

# KIC 011766805

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011766805-01	OBS	No	239.482452	350.749647	460.5	21.506	7.4	6.6	1.03	6140	2.38	2.22

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011766805-01	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.

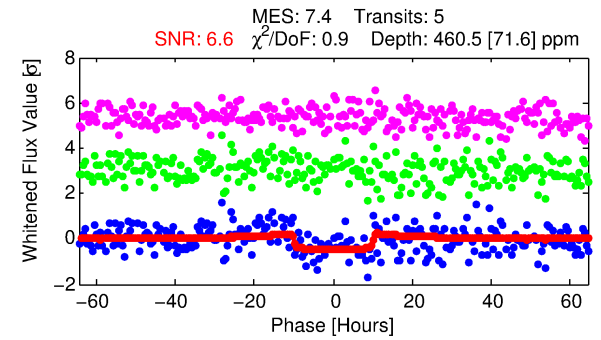
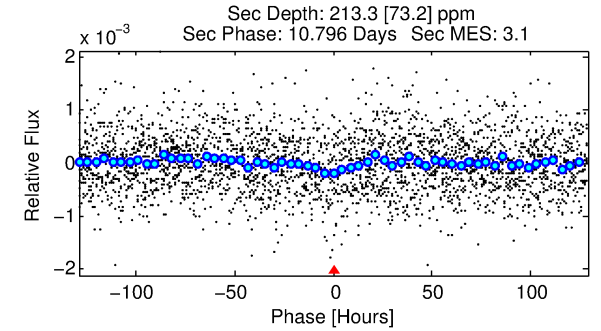
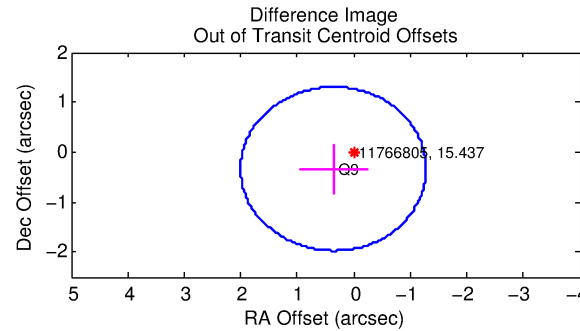
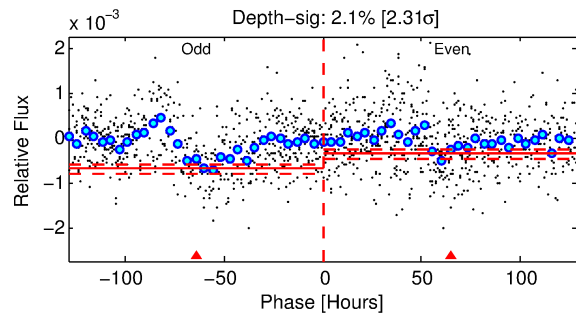
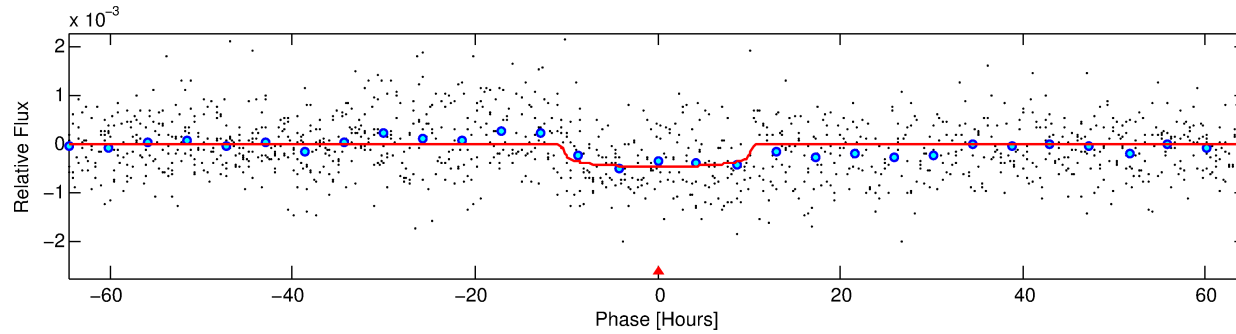
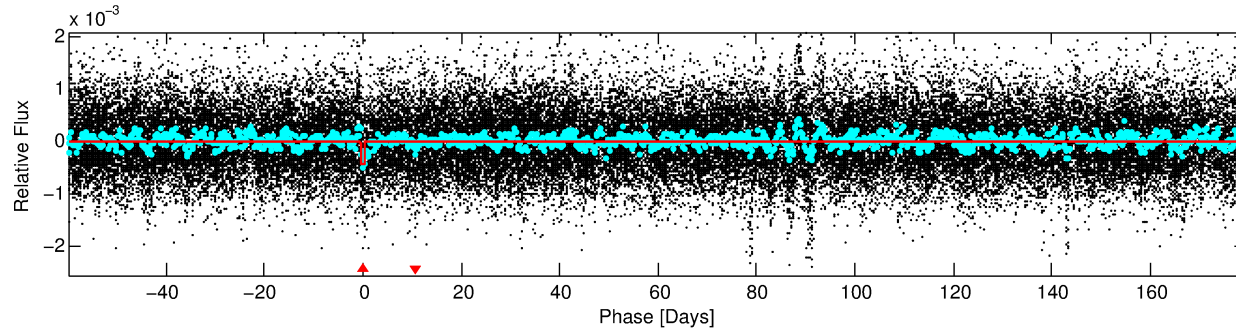
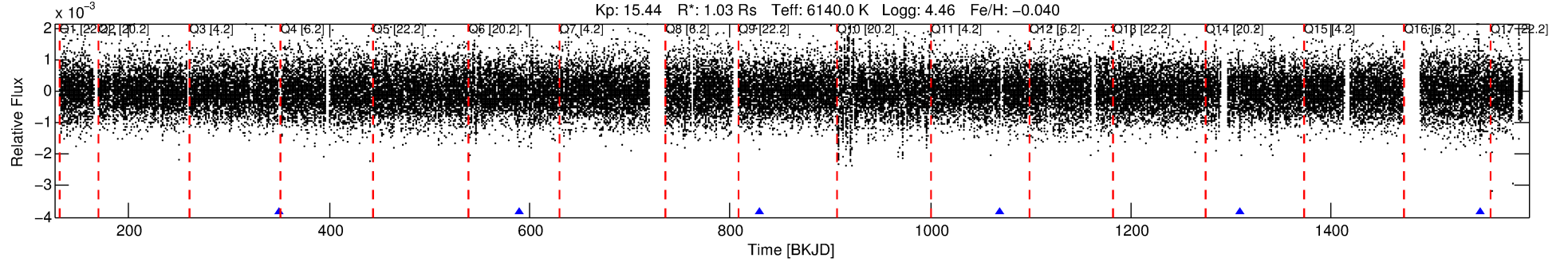
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011766805-01

No Significant Match Found

# DV One-Page Summary

KIC: 11766805 Candidate: 1 of 1 Period: 239.482 d



## DV Fit Results:

Period = 239.48245 [0.01236] d  
Epoch = 350.7496 [0.0402] BKJD  
Rp/R\* = 0.0213 [0.0044]  
a/R\* = 60.05 [56.70]  
b = 0.74 [0.59]  
Seff = 2.22 [0.95]  
Teq = 311 [33] K  
Rp = 2.38 [0.93] Re  
a = 0.7785 [0.2153] AU  
Ag = 12532.24 [8417.62] [1.49 $\sigma$ ]  
Teffp = 5089 [715] K [6.67 $\sigma$ ]

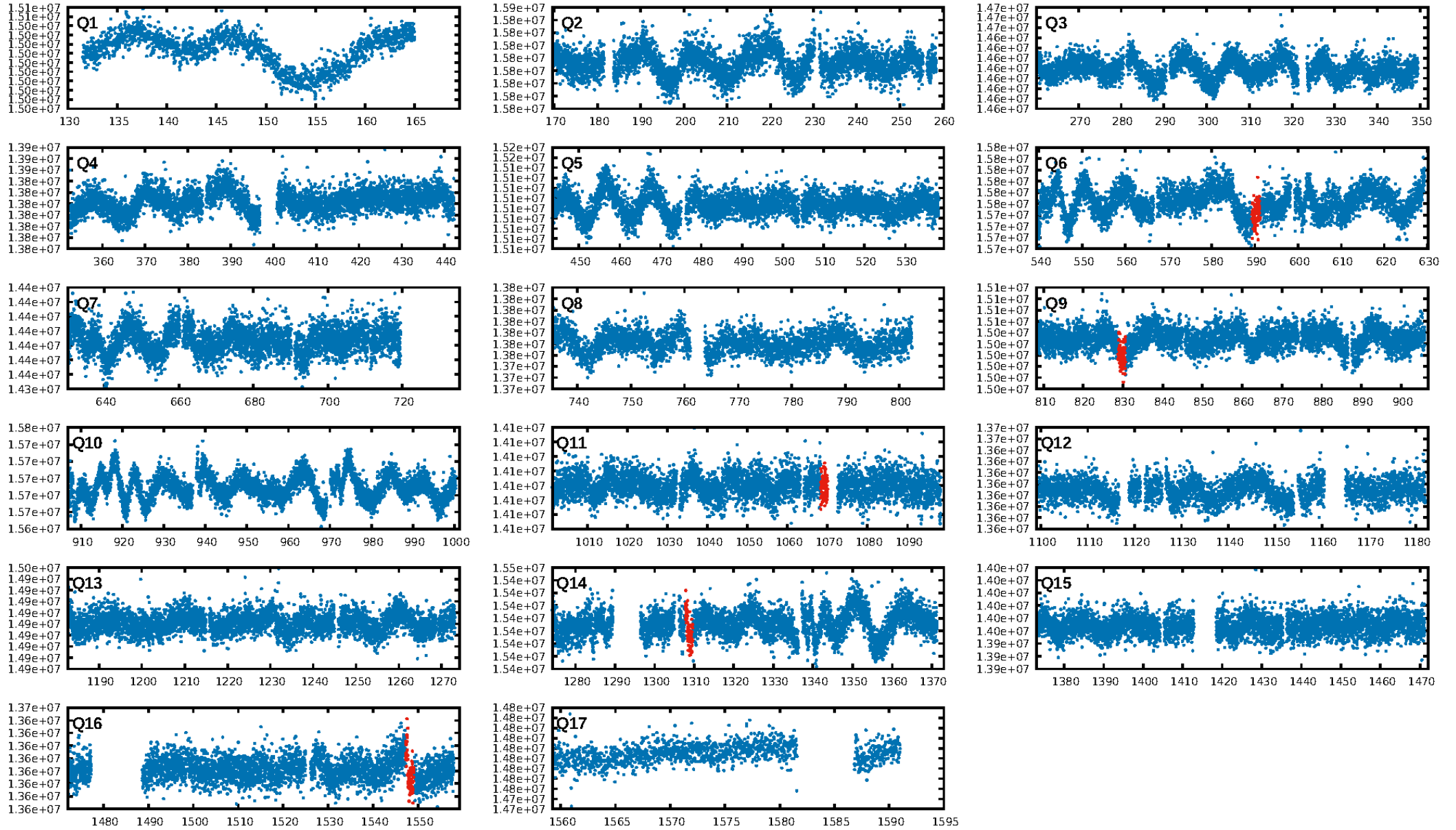
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 1.7%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.77e-09  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: 1.864  
Centroid-sig: 24.0%  
Centroid-so: 2.772 arcsec [1.48 $\sigma$ ]  
OotOffset-rm: 0.493 arcsec [0.90 $\sigma$ ]  
KicOffset-rm: 0.463 arcsec [0.85 $\sigma$ ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

