

# KIC 007118545

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007118545-01	OBS	6831.01	14.797219	144.695956	252493.2	7.607	15465.7	9663.6	0.93	6343	47.69	91.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007118545-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_ALT

**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.

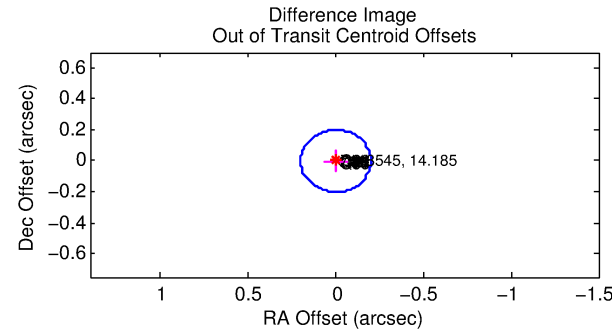
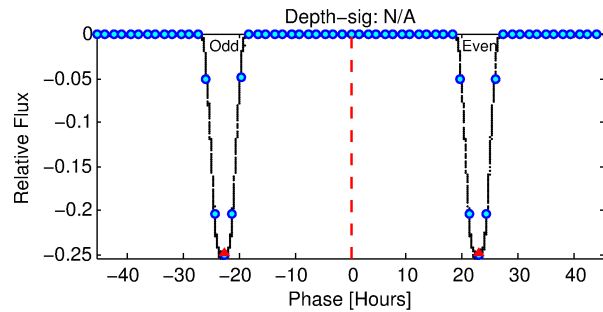
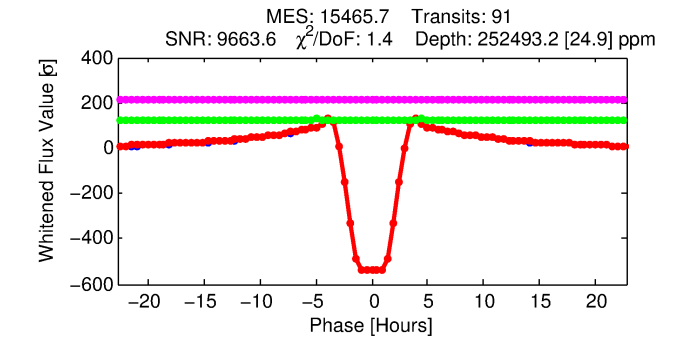
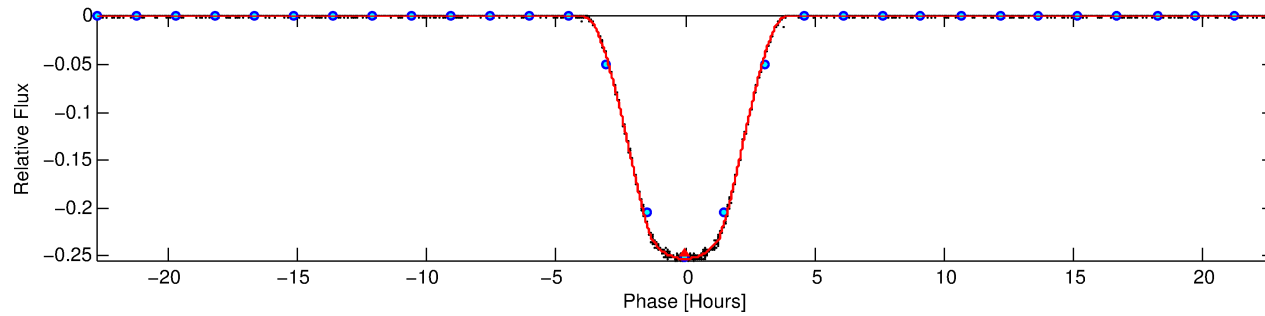
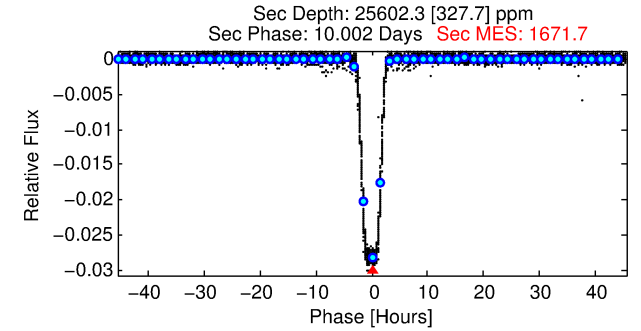
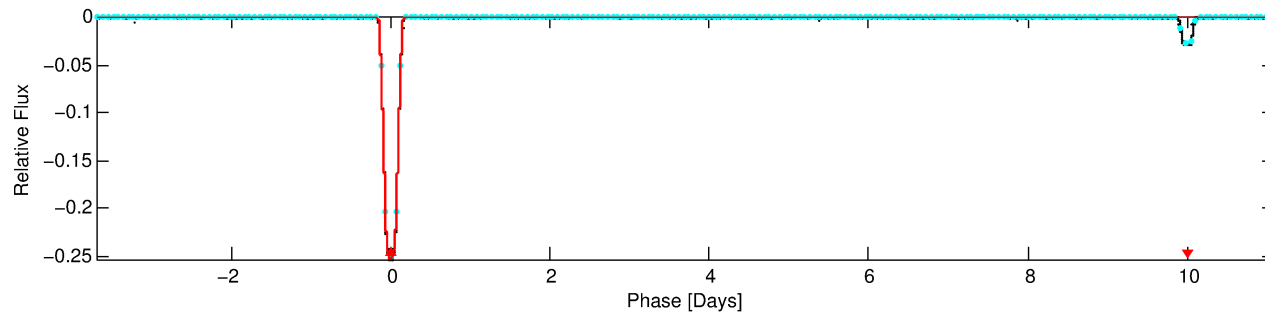
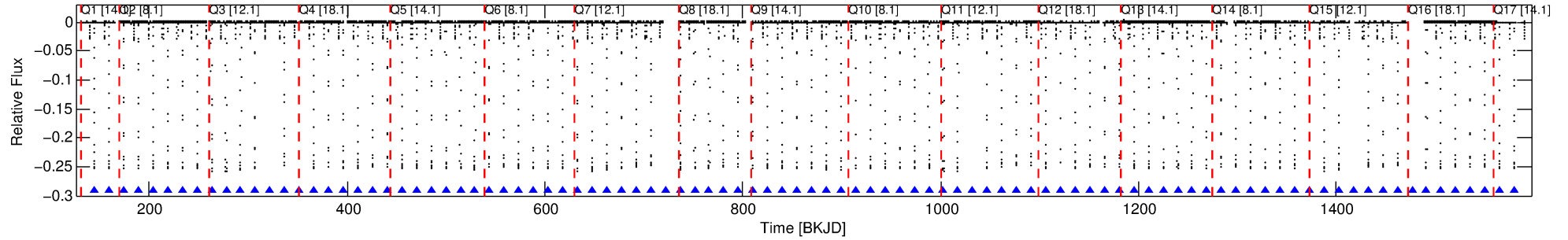
## Ephemeris Match Information For 007118545-01

No Significant Match Found

# DV One-Page Summary

KIC: 7118545 Candidate: 1 of 1 Period: 14.797 d  
KOI: K06831.01 Corr: 1.000

Kp: 14.19 R\*: 0.93 Rs Teff: 6343.0 K Logg: 4.50 Fe/H: -0.520



## DV Fit Results:

Period = 14.79722 [0.00000] d  
Epoch = 144.6960 [0.0000] BKJD  
Rp/R\* = 0.4694 [0.0000]  
a/R\* = 21.72 [0.00]  
b = 0.16 [0.00]  
Seff = 91.02 [36.16]  
Teff = 788 [78] K  
Rp = 47.69 [14.04] Re  
a = 0.1175 [0.0297] AU  
Ag = 85.52 [32.07] [2.64σ]  
Teffp = 3703 [123] K [20.05σ]

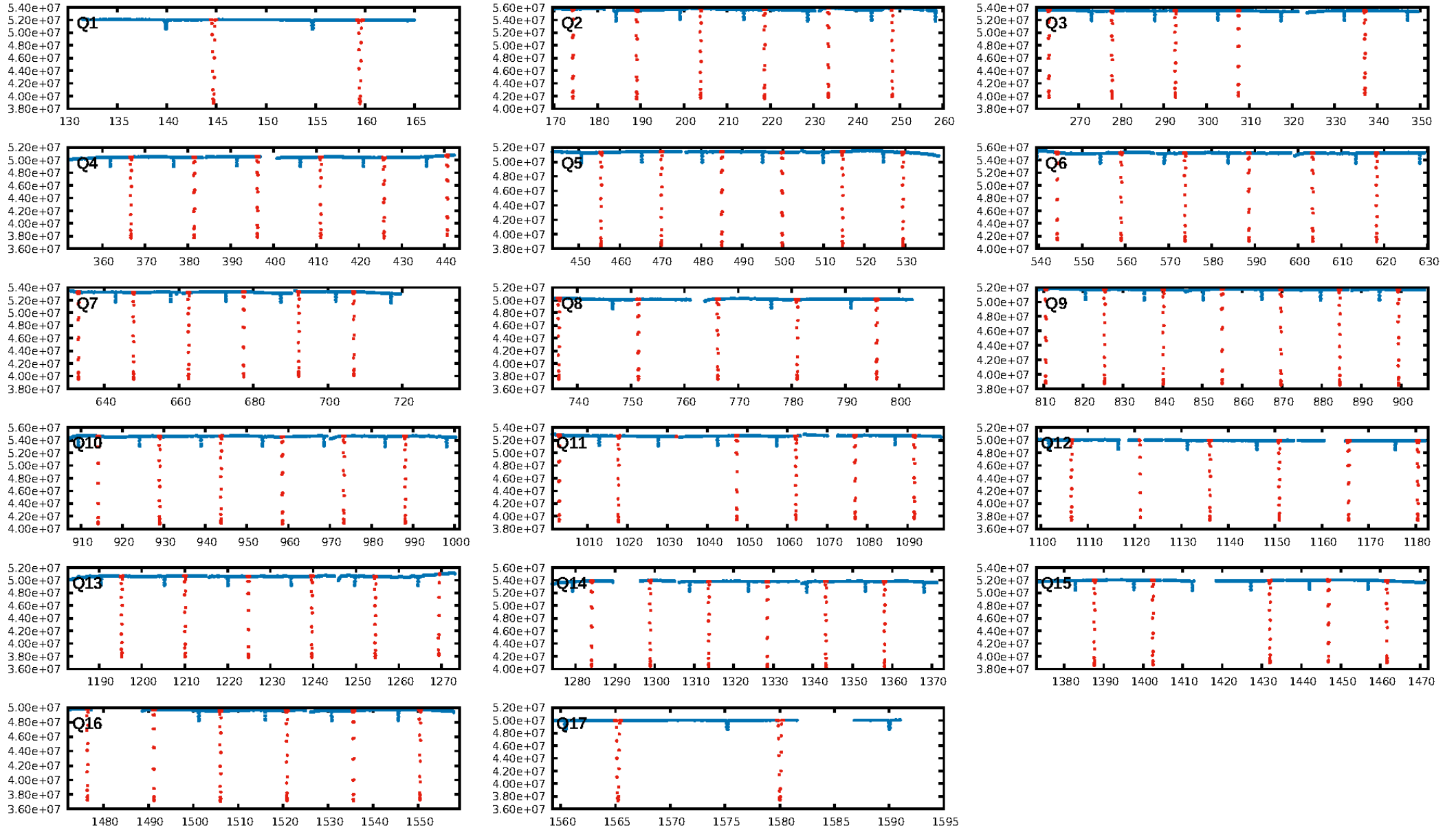
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [87/87]  
GhostDiagnostic-chr: 7.005  
Centroid-sig: 0.0%  
Centroid-so: 0.178 arcsec [351.79σ]  
OotOffset-rm: 0.002 arcsec [0.03σ]  
KicOffset-rm: 0.066 arcsec [0.99σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

