

# KIC 005682476

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005682476-01	OBS	No	0.768134	131.943177	109.8	3.985	11.3	5.2	0.64	4730	0.67	939.75

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005682476-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS

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

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

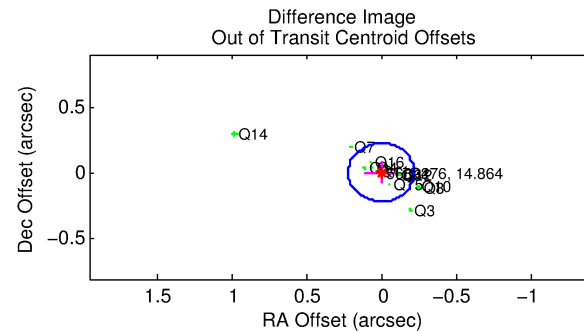
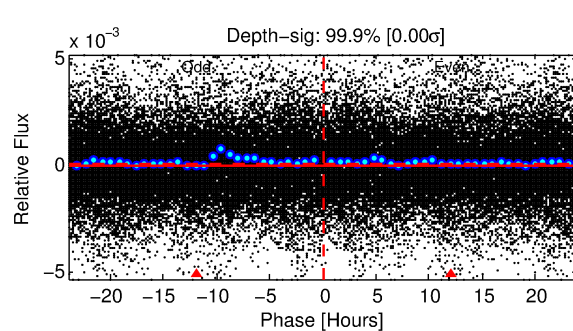
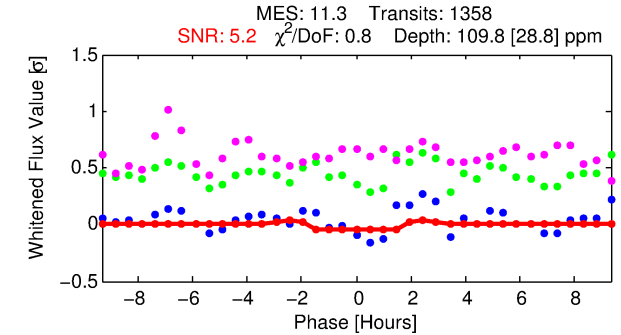
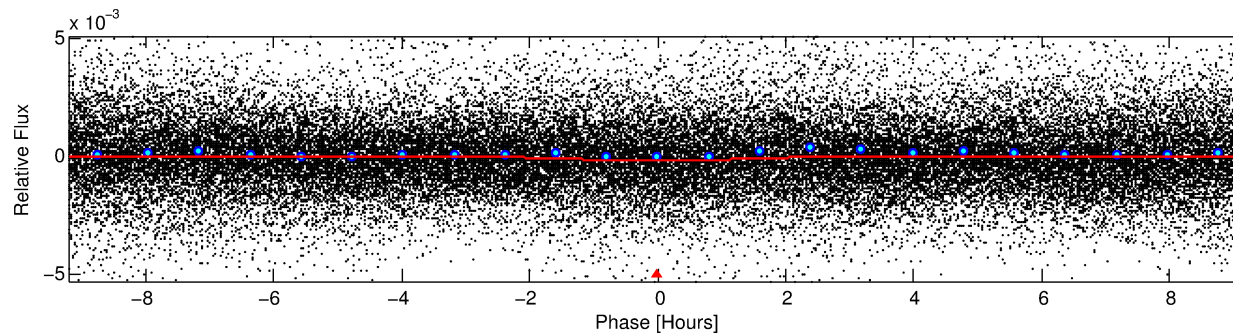
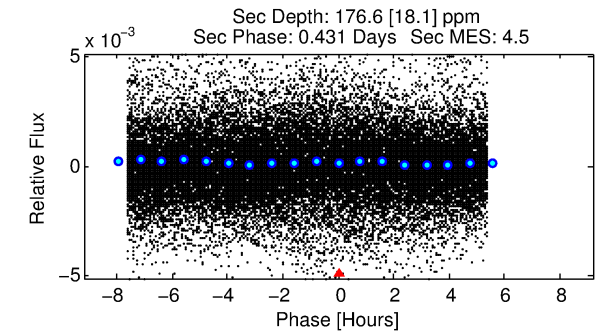
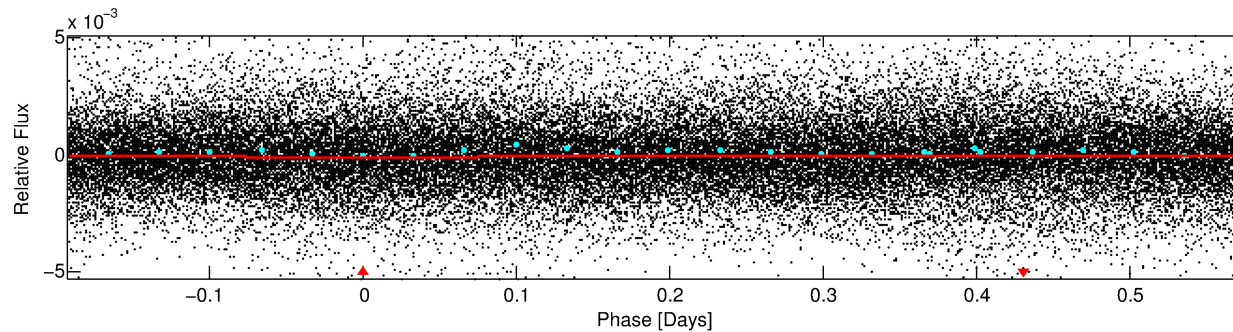
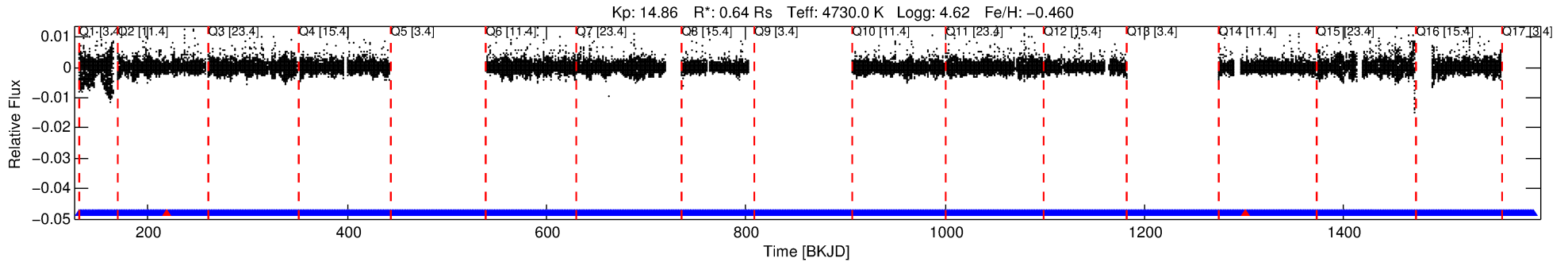
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005682476-01

No Significant Match Found

# DV One-Page Summary

KIC: 5682476 Candidate: 1 of 1 Period: 0.768 d



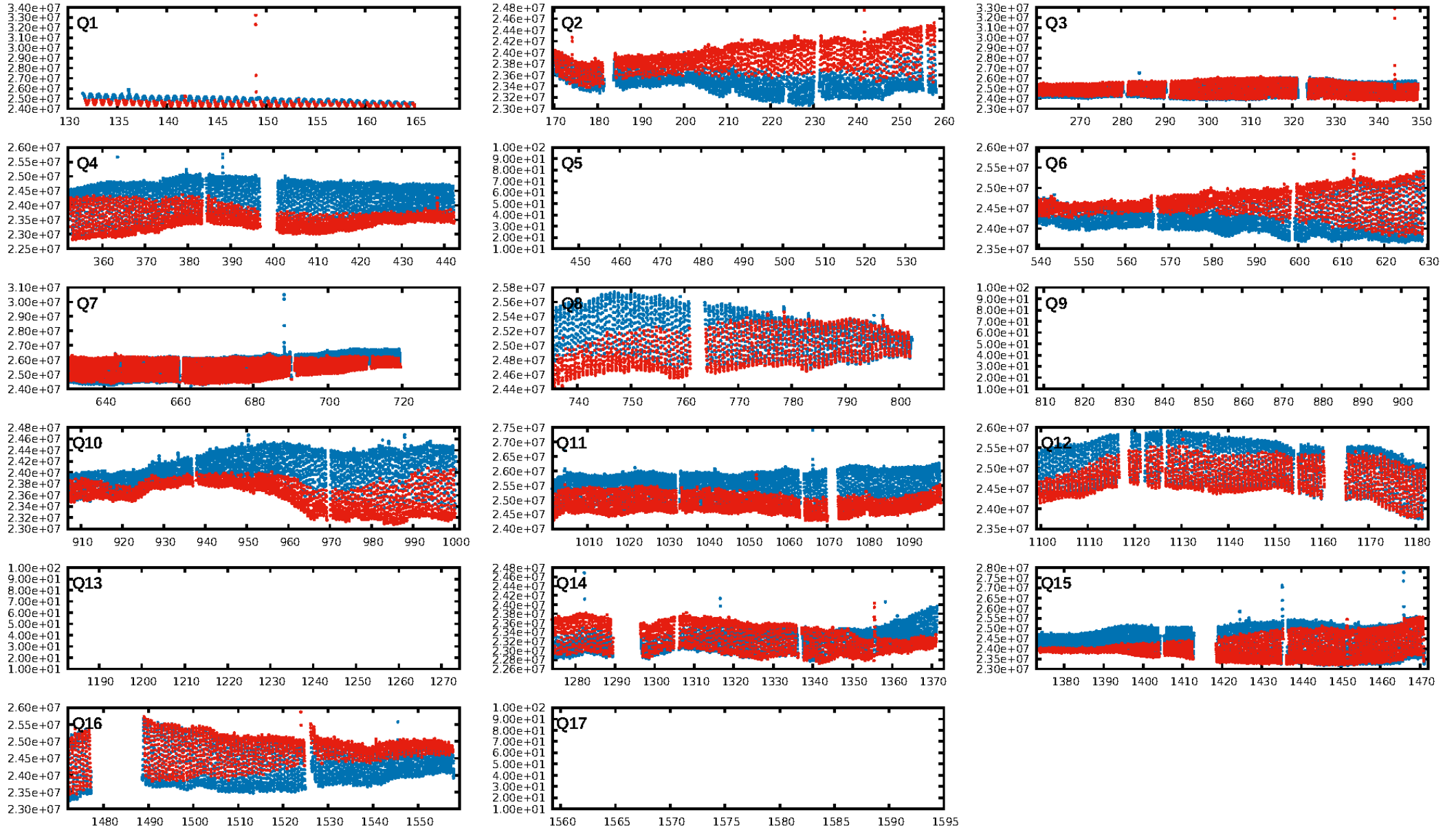
## DV Fit Results:

