

# KIC 004455763

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004455763-01	OBS	5061.01	0.766295	131.688679	16235.2	1.655	888.6	761.1	1.00	6267	14.56	5185.35

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004455763-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_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 004455763-01

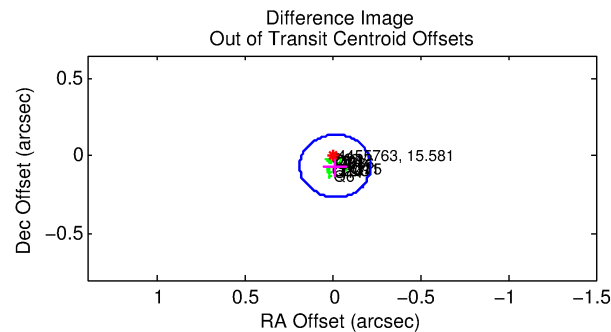
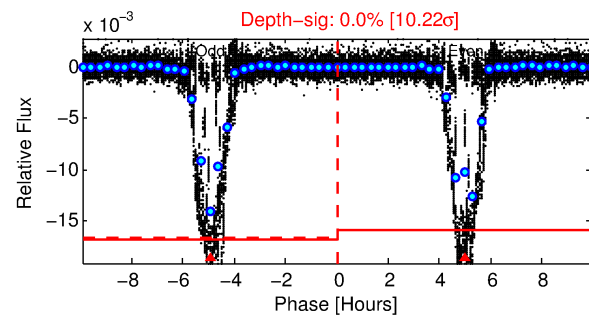
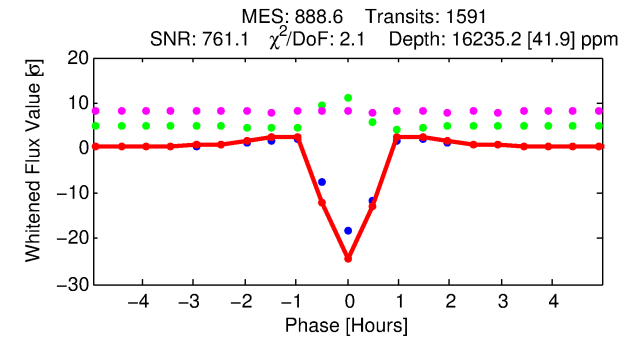
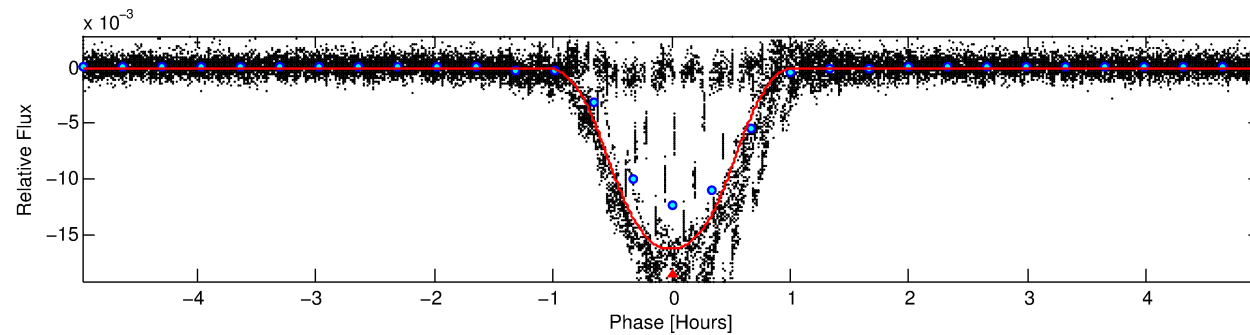
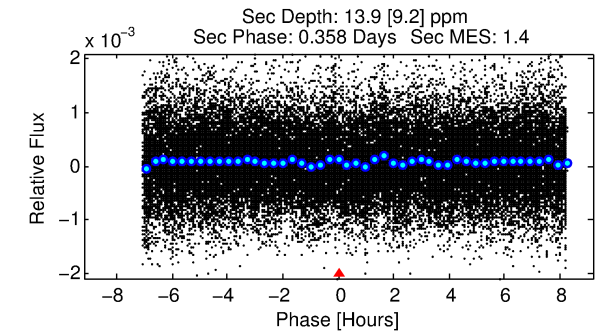
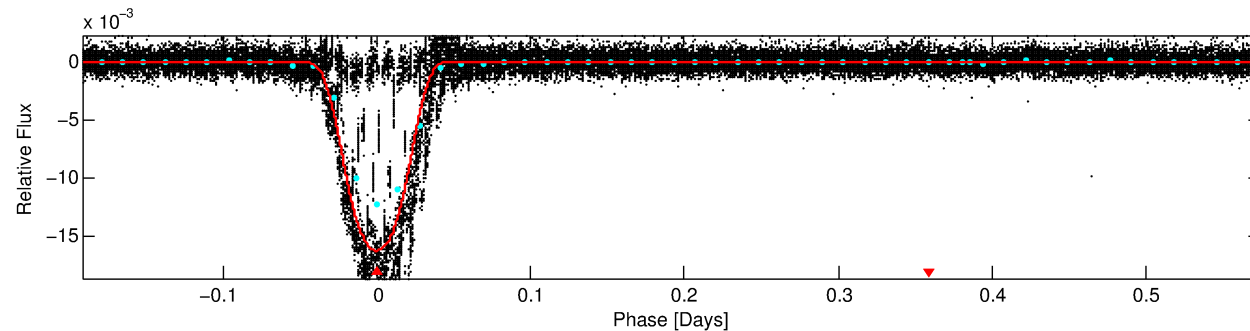
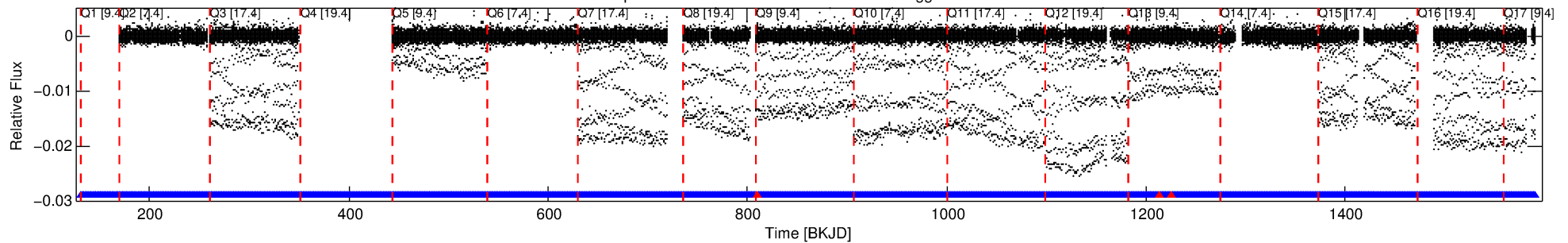
No Significant Match Found

# DV One-Page Summary

KIC: 4455763 Candidate: 1 of 1 Period: 0.766 d

KOI: K05061.01 Corr: 0.959

Kp: 15.58 R\*: 1.00 Rs Teff: 6267.0 K Logg: 4.43 Fe/H: -0.420



## DV Fit Results:

Period = 0.76630 [0.00000] d  
Epoch = 131.6887 [0.0000] BKJD  
Rp/R\* = 0.1339 [0.0004]  
a/R\* = 2.84 [0.01]  
b = 0.84 [0.00]  
Seff = 5185.35 [2032.06]  
Teff = 2164 [212] K  
Rp = 14.56 [4.55] Re  
a = 0.0163 [0.0042] AU  
Ag = 0.01 [0.01] [-137.79σ]  
Teffp = 1046 [176] K [-4.06σ]

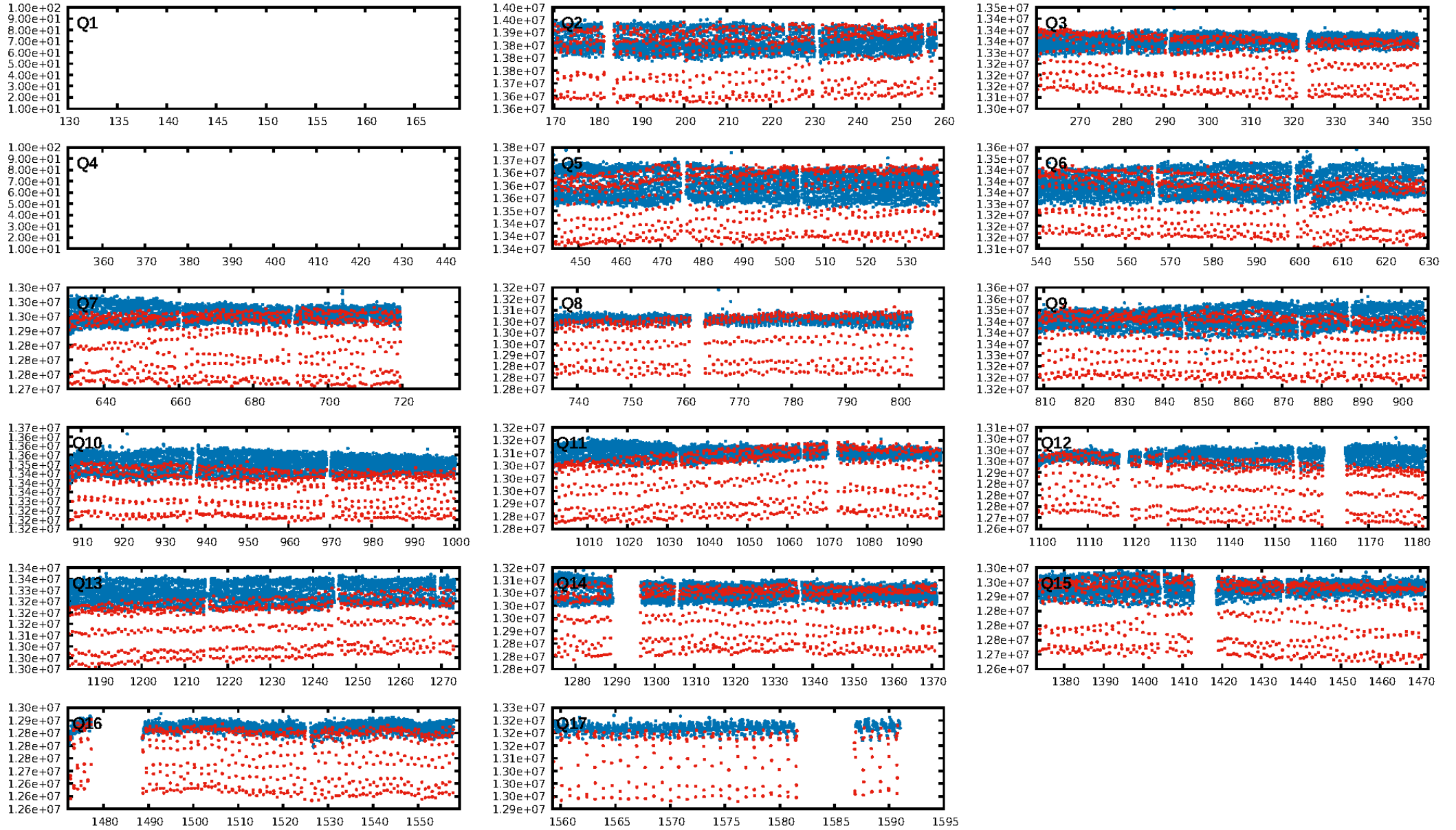
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [1551/1555]  
GhostDiagnostic-chr: 17.32  
Centroid-sig: 0.0%  
Centroid-so: 0.215 arcsec [22.78σ]  
OotOffset-rm: 0.066 arcsec [0.98σ]  
KicOffset-rm: 0.194 arcsec [2.77σ]  
OotOffset-st: 4/4/3/4 [15]  
KicOffset-st: 4/4/3/4 [15]  
DiffImageQuality-fgm: 1.00 [15/15]  
DiffImageOverlap-fno: 1.00 [15/15]

