

# KIC 004136161

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004136161-01	OBS	No	0.762287	131.536945	1.4	7.598	8.7	0.8	5.97	6715	0.72	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004136161-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

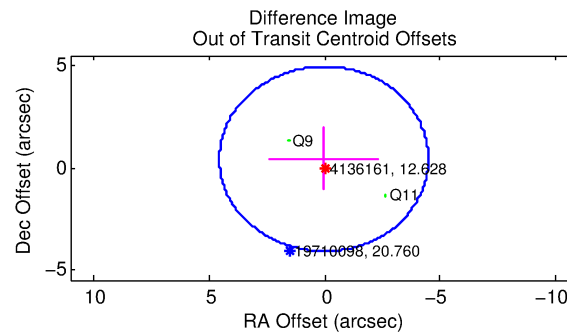
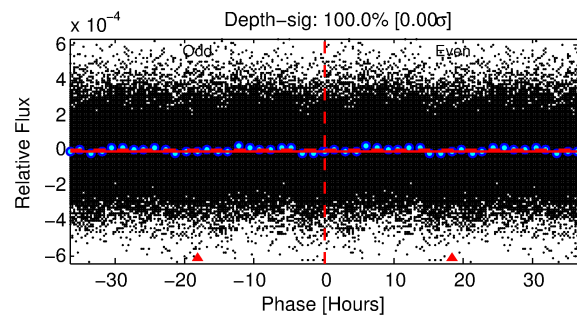
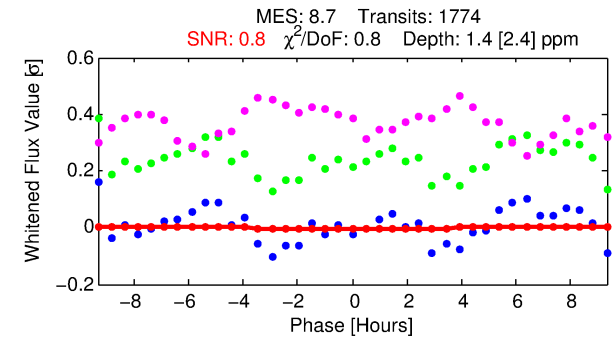
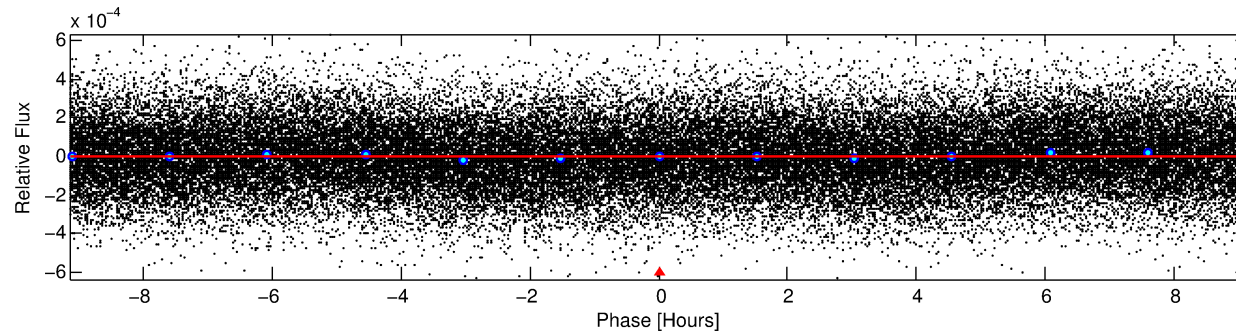
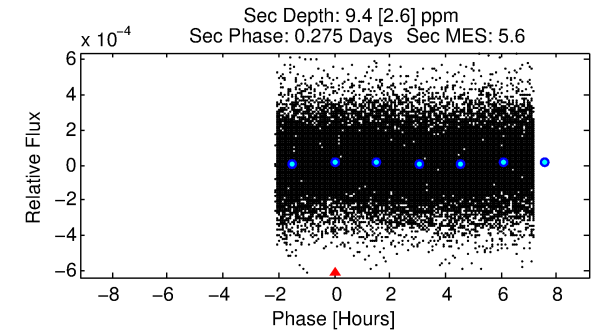
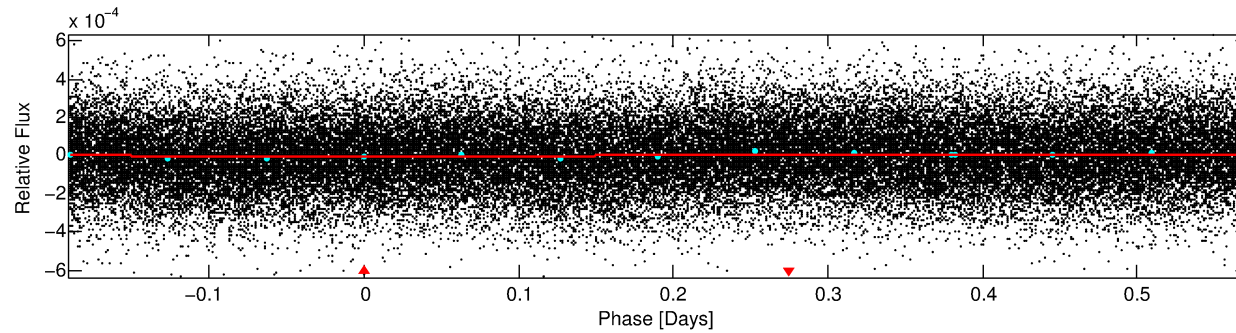
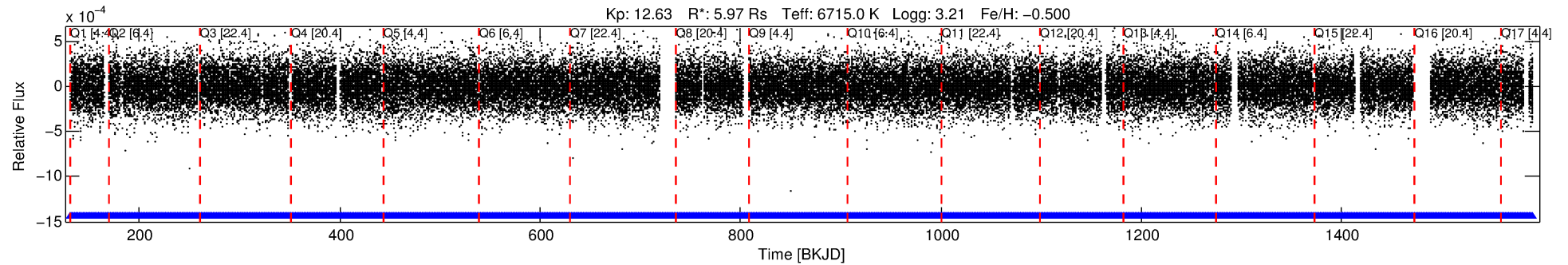
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004136161-01

No Significant Match Found

# DV One-Page Summary

KIC: 4136161 Candidate: 1 of 1 Period: 0.762 d



## DV Fit Results:

Period = 0.76229 [0.00018] d  
Epoch = 131.5369 [0.0595] BKJD  
Rp/R\* = 0.0011 [0.0076]  
a/R\* = 1.04 [2.79]  
b = 0.10 [384.07]  
Seff = N/A  
Teq = N/A  
Rp = 0.72 [4.97] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

