

# KIC 008196393

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008196393-01	OBS	No	475.151274	426.544038	411.0	12.101	7.3	7.4	0.86	5764	1.90	0.53

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008196393-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

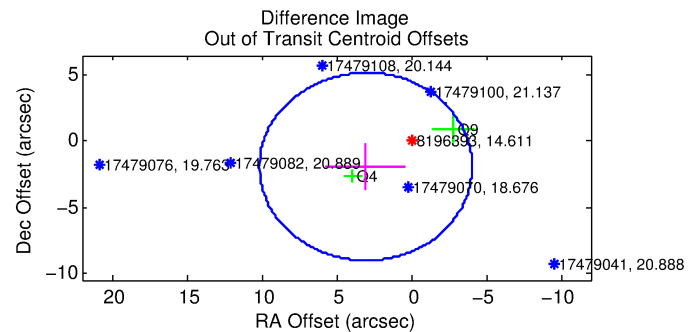
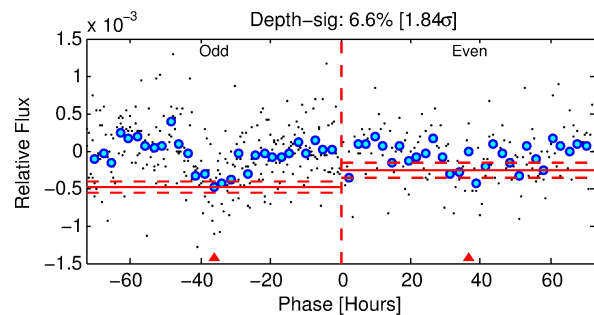
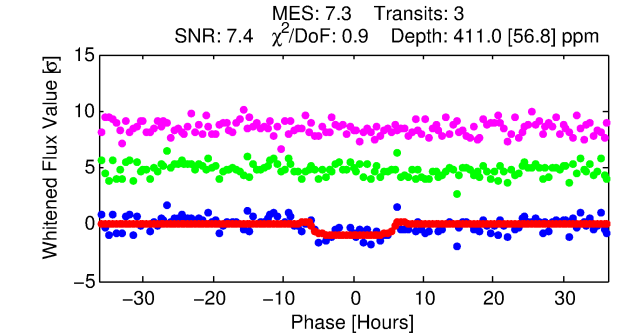
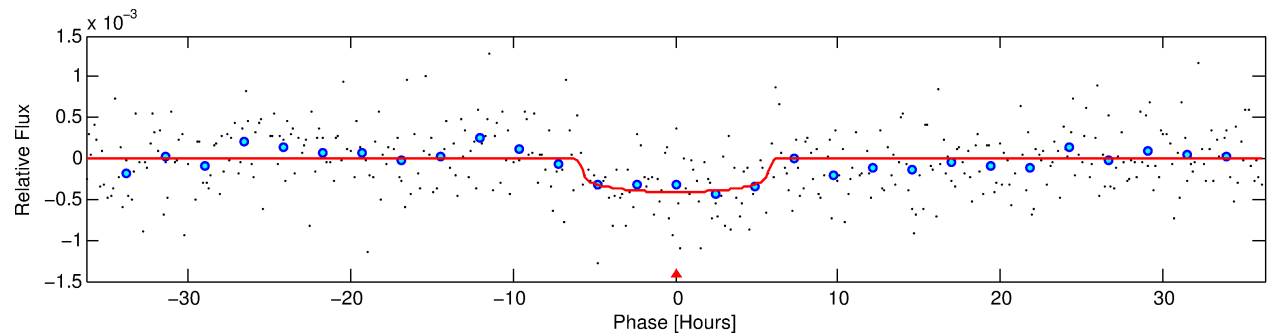
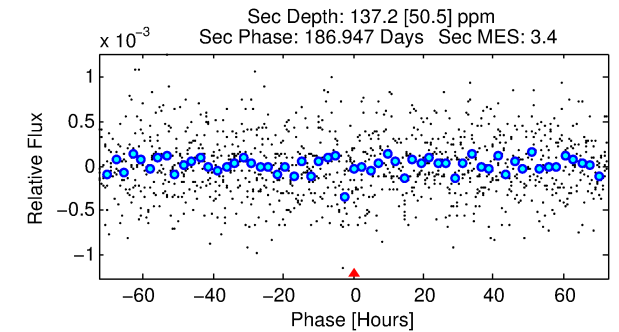
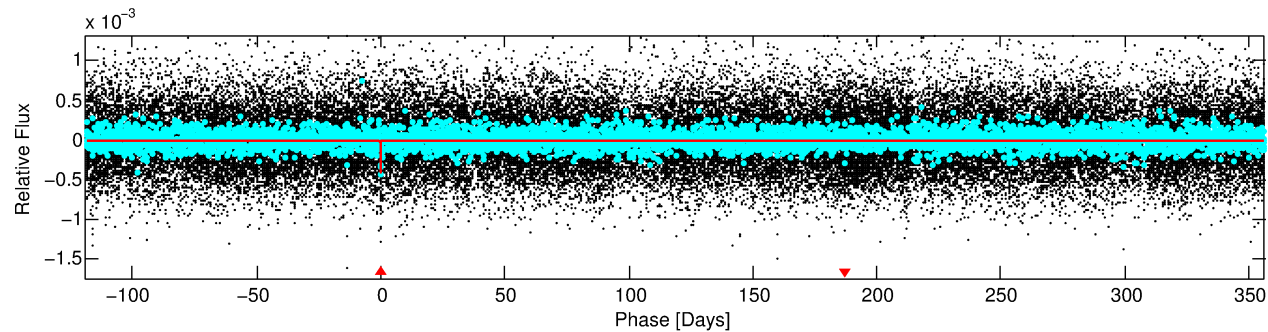
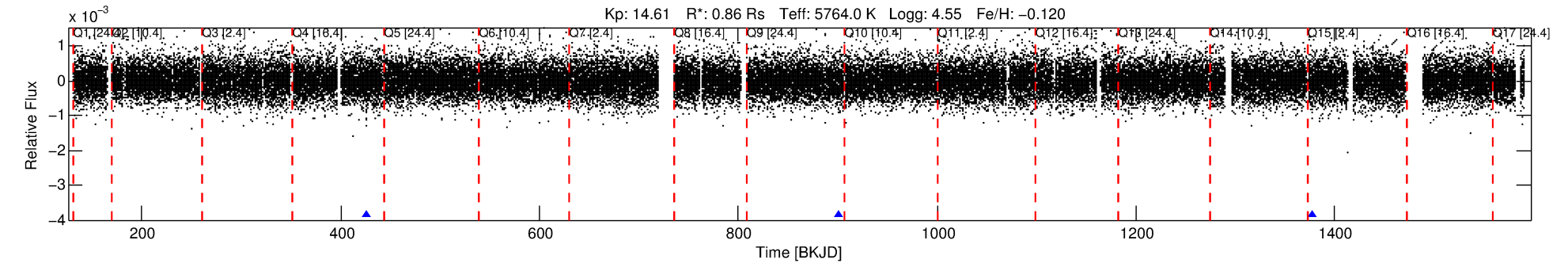
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008196393-01