Period = 0.76813 [0.00002] d  
Epoch = 131.9432 [0.0038] BKJD  
Rp/R\* = 0.0095 [0.0086]  
a/R\* = 1.52 [2.61]  
b = 0.42 [6.00]  
Seff = 939.75 [151.92]  
Teff = 1412 [57] K  
Rp = 0.67 [0.61] Re  
a = 0.0141 [0.0011] AU  
Ag = 42.72 [77.53] [0.54σ]  
Teffp = 5581 [2533] K [1.65σ]

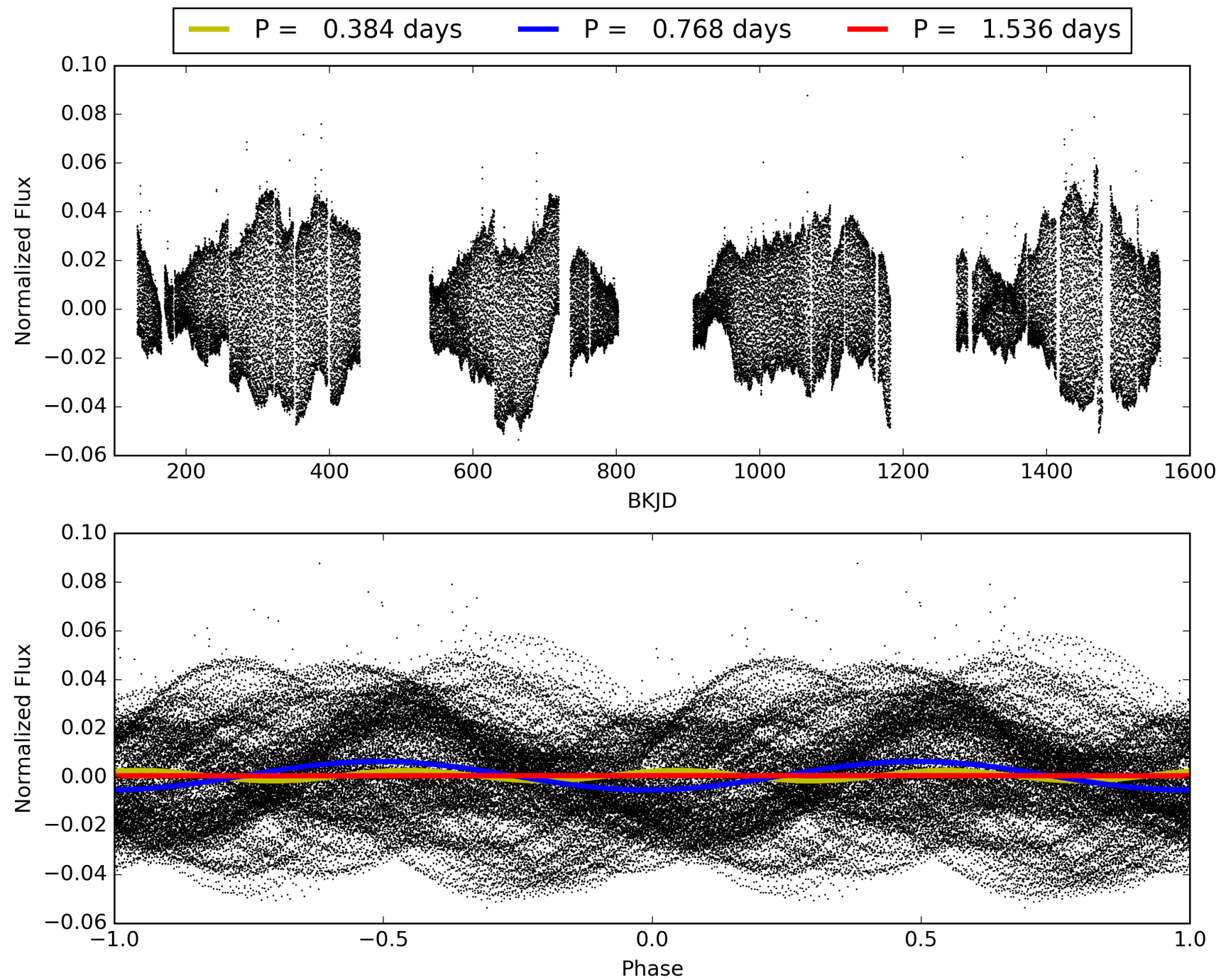
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.89e-21  
RollingBand-fgt: 1.00 [1312/1314]  
**GhostDiagnostic-chr: 0.4502**  
**Centroid-sig: 0.0%**  
Centroid-so: 1.457 arcsec [2.06σ]  
OotOffset-rm: 0.006 arcsec [0.08σ]  
**KicOffset-rm: 0.334 arcsec [3.53σ]**  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 0.62 [8/13]  
DiffImageOverlap-fno: 1.00 [13/13]

