

# KIC 011607091

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011607091-01	OBS	No	479.244455	467.642756	1133.2	26.457	24.8	21.8	0.86	6181	4.57	0.70

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011607091-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—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.

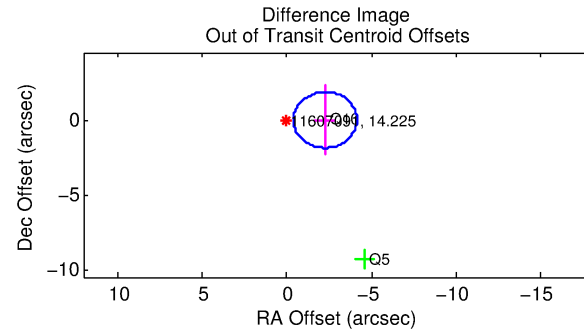
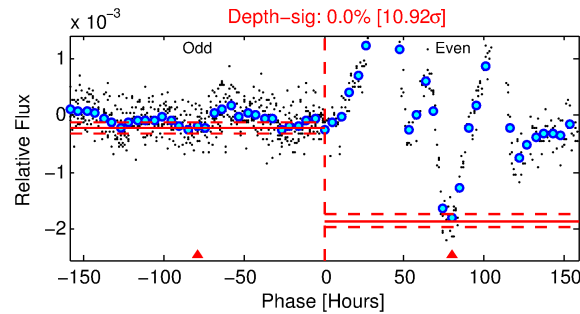
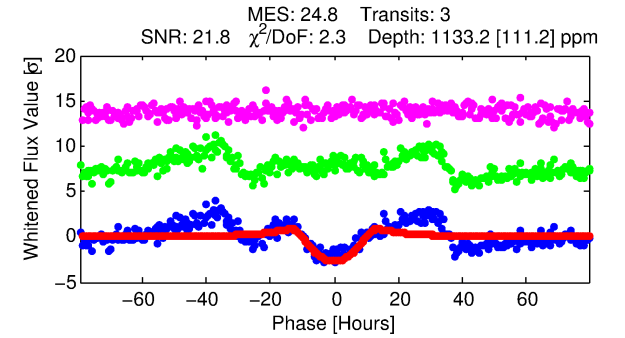
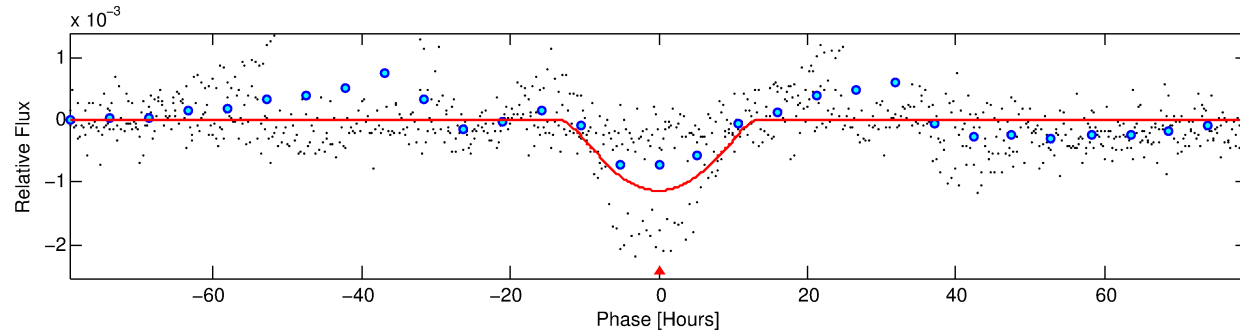
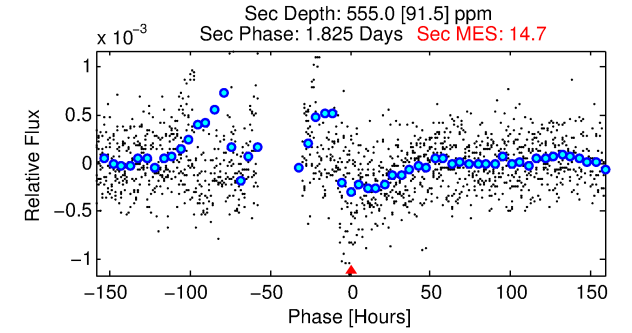
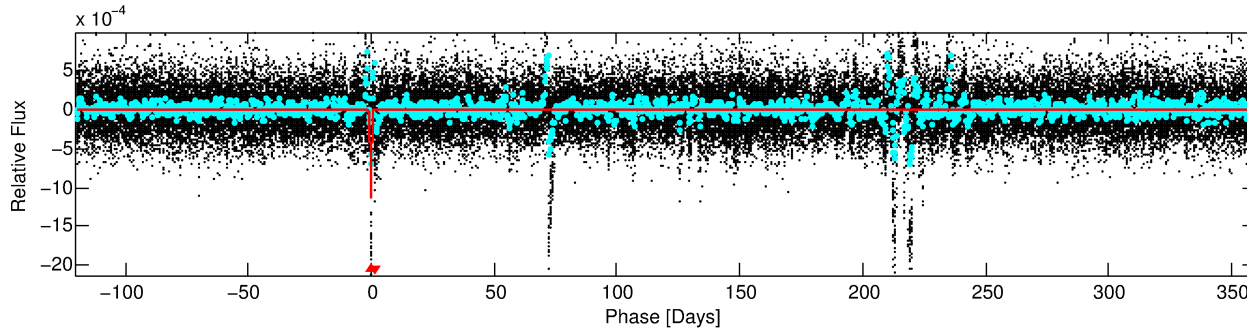
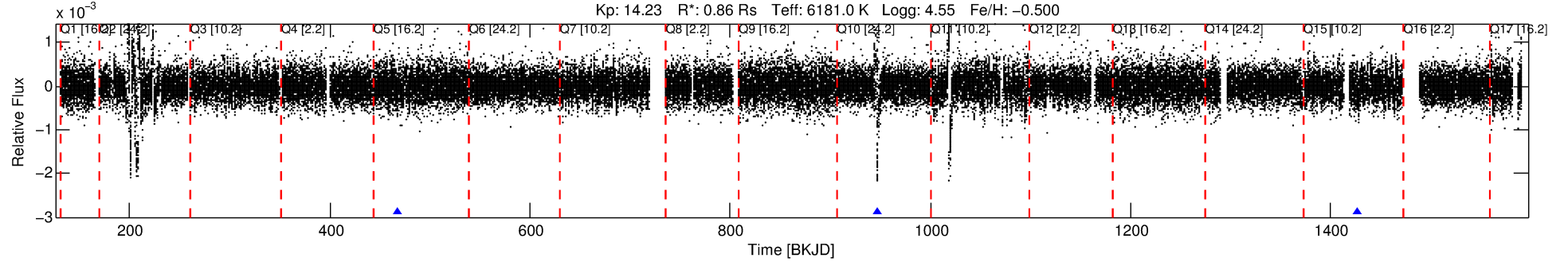
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011607091-01

No Significant Match Found

# DV One-Page Summary

KIC: 11607091 Candidate: 1 of 1 Period: 479.244 d



## DV Fit Results:

Period = 479.24445 [0.02616] d  
Epoch = 467.6428 [0.0327] BKJD  
Rp/R\* = 0.0486 [0.0445]  
a/R\* = 49.99 [15.34]  
b = 0.98 [0.08]  
Seff = 0.70 [0.27]  
Teq = 233 [22] K  
Rp = 4.57 [4.38] Re  
a = 1.1814 [0.2874] AU  
Ag = 20371.82 [38245.72] [0.53σ]  
Teffp = 4305 [1986] K [2.05σ]

