

# KIC 004661703

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004661703-01	OBS	No	0.785267	132.267807	127.9	1.043	7.2	8.8	0.78	5325	1.08	1738.65

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004661703-01	OBS	FP	0.00	1	0	1	0	LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

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

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

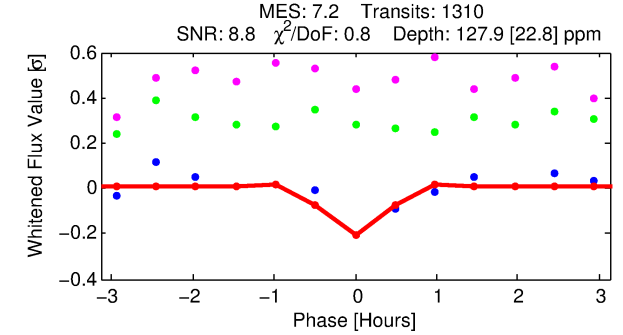
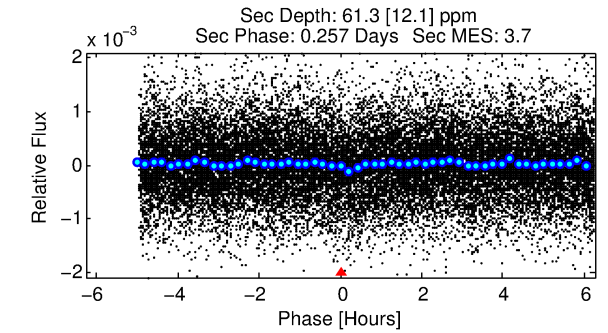
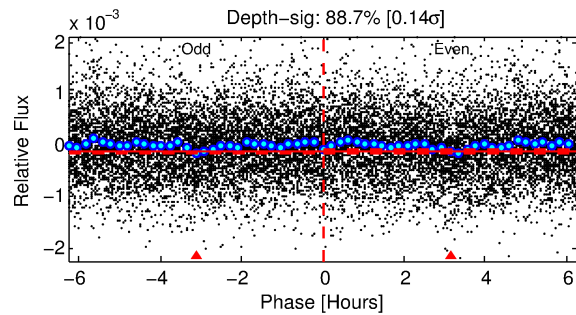
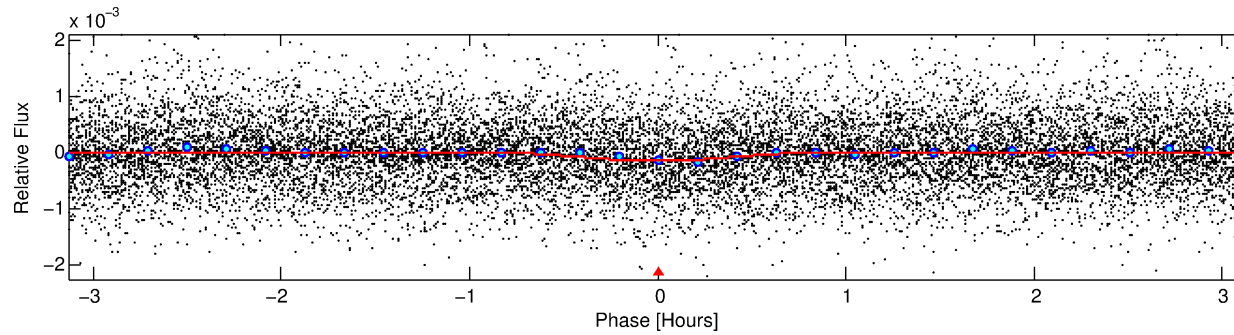
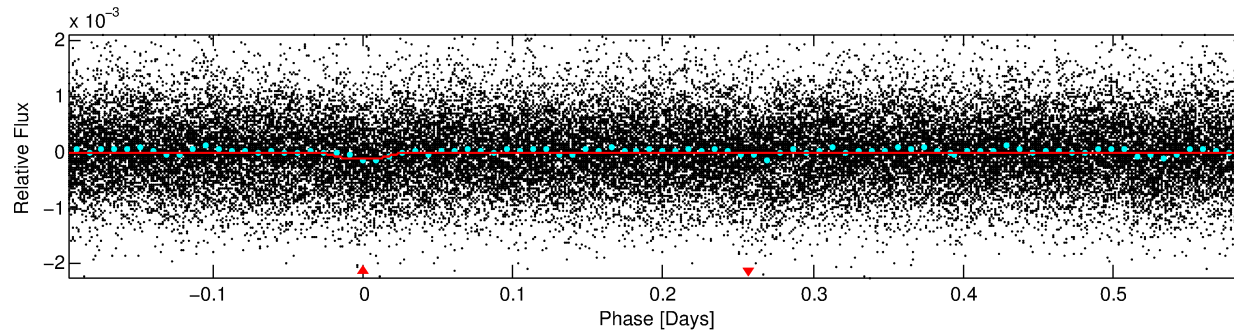
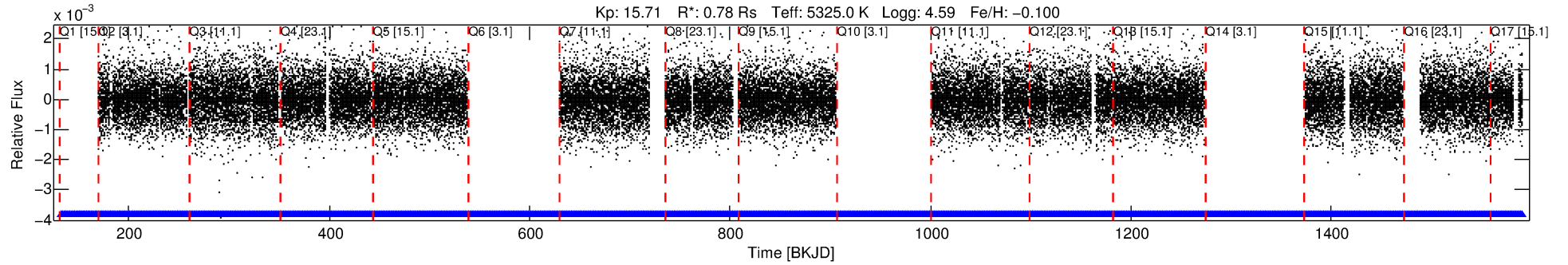
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004661703-01

No Significant Match Found

# DV One-Page Summary

KIC: 4661703 Candidate: 1 of 1 Period: 0.785 d



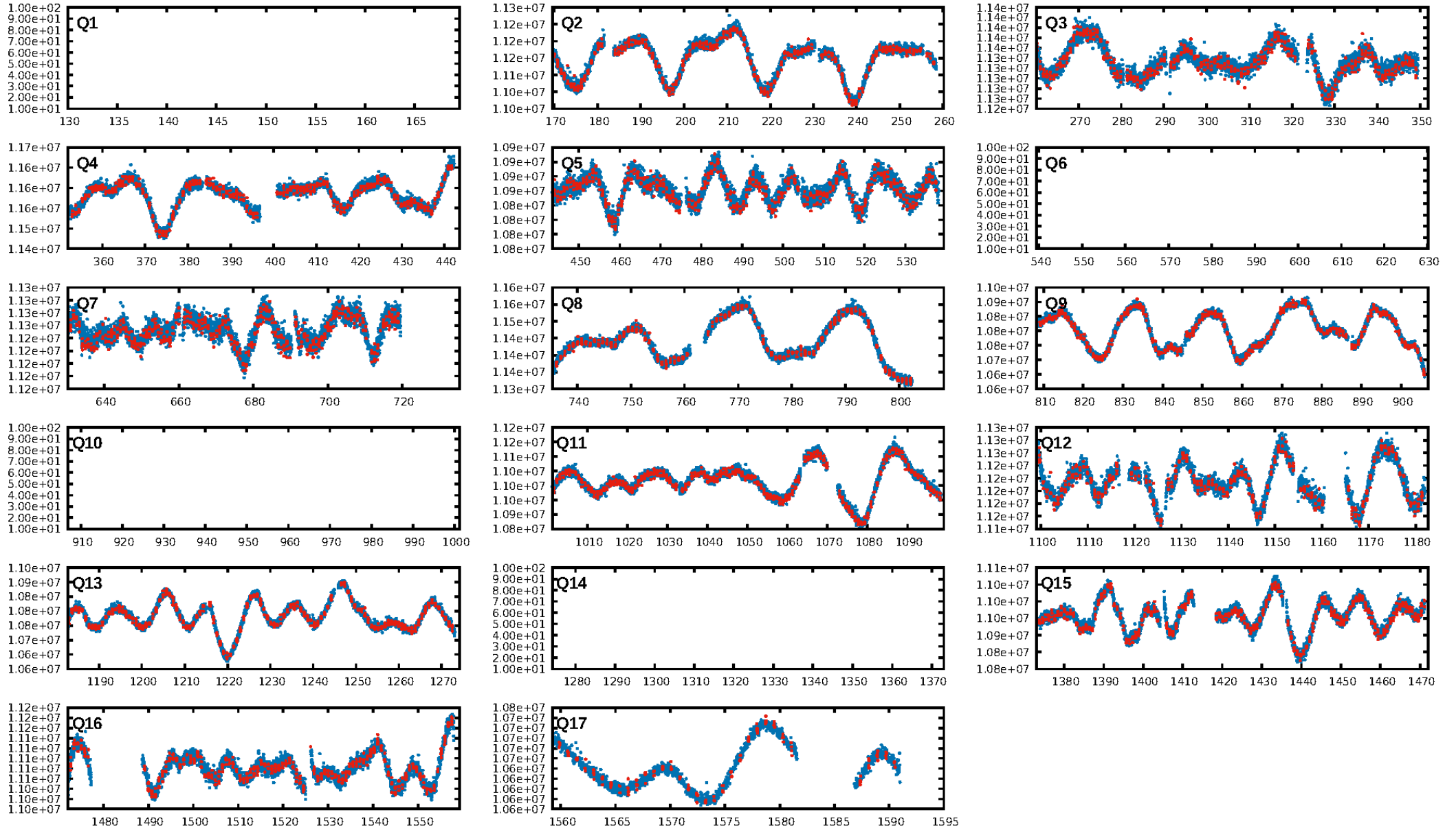
## DV Fit Results:

