

# KIC 010136603

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010136603-01	OBS	No	135.589088	198.662051	3849.6	2.500	26.5	-1.0	2.81	8109	17.62	76.96

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010136603-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

**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.

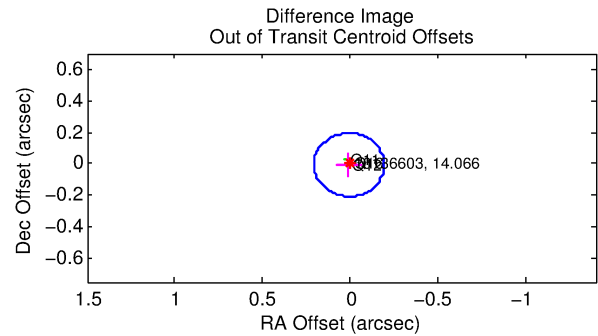
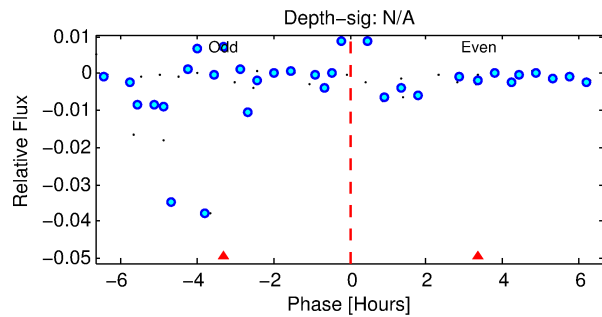
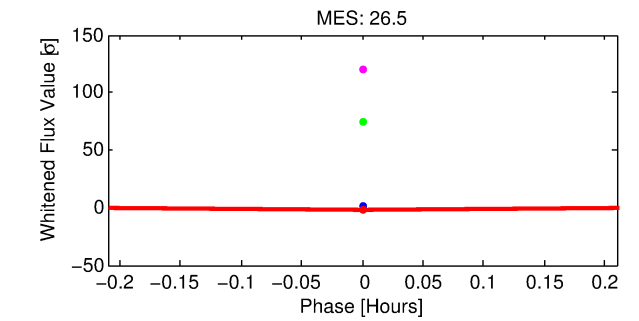
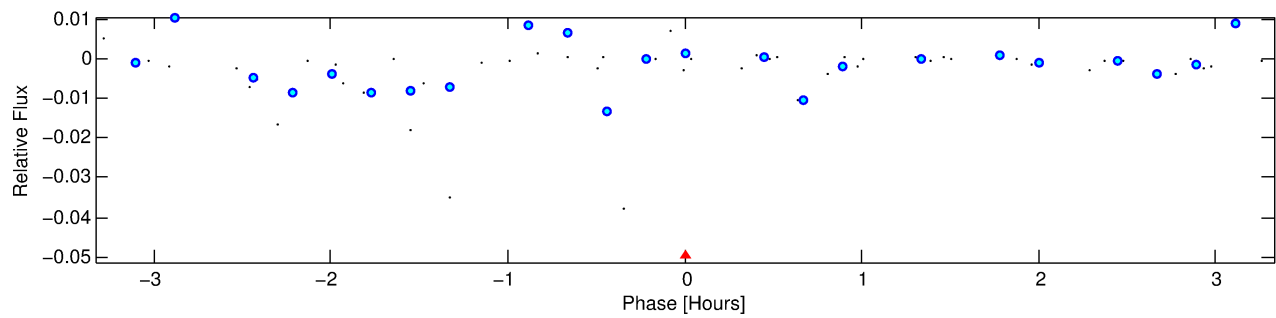
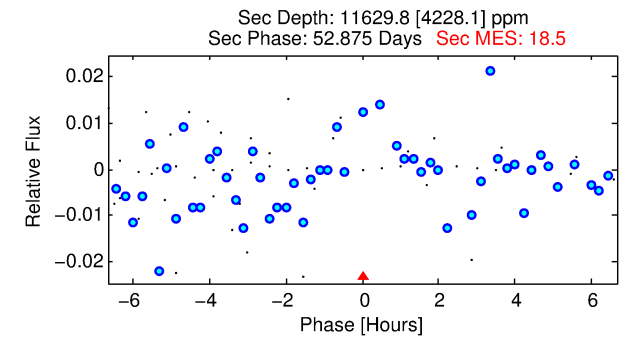
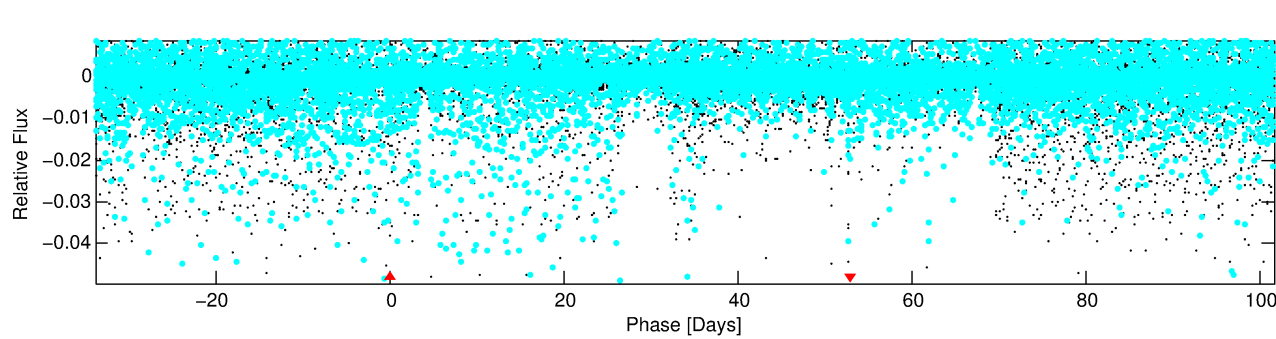
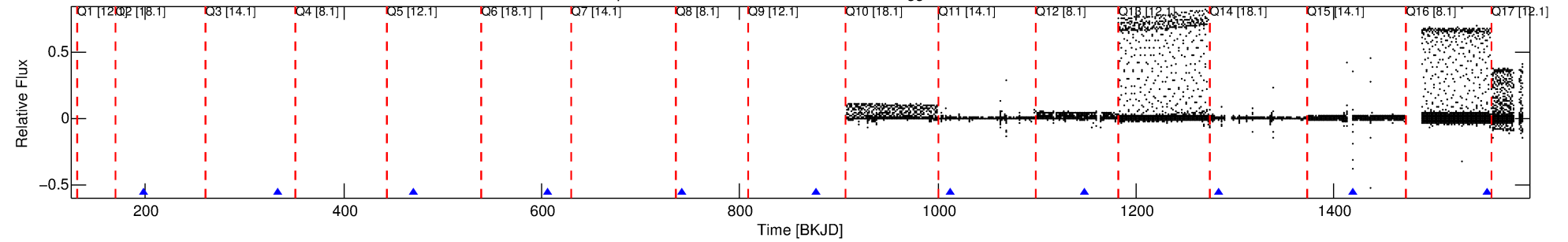
## Ephemeris Match Information For 010136603-01