# TCE 005682476-01, PDC Light Curves

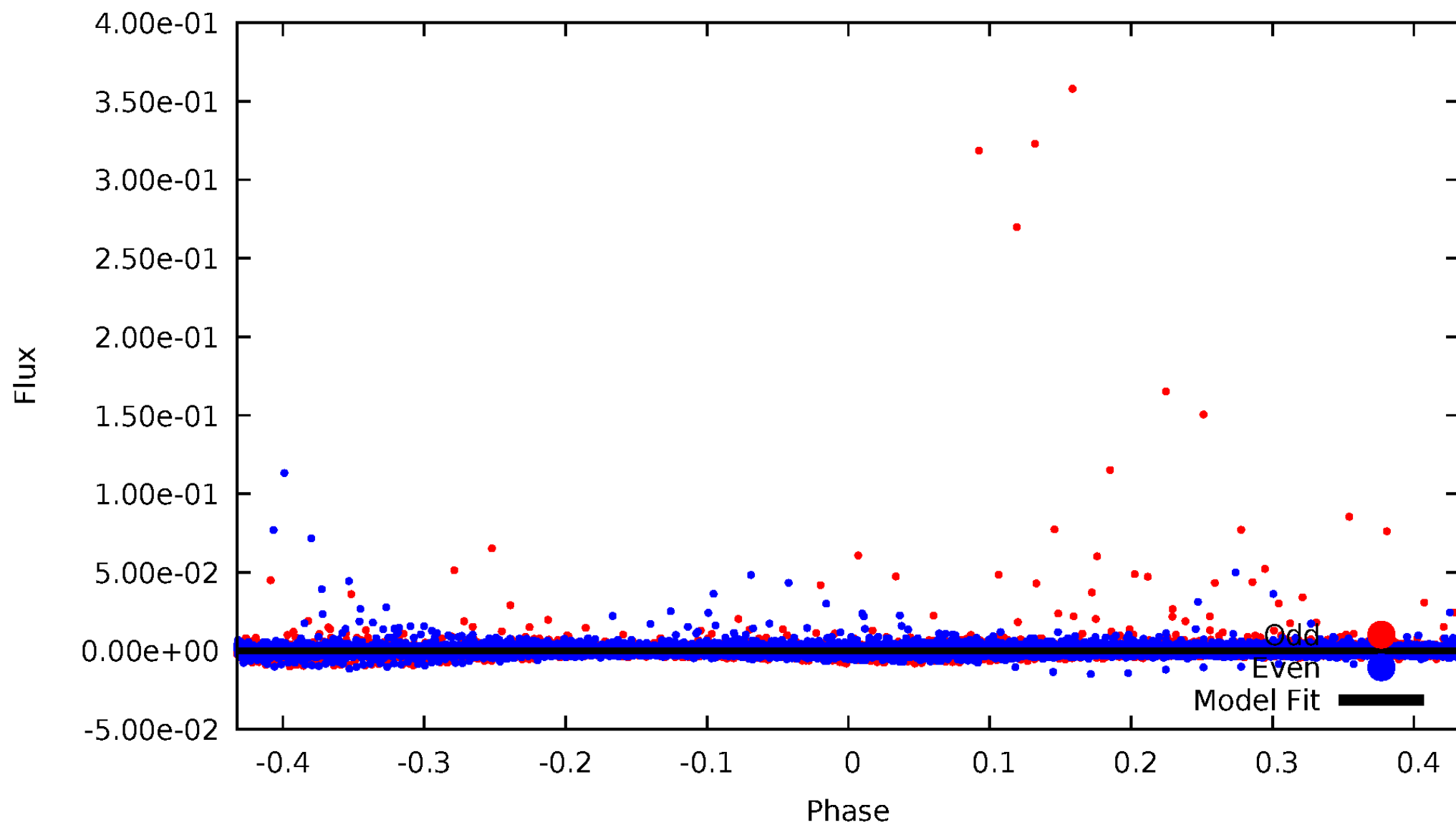


TCE 005682476-01



# DV Odd/Even

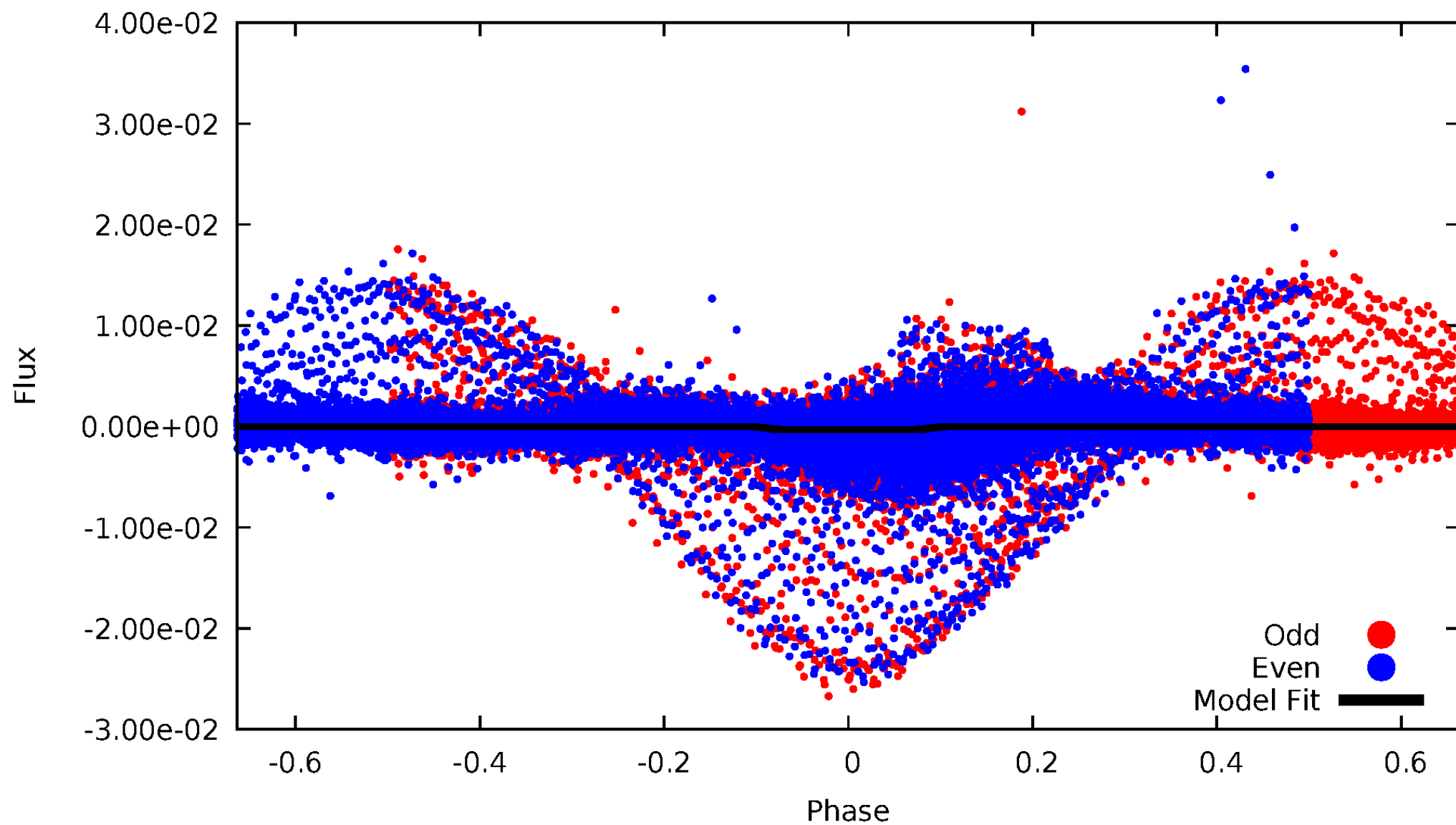
TCE 005682476-01





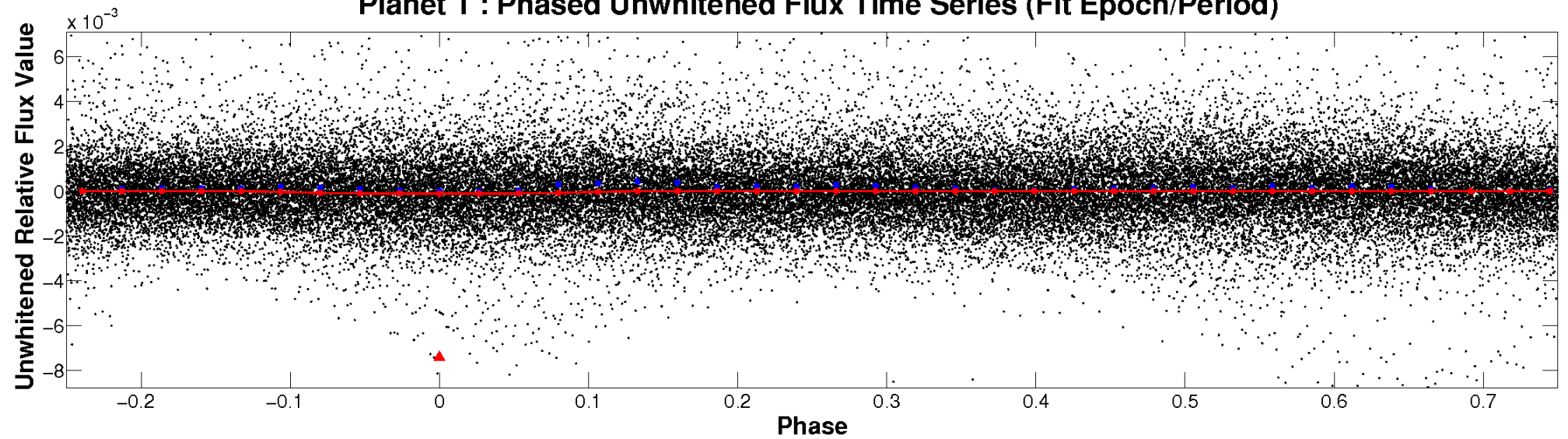
# ALT Odd/Even

TCE 005682476-01

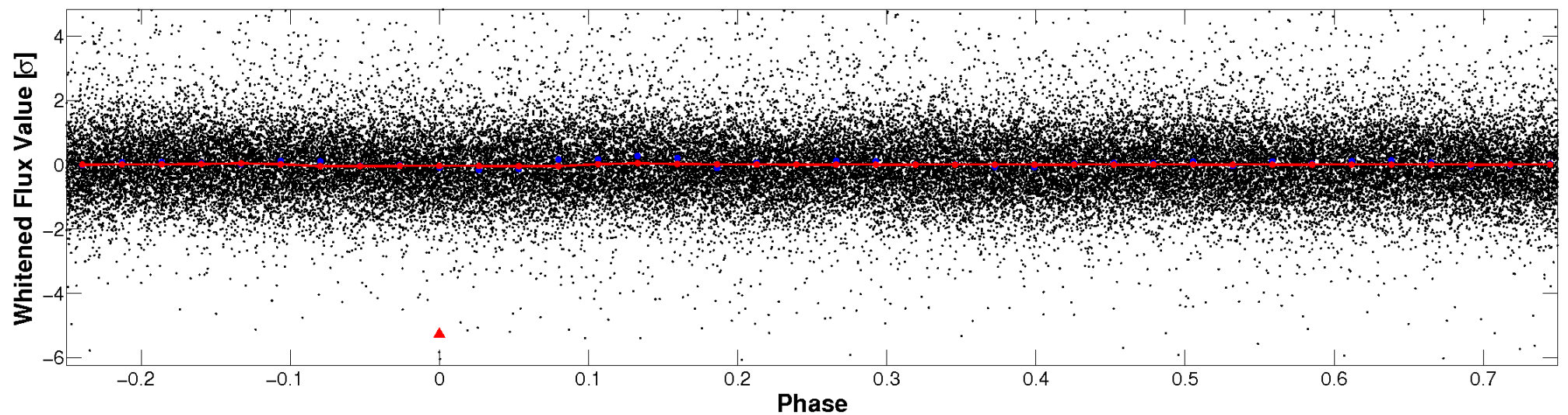