Period = 0.78527 [0.00001] d  
Epoch = 132.2678 [0.0019] BKJD  
Rp/R\* = 0.0127 [0.0141]  
a/R\* = 2.75 [11.51]  
b = 0.91 [0.96]  
Seff = 1738.65 [426.91]  
Teq = 1647 [101] K  
Rp = 1.08 [1.21] Re  
a = 0.0159 [0.0023] AU  
Ag = 7.27 [16.23] [0.39 $\sigma$ ]  
Teffp = 4181 [2326] K [1.09 $\sigma$ ]

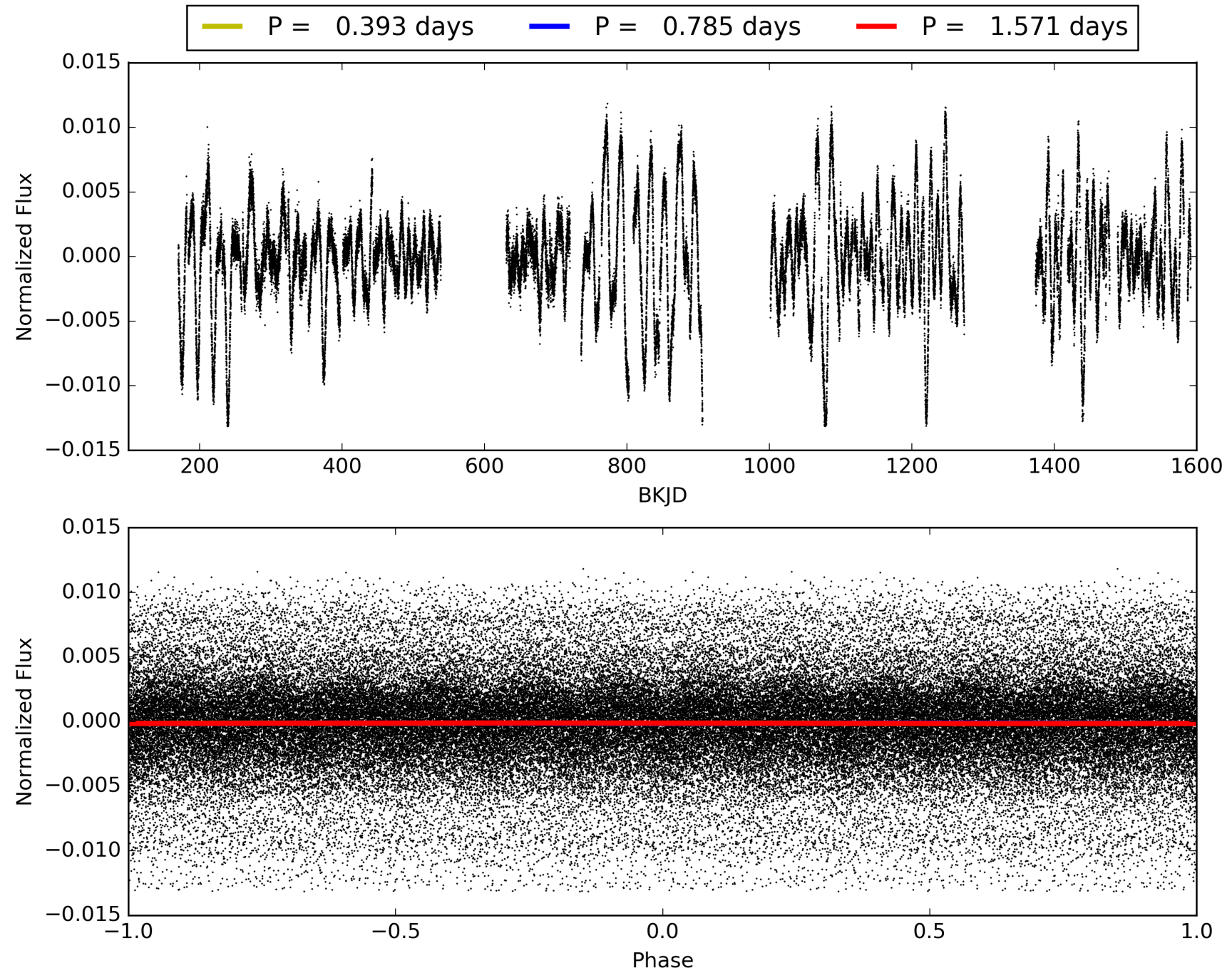
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.93e-13  
RollingBand-fgt: 1.00 [1277/1277]  
**GhostDiagnostic-chr: -0.4303**  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [13/13]