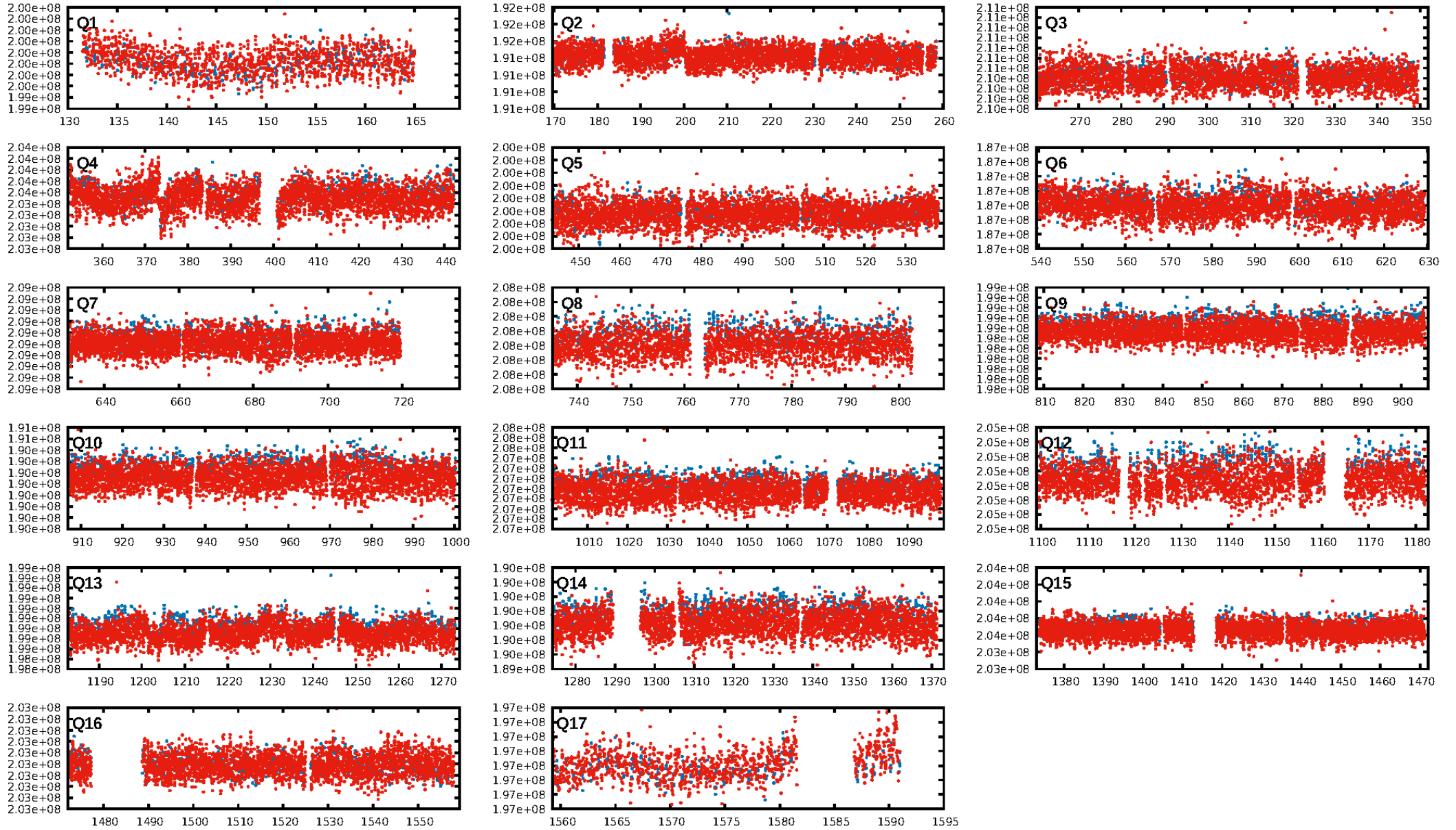
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1693/1693]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.426 arcsec [0.28σ]  
KicOffset-rm: 0.422 arcsec [0.27σ]  
OotOffset-st: 0/1/0/1 [2]  
KicOffset-st: 0/1/0/1 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [17/17]

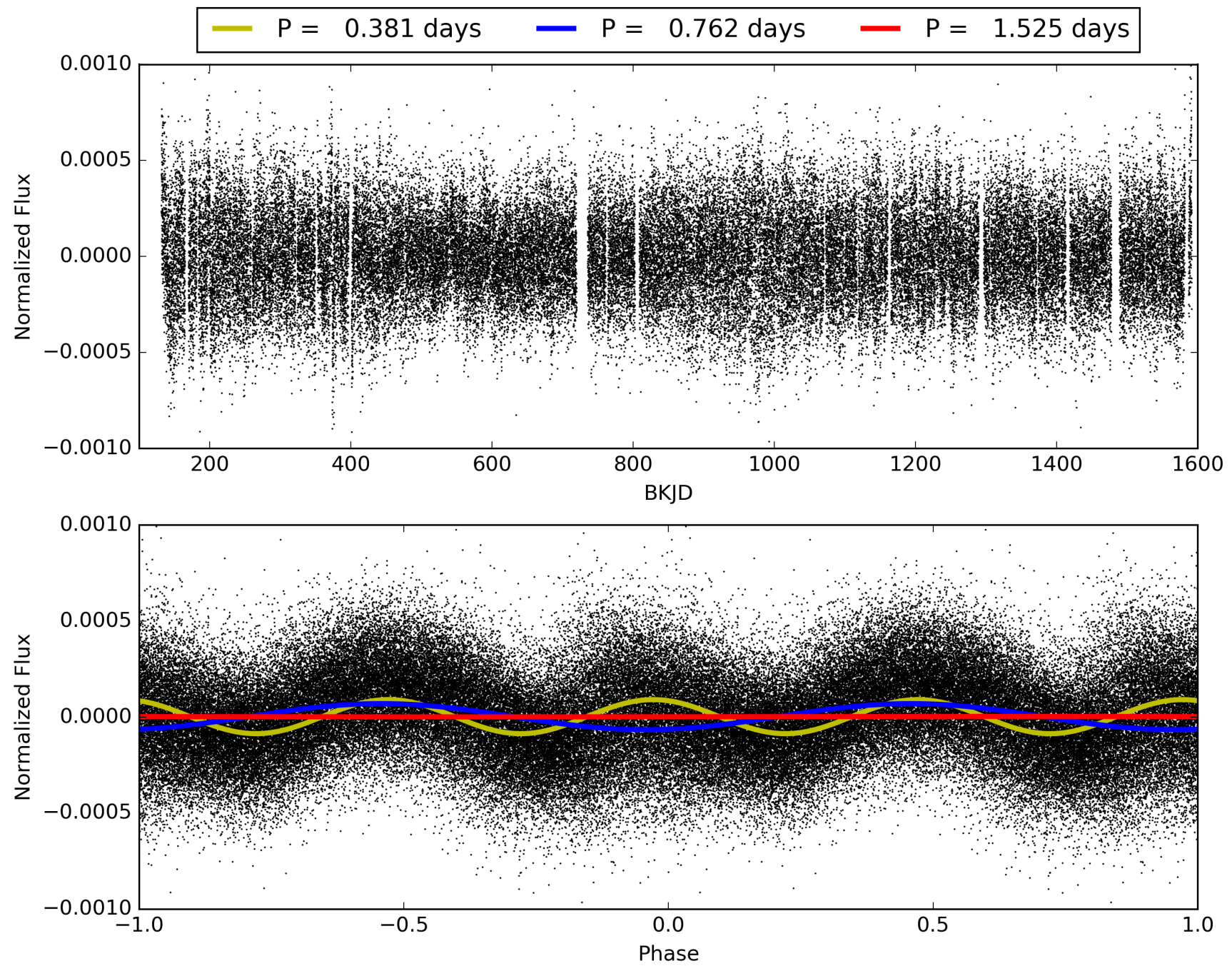
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:55:41 Z