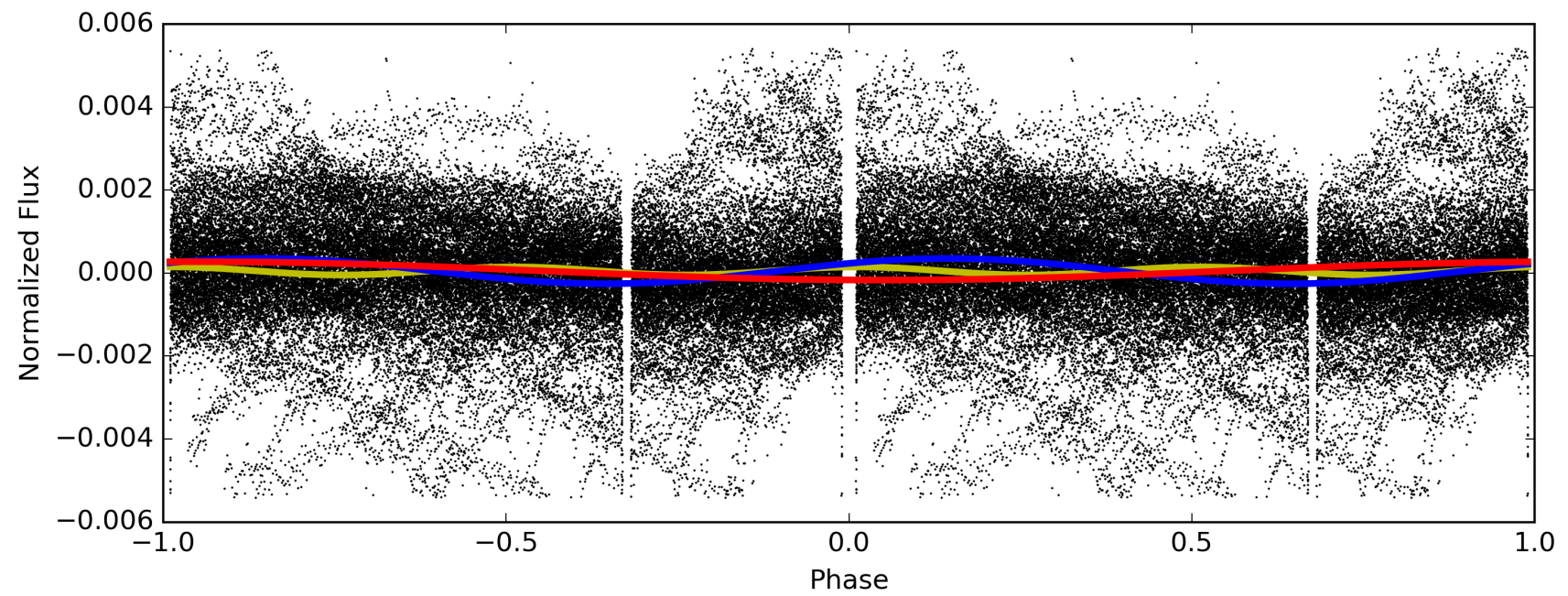
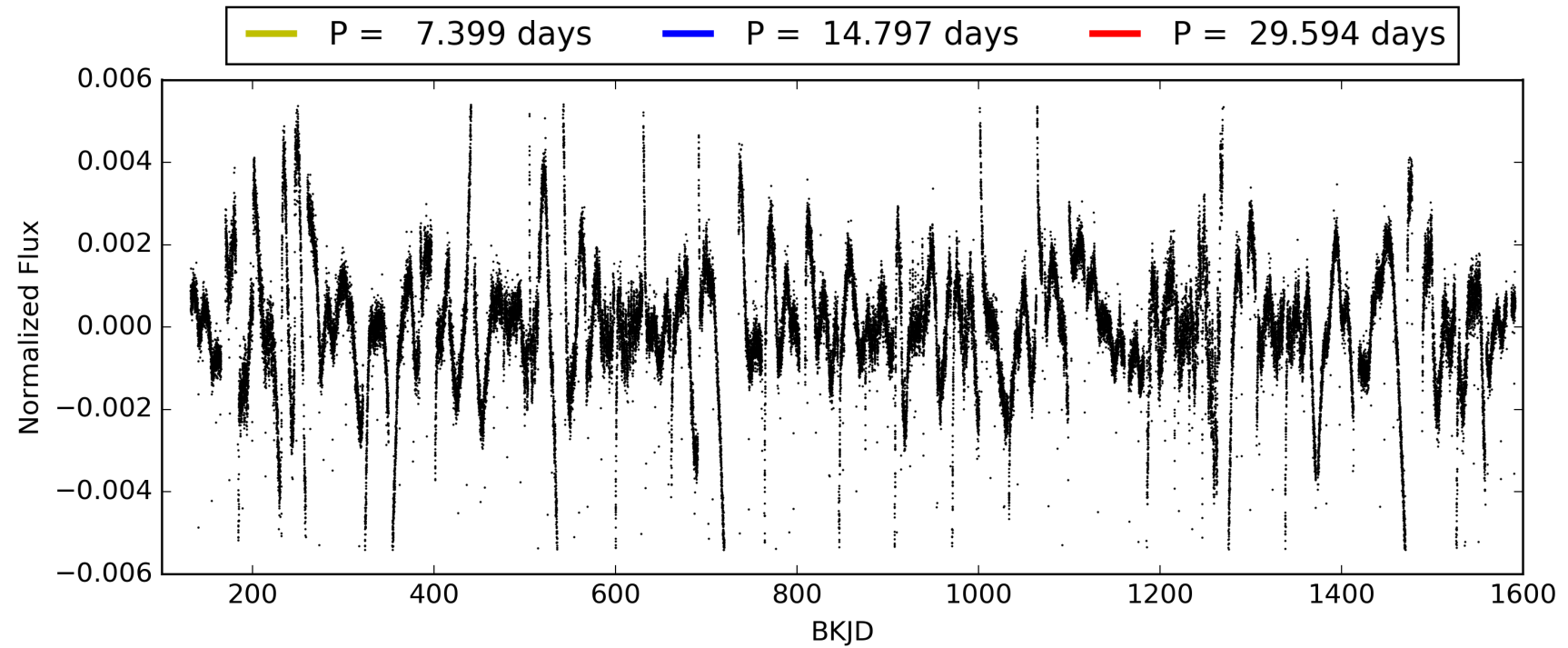
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:29:01 Z

