

# KIC 005811937

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005811937-01	OBS	No	309.003554	185.264031	215.2	7.074	7.1	5.7	0.85	6084	1.40	1.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005811937-01	OBS	FP	0.01	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—CENT_FEW_MEAS

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

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

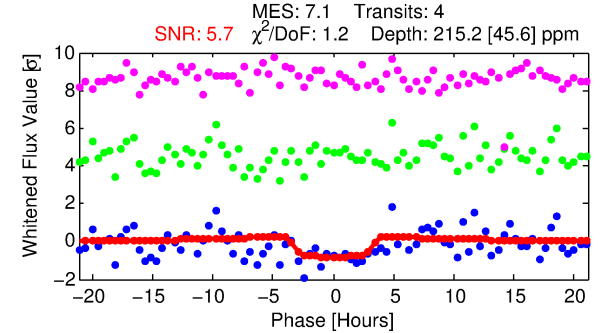
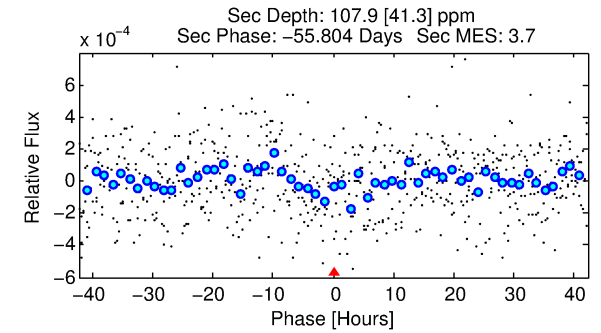
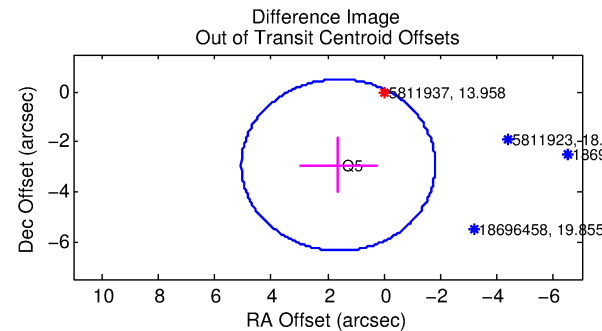
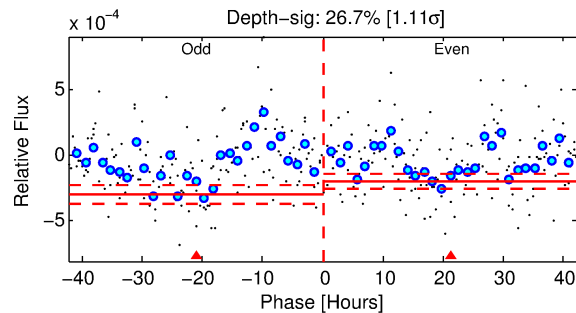
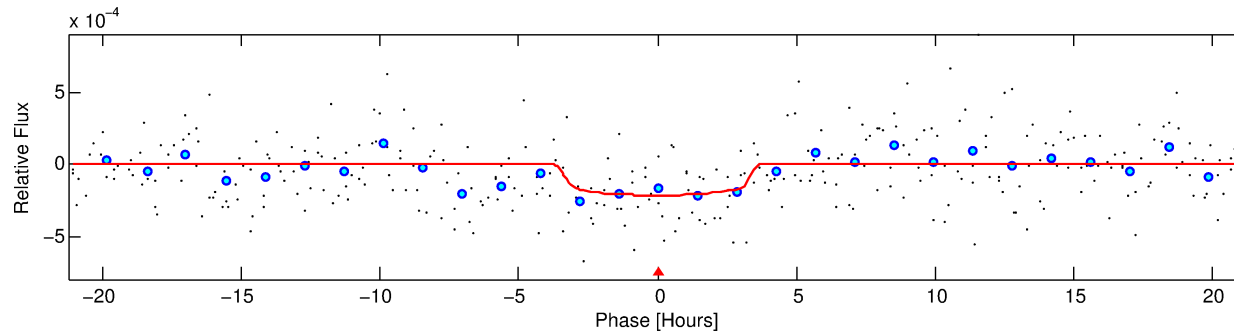
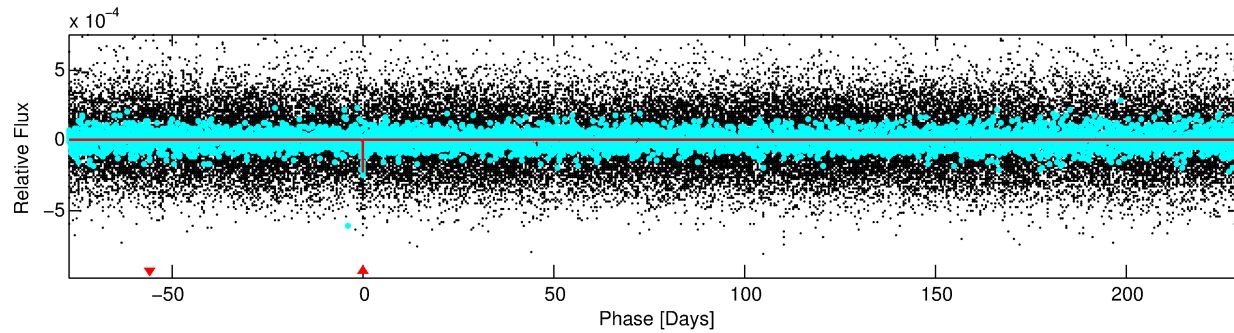
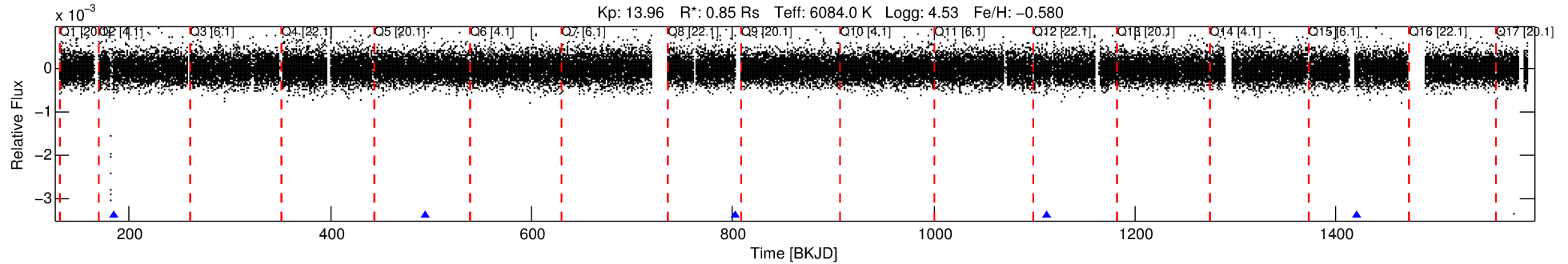
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005811937-01

No Significant Match Found

# DV One-Page Summary

KIC: 5811937 Candidate: 1 of 1 Period: 309.004 d



## DV Fit Results:

Period = 309.00355 [0.00753] d  
Epoch = 185.2640 [0.0186] BKJD  
Rp/R\* = 0.0151 [0.0102]  
a/R\* = 194.32 [695.39]  
b = 0.83 [1.34]  
Seff = 1.20 [0.44]  
Teq = 267 [25] K  
Rp = 1.40 [1.02] Re  
a = 0.8616 [0.2042] AU  
Ag = 22505.53 [32596.03] [0.69 $\sigma$ ]  
Teffp = 5051 [1782] K [2.69 $\sigma$ ]

