

# KIC 011136854

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011136854-01	OBS	No	378.681970	250.894683	674.5	32.970	22.6	16.2	10.24	5186	54.25	32.52

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011136854-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

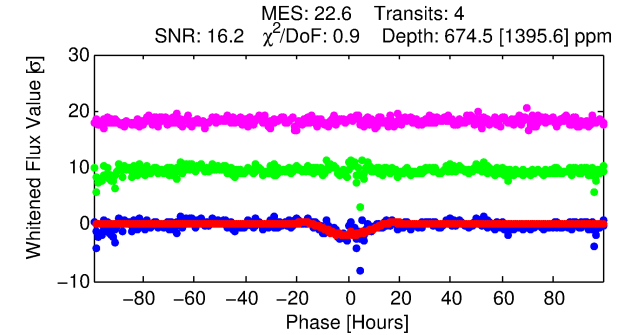
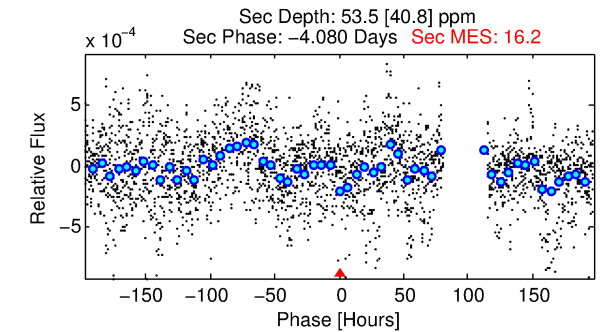
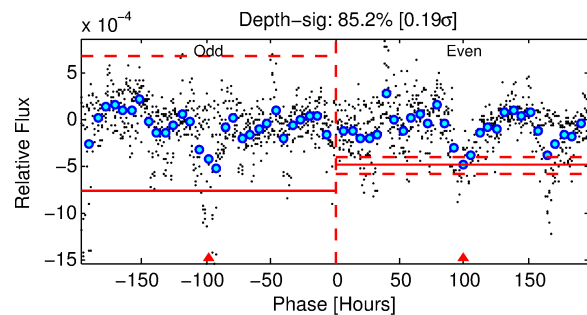
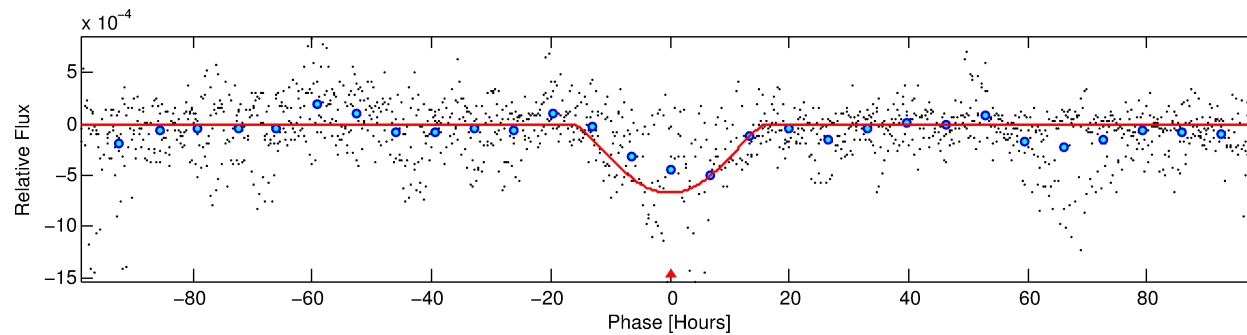
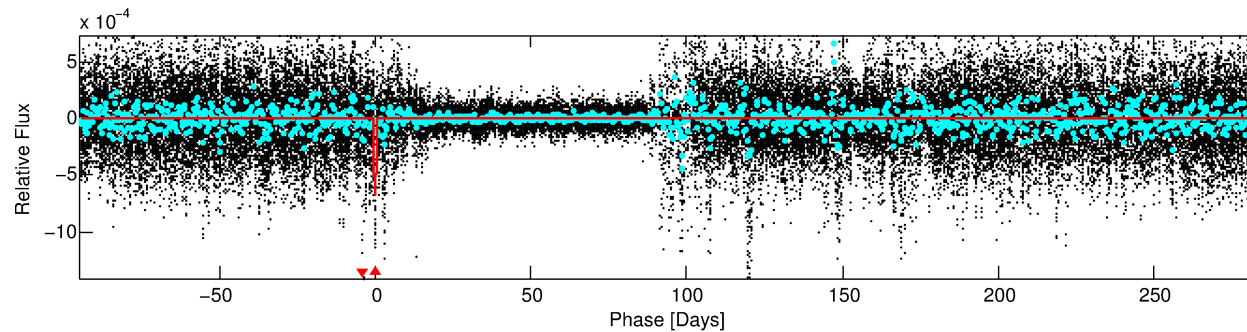
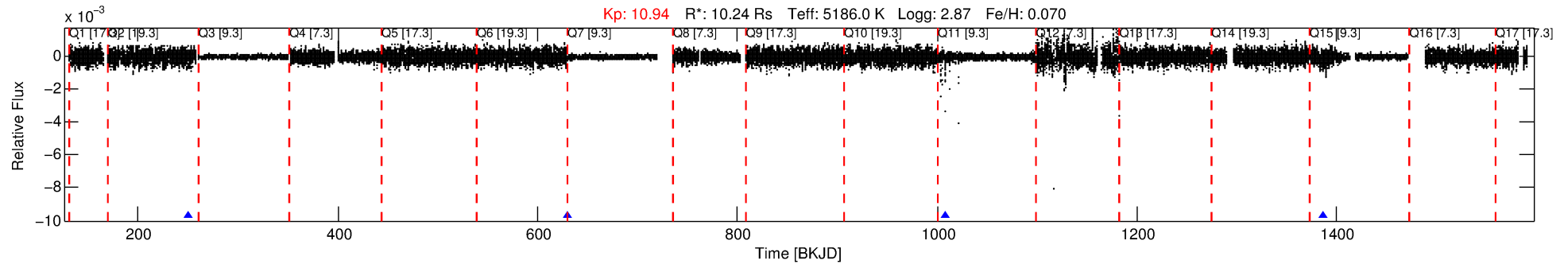
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011136854-01