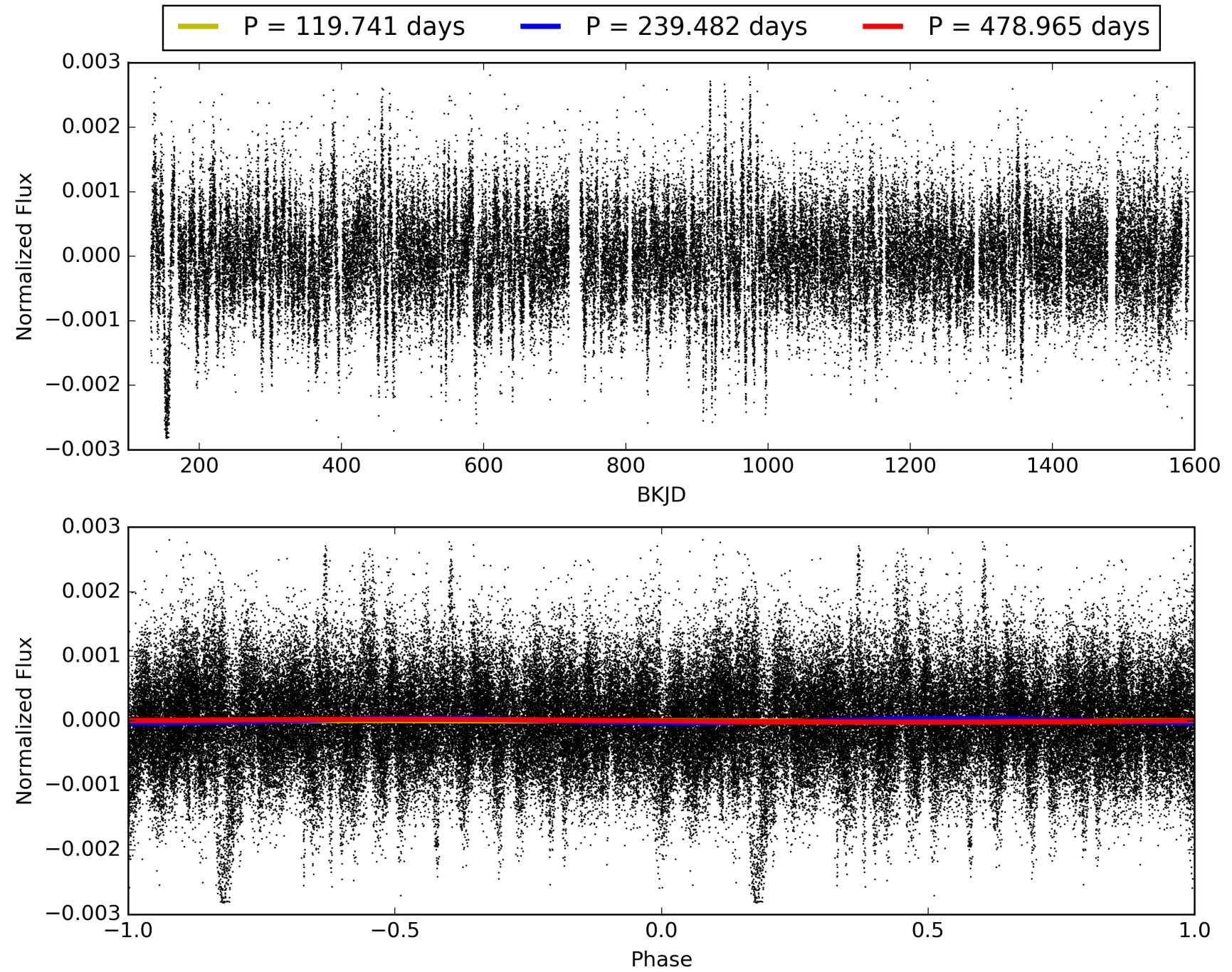
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:06:40 Z