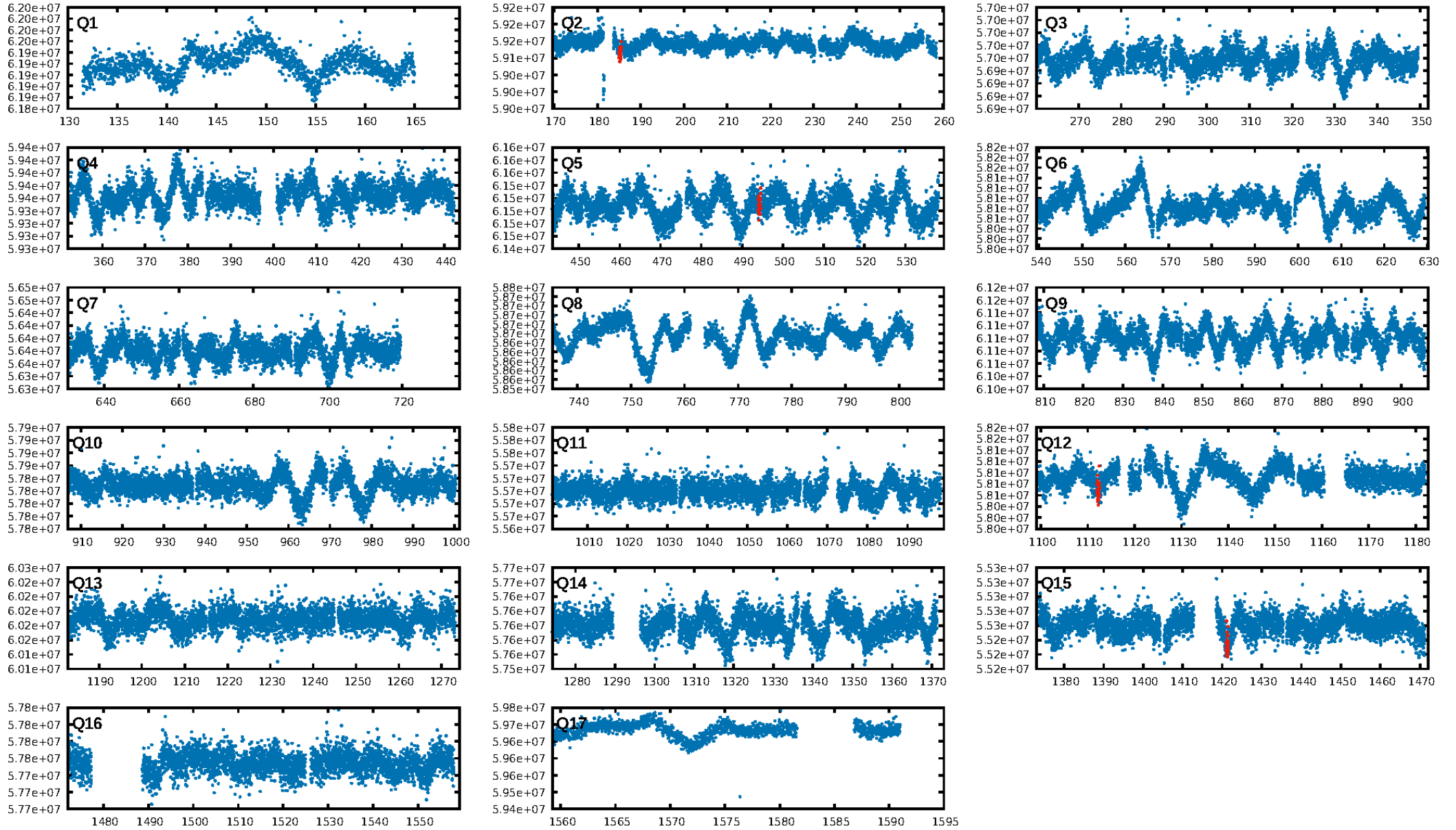
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 3.0%  
ModelChiSquareGof-sig: 97.1%  
**Bootstrap-pfa: 3.08e-11**  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 1.786  
Centroid-sig: 61.1%  
Centroid-so: 1.715 arcsec [0.73 $\sigma$ ]  
OotOffset-rm: 3.353 arcsec [2.93 $\sigma$ ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-rm: 3.395 arcsec [2.96 $\sigma$ ]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [4/4]

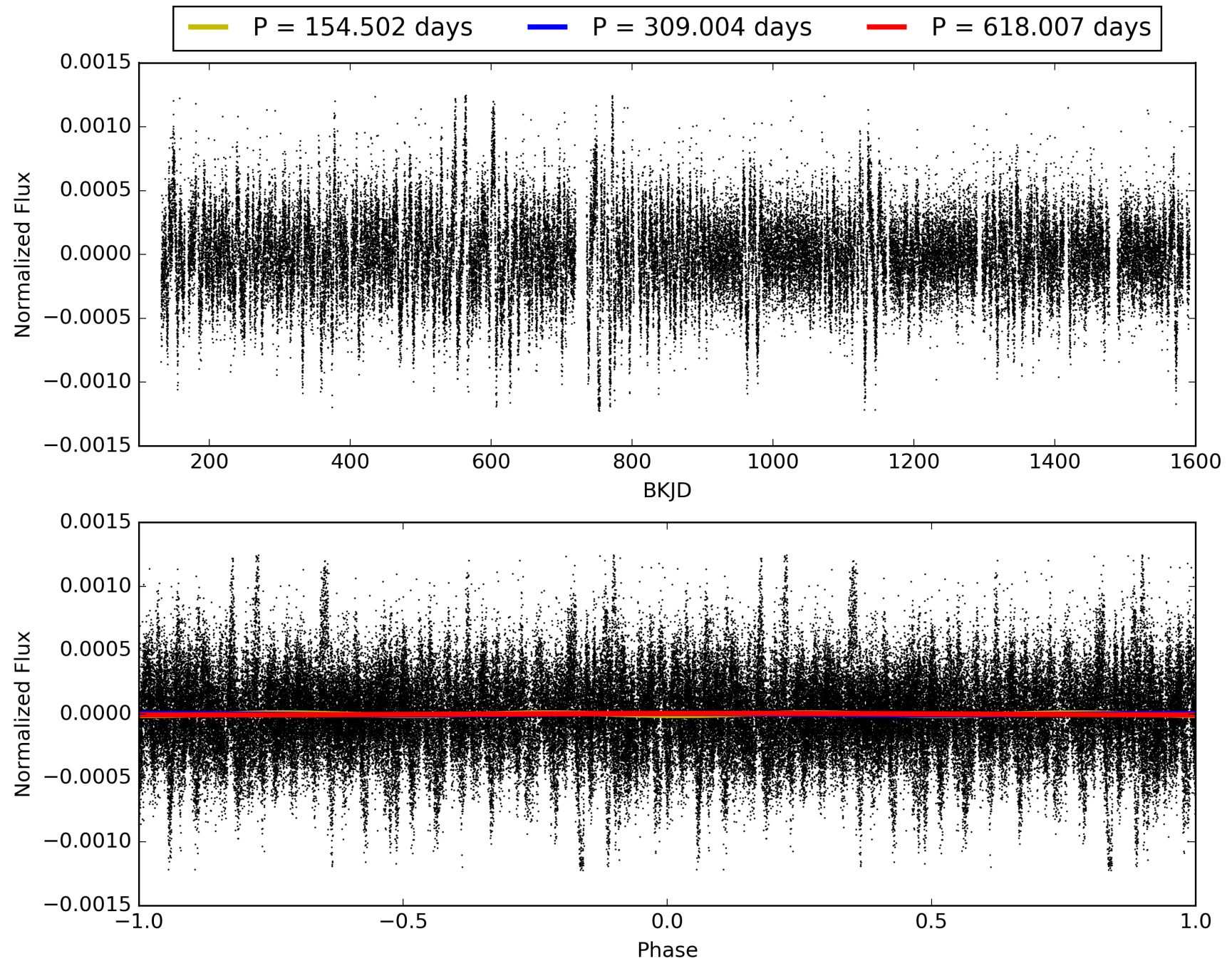
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:20:29 Z

