

# KIC 011455907

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011455907-01	OBS	No	60.231681	185.260886	2177.3	3.253	10.6	6.7	157.35	3445	718.23	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011455907-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

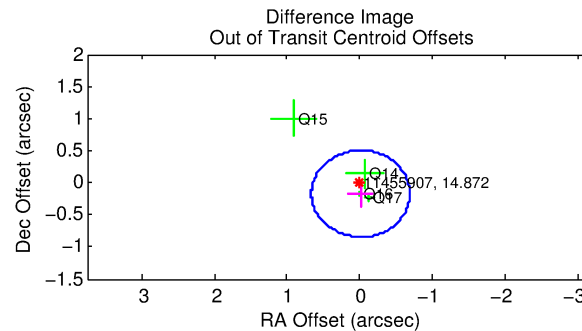
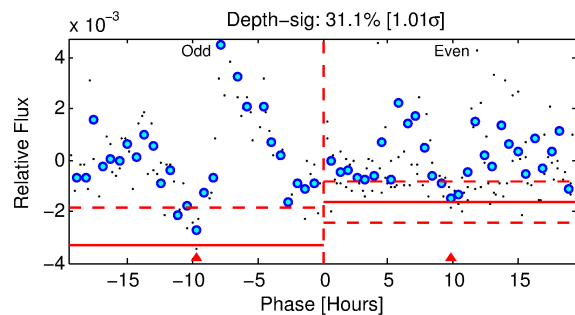
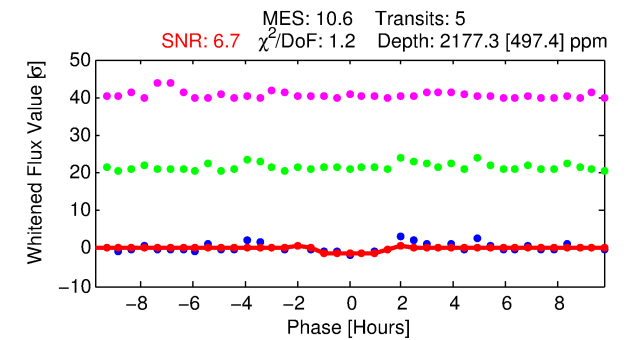
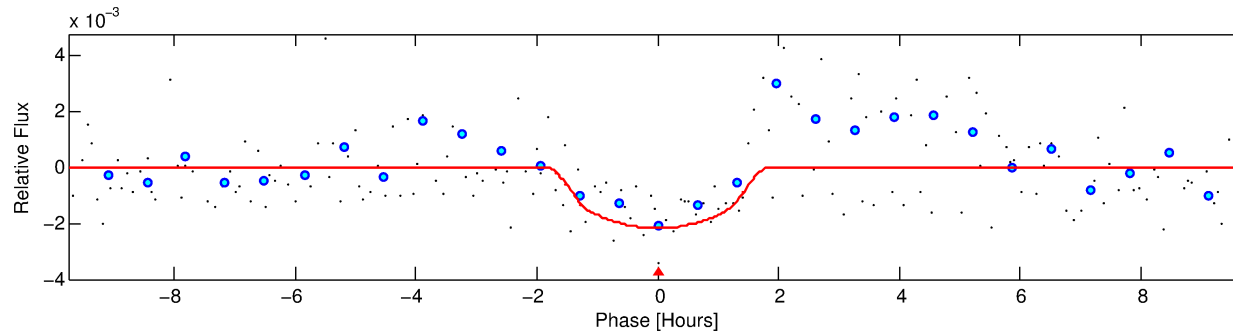
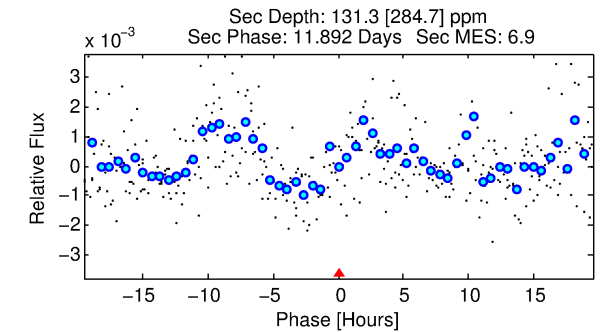
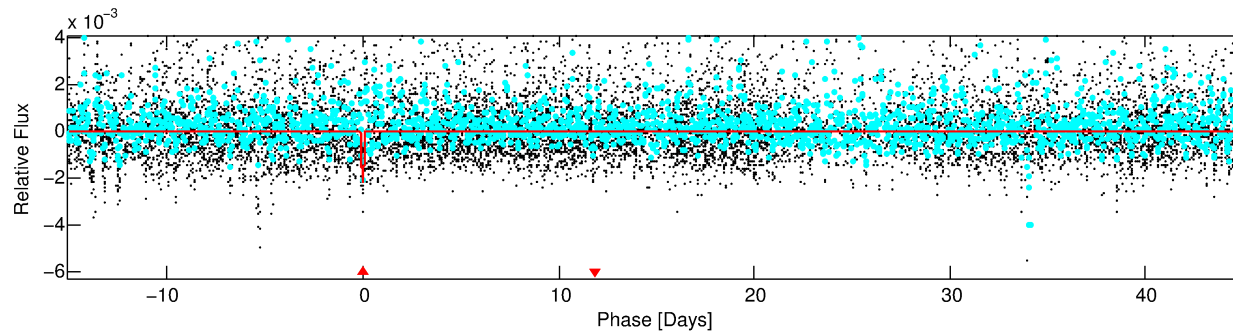
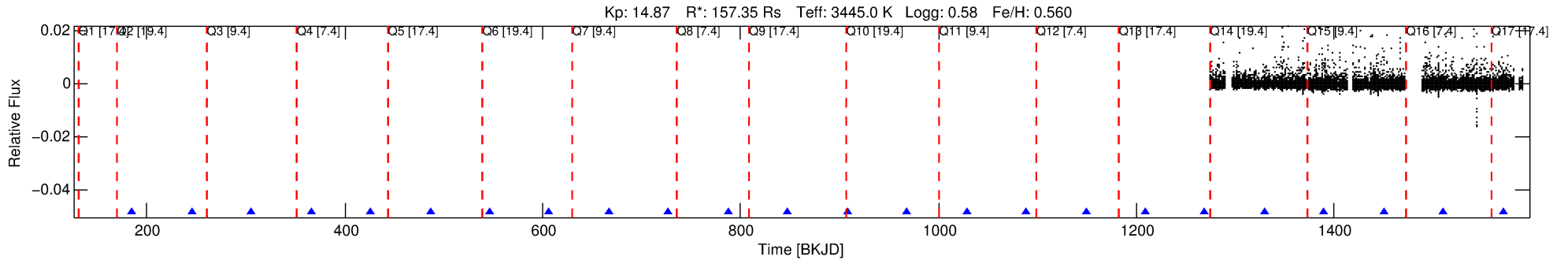
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011455907-01

