

# KIC 011667335

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011667335-01	OBS	No	350.599278	373.630784	344.0	4.317	10.9	6.5	1.03	5974	2.10	1.24

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011667335-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

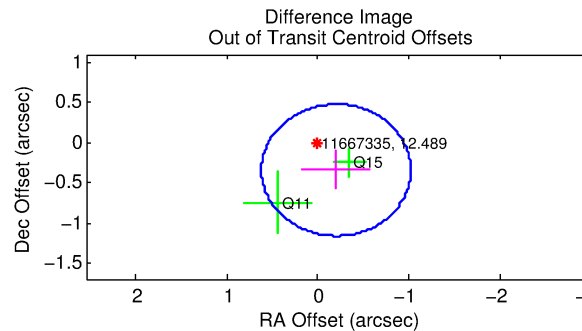
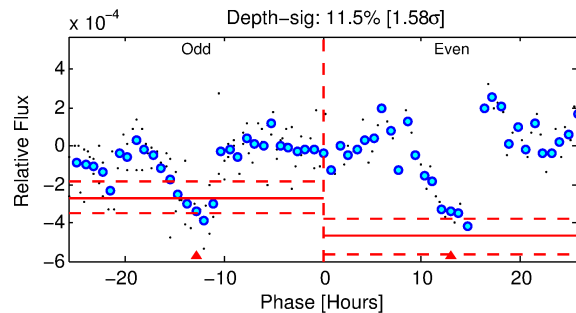
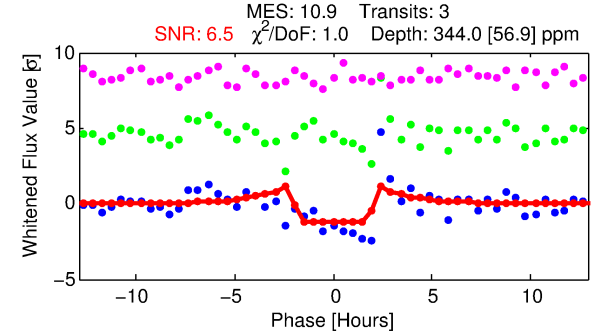
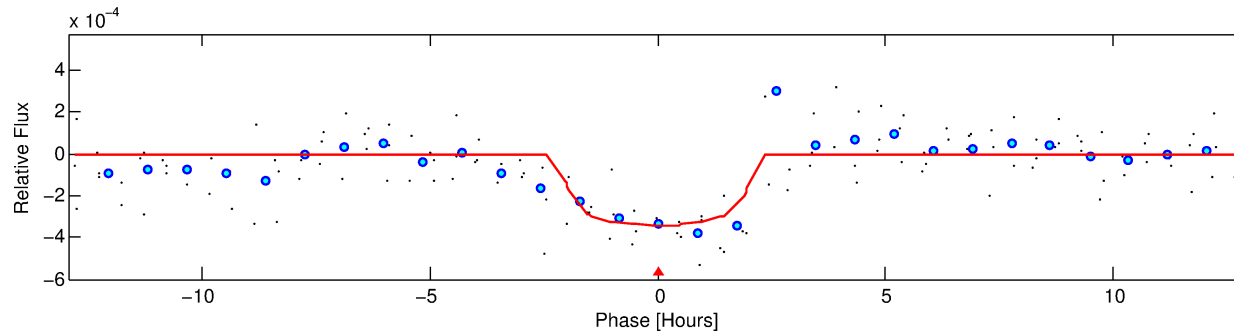
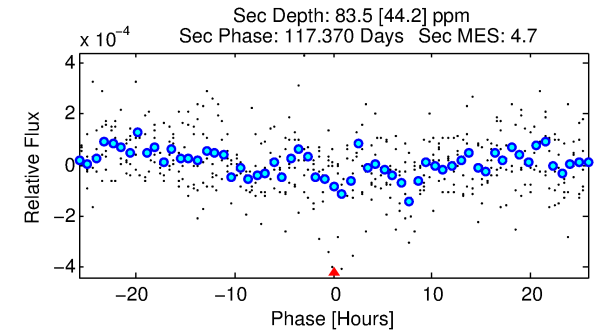
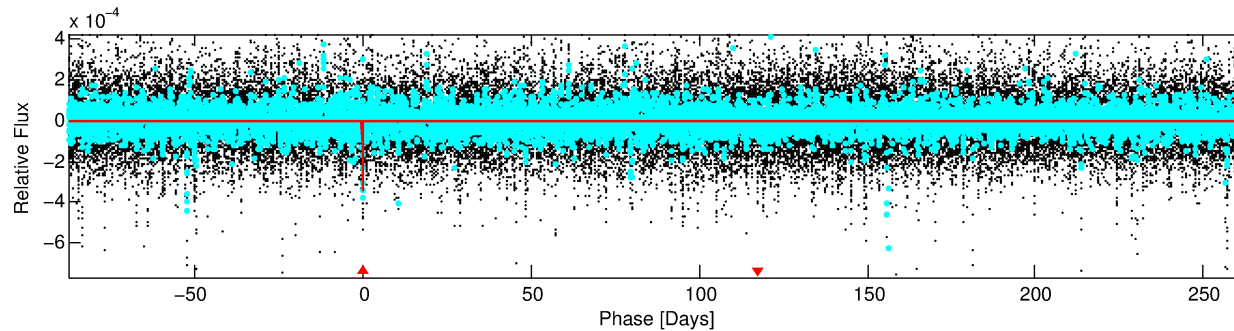
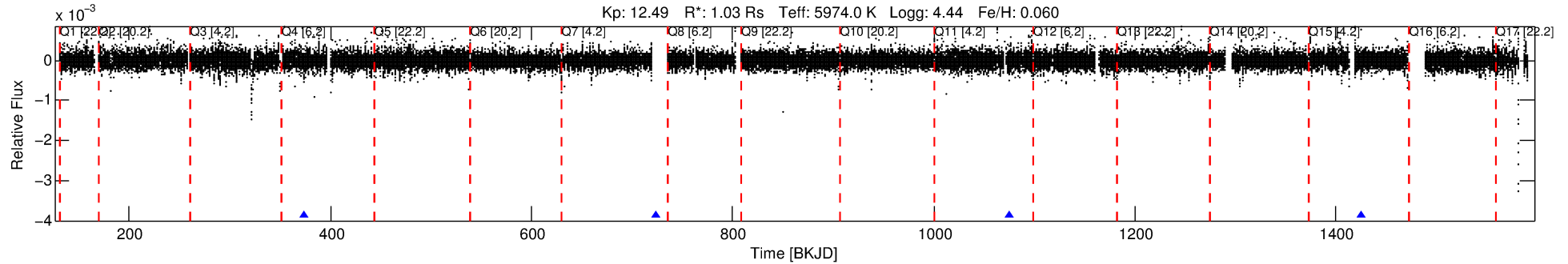
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011667335-01

No Significant Match Found

# DV One-Page Summary

KIC: 11667335 Candidate: 1 of 1 Period: 350.599 d



## DV Fit Results:

Period = 350.59928 [0.00383] d  
Epoch = 373.6308 [0.0090] BKJD  
Rp/R\* = 0.0186 [0.0207]  
a/R\* = 418.35 [2189.45]  
b = 0.76 [2.89]  
Seff = 1.24 [0.27]  
Teq = 269 [15] K  
Rp = 2.10 [2.36] Re  
a = 0.9943 [0.1413] AU  
Ag = 10345.55 [23804.15] [0.43σ]  
Teffp = 4193 [2402] K [1.63σ]