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

# TCE 005811937-01, PDC Light Curves

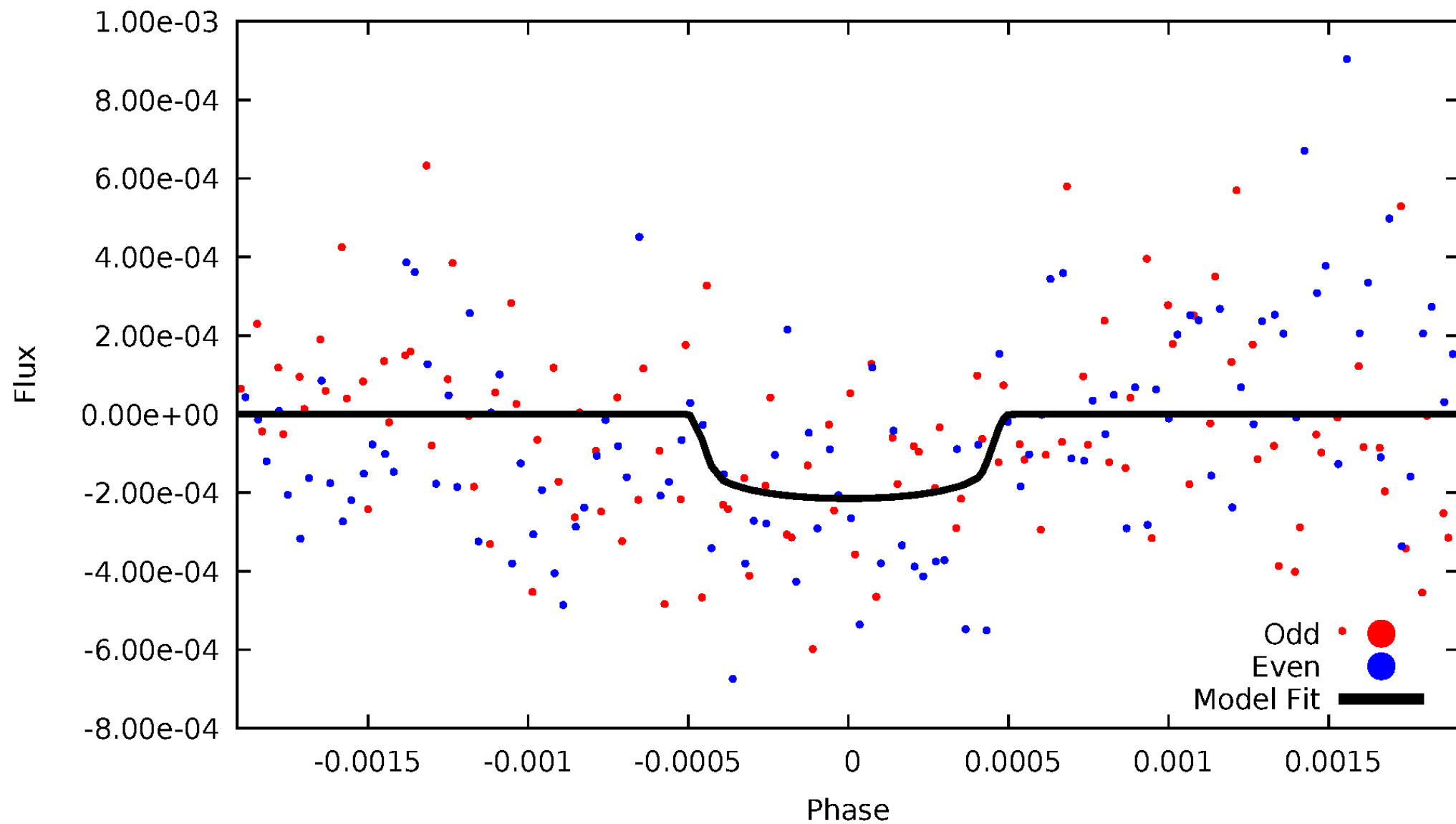


# TCE 005811937-01



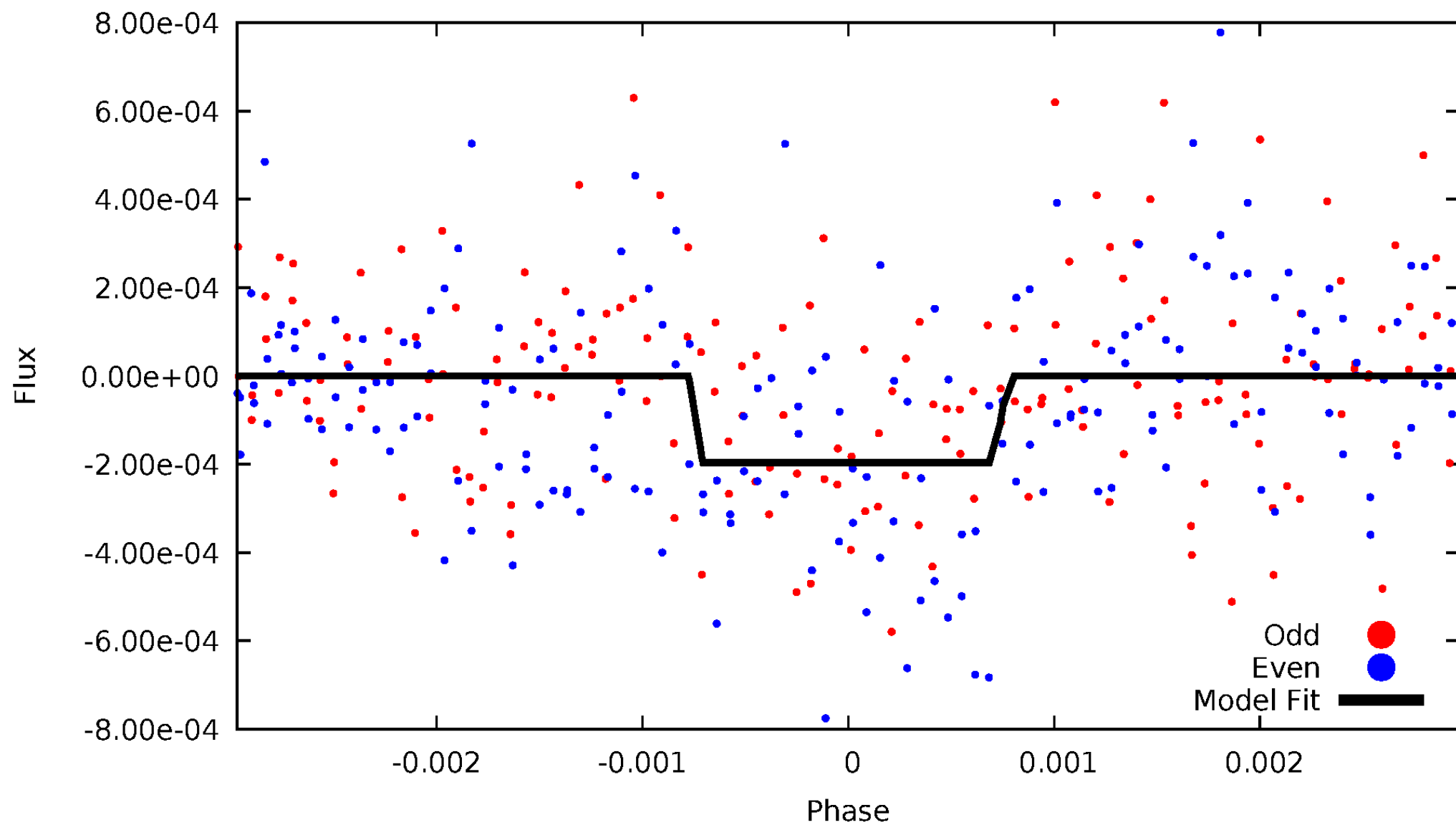
# DV Odd/Even

TCE 005811937-01

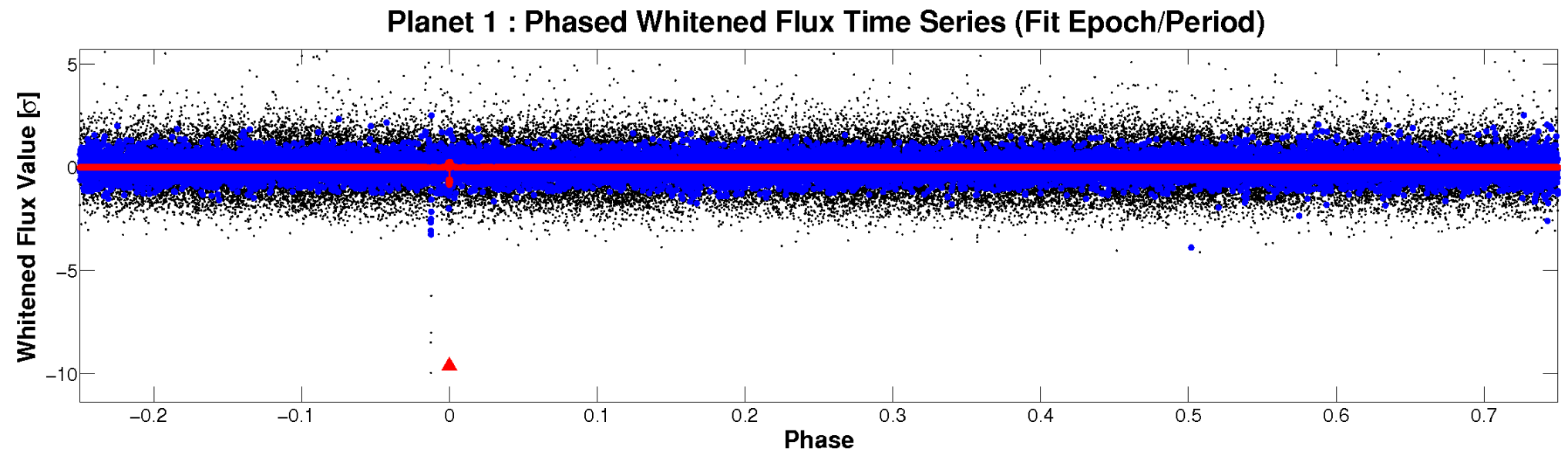
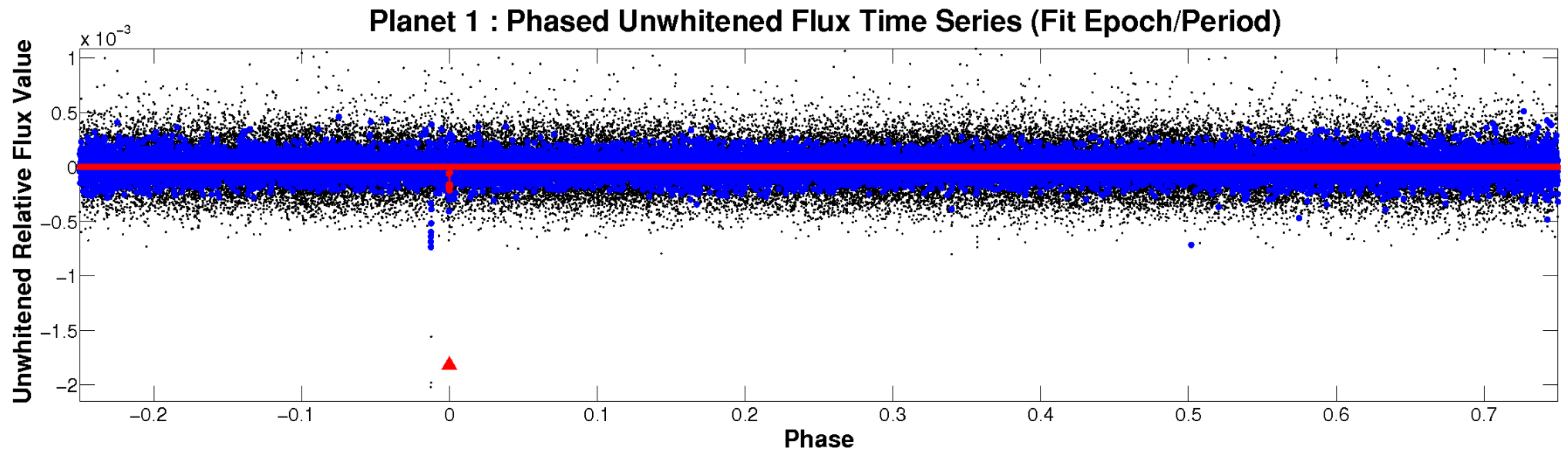