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

# TCE 011766805-01, PDC Light Curves

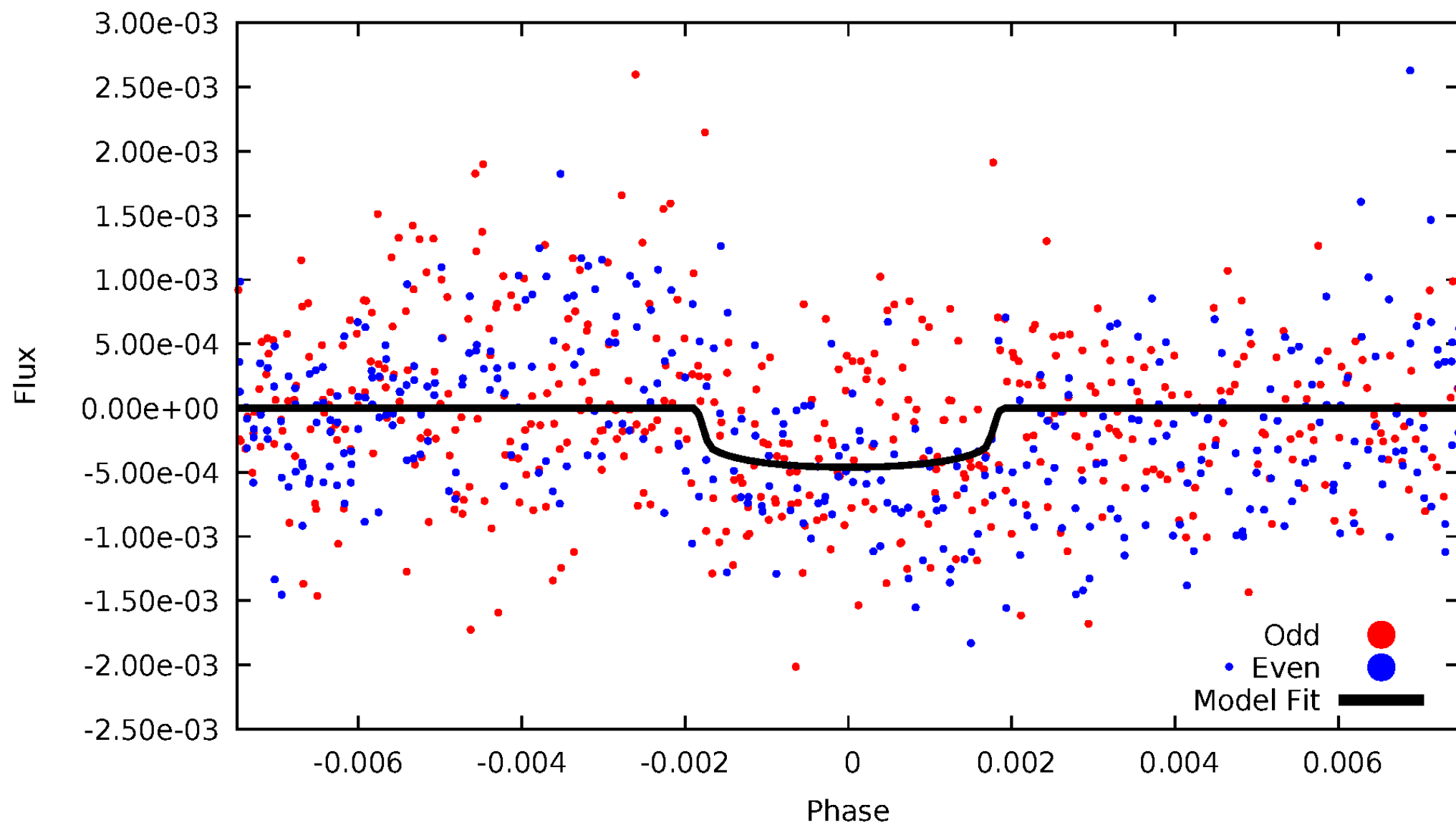


# TCE 011766805-01



# DV Odd/Even

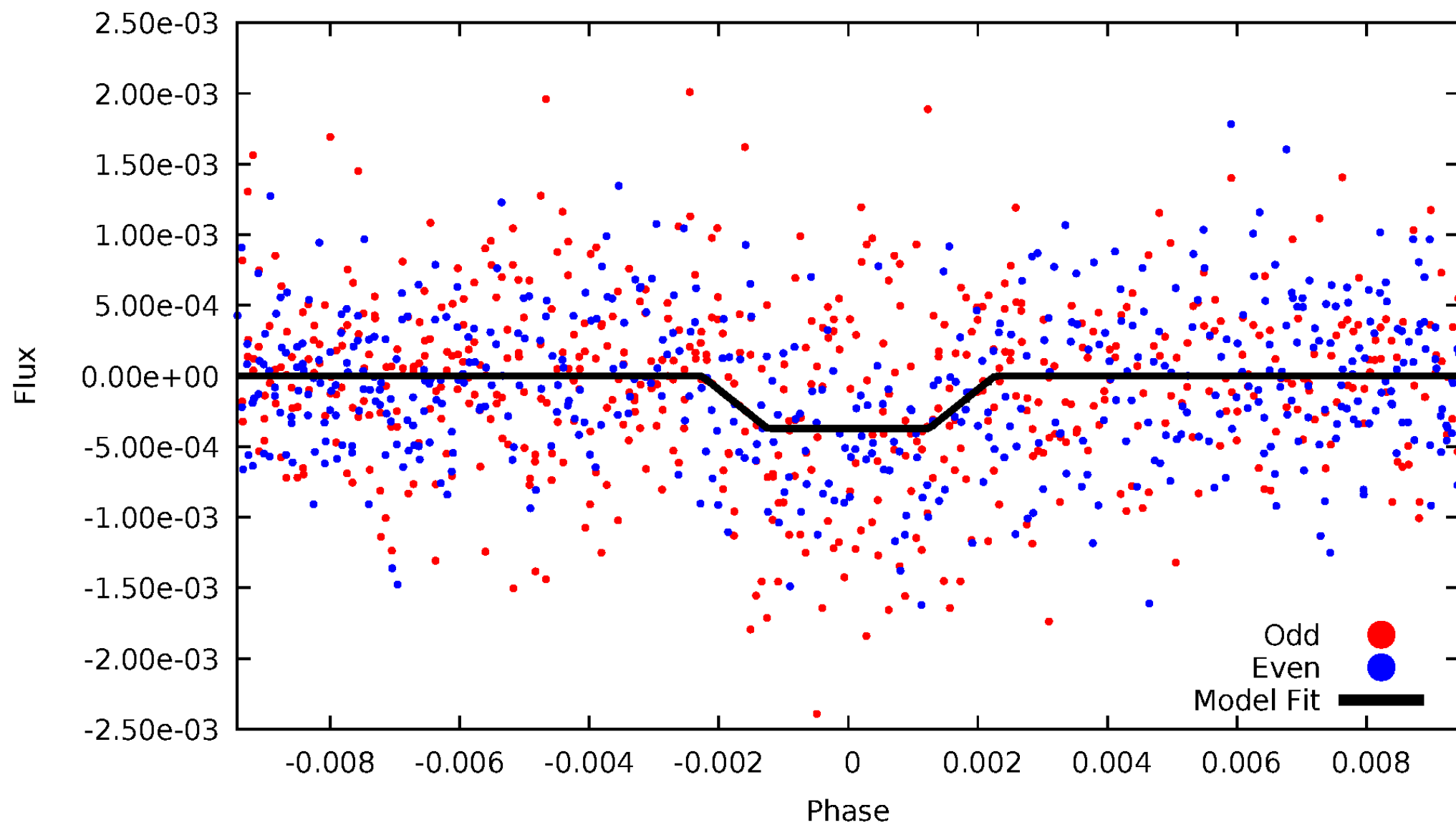
TCE 011766805-01





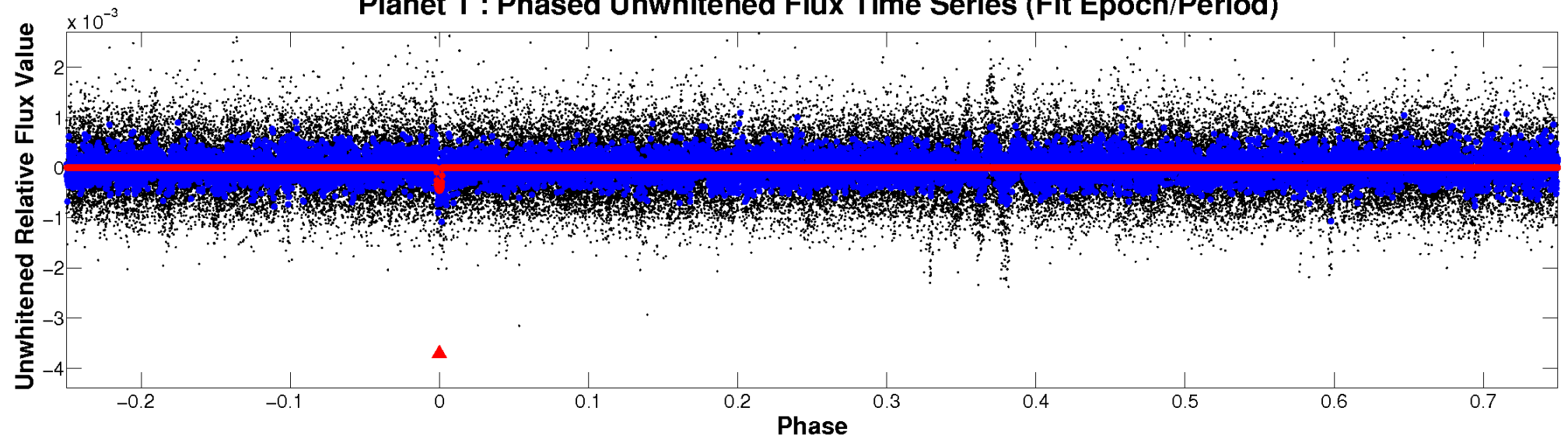
# ALT Odd/Even

TCE 011766805-01

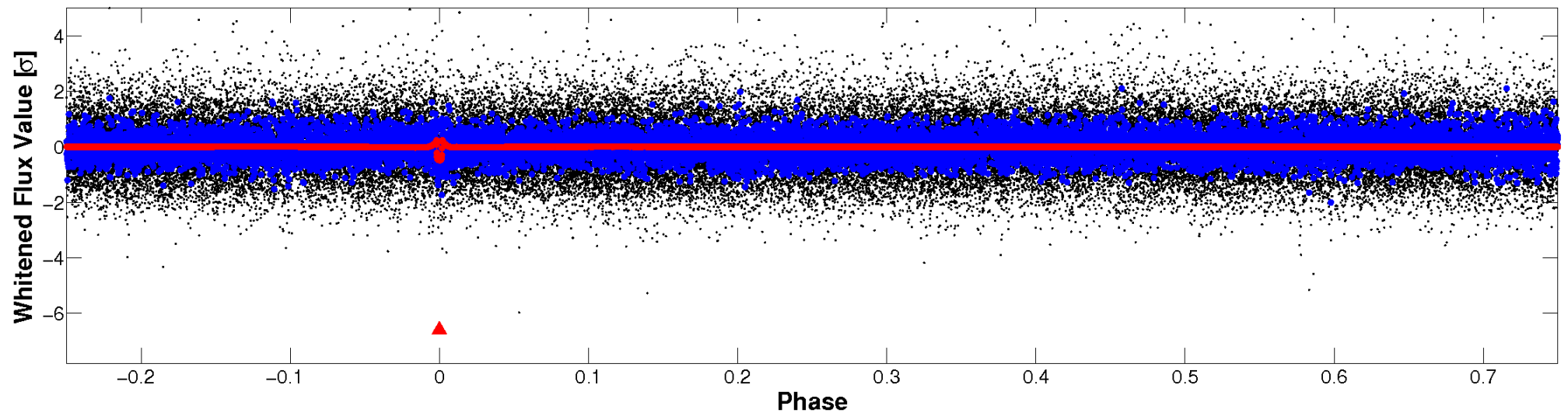


# Non-Whitened Vs. Whitened Light Curve

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

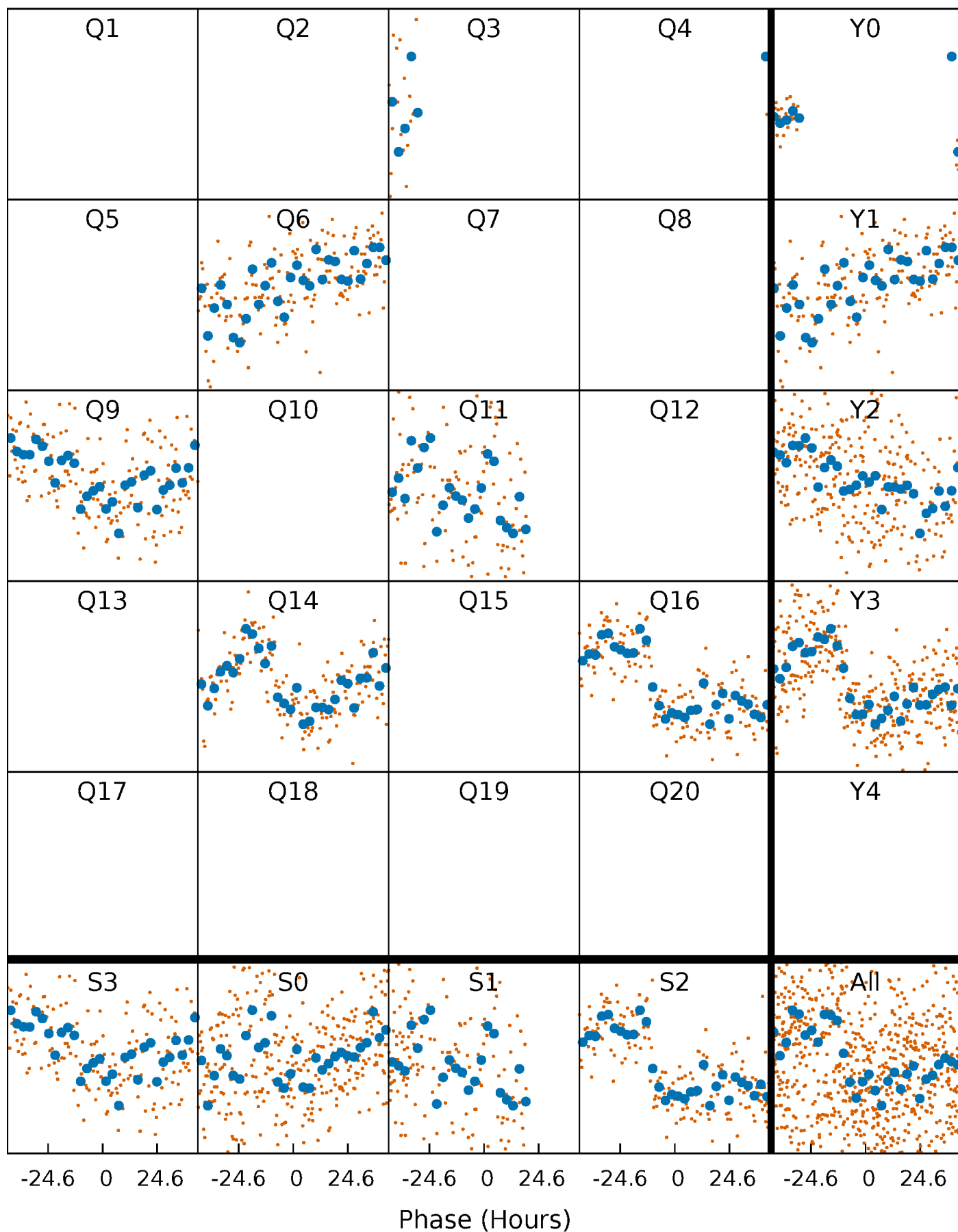


