

# KIC 007761545

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R <sub>★</sub> (R <sub>☉</sub> )	T <sub>★</sub> (K)	R <sub>p</sub> (R <sub>⊕</sub> )	S <sub>p</sub> (S <sub>⊕</sub> )
007761545-01	OBS	1472.01	85.351370	161.008939	4590.6	6.782	143.4	144.8	0.94	5584	6.35	5.45

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007761545-01	OBS	PC	0.94	0	0	0	0	NO_COMMENT

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

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

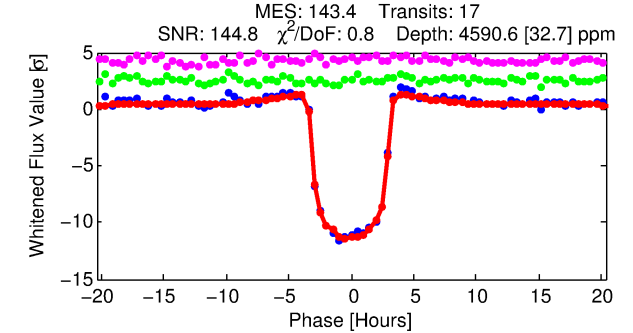
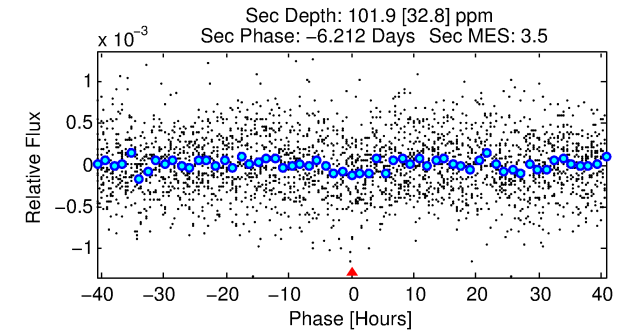
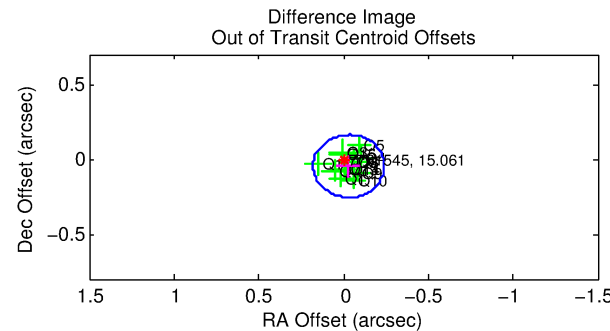
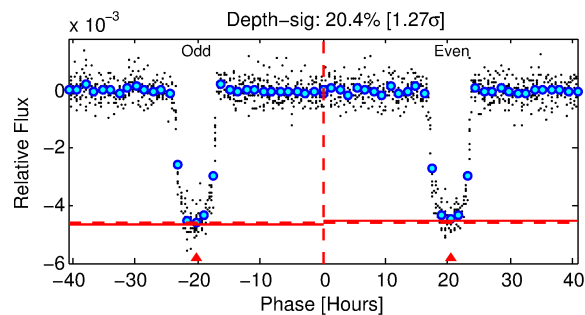
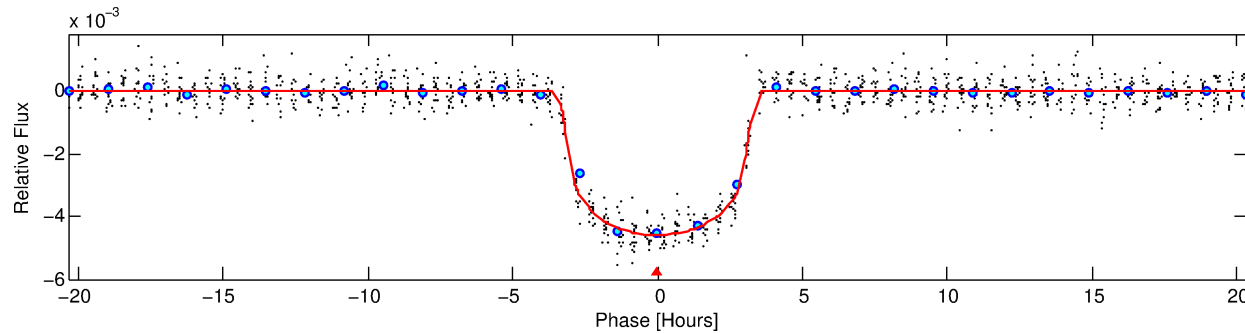
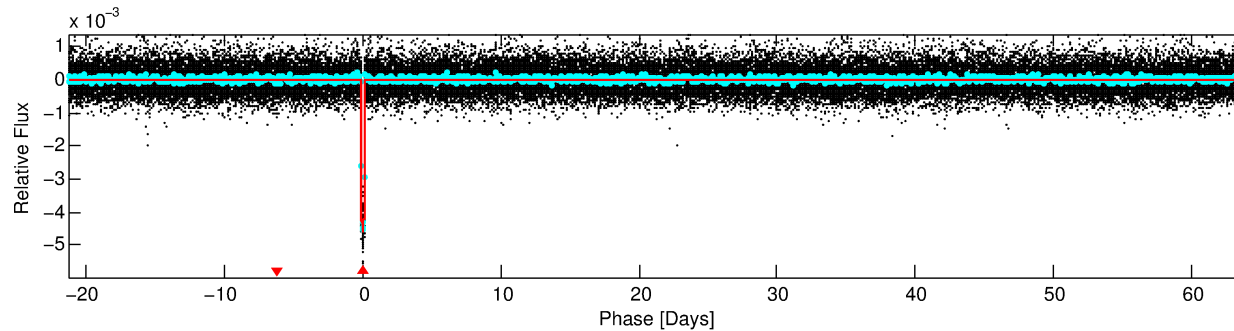
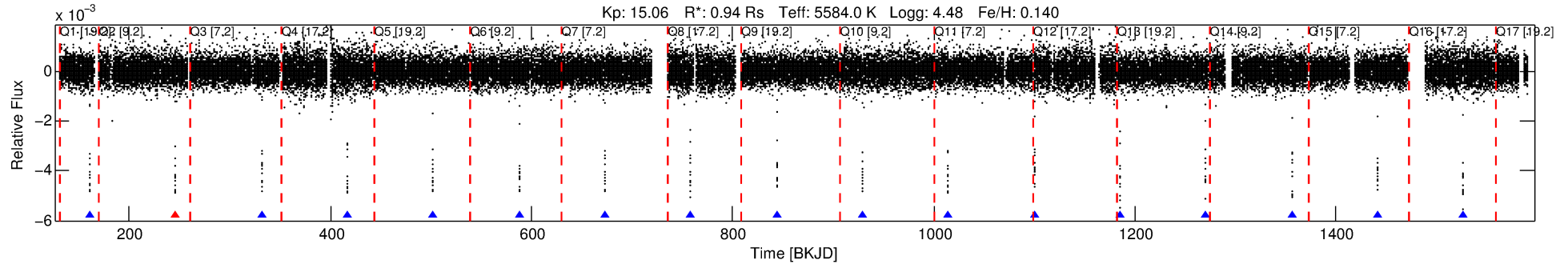
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007761545-01

No Significant Match Found

# DV One-Page Summary

KIC: 7761545 Candidate: 1 of 1 Period: 85.351 d  
KOI: K01472.01 Corr: 0.997



## DV Fit Results:

Period = 85.35137 [0.00009] d  
Epoch = 161.0089 [0.0008] BKJD  
Rp/R\* = 0.0621 [0.0032]  
a/R\* = 95.96 [19.36]  
b = 0.36 [0.49]  
Seff = 5.45 [1.11]  
Teq = 390 [20] K  
Rp = 6.35 [0.92] Re  
a = 0.3749 [0.0469] AU  
Ag = 195.30 [76.29] [2.55 $\sigma$ ]  
Teffp = 2252 [193] K [9.58 $\sigma$ ]