# ALT Odd/Even

TCE 005811937-01



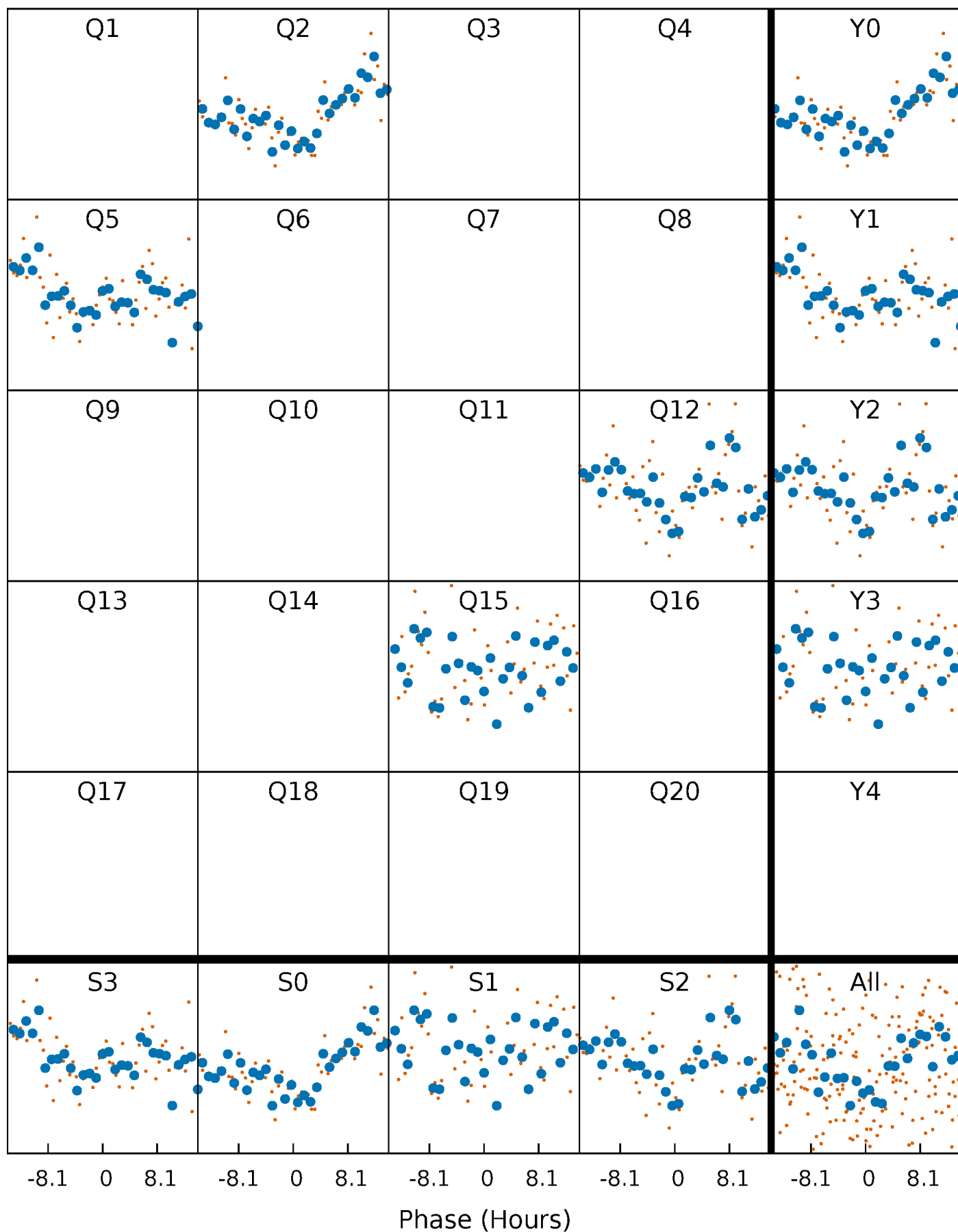
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

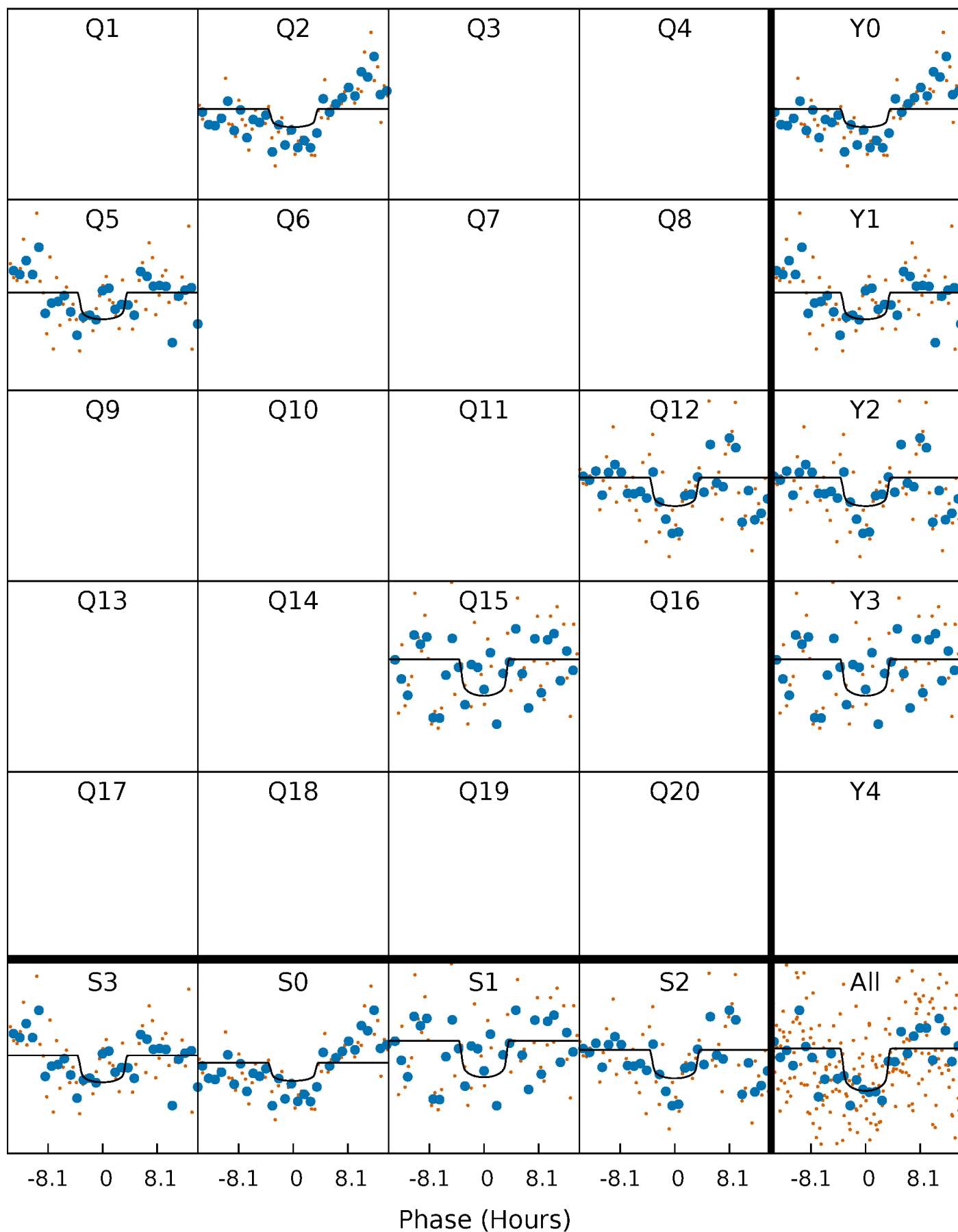
TCE 005811937-01 P=309.003554 Days  $T_0=185.264031$  (BKJD)





