

# KIC 005513861

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005513861-01	OBS	7731.01	0.755108	131.807869	63133.9	2.500	11467.1	-1.0	1.19	6592	30.23	8016.46

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005513861-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_ALT—CENT_NOFITS

**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.

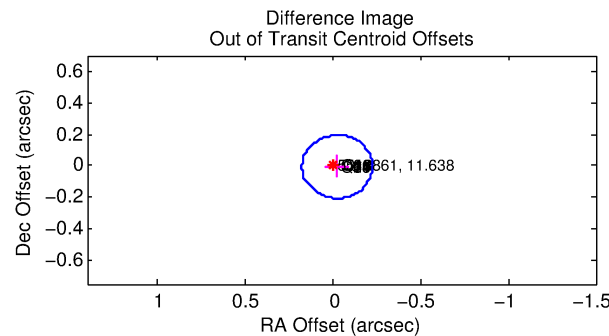
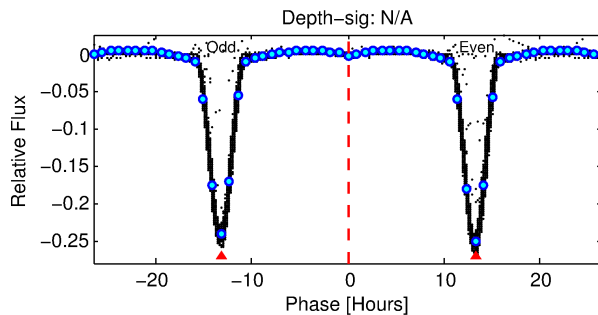
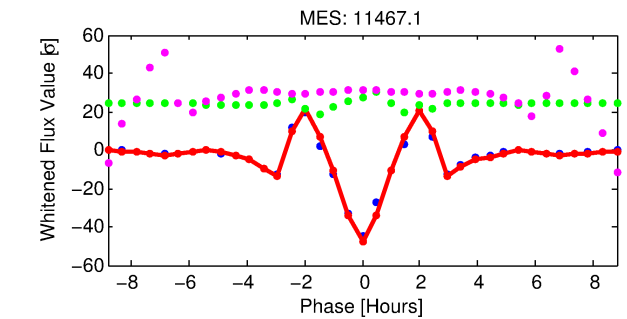
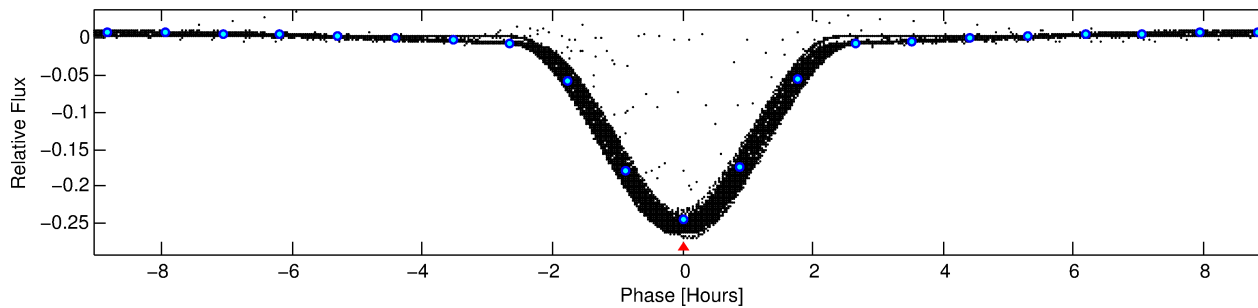
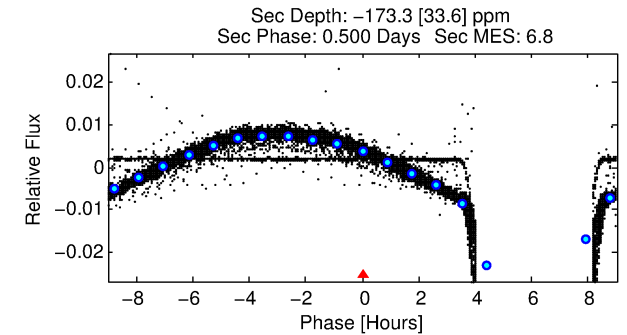
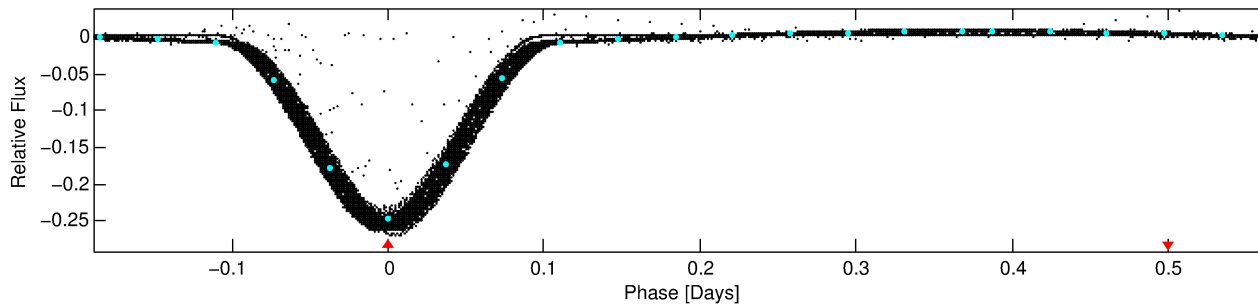
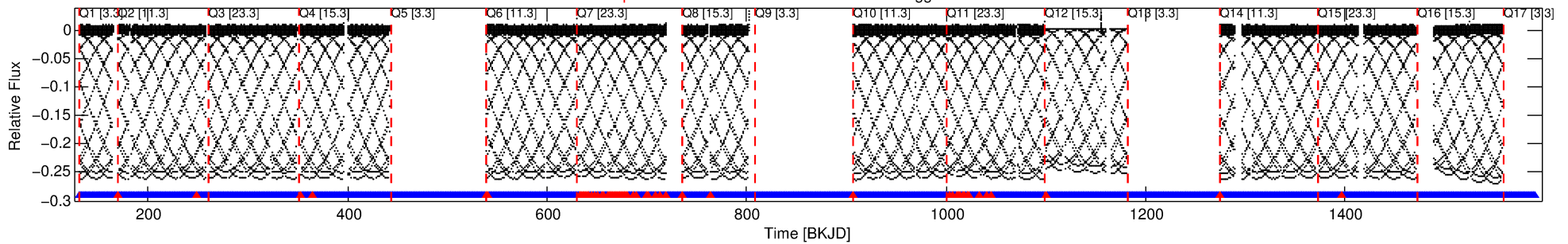
## Ephemeris Match Information For 005513861-01

