

# KIC 004056751

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004056751-01	OBS	No	247.327810	134.170762	156.7	12.000	13.8	-1.0	155.19	3266	178.25	3888.95

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004056751-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—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.

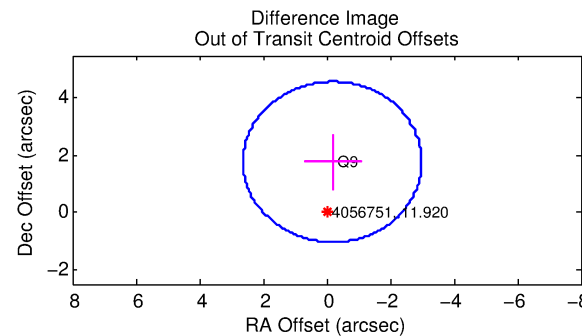
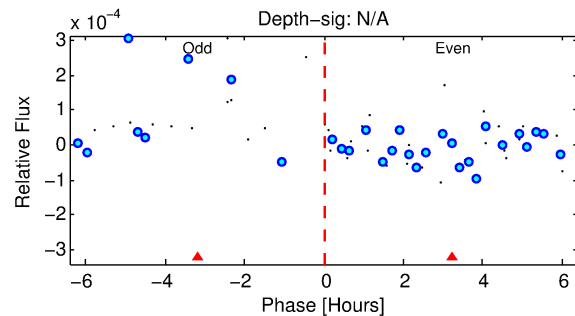
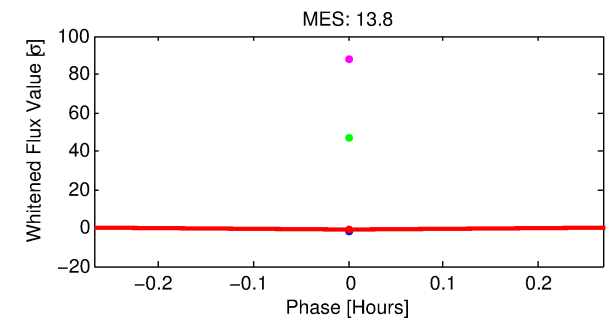
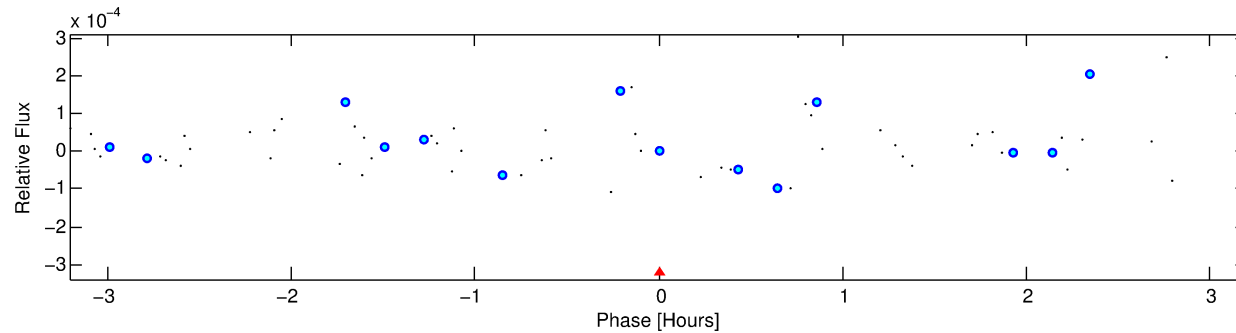
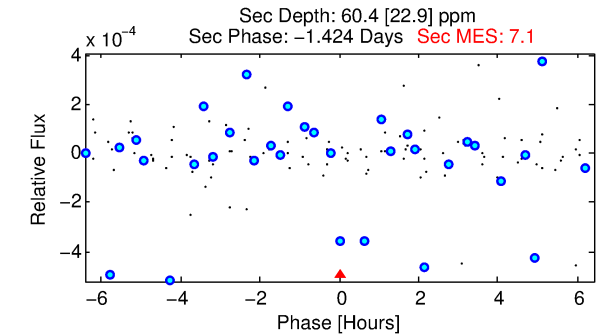
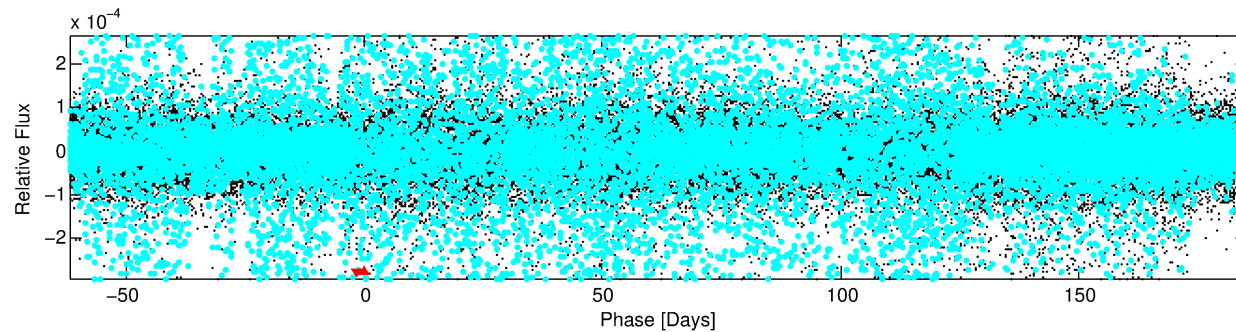
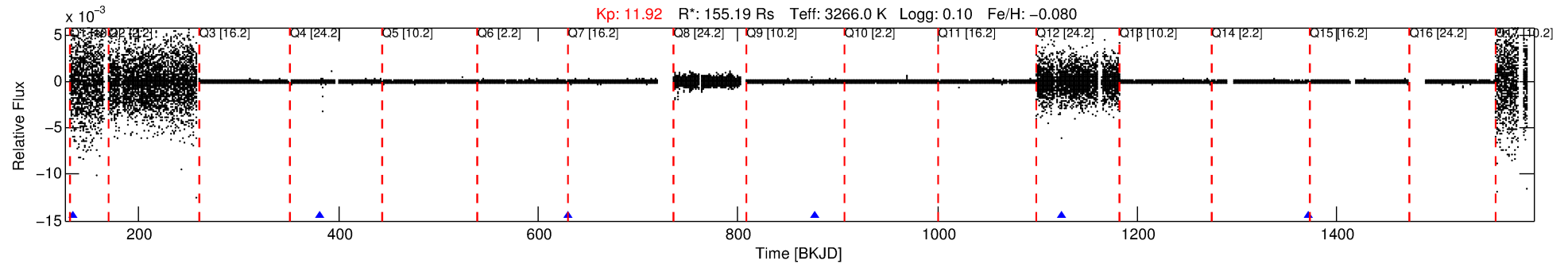
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004056751-01