No Significant Match Found

# DV One-Page Summary

KIC: 10136603 Candidate: 1 of 1 Period: 135.589 d

Kp: 14.07 R\*: 2.81 Rs Teff: 8109.0 K Logg: 3.80 Fe/H: -0.300



## TPS TCE Results:

Period = 135.58909 d  
Epoch = 198.6621 BKJD

DV fit results are unavailable

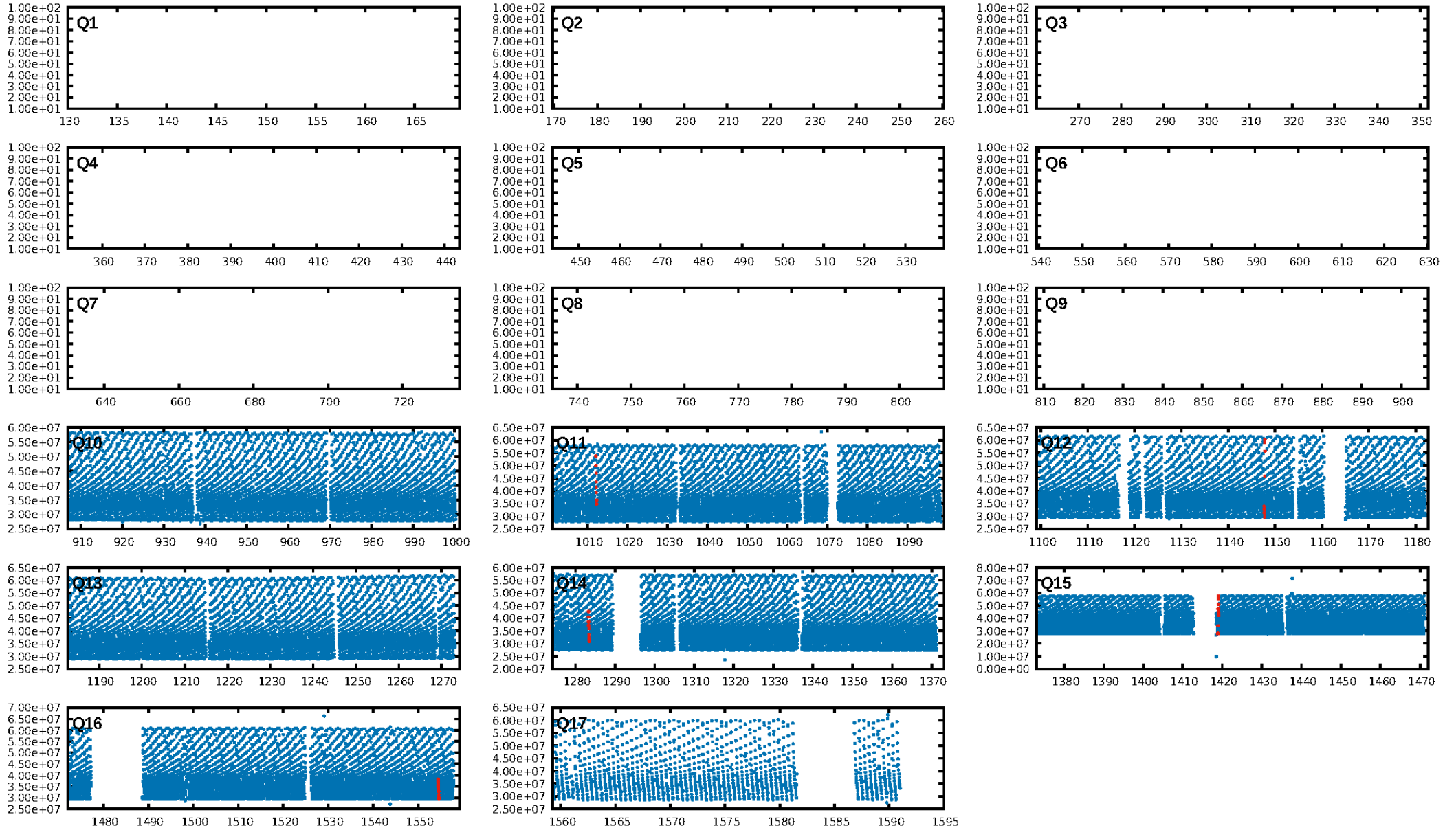
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.86e-11  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 0.5101  
Centroid-sig: 40.5%  
Centroid-so: 0.295 arcsec [3.07σ]  
OotOffset-rm: 0.010 arcsec [0.15σ]  
KicOffset-rm: 0.143 arcsec [1.42σ]  
OotOffset-st: 0/1/2/0 [3]  
KicOffset-st: 0/1/2/0 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

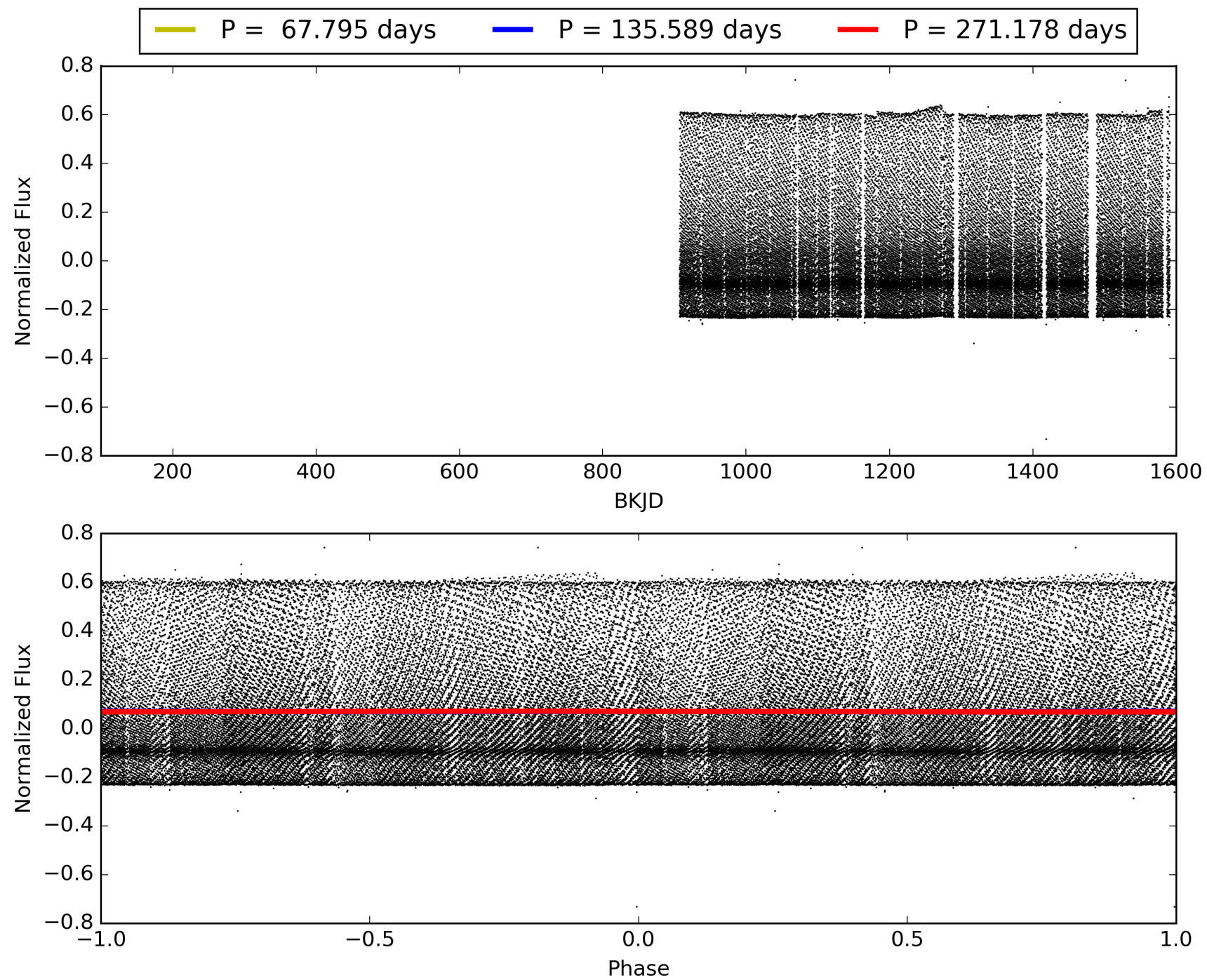
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:40:14 Z