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

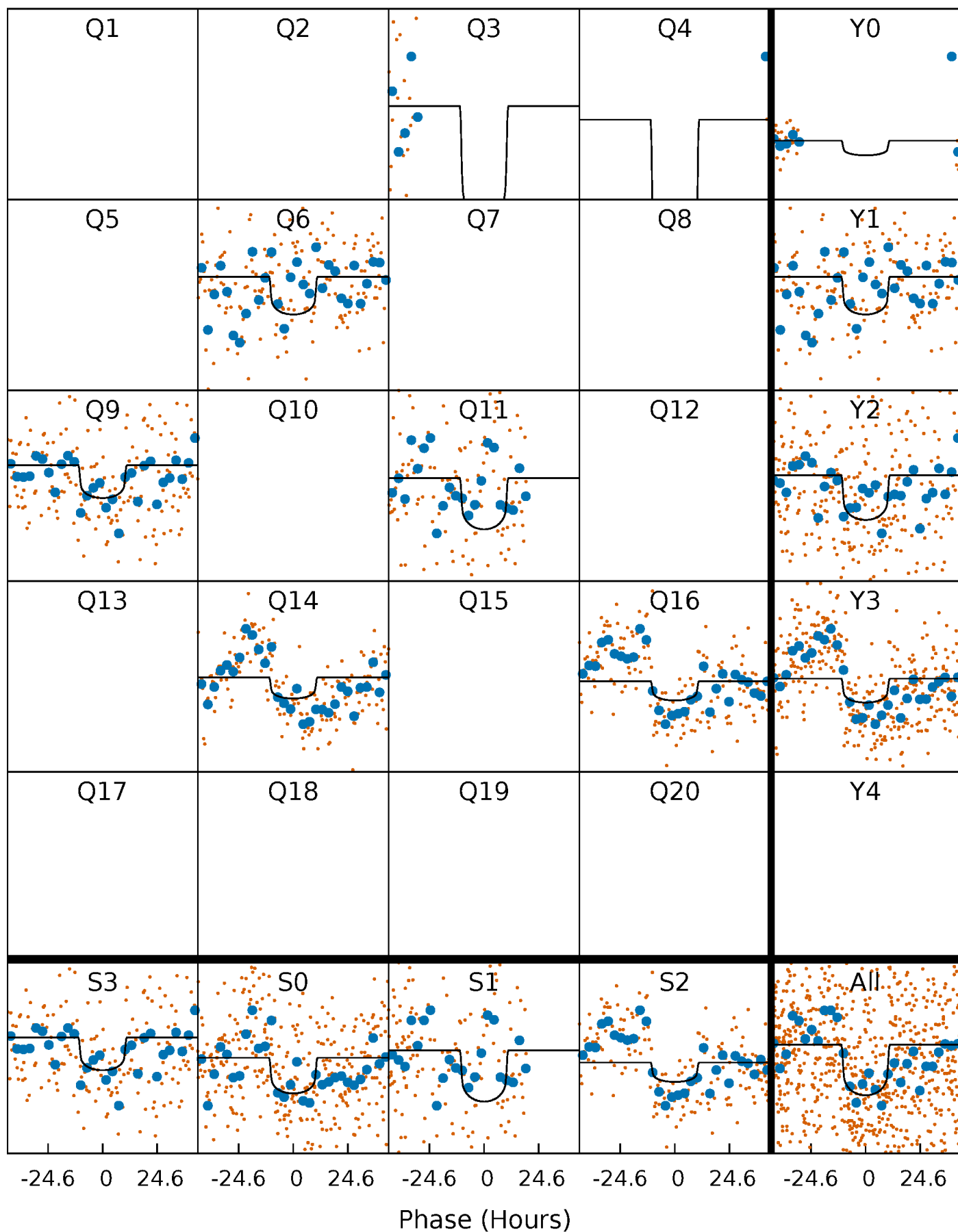
TCE 011766805-01 P=239.482452 Days  $T_0=350.749647$  (BKJD)





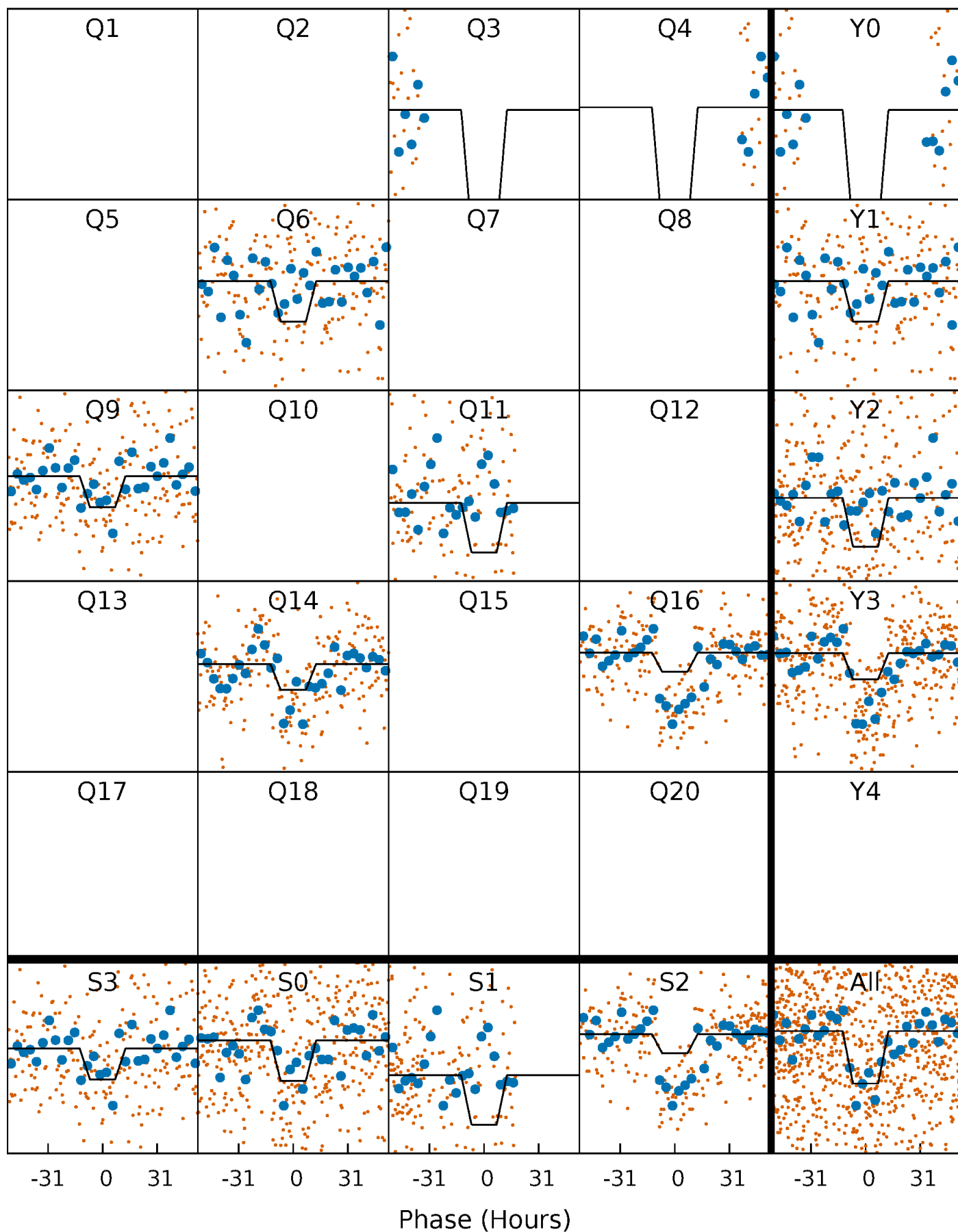
# DV Quarter-Phased Transit Curves

TCE 011766805-01 P=239.482452 Days  $T_0=350.749647$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

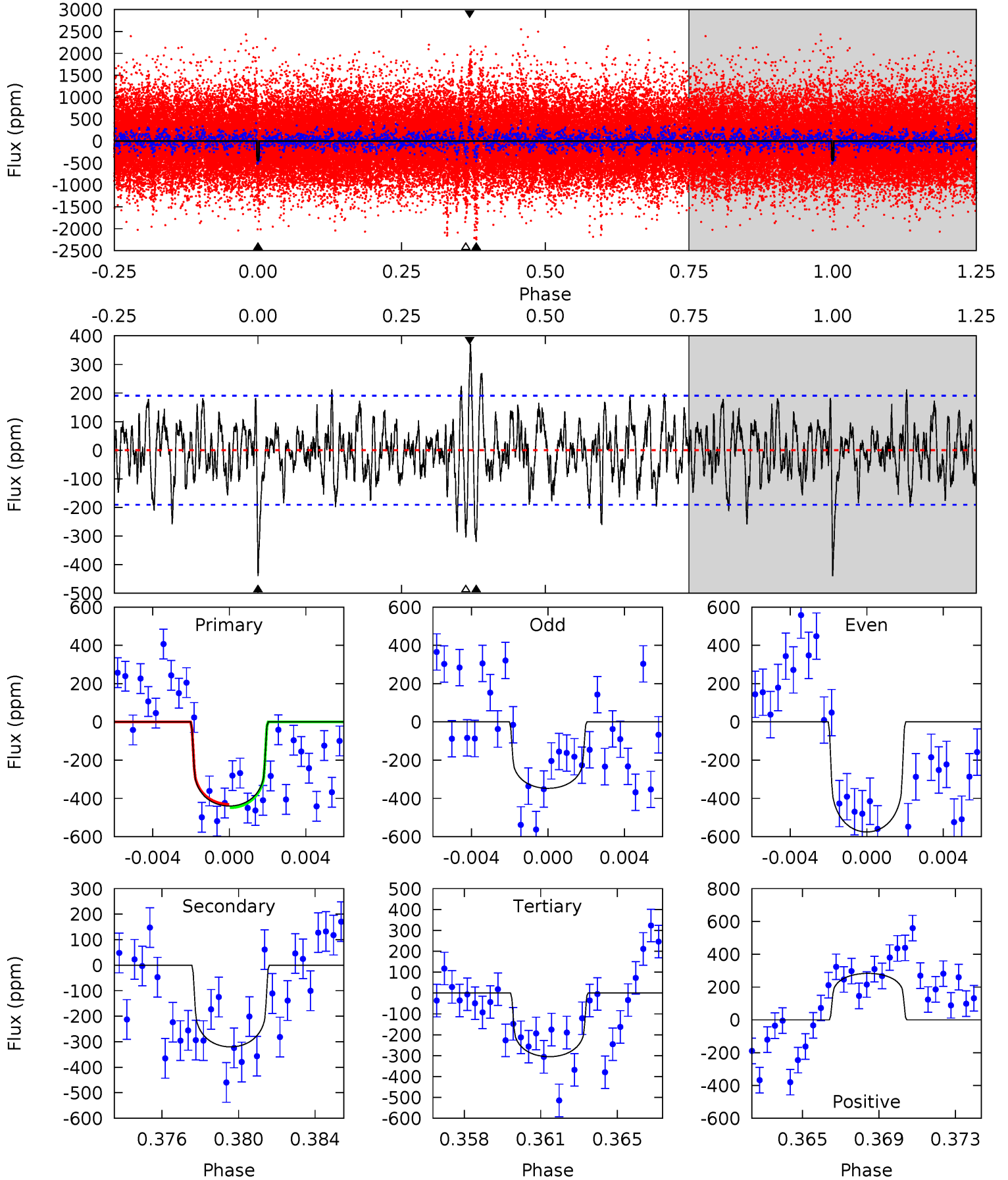
TCE 011766805-01 P=239.440456 Days  $T_0=350.922222$  (BKJD)