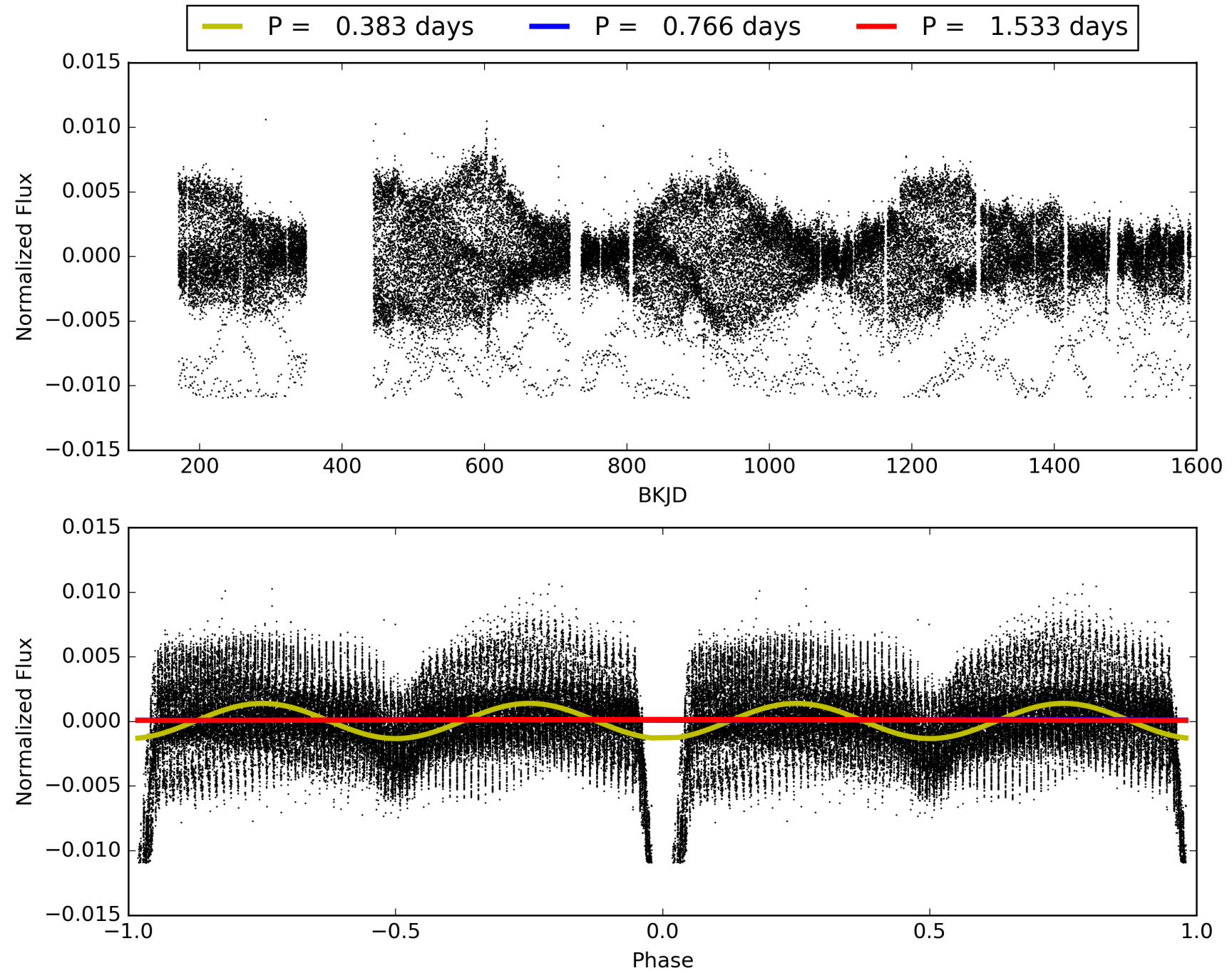
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:19:48 Z