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

# TCE 007118545-01, PDC Light Curves

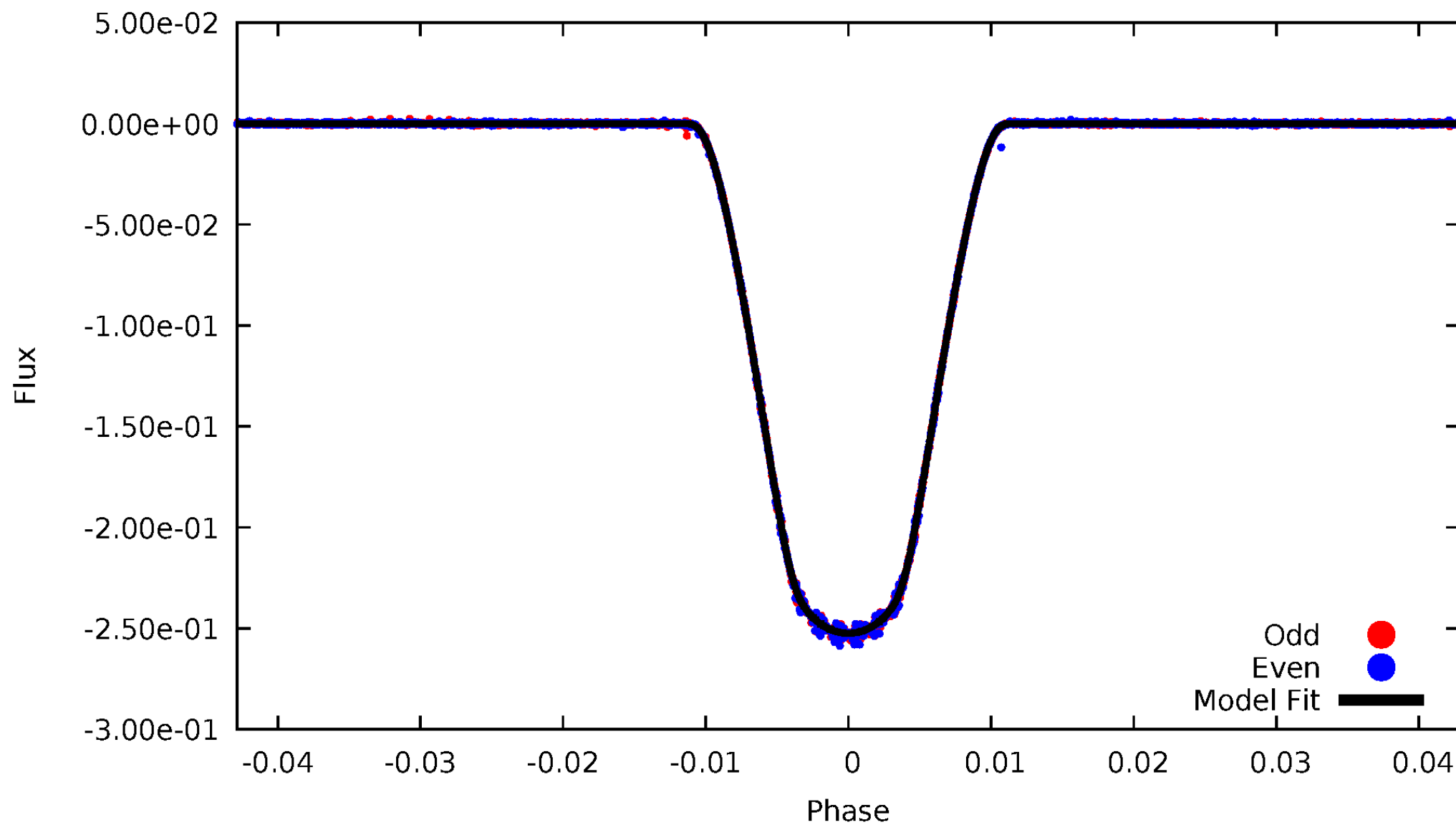


TCE 007118545-01



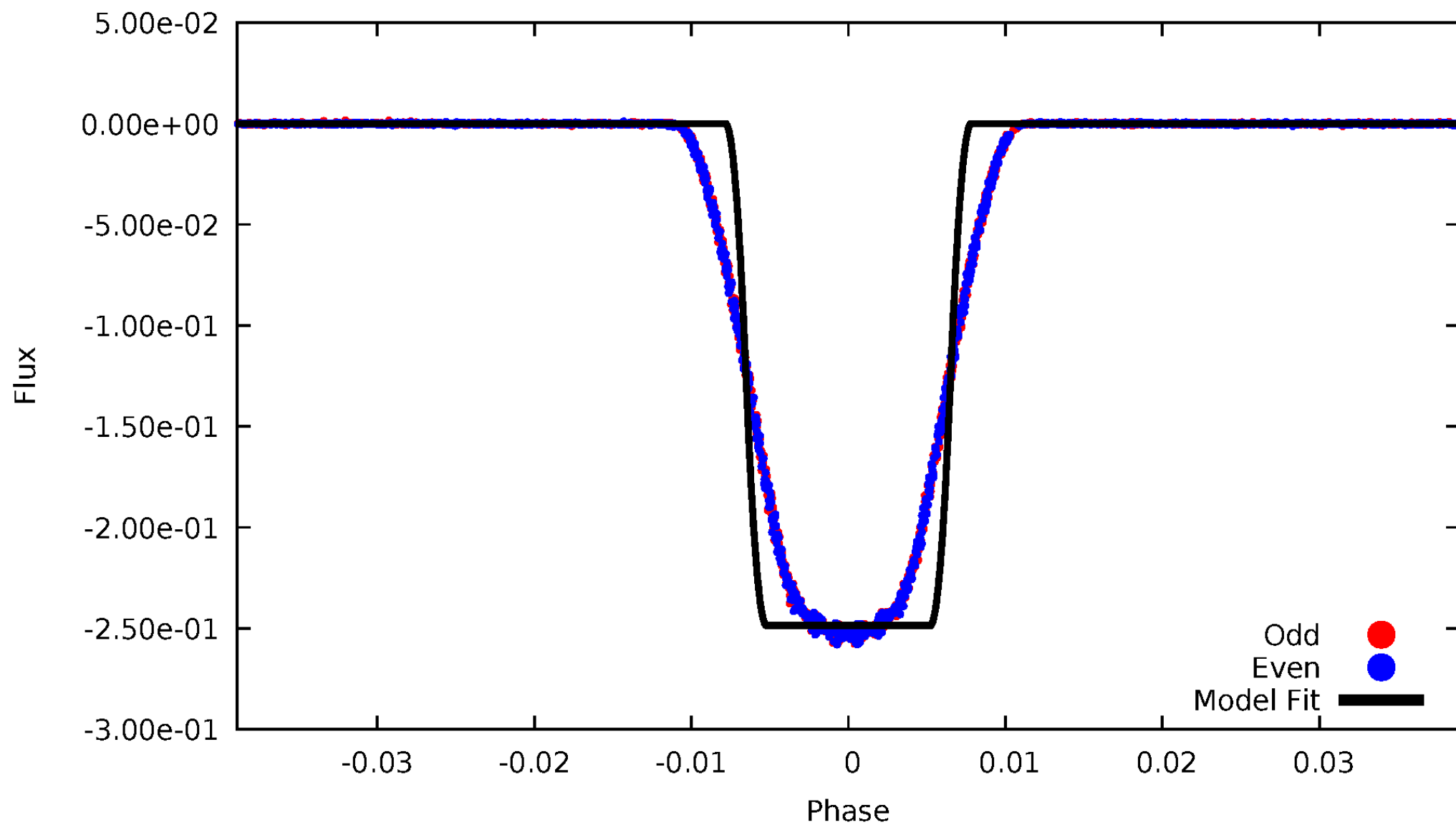
# DV Odd/Even

TCE 007118545-01



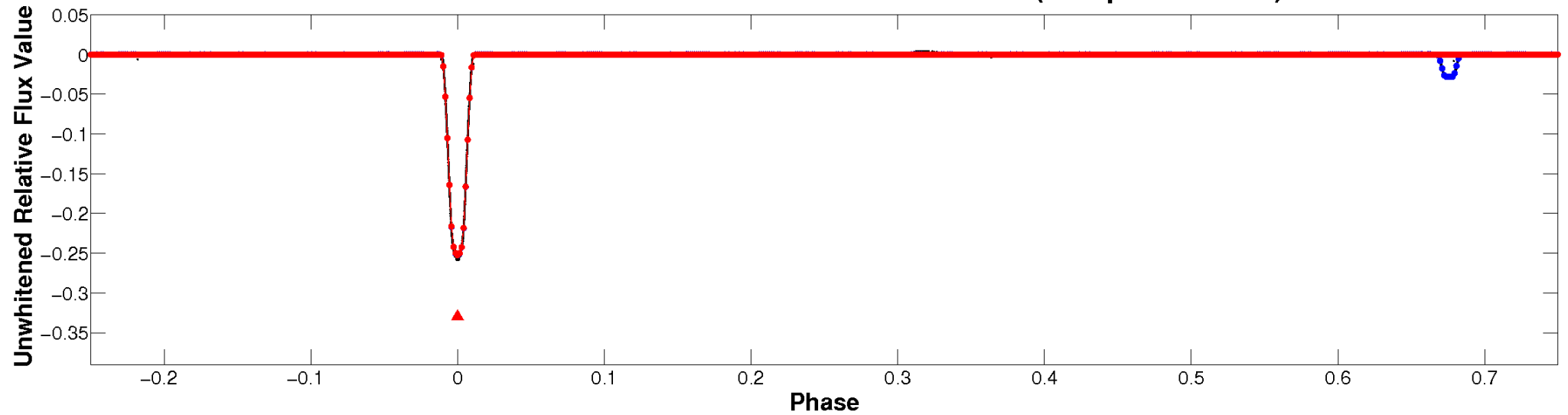
# ALT Odd/Even

TCE 007118545-01

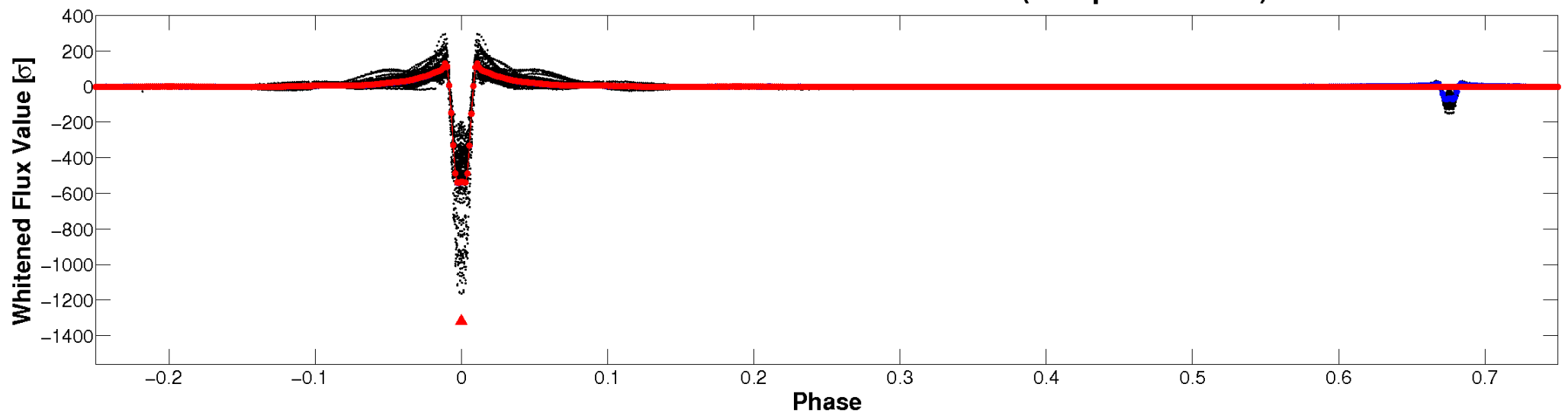


# Non-Whitened Vs. Whitened Light Curve

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

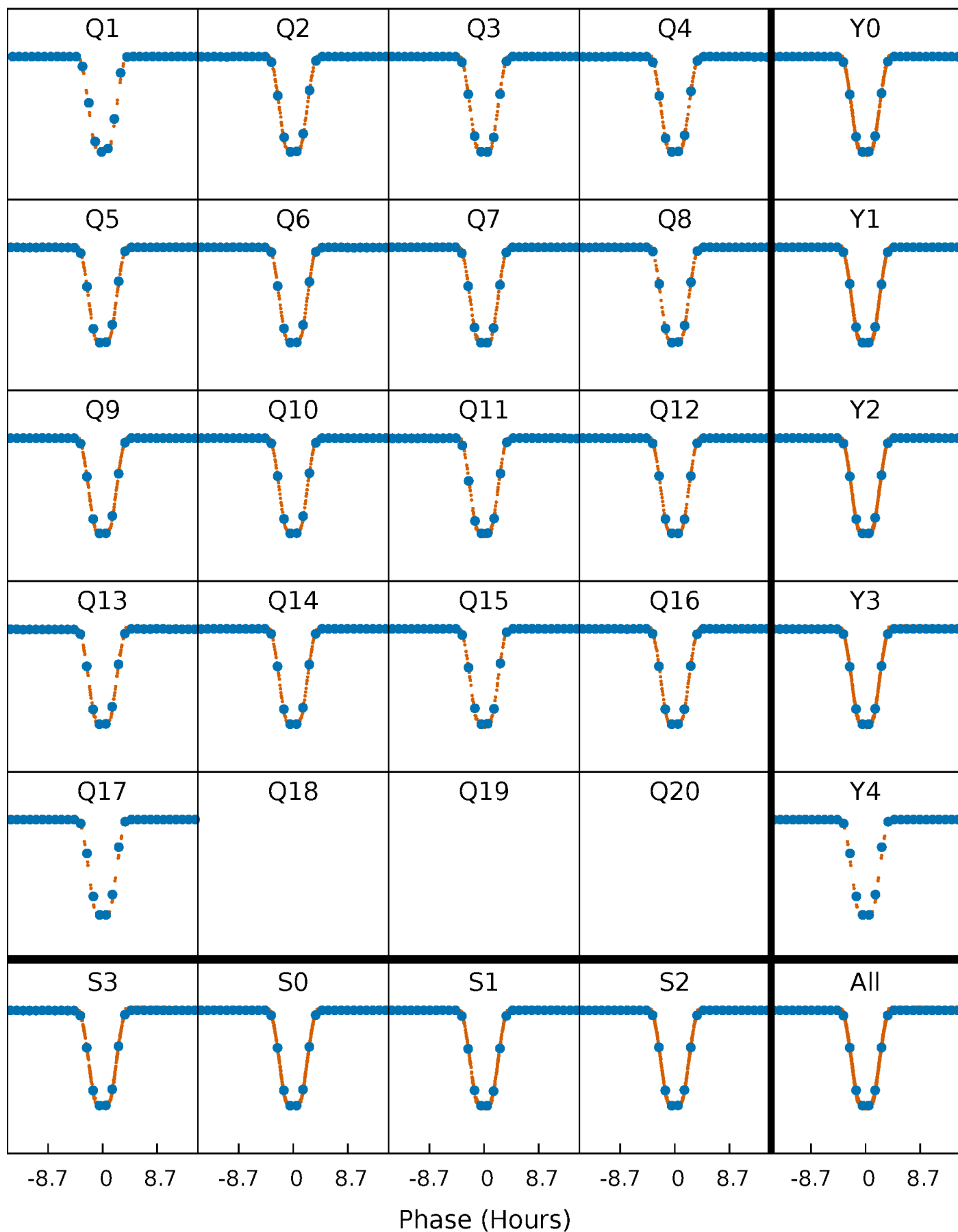


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

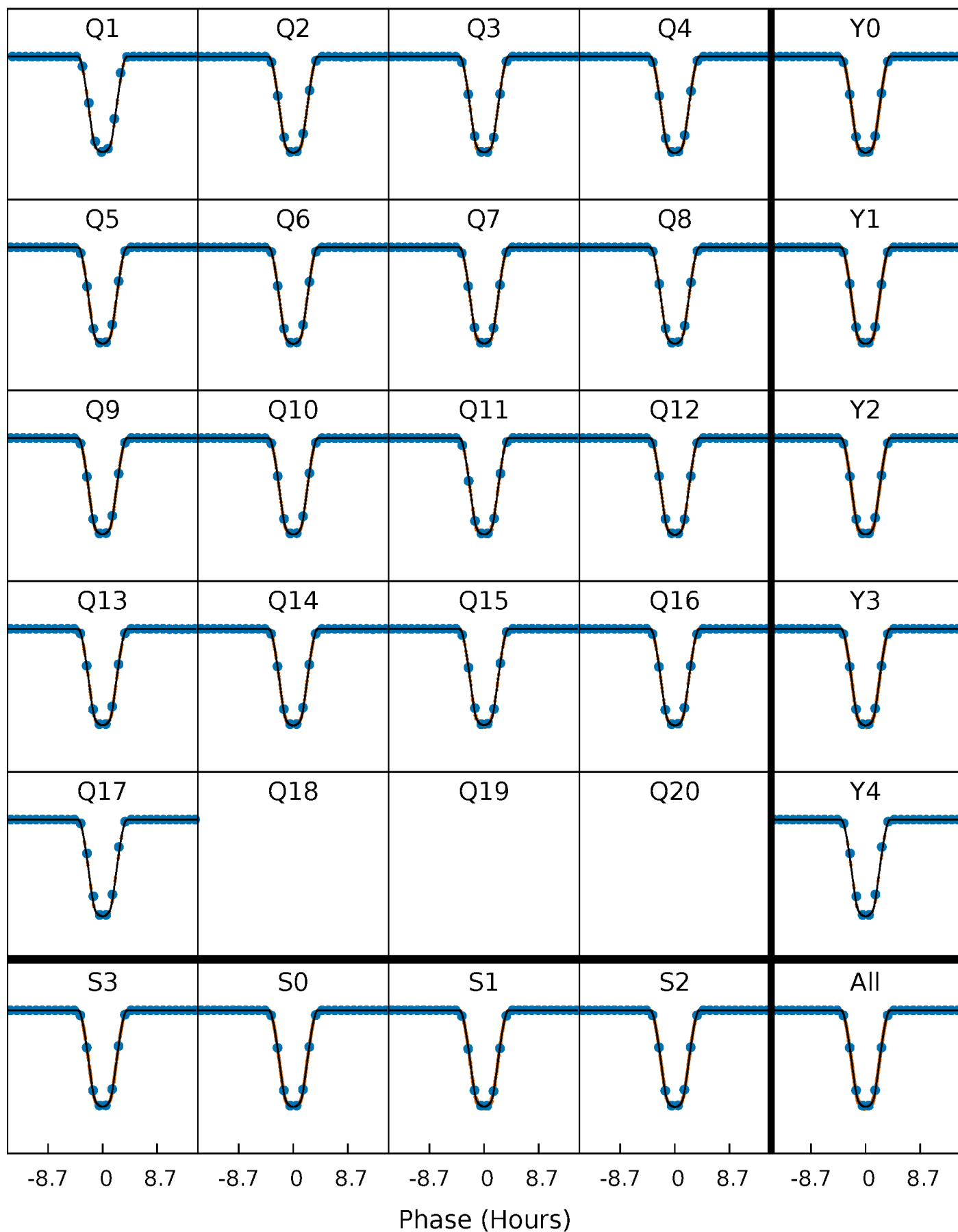
TCE 007118545-01 P= 14.797219 Days  $T_0=144.695956$  (BKJD)