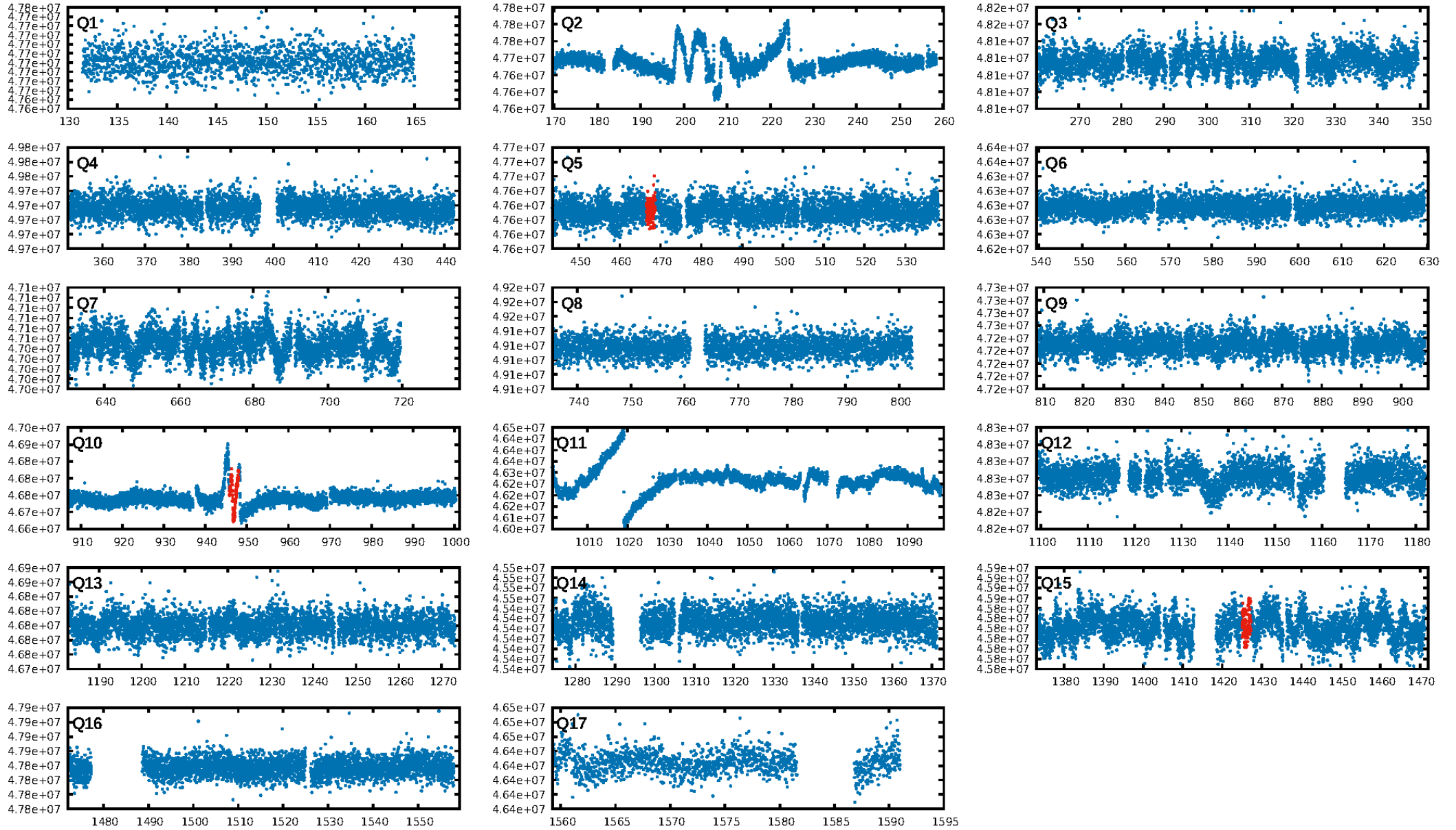
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
**ModelChiSquare2-sig: 0.0%**  
**ModelChiSquareGof-sig: 0.0%**  
Bootstrap-pfa: 7.66e-25  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.037  
Centroid-sig: 92.3%  
Centroid-so: 1.131 arcsec [1.45σ]  
**OotOffset-rm: 2.259 arcsec [3.63σ]**  
OotOffset-st: 1/0/0/1 [2]  
KicOffset-rm: 2.188 arcsec [1.65σ]  
KicOffset-st: 1/0/0/1 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [3/3]

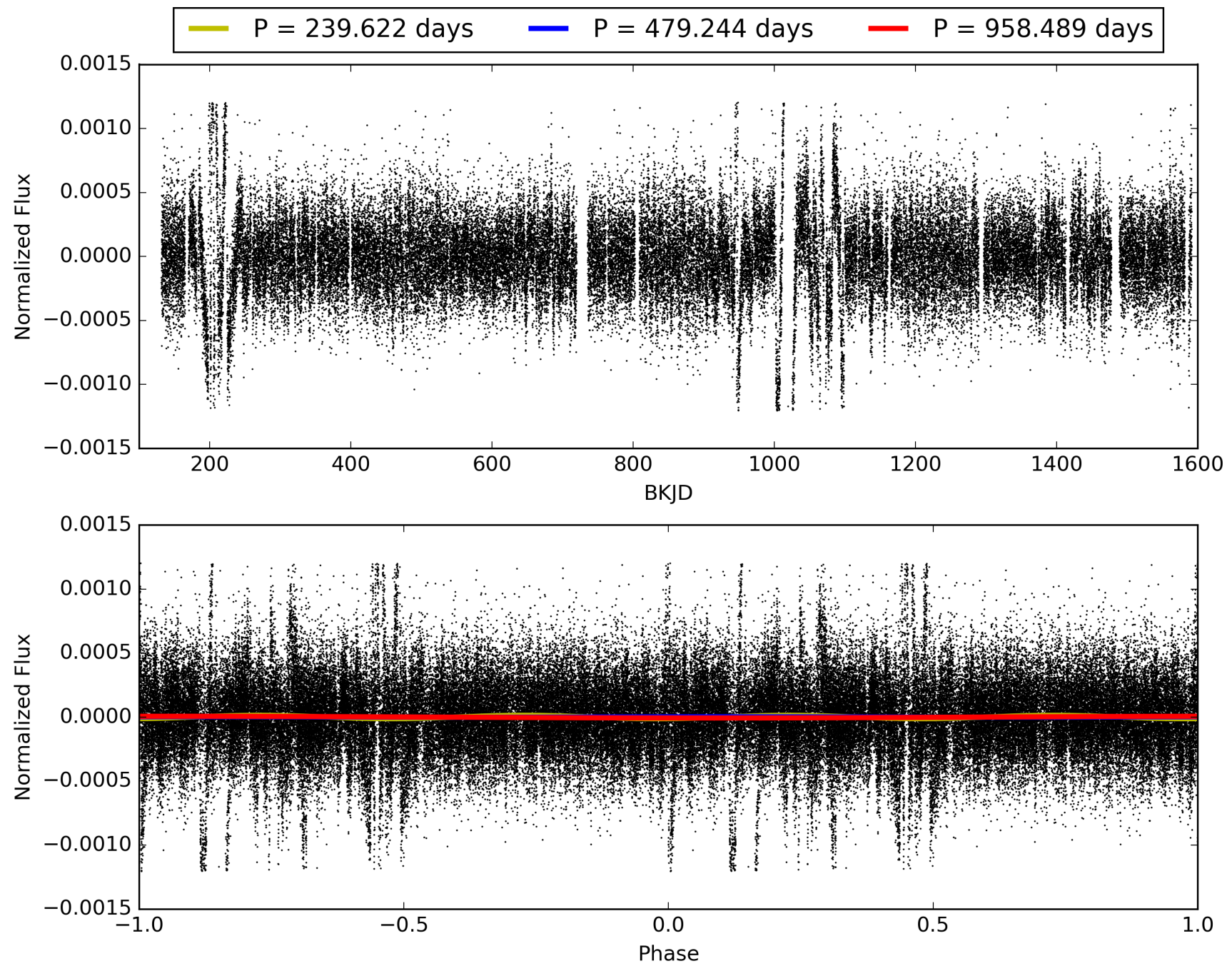
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:31:02 Z