No Significant Match Found

# DV One-Page Summary

KIC: 5513861 Candidate: 1 of 1 Period: 0.755 d

Kp: 11.64 R\*: 1.19 Rs Teff: 6592.0 K Logg: 4.37 Fe/H: -0.120



## TPS TCE Results:

Period = 0.75511 d  
Epoch = 131.8079 BKJD

DV fit results are unavailable

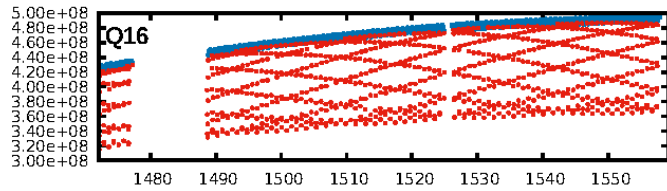
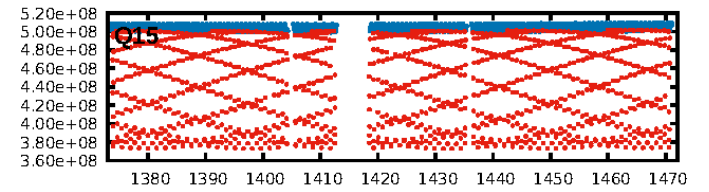
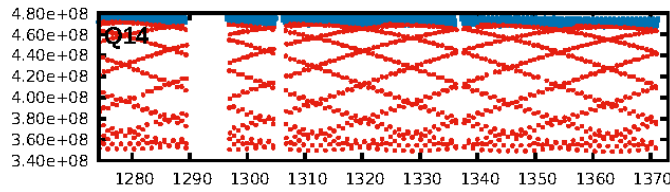
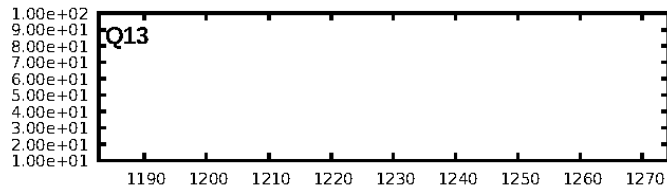
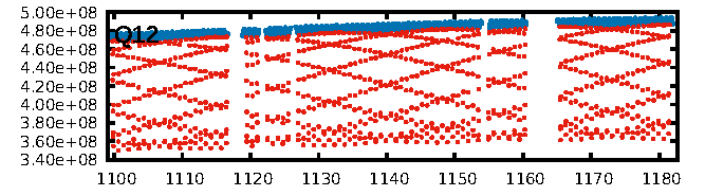
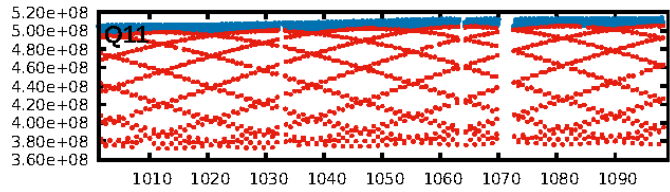
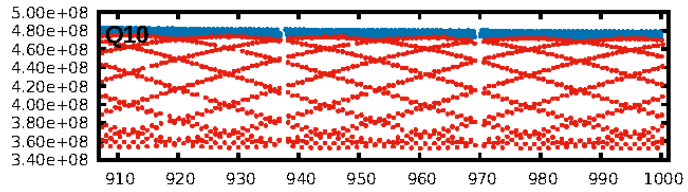
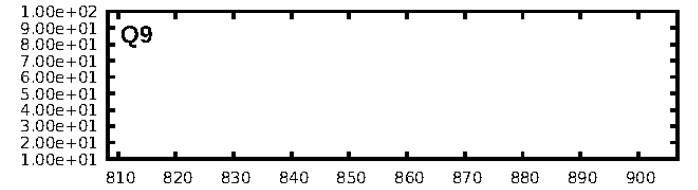
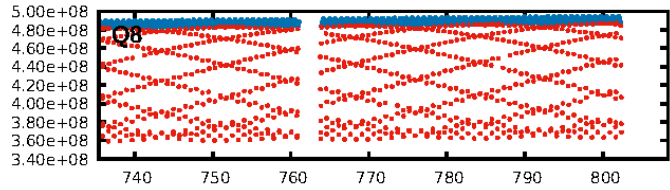
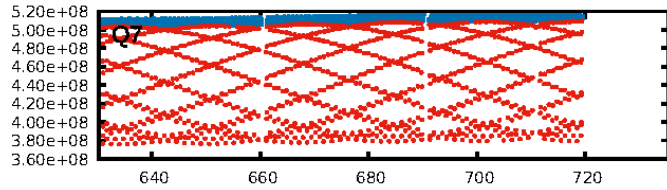
