

# KIC 010668635

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010668635-01	OBS	No	465.086075	423.022277	548.7	13.727	11.3	9.0	1.74	4888	4.49	1.16

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010668635-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

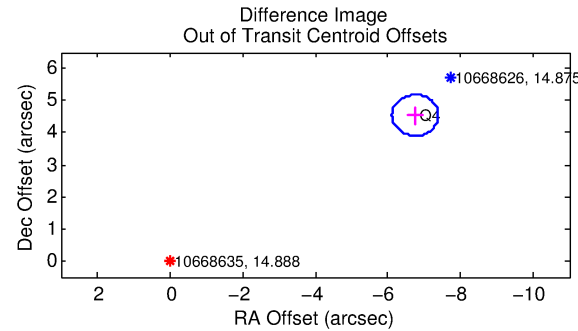
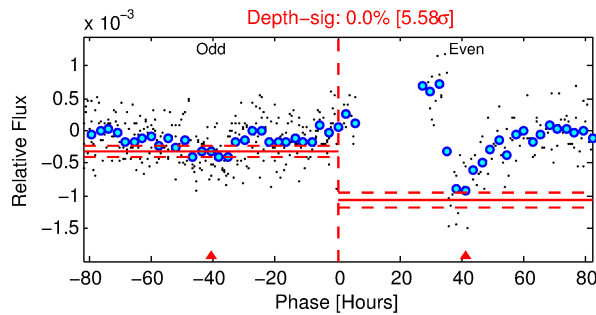
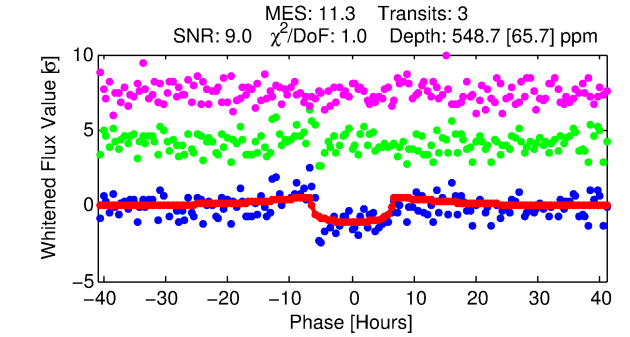
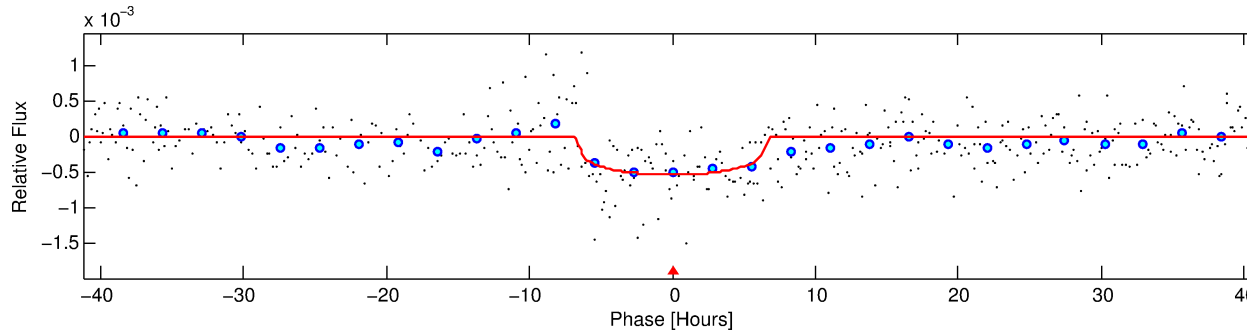
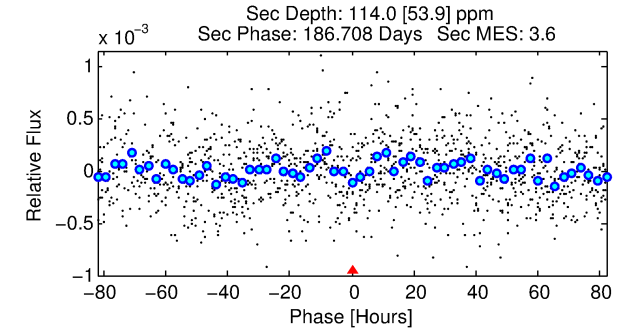
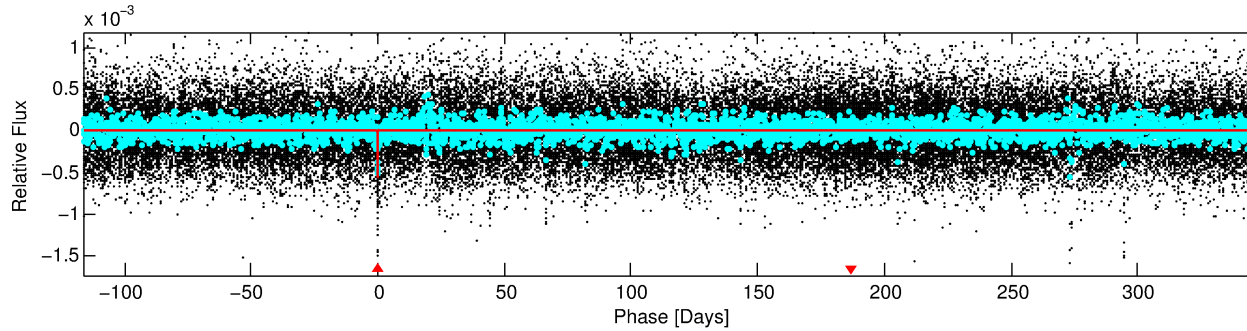
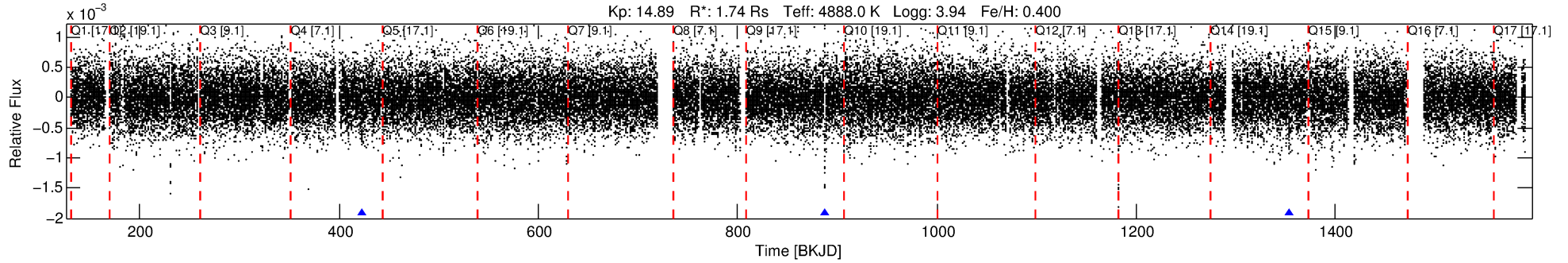
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010668635-01

No Significant Match Found

# DV One-Page Summary

KIC: 10668635 Candidate: 1 of 1 Period: 465.086 d



## DV Fit Results:

Period = 465.08608 [0.01361] d  
Epoch = 423.0223 [0.0170] BKJD  
Rp/R\* = 0.0236 [0.0080]  
a/R\* = 176.41 [198.68]  
b = 0.76 [0.62]  
Seff = 1.16 [1.26]  
Teq = 265 [72] K  
Rp = 4.49 [2.89] Re  
a = 1.1577 [0.7266] AU  
Ag = 4175.67 [5691.72] [0.73σ]  
Teffp = 3289 [686] K [4.38σ]