No Significant Match Found

# DV One-Page Summary

KIC: 4056751 Candidate: 1 of 1 Period: 247.328 d



## TPS TCE Results:

Period = 247.32781 d  
Epoch = 134.1708 BKJD

DV fit results are unavailable

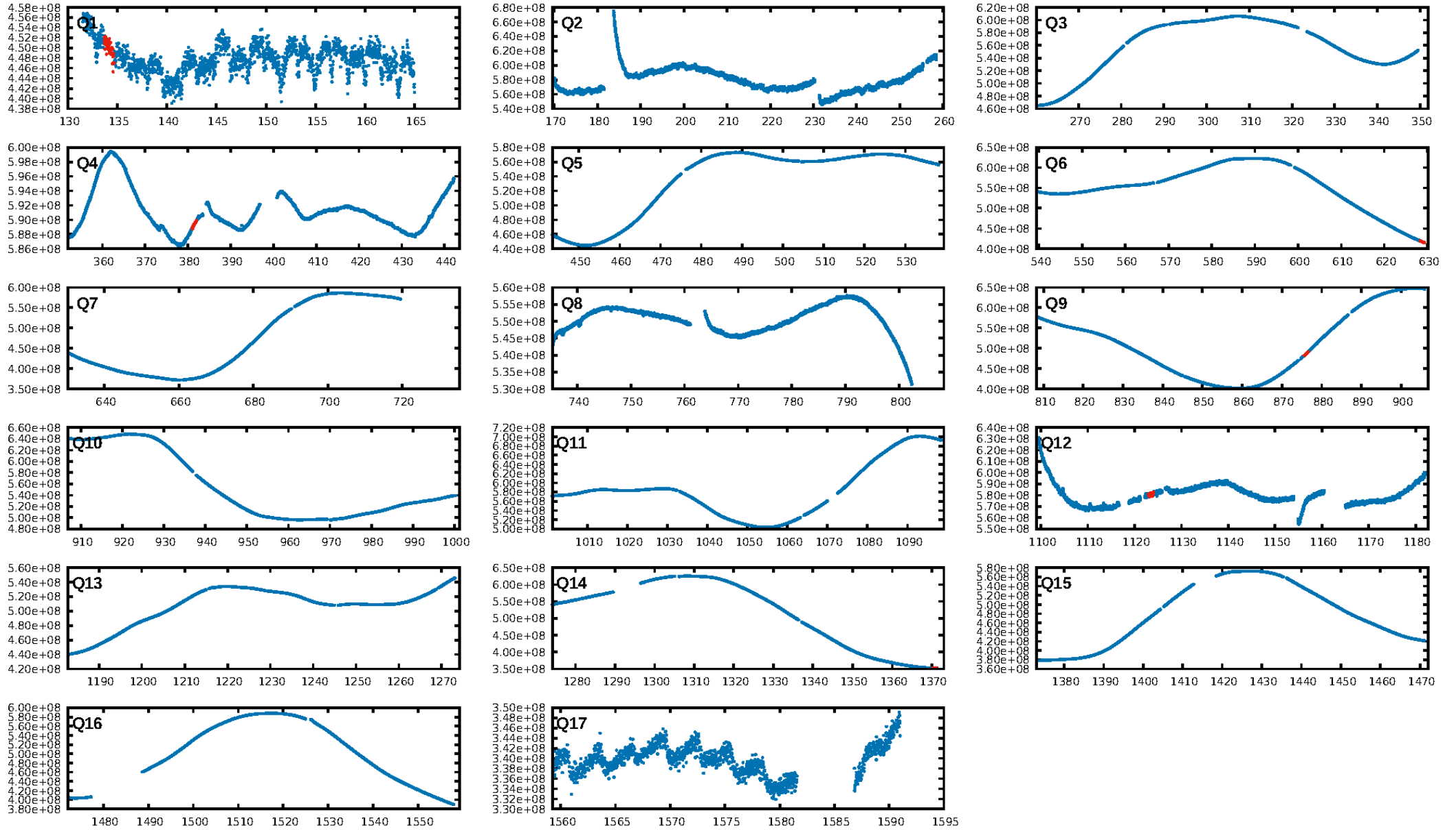
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 6.57e-04  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 86.62  
Centroid-sig: 74.2%  
Centroid-so: 11.502 arcsec [0.55σ]  
OotOffset-rm: 1.784 arcsec [1.90σ]  
KicOffset-rm: 1.630 arcsec [1.74σ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [2/2]

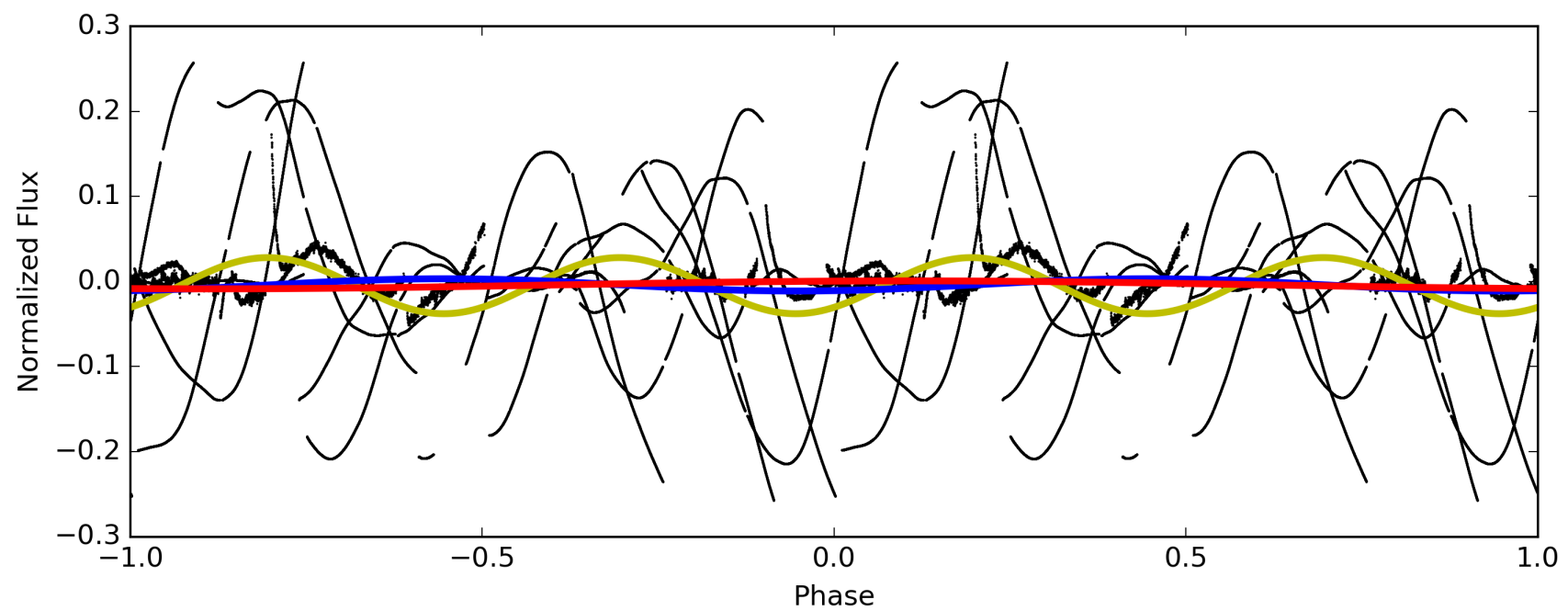
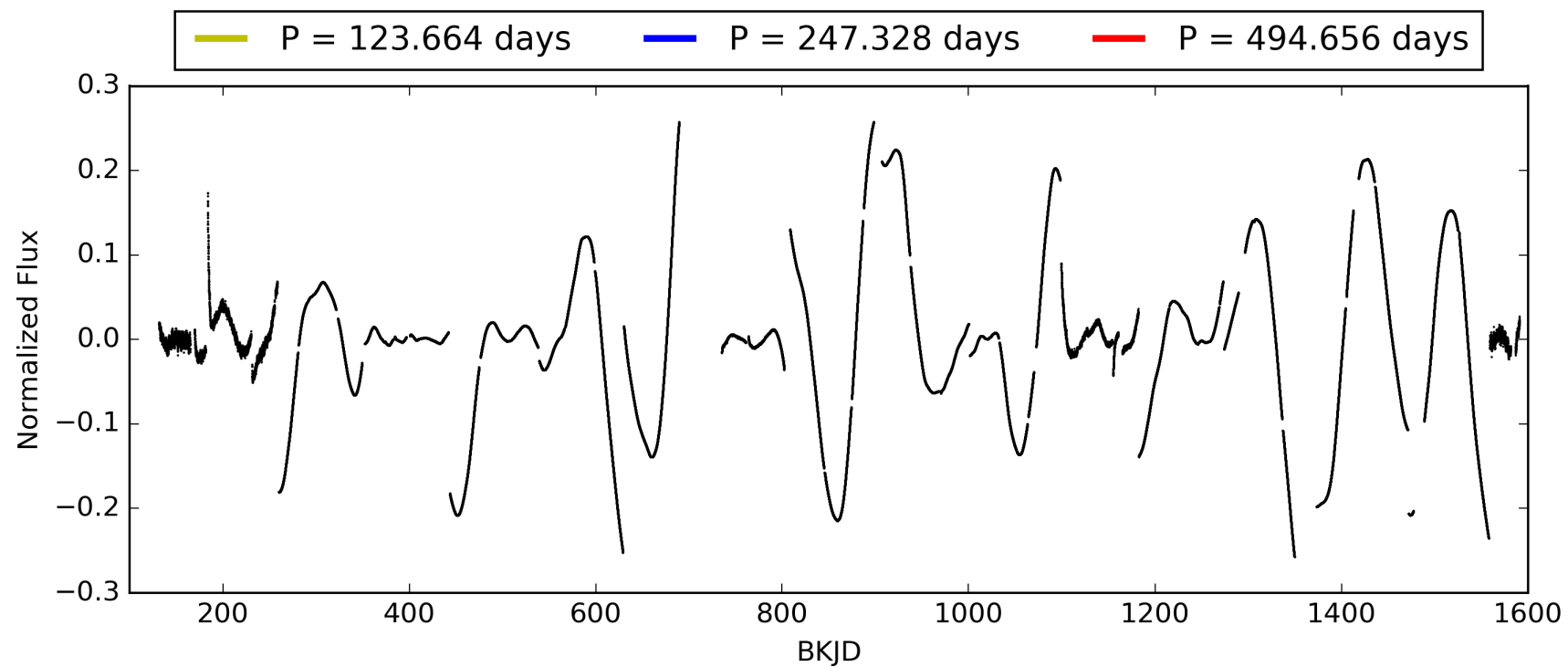
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:33:50 Z