# TCE 004661703-01, PDC Light Curves

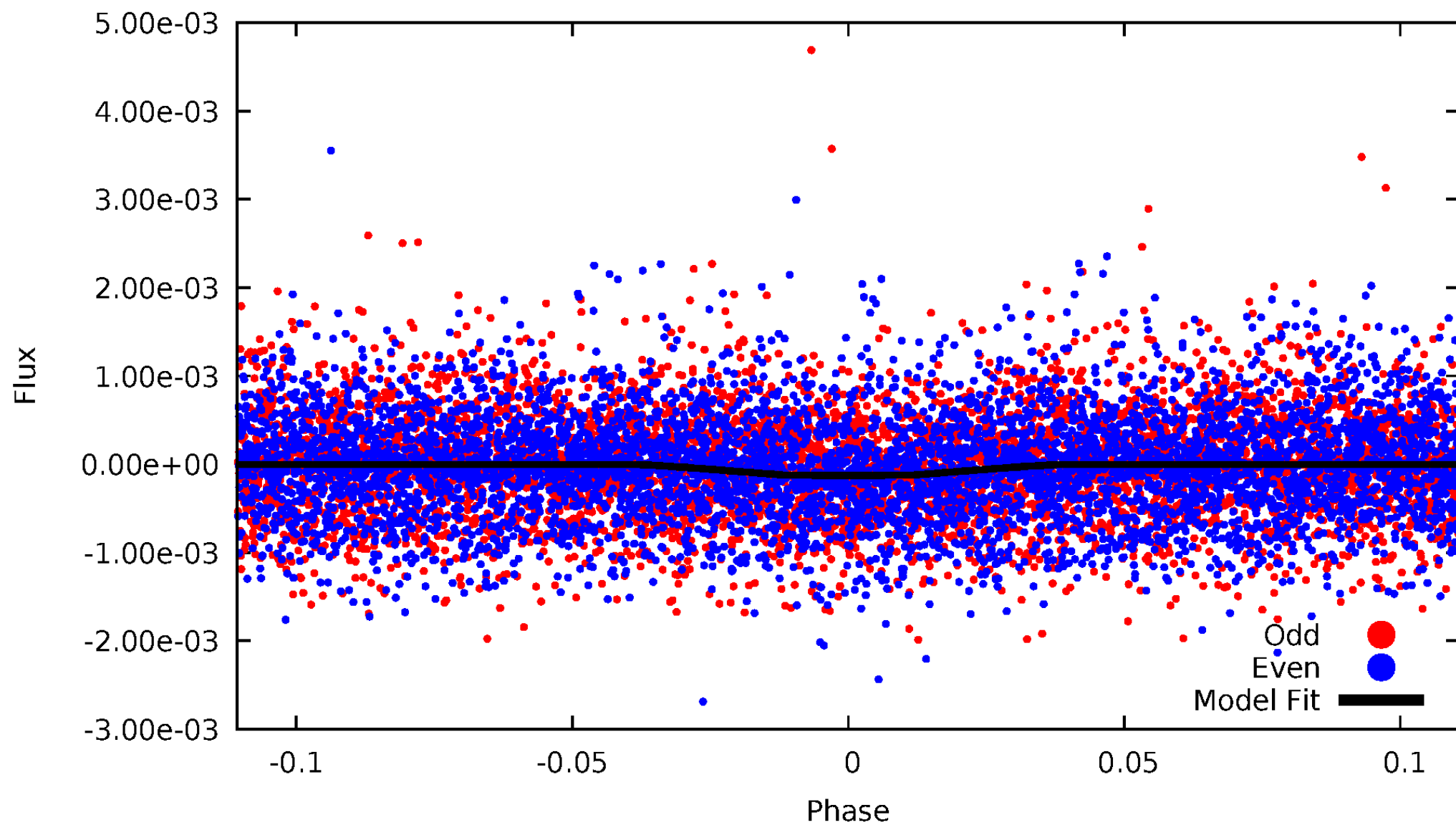


TCE 004661703-01



# DV Odd/Even

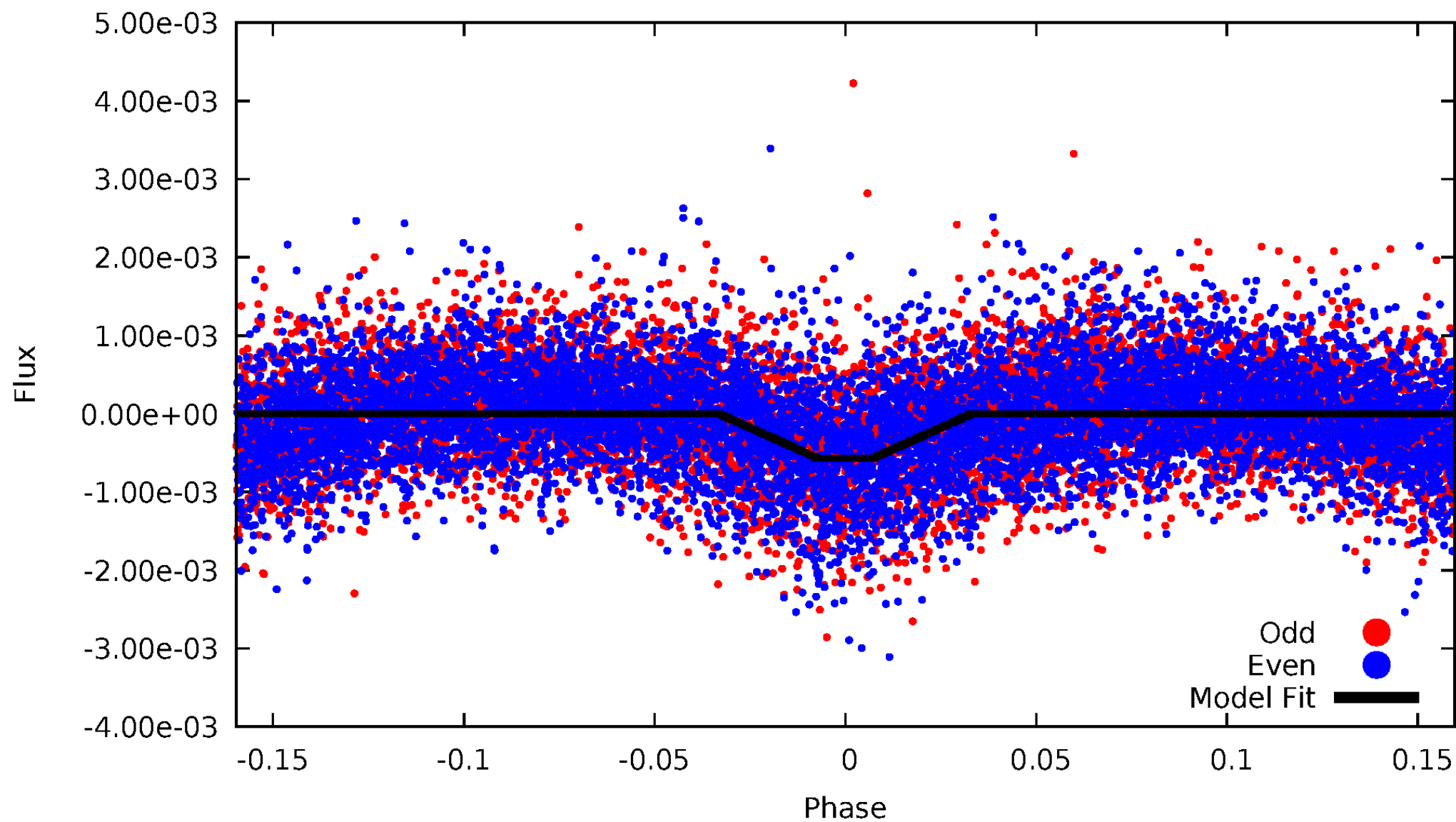
TCE 004661703-01





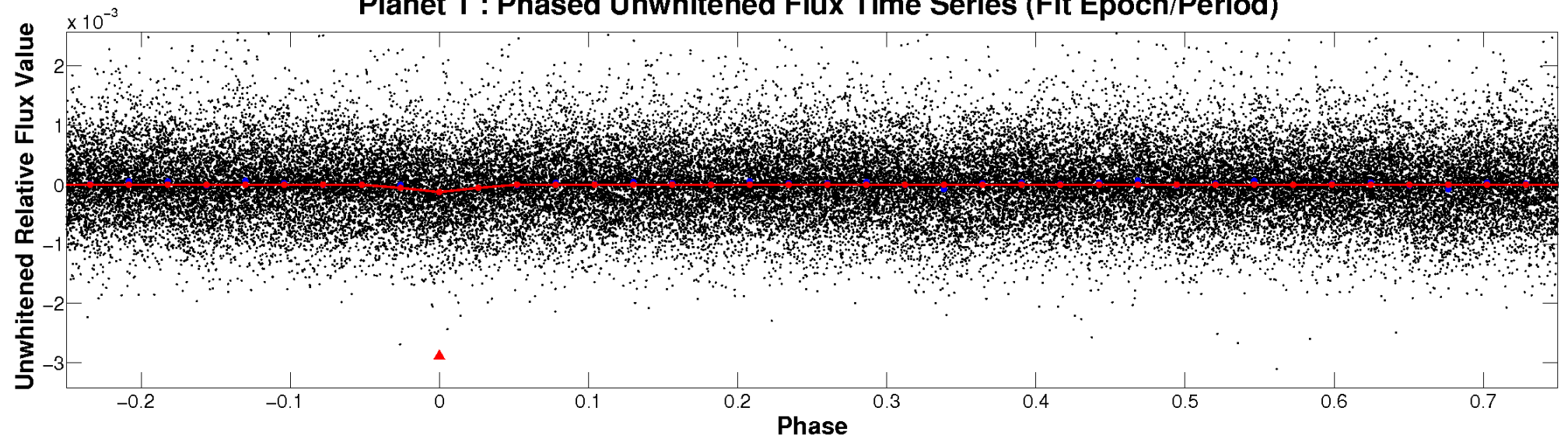
# ALT Odd/Even

TCE 004661703-01

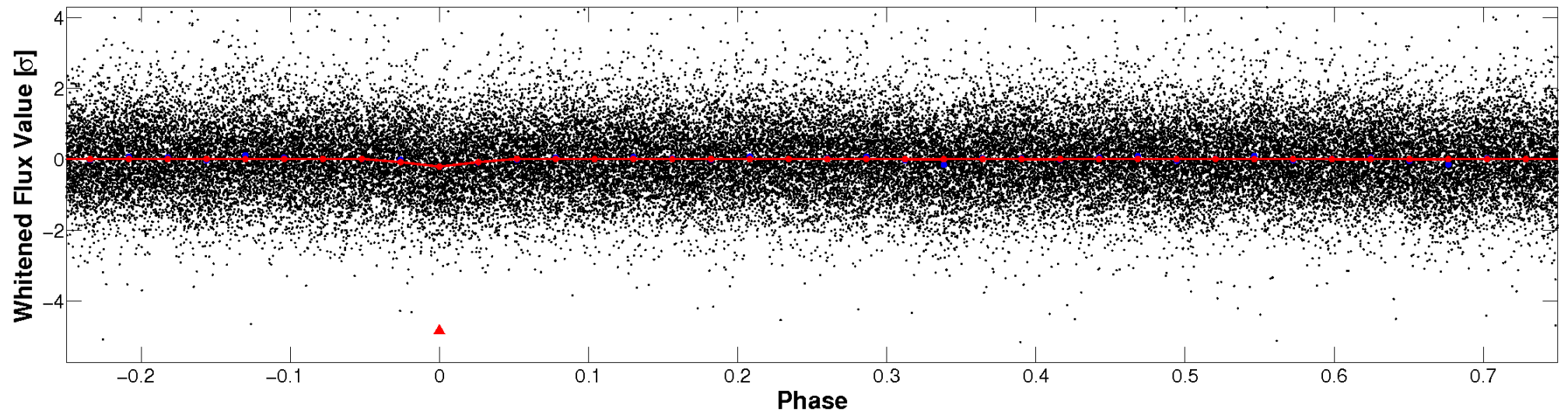


# Non-Whitened Vs. Whitened Light Curve

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