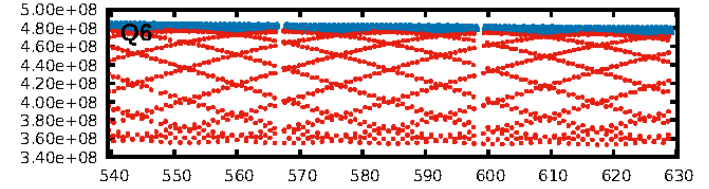
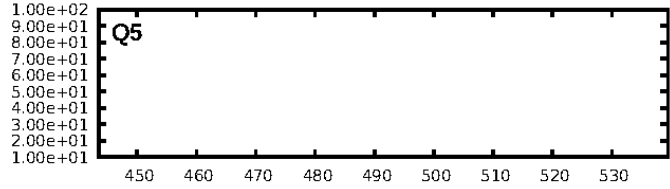
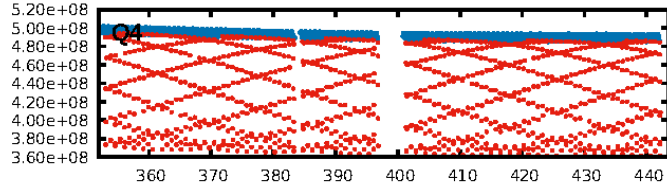
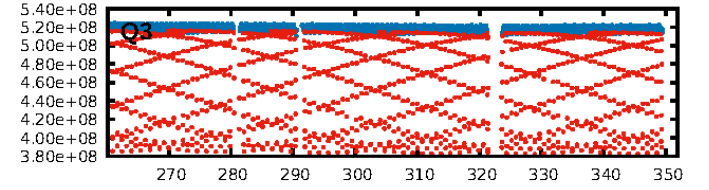
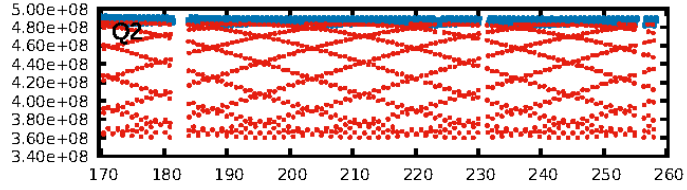
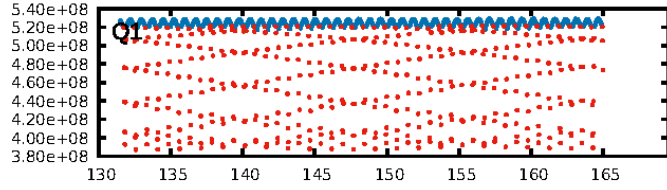
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.94 [1257/1331]  
GhostDiagnostic-chr: 1.049  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.026 arcsec [0.38σ]  
KicOffset-rm: 0.109 arcsec [1.57σ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [13/13]

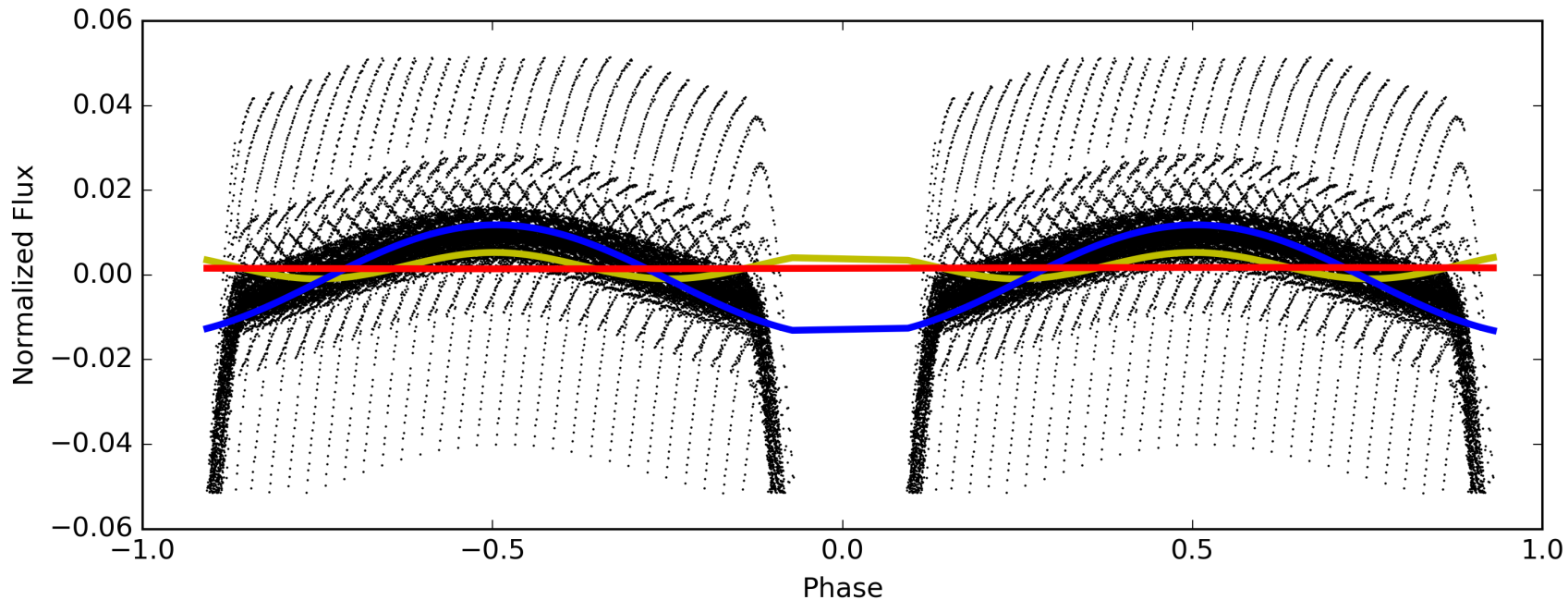
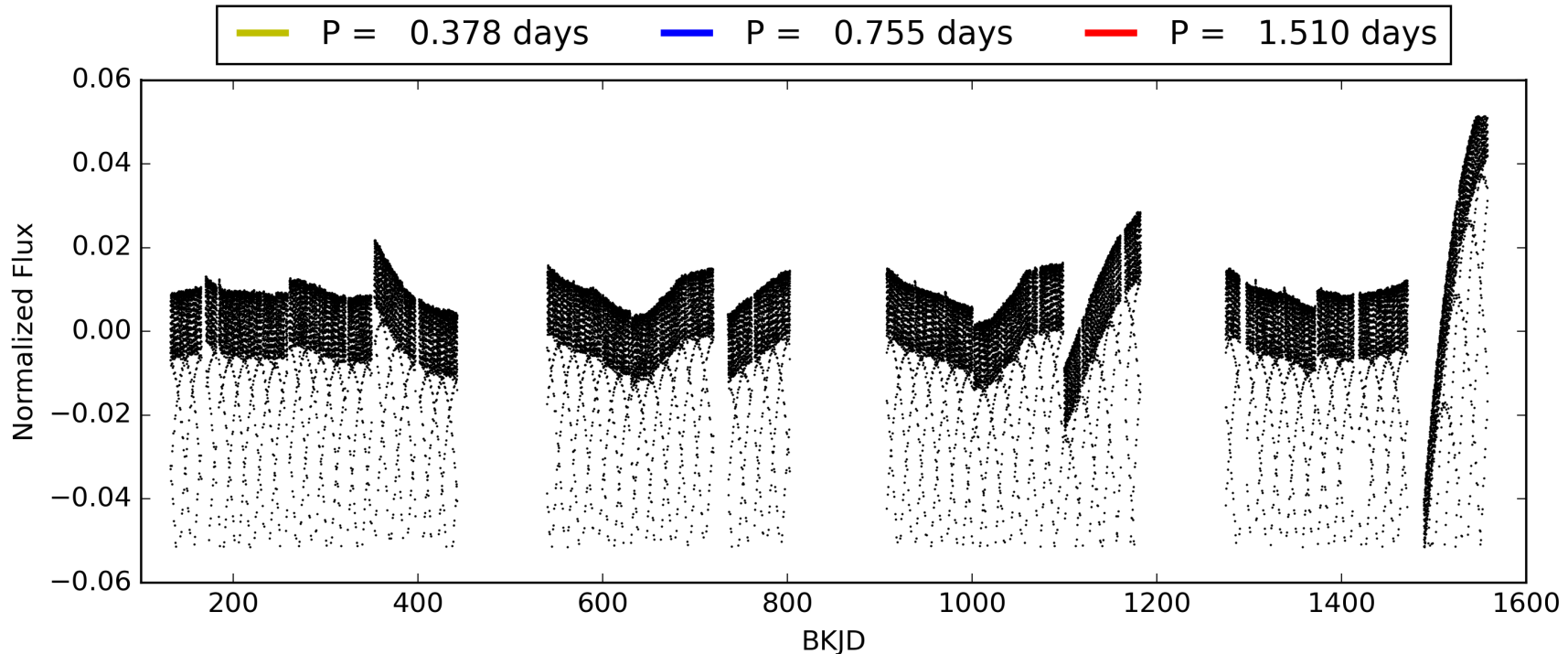
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 11:01:56 Z