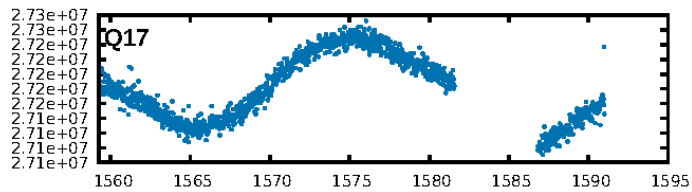
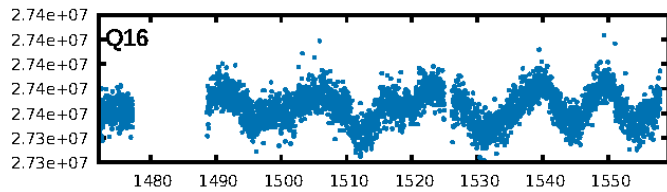
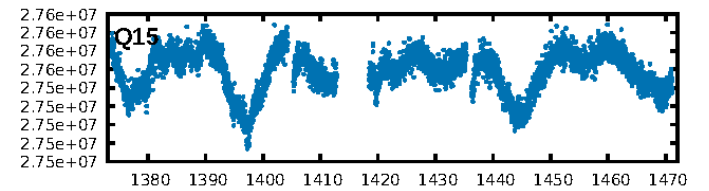
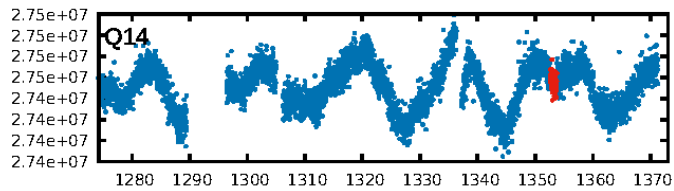
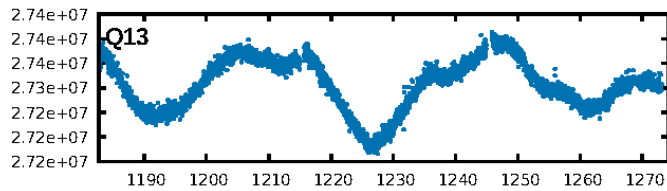
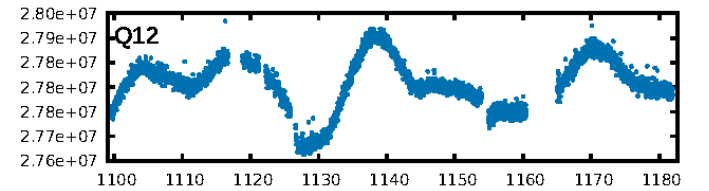
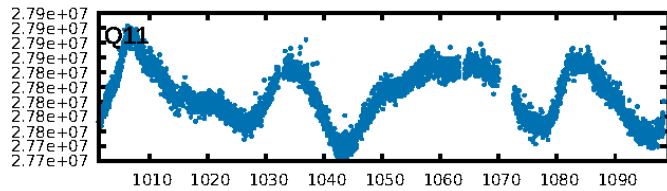
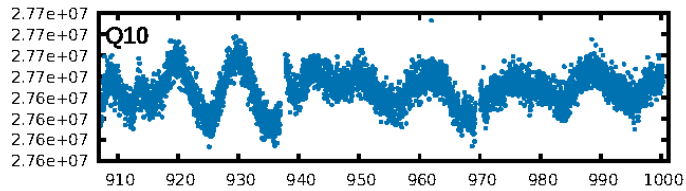
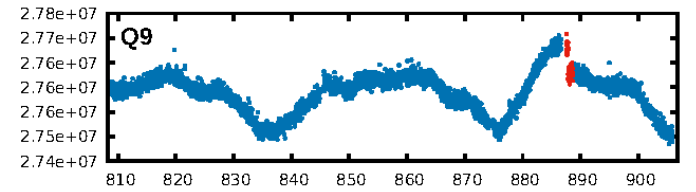
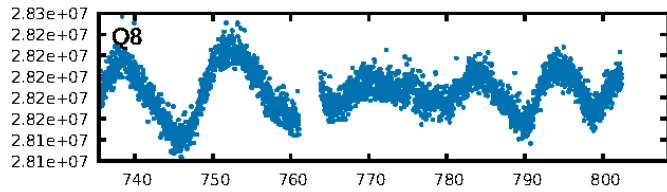
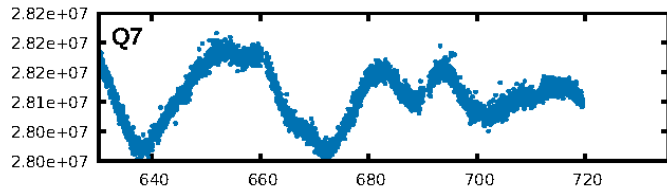
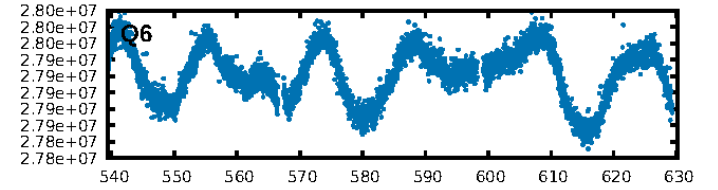
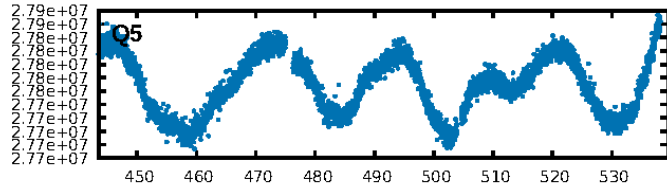
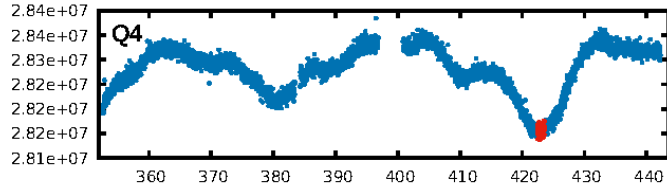
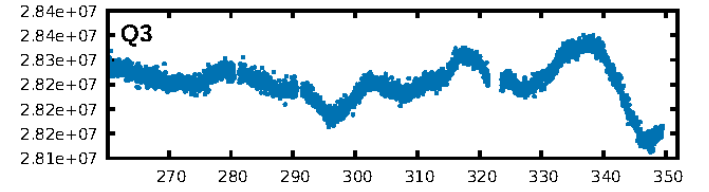
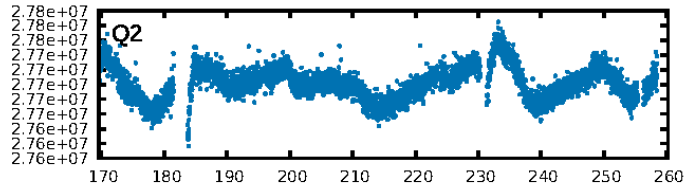
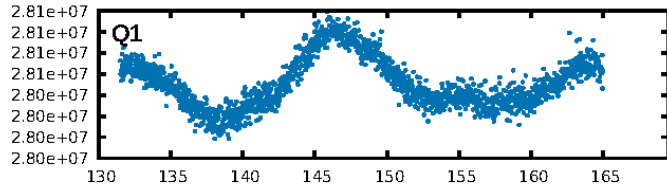
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.6%  
ModelChiSquareGof-sig: 94.6%  
Bootstrap-pfa: 2.19e-18  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -4.347  
Centroid-sig: 0.1%  
Centroid-so: 2.241 arcsec [1.28σ]  
OotOffset-rm: 8.130 arcsec [38.21σ]  
KicOffset-rm: 8.150 arcsec [38.35σ]  
OotOffset-st: 0/0/1/0 [1]  
KicOffset-st: 0/0/1/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [2/2]

