

# KIC 008035086

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008035086-01	OBS	No	361.828667	404.657318	555.2	17.435	8.8	8.9	0.96	5970	2.95	1.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008035086-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

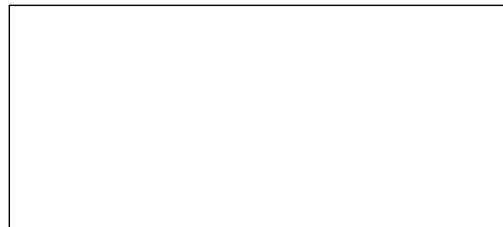
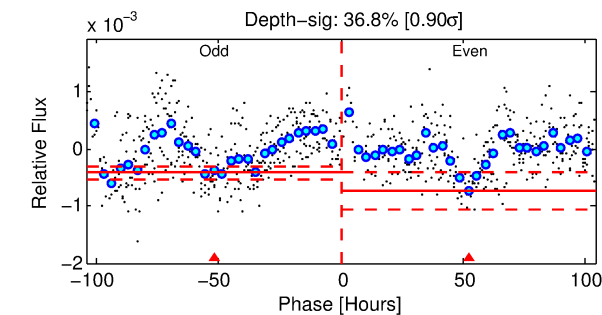
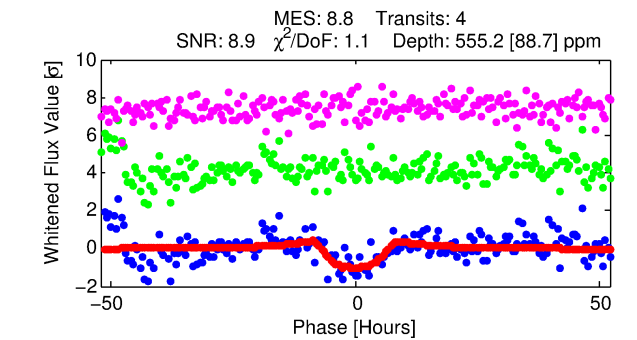
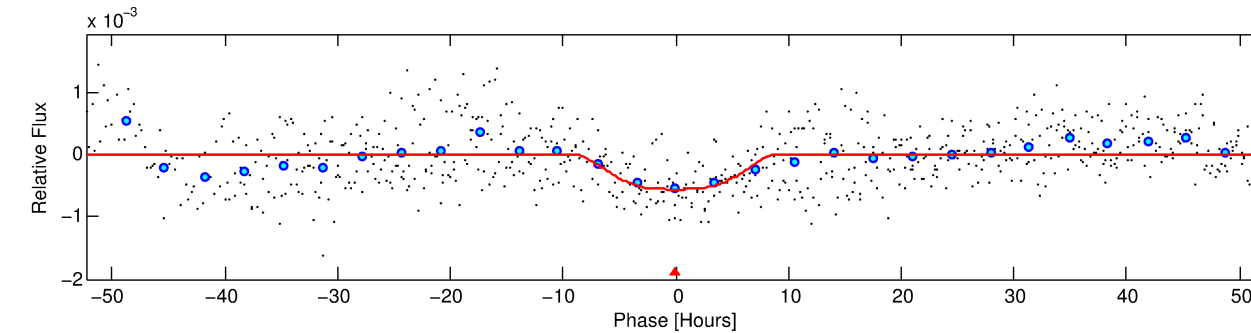
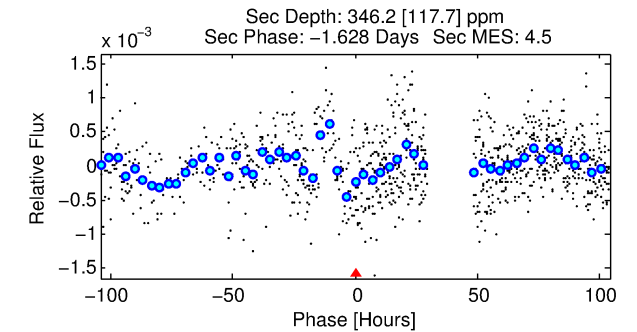
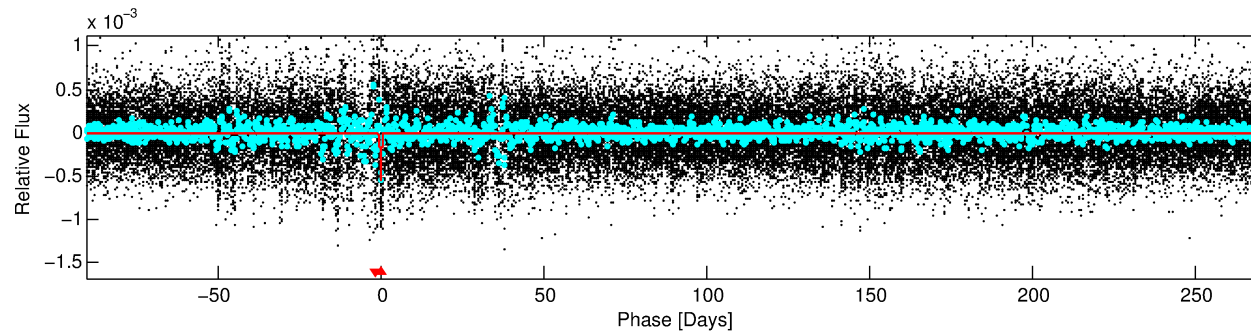
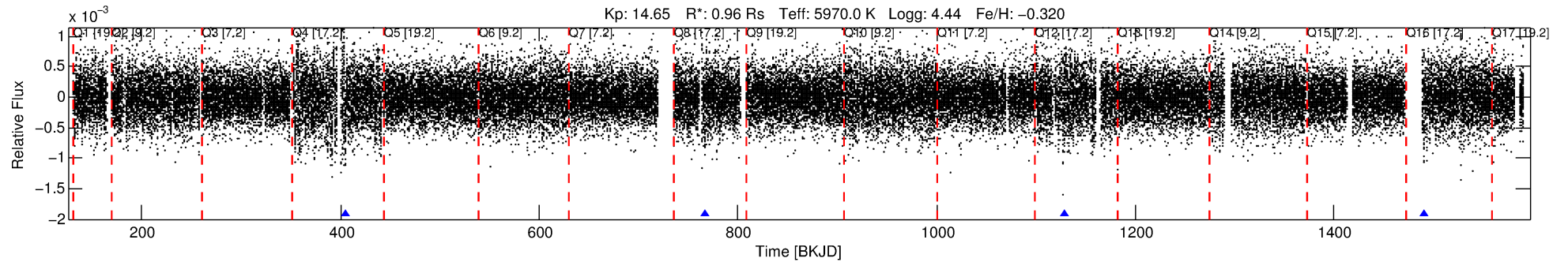
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008035086-01