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

## TCE 005513861-01, PDC Light Curves

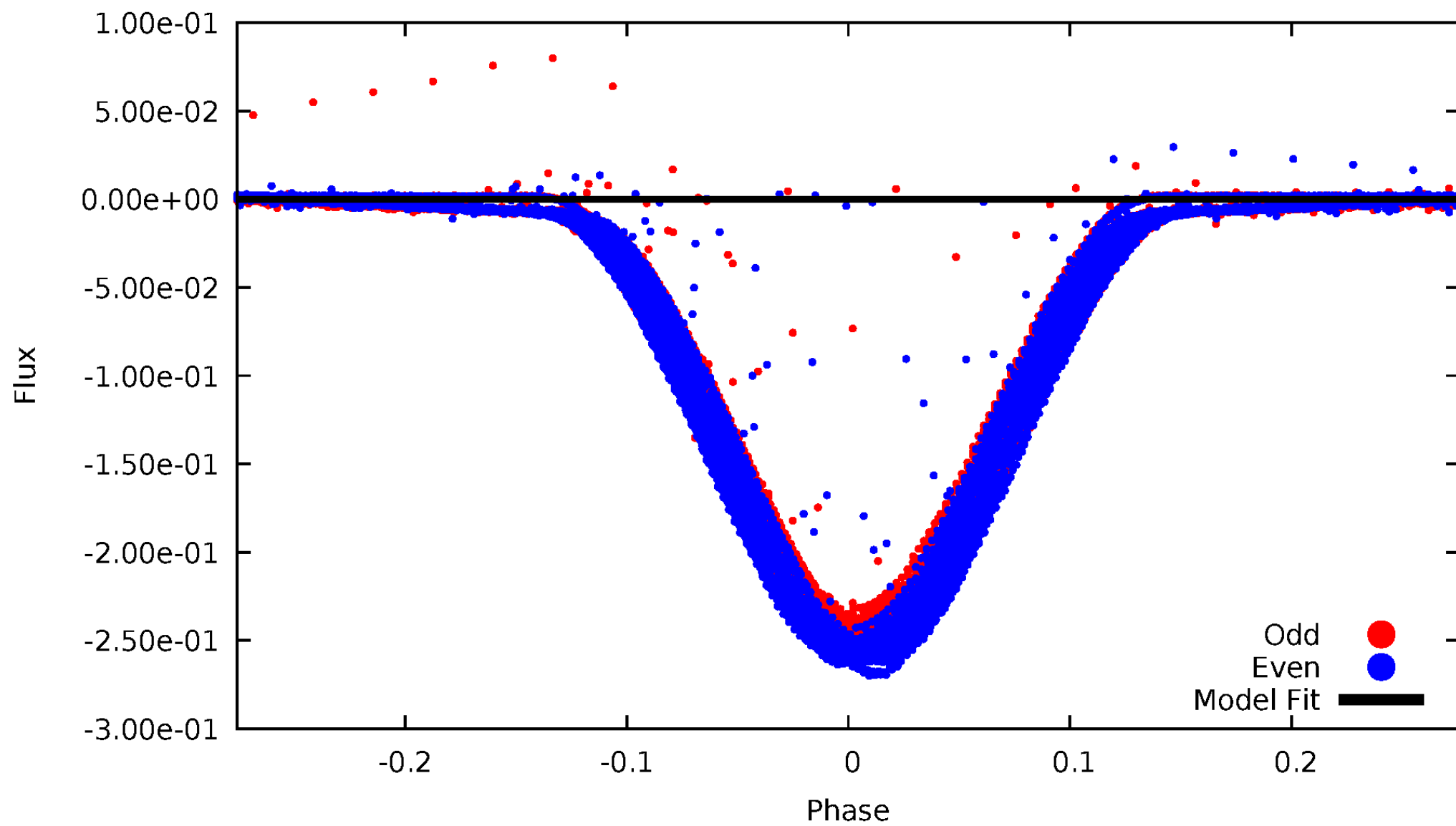


TCE 005513861-01



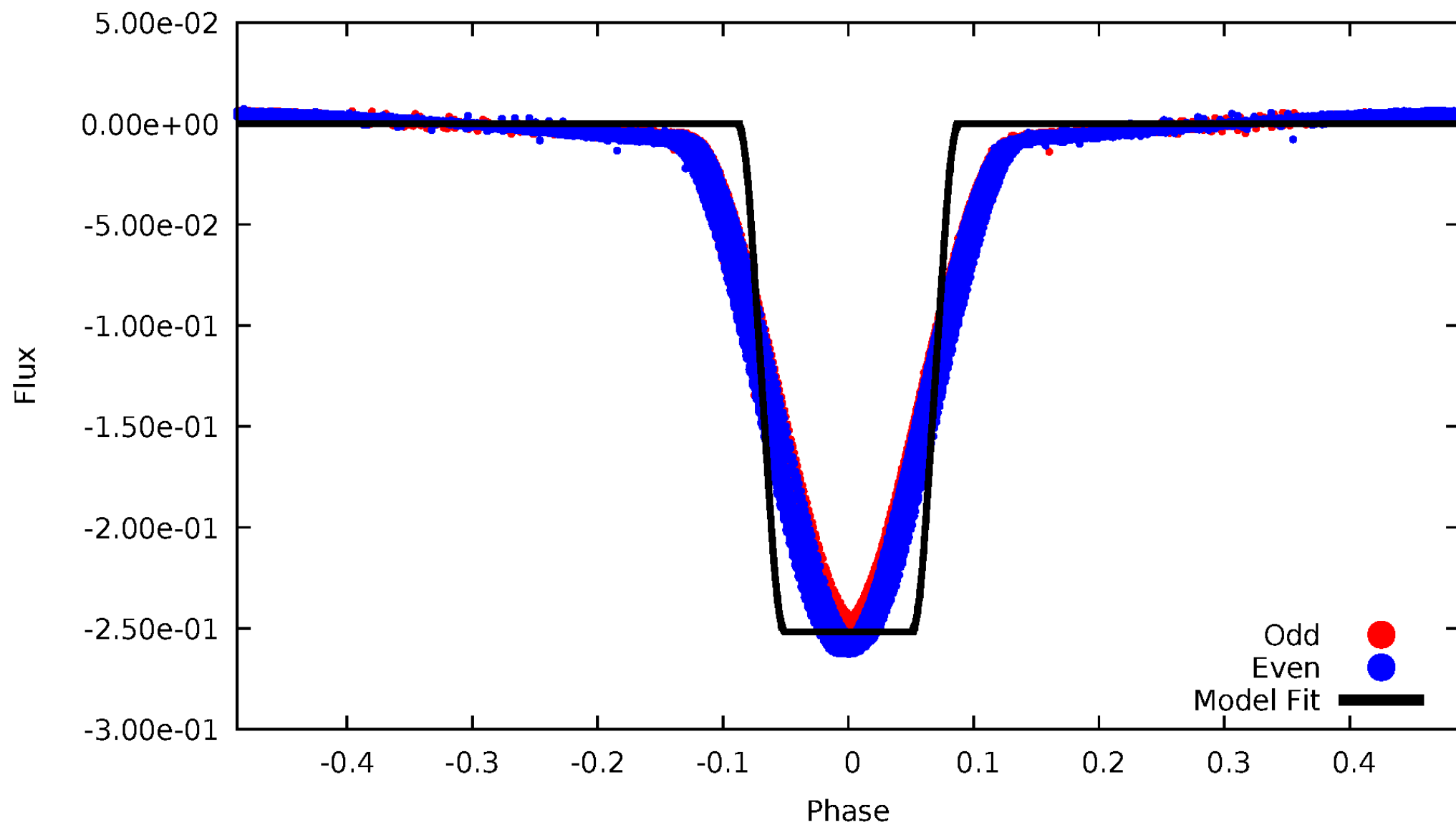
# DV Odd/Even

TCE 005513861-01



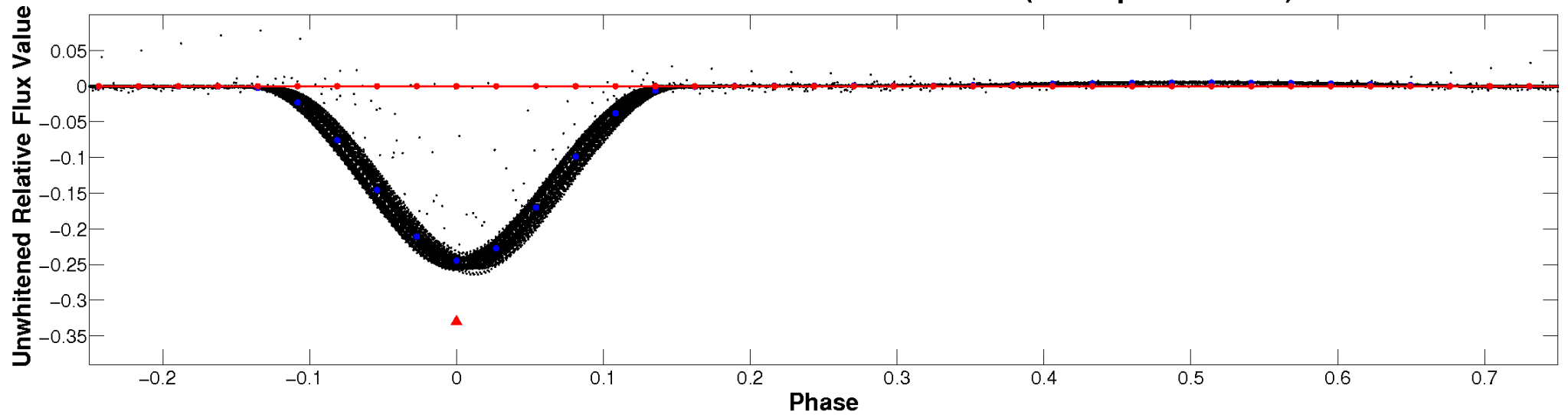
# ALT Odd/Even

TCE 005513861-01



# Non-Whitened Vs. Whitened Light Curve

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