No Significant Match Found

# DV One-Page Summary

KIC: 11136854 Candidate: 1 of 1 Period: 378.682 d



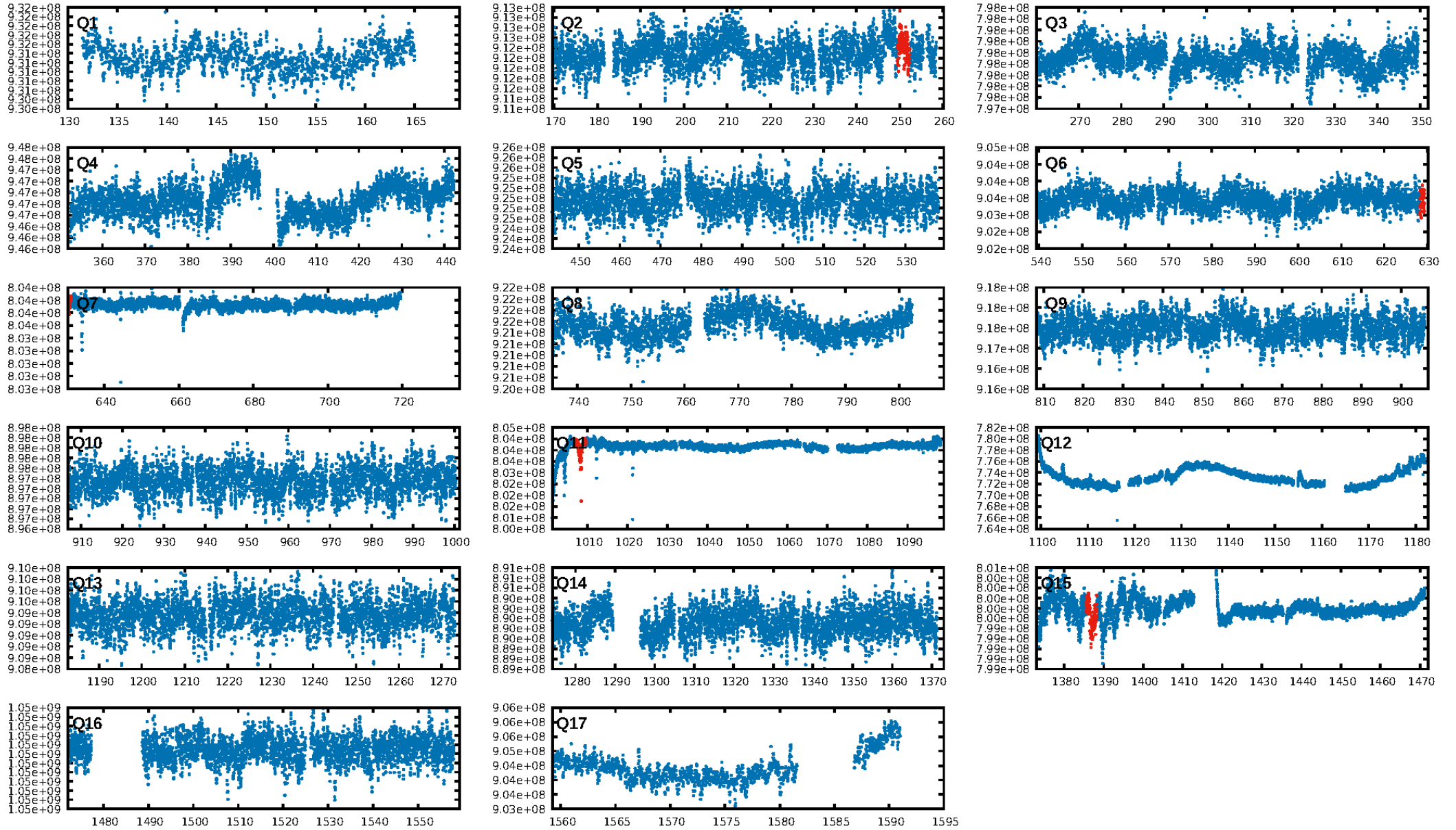
## DV Fit Results:

Period = 378.68197 [0.02472] d  
Epoch = 250.8947 [0.0530] BKJD  
Rp/R\* = 0.0485 [0.0772]  
a/R\* = 27.68 [10.22]  
b = 1.00 [0.04]  
Seff = 32.52 [8.01]  
Teq = 609 [37] K  
Rp = 54.25 [87.33] Re  
a = 1.4462 [0.2414] AU  
Ag = 20.93 [68.58] [0.29 $\sigma$ ]  
Teffp = 2014 [1649] K [0.85 $\sigma$ ]

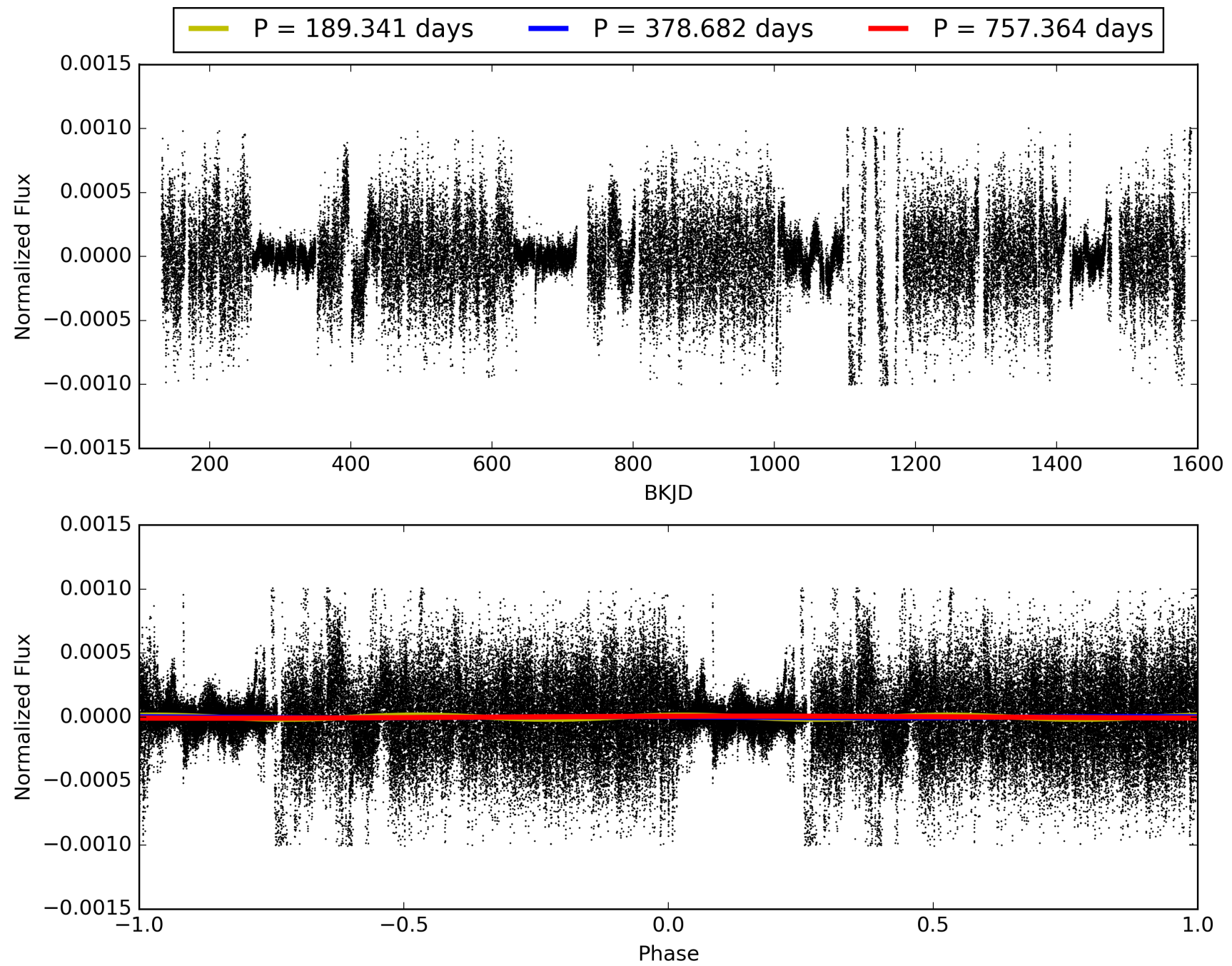
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.14e-72  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -3.545  
Centroid-sig: 29.4%  
Centroid-so: 0.775 arcsec [1.56 $\sigma$ ]  
OotOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-rm: N/A  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [1/1]