No Significant Match Found

# DV One-Page Summary

KIC: 8035086 Candidate: 1 of 1 Period: 361.829 d



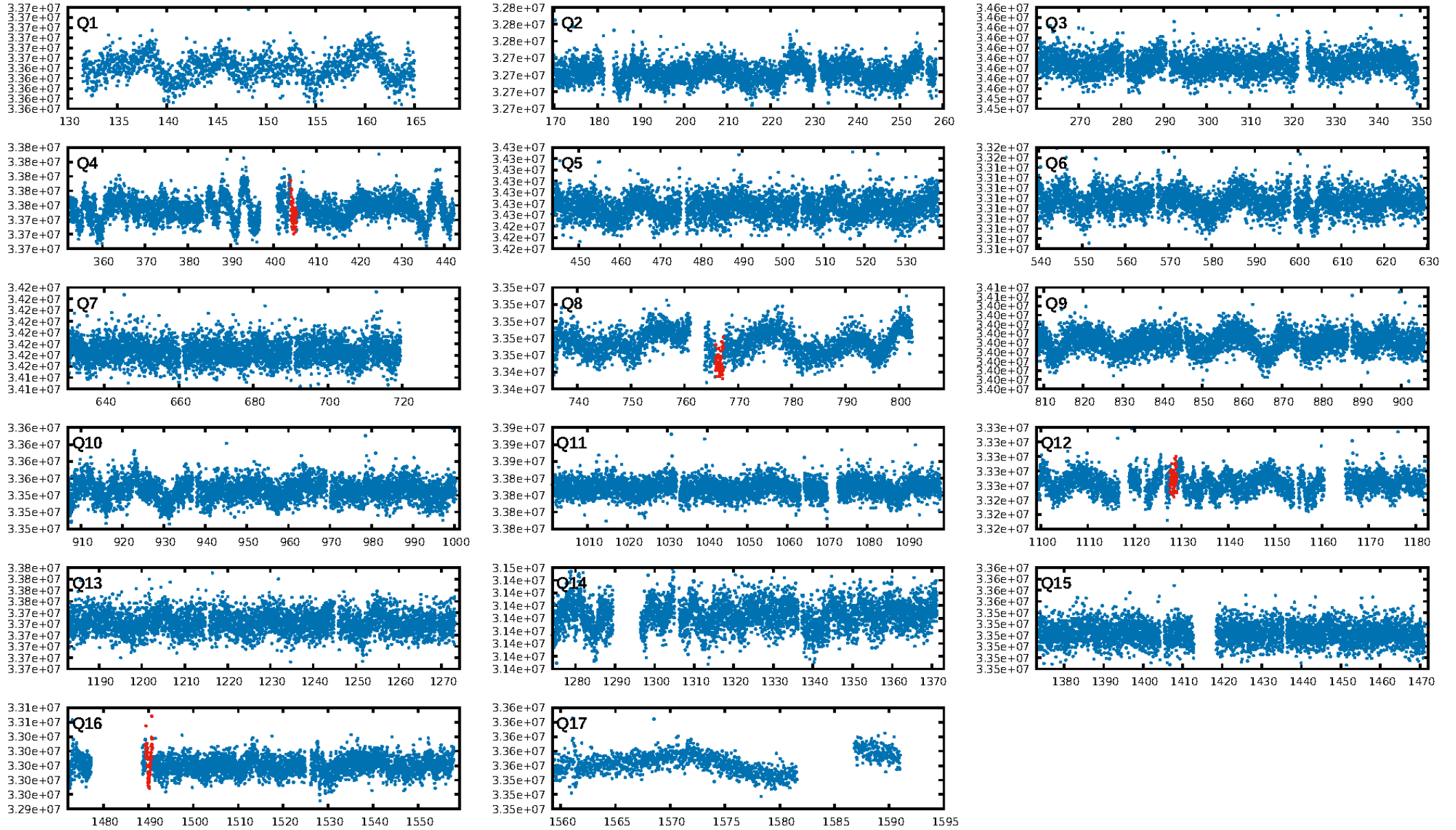
## DV Fit Results:

Period = 361.82867 [0.01940] d  
Epoch = 404.6573 [0.0377] BKJD  
Rp/R\* = 0.0282 [0.0030]  
a/R\* = 54.92 [10.56]  
b = 0.97 [0.01]  
Seff = 1.12 [0.41]  
Teq = 262 [24] K  
Rp = 2.95 [0.91] Re  
a = 0.9673 [0.2328] AU  
Ag = 20475.82 [10871.41] [1.88 $\sigma$ ]  
Teffp = 4850 [509] K [9.01 $\sigma$ ]

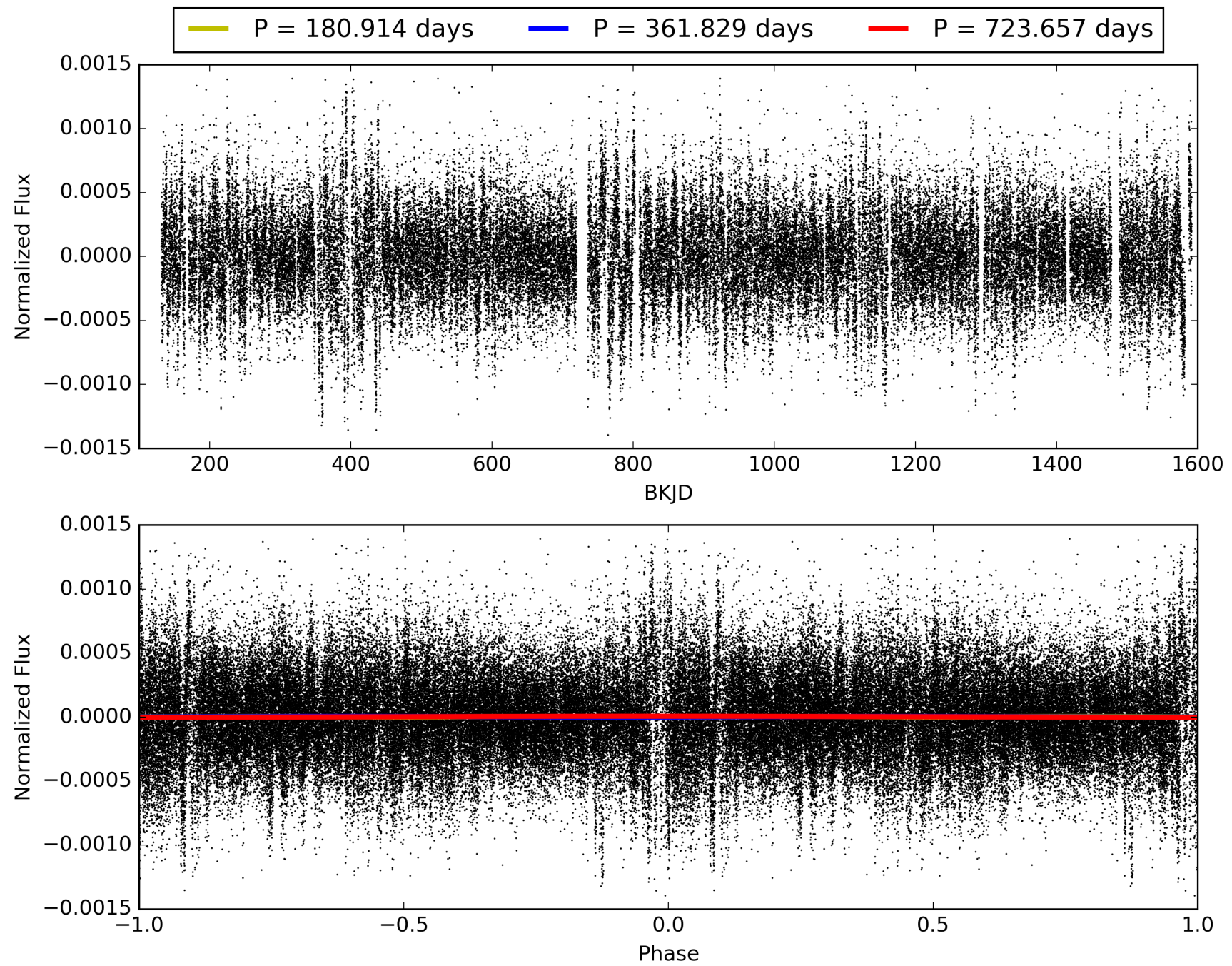
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.0%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 1.18e-11**  
RollingBand-fgt: 1.00 [4/4]  
**GhostDiagnostic-chr: 0.8155**  
**Centroid-sig: 0.0%**  
Centroid-so: 4.616 arcsec [2.39 $\sigma$ ]  
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 [2/2]