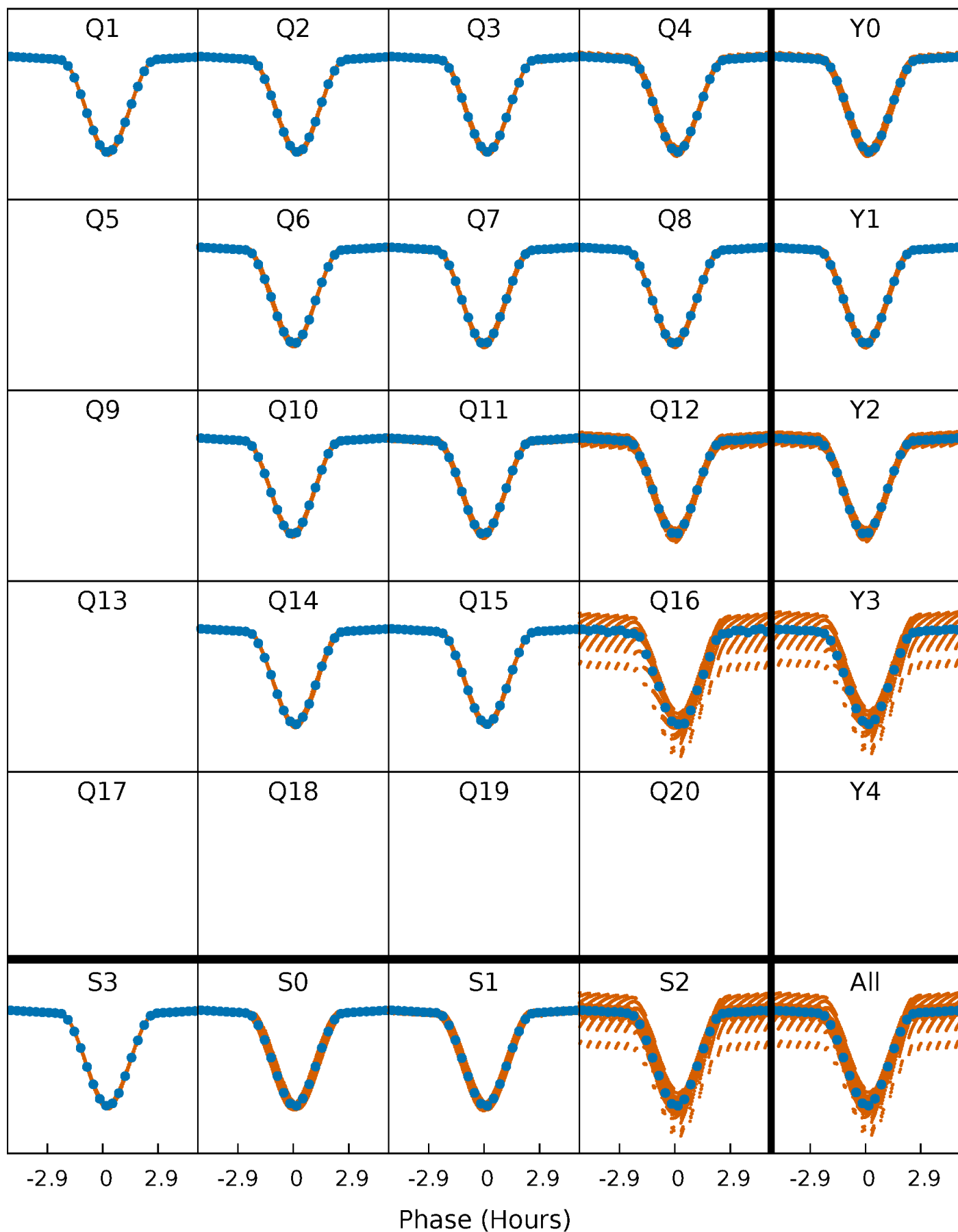


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



# PDC Quarter-Phased Transit Curves

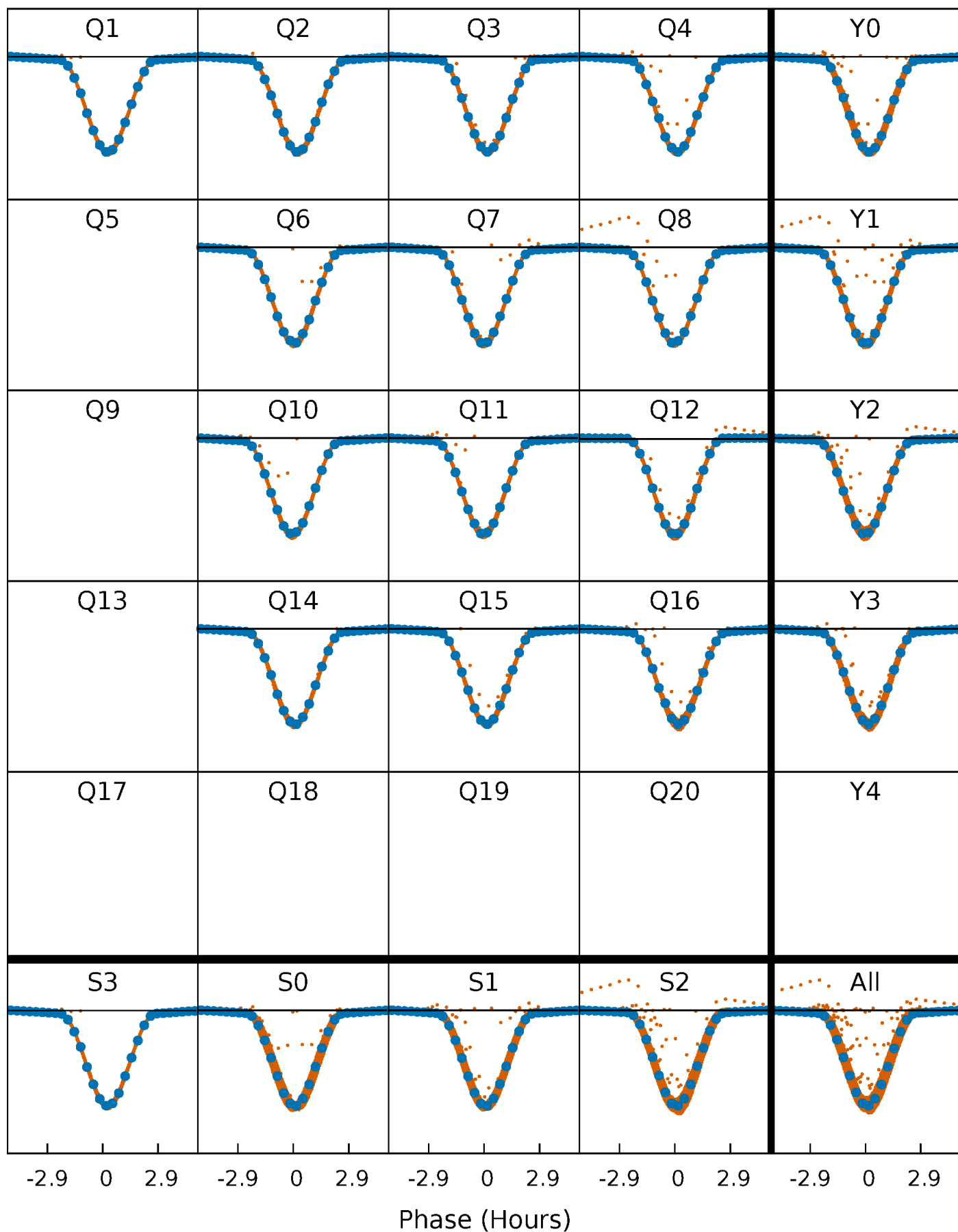
TCE 005513861-01 P= 0.755108 Days  $T_0=131.807869$  (BKJD)





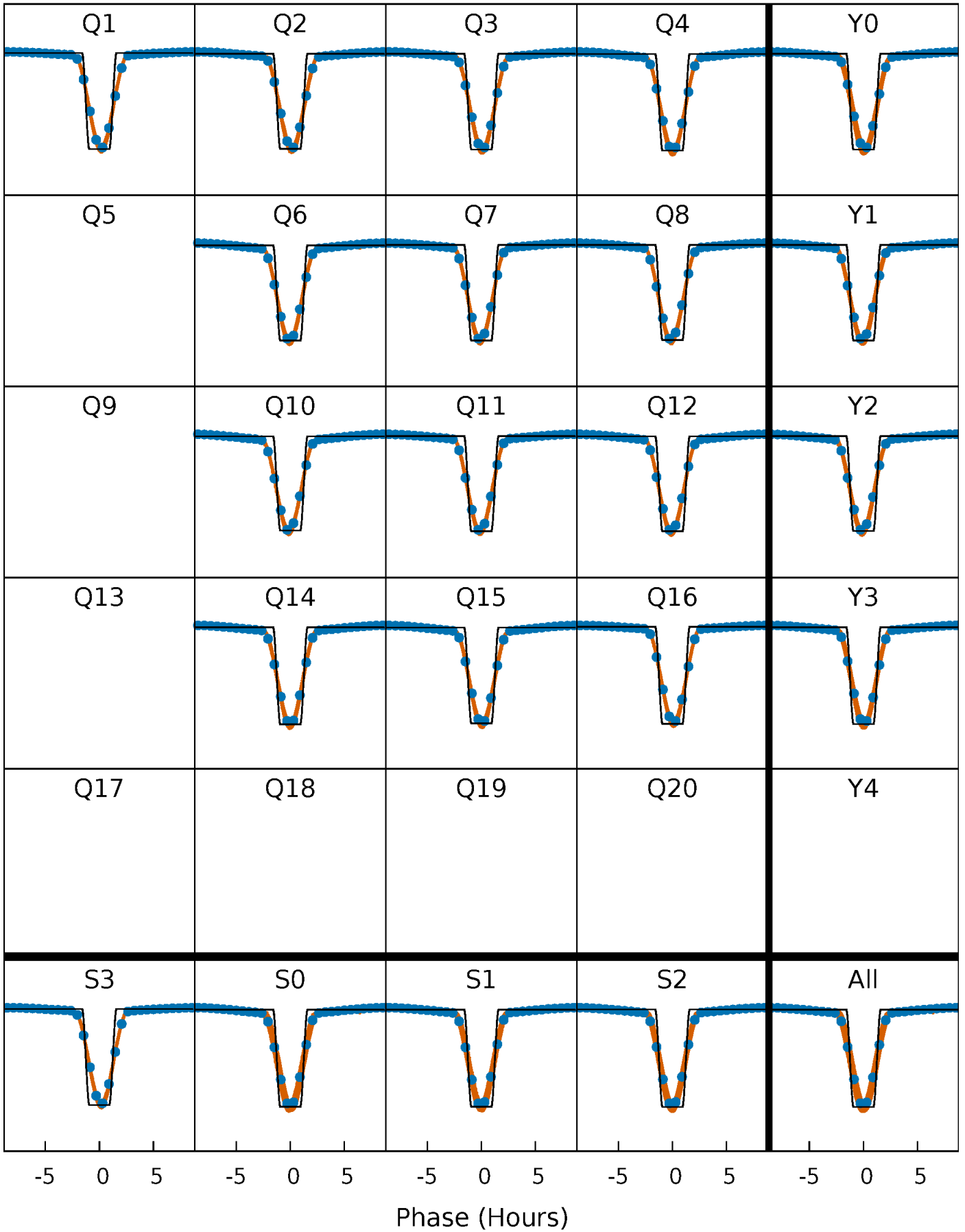
# DV Quarter-Phased Transit Curves

TCE 005513861-01 P= 0.755108 Days  $T_0=131.807869$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