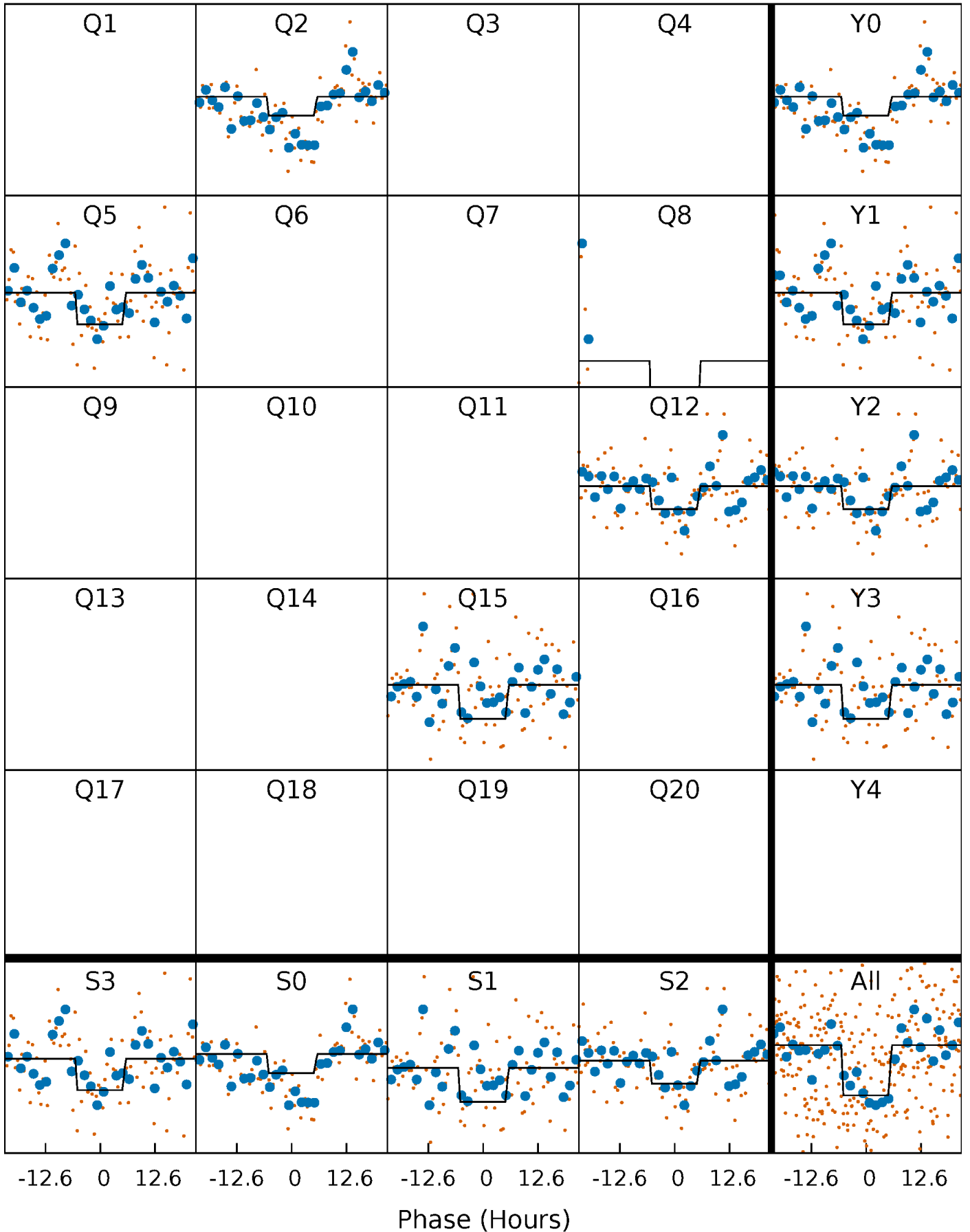
# DV Quarter-Phased Transit Curves

TCE 005811937-01 P=309.003554 Days  $T_0=185.264031$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

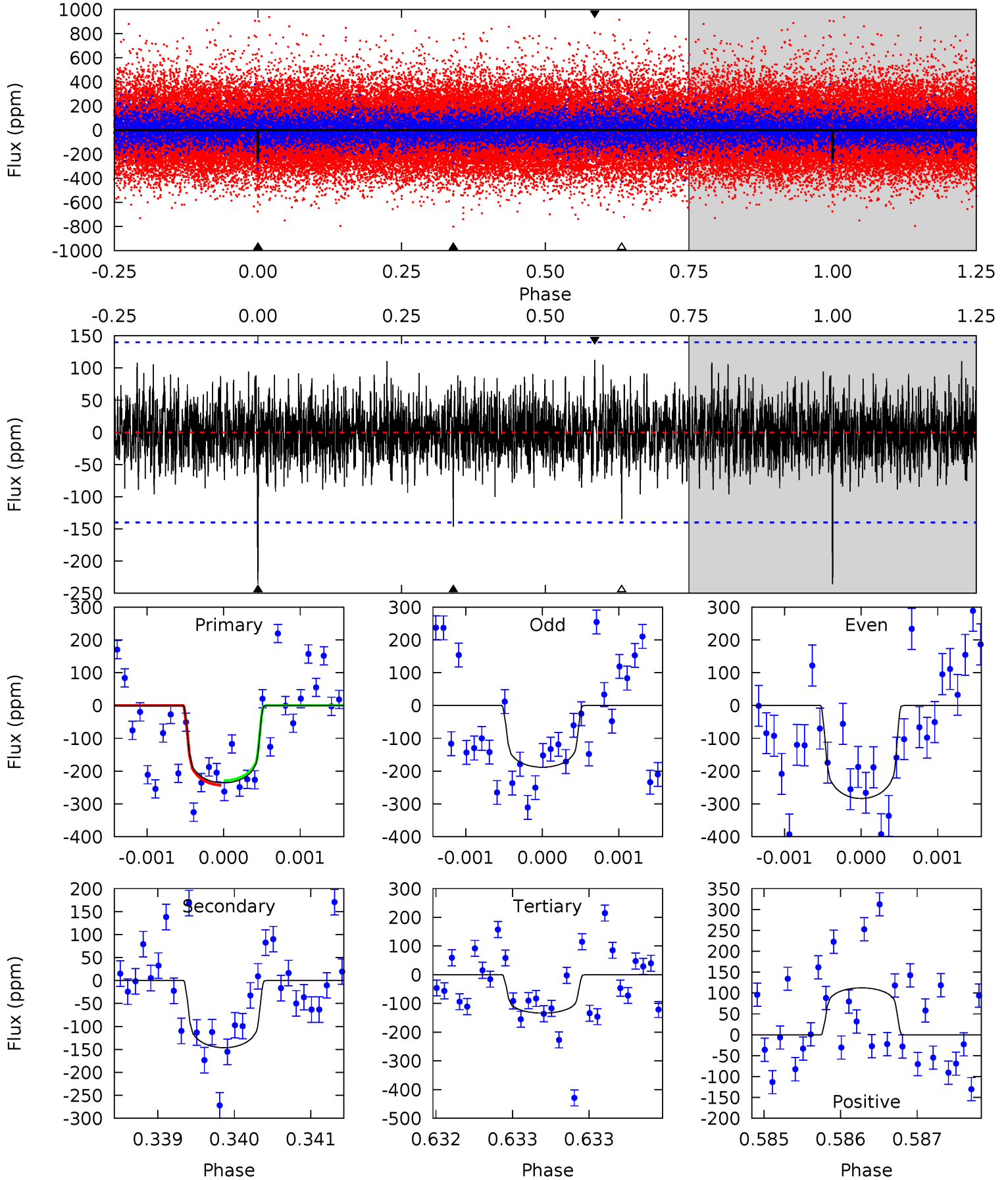
TCE 005811937-01   P=308.996294 Days    $T_0=185.186548$  (BKJD)