# TCE 008035086-01, PDC Light Curves

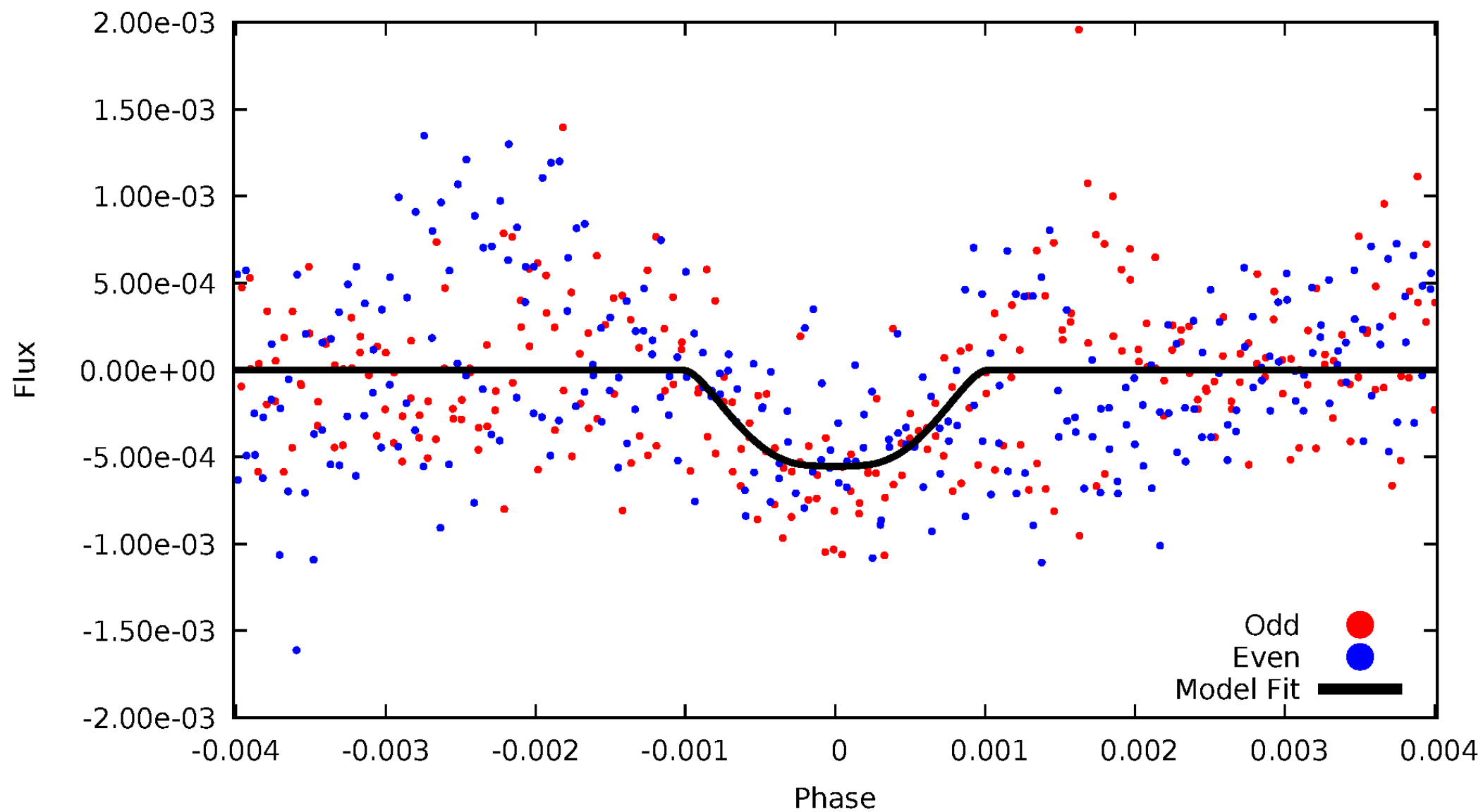


TCE 008035086-01



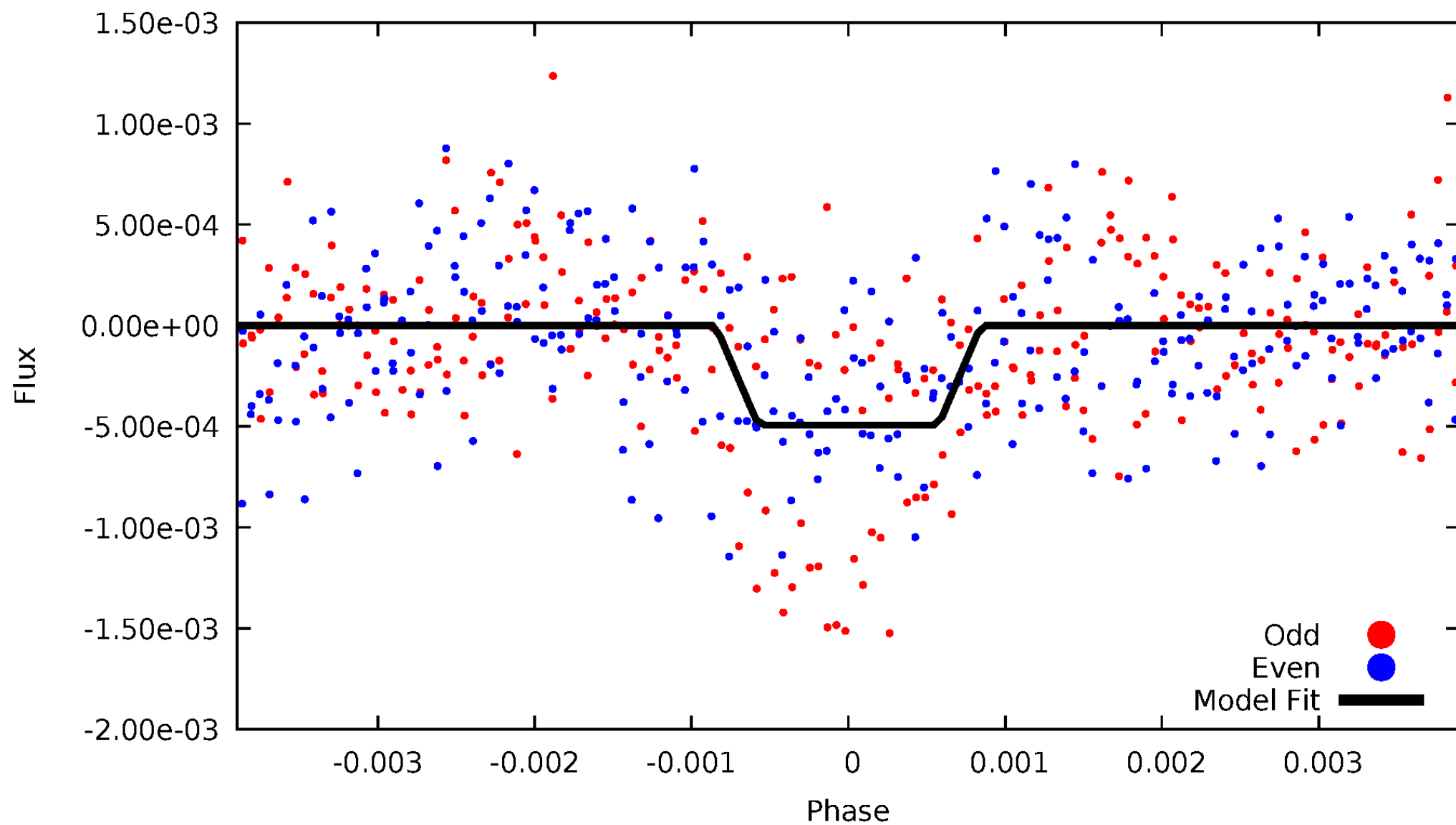
# DV Odd/Even

TCE 008035086-01