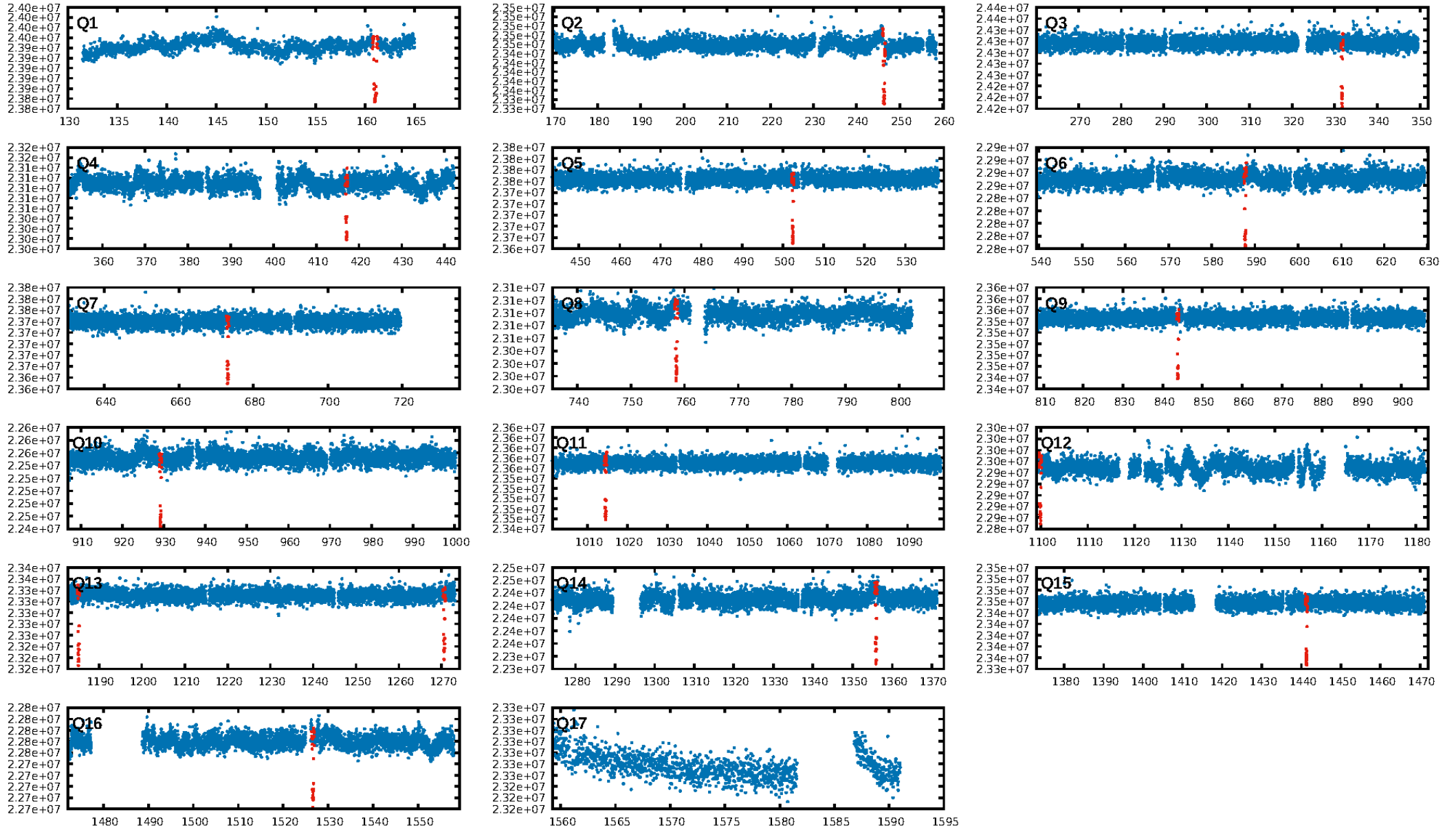
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 12.6%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 0.94 [15/16]  
GhostDiagnostic-chr: 7.663  
Centroid-sig: 0.0%  
Centroid-so: 0.248 arcsec [2.43 $\sigma$ ]  
OotOffset-rm: 0.056 arcsec [0.80 $\sigma$ ]  
KicOffset-rm: 0.137 arcsec [1.90 $\sigma$ ]  
OotOffset-st: 3/4/2/4 [13]  
KicOffset-st: 3/4/2/4 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [13/13]

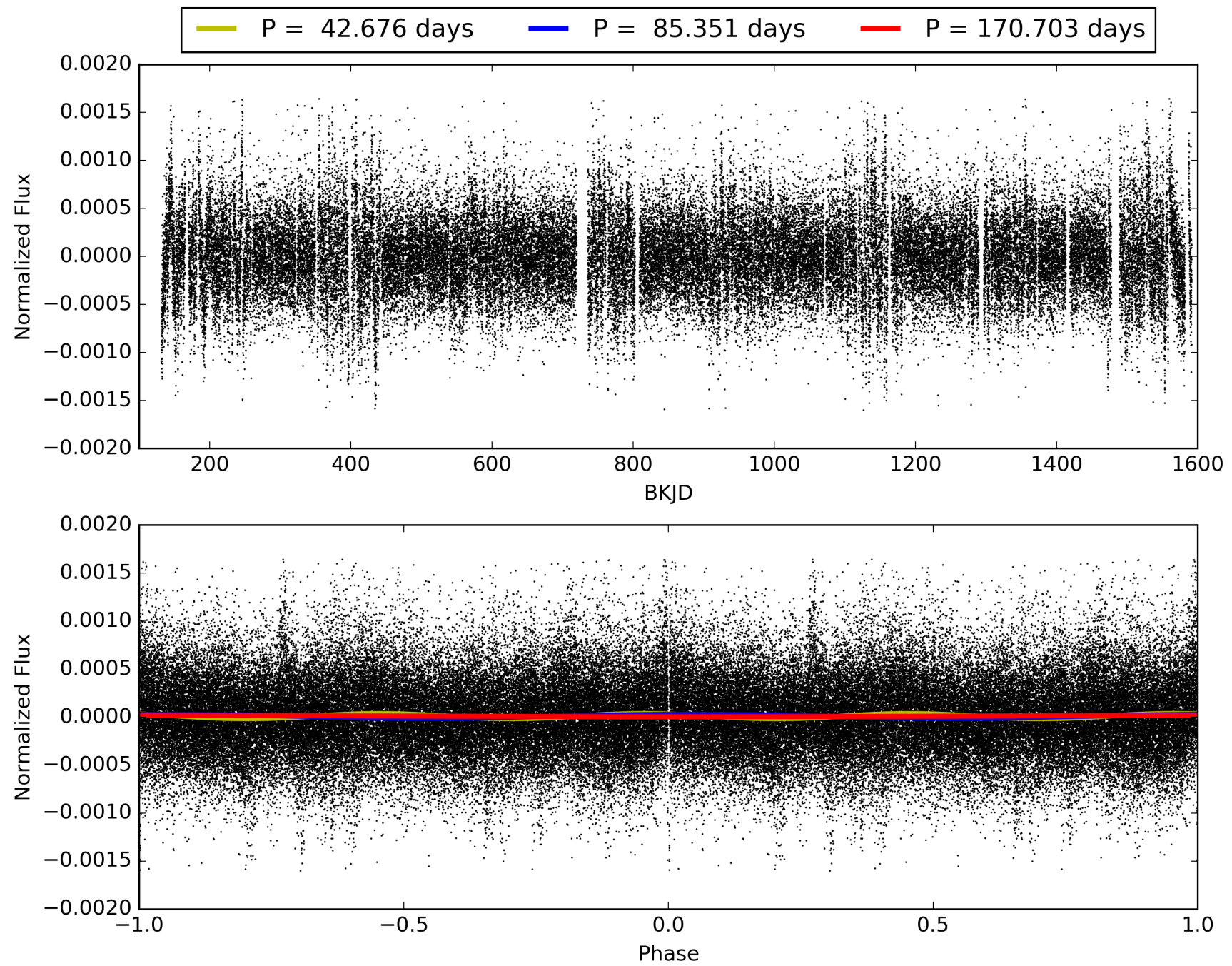
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:24:06 Z