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

# TCE 004455763-01, PDC Light Curves

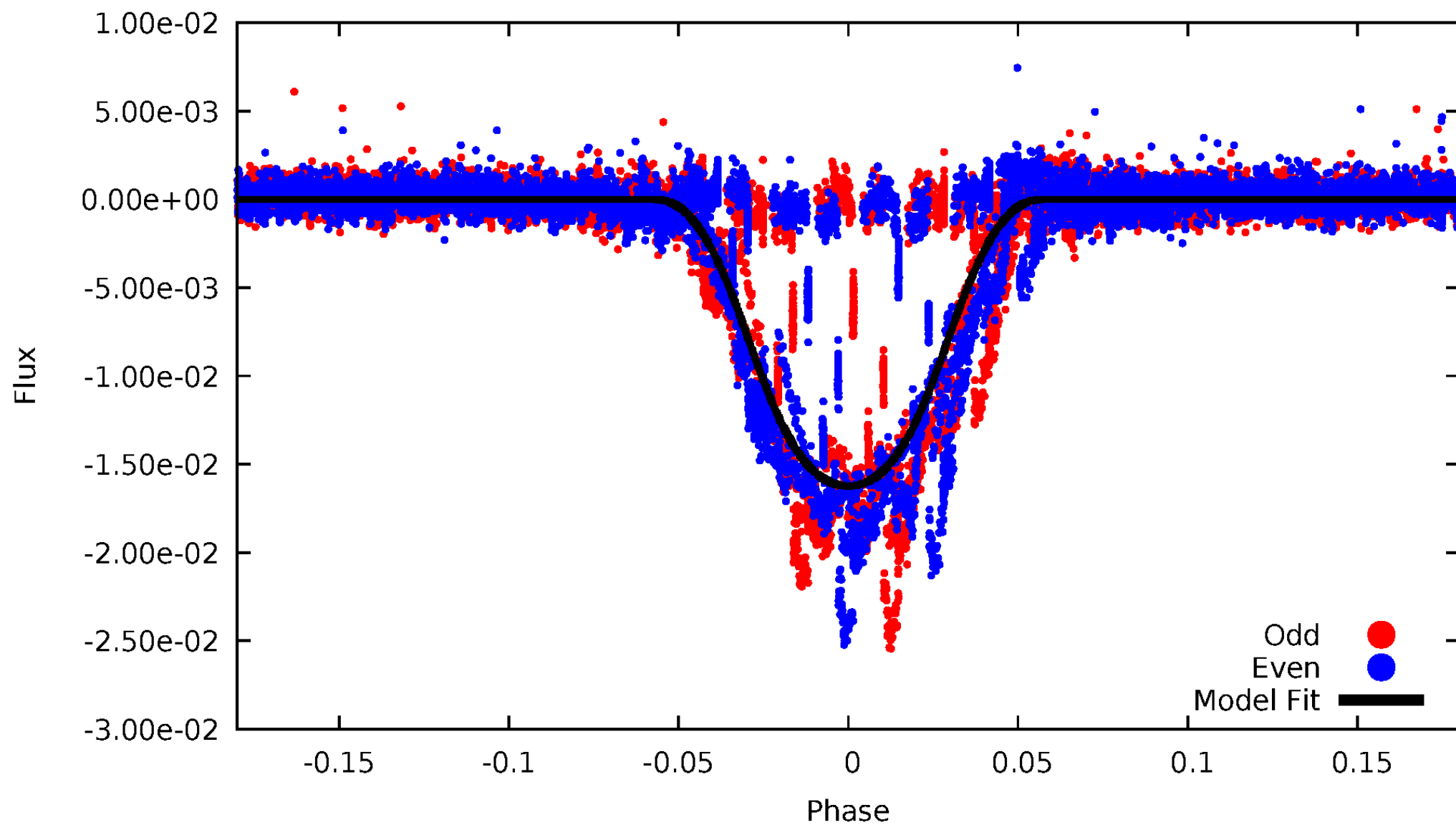


TCE 004455763-01



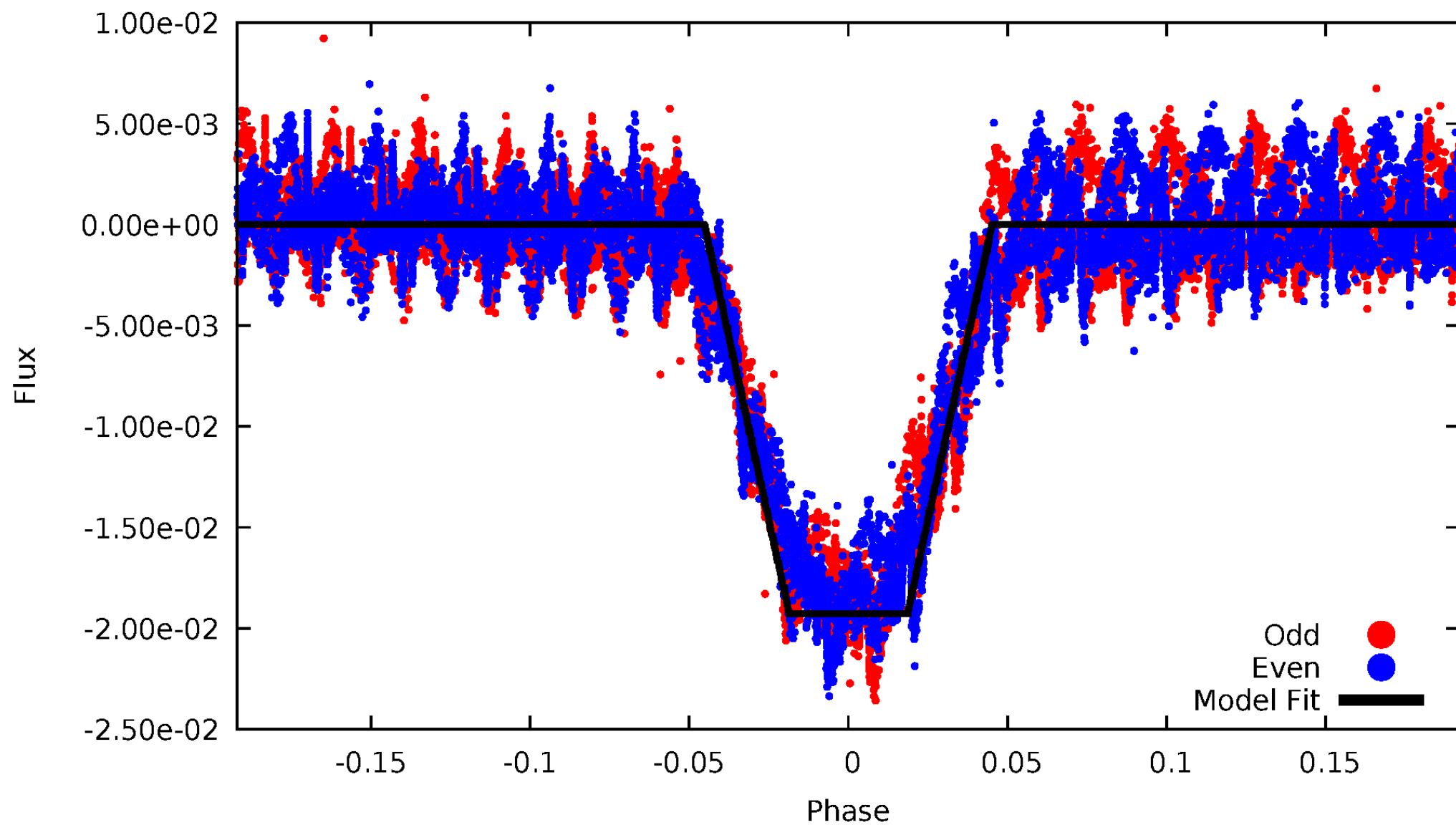
# DV Odd/Even

TCE 004455763-01



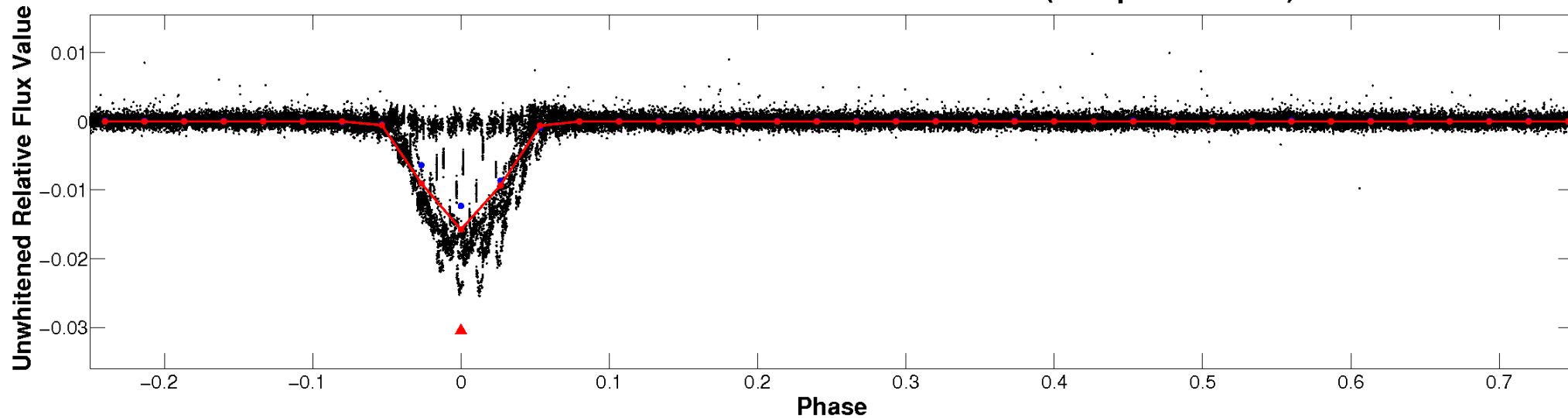
# ALT Odd/Even

TCE 004455763-01

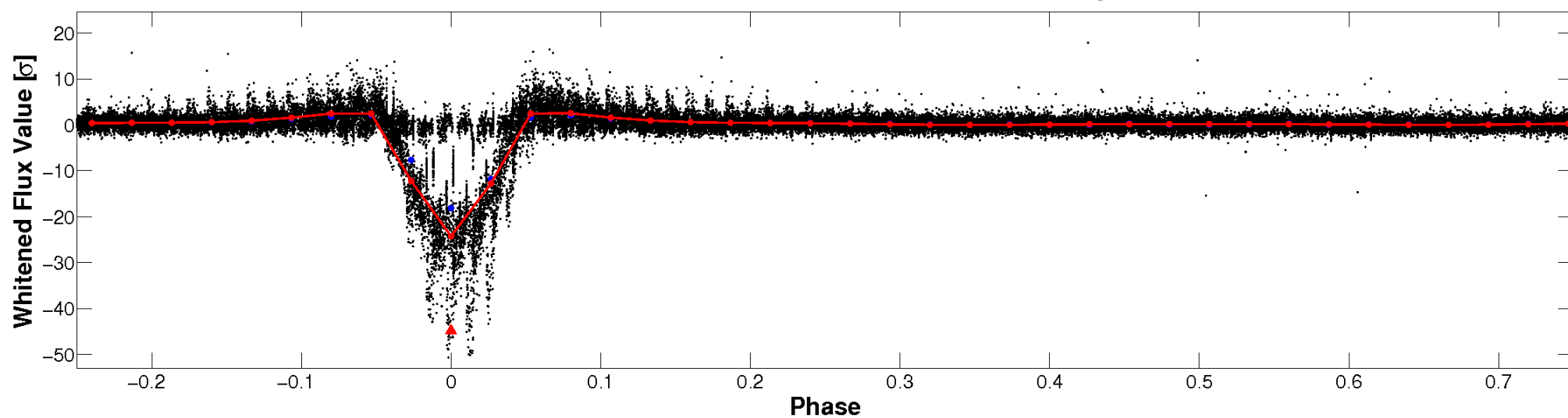


# Non-Whitened Vs. Whitened Light Curve

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



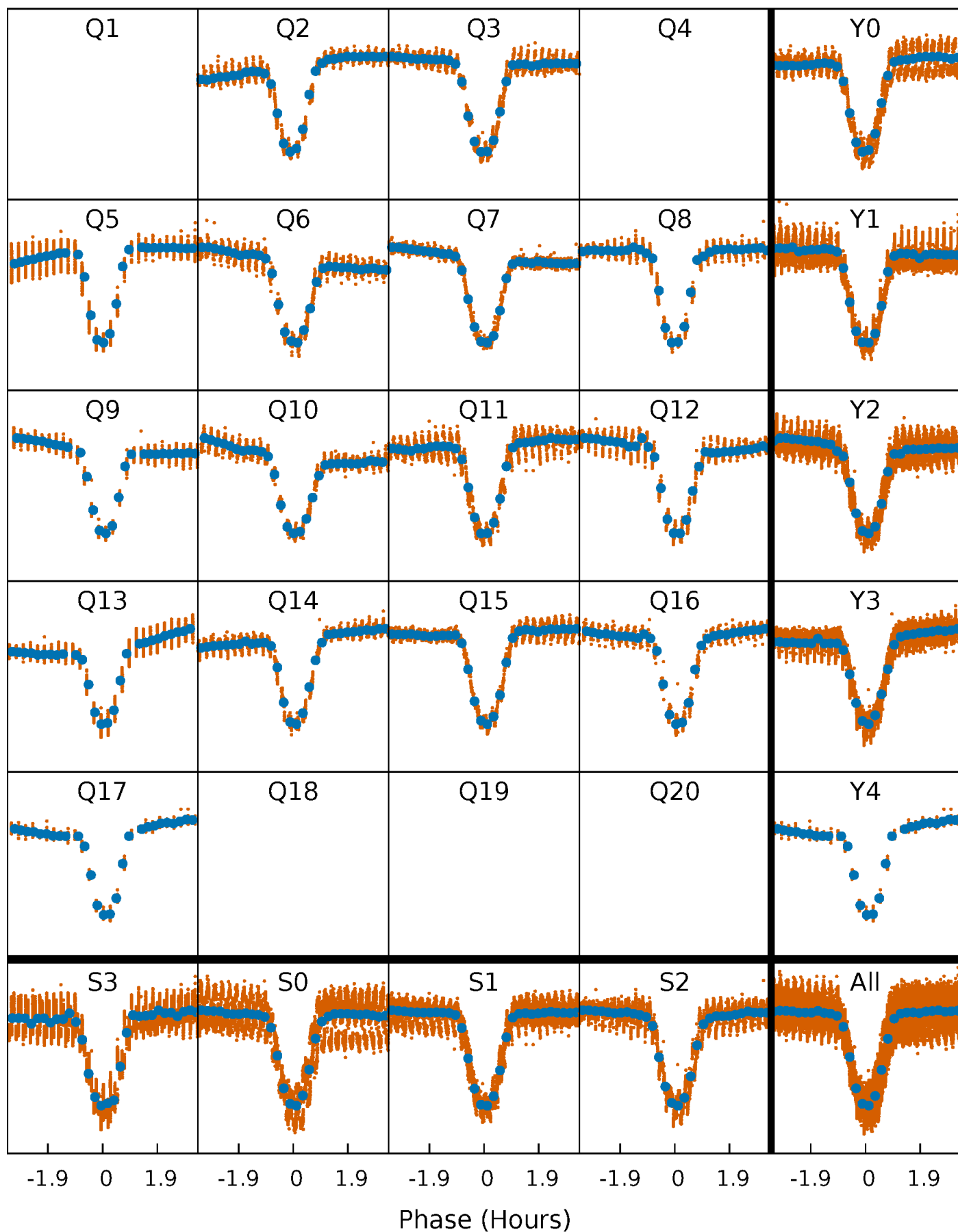
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