No Significant Match Found

# DV One-Page Summary

KIC: 8196393 Candidate: 1 of 1 Period: 475.151 d



## DV Fit Results:

Period = 475.15127 [0.01738] d  
Epoch = 426.5440 [0.0218] BKJD  
Rp/R\* = 0.0201 [0.0106]  
a/R\* = 209.68 [489.63]  
b = 0.74 [1.43]  
Seff = 0.53 [0.21]  
Teff = 218 [21] K  
Rp = 1.89 [1.15] Re  
a = 1.1756 [0.2980] AU  
Ag = 29050.76 [34089.41] [0.85 $\sigma$ ]  
Teffp = 4398 [1230] K [3.40 $\sigma$ ]

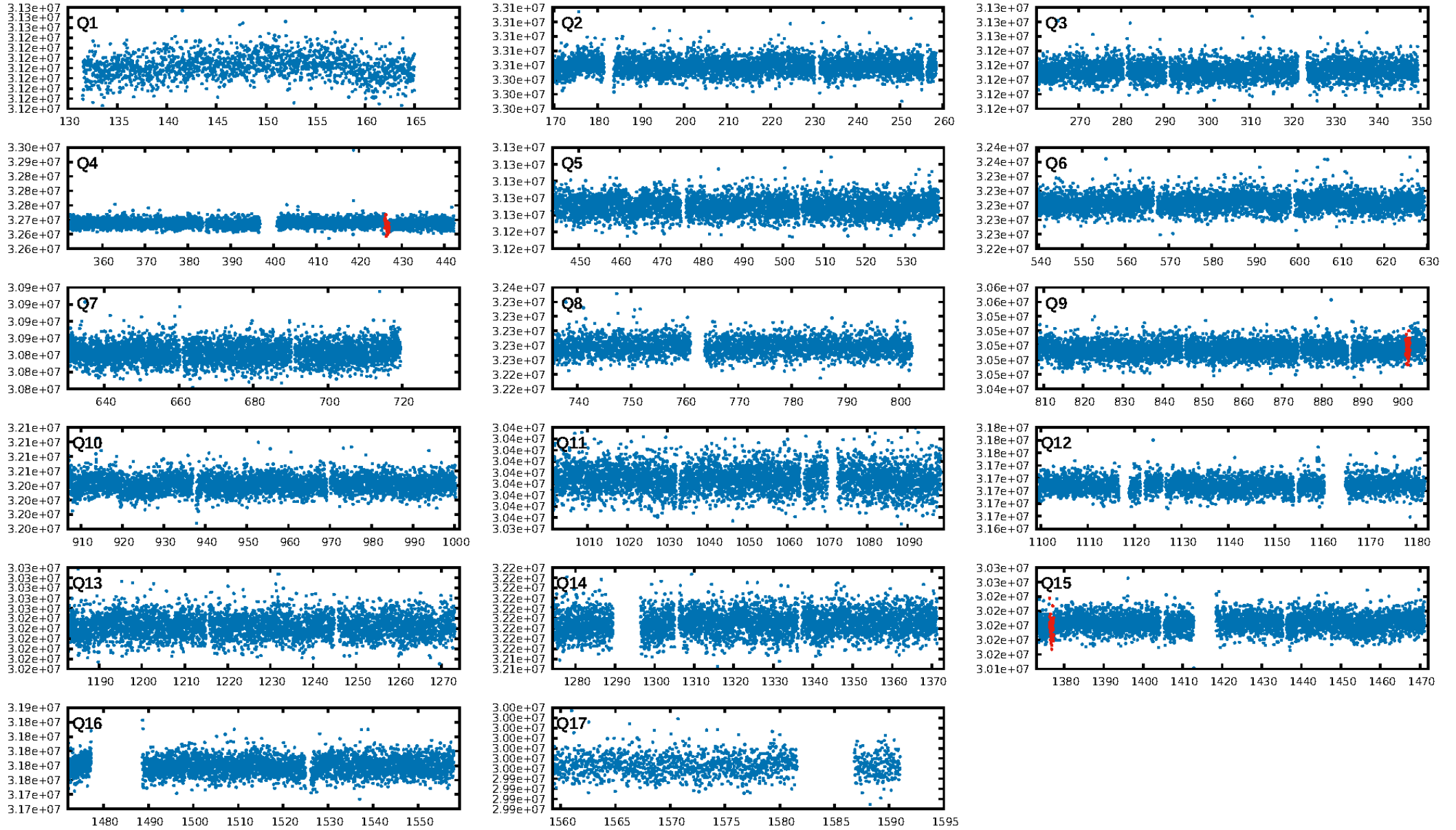
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 9.6%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 4.67e-12**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -3.03  
Centroid-sig: 50.9%  
Centroid-so: 2.254 arcsec [1.09 $\sigma$ ]  
OotOffset-rm: 3.596 arcsec [1.52 $\sigma$ ]  
KicOffset-rm: 3.889 arcsec [1.27 $\sigma$ ]  
OotOffset-st: 0/0/1/1 [2]  
KicOffset-st: 0/0/1/1 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [3/3]