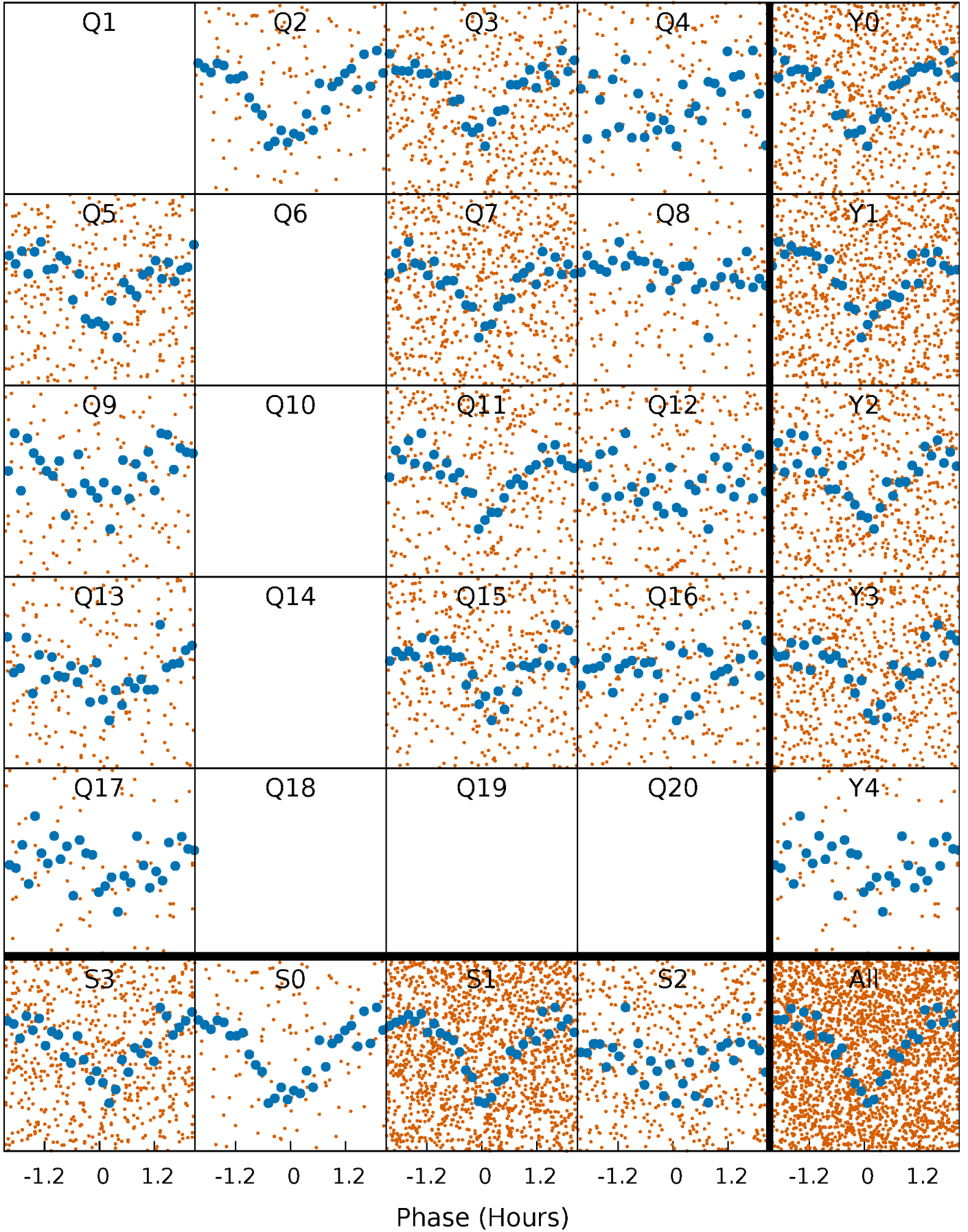


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

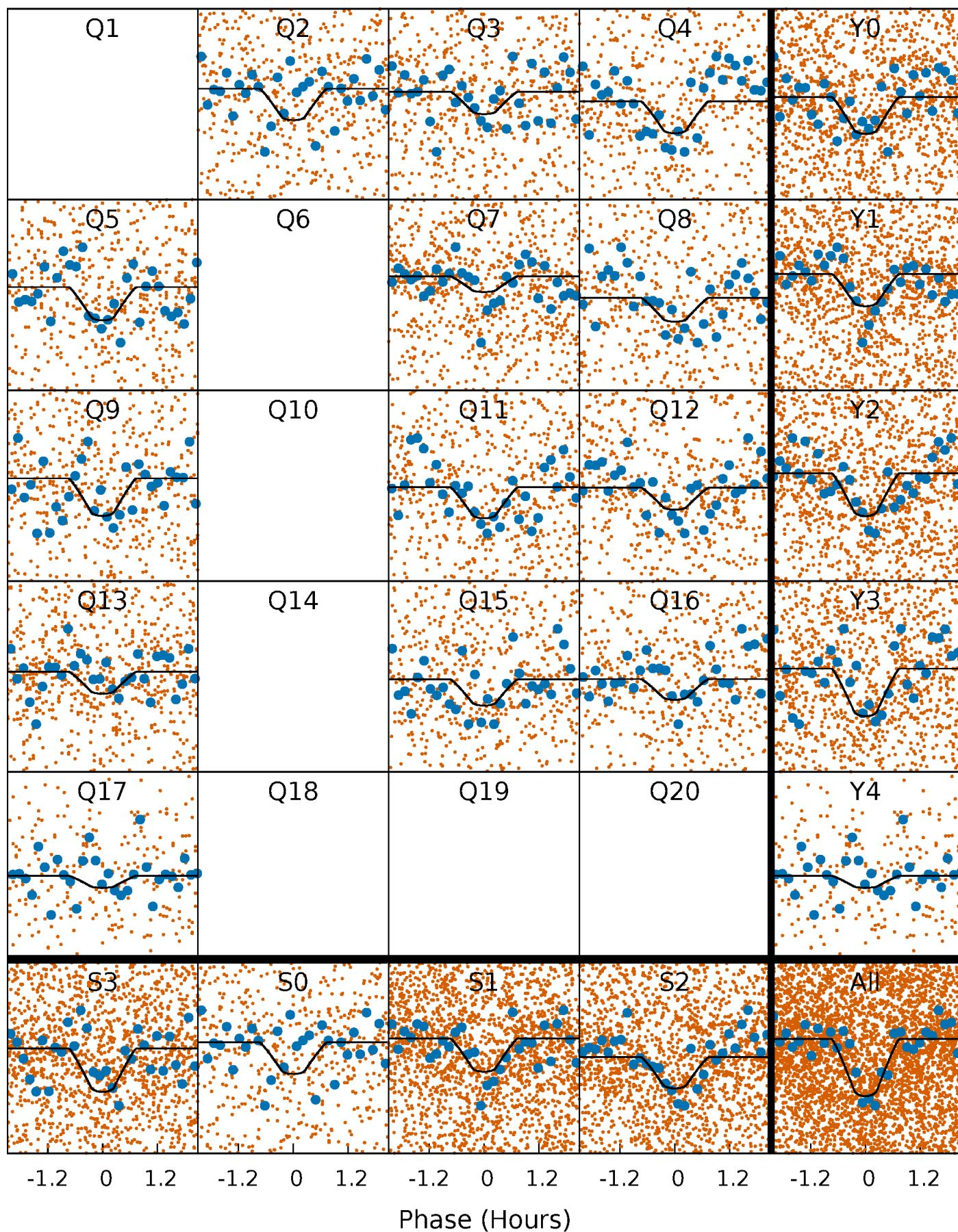
TCE 004661703-01   P= 0.785267 Days    $T_0=132.267807$  (BKJD)





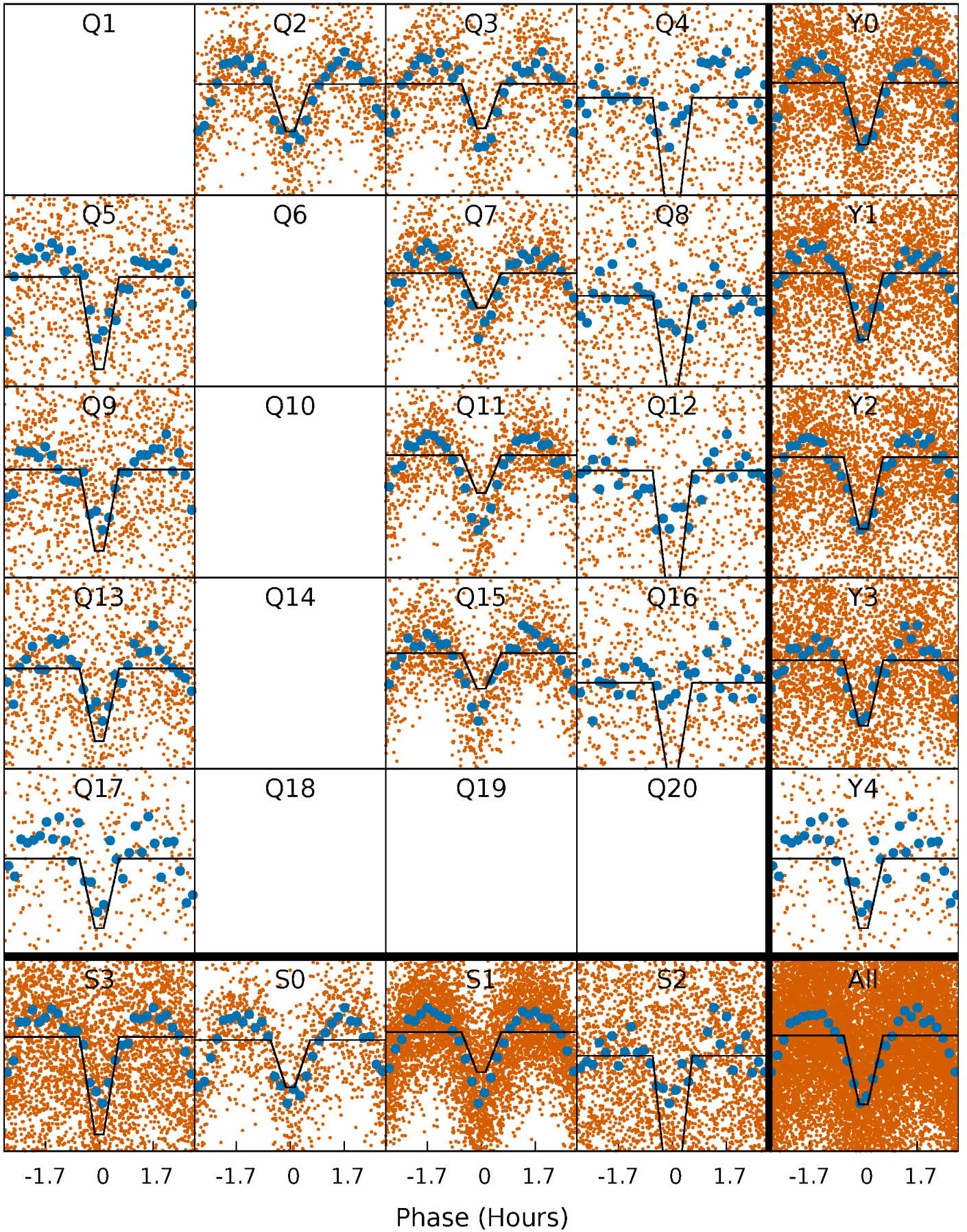
# DV Quarter-Phased Transit Curves

TCE 004661703-01   P= 0.785267 Days    $T_0=132.267807$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

