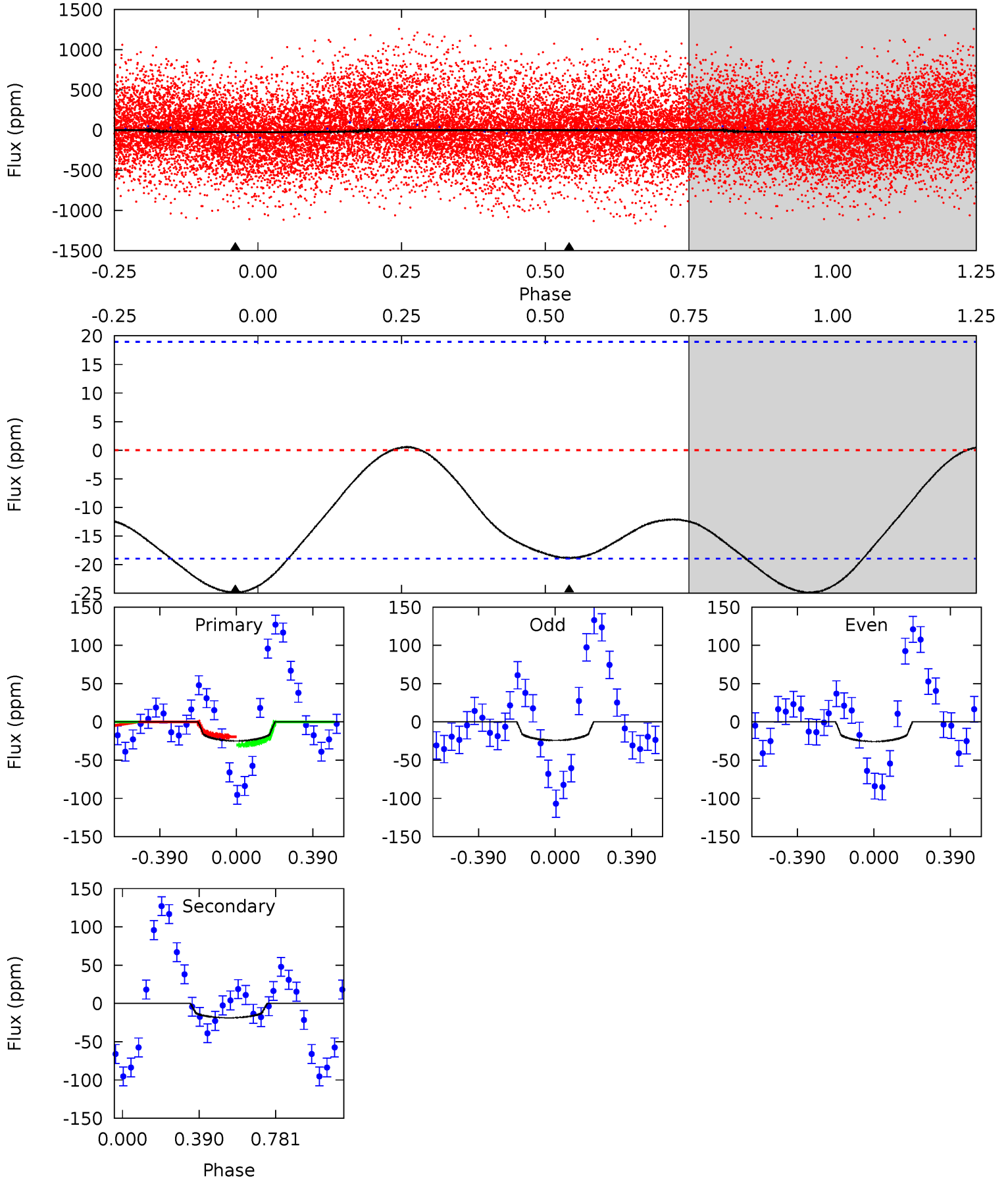
TCE 011400413-01 P= 0.762213 Days  $T_0=132.253183$  (BKJD)