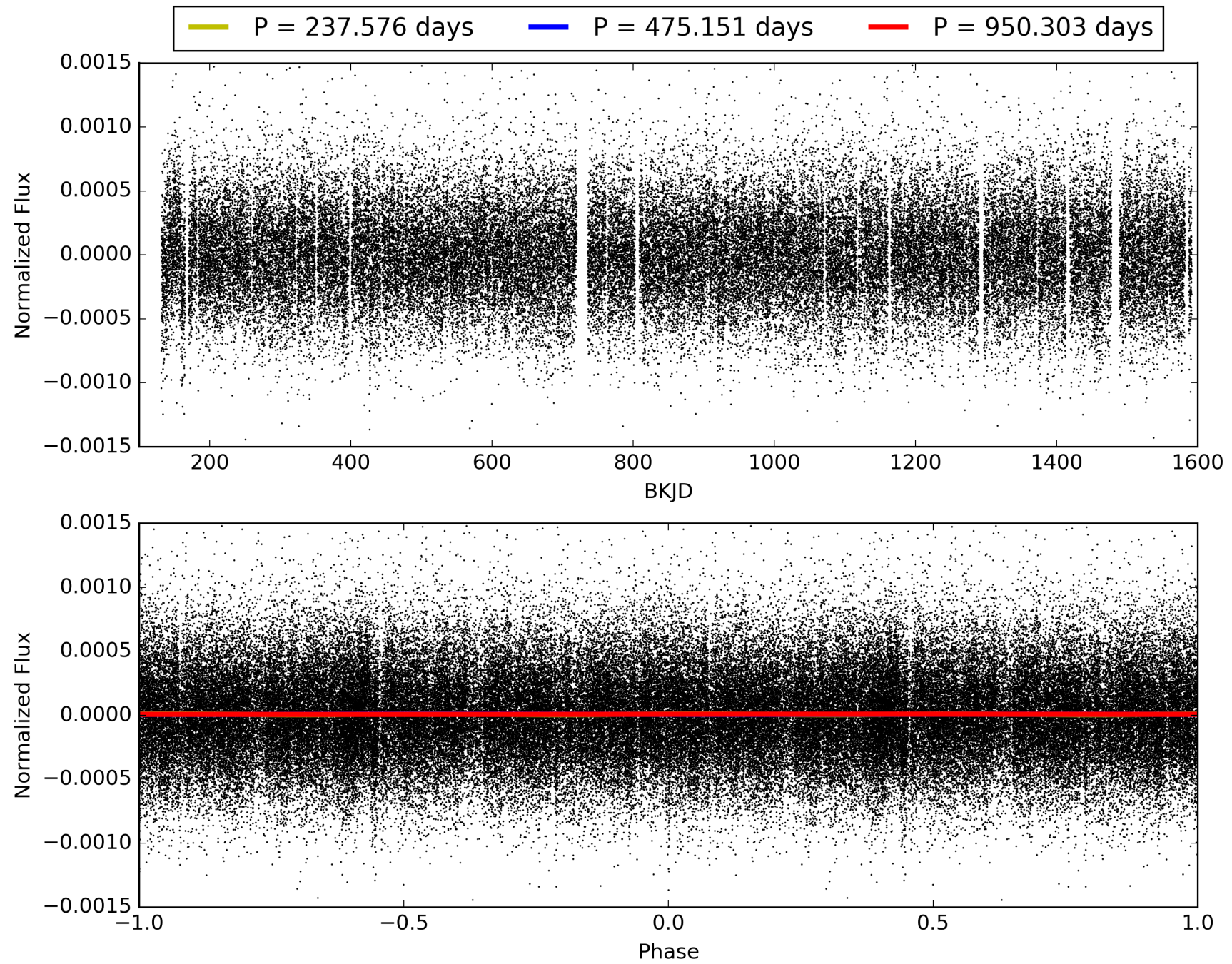
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:13:39 Z