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

# TCE 010136603-01, PDC Light Curves

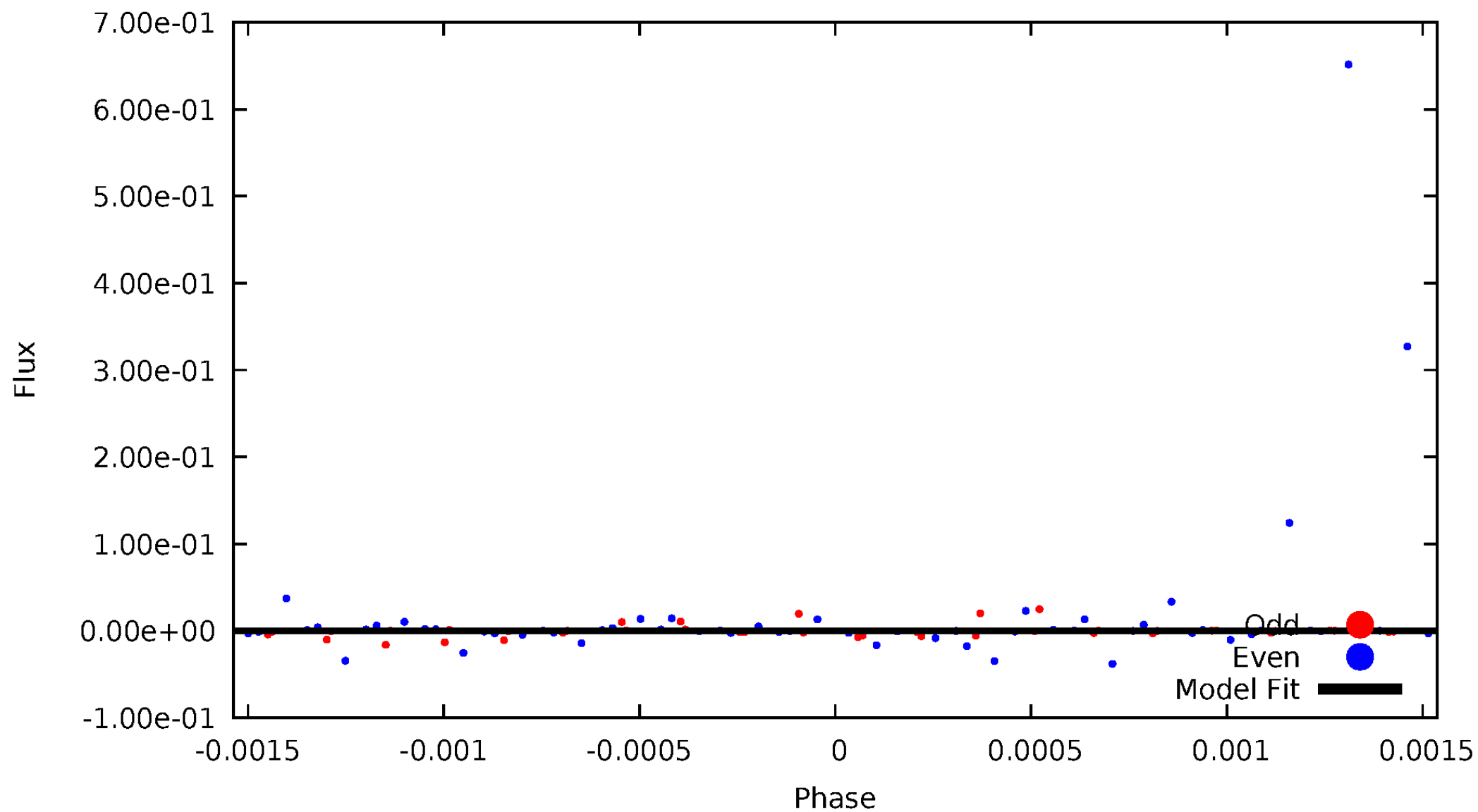


# TCE 010136603-01



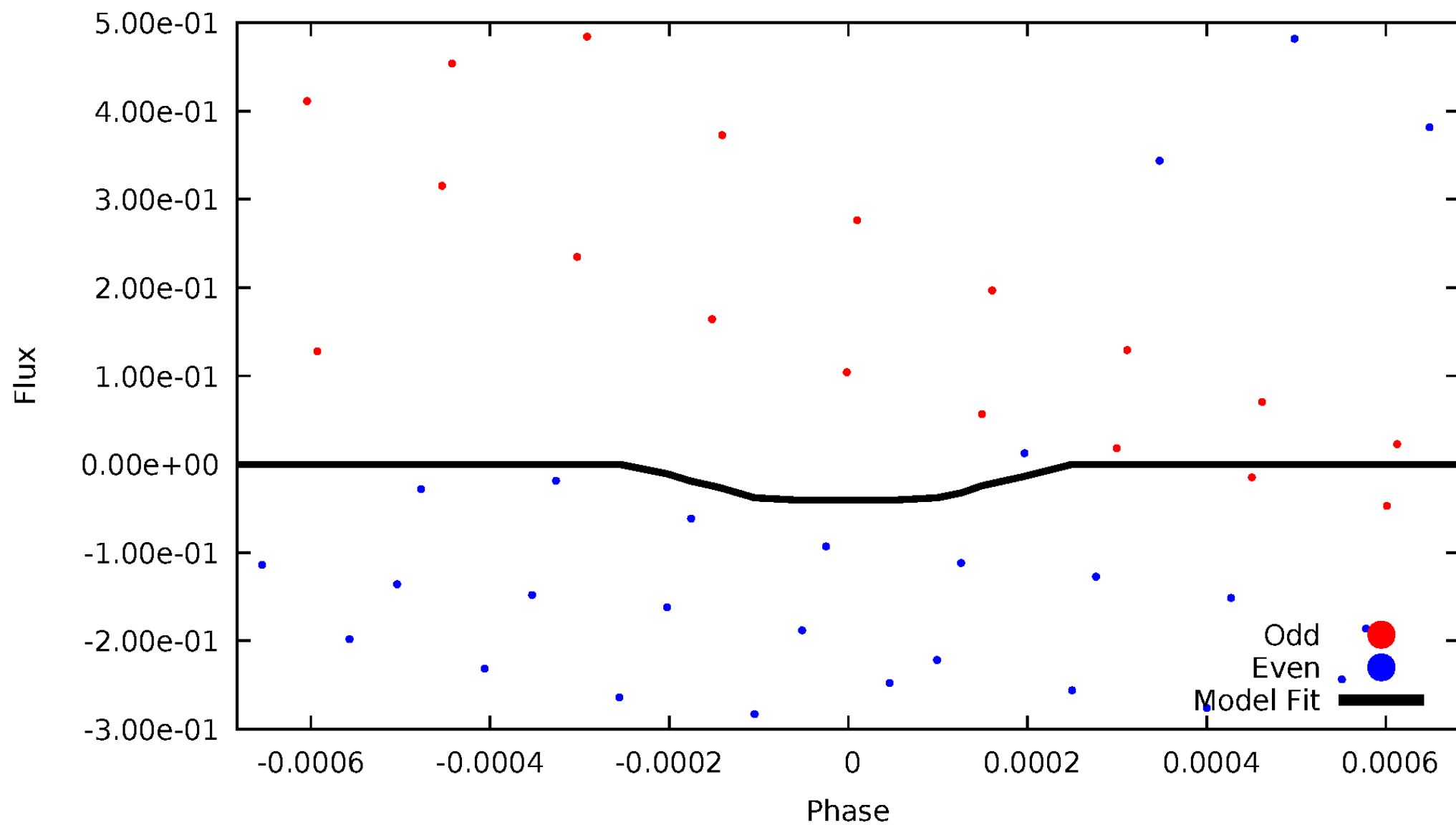
# DV Odd/Even

TCE 010136603-01



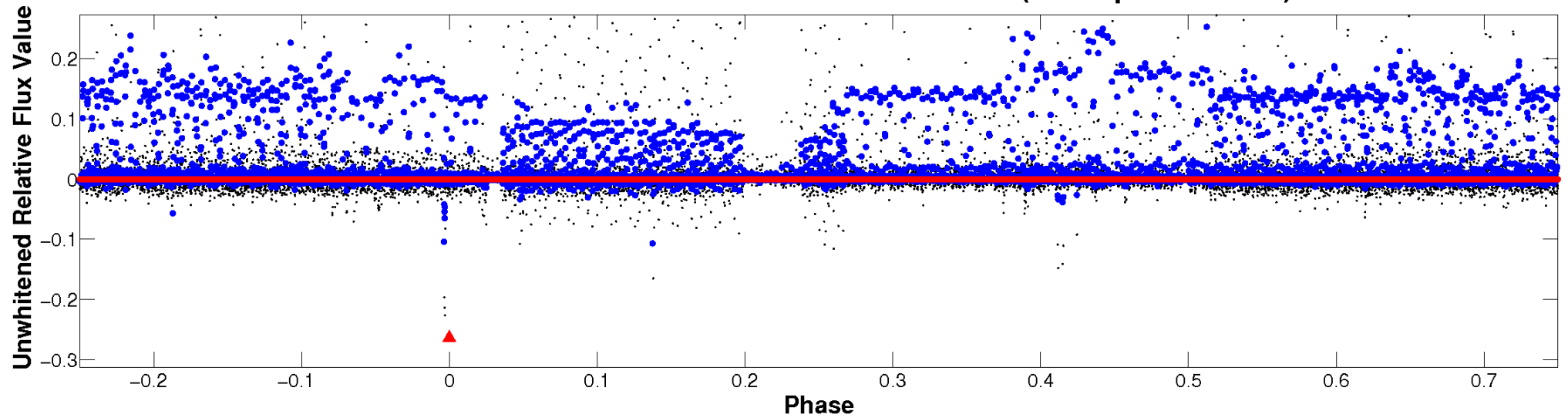