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

# TCE 011607091-01, PDC Light Curves

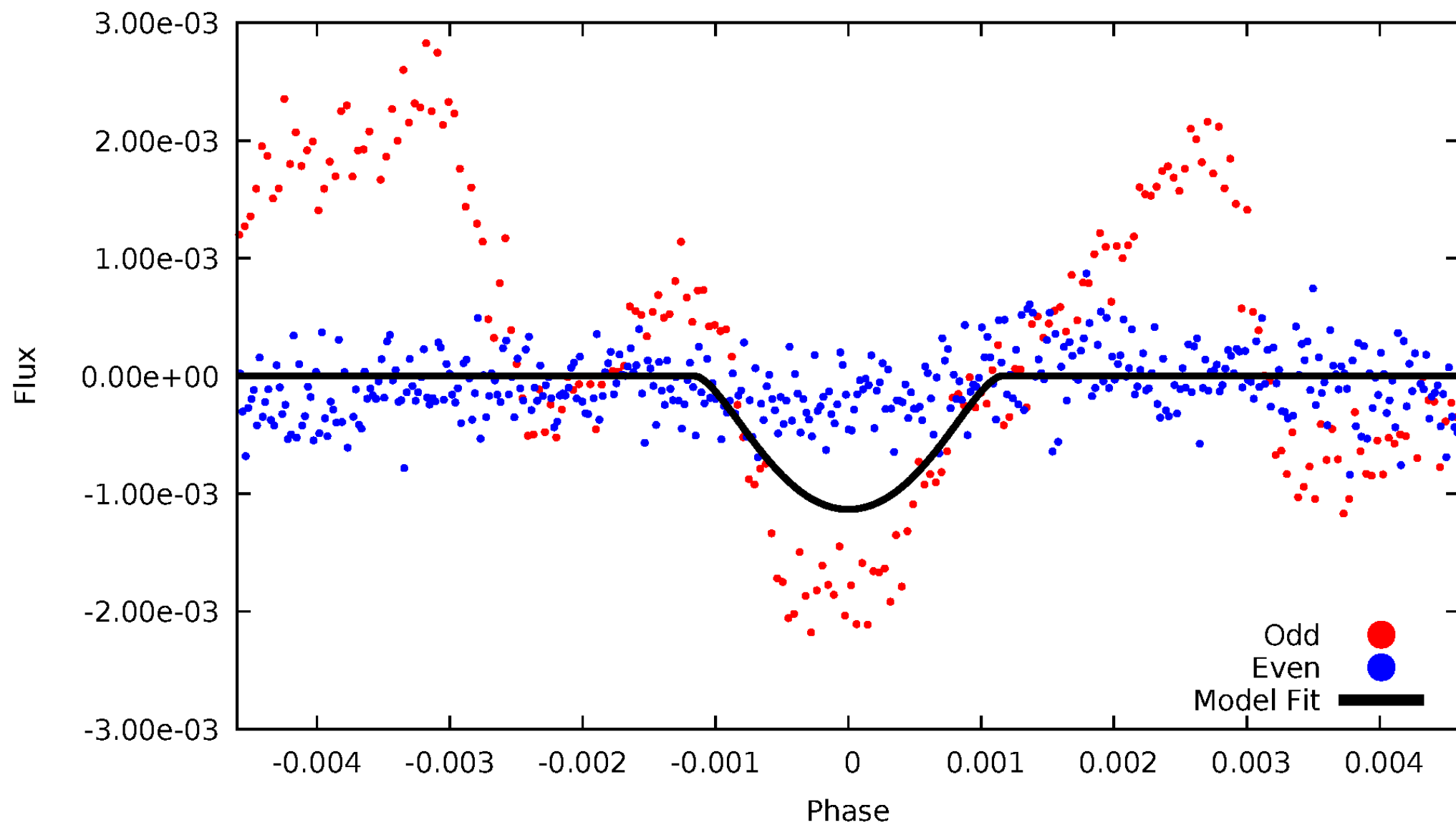


# TCE 011607091-01



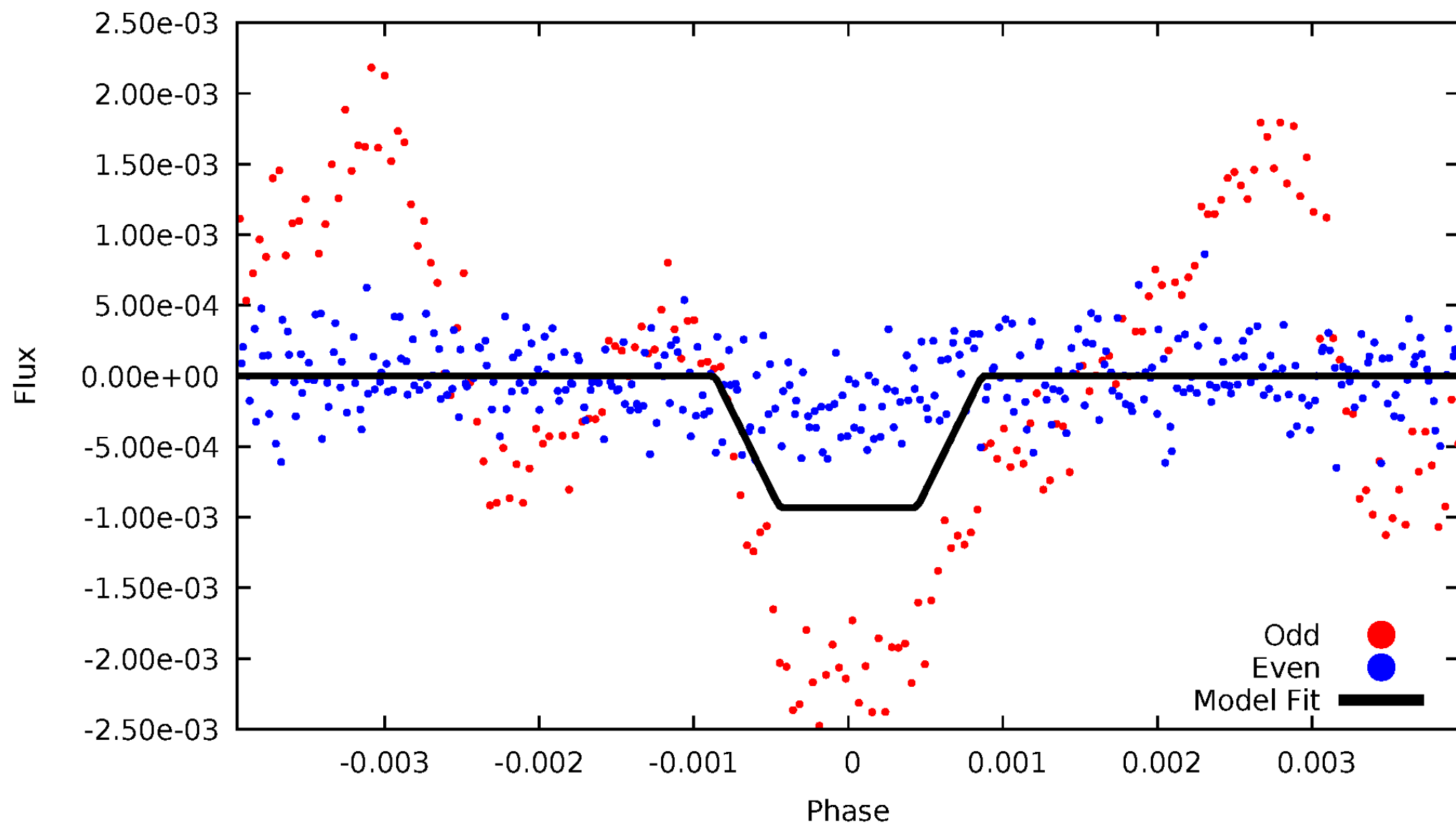
# DV Odd/Even

TCE 011607091-01



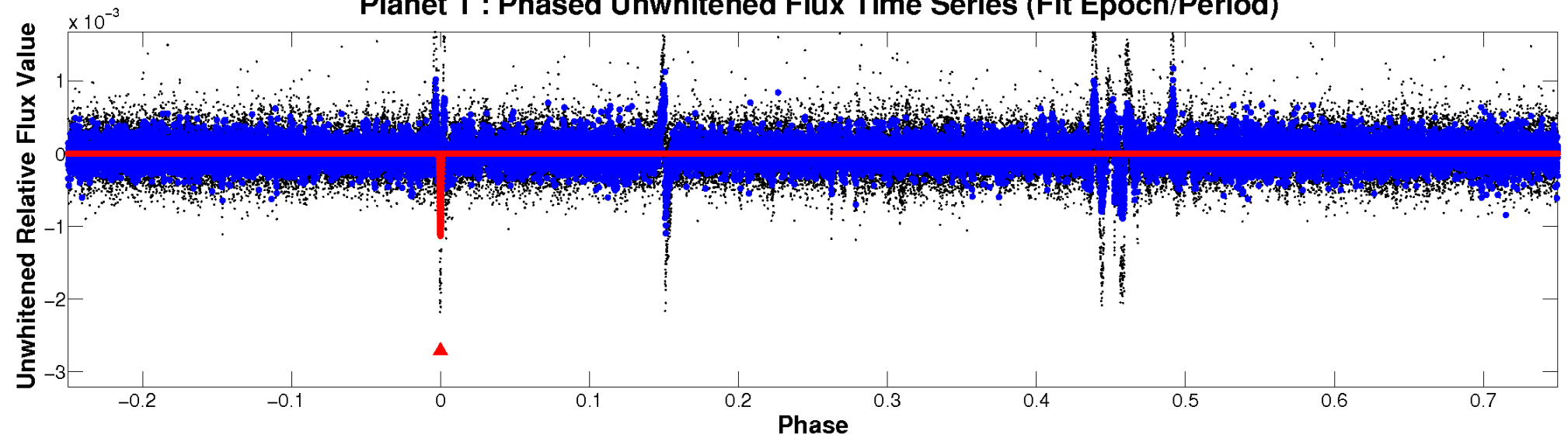