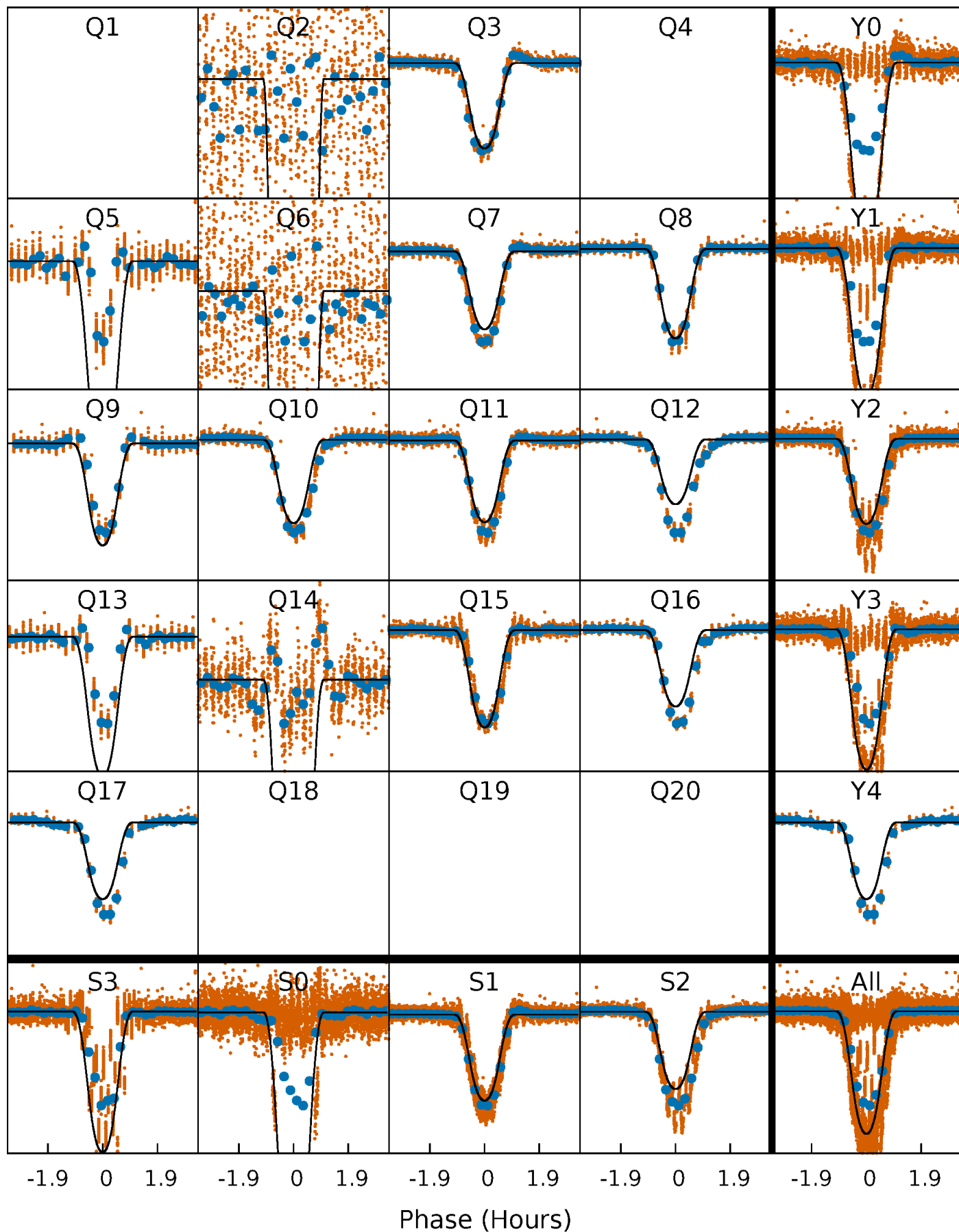
TCE 004455763-01   P= 0.766295 Days    $T_0=131.688679$  (BKJD)





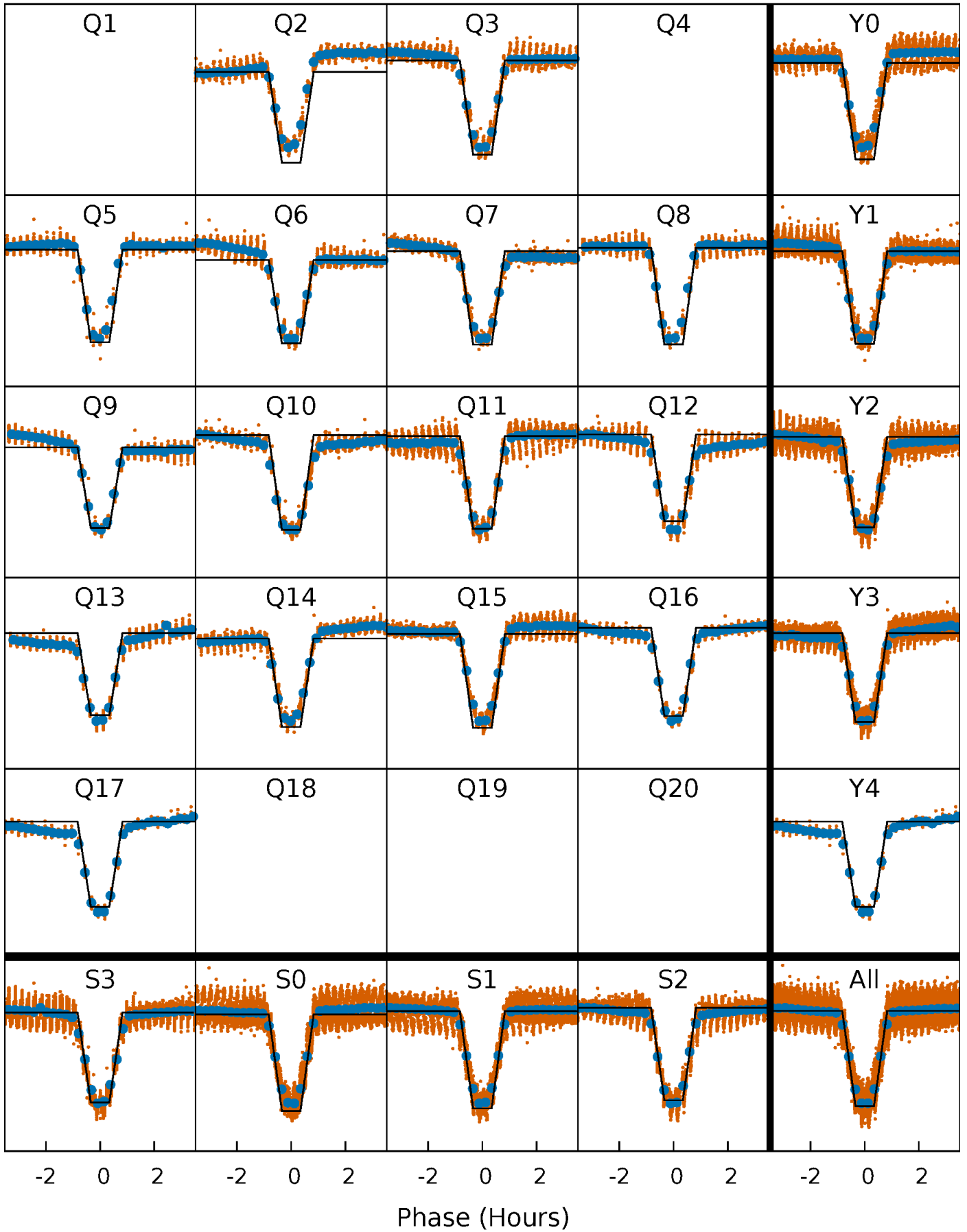
# DV Quarter-Phased Transit Curves

TCE 004455763-01 P= 0.766295 Days  $T_0=131.688679$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

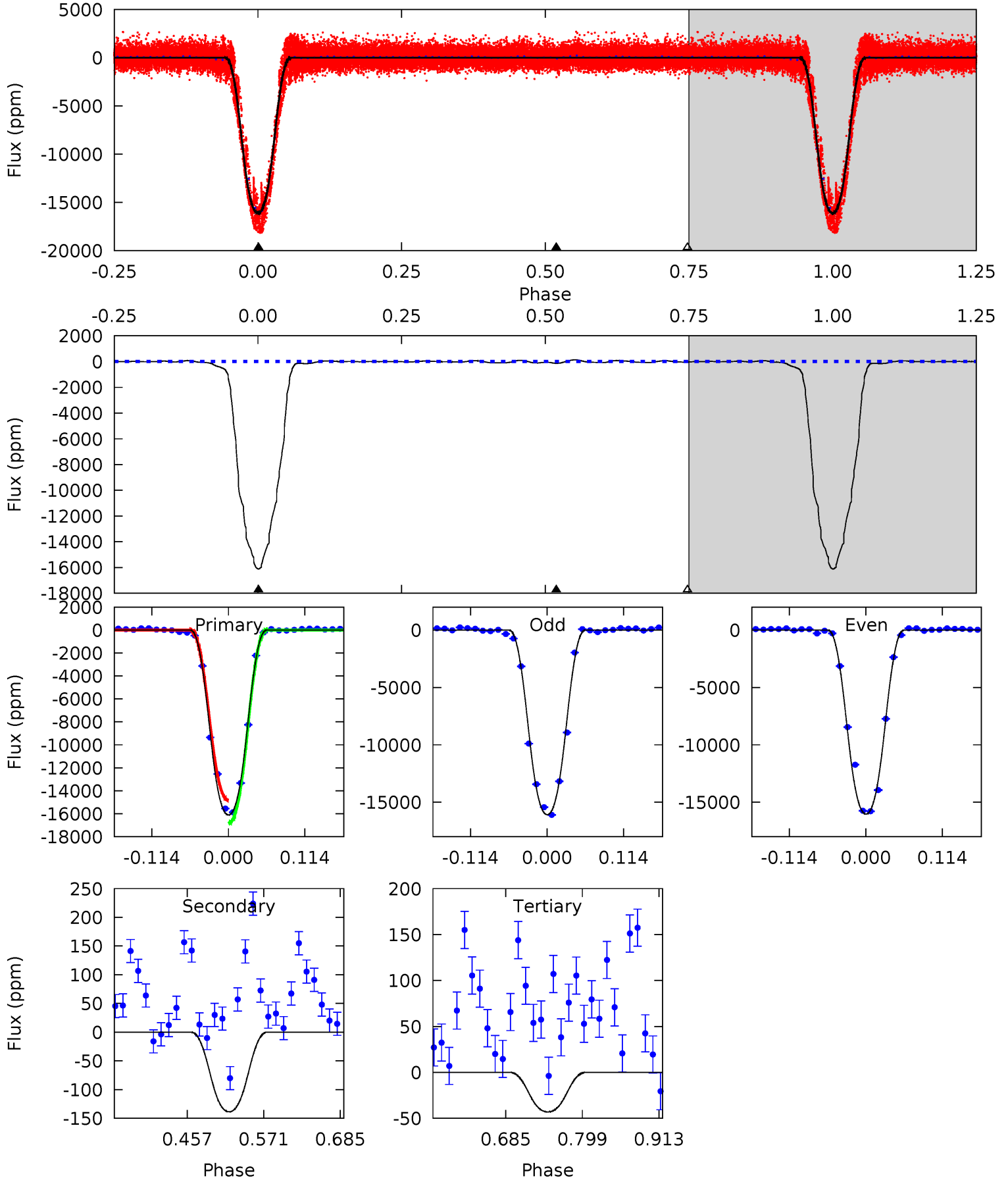
TCE 004455763-01   P= 0.766297 Days    $T_0=131.688663$  (BKJD)