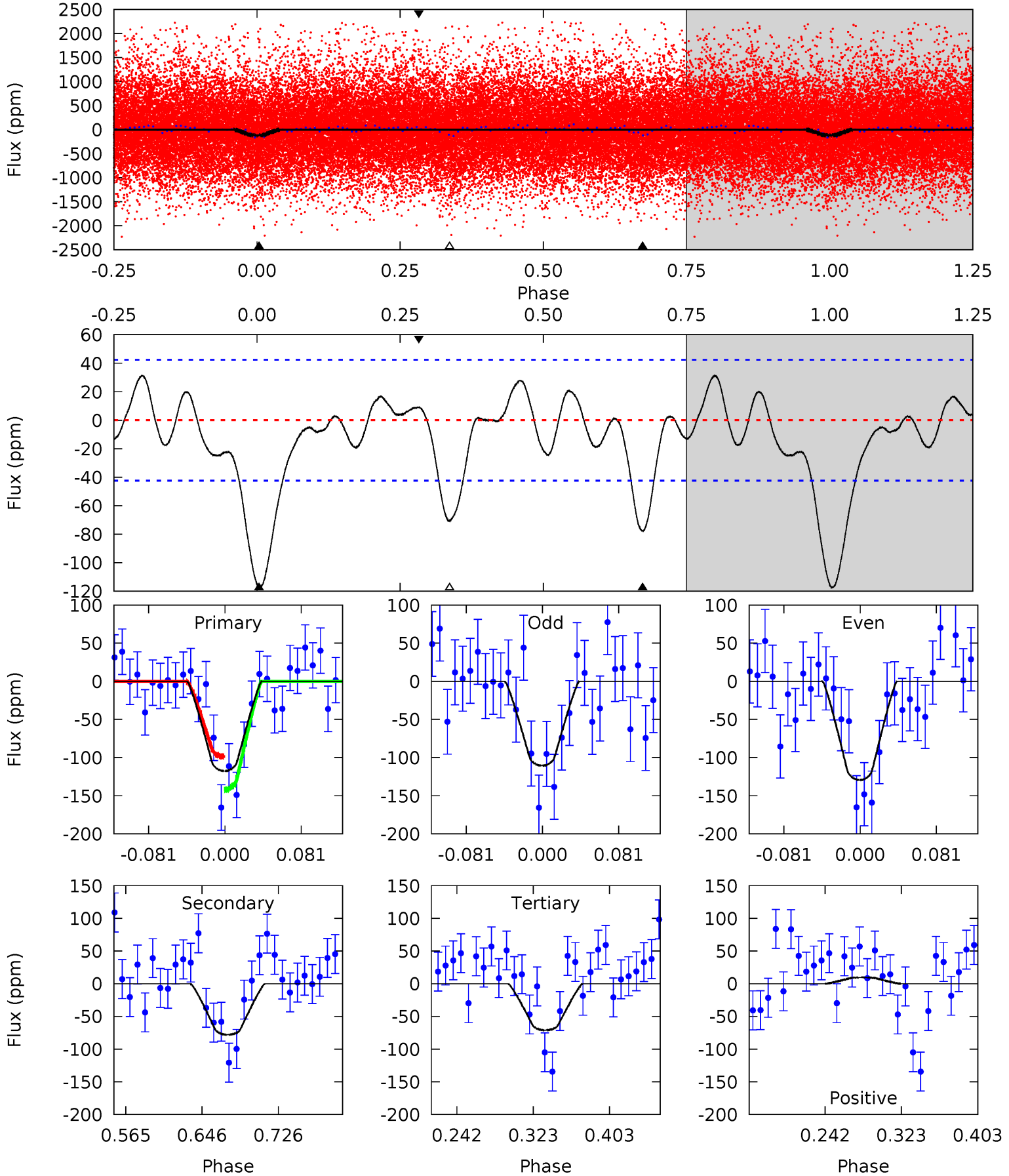
TCE 004661703-01 P= 0.785279 Days  $T_0=132.260246$  (BKJD)



# DV Model-Shift Uniqueness Test

004661703-01, P = 0.785267 Days, E = 132.267807 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
12.8	8.50	7.75	1.03	4.61	1.75	2.23	5.07	11.8	0.75	7.47	1.03	1.03	0.21	2.36

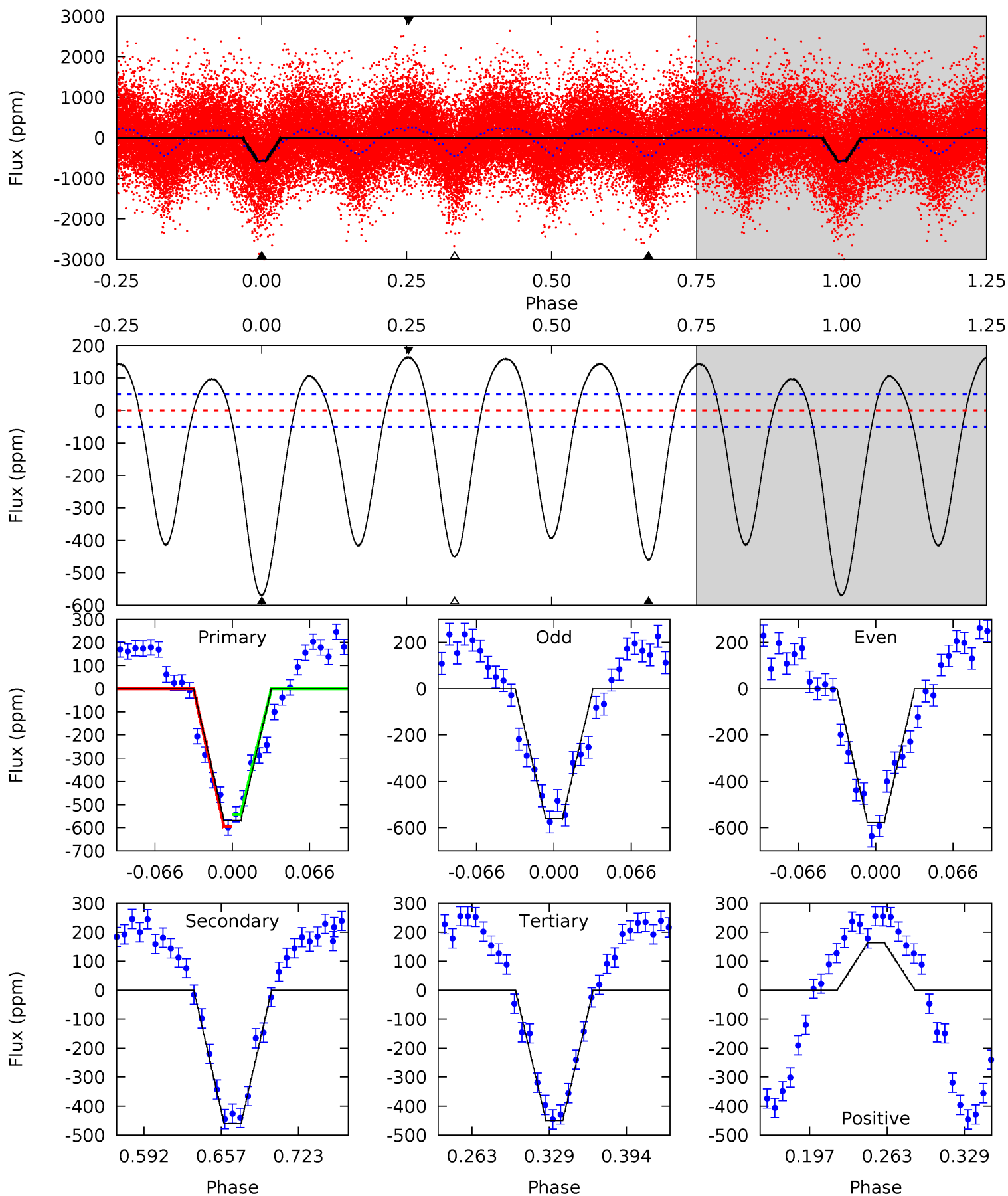




# Alt Model-Shift Uniqueness Test

004661703-01, P = 0.785279 Days, E = 132.260246 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
53.1	42.9	41.9	15.3	4.65	1.84	18.4	11.1	37.8	0.99	27.7	0.77	1.05	0.22	2.39



### Stellar Parameters For KIC 004661703

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5325^{+175}_{-143}$	$4.591^{+0.030}_{-0.113}$	$-0.100^{+0.300}_{-0.300}$	$0.780^{+0.133}_{-0.061}$	$0.874^{+0.070}_{-0.104}$	$2.598^{+0.422}_{-0.896}$
	+3%/-3%	+1%/-2%	+300%/-300%	+17%/-8%	+8%/-12%	+16%/-34%
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 004661703-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-78 \pm 9$	$1.45^{+1.01}_{-0.94}$	$2337^{+106}_{-83}$	$4090^{+2484}_{-740}$	$5.030^{+36.011}_{-3.291}$
Alt.	$-461 \pm 11$	$2.18^{+1.20}_{-1.14}$	$2345^{+113}_{-83}$	$5029^{+2081}_{-842}$	$13^{+45}_{-8}$