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

# TCE 008196393-01, PDC Light Curves

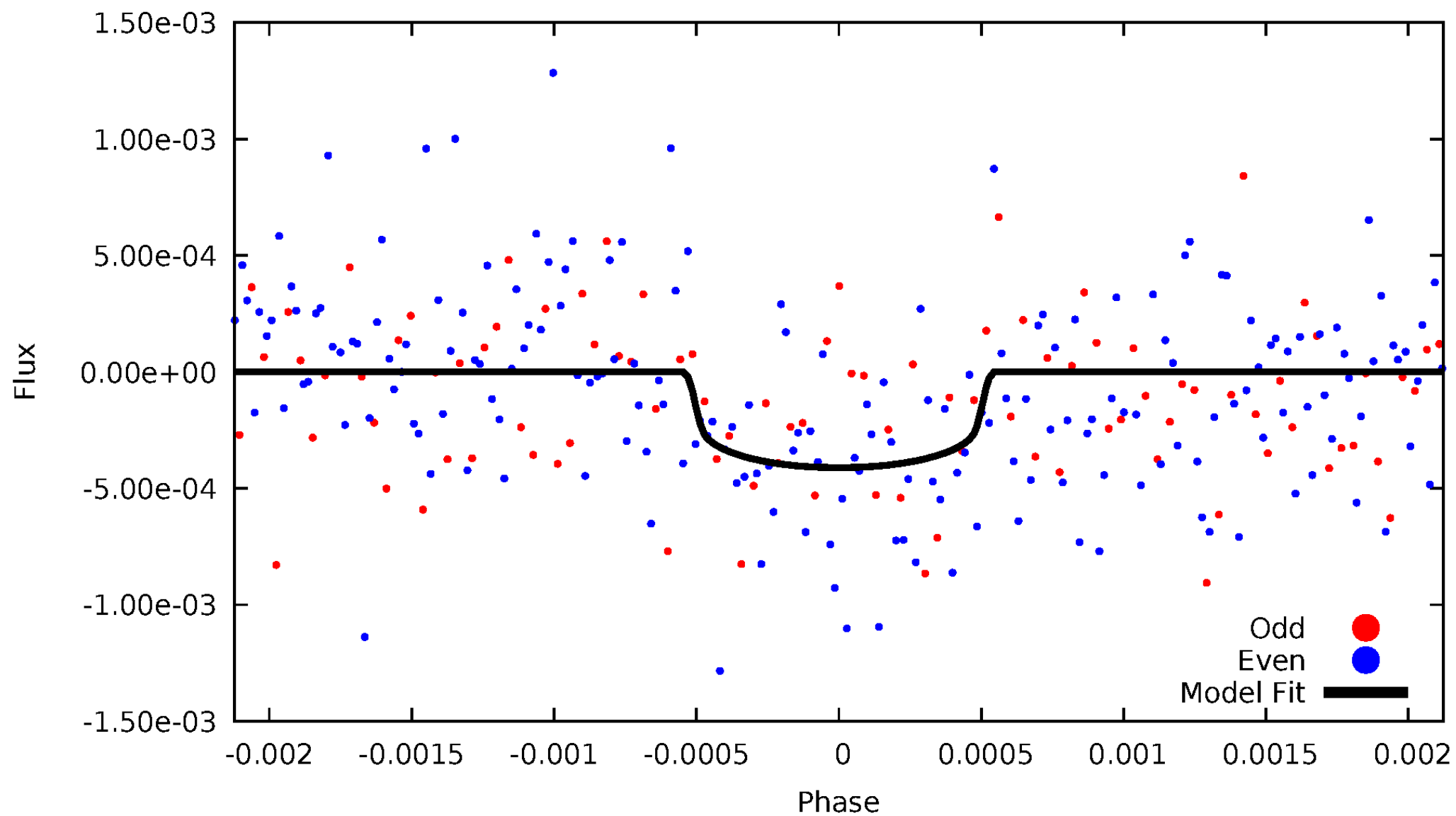


TCE 008196393-01



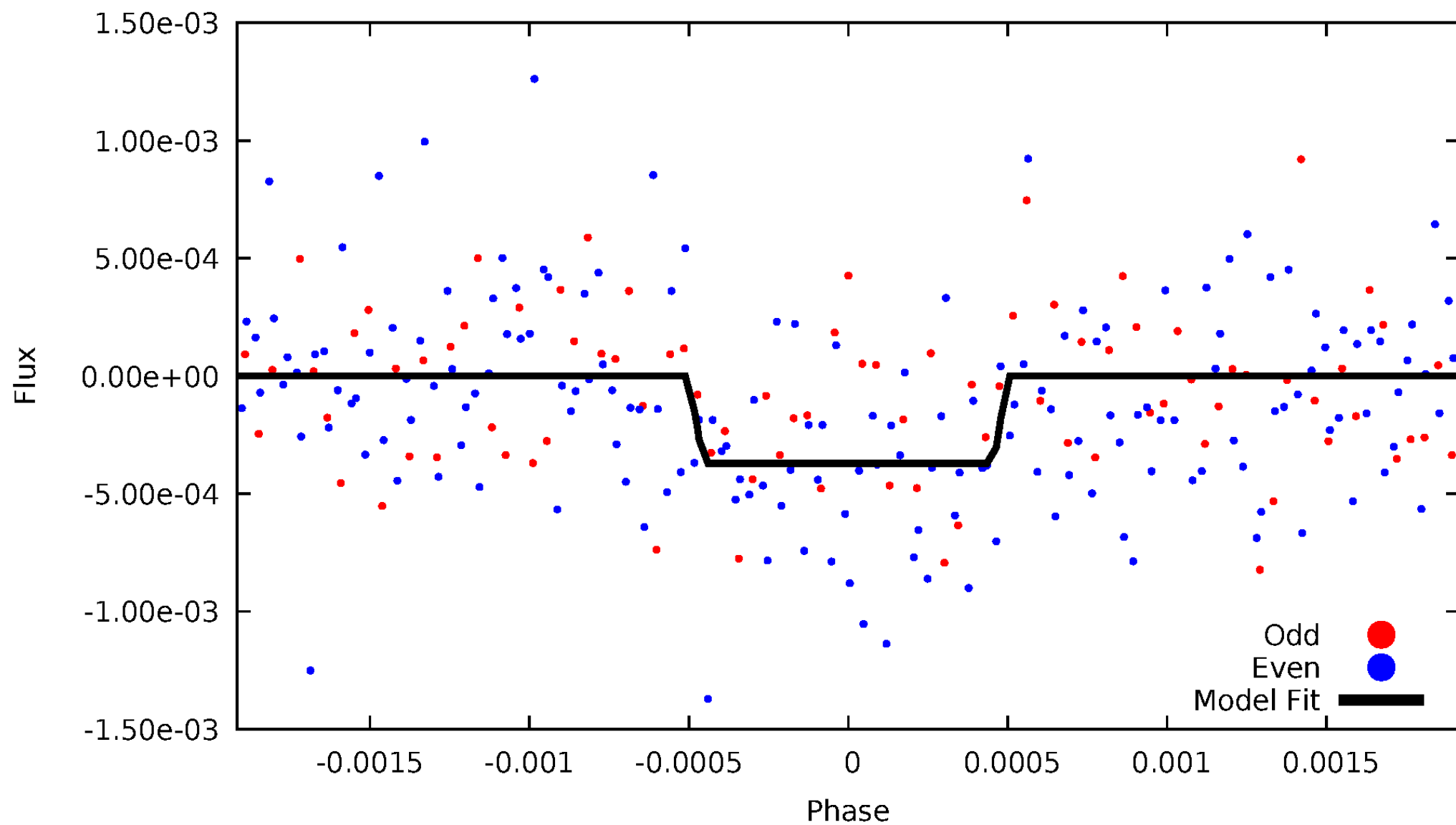
# DV Odd/Even

TCE 008196393-01



# ALT Odd/Even

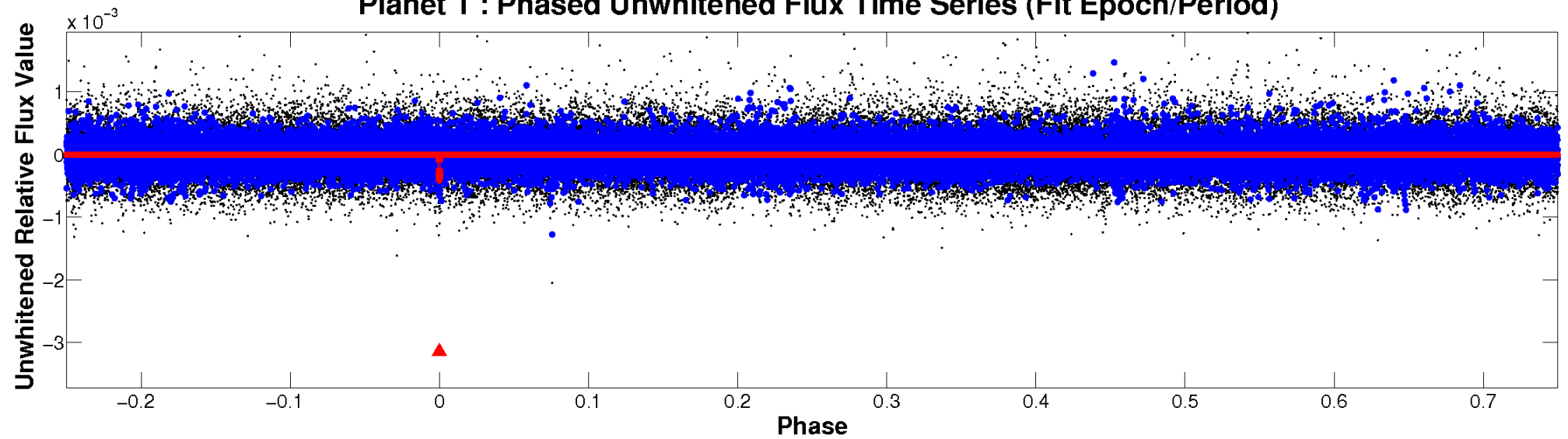
TCE 008196393-01



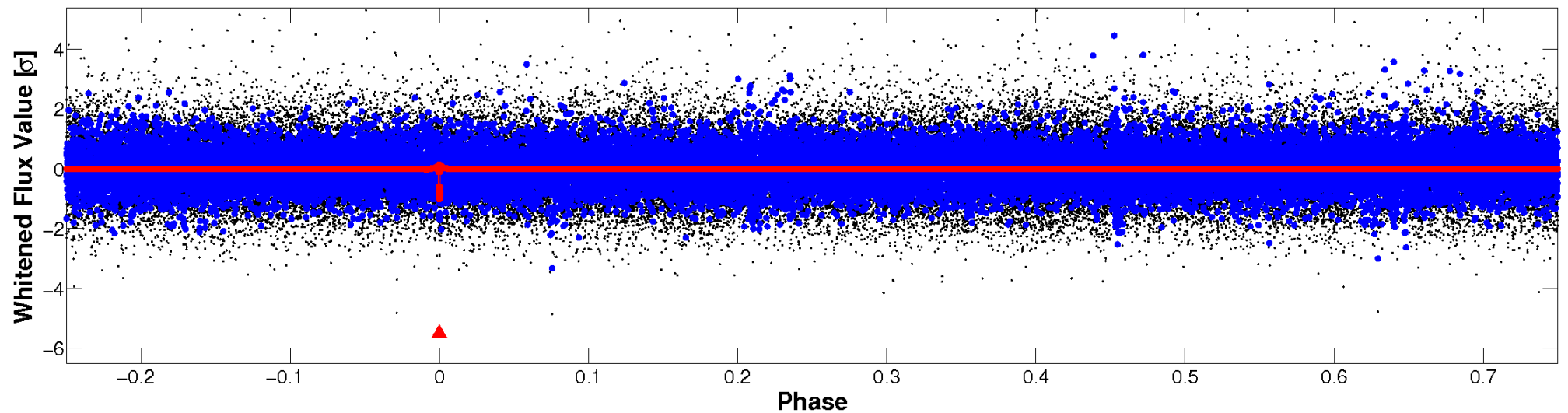