# TCE 011136854-01, PDC Light Curves

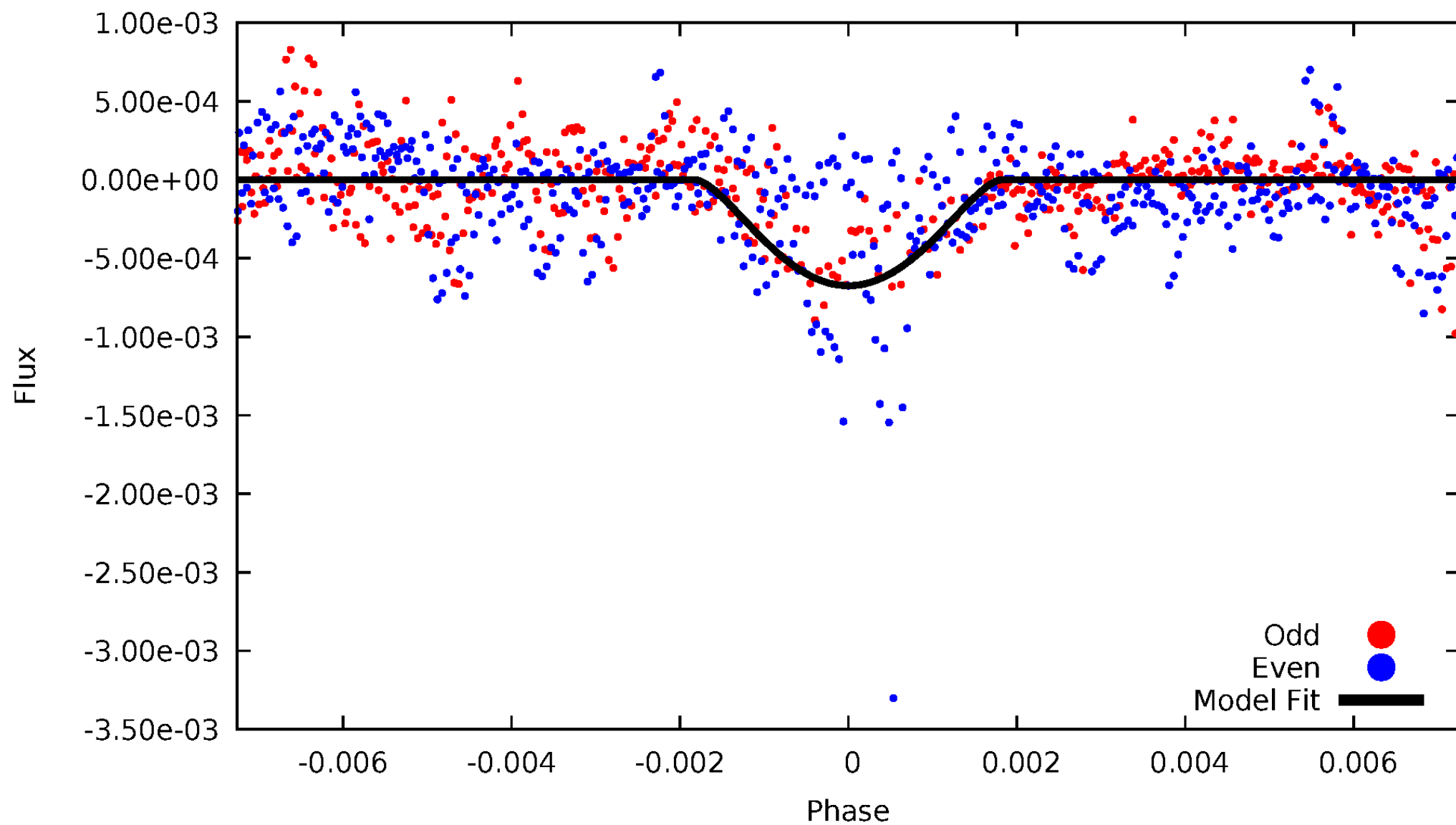


# TCE 011136854-01



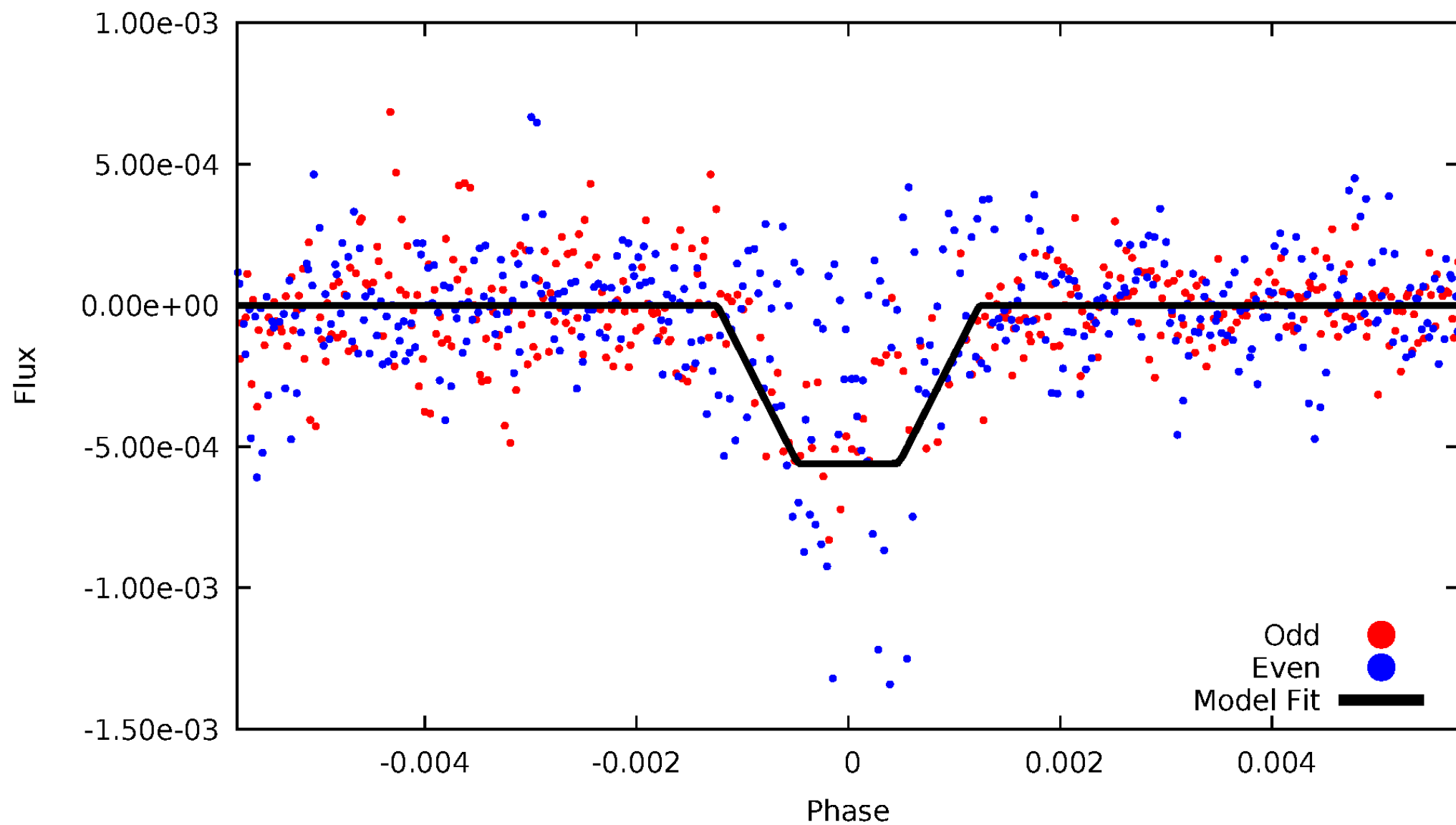
# DV Odd/Even

TCE 011136854-01



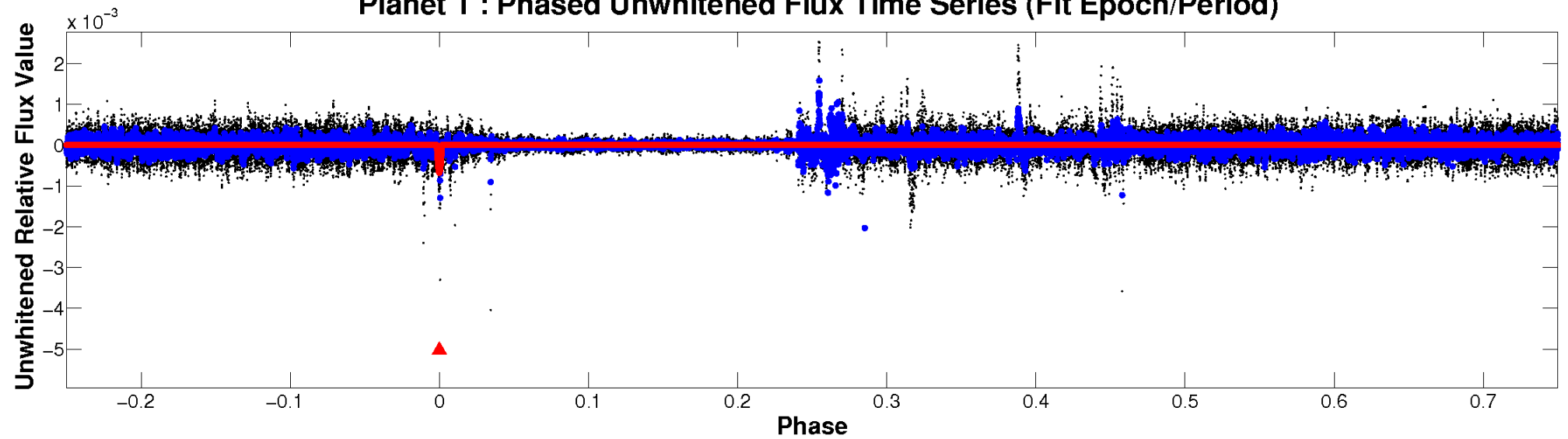
# ALT Odd/Even

TCE 011136854-01