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

# TCE 007761545-01, PDC Light Curves

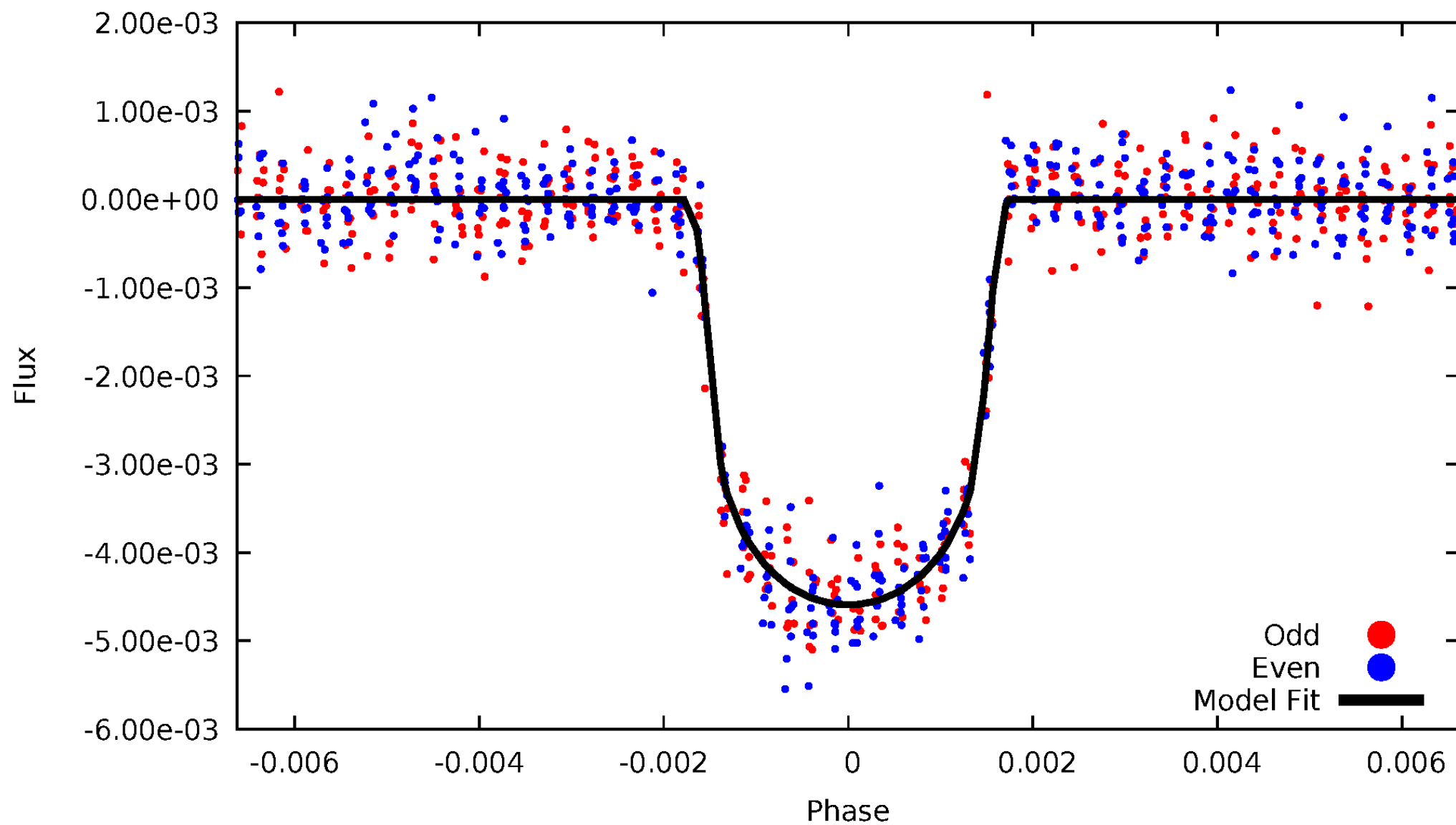


TCE 007761545-01



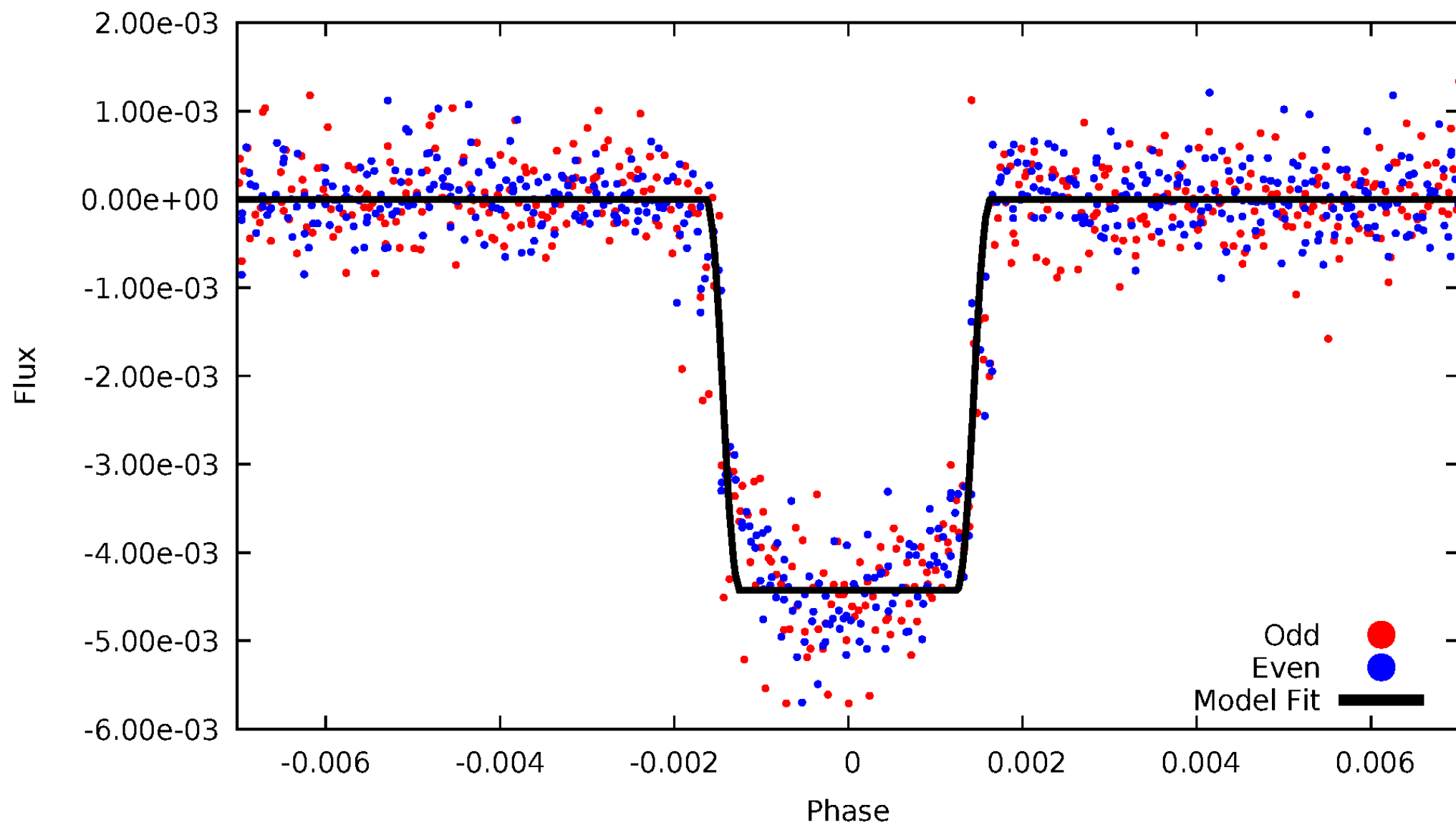
# DV Odd/Even

TCE 007761545-01



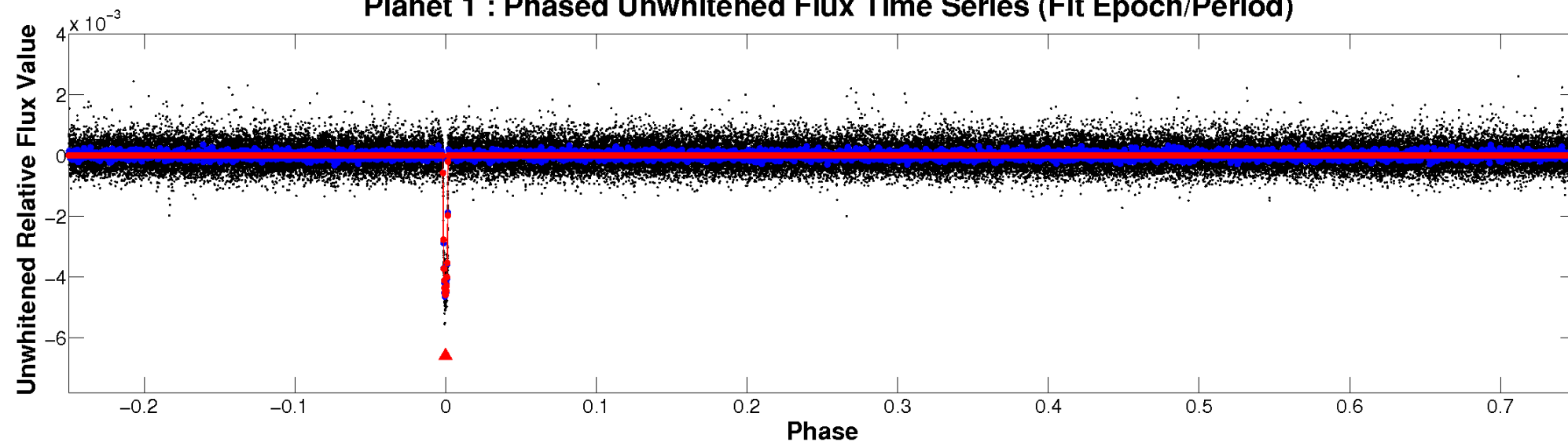
# ALT Odd/Even

TCE 007761545-01