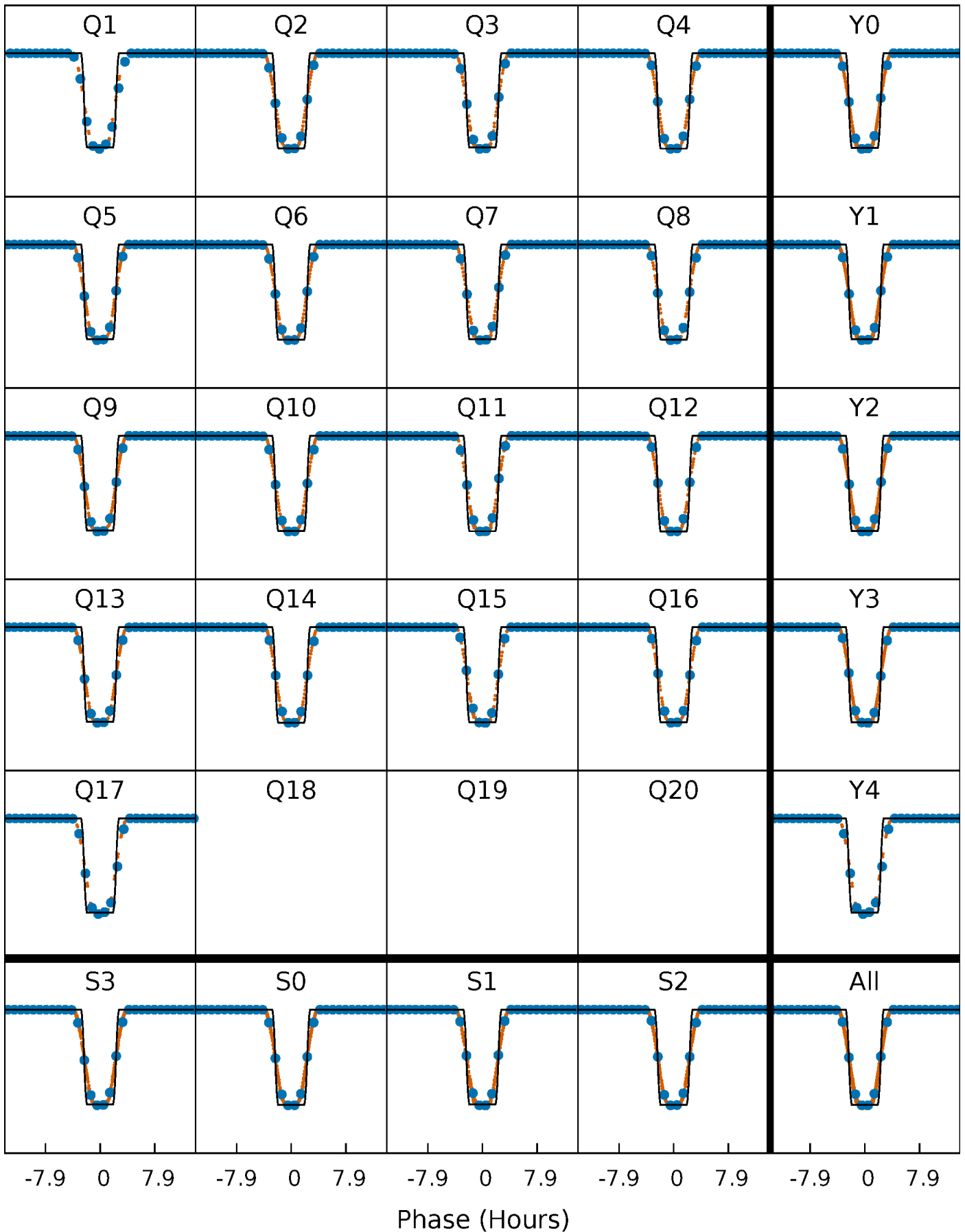
# DV Quarter-Phased Transit Curves

TCE 007118545-01 P= 14.797219 Days  $T_0=144.695956$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

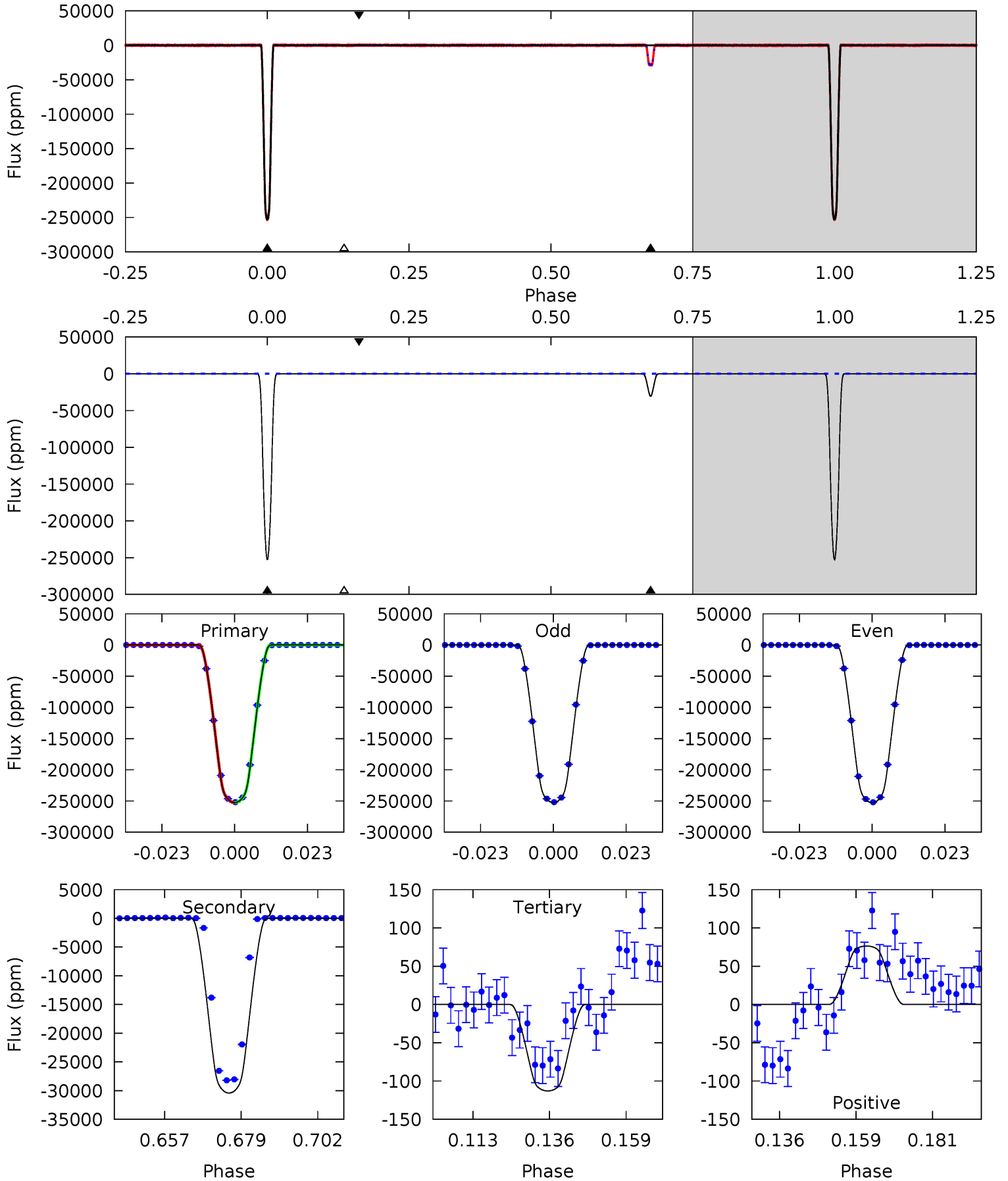
TCE 007118545-01 P= 14.797170 Days  $T_0=144.698335$  (BKJD)