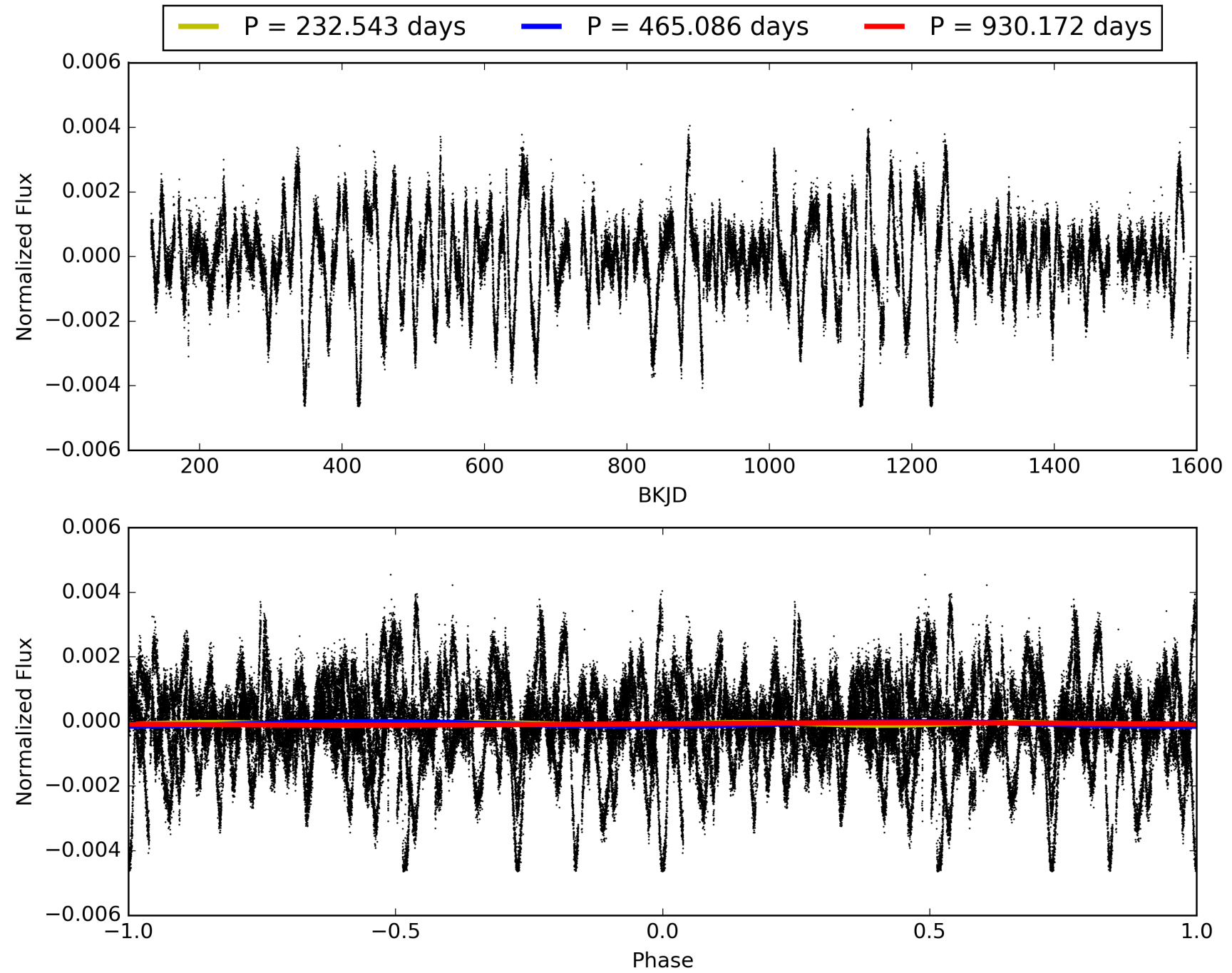
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:09:30 Z