# ALT Odd/Even

TCE 010136603-01



# Non-Whitened Vs. Whitened Light Curve

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

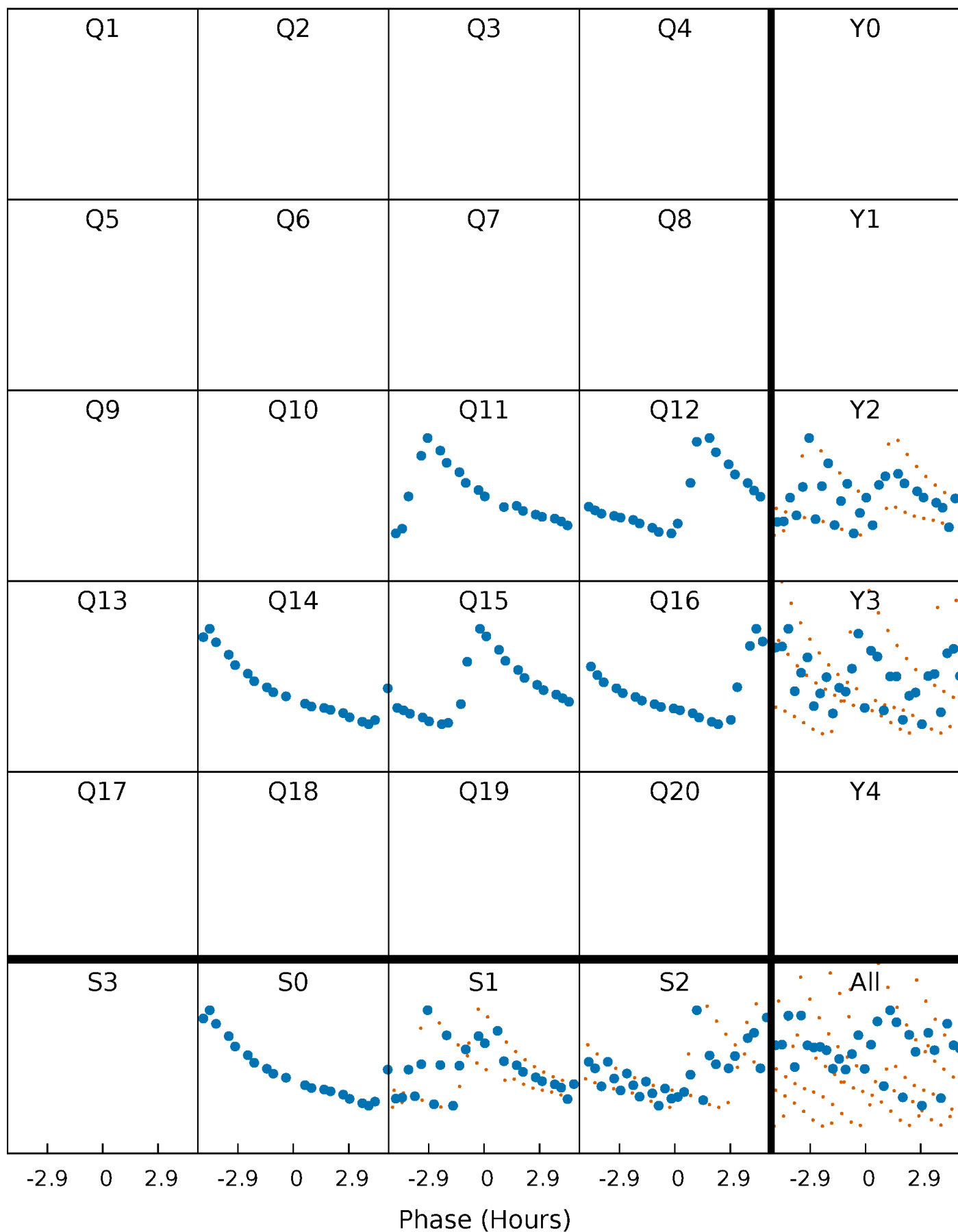


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



# PDC Quarter-Phased Transit Curves

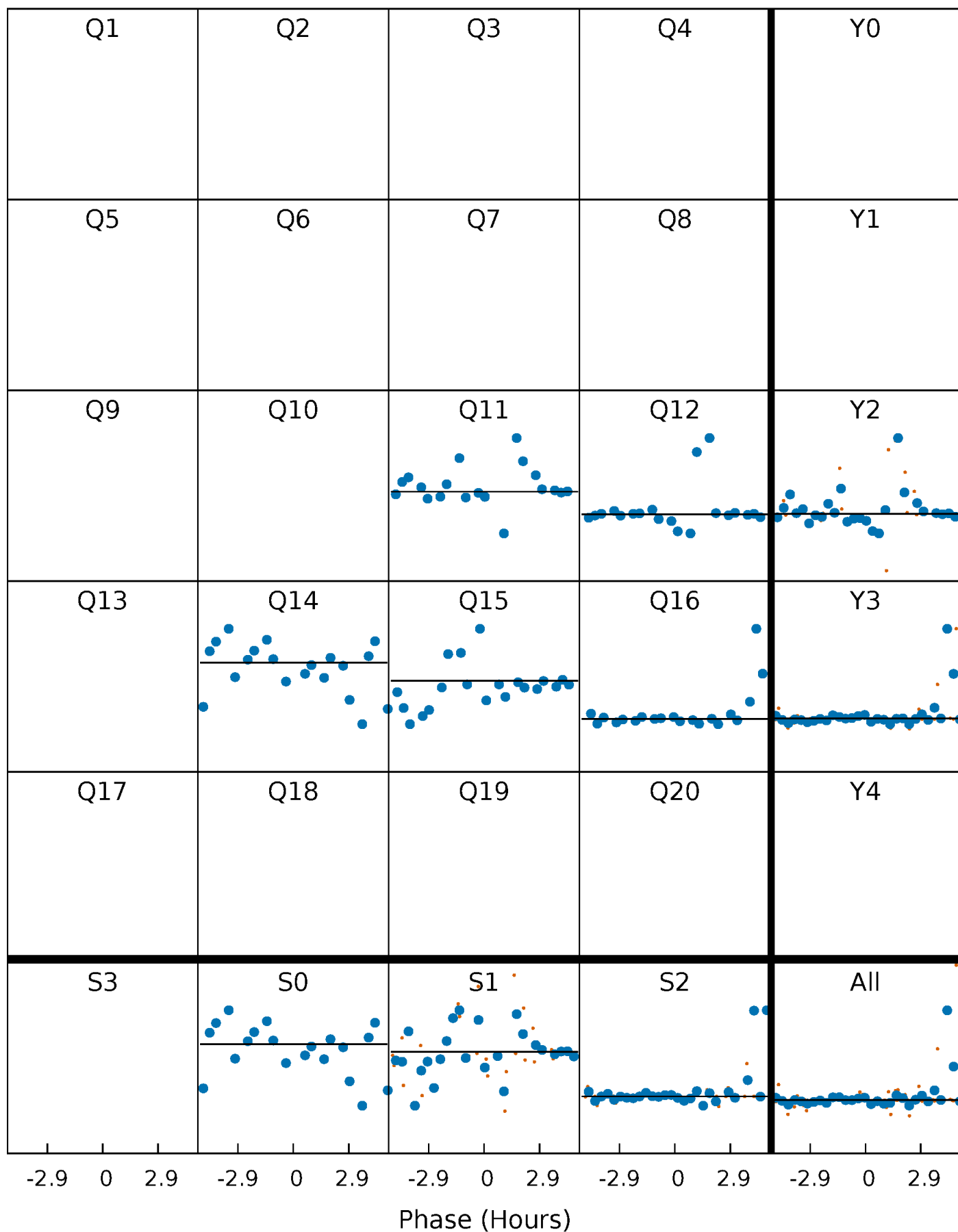