# Non-Whitened Vs. Whitened Light Curve

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

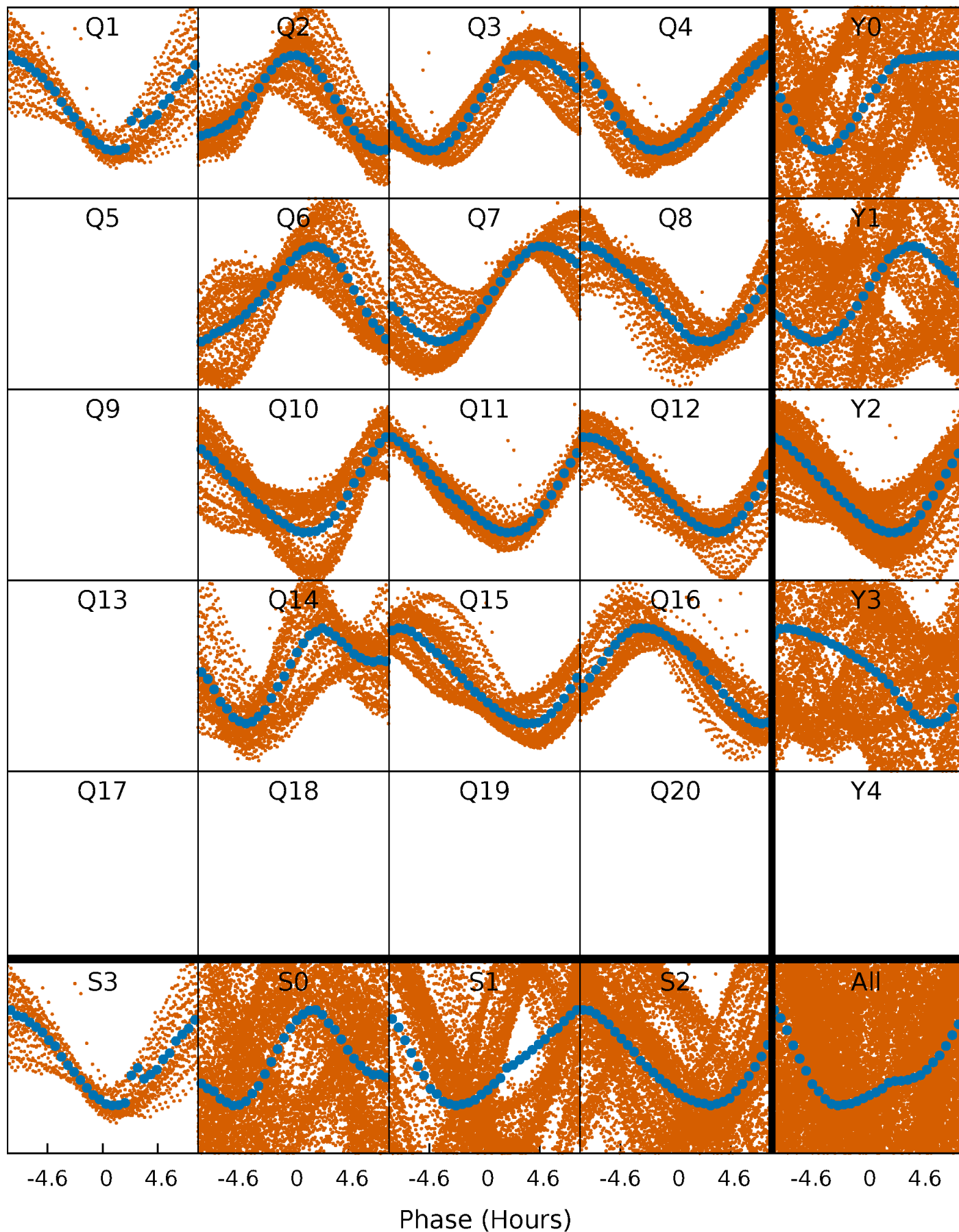


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

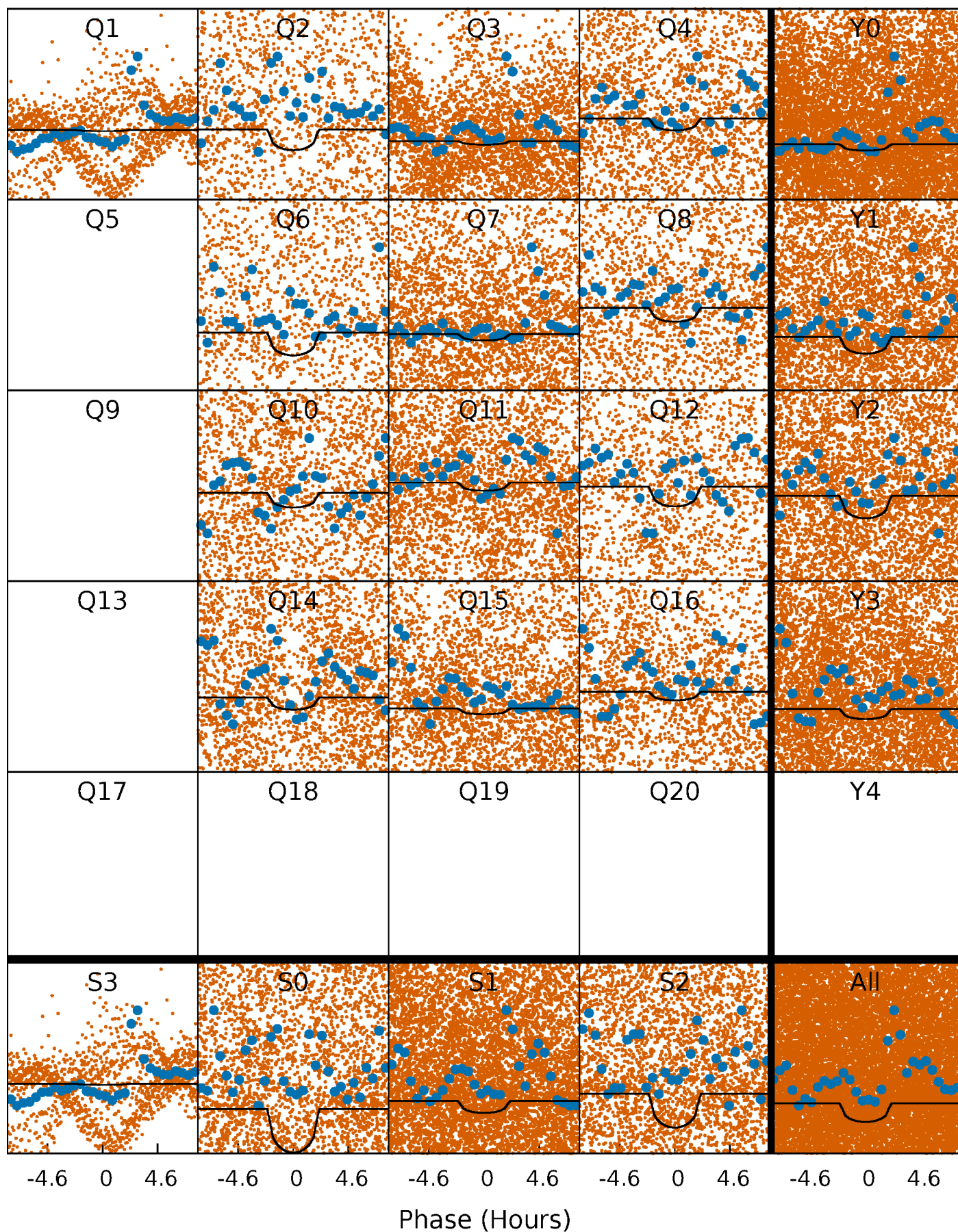
TCE 005682476-01   P= 0.768134 Days    $T_0=131.943177$  (BKJD)