# Non-Whitened Vs. Whitened Light Curve

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 008196393-01 P=475.151274 Days  $T_0=426.544038$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 008196393-01 P=475.151274 Days  $T_0=426.544038$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

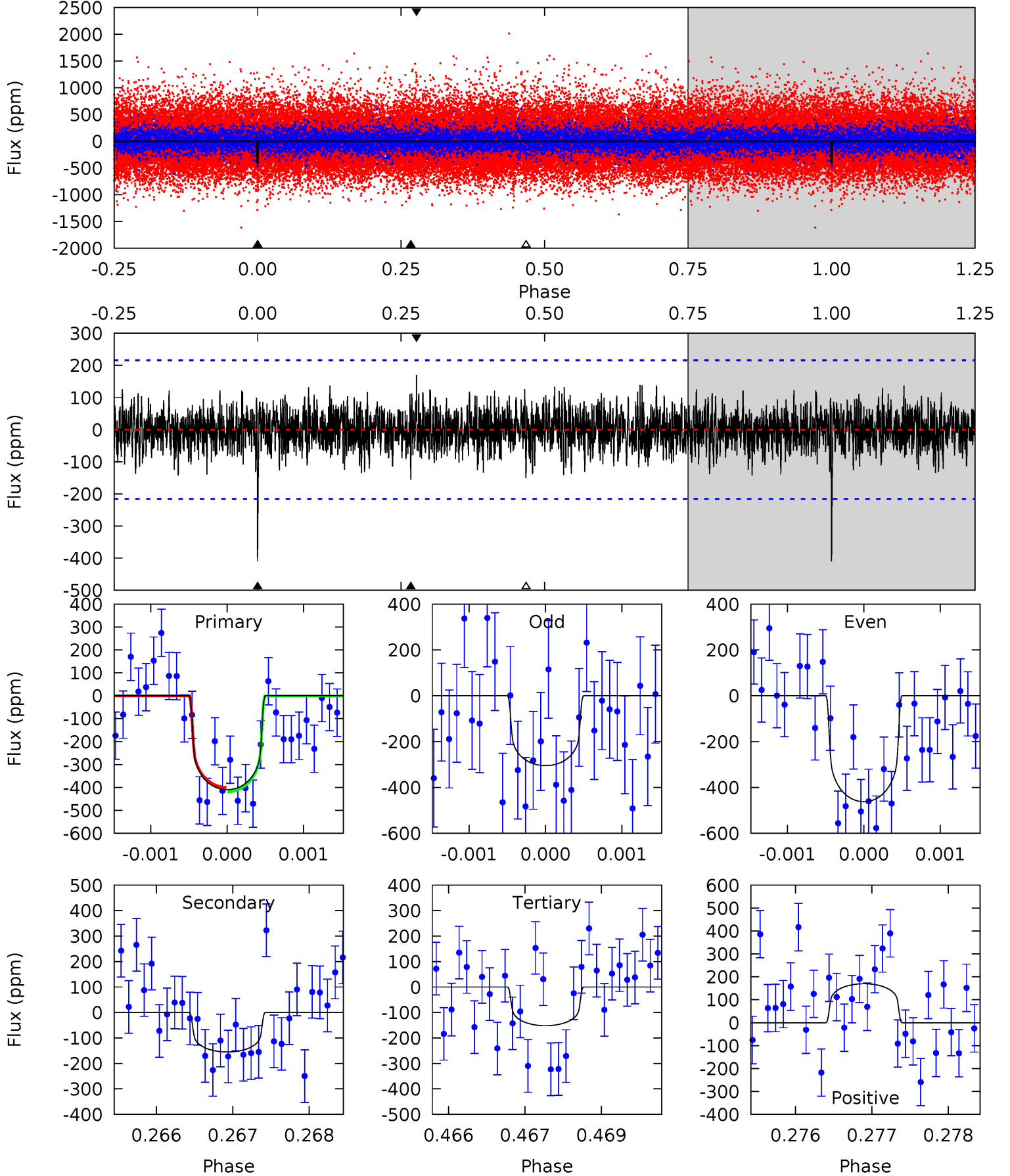
TCE 008196393-01 P=475.141571 Days  $T_0=426.554435$  (BKJD)