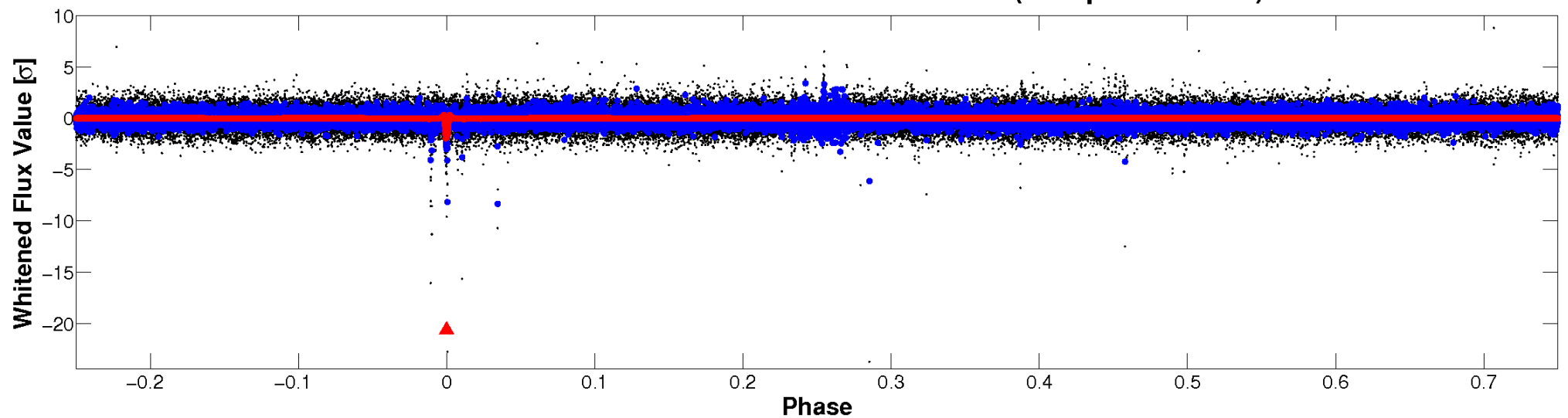


# Non-Whitened Vs. Whitened Light Curve

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

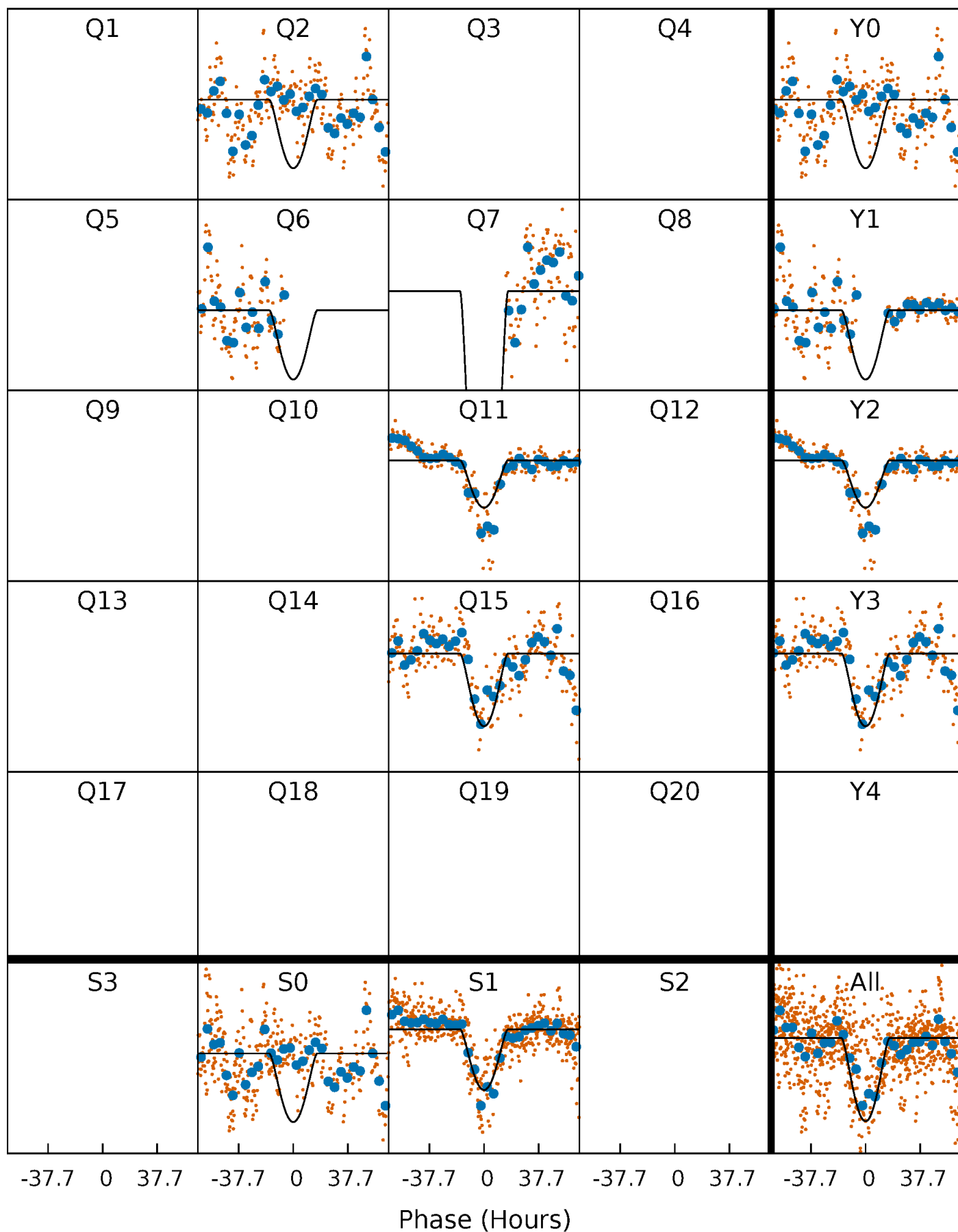
TCE 011136854-01 P=378.681970 Days  $T_0=250.894683$  (BKJD)