# ALT Odd/Even

TCE 011607091-01

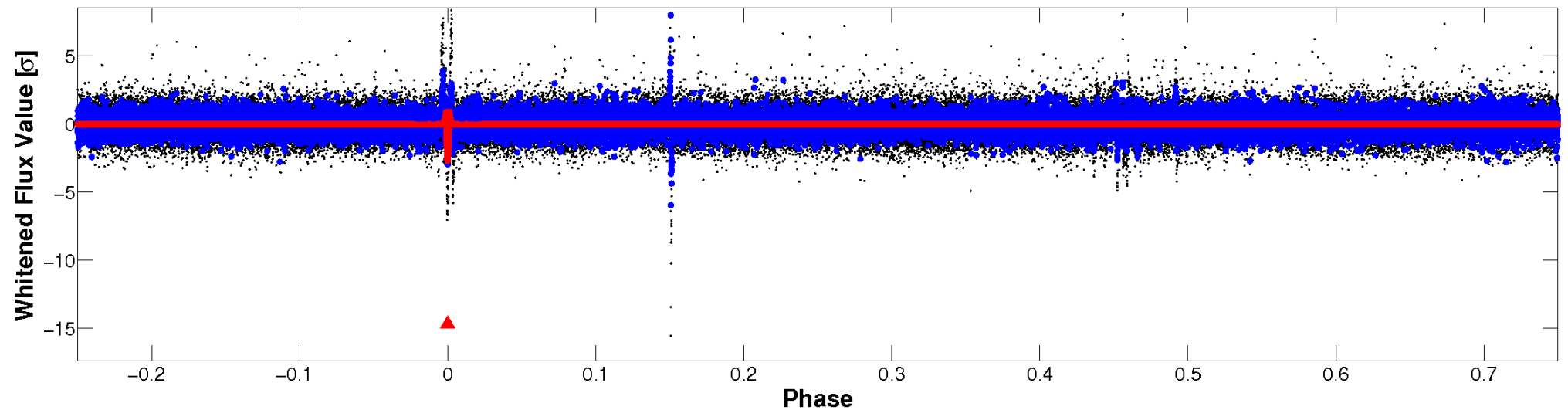


# Non-Whitened Vs. Whitened Light Curve

**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

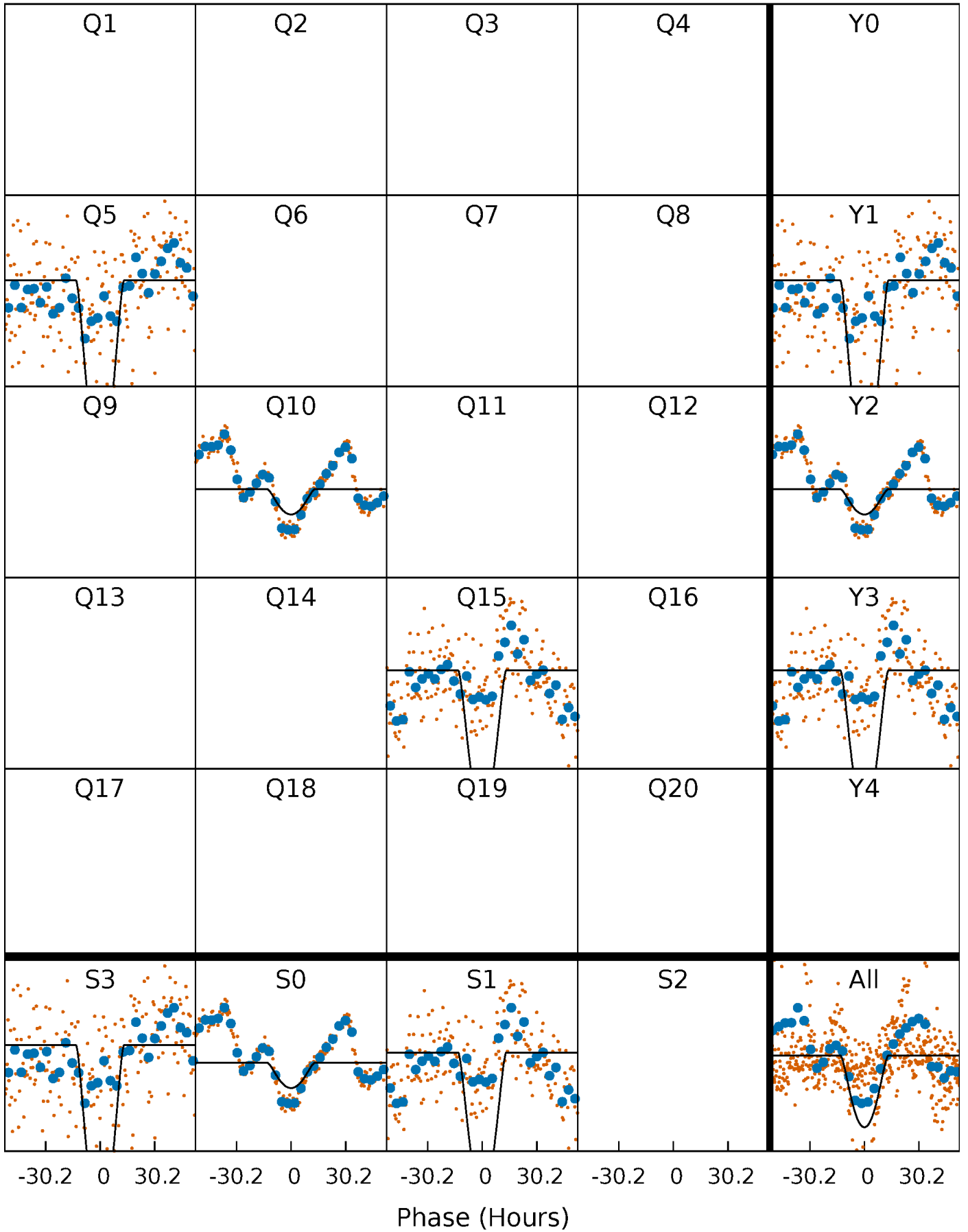
TCE 011607091-01   P=479.244455 Days    $T_0=467.642756$  (BKJD)