# DV Model-Shift Uniqueness Test

004455763-01, P = 0.766295 Days, E = 131.688679 Days

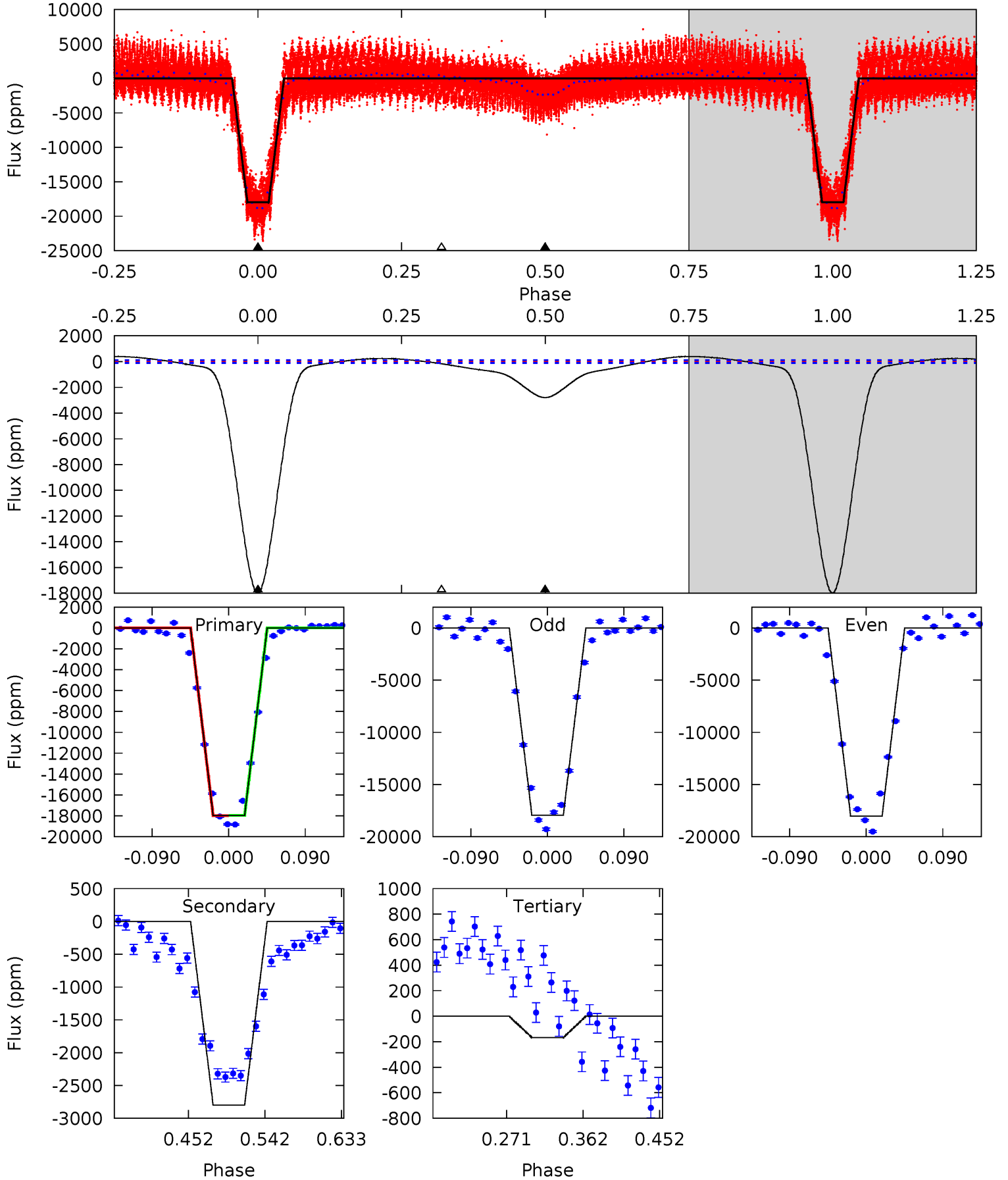
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1619	13.9	4.33	0	4.54	1.58	3.23	1615	1619	9.62	13.9	2.57	0.80	0.01	0



# Alt Model-Shift Uniqueness Test

004455763-01, P = 0.766297 Days, E = 131.688663 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
757.1	118.0	7.05	0	4.59	1.69	13.3	750.1	757.1	110.9	118.0	1.94	1.00	0.02	0.84



### Stellar Parameters For KIC 004455763

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6267^{+176}_{-220}$	$4.431^{+0.084}_{-0.196}$	$-0.420^{+0.300}_{-0.300}$	$0.996^{+0.311}_{-0.133}$	$0.976^{+0.146}_{-0.106}$	$1.390^{+0.494}_{-0.700}$
	+3%/-4%	+2%/-4%	+71%/-71%	+31%/-13%	+15%/-11%	+36%/-50%
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 004455763-01 / KOI 5061.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-139 \pm 10$	$14.88^{+2.53}_{-1.30}$	$3067^{+241}_{-170}$	$-2970^{+117}_{-181}$	$0.090^{+0.019}_{-0.022}$
Alt.	$-2800 \pm 24$	$15.42^{+2.46}_{-1.32}$	$3070^{+224}_{-165}$	$3996^{+96}_{-107}$	$1.713^{+0.283}_{-0.416}$

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

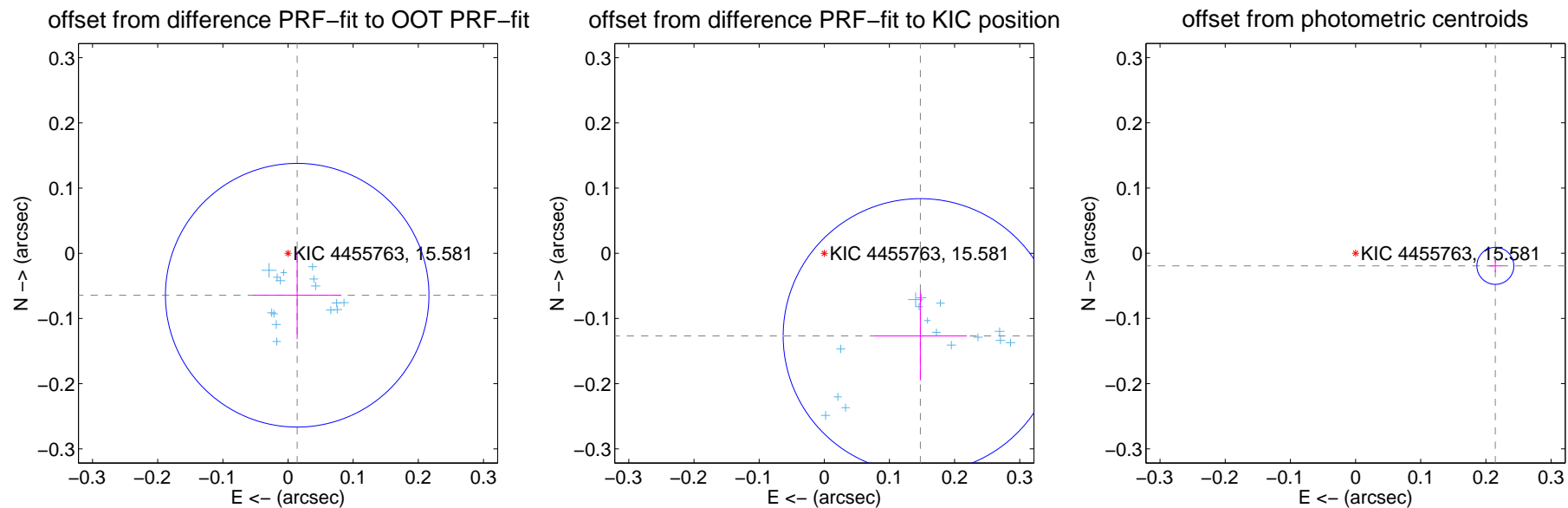
## DV Centroid Data

Supplemental centroid analysis for 004455763-01. Kepler magnitude: 15.58. Transit SNR 761.09

There are 15 quarters with good PRF difference image offsets

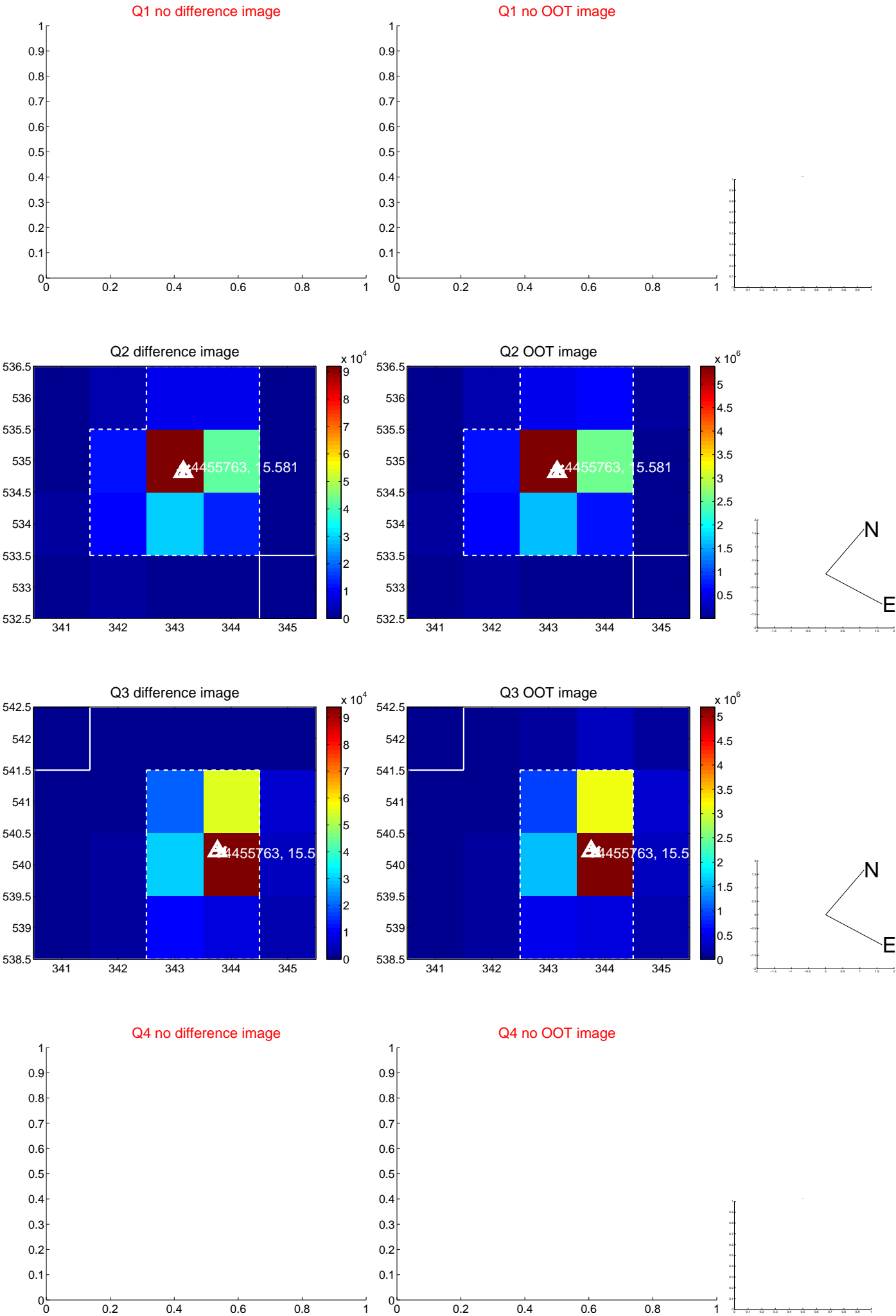
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.066 \pm 0.067$	0.98	$-0.014 \pm 0.068$	$-0.064 \pm 0.067$
PRF-fit source offset from KIC position	$0.194 \pm 0.070$	2.77	$-0.147 \pm 0.071$	$-0.127 \pm 0.068$
photometric centroid source offset	$0.22 \pm 0.01$	22.78	$-0.21 \pm 0.01$	$-0.02 \pm 0.01$