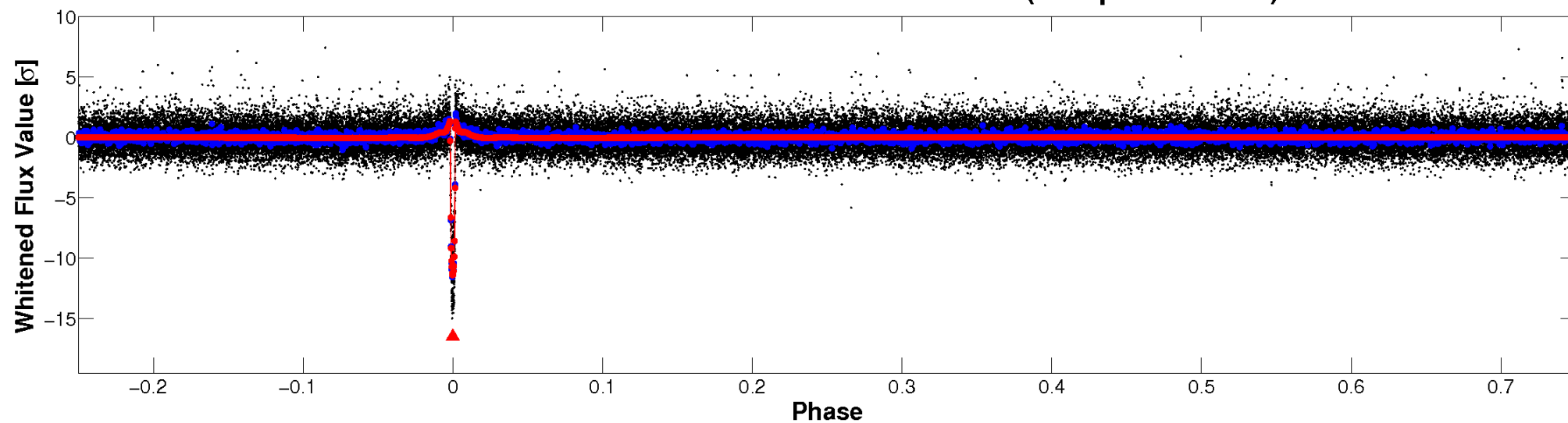


# Non-Whitened Vs. Whitened Light Curve

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



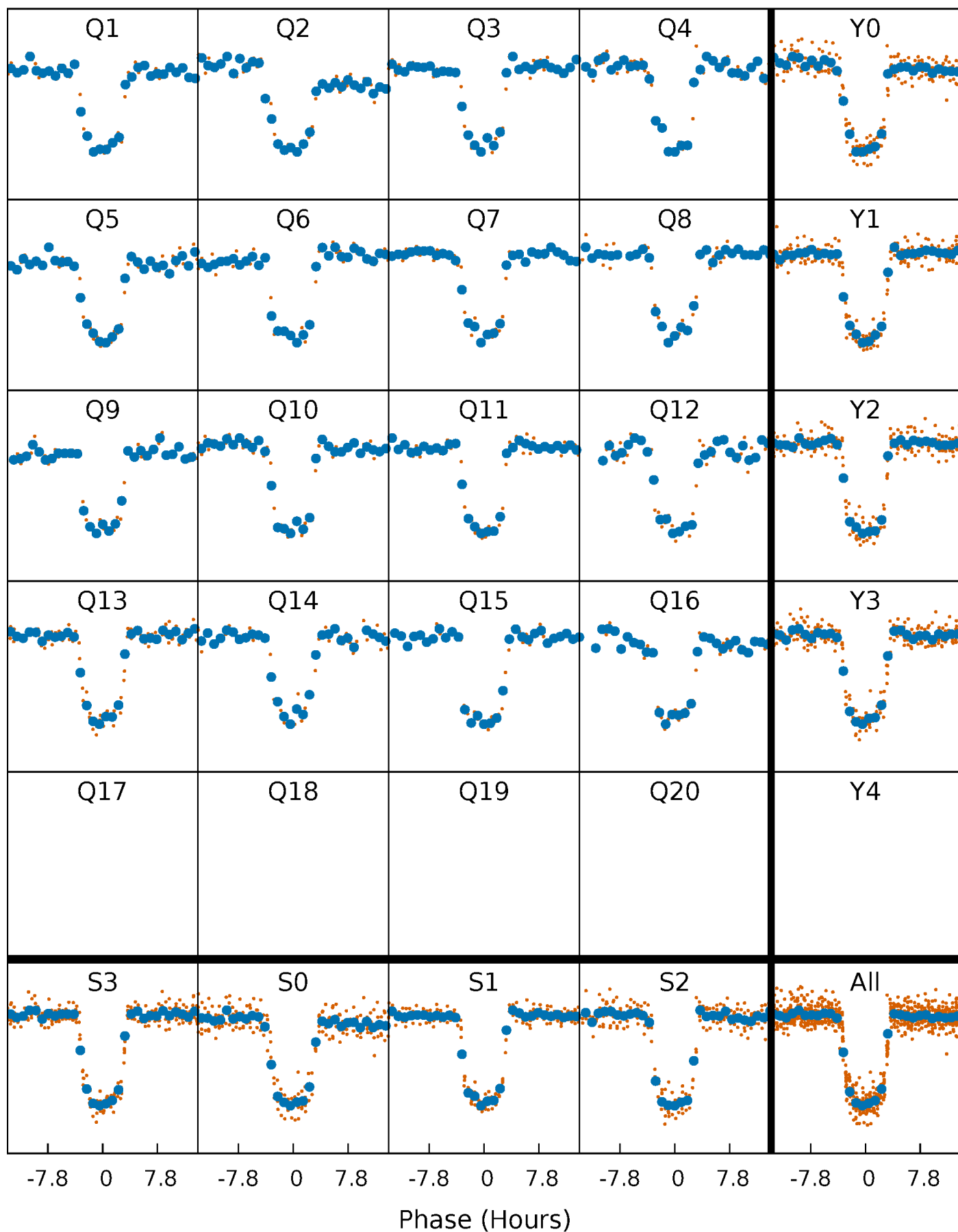
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

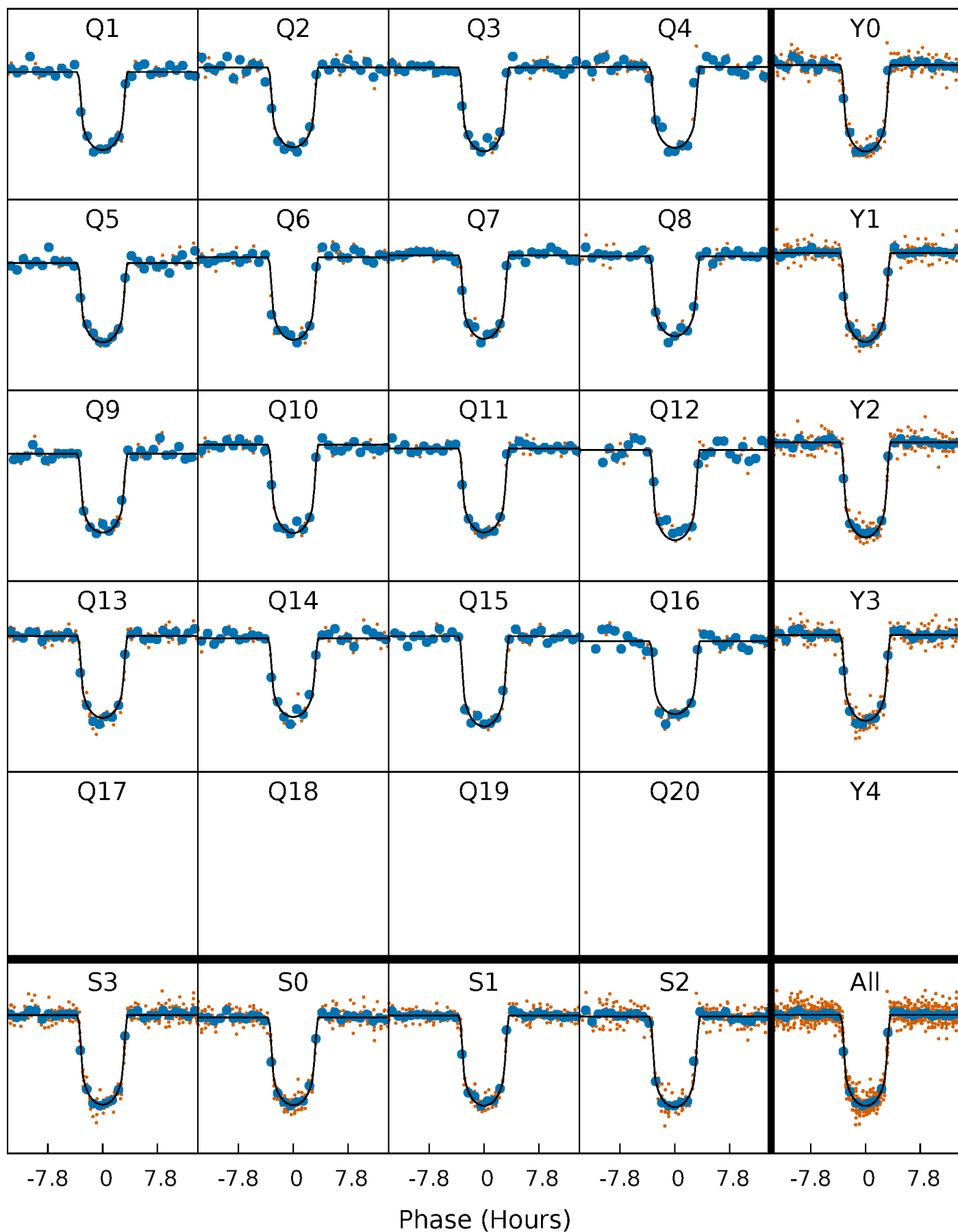
TCE 007761545-01 P= 85.351370 Days  $T_0=161.008939$  (BKJD)