No Significant Match Found

# DV One-Page Summary

KIC: 11455907 Candidate: 1 of 1 Period: 60.232 d



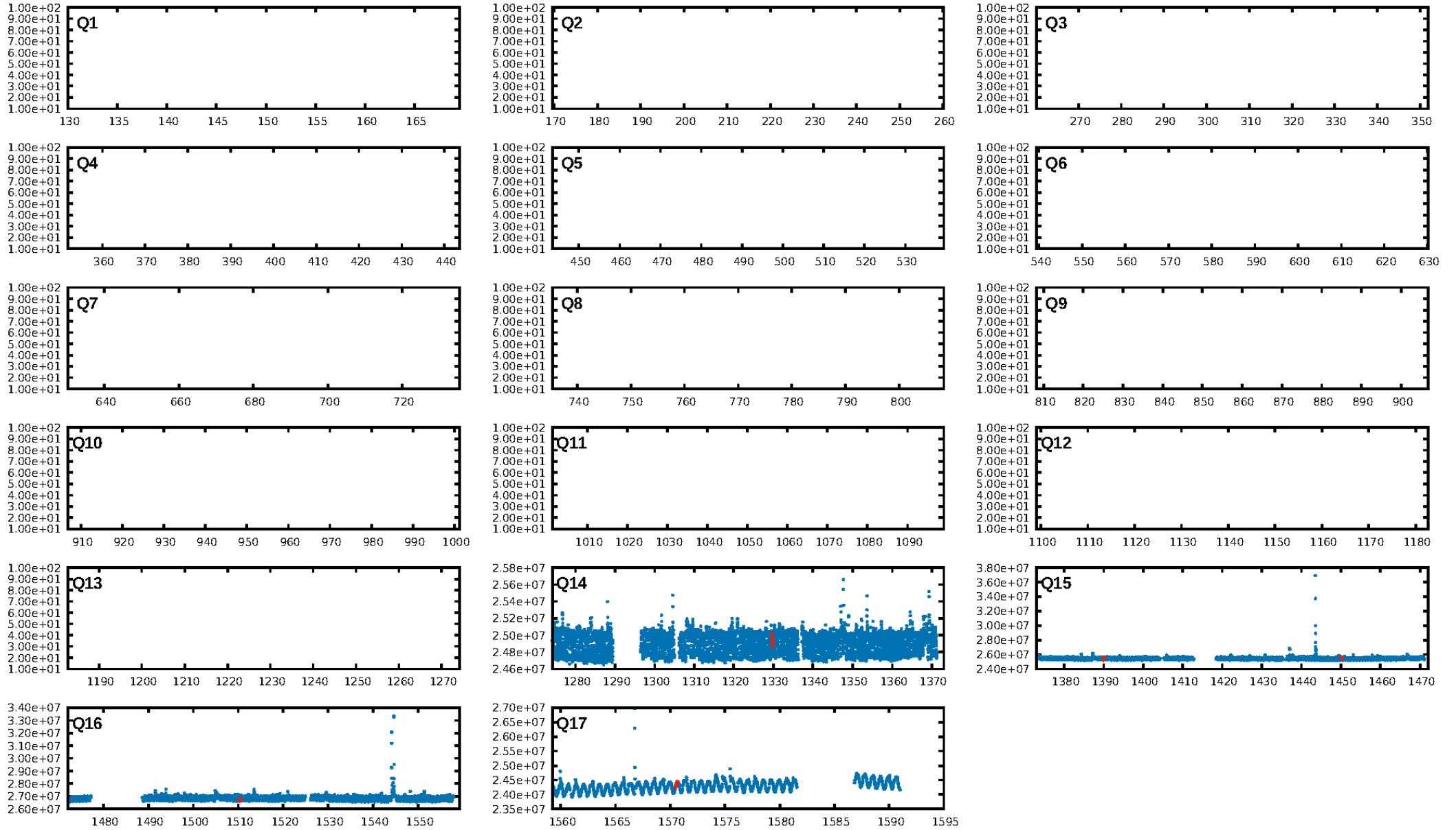
## DV Fit Results:

Period = 60.23168 [0.00234] d  
Epoch = 185.2609 [0.0526] BKJD  
Rp/R\* = 0.0418 [0.0389]  
a/R\* = 131.03 [256.17]  
b = 0.48 [3.33]  
Seff = N/A  
Teq = N/A  
Rp = 718.23 [772.32] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

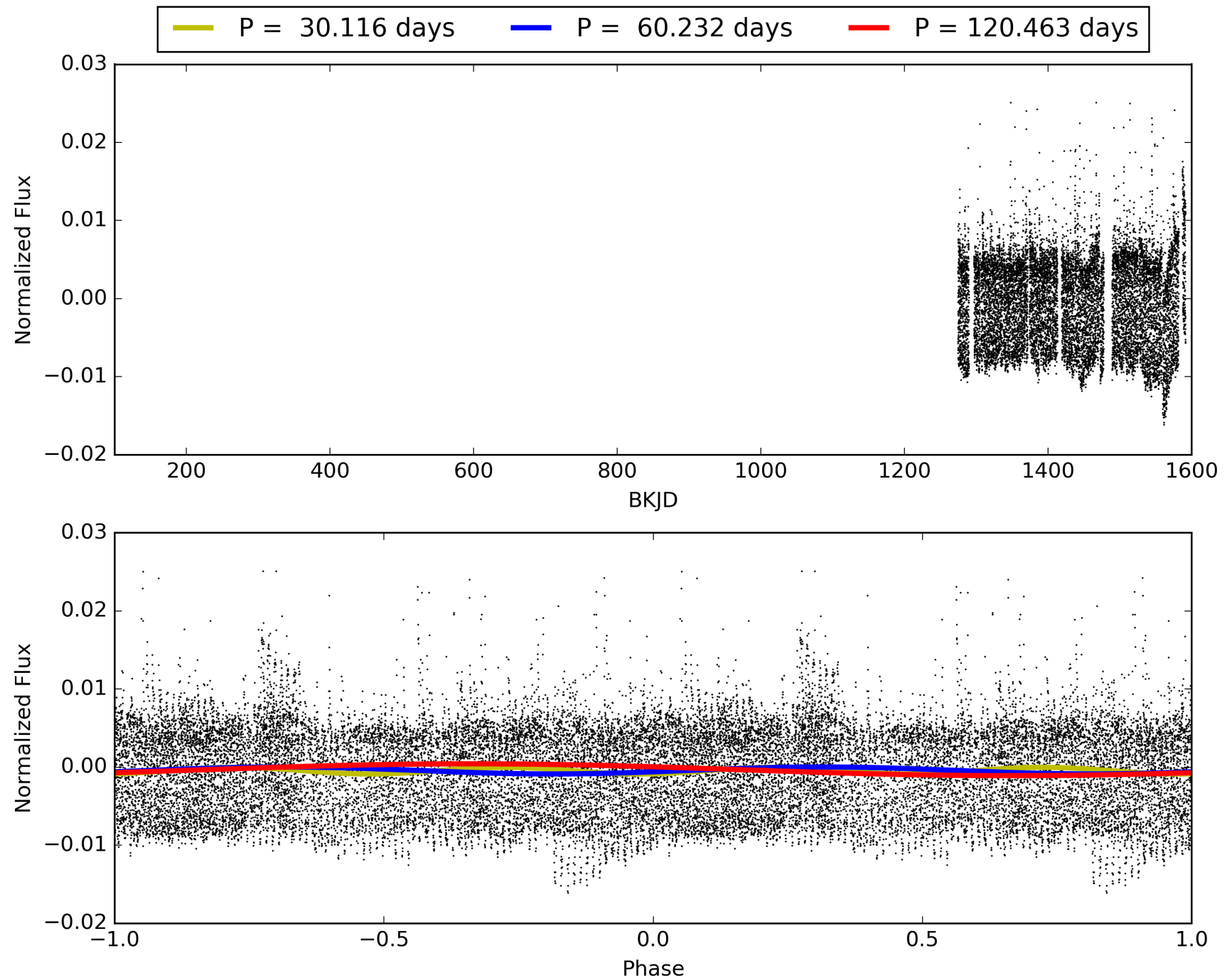
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 20.0%  
ModelChiSquareGof-sig: 98.2%  
Bootstrap-pfa: 1.24e-11  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 2.533  
Centroid-sig: N/A  
Centroid-so: 0.544 arcsec [1.11 $\sigma$ ]  
OotOffset-rm: 0.172 arcsec [0.77 $\sigma$ ]  
KicOffset-rm: 0.381 arcsec [1.33 $\sigma$ ]  
OotOffset-st: 1/1/1/1 [4]  
KicOffset-st: 1/1/1/1 [4]  
DiffImageQuality-fgm: 0.50 [2/4]  
DiffImageOverlap-fno: 1.00 [4/4]