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

# TCE 004056751-01, PDC Light Curves

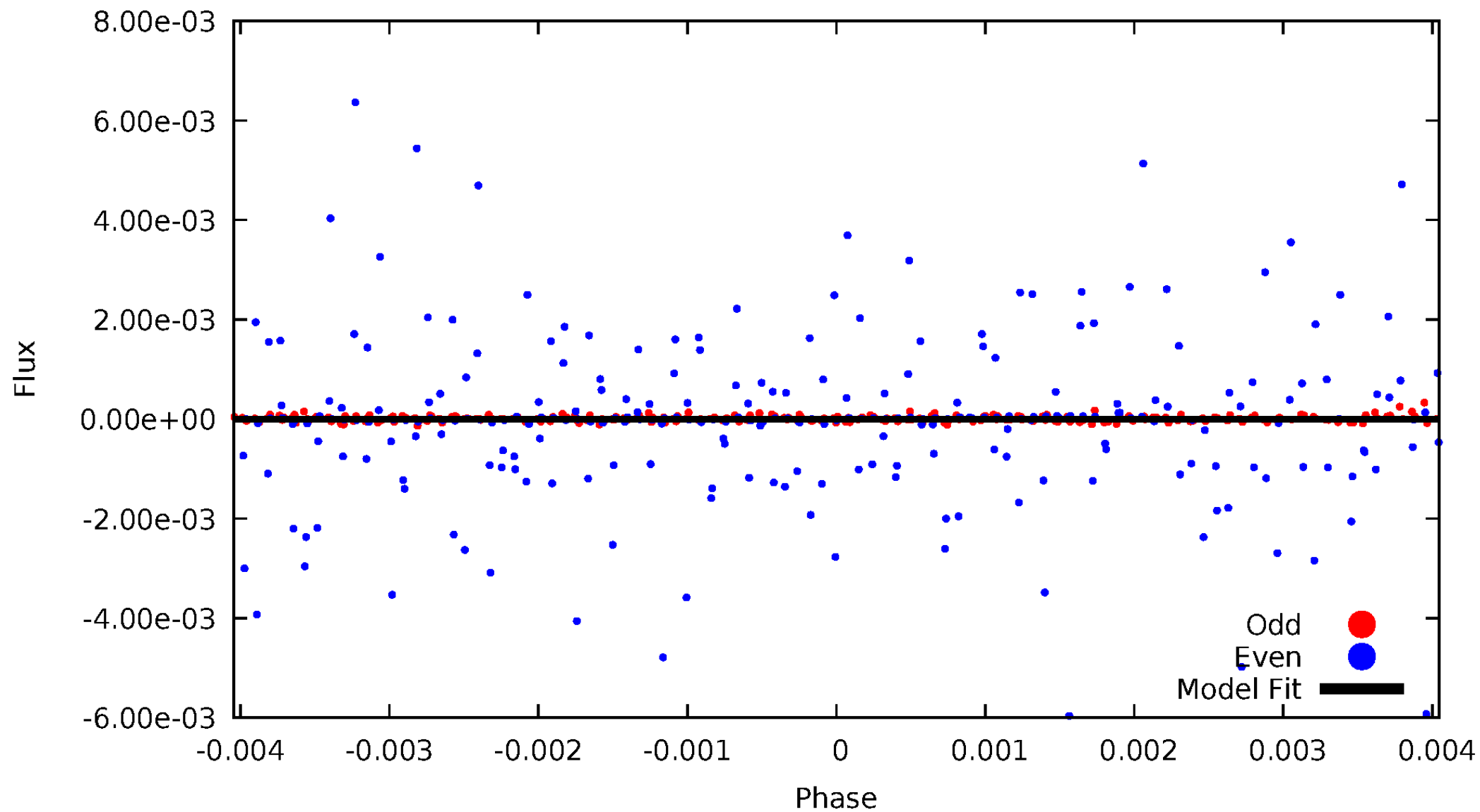


TCE 004056751-01