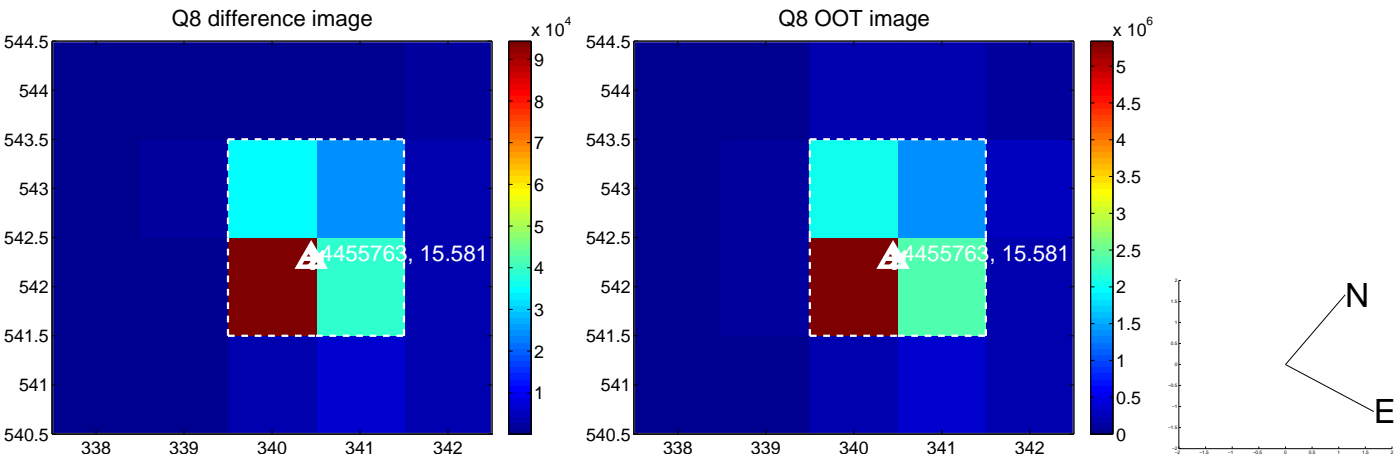
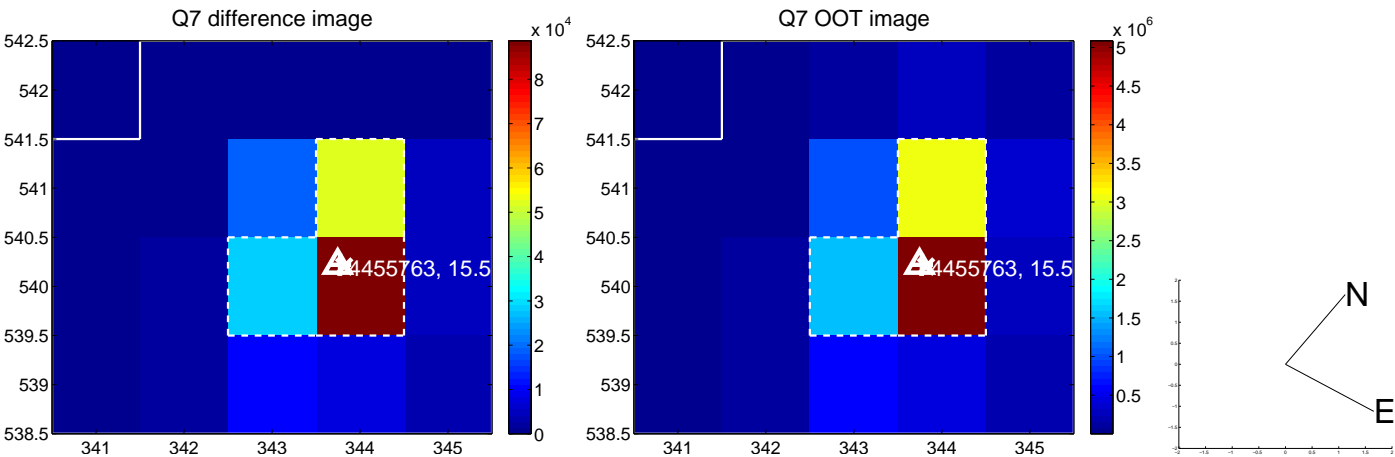
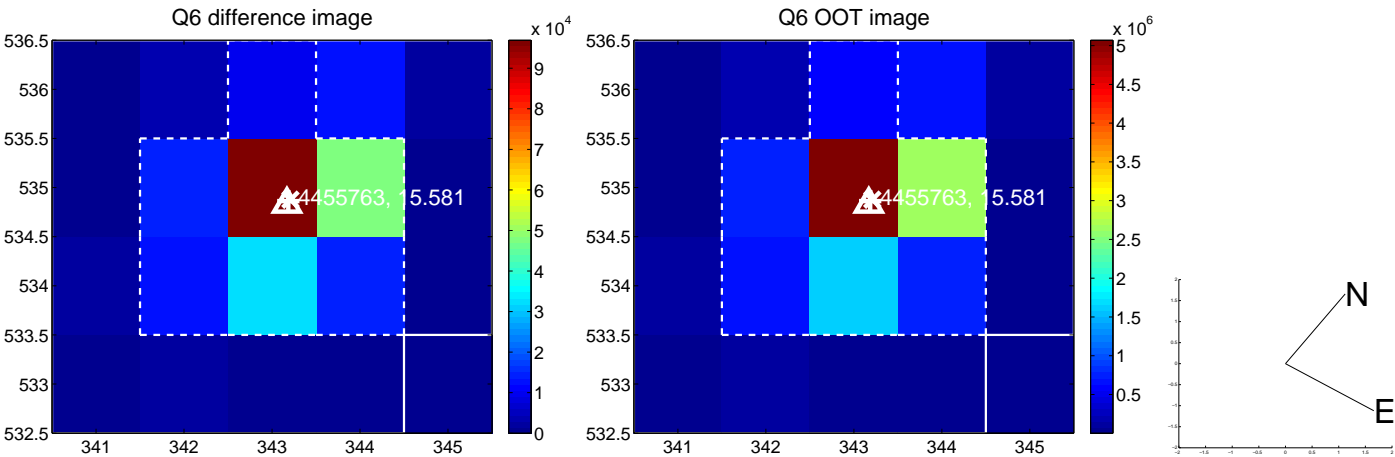
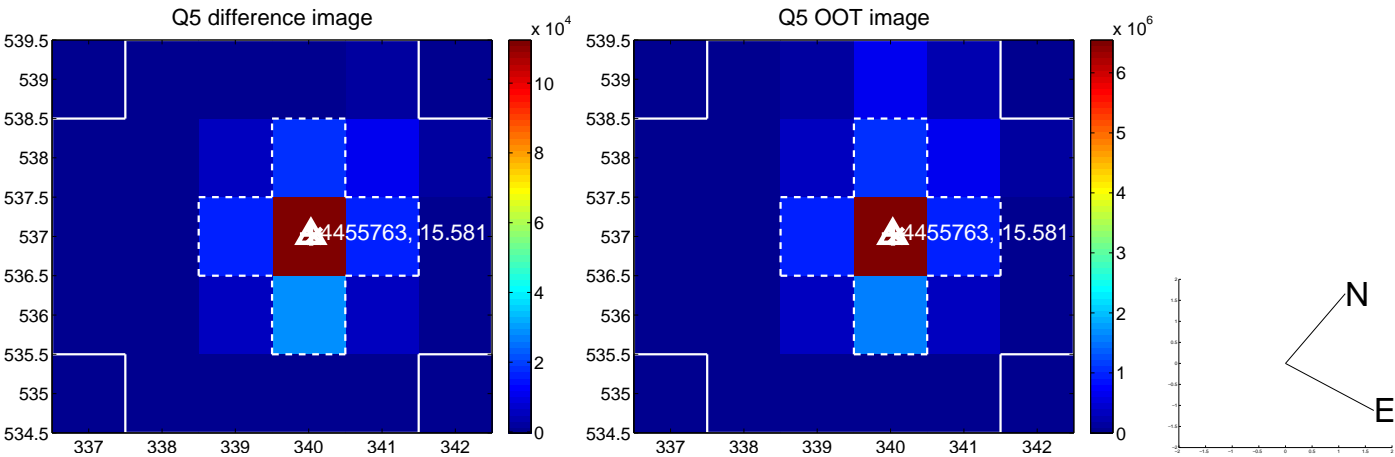
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