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



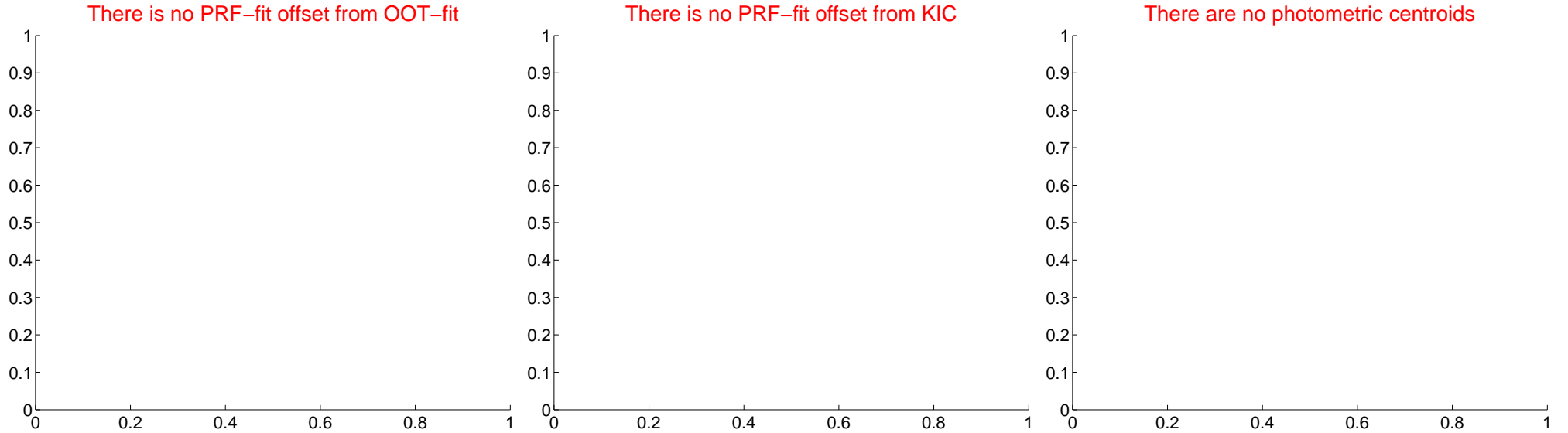
## DV Centroid Data

Supplemental centroid analysis for 004661703-01. Kepler magnitude: 15.71. Transit SNR 8.76

There are 0 quarters with good PRF difference image offsets

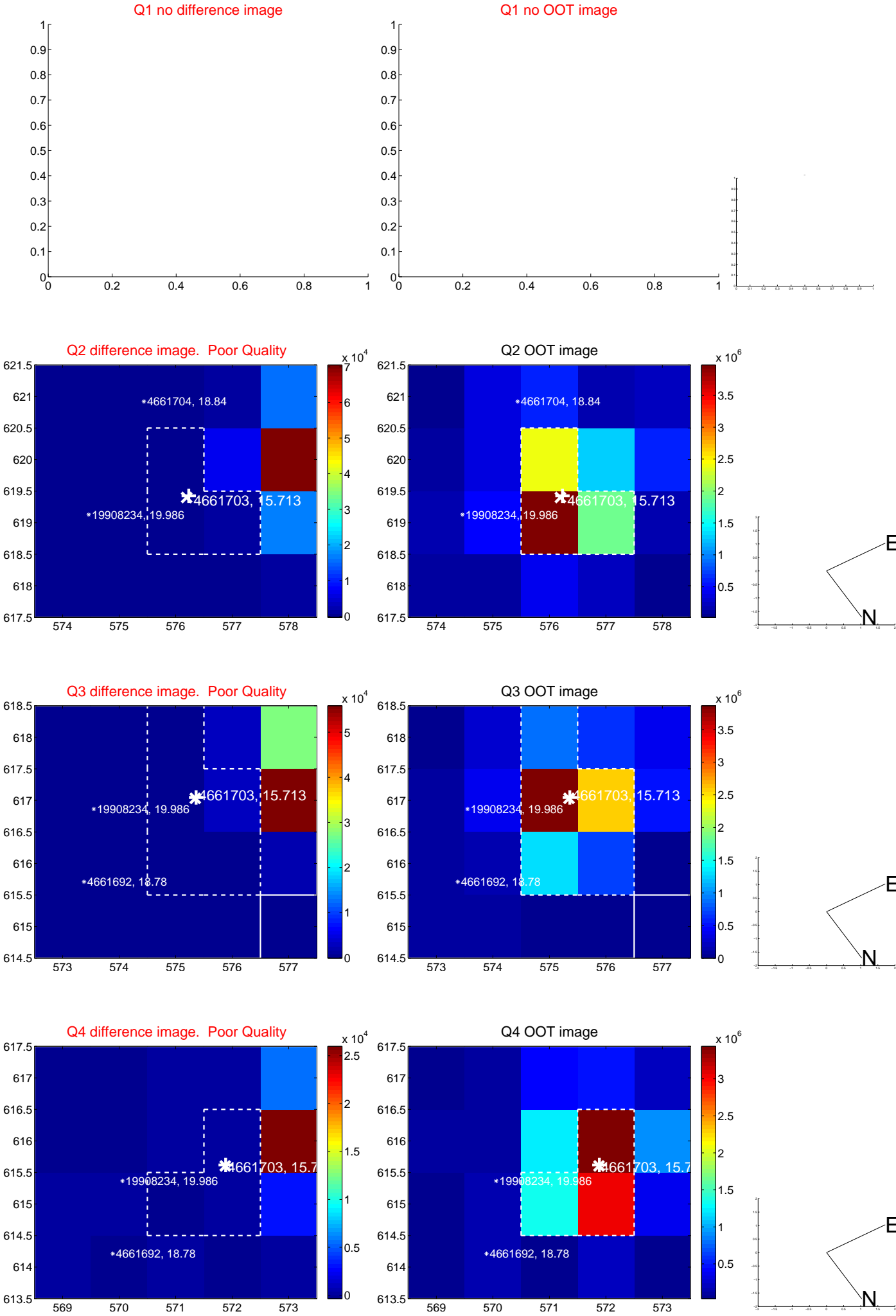
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—

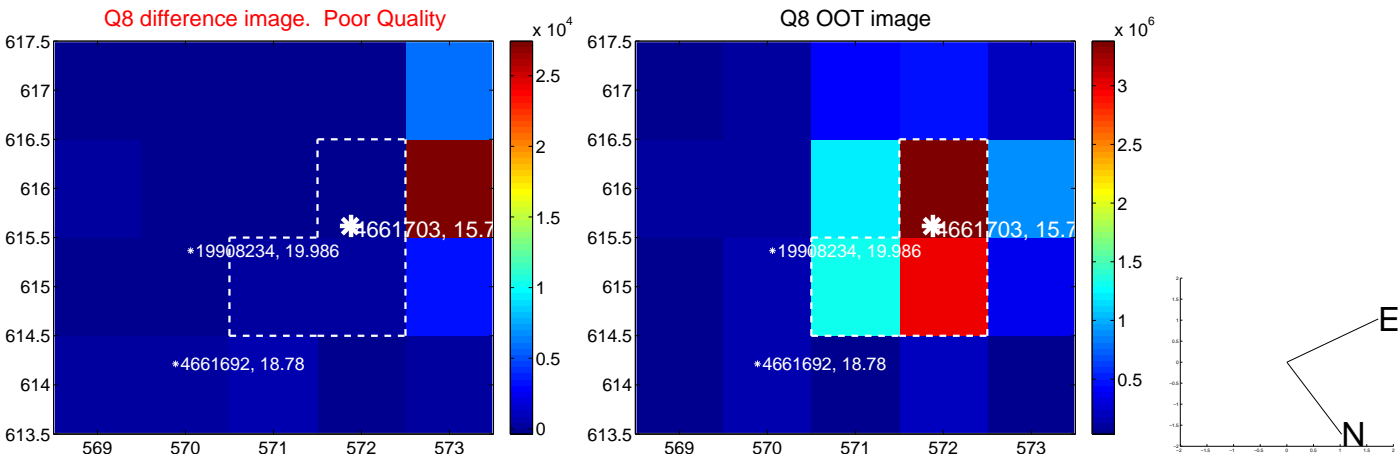
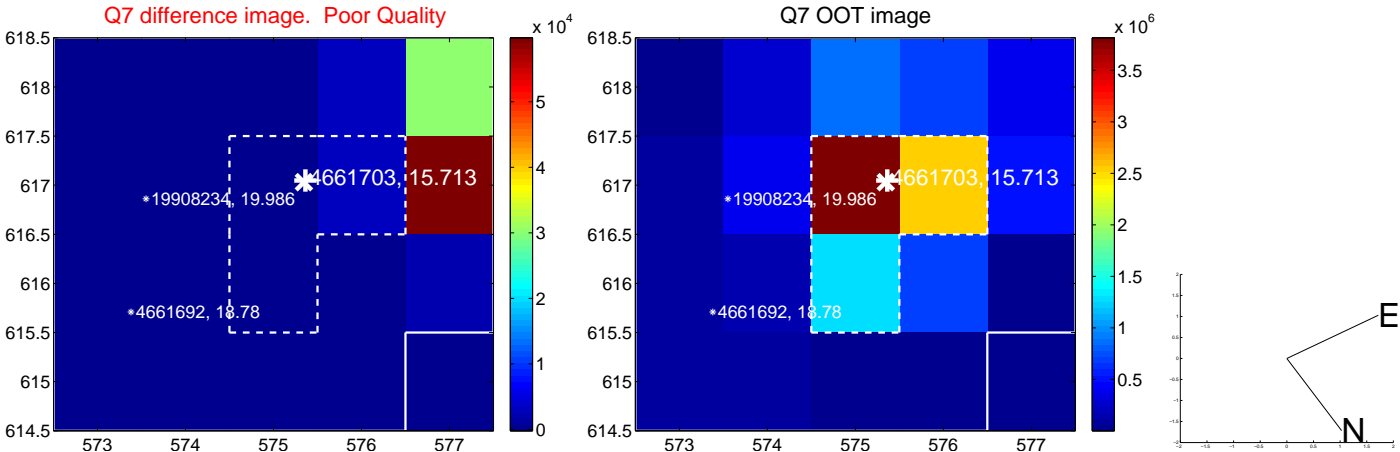
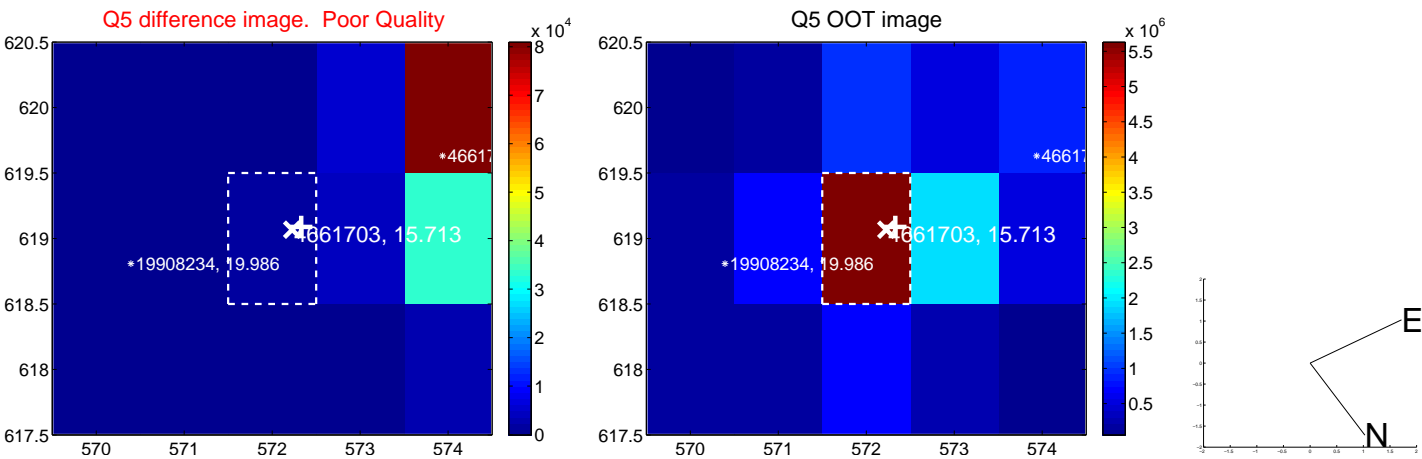