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

# TCE 010668635-01, PDC Light Curves

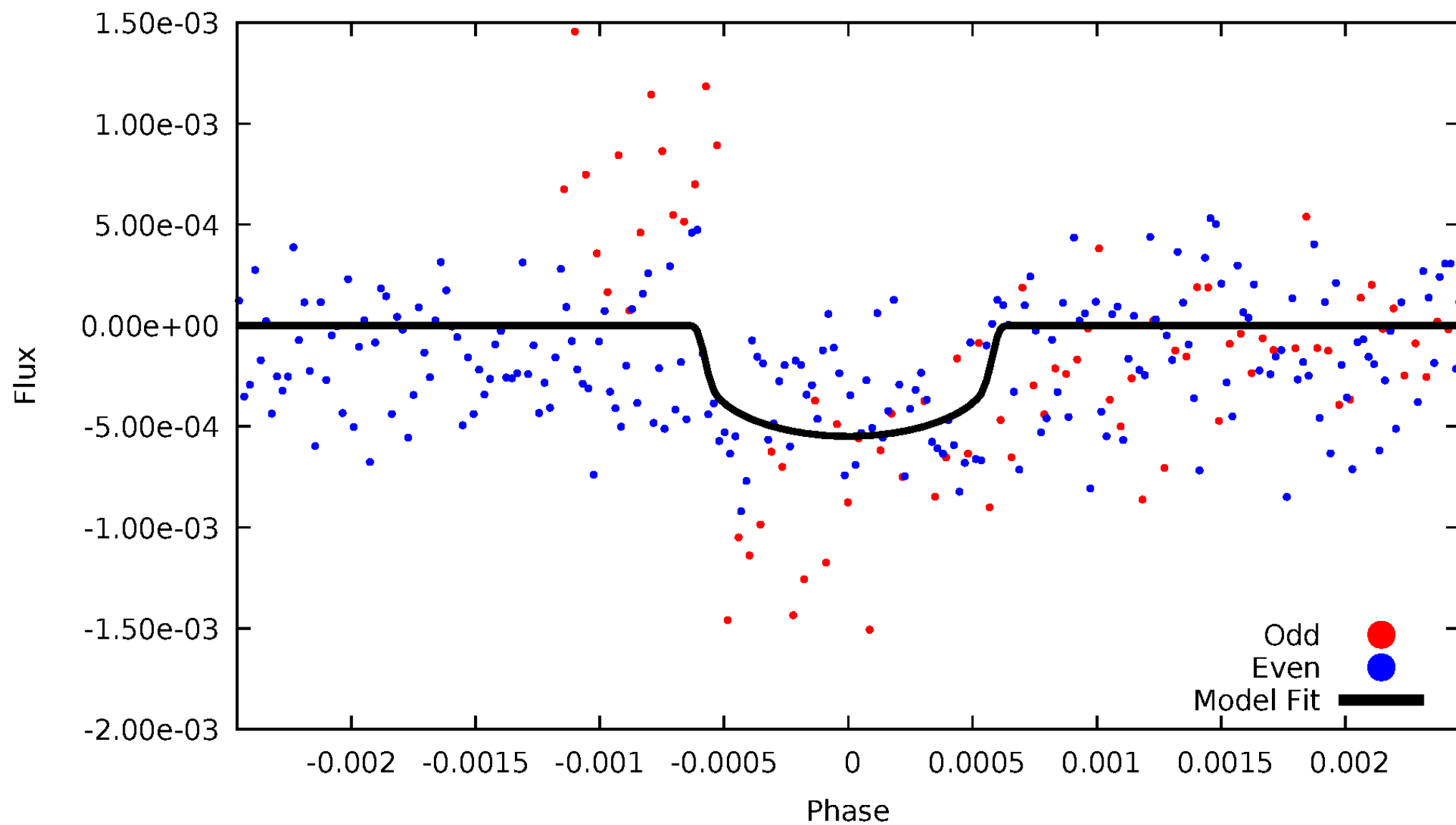


TCE 010668635-01



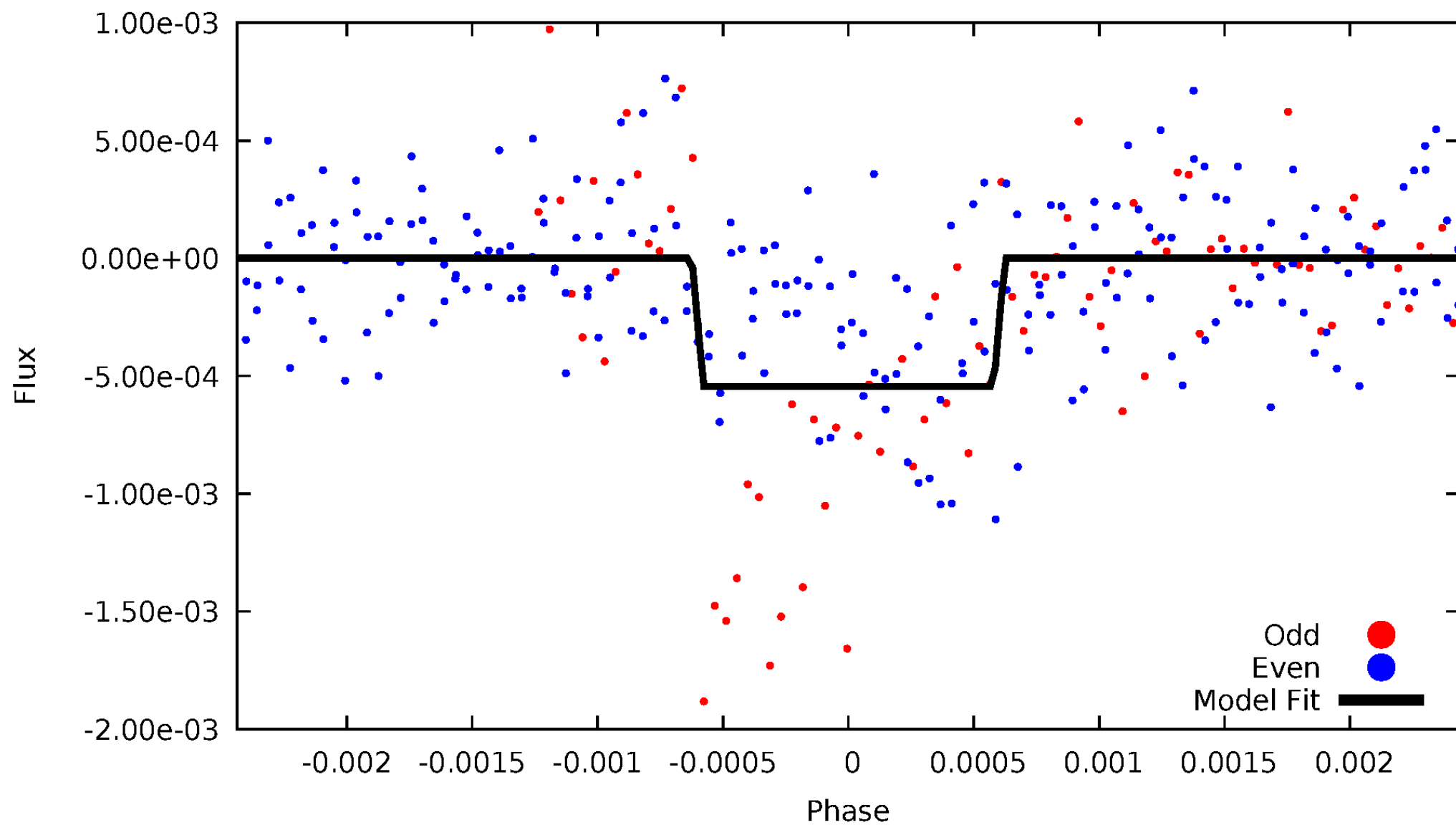
# DV Odd/Even

TCE 010668635-01



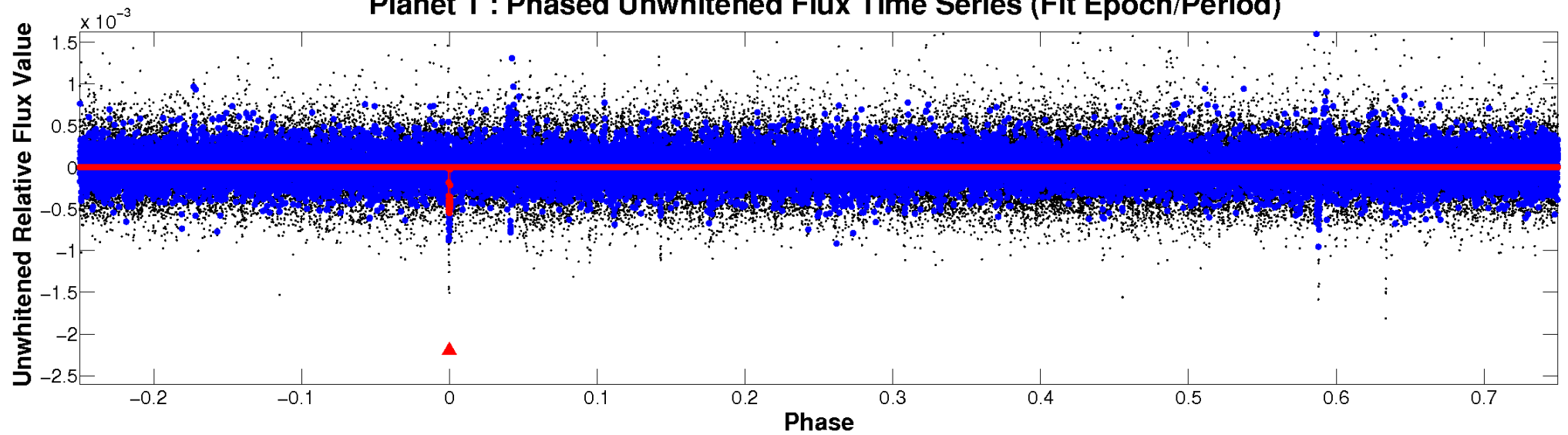
# ALT Odd/Even

TCE 010668635-01

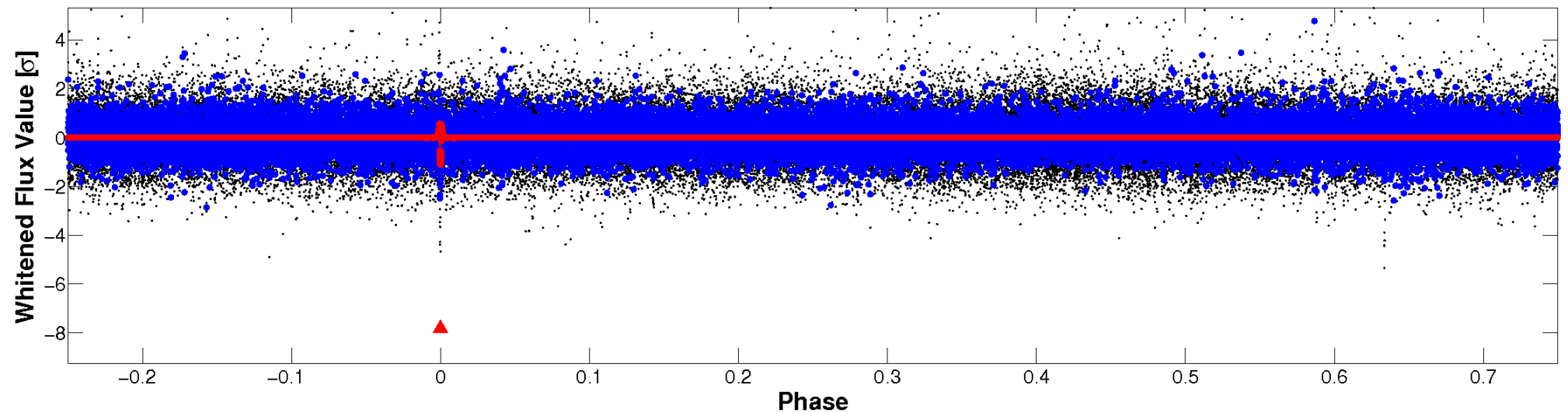


# Non-Whitened Vs. Whitened Light Curve

**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

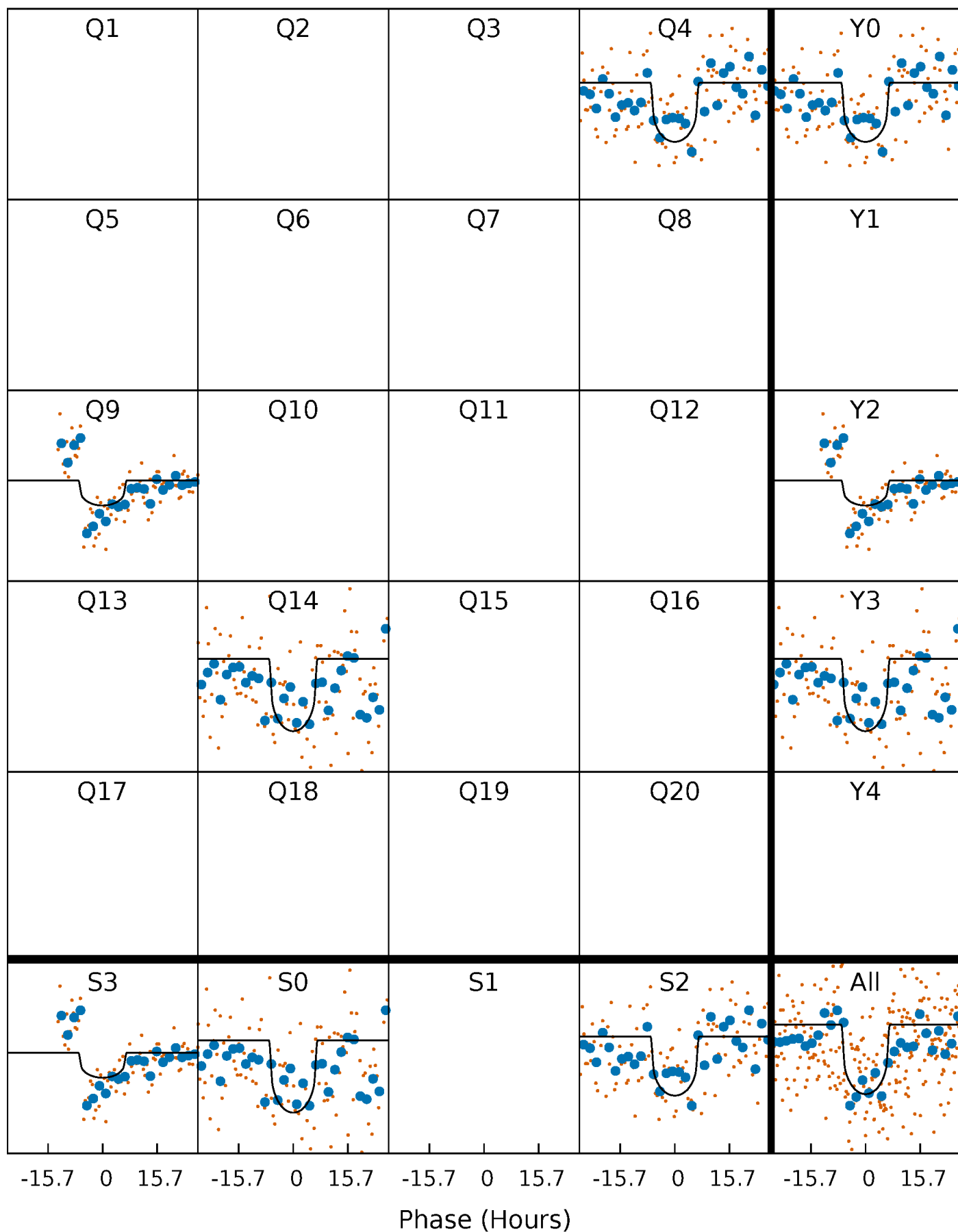
TCE 010668635-01 P=465.086075 Days  $T_0=423.022277$  (BKJD)