# TCE 011455907-01, PDC Light Curves

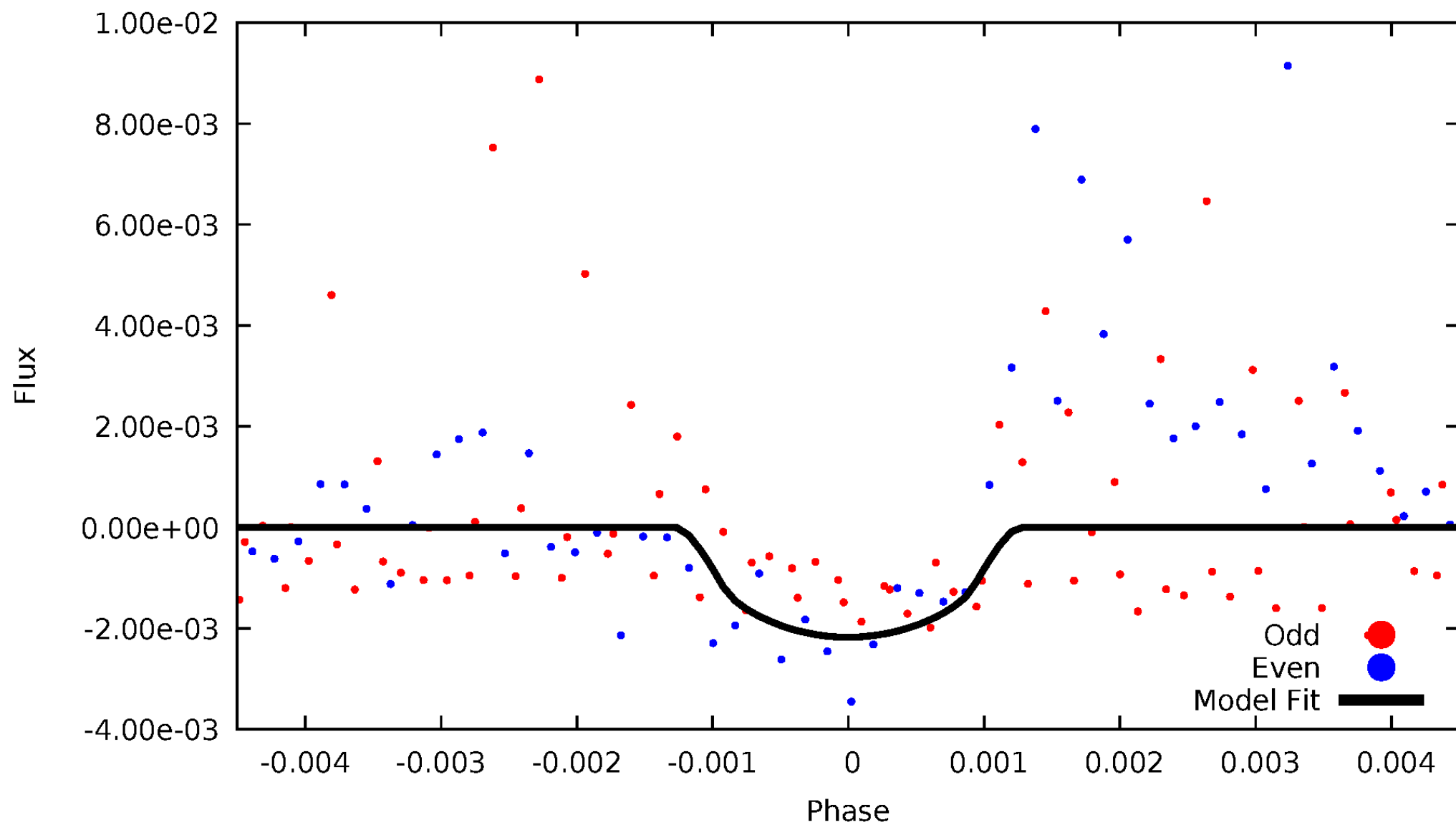


# TCE 011455907-01



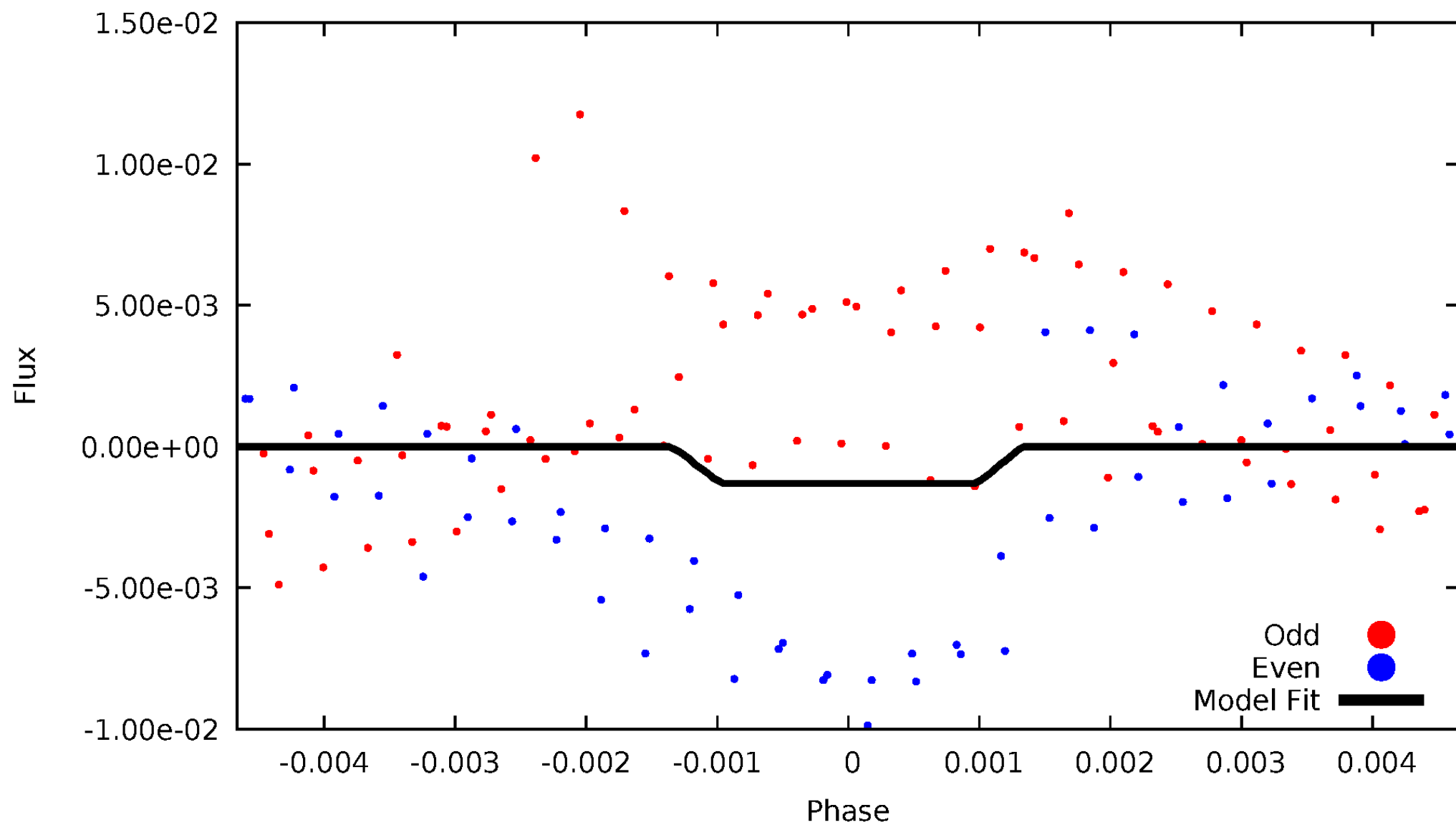
# DV Odd/Even

TCE 011455907-01