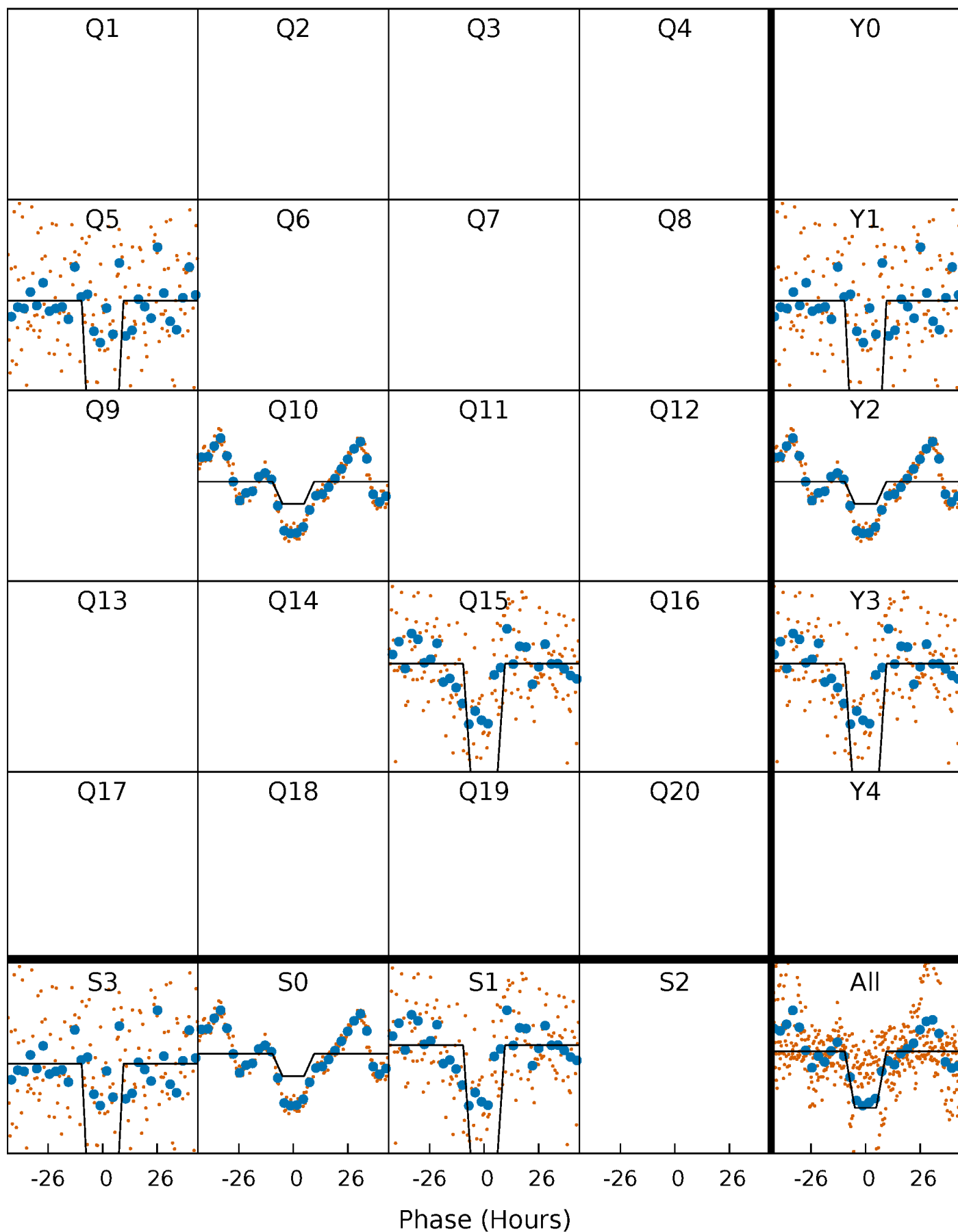
# DV Quarter-Phased Transit Curves

TCE 011607091-01   P=479.244455 Days    $T_0=467.642756$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