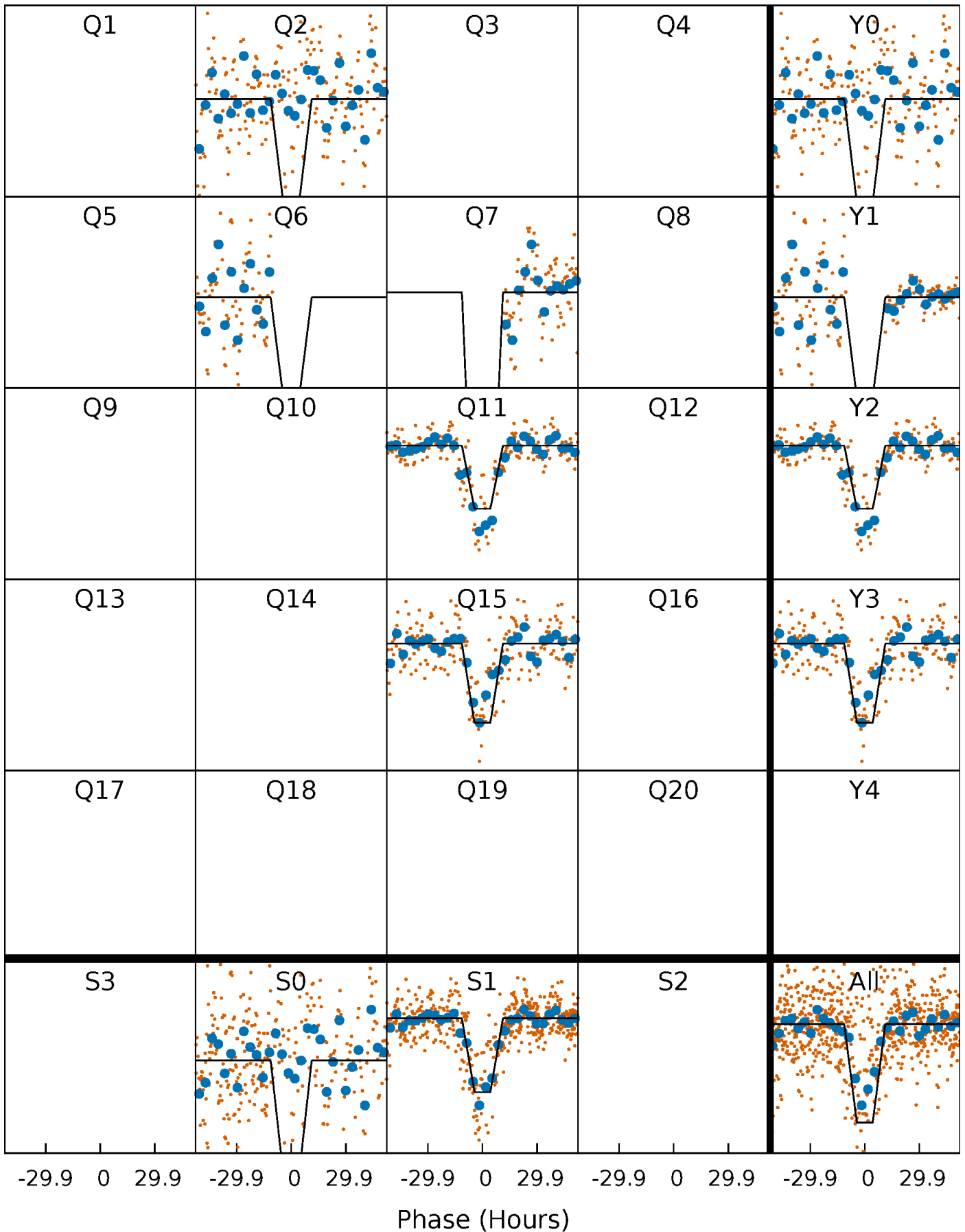
# DV Quarter-Phased Transit Curves

TCE 011136854-01 P=378.681970 Days  $T_0=250.894683$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