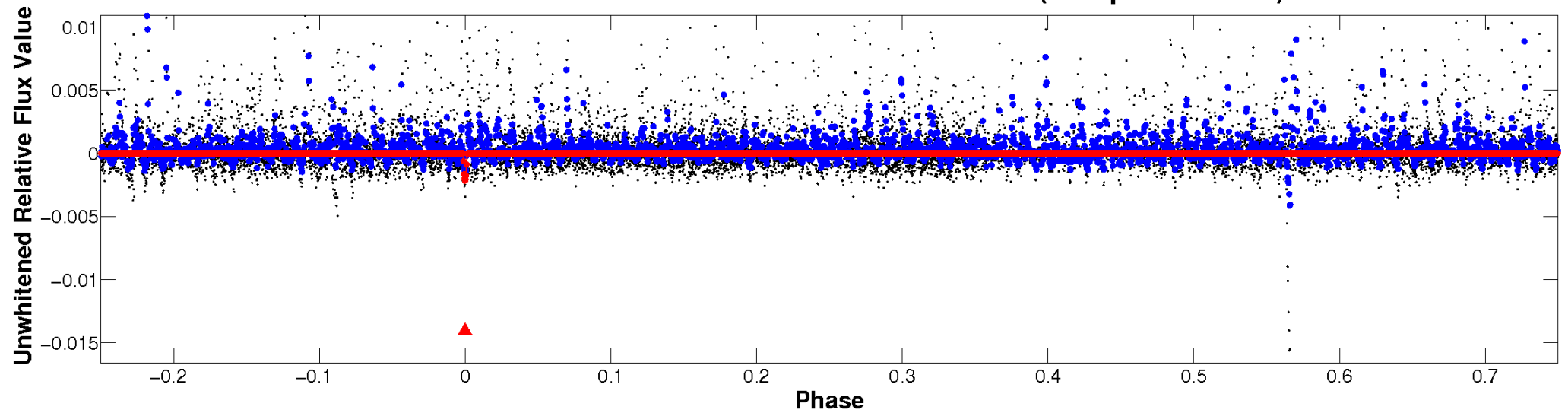
# ALT Odd/Even

TCE 011455907-01

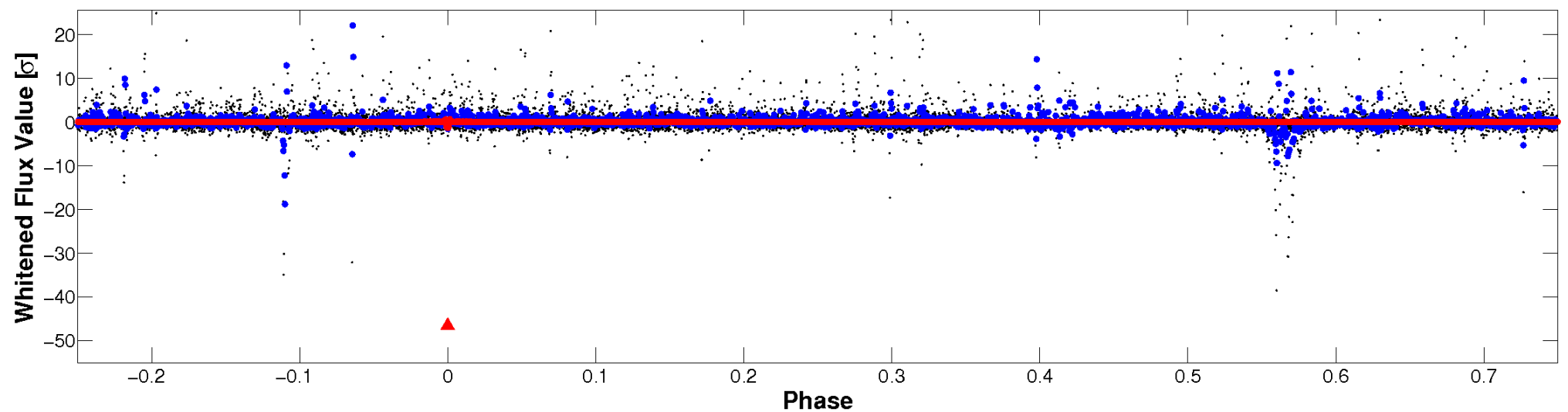


# Non-Whitened Vs. Whitened Light Curve

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