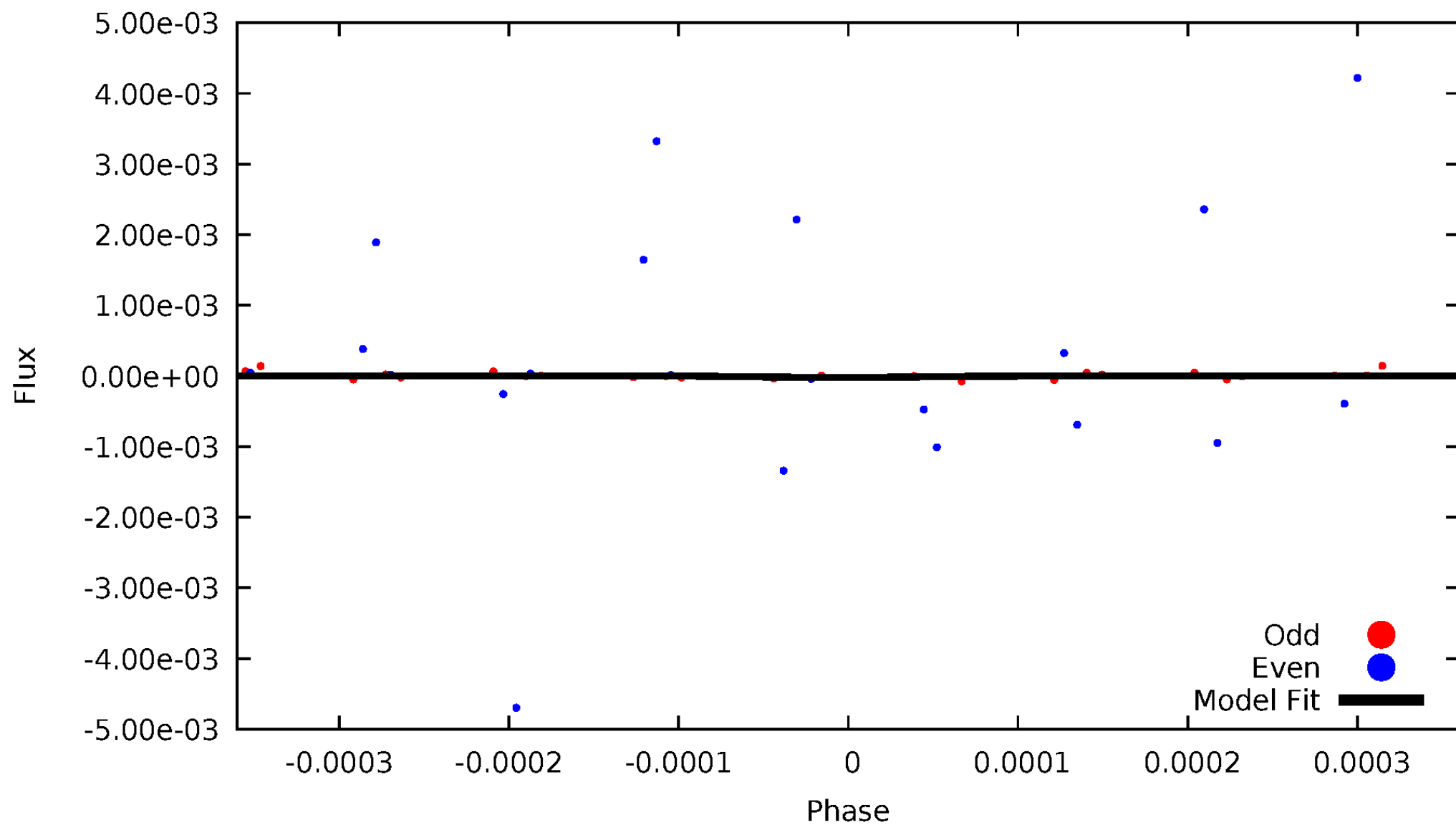
# DV Odd/Even

TCE 004056751-01

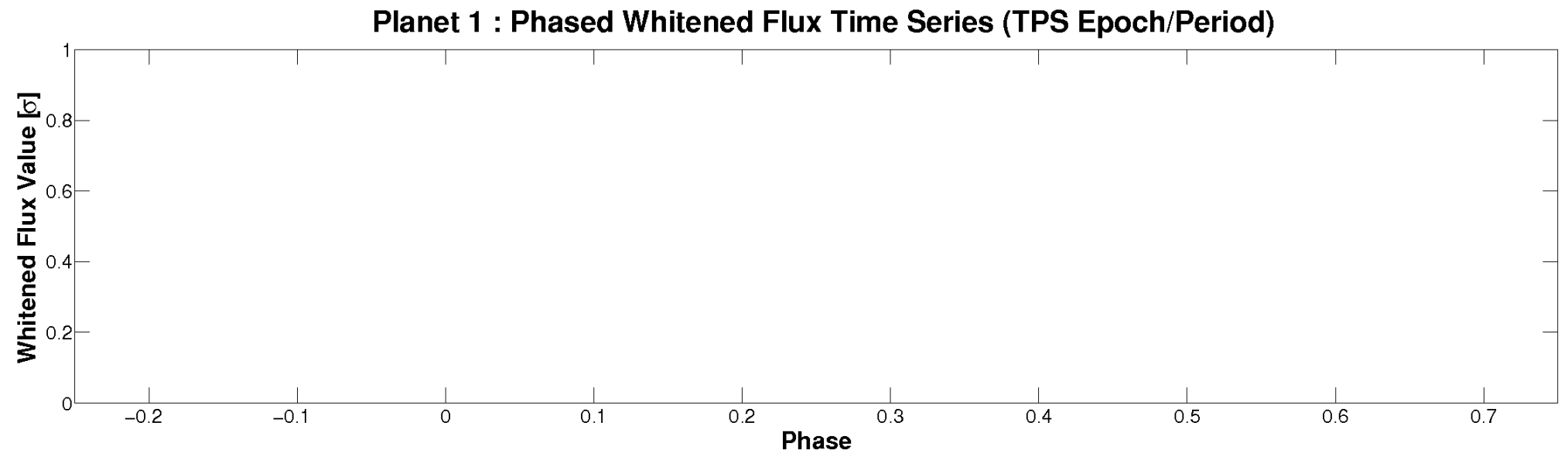
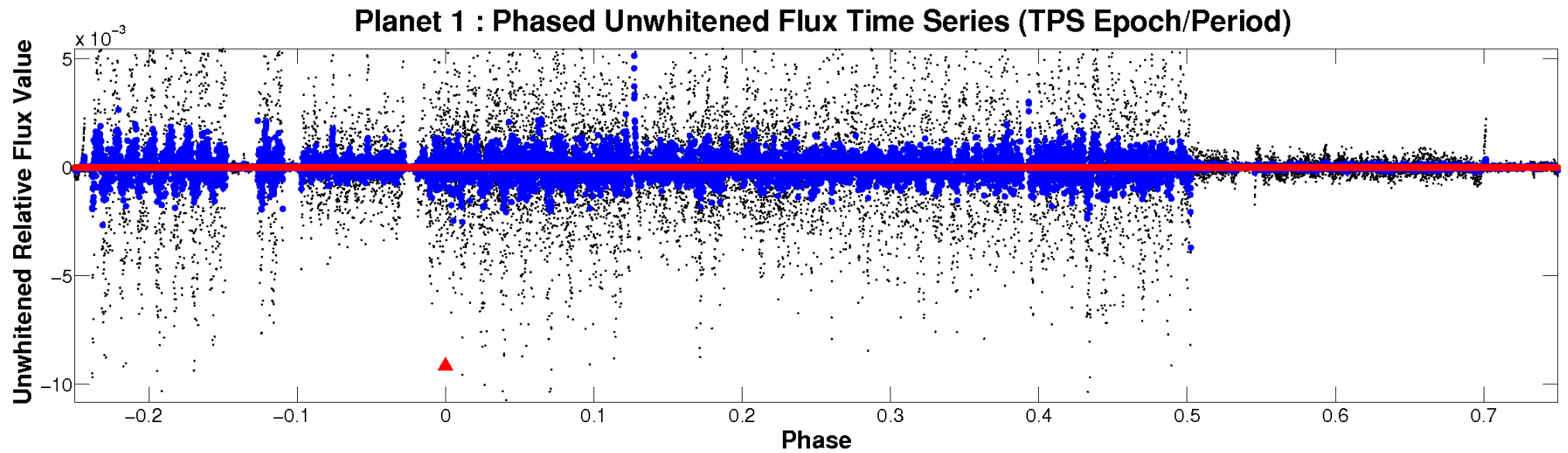