# DV Model-Shift Uniqueness Test

011766805-01, P = 239.482452 Days, E = 111.267195 Days

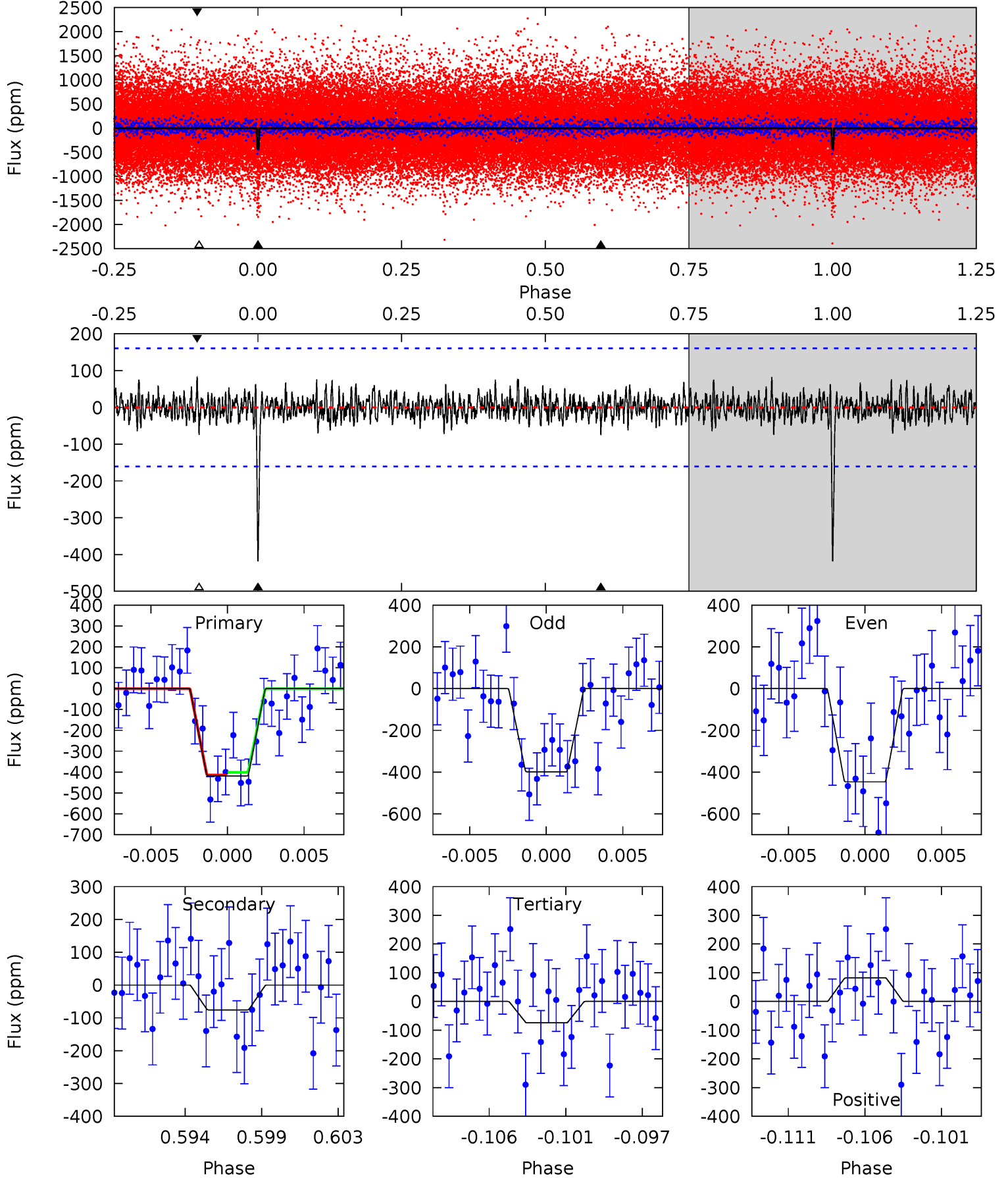
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	8.76	8.34	7.75	5.21	2.90	2.33	3.68	4.27	0.41	1.01	3.07	0.77	0.46	0.24



# Alt Model-Shift Uniqueness Test

011766805-01, P = 239.440456 Days, E = 111.481766 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
13.5	2.43	2.39	2.64	5.17	2.83	0.78	11.1	10.8	0.04	-0.21	0.76	1.39	0.16	0.22



### Stellar Parameters For KIC 011766805

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6140^{+171}_{-236}$	$4.455^{+0.054}_{-0.216}$	$-0.040^{+0.250}_{-0.350}$	$1.027^{+0.341}_{-0.114}$	$1.094^{+0.153}_{-0.153}$	$1.422^{+0.403}_{-0.744}$
	+3%/-4%	+1%/-5%	+625%/-875%	+33%/-11%	+14%/-14%	+28%/-52%
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 011766805-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-320 \pm 37$	$2.48^{+0.62}_{-0.53}$	$443^{+34}_{-22}$	$5661^{+733}_{-537}$	$16800^{+11487}_{-6228}$
Alt.	$-76 \pm 31$	$2.27^{+0.65}_{-0.56}$	$443^{+35}_{-23}$	$4318^{+635}_{-497}$	$4667^{+4583}_{-2366}$

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

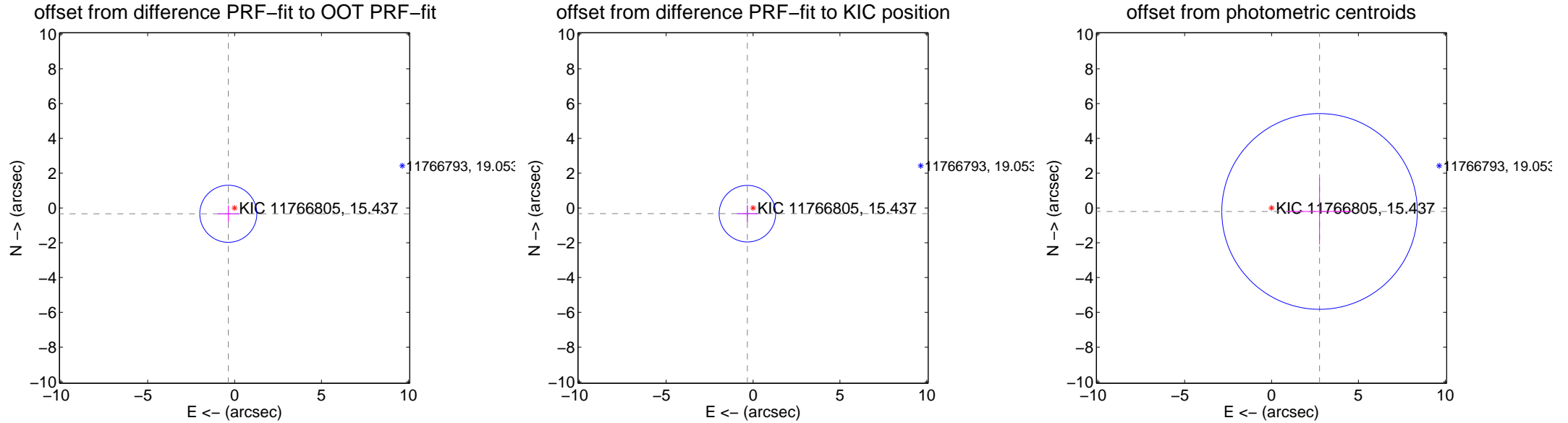
## DV Centroid Data

Supplemental centroid analysis for 011766805-01. Kepler magnitude: 15.44. Transit SNR 6.61