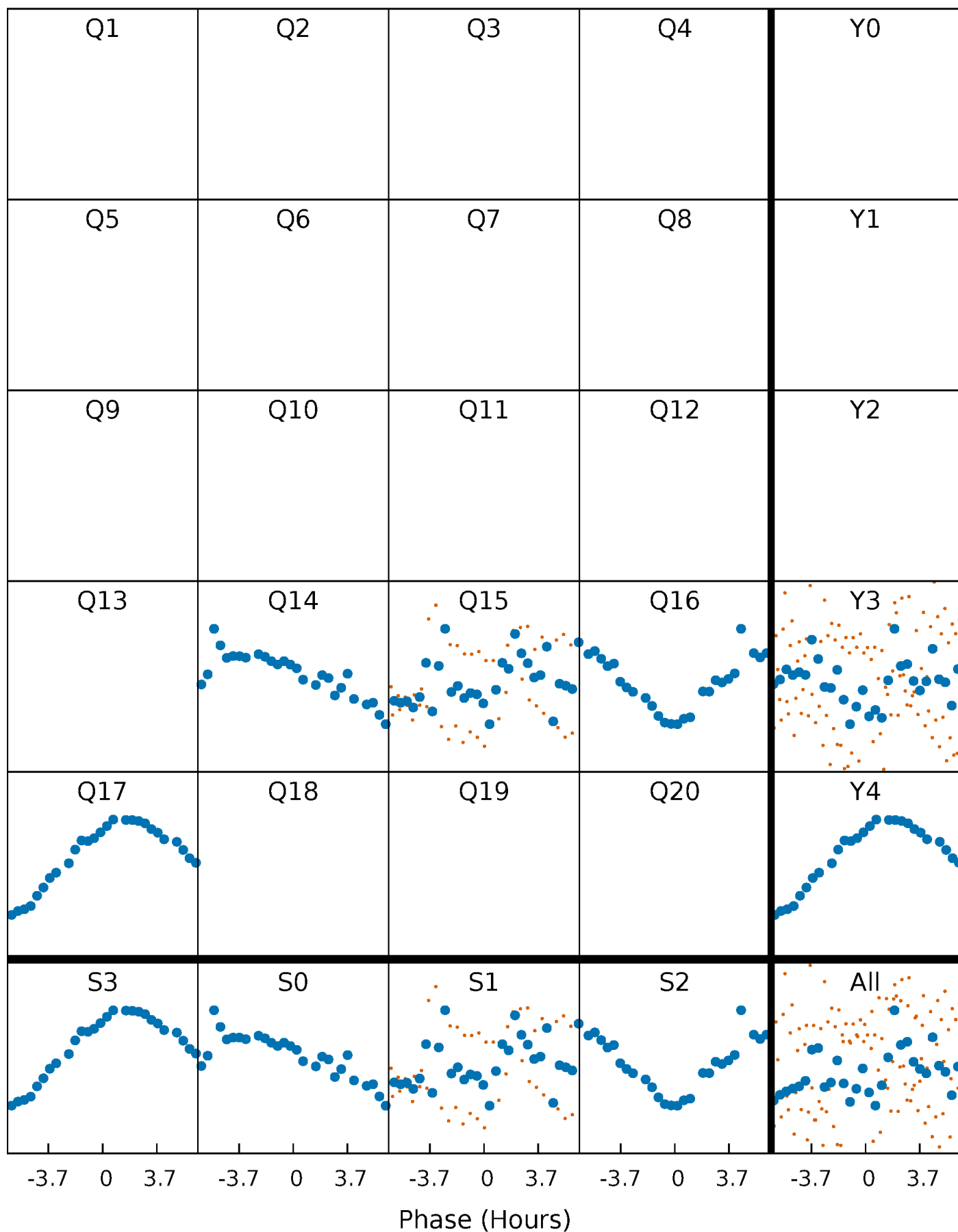


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

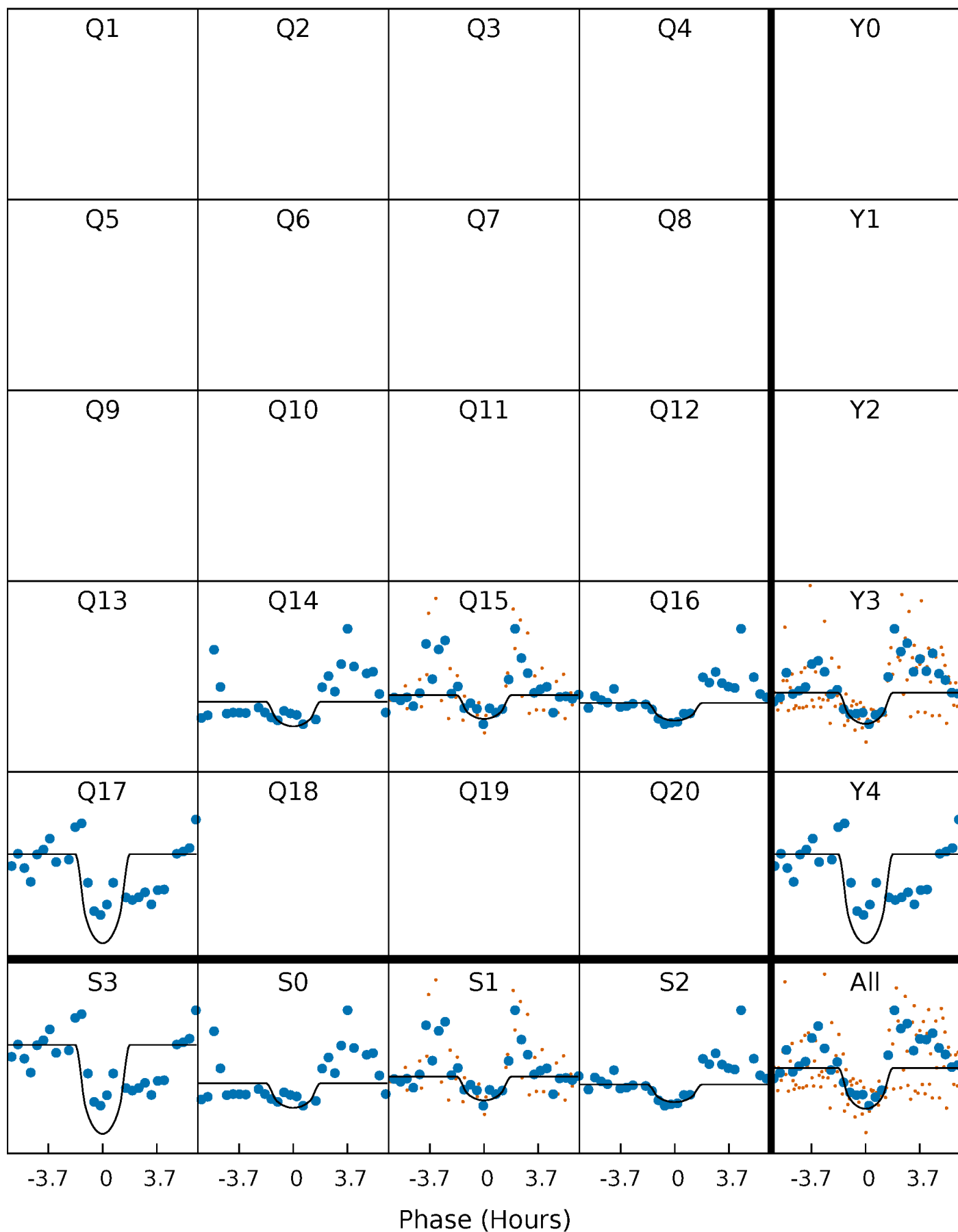
TCE 011455907-01 P= 60.231681 Days  $T_0=185.260886$  (BKJD)