# ALT Odd/Even

TCE 004056751-01

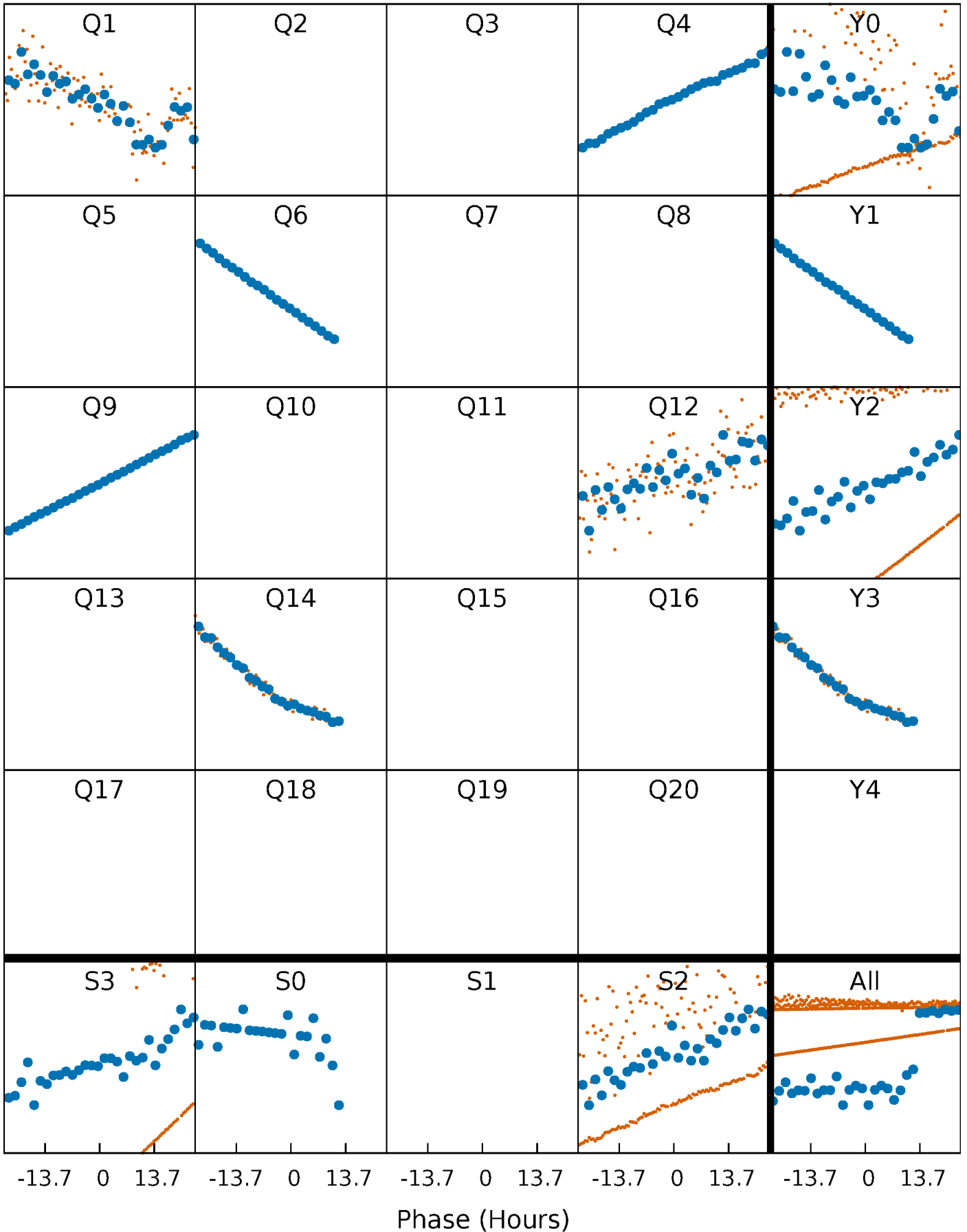


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

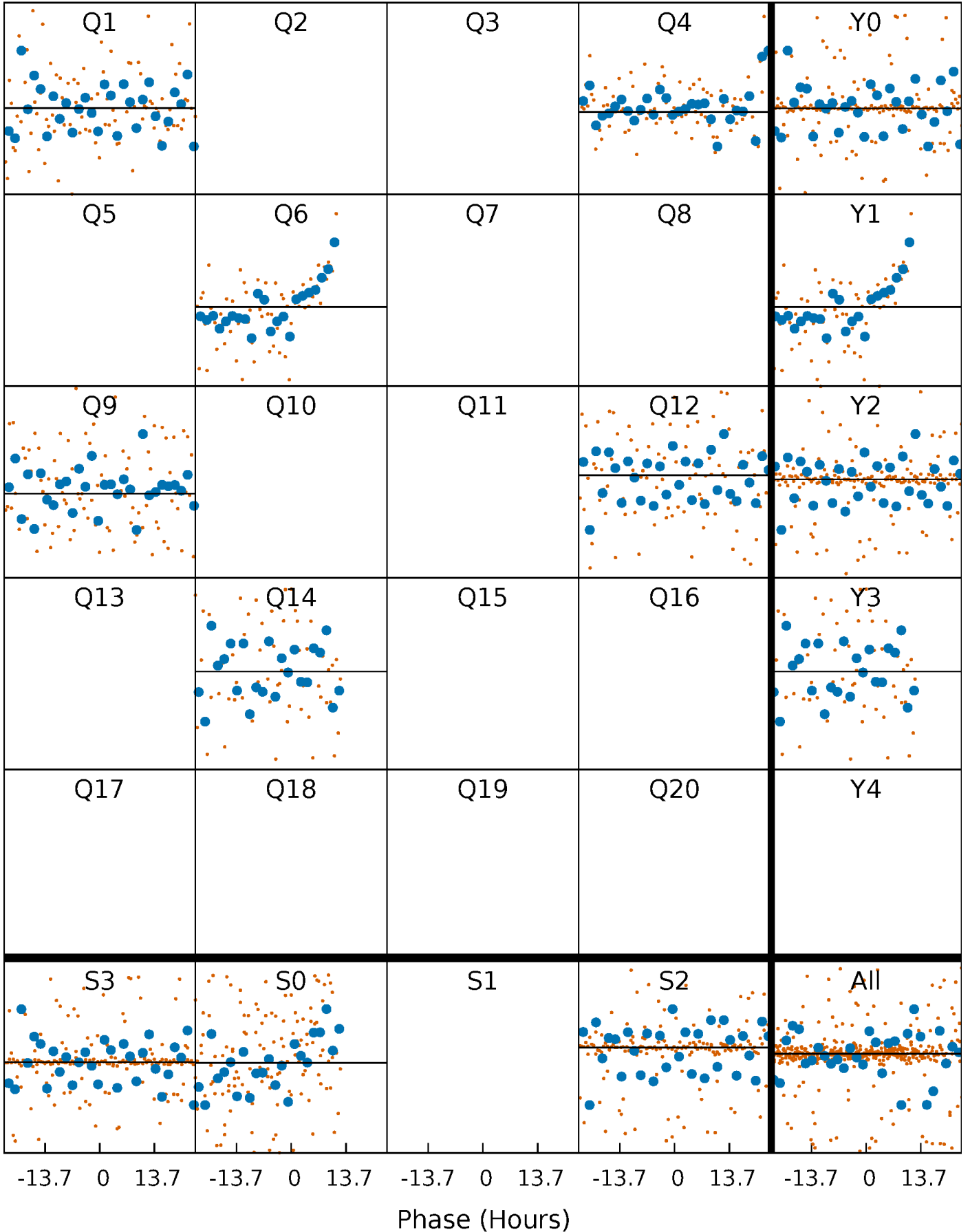
TCE 004056751-01 P=247.327810 Days  $T_0=134.170762$  (BKJD)