# DV Model-Shift Uniqueness Test

008196393-01, P = 475.151274 Days, E = 426.544038 Days

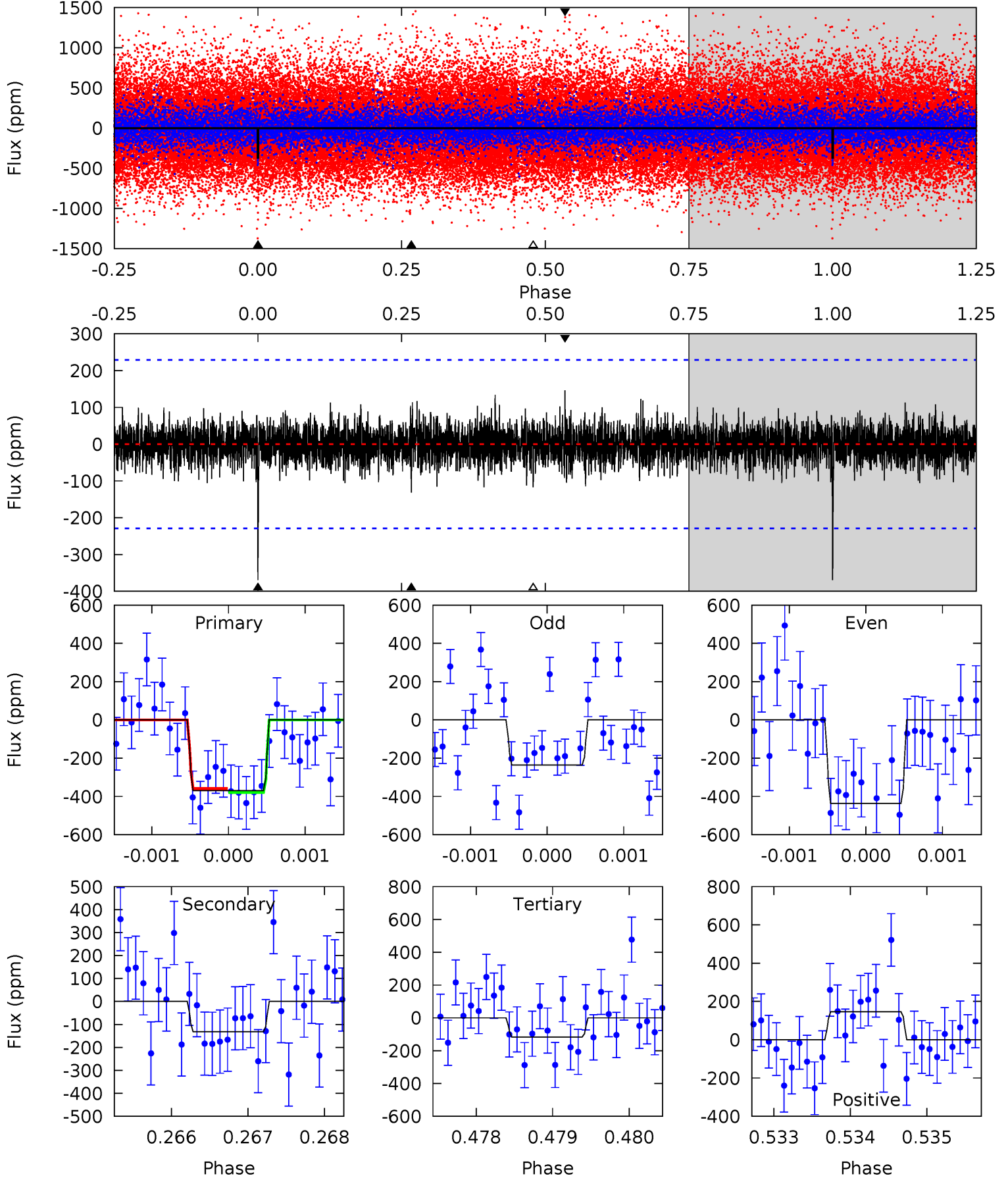
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	3.91	3.82	4.28	5.43	3.26	1.15	6.50	6.04	0.08	-0.37	1.87	1.07	0.29	0.24



# Alt Model-Shift Uniqueness Test

008196393-01, P = 475.141571 Days, E = 426.554435 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
8.81	3.13	2.79	3.48	5.46	3.30	0.81	6.02	5.33	0.35	-0.34	2.25	1.21	0.28	0.26



### Stellar Parameters For KIC 008196393

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5764^{+155}_{-155}$	$4.548^{+0.036}_{-0.204}$	$-0.120^{+0.300}_{-0.300}$	$0.863^{+0.258}_{-0.081}$	$0.959^{+0.100}_{-0.111}$	$2.100^{+0.411}_{-1.072}$
	+3%/-3%	+1%/-4%	+250%/-250%	+30%/-9%	+10%/-12%	+20%/-51%
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 008196393-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-155 \pm 40$	$2.05^{+1.12}_{-0.92}$	$313^{+22}_{-14}$	$4603^{+1447}_{-667}$	$26029^{+65653}_{-14934}$
Alt.	$-131 \pm 42$	$1.97^{+1.03}_{-1.02}$	$311^{+21}_{-13}$	$4543^{+1830}_{-705}$	$25271^{+87671}_{-15698}$

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

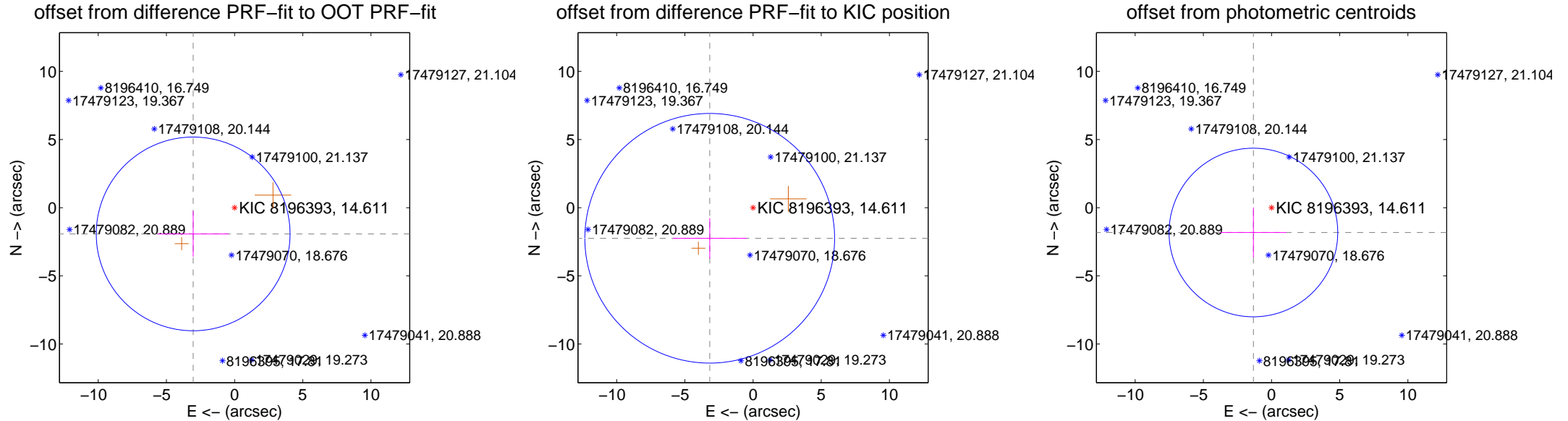
## DV Centroid Data

Supplemental centroid analysis for 008196393-01. Kepler magnitude: 14.61. Transit SNR 7.39