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

# TCE 004136161-01, PDC Light Curves



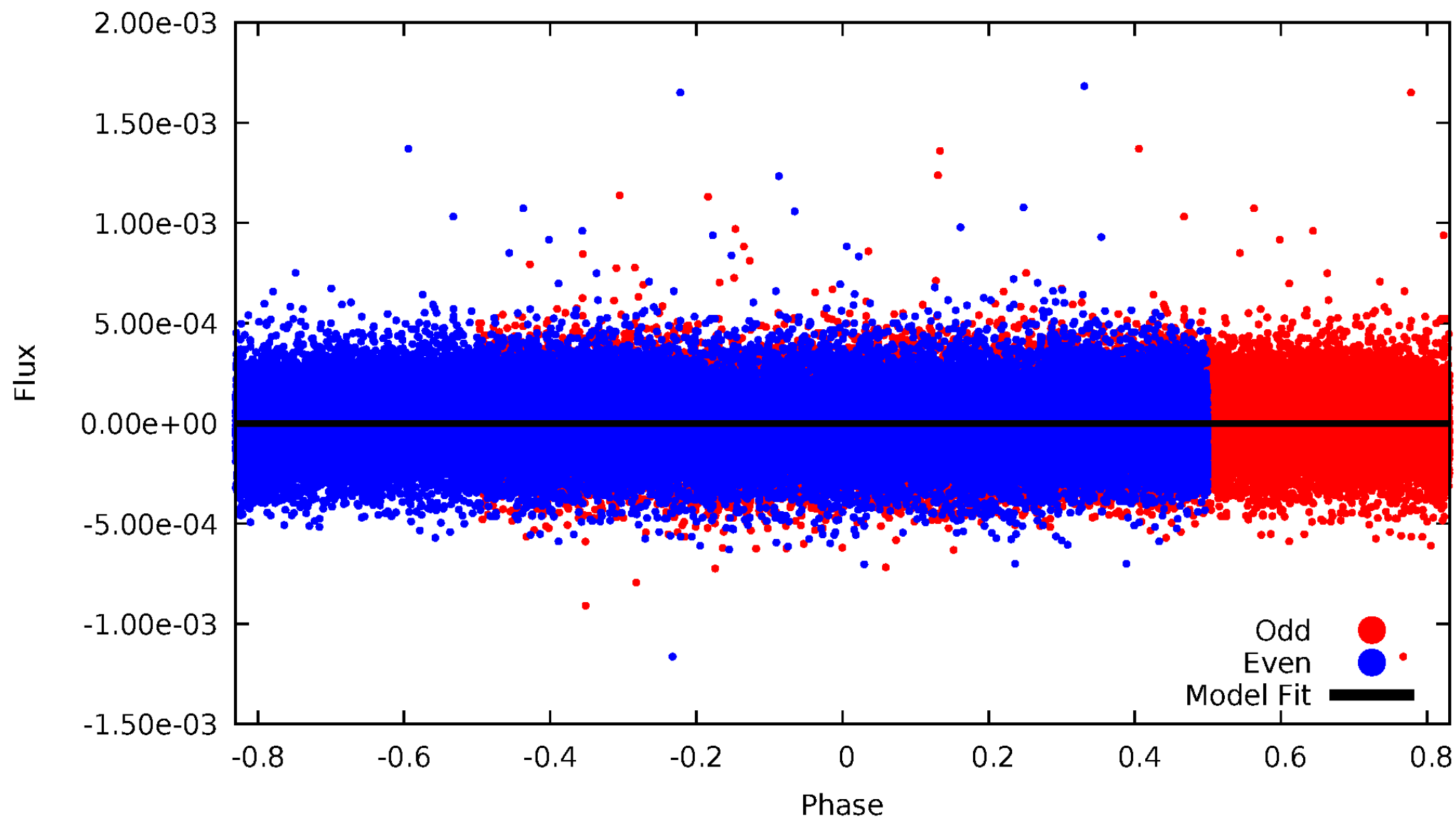
TCE 004136161-01





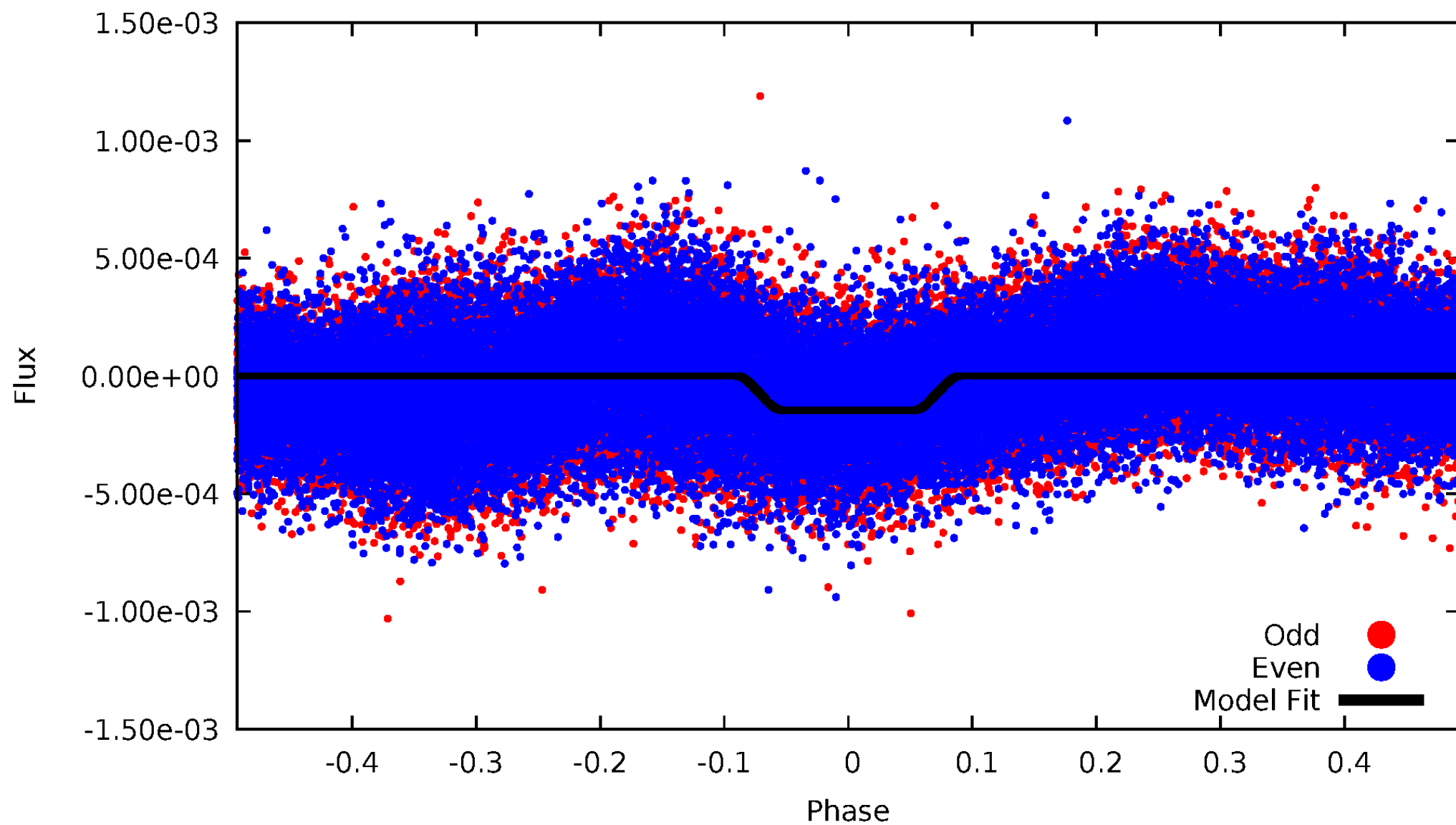
# DV Odd/Even

TCE 004136161-01



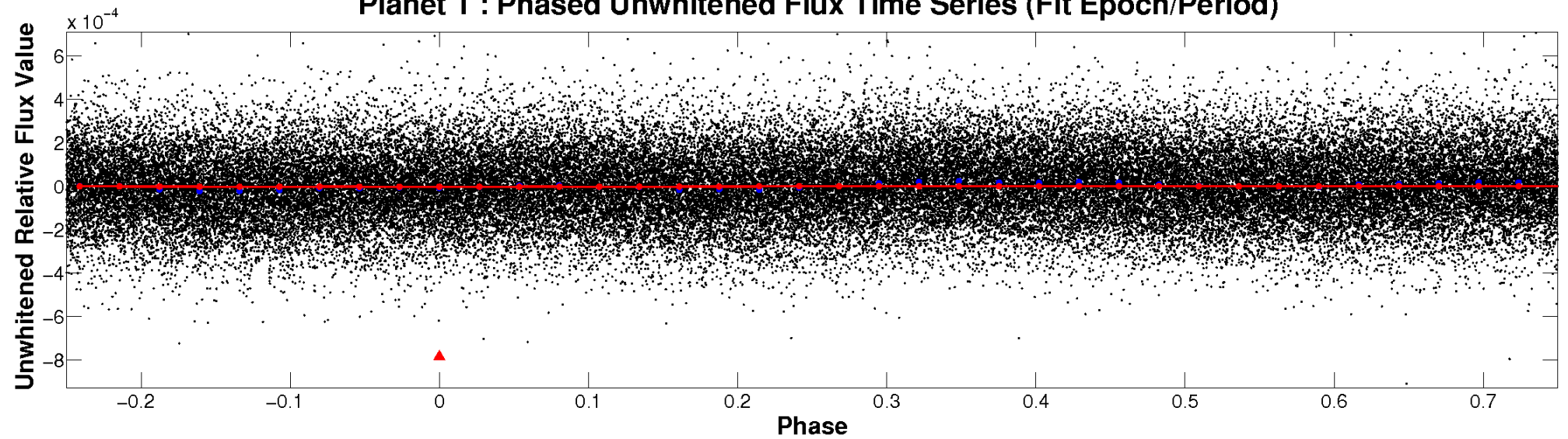
# ALT Odd/Even

TCE 004136161-01