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

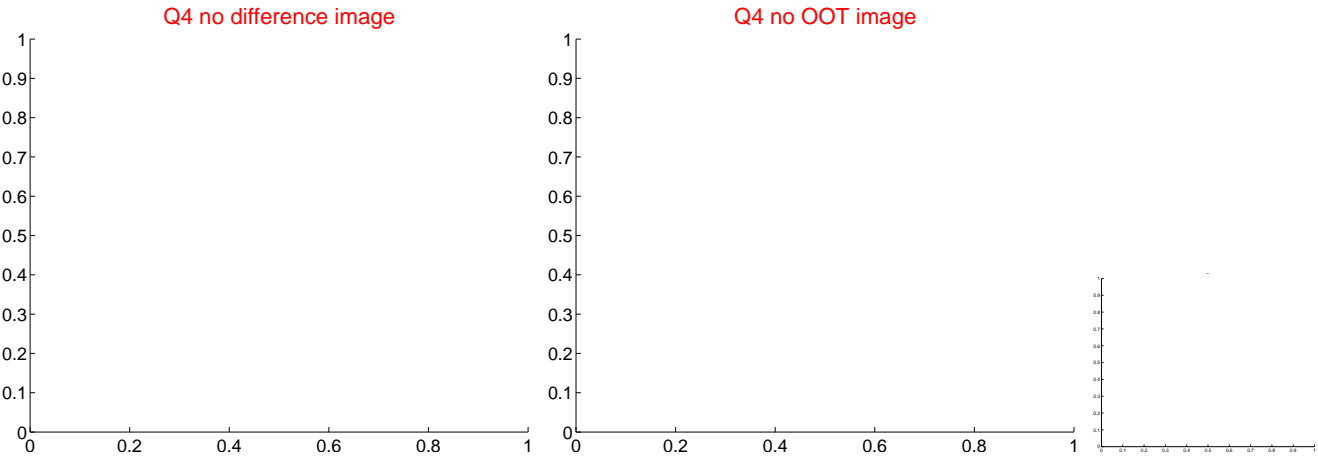
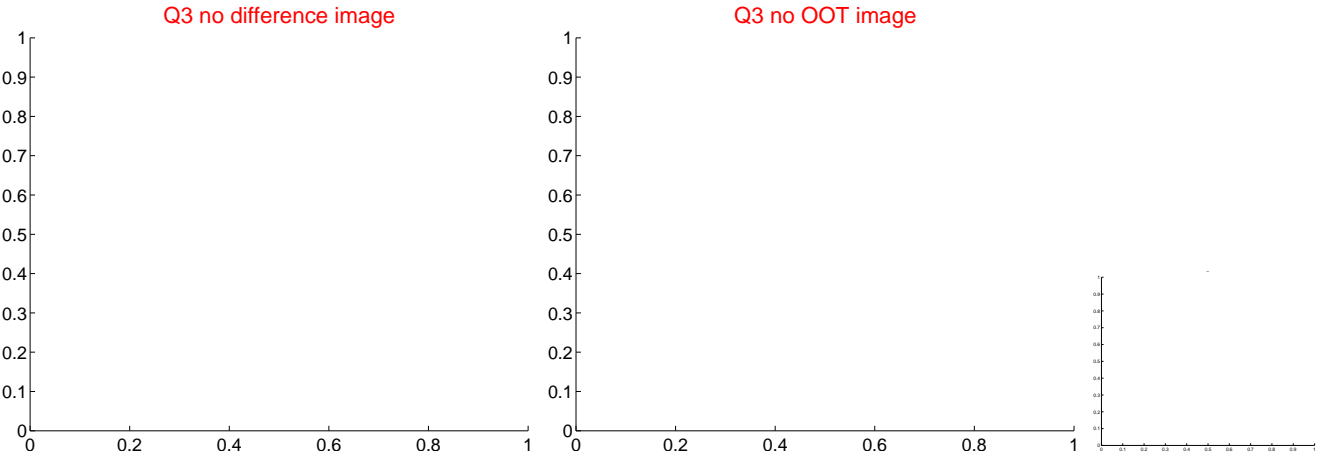
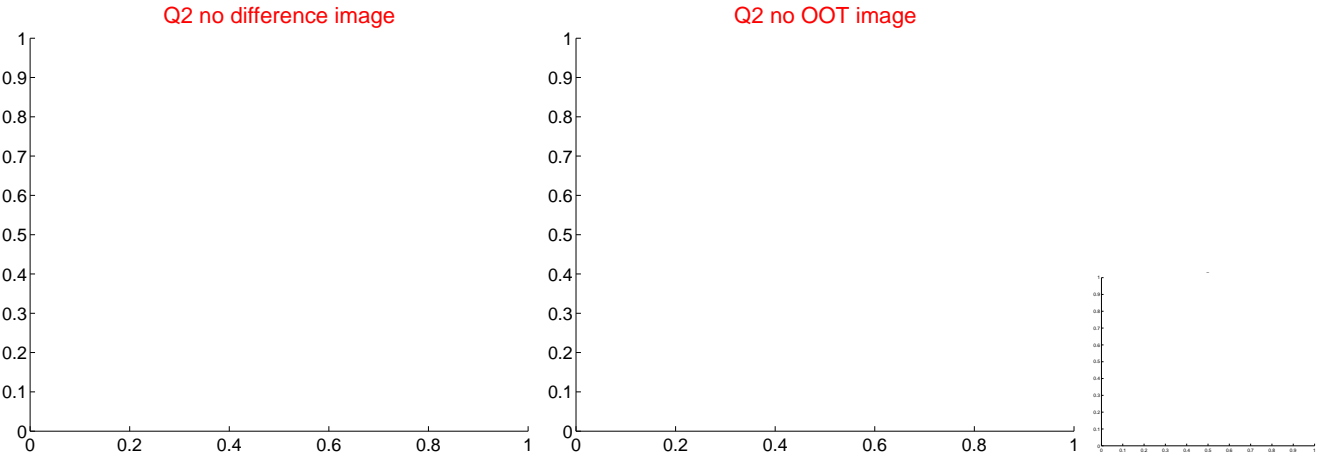
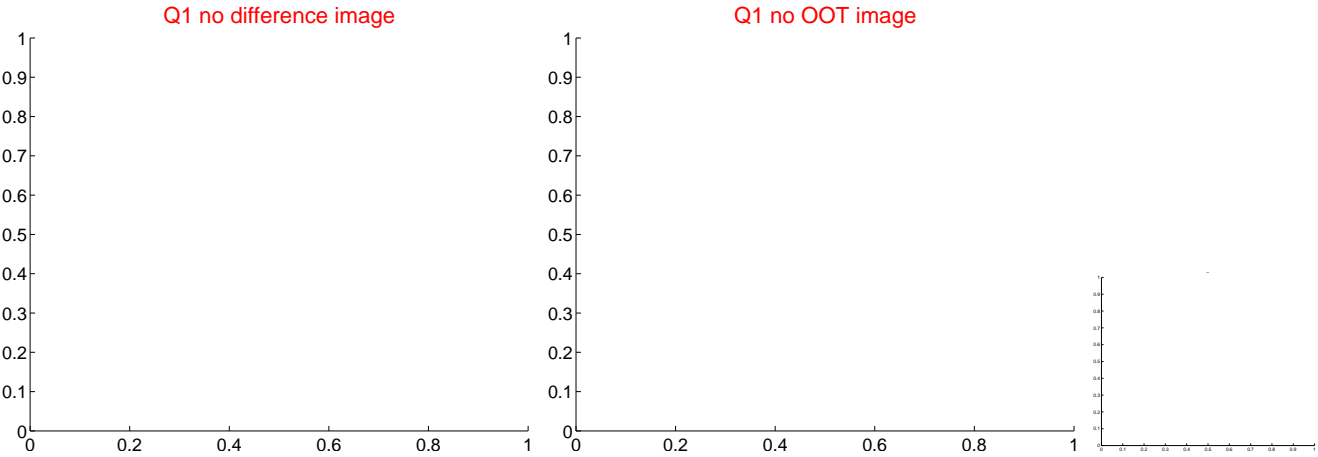
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.493 \pm 0.547$	0.90	$0.361 \pm 0.598$	$-0.335 \pm 0.480$
PRF-fit source offset from KIC position	$0.463 \pm 0.542$	0.85	$0.326 \pm 0.598$	$-0.329 \pm 0.480$
photometric centroid source offset	$2.77 \pm 1.88$	1.48	$-2.76 \pm 1.88$	$-0.20 \pm 1.91$



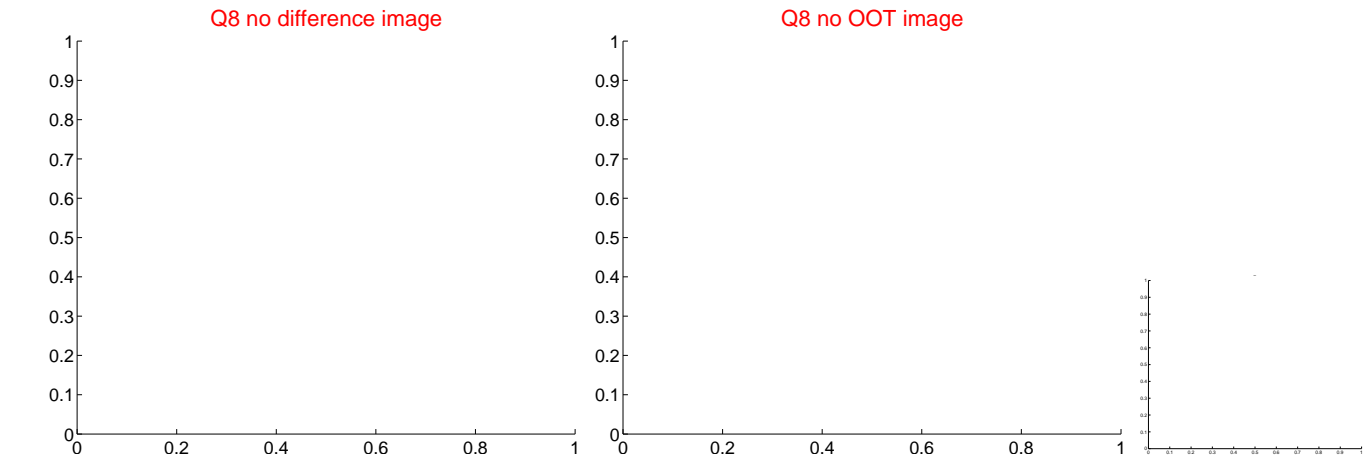
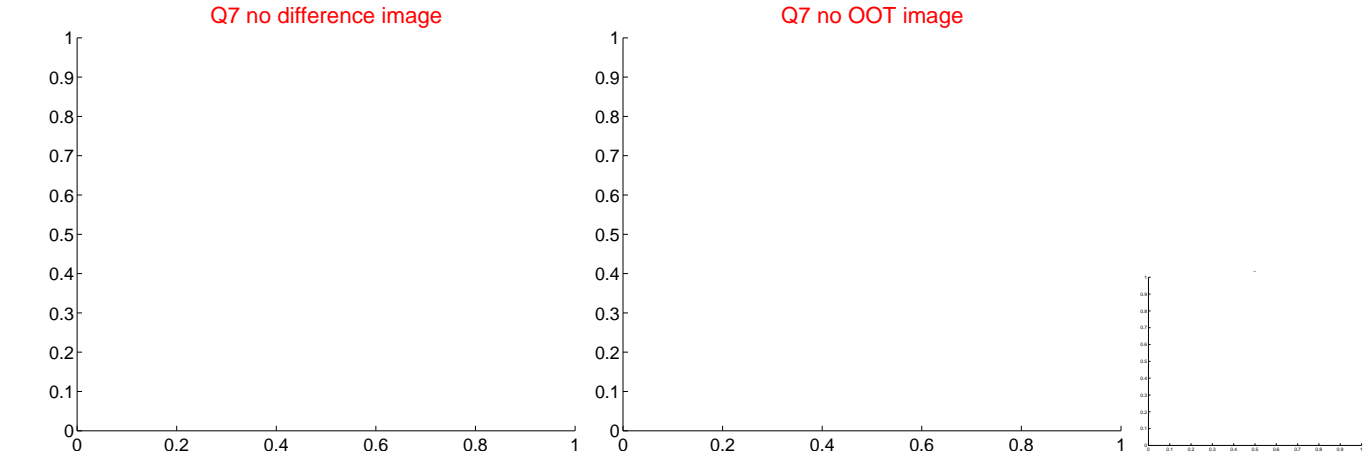
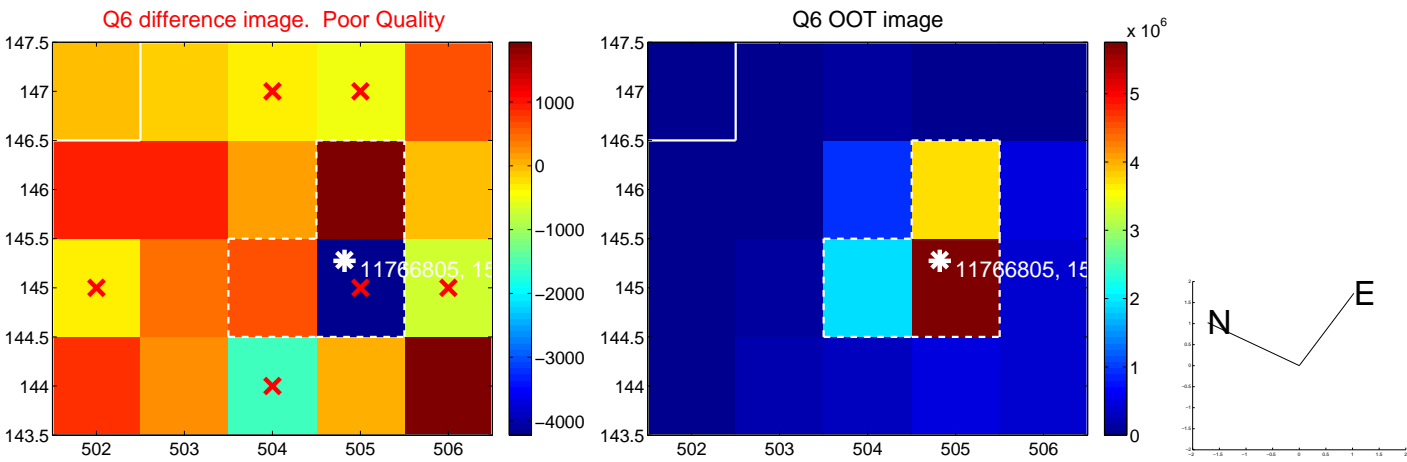
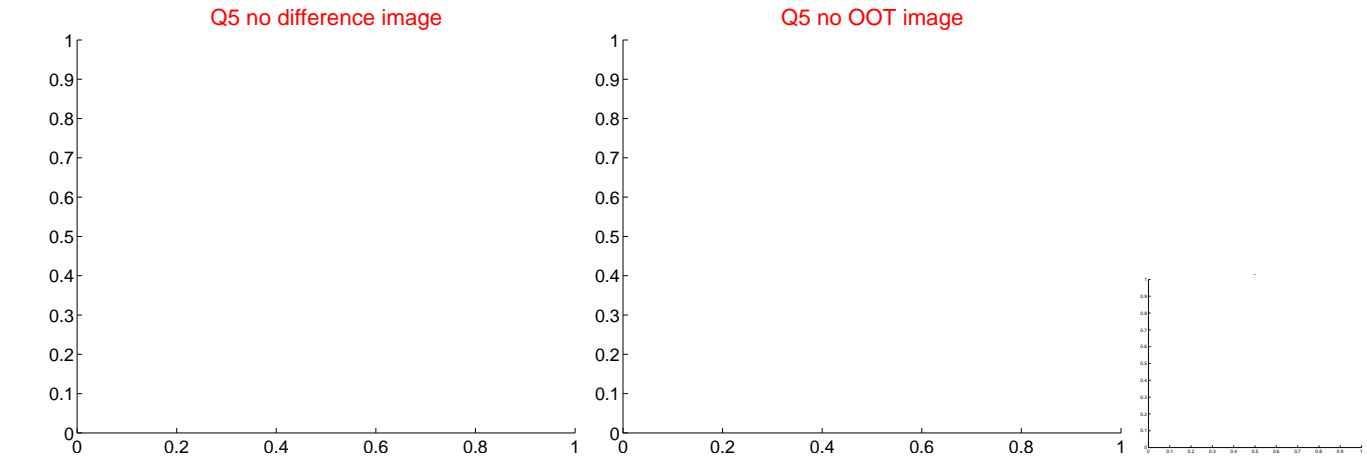
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