TCE 010136603-01 P=135.589088 Days  $T_0=198.662051$  (BKJD)





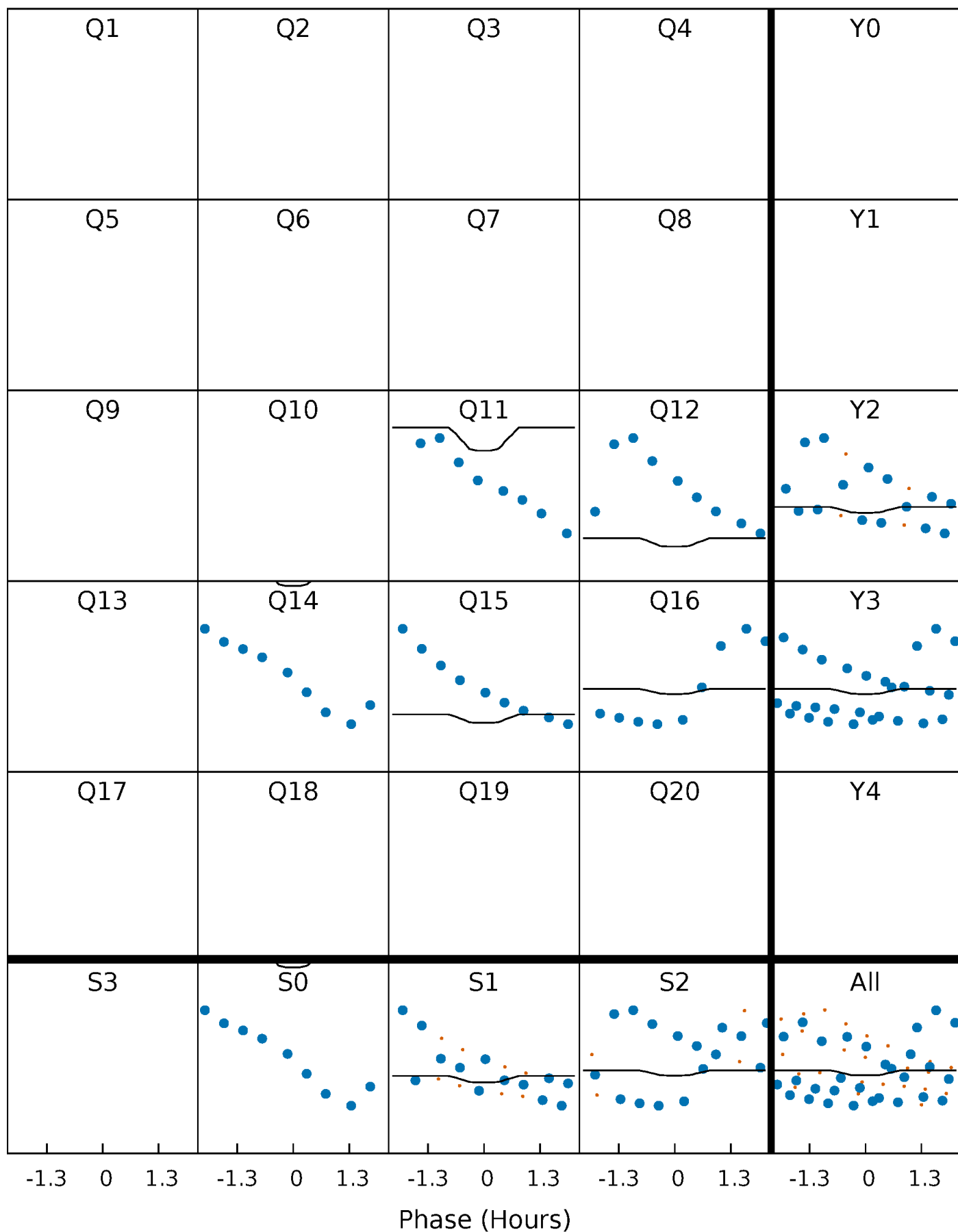
# DV Quarter-Phased Transit Curves

TCE 010136603-01 P=135.589088 Days  $T_0=198.662051$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