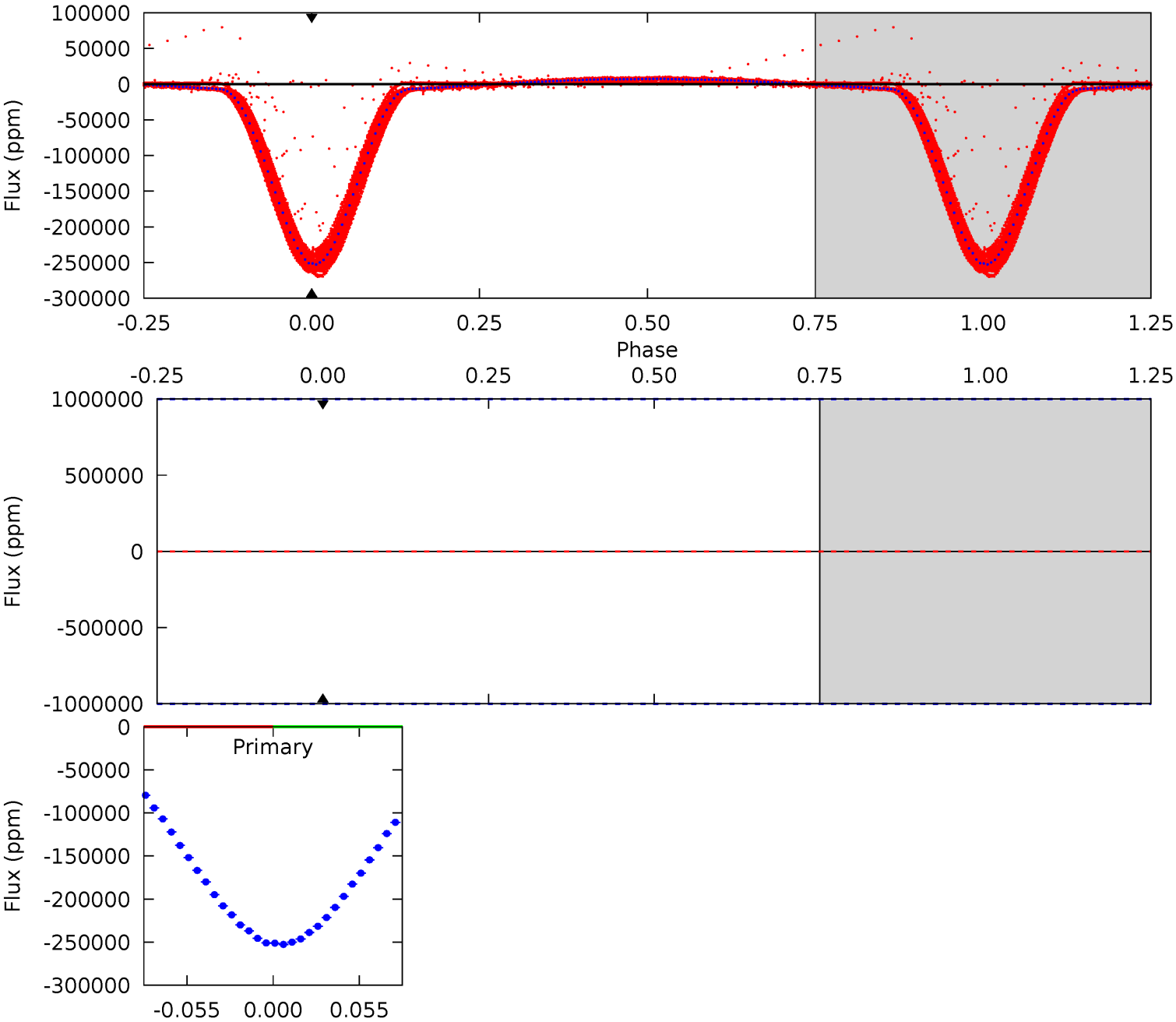
TCE 005513861-01     $P = 0.755108$  Days     $T_0 = 131.812097$  (BKJD)



DV Model-Shift Uniqueness Test

005513861-01, P = 0.755108 Days, E = 131.052761 Days

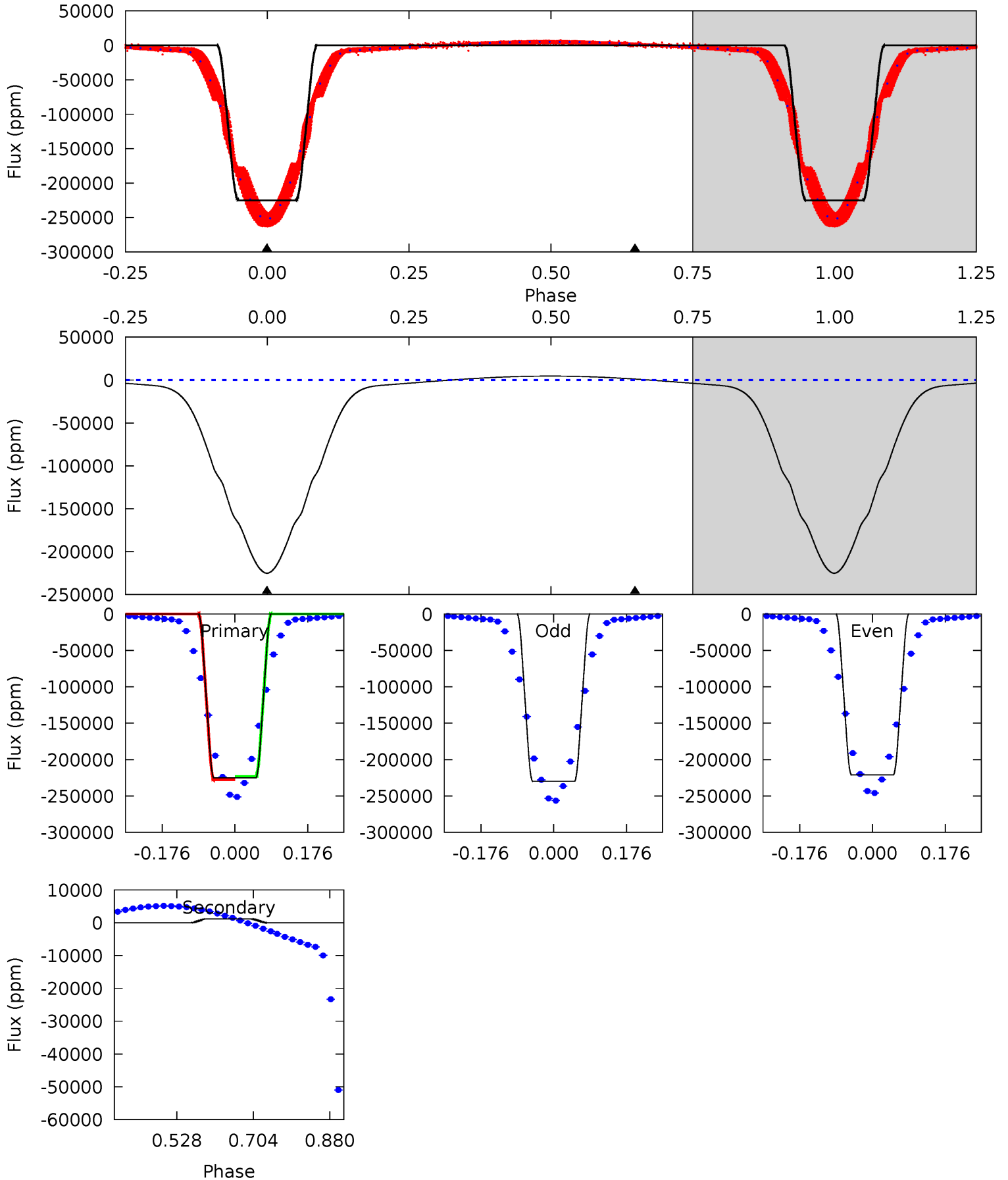
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

005513861-01, P = 0.755108 Days, E = 131.056989 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
5426	-27.6	0	0	4.44	1.35	90.7	5426	5426	-27.6	-27.6	105.9	1.00	0.02	53.9



### Stellar Parameters For KIC 005513861

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$6592^{+105}_{-157}$	$4.369^{+0.032}_{-0.097}$	$-0.120^{+0.150}_{-0.150}$	$1.190^{+0.171}_{-0.085}$	$1.211^{+0.077}_{-0.102}$	$1.013^{+0.160}_{-0.311}$
	+2%/-2%	+1%/-2%	+125%/-125%	+14%/-7%	+6%/-8%	+16%/-31%
Source	SPE4	SPE4	SPE4	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 005513861-01 / KOI 7731.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$31.03^{+14.14}_{-13.34}$	$3399^{+113}_{-104}$	$-3839^{+12125}_{-4088}$	$-0.472^{+21.497}_{-17.280}$
Alt.	$1147 \pm 41$	$65.48^{+14.60}_{-13.08}$	$3397^{+119}_{-101}$	$-3401^{+59}_{-81}$	$-0.043^{+0.014}_{-0.025}$