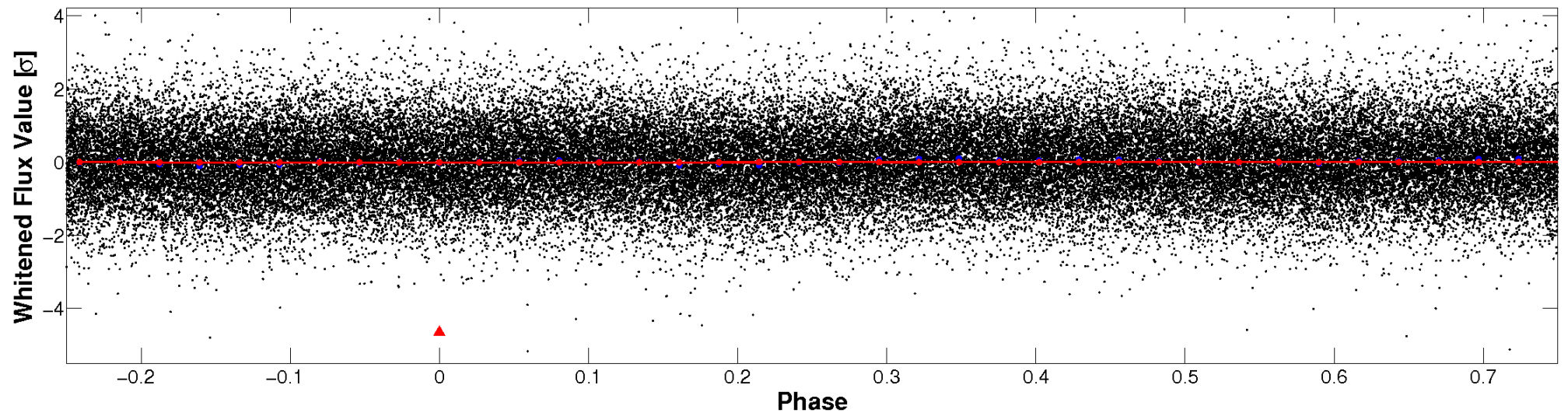


# Non-Whitened Vs. Whitened Light Curve

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

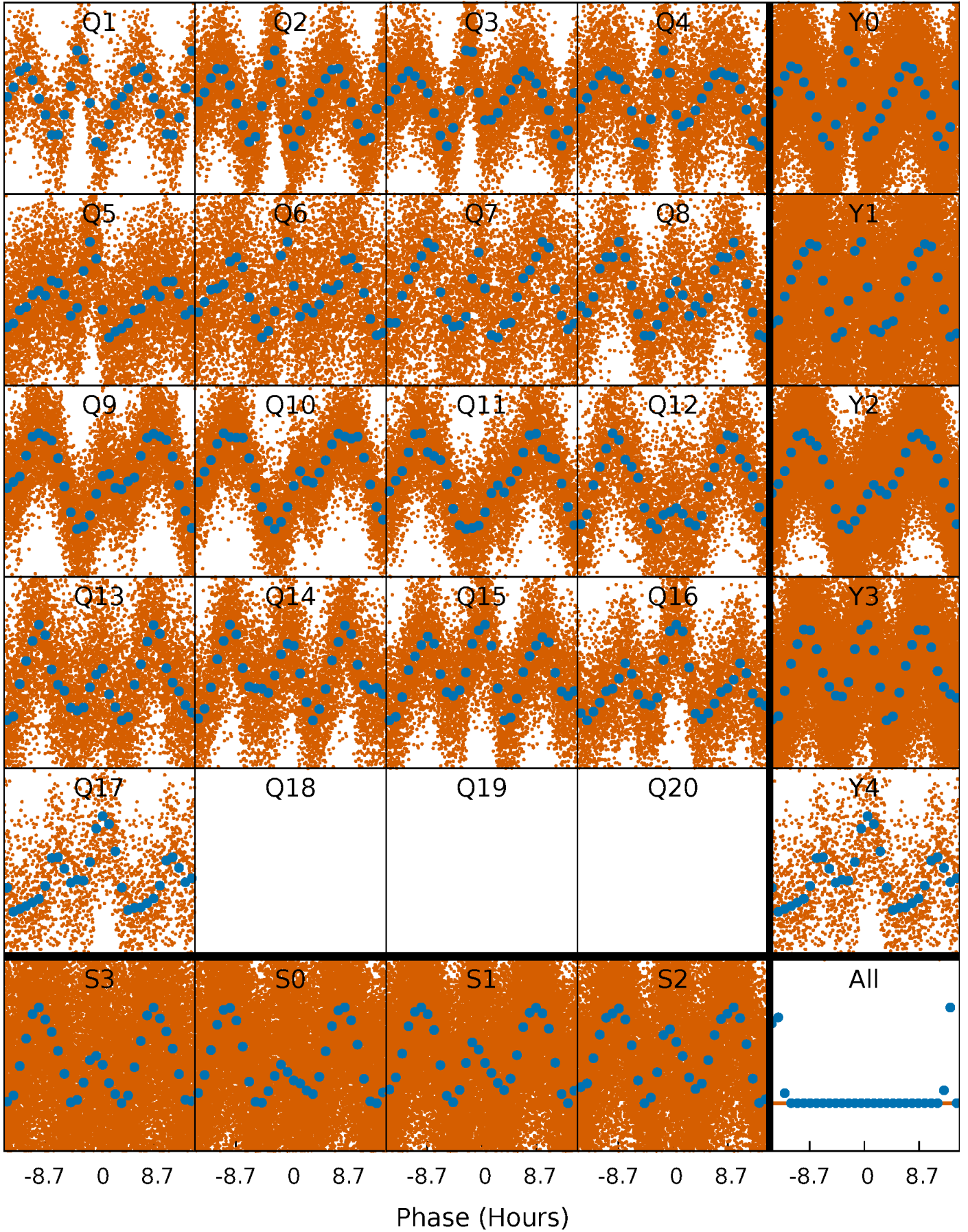


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

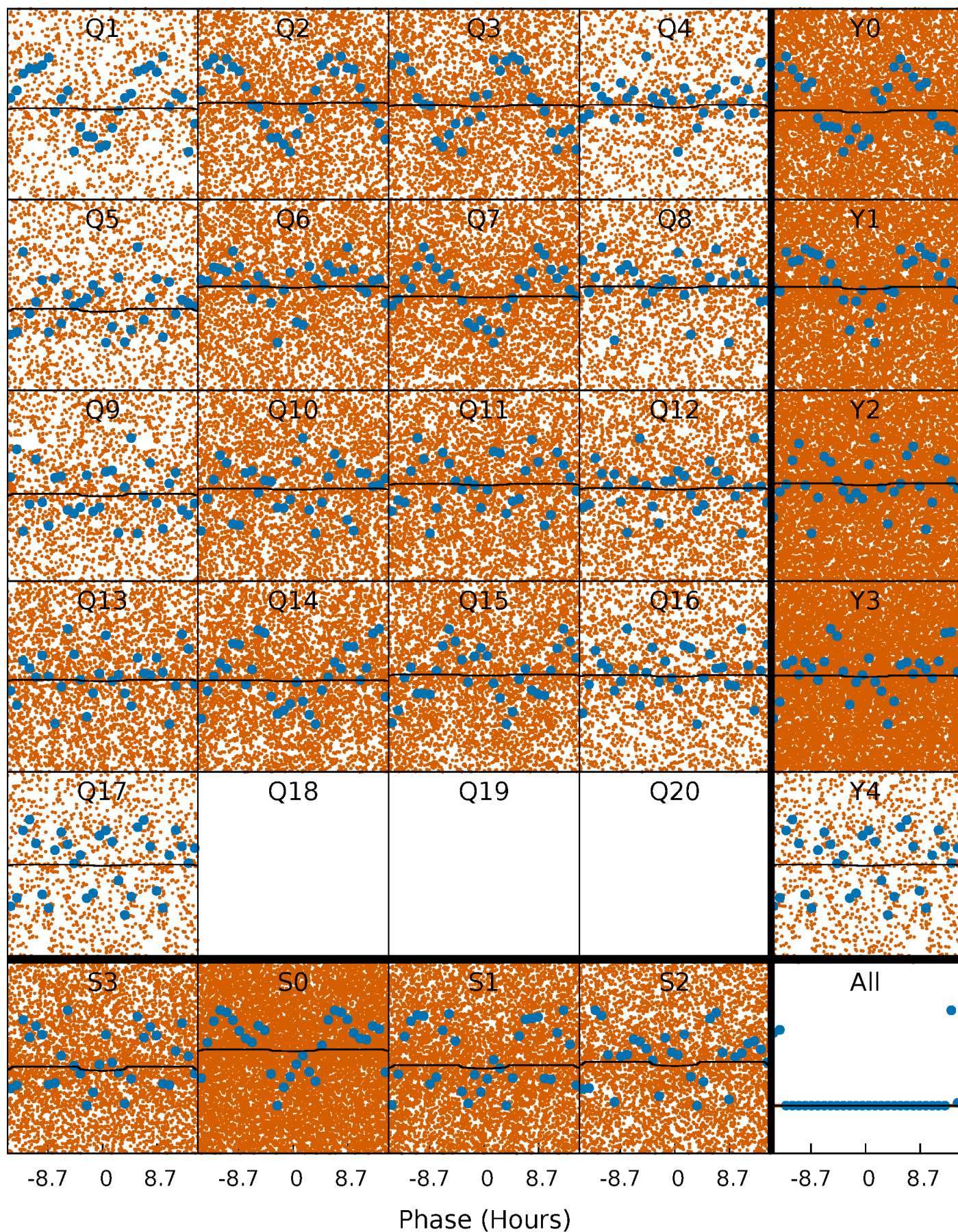
TCE 004136161-01 P= 0.762287 Days  $T_0=131.536945$  (BKJD)