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

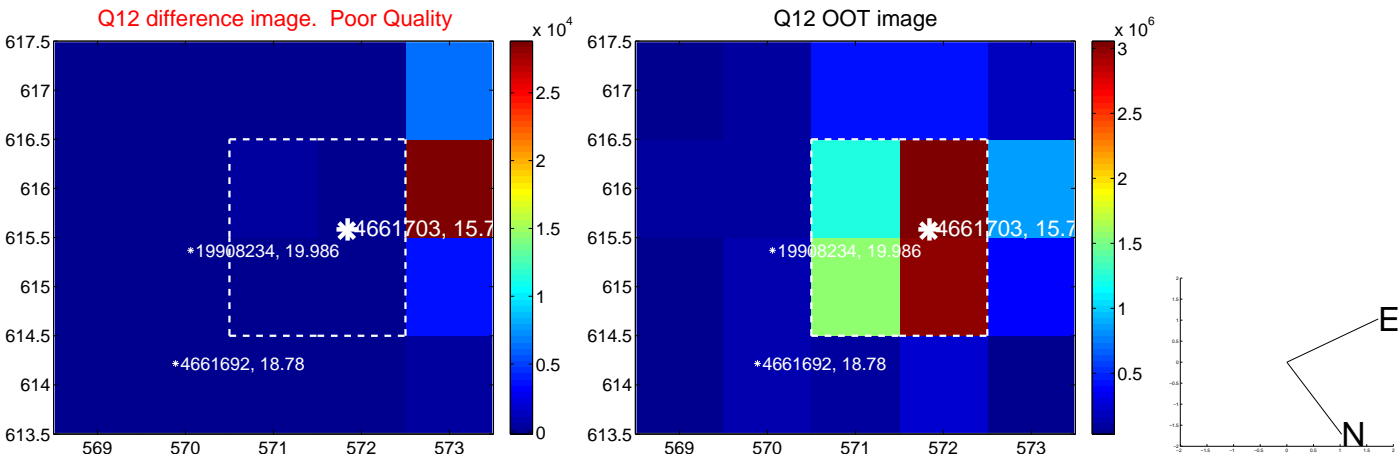
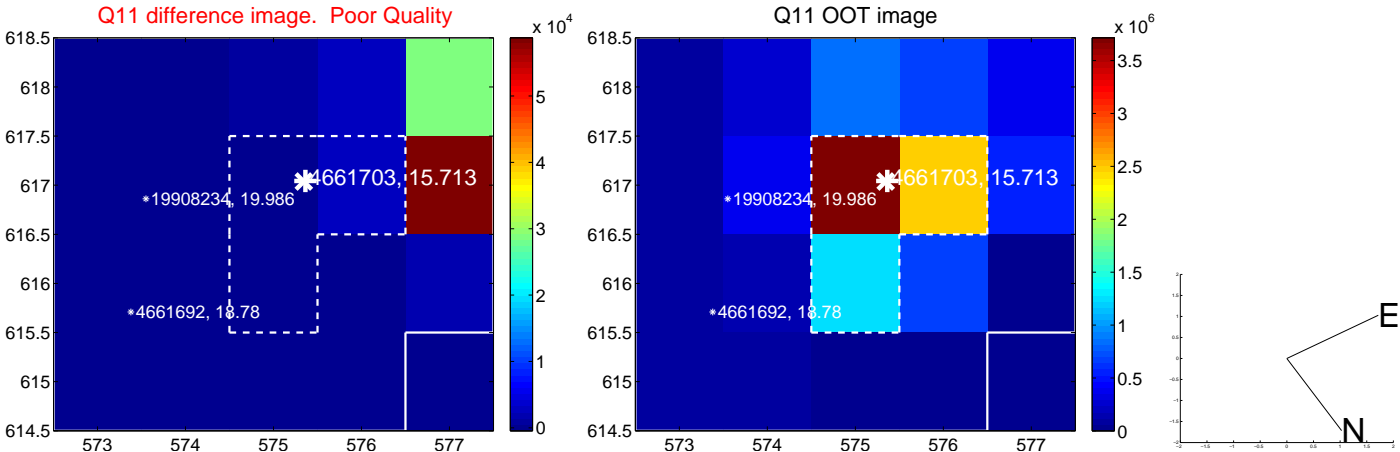
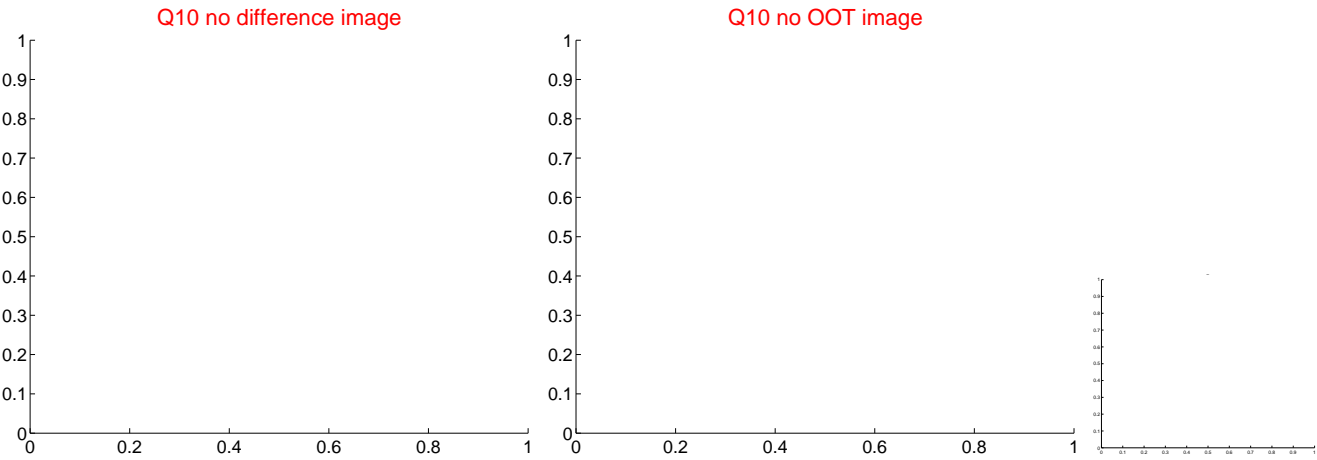
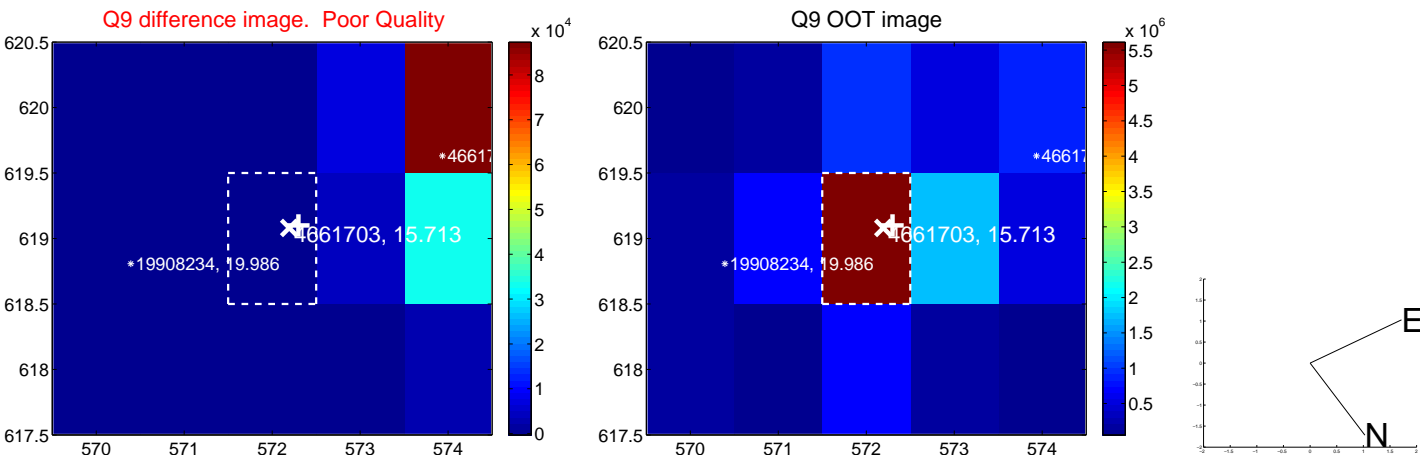
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