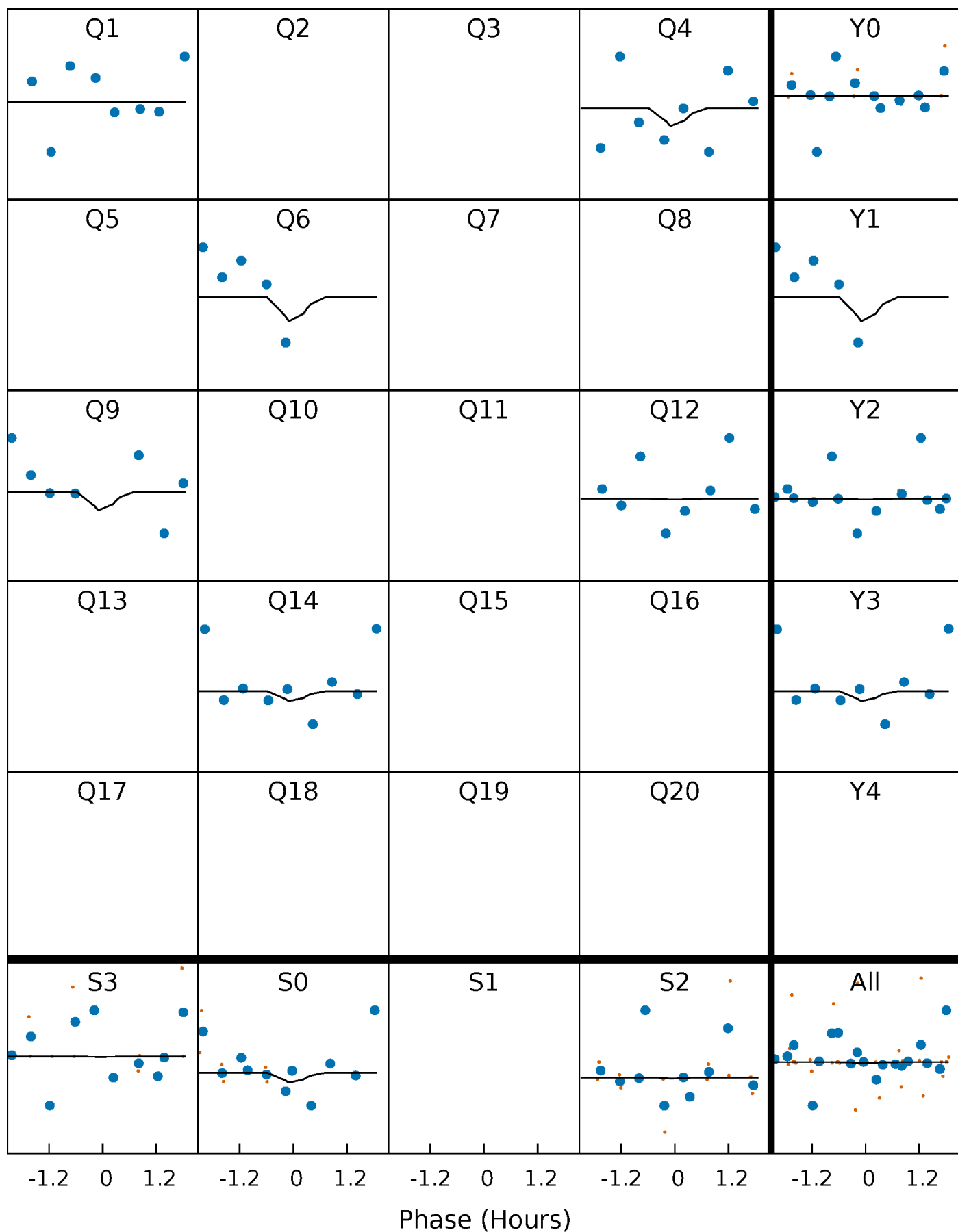
# DV Quarter-Phased Transit Curves

TCE 004056751-01 P=247.327810 Days  $T_0=134.170762$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

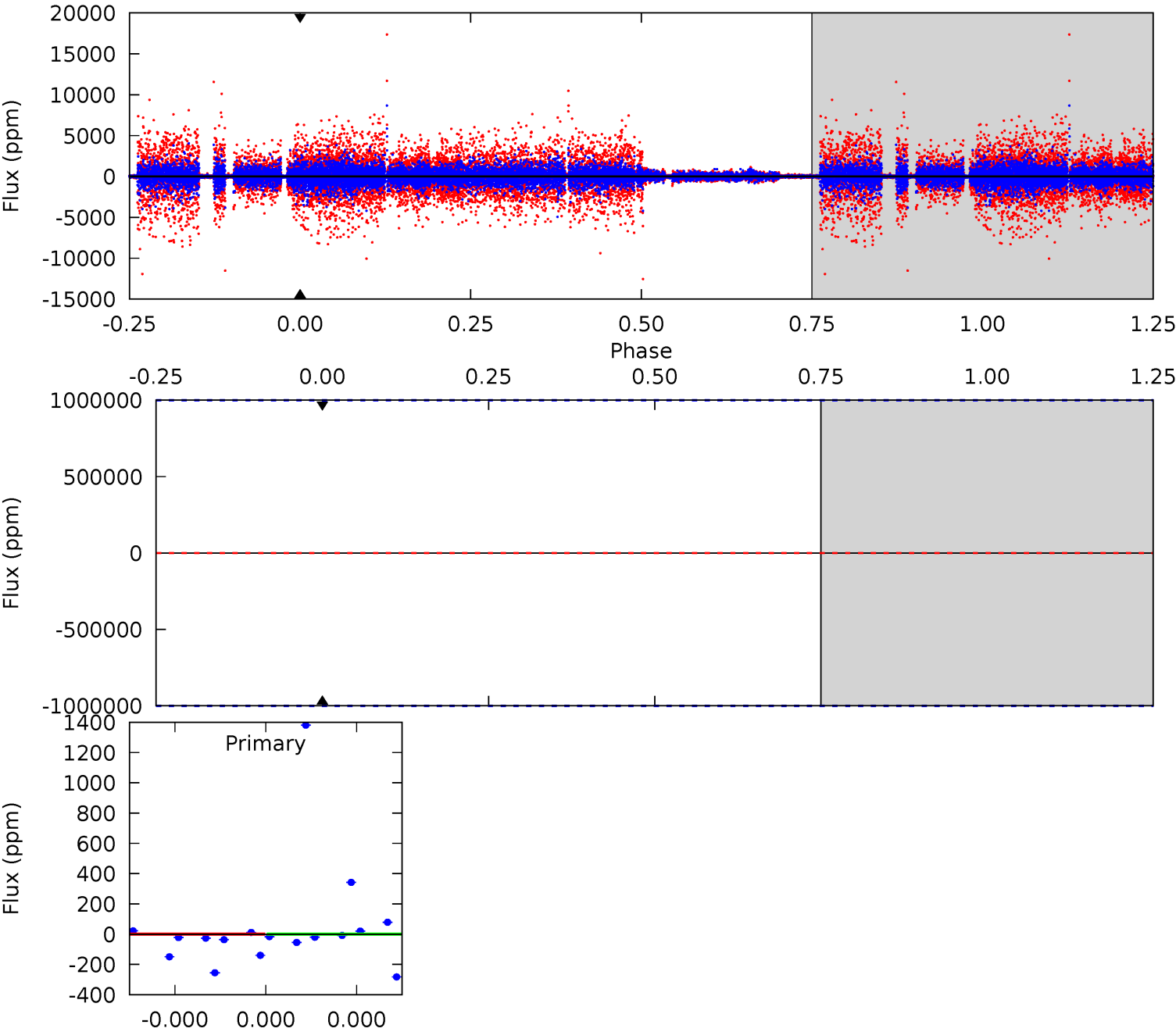
TCE 004056751-01 P=247.327810 Days  $T_0=134.605706$  (BKJD)