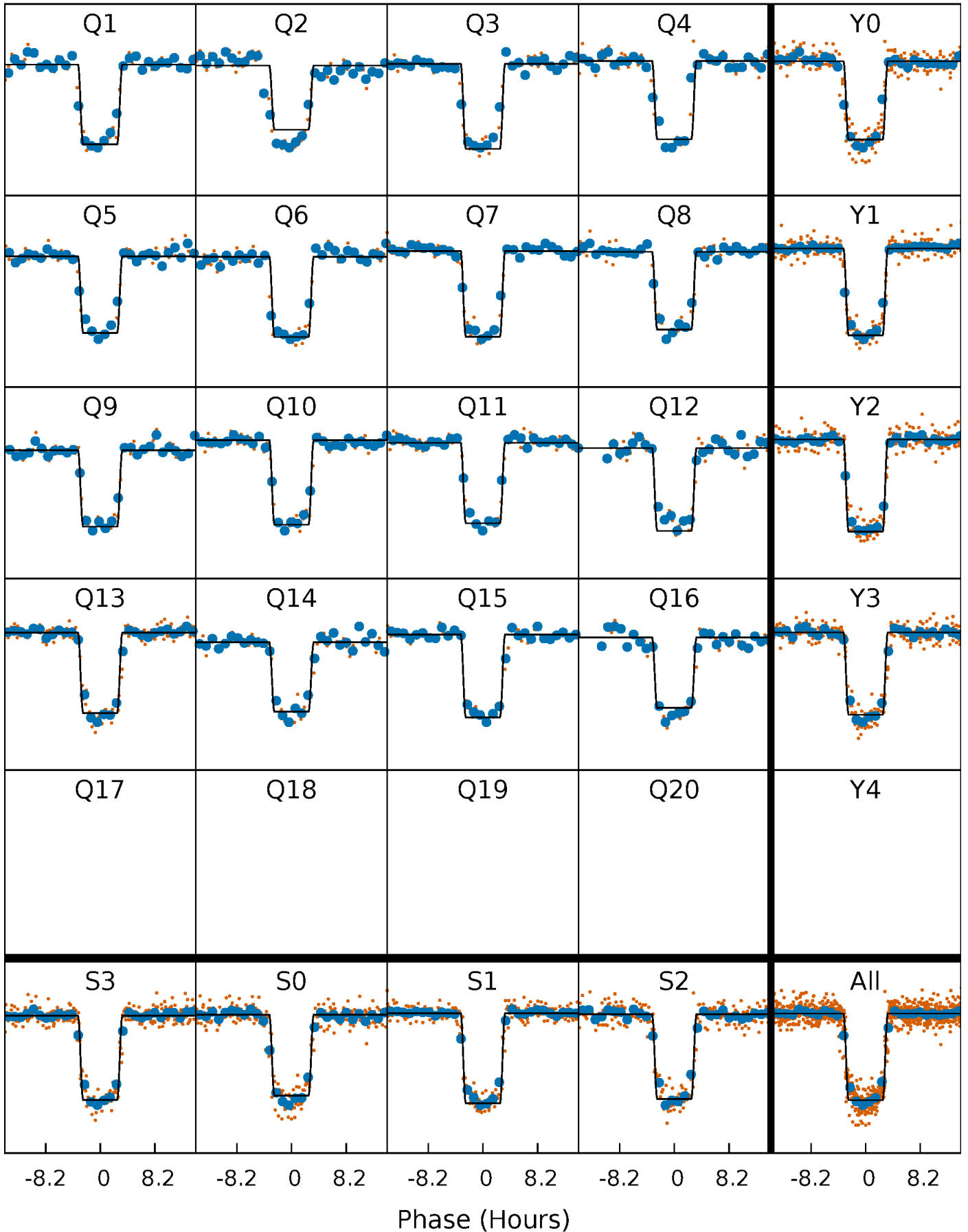
# DV Quarter-Phased Transit Curves

TCE 007761545-01 P= 85.351370 Days  $T_0=161.008939$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

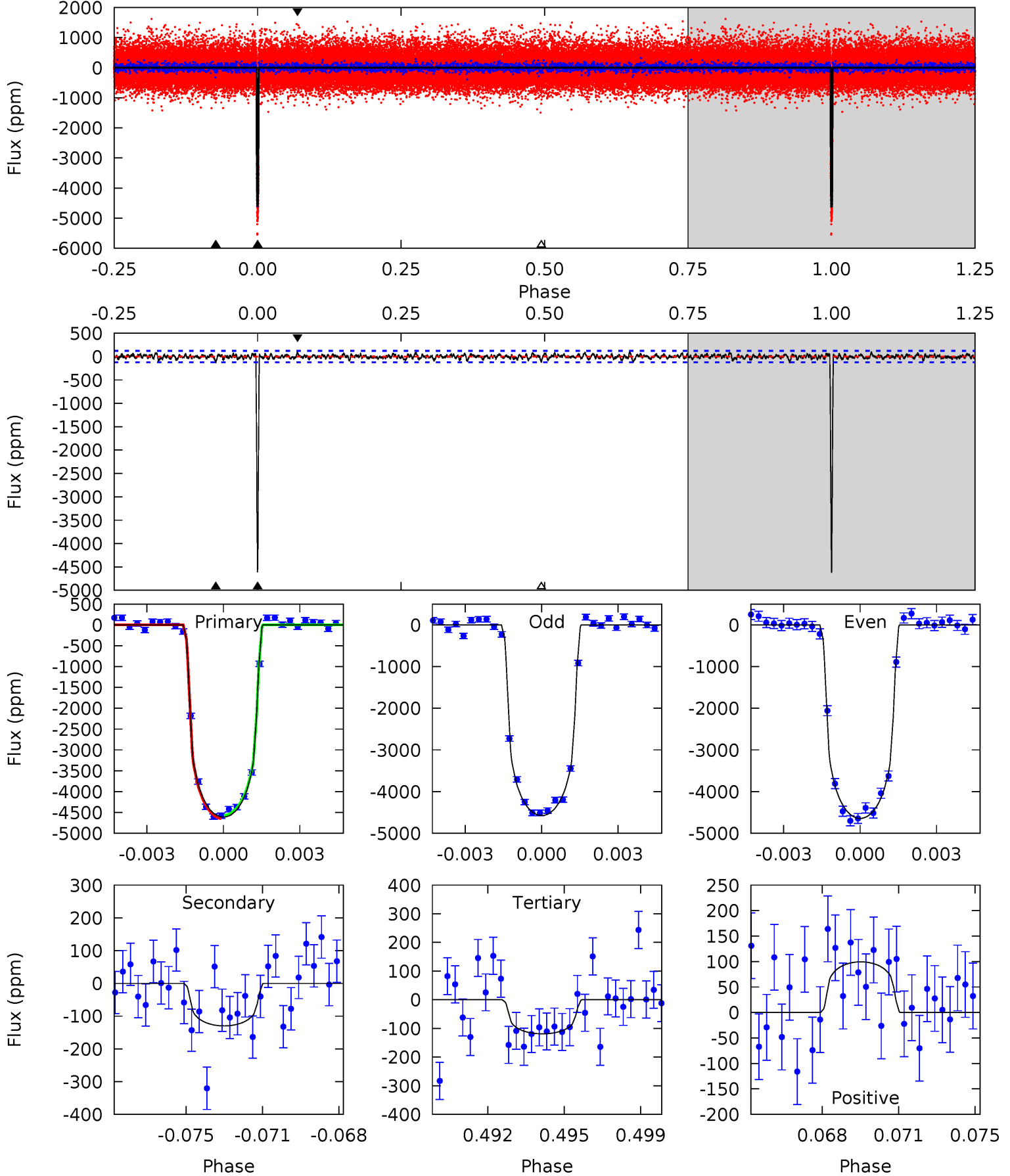
TCE 007761545-01 P= 85.349770 Days  $T_0=161.021228$  (BKJD)