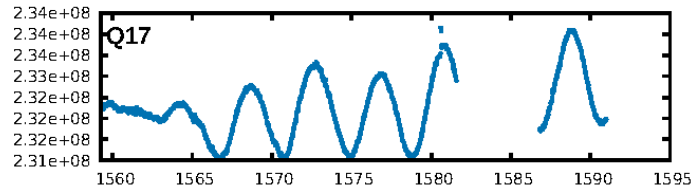
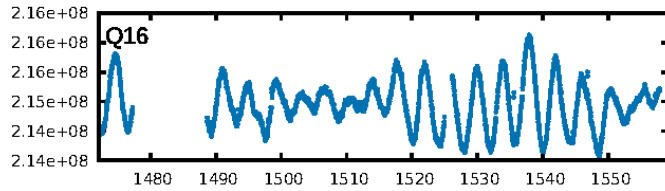
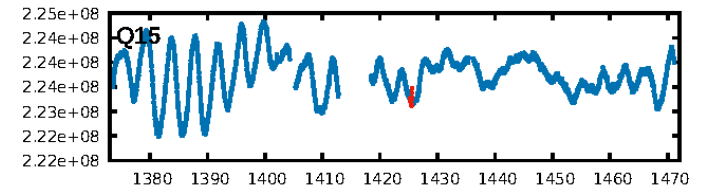
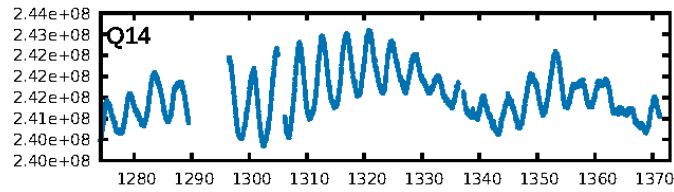
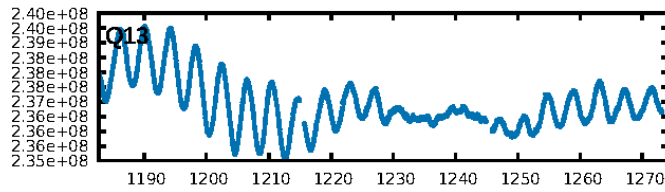
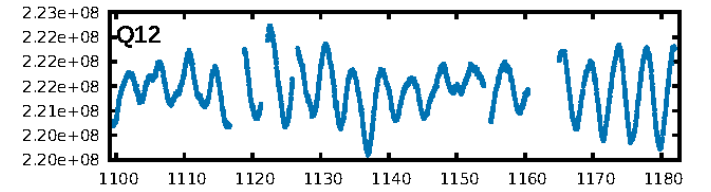
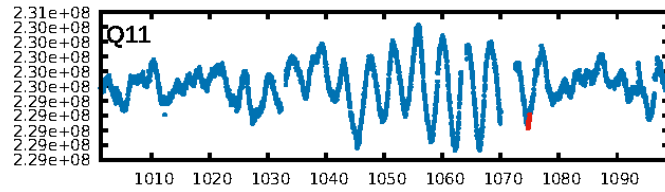
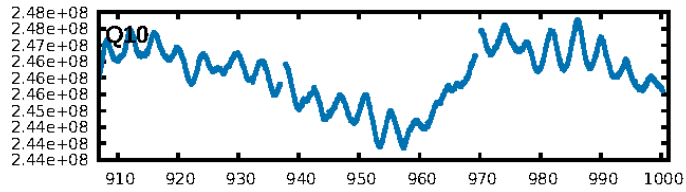
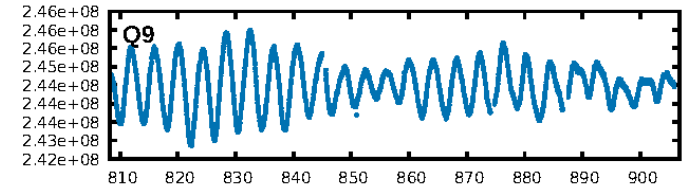
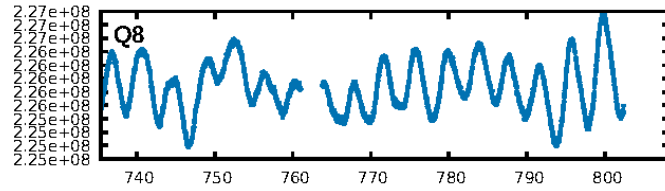
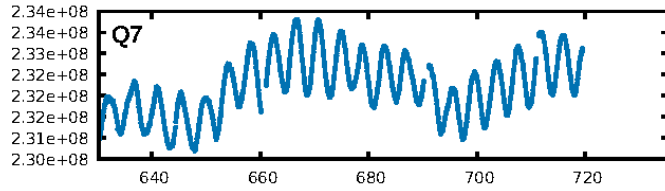
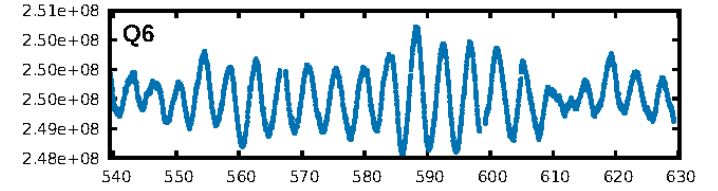
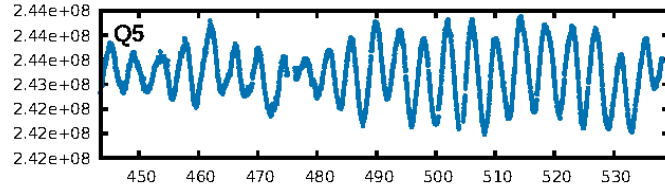
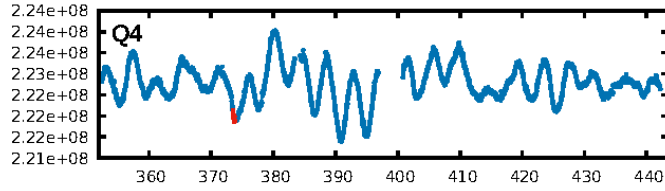
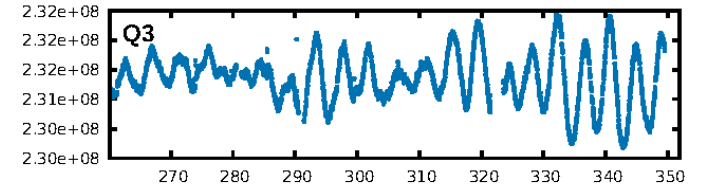
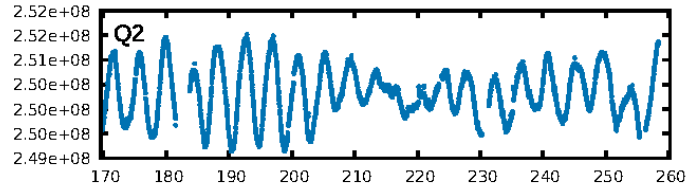
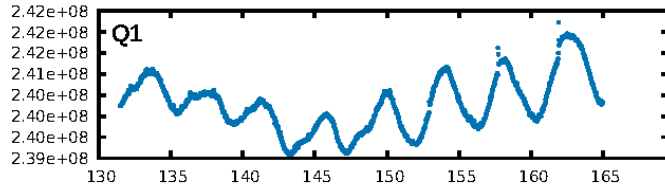
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 3.3%  
ModelChiSquareGof-sig: 93.5%  
**Bootstrap-pfa: 2.04e-11**  
RollingBand-fgt: 1.00 [3/3]  
**GhostDiagnostic-chr: -0.166**  
Centroid-sig: 78.7%  
Centroid-so: 0.249 arcsec [0.23σ]  
OotOffset-rm: 0.397 arcsec [1.45σ]  
KicOffset-rm: 0.323 arcsec [1.27σ]  
OotOffset-st: 0/2/0/0 [2]  
KicOffset-st: 0/2/0/0 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [3/3]

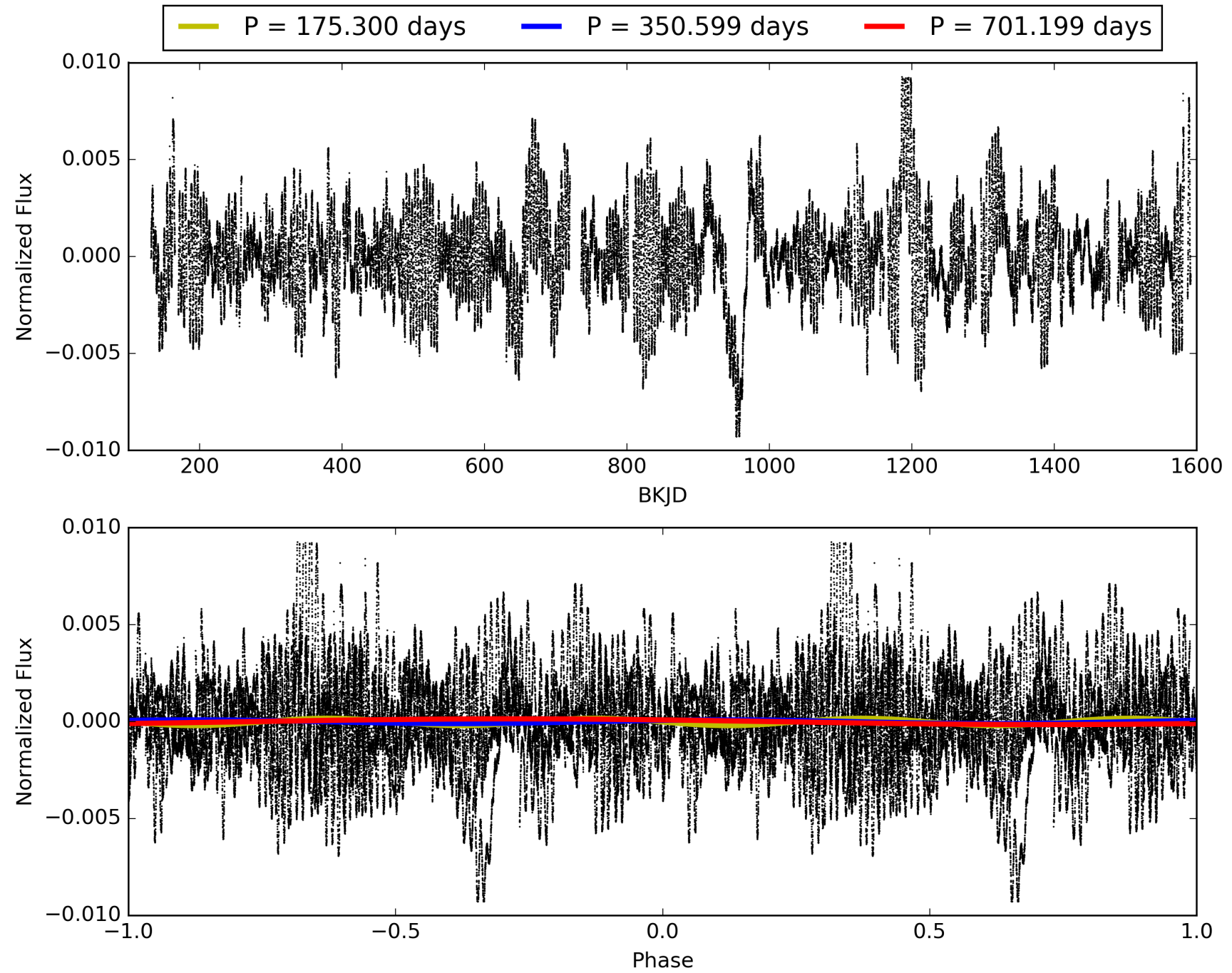
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:16:43 Z