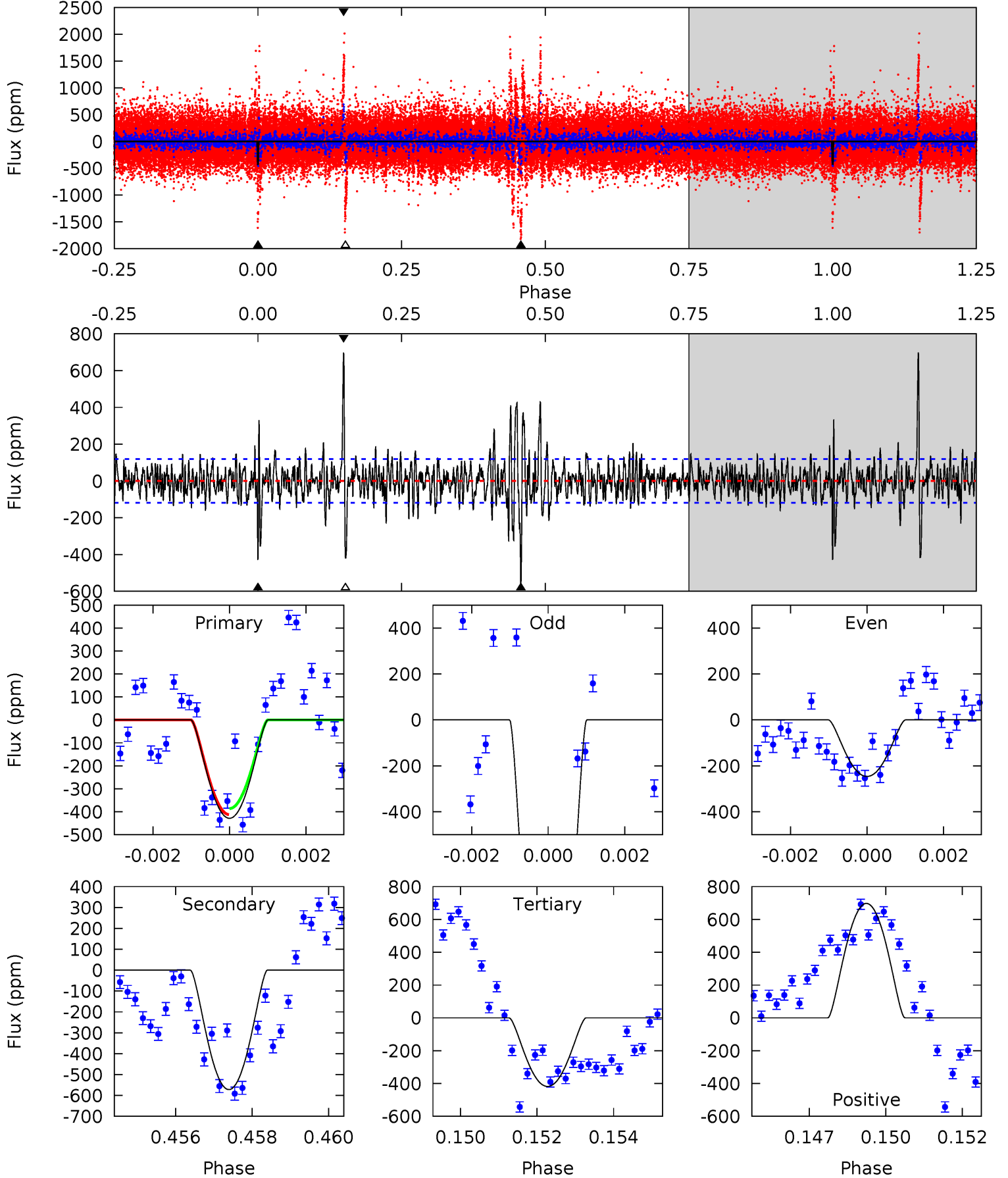
TCE 011607091-01 P=479.446241 Days  $T_0=467.396522$  (BKJD)



# DV Model-Shift Uniqueness Test

011607091-01, P = 479.244455 Days, E = 467.642756 Days

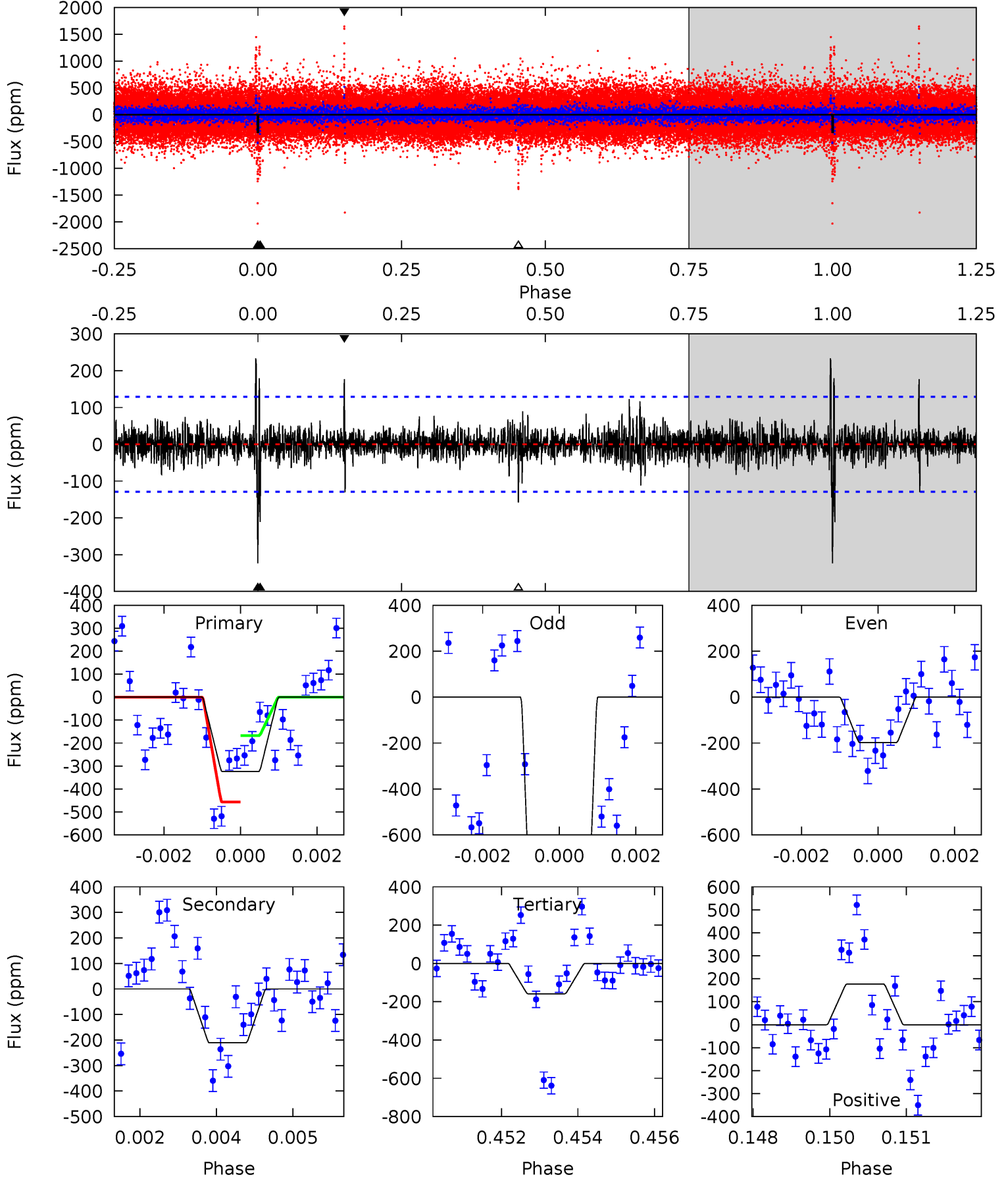
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	25.5	18.6	31.1	5.30	3.05	4.08	0.47	-12.0	6.86	-5.60	30.5	2.83	0.55	0.59



# Alt Model-Shift Uniqueness Test

011607091-01, P = 479.446241 Days, E = 467.396522 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
13.4	8.75	6.58	7.34	5.35	3.13	1.15	6.84	6.08	2.17	1.41	40.3	2.75	0.42	5.98



### Stellar Parameters For KIC 011607091

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6181^{+166}_{-185}$	$4.547^{+0.036}_{-0.204}$	$-0.500^{+0.300}_{-0.300}$	$0.863^{+0.241}_{-0.064}$	$0.958^{+0.115}_{-0.115}$	$2.099^{+0.394}_{-1.038}$
	+3%/-3%	+1%/-4%	+60%/-60%	+28%/-7%	+12%/-12%	+19%/-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 011607091-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-572 \pm 22$	$5.76^{+3.92}_{-3.45}$	$334^{+23}_{-14}$	$4218^{+2028}_{-673}$	$13407^{+68327}_{-8755}$
Alt.	$-211 \pm 24$	$4.27^{+3.72}_{-2.87}$	$333^{+21}_{-15}$	$3918^{+2397}_{-699}$	$8861^{+77892}_{-6364}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