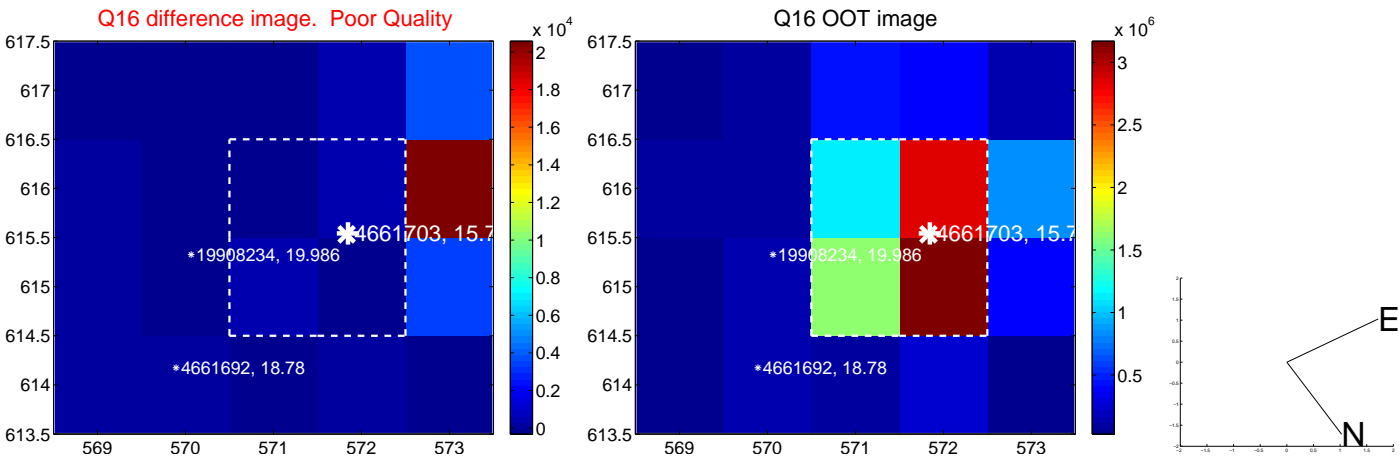
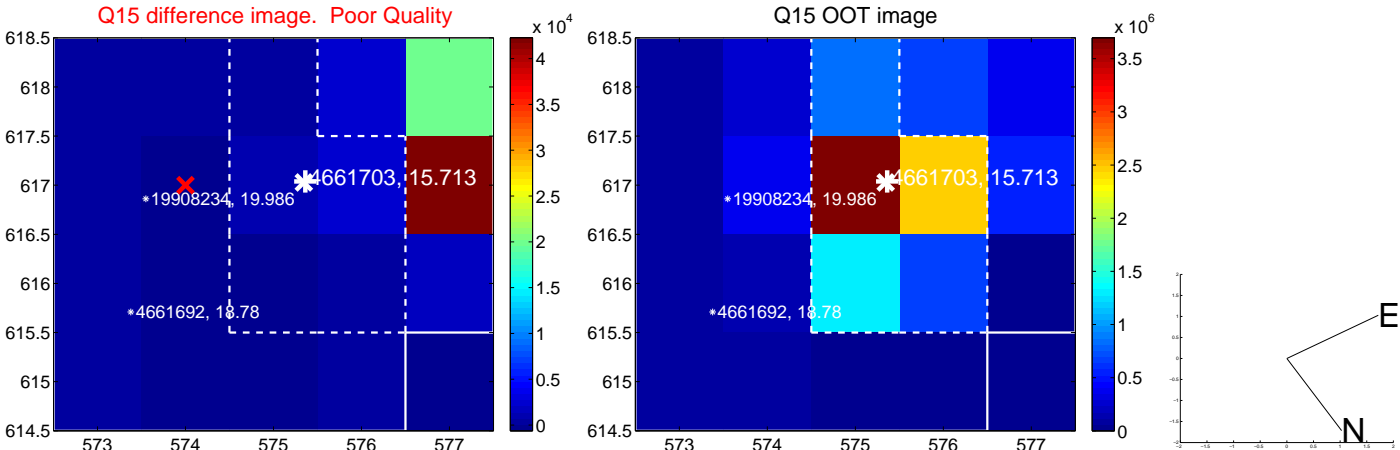
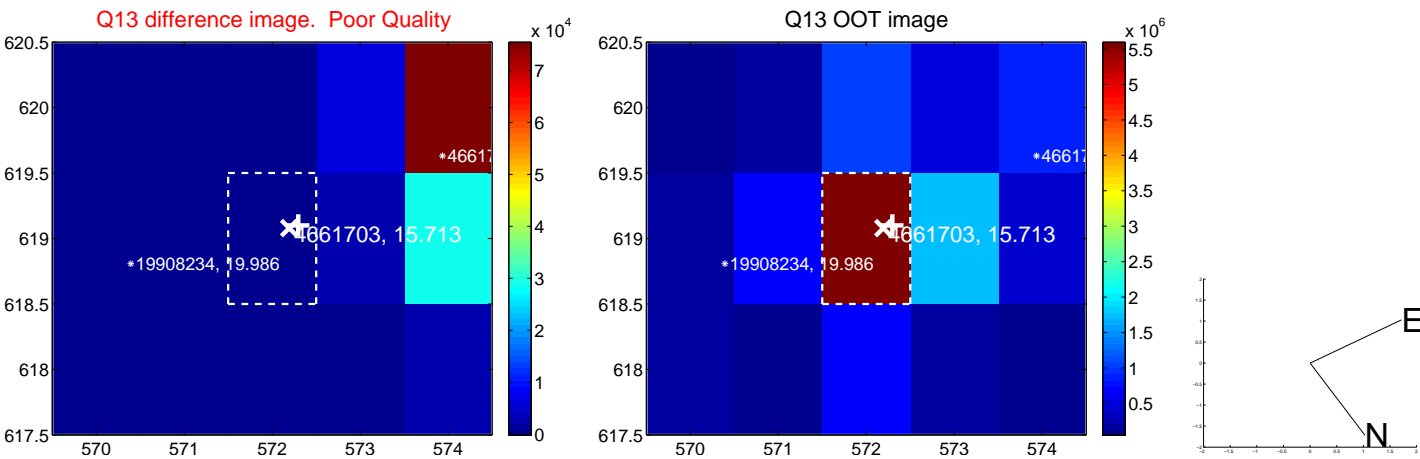
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

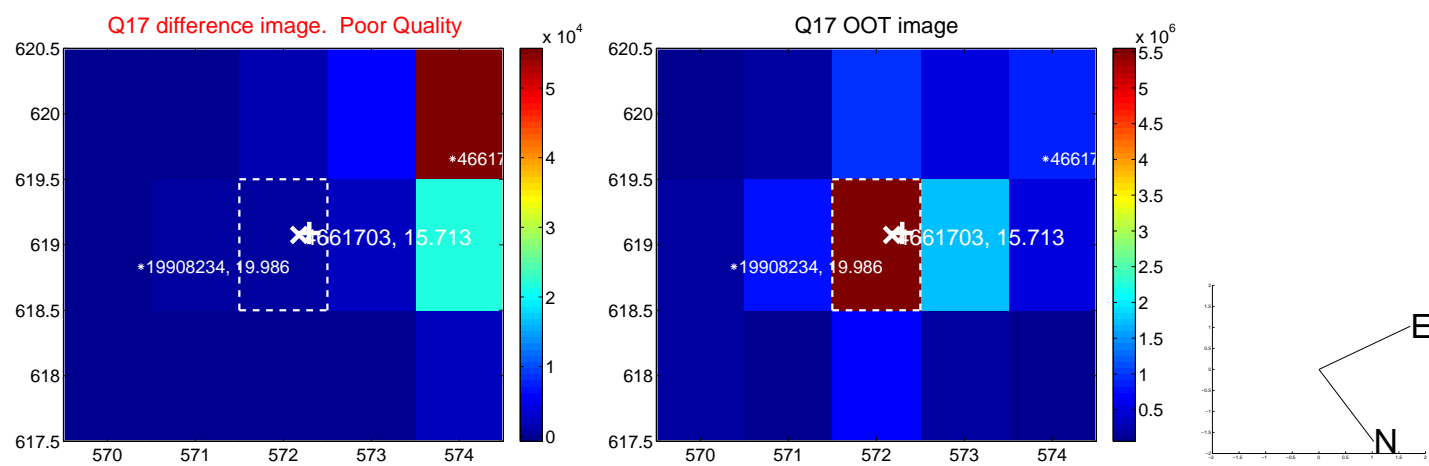


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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