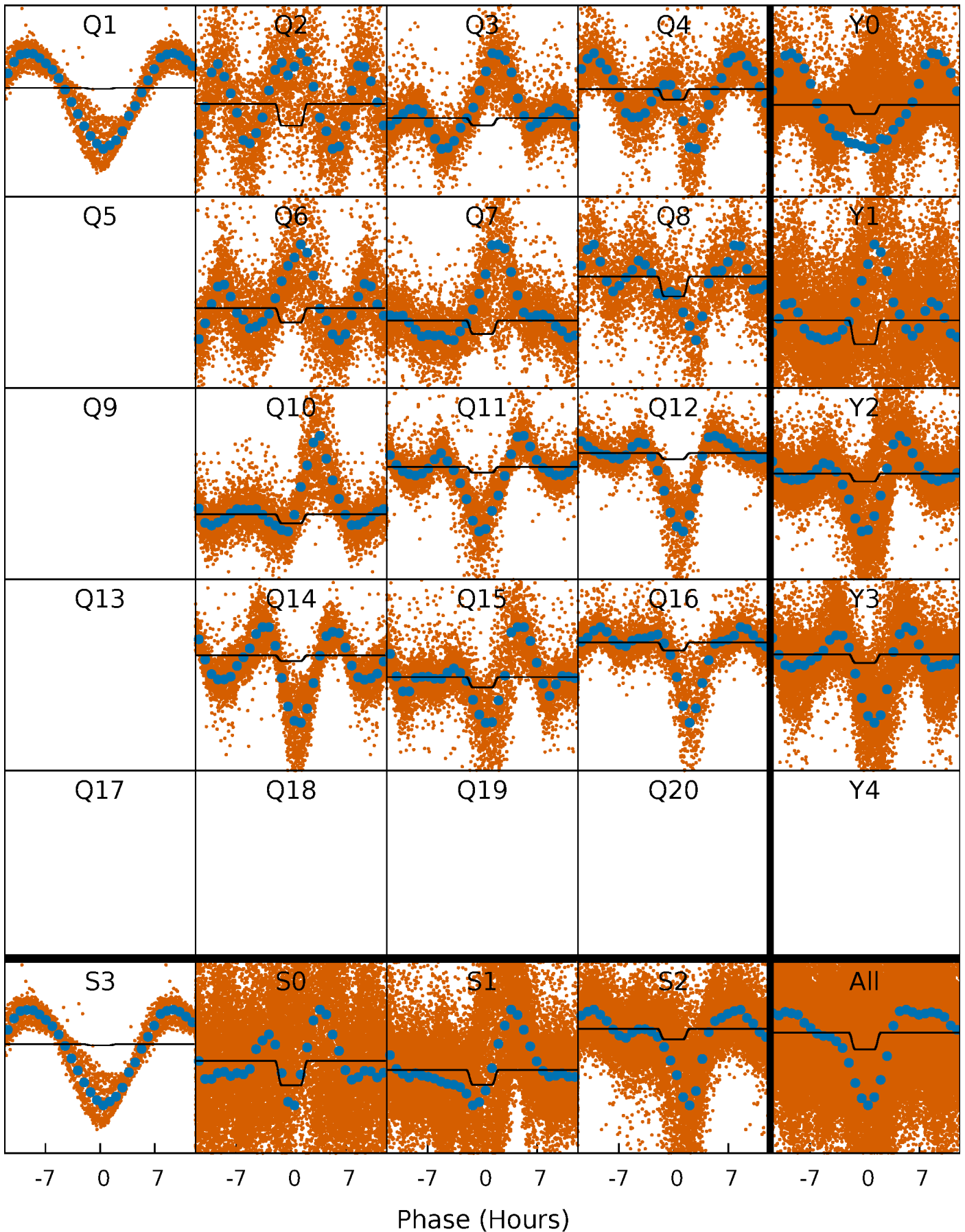
# DV Quarter-Phased Transit Curves

TCE 005682476-01 P= 0.768134 Days  $T_0=131.943177$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

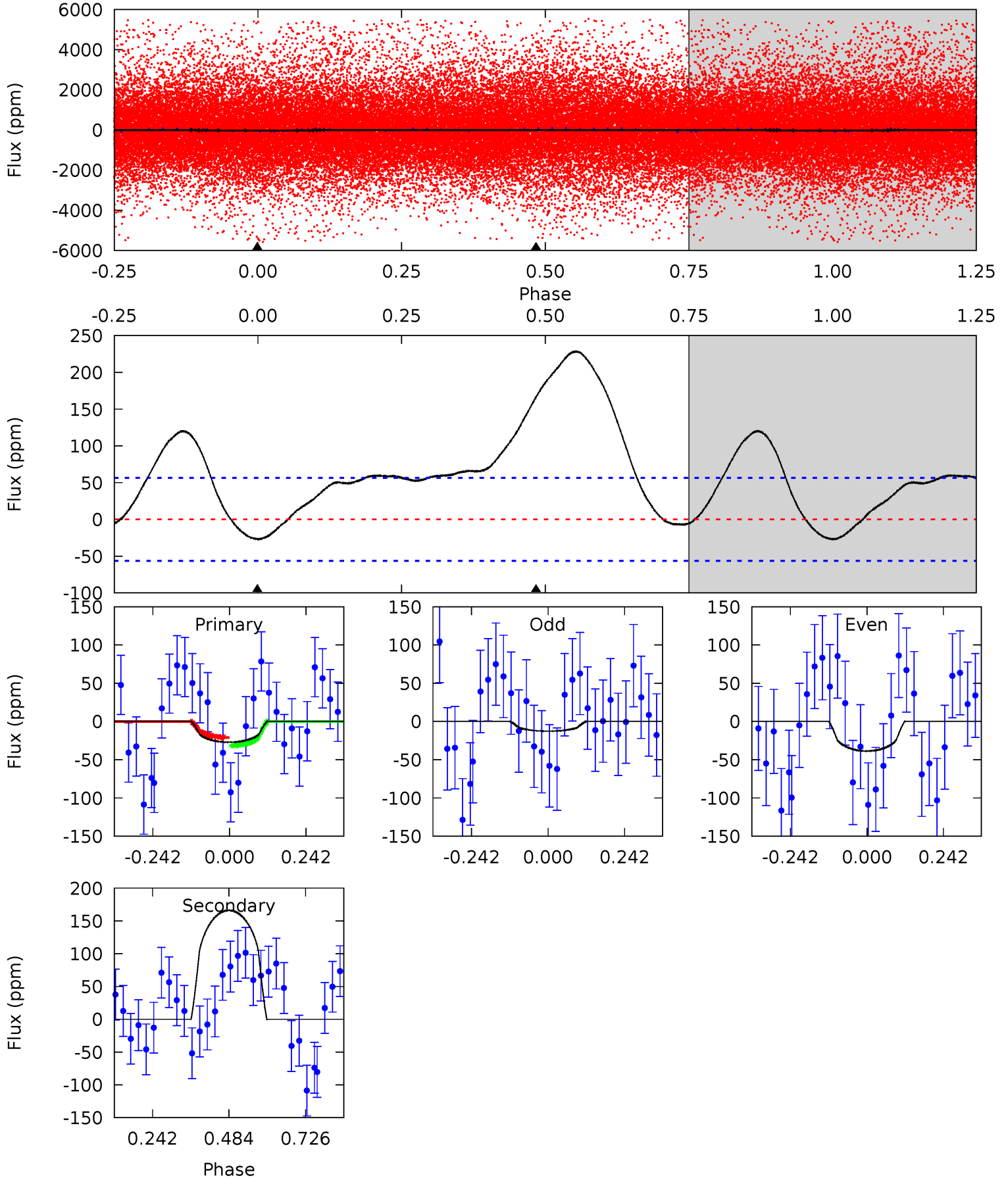
TCE 005682476-01 P= 0.768259 Days  $T_0=131.958638$  (BKJD)



# DV Model-Shift Uniqueness Test

005682476-01, P = 0.768134 Days, E = 131.175043 Days

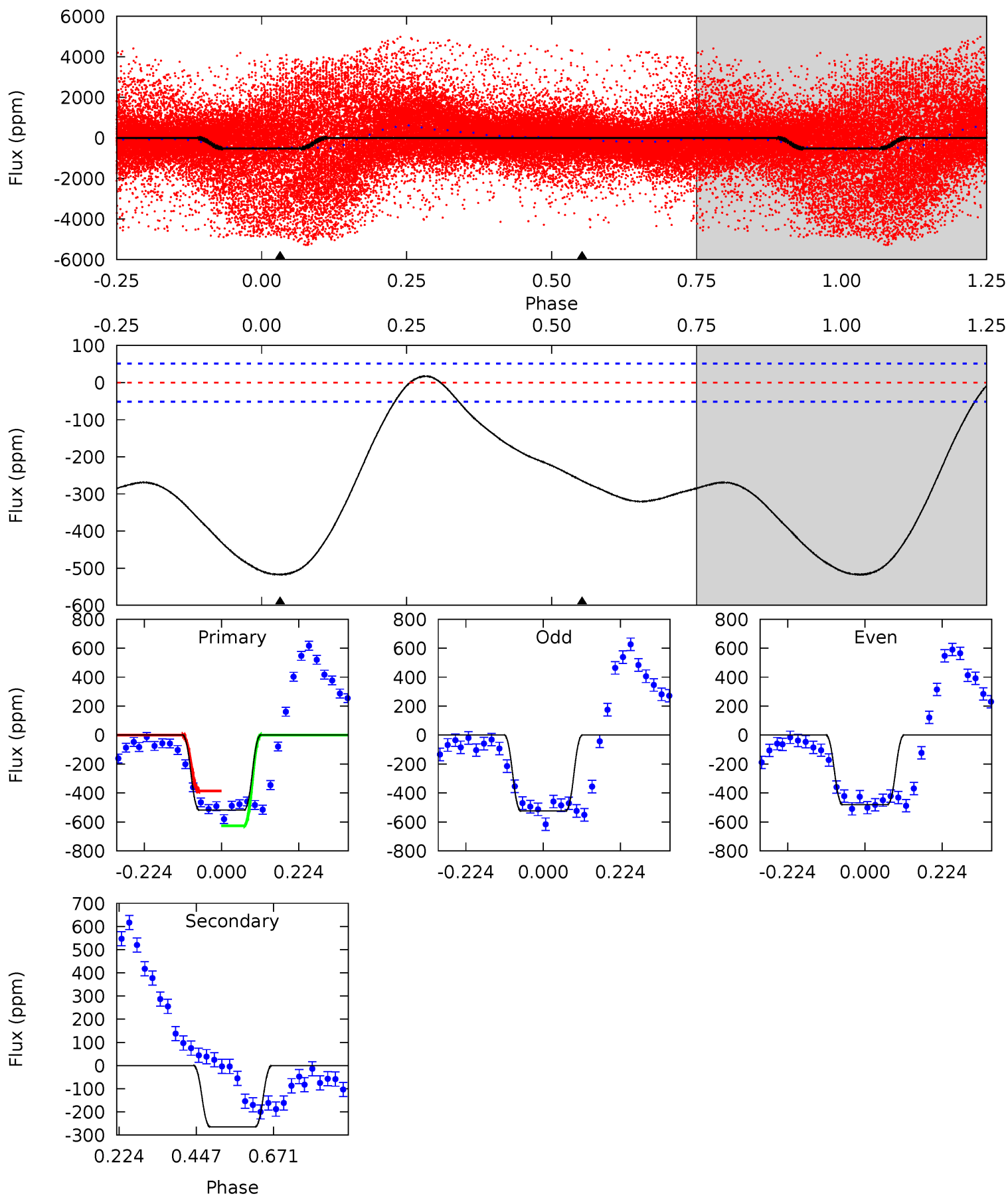
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.11	-12.9	0	0	4.38	1.17	2.26	2.11	2.11	-12.9	-12.9	1.02	30.4	0.89	0.39