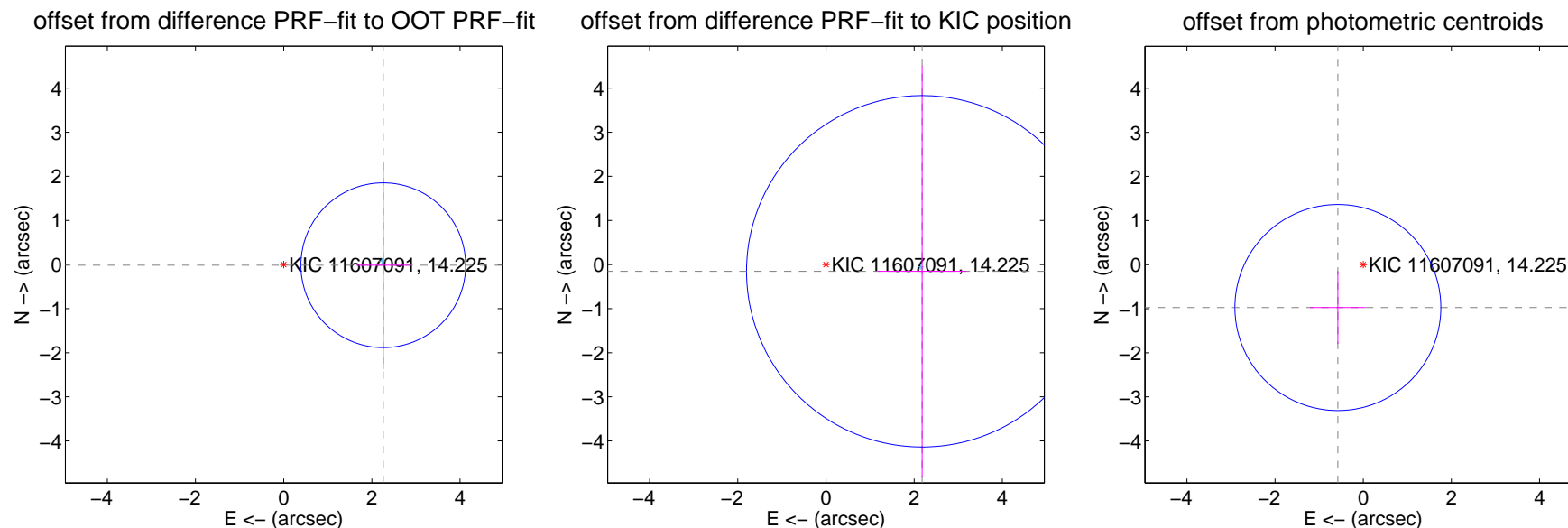
## DV Centroid Data

Supplemental centroid analysis for 011607091-01. Kepler magnitude: 14.22. Transit SNR 21.85

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.259 \pm 0.623$	$3.63$	$-2.259 \pm 0.606$	$-0.016 \pm 2.355$
PRF-fit source offset from KIC position	$2.188 \pm 1.328$	$1.65$	$-2.182 \pm 1.004$	$-0.153 \pm 4.661$
photometric centroid source offset	$1.13 \pm 0.78$	$1.45$	$0.58 \pm 0.63$	$-0.97 \pm 0.82$



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.







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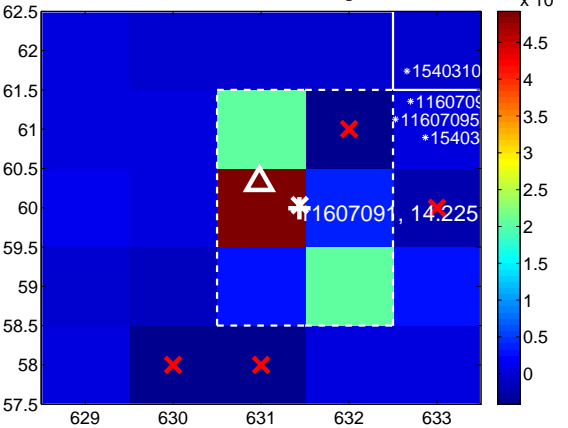
Q9 no difference image