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

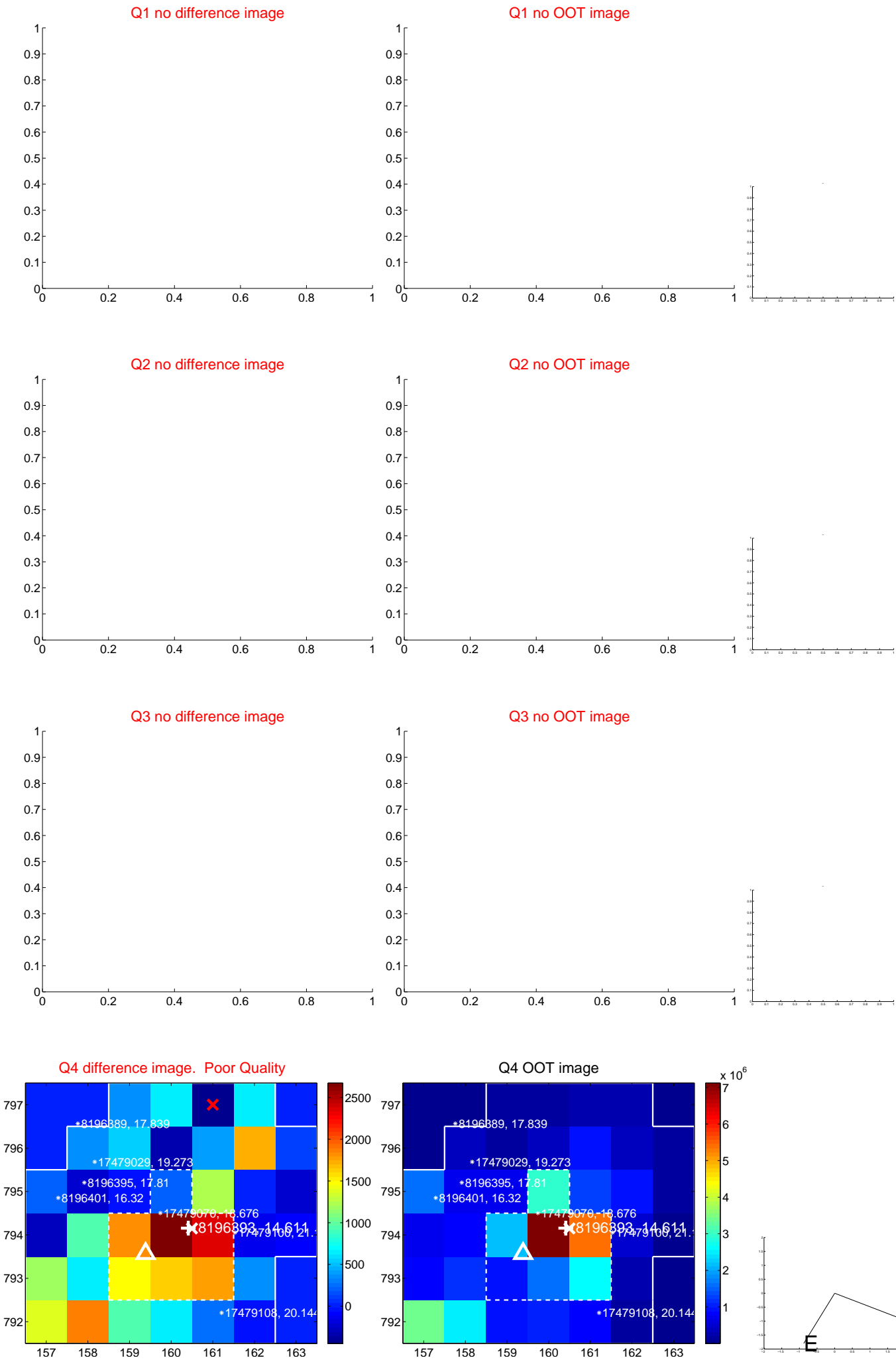
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.596 \pm 2.368$	1.52	$3.038 \pm 2.595$	$-1.923 \pm 1.671$
PRF-fit source offset from KIC position	$3.889 \pm 3.052$	1.27	$3.177 \pm 2.692$	$-2.244 \pm 1.480$
photometric centroid source offset	$2.25 \pm 2.06$	1.09	$1.33 \pm 2.43$	$-1.82 \pm 1.84$



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.



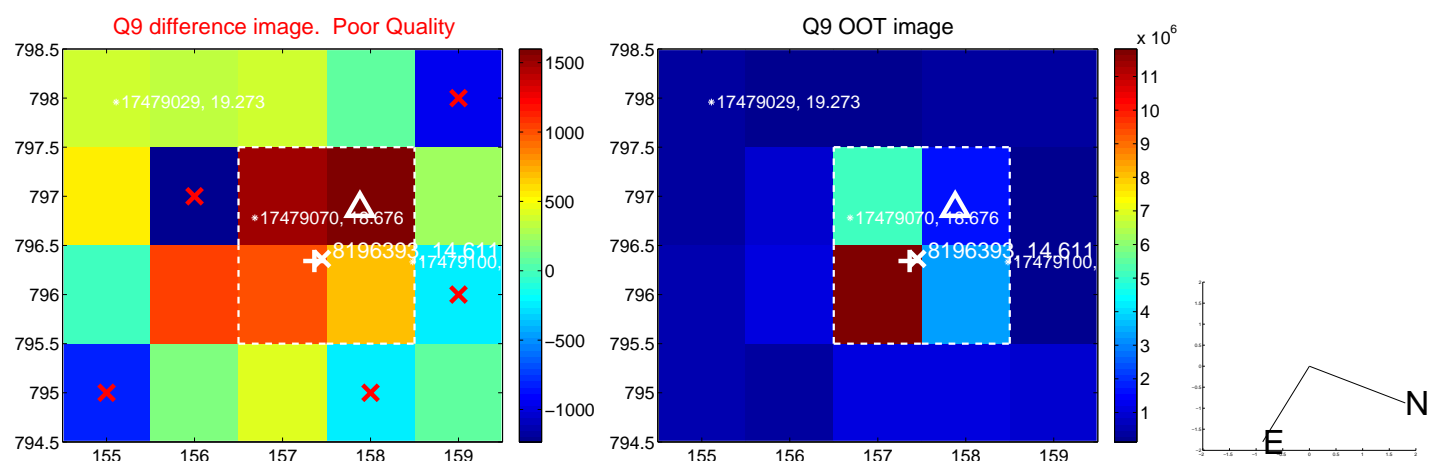
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