# DV Model-Shift Uniqueness Test

007118545-01, P = 14.797219 Days, E = 129.898737 Days

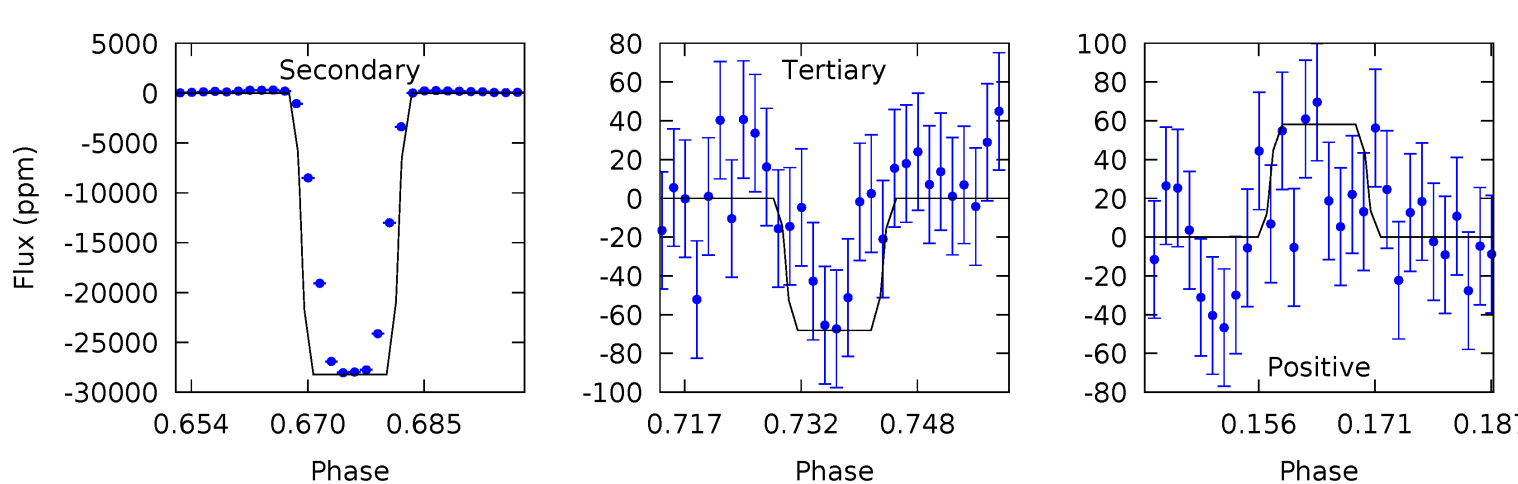
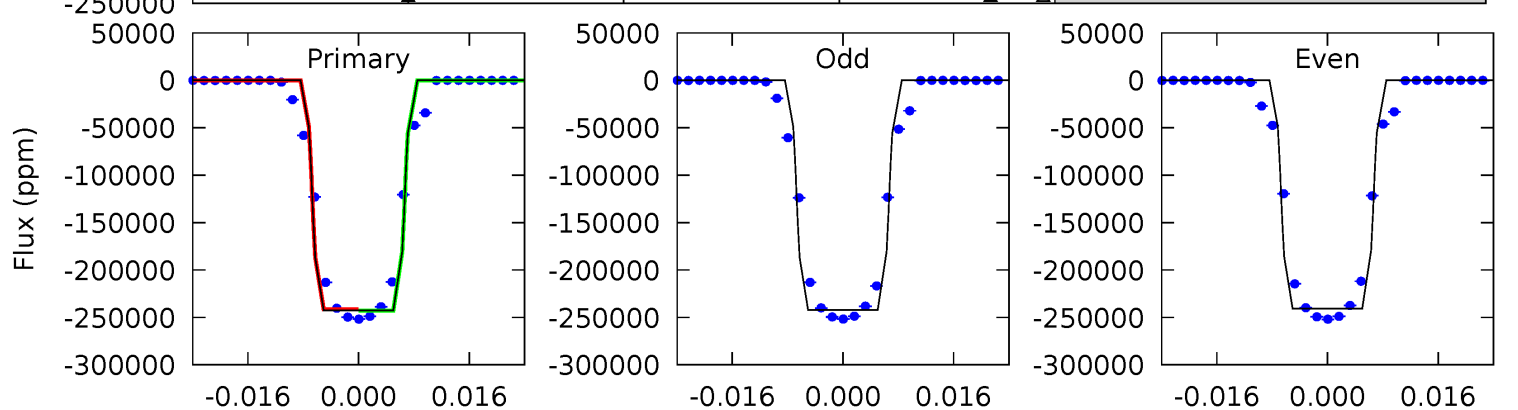
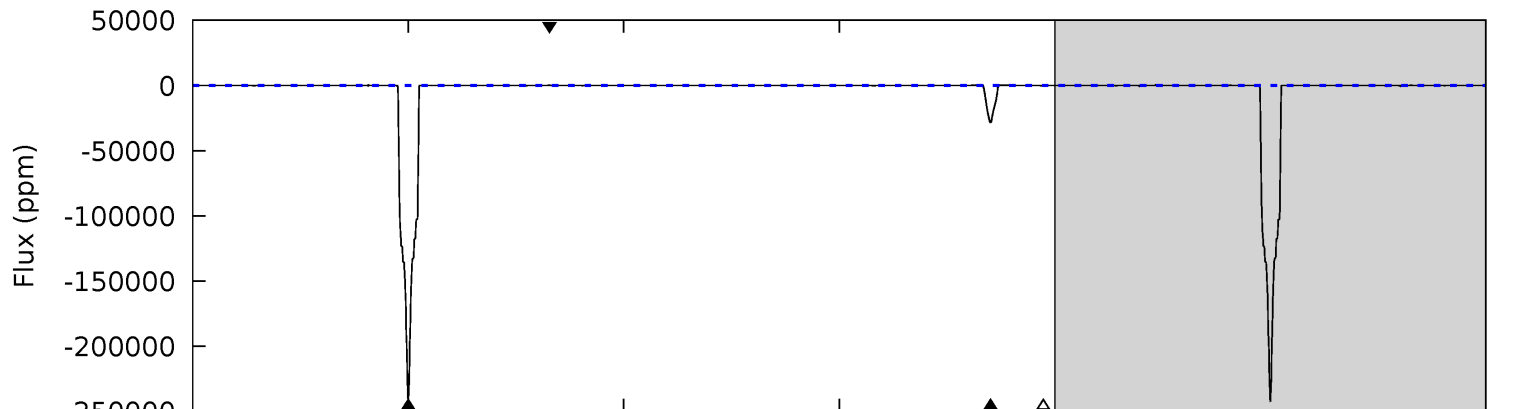
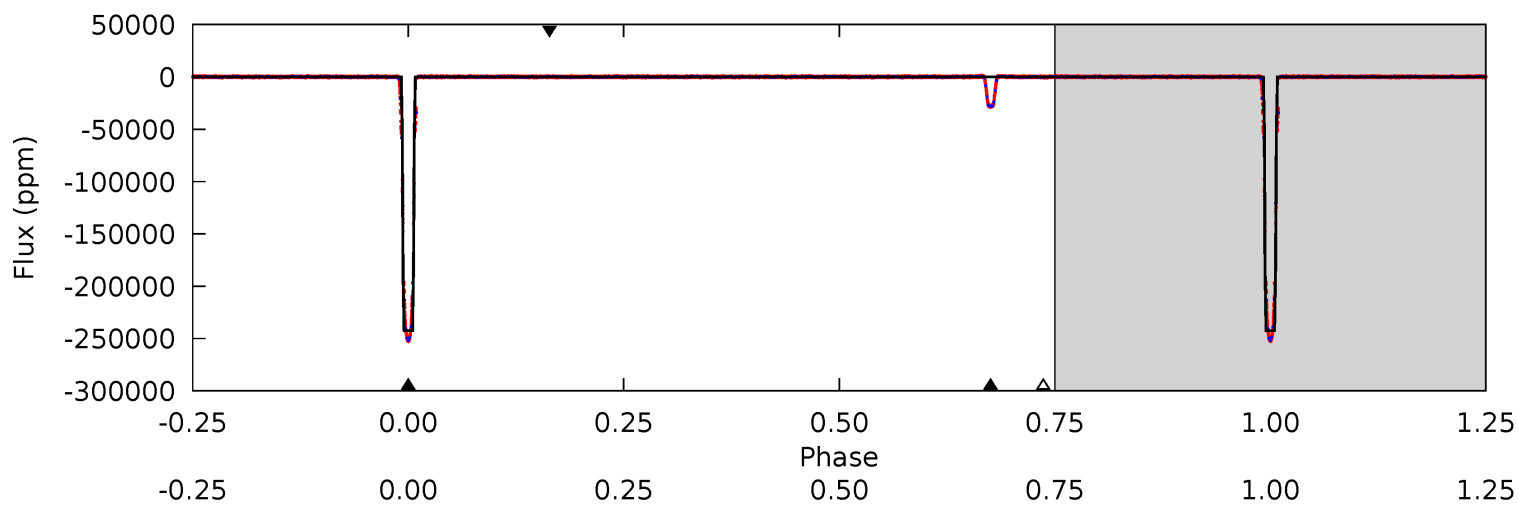
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28738	3463	12.9	8.70	4.87	2.28	3.70	28725	28730	3450	3454	3.48	1.00	0.00	0.04



# Alt Model-Shift Uniqueness Test

007118545-01, P = 14.797170 Days, E = 129.901165 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
15812	1840	4.44	3.80	4.94	2.42	1.56	15807	15808	1836	1837	46.5	1.00	0.00	0



### Stellar Parameters For KIC 007118545

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6343^{+171}_{-209}$	$4.495^{+0.052}_{-0.208}$	$-0.520^{+0.300}_{-0.350}$	$0.931^{+0.274}_{-0.091}$	$0.988^{+0.122}_{-0.122}$	$1.724^{+0.467}_{-0.930}$
	+3%/-3%	+1%/-5%	+58%/-67%	+29%/-10%	+12%/-12%	+27%/-54%
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 007118545-01 / KOI 6831.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-30427 \pm 9$	$49.21^{+7.29}_{-3.71}$	$1126^{+74}_{-53}$	$4169^{+81}_{-96}$	$98^{+13}_{-23}$
Alt.	$-28218 \pm 15$	$51.75^{+8.32}_{-3.60}$	$1123^{+77}_{-55}$	$4017^{+74}_{-98}$	$81^{+11}_{-20}$

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

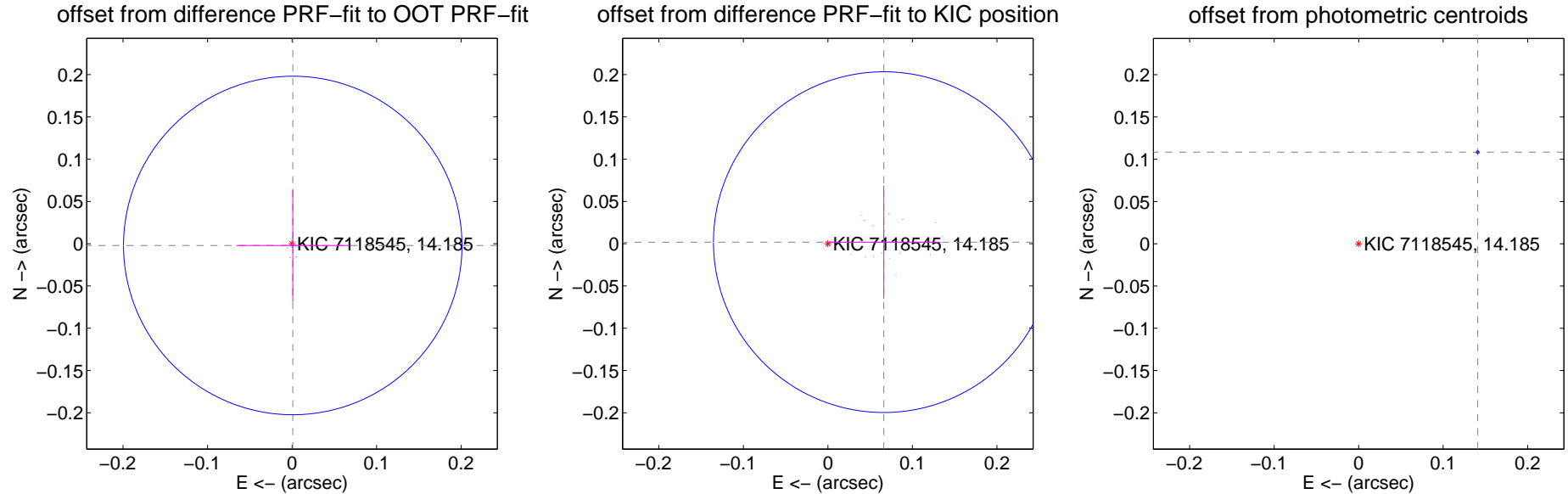
## DV Centroid Data

Supplemental centroid analysis for 007118545-01. Kepler magnitude: 14.19. Transit SNR 9663.60