# DV Model-Shift Uniqueness Test

011400413-01, P = 0.762167 Days, E = 132.258233 Days

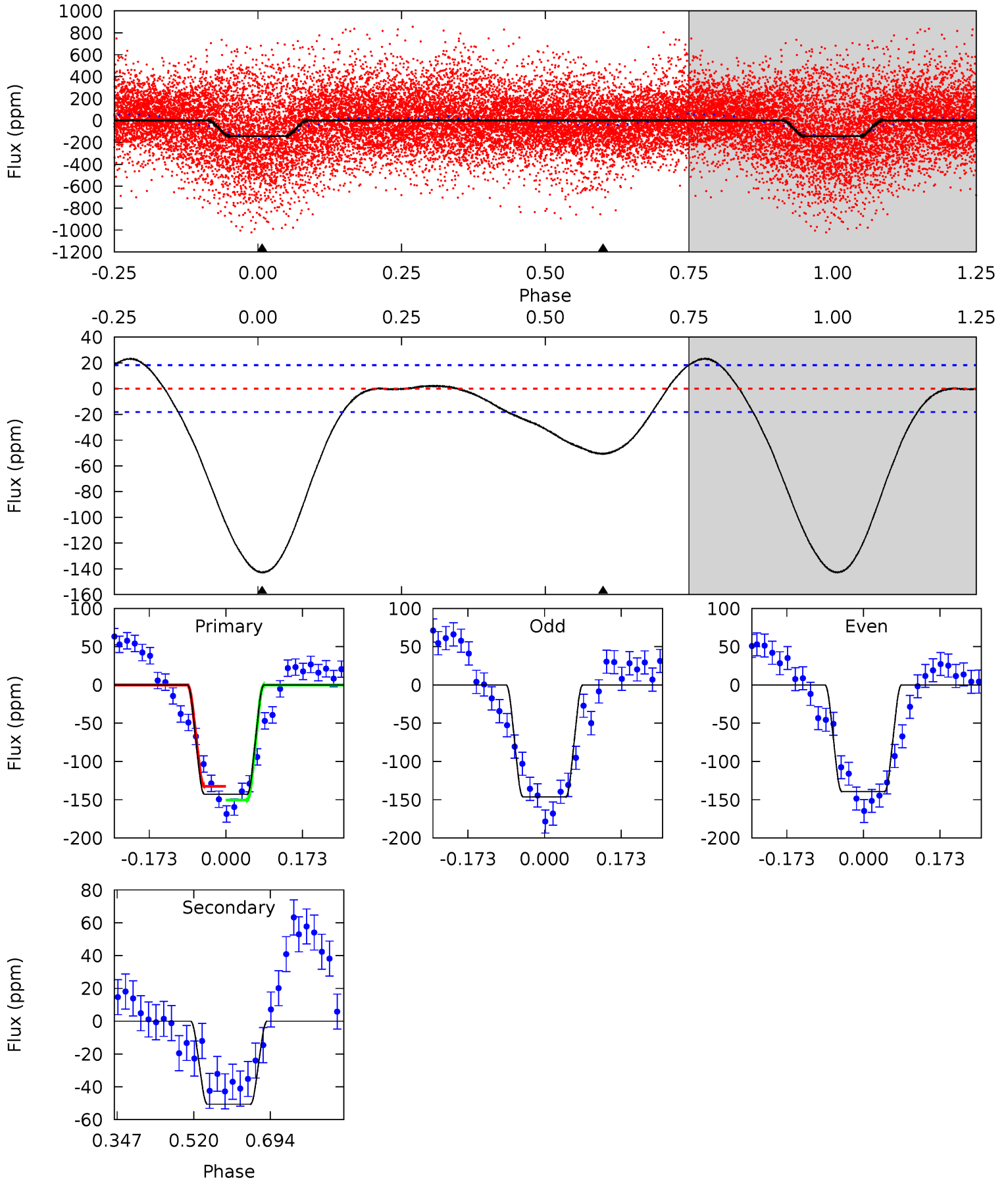
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.61	4.24	0	0	4.27	0.86	0.15	5.61	5.61	4.24	4.24	0.17	1.03	0.02	1.34