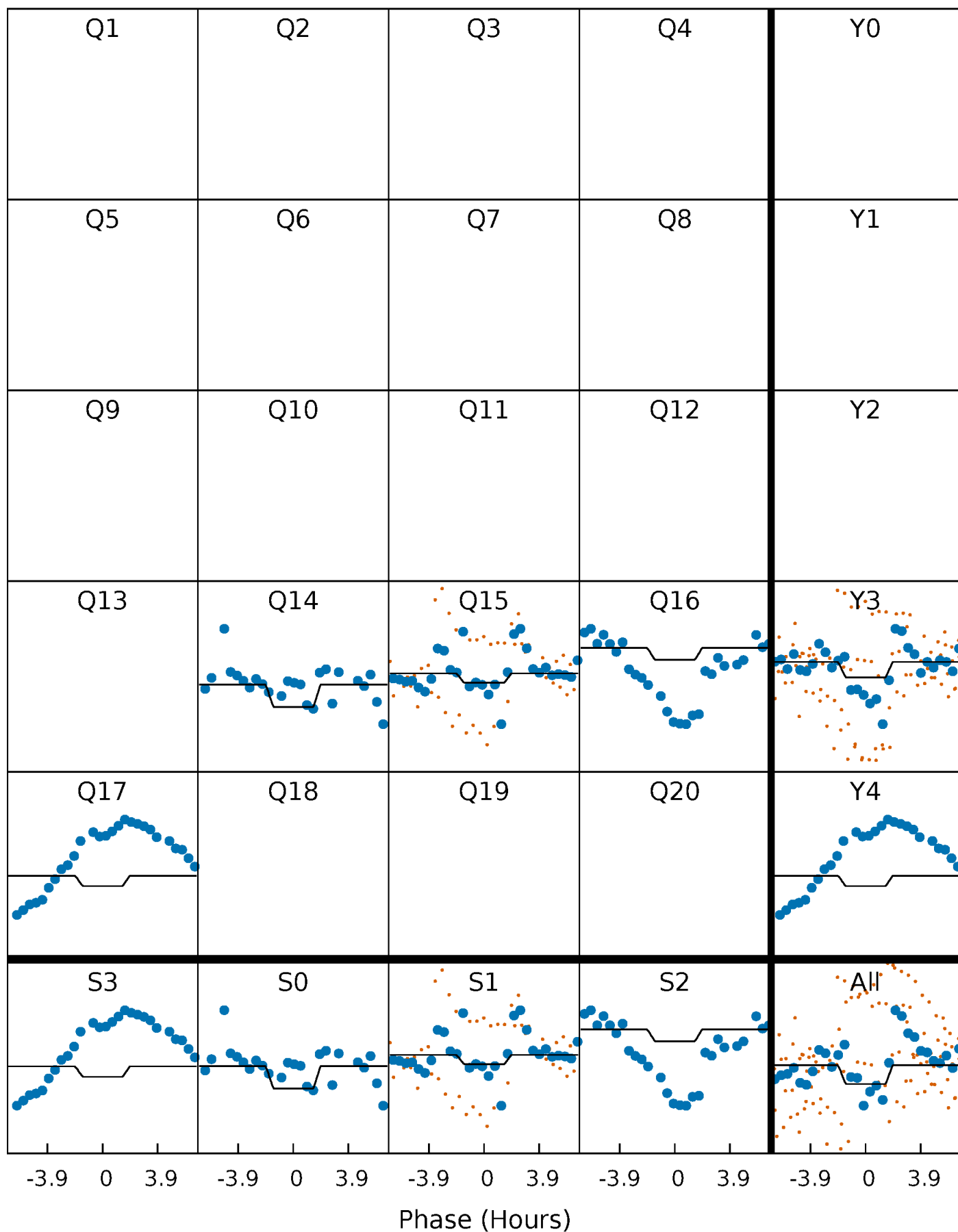
# DV Quarter-Phased Transit Curves

TCE 011455907-01 P= 60.231681 Days  $T_0=185.260886$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

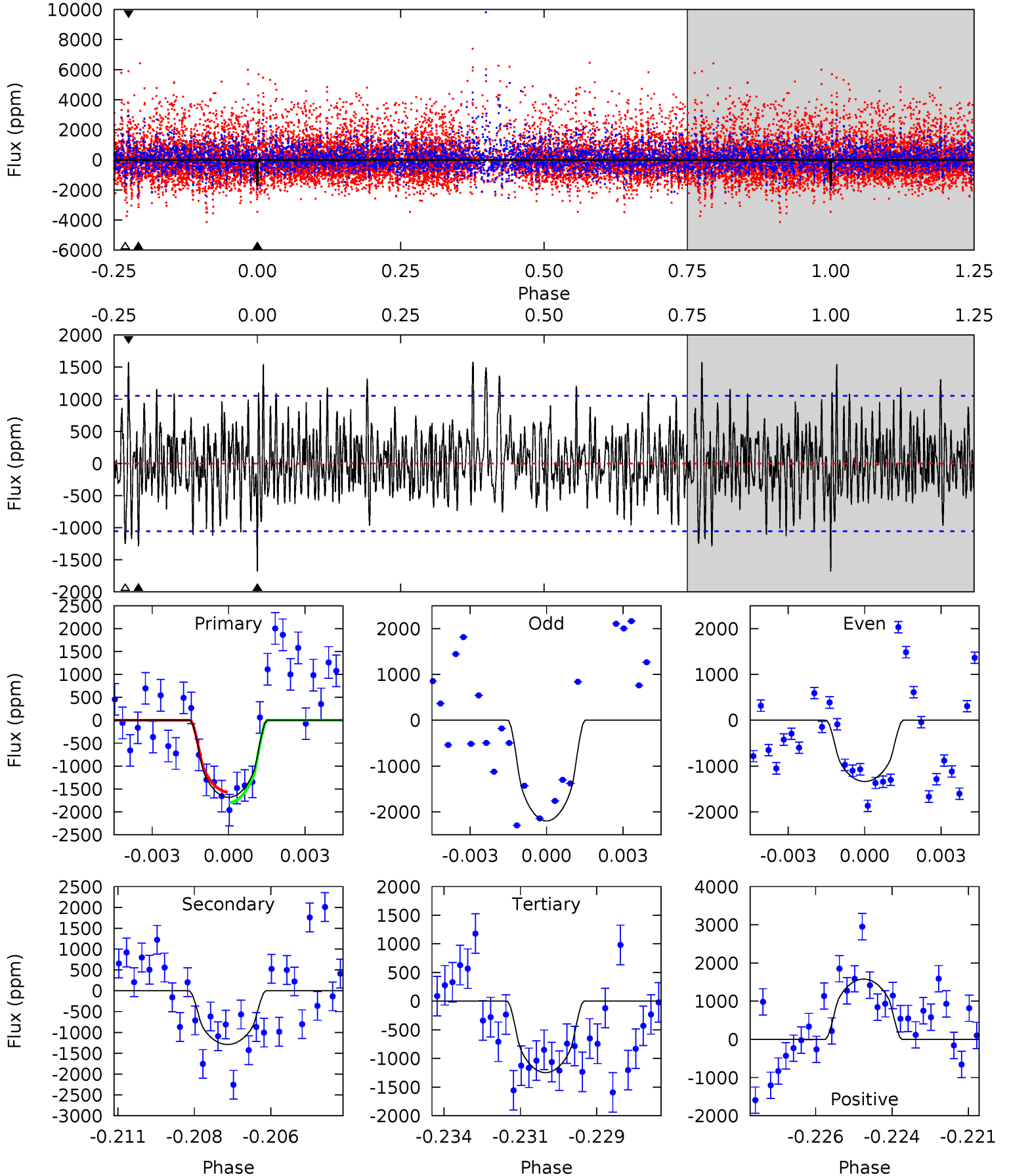
TCE 011455907-01 P= 60.225438 Days  $T_0=185.378143$  (BKJD)