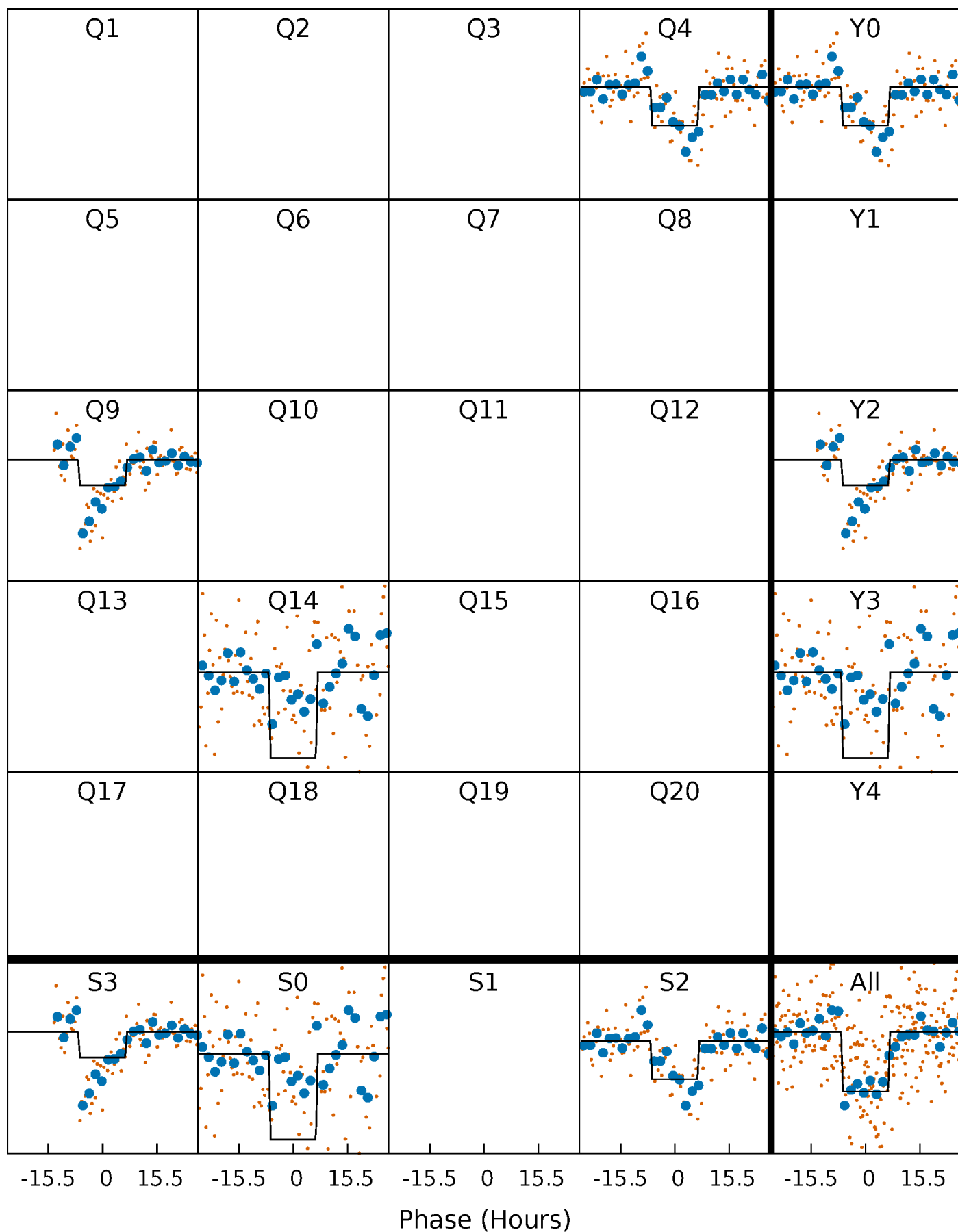
# DV Quarter-Phased Transit Curves

TCE 010668635-01 P=465.086075 Days  $T_0=423.022277$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

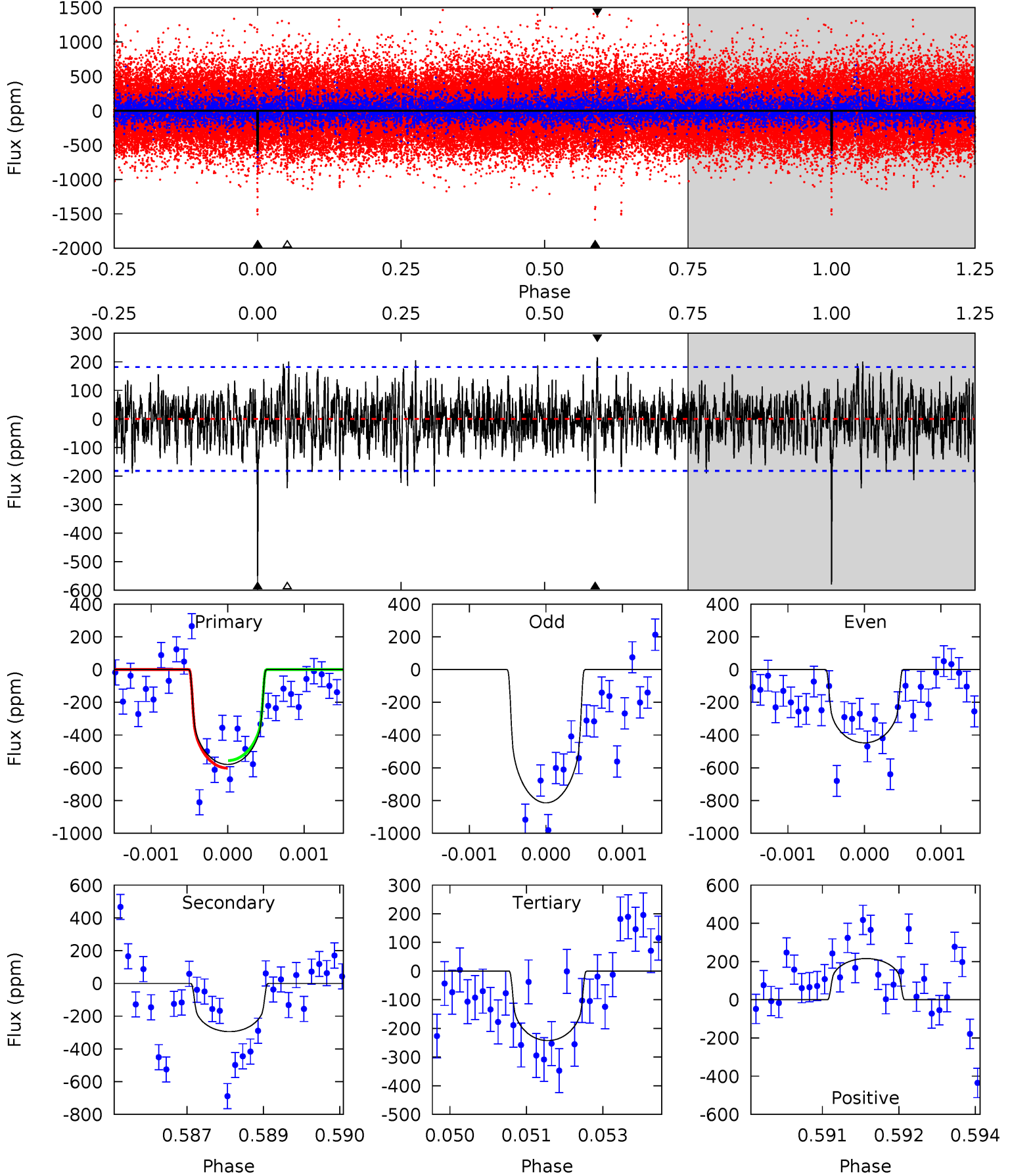
TCE 010668635-01 P=465.081448 Days  $T_0=423.069085$  (BKJD)