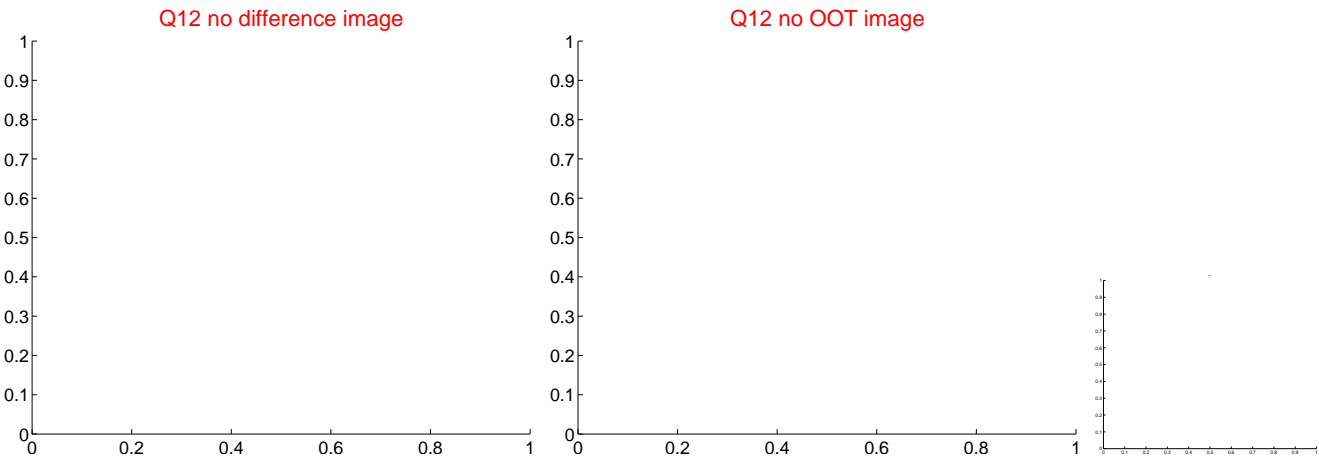
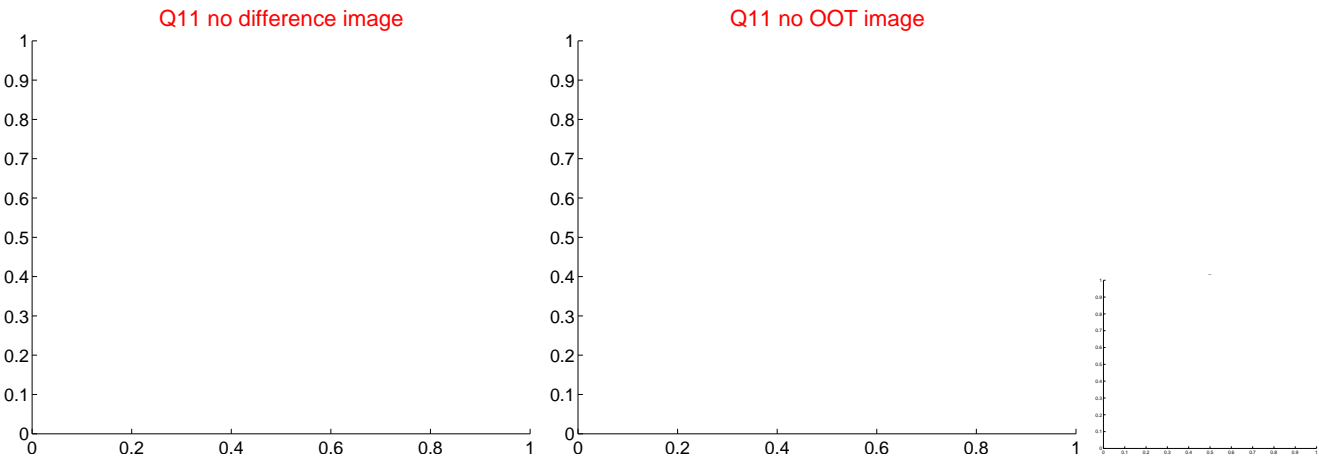
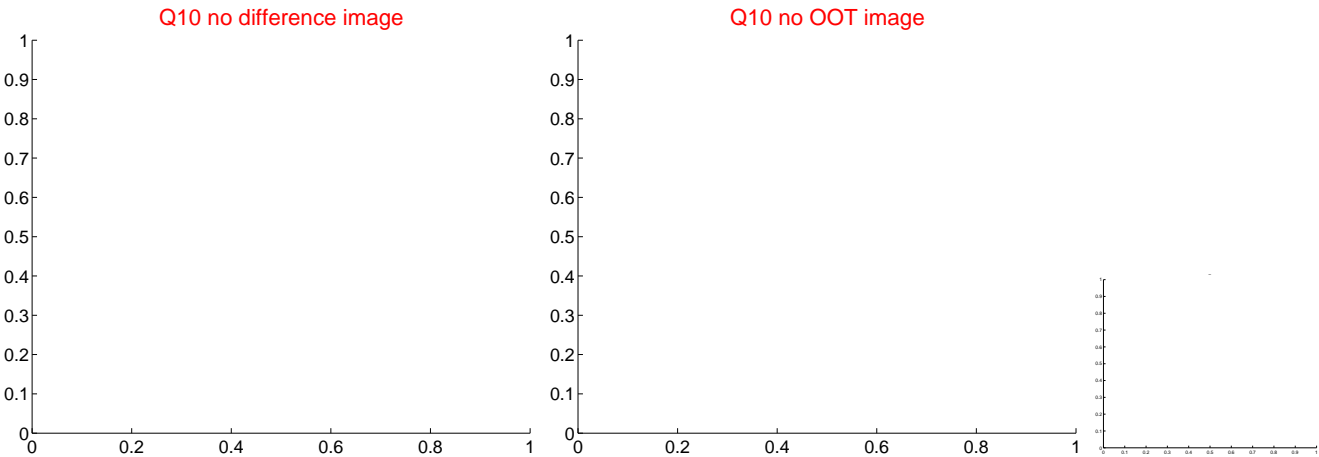
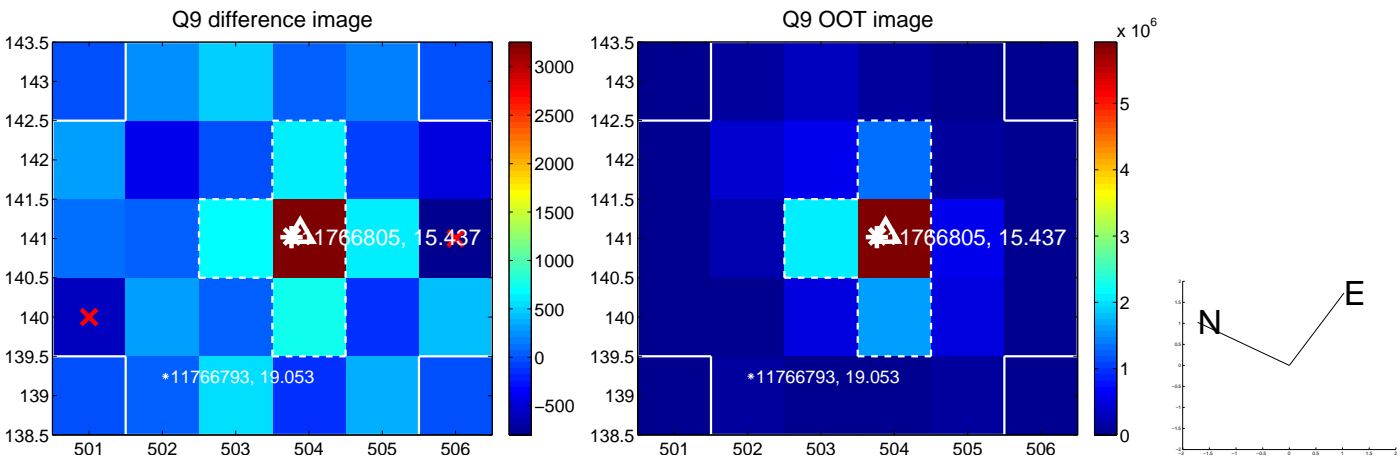
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