# DV Model-Shift Uniqueness Test

007761545-01, P = 85.351370 Days, E = 75.657569 Days

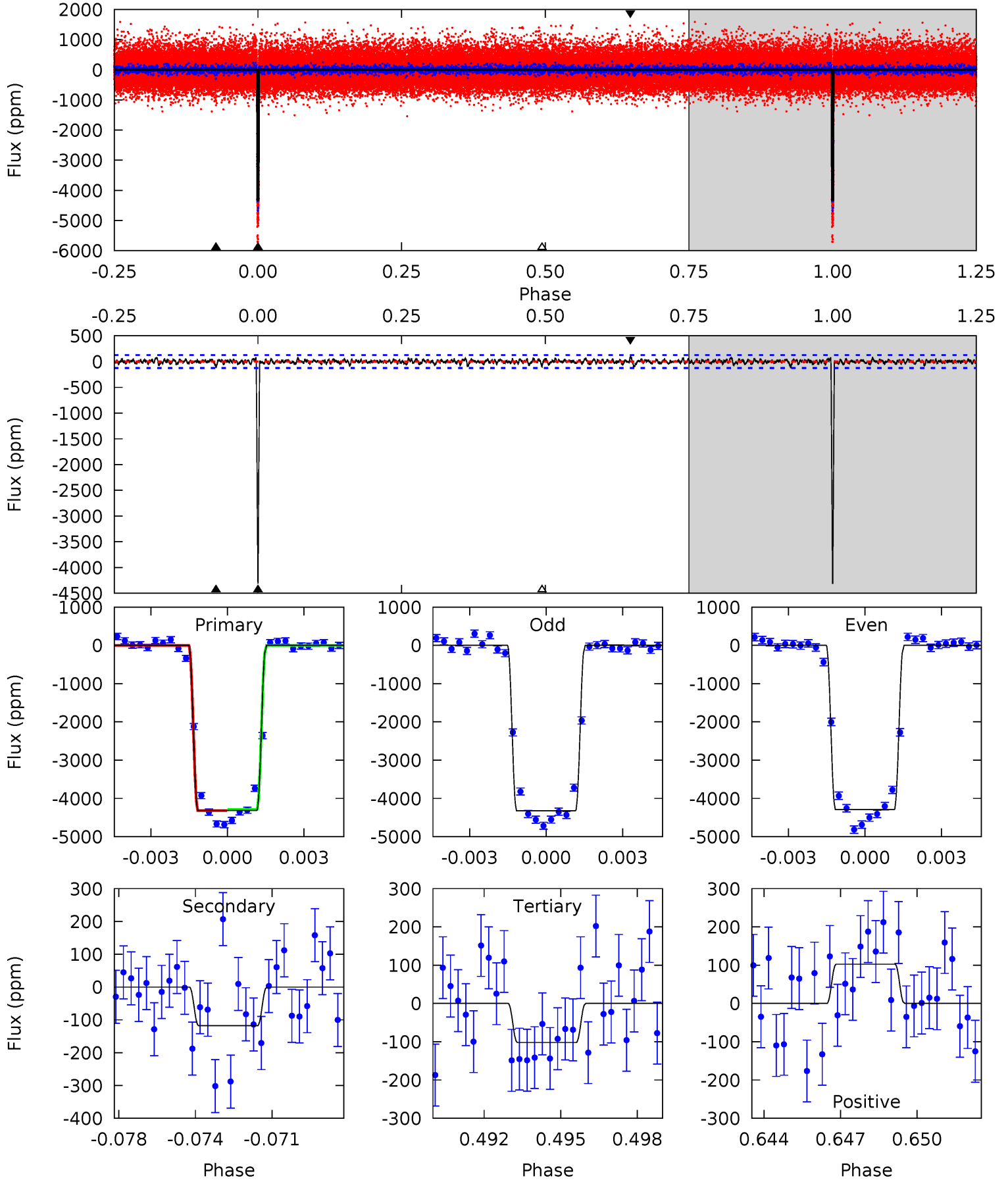
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
197.9	5.57	5.10	4.27	5.23	2.93	1.35	192.8	193.6	0.47	1.30	1.46	1.00	0.02	1.64



# Alt Model-Shift Uniqueness Test

007761545-01,  $P = 85.349770$  Days,  $E = 75.671458$  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
178.4	4.88	4.22	4.24	5.24	2.94	1.12	174.2	174.2	0.67	0.64	0.62	1.02	0.02	0.64



### Stellar Parameters For KIC 007761545

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5584^{+75}_{-83}$	$4.478^{+0.045}_{-0.113}$	$0.140^{+0.150}_{-0.150}$	$0.938^{+0.127}_{-0.054}$	$0.966^{+0.050}_{-0.055}$	$1.647^{+0.296}_{-0.527}$
	+1%/-1%	+1%/-3%	+107%/-107%	+14%/-6%	+5%/-6%	+18%/-32%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 007761545-01 / KOI 1472.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-130 \pm 23$	$6.45^{+0.59}_{-0.47}$	$548^{+21}_{-14}$	$3044^{+88}_{-90}$	$240^{+55}_{-52}$
Alt.	$-118 \pm 24$	$6.91^{+0.61}_{-0.46}$	$548^{+22}_{-15}$	$2941^{+90}_{-101}$	$188^{+51}_{-44}$

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

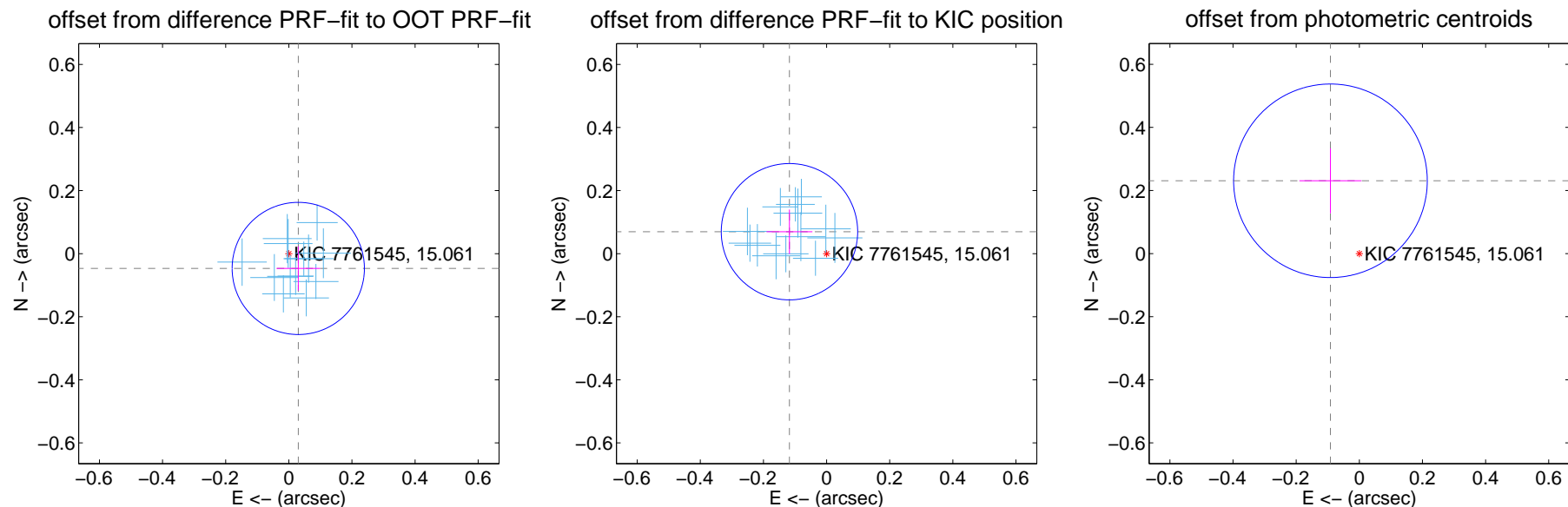
## DV Centroid Data

Supplemental centroid analysis for 007761545-01. Kepler magnitude: 15.06. Transit SNR 144.81

There are 13 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.056 \pm 0.070$	0.80	$-0.030 \pm 0.069$	$-0.047 \pm 0.070$
PRF-fit source offset from KIC position	$0.137 \pm 0.072$	1.90	$0.118 \pm 0.073$	$0.070 \pm 0.070$
photometric centroid source offset	$0.25 \pm 0.10$	2.43	$0.09 \pm 0.10$	$0.23 \pm 0.10$