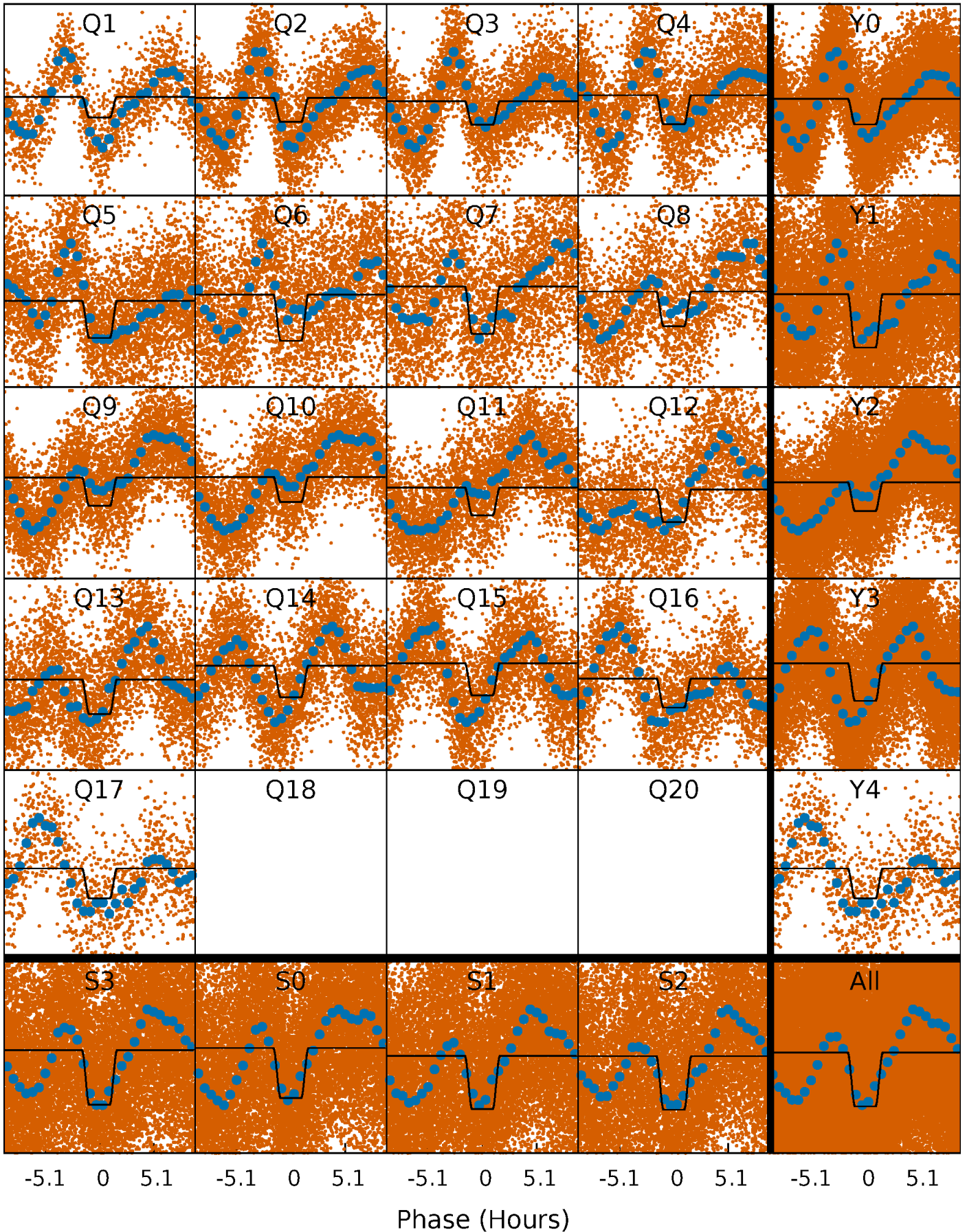
# DV Quarter-Phased Transit Curves

TCE 004136161-01 P= 0.762287 Days  $T_0=131.536945$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 004136161-01 P= 0.762423 Days  $T_0=131.533926$  (BKJD)

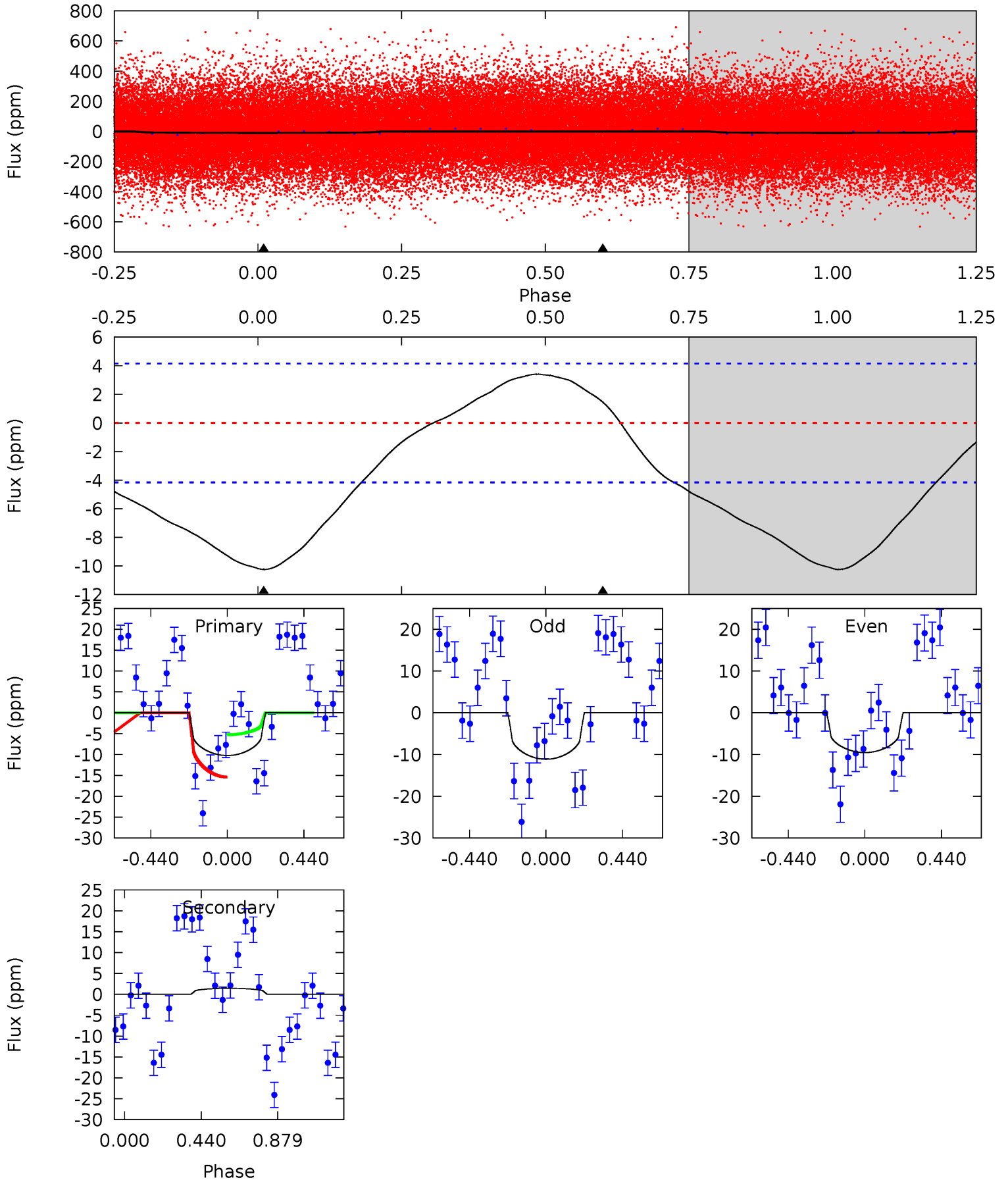




# DV Model-Shift Uniqueness Test

004136161-01, P = 0.762287 Days, E = 130.774658 Days

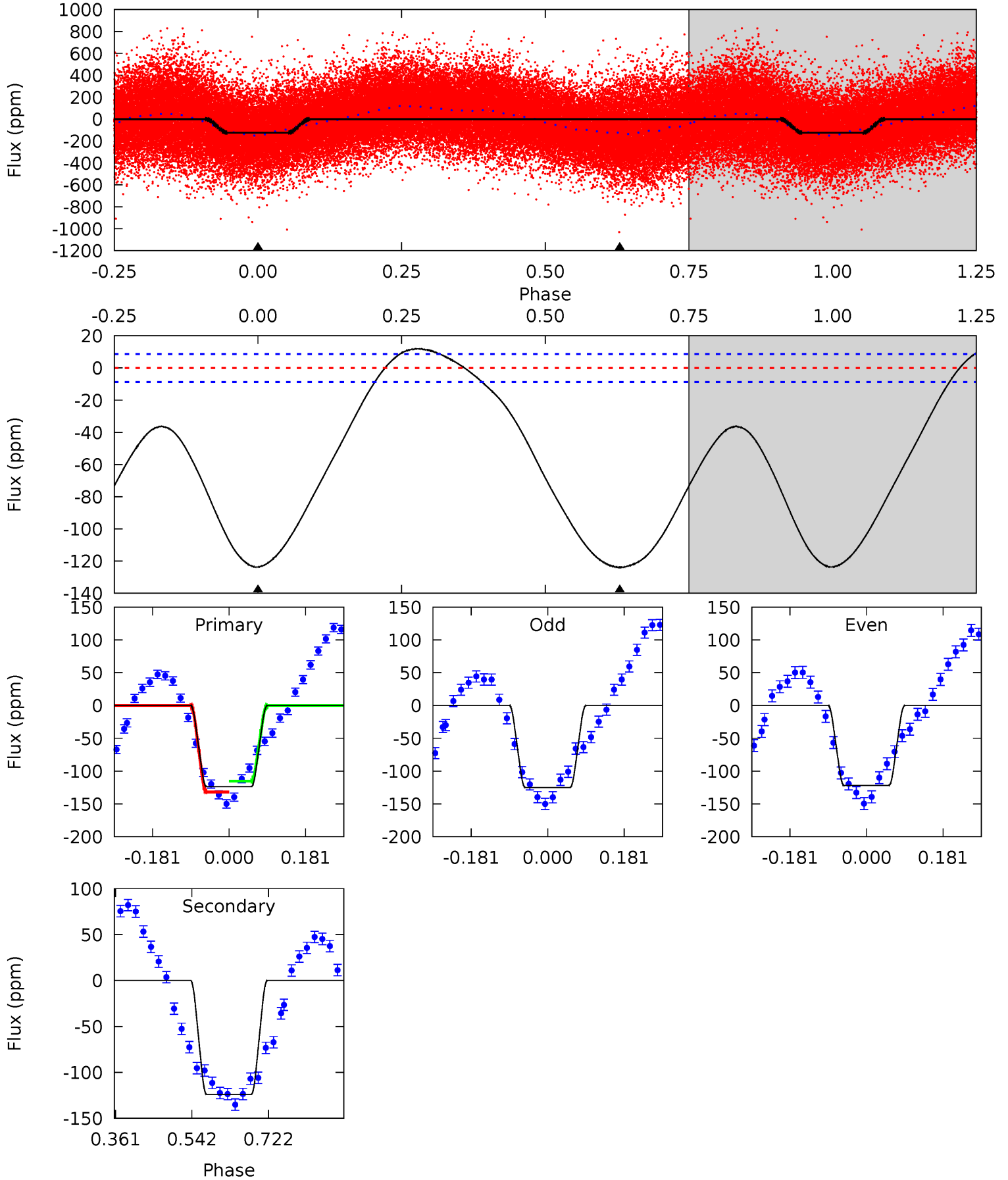
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	-1.48	0	0	4.24	0.77	0.64	10.5	10.5	-1.48	-1.48	0.81	1.06	0.25	5.17