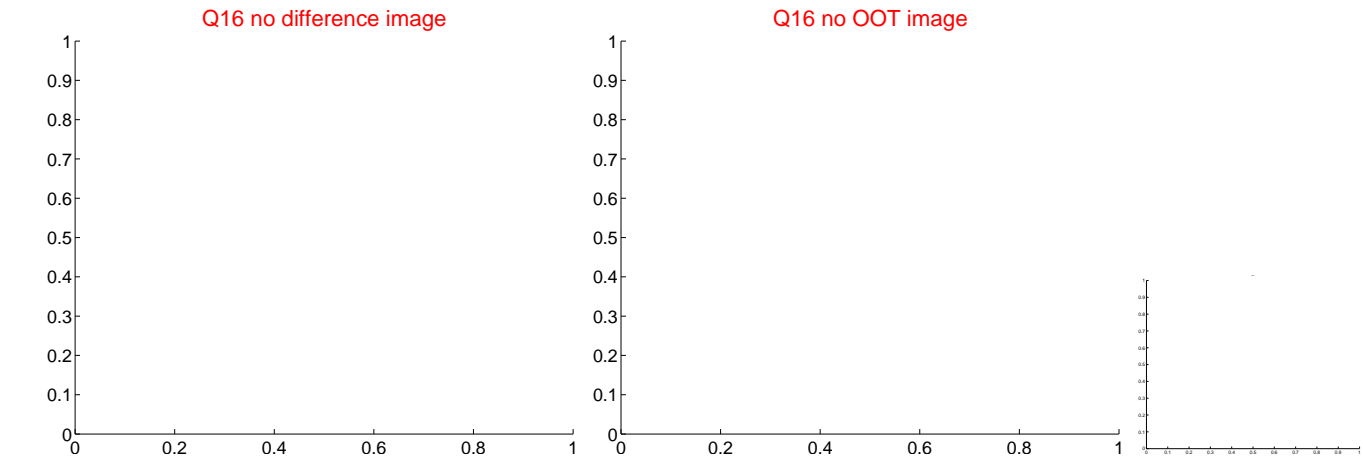
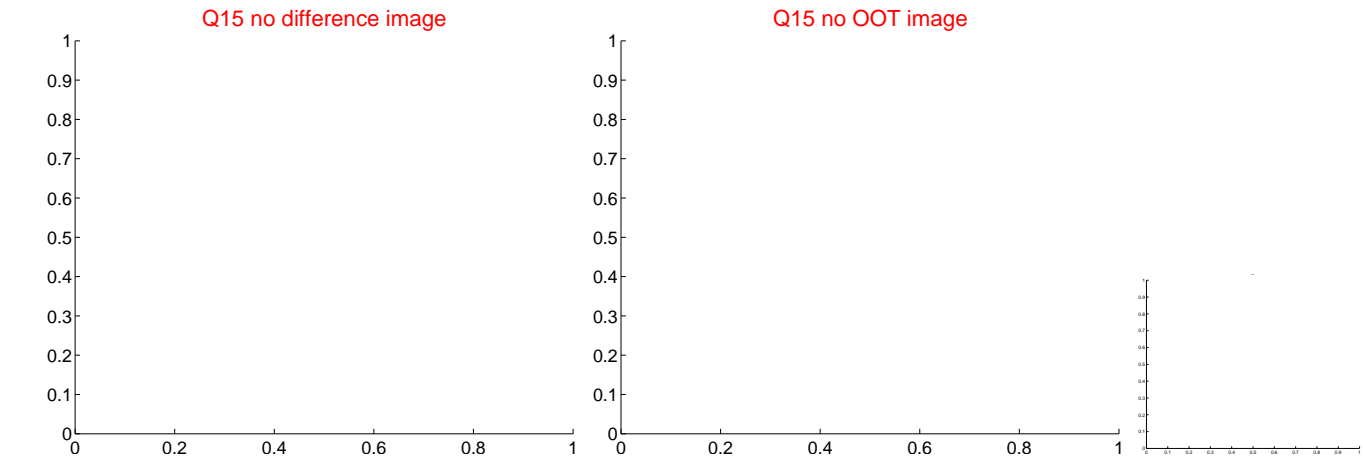
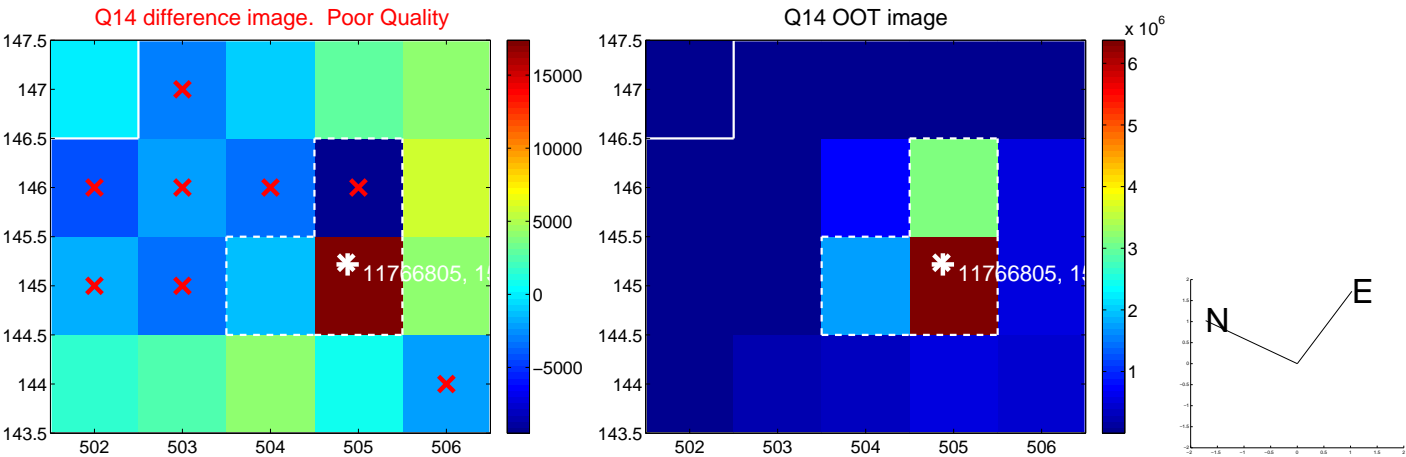
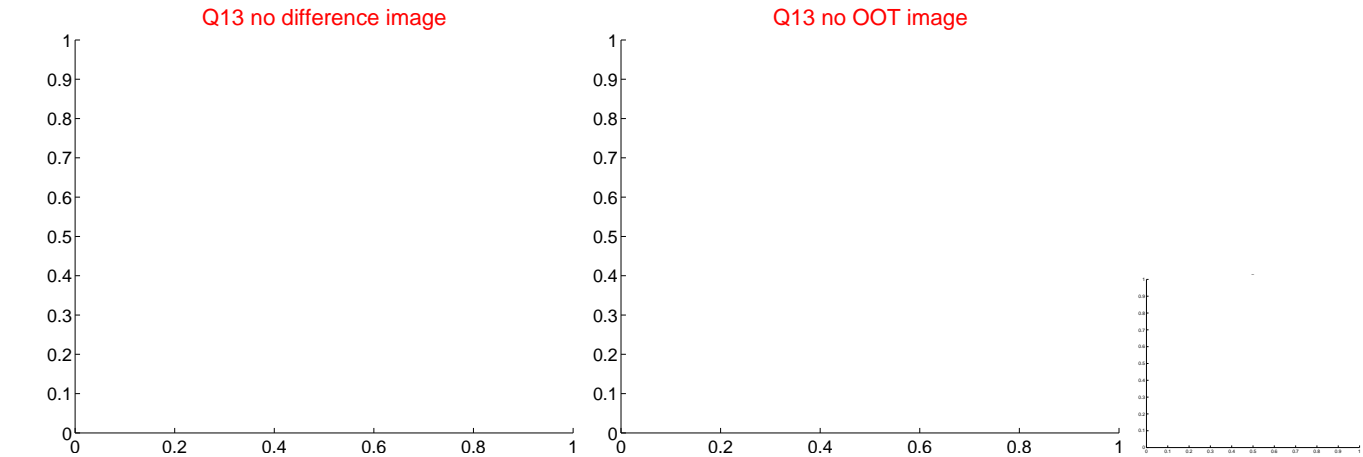
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



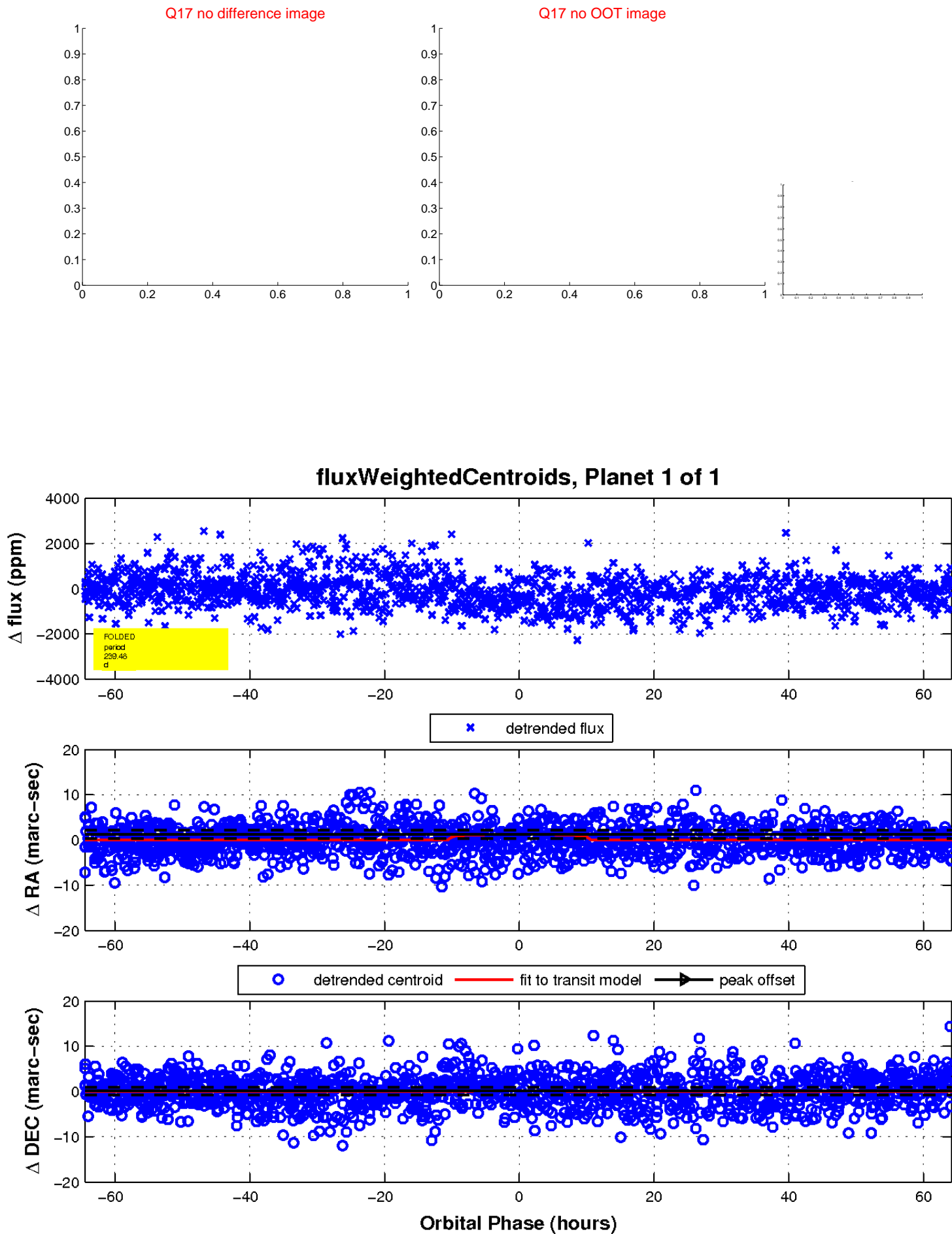
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