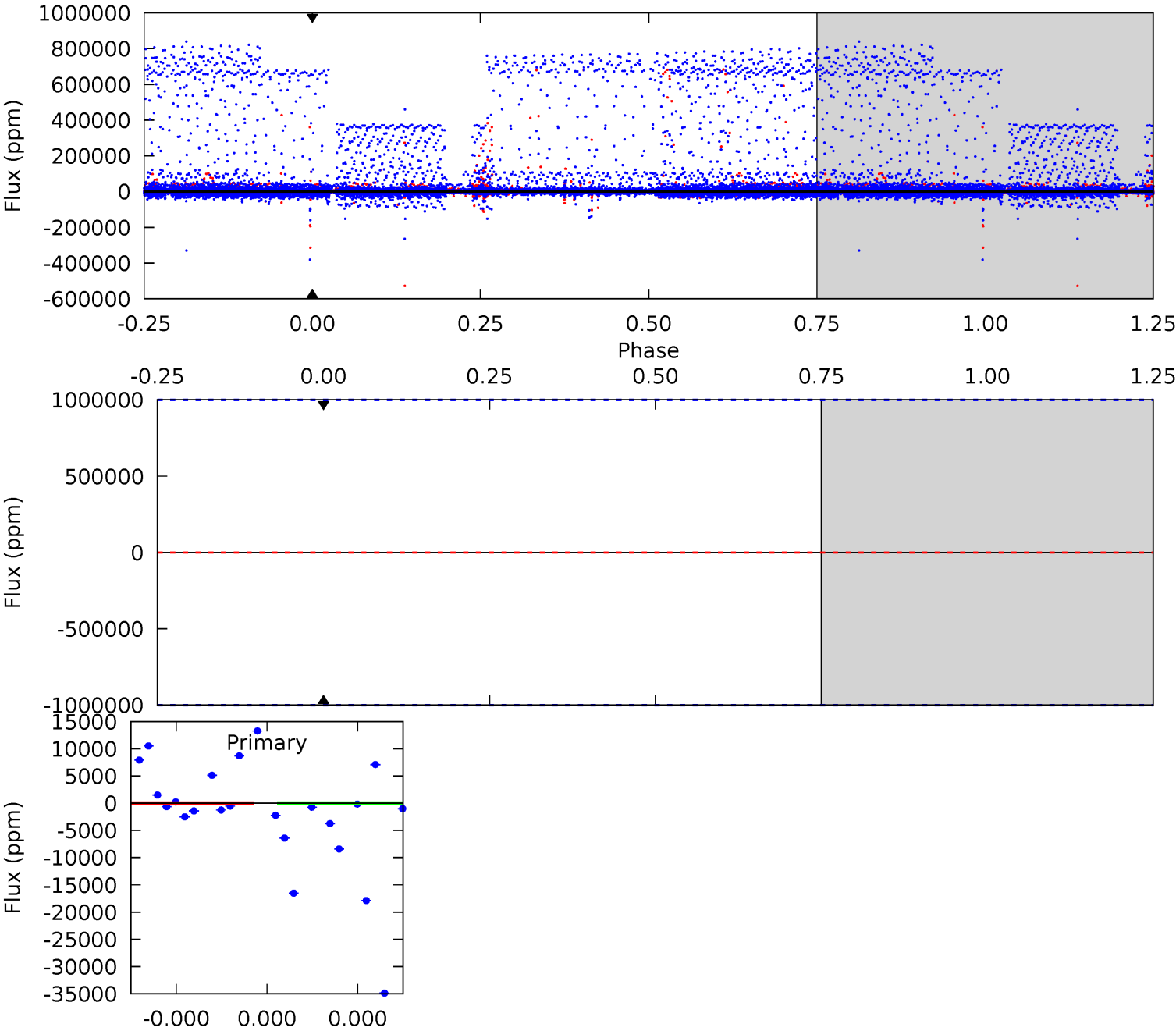
TCE 010136603-01 P=135.589088 Days  $T_0=198.772263$  (BKJD)



DV Model-Shift Uniqueness Test

010136603-01, P = 135.589088 Days, E = 198.662051 Days

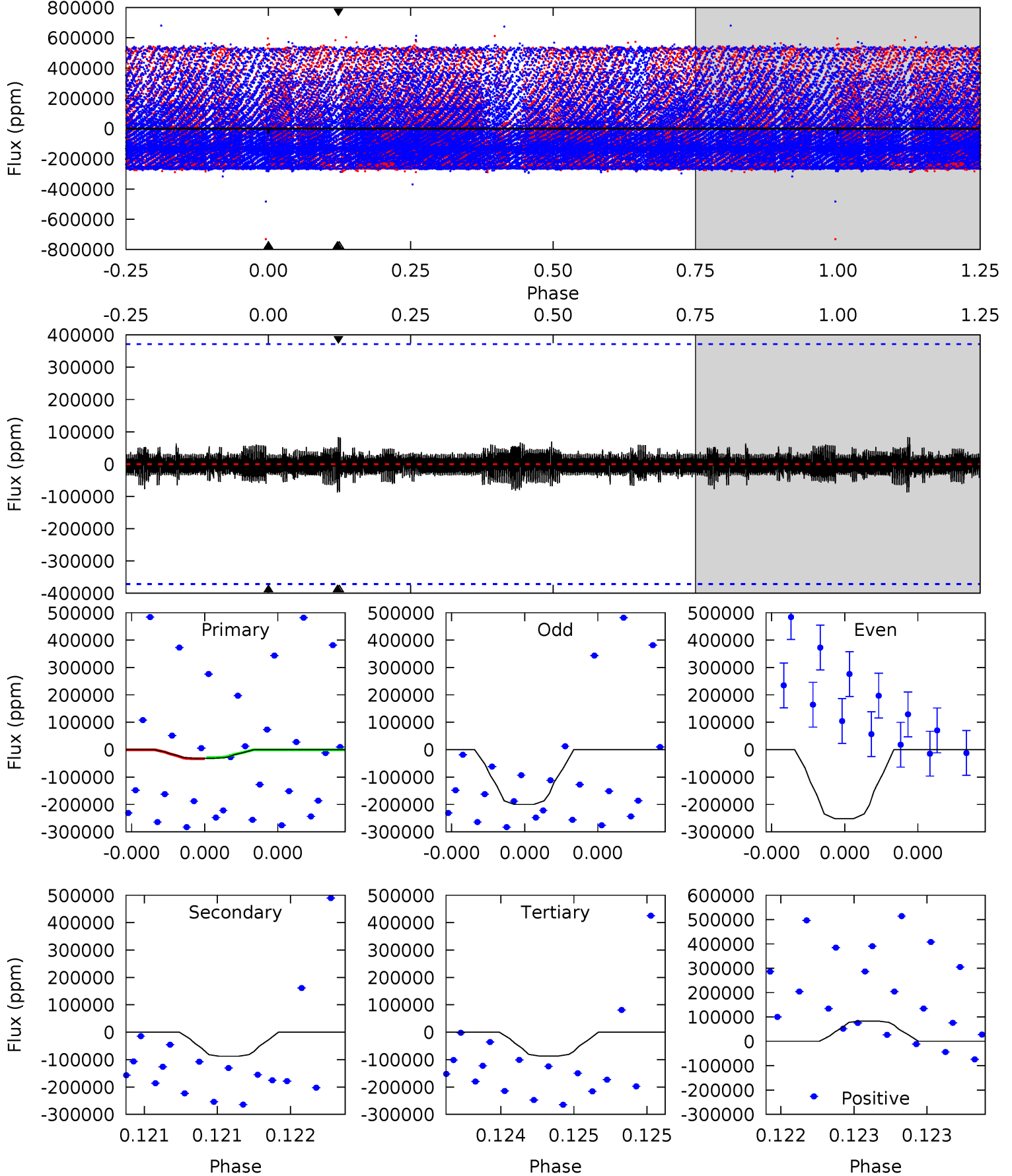
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

010136603-01, P = 135.589088 Days, E = 198.772263 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
0.48	1.33	1.31	1.26	5.62	3.56	0.32	-0.84	-0.79	0.02	0.07	0.39	0.16	0.49	0.03