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

# TCE 011667335-01, PDC Light Curves

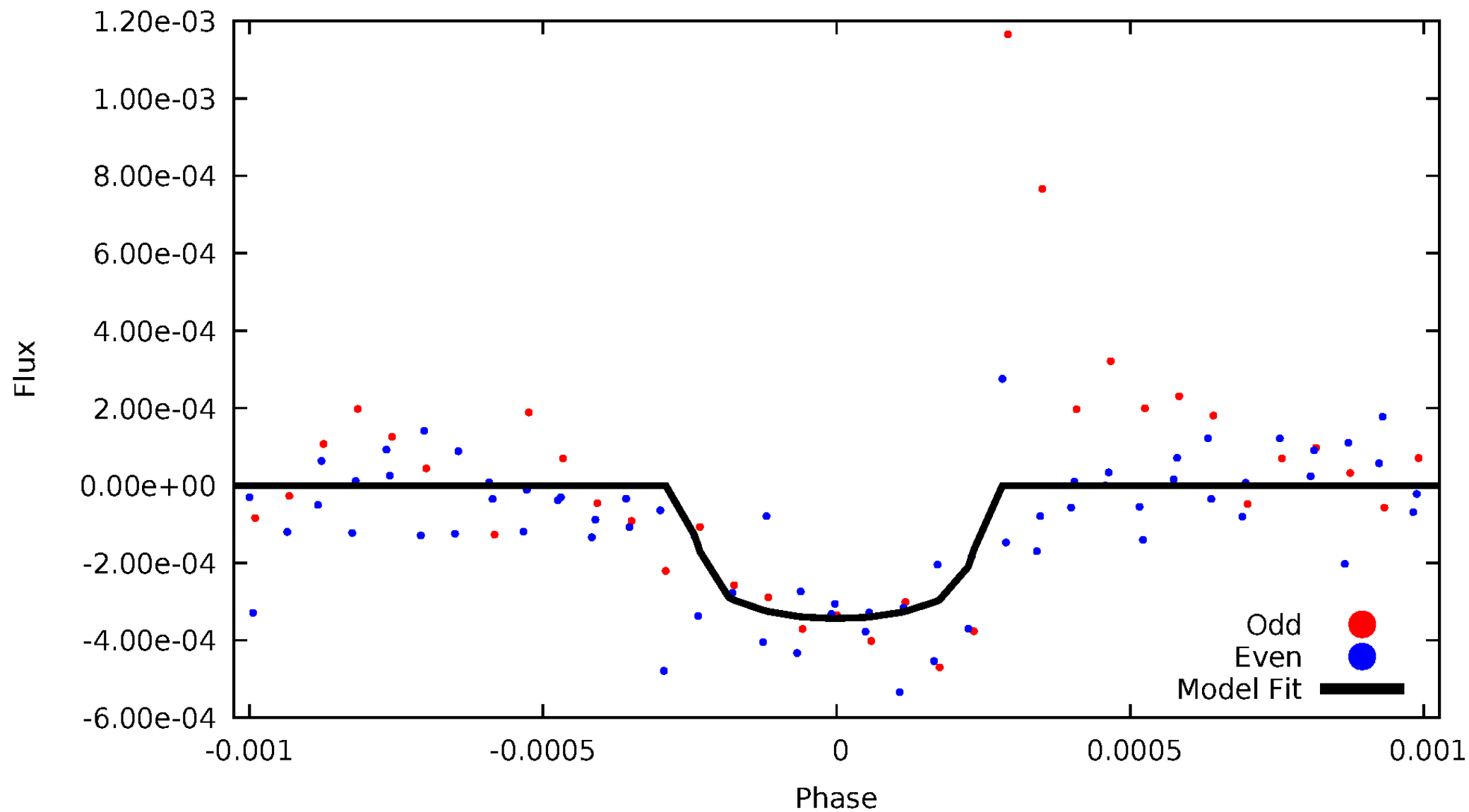


TCE 011667335-01



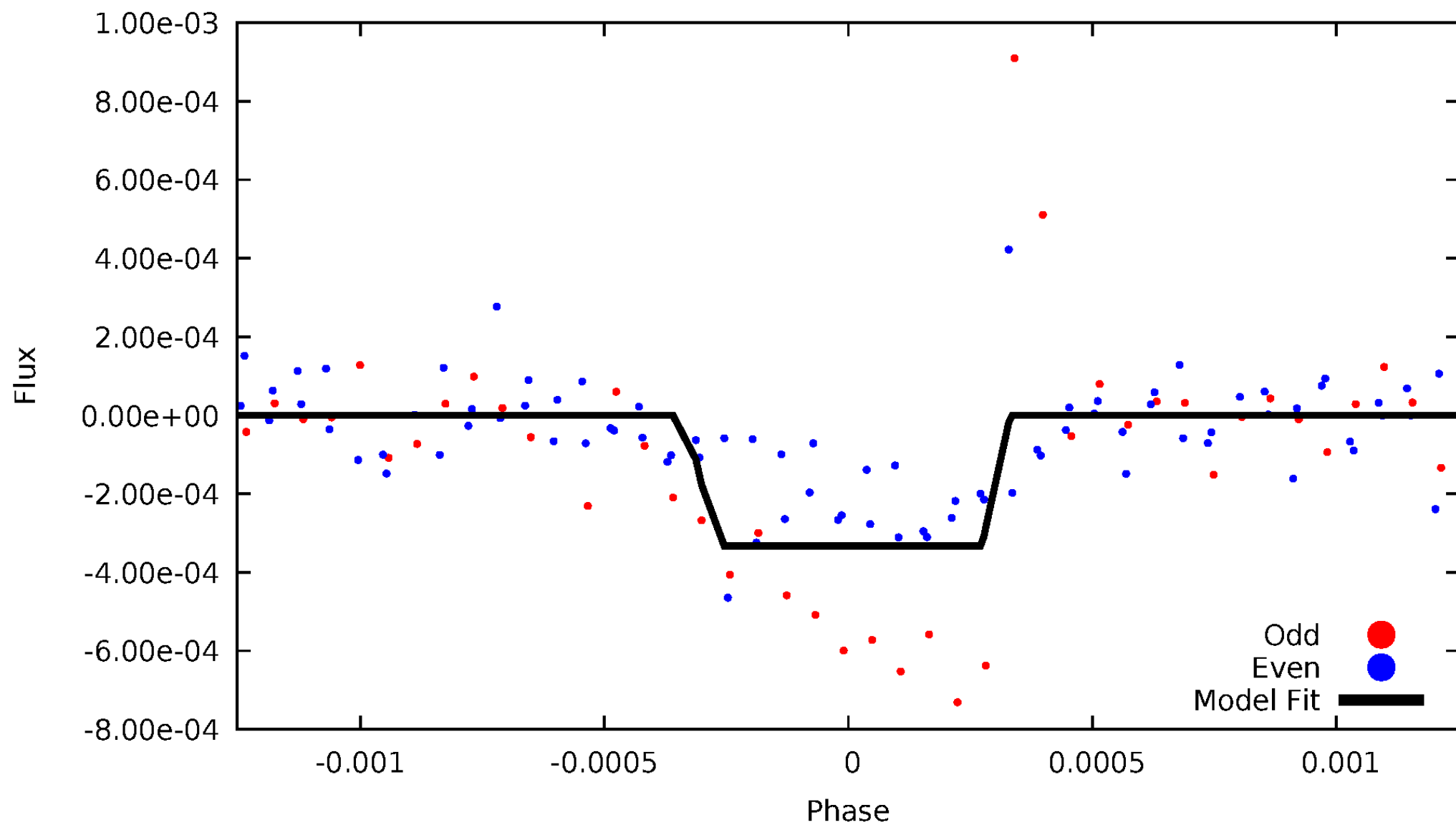
# DV Odd/Even

TCE 011667335-01



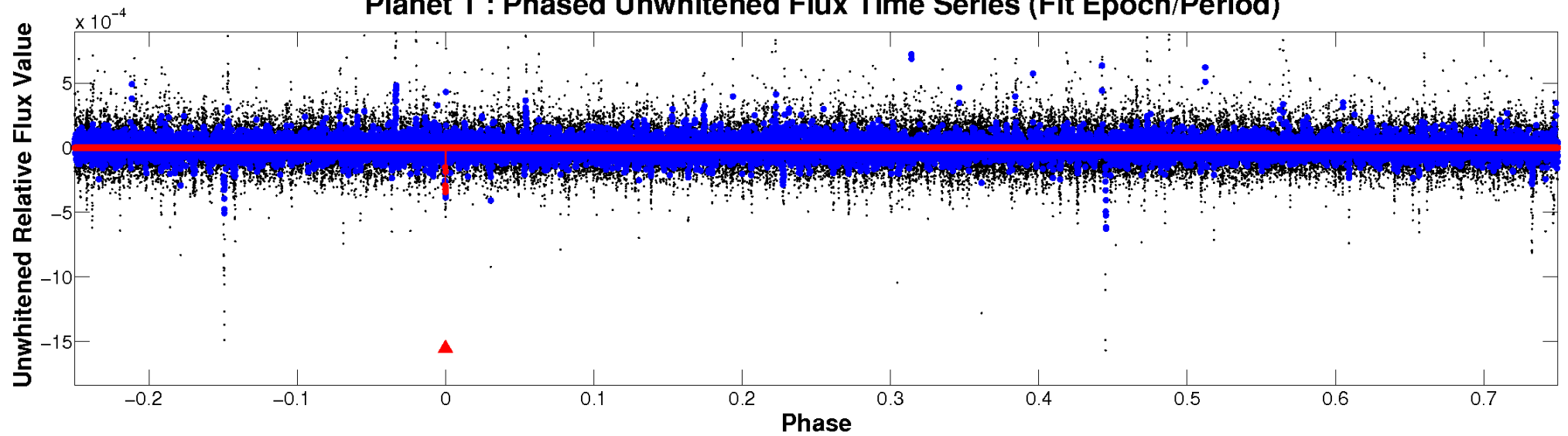