# ALT Odd/Even

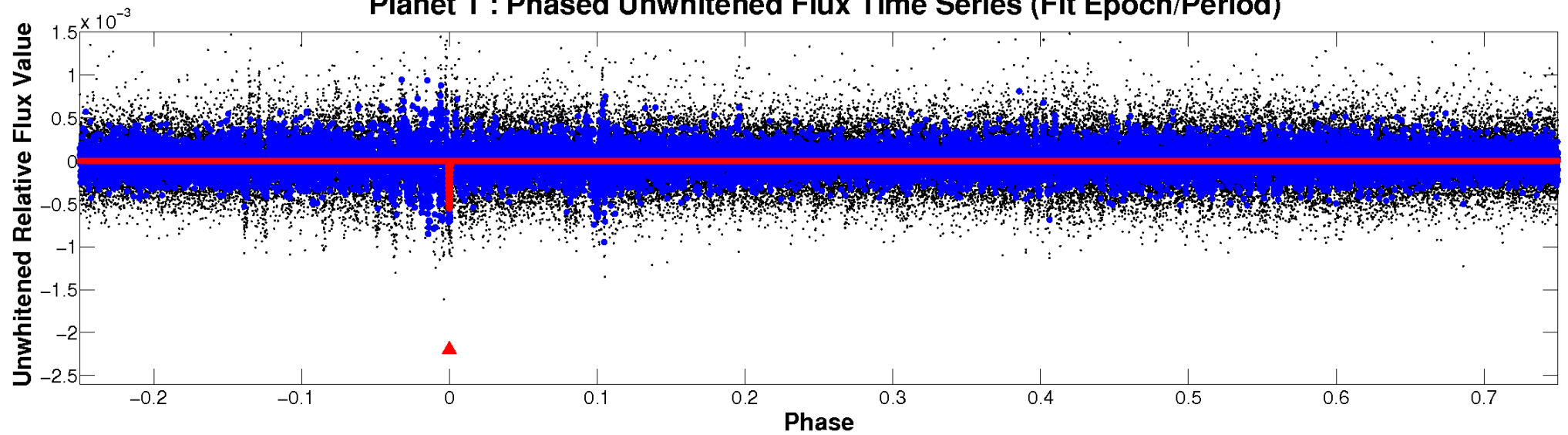
TCE 008035086-01



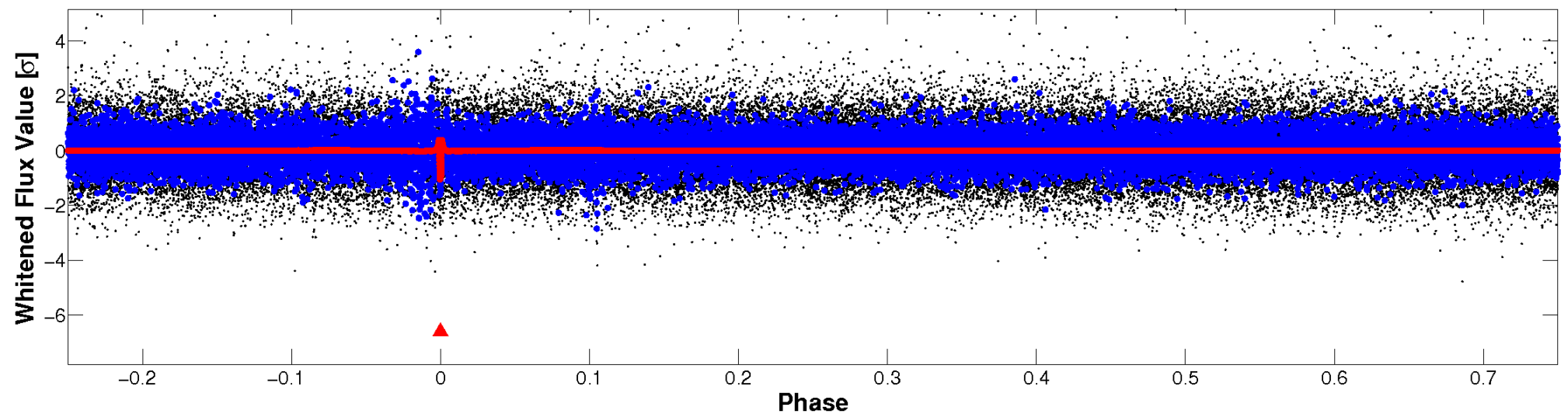


# Non-Whitened Vs. Whitened Light Curve

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