# DV Model-Shift Uniqueness Test

011455907-01, P = 60.231681 Days, E = 185.260886 Days

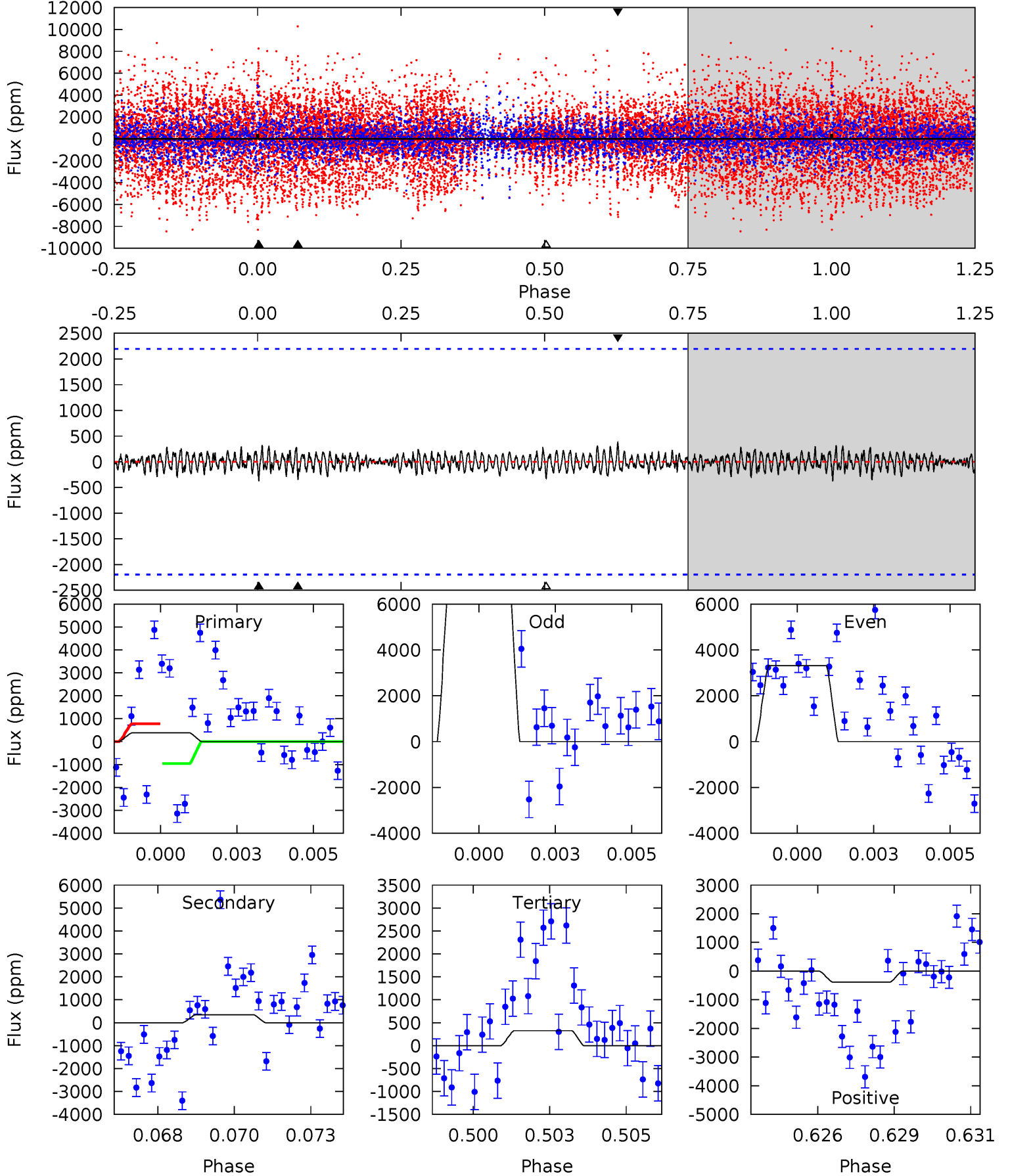
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.43	6.46	6.25	7.91	5.28	3.02	2.09	2.18	0.52	0.21	-1.45	1.84	1.06	0.48	0.59



# Alt Model-Shift Uniqueness Test

011455907-01,  $P = 60.225438$  Days,  $E = 185.378143$  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
0.91	0.84	0.78	0.92	5.28	3.02	0.28	0.13	-0.00	0.06	-0.08	6.02	2.44	0.50	0.21



### Stellar Parameters For KIC 011455907

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3445^{+116}_{-104}$	$0.583^{+0.306}_{-0.188}$	$0.560^{+0.050}_{-0.300}$	$157.346^{+20.029}_{-85.125}$	$3.452^{+0.117}_{-2.333}$	$0.000^{+0.000}_{-0.000}$
	+3%/-3%	+52%/-32%	+9%/-54%	+13%/-54%	+3%/-68%	+307%/-37%
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 011455907-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1290 \pm 200$	$800.50^{+629.79}_{-513.68}$	$3996^{+262}_{-359}$	$-2725^{+6956}_{-533}$	$0.220^{+1.470}_{-0.152}$
Alt.	$-348 \pm 415$	$744.67^{+596.89}_{-479.79}$	$3992^{+226}_{-355}$	$-3195^{+6247}_{-236}$	$0.054^{+0.430}_{-0.068}$

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

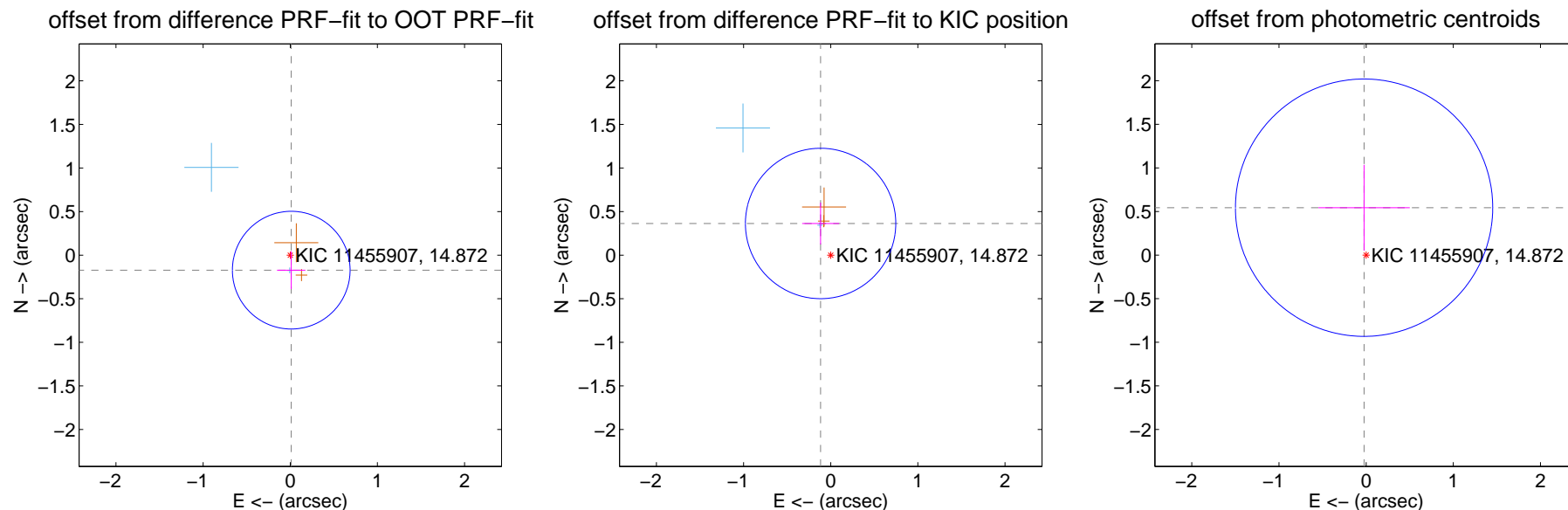
## DV Centroid Data

Supplemental centroid analysis for 011455907-01. Kepler magnitude: 14.87. Transit SNR 6.69

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.65 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.172 \pm 0.225$	0.77	$-0.011 \pm 0.163$	$-0.172 \pm 0.217$
PRF-fit source offset from KIC position	$0.381 \pm 0.287$	1.33	$0.116 \pm 0.211$	$0.363 \pm 0.240$
photometric centroid source offset	$0.54 \pm 0.49$	1.11	$0.02 \pm 0.52$	$0.54 \pm 0.49$