There are 17 quarters with good PRF difference image offsets

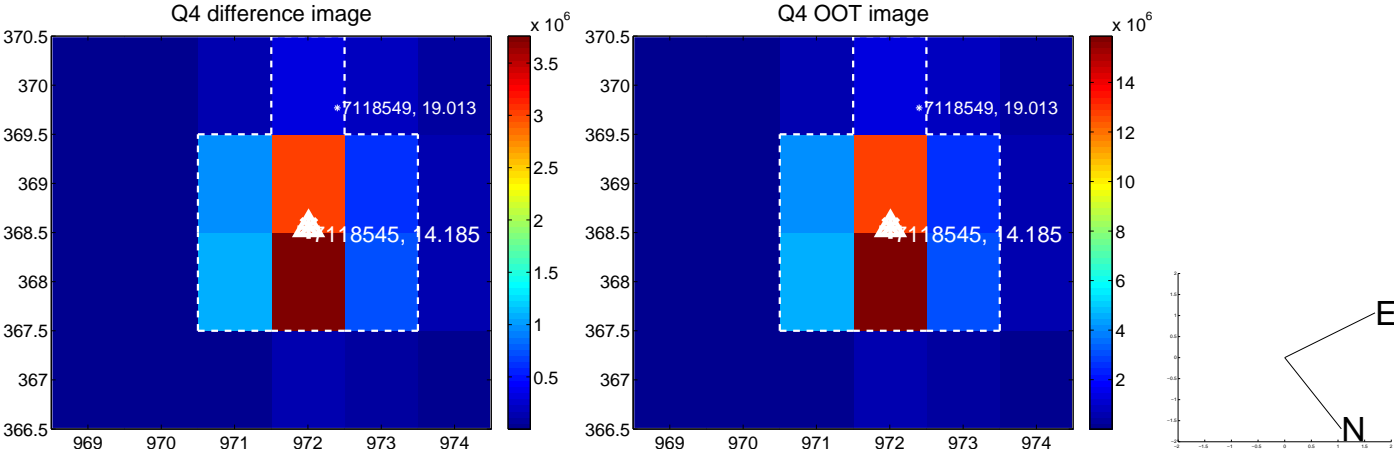
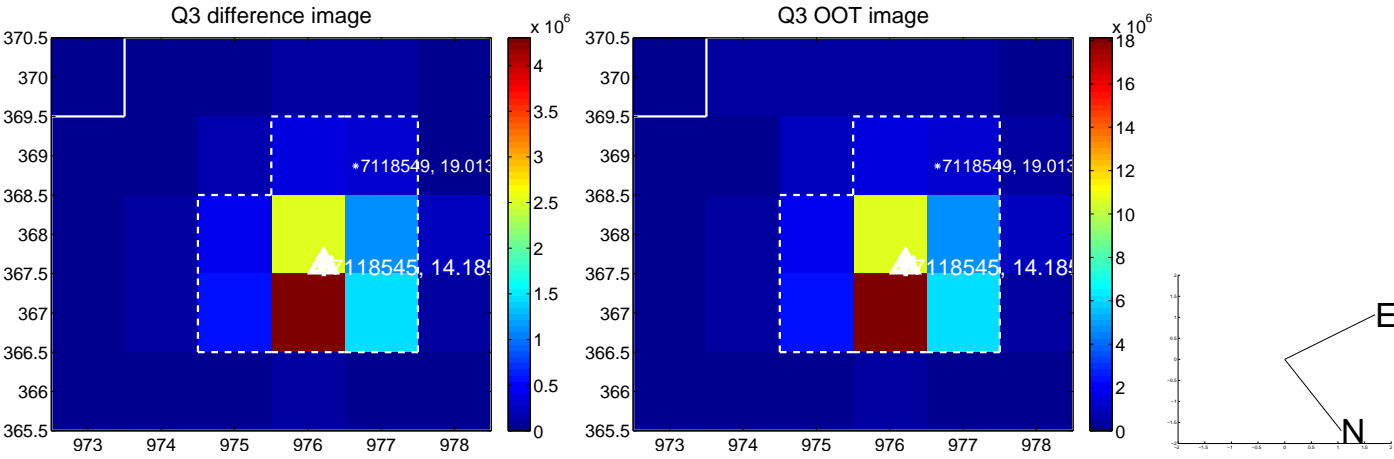
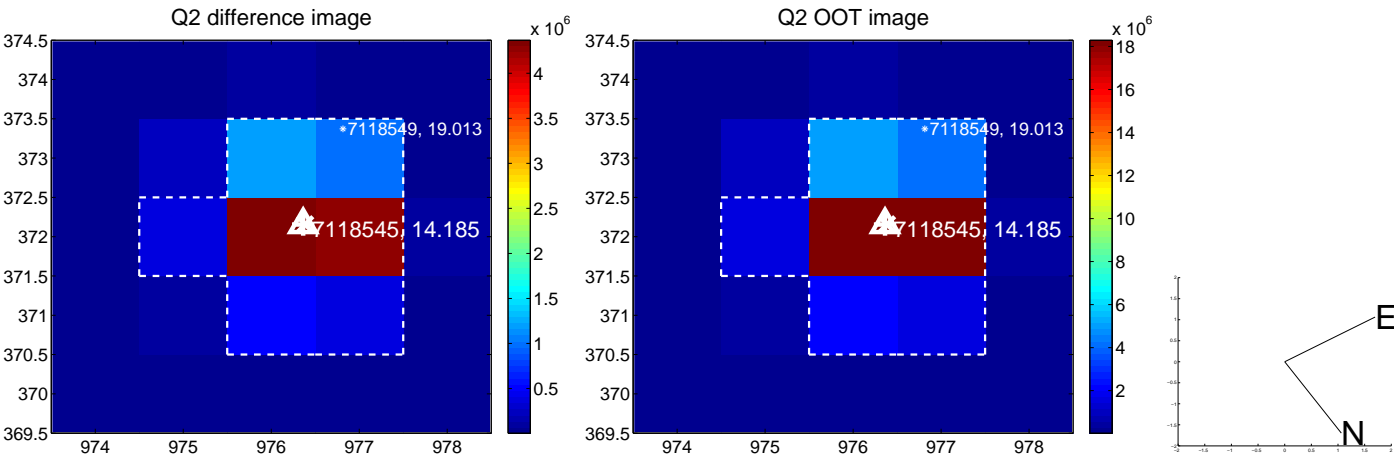
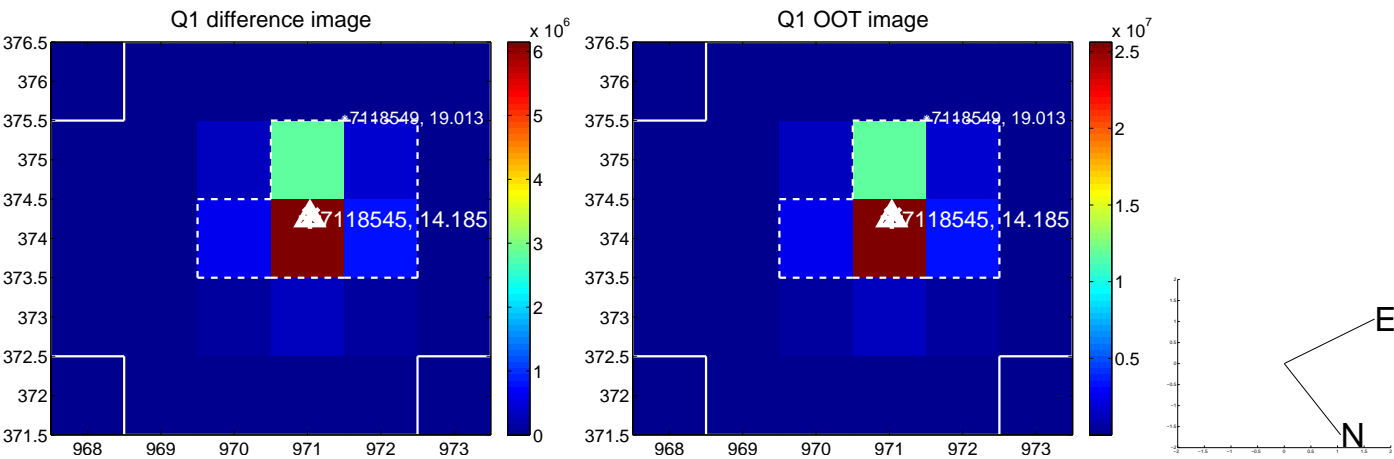
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.002 \pm 0.067$	0.03	$-0.001 \pm 0.067$	$-0.002 \pm 0.067$
PRF-fit source offset from KIC position	$0.066 \pm 0.067$	0.99	$-0.066 \pm 0.067$	$0.002 \pm 0.067$
photometric centroid source offset	$0.18 \pm 0.00$	<b>351.79</b>	$-0.14 \pm 0.00$	$0.11 \pm 0.00$

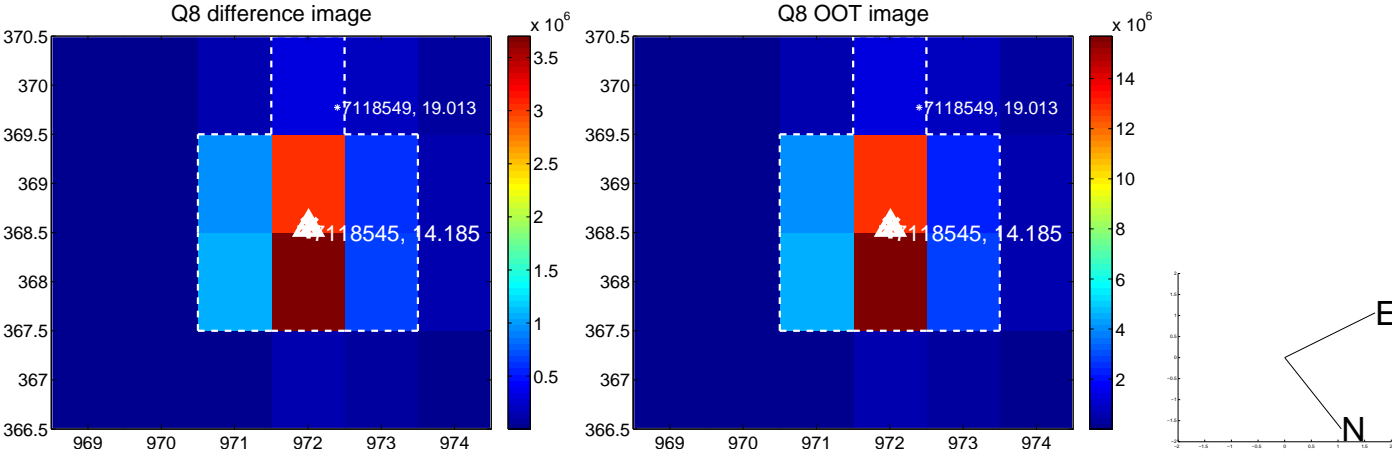
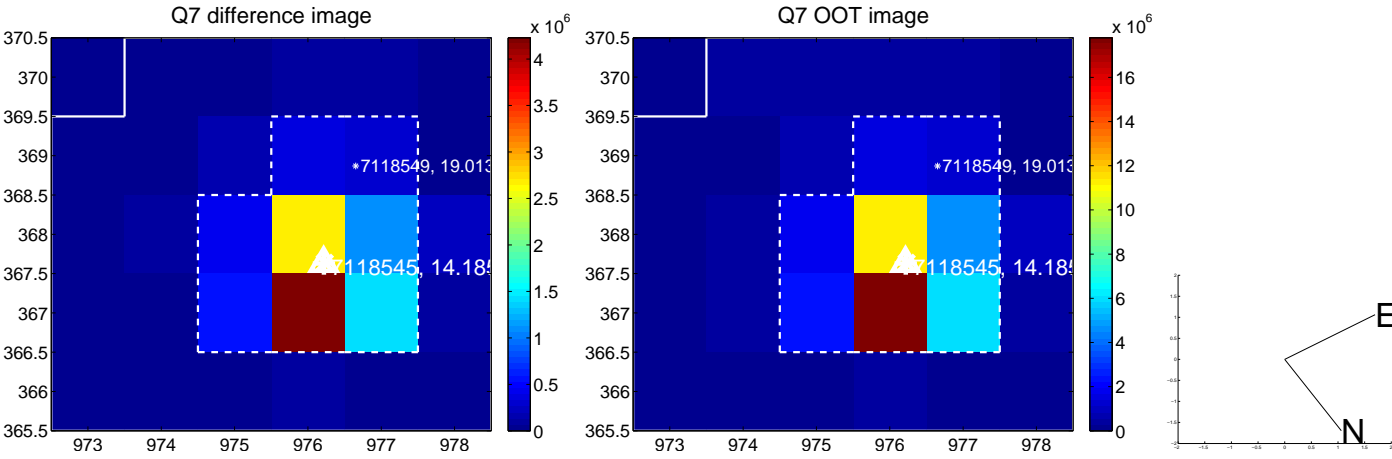
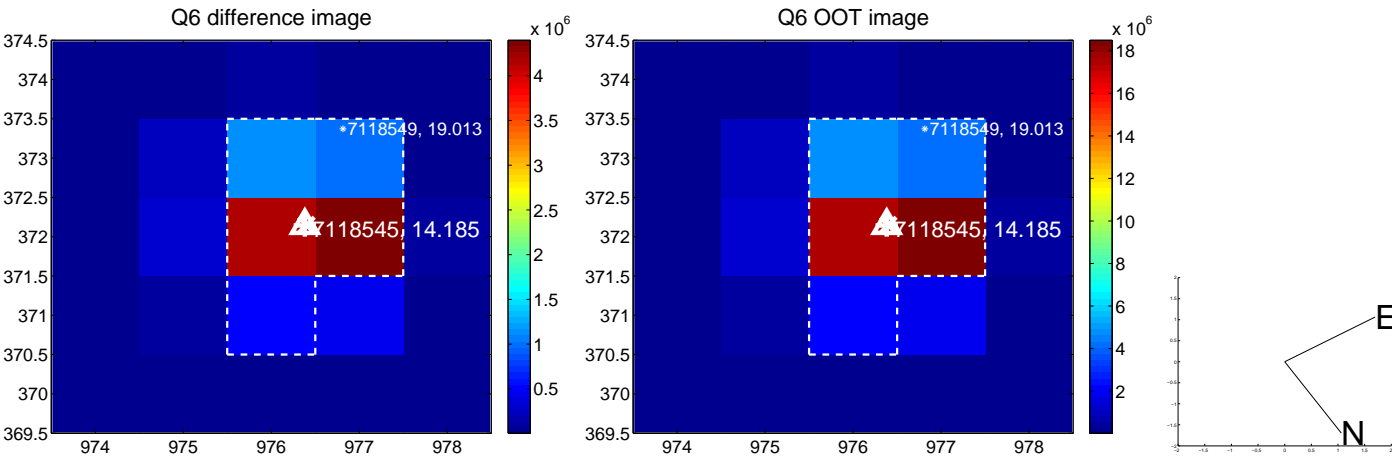
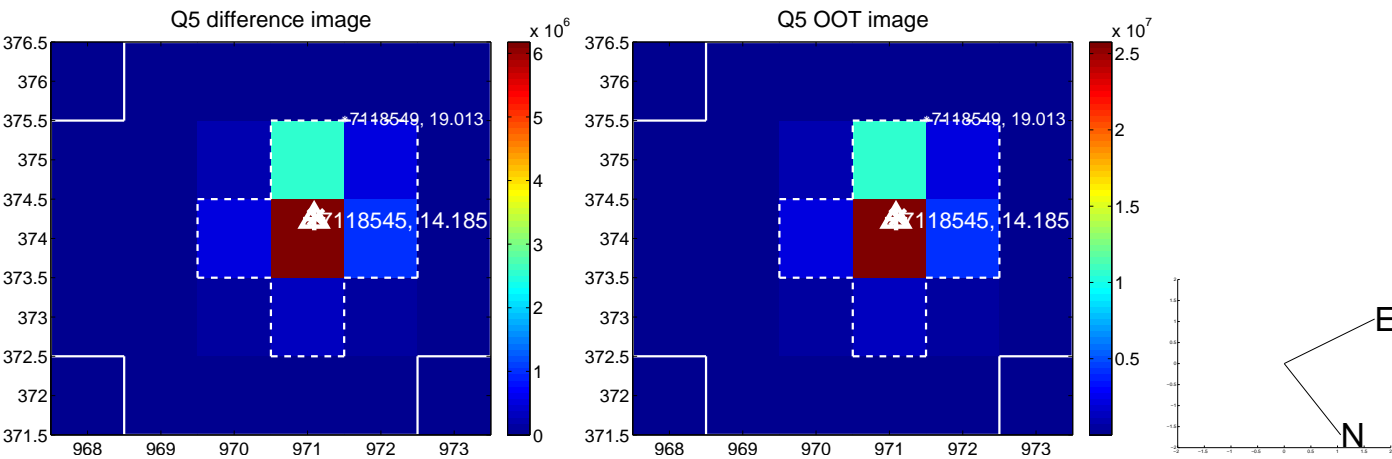