### Stellar Parameters For KIC 010136603

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8109^{+223}_{-335}$	$3.800^{+0.391}_{-0.069}$	$-0.300^{+0.200}_{-0.300}$	$2.810^{+0.300}_{-1.198}$	$1.819^{+0.097}_{-0.364}$	$0.116^{+0.399}_{-0.027}$
	+3%/-4%	+10%/-2%	+67%/-100%	+11%/-43%	+5%/-20%	+345%/-24%
Source	KIC0	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 010136603-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$0 \pm 1000000$	$26.24^{+23.88}_{-17.35}$	$1024^{+61}_{-109}$	$3468^{+33667}_{-31570}$	$41^{+63396}_{-42549}$
Alt.	$-87867 \pm 66090$	$56.83^{+32.07}_{-28.64}$	$1027^{+60}_{-115}$	$9957^{+10132}_{-3715}$	$5023^{+20137}_{-3951}$

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

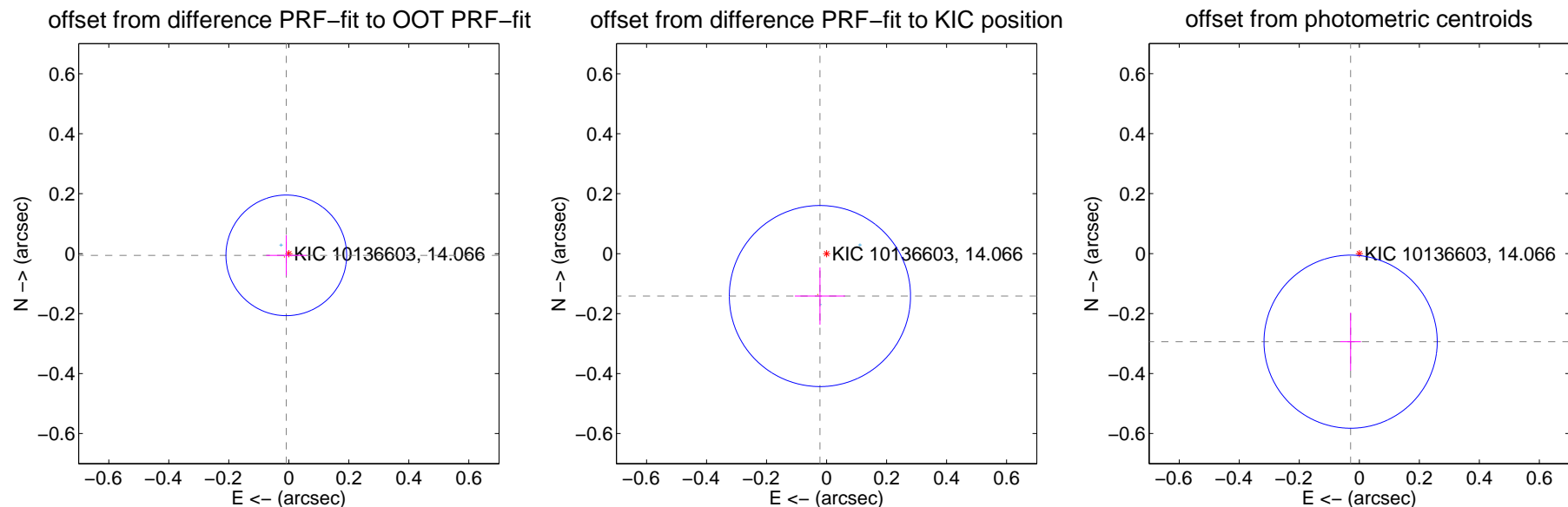
## DV Centroid Data

Supplemental centroid analysis for 010136603-01. Kepler magnitude: 14.07. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.010 \pm 0.067$	0.15	$0.008 \pm 0.067$	$-0.006 \pm 0.067$
PRF-fit source offset from KIC position	$0.143 \pm 0.101$	1.42	$0.022 \pm 0.084$	$-0.141 \pm 0.096$
photometric centroid source offset	$0.30 \pm 0.10$	3.07	$0.03 \pm 0.03$	$-0.29 \pm 0.10$



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.