# DV Model-Shift Uniqueness Test

010668635-01, P = 465.086075 Days, E = 423.022277 Days

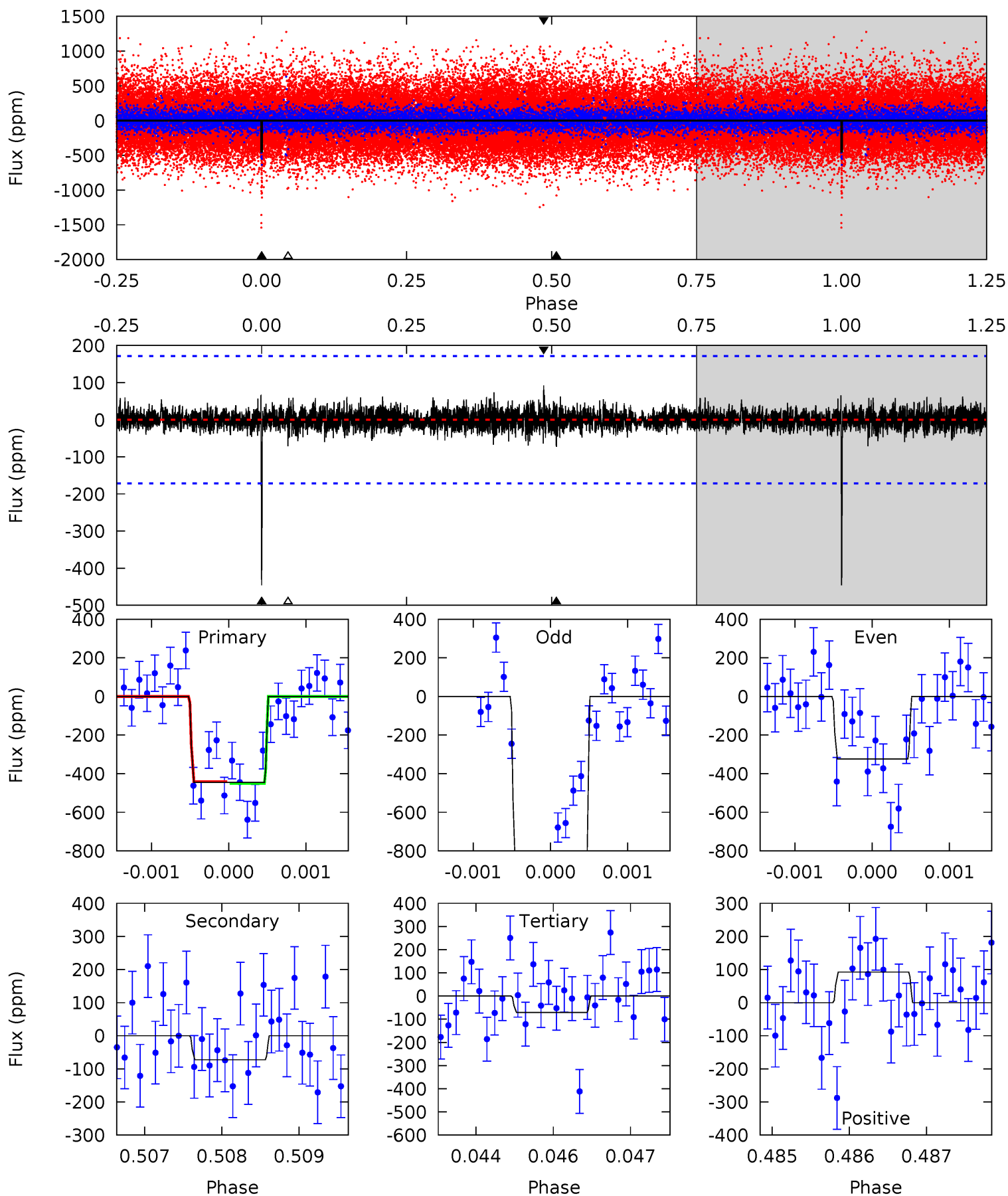
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	8.76	7.21	6.41	5.41	3.23	1.89	10.0	10.8	1.56	2.35	5.20	1.24	0.27	0.68



# Alt Model-Shift Uniqueness Test

010668635-01, P = 465.081448 Days, E = 423.069085 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
14.0	2.29	2.23	2.91	5.41	3.23	0.54	11.8	11.1	0.05	-0.62	9.15	1.03	0.17	0



### Stellar Parameters For KIC 010668635

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4888^{+145}_{-145}$	$3.936^{+0.665}_{-0.333}$	$0.400^{+0.100}_{-0.300}$	$1.743^{+0.955}_{-0.955}$	$0.956^{+0.190}_{-0.156}$	$0.254^{+2.129}_{-0.177}$
	+3%/-3%	+17%/-8%	+25%/-75%	+55%/-55%	+20%/-16%	+837%/-70%
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 010668635-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-295 \pm 34$	$4.32^{+2.27}_{-1.87}$	$365^{+55}_{-58}$	$4302^{+739}_{-457}$	$11736^{+24877}_{-6789}$
Alt.	$-73 \pm 32$	$4.14^{+2.43}_{-1.82}$	$366^{+50}_{-60}$	$3393^{+534}_{-410}$	$2823^{+6477}_{-1886}$

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

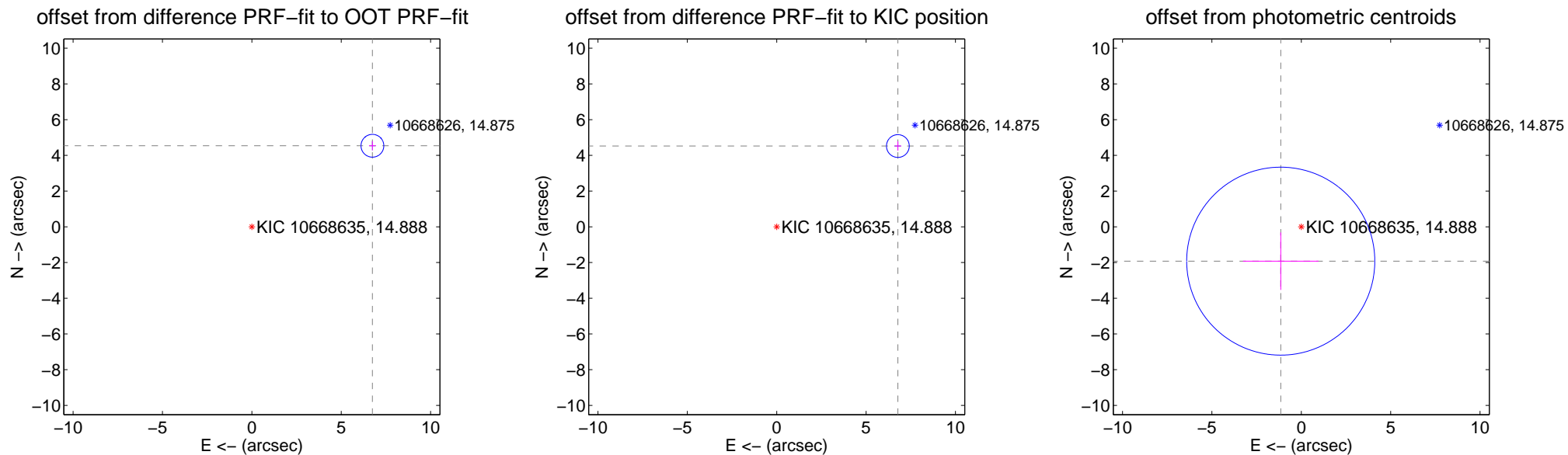
## DV Centroid Data

Supplemental centroid analysis for 010668635-01. Kepler magnitude: 14.89. Transit SNR 9.00