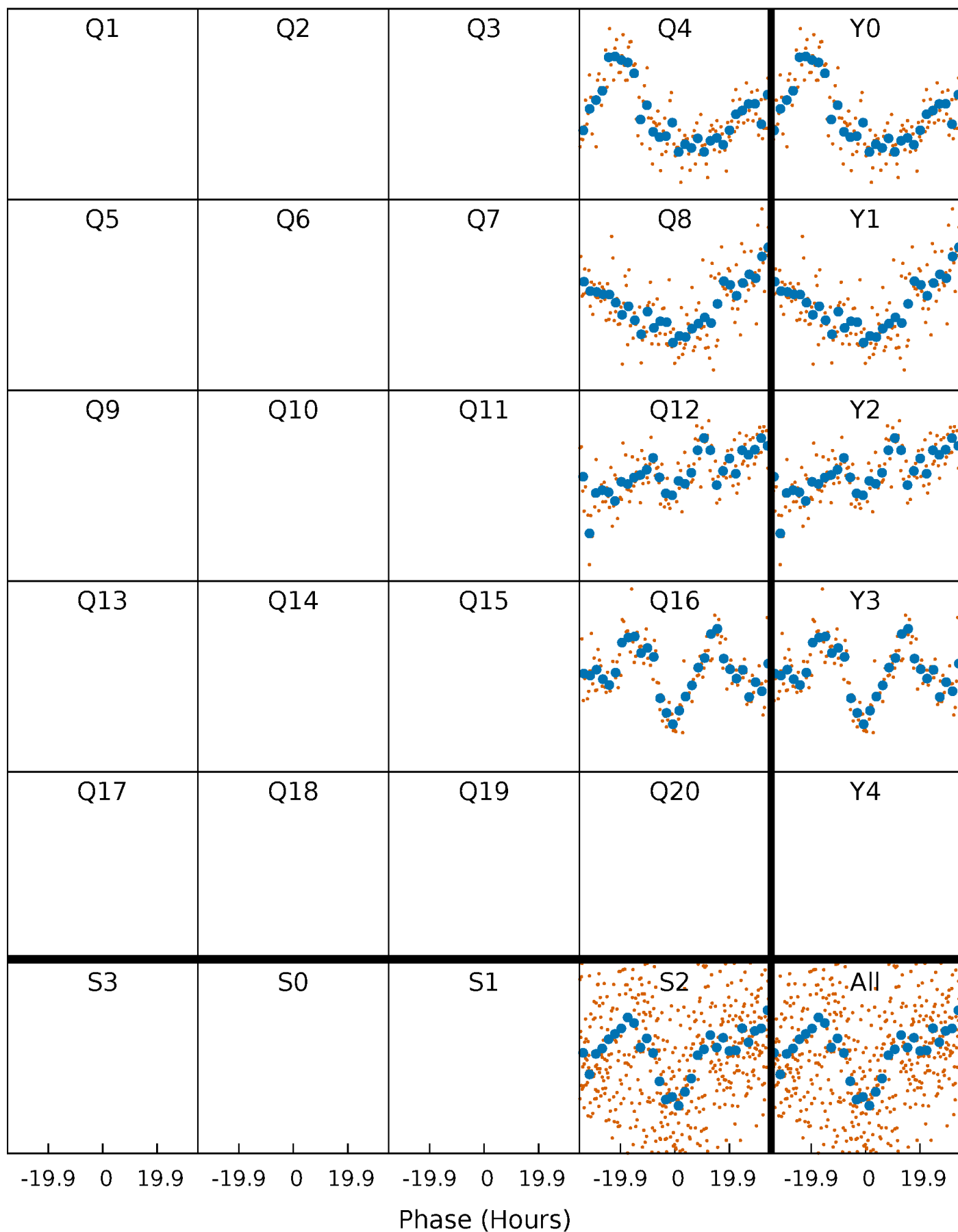


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

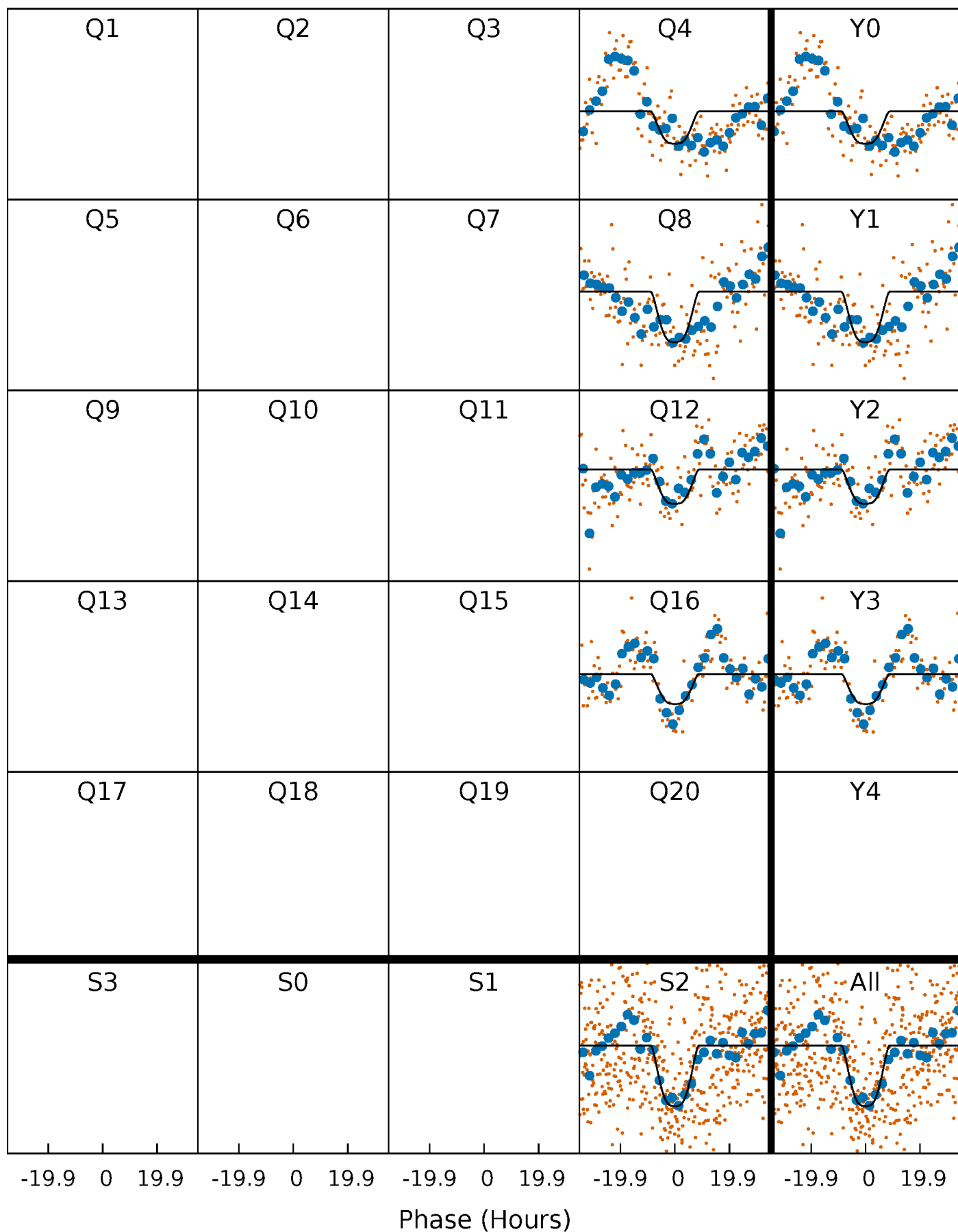
TCE 008035086-01 P=361.828667 Days  $T_0=404.657318$  (BKJD)