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

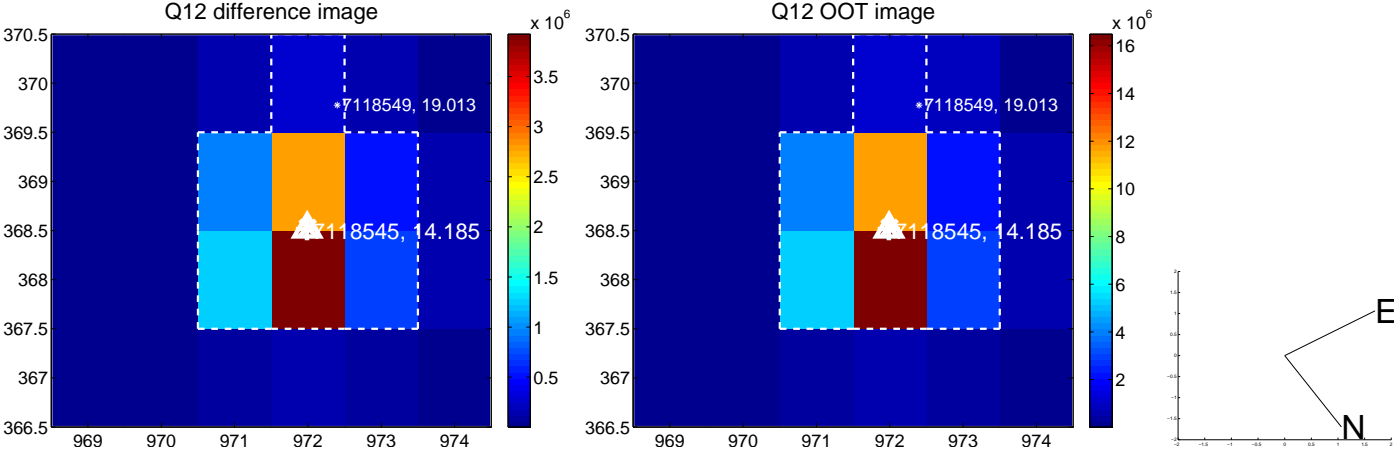
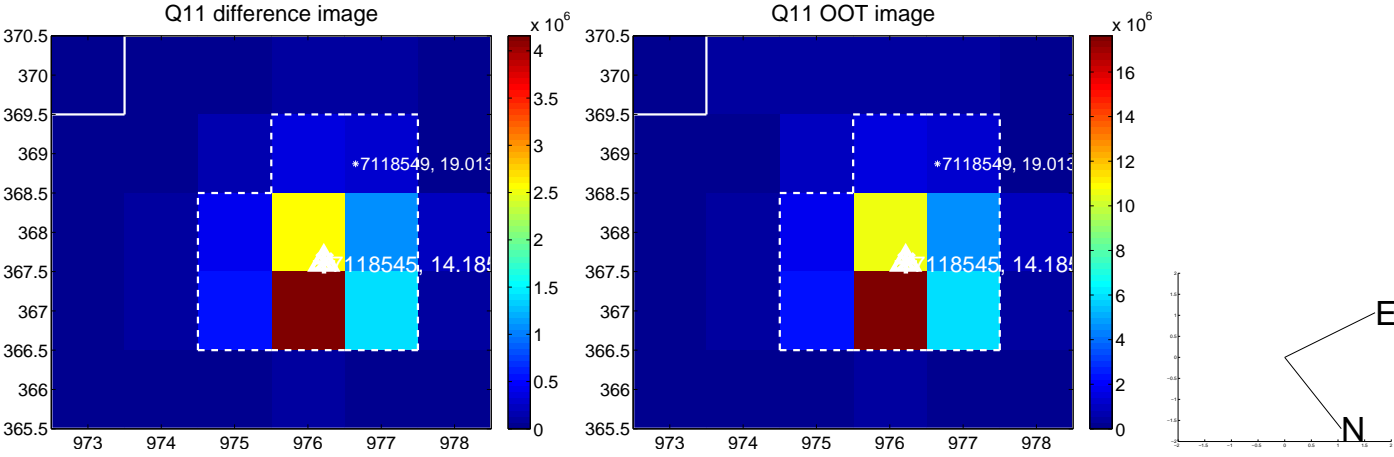
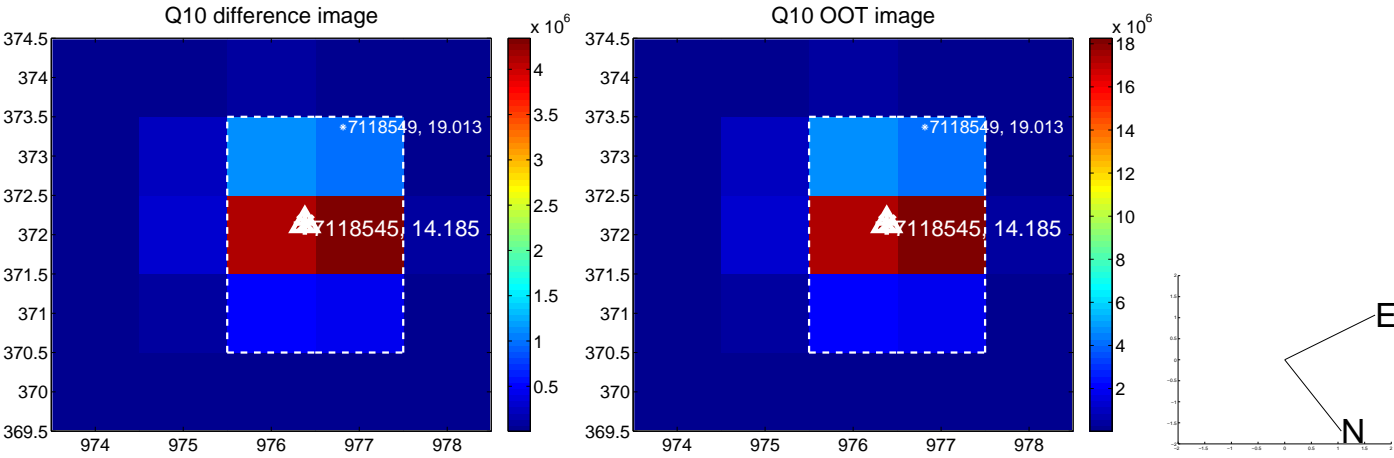
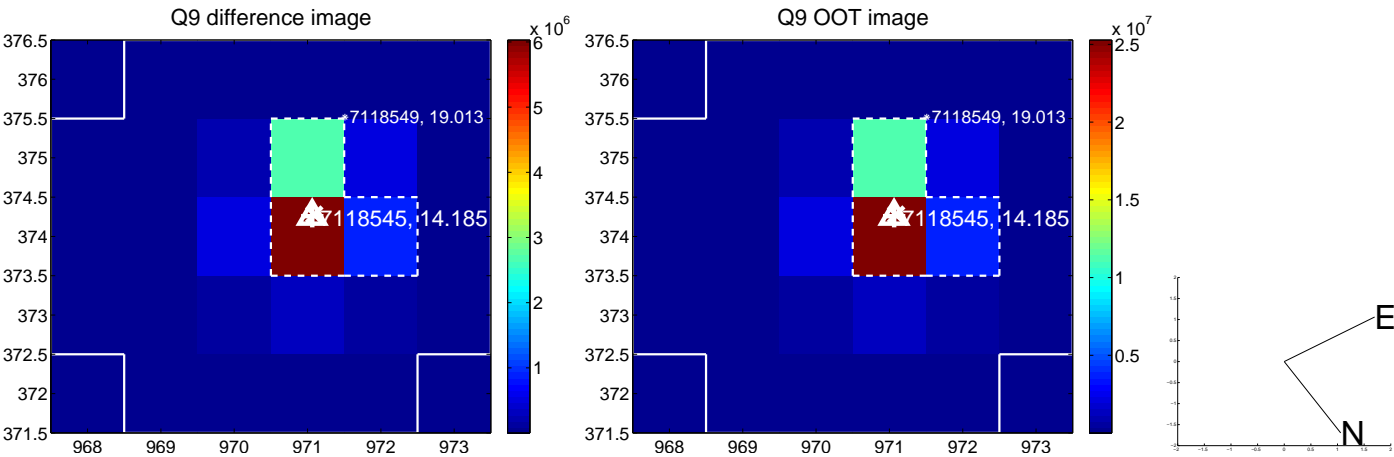