Q13 no difference image



Q13 no OOT image



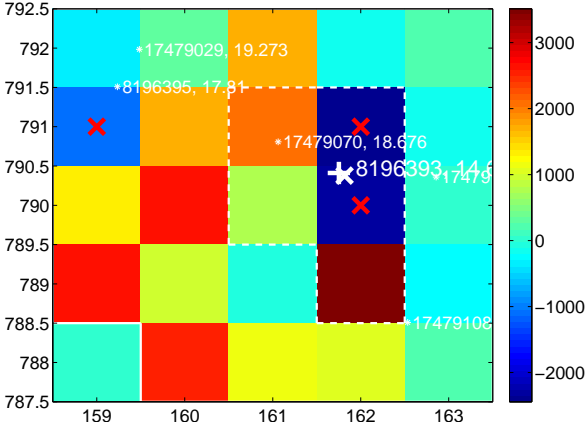
Q14 no difference image



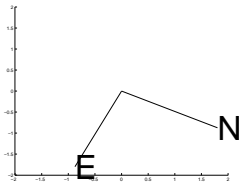
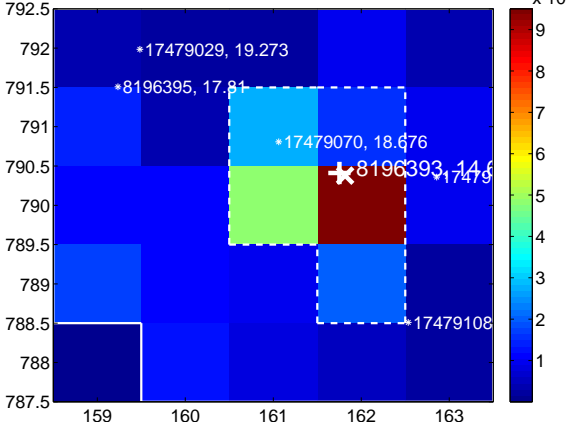
Q14 no OOT image



Q15 difference image. Poor Quality



Q15 OOT image



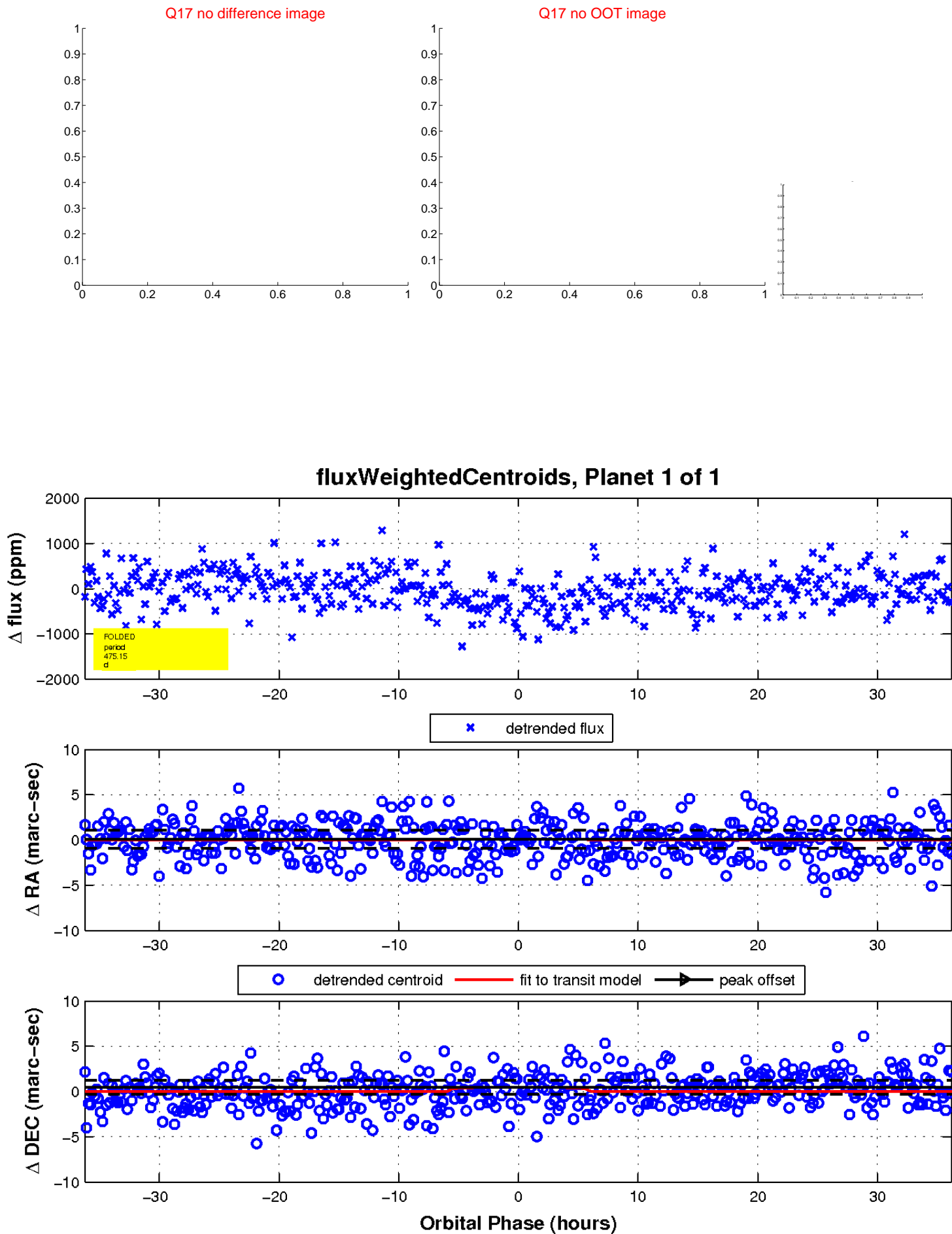
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