There are 1 quarters with good PRF difference image offsets

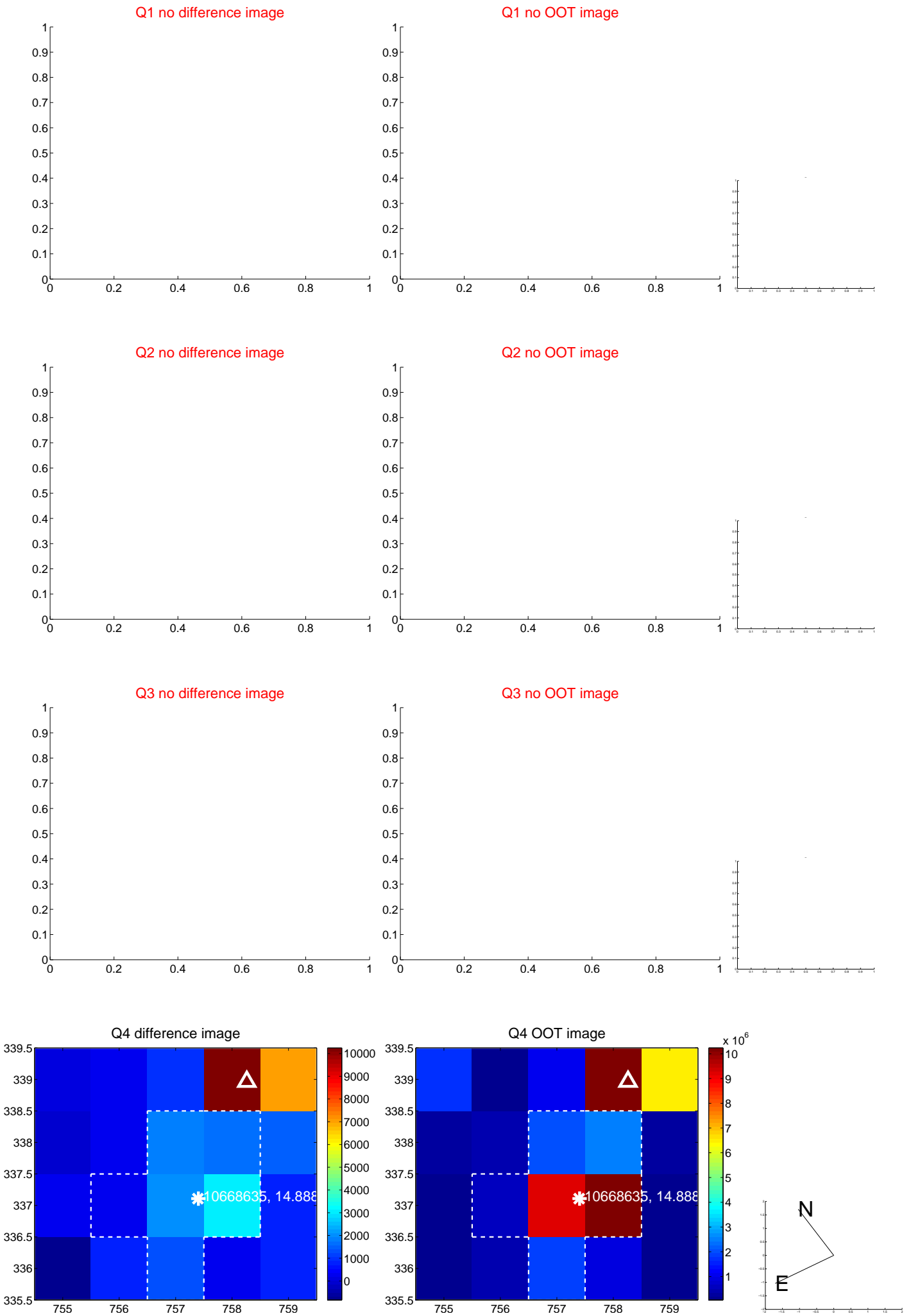
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	8.130 $\pm$ 0.213	38.21	-6.746 $\pm$ 0.188	4.538 $\pm$ 0.260
PRF-fit source offset from KIC position	8.150 $\pm$ 0.212	38.35	-6.780 $\pm$ 0.188	4.523 $\pm$ 0.260
photometric centroid source offset	2.24 $\pm$ 1.75	1.28	1.15 $\pm$ 2.11	-1.92 $\pm$ 1.61



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.