# DV Model-Shift Uniqueness Test

004056751-01, P = 247.327810 Days, E = 134.170762 Days

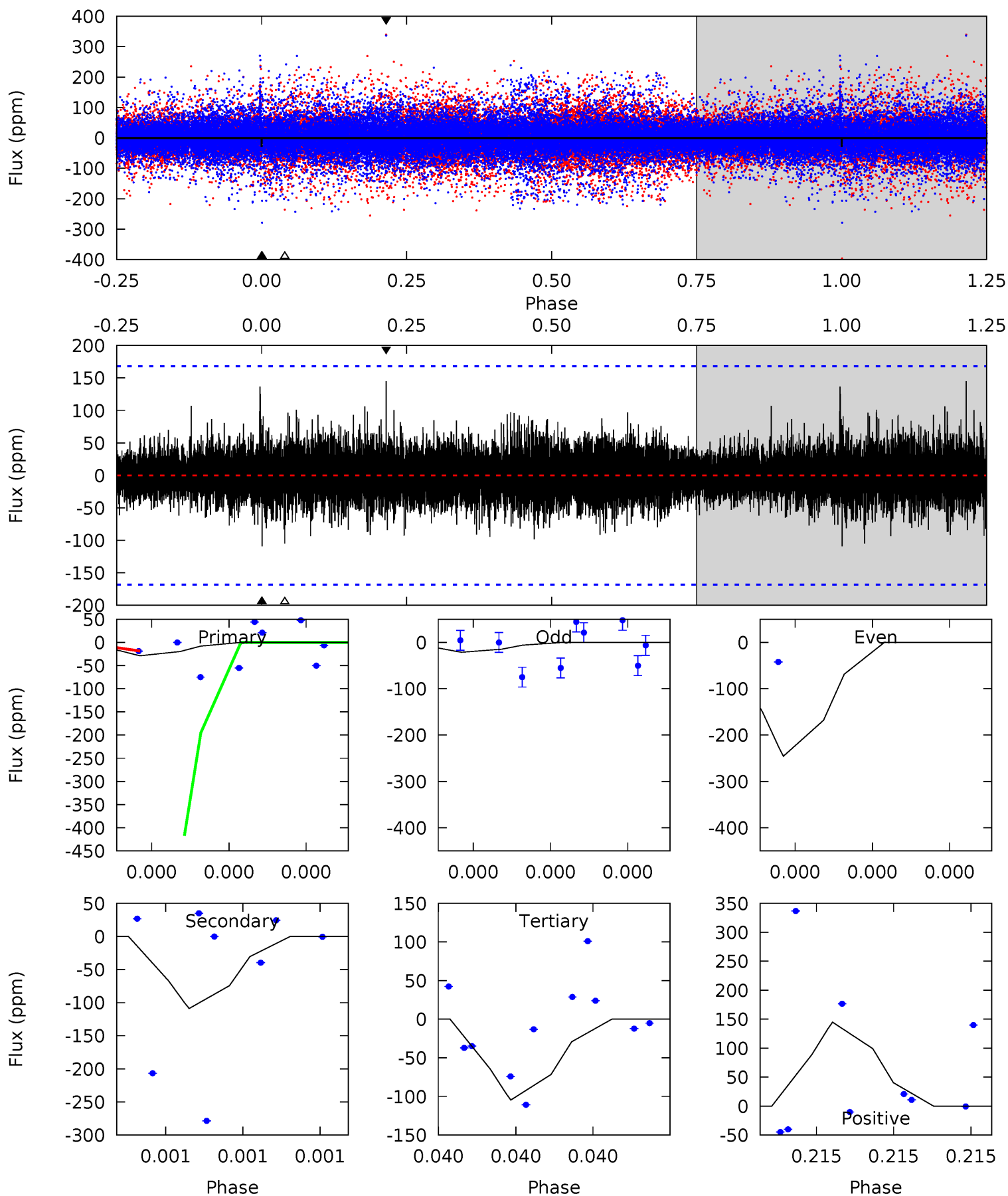
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

004056751-01, P = 247.327810 Days, E = 134.605706 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
1.00	3.78	3.64	5.03	5.84	3.88	0.76	-2.64	-4.03	0.15	-1.25	2.31	-0.47	0.57	5.92



### Stellar Parameters For KIC 004056751

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$3266^{+117}_{-78}$	$0.095^{+0.208}_{-0.065}$	$-0.080^{+0.250}_{-0.100}$	$155.187^{+9.192}_{-27.576}$	$1.095^{+0.206}_{-0.120}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+219%/-68%	+312%/-125%	+6%/-18%	+19%/-11%	+92%/-15%
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 004056751-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$1241.50^{+1184.81}_{-826.01}$	$2783^{+118}_{-158}$	$2937^{+3857}_{-8896}$	$0.860^{+48.444}_{-32.510}$
Alt.	$-109 \pm 29$	$1147.05^{+1298.02}_{-771.16}$	$2792^{+110}_{-158}$	$-2607^{+519}_{-103}$	$0.030^{+0.235}_{-0.024}$

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

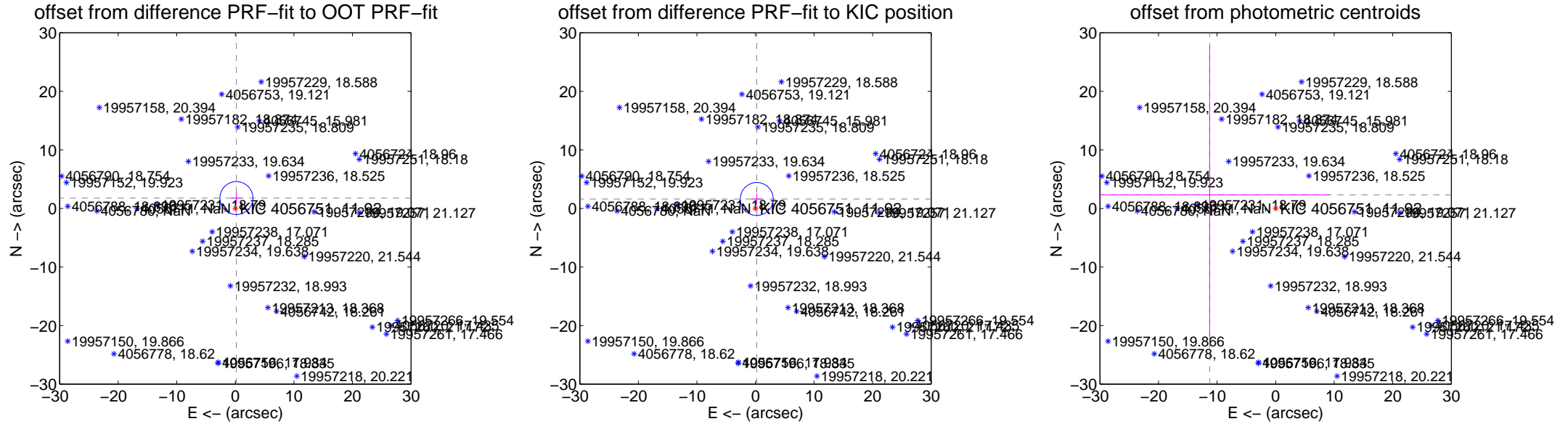
# DV Centroid Data

Supplemental centroid analysis for 004056751-01. **Kepler magnitude: 11.92.** Transit SNR -1.00