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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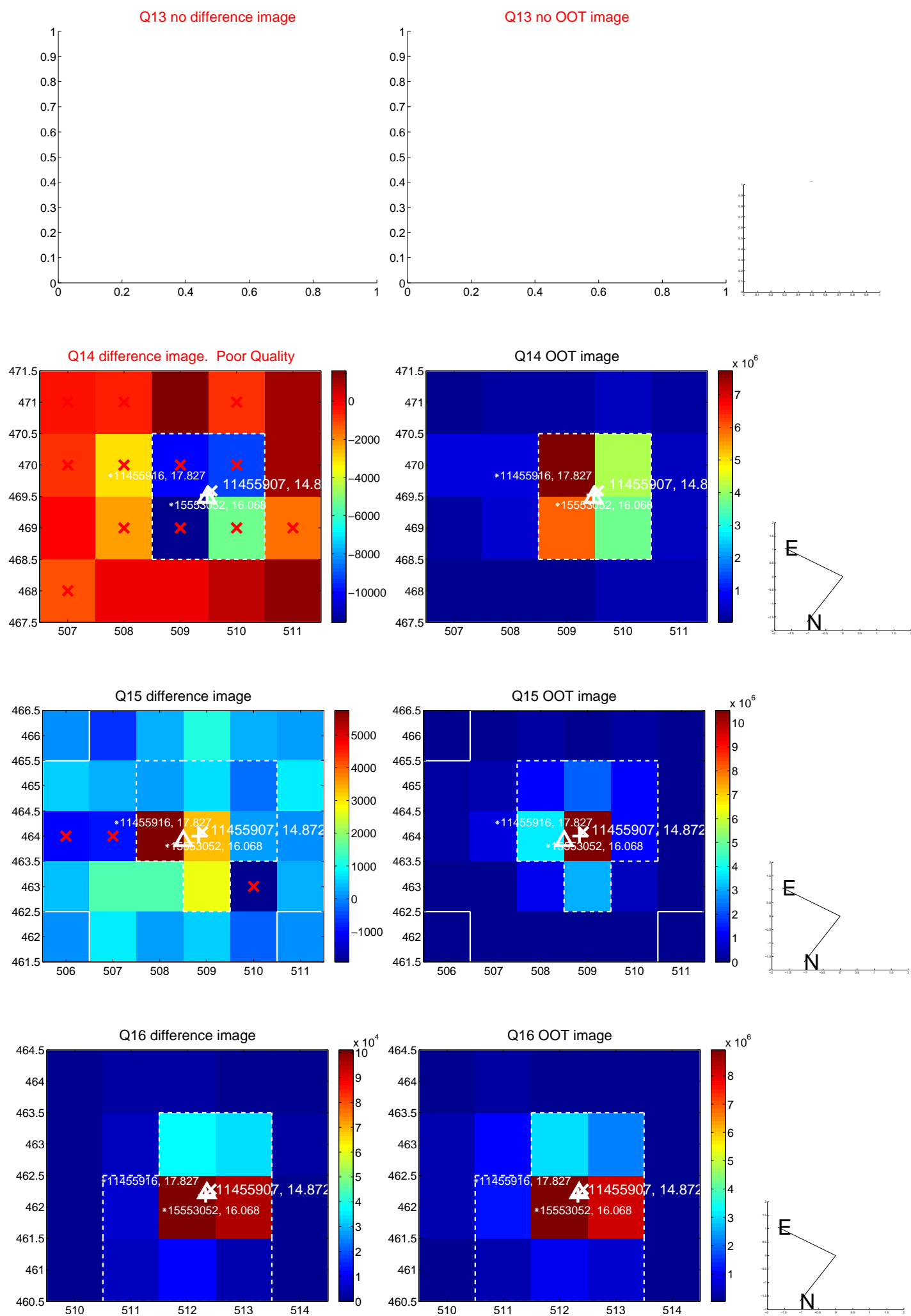




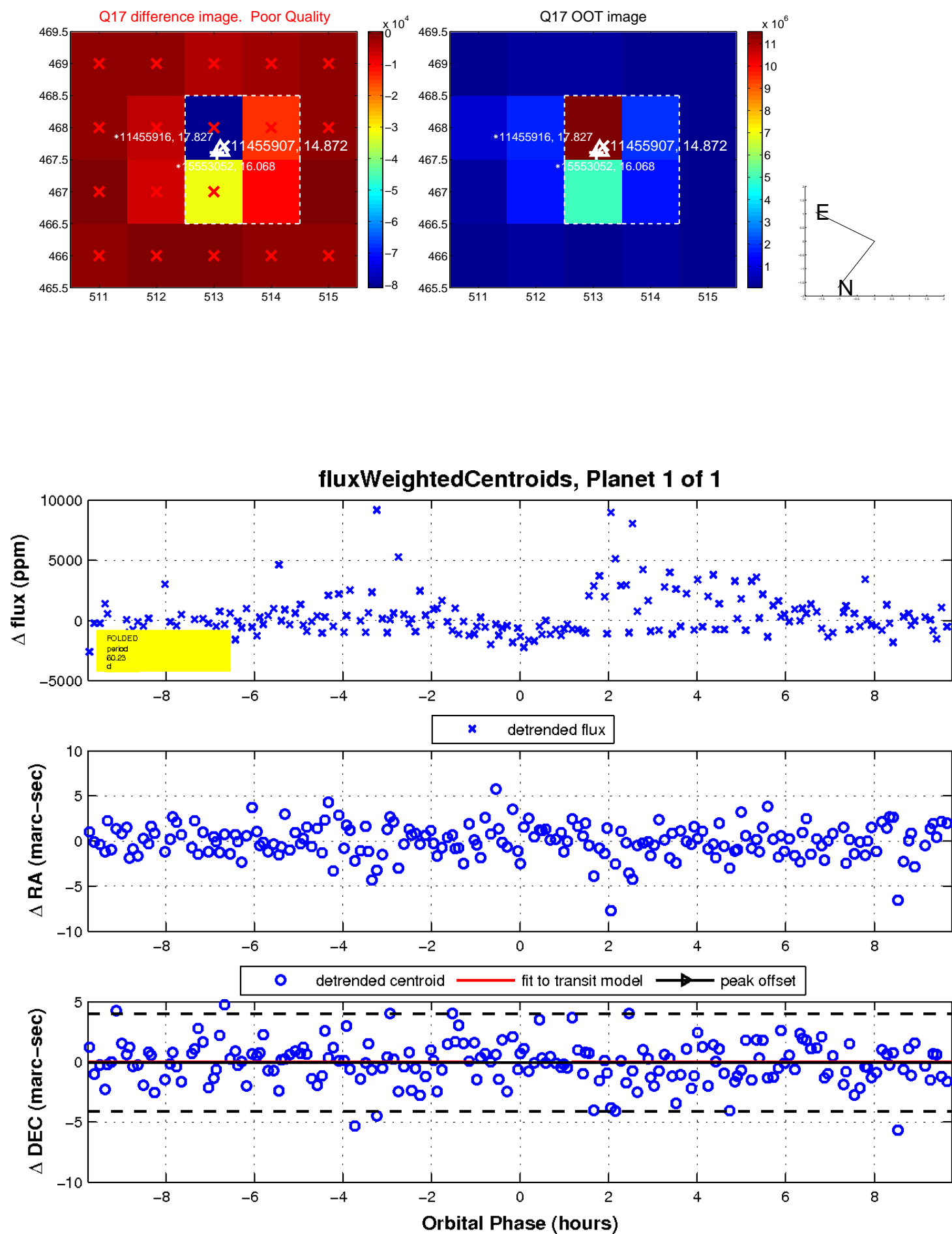
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