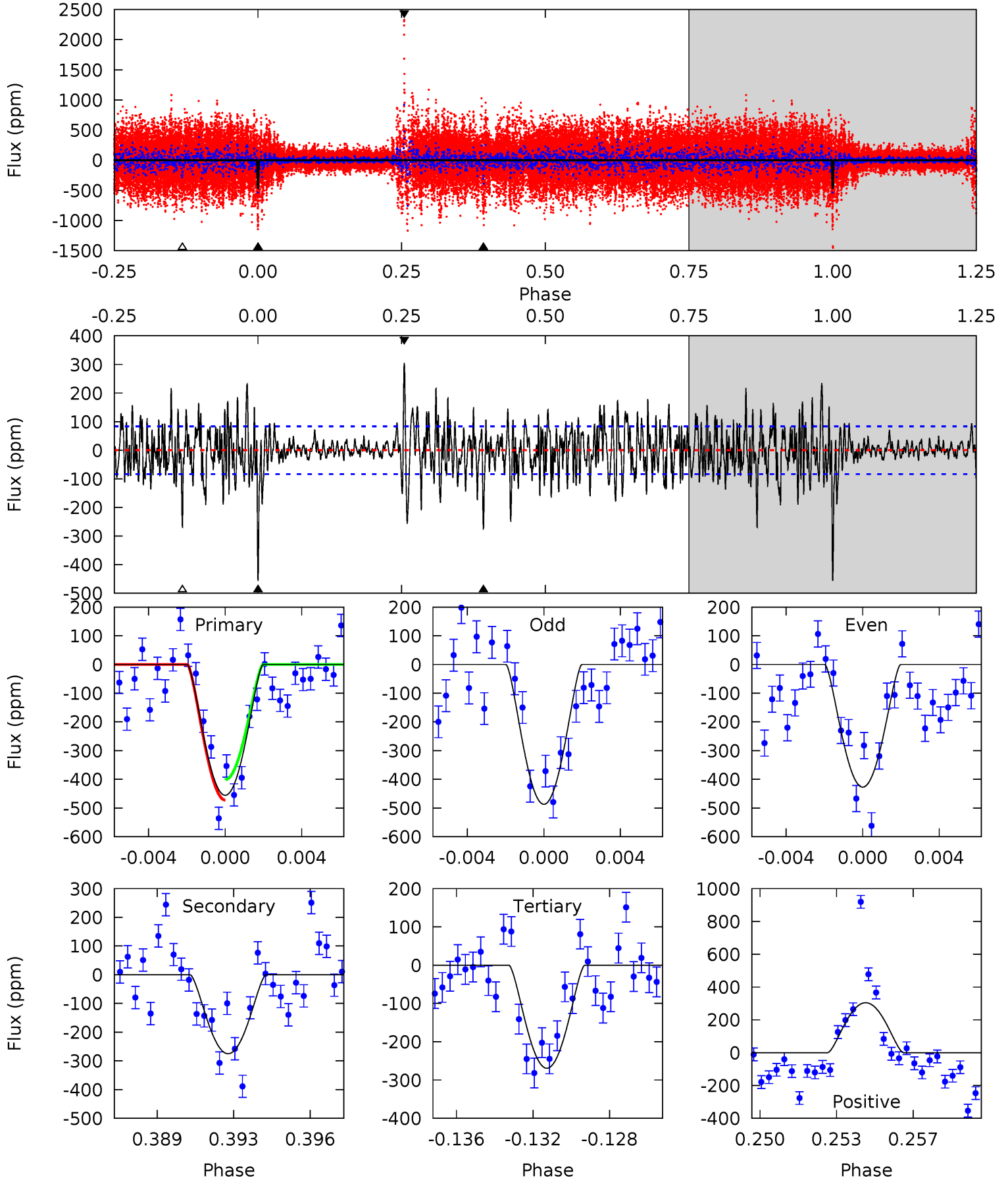
TCE 011136854-01 P=378.565755 Days  $T_0=251.161562$  (BKJD)



# DV Model-Shift Uniqueness Test

011136854-01, P = 378.681970 Days, E = 250.894683 Days

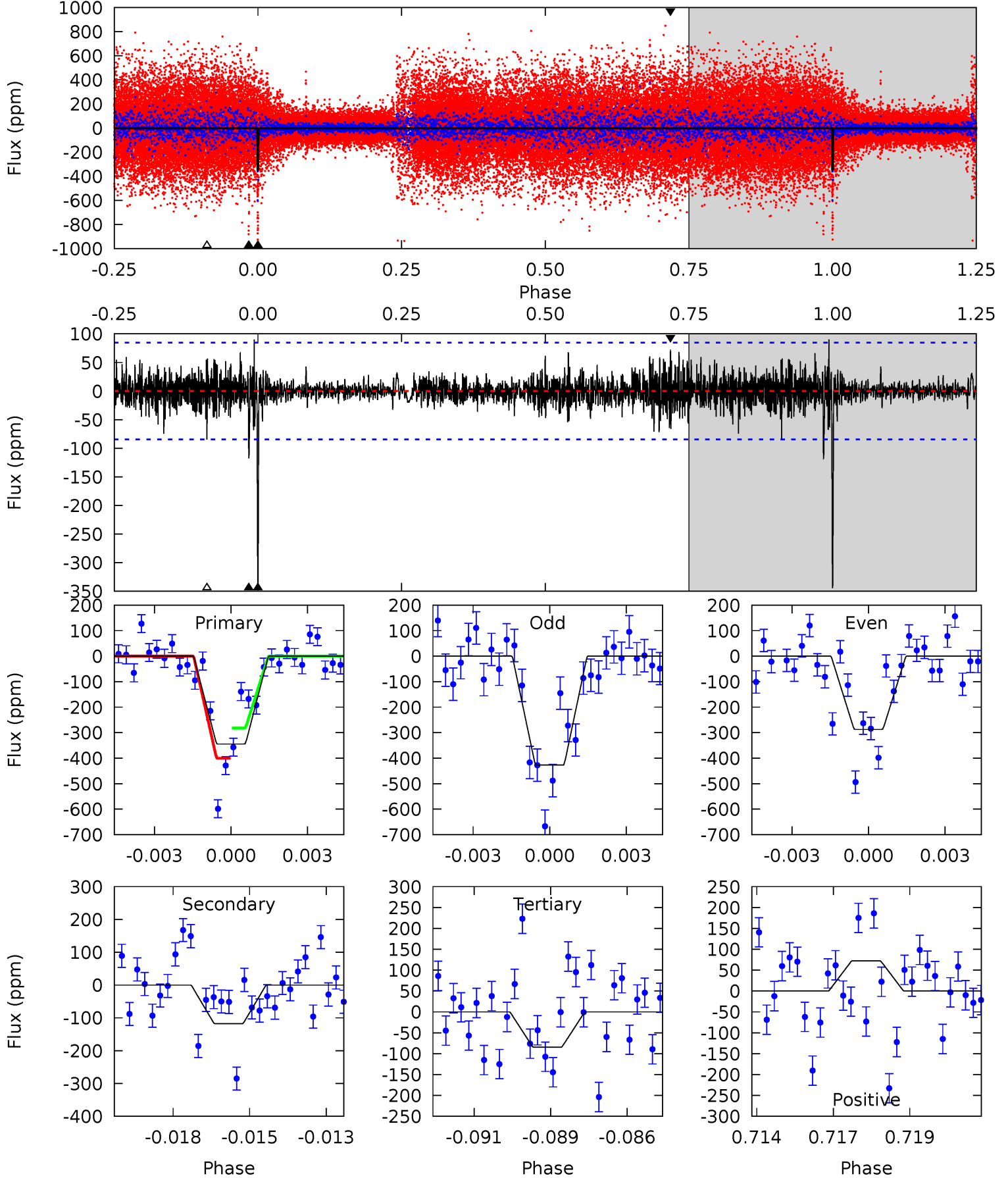
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.4	17.1	16.8	19.0	5.22	2.91	4.24	11.6	9.44	0.36	-1.83	1.79	1.22	0.40	2.34



# Alt Model-Shift Uniqueness Test

011136854-01, P = 378.565755 Days, E = 251.161562 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
21.5	7.36	5.29	4.53	5.28	3.02	1.08	16.2	17.0	2.07	2.83	4.21	1.13	0.21	3.86



### Stellar Parameters For KIC 011136854

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5186^{+105}_{-225}$	$2.866^{+0.039}_{-0.032}$	$0.070^{+0.150}_{-0.350}$	$10.245^{+0.445}_{-2.524}$	$2.814^{+0.128}_{-1.151}$	$0.004^{+0.002}_{-0.000}$
	+2%/-4%	+1%/-1%	+214%/-500%	+4%/-25%	+5%/-41%	+44%/-11%
Source	PHO55	AST55	SPE55	DSEP		

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

### Secondary Eclipse Parameters for KIC 011136854-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-275 \pm 16$	$80.70^{+73.73}_{-51.35}$	$850^{+23}_{-40}$	$3069^{+1196}_{-496}$	$48^{+320}_{-35}$
Alt.	$-118 \pm 16$	$67.67^{+70.98}_{-45.60}$	$851^{+23}_{-36}$	$2853^{+1218}_{-474}$	$29^{+256}_{-22}$