# Alt Model-Shift Uniqueness Test

011400413-01, P = 0.762213 Days, E = 132.253183 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
34.9	12.4	0	0	4.45	1.36	2.15	34.9	34.9	12.4	12.4	0.85	0.99	0.14	2.29



### Stellar Parameters For KIC 011400413

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6799^{+190}_{-326}$	$2.947^{+0.480}_{-0.160}$	$-0.500^{+0.250}_{-0.450}$	$9.140^{+2.084}_{-4.863}$	$2.698^{+0.337}_{-1.079}$	$0.005^{+0.028}_{-0.002}$
	+3%/-5%	+16%/-5%	+50%/-90%	+23%/-53%	+12%/-40%	+558%/-40%
Source	KIC0	FLK73	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 011400413-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-19 \pm 4$	$42.83^{+53.02}_{-28.98}$	$8167^{+760}_{-1048}$	$-6586^{+1080}_{-731}$	$0.003^{+0.023}_{-0.002}$
Alt.	$-51 \pm 4$	$46.21^{+58.06}_{-33.12}$	$8219^{+754}_{-1130}$	$-6510^{+1352}_{-798}$	$0.007^{+0.075}_{-0.005}$

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



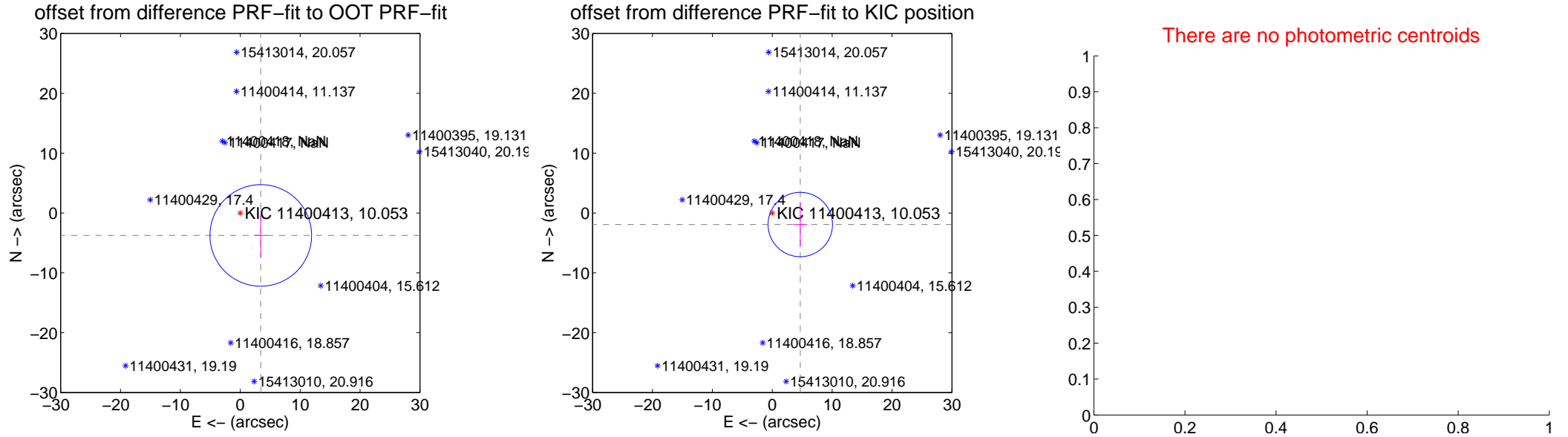
## DV Centroid Data

Supplemental centroid analysis for 011400413-01. **Kepler magnitude: 10.05.** Transit SNR 0.00