**There are 1 quarters with good PRF difference image offsets**

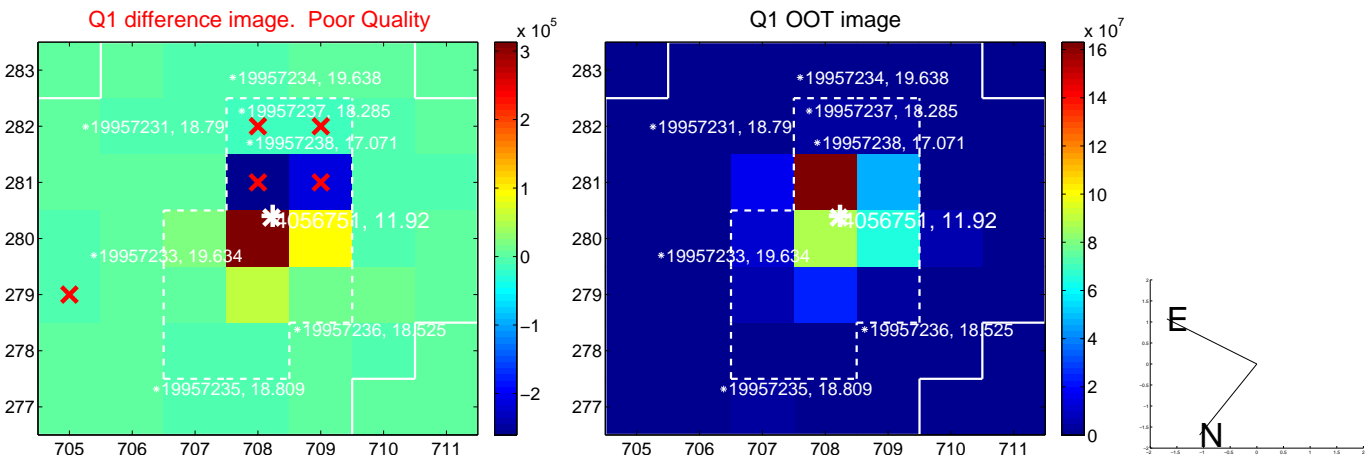
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.784 \pm 0.938$	1.90	$-0.181 \pm 0.886$	$1.774 \pm 0.938$
PRF-fit source offset from KIC position	$1.630 \pm 0.937$	1.74	$-0.218 \pm 0.886$	$1.615 \pm 0.938$
photometric centroid source offset	$11.50 \pm 20.73$	0.55	$11.27 \pm 20.51$	$2.32 \pm 25.46$



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.

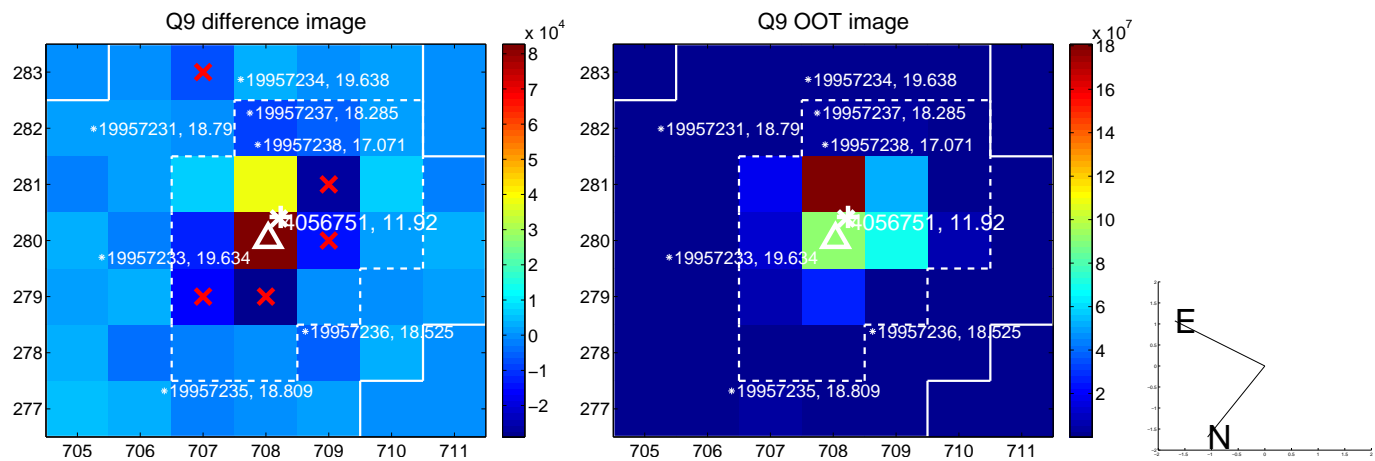


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





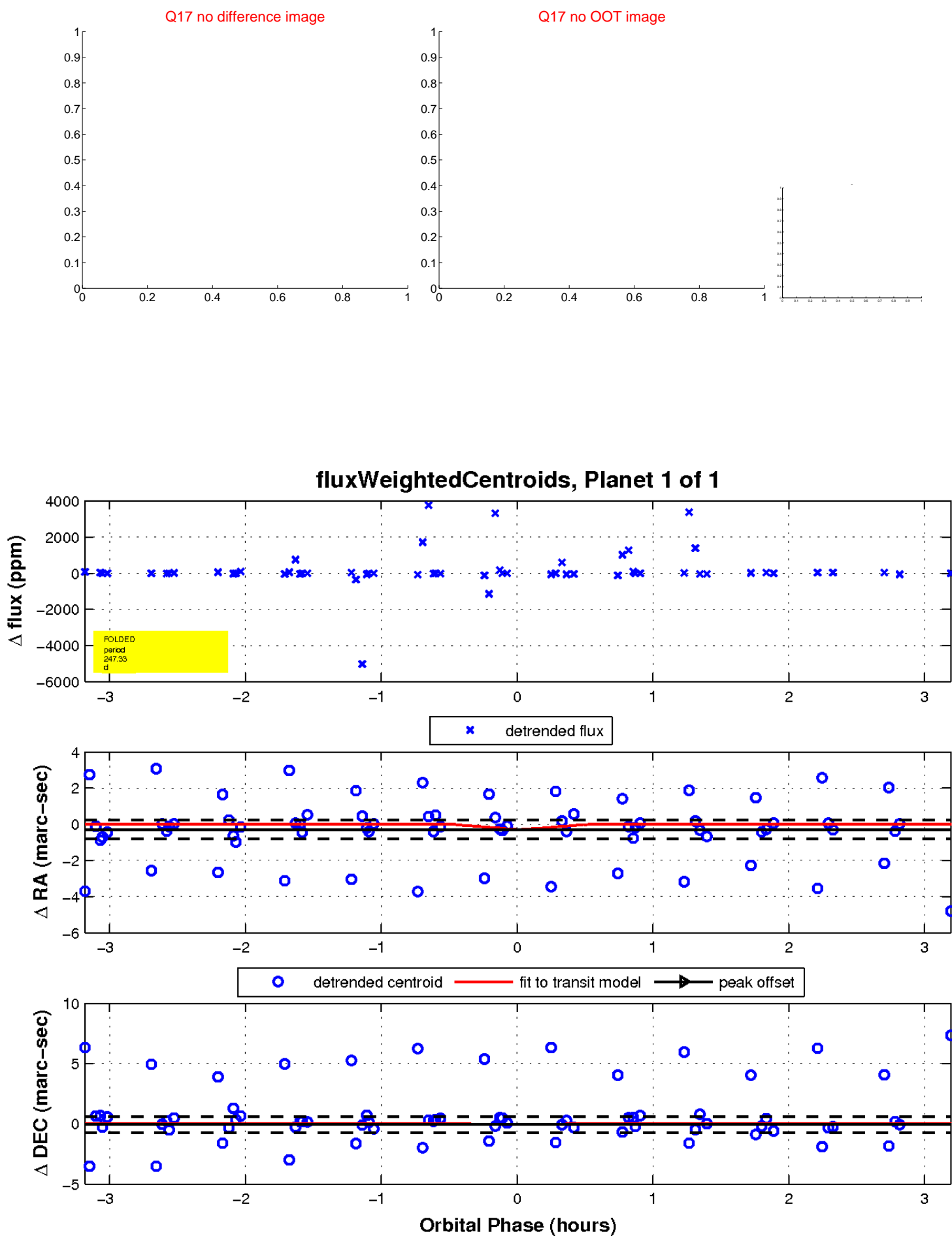
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : 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.



UKIRT Image

Declination