# DV Model-Shift Uniqueness Test

005811937-01,  $P = 309.003554$  Days,  $E = 185.264031$  Days

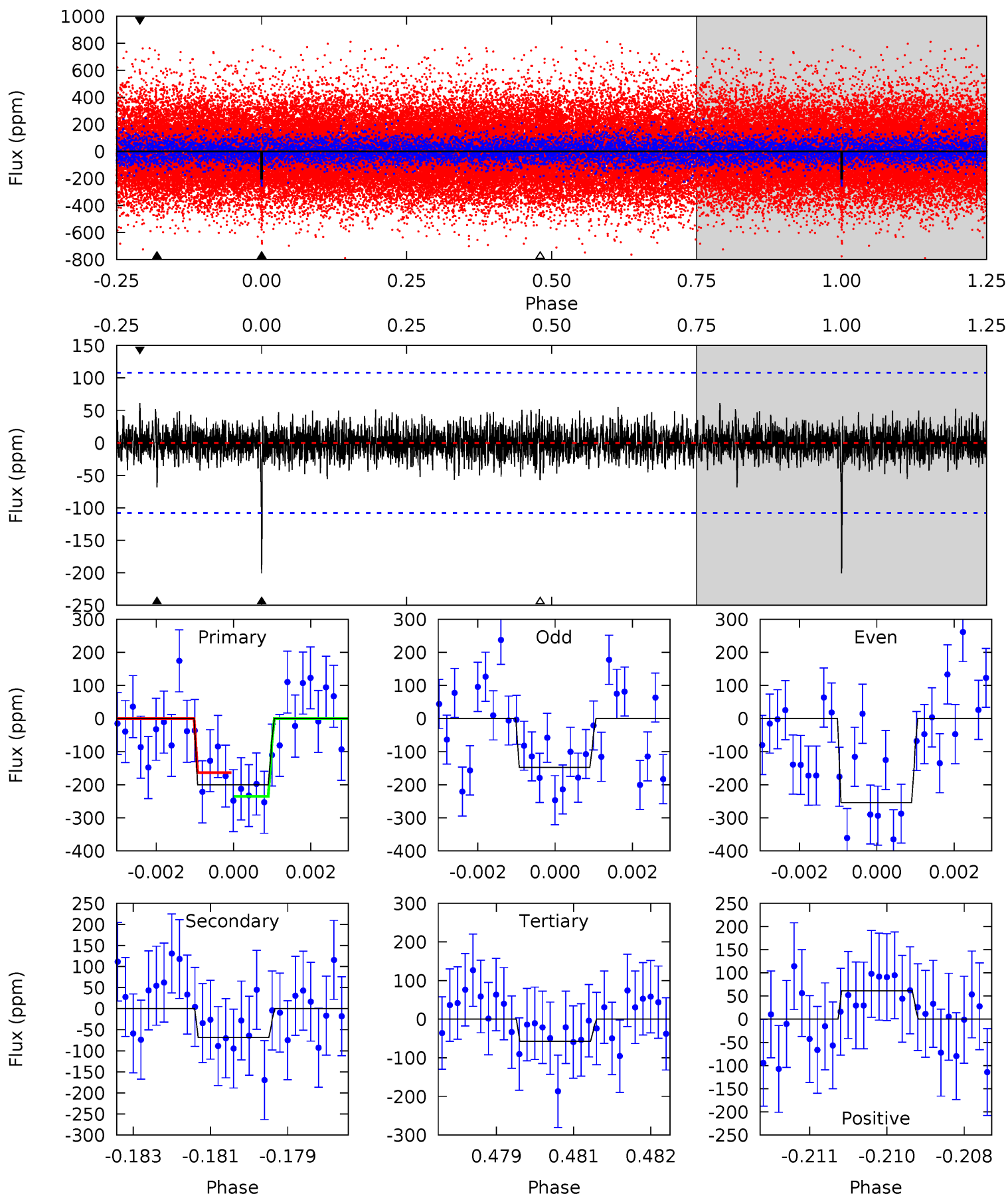
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.20	5.71	5.21	4.38	5.46	3.30	1.24	3.99	4.82	0.50	1.33	1.88	1.18	0.32	0.27



# Alt Model-Shift Uniqueness Test

005811937-01, P = 308.996294 Days, E = 185.186548 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
9.98	3.41	2.86	3.05	5.38	3.17	0.82	7.12	6.93	0.55	0.36	2.66	1.38	0.23	1.78



### Stellar Parameters For KIC 005811937

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6084^{+163}_{-181}$	$4.529^{+0.048}_{-0.192}$	$-0.580^{+0.300}_{-0.300}$	$0.851^{+0.237}_{-0.079}$	$0.893^{+0.099}_{-0.090}$	$2.041^{+0.511}_{-0.995}$
	+3%/-3%	+1%/-4%	+52%/-52%	+28%/-9%	+11%/-10%	+25%/-49%
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 005811937-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-146 \pm 26$	$1.51^{+0.96}_{-0.92}$	$379^{+24}_{-17}$	$5415^{+3389}_{-995}$	$25930^{+137169}_{-16581}$
Alt.	$-68 \pm 20$	$1.44^{+1.00}_{-0.81}$	$379^{+26}_{-17}$	$4649^{+2305}_{-827}$	$13230^{+55764}_{-8780}$

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

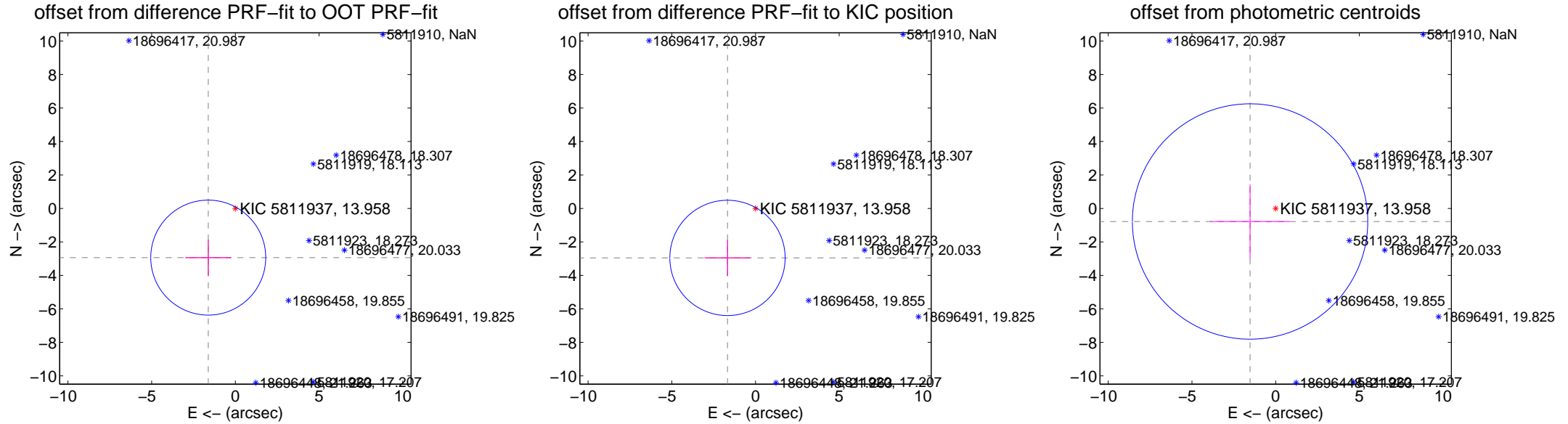
## DV Centroid Data

Supplemental centroid analysis for 005811937-01. Kepler magnitude: 13.96. Transit SNR 5.73