There are 0 quarters with good PRF difference image offsets

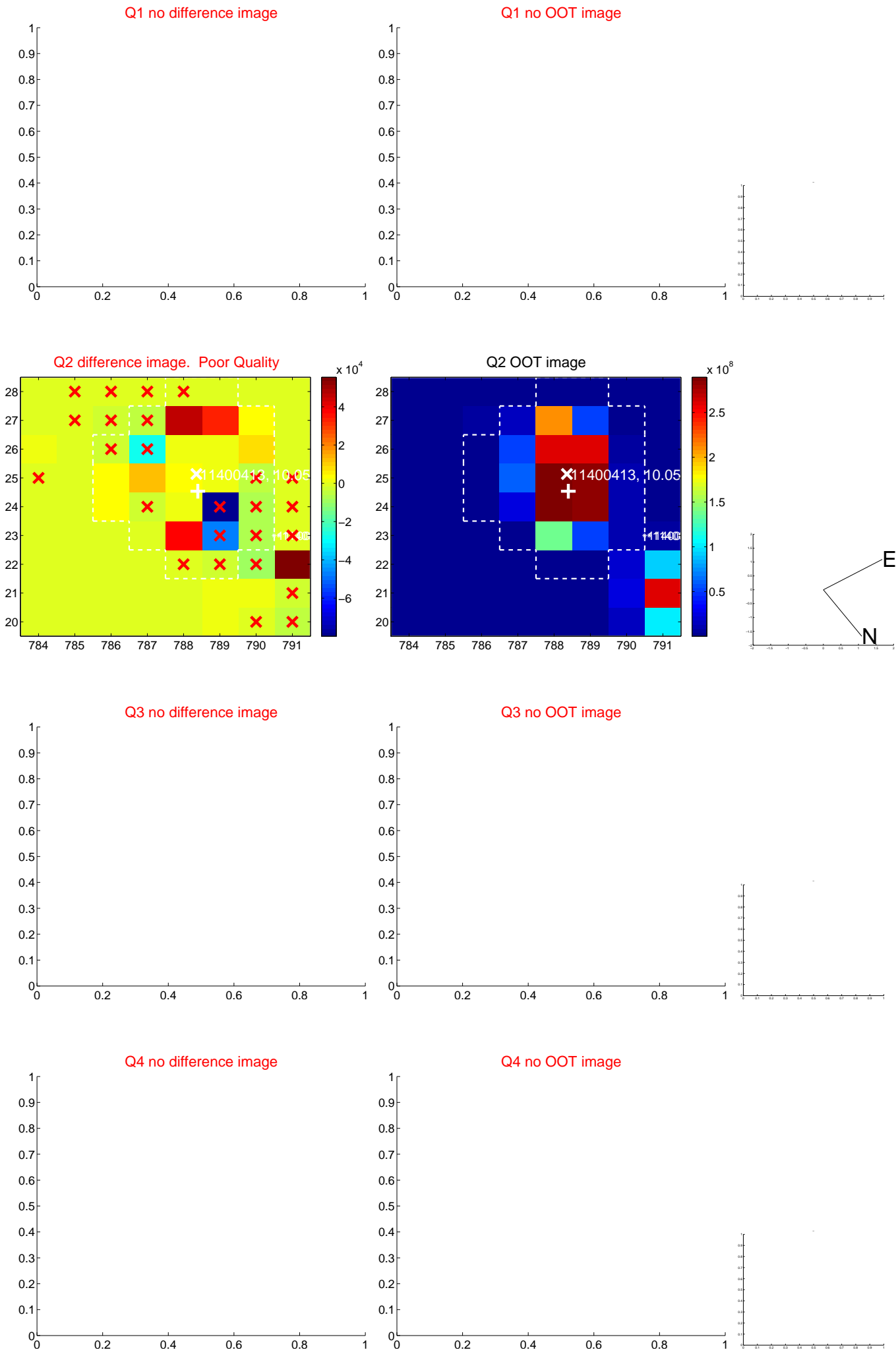
The OOT PRF centroid is offset from the target star catalog position by about 2.16 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$5.072 \pm 2.829$	1.79	$-3.421 \pm 1.124$	$-3.745 \pm 3.691$
PRF-fit source offset from KIC position	$5.059 \pm 1.793$	2.82	$-4.678 \pm 1.162$	$-1.926 \pm 3.770$
photometric centroid source offset	—	—	—	—