# ALT Odd/Even

TCE 011667335-01

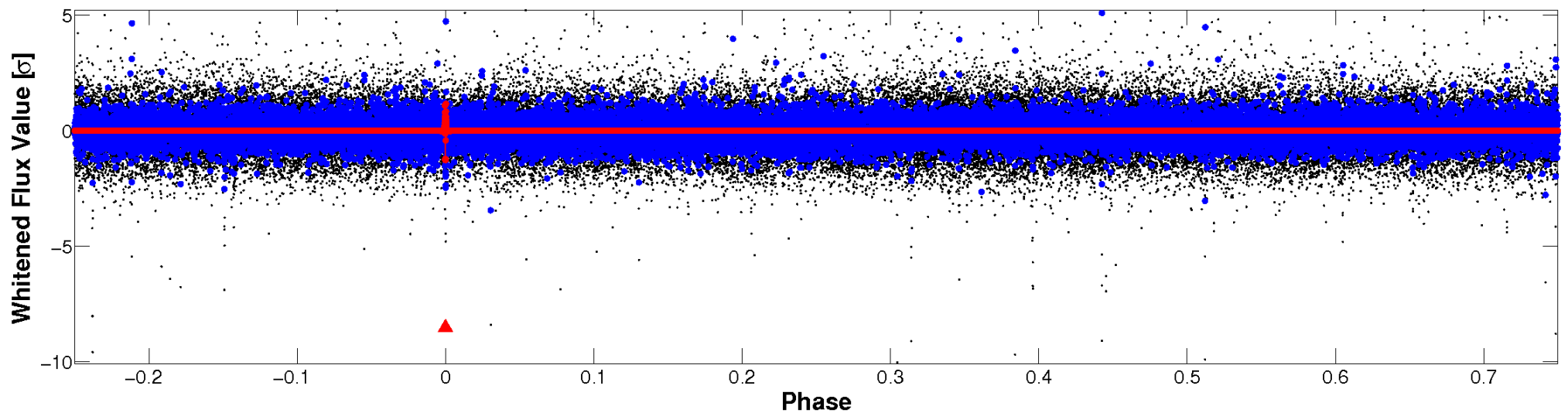


# Non-Whitened Vs. Whitened Light Curve

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

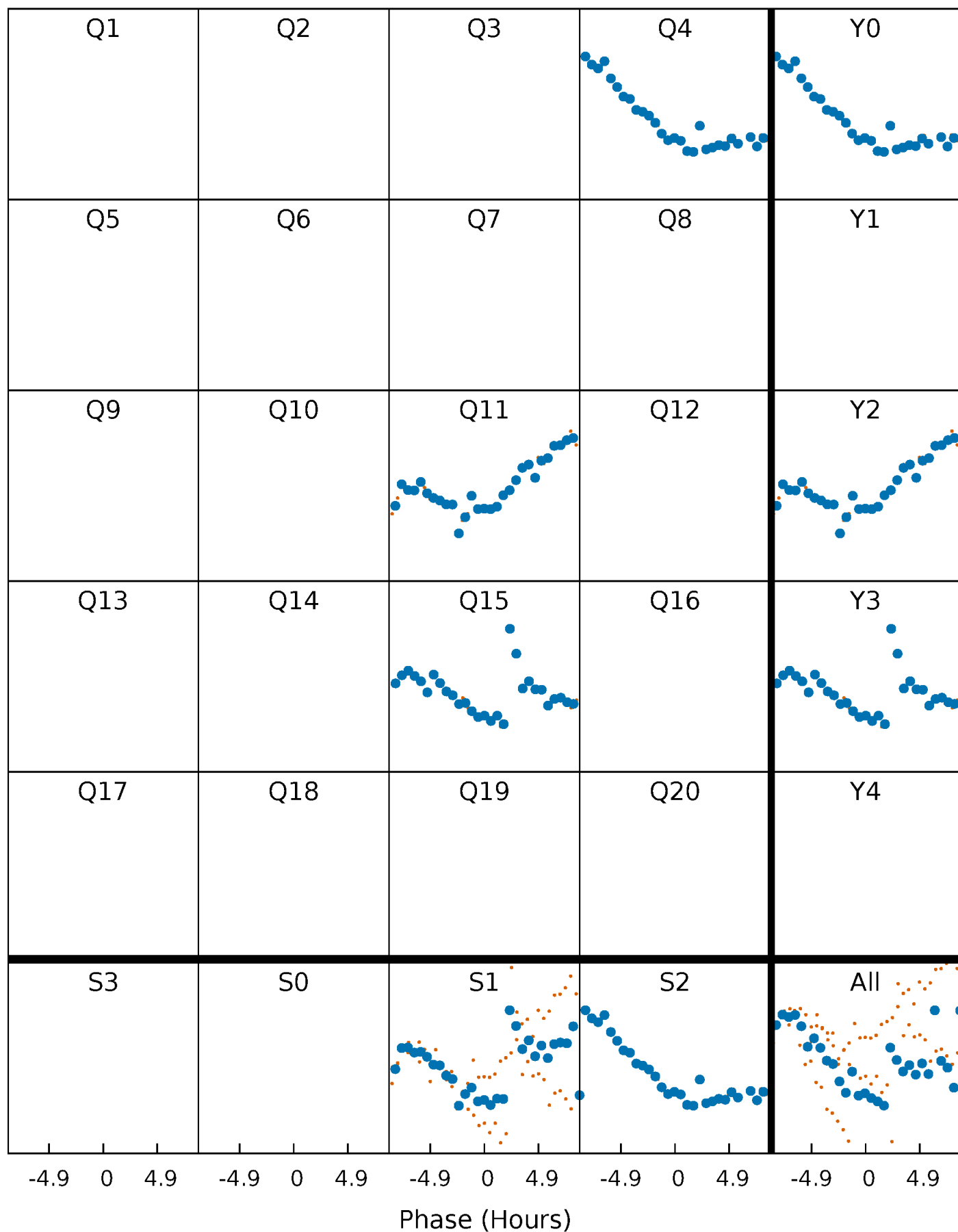


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