# Alt Model-Shift Uniqueness Test

004136161-01, P = 0.762423 Days, E = 130.771503 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
63.0	63.1	0	0	4.44	1.34	7.03	63.0	63.0	63.1	63.1	0.82	1.00	0.09	4.05





### Stellar Parameters For KIC 004136161

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6715^{+181}_{-202}$	$3.211^{+0.480}_{-0.090}$	$-0.500^{+0.450}_{-0.300}$	$5.970^{+1.370}_{-2.969}$	$2.114^{+0.034}_{-0.610}$	$0.014^{+0.075}_{-0.005}$
	+3%/-3%	+15%/-3%	+90%/-60%	+23%/-50%	+2%/-29%	+540%/-36%
Source	PHO1	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 004136161-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$1\pm1$	$3.05^{+3.29}_{-2.09}$	$6668^{+519}_{-884}$	$-5724^{+615}_{-789}$	$-0.030^{+0.026}_{-0.253}$
Alt.	$-124\pm2$	$6.88^{+4.73}_{-3.97}$	$6696^{+526}_{-865}$	$5253^{+4626}_{-9586}$	$0.589^{+2.676}_{-0.379}$

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

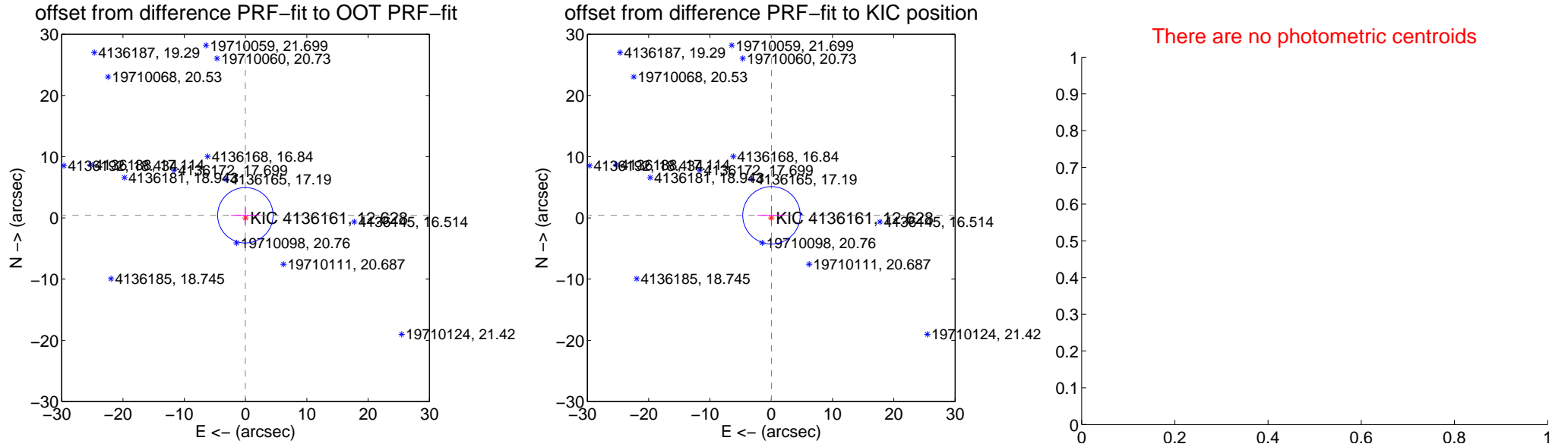
## DV Centroid Data

Supplemental centroid analysis for 004136161-01. Kepler magnitude: 12.63. Transit SNR 0.82

There are 1 quarters with good PRF difference image offsets

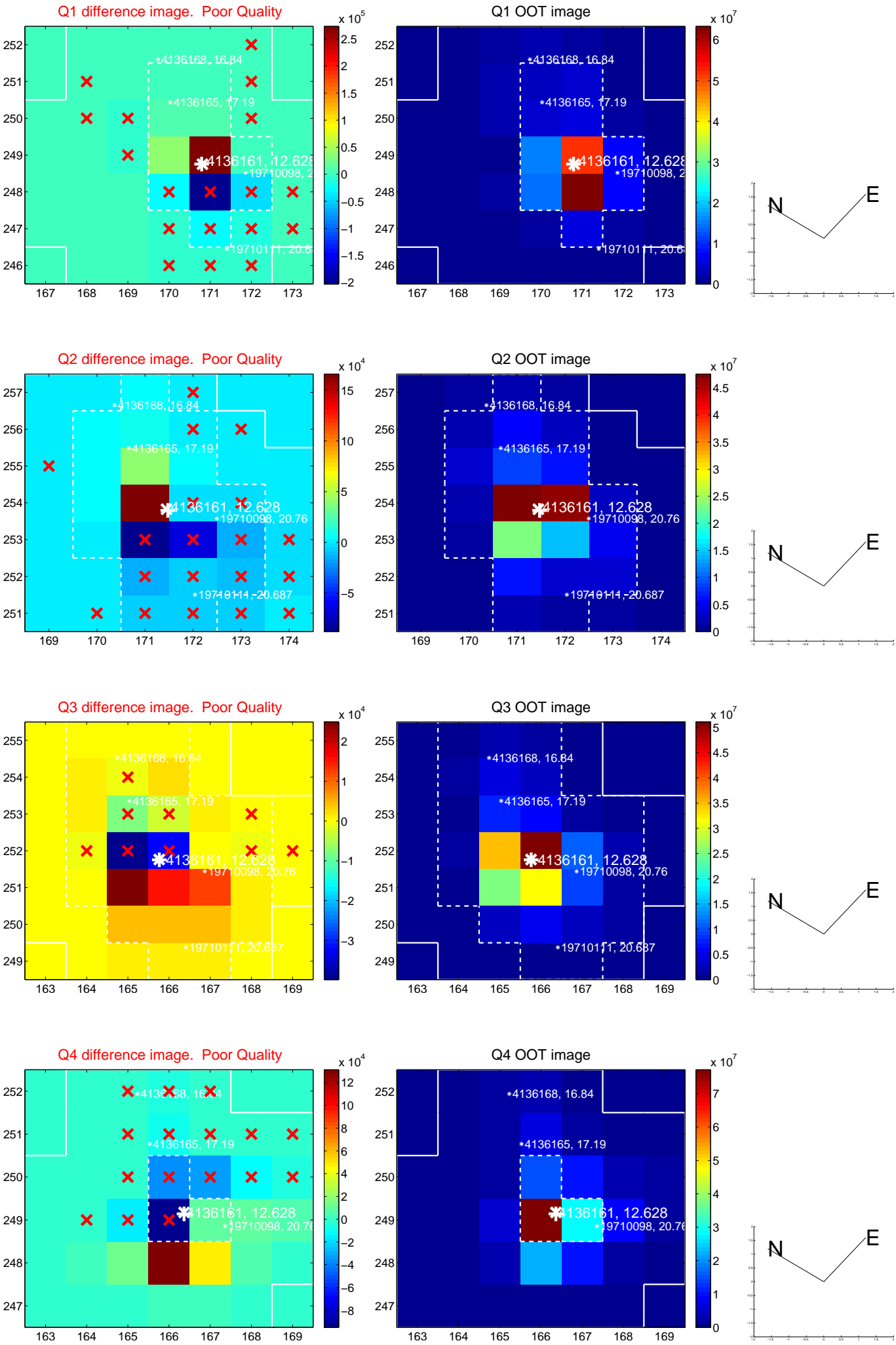
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.426 \pm 1.507$	0.28	$0.029 \pm 2.340$	$0.425 \pm 1.502$
PRF-fit source offset from KIC position	$0.422 \pm 1.563$	0.27	$-0.042 \pm 2.324$	$0.420 \pm 1.553$
photometric centroid source offset	—	—	—	—