# Alt Model-Shift Uniqueness Test

005682476-01, P = 0.768259 Days, E = 131.190379 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
44.1	22.6	0	0	4.39	1.22	10.8	44.1	44.1	22.6	22.6	1.90	3.32	0.03	9.88





### Stellar Parameters For KIC 005682476

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4730^{+141}_{-141}$	$4.619^{+0.058}_{-0.031}$	$-0.460^{+0.300}_{-0.300}$	$0.644^{+0.051}_{-0.061}$	$0.628^{+0.075}_{-0.040}$	$3.317^{+0.824}_{-0.456}$
	+3%/-3%	+1%/-1%	+65%/-65%	+8%/-9%	+12%/-6%	+25%/-14%
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 005682476-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$166 \pm 13$	$0.77^{+0.53}_{-0.44}$	$1961^{+69}_{-66}$	$-5047^{+925}_{-2822}$	$-30.626^{+20.359}_{-148.465}$
Alt.	$-265 \pm 12$	$1.28^{+0.56}_{-0.59}$	$1963^{+69}_{-74}$	$4513^{+1375}_{-606}$	$17^{+44}_{-9}$

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



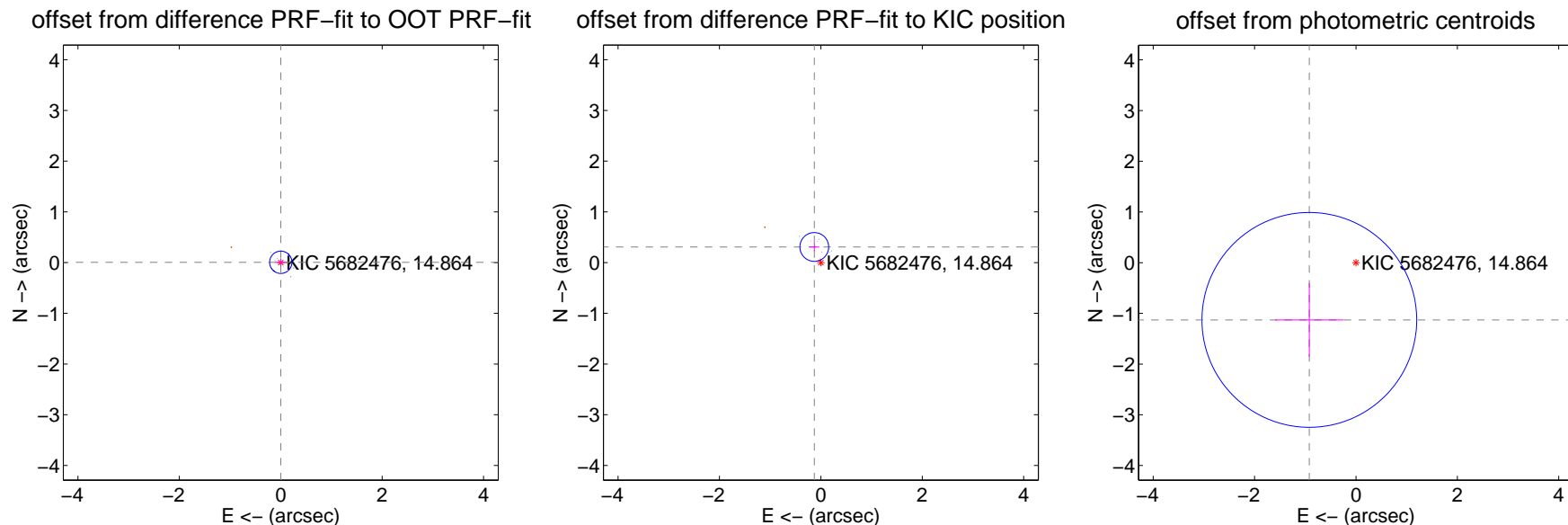
## DV Centroid Data

Supplemental centroid analysis for 005682476-01. Kepler magnitude: 14.86. Transit SNR 5.21

There are 8 quarters with good PRF difference image offsets

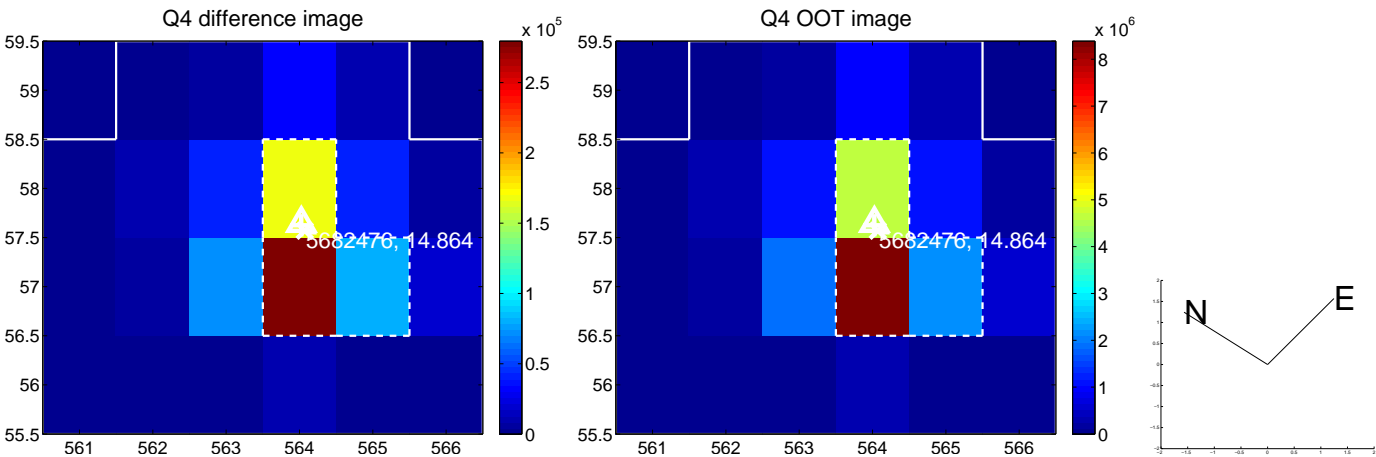
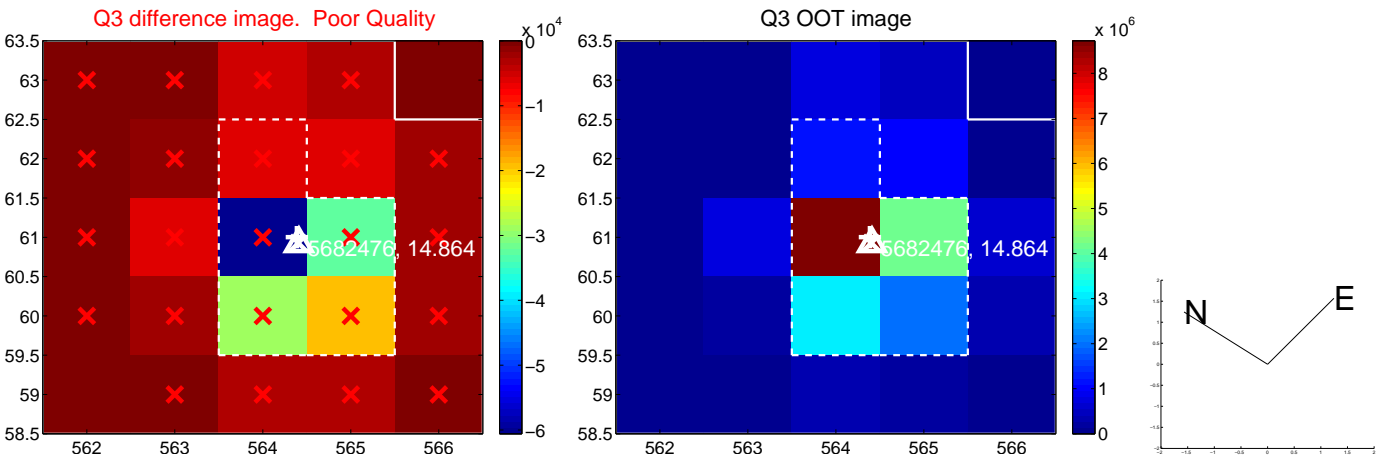
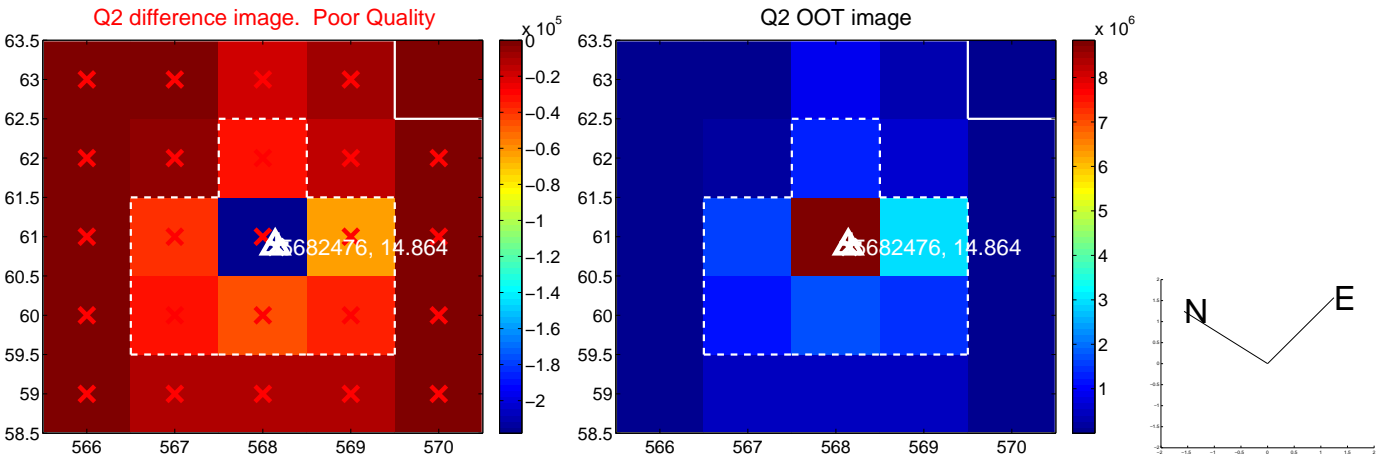
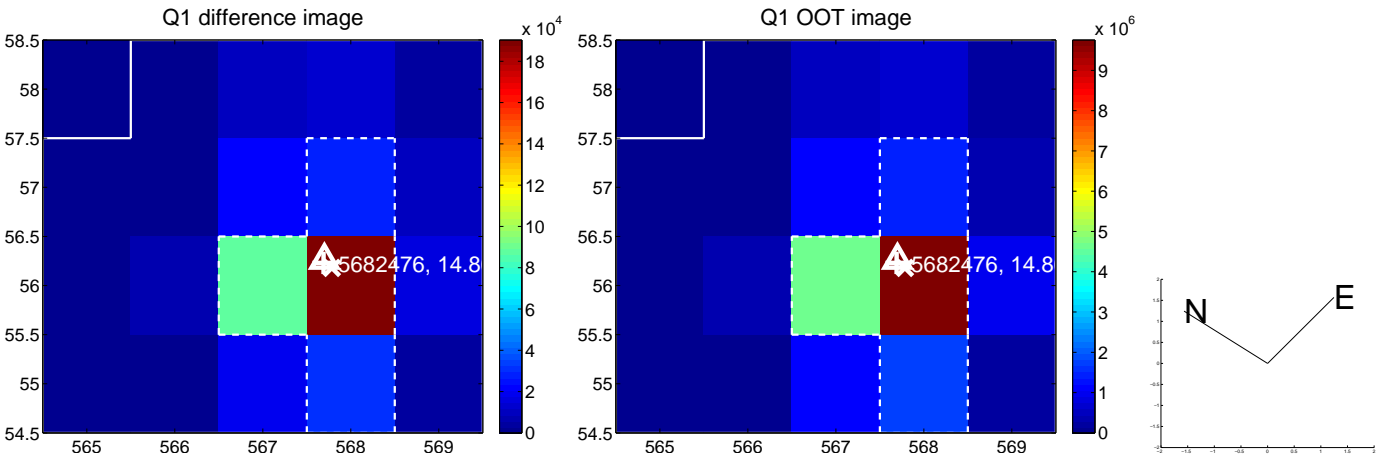
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.006 \pm 0.073$	0.08	$-0.001 \pm 0.111$	$0.006 \pm 0.078$
PRF-fit source offset from KIC position	<b><math>0.334 \pm 0.095</math></b>	<b>3.53</b>	$0.130 \pm 0.101$	$0.308 \pm 0.082$
photometric centroid source offset	$1.46 \pm 0.71$	2.06	$0.92 \pm 0.68$	$-1.13 \pm 0.73$