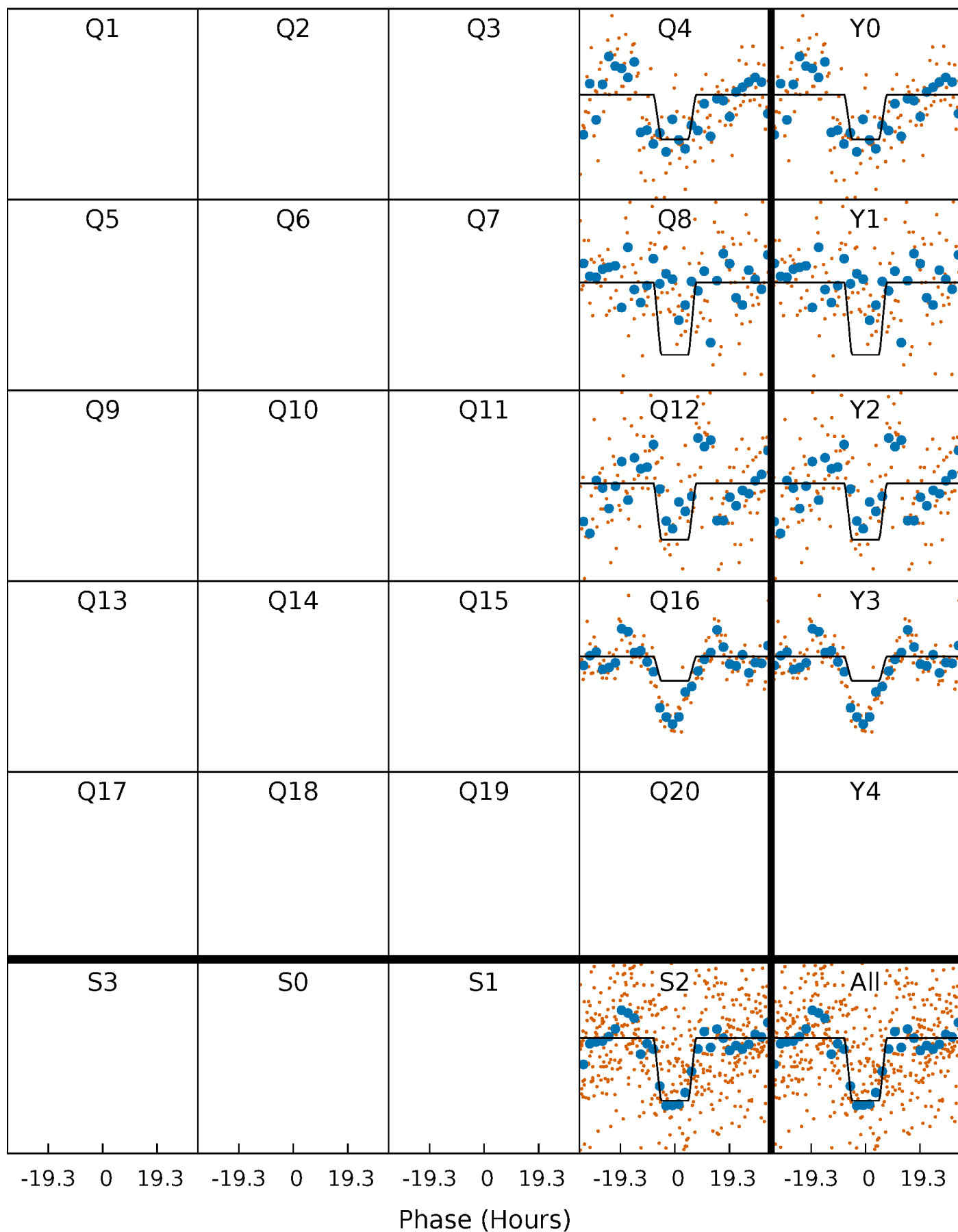
# DV Quarter-Phased Transit Curves

TCE 008035086-01 P=361.828667 Days  $T_0=404.657318$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

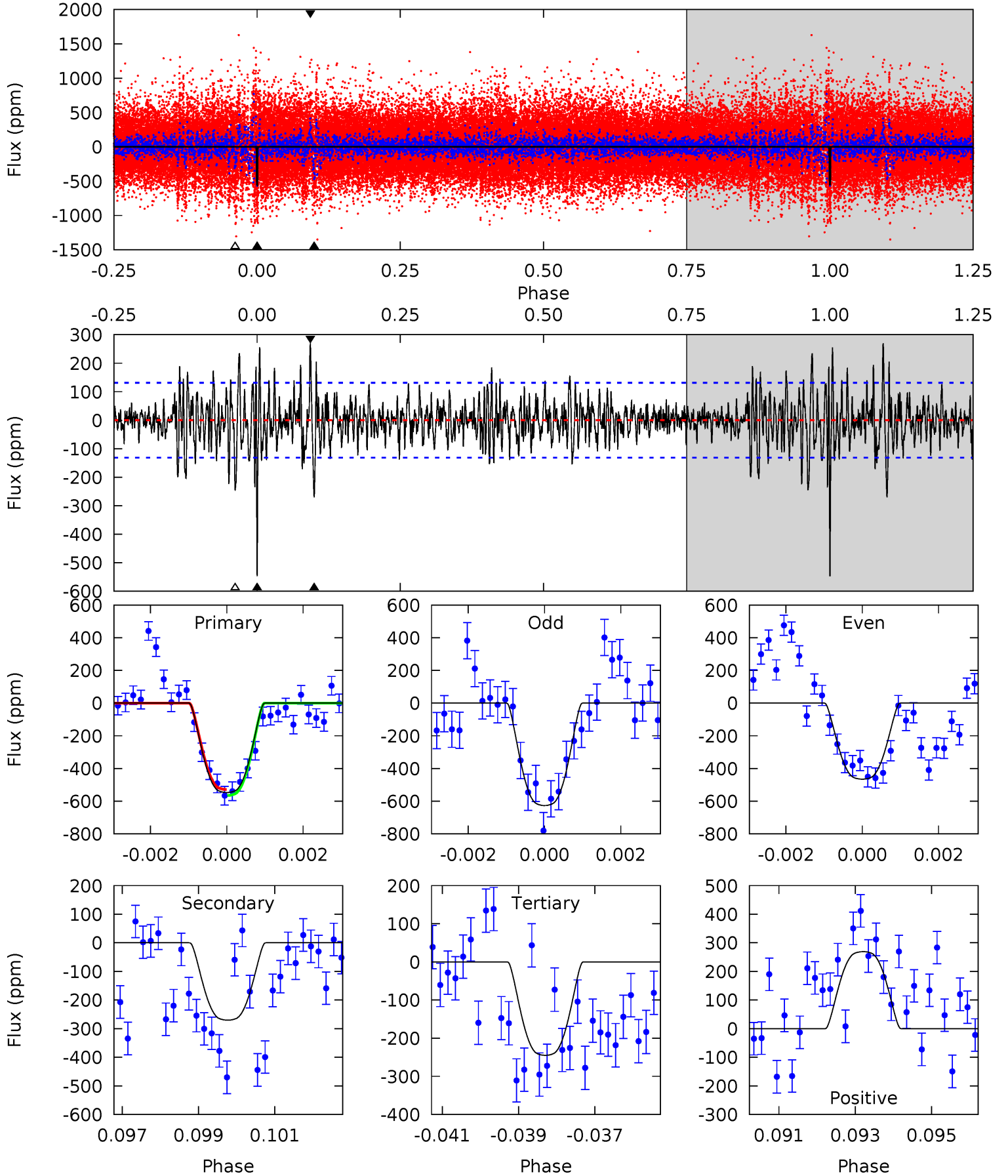
TCE 008035086-01 P=361.857914 Days  $T_0=404.593132$  (BKJD)