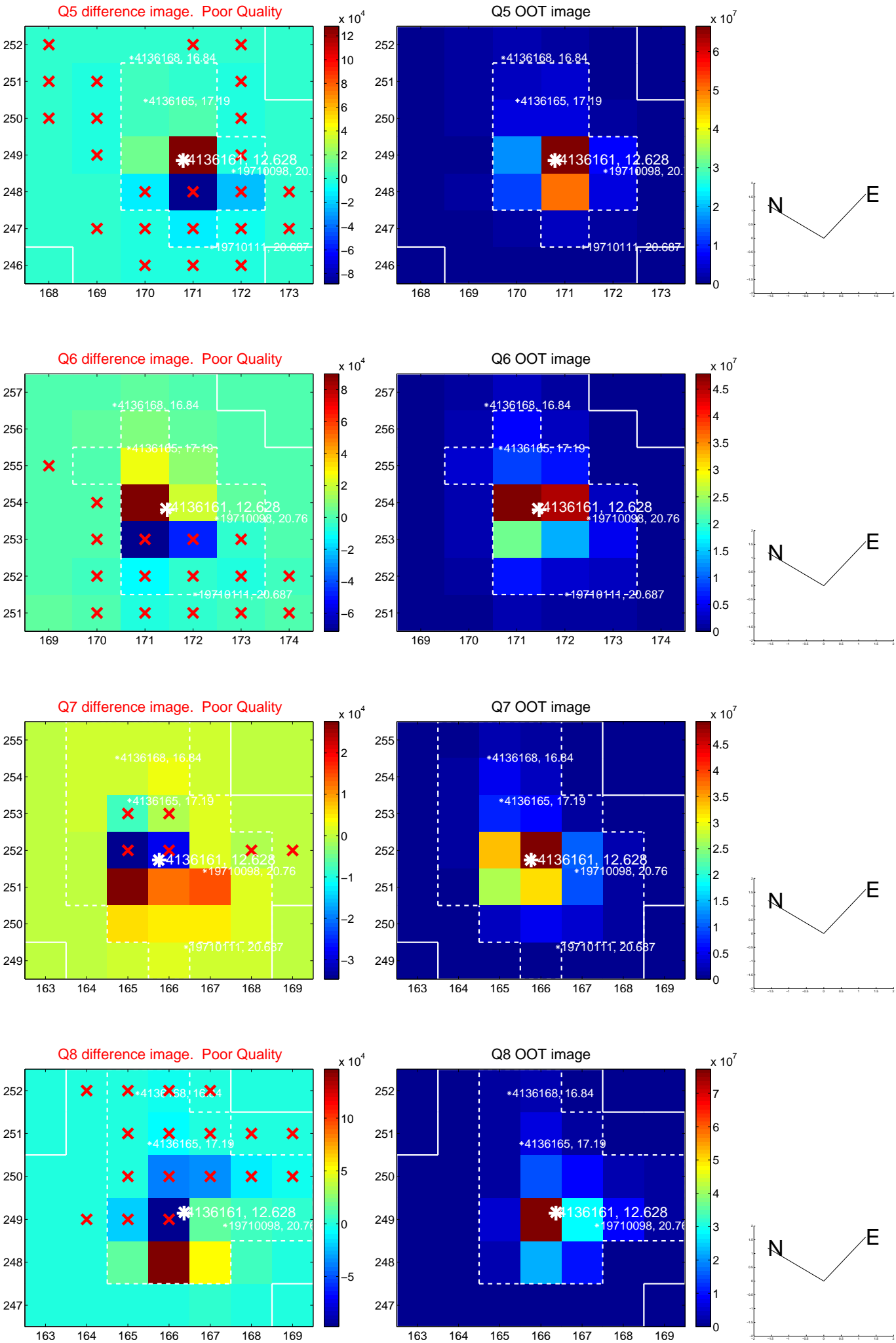


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

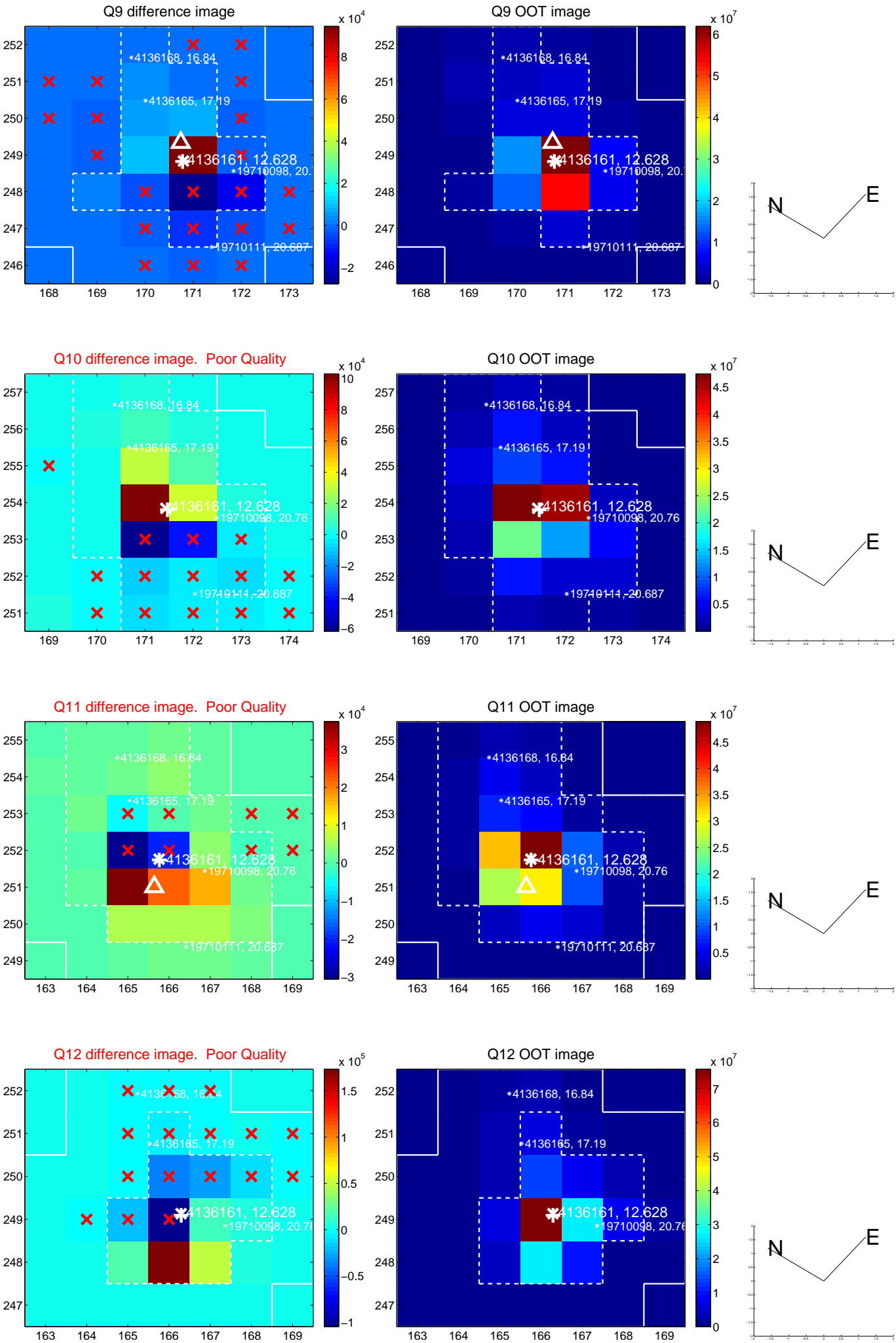


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

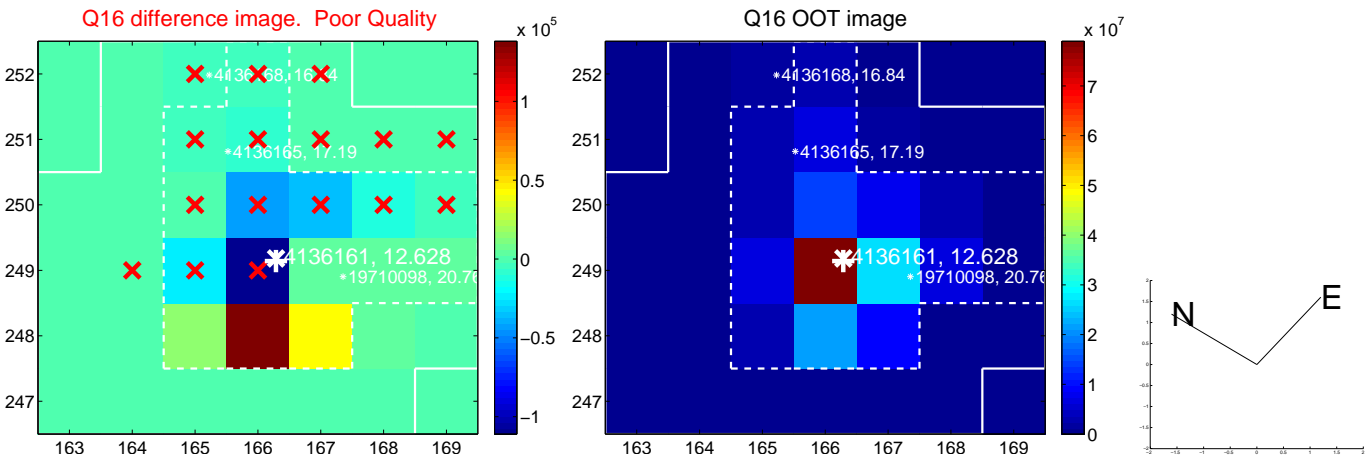