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

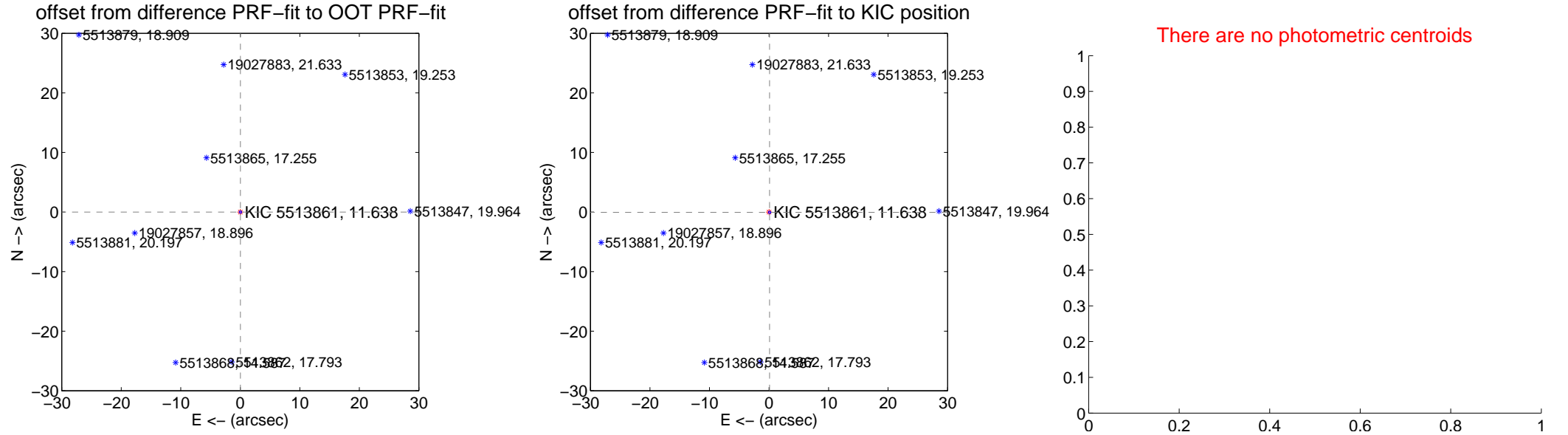
## DV Centroid Data

Supplemental centroid analysis for 005513861-01. **Kepler magnitude: 11.64.** Transit SNR -1.00

There are 13 quarters with good PRF difference image offsets

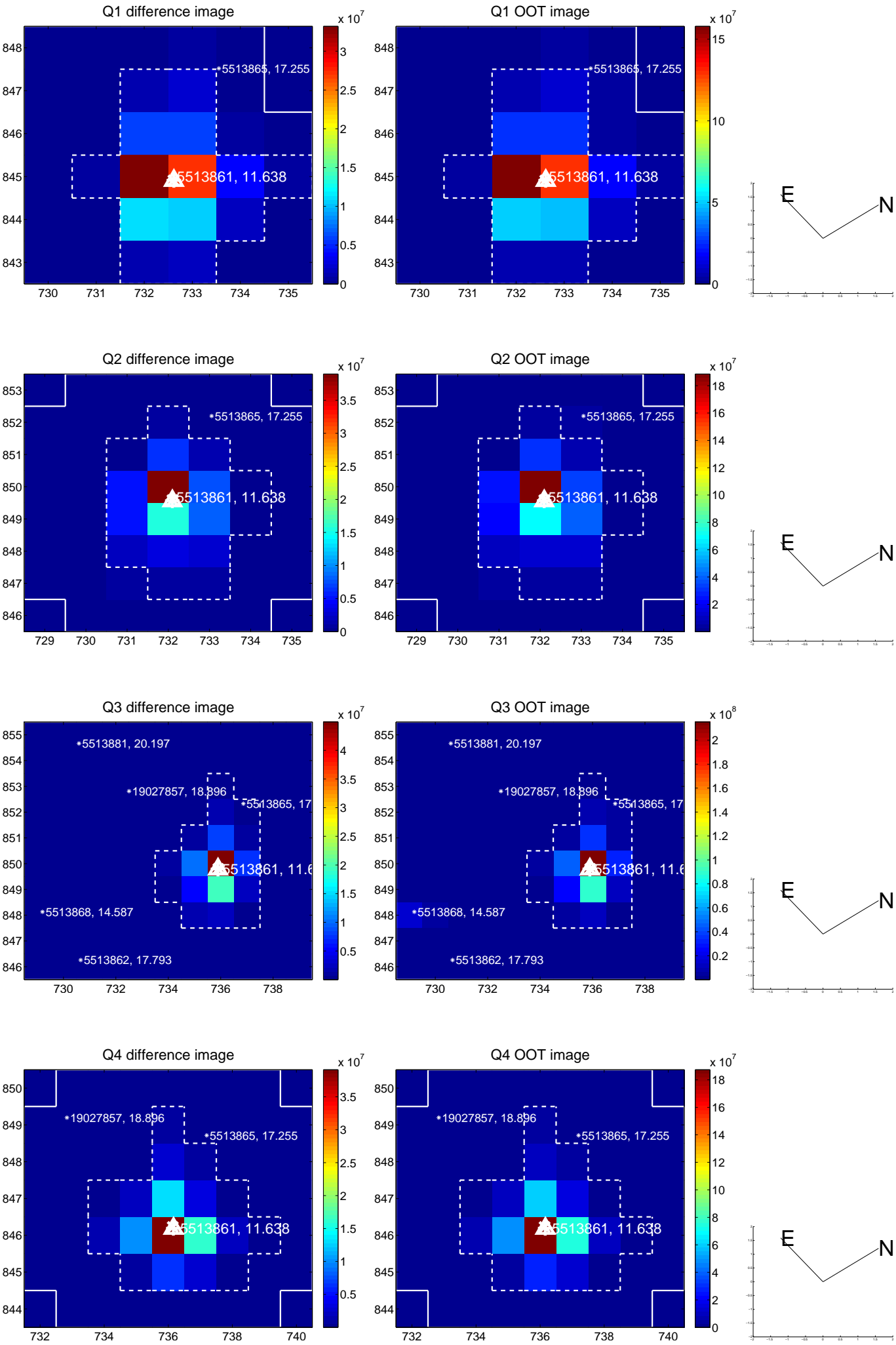
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.026 \pm 0.067$	0.38	$-0.025 \pm 0.067$	$-0.005 \pm 0.067$
PRF-fit source offset from KIC position	$0.109 \pm 0.069$	1.57	$-0.094 \pm 0.069$	$-0.055 \pm 0.068$
photometric centroid source offset	—	—	—	—