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

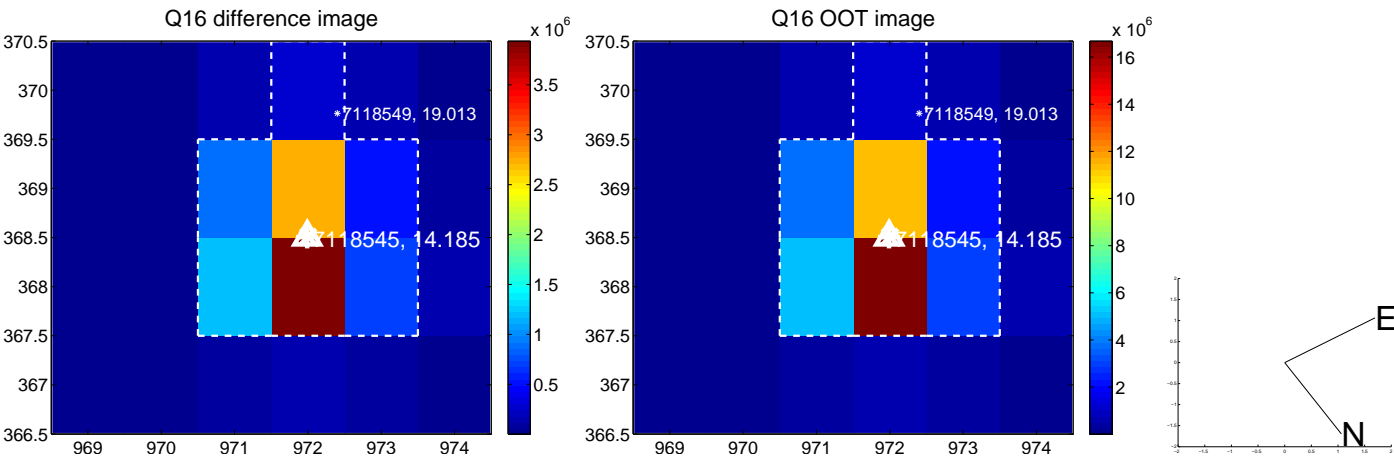
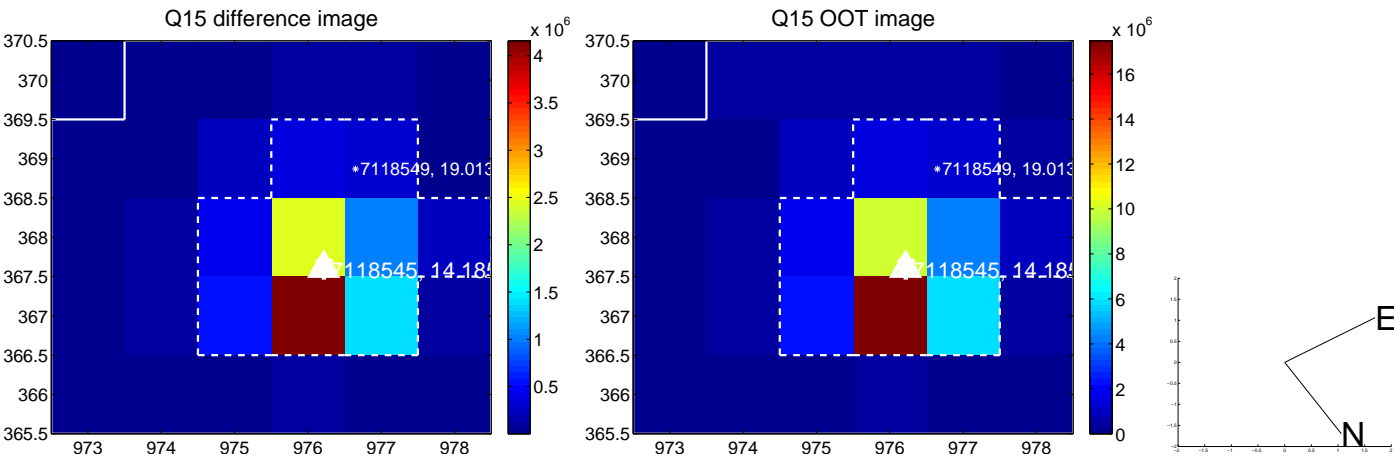
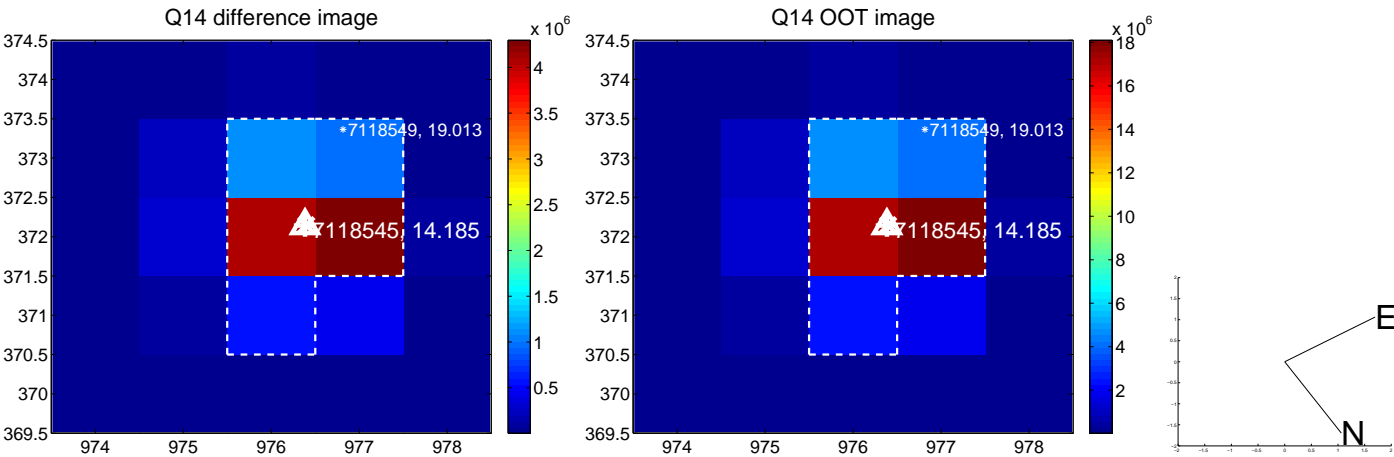
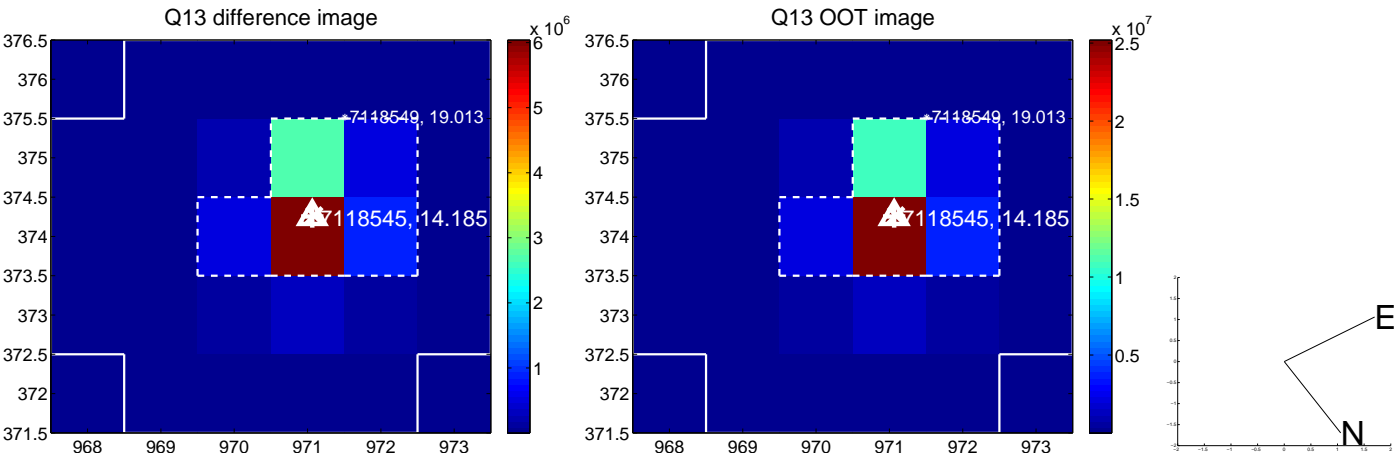




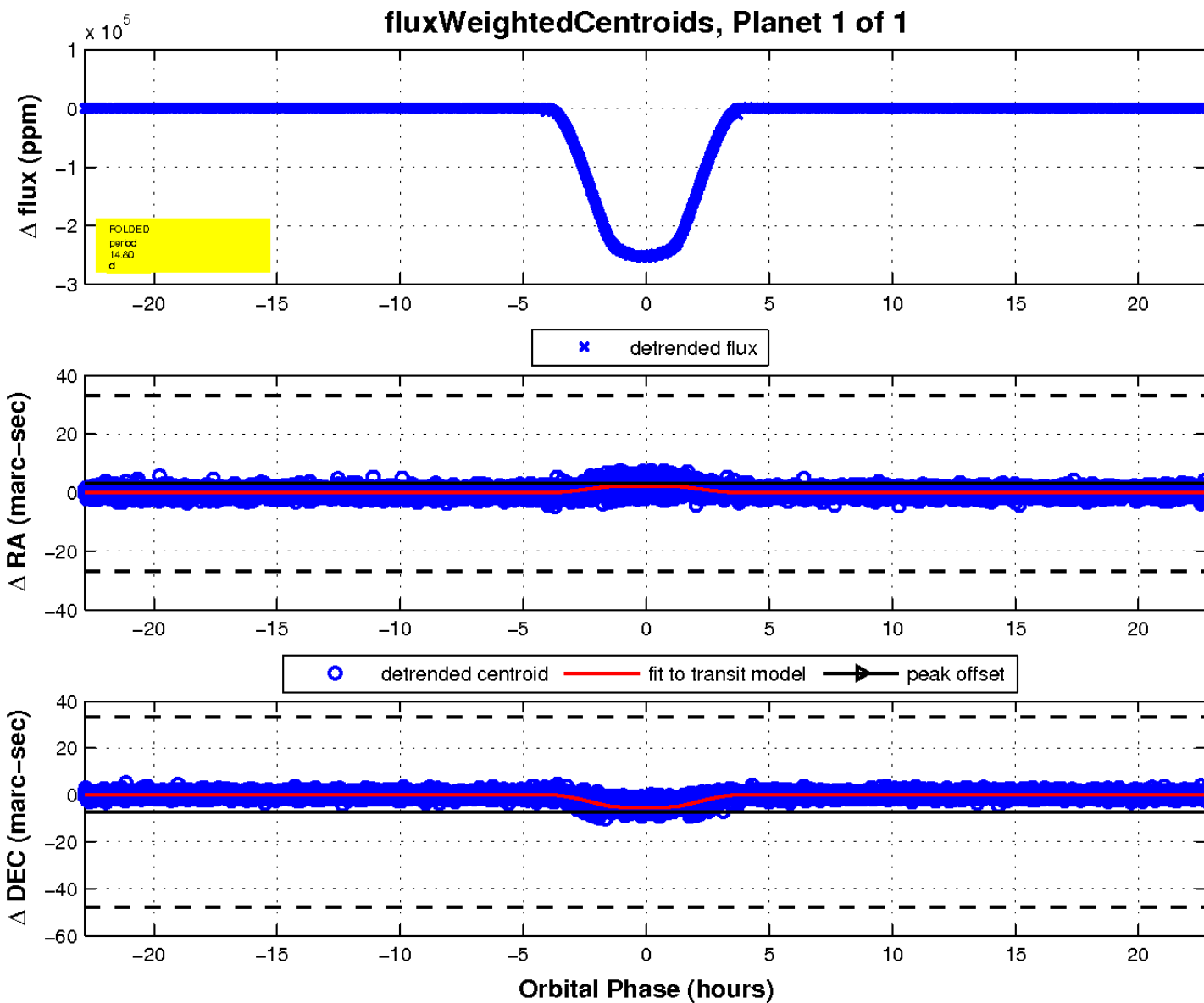
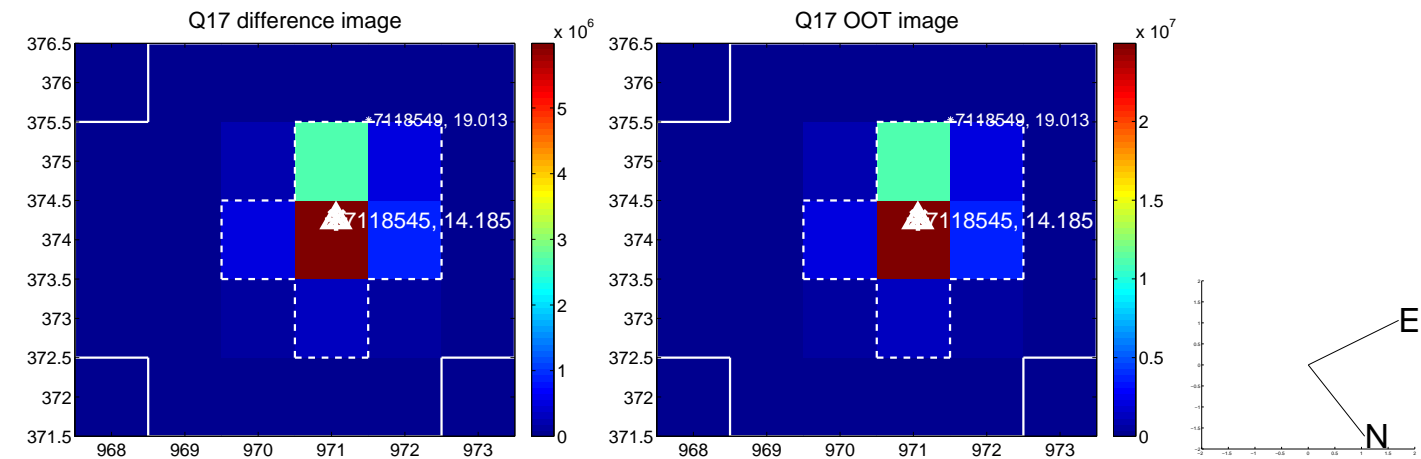
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



# UKIRT Image

Declination