There are 0 quarters with good PRF difference image offsets

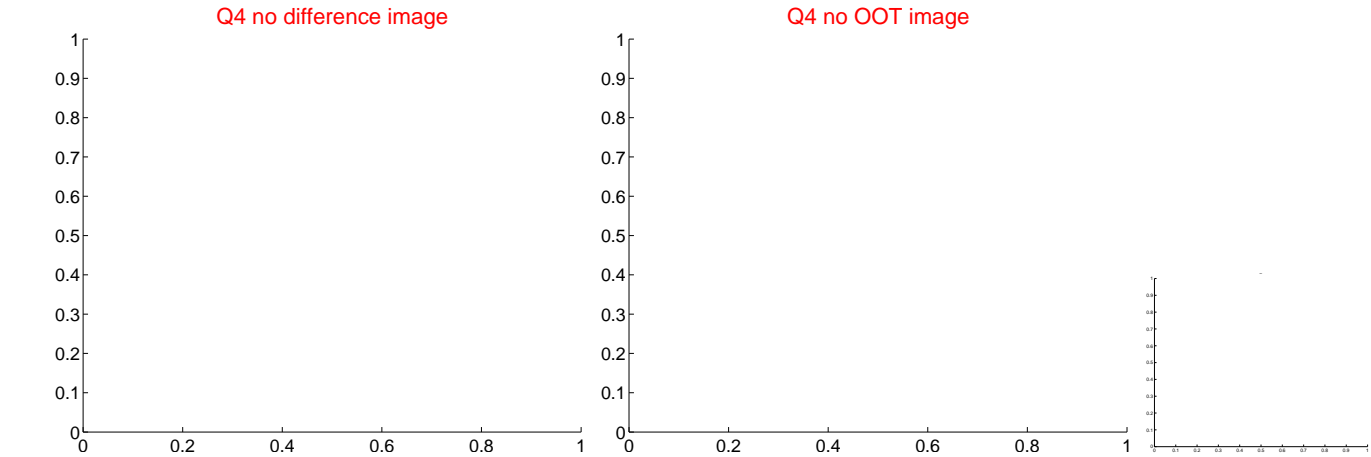
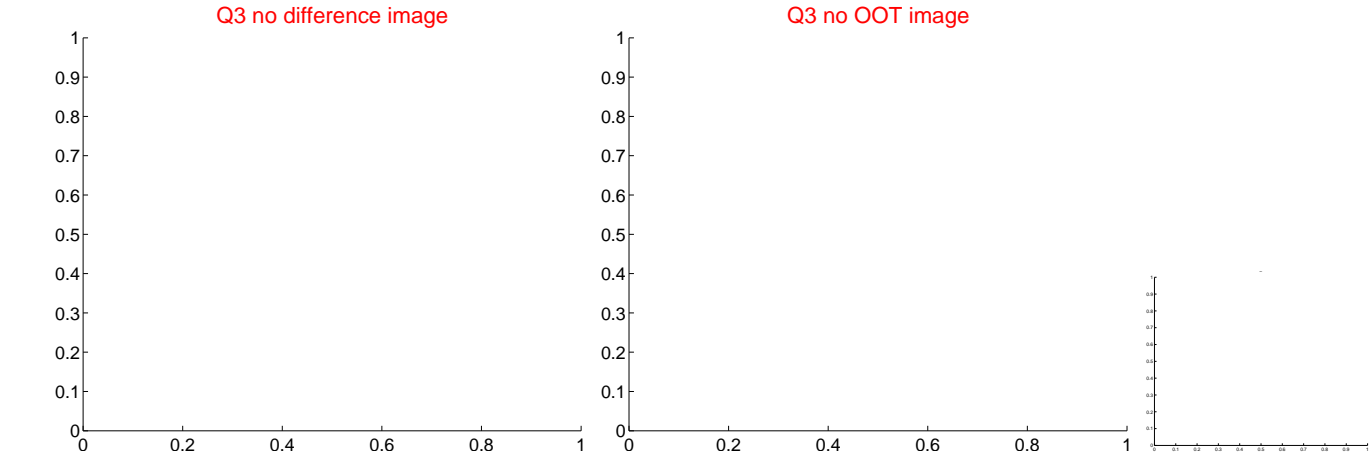
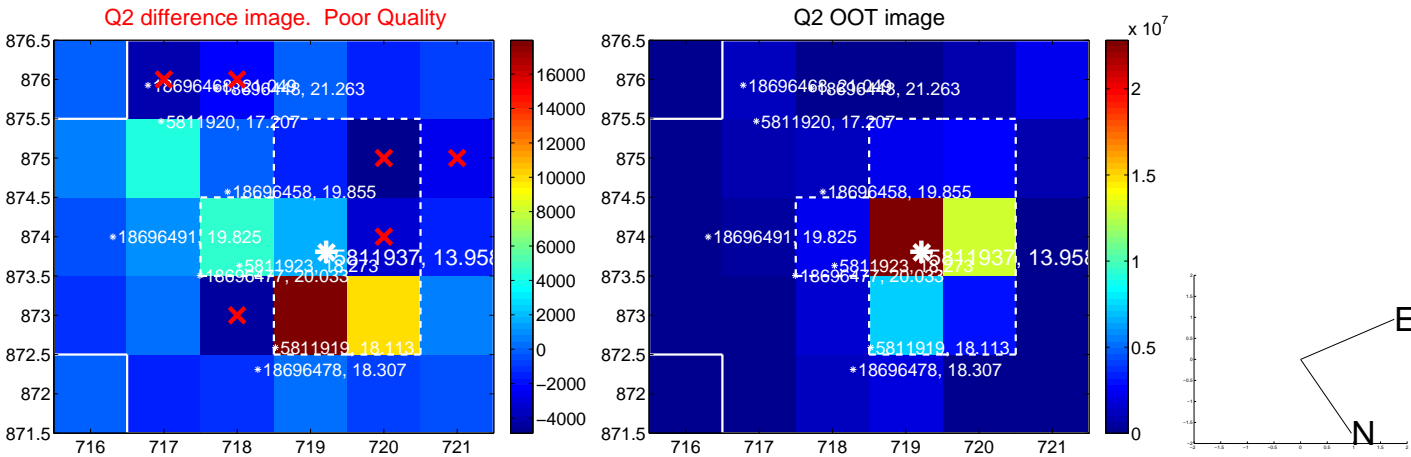
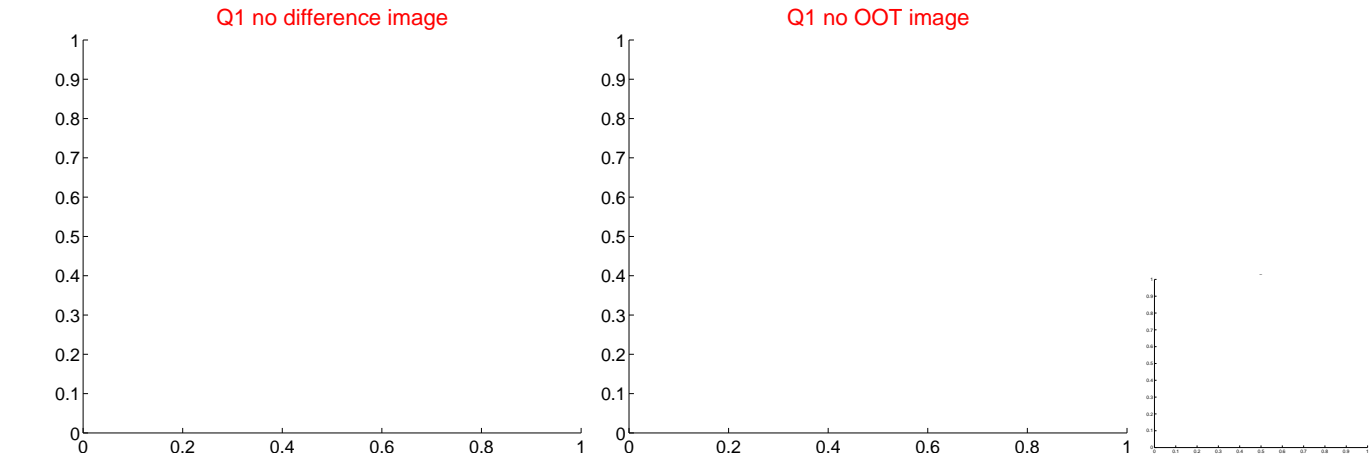
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.353 \pm 1.145$	2.93	$1.619 \pm 1.365$	$-2.937 \pm 1.069$
PRF-fit source offset from KIC position	$3.395 \pm 1.148$	2.96	$1.673 \pm 1.365$	$-2.955 \pm 1.069$
photometric centroid source offset	$1.72 \pm 2.34$	0.73	$1.53 \pm 2.37$	$-0.78 \pm 2.22$



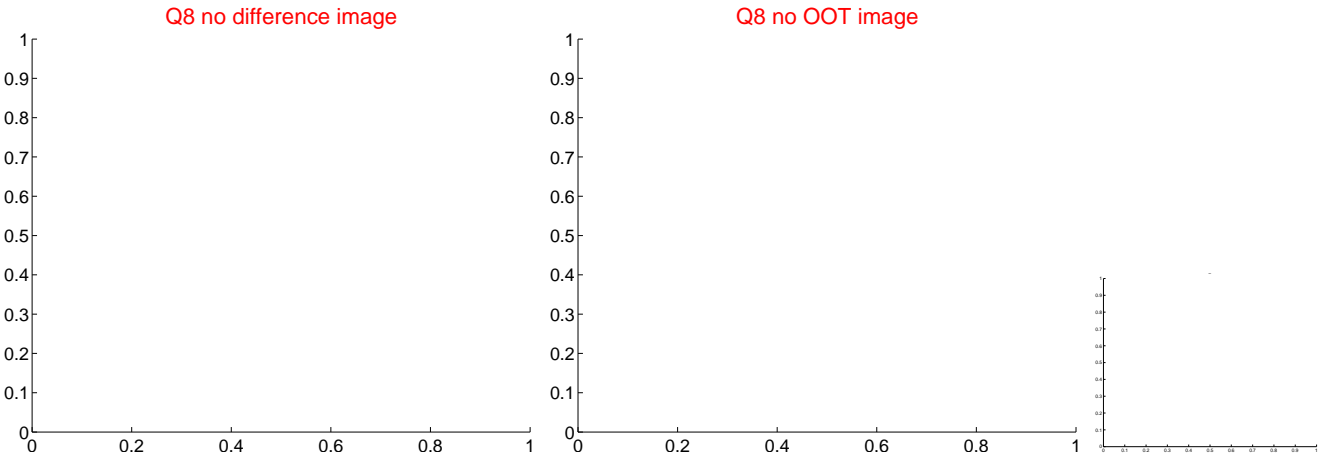
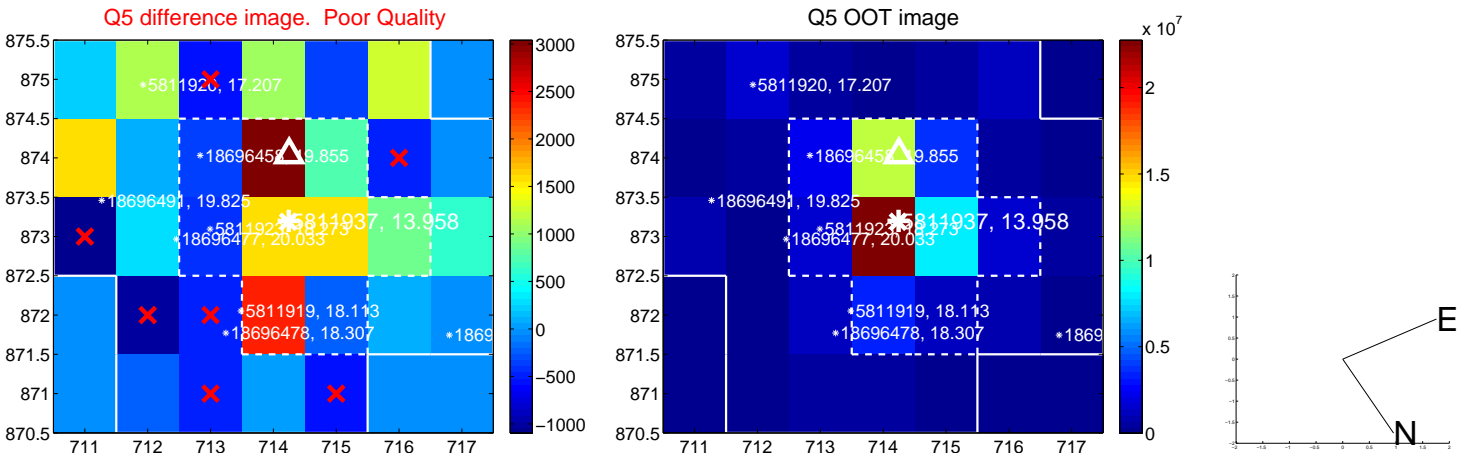
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