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

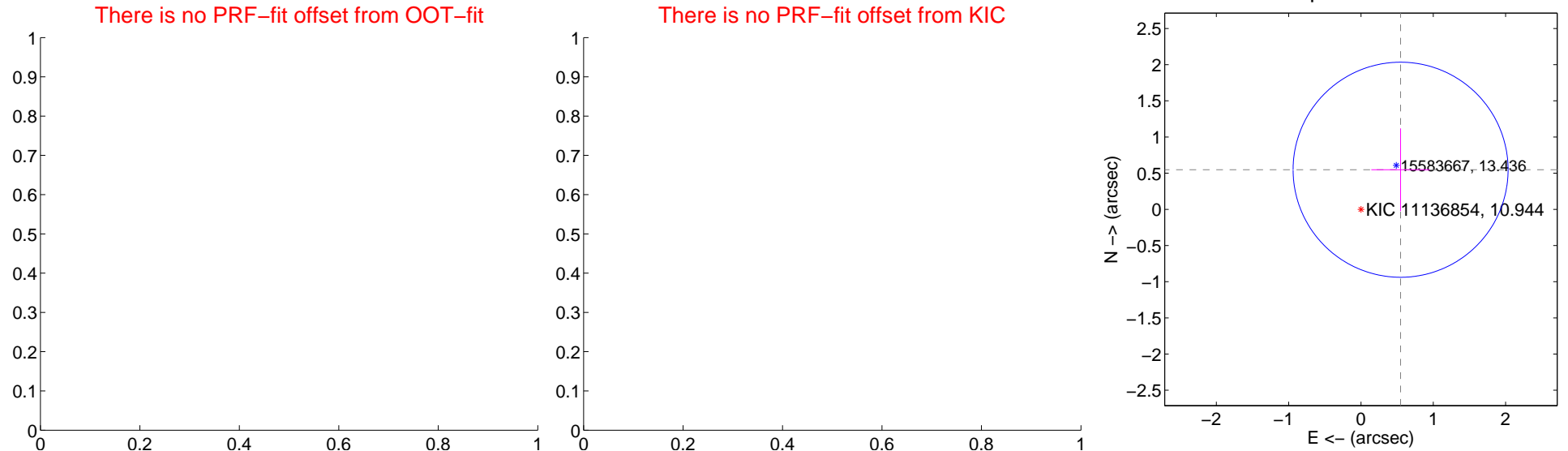
## DV Centroid Data

Supplemental centroid analysis for 011136854-01. **Kepler magnitude: 10.94.** Transit SNR 16.24

**There are 0 quarters with good PRF difference image offsets**

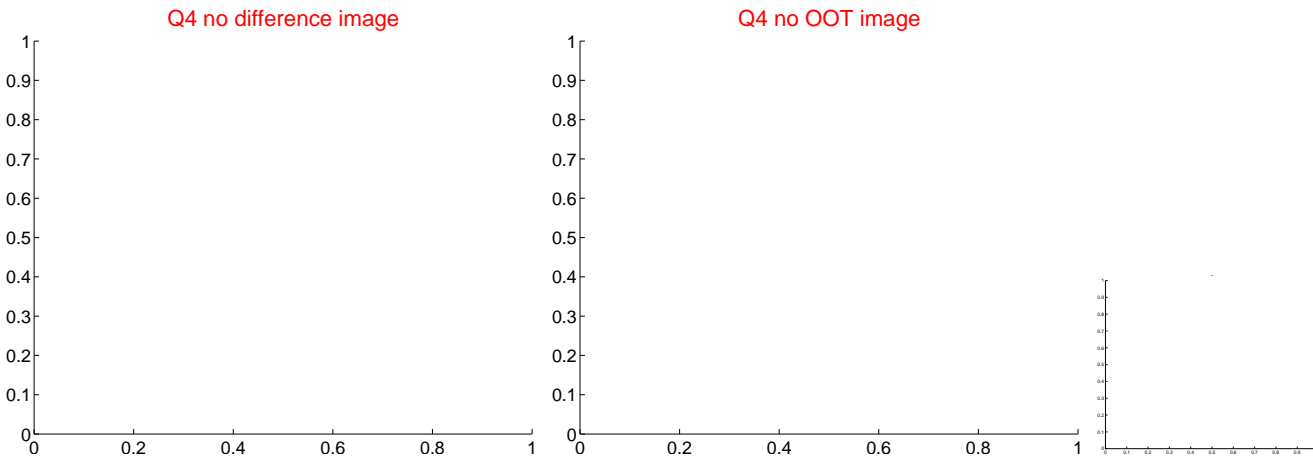
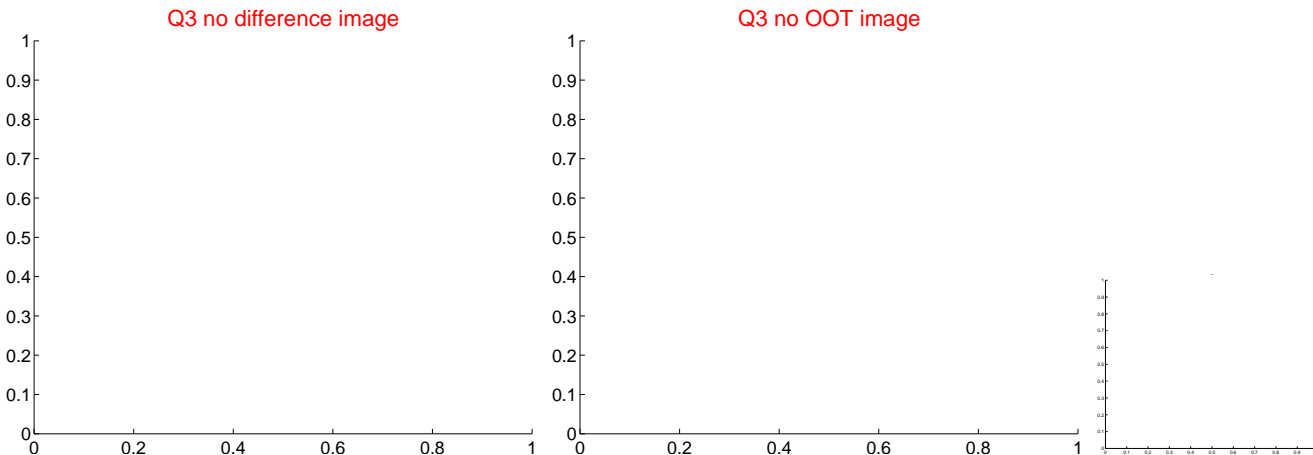
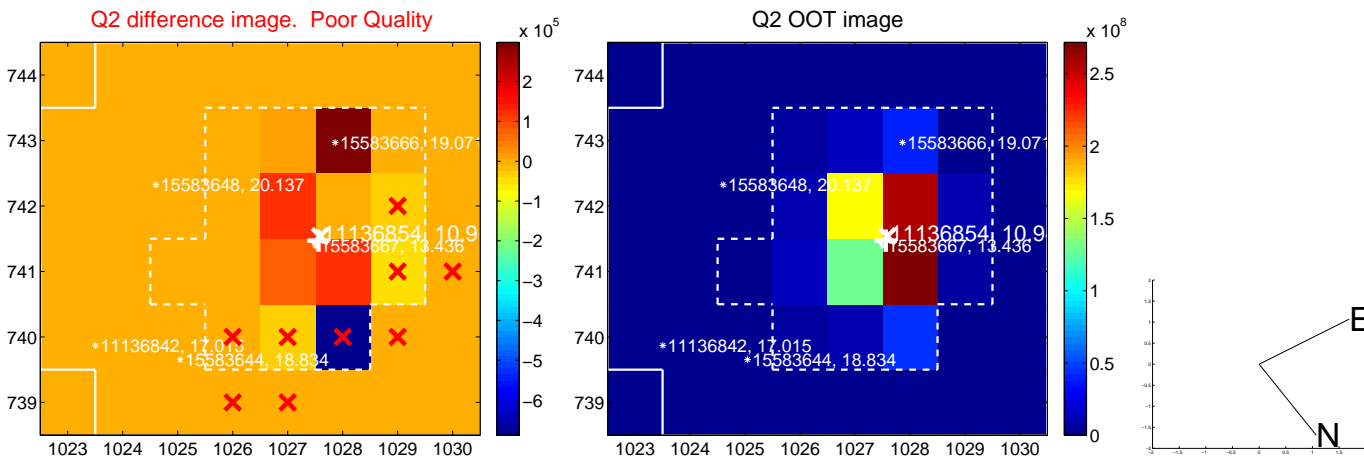
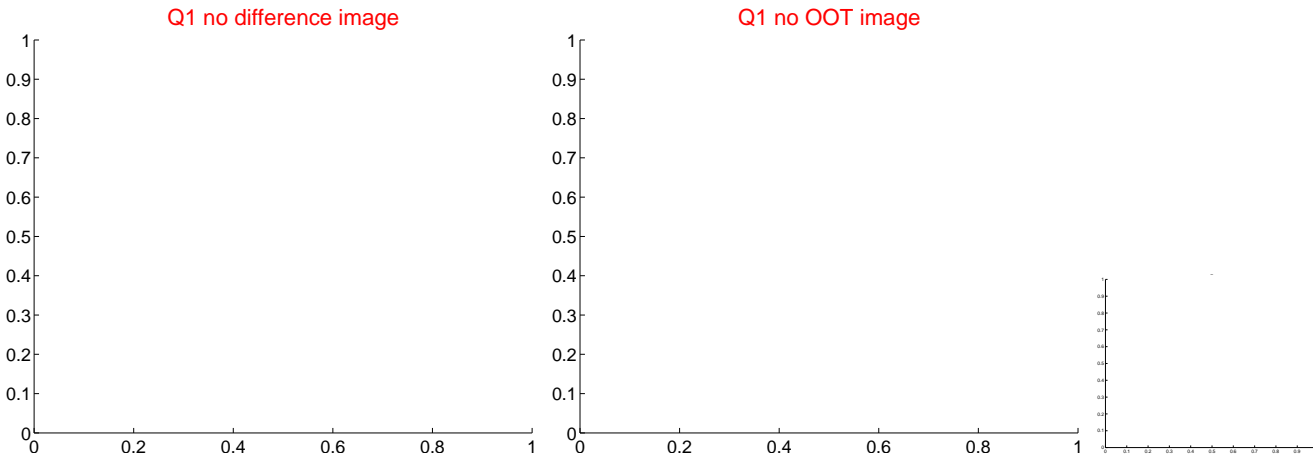
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	$0.77 \pm 0.50$	1.56	$-0.55 \pm 0.40$	$0.55 \pm 0.57$