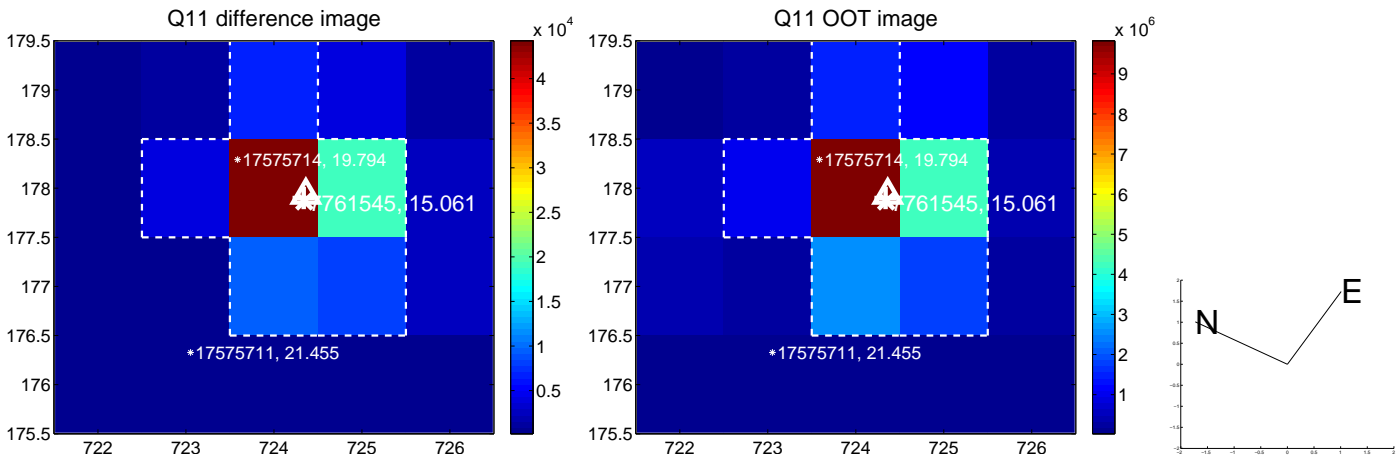
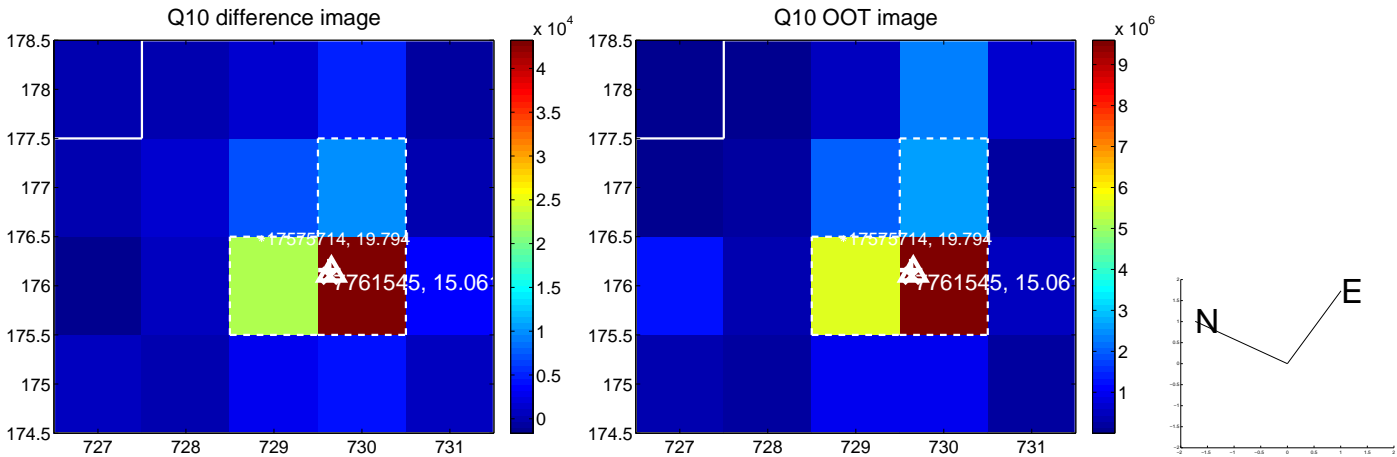
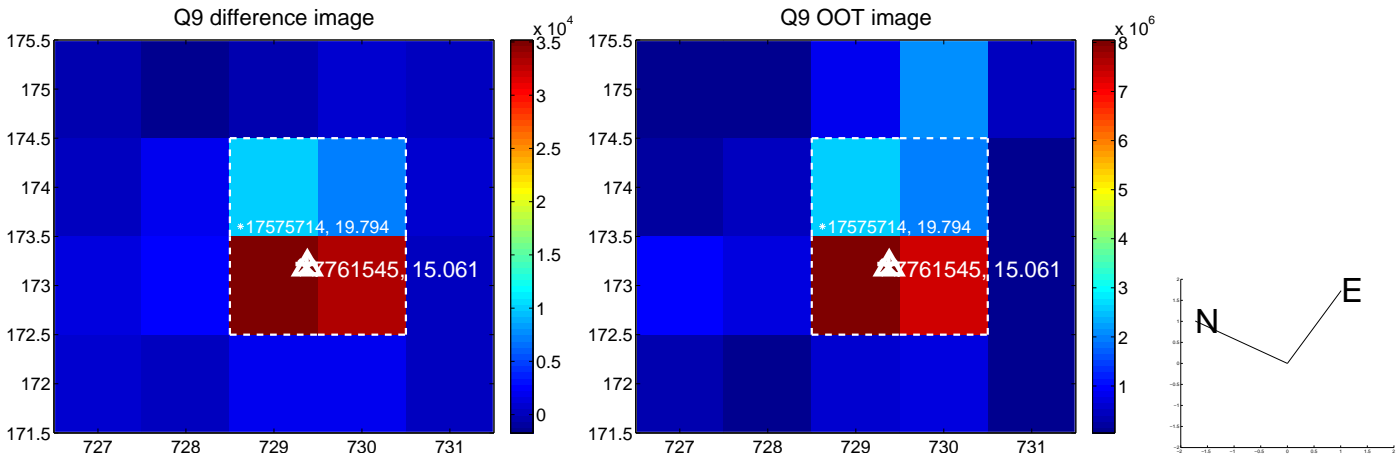
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