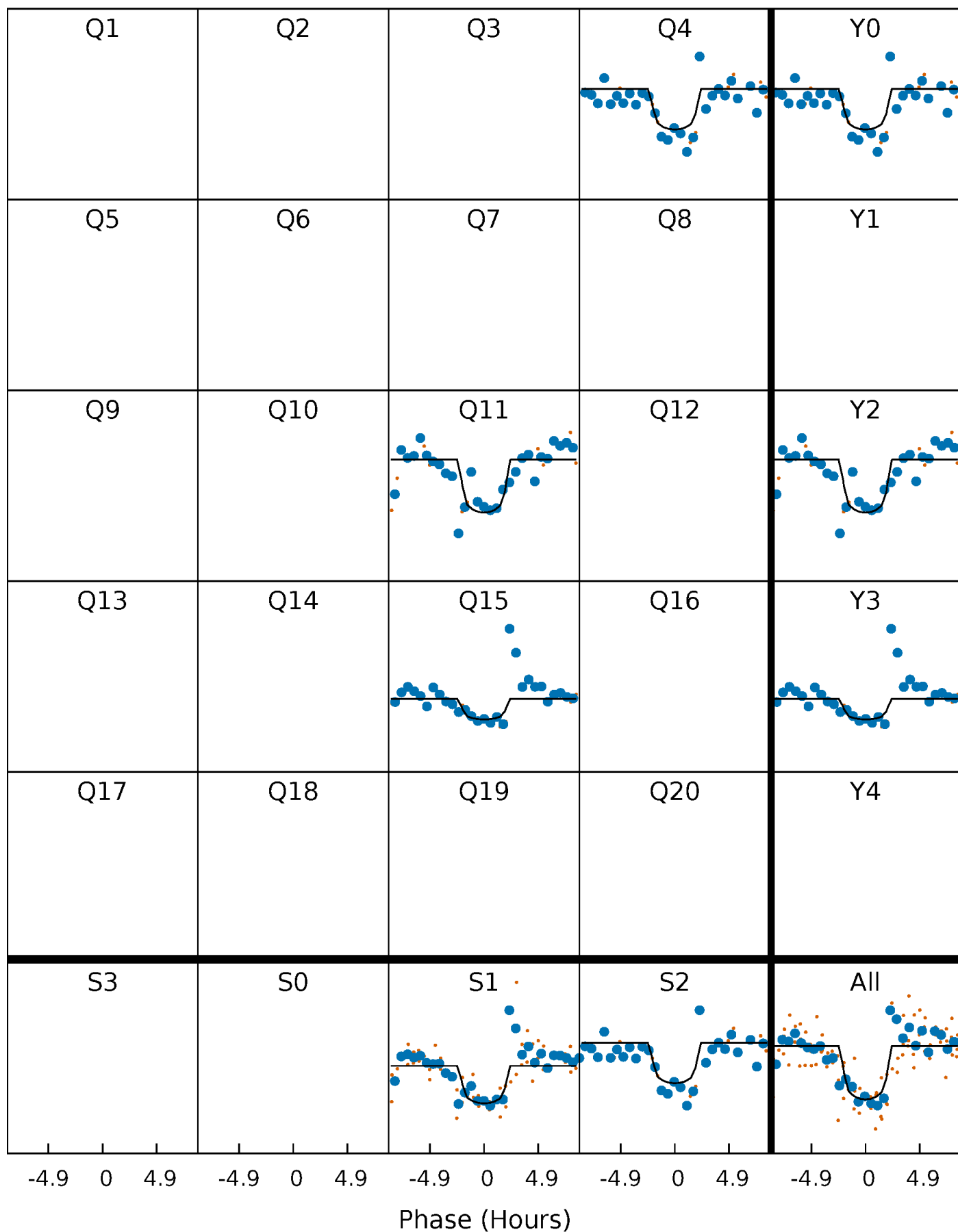
TCE 011667335-01 P=350.599278 Days  $T_0=373.630784$  (BKJD)





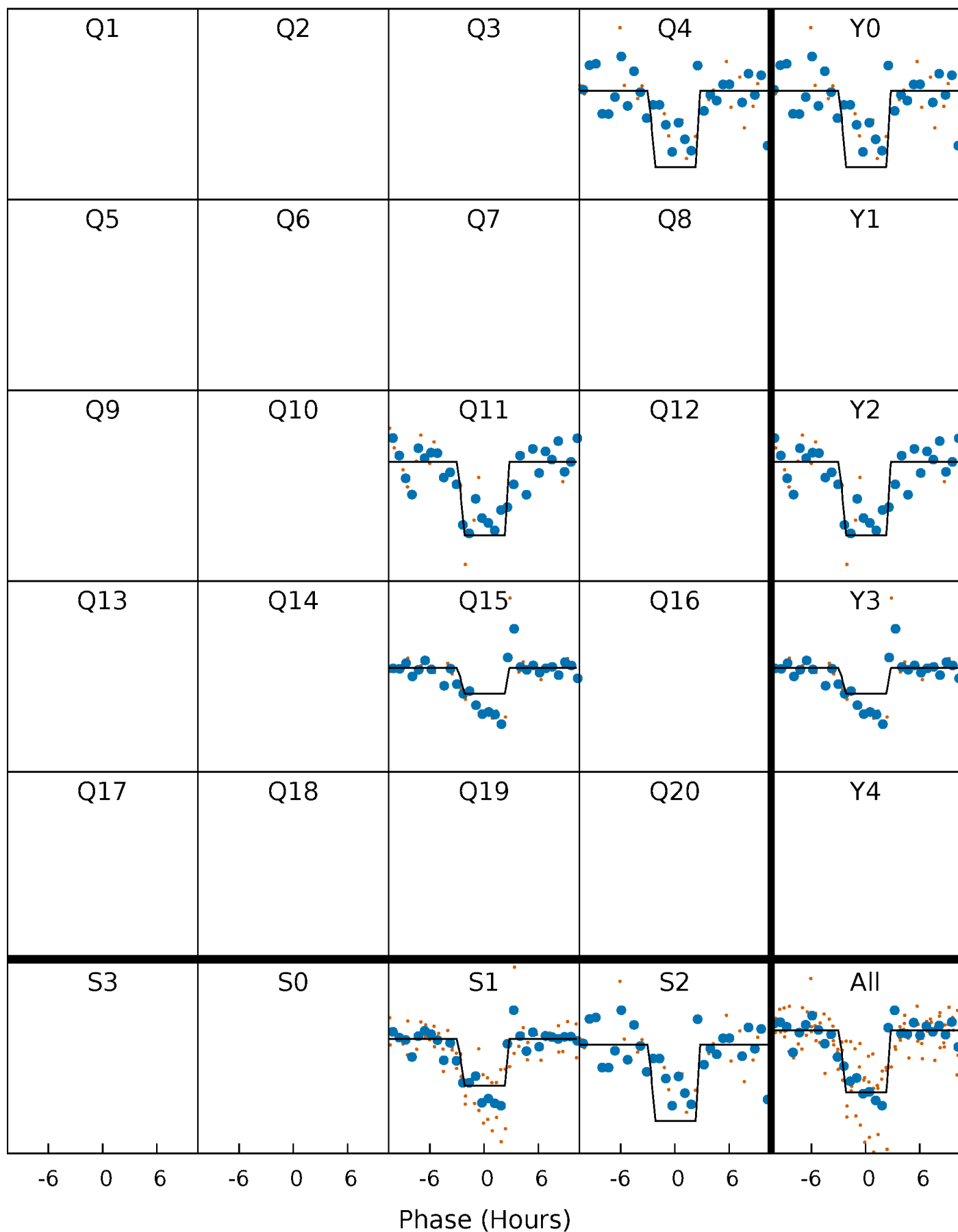
# DV Quarter-Phased Transit Curves

TCE 011667335-01 P=350.599278 Days  $T_0=373.630784$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