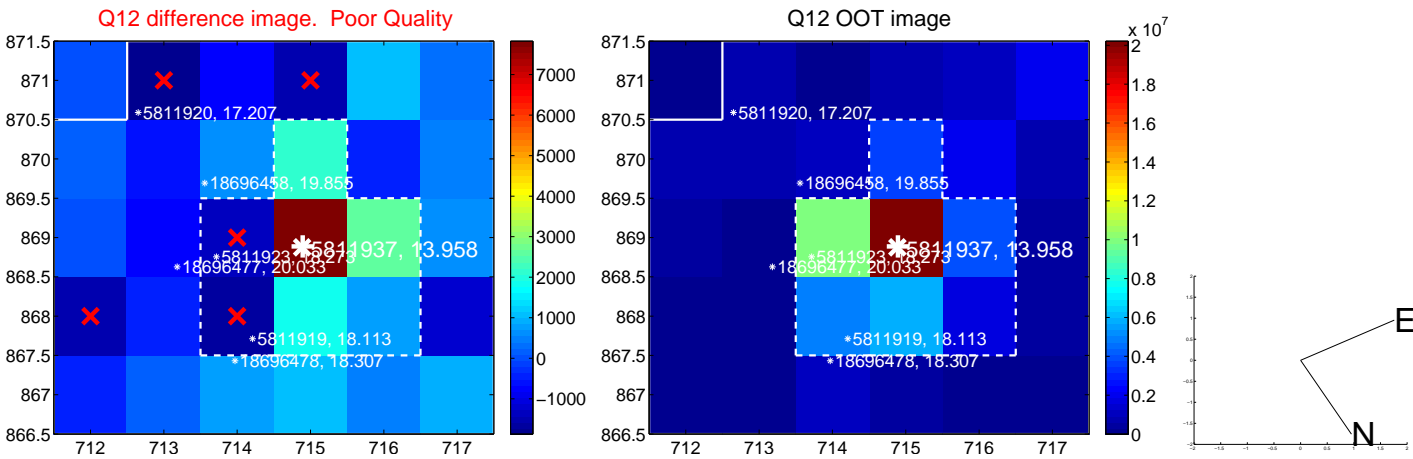




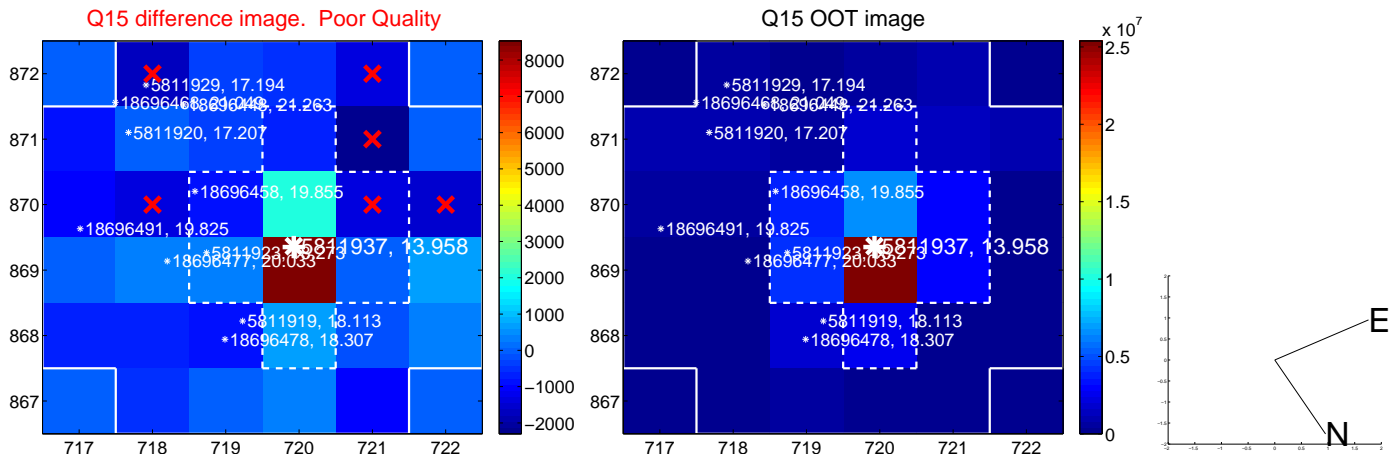
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



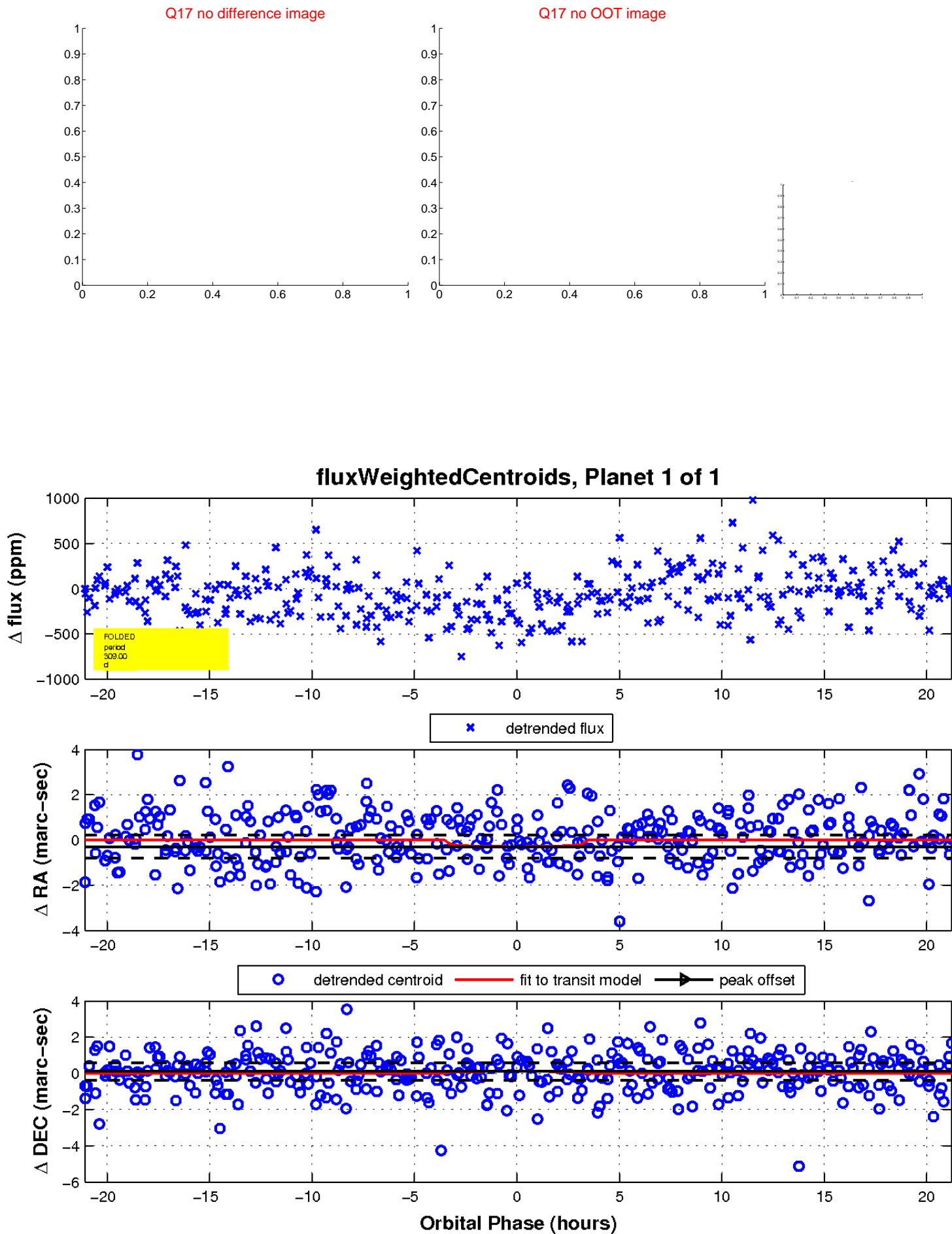
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