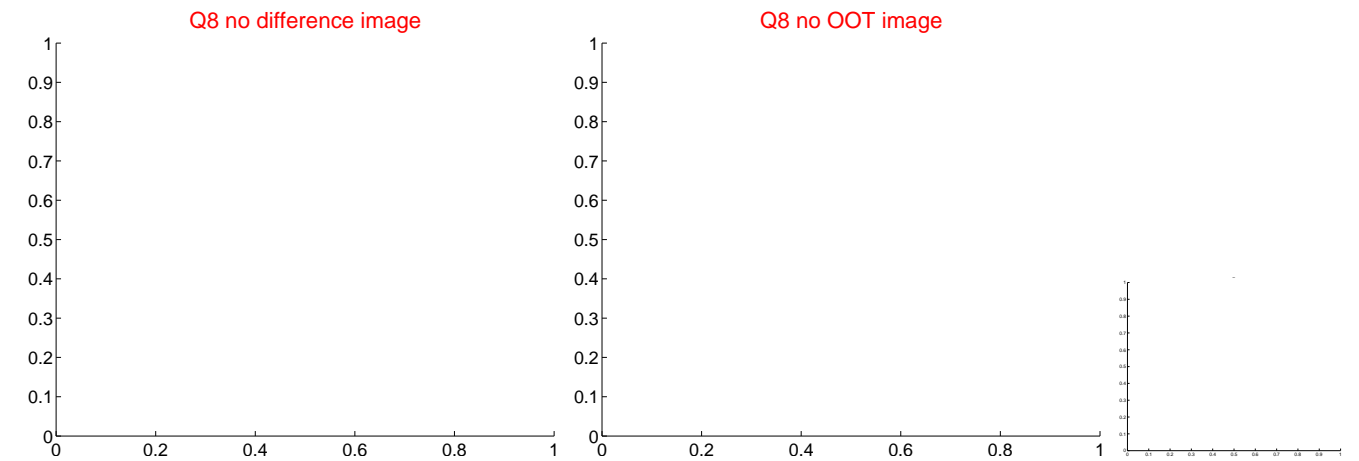
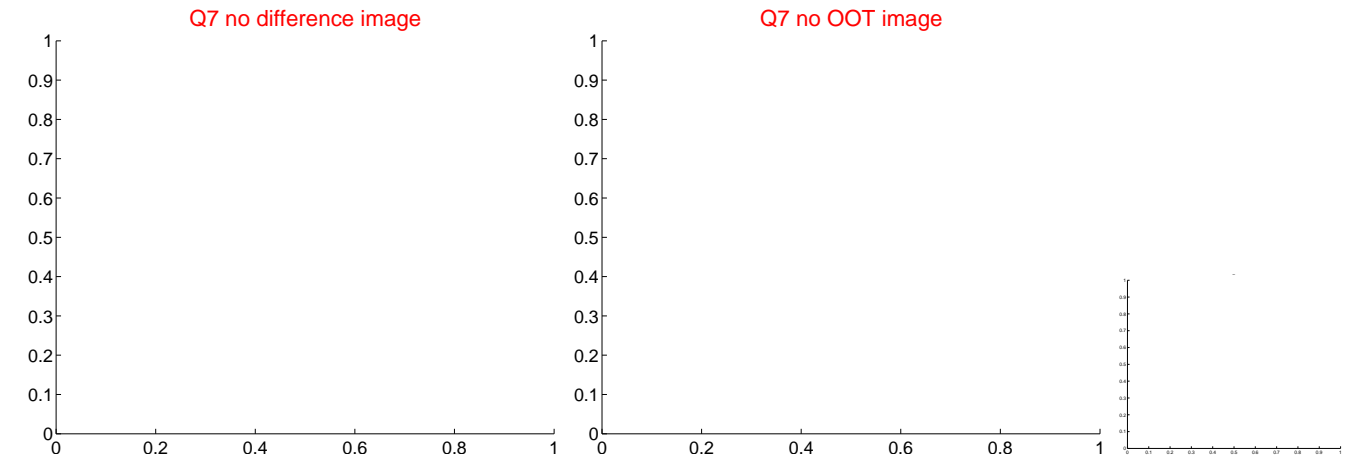