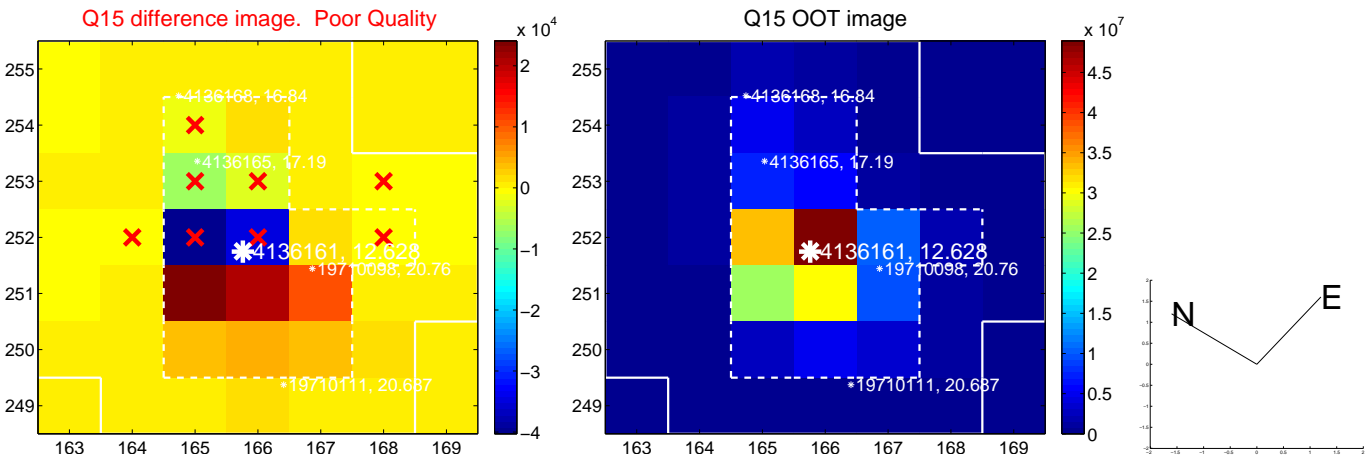
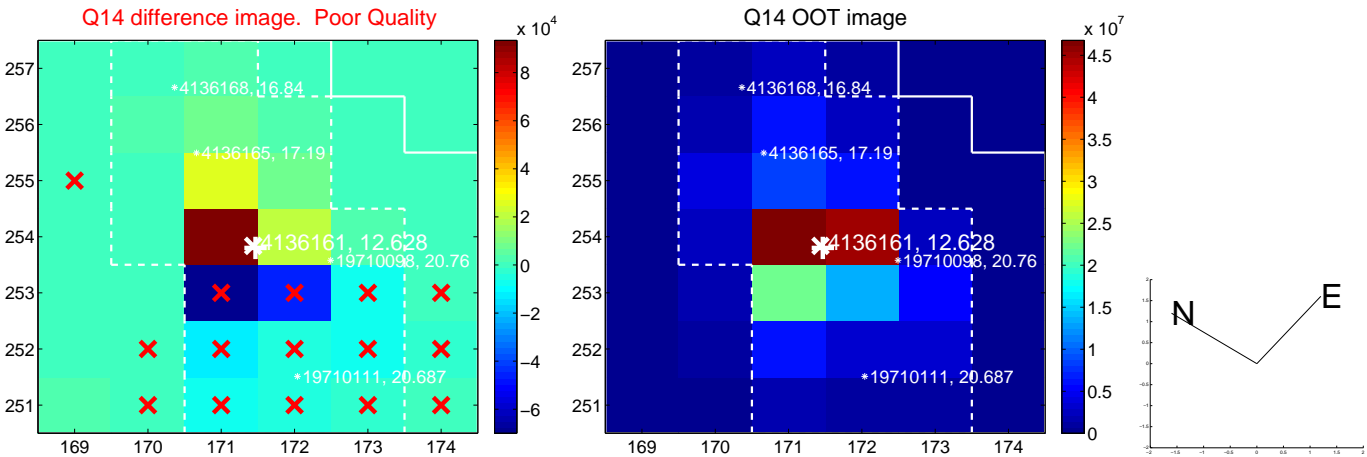
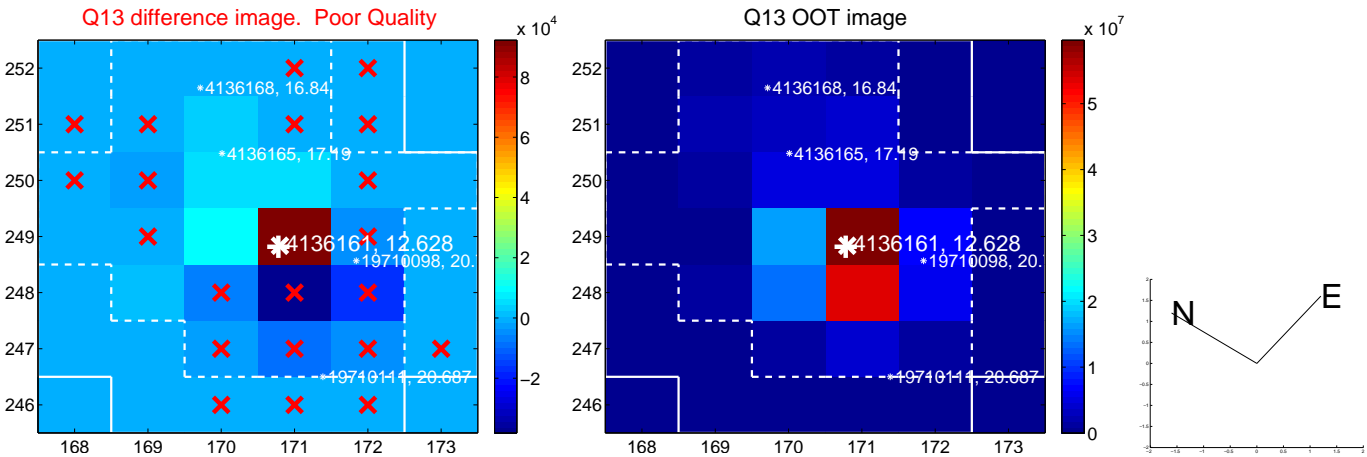




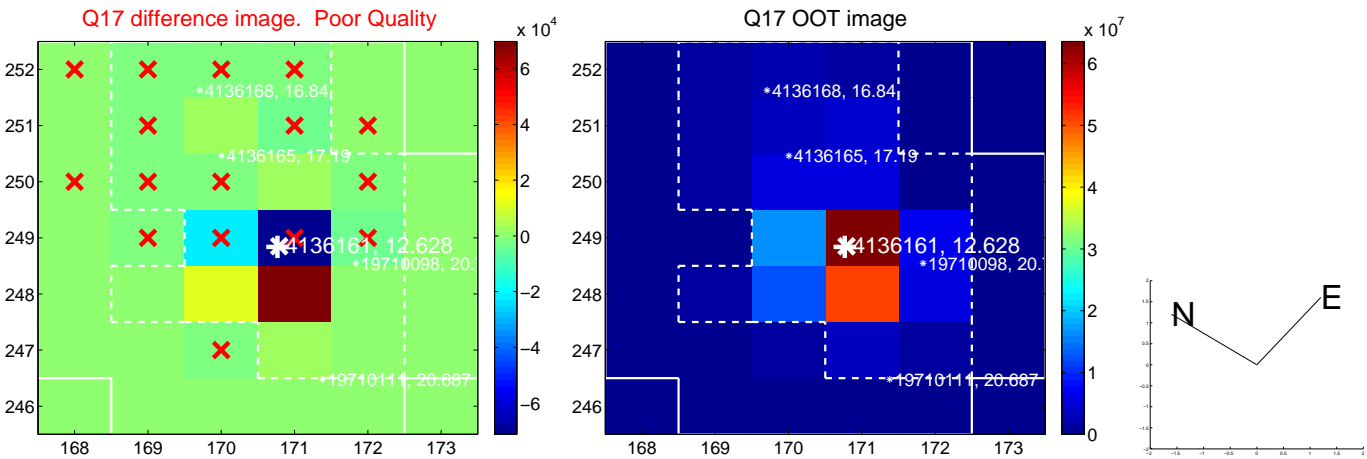
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination