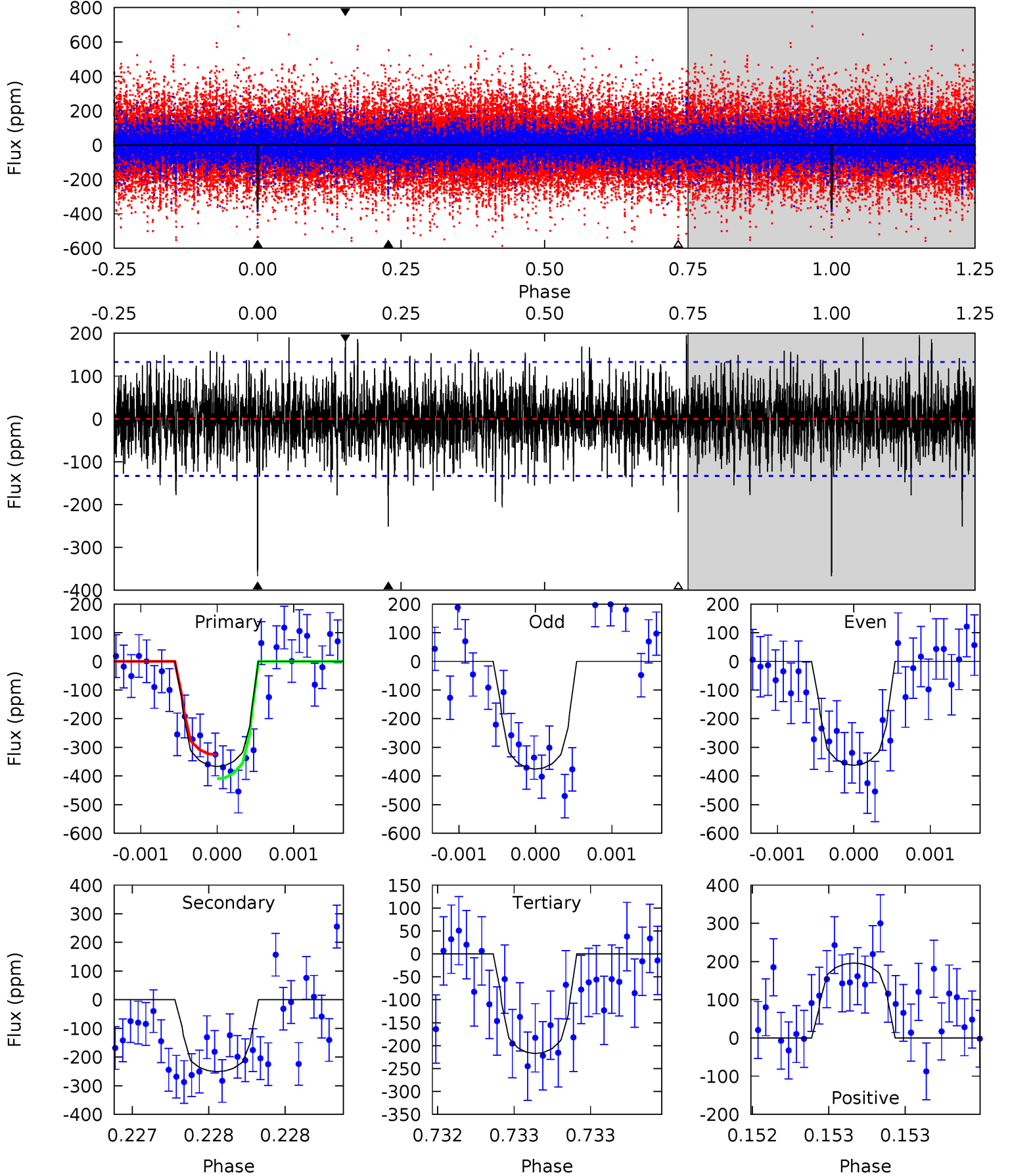
TCE 011667335-01 P=350.599022 Days  $T_0=373.614636$  (BKJD)



# DV Model-Shift Uniqueness Test

011667335-01,  $P = 350.599278$  Days,  $E = 23.031506$  Days

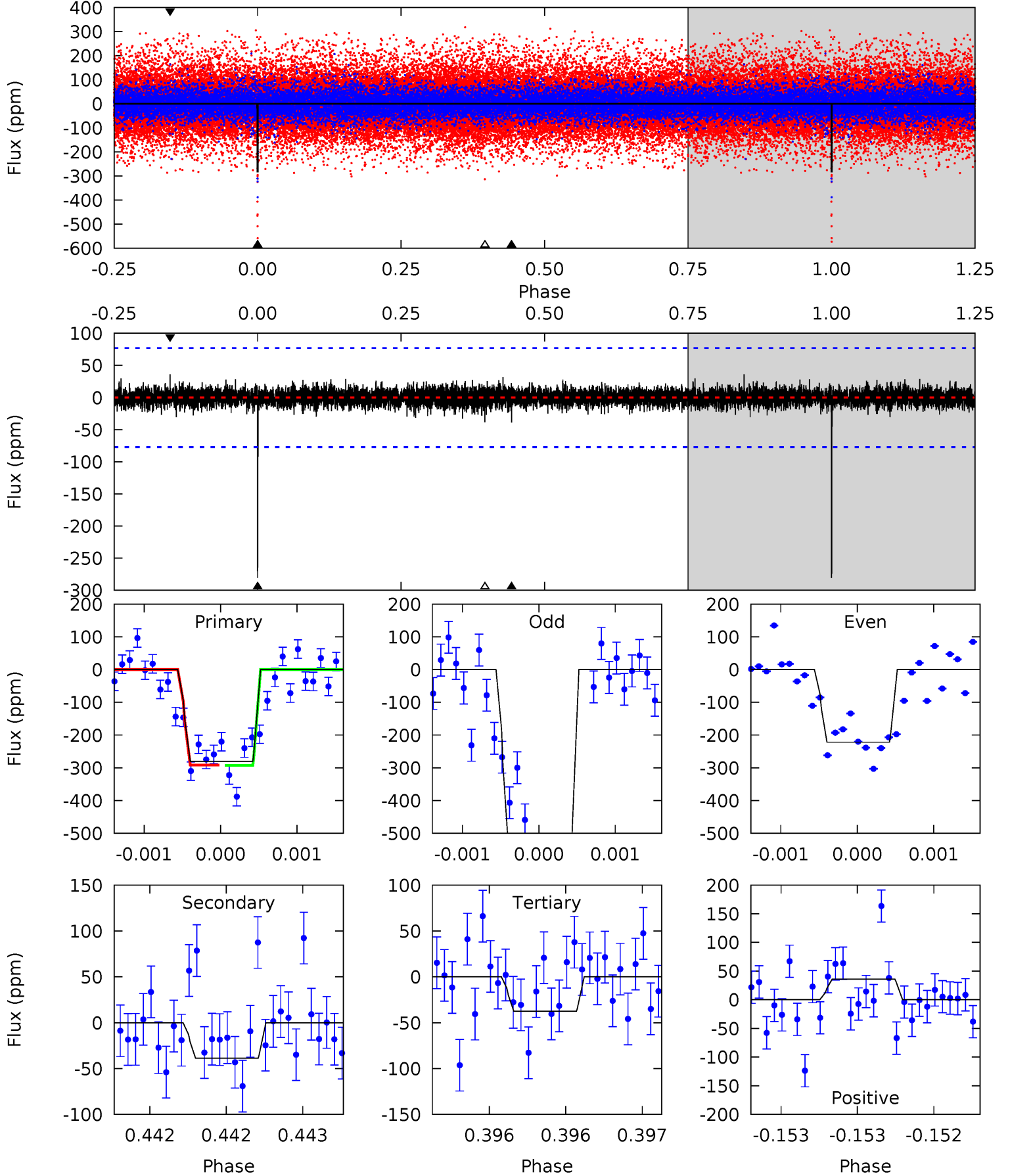
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	10.5	9.09	8.20	5.56	3.47	2.02	6.27	7.16	1.40	2.29	0.26	0.98	0.35	1.75



# Alt Model-Shift Uniqueness Test

011667335-01,  $P = 350.599022$  Days,  $E = 23.015614$  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
20.1	2.78	2.70	2.59	5.53	3.41	0.55	17.4	17.5	0.09	0.19	12.0	1.21	0.11	0.04



### Stellar Parameters For KIC 011667335

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$5974^{+71}_{-83}$	$4.436^{+0.040}_{-0.120}$	$0.060^{+0.150}_{-0.150}$	$1.035^{+0.168}_{-0.072}$	$1.066^{+0.071}_{-0.071}$	$1.355^{+0.253}_{-0.471}$
	+1%/-1%	+1%/-3%	+250%/-250%	+16%/-7%	+7%/-7%	+19%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 011667335-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	-251±24	$2.64^{+2.10}_{-1.69}$	$379^{+15}_{-10}$	$5086^{+3688}_{-1092}$	$19284^{+133744}_{-13585}$
Alt.	-39±14	$2.78^{+2.42}_{-1.72}$	$379^{+17}_{-10}$	$3497^{+1465}_{-567}$	$2583^{+14513}_{-1857}$