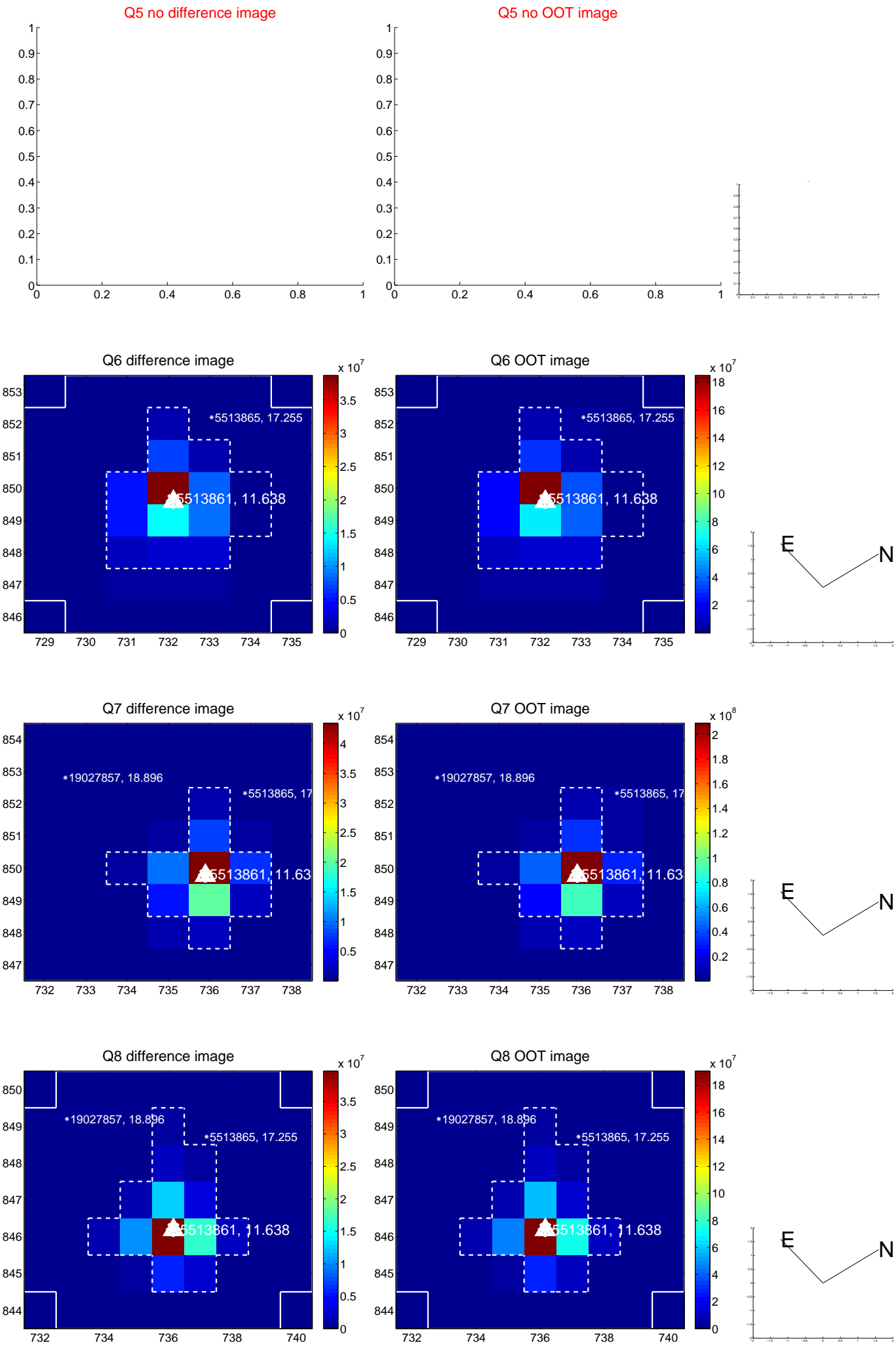


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

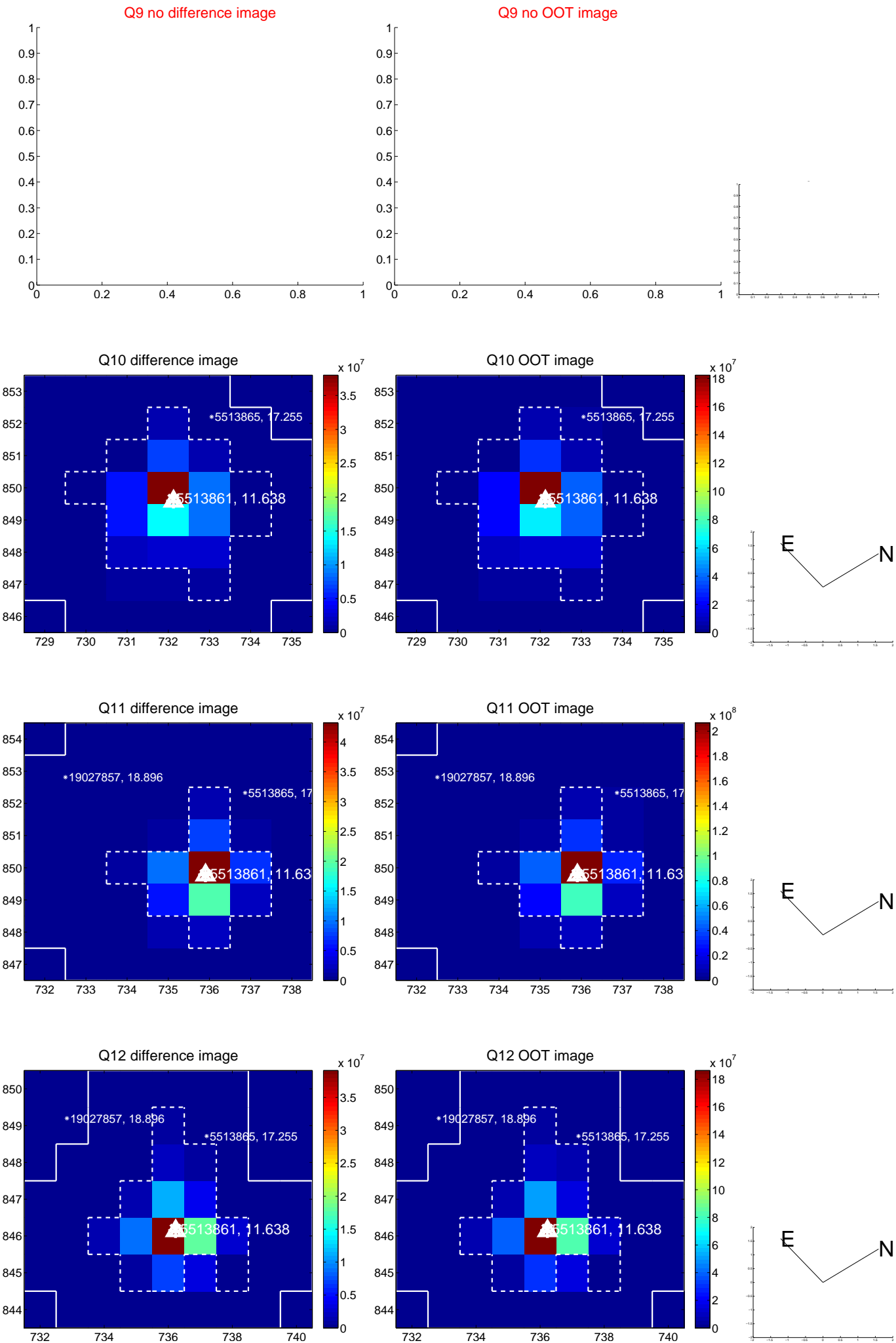


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

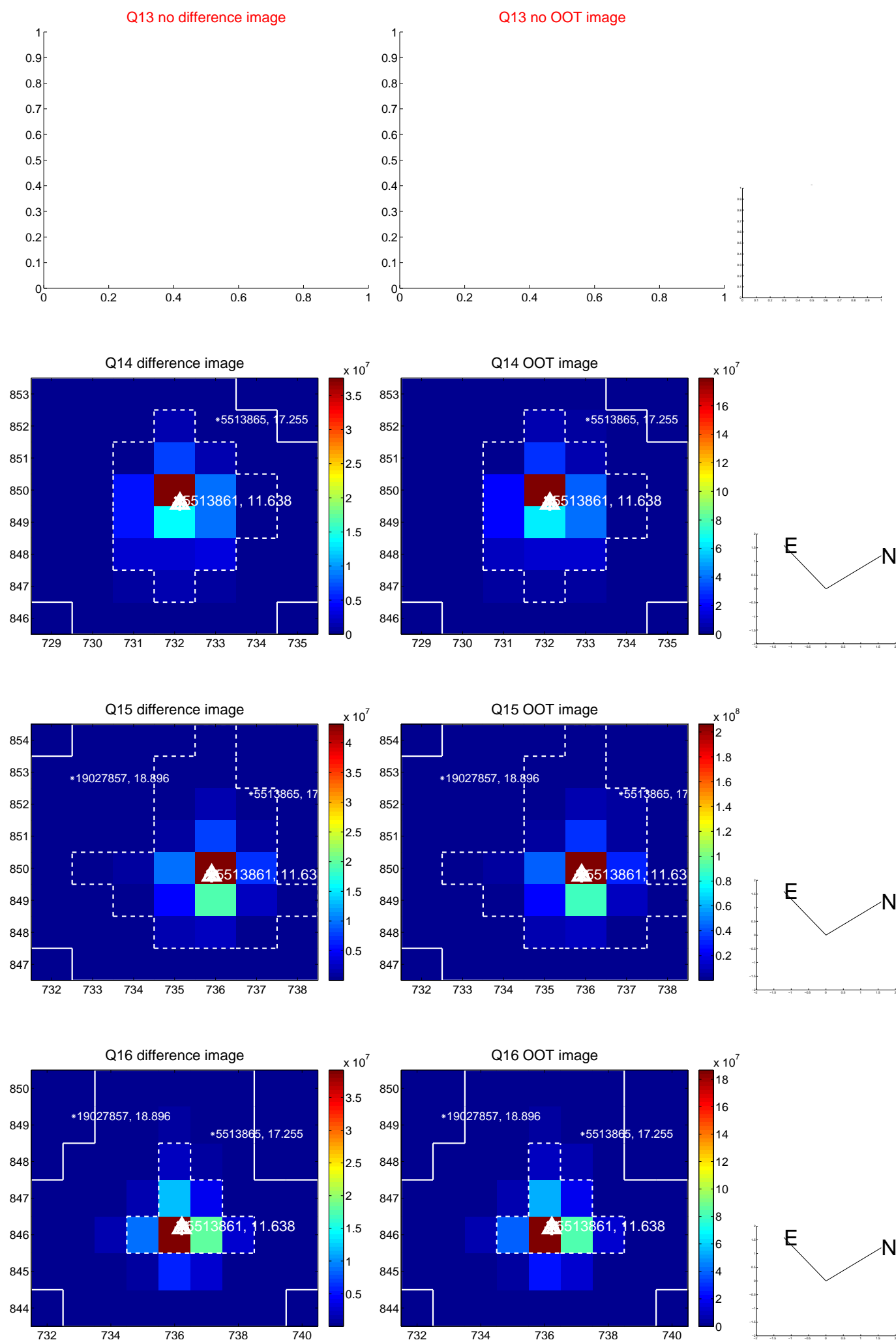




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : 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.



folded centroid time series figure for this object.

UKIRT Image

Declination