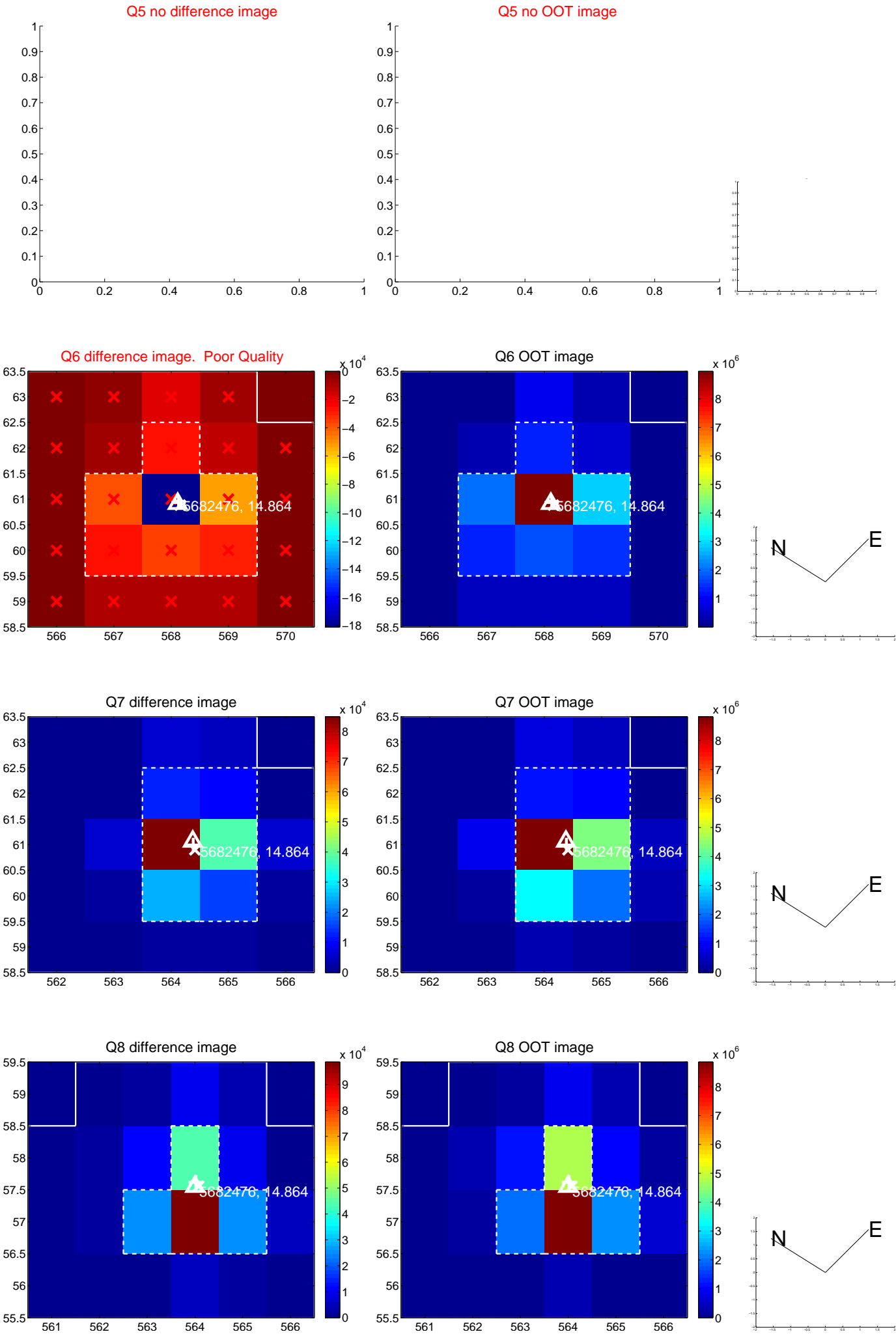


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

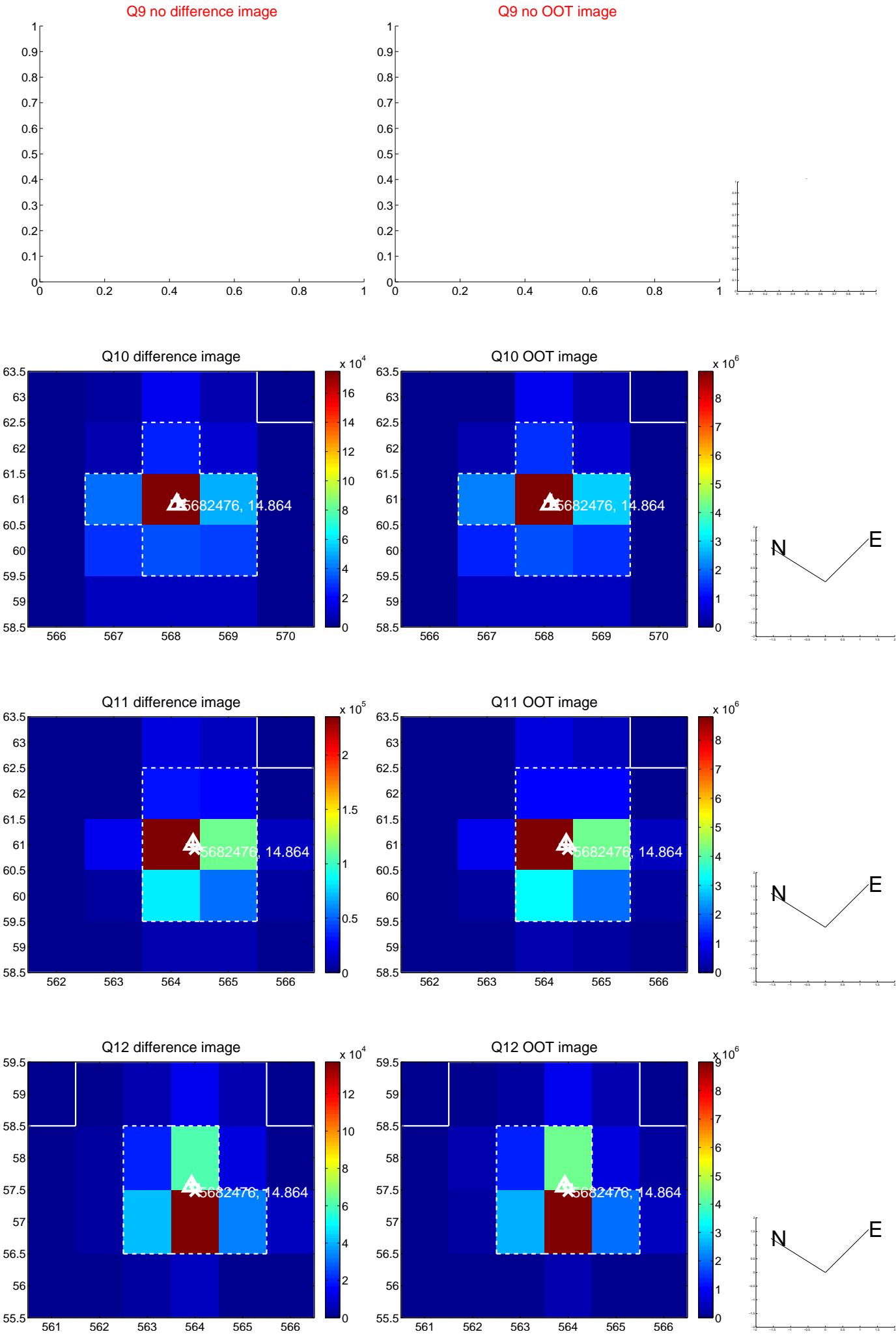
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