$T_{max}$  = 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

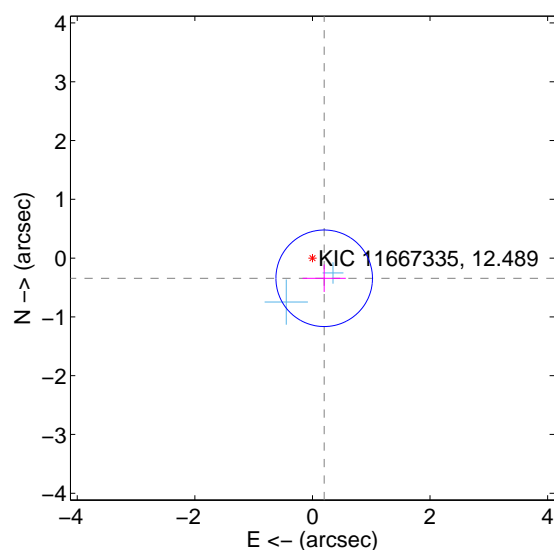
Supplemental centroid analysis for 011667335-01. Kepler magnitude: 12.49. Transit SNR 6.52

There are 2 quarters with good PRF difference image offsets

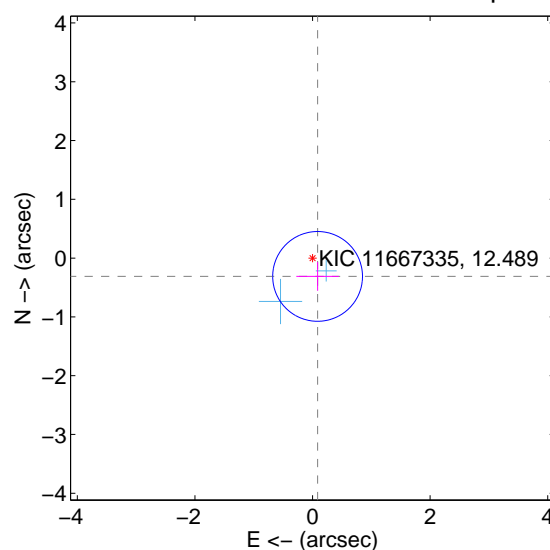
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.397 \pm 0.274$	1.45	$-0.200 \pm 0.369$	$-0.343 \pm 0.233$
PRF-fit source offset from KIC position	$0.323 \pm 0.255$	1.27	$-0.086 \pm 0.361$	$-0.311 \pm 0.244$
photometric centroid source offset	$0.25 \pm 1.06$	0.23	$-0.02 \pm 0.82$	$-0.25 \pm 1.06$

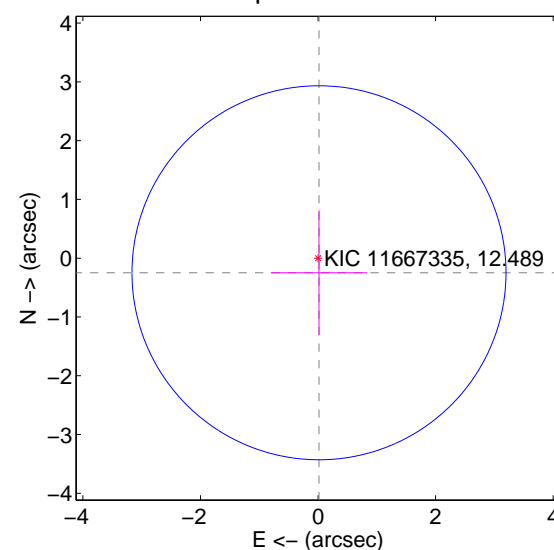
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

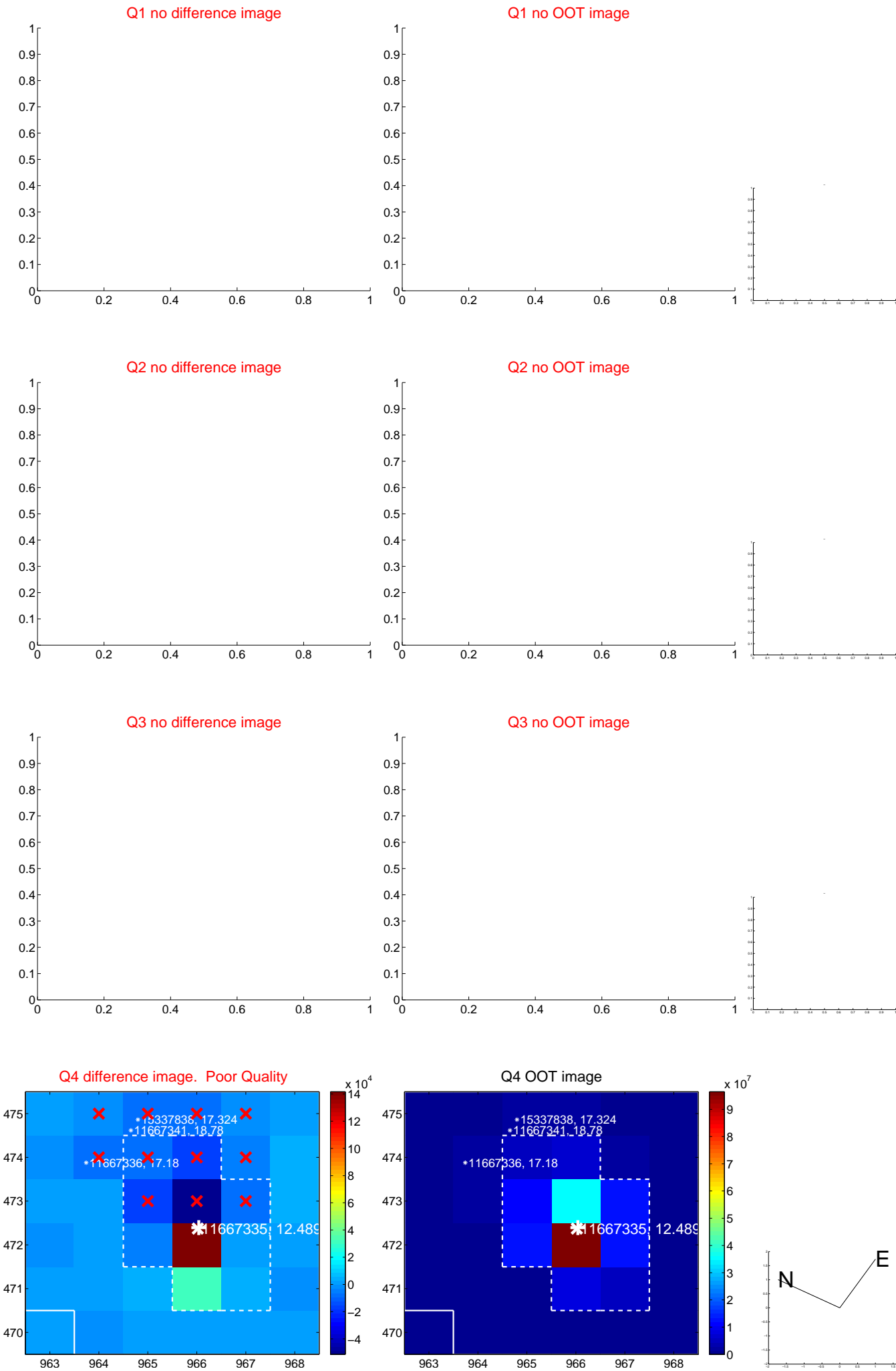


offset from photometric centroids



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.