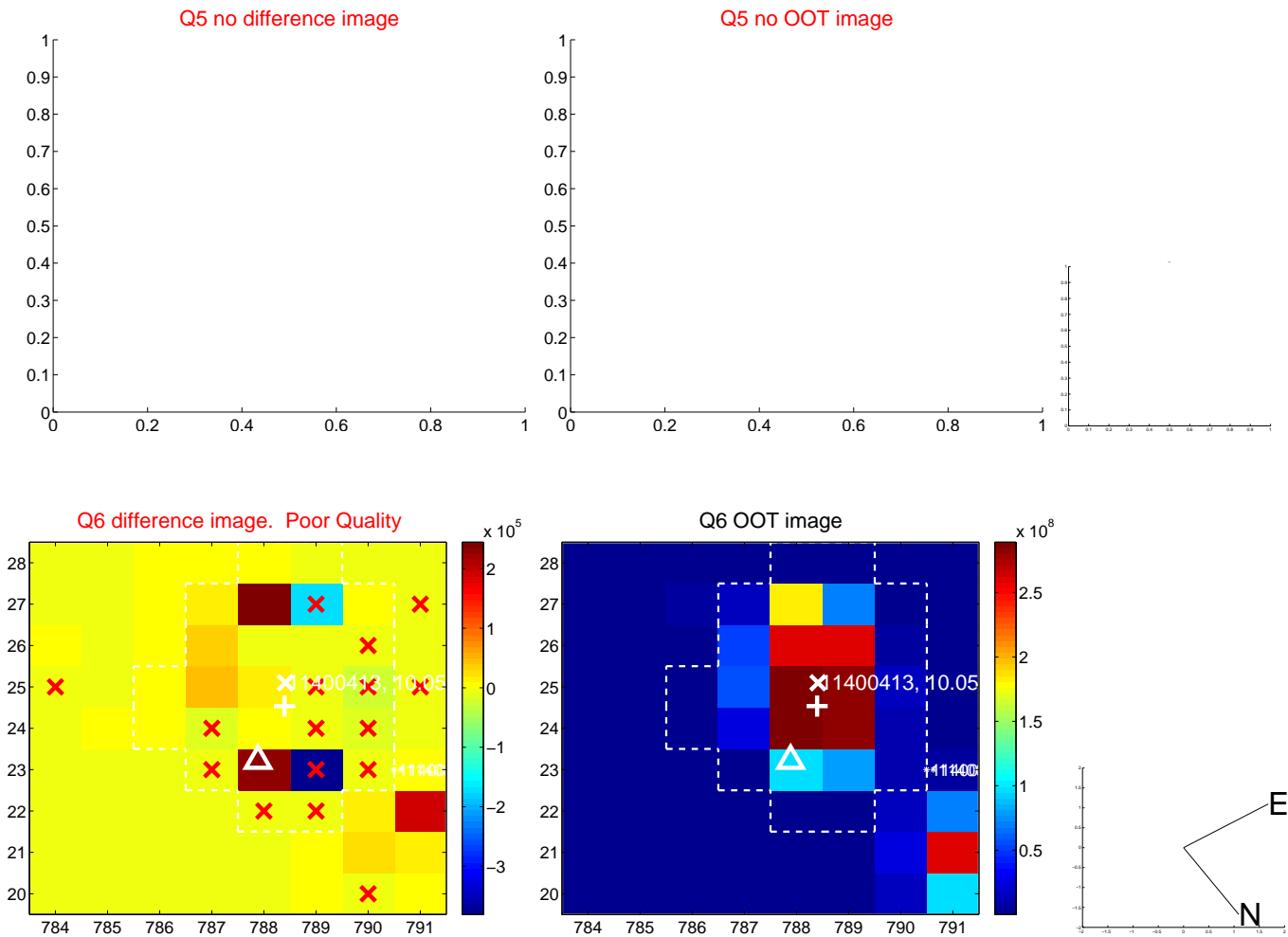