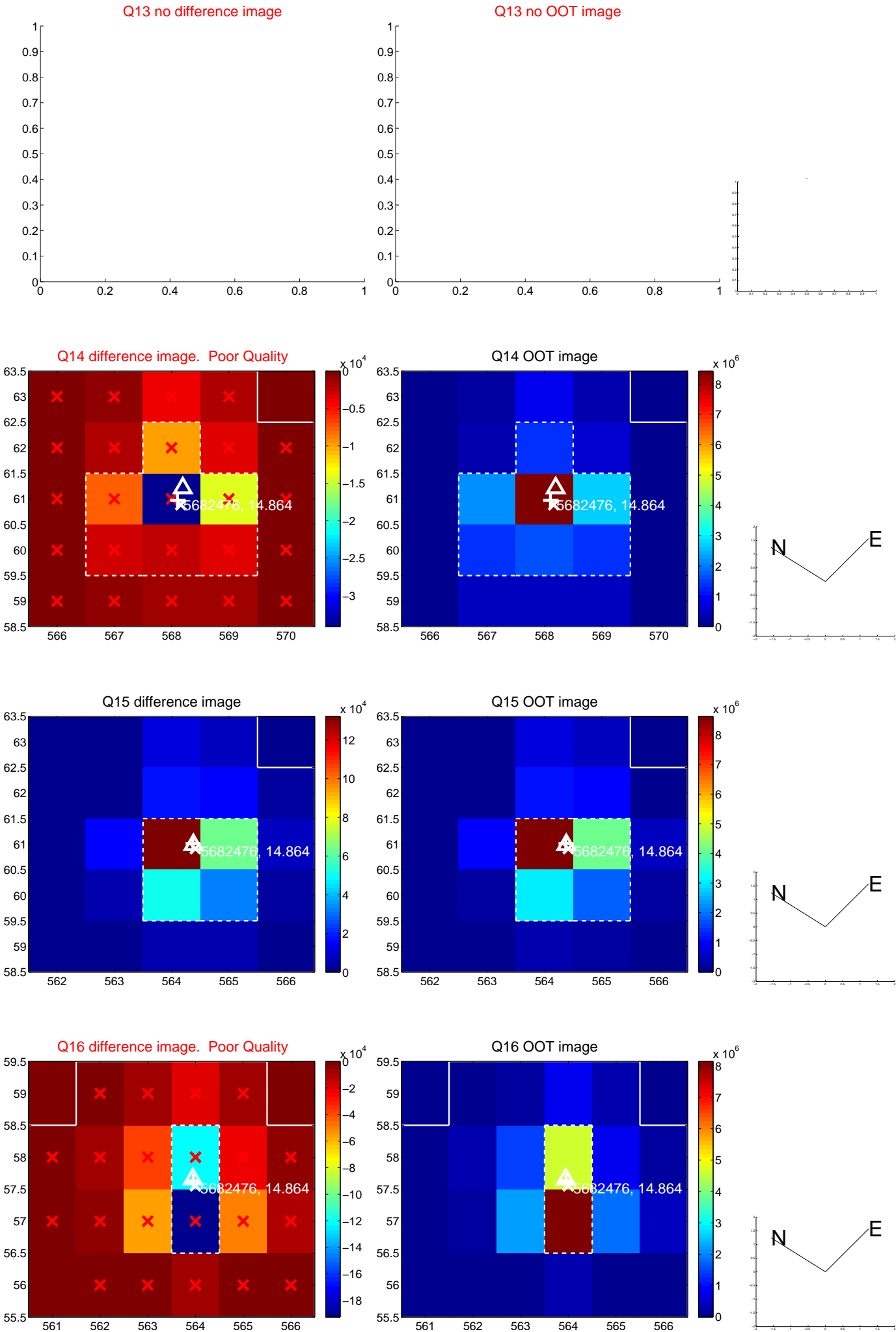
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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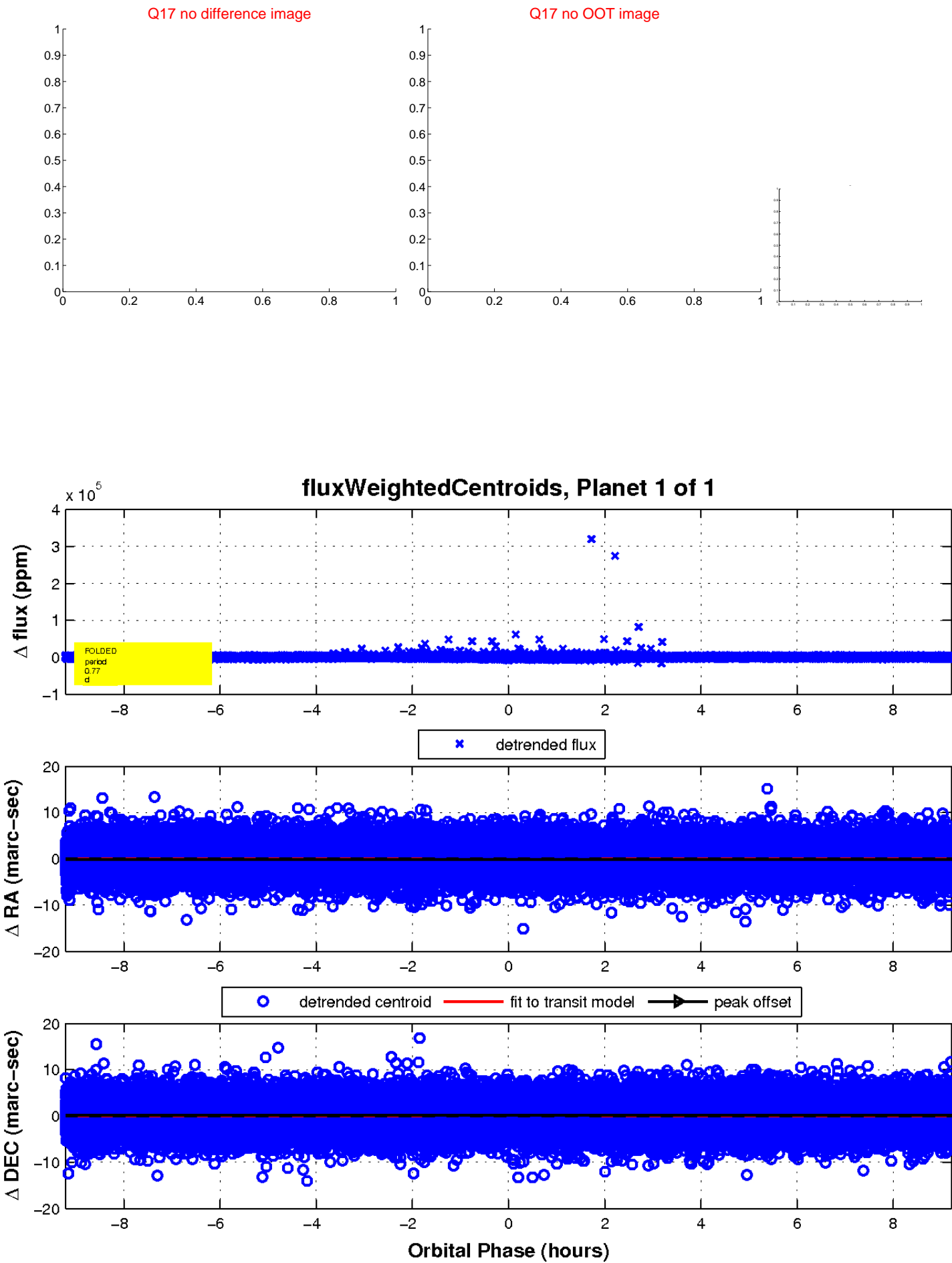


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value





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



UKIRT Image

Declination