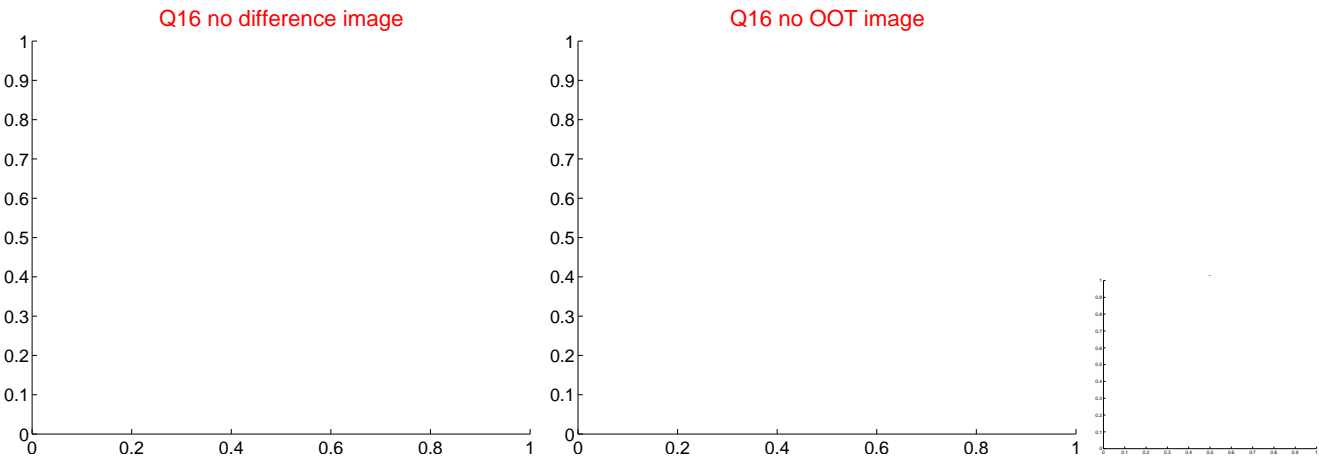
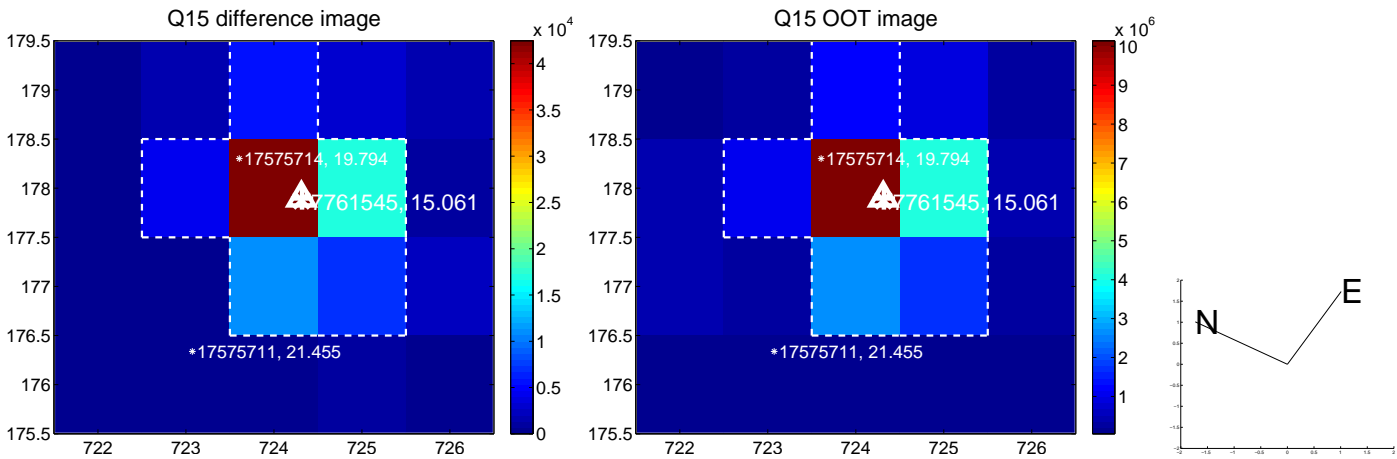
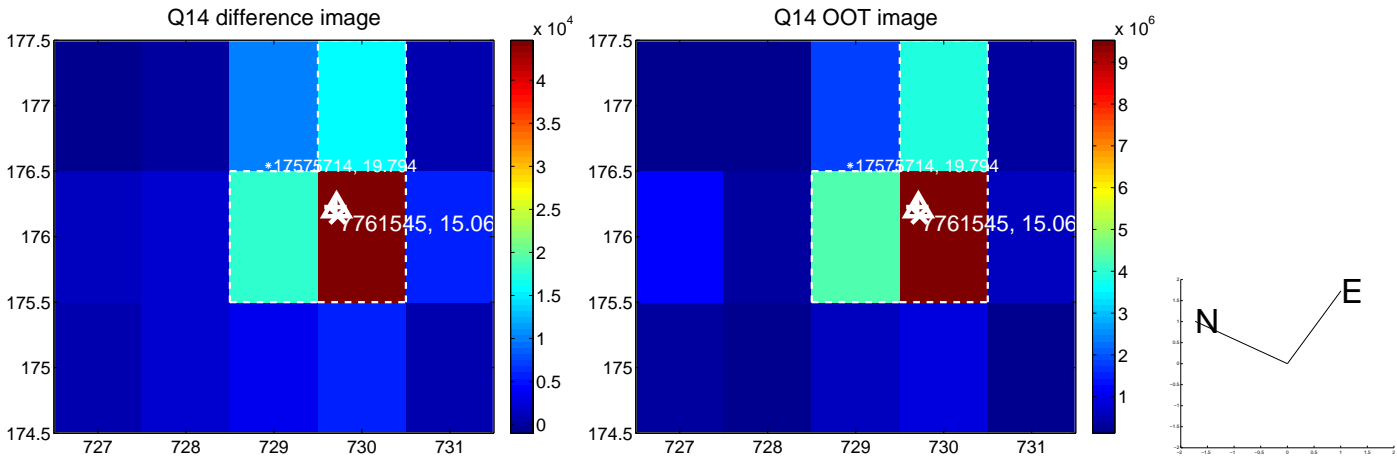
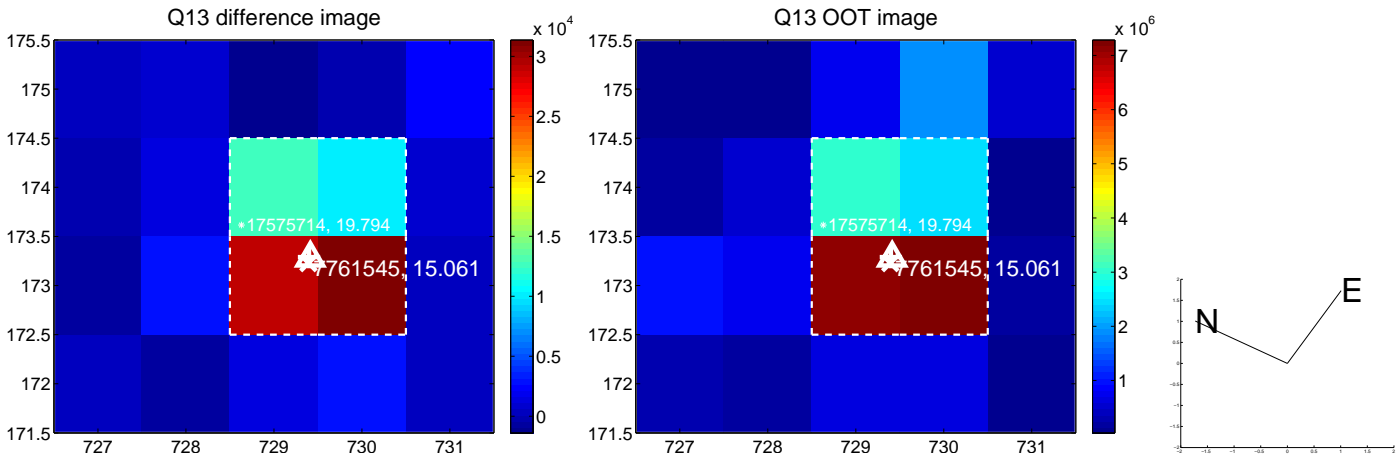




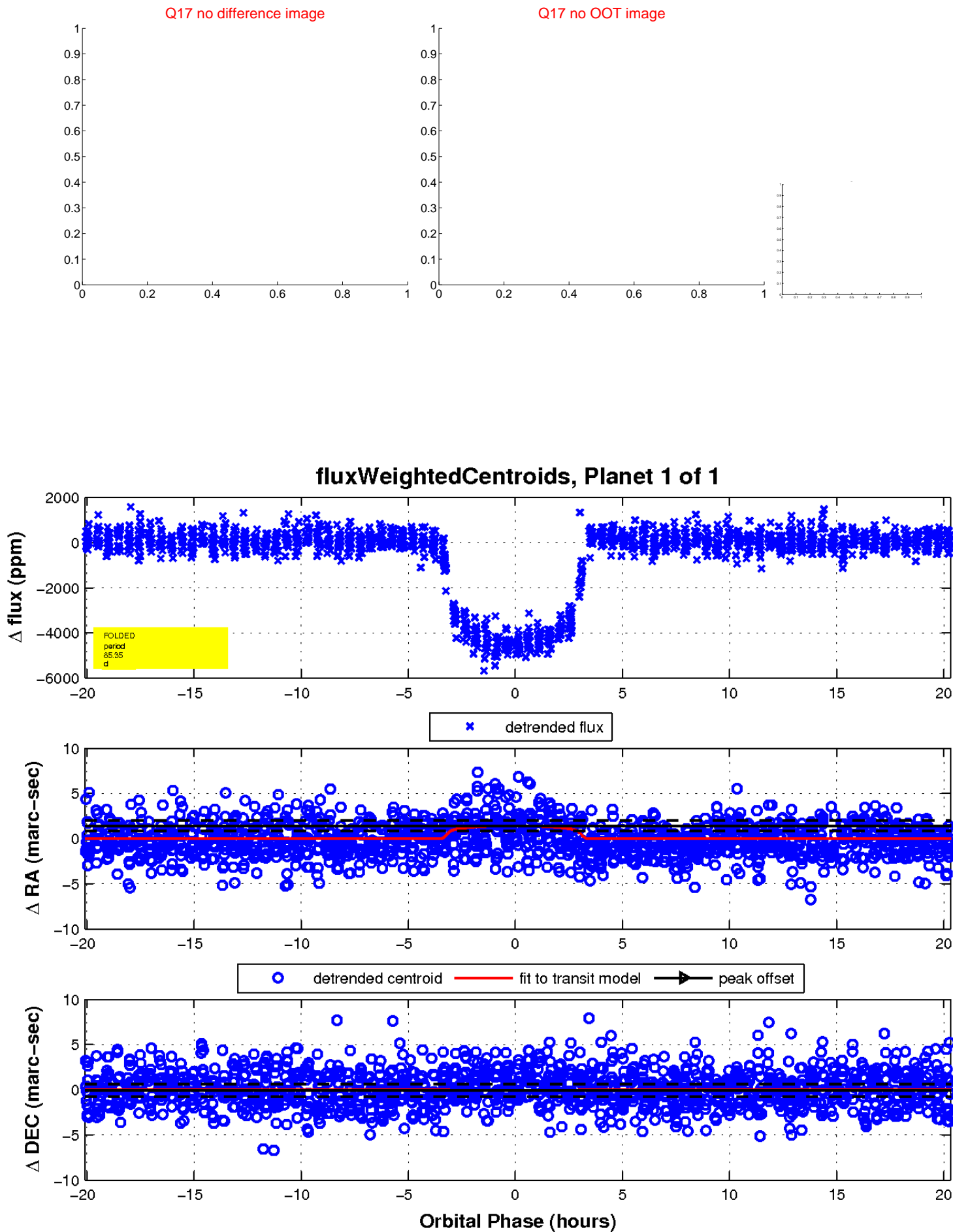
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