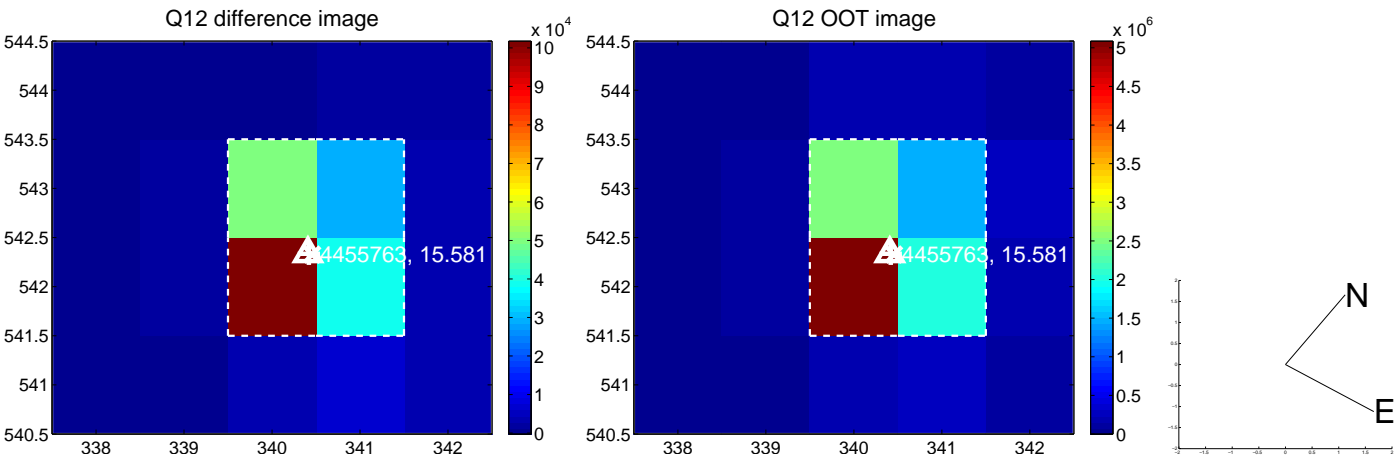
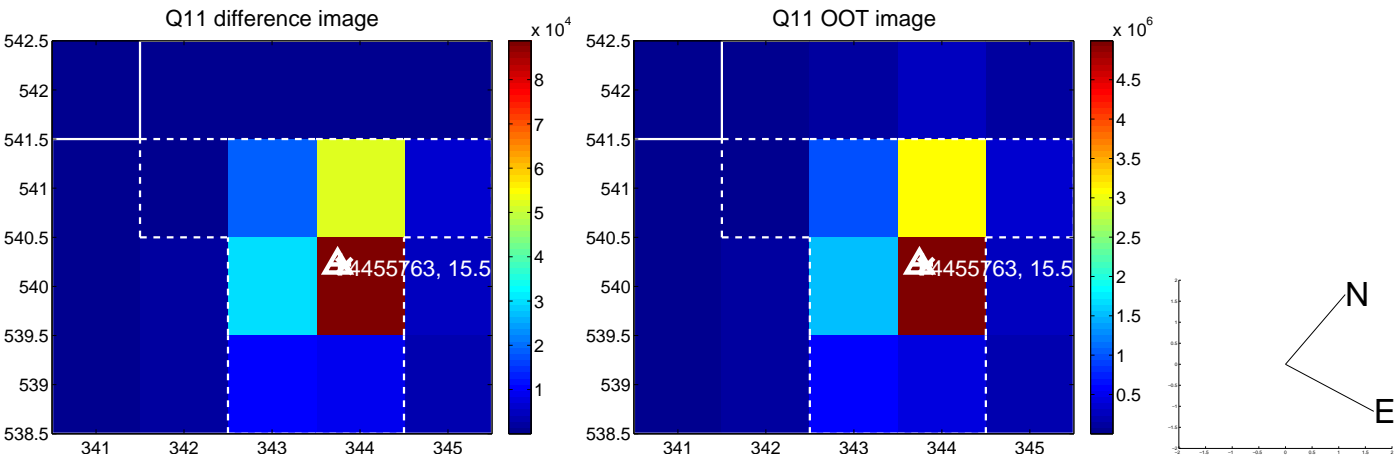
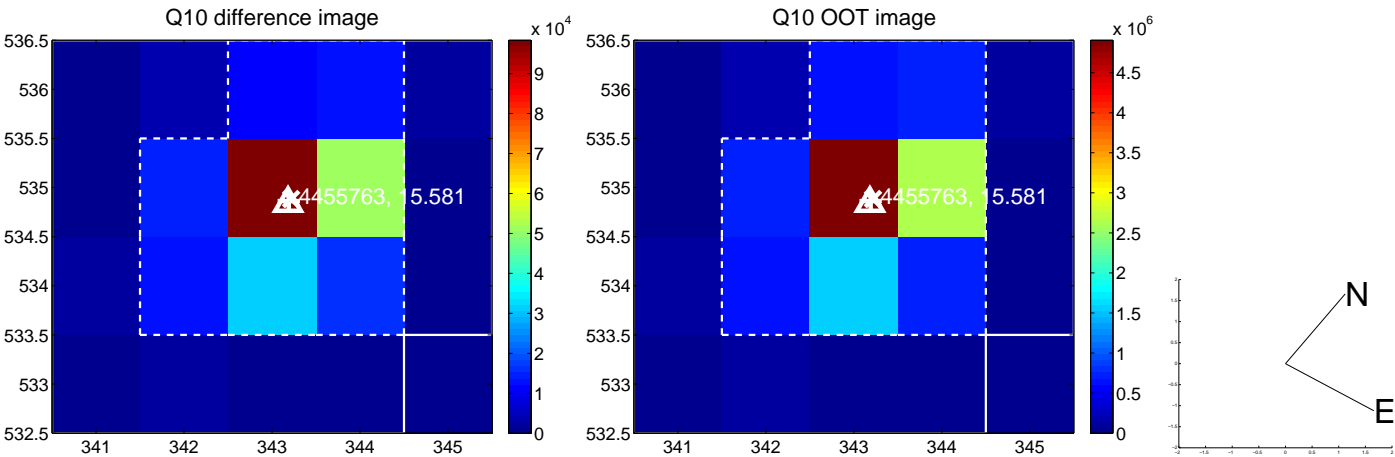
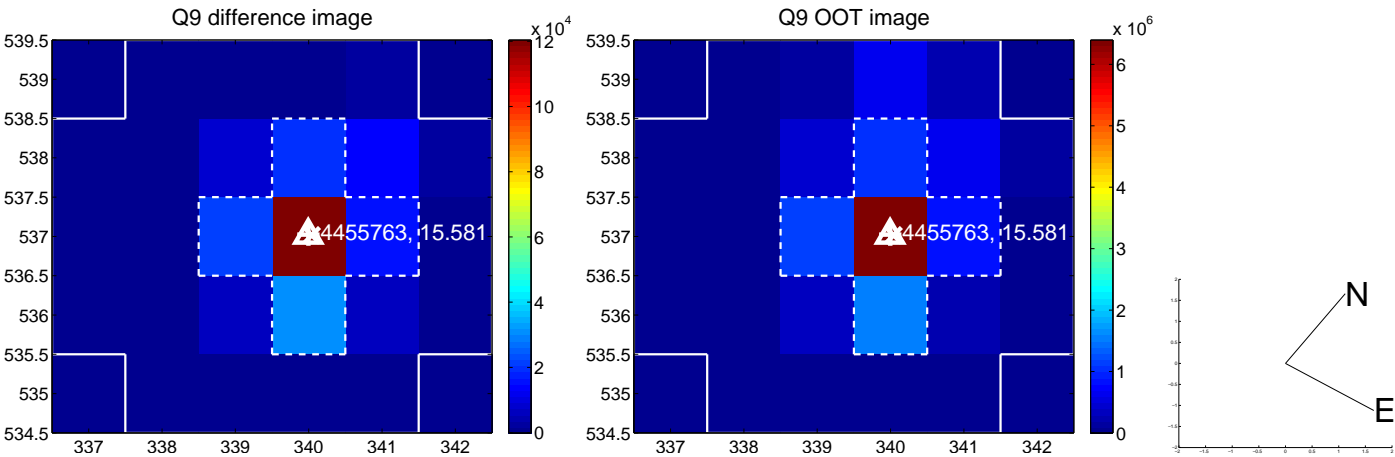