# DV Model-Shift Uniqueness Test

008035086-01,  $P = 361.828667$  Days,  $E = 42.828651$  Days

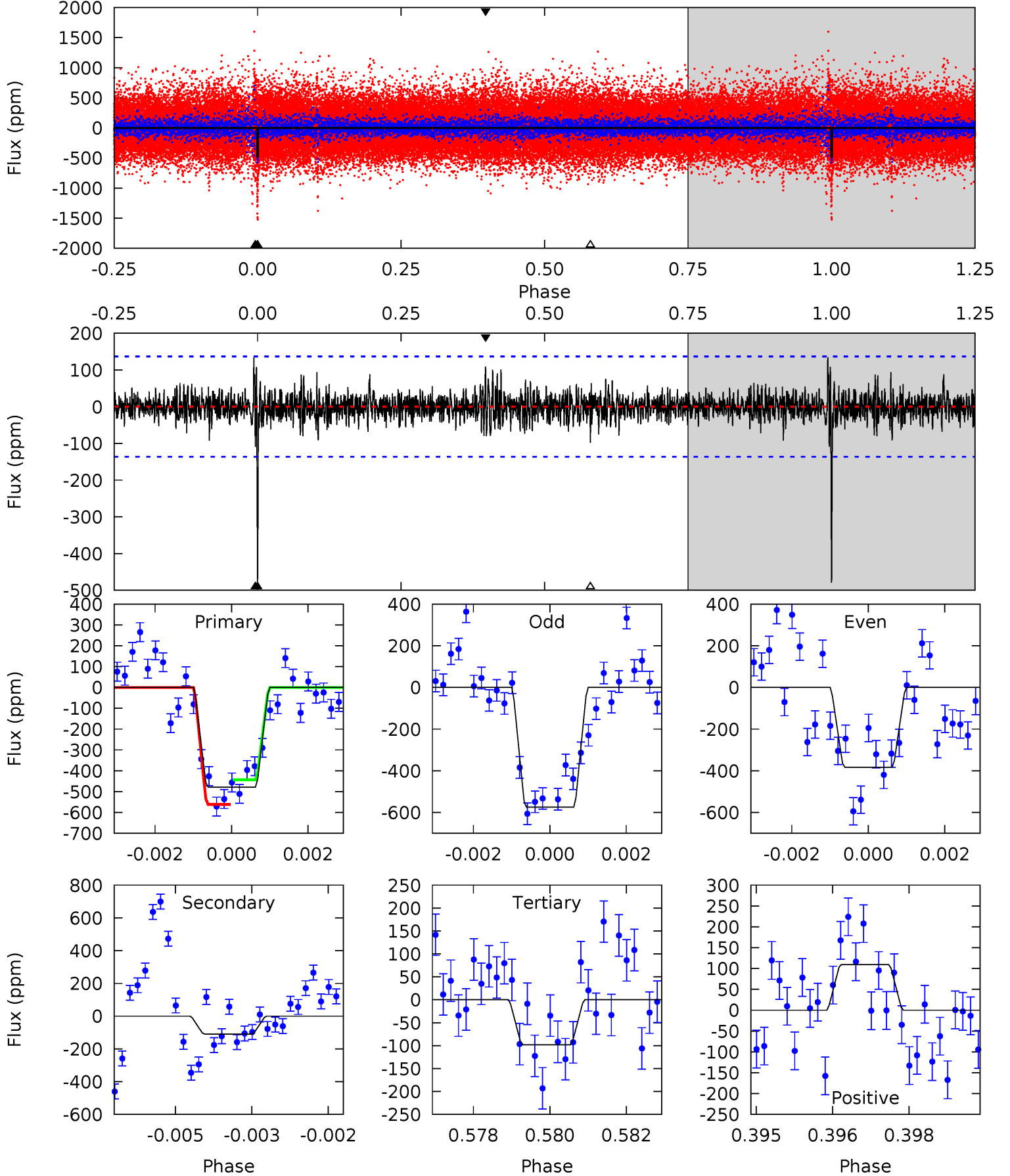
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	10.9	9.92	10.9	5.32	3.08	2.43	12.2	11.3	1.02	0.04	3.27	1.07	0.33	0.74



# Alt Model-Shift Uniqueness Test

008035086-01, P = 361.857914 Days, E = 42.735218 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
18.8	4.28	3.85	4.28	5.35	3.13	1.01	14.9	14.5	0.42	-0.01	3.77	1.27	0.22	2.31



### Stellar Parameters For KIC 008035086

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5970^{+161}_{-179}$	$4.439^{+0.101}_{-0.188}$	$-0.320^{+0.300}_{-0.300}$	$0.959^{+0.277}_{-0.119}$	$0.923^{+0.119}_{-0.108}$	$1.476^{+0.628}_{-0.705}$
	+3%/-3%	+2%/-4%	+94%/-94%	+29%/-12%	+13%/-12%	+43%/-48%
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 008035086-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-270 \pm 25$	$3.02^{+0.51}_{-0.44}$	$369^{+27}_{-18}$	$4700^{+273}_{-230}$	$15021^{+5918}_{-3775}$
Alt.	$-109 \pm 26$	$2.38^{+0.43}_{-0.38}$	$370^{+24}_{-20}$	$4304^{+308}_{-283}$	$9629^{+4636}_{-3155}$

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

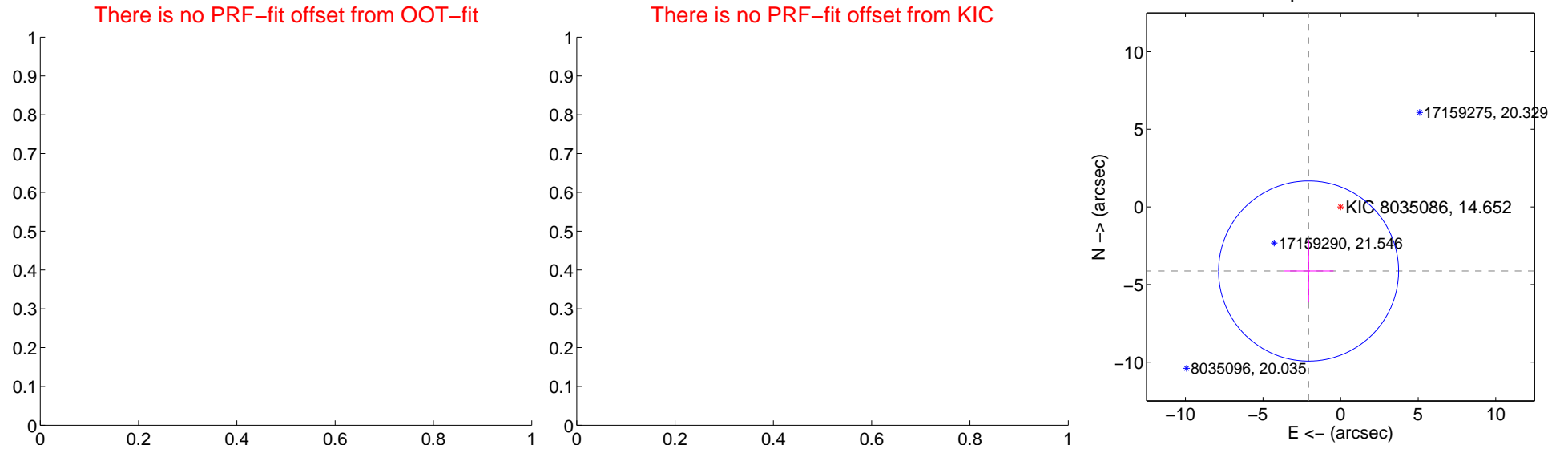
## DV Centroid Data

Supplemental centroid analysis for 008035086-01. Kepler magnitude: 14.65. Transit SNR 8.93