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.



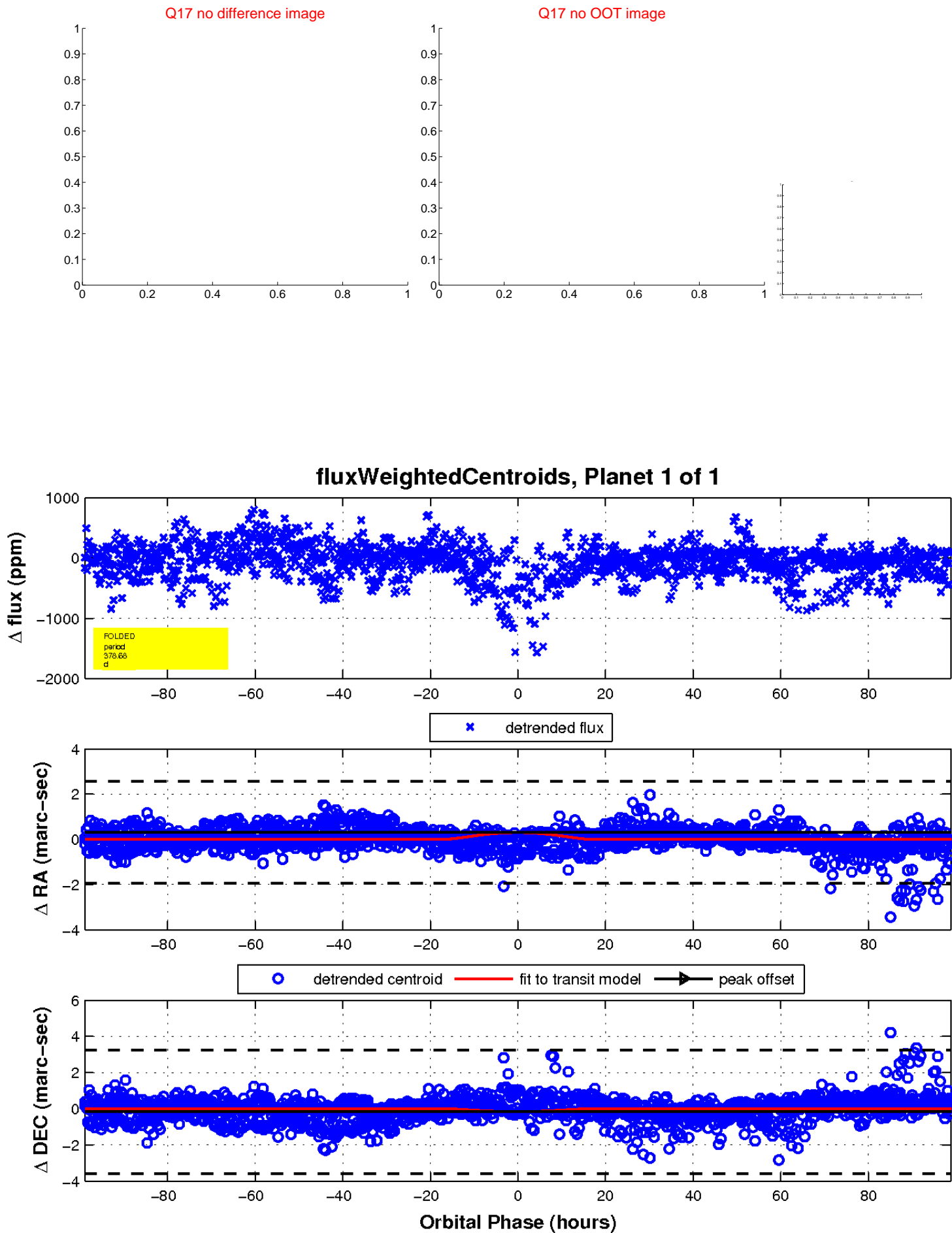
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