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

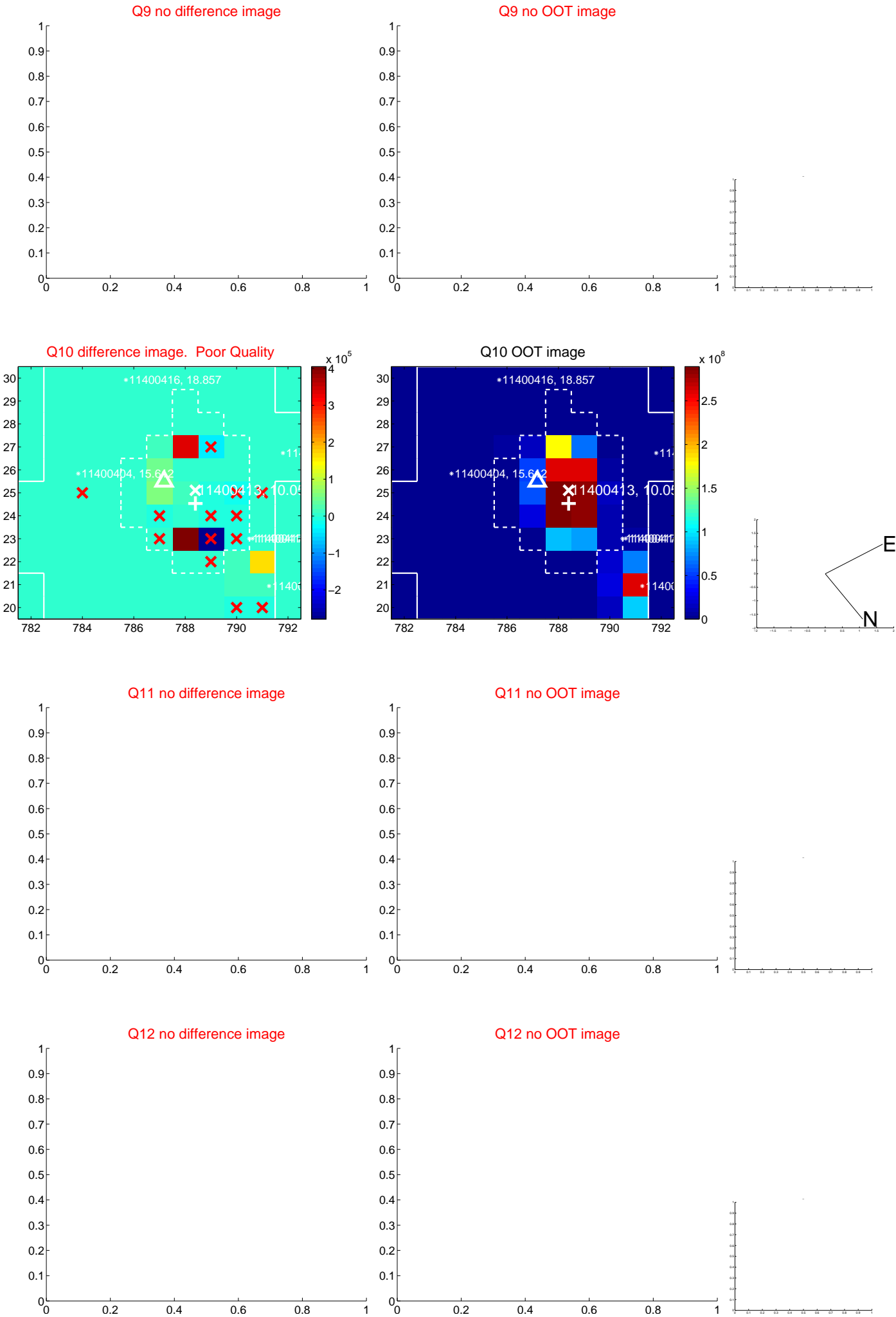
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