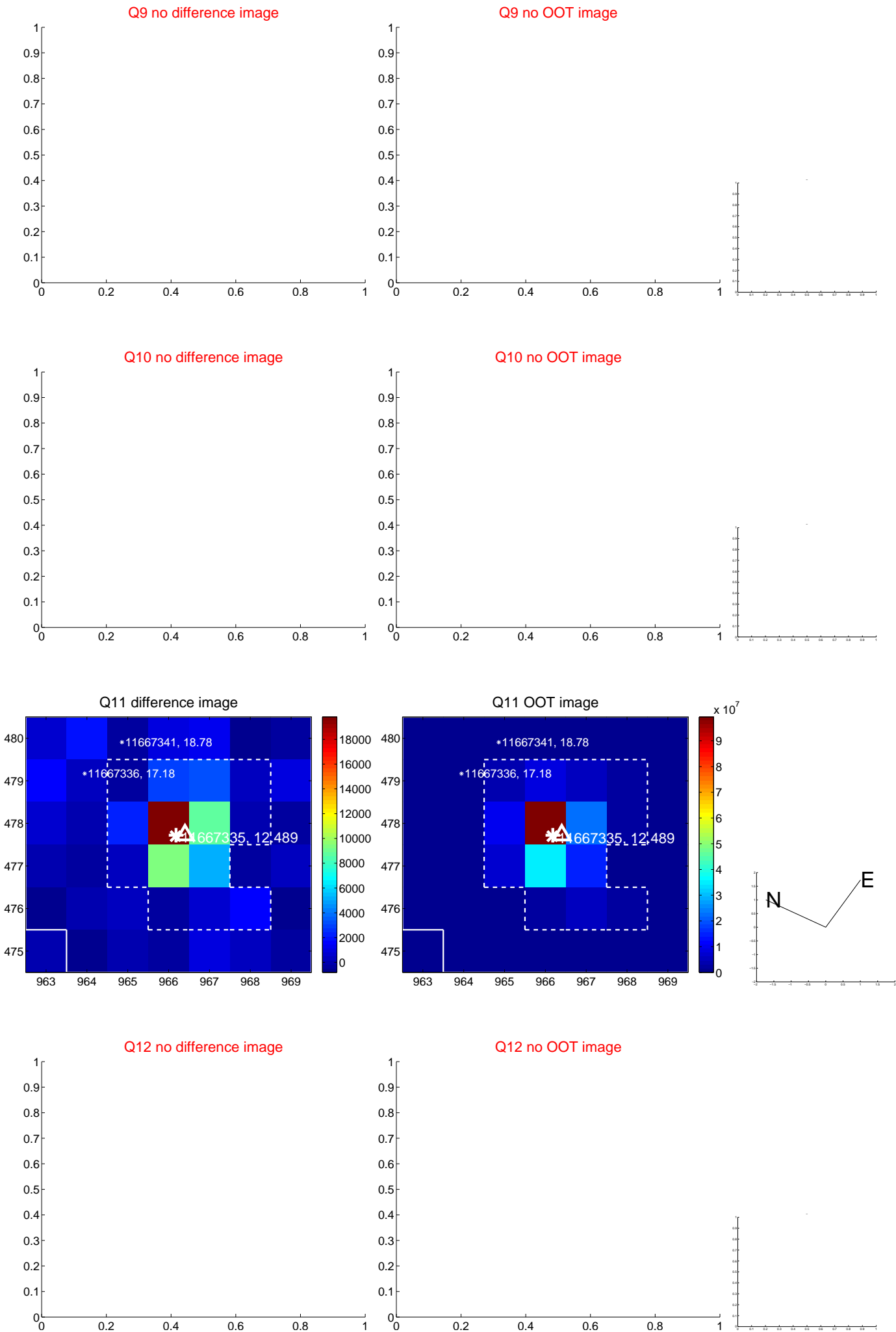


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

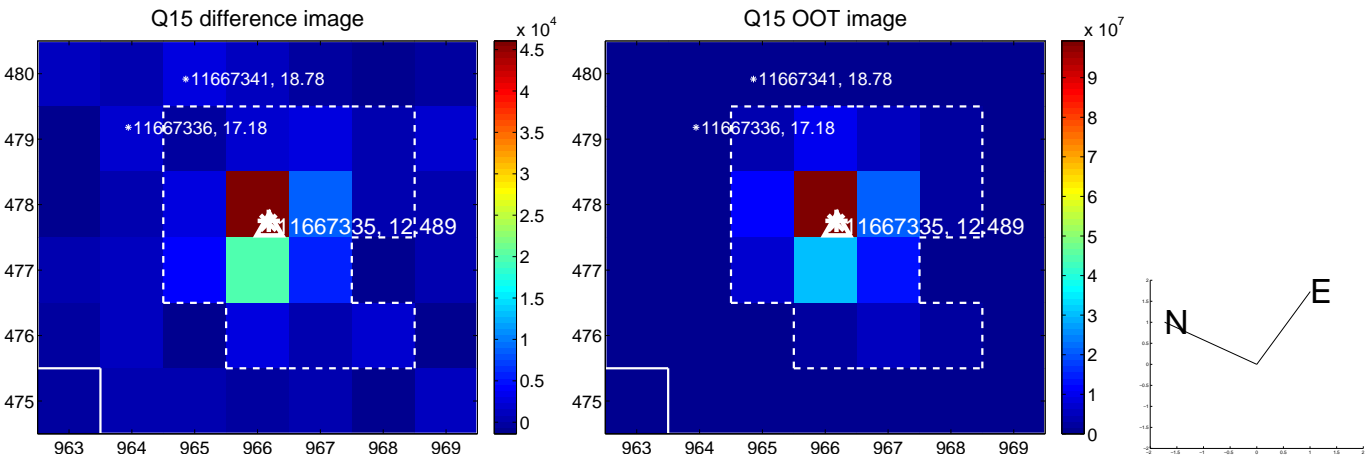




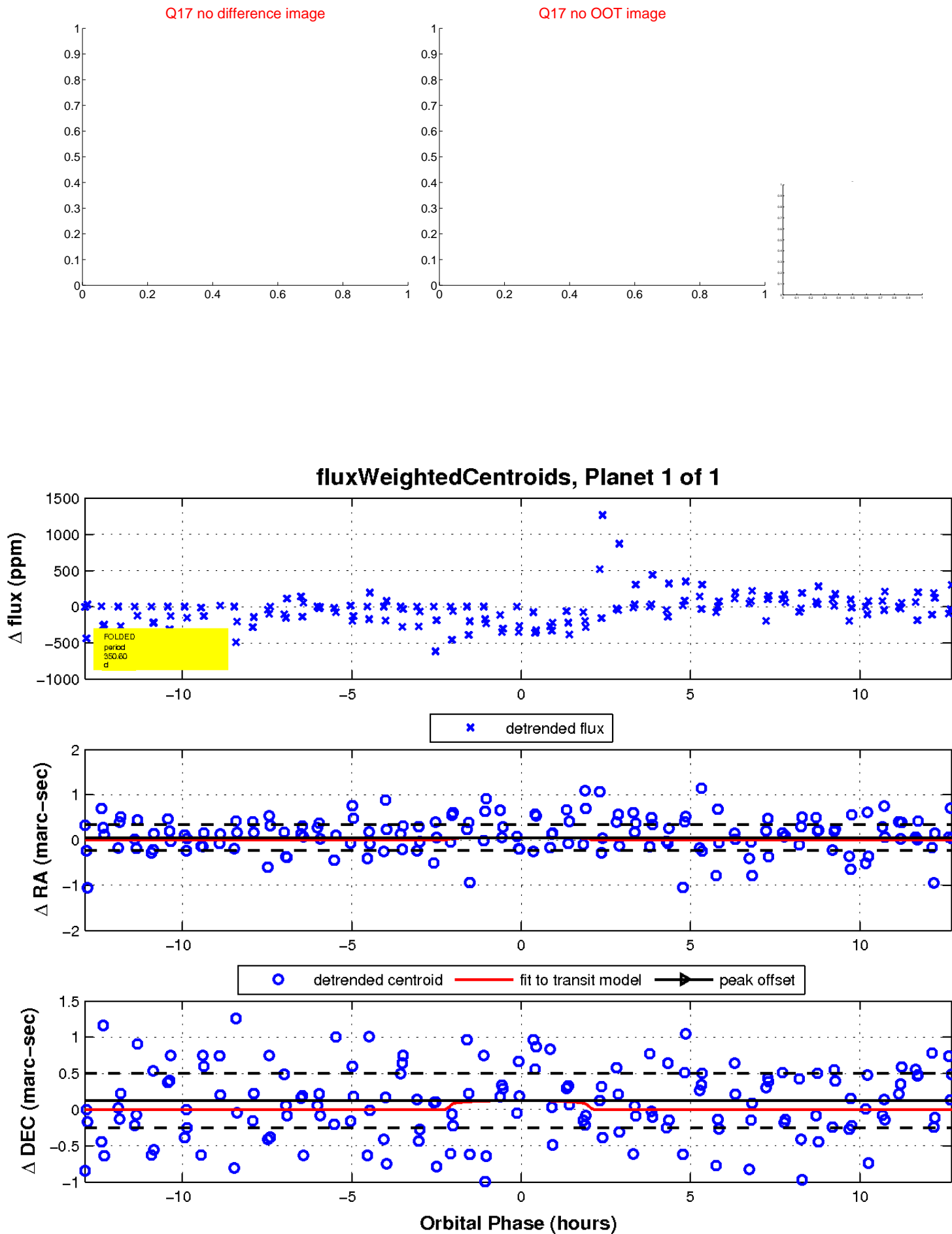
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