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

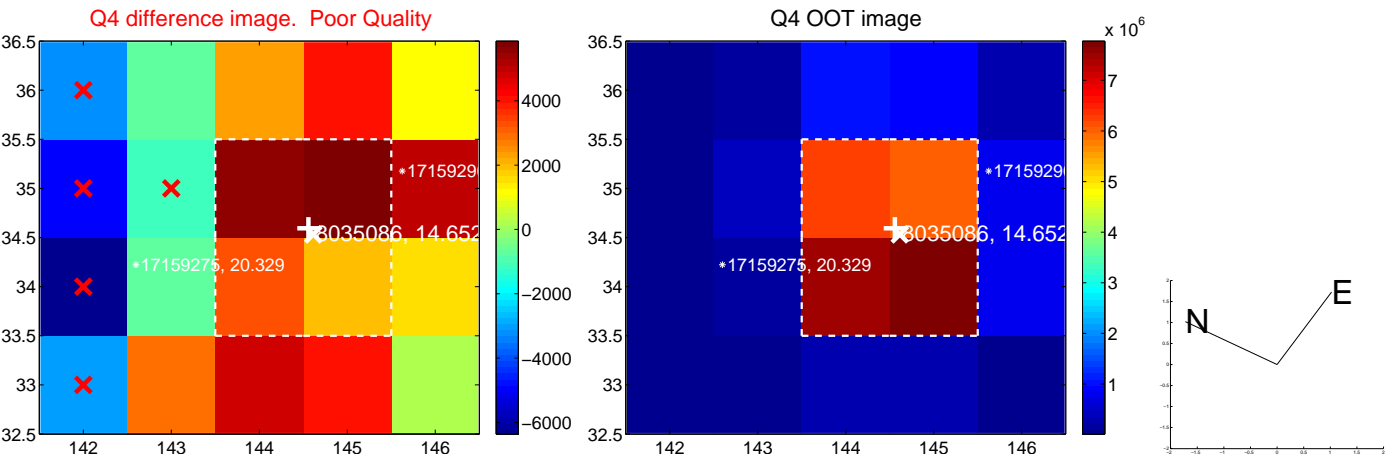
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$4.62 \pm 1.93$	2.39	$2.06 \pm 1.61$	$-4.13 \pm 2.01$



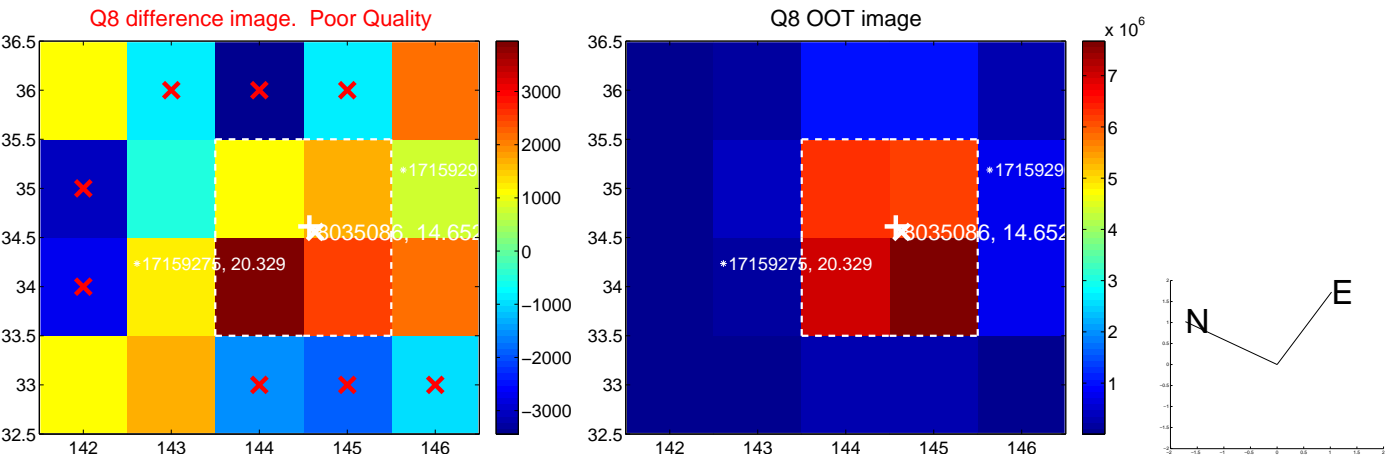
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



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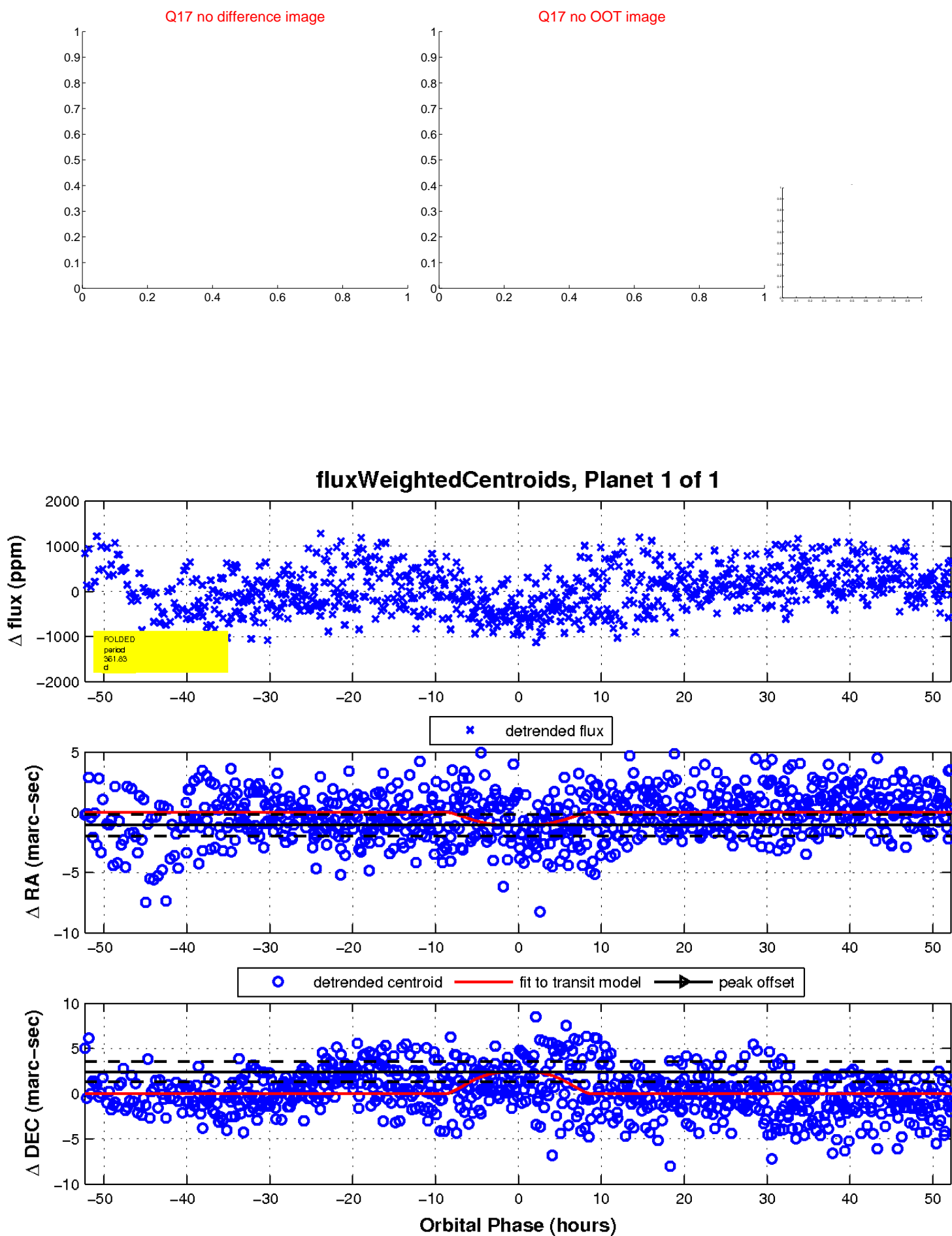
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



# UKIRT Image

Declination