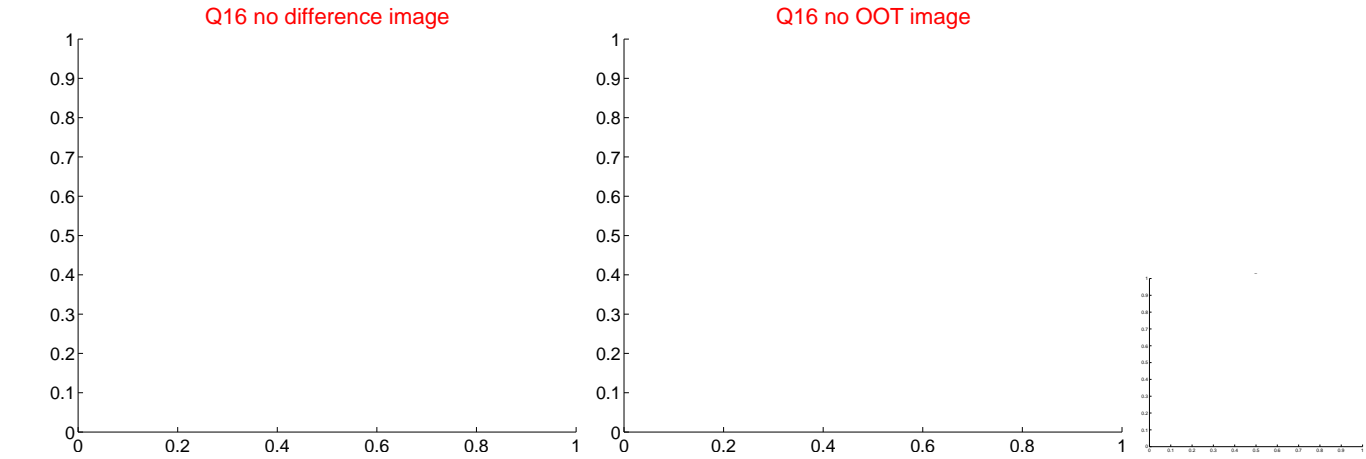
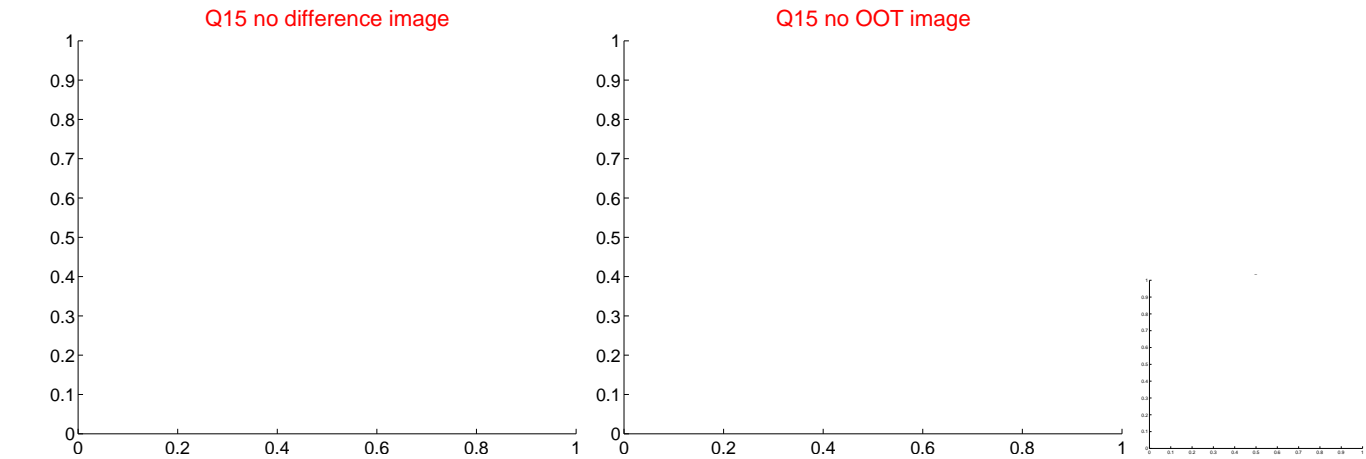
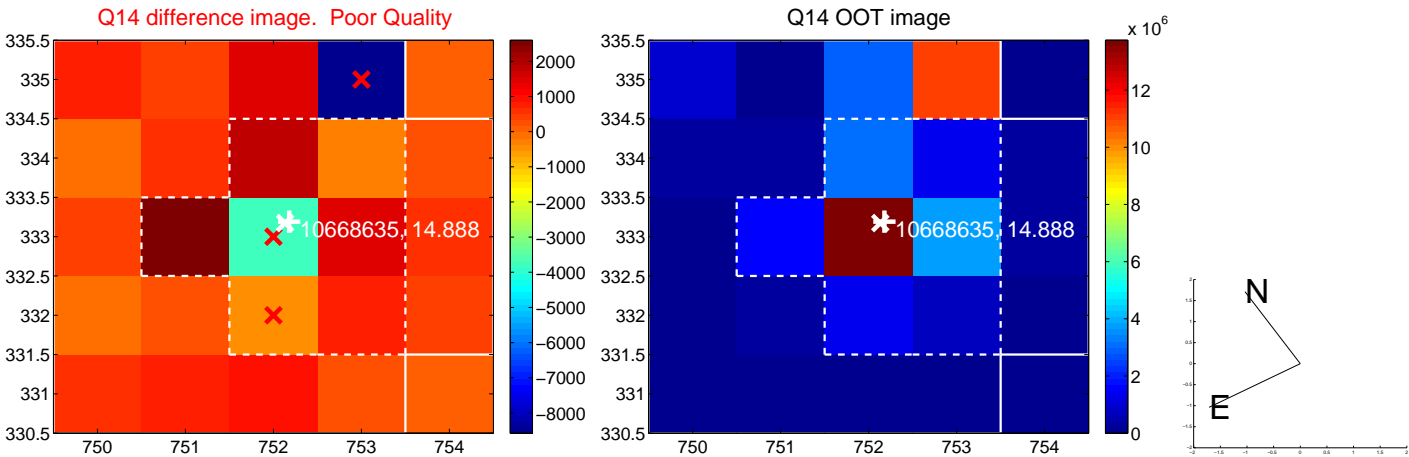
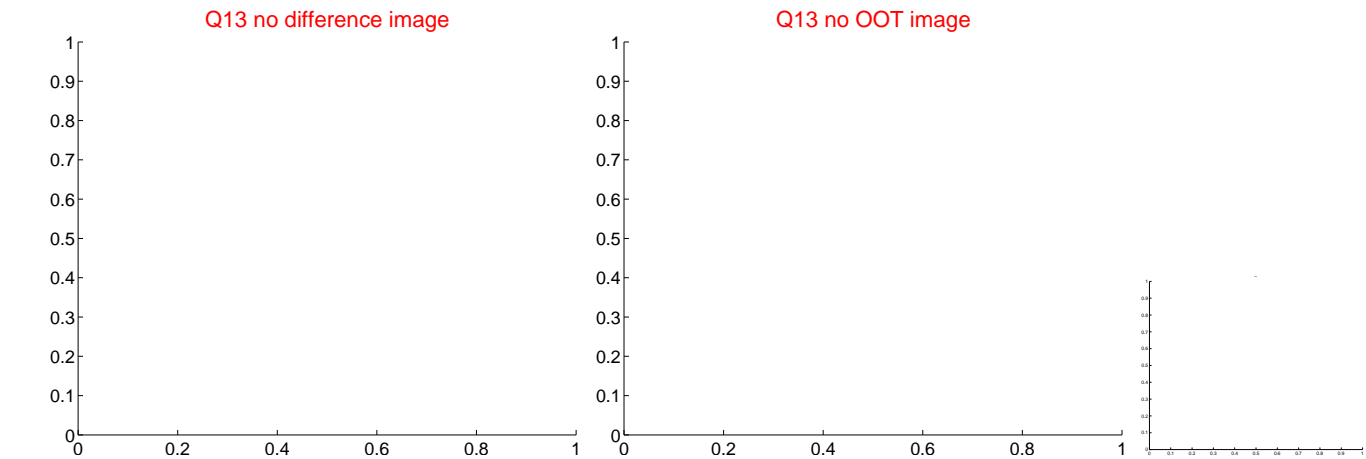




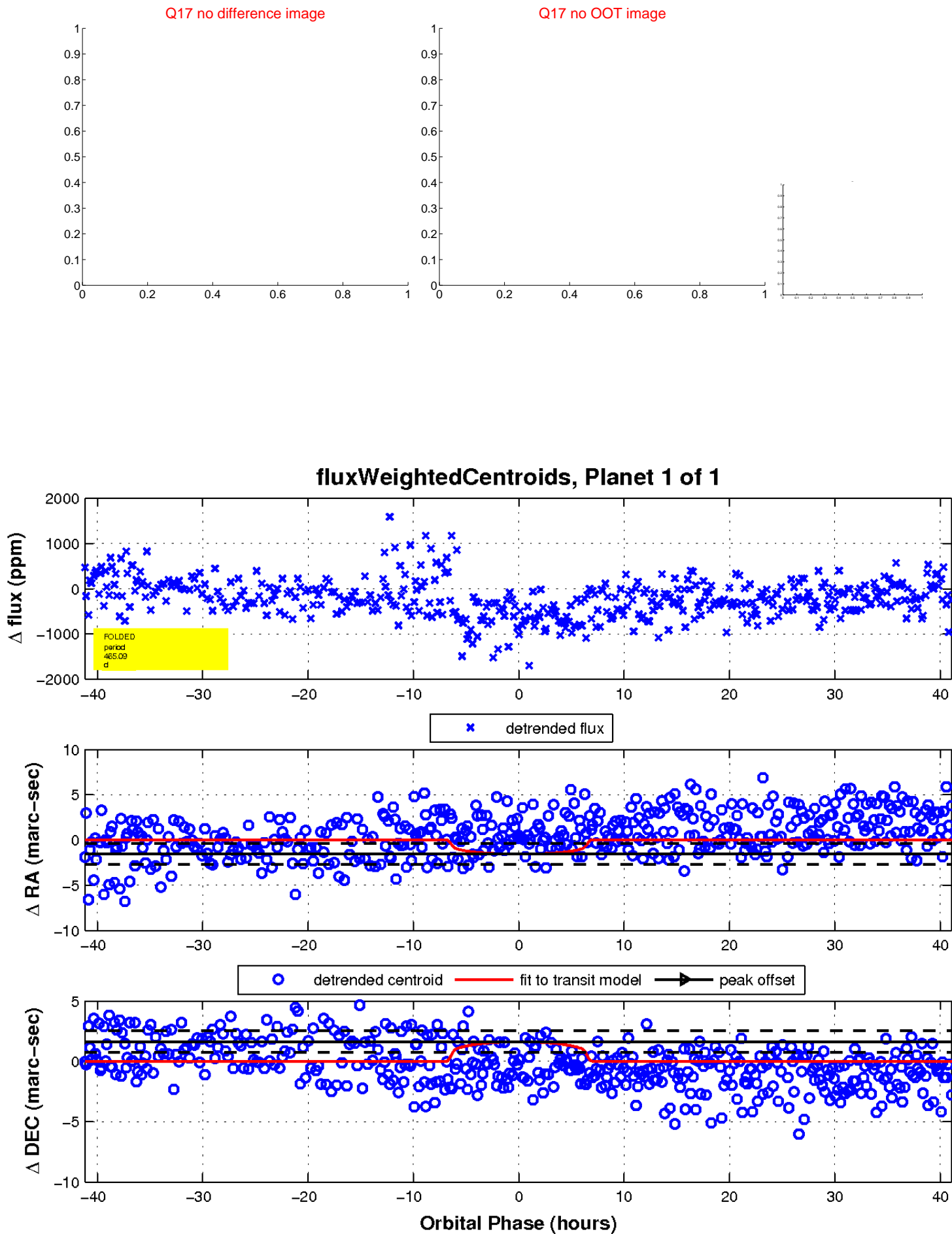
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