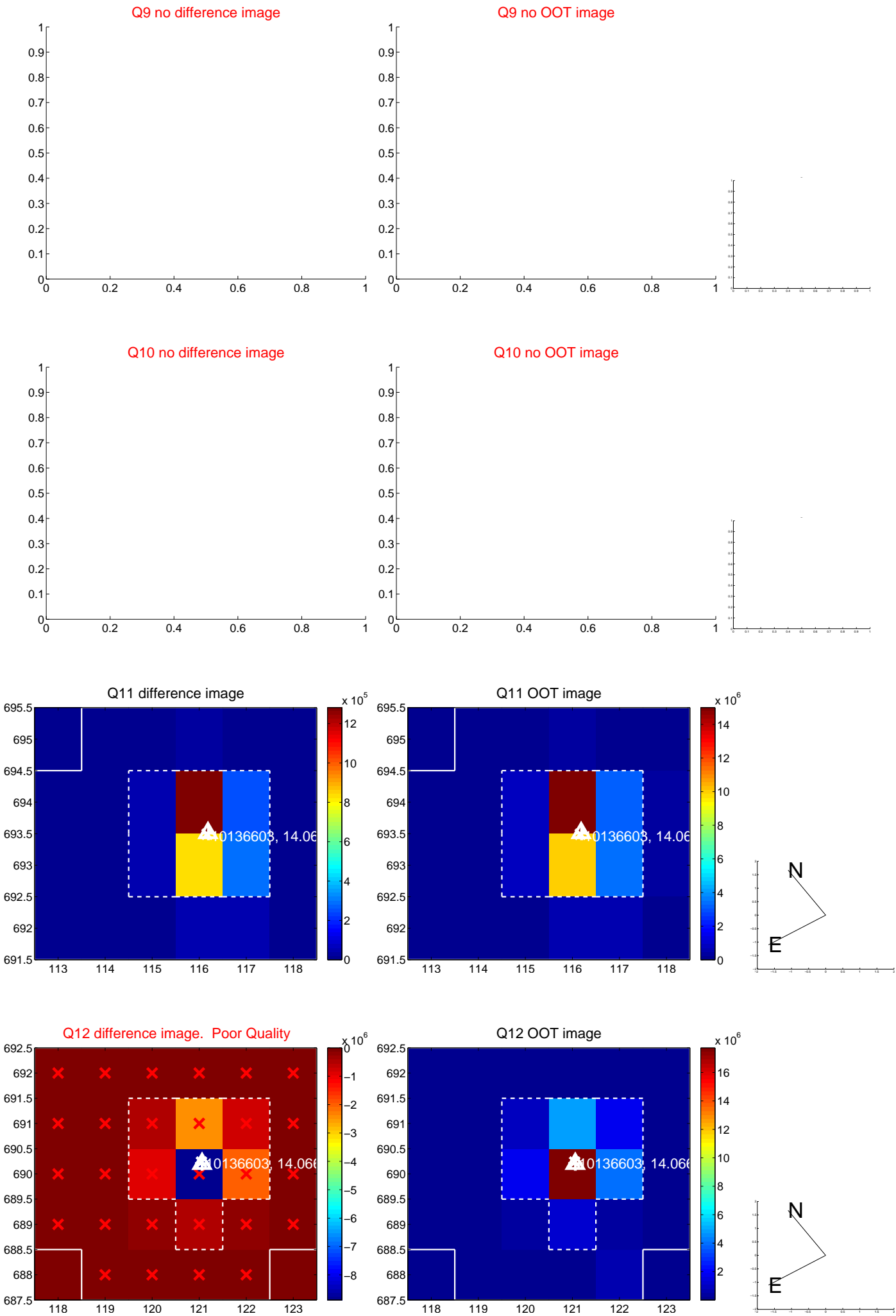


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

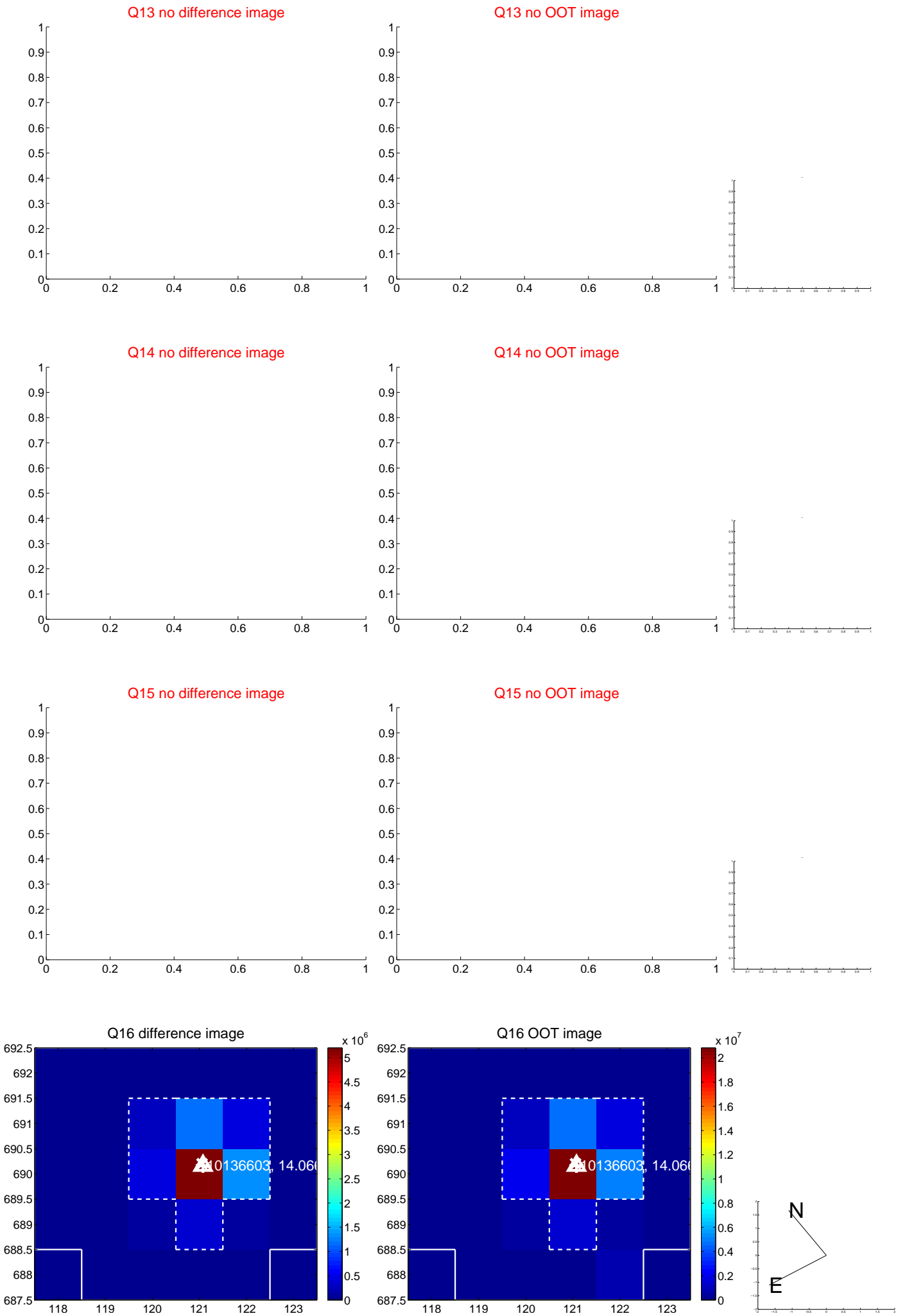




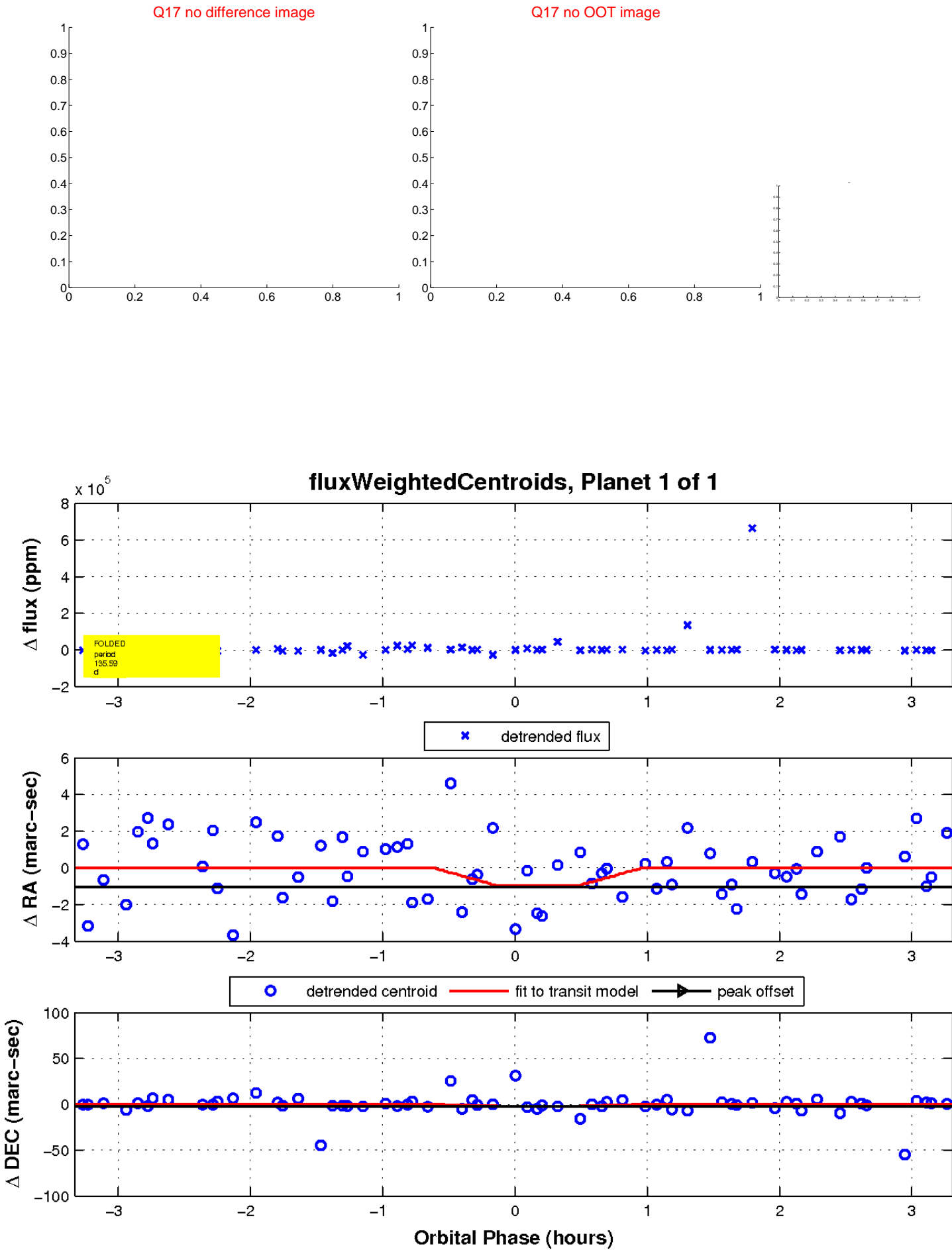
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white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