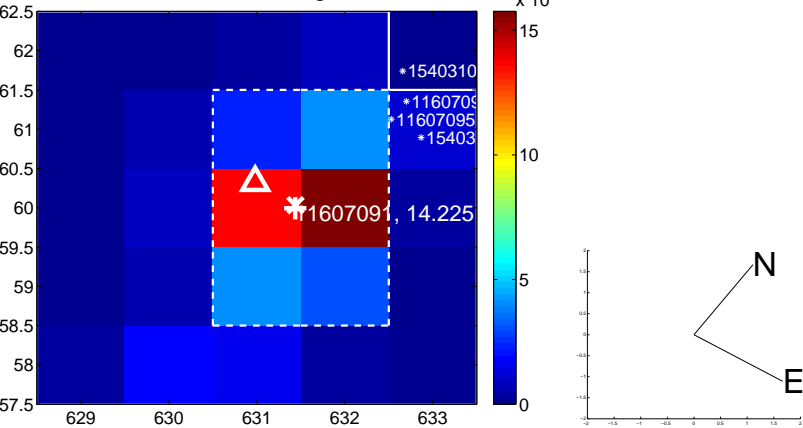
Q9 no OOT image



Q10 difference image



Q10 OOT image



Q11 no difference image



Q11 no OOT image



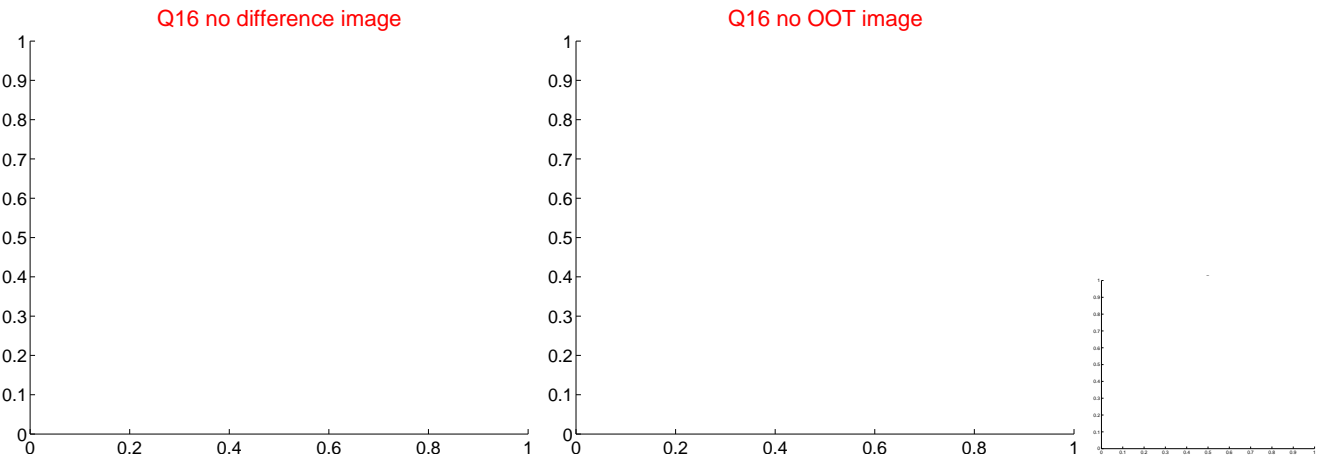
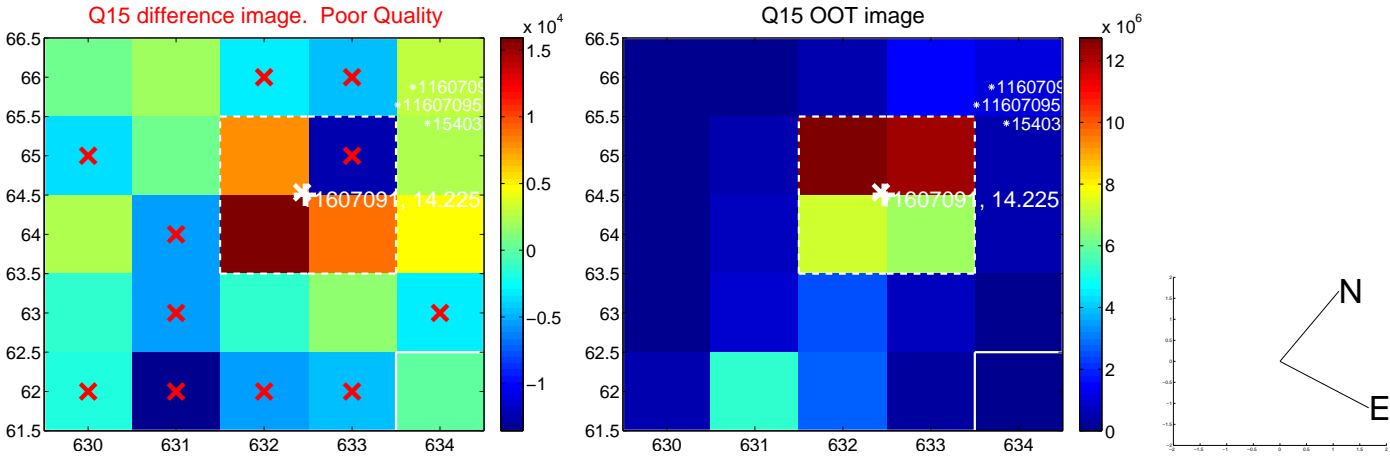
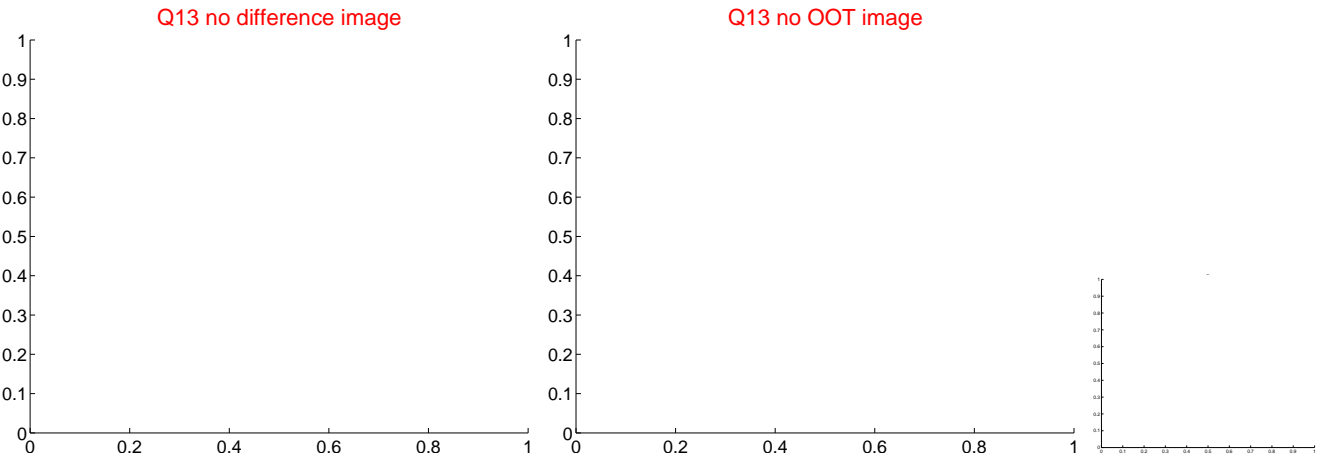
Q12 no difference image



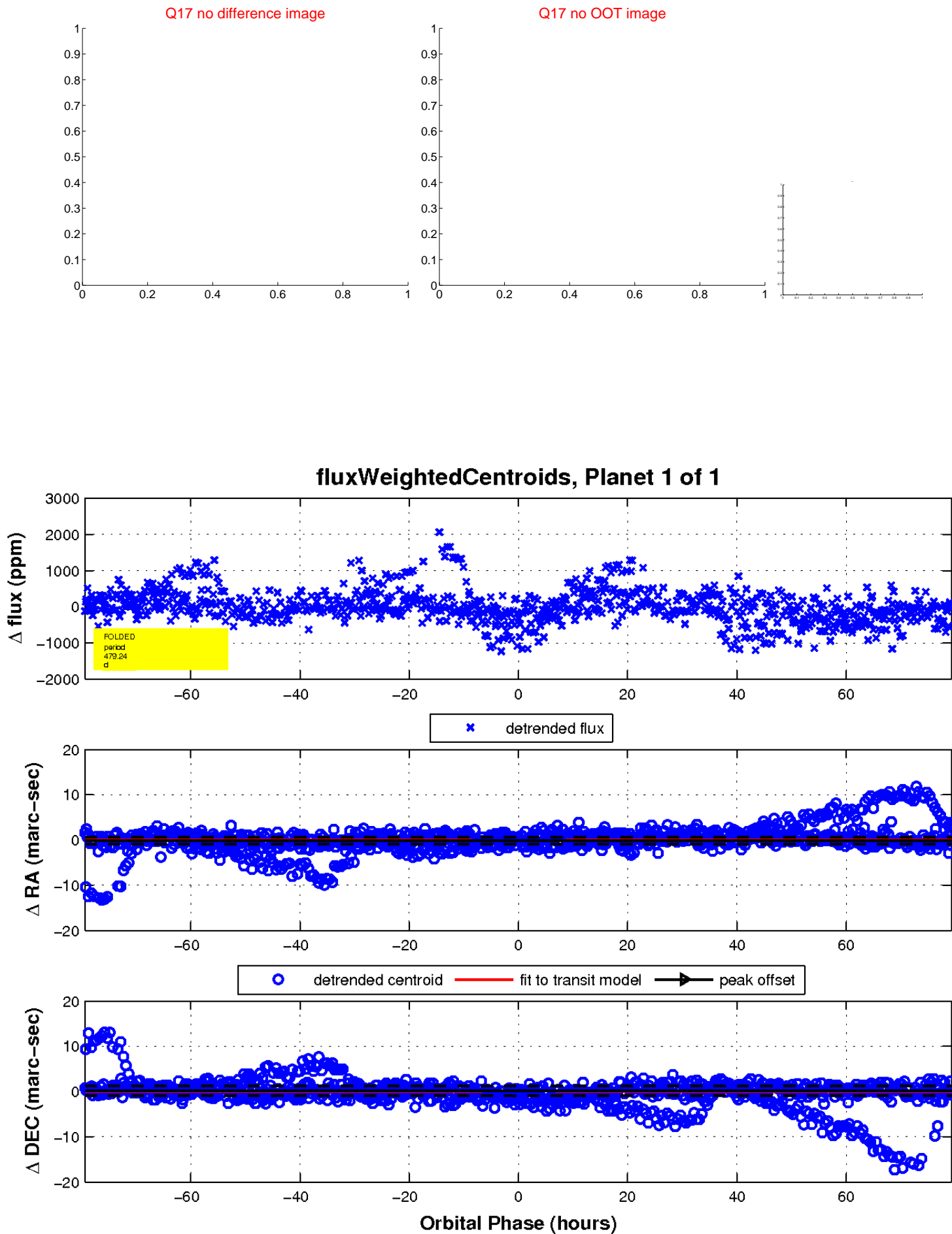
Q12 no OOT image



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