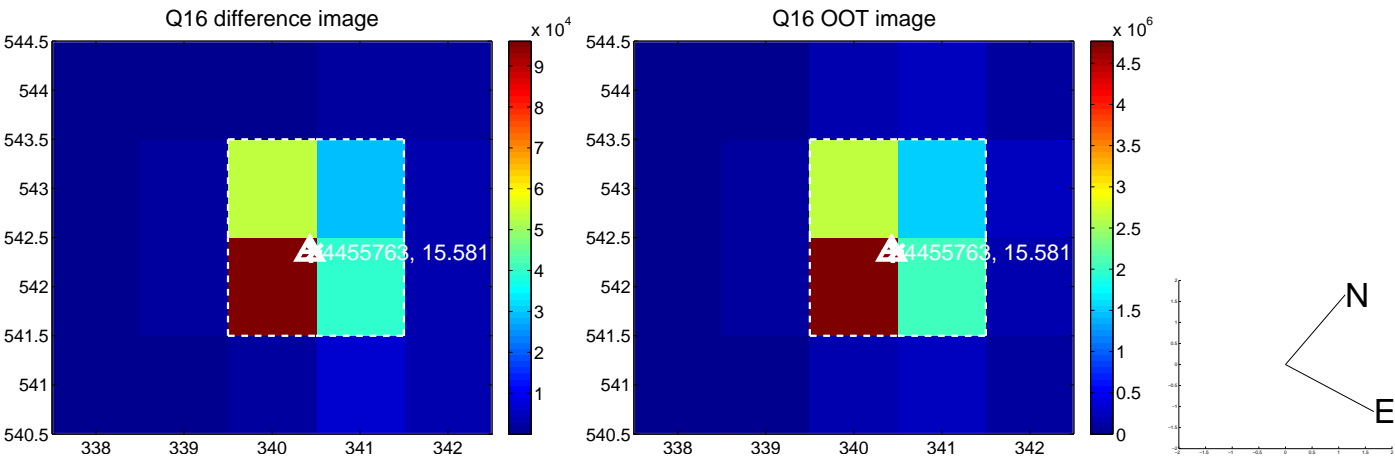
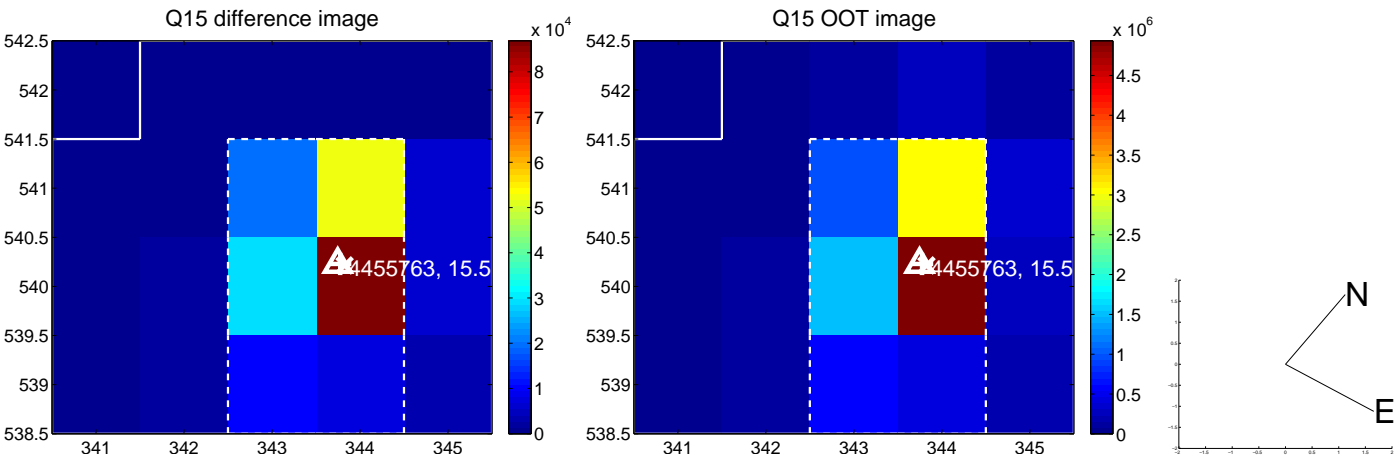
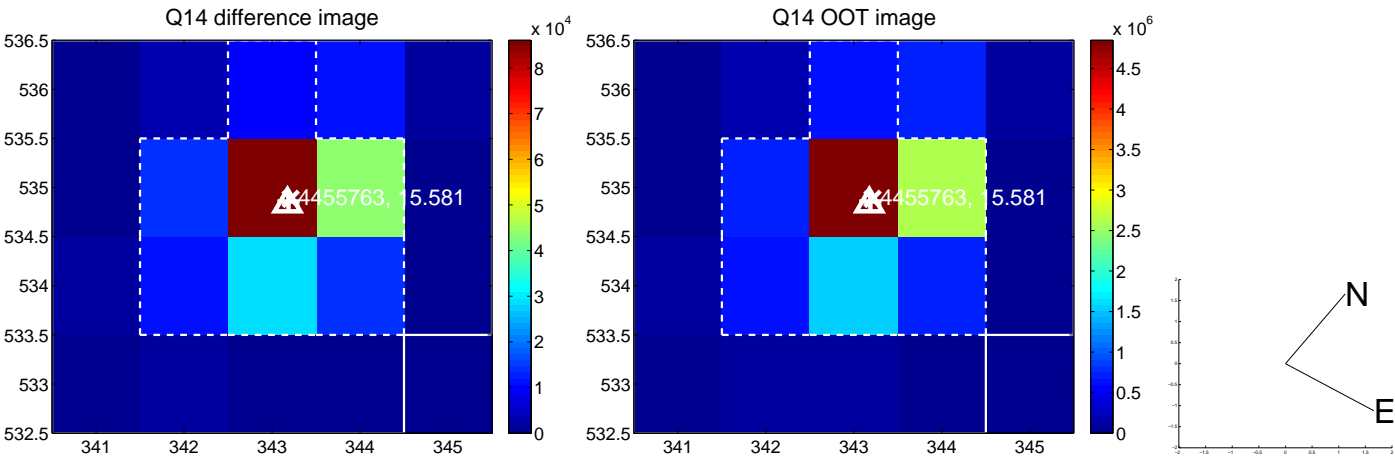
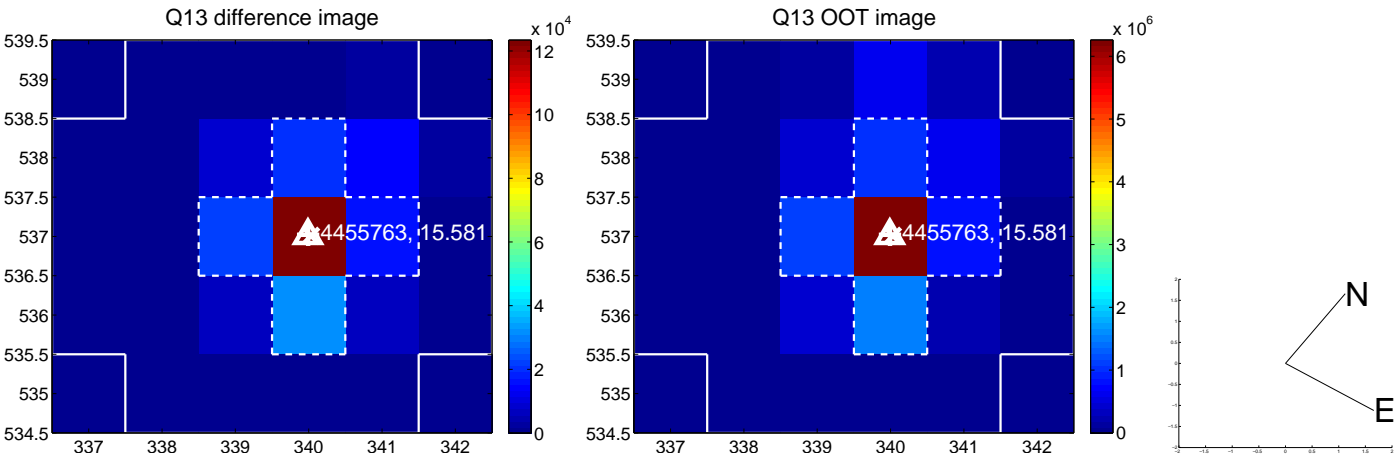
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



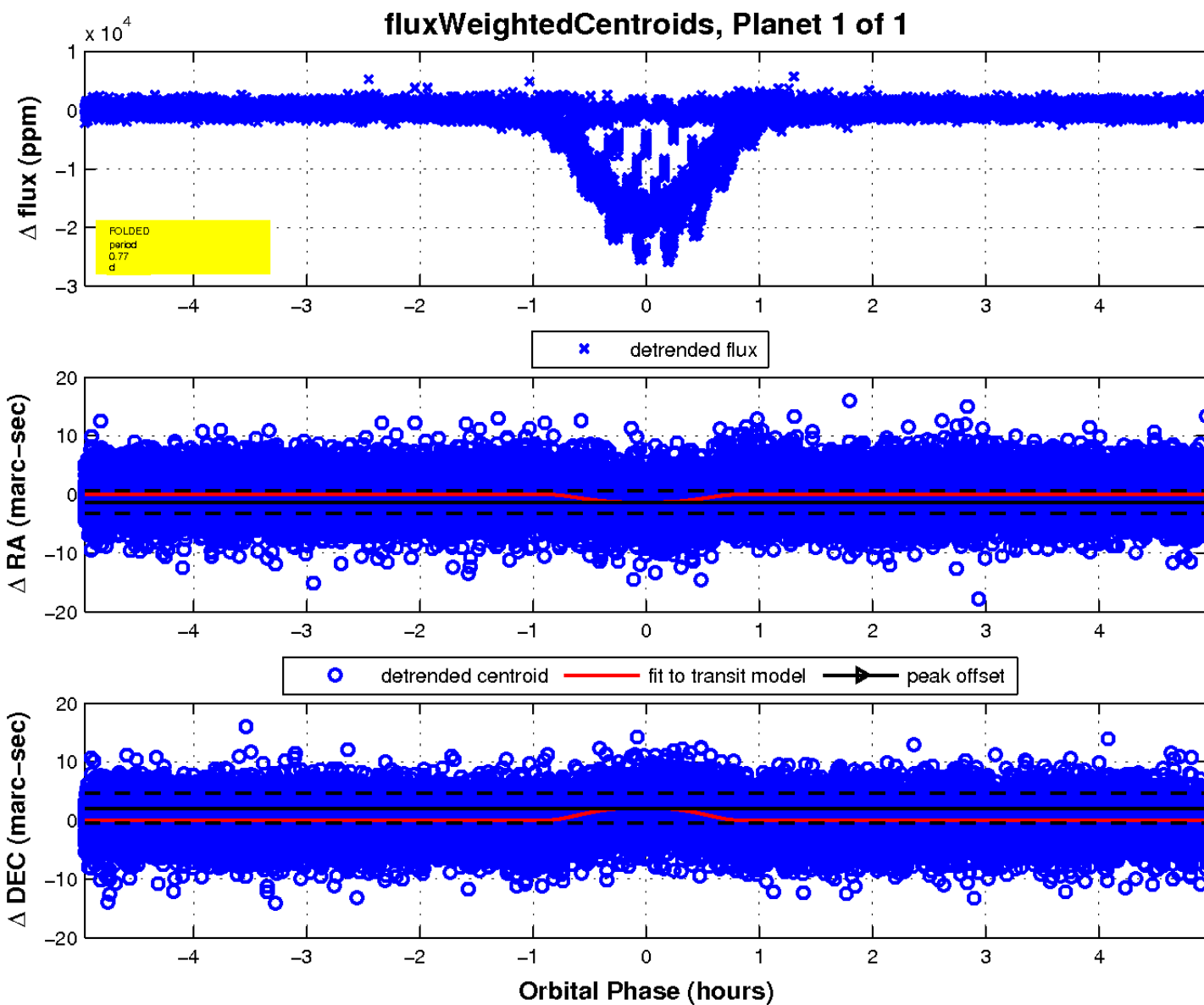
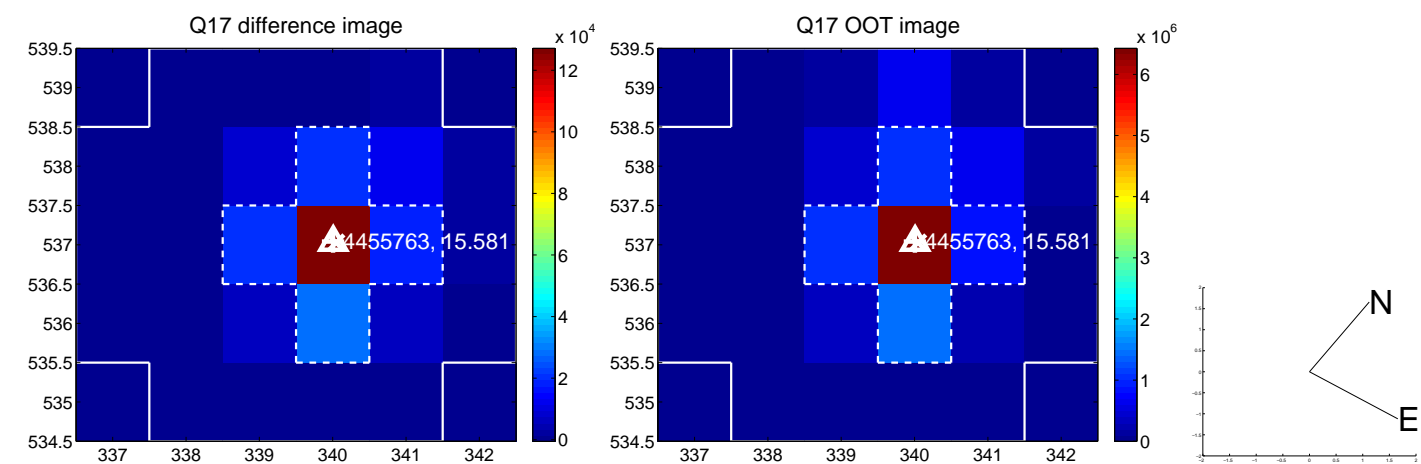
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination