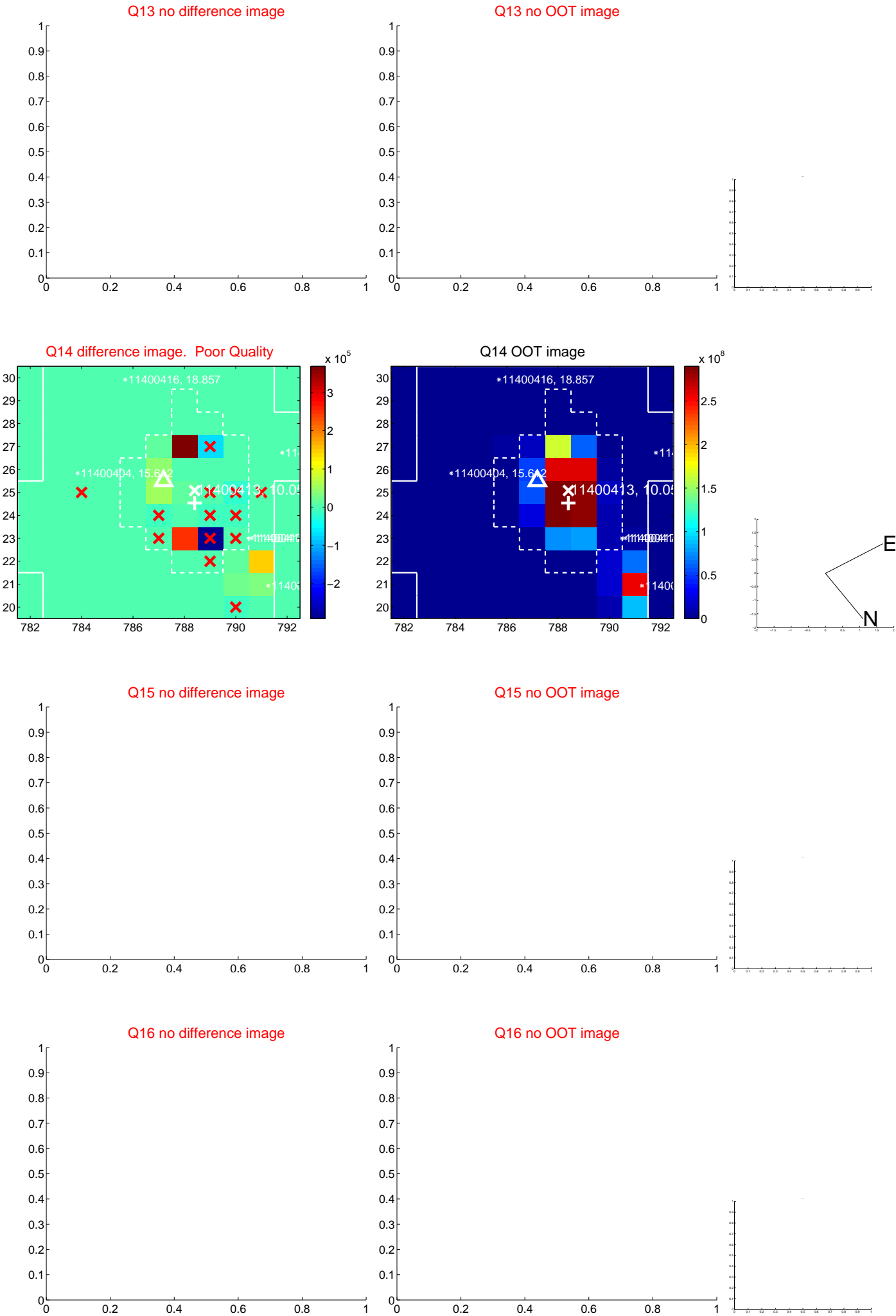
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



Q14 difference image. Poor Quality

Q14 OOT image

Q15 no difference image

Q15 no OOT image

Q16 no difference image

Q16 no OOT image



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



folded centroid time series figure for this object.

UKIRT Image

Declination

